

HOMARC COMMERCIAL DEVELOPMENT

FINAL ENVIRONMENTAL IMPACT STATEMENT 152 NY STATE ROUTE 94 SOUTH

Tax Map Number: Section 51, Block 1, Lot 5.231
TOWN OF WARWICK
ORANGE COUNTY, NEW YORK

Project Sponsor:
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Lead Agency Acceptance Date: April 16, 2008

Date of Public Hearing: August 20, 2014

Written comments on the DEIS will be accepted by the Lead Agency
Until September 10, 2014.

Classification of Action: Type 1 Action

**December 2014
Revised: March 2015**

PROJECT CONSULTANTS

For

HOMARC COMMERCIAL DEVELOPMENT

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HOMARC
Final Environmental Impact Statement

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SUMMARY:

This document is a Final Environmental Impact Statement (FEIS) prepared in accordance with the New York State Environmental Quality Review Act (SEQRA) and its implementing regulations, 6 NYCRR Part 617. The FEIS consists of this volume and the Draft Environmental Impact Statement (DEIS), which is hereby incorporated by reference into this FEIS.

The SEQRA documents have been prepared in support of the application of Homarc Land, LLC, to develop professional office and retail uses on approximately 2.35 acres of a 5.1 acre site on New York State Route 94 (New Milford Road) east of Warwick Turnpike (County Route 21) in the Town of Warwick, Orange County, New York. The property is zoned for this purpose. The proposed development is comprised of an approximately 21,900 square feet (SF) one-story building. The project will utilize municipal water and sewage system, and will have a total of approximately 84 parking spaces. Access is proposed from a new marginal access road that will parallel NYS Route 94 and connect with the adjoining Price Chopper Plaza.

The Town of Warwick Planning Board conducted a coordinated review pursuant to SEQRA, and having received no objection to its declared intent to be Lead Agency, established itself as Lead Agency. The applicant prepared the DEIS for this action based upon the Planning Board adopting a Final Scoping Document on July 17, 2013. The Lead Agency reviewed the DEIS for adequacy with respect to its scope and content for the purpose of public review, accepted the document and issued a Notice of Public Hearing, held on August 20, 2014.

Public and agency comments received by the Lead Agency on the DEIS are provided in this FEIS in comment/response format. Complete copies of all written comments and correspondences are found in Appendix A of this document. This FEIS document also includes the following: a Table of Use from the Zoning Code is found in Appendix B; a 2010 Traffic Study found in Appendix C; a revised Long Environmental Assessment Form located in Appendix D; and a revised Stormwater Pollution Prevention Plan found in Appendix E. The site plan drawings that accompanied the DEIS have been revised and are included as part of this document.

2.0 COMMENTS AND RESPONSES

GREENPLAN COMMENTS:

1. The last sentence of the third paragraph on page 1-1 should be corrected to replace “this Final Scoping Document” with “a Final Scoping Document”.

Response: Within the last sentence of the third paragraph on page 1-1 the word “this” has been changed to “a” so that the sentence would read “The Planning Board adopted a Final Scoping Document on July 17, 2013.”

2. On page 1-2, no specific approval is listed for the Orange county Department of Health, as there is for all other Involved Agencies. This should be corrected in the FEIS. This is repeated on page 2-10.

Response: The Orange County Department of Health is responsible for sanitary and water approval.

3. In Sections 1.1, 2.6 and 2.7, there is an inconsistency with the references to the NY State Department of Environmental Conservation (DEC). It is listed as both an “Involved” Agency and an “Interested” Agency. This should be corrected in the FEIS.

Response: Both the New York State Department of Environmental Conservation and Orange County Department of Planning are Involved Agencies and have been removed from the Interested Parties list found in Sections 1.2, 2.6 and 2.7.

4. On page 1-2, the status of approvals required for the project should be provided in the FEIS document.

Response: To date no approvals from other agencies have been obtained. Please note, however, that the Town of Warwick has obtained a Nationwide Permit from the US Army Corps of Engineers to cross wetlands for the construction of the marginal access road on the adjacent Fairgrounds property.

5. The FEIS should explain why “agricultural use on the project site is not sustainable,” as stated on page 1-3. Is there any evidence to support this statement? Since the site appears to be located in Orange County Agricultural District #2 (see comment below), the response provided to this concern is relevant.

Response: A minimum of 7 acres is required for agricultural tax exemption. The site is 5.1 acres in size and 3.6 acres are in agricultural use. The current taxes are over \$12,500.00 per year. The site does not qualify for tax reduction under agricultural use. According to the Town of Warwick Tax Assessor's Office the market value of this property is approximately \$400,000.00. Due to the high land value and taxes, it is not economically feasible to continue agricultural use into the future.

6. In the third paragraph beginning on page 1-3, the DEIS refers to the "Orange County Soil Conservation Service." This reference is repeated throughout the DEIS. It is believed that the reference should be to the Orange County Soil and Water Conservation District. This needs to be corrected in the FEIS.

Response: The reference to the Orange County Soil Conservation Service has been revised to the Orange County Soil and Water Conservation District.

7. The first paragraph under "Wetlands" on page 1-3 states that "The project will not directly impact wetlands." But an indirect consequence of the project is the continuation of the marginal access road from the Price Chopper Plaza to allow access for the project to Route 94. The Town of Warwick is pursuing continuation of the marginal access road (and therefore disturbance of the wetland), under the plans that were established in the 1987 Master Plan and 1989 Zoning Law. While this is a related action, it should be identified and discussed in the FEIS. Under Water Resources on page 1-5, it states that the "proposed project will involve the construction of...[the] marginal access road" which creates confusion for the reader. This should be corrected in the FEIS.

Response: As noted in the DEIS, the proposed project will involve construction of a marginal access road in accordance with the Town of Warwick's Master Plan and Zoning Law. The applicant, Homarc Land, LLC, will be responsible for constructing the marginal access road within the subject site. As noted, no wetlands will be directly impacted within the subject site. The Town of Warwick proposes to construct the marginal access road within the adjacent property known as the Fairgrounds site which contains the Price Chopper Plaza. Construction of the marginal access road off-site within the Fairgrounds property will result in direct impacts to wetlands. The Town of Warwick proposes to disturb 0.0964 acres along with a temporary disturbance of 0.0342 acres of wetlands. The Town recently obtained a Permit from the US Army Corps of Engineers to impact these wetlands.

8. The last sentence in the last paragraph on page 1-3 requires a grammatical correction.

Response: The grammatical error in the last paragraph on page 1-3 has been corrected. The letter d has been added to the word increase. The sentence now reads "Increased pollutants typically associated with commercial land use activities, including stormwater runoff from paved areas and rooftops as well as wastewater treatment can be expected."

9. The second paragraph under Terrestrial and Aquatic Ecology on page 1-4 needs to explain what is meant by the "100 foot management area." This is the first mention of it in the DEIS and it should be explained what it means here or a reference to the later explanation in the DEIS added.

Response: The "100 foot management area" is a voluntary buffer around the wetlands system to protect the wetlands from indirect impact that could be associated with the project. This buffer will act as an important corridor for wildlife including protected species such as the bog turtle. A 100 foot management area has been previously established on the adjacent Fairgrounds property protecting the same wetlands system. The 100 foot management area will be naturally vegetated and a deed restriction will be placed on the property to conserve this management area in perpetuity.

10. In the fourth paragraph on page 1-4, the applicant should explain how 54 percent of the site will remain natural. This is also stated on page 2-5 as "will not be physically altered." But, this statement is amplified in Section 6.1 on page 6-1 where it states that "The project will preserve approximately 53 percent in meadow, woods and wetlands." The statement about "will preserve" in particular needs explanation.

Response: The applicant has proposed to preserve 54 percent of the site including the 100 foot management area and on-site wetlands. The applicant proposes a deed restriction or a restrictive covenant running with the land. This covenant is for conservation purposes and shall burden the property in perpetuity. This deed restriction will be recorded with the County.

11. The tense of the first sentence of the second paragraph on page 1-5 needs correction from "will" to "would." The paragraph also needs a statement that "corrective measures" have been proposed to minimize environmental impacts on water resources.

Response: The tense of the first sentence of the second paragraph on page 1-5 has been corrected from "will" to "would." The sentence would read "Without corrective measures, the proposed project would increase pollutant loadings found in stormwater runoff from the proposed development areas." Additionally, the

following sentence has been added “However, corrective measures have been proposed to mitigate environmental impact on water resources.”

12. On page 2-7, the reference to “design guideline” of the Town should be modified to also include the Town “Design Standards.”

Response: The reference to “design guideline” of the Town has been modified to also include the Town “Design Standards.”

13. The applicant needs to list the special conditions that will apply to the specific uses proposed for the site, as noted in the third paragraph on page 1-7.

Response: The Table of Use Requirements from the Town of Warwick Zoning Code §164-40M has been provided in Appendix B. Proposed uses for the building have been highlighted. Special conditions or restrictions for each use are located under Zoning Law §164-46J.

14. The third paragraph under Vehicular Traffic and Roadways on page 1-7 needs to explain that access to Route 94, through the “proposed” marginal access road connection with the Price Chopper Plaza, is subject to the approval of the Town of Warwick and Federal agencies with jurisdiction over the wetland that must be crossed and that may contain wildlife species of conservation concern or their habitat.

Response: All vehicles entering or leaving the project site will be from a proposed marginal access road. Currently, the marginal access road will only connect to the Price Chopper Plaza. The marginal access road is a requirement of the Town of Warwick Zoning Law and subject to approval from the Town of Warwick. Wetlands will be directly impacted from the Town of Warwick’s construction of the marginal access road on the off-site Price Chopper Plaza property. A Federal Permit is required by the US Army Corps of Engineers (ACOE) for impacts to wetlands. The Federal Permit takes into consideration any potential impacts to federally-listed threatened or endangered species. The ACOE coordinated a review with the US Fish & Wildlife Service and determined there were no impacts to threatened or endangered species. Therefore, the Town of Warwick obtained the wetland disturbance permit.

15. There were no letters from community services providers (other than the Warwick Community Ambulance Service) attached to the DEIS to substantiate the statement on page 1-8 that there will be no significant adverse impacts on Community Services. Any verbal communications should be documented in the FEIS with dates and persons who were contacted. This should be corrected in the FEIS.

Response: Community service providers including the Warwick Community Ambulance Service, the Town of Warwick Police Department, and the Warwick Fire District were provided with written notification dated May 6, 2014 along with the Site Plan encouraging comments about the proposed project. To date, only the Warwick Community Ambulance Service has provided written comments indicating that they can provide adequate service. Verbal communication with Captain Frank Cassanite of the Warwick Community Ambulance Service occurred on May 12, 2011. At that time, the Captain had also stated that they could adequately service the proposed project. Verbal communication occurred with Police Chief Thomas McGovern on April 7, 2011 in which he stated that the police department could adequately service and respond to the project site within two minutes of a call. Verbal communication also occurred on April 7, 2011 with Chief Corkum of the Warwick Fire District. He also stated that the Fire District could respond adequately given the proposed access around the entire building.

16. Under Solid Waste on page 1-8, the references to contracts with pest management should be more definitive than "would." Also, the reference in this subsection to "pest management" is at odds with other references in the DEIS to no use of pesticides or no use of integrated pest management practices. This should be further explained in the FEIS.

Response: Based on the applicant's ownership of other commercial buildings there has not been a need to contract with pest management. At this time the applicant also feels that pest management will not be necessary for this newly constructed building. However, should the need arise in the future, a contract with a New York State licensed and certified pest management company would be established.

17. Under Cultural resources on page 1-9, it states that "No potential impacts are proposed." It would be clearer to readers if the statement was that "No potential impacts are anticipated." Under this same section, while the DEIS states that it has been forwarded to the State for review, there is no correspondence from the State provided stating that it agrees or disagrees with the findings of the cultural resources report.

Response: The statement that "No potential impacts are proposed." has been revised to state that "No potential impacts are anticipated." In our June 13, 2014 response letter and resubmission of the DEIS we stated the following:

"At this time no response from the OPRHP has been received. We respectfully request that the Town Planning Board initiate referral of a copy of the Phase 1 Archeological Investigation to OPRHP."

The applicant is not aware of any correspondence from OPRHP to either the Town of Warwick Planning Board or the Project.

18. Under Utilities on page 1-9, it states that there is enough capacity to meet the needs of the project. A reference to an engineer's report (if applicable) should be provided to substantiate this.

Response: In personal communication with Dave Getz, P.E., the engineer for the Fairgrounds Project (Price Chopper Plaza) he stated that the Fairgrounds Wastewater Treatment Plant has a capacity for treating 10,000 gallons of wastewater per day. Santec, the engineering firm for the Fairgrounds Wastewater Treatment Plant, submitted a report to the Town of Warwick in May 2014 which stated that the wastewater averaged 3,523 gallons per day for 2014.

19. Table 1-1 and others in the DEIS provides attribution to "ERS Engineering Consultants, P.C." But the DEIS does not list this firm as a contributor to the DEIS. This should be corrected in the FEIS.

Response: ERS Engineering Consultant, P.C. has been added to the Project Consultant list.

20. The discussion of the Scope of the DEIS under Section 2.1 on page 2-1 refers in two places to "this Final Scoping Document." To be clearer. The sentence should state "the" Final Scoping.

Response: The Statement "this Final Scoping Document." has been revised to "the Final Scoping Document" as follows: The Final Scoping Document represents a modification of the Final Scoping Document adopted by the Town of Warwick Planning Board, as Lead Agency, on March 4, 2009 due to project modifications. And again as follows: The Planning Board adapted the Final Scoping Document on July 17, 2013.

21. The statement about "destroying the rural character of the town" in the last paragraph on page 2-1 should be modified to state "without adversely impacting" or "without significantly affecting" or similar language.

Response: The statement "destroying the rural character of the town" has been modified to state "without significantly affecting the rural character of the town" as follows: The Applicant purposes a commercial building that will attract economic development and reduce the increasing tax burden on local residents without significantly effecting the rural character of the town.

22. Under Section 2.2, the project states that it will provide “needed facilities” but doesn’t explain what that means. A positive economic benefit to the community, like increased employment, would be one way to express the need for a private commercial venture. No estimates of the numbers of employed have been provided. Providing commercial vacancy rates for the facilities proposed would be another way to elaborate on the statement about “need.” The Town of Warwick conducted a Draft Generic Environmental Impact Statement for the Route 94 corridor in 2010 that provides some information in this regard. This should be corrected in the FEIS.

Response: The benefit of the project is the utilization of the project site for retailing purposes. Such uses would generate additional property and sales tax revenue to the Town of Warwick, the taxing districts in which the site is situated, and Orange County. The greatest tax benefit would accrue to the Warwick Valley Central School District. The project will benefit the local community by providing jobs, opportunities to establish local businesses, as well as places to shop. Construction employment and long-term retail employment opportunities would be generated. A substantial portion of these positions are expected to be filled by residents of Warwick. It is estimated that approximately 21 to 35 long term employment opportunities will exist. Many residents commute long distances to work and are interested in establishing local businesses as an alternative to long daily commutes.

23. The second sentence in the second paragraph under Section 2.3.2 needs a grammatical correction.

Response: The second sentence in the second paragraph under Section 2.3.2 has been grammatically corrected, as follows: The proposed project would connect to the adjoining parcel by the creation of a marginal access road serving the subject site and adjoining property pursuant to New York State Town Law §200 as well as compliance with Section 164-42.F of the Town Zoning Law.

24. The reference to the marginal access road being subject to New York State Town Law § 200 needs to also refer to compliance with Section 164-42.F of the Town Zoning Law.

Response: The reference under Section 2.3.2 to the marginal access road being subject to New York State Town Law § 200 now refers to additional compliance with Section 164-42.F of the Town Zoning Law.

25. The description of site access provided in the first paragraph of Section 2.4.2 implies that the Town of Warwick does not require (i.e. it states “to be desirable in the future”) a marginal access road in the CB Zoning District. This is not the case.

Section 164-42.F of the Zoning Law applies “to lands in the Community Business Zoning District with frontage on New York State Route 94” and requires that a marginal access road be shown on proposed site plans and built if required as part of the Planning Board review and approval process. This should be clarified and corrected in the FEIS.

Response: The applicant is aware that under Section 164-42.F of the Town Zoning Law that lands in the Community Business Zoning District which frontage on NY State Route 94 requires that a marginal access road be shown on proposed site plans and built if required as part of the Planning Board review and approval process. The statement “to be desirable in the future” has been removed.

26. The reference in the last paragraph on page 2-5 to “design guidelines” should be changed to “design standards.” This should be corrected in the FEIS.

Response: The reference in the last paragraph on page 2-6 has been changed from “design guidelines” to “design standards.”

27. The statement on page 2-8 that “No pedestrian or bicycle path are provided on the site plan” needs to be reconciled with the Town Design Standards. This is particularly important because the DEIS states in a number of locations that it will comply with the Design Standards and guidelines. The Design Standards state: “Buildings should be oriented to positively define and frame adjacent public streets, and/or public or common spaces, while promoting the collective form of neighbors by...Include[ing] means for pedestrian access through sidewalk and/or bike path connectivity,” by “moving Warwick’s commercial districts into walkable areas featuring quality architecture, sidewalk amenities and generous landscaping...” [emphasis added], and “Build sidewalks and crosswalks throughout the area to create connections to, shared parking, public transportation, walking between stores...” The Design Standards also state “Wherever practical, connect adjacent commercial establishments and surrounding neighborhoods through the provision of paved sidewalks.” and “Pedestrian walkways, sidewalks, and open/semi-open sitting areas are recommended for low-density uses such as coffee shops, cafes, antique stores, etc., based on their location on the street.”

Response: To be in compliance with the Town’s Design Standards the statement on page 2-8 that “No pedestrian or bicycle path are provided on the site plan” has been removed. The shoulder of the on-site marginal access road will be marked for utilization as both a walkway for pedestrians as well as a bike lane.

28. The statement on page 2-10 that “Site construction activities will comply with Town ordinances” should be modified to “Town Local Laws and, if applicable, Town ordinances.”

Response: The statement on page 2-10 that "Site construction activities will comply with Town ordinances" has been modified to "Town Local Laws and, if applicable, Town ordinances."

29. On page 2-11, no specific approval is listed for the Orange County Department of Health, as there is for all other Involved Agencies. The NY Department of Environmental Conservation is also listed as one of several "Interested Parties." Both statements need to be corrected in the FEIS.

Response: The Orange County Department of Health is responsible for sanitary and water approval. Both the New York State Department of Environmental Conservation and Orange County Department of Planning are Involved Agencies and have been removed from the Interested Parties list.

30. The sixth paragraph on page 3-5 in Section 3.2.1, states that the "NYSDEC Freshwater Wetlands Delineation Manual (1995) was used to delineate state wetlands" and seems to imply that there are State wetlands on the site, in conflict with the statement above it that 30. The sixth paragraph on page 3-5 in Section 3.2.1, states that the "NYSDEC Freshwater Wetlands Delineation Manual (1995) was used to delineate state wetlands" and seems to imply that there are State wetlands on the site, in conflict with the statement above it that "The NYSDEC Freshwater Wetlands Map shows no wetlands on the project site." The FEIS should state that the on-site wetland delineation confirmed that there were no State wetlands on the site.

Response: The sixth paragraph on page 3-5 in Section 3.2.1, states that the "NYSDEC Freshwater Wetlands Delineation Manual (1995) was used to delineate state wetlands." This statement has been deleted. Additionally, the DEIS states that the "The NYSDEC Freshwater Wetlands Map shows no wetlands on the project site." Field investigations confirm that no NYSDEC wetlands exists on the subject site.

31. The reference on page 3-6 to a "wetland is approximately 0.5 acres in size" should be clarified. Is this 0.5 acres on the site or 0.5 acres in total size across multiple parcels?

Response: The wetland, regulated by the US Army Corps of Engineers, is approximately 0.5 acres in size within the subject site. This wetland extends off site to the north and east.

32. The first paragraph under Potential Use by Rare Species on page 3-12 states that there are “two wildlife species in the vicinity.” This should be corrected by adding the appropriate type of species.

Response: The New York State Department of Environmental Conservation Natural Heritage Program database indicates two wildlife species in the vicinity, one species is the Indiana bat (Myotis sodalist) and the other is the bog turtle (Clemmys muhlenbergii).

33. The reference to Bog turtle habitat in the third paragraph on page 3-12 does not mention the concerns expressed by the US Fish & Wildlife Service about “potential habitat” even though no signs of habitat were found. An up-to-date discussion of the status of Federal agency concerns should be provided for the related marginal access road project and then related to the discussion of mitigation provided in Section 3.3.3 on page 3-16.

Response: All vehicles entering or leaving the project site will be from a proposed marginal access road. Currently, the marginal access road will only connect to the Price Chopper Plaza. The marginal access road is a requirement of the Town of Warwick Zoning Law and subject to approval from the Town of Warwick. Wetlands will be directly impacted from the Town of Warwick’s construction of the marginal access road on the off-site Price Chopper Plaza (Fairgrounds) property. A Federal Permit is required by the US Army Corps of Engineers (ACOE) for impacts to wetlands. The Federal Permit takes into consideration any potential impacts to federally-listed threatened or endangered species. The ACOE coordinated a review with the US Fish & Wildlife Service and determined there were no impacts to threatened or endangered species. As a result of that coordinated review the Town of Warwick obtained the wetland disturbance permit.

Bog turtle mitigation measures previously approved by both the NYSDEC and USFWS for the adjacent Fairgrounds Project will also be utilized for this project. These measures include a 100 foot wildlife management area with a deed restriction stating no further development, both a retainer wall and wildlife barrier fence, and construction monitoring from mid-March through mid-September.

34. The on-site well noted on page 3-17 should include a discussion of how it will be closed, if it will not be used in the future. The water use estimates of 2,000 gallons per day omit site landscaping needs. Could this well be used to supply non-potable water for landscaping? In view of the DEIS’s statement about a lack of the use of fertilizers, pesticides and herbicides, as well as watering, how will landscape survivability be guaranteed for a period of three years and more?

Response: The on-site well will be decommissioned in accordance with New York State Department of Health standards. The well casing will be cut off four feet below the ground surface and grouted. The area will be backfilled and graded so that surface waters flow away from the well.

Water use for landscaping needs will be obtained from the cistern and will not contribute to the water use estimates of 2,000 gallons a day for the building.

As stated in the DEIS no pesticides or herbicides will be used on the site. Only organic fertilizers will be used as necessary. The landscaper will guarantee survival for a period of three years. Any plants not surviving will be replaced within that time period.

35. The seventh paragraph on page 3-18 states that the project will not use fertilizers on lawn or landscaped areas. Although use of peat is noted, how will the project ensure that plant materials installed will survive the required three years? (see § 164-46G(3)(n)[3]). Also, will pesticides or herbicides be used on site landscaping? In addition to the site's proximity to surface water resources, the entire parcel is located in the Town's Aquifer Protection Overlay District. In other statements in the DEIS, there is mention of "pest management." These should be discussed in the FEIS.

Response: As stated in the DEIS no pesticides or herbicides will be used on the site. Only organic fertilizers will be used as necessary. The landscaper will guarantee survival for a period of three years. Any plants not surviving will be replaced within that time period.

Based on the applicant's ownership of their other commercial buildings there has not been a need to contract with pest management. At this time the applicant also feels that pest management will not be necessary for this newly constructed building. However, should the need arise in the future, a contract with a New York State licensed and certified pest management company would be established.

36. The statement on page 3-20 that the project conforms to State requirements should also note compliance with Town stormwater requirements.

Response: The applicant will comply with both Town stormwater and NYSDEC requirements regarding the preparation of a Stormwater Pollution Prevention Plan.

37. The statement on page 3-25 about providing parking in the rear of the proposed building should also note that parking is being provided at the sides of the proposed building.

Response: The Town Comprehensive Plan recommends commercial designs that would place parking to the rear of the proposed building. The project will utilize parking in the rear as well as both sides of the proposed building.

38. Note in the first paragraph under Section 3.5.3 conformity with the Town's Design Standards and work that has been underway with both the Town Planning Board and Architectural Review Board to seek conformity with such Standards.

Response: The proposed project has been designed to meet the requirements of the Town zoning code with regard to uses, bulk and parking requirements, landscape requirements, and conform to the Town Design Standards and work that has been underway with both the Town Planning Board and Architectural Review Board to seek conformity with such Standards.

39. The statement about "Preservation of 54 percent of the site" on page 3-27 should be explained as to how this will be achieved and enforced.

Response: The applicant has proposed to preserve 54 percent of the site including the 100 foot management area and on-site wetlands. The applicant proposes a deed restriction or a restrictive covenant running with the land. This covenant is for conservation purposes and shall burden the property in perpetuity. This deed restriction will be recorded with the County. Retainer walls and fences will prevent future disturbances to the preserved areas.

40. There is a typographical error in the first sentence of the third paragraph on page 3-28.

Response: The typographic error has been corrected and the sentence reads "The site is located on the north side of NYS Route 94 approximately 1.3 miles southwest of the Village of Warwick and approximately 2.5 miles northeast of the NY/NJ State line."

41. The reference on page 3-28 to "begin construction" on the I-84/I-87 interchange needs to be updated.

Response: The reference on page 3-28 to "begin construction" on the I-84/I-87 interchange has been updated to "completed", as follows: The New York State Department of Transportation (NYS DOT) completed construction on an I-84/I-87 interchange which now eliminates the need to travel on NYS Route 300 between these interstates.

42. The Traffic Study summarized in Section 3.6 goes to great lengths to describe Level of Service and the criteria used to attribute the proposed project to Level of

Service Criteria. However, neither the narrative nor the tables provided show how levels of service change from the “No-Build Traffic Conditions” to the “Build Traffic Conditions.” This information can be found in the full Traffic Study in Appendix E, but it should also be presented in the narrative of the DEIS so that readers can be informed of impact. This should be corrected in the FEIS.

Response: The table below is from the full Traffic Study and shows how the Level of Service change from the “No-Build Traffic Conditions” to the “Build Traffic Conditions.” There is almost no change between the two models. Levels of Service did not diminish with the proposed development. Actually there was an improvement with the Level of Service at the Ford Dealership due to the traffic signal at the Fairgrounds access. Levels of Service at all interchanges remain at an adequate Level of Service according to New York State Department of Transportation.

LEVEL OF SERVICE SUMMARY TABLE

		2010 EXISTING			2013 NO-BUILD			2013 BUILD		
		AM	PM	SAT	AM	PM	SAT	AM	PM	SAT
1	NYS ROUTE 94 & WARWICK TURNPIKE (C.R. 21)	UNSIGNALIZED								
	WB	A[8.4]	A[8.6]	A[8.7]	A[8.7]	A[9.1]	A[9.2]	A[8.7]	A[9.3]	A[9.4]
	NB	B[12.0]	C[17.1]	C[18.2]	C[16.0]	D[26.3]	C[18.6]	C[16.3]	D[27.3]	C[20.2]
2	NYS ROUTE 94 & SHOPRITE DRIVEWAY/FRONTIER LANES	UNSIGNALIZED								
	EB	A[7.9]	A[8.1]	A[8.3]	A[8.0]	A[8.5]	A[8.6]	A[8.1]	A[8.6]	A[8.7]
	WB	A[8.5]	A[9.2]	A[9.1]	A[8.8]	B[10.0]	A[9.8]	A[8.9]	B[10.2]	B[10.0]
	NB	B[14.1]	D[26.1]	C[18.0]	C[16.2]	D[28.5]	C[18.4]	C[16.8]	D[32.2]	C[19.7]
3	NYS ROUTE 94 & FORD DEALER DRIVEWAY/SITE ACCESS	UNSIGNALIZED								
	EB	-	-	-	-	-	-	A[8.5]	A[9.8]	A[9.8]
	WB	A[8.3]	A[8.9]	A[9.0]	A[8.5]	A[9.5]	A[9.6]	A[8.5]	A[9.5]	A[9.6]
	NB	B[13.8]	C[19.8]	C[20.5]	C[15.4]	D[27.2]	C[17.7]	B[14.4]	C[22.1]	C[23.5]
	SB	-	-	-	-	-	-	B[14.7]	D[26.3]	D[28.0]
4	NYS ROUTE 94 & PRICE CHOPPERS DRIVEWAY	SIGNALIZED								
	EB	B[10.4]	B[10.3]	B[10.3]	B[10.6]	B[12.9]	B[13.0]	B[10.8]	B[14.2]	B[14.4]
	WB	B[18.9]	B[16.3]	B[15.0]	B[17.2]	B[17.3]	B[16.3]	B[18.2]	B[19.1]	B[18.5]
	SB	C[22.9]	C[26.7]	C[27.0]	C[23.5]	C[27.1]	C[27.2]	C[23.5]	C[27.1]	C[27.2]
	OVERALL	B[14.8]	B[14.3]	B[14.1]	B[14.7]	B[17.8]	B[17.5]	B[15.3]	B[18.9]	B[18.8]

NOTES:

1) THE ABOVE REPRESENTS THE LEVEL OF SERVICE AND VEHICLE DELAY IN SECONDS, C [16.2], FOR EACH KEY APPROACH AS WELL AS FOR THE OVERALL INTERSECTION FOR THE SIGNALIZED INTERSECTION.

43. The sources for and calculations of tax revenues and costs to municipal entities discussed in Section 3.7.1 should be provided in the FEIS.

Response: Debra Ulrich from the Town of Warwick Tax Assessor's Office provided the calculations for tax revenues and costs to municipal entities.

44. The second sentence in Section 3.7.1.3 is missing the word "tax."

Response: The word "tax" has been added to the following sentence: "No significant adverse impacts to community services or the Town tax base are anticipated."

45. The statement in Section 3.7.4.3 that the contractor "will commit" to maintaining construction equipment in proper operating condition needs a further explanation. How will the applicant ensure this occurs?

Response: Currently, the applicant will be the contractor conducting the site development. Heavy equipment machinery is extremely expensive requiring frequent maintenance for the longevity of the equipment.

46. The grammatical error in the fourth paragraph on page 3-44 should be corrected in the FEIS.

*Response: The grammatical error in the following statement has been corrected: "With regard to the Town of Warwick noise standards, normal operations at the project site will **increase** noise primarily from rooftop HVAC equipment on the building, from customer car traffic on the site, and from truck circulation and loading on the site."*

47. On page 3-45, it is stated that O&R provides natural gas service to customers in the area. Does this mean that the proposed building will be heated with natural gas?

Response: Yes, the proposed building will be heated with natural gas.

48. The Final Scoping Document required that the DEIS discuss: "The energy sources to be used if the Proposed Action is implemented." The DEIS states the electric and natural gas are "available," does not commit to its use but suggests it use in a reference to using a "modulating gas valve" in reference to a furnace blower. The DEIS states that energy sources will include "gas valve" in reference to a furnace blower. The DEIS states that energy sources will include electricity, gasoline, diesel fuel, and heating oil or natural gas." Use of these energy sources should be

explained further in the FEIS and segregated between those used for construction and for operation.

Response: The applicant proposes to use natural gas as the heating source for the proposed building. Electricity, supplied by Orange & Rockland will be used for power and lighting. No other energy sources are anticipated for the building. Gasoline and diesel fuel will be utilized for construction and development of the property.

49. The Final Scoping Document required that the DEIS discuss “Estimate annual electricity demand in kilowatt hours during operation of the proposed action. Estimate consumption of fossil fuels during post-construction project operations (transportation as well as stationary).” This has not been provided in the DEIS. This needs to be provided in the Final EIS. It should be noted that this question was left unanswered on the EAF Form provided in Appendix A as well.

Response: It is roughly estimated that the building will use 7,000 CCF (100 cubic feet) per year of natural gas. It is estimated that the building will use 75,000 kWh (kilowatt hours) of electric per year. This information has also been added to the Environmental Assessment Form (EAF). The EAF can be found in Appendix D.

50. The Final Scoping Document required that the DEIS discuss: “Energy conservation measures to be used including LEED or other similar certification. Discuss how the project will incorporate energy conserving opportunities and onsite renewable energy sources.” While the DEIS states that the project will conform to the energy conservation regulations of the State and discuss a number of energy conservation strategies, it does not discuss use of LEED nor onsite renewable energy sources. This needs to be provided in the Final EIS.

Response: The proposed building will be designed to modern standards for fuel conservation using the latest “Green Building” construction technology to address the requirements of the tenants to minimize lighting, heating and operations costs. The Green Building construction technology is similar to the energy conservation measures used in LEED. The applicant is not proposing to obtain LEED certification due to the high document and monitoring costs that would be incurred. General consensus among building professionals is that LEED certification is too expensive, takes too long, and requires too much paperwork. The fees to obtain LEED certification would be a minimum of \$60,000.00 and could be easily twice that much for the size of the building proposed. Those monies are better utilized in the proposed energy conservation measures.

51. In Appendix A of the DEIS, the Environmental Assessment Form (EAF) question (E.3.a) as to whether the project site is located in a New York State Agricultural

District is answered “No.” According to Orange County’s 2013 records, the site is located in Orange County Agricultural District #2. This should be corrected.

Response: The project site is located in a New York State Agricultural District. The EAF has been revised and can be found in Appendix D.

52. In Appendix A of the DEIS, the EAF question (E.3.h) as to whether the project site is located within five miles of a federal, state or local scenic or aesthetic resource is answered “No.” The section of Route 94 that the project site fronts on is designated in the Town Comprehensive Plan as a “Scenic Road” and there are other numerous scenic resources, such as the Appalachian National Scenic Trail, that are located within five miles of the project site. This should be corrected.

Response: The project site is located within five miles of a Federal, State or local scenic or aesthetic resource. The EAF has been revised and can be found in Appendix D.

53. The US Army Corps of Engineers Jurisdictional Determination for the on-site wetlands, provided in Appendix B, expired on January 29, 2014. This will need to be updated prior to any Town approvals that may be granted to the project.

Response: US Army Corps of Engineers regulates the wetlands located on-site. As part of the Homarc Project as well as the Fairgrounds Project the wetlands system has been delineated three times with three Jurisdictional Determinations covering the last 15 years. The upland/wetland boundary has remained the same during this time period. The applicant feels that it is not necessary to re-delineate the wetlands because the boundary has not deviated and no on-site impacts are proposed for wetlands.

HDR COMMENTS:

8. Appropriate revision dates should be added to the cover sheets of the DEIS.

Response: Revision dates have been added to the cover sheet of the DEIS.

9. The new owner(s) of surrounding property(ies) should be updated on the plan set.

Response: The new owners of surrounding properties have been updated on the site plan.

10. Final Scoping Document Page 8 (IV.D.1.c): Fire suppression water supply must be discussed, including improvements to the existing system.

Response: One water main around the building will supply potable water and fire suppression. Three fire hydrants are proposed around the building.

2/04/15:

Applicant to clarify if pumps are needed and where connections will be made.

Response: A booster pump has been provided on the site plan.

11. Provide a map note stating that “No construction or PROPOSED use shall begin until the maps are signed by the Planning Board Chairman and Building Department permits are obtained.” (Sheet 1 Note 11).

Response: A map note has been provided stating that “No construction or proposed use shall begin until the maps are signed by the Planning Board Chairman and Building Department permits are obtained.”

14. The profile of the Marginal Access Road shall be shown to ensure proper vertical and horizontal alignment of the Marginal Access Road with both adjacent properties.

Response: Profiles of the marginal access road are provided on the site plan.

15. DEIS Appendix B Correspondence:

- The letter from the NYSDEC Natural Heritage Program (NHP) is dated 24 September 2007 – nearly 7 years old. The NHP letter does contain the

verbiage that if the project is still active in one year they recommend a re-confirmation of any prior correspondence.

- The letter indicates the file search results are “sensitive” and not to be released to the public without NHP’s permission – the file results citing the presence of bog turtles within one mile of the site is attached to the correspondence. Applicant to remove file search results page and the EIS text modified to state the file search results are deemed sensitive by NHP and are thus not included in the public documents.

Response: A new request was sent to the NYSDEC Natural Heritage Program (NHP). The updated response can be found in Appendix A.

16. Applicant must confirm how will the dry swale be vegetated and whether or not it will be seeded. While a formal planting plan may not be necessary, it should be seeded with a commercially available basin seeding mix so invasive species such as loosestrife and common reed (both present in the vicinity) do not colonize the site.

Response: The dry swale will be vegetated with commercially available basin seeded mix. Seed will be flood and drought resistant grass.

2/04/15:

SWPPP refers to contract documents; Applicant must provide information in the SWPPP document, or also provide the contract documents for review by the Town.

Response: Applicant has provided contract information for the SWPPP.

17. DEIS Section 5b: The Scoping Document (Section 5b) cites correspondence with SHPO re the Cultural Resources report; Section 3.7-6.2 of the DEIS cites that a copy of the report has been sent to SHPO. Applicant to confirm if any correspondence or concurrence been received from SHPO.

Response: In our June 13, 2014 response letter and resubmission of the DEIS we stated the following:

“At this time no response from the OPRHP has been received. We respectfully request that the Town Planning Board initiate referral of a copy of the Phase 1 Archeological Investigation to OPRHP.”

The applicant is not aware of any correspondence from OPRHP to either the Town of Warwick Planning Board or ERS Consultants.

2/04/15:

DEIS Section 5b: The Scoping Document (Section 5b) cites correspondence with SHPO re the Cultural Resources report; Section 3.7-6.2 of the DEIS cites that a copy of the report has been sent to SHPO. Applicant to confirm if any correspondence or concurrence have been received from SHPO.

Response: To date no response to the Town of Warwick or ERS Consultants has been received from SHPO. The Phase 1 Archaeological Investigation was completed by Tracker Archaeology Services, Inc. and the entire report was included in the DEIS. TRACKER Archaeology is qualified according to federal standards (36 CFR 61) to perform both prehistoric and historic period archaeological investigations. The conclusion and recommendation in the Phase 1 report stated "No prehistoric artifacts or features were encountered. No further work is recommended for the project area."

18. DEIS Section 3.2 Wetlands: Section 3.2.1 cites the use of the 1995 NYSDEC Wetlands Delineation manual to delineate state wetlands, yet there are no DEC wetlands in the database source nor were any identified on the parcel. Suggest removing the sentence referring to the DEC manual. Applicant to confirm if any follow-up wetlands walk-over was conducted by the Applicant to verify that the wetland conditions had not changed since the original (August 2007) delineation and with the adoption of the new (January 2012) USACE regional manual.

Response: The sixth paragraph on page 3-5 in Section 3.2.1, states that the "NYSDEC Freshwater Wetlands Delineation Manual (1995) was used to delineate state wetlands." This statement has been deleted. Additionally, the DEIS states that the "The NYSDEC Freshwater Wetlands Map shows no wetlands on the project site." Field investigations confirm that no NYSDEC wetlands exists on the subject site.

US Army Corps of Engineers regulates the wetlands located on-site. As part of the Homarc Project as well as the Fairgrounds Project the wetlands system has been delineated three times with three Jurisdictional Determinations covering the last 15 years. The upland/wetland boundary has remained the same during this time period. The applicant feels that it is not necessary to re-delineate the wetlands because the boundary has not deviated and no on-site impacts are proposed for wetlands. Additionally, no changes would occur to the upland wetland boundary with the adoption of the new US Army Corps of Engineers Regional Manual.

19. Applicant to confirm if there are any problems with mosquitoes anticipated with the proposed permanent pool in the stormwater management system.

Response: Wet ponds are not good breeding spots for mosquitos because they typically have predators such as fish, frogs and dragon flies feeding on adult and larvae. A New Jersey study showed that there are more mosquitos in stormwater dry basins.

2/04/15:

Change "breeding" to "breeding" in the response. Also cite the New Jersey study re more mosquitoes in stormwater dry basins.

Response: The New Jersey study is Mosquito Control Problems Associated With Stormwater Control Facilities written by Chanda, D.A. and J.K. Shishler. 1980 In another study Megonigal (2009) states "Basin designs that incorporate ecological diversity using suitable habitat to enhance natural mosquito predators are highly encouraged." Megonigal, J. P. (ed.). (2009). Current Practices in Wetland Management for Mosquito Control. Society of Wetland Scientists, 1-19. Retrieved on September 26, 2010 from:

http://www.sws.org/wetland_concerns/docs/SWS-MosquitoWhitePaperFinal.pdf

20. DEIS Section 3.3 Terrestrial and Aquatic Ecology: Table 3.3 – The scientific name for tree-of-heaven should be *Ailanthus altissima*. Spotted knapweed is cited in the text (Successional Old Field/Meadow) but does not appear in Table 3-3.

Response: The scientific name tree-of-heaven has been revised. Spotted knapweed has been added to Table 3-3.

21. DEIS Section 3.3 Terrestrial and Aquatic Ecology: In Table 3.4 the scientific name for the Eastern phoebe should be *Sayornis phoebe*. The tufted titmouse is cited in the text but does not appear in Table 3-4. Also, the range of the Carolina chickadee is not reported to extend north of central New Jersey. The species encountered is most likely the black-capped chickadee, *Poecile atricapillus*. The table should also indicate which of the listed species were observed on the site and which were not observed but expected to occur.

Response: The scientific name for the Eastern phoebe has been revised. The tufted titmouse has been added to Table 3-4. The species name has been added to the chickadee. Table 3-4 has been revised to indicate which of the listed species were observed on the site.

2/04/15:

In Table 3-4, the common name for *Mustela frenata* should be “long-tailed weasel”. Also no habitat type is cited for the tufted titmouse.

Response: The common name for Mustela frenata is long-tailed weasel. Habitat for the tufted titmouse is wooded uplands.

**Table 3-4
Project Site Wildlife**

Common name	Scientific name	Habitat Type			
		OF	Upl	Wet	Ed
Mammals					
White-tailed deer	<i>Odocoileus virginianus</i>	X	X	X	X
Coyote*	<i>Canis latrans</i>	X	X	X	
Raccoon	<i>Procyon lotor</i>		X	X	X
Red fox	<i>Vulpes vulpes</i>	X	X	X	X
Opossum*	<i>Didelphis virginiana</i>		X	X	
Eastern chipmunk	<i>Tamias striatus</i>		X		X
Eastern Grey squirrel	<i>Sciurus carolinensis</i>		X	X	
Eastern cottontail	<i>Sylvilagus floridanus</i>	X	X		X
Striped skunk*	<i>Mephitis mephitis</i>		X		X
White-Footed Mouse	<i>Peromyscus leucopus</i>	X	X		X
Long-Tailed weasel*	<i>Mustela frenata</i>		X	X	X
Deer mouse	<i>Peromyscus maniculatus</i>	X	X		X
House mouse*	<i>Mus musculus</i>	X			X
Meadow vole*	<i>Microtus pennsylvanicum</i>	X			X
Star-nosed mole*	<i>Codylura cristata</i>	X	X		X
Eastern mole*	<i>Scalopus aquaticus</i>	X	X		
Woodchuck	<i>Marmota monax</i>	X	X		
Short-tailed shrew	<i>Blarina brevicauda</i>	X	X		X
Common shrew*	<i>Sorex cinereus</i>	X	X		X
Little brown bat*	<i>Myotis lucifugus</i>		X	X	X
Red bat	<i>Lasiurus borealis</i>		X	X	X
Reptiles					
Eastern garter snake	<i>Thamnophis sirtalis</i>		X	X	X
Milk snake*	<i>Lampropeltis triangulum</i>		X		X
Brown snake*	<i>Storeria dekayi</i>		X	X	X
Ringneck snake*	<i>Diadophis punctatus</i>		X		
Black rat snake	<i>Elaphe obsoleta</i>		X		X
Northern water snake	<i>Natrix sipedon sipedon</i>		X	X	
Snapping turtle	<i>Chelydra serpentina</i>			X	
Amphibians					
Red back salamander*	<i>Plethodon cinereus</i>		X	X	X
Slimy salamander*	<i>Plethodon glutinosus</i>			X	X
Red spotted Newt	<i>Notophthalmus viridescens</i>		X	X	X
American toad	<i>Bufo Americanus</i>		X		X
Gray treefrog*	<i>Hyla versicolor</i>		X	X	
Wood frog	<i>Rana sylvatica</i>		X	X	
Green frog	<i>Rana clamitans</i>				X
Spring peeper	<i>Pseudacris crucifer</i>			X	
Pickerel Frog*	<i>Rana palustris</i>			X	
Bullfrog*	<i>Rana catesbeiana</i>			X	

Table 3-4 Project Site Wildlife - Continued					
Common name	Scientific name	Habitat Type			
		OF	Upl	Wet	Ed
Birds					
Canada goose	<i>Branta canadensis</i>	X		X	
Turkey	<i>Meleagris gallopavo</i>	X	X	X	
Hairy woodpecker	<i>Picoides villosus</i>		X	X	
Downy woodpecker	<i>Picoides pubescens</i>		X	X	
Northern flicker	<i>Colaptes auratus</i>		X	X	
Red-tailed hawk	<i>Buteo jamaicensis</i>	X	X	X	X
Robin	<i>Turdus migratorius</i>	X	X	X	X
Catbird	<i>Dumetella carolinensis</i>	X	X		X
Mockingbird	<i>Mimus polyglottos</i>	X	X	X	X
Eastern phoebe	<i>Sayornis phoebe</i>		X	X	X
Crow	<i>Corvus brachyrhynchos</i>		X	X	X
Grackle	<i>Quiscalus quiscula</i>	X			
Blue jay	<i>Cyanocitta cristata</i>	X	X	X	X
American goldfinch	<i>Carduelis tristis</i>		X	X	
Cardinal	<i>Cardinalis cardinalis</i>				X
Tufted titmouse	<i>Baeolophus bicolor</i>		X		
House sparrow	<i>Passer domesticus</i>				X
Chipping sparrow	<i>Spizella passerina</i>				X
Red-winged blackbird	<i>Agelaius phoeniceus</i>			X	
Wren	<i>Troglodytes spp.</i>		X	X	X
Junco	<i>Junco hyemalis</i>		X	X	
Mourning dove	<i>Zenaida macroura</i>				X
Chickadee	<i>Poecile atricapillus</i>		X	X	X
Nuthatch	<i>Sitta spp.</i>		X	X	X
Finch	<i>Carpodacus spp.</i>		X		X
Turkey vulture	<i>Cathartes aura</i>		X	X	X
Habitat: OF-Open Field, Upl-Wooded upland, Wet-Wetland, Ed-Edge habitat.					
*Species not observed but expected to occur.					
Source: ERS Consultants, Inc.					

22. DEIS Section 3.4.3 Mitigation Measures: It is suggested that the second to last sentence in the first paragraph on Page 3-20 should read (proposed text in bold) "In fact, nutrient loads in the stormwater runoff are likely to decrease with the cessation of agricultural use of the site".

Response: The second to last sentence in the first paragraph on Page 3-20 has been modified to read "In fact, nutrient loads in the stormwater runoff are likely to decrease with the cessation of agricultural use of the site"

23. DEIS Section 1.2 Anticipated Impacts and Proposed Mitigation Measures: DEIS states that the dumpster location will avoid visual impacts; however, the dumpster is facing the building and Route 94. Applicant to confirm final dumpster location based on previous statement.

Response: The current location for the dumpster appears to be the best and final location. The dumpster location avoids visual impacts by having a six foot high stockade fence surrounding the dumpster. That detail is provided in the Profile and Details sheet. Additionally, shrubs have been placed on both sides of the dumpster location as depicted in the Landscaping Plan.

2/04/15

Applicant should illustrate truck movements to verify that a garbage truck can access the dumpster and confirm that the gate provided is wide enough.

Response: A figure (Figure A) has been generated and provided on page 48 showing truck movement with access to the dumpster. The gate provided is eight feet wide, wide enough for the dumpster to be accessed.

24. DEIS Section 4.0 Alternatives: There is no visual section provided in the DEIS, yet it is listed in the alternatives section. Applicant to provide this section, if necessary and/or applicable, or remove from document.

Response: Visual impact have not been provided in the DEIS because they were not part of the Final Scoping Document. The applicant feels that it is relevant to provide visual impacts within the Alternative Section to facilitate a proper comparison analysis. Visual impacts were discussed in generalities and were not quantified.

25. DEIS Section 2.4.2 Structures and Site Development: This DEIS states transit bus circulation is feasible. If so, a transit stop should be provided. If a transit stop is provided, appropriate access, ADA access and crosswalks may be required.

Response: Since the project is unfortunately at the end of a dead end, the parking lot had to be designed for a circular traffic pattern. The parking lot allows delivery and service trucks to enter and leave the site. The DEIS stated that transit bus circulation is feasible, though not specifically designed for this use. The applicant is not aware of any transit buses that would utilize the subject site. Should the marginal access road ever continue west onto the adjacent properties, that would eliminate the need, should such a need ever exist, for a transit bus to circulate around the proposed building.

2/04/15:

Noted that no transit stop is provided. Additional pedestrian access with a cross walk has been provided, but handicap ramps must be included.

Response: Handicap ramps have been provided.

26. DEIS notes comp plan goal to create pedestrian and bicycle networks through sidewalks, bicycle paths, trails and crosswalks, in order to create connections to shared parking, public transportation and between stores and nearby housing in the RU and SL Districts as well as the Village. No connecting pedestrian and bicycle networks or public transit stops are proposed. If non-vehicular access is provided, it must be ADA compliant.

Response: The statement on page 2-8 that "No pedestrian or bicycle path are provided on the site plan" has been removed. The shoulder of the on-site marginal access road will be marked for utilization as both a walkway for pedestrians as well as a bike lane.

27. DEIS Section 3.5 Zoning and Surrounding Land Use: The DEIS states that the code requires one canopy tree of 3" caliper for every eight spaces and 10 shrubs, thus requiring 11 trees and 110 shrubs. The site plan shows 35 canopy trees and 110 shrubs, meeting tow requirements. Only 9 of the proposed trees are of 3" caliper or more. Site plan does not meet the requirement.

Response: The Landscaping Plan has been revised to show proposed trees are of 3" caliper or more.

28. DEIS Section 3.5 Zoning and Surrounding Land Use: DEIS does not mention anything about perimeter landscaping requirements.

Response: The Town of Warwick Zoning Code §164-43 states that one canopy tree should be planted per 35 feet of perimeter of parking lot.

29. DEIS Section 3.5 Zoning and Surrounding Land Use: DEIS states the site's size allows for the development of an attractive commercial facility with significant landscaped and natural buffers that would preserve the existing character of the NYS Route 94 corridor. A 60 deep buffer area is provided with 18 trees, with limited shrubs and perennials located only around the sign. At 460 ft. length, at 1 tree per 35 feet of perimeter is 14 trees, just to meet perimeter. This feature does not appear to be "generous," as the comp plan states. Applicant to confirm.

Response: The Town of Warwick Zoning Code §164-43.2A(7)(b) states that "To reduce the visual impacts of the parking lot..." the applicant is required to plant

one canopy tree per 35 feet of perimeter of a parking lot. It is the applicant's understanding that the Zoning Code requires canopy trees only around the perimeter of the parking lot and not around the perimeter of the site.

30. DEIS Section 2.4.2 Structures and Site Development: DEIS states that all fixtures shall be fully shielded. This is not captured on the site plans.

Response: In the DEIS under Section 2.4.2 it is stated that all fixtures shall be fully shielded. It is the applicant's intent to have all fixtures fully shielded.

31. DEIS Section 2.4.2 Structures and Site Development: DEIS states that fixtures will be mounted on 14 ft. poles. However, the Site Plans say 15 ft., although many poles are below the retaining wall. Applicant to confirm which height is correct and correct the document accordingly.

Response: All light fixtures will be mounted on poles 15 feet above ground surface.

32. DEIS Section 2.4.2 Structures and Site Development: DEIS states that a minimum level of all night illumination will be maintained for security. Site plans states hours of operation as Dusk to 8 a.m. It does not specify reduced lighting levels. Applicant to include reduced lighting levels, as necessary, to the DEIS.

Response: After operational hours lights within the parking lot will be turned off. A minimum level of all night illumination will be maintained for security. These lights will be located within and on the proposed building.

2/04/15:

It must be noted that typical parking lot lights are not shut off. Applicant to verify that lights will be turned off after operational hours.

Response: Lights on the building will remain on all night. Parking lot lights will be turned off after 1AM.

33. DEIS Site Plans: Site plans require more details in order to determine ADA compliance, including ramps, grades across parking areas, contours and spot elevations, guiderails above surface of parking areas, handicap parking details. Handicap parking does not appear to be located in the shortest, most central location. Applicant to revise figure(s), including the Grading Plan, accordingly.

Response: Handicap parking has been relocated to a more central location on either side of the building.

2/04/15:

Handicap ramps have been relocated, but no additional information has been provided to determine if the site can meet ADA grading requirements. The site plans and details should incorporate the most appropriate type of handicap ramp.

Response: Handicap ramps have been provided. These ramps meet ADA grading requirements.

34. DEIS Site Plans – Landscaping Plan: Only 9 of the proposed trees are of 3” caliper or more, should be at least 11. Site plan does not meet the requirement. Applicant to revise figure accordingly.

Response: The Landscaping Plan has been revised to show proposed trees are of 3” caliper or more.

35. DEIS Site Plans: Parking spaces are insufficiently screened from public view. This could be well more screened, since there is the room for more landscaping, and not just trees. Shrubs provide screening closer to the ground. Applicant to reconsider landscaping in these areas.

Response: Only a small portion of the parking lot can be viewed by the public.

36. DEIS Site Plans – Landscaping Plan: Plan states “To reduce the visual impact of the parking lot, provide a ten-foot wide landscape strip around the perimeter of the lot, to be planted with shade trees and low shrubs. Provide a minimum of one shade tree every 35 feet of lot perimeter but not necessarily at 35 feet on-center.” Per the provided plans, this is not provided. These trees would be in addition to the 1 per 8 spaces interior to the lot. Applicant to revise Landscaping Plan.

Response: Given the limitations of the site it is not possible to add additional trees to the perimeter of the parking lot. The Zoning Code requires that the visual impacts of the parking lot be reduced. Given the location of the proposed development on the subject site there are no public views of the parking lot to the north and east. The bowling alley on the adjacent property will block most of the views from the west.

2/04/15:

Perimeter landscaping has been provided in some locations but is not in compliance with Town Code.

Response: The Zoning Code requires that the visual impacts of the parking lot be reduced. Given the location of the proposed development on the subject site there are no public views of the parking lot to the north and east. The bowling alley on the adjacent property will block most of the views from the west. Trees are proposed around the perimeter of the parking lot are required by the Town Code. A total of 58 trees are proposed while only 31 are required. The Code requires one tree per eight parking spaces or 11 trees for this project. Additionally Code requires one tree per 35 feet of parking lot perimeter or 20 trees for this project.

37. DEIS Site Plans – Landscaping Plan: Plan states “Divide the rows of parking with planting strips and trees, averaging a tree every six to 10 spaces.” This is not sufficient per the provided plan. The curved portion of the parking lot has 20+ spaces with no planted island. Applicant to revise Landscaping Plan.

Response: A planting strip has been added to the Landscape Plan to divide the rows of parking.

38. DEIS Site Plans – Landscaping Plan: Plan states “Create large planting islands (over 500 square feet) to be located throughout the lot and planted with shade trees, low shrubs, and/or ground cover.” Per the provided plans, this is not provided, although they could agree that the planting strip along the building covers this. Applicant to consider revising Landscaping Plan.

Response: The planting strip along the building creates large planting islands. Therefore, no revisions to Landscaping Plan required.

39. DEIS Site Plans – Landscaping Plan: Plan states “Parking spaces shall have wheel stops or curbs to prevent injury to trees and shrubs planted in landscaped islands.” Per the provided plans, this is not provided. Applicant to revise Landscaping Plan.

Response: Wheel stops have been added to the Site Plan within necessary locations. Curbs and retainer walls will also prevent injuries to trees and shrubs.

2/04/15:

Retaining walls should include a guide rail or similar to prevent vehicles or pedestrians from falling off the top of the retaining wall.

Response: Guide rail is now provided along areas with retaining walls.

40. DEIS Site Plans – Landscaping Plan: Planting details are not sufficient to illustrate to a contractor how to plant. Applicant must provide shrub planting details and details for permanent seeding.

Response: Shrub planting details and details for permanent seeding have been added to the Landscaping Plan.

2/04/15:

The responses note that shrub details have been added. These are not found on the drawings. All details provided appear to be tree details. Please provide shrub and perennial planting details, and label each detail.

Response: Shrub and perennial planting details are provided on the landscaping plan.

41. DEIS Site Plans – Landscaping Plan: Provide details on soil restoration after being compacted during construction, in order to support plant health.

Response: Details have been provided for restoration of compacted soils.

2/04/15:

Please note detail number and sheet for review.

Response: Details and specifications on Sheet 3 of 6 have been provided.

42. DEIS Site Plans – Landscaping Plan: Provide landscaping notes, including contractor instructions, plant warrantee period, plant stock standards, etc.

Response: Landscaping notes, including contractor instructions, plant warranty period, and plant stock standards have been provided on the Landscaping Plan.

2/04/15:

Applicant to state where this information is shown.

Response: Landscaping notes, contractor instructions, and plant warrantee are now provided on Sheet 3 of 6.

43. DEIS Site Plans – Landscaping Plan: Plants for the proposed pocket pond need to include quantity, spacing and size. What is shown on the Landscaping Plan differs from the pocket pond details. Applicant to confirm and revise plan(s) for uniformity accordingly.

Response: Plants for the proposed pocket pond now include quantity, spacing and size.

2/04/15:

Quantity has been including, although size and spacing has not. Different plants are still noted in the pocket pond detail. Please confirm.

Response: The plants noted in the pocket pond detail include soft rush and soft stem rush, as noted in the table on the Landscaping Plan. The size calls for plugs and the spacing is 18 inches apart.

44. DEIS Site Plans – Landscaping Plan: Perimeter plantings where the retaining wall is located are well below the parking level surface. Shrubs may not even be seen. Trees, along parking areas, typically can be maintained to have lower branches removed to maintain sight distance. With the trees below the wall, as they grow, the limbs may damage parked cars, as the limbs would not be the lower branches.

Response: Where possible the retaining wall has been moved out. Some of the trees and shrubs will be planted at the base of the retaining wall. Trees will be maintained so that they do not impact site distance or encroach within parking areas.

2/04/15:

Change “site” to “sight” in the response. Retaining wall has been moved. Please verify that there is enough room provided for the trees proposed along the top of the retaining wall, and that roots will not impact the wall. If trees are to be maintained to not encroach within parking areas, those maintenance notes should be included.

Response: The Applicant states that there is enough room to plant trees along the retaining wall and not impact the wall. Trees will be maintained to not encroach within parking areas and those notes are provided on the landscaping plan.

45. DEIS Site Plans – Landscaping Plan: There is landscaping shown within the sidewalk area. Applicant to revise plan accordingly.

Response: The Landscaping Plan has been revised accordingly.

46. DEIS Site Plans – Landscaping Plan: Please verify types of vegetation proposed. There are numerous sized symbols for the same plant which is deceiving. Applicant must verify that there is enough room for each plant, given that the sidewalk planting area is only 3 ft.

Response: The types and quantity of vegetation proposed have been verified and is shown in the table on the Landscaping Plan. The planting area is sufficient for the proposed vegetation to be planted, at 5 feet in width. The typical distance between sidewalks and the curb is 3 ft. in most villages.

2/04/15:

Please verify symbols, as there appear to be differing symbols for the same plants. Verify quantities shown. Plants growing to 6-10ft in width are not appropriate for a 3-5ft planting strip. Please confirm.

Response: Symbols and quantities have been verified. Two shrub plants, Clethra alnifolia and Cornus sericea are proposed within the 5 foot planting area. According to the US National Arboretum Clethra alnifolia reaches 3 feet in height and width in five years and both reach widths of up to six feet. Obviously these shrubs will be maintained and trimmed when necessary.

47. DEIS Site Plans – Landscaping Plan: Some lights are below the wall. A photometric plan should be prepared to illustrate what impact is created. The photometric plan should also include the point by point calculation of foot candles to illustrate meeting of 0.25 foot candles at the property line. Uniformity table should also be provided to show ratios, minimums, and averages, per code.

Response: A photometric plan has been prepared and includes the point by point calculation of foot candles to illustrate meeting 0.25 foot candles at the property line. This information has been added to the Lighting Plan.

48. Applicant must provide access to the bicycle rack; or, Applicant to confirm if bicyclists should use the handicap access aisle and sidewalk to reach the rack.

Response: Access is provided to the bicycle rack from the front of the building. Bicyclists can also access the bicycle rack from the Handicap access isle located on either side of the building.

2/04/15:

Applicant must provide access to the bicycle rack; or, Applicant to confirm if bicyclists should use the handicap access aisle and sidewalk to reach the rack.

Response: Bicyclists will use the sidewalk with handicap access.

49. Applicant must provide a location where stockpiled snow will be stored during snow removal activities.

Response: The location for stockpiling snow is now shown on the site plan.

50. Applicant must provide a truck movement plan to illustrate how a garbage truck is getting to the proposed dumpster location. It appears that, depending on type of garbage truck used in the Town, that at least one parking space will be impacted.

Response: A truck movement plan showing the garbage truck accessing the proposed dumpster is now provided. The area in front of the dumpster is not a parking space and has not been included in parking calculations.

2/04/15:

Applicant must provide a truck movement plan to illustrate how a garbage truck is getting to the proposed dumpster location. It appears that, depending on type of garbage truck used in the Town, that at least one parking space will be impacted.

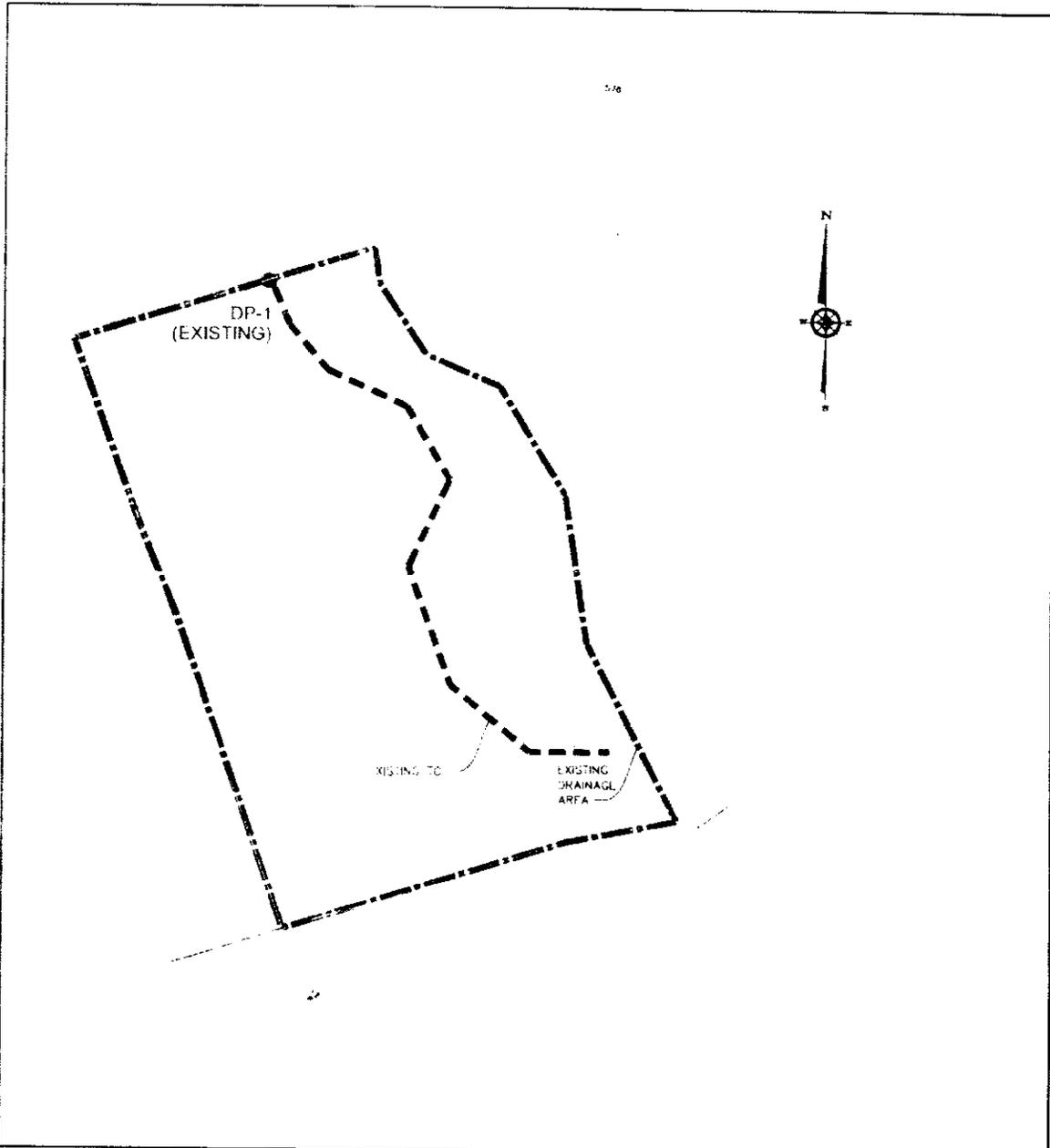
Response: A figure (Figure A) has been generated showing truck movement with access to the dumpster, and can be found on page 48.

51. DEIS Page 3-17: The first paragraph states that the runoff from the remaining portions of the site will not be affected by the proposed project. Development is proposed outside of the one drainage area that is analyzed. Applicant shall update the existing drainage area map (Figure 3-9) to include all portions of the site that will be developed. Applicant should coordinate Figure 3-9 in the DEIS with Figure 3 provided in Appendix C.

Response: Figure 3-9 has been updated to include all portions of the site that will be developed.

52. DEIS Figure 3-10: Applicant shall update the proposed drainage area map (Figure 3-10) to include reflect the drainage areas shown on Figure 4 provided in Appendix C.

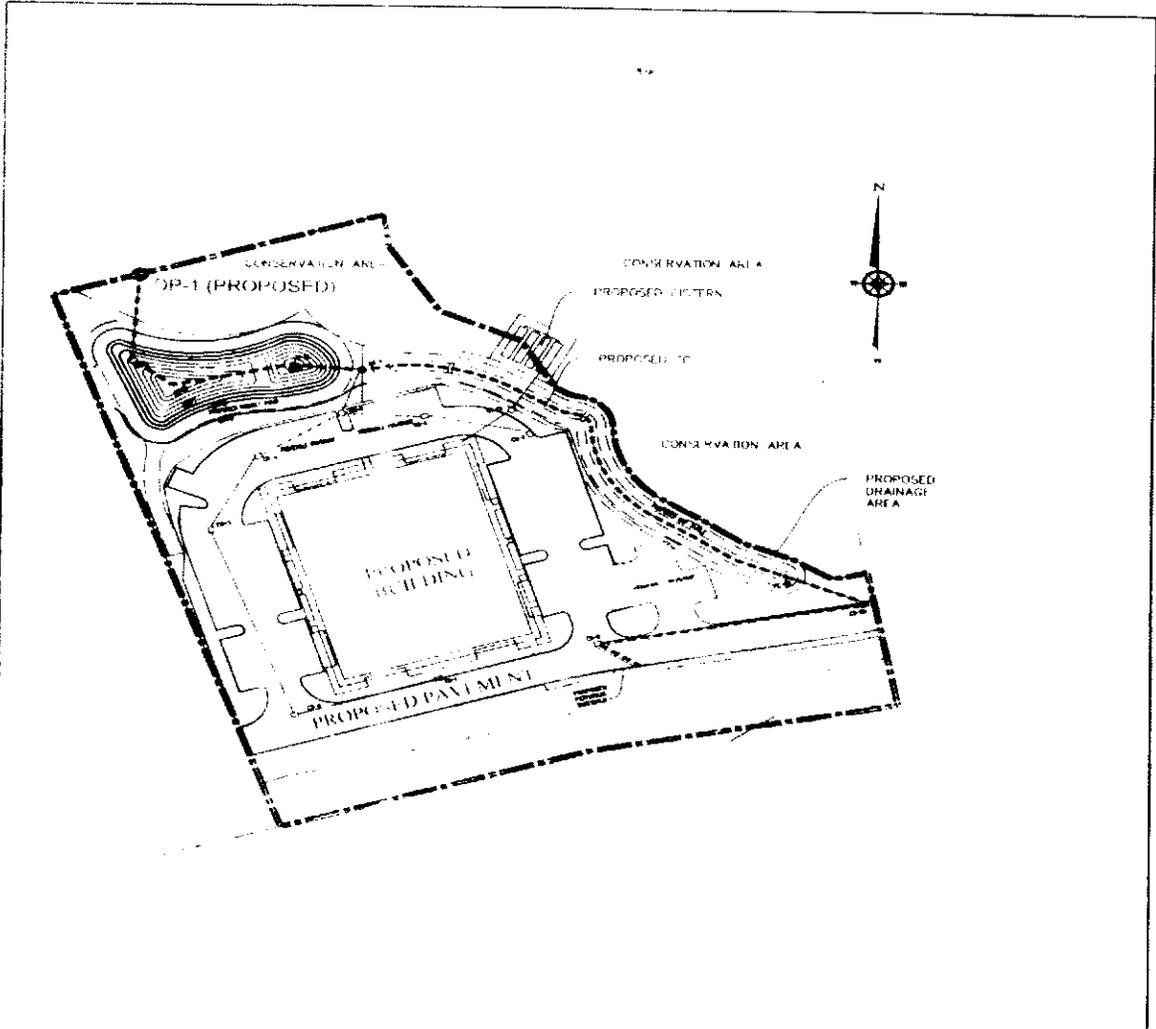
Response: Figure 3-10 has been updated to include drainage areas shown in the Stormwater Report.




ERS CONSULTANTS, INC.
 ENVIRONMENTAL RESOURCE SPECIALISTS
 11 BUREAU AVENUE, WESTWICH, NEW YORK 10996
 Phone: (845) 961-1775 Fax: (845) 961-1776

EXISTING DRAINAGE AREAS
 PREPARED FOR
HOMARC LAND, LLC
 SECTION 51 BLOCK 1 LOT 5.231
 TOWN OF WARWICK, COUNTY OF ORANGE, NEW YORK
 SCALE: 1" = 100'

FIGURE 3-9




ERS CONSULTANTS, INC.
 ENVIRONMENTAL RESOURCE SPECIALISTS
 111 BROADWAY, NEW YORK, NY 10038
 PHONE: (212) 512-2200 FAX: (212) 512-2201

PROPOSED DRAINAGE AREAS
 PREPARED FOR
HOMARC LAND, LLC
 SECTION 51, BLOCK 4, LOT 5, 231
 TOWN OF WARWICK, COUNTY OF ORANGE, NEW YORK
 SCALE: 1" = 100'
 FIGURE 3.10

53. DEIS Page 3-18 and 3-20: The document refers to an outdated version of the NYSDEC General Permit. The Applicant must revise the text to reference the current version of the NYSDEC General Permit for Stormwater Discharges from Construction Activities.

Response: The updated version of the NYSDEC SPDES General Permit for Stormwater Discharges from Construction Activities is GP-0-10-001.

2/04/15:

DEIS Page 3-18 and 3-20: The Applicant must revise the text to reference the current version of the NYSDEC General Permit for Stormwater Discharges from Construction Activities, effective 1/29/15 and comply with the new requirements, including revisions to the NYS Stormwater Management Design Manual (January 2015), the new stormwater permit GP-0-15-002, and the revised Notice of Intent Form.

Response: The SWPPP report has been revised to reference the current version of the NYSDEC General Permit, the NYS Stormwater Management Design Manual (January 2015), as well as the Notice of Intent Form. The "NOT", per GP-0-15-002, has been revised.

54. DEIS Page 3-18: Applicant shall confirm that there is sufficient capacity in the wastewater treatment plant located on the Price Chopper property to handle the proposed wastewater flow.

Response: In personal communication with Dave Getz, P.E., the engineer for the Fairgrounds Project (Price Chopper Plaza) he stated that the Fairgrounds Wastewater Treatment Plant has a capacity for treating 10,000 gallons of wastewater per day. Santec, the engineering firm for the Fairgrounds Wastewater Treatment Plant, submitted a report to the Town of Warwick in May 2014 which stated that the wastewater averaged 3,523 gallons per day for 2014. Therefore, sufficient capacity in the wastewater treatment plant exists for the 2,000 gallons per day allocated to this project.

55. DEIS Page 3-18: Applicant shall confirm the proposed impervious surface area and update the DEIS and SWPPP to accurately reflect the proposed quantity.

Response: The applicant has confirmed the proposed impervious surface area which can be found in the Stormwater (SWPPP) Report.

56. DEIS Page 3-19, Section 3.4.3: Applicant shall update this section to reflect the mitigation measures proposed in the Stormwater Pollution Prevention Plan provided in Appendix C.

Response: Mitigative measures include sediment erosion control, landscaped areas, grass pavers, dry swale, cistern, and pocket pond. These measures are discussed in the SWPPP Report.

57. DEIS Appendix C, SWPPP: Applicant shall update the referenced version of the NYS Stormwater Management Design Manual to the most recent version (June 2010) and update all calculations and methodologies as required.

Response: The Stormwater (SWPPP) Report has been updated to include the most recent version of the NYS Stormwater Management Design Manual (August 2010).

58. DEIS Appendix C, SWPPP: Applicant to include two (2) additional figures demonstrating placement and frequency of pre- and post-construction (temporary and permanent) stormwater control features. Figures should be signed and stamped by a P.E. registered in New York.

Response: The Grading Plan shows the placement and frequency of pre- and post-construction (temporary and permanent) stormwater control features. These plans have been signed by a P.E. registered in New York. These plans accompany the Stormwater (SWPPP) Report.

59. Applicant to confirm it is appropriate per US Army Corps and other regulations to construct a cistern and dry swale within the 100 ft. "management area" buffer of a federal wetland.

Response: The US Army Corps does not regulate buffers around federal wetlands. The 100 ft. management area is strictly voluntary and not subject to other regulations.

60. DEIS Appendix C, SWPPP: Reference to NYSDEC's Region 8 office are made throughout the Appx. C SWPPP document (i.e., Section 9.0). Correspondence regarding this project should be made through the NYSDEC Region 3 office, as identified at the beginning of the document, which services Orange County.

Response: The Stormwater (SWPPP) Report has been revised, now referencing NYSDEC's Region 3 as the office regulating Orange County.

61. DEIS Appendix C, SWPPP, Section 5.2: References are made to a USDA Web Soil Survey as provided in Appendix L. There is no Appendix L to this document. Applicant to provide necessary documentation.

Response: The Stormwater (SWPPP) Report has been revised and found in Appendix E.

62. DEIS Appendix C, SWPPP, Section 7.0: This section references the preservation of existing vegetation as much as possible. Applicant to provide a figure demonstrating these areas, and any trees that will remain, as well as identify methods of tree protection.

Response: A figure has been provided in the Stormwater (SWPPP) Report identifying preservation of existing vegetation. As discussed in the DEIS, no trees are located within the proposed areas of disturbance and no trees will be impacted on the project site.

2/04/15:

The applicant stated a figure was provided in the SWPPP that identifies the preservation of existing vegetation, however, no such figure could be found. Please clarify.

Response: A figure has been provided in the SWPPP indicating preservation of existing vegetation.

63. DEIS Appendix C, SWPPP, Section 7.0: This section references temporary soil stabilization of disturbed areas and removal of sediment from construction site discharges. Applicant to confirm if temporary seeding or erosion control matting is to be used on site and types/placement of controls. Applicant must also provide drop inlet protection to any stormwater catch basins on site, as needed. Applicant to provide details of all temporary erosion control features to be used on site.

Response: Temporary seeding and erosion control matting will be used on site. The applicant will be using drop inlet protection on stormwater catch basins. Details are provided on the Grading and Utilities sheet.

2/04/15:

The areas of temporary seeding are not shown on the figure(s). Update the figures to show the limits to temporary seeding.

Response: Temporary seeding areas are shown on the Grading Plan.

64. DEIS Appendix C, SWPPP, Section 8.1: This section references design calculations for each stormwater control measure in Appendix D. There is no Appendix D to the SWPPP document. Appendix D of the DEIS contains soil boring logs. Applicant to provide necessary documentation.

Response: Design calculations have been provided in the SWPPP Report.

2/04/15:

Grading and Utilities Plan, Sheet 2 of 6: Applicant to revise location of silt fence between proposed building and Route 94, as there are no means of ingress/egress from the proposed contractor staging area.

Response: A provision for ingress/egress has been provided through silt fence.

65. DEIS Appendix C, SWPPP, Section 8.3.4: Confirm pre-development watershed runoff rates at each design point is presented in Table 9. Please identify the location of Table 9 in this report.

Response: Pre-development watershed runoff rates have been provided in the SWPPP Report.

66. DEIS Appendix C, SWPPP, Section 8.3.5: Confirm where post-development watershed runoff rates at each design point are presented. Please identify the location of the table in this report.

Response: Post-development watershed runoff rates have been provided in the SWPPP Report.

67. DEIS Appendix C, SWPPP, Page 26: Include units for the pre- and post-development discharge rates.

Response: Units (cubic feet/second) for the pre- and post-development discharge rates have been provided in the SWPPP Report.

68. DEIS Appendix D, Soil Logs: Provide a figure to demonstrate where the soil percolation tests and test pits were performed on the site.

Response: A figure showing the location of percolation tests and test pits has been provided in the SWPPP Report.

69. DEIS Appendix C, SWPPP: Applicant to include the pocket pond total post-development WQv analysis.

Response: The pocket pond total post-development WQv analysis have been provided in the SWPPP Report.

2/04/15:

DEIS Appendix D, Soil Logs: Provide a figure to demonstrate where the soil percolation tests and test pits were performed on the site.

Response: A figure (Figure B) has been provided indicating the location of soil percolation tests and test pits. This figure can be found on page 49 of this section.

70. DEIS Appendix C, SWPPP: Applicant to provide sizing calculations for the following post-development stormwater management controls: pocket pond, hydrodynamic separator(s), cistern, permeable pavement catchment.

Response: Sizing calculations for post-development stormwater management controls including the pocket pond, hydrodynamic separators, cistern, and permeable pavement catchment have been provided in the SWPPP Report.

2/04/15:

DEIS Appendix C, SWPPP: Applicant to include the pocket pond total post-development WQv analysis in Appx. E – Revised SWPPP, Appx. D.

Response: The pocket pond total post-development WQv analysis is provided. As per the NYSDEC Stormwater Manual, 100% of the WQv has been treated with RRv techniques. These techniques and calculations can be found in Appendix I under Total Water Quality Volume Calculation. Three (3) porous pavement subcatch areas have been provided and individual WQv calculations can be found in Appendix I. The pocket pond provides additional WQv storage but is used primarily for CPv, 10 and 100 year storm. Additional impervious area has been used in the post-development HydroCAD model to accommodate for unanticipated minor changes to impervious during the site plan phase.

71. DEIS Appendix C, SWPPP: Applicant to provide cross-sectional details and manufacturer cut sheets (as applicable) for hydrodynamic separator(s).

Response: Cross-sectional details and manufacturer cut sheets for hydrodynamic separators have been provided in the SWPPP Report.

72. DEIS Appendix C, SWPPP: Applicant must provide permanent seed mixtures, application rates, recommended application dates and ratio of soil amendments necessary for the site.

Response: Permanent seed mixtures, application rates, recommended application dates and ratio of soil amendments have been provided in the SWPPP Report.

73. DEIS Pg. 3-27: The DEIS states "This study, dated September 2010...as Appendix E." However, the document in Appendix E is dated October 2007. Provide the traffic impact study dated September 2010.

Response: The September 2010 Traffic Study has been provided in the Appendix C.

2/04/15:

SWPPP refers to contract documents; Applicant must provide information in the SWPPP document, or also provide the contract documents for review by the Town.

Response: Contract documents are provided in the SWPPP document.

74. DEIS Pg. 3-28: Trip Generation in the Appendix and in Table 3-10 note the use of Trip Generation Manual 7th Edition, while the text states 8th Edition. Please clarify which was used. "The trips generated for both peak hours...patterns." Provide peak hours analyzed in the traffic study.

Response: The Trip Generation Manual 8th Edition was used.

2/04/15:

SWPPP, Appendix C: The HyrdoCAD data provided for the modeling of the pocket pond do not conform with the requirements of the NYSDEC Stormwater Design Manual.

- a. The modeling of the pocket pond for the 100 year design storm illustrates freeboard of 0.54 feet, which is less than the two feet required by the manual.
- b. Because the pond is intended to have a wet bottom, the model should be revised to reflect this condition. As it currently exists, there are means for water below elevation 567.84' to discharge from the pond.
- c. The modeling of the outlet structure needs to be updated to reflect the proposed outlet structure layout. As it is currently modeled, the 15" orifice (#3, Device 2)

is restricted by the 4" orifice (#2, Device 1). The proposed outlet structure does not reflect this condition.

Response:

- a. The freeboard of 0.54 feet has been revised to 1.0 foot.*
- b. Pond design has been revised.*
- c. The outlet structure has been updated to reflect the proposed outlet structure layout.*

75. DEIS Pg. 3-29: The 2nd paragraph describes that manual turning movement counts were conducted during the PM and Saturday Peak hour periods; however, the 2007 study found in the Appendix was conducted during AM and PM peak hours. Applicant to confirm if there were additional counts conducted in 2007 and after 2007. The counts conducted in 2007 are over 7 years old and it is advised to conduct more recent counts because traffic patterns may have changed since then. Furthermore, this paragraph states that the critical period is between 11:45-12:45 PM. Provide additional backup information (traffic counts, observations, etc.) in order to determine the Saturday peak hour.

Response: The September 2010 Traffic Study has been provided in Appendix C. Saturday peak hour was from 12:45-1:45pm.

76. DEIS Section 3.6 Vehicular Traffic and Roadways, Tables 3-8 and 3-9: HCM 2010 is now available. Provide the reason of using HCM 2000 vs. HCM 2010.

Response: Both the 2007 and 2010 Traffic Studies were conducted prior to the Fifth Edition of the Highway Capacity Manual (HCM2010). The Level of Service Criteria remains exactly the same under the HCM 2010 edition.

77. DEIS Pg. 3-30: The 4th and 5th paragraphs seem to include information about a more recent study that was conducted. Provide the backup information (existing and future traffic counts, traffic analyses, methodologies developed for assessment, etc.).

Response: The September 2010 Traffic Study has been provided in Appendix C.

2/04/15:

Please provide back-up information (traffic counts, observations, etc.).

Response: All back up information including traffic counts are located in the 2010 Traffic Study provided in Appendix C of the FEIS. Additionally, a traffic analysis report was prepared for the Fairgrounds project in January 2012 which has updated information for the area.

78. DEIS Pg. 3-30: There are discussions on potential impacts; however, it is unclear as to why there would be a reduction in LOS. Applicant to provide a description of the proposed condition and refer to the summary of results.

Response: Table 2 –Level of Service Summary Table in the 2010 Traffic Study shows the reduction in LOS for the Warwick Turnpike, Shoprite and Ford dealer intersections.

79. DEIS Fig. 3-14: The volumes appear to be lower than the study conducted in 2007. Provide existing, net trips, and build conditions volume networks.

Response: The September 2010 Traffic Study has been provided in Appendix C.

2/04/15:

Please provide 2010 traffic counts and observations.

Response: All back up information including traffic counts are located in the 2010 Traffic Study provided in Appendix C of the FEIS. Additionally, a traffic analysis report was prepared for the Fairgrounds project in January 2012 which has updated information for the area.

80. DEIS Fig. 3-15: Provide the source of these volumes and include existing, net trips, and build condition volume networks.

Response: The September 2010 Traffic Study has been provided in Appendix C.

81. DEIS Pg. 3-31, Table 3-10: The 1st and 2nd paragraphs describe the methodologies to develop No Build and Build traffic volumes. However, these volumes are lower than the 2007 study. This paragraph also describes counts conducted in 2010, though no counts were provided. If the proposed building is nearly 10,000 larger than the building proposed in the 2007 study, Table 3-10 was directly from the 2007 trip generation (again mentioned as 7th Edition in the table and 8th Edition in text). Applicant to confirm how the additional trips generated were accommodated. Table 3-10 reflects AM and PM peak hour. Provide Table that would reflect Saturday peak hour.

Response: Table 3-10 is provided below with the data from the 2010 Traffic Study. This table includes the Saturday peak hour.

Table 3-10
HOURLY TRIP GENERATION (HTGR) AND ANTICIPATED
SITE GENERATED TRAFFIC VOLUMES

HOMARC PROPERTY WARWICK, NEW YORK	ENTRY			EXIT		
	HTGR*	VOLUME	NEW TRIPS	HTGR*	VOLUME	NEW TRIPS
RETAIL (14,560 S.F.)						
PEAK AM HOUR	2.07	30	23	1.32	19	14
PEAK PM HOUR	6.01	88	66	6.01	88	66
PEAK SATURDAY HOUR	8.41	123	92	8.41	123	92
OFFICE (14,560 S.F.)						
PEAK AM HOUR	2.43	35	35	0.33	5	5
PEAK PM HOUR	0.33	5	5	2.43	35	35
PEAK SATURDAY HOUR	0.29	4	4	0.25	4	4
TOTAL						
PEAK AM HOUR	-	65	58	-	24	19
PEAK PM HOUR	-	93	71	-	123	101
PEAK SATURDAY HOUR	-	127	96	-	127	96

Source: John Collins Engineers, P.C.

NOTES:

- *The hourly trip generation rates (HTGR) are based on the data published by the Institute Transportation Engineers (ITE) as contained in the trip Generation Handbook, 8th Edition, 2008. Office Building Land Use 710 and Shopping Center Land Use 820.
- "New" Trips reflects a 25% pass-by for retail uses.

82. DEIS Pg. 3-32: Provide more details on diversion of traffic and analyses conducted to support the mitigation. The 3rd paragraph states: "The level of service...should not be diminished." Applicant to provide clarification of this statement.

Response: The 2010 Traffic Study shows the LOS not diminishing with the project (build alternative) at the studied interchanges with access directly onto NYS Route 94. It is expected for the retail business portion of the development a significant amount of the trips will be "pass-by or diverted link" trips. Therefore, as much as 50% of these trips are already present on NYS Route 94.

83. 9/10/14:

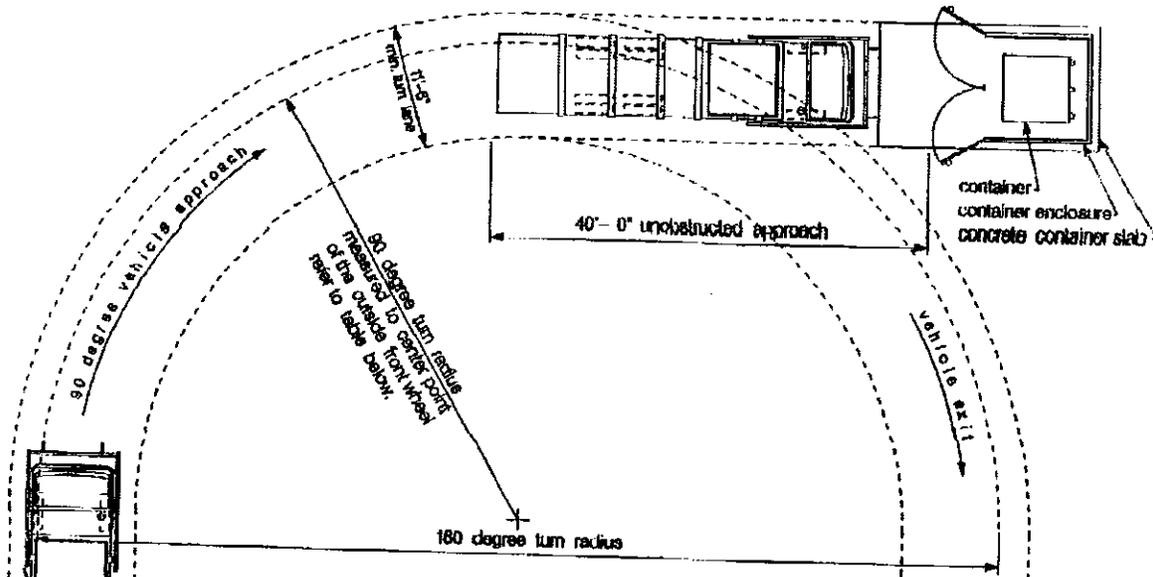
b. If the proposed building is nearly 10,000 larger than the building proposed in the 2007 study, Table 3-10 was directly from the 2007 trip generation (again mentioned as 7th Edition in table and 8th Edition in text). Applicant to confirm how the additional trips generated were accommodated.

Response: All back up information including traffic counts are located in the 2010 Traffic Study provided in Appendix C of the FEIS. Additionally, a traffic analysis report was prepared for the Fairgrounds project in January 2012 which has updated information for the area.

2/04/15:

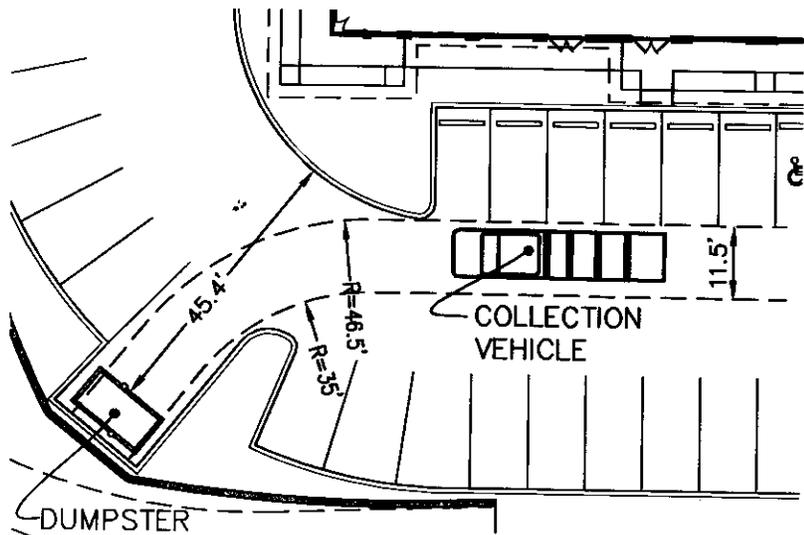
c. Table 3-10 states 14,560 sf. Traffic study states 19,120 sf. Please clarify.

Response: Table 3-10, which came directly from the 2010 Traffic Study states 14,560 sf for retail and an additional 14,560 sf for office for a total of 29,120 sf. The 19,120 sf mentioned in the report is a typo (the 1 should be a 2).



