FINDINGS

The Reserve at Poplar Plains
#IWW 6678-01

1. Applicant is requesting to construct a residential development consisting of thirty one (31) dwellings with associated site appurtenances. Also included, is the extension of water and sewer lines across wetlands and Poplar Plains Brook. Sewer will be provided by the City of Norwalk.

2. The total site area is 55.9 acres and approximately 36 acres (3.23+/- acres are ponds, 0.18+/- acres are ephemeral pools, 0.67+/- acres are vernal pools, 1.20+/- is Poplar Plains Brook, and 30.6 +/- acres are wetland communities = 35.9+/-acres of wetlands) are considered wetlands. Therefore, approximately 19.9 acres are considered uplands and 10.3 acres of upland are proposed to be developed in this proposal.

3. Applicant and property owner of this parcel is ARS Partners, LLC and their agent is Land Tech Consultants.

4. Westport Conservation Department contracted consultants to assist in review of this application are Milone & MacBroom, Engineering, Landscape Architecture and Environmental Science firm, hereafter referred to as (M&M) and Thomas Rochovanksy, Wildlife Biologist.

5. Setbacks determined for this property include the 35' Inland Wetlands & Watercourses Regulations (IWW) building setback, 25' IWW setback for elements such as roads, driveways, walls and a 15' IWW setback for the limit of grading, cutting and filling, from wetland boundaries. Also note, 25' IWW setback is not shown on Site Plans prepared by Land Tech Consultants, revision date 1/25/02.

6. Plans reviewed for this application include the following:

A) "The Reserve at Poplar Plains, Open Space Residential Community, Newtown Turnpike, Partrick Road, Westport, Connecticut" Site Plan, Details & Notes prepared by Land Tech Consultants, Roger Ferris & Partners LLC, Barkan & Mess Associates, Inc., scale 1"=40'-0", date 10/16/01, revision date 1/25/02, sheets 1-13.

B) "Existing & Proposed Conditions Watershed Boundaries" photogrammetry by Geomaps, 1"=40'-0", date 2/27/01, watersheds drawn by Land Tech Consultants.

C) "The Reserve at Poplar Plains, Westport, Connecticut, Environmental Report, prepared for ARS Partners, dated October 23, 2001, prepared by Land Tech Consultants.

D) "The Reserve at Poplar Plains, Open Space Residential Community, Newtown Turnpike, Partrick Road, Westport, Connecticut**"** Existing Natural Resources, Soils, Proposed Site Management Plan**,** prepared by

Land Tech Consultants, Roger Ferris & Partners LLC Architects, Barkan & Mess Associates, Inc. Traffic engineers, scale 1"=40'-0", date 10/16/01, sheet 1-13.

E) The Reserve at Poplar Plains, Hydrology Report, date October 16, 2001, prepared by Land Tech Consultants

F) The Reserve at Poplar Plains, Clustered Residential Community, Integrated Pest Management Plan (IPM) plan, prepared by Land Tech Consultants for ARS Partners, date January 25, 2002.

G) Hydrogeologic Assessment, The Reserve at Poplar Plains, date 11/21/01, prepared by Leggette, Brashears & Graham, Inc., professional groundwater and environmental engineering services.

7. Background Information**:**

A) IWW/M 6641-01 was adopted by the Conservation Commission on September 24, 2001. Wetland boundary was amended the property.

B) IWW/M 2925-89 was adopted by the Conservation Commission on 7/18/89 Wetland boundary was amended on property.

C) IWW 4214-91 was approved in part by the Conservation Commission on 8/6/91. 70 units proposed in application. Said resolution approved the construction of 25 residential units with conditions. These units were all outside the 35' IWW setback.

D) ACOE Permit CENAE-R-200101294, Connecticut Programmatic General Permit was obtained October 25, 2001.

8. Property is partially located within the aquifer/primary groundwater recharge zones. Units 20-31 are located within this area.

9. Property is located outside the aquifer/wellfield protection overlay zone.

10. Property is outside the Coastal Area Management zones.

11. Watercourse occurring on the property is identified as Poplar Plains Brook which is a tributary to the Saugatuck River.

12. The applicant has included in Appendix C of report entitled "The Reserve at Poplar Plains, Westport, Connecticut, Environmental Report," the Natural Diversity Database information obtained from the Environmental GIS Data of Connecticut, 2000 edition which shows that the subject property is not located within an area of concern.

13. Section 1.4 of the Regulations for the Preservation of Wetlands and Watercourses of Westport, Connecticut states "The preservation and protection of Wetlands and Watercourses from random unnecessary, undesirable and unregulated uses, disturbance or destruction is in the public interest and is essential to the health, welfare and safety of the citizens of Westport and the State. It is therefore the purpose of these Regulations to protect the citizens of Westport by making provisions for the care, preservation, maintenance, and

use of local Wetlands and Watercourses of Westport. This purpose can be met by:

A) Minimizing the disturbance and pollution of Wetlands and Watercourses;
B) Maintaining or improving water quality in accordance with the standards set by Federal, State or Local authority;
C) Preventing damage from erosion, turbidity or siltation;
D) Preventing loss of fish and other beneficial organisms, wildlife and vegetation;
E) Preventing the destruction of natural habitats;
F) Controlling discharges and runoff to deter and inhibit pollution and flooding;
G) Protecting the conservation, economic, recreational and aesthetic quality of Wetlands and Watercourses to maintain their public and private uses and values; and
H) Protecting potable fresh water supplies from the dangers of drought, overdraft, pollution, misuse and mismanagement."

14. Section 5.0, of the Regulations for the Preservation of Wetlands and Watercourses of Westport, Connecticut, hereafter referred to as "the Regulations" entitled "Criteria Considered by Commission" states, "In carrying out the purposes and policies of these Regulations and Sections 22a-36 to 22a-45, inclusive, of the Connecticut General Statutes, including matter relating to regulating, licensing and enforcing of the provision thereof, the Commission shall take into consideration all relevant facts and circumstances, including, but not limited to:

A) Environmental impact of the proposed regulated activity on Wetlands or Watercourses;
B) The applicant's purpose for, any feasible and prudent alternative to, the proposed regulated activity on Wetland or Watercourses an the maintenance and enhancement of long term productivity of such Wetlands and Watercourses;
C) Irreversible and irretrievable loss of Wetland or Watercourse resources which would be caused by the proposed regulated activity, including the extent to which such activity would foreclose a future ability to protect, enhance or restore such resource, and any mitigation measures which may be considered as a condition of issuing a permit for such activity including, but not limited to, measures to:
    1) Prevent or minimize pollution or other environmental damage;
    2) Maintain or enhance existing environmental quality; or
    3) In the following order of priority: restore, enhance, and create productive Wetland or Watercourse resources.
D) The character and degree of injury to, or interference with, safety, health or reasonable use of property which is caused or threatened by the proposed regulated activity;
E) Impacts of the proposed regulated activity on Wetlands or Watercourses outside the area for which the activity is proposed and future activities associated with, or reasonably related to, the proposed

regulated activity and which may have an impact on Wetlands or Watercourses; and

F) The relationship between the short term and long-term impacts of the proposed regulated activity on Wetland or Watercourses and the maintenance and enhancement of long-term productivity of such Wetlands or Watercourses;

G) The degree to which the proposed activity is consistent with all applicable goals and policies set forth in Section 1.3 of these Regulations and Section 22a-36 of the Connecticut General Statutes, as amended."

15. Section 9.3 of the Regulations for the Protection and Preservation of Wetlands & Watercourses Westport, Connecticut, states the following: " Any person wishing to carry out a proposed activity or use on the property containing regulated areas……shall seek a Declaratory Ruling from the Conservation Commission."

16. The State of Connecticut Department of Environmental Protection prepared a document entitled " Guidelines, Upland Review Area Regulations, Connecticut's Inland Wetlands & Watercourses Act, June 1997, Wetlands Management Section, Bureau of Water Management. The document states, "The relationship between a wetland or watercourse and its surrounding upland is complex. Upland land clearing, excavating, filling and other construction activities, if not properly planned and executed can have significant impacts on adjacent wetlands and watercourses. Under the Inland Wetlands and Watercourses Act, the municipal wetlands agency has broad authority to issue permits not only for activities in wetlands or watercourses themselves, but for activities located elsewhere when such activities are likely to impact or affect wetlands or watercourses. It is the Department's policy to encourage municipal wetland agencies to review proposed activities located in upland areas surrounding wetlands and watercourses where ever such activities are likely to impact or affect wetlands or watercourses."….. "While requiring a permit for specified activities within defined upland review boundaries, these wetland agencies still maintain their authority to regulate proposed activities located **in more distant upland areas if they find that the activities are likely to impact or affect a wetland or watercourse**."

Evidence has been submitted into the record that indicate the need for additional uplands on this property:

A) Letter dated 1/28/02, last paragraphs by T. Rochovansky indicates the following:

"Loss of uplands: My previously stated concerns for the loss of the critical upland component to the adjacent wetland systems continues with the new plan. The loss of this habitat and connective wildlife corridors will have a deleterious impact on wildlife and the diversity of the site. The large areas of undisturbed habitat are wetland areas, and very little upland habitat is preserved or accessible on this plan.

<u>Setbacks:</u> I continue to believe that the proposed setbacks in this plan are not adequate to reduce impacts to wildlife and aquatic systems. Fifty to seventy five feet of totally undisturbed, naturally vegetated wetland setbacks and buffers throughout the project would be best. Reducing the number of units, removing all disturbance in wetland areas, and sticking to a more appropriate setback distance would go a long way in addressing the concerns for maintaining habitat quality."

B) Letter dated 2/2/02, 2nd paragraph, page 4, by T. Rochovansky, indicates the following: "*As areas dry out with seasonal changes, species such as amphibians may relocate in nearby yet not contiguous wetlands, and* ***proposed development will have a significant impact*** *on the continued survival of these species."*

17. The current application proposes 31 single family dwelling units with associated site improvements including the crossing of wetlands and Poplar Plains Brook with extended sewer and water lines. Letter dated 1/11/02, by Land Tech Consultants indicates 0.35 acres of wetland loss. Environmental report dated October, 2001 indicates 1.14 acres of impact within wetland limits. The following summarizes the **regulated activities** pursuant to the Inland Wetlands and Watercourses Regulations in this application as shown on the plans entitled "Site Plan" revision date 1/25/02:

A) Proposed entry road from Newtown Tpke is within the 25' setback of wetlands and vernal pool 2.
B) A stormwater retention area is proposed within wetland I in between vernal pool 2 and vernal pool 1B.
C) Proposed road crosses wetland II
D) Proposed grading within the 15' IWW setback of vernal pool 2 and wetland I.
E) Sewer line is proposed within Poplar Plains Brook, wetland IX and the associated 15' IWW setback and the 25' IWW setback
F) Sewer line is proposed within the 15' IWW setback of wetland VII. Infiltrator and stormwater discharge outlet with associated plunge pool is proposed inside the 15' IWW setback.
G) 3 units, Unit 21, 24, and 28 are proposed within wetland limits.
H) 3 units, Unit 29, 12 and 20 are proposed within the 35' IWW setback.
I) Driveways to unit 23 and 31 are shown within the 25'IWW setback.
J) Sewer line encroachments within IWW setbacks behind Units 16-19 (wetland II) and units 5-8 (wetland VII) and near Unit 24 and 23 (wetland IX).
K) Grading within the 15' IWW setback is proposed adjacent to wetland I, II, VII & IX.
L) Stormwater discharge outlets for roof drains and footing drains are shown to discharge within the 15' IWW setback or directly in wetlands in several instances throughout design. Methods to reduce water velocities are not indicated in many cases.
M) Several pump stations are proposed within the 25' IWW setback.

N) The utility line for sewer is located between wetland VII and VIII and ultimately crosses “wetland IX”. It is located in portions of 15’ IWW setback of wetland VIII and XI.

O) The sewer force main is located within the 15’ IWW setback of wetland IX. Construction for the installation along 15’ IWW setback boundary will impact vegetation within the 15’ IWW setback.

P) Fishing platform within wetland III, not labeled on plans. Trail creation and maintenance is proposed within wetland limits, also not labeled on plans. However, these items are discussed in the environmental report, dated October 23, 2001, prepared by Land Tech Consultants. Applicant has indicated during public hearing testimony that trails are no longer proposed as part of this application.

18. Soil Description: As determined through the wetland amendment process, the soils existing in this area are described as Raypol silt loam (Rb) and Adrian muck (Aa). The Fairfield County Soil Survey describes these wetland soils as follows: Adrian muck (Aa): This nearly level, very poorly drained soil is found on plains and terraces. It has a water table at the surface most of the year, and water is commonly ponded on the surface from fall to early summer. The permeability of the soil is rapid in the surface layer and substratum. Runoff is very slow, and available water capacity is high. Most areas of this soil are wooded or covered by marshgrasses and sedges. A few small scattered areas have been filled and are used for community development. The major limitations of this soil for community development are the high water table, ponding and the instability of the organic layer. Most areas require drainage, but the organic layer shrinks and subsides when drained and many areas don’t have drainage outlets. The use of on-site septic systems in this soil requires extensive filling and special design and installation. Wetness and ponding make it unsuitable for cultivated crops and poorly suited to commercial timber production.

Raypol silt loam (Rb): This soil type is nearly level, poorly drained soil found in depressions, on plains and terraces. Included in this unit are small areas of moderately well drained Ninigret soils, poorly drained Walpole soils, and very poorly drained Saco and Scarboro soils. The Raypol soil has a seasonal high water table at a depth of 6 inches from fall until late spring. The permeability of the soil is moderate in the surface layer and subsoil, and rapid or very rapid in the substratum. Runoff is slow, and available water capacity is moderate. The soil dries out and warms up slowly in spring. Most areas of this soil type are wooded. The seasonal high water table and rapid permeability in the substratum limit this soil for community development. Groundwater pollution is a hazard in areas used for on-site septic systems. Excavations in the soil area commonly fillwith water, and many areas do not have drainage outlets. Quickly establishing plant cover and using siltation basins help to control erosion and sedimentation during construction. The soil is poorly suited for trees due to the high water table which restricts root growth. As a result, many trees are uprooted during windy periods.

19. 6.0 STANDARDS OF REVIEW

In accordance with the purposes of these Regulations, pursuant to Section 1.3, the Commission shall apply relevant standards including, but not limited to, the following:

6.1 GENERAL STANDARDS:

In order to determine that an activity will not have significant impact or major effect on the general character of Wetlands and Watercourses the Commission shall, as applicable, find that:

A) The disturbance and pollution of Wetlands and Watercourses will be minimized;
B) The height, width and length of structures will be limited to the minimum dimension necessary to accomplish the intended function;
C) Loss of fish and other beneficial organisms, wildlife and vegetation will be prevented;
D) Potable fresh water supplies will be protected from the dangers of drought, overdraft, pollution, misuse and/or mismanagement;
E) The conservation, economic, recreational and aesthetic qualities of Wetlands and Watercourse will be maintained.

The proposed foot print of the single family dwellings range between approximately 2,200-2400 sf (not including garages).The Commission finds that the construction of smaller homes in some areas, as set forth below, is a prudent and feasible alternative which will decrease environmental impacts as wetlands and watercourses are protected pursuant to Section 5.1 (b), 6.0-6.6 and 1.4 a),b), c), d), e) and f) of the Inland Wetlands and Watercourses Regulations.

Current proposal includes portions of development within wetland limits, within the 25' IWW setback as well as grading and other alterations within the 15' IWW setback. The applicant has documented several alternatives that indicate fewer units, smaller buildings, and fewer encroachments that would result in less environmental impact on this property. The listed alternatives, submitted by the applicant on November 19 and 20, 2001 are as follows:

1) "A" 22 buildings/44 units, multifamily homes w/ att garages, 2400+/- SF (first fl)
2) "B" 26 bldgs. With detached garages, 1225 +/- SF (first fl)
3) "C"29 bldgs, mixed att and det garages, 1225+/- SF(first fl)
4) "D"29 bldgs, 1225+/- SF(first fl)
5) "E" 29 bldgs, 1800-2000+/- SF(first fl)
6) "F"24 bldgs, 1600-1750 +/- SF((first fl)
7) "G" 29 bldgs, 1800-2000+/- SF(first fl)
8) "H" 31 bldgs, 1800-2000+/- SF(first fl)
9) "I"35 bldgs, 2000-3000+/- SF(first fl)
10) "J"30 bldgs, 5600-8000+/- SF(first fl)
11) "K"16 bldgs with septic, 3200 sf +/- first floor

Therefore, the Commission finds that it is reasonable to reduce the size of units in some areas as set forth below..

Proposal of Sanitary Sewers

Originally, applicant proposed a 35' width of disturbance within mature, wooded floodplain swamp for the installation of the sewer by traditional methods of "cut, trench and fill." Given the properties of the unstable wetland soil, excavation to install the sewer line would need special considerations. No details were submitted indicating special considerations. After the line was installed fill would be placed over the force main and compacted. Access to these lines would be necessary in the case of a blockage, breakage and or general maintenance. Plans indicated other utilities, such as public water, to be located in the same vicinity (10' apart). A vehicle would need to access this area on a regular basis. Therefore, through the installation of compacted fill, subsurface flow may be impacted and diversion of water flows may result. During construction, water quality may also be degraded due to excess sedimentation and erosion. Vegetation would need to be removed where the utilities were proposed. This impacts wildlife by removing breeding, shelter and foraging resources. Erosion and sedimentation is incurred by the removal of soil stabilizing roots and use of heavy machinery. The Commission finds this to significantly impact wetland and watercourses pursuant to sections 5.0 and 6.0-6.5 of the Regulations.

During the public hearing process, the applicant revised plans to indicate "directional drilling" methods to install the sewer and water line. This methodology was chosen to reduce environmental impact on Poplar Plains Brook. Details of this methodology have not been submitted to date except for a brochure entitled "Horizontal Remediation Wells" prepared by Directional Technologies, Inc. who performs this service. The staging areas are not shown on the plans where the majority of impact will take place as several pieces of heavy equipment are needed to perform the task. Testing to determine whether this method of installation is feasible on this property has not been verified.t. Staging areas and access routes may present erosion and sedimentation impacts to the wetland that may affect water quality and wildlife habitat. The Commission finds that the applicant is to provide documentation indicating soil boring results to determine whether directional drilling is feasible. If this methodology is not feasible then this approval becomes null and void. Bridgeport Hydraulic Company has given preliminary approval to employ "directional drilling" methods to install water line.

Breaks in the sewer line and or blockages causing effluent spillage will be a Health and Public Safety issue as well as a significant impact to wetlands and watercourses as they are protected pursuant to section 6.0-6.5. During the public hearing the applicant has indicated that the sewer line will be equipped with alarm systems to signify blockages and leaks occurring within the sewer lines and associated pump stations. In addition, a 6" sewer line encasing will be constructed around the force main to capture any leakages beneath Poplar

Plains Brook. The Commission finds that alarm systems and 6" encasing for the sewer system are required as a protective measure of the wetland systems.

In addition, the Commission finds the current location of the sewer line and staging area, between wetland VII, VIII, IX and XI will significantly impact wetlands and watercourses during and post construction. Therefore, the Commission finds relocating the sewer line crossing southwest of wetlands VII and southeast of wetland XI will pose less environmental impact than the current location. The Commission finds that the location of staging areas are to be outside wetland limits and setbacks and are to be accessible from the uplands so as to pose the least environmental impact. Impacts associated with construction such as grading and filling, etc., significantly impact the wetland by presenting erosion and sedimentation issues. Sedimentation negatively affects vegetation and degrades water quality, wildlife and the ability for the wetland to function. The removal of vegetation within regulated reduces breeding, nesting and foraging resources for wildlife. Furthermore, access routes and staging areas with protective measures such as erosion controls and tree protection devices will minimize wetland impacts during implementation. The current plan indicates a water line and sewer line 10' apart which is also to be reviewed and approved by the Health Department.

The Commission finds that sewer lines adjacent to wetland I and wetland VII, and IX located within 25' IWW setback may significantly impact wetlands pursuant to sections 6.0-6.5. The Commission finds that it is a feasible and prudent alternative to locate sewer lines to the front of the houses located in these areas. The exception to this includes the main sewer access and wetland crossing to access the site located in Road A.

1) Letter dated 12/21/02 from M&M indicates "*Units 16-19 have sanitary sewer lines at the rear, along the wetland boundary including vernal pool 1A. This is a forced main line and perhaps could be relocated along the roadway with the water main. This would reduce risks to wetlands from construction, inadvertent alterations to hydrology due to trenching, operational upsets, repairs and invasive species. Roof drains are directed toward wetlands. What about foundation/basement drains which are more likely to contain pollutants/nutrients. Uplands here are young forest linking the vernal pools and pond. The area appears to be very good wildlife habitat, necessary to amphibians and reptiles on the site,especially in the corridor near Unit 19. Secondary impacts from homesite development are the major threat to the wetlands…..VP1A is very open to view and is a very convenient dumping ground for nearby units. It again appears likely that landscaping will be up to the 10-15' planted hedgerow. This is far less than the 100 feet suggested by CT DEP as mentioned earlier."*

2) Letter dated 12/21/02 from M&M page 2, indicate "*Vernal pools need not dry up in all years to function successfully within a landscape mosiac.The pools only be fish free or low enough in predators to allow life cycles to be successfully completed. For example, ponds 3,4 and 8 were noted to contain obligate or faculative vernal pool species, yet they were excluded from the vernal pool inventory presumbably because they do not dry up in most years due to isolation ,blockage or predation. It is thought that sometimes 'decoy' pools develop and may hinder the dynamics of a population but that is not clear in this case and the evidence of breeding by obligate species should not be discounted."* This letter indicates the possibility that pond 4 is a vernal pool. In addition, the sewer line is within the IWW wetland setback . The Commission finds that the modification of the the plan by relocating sewer lines on the opposite side of the house is a feasible and prudent alternative, in an effort to decrease environmental impact that may result from construction, such as inadvertent alterations to hydrology due to trenching, operational upsets, repairs and invasive species..