TURN RADII OF COMMON COLLECTION VEHICLES

VEHICLE	90° TURN RADIUS	180° TURN RADIUS
Crane Carrier	36 feet	72 feet
White Expedito WX64	45 feet	90 feet
Mack MR	38 feet	76 feet
Peterbilt	35 feet	70 feet



COLLECTION VEHICLE APPROACH DETAIL

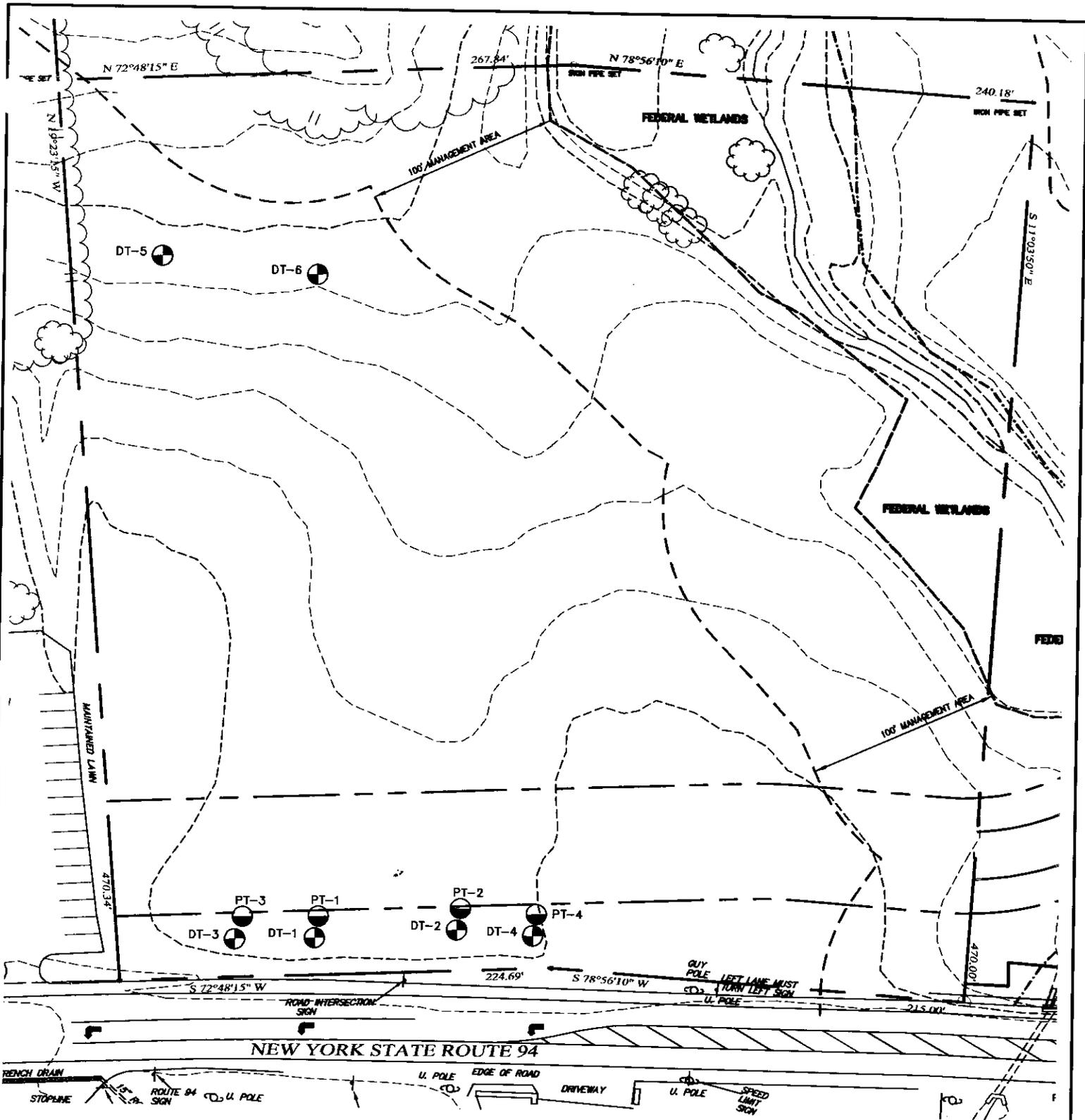
SCALE: 1"=30'

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11 FORESTER AVE., WARWICK, NEW YORK 10990

FIGURE-A



SOILS TEST LOCATIONS

SCALE: 1" = 70'

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PT-# PERCOLATION TEST
 DT-# DEEP TEST

FIGURE-B

USF&WS COMMENTS:

Comment: Please be aware that federal agencies have responsibilities under Section 7(a)(2) of the ESA to consult with the Service regarding projects that may affect federally-listed species.

Response: Wetlands will be directly impacted from the Town of Warwick's construction of the marginal access road on the off-site Price Chopper Plaza (Fairgrounds) property. A Federal Permit is required by the US Army Corps of Engineers (ACOE) for impacts to wetlands. The Federal Permit takes into consideration any potential impacts to federally-listed threatened or endangered species. Federally-listed species includes the bog turtle (Clemmys [= Glyptemys muhlenbergii) and Indiana bat (Myotis sodalis). The ACOE coordinated a review with the US Fish & Wildlife Service (USFWS) and the USFWS determined there were no impacts to threatened or endangered species. As a result of that coordinated review the Town of Warwick obtained the wetland disturbance permit.

Comment: We understand that no tree clearing is proposed for the project, however, it is unclear if any tree removal is needed for the proposed access road.

Response: Approximately a dozen trees will be removed for construction of the marginal access road on the off-site Price Chopper Plaza property. The Town of Warwick anticipates removing these trees during between Oct. 1 and March 31 to prevent disturbance to potential roosting habitat.

Comment: We understand that no wetland fill is proposed as part of the project, but the DEIS fails to adequately address the potential for indirect impacts to bog turtles. Adverse impacts associated with this project could include, but are not limited to, introduction of contaminated surface water runoff into the wetland from pesticides, herbicides, fertilizers, road deicers, etc., or alteration of wetland hydrology.

Response: The USFWS lists the potential impacts identified in Sections 3.2.2 Potential Impacts (Wetlands) and Section 3.3.2 Potential Impacts (Terrestrial and Aquatic Ecology). These potential impacts are addressed in Sections 3.2.3 and Section 3.3.3. Erosion and sedimentation measures specified on the Erosion Control Plan are developed specifically for this project to provide both temporary controls during the construction period and permanent controls to be in place and functioning at the completion of construction. The primary aim of this plan is to minimize the potential for soil erosion from areas exposed during construction and prevent sediment from reaching the downgradient wetlands and watercourses. The proposed erosion plan minimizes the area of soil exposure to the greatest extent practicable in accordance with the conditions of the NYSDEC SPDES General Permit for Stormwater Discharges from Construction Activities. All soil erosion and sediment controls will be installed in accordance with Best

Management Practices, Orange County Soil and Water Conservation District and the Town of Warwick municipal code.

As noted in the DEIS the project will use municipal water supplied from a well on the adjacent Price Chopper Plaza property. Well testing was conducted prior to development of this municipal water supply. The well testing included extensive monitoring of four wetland areas over a four day period. Water levels in the wetlands showed no correlation with the pumping of the well. As noted in the DEIS the existing on-site well will be abandoned and properly closed in accordance with NYSDOH guidelines.

*Bog turtle mitigation measures previously recommended by Dr. Michael Klemens (author of the Bog Turtle (*Clemmys muhlenbergii*) Northern Population Recovery Plan, 2001) and approved by both the NYSDEC and USFWS for the adjacent Fairgrounds Project will also be utilized for this project. These measures include a 100 foot wildlife management area with a deed restriction stating no further development, both a retainer wall and wildlife barrier fence, and construction monitoring from mid-March through mid-September.*

APPENDIX A

WRITTEN COMMENTS & CORRESPONDENCE



Prepared for **February 04, 2015** Planning Board Meeting

Mr. Benjamin Astorino, Chairman
Town of Warwick Planning Board
123 Kings Highway
Warwick, New York 10990

Re: **Homarc Property**
NYS Route 94
Tax Map Reference: 51-1-5.231

Task: PB061

Area = 5.1± acres

Dear Mr. Astorino:

Introduction: The Town of Warwick Planning Board announced a Positive Declaration on April 16, 2008 and adopted a Final Scoping Document for this project on March 05, 2009. A Scoping Document was finalized on July 17, 2013. The DEIS was considered complete on July 16, 2014. A joint Architectural Review Board and Planning Board meeting was held on August 11, 2014. A public hearing on the DEIS was held on August 20, 2014; the public hearing on the site plan was adjourned without date. At the January 07, 2015 planning board meeting, the planning board officially acknowledged the receipt of the FEIS for review.

Correspondence: We have received the following from the Applicant:

1. FEIS Cover letter, prepared by ERS Consultants, dated December 17, 2014
2. FEIS, prepared by ERS Consultants, dated December 2014
3. Six-Sheet Site Plan Drawing Set, prepared by ERS Consultants, last revised 12/12/14
4. Architectural Cover Letter, prepared by John D. Fuller, PE, dated December 15, 2014
5. Six-sheet Architectural Drawing Set, prepared by John D. Fuller, PE, last revised 12/15/14

Upon reviewing the materials submitted we have the following comments that identify the comment number, original date of comment, the comment itself, and the current status of the comments (i.e., whether they have been answered or if it is still outstanding).

No.	Date	Comment	Status
1.	10/17/12	Planning Board to discuss SEQRA.	Statement.
2.	10/17/12	Applicant to discuss project.	Statement.
3.	10/17/12	Conservation Board – 10/16/12: no comments at this time	Statement.
4.	10/17/12	Architectural Review Board – 10/16/12: (1) request similar conceptual view of all four sides, (2) provide materials of construction, (3) determine front(s) of building, & (4) perspective rendering of nearby buildings; 08/11/14: see separate comment letter dated 08/11/14	Statement.
5.	10/17/12	OC Planning Department – pending	Statement.
6.	10/17/12	NYSDOT – connecting to the proposed Marginal Access Road	Statement.

No.	Date	Comment	Status
7.	08/20/14	HDR DEIS Completeness comments are included in HDR review letter dated July 16, 2014.	Statement.
8.	07/16/14	Appropriate revision dates should be added to the cover sheets of the DEIS.	Complete. 01/07/15 Revision dated added to FEIS cover
9.	07/16/14	The new owner(s) of surrounding property(ies) should be updated on the plan set.	Complete. 01/07/15 Sheet 1 of 6
10.	12/18/13 01/07/15	Final scoping document Page 8 (IV.D.1.c): Fire suppression water supply must be discussed, <u>including improvements to the existing system.</u> Applicant to clarify if pumps are needed and where connections will be made.	Incomplete. Page 1-5
11.	10/17/12	Provide a map note stating that "No construction or PROPOSED use shall begin until the maps are signed by the Planning Board Chairman and Building Department permits are obtained." (Sheet 1 Note 11).	Complete. 01/07/15 Sheet 1, Note 11
12.	10/17/12	Off-site improvements will be necessary to connect to the existing municipal sanitary sewer, potable water, and fire protection water mains; these should be shown on the plan.	Information added; additional review required. 07/16/14
13.	10/17/12	The Applicant shall show the 911 address on Sheet 1 of the drawing set.	Complete. 07/16/14 Sheet 1, Note 2
14.	10/17/12	The profile of the Marginal Access Road shall be shown to ensure proper vertical and horizontal alignment of the Marginal Access Road with both adjacent properties.	Complete. 02/04/15 Sheet 5 of 6
15.	09/10/14	DEIS Appendix B Correspondence: <ul style="list-style-type: none"> The letter from the NYSDEC Natural Heritage Program (NHP) is dated 24 September 2007 – nearly 7 years old. The NHP letter does contain the verbiage that if the project is still active in one year they recommend a re-confirmation of any prior correspondence. The letter indicates the file search results are "sensitive" and not to be released to the public without NHP's permission – the file results citing the presence of bog turtles within one mile of the site is attached to the correspondence. Applicant to remove file search results page and the EIS text modified to state the file search results are deemed sensitive by NHP and are thus not included in the public documents. 	Complete. 01/07/15 FEIS, Appendix a, NYSDEC letter dated 11/03/14

No.	Date	Comment	Status
16.	09/10/14 02/04/15	Applicant must confirm how will the dry swale be vegetated and whether or not it will be seeded. While a formal planting plan may not be necessary, it should be seeded with a commercially available basin seeding mix so invasive species such as loosestrife and common reed (both present in the vicinity) do not colonize the site. SWPPP refers to contract documents; Applicant must provide information in the SWPPP document, or also provide the contract documents for review by the Town.	Incomplete.
17.	09/10/14	DEIS Section 5b: The Scoping Document (Section 5b) cites correspondence with SHPO re the Cultural Resources report; Section 3.7-6.2 of the DEIS cites that a copy of the report has been sent to SHPO. Applicant to confirm if any correspondence or concurrence been received from SHPO.	Incomplete.
18.	09/10/14	DEIS Section 3.2 Wetlands: Section 3.2.1 cites the use of the 1995 NYSDEC Wetlands Delineation manual to delineate state wetlands, yet there are no DEC wetlands in the database source nor were any identified on the parcel. Suggest removing the sentence referring to the DEC manual. Applicant to confirm if any follow-up wetlands walk-over was conducted by the Applicant to verify that the wetland conditions had not changed since the original (August 2007) delineation and with the adoption of the new (January 2012) USACE regional manual.	Complete. 02/04/15 Section 3.2
19.	09/10/14 02/04/15	Applicant to confirm if there are any problems with mosquitoes anticipated with the proposed permanent pool in the stormwater management system. Change "breeding" to "breeding" in the response. Also cite the New Jersey study re more mosquitoes in stormwater dry basins	Incomplete.
20.	09/10/14	DEIS Section 3.3 Terrestrial and Aquatic Ecology: Table 3.3 - The scientific name for tree-of-heaven should be <i>Ailanthus altissima</i> . Spotted knapweed is cited in the text (Successional Old Field/Meadow) but does not appear in Table 3-3.	Complete. 02/04/15 Section 3.3

No.	Date	Comment	Status
21.	09/10/14 02/04/15	DEIS Section 3.3 Terrestrial and Aquatic Ecology: In Table 3.4 the scientific name for the Eastern phoebe should be <i>Sayornis phoebe</i> . The tufted titmouse is cited in the text but does not appear in Table 3-4. Also, the range of the Carolina chickadee is not reported to extend north of central New Jersey. The species encountered is most likely the black-capped chickadee, <i>Poecile atricapillus</i> . The table should also indicate which of the listed species were observed on the site and which were not observed but expected to occur. In Table 3-4, the common name for <i>Mustela frenata</i> should be "long-tailed weasel". Also no habitat type is cited for the tufted titmouse.	Incomplete.
22.	09/10/14	DEIS Section 3.4.3 Mitigation Measures: It is suggested that the second to last sentence in the first paragraph on Page 3-20 should read (proposed text in bold) "In fact, nutrient loads in the stormwater runoff are likely to decrease with the cessation of agricultural use of the site".	Complete. 02/04/15 Section 3.4.3
23.	09/10/14 02/04/15	DEIS Section 1.2 Anticipated Impacts and Proposed Mitigation Measures: DEIS states that the dumpster location will avoid visual impacts; however, the dumpster is facing the building and Route 94. Applicant to confirm final dumpster location based on previous statement. Applicant should illustrate truck movements to verify that a garbage truck can access the dumpster and confirm that the gate provided is wide enough.	Incomplete.
24.	09/10/14	DEIS Section 4.0 Alternatives: There is no visual section provided in the DEIS, yet it is listed in the alternatives section. Applicant to provide this section, if necessary and / or applicable, or remove from document.	No further action. 02/04/15 Visual impacts discussed in general, but not quantified
25.	09/10/14 02/04/15	DEIS Section 2.4.2 Structures and Site Development: The DEIS states transit bus circulation is feasible. If so, a transit stop should be provided. If a transit stop is provided, appropriate access, ADA access and crosswalks may be required. Noted that no transit stop is provided. Additional pedestrian access with a cross walk has been provided, but handicap ramps must be included.	Incomplete.

No.	Date	Comment	Status
26.	09/10/14	DEIS notes comp plan goal to create pedestrian and bicycle networks through sidewalks, bicycle paths, trails and crosswalks, in order to create connections to shared parking, public transportation and between stores and nearby housing in the RU and SL Districts as well as the Village. No connecting pedestrian and bicycle networks or public transit stops are proposed. If non-vehicular access is provided, it must be ADA compliant.	Complete. 02/04/15
27.	09/10/14	DEIS Section 3.5 Zoning and Surrounding Land Use: The DEIS states that the code requires one canopy tree of 3" caliper for every eight spaces and 10 shrubs, thus requiring 11 trees and 110 shrubs. The site plan shows 35 canopy trees and 110 shrubs, meeting town requirements. Only 9 of the proposed trees are of 3" caliper or more. Site plan does not meet the requirement.	Complete. 02/04/15
28.	09/10/14	DEIS Section 3.5 Zoning and Surrounding Land Use: DEIS does not mention anything about perimeter landscaping requirements.	Complete. 02/04/15
29.	09/10/14	DEIS Section 3.5 Zoning and Surrounding Land Use: DEIS states the site's size allows for the development of an attractive commercial facility with significant landscaped and natural buffers that would preserve the existing character of the NYS Route 94 corridor. A 60 deep buffer area is provided with 18 trees, with limited shrubs and perennials located only around the sign. At 460 ft length, at 1 tree per 35 feet of perimeter is 14 trees, just to meet perimeter. This feature does not appear to be "generous," as the comp plan states. Applicant to confirm.	Complete. 02/04/15 Section 3.5
30.	09/10/14	DEIS Section 2.4.2 Structures and Site Development: DEIS states that all fixtures shall be fully shielded. This is not captured on the site plans.	Complete. 02/04/15
31.	09/10/14	DEIS Section 2.4.2 Structures and Site Development: DEIS states that fixtures will be mounted on 14 ft poles. However, the Site Plans say 15 ft, although many poles are below the retaining wall. Applicant to confirm which height is correct and correct the document accordingly.	Complete. 02/04/15
32.	09/10/14 02/04/15	DEIS Section 2.4.2 Structures and Site Development: DEIS states that a minimum level of all night illumination will be maintained for security. Site plans states hours of operation as Dusk to 8am. It does not specify reduced lighting levels. Applicant to include reduced lighting levels, as necessary, to the DEIS. It must be noted that typical parking lot lights are not shut off. Applicant to verify that lights will be turned off after operational hours.	Incomplete.

No.	Date	Comment	Status
33.	09/10/14 02/04/15	DEIS Site Plans: Site plans require more details in order to determine ADA compliance, including ramps, grades across parking areas, contours and spot elevations, guiderails above surface of parking areas, handicap parking details. Handicap parking does not appear to be located in the shortest, most central location. Applicant to revise figure(s), including the Grading Plan, accordingly. Handicap ramps have been relocated, but no additional information has been provided to determine if the site can meet ADA grading requirements. The site plans and details should incorporate the most appropriate type of handicap ramp.	Incomplete.
34.	09/10/14	DEIS Site Plans – Landscaping Plan: Only 9 of the proposed trees are of 3" caliper or more, should be at least 11. Site plan does not meet the requirement. Applicant to revise figure accordingly.	Complete. 02/04/15
35.	09/10/14	DEIS Site Plans: Parking spaces are insufficiently screened from public view. This could be well more screened, since there is the room for more landscaping, and not just trees. Shrubs provide screening closer to the ground. Applicant to reconsider landscaping in these areas.	Complete. 02/04/15
36.	09/10/14 02/04/15	DEIS Site Plans – Landscaping Plan: Plan states "To reduce the visual impact of the parking lot, provide a ten-foot wide landscape strip around the perimeter of the lot, to be planted with shade trees and low shrubs. Provide a minimum of one shade tree every 35 feet of lot perimeter but not necessarily at 35 feet on-center." Per the provided plans, this is not provided. These trees would be in addition to the 1 per 8 spaces interior to the lot. Applicant to revise Landscaping Plan. Perimeter landscaping has been provided in some locations but is not in compliance with Town Code.	Incomplete.
37.	09/10/14	DEIS Site Plans – Landscaping Plan: Plan states "Divide the rows of parking with planting strips and trees, averaging a tree every six to 10 spaces." This is not sufficient per the provided plan. The curved portion of the parking lot has 20+ spaces with no planted island. Applicant to revise Landscaping Plan.	Complete. 02/04/15 one additional planted island has been included
38.	09/10/14	DEIS Site Plans – Landscaping Plan: Plan states "Create large planting islands (over 500 square feet) to be located throughout the lot and planted with shade trees, low shrubs, and/or ground cover." Per the provided plans, this is not provided, although they could agree that the planting strip along the building covers this. Applicant to consider revising Landscaping Plan.	Complete. 02/04/15 one additional planted island has been included

No.	Date	Comment	Status
39.	09/10/14 02/04/15	DEIS Site Plans – Landscaping Plan: Plan states “Parking spaces shall have wheel stops or curbs to prevent injury to trees and shrubs planted in landscaped islands.” Per the provided plans, this is not provided. Applicant to revise Landscaping Plan. Retaining walls should include a guide rail or similar to prevent vehicles or pedestrians from falling off the top of the retaining wall.	Incomplete.
40.	09/10/14 02/04/15	DEIS Site Plans – Landscaping Plan: Planting details are not sufficient to illustrate to a contractor how to plant. Applicant must provide shrub planting details and details for permanent seeding. The responses note that shrub details have been added. These are not found on the drawings. All details provided appear to be tree details. Please provide shrub and perennial planting details, and label each detail.	Incomplete.
41.	09/10/14 02/04/15	DEIS Site Plans – Landscaping Plan: Provide details on soil restoration after being compacted during construction, in order to support plant health. Please note detail number and sheet for review.	Incomplete.
42.	09/10/14 02/04/15	DEIS Site Plans – Landscaping Plan: Provide landscaping notes, including contractor instructions, plant warranty period, plant stock standards, etc. Applicant to state where this information is shown.	Incomplete.
43.	09/10/14 02/04/15	DEIS Site Plans – Landscaping Plan: Plants for the proposed pocket pond need to include quantity, spacing and size. What is shown on the Landscaping Plan differs from the pocket pond detail. Applicant to confirm and revise plan(s) for uniformity accordingly. Quantity has been including, although size and spacing has not. Different plants are still noted in the pocket pond detail. Please confirm.	Incomplete.

No.	Date	Comment	Status
44.	09/10/14 02/04/15	DEIS Site Plans – Landscaping Plan: Perimeter plantings where the retaining wall is located are well below the parking level surface. Shrubs may not even be seen. Trees, along parking areas, typically can be maintained to have lower branches removed to maintain sight distance. With the trees below the wall, as they grow, the limbs may damage parked cars, as the limbs would not be the lower branches. Change “site” to “sight” in the response. Retaining wall has been moved. Please verify that there is enough room provided for the trees proposed along the top of the retaining wall, and that roots will not impact the wall. If trees are to be maintained to not encroach within parking areas, those maintenance notes should be included.	Incomplete.
45.	09/10/14	DEIS Site Plans – Landscaping Plan: There is landscaping shown within the sidewalk area. Applicant to revise plan accordingly.	Complete. 02/04/15
46.	09/10/14 02/04/15	DEIS Site Plans – Landscaping Plan: Please verify types of vegetation proposed. There are numerous sized symbols for the same plant which is deceiving. Applicant must verify that there is enough room for each plant, given that the sidewalk planting area is only 3ft. Please verify symbols, as there appear to be differing symbols for the same plants. Verify quantities shown. Plants growing to 6-10ft in width are not appropriate for a 3-5ft planting strip. Please confirm.	Incomplete.
47.	09/10/14	DEIS Site Plans – Lighting Plan: Some lights are below the wall. A photometric plan should be prepared to illustrate what impact is created. The photometric plan should also include the point by point calculation of foot candles to illustrate meeting of 0.25 foot candles at the property line. Uniformity table should also be provided to show ratios, minimums, and averages, per code.	Complete. 02/04/15
48.	09/10/14	Applicant must provide access to the bicycle rack; or, Applicant to confirm if bicyclists should use the handicap access aisle and sidewalk to reach the rack.	Incomplete.
49.	09/10/14	Applicant must provide a location where stockpiled snow will be stored during snow removal activities.	Complete. Sheet 1 of 6 02/04/15

No.	Date	Comment	Status
50.	09/10/14	Applicant must provide a truck movement plan to illustrate how a garbage truck is getting to the proposed dumpster location. It appears that, depending on type of garbage truck used in the Town, that at least one parking space will be impacted.	Incomplete.
51.	09/10/14	DEIS Page 3-17: The first paragraph states that the runoff from the remaining portions of the site will not be affected by the proposed project. Development is proposed outside of the one drainage area that is analyzed. Applicant shall update the existing drainage area map (Figure 3-9) to include all portions of the site that will be developed. Applicant should coordinate Figure 3-9 in the DEIS with Figure 3 provided in Appendix C.	Complete. Appx. E – Revised SWPPP, Appx. A - Fig. 3 02/04/15
52.	09/10/14	DEIS Figure 3-10: Applicant shall update the proposed drainage area map (Figure 3-10) to include reflect the drainage areas shown on Figure 4 provided in Appendix C.	Complete. 02/04/15
53.	09/10/14	DEIS Page 3-18 and 3-20: The Applicant must revise the text to reference the current version of the NYSDEC General Permit for Stormwater Discharges from Construction Activities, effective 01/29/15 and comply with the new requirements, including revisions to the NYS Stormwater Management Design Manual (January 2015), the new stormwater permit GP-0-15-002, and the revised Notice of Intent Form.	Incomplete.
54.	09/10/14	DEIS Page 3-18: Applicant shall confirm that there is sufficient capacity in the wastewater treatment plant located on the Price Chopper property to handle the proposed wastewater flow.	Complete. 02/04/15
55.	09/10/14	DEIS Page 3-18: Applicant shall confirm the proposed impervious surface area and update the DEIS and SWPPP to accurately reflect the proposed quantity.	Complete. 02/04/15 Appx. E – Revised SWPPP
56.	09/10/14	DEIS Page 3-19, Section 3.4.3: Applicant shall update this section to reflect the mitigation measures proposed in the Stormwater Pollution Prevention Plan provided in Appendix C.	Complete. 02/04/15
57.	09/10/14	DEIS Appendix C, SWPPP: Applicant shall update the referenced version of the NYS Stormwater Management Design Manual to the most recent version (January 2015) and update all calculations and methodologies as required.	Complete. 02/04/15

No.	Date	Comment	Status
58.	09/10/14	DEIS Appendix C, SWPPP: Applicant to include two (2) additional figures demonstrating placement and frequency of pre- and post-construction (temporary and permanent) stormwater control features. Figures should be signed and stamped by a P.E. registered in New York.	Complete. 02/04/15
59.	09/10/14	Applicant to confirm it is appropriate per US Army Corps and other regulations to construct a cistem and dry swale within the 100 ft. "management area" buffer of a federal wetland.	Complete. 02/04/15
60.	09/10/14	DEIS Appendix C, SWPPP: References to NYSDEC's Region 8 office are made throughout the Appx. C SWPPP document (i.e., Section 9.0). Correspondence regarding this project should be made through the NYSDEC Region 3 office, as identified at the beginning of the document, which services Orange County.	Complete. 02/04/15
61.	09/10/14	DEIS Appendix C, SWPPP, Section 5.2: References are made to a USDA Web Soil Survey as provided in Appendix L. There is no Appendix L to this document. Applicant to provide necessary documentation.	Complete. 02/04/15 Appx. E – Revised SWPPP – Appx. A, Fig. 2
62.	09/10/14 02/04/15	DEIS Appendix C, SWPPP, Section 7.0: This section references the preservation of existing vegetation as much as possible. Applicant to provide a figure demonstrating these areas, and any trees that will remain, as well as identify methods of tree protection. The applicant stated a figure was provided in the SWPPP that identifies the preservation of existing vegetation, however, no such figure could be found. Please clarify.	Incomplete.
63.	09/10/14 02/04/15	DEIS Appendix C, SWPPP, Section 7.0: This section references temporary soil stabilization of disturbed areas and removal of sediment from construction site discharges. Applicant to confirm if temporary seeding or erosion control matting is to be used on site and types / placement of controls. Applicant must also provide drop inlet protection to any stormwater catch basins on site, as needed. Applicant to provide details of all temporary erosion control features to be used on site. The areas of temporary seeding are not shown on the figures(s). Update the figures to show the limits of temporary seeding.	Incomplete.
64.	02/04/15	Grading and Utilities Plan, Sheet 2 of 6: Applicant to revise location of silt fence between proposed building and Route 94, as there are no means of ingress / egress from the proposed contractor staging area.	Incomplete.

No.	Date	Comment	Status
65.	09/10/14	DEIS Appendix C, SWPPP, Section 8.1: This section references design calculations for each stormwater control measure in Appendix D. There is no Appendix D to the SWPPP document. Appendix D of the DEIS contains soil boring logs. Applicant to provide necessary documentation.	Complete. 02/04/15 Appx. E – Revised SWPPP
66.	09/10/14	DEIS Appendix C, SWPPP, Section 8.3.4: Confirm pre-development watershed runoff rates at each design point is presented in Table 9. Please identify the location of Table 9 in this report.	Complete. 02/04/15 Appx. E – Revised SWPPP, Table 2, Section 8.3.6
67.	09/10/14	DEIS Appendix C, SWPPP, Section 8.3.5: Confirm where post-development watershed runoff rates at each design point are presented. Please identify the location of the table in this report.	Complete. 02/04/15 Appx. E – Revised SWPPP, Table 2, Section 8.3.6
68.	09/10/14	DEIS Appendix C, SWPPP, Page 26: Include units for the pre- and post-development discharge rates.	Complete. 02/04/15 Appx. E – Revised SWPPP, Table 2, Section 8.3.6
69.	09/10/14	DEIS Appendix D, Soil Logs: Provide a figure to demonstrate where the soil percolation tests and test pits were performed on the site.	Incomplete.
70.	09/10/14	DEIS Appendix C, SWPPP: Applicant to include the pocket pond total post-development WQv analysis in Appx. E – Revised SWPPP, Appx. D.	Incomplete.
71.	09/10/14	DEIS Appendix C, SWPPP: Applicant to provide sizing calculations for the following post-development stormwater management controls: pocket pond, hydrodynamic separator(s), cistern, permeable pavement catchment	Complete. 02/04/15 Sheets 5 & 6 of 6
72.	09/10/14	DEIS Appendix C, SWPPP: Applicant to provide cross-sectional details and manufacturer cut sheets (as applicable) for hydrodynamic separator(s).	Complete. 02/04/15 Sheet 6 of 6
73.	09/10/14 02/04/15	DEIS Appendix C, SWPPP: Applicant must provide permanent seed mixtures, application rates, recommended application dates and ratio of soil amendments necessary for the site. SWPPP refers to contract documents; Applicant must provide information in the SWPPP document, or also provide the contract documents for review by the Town.	Incomplete.

No.	Date	Comment	Status
78.	09/10/14	DEIS Section 3.6 Vehicular Traffic and Roadways, Tables 3-8 and 3-9: HCM 2010 is now available. Provide the reason of using HCM 2000 vs. HCM 2010.	Complete. 02/04/15 HCM 2010 was released in April 2011.
79.	09/10/14 02/04/15	DEIS Pg. 3-30: The 4 th and 5 th paragraphs seem to include information about a more recent study that was conducted. Provide the back up information (existing and future traffic counts, traffic analyses, methodologies developed for assessment, etc.). Please provide 2010 traffic counts and observations.	Incomplete.
80.	09/10/14	DEIS Pg. 3-30: There are discussions on potential impacts; however, it is unclear as to why there would be a reduction in LOS. Applicant to provide a description of the proposed condition and refer to the summary of results.	Complete. 02/04/15 Addressed in 2010 traffic study.
81.	09/10/14	DEIS Fig. 3-14: The volumes appear to be lower than the study conducted in 2007. Provide existing, net trips, and build conditions volume networks.	Complete. 02/04/15 Figure 3-14
82.	09/10/14	DEIS Fig. 3-15: Provide the source of these volumes and include existing, net trips, and build condition volume networks.	Complete. 02/04/15 Sources include various planned developments; volume networks are provided.
83.	09/10/14 02/04/15	<p>a. DEIS Pg. 3-31, Table 3-10: The 1st and 2nd paragraphs describe the methodologies to develop No Build and Build traffic volumes. However, these volumes are lower than the 2007 study. This paragraph also describes counts conducted in 2010, though no counts were provided.</p> <p>b. If the proposed building is nearly 10,000 larger than the building proposed in the 2007 study, Table 3-10 was directly from the 2007 trip generation (again mentioned as 7th Edition in table and 8th Edition in text). Applicant to confirm how the additional trips generated were accommodated. Table 3-10 states 14,560 sf. Traffic study states 19,120 sf. Please clarify.</p> <p>c. Table 3-10 reflects AM and PM peak hour. Provide Table that would reflect Saturday peak hour.</p>	<p>a. Complete. 02/04/15</p> <p>b. Incomplete.</p> <p>c. Complete. 02/04/15</p>

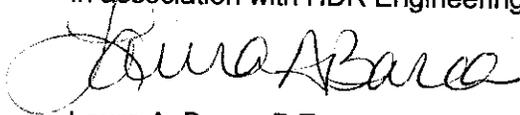
No.	Date	Comment	Status
84.	09/10/14	a. DEIS Pg. 3-32: Provide more details on diversion of traffic and analyses conducted to support the mitigation. b. The 3 rd paragraph states: "The level of service...should not be diminished." Applicant to provide clarification of this statement.	a. Complete. 02/04/15 b. Complete. 02/04/15
85.	10/17/12	A three-ring binder with all color, texture, roofing samples, etc. shall be submitted and retained with the building department after final approval has been granted.	Condition of final approval.
86.	10/17/12	Payment of all bonds (Landscaping, Performance, Marginal Access Road, Construction Trailer Removal, Construction Inspection fees for Landscaping and Performance, and Traffic Mitigation Fees).	Condition of final approval.
87.	10/17/12	Surveyor to certify that iron rods have been set at all property corners.	Condition of final approval.
88.	10/17/12	Payment of all fees.	Condition of final approval.

Miscellaneous: Prior to placing this project on the next planning board agenda, a written response letter addressing each of the above comments should be submitted. The Applicant's response letter should provide an itemized explanation of how the plans have been revised or modified in order to address these items with specific references to the changes in the plans. In the event that the Applicant should disagree with a comment and choose not to modify the plan, an explanation should be provided.

The above comments represent our professional opinion and judgment and do not in all cases reflect the opinion of the Planning Board. Please revise your plans to reflect these comments with the understanding that further changes may be required. If you have any questions, please contact me at (845) 294-2789.

Sincerely,

Henningson, Durham & Richardson
Architecture and Engineering, P.C.
in association with HDR Engineering, Inc



Laura A. Barca, P.E.
Project Manager

CC: Planning Board Members
Connie Sardo, Planning Board Secretary
HDR Project No. 157684, Task No. PB061

GREENPLAN

MEMORANDUM

RECEIVED

SEP 10 2014

TOWN OF WARWICK

PLANNING BOARD
TOWN OF WARWICK
100 STATE STREET
WARWICK, RI 02886
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WWW.TOWNOFWARWICK.COM

To: Benjamin Astorino, Chairman
Town of Warwick Planning Board

From: J. Theodore Fink, AICP

Date: September 10, 2014

Subject: Homarc Commercial Development Draft EIS Technical Review

The Draft Environmental Impact Statement (DEIS) for the above captioned project, prepared by ERS Consultants, Inc. for Homarc Land, LLC was reviewed for completeness and accepted as complete by the Planning Board on July 16, 2014. This document has now been reviewed for its technical sufficiency. The Public Hearing on the DEIS occurred on August 20, 2014 with the public comment period was extended until September 10, 2014. The technical review comments developed by GREENPLAN, together with any comments by the Planning Board, Planning Board Engineer, other Involved and/or Interested Agencies and members of the public, become the basis for the Final Environmental Impact Statement (FEIS). The FEIS will also consist of the DEIS by reference, substantive comments on the DEIS, together with appropriate responses to all of the substantive comments and corrections and/or revisions to the DEIS, that are called for based upon comments received thereon.

While the DEIS preparation is the applicant's responsibility, the FEIS preparation is the Planning Board's responsibility. The Board, with the applicant's consent, may assign that responsibility to the applicant and applicant's consultants, since the FEIS is a direct outgrowth of the DEIS. The Planning Board, therefore, should request that the FEIS be prepared in a preliminary form for the Board's consideration. Regardless of who prepares the FEIS, it is the Planning Board that is responsible for determining the accuracy of the FEIS document. This is also the most appropriate time to determine whether the Planning Board wishes to proceed with the action as proposed or to select one or a combination of the alternatives. Alternatives include a No-Action Alternative and the Original Proposed Development Alternative. The applicant's stated preference is for the Planning Board to proceed with continuing review of the Proposed Action. I concur with the applicant based upon my review.

This technical review will outline areas of the DEIS where, in my opinion, clarification, corrections, revisions, and/or supplementation should be provided by the applicant. All revisions and supplements to the DEIS need to be specifically indicated and identified in the FEIS. Once all comments have been assembled, the Planning Board should provide concrete direction to the applicant on how to proceed with the FEIS preparation. This comment-response part of the

FEIS document can be formatted in one of two ways. Either each substantive comment can be identified, perhaps by number and source, and then an appropriate response provided or the comments can be summarized and grouped by topic so that the responses are not repetitive.

In determining whether comments received are "substantive," the Planning Board should assess the relevance of the comments to identified impacts, mitigation, and alternatives, or whether the comments raise important, new environmental issues, not previously addressed. The Planning Board may use its responses to comments as an opportunity to explain why an impact is not significant, why a particular topic is not included in the FEIS, or how an alternative or proposed mitigation measure would work.

Based upon my review, I have identified the following omissions, clarifications or corrections that should be completed as part of the FEIS preparation:

1. The last sentence of the third paragraph on page 1-1 should be corrected to replace "this Final Scoping Document" with "a Final Scoping Document."
2. On page 1-2, no specific approval is listed for the Orange County Department of Health, as there is for all other Involved Agencies. This should be corrected in the FEIS. This is repeated on page 2-10.
3. In Sections 1.1, 2.6 and 2.7, there is an inconsistency with the references to the NY State Department of Environmental Conservation (DEC). It is listed as both an "Involved" Agency and an "Interested" Agency. This should be corrected in the FEIS.
4. On page 1-2, the status of approvals required for the project should be provided in the FEIS document.
5. The FEIS should explain why "agricultural use on the project site is not sustainable," as stated on page 1-3. Is there any evidence to support this statement? Since the site appears to be located in Orange County Agricultural District #2 (see comment below), the response provided to this concern is relevant.
6. In the third paragraph beginning on page 1-3, the DEIS refers to the "Orange County Soil Conservation Service." This reference is repeated throughout the DEIS. It is believed that the reference should be to the Orange County Soil and Water Conservation District. This needs to be corrected in the FEIS.
7. The first paragraph under "Wetlands" on page 1-3 states that "The project will not directly impact wetlands." But, an indirect consequence of the project is the continuation of the marginal access road from the Price Chopper Plaza to allow access for the project to Route 94. The Town of Warwick is pursuing continuation of the marginal access road (and therefore disturbance of the wetland), under the plans that were established in the 1987 Master Plan and 1989 Zoning Law. While this is a related action, it should be identified and discussed in the FEIS. Under Water Resources on page 1-5, it states that the "proposed project will involve the construction of...[the] marginal access road" which creates confusion for the reader. This should be corrected in the FEIS.
8. The last sentence in the last paragraph on page 1-3 requires a grammatical correction.
9. The second paragraph under Terrestrial and Aquatic Ecology on page 1-4 needs to explain what is meant by the "100 foot management area." This is the first mention of it in the DEIS

and it should be explained what it means here or a reference to the later explanation in the DEIS added.

10. In the fourth paragraph on page 1-4, the applicant should explain how 54 percent of the site will remain natural. This is also stated on page 2-5 as "will not be physically altered." But, this statement is amplified in Section 6.1 on page 6-1 where it states that "The project will preserve approximately 53 percent in meadow, woods and wetlands." The statement about "will preserve" in particular needs explanation.
11. The tense of the first sentence of the second paragraph on page 1-5 needs correction from "will" to "would." The paragraph also needs a statement that "corrective measures" have been proposed to minimize environmental impacts on water resources.
12. On page 2-7, the reference to "design guidelines" of the Town should be modified to also include the Town "Design Standards."
13. The applicant needs to list the special conditions that will apply to the specific uses proposed for the site, as noted in the third paragraph on page 1-7.
14. The third paragraph under Vehicular Traffic and Roadways on page 1-7 needs to explain that access to Route 94, through the "proposed" marginal access road connection with the Price Chopper Plaza, is subject to the approval of the Town of Warwick and Federal agencies with jurisdiction over the wetland that must be crossed and that may contain wildlife species of conservation concern or their habitat.
15. There were no letters from community services providers (other than the Warwick Community Ambulance Service) attached to the DEIS to substantiate the statement on page 1-8 that there will be no significant adverse impacts on Community Services. Any verbal communications should be documented in the FEIS with dates and persons who were contacted. This should be corrected in the FEIS.
16. Under Solid Waste on page 1-8, the references to contracts with pest management should be more definitive than "would." Also, the references in this subsection to "pest management" is at odds with other references in the DEIS to no use of pesticides or no use of integrated pest management practices. This should be further explained in the FEIS.
17. Under Cultural resources on page 1-9, it states that "No potential impacts are proposed." It would be clearer to readers if the statement was that "No potential impacts are anticipated." Under this same section, while the DEIS states that it has been forwarded to the State for review, there is no correspondence from the State provided stating that it agrees or disagrees with the findings of the cultural resources report.
18. Under Utilities on page 1-9, it states that there is enough capacity to meet the needs of the project. A reference to an engineers report (if applicable) should be provided to substantiate this.
19. Table 1-1 and others in the DEIS provides attribution to "ERS Engineering Consultants, P.C." But the DEIS does not list this firm as a contributor to the DEIS. This should be corrected in the FEIS.

20. The discussion of the Scope of the DEIS under Section 2.1 on page 2-1 refers in two places to "this Final Scoping Document." To be clearer, the sentence should state "the" Final Scoping Document.
21. The statement about "destroying the rural character of the town" in the last paragraph on page 2-1 should be modified to state "without adversely impacting" or "without significantly affecting" or similar language.
22. Under Section 2.2, the project states that it will provide "needed facilities" but doesn't explain what that means. A positive economic benefit to the community, like increased employment, would be one way to express the need for a private commercial venture. No estimates of the numbers of employed have been provided. Providing commercial vacancy rates for the facilities proposed would be another way to elaborate on the statement about "need." The Town of Warwick conducted a Draft Generic Environmental Impact Statement for the Route 94 corridor in 2010 that provides some information in this regard. This should be corrected in the FEIS.
23. The second sentence in the second paragraph under Section 2.3.2 needs a grammatical correction.
24. The reference to the marginal access road being subject to New York State Town Law § 200 needs to also refer to compliance with Section 164-42.F of the Town Zoning Law.
25. The description of site access provided in the first paragraph of Section 2.4.2 implies that the Town of Warwick does not require (i.e. it states "to be desirable in the future") a marginal access road in the CB Zoning District. This is not the case. Section 164-42.F of the Zoning Law applies "to lands in the Community Business Zoning District with frontage on New York State Route 94" and requires that a marginal access road be shown on proposed site plans and built if required as part of the Planning Board review and approval process. This should be clarified and corrected in the FEIS.
26. The reference in the last paragraph on page 2-5 to "design guidelines" should be changed to "design standards." This should be corrected in the FEIS.
27. The statement on page 2-8 that "No pedestrian or bicycle path are provided on the site plan" needs to be reconciled with the Town Design Standards. This is particularly important because the DEIS states in a number of locations that it will comply with the Design Standards and guidelines. The Design Standards state: "Buildings should be oriented to positively define and frame adjacent public streets, and/or public or common spaces, while promoting the collective form of neighborhoods by...Include[ing] means for pedestrian access through sidewalk and/or bike path connectivity," by "moving Warwick's commercial districts into walkable areas featuring quality architecture, sidewalk amenities and generous landscaping..." [emphasis added], and "Build sidewalks and crosswalks throughout the area to create connections to shared parking, public transportation, walking between stores..." The Design Standards also state "Wherever practical, connect adjacent commercial establishments and surrounding neighborhoods through the provision of paved sidewalks." and "Pedestrian walkways, sidewalks, and open/semi-open sitting areas are recommended for low-density uses such as coffee shops, cafés, antique stores, etc., based on their location on the street."

28. The statement on page 2-10 that "Site construction activities will comply with Town ordinances" should be modified to "Town Local Laws and, if applicable, Town ordinances."
29. On page 2-11, no specific approval is listed for the Orange County Department of Health, as there is for all other Involved Agencies. The NY Department of Environmental Conservation is also listed as one of several "Interested Parties." Both statements need to be corrected in the FEIS.
30. The sixth paragraph on page 3-5 in Section 3.2.1, states that the "NYSDEC Freshwater Wetlands Delineation Manual (1995) was used to delineate state wetlands" and seems to imply that there are State wetlands on the site, in conflict with the statement above it that "The NYSDEC Freshwater Wetlands Map shows no wetlands on the project site." The FEIS should state that the on-site wetland delineation confirmed that there were no State wetlands on the site.
31. The reference on page 3-6 to a "wetland is approximately 0.5 acres in size" should be clarified. Is this 0.5 acres on the site or 0.5 acres in total size across multiple parcels?
32. The first paragraph under Potential Use by Rare Species on page 3-12 states that there are "two wildlife species in the vicinity." This should be corrected by adding the appropriate type of species.
33. The reference to Bog turtle habitat in the third paragraph on page 3-12 does not mention the concerns expressed by the US Fish & Wildlife Service about "potential habitat" even though no signs of habitat were found. An up-to-date discussion of the status of Federal agency concerns should be provided for the related marginal access road project and then related to the discussion of mitigation provided in Section 3.3.3 on page 3-16.
34. The on-site well noted on page 3-17 should include a discussion of how it will be closed, if it will not be used in the future. The water use estimates of 2,000 gallons per day omit site landscaping needs. Could this well be used to supply non-potable water for landscaping? In view of the DEIS's statement about a lack of the use of fertilizers, pesticides and herbicides, as well as watering, how will landscape survivability be guaranteed for a period of three years and more?
35. The seventh paragraph on page 3-18 states that the project will not use fertilizers on lawn or landscaped areas. Although use of peat is noted, how will the project ensure that plant materials installed will survive the required three years? (see § 164-46G(3)(n)(3)). Also, will pesticides or herbicides be used on site landscaping? In addition to the site's proximity to surface water resources, the entire parcel is located in the Town's Aquifer Protection Overlay District. In other statements in the DEIS, there is mention of "pest management." These should be discussed in the FEIS.
36. The statement on page 3-20 that the project conforms with State requirements should also note compliance with Town stormwater requirements.
37. The statement on page 3-25 about providing parking in the rear of the proposed building should also note that parking is being provided at the sides of the proposed building.

38. Note in the first paragraph under Section 3.5.3 conformity with the Town's Design Standards and work that has been underway with both the Town Planning Board and Architectural Review Board to seek conformity with such Standards.
39. The statement about "Preservation of 54 percent of the site" on page 3-27 should be explained as to how this will be achieved and enforced.
40. There is a typographical error in the first sentence of the third paragraph on page 3-28.
41. The reference on page 3-28 to "begin construction" on the I-84/I-87 interchange needs to be updated.
42. The Traffic Study summarized in Section 3.6 goes to great lengths to describe Level of Service and the criteria used to attribute the proposed project to Level of Service Criteria. However, neither the narrative nor the tables provided show how levels of service change from the "No-Build Traffic Conditions" to the "Build Traffic Conditions." This information can be found in the full Traffic Study in Appendix E, but it should also be presented in the narrative of the DEIS so that readers can be informed of impact. This should be corrected in the FEIS.
43. The sources for and calculations of tax revenues and costs to municipal entities discussed in Section 3.7.1 should be provided in the FEIS.
44. The second sentence in Section 3.7.1.3 is missing the word "tax."
45. The statement in Section 3.7.4.3 that the contractor "will commit" to maintaining construction equipment in proper operating condition needs a further explanation. How will the applicant ensure this occurs?
46. The grammatical error in the fourth paragraph on page 3-44 should be corrected in the FEIS.
47. On page 3-45, it is stated that O & R provides natural gas service to customers in the area. Does this mean that the proposed building will be heated with natural gas?
48. The Final Scoping Document required that the DEIS discuss: "The energy sources to be used if the Proposed Action is implemented." The DEIS states that electric and natural gas are "available," does not commit to its use but suggests its use in a reference to using a "modulating gas valve" in reference to a furnace blower. The DEIS states that energy sources will include "electricity, gasoline, diesel fuel, and heating oil or natural gas." Use of these energy sources should be explained further in the FEIS and segregated between those used for construction and for operation.
49. The Final Scoping Document required that the DEIS discuss: "Estimate annual electricity demand in kilowatt hours during operation of the proposed action. Estimate consumption of fossil fuels during post-construction project operations (transportation as well as stationary)." This has not been provided in the DEIS. This needs to be provided in the Final EIS. It should be noted that this question was left unanswered on the EAF Form provided in Appendix A as well.
50. The Final Scoping Document required that the DEIS discuss: "Energy conservation measures to be used including LEED or other similar certification. Discuss how the project will incorporate energy conserving opportunities and onsite renewable energy sources." While the DEIS states that the project will conform with the energy conservation regulations of the State

and discusses a number of energy conservation strategies, it does not discuss use of LEED nor onsite renewable energy sources. This needs to be provided in the Final EIS.

51. In Appendix A of the DEIS, the Environmental Assessment Form (EAF) question (E.3.a) as to whether the project site is located in a New York State Agricultural District is answered "No." According to Orange County's 2013 records, the site is located in Orange County Agricultural District # 2. This should be corrected.
52. In Appendix A of the DEIS, the EAF question (E.3.b) as to whether the project site is located within five miles of a federal, state or local scenic or aesthetic resource is answered "No." The section of Route 94 that the project site fronts on is designated in the Town Comprehensive Plan as a "Scenic Road" and there are other numerous scenic resources, such as the Appalachian National Scenic Trail, that are located within five miles of the project site. This should be corrected.
53. The US Army Corp of Engineers Jurisdictional Determination for the on-site wetlands, provided in Appendix B, expired on January 29, 2014. This will need to be updated prior to any Town approvals that may be granted to the project.

Cc: Laura Barca, P.E.



RECEIVED

SEP 17 2014

September 10, 2014

Mr. Benjamin Astorino, Chairman
Town of Warwick Planning Board
123 Kings Highway
Warwick, New York 10990

Town of Warwick

Re: **Homarc Property**
NYS Route 94
Tax Map Reference: 51-1-5.231

Task: PB061

Area = 5.1± acres

Dear Mr. Astorino:

Introduction: The Town of Warwick Planning Board announced a Positive Declaration on April 16, 2008 and adopted a Final Scoping Document for this project on March 05, 2009. A Scoping Document was finalized on July 17, 2013. The DEIS was considered complete on July 16, 2014. A joint Architectural Review Board and Planning Board meeting was held on August 11, 2014. *Enclosed are HDR's technical review comments on the DEIS; site plan comments will be forthcoming.*

Correspondence: We have received the following from the Applicant:

1. Cover letter, prepared by ERS Consultants, dated June 13, 2014
2. DEIS, prepared by ERS Consultants, dated October 2013
3. Six Sheet Site Plan Drawing Set, prepared by ERS Consultants, last revised 04/28/14
4. Ten-sheet Architectural Drawing Set, prepared by John D. Fuller, PE, dated 06/02/14

Upon reviewing the materials submitted we have the following comments that identify the comment number, original date of comment, the comment itself, and the current status of the comments (i.e., whether they have been answered or if it is still outstanding).

No.	Date	Comment	Status
1.	10/17/12	Planning Board to discuss SEQRA.	Statement.
2.	10/17/12	Applicant to discuss project.	Statement.
3.	10/17/12	Conservation Board – 10/16/12: no comments at this time	Statement.
4.	10/17/12	Architectural Review Board – 10/16/12: (1) request similar conceptual view of all four sides, (2) provide materials of construction, (3) determine front(s) of building, & (4) perspective rendering of nearby buildings; 08/11/14: see separate comment letter dated 08/11/14	Statement.
5.	10/17/12	OC Planning Department – pending submittal	Statement.
6.	10/17/12	NYS DOT – status of roadway cut to Route 94	Statement.
7.	08/20/14	HDR DEIS Completeness comments are included in HDR review letter dated July 16, 2014.	Statement.
8.	07/16/14	Appropriate revision dates should be added to the cover sheets of the DEIS.	Incomplete.

No.	Date	Comment	Status
9.	07/16/14	The new owner(s) of surrounding property(ies) should be updated on the plan set.	Incomplete.
10.	12/18/13	Final scoping document Page 8 (IV.D.1.c): Fire suppression water supply must be discussed, including improvements to the existing system.	Incomplete. Page 1-5
11.	10/17/12	Provide a map note stating that "No construction or PROPOSED use shall begin until the maps are signed by the Planning Board Chairman and Building Department permits are obtained." (Sheet 1 Note 11).	Incomplete.
12.	10/17/12	Off-site improvements will be necessary to connect to the existing municipal sanitary sewer, potable water, and fire protection water mains; these should be shown on the plan.	Information added; additional review required. 07/16/14
13.	10/17/12	The Applicant shall show the 911 address on Sheet 1 of the drawing set.	Complete. 07/16/14 Sheet 1, Note 2
14.	10/17/12	The profile of the Marginal Access Road shall be shown to ensure proper vertical and horizontal alignment of the Marginal Access Road with both adjacent properties.	Incomplete.
15.	09/10/14	DEIS Appendix B Correspondence: <ul style="list-style-type: none"> The letter from the NYSDEC Natural Heritage Program (NHP) is dated 24 September 2007 – nearly 7 years old. The NHP letter does contain the verbiage that if the project is still active in one year they recommend a re-confirmation of any prior correspondence. The letter indicates the file search results are "sensitive" and not to be released to the public without NHP's permission – the file results citing the presence of bog turtles within one mile of the site is attached to the correspondence. Applicant to remove file search results page and the EIS text modified to state the file search results are deemed sensitive by NHP and are thus not included in the public documents. 	Incomplete.
16.	09/10/14	Applicant must confirm how will the dry swale be vegetated and whether or not it will be seeded. While a formal planting plan may not be necessary, it should be seeded with a commercially available basin seeding mix so invasive species such as loosestrife and common reed (both present in the vicinity) do not colonize the site.	Incomplete.

No.	Date	Comment	Status
17.	09/10/14	DEIS Section 5b: The Scoping Document (Section 5b) cites correspondence with SHPO re the Cultural Resources report; Section 3.7-6.2 of the DEIS cites that a copy of the report has been sent to SHPO. Applicant to confirm if any correspondence or concurrence been received from SHPO.	Incomplete.
18.	09/10/14	DEIS Section 3.2 Wetlands: Section 3.2.1 cites the use of the 1995 NYSDEC Wetlands Delineation manual to delineate state wetlands, yet there are no DEC wetlands in the database source nor were any identified on the parcel. Suggest removing the sentence referring to the DEC manual. Applicant to confirm if any follow-up wetlands walk-over was conducted by the Applicant to verify that the wetland conditions had not changed since the original (August 2007) delineation and with the adoption of the new (January 2012) USACE regional manual.	Incomplete.
19.	09/10/14	Applicant to confirm if there are any problems with mosquitoes anticipated with the proposed permanent pool in the stormwater management system.	Incomplete.
20.	09/10/14	DEIS Section 3.3 Terrestrial and Aquatic Ecology: Table 3.3 – The scientific name for tree-of-heaven should be <i>Ailanthus altissima</i> . Spotted knapweed is cited in the text (Successional Old Field/Meadow) but does not appear in Table 3-3.	Incomplete.
21.	09/10/14	DEIS Section 3.3 Terrestrial and Aquatic Ecology: In Table 3.4 the scientific name for the Eastern phoebe should be <i>Sayornis phoebe</i> . The tufted titmouse is cited in the text but does not appear in Table 3-4. Also, the range of the Carolina chickadee is not reported to extend north of central New Jersey. The species encountered is most likely the black-capped chickadee, <i>Poecile atricapillus</i> . The table should also indicate which of the listed species were observed on the site and which were not observed but expected to occur.	Incomplete.
22.	09/10/14	DEIS Section 3.4.3 Mitigation Measures: It is suggested that the second to last sentence in the first paragraph on Page 3-20 should read (proposed text in bold) "In fact, nutrient loads in the stormwater runoff are likely to decrease with the cessation of agricultural use of the site ".	Incomplete.

No.	Date	Comment	Status
23.	09/10/14	DEIS Section 1.2 Anticipated Impacts and Proposed Mitigation Measures: DEIS states that the dumpster location will avoid visual impacts; however, the dumpster is facing the building and Route 94. Applicant to confirm final dumpster location based on previous statement.	Incomplete.
24.	09/10/14	DEIS Section 4.0 Alternatives: There is no visual section provided in the DEIS, yet it is listed in the alternatives section. Applicant to provide this section, if necessary and / or applicable, or remove from document.	Incomplete.
25.	09/10/14	DEIS Section 2.4.2 Structures and Site Development: The DEIS states transit bus circulation is feasible. If so, a transit stop should be provided. If a transit stop is provided, appropriate access, ADA access and crosswalks may be required.	Incomplete.
26.	09/10/14	DEIS notes comp plan goal to create pedestrian and bicycle networks through sidewalks, bicycle paths, trails and crosswalks, in order to create connections to shared parking, public transportation and between stores and nearby housing in the RU and SL Districts as well as the Village. No connecting pedestrian and bicycle networks or public transit stops are proposed. If non-vehicular access is provided, it must be ADA compliant.	Incomplete.
27.	09/10/14	DEIS Section 3.5 Zoning and Surrounding Land Use: The DEIS states that the code requires one canopy tree of 3" caliper for every eight spaces and 10 shrubs, thus requiring 11 trees and 110 shrubs. The site plan shows 35 canopy trees and 110 shrubs, meeting town requirements. Only 9 of the proposed trees are of 3" caliper or more. Site plan does not meet the requirement.	Incomplete.
28.	09/10/14	DEIS Section 3.5 Zoning and Surrounding Land Use: DEIS does not mention anything about perimeter landscaping requirements.	Incomplete.

No.	Date	Comment	Status
29.	09/10/14	DEIS Section 3.5 Zoning and Surrounding Land Use: DEIS states the site's size allows for the development of an attractive commercial facility with significant landscaped and natural buffers that would preserve the existing character of the NYS Route 94 corridor. A 60 deep buffer area is provided with 18 trees, with limited shrubs and perennials located only around the sign. At 460 ft length, at 1 tree per 35 feet of perimeter is 14 trees, just to meet perimeter. This feature does not appear to be "generous," as the comp plan states. Applicant to confirm	Incomplete.
30.	09/10/14	DEIS Section 2.4.2 Structures and Site Development: DEIS states that all fixtures shall be fully shielded. This is not captured on the site plans.	Incomplete.
31.	09/10/14	DEIS Section 2.4.2 Structures and Site Development: DEIS states that fixtures will be mounted on 14 ft poles. However, the Site Plans say 15 ft, although many poles are below the retaining wall. Applicant to confirm which height is correct and correct the document accordingly.	Incomplete.
32.	09/10/14	DEIS Section 2.4.2 Structures and Site Development: DEIS states that a minimum level of all night illumination will be maintained for security. Site plans states hours of operation as Dusk to 8am. It does not specify reduced lighting levels. Applicant to include reduced lighting levels, as necessary, to the DEIS.	Incomplete.
33.	09/10/14	DEIS Site Plans: Site plans require more details in order to determine ADA compliance, including ramps, grades across parking areas, contours and spot elevations, guiderails above surface of parking areas, handicap parking details. Handicap parking does not appear to be located in the shortest, most central location. Applicant to revise figure(s), including the Grading Plan, accordingly.	Incomplete.
34.	09/10/14	DEIS Site Plans – Landscaping Plan: Only 9 of the proposed trees are of 3" caliper or more, should be at least 11. Site plan does not meet the requirement. Applicant to revise figure accordingly.	Incomplete.
35.	09/10/14	DEIS Site Plans: Parking spaces are insufficiently screened from public view. This could be well more screened, since there is the room for more landscaping, and not just trees. Shrubs provide screening closer to the ground. Applicant to reconsider landscaping in these areas.	Incomplete.

No.	Date	Comment	Status
36.	09/10/14	DEIS Site Plans – Landscaping Plan: Plan states “To reduce the visual impact of the parking lot, provide a ten-foot wide landscape strip around the perimeter of the lot, to be planted with shade trees and low shrubs. Provide a minimum of one shade tree every 35 feet of lot perimeter but not necessarily at 35 feet on-center.” Per the provided plans, this is not provided. These trees would be in addition to the 1 per 8 spaces interior to the lot. Applicant to revise Landscaping Plan.	Incomplete.
37.	09/10/14	DEIS Site Plans – Landscaping Plan: Plan states “Divide the rows of parking with planting strips and trees, averaging a tree every six to 10 spaces.” This is not sufficient per the provided plan. The curved portion of the parking lot has 20+ spaces with no planted island. Applicant to revise Landscaping Plan.	Incomplete.
38.	09/10/14	DEIS Site Plans – Landscaping Plan: Plan states “Create large planting islands (over 500 square feet) to be located throughout the lot and planted with shade trees, low shrubs, and/or ground cover.” Per the provided plans, this is not provided, although they could agree that the planting strip along the building covers this. Applicant to consider revising Landscaping Plan.	Incomplete.
39.	09/10/14	DEIS Site Plans – Landscaping Plan: Plan states “Parking spaces shall have wheel stops or curbs to prevent injury to trees and shrubs planted in landscaped islands.” Per the provided plans, this is not provided. Applicant to revise Landscaping Plan.	Incomplete.
40.	09/10/14	DEIS Site Plans – Landscaping Plan: Planting details are not sufficient to illustrate to a contractor how to plant. Applicant must provide shrub planting details and details for permanent seeding.	Incomplete.
41.	09/10/14	DEIS Site Plans – Landscaping Plan: Provide details on soil restoration after being compacted during construction, in order to support plant health.	Incomplete.
42.	09/10/14	DEIS Site Plans – Landscaping Plan: Provide landscaping notes, including contractor instructions, plant warrantee period, plant stock standards, etc.	Incomplete.
43.	09/10/14	DEIS Site Plans – Landscaping Plan: Plants for the proposed pocket pond need to include quantity, spacing and size. What is shown on the Landscaping Plan differs from the pocket pond detail. Applicant to confirm and revise plan(s) for uniformity accordingly.	Incomplete.

No.	Date	Comment	Status
44.	09/10/14	DEIS Site Plans – Landscaping Plan: Perimeter plantings where the retaining wall is located are well below the parking level surface. Shrubs may not even be seen. Trees, along parking areas, typically can be maintained to have lower branches removed to maintain sight distance. With the trees below the wall, as they grow, the limbs may damage parked cars, as the limbs would not be the lower branches.	Incomplete.
45.	09/10/14	DEIS Site Plans – Landscaping Plan: There is landscaping shown within the sidewalk area. Applicant to revise plan accordingly.	Incomplete.
46.	09/10/14	DEIS Site Plans – Landscaping Plan: Please verify types of vegetation proposed. There are numerous sized symbols for the same plant which is deceiving. Applicant must verify that there is enough room for each plant, given that the sidewalk planting area is only 3ft.	Incomplete.
47.	09/10/14	DEIS Site Plans – Lighting Plan: Some lights are below the wall. A photometric plan should be prepared to illustrate what impact is created. The photometric plan should also include the point by point calculation of foot candles to illustrate meeting of 0.25 foot candles at the property line. Uniformity table should also be provided to show ratios, minimums, and averages, per code.	Incomplete.
48.	09/10/14	Applicant must provide access to the bicycle rack; or, Applicant to confirm if bicyclists should use the handicap access aisle and sidewalk to reach the rack.	Incomplete.
49.	09/10/14	Applicant must provide a location where stockpiled snow will be stored during snow removal activities.	Incomplete.
50.	09/10/14	Applicant must provide a truck movement plan to illustrate how a garbage truck is getting to the proposed dumpster location. It appears that, depending on type of garbage truck used in the Town, that at least one parking space will be impacted.	Incomplete.
51.	09/10/14	DEIS Page 3-17: The first paragraph states that the runoff from the remaining portions of the site will not be affected by the proposed project. Development is proposed outside of the one drainage area that is analyzed. Applicant shall update the existing drainage area map (Figure 3-9) to include all portions of the site that will be developed. Applicant should coordinate Figure 3-9 in the DEIS with Figure 3 provided in Appendix C.	Incomplete.

No.	Date	Comment	Status
52.	09/10/14	DEIS Figure 3-10: Applicant shall update the proposed drainage area map (Figure 3-10) to include reflect the drainage areas shown on Figure 4 provided in Appendix C.	Incomplete.
53.	09/10/14	DEIS Page 3-18 and 3-20: The document refers to an outdated version of the NYSDEC General Permit. The Applicant must revise the text to reference the current version of the NYSDEC General Permit for Stormwater Discharges from Construction Activities.	Incomplete.
54.	09/10/14	DEIS Page 3-18: Applicant shall confirm that there is sufficient capacity in the wastewater treatment plant located on the Price Chopper property to handle the proposed wastewater flow.	Incomplete.
55.	09/10/14	DEIS Page 3-18: Applicant shall confirm the proposed impervious surface area and update the DEIS and SWPPP to accurately reflect the proposed quantity.	Incomplete.
56.	09/10/14	DEIS Page 3-19, Section 3.4.3: Applicant shall update this section to reflect the mitigation measures proposed in the Stormwater Pollution Prevention Plan provided in Appendix C.	Incomplete.
57.	09/10/14	DEIS Appendix C, SWPPP: Applicant shall update the referenced version of the NYS Stormwater Management Design Manual to the most recent version (June 2010) and update all calculations and methodologies as required.	Incomplete.
58.	09/10/14	DEIS Appendix C, SWPPP: Applicant to include two (2) additional figures demonstrating placement and frequency of pre- and post-construction (temporary and permanent) stormwater control features. Figures should be signed and stamped by a P.E. registered in New York.	Incomplete.
59.	09/10/14	Applicant to confirm it is appropriate per US Army Corps and other regulations to construct a cistern and dry swale within the 100 ft. "management area" buffer of a federal wetland.	Incomplete.
60.	09/10/14	DEIS Appendix C, SWPPP: References to NYSDEC's Region 8 office are made throughout the Appx. C SWPPP document (i.e., Section 9.0). Correspondence regarding this project should be made through the NYSDEC Region 3 office, as identified at the beginning of the document, which services Orange County.	Incomplete.

No.	Date	Comment	Status
61.	09/10/14	DEIS Appendix C, SWPPP, Section 5.2: References are made to a USDA Web Soil Survey as provided in Appendix L. There is no Appendix L to this document. Applicant to provide necessary documentation.	Incomplete.
62.	09/10/14	DEIS Appendix C, SWPPP, Section 7.0: This section references the preservation of existing vegetation as much as possible. Applicant to provide a figure demonstrating these areas, and any trees that will remain, as well as identify methods of tree protection.	Incomplete.
63.	09/10/14	DEIS Appendix C, SWPPP, Section 7.0: This section references temporary soil stabilization of disturbed areas and removal of sediment from construction site discharges. Applicant to confirm if temporary seeding or erosion control matting is to be used on site and types / placement of controls. Applicant must also provide drop inlet protection to any stormwater catch basins on site, as needed. Applicant to provide details of all temporary erosion control features to be used on site.	Incomplete.
64.	09/10/14	DEIS Appendix C, SWPPP, Section 8.1: This section references design calculations for each stormwater control measure in Appendix D. There is no Appendix D to the SWPPP document. Appendix D of the DEIS contains soil boring logs. Applicant to provide necessary documentation.	Incomplete.
65.	09/10/14	DEIS Appendix C, SWPPP, Section 8.3.4: Confirm pre-development watershed runoff rates at each design point is presented in Table 9. Please identify the location of Table 9 in this report.	Incomplete.
66.	09/10/14	DEIS Appendix C, SWPPP, Section 8.3.5: Confirm where post-development watershed runoff rates at each design point are presented. Please identify the location of the table in this report.	Incomplete.
67.	09/10/14	DEIS Appendix C, SWPPP, Page 26: Include units for the pre- and post-development discharge rates.	Incomplete.
68.	09/10/14	DEIS Appendix D, Soil Logs: Provide a figure to demonstrate where the soil percolation tests and test pits were performed on the site.	Incomplete.
69.	09/10/14	DEIS Appendix C, SWPPP: Applicant to include the pocket pond total post-development WQv analysis.	Incomplete.
70.	09/10/14	DEIS Appendix C, SWPPP: Applicant to provide sizing calculations for the following post-development stormwater management controls: pocket pond, hydrodynamic separator(s), cistern, permeable pavement catchment	Incomplete.

No.	Date	Comment	Status
71.	09/10/14	DEIS Appendix C, SWPPP: Applicant to provide cross-sectional details and manufacturer cut sheets (as applicable) for hydrodynamic separator(s).	Incomplete.
72.	09/10/14	DEIS Appendix C, SWPPP: Applicant must provide permanent seed mixtures, application rates, recommended application dates and ratio of soil amendments necessary for the site.	Incomplete.
73.	09/10/14	DEIS Pg. 3-27: The DEIS states "This study, dated September 2010...as Appendix E." However, the document in Appendix E is dated October 2007. Provide the traffic impact study dated September 2010.	Incomplete.
74.	09/10/14	DEIS Pg. 3-28: Trip Generation in the Appendix and in Table 3-10 note the use of Trip Generation Manual 7th Edition, while the text states 8th Edition. Please clarify which was used. "The trips generated for both peak hours...patterns." Provide peak hours analyzed in the traffic study.	Incomplete.
75.	09/10/14	DEIS Pg. 3-29: The 2 nd paragraph describes that manual turning movement counts were conducted during the PM and Saturday Peak hour periods; however, the 2007 study found in the Appendix was conducted during AM and PM peak hours. Applicant to confirm if there were additional counts conducted in 2007 and after 2007. The counts conducted in 2007 are over 7 years old and it is advised to conduct more recent counts because traffic patterns may have changed since then. Furthermore, this paragraph states that the critical period is between 11:45-12:45 PM. Provide additional backup information (traffic counts, observations, etc.) in order to determine the Saturday peak hour.	Incomplete.
76.	09/10/14	DEIS Section 3.6 Vehicular Traffic and Roadways, Tables 3-8 and 3-9: HCM 2010 is now available. Provide the reason of using HCM 2000 vs. HCM 2010.	Incomplete.
77.	09/10/14	DEIS Pg. 3-30: The 4 th and 5 th paragraphs seem to include information about a more recent study that was conducted. Provide the back up information (existing and future traffic counts, traffic analyses, methodologies developed for assessment, etc.).	Incomplete.

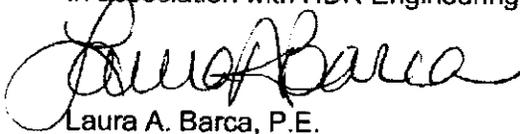
No.	Date	Comment	Status
78.	09/10/14	DEIS Pg. 3-30: There are discussions on potential impacts; however, it is unclear as to why there would be a reduction in LOS. Applicant to provide a description of the proposed condition and refer to the summary of results.	Incomplete.
79.	09/10/14	DEIS Fig. 3-14: The volumes appear to be lower than the study conducted in 2007. Provide existing, net trips, and build conditions volume networks.	Incomplete.
80.	09/10/14	DEIS Fig. 3-15: Provide the source of these volumes and include existing, net trips, and build condition volume networks.	Incomplete.
81.	09/10/14	DEIS Pg. 3-31, Table 3-10: The 1 st and 2 nd paragraphs describe the methodologies to develop No Build and Build traffic volumes. However, these volumes are lower than the 2007 study. This paragraph also describes counts conducted in 2010, though no counts were provided. If the proposed building is nearly 10,000 larger than the building proposed in the 2007 study, Table 3-10 was directly from the 2007 trip generation (again mentioned as 7th Edition in table and 8th Edition in text). Applicant to confirm how the additional trips generated were accommodated. Table 3-10 reflects AM and PM peak hour. Provide Table that would reflect Saturday peak hour.	Incomplete.
82.	09/10/14	DEIS Pg. 3-32: Provide more details on diversion of traffic and analyses conducted to support the mitigation. The 3 rd paragraph states: "The level of service... should not be diminished." Applicant to provide clarification of this statement.	Incomplete.
83.	10/17/12	A three-ring binder with all color, texture, roofing samples, etc. shall be submitted and retained with the building department after final approval has been granted.	Condition of final approval.
84.	10/17/12	Payment of all bonds (Landscaping, Performance, Marginal Access Road, Construction Trailer Removal, Construction Inspection fees for Landscaping and Performance, and Traffic Mitigation Fees).	Condition of final approval.
85.	10/17/12	Surveyor to certify that iron rods have been set at all property corners.	Condition of final approval.
86.	10/17/12	Payment of all fees.	Condition of final approval.

Miscellaneous: Prior to placing this project on the next planning board agenda, a written response letter addressing each of the above comments should be submitted. The Applicant's response letter should provide an itemized explanation of how the plans have been revised or modified in order to address these items with specific references to the changes in the plans. In the event that the Applicant should disagree with a comment and choose not to modify the plan, an explanation should be provided.

The above comments represent our professional opinion and judgment and do not in all cases reflect the opinion of the Planning Board. Please revise your plans to reflect these comments with the understanding that further changes may be required. If you have any questions, please contact me at (845) 294-2789.

Sincerely,

Henningson, Durham & Richardson
Architecture and Engineering, P.C.
in association with HDR Engineering, Inc



Laura A. Barca, P.E.
Project Manager

CC: Planning Board Members
Connie Sardo, Planning Board Secretary
HDR Project No. 157684, Task No. PB061



United States Department of the Interior



FISH AND WILDLIFE SERVICE

3817 Luker Road
Cortland, NY 13045

September 23, 2014

RECEIVED

SEP 26 2014

Town of Warwick

Ms. Connie Sardo
Secretary
Town of Warwick Planning Board
Town Hall
132 Kings Highway
Warwick, NY 10990

Dear Ms. Sardo:

This is in response to your July 16, 2014, Notice of Completion of Draft Environmental Impact Statement (DEIS) for the proposed Homarc Commercial Development located on a 5.1-acre site on NYS Route 94 in the Town of Warwick, Orange County, New York. Your letter invited review and comment on the proposed project.

The following comments are provided pursuant to the Endangered Species Act of 1973 (ESA) (87 Stat. 884, as amended; 16 U.S.C. 1531 *et seq.*). This response does not preclude additional U.S. Fish and Wildlife Service (Service) comments under other legislation.

It appears that the U.S. Army Corps of Engineers (Corps) may be involved through Section 404 of the Clean Water Act permitting for the proposed project's site access from a proposed marginal access road connection. Please be aware that federal agencies have responsibilities under Section 7(a)(2) of the ESA to consult with the Service regarding projects that may affect federally-listed species.

As the DEIS states, the federally-listed endangered Indiana bat (*Myotis sodalis*) is known to occur in the vicinity of the proposed project. We understand that no tree clearing is proposed for the project; however, it is unclear if any tree removal is needed for the proposed access road. This should be addressed in the FEIS.

Also, as the DEIS acknowledges, there is a known population of federally-listed threatened bog turtle (*Clemmys* [= *Glyptemys*] *muhlenbergii*) located within wetlands near the project site. Given the nearby presence of a listed species, the next step is to consider whether proposed activities at the site may affect the species. The Service considers the potential for direct and

indirect¹ effects to federally-listed and proposed species and works with project sponsors and federal agencies (if involved) to develop conservation measures to address these effects.

We understand that no wetland fill is proposed as part of the project, but the DEIS fails to adequately address the potential for indirect impacts to bog turtles offsite. Adverse impacts associated with this project could include, but are not limited to, introduction of contaminated surface water runoff into the wetland from pesticides, herbicides, fertilizers, road deicers, etc., or alteration of wetland hydrology.

For example, Page 3-7 of the DEIS states, “The proposed development will also increase pollutant loadings found in stormwater runoff. During construction activities potential short-term impacts from regrading and stockpiling of soil materials can impact surface water quality both on site and downstream. Long-term impacts to surface water quality can result once the development is complete and operational. Increase pollutants typically associated with commercial land use activities, including stormwater runoff from the paved areas and rooftops as well as wastewater treatment can be expected.”

Additionally, Pages 3-14 and 3-15 of the DEIS states, “Construction activities would result in short term disturbances due to noise and potential erosion and sedimentation. Erosion and sedimentation are potential indirect impacts to adjacent wetland areas as well as downstream resources such as the Wawayanda Creek. The Wawayanda Creek flows through an extensive agricultural region of the Town of Warwick. Much of the adjacent wetlands have been drained to produce onions and other vegetables. As a result of long-term agricultural practices, these waters are identified as having impaired aquatic communities by the state agencies. As a result of additional impervious area, more surface runoff will occur. Peak rates of surface runoff would significantly increase on the western portion of the site. The proposed development will also increase pollutant loadings found in stormwater runoff. During construction activities, potential short-term impacts from regrading and stockpiling of soil materials can impact surface water quality both on site and downstream. Long-term impacts to surface water quality can result once the development is complete and operational.”

The Service is concerned that the above mentioned circumstances could have adverse impacts to the bog turtle. Please note that in order to avoid and minimize potential adverse effects to the threatened bog turtle, the Service generally recommends a minimum of a 300-foot buffer around wetlands with known or likely bog turtle populations. Generally, the larger the upland buffer, the lower the risk of many of these potential adverse effects. However, some of the effects may not be adequately addressed by buffers. The Bog Turtle (*Clemmys muhlenbergii*) Northern Population Recovery Plan (U.S. Fish and Wildlife Service 2001) (Appendix A - Bog Turtle Conservation Zones) includes recommendations for minimum buffers for various activities. You can find this document at <http://www.fws.gov/northeast/nyfo/es/btconszone.pdf>. We recommend that the project sponsor review the Recovery Plan and then work with the New York State Department of Environmental Conservation (NYSDEC), staff from this office, and the Corps to fully analyze the potential impacts of the proposed project (and the access road) on the bog turtle.

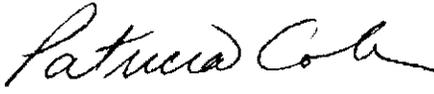
¹ Indirect effects are those that are caused by the proposed action and occur later in time

In summary, we have concerns about potential impacts to the bog turtle and its habitat associated with the proposed project. We have provided examples of some potential adverse effects that should be addressed; however, there may be additional effects to consider.

As a reminder, the most recent compilation of federally-listed and proposed endangered and threatened species in New York is available for your information. Until the proposed project is complete, we recommend that you check our website every 90 days from the date of this letter to ensure that listed species presence/absence information for the proposed project is current.*

Thank you for your time. If you require additional information please contact Robyn Niver at (607) 753-9334. Future correspondence with us on this project should reference project file 90149.

Sincerely,


David A. Stilwell
Field Supervisor

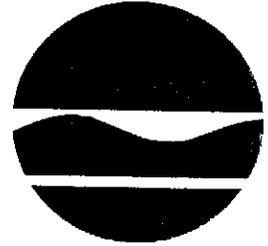
*Additional information referred to above may be found on our website at:
<http://www.fws.gov/northeast/nyfo/es/section7.htm>

Literature Cited:

U.S. Fish and Wildlife Service. 2001. Bog Turtle (*Clemmys muhlenbergii*), Northern Population, Recovery Plan. Hadley, Massachusetts. 103 pp.

cc: NYSDEC, New Paltz, NY (Attn: L. Masi)
NYSDEC, Albany, NY (Wildlife Diversity)
COE, New York, NY (B. Orzel)

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
Division of Fish, Wildlife & Marine Resources
New York Natural Heritage Program
625 Broadway, 5th Floor, Albany, New York 12233-4757
Phone: (518) 402-8935 • **Fax:** (518) 402-8925
Website: www.dec.ny.gov



Joe Martens
Commissioner

November 03, 2014

Karen Annicaro
ERS Consultants, Inc.
11 Forester Avenue
Warwick, NY 10990

Re: Proposed commercial building at 152 NYS Route 94 South
Town/City: Warwick. County: Orange.

Dear Karen Annicaro :

In response to your recent request, we have reviewed the New York Natural Heritage Program database with respect to the above project.

Enclosed is a report of rare or state-listed animals and plants, and significant natural communities, which our databases indicate occur, or may occur, on your site or in the immediate vicinity of your site.

For most sites, comprehensive field surveys have not been conducted; the enclosed report only includes records from our databases. We cannot provide a definitive statement as to the presence or absence of all rare or state-listed species or significant natural communities. Depending on the nature of the project and the conditions at the project site, further information from on-site surveys or other sources may be required to fully assess impacts on biological resources.

Our databases are continually growing as records are added and updated. If this proposed project is still under development one year from now, we recommend that you contact us again so that we may update this response with the most current information.

The presence of the plants and animals identified in the enclosed report may result in this project requiring additional review or permit conditions. For further guidance, and for information regarding other permits that may be required under state law for regulated areas or activities (e.g., regulated wetlands), please contact the appropriate NYS DEC Regional Office, Division of Environmental Permits, as listed at www.dec.ny.gov/about/39381.html.

Sincerely,

Andrea Chaloux
Environmental Review Specialist
New York Natural Heritage Program



The following state-listed animals have been documented at your project site, or in its vicinity.

The following list includes animals that are listed by NYS as Endangered, Threatened, or Special Concern; and/or that are federally listed or are candidates for federal listing. The list may also include significant natural communities that can serve as habitat for Endangered or Threatened animals, and/or other rare animals and rare plants found at these habitats.

For information about potential impacts of your project on these populations, how to avoid, minimize, or mitigate any impacts, and any permit considerations, contact the Wildlife Manager or the Fisheries Manager at the NYSDEC Regional Office for the region where the project is located. A listing of Regional Offices is at <http://www.dec.ny.gov/about/558.html>.

The following species have been documented within 1 mi of the project site. Individual animals may travel 1 mi from documented locations.

<i>COMMON NAME</i>	<i>SCIENTIFIC NAME</i>	<i>NY STATE LISTING</i>	<i>FEDERAL LISTING</i>	
Reptiles				
Bog Turtle	<i>Glyptemys muhlenbergii</i>	Endangered	Threatened	9985

This report only includes records from the NY Natural Heritage databases. For most sites, comprehensive field surveys have not been conducted, and we cannot provide a definitive statement as to the presence or absence of all rare or state-listed species. Depending on the nature of the project and the conditions at the project site, further information from on-site surveys or other sources may be required to fully assess impacts on biological resources.

If any rare plants or animals are documented during site visits, we request that information on the observations be provided to the New York Natural Heritage Program so that we may update our database.

Information about many of the listed animals in New York, including habitat, biology, identification, conservation, and management, are available online in Natural Heritage's Conservation Guides at www.guides.nynhp.org, and from NYSDEC at www.dec.ny.gov/animals/7494.html.

APPENDIX B

ZONING – TABLE OF USE

ZONING

164 Attachment I

Town of Warwick
§ 164-40M

Table of Use Requirements
[Amended 1-24-2002 by L.L. No. 2-2002; 10-24-2002 by L.L. No. 6-2002; 9-11-2003 by L.L. No. 4-2003;
2-18-2010 by L.L. No. 1-2010; 12-9-2010 by L.L. No. 6-2010; 8-11-2011 by L.L. No. 6-2011; 10-25-2012 by L.L. No. 3-2012; 2-26-2013 by L.L. No. 3-2013]

Residential Uses	Districts												
	AI	RU	MT	CO	SL	SM	TN-O	OI*	LB	DS	SH-F	LC	CB
1. One-family dwelling	P*(z) (23)(114)	P*(b) (23)(114)	P*(a) (4-5)(23)(95) (114)	P*(y) (23)(95) (114)	P*(u) (23)(114)	P*(s) (23)(114)	P (23)(112) (114)		P*(u) (23)(53) (96)(114)			P*(y) (23)(95) (114)	
	S**(z) (23)(100) (114)	S*(b) (23)(100) (114)	S*(a) (4-5)(100) (23)(95) (114)	S**(y) (23)(95) (100)(114)	S**(u) (23)(100) (114)	S**(s) (23)(100) (114)			S**(u) (23)(53) (100)(114)			S**(y) (23)(95) (100)(114)	
2. Two-family dwelling	P(aa) (23)(96)	P(b) (23)(96)	S(a) (23)(95-96)		P(u) (23)(96)	P(t) (23)(96)	P (23)(96) (112)		P(v) (23)(53) (96)		S (112)		
3. One accessory dwelling							S (23)(51)		S (23)(51)				
4. Class 1 home occupation	P (6-9)(50)	P (6-9)(50)	P (6-9)(50)	P (6-9)(50)	P (6-9)(50)	S (6-9)(50)	S (6-9)(50)		P (6-9)(50)			P (6-9)(50)	
5. Class 2 home occupation	S (6-9)(28)	S (6-9)(28)	S (6-9)(28)	S (6-9)(28)	S (6-9)(28)				S (6-9)(28)				
6. Congregate housing, apartments													
7. Conversion of an existing one-family dwelling to a two-family dwelling	S(aa) (17)(23)(96)	S(b) (17)(23)(96)	S(a) (17)(23)(96)		S(u) (17)(23) (96)	S(t*) (17)(23) (96)	S (96)(112)		S(v) (17)(23) (53)(96)				
8. ECHO housing	P (12)(23)												
9. Guest house	S (11)(23)	S (11)(23)	S (11)(23)	S (11)(23)									
10. Mobile home court					S(x) (23)(54) (117-119)								
11. Townhouses		S(b*) (10)(23)(27) (53)(112)			S(u*) (10)(23) (27)(53) (112)	S(s*) (10)(23) (27)(53) (112)	P (10)(23) (112)				S (23)(112)		

WARWICK CODE

Agricultural Uses	Districts												
	AI	RU	MT	CO	SL	SM	TN-O	OI*	LB	DS	SH-F	LC	CB
12. Two-story mixed-use building									S (uu) (13) (53) (79) (112) (147)				
13. Building housing a farm stand for display and sale of agricultural and nursery products grown primarily on land that is considered part of the same farming operation.							S (22) (53) (129) (145)		S (22) (53) (129) (145)				
14. Commercial agricultural operations:													
a. Raising of field, greenhouse, and garden crops; sod, vineyard and orchard farming; the maintenance of nurseries.													
b. Keeping, breeding and raising of cattle (including dairies), sheep, goats, pigs and horses.	P (bb) (19)	P (d) (19)	P (d) (19)	P (d) (19)	P (d) (19)					P (d) (19)			P (d) (19) T1
c. Keeping, breeding and raising of fish or fowl.													
d. Energy production involving solar, wind, biomass, hydropower or other alternative nonfossil fuel source produced on the farm.													
14.1. Agri-tourism businesses													S (139)(145) (152) T1
15. Dormitory accommodations for housing migratory agricultural workers	S (21)	S (21)	S (21)	S (21)	S (21)					S (21) (53) (73-76) (126) (128- 129) (145)			S (21)(53) T1

ZONING

Agricultural Uses	Districts												
	AI	RU	MT	CO	SL	SM	TN-O	OI*	LB	DS	SH-F	LC	CB
16. Farm markets, microbreweries, wineries, distilleries and similar retail establishments of 4,000 square feet or more devoted primarily to the production and sale of farm and food-processing supplies	S (bb) (3) (80) (152)	S (cc) (3) (80) (152)	S (cc) (3) (80) (152)	S (cc) (3) (80) (152)	S (cc) (3) (80) (152)			S (II) (3) (53) (80) (152)	S (cc) (3) (53) (80) (129) (145) (152)	S (cc) (3) (53) (73-76) (80) (126) (128-129) (145) (152)			S (cc) (3) (53) (80) (145) (152) TI
17. Reserved													
18. Reserved													
19. Manufacturing, assembling, altering, finishing, converting, fabricating, cleaning or any other processing, packaging or repackaging of agricultural products or materials	S (II) (3) (84-86) (133-134)	S (II) (3) (81) (84-86) (97) (133-134)			S (II) (3) (84-86) (97)	S (cc) (3) (53) (80) (129) (145) (152)	S (II) (3) (53) (73-76) (81) (84-86) (97) (126) (128-129) (133-134) (134) (145)			S (II) (3) (53) (74-75) (81) (84-86) (97) (126) (128-129) (133-134) (145) TI			
20. Secondary use of agricultural wastes	S (19)	S (19)	S (19)	S (19)	S (19)			S (19)		S (19)			S (19) TI
21. Storage and sale of seed, feed, fertilizer, manure and other agricultural products	S (h) (19)	S (h) (19)	S (h) (19)	S (h) (19)	S (h) (19)			S (h) (19)		S (h) (19) (73-76) (126) (128-129) (149) TI			S (h) (19) (74-75) (126) (128-129) (149) TI
22. Reserved													
23. Use of mobile homes on farms to house tenant and migrant farm laborers	S (20) (141)	S (20) (141)	S (20) (141)	S (20) (141)	S (20) (141)			S (20) (141)		S (20) (73-76) (126) (128-129) (141)			S (20) (141) (145) TI
24. Adaptive reuse of nonresidential agricultural structures	S (cc) (83) (120)	S (cc) (83) (120)	S (cc) (83) (120)	S (cc) (83) (120)	S (cc) (83) (120)			S (cc) (83) (120)		S (cc) (73-76) (83) (120) (126) (128-129)			S (cc) (74-75) (83) (120) (126) (128-129) (139) TI

WARWICK CODE

Business Uses	Districts												
	AI	RU	MT	CO	SL	SM	TN-O	OF*	LB	DS	SH-F	LC	CB
25. Animal hospitals, veterinary kennels	S (i) (2) (14) (102)	S (i) (2) (14) (102)			S (i) (2) (14) (53) (81) (97) (102) (124) (127) (131-137) (145)					S (i) (2) (14) (53) (81) (97) (102) (139) (145) T2			
26. County inn													S (bh) (53) (139) (142) T1
27. Bowling alleys, physical fitness studios, ice skating rinks, and similar commercial recreation activities in fully enclosed structures							S (53) (129) (145)	S (kk) (53) (81) (87) (97) (124) (127) (131-137) (145)	S (ee) (53) (83) (87) (129) (145)	S (kk) (53) (87) (73-76) (126) (128-129) (145)			S (kk) (53) (139) T2
28. Bulk storage, including warehouses; oil, gasoline and gas storage								S (m) (53) (81) (88) (97) (124) (127) (131-137) (145)					
29. Business and professional offices							P (53) (129) (145)	S (ll) (53) (81) (97) (124) (127) (131-137) (145)	S (ll) (53) (121-123) (129) (145)	S (kk) (53) (73-76) (126) (128-129) (145)		S (m) (53)	S (s3) (126) (139) (145) T1
30. Commercial garages or parking lots							S (53) (129) (145)	S (ll) (53) (57) (65) (81) (97) (124) (127) (131-137) (145)	S (ll) (53) (57) (53) (57) (65) (129) (145)				
31. Commercial group of motor vehicle use Nos. 48-51							S (53) (70) (81) (97) (12) (4) (12)	S (53) (70) (81) (97) (12) (4) (12)	S (53) (70) (129) (145)				

ZONING

Business Uses	Districts												
	AI	RU	MT	CO	SL	SM	TN-O	OI*	LB	DS	SH-F	LC	CB
39. Extractive operations involving sandpits, gravel banks, removal of topsoil and fill, quarries, mines or other extractive activities, excluding fissionable materials and natural gas, oil or other subsurface hydrocarbons.		S (p) (45) (110) (140)	S (p) (45) (110) (140)					S (p) (45) (53) (81) (97) (11) (0) (12) (4) (12) (7) (13) 1- 137) (14) (0) (14) (14) 5)					
39.1. Financial institutions													S (53) (139) TI
40. Residential hotels and tourist homes							S (53) (129) (145)		S (dd) (53) (125) (129) (145)				
41. Hotels and motels, tourist cabins, health spas, health resorts, and tourist homes		S (0) (103)	S (0) (103)	S (0) (103)	S (0) (103)			S (0) (53) (81) (97) (103) (124) (127) (131-137) (145)					
42. Reserved													
43. Manufacturing, assembling, converting, altering, finishing, fabricating, cleaning or any other processing, packing, packaging or repackaging of products or materials								S (ll) (53) (81) (84-86) (124) (127) (97) (131-137) (145)					
44. Manufacturing, assembling, converting,							S (53) (55-56)	S (ll) (53) (55-56)	S (dd) (53) (55-56)	S (kk) (53) (55-56)			S (kk) (53) (84)

ZONING

Business Uses	Districts												
	AI	RU	MT	CO	SL	SM	TN-O	OI*	LB	DS	SH-F	LC	CB
45. Miniature golf, golf courses, batting cages and driving range facilities								S (rr) (53) (81) (97) (124) (127) (131-137) (145)		S (kk) (53) (73-76) (126) (128-129) (145)			S (kk) (53) (126) (128-129) (145) T2
46. Mortuaries and funeral parlors							P (53) (129) (145)	S (ll) (53) (81) (97) (124) (127) (131-137) (145)	S (jj) (53) (129) (145) (148)				
47. Motor vehicle junkyard and/or dismantling, crushing and recycling operation								S (mm) (53)) (58)) (81)) (97)) (12) (4) (12) (12) (7) (13) (137)) (14)) (5)					
48. Motor vehicle laundries								S (ll) (53) (57) (65) (69) (81) (97) (124) (127) (131-137) (145)	S (hh) (53) (57) (65) (69) (129) (145)				
49. Motor vehicle repair shop							S (5) (3)) (5) (7- 7- 59)) (6	S (ll) (53)) (57)) (59)) (65)) (6	S (bb) (53)) (57)) (59)) (65)) (6				

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Business Uses	Districts												
	AI	RU	MT	CO	SL	SM	TN-O	OI*	LB	DS	SH-F	LC	CB
52 Motor vehicle sales, services, accessories and parts										S (kk) (53) (57-68) (73-78) (126) (128-129) (145)			S (kk) (53) (57-68) (77) (128-129) (139) (145) T2
53 Reserved								S (ll) (53) (81) (94) (97) (12) (12) (12) (13) (137) (14) (5)					
54 Outdoor sales for boats and travel and camping trailers													
55. Personal service establishments							P (53) (129) (145) (147)		S (dd) (53) (121-123) (129) (145) (147)	S (kk) (53) (73-76) (126) (128-129) (145) (147)			S (53) (126) (139) (145) (147) T2
56. Printing							S (53) (129) (145)	S (ll) (53) (81) (97) (12) (12) (12) (13) (137)	S (dd) (53) (129) (145)	S (kk) (53) (73-76) (126) (128-129) (145)			S (kk) (53) (81) (126) (139) (145) T2

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Business Uses	Districts												
	AI	RU	MT	CO	SL	SM	TN-O	OI*	LB	DS	SH-F	LC	CB
58.1. Tier 1 retail limited to apparel, farm equipment and supplies, hardware, bookstores, home furnishings, electronics stores and sporting goods stores													S (53) (139) T1
58.2. Tier 2 other retail stores													S (53) (139) T2
59. Retail stores, rental stores and banks, excluding automotive, vehicular and mobile home retail and rental stores; and no gasoline sales							P (52) (53) (129) (145)		S (ss) (52-53) (129) (145)				
60. Sales and storage of lumber and building materials and equipment								S (ll) (53)) (81)) (84)) (97)) (12) 4) (12) 7) (13) 1- 137) (14) 5)					
61. Scrap iron, scrap paper or rag storage, sorting or baling								S (ll) (53)) (81)) (82)) (84)) (92)					

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Business Uses	Districts												
	AI	RU	MT	CO	SL	SM	TN-O	OI*	LB	DS	SH-F	LC	CB
68. Truck or railroad freight terminal primarily to serve commercial agricultural operations	S (II) (89-91)												
69. Warehouses								S (II) (53) (81) (97) (124) (127) (131- 137) (145)					
70. Warehouses, self-storage								S (oo) (53) (99) (81) (97) (12) (12 4) (12 7) (13) (1- 1) 137) (14) (14 5)					
71. Wholesale sales and storage								S (II) (53) (72) (84) (81) (97) (124) (127) (131- 137) (145)	S (II) (53) (71-72) (84) (129) (145) (146)				
72. Wholesale sales or storage								S (hh) (53) (72) (81) (84) (97)					

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General Uses	Districts												
	AI	RU	MT	CO	SL	SM	TN-O	OI*	LB	DS	SH-F	LC	CB
76. Camps		S (o) (32) (36-37)(106) (107)(112)	S (o) (32) (36-37)(106) (107)(112)	S (o) (32) (36-37)(106) (107)(112)	S (o) (32) (36-37)(106) (107)(112)								
77. Cemeteries		S (l) (24)	S (l) (24)	S (l) (24)	S (l) (24)								
78. Clubs and fraternal lodges					S (w) (115-116)		P (53)(115- 116)(129) (145)	S (w) (53)(81) (97)(115- 116)(124) (127)(131- 137)(145)	S (j) (53)(115- 116)(129) (145)				
79. Community recreational facilities and buildings, club houses, etc.		S (111)	S (111)	S (111)	S (111)			S (53)(81) (97)(111) (124)(127) (131-137) (145)					S (53) (81)(97) (124)(127) (139)(145) T1
80. Reserved													
81. Golf courses which may include driving ranges	S (t) (111)	S (t) (111)	S (t) (111)	S (t) (111)	S (t) (111)			S (t) (53)(81) (97)(111) (124)(127) (131-137) (145)					
82. Heliports								S (qq) (38) 42) (53) (81) (97) (12) 4) (12) 7) (13) 1- 137) (14					

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83. Indoor recreation establishments and/or sports, such as tennis and skating	S (cc) (83) (87)	S (r) (83) (87)	S (r) (83) (87)	S (r) (83) (87)			P (53) (83) (87) (129) (145)	S (ll) (53) (81) (83) (87) (97) (124) (127) (131- 137) (145)	S (kk) (53) (83) (73-76) (87) (126) (128- 129) (145)			S (53) (74-76) (83) (87) (126) (128-129) (139) (145) T1
84. Institutions of higher learning, public libraries, museums, state-accredited private schools		S (k) (25) (104)	S (k) (25) (104)	S (k) (25) (104)	S (k) (25) (104)	P (53) (25) (104) (129) (145)				S (k) (25) (104)		S (k) (25) (53) (129) (139) (145) T1

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General Uses	Districts												
	AI	RU	MT	CO	SL	SM	TN-O	OI*	LB	DS	SH-F	LC	CB
85. Kiddy lands										S (kk) (53) (73-76) (126) (128-129) (145)			S (kk) (53) (74-76) (126) (128-129) (139) (145) T1
86. Municipally owned and/or operated public airports, airport, airline, and express offices; aircraft repair facilities								S (pp) (38 - 42)					
87. Nursery schools		S (l) (53) (104)	S (s) (53) (104)	S (s) (53) (104)	S (s) (53) (104)		S (s) (53) (104) (129) (145)		S (s) (53) (104) (129) (145)				S (s) (104) (129) (139) (145) T1
88. Outdoor amusement establishments such as game farms, skating rinks, museum villages, swimming pools, beaches, fishing and hunting preserves, ski, toboggan and snowmobile areas, and similar commercial amusement establishments	S (l) (35) (43) (108-109)	S (l) (35) (43) (108-109)	S (l) (35) (43) (108-109)	S (l) (35) (43) (108-109)				S (l) (35) (43) (53) (81) (97) (108-109) (124) (127) (131-137) (145)		S (kk) (35) (43) (53) (73-76) (108-109) (126) (128-129) (145)			
89. Rest or convalescent homes, hospitals or sanatoriums for general medical care		S (g, k) (26)	S (g, k) (26)	S (g, k) (26)	S (g, k) (26)								S (g, k) (26) (139) T1
90. Places of worship, parish houses, convents and monasteries		S (l)	S (l)	S (l)	S (l)		P	S (l)	S (cc)				
91. Reserved													
92. Private landing strips								S (qq) (38 - 40)					
93. Public parks and playgrounds		S	S	S	S	S						S	

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General Uses	Districts												
	AI	RU	MT	CO	SL	SM	TN-O	OI*	LB	DS	SH-F	LC	CB
94. Railroad, public utility, rights-of-way and structures necessary to serve areas within the Town	S (31)	S (31)	S (31)	S (31)	S (31)	S (31)	S (31)(53)(129)(145)	S (31)	S (31)	S (31)			S (31) T2
95. Railway or bus passenger station, communications office, express office, transportation terminal							S (II) (53) (81) (89-91) (97) (124) (127) (131-137) (145)						
96. Railway or bus passenger station, communications offices and express offices							S (II) (53) (89-91) (129) (145)	S (dd) (53) (89-91) (129) (145)					
97. Senior housing ancillary facilities										S			
98. Reserved.													
99. Summer colonies			S (n) (32-35) (112)	S (n) (32-35) (112)									
100. Town of Warwick uses and buildings	P	P	P	P	P	P	P	P	P	P		P	P T2
101. Wireless telecommunications facility	S (153)	S (153)	S (153)	S (153)	*	*	*	S (153)	*	S (153)	*	*	S (153) T2
102. Stump grinding/mulch processing	S(h) [44] [53] [79] [127] [136] [137]						S(h) [44] [53] [79] [81] [97] [124] [127] [136] [137]						

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Accessory Uses	Districts												
	AI	RU	MT	CO	SL	SM	TN-O	OI*	LB	DS	SH-F	LC	CB
A1. Dwelling on any lot for the use of an attendant, watchman or caretaker employed in connection with any permitted or special permit use on said lot	14, 73, 88	14, 73, 88	14, 73, 88	14, 73, 88	14, 73			14, 25, 69, 70, 88, 95		14			
A2. 1 or more dwelling units for tenant farmers employed on-site and receiving such housing as partial remuneration	14 (20)	14 (20)	14 (20)	14 (20)	14 (20)			14, 20 (20)		14 (20)			
A3. Accessory dwelling in a farm dwelling or structure	14 (51)	14 (51)	14 (51)	14 (51)	14 (51)			14 (51)		14 (51)			
A4. Airport, airline and express offices; and aircraft repair facilities, all within completely enclosed buildings								82, 86, 92					
A5. Barns, silos, produce storage, packing warehouses; greenhouses	14 (18) (98)	14 (18) (98)	14 (18) (98)	14 (18) (98)	12, 14 (1) (18) (98)			14 (1) (18) (98)		14 (1) (18) (98)			
A6. Boarding or livery stable; riding academy; rental of horses, public stable, bridle paths	14 (19)	14 (19)	14 (19)	14 (19)	14 (19)			14 (19)		14 (19)			
A7. Building housing a farm stand for display and sale of agricultural and nursery products grown primarily on land that is considered part of the same farming operation	14 (22)	14 (22)	14 (22)	14 (22)	14 (22)			14 (22)		14 (22)			
A8. Buildings for storage, vacuum cooling and packing of produce	14												
A9. Bulk storage, including warehouses; oil, gasoline and gas storage								43 (88)					
A10. Business offices													

One business office is accessory to each Agricultural, Business, and General Use.

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Accessory Uses	Districts												
	AI	RU	MT	CO	SL	SM	TN-O	OI*	LB	DS	SH-F	LC	CB
A11. Clinics, cafeterias, recreational facilities for the exclusive use of company employees and vegetative wastes	14, 19	14, 19	14, 19	14, 19	14, 19			14, 19, 23, 43, 44		14, 19			
A12. Composting of manure and vegetative wastes	14												
A13. Conservation Area	14												
A14. Dining room					78 (116)		78 (116)	78 (116)	78 (116)				
A15. Farm markets and retail establishments of less than 4,000 square feet devoted primarily to the sale or production of farm and food-processing supplies	14 (3) (152)	14 (3) (80) (152)	14 (3) (80) (152)	14 (3) (80) (152)	14 (3) (80) (152)			14 (3) (80) (152)	14 (3) (80) (152)	14 (3) (80) (152)			
A16. Garages, private utility structures	14, 19	14	14	14	14			14, 43, 44		14			
A17. Garden houses, garages, sheds, tool houses, playhouses, wading pools or swimming pools incidental to the use of the premises and not operated for gain	1, 2 (15)	1, 2 (15)	1, 2 (15)	1, 2 (15)	1, 2, 11 (15)	1, 2 (15)			1, 2 (15)				
A18. Greenhouses and nurseries	14 (1)	14 (1)	14 (1)	14 (1)	14 (1)			14 (1)		14 (1)			
A19. Keeping, breeding and raising of fur-bearing animals and lab animals	14 (19)	14 (19)	14 (19)	14 (19)				14 (19)					
A20. Keeping domestic pets and livestock (except swine and ratties), including the private stabling of horses	1, 2 (16) (101)	1, 2 (16) (101)	1, 2 (16) (101)	1 (16) (101)	1, 2 (16) (101)	1, 2 (16) (101)			1, 2 (16) (101)				
A21. Maintenance, repair, and storage of machinery, equipment and fuel used on-site	14	14, 39	14, 39	14	14			14, 39		14			

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	Districts												
	AI	RU	MT	CO	SL	SM	TN-O	OI*	LB	DS	SH-F	LC	CB
Accessory Uses													
A22. Recreational facilities for the use of tenants, boarders, roomers or guests, including athletic fields, tennis and handball courts, rental of boats, swimming pools, bath houses and locker rooms, etc., and indoor facilities, such as dance and recreation halls	74 (33)(111)	41, 74 (33)(111)	41, 74 (33)(111)	41, 74 (33)(111)	41 (33)(111)								
A23. Research, design, and development laboratory	14, 19 (81)	14 (81)	14 (81)	14 (81)	14 (81)			14, 19, 43, 44 (81)		14 (81)			
A24. Restaurants; eating and drinking places incidental to the principal use		41, 88	41, 88	41, 88	41			41, 88		88			
A25. Stone and ore crushing, screening, precasting of concrete and storage of quarry or ore screenings								39 (82)					
A26. Storage and sale of aviation gasoline								82, 86, 92					
A27. Storage, packing, grading, bulk collection, and distribution of agricultural products	14	14	14	14	14			14		14			
A28. Temporary outdoor storage of materials, equipment or vehicles								43, 44, 57, 69					
A29. Warehousing and wholesaling of farm products, including incidental retail sales of such farm products	14 (72)	14 (72)	14 (72)	14 (72)	14 (72)			14 (72)		14 (72)			
A30. Wildlife refuge	14	14	14	14	14			14		14			

ZONING

Accessory Uses	Districts											LC	CB		
	AI	RU	MT	CO	SL	SM	TN-O	OI*	LB	DS	SH-F				
A31. An accessory apartment in a structure housing a business use															S 24, 26, 29, 58.1 (TI)
A32. Eating and drinking places															S 14, 116, 24, 27, 29, 45, 58.1, 81, 84, 85, 89 (T2)
A33. Work-live units															S 24, 25, 26, 29, 32.1, 32.2, 39.1, 44, 44.1, 55, 56, 56.1, 57, 58.1, 58.2, 62, 83, 84, 87, (TI)

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<p>Districts Key:</p> <p>AI Agricultural Industry</p> <p>RU Rural</p> <p>MT Mountain</p> <p>CO Conservation</p> <p>SL Suburban Residential Low Density</p> <p>SM Suburban Residential Medium Density</p> <p>TN-O Traditional Neighborhood Overlay</p> <p>OI Office and Industrial Park</p> <p>LB Local Hamlet Business</p> <p>DS Designed Shopping</p> <p>SH-F Senior Housing – Floating</p> <p>LC Land Conservation</p> <p>CB Community Business</p>	<p>Use Symbols:</p> <p>P Permitted Use</p> <p>S Special Use</p> <p>A Accessory Use</p> <p>10 Accessory to the numbered residential, agricultural, business or general use</p> <p>(a), (b), (c) etc. See Zoning Law Table of Bulk Requirements for appropriate use group.</p> <p>(1), (2), (3) etc. See Zoning Law § 164-46J for special conditions or restrictions imposed on the use.</p> <p>For example: P (a) (113)</p> <p>In this example, the use would be permitted, subject to use group "a" from the Table of Bulk Requirements as well as special condition "113" from § 164-46J.</p> <p>T1 Tier 1 (T1) uses are encouraged in the Town of Warwick and are eligible for incentives in accordance with § 164-46I(139) of the Zoning Law.</p> <p>T2 Tier 2 (T2) uses are allowable but are not eligible for incentives.</p>	<p>Notes:</p> <p>* For all subdivisions of land as defined in § 137-5, the Subdivision Regulations, containing up to nine (9) single-family dwelling units. For all subdivisions of land as defined in § 137-5, the Subdivision Regulations, containing ten (10) or more single-family dwelling units. All uses in the TN-O, DS, CB and LB Districts shall be subject to § 164-46J(53), (129), and (145).</p> <p>■ All uses (except agricultural uses) in the OI District shall be subject to § 164-46J(53), (81), (97), (124), (127), (131) through (137) and (145).</p> <p>◆ All uses in the DS and CB Districts shall be subject to § 164-46J(73) through (76), (126), and (128) and (129).</p> <p>* Wireless telecommunications facilities are prohibited unless the provider can demonstrate that adequate coverage cannot be provided by locating such facilities in zoning districts where the use is specially permitted. Building height shall not exceed 35 feet.</p>
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APPENDIX C

2010 TRAFFIC STUDY

JOHN COLLINS ENGINEERS, P.C.

TRAFFIC • TRANSPORTATION ENGINEERS

===== 11 BRADHURST AVENUE • HAWTHORNE, N.Y. • 10532 • (914) 347-7500 • FAX (914) 347-7266 =====

September 24, 2010

Mr. Marc Appel
Homarc Land, LLC
45 Ronald Regan Boulevard
Warwick, NY 10990

RE: Homarc Property
NYS Route 94
Town of Warwick, NY

Dear Mr. Appel:

As requested, John Collins Engineers, P.C. has completed our revised traffic analysis for the approximately 19,120 square foot commercial development located on the west side of NYS Route 94, southwest of the Fairgrounds site (see Figure No. 1). This letter serves as an update of our original evaluation dated October 5, 2007 and addresses the revised project size and also accounts for current conditions including the recently opened Price Chopper portion of the Fairgrounds. The following sections describe the various tasks completed as part of our updated evaluation

A. 2010 EXISTING TRAFFIC VOLUMES (Figures No. 2, 3 and 4)

The Existing Traffic Volumes in the vicinity of the site were developed based on new traffic counts collected on September 15th and 18th of 2010. These were compared with the previous count data to identify the Existing Traffic Volumes for these intersections, as well as along the frontage of the site.

The resulting 2010 Existing Traffic Volumes for the weekday AM, PM and Saturday peak hours (7:45–8:45 AM, 5:00–6:00 PM, Saturday 12:45-1:45PM) are shown on Figures No. 2, 3 and 4, respectively.

B. 2013 NO-BUILD TRAFFIC VOLUMES (Figures No. 5 through 13)

The Existing Traffic Volumes were projected to a future design year using a background growth factor. This growth factor of 2% per year was developed based on a review of historical data and to account for any miscellaneous potential development traffic in the area. The 2010 Existing Traffic Volumes were increased by a factor of 1.06 to estimate the 2013 Projected Traffic Volumes, which are shown on Figures No. 5, 6 and 7 for the weekday AM and PM peak hours, respectively. In addition, traffic from the other planned developments in the area including the unfinished portions of the Fairgrounds project were estimated and added to the projected traffic volumes to obtain the 2013 No-Build Traffic Volumes. The other development traffic volumes are shown on Figures No. 8, 9 and 10 and the 2013 No-Build Traffic Volumes are shown on Figures No. 11, 12 and 13.

C. SITE-GENERATED TRAFFIC VOLUMES (Table No. 1R)

The expected site-generated traffic volumes to be generated by the proposed Homarc commercial development were estimated based on information published by the Institute of Transportation Engineers (ITE) as contained in their most recent report entitled Trip Generation, 8th edition, 2008. Based on this information, the trip estimates summarized in Table No. 1R were computed. Note that for the retail portion of the development, a significant portion of the trips are expected to be captured as “pass-by or diverted link” trips which are already present on the roadway system and for this size development as much as 40 to 50% of these trips are already present on the roadway. Only a 25% pass-by credit was applied to the retail portion of the site traffic.

D. ARRIVAL AND DEPARTURE DISTRIBUTIONS (Figures No. 14 and 15)

It was necessary to develop an arrival and departure distribution to assign the site-generated traffic volumes to the roadway system. Based upon a review of the existing traffic volumes, as well as distribution patterns in the area, an arrival and departure distribution was developed for the site. The distribution patterns used are shown on Figures No. 14 and 15, respectively.

E. 2013 BUILD TRAFFIC VOLUMES (Figures No. 16 through 21)

The site-generated traffic volumes summarized in Table No. 1 were added to the roadway system, based on the arrival and departure distributions. The resulting site-generated traffic volumes, for each of the peak hours, are shown on Figures No. 16, 17 and 18. These volumes were added to the 2013 No-Build Traffic Volumes to obtain the 2013 Build Traffic Volumes, which are shown on Figures No. 19, 20 and 21.

F. DESCRIPTION OF ANALYSIS PROCEDURES

The following is a brief description of the analysis method utilized in this report to determine existing and future traffic operating conditions at the study area intersections.

- Signalized Intersection Capacity Analysis

The capacity analysis for a signalized intersection was performed in accordance with the procedures described in the 2000 Highway Capacity Manual, published by the Transportation Research Board. The terminology used in identifying traffic flow conditions is Levels of Service. A Level of Service "A" represents the best condition and a Level of Service "F" represents the worst condition. A Level of Service "C" is generally used as a design standard while a Level of Service "D" is acceptable during peak periods. A Level of Service "E" represents an operation near capacity. In order to identify an intersection's Level of Service, the average amount of vehicle delay is computed for each approach to the intersection as well as for the overall intersection.

- Unsignalized Intersection Capacity Analysis

The unsignalized intersection capacity analysis method utilized in this report was also performed in accordance with the procedures described in the 2000 Highway Capacity Manual. The procedure is based on total elapsed time

from when a vehicle stops at the end of the queue until the vehicle departs from the stop line. The average total delay for any particular critical movement is a function of the service rate or capacity of the approach and the degree of saturation. In order to identify the Level of Service, the average amount of vehicle delay is computed for each critical movement to the intersection.

Additional information concerning signalized and unsignalized Levels of Service can be found in Appendix "D" of this report.

G. RESULTS OF ANALYSIS

Utilizing the procedures outlined above, a capacity analysis was conducted at the intersections of C.R. 21 and NYS Route 94; NYS Route 94 and Warwick Shoprite Center driveway and NYS Route 94 and the proposed access driveway. Table No. 2 provides a summary of the levels of service for each of the intersections for the Existing, No-Build and Build conditions.

The capacity analysis of the proposed access indicates that the traffic exiting the site will experience a Level of Service "D" or better during peak periods. This considers the provision of a new traffic signal at the NYS Route 94 and Fairgrounds intersection and the resulting increase in gaps in the traffic stream along NYS Route 94.

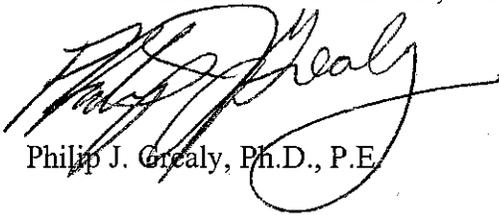
The proposed access was also reviewed. Based on the recently completed widening of Route 94, the restriping of the pavement at the Homarc driveway should be completed to provide the left turn lane for vehicles entering the site.

H. SUMMARY AND CONCLUSIONS

In conclusion, based on the analysis contained herein, the completion of the proposed development will not result in significant negative impact on the surrounding roadway system. The provision of a separate left turn lane on Route 94 by restriping the existing pavement will have to be coordinated with the NYSDOT as part of the Highway Work Permit process.

Respectfully submitted,

JOHN COLLINS ENGINEERS, P.C.

A handwritten signature in black ink, appearing to read "Philip J. Grealy", written over a horizontal line.

Philip J. Grealy, Ph.D., P.E.

APPENDIX "A"

FIGURES

FAIRGROUNDS
SITE

SITE

FRONTIER
LANES
BOWLING

FORD

WARWICK
SHOPRITE
CENTER

SHOPRITE

WARWICK TURNPIKE
(C.R. 21)

NYS ROUTE 94

NYS ROUTE 94



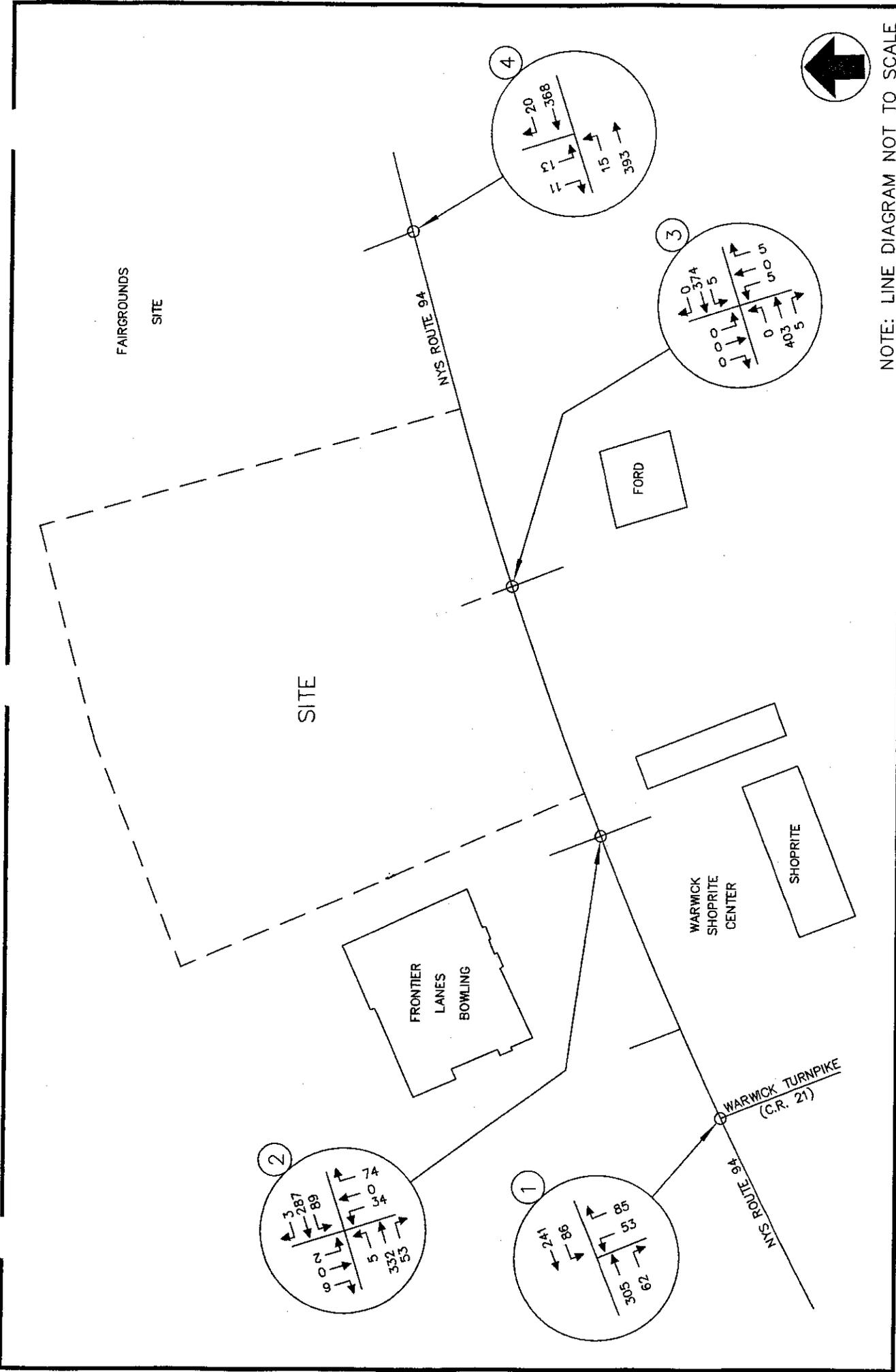
NOTE: LINE DIAGRAM NOT TO SCALE

SITE LOCATION MAP

HOMARC PROPERTY
WARWICK, NEW YORK

JOHN COLLINS ENGINEERS, P.C.
HAWTHORNE, NEW YORK

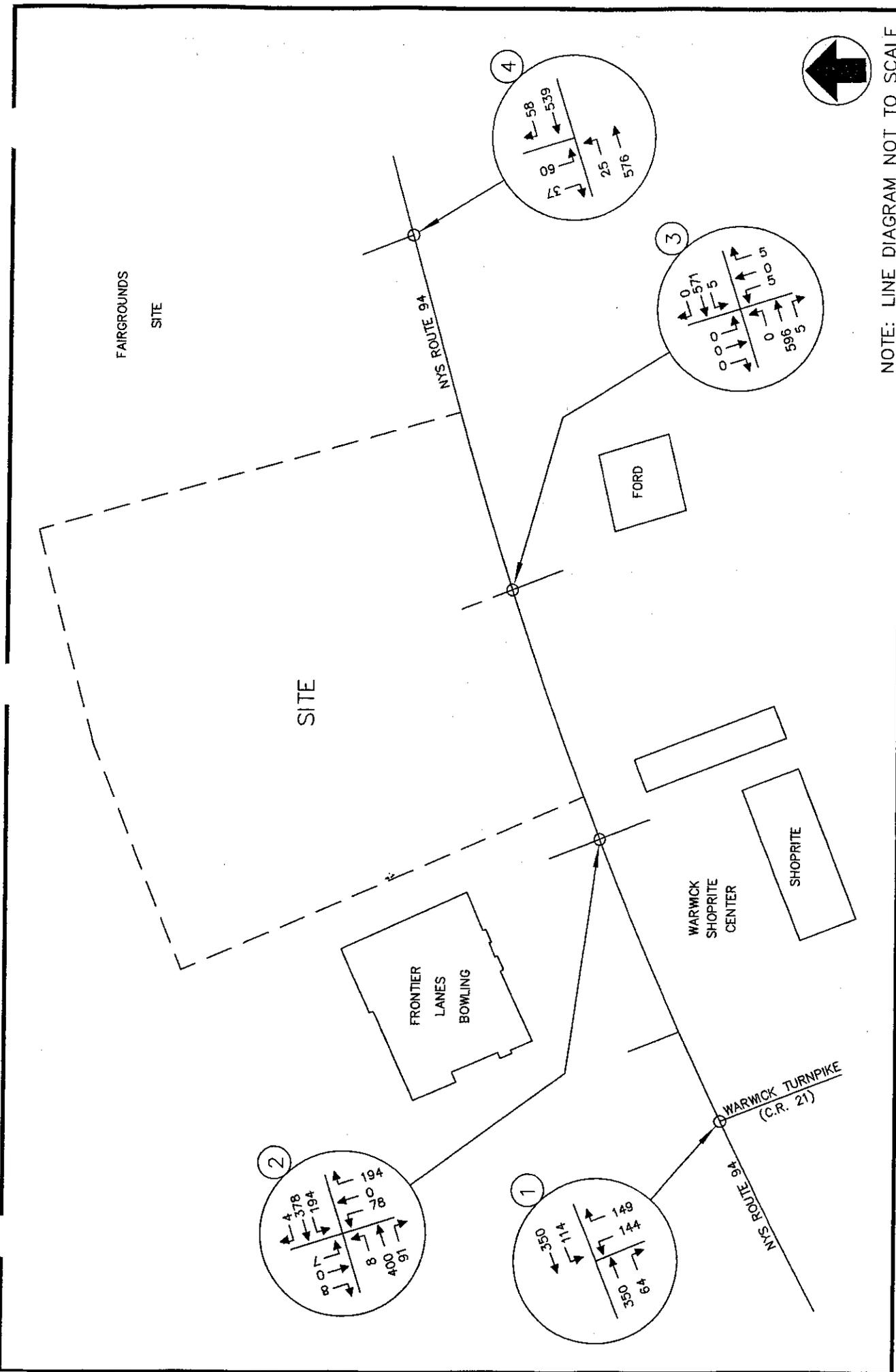
PROJECT NO. 1453 DATE: SEPTEMBER 2010 FIG. NO. 1



NOTE: LINE DIAGRAM NOT TO SCALE

HOMARC PROPERTY
 WARWICK, NEW YORK

2010 EXISTING TRAFFIC VOLUMES
 WEEKDAY PEAK AM HOUR



HOMARC PROPERTY
WARWICK, NEW YORK

NOTE: LINE DIAGRAM NOT TO SCALE
2010 EXISTING TRAFFIC VOLUMES
WEEKDAY PEAK PM HOUR

FAIRGROUNDS
SITE

SITE

FRONTIER
LANES
BOWLING

FORD

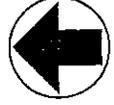
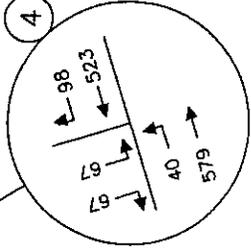
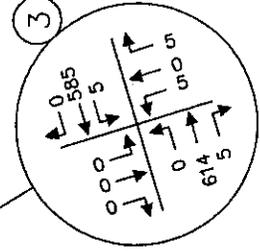
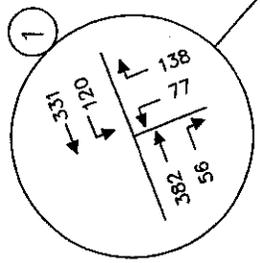
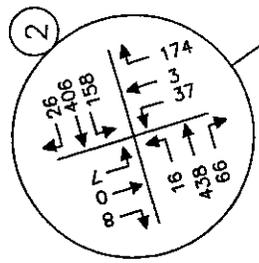
WARWICK
SHOPRITE
CENTER

SHOPRITE

WARWICK TURNPIKE
(C.R. 21)

NYS ROUTE 94

NYS ROUTE 94



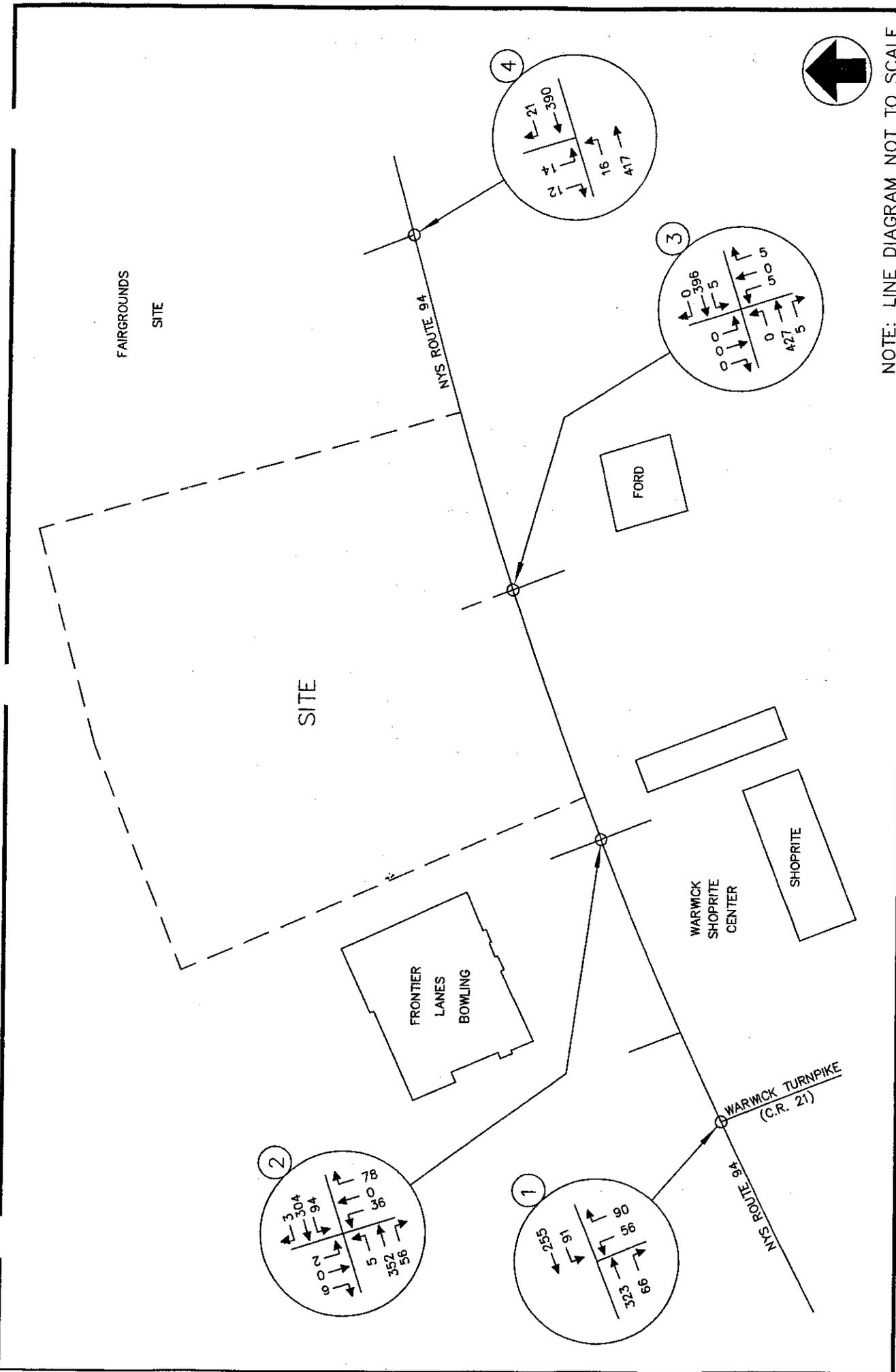
NOTE: LINE DIAGRAM NOT TO SCALE

2010 EXISTING TRAFFIC VOLUMES
WEEKEND PEAK SATURDAY HOUR

HOMARC PROPERTY
WARWICK, NEW YORK

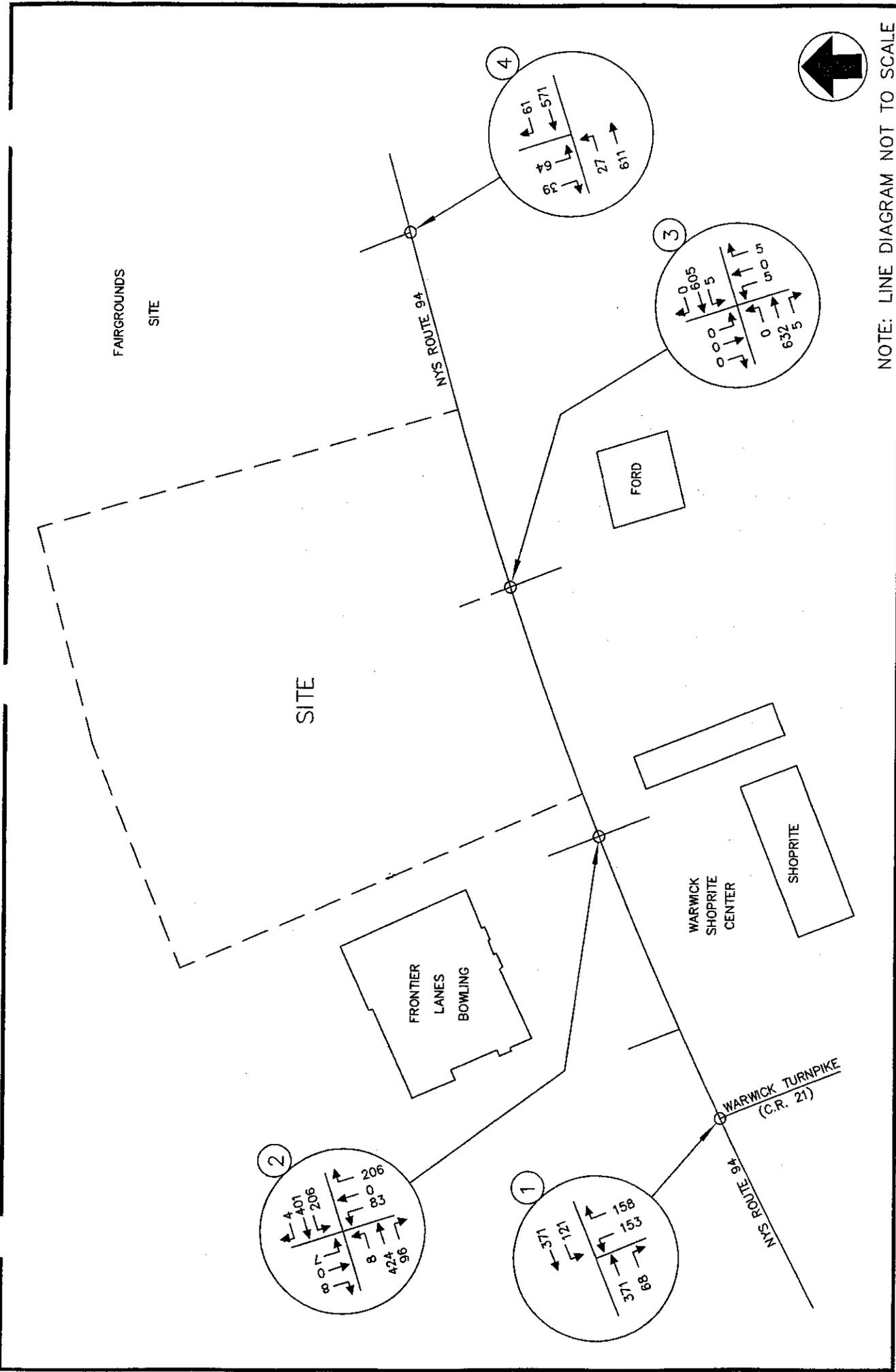
JOHN COLLINS ENGINEERS, P.C.
HAWTHORNE, NEW YORK

PROJECT NO. 1453 DATE: SEPTEMBER 2010 FIG. NO. 4



HOMARC PROPERTY
 WARWICK, NEW YORK

NOTE: LINE DIAGRAM NOT TO SCALE
 2013 PROJECTED TRAFFIC VOLUMES
 WEEKDAY PEAK AM HOUR



NOTE: LINE DIAGRAM NOT TO SCALE

HOMARC PROPERTY
 WARWICK, NEW YORK
 2013 PROJECTED TRAFFIC VOLUMES
 WEEKDAY PEAK PM HOUR

FAIRGROUNDS
SITE

SITE

FRONTIER
LANES
BOWLING

FORD

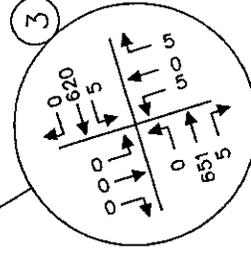
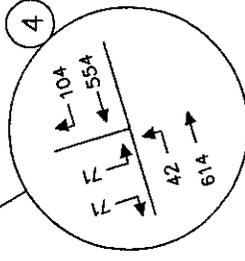
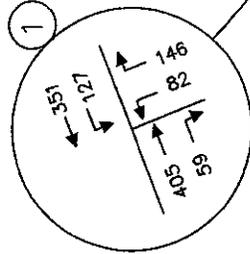
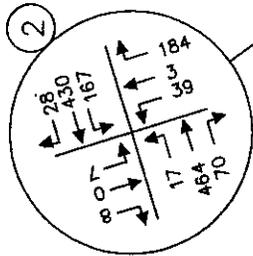
WARWICK
SHOPRITE
CENTER

SHOPRITE

WARWICK TURNPIKE
(C.R. 21)

NYS ROUTE 94

NYS ROUTE 94



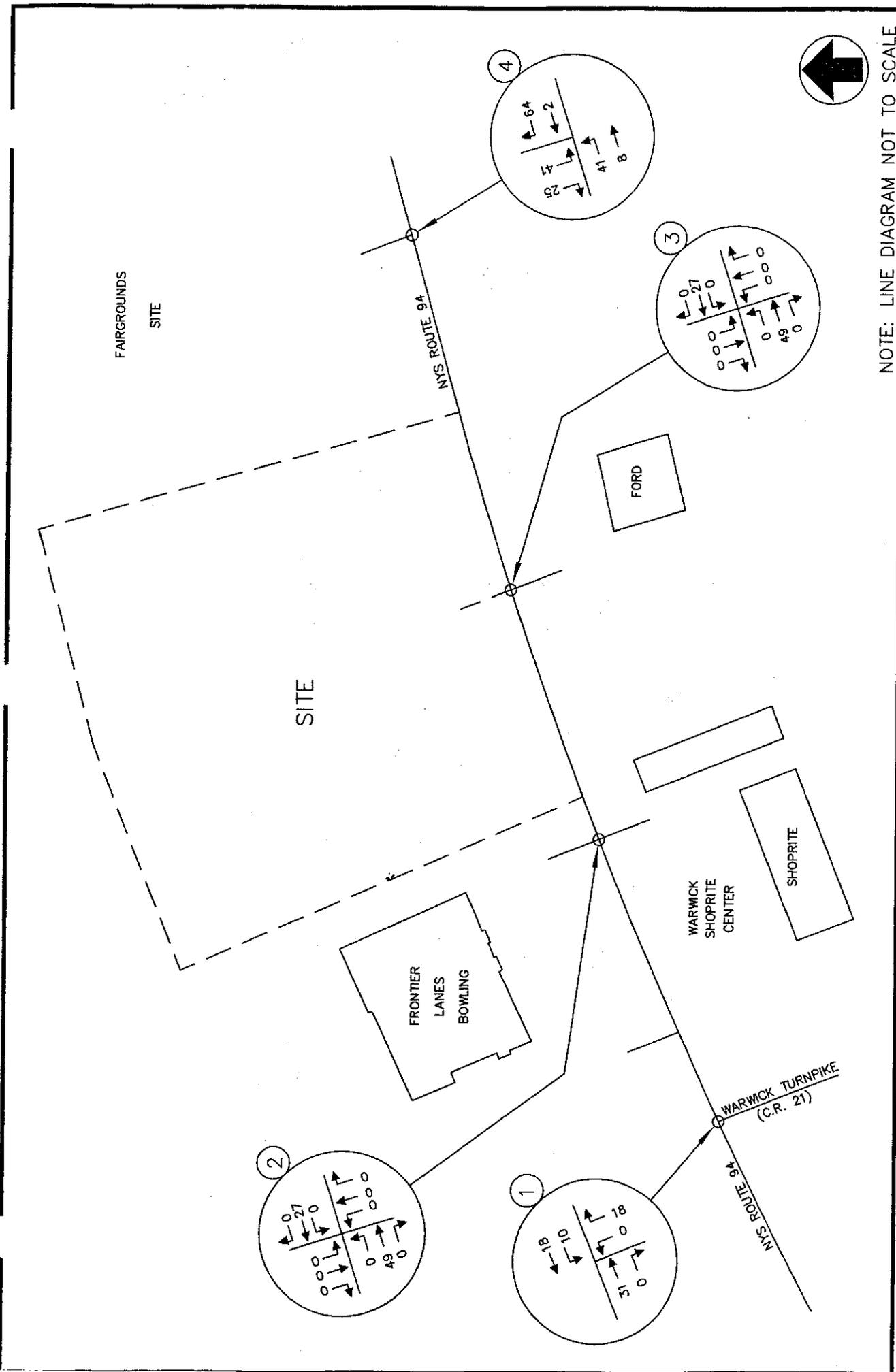
NOTE: LINE DIAGRAM NOT TO SCALE

HOMARC PROPERTY
WARWICK, NEW YORK

2013 PROJECTED TRAFFIC VOLUMES
WEEKEND PEAK SATURDAY HOUR

JOHN COLLINS ENGINEERS, P.C.
HAWTHORNE, NEW YORK

PROJECT NO. 1453 DATE: SEPTEMBER 2010 FIG. NO.7



NOTE: LINE DIAGRAM NOT TO SCALE

OTHER DEVELOPMENT TRAFFIC VOLUMES
WEEKDAY PEAK AM HOUR

HOMARC PROPERTY
WARWICK, NEW YORK

JOHN COLLINS ENGINEERS, P.C.
HAWTHORNE, NEW YORK

PROJECT NO. 1453 DATE: SEPTEMBER 2010 FIG. NO.8

FAIRGROUNDS
SITE

SITE

NYS ROUTE 94

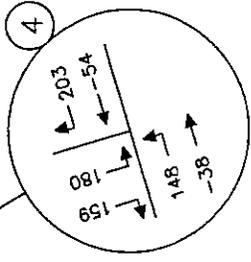
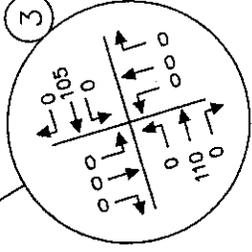
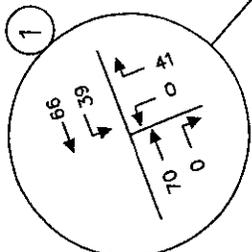
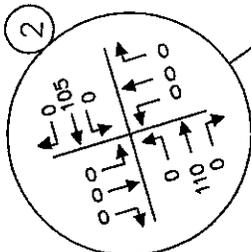
WARWICK TURNPIKE
(C.R. 21)

FORD

WARWICK
SHOPRITE
CENTER

SHOPRITE

FRONTIER
LANES
BOWLING

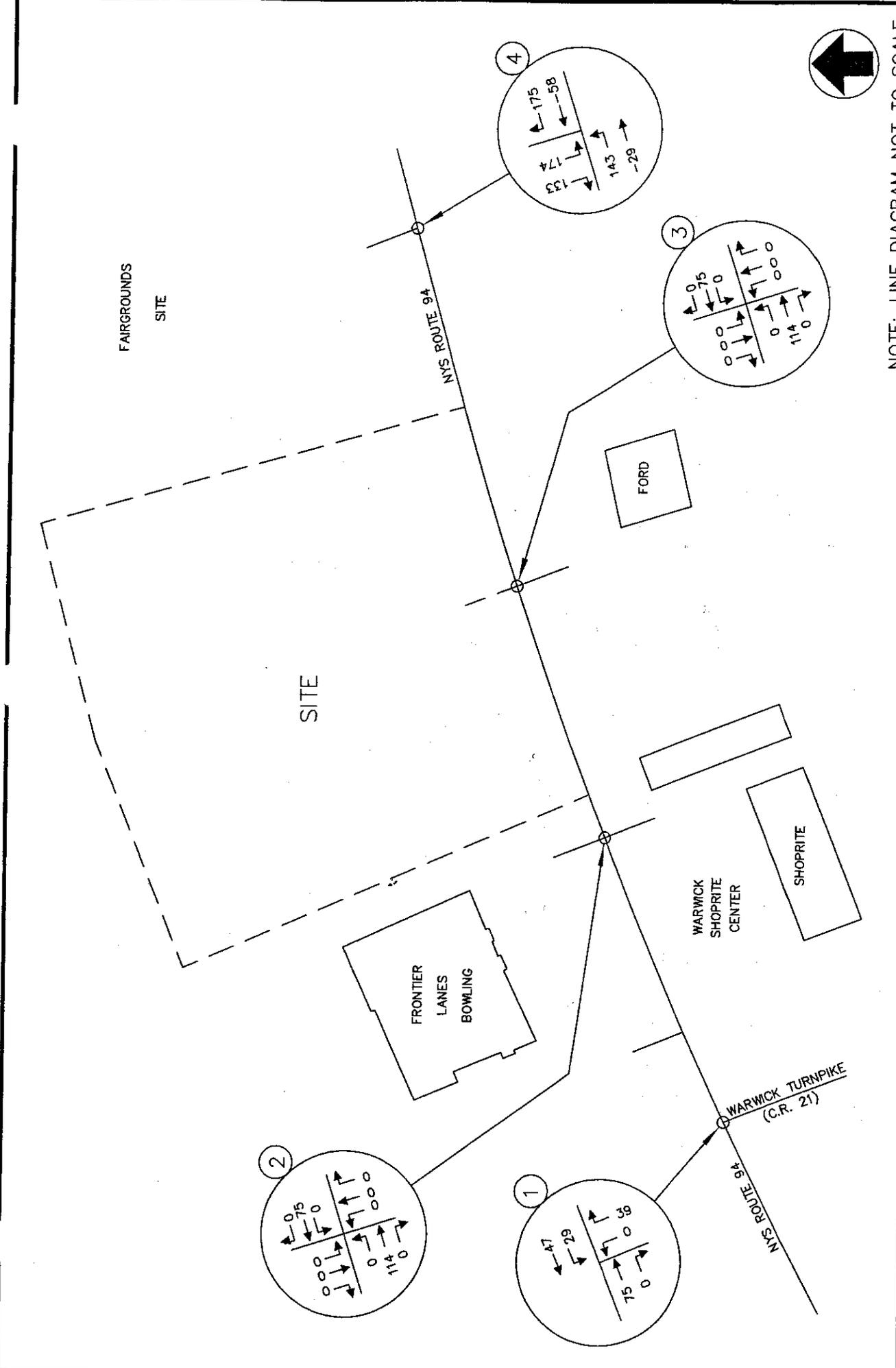


NOTE: LINE DIAGRAM NOT TO SCALE

OTHER DEVELOPMENT TRAFFIC VOLUMES WEEKDAY PEAK PM HOUR

HOMARC PROPERTY
WARWICK, NEW YORK

JOHN COLLINS ENGINEERS, P.C.
JAWTHORNE, NEW YORK



NOTE: LINE DIAGRAM NOT TO SCALE



OTHER DEVELOPMENT TRAFFIC VOLUMES
WEEKEND PEAK SATURDAY HOUR

HOMARC PROPERTY
WARWICK, NEW YORK

JOHN COLLINS ENGINEERS, P.C.
HAWTHORNE, NEW YORK

PROJECT NO. 1453 DATE: SEPTEMBER 2010 FIG. NO. 10

FAIRGROUNDS
SITE

SITE

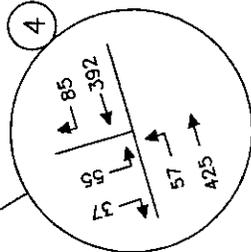
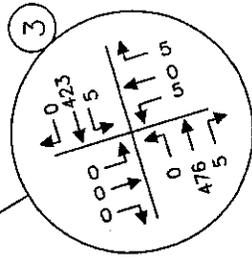
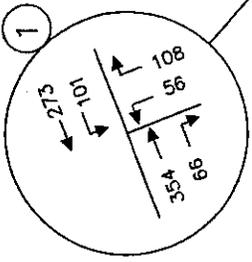
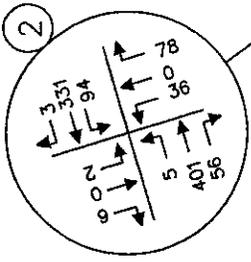
NYS ROUTE 94

WARWICK TURNPIKE
(C.R. 21)

FORD

WARWICK
SHOPRITE
CENTER

SHOPRITE



NOTE: LINE DIAGRAM NOT TO SCALE

HOMARC PROPERTY
WARWICK, NEW YORK

2013 NO-BUILD TRAFFIC VOLUMES
WEEKDAY PEAK AM HOUR

FAIRGROUNDS
SITE

SITE

FRONTIER
LANES
BOWLING

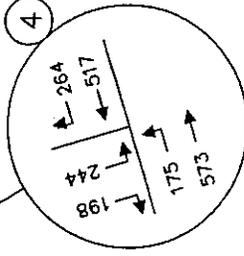
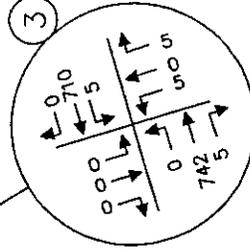
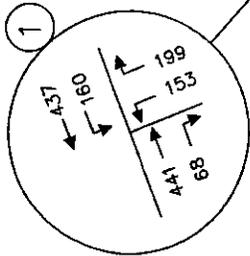
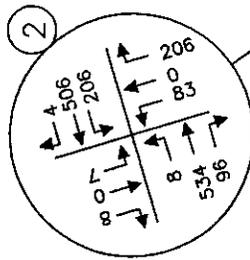
FORD

WARWICK
SHOPRITE
CENTER

SHOPRITE

WARWICK TURNPIKE
(C.R. 21)

NYS ROUTE 94



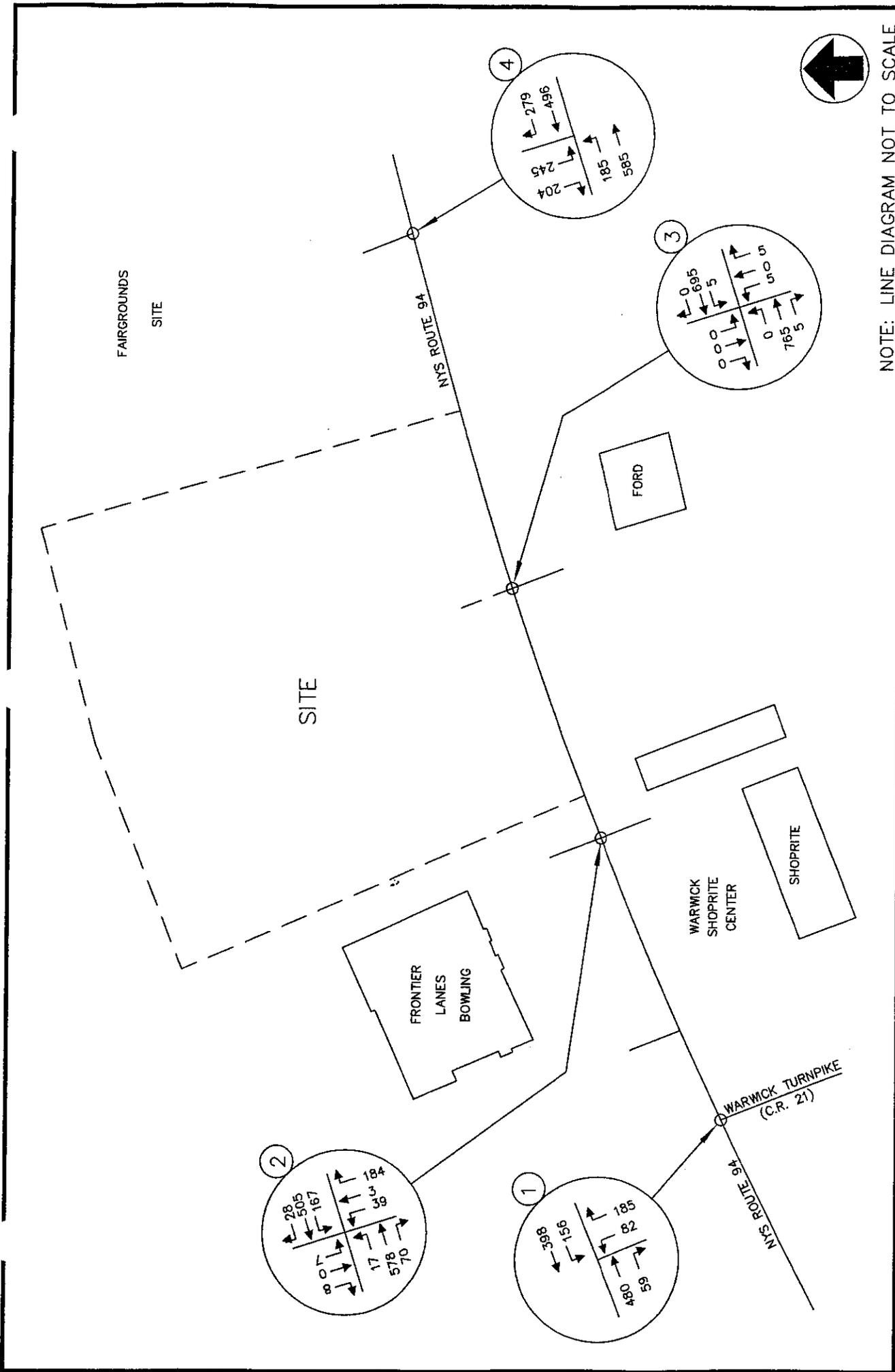
NOTE: LINE DIAGRAM NOT TO SCALE

HOMARC PROPERTY
WARWICK, NEW YORK

2013 NO-BUILD TRAFFIC VOLUMES
WEEKDAY PEAK PM HOUR

JOHN COLLINS ENGINEERS, P.C.
HAWTHORNE, NEW YORK

PROJECT NO. 1453 DATE: SEPTEMBER 2010 FIG NO 12



NOTE: LINE DIAGRAM NOT TO SCALE

HOMARC PROPERTY
 WARWICK, NEW YORK

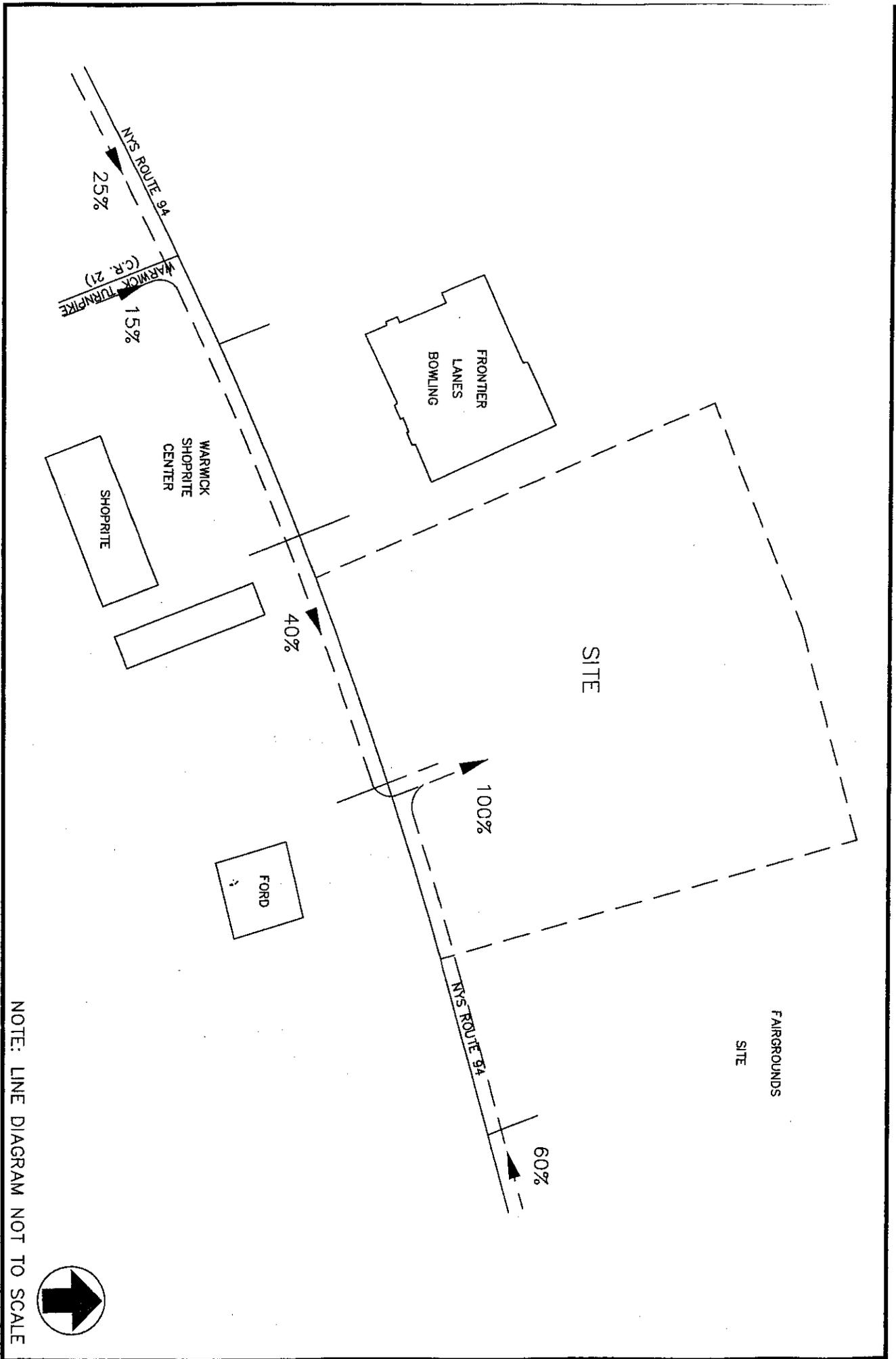
2013 NO-BUILD TRAFFIC VOLUMES
 WEEKEND PEAK SATURDAY HOUR

JOHN COLLINS ENGINEERS, P.C.
 HAWTHORNE, NEW YORK

PROJECT NO. 1453 DATE: SEPTEMBER 2010 FIG. NO.13

HOMARC PROPERTY
WARWICK, NEW YORK

JOHN COLLINS ENGINEERS, P.C.
HAWTHORN NEW YORK

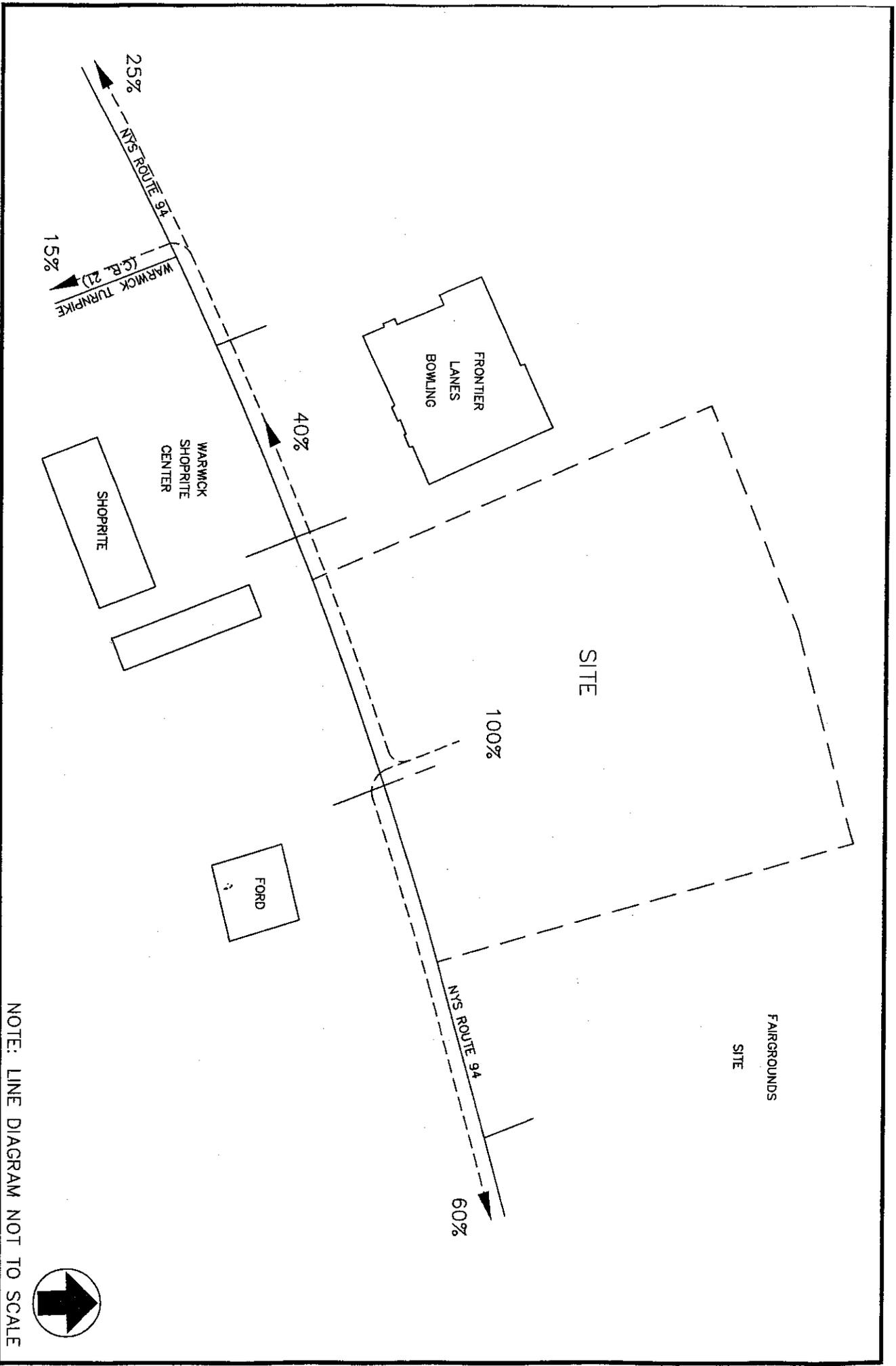


NOTE: LINE DIAGRAM NOT TO SCALE

ARRIVAL DISTRIBUTION

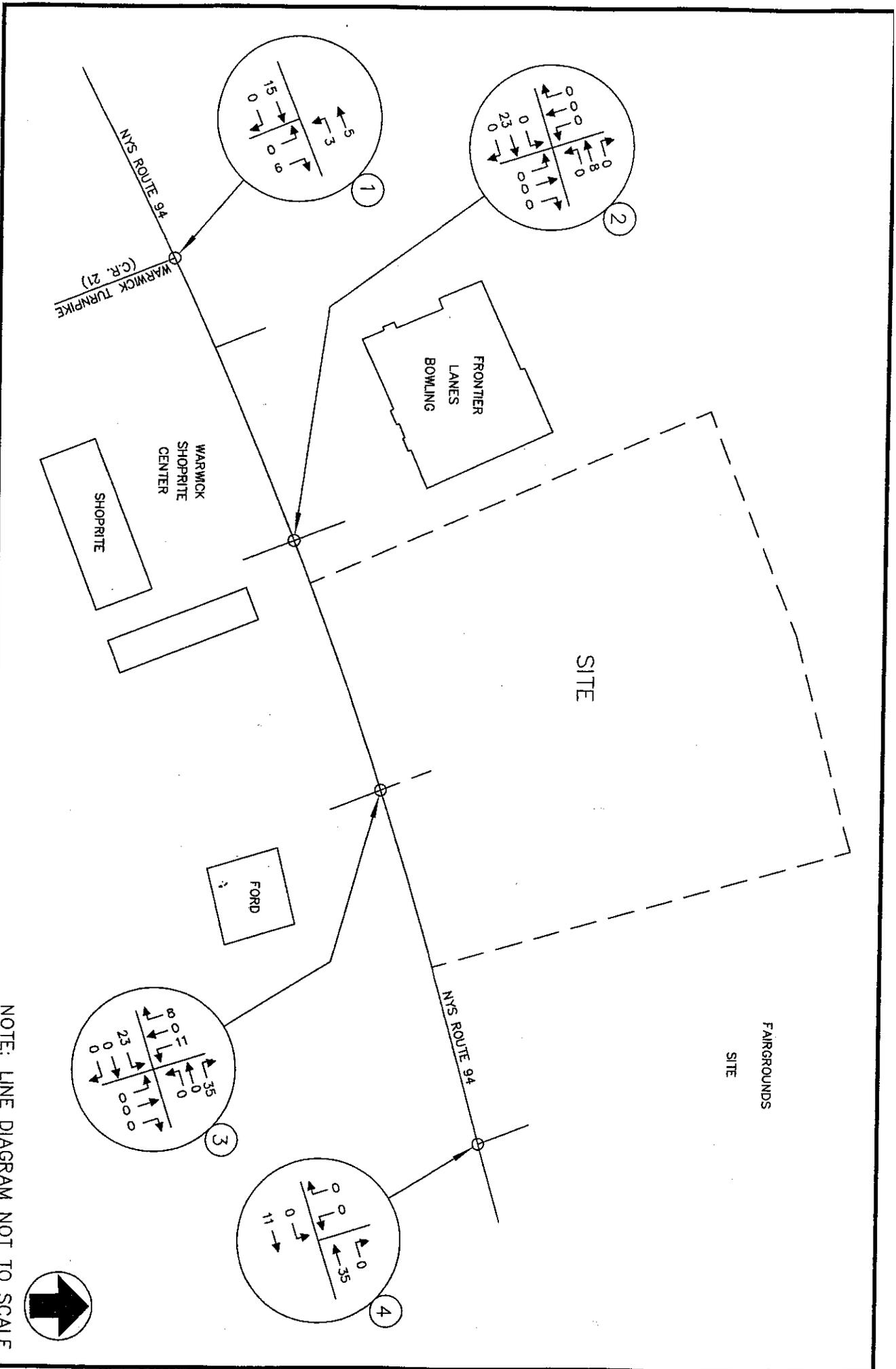
HOMARC PROPERTY
WARWICK, NEW YORK

JOHN COLLINS ENGINEERS, P.C.
HAWTHORN: IEW YORK



NOTE: LINE DIAGRAM NOT TO SCALE

DEPARTURE DISTRIBUTION



HOMARC PROPERTY
 WARWICK, NEW YORK

SITE GENERATED TRAFFIC VOLUMES
 WEEKDAY PEAK AM HOUR

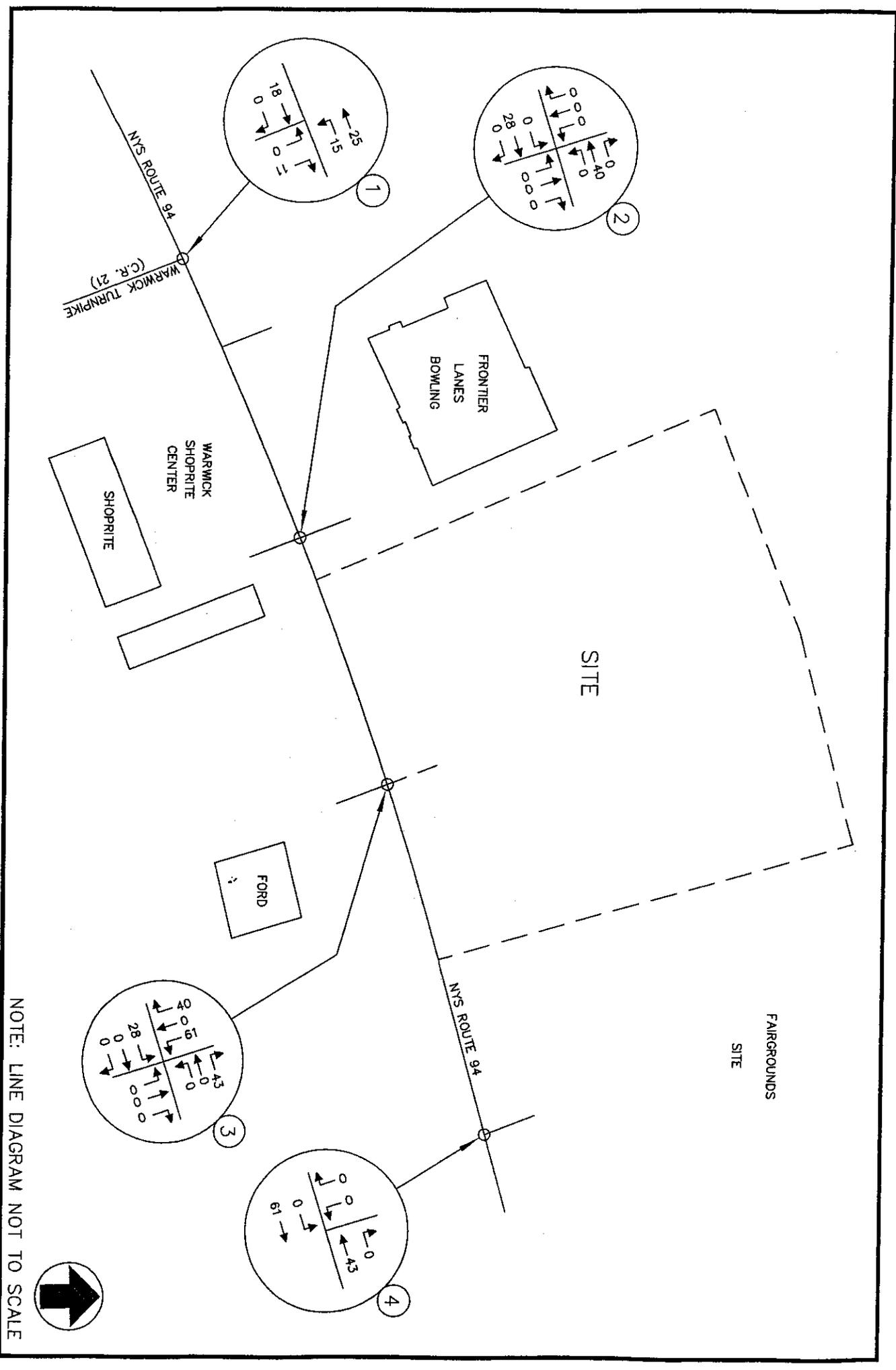
NOTE: LINE DIAGRAM NOT TO SCALE

JOHN COLLINS ENGINEERS, P.C.
 HAWTHORN NEW YORK

PROJECT NO. 1453 DATE: SEPTEMBER 2010 3. NO.16

HOMARC PROPERTY
 WARWICK, NEW YORK

JOHN COLLINS ENGINEERS, P.C.
 HAWTHORN JEW YORK



SITE GENERATED TRAFFIC VOLUMES
 WEEKDAY PEAK PM HOUR

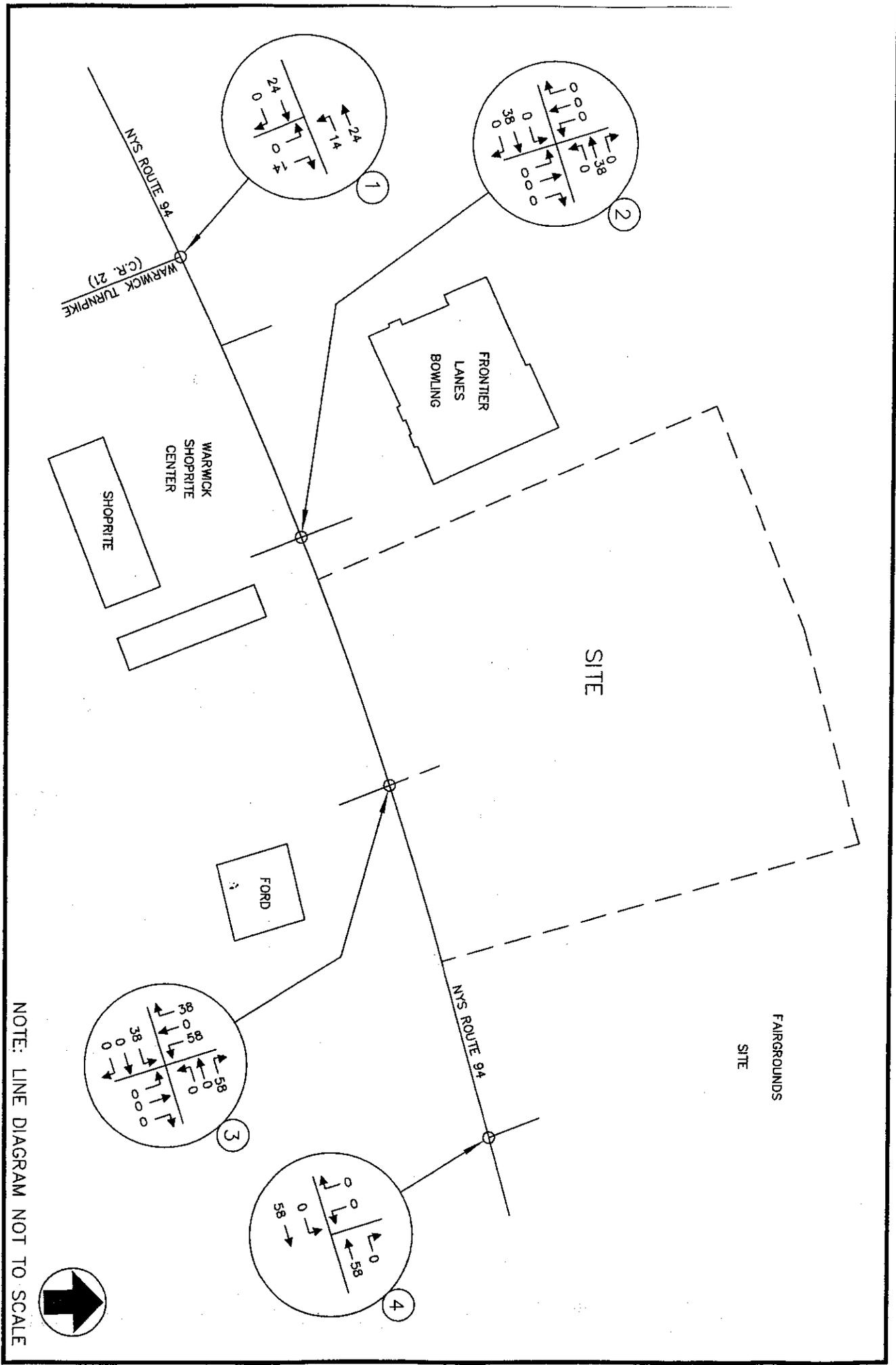
NOTE: LINE DIAGRAM NOT TO SCALE

HOMARC PROPERTY
 WARWICK, NEW YORK

JOHN COLLIER'S ENGINEERS, P.C.
 HAWTHORN JEW YORK

SITE GENERATED TRAFFIC VOLUMES
 WEEKEND PEAK SATURDAY HOUR

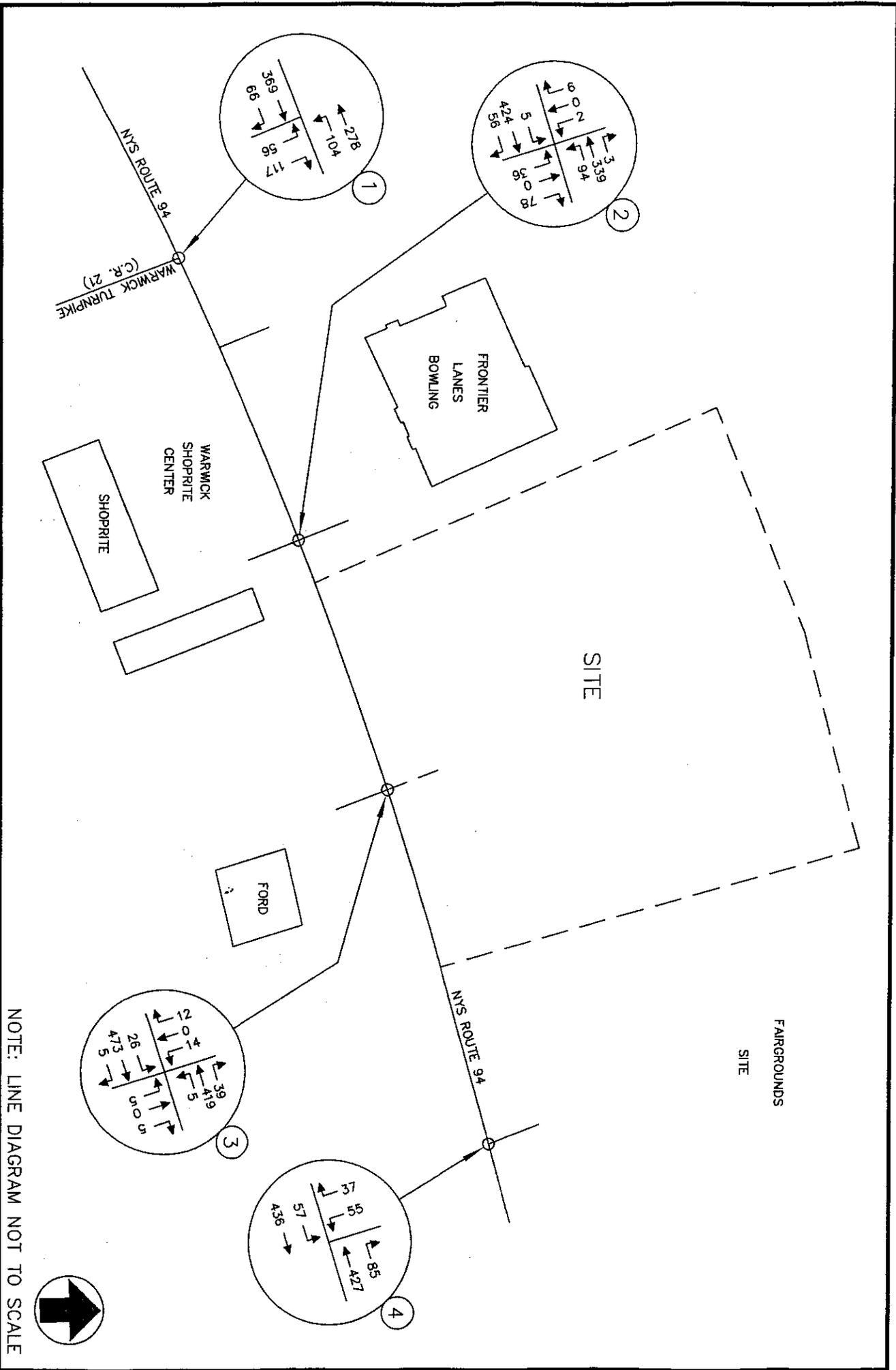
PROJECT NO. 1453 DATE: SEPTEMBER 2010 3. NO.18



NOTE: LINE DIAGRAM NOT TO SCALE

HOMARC PROPERTY
 WARWICK, NEW YORK

JOHN COLLINS ENGINEERS, P.C.
 HAWTHORN IEW YORK



2013 BUILD TRAFFIC VOLUMES
 WEEKDAY PEAK AM HOUR

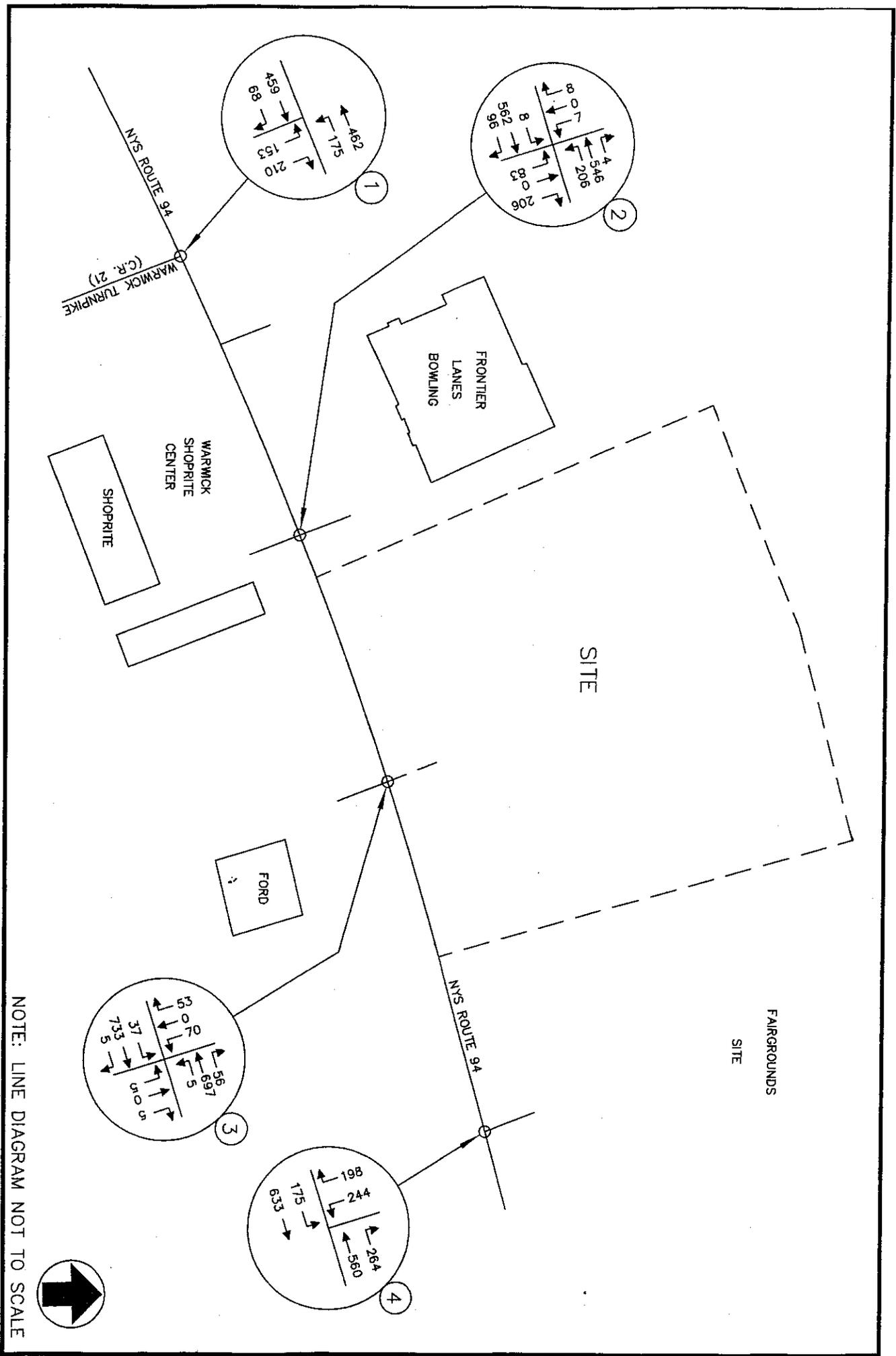
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HOMARC PROPERTY
 WARWICK, NEW YORK

JOHN COLLINS ENGINEERS, P.C.
 HAWTHORN JEW YORK

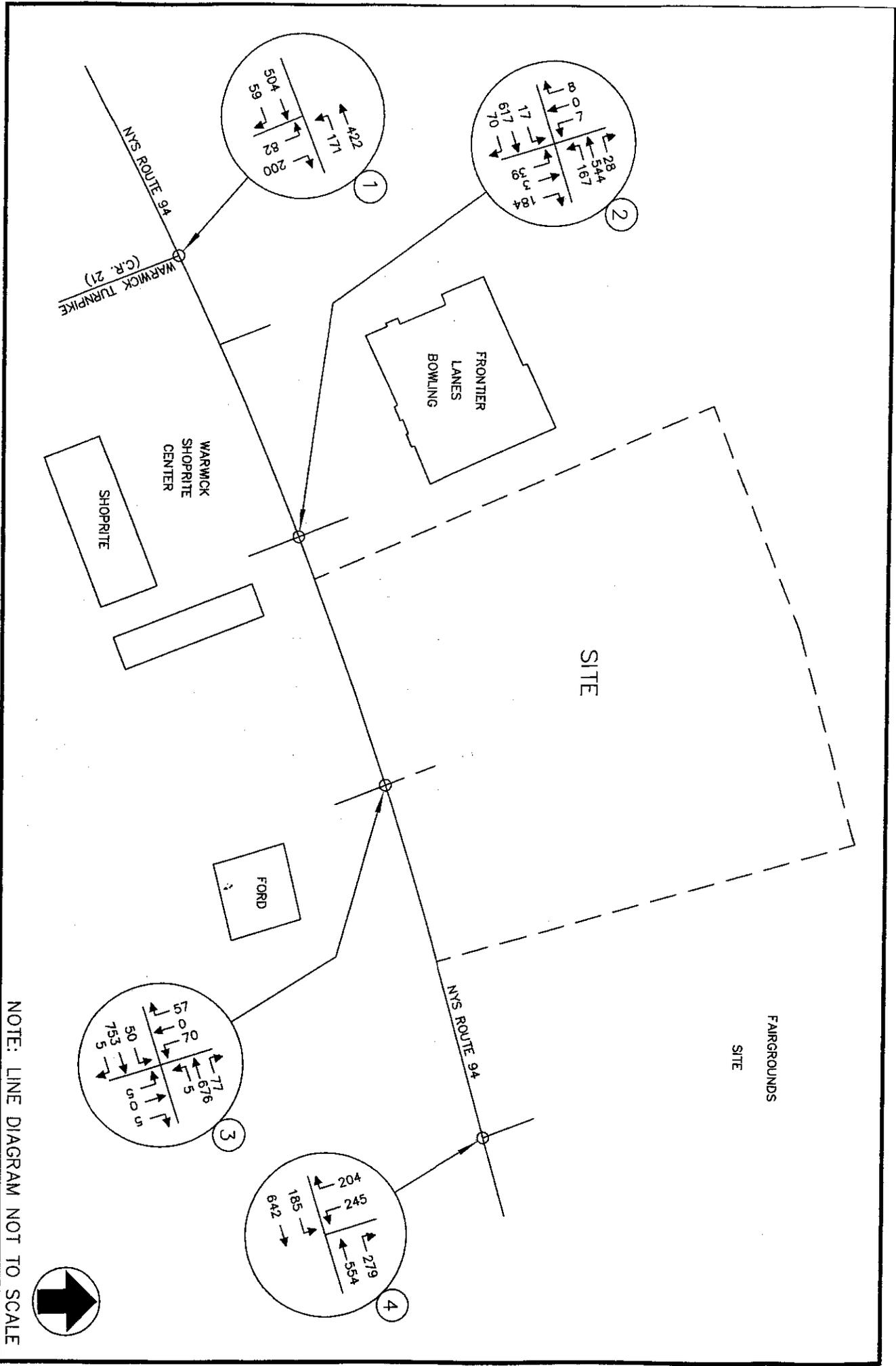
2013 BUILD TRAFFIC VOLUMES
 WEEKDAY PEAK PM HOUR

PROJECT NO. 1453 DATE: SEPTEMBER 2010 3. NO. 20



HOMARC PROPERTY
 WARWICK, NEW YORK

JOHN COLLINS ENGINEERS, P.C.
 HAWTHORNI EW YORK



NOTE: LINE DIAGRAM NOT TO SCALE

2013 BUILD TRAFFIC VOLUMES
 WEEKEND PEAK SATURDAY HOUR

PROJECT NO. 1453 DATE: SEPTEMBER 2010 ; NO. 21

TABLES

APPENDIX "B"

**HOURLY TRIP GENERATION RATES (HTGR) AND ANTICIPATED
SITE GENERATED TRAFFIC VOLUMES**

TABLE 1R

HOMARC PROPERTY WARWICK, NEW YORK		HTGR*	VOLUME	NEW TRIPS	HTGR*	VOLUME	NEW TRIPS
ENTRY				EXIT			
RETAIL (14,560 S.F.)		2.07	30	23	1.32	19	14
PEAK AM HOUR							
PEAK PM HOUR		6.01	88	66	6.01	88	66
PEAK SATURDAY HOUR		8.41	123	92	8.41	123	92
OFFICE (14,560 S.F.)		2.43	35	35	0.33	5	5
PEAK AM HOUR							
PEAK PM HOUR		0.33	5	5	2.43	35	35
PEAK SATURDAY HOUR		0.29	4	4	0.25	4	4
TOTAL							
PEAK AM HOUR		-	65	58	-	24	19
PEAK PM HOUR		-	93	71	-	123	101
PEAK SATURDAY HOUR		-	127	96	-	127	96

NOTES:

- 1) * THE HOURLY TRIP GENERATION RATES (HTGR) ARE BASED ON THE DATA PUBLISHED BY THE INSTITUTE OF TRANSPORTATION ENGINEERS (ITE) AS CONTAINED IN THE TRIP GENERATION HANDBOOK, 8TH EDITION, 2008. OFFICE BUILDING LAND USE 710 AND SHOPPING CENTER LAND USE 820.
- 2) "NEW" TRIPS REFLECTS A 25% PASS-BY FOR RETAIL USES.