Pump stations

The installation of a pump station requires excavation. Such installation may incur erosion and sedimentation within wetland limits. The Commission finds that all pump stations located within the 25' IWW setback will significantly impact wetlands due to the depth and size of structure pursuant to sections 6.0-6.5. The Commission finds that it is feasible to locate all pump stations outside 25' IWW setback.

20. Location of Wells

Units 31 and 30 are to be serviced by a well. The Commission finds that the construction of a well presents a significant impact to wetlands and watercourses pursuant to section 6.0-6.5. The construction of a well requires excavation and heavy machinery. Erosion and sedimentation are a possible result without proper precautions during installation. The Commission finds that it is feasible to locate the wells outside the 25' IWW setback. This will decrease environmental impact and will provide wells to be accessible during routine maintenance without causing additional impact within wetland setbacks in the short and long term of this project development.

21. Uplands

The Commission finds substantial evidence has been submitted into the record that supports the need for larger undisturbed, vegetative buffers to protect wetland/water resources by filtering pollutants, reducing effects of erosion and sedimentation during construction, providing aquifer recharge and providing adequate upland habitat for wetland dependent wildlife. To meet the above objectives, the Commission has required the following deletion of units within the uplands and modifications to the plans:

A) The construction of Units 2, 16 and 23 will significantly impact wetlands and watercourses pursuant to Sections 6.0-6.7 Standard of Review. Town of Westport contracted professionals substantiate the above:

1) Letter dated 12/21/01, from M&M Page 10, paragraph 2, item 6., indicates the following*: "Units 23 and 24 are proposed in the wooded upland peninsula within the floodplain swamp. As stated earlier, upland habitat adjoining floodplain areas provides essential shelter for wildlife among other wetland values. This finger of upland averages barely over 100' in width and floodplain forest and is similarly dominated by red maple. In addition, the shrub layer consists of berry producing species utilized by wildlife. A comparison of the vegetation survey plots (I-1 and I-2) demonstrates the relationship. In fact the dominant species at I-2 (upland plot) are indicative of hydrophytic vegetation. Loss of this habitat will impact wetland dependent wildlife in the area. As elsewhere in the development, landscaping appears slated to continue the wetland edge with attendant indirect impacts described earlier."*

2) Letter dated 12/21/01, page 9, paragraph 5 from M&M indicates*: "Homesite 16 is proposed in the wooded upland associated with the vernal pool and pond complex along the western property line. This corridor appears to be especially useful to wildlife. The secondary impacts from homesite development up to the wetland boundary are as noted for other sites…..Discharge via riprap into the wetland without other treatment introduces roadway pollutants which negatively impact the wetland's ability to attenuate water quality."*

3) Letter dated 2/5/02, by M&M page 2., item 10., indicates the following*: "the proposed building 23 and its long driveway disturb about 500 linear feet of wetland perimeter with virtually no buffer zone between the regraded areas and the wetland. This site, on a very low narrow upland, forms a peninsula into the main wetland mass and tends to fragment it, plus it interferes with the utility crossing.* ***We recommend that the Town consider deleting this unit due to its wetland impact."***

4) Letter dated 2/5/02 from M&M indicates the following: *"We recommend that building 2 not be permitted in its present location as it is literally surrounded by water/wetlands on four sides and disturbs the riparian zone at ponds 1,2, and 3."*

B) For Units 1,3, and 4 the application is modified in the following respects: These homes are to be relocated so that they are at least 45 feet from

wetland limits, similar to a 45' setback, such distance being necessary to eliminate significant impact of these homes on wetlands. Also a 25 foot vegetative buffer is required for the wetlands surrounding these homes in order to eliminate significant impact of these homes on the wetlands. Outside consultants have submitted evidence into the record that substantiates the need for a larger buffer and setback in this area. The purpose of these buffers is to: 1) provide additional stormwater runoff filtration area that will improve water quality prior to discharge into wetland 2) reduce construction impacts on wetlands systems by reducing erosion and sedimentation impacts in wetlands and or waterbodies 3) decrease the amount of vegetation to be removed in close proximity to wetlands thereby maintaining a cooler microclimate which allows for higher oxygen levels in water 4)reduce water velocities from stormwater runoff prior to discharge into wetlands and or waterbodies which allows vegetation to absorb some non-point pollutants such as fertilizers or herbicides that may otherwise discharge into wetlands/waterbodies 5) provide slower water velocities which allow more water to infiltrate into the soil, improving groundwater recharge functions and water quality improvement functions 6)provide upland habitat needed for wetland dependent wildlife (especially vernal pools). The following information has been submitted into the record by consultants:

1) Letter dated 12/21/01, page 8, paragraph 4 prepared by M&M indicates the following*: "Homesites #1, #2, #3, and #4 are sited well within the CT DEP recommended 100' undisturbed buffer area for riparian corridors…..Direct and indirect impacts to wetlands associated with homesite development are well documented: clearing and grubbing, excavation, filling, utility trenches, stockpiles, staging areas, erosion and sedimentation, wind blown debris, basement, footing and roof drains, runoff from paving, non-point pollution, dumping, habitat fragmentation, nuisance pets, etc.* ***The proffered 15' of "native shrub planting envelope" will not satisfactorily protect wetlands and watercourse from these threats including runoff of nutrients and pesticides associated with homesites****……Wetland dependent wildlife needs access to upland areas for a variety of reasons. At times of flooding the upland components area essential as refuges for wildlife. Upland buffers filter pollutants and trap sediments prior to deposition in wetlands….Due to the prior extensive site work and lack of renovation at the time of closure, this site may not provide exemplary buffering……The limit of disturbance shown on the plans may not completely reflect the full build condition. For example, the architectural renderings provided show no pools,….swing sets, horseshoe pits, gardens, compost bins*

etc. These normal accoutrements will further infringe into the buffer areas of the wetlands and watercourses."

2) Letter 2/5/02 from M&M, item2c) indicates, "*we recommend that building 4 be relocated farther from pond 4 or eliminated. This small, enclosed pond is poorly suited to receiving storm runoff or being partially encircled*."

3) Letter dated 12/21/02 from M&M page 2 indicates the possibility that Pond 3 may be considered a vernal pool because of documentation of vernal pool species found.

C) For Units 7,8,9, 10 and 11 the application is modified in the following respects: These homes are to be relocated so that they are at least 45 feet from wetland limits, similar to a 45' setback, such distance being necessary to eliminate significant impact of these homes on wetlands. Also a 25 foot vegetative buffer is required for the wetlands surrounding these homes in order to eliminate significant impact of these homes on the wetlands. Evidence has been submitted into the record that substantiates the need for a larger buffer and setback in this area. These homes are located adjacent to Pond #4 or wetland VII. The following information has been submitted into the record by consultants and staff:

1) Letter dated 2/2/02 from T.Rochovansky, page 1 indicates, "*an eastern hognose snake (Species of Special Concern as listed by the Department of Environmental Protection)) was found approximately fifty to sixty feet west of pond #4. Meadow horsetails (Species of Special Concern as listed by the Department of Environmental Protection) were found in an area just north of pond #4 close to the northern shore*."

2) Letter dated 12/21/02 from M&M page 2 indicates the possibility that Pond 4 may be considered a vernal pool because of documentation of faculative and obligate vernal pool species found. Vernal pool species, such as the salamander, require large areas of adjacent forest to support the entire life cycle of obligate vernal pool species (See Third Staff Report, dated January 31, 2002 for further information relating to guidelines for vernal pool protection).

3) Evidence has been submitted into the record that substantiates the need for a larger vegetative buffer in this area. Additional vegetative buffer will reduce environmental impact to the wetlands by providing the following functions: The purpose of these buffers is to: 1) provide additional stormwater runoff filtration area that will improve water quality prior to discharge into wetland 2) reduce construction impacts on wetlands systems by reducing erosion and sedimentation

impacts in wetlands and or waterbodies 3) decrease the amount of vegetation to be removed in close proximity to wetlands thereby maintaining a cooler microclimate which allows for higher oxygen levels in water 4)reduce water velocities from stormwater runoff prior to discharge into wetlands and or waterbodies which allows vegetation to absorb some non-point pollutants such as fertilizers or herbicides that may otherwise discharge into wetlands/waterbodies 5) provide slower water velocities which allow more water to infiltrate into the soil, improving groundwater recharge functions and water quality improvement functions 6)provide upland habitat needed for wetland dependent wildlife (especially vernal pools).

4) Letter dated from T. Rochovansky, dated 1/28/02, indicates the following: " *I continue to believe that the proposed setbacks in this plan are not adequate to reduce impacts to wildlife and aquatic systems. Fifty to seventy five of totally undisturbed, naturally vegetative wetland setbacks and buffers throughout the project would be best*."

D) For Units 20,21, 26 and 27 the application is modified in the following respects: These homes are to be relocated so that they are at least 45 feet from wetland limits, similar to a 45' setback, such distance being necessary to eliminate significant impact of these homes on wetlands. Evidence has been submitted into the record that substantiates the need for a larger buffer and setback. Also a 25 foot vegetative buffer is required for the wetlands surrounding these homes in order to eliminate significant impact of these homes on the wetlands.

1) Said units are located over an aquifer. Pursuant to section 7.6 "if the wetlands or watercourses are located on an aquifer, a setback of 100'/85' may be required." By locating units further from wetland limits and by providing a large vegetative buffer more area of filtration is provided thereby improving water quality prior to discharge into wetlands.

2) The applicant has located infiltrators adjacent to the 15' IWW setback. Pursuant to section 7.6 "if the wetlands or watercourses are located on an aquifer, a setback of 100'/85' may be required." Because this is within a groundwater recharge area, relocating the infiltrators further from wetland limits will provide additional natural filtration area and therefore, improve water quality prior to discharge into wetland limits.

3) The applicant has submitted an Integrated Pest Management Plan to manage the use of fertilizers and pesticides on site,

thus controlling pollutants entering wetlands and the aquifer. However, Town of Westport consultant, Tom Rochovansky indicates his concern in a letter dated 2/2/02 by the following "*After reading the Integrated Pest Management Plan, I am deeply concerned with the use of fertilizers on site, especially considering the inadequate setbacks proposed."*

4) A larger buffer: 1) reduces construction impacts on the wetland system by reducing erosion and sedimentation impacts 2) decreases the amount of vegetation to be removed in close proximity to wetlands and therefore a cooler microclimate is maintained which allows for higher oxygen levels in water and 3) provides a larger filtration area which improves water quality as vegetation absorbs excess nutrients that may exist in stormwater runoff. 4)) reduces water velocities from stormwater runoff which thereby decreases sediment load and common pollutants attached to sediments. 6) slows water velocity which allows more time for water to infiltrate through vegetation and infiltrate into the ground which recharges groundwater. Allowing vegetation and soil to naturally treat stormwater runoff in a larger buffer ultimately improves water quality in the aquifer and in the wetland. This is especially pertinent because these units are located within groundwater recharge areas.

E) For Units 17,18 and 19 the application is modified in the following respects: These homes are to be relocated so that they are at least 45 feet from wetland limits, similar to a 45' setback, such distance being necessary to eliminate significant impact of these homes on wetlands. Also a 25 foot vegetative buffer is required for the wetlands surrounding these homes in order to eliminate significant impact of these homes on the wetlands. Evidence has been submitted into the record that substantiates the need for a larger buffer and setback in this area. These homes are located adjacent wetland I . Units 17,18,19 are in close proximity to vernal pool 1A located in wetland I.

1) A larger vegetative buffer provides more upland habitat that is necessary for vernal pool species.

2) Letter dated 12/21/01 from M&M, page 10 indicates *"Uplands here are young forest linking the vernal pools and ponds. The area appears to be very good wildlife habitat, necessary to amphibians and reptiles on the site, especially near Unit 19. Secondary impacts from homesite development are a major threat to wetlands…..VP-1A is very open to view and is a very convenient dumping ground for nearby units. It again appears likely that landscaping will be up to the 10-15' planted hedgerow. This is far less than the 100' suggested by CT DEP as mentioned earlier."*

3) The purpose of these buffers is to: 1) provide additional stormwater runoff filtration area that will improve water quality prior to discharge into wetland 2) reduce construction impacts on wetlands systems by reducing erosion and sedimentation impacts in wetlands and or waterbodies 3) decrease the amount of vegetation to be removed in close proximity to wetlands thereby maintaining a cooler microclimate which allows for higher oxygen levels in water 4)reduce water velocities from stormwater runoff prior to discharge into wetlands and or waterbodies which allows vegetation to absorb some non-point pollutants such as fertilizers or herbicides that may otherwise discharge into wetlands/waterbodies 5) provide slower water velocities which allow more water to infiltrate into the soil, improving groundwater recharge functions and water quality improvement functions 6)provide upland habitat needed for wetland dependent wildlife (especially vernal pools).

22. Units located within wetlands X, XI, XII and XIII

The Commission finds filling wetlands X, XI, and XIII for the purposes of constructing Units 28, 29, 24, &12 will significantly impact wetlands pursuant to sections 5.0, 6.0-6.5. Further evidence submitted into the record substantiates this decision.

a) Information submitted by (M&M) letter dated 12/21/02, page 4, paragraph 5, indicates the following "*Unit 12 is far from the central development area. It (the wetland) would be more accurately described as being part of the Vernal Pool 3, ponds 4 and 7 and riparian corridor network."* This would indicate that construction of Unit 12 would adversely impact Vernal Pool 3, pond 4 and pond 7 network.

b) Information has been submitted by (M&M) letter dated 2/5/02, item 2a) which indicates the following: *"**We recommend that no buildings be constructed directly over wetlands** or watercourses, including vernal pools."*

c) And letter dated, 12/21/01, from M&M page 4, paragraph 6, indicates *"Wetland XI is slated for filling to construct unit 24. Although its present Functions and Values are rated as limited, **it is located in the midst of the important upland peninsula surrounded by the mature wetland floodplain swamp. Reconfiguration of the units in this area could easily avoid filling this wetland."***

d) And letter dated, 12/21/01, by M&M, page 4, paragraph 8, and page 5, paragraph 1, indicates the following "*Approximately one half of Wetland Unit XIII will be filled according to the development proposal to permit the construction of unit 28. Apart from habitat loss, the reduction of area reduces this wetlands capacity to perform useful functions related to*

stormwater attenuation including nutrient retention, sediment trapping and groundwater recharge….Presently, the wetland supports a mature vegetative community with a well developed canopy of red maples and a think understory of elm, spicebush and alder. It has good primary productivity and it is located just over 100' from the forested riparian corridor along the brook. Wildlife can easily traverse this distance. ***Avoidance of these wetland impacts is easily accomplished."***

e) It is feasible and a prudent alternative to locate Unit 29 outside the 35' IWW setback which will reduce environmental impact pursuant to section 6.0 –6.5.

The Commission finds that filling Wetland XII (approximately 2,700 sf) will not significantly impact the general character of wetlands and watercourses as they are regulated pursuant to 6.0-6.7 Standards of Review. Information has been submitted by the Town of Westport contracted consultant, Milone & MacBroom (M&M) letter dated 12/21/02, page 4, 7th paragraph, "*Wetland XII has very limited functions and values and is slated to be filled to allow construction of Unit 21. Although its loss could be avoided, wetland compensation seems a suitable alternative to permit development here."*

Road Construction

A road is proposed through a portion of wetland I, crosses wetland II and crosses wetland II a second time to access units 2,3 and 4. The Commission finds the crossing of wetland I and II is the only feasible alternative to accessing the site. Provided proper erosion controls are used, area is stabilized with vegetation, catch basins and all other associated best management structures (stormgate unit) are maintained, and the road be built without a curb, the Commission finds the access acceptable in this location. However, access to units 2, 3 and 4 are to be modified to be located outside the 25' IWW setback. The Commission finds that it is feasible to relocate the road to the units so that it is located 25' from the wetland limit. This modification is necessary to eliminate significant impact on the wetlands in this area.. In addition the Commission finds that the road shall not have curbs and be constructed with gravel to allow water to filter into the ground and wildlife passage between wetland areas.

The Commission finds the proposed driveway to access unit 23 and associated grading within the 15' IWW setback of IX will significantly impact wetlands and watercourses pursuant to section 6.0-6.6. Wetland IX is considered the most valuable wetland by the applicant, therefore, a protective buffer is essential to protecting the resource. Impacts associated with construction such as grading and filling etc significantly impact the wetland by presenting erosion and sedimentation issues. Sedimentation negatively affects vegetation and degrades water quality, wildlife and the ability for the wetland to function.

The Commission finds the proposed driveway to access unit 31 partially located within the 25' IWW setback does not significantly impact wetlands provided it is constructed with gravel to allow appropriate filtration into the ground.

23. **6.2 WATER QUALITY:**

In order to determine that an activity will not have significant impact or major effect on water quality in Wetlands and Watercourses, the Commission shall, as applicable, find that:

A) Flushing rates, freshwater sources, existing basin characteristics and channel contours will not be adversely altered;
B) Water stagnation will neither be contributed to nor caused;
C) Water pollution which will unduly affect the fauna, flora, physical or chemical nature of the regulated area, or the propagation and habitats of fish and wildlife, will not result;
D) Pollution of the ground water or a significant aquifer will not result;
E) All applicable state and local health codes shall be met;
F) Water quality will be maintained or improved in accordance with the standards set by federal, state, and local authority including Section 25-54(e) of the Connecticut General Statutes.

Effect of the Adjacent Landfill Activity on Groundwater Quality

The Hopkins Environmental Management, Inc. report dated June 3, 1999 documents the results of a phase II environmental site assessment of the property conducted for the Federal Deposit Insurance Corporation. The report describes the property as follows:

> "The subject site is a former sand and gravel operation in Westport, Connecticut. The site is abutted by a former municipal landfill operated by the Town of Westport. Potential environmental concerns included:
> - the abutting landfill,
> - approximately 10,000 tires discarded on-site, and
> - potential soil and/or groundwater contamination from the previous use of the abutting landfill."

The HEM report concluded the following:

"No VOCs {volative organic compound] or PAHs [polynuclear aromatic hydrocarbons]were detected in the soil samples. All TPH [total petroleum hydrocarbon] concentrations were below the soil remediation criteria. The only compound detected in concentrations above the soil remediation criteria was arsenic. The arsenic concentrations in two soil samples collected in the vicinity of the tire pile…exceeded the Residential Direct Exposure Criteria of 10mg/kg. Based on these concentrations remedial actions would be necessary to comply with the Remediation Standard Regulations. HEM cannot determine the source of the elevated arsenic concentrations in these samples."

"*No TPH was detected in the groundwater samples. The only PAH detected in the groundwater was naphthalene at 44 ug/L in GW-8. This is below the Groundwater Protection Criteria (280 ug/L)*."

"*Several VOCs were detected in three groundwater samples. The locations of these samples are all within fifty feet of the abutting landfill. With the exception of benzene in one groundwater sample (GW-8 at 5.4 ug/L), all VOCs are below their respective criteria*."

"*The benzene concentration in GW-8 exceeds the Groundwater Protection Criteria (1.0 ug/L. HEM assumes that the VOCs in these samples migrated onto the subject site from the adjacent landfill*."

"*Ammonia, nitrate and nitrite were detected in several groundwater samples. Only one groundwater sample, GW-8, appeared to have elevated nitrogen concentrations. Ammonia, nitrate and nitrite are typical constituents of landfill leachate. The nitrate concentration in GW-8 (17 mg/L) exceeds the MCL [maximum contaminant level] for nitrate in drinking water (10 mg/L).*"

"*The presence of benzene, other VOCs and nitrates in GW-8 indicates that the groundwater immediately adjacent to the landfill has been impacted by leachate. However, the impacts appear to be minimal. The impacted area appears to be limited in extent and the magnitude of the exceedances is minimal. In our opinion, it is unlikely that the presence of VOCs and nitrates would restrict the use of the site or that groundwater remediation actions would be required. There is no indication that on-site releases contributed to the groundwater contamination."*

The Hopkins report concluded, "*In our opinion, the groundwater impacts are minimal and are associated with historic landfilling activities on the abutting property. In our opinion, the associated risk to the site owner is low. No additional groundwater investigation is recommended at this time.*"

In addition, "*HEM recommends additional investigation in the area of the tire piles to further characterize the extent and magnitude of arsenic contamination in surface soils. HEM recommends taking approximately ten additional soil samples from the surface to a depth of two to three feet and analyzing them for total and SPLP arsenic [synthetic precipitation leaching procedure]."* Letter dated 12/13/01 from the applicant states that additional soil samples were taken to determine extent of arsenic in the soil. Written verification was submitted by the applicant confirming that contaminated soil has been removed from the site and no longer exposes the public to deleterious effects from arsenic. Specifically, documentation was submitted which verifies 238.25 tons of arsenic-laden soil was removed from the site and disposed of in the Branford, CT disposal site in the summer of 2001. Furthermore, the tire pile was removed from the site by the applicant.

The Commission's condition to eliminate Unit 16 and prohibit basements for Units 17-19 reduces the amount of blasting in the area of the tire pile, thus further reducing the possibility of exposing contaminants. However, as testimony reveals, some of the other elements found in the ground either occur naturally or do not occur in quantities that are of significant concern.

The site is underlain by a coarse grained stratified drift aquifer rated as "GA" by the DEP publication "Water Quality Standards and Criteria for the Southwest Coast River Basin" and may be suitable for drinking water without treatment.