TABLE NO. 2

LEVEL OF SERVICE SUMMARY TABLE

	2010 EXISTING			2013 NO-BUILD			2013 BUILD		
	AM	PM	SAT	AM	PM	SAT	AM	PM	SAT
1 NYS ROUTE 94 & WARWICK TURNPIKE (C.R. 21)	A[8.4] B[12.0]	A[8.6] C[17.1]	A[8.7] C[18.2]	A[8.7] C[16.0]	A[9.1] D[26.3]	A[9.2] C[18.6]	A[8.7] C[16.3]	A[9.3] D[27.3]	A[9.4] C[20.2]
2 NYS ROUTE 94 & SHOPRITE DRIVEWAY/FONTIER LANES	A[7.9] A[8.5] B[14.1]	A[8.1] A[9.2] D[26.1]	A[8.3] A[9.1] C[18.0]	A[8.0] A[8.8] C[16.2]	A[8.5] B[10.0] D[28.5]	A[8.6] A[9.8] C[18.4]	A[8.1] A[8.9] C[16.8]	A[8.6] B[10.2] D[32.2]	A[8.7] B[10.0] C[19.7]
3 NYS ROUTE 94 & FORD DEALER DRIVEWAY/SITE ACCESS	- A[8.3] B[13.8]	- A[8.9] C[19.8]	- A[9.0] C[20.5]	- A[8.5] C[15.4]	- A[9.5] D[27.2]	- A[9.6] C[17.7]	A[8.5] A[8.5] B[14.4] B[14.7]	A[9.8] A[9.5] C[22.1] D[26.3]	A[9.8] A[9.6] C[23.5] D[28.0]
4 NYS ROUTE 94 & PRICE CHOPPERS DRIVEWAY	B[10.4] B[18.9] C[22.9] B[14.8]	B[10.3] B[16.3] C[26.7] B[14.3]	B[10.3] B[15.0] C[27.0] B[14.1]	B[10.6] B[17.2] C[23.5] B[14.7]	B[12.9] B[17.3] C[27.1] B[17.8]	B[13.0] B[16.3] C[27.2] B[17.5]	B[10.8] B[18.2] C[23.5] B[15.3]	B[14.2] B[19.1] C[27.1] B[18.9]	B[14.4] B[18.5] C[27.2] B[18.8]

NOTES:

1) THE ABOVE REPRESENTS THE LEVEL OF SERVICE AND VEHICLE DELAY IN SECONDS, C [16.2], FOR EACH KEY APPROACH AS WELL AS FOR THE OVERALL INTERSECTION FOR THE SIGNALIZED INTERSECTION.

APPENDIX "C"
CAPACITY ANALYSIS

HCS+: Unsignalized Intersections Release 5.3

TWO-WAY STOP CONTROL SUMMARY

Analyst: R.H.
 Agency/Co.: JCE
 Date Performed: SEPTEMBER 2010
 Analysis Time Period: PEAK AM HOUR
 Intersection: NYS ROUTE 94 & C.R. 21
 Jurisdiction:
 Units: U. S. Customary
 Analysis Year: 2010 EXISTING TRAFFIC VOLUMES
 Project ID: 1453AMEX1
 East/West Street: NYS ROUTE 94
 North/South Street: WARWICK TURNPIKE (C.R. 21)
 Intersection Orientation: EW Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street:	Approach Movement	Eastbound			Westbound		
		1 L	2 T	3 R	4 L	5 T	6 R
Volume		305	62	86	241		
Peak-Hour Factor, PHF		0.90	0.90	0.90	0.90		
Hourly Flow Rate, HFR		338	68	95	267		
Percent Heavy Vehicles		--	--	2	--	--	
Median Type/Storage		Undivided			/		
RT Channelized?							
Lanes		1	0		1	1	
Configuration			TR		L	T	
Upstream Signal?		No				No	

Minor Street:	Approach Movement	Northbound			Southbound		
		7 L	8 T	9 R	10 L	11 T	12 R
Volume		53		85			
Peak Hour Factor, PHF		0.90		0.90			
Hourly Flow Rate, HFR		58		94			
Percent Heavy Vehicles		2		2			
Percent Grade (%)			0			0	
Flared Approach: Exists?/Storage					/		/
Lanes		1		1			
Configuration		L		R			

Delay, Queue Length, and Level of Service

Approach Movement	EB	WB	Northbound			Southbound		
			4 L	7 L	8 R	9 R	10 L	11 T
v (vph)		95	58		94			
C(m) (vph)		1153	441		747			
v/c		0.08	0.13		0.13			
95% queue length		0.27	0.45		0.43			
Control Delay (s)		8.4	14.4		10.5			
Level of Service		A	B		B			
Approach Delay (s)				12.0				
Approach LOS				B				

TWO-WAY STOP CONTROL SUMMARY

Analyst: R.H.
 Agency/Co.: JCE
 Date Performed: SEPTEMBER 2010
 Analysis Time Period: PEAK PM HOUR
 Intersection: NYS ROUTE 94 & C.R. 21
 Jurisdiction:
 Units: U. S. Customary
 Analysis Year: 2010 EXISTING TRAFFIC VOLUMES
 Project ID: 1453PMEX1
 East/West Street: NYS ROUTE 94
 North/South Street: WARWICK TURNPIKE (C.R. 21)
 Intersection Orientation: EW Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street: Approach Movement	Eastbound				Westbound		
	1 L	2 T	3 R	4 L	5 T	6 R	

Volume		350	64	114	350	
Peak-Hour Factor, PHF		0.96	0.96	0.96	0.96	
Hourly Flow Rate, HFR		364	66	118	364	
Percent Heavy Vehicles		--	--	2	--	--
Median Type/Storage	Undivided			/		
RT Channelized?						
Lanes		1	0		1	1
Configuration			TR		L	T
Upstream Signal?		No			No	

Minor Street: Approach Movement	Northbound			Southbound		
	7 L	8 T	9 R	10 L	11 T	12 R

Volume	144		149			
Peak Hour Factor, PHF	0.96		0.96			
Hourly Flow Rate, HFR	150		155			
Percent Heavy Vehicles	2		2			
Percent Grade (%)		0			0	
Flared Approach: Exists?/Storage				/		/
Lanes	1		1			
Configuration	L		R			

Delay, Queue Length, and Level of Service

Approach Movement	EB	WB	Northbound			Southbound		
	1	4	7	8	9	10	11	12

Lane Config		L	L		R			
v (vph)	118	150			155			
C(m) (vph)	1129	347			729			
v/c	0.10	0.43			0.21			
95% queue length	0.35	2.10			0.80			
Control Delay	8.6	23.0			11.3			
LOS		A	C		B			
Approach Delay				17.1				
Approach LOS				C				

HCS+: Unsignalized Intersections Release 5.3

TWO-WAY STOP CONTROL SUMMARY

Analyst: R.H.
 Agency/Co.: JCE
 Date Performed: SEPTEMBER 2010
 Analysis Time Period: PEAK SATURDAY HOUR
 Intersection: NYS ROUTE 94 & C.R. 21
 Jurisdiction:
 Units: U. S. Customary
 Analysis Year: 2010 EXISTING TRAFFIC VOLUMES
 Project ID: 1453SATEX1
 East/West Street: NYS ROUTE 94
 North/South Street: WARWICK TURNPIKE (C.R. 21)
 Intersection Orientation: EW Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street: Approach Movement	Eastbound			Westbound		
	1 L	2 T	3 R	4 L	5 T	6 R

Volume		382	56		120	331
Peak-Hour Factor, PHF		0.96	0.96		0.96	0.96
Hourly Flow Rate, HFR		397	58		125	344
Percent Heavy Vehicles		--	--		2	--
Median Type/Storage		Undivided		/		
RT Channelized?						
Lanes		1	0		1	1
Configuration			TR		L	T
Upstream Signal?		No			No	

Minor Street: Approach Movement	Northbound			Southbound		
	7 L	8 T	9 R	10 L	11 T	12 R

Volume		77			138	
Peak Hour Factor, PHF		0.96			0.96	
Hourly Flow Rate, HFR		80			143	
Percent Heavy Vehicles		2			2	
Percent Grade (%)			0			0
Flared Approach: Exists?/Storage				/		/
Lanes		1			1	
Configuration		L	R			

Delay, Queue Length, and Level of Service

Approach Movement	EB	WB	Northbound			Southbound		
	1	4	7	8	9	10	11	12

Lane Config		L	L		R			
v (vph)		125	80		143			
C(m) (vph)		1106	232		628			
v/c		0.11	0.34		0.23			
95% queue length		0.38	1.47		0.87			
Control Delay		8.7	28.5		12.4			
LOS		A	D		B			
Approach Delay				18.2				
Approach LOS				C				

HCS+: Unsignalized Intersections Release 5.3

TWO-WAY STOP CONTROL SUMMARY

Analyst: R.H.
 Agency/Co.: JCE
 Date Performed: SEPTEMBER 2010
 Analysis Time Period: PEAK AM HOUR
 Intersection: NYS ROUTE 94 & C.R. 21
 Jurisdiction:
 Units: U. S. Customary
 Analysis Year: 2013 NO-BUILD TRAFFIC VOLUMES
 Project ID: 1453AMNB1
 East/West Street: NYS ROUTE 94
 North/South Street: WARWICK TURNPIKE (C.R. 21)
 Intersection Orientation: EW Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street: Approach Movement	Eastbound			Westbound		
	1 L	2 T	3 R	4 L	5 T	6 R

Volume		354	66	101	273	
Peak-Hour Factor, PHF		0.90	0.90	0.90	0.90	
Hourly Flow Rate, HFR		393	73	112	303	
Percent Heavy Vehicles		--	--	2	--	--
Median Type/Storage	Undivided			/		
RT Channelized?						
Lanes		1	0		1	1
Configuration			TR		L	T
Upstream Signal?		No			No	

Minor Street: Approach Movement	Northbound			Southbound		
	7 L	8 T	9 R	10 L	11 T	12 R

Volume	56		108			
Peak Hour Factor, PHF	0.90		0.90			
Hourly Flow Rate, HFR	62		120			
Percent Heavy Vehicles	2		2			
Percent Grade (%)		0			0	
Flared Approach: Exists?/Storage				/		
Lanes	1		1			
Configuration	L		R			

Delay, Queue Length, and Level of Service

Approach Movement	EB	WB	Northbound			Southbound		
			7 L	8 L	9 R	10 L	11 T	12 R

v (vph)		112	62		120			
C(m) (vph)		1095	257		625			
v/c		0.10	0.24		0.19			
95% queue length		0.34	0.92		0.70			
Control Delay		8.7	23.4		12.1			
LOS		A	C		B			
Approach Delay				16.0				
Approach LOS				C				

HCS+: Unsignalized Intersections Release 5.3

TWO-WAY STOP CONTROL SUMMARY

Analyst: R.H.
 Agency/Co.: JCE
 Date Performed: SEPTEMBER 2010
 Analysis Time Period: PEAK PM HOUR
 Intersection: NYS ROUTE 94 & C.R. 21
 Jurisdiction:
 Units: U. S. Customary
 Analysis Year: 2013 NO-BUILD TRAFFIC VOLUMES
 Project ID: 1453PMNB1
 East/West Street: NYS ROUTE 94
 North/South Street: WARWICK TURNPIKE (C.R. 21)
 Intersection Orientation: EW Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street: Approach Movement	Eastbound			Westbound		
	1 L	2 T	3 R	4 L	5 T	6 R

Volume		441	68	160	437	
Peak-Hour Factor, PHF		0.96	0.96	0.96	0.96	
Hourly Flow Rate, HFR		459	70	166	455	
Percent Heavy Vehicles		--	--	2	--	--
Median Type/Storage	Undivided			/		
RT Channelized?						
Lanes		1	0		1	1
Configuration			TR		L	T
Upstream Signal?		No			No	

Minor Street: Approach Movement	Northbound			Southbound		
	7 L	8 T	9 R	10 L	11 T	12 R

Volume	153		199			
Peak Hour Factor, PHF	0.96		0.96			
Hourly Flow Rate, HFR	159		207			
Percent Heavy Vehicles	2		2			
Percent Grade (%)		0			0	
Flared Approach: Exists?/Storage				/		/
Lanes	1		1			
Configuration	L		R			

Delay, Queue Length, and Level of Service

Approach Movement	EB	WB	Northbound			Southbound		
	1	4	7	8	9	10	11	12

Lane Config		L	L		R			
v (vph)		166	159		207			
C(m) (vph)		1038	244		660			
v/c		0.16	0.65		0.31			
95% queue length		0.57	4.06		1.34			
Control Delay		9.1	43.7		12.9			
OS		A	E		B			
Approach Delay				26.3				
Approach LOS				D				

TWO-WAY STOP CONTROL SUMMARY

Analyst: R.H.
 Agency/Co.: JCE
 Date Performed: SEPTEMBER 2010
 Analysis Time Period: PEAK SATURDAY HOUR
 Intersection: NYS ROUTE 94 & C.R. 21
 Jurisdiction:
 Units: U. S. Customary
 Analysis Year: 2013 NO-BUILD TRAFFIC VOLUMES
 Project ID: 1453SATNB1
 East/West Street: NYS ROUTE 94
 North/South Street: WARWICK TURNPIKE (C.R. 21)
 Intersection Orientation: EW Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street: Approach Movement	Eastbound			Westbound		
	1 L	2 T	3 R	4 L	5 T	6 R

Volume	480	59	156	398		
Peak-Hour Factor, PHF	0.96	0.96	0.96	0.96		
Hourly Flow Rate, HFR	500	61	162	414		
Percent Heavy Vehicles	--	--	2	--	--	--
Median Type/Storage	Undivided			/		
RT Channelized?						
Lanes	1	0		1	1	
Configuration		TR		L	T	
Upstream Signal?		No			No	

Minor Street: Approach Movement	Northbound			Southbound		
	7 L	8 T	9 R	10 L	11 T	12 R

Volume	82	185				
Peak Hour Factor, PHF	0.96	0.96				
Hourly Flow Rate, HFR	85	192				
Percent Heavy Vehicles	2	2				
Percent Grade (%)	0			0		
Flared Approach: Exists?/Storage			/		/	
Lanes	1	1				
Configuration	L	R				

Delay, Queue Length, and Level of Service

Approach Movement Lane Config	EB	WB	Northbound			Southbound		
	1	4	7	8	9	10	11	12

v (vph)	162	85		192				
C(m) (vph)	1010	222		636				
v/c	0.16	0.38		0.30				
95% queue length	0.57	1.69		1.27				
Control Delay	9.2	30.9		13.1				
LOS	A	D		B				
Approach Delay			18.6					
Approach LOS			C					

HCS+: Unsignalized Intersections Release 5.3

TWO-WAY STOP CONTROL SUMMARY

Analyst: R.H.
 Agency/Co.: JCE
 Date Performed: SEPTEMBER 2010
 Analysis Time Period: PEAK AM HOUR
 Intersection: NYS ROUTE 94 & C.R. 21
 Jurisdiction:
 Units: U. S. Customary
 Analysis Year: 2013 BUILD TRAFFIC VOLUMES
 Project ID: 1453AMB1
 East/West Street: NYS ROUTE 94
 North/South Street: WARWICK TURNPIKE (C.R. 21)
 Intersection Orientation: EW Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street:	Approach Movement	Eastbound				Westbound		
		1 L	2 T	3 R	4 L	5 T	6 R	
Volume		369	66	104	278			
Peak-Hour Factor, PHF		0.90	0.90	0.90	0.90			
Hourly Flow Rate, HFR		410	73	115	308			
Percent Heavy Vehicles		--	--	2	--	--		
Median Type/Storage		Undivided			/			
RT Channelized?								
Lanes		1	0		1	1		
Configuration			TR		L	T		
Upstream Signal?		No			No			

Minor Street:	Approach Movement	Northbound			Southbound		
		7 L	8 T	9 R	10 L	11 T	12 R
Volume		56	117				
Peak Hour Factor, PHF		0.90	0.90				
Hourly Flow Rate, HFR		62	130				
Percent Heavy Vehicles		2	2				
Percent Grade (%)		0	0				
Flared Approach: Exists?/Storage					/		/
Lanes		1	1				
Configuration		L	R				

Delay, Queue Length, and Level of Service

Approach Movement	EB	WB	Northbound			Southbound		
			4 L	7 L	8 R	9 R	10 L	11 T
v (vph)		115	62	130				
C(m) (vph)		1080	246	612				
v/c		0.11	0.25	0.21				
95% queue length		0.36	0.97	0.80				
Control Delay		8.7	24.5	12.5				
OS		A	C	B				
Approach Delay		16.3						
Approach LOS		C						

HCS+: Unsignalized Intersections Release 5.3

TWO-WAY STOP CONTROL SUMMARY

Analyst: R.H.
 Agency/Co.: JCE
 Date Performed: SEPTEMBER 2010
 Analysis Time Period: PEAK PM HOUR
 Intersection: NYS ROUTE 94 & C.R. 21
 Jurisdiction:
 Units: U. S. Customary
 Analysis Year: 2013 BUILD TRAFFIC VOLUMES
 Project ID: 1453PMB1
 East/West Street: NYS ROUTE 94
 North/South Street: WARWICK TURNPIKE (C.R. 21)
 Intersection Orientation: EW Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street:	Approach Movement	Eastbound			Westbound		
		1 L	2 T	3 R	4 L	5 T	6 R

Volume		459	68		175	462	
Peak-Hour Factor, PHF		0.96	0.96		0.96	0.96	
Hourly Flow Rate, HFR		478	70		182	481	
Percent Heavy Vehicles		--	--		2	--	--
Median Type/Storage		Undivided			/		
RT Channelized?							
Lanes		1	0		1	1	
Configuration			TR		L	T	
Upstream Signal?		No			No		

Minor Street:	Approach Movement	Northbound			Southbound		
		7 L	8 T	9 R	10 L	11 T	12 R

Volume		153		210			
Peak Hour Factor, PHF		0.96		0.96			
Hourly Flow Rate, HFR		159		218			
Percent Heavy Vehicles		2		2			
Percent Grade (%)			0			0	
Flared Approach: Exists?/Storage					/		
Lanes		1		1			/
Configuration		L		R			

Delay, Queue Length, and Level of Service

Approach Movement	EB	WB	Northbound			Southbound		
			4 L	7 L	8 R	9 R	10 L	11 T

v (vph)		182	159		218		
C(m) (vph)		1021	237		647		
v/c		0.18	0.67		0.34		
95% queue length		0.65	4.26		1.48		
Control Delay		9.3	46.5		13.4		
LOS		A	E		B		
Approach Delay				27.3			
Approach LOS				D			

TWO-WAY STOP CONTROL SUMMARY

Analyst: R.H.
 Agency/Co.: JCE
 Date Performed: SEPTEMBER 2010
 Analysis Time Period: PEAK SATURDAY HOUR
 Intersection: NYS ROUTE 94 & C.R. 21
 Jurisdiction:
 Units: U. S. Customary
 Analysis Year: 2013 BUILD TRAFFIC VOLUMES
 Project ID: 1453SATB1
 East/West Street: NYS ROUTE 94
 North/South Street: WARWICK TURNPIKE (C.R. 21)
 Intersection Orientation: EW Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street:	Approach Movement	Eastbound			Westbound		
		1 L	2 T	3 R	4 L	5 T	6 R
Volume		504	59		171	422	
Peak-Hour Factor, PHF		0.96	0.96		0.96	0.96	
Hourly Flow Rate, HFR		525	61		178	439	
Percent Heavy Vehicles		--	--		2	--	--
Median Type/Storage		Undivided			/		
RT Channelized?							
Lanes		1	0		1	1	
Configuration			TR		L	T	
Upstream Signal?		No				No	

Minor Street:	Approach Movement	Northbound			Southbound		
		7 L	8 T	9 R	10 L	11 T	12 R
Volume		82		200			
Peak Hour Factor, PHF		0.96		0.96			
Hourly Flow Rate, HFR		85		208			
Percent Heavy Vehicles		2		2			
Percent Grade (%)			0			0	
Flared Approach: Exists?/Storage					/		/
Lanes		1		1			
Configuration		L		R			

Delay, Queue Length, and Level of Service

Approach Movement	EB 1	WB 4	Northbound			Southbound		
			7 L	8 L	9 R	10 L	11 L	12 R
Lane Config		L	L		R			
v (vph)		178	85		208			
C(m) (vph)		989	198		619			
v/c		0.18	0.43		0.34			
95% queue length		0.65	1.98		1.48			
Control Delay		9.4	36.2		13.7			
LOS		A	E		B			
Approach Delay				20.2				
Approach LOS				C				

TWO-WAY STOP CONTROL SUMMARY

Analyst: R.H.
 Agency/Co.: JCE
 Date Performed: SEPTEMBER 2010
 Analysis Time Period: PEAK AM HOUR
 Intersection: NYS RTE 94 & SHOPRITE/FRONTIER
 Jurisdiction:
 Units: U. S. Customary
 Analysis Year: 2010 EXISTING TRAFFIC VOLUMES
 Project ID: 1453AMEX2
 East/West Street: NYS ROUTE 94
 North/South Street: SHOPRITE/FRONTIER LANES
 Intersection Orientation: EW
 Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street:	Approach Movement	Eastbound			Westbound		
		1 L	2 T	3 R	4 L	5 T	6 R
Volume		5	332	53	89	287	3
Peak-Hour Factor, PHF		0.90	0.90	0.90	0.90	0.90	0.90
Hourly Flow Rate, HFR		5	368	58	98	318	3
Percent Heavy Vehicles		2	--	--	2	--	--
Median Type/Storage		Undivided			/		
RT Channelized?							
Lanes		1	1	0	1	1	0
Configuration		L		TR	L		TR
Upstream Signal?		No			No		

Minor Street:	Approach Movement	Northbound			Southbound		
		7 L	8 T	9 R	10 L	11 T	12 R
Volume		34		74			
Peak Hour Factor, PHF		0.90		0.90			
Hourly Flow Rate, HFR		37		82			
Percent Heavy Vehicles		2		2			
Percent Grade (%)			0			0	
Flared Approach: Exists?/Storage					/		/
Lanes		1		1			
Configuration		L		R			

Delay, Queue Length, and Level of Service

Approach Movement	EB	WB	Northbound			Southbound		
			1 L	4 L	7 L	8 R	9 R	10 L
Lane Config	L	L	L			R		
v (vph)	5	98	37		82			
C(m) (vph)	1239	1133	272		652			
v/c	0.00	0.09	0.14		0.13			
95% queue length	0.01	0.28	0.46		0.43			
Control Delay	7.9	8.5	20.3		11.3			
LOS	A	A	C		B			
Approach Delay				14.1				
Approach LOS				B				

TWO-WAY STOP CONTROL SUMMARY

Analyst: R.H.
 Agency/Co.: JCE
 Date Performed: SEPTEMBER 2010
 Analysis Time Period: PEAK PM HOUR
 Intersection: NYS RTE 94 & SHOPRITE/FRONTIER
 Jurisdiction:
 Units: U. S. Customary
 Analysis Year: 2010 EXISTING TRAFFIC VOLUMES
 Project ID: 1453PMEX2
 East/West Street: NYS ROUTE 94
 North/South Street: SHOPRITE/FRONTIER LANES
 Intersection Orientation: EW
 Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street: Approach Movement	Eastbound				Westbound		
	1 L	2 T	3 R	4 L	5 T	6 R	
Volume	8	400	91	194	378	4	
Peak-Hour Factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	
Hourly Flow Rate, HFR	8	416	94	202	393	4	
Percent Heavy Vehicles	2	--	--	2	--	--	
Median Type/Storage	Undivided			/			
RT Channelized?							
Lanes Configuration	1 L	1 T	0 TR		1 L	0 TR	
Upstream Signal?		No			No		

Minor Street: Approach Movement	Northbound			Southbound			
	7 L	8 T	9 R	10 L	11 T	12 R	
Volume	78		194				
Peak Hour Factor, PHF	0.96		0.96				
Hourly Flow Rate, HFR	81		202				
Percent Heavy Vehicles	2		2				
Percent Grade (%)		0			0		
Flared Approach: Exists?/Storage				/		/	
Lanes Configuration	1 L		1 R				

Delay, Queue Length, and Level of Service

Approach Movement Lane Config	EB	WB	Northbound			Southbound		
	1 L	4 L	7 L	8	9 R	10	11	12
v (vph)	8	202	81		202			
C(m) (vph)	1162	1055	147		599			
v/c	0.01	0.19	0.55		0.34			
95% queue length	0.02	0.71	2.76		1.48			
Control Delay	8.1	9.2	56.1		14.0			
LOS	A	A	F		B			
Approach Delay				26.1				
Approach LOS				D				

TWO-WAY STOP CONTROL SUMMARY

Analyst: R.H.
 Agency/Co.: JCE
 Date Performed: SEPTEMBER 2010
 Analysis Time Period: PEAK SATURDAY HOUR
 Intersection: NYS RTE 94 & SHOPRITE/FRONTIER
 Jurisdiction:
 Units: U. S. Customary
 Analysis Year: 2010 EXISTING TRAFFIC VOLUMES
 Project ID: 1453SATEX2
 East/West Street: NYS ROUTE 94
 North/South Street: SHOPRITE/FRONTIER LANES
 Intersection Orientation: EW Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street:	Approach Movement	Eastbound				Westbound		
		1 L	2 T	3 R	4 L	5 T	6 R	
Volume		16	438	66	158	406	26	
Peak-Hour Factor, PHF		0.96	0.96	0.96	0.96	0.96	0.96	
Hourly Flow Rate, HFR		16	456	68	164	422	27	
Percent Heavy Vehicles		2	--	--	2	--	--	
Median Type/Storage		Undivided				/		
RT Channelized?								
Lanes		1	1	0		1	1	0
Configuration		L		TR		L		TR
Upstream Signal?		No			No			

Minor Street:	Approach Movement	Northbound			Southbound		
		7 L	8 T	9 R	10 L	11 T	12 R
Volume		37		177			
Peak Hour Factor, PHF		0.96		0.96			
Hourly Flow Rate, HFR		38		184			
Percent Heavy Vehicles		2		2			
Percent Grade (%)			0			0	
Flared Approach: Exists?/Storage					/		
Lanes		1		1			
Configuration		L		R			

Delay, Queue Length, and Level of Service

Approach Movement	EB	WB	Northbound			Southbound		
	1 L	4 L	7 L	8	9 R	10 L	11	12
Lane Config	L	L	L		R			
v (vph)	16	164	38		184			
C(m) (vph)	1111	1043	150		578			
v/c	0.01	0.16	0.25		0.32			
95% queue length	0.04	0.56	0.95		1.36			
Control Delay	8.3	9.1	37.0		14.1			
LOS	A	A	E		B			
Approach Delay				18.0				
Approach LOS				C				

TWO-WAY STOP CONTROL SUMMARY

Analyst: R.H.
 Agency/Co.: JCE
 Date Performed: SEPTEMBER 2010
 Analysis Time Period: PEAK AM HOUR
 Intersection: NYS RTE 94 & SHOPRITE/FRONTIER
 Jurisdiction:
 Units: U. S. Customary
 Analysis Year: 2013 NO-BUILD TRAFFIC VOLUMES
 Project ID: 1453AMNB2
 East/West Street: NYS ROUTE 94
 North/South Street: SHOPRITE/FRONTIER LANES
 Intersection Orientation: EW Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street:	Approach Movement	Eastbound				Westbound		
		1 L	2 T	3 R	4 L	5 T	6 R	
Volume		5	401	56	94	331	3	
Peak-Hour Factor, PHF		0.90	0.90	0.90	0.90	0.90	0.90	
Hourly Flow Rate, HFR		5	445	62	104	367	3	
Percent Heavy Vehicles		2		--	2	--	--	
Median Type/Storage		Undivided				/		
RT Channelized?								
Lanes		1	1	0		1	1	
Configuration		L		TR		L	TR	
Upstream Signal?		No			No			

Minor Street:	Approach Movement	Northbound			Southbound		
		7 L	8 T	9 R	10 L	11 T	12 R
Volume		36		78			
Peak Hour Factor, PHF		0.90		0.90			
Hourly Flow Rate, HFR		40		86			
Percent Heavy Vehicles		2		2			
Percent Grade (%)			0			0	
Flared Approach: Exists?/Storage					/		
Lanes		1		1			
Configuration		L		R			

Delay, Queue Length, and Level of Service

Approach Movement	EB	WB	Northbound			Southbound		
			4 L	7 L	8 R	9 L	10 T	11 R
Lane Config	L	L		L	R			
v (vph)	5	104		40		86		
C(m) (vph)	1189	1058		222		589		
v/c	0.00	0.10		0.18		0.15		
95% queue length	0.01	0.33		0.64		0.51		
Control Delay	8.0	8.8		24.7		12.2		
LOS	A	A		C		B		
Approach Delay					16.2			
Approach LOS					C			

TWO-WAY STOP CONTROL SUMMARY

Analyst: R.H.
 Agency/Co.: JCE
 Date Performed: SEPTEMBER 2010
 Analysis Time Period: PEAK PM HOUR
 Intersection: NYS RTE 94 & SHOPRITE/FRONTIER
 Jurisdiction:
 Units: U. S. Customary
 Analysis Year: 2013 NO-BUILD TRAFFIC VOLUMES
 Project ID: 1453PMNB2
 East/West Street: NYS ROUTE 94
 North/South Street: SHOPRITE/FRONTIER LANES
 Intersection Orientation: EW Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street: Approach Movement	Eastbound				Westbound		
	1 L	2 T	3 R	4 L	5 T	6 R	
Volume	8	534	96	206	506	4	
Peak-Hour Factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	
Hourly Flow Rate, HFR	8	556	100	214	527	4	
Percent Heavy Vehicles	2	--	--	2	--	--	
Median Type/Storage	Undivided			/			
RT Channelized?							
Lanes Configuration	1 L	1 T	0 R		1 L	1 T	
Upstream Signal?		No			No		

Minor Street: Approach Movement	Northbound			Southbound		
	7 L	8 T	9 R	10 L	11 T	12 R
Volume	83		206			
Peak Hour Factor, PHF	0.96		0.96			
Hourly Flow Rate, HFR	86		214			
Percent Heavy Vehicles	2		2			
Percent Grade (%)		0			0	
Flared Approach: Exists?/Storage				/		/
Lanes Configuration	1 L		1 R			

Delay, Queue Length, and Level of Service

Approach Movement Lane Config	EB	WB	Northbound			Southbound		
	1 L	4 L	7 L	8 R	9 L	10 L	11 T	12 R
v (vph)	8	214	86		214			
C(m) (vph)	1036	931	142		588			
v/c	0.01	0.23	0.61		0.36			
95% queue length	0.02	0.89	3.17		1.66			
Control Delay	8.5	10.0+	63.2		14.6			
LOS	A	B	F		B			
Approach Delay				28.5				
Approach LOS				D				

TWO-WAY STOP CONTROL SUMMARY

Analyst: R.H.
 Agency/Co.: JCE
 Date Performed: SEPTEMBER 2010
 Analysis Time Period: PEAK SATURDAY HOUR
 Intersection: NYS RTE 94 & SHOPRITE/FRONTIER
 Jurisdiction:
 Units: U. S. Customary
 Analysis Year: 2013 NO-BUILD TRAFFIC VOLUMES
 Project ID: 1453SATNB2
 East/West Street: NYS ROUTE 94
 North/South Street: SHOPRITE/FRONTIER LANES
 Intersection Orientation: EW Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street:	Approach Movement	Eastbound				Westbound		
		1 L	2 T	3 R	4 L	5 T	6 R	
Volume		17	578	70	167	505	28	
Peak-Hour Factor, PHF		0.96	0.96	0.96	0.96	0.96	0.96	
Hourly Flow Rate, HFR		17	602	72	173	526	29	
Percent Heavy Vehicles		2	--	--	2	--	--	
Median Type/Storage		Undivided /						
RT Channelized?								
Lanes Configuration		1 L	1 T	0 R	1 L	1 T	0 R	
Upstream Signal?		No			No			

Minor Street:	Approach Movement	Northbound			Southbound		
		7 L	8 T	9 R	10 L	11 T	12 R
Volume		39		187			
Peak Hour Factor, PHF		0.96		0.96			
Hourly Flow Rate, HFR		40		194			
Percent Heavy Vehicles		2		2			
Percent Grade (%)			0			0	
Flared Approach: Exists?/Storage					/		/
Lanes Configuration		1 L		1 R			

Delay, Queue Length, and Level of Service

Approach Movement	EB	WB	Northbound			Southbound		
			4 L	7 L	8 R	9 R	10 L	11 T
v (vph)	17	173	40		194			
C(m) (vph)	1015	917	152		569			
v/c	0.02	0.19	0.26		0.34			
95% queue length	0.05	0.69	1.00		1.50			
Control Delay	8.6	9.8	36.9		14.6			
LOS	A	A	E		B			
Approach Delay				18.4				
Approach LOS				C				

HCS+: Unsignalized Intersections Release 5.3

TWO-WAY STOP CONTROL SUMMARY

Analyst: R.H.
 Agency/Co.: JCE
 Date Performed: SEPTEMBER 2010
 Analysis Time Period: PEAK AM HOUR
 Intersection: NYS RTE 94 & SHOPRITE/FRONTIER
 Jurisdiction:
 Units: U. S. Customary
 Analysis Year: 2013 BUILD TRAFFIC VOLUMES
 Project ID: 1453AMB2
 East/West Street: NYS ROUTE 94
 North/South Street: SHOPRITE/FRONTIER LANES
 Intersection Orientation: EW Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street: Approach Movement	Eastbound			Westbound		
	1 L	2 T	3 R	4 L	5 T	6 R
Volume	5	424	56	94	339	3
Peak-Hour Factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Hourly Flow Rate, HFR	5	471	62	104	376	3
Percent Heavy Vehicles	2	--	--	2	--	--
Median Type/Storage	Undivided			/		
RT Channelized?						
Lanes Configuration	1 L	1 T	0 R	1 L	1 T	0 R
Upstream Signal?	No			No		

Minor Street: Approach Movement	Northbound			Southbound		
	7 L	8 T	9 R	10 L	11 T	12 R
Volume	36		78			
Peak Hour Factor, PHF	0.90		0.90			
Hourly Flow Rate, HFR	40		86			
Percent Heavy Vehicles	2		2			
Percent Grade (%)		0			0	
Flared Approach: Exists?/Storage				/		
Lanes Configuration	1 L		1 R			

Delay, Queue Length, and Level of Service

Approach Movement Lane Config	EB	WB	Northbound			Southbound		
	1 L	4 L	7 L	8 R	9 R	10 L	11 T	12 R
v (vph)	5	104	40		86			
C(m) (vph)	1179	1035	210		569			
v/c	0.00	0.10	0.19		0.15			
95% queue length	0.01	0.33	0.68		0.53			
Control Delay	8.1	8.9	26.1		12.5			
LOS	A	A	D		B			
Approach Delay				16.8				
Approach LOS				C				

TWO-WAY STOP CONTROL SUMMARY

Analyst: R.H.
 Agency/Co.: JCE
 Date Performed: SEPTEMBER 2010
 Analysis Time Period: PEAK PM HOUR
 Intersection: NYS RTE 94 & SHOPRITE/FRONTIER
 Jurisdiction:
 Units: U. S. Customary
 Analysis Year: 2013 BUILD TRAFFIC VOLUMES
 Project ID: 1453PMB2
 East/West Street: NYS ROUTE 94
 North/South Street: SHOPRITE/FRONTIER LANES
 Intersection Orientation: EW Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street: Approach Movement	Eastbound				Westbound		
	1 L	2 T	3 R	4 L	5 T	6 R	
Volume	8	562	96	206	546	4	
Peak-Hour Factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	
Hourly Flow Rate, HFR	8	585	100	214	568	4	
Percent Heavy Vehicles	2	--	--	2	--	--	
Median Type/Storage	Undivided			/			
RT Channelized?							
Lanes Configuration	1 L	1 T	0 R	1 L	1 T	0 R	
Upstream Signal?	No			No			

Minor Street: Approach Movement	Northbound			Southbound		
	7 L	8 T	9 R	10 L	11 T	12 R
Volume	83		206			
Peak Hour Factor, PHF	0.96		0.96			
Hourly Flow Rate, HFR	86		214			
Percent Heavy Vehicles	2		2			
Percent Grade (%)		0			0	
Flared Approach: Exists?/Storage				/		/
Lanes Configuration	1 L		1 R			

Delay, Queue Length, and Level of Service

Approach Movement Lane Config	EB	WB	Northbound			Southbound		
	1 L	4 L	7 L	8	9 R	10 L	11 T	12 R
v (vph)	8	214	86		214			
C(m) (vph)	1001	908	130		571			
v/c	0.01	0.24	0.66		0.37			
95% queue length	0.02	0.92	3.56		1.73			
Control Delay	8.6	10.2	75.0		15.0+			
LOS	A	B	F		C			
Approach Delay				32.2				
Approach LOS				D				

TWO-WAY STOP CONTROL SUMMARY

Analyst: R.H.
 Agency/Co.: JCE
 Date Performed: SEPTEMBER 2010
 Analysis Time Period: PEAK SATURDAY HOUR
 Intersection: NYS RTE 94 & SHOPRITE/FRONTIER
 Jurisdiction:
 Units: U. S. Customary
 Analysis Year: 2013 BUILD TRAFFIC VOLUMES
 Project ID: 1453SATB2
 East/West Street: NYS ROUTE 94
 North/South Street: SHOPRITE/FRONTIER LANES
 Intersection Orientation: EW Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street:	Approach Movement	Eastbound				Westbound		
		1 L	2 T	3 R	4 L	5 T	6 R	
Volume		17	617	70	167	544	28	
Peak-Hour Factor, PHF		0.96	0.96	0.96	0.96	0.96	0.96	
Hourly Flow Rate, HFR		17	642	72	173	566	29	
Percent Heavy Vehicles		2	--	--	2	--	--	
Median Type/Storage		Undivided				/		
RT Channelized?								
Lanes		1	1	0	1	1	0	
Configuration		L		TR	L		TR	
Upstream Signal?		No			No			

Minor Street:	Approach Movement	Northbound			Southbound		
		7 L	8 T	9 R	10 L	11 T	12 R
Volume		39		187			
Peak Hour Factor, PHF		0.96		0.96			
Hourly Flow Rate, HFR		40		194			
Percent Heavy Vehicles		2		2			
Percent Grade (%)			0			0	
Flared Approach: Exists?/Storage					/		
Lanes		1		1			
Configuration		L		R			

Approach Movement	Delay, Queue Length, and Level of Service							
	EB	WB	Northbound			Southbound		
	1	4	7	8	9	10	11	12
Lane Config	L	L	L		R			
v (vph)	17	173	40		194			
C(m) (vph)	981	886	138		546			
v/c	0.02	0.20	0.29		0.36			
95% queue length	0.05	0.72	1.12		1.60			
Control Delay	8.7	10.0+	41.4		15.2			
LOS	A	B	E		C			
Approach Delay				19.7				
Approach LOS				C				

TWO-WAY STOP CONTROL SUMMARY

Analyst: R.H.
 Agency/Co.: JCE
 Date Performed: SEPTEMBER 2010
 Analysis Time Period: PEAK AM HOUR
 Intersection: NYS ROUTE 94 & FORD DRIVEWAY
 Jurisdiction:
 Units: U. S. Customary
 Analysis Year: 2010 EXISTING TRAFFIC VOLUMES
 Project ID: 1453AMEX3
 East/West Street: NYS ROUTE 94
 North/South Street: FORD DEALER DRIVEWAY
 Intersection Orientation: EW Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street:	Approach Movement	Eastbound				Westbound		
		1 L	2 T	3 R	4 L	5 T	6 R	
Volume		403	5	5	374			
Peak-Hour Factor, PHF		0.90	0.90	0.90	0.90			
Hourly Flow Rate, HFR		447	5	5	415			
Percent Heavy Vehicles		--	--	2	--	--		
Median Type/Storage		Undivided		/				
RT Channelized?								
Lanes		1	0		0	1		
Configuration			TR		LT			
Upstream Signal?		No			No			

Minor Street:	Approach Movement	Northbound			Southbound		
		7 L	8 T	9 R	10 L	11 T	12 R
Volume		5	5				
Peak Hour Factor, PHF		0.90	0.90				
Hourly Flow Rate, HFR		5	5				
Percent Heavy Vehicles		2	2				
Percent Grade (%)		0	0				
Flared Approach: Exists?/Storage		No	/		/		
Lanes		0	0				
Configuration			LR				

Delay, Queue Length, and Level of Service

Approach Movement	EB 1	WB 4	Northbound			Southbound		
			7	8	9	10	11	12
Lane Config		LT		LR				
v (vph)		5		10				
C(m) (vph)		1109		419				
v/c		0.00		0.02				
95% queue length		0.01		0.07				
Control Delay		8,3		13.8				
LOS		A		B				
Approach Delay				13.8				
Approach LOS				B				

TWO-WAY STOP CONTROL SUMMARY

Analyst: R.H.
 Agency/Co.: JCE
 Date Performed: SEPTEMBER 2010
 Analysis Time Period: PEAK PM HOUR
 Intersection: NYS ROUTE 94 & FORD DRIVEWAY
 Jurisdiction:
 Units: U. S. Customary
 Analysis Year: 2010 EXISTING TRAFFIC VOLUMES
 Project ID: 1453PMEX3
 East/West Street: NYS ROUTE 94
 North/South Street: FORD DEALER DRIVEWAY
 Intersection Orientation: EW
 Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street:	Approach Movement	Eastbound				Westbound	
		1 L	2 T	3 R	4 L	5 T	6 R
Volume			596	5	5	571	
Peak-Hour Factor, PHF			0.90	0.90	0.90	0.90	
Hourly Flow Rate, HFR			662	5	5	634	
Percent Heavy Vehicles			--	--	2	--	--
Median Type/Storage		Undivided		/			
RT Channelized?							
Lanes		1	0		0	1	
Configuration			TR		LT		
Upstream Signal?		No				No	

Minor Street:	Approach Movement	Northbound			Southbound		
		7 L	8 T	9 R	10 L	11 T	12 R
Volume		5		5			
Peak Hour Factor, PHF		0.90		0.90			
Hourly Flow Rate, HFR		5		5			
Percent Heavy Vehicles		2		2			
Percent Grade (%)			0			0	
Flared Approach: Exists?/Storage				No	/		/
Lanes		0		0			
Configuration			LR				

Delay, Queue Length, and Level of Service

Approach Movement	EB 1	WB 4	Northbound			Southbound		
			7	8	9	10	11	12
Lane Config		LT		LR				
v (vph)		5		10				
C(m) (vph)		923		254				
v/c		0.01		0.04				
95% queue length		0.02		0.12				
Control Delay		8.9		19.8				
LOS		A		C				
pproach Delay				19.8				
Approach LOS				C				

TWO-WAY STOP CONTROL SUMMARY

Analyst: R.H.
 Agency/Co.: JCE
 Date Performed: SEPTEMBER 2010
 Analysis Time Period: PEAK SATURDAY HOUR
 Intersection: NYS ROUTE 94 & FORD DRIVEWAY
 Jurisdiction:
 Units: U. S. Customary
 Analysis Year: 2010 EXISTING TRAFFIC VOLUMES
 Project ID: 1453SATEX3
 East/West Street: NYS ROUTE 94
 North/South Street: FORD DEALER DRIVEWAY
 Intersection Orientation: EW Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street:	Approach Movement	Eastbound				Westbound		
		1 L	2 T	3 R	4 L	5 T	6 R	
Volume		614	5	5	585			
Peak-Hour Factor, PHF		0.90	0.90	0.90	0.90			
Hourly Flow Rate, HFR		682	5	5	650			
Percent Heavy Vehicles		--	--	2	--	--		
Median Type/Storage		Undivided				/		
RT Channelized?								
Lanes		1	0		0	1		
Configuration			TR		LT			
Upstream Signal?		No			No			

Minor Street:	Approach Movement	Northbound			Southbound		
		7 L	8 T	9 R	10 L	11 T	12 R
Volume		5		5			
Peak Hour Factor, PHF		0.90		0.90			
Hourly Flow Rate, HFR		5		5			
Percent Heavy Vehicles		2		2			
Percent Grade (%)			0			0	
Flared Approach: Exists?/Storage				No	/		/
Lanes		0		0			
Configuration			LR				

Delay, Queue Length, and Level of Service

Approach Movement	EB 1	WB 4	Northbound			Southbound		
			7	8	9	10	11	12
Lane Config		LT		LR				
v (vph)		5		10				
C(m) (vph)		907		242				
v/c		0.01		0.04				
95% queue length		0.02		0.13				
Control Delay		9.0		20.5				
LOS		A		C				
Approach Delay				20.5				
Approach LOS				C				

TWO-WAY STOP CONTROL SUMMARY

Analyst: R.H.
 Agency/Co.: JCE
 Date Performed: SEPTEMBER 2010
 Analysis Time Period: PEAK AM HOUR
 Intersection: NYS ROUTE 94 & FORD DRIVEWAY
 Jurisdiction:
 Units: U. S. Customary
 Analysis Year: 2013 NO-BUILD TRAFFIC VOLUMES
 Project ID: 1453AMNB3
 East/West Street: NYS ROUTE 94
 North/South Street: FORD DEALER DRIVEWAY
 Intersection Orientation: EW
 Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street:	Approach Movement	Eastbound				Westbound	
		1 L	2 T	3 R	4 L	5 T	6 R
Volume		476	5	5	423		
Peak-Hour Factor, PHF		0.90	0.90	0.90	0.90		
Hourly Flow Rate, HFR		528	5	5	470		
Percent Heavy Vehicles		--	--	2	--	--	
Median Type/Storage		Undivided		/			
RT Channelized?							
Lanes		1	0		0	1	
Configuration			TR		LT		
Upstream Signal?		No			No		

Minor Street:	Approach Movement	Northbound			Southbound		
		7 L	8 T	9 R	10 L	11 T	12 R
Volume		5	5				
Peak Hour Factor, PHF		0.90	0.90				
Hourly Flow Rate, HFR		5	5				
Percent Heavy Vehicles		2	2				
Percent Grade (%)		0	0		0		
Flared Approach: Exists?/Storage			No	/		/	
Lanes		0	0				
Configuration			LR				

Delay, Queue Length, and Level of Service

Approach Movement	EB	WB	Northbound			Southbound		
			4 LT	7 	8 LR	9 	10 	11
v (vph)		5		10				
C(m) (vph)		1035		357				
v/c		0.00		0.03				
95% queue length		0.01		0.09				
Control Delay		8.5		15.4				
LOS		A		C				
Approach Delay				15.4				
Approach LOS				C				

TWO-WAY STOP CONTROL SUMMARY

Analyst: R.H.
 Agency/Co.: JCE
 Date Performed: SEPTEMBER 2010
 Analysis Time Period: PEAK PM HOUR
 Intersection: NYS ROUTE 94 & FORD DRIVEWAY
 Jurisdiction:
 Units: U. S. Customary
 Analysis Year: 2013 NO-BUILD TRAFFIC VOLUMES
 Project ID: 1453PMNB3
 East/West Street: NYS ROUTE 94
 North/South Street: FORD DEALER DRIVEWAY
 Intersection Orientation: EW Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street:	Approach Movement	Eastbound				Westbound		
		1 L	2 T	3 R	4 L	5 T	6 R	
Volume		742	5	5	710			
Peak-Hour Factor, PHF		0.90	0.90	0.90	0.90			
Hourly Flow Rate, HFR		824	5	5	788			
Percent Heavy Vehicles		--	--	2	--	--		
Median Type/Storage		Undivided		/				
RT Channelized?								
Lanes		1	0		0	1		
Configuration			TR		LT			
Upstream Signal?		No			No			

Minor Street:	Approach Movement	Northbound			Southbound		
		7 L	8 T	9 R	10 L	11 T	12 R
Volume		5	5				
Peak Hour Factor, PHF		0.90	0.90				
Hourly Flow Rate, HFR		5	5				
Percent Heavy Vehicles		2	2				
Percent Grade (%)		0			0		
Flared Approach: Exists?/Storage			No	/		/	
Lanes		0	0				
Configuration			LR				

Delay, Queue Length, and Level of Service

Approach Movement	EB 1	WB 4	Northbound			Southbound		
			7	8	9	10	11	12
Lane Config		LT		LR				
v (vph)		5		10				
C(m) (vph)		803		172				
v/c		0.01		0.06				
95% queue length		0.02		0.18				
Control Delay		9.5		27.2				
LOS		A		D				
Approach Delay				27.2				
Approach LOS				D				

TWO-WAY STOP CONTROL SUMMARY

Analyst: R.H.
 Agency/Co.: JCE
 Date Performed: SEPTEMBER 2010
 Analysis Time Period: PEAK SATURDAY HOUR
 Intersection: NYS ROUTE 94 & FORD DRIVEWAY
 Jurisdiction:
 Units: U. S. Customary
 Analysis Year: 2013 NO-BUILD TRAFFIC VOLUMES
 Project ID: 1453SATNB3
 East/West Street: NYS ROUTE 94
 North/South Street: FORD DEALER DRIVEWAY
 Intersection Orientation: EW Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street:	Approach Movement	Eastbound				Westbound	
		1 L	2 T	3 R	4 L	5 T	6 R
Volume		765	5	5	695		
Peak-Hour Factor, PHF		0.90	0.90	0.90	0.90		
Hourly Flow Rate, HFR		850	5	5	772		
Percent Heavy Vehicles		--	--	2	--	--	
Median Type/Storage	TWLTL			/	1		
RT Channelized?							
Lanes		1	0		0	1	
Configuration			TR		LT		
Upstream Signal?		No			No		

Minor Street:	Approach Movement	Northbound			Southbound		
		7 L	8 T	9 R	10 L	11 T	12 R
Volume		5	5				
Peak Hour Factor, PHF		0.90	0.90				
Hourly Flow Rate, HFR		5	5				
Percent Heavy Vehicles		2	2				
Percent Grade (%)		0	0		0		
Flared Approach: Exists?/Storage			No	/		/	
Lanes		0	0				
Configuration			LR				

Delay, Queue Length, and Level of Service

Approach Movement	EB	WB	Northbound			Southbound				
			4	7	8	9	10	11	12	
Lane Config	1	4 LT		7	8 LR	9		10	11	12
v (vph)		5		10						
C(m) (vph)		785		293						
v/c		0.01		0.03						
95% queue length		0.02		0.11						
Control Delay		9.6		17.7						
LOS		A		C						
Approach Delay				17.7						
Approach LOS				C						

TWO-WAY STOP CONTROL SUMMARY

Analyst: R.H.
 Agency/Co.: JCE
 Date Performed: SEPTEMBER 2010
 Analysis Time Period: PEAK AM HOUR
 Intersection: NYS ROUTE 94 & FORD/SITE
 Jurisdiction:
 Units: U. S. Customary
 Analysis Year: 2013 BUILD TRAFFIC VOLUMES
 Project ID: 1453AMB3
 East/West Street: NYS ROUTE 94
 North/South Street: FORD DEALER DRIVEWAY/SITE
 Intersection Orientation: EW Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street: Approach Movement	Eastbound				Westbound		
	1 L	2 T	3 R	4 L	5 T	6 R	
Volume	26	473	5	5	419	39	
Peak-Hour Factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	
Hourly Flow Rate, HFR	28	525	5	5	465	43	
Percent Heavy Vehicles	2	--	--	2	--	--	
Median Type/Storage	TWLTL			/ 1			
RT Channelized?							
Lanes Configuration	0	1	0	0	1	0	
Upstream Signal?	LTR No			LTR No			

Minor Street: Approach Movement	Northbound			Southbound			
	7 L	8 T	9 R	10 L	11 T	12 R	
Volume	5	0	5	14	0	12	
Peak Hour Factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	
Hourly Flow Rate, HFR	5	0	5	15	0	13	
Percent Heavy Vehicles	2	2	2	2	2	2	
Percent Grade (%)	0		0				
Flared Approach: Exists?/Storage			No	/	No		/
Lanes Configuration	0	1	0	0	1	0	
	LTR			LTR			

Delay, Queue Length, and Level of Service

Approach Movement Lane Config	EB	WB	Northbound			Southbound		
	1 LTR	4 LTR	7 	8 LTR	9 	10 	11 LTR	12
v (vph)	28	5		10			28	
C(m) (vph)	1057	1037		395			401	
v/c	0.03	0.00		0.03			0.07	
95% queue length	0.08	0.01		0.08			0.22	
Control Delay	8.5	8.5		14.4			14.7	
LOS	A	A		B			B	
Approach Delay				14.4			14.7	
Approach LOS				B			B	

TWO-WAY STOP CONTROL SUMMARY

Analyst: R.H.
 Agency/Co.: JCE
 Date Performed: SEPTEMBER 2010
 Analysis Time Period: PEAK PM HOUR
 Intersection: NYS ROUTE 94 & FORD/SITE
 Jurisdiction:
 Units: U. S. Customary
 Analysis Year: 2013 BUILD TRAFFIC VOLUMES
 Project ID: 1453PMB3
 East/West Street: NYS ROUTE 94
 North/South Street: FORD DEALER DRIVEWAY/SITE
 Intersection Orientation: EW Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street:	Approach Movement	Eastbound				Westbound	
		1 L	2 T	3 R	4 L	5 T	6 R
Volume		37	733	5	5	697	56
Peak-Hour Factor, PHF		0.90	0.90	0.90	0.90	0.90	0.90
Hourly Flow Rate, HFR		41	814	5	5	774	62
Percent Heavy Vehicles		2	--	--	2	--	--
Median Type/Storage		TWLTL		/ 1			
RT Channelized?							
Lanes Configuration		0	1	0	0	1	0
Upstream Signal?		LTR		LTR			
		No		No			

Minor Street:	Approach Movement	Northbound			Southbound		
		7 L	8 T	9 R	10 L	11 T	12 R
Volume		5	0	5	70	0	53
Peak Hour Factor, PHF		0.90	0.90	0.90	0.90	0.90	0.90
Hourly Flow Rate, HFR		5	0	5	77	0	58
Percent Heavy Vehicles		2	2	2	2	2	2
Percent Grade (%)			0			0	
Flared Approach: Exists?/Storage				No	/	No /	
Lanes Configuration		0	1	0	0	1	0
		LTR		LTR			

Delay, Queue Length, and Level of Service

Approach Movement	EB	WB	Northbound			Southbound	
	1	4	7	8	9	10	11 12
Lane Config	LTR	LTR	LTR			LTR	
v (vph)	41	5		10			135
C(m) (vph)	798	810		220			301
v/c	0.05	0.01		0.05			0.45
95% queue length	0.16	0.02		0.14			2.21
Control Delay	9.8	9.5		22.1			26.3
LOS	A	A		C			D
pproach Delay				22.1			26.3
Approach LOS				C			D

TWO-WAY STOP CONTROL SUMMARY

Analyst: R.H.
 Agency/Co.: JCE
 Date Performed: SEPTEMBER 2010
 Analysis Time Period: PEAK SATURDAY HOUR
 Intersection: NYS ROUTE 94 & FORD/SITE
 Jurisdiction:
 Units: U. S. Customary
 Analysis Year: 2013 BUILD TRAFFIC VOLUMES
 Project ID: 1453SATB3
 East/West Street: NYS ROUTE 94
 North/South Street: FORD DEALER DRIVEWAY/SITE
 Intersection Orientation: EW Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street: Approach Movement	Eastbound				Westbound		
	1 L	2 T	3 R	4 L	5 T	6 R	
Volume	50	753	5	5	676	77	
Peak-Hour Factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	
Hourly Flow Rate, HFR	55	836	5	5	751	85	
Percent Heavy Vehicles	2	--	--	2	--	--	
Median Type/Storage	TWTTL			/ 1			
RT Channelized?							
Lanes	0	1	0		0	1	0
Configuration	LTR			LTR			
Upstream Signal?	No			No			

Minor Street: Approach Movement	Northbound			Southbound			
	7 L	8 T	9 R	10 L	11 T	12 R	
Volume	5	0	5	70	0	57	
Peak Hour Factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	
Hourly Flow Rate, HFR	5	0	5	77	0	63	
Percent Heavy Vehicles	2	2	2	2	2	2	
Percent Grade (%)		0			0		
Flared Approach: Exists?/Storage			No	/		No	/
Lanes	0	1	0		0	1	0
Configuration	LTR			LTR			

Delay, Queue Length, and Level of Service

Approach Movement	EB	WB	Northbound			Southbound		
	1	4	7	8	9	10	11	12
Lane Config	LTR	LTR	LTR			LTR		
v (vph)	55	5		10			140	
C(m) (vph)	798	794		205			293	
v/c	0.07	0.01		0.05			0.48	
95% queue length	0.22	0.02		0.15			2.44	
Control Delay	9.8	9.6		23.5			28.0	
LOS	A	A		C			D	
Approach Delay				23.5			28.0	
Approach LOS				C			D	

HCS+: Signalized Intersections Release 5.3

Analyst: R.H.
 Agency: JCE
 Date: SEPTEMBER 2010
 Period: PEAK AM HOUR
 Project ID: 1453AMEX4
 E/W St: NYS ROUTE 94

Inter.: NYS ROUTE 94 & PRICE CHOPPERS
 Area Type: All other areas
 Jurisd:
 Year : 2010 EXISTING TRAFFIC VOLUMES
 N/S St: PRICE CHOPPERS DRIVEWAY

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	1	0	0	1	1	0	0	0	1	0	1
LGConfig	L	T			T	R				L		R
Volume	15	393			368	20				13		11
Lane Width	11.0	11.0			11.0	11.0				12.0		12.0
RTOR Vol						0						0

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A			NB Left			
Thru	P	P			Thru			
Right					Right			
Peds					Peds			
WB Left					SB Left	A		
Thru		P			Thru			
Right		P			Right	A		
Peds					Peds			
NB Right					EB Right			
B Right					WB Right	P		
Green	9.0	40.0				26.0		
Yellow	3.0	3.0				3.0		
All Red	2.0	2.0				2.0		

Cycle Length: 90.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	496	1668	0.03	0.60	8.3	A		
T	1054	1756	0.39	0.60	10.5	B	10.4	B
Westbound								
T	792	1783	0.48	0.44	19.8	B	18.9	B
R	1195	1515	0.02	0.79	2.1	A		
Northbound								
Southbound								
L	511	1770	0.03	0.29	23.0	C		
R	457	1583	0.02	0.29	22.9	C	22.9	C
Intersection Delay = 14.8			(sec/veh)		Intersection LOS = B			

HCS+: Signalized Intersections Release 5.3

Analyst: R.H.
 Agency: JCE
 Date: SEPTEMBER 2010
 Period: PEAK PM HOUR
 Project ID: 1453PMEX4
 E/W St: NYS ROUTE 94

Inter.: NYS ROUTE 94 & PRICE CHOPPERS
 Area Type: All other areas
 Jurisd:
 Year : 2010 EXISTING TRAFFIC VOLUMES
 N/S St: PRICE CHOPPERS DRIVEWAY

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	1	0	0	1	1	0	0	0	1	0	1
LGConfig	L	T			T	R				L		R
Volume	25	576			539	58				60		37
Lane Width	11.0	11.0			11.0	11.0				12.0		12.0
RTOR Vol						0						0

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left	A	A			NB Left			
Thru	P	P			Thru			
Right					Right			
Peds					Peds			
WB Left					SB Left	A		
Thru		P			Thru			
Right		P			Right	A		
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right	P		
Green	6.0	47.0				22.0		
Yellow	3.0	3.0				3.0		
All Red	2.0	2.0				2.0		

Cycle Length: 90.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	399	1668	0.07	0.64	8.0	A		
T	1132	1756	0.53	0.64	10.4	B	10.3	B
Westbound								
T	931	1783	0.60	0.52	17.9	B	16.3	B
R	1246	1515	0.05	0.82	1.6	A		
Northbound								
Southbound								
L	433	1770	0.15	0.24	26.8	C	26.7	C
R	387	1583	0.10	0.24	26.5	C		
Intersection Delay = 14.3 (sec/veh)					Intersection LOS = B			

HCS+: Signalized Intersections Release 5.3

Analyst: R.H.
 Agency: JCE
 Date: SEPTEMBER 2010
 Period: PEAK SATURDAY HOUR
 Project ID: 1453SATEX4
 E/W St: NYS ROUTE 94

Inter.: NYS ROUTE 94 & PRICE CHOPPERS
 Area Type: All other areas
 Jurisd:
 Year : 2010 EXISTING TRAFFIC VOLUMES
 N/S St: PRICE CHOPPERS DRIVEWAY

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	1	0	0	1	1	0	0	0	1	0	1
LGConfig	L	T			T	R				L		R
Volume	40	579			523	98				67		67
Lane Width	11.0	11.0			11.0	11.0				12.0		12.0
RTOR Vol						0						0

Duration	0.25	Area Type: All other areas									
Signal Operations											
Phase Combination	1	2	3	4	5	6	7	8			
EB Left	A	A			NB Left						
Thru	P	P			Thru						
Right					Right						
Peds					Peds						
WB Left					SB Left	A					
Thru		P			Thru						
Right		P			Right	A					
Peds					Peds						
NB Right					EB Right						
WB Right					WB Right	P					
Green	6.0	47.0				22.0					
Yellow	3.0	3.0				3.0					
All Red	2.0	2.0				2.0					

Cycle Length: 90.0 secs

Intersection Performance Summary

Appr/Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	410	1668	0.10	0.64	8.0	A		
T	1132	1756	0.53	0.64	10.5	B	10.3	B
Westbound								
T	931	1783	0.59	0.52	17.5	B	15.0	B
R	1246	1515	0.08	0.82	1.7	A		
Northbound								
Southbound								
L	433	1770	0.16	0.24	26.9	C	27.0	C
R	387	1583	0.18	0.24	27.1	C		
Intersection Delay = 14.1 (sec/veh)					Intersection LOS = B			

HCS+: Signalized Intersections Release 5.3

Analyst: R.H.
 Agency: JCE
 Date: SEPTEMBER 2010
 Period: PEAK AM HOUR
 Project ID: 1453AMNB4
 E/W St: NYS ROUTE 94

Inter.: NYS ROUTE 94 & PRICE CHOPPERS
 Area Type: All other areas
 Jurisd:
 Year : 2013 NO-BUILD TRAFFIC VOLUMES
 N/S St: PRICE CHOPPERS DRIVEWAY

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	1	0	0	1	1	0	0	0	1	0	1
LGConfig	L	T			T	R				L		R
Volume	57	425			392	85				55		37
Lane Width	11.0	11.0			11.0	11.0				12.0		12.0
RTOR Vol						0						0

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A			NB Left			
Thru		P			Thru			
Right					Right			
Peds					Peds			
WB Left					SB Left	A		
Thru			P		Thru			
Right			P		Right	A		
Peds					Peds			
NB Right					EB Right			
WB Right					WB Right	P		
Green	9.0	40.0			26.0			
Yellow	3.0	3.0			3.0			
All Red	2.0	2.0			2.0			

Cycle Length: 90.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	477	1668	0.12	0.60	8.9	A		
T	1054	1756	0.42	0.60	10.9	B	10.6	B
Westbound								
T	792	1783	0.52	0.44	20.4	C	17.2	B
R	1195	1515	0.07	0.79	2.3	A		
Northbound								
Southbound								
L	511	1770	0.11	0.29	23.6	C		
R	457	1583	0.09	0.29	23.4	C	23.5	C
Intersection Delay = 14.7 (sec/veh)					Intersection LOS = B			

HCS+: Signalized Intersections Release 5.3

Analyst: R.H.
 Agency: JCE
 Date: SEPTEMBER 2010
 Period: PEAK PM HOUR
 Project ID: 1453PMNB4
 E/W St: NYS ROUTE 94

Inter.: NYS ROUTE 94 & PRICE CHOPPERS
 Area Type: All other areas
 Jurisd:
 Year : 2013 NO-BUILD TRAFFIC VOLUMES
 N/S St: PRICE CHOPPERS DRIVEWAY

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	1	0	0	1	1	0	0	0	1	0	1
LGConfig	L	T			T	R				L		R
Volume	175	573			517	264				244		198
Lane Width	11.0	11.0			11.0	11.0				12.0		12.0
RTOR Vol						0						0

Duration	0.25	Area Type: All other areas							
Signal Operations									
Phase Combination	1	2	3	4	5	6	7	8	
EB Left		A			NB Left				
Thru		P			Thru				
Right					Right				
Peds					Peds				
WB Left					SB Left	A			
Thru			P		Thru				
Right			P		Right	A			
Peds					Peds				
NB Right					EB Right				
WB Right					WB Right	P			
Green	9.0	40.0				26.0			
Yellow	3.0	3.0				3.0			
All Red	2.0	2.0				2.0			
Cycle Length: 90.0 secs									

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	381	1668	0.48	0.60	12.3	B		
T	1054	1756	0.57	0.60	13.1	B	12.9	B
Westbound								
T	792	1783	0.68	0.44	24.6	C	17.3	B
R	1195	1515	0.23	0.79	2.9	A		
Northbound								
Southbound								
L	511	1770	0.50	0.29	27.3	C		
R	457	1583	0.45	0.29	26.9	C	27.1	C
Intersection Delay = 17.8 (sec/veh) Intersection LOS = B								

HCS+: Signalized Intersections Release 5.3

Analyst: R.H.
 Agency: JCE
 Date: SEPTEMBER 2010
 Period: PEAK SATURDAY HOUR
 Project ID: 1453SATNB4
 E/W St: NYS ROUTE 94

Inter.: NYS ROUTE 94 & PRICE CHOPPERS
 Area Type: All other areas
 Jurisd:
 Year : 2013 NO-BUILD TRAFFIC VOLUMES
 N/S St: PRICE CHOPPERS DRIVEWAY

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	1	0	0	1	1	0	0	0	1	0	1
LGConfig	L	T			T	R				L		R
Volume	185	585			496	279				245		204
Lane Width	11.0	11.0			11.0	11.0				12.0		12.0
RTOR Vol						0						0

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left	A	A			NB Left			
Thru	P	P			Thru			
Right					Right			
Peds					Peds			
WB Left					SB Left	A		
Thru		P			Thru			
Right		P			Right	A		
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right	P		
Green	9.0	40.0			26.0			
Yellow	3.0	3.0			3.0			
All Red	2.0	2.0			2.0			

Cycle Length: 90.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS

Eastbound

L	396	1668	0.49	0.60	12.0	B		
T	1054	1756	0.58	0.60	13.3	B	13.0	B

Westbound

T	792	1783	0.65	0.44	23.7	C	16.3	B
R	1195	1515	0.24	0.79	3.0	A		

Northbound

Southbound

L	511	1770	0.50	0.29	27.4	C		
R	457	1583	0.47	0.29	27.1	C	27.2	C

Intersection Delay = 17.5 (sec/veh) Intersection LOS = B

HCS+: Signalized Intersections Release 5.3

Analyst: R.H.
 Agency: JCE
 Date: SEPTEMBER 2010
 Period: PEAK AM HOUR
 Project ID: 1453AMB4
 E/W St: NYS ROUTE 94

Inter.: NYS ROUTE 94 & PRICE CHOPPERS
 Area Type: All other areas
 Jurisd:
 Year : 2013 BUILD TRAFFIC VOLUMES
 N/S St: PRICE CHOPPERS DRIVEWAY

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	1	0	0	1	1	0	0	0	1	0	1
LGConfig	L	T			T	R				L		R
Volume	57	436			427	85				55		37
Lane Width	11.0	11.0			11.0	11.0				12.0		12.0
RTOR Vol						0						0

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left	A	A			NB Left			
Thru	P	P			Thru			
Right					Right			
Peds					Peds			
WB Left					SB Left	A		
Thru		P			Thru			
Right		P			Right	A		
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right	P		
Green	9.0	40.0				26.0		
Yellow	3.0	3.0				3.0		
All Red	2.0	2.0				2.0		

Cycle Length: 90.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	449	1668	0.13	0.60	9.2	A		
T	1054	1756	0.43	0.60	11.0	B	10.8	B
Westbound								
T	792	1783	0.56	0.44	21.4	C	18.2	B
R	1195	1515	0.07	0.79	2.3	A		
Northbound								
Southbound								
L	511	1770	0.11	0.29	23.6	C		
R	457	1583	0.09	0.29	23.4	C	23.5	C
Intersection Delay = 15.3 (sec/veh)					Intersection LOS = B			

HCS+: Signalized Intersections Release 5.3

Analyst: R.H.
 Agency: JCE
 Date: SEPTEMBER 2010
 Period: PEAK PM HOUR
 Project ID: 1453PMB4
 E/W St: NYS ROUTE 94

Inter.: NYS ROUTE 94 & PRICE CHOPPERS
 Area Type: All other areas
 Jurisd:
 Year : 2013 BUILD TRAFFIC VOLUMES
 N/S St: PRICE CHOPPERS DRIVEWAY

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	1	0	0	1	1	0	0	0	1	0	1
LGConfig	L	T			T	R				L		R
Volume	175	633			560	264				244		198
Lane Width	11.0	11.0			11.0	11.0				12.0		12.0
RTOR Vol						0						0

Duration	0.25	Area Type: All other areas									
Signal Operations											
Phase Combination	1	2	3	4	5	6	7	8			
EB Left	A	A			NB Left						
Thru	P	P			Thru						
Right					Right						
Peds					Peds						
WB Left					SB Left	A					
Thru		P			Thru						
Right		P			Right	A					
Peds					Peds						
NB Right					EB Right						
B Right					WB Right	P					
Green	9.0	40.0				26.0					
Yellow	3.0	3.0				3.0					
All Red	2.0	2.0				2.0					

Cycle Length: 90.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	350	1668	0.52	0.60	13.6	B		
T	1054	1756	0.63	0.60	14.3	B	14.2	B
Westbound								
T	792	1783	0.74	0.44	26.7	C	19.1	B
R	1195	1515	0.23	0.79	2.9	A		
Northbound								
Southbound								
L	511	1770	0.50	0.29	27.3	C		
R	457	1583	0.45	0.29	26.9	C	27.1	C

Intersection Delay = 18.9 (sec/veh) Intersection LOS = B

HCS+: Signalized Intersections Release 5.3

Analyst: R.H.
 Agency: JCE
 Date: SEPTEMBER 2010
 Period: PEAK SATURDAY HOUR
 Project ID: 1453SATB4
 E/W St: NYS ROUTE 94

Inter.: NYS ROUTE 94 & PRICE CHOPPERS
 Area Type: All other areas
 Jurisd:
 Year : 2013 BUILD TRAFFIC VOLUMES
 N/S St: PRICE CHOPPERS DRIVEWAY

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	1	0	0	1	1	0	0	0	1	0	1
LGConfig	L	T			T	R				L		R
Volume	185	642			554	279				245		204
Lane Width	11.0	11.0			11.0	11.0				12.0		12.0
RTOR Vol						0						0

Duration	0.25	Area Type: All other areas											
Signal Operations													
Phase Combination	1	2	3	4	5	6	7	8					
EB Left		A			NB Left								
Thru		P			Thru								
Right					Right								
Peds					Peds								
WB Left					SB Left	A							
Thru			P		Thru								
Right			P		Right	A							
Peds					Peds								
NB Right					EB Right								
WB Right					WB Right	P							
Green		9.0	40.0			26.0							
Yellow		3.0	3.0			3.0							
All Red		2.0	2.0			2.0							
Cycle Length: 90.0 secs													

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	354	1668	0.55	0.60	14.0	B		
T	1054	1756	0.63	0.60	14.5	B	14.4	B
Westbound								
T	792	1783	0.73	0.44	26.4	C	18.5	B
R	1195	1515	0.24	0.79	3.0	A		
Northbound								
Southbound								
L	511	1770	0.50	0.29	27.4	C	27.2	C
R	457	1583	0.47	0.29	27.1	C		
Intersection Delay = 18.8 (sec/veh) Intersection LOS = B								

APPENDIX "D"

STANDARDS

LEVEL OF SERVICE FOR SIGNALIZED INTERSECTIONS

Level of Service (LOS) for signalized intersections is defined in terms of control delay, which is a measure of driver discomfort, frustration, fuel consumption, and increased travel time. The delay experienced by a motorist is made up of a number of factors that relate to control, geometrics, traffic, and incidents. Specifically, LOS criteria for traffic signals are stated in terms of the average control delay per vehicle, typically for a 15-minute analysis period. The criteria are given in Exhibit 16-2 from the 2000 Highway Capacity Manual published by the Transportation Research Board.

EXHIBIT 16-2

LEVEL OF SERVICE FOR SIGNALIZED INTERSECTIONS

LEVEL OF SERVICE (LOS)	CONTROL DELAY PER VEHICLE (S/VEH)
A	≤10
B	>10-20
C	>20-35
D	>35-55
E	>55-80
F	>80

LEVEL OF SERVICE A describes operations with low control delay, up to 10 seconds per vehicle (s/veh). This LOS occurs when progression is extremely favorable and most vehicles arrive during the green phase. Many vehicles do not stop at all. Short cycle lengths may tend to contribute to low delay values.

LEVEL OF SERVICE B describes operations with control delay greater than 10 and up to 20 seconds per vehicle (s/veh). This level generally occurs with good progression, short cycle lengths, or both. More vehicles stop than with Level of Service "A", causing higher levels of delay.

LEVEL OF SERVICE C describes operations with control delay greater than 20 and up to 35 seconds per vehicle (s/veh). These higher delays may result from only fair progression, longer cycle lengths, or both. Individual cycle failures may begin to appear at this level. The number of vehicles stopping is significant at this level, though many still pass through the intersection without stopping.

LEVEL OF SERVICE D describes operations with control delay greater than 35 and up to 55 seconds per vehicle (s/veh). At Level of Service D, the influence of congestion becomes more noticeable. Longer delays may result from some combination of unfavorable progression, long cycle lengths, and high v/c ratios. Many vehicles stop, and the proportion of vehicles not stopping declines. Individual cycle failures are noticeable.

LEVEL OF SERVICE E describes operations with control delay greater than 55 and up to 80 seconds per vehicle (s/veh). This is considered to be the limit of acceptable delay. These high delay values generally indicate poor progression, long cycle lengths, and high v/c ratios. Individual cycle failures are frequent.

LEVEL OF SERVICE F describes operations with control delay in excess of 80 seconds per vehicle (s/veh). This level is considered unacceptable to most drivers, often occurs with oversaturation, that is, when arrival flow rates exceed the capacity of the groups. It may also occur at high v/c ratios with many individual cycle failures. Poor progression and long cycle lengths may also contribute significantly to high delay levels.

LEVEL OF SERVICE CRITERIA FOR UNSIGNALIZED INTERSECTIONS

The Level of Service (LOS) for unsignalized intersections is determined by the computed or measured control delay and is defined for each minor movement. Control delay is defined as the total elapsed time a vehicle stops at the end of the queue to the time the vehicle departs from the stop line. This total elapsed time includes the time required for the vehicle to travel from the last-in-queue position to the first-in-queue position, including deceleration of vehicles from free-flow speed to speed of vehicles in queue. Average control delay for any particular minor movement is a function of the capacity of the approach and the degree of saturation. The Level of Service Criteria are given in Exhibit 17-2 from the 2000 Highway Capacity Manual published by the Transportation Research Board.

EXHIBIT 17-2

LEVEL OF SERVICE FOR CRITERIA
FOR UNSIGNALIZED INTERSECTIONS

LEVEL OF SERVICE (LOS)	AVERAGE CONTROL DELAY (S/VEH)
A	0-10
B	>10-15
C	>15-25
D	>25-35
E	>35-50
F	>50

The Level of Service Criteria for unsignalized intersections are somewhat different from the criteria for signalized intersections.

JOHN COLLINS ENGINEERS, P.C.

TRAFFIC • TRANSPORTATION ENGINEERS

===== 11 BRADHURST AVENUE • HAWTHORNE, N.Y. • 10532 • (914) 347-7500 • FAX (914) 347-7266 =====

January 31, 2012

Mr. David A. Getz, P.E.
Lehman & Getz, P.C.
17 River Street
Warwick, NY 10990

RE: Fairgrounds Development
NYS Route 94
Warwick, New York

Dear Mr. Getz:

We are in receipt of the most recent site plan for the above development, which now calls for some minor modifications to the retail building sizes and also provides more specifics relative to the expected tenants. We have completed a review of this and made a comparison with the original report from June 2004 to determine if these changes are consistent with the previous traffic analysis and SEQRA review for the project. Table No. 1 from the original report is attached, which summarized the trip generation for the site plan that was proposed at that time and studied as part of SEQRA.

We have had the opportunity to collect actual turning movement traffic counts at the site driveway connection to Route 94 to determine the peak traffic generation during the Weekday PM and Saturday Peak Hours. The counts were collected on Wednesday, January 25th from 4:00PM to 6:15PM and on Saturday, January 28th from 11:00AM to 2:00PM. These traffic counts account for the traffic generation for the currently operating Price Chopper and Auto Zone facilities. Copies of the peak hour traffic volumes at that intersection are attached on Figures No. 1 and 2. We have also prepared a summary table indicating the entry and exit volumes for the occupied buildings and prepared estimates of the additional trips for the remaining uses on the site including the drive-in

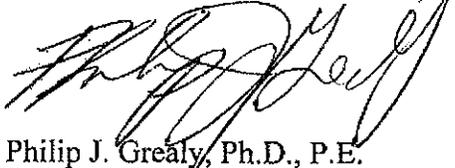
bank, sit-down restaurant, Mavis Tire and Auto and remaining retail space based on the latest *ITE Trip Generation Handbook*, 8th Edition, 2008. Table No. 1-S summarizes the trip generation based on the existing observed traffic volumes and the remaining expected traffic generation for the currently proposed site plan. As can be seen from a comparison of this table with Table No. 1 from the original study, the expected volumes for the proposed plan will be less than previously analyzed in the original traffic study evaluated in SEQRA.

We have also completed a capacity analysis for the driveway connection to NYS Route 94 utilizing the *2010 Highway Capacity Manual* procedures. Copies of the analyses for the Weekday PM Peak Highway Hour and Saturday Peak Hour are attached. A review of these analyses indicate that with the previously constructed site access improvements including separate left and right turn lanes and signalization, the intersection currently and will continue to operate in the future at Levels of Service "C" or better during these time periods.

Based on the above information, the proposed site plan changes will not result in a significant change in the traffic generation, in fact, it will be slightly lower than analyzed in the original traffic impact studies.

Sincerely,

JOHN COLLINS ENGINEERS, P.C.

A handwritten signature in black ink, appearing to read "Philip J. Grealy", is written over the typed name below.

Philip J. Grealy, Ph.D., P.E.

TABLE NO. 1
HOURLY TRIP GENERATION RATES (HTGR) AND ANTICIPATED
SITE GENERATED TRAFFIC VOLUMES

THE FAIRGROUNDS DEVELOPMENT	ENTRY			EXIT		
	HTGR*	VOLUME	25% PASS BY	HTGR*	VOLUME	25% PASS BY
SUPERMARKET 56,429 S.F.						
PEAK PM HOUR	5.37	303	227	5.18	291	218
PEAK SAT HOUR	5.74	324	243	5.53	312	234
CAR DEALERSHIP 22,720 S.F.						
PEAK PM HOUR	1.19	27	20	1.85	42	32
PEAK SAT HOUR	1.50	34	26	1.45	33	25
DRIVE - IN BANK 3,600 S.F.						
PEAK PM HOUR	22.87	82	62	22.87	82	62
PEAK SAT HOUR	18.91	68	51	18.17	65	49
TOTALS						
PEAK AM HOUR	-	412	309	-	415	311
PEAK PM HOUR	-	426	320	-	410	308

NOTES:

- 1) * THE HOURLY TRIP GENERATION RATES (HTGR) ARE BASED ON DATA PUBLISHED BY THE INSTITUTE OF TRANSPORTATION ENGINEERS (ITE) AS CONTAINED IN THE TRIP GENERATION HANDBOOK, 7TH EDITION, 2003. ITE LAND USE CODE - 850 - SUPERMARKET, 841 - CAR DEALER, 912 - DRIVE - IN BANK, & 814 - SPECIALTY RETAIL.
- 2) THE NEW TRIPS REPRESENT A 25% CREDIT FOR PASS-BY TRIPS DUE TO THE ATTRACTION OF A PORTION OF TRIPS FROM THE EXISTING TRAFFIC STREAM.

TABLE 1S

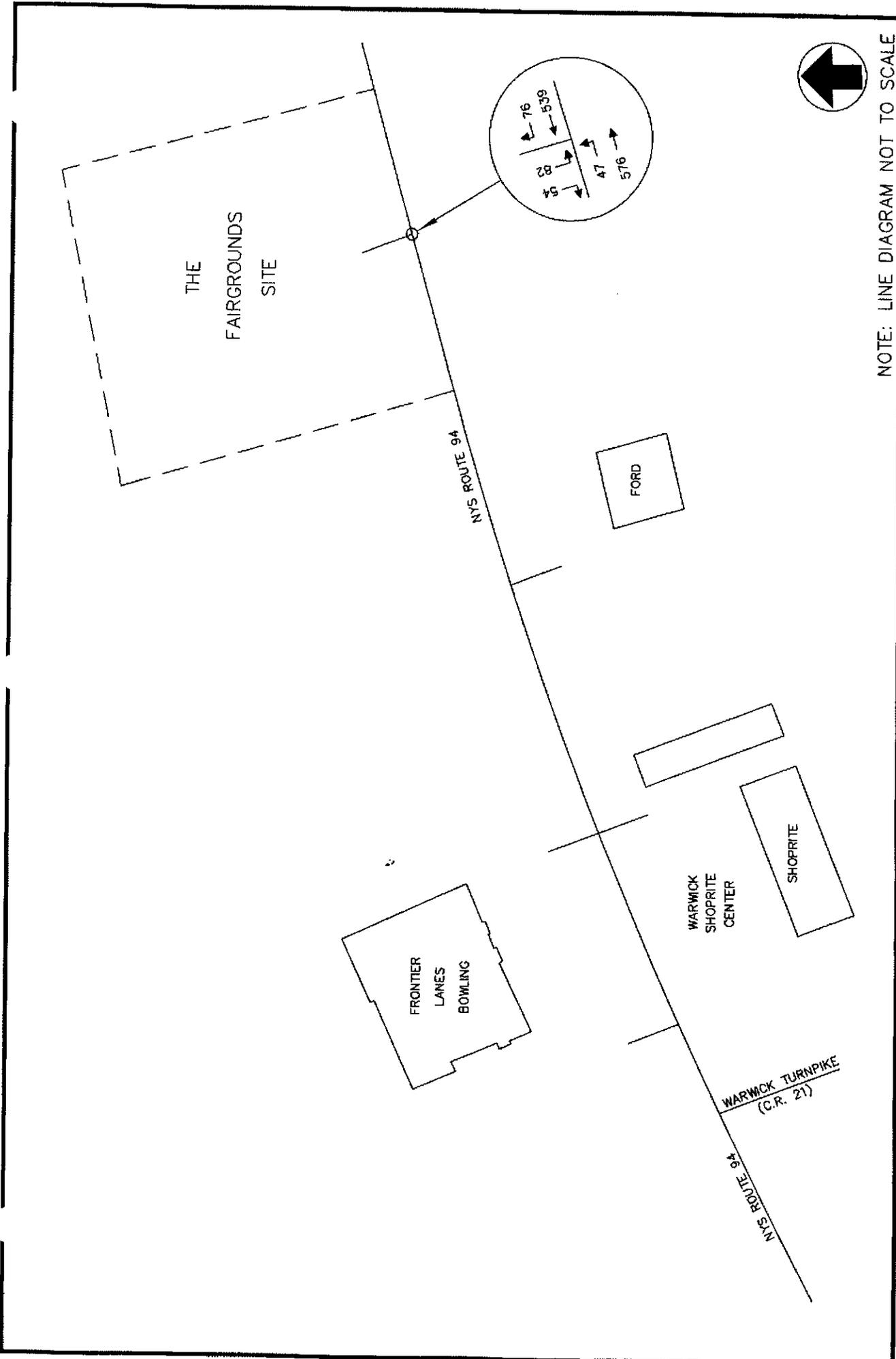
**HOURLY TRIP GENERATION RATES (HTGR) AND ANTICIPATED
SITE GENERATED TRAFFIC VOLUMES
(SITE PLAN DATED 1/9/12)**

FAIRGROUNDS UPDATE WARWICK, NY	ENTRY			EXIT		
	HTGR*	VOLUME	NEW TRIPS	HTGR*	VOLUME	NEW TRIPS
EXISTING PRICE CHOPPER (56,038 S.F.) AUTO ZONE (6,785 S.F.)						
PEAK PM HOUR	-	76	76	-	136	136
PEAK SATURDAY HOUR	-	154	154	-	154	154
BANK W/ DRIVE THRU (4,766 S.F.)						
PEAK PM HOUR	12.91	62	47	12.91	62	47
PEAK SATURDAY HOUR	13.80	66	50	12.73	61	46
HIGH TURNOVER-RESTAURANT (4,500 S.F.)						
PEAK PM HOUR	6.58	30	23	4.57	21	16
PEAK SATURDAY HOUR	7.46	34	26	6.61	30	23
RETAIL (5,042 S.F.)						
PEAK PM HOUR	3.36	17	13	3.36	17	13
PEAK SATURDAY HOUR	4.54	23	17	4.54	23	17
TIRE STORE (7,500 S.F.)						
PEAK PM HOUR	1.34	13	10	1.77	18	14
PEAK SATURDAY HOUR	1.78	18	14	2.01	20	15
TOTALS						
PEAK PM HOUR	-	198	168	-	254	225
PEAK SATURDAY HOUR	-	295	260	-	288	255

NOTES:

1) EXISTING VOLUMES ARE BASED ON COUNTS COLLECTED IN JANUARY, 2012 AT THE SITE DRIVEWAY. TRIP GENERATION RATES FOR LAND USE 912 - BANK, 932 - HIGH TURNOVER RESTAURANT, 820 - SHOPPING CENTER, AND 848 - TIRE STORE ARE BASED ON THE INSTITUTE OF TRANSPORTATION ENGINEERS (ITE) PUBLICATION ENTITLED "TRIP GENERATION", 8TH EDITION, JANUARY 2008.

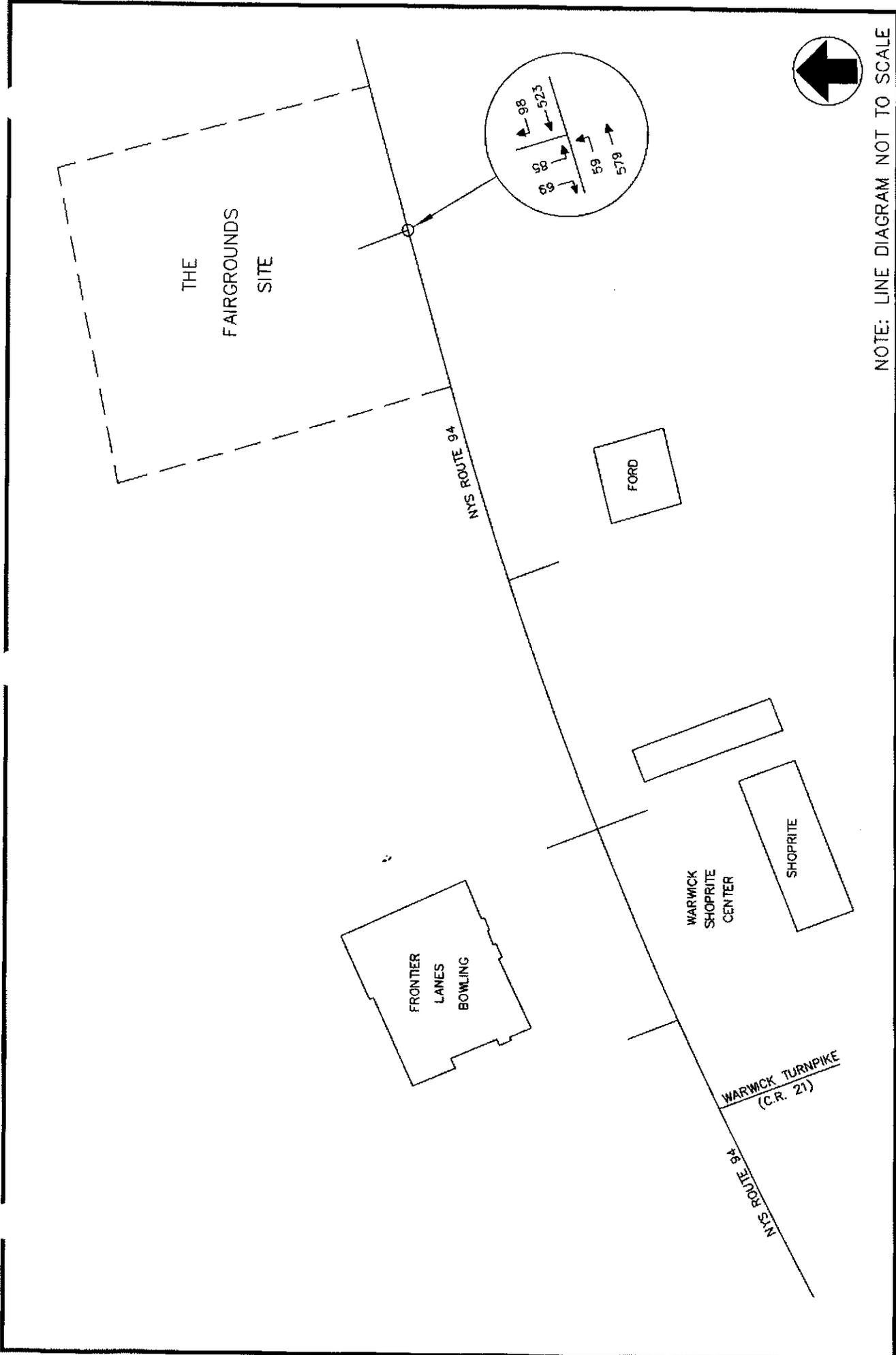
2) "NEW TRIPS" REFLECT A 25% PASS BY CREDIT FOR TRIPS ATTRACTED FROM EXISTING TRAFFIC STREAM.



NOTE: LINE DIAGRAM NOT TO SCALE

2012 EXISTING TRAFFIC VOLUMES
WEEKDAY PEAK PM HOUR

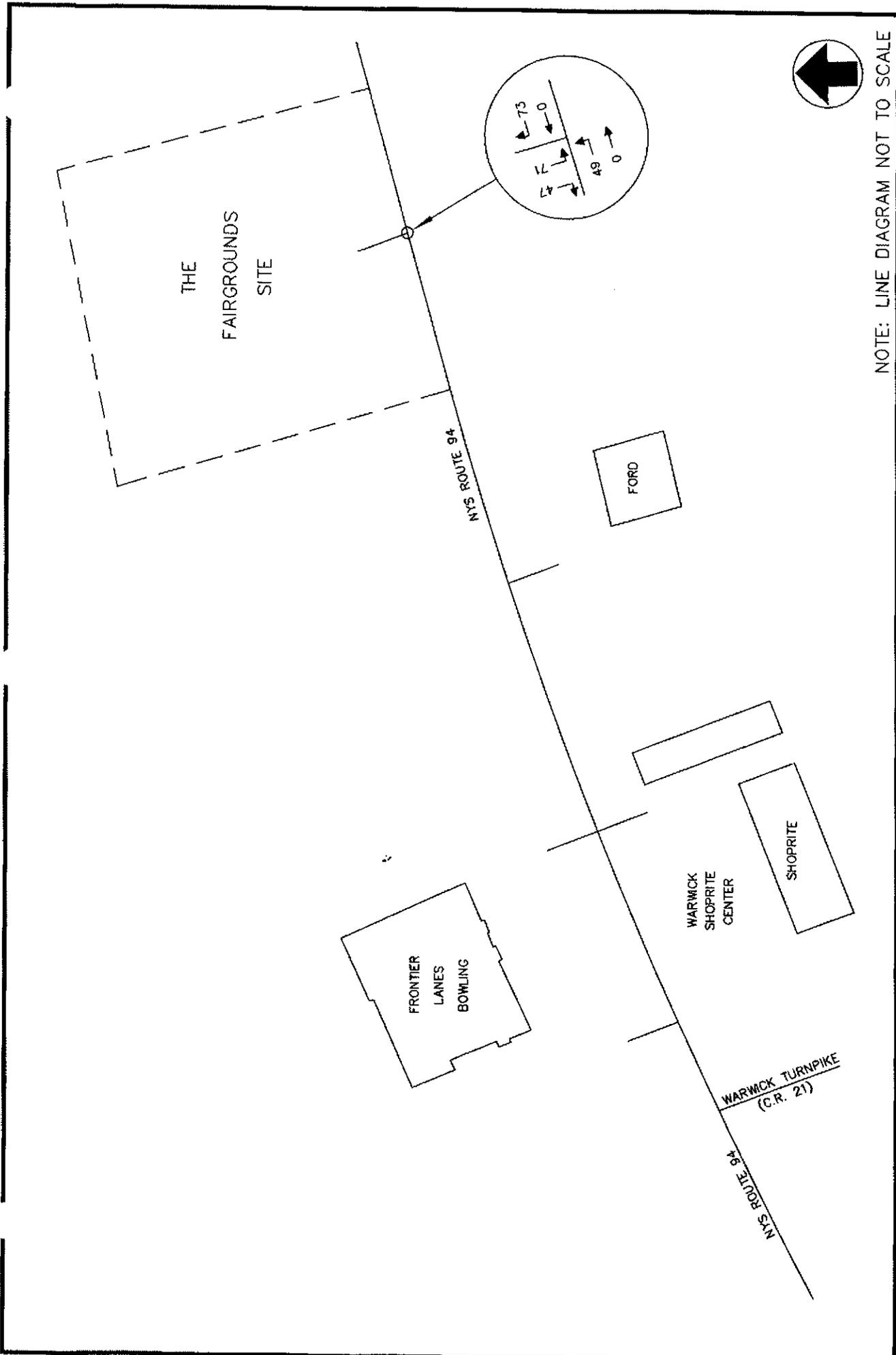
FAIRGROUNDS UPDATE
WARWICK, NEW YORK



NOTE: LINE DIAGRAM NOT TO SCALE

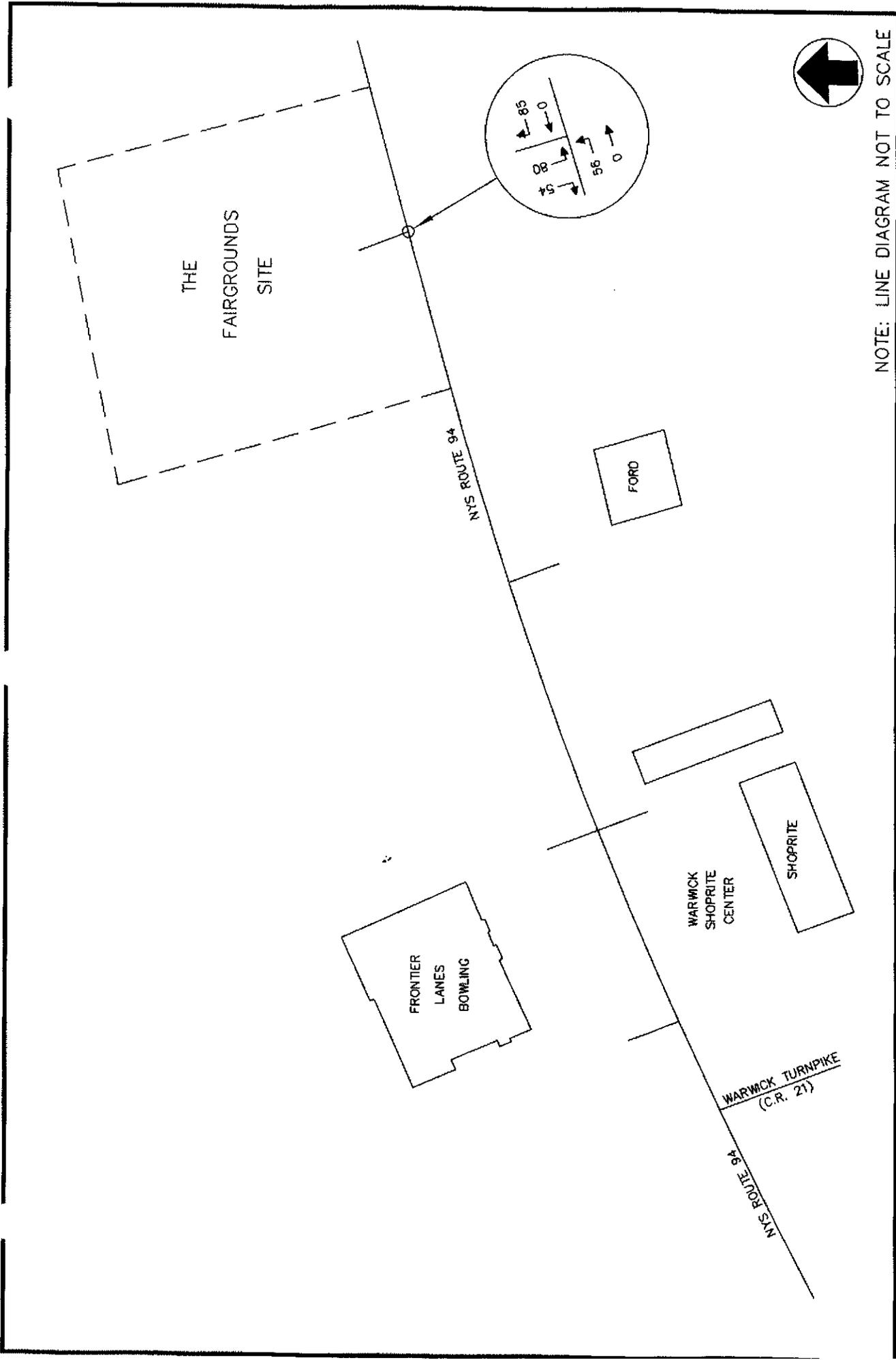
2012 EXISTING TRAFFIC VOLUMES
WEEKEND PEAK SATURDAY HOUR

FAIRGROUNDS UPDATE
WARWICK, NEW YORK



FAIRGROUNDS UPDATE
 WARWICK, NEW YORK

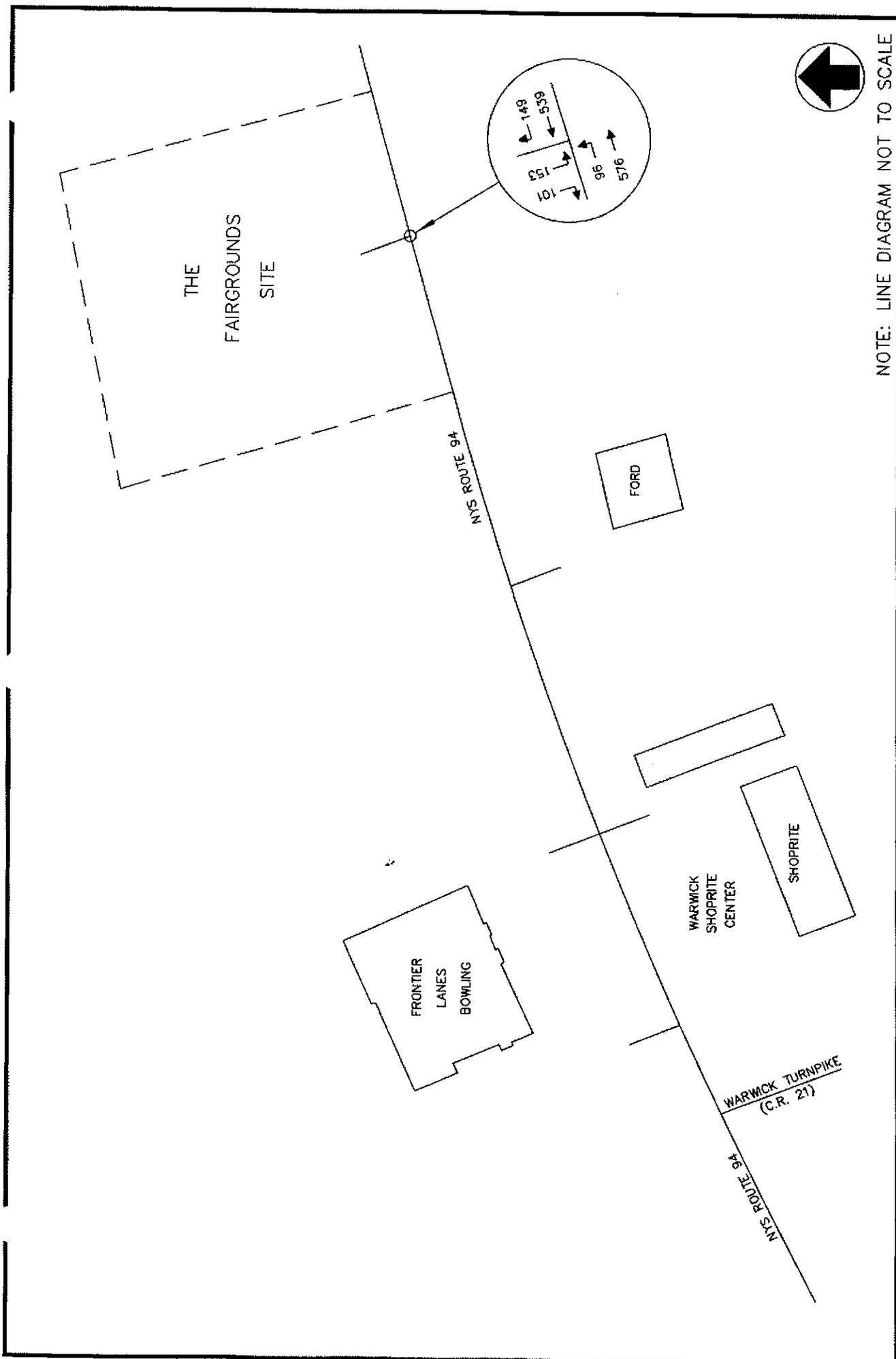
ADDITIONAL SITE GENERATED TRAFFIC VOLUMES
 WEEKDAY PEAK PM HOUR



NOTE: LINE DIAGRAM NOT TO SCALE

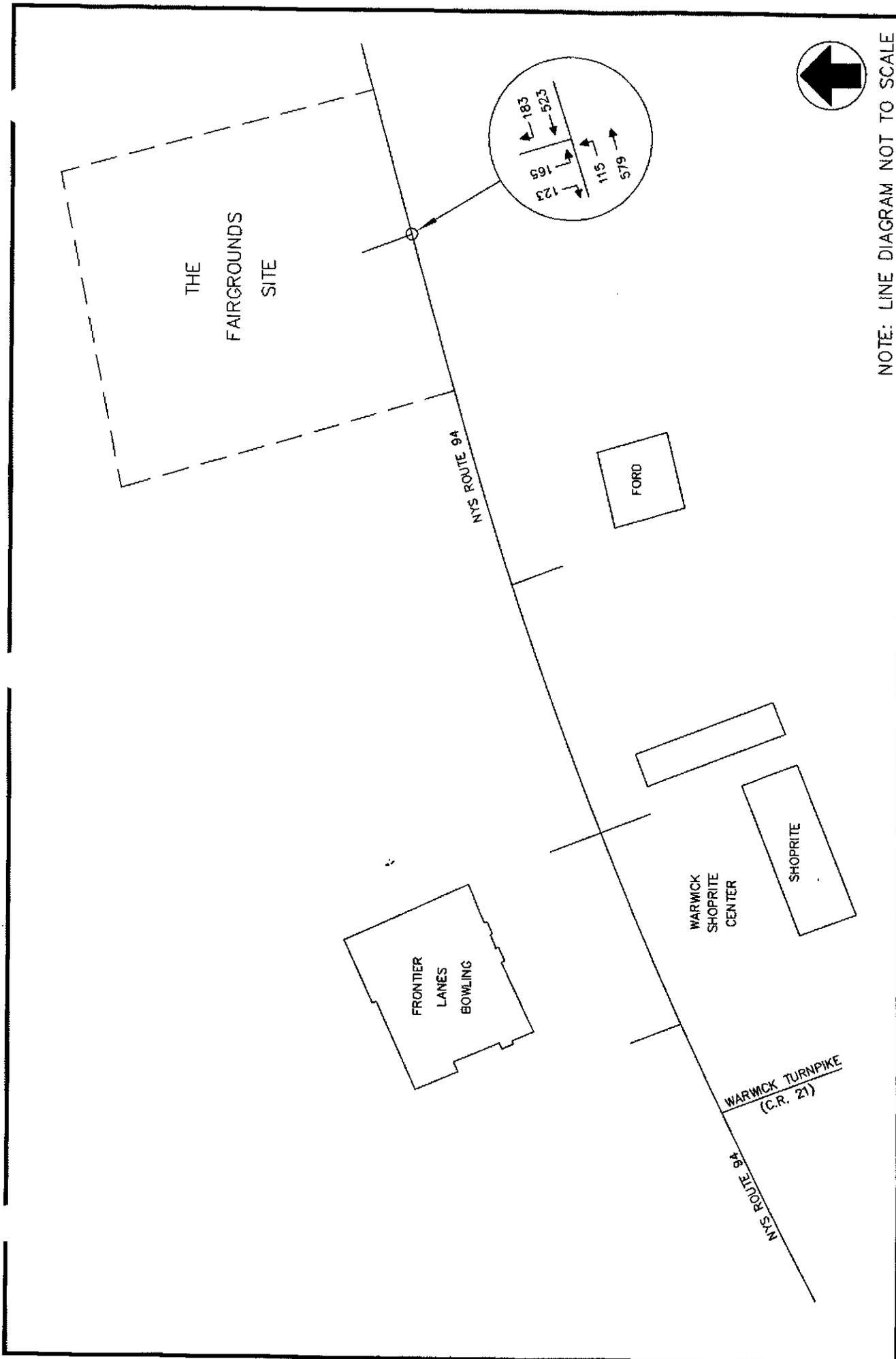
ADDITIONAL SITE GENERATED TRAFFIC VOLUMES
WEEKEND PEAK SATURDAY HOUR

FAIRGROUNDS UPDATE
WARWICK, NEW YORK



FAIRGROUNDS UPDATE
 WARWICK, NEW YORK

2012 BUILD TRAFFIC VOLUMES
 WEEKDAY PEAK PM HOUR

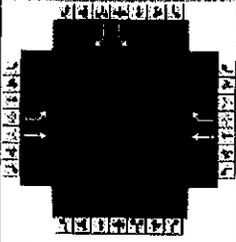


NOTE: LINE DIAGRAM NOT TO SCALE

FAIRGROUNDS UPDATE
 WARWICK, NEW YORK
 2012 BUILD TRAFFIC VOLUMES
 WEEKEND PEAK SATURDAY HOUR

HCS 2010 Signalized Intersection Results Summary

General Information				Intersection Information			
Agency	JCE			Duration, h	0.25		
System	R.H.	Analysis Date	Jan 31, 2012	Area Type	Other		
Jurisdiction		Time Period	PEAK PM HOUR	PHF	0.92		
Intersection	NYS ROUTE 94 & THE FA		Analysis Year	2012	Analysis Period	1 > 7.00	
File Name	1880PMEX1.xus						
Project Description	EXISTING TRAFFIC VOLUMES						



Demand Information	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Approach Movement												
Demand (v), veh/h	47	576			539	76				82		54

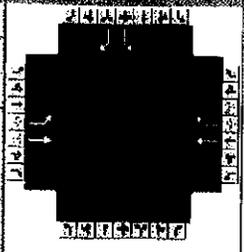
Signal Information				Signal Timing (s)												
Cycle, s	90.0	Reference Phase	2	Green	9.0	40.0	26.0	0.0	0.0	0.0						
Offset, s	0	Reference Point	End	Yellow	4.0	4.0	4.0	0.0	0.0	0.0						
Uncoordinated	No	Simult. Gap E/W	On	Red	1.0	1.0	1.0	0.0	0.0	0.0						
Force Mode	Fixed	Simult. Gap N/S	On													

Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	5	2		6				4
Case Number	1.0	4.0		7.3				9.0
Phase Duration, s	14.0	59.0		45.0				31.0
Change Period, (Y+R _c), s	5.0	5.0		5.0				5.0
Max Allow Headway (MAH), s	3.0	0.0		0.0				3.2
Queue Clearance Time (g _s), s	3.2							5.4
Green Extension Time (g _e), s	0.0	0.0		0.0				0.2
Phase Call Probability	1.00							1.00
Max Out Probability	0.01							0.00

Movement Group Results	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2		6	16					7		14
Adjusted Flow Rate (v), veh/h	51	626		586	83					89		59
Adjusted Saturation Flow Rate (s), veh/h/ln	1730	1816		1844	1563					1774		1579
Queue Service Time (g _s), s	4.2	18.9		23.3	2.8					3.4		2.5
Cycle Queue Clearance Time (g _c), s	1.2	18.9		23.3	2.8					3.4		2.5
Capacity (c), veh/h	403	1090		820	695					513		456
Volume-to-Capacity Ratio (X)	0.127	0.575		0.715	0.119					0.174		0.129
Available Capacity (c _a), veh/h	403	1090		820	695					513		456
Back of Queue (Q), veh/ln (50th percentile)	0.4	6.6		9.9	0.9					1.4		0.9
Overflow Queue (Q _o), veh/ln	0.0	0.0		0.0	0.0					0.0		0.0
Queue Storage Ratio (RQ) (50th percentile)	0.07	0.00		0.00	0.20					0.00		0.00
Uniform Delay (d ₁), s/veh	12.5	11.0		20.4	14.7					24.0		23.6
Incremental Delay (d ₂), s/veh	0.1	2.2		5.3	0.3					0.1		0.0
Initial Queue Delay (d ₃), s/veh	0.0	0.0		0.0	0.0					0.0		0.0
Control Delay (d), s/veh	12.6	13.2		25.6	15.0					24.0		23.7
Level of Service (LOS)	B	B		C	B					C		C
Approach Delay, s/veh / LOS	13.1	B		24.3	C		0.0			23.9		C
Intersection Delay, s/veh / LOS	19.2						B					

HCS 2010 Signalized Intersection Results Summary

General Information				Intersection Information		
Agency	JCE			Duration, h	0.25	
Analyst	R.H.	Analysis Date	Jan 31, 2012	Area Type	Other	
Jurisdiction		Time Period	PEAK SATURDAY HOUR	PHF	0.92	
Intersection	NYS ROUTE 94 & THE FA		Analysis Year	2012	Analysis Period	1 > 7:00
File Name	1880SATEX1.xus					
Project Description	EXISTING TRAFFIC VOLUMES					



Demand Information	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Approach Movement												
Demand (v), veh/h	59	579			523	98				85		69

Signal Information				Signal Phases									
Cycle, s	90.0	Reference Phase	2	1	2	3	4	5	6	7	8	9	10
Offset, s	0	Reference Point	End										
Uncoordinated	No	Simult. Gap E/W	On	Green	9.0	40.0	26.0	0.0	0.0	0.0			
Force Mode	Fixed	Simult. Gap N/S	On	Yellow	4.0	4.0	4.0	0.0	0.0	0.0			
				Red	1.0	1.0	1.0	0.0	0.0	0.0			

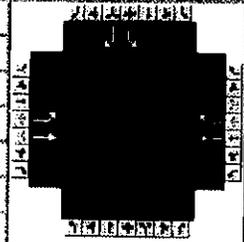
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	5	2		6				4
Case Number	1.0	4.0		7.3				9.0
Phase Duration, s	14.0	59.0		45.0				31.0
Change Period, (Y+R _c), s	5.0	5.0		5.0				5.0
Max Allow Headway (MAH), s	3.0	0.0		0.0				3.2
Queue Clearance Time (g _s), s	3.5							5.5
Green Extension Time (g _e), s	0.0	0.0		0.0				0.3
Phase Call Probability	1.00							1.00
Max Out Probability	0.02							0.00

Movement Group Results	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Approach Movement												
Assigned Movement	5	2			6	16				7		14
Adjusted Flow Rate (v), veh/h	64	629			568	107				92		75
Adjusted Saturation Flow Rate (s), veh/h/ln	1730	1816			1844	1563				1774		1579
Queue Service Time (g _s), s	1.5	19.1			22.3	3.7				3.5		3.2
Cycle Queue Clearance Time (g _c), s	1.5	19.1			22.3	3.7				3.5		3.2
Capacity (c), veh/h	414	1090			820	695				513		456
Volume-to-Capacity Ratio (X)	0.155	0.578			0.694	0.153				0.180		0.164
Available Capacity (c _a), veh/h	414	1090			820	695				513		456
Back of Queue (Q _b), veh/ln (50th percentile)	0.5	6.7			9.4	1.2				1.4		1.2
Overflow Queue (Q _o), veh/ln	0.0	0.0			0.0	0.0				0.0		0.0
Queue Storage Ratio (RQ) (50th percentile)	0.08	0.00			0.00	0.26				0.00		0.00
Uniform Delay (d ₁), s/veh	12.3	11.0			20.1	14.9				24.0		23.9
Incremental Delay (d ₂), s/veh	0.1	2.2			4.8	0.5				0.1		0.1
Initial Queue Delay (d ₃), s/veh	0.0	0.0			0.0	0.0				0.0		0.0
Control Delay (d), s/veh	12.4	13.2			24.9	15.4				24.1		24.0
Level of Service (LOS)	B	B			C	B				C		C
Approach Delay, s/veh / LOS	13.2		B	23.4		C	0.0			24.0		C
Intersection Delay, s/veh / LOS	18.8						B					

HCS 2010 Signalized Intersection Results Summary

General Information

Agency	JCE			Duration, h	0.25
Analyst	R.H.	Analysis Date	Jan 31, 2012	Area Type	Other
Jurisdiction		Time Period	PEAK PM HOUR	PHF	0.92
Intersection	NYS ROUTE 94 & THE FA	Analysis Year	2012	Analysis Period	1> 7:00
File Name	1880PMB1.xus				
Project Description	BUILD TRAFFIC VOLUMES				



Demand Information

Approach Movement	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h	96	576			539	149				153		101

Signal Information

Cycle, s	90.0	Reference Phase	2										
Offset, s	0	Reference Point	End										
Uncoordinated	No	Simult. Gap E/W	On	Green	9.0	40.0	26.0	0.0	0.0	0.0			
Force Mode	Fixed	Simult. Gap N/S	On	Yellow	4.0	4.0	4.0	0.0	0.0	0.0			
				Red	1.0	1.0	1.0	0.0	0.0	0.0			

Timer Results

	EBL	EBT	WBL	WBT	NBL	NET	SBL	SBT
Assigned Phase	5	2		6				4
Case Number	1.0	4.0		7.3				9.0
Phase Duration, s	14.0	59.0		45.0				31.0
Change Period, (Y+Rc), s	5.0	5.0		5.0				5.0
Max Allow Headway (MAH), s	3.0	0.0		0.0				3.2
Queue Clearance Time (gs), s	4.5							8.6
Green Extension Time (ge), s	0.0	0.0		0.0				0.5
Phase Call Probability	1.00							1.00
Max Out Probability	0.12							0.00

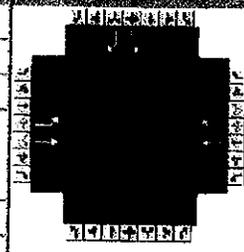
Movement Group Results

Approach Movement	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2			6	16				7		14
Adjusted Flow Rate (v), veh/h	104	626			586	162				166		110
Adjusted Saturation Flow Rate (s), veh/h/ln	1730	1816			1844	1563				1774		1579
Queue Service Time (gs), s	2.5	18.9			23.3	5.8				6.6		4.8
Cycle Queue Clearance Time (gc), s	2.5	18.9			23.3	5.8				6.6		4.8
Capacity (c), veh/h	403	1090			820	695				513		456
Volume-to-Capacity Ratio (X)	0.259	0.575			0.715	0.233				0.324		0.241
Available Capacity (ca), veh/h	403	1090			820	695				513		456
Back of Queue (Q), veh/ln (50th percentile)	0.8	6.6			9.9	2.0				2.7		1.7
Overflow Queue (Qs), veh/ln	0.0	0.0			0.0	0.0				0.0		0.0
Queue Storage Ratio (RQ) (50th percentile)	0.14	0.00			0.00	0.42				0.00		0.00
Uniform Delay (d1), s/veh	13.1	11.0			20.4	15.5				25.1		24.5
Incremental Delay (d2), s/veh	0.1	2.2			5.3	0.8				0.1		0.1
Initial Queue Delay (d3), s/veh	0.0	0.0			0.0	0.0				0.0		0.0
Control Delay (d), s/veh	13.2	13.2			25.6	16.3				25.2		24.6
Level of Service (LOS)	B	B			C	B				C		C
Approach Delay, s/veh / LOS	13.2	B		23.6	C		0.0			25.0		C
Intersection Delay, s/veh / LOS	19.5			B			B			C		

HCS 2010 Signalized Intersection Results Summary

General Information

Agency	JCE	Intersection Information	
Analyst	R.H.	Duration, h	0.25
Jurisdiction		Area Type	Other
Intersection	NYS ROUTE 94 & THE FA	PHF	0.92
File Name	1880SATB1.xus	Analysis Date	Jan 31, 2012
Project Description	BUILD TRAFFIC VOLUMES	Time Period	PEAK SATURDAY HOUR
		Analysis Year	2012
		Analysis Period	1> 7:00



Demand Information

Approach Movement	EB			WB			NB			SB			
	L	T	R	L	T	R	L	T	R	L	T	R	
Demand (v), veh/h	115	579			523	183					165		123

Signal Information

Cycle, s	90.0	Reference Phase	2										
Offset, s	0	Reference Point	End										
Uncoordinated	No	Simult. Gap E/W	On	Green	9.0	40.0	26.0	0.0	0.0	0.0			
Force Mode	Fixed	Simult. Gap N/S	On	Yellow	4.0	4.0	4.0	0.0	0.0	0.0			
				Red	1.0	1.0	1.0	0.0	0.0	0.0			

Timer Results

	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	5	2		6				4
Case Number	1.0	4.0		7.3				9.0
Phase Duration, s	14.0	59.0		45.0				31.0
Change Period, (Y+Rc), s	5.0	5.0		5.0				5.0
Max Allow Headway (MAH), s	3.0	0.0		0.0				3.2
Queue Clearance Time (gc), s	5.0							9.2
Green Extension Time (ge), s	0.1	0.0		0.0				0.6
Phase Call Probability	1.00							1.00
Max Out Probability	0.28							0.00

Movement Group Results

Approach Movement	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2			6	16				7		14
Adjusted Flow Rate (v), veh/h	125	629			568	199				179		134
Adjusted Saturation Flow Rate (s), veh/h/ln	1730	1816			1844	1563				1774		1579
Queue Service Time (gs), s	3.0	19.1			22.3	7.3				7.2		5.9
Cycle Queue Clearance Time (gc), s	3.0	19.1			22.3	7.3				7.2		5.9
Capacity (c), veh/h	414	1090			820	695				513		456
Volume-to-Capacity Ratio (X)	0.302	0.578			0.694	0.286				0.350		0.293
Available Capacity (ca), veh/h	414	1090			820	695				513		456
Back of Queue (Q), veh/ln (50th percentile)	1.0	6.7			9.4	2.5				2.9		2.2
Overflow Queue (Q3), veh/ln	0.0	0.0			0.0	0.0				0.0		0.0
Queue Storage Ratio (RQ) (50th percentile)	0.17	0.00			0.00	0.53				0.00		0.00
Uniform Delay (d1), s/veh	13.0	11.0			20.1	15.9				25.3		24.9
Incremental Delay (d2), s/veh	0.2	2.2			4.8	1.0				0.2		0.1
Initial Queue Delay (d3), s/veh	0.0	0.0			0.0	0.0				0.0		0.0
Control Delay (d), s/veh	13.1	13.2			24.9	17.0				25.5		25.0
Level of Service (LOS)	B	B			C	B				C		C
Approach Delay, s/veh / LOS	13.2	B		22.8	C		0.0			25.3		C
Intersection Delay, s/veh / LOS	19.3						B					

APPENDIX D

REVISED EAF FORM

Full Environmental Assessment Form
Part 1 - Project and Setting

Instructions for Completing Part 1

Part 1 is to be completed by the applicant or project sponsor. Responses become part of the application for approval or funding, are subject to public review, and may be subject to further verification.

Complete Part 1 based on information currently available. If additional research or investigation would be needed to fully respond to any item, please answer as thoroughly as possible based on current information; indicate whether missing information does not exist, or is not reasonably available to the sponsor; and, when possible, generally describe work or studies which would be necessary to update or fully develop that information.

Applicants/sponsors must complete all items in Sections A & B. In Sections C, D & E, most items contain an initial question that must be answered either "Yes" or "No". If the answer to the initial question is "Yes", complete the sub-questions that follow. If the answer to the initial question is "No", proceed to the next question. Section F allows the project sponsor to identify and attach any additional information. Section G requires the name and signature of the project sponsor to verify that the information contained in Part 1 is accurate and complete.

A. Project and Sponsor Information.

Name of Action or Project: Homarc Land, LLC		
Project Location (describe, and attach a general location map): 152 NY State Route 94 South (New Milford Road) east of Warwick Turnpike (County Route 21) in the Town of Warwick, Orange County N.Y.		
Brief Description of Proposed Action (include purpose or need): Homarc Land, LLC, proposed to develop professional office and retail uses on approximately 2.4 acres of a 5.1 acre site. The property is zoned for this purpose. The proposed development is comprised of an approximately 21,900 square feet one-story building and will have approximately 84 parking spaces. Access is proposed from a new marginal access road that will parallel NYS Route 94 and connect with the adjoining Price Chopper Plaza. The purpose of the proposed project is to provide needed facilities to the community by utilizing the existing zoning for the site in furtherance of the comprehensive plan of the Town of Warwick. Moreover, the site, situated along a State highway in an area which is becoming an important retail corridor for the Town, is well suited for the professional office and retail uses. Such use would generate additional property and sales tax revenue to the Town of Warwick, the taxing districts in which the site is situated, and Orange County. The greatest tax benefit would accrue to the Warwick Valley Central School District without creating any burden on school services. Construction employment and long-term retail employment opportunities would also be generated. A substantial portion of these positions are expected to be filled by residents of Warwick.		
Name of Applicant/Sponsor: ERS Consultants, Inc.	Telephone: 845-987-1775	E-Mail: david@ersconsultants.com
Address: 11 Forester Avenue		
City/PO: Warwick	State: NY	Zip Code: 10990
Project Contact (if not same as sponsor; give name and title/role): David Griggs, Senior Scientist	Telephone: 845-987-1775	E-Mail: david@ersconsultants.com
Address: 11 Forester Avenue		
City/PO: Warwick	State: NY	Zip Code: 10990
Property Owner (if not same as sponsor): Homarc Land, LLC	Telephone: 845-978-7373	E-Mail: canevariconstruction@gmail.com
Address: 1997 State Route 17M, #7		
City/PO: Goshen	State: NY	Zip Code: 10924-5230

B. Government Approvals

B. Government Approvals Funding, or Sponsorship. ("Funding" includes grants, loans, tax relief, and any other forms of financial assistance.)		
Government Entity	If Yes: Identify Agency and Approval(s) Required	Application Date (Actual or projected)
a. City Council, Town Board, <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No or Village Board of Trustees		
b. City, Town or Village Planning Board or Commission <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Town of Warwick Planning Board	
c. City Council, Town or Village Zoning Board of Appeals <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		
d. Other local agencies <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		
e. County agencies <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Orange County Planning Department and Orange County Health Department	
f. Regional agencies <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		
g. State agencies <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	NYS Health Department and NYSDEC	
h. Federal agencies <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	ACOE	
i. Coastal Resources.		
i. Is the project site within a Coastal Area, or the waterfront area of a Designated Inland Waterway?		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
If Yes,		
ii. Is the project site located in a community with an approved Local Waterfront Revitalization Program?		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
iii. Is the project site within a Coastal Erosion Hazard Area?		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

C. Planning and Zoning

C.1. Planning and zoning actions.

Will administrative or legislative adoption, or amendment of a plan, local law, ordinance, rule or regulation be the only approval(s) which must be granted to enable the proposed action to proceed? Yes No

- If Yes, complete sections C, F and G.
- If No, proceed to question C.2 and complete all remaining sections and questions in Part 1

C.2. Adopted land use plans.

a. Do any municipally- adopted (city, town, village or county) comprehensive land use plan(s) include the site where the proposed action would be located? Yes No

If Yes, does the comprehensive plan include specific recommendations for the site where the proposed action would be located? Yes No

b. Is the site of the proposed action within any local or regional special planning district (for example: Greenway Brownfield Opportunity Area (BOA); designated State or Federal heritage area; watershed management plan; or other?) Yes No

If Yes, identify the plan(s):

Aquifer Overlay District

c. Is the proposed action located wholly or partially within an area listed in an adopted municipal open space plan, or an adopted municipal farmland protection plan? Yes No

If Yes, identify the plan(s):

C.3. Zoning

a. Is the site of the proposed action located in a municipality with an adopted zoning law or ordinance. Yes No
If Yes, what is the zoning classification(s) including any applicable overlay district?
CB zone (community business)

b. Is the use permitted or allowed by a special or conditional use permit? Yes No

c. Is a zoning change requested as part of the proposed action? Yes No

If Yes,
i. What is the proposed new zoning for the site? _____

C.4. Existing community services.

a. In what school district is the project site located? Warwick Valley School District

b. What police or other public protection forces serve the project site?
Warwick Town Police, NY State Police & Orange County Sheriff's Department

c. Which fire protection and emergency medical services serve the project site?
Warwick Fire Department and Warwick Ambulance

d. What parks serve the project site?
Stanley Deming Park, Veterans Memorial Park, Warwick Valley Country Club and Warwick County Park

D. Project Details

D.1. Proposed and Potential Development

a. What is the general nature of the proposed action (e.g., residential, industrial, commercial, recreational; if mixed, include all components)? Commercial

b. a. Total acreage of the site of the proposed action? _____ 5.1 acres
b. Total acreage to be physically disturbed? _____ 2.49 acres
c. Total acreage (project site and any contiguous properties) owned or controlled by the applicant or project sponsor? _____ 5.1 acres

c. Is the proposed action an expansion of an existing project or use? Yes No
i. If Yes, what is the approximate percentage of the proposed expansion and identify the units (e.g., acres, miles, housing units, square feet)? % _____ Units: _____

d. Is the proposed action a subdivision, or does it include a subdivision? Yes No
If Yes,
i. Purpose or type of subdivision? (e.g., residential, industrial, commercial; if mixed, specify types) _____

ii. Is a cluster/conservation layout proposed? Yes No

iii. Number of lots proposed? _____

iv. Minimum and maximum proposed lot sizes? Minimum _____ Maximum _____

e. Will proposed action be constructed in multiple phases? Yes No
i. If No, anticipated period of construction: _____ months
ii. If Yes:
• Total number of phases anticipated _____
• Anticipated commencement date of phase 1 (including demolition) _____ month _____ year
• Anticipated completion date of final phase _____ month _____ year
• Generally describe connections or relationships among phases, including any contingencies where progress of one phase may determine timing or duration of future phases: _____

f. Does the project include new residential uses? Yes No

If Yes, show numbers of units proposed.

	<u>One Family</u>	<u>Two Family</u>	<u>Three Family</u>	<u>Multiple Family (four or more)</u>
Initial Phase	_____	_____	_____	_____
At completion	_____	_____	_____	_____
of all phases	_____	_____	_____	_____

g. Does the proposed action include new non-residential construction (including expansions)? Yes No

If Yes,

- i. Total number of structures 1
- ii. Dimensions (in feet) of largest proposed structure: 35 height; 136 width; and 160 length
- iii. Approximate extent of building space to be heated or cooled: 21,000 square feet

h. Does the proposed action include construction or other activities that will result in the impoundment of any liquids, such as creation of a water supply, reservoir, pond, lake, waste lagoon or other storage? Yes No

If Yes,

- i. Purpose of the impoundment: Stormwater pond/cistern for landscaping irrigation
- ii. If a water impoundment, the principal source of the water: Ground water Surface water streams Other specify: Stormwater/Rainwater
- iii. If other than water, identify the type of impounded/contained liquids and their source. _____
- iv. Approximate size of the proposed impoundment. Volume: _____ million gallons; surface area: 0.17/0.01 acres
- v. Dimensions of the proposed dam or impounding structure: _____ height; _____ length
- vi. Construction method/materials for the proposed dam or impounding structure (e.g., earth fill, rock, wood, concrete): _____

D.2. Project Operations

a. Does the proposed action include any excavation, mining, or dredging, during construction, operations, or both? Yes No
(Not including general site preparation, grading or installation of utilities or foundations where all excavated materials will remain onsite)

If Yes:

- i. What is the purpose of the excavation or dredging? _____
- ii. How much material (including rock, earth, sediments, etc.) is proposed to be removed from the site?
 - Volume (specify tons or cubic yards): _____
 - Over what duration of time? _____
- iii. Describe nature and characteristics of materials to be excavated or dredged, and plans to use, manage or dispose of them. _____
- iv. Will there be onsite dewatering or processing of excavated materials? Yes No
If yes, describe. _____
- v. What is the total area to be dredged or excavated? _____ acres
- vi. What is the maximum area to be worked at any one time? _____ acres
- vii. What would be the maximum depth of excavation or dredging? _____ feet
- viii. Will the excavation require blasting? Yes No
- ix. Summarize site reclamation goals and plan: _____
Excavated material will be used on site for regrading.

b. Would the proposed action cause or result in alteration of, increase or decrease in size of, or encroachment into any existing wetland, waterbody, shoreline, beach or adjacent area? Yes No

If Yes:

- i. Identify the wetland or waterbody which would be affected (by name, water index number, wetland map number or geographic description): _____

ii. Describe how the proposed action would affect that waterbody or wetland, e.g. excavation, fill, placement of structures, or alteration of channels, banks and shorelines. Indicate extent of activities, alterations and additions in square feet or acres:
There would be no negative impact on wetlands or waterbodies

iii. Will proposed action cause or result in disturbance to bottom sediments? Yes No
If Yes, describe: _____

iv. Will proposed action cause or result in the destruction or removal of aquatic vegetation? Yes No
If Yes:

- acres of aquatic vegetation proposed to be removed: _____
- expected acreage of aquatic vegetation remaining after project completion: _____
- purpose of proposed removal (e.g. beach clearing, invasive species control, boat access): _____
- proposed method of plant removal: _____
- if chemical/herbicide treatment will be used, specify product(s): _____

v. Describe any proposed reclamation/mitigation following disturbance: _____

c. Will the proposed action use, or create a new demand for water? Yes No
If Yes:

i. Total anticipated water usage/demand per day: _____ 2,000 gallons/day

ii. Will the proposed action obtain water from an existing public water supply? Yes No
If Yes:

- Name of district or service area: Warwick Water District
- Does the existing public water supply have capacity to serve the proposal? Yes No
- Is the project site in the existing district? Yes No
- Is expansion of the district needed? Yes No
- Do existing lines serve the project site? Yes No

iii. Will line extension within an existing district be necessary to supply the project? Yes No
If Yes:

- Describe extensions or capacity expansions proposed to serve this project: _____
Extension of approximately 500 feet
- Source(s) of supply for the district: Warwick Water District

iv. Is a new water supply district or service area proposed to be formed to serve the project site? Yes No
If Yes:

- Applicant/sponsor for new district: _____
- Date application submitted or anticipated: _____
- Proposed source(s) of supply for new district: _____

v. If a public water supply will not be used, describe plans to provide water supply for the project: _____

vi. If water supply will be from wells (public or private), maximum pumping capacity: _____ gallons/minute.

d. Will the proposed action generate liquid wastes? Yes No
If Yes:

i. Total anticipated liquid waste generation per day: _____ 2,000 gallons/day

ii. Nature of liquid wastes to be generated (e.g., sanitary wastewater, industrial; if combination, describe all components and approximate volumes or proportions of each): _____
Sanitary

iii. Will the proposed action use any existing public wastewater treatment facilities? Yes No
If Yes:

- Name of wastewater treatment plant to be used: _____
- Name of district: _____
- Does the existing wastewater treatment plant have capacity to serve the project? Yes No
- Is the project site in the existing district? Yes No
- Is expansion of the district needed? Yes No

- Do existing sewer lines serve the project site? Yes No
 - Will line extension within an existing district be necessary to serve the project? Yes No
- If Yes:
- Describe extensions or capacity expansions proposed to serve this project: _____

- iv. Will a new wastewater (sewage) treatment district be formed to serve the project site? Yes No
- If Yes:
- Applicant/sponsor for new district: _____
 - Date application submitted or anticipated: _____
 - What is the receiving water for the wastewater discharge? _____

v. If public facilities will not be used, describe plans to provide wastewater treatment for the project, including specifying proposed receiving water (name and classification if surface discharge, or describe subsurface disposal plans):

vi. Describe any plans or designs to capture, recycle or reuse liquid waste: _____

- e. Will the proposed action disturb more than one acre and create stormwater runoff, either from new point sources (i.e. ditches, pipes, swales, curbs, gutters or other concentrated flows of stormwater) or non-point source (i.e. sheet flow) during construction or post construction? Yes No

- If Yes:
- i. How much impervious surface will the project create in relation to total size of project parcel?
- _____ Square feet or 1.58 acres (impervious surface)
- _____ Square feet or 5.1 acres (parcel size)
- ii. Describe types of new point sources. Catch basins, pipes, curbs, valley gutters

iii. Where will the stormwater runoff be directed (i.e. on-site stormwater management facility/structures, adjacent properties, groundwater, on-site surface water or off-site surface waters)?

On site stormwater management facility

- If to surface waters, identify receiving water bodies or wetlands: _____
- Will stormwater runoff flow to adjacent properties? Yes No

- iv. Does proposed plan minimize impervious surfaces, use pervious materials or collect and re-use stormwater? Yes No

- f. Does the proposed action include, or will it use on-site, one or more sources of air emissions, including fuel combustion, waste incineration, or other processes or operations? Yes No

- If Yes, identify:
- i. Mobile sources during project operations (e.g., heavy equipment, fleet or delivery vehicles)
- ii. Stationary sources during construction (e.g., power generation, structural heating, batch plant, crushers)
- iii. Stationary sources during operations (e.g., process emissions, large boilers, electric generation)

- g. Will any air emission sources named in D.2.f (above), require a NY State Air Registration, Air Facility Permit, or Federal Clean Air Act Title IV or Title V Permit? Yes No

- If Yes:
- i. Is the project site located in an Air quality non-attainment area? (Area routinely or periodically fails to meet ambient air quality standards for all or some parts of the year) Yes No
- ii. In addition to emissions as calculated in the application, the project will generate:
- _____ Tons/year (short tons) of Carbon Dioxide (CO₂)
 - _____ Tons/year (short tons) of Nitrous Oxide (N₂O)
 - _____ Tons/year (short tons) of Perfluorocarbons (PFCs)
 - _____ Tons/year (short tons) of Sulfur Hexafluoride (SF₆)
 - _____ Tons/year (short tons) of Carbon Dioxide equivalent of Hydrofluorocarbons (HFCs)
 - _____ Tons/year (short tons) of Hazardous Air Pollutants (HAPs)

h. Will the proposed action generate or emit methane (including, but not limited to, sewage treatment plants, landfills, composting facilities)? Yes No

If Yes:

- i. Estimate methane generation in tons/year (metric): _____
- ii. Describe any methane capture, control or elimination measures included in project design (e.g., combustion to generate heat or electricity, flaring): _____

i. Will the proposed action result in the release of air pollutants from open-air operations or processes, such as quarry or landfill operations? Yes No

If Yes: Describe operations and nature of emissions (e.g., diesel exhaust, rock particulates/dust): _____

j. Will the proposed action result in a substantial increase in traffic above present levels or generate substantial new demand for transportation facilities or services? Yes No

If Yes:

- i. When is the peak traffic expected (Check all that apply): Morning Evening Weekend
 Randomly between hours of _____ to _____.
- ii. For commercial activities only, projected number of semi-trailer truck trips/day: _____
- iii. Parking spaces: Existing _____ Proposed _____ Net increase/decrease _____
- iv. Does the proposed action include any shared use parking? Yes No
- v. If the proposed action includes any modification of existing roads, creation of new roads or change in existing access, describe: _____

vi. Are public/private transportation service(s) or facilities available within ½ mile of the proposed site? Yes No

vii. Will the proposed action include access to public transportation or accommodations for use of hybrid, electric or other alternative fueled vehicles? Yes No

viii. Will the proposed action include plans for pedestrian or bicycle accommodations for connections to existing pedestrian or bicycle routes? Yes No

k. Will the proposed action (for commercial or industrial projects only) generate new or additional demand for energy? Yes No

If Yes:

- i. Estimate annual electricity demand during operation of the proposed action: _____
75,000 kwh
- ii. Anticipated sources/suppliers of electricity for the project (e.g., on-site combustion, on-site renewable, via grid/local utility, or other):
Orange and Rockland Utilities
- iii. Will the proposed action require a new, or an upgrade to, an existing substation? Yes No

l. Hours of operation. Answer all items which apply.

i. During Construction:

- Monday - Friday: 7 am - 7 pm
- Saturday: 9 am - 7 pm
- Sunday: -
- Holidays: -

ii. During Operations:

- Monday - Friday: 8 am - 9 pm
- Saturday: 8 am - 9 pm
- Sunday: 8 am - 9 pm
- Holidays: 8 am - 9 pm

m. Will the proposed action produce noise that will exceed existing ambient noise levels during construction, operation, or both? Yes No

If yes:

i. Provide details including sources, time of day and duration:

ii. Will proposed action remove existing natural barriers that could act as a noise barrier or screen? Yes No

Describe: _____

n.. Will the proposed action have outdoor lighting? Yes No

If yes:

i. Describe source(s), location(s), height of fixture(s), direction/aim, and proximity to nearest occupied structures:
Parking and building mounted lighting at 15' height

ii. Will proposed action remove existing natural barriers that could act as a light barrier or screen? Yes No

Describe: _____

o. Does the proposed action have the potential to produce odors for more than one hour per day? Yes No

If Yes, describe possible sources, potential frequency and duration of odor emissions, and proximity to nearest occupied structures: _____

p. Will the proposed action include any bulk storage of petroleum (combined capacity of over 1,100 gallons) or chemical products 185 gallons in above ground storage or any amount in underground storage? Yes No

If Yes:

i. Product(s) to be stored _____

ii. Volume(s) _____ per unit time _____ (e.g., month, year)

iii. Generally describe proposed storage facilities: _____

q. Will the proposed action (commercial, industrial and recreational projects only) use pesticides (i.e., herbicides, insecticides) during construction or operation? Yes No

If Yes:

i. Describe proposed treatment(s):

ii. Will the proposed action use Integrated Pest Management Practices? Yes No

r. Will the proposed action (commercial or industrial projects only) involve or require the management or disposal of solid waste (excluding hazardous materials)? Yes No

If Yes:

i. Describe any solid waste(s) to be generated during construction or operation of the facility:

- Construction: _____ 42 tons per _____ Yr (unit of time)
- Operation : _____ 11 tons per _____ Yr (unit of time)

ii. Describe any proposals for on-site minimization, recycling or reuse of materials to avoid disposal as solid waste:

- Construction: _____
- Operation: _____

iii. Proposed disposal methods/facilities for solid waste generated on-site:

- Construction: _____
- Operation: _____

s. Does the proposed action include construction or modification of a solid waste management facility? Yes No

If Yes:

i. Type of management or handling of waste proposed for the site (e.g., recycling or transfer station, composting, landfill, or other disposal activities): Landfill

ii. Anticipated rate of disposal/processing:

- _____ Tons/month, if transfer or other non-combustion/thermal treatment, or
- _____ Tons/hour, if combustion or thermal treatment

iii. If landfill, anticipated site life: _____ years

t. Will proposed action at the site involve the commercial generation, treatment, storage, or disposal of hazardous waste? Yes No

If Yes:

i. Name(s) of all hazardous wastes or constituents to be generated, handled or managed at facility: _____

ii. Generally describe processes or activities involving hazardous wastes or constituents: _____

iii. Specify amount to be handled or generated _____ tons/month

iv. Describe any proposals for on-site minimization, recycling or reuse of hazardous constituents: _____

v. Will any hazardous wastes be disposed at an existing offsite hazardous waste facility? Yes No

If Yes: provide name and location of facility: _____
Orange County Landfill, Goshen, NY

If No: describe proposed management of any hazardous wastes which will not be sent to a hazardous waste facility: _____

E. Site and Setting of Proposed Action

E.1. Land uses on and surrounding the project site

a. Existing land uses.

i. Check all uses that occur on, adjoining and near the project site.

- Urban Industrial Commercial Residential (suburban) Rural (non-farm)
 Forest Agriculture Aquatic Other (specify): _____

ii. If mix of uses, generally describe: _____

b. Land uses and covertypes on the project site.

Land use or Covertype	Current Acreage	Acreage After Project Completion	Change (Acres +/-)
• Roads, buildings, and other paved or impervious surfaces	0	1.90	1.90
• Forested	0.13	0.13	0
• Meadows, grasslands or brushlands (non-agricultural, including abandoned agricultural)	0.85	0.12	2.10
• Agricultural (includes active orchards, field, greenhouse etc.)	3.6	0	3.6
• Surface water features (lakes, ponds, streams, rivers, etc.)	0.02	0.02	0
• Wetlands (freshwater or tidal)	0.5	0.5	0
• Non-vegetated (bare rock, earth or fill)	0	0	0
• Other Describe: _____			

c. Is the project site presently used by members of the community for public recreation? Yes No
i. If Yes: explain: _____

d. Are there any facilities serving children, the elderly, people with disabilities (e.g., schools, hospitals, licensed day care centers, or group homes) within 1500 feet of the project site? Yes No
If Yes,
i. Identify Facilities: _____

e. Does the project site contain an existing dam? Yes No
If Yes:
i. Dimensions of the dam and impoundment:
• Dam height: _____ feet
• Dam length: _____ feet
• Surface area: _____ acres
• Volume impounded: _____ gallons OR acre-feet
ii. Dam's existing hazard classification: _____
iii. Provide date and summarize results of last inspection: _____

f. Has the project site ever been used as a municipal, commercial or industrial solid waste management facility, or does the project site adjoin property which is now, or was at one time, used as a solid waste management facility? Yes No
If Yes:
i. Has the facility been formally closed? Yes No
• If yes, cite sources/documentation: _____
ii. Describe the location of the project site relative to the boundaries of the solid waste management facility: _____
iii. Describe any development constraints due to the prior solid waste activities: _____

g. Have hazardous wastes been generated, treated and/or disposed of at the site, or does the project site adjoin property which is now or was at one time used to commercially treat, store and/or dispose of hazardous waste? Yes No
If Yes:
i. Describe waste(s) handled and waste management activities, including approximate time when activities occurred: _____

h. Potential contamination history. Has there been a reported spill at the proposed project site, or have any remedial actions been conducted at or adjacent to the proposed site? Yes No
If Yes:
i. Is any portion of the site listed on the NYSDEC Spills Incidents database or Environmental Site Remediation database? Check all that apply: Yes No
 Yes – Spills Incidents database Provide DEC ID number(s): _____
 Yes – Environmental Site Remediation database Provide DEC ID number(s): _____
 Neither database
ii. If site has been subject of RCRA corrective activities, describe control measures: _____
iii. Is the project within 2000 feet of any site in the NYSDEC Environmental Site Remediation database? Yes No
If yes, provide DEC ID number(s): _____
iv. If yes to (i), (ii) or (iii) above, describe current status of site(s): _____

v. Is the project site subject to an institutional control limiting property uses? Yes No

- If yes, DEC site ID number: _____
- Describe the type of institutional control (e.g., deed restriction or easement): 100 foot management area buffer
- Describe any use limitations: _____
- Describe any engineering controls: _____
- Will the project affect the institutional or engineering controls in place? Yes No
- Explain: _____

E.2. Natural Resources On or Near Project Site

a. What is the average depth to bedrock on the project site? _____ 5 feet

b. Are there bedrock outcroppings on the project site? Yes No
 If Yes, what proportion of the site is comprised of bedrock outcroppings? _____ %

c. Predominant soil type(s) present on project site:

HoB	_____	53 %
GgA	_____	22 %
CnB	_____	25 %

d. What is the average depth to the water table on the project site? Average: _____ 5.5 feet

e. Drainage status of project site soils: Well Drained: _____ 66 % of site
 Moderately Well Drained: _____ 23 % of site
 Poorly Drained _____ 11 % of site

f. Approximate proportion of proposed action site with slopes: 0-10%: _____ 90 % of site
 10-15%: _____ 9 % of site
 15% or greater: _____ 1 % of site

g. Are there any unique geologic features on the project site? Yes No
 If Yes, describe: _____

h. Surface water features.

i. Does any portion of the project site contain wetlands or other waterbodies (including streams, rivers, ponds or lakes)? Yes No

ii. Do any wetlands or other waterbodies adjoin the project site? Yes No

If Yes to either *i* or *ii*, continue. If No, skip to E.2.i.

iii. Are any of the wetlands or waterbodies within or adjoining the project site regulated by any federal, state or local agency? Yes No

iv. For each identified regulated wetland and waterbody on the project site, provide the following information:

- Streams: Name NYSDEC INDEX No. 139-13-61-9-13 Classification D
- Lakes or Ponds: Name _____ Classification _____
- Wetlands: Name ACOE Approximate Size 0.5 acre
- Wetland No. (if regulated by DEC) _____

v. Are any of the above water bodies listed in the most recent compilation of NYS water quality-impaired waterbodies? Yes No

If yes, name of impaired water body/bodies and basis for listing as impaired: _____

i. Is the project site in a designated Floodway? Yes No

j. Is the project site in the 100 year Floodplain? Yes No

k. Is the project site in the 500 year Floodplain? Yes No

l. Is the project site located over, or immediately adjoining, a primary, principal or sole source aquifer? Yes No

If Yes:
 i. Name of aquifer: _____

m. Identify the predominant wildlife species that occupy or use the project site:		
White Tail Deer Grey Squirrel Blue Jay	Woodchuck Garter Snake	Raccoon House Sparrow
n. Does the project site contain a designated significant natural community? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		
If Yes:		
i. Describe the habitat/community (composition, function, and basis for designation): _____		
ii. Source(s) of description or evaluation: _____		
iii. Extent of community/habitat:		
<ul style="list-style-type: none"> • Currently: _____ acres • Following completion of project as proposed: _____ acres • Gain or loss (indicate + or -): _____ acres 		
o. Does project site contain any species of plant or animal that is listed by the federal government or NYS as endangered or threatened, or does it contain any areas identified as habitat for an endangered or threatened species? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		
p. Does the project site contain any species of plant or animal that is listed by NYS as rare, or as a species of special concern? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		
q. Is the project site or adjoining area currently used for hunting, trapping, fishing or shell fishing? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If yes, give a brief description of how the proposed action may affect that use: _____		
E.3. Designated Public Resources On or Near Project Site		
a. Is the project site, or any portion of it, located in a designated agricultural district certified pursuant to Agriculture and Markets Law, Article 25-AA, Section 303 and 304? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If Yes, provide county plus district name/number: <u>Orange county - Ag2 district</u>		
b. Are agricultural lands consisting of highly productive soils present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No i. If Yes: acreage(s) on project site? <u>2.1</u> ii. Source(s) of soil rating(s): <u>HoB prime</u>		
c. Does the project site contain all or part of, or is it substantially contiguous to, a registered National Natural Landmark? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If Yes:		
i. Nature of the natural landmark: <input type="checkbox"/> Biological Community <input type="checkbox"/> Geological Feature		
ii. Provide brief description of landmark, including values behind designation and approximate size/extent: _____		
d. Is the project site located in or does it adjoin a state listed Critical Environmental Area? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If Yes:		
i. CEA name: _____		
ii. Basis for designation: _____		
iii. Designating agency and date: _____		

e. Does the project site contain, or is it substantially contiguous to, a building, archaeological site, or district which is listed on, or has been nominated by the NYS Board of Historic Preservation for inclusion on, the State or National Register of Historic Places? Yes No

If Yes:

i. Nature of historic/archaeological resource: Archaeological Site Historic Building or District

ii. Name: _____

iii. Brief description of attributes on which listing is based: _____

f. Is the project site, or any portion of it, located in or adjacent to an area designated as sensitive for archaeological sites on the NY State Historic Preservation Office (SHPO) archaeological site inventory? Yes No

g. Have additional archaeological or historic site(s) or resources been identified on the project site? Yes No

If Yes:

i. Describe possible resource(s): _____

ii. Basis for identification: _____

h. Is the project site within five miles of any officially designated and publicly accessible federal, state, or local scenic or aesthetic resource? Yes No

If Yes:

i. Identify resource: Appalachian Trail

ii. Nature of, or basis for, designation (e.g., established highway overlook, state or local park, state historic trail or scenic byway, etc.): National parks trail

iii. Distance between project and resource: _____ 3.5 miles.

i. Is the project site located within a designated river corridor under the Wild, Scenic and Recreational Rivers Program 6 NYCRR 666? Yes No

If Yes:

i. Identify the name of the river and its designation: _____

ii. Is the activity consistent with development restrictions contained in 6NYCRR Part 666? Yes No

F. Additional Information

Attach any additional information which may be needed to clarify your project.

If you have identified any adverse impacts which could be associated with your proposal, please describe those impacts plus any measures which you propose to avoid or minimize them.

G. Verification

I certify that the information provided is true to the best of my knowledge.

Applicant/Sponsor Name David Griggs Date 10/16/14

Signature  Title Senior Scientist

APPENDIX E

**REVISED STORMWATER POLLUTION
PREVENTION PLAN**

**STORMWATER POLLUTION
PREVENTION PLAN**

HOMARC LAND, LLC

**TOWN OF WARWICK
ORANGE COUNTY, NEW YORK**

Prepared by:

ERS Consultants, LLC
11 Forester Avenue
Warwick, New York 10990

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Appendices

Appendix A: NYSDEC SPDES General Permit GP-0-15-002

Appendix B: NYSDEC Forms

- Notice of Intent
- Notice of Termination (Sample Form)

Appendix C: SWPPP Preparer's Certification Form

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Appendix F: Figures

- Figure 1: Site Location Map
- Figure 2: Soils Map
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- Figure 4: Post-Development Watershed Delineation Map
- Figure 5: Preservation of existing vegetation Map

Appendix G: Pre-Development Stormwater Modeling

Appendix H: Post-Development Stormwater Modeling

Appendix I: Design Calculations

1.0 Application Information

Record Owner: Homarc Land, LLC
1997 State Route 17M, #7
Goshen, New York 10924-5230

2.0 Location Map



3.0 Executive Summary

This Stormwater Pollution Prevention Plan (SWPPP) has been prepared for major activities associated with construction of Homarc in the Town of Warwick. This SWPPP includes the elements necessary to comply with the national baseline general permit for construction activities enacted by the U.S. Environmental Protection Agency (EPA) under the National Pollutant Discharge Elimination System (NPDES) program and all local governing agency requirements. This SWPPP must be implemented at the start of construction.

This SWPPP has been developed in accordance with the “New York State Department of Environmental Conservation (NYSDEC) State Pollution Discharge Elimination System (SPDES) General Permit for Stormwater Discharges from Construction Activity” General Permit Number GP-0-15-002, effective January 29, 2015 through January 28, 2020. The SWPPP and accompanying plans identify and detail stormwater management (SWM), pollution prevention and erosion and sediment control measures necessary during and following completion of construction.

This SWPPP and the accompanying plans entitled Homarc have been submitted as a set. These engineering drawings are considered an integral part of the SWPPP, therefore this SWPPP is not considered complete without them. Reference made herein to “the plans” or to a specific “sheet” refers to these drawings.

This report considers the impacts associated with the intended development with the purpose of:

1. Maintaining existing drainage patterns as much as possible while continuing the conveyance of upland watershed runoff;
2. Controlling increases in the rate of stormwater runoff resulting from the proposed development so as not to adversely alter downstream conditions; and
3. Mitigating potential stormwater quality impacts and preventing soil erosion and sedimentation resulting from stormwater runoff generated both during and after construction.

The analysis and design completed and documented in this report is intended to be part of the application made for a commercial development project completed on behalf of Homarc.

The stormwater analysis identified herein follows the NYS Standards and Specifications for Erosion and Sediment Control, the “NYS Stormwater Management Design Manual, dated August 2010” (Manual) and the USDA Technical Release No. 20. This Master SWPPP and analysis are an integral part of the project’s natural resource management plan which takes into consideration existing parameters of site topography, soils, erosion potential, surface waters, their connectivity and water quality of receiving water bodies.

Stormwater mitigation measures primarily involve preventing soil erosion and sedimentation resulting from stormwater runoff during and after construction. During construction, this is accomplished by sequencing site disturbance activities to establish erosion controls, minimize disturbed areas, maintain existing vegetation as much as possible and stabilize newly disturbed areas as soon as possible. Stormwater pollutant controls utilized during construction will include temporary sediment barriers and sediment traps designed in accordance with the “NYS Standards and Specifications for Erosion and Sediment Control”. Stormwater pollutant controls utilized after construction will include stormwater quality control facilities designed in accordance with the Manual.

Land development can also have an effect on site hydrology. Impervious areas such as rooftops, roads, driveways and parking lots can cause rainfall to rapidly convert into stormwater runoff. Increases in runoff can cause stream bank erosion and floodplain expansion. To mitigate these impacts, stormwater quantity controls will be implemented to capture and release runoff at less than pre-development discharge rates. A hydrologic and hydraulic analysis was performed using computer modeling and an evaluation of the proposed improvements across the project site. A conventional stormwater management system was developed, consisting of centralized stormwater management facilities designed to meet the requirements of the Manual.

3.1 Project Description

Homarc Land, LLC is proposing to develop professional office, retail and food service uses on land totaling approximately 5.1 acres on NYS Route 94 (New Milford Road) east of Sanfordville Road in the Town of Warwick, Orange County, New York. The property is zoned for this purpose. The proposed development is comprised of an approximately 21,900 square foot one-story building. The project will utilize on-site water supply and municipal sewage system, will have a total of approximately 84 parking spaces, and have a total disturbance area of 3.33 acres or 65 percent of the site. A location map of the site has been provided in Appendix F, as Figure 1.

This SWPPP includes post-construction stormwater management practices as well as erosion and sediment controls. This project is not located within a regulated, traditional land use control Municipal Separate Stormwater Sewer System (MS4).

Runoff from the project site will discharge to an unnamed tributary to the Wawayanda Creek, listed as NYSDEC index no. 139-13-61-9-13, which is a class D stream and not included in the list of Section 303(d) water bodies.

Project construction activities will consist primarily of site grading, paving, building construction and the installation of storm drainage, water supply, sewage collection and public utility infrastructure necessary to support the proposed development. Construction phase pollutant sources anticipated at the site are disturbed soil, vehicle fuels and lubricants, chemicals associated with building construction and building materials. Without adequate control there is the potential for each type of pollutant to be transported by stormwater.

3.2 Stormwater Pollution Controls

The proposed measures outlined herein have been designed to provide both quality and quantity controls by treating and detaining runoff prior to its discharge offsite. These measures have been designed and evaluated in accordance with the following standards and guidelines:

- New York State Stormwater Management Design Manual, dated August 2010
- New York State Standards and Specifications for Erosion and Sediment Control (August 2005).

A pocket pond and cistern will be used to treat the water quality volume produced from the proposed professional office, retail and food service.

Pre-development and post-development surface runoff rates have been evaluated for the 2-year, 10-year and 100 year 24-hour storm events. Comparison of pre-development and post-development watershed conditions demonstrates that the peak rate of runoff from the project site will not be increased; therefore, the project will not have a significant adverse impact on the adjacent or downstream properties or receiving water courses.

The proposed stormwater collection system consisting of pipes and on-site stormwater management facilities will adequately collect, treat and convey the stormwater.

Stormwater quality will be enhanced through the implementation of the proposed stormwater management facilities, erosion and sediment control measures and maintenance practices outlined herein.

The post-construction stormwater management practices will be privately owned by Homarc Land, LLC. Deed restrictions are in place, which require operation and maintenance of the practices in accordance with the operation and maintenance plan.

3.3 Conclusion

This project is not subject to the requirements of a regulated MS4 and this SWPPP has been prepared in conformance with the current NYS standards and specifications for Erosion and Sediment Control and NYS Stormwater Management Design Manual, dated August 2010. As such, GP-0-15-002 coverage will be effective five (5) business days from the date the NYSDEC received the complete NOI, unless notified otherwise by the NYSDEC.

It is our opinion that the proposed development will not adversely impact adjacent or downstream properties if the stormwater management facilities are properly constructed and maintained in accordance with the requirements outlined herein.

4.0 SWPPP Implementation Responsibilities

A summary of the responsibilities and obligations of all parties involved with compliance with the NYSDEC SPDES General Permit GP-0-15-002 conditions is outlined in the subsequent sections.

4.1 Definitions

1. “General SPDES Permit” means a SPDES permit issued pursuant to 6 NYCRR Part 750-1.21 authorizing a category of discharges.
2. “Owner” or “Operator” means the person, persons or legal entity which owns or leases the property on which the construction activity is occurring; and/or an entity that has operational control over the construction plans and specifications, including the ability to make modifications to the plans and specifications. There may be occasions during the course of the project in which there are multiple Owners/Operators, all of which need to file and maintain the appropriate SWPPP documents and plans, including without limitation, the Notice of Intent (NOI) and Notice of Termination (NOT).
3. “Owner’s/Operator’s Engineer” shall be that person or entity retained by an Owner/Operator to design and oversee the implementation of the SWPPP.
4. “Contractor” shall be that person or entity identified as such in the construction contract with the Owner/Operator. The term “Contractor” shall also include the Contractor’s authorized representative, as well as any and all subcontractors retained by the Contractor.
5. “Qualified Inspector” means a person that is knowledgeable in the principles and practices of erosion and sediment control, such as a licensed Professional Engineer, Certified Professional in Erosion and Sediment Control (CPESC), licensed Landscape Architect or other Department endorsed individual(s).

It can also mean someone working under the direct supervision of and at the same company as, the licensed Professional Engineer or licensed Landscape Architect, provided that person has training in the principles and practices of erosion and sediment control. Training in the principles and practices of erosion and sediment control means that an individual performing a site inspection has received four (4) hours of training, endorsed by the Department, from Soil and Water Conservation District, CPESC, Inc. or other Department endorsed entity in proper erosion and sediment control principles. After receiving the initial training, the individual working under the direct supervision of the licensed Professional engineer or licensed landscape Architect shall receive four (4) hours of training every three (3) years.

Note: Inspections of any post-construction stormwater management practices that include structural components, such as a dam for an impoundment, shall be performed by a licensed Professional Engineer.

6. “Qualified Professional” means a person that is knowledgeable in the principles and practices of stormwater management and treatment, such as a licensed Professional Engineer, licensed Landscape Architect or other Department endorsed individual(s). Individuals preparing SWPPP’s that require the post-construction stormwater management practice component must have an understanding of the principles of hydrology, water quality management practice design, water quantity control design and, in many cases, the principles of hydraulics in order to prepare a SWPPP that conforms to the Department’s technical standards. All components of the SWPPP that involve the practice of engineering, as defined by the NYS Education Law (see Article 145), shall be prepared by, or under the direct supervision of, a Professional Engineer licensed to practice in the State of New York.
7. “Trained Contractor” means an employee from a contracting (construction) company that has received four (4) hours of training, which has been endorsed by the Department, from a Soil and Water Conservation District, CPESC, Inc. or other Department endorsed entity, in proper erosion and sediment control principles. After receiving the initial training, the “Trained Contractor” shall receive four (4) hours of training every three (3) years.

It can also mean an employee from the contracting (construction) company that meets the “Qualified Inspector” qualifications (e.g. licensed Professional Engineer, Certified Professional in Erosion and Sediment Control (CPESC), Registered Landscape Architect or someone working under the direct supervision of and at the same company as the licensed Professional Engineer or Registered Landscape Architect, provided they have received four (4) hours of Department endorsed training in proper erosion and sediment control principles from a Soil and Water Conservation District or other Department endorsed entity).

The “Trained Contractor” will be responsible for the day to day implementation of the SWPPP.

4.2 Owner's/Operator's Responsibilities

1. Retain the services of a "Qualified Professional", as defined under Section 2.1, to provide the services outlined in Section 2.3 "Owner/Operator's Engineer's Responsibilities".
2. Have an authorized corporate officer sign the completed NOI. A copy of the completed NOI is included in Appendix B.
3. Submit the signed NOI along with the SWPPP acceptance form to the following:

NOTICE OF INTENT
NYSDEC, Bureau of Water Permits
625 Broadway, 4th Floor
Albany, New York 12233-3505

4. Pay the required initial and annual fees upon receipt of invoices from the NYSDEC. These invoices are generally issued in the fall of each year. The initial fee is calculated as \$100.00 per acre disturbed plus \$600.00 per acre of net increase in impervious cover and the annual fee is \$100.00.
5. Retain the services of an independent certified materials testing and inspection firm operating under the direction of a licensed Professional Engineer to perform regular tests, inspections and certifications of the construction materials used in the construction of all post-construction stormwater management practices.
6. Retain the services of a NYS licensed land surveyor to perform an as-built topographic survey of the completed post-construction stormwater management facilities.
7. Prior to the commencement of construction activity, identify the contractor(s) and subcontractor(s) that will be responsible for implementing the erosion and sediment control measures and stormwater management practices described in the SWPPP. Have each of these contractors and subcontractors identify at least one "Trained Contractor", as defined under Section 2.1 that will be responsible for the implementation of the SWPPP. Ensure that the Contractor has at least one "Trained Contractor" on site on a daily basis when soil disturbance activities are being performed.
8. Schedule a pre-construction meeting which shall include the Town of Warwick representative, Owner's/Operator's Engineer, Contractor and their subcontractors to discuss responsibilities as they relate to the implementation of this SWPPP.
9. Require the Contractor to fully implement the SWPPP prepared for the site by the Owner/Operator's Engineer to ensure that the provisions of the SWPPP are implemented from the commencement of construction activity until all areas of

disturbance have achieved final stabilization and the Notice of Termination (NOT) has been submitted.

10. Forward a copy of the NOI Acknowledgment Letter received from the regulatory agency to the Owner's/Operator's Engineer for project records and to the Contractor for display at the job site.
11. Maintain a copy of the General Permit (GP-0-15-002), NOI, NOI Acknowledgment Letter, SWPPP, inspection reports, spill prevention, countermeasures and cleanup ("SPCC") Plan, inspection records and other required records on the job site so that they may be made available to the regulatory agencies.
12. Post at the site, in a publicly accessible location, a copy of the General Permit (GP-0-15-002), a signed copy of the NOI, the NOI acknowledgment Letter and on a monthly basis a summary of the site inspection activities.
13. Prepare a written summary of project status with respect to compliance with the General Permit at a minimum frequency of every three months during which coverage under the permit exists. The summary should address the status of achieving the overall goal of the SWPPP. The summary shall be maintained at the site in a publicly accessible location.
14. Prior to submitting a Notice of Termination, ensure one of the following:
 - a) The post-construction stormwater management practice(s) and any right-of-way(s) needed to maintain such practice(s) have been deeded to the municipality in which the practice(s) is located.
 - b) An executed maintenance agreement is in place with the municipality that will maintain the post-construction stormwater management practice(s).
 - c) For post-construction stormwater management practice(s) that are privately owned, the Owner/Operator has a deed restriction in place that requires operation and maintenance of the practice(s) in accordance with the operation and maintenance plan,
 - d) For post-construction stormwater management practice(s) that are owned by a public or private institution (e.g. school, college, university), or government agency or authority, the Owner/Operator has policy and procedures in place that ensure operation and maintenance of the practice(s) in accordance with the operation and maintenance plan.
15. Submit a Notice of Termination (NOT) form (see Appendix B) within 48 hours of receipt of the Owner's/Operator's Engineer's certification of final site stabilization to the following:

NOTICE OF TERMINATION
NYSDEC, Bureau of Water Permits
625 Broadway, 4th Floor
Albany, New York 12233-3505

16. Request and receive all SWPPP records from the Owner's/Operator's Engineer and archive those records for a minimum of five years after the NOT is filed.
17. Require the implementation of the Post-Construction Inspection and Maintenance procedures outlined in Appendix E.
18. The NOI, SWPPP and inspection reports required by GP-0-15-002 are public documents that the Owner/Operator must make available for review and copying by any person within five (5) business days of the Owner/Operator receiving a written request by any such person to review the NOI, SWPPP or inspection reports. Copying of documents will be done at the requester's expense.
19. The Owner/Operator must keep the SWPPP current at all times. At a minimum, the Owner/Operator shall amend the SWPPP:
 - a) Whenever the current provisions prove to be ineffective in minimizing pollutants in stormwater discharges from the project site;
 - b) Whenever there is a change in design, construction or operation at the construction site that has or could have an effect on the discharge of pollutants; and
 - c) To address issues or deficiencies identified during an inspection by the "Qualified Inspector", the Department or other Regulatory Authority.

4.3 Owner's/Operator's Engineer's Responsibilities

1. Prepare the SWPPP using good engineering practices, best management practices and in compliance with all federal, state and local regulatory requirements.
2. Prepare the Notice of Intent (NOI) form (see Appendix B), sign the "SWPPP Preparer Certification" section of the NOI and forward to Owner/Operator for signature.
3. Provide copies of the SWPPP to the Town of Warwick once all signatures and attachments are complete.
4. Prepare a construction Site Log Book to be used in maintaining a record of all inspection reports generated throughout the duration of construction.

5. Participate in a pre-construction meeting with the Town of Warwick representative, Owner/Operator, Contractor and their subcontractors to discuss responsibilities as they relate to the implementation of this SWPPP.
6. Enter Contractor's information in Section 2.5 "SWPPP Participants" once a Contractor is selected by the Owner/Operator.
7. Conduct an initial assessment of the site prior to the commencement of construction and certify in an inspection report that the appropriate erosion and sediment control measures described within this SWPPP have been adequately installed and implemented to ensure overall preparedness of the site.
8. Provide on-site inspections to determine compliance with the SWPPP. Site inspections shall occur at an interval of at least once every seven calendar days. A written inspection report shall be provided to the Owner/Operator and general contractor within one business day of the completion of the inspection, with any deficiencies identified. A sample inspection form is provided in Appendix D.
9. Review the Contractor's SWPPP records on a periodic basis to ensure compliance with the requirements for daily reports and inspections and maintenance logs.
10. Maintain the construction Site Log Book throughout the duration of construction.
11. Update the SWPPP each time there is a significant modification to the pollution prevention measures or a change of the principle Contractor working on the project who may disturb site soil.
12. Based on the as-built survey and material testing certifications performed by others, perform evaluations of the completed stormwater management facilities to determine whether they were constructed in accordance with the SWPPP.
13. Conduct a final site assessment and prepare a certification letter to the Owner/Operator indicating that, upon review of the material testing and inspection reports prepared by the firm retained by the Owner/Operator, review of the completed topographic survey and evaluation of the completed stormwater management facilities, the stormwater management facilities have been constructed in accordance with the contract documents and should function as designed.
14. Prepare the Notice of Termination (NOT). Sign the NOT Certifications VI (Final Stabilization) and VII (Post-construction Stormwater Management Practices), and forward the NOT to the Owner/Operator for his signature on Certification VIII (Owner/Operator Certification).

15. Transfer the SWPPP documents, along with all NOI's, permit certificates, NOT's, construction Site Log Book and written records required by the General Permit to the Owner/Operator for archiving.

4.4 Contractor's Responsibilities

1. Sign the SWPPP Contractor's Certification Form forward to the Owner's /Operator's Engineer for inclusion in the Site Log Book.
2. Identify at least one Trained Contractor that will be responsible for implementation of this SWPPP. Ensure that at least one Trained Contractor is on site on a daily basis when soil disturbance activities are being performed.
3. Provide the names and addresses of all subcontractors working on the project site. Require all subcontractors who will be involved with construction activities that will result in soil disturbance to identify at least one Trained Contractor that will be on site on a daily basis when soil disturbance activities are being performed; and to sign a copy of the Contractor's Certification Form and forward to the Owner's/Operator's Engineer for inclusion into the Site Log Book. This information must be retained as part of the Site Log Book.
4. Maintain a Spill Prevention and Response Plan in accordance with requirements outlined in Section 5.4 of the SWPPP. This plan shall be provided to the Owner's/Operator's Engineer for inclusion in the Site Log Book.
5. Participate in a pre-construction meeting which shall include the Town of Warwick representative, Owner/Operator, Owner's/Operator's Engineer, and all subcontractors to discuss responsibilities as they relate to the implementation of this SWPPP.
6. If Contractor plans on utilizing adjacent properties for material, waste, borrow, or equipment storage areas, or if Contractor plans to engage in industrial activity other than construction (such as operating asphalt and/or concrete plants) at the site, Contractor shall submit appropriate documentation to the Owner's/Operator's Engineer so that the SWPPP can be modified accordingly.
7. Implement site stabilization, erosion and sediment control measures and other requirements of the SWPPP.
8. In accordance with the requirements in the most current version of the NYS Standards and Specifications for Erosion and Sediment Control, conduct inspections of erosion and sediment control measures installed at the site to ensure that they remain in effective operating condition at all times. Prepare and retain written documentation of inspections as well as of all repairs/maintenance activities performed. This information must be retained as part of the Site Log Book.

9. Maintain a record of the dates when major grading activities occur, when construction activities temporarily or permanently cease on a portion of the site, and when stabilization measures are initiated, until such time as the NOT is filed.
10. Begin implementing corrective actions within one business day of receipt of notification by the Qualified Inspector that deficiencies exist with the erosion and sedimentation control measures employed at the site. Corrective actions shall be completed within a reasonable time frame.

5.0 Site Characteristics

5.1 Land Use and Topography

The site is currently vacant, undeveloped, agricultural meadow/brushland, freshwater wetlands and wooded uplands. The site topography is gently sloped, rising toward the southern portion of the property and generally draining toward the watercourse to the north and east and toward the wetland on the northeast portion of the site.

The site contains an area of US Army Corps of Engineers wetlands totaling approximately 0.5 acres. A New York State protected stream flows through the Federal wetland on the site that is a tributary of the Wawayanda Creek. No New York State Department of Environmental Conservation wetlands are present on site or immediately adjacent, but such State wetlands are located in the general vicinity of the site. Well-drained to moderately drained soils cover the majority of the property.

The subject property is located in the Community Business (CB) zoning district. Land use in the vicinity of the site includes vacant, agricultural, commercial, and residential uses. The site has approximately 440 feet of frontage on Route 94.

5.2 Soil and Groundwater

The Orange County Soil Conservation was used to obtain surficial soil conditions for the study area. A Soil Map, Physical Soil Properties report, Engineering Properties report, and Water Features report were obtained from the Orange County Soil Survey, and have been included in Appendix F.

Upon review of the soil data, the project site does not contain soils with a soil slope phase of E or F.

The Soil Conservation Service defines the hydrologic soil groups as follows:

- Type A Soils: Soils having a high infiltration rate and low runoff potential when thoroughly wet. These soils consist mainly of deep, well drained to

excessively drained sands or gravelly sands. These soils have a moderate rate of water transmission.

- **Type B Soils:** Soils having a moderate infiltration rate when thoroughly wet and consisting mainly of moderately deep to deep, moderately well to well drained soils with moderately fine to moderately coarse textures. These soils have a moderate rate of water transmission.
- **Type C Soils:** Soils having a low infiltration rate when thoroughly wet and consisting chiefly of soils with a layer that impedes downward movement of water and soils with moderately fine to fine texture. These soils have a low rate of water transmission.
- **Type D Soils:** Soils having a very low infiltration rate and high runoff potential when thoroughly wet. These soils consist chiefly of clays that have high shrink-swell potential, soils that have a permanent high water table, soils that have a clay pan or clay layer at or near the surface and soils that are shallow over nearly impervious material. These soils have a very low rate of water transmission.

The soils map for the study area is presented in Appendix F, as Figure 2.

5.3 Watershed Designation

The project site is not located in a restricted.

5.4 Receiving Water Bodies

The nearest natural classified water body into which runoff from the project site will discharge is the unnamed tributary to the Wawayanda Creek.

The unnamed tributary of the Wawayanda Creek is classified by NYSDEC as a Class C water body and is not included in the Section 303(d) list of impaired waters.

5.5 Aquifer Designation

The project site is not located over a U.S. EPA designated Sole Source aquifer; nor is it located over a Primary or Principle aquifer listed in the NYSDEC Technical and Operational Guidance Series (TOGS) 2.1.3 (1980).

5.6 Wetlands

Wetlands depicted on the accompanying plan set were delineated by ERS Consultants, Inc. on August 2007. These wetlands are federally regulated wetlands that encompass approximately 0.5 acres of the 5.1 acre property.

The New York State Department of Environmental Conservation (NYSDEC) Freshwater Wetlands Map of the Wawayanda Quadrangle, Orange County Map indicated that State regulated wetlands are not located on-site.

5.7 Flood Plains

According to the National Flood Insurance Program Flood Insurance Rate Map (FIRM), Town of Warwick, New York, Community Panel Number 3606360007B, the project site lays within Flood Zone C an area above the 100-year floodplain.

5.8 Listed, Endangered or Threatened Species

According to the NYSDEC Natural Heritage Program letter dated November 3, 2014, there are no listed, threatened or endangered species, or critical habitats, known to exist within the limits of the project site.

An ecological assessment of the site indicates that the project will not have significant adverse impact on any listed, endangered or threatened species, or on any critical habitat. In addition, the stormwater discharges from the project site will not adversely impact listed, endangered or threatened species so long as the stormwater management practices have been constructed in accordance with this SWPPP.

5.9 Historic Places

A review of the Geographic Information System for Archeology and National Register provided by The New York State Office of Parks, Recreation and Historic Preservation show the project site located within the general boundaries of the state's known archeological areas.

A Phase 1A site assessment was conducted by Tracker Archaeology Services, Inc. in 2007 of the project site and its environs to determine the potential sensitivity of the project site to historical and archaeological resources of significance. The Phase 1A assessment identified various locations on the site as having an above average potential for containing buried Native American cultural remains. A Phase IB site identification survey was carried out to determine the presence or absence of archaeological sites on the property. No prehistoric artifacts or features were encountered. Additionally, no historic artifacts or features were encountered. The Tracker reports states that "no further work is recommended for this project area".

In addition, the stormwater discharges from the project site will not adversely impact downstream properties so long as the stormwater management practices have been constructed in accordance with this SWPPP.

5.10 Rainfall Data

Rainfall data utilized in the modeling and analysis were interpolated from maps presented in Chapter 4 of the NYSDEC Stormwater Management Design Manual, dated August 2010, and in the National Weather Service (NWS) Technical Paper 40 (TP-40), Rainfall Frequency Atlas of the United States for Durations from 30 minutes to 24 Hours and Return Periods from 1 to 100 years (1961). Rainfall data specific to the portion of Orange County under consideration, for various 24-hour storm events, is presented in Table 1:

Table 1: Rainfall Data

Storm Event Return Period	24-Hour Rainfall (inches)
2-year	3.2
10-year	5.5
100-year	8.0

These values were used to evaluate the pre-development and post-development stormwater runoff characteristics.

6.0 Construction Sequence

This project encompasses less than five (5) acres of land and disturbance of additional off-site properties to facilitate construction is not anticipated, therefore written approval from NYSDEC allowing the disturbance of more than five (5) acres of land at any one time is not required. If the Contractor's construction sequence requires the disturbance of more than five (5) acres at any one time, written approval must be obtained from NYSDEC prior to disturbing more than five (5) acres at once.

7.0 Construction-Phase Pollution Control

The SWPPP and accompanying plans identify the temporary and permanent erosion and sediment control measures that have been incorporated into the design of this project. These measures will be implemented during construction to minimize soil erosion and control sediment transport off-site, and after construction, to control the quality and quantity of stormwater runoff from the developed site.

Erosion control measures, designed to minimize soil loss and sediment control measures, intended to retain eroded soil and prevent it from reaching water bodies or adjoining properties, have been developed in accordance with the following documents:

- NYSDEC SPDES General Permit for Stormwater Discharges from Construction Activity, Permit No. GP-0-15-002 (effective January 29, 2010 through January 28, 2015)
- New York State Standards and Specifications for Erosion and Sediment Control, NYSDEC (August 2005)

The SWPPP and Accompanying plans outline the construction scheduling for implementing the erosion and sediment control measures. The SWPPP and accompanying plans include limitations on the duration of soil exposure, criteria and specifications for placement and installation of the erosion and sediment control measures, a maintenance schedule, and specifications for the implementation of erosion and sediment control practices and procedures.

Temporary and permanent erosion and sediment control measures that shall be applied during construction generally include:

1. Minimizing soil erosion and sedimentation by stabilization of disturbed areas and by removing sediment from construction site discharges.
2. Preservation of existing vegetation as much as possible. Following the completion of construction activities in any portion of the site permanent vegetation shall be established on all exposed soils.
3. Site preparation activities shall be planned to minimize the area and duration of soil disturbance.
4. Permanent traffic corridors shall be established and “routes of convenience” shall be avoided.

7.1 Temporary Erosion and Sediment Control Measures

The temporary erosion and sediment control measures described in the following sections are included as part of the construction documents.

7.1.1 Stabilized Construction Entrance

Prior to construction, stabilized construction entrances will be installed, as shown on the detail plan, to reduce the tracking of sediment onto public roadways.

Construction traffic must enter and exit the site at the stabilized construction entrance. The intent is to trap dust and mud that would otherwise be carried off-site by construction traffic.

The entrance shall be maintained in a condition, which will control tracking of sediment onto public right-of-ways or streets. When necessary, the placement of additional aggregate atop the filter fabric will be done to assure the minimum thickness is maintained. All sediments and soils spilled, dropped or washed onto the public right-of-ways must be removed immediately. Periodic inspection and needed maintenance shall be provided after each substantial rainfall event.

7.1.2 Dust Control

Water trucks shall be used as needed during construction to reduce dust generated on the site. Dust control must be provided by the general Contractor to a degree that is acceptable to the Owner, and in compliance with the applicable local and state dust control requirements.

7.1.3 Silt Fence

Prior to the initiation of and during construction activities, a geotextile filter fabric (or silt fence) will be established along the down slope perimeter of areas to be disturbed as a result of the construction which lie up gradient of watercourses or adjacent properties. These barriers may extend into non-impact areas to provide adequate protection of adjacent lands.

Clearing and grubbing will be performed only as necessary for the installation of the sediment control barrier. To facilitate effectiveness of the silt fencing, daily inspections and inspections immediately after significant storm events will be performed by site personnel. Maintenance of the fence will be performed as needed.

7.2 Permanent Erosion and Sediment Control Measures

The permanent erosion and sediment control measures described in the following sections are included as part of the construction documents.

7.2.1 Establishment of Permanent Vegetation

Disturbed areas that will be vegetated must be seeded in accordance with the contract documents. The type of seed, mulch and maintenance measures as described in the contract documents shall also be followed.

All areas at final grade must be seeded and mulched within 14 days after completion of the major construction activity. All seeded areas should be protected with mulch.

Final site stabilization is achieved when all soil-disturbing activities at the site have been completed and a uniform, perennial vegetative cover with a density of 80 percent has been established or equivalent stabilization measures (such as the use of mulches or

geotextiles) have been employed on all unpaved areas and areas not covered by permanent structures.

7.2.2 Rock Outlet Protection

Rock outlet protection shall be installed at the locations as indicated and detailed on the accompanying plans. The installation of rock outlet protection will reduce the depth, velocity and energy of water, such that the flow will not erode the receiving watercourse or water body.

7.3 Other Pollutant Controls

Control of sediments has been described previously. Other aspects of this SWPPP are listed below:

7.3.1 Solid and Liquid Waste Disposal

No solid or liquid waste materials, including building materials, shall be discharged from the site with stormwater. All solid waste, including disposable materials incidental to any construction activities, must be collected and placed in containers. The containers shall be emptied periodically by a licensed trash disposal service and hauled away from the site.

Substances that have the potential for polluting surface and/or groundwater must be controlled by whatever means necessary in order to ensure that they do not discharge from the site. As an example, special care must be exercised during equipment fueling and servicing operations. If a spill occurs, it must be contained and disposed of so that it will not flow from the site or enter groundwater, even if this requires removal, treatment, and disposal of soil. In this regard, potentially polluting substances should be handled in a manner consistent with the impact they represent.

7.3.2 Sanitary Facilities

Temporary sanitary facilities will be provided by the Contractor throughout the construction phase. They must be utilized by all construction personnel and will be serviced by a licensed commercial Contractor. These facilities must comply with state and local sanitary or septic system regulations.

7.3.3 Water Source

Non-stormwater components of site discharge must be clean water. Water used for construction, which discharges from the site, must originate from a public water supply or private well approved by the Health Department. Water used for construction that does not originate from an approved public supply must not discharge from the site; such water can be retained in the ponds until it infiltrates and/or evaporates.

7.4 Construction Housekeeping Practices

During the construction phase, the general Contractor will implement the following measures:

7.4.1 Material Stockpiles

Material resulting from the clearing and grubbing operation will be stockpiled up slope from adequate sedimentation controls.

7.4.2 Equipment Cleaning and Maintenance

The general Contractor will designate areas for equipment cleaning, maintenance and repair. The general Contractor and subcontractors will utilize those areas. The areas will be protected by a temporary perimeter berm.

7.4.3 Detergents

The use of detergents for large-scale washing is prohibited (i.e., vehicles, buildings, pavement surfaces, etc.)

7.4.4 Spill Prevention and Response

A spill Prevention and Response Plan shall be developed for the site by the Contractor. The plan shall detail the steps needed to be followed in the event of an accidental spill and shall identify contact names and phone numbers of people and agencies that must be notified.

The plan shall include Material Safety Data Sheet (MSDS) for all materials to be stored on-site. All workers on-site will be required to be trained on safe handling and spill prevention procedures for all materials used during construction. Regular safety meetings shall be held and all workers that are expected on the site during the week shall be required to attend.

7.4.5 Concrete Wash Areas

Concrete trucks will be allowed to wash out or discharge surplus concrete or drum wash water on the site, but only in specifically designated diked and impervious washout areas which have been prepared to prevent contact between the concrete wash and stormwater. Waste generated from concrete wash water shall not be allowed to flow into drainage ways, inlets, receiving waters or highway right-of-ways, or any location other than the designated Concrete Wash Areas. Proper signage designating the "Concrete Wash Areas" shall be placed near the facility. Concrete Wash Areas shall be located at minimum 100 linear feet from drainage ways, inlets and surface waters.