Applicant proposes that water quality is protected through the use of the Integrated Pest Management plan that limits usage of fertilizers and pesticides within residential areas, use of vegetative swales, infiltrators, plunge pools, and Best Management Practices (BMP's) in combination with the vegetated 15' IWW setback.

The applicant has submitted into the record via a letter dated 1/11/02, page 8, a study by Madison, et al. (1992) which examined the ability of grass vegetated buffer strips to reduce ammonia, nitrate and orthophosphate from two simulated storm events. They found that a 15' wide grassy buffer strip trapped approximately 90 percent of each of these nutrients. (*Madison, C.E., R.L.Bevins, W.W. Frye, and B.J. Barfield.1992. Tillage and grass filter strip effects upon sediment and chemical losses. In Agronomy Abstracts, p.331.ASA. Madison, WI*.)

The applicant has submitted information indicating the 15' IWW setback is adequate for protecting wetlands from excess nutrients discharging into wetland limits. However, a management plan of the 15' IWW setback has not been submitted for review. The Commission finds this to be imperative to the success of the protection of wetlands on this property. Such a plan is to use existing native vegetation, supplemented with other native plants, use limited maintenance, and the non-use of fertilizers, pesticides etc. This allows the vegetative buffer to filter pollutants, absorb nutrients, stabilize soils etc which will reduce wetland impact. The applicant has submitted an Integrated Pest Management Plan (IPM) plan which demonstrates the use of fertilizers, etc with specifications. The Commission finds this appropriate within the developed residential area. However, within the conservation easement area, fertilizer use, pesticide use, etc is strongly discouraged in an effort to allow the biofilter to function most efficiently. A long range management plan that establishes the 15' IWW setback and site specific 25'IWW vegetative buffer are integral to the protection of wetlands and watercourses on this property. This plan is to use existing native vegetation, as it is already established and functioning as a biofilter, to the greatest extent possible. Management of these areas includes the removal and treatment of those species as identified by the Department of Environmental Protection (DEP) as invasive.

Concerns Associated With Blasting

Reshaping and regrading of the upland knoll on the west side of Poplar Plains Brook will require some blasting whether for construction of buildings or roads. Special attention will need to be focused on the effects of blasting on (1) increased erosion in the immediate area and associated degradation of the quality of the waterway (2) dewatering of surrounding waterways and/or changes in ground and surface flow; (3) bedrock wells servicing neighboring homes and (4) foundations of nearby homes.

Past and current testimony provided by Russell Slayback, CPG, of Leggette, Brashears and Graham, Inc. stated that the blasting should be conducted under the supervision of personnel experienced in modern blasting techniques that avoid undue seismic shock and potential damage claims. Depending on the blasting requirements, such methods as multiple small-charge blasting to an open face, use of decked charges and/or use of millisecond delays between detonations can be employed.

Pre-blasting surveys of surrounding properties should be considered to minimize unwarranted damage claims. According to Mr. Slayback, only when blasting is done without regard to such seismic or air-blast impacts is there a problem on surrounding properties. The applicant has indicated that adjoining neighbors within a 750ft radius of the blasting would be surveyed.

Blasting for removing and regrading the bedrock outcrop in the center of the western upland that may be required for installation of sewer and waterlines may open fractures near the bedrock surface, potentially draining the existing wetland systems or otherwise altering the present hydrologic regime. Onsite fracture tracer tests can be performed to better access this potential impact. Applicant has to demonstrate that blasting will not have significant impact on wetlands.

The Commission finds that excessive blasting will significantly impact wetlands and watercourses pursuant to Sections 6.0-6.5 Standard of Review. Therefore, the Commission further finds that the elimination of basements for units 16-19 will reduce environmental impacts.

Stormwater treatment creation with Wetland I

The applicant has proposed to create a stormwater treatment area within wetland I between vernal pool 2 and vernal pool 1B. The applicant proposes to excavate approximately 5.5 feet for the purposes of constructing a retention area. The primary function of this wetland system was described by Land Tech as groundwater recharge and wildlife habitat. The area is vegetated with sour gum, silky dogwood, and highbush blueberry. Also observed is spotted jewel weed, sensitive fern, asters, and poison ivy. These plants located within wetland limits, provide wildlife habitat, groundwater filtration, nutrient absorption, water absorption and filtration, soil stabilization, and food chain support.

The wetland Function Value Form of wetland II, noted in appendix D in the Environmental Report prepared by Land Tech Consultants notes the principal function of groundwater recharge but the wetland also is suitable in other functions as, floodflow alteration, sediment/toxicant retention, nutrient removal and wildlife habitat. Although it has been stated by the applicant during the public hearing testimony that wetlands are groundwater fed a letter dated 11/28/01, also submitted by the applicant indicates groundwater elevations at approximately 58.0'-58.5'. Existing elevations at and near vernal pool habitat 2 and 1b are between 69' and 74'. Therefore, it is reasonable to conclude that vernal pools are hydrated by surface water and subsurface flow in addition to groundwater as presented by the applicant.

By the proposed creation of the stormwater basin water flow that exists between the vernal pool 1b, vernal pool 2 and the proposed area of retention within wetland 2 may be diverted and may dry out the vernal pools thus impact their system. Pollutants commonly associated with stormwater runoff such as sediment, oil, grease, toxins and other nutrients associated within development may also affect vernal pool habitat. Said retention area may adversely affect vernal pool habitats by altering drainage flows and affect existing hydrology near vernal pool habitat. Stormwater runoff may affect vegetative species existent within wetland habitats. Conversely, if many pollutants were filtered prior to discharge, through the use of proposed BMPs additional surface water flow from stormwater drainage or flood flow alteration, concentrated in this area may eventually increase water flows into vernal pools where fish may eventually develop. This will also impact vernal pool habitat. Information has been submitted by the Town of Westport contracted consultant, Milone & MacBroom (M&M) letter dated 2/5/02, item 2a) which indicates the following: *"The site has numerous vernal pools and small ponds with little inflow or outflow (if any). As a result, they are very sensitive to changes in their micro watershed's vegetation and runoff."* The Commission finds that the relocation of the retention area from between vernal pools 2 and 1B to the north of the road or other upland area are feasible alternatives.

Stormwater Discharge

The Commission finds that stormwater discharge outlets, footing drains, and infiltrator structures are located within wetland limits and the associated 15' IWW setback will significantly impact wetlands and watercourses. The Commission finds that it is feasible to locate such discharge outlets, infiltrators and footing drain outlets outside the 15' IWW setback and where the site specific 25' undisturbed vegetative buffer has been located by the Commission. The Commission further finds that measures to slow water velocities are to be used at discharge outlets prior to discharge into 15'IWW setback and outside site specific 25' undisturbed vegetative buffer. Said discharge outlets located within regulated areas will not allow sufficient filtration area to reduce the effects of erosion & sedimentation within wetland limits and will not allow adequate filtration of non-point source pollutants entering wetland limits thereby impacting water quality of the wetland, aquifer, and wildlife dependent on the wetlands.

24. 6.3 EROSION AND SEDIMENT:

In order to determine that an activity causing erosion and/or sedimentation will not have significant impact or major effect on Wetlands and Watercourses, the Commission shall, as applicable, find that:

A) Temporary erosion control measures shall be utilized during construction and for the stabilization period following construction;
B) Permanent erosion control measures shall be utilized using nonstructural alternatives whenever possible and structural alternatives when unavoidable;
C) Spillover of material into and siltation of Wetlands and Watercourses shall be prevented;
D) Existing circulation patterns, water velocity, or exposure to storm and flood conditions shall not be adversely altered;
E) Formation of deposits harmful to aquatic life and/or wetlands habitat will not occur;
F) Applicable state, federal and local guidelines shall be met.

Because grading is proposed within the 15'IWW setback and in general, close to this limit throughout the design, existing vegetation within the 15' IWW setback will likely be impacted as a result of construction activities. Mature standing trees will likely have anywhere between a 30'-50' diameter canopy and the same associated root system. Therefore, existing trunks within the 15' IWW setback may have root systems that lay outside the 15' IWW setback. It is likely that grading activity will disturb root systems, may result in erosion and sedimentation within wetland limits. Also, impact on root systems may affect the survivability of the trees in the long term. Tree wells/ retaining walls installed at tree driplines may decrease this impact. In addition, where the Commission has approved a site specific 25' nondisturbed vegetative buffer the same precautions to protect existing trees within these areas are required, such as tree protection fencing at driplines and silt fence to be installed prior to construction and, tree wells/walls located as necessary for long term protection. During construction, silt fence and tree protection fencing will also assist in decreasing soil compaction around root zones and excess erosion and sedimentation effects.

The applicant is to revise the existing erosion control plan to incorporate the conditions of approval to reduce erosion and sedimentation within wetland limits. A stormwater maintenance plan has not been submitted which the Commission finds to be imperative to the success in the protection of the wetland system. Said plan must include sweeping schedules, inspections, cleaning schedules, etc.

The Commission finds that a phasing plan will reduce impacts pursuant to section 6.0-6.5. Said plan is to include project sequencing, stock piling locations with associated erosion controls. Onephase is to be conducted at a time with

advancement onto the next phase not commencing until the prior phase disturbance has been completely stabilized.

25. 6.4 NATURAL HABITATS:

In order to determine that an activity will not have significant impact or major effect on the habitats of Wetlands and Watercourses, the Commission shall, as applicable, find that:

A) Critical habitat areas, such as habitats of rare and endangered floral and faunal species, shall be preserved;
B) The existing biological productivity of any Wetland and Watercourse shall be maintained or improved;
C) Breeding, nesting and/or feeding habitats of wildlife will not be significantly altered;
D) Movements and lifestyles of fish and wildlife will not be significantly affected;
E) Periods of seasonal fish runs and bird migrations shall not be impeded;
F) Conservation or open space easements will be deeded whenever appropriate to protect these natural habitats.

The proposed project is proposed within a currently wooded vacant parcel. Existing habitat is provided for various mammals, reptiles, amphibians, fish and birds as water is available, and vegetation is dominant on this property which provides food and shelter for wildlife. Among the mosaic of wetland communities are vernal pools which are considered a particularly sensitive wetland habitat with a documented need for large upland buffers.

The applicant has indicated several wetland units/communities which include the following: emergent marsh/sapling shrub, mature wooded floodplain swamp, mature wooded wetland, sapling wetland, wet meadow, pond, vernal pool and ephemeral pool. Upland communities/units are described as mature wooded upland, young wooded upland, xeric meadow and xeric old field succession.

A. Vernal Pools

Vernal pools are described by the Department of Environmental Protection in a publication entitled, " A Guide to the Vernal Pool Wetlands of Connecticut,." Prepared and printed by University of Connecticut Cooperative Extension System and the Connecticut Forest Stewardship Program by the following:

"Vernal pools are small, isolated, bodies of standing freshwater that are temporary in nature. For a vernal pool to exist, there must be a source of water and an enclosed basin which traps water for some period of time. Water may be a source from a combination of factors including snowmelt, percipitation and high water tables associated with the spring season. The depressions may be natural or of human origin, dry out most years and are without fish. The

Connecticut Department of Environmental Protection defines the existence of vernal pools by having the following characteristics:

a) contain water for approximately 2 months during the growing season;
b) occur within a confined depression or basin that lacks a permanent outlet stream;
c) Lacks fish population;
d) Dry out most years, usually by late summer."

The DEP publication **indicates that "land development poses the greatest risk to vernal pools since it results in permanent changes to vegetation, topography and the timing and intensity of surface water drainage."**

The plans, revision date 1/25/02 indicate the existence of 4 vernal pools and 8 ephemeral pools. Letter dated December 21, 2001 by Milone & MacBroom indicates that*"the application does not discuss the ecology of the site linking the vernal pools, ephemeral pools, ponds, riparian areas, wet meadows, upland woodlands etc. Especially, it does not discuss how the proposed development will preserve such links or mitigate for fragmenting them.*"

The letter (dated 12/21/02) discusses the feasibility of considering ponds 3, 4 and 8 as potential vernal pools, particularly if no fish exist in them due to isolation, blockage or predation. In addition, M&M points out that Ephemeral pool 3 (wetland X) would be more accurately described as being a part of Vernal pool 3, pond 4 and 7 as part of the riparian corridor network. If recognized as such, larger upland buffers may be needed to sustain wildlife dependent on these habitats.

Relocation of sewer lines to protect vernal pool habitats
The Commission finds that proposed sewer lines located on the wetland side of proposed units 17-19 and 5-9 will significantly impact wetlands and watercourses. Sewers for Units 17-19 and 5-9 are to be relocated to the front of the houses near the road. Information submitted by M&M on letter dated 2/5/02, page 2, item3., indicates the following: "*The proposed sewer force main behind (west) of Buildings 16-19 should be relocated. The vernal and other pools are very sensitive to groundwater inflow and outflow and this sewer could alter flow patterns by intercepting or diverting water*."

Letter, dated 12/21/02, paragraph 8, from M&M indicates the possibility that ponds 3, and 4 are potentially vernal pools:*"Vernal pools need not dry up in all years to function successfully within a landscape mosaic. The pools need only be fish free or low enough in predators to allow life cycles to be successfully completed. For example,* ***Ponds 3, 4 and 8*** *were noted to contain obligate or facultative vernal pool species****, yet they were excluded from the vernal pool inventory*** *presumably because they do not dry up in most years or are linked to other watercourses. There may be no fish in these pools in some or all years due to isolation, blockage or predation. It is thought that sometimes 'decoy*

pools' develop and may hinder the dynamics of a population but that is not clear in this case and ***the evidence of breeding by obligate species should not be discounted."***

B. Wildlife

Evidence provided indicates the need for adequate amounts of uplands to sustain wildlife dependent on wetland systems. Both contracted consultants, T. Rochovansky, and M&M have substantiated the need for uplands on this site. The elimination of several buildings in the outer extremities of developed areas will provide additional uplands for wildlife. Said upland would have to remain in its natural condition in order to continue providing adequate upland habitat. In effort to meet this objective the Commission has provided selected specific upland areas to remain undisturbed.

The report prepared by the applicant concludes that preserving the southern portion of the property with access to town owned property to the west provides adequate habitat to sustain the wildlife populations on the site. The Commission finds that additional uplands are necessary to protect wetland systems pursuant to sections 6.0-6.5.

C. Vegetation

It is questionable whether existing vegetation occurring along and within the 15' IWW setback will remain post construction. Efforts to protect existing vegetation within the 15' IWW setback and the site specific 25' IWW vegetative buffer located by the Commission, such as retaining wall/tree wells, have not been submitted into the record. Tree protection fencing at drip lines during construction will also assist in preventing soil compaction or removal of root zones. Such precautions have not been submitted into the record. These measures of protection have been included in the conditions of approval.

D. Protected Species listed by the Department of Environmental Protection

Listed Species by the Department of Environmental Protection

The following species were noted in environmental reports submitted by Land Tech Consultants that are also listed as Species of Concern (SC), Endangered (E) and Threatened (T) by The Department of Environmental Protection of Connecticut.

Eastern Box Turtle (*Terrapene c. carolina)* (SC) noted as **observed** on the site**.** Species were observed at the southeastern section of the site which will remain undisturbed. Letter, dated January 11, 2002 from Land Tech describes this. Measures to protect this species are to be included in the annual monitoring reports and be included as part of the long range management plan.

Eastern Hognose snake (*Heterodon platyrhinos)* (SC) noted as **likely** to occur as conducted by previous wildlife specialists. Letter dated January 11,2002 from Land Tech indicates that suitable habitat for this species does not exist.

Letter dated January 25, 2002 from Land Tech indicates that suitable habitat was found in the upland habitats of the western and southern portions of the property that will not be disturbed. Letter from T. Rochovansky, dated November 29,2001, indicates that his five sightings over seventeen years were in the uplands in the location where development is proposed. Letter dated 2/2/02 by T. Rochovansky indicates that a specimen was found 50-60' from pond #4. Units 4, 6-11 are proposed in this vicinity.

Southern Bog Lemming (***Synaptomys cooperi***) (SC) noted as species **likely** to occur on site. Letter dated January 11,2002 and January 25, 2002 from Land Tech Consultants indicate that originally it was thought that suitable habitat may have existed on this property. However, no evidence of this species was found on the site. Letter from T. Rochovansky, dated November 29,2001, indicates that this species occurs in scattered colonies. It requires moist soils and an adequate cover of sphagnum moss, or a thick layer of loose duff found in marshes and meadows, or deciduous woodlands. He recommends further research in this area if it is believed that this species occurs on the property.

Least Shrew (***Cryptotis parva***) (E) noted as **possibly** occurring on the site. Letter dated January 11,2002 and January 25, 2002 from Land Tech indicate that originally it was thought that suitable habitat may have existed on this property. However, no evidence of this species was found on the site as stated by the applicant. Letter dated November 29,2001 from T. Rochovansky indicates Least shrews are seldom caught in traps, but can be confirmed by examining the skeletal remains in cast owl pellets found on the site. The shrew nests in burrows under stones, logs and stumps, and the proposed development could have a devastating impact on a population. More research is needed for conclusion of its status.

Five-lined skink (***Eumeces fasciatus***) (T) noted as **possibly** occurring on the site. Letter dated January 11,2002 and January 25, 2002 from Land Tech Consultants indicate that originally it was thought that suitable habitat may have existed on this property. However, no evidence of this species was found on the site as stated by the applicant. Letter dated November 29,2002 from T. Rochovansky indicates,in his opinion, suitable habitat does not exist on this property.

Northern Leopard Frog (***Rana pipens***) (SC) noted as **observed** on the site. Letter, dated January 11, 2002, from Land Tech Consultants indicates that this was a transcription error in notes, as also indicated in a previous letter, dated November 28,2002 and indicated by Tom Rochovansky, dated November 12,2002. It is believed that the Pickerel Frog was misidentified as the Northern Leopard Frog.

Eastern Ribbon Snake (***Thanmophis sauritus***) (SC) noted as **likely** occurring on the site. Letter dated January 11,2002 and January 25, 2002 from Land Tech Consultants indicate that originally it was thought that suitable habitat may have existed on this property. However, no evidence of this species was found

on the site as indicated by the applicant. Letter dated November 29,2001 from T. Rochovansky indicates that this species was likely confused with the eastern garter snake. It was his opinion that this species was unlikely on this site.

Meadow Horsetail (***Equisetum pratense***) (SC) was not identified on the property by Land Tech Consultants. Letter, dated January 25,2002 from Land Tech Consultants indicates that this plant is found in wet meadows and along grassy streambanks he further adds that these areas will not be disturbed as a part of this project. Tom Rochovansky had noted this plant species in the past which is the reason it is included in the report. Land Tech has not identified this plant on the property at any time. Letter dated 2/2/02 by T. Rochovansky indicates that this species was observed north of pond #4, close to the shore. The Commission finds that Unit 4 is to be relocated or reduced in size so that it is outside the site specific 25' vegetative buffer and is at least 45' from wetland limits, said modifications being necessary to eliminate significant impact of this unit on the wetlands.

*Lycopodium sp***.** One of the Commission members has identified a species of this genus on the property. Several species of this genus are listed by the DEP. The Environmental Report prepared by Land Tech Consultants indicates this genus in its report. The applicant has stated that Princess Pine (*Lycopodium obscurum)* was observed on the property which is not one of the protected species listed by the Department of Environmental Protection.

E.Mitigation Proposal

The application proposes approximately 2.1 acres of wetland enhancement through the creation of meadow, removal of invasive vegetation, planting of native vegetation within the 15'IWW setback and portions of the wetlands (wetland VI, V and II).

The applicant has proposed to mitigate for the above regulated activities by installation of planting within the 15' IWW setback in locations noted on the plan and by managing three areas of existing wetlands. One portion of wetland I will be planted with wetland meadow plantings where a trail currently exists. A portion of wetland V will be managed for a wet meadow community by installing appropriate plantings and removal of sapling vegetation. And lastly, a portion of wetland VI currently identified as sapling wetland will be managed by removing invasive plants and sapling vegetation and adding meadow seed mix. Page 22 of the Environmental Report prepared by Land Tech Consultants, dated October 23, 2002 indicates 0.52 acres (22,725 sf) of wetland mitigation proposed to compensate for the regulated activities presented in this application.

The applicant has also described a monitoring plan that would entail monitoring the shrub buffer (15' IWW setback) and enhancement areas for the first 3 growing seasons. An annual monitoring report will be submitted to the Conservation Department for review. The wet meadows will be evaluated during the first full growing season to determine the establishment of seeds.

The wet meadows will be monitored every three years to identify colonization of woody shrubs, trees and recognized invasive species.The Commission finds a that the site specific 25' IWW vegetative buffer is to be included with the monitoring plan and wetland II. A baseline report is to be submitted indicating all quadrats that will be monitored for the following 3 years. Said report is to be submitted prior to permit issuance.

The report indicates a wetland scientist will be monitoring construction to ensure compliance of permit. All-terrain vehicles are prohibited in wetland areas.

A long range management plan has not been submitted for the wetland enhancement areas or 15' IWW setback and the site specific 25' IWW vegetative buffer located by the Commission. The Commission finds this integral to the protection of the wetland system on this property. Therefore, such a plan is required as a condition of approval.

26. 6.5 DISCHARGE AND RUNOFF:

In order to determine that an activity will not have significant impact or major effect on the flooding habits of Wetlands and Watercourses, the Commission shall, as applicable, find that:

A) The potential for flood damage on adjacent or adjoining properties will not be increased;
B) The velocity or volume of flood waters both into and out of Wetlands and Watercourses will not be adversely altered;
C) The capacity of any Wetland or Watercourse to transmit or absorb flood waters will not be significantly reduced;
D) Flooding upstream or downstream of the location site will not be significantly increased;
E) The activity is acceptable to the Flood and Erosion Control Board and/or the Town Engineer of the municipality of Westport;
F) Concentrated discharge flow will be filtered and dissipated, or spread before entering Wetlands and Watercourses;
G) Runoff increases will be retained or detained on-site whenever possible.

The Flood & Erosion Control Board has reviewed and approved the application on November 7,2001. This approval was made prior to changes in the plan which altered location of the road on the west side of the property or the Newtown Tpke side of the site. In addition, data concerning basement elevations and groundwater elevations relative to the basements were not presented to the F&ECB. In addition, the Commission has approved the proposed plan with modifications. Said modifications are to be reviewed by the F&ECB to determine if the current approval is still applicable.

Flood & Erosion Control Board has approved this application pursuant to the WPLO on November 7, 2001. The conditions of approval are as follows:

A) Proposed site grading, as well as development in general, shall not alter drainage patterns to the detriment of adjoining or downstream properties.

B) Applicant shall provide erosion and sedimentation control devices on all filled embankments, specifically at the toe of filled slopes silt fence and haybales shall be installed. The face of all slopes shall be protected with a temporary erosion control matting or hydroseeding until such time as adequate groundcover grows in.

C) Any current or future work within the WPLO setback shall be performed in strict conformance with the Waterway Protection Line Ordinance, section 148-6, as well applicable State and Federal statutes for work within the regulated waterway.

D) All final plans, details, and calculations shall be reviewed and approved by the Town Engineer.

E) Drainage and grading, proposed in conjunction with the proposed development, shall be subject to review and approval by the Town Engineer. This shall include review of all final plans and calculations and shall include proposals by all future owners within the development.

F) The existing conditions survey shall indicate all points of entry of existing runoff water into the property.

G) The Flood & Erosion Control Board recommends that the Planning & Zoning Commission require a separate maintenance plan for the various drainage structures, drainage basins, and development in general and such plans should be developed and filed as a separate document with Planning & Zoning.

H) Applicant shall submit a drainage analysis for the watershed upstream of the Wilton Road culvert in both existing and proposed conditions.

The Commission finds that locating stormwater discharge outlets, footing drains, roof drains, outside the 15' IWW setback and the site specific 25' IWW vegetative buffer will reduce environmental impact and is a feasible alternative to the current design.

Property is not located within the 100 year flood plain as designated by the Federal Emergency Management Agency (FEMA) as Poplar Plains Brook was not fully studied by FEMA in preparation of the Federal Insurance Rate Map for this area of Westport. A 100 year and 25 year floodplain have been partially delineated on the Site Plans, revision date 1/25/02, prepared by Land Tech Consultants. This delineation was determined from the Leonard Jackson

studies, completed in 1978. The 100 year floodplain shown on the site plans, is inconsistent with 100 year floodplain shown in exhibit #29 presented by the Land Tech Consultants.

Letter dated 2/1/02, from Leonard Jackson Associates indicates: *" The 100 year floodplain elevation is 61.4'. " (*Site Plans, revision date, 1/25/02 and exhibit 29 show the 100 year floodplain ranging between 59-61').

Letter dated 2/5/02, from M&M item 5 indicates: *"We recommend that the elevation of the 100 year flood event be confirmed using the FEMA Flood Insurance Program standards. There have been many watershed changes and technical advances since the 1978 study was performed."*

27. **6.6 RECREATIONAL AND PUBLIC USES:**

In order to determine that an activity will not have significant impact or major effect on existing or potential recreational or public uses in Wetlands and Watercourses, the Commission shall, as applicable, find that:

A) Access to and use of public recreational and open space facilities, both existing and planned, will not be prevented;
B) Navigable channels and/or small craft navigation will not be obstructed;
C) Open space, recreational or other easements will be deeded whenever appropriate to protect these existing or potential recreational or public uses;
D) Wetlands and Watercourses held in public trust will not be adversely affected.

The proposed use will not significantly impact recreational and public uses provided it is constructed appropriately, occurring adjacent or within this property. The applicant has removed their request to create, enhance or maintain trails on this property. The Commission finds that details submitted for the proposed fishing platform are incomplete and therefore the proposal is unacceptable.

Findings Pertaining to Intervention Petitions

I. Notice of Intervention filed by Arthur Cohen and Claudia Cohen of 67 Old Hill Road.

With regard to this petition:

A. The Westport Conservation Commission finds that the intervenors are appropriate parties to intervene.
B. The intervenors have filed a verified pleading,
C. The pleading alleges claims consistent with Section 22a-19 of the Connecticut General Statues; and
D. Based upon the record, the Commission finds that the proposed conduct will not cause unreasonable pollution, impairment or destruction of the air, water or other natural resources of the state, as follows:

The intervenor asserts that "this proceeding involves conduct which is reasonably likely to have the effect of unreasonably polluting, impairing or destroying the public trust in the air, water or other natural resources of the State including, but not limited to the following." Based on the evidence of record, the Westport Conservation Commission makes the following findings:

1. **Impairment or destruction of the Northern Leopard Frog.**
2. **Impairment or destruction of the Five Line Skink.**
3. **Impairment or destruction of the Eastern Box Turtle.**
4. **Impairment or destruction of Meadow Horse Tails.**
5. **Impairment or destruction of other species based upon the destruction of the wetlands.**

With regards to items 1-5, based on the evidence of record, the activity will not have the effect of unreasonably impairing or destroying these species. Specifically, the Northern Leopard Frog was mistakenly identified on the site/and is unlikely to live in this area of the state. The Five-Line Skink, though originally thought to occupy the site, was later found not to exist on the property. Wildlife Biologist for the Town who has extensive knowledge of the site, confirmed that suitable habitat does not exist on the property for this species. Meadow HorseTail was found to be located on the north shore of Pond 4. This is near unit 4, but Commission required relocation of this unit to protect this area. The Eastern Box Turtle was located on the site, but it is the testimony of record that development will occur outside the habitat and migration radius of this species. Application proposes that precautions be installed to isolate habitat from construction disturbance.

6. **Destruction of the uplands will result in the permanent loss of a large amount of critical habitat. These uplands are critical to the survival of many wetland species including amphibians, reptiles, birds, mammals, and invertebrates. A loss of the uplands may impair or destroy these species.**

7. <u>In addition, both the wetlands and uplands will result in an impairment or destruction of the functional interaction between the upland and wetland areas. This would impair or destroy wildlife currently using these areas.</u>

With regards to item 6&7 the Conservation Commission finds that adequate upland will remain for use as critical habitat and provision of functional interaction between upland and wetland areas. The site measures approximately 56 acres. Approximately 36 acres are occupied by wetlands and 20 acres by upland. As stated by the applicant, approximately 10 acres in all will become either impervious, or grassed, or otherwise altered by this plan. Subtracting the 10 acres of the affected land area from the total 56 acres leaves 46 acres of undisturbed land. In addition, the Commission has further reduced the number of proposed housing units from 31 to 26. Two of these units are in upland areas and these uplands will be included in a conservation easement area.

8. <u>The failure to have a proper storm management plan will impair water and other natural resources.</u>

Based on the evidence of record, the Commission finds that a detailed stormwater management plan is currently lacking, but has made it a condition of approval that one be submitted that is to be reviewed and approved by the Commission. As stated in its November 7, 2001 approval, the Flood and Erosion Control Board has also made this a condition of their approval.

9. <u>The use of Pond #2 as a stormwater collection treatment area.</u>

The Conservation Commission finds that the water entering into this pond will be first filtered through a wetland and vegetated swale before entering into the pond. Therefore, the Commission finds that use of Pond 2 for stormwater collection does not pose a significant impact.

10. <u>The use of mitigation measures and management practices other than minimizing the disturbance of sensitive habitats will impair or destroy the public trust in the water and/or other natural resources of the State.</u>

Based on the evidence of record, and conditions imposed by the Commission, the Conservation Commission finds the condition of submitting an Integrated Pest Management Plan, Stormwater Treatment Plan and detailed sediment and erosion control plan, planting plan and Homeowner Association By-laws that include environmentally related restrictions, will provide sufficient mitigation measures and management practices to avoid disturbance of sensitive habitats and will not destroy the public trust in the water and/or other natural resources of the state.

11. <u>The substantial encroachment on wetlands will impair or destroy public trust in the water and/or other natural resources of the State.</u>

Based on the evidence of record and reduction of intrusion into wetlands and wetland setbacks as conditioned by this approval, the Conservation Commission finds that there is no substantial encroachment on wetlands that will impair or destroy the public

trust in the water and/or other natural resources of the State. Specifically, the original application proposed a much larger degree of intrusion into the wetland. However, with changes made to the plan by the applicant, as well as conditions imposed by the Commission, the remaining encroachments as set forth in the findings, either pose no significant impact, pose an impact but have no other prudent or feasible alternative or, pose an impact and have alternatives that have been required as conditions of approval.

12. <u>The use of the 35-foot setback line, as proposed.</u>

Based on Section 7.5(b) of the Regulations for the Protection and Preservation of wetlands and watercourses the setback for a single-family residence from a wetland or watercourse is established at 35-ft. In accordance with Section 9.5, Summary Ruling and Section 9.6, Plenary Ruling, an application may be filed with the Conservation Commission requesting activity in a regulated setback or directly in a regulated wetland or watercourse. The Commission finds that in most areas, the 35 ft. setback adequately protects the wetlands However, to better protect the wetland, 14 units have been moved so that they are at least 45' feet from the wetland boundary. In addition, for these homes there can be no disturbance within 25' of the wetland boundary. In some instances, modifications to the location of units and or roads were necessary to eliminate significant impact on the wetlands. For these homes and or roads, their locations were modified so that they were at least 45' from the wetland boundary.

Furthermore, Section 7.6 of the Regulations allows the Commission to establish a 100-ft setback from wetlands and an 85-ft setback from watercourses for those properties also underlain by an aquifer. Units 20-29 and 30 and 31 as proposed are underlain by an aquifer. However, based on the evidence of record, including the installation of a sanitary sewer, public water and implementation of an Integrated Pest Management plan, it is the finding of the Commission that the aquifer will be adequately protected and a larger setback is not warranted. In addition, 3 of the original 12 units proposed over the aquifer have been eliminated.

13. <u>The impact on the wetlands could have a substantial impact on an aquifer that is on the site. This effect could include a reduction in recharge to the aquifer and impact the water quality in the aquifer. This could also affect water downstream. This has not been adequately addressed.</u>

Based on the evidence of record, including the finding referenced in response to assertion 12, the Commission finds that impact to the wetland will not have a substantial impact on the aquifer that partially underlies this site. Specifically, based on the evidence of record, no reduction in recharge to the aquifer or impact to water quality will be realized. Installation of proper sediment and erosion controls, adherence to the proposed construction Phasing Plan and implementation of the Integrated Pest Management Plan will negate adverse impact to water quality downstream. Furthermore the aquifer underlying the southern half of the site is part of the large Saugatuck River Aquifer. This aquifer underlies a large percentage of the Town of Westport. The section of the aquifer underlying this property feeds into one of the Town water supply wells, but not directly. Conversations with Bridgeport Hydraulic

Company confirm their knowledge of this application and preliminary approval to provide public water to the site. Connection of the proposed dwellings to sanitary sewer will eliminate leachate entering into the aquifer normally realized from failed septic systems and thus will greatly diminish possible impact to the water quality of the aquifer.

14. <u>The impairment of the wetlands is reasonably likely to result in storm water diversion.</u>

Based on the evidence of record, the Commission finds that the impairment of the wetlands as a result of stormwater diversion is not likely. The applicant proposes to employ the technique of directional drilling of the sewer and water lines through the wetlands, thus avoiding trenching activity in the wetland. Furthermore, a water diversion permit will be required by the Department of Environmental Protection for sewer installation and a general permit for the discharge of stormwater will also be required by the Connecticut DEP.

15. <u>Failure to have calculations or engineering studies regarding aquifer recharge.</u>

Based on the evidence of record, it is the Commission's finding that calculations or engineering studies regarding aquifer recharge are not necessary. According to Russell Slayback, Hydrogeologist with Leggette, Brasheas and Graham, the Saugatuck River watershed is approximated at 446 acres of which approximately 45 acres are developed primarily as single family residential dwellings serviced by septic systems. Assuming half of this 56 acre parcel is underlain by the aquifer, (i.e. 28 acres), of which only a portion would be developed, does not warrant submission of calculations or engineering studies. Furthermore, as conveyed to the applicant and staff by the Bridgeport Hydraulic Company, preliminary permission for expansion of public water into this area has been given. Any concerns regarding adverse impact to the water supply would have been raised by this entity. In the past, BHC has supported servicing of the site by a sewer system since it will better protect the water supply than would otherwise be provided by septic systems.

16. <u>The destruction of the wetlands areas will result in the reduction of filtration reducing the facilitation of natural biological removal of nutrients and toxins from the water (both of which are undesirable) will have the effect of unreasonably destroying the public water and/or other natural resources of the State.</u>

Based on the evidence of record, and conditions imposed by the Commission, it is the finding of this Commission that the elimination of less than .35 acres of wetlands on the site will not result in the reduction of filtration which would thereby reduce the facilitation of natural biological removal of nutrients and toxins from the water. Specifically, all but one of the 4 housing units (Unit 21) proposed in the wetlands has been eliminated from the wetland. Also, some roadways proposed partially in a wetland are required to be relocated so as to avoid wetland crossing. Furthermore, use of mitigation measures including wetland enhancement around Pond 2 will be

employed to increase water filtration capability of the wetland in that area. This represents the largest proposed wetland alteration.

17. <u>The proposed development will increase the extent of impermeable surface over the site and will decrease the retention time and biological contact time of stormwater from portions of the site. This will reduce the effectiveness of the wetlands in protecting water quality in the underlying aquifer.</u>

Based on the evidence of record and conditions imposed by the Commission, including: elimination of 3 of 4 housing units directly in the wetland; redesign of the road layout in the northern section of the property; increase of non-disturbance setbacks in some areas to allow greater separating distance between stormwater galleries and wetlands; and conditions imposed by the Flood & Erosion Control Board, it is the finding of the Commission that the extent of impermeable surface over the site will not decrease the retention time and biological contact time of storm water from portions of the site. In addition, stormwater management measures, adherence to 15-ft and 25 ft. non-disturbance vegetated buffer and installation of shrub management plan will further alleviate runoff and act as a biofilter for runoff entering into wetlands.

18. <u>There is a serious potential of contaminated soil being on the property. The measures taken to date do not provide proper verification that this does not exist and could expose the public to deleterious effects from arsenic. This is particularly true if it is not properly addressed prior to any grading activities. Insufficient testing can have a negative effect.</u>

Based on the evidence of record and conditions imposed by the Commission, it is the finding of the Commission that verification does exist that contaminated soil has been removed from the site and no longer exposes the public to deleterious effects from arsenic. The 1999 Hopkins Environmental Management Inc. report of June 3, 1999 concludes that "the groundwater impacts are minimal and are associated with historic landfilling activities on the abutting property. In our opinion, the associated risk to the site owner is low. No additional groundwater investigation is recommended at this time." The report also concluded that additional testing in the area of the tire piles be conducted to determine the extent of arsenic contamination in surface soils. Proof exists in the record which confirms that the applicant removed 238.25 tons of arsenic-laden soil from the site and disposed of it in the Branford, CT disposal site in the summer of 2001. Also, some arsenic occurs naturally in the soil. Intervenors have not submitted evidence into the record to support this claim of contamination.

The Commission's condition to eliminate Unit 16 and prohibit basements for Units 17-19 reduces the amount of blasting in the area of the tire pile, thus further reducing the possibility of exposing contaminants. However, as testimony reveals, some of the other elements found in the ground either occur naturally or do not occur in quantities that are of significant concern. Refer to Findings.

19. <u>The failure to have proper and sufficient information on mitigation measures to be taken in the plan regarding wetlands.</u>

Based on the evidence of record and conditions imposed by the Commission, it is the finding of this Commission that proper mitigation measures have been or will be taken to protect on-site wetlands. Submission of the Integrated Pest Management Plan, a Stormwater Maintenance Plan (also required by the Flood and Erosion Control Board), a Long Range Management plan, and environmentally related components of the Homeowner's Association By-laws and deed restrictions, are, or will be sufficient to protect wetlands.

20. <u>The failure to evaluate alternatives including the construction of fewer units, the rerouting of roads and utilities corridors to avoid construction within the wetlands, etc., nondisturbance buffer courses, the use of alternative designs or construction proceedings to minimize impact during construction, the use of water wells to eliminate disturbance to the utility construction, the use of unpaved setbacks to reduce the area extent of impermeable surface and the use of larger setback distances.</u>

Based on the evidence of record, it is the Commission's finding that alternatives were explored and evaluated and were determined not to have an unreasonable impact. Specifically, modifications made to the original plan include elimination of the original loop road design to reduce impact of Pond 2 and the Directional Drilling Methodology for installation of the sanitary sewer and water lines through the wetland, upon which the approval is contingent, was substituted for the original trench methodology proposed. Other modifications have been imposed by the Commission through condition of approval, some of which include elimination of 5 housing units, increase in setbacks, and relocation of some roads, houses and driveways out of regulated areas. In addition, the applicant submitted 12 different alternative designs which were compared and analyzed by staff in their January 11, 2002 report.

21. <u>A complete clearing of 9 acres within 100 feet or more of wetlands, vernal pools, ephemeral pools and underwater courses, some of which will occur directly within the wetlands.</u>

Based on the evidence of record, land within 100 ft or more of wetlands, vernal pools, ephemeral pools will be disturbed but it is the Commission's finding that conditions imposed will ensure no adverse impact. Plans indicate up to 10 acres of the 56 acre site will be cleared. Of the 10 acres, no more than .35 acres of wetland soil will be lost and no vernal pools or ephemeral pools will be eliminated. It is the Commission's finding that the total site disturbance will not result in a significant impact to vernal pools or ephemeral pools. Specifically, flow across the site is from west to east. Vernal pools located in the northwest section of the site will not be adversely affected since flow of water will not be changed to the west and the eastern border of the pools will be protected by a berm. Furthermore, as conditioned by the Commission, Unit 16, the unit closest to some vernal pools, has been eliminated, the sewer line in this area has been relocated to the front of units 17-19 rather than the rear and, units 17-19 are prohibited from having basements, thereby eliminating the need for blasting and disruption to the vernal pools in this area.

22. Failure to have proper plans for construction related sedimentation in the existing pools and ponds.

Based on the evidence of record, it is the Commission's finding that proper sedimentation and erosion controls will be installed. Moreover, a 3 phase construction plan will be required which restricts development to one phase at a time with complete stabilization, before moving on to the next phase. Both temporary and permanent erosion controls in the form of plantings will be employed as conditions of approval.

23. The construction plans will have a negative effect on downstream water quality, which cannot, based upon the lack of testing and evaluation, be properly evaluated now.

Based upon the evidence of record, and conditions imposed by the Commission, it is the Commission's finding that the construction plan will not have a negative effect on downstream water quality. The Commission finds that use of temporary and permanent sediment and erosion controls, installation of sanitary sewers and implementation of the Integrated Pest Management plan will reduce or eliminate negative effects on downstream water quality. Furthermore, baseline testing of water quality of the on-site ponds is a condition of the permit.

II. Response to Intervenor's Memorandum

(John Pancoast, John B and Polly Parker Kennedy, Mort Van Summern, Peggy Sawyer)

With regard to this petition:

A. The Commission finds that the intervenors are appropriate parties to intervene;
B. The intervenors have filed a verified pleading;
C. The pleading alleges claims consistent with Section 22a-19 of the Connecticut General Statutes; and
D. Based upon the record, the Commission finds that the proposed conduct will not cause unreasonable pollution, impairment or destruction of the air, water or other natural resources of the state, as follows:

Assertion 1:

The proposed site development will have, or is reasonably likely to have, the effect of causing unreasonable pollution, impairment or destruction of the air, water or other natural resources located both on, and off, the properties included in the proposed site development, for the following reasons:

a. The proposed site development involves the filling of valuable wetland and watercourse resources for house and infrastructure development;

b. The proposed site development intrudes into the delineated wetlands and regulatory buffer or setback areas:

With regards to assertions 1a and 1b, based on the evidence of record, the Conservation Commission finds that the site consists of approximately 56 acres, of which approximately 36 acres are designated wetlands. The application proposes to fill less than .5 acres of wetland and wetland setback area and enhance approximately 2.1 acres of existing wetland. Since the time of application submission, changes to the plan resulted in a reduction of impervious road surface in the regulated area. Furthermore, with conditions imposed by the Conservation Commission, 3 units originally proposed in the wetlands have been eliminated. Therefore, encroachment into the regulated area has been reduced since the time of the original application. The Commission further concludes that the remaining encroachments as set forth in the findings, either pose no significant impact, pose an impact but, have no other prudent or feasible alternative or, pose an impact and have alternatives that have been required as conditions of approval.

c. The proposed site development is too intensive for the site and will adversely impact the fragile wetland resources on the site;

Based on the evidence of record, the Commission finds that the 19 acres of upland area occupying the 55 acre site is scattered in various pockets throughout the property. The property is zoned Open Space Residential Development and was intended to be designed in a clustered fashion, without lot lines, to restrict development to the upland. Furthermore, the Commission has eliminated 5 of the 31 units originally proposed and has imposed conditions on 11 of the remaining units which would reduce the original footprint of the units by 20%. With these changes, the Commission finds the proposed development is not too intensive.

d. The proposed site development will adversely impact breeding habitat for valuable amphibious life.
e. The proposed site development will adversely impact existing vernal and ephemeral pools on the site;

With regards to assertion 1d and 1e, based on the evidence of record and conditions imposed by the Commission, it is the Commission's finding that the clearing of upland and the filling of less than 2 acres of wetland will not unreasonably impact vernal pools or ephemeral pools. Specifically, flow across the site is from west to east. Vernal pools located in the northwest section of the site will not be adversely affected since flow of water will not be changed from the west and the eastern border of the pools will be protected by a berm. Furthermore, Unit 16, the unit closest to some vernal pools, has been eliminated by the Commission. Also, the sewer line has been relocated to the front of units 17-19, away from the vernal pools and these units are prohibited from having basements thereby eliminating the need for blasting and disruption to the vernal pools in this area.

f. The proposed site development will increase/accelerate runoff into the wetlands and watercourses on the site and downstream, which will have an

adverse impact on the water quality of those resources and will increase erosion.