The hardened residue from the Concrete Wash Areas will be disposed of in the same manner as other non-hazardous construction waste materials. Manteca of the wash area is to include removal of hardened concrete. Facility shall have sufficient volume to contain all the concrete waste resulting from the washout and a minimum freeboard of twelve (12) inches. Facility shall not be filled beyond 95% capacity and shall be cleaned out once 75% full unless a new facility is constructed. The Contractor will be responsible for seeing that these procedures are followed.

Saw-cut Portland Cement Concrete (PCC) slurry shall not be allowed to enter storm drains or watercourses. Saw-cut residue should not be left on the surface of pavement or be allowed to flow over and off pavement.

The project may require the use of multiple concrete wash areas. All concrete wash areas will be located in an area where the likelihood of the area contributing to stormwater discharges is negligible. If required, additional BMPs must be implemented to prevent concrete wastes from contributing to stormwater discharges.

7.4.6 Material Storage

Construction materials shall be stored in a dedicated staging area. The staging area shall be located in an area that minimizes the impacts of the construction materials effecting stormwater quality.

Chemicals, paints, solvents, fertilizers and other toxic materials must be stored in waterproof containers. Except during application, the contents must be kept in trucks or within storage facilities. Runoff containing such material must be collected, removed from the site, treated and disposed of at an approved solid waste or chemical disposal facility.

8.0 Post-Construction Stormwater Control

The goals of this Stormwater Management Plan are to analyze the peak rate of runoff under pre- and post-development conditions, to maintain the pre-developed rate of runoff in order to minimize impacts to adjacent or downstream properties and to minimize the impact to the quality of runoff exiting the site.

The NYS Stormwater Management Design Manual, dated August 2010 provides both water quality and water quantity objectives to be met by projects requiring a "Full SWPPP". These objectives will be met by applying stormwater control practices to limit peak runoff rates and improve the quality of runoff leaving the developed site.

8.1 Stormwater Control Practices

Stormwater runoff from the proposed development will be collected and conveyed to the quantity and quality control system(s) described herein through a closed storm sewer network.

The closed storm sewer network, consisting of catch basins, drainage manholes and high density polyethylene piping (HDPE) has been designed to convey the 10-year storm event, as required by the Town of Warwick.

The stormwater quantity and quality control systems described in the following sections have been incorporated into the stormwater management plan for this project. Design calculations for each measure have been included in Appendix I.

Based upon a review of the NYS Division of Water Regulations Part 673.4, none of the stormwater management facilities to be constructed as part of this project require a dam permit for construction, reconstruction, repair, breach or removal.

8.1.1 Pocket Pond (P-5)

Wet ponds typically consist of two general components – a forebay and a permanent wet pool. The forebay provides pretreatment by capturing coarse sediment particles in order to minimize the need to remove the sediments from the primary wet pool. The wet pool serves as the primary treatment mechanism and where much of the retention capacity exists. Wet ponds can be sized for a wide range of watershed sizes, if adequate space exists.

A variation of the conventional wet pond is as a pocket pond. The term “pocket” refers to a pond or wetland that has such as small contributing drainage area (between one to five acres) that little or no base flow is available to sustain water elevations during dry weather. Instead, water elevations are heavily influenced, and in some cases, maintained by locally high water table. Because of these smaller drainage areas and the resulting lower hydraulic loads of pocket ponds, outlet structures can be simplified and often do not have safety features such as emergency spillways and low level drains.

Pocket ponds can be used to attenuate the peak flow and provide quality treatment by sedimentation, chemical flocculation and biological removal. Sediment forebays will capture sediment and floatable trash/debris prior to entering the pond. The pocket pond is landscaped with a variety of plantings including emergent and woody shrubs, with each type of planting corresponding to the water depth. An aquatic bench will maximize the biological uptake of pollutants.

The Pocket Pond (P-5) was designed according to the criteria set forth in Section 6.1 “Stormwater Ponds” of the NYS Stormwater Management Design Manual, dated August 2010.

8.1.2 Hydrodynamic Separators

Hydrodynamic separators accelerate the separation of floating and settling pollutants from stormwater through the use of a vortex. These pre-fabricated devices come in the form of an underground manhole or vault. The devices have no moving parts and are typically fabricated from concrete and marine grade aluminum.

During operation, stormwater runoff enters the unit tangentially to promote a gentle swirling motion in a treatment chamber. A stormwater circles within the chamber, settleable solids fall into a sump and are retained. Buoyant debris, oil and grease rise to the surface and are separated from the water as it flows under a baffle wall. Finally, treated water exits the treatment chamber through a flow control orifice located behind the baffle wall.

During low-flow conditions all runoff is diverted into the treatment chamber by a flow partition. At higher flow rates, a portion of the runoff spills over the flow partition and is diverted around the treatment chamber to prevent re-suspension and washout of previously trapped pollutants. Water that spills over the partition flows into a head equalization chamber above the treatment chamber outlet. As the head equalization chamber fills, the head differential driving flow through the treatment chamber collapses. The result is that flow rates in the treatment chamber remain relatively constant even as total flow rates increase substantially. This configuration further reduces the potential for re-suspension or washout.

According to Chapter 9 of the NYS Stormwater Management Design Manual, dated August 2010, hydrodynamic separators of the type proposed for this project have been approved for use as a pretreatment system in new and redevelopment projects or as a primary treatment system on redevelopment projects.

8.2 Stormwater Quality Analysis

Stormwater runoff from impervious surfaces is recognized as a significant contributor of pollution that can adversely affect the quality of receiving water bodies. Therefore, treatment of stormwater runoff is important since most runoff related water quality contaminants are transported from land, particularly the impervious surfaces, during the initial stages of storm events.

8.2.1 NYSDEC Requirements

The NYS Stormwater Management Design Manual, dated August 2010 requires that water quality treatment be provided for the initial flush of runoff from every storm. The NYSDEC refers to the amount of runoff to be treated as the “Water Quality Volume” (WQv). Section 4.2 of the Manual defines the Water Quality Volume as follows:

$$WQv = \frac{[(P)(Rv)(A)]}{12}$$

Where: P = 90% Rainfall Event Number
Rv = 0.05 + 0.009 (I), minimum Rv = 0.2
I = Impervious Cover (Percentage)
A = Contributing Area in Acres

This definition ensures that, all other things being equal, the Water Quality Volume will increase along with the impervious cover percentage.

8.2.2 Methodology

The Water Quality Volume equation has been applied to the drainage area tributary to each of the stormwater quality practices proposed for the project. The practices have been sized to accommodate the Water Quality Volume, as per the performance criteria presented in Chapter 6 of the NYS Stormwater Management Design Manual, dated August 2010.

Design computations for the proposed stormwater quality practices are presented in Appendix I.

8.3 Stormwater Quantity Analysis

This report presents the pre-development and post-development features and conditions associated with the rate of surface water runoff within the study area. For both cases, the drainage patterns, drainage structures, soil types and ground cover types are considered in this study.

8.3.1 NYSDEC Requirements

The NYS Stormwater Management Design Manual, dated August 2010 requires that project meet three separate stormwater quantity criteria;

1. The Channel Protection (CP_v) requirement is designed to protect stream channels from erosion. This is accomplished by providing 24 hours of extended detention for the 2-year, 24-hour storm event. The Manual defines the CP_v detention time as the center of mass detention time through each stormwater management practice.
2. The Overbank Flood Control (Q_p) requirement is designed to prevent an increase in the frequency and magnitude of flow events that exceed the bank-full capacity of a channel, and therefore must spill over into the floodplain. This is accomplished by providing detention storage to ensure that, at each design point, the post-development 10-year, 24-hour peak discharge rate does not exceed the corresponding pre-development rate.
3. The Extreme Flood Control (Q_f) requirement is designed to prevent the increased risk of flood damage from large storm events, to maintain the boundaries of the pre-development 100-year floodplain, and to protect the physical integrity of stormwater management practices. This is accomplished by providing detention storage to ensure that, at each design point, the post-development 100-year, 24-hour peak discharge rate does not exceed the corresponding pre-development rate.

8.3.2 Methodology

In order to demonstrate that detention storage requirements are being met, the NYS Stormwater Management Design Manual, dated August 2010 requires that a hydrologic and hydraulic analysis of the pre- and post-development conditions be performed using the Natural Resources Conservation Service Technical Release 20 (TR-20) methodology. HydroCAD, developed by HydroCAD software Solutions LLC of Tamworth, New Hampshire, is a Computer-Aided- Design (CAD) program for analyzing the hydrologic and hydraulic characteristics of a given watershed and associated stormwater management facilities. HydroCAD uses the TR-20 algorithms and methods to create and route runoff hydrographs.

HydroCAD has the capability of computing hydrographs (which represent discharge rates characteristics of specified watershed conditions, precipitation and geologic factors) combining hydrographs and routing flows through pipes, streams and ponds. HydroCAD can also calculate the center of mass detention time for various hydraulic features. Documentation for HydroCAD can be found on their website: <http://www.hydrocad.net/>.

For this analysis, the watershed and drainage system was broken down into a network consisting of three types of components as describes below:

1. Subcatchment: A relatively homogeneous area of land, which produces a volume and rate of runoff unique to that area.
2. Reach: Uniform streams, channels or pipes that convey stormwater from one point to another.
3. Pond: Natural or man-made impoundment, which temporarily stores stormwater runoff and empties in a manner determined by its geometry and the hydraulic structure located at its outlets.

Subcatchments, reaches and ponds are represented by hexagons, squares and triangles respectively, on the watershed routing diagrams provided with the computations included in Appendix G and Appendix H.

The analysis of hydrologic and hydraulic conditions and proposed stormwater management facilities, servicing the study area, was performed by dividing the tributary watershed into relatively homogenous subcatchments. The separation of the watershed into subcatchments was dictated by watershed conditions, methods of collection, conveyance and points of discharge. Watershed characteristics for each subcatchment were then assessed from United States Geological Services (USGS) 7.5-minute topographic maps, aerial photographs, a topographical survey, soil surveys, site investigations and land use maps.

Proposed stormwater management facilities were designed and evaluated in accordance with the NYS Stormwater Management Design Manual, dated 2010 and local regulatory requirements. The hydrologic and hydraulic analysis considered the SCS, Type III, 24-hour, 2-year, 10-year and 100-year storm events.

8.3.3 Description of Design Points

The study area consists of an overall watershed that encompasses approximately 3.069 acres and contains the 5.1 acre project site. The overall watershed was broken down into smaller watersheds, or subcatchments to allow for analysis of runoff conditions at several locations throughout the study area. Each of these locations were defined as a Design Point (DP) in order to compare the effects resulting from stormwater management facilities proposed as part of the project.

8.3.4 Pre-development Watershed Conditions

The pre-development project site is covered predominantly by agricultural lands. Analysis of pre-development conditions considered existing drainage patterns, soil types, ground cover and topography.

The Pre-development Watershed Delineation Map has been provided in Appendix F, as Figure 3.

The results of the computer modeling used to analyze the overall watershed under pre-development conditions are presented in Appendix G. A summary of the pre-development watershed runoff rates at each design point is presented in Table 2.

8.3.5 Post-development Watershed Conditions

The post-development project site is covered predominantly by pavement and grass. The analysis of post-development conditions considered existing drainage patterns, soil types, ground cover to remain, planned site development, site grading and stormwater management facilities proposed as part of site improvements.

The Post-Development Watershed Delineation Map has been provided in Appendix F, as Figure 4.

The results of the computer modeling used to analyze the overall watershed under post-development conditions are presented in Appendix H. A summary of the post-development watershed runoff rates at each design point is presented in Table 2.

There are numerous locations and methods for providing controls of off-site discharge of stormwater from the project site. Each has been designed to provide the above quantity controls by attenuating stormwater runoff and releasing runoff to off-site locations at a rate equal to or less than that which existed prior to development of the site. Each device is detailed on the accompanying plans.

8.3.6 Performance Summary

A comparison of the pre- and post-development watershed conditions was performed for all design points and storm events evaluated herein. For all design points and design storms, this comparison demonstrates that the peak rate of runoff will not be increased. Therefore, the project will not have a significant adverse impact on the adjacent or downstream properties or receiving water courses. The results of the computer modeling used to analyze the pre- and post-development watersheds are presented in Appendix G and Appendix H, respectively. Table 2 summarizes the results of this analysis.

Table 2: Summary of Pre and Post-Development Peak Discharge Rates

2-Year, 24-Hour Storm (cfs)		10-Year, 24-Hour Storm (cfs)		100-Year, 24 Hour Storm (cfs)	
Pre	Post	Pre	Post	Pre	Post
0	0	0.26	0.26	2.04	1.78

9.0 Inspections, Maintenance and Reporting

9.1 Inspection and Maintenance Requirements

9.1.1 Pre-Construction Inspection and Certification

Prior to the commencement of construction, the Owner's/Operator's Engineer shall conduct an assessment of the site and certify that the appropriate erosion and sediment control measures have been adequately installed and implemented. The Contractor shall contact the Owner's/Operator's Engineer once the erosion and sediment control measures have been installed.

9.1.2 Construction Phase Inspections and Maintenance

A Qualified Inspector shall conduct a regular site inspection between the time this SWPPP is implemented and final site stabilization. Site inspection shall occur at an interval of at least once every seven calendar days.

The purpose of site inspections is to assess performance of pollutant controls. Based on these inspections, the Qualified Inspector will decide whether it is necessary to modify this SWPPP, add or relocate barriers, or whatever else may be needed in order to prevent pollutants from leaving the site via stormwater runoff. The general Contractor has the duty to cause pollutant control measures to be repaired, modified, maintained, and supplemented or whatever else is necessary in order to achieve effective pollutant control.

Examples of particular items to evaluate during site inspections are listed below. This list is not intended to be comprehensive. During each inspection the inspector must evaluate overall pollutant control system performance as well as particular details of individual system components. Additional factors should be considered as appropriate to the circumstances.

1. Locations where vehicles enter and exit the site must be inspected for evidence of off-site sediment tracking. A stabilized construction entrance will be constructed where vehicles enter and exit the site. This entrance will be maintained or supplemented as necessary to prevent sediment from leaving the site on vehicles.
2. Sediment barriers must be inspected and, if necessary, they must be enlarged or cleaned in order to provide additional capacity. All material from behind sediment barriers will be stockpiled on the up slope side. Additional sediment barriers must be constructed as needed.
3. Inspections will evaluate disturbed areas and areas used for storing materials that are exposed to rainfall for evidence of, or the potential for, pollutants entering the drainage system. If necessary, the materials must be covered or original covers must be repaired or supplemented. Also, protective berms must be constructed, if needed, in order to contain runoff from material storage areas.
4. Grassed areas will be inspected to confirm that a healthy stand of grass is maintained. The site has achieved final stabilization once all areas are covered with building foundation or pavement, or have a stand of grass with at least 80 percent density. The density of 80 percent or greater must be maintained to be considered stabilized. Areas must be watered, fertilized and reseeded as needed to achieve this goal.
5. All discharge points must be inspected to determine whether erosion control measures are effective in preventing significant impacts to receiving waters.

The inspection reports must be completed entirely and additional remarks should be included if needed to fully describe a situation. An important aspect of the inspection report is the description of additional measures that need to be taken to enhance plan effectiveness. The inspection report must identify whether the site was in compliance with the SWPPP at the time of inspection and specifically identify all incidents of non-compliance.

Within one business day of the completion of an inspection, the Qualified Inspector shall notify the Owner/Operator and appropriate Contractor (or subcontractor) of any corrective actions that need to be taken. The Contractor (or subcontractor) shall begin implementing corrective actions within one business day of this notification and shall complete the corrective actions in a reasonable time frame.

In addition to the inspections performed by the Owner's/Operator's Engineer, the Contractor shall perform routine inspections that include a visual check of all erosion and sediment control measures. All inspections and maintenance shall be performed in accordance with the inspection and maintenance schedule provided on the accompanying plans. Sediment removed from erosion and sediment control measures will be exported from the site, stockpiled for later use or used immediately for general non-structural fill.

It is the responsibility of the general Contractor to assure the adequacy of site pollutant discharge controls. Actual physical site conditions or Contractor practices could make it necessary to install more structural controls than are shown on the accompanying plans.

9.1.3 Temporary Suspension of Construction Activities

For construction sites where soil disturbance activities have been temporarily suspended (e.g. Winter shutdown) and temporary stabilization measures have been applied to all disturbance areas, the frequency of Qualified Inspector inspections can be reduced to once every thirty (30) calendar days. Prior to reducing the frequency of inspections, the Owner/Operator shall notify the NYSDEC Region 3 stormwater contact person in writing.

9.1.4 Partial Project Completion

For construction sites where soil disturbance activities have been shut down with partial project completion, all areas disturbed as of the project shutdown date have achieved final stabilization, and all post-construction stormwater management practices required for the completed portion of the project have been constructed in conformance with the SWPPP and are operational, the Qualified Inspector inspections can stop. Prior to the shutdown, the Owner/Operator shall notify the NYSDEC Region 3 stormwater contact person in writing.

If soil disturbance activities have not resumed within two years from the date of shutdown, a Notice of Termination (NOT) shall be properly completed and submitted to the NYSDEC.

9.1.5 Post-Construction Inspections and Maintenance

Inspections and maintenance of post-construction stormwater management practices shall be performed, when all disturbed areas are stabilized and all stormwater management systems are in place and operable.

9.2 Reporting Requirements

9.2.1 Inspection and Maintenance Reports

Inspection/maintenance reports shall be prepared prior to and during construction in accordance with the schedule outlined herein and in the SPDES General Permit GP-0-15-002 Part IV.C.2. The reports shall be prepared to identify and document the maintenance of the erosion and sediment control measures.

Specifically, each inspection shall record the following information:

1. Date and time of inspection.
2. Name and title of person(s) performing inspection.
3. A description of the weather and soil conditions at the time of the inspection.
4. A description of the condition of the runoff at all points of discharge (including conveyance systems and overload flow) from the construction site. This shall include identification of any discharges of sediment from the construction site.
5. A description of the condition of all natural surface water bodies located within, or immediately adjacent to, the property boundaries of the construction site which receive runoff from disturbed areas. This shall include identification of any discharge of sediment to the surface water body.
6. Identification of all erosion and sediment control practices that need repair or maintenance.
7. Identification of all erosion and sediment control practices that were not installed properly or are not functioning as designed and need to be reinstalled or repaired.
8. Description and sketch of areas that are disturbed at the time of the inspection and areas that have been stabilized (temporary and/or final) since that last inspection.
9. Current phase of construction of all post-construction stormwater management practices and identification of all construction that is not in conformance with the SWPPP and technical standards.
10. Corrective action(s) that must be taken to install, repair, replace or maintain erosion and sediment control practices; and to correct deficiencies identified with the construction of the post-construction stormwater management practice(s).

11. Color photographs with date stamp, taken with a digital camera which shows the condition of all practices that have been identified as needing corrective action or have undergone corrective action, must be attached to the associated inspection report.

9.2.2 Site Log Book

The Owner/Operator shall retain a copy of the SWPPP required by NYSDEC SPDES General Permit GP-0-15-002 at the construction site from the date of initiation of construction activities to the date of final stabilization

During construction, the Owner's/Operators' Engineer shall maintain a record of all SWPPP inspection report at the site in the Site Log Book. The Site Log Book shall be maintained on-site and made available to the permitting authority.

9.2.3 Post Construction Records and Archiving

Following construction, the Owner/Operator shall retain copies of the SWPPP, the complete construction Site Log Book, and records of all data used to complete the NOI to be covered by this permit, for a period of at least five years from the date that the site is finally stabilized. This period may be extended by the NYSDEC, at its sole discretion, at any time upon written notification.

Records shall be maintained of all post-construction inspections.

APPENDIX A



Department of
Environmental
Conservation

NEW YORK STATE
DEPARTMENT OF ENVIRONMENTAL CONSERVATION
SPDES GENERAL PERMIT
FOR STORMWATER DISCHARGES

From

CONSTRUCTION ACTIVITY

Permit No. GP-0-15-002

Issued Pursuant to Article 17, Titles 7, 8 and Article 70
of the Environmental Conservation Law

Effective Date: January 29, 2015

Expiration Date: January 28, 2020

John J. Ferguson
Chief Permit Administrator



Authorized Signature

1 / 12 / 15

Date

Address: NYS DEC
Division of Environmental Permits
625 Broadway, 4th Floor
Albany, N.Y. 12233-1750

PREFACE

Pursuant to Section 402 of the Clean Water Act ("CWA"), stormwater *discharges* from certain *construction activities* are unlawful unless they are authorized by a *National Pollutant Discharge Elimination System ("NPDES")* permit or by a state permit program. New York's *State Pollutant Discharge Elimination System ("SPDES")* is a NPDES-approved program with permits issued in accordance with the *Environmental Conservation Law ("ECL")*.

This general permit ("permit") is issued pursuant to Article 17, Titles 7, 8 and Article 70 of the ECL. An *owner or operator* may obtain coverage under this permit by submitting a Notice of Intent ("NOI") to the Department. Copies of this permit and the NOI for New York are available by calling (518) 402-8109 or at any New York State Department of Environmental Conservation ("the Department") regional office (see Appendix G). They are also available on the Department's website at:

<http://www.dec.ny.gov/>

An *owner or operator* of a *construction activity* that is eligible for coverage under this permit must obtain coverage prior to the *commencement of construction activity*. Activities that fit the definition of "*construction activity*", as defined under 40 CFR 122.26(b)(14)(x), (15)(i), and (15)(ii), constitute construction of a point source and therefore, pursuant to Article 17-0505 of the ECL, the *owner or operator* must have coverage under a SPDES permit prior to *commencing construction activity*. They cannot wait until there is an actual *discharge* from the construction site to obtain permit coverage.

***Note: The italicized words/phrases within this permit are defined in Appendix A.**

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 SPDES GENERAL PERMIT FOR STORMWATER DISCHARGES
 FROM CONSTRUCTION ACTIVITIES**

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(Part I)

Part I. PERMIT COVERAGE AND LIMITATIONS

A. Permit Application

This permit authorizes stormwater *discharges* to *surface waters of the State* from the following *construction activities* identified within 40 CFR Parts 122.26(b)(14)(x), 122.26(b)(15)(i) and 122.26(b)(15)(ii), provided all of the eligibility provisions of this permit are met:

1. *Construction activities* involving soil disturbances of one (1) or more acres; including disturbances of less than one acre that are part of a *larger common plan of development or sale* that will ultimately disturb one or more acres of land; excluding *routine maintenance activity* that is performed to maintain the original line and grade, hydraulic capacity or original purpose of a facility;
2. *Construction activities* involving soil disturbances of less than one (1) acre where the Department has determined that a *SPDES* permit is required for stormwater *discharges* based on the potential for contribution to a violation of a *water quality standard* or for significant contribution of *pollutants* to *surface waters of the State*.
3. *Construction activities* located in the watershed(s) identified in Appendix D that involve soil disturbances between five thousand (5,000) square feet and one (1) acre of land.

B. Effluent Limitations Applicable to Discharges from Construction Activities

Discharges authorized by this permit must achieve, at a minimum, the effluent limitations in Part I.B.1.(a) – (f) of this permit. These limitations represent the degree of effluent reduction attainable by the application of best practicable technology currently available.

1. Erosion and Sediment Control Requirements - The *owner or operator* must select, design, install, implement and maintain control measures to *minimize* the *discharge* of *pollutants* and prevent a violation of the *water quality standards*. The selection, design, installation, implementation, and maintenance of these control measures must meet the non-numeric effluent limitations in Part I.B.1.(a) – (f) of this permit and be in accordance with the New York State Standards and Specifications for Erosion and Sediment Control, dated August 2005, using sound engineering judgment. Where control measures are not designed in conformance with the design criteria included in the technical standard, the *owner or operator* must include in the Stormwater Pollution Prevention Plan (“SWPPP”) the reason(s) for the deviation or alternative design and provide information

(Part I.B.1)

which demonstrates that the deviation or alternative design is *equivalent* to the technical standard.

a. **Erosion and Sediment Controls.** Design, install and maintain effective erosion and sediment controls to *minimize* the *discharge* of *pollutants* and prevent a violation of the *water quality standards*. At a minimum, such controls must be designed, installed and maintained to:

- (i) *Minimize* soil erosion through application of runoff control and soil stabilization control measure to *minimize pollutant discharges*;
- (ii) Control stormwater *discharges* to *minimize* channel and streambank erosion and scour in the immediate vicinity of the *discharge* points;
- (iii) *Minimize* the amount of soil exposed during *construction activity*;
- (iv) *Minimize* the disturbance of *steep slopes*;
- (v) *Minimize* sediment *discharges* from the site;
- (vi) Provide and maintain natural buffers around surface waters, direct stormwater to vegetated areas and maximize stormwater infiltration to reduce *pollutant discharges*, unless *infeasible*;
- (vii) *Minimize* soil compaction. Minimizing soil compaction is not required where the intended function of a specific area of the site dictates that it be compacted; and
- (viii) Unless *infeasible*, preserve a sufficient amount of topsoil to complete soil restoration and establish a uniform, dense vegetative cover.

b. **Soil Stabilization.** In areas where soil disturbance activity has temporarily or permanently ceased, the application of soil stabilization measures must be initiated by the end of the next business day and completed within fourteen (14) days from the date the current soil disturbance activity ceased. For construction sites that *directly discharge* to one of the 303(d) segments listed in Appendix E or is located in one of the watersheds listed in Appendix C, the application of soil stabilization measures must be initiated by the end of the next business day and completed within seven (7) days from the date the current soil disturbance activity ceased. See Appendix A for definition of *Temporarily Ceased*.

c. **Dewatering.** *Discharges* from dewatering activities, including *discharges*

(Part I.B.1.c)

from dewatering of trenches and excavations, must be managed by appropriate control measures.

d. **Pollution Prevention Measures.** Design, install, implement, and maintain effective pollution prevention measures to *minimize the discharge of pollutants* and prevent a violation of the *water quality standards*. At a minimum, such measures must be designed, installed, implemented and maintained to:

- (i) *Minimize the discharge of pollutants* from equipment and vehicle washing, wheel wash water, and other wash waters. This applies to washing operations that use clean water only. Soaps, detergents and solvents cannot be used;
- (ii) *Minimize the exposure of building materials, building products, construction wastes, trash, landscape materials, fertilizers, pesticides, herbicides, detergents, sanitary waste and other materials present on the site to precipitation and to stormwater.* Minimization of exposure is not required in cases where the exposure to precipitation and to stormwater will not result in a *discharge of pollutants*, or where exposure of a specific material or product poses little risk of stormwater contamination (such as final products and materials intended for outdoor use) ; and
- (iii) Prevent the *discharge of pollutants* from spills and leaks and implement chemical spill and leak prevention and response procedures.

e. **Prohibited Discharges.** The following *discharges* are prohibited:

- (i) Wastewater from washout of concrete;
- (ii) Wastewater from washout and cleanout of stucco, paint, form release oils, curing compounds and other construction materials;
- (iii) Fuels, oils, or other *pollutants* used in vehicle and equipment operation and maintenance;
- (iv) Soaps or solvents used in vehicle and equipment washing; and
- (v) Toxic or hazardous substances from a spill or other release.

f. **Surface Outlets.** When discharging from basins and impoundments, the outlets shall be designed, constructed and maintained in such a manner that sediment does not leave the basin or impoundment and that erosion

(Part I.B.1.f)

at or below the outlet does not occur.

C. Post-construction Stormwater Management Practice Requirements

1. The *owner or operator* of a *construction activity* that requires post-construction stormwater management practices pursuant to Part III.C. of this permit must select, design, install, and maintain the practices to meet the *performance criteria* in the New York State Stormwater Management Design Manual (“Design Manual”), dated January 2015, using sound engineering judgment. Where post-construction stormwater management practices (“SMPs”) are not designed in conformance with the *performance criteria* in the Design Manual, the *owner or operator* must include in the SWPPP the reason(s) for the deviation or alternative design and provide information which demonstrates that the deviation or alternative design is *equivalent* to the technical standard.
2. The *owner or operator* of a *construction activity* that requires post-construction stormwater management practices pursuant to Part III.C. of this permit must design the practices to meet the applicable *sizing criteria* in Part I.C.2.a., b., c. or d. of this permit.

a. Sizing Criteria for New Development

- (i) Runoff Reduction Volume (“RRv”): Reduce the total Water Quality Volume (“WQv”) by application of RR techniques and standard SMPs with RRv capacity. The total WQv shall be calculated in accordance with the criteria in Section 4.2 of the Design Manual.
- (ii) Minimum RRv and Treatment of Remaining Total WQv: *Construction activities* that cannot meet the criteria in Part I.C.2.a.(i) of this permit due to *site limitations* shall direct runoff from all newly constructed *impervious areas* to a RR technique or standard SMP with RRv capacity unless *infeasible*. The specific *site limitations* that prevent the reduction of 100% of the WQv shall be documented in the SWPPP. For each *impervious area* that is not directed to a RR technique or standard SMP with RRv capacity, the SWPPP must include documentation which demonstrates that all options were considered and for each option explains why it is considered *infeasible*.

In no case shall the runoff reduction achieved from the newly constructed *impervious areas* be less than the Minimum RRv as calculated using the criteria in Section 4.3 of the Design Manual. The remaining portion of the total WQv

(Part I.C.2.a.ii)

that cannot be reduced shall be treated by application of standard SMPs.

- (iii) Channel Protection Volume ("Cpv"): Provide 24 hour extended detention of the post-developed 1-year, 24-hour storm event; remaining after runoff reduction. The Cpv requirement does not apply when:
 - (1) Reduction of the entire Cpv is achieved by application of runoff reduction techniques or infiltration systems, or
 - (2) The site *discharges* directly to tidal waters, or fifth order or larger streams.
- (iv) Overbank Flood Control Criteria ("Qp"): Requires storage to attenuate the post-development 10-year, 24-hour peak *discharge* rate (Qp) to predevelopment rates. The Qp requirement does not apply when:
 - (1) the site *discharges* directly to tidal waters or fifth order or larger streams, or
 - (2) A downstream analysis reveals that overbank control is not required.
- (v) Extreme Flood Control Criteria ("Qf"): Requires storage to attenuate the post-development 100-year, 24-hour peak *discharge* rate (Qf) to predevelopment rates. The Qf requirement does not apply when:
 - (1) the site *discharges* directly to tidal waters or fifth order or larger streams, or
 - (2) A downstream analysis reveals that overbank control is not required.

b. Sizing Criteria for New Development in Enhanced Phosphorus Removal Watershed

- (i) Runoff Reduction Volume (RRv): Reduce the total Water Quality Volume (WQv) by application of RR techniques and standard SMPs with RRv capacity. The total WQv is the runoff volume from the 1-year, 24 hour design storm over the post-developed watershed and shall be calculated in accordance with the criteria in Section 10.3 of the Design Manual.
- (ii) Minimum RRv and Treatment of Remaining Total WQv: *Construction activities* that cannot meet the criteria in Part I.C.2.b.(i) of this permit due to *site limitations* shall direct runoff from all newly constructed *impervious areas* to a RR technique or

(Part I.C.2.b.ii)

standard SMP with RRv capacity unless *infeasible*. The specific *site limitations* that prevent the reduction of 100% of the WQv shall be documented in the SWPPP. For each *impervious area* that is not directed to a RR technique or standard SMP with RRv capacity, the SWPPP must include documentation which demonstrates that all options were considered and for each option explains why it is considered *infeasible*.

In no case shall the runoff reduction achieved from the newly constructed *impervious areas* be less than the Minimum RRv as calculated using the criteria in Section 10.3 of the Design Manual. The remaining portion of the total WQv that cannot be reduced shall be treated by application of standard SMPs.

- (iii) Channel Protection Volume (Cpv): Provide 24 hour extended detention of the post-developed 1-year, 24-hour storm event; remaining after runoff reduction. The Cpv requirement does not apply when:
 - (1) Reduction of the entire Cpv is achieved by application of runoff reduction techniques or infiltration systems, or
 - (2) The site *discharges* directly to tidal waters, or fifth order or larger streams.
- (iv) Overbank Flood Control Criteria (Qp): Requires storage to attenuate the post-development 10-year, 24-hour peak *discharge* rate (Qp) to predevelopment rates. The Qp requirement does not apply when:
 - (1) the site *discharges* directly to tidal waters or fifth order or larger streams, or
 - (2) A downstream analysis reveals that overbank control is not required.
- (v) Extreme Flood Control Criteria (Qf): Requires storage to attenuate the post-development 100-year, 24-hour peak *discharge* rate (Qf) to predevelopment rates. The Qf requirement does not apply when:
 - (1) the site *discharges* directly to tidal waters or fifth order or larger streams, or
 - (2) A downstream analysis reveals that overbank control is not required.

c. Sizing Criteria for Redevelopment Activity

(Part I.C.2.c.i)

- (i) Water Quality Volume (WQv): The WQv treatment objective for *redevelopment activity* shall be addressed by one of the following options. *Redevelopment activities* located in an Enhanced Phosphorus Removal Watershed (see Part III.B.3. and Appendix C of this permit) shall calculate the WQv in accordance with Section 10.3 of the Design Manual. All other *redevelopment activities* shall calculate the WQv in accordance with Section 4.2 of the Design Manual.
- (1) Reduce the existing *impervious cover* by a minimum of 25% of the total disturbed, *impervious area*. The Soil Restoration criteria in Section 5.1.6 of the Design Manual must be applied to all newly created pervious areas, or
 - (2) Capture and treat a minimum of 25% of the WQv from the disturbed, *impervious area* by the application of standard SMPs; or reduce 25% of the WQv from the disturbed, *impervious area* by the application of RR techniques or standard SMPs with RRv capacity., or
 - (3) Capture and treat a minimum of 75% of the WQv from the disturbed, *impervious area* as well as any additional runoff from tributary areas by application of the alternative practices discussed in Sections 9.3 and 9.4 of the Design Manual., or
 - (4) Application of a combination of 1, 2 and 3 above that provide a weighted average of at least two of the above methods. Application of this method shall be in accordance with the criteria in Section 9.2.1(B) (IV) of the Design Manual.

If there is an existing post-construction stormwater management practice located on the site that captures and treats runoff from the *impervious area* that is being disturbed, the WQv treatment option selected must, at a minimum, provide treatment equal to the treatment that was being provided by the existing practice(s) if that treatment is greater than the treatment required by options 1 – 4 above.

- (ii) Channel Protection Volume (Cpv): Not required if there are no changes to hydrology that increase the *discharge* rate from the project site.
- (iii) Overbank Flood Control Criteria (Qp): Not required if there are no changes to hydrology that increase the *discharge* rate from the project site.

(Part I.C.2.c.iv)

- (iv) Extreme Flood Control Criteria (Qf): Not required if there are no changes to hydrology that increase the *discharge* rate from the project site.

d. Sizing Criteria for Combination of Redevelopment Activity and New Development

Construction projects that include both *New Development* and *Redevelopment Activity* shall provide post-construction stormwater management controls that meet the *sizing criteria* calculated as an aggregate of the *Sizing Criteria* in Part I.C.2.a. or b. of this permit for the *New Development* portion of the project and Part I.C.2.c of this permit for *Redevelopment Activity* portion of the project.

D. Maintaining Water Quality

The Department expects that compliance with the conditions of this permit will control *discharges* necessary to meet applicable *water quality standards*. It shall be a violation of the *ECL* for any discharge to either cause or contribute to a violation of *water quality standards* as contained in Parts 700 through 705 of Title 6 of the Official Compilation of Codes, Rules and Regulations of the State of New York, such as:

1. There shall be no increase in turbidity that will cause a substantial visible contrast to natural conditions;
2. There shall be no increase in suspended, colloidal or settleable solids that will cause deposition or impair the waters for their best usages; and
3. There shall be no residue from oil and floating substances, nor visible oil film, nor globules of grease.

If there is evidence indicating that the stormwater *discharges* authorized by this permit are causing, have the reasonable potential to cause, or are contributing to a violation of the *water quality standards*; the *owner or operator* must take appropriate corrective action in accordance with Part IV.C.5. of this general permit and document in accordance with Part IV.C.4. of this general permit. To address the *water quality standard* violation the *owner or operator* may need to provide additional information, include and implement appropriate controls in the SWPPP to correct the problem, or obtain an individual SPDES permit.

If there is evidence indicating that despite compliance with the terms and conditions of this general permit it is demonstrated that the stormwater *discharges* authorized by this permit are causing or contributing to a violation of *water quality standards*, or

(Part I.D)

if the Department determines that a modification of the permit is necessary to prevent a violation of *water quality standards*, the authorized *discharges* will no longer be eligible for coverage under this permit. The Department may require the *owner or operator* to obtain an individual SPDES permit to continue discharging.

E. Eligibility Under This General Permit

1. This permit may authorize all *discharges* of stormwater from *construction activity to surface waters of the State and groundwaters* except for ineligible *discharges* identified under subparagraph F. of this Part.
2. Except for non-stormwater *discharges* explicitly listed in the next paragraph, this permit only authorizes stormwater *discharges* from *construction activities*.
3. Notwithstanding paragraphs E.1 and E.2 above, the following non-stormwater *discharges* may be authorized by this permit: *discharges* from firefighting activities; fire hydrant flushings; waters to which cleansers or other components have not been added that are used to wash vehicles or control dust in accordance with the SWPPP, routine external building washdown which does not use detergents; pavement washwaters where spills or leaks of toxic or hazardous materials have not occurred (unless all spilled material has been removed) and where detergents are not used; air conditioning condensate; uncontaminated *groundwater* or spring water; uncontaminated *discharges* from construction site de-watering operations; and foundation or footing drains where flows are not contaminated with process materials such as solvents. For those entities required to obtain coverage under this permit, and who *discharge* as noted in this paragraph, and with the exception of flows from firefighting activities, these *discharges* must be identified in the SWPPP. Under all circumstances, the *owner or operator* must still comply with *water quality standards* in Part I.D of this permit.
4. The *owner or operator* must maintain permit eligibility to *discharge* under this permit. Any *discharges* that are not compliant with the eligibility conditions of this permit are not authorized by the permit and the *owner or operator* must either apply for a separate permit to cover those ineligible *discharges* or take steps necessary to make the *discharge* eligible for coverage.

F. Activities Which Are Ineligible for Coverage Under This General Permit

All of the following are **not** authorized by this permit:

(Part I.F)

1. *Discharges after construction activities* have been completed and the site has undergone *final stabilization*;
2. *Discharges* that are mixed with sources of non-stormwater other than those expressly authorized under subsection E.3. of this Part and identified in the SWPPP required by this permit;
3. *Discharges* that are required to obtain an individual SPDES permit or another SPDES general permit pursuant to Part VII.K. of this permit;
4. *Construction activities* or *discharges from construction activities* that may adversely affect an endangered or threatened species unless the *owner or operator* has obtained a permit issued pursuant to 6 NYCRR Part 182 for the project or the Department has issued a letter of non-jurisdiction for the project. All documentation necessary to demonstrate eligibility shall be maintained on site in accordance with Part II.C.2 of this permit.
5. *Discharges* which either cause or contribute to a violation of *water quality standards* adopted pursuant to the *ECL* and its accompanying regulations;
6. *Construction activities* for residential, commercial and institutional projects:
 - a. Where the *discharges* from the *construction activities* are tributary to waters of the state classified as AA or AA-s; and
 - b. Which disturb one or more acres of land with no existing *impervious cover*; and
 - c. Which are undertaken on land with a Soil Slope Phase that is identified as an E or F, or the map unit name is inclusive of 25% or greater slope, on the United States Department of Agriculture ("USDA") Soil Survey for the County where the disturbance will occur.
7. *Construction activities* for linear transportation projects and linear utility projects:
 - a. Where the *discharges* from the *construction activities* are tributary to waters of the state classified as AA or AA-s; and
 - b. Which disturb two or more acres of land with no existing *impervious cover*; and
 - c. Which are undertaken on land with a Soil Slope Phase that is identified as an E or F, or the map unit name is inclusive of 25% or greater slope, on the USDA Soil Survey for the County where the disturbance will occur.

(Part I.F.8)

8. *Construction activities* that have the potential to affect an *historic property*, unless there is documentation that such impacts have been resolved. The following documentation necessary to demonstrate eligibility with this requirement shall be maintained on site in accordance with Part II.C.2 of this permit and made available to the Department in accordance with Part VII.F of this permit:
 - a. Documentation that the *construction activity* is not within an archeologically sensitive area indicated on the sensitivity map, and that the *construction activity* is not located on or immediately adjacent to a property listed or determined to be eligible for listing on the National or State Registers of Historic Places, and that there is no new permanent building on the construction site within the following distances from a building, structure, or object that is more than 50 years old, or if there is such a new permanent building on the construction site within those parameters that NYS Office of Parks, Recreation and Historic Preservation (OPRHP), a Historic Preservation Commission of a Certified Local Government, or a qualified preservation professional has determined that the building, structure, or object more than 50 years old is not historically/archeologically significant.
 - 1-5 acres of disturbance - 20 feet
 - 5-20 acres of disturbance - 50 feet
 - 20+ acres of disturbance - 100 feet, or
 - b. DEC consultation form sent to OPRHP, and copied to the NYS DEC Agency Historic Preservation Officer (APO), and
 - (i) the State Environmental Quality Review (SEQR) Environmental Assessment Form (EAF) with a negative declaration or the Findings Statement, with documentation of OPRHP's agreement with the resolution; or
 - (ii) documentation from OPRHP that the *construction activity* will result in No Impact; or
 - (iii) documentation from OPRHP providing a determination of No Adverse Impact; or
 - (iv) a Letter of Resolution signed by the owner/operator, OPRHP and the DEC APO which allows for this *construction activity* to be eligible for coverage under the general permit in terms of the State Historic Preservation Act (SHPA); or
 - c. Documentation of satisfactory compliance with Section 106 of the National Historic Preservation Act for a coterminous project area:
 - (i) No Affect
 - (ii) No Adverse Affect

(Part I.F.8.c.iii)

(iii) Executed Memorandum of Agreement, or

d. Documentation that:

(i) SHPA Section 14.09 has been completed by NYS DEC or another state agency.

9. *Discharges from construction activities* that are subject to an existing SPDES individual or general permit where a SPDES permit for *construction activity* has been terminated or denied; or where the *owner or operator* has failed to renew an expired individual permit.

Part II. OBTAINING PERMIT COVERAGE

A. Notice of Intent (NOI) Submittal

1. An *owner or operator* of a *construction activity* that is not subject to the requirements of a *regulated, traditional land use control MS4* must first prepare a SWPPP in accordance with all applicable requirements of this permit and then submit a completed NOI form to the Department in order to be authorized to *discharge* under this permit. An *owner or operator* shall use either the electronic (eNOI) or paper version of the NOI that the Department prepared. Both versions of the NOI are located on the Department's website (<http://www.dec.ny.gov/>). The paper version of the NOI shall be signed in accordance with Part VII.H. of this permit and submitted to the following address.

**NOTICE OF INTENT
NYS DEC, Bureau of Water Permits
625 Broadway, 4th Floor
Albany, New York 12233-3505**

2. An *owner or operator* of a *construction activity* that is subject to the requirements of a *regulated, traditional land use control MS4* must first prepare a SWPPP in accordance with all applicable requirements of this permit and then have its SWPPP reviewed and accepted by the *regulated, traditional land use control MS4* prior to submitting the NOI to the Department. The *owner or operator* shall have the "MS4 SWPPP Acceptance" form signed in accordance with Part VII.H., and then submit that form along with a completed NOI to the Department. An *owner or operator* shall use either the electronic (eNOI) or paper version of the NOI.

The paper version of the NOI shall be signed in accordance with Part VII.H. of this permit and submitted to the address in Part II.A.1.

(Part II.A.2)

The requirement for an *owner or operator* to have its SWPPP reviewed and accepted by the *MS4* prior to submitting the NOI to the Department does not apply to an *owner or operator* that is obtaining permit coverage in accordance with the requirements in Part II.E. (*Change of Owner or Operator*) or where the *owner or operator* of the *construction activity* is the *regulated, traditional land use control MS4*.

3. The *owner or operator* shall have the SWPPP preparer sign the “SWPPP Preparer Certification” statement on the NOI prior to submitting the form to the Department.
4. As of the date the NOI is submitted to the Department, the *owner or operator* shall make the NOI and SWPPP available for review and copying in accordance with the requirements in Part VII.F. of this permit.

B. Permit Authorization

1. An *owner or operator* shall not *commence construction activity* until their authorization to *discharge* under this permit goes into effect.
2. Authorization to *discharge* under this permit will be effective when the *owner or operator* has satisfied all of the following criteria:
 - a. project review pursuant to the State Environmental Quality Review Act (“SEQRA”) have been satisfied, when SEQRA is applicable. See the Department’s website (<http://www.dec.ny.gov/>) for more information,
 - b. where required, all necessary Department permits subject to the *Uniform Procedures Act (“UPA”)* (see 6 NYCRR Part 621) have been obtained, unless otherwise notified by the Department pursuant to 6 NYCRR 621.3(a)(4). *Owners or operators of construction activities* that are required to obtain *UPA* permits must submit a preliminary SWPPP to the appropriate DEC Permit Administrator at the Regional Office listed in Appendix F at the time all other necessary *UPA* permit applications are submitted. The preliminary SWPPP must include sufficient information to demonstrate that the *construction activity* qualifies for authorization under this permit,
 - c. the final SWPPP has been prepared, and
 - d. a complete NOI has been submitted to the Department in accordance with the requirements of this permit.
3. An *owner or operator* that has satisfied the requirements of Part II.B.2 above

(Part II.B.3)

will be authorized to *discharge* stormwater from their *construction activity* in accordance with the following schedule:

a. For *construction activities* that are not subject to the requirements of a *regulated, traditional land use control MS4*:

(i) Five (5) business days from the date the Department receives a complete electronic version of the NOI (eNOI) for *construction activities* with a SWPPP that has been prepared in conformance with the design criteria in the technical standard referenced in Part III.B.1 and the *performance criteria* in the technical standard referenced in Parts III.B., 2 or 3, for *construction activities* that require post-construction stormwater management practices pursuant to Part III.C.; or

(ii) Sixty (60) business days from the date the Department receives a complete NOI (electronic or paper version) for *construction activities* with a SWPPP that has not been prepared in conformance with the design criteria in technical standard referenced in Part III.B.1. or, for *construction activities* that require post-construction stormwater management practices pursuant to Part III.C., the *performance criteria* in the technical standard referenced in Parts III.B., 2 or 3, or;

(iii) Ten (10) business days from the date the Department receives a complete paper version of the NOI for *construction activities* with a SWPPP that has been prepared in conformance with the design criteria in the technical standard referenced in Part III.B.1 and the *performance criteria* in the technical standard referenced in Parts III.B., 2 or 3, for *construction activities* that require post-construction stormwater management practices pursuant to Part III.C.

b. For *construction activities* that are subject to the requirements of a *regulated, traditional land use control MS4*:

(i) Five (5) business days from the date the Department receives both a complete electronic version of the NOI (eNOI) and signed "MS4 SWPPP Acceptance" form, or

(ii) Ten (10) business days from the date the Department receives both a complete paper version of the NOI and signed "MS4 SWPPP Acceptance" form.

4. The Department may suspend or deny an *owner's or operator's* coverage

(Part II.B.4)

under this permit if the Department determines that the SWPPP does not meet the permit requirements. In accordance with statute, regulation, and the terms and conditions of this permit, the Department may deny coverage under this permit and require submittal of an application for an individual SPDES permit based on a review of the NOI or other information pursuant to Part II.

5. Coverage under this permit authorizes stormwater *discharges* from only those areas of disturbance that are identified in the NOI. If an *owner or operator* wishes to have stormwater *discharges* from future or additional areas of disturbance authorized, they must submit a new NOI that addresses that phase of the development, unless otherwise notified by the Department. The *owner or operator* shall not *commence construction activity* on the future or additional areas until their authorization to *discharge* under this permit goes into effect in accordance with Part II.B. of this permit.

C. General Requirements For Owners or Operators With Permit Coverage

1. The *owner or operator* shall ensure that the provisions of the SWPPP are implemented from the *commencement of construction activity* until all areas of disturbance have achieved *final stabilization* and the Notice of Termination ("NOT") has been submitted to the Department in accordance with Part V. of this permit. This includes any changes made to the SWPPP pursuant to Part III.A.4. of this permit.
2. The *owner or operator* shall maintain a copy of the General Permit (GP-0-15-002), NOI, *NOI Acknowledgment Letter*, SWPPP, MS4 SWPPP Acceptance form, inspection reports, and all documentation necessary to demonstrate eligibility with this permit at the construction site until all disturbed areas have achieved *final stabilization* and the NOT has been submitted to the Department. The documents must be maintained in a secure location, such as a job trailer, on-site construction office, or mailbox with lock. The secure location must be accessible during normal business hours to an individual performing a compliance inspection.
3. The *owner or operator* of a *construction activity* shall not disturb greater than five (5) acres of soil at any one time without prior written authorization from the Department or, in areas under the jurisdiction of a *regulated, traditional land use control MS4*, the *regulated, traditional land use control MS4* (provided the *regulated, traditional land use control MS4* is not the *owner or operator* of the *construction activity*). At a minimum, the *owner or operator* must comply with the following requirements in order to be authorized to disturb greater than five (5) acres of soil at any one time:
 - a. The *owner or operator* shall

(Part II.C.3.a)

have a *qualified inspector* conduct **at least** two (2) site inspections in accordance with Part IV.C. of this permit every seven (7) calendar days, for as long as greater than five (5) acres of soil remain disturbed. The two (2) inspections shall be separated by a minimum of two (2) full calendar days.

- b. In areas where soil disturbance activity has temporarily or permanently ceased, the application of soil stabilization measures must be initiated by the end of the next business day and completed within seven (7) days from the date the current soil disturbance activity ceased. The soil stabilization measures selected shall be in conformance with the technical standard, New York State Standards and Specifications for Erosion and Sediment Control, dated August 2005.
 - c. The *owner or operator* shall prepare a phasing plan that defines maximum disturbed area per phase and shows required cuts and fills.
 - d. The *owner or operator* shall install any additional site specific practices needed to protect water quality.
 - e. The *owner or operator* shall include the requirements above in their SWPPP.
4. In accordance with statute, regulations, and the terms and conditions of this permit, the Department may suspend or revoke an *owner's or operator's* coverage under this permit at any time if the Department determines that the SWPPP does not meet the permit requirements. Upon a finding of significant non-compliance with the practices described in the SWPPP or violation of this permit, the Department may order an immediate stop to all activity at the site until the non-compliance is remedied. The stop work order shall be in writing, describe the non-compliance in detail, and be sent to the *owner or operator*.
 5. For *construction activities* that are subject to the requirements of a *regulated, traditional land use control MS4*, the *owner or operator* shall notify the *regulated, traditional land use control MS4* in writing of any planned amendments or modifications to the post-construction stormwater management practice component of the SWPPP required by Part III.A. 4. and 5. of this permit. Unless otherwise notified by the *regulated, traditional land use control MS4*, the *owner or operator* shall have the SWPPP amendments or modifications reviewed and accepted by the *regulated, traditional land use control MS4* prior to commencing construction of the post-construction stormwater management practice

(Part II.D)

D. Permit Coverage for Discharges Authorized Under GP-0-10-001

1. Upon renewal of SPDES General Permit for Stormwater Discharges from *Construction Activity* (Permit No. GP-0-10-001), an *owner or operator* of a *construction activity* with coverage under GP-0-10-001, as of the effective date of GP-0-15-002, shall be authorized to *discharge* in accordance with GP-0-15-002, unless otherwise notified by the Department.

An *owner or operator* may continue to implement the technical/design components of the post-construction stormwater management controls provided that such design was done in conformance with the technical standards in place at the time of initial project authorization. However, they must comply with the other, non-design provisions of GP-0-15-002.

E. Change of *Owner or Operator*

2. When property ownership changes or when there is a change in operational control over the construction plans and specifications, the original *owner or operator* must notify the new *owner or operator*, in writing, of the requirement to obtain permit coverage by submitting a NOI with the Department. Once the new *owner or operator* obtains permit coverage, the original *owner or operator* shall then submit a completed NOT with the name and permit identification number of the new *owner or operator* to the Department at the address in Part II.A.1. of this permit. If the original *owner or operator* maintains ownership of a portion of the *construction activity* and will disturb soil, they must maintain their coverage under the permit.

Permit coverage for the new *owner or operator* will be effective as of the date the Department receives a complete NOI, provided the original *owner or operator* was not subject to a sixty (60) business day authorization period that has not expired as of the date the Department receives the NOI from the new *owner or operator*.

(Part III)

Part III. STORMWATER POLLUTION PREVENTION PLAN (SWPPP)

A. General SWPPP Requirements

1. A SWPPP shall be prepared and implemented by the *owner or operator* of each *construction activity* covered by this permit. The SWPPP must document the selection, design, installation, implementation and maintenance of the control measures and practices that will be used to meet the effluent limitations in Part I.B. of this permit and where applicable, the post-construction stormwater management practice requirements in Part I.C. of this permit. The SWPPP shall be prepared prior to the submittal of the NOI. The NOI shall be submitted to the Department prior to the *commencement of construction activity*. A copy of the completed, final NOI shall be included in the SWPPP.
2. The SWPPP shall describe the erosion and sediment control practices and where required, post-construction stormwater management practices that will be used and/or constructed to reduce the *pollutants* in stormwater *discharges* and to assure compliance with the terms and conditions of this permit. In addition, the SWPPP shall identify potential sources of pollution which may reasonably be expected to affect the quality of stormwater *discharges*.
3. All SWPPPs that require the post-construction stormwater management practice component shall be prepared by a *qualified professional* that is knowledgeable in the principles and practices of stormwater management and treatment.
4. The *owner or operator* must keep the SWPPP current so that it at all times accurately documents the erosion and sediment controls practices that are being used or will be used during construction, and all post-construction stormwater management practices that will be constructed on the site. At a minimum, the *owner or operator* shall amend the SWPPP:
 - a. whenever the current provisions prove to be ineffective in minimizing *pollutants* in stormwater *discharges* from the site;
 - b. whenever there is a change in design, construction, or operation at the construction site that has or could have an effect on the *discharge* of *pollutants*; and
 - c. to address issues or deficiencies identified during an inspection by the *qualified inspector*, the Department or other regulatory authority.
5. The Department may notify the *owner or operator* at any time that the

(Part III.A.5)

SWPPP does not meet one or more of the minimum requirements of this permit. The notification shall be in writing and identify the provisions of the SWPPP that require modification. Within fourteen (14) calendar days of such notification, or as otherwise indicated by the Department, the *owner or operator* shall make the required changes to the SWPPP and submit written notification to the Department that the changes have been made. If the *owner or operator* does not respond to the Department's comments in the specified time frame, the Department may suspend the *owner's or operator's* coverage under this permit or require the *owner or operator* to obtain coverage under an individual SPDES permit in accordance with Part II.C.4. of this permit.

6. Prior to the *commencement of construction activity*, the *owner or operator* must identify the contractor(s) and subcontractor(s) that will be responsible for installing, constructing, repairing, replacing, inspecting and maintaining the erosion and sediment control practices included in the SWPPP; and the contractor(s) and subcontractor(s) that will be responsible for constructing the post-construction stormwater management practices included in the SWPPP. The *owner or operator* shall have each of the contractors and subcontractors identify at least one person from their company that will be responsible for implementation of the SWPPP. This person shall be known as the *trained contractor*. The *owner or operator* shall ensure that at least one *trained contractor* is on site on a daily basis when soil disturbance activities are being performed.

The *owner or operator* shall have each of the contractors and subcontractors identified above sign a copy of the following certification statement below before they commence any *construction activity*:

"I hereby certify under penalty of law that I understand and agree to comply with the terms and conditions of the SWPPP and agree to implement any corrective actions identified by the *qualified inspector* during a site inspection. I also understand that the *owner or operator* must comply with the terms and conditions of the most current version of the New York State Pollutant Discharge Elimination System ("SPDES") general permit for stormwater *discharges from construction activities* and that it is unlawful for any person to cause or contribute to a violation of *water quality standards*. Furthermore, I am aware that there are significant penalties for submitting false information, that I do not believe to be true, including the possibility of fine and imprisonment for knowing violations"

In addition to providing the certification statement above, the certification page must also identify the specific elements of the SWPPP that each contractor and subcontractor will be responsible for and include the name and title of the person providing the signature; the name and title of the

(Part III.A.6)

trained contractor responsible for SWPPP implementation; the name, address and telephone number of the contracting firm; the address (or other identifying description) of the site; and the date the certification statement is signed. The *owner or operator* shall attach the certification statement(s) to the copy of the SWPPP that is maintained at the construction site. If new or additional contractors are hired to implement measures identified in the SWPPP after construction has commenced, they must also sign the certification statement and provide the information listed above.

7. For projects where the Department requests a copy of the SWPPP or inspection reports, the *owner or operator* shall submit the documents in both electronic (PDF only) and paper format within five (5) business days, unless otherwise notified by the Department.

B. Required SWPPP Contents

1. Erosion and sediment control component - All SWPPPs prepared pursuant to this permit shall include erosion and sediment control practices designed in conformance with the technical standard, New York State Standards and Specifications for Erosion and Sediment Control, dated August 2005. Where erosion and sediment control practices are not designed in conformance with the design criteria included in the technical standard, the *owner or operator* must demonstrate *equivalence* to the technical standard. At a minimum, the erosion and sediment control component of the SWPPP shall include the following:
 - a. Background information about the scope of the project, including the location, type and size of project;
 - b. A site map/construction drawing(s) for the project, including a general location map. At a minimum, the site map shall show the total site area; all improvements; areas of disturbance; areas that will not be disturbed; existing vegetation; on-site and adjacent off-site surface water(s); floodplain/floodway boundaries; wetlands and drainage patterns that could be affected by the *construction activity*; existing and final contours ; locations of different soil types with boundaries; material, waste, borrow or equipment storage areas located on adjacent properties; and location(s) of the stormwater *discharge(s)*;
 - c. A description of the soil(s) present at the site, including an identification of the Hydrologic Soil Group (HSG);
 - d. A construction phasing plan and sequence of operations describing the intended order of *construction activities*, including clearing and grubbing, excavation and grading, utility and infrastructure installation and any other

(Part III.B.1.d)

activity at the site that results in soil disturbance;

- e. A description of the minimum erosion and sediment control practices to be installed or implemented for each *construction activity* that will result in soil disturbance. Include a schedule that identifies the timing of initial placement or implementation of each erosion and sediment control practice and the minimum time frames that each practice should remain in place or be implemented;
- f. A temporary and permanent soil stabilization plan that meets the requirements of this general permit and the technical standard, New York State Standards and Specifications for Erosion and Sediment Control, dated August 2005, for each stage of the project, including initial land clearing and grubbing to project completion and achievement of *final stabilization*;
- g. A site map/construction drawing(s) showing the specific location(s), size(s), and length(s) of each erosion and sediment control practice;
- h. The dimensions, material specifications, installation details, and operation and maintenance requirements for all erosion and sediment control practices. Include the location and sizing of any temporary sediment basins and structural practices that will be used to divert flows from exposed soils;
- i. A maintenance inspection schedule for the contractor(s) identified in Part III.A.6. of this permit, to ensure continuous and effective operation of the erosion and sediment control practices. The maintenance inspection schedule shall be in accordance with the requirements in the technical standard, New York State Standards and Specifications for Erosion and Sediment Control, dated August 2005;
- j. A description of the pollution prevention measures that will be used to control litter, construction chemicals and construction debris from becoming a *pollutant* source in the stormwater *discharges*;
- k. A description and location of any stormwater *discharges* associated with industrial activity other than construction at the site, including, but not limited to, stormwater *discharges* from asphalt plants and concrete plants located on the construction site; and
- l. Identification of any elements of the design that are not in conformance with the design criteria in the technical standard, New York State Standards and Specifications for Erosion and Sediment Control, dated August 2005. Include the reason for the deviation or alternative design

(Part III.B.1.I)

and provide information which demonstrates that the deviation or alternative design is *equivalent* to the technical standard.

2. Post-construction stormwater management practice component – The *owner or operator* of any construction project identified in Table 2 of Appendix B as needing post-construction stormwater management practices shall prepare a SWPPP that includes practices designed in conformance with the applicable *sizing criteria* in Part I.C.2.a., c. or d. of this permit and the *performance criteria* in the technical standard, New York State Stormwater Management Design Manual dated January 2015

Where post-construction stormwater management practices are not designed in conformance with the *performance criteria* in the technical standard, the *owner or operator* must include in the SWPPP the reason(s) for the deviation or alternative design and provide information which demonstrates that the deviation or alternative design is *equivalent* to the technical standard.

The post-construction stormwater management practice component of the SWPPP shall include the following:

- a. Identification of all post-construction stormwater management practices to be constructed as part of the project. Include the dimensions, material specifications and installation details for each post-construction stormwater management practice;
- b. A site map/construction drawing(s) showing the specific location and size of each post-construction stormwater management practice;
- c. A Stormwater Modeling and Analysis Report that includes:
 - (i) Map(s) showing pre-development conditions, including watershed/subcatchments boundaries, flow paths/routing, and design points;
 - (ii) Map(s) showing post-development conditions, including watershed/subcatchments boundaries, flow paths/routing, design points and post-construction stormwater management practices;
 - (iii) Results of stormwater modeling (i.e. hydrology and hydraulic analysis) for the required storm events. Include supporting calculations (model runs), methodology, and a summary table that compares pre and post-development runoff rates and volumes for the different storm events;
 - (iv) Summary table, with supporting calculations, which demonstrates

(Part III.B.2.c.iv)

that each post-construction stormwater management practice has been designed in conformance with the *sizing criteria* included in the Design Manual;

- (v) Identification of any *sizing criteria* that is not required based on the requirements included in Part I.C. of this permit; and
 - (vi) Identification of any elements of the design that are not in conformance with the *performance criteria* in the Design Manual. Include the reason(s) for the deviation or alternative design and provide information which demonstrates that the deviation or alternative design is *equivalent* to the Design Manual;
- d. Soil testing results and locations (test pits, borings);
 - e. Infiltration test results, when required; and
 - f. An operations and maintenance plan that includes inspection and maintenance schedules and actions to ensure continuous and effective operation of each post-construction stormwater management practice. The plan shall identify the entity that will be responsible for the long term operation and maintenance of each practice.
3. Enhanced Phosphorus Removal Standards - All construction projects identified in Table 2 of Appendix B that are located in the watersheds identified in Appendix C shall prepare a SWPPP that includes post-construction stormwater management practices designed in conformance with the applicable *sizing criteria* in Part I.C.2. b., c. or d. of this permit and the *performance criteria*, Enhanced Phosphorus Removal Standards included in the Design Manual. At a minimum, the post-construction stormwater management practice component of the SWPPP shall include items 2.a - 2.f. above.

C. Required SWPPP Components by Project Type

Unless otherwise notified by the Department, *owners or operators of construction activities* identified in Table 1 of Appendix B are required to prepare a SWPPP that only includes erosion and sediment control practices designed in conformance with Part III.B.1 of this permit. *Owners or operators of the construction activities* identified in Table 2 of Appendix B shall prepare a SWPPP that also includes post-construction stormwater management practices designed in conformance with Part III.B.2 or 3 of this permit.

(Part IV)

Part IV. INSPECTION AND MAINTENANCE REQUIREMENTS

A. General Construction Site Inspection and Maintenance Requirements

1. The *owner or operator* must ensure that all erosion and sediment control practices (including pollution prevention measures) and all post-construction stormwater management practices identified in the SWPPP are inspected and maintained in accordance with Part IV.B. and C. of this permit.
2. The terms of this permit shall not be construed to prohibit the State of New York from exercising any authority pursuant to the ECL, common law or federal law, or prohibit New York State from taking any measures, whether civil or criminal, to prevent violations of the laws of the State of New York, or protect the public health and safety and/or the environment.

B. Contractor Maintenance Inspection Requirements

1. The *owner or operator* of each *construction activity* identified in Tables 1 and 2 of Appendix B shall have a *trained contractor* inspect the erosion and sediment control practices and pollution prevention measures being implemented within the active work area daily to ensure that they are being maintained in effective operating condition at all times. If deficiencies are identified, the contractor shall begin implementing corrective actions within one business day and shall complete the corrective actions in a reasonable time frame.
2. For construction sites where soil disturbance activities have been temporarily suspended (e.g. winter shutdown) and *temporary stabilization* measures have been applied to all disturbed areas, the *trained contractor* can stop conducting the maintenance inspections. The *trained contractor* shall begin conducting the maintenance inspections in accordance with Part IV.B.1. of this permit as soon as soil disturbance activities resume.
3. For construction sites where soil disturbance activities have been shut down with partial project completion, the *trained contractor* can stop conducting the maintenance inspections if all areas disturbed as of the project shutdown date have achieved *final stabilization* and all post-construction stormwater management practices required for the completed portion of the project have been constructed in conformance with the SWPPP and are operational.

C. Qualified Inspector Inspection Requirements

(Part IV.C)

The *owner or operator* shall have a *qualified inspector* conduct site inspections in conformance with the following requirements:

[Note: The *trained contractor* identified in Part III.A.6. and IV.B. of this permit **cannot** conduct the *qualified inspector* site inspections unless they meet the *qualified inspector* qualifications included in Appendix A. In order to perform these inspections, the *trained contractor* would have to be a:

- licensed Professional Engineer,
- Certified Professional in Erosion and Sediment Control (CPESC),
- Registered Landscape Architect, or
- someone working under the direct supervision of, and at the same company as, the licensed Professional Engineer or Registered Landscape Architect, provided they have received four (4) hours of Department endorsed training in proper erosion and sediment control principles from a Soil and Water Conservation District, or other Department endorsed entity].

1. A *qualified inspector* shall conduct site inspections for all *construction activities* identified in Tables 1 and 2 of Appendix B, with the exception of:
 - a. the construction of a single family residential subdivision with 25% or less *impervious cover* at total site build-out that involves a soil disturbance of one (1) or more acres of land but less than five (5) acres and is not located in one of the watersheds listed in Appendix C and not directly discharging to one of the 303(d) segments listed in Appendix E;
 - b. the construction of a single family home that involves a soil disturbance of one (1) or more acres of land but less than five (5) acres and is not located in one of the watersheds listed in Appendix C and not directly discharging to one of the 303(d) segments listed in Appendix E;
 - c. construction on agricultural property that involves a soil disturbance of one (1) or more acres of land but less than five (5) acres; and
 - d. *construction activities* located in the watersheds identified in Appendix D that involve soil disturbances between five thousand (5,000) square feet and one (1) acre of land.
2. Unless otherwise notified by the Department, the *qualified inspector* shall conduct site inspections in accordance with the following timetable:
 - a. For construction sites where soil disturbance activities are on-going, the *qualified inspector* shall conduct a site inspection at least once every seven (7) calendar days.
 - b. For construction sites where soil disturbance activities are on-going and

(Part IV.C.2.b)

the *owner or operator* has received authorization in accordance with Part II.C.3 to disturb greater than five (5) acres of soil at any one time, the *qualified inspector* shall conduct at least two (2) site inspections every seven (7) calendar days. The two (2) inspections shall be separated by a minimum of two (2) full calendar days.

- c. For construction sites where soil disturbance activities have been temporarily suspended (e.g. winter shutdown) and *temporary stabilization* measures have been applied to all disturbed areas, the *qualified inspector* shall conduct a site inspection at least once every thirty (30) calendar days. The *owner or operator* shall notify the DOW Water (SPDES) Program contact at the Regional Office (see contact information in Appendix F) or, in areas under the jurisdiction of a *regulated, traditional land use control MS4*, the *regulated, traditional land use control MS4* (provided the *regulated, traditional land use control MS4* is not the *owner or operator* of the *construction activity*) in writing prior to reducing the frequency of inspections.
- d. For construction sites where soil disturbance activities have been shut down with partial project completion, the *qualified inspector* can stop conducting inspections if all areas disturbed as of the project shutdown date have achieved *final stabilization* and all post-construction stormwater management practices required for the completed portion of the project have been constructed in conformance with the SWPPP and are operational. The *owner or operator* shall notify the DOW Water (SPDES) Program contact at the Regional Office (see contact information in Appendix F) or, in areas under the jurisdiction of a *regulated, traditional land use control MS4*, the *regulated, traditional land use control MS4* (provided the *regulated, traditional land use control MS4* is not the *owner or operator* of the *construction activity*) in writing prior to the shutdown. If soil disturbance activities are not resumed within 2 years from the date of shutdown, the *owner or operator* shall have the *qualified inspector* perform a final inspection and certify that all disturbed areas have achieved *final stabilization*, and all temporary, structural erosion and sediment control measures have been removed; and that all post-construction stormwater management practices have been constructed in conformance with the SWPPP by signing the "*Final Stabilization*" and "*Post-Construction Stormwater Management Practice*" certification statements on the NOT. The *owner or operator* shall then submit the completed NOT form to the address in Part II.A.1 of this permit.
- e. For construction sites that directly *discharge* to one of the 303(d) segments listed in Appendix E or is located in one of the watersheds listed in Appendix C, the *qualified inspector* shall conduct at least two (2) site inspections every seven (7) calendar days. The two (2) inspections shall

(Part IV.C.2.e)

be separated by a minimum of two (2) full calendar days.

3. At a minimum, the *qualified inspector* shall inspect all erosion and sediment control practices and pollution prevention measures to ensure integrity and effectiveness, all post-construction stormwater management practices under construction to ensure that they are constructed in conformance with the SWPPP, all areas of disturbance that have not achieved *final stabilization*, all points of *discharge* to natural surface waterbodies located within, or immediately adjacent to, the property boundaries of the construction site, and all points of *discharge* from the construction site.
4. The *qualified inspector* shall prepare an inspection report subsequent to each and every inspection. At a minimum, the inspection report shall include and/or address the following:
 - a. Date and time of inspection;
 - b. Name and title of person(s) performing inspection;
 - c. A description of the weather and soil conditions (e.g. dry, wet, saturated) at the time of the inspection;
 - d. A description of the condition of the runoff at all points of *discharge* from the construction site. This shall include identification of any *discharges* of sediment from the construction site. Include *discharges* from conveyance systems (i.e. pipes, culverts, ditches, etc.) and overland flow;
 - e. A description of the condition of all natural surface waterbodies located within, or immediately adjacent to, the property boundaries of the construction site which receive runoff from disturbed areas. This shall include identification of any *discharges* of sediment to the surface waterbody;
 - f. Identification of all erosion and sediment control practices and pollution prevention measures that need repair or maintenance;
 - g. Identification of all erosion and sediment control practices and pollution prevention measures that were not installed properly or are not functioning as designed and need to be reinstalled or replaced;
 - h. Description and sketch of areas with active soil disturbance activity, areas that have been disturbed but are inactive at the time of the inspection, and areas that have been stabilized (temporary and/or final) since the last inspection;

(Part IV.C.4.i)

- i. Current phase of construction of all post-construction stormwater management practices and identification of all construction that is not in conformance with the SWPPP and technical standards;
 - j. Corrective action(s) that must be taken to install, repair, replace or maintain erosion and sediment control practices and pollution prevention measures; and to correct deficiencies identified with the construction of the post-construction stormwater management practice(s);
 - k. Identification and status of all corrective actions that were required by previous inspection; and
 - l. Digital photographs, with date stamp, that clearly show the condition of all practices that have been identified as needing corrective actions. The *qualified inspector* shall attach paper color copies of the digital photographs to the inspection report being maintained onsite within seven (7) calendar days of the date of the inspection. The *qualified inspector* shall also take digital photographs, with date stamp, that clearly show the condition of the practice(s) after the corrective action has been completed. The *qualified inspector* shall attach paper color copies of the digital photographs to the inspection report that documents the completion of the corrective action work within seven (7) calendar days of that inspection.
5. Within one business day of the completion of an inspection, the *qualified inspector* shall notify the *owner or operator* and appropriate contractor or subcontractor identified in Part III.A.6. of this permit of any corrective actions that need to be taken. The contractor or subcontractor shall begin implementing the corrective actions within one business day of this notification and shall complete the corrective actions in a reasonable time frame.
 6. All inspection reports shall be signed by the *qualified inspector*. Pursuant to Part II.C.2. of this permit, the inspection reports shall be maintained on site with the SWPPP.

Part V. TERMINATION OF PERMIT COVERAGE

A. Termination of Permit Coverage

1. An *owner or operator* that is eligible to terminate coverage under this permit must submit a completed NOT form to the address in Part II.A.1 of this permit. The NOT form shall be one which is associated with this permit, signed in accordance with Part VII.H of this permit.

(Part V.A.2)

2. An *owner or operator* may terminate coverage when one or more the following conditions have been met:
 - a. Total project completion - All *construction activity* identified in the SWPPP has been completed; and all areas of disturbance have achieved *final stabilization*; and all temporary, structural erosion and sediment control measures have been removed; and all post-construction stormwater management practices have been constructed in conformance with the SWPPP and are operational;
 - b. Planned shutdown with partial project completion - All soil disturbance activities have ceased; and all areas disturbed as of the project shutdown date have achieved *final stabilization*; and all temporary, structural erosion and sediment control measures have been removed; and all post-construction stormwater management practices required for the completed portion of the project have been constructed in conformance with the SWPPP and are operational;
 - c. A new *owner or operator* has obtained coverage under this permit in accordance with Part II.E. of this permit.
 - d. The *owner or operator* obtains coverage under an alternative SPDES general permit or an individual SPDES permit.
3. For *construction activities* meeting subdivision 2a. or 2b. of this Part, the *owner or operator* shall have the *qualified inspector* perform a final site inspection prior to submitting the NOT. The *qualified inspector* shall, by signing the "*Final Stabilization*" and "Post-Construction Stormwater Management Practice certification statements on the NOT, certify that all the requirements in Part V.A.2.a. or b. of this permit have been achieved.
4. For *construction activities* that are subject to the requirements of a *regulated, traditional land use control MS4* and meet subdivision 2a. or 2b. of this Part, the *owner or operator* shall have the *regulated, traditional land use control MS4* sign the "MS4 Acceptance" statement on the NOT in accordance with the requirements in Part VII.H. of this permit. The *regulated, traditional land use control MS4* official, by signing this statement, has determined that it is acceptable for the *owner or operator* to submit the NOT in accordance with the requirements of this Part. The *regulated, traditional land use control MS4* can make this determination by performing a final site inspection themselves or by accepting the *qualified inspector's* final site inspection certification(s) required in Part V.A.3. of this permit.

(Part V.A.5)

5. For *construction activities* that require post-construction stormwater management practices and meet subdivision 2a. of this Part, the *owner or operator* must, prior to submitting the NOT, ensure one of the following:
 - a. the post-construction stormwater management practice(s) and any right-of-way(s) needed to maintain such practice(s) have been deeded to the municipality in which the practice(s) is located,
 - b. an executed maintenance agreement is in place with the municipality that will maintain the post-construction stormwater management practice(s),
 - c. for post-construction stormwater management practices that are privately owned, the *owner or operator* has a mechanism in place that requires operation and maintenance of the practice(s) in accordance with the operation and maintenance plan, such as a deed covenant in the *owner or operator's* deed of record,
 - d. for post-construction stormwater management practices that are owned by a public or private institution (e.g. school, university, hospital), government agency or authority, or public utility; the *owner or operator* has policy and procedures in place that ensures operation and maintenance of the practices in accordance with the operation and maintenance plan.

Part VI. REPORTING AND RETENTION OF RECORDS

A. Record Retention

The *owner or operator* shall retain a copy of the NOI, NOI Acknowledgment Letter, SWPPP, MS4 SWPPP Acceptance form and any inspection reports that were prepared in conjunction with this permit for a period of at least five (5) years from the date that the Department receives a complete NOT submitted in accordance with Part V. of this general permit.

B. Addresses

With the exception of the NOI, NOT, and MS4 SWPPP Acceptance form (which must be submitted to the address referenced in Part II.A.1 of this permit), all written correspondence requested by the Department, including individual permit applications, shall be sent to the address of the appropriate DOW Water (SPDES) Program contact at the Regional Office listed in Appendix F.

(Part VII)

Part VII. STANDARD PERMIT CONDITIONS

A. Duty to Comply

The *owner or operator* must comply with all conditions of this permit. All contractors and subcontractors associated with the project must comply with the terms of the SWPPP. Any non-compliance with this permit constitutes a violation of the Clean Water Act (CWA) and the ECL and is grounds for an enforcement action against the *owner or operator* and/or the contractor/subcontractor; permit revocation, suspension or modification; or denial of a permit renewal application. Upon a finding of significant non-compliance with this permit or the applicable SWPPP, the Department may order an immediate stop to all *construction activity* at the site until the non-compliance is remedied. The stop work order shall be in writing, shall describe the non-compliance in detail, and shall be sent to the *owner or operator*.

If any human remains or archaeological remains are encountered during excavation, the *owner or operator* must immediately cease, or cause to cease, all *construction activity* in the area of the remains and notify the appropriate Regional Water Engineer (RWE). *Construction activity* shall not resume until written permission to do so has been received from the RWE.

B. Continuation of the Expired General Permit

This permit expires five (5) years from the effective date. If a new general permit is not issued prior to the expiration of this general permit, an *owner or operator* with coverage under this permit may continue to operate and *discharge* in accordance with the terms and conditions of this general permit, if it is extended pursuant to the State Administrative Procedure Act and 6 NYCRR Part 621, until a new general permit is issued.

C. Enforcement

Failure of the *owner or operator*, its contractors, subcontractors, agents and/or assigns to strictly adhere to any of the permit requirements contained herein shall constitute a violation of this permit. There are substantial criminal, civil, and administrative penalties associated with violating the provisions of this permit. Fines of up to \$37,500 per day for each violation and imprisonment for up to fifteen (15) years may be assessed depending upon the nature and degree of the offense.

D. Need to Halt or Reduce Activity Not a Defense

It shall not be a defense for an *owner or operator* in an enforcement action that it would have been necessary to halt or reduce the *construction activity* in order to maintain compliance with the conditions of this permit.

(Part VII.E)

E. Duty to Mitigate

The *owner or operator* and its contractors and subcontractors shall take all reasonable steps to *minimize* or prevent any *discharge* in violation of this permit which has a reasonable likelihood of adversely affecting human health or the environment.

F. Duty to Provide Information

The *owner or operator* shall furnish to the Department, within a reasonable specified time period of a written request, all documentation necessary to demonstrate eligibility and any information to determine compliance with this permit or to determine whether cause exists for modifying or revoking this permit, or suspending or denying coverage under this permit, in accordance with the terms and conditions of this permit. The NOI, SWPPP and inspection reports required by this permit are public documents that the *owner or operator* must make available for review and copying by any person within five (5) business days of the *owner or operator* receiving a written request by any such person to review these documents. Copying of documents will be done at the requester's expense.

G. Other Information

When the *owner or operator* becomes aware that they failed to submit any relevant facts, or submitted incorrect information in the NOI or in any of the documents required by this permit, or have made substantive revisions to the SWPPP (e.g. the scope of the project changes significantly, the type of post-construction stormwater management practice(s) changes, there is a reduction in the sizing of the post-construction stormwater management practice, or there is an increase in the disturbance area or *impervious area*), which were not reflected in the original NOI submitted to the Department, they shall promptly submit such facts or information to the Department using the contact information in Part II.A. of this permit. Failure of the *owner or operator* to correct or supplement any relevant facts within five (5) business days of becoming aware of the deficiency shall constitute a violation of this permit.

H. Signatory Requirements

1. All NOIs and NOTs shall be signed as follows:
 - a. For a corporation these forms shall be signed by a responsible corporate officer. For the purpose of this section, a responsible corporate officer means:
 - (i) a president, secretary, treasurer, or vice-president of the

(Part VII.H.1.a.i)

corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation; or

- (ii) the manager of one or more manufacturing, production or operating facilities, provided the manager is authorized to make management decisions which govern the operation of the regulated facility including having the explicit or implicit duty of making major capital investment recommendations, and initiating and directing other comprehensive measures to assure long term environmental compliance with environmental laws and regulations; the manager can ensure that the necessary systems are established or actions taken to gather complete and accurate information for permit application requirements; and where authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures;

b. For a partnership or sole proprietorship these forms shall be signed by a general partner or the proprietor, respectively; or

c. For a municipality, State, Federal, or other public agency these forms shall be signed by either a principal executive officer or ranking elected official. For purposes of this section, a principal executive officer of a Federal agency includes:

- (i) the chief executive officer of the agency, or
- (ii) a senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., Regional Administrators of EPA).

2. The SWPPP and other information requested by the Department shall be signed by a person described in Part VII.H.1. of this permit or by a duly authorized representative of that person. A person is a duly authorized representative only if:

a. The authorization is made in writing by a person described in Part VII.H.1. of this permit;

b. The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity, such as the position of plant manager, operator of a well or a well field, superintendent, position of *equivalent* responsibility, or an individual or position having overall responsibility for environmental matters for the company. (A duly authorized representative may thus be either a named

(Part VII.H.2.b)

individual or any individual occupying a named position) and,

- c. The written authorization shall include the name, title and signature of the authorized representative and be attached to the SWPPP.
3. All inspection reports shall be signed by the *qualified inspector* that performs the inspection.
4. The MS4 SWPPP Acceptance form shall be signed by the principal executive officer or ranking elected official from the *regulated, traditional land use control MS4*, or by a duly authorized representative of that person.

It shall constitute a permit violation if an incorrect and/or improper signatory authorizes any required forms, SWPPP and/or inspection reports.

I. Property Rights

The issuance of this permit does not convey any property rights of any sort, nor any exclusive privileges, nor does it authorize any injury to private property nor any invasion of personal rights, nor any infringement of Federal, State or local laws or regulations. *Owners or operators* must obtain any applicable conveyances, easements, licenses and/or access to real property prior to *commencing construction activity*.

J. Severability

The provisions of this permit are severable, and if any provision of this permit, or the application of any provision of this permit to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this permit shall not be affected thereby.

K. Requirement to Obtain Coverage Under an Alternative Permit

1. The Department may require any *owner or operator* authorized by this permit to apply for and/or obtain either an individual SPDES permit or another SPDES general permit. When the Department requires any *discharger* authorized by a general permit to apply for an individual SPDES permit, it shall notify the *discharger* in writing that a permit application is required. This notice shall include a brief statement of the reasons for this decision, an application form, a statement setting a time frame for the *owner or operator* to file the application for an individual SPDES permit, and a deadline, not sooner than 180 days from *owner or operator* receipt of the notification letter, whereby the authorization to

(Part VII.K.1)

discharge under this general permit shall be terminated. Applications must be submitted to the appropriate Permit Administrator at the Regional Office. The Department may grant additional time upon demonstration, to the satisfaction of the Department, that additional time to apply for an alternative authorization is necessary or where the Department has not provided a permit determination in accordance with Part 621 of this Title.

2. When an individual SPDES permit is issued to a discharger authorized to *discharge* under a general SPDES permit for the same *discharge(s)*, the general permit authorization for outfalls authorized under the individual SPDES permit is automatically terminated on the effective date of the individual permit unless termination is earlier in accordance with 6 NYCRR Part 750.

L. Proper Operation and Maintenance

The *owner or operator* shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the *owner or operator* to achieve compliance with the conditions of this permit and with the requirements of the SWPPP.

M. Inspection and Entry

The *owner or operator* shall allow an authorized representative of the Department, EPA, applicable county health department, or, in the case of a construction site which *discharges* through an *MS4*, an authorized representative of the *MS4* receiving the discharge, upon the presentation of credentials and other documents as may be required by law, to:

1. Enter upon the *owner's or operator's* premises where a regulated facility or activity is located or conducted or where records must be kept under the conditions of this permit;
2. Have access to and copy at reasonable times, any records that must be kept under the conditions of this permit; and
3. Inspect at reasonable times any facilities or equipment (including monitoring and control equipment), practices or operations regulated or required by this permit.
4. Sample or monitor at reasonable times, for purposes of assuring permit compliance or as otherwise authorized by the Act or ECL, any substances or parameters at any location.

(Part VII.N)

N. Permit Actions

This permit may, at any time, be modified, suspended, revoked, or renewed by the Department in accordance with 6 NYCRR Part 621. The filing of a request by the *owner or operator* for a permit modification, revocation and reissuance, termination, a notification of planned changes or anticipated noncompliance does not limit, diminish and/or stay compliance with any terms of this permit.

O. Definitions

Definitions of key terms are included in Appendix A of this permit.

P. Re-Opener Clause

1. If there is evidence indicating potential or realized impacts on water quality due to any stormwater discharge associated with *construction activity* covered by this permit, the *owner or operator* of such discharge may be required to obtain an individual permit or alternative general permit in accordance with Part VII.K. of this permit or the permit may be modified to include different limitations and/or requirements.
2. Any Department initiated permit modification, suspension or revocation will be conducted in accordance with 6 NYCRR Part 621, 6 NYCRR 750-1.18, and 6 NYCRR 750-1.20.

Q. Penalties for Falsification of Forms and Reports

In accordance with 6NYCRR Part 750-2.4 and 750-2.5, any person who knowingly makes any false material statement, representation, or certification in any application, record, report or other document filed or required to be maintained under this permit, including reports of compliance or noncompliance shall, upon conviction, be punished in accordance with ECL §71-1933 and or Articles 175 and 210 of the New York State Penal Law.

R. Other Permits

Nothing in this permit relieves the *owner or operator* from a requirement to obtain any other permits required by law.

APPENDIX A

Definitions

Alter Hydrology from Pre to Post-Development Conditions - means the post-development peak flow rate(s) has increased by more than 5% of the pre-developed condition for the design storm of interest (e.g. 10 yr and 100 yr).

Combined Sewer - means a sewer that is designed to collect and convey both “sewage” and “stormwater”.

Commence (Commencement of) Construction Activities - means the initial disturbance of soils associated with clearing, grading or excavation activities; or other construction related activities that disturb or expose soils such as demolition, stockpiling of fill material, and the initial installation of erosion and sediment control practices required in the SWPPP. See definition for “*Construction Activity(ies)*” also.

Construction Activity(ies) - means any clearing, grading, excavation, filling, demolition or stockpiling activities that result in soil disturbance. Clearing activities can include, but are not limited to, logging equipment operation, the cutting and skidding of trees, stump removal and/or brush root removal. Construction activity does not include routine maintenance that is performed to maintain the original line and grade, hydraulic capacity, or original purpose of a facility.

Direct Discharge (to a specific surface waterbody) - means that runoff flows from a construction site by overland flow and the first point of discharge is the specific surface waterbody, or runoff flows from a construction site to a separate storm sewer system and the first point of discharge from the separate storm sewer system is the specific surface waterbody.

Discharge(s) - means any addition of any pollutant to waters of the State through an outlet or point source.

Environmental Conservation Law (ECL) - means chapter 43-B of the Consolidated Laws of the State of New York, entitled the Environmental Conservation Law.

Equivalent (Equivalence) – means that the practice or measure meets all the performance, longevity, maintenance, and safety objectives of the technical standard and will provide an equal or greater degree of water quality protection.

Final Stabilization - means that all soil disturbance activities have ceased and a uniform, perennial vegetative cover with a density of eighty (80) percent over the entire pervious surface has been established; or other equivalent stabilization measures, such as permanent landscape mulches, rock rip-rap or washed/crushed stone have been applied

on all disturbed areas that are not covered by permanent structures, concrete or pavement.

General SPDES permit - means a SPDES permit issued pursuant to 6 NYCRR Part 750-1.21 and Section 70-0117 of the ECL authorizing a category of discharges.

Groundwater(s) - means waters in the saturated zone. The saturated zone is a subsurface zone in which all the interstices are filled with water under pressure greater than that of the atmosphere. Although the zone may contain gas-filled interstices or interstices filled with fluids other than water, it is still considered saturated.

Historic Property – means any building, structure, site, object or district that is listed on the State or National Registers of Historic Places or is determined to be eligible for listing on the State or National Registers of Historic Places.

Impervious Area (Cover) - means all impermeable surfaces that cannot effectively infiltrate rainfall. This includes paved, concrete and gravel surfaces (i.e. parking lots, driveways, roads, runways and sidewalks); building rooftops and miscellaneous impermeable structures such as patios, pools, and sheds.

Infeasible – means not technologically possible, or not economically practicable and achievable in light of best industry practices.

Larger Common Plan of Development or Sale - means a contiguous area where multiple separate and distinct *construction activities* are occurring, or will occur, under one plan. The term “plan” in “larger common plan of development or sale” is broadly defined as any announcement or piece of documentation (including a sign, public notice or hearing, marketing plan, advertisement, drawing, permit application, State Environmental Quality Review Act (SEQRA) environmental assessment form or other documents, zoning request, computer design, etc.) or physical demarcation (including boundary signs, lot stakes, surveyor markings, etc.) indicating that *construction activities* may occur on a specific plot.

For discrete construction projects that are located within a larger common plan of development or sale that are at least 1/4 mile apart, each project can be treated as a separate plan of development or sale provided any interconnecting road, pipeline or utility project that is part of the same “common plan” is not concurrently being disturbed.

Minimize – means reduce and/or eliminate to the extent achievable using control measures (including best management practices) that are technologically available and economically practicable and achievable in light of best industry practices.

Municipal Separate Storm Sewer (MS4) - a conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters,

ditches, man-made channels, or storm drains):

- (i) Owned or operated by a State, city, town, borough, county, parish, district, association, or other public body (created by or pursuant to State law) having jurisdiction over disposal of sewage, industrial wastes, stormwater, or other wastes, including special districts under State law such as a sewer district, flood control district or drainage district, or similar entity, or an Indian tribe or an authorized Indian tribal organization, or a designated and approved management agency under section 208 of the CWA that discharges to surface waters of the State;
- (ii) Designed or used for collecting or conveying stormwater;
- (iii) Which is not a *combined sewer*; and
- (iv) Which is not part of a Publicly Owned Treatment Works (POTW) as defined at 40 CFR 122.2.

National Pollutant Discharge Elimination System (NPDES) - means the national system for the issuance of wastewater and stormwater permits under the Federal Water Pollution Control Act (Clean Water Act).

New Development – means any land disturbance that does meet the definition of Redevelopment Activity included in this appendix.

NOI Acknowledgment Letter - means the letter that the Department sends to an owner or operator to acknowledge the Department’s receipt and acceptance of a complete Notice of Intent. This letter documents the owner’s or operator’s authorization to discharge in accordance with the general permit for stormwater discharges from *construction activity*.

Owner or Operator - means the person, persons or legal entity which owns or leases the property on which the *construction activity* is occurring; and/or an entity that has operational control over the construction plans and specifications, including the ability to make modifications to the plans and specifications.

Performance Criteria – means the design criteria listed under the “Required Elements” sections in Chapters 5, 6 and 10 of the technical standard, New York State Stormwater Management Design Manual, dated January 2015. It does not include the Sizing Criteria (i.e. WQv, RRv, Cpv, Qp and Qf) in Part I.C.2. of the permit.

Pollutant - means dredged spoil, filter backwash, solid waste, incinerator residue, sewage, garbage, sewage sludge, munitions, chemical wastes, biological materials, radioactive materials, heat, wrecked or discarded equipment, rock, sand and industrial, municipal, agricultural waste and ballast discharged into water; which may cause or might reasonably be expected to cause pollution of the waters of the state in contravention of the standards or guidance values adopted as provided in 6 NYCRR Parts 700 et seq .

Qualified Inspector - means a person that is knowledgeable in the principles and practices of erosion and sediment control, such as a licensed Professional Engineer, Certified Professional in Erosion and Sediment Control (CPESC), Registered Landscape Architect, or other Department endorsed individual(s).

It can also mean someone working under the direct supervision of, and at the same company as, the licensed Professional Engineer or Registered Landscape Architect, provided that person has training in the principles and practices of erosion and sediment control. Training in the principles and practices of erosion and sediment control means that the individual working under the direct supervision of the licensed Professional Engineer or Registered Landscape Architect has received four (4) hours of Department endorsed training in proper erosion and sediment control principles from a Soil and Water Conservation District, or other Department endorsed entity. After receiving the initial training, the individual working under the direct supervision of the licensed Professional Engineer or Registered Landscape Architect shall receive four (4) hours of training every three (3) years.