The Flood and Erosion Control Board approved Application #WPL-6678-01. Conditions of the board included the following safeguards against increase in erosion and runoff:

1. "Proposed site grading, as well as development in general, shall not alter drainage patterns to the detriment of adjoining or downstream properties."
2. "The applicant shall provide erosion and sedimentation control devices on all filled embankments, specifically at the toe of filled slopes silt fence and haybales shall be installed. The face of all slopes shall be protected with a temporary erosion control matting or hydroseeding until such time as adequate ground cover grows in."
3. "Any current or future work within the WPLO setback shall be performed in strict conformance with the Waterway Protection Line Ordinance, section 148-6, as well as applicable State and Federal statutes for work within a regulated waterway."
4. "All final plans, details, and calculations shall be reviewed and approved by the Town Engineer. "
5. "Drainage and grading, proposed in conjunction with the proposed development, shall be subject to review and approval by the Town Engineer. This shall include review of all final plans and calculations and shall include proposals by all future owners within the development."
6. "The existing conditions survey shall indicate all points of entry of existing runoff into the property."
7. "The Flood and Erosion Control Board recommends that the Planning and Zoning Commission require a separate maintenance plan for the various drainage structures, drainage basins, and development in general and such plans should be developed and filed as a separate document with Planning and Zoning."
8. "The applicant shall submit a drainage analysis for the watershed upstream of the Wilton Road culvert in both existing and proposed conditions."

In addition to these conditions by the Flood and Erosion Control Board the Conservation Commission has required as a condition of approval that construction be conducted in phasing so that only one portion of the site is disturbed at one time. Therefore, based on the conditions of approval imposed by both the Conservation Commission and the Flood and Erosion Control Board, it is the finding of the Conservation Commission that the proposed site development will not increase or accelerate runoff into wetlands and watercourses.

g. The proposed site development will result in a significant loss of habitat for the local fauna population, and a significant destruction of the local flora.

Based on the evidence of record, the Commission finds that the site development, as conditioned by the resolution, will not result in a significant loss of habitat for the local fauna population and a significant destruction of the local

flora. The site is comprised of approximately 56 acres of which the following will be disturbed by development:

10.3 acres of upland
.35 acres of wetland
1.0 acres of wetland setback

In addition, during deliberation the Commission resolved to eliminate 3 units located in wetlands and 2 units located in uplands, thereby further reducing the encroachment into these areas. The remaining 43.5 acres of land will be established as a conservation easement in which no clearing, cutting, filling, grading or building can take place, except for the area to be counted toward the "Usable Open Space Area," in the southwest corner of the site, without permission from the Conservation Commission, including the installation of any trails. It is the finding of the Conservation Commission that there will be enough remaining undisturbed on-site habitat so as not to displace the flora and fauna from the property.

Assertion 2: There exist feasible and prudent alternatives to the proposed site development that are consistent with the reasonable requirements of the public health, safety and welfare, and required to protect the air, water, and other natural resources associated with the subject property, such feasible and prudent alternatives include the following:

a. A modification of the proposed site development resulting in a less intense development, including the elimination of any filling of, or intrusion into, the delineated wetlands and/or watercourse resources, and regulatory buffer areas:

Based on the evidence of record, and the conditions imposed by the Commission, the Conservation Commission finds that modifications made to the proposed site development have resulted in a less intense development and included the elimination of filling or intrusion into the regulated area. Specifically, the following modifications made to the original proposal have resulted in less impact to the regulated area: 3 units have been eliminated from the wetland; 2 units have been eliminated from the upland; units in the setback must be relocated and/or reduced in size to avoid intrusion into the wetland setback; the original loop road in the vicinity of Pond 2 was redesigned so as to cause less impact to Pond 2; and the original trench method of installing the sewer through the wetland has been substituted with the directional drilling method which requires no direct impact on the wetland and is a requirement of the approval.

b. The use of the property in a manner which will not involve the adverse environmental impact of the proposed site development;

c. Not utilizing the property for an intensive residential development, but for another use as permitted by existing zoning regulations which is not adverse to the unique natural resources associated with the property;

d. The relocation of the proposed site development to a different site that would not require the same adverse environmental impact;

The Conservation Commission finds that the proposed use of the site for single family residential dwellings is allowed pursuant to the Open Space Residential District as defined in the Westport Zoning Regulations. One of the purposes outlined in the OSRD regulations is “to provide a better layout and design of housing in environmentally sensitive areas.”

e. The modification of the proposed site development to delete that portion of the plan that eliminates Pond 2 and creates a storm water storage and treatment basin in its place, and the subsequent discharge of the development’s stormwater into Pond 1;

f. The modification of the proposed site development to delete Road B and the associated site development in its entirely which proposes to fill wetland and/or watercourse resources;

Based on the evidence of record, the Conservation Commission finds that modifications have been made to the plan which eliminated loop Road B and avoid deletion of Pond 2. Said modifications call for saving pond 2 and creation of a wetland enhancement area around it which will process stormwater before entering into Pond 1 and relocation of stormwater retention north of road A.

g. The modification of the proposed site development to redesign Road D so that no construction occurs with[in] a wetland and/or watercourse, or within a regulated upland area;

Based on the evidence of record, and conditions imposed by the Commission, it is the finding of the Conservation Commission, including the elimination of units 23 and 24, there is no encroachment by Road D into the wetland or wetland setback.

h. The modification of the proposed development to delete House 12, which is proposed to be located within a wetlands resource;

Based on the evidence of record and conditions imposed by the Commission, the Conservation Commission finds that House 12 has been eliminated because of its significant impact to the wetland.

i. The provision by the applicant of sufficient additional information to enable a thorough review of the proposed site development, including an analysis of the location of the groundwater table and aquifers on the site relative to the on-site wetlands and watercourse resources.

Based on the evidence of record and conditions imposed by the Conservation Commission, the Commission finds that a plan was submitted into the record, (exhibit 23) which documents location of the underlying Saugatuck River Aquifer relative to proposed units. Furthermore, documentation has been submitted by Land-Tech Consultants in the form of a letter dated November 28, 2001 which estimated the elevation of the groundwater at both the Newtown Turnpike and Partrick Road sides of

the property. Evidence shows that the aquifer is located under units 20-29 and 30 and 31. Units 23, 24 and 28 have been eliminated because of their encroachment into wetlands or wetland setbacks. Evidence of record indicates units underlain by the aquifer are to be connected to sanitary sewer and public water (with the exception of units 30 and 31which will be served by wells, if a variance from the Zoning Board of Appeals is granted). In addition, the Integrated Pest Management Plan will adequately address issues of possible non-point sources of pollution to the aquifer from lawn fertilizers and pesticides. Furthermore, Bridgeport Hydraulic Company, the supplier of public water for the town, has given preliminary approval for extension of public water to service the site.

RESOLUTION

The Reserve at Poplar Plains
#IWW 6678-01

The Conservation Commission resolves to **DENY IN PART AND APPROVE IN PART Application #IWW 6678-01**, by ARS Partners, LLC, for the construction of 31 single family homes on the 55 acre site located between Newtown Turnpike and Partrick Road, Assessor's Map 5272-1 and 5271-2, lot 1 with the following modifications and conditions of approval:

1. The Commission finds the construction of Units 2, 12, 16, 23, 24 and 28 will significantly impact wetlands and watercourses pursuant to section 5.0 and 6.0-6.5 and are NOT APPROVED due to their inconsistency with the Regulations for the Protection and Preservation of Wetlands and Watercourses of Westport, Connecticut.

2. The Commission finds the construction of Units 1,3,4, 5,6,7,8,9,10, 11,13,14,15,17,18,19, 20, 21, 22, 25, 26,27, 29, 30 & 31, are APPROVED with the following modifications, exceptions, restrictions, limitations and conditions as stipulated herein.

3. Conformance to the following plans with the modifications, exceptions, restrictions, limitations and conditions as stipulated herein:

    a) "The Reserve at Poplar Plains, Open Space Residential Community, Newtown Turnpike, Partrick Road, Westport, Connecticut" Site Plan, Details & Notes prepared by Land Tech Consultants, Roger Ferris & Partners LLC, Barkan & Mess Associates, Inc., scale 1"=40'-0", date 10/16/01, revision date 1/25/02, sheets 1-13.
    b) "Existing & Proposed Conditions Watershed Boundaries" photogrammetry by Geomaps, 1"=40'-0", date 2/27/01, watersheds drawn by Land Tech Consultants.
    c) "The Reserve at Poplar Plains, Westport, Connecticut, Environmental Report, prepared for ARS Partners, dated October 23, 2001, prepared by Land Tech Consultants.
    d) "The Reserve at Poplar Plains, Open Space Residential Community, Newtown Turnpike, Partrick Road, Westport, Connecticut**"** Existing Natural Resources, Soils, Proposed Site Management Plan**,** prepared by Land Tech Consultants, Roger Ferris & Partners LLC Architects, Barkan & Mess Associates, Inc. Traffic engineers, scale 1"=40'-0", date 10/16/01, sheet 1-13.
    e) The Reserve at Poplar Plains, Hydrology Report, date October 16, 2001, prepared by Land Tech Consultants

f) The Reserve at Poplar Plains, Clustered Residential Community, Integrated Pest Management Plan (IPM) plan, prepared by Land Tech Consultants for ARS Partners, date January 25, 2002.
g) Hydrogeologic Assessment, The Reserve at Poplar Plains, date 11/21/01, prepared by Leggette, Brashears & Graham, Inc., professional groundwater and environmental engineering services.

MODIFICATIONS:

1. The Commission finds that the entry road from Newtown Tpke located within the 25' IWW setback of wetland I is APPROVED with the following modification to eliminate significant impact on the wetlands:

    a) Road is to be constructed without curbs.
    b) Stormwater retention is to be directed to the north of the road.

    The Commission finds no other feasible alternative to provide access to site.

2. The Commission finds that proposed grading within the 15' IWW setback of wetland IX is DENIED for the purposes of installing a sewer line and access to units 23. Proposed grading within the 15'IWW setback of wetland IX will significantly impact this wetland pursuant to sections 6.0-6.5.

3. Proposed sewer and water line through wetland and stream corridor is APPROVED with the following modifications to eliminate significant impact on the wetlands:

    a) Soil borings, probes or test drilling shall be performed prior construction commencement to determine whether directional drilling can be conducted without having a significant impact on the wetlands .
    b) Conservation Department shall be notified one week prior to testing.
    c) Documentation shall be submitted to the Conservation Department that indicates directional drilling is possible. Conservation Department representative is to be onsite during test drilling.
    d) If directional drilling is not possible, this permit is null and void.
    e) Said line is to be relocated so that access is south of wetland VII and wetland XI.
    f) Staging area for directional drilling shall be located in the upland sides and shown on plans prior to permit issuance.
    g) The proposed 2 inch sewer line shall be encased within an 6 inch sleeve to provide for possible, future expansion. Said sleeve shall be equipped with alarm system to signify blockages or leaks.
    h) On site monitor (professional wetland scientist) is to be retained during the construction activities. Monitor shall be selected by the Conservation Director and the cost borne by the developer.

i) If proposed blasting for directional drilling is found to cause significant impact to wetlands, then blasting is to stop and Conservation Department informed.

4. The Commission finds that filling Wetland XII (approximately 2,700 sf) will not significantly impact the general character of wetlands and watercourses as they are regulated pursuant to 6.0-6.5 Standards of Review. Therefore, the construction of Units 21 and 20 is APPROVED.

5. The Commission finds that filling of wetlands X, XI and XIII and proposed grading within the associated 35' IWW setback for the construction of Units 12, 24, 28, 29 will significantly impact wetlands. Units 12, 24, & 28 aretherefore DENIED as regulated pursuant to Sections 6.0-6.5 Standards of Review. The Commission finds that locating Unit 29 outside the 35' IWW setback is a feasible and prudent alternative to the currently proposed location.

6. The Commission finds that the driveway and associated grading proposed to access Unit 23 will significantly impact the wetlands within the IWW 25' setback and is DENIED.

7. The Commission finds that the driveway to access Unit 31 will not significantly impact wetlands and is APPROVED with the following modification to eliminate significant impact on the wetlands:

a) Said driveway shall be constructed with gravel and without curbs.

8. The Commission finds that all pump stations located within the 25' IWW setback will significantly impact wetlands and are DENIED pursuant to sections 6.0-6.5. The Commission finds that it is a feasible and prudent alternative to locate all pump stations outside 25' IWW setback.

9. The Commission finds substantial evidence has been submitted into the record relative to units 2,16, & 23 that supports the need for larger undisturbed buffers to protect wetland/water resources by filtering pollutants, reducing effects of erosion and sedimentation during construction, providing aquifer recharge and providing adequate upland habitat for wetland dependent wildlife. The construction of Units 2,16 and 23 will significantly impact wetlands and watercourses pursuant to Sections 6.0-6.5 Standard of Review and are DENIED.

10. The Commission finds substantial evidence has been submitted into the record relative to units 1, 3, & 4 that supports the need for larger undisturbed buffers to protect wetland/water resources by filtering pollutants, reducing effects of erosion and sedimentation during construction, providing aquifer recharge and providing adequate upland habitat for wetland dependent wildlife. The plan is to be modified in the following respects: These homes are to be relocated so that they are 45 feet from the wetland limits, which is similar to a 45' setback, such distance being necessary to eliminate significant impact of these homes on the

wetlands. Also, a 25 foot vegetative buffer is required for the wetlands surrounding these homes in order to eliminate significant impact of these homes on the wetlands.

11. The Commission finds that the construction of Units 7,8,10, &11 is to be modified in the following respects: These homes are to be relocated so that they are 45 feet from the wetland limits, which is similar to a 45' setback, such distance being necessary to eliminate significant impact of these homes on the wetlands. Also, a 25 foot vegetative buffer is required for the wetlands surrounding these homes in order to eliminate significant impact of these homes on the wetlands.

12. The Commission finds that the construction of Units 17,18,&19 is to be modified in the following respects: These homes are to be relocated so that they are 45 feet from the wetland limits, which is similar to a 45' setback, such distance being necessary to eliminate significant impact of these homes on the wetlands. Also, a 25 foot vegetative buffer is required for the wetlands surrounding these homes in order to eliminate significant impact of these homes on the wetlands.

13. The Commission finds that the construction of 20, 21, 26 & 27 are to be modified in the following respects: These homes are to be relocated so that they are 45 feet from the wetland limits, which is similar to a 45' setback, such distance being necessary to eliminate significant impact of these homes on the wetlands. Also, a 25 foot vegetative buffer is required for the wetlands surrounding these homes in order to eliminate significant impact of these homes on the wetlands.

14. The Commission finds that the proposed road crossing of wetland II for the purposes of accessing Units 3 and 4 is APPROVED with the following modification to eliminate significant impact on the wetlands:

    a) Said road is to be located outside wetland II and the associated 25' IWW setback.
    b) Said road shall be gravel and constructed without curbs

15. The Commission finds the proposed primary road crossing wetland I & II and associated grading within the 15'IWW setback is APPROVED with the following modification to eliminate significant impact on wetland. The Commission finds no other feasible alternative to provide access to site.

    a) Said road shall not have curbs.

16. The Commission finds that the proposed driveway that accesses Unit 1 within the 25''IWW setback is APPROVED with the following modification to eliminate significant impact on the wetlands:

    a) Said road is to be gravel and road shall not have curbs.

17. The Commission finds that stormwater discharge outlets, footing drains, and infiltrator structures are located within wetland limits and the associated 15' IWW setback and will significantly impact wetlands and watercourses and are DENIED pursuant to Sections 6.0-6.5 Standards of review.The Commission finds that locating such outlets, footing drains, etc outside the 15'IWW setback and the site specific 25' IWW vegetative buffer is a feasible and prudent alternative to the current locations. Said outfalls are to incorporate velocity dissapators prior to discharge.

18. The Commission finds that stormwater retention between Vernal pool 2 and vernal pool 1B will significantly impact wetlands/watercourses and existing vernal pool habitats and is DENIED pursuant to Sections 6.0-6.5 Standards of Review. The Commission further finds that it is a feasible and prudent alternative to locate stormwater retention north of road A.

19. The Commission finds that proposed sewer lines located on the wetland side of proposed units 17-19 and 5-9 will significantly impact wetlands and watercourse and are DENIED pursuant to Sections 6.0-6.5. The Commission finds that locating sewer lines for Units 17-19 and 5-9 to the front of the house is a feasible and prudent alternative.

20. The Commission finds that blasting may significantly impact wetlands, watercourses and vernal pools pursuant to Sections 6.0-6.5 Standard of Review. Therefore, the Commission further finds that blasting required to construct basements for Units 17-19 will significantly impact wetlands and watercourses. Therefore, the Commission finds that eliminating basements for Units 17-19 is a feasible and prudent alternative to protecting wetlands from significant impact. The Commission DENIES the construction of basements for units 17-19.

21. The Commission finds that Units 17-19 are to be constructed no further to the southwest than the present northeast corner of former Unit 16.

22. The Commission finds that the private drinking water well to service unit 31 proposed within the 25'IWW setback will significantly impact wetlands and watercourses and is DENIED pursuant to section 6.0-6.5. The Commission finds that it is a feasible and prudent alternative to locate the well outside the 25' IWW setback which will decrease environmental impact and allow for easier access during routine maintenance without causing additional impact within wetland setbacks.

23. The Commission finds that details submitted for the proposed fishing platform are incomplete and therefore the proposal is DENIED.

CONDITIONS

ITEMS REQUIRED TO BE SUBMITTED PRIOR TO ISSUANCE OF PERMIT

1. The Commission recommends that the Flood & Erosion Control Board review modifications approved by the Commission. The F&ECB shall determine whether approved plan is consistent with current approval provided by the Board. If the Board cannot approve modifications with respect to the existing resolution then a new application must be filed.

2. Test borings shall be conducted to confirm feasibility of directional drilling methods for sewer installation. Test soil boring data to be submitted to verify conclusion. **If directional drilling methodology is not feasible, then project approval is null and void.**

3. Site Plans and Proposed Site Management Plans shall be revised to reflect resolution approved by the Commission and shall be submitted prior to permit issuance with appropriate documentation of usage and distribution. Tabulation in acres of total wetlands, uplands, area in conservation easement, encroachment in wetlands and wetland setbacks, uplands disturbed and protected.

4. Submittal of Revised Erosion Control Plan: Said plan to include the following:
    a) A Phasing Plan is to be incorporated with current Erosion Control Plans. , indicating project sequencing, and stock piling locations with the associated erosion controls. Each phase shall be conducted one at a time with advancement onto the next phase not commencing until the prior phase disturbance has been completely stabilized.
    b) Tree protection measures shall be at drip line of trees at the Conservation Easement limits.
    c) Plan to be approved by Conservation Department and Deputy Town Engineer.
    d) Said plan shall indicate note that the Conservation Department shall be contacted to inspect erosion controls at each phase prior to commencement.
    e) Conservation Department shall be contacted one week prior to construction commencement in order to conduct inspection of erosion controls and tree protection measures and confirm proper installation.

5. Submittal of a Stormwater Maintenance Plan: Said plan to include the following:
    a) Said plan is to be approved by Conservation Director and Deputy Engineer and to be submitted prior to permit issuance.
    b) Said plan is to include schedules for sweeping, catchbasin cleaning, stormgate units, large particle oil separator maintenance and inspection.
    c) Said plan is to include the schedules for inspection and water quality testing. Pre and post construction water quality testing shall be conducted in waterbodies near stormwater discharge outlets at wetland I, wetland VI, wetland VII (pond 4), wetland II

(pond 2) & wetland III (pond 1 and 3). Testing to include sediments, nutrients, dissolved oxygen and metals.

d) All catchbasins shall have hooded traps and sumps.

e) An individual permit is to be obtained for the removal of sediment occurring in waterbodies.

6. Submittal of a Conservation Easement Plan and Language. Said plan shall include the following:
   a) All wetland and upland areas protected from development by this approval.
   b) 15' IWW setback and the site specific 25' IWW vegetative buffer.
   c) Concrete monuments shall be placed into the ground at the 15' IWW setback and the site specific 25'IWW vegetative buffer and limit of uplands protected as part of this approval at a separation distance of 100 feet. Said monuments are to be installed prior to construction.
   d) Management responsibility shall be provided by the Homeowners Association (HOA) in perpetuity.
   e) Said easement shall prohibit cutting, clearing, filling or building without prior permission from Conservation Commission.
   f) Proposed plan and language shall be filed on the land records and all individual house deeds and incorporated into the homeowners' by-laws.
   g) Proposed plan and language for recording shall be reviewed and approved by Town of Westport Town Attorney and the Conservation Department.
   h) All-terrain vehicles are not permitted within conservation easement limits.

7. Submittal of the Homeowners Association Bylaws. The following information shall to be incorporated into the Bylaws. Said bylaws are to be submitted prior to permit issuance.
   a) Stormwater Maintenance Plan
   b) Long Term Wetlands Management Plan
   c) Amenities not permitted on this property.
   d) Inland Wetlands and Watercourses Regulations, including fine procedure.
   e) Conservation Easement Language and Plan
   f) Integrated Pest Management Plan, dated 1/25/02, prepared by Land Tech Consultants with the following conditions:
      1) No personal use of pesticides and fertilizers is permitted.
      2) Said plan is to be carried out by a licensed applicator.
      3) All areas indicated within the Conservation Easement area ARE NOT to be included in the IPM plan.
   g) Changes to the bylaws relating to wetlands or property maintenance are to be reviewed by the Conservation Commission.
   h) All terrain vehicles are not permitted within Conservation Easement limits.

i) All outdoor oil tanks, whether above or below ground, are prohibited. Any fuel tank located inside the house must be surrounded by a concrete lip to contain any spills.

8. Items to be placed on the deed restrictions:

a) Amenities not permitted on the property
b) Conservation Easement Language and Plan

9. Submittal of a Long Range Wetland Management Plan. Said plan shall include the following:

a) Baseline monitoring report: In order to monitor the efficacy of wetland enhancement efforts and mitigation measures, a number of monitoring plots must be selected for regular monitoring. Initial testing and inventory must be conducted prior to work commencement in order for a body of baseline data to be established from which future comparisons can be made. Said monitoring plots are also to include the 15' IWW setback and the site specific 25' IWW vegetative buffer. Said report shall include water quality testing results as required in stormwater maintenance plan. In addition, said plan shall include water testing in Poplar Plains Brook upstream on the property and at the downstream outlet on the property. Transects and monitoring quadrats shall be shown on this plan where monitoring will take place for the next 3 three years. After three (3) years the HOA or Owner shall request a review of monitoring results by the Conservation Commission to determine whether additional monitoring is necessary. Baseline monitoring report shall be submitted prior to permit issuance.
b) Conservation Easement plan shall be included with this report.
c) The "Proposed Management Plans" shall be revised to indicate the Conservation Easement limits. This includes the area within the 15' IWW setback,site specific 25' IWW vegetative buffer area, proposed planted areas and those upland areas that will be left undisturbed as approved by the Commission. The following information is to be shown on these plans:
    1) Existing trees (8" dbh and greater) along conservation easement limit and within wetland II outside proposed swale. In addition, said trees are to be flagged in the field. Conservation Department to review trees and determine which, if any, may be removed.
    2) Areas to be planted.
    3) The following notes shall be included in the plan
        a) Native shrubs and understory are to remain

b) Invasive non native vegetation as listed by the DEP may be removed by hand. Herbicide may be used on a spot by spot basis (tree by tree basis)
c) Aggressive native vegetation may be cut back but not removed within the 15'IWW setback and site specific 25' IWW setback. This does not include other site specific upland areas as approved by the Commission.

4) No fertilizers, herbicides, or pesticides are to be used within this area
5) Maintenance of these areas belong to the Homeowners Association or the owner.

d) Annual Monitoring Report (as proposed by the applicant) shall include the following:

1) All transects and quadrats shown on the baseline report, photographs and vegetation inventory.
2) Recommendations for improving wetland buffers (additional plantings, invasive vegetation management, water quality testing, etc
3) Status of the Eastern Box Turtle, wildlife observation as well as the observance of any other listed species as indicated in the report prepared by the applicant. Applicant to include all efforts used to sustain species and improve habitat on property as part of the long term management of this wetland.
4) 1st monitoring report is required after first growing season after construction begins.
5) Water quality monitoring

10. Individual house permits for units 30 and 31 are required. Units 30 and 31 are proposed to be served by individual wells. However, use of a well will require a variance from the Zoning Board of Appeals since Section 17 of the Zoning Regulations states that all units in OSRD are to be served by public water. Should a variance be granted, no permit for construction of units 30 and 31 will be issued until Health Department approval for a well is issued. Should the applicant fail to secure a variance, the water line must be located in the street as is the sewer line. Wells are not to be installed in the 25' IWW setback.

AMENITIES NOT INCLUDED IN THIS PERMIT

1. Sidewalks,visitor parking, trails and fishing platform. Said proposals require applicant to return to the Conservation Commission for approval.

2. Pools, tennis courts, decks, patios, shed, fences, walls (with the exception of well and or retaining wall for tree protection) ARE NOT PERMITTED on this

property. Said resolution shall be included in all property deeds and included in the Homeowner Association Bylaws.

3. All outdoor oil tanks, whether above or below ground, are prohibited. Any fuel tank located inside the house must be surrounded by a concrete lip to contain any spills.

WORK TO BE COMPLETED PRIOR TO CONSTRUCTION COMMENCEMENT OF EACH PHASE

1. Implementation of the Erosion and Control Plan, all protective measures are to be installed prior to construction.

2. Tree protection devices shall be installed along border of 15' IWW setback and site specific 25' vegetative buffer.

3. On site construction monitor shall be retained. Monitor shall be selected by the Conservation Department. Said cost of monitor shall be borne by the Developer or property owner. Name, and contact address and telephone number to be on file at the Conservation Department. Said monitor shall provide bi-weekly reports to the Conservation Department throughout the construction activity.

4. Conservation Easement limit areas are to be flagged in the field and monuments installed. Conservation Department shall be contacted one (1) week prior to construction commencement in order to allow time for inspection by Conservation Department staff and or Monitor to confirm erosion controls and tree protection measures are in place.

5. Protective measures, ie fence, for Eastern Box turtle home range shall be installed.

6. Bond shall be submitted to cover the cost of plantings within the 15' IWW setback and site specific 25' IWW vegetative buffer, mitigation areas, erosion control and labor. Bond estimate shall be submitted to and approved by Conservation Director and bond monies shall be submitted prior to issuance of Conservation permit. A separate bond shall be submitted for each phase of construction.

7. General Contractor, Owner and Site Contractor shall sign a copy of this permit indicating he/she understands terms and conditions of permit. Said signature acknowledges that all his/her subcontractors are aware of this permit and its conditions. Property Owner is held responsible for all fines that may be associated with violations. Copy of signed permit shall be filed in the Conservation Department with contact phone number and address.

8. Onsite fracture tracer tests shall be performed and documentation shall be submitted to the Conservation Department prior to construction.

OTHER CONDITIONS

1. Educational brochure shall be prepared for future homeowners describing the rules and regulations and proper housekeeping for residences who live in close proximity to wetlands. Said brochure should also include limit of landscaping responsibility of the homeowner and the HOA.

2. This is a conditional approval. Each and every condition is an integral part of the Commission decision. Should any of the conditions on appeal from this decision be found to be void or of no legal effect, then this conditional approval is likewise void. The applicant my refile another application for review.

Motion:	Kagan
Second:	Freeman
Ayes:	Kagan, Freeman, Davidson, Walker, Shufro, Starr & Weil
Nayes:	None
Votes:	7:0:0

FINDINGS

The Reserve at Poplar Plains
#WPL 6678-01

1. Commission's Jurisdiction

The purpose of the Waterway Protection Line Ordinance (WPLO) as set forth in Section 148-l is to "protect all Waterways of the Town of Westport from activities that would cause hazards to life and property and/or activities having adverse impact upon the floodcarrying and water storage capacity of the waterways and floodplains, the flood heights and the natural resources and ecosystem of the Town of Westport, including but not limited to ground and surface water, animal, plant and aquatic life, nutrient exchange and energy flow, with due consideration given to the results of similar encroachments constructed along the reach of the waterway."

Section 148-5 lists those activities, which are regulated under the Ordinance. The activities include: dumping, filling and transferring of any materials and the encroachment by any construction, building or portion of a building or other permanent structure(s) within said waterway protection lines.

Should an activity not be a permitted use as described in Section148-6, then the activity requires both the approval of the Flood and Erosion Control Board and The Conservation Commission.Section 148-9 of the Ordinance lists the relative information, which must be submitted by the applicant to the Conservation Commission prior to rendering of its decision. Said information shall show that such activity will not cause water pollution, erosion and/or environmentally related hazards to life and property and will not have an adverse impact on the preservation of the natural resources and ecosystems of the waterway, including but not limited to impact on ground and surface water, aquifers, plant and aquatic life, nutrient exchange and supply, thermal energy flow, natural pollution filtration and decomposition, habitat diversity, viability and productivity and the natural rates and, processes of erosion and sedimentation.

2. Applicant is requesting to construct a residential development consisting of thirty one (31) dwellings with associated site appurtenances. Also included in the proposal is the extension of water and sewer lines across wetlands and Poplar Plains Brook. The City of Norwalk will provide sewer service to this property.

3. The total site area is 55.9 acres and approximately 36 acres (3.23+/- acres are ponds, 0.18+/- acres are ephemeral pools, 0.67+/- acres are vernal pools, 1.20+/- is Poplar Plains Brook, and 30.6 +/- acres are wetland communities = 35.9+/-acres of wetlands) are considered wetlands. Therefore, approximately

19.9 acres are considered uplands and 10.3 acres of upland are proposed to be developed in this proposal.

4. Applicant and property owner of this parcel is ARS Partners, LLC and their agent is Land Tech Consultants.

5. Westport Conservation Department contracted consultants to assist in review of this application are Milone & MacBroom, Engineering, Landscape Architecture and Environmental Science firm, hereafter referred to as (M&M) and Thomas Rochovanksy, Wildlife Biologist.

6. The Waterway Protection Line Ordinance dictates that the Waterway Protection Line Ordinance (WPLO) boundary be located 15' from the 25 year floodplain, 15' from the wetland boundary, or 15' from the top of bank, whichever is more conservative. The WPLO boundary is located 15' from the wetland boundary.

7. The Flood & Erosion Control Board approved this application on November 7, 2001 with conditions. The conditions of approval are as follows:

a) a) Proposed site grading, as well as development in general, shall not alter drainage patterns to the detriment of adjoining or downstream properties.
b) Applicant shall provide erosion and sedimentation control devices on all filled embankments, specifically at the toe of filled slopes silt fence and haybales shall be installed. The face of all slopes shall be protected with a temporary erosion control matting or hydroseeding until such time as adequate groundcover grows in.
c) Any current or future work within the WPLO setback shall be performed in strict conformance with the Waterway Protection Line Ordinance, section 148-6, as well applicable State and Federal statutes for work within the regulated waterway.
d) All final plans, details, and calculations shall be reviewed and approved by the Town Engineer.
e) Drainage and grading, proposed in conjunction with the proposed development, shall be subject to review and approval by the Town Engineer. This shall include review of all final plans and calculations and shall include proposals by all future owners within the development.
f) Flood & Erosion Control Board has approved this application pursuant to the WPLO on November 7, 2001.
g) The existing conditions survey shall indicate all points of entry of existing runoff water into the property.
h) The Flood & Erosion Control Board recommends that the Planning & Zoning Commission require a separate maintenance plan for the various drainage structures, drainage basins, and development in general and such plans should be developed and filed as a separate document with Planning & Zoning.
i) Applicant shall submit a drainage analysis for the watershed upstream of the Wilton Road culvert in both existing and proposed conditions.

8. Plans reviewed for this application include the following:

a) "The Reserve at Poplar Plains, Open Space Residential Community, Newtown Turnpike, Partrick Road, Westport, Connecticut" Site Plan, Details & Notes prepared by Land Tech Consultants, Roger Ferris & Partners LLC, Barkan & Mess Associates, Inc., scale 1"=40'-0", date 10/16/01, revision date 1/25/02, sheets 1-13.

b) "Existing & Proposed Conditions Watershed Boundaries" photogrammetry by Geomaps, 1"=40'-0", date 2/27/01, watersheds drawn by Land Tech Consultants.

c) "The Reserve at Poplar Plains, Westport, Connecticut, Environmental Report, prepared for ARS Partners, dated October 23, 2001, prepared by Land Tech Consultants.

d) "The Reserve at Poplar Plains, Open Space Residential Community, Newtown Turnpike, Partrick Road, Westport, Connecticut**"** Existing Natural Resources, Soils, Proposed Site Management Plan**,** prepared by Land Tech Consultants, Roger Ferris & Partners LLC Architects, Barkan & Mess Associates, Inc. Traffic engineers, scale 1"=40'-0", date 10/16/01, sheet 1-13.

e) The Reserve at Poplar Plains, Hydrology Report, date October 16, 2001, prepared by Land Tech Consultants

f) The Reserve at Poplar Plains, Clustered Residential Community, Integrated Pest Management Plan (IPM) plan, prepared by Land Tech Consultants for ARS Partners, date January 25, 2002.

g) Hydrogeologic Assessment, The Reserve at Poplar Plains, date 11/21/01, prepared by Leggette, Brashears & Graham, Inc., professional groundwater and environmental engineering services.

9. ***Background Information*****:**

a) WPL 4219-91 was approved in part by the Conservation Commission on 8/6/91. 70 units proposed in application and said resolution approved the construction of 25 residential units with conditions. These units were all outside the 35' IWW setback.

10. Property is partially located within the aquifer/primary groundwater recharge zones. Units 20-31 are located within this area.

11. Property is located outside the aquifer/wellfield protection zone.

12. Property is outside the Coastal Area Management zones.

13. Property is not located within the 100 year flood plain as designated by the Federal Emergency Management Agency (FEMA).

14. A 100 year and 25 year floodplain have been partially delineated on the Site Plans, revision date 1/25/02, prepared by Land Tech Consultants. This delineation was determined from the Leonard Jackson studies, completed in

1978. The 100 year floodplain shown on the site plans, is inconsistent with 100 year floodplain shown in exhibit #29 presented by the Land Tech Consultants.

Letter dated 2/1/02, from Leonard Jackson Associates indicates: *" The 100 year floodplain elevation is 61.4' ". (*Site Plans, revision date, 1/25/02 and exhibit 29 indicate show the 100 year floodplain ranging between 59-61'.)

Letter dated 2/5/02, from M&M item 5 indicates: *"We recommend that the elevation of the 100 year flood event be confirmed using the FEMA Flood Insurance Program standards. There have been many watershed changes and technical advances since the 1978 study was performed."*

15. Watercourse occurring on the property is identified as Poplar Plains Brook which is a tributary of the Saugatuck River.

16. The applicant has included in Appendix C of report entitled "The Reserve at Poplar Plains, Westport, Connecticut, Environmental Report, the Natural Diversity Database information obtained from the Environmental GIS Data of Connecticut, 2000 edition which shows that the subject property is not located within an area of concern.

17. The State of Connecticut Department of Environmental Protection prepared a document entitled " Guidelines, Upland Review Area Regulations, Connecticut's Inland Wetlands & Watercourses Act, June 1997, Wetlands Management Section, Bureau of Water Management. The document states, "The relationship between a wetland or watercourse and its surrounding upland is complex. Upland land clearing, excavating, filling and other construction activities, if not properly planned and executed can have significant impacts on adjacent wetlands and watercourses. Under the Inland Wetlands and Watercourses Act, the municipal wetlands agency has broad authority to issue permits not only for activities in wetlands or watercourses themselves, but for activities located elsewhere when such activities are likely to impact or affect wetlands or watercourses. It is the Department's policy to encourage municipal wetland agencies to review proposed activities located in upland areas surrounding wetlands and watercourses where ever such activities are likely to impact or affect wetlands or watercourses."….. "While requiring a permit for specified activities within defined upland review boundaries, these wetland agencies still maintain their authority to regulate proposed activities located **in more distant upland areas if they find that the activities are likely to impact or affect a wetland or watercourse**."
Evidence has been submitted into the record that indicate the need for additional uplands on this property:

a) Letter dated 1/28/02, last paragraphs by T. Rochovansky indicates the following:

"Loss of uplands: My previously stated concerns for the loss of the critical upland component to the adjacent wetland systems continues with the new

plan. The loss of this habitat and connective wildlife corridors will have a deleterious impact on wildlife and the diversity of the site. The large areas of undisturbed habitat are wetland areas, and very little upland habitat is preserved or accessible on this plan.
Setbacks: I continue to believe that the proposed setbacks in this plan are not adequate to reduce impacts to wildlife and aquatic systems. Fifty to seventy five feet of totally undisturbed, naturally vegetated wetland setbacks and buffers throughout the project would be best. Reducing the number of units, removing all disturbance in wetland areas, and sticking to a more appropriate setback distance would go a long way in addressing the concerns for maintaining habitat quality."

b) Letter dated 2/2/02, 2nd paragraph, page 4, by T. Rochovansky, indicates the following:

"*As areas dry out with seasonal changes, species such as amphibians may relocate in nearby yet not contiguous wetlands, and* ***proposed development will have a significant impact*** *on the continued survival of these species."*

18. The current application proposes 31 single family dwelling units with associated site improvements including the crossing of wetlands and Poplar Plains Brook with extended sewer and water lines. Letter dated 1/11/02, by Land Tech Consultants indicates 0.35 acres of wetland loss. Environmental report dated October, 2001 indicates 1.14 acres of impact within wetland limits. The following summarizes the regulated activities pursuant to the Inland Wetlands and Watercourses Regulations and the Waterway Protection Line Ordinance (WPLO) in this application as shown on the plans entitled "Site Plan" revision date 1/25/02:

a) Proposed entry road from Newtown Tpke is within the 25' setback (and encroaches within the WPLO) of wetlands and vernal pool 2.
b) A stormwater retention area is proposed within "wetland I" in between vernal pool 2 and vernal pool 1B. This encroaches into the WPLO.
c) Proposed road crosses wetland II, which encroaches into the WPLO
d) Proposed grading within the 15' IWW setback of vernal pool 2 and wetland I which encroaches into the WPLO.
e) Sewer line is proposed below Poplar Plains Brook, wetland IX and the associated 15' IWW setback which encroaches into the WPLO.
f) Sewer line is proposed within the 15' IWW setback and the WPLO near wetland VII. Infiltrator and stormwater discharge outlet with associated plunge pool is proposed within the WPLO.
g) 5 units, Unit 21, 24, 28 and 29 are proposed within the WPLO.
h) Driveways to unit 23 and 31 are shown within the 25'IWW setback only.
i) Sewer line encroachments within IWW setbacks behind Units 16-19 (wetland II) and the WPLO and units 5-8 (wetland VII) and near Unit 24 and 23 (wetland IX) and the WPLO.
j) Grading within the 15' IWW setback and the WPLO is proposed adjacent to wetland I, II, VII & IX.

k) Stormwater discharge outlets for roof drains and footing drains are shown to discharge within the 15' IWW setback or directly in wetlands and the WPLO in several instances throughout design. Methods to reduce water velocities are not indicated in many cases.
l) Several pump stations are proposed within the 25' IWW setback only.
m) The utility line for sewer is located between "wetland VII and VIII" and ultimately crosses wetland IX and the WPLO. It is located in portions of the 15" IWW setback and WPLO of wetland VIII and XI.
n) The sewer force main is located within the 15' IWW setback and the WPLO of wetland IX. Construction for the installation along 15' IWW setback boundary will impact vegetation within the 15' IWW setback and the WPLO.
o) Fishing platform within wetland III and the WPLO, is not labeled on plans. Trail creation and maintenance is proposed within wetland limits, also not labeled on plans. However, these items are discussed in the environmental report, dated October 23, 2001, prepared by Land Tech Consultants. Applicant has indicated during public hearing testimony that trails are no longer proposed as part of this application.

19. On this property, the WPLO is located 15' from the wetland boundary. In summary encroachments within the WPLO include the following:

a) Units 28,29,24,12, and 21.
b) Sewer Line
c) Road A and road to access Units 2,3,4,&5.
d) Grading, plunge pool, infiltrator, rip rap, stormwater discharge outlets, footing drains outlets, swales, stormwater retention.
e) Fishing platform

20. Soil Description: As determined through the wetland amendment process, the soils existing in this area are described as Raypol silt loam (Rb) and Adrian muck (Aa). The Fairfield County Soil Survey describes these wetland soils as follows: <u>Adrian muck (Aa):</u> This nearly level, very poorly drained soil is found on plains and terraces. It has a water table at the surface most of the year, and water is commonly ponded on the surface from fall to early summer. The permeability of the soil is rapid in the surface layer and substratum. Runoff is very slow, and available water capacity is high. Most areas of this soil are wooded or covered by marshgrasses and sedges. A few small scattered areas have been filled and are used for community development. The major limitations of this soil for community development are the high water table, ponding and the instability of the organic layer. Most areas require drainage, but the organic layer shrinks and subsides when drained and many areas don't have drainage outlets. The use of on-site septic systems in this soil requires extensive filling and special design and installation. Wetness and ponding make it unsuitable for cultivated crops an poorly suited to commercial timber production.

Raypol silt loam (Rb): This soil type is nearly level, poorly drained soil found in depressions, on plains and terraces. Included in this unit are small areas of moderately well drained Ninigret soils, poorly drained Walpole soils, and very poorly drained Saco and Scarboro soils. The Raypol soil has a seasonal high water table at a depth of 6 inches from fall until late spring. The permeability of the soil is moderate in the surface layer and subsoil, and rapid or very rapid in the substratum. Runoff is slow, and available water capacity is moderate. The soil dries out and warms up slowly in spring. Most areas of this soil type are wooded. The seasonal high water table and rapid permeability in the substratum limit this soil for community development. Groundwater pollution is a hazard in areas used for on-site septic systems. Excavations in the soil area commonly filled with water, and many areas do not have drainage outlets. Quickly establishing plant cover and using siltation basins help to control erosion and sedimentation during construction. The soil is poorly suited for trees due to the high water table which restricts root growth. As a result, many trees are uprooted during windy periods.

21. The proposed foot print of the single family dwellings range between approximately 2,200-2400 sf (not including garages).The Commission finds that the construction of smaller homes, in some areas, as set forth below, is a prudent and feasible alternative which will decrease environmental impacts as wetlands and watercourses are protected pursuant to Section 5.1.(b),6.0-6.6 and 1.4 a),b),c) d),e) and f) of the Inland Wetlands and Watercourses Regulations.