It can also mean a person that meets the *Qualified Professional* qualifications in addition to the *Qualified Inspector* qualifications.

Note: Inspections of any post-construction stormwater management practices that include structural components, such as a dam for an impoundment, shall be performed by a licensed Professional Engineer.

Qualified Professional - means a person that is knowledgeable in the principles and practices of stormwater management and treatment, such as a licensed Professional Engineer, Registered Landscape Architect or other Department endorsed individual(s). Individuals preparing SWPPPs that require the post-construction stormwater management practice component must have an understanding of the principles of hydrology, water quality management practice design, water quantity control design, and, in many cases, the principles of hydraulics. All components of the SWPPP that involve the practice of engineering, as defined by the NYS Education Law (see Article 145), shall be prepared by, or under the direct supervision of, a professional engineer licensed to practice in the State of New York.

Redevelopment Activity(ies) – means the disturbance and reconstruction of existing impervious area, including impervious areas that were removed from a project site within five (5) years of preliminary project plan submission to the local government (i.e. site plan, subdivision, etc.).

Regulated, Traditional Land Use Control MS4 - means a city, town or village with land use control authority that is required to gain coverage under New York State DEC's SPDES General Permit For Stormwater Discharges from Municipal Separate Stormwater Sewer Systems (MS4s).

Routine Maintenance Activity - means *construction activity* that is performed to maintain the original line and grade, hydraulic capacity, or original purpose of a facility, including, but not limited to:

- Re-grading of gravel roads or parking lots,
- Stream bank restoration projects (does not include the placement of spoil material),
- Cleaning and shaping of existing roadside ditches and culverts that maintains the approximate original line and grade, and hydraulic capacity of the ditch,
- Cleaning and shaping of existing roadside ditches that does not maintain the approximate original grade, hydraulic capacity and purpose of the ditch if the changes to the line and grade, hydraulic capacity or purpose of the ditch are installed to improve water quality and quantity controls (e.g. installing grass lined ditch),
- Placement of aggregate shoulder backing that makes the transition between the road shoulder and the ditch or embankment,
- Full depth milling and filling of existing asphalt pavements, replacement of concrete pavement slabs, and similar work that does not expose soil or disturb the bottom six (6) inches of subbase material,
- Long-term use of equipment storage areas at or near highway maintenance facilities,
- Removal of sediment from the edge of the highway to restore a previously existing sheet-flow drainage connection from the highway surface to the highway ditch or embankment,
- Existing use of Canal Corp owned upland disposal sites for the canal, and
- Replacement of curbs, gutters, sidewalks and guide rail posts.

Site limitations – means site conditions that prevent the use of an infiltration technique and or infiltration of the total WQv. Typical site limitations include: seasonal high groundwater, shallow depth to bedrock, and soils with an infiltration rate less than 0.5 inches/hour. The existence of site limitations shall be confirmed and documented using actual field testing (i.e. test pits, soil borings, and infiltration test) or using information from the most current United States Department of Agriculture (USDA) Soil Survey for the County where the project is located.

Sizing Criteria – means the criteria included in Part I.C.2 of the permit that are used to size post-construction stormwater management control practices. The criteria include; Water Quality Volume (WQv), Runoff Reduction Volume (RRv), Channel Protection Volume (Cpv), Overbank Flood (Qp), and Extreme Flood (Qf).

State Pollutant Discharge Elimination System (SPDES) - means the system established pursuant to Article 17 of the ECL and 6 NYCRR Part 750 for issuance of permits authorizing discharges to the waters of the state.

Steep Slope – means land area with a Soil Slope Phase that is identified as an E or F, or

the map unit name is inclusive of 25% or greater slope, on the United States Department of Agriculture ("USDA") Soil Survey for the County where the disturbance will occur.

Surface Waters of the State - shall be construed to include lakes, bays, sounds, ponds, impounding reservoirs, springs, rivers, streams, creeks, estuaries, marshes, inlets, canals, the Atlantic ocean within the territorial seas of the state of New York and all other bodies of surface water, natural or artificial, inland or coastal, fresh or salt, public or private (except those private waters that do not combine or effect a junction with natural surface waters), which are wholly or partially within or bordering the state or within its jurisdiction. Waters of the state are further defined in 6 NYCRR Parts 800 to 941.

Temporarily Ceased – means that an existing disturbed area will not be disturbed again within 14 calendar days of the previous soil disturbance.

Temporary Stabilization - means that exposed soil has been covered with material(s) as set forth in the technical standard, New York Standards and Specifications for Erosion and Sediment Control, to prevent the exposed soil from eroding. The materials can include, but are not limited to, mulch, seed and mulch, and erosion control mats (e.g. jute twisted yarn, excelsior wood fiber mats).

Total Maximum Daily Loads (TMDLs) - A TMDL is the sum of the allowable loads of a single pollutant from all contributing point and nonpoint sources. It is a calculation of the maximum amount of a pollutant that a waterbody can receive on a daily basis and still meet *water quality standards*, and an allocation of that amount to the pollutant's sources. A TMDL stipulates wasteload allocations (WLAs) for point source discharges, load allocations (LAs) for nonpoint sources, and a margin of safety (MOS).

Trained Contractor - means an employee from the contracting (construction) company, identified in Part III.A.6., that has received four (4) hours of Department endorsed training in proper erosion and sediment control principles from a Soil and Water Conservation District, or other Department endorsed entity. After receiving the initial training, the *trained contractor* shall receive four (4) hours of training every three (3) years.

It can also mean an employee from the contracting (construction) company, identified in Part III.A.6., that meets the *qualified inspector* qualifications (e.g. licensed Professional Engineer, Certified Professional in Erosion and Sediment Control (CPESC), Registered Landscape Architect, or someone working under the direct supervision of, and at the same company as, the licensed Professional Engineer or Registered Landscape Architect, provided they have received four (4) hours of Department endorsed training in proper erosion and sediment control principles from a Soil and Water Conservation District, or other Department endorsed entity).

The *trained contractor* is responsible for the day to day implementation of the SWPPP.

Uniform Procedures Act (UPA) Permit - means a permit required under 6 NYCRR Part

621 of the Environmental Conservation Law (ECL), Article 70.

Water Quality Standard - means such measures of purity or quality for any waters in relation to their reasonable and necessary use as promulgated in 6 NYCRR Part 700 et seq.

APPENDIX B

Required SWPPP Components by Project Type

Table 1
CONSTRUCTION ACTIVITIES THAT REQUIRE THE PREPARATION OF A SWPPP
THAT ONLY INCLUDES EROSION AND SEDIMENT CONTROLS

The following construction activities that involve soil disturbances of one (1) or more acres of land, but less than five (5) acres:

- Single family home not located in one of the watersheds listed in Appendix C or not directly discharging to one of the 303(d) segments listed in Appendix E
- Single family residential subdivisions with 25% or less impervious cover at total site build-out and not located in one of the watersheds listed in Appendix C and not directly discharging to one of the 303(d) segments listed in Appendix E
- Construction of a barn or other agricultural building, silo, stock yard or pen.

The following construction activities that involve soil disturbances of one (1) or more acres of land:

- Installation of underground, linear utilities; such as gas lines, fiber-optic cable, cable TV, electric, telephone, sewer mains, and water mains
- Environmental enhancement projects, such as wetland mitigation projects, stormwater retrofits and stream restoration projects
- Bike paths and trails
- Sidewalk construction projects that are not part of a road/ highway construction or reconstruction project
- Slope stabilization projects
- Slope flattening that changes the grade of the site, but does not significantly change the runoff characteristics
- Spoil areas that will be covered with vegetation
- Land clearing and grading for the purposes of creating vegetated open space (i.e. recreational parks, lawns, meadows, fields), excluding projects that *alter hydrology from pre to post development* conditions
- Athletic fields (natural grass) that do not include the construction or reconstruction of *impervious area* and do not *alter hydrology from pre to post development* conditions
- Demolition project where vegetation will be established and no redevelopment is planned
- Overhead electric transmission line project that does not include the construction of permanent access roads or parking areas surfaced with *impervious cover*
- Structural practices as identified in Table II in the "Agricultural Management Practices Catalog for Nonpoint Source Pollution in New York State", excluding projects that involve soil disturbances of less than five acres and construction activities that include the construction or reconstruction of impervious area

The following construction activities that involve soil disturbances between five thousand (5000) square feet and one (1) acre of land:

- All construction activities located in the watersheds identified in Appendix D that involve soil disturbances between five thousand (5,000) square feet and one (1) acre of land.

Table 2
CONSTRUCTION ACTIVITIES THAT REQUIRE THE PREPARATION OF A SWPPP THAT INCLUDES
POST-CONSTRUCTION STORMWATER MANAGEMENT PRACTICES

The following construction activities that involve soil disturbances of one (1) or more acres of land:

- Single family home located in one of the watersheds listed in Appendix C or *directly discharging* to one of the 303(d) segments listed in Appendix E
- Single family residential subdivisions located in one of the watersheds listed in Appendix C or *directly discharging* to one of the 303(d) segments listed in Appendix E
- Single family residential subdivisions that involve soil disturbances of between one (1) and five (5) acres of land with greater than 25% impervious cover at total site build-out
- Single family residential subdivisions that involve soil disturbances of five (5) or more acres of land, and single family residential subdivisions that involve soil disturbances of less than five (5) acres that are part of a larger common plan of development or sale that will ultimately disturb five or more acres of land
- Multi-family residential developments; includes townhomes, condominiums, senior housing complexes, apartment complexes, and mobile home parks
- Airports
- Amusement parks
- Campgrounds
- Cemeteries that include the construction or reconstruction of impervious area (>5% of disturbed area) or *alter the hydrology from pre to post development conditions*
- Commercial developments
- Churches and other places of worship
- Construction of a barn or other agricultural building(e.g. silo) and structural practices as identified in Table II in the "Agricultural Management Practices Catalog for Nonpoint Source Pollution in New York State" that include the construction or reconstruction of *impervious area*, excluding projects that involve soil disturbances of less than five acres.
- Golf courses
- Institutional, includes hospitals, prisons, schools and colleges
- Industrial facilities, includes industrial parks
- Landfills
- Municipal facilities; includes highway garages, transfer stations, office buildings, POTW's and water treatment plants
- Office complexes
- Sports complexes
- Racetracks, includes racetracks with earthen (dirt) surface
- Road construction or reconstruction
- Parking lot construction or reconstruction
- Athletic fields (natural grass) that include the construction or reconstruction of impervious area (>5% of disturbed area) or *alter the hydrology from pre to post development conditions*
- Athletic fields with artificial turf
- Permanent access roads, parking areas, substations, compressor stations and well drilling pads, surfaced with *impervious cover*, and constructed as part of an over-head electric transmission line project, wind-power project, cell tower project, oil or gas well drilling project, sewer or water main project or other linear utility project
- All other construction activities that include the construction or reconstruction of *impervious area* or *alter the hydrology from pre to post development conditions*, and are not listed in Table 1

APPENDIX C

Watersheds Where Enhanced Phosphorus Removal Standards Are Required

Watersheds where *owners or operators* of construction activities identified in Table 2 of Appendix B must prepare a SWPPP that includes post-construction stormwater management practices designed in conformance with the Enhanced Phosphorus Removal Standards included in the technical standard, New York State Stormwater Management Design Manual (“Design Manual”).

- Entire New York City Watershed located east of the Hudson River - Figure 1
- Onondaga Lake Watershed - Figure 2
- Greenwood Lake Watershed -Figure 3
- Oscawana Lake Watershed – Figure 4
- Kinderhook Lake Watershed – Figure 5

Figure 1 - New York City Watershed East of the Hudson

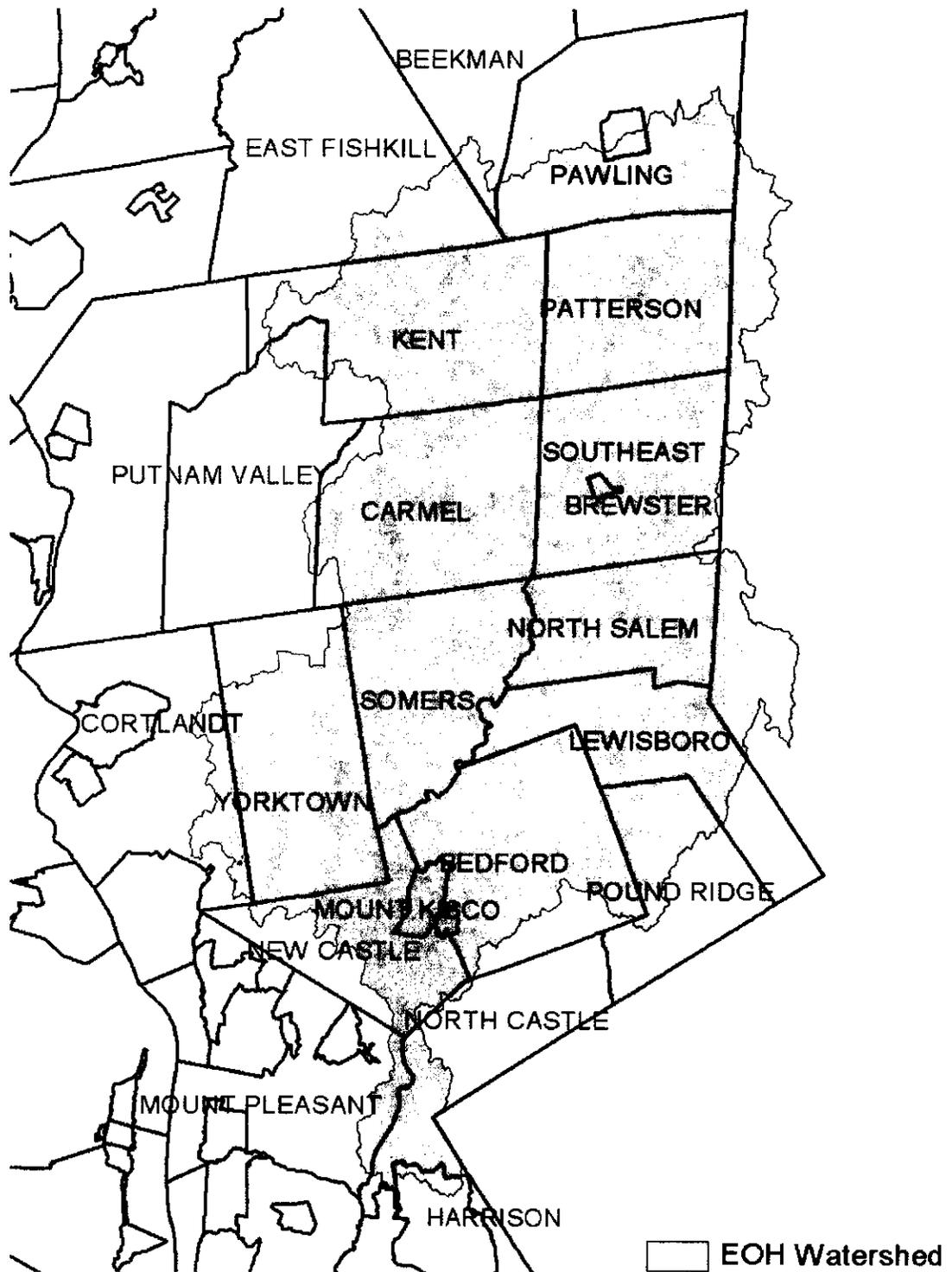


Figure 2 - Onondaga Lake Watershed

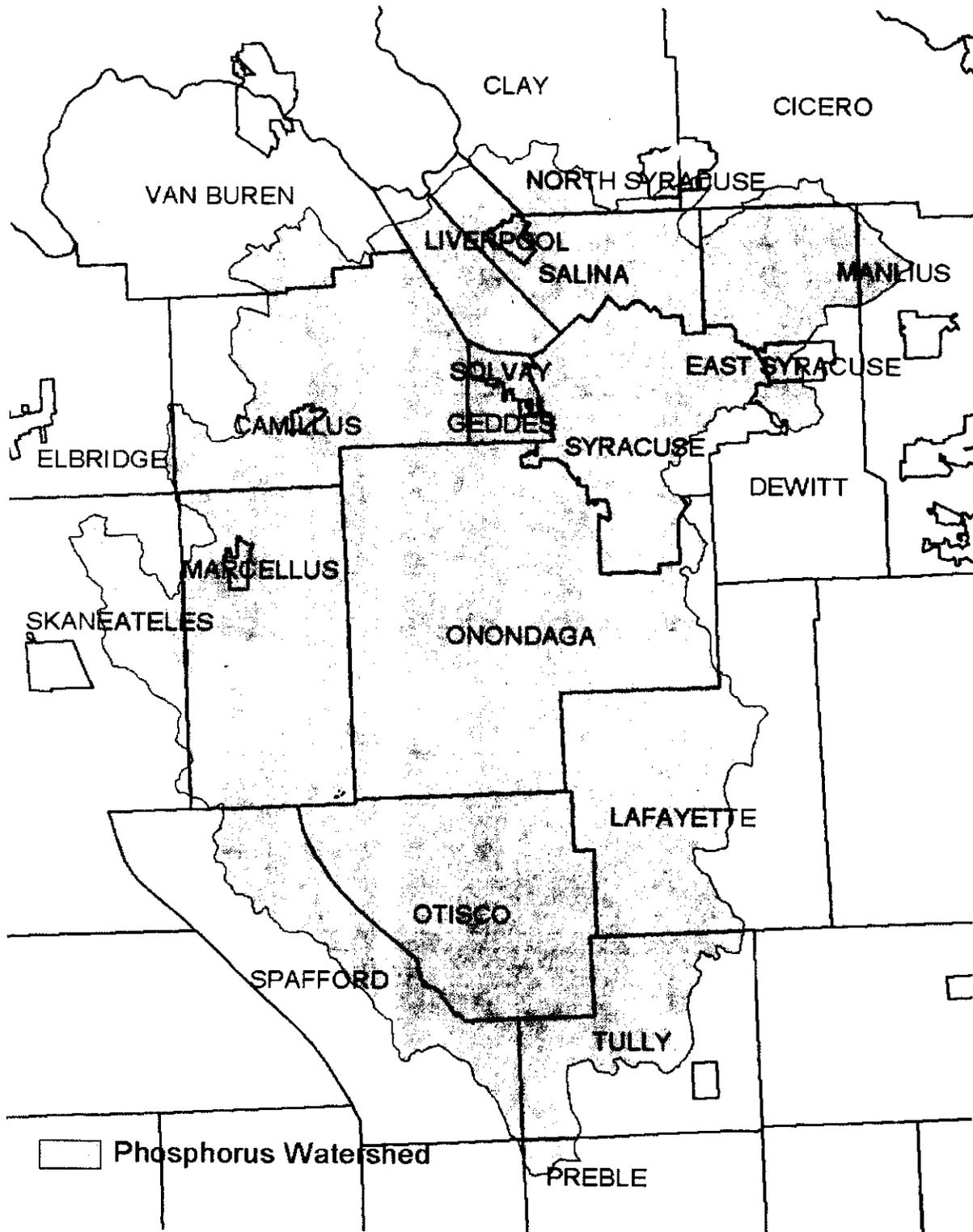


Figure 3 - Greenwood Lake Watershed

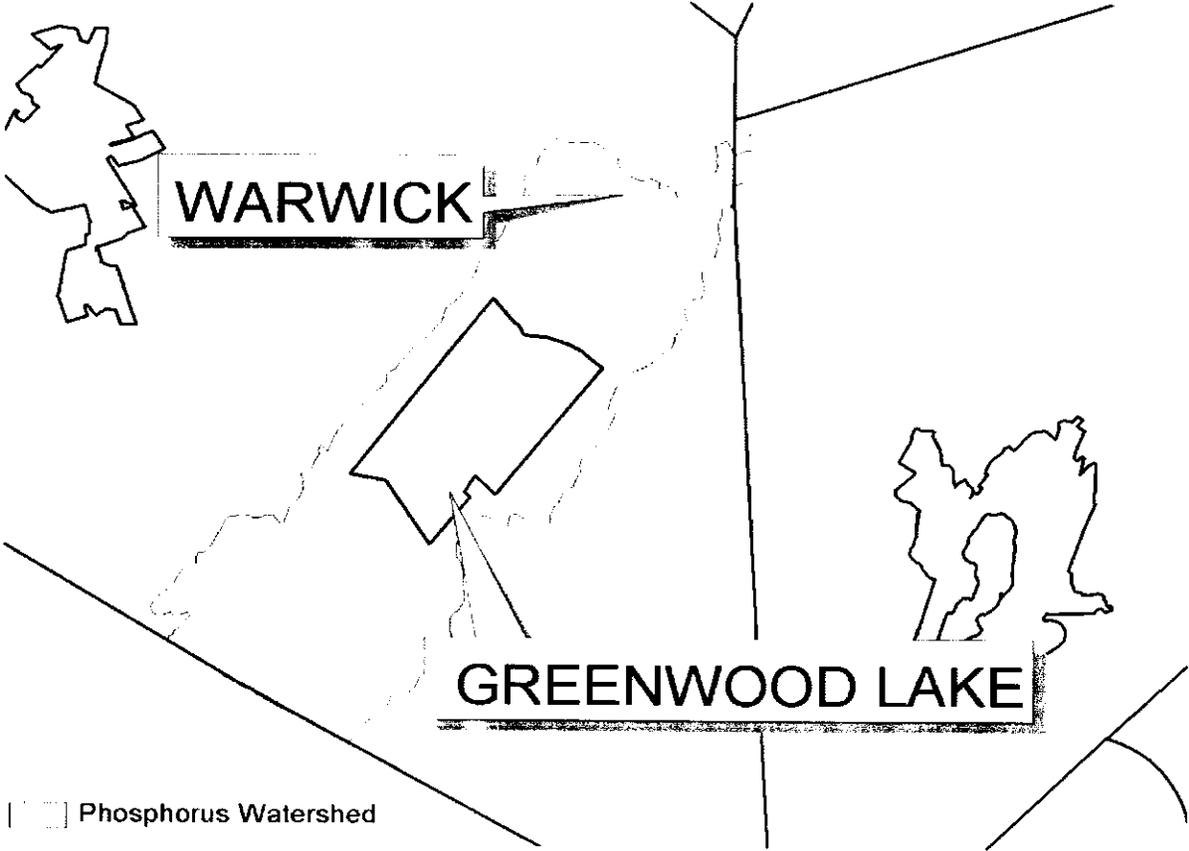


Figure 4 - Oscawana Lake Watershed

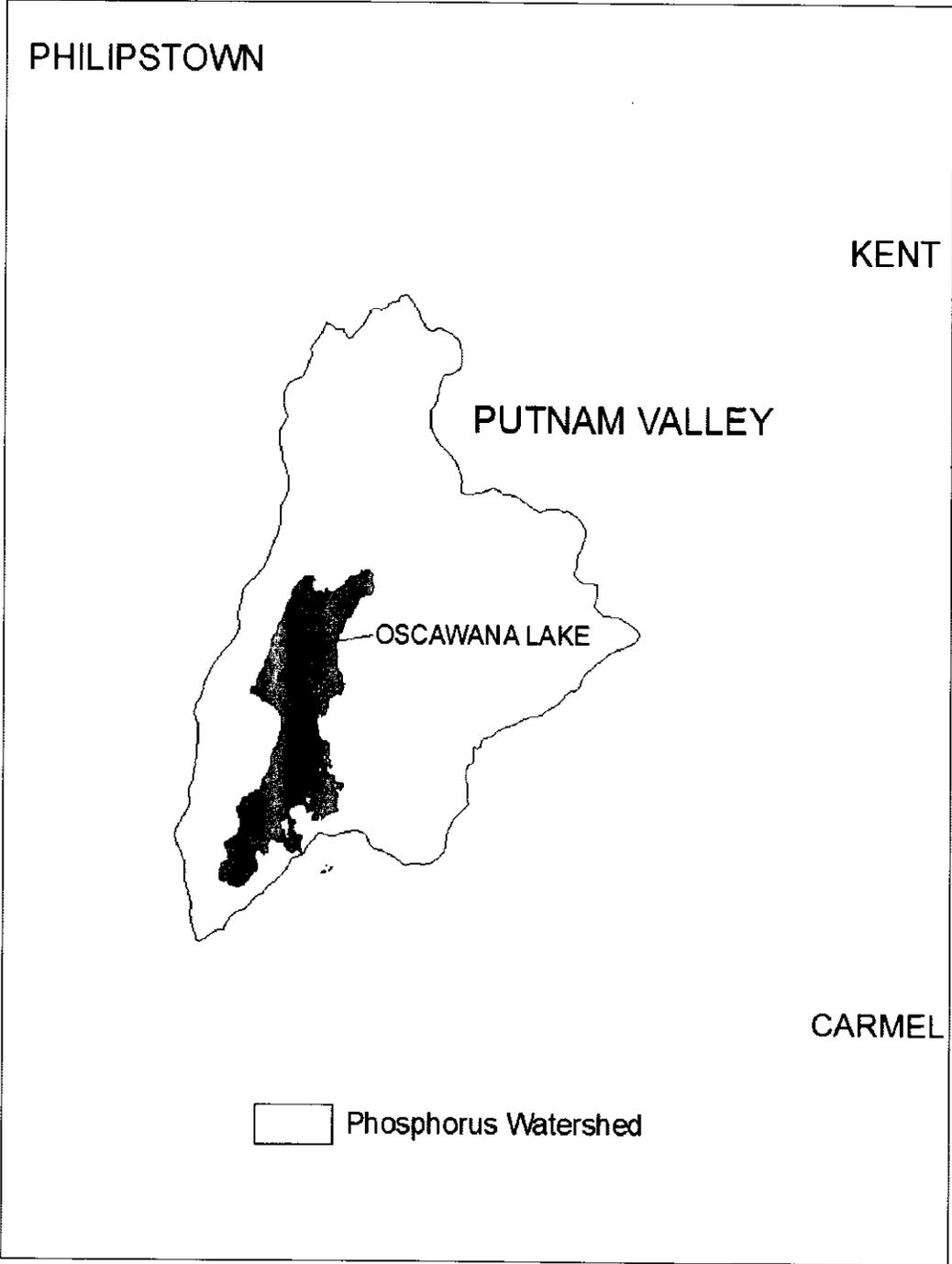
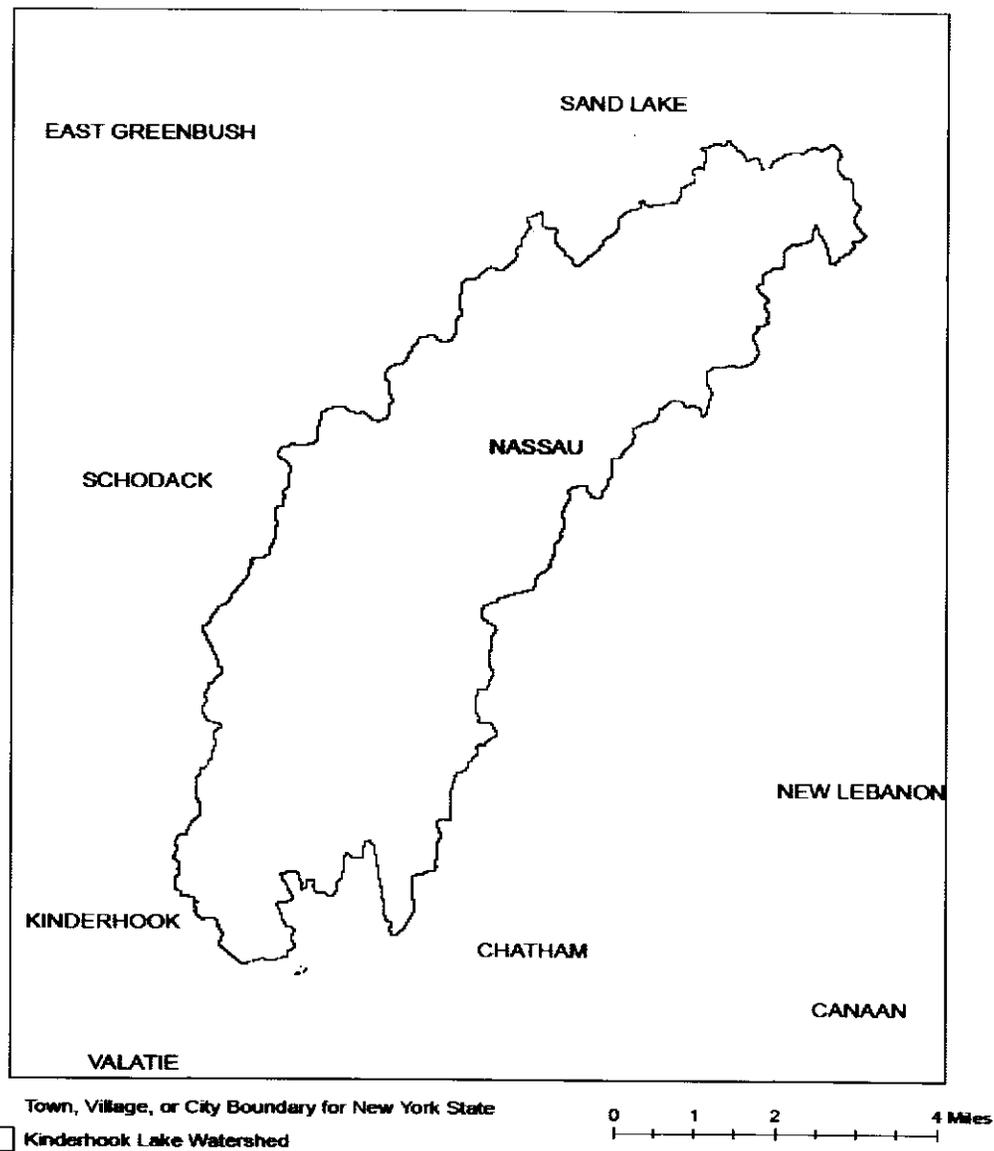


Figure 5: Kinderhook Lake Watershed



APPENDIX D

Watersheds where *owners or operators* of construction activities that involve soil disturbances between five thousand (5000) square feet and one (1) acre of land must obtain coverage under this permit.

Entire New York City Watershed that is located east of the Hudson River - See Figure 1 in Appendix C

APPENDIX E

List of 303(d) segments impaired by pollutants related to *construction activity* (e.g. silt, sediment or nutrients). *Owners or operators* of single family home and single family residential subdivisions with 25% or less total impervious cover at total site build-out that involve soil disturbances of one or more acres of land, but less than 5 acres, and *directly discharge* to one of the listed segments below shall prepare a SWPPP that includes post-construction stormwater management practices designed in conformance with the New York State Stormwater Management Design Manual (“Design Manual”), dated January 2015.

COUNTY	WATERBODY	COUNTY	WATERBODY
Albany	Ann Lee (Shakers) Pond, Stump Pond	Greene	Sleepy Hollow Lake
Albany	Basic Creek Reservoir	Herkimer	Steele Creek tribs
Allegheny	Amity Lake, Saunders Pond	Kings	Hendrix Creek
Bronx	Van Cortlandt Lake	Lewis	Mill Creek/South Branch and tribs
Broome	Whitney Point Lake/Reservoir	Livingston	Conesus Lake
Broome	Fly Pond, Deer Lake	Livingston	Jaycox Creek and tribs
Broome	Minor Tribs to Lower Susquehanna (north)	Livingston	Mill Creek and minor tribs
Cattaraugus	Allegheny River/Reservoir	Livingston	Bradner Creek and tribs
Cattaraugus	Case Lake	Livingston	Christie Creek and tribs
Cattaraugus	Linlyco/Club Pond	Monroe	Lake Ontario Shoreline, Western
Cayuga	Duck Lake	Monroe	Mill Creek/Blue Pond Outlet and tribs
Chautauqua	Chautauqua Lake, North	Monroe	Rochester Embayment - East
Chautauqua	Chautauqua Lake, South	Monroe	Rochester Embayment - West
Chautauqua	Bear Lake	Monroe	Unnamed Trib to Honeoye Creek
Chautauqua	Chadakoin River and tribs	Monroe	Genesee River, Lower, Main Stem
Chautauqua	Lower Cassadaga Lake	Monroe	Genesee River, Middle, Main Stem
Chautauqua	Middle Cassadaga Lake	Monroe	Black Creek, Lower, and minor tribs
Chautauqua	Findley Lake	Monroe	Buck Pond
Clinton	Great Chazy River, Lower, Main Stem	Monroe	Long Pond
Columbia	Kinderhook Lake	Monroe	Cranberry Pond
Columbia	Robinson Pond	Monroe	Mill Creek and tribs
Dutchess	Hillside Lake	Monroe	Shipbuilders Creek and tribs
Dutchess	Wappinger Lakes	Monroe	Minor tribs to Irondequoit Bay
Dutchess	Fall Kill and tribs ²⁷	Monroe	Thomas Creek/White Brook and tribs
Erie	Green Lake	Nassau	Glen Cove Creek, Lower, and tribs
Erie	Scajaquada Creek, Lower, and tribs	Nassau	LI Tribs (fresh) to East Bay
Erie	Scajaquada Creek, Middle, and tribs	Nassau	East Meadow Brook, Upper, and tribs
Erie	Scajaquada Creek, Upper, and tribs	Nassau	Hempstead Bay
Erie	Rush Creek and tribs	Nassau	Hempstead Lake
Erie	Ellicott Creek, Lower, and tribs	Nassau	Grant Park Pond
Erie	Beeman Creek and tribs	Nassau	Beaver Lake
Erie	Murder Creek, Lower, and tribs	Nassau	Camaans Pond
Erie	South Branch Smoke Cr, Lower, and tribs	Nassau	Halls Pond
Erie	Little Sister Creek, Lower, and tribs	Nassau	LI Tidal Tribs to Hempstead Bay
Essex	Lake George (primary county: Warren)	Nassau	Massapequa Creek and tribs
Genesee	Black Creek, Upper, and minor tribs	Nassau	Reynolds Channel, east
Genesee	Tonawanda Creek, Middle, Main Stem	Nassau	Reynolds Channel, west
Genesee	Oak Orchard Creek, Upper, and tribs	Nassau	Silver Lake, Lofts Pond
Genesee	Bowen Brook and tribs	Nassau	Woodmere Channel
Genesee	Bigelow Creek and tribs	Niagara	Hyde Park Lake
Genesee	Black Creek, Middle, and minor tribs	Niagara	Lake Ontario Shoreline, Western
Genesee	LeRoy Reservoir	Niagara	Bergholtz Creek and tribs
Greene	Schoharie Reservoir	Oneida	Ballou, Nail Creeks
		Onondaga	Ley Creek and tribs
		Onondaga	Onondaga Creek, Lower and tribs

APPENDIX E

List of 303(d) segments impaired by pollutants related to construction activity, cont'd.

COUNTY	WATERBODY	COUNTY	WATERBODY
Onondaga	Onondaga Creek, Middle and tribs	Suffolk	Great South Bay, West
Onondaga	Onondaga Creek, Upp, and minor tribs	Suffolk	Mill and Seven Ponds
Onondaga	Harbor Brook, Lower, and tribs	Suffolk	Moriches Bay, East
Onondaga	Ninemile Creek, Lower, and tribs	Suffolk	Moriches Bay, West
Onondaga	Minor tribs to Onondaga Lake	Suffolk	Quantuck Bay
Onondaga	Onondaga Creek, Lower, and tribs	Suffolk	Shinnecock Bay (and Inlet)
Ontario	Honeoye Lake	Sullivan	Bodine, Montgomery Lakes
Ontario	Hemlock Lake Outlet and minor tribs	Sullivan	Davies Lake
Ontario	Great Brook and minor tribs	Sullivan	Pleasure Lake
Orange	Monhagen Brook and tribs	Sullivan	Swan Lake
Orange	Orange Lake	Tompkins	Cayuga Lake, Southern End
Orleans	Lake Ontario Shoreline, Western	Tompkins	Owasco Inlet, Upper, and tribs
Oswego	Pleasant Lake	Ulster	Ashokan Reservoir
Oswego	Lake Neatahwanta	Ulster	Esopus Creek, Upper, and minor tribs
Putnam	Oscawana Lake	Ulster	Esopus Creek, Lower, Main Stem
Putnam	Palmer Lake	Ulster	Esopus Creek, Middle, and minor tribs
Putnam	Lake Carmel	Warren	Lake George
Queens	Jamaica Bay, Eastern, and tribs (Queens)	Warren	Tribs to L.George, Village of L George
Queens	Bergen Basin	Warren	Huddle/Finkle Brooks and tribs
Queens	Shellbank Basin	Warren	Indian Brook and tribs
Rensselaer	Nassau Lake	Warren	Hague Brook and tribs
Rensselaer	Snyders Lake	Washington	Tribs to L.George, East Shr Lk George
Richmond	Grasmere, Arbutus and Wolfes Lakes	Washington	Cossayuna Lake
Rockland	Congers Lake, Swartout Lake	Washington	Wood Cr/Champlain Canal, minor tribs
Rockland	Rockland Lake	Wayne	Port Bay
Saratoga	Ballston Lake	Wayne	Marbletown Creek and tribs
Saratoga	Round Lake	Westchester	Lake Katonah
Saratoga	Dwaas Kill and tribs	Westchester	Lake Mohegan
Saratoga	Tribs to Lake Lonely	Westchester	Lake Shenorock
Saratoga	Lake Lonely	Westchester	Reservoir No.1 (Lake Isle)
Schenectady	Collins Lake	Westchester	Saw Mill River, Middle, and tribs
Schenectady	Duane Lake	Westchester	Silver Lake
Schenectady	Mariaville Lake	Westchester	Teatown Lake
Schoharie	Engleville Pond	Westchester	Truesdale Lake
Schoharie	Summit Lake	Westchester	Wallace Pond
Schuyler	Cayuta Lake	Westchester	Peach Lake
St. Lawrence	Fish Creek and minor tribs	Westchester	Mamaroneck River, Lower
St. Lawrence	Black Lake Outlet/Black Lake	Westchester	Mamaroneck River, Upp, and tribs
Steuben	Lake Salubria	Westchester	Sheldrake River and tribs
Steuben	Smith Pond	Westchester	Blind Brook, Lower
Suffolk	Millers Pond	Westchester	Blind Brook, Upper, and tribs
Suffolk	Mattituck (Marratooka) Pond	Westchester	Lake Lincolndale
Suffolk	Tidal tribs to West Moriches Bay	Westchester	Lake Meahaugh
Suffolk	Canaan Lake	Wyoming	Java Lake
Suffolk	Lake Ronkonkoma	Wyoming	Silver Lake
Suffolk	Beaverdam Creek and tribs		
Suffolk	Big/Little Fresh Ponds		
Suffolk	Fresh Pond		
Suffolk	Great South Bay, East		
Suffolk	Great South Bay, Middle		

Note: The list above identifies those waters from the final New York State "2014 Section 303(d) List of Impaired Waters Requiring a TMDL/Other Strategy", dated January 2015, that are impaired by silt, sediment or nutrients.

APPENDIX F

LIST OF NYS DEC REGIONAL OFFICES

<u>Region</u>	<u>COVERING THE FOLLOWING COUNTIES:</u>	<u>DIVISION OF ENVIRONMENTAL PERMITS (DEP) PERMIT ADMINISTRATORS</u>	<u>DIVISION OF WATER (DOW) WATER (SPDES) PROGRAM</u>
1	NASSAU AND SUFFOLK	50 CIRCLE ROAD STONY BROOK, NY 11790 TEL. (631) 444-0365	50 CIRCLE ROAD STONY BROOK, NY 11790-3409 TEL. (631) 444-0405
2	BRONX, KINGS, NEW YORK, QUEENS AND RICHMOND	1 HUNTERS POINT PLAZA, 47-40 21ST ST. LONG ISLAND CITY, NY 11101-5407 TEL. (718) 482-4997	1 HUNTERS POINT PLAZA, 47-40 21ST ST. LONG ISLAND CITY, NY 11101-5407 TEL. (718) 482-4933
3	DUTCHESS, ORANGE, PUTNAM, ROCKLAND, SULLIVAN, ULSTER AND WESTCHESTER	21 SOUTH PUTT CORNERS ROAD NEW PALTZ, NY 12561-1696 TEL. (845) 256-3059	100 HILLSIDE AVENUE, SUITE 1W WHITE PLAINS, NY 10603 TEL. (914) 428 - 2505
4	ALBANY, COLUMBIA, DELAWARE, GREENE, MONTGOMERY, OTSEGO, RENSSELAER, SCHENECTADY AND SCHOHARIE	1150 NORTH WESTCOTT ROAD SCHENECTADY, NY 12306-2014 TEL. (518) 357-2069	1130 NORTH WESTCOTT ROAD SCHENECTADY, NY 12306-2014 TEL. (518) 357-2045
5	CLINTON, ESSEX, FRANKLIN, FULTON, HAMILTON, SARATOGA, WARREN AND WASHINGTON	1115 STATE ROUTE 86, Po Box 296 RAY BROOK, NY 12977-0296 TEL. (518) 897-1234	232 GOLF COURSE ROAD WARRENSBURG, NY 12885-1172 TEL. (518) 623-1200
6	HERKIMER, JEFFERSON, LEWIS, ONEIDA AND ST. LAWRENCE	STATE OFFICE BUILDING 317 WASHINGTON STREET WATERTOWN, NY 13601-3787 TEL. (315) 785-2245	STATE OFFICE BUILDING 207 GENESEE STREET UTICA, NY 13501-2885 TEL. (315) 793-2554
7	BROOME, CAYUGA, CHENANGO, CORTLAND, MADISON, ONONDAGA, OSWEGO, TIOGA AND TOMPKINS	615 ERIE BLVD. WEST SYRACUSE, NY 13204-2400 TEL. (315) 426-7438	615 ERIE BLVD. WEST SYRACUSE, NY 13204-2400 TEL. (315) 426-7500
8	CHEMUNG, GENESEE, LIVINGSTON, MONROE, ONTARIO, ORLEANS, SCHUYLER, SENECA, STEUBEN, WAYNE AND YATES	6274 EAST AVON-LIMA ROAD AVON, NY 14414-9519 TEL. (585) 226-2466	6274 EAST AVON-LIMA RD. AVON, NY 14414-9519 TEL. (585) 226-2466
9	ALLEGANY, CATTARAUGUS, CHAUTAUQUA, ERIE, NIAGARA AND WYOMING	270 MICHIGAN AVENUE BUFFALO, NY 14203-2999 TEL. (716) 851-7165	270 MICHIGAN AVE. BUFFALO, NY 14203-2999 TEL. (716) 851-7070

APPENDIX B

Post-construction Stormwater Management Practice (SMP) Requirements

Important: Completion of Questions 27-39 is not required if response to Question 22 is No.

27. Identify all site planning practices that were used to prepare the final site plan/layout for the project.

- Preservation of Undisturbed Areas
- Preservation of Buffers
- Reduction of Clearing and Grading
- Locating Development in Less Sensitive Areas
- Roadway Reduction
- Sidewalk Reduction
- Driveway Reduction
- Cul-de-sac Reduction
- Building Footprint Reduction
- Parking Reduction

27a. Indicate which of the following soil restoration criteria was used to address the requirements in Section 5.1.6("Soil Restoration") of the Design Manual (2010 version).

- All disturbed areas will be restored in accordance with the Soil Restoration requirements in Table 5.3 of the Design Manual (see page 5-22).
- Compacted areas were considered as impervious cover when calculating the **WQv Required**, and the compacted areas were assigned a post-construction Hydrologic Soil Group (HSG) designation that is one level less permeable than existing conditions for the hydrology analysis.

28. Provide the total Water Quality Volume (WQv) required for this project (based on final site plan/layout).

Total WQv Required

. acre-feet

29. Identify the RR techniques (Area Reduction), RR techniques (Volume Reduction) and Standard SMPs with RRv Capacity in Table 1 (See Page 9) that were used to reduce the Total WQv Required(#28).

Also, provide in Table 1 the total impervious area that contributes runoff to each technique/practice selected. For the Area Reduction Techniques, provide the total contributing area (includes pervious area) and, if applicable, the total impervious area that contributes runoff to the technique/practice.

Note: Redevelopment projects shall use Tables 1 and 2 to identify the SMPs used to treat and/or reduce the WQv required. If runoff reduction techniques will not be used to reduce the required WQv, skip to question 33a after identifying the SMPs.

Table 1 - Runoff Reduction (RR) Techniques and Standard Stormwater Management Practices (SMPs)

<u>RR Techniques (Area Reduction)</u>	<u>Total Contributing Area (acres)</u>	<u>and/or</u>	<u>Total Contributing Impervious Area (acres)</u>
<input type="radio"/> Conservation of Natural Areas (RR-1) ...	<input type="text"/> <input type="text"/> <input type="text"/> . <input type="text"/> <input type="text"/> <input type="text"/>	and/or	<input type="text"/> <input type="text"/> <input type="text"/> . <input type="text"/> <input type="text"/> <input type="text"/>
<input type="radio"/> Sheetflow to Riparian Buffers/Filters Strips (RR-2)	<input type="text"/> <input type="text"/> <input type="text"/> . <input type="text"/> <input type="text"/> <input type="text"/>	and/or	<input type="text"/> <input type="text"/> <input type="text"/> . <input type="text"/> <input type="text"/> <input type="text"/>
<input type="radio"/> Tree Planting/Tree Pit (RR-3)	<input type="text"/> <input type="text"/> <input type="text"/> . <input type="text"/> <input type="text"/> <input type="text"/>	and/or	<input type="text"/> <input type="text"/> <input type="text"/> . <input type="text"/> <input type="text"/> <input type="text"/>
<input type="radio"/> Disconnection of Rooftop Runoff (RR-4) ..	<input type="text"/> <input type="text"/> <input type="text"/> . <input type="text"/> <input type="text"/> <input type="text"/>	and/or	<input type="text"/> <input type="text"/> <input type="text"/> . <input type="text"/> <input type="text"/> <input type="text"/>
<u>RR Techniques (Volume Reduction)</u>			
<input type="radio"/> Vegetated Swale (RR-5)			<input type="text"/> <input type="text"/> <input type="text"/> . <input type="text"/> <input type="text"/> <input type="text"/>
<input type="radio"/> Rain Garden (RR-6)			<input type="text"/> <input type="text"/> <input type="text"/> . <input type="text"/> <input type="text"/> <input type="text"/>
<input type="radio"/> Stormwater Planter (RR-7)			<input type="text"/> <input type="text"/> <input type="text"/> . <input type="text"/> <input type="text"/> <input type="text"/>
<input type="radio"/> Rain Barrel/Cistern (RR-8)			<input type="text"/> <input type="text"/> <input type="text"/> . <input type="text"/> <input type="text"/> <input type="text"/>
<input type="radio"/> Porous Pavement (RR-9)			<input type="text"/> <input type="text"/> <input type="text"/> . <input type="text"/> <input type="text"/> <input type="text"/>
<input type="radio"/> Green Roof (RR-10)			<input type="text"/> <input type="text"/> <input type="text"/> . <input type="text"/> <input type="text"/> <input type="text"/>
<u>Standard SMPs with RRv Capacity</u>			
<input type="radio"/> Infiltration Trench (I-1)			<input type="text"/> <input type="text"/> <input type="text"/> . <input type="text"/> <input type="text"/> <input type="text"/>
<input type="radio"/> Infiltration Basin (I-2)			<input type="text"/> <input type="text"/> <input type="text"/> . <input type="text"/> <input type="text"/> <input type="text"/>
<input type="radio"/> Dry Well (I-3)			<input type="text"/> <input type="text"/> <input type="text"/> . <input type="text"/> <input type="text"/> <input type="text"/>
<input type="radio"/> Underground Infiltration System (I-4)			<input type="text"/> <input type="text"/> <input type="text"/> . <input type="text"/> <input type="text"/> <input type="text"/>
<input type="radio"/> Bioretention (F-5)			<input type="text"/> <input type="text"/> <input type="text"/> . <input type="text"/> <input type="text"/> <input type="text"/>
<input type="radio"/> Dry Swale (O-1)			<input type="text"/> <input type="text"/> <input type="text"/> . <input type="text"/> <input type="text"/> <input type="text"/>
<u>Standard SMPs</u>			
<input type="radio"/> Micropool Extended Detention (P-1)			<input type="text"/> <input type="text"/> <input type="text"/> . <input type="text"/> <input type="text"/> <input type="text"/>
<input type="radio"/> Wet Pond (P-2)			<input type="text"/> <input type="text"/> <input type="text"/> . <input type="text"/> <input type="text"/> <input type="text"/>
<input type="radio"/> Wet Extended Detention (P-3)			<input type="text"/> <input type="text"/> <input type="text"/> . <input type="text"/> <input type="text"/> <input type="text"/>
<input type="radio"/> Multiple Pond System (P-4)			<input type="text"/> <input type="text"/> <input type="text"/> . <input type="text"/> <input type="text"/> <input type="text"/>
<input type="radio"/> Pocket Pond (P-5)			<input type="text"/> <input type="text"/> <input type="text"/> . <input type="text"/> <input type="text"/> <input type="text"/>
<input type="radio"/> Surface Sand Filter (F-1)			<input type="text"/> <input type="text"/> <input type="text"/> . <input type="text"/> <input type="text"/> <input type="text"/>
<input type="radio"/> Underground Sand Filter (F-2)			<input type="text"/> <input type="text"/> <input type="text"/> . <input type="text"/> <input type="text"/> <input type="text"/>
<input type="radio"/> Perimeter Sand Filter (F-3)			<input type="text"/> <input type="text"/> <input type="text"/> . <input type="text"/> <input type="text"/> <input type="text"/>
<input type="radio"/> Organic Filter (F-4)			<input type="text"/> <input type="text"/> <input type="text"/> . <input type="text"/> <input type="text"/> <input type="text"/>
<input type="radio"/> Shallow Wetland (W-1)			<input type="text"/> <input type="text"/> <input type="text"/> . <input type="text"/> <input type="text"/> <input type="text"/>
<input type="radio"/> Extended Detention Wetland (W-2)			<input type="text"/> <input type="text"/> <input type="text"/> . <input type="text"/> <input type="text"/> <input type="text"/>
<input type="radio"/> Pond/Wetland System (W-3)			<input type="text"/> <input type="text"/> <input type="text"/> . <input type="text"/> <input type="text"/> <input type="text"/>
<input type="radio"/> Pocket Wetland (W-4)			<input type="text"/> <input type="text"/> <input type="text"/> . <input type="text"/> <input type="text"/> <input type="text"/>
<input type="radio"/> Wet Swale (O-2)			<input type="text"/> <input type="text"/> <input type="text"/> . <input type="text"/> <input type="text"/> <input type="text"/>

APPENDIX C

**New York State Department of Environmental Conservation
Division of Water
625 Broadway, 4th Floor
Albany, New York 12233-3505**

(NOTE: Submit completed form to address above)

**NOTICE OF TERMINATION for Storm Water Discharges Authorized
under the SPDES General Permit for Construction Activity**

Please indicate your permit identification number: NYR _____

I. Owner or Operator Information

1. Owner/Operator Name:

2. Street Address:

3. City/State/Zip:

4. Contact Person:

4a. Telephone:

4b. Contact Person E-Mail:

II. Project Site Information

5. Project/Site Name:

6. Street Address:

7. City/Zip:

8. County:

III. Reason for Termination

9a. All disturbed areas have achieved final stabilization in accordance with the general permit and SWPPP. *Date final stabilization completed (month/year): _____

9b. Permit coverage has been transferred to new owner/operator. Indicate new owner/operator's permit identification number: NYR -> _____
(Note: Permit coverage can not be terminated by owner identified in I.1. above until new owner/operator obtains coverage under the general permit)

9c. Other (Explain on Page 2)

IV. Final Site Information:

10a. Did this construction activity require the development of a SWPPP that includes post-construction stormwater management practices? yes no (If no, go to question 10f.)

10b. Have all post-construction stormwater management practices included in the final SWPPP been constructed? yes no (If no, explain on Page 2)

10c. Identify the entity responsible for long-term operation and maintenance of practice(s)?

**NOTICE OF TERMINATION for Storm Water Discharges Authorized under the
SPDES General Permit for Construction Activity - continued**

10d. Has the entity responsible for long-term operation and maintenance been given a copy of the operation and maintenance plan required by the general permit? yes no

10e. Indicate the method used to ensure long-term operation and maintenance of the post-construction stormwater management practice(s):

- Post-construction stormwater management practice(s) and any right-of-way(s) needed to maintain practice(s) have been deeded to the municipality.
- Executed maintenance agreement is in place with the municipality that will maintain the post-construction stormwater management practice(s).
- For post-construction stormwater management practices that are privately owned, a mechanism is in place that requires operation and maintenance of the practice(s) in accordance with the operation and maintenance plan, such as a deed covenant in the owner or operator's deed of record.
- For post-construction stormwater management practices that are owned by a public or private institution (e.g. school, university or hospital), government agency or authority, or public utility; policy and procedures are in place that ensures operation and maintenance of the practice(s) in accordance with the operation and maintenance plan.

10f. Provide the total area of impervious surface (i.e. roof, pavement, concrete, gravel, etc.) constructed within the disturbance area? _____
(acres)

11. Is this project subject to the requirements of a regulated, traditional land use control MS4? yes
 no
(If Yes, complete section VI - "MS4 Acceptance" statement)

V. Additional Information/Explanation:
(Use this section to answer questions 9c. and 10b., if applicable)

VI. MS4 Acceptance - MS4 Official (principal executive officer or ranking elected official) or Duly Authorized Representative (Note: Not required when 9b. is checked -transfer of coverage)

I have determined that it is acceptable for the owner or operator of the construction project identified in question 5 to submit the Notice of Termination at this time.

Printed Name:

Title/Position:

Signature:

Date:

**NOTICE OF TERMINATION for Storm Water Discharges Authorized under the
SPDES General Permit for Construction Activity - continued**

VII. Qualified Inspector Certification - Final Stabilization:

I hereby certify that all disturbed areas have achieved final stabilization as defined in the current version of the general permit, and that all temporary, structural erosion and sediment control measures have been removed. Furthermore, I understand that certifying false, incorrect or inaccurate information is a violation of the referenced permit and the laws of the State of New York and could subject me to criminal, civil and/or administrative proceedings.

Printed Name:

Title/Position:

Signature:

Date:

VIII. Qualified Inspector Certification - Post-construction Stormwater Management Practice(s):

I hereby certify that all post-construction stormwater management practices have been constructed in conformance with the SWPPP. Furthermore, I understand that certifying false, incorrect or inaccurate information is a violation of the referenced permit and the laws of the State of New York and could subject me to criminal, civil and/or administrative proceedings.

Printed Name:

Title/Position:

Signature:

Date:

IX. Owner or Operator Certification

I hereby certify that this document was prepared by me or under my direction or supervision. My determination, based upon my inquiry of the person(s) who managed the construction activity, or those persons directly responsible for gathering the information, is that the information provided in this document is true, accurate and complete. Furthermore, I understand that certifying false, incorrect or inaccurate information is a violation of the referenced permit and the laws of the State of New York and could subject me to criminal, civil and/or administrative proceedings.

Printed Name:

Title/Position:

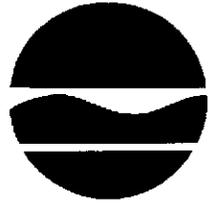
Signature:

Date:

(NYS DEC Notice of Termination - January 2015)

Owner/Operator Certification Form

SPDES General Permit For Stormwater Discharges From Construction Activity (GP-0-10-001)



Joseph Martens
Commissioner

Project/Site Name: _____

eNOI Submission Number: _____

eNOI Submitted by: Owner/Operator SWPPP Preparer Other

Certification Statement - Owner/Operator

I have read or been advised of the permit conditions and believe that I understand them. I also understand that, under the terms of the permit, there may be reporting requirements. I hereby certify that this document and the corresponding documents were prepared under my direction or supervision. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations. I further understand that coverage under the general permit will be identified in the acknowledgment that I will receive as a result of submitting this NOI and can be as long as sixty (60) business days as provided for in the general permit. I also understand that, by submitting this NOI, I am acknowledging that the SWPPP has been developed and will be implemented as the first element of construction, and agreeing to comply with all the terms and conditions of the general permit for which this NOI is being submitted.

Owner/Operator First Name

M.I. Last Name

Signature

Date

APPENDIX D

ATTACHMENT 1

Construction Stormwater Compliance Inspection Report

Project Name and Location:	Date:	Page 1 of 2
Municipality: County:	Permit # (if any): NYR	
	Entry Time:	Exit Time:
On-site Representative(s) and contact information:	Weather Conditions:	
Name and Address of SPDES Permittee/Title/Phone/Fax Numbers: Contacted: Yes : No :		

INSPECTION CHECKLIST

SPDES Authority

Yes No N/A

Law, rule or permit citation

1. Is a copy of the NOI posted at the construction site for public viewing?
2. Is an up-to-date copy of the signed SWPPP retained at the construction site?
3. Is a copy of the SPDES General Permit retained at the construction site?

SWPPP Content

Yes No N/A

Law, rule or permit citation

4. Does the SWPPP describe and identify the erosion & sediment control measures to be employed?
5. Does the SWPPP provide a maintenance schedule for the erosion & sediment control measures?
6. Does the SWPPP describe and identify the post-construction SW control measures to be employed?
7. Does the SWPPP identify the contractor(s) and subcontractor(s) responsible for each measure?
8. Does the SWPPP include all the necessary 'CONTRACTOR CERTIFICATION' statements?
9. Is the SWPPP signed/certified by the permittee?

Recordkeeping

Yes No N/A

Law, rule or permit citation

10. Are inspections performed as required by the permit (every 7 days and after 1/2" rain event)?
11. Are the site inspections performed by a qualified professional?
12. Are all required reports properly signed/certified?
13. Does the SWPPP include copies of the monthly/quarterly written summaries of compliance status?

Visual Observations

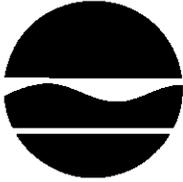
Yes No N/A

Law, rule or permit citation

14. Are all erosion and sediment control measures installed/constructed?
15. Are all erosion and sediment control measures maintained properly?
16. Have all disturbances of 5 acres or more been approved prior to the disturbance?
17. Are stabilization measures initiated in inactive areas?
18. Are permanent stormwater control measures implemented?
19. Was there a discharge into the receiving water on the day of inspection?
20. Are receiving waters free of there evidence of turbidity, sedimentation, or oil ? (If no , complete Page 2)

Overall Inspection Rating: <input type="checkbox"/> Satisfactory <input type="checkbox"/> Marginal <input type="checkbox"/> Unsatisfactory	
Name/Agency of Lead Inspector:	Signature of Lead Inspector:
Names/Agencies of Other Inspectors:	

APPENDIX E



**NEW YORK STATE DEPARTMENT OF
ENVIRONMENTAL CONSERVATION**

Construction Stormwater Inspection Manual
**Primarily for Government Inspectors Evaluating Compliance with Construction
Stormwater Control Requirements**

**New York State
Department of Environmental Conservation**

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Version 1.05 (8/27/07)

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1.0 INTRODUCTION AND PURPOSE

The New York State Department of Environmental Conservation Division of Water (DOW) considers there to be two types of inspections germane to construction stormwater; compliance inspections and self-inspections.

This manual is for use by DOW and other regulatory oversight construction stormwater inspectors in performing compliance inspections, as well as for site operators in performing self inspections. The manual should be used in conjunction with the *New York State Standards and Specifications for Erosion and Sediment Control*, August 2005.

1.1 Compliance Inspections

Regulatory compliance inspections are performed by regulatory oversight authorities such as DOW staff, or representatives of DOW and local municipal construction stormwater inspectors. These inspections are intended to determine compliance with the state or local requirements for control of construction stormwater through erosion and sediment control and post construction practices. Compliance inspections focus on determinations of compliance with legal and water quality standards. Typically, compliance inspections can be further sub-categorized to include comprehensive inspections, and follow-up or reconnaissance inspections.

Compliance inspectors will focus on determining whether:

- the project is causing water quality standard violations;
- the required Stormwater Pollution Prevention Plan (SWPPP) includes appropriate erosion and sediment controls and, to some extent, post construction controls;
- the owner/operator is complying with the SWPPP;
- where required, self-inspections are being properly performed; and
- where self-inspections are required, the owner/operator responds appropriately to the self-inspector's reports.

1.1.1 Comprehensive Inspection

Comprehensive inspections are designed to verify permittee compliance with all applicable regulatory requirements, effluent controls, and compliance schedules. This inspection involves records reviews, visual observations, and evaluations of management practices, effluents, and receiving waters.

Comprehensive inspections should be conducted according to a neutral or random inspection scheme, or in accordance with established priorities. A neutral monitoring scheme provides some objective basis for scheduling inspections and sampling visits by establishing a system (whether complex factor-based, alphabetic, or geographic) for setting priorities to ensure that a particular facility is not unfairly selected for inspection or sampling. The selection of which

facility to inspect must be made without bias to ensure that the regulatory oversight authority, if challenged for being arbitrary and capricious manner, can reasonably defend itself.

A neutral inspection scheme should set the criteria the inspector uses to choose which facilities to inspect, but the schedule for the actual inspection should remain confidential, and may be kept separate from the neutral plan.

A routine comprehensive compliance inspection is most effective when it is unannounced or conducted with very little advance warning.

1.1.2 Reconnaissance Inspection

A reconnaissance inspection is performed in lieu of, or following a comprehensive inspection to obtain a preliminary overview of an owner/operator's compliance program, to respond to a citizen complaint, or to assess a non-permitted site. The inspector performs a brief (generally about an hour) visual inspection of the site, discharges and receiving waters. A reconnaissance inspection uses the inspector's experience and judgement to summarize potential compliance problems, without conducting a full comprehensive inspection. The objective of a reconnaissance inspection is to expand inspection coverage without increasing inspection resource expenditures. The reconnaissance inspection is the shortest and least resource intensive of all inspections.

Reconnaissance inspections may be initiated in response to known or suspected violations, a public complaint, a violation of regulatory requirements, or as follow-up to verify that necessary actions were taken in response to a previous inspection.

1.2 Self-inspections

For some projects, the site owner/operator is required by their State Pollutant Discharge Elimination System (SPDES) Permit and/or local requirements to have a qualified professional¹ perform a "self-inspection" at the site. In self-inspections, the qualified professional determines whether the site is being managed in accordance with the SWPPP, and whether the SWPPP's recommended erosion and sediment controls are effective. If activities are not in accordance with the SWPPP, or if the SWPPP erosion and sediment controls are not effective, the qualified professional inspecting the site recommends corrections to the owner/operator.

¹ A "Qualified professional" is a person knowledgeable in the principles and practice of erosion and sediment controls, such as a licensed professional engineer, Certified Professional in Erosion and Sediment Control (CPESC), licensed landscape architect or soil scientist.

2.0 PRE-INSPECTION ACTIVITIES

2.1 Regulatory Oversight Authorities

This section is intended for inspectors with regulatory oversight authority such as agents of the DOW or a local municipality, or others acting on their behalf, such as county Soil and Water Conservation District staff. Examples of other regulatory oversight authorities include: the United States Environmental Protection Agency (EPA); New York City Department of Environmental Protection (DEP), Adirondack Park Agency (APA); the Lake George Park Commission (LGPC), and the Skaneateles Lake Watershed Authority (SLWA). Before arriving on-site to conduct the inspection, considerations concerning communication, documentation and equipment must be made.

Regulatory oversight authority is granted by state or local law to government agencies or, depending upon the particular law, an authorized representative of state or local government. SPDES rules 6 NYCRR 750-2.3 and Environmental Conservation Law 17-0303(6) and 17-0829(a) all allow for authorized representatives of the (NYSDEC) commissioner to perform all the duties of an inspector.

2.1.1 Communication

Coordination with Other Entities

Where appropriate, prior to selecting sites for inspection, compliance inspectors should communicate with other regulatory oversight authorities to avoid unnecessary duplication or to coordinate follow-up to inspections performed by other regulatory oversight authorities.

Announced vs. Unannounced Inspection

Inspections may be announced or unannounced. Each method has its own advantages and disadvantages. Unannounced inspections are preferred, however many job sites are not continuously manned, or not always staffed by someone who is familiar with the SWPPP, thus necessitating an announced inspection. As an alternative, when an announced inspection is necessary, inspectors should try to give as little advanced warning as possible (24 hours is suggested).

Itinerary

For obvious safety reasons, inspectors should be sure to inform someone in their office which site or sites they will be visiting prior to leaving the to perform inspections.

2.1.2 Documentation

Data Review

The inspector should review any available information such as:

- Notice of Intent
- Stormwater Pollution Prevention Plan
- Past inspection records
- Phasing plan

- Construction sequence
- Inspection and Maintenance schedules
- Site specific issues
- Consent Orders
- Access agreements

Inspection Form

The inspector should have copies of, and be familiar with, the inspection form used by their regulatory oversight authority (example in Attachment 1) before leaving the office. Static information such as name, location and permit number can be entered onto the inspection form prior to arriving at the inspection site.

Credentials

Inspectors should always carry proper identification to prove that they are employed by an entity with jurisdictional authority. Failure to display proper credentials may be legal grounds for denial of entry to a site.

2.1.3 Equipment

Personal Protective Equipment

DOW employees must conform to the DOW Health and Safety policy as it relates to personal protective equipment. Other regulatory oversight authorities should have their own safety policies or, if not, may wish to consult the OSHA health and safety tool at: www.osha.gov/dep/etools/ehasp/ to develop a health and safety plan.

The following is a list of some of the most common health and safety gear that may be needed:

- Hard hat (Class G, Type1 or better)
- Safety toe shoes
- Reflective vest
- Hearing protection (to achieve 85 dBA - 8 hr TWA)
- Safety glasses with side shields

If the construction is on an industrial site or a hazardous waste site, special training may be required prior to entering the site. The inspector should consult with OSHA or NYSDEC prior to entering such a site.

Monitoring Equipment

The following is a list of some equipment that may be helpful to document facts and verify compliance:

- Digital Camera
- Measuring tape or wheel
- Hand level or clinometer
- Turbidity meter (in limited circumstances)

2.2 Permittee's Self-inspection

This section is intended for qualified professionals who conduct site self-inspections on behalf of owner/operators. Self-inspectors are responsible for performing inspections in accordance with permit requirements and reporting to site owners and operators the results and any recommendations resulting from the inspection.

Prior to conducting inspections, qualified professionals should ensure familiarity with the Stormwater Pollution Prevention Plan and previous inspection reports.

3.0 ON-SITE INSPECTION PROCESS

3.1 Compliance Inspections

3.1.1 Professionalism

Don't Pretend to Possess Knowledge

Unless the inspector has experience with a particular management practice, do not pretend to possess knowledge. Inspectors cannot be expert in all areas; their job is to collect information, not to demonstrate superior wisdom. Site operators are often willing to talk to someone who is inquisitive and interested. Within reason, asking questions to obtain new information about a management practice, construction technique or piece of equipment is one of the inspector's main roles in an inspection.

Don't Recommend Solutions

The inspector should not recommend solutions or endorse products. The solution to a compliance problem may appear obvious based on the inspector's experience. However, the responsibility should be placed on the site owner to implement a workable solution to a compliance problem that meets NYSDEC standards. The inspector should refer the site operator to the New York Standards and Specifications for Erosion and Sediment Control (the Blue Book) or the New York State Stormwater Management Design Manual (the Design Manual).

Key advice must be offered carefully. One experienced stormwater inspector suggests saying: "I can't direct you or make recommendations, but what we've seen work in other situations is ..."

The way inspectors present themselves is important to the effectiveness of the inspection. An inspector cannot be overly familiar, but will be more effective if able to establish a minimum level of communication.

3.1.2 Safety

DOW employees must conform to Division health and safety policies when on a construction site. Other regulatory oversight authorities should have their own safety policies or, if not, may

wish to consult the OSHA health and safety tool at:

www.osha.gov/dep/etools/ehasp to develop a health and safety plan.

Some general protections for construction sites are:

- Beware of heavy equipment, avoid operator blind spots and make sure of operator eye contact around heavy equipment.
- Avoid walking on rock rip-rap if possible. Loose rock presents a slip hazard.
- Stay out of confined spaces like tanks, trenches and foundation holes.
- Avoid lightning danger. Monitor weather conditions, get out of water, avoid open areas and high points, do not huddle in groups or near trees.
- Protect yourself from sun and heat exposure. Use sun screen or shading clothing. Remain hydrated by drinking water, watching for signs of heat cramps, exhaustion (fatigue, nausea, dizziness, headache, cool or moist skin), or stroke (high body temperature; red, hot and dry skin)
- Protect yourself from cold weather. Wear multiple layers of thin clothing. Wear a warm hat. Drink warm fluids or eat hot foods, and keep dry.
- Avoid scaffolding in excess of 4 feet above grade.
- Beware of ticks, stinging insects, snakes and poison ivy or sumac.

3.1.3 Legal access

DOW has general powers, set forth under ECL 17-0303, subparagraph 6, to enter premises for inspections. In addition, ECL 3-0301.2 conveys general statutory authority granting the DOW the power to access private property to fulfill DOW obligations under the law.

ECL 15-0305 gives the DOW the authority to enter at all times in or upon any property, public or private, for the purpose of inspecting or investigating conditions affecting the construction of improvements to or developments of water resources for the public health, safety or welfare.

ECL 17-0829 allows an authorized DOW representative, upon presentation of their credentials, to enter upon any premises where any effluent source is located, or in which records are required to be maintained. The representative may at reasonable times have access to, and sample discharges/pollutants to the waters or to publicly owned treatment plants where the effluent source is located. This subparagraph provides DOW representatives performing their duties authority to enter a site to pursue administrative violations. Pursuing criminal violations may require a warrant or the owner's permission to enter the site.

For sites that are permitted, DOW has authority under the permit to enter the site.

If the owner/operator's representatives onsite deny access, the inspector *should not* physically force entry. Under these circumstances the attorney representing the inspector should be immediately notified and consideration should be given to soliciting the aid of a law officer to obtain entry.

DOW staff have the right to enter at any reasonable time. If no one is available, and the site is fenced or posted, DOW staff should make all reasonable efforts to identify, contact and notify the owner that the DOW is entering the site. If the inspector has made all reasonable efforts to contact site owners, but was unable to do so, the site can then be accessed. All efforts should be taken not to cause any damage to the facility.

Other regulatory oversight authorities should seek advice on their legal authorities to enter a job site. Municipalities that have adopted Article 6 of the New York State Sample Local Law for Stormwater Management and Erosion and Sediment Control (NYSDEC, 2004, updated 2006) will have legal authority to enter sites in accordance with that chapter and any other existing municipal authority .

Agents of DOW have authority similar DOW staff authority to enter sites. However, DOW staff enjoy significant personal liability protections as state employees. That liability protection may not be the same for authorized representatives of DOW. For authorized representatives of DOW (or other regulatory oversight authorities), it is prudent to obtain permission to enter the site. If such permission is denied, the authorized representatives should inform the appropriate DOW contact, usually the regional water manager.

3.1.4 Find the Legally Responsible Party (Construction Manager, Self-inspector)

The first action a compliance inspector should take upon entering a construction site is to find the construction trailer or the construction or project manager if they are available. The inspector should present appropriate identification to the site's responsible party and state the reason for the inspection; construction stormwater complaint response or neutral construction stormwater inspection. If the inspection is initiated as a response to a complaint, frequently the responsible party will ask who made the complaint. DOW keeps private individual complainants confidential. If the complainant is another regulatory oversight authority, DOW tends to make that known to the site's responsible party.

3.1.5 On-site records review (NOI, SWPPP, Self-inspection Reports, Permit)

Generally, the compliance inspector should next review the on-site records. Verify that a copy of the construction stormwater permit and NOI are on-site. Verify that the acreage, site conditions, and receiving water listed on the NOI are accurate. Compare the on-site documentation with documentation already submitted to, or obtained by the compliance inspector.

If the SWPPP has not been reviewed in the office, verify that it exists and contains the minimum required components (16 for a basic plan and 22 for a full plan). On-site review of the SWPPP should determine if: there is an appropriate phasing plan; the acreage disturbed in each phase, construction sequence for each phase; proposed implementation of erosion and sediment control measures; and, where required, post construction controls. For each of the erosion and sediment control practices, the SWPPP must show design details in accordance with the NYS Standards for Erosion and Sediment Controls. The SWPPP must also include provisions for maintenance of practices during construction. On-site review of post construction controls is generally limited to verification that the proposed stormwater management practices are shown on the site plan.

Where self-inspections are required, self-inspection reports are a significant tool for the compliance inspector to determine the performance history of the site. The self-inspection reports should be done with the required frequency. Self-inspection reports must include all the details required by the permit. Generally, it is desirable for permit information to be shown on a site plan. The compliance inspector should become familiar with the report and use that familiarity to judge whether the self-inspections are being performed correctly and that the site operator is correcting deficiencies noted in the report.

3.1.6 Walk the Site

During wet weather conditions, it may be advantageous to observe the receiving waters prior to walking the rest of the site. At some point during the inspection, the receiving water conditions must be observed and noted. It is critical to note if there is a substantial visible contrast to natural conditions, or evidence of deposition, streambank erosion, construction debris or waste materials (e.g. concrete washdown) in the receiving stream.

Each inspector should evaluate actual implementation and maintenance of practices on-site compared to how implementation and maintenance is detailed in the SWPPP. At a minimum, the compliance inspector should observe all areas of active construction. Observing equipment or materials storage, recently stabilized areas, or stockpile areas is also appropriate to evaluate the effectiveness of management practices.

3.1.7 Taking Photographs

Evidence of poor receiving water conditions and poor or ineffective practices should be documented with digital photographs. Those photographs should be logged date stamped and stored on media that cannot be edited (e.g. write only CDs). Photos should also be appended to the site inspector's report.

It is also beneficial to take photographs of good practices for educational and technology transfer reasons.

3.1.8 Exit Interview

Clearly communicate expectations and consequences. If it is clear from the inspection that the owner/operator must modify the SWPPP, or modify management practices within an assigned period (e.g. 24 hours, 48 hours, one week, two weeks), then that finding should be communicated at the time of the exit interview. The inspector should assign the period based on factors such as how long it would reasonably take to complete such modifications and the level of risk to water quality associated with failure to make such modifications.

The inspector should make clear that NYSDEC reserves rights to future enforcement actions. If the inspector's supervisor or enforcement coordinator determines additional enforcement actions are necessary, the inspector *should not* reassure the owner/operator that the current situation is acceptable.

3.2 Non-permitted Site Inspections

For sites not authorized in accordance with state or local laws, the process will be abbreviated. First verify the need for authorization and observe receiving waters to detect water quality standard violations. If there is a violation, notify the owner of the violation or other compliance actions in response to their illicit activity. For DOW staff, Attachment 2 or a similar notice can be used to notify the site owner/operator that stormwater authorization is required.

3.3 Self-inspections

The role of the self-inspector is to verify that the site is complying with stormwater requirements. In particular, the self-inspector verifies that the SWPPP is being properly implemented. The self-inspector also documents SWPPP implementation so regulatory agencies can review implementation activities.

It is not the role of the self-inspector to report directly to regulatory authorities.

Appendix H of *The New York Standards and Specifications for Erosion and Sediment Control* - August 2005 (the Blue Book) includes a Construction Duration Inspection checklist that can be used by the owner/operators qualified professional for self-inspections. The Blue Book is available on the NYSDEC website.

3.3.1 Purpose

The self inspector should ensure that the project's SWPPP is being properly implemented. This includes ensuring that the erosion and sediment control practices are properly installed and being maintained in accordance with the SWPPP/Blue Book.

The project must be properly phased to limit the disturbance to less than five acres, and the construction sequence for each phase must be followed. The SWPPP must also be modified to address evolving circumstances. Finally, and most importantly, receiving waters must be protected.

If a soil disturbance will be greater than five acres at any given time, the site operator must obtain written permission from the DOW regional office.

3.3.2 Pre-construction Conference

The parties responsible for various aspects of stormwater compliance should be identified at the pre-construction conference. Responsible parties may include, but are not limited to, owner's engineer, owner/operator/permittee, contractors, and subcontractors.

Typical responsibilities include: installation of erosion and sediment control (E & SC) practices; maintenance of E & SC practices, inspection of E&SC practices, installation of post construction stormwater management practices (SMPs), inspection of post construction SMPs, SWPPP revisions, and contractor direction.

All parties should clearly know what is expected of them. Responsible parties should complete the Pre-construction Site Assessment Checklist provided in Appendix H of the Blue Book.

3.3.3 Inspection Preparation

The inspector should review the project's SWPPP (including the phasing plan, construction sequence and site specific issues) and the last few inspection reports (if the inspector has them available).

3.3.4 Self-inspection Components

Inspect installation, performance and maintenance of all E&SC practices

The self-inspector should inspect all areas that are under active construction or disturbance and areas that are vulnerable to erosion. The self-inspector should also inspect areas that will be disturbed prior to the next inspection for measures required prior to construction (e.g. silt barriers, stabilized construction entrance, diversions). Finally, self-inspectors should inspect post-construction controls during and after installation.

Identify site deficiencies and corrective measures

The self-inspector's reports must be maintained in a log book on site and the log book must be made available to the regulatory authorities. Although the legal responsibility for filing a Notice of Termination lies with the owner/operator, the self-inspector may also be called upon to perform a final site inspection, including post construction SMPs, prior to filing the Notice of Termination.

4.0 POST-INSPECTION ACTIVITIES

4.1 Regulatory Oversight Authorities

This section is intended for inspectors with regulatory oversight authority such as agents of the DOW or a local municipality, or others acting on their behalf (such as County Soil and Water Conservation District staff.) Upon completion of an inspection, inspection results should be documented for the record.

4.1.1 Written Notification

The inspector should inform the permittee or the on-site representative of their inspection results in writing by sending the permittee a complete, signed copy of the inspection report. The inspection report should be transmitted under a cover letter which elaborates on any deficiencies noted in the inspection report. It is not a good idea to commend exceptional efforts by the owner/operator in a letter, because such letters tend to undermine enforcement efforts when compliance status at a site degrades.

The inspector should consider providing a copy of the cover letter and inspection report to other parties with including:

- Permittee
- Contractor(s)
- Other regulatory oversight authorities
- Other parties present during the inspection (e.g. SWPPP preparer, permittee's self-inspector, etc.)

For DOW staff, an example of the inspection cover letter is included as Attachment 3.

4.1.2 Inspection Tracking

DOW staff must enter their inspection results into the electronic *Water Compliance System*.

Local municipalities and other regulatory oversight authorities are encouraged to develop an electronic tracking system in which to record their inspections.

4.2 Permittee's Self-inspections

This section is intended for qualified professionals who conduct site inspections for permittees in accordance with a SPDES permit or local requirements.

4.2.1 Written Records

Inspection Reports

The inspector shall prepare a written report summarizing inspection results. The inspection report is then provided to the permittee, or the permittee's duly authorized representative, and to the contractor responsible for implementing stormwater controls on-site in order to correct deficiencies noted in the inspection report. Finally, the inspection report must be added to the site log book that is required to be maintained on-site, and be available to regulatory oversight authorities for review.

4.2.2 Stormwater Pollution Prevention Plan Revisions

The inspector must inform the permittee of his/her duty to amend the Stormwater Pollution Prevention Plan (SWPPP) whenever an inspection proves the SWPPP to be ineffective in:

- Eliminating or significantly minimizing pollutants from on-site sources
- Achieving the general objectives of controlling pollutants in stormwater discharges from permitted construction activity
- Eliminating discharges that cause a substantial visible contrast to natural conditions

ATTACHMENT 1

Construction Stormwater Compliance Inspection Report

Project Name and Location:	Date:	Page 1 of 2
	Permit # (if any): NYR	
Municipality: County:	Entry Time:	Exit Time:
On-site Representative(s) and contact information:	Weather Conditions:	
Name and Address of SPDES Permittee/Title/Phone/Fax Numbers: Contacted: Yes No		

INSPECTION CHECKLIST

SPDES Authority

Yes No N/A

1. Is a copy of the NOI posted at the construction site for public viewing?
2. Is an up-to-date copy of the signed SWPPP retained at the construction site?
3. Is a copy of the SPDES General Permit retained at the construction site?

Law, rule or permit citation

SWPPP Content

Yes No N/A

4. Does the SWPPP describe and identify the erosion & sediment control measures to be employed?
5. Does the SWPPP provide a maintenance schedule for the erosion & sediment control measures?
6. Does the SWPPP describe and identify the post-construction SW control measures to be employed?
7. Does the SWPPP identify the contractor(s) and subcontractor(s) responsible for each measure?
8. Does the SWPPP include all the necessary 'CONTRACTOR CERTIFICATION' statements?
9. Is the SWPPP signed/certified by the permittee?

Law, rule or permit citation

Recordkeeping

Yes No N/A

10. Are inspections performed as required by the permit (every 7 days and after 1/2" rain event)?
11. Are the site inspections performed by a qualified professional?
12. Are all required reports properly signed/certified?
13. Does the SWPPP include copies of the monthly/quarterly written summaries of compliance status?

Law, rule or permit citation

Visual Observations

Yes No N/A

14. Are all erosion and sediment control measures installed/constructed?
15. Are all erosion and sediment control measures maintained properly?
16. Have all disturbances of 5 acres or more been approved prior to the disturbance?
17. Are stabilization measures initiated in inactive areas?
18. Are permanent stormwater control measures implemented?
19. Was there a discharge into the receiving water on the day of inspection?
20. Are receiving waters free of there evidence of turbidity, sedimentation, or oil ? (If no , complete Page 2)

Law, rule or permit citation

Overall Inspection Rating: <input type="checkbox"/> Satisfactory <input type="checkbox"/> Marginal <input type="checkbox"/> Unsatisfactory	
Name/Agency of Lead Inspector:	Signature of Lead Inspector:
Names/Agencies of Other Inspectors:	

ATTACHMENT 2

**** NOTICE ****

On March 10, 2003, provisions of the Federal Clean Water Act went into effect that apply to many construction operations.

If your construction operations result in the disturbance of one acre or greater and stormwater runoff from your site reaches surface waters (i.e., lake, stream, road side ditch, swale, storm sewer system, etc.), the stormwater runoff from your site must be covered by a State Pollutant Discharge Elimination System (SPDES) Permit issued by the New York State Department of Environmental Conservation (NYSDEC).

To facilitate your compliance with the law, NYSDEC has issued a General Permit which may be applicable to your project. To obtain coverage under this General Permit, you need to prepare a Stormwater Pollution Prevention Plan (SWPPP) and then file a Notice of Intent (NOI) to the NYSDEC headquarters in Albany. The NOI form is available on the DEC website. You may also obtain a copy of the NOI form at the nearest NYSDEC regional offices.

When you file your NOI you are certifying that you have developed a SWPPP and that it will be implemented prior to commencing construction. When you submit the NOI you need to indicate if your SWPPP is in conformance with published NYSDEC technical standards; if it is, your SPDES permit coverage will be effective in as few as five business days. If your SWPPP does not conform to the DEC technical standards, coverage will not be available for at least 60 business days.

Failure to have the required permit can result in legal actions which include Stop Work Orders and/or monetary penalties of up to \$37,500/day

If your construction operations are already in progress and you are not covered by an appropriate NYSDEC permit contact the NYSDEC Regional Water Engineer as soon as possible. If your construction field operations have not yet commenced, review the NOI and the General Permit on the DEC's website or at the DEC regional office for your area. When you are comfortable that you understand and comply with the requirements, file your NOI.

The requirement to file an NOI does not replace any local requirements. Developers/Contractors are directed to contact the Local Code Enforcement Officer or Stormwater Management Officer for local requirements.

ATTACHMENT 3

<< Date >>

Mr. John Smith
123 Main Street
Ferracane, NY 12345

**Re: Stormwater Inspection
SPDES Permit Identification No. NYR10Z000 (through SPDES No. GP-02-01)
Blowing Leaves Subdivision
Gasper (T), Eaton (Co.)**

Dear Mr. Smith:

On the afternoon of << date >> I conducted an inspection of the construction activities associated with the Blowing Leaves Subdivision located on County Route 1 in the town of Gasper, Eaton County. The inspection was conducted in the presence of you and Mr. Samuel Siltfence of Acme Excavating Co., Inc. The purpose of the inspection was to verify compliance with the *State Pollutant Discharge Elimination System (SPDES) General Permit for Storm Water Discharges from Construction Activity* ("the general permit").

The overall rating for the project at the time of the inspection was ***unsatisfactory***. A copy of my inspection report is attached for your information. In addition to the report, I would like to elaborate on the following:

SPDES Authority

- In accordance with subdivision 750-2.1 (a) of Title 6 of the Official Compilation of Codes, Rules, and Regulations of the State of New York (6 NYCRR), a copy of your permit must be retained at the construction site. You did not have a copy of the general permit at the site. **Your failure to retain a copy of the general permit at the construction site is a violation of 6 NYCRR Part 750-2.1 (a).** Please retain a copy of the general permit at the site from this point forward.

SWPPP Content

- In accordance with Part III.E.2. of the general permit, contractors and subcontractors must certify that they understand the terms and conditions of the general permit and the SWPPP before undertaking any construction activity at the site. Your SWPPP does not include a certification statement from Acme Excavating Co., Inc. **The failure of your contractor to sign this certification before undertaking construction activity at the site is a violation of Part III.E.2. of the general permit.** Please obtain copies of all necessary certifications and provide copies of them to each party who holds a copy of your SWPPP.
- In accordance with Part V.H.2. of the general permit, SWPPP's must be certified by the permittee. Your SWPPP was not certified by you. **Your failure to certify your SWPPP is a**

Mr. John Smith
Re: SPDES Inspection
Blowing Leaves Subdivision
Gasper (T), Eaton (Co.)

<< Date >>

violation of Part V.H.2. of the general permit. Please certify your SWPPP.

Recordkeeping

- In accordance with Parts III.D.3.a. and III.D.3.b. of the general permit, permittees must have a qualified professional conduct site inspections within 24 hours of the end of 0.5" or greater rain events and at least once per week. A review of your records revealed that your "self-inspections" are only being conducted about two or three times per month. **Your failure to have a qualified professional conduct inspections at the required frequency is a violation of Part III.D.3.b. of the general permit.** Please immediately direct your qualified professional to conduct your site inspections at the required frequency.
- Although the frequency of self-inspections does not meet requirements, the quality of them is very good. Your qualified professional has accurately noted the same SWPPP deficiencies and necessary maintenance activities that I also observed, and prepared thorough sketches on the self-inspection site maps.
- In accordance with Part V.H.2. of the general permit, the permittee must certify all reports required by the permit. A review of your records showed that your self-inspection reports were not certified. **Your failure to certify your self-inspection reports is a violation of Part V.H.2. of the general permit.** Please sign and certify any and all existing and future self-inspection reports.

Visual Observations

- In accordance with Parts III.A.2. and III.A.3. of the general permit, all erosion and sediment controls (E&SC) measures must be installed (as detailed in the SWPPP) prior to the initiation of construction. During the inspection, I noted all of your E&SC measures have been correctly installed at the right times and locations.
- In accordance with Part V.L. of the general permit, all of the E&SC measures at your site must be maintained properly. While on site I observed that, among other things, the section of silt fence in place parallel to County Route 1 is in various stages of disrepair. **The failure of your contractor to adequately maintain the E&SC measures currently in place at your site is a violation of Part V.L. of the general permit.** Please direct your contractor to repair this silt fence immediately and to diligently maintain all of the other required E&SC measures as they are brought to his attention by your qualified professional.
- This inspection was conducted during a rain event which resulted in a stormwater discharge to the municipal separate storm sewer system (MS4) being operated by the Eaton County Department of Public Works. Your discharge was visibly turbid whereas upstream water MS4 was clear. As a result, the discharge from the MS4 outfall into Karimipour Creek was causing

Mr. John Smith
Re: SPDES Inspection
Blowing Leaves Subdivision
Gasper (T), Eaton (Co.)

<< Date >>

slight turbidity. Please be advised that the narrative water quality standard for turbidity in Karimipour Creek is “no increase that will cause a substantial visible contrast to natural conditions.” I attribute the lack of maintenance of your E&SC measures to be the primary cause of the turbid discharge. Please be reminded that the general permit does not authorize you cause or contribute to a condition in contravention of any water quality standards.

If you have any questions or comments, please feel free to contact me at (999) 456-5432.

Sincerely,

Hector D. Inspector, CPESC
Environmental Program Specialist 2

HDI:ms
Attachment

cc w/att.: Chester Checkdam, (T) Gasper Code Enforcement Officer
Samuel Siltfence, Acme Excavating Co., Inc.