22. Proposal of Sanitary Sewers

Originally, applicant proposed a 35' width of disturbance within mature, wooded floodplain swamp for the installation of the sewer by traditional methods of "cut, trench and fill." Given the properties of the unstable wetland soil, excavation to install the sewer line would need special considerations. No details were submitted indicating special considerations. After the line was installed fill would be placed over the force main and compacted. Access to these lines would be necessary in the case of a blockage, breakage and or general maintenance. Plans indicated other utilities, such as public water, to be located in the same vicinity (10' apart). A vehicle would need to access this area on a regular basis. Therefore, through the installation of compacted fill, subsurface flow may be impacted and diversion of water flows may result. During construction, water quality may also be degraded due to excess sedimentation and erosion. Vegetation would need to be removed where the utilities were proposed. This impacts wildlife by removing breeding, shelter and foraging resources. Erosion and sedimentation is incurred by the removal of soil stabilizing roots and use of heavy machinery. The Commission finds this to significantly impact wetland and watercourses pursuant to sections 5.0 and 6.0-6.5 of the Regulations and the Waterway Protection Line Ordinance (WPLO).

During the public hearing process, the applicant revised plans to indicate "directional drilling" methods to install the sewer and water line. This methodology was chosen to reduce environmental impact on Poplar Plains

Brook. Details of this methodology have not been submitted to dated except for a brochure entitled “Horizontal Remediation Wells” prepared by Directional Technologies, Inc. who performs this service. The staging areas are not shown on the plans where the majority of impact will take place as several pieces of heavy equipment are needed to perform the task. Testing to determine whether this method of installation has not been verified to confirm whether it is feasible on this property. Staging areas and access routes may present erosion and sedimentation impacts to the wetland that may affect water quality and wildlife habitat. The Commission finds that the applicant is to provide documentation indicating soil boring results to determine whether directional drilling is feasible. If this methodology is not feasible then this approval becomes null and void. Bridgeport Hydraulic Company has given preliminary approval to employ “directional drilling” methods to install water line.

Breaks in the sewer line and or blockages causing effluent spillage will be a Health and Public Safety issue as well as a significant impact to wetlands and watercourses as they are protected pursuant to section 6.0-6.5 of the IWW regulations and the WPLO. During the public hearing the applicant has indicated that the sewer line will be equipped with alarm systems to signify blockages and leaks occurring within the sewer lines and associated pump stations. In addition, a 6” sewer line encasing will be constructed around the force main to capture any leakages beneath Poplar Plains Brook. The Commission finds that alarm systems and 6” encasing for the sewer system are required as a protective measure of the wetland systems.

In addition, the Commission finds the current location of the sewer line and staging area, between wetland VII, VIII, IX and XI will significantly impact wetlands and watercourses during and post construction. Therefore, the Commission finds relocating the sewer line crossing southwest of wetlands VII and southeast of wetland XI will pose less environmental impact than the current location. The Commission finds that the location of staging areas are to be outside wetland limits, setbacks and the WPLO and are to be accessible from the uplands so as to pose the least environmental impact. Furthermore, access routes and staging areas with protective measures such as erosion controls and tree protection devices will minimize wetland impacts during implementation. The current plan indicates a water line and sewer line 10’ apart which is also to be reviewed and approved by the Health Department. Impacts associated with construction such as grading and filling, etc., significantly impact the wetland by presenting erosion and sedimentation issues. Sedimentation negatively affects vegetation and degrades water quality, wildlife and the ability for the wetland to function. The removal of vegetation within regulated reduces breeding, nesting and foraging resources for wildlife.

The Commission finds that sewer lines adjacent to wetland I and wetland VII, and IX located within 25’ IWW setback may significantly impact wetlands pursuant to sections 6.0-6.5. The Commission finds that it is a feasible and prudent alternative to locate sewer lines to the front of the houses located in

these areas. The exception to this includes the main sewer access and wetland crossing to access the site located in Road A.

a) Letter dated 12/21/02 from M&M indicates "*Units 16-19 have sanitary sewer lines at the rear, along the wetland boundary including vernal pool 1A. This is a forced main line and perhaps could be relocated along the roadway with the water main. This would reduce risks to wetlands from construction, inadvertent alterations to hydrology due to trenching, operational upsets, repairs and invasive species. Roof drains are directed toward wetlands. What about foundation/basement drains which are more likely to contain pollutants/nutrients. Uplands here are young forest linking the vernal pools and pond. The area appears to be very good wildlife habitat, necessary to amphibians and reptiles on the site, especially in the corridor near Unit 19. Secondary impacts from homesite development are the major threat to the wetlands…..VP1A is very open to view and is a very convenient dumping ground for nearby units. It again appears likely that landscaping will be up to the 10-15' planted hedgerow. This is far less than the 100 feet suggested by CT DEP as mentioned earlier."*

b) Letter dated 12/21/02 from M&M page 2, indicate "*Vernal pools need not dry up in all years to function successfully within a landscape mosiac.The pools only be fish free or low enough in predators to allow life cycles to be successfully completed. For example, ponds 3,4 and 8 were noted to contain obligate or faculative vernal pool species, yet they were excluded from the vernal pool inventory presumbably because they do not dry up in most years due to isolation ,blockage or predation. It is thought that sometimes 'decoy' pools develop and may hinder the dynamics of a population but that is not clear in this case and the evidence of breeding by obligate species should not be discounted."* This letter indicates the possibility that pond 4 is a vernal pool. In addition, the sewer line is within the IWW wetland setback . The Commission finds that the modification of the the plan by relocating sewer lines on the opposite side of the house is a feasible and prudent alternative, in an effort to decrease environmental impact that may result from construction, such as inadvertent alterations to hydrology due to trenching, operational upsets, repairs and invasive species.

Pump stations

Pump stations to service the proposed sewer system are not located within the WPLO jurisdiction.

23. Location of Wells

Wells are not within the WPLO jurisdiction.

24. Uplands

The Commission finds substantial evidence has been submitted into the record that supports the need for larger undisturbed buffers to protect wetland/water resources by filtering pollutants, reducing effects of erosion and sedimentation during construction, providing aquifer recharge and providing adequate upland habitat for wetland dependent wildlife. To meet the above objectives, the Commission has required the following deletion of units within the uplands and modifications to the plans:

A) The construction of Units 2, 16 and 23 will significantly impact wetlands and watercourses pursuant to Sections 6.0-6.7 Standard of Review. Town of Westport contracted professionals substantiate the above:

1) Letter dated 12/21/01, from M&M Page 10, paragraph 2, item 6., indicates the following*: "Units 23 and 24 are proposed in the wooded upland peninsula within the floodplain swamp. As stated earlier, upland habitat adjoining floodplain areas provides essential shelter for wildlife among other wetland values. This finger of upland averages barely over 100' in width and floodplain forest and is similarly dominated by red maple. In addition, the shrub layer consists of berry producing species utilized by wildlife. A comparison of the vegetation survey plots (I-1 and I-2) demonstrates the relationship. In fact the dominant species at I-2 (upland plot) are indicative of hydrophytic vegetation. Loss of this habitat will impact wetland dependent wildlife in the area. As elsewhere in the development, landscaping appears slated to continue the wetland edge with attendant indirect impacts described earlier."*

2) Letter dated 12/21/01, page 9, paragraph 5 from M&M indicates*: "Homesite 16 is proposed in the wooded upland associated with the vernal pool and pond complex along the western property line. This corridor appears to be especially useful to wildlife. The secondary impacts from homesite development up to the wetland boundary are as noted for other sites…..Discharge via riprap into the wetland without other treatment introduces roadway pollutants which negatively impact the wetland's ability to attenuate water quality."*

3) Letter dated 2/5/02, by M&M page 2., item 10., indicates the following*: "the proposed building 23 and its long driveway disturb about 500 linear feet of wetland perimeter with virtually no buffer zone between the regraded areas and the wetland. This site, on a very low narrow upland, forms a peninsula into the main wetland mass and tends to fragment it, plus it interferes with the utility crossing.* ***We recommend that the***

Town consider deleting this unit due to its wetland impact."

4) Letter dated 2/5/02 from M&M indicates the following: *"We recommend that building 2 not be permitted in its present location as it is literally surrounded by water/wetlands on four sides and disturbs the riparian zone at ponds 1,2, and 3."*

B) For Units 1,3, and 4 the application is modified in the following respects: These homes are to be relocated so that they are at least 45 feet from wetland limits, similar to a 45' setback, such distance being necessary to eliminate significant impact of these homes on wetlands. Also a 25 foot vegetative buffer is required for the wetlands surrounding these homes in order to eliminate significant impact of these homes on the wetlands. Outside consultants have submitted evidence into the record that substantiates the need for a larger buffer and a larger setback in this area. The purpose of these buffers is to: 1) provide additional stormwater runoff filtration area that will improve water quality prior to discharge into wetland 2) reduce construction impacts on wetlands systems by reducing erosion and sedimentation impacts in wetlands and or waterbodies 3) decrease the amount of vegetation to be removed in close proximity to wetlands thereby maintaining a cooler microclimate which allows for higher oxygen levels in water 4)reduce water velocities from stormwater runoff prior to discharge into wetlands and or waterbodies which allows vegetation to absorb some non-point pollutants such as fertilizers or herbicides that may otherwise discharge into wetlands/waterbodies 5) provide slower water velocities which allow more water to infiltrate into the soil, improving groundwater recharge functions and water quality improvement functions 6)provide upland habitat needed for wetland dependent wildlife (especially vernal pools). The following information has been submitted into the record by consultants:

1) Letter dated 12/21/01, page 8, paragraph 4 prepared by M&M indicates the following*: "Homesites #1, #2, #3, and #4 are sited well within the CT DEP recommended 100' undisturbed buffer area for riparian corridors…..Direct and indirect impacts to wetlands associated with homesite development are well documented: clearing and grubbing, excavation, filling, utility trenches, stockpiles, staging areas, erosion and sedimentation, wind blown debris, basement, footing and roof drains, runoff from paving, non-point pollution, dumping, habitat fragmentation, nuisance pets, etc.* ***The proffered 15' of "native shrub planting envelope" will not satisfactorily protect wetlands and watercourse from these threats including runoff of nutrients and pesticides associated with homesites****……Wetland dependent wildlife needs access to upland areas for a variety of reasons. At times of flooding the upland components area essential as refuges for wildlife.*

Upland buffers filter pollutants and trap sediments prior to deposition in wetlands….Due to the prior extensive site work and lack of renovation at the time of closure, thissite may not provide exemplary buffering……The limit of disturbance shown on the plans may not completely reflect the full build condition. For example, the architectural renderings provided show no pools,….swing sets, horseshoe pits, gardens, compost bins etc. These normal accoutrements will further infringe into the buffer areas of the wetlands and watercourses."

2) Letter 2/5/02 from M&M, item2c) indicates, "*we recommend that building 4 be relocated farther from pond 4 or eliminated. This small, enclosed pond is poorly suited to receiving storm runoff or being partially encircled*."

3) Letter dated 12/21/02 from M&M page 2 indicates the possibility that Pond 3 may be considered a vernal pool because of documentation of vernal pool species found.

C) For Units 7,8,9, 10 and 11 the application is modified in the following respects: These homes are to be relocated so that they are at least 45 feet from wetland limits, similar to a 45' setback, such distance being necessary to eliminate significant impact of these homes on wetlands. Also a 25 foot vegetative buffer is required for the wetlands surrounding these homes in order to eliminate significant impact of these homes on the wetlands. Evidence has been submitted into the record that substantiates the need for a larger buffer and a larger setback in this area. These homes are located adjacent to Pond #4 or wetland VII. The following information has been submitted into the record by consultants and staff:

1) Letter dated 2/2/02 from T.Rochovansky, page 1 indicates, "*an eastern hognose snake (Species of Special Concern as listed by the Department of Environmental Protection)) was found approximately fifty to sixty feet west of pond #4. Meadow horsetails (Species of Special Concern as listed by the Department of Environmental Protection) were found in an area just north of pond #4 close to the northern shore*."

2) Letter dated 12/21/02 from M&M page 2 indicates the possibility that Pond 4 may be considered a vernal pool because of documentation of faculative and obligate vernal pool species found. Vernal pool species, such as the salamander, require large areas of adjacent forest to support the entire life cycle of obligate vernal pool species (See Third Staff Report, dated January 31, 2002 for further information relating to guidelines for vernal pool protection).

3) Evidence has been submitted into the record that substantiates the need for a larger vegetative buffer in this area. Additional vegetative buffer will reduce environmental impact to the wetlands by providing the following functions: The purpose of these buffers is to: 1) provide additional stormwater runoff filtration area that will improve water quality prior to discharge into wetland 2) reduce construction impacts on wetlands systems by reducing erosion and sedimentation impacts in wetlands and or waterbodies 3) decrease the amount of vegetation to be removed in close proximity to wetlands thereby maintaining a cooler microclimate which allows for higher oxygen levels in water 4)reduce water velocities from stormwater runoff prior to discharge into wetlands and or waterbodies which allows vegetation to absorb some non-point pollutants such as fertilizers or herbicides that may otherwise discharge into wetlands/waterbodies 5) provide slower water velocities which allow more water to infiltrate into the soil, improving groundwater recharge functions and water quality improvement functions 6)provide upland habitat needed for wetland dependent wildlife (especially vernal pools).

4) Letter dated from T. Rochovansky, dated 1/28/02, indicates the following: " *I continue to believe that the proposed setbacks in this plan are not adequate to reduce impacts to wildlife and aquatic systems. Fifty to seventy five of totally undisturbed, naturally vegetative wetland setbacks and buffers throughout the project would be best*."

D) For Units 20,21, 26 and 27 the application is modified in the following respects: These homes are to be relocated so that they are at least 45 feet from wetland limits, similar to a 45' setback, such distance being necessary to eliminate significant impact of these homes on wetlands. Unit 21 is located within the jurisdiction of the WPLO. Evidence has been submitted into the record that substantiates the need for a larger buffer and a larger setback. Also a 25 foot vegetative buffer is required for the wetlands surrounding these homes in order to eliminate significant impact of these homes on the wetlands.

1) Said units are located over an aquifer. Pursuant to section 7.6 "if the wetlands or watercourses are located on an aquifer, a setback of 100'/85' may be required." By locating units further from wetland limits and by providing a large vegetative buffer more area of filtration is provided thereby improving water quality prior to discharge into wetlands.

2) The applicant has located infiltrators adjacent to the 15' IWW setback. Pursuant to section 7.6 "if the wetlands or

watercourses are located on an aquifer, a setback of 100'/85' may be required." Because this is within a groundwater recharge area, relocating the infiltrators further from wetland limits will provide additional natural filtration area and therefore, improve water quality prior to discharge into wetland limits.

3) The applicant has submitted an Integrated Pest Management Plan to manage the use of fertilizers and pesticides on site, thus controlling pollutants entering wetlands and the aquifer. However, Town of Westport consultant, Tom Rochovansky indicates his concern in a letter dated 2/2/02 by the following "*After reading the Integrated Pest Management Plan, I am deeply concerned with the use of fertilizers on site, especially considering the inadequate setbacks proposed."*

4) A larger buffer: 1) reduces construction impacts on the wetland system by reducing erosion and sedimentation impacts 2) decreases the amount of vegetation to be removed in close proximity to wetlands and therefore a cooler microclimate is maintained which allows for higher oxygen levels in water and 3) provides a larger filtration area which improves water quality as vegetation absorbs excess nutrients that may exist in stormwater runoff. 4) reduces water velocities from stormwater runoff which thereby decreases sediment load and common pollutants attached to sediments. 6) slows water velocity which allows more time for water to infiltrate through vegetation and infiltrate into the ground which recharges groundwater. Allowing vegetation and soil to naturally treat stormwater runoff in a larger buffer ultimately improves water quality in the aquifer and in the wetland. This is especially pertinent because these units and infiltrators are located within groundwater recharge areas.

E) For Units 17,18 and 19 the application is modified in the following respects: These homes are to be relocated so that they are at least 45 feet from wetland limits, similar to a 45' setback, such distance being necessary to eliminate significant impact of these homes on wetlands. Also a 25 foot vegetative buffer is required for the wetlands surrounding these homes in order to eliminate significant impact of these homes on the wetlands. Evidence has been submitted into the record that substantiates the need for a larger buffer and a larger setback in this area. These homes are located adjacent wetland I . Units 17,18,19 are in close proximity to vernal pool 1A located in wetland I.

1) A larger vegetative buffer provides more upland habitat that is necessary for vernal pool species.

2) Letter dated 12/21/01 from M&M, page 10 indicates *"Uplands here are young forest linking the vernal pools and ponds. The area appears to be very good wildlife habitat, necessary to amphibians and reptiles on the site, especially near Unit 19. Secondary impacts from homesite development are a major threat to wetlands…..VP-1A is very open to view and is a very convenient dumping ground for nearby units. It again appears likely that landscaping will be up to the 10-15' planted hedgerow. This is far less than the 100' suggested by CT DEP as mentioned earlier."*

3) The purpose of these buffers is to: 1) provide additional stormwater runoff filtration area that will improve water quality prior to discharge into wetland 2) reduce construction impacts on wetlands systems by reducing erosion and sedimentation impacts in wetlands and or waterbodies 3) decrease the amount of vegetation to be removed in close proximity to wetlands thereby maintaining a cooler microclimate which allows for higher oxygen levels in water 4)reduce water velocities from stormwater runoff prior to discharge into wetlands and or waterbodies which allows vegetation to absorb some non-point pollutants such as fertilizers or herbicides that may otherwise discharge into wetlands/waterbodies 5) provide slower water velocities which allow more water to infiltrate into the soil, improving groundwater recharge functions and water quality improvement functions 6)provide upland habitat needed for wetland dependent wildlife (especially vernal pools).

25. Units located within wetlands X, XI, XII and XIII

The Commission finds filling wetlands X, XI, and XIII for the purposes of constructing Units 28, 29, 24, &12 will significantly impact wetlands pursuant to sections 5.0, 6.0-6.5. These units are also located within the jurisdiction of the WPLO. Further evidence submitted into the record substantiates this decision:

a) Information submitted by (M&M) letter dated 12/21/02, page 4, paragraph 5, indicates the following "*Unit 12 is far from the central development area. It (the wetland) would be more accurately described as being part of the Vernal Pool 3, ponds 4 and 7 and riparian corridor network."* This would indicate that construction of Unit 12 would adversely impact Vernal Pool 3, pond 4 and pond 7 network.

b) Information has been submitted by (M&M) letter dated 2/5/02, item 2a) which indicates the following: *"**We recommend that no buildings be***

constructed directly over wetlands *or watercourses, including vernal pools."*

c) And letter dated, 12/21/01, from M&M page 4, paragraph 6, indicates *"Wetland XI is slated for filling to construct unit 24. Although its present Functions and Values are rated as limited,* ***it is located in the midst of the important upland peninsula surrounded by the mature wetland floodplain swamp. Reconfiguration of the units in this area could easily avoid filling this wetland."***

d) And letter dated, 12/21/01, by M&M, page 4, paragraph 8, and page 5, paragraph 1, indicates the following "*Approximately one half of Wetland Unit XIII will be filled according to the development proposal to permit the construction of unit 28. Apart from habitat loss, the reduction of area reduces this wetlands capacity to perform useful functions related to stormwater attenuation including nutrient retention, sediment trapping and groundwater recharge….Presently, the wetland supports a mature vegetative community with a well developed canopy of red maples and a think understory of elm, spicebush and alder. It has good primary productivity and it is located just over 100' from the forested riparian corridor along the brook. Wildlife can easily traverse this distance.* ***Avoidance of these wetland impacts is easily accomplished."***

e) It is feasible and a prudent alternative to locate Unit 29 outside the 35' IWW setback which will reduce environmental impact pursuant to section 6.0 –6.5 and the WPLO.

The Commission finds that filling Wetland XII (approximately 2,700 sf) will not significantly impact the general character of wetlands and watercourses as they are regulated pursuant to 6.0-6.7 Standards of Review. Information has been submitted by the Town of Westport contracted consultant, Milone & MacBroom (M&M) letter dated 12/21/02, page 4, 7th paragraph, "*Wetland XII has very limited functions and values and is slated to be filled to allow construction of Unit 21. Although its loss could be avoided, wetland compensation seems a suitable alternative to permit development here."*

Road Construction

A road is proposed through a portion of wetland I, crosses wetland II and crosses wetland II a second time to access units 2,3 and 4. The Commission finds the crossing of wetland I and II is the only feasible alternative to accessing the site. Provided proper erosion controls are used, area is stabilized with vegetation, catch basins and all other associated best management structures (stormgate unit) are maintained, and the road be built without a curb, the Commission finds the access acceptable in this location. However, access to units 2, 3 and 4 is to be modified to be located outside the 25' IWW setback. The Commission finds that it is feasible to relocate the road to the units so that it is located 25' from the wetland limit and the WPLO. This modification is necessary to eliminate significant impact on the wetlands in this area.. In addition the Commission finds that the road shall not have curbs and be constructed with gravel to

allow water to filter into the ground and wildlife passage between wetland areas. Said modification will reduce encroachment within the WPLO.

The Commission finds the proposed driveway to access unit 23 and associated grading within the 15' IWW setback and the WPLO of wetland IX will significantly impact wetlands and watercourses pursuant to section 6.0-6.6 and the WPLO. Wetland IX is considered the most valuable wetland by the applicant; therefore, a protective buffer is essential to protecting the resource. Impacts associated with construction such as grading and filling, etc., significantly impact the wetland by presenting erosion and sedimentation issues. Sedimentation negatively affects vegetation and degrades water quality, wildlife and the ability for the wetland to function.