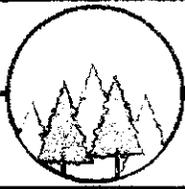
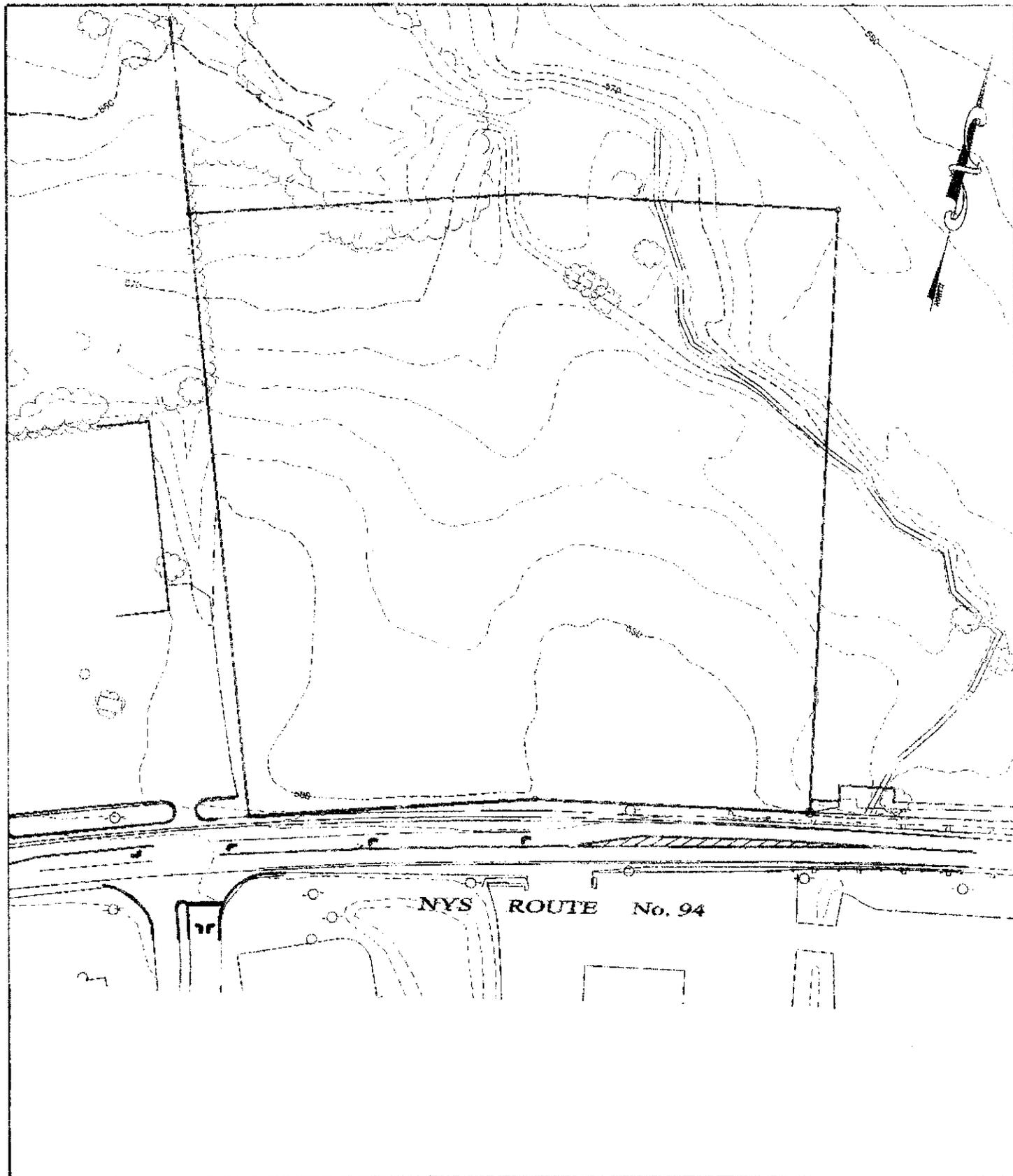
APPENDIX F

1.0 Application Information

Record Owner: Homarc Land, LLC
1997 State Route 17M, #7
Goshen, New York 10924-5230

2.0 Location Map

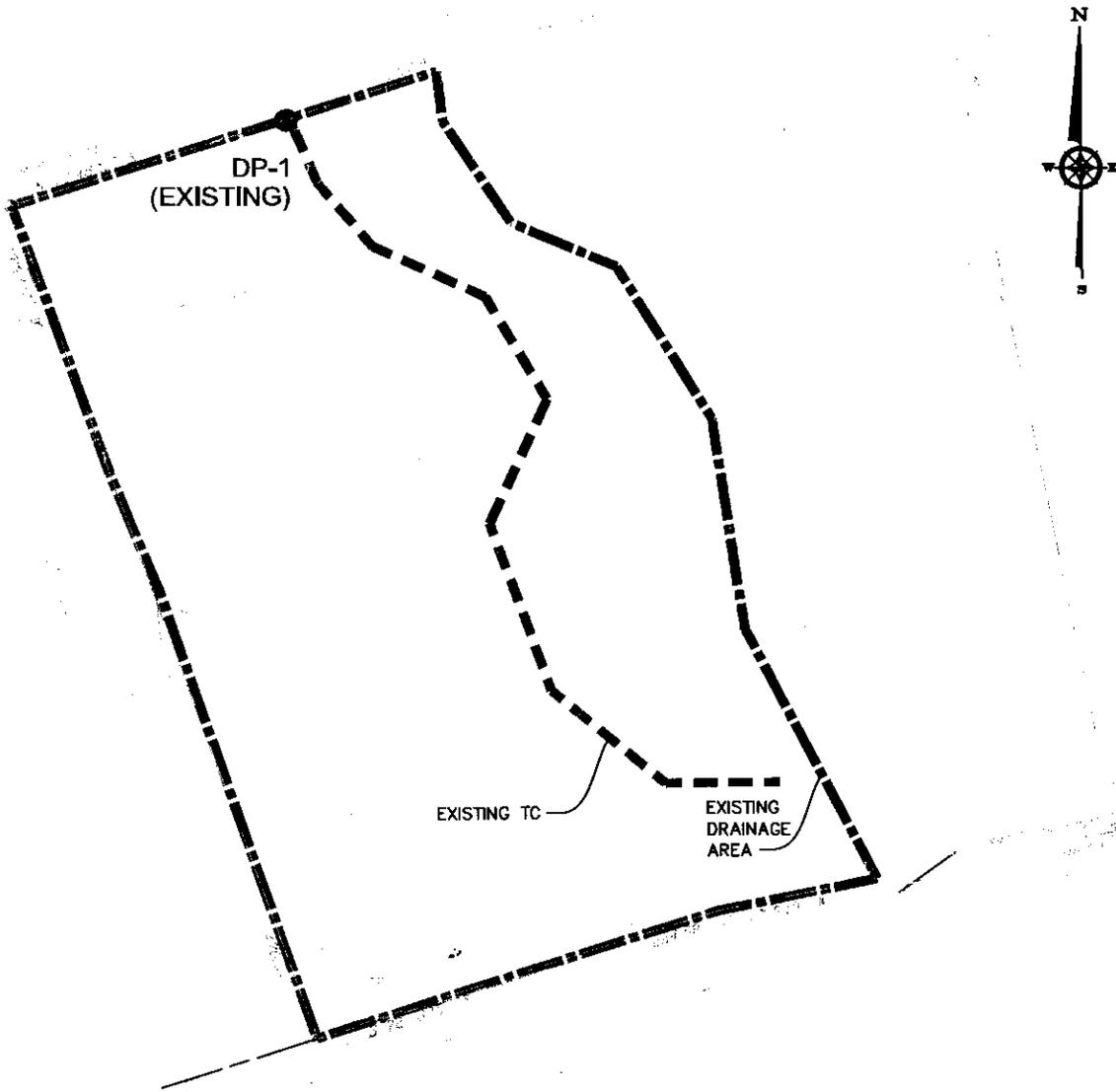




ERS CONSULTANTS, INC.
ENVIRONMENTAL RESOURCE SPECIALISTS
11 FORESTER AVENUE WARWICK, NEW YORK 10990
Phone: (845) 987-1775 Fax: (845) 987-1788

SOILS MAP

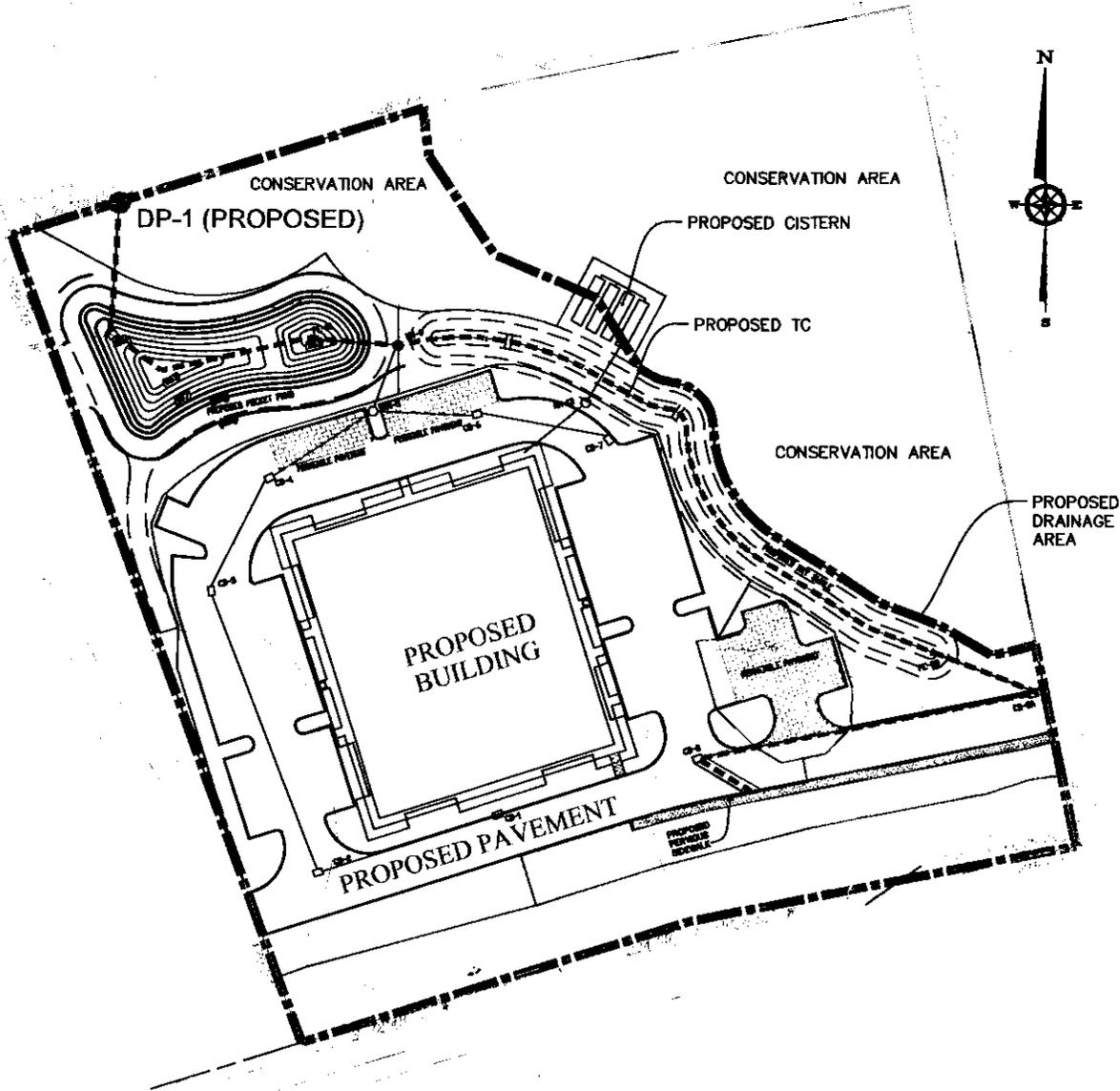
SECTION 51 BLOCK 1 LOT 5.231
TOWN OF WARWICK, COUNTY OF ORANGE, NEW YORK
SCALE: 1"=100' FIGURE 2



ERS CONSULTANTS, INC.
ENVIRONMENTAL RESOURCE SPECIALISTS
11 FORESTER AVENUE WARWICK, NEW YORK 10990
Phone: (845) 987-1775 Fax: (845) 987-1788

EXISTING DRAINAGE AREAS
PREPARED FOR
HOMARC LAND, LLC

SECTION 51 BLOCK 1 LOT 5.231
TOWN OF WARWICK, COUNTY OF ORANGE, NEW YORK
SCALE: 1"= 100' **FIGURE 3**



ERS CONSULTANTS, INC.
 ENVIRONMENTAL RESOURCE SPECIALISTS
 11 FORESTER AVENUE WARWICK, NEW YORK 10990
 Phone: (845) 987-1775 Fax: (845) 987-1788

PROPOSED DRAINAGE AREAS
 PREPARED FOR
HOMARC LAND, LLC

SECTION 51 BLOCK 1 LOT 5.231
 TOWN OF WARWICK, COUNTY OF ORANGE, NEW YORK
 SCALE: 1"= 100' FIGURE 4



PRESERVATION OF EXISTING VEGETATION

SCALE: 1" = 70'

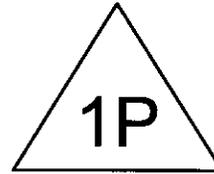
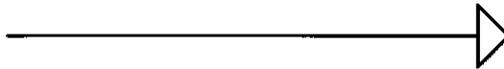
**ERS ENGINEERING
CONSULTANTS, P.C.**

PHONE: (845) 987-1775 FAX: (845) 987-1788

11 FORESTER AVE., WARWICK, NEW YORK 10990

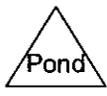
FIGURE-5

APPENDIX G



Homarc - Existing
Drainage Area

Design Point 1



Homarc - Proposed Drainage - 2-21-2015

Type III 24-hr 2-Year Rainfall=3.20"

Prepared by {enter your company name here}

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Time span=0.00-24.00 hrs, dt=0.01 hrs, 2401 points
Runoff by SCS TR-20 method, UH=SCS
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 1S: Homarc - Existing Drainage Area

Runoff Area=133,672 sf Runoff Depth=0.00"

Flow Length=518' Tc=15.2 min CN=39 Runoff=0.00 cfs 0.000 af

Pond 1P: Design Point 1

Inflow=0.00 cfs 0.000 af

Primary=0.00 cfs 0.000 af

Total Runoff Area = 3.069 ac Runoff Volume = 0.000 af Average Runoff Depth = 0.00"

Homarc - Proposed Drainage - 2-21-2015

Type III 24-hr 2-Year Rainfall=3.20"

Prepared by {enter your company name here}

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Subcatchment 1S: Homarc - Existing Drainage Area

[73] Warning: Peak may fall outside time span

Runoff = 0.00 cfs @ 24.00 hrs, Volume= 0.000 af, Depth= 0.00"

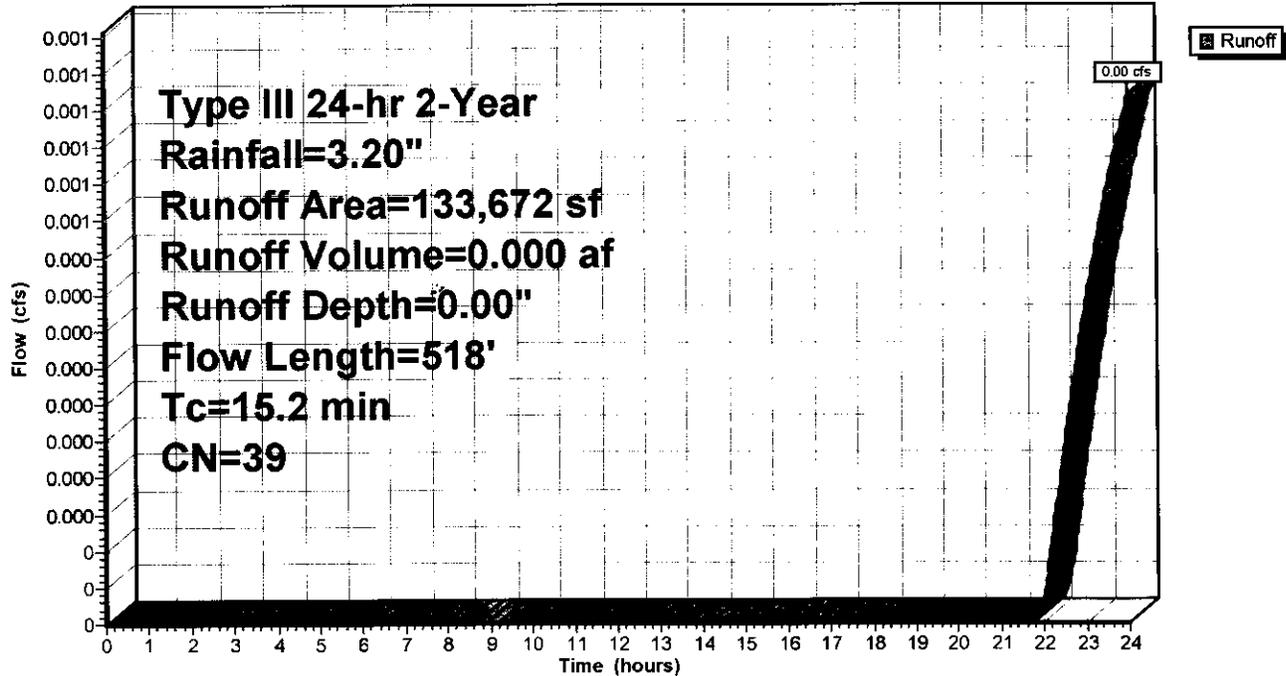
Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-Year Rainfall=3.20"

Area (sf)	CN	Description
133,672	39	Pasture/grassland/range, Good, HSG A

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.2	100	0.0295	0.2		Sheet Flow, Sheet Flow Range Range n= 0.130 P2= 3.50"
8.0	418	0.0300	0.9		Shallow Concentrated Flow, Shallow - Range Woodland Kv= 5.0 fps
15.2	518	Total			

Subcatchment 1S: Homarc - Existing Drainage Area

Hydrograph



Pond 1P: Design Point 1

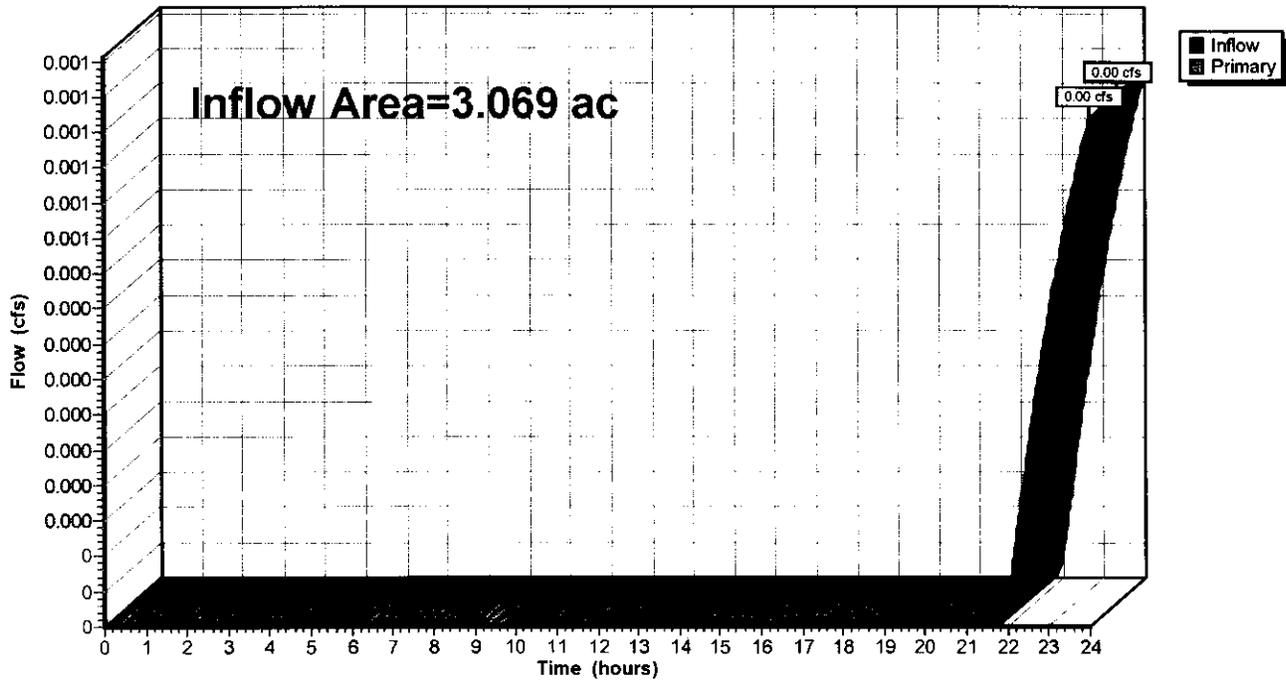
[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 3.069 ac, Inflow Depth = 0.00" for 2-Year event
Inflow = 0.00 cfs @ 24.00 hrs, Volume= 0.000 af
Primary = 0.00 cfs @ 24.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Pond 1P: Design Point 1

Hydrograph



Homarc - Proposed Drainage - 2-21-2015

Type III 24-hr 10-Year Rainfall=5.50"

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Time span=0.00-24.00 hrs, dt=0.01 hrs, 2401 points

Runoff by SCS TR-20 method, UH=SCS

Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 1S: Homarc - Existing Drainage Area

Runoff Area=133,672 sf Runoff Depth=0.31"

Flow Length=518' Tc=15.2 min CN=39 Runoff=0.26 cfs 0.079 af

Pond 1P: Design Point 1

Inflow=0.26 cfs 0.079 af

Primary=0.26 cfs 0.079 af

Total Runoff Area = 3.069 ac Runoff Volume = 0.079 af Average Runoff Depth = 0.31"

Homarc - Proposed Drainage - 2-21-2015

Type III 24-hr 10-Year Rainfall=5.50"

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Subcatchment 1S: Homarc - Existing Drainage Area

Runoff = 0.26 cfs @ 12.54 hrs, Volume= 0.079 af, Depth= 0.31"

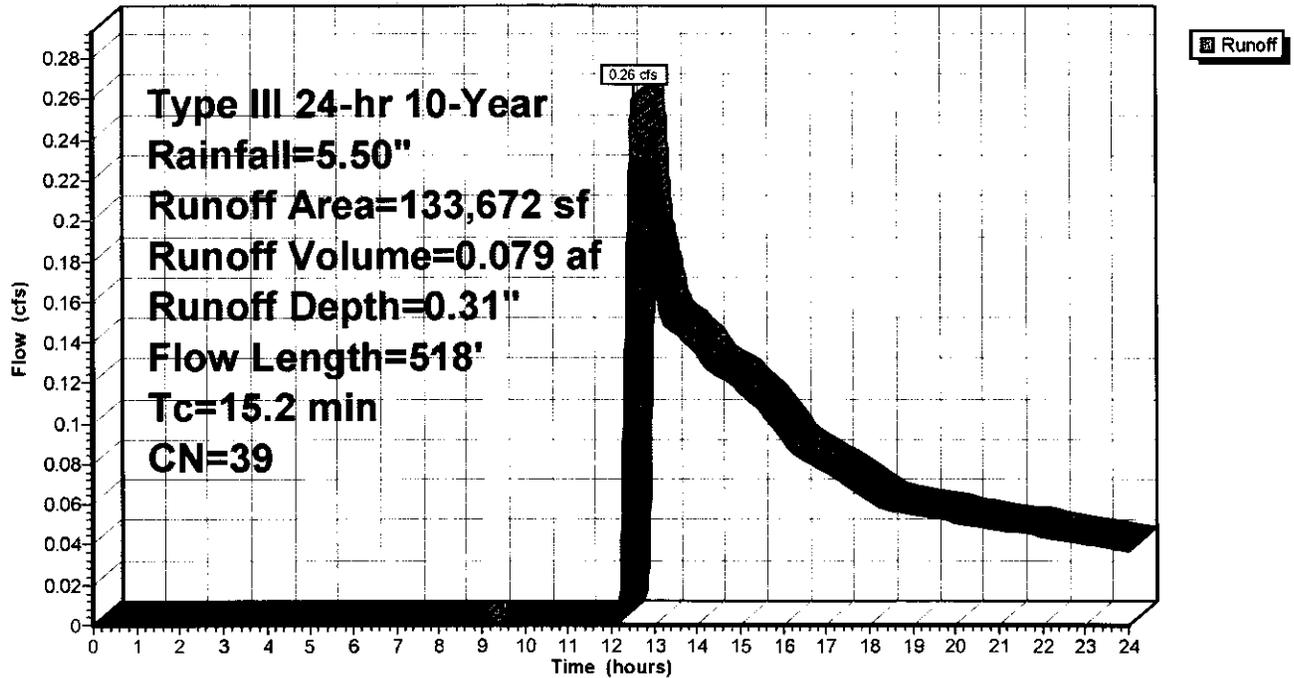
Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-Year Rainfall=5.50"

Area (sf)	CN	Description
133,672	39	Pasture/grassland/range, Good, HSG A

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.2	100	0.0295	0.2		Sheet Flow, Sheet Flow Range Range n= 0.130 P2= 3.50"
8.0	418	0.0300	0.9		Shallow Concentrated Flow, Shallow - Range Woodland Kv= 5.0 fps
15.2	518	Total			

Subcatchment 1S: Homarc - Existing Drainage Area

Hydrograph



Pond 1P: Design Point 1

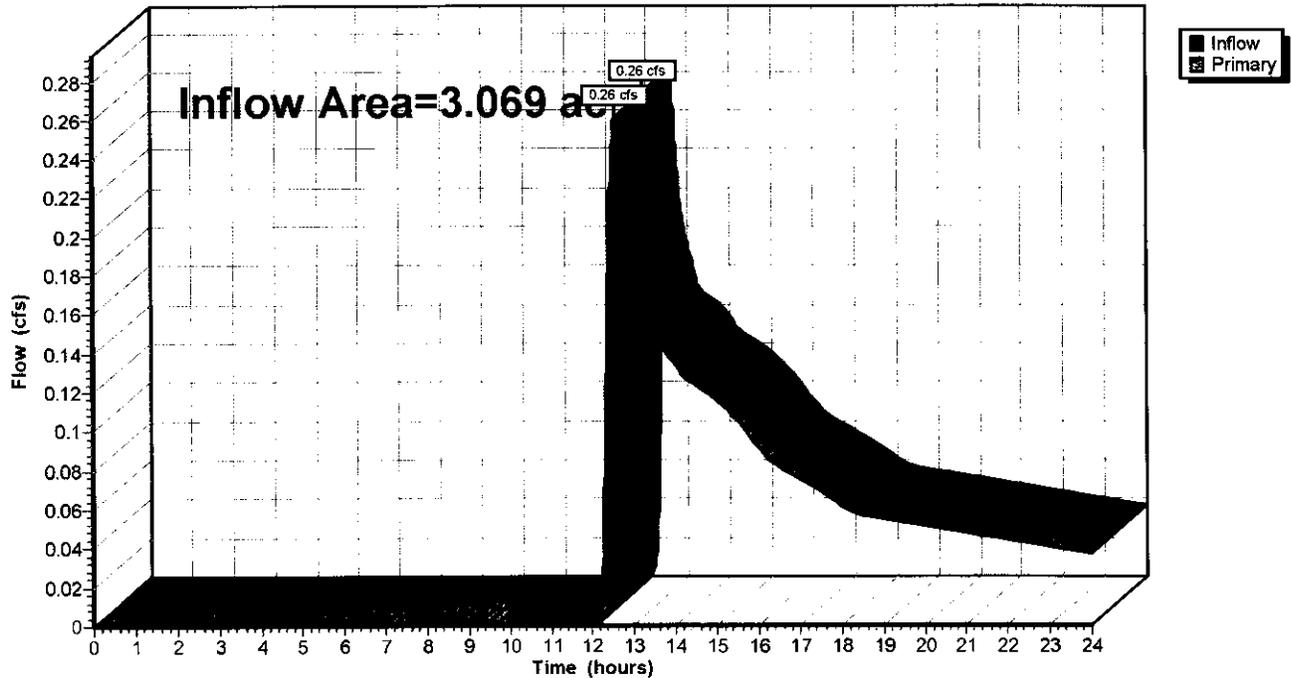
[40] Hint: Not Described (Outflow=inflow)

Inflow Area = 3.069 ac, Inflow Depth = 0.31" for 10-Year event
Inflow = 0.26 cfs @ 12.54 hrs, Volume= 0.079 af
Primary = 0.26 cfs @ 12.54 hrs, Volume= 0.079 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Pond 1P: Design Point 1

Hydrograph



Homarc - Proposed Drainage - 2-21-2015

Type III 24-hr 100-Year Rainfall=8.00"

Prepared by {enter your company name here}

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Time span=0.00-24.00 hrs, dt=0.01 hrs, 2401 points

Runoff by SCS TR-20 method, UH=SCS

Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 1S: Homarc - Existing Drainage Area

Runoff Area=133,672 sf Runoff Depth=1.15"

Flow Length=518' T_c=15.2 min CN=39 Runoff=2.04 cfs 0.294 af

Pond 1P: Design Point 1

Inflow=2.04 cfs 0.294 af

Primary=2.04 cfs 0.294 af

Total Runoff Area = 3.069 ac Runoff Volume = 0.294 af Average Runoff Depth = 1.15"

Subcatchment 1S: Homarc - Existing Drainage Area

Runoff = 2.04 cfs @ 12.29 hrs, Volume= 0.294 af, Depth= 1.15"

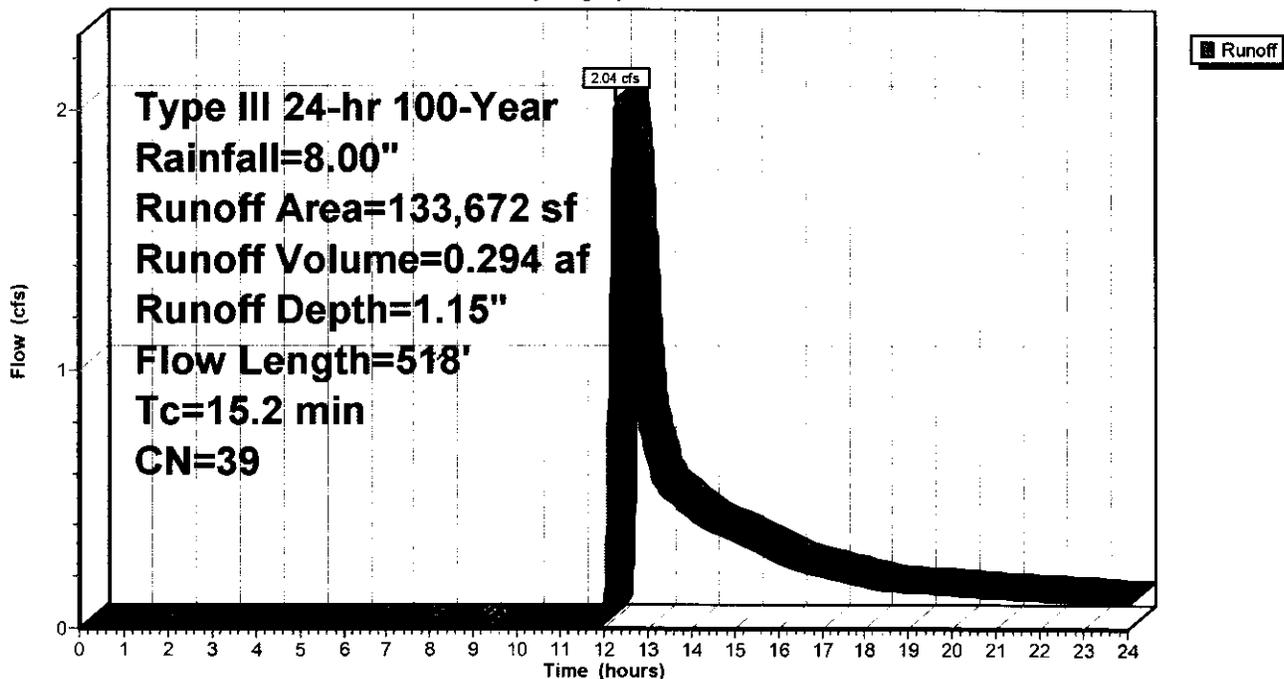
Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
 Type III 24-hr 100-Year Rainfall=8.00"

Area (sf)	CN	Description
133,672	39	Pasture/grassland/range, Good, HSG A

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.2	100	0.0295	0.2		Sheet Flow, Sheet Flow Range Range n= 0.130 P2= 3.50"
8.0	418	0.0300	0.9		Shallow Concentrated Flow, Shallow - Range Woodland Kv= 5.0 fps
15.2	518	Total			

Subcatchment 1S: Homarc - Existing Drainage Area

Hydrograph



Pond 1P: Design Point 1

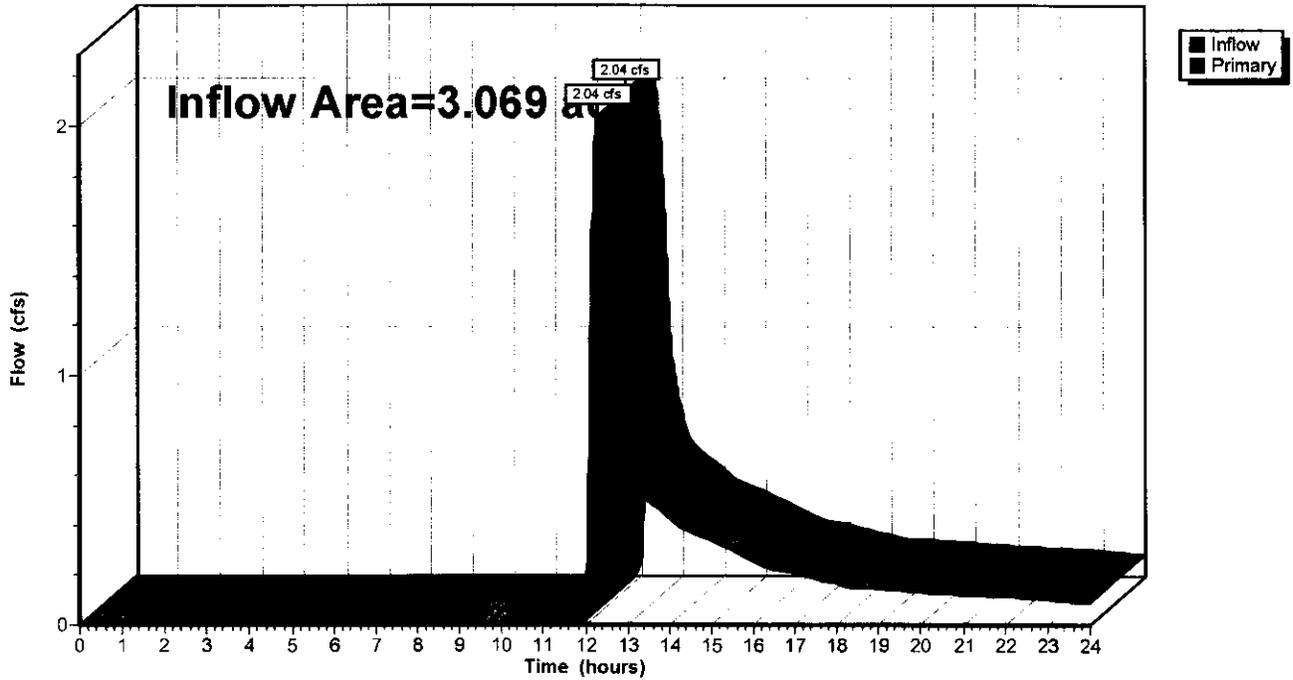
[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 3.069 ac, Inflow Depth = 1.15" for 100-Year event
Inflow = 2.04 cfs @ 12.29 hrs, Volume= 0.294 af
Primary = 2.04 cfs @ 12.29 hrs, Volume= 0.294 af, Atten= 0%, Lag= 0.0 min

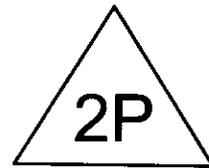
Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Pond 1P: Design Point 1

Hydrograph



APPENDIX H



Homarc - Proposed
Drainage Area

Design Point 1



Homarc - Proposed Drainage - 2-21-2015

Type III 24-hr 2-Year Rainfall=3.20"

Prepared by {enter your company name here}

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Time span=0.00-24.00 hrs, dt=0.01 hrs, 2401 points

Runoff by SCS TR-20 method, UH=SCS

Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 2S: Homarc - Proposed Drainage Area

Runoff Area=104,231 sf Runoff Depth=0.56"

Flow Length=641' Tc=3.7 min CN=64 Runoff=1.28 cfs 0.111 af

Pond 2P: Design Point 1

Peak Elev=566.22' Storage=4,850 cf Inflow=1.28 cfs 0.111 af

Outflow=0.00 cfs 0.000 af

Total Runoff Area = 2.393 ac Runoff Volume = 0.111 af Average Runoff Depth = 0.56"

Homarc - Proposed Drainage - 2-21-2015

Type III 24-hr 2-Year Rainfall=3.20"

Prepared by {enter your company name here}

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Subcatchment 2S: Homarc - Proposed Drainage Area

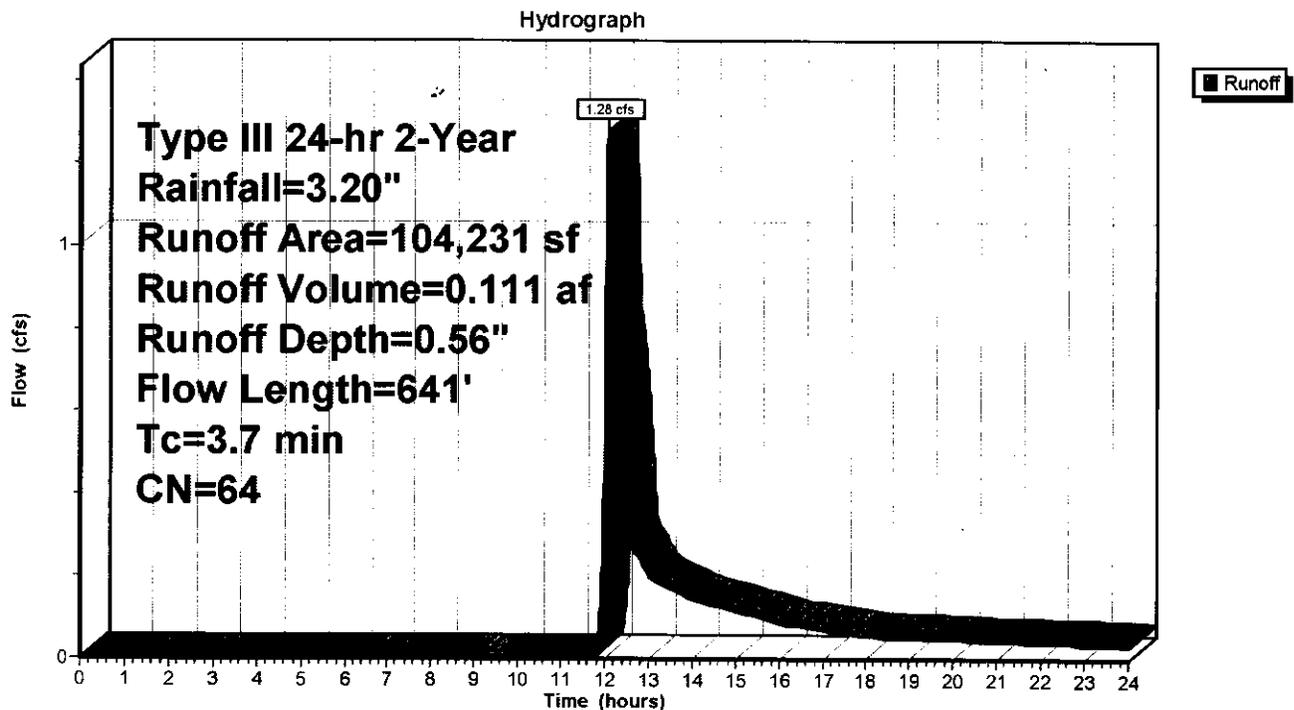
Runoff = 1.28 cfs @ 12.08 hrs, Volume= 0.111 af, Depth= 0.56"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-Year Rainfall=3.20"

Area (sf)	CN	Description
59,058	39	>75% Grass cover, Good, HSG A
44,169	98	Paved parking & roofs
1,004	76	Gravel roads, HSG A
104,231	64	Weighted Average

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.6	34	0.0010	0.3		Sheet Flow, Pavement Smooth surfaces n= 0.011 P2= 3.50"
0.6	183	0.0080	5.1	6.26	Circular Channel (pipe), 15" HDPE Diam= 15.0" Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.012
0.2	56	0.0050	4.0	4.95	Circular Channel (pipe), 15" Pipe Diam= 15.0" Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.012
1.3	336	0.0167	4.4	36.40	Channel Flow, Dry Swale Area= 8.2 sf Perim= 14.2' r= 0.58' n= 0.030
0.0	32	0.0630	16.2	28.56	Circular Channel (pipe), 18" HDPE Diam= 18.0" Area= 1.8 sf Perim= 4.7' r= 0.38' n= 0.012
3.7	641	Total			

Subcatchment 2S: Homarc - Proposed Drainage Area



Pond 2P: Design Point 1

Inflow Area = 2.393 ac, Inflow Depth = 0.56" for 2-Year event
 Inflow = 1.28 cfs @ 12.08 hrs, Volume= 0.111 af
 Outflow = 0.00 cfs @ 24.00 hrs, Volume= 0.000 af, Atten= 100%, Lag= 715.4 min
 Primary = 0.00 cfs @ 24.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
 Peak Elev= 566.22' @ 24.00 hrs Surf.Area= 2,981 sf Storage= 4,850 cf
 Flood Elev= 570.00' Surf.Area= 7,304 sf Storage= 24,116 cf
 Plug-Flow detention time= 725.4 min calculated for 0.000 af (0% of inflow)
 Center-of-Mass det. time= 535.5 min (1,432.6 - 897.1)

#	Invert	Avail.Storage	Storage Description
1	563.00'	24,116 cf	Custom Stage Data (Irregular) Listed below

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
563.00	405	120.5	0	0	405
564.00	926	184.8	648	648	1,975
565.00	1,702	254.5	1,294	1,942	4,421
566.00	2,722	316.9	2,192	4,134	7,273
567.00	3,914	327.8	3,300	7,434	7,918
568.00	4,983	353.6	4,438	11,872	9,358
569.00	6,119	380.0	5,541	17,413	10,942
570.00	7,304	398.8	6,703	24,116	12,171

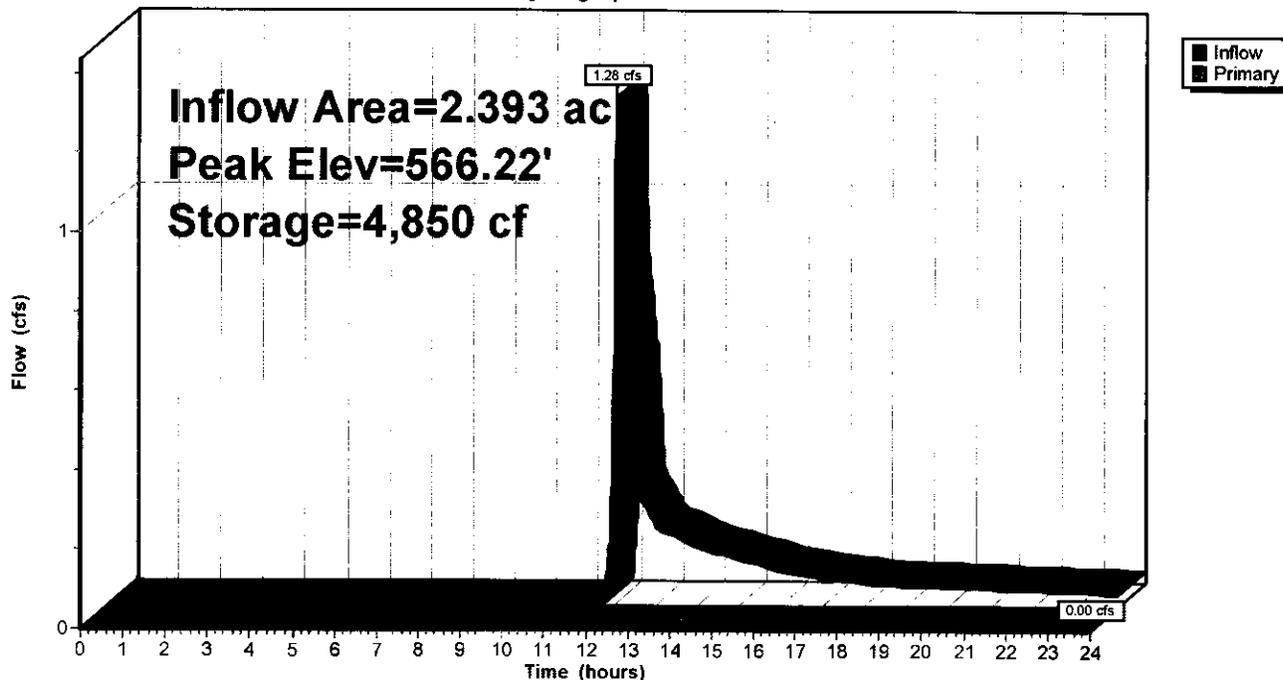
#	Routing	Invert	Outlet Devices
1	Primary	566.10'	15.0" x 66.0' long Culvert Ke= 0.900 Outlet Invert= 565.50' S= 0.0091 '/' n= 0.012 Cc= 0.900
2	Device 1	566.20'	3.0" Vert. Orifice/Grate C= 0.600
3	Device 1	568.50'	15.0" Horiz. Orifice/Grate Limited to weir flow C= 0.600

Primary OutFlow Max=0.00 cfs @ 24.00 hrs HW=566.22' (Free Discharge)

- 1=Culvert (Passes 0.00 cfs of 0.05 cfs potential flow)
- 2=Orifice/Grate (Orifice Controls 0.00 cfs @ 0.4 fps)
- 3=Orifice/Grate (Controls 0.00 cfs)

Pond 2P: Design Point 1

Hydrograph



Homarc - Proposed Drainage - 2-21-2015

Type III 24-hr 10-Year Rainfall=5.50"

Prepared by {enter your company name here}

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Time span=0.00-24.00 hrs, dt=0.01 hrs, 2401 points

Runoff by SCS TR-20 method, UH=SCS

Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 2S: Homarc - Proposed Drainage Area

Runoff Area=104,231 sf Runoff Depth=1.91"

Flow Length=641' Tc=3.7 min CN=64 Runoff=5.61 cfs 0.381 af

Pond 2P: Design Point 1

Peak Elev=567.52' Storage=9,759 cf Inflow=5.61 cfs 0.381 af

Outflow=0.26 cfs 0.222 af

Total Runoff Area = 2.393 ac Runoff Volume = 0.381 af Average Runoff Depth = 1.91"

Homarc - Proposed Drainage - 2-21-2015

Type III 24-hr 10-Year Rainfall=5.50"

Prepared by {enter your company name here}

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Subcatchment 2S: Homarc - Proposed Drainage Area

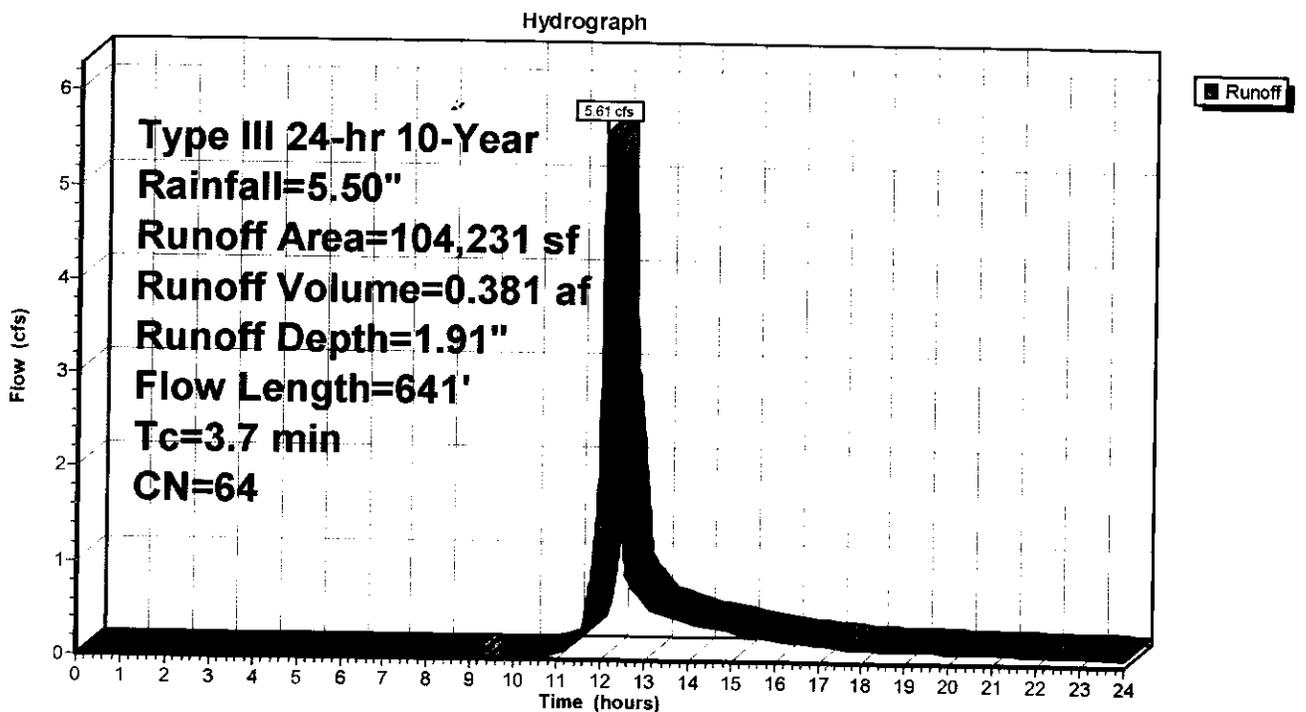
Runoff = 5.61 cfs @ 12.06 hrs, Volume= 0.381 af, Depth= 1.91"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-Year Rainfall=5.50"

Area (sf)	CN	Description
59,058	39	>75% Grass cover, Good, HSG A
44,169	98	Paved parking & roofs
1,004	76	Gravel roads, HSG A
104,231	64	Weighted Average

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.6	34	0.0010	0.3		Sheet Flow, Pavement Smooth surfaces n= 0.011 P2= 3.50"
0.6	183	0.0080	5.1	6.26	Circular Channel (pipe), 15" HDPE Diam= 15.0" Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.012
0.2	56	0.0050	4.0	4.95	Circular Channel (pipe), 15" Pipe Diam= 15.0" Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.012
1.3	336	0.0167	4.4	36.40	Channel Flow, Dry Swale Area= 8.2 sf Perim= 14.2' r= 0.58' n= 0.030
0.0	32	0.0630	16.2	28.56	Circular Channel (pipe), 18" HDPE Diam= 18.0" Area= 1.8 sf Perim= 4.7' r= 0.38' n= 0.012
3.7	641	Total			

Subcatchment 2S: Homarc - Proposed Drainage Area



Homarc - Proposed Drainage - 2-21-2015

Type III 24-hr 10-Year Rainfall=5.50"

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Pond 2P: Design Point 1

Inflow Area = 2.393 ac, Inflow Depth = 1.91" for 10-Year event
 Inflow = 5.61 cfs @ 12.06 hrs, Volume= 0.381 af
 Outflow = 0.26 cfs @ 15.65 hrs, Volume= 0.222 af, Atten= 95%, Lag= 215.1 min
 Primary = 0.26 cfs @ 15.65 hrs, Volume= 0.222 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
 Peak Elev= 567.52' @ 15.65 hrs Surf.Area= 4,474 sf Storage= 9,759 cf
 Flood Elev= 570.00' Surf.Area= 7,304 sf Storage= 24,116 cf
 Plug-Flow detention time= 339.0 min calculated for 0.221 af (58% of inflow)
 Center-of-Mass det. time= 218.5 min (1,073.5 - 855.1)

#	Invert	Avail.Storage	Storage Description
1	563.00'	24,116 cf	Custom Stage Data (Irregular) Listed below

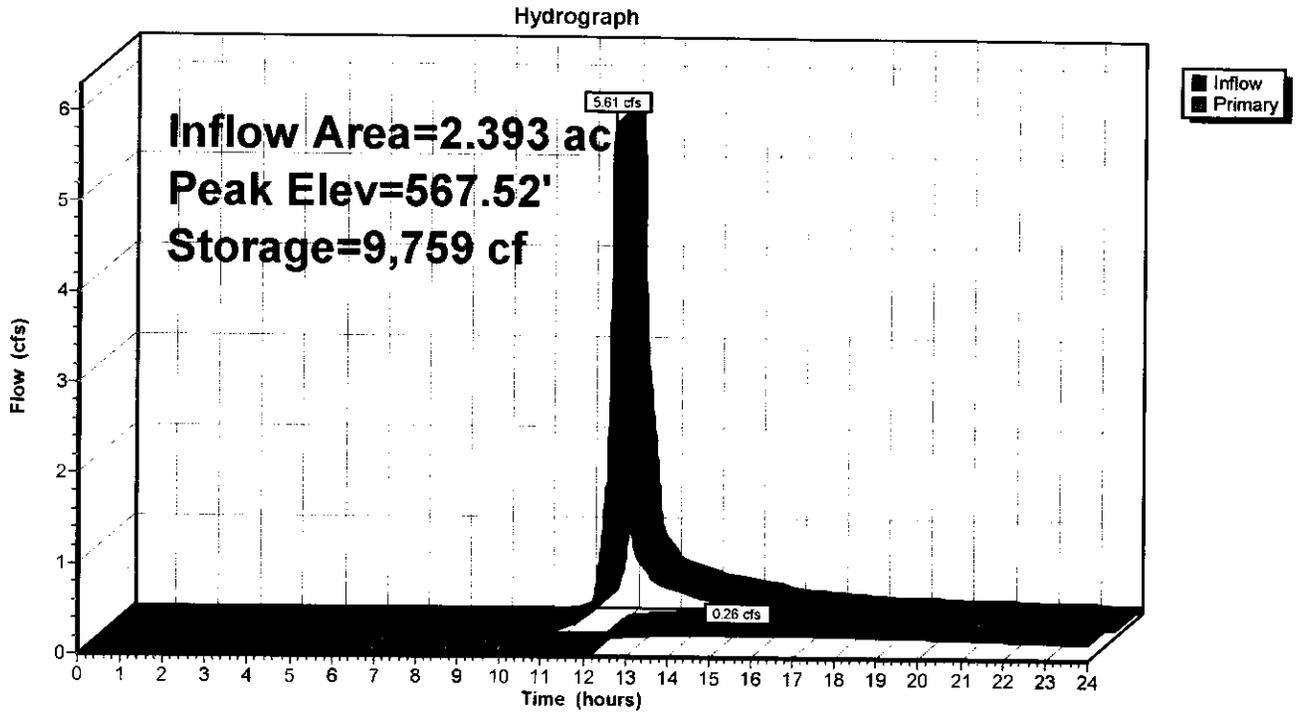
Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
563.00	405	120.5	0	0	405
564.00	926	184.8	648	648	1,975
565.00	1,702	254.5	1,294	1,942	4,421
566.00	2,722	316.9	2,192	4,134	7,273
567.00	3,914	327.8	3,300	7,434	7,918
568.00	4,983	353.6	4,438	11,872	9,358
569.00	6,119	380.0	5,541	17,413	10,942
570.00	7,304	398.8	6,703	24,116	12,171

#	Routing	Invert	Outlet Devices
1	Primary	566.10'	15.0" x 66.0' long Culvert Ke= 0.900 Outlet Invert= 565.50' S= 0.0091 '/' n= 0.012 Cc= 0.900
2	Device 1	566.20'	3.0" Vert. Orifice/Grate C= 0.600
3	Device 1	568.50'	15.0" Horiz. Orifice/Grate Limited to weir flow C= 0.600

Primary OutFlow Max=0.26 cfs @ 15.65 hrs HW=567.52' (Free Discharge)

- 1=Culvert (Passes 0.26 cfs of 4.17 cfs potential flow)
- 2=Orifice/Grate (Orifice Controls 0.26 cfs @ 5.3 fps)
- 3=Orifice/Grate (Controls 0.00 cfs)

Pond 2P: Design Point 1



Homarc - Proposed Drainage - 2-21-2015

Type III 24-hr 100-Year Rainfall=8.00"

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Time span=0.00-24.00 hrs, dt=0.01 hrs, 2401 points

Runoff by SCS TR-20 method, UH=SCS

Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 2S: Homarc - Proposed Drainage Area

Runoff Area=104,231 sf Runoff Depth=3.78"

Flow Length=641' Tc=3.7 min CN=64 Runoff=11.48 cfs 0.753 af

Pond 2P: Design Point 1

Peak Elev=568.73' Storage=15,918 cf Inflow=11.48 cfs 0.753 af

Outflow=1.78 cfs 0.492 af

Total Runoff Area = 2.393 ac Runoff Volume = 0.753 af Average Runoff Depth = 3.78"

Homarc - Proposed Drainage - 2-21-2015

Type III 24-hr 100-Year Rainfall=8.00"

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Subcatchment 2S: Homarc - Proposed Drainage Area

Runoff = 11.48 cfs @ 12.06 hrs, Volume= 0.753 af, Depth= 3.78"

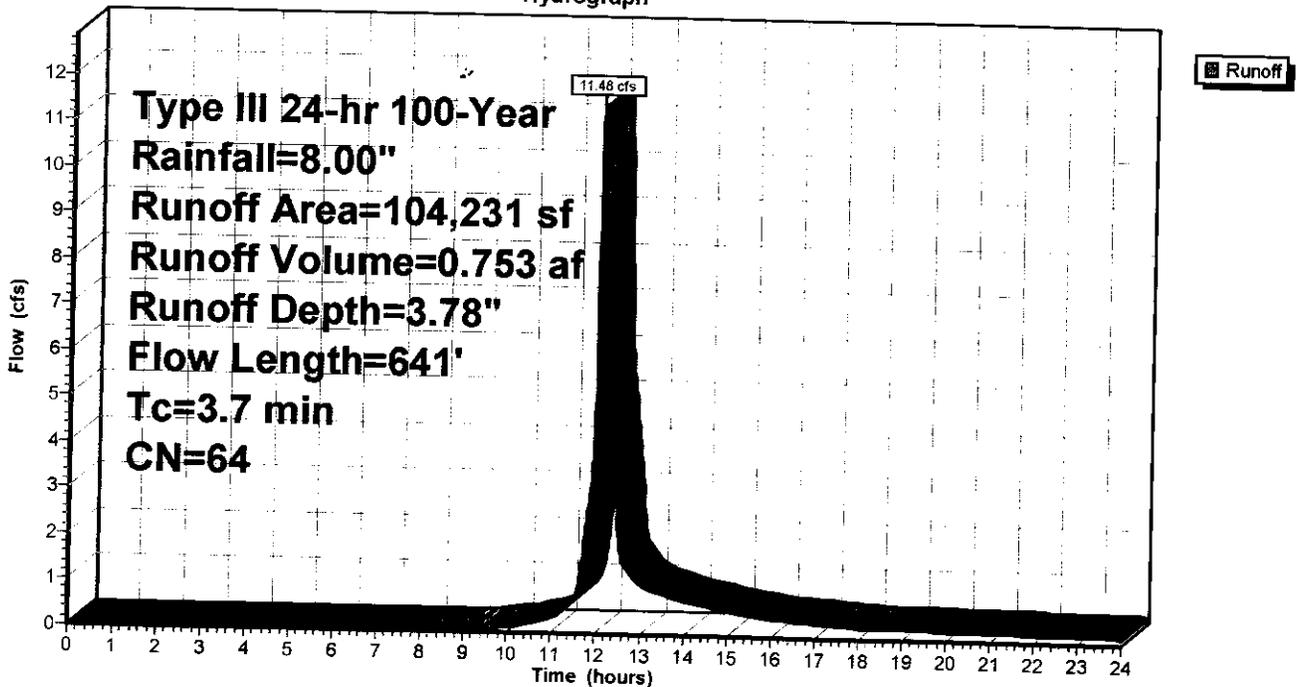
Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 100-Year Rainfall=8.00"

Area (sf)	CN	Description
59,058	39	>75% Grass cover, Good, HSG A
44,169	98	Paved parking & roofs
1,004	76	Gravel roads, HSG A
104,231	64	Weighted Average

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.6	34	0.0010	0.3		Sheet Flow, Pavement
0.6	183	0.0080	5.1	6.26	Smooth surfaces n= 0.011 P2= 3.50"
0.2	56	0.0050	4.0	4.95	Circular Channel (pipe), 15" HDPE Diam= 15.0" Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.012
1.3	336	0.0167	4.4	36.40	Circular Channel (pipe), 15" Pipe Diam= 15.0" Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.012
0.0	32	0.0630	16.2	28.56	Channel Flow, Dry Swale Area= 8.2 sf Perim= 14.2' r= 0.58' n= 0.030
					Circular Channel (pipe), 18" HDPE Diam= 18.0" Area= 1.8 sf Perim= 4.7' r= 0.38' n= 0.012
3.7	641	Total			

Subcatchment 2S: Homarc - Proposed Drainage Area

Hydrograph



Homarc - Proposed Drainage - 2-21-2015

Type III 24-hr 100-Year Rainfall=8.00"

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Pond 2P: Design Point 1

Inflow Area = 2.393 ac, Inflow Depth = 3.78" for 100-Year event
 Inflow = 11.48 cfs @ 12.06 hrs, Volume= 0.753 af
 Outflow = 1.78 cfs @ 12.54 hrs, Volume= 0.492 af, Atten= 84%, Lag= 29.2 min
 Primary = 1.78 cfs @ 12.54 hrs, Volume= 0.492 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
 Peak Elev= 568.73' @ 12.54 hrs Surf.Area= 5,813 sf Storage= 15,918 cf
 Flood Elev= 570.00' Surf.Area= 7,304 sf Storage= 24,116 cf
 Plug-Flow detention time= 259.8 min calculated for 0.492 af (65% of inflow)
 Center-of-Mass det. time= 154.5 min (989.3 - 834.9)

#	Invert	Avail.Storage	Storage Description
1	563.00'	24,116 cf	Custom Stage Data (Irregular) Listed below

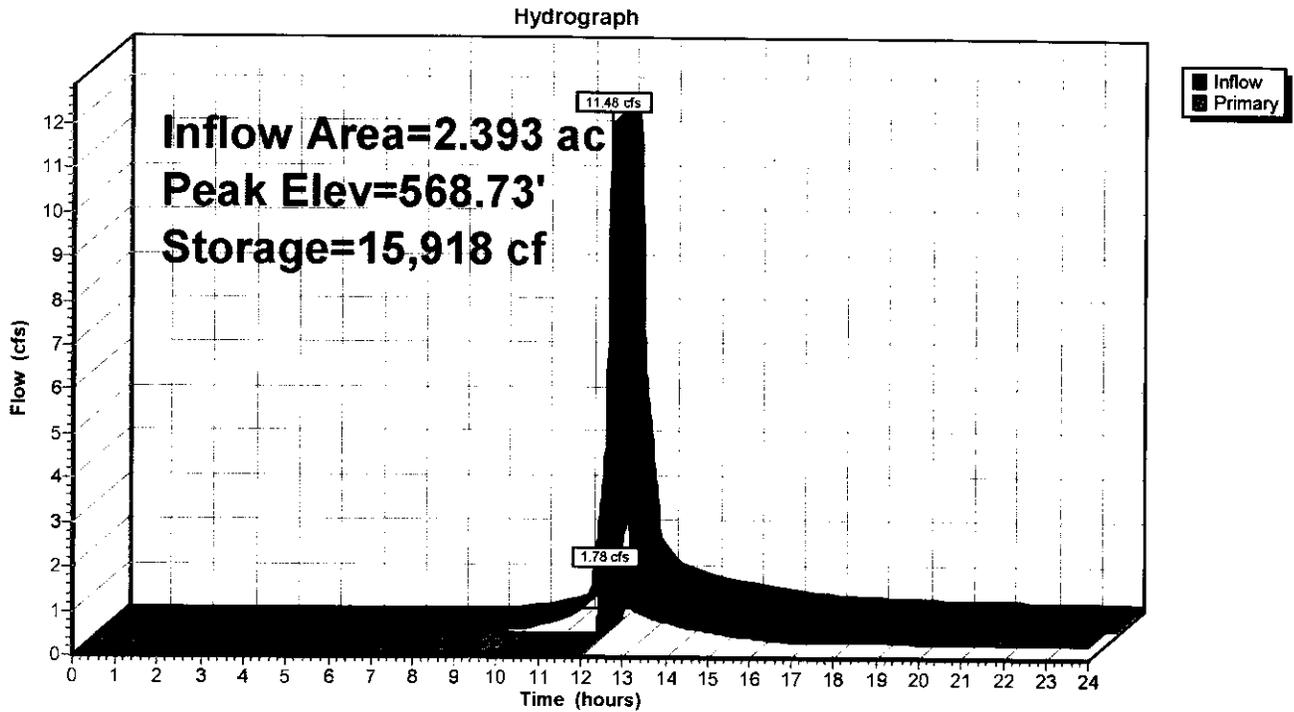
Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
563.00	405	120.5	0	0	405
564.00	926	184.8	648	648	1,975
565.00	1,702	254.5	1,294	1,942	4,421
566.00	2,722	316.9	2,192	4,134	7,273
567.00	3,914	327.8	3,300	7,434	7,918
568.00	4,983	353.6	4,438	11,872	9,358
569.00	6,119	380.0	5,541	17,413	10,942
570.00	7,304	398.8	6,703	24,116	12,171

#	Routing	Invert	Outlet Devices
1	Primary	566.10'	15.0" x 66.0' long Culvert Ke= 0.900 Outlet Invert= 565.50' S= 0.0091 '/' n= 0.012 Cc= 0.900
2	Device 1	566.20'	3.0" Vert. Orifice/Grate C= 0.600
3	Device 1	568.50'	15.0" Horiz. Orifice/Grate Limited to weir flow C= 0.600

Primary OutFlow Max=1.78 cfs @ 12.54 hrs HW=568.73' (Free Discharge)

- ↑ 1=Culvert (Passes 1.78 cfs of 6.61 cfs potential flow)
- ↑ 2=Orifice/Grate (Orifice Controls 0.37 cfs @ 7.5 fps)
- ↑ 3=Orifice/Grate (Weir Controls 1.42 cfs @ 1.6 fps)

Pond 2P: Design Point 1



Homarc - Proposed Drainage - 2-21-2015

Type III 24-hr 2-Year Rainfall=3.20"

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Time span=0.00-24.00 hrs, dt=0.01 hrs, 2401 points

Runoff by SCS TR-20 method, UH=SCS

Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 1S: Homarc - Existing Drainage Area

Runoff Area=133,672 sf Runoff Depth=0.00"

Flow Length=518' Tc=15.2 min CN=39 Runoff=0.00 cfs 0.000 af

Pond 1P: Design Point 1

Inflow=0.00 cfs 0.000 af

Primary=0.00 cfs 0.000 af

Total Runoff Area = 3.069 ac Runoff Volume = 0.000 af Average Runoff Depth = 0.00"

Homarc - Proposed Drainage - 2-21-2015

Type III 24-hr 10-Year Rainfall=5.50"

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Time span=0.00-24.00 hrs, dt=0.01 hrs, 2401 points

Runoff by SCS TR-20 method, UH=SCS

Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 1S: Homarc - Existing Drainage Area

Runoff Area=133,672 sf Runoff Depth=0.31"

Flow Length=518' Tc=15.2 min CN=39 Runoff=0.26 cfs 0.079 af

Pond 1P: Design Point 1

Inflow=0.26 cfs 0.079 af

Primary=0.26 cfs 0.079 af

Total Runoff Area = 3.069 ac Runoff Volume = 0.079 af Average Runoff Depth = 0.31"

Subcatchment 1S: Homarc - Existing Drainage Area

Runoff = 0.26 cfs @ 12.54 hrs, Volume= 0.079 af, Depth= 0.31"

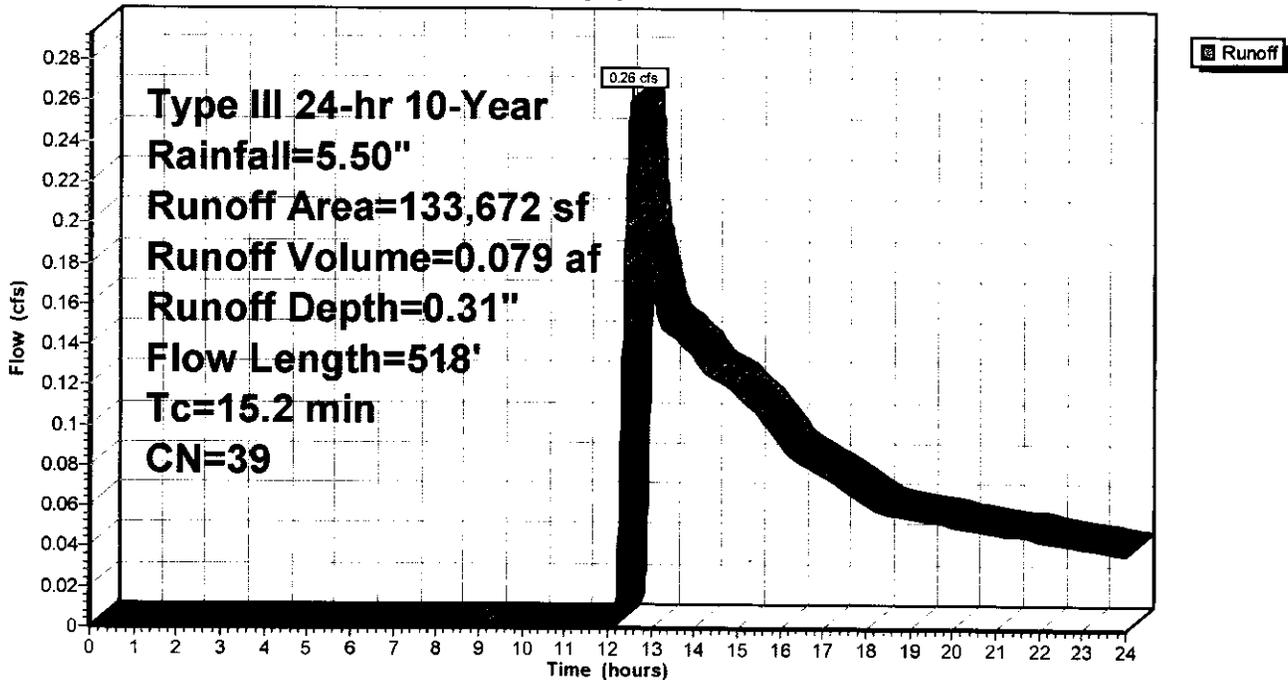
Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-Year Rainfall=5.50"

Area (sf)	CN	Description
133,672	39	Pasture/grassland/range, Good, HSG A

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.2	100	0.0295	0.2		Sheet Flow, Sheet Flow Range
8.0	418	0.0300	0.9		Range n= 0.130 P2= 3.50"
					Shallow Concentrated Flow, Shallow - Range
					Woodland Kv= 5.0 fps
15.2	518	Total			

Subcatchment 1S: Homarc - Existing Drainage Area

Hydrograph



Pond 1P: Design Point 1

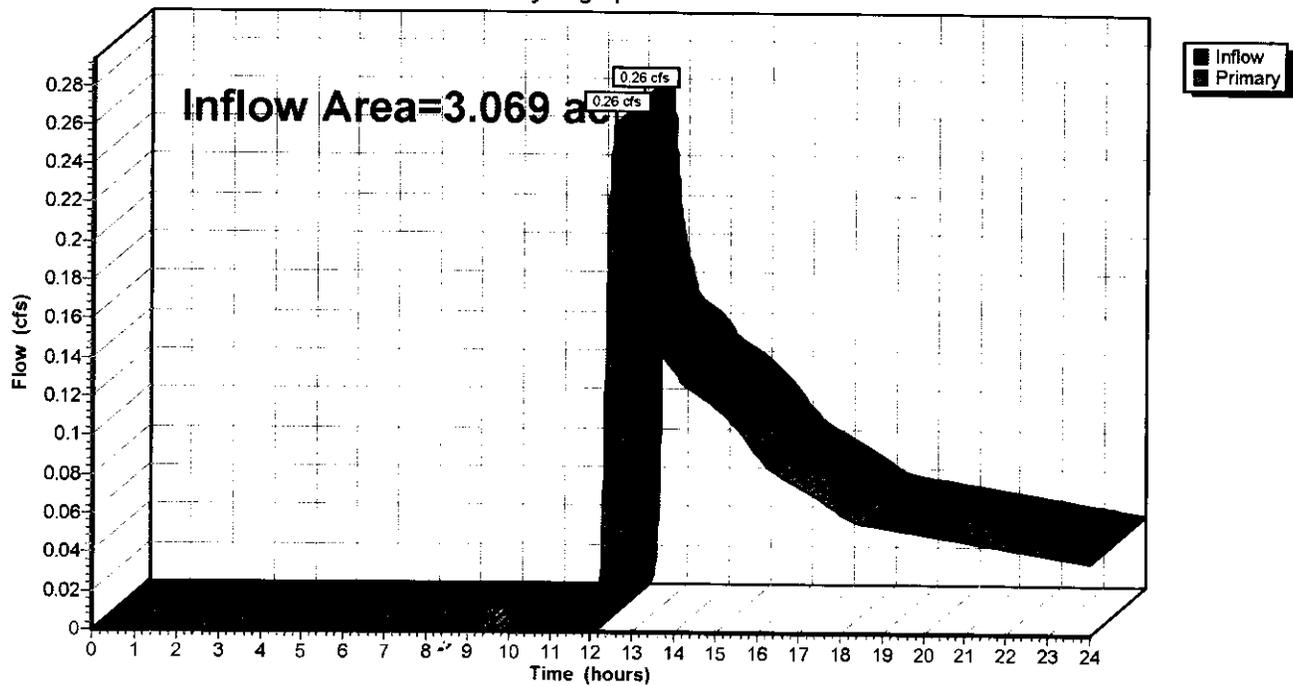
[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 3.069 ac, Inflow Depth = 0.31" for 10-Year event
Inflow = 0.26 cfs @ 12.54 hrs, Volume= 0.079 af
Primary = 0.26 cfs @ 12.54 hrs, Volume= 0.079 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Pond 1P: Design Point 1

Hydrograph



Homarc - Proposed Drainage - 2-21-2015

Type III 24-hr 100-Year Rainfall=8.00"

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Time span=0.00-24.00 hrs, dt=0.01 hrs, 2401 points
Runoff by SCS TR-20 method, UH=SCS
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 1S: Homarc - Existing Drainage Area

Runoff Area=133,672 sf Runoff Depth=1.15"

Flow Length=518' Tc=15.2 min CN=39 Runoff=2.04 cfs 0.294 af

Pond 1P: Design Point 1

Inflow=2.04 cfs 0.294 af

Primary=2.04 cfs 0.294 af

Total Runoff Area = 3.069 ac Runoff Volume = 0.294 af Average Runoff Depth = 1.15"

Subcatchment 1S: Homarc - Existing Drainage Area

Runoff = 2.04 cfs @ 12.29 hrs, Volume= 0.294 af, Depth= 1.15"

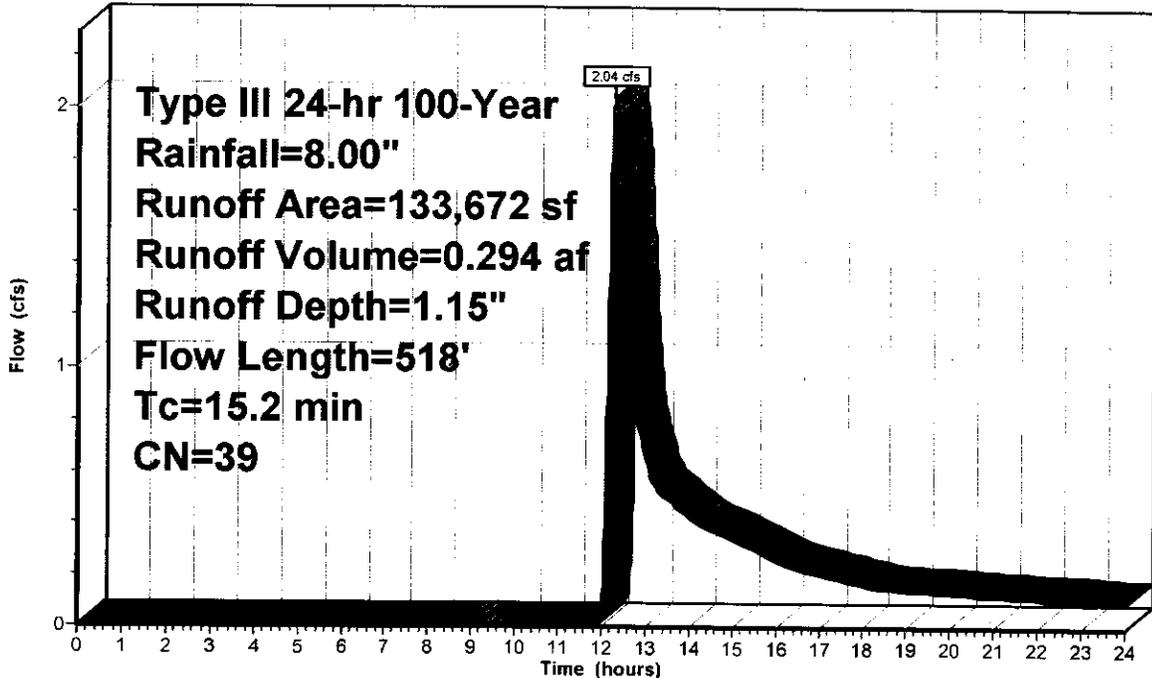
Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
 Type III 24-hr 100-Year Rainfall=8.00"

Area (sf)	CN	Description
133,672	39	Pasture/grassland/range, Good, HSG A

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.2	100	0.0295	0.2		Sheet Flow, Sheet Flow Range
					Range n= 0.130 P2= 3.50"
8.0	418	0.0300	0.9		Shallow Concentrated Flow, Shallow - Range
					Woodland Kv= 5.0 fps
15.2	518	Total			

Subcatchment 1S: Homarc - Existing Drainage Area

Hydrograph



Pond 1P: Design Point 1

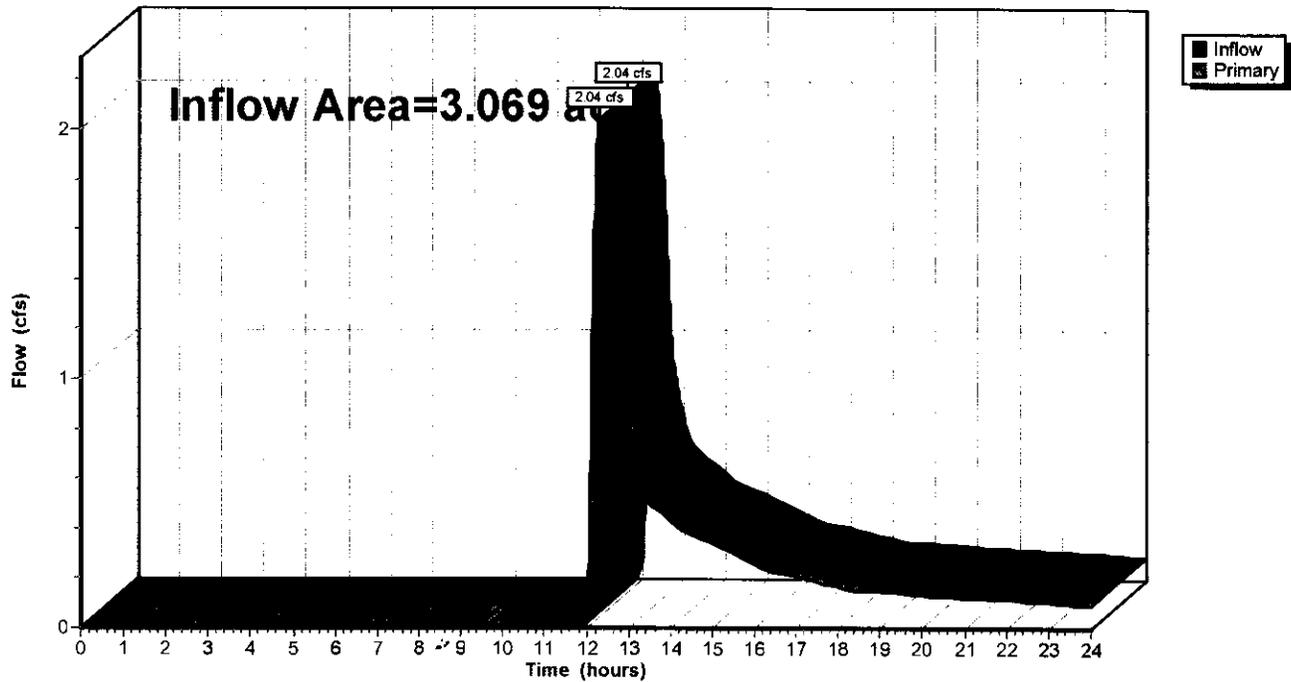
[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 3.069 ac, Inflow Depth = 1.15" for 100-Year event
Inflow = 2.04 cfs @ 12.29 hrs, Volume= 0.294 af
Primary = 2.04 cfs @ 12.29 hrs, Volume= 0.294 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Pond 1P: Design Point 1

Hydrograph



APPENDIX I

Cistern or Rainbarrel Worksheet

Design Point:	1	Enter Site Data For Drainage Area to be Treated by Practice					
Catchment Number	Total Area (Acres)	Impervious Area (Acres)	Percent Impervious %	Rv	WQv (ft ³)	Precipitation (in)	Description
1	0.60	0.60	1.00	0.95	2466.83	1.20	Cistern-Rainbarrel

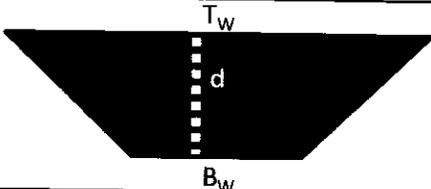
Calculate Required Cistern/Rainbarrel Volume			
Required Cistern Storage Volume	18,501	<i>Gallons</i>	<i>(WQv*7.5)</i>
Number of Cisterns Proposed	1		
Volume per Unit	20,000	<i>Gallons</i>	
Actual Cistern Storage Volume	20,000	<i>Gallons</i>	
Water Use Plan?	Yes		

Determine Runoff Reduction		
Runoff Reduction	2467	ft ³

Conservation of Natural Areas

Design Point:	1						
Enter Site Data For Drainage Area to be Treated by Practice							
Catchment Number	Total Area (Acres)	Impervious Area (Acres)	Percent Impervious %	Rv	WQv (ft ³)	Precipitation (in)	Description
5	1.78	0.00	0.00	0.05	388.17	1.20	Conservation of Natural Areas
Design Elements							
Is Contiguous Area \geq 10,000 ft ² ?						Yes	
Will limits of disturbance be clearly shown on all construction drawings and marked in field/project development site with structural barriers?						Yes	
Is the Conservation area located in an acceptable conservation easement instrument that ensures perpetual protection of proposed area?						Yes	
Does the easement specify how the natural area vegetation will be managed and boundaries will be marked?						Yes	
Does the conservation area receive runoff from other contributing areas?						No	
Does Conservation Area drain to a Design Point?						Yes	
Is Sheet Flow to Riparian Buffer or another area based practice already being Used for this area?						No	
Are All Criteria in Section 5.3.1 Met?				Yes			
Area Reduction Adjustments							
<i>Subtract</i>	1.78	<i>Acres from Total Area</i>					
<i>Subtract</i>	0.00	<i>Acres from Total Impervious Area</i>					

Dry Swale Worksheet

Design Point:	1						
Enter Site Data For Drainage Area to be Treated by Practice							
Catchment Number	Total Area (Acres)	Impervious Area (Acres)	Percent Impervious %	Rv	WQv (ft ³)	Precipitation (in)	Description
6	0.88	0.08	0.09	0.13	502.75	1.20	Dry Swale
Enter Impervious Area Reduced by Disconnection of Rooftops			9%	0.13	503	<<WQv after adjusting for Disconnected Rooftops	
Pretreatment Provided				Pretreatment Technique			
Pretreatment (10% of WQv)			50	ft ³			
Calculate Available Storage Capacity							
Bottom Width	8	ft	Design with a bottom width no greater than eight feet to avoid potential gullyng and channel braiding, but no less than two feet				
Side Slope (X:1)	4	Okay	Channels shall be designed with moderate side slopes (flatter than 3:1) for most conditions. 2:1 is the absolute maximum side slope				
Longitudinal Slope	2%	Okay	Maximum longitudinal slope shall be 4%				
Flow Depth	0.75	ft	Maximum ponding depth of one foot at the mid-point of the channel, and a maximum depth of 18" at the end point of the channel (for storage of the WQv)				
Top Width	14	ft					
Area	8.25	sf					
Minimum Length	55	ft					
Actual Length	351	ft					
End Point Depth check	1.50	Okay	A maximum depth of 18" at the end point of the channel (for storage of the WQv)				
Storage Capacity	2,946	ft ³					
Soil Group (HSG)			A				
Runoff Reduction							
Is the Dry Swale contributing flow to another practice?				No	Select Practice		
RRv	503	ft ³	Runnoff Reduction equals 40% in HSG A and B and 20% in HSG C and D up to the WQv				
Volume Treated	0	ft ³	This is the difference between the WQv calculated and the runoff reduction achieved in the swale				
Volume Directed	0	ft ³	This volume is directed another practice				
Volume V	Okay		Check to be sure that channel is long enough to store WQv				

Porous Pavement Worksheet

$$A_p = V_w / (n \times dt)$$

A_p Required porous pavement surface area ft²
 V_w Design Volume ft³
 n porosity of gravel bed/resevoir
 dt depth of gravel bed/resevoir

Assume .4 for gravel

Design Point:	1						
Enter Site Data For Drainage Area to be Treated by Practice							
Catchment Number	Total Area (Acres)	Impervious Area (Acres)	Percent Impervious %	Rv	WQv (ft ³)	Precipitation (in)	Description
2	1.17	0.81	0.69	0.67	3414.03	1.20	Porous Pavement
Enter Soil Infiltration Rate							
Soil Infiltration Rate		1.50	<i>in/hour</i>				
Calculate Required Surface Area							
Design Volume		Vw	3,414	ft ³			
Are underdrains being used?			Yes	-	Only Gravel Bed Depth below underdrain can be considered.		
Porosity of Gravel Bed		<i>n</i>	0.40	-			
Gravel Bed Depth		<i>dt</i>	4.00	ft	Must be the depth below the underdrain.		
Required Surface Area		A _p	2,134	sf			
Surface Area Provided			2,187	sf	Dimensions of pavement can be provided here		
Storage Volume Provided			3,500	ft ³			
Determine the Runoff Reduction							
RRv	3,414	ft ³					

Porous Pavement Worksheet

$$A_p = V_w / (n \times d_t)$$

A_p Required porous pavement surface area *ft*²
 V_w Design Volume *ft*³
 n porosity of gravel bed/resevoir
 d_t depth of gravel bed/resevoir

Assume .4 for gravel

Design Point:	1						
Enter Site Data For Drainage Area to be Treated by Practice							
Catchment	Total Area	Impervious	Percent	R_v	WQ_v	Precipitation	Description
3	0.18	0.00	0.00	0.05	39.51	1.20	Porous Pavement
Enter Soil Infiltration Rate							
Soil Infiltration Rate	1.50	<i>in/hour</i>					
Calculate Required Surface Area							
Design Volume	V_w	40	<i>ft</i> ³				
Are underdrains being used?		Yes	-	Only Gravel Bed Depth below underdrain can be considered.			
Porosity of Gravel Bed	n	0.40	-				
Gravel Bed Depth	d_t	1.00	<i>ft</i>	Must be the depth below the underdrain.			
Required Surface Area	A_p	99	<i>sf</i>				
Surface Area Provided		1,185	<i>sf</i>	Dimensions of pavement can be provided here			
Storage Volume Provided		474	<i>ft</i> ³				
Determine the Runoff Reduction							
RR_v	40	<i>ft</i> ³					

Porous Pavement Worksheet

$$A_p = V_w / (n \times dt)$$

A_p Required porous pavement surface area *ft*²
 V_w Design Volume *ft*³
 n porosity of gravel bed/resevoir
 dt depth of gravel bed/resevoir

Assume .4 for gravel

Design Point:	1						
Enter Site Data For Drainage Area to be Treated by Practice							
Catchment	Total Area	Impervious	Percent	Rv	WQv	Precipitation	Description
4	0.13	0.03	0.21	0.24	132.76	1.20	Porous Pavement
Enter Soil Infiltration Rate							
Soil Infiltration Rate	1.50	<i>in/hour</i>					
Calculate Required Surface Area							
Design Volume	V_w	133	<i>ft</i> ³				
Are underdrains being used?		Yes	-	Only Gravel Bed Depth below underdrain can be considered.			
Porosity of Gravel Bed	n	0.40	-				
Gravel Bed Depth	dt	1.00	<i>ft</i>	Must be the depth below the underdrain.			
Required Surface Area	A_p	332	<i>sf</i>				
Surface Area Provided		3,046	<i>sf</i>	<i>Dimensions of pavement can be provided here</i>			
Storage Volume Provided		1,218	<i>ft</i> ³				
Determine the Runoff Reduction							
RRv	133	<i>ft</i> ³					

	Runoff Reduction Techiques/Standard SMPs		Total Contributing Area (acres)	Total Contributing Impervious Area (acres)	WQv Reduced (RRv) cf	WQv Treated cf
Area/Volume Reduction	Conservation of Natural Areas	RR-1	1.78	0.00		
	Sheetflow to Riparian Buffers/Filter Strips	RR-2	0.00	0.00		
	Tree Planting/Tree Pit	RR-3	0.00	0.00		
	Disconnection of Rooftop Runoff	RR-4		0.00		
	Vegetated Swale	RR-5	0.00	0.00	0	
	Rain Garden	RR-6	0.00	0.00	0	
	Stormwater Planter	RR-7	0.00	0.00	0	
	Rain Barrel/Cistern	RR-8	0.60	0.60	2467	
	Porous Pavement	RR-9	1.48	0.83	3586	
	Green Roof (Intensive & Extensive)	RR-10	0.00	0.00	0	
Standard SMPs w/RRv Capacity	Infiltration Trench	I-1	0.00	0.00	0	0
	Infiltration Basin	I-2	0.00	0.00	0	0
	Dry Well	I-3	0.00	0.00	0	0
	Underground Infiltration System	I-4	0.00			
	Bioretention & Infiltration Bioretention	F-5	0.00	0.00	0	0
	Dry swale	O-1	0.88	0.08	503	0
Standard SMPs	Micropool Extended Detention (P-1)	P-1				
	Wet Pond (P-2)	P-2				
	Wet Extended Detention (P-3)	P-3				
	Multiple Pond system (P-4)	P-4				
	Pocket Pond (p-5)	P-5				
	Surface Sand filter (F-1)	F-1				
	Underground Sand filter (F-2)	F-2				
	Perimeter Sand Filter (F-3)	F-3				
	Organic Filter (F-4)	F-4				
	Shallow Wetland (W-1)	W-1				
	Extended Detention Wetland (W-2)	W-2				
	Pond/Wetland System (W-3)	W-3				
	Pocket Wetland (W-4)	W-4				
	Wet Swale (O-2)	O-2				
Totals by Area Reduction →			1.78	0.00	388	
Totals by Volume Reduction →			2.08	1.43	6053	
Totals by Standard SMP w/RRV →			0.88	0.08	503	0
Totals by Standard SMP →			0.00	0.00		0
Totals (Area + Volume + all SMPs) →			4.74	1.51	6,944	0
	Impervious Cover v Total Area v	okay okay				

Is this project subject to Chapter 10 of the NYS Design Manual (i.e. WQv is equal to post-development 1 year runoff volume)?..... No

Design Point: 1
 P= 1.20 inch
 Manually enter P, Total Area and Impervious Cover.

Breakdown of Subcatchments

Catchment Number	Total Area (Acres)	Impervious Area (Acres)	Percent Impervious %	Rv	WQv (ft ³)	Description
1	0.60	0.60	100%	0.95	2,467	Cistern-Rainbarrel
2	1.17	0.81	69%	0.67	3,414	Porous Pavement
3	0.18	0.00	0%	0.05	40	Porous Pavement
4	0.13	0.03	21%	0.24	133	Porous Pavement
5	1.78	0.00	0%	0.05	388	Conservation of Natural Areas
6	0.88	0.08	9%	0.13	503	Dry Swale
7						
8						
9						
10						
Subtotal (1-10)	4.74	1.51	32%	0.34	6,944	Subtotal 1
Total	4.74	1.51	32%	0.34	6,944	Initial WQv

0.16 af

Identify Runoff Reduction Techniques By Area

Technique	Total Contributing Area	Contributing Impervious Area	Notes
	(Acre)	(Acre)	
Conservation of Natural Areas	1.78	0.00	minimum 10,000 sf
Riparian Buffers	0.00	0.00	maximum contributing length 75 feet to 150 feet
Filter Strips	0.00	0.00	
Tree Planting	0.00	0.00	Up to 100 sf directly connected impervious area may be subtracted per
Total	1.78	0.00	

Recalculate WQv after application of Area Reduction Techniques

	Total Area (Acres)	Impervious Area (Acres)	Percent Impervious %	Runoff Coefficient Rv	WQv (ft ³)
"<<Initial WQv"	4.74	1.51	32%	0.34	6,944
Subtract Area	-1.78	0.00			
WQv adjusted after Area Reductions	2.96	1.51	51%	0.51	6,556
Disconnection of Rooftops		0.00			
Adjusted WQv after Area Reduction and Rooftop Disconnect	2.96	1.51	51%	0.51	6,556
WQv reduced by Area Reduction techniques					388

0.15 af

0.01 af

Proposed Pocket Pond WQv

WATER QUALITY VOLUME CALCULATION

90% Precipitation (P) (in.)	1.2
Drainage Area (ac)	2.39
Impervious Area (ac)	0.91
Imperviousness (%)	38.0
R_v	0.39
Water Quality Depth (in.)	0.47
WQv = Water Quality Volume (cf)	4,089

Proposed CPv

CHANNEL PROTECTION VOLUME CALCULATION

Drainage Area (ac)	2.39
1-year precipitation (in.)	3.0
Curve Number	64
Initial abstraction (Ia)	1.125
Ia / P	0.38
S (equals $5 \times I_a$)	5.63
T_c	0.06
qu from Exhibit 4-III, TR-55	546.68
qu / qo from Figure 8.5, NYSDEC Manual	0.033
Vs / Vr	0.64
Q (runoff depth) (in.)	0.47
Channel Protection Volume = Cpv (cf)	2,593
Average 24-hour release rate (cfs)	0.0300

Proposed Unit Peak Discharge (qu)

Unit Peak discharge (qu), csm/in

	A	B	C
C ₀	-1.774	0.3301	2.4577
C ₁	1.8622	-0.7397	-0.463
C ₂	-0.065	0.2276	-0.193
CN		64	
P		3	
Ia		1.13	
Tc		0.06	
Log Tc		-1.20	
Ratio		0.38	
C ₀		2.33	
C ₁			
C ₂			
qu			