The Commission finds the proposed driveway to access unit 31 partially located within the 25' IWW setback does not significantly impact wetlands provided it is constructed with gravel to allow appropriate filtration into the ground. Said driveway is not located within the jurisdiction of the WPLO.

26. WATER QUALITY:

Effect of the Adjacent Landfill Activity on Groundwater Quality

The Hopkins Environmental Management, Inc. report dated June 3, 1999 documents the results of a phase II environmental site assessment of the property conducted for the Federal Deposit Insurance Corporation. The report describes the property as follows:

> "The subject site is a former sand and gravel operation in Westport, Connecticut. The site is abutted by a former municipal landfill operated by the Town of Westport. Potential environmental concerns included:
> - the abutting landfill,
> - approximately 10,000 tires discarded on-site, and
> - potential soil and/or groundwater contamination from the previous use of the abutting landfill."

The HEM report concluded the following:

"No VOCs {volative organic compound] or PAHs [polynuclear aromatic hydrocarbons]were detected in the soil samples. All TPH [total petroleum hydrocarbon] concentrations were below the soil remediation criteria. The only compound detected in concentrations above the soil remediation criteria was arsenic. The arsenic concentrations in two soil samples collected in the vicinity of the tire pile…exceeded the Residential Direct Exposure Criteria of 10mg/kg. Based on these concentrations remedial actions would be necessary to comply with the Remediation Standard Regulations. HEM cannot determine the source of the elevated arsenic concentrations in these samples."

"*No TPH was detected in the groundwater samples. The only PAH detected in the groundwater was naphthalene at 44 ug/L in GW-8. This is below the Groundwater Protection Criteria (280 ug/L)*."

"Several VOCs were detected in three groundwater samples. The locations of these samples are all within fifty feet of the abutting landfill. With the exception of benzene in one groundwater sample (GW-8 at 5.4 ug/L), all VOCs are below their respective criteria."

"*The benzene concentration in GW-8 exceeds the Groundwater Protection Criteria (1.0 ug/L. HEM assumes that the VOCs in these samples migrated onto the subject site from the adjacent landfill*."

"*Ammonia, nitrate and nitrite were detected in several groundwater samples. Only one groundwater sample, GW-8, appeared to have elevated nitrogen concentrations. Ammonia, nitrate and nitrite are typical constituents of landfill leachate. The nitrate concentration in GW-8 (17 mg/L) exceeds the MCL [maximum contaminant level] for nitrate in drinking water (10 mg/L).*"

"The presence of benzene, other VOCs and nitrates in GW-8 indicates that the groundwater immediately adjacent to the landfill has been impacted by leachate. However, the impacts appear to be minimal. The impacted area appears to be limited in extent and the magnitude of the exceedances is minimal. In our opinion, it is unlikely that the presence of VOCs and nitrates would restrict the use of the site or that groundwater remediation actions would be required. There is no indication that on-site releases contributed to the groundwater contamination."

The Hopkins report concluded, "*In our opinion, the groundwater impacts are minimal and are associated with historic landfilling activities on the abutting property. In our opinion, the associated risk to the site owner is low. No additional groundwater investigation is recommended at this time.*"

In addition, "*HEM recommends additional investigation in the area of the tire piles to further characterize the extent and magnitude of arsenic contamination in surface soils. HEM recommends taking approximately ten additional soil samples from the surface to a depth of two to three feet and analyzing them for total and SPLP arsenic [synthetic precipitation leaching procedure]."* Letter dated 12/13/01 from the applicant states that additional soil samples were taken to determine extent of arsenic in the soil. Written verification was submitted by the applicant confirming that contaminated soil has been removed from the site and no longer exposes the public to deleterious effects from arsenic. Specifically, documentation was submitted which verifies 238.25 tons of arsenic-laden soil was removed from the site and disposed of in the Branford, CT disposal site in the summer of 2001. Furthermore, the tire pile was removed from the site by the applicant.

The Commission's condition to eliminate Unit 16 and prohibit basements for Units 17-19 reduces the amount of blasting in the area of the tire pile, thus further reducing the possibility of exposing contaminants. However, as testimony reveals, some of the

other elements found in the ground either occur naturally or do not occur in quantities that are of significant concern.

The site is underlain by a coarse grained stratified drift aquifer rated as “GA” by the DEP publication “Water Quality Standards and Criteria for the Southwest Coast River Basin” and may be suitable for drinking water without treatment.

Applicant proposes that water quality is protected through the use of the Integrated Pest Management plan that limits usage of fertilizers and pesticides within residential areas, use of vegetative swales, infiltrators, plunge pools, and Best Management Practices (BMP’s) in combination with the vegetated 15’ IWW setback.

The applicant has submitted into the record via a letter dated 1/11/02, page 8, a study by Madison, et al. (1992) which examined the ability of grass vegetated buffer strips to reduce ammonia, nitrate and orthophosphate from two simulated storm events. They found that a 15’ wide grassy buffer strip trapped approximately 90 percent of each of these nutrients. (*Madison, C.E., R.L.Bevins, W.W. Frye, and B.J. Barfield.1992. Tillage and grass filter strip effects upon sediment and chemical losses. In Agronomy Abstracts, p.331.ASA. Madison, WI*.)

The applicant has submitted information indicating the 15’ IWW setback is adequate for protecting wetlands from excess nutrients discharging into wetland limits. However, a management plan of the 15’ IWW setback has not been submitted for review. The Commission finds this to be imperative to the success of the protection of wetlands on this property. Such a plan is to use existing native vegetation, supplemented with other native plants, use limited maintenance, and the non-use of fertilizers, pesticides etc. This allows the vegetative buffer to filter pollutants, absorb nutrients, stabilize soils etc which will reduce wetland impact. The applicant has submitted an Integrated Pest Management (IPM) plan which demonstrates the use of fertilizers, etc with specifications. The Commission finds this appropriate within the developed residential area. However, within the conservation easement area, fertilizer use, pesticide use, etc is strongly discouraged in an effort to allow the biofilter to function most efficiently. A long range management plan that establishes the 15’ IWW setback and site specific 25’IWW vegetative buffer are integral to the protection of wetlands and watercourses on this property. This plan is to use existing native vegetation, as it is already established and functioning as a biofilter, to the greatest extent possible. Management of these areas includes the removal and treatment of those species as identified by the Department of Environmental Protection (DEP) as invasive.

Concerns Associated With Blasting

Reshaping and regrading of the upland knoll on the west side of Poplar Plains Brook will require some blasting whether for construction of buildings or roads. Special attention will need to be focused on the effects of blasting on (1) increased erosion in the immediate area and associated degradation of the quality of the waterway (2) dewatering of surrounding waterways and/or changes in ground and surface flow; (3) bedrock wells servicing neighboring homes and (4) foundations of nearby homes.

Past and current testimony provided by Russell Slayback, CPG, of Leggette, Brashears and Graham, Inc. stated that the blasting should be conducted under the supervision of personnel experienced in modern blasting techniques that avoid undue seismic shock and potential damage claims. Depending on the blasting requirements, such methods as multiple small-charge blasting to an open face, use of decked charges and/or use of millisecond delays between detonations can be employed.

Pre-blasting surveys of surrounding properties should be considered to minimize unwarranted damage claims. According to Mr. Slayback, only when blasting is done without regard to such seismic or air-blast impacts is there a problem on surrounding properties. The applicant has indicated that adjoining neighbors within a 750 ft radius of the blasting would be surveyed.

Blasting for removing and regrading the bedrock outcrop in the center of the western upland that may be required for installation of sewer and waterlines may open fractures near the bedrock surface, potentially draining the existing wetland systems or otherwise altering the present hydrologic regime. Onsite fracture tracer tests can be preformed to better access this potential impact. Applicant has to demonstrate that blasting will not have a significant impact on wetlands.

The Commission finds that excessive blasting will significantly impact wetlands and watercourses pursuant to Sections 6.0-6.5 Standard of Review. Therefore, the Commission further finds that the elimination of basements for units 16-19 will reduce environmental impacts. Units 16 – 19 are not located within the jurisdiction of the WPLO

Stormwater treatment creation with Wetland I

The applicant has proposed to create a stormwater treatment area within wetland I between vernal pool 2 and vernal pool 1B within the WPLO. The applicant proposes to excavate approximately 5.5 feet for the purposes of constructing a retention area. The primary function of this wetland system was described by Land Tech as groundwater recharge and wildlife habitat. The area is vegetated with sour gum, silky dogwood, and highbush blueberry. Also observed is spotted jewel weed, sensitive fern, asters, and poison ivy. These plants located within wetland limits, provide wildlife habitat, groundwater filtration, nutrient absorption, water absorption and filtration, soil stabilization, and food chain support.

The wetland Function Value Form of wetland II, noted in appendix D in the Environmental Report prepared by Land Tech Consultants notes the principal function of groundwater recharge but the wetland also is suitable in other functions as, floodflow alteration, sediment/toxicant retention, nutrient removal and wildlife habitat. Although it has been stated by the applicant during the public hearing testimony that wetlands are groundwater fed a letter dated 11/28/01, also submitted by the applicant indicates groundwater elevations at approximately 58.0’-58.5’. Existing elevations at and near vernal pool habitat 2 and 1b are between 69’ and 74’. Therefore, it is reasonable to conclude that vernal pools are hydrated by surface water and subsurface flow in addition to groundwater as presented by the applicant.

By the proposed creation of the stormwater basin water flow that exists between the vernal pool 1b, vernal pool 2 and the proposed area of retention within wetland 2 may be diverted and may dry out the vernal pools thus impact their system. Pollutants commonly associated with stormwater runoff such as sediment, oil, grease, toxins and other nutrients associated within development may also affect vernal pool habitat. Said retention area may adversely affect vernal pool habitats by altering drainage flows and affect existing hydrology near vernal pool habitat. Stormwater runoff may affect vegetative species existent within wetland habitats. Conversely, if many pollutants were filtered prior to discharge, through the use of proposed BMPs additional surface water flow from stormwater drainage or flood flow alteration, concentrated in this area may eventually increase water flows into vernal pools where fish may eventually develop. This will also impact vernal pool habitat. Information has been submitted by the Town of Westport contracted consultant, Milone & MacBroom (M&M) letter dated 2/5/02, item 2a) which indicates the following: *"The site has numerous vernal pools and small ponds with little inflow or outflow (if any). As a result, they are very sensitive to changes in their micro watershed's vegetation and runoff."* The Commission finds that the relocation of the retention area between vernal pools 2 and 1B north of the road or other upland area are feasible alternatives and will reduce encroachment within the WPLO.

Stormwater Discharge

The Commission finds that stormwater discharge outlets, footing drains, and infiltrator structures are located within wetland limits and the associated 15' IWW setback and the WPLO will significantly impact wetlands and watercourses. The Commission finds that it is feasible to locate such discharge outlets, infiltrators and footing drain outlets outside the 15' IWW setback and the WPLO and where the site specific 25' undisturbed vegetative buffer has been located by the Commission. The Commission further finds that measures to slow water velocities are to be used at discharge outlets prior to discharge into 15'IWW setback and the WPLO and outside the site specific 25' undisturbed vegetative buffer. Said discharge outlets located within regulated areas will not allow sufficient filtration area to reduce the effects of erosion & sedimentation within wetland limits and will not allow adequate filtration of non-point source pollutants entering wetland limits thereby impacting water quality of the wetland, aquifer, and wildlife dependent on the wetlands.

27. EROSION AND SEDIMENT:

Because grading is proposed within the 15'IWW setback and the WPLO, and in general, close to this limit throughout the design, existing vegetation within the 15' IWW setback will likely be impacted as a result of construction activities. Mature standing trees will likely have anywhere between a 30'-50' diameter canopy and the same associated root system. Therefore, existing trunks within the 15' IWW setback may have root systems that lay outside the 15' IWW setback. It is likely that grading activity will disturb root systems, may result in erosion and sedimentation within wetland limits. Also, impact on root systems may affect the survivability of the trees in the long term. Tree wells/ retaining walls installed at tree driplines may decrease this impact. In addition, where the Commission has approved a site specific 25'

nondisturbed vegetative buffer the same precautions to protect existing trees within these areas are required, such as tree protection fencing at driplines and silt fence to be installed prior to construction and, tree wells/walls located as necessary for long term protection. During construction, silt fence and tree protection fencing will also assist in decreasing soil compaction around root zones and excess erosion and sedimentation effects.

The applicant is to revise the existing erosion control plan to incorporate the conditions of approval to reduce erosion and sedimentation within wetland limits. A stormwater maintenance plan has not been submitted which the Commission finds to be imperative to the success in the protection of the wetland system. Said plan must include sweeping schedules, inspections, cleaning schedules, etc.

The Commission finds that a phasing plan will reduce impacts pursuant to section 6.0-6.5 and the WPLO. Said plan is to include project sequencing, stock piling locations with associated erosion controls. One phase is to be conducted at a time with advancement onto the next phase not commencing until the prior phase disturbance has been completely stabilized.

28. **NATURAL HABITATS:**

The proposed project is proposed within a currently wooded vacant parcel. Existing habitat is provided for various mammals, reptiles, amphibians, fish and birds as water is available, and vegetation is dominant on this property which provides food and shelter for wildlife. Among the mosaic of wetland communities are vernal pools which are considered a particularly sensitive wetland habitat with a documented need for large upland buffers.

The applicant has indicated several wetland units/communities which include the following: emergent marsh/sapling shrub, mature wooded floodplain swamp, mature wooded wetland, sapling wetland, wet meadow, pond, vernal pool and ephemeral pool. Upland communities/units are described as mature wooded upland, young wooded upland, xeric meadow and xeric old field succession.

A. Vernal Pools

Vernal pools are described by the Department of Environmental Protection in a publication entitled " A Guide to the Vernal Pool Wetlands of Connecticut." Prepared and printed by University of Connecticut Cooperative Extension System and the Connecticut Forest Stewardship Program by the following:

"Vernal pools are small, isolated, bodies of standing freshwater that are temporary in nature. For a vernal pool to exist, there must be a source of water and an enclosed basin which traps water for some period of time. Water may be a source from a combination of factors including snowmelt, percipitation and high water tables associated with the spring season. The depressions may be natural or of human origin, dry out most years and are without fish. The Connecticut Department of Environmental Protection defines the existence of vernal pools by having the following characteristics:

a) contain water for approximately 2 months during the growing season;
b) occur within a confined depression or basin that lacks a permanent outlet stream;
c) Lacks fish population;
d) Dry out most years, usually by late summer."

The DEP publication **indicates that "land development poses the greatest risk to vernal pools since it results in permanent changes to vegetation, topography and the timing and intensity of surface water drainage."**

The plans, revision date 1/25/02 indicate the existence of 4 vernal pools and 8 ephemeral pools. Letter dated December 21, 2001 by Milone & MacBroom indicates "*that the application does not discuss the ecology of the site linking the vernal pools, ephemeral pools, ponds, riparian areas, wet meadows, upland woodlands etc. Especially, it does not discuss how the proposed development will preserve such links or mitigate for fragmenting them.*"

The letter (dated 12/21/02) discusses the feasibility of considering ponds 3, 4 and 8 as potential vernal pools, particularly if no fish exist in them due to isolation, blockage or predation. In addition, M&M points out that Ephemeral pool 3 (wetland X) would be more accurately described as being a part of Vernal pool 3, pond 4 and 7 as part of the riparian corridor network. If recognized as such, larger upland buffers may be needed to sustain wildlife dependent on these habitats.

Relocation of sewer lines to protect vernal pool habitats
The Commission finds that proposed sewer lines located on the wetland side of proposed units 17-19 and 5-9 will significantly impact wetlands and watercourses. Sewers for Units 17-19 and 5-9 are to be relocated to the front of the houses near the road. Information submitted by M&M on letter dated 2/5/02, page 2, item3., indicates the following: "*The proposed sewer force main behind (west) of Buildings 16-19 should be relocated. The vernal and other pools are very sensitive to groundwater inflow and outflow and this sewer could alter flow patterns by intercepting or diverting water*."

Letter, dated 12/21/02, paragraph 8, from M&M indicates the possibility that ponds 3, and 4 are potentially vernal pools:*"Vernal pools need not dry up in all years to function successfully within a landscape mosaic. The pools need only be fish free or low enough in predators to allow life cycles to be successfully completed. For example,* ***Ponds 3, 4 and 8*** *were noted to contain obligate or facultative vernal pool species****, yet they were excluded from the vernal pool inventory*** *presumably because they do not dry up in most years or are linked to other watercourses. There may be no fish in these pools in some or all years due to isolation, blockage or predation. It is thought that sometimes 'decoy pools' develop and may hinder the dynamics of a population but that is not clear in this case and* ***the evidence of breeding by obligate species should not be discounted."***

B. Wildlife

Evidence provided indicates the need for adequate amounts of uplands to sustain wildlife dependent on wetland systems. Both contracted consultants, T. Rochovansky, and M&M have substantiated the need for uplands on this site. The elimination of several buildings in the outer extremities of developed areas will provide additional uplands for wildlife. Said upland would have to remain in its natural condition in order to continue providing adequate upland habitat. In effort to meet this objective the Commission has provided selected specific upland areas to remain undisturbed.

The report prepared by the applicant concludes that preserving the southern portion of the property with access to town owned property to the west provides adequate habitat to sustain the wildlife populations on the site. The Commission finds that additional uplands are necessary to protect wetland systems pursuant to sections 6.0-6.5.

C. Vegetation

It is questionable whether existing vegetation occurring along and within the 15' IWW setback and along the WPLO boundary will remain post construction. Efforts to protect existing vegetation within the 15' IWW setback and the WPLO and the site specific 25' IWW vegetative buffer located by the Commission, such as retaining wall/tree wells, have not been submitted into the record. Tree protection fencing at drip lines during construction will also assist in preventing soil compaction or removal of root zones. Such precautions have not been submitted into the record. These measures of protection have been included in the conditions of approval.

D.Protected Species listed by the Department of Environmental Protection

Listed Species by the Department of Environmental Protection

The following species were noted in environmental reports submitted by Land Tech Consultants that are also listed as Species of Concern (SC), Endangered (E) and Threatened (T) by The Department of Environmental Protection of Connecticut.

Eastern Box Turtle (*Terrapene c. carolina)* (SC) noted as **observed** on the site**.** Species were observed at the southeastern section of the site which will remain undisturbed. Letter, dated January 11, 2002 from Land Tech describes this. Measures to protect this species are to be included in the annual monitoring reports and be included as part of the long range management plan.

Eastern Hognose snake (*Heterodon platyrhinos)* (SC) noted as **likely** to occur as conducted by previous wildlife specialists. Letter dated January 11,2002 from Land Tech indicates that suitable habitat for this species does not exist. Letter dated January 25, 2002 from Land Tech indicates that suitable habitat was found in the upland habitats of the western and southern portions of the property that will not be disturbed. Letter from T. Rochovansky, dated November 29,2001, indicates that his five sightings over seventeen years were in the uplands in the location where development is proposed. Letter dated 2/2/02 by T. Rochovansky indicates that a specimen was found 50-60' from pond #4. Units 4, 6-11 are proposed in this vicinity.

Southern Bog Lemming (***Synaptomys cooperi***) (SC) noted as species **likely** to occur on site. Letter dated January 11,2002 and January 25, 2002 from Land Tech Consultants indicate that originally it was thought that suitable habitat may have existed on this property. However, no evidence of this species was found on the site. Letter from T. Rochovansky, dated November 29,2001, indicates that this species occurs in scattered colonies. It requires moist soils and an adequate cover of sphagnum moss, or a thick layer of loose duff found in marshes and meadows, or deciduous woodlands. He recommends further research in this area if it is believed that this species occurs on the property.

Least Shrew (***Cryptotis parva***) (E) noted as **possibly** occurring on the site. Letter dated January 11,2002 and January 25, 2002 from Land Tech indicate that originally it was thought that suitable habitat may have existed on this property. However, no evidence of this species was found on the site as stated by the applicant. Letter dated November 29,2001 from T. Rochovansky indicates Least shrews are seldom caught in traps, but can be confirmed by examining the skeletal remains in cast owl pellets found on the site. The shrew nests in burrows under stones, logs and stumps, and the proposed development could have a devastating impact on a population. More research is needed for conclusion of its status.

Five-lined skink (***Eumeces fasciatus***) (T) noted as **possibly** occurring on the site. Letter dated January 11,2002 and January 25, 2002 from Land Tech Consultants indicate that originally it was thought that suitable habitat may have existed on this property. However, no evidence of this species was found on the site as stated by the applicant. Letter dated November 29,2002 from T. Rochovansky indicates,in his opinion, suitable habitat does not exist on this property.

Northern Leopard Frog (***Rana pipens***) (SC) noted as **observed** on the site. Letter, dated January 11, 2002, from Land Tech Consultants indicates that this was a transcription error in notes, as also indicated in a previous letter, dated November 28,2002 and indicated by Tom Rochovansky, dated November 12,2002. It is believed that the Pickerel Frog was misidentified as the Northern Leopard Frog.

Eastern Ribbon Snake (***Thanmophis sauritus***) (SC) noted as **likely** occurring on the site. Letter dated January 11,2002 and January 25, 2002 from Land Tech Consultants indicate that originally it was thought that suitable habitat may have existed on this property. However, no evidence of this species was found on the site as indicated by the applicant. Letter dated November 29,2001 from T. Rochovansky indicates that this species was likely confused with the eastern garter snake. It was his opinion that this species was unlikely on this site.

Meadow Horsetail (***Equisetum pratense***) (SC) was not identified on the property by Land Tech Consultants. Letter, dated January 25,2002 from Land Tech Consultants indicates that this plant is found in wet meadows and along grassy streambanks he further adds that these areas will not be disturbed as a part of this project. Tom Rochovansky had noted this plant species in the past which is the reason it is included in the report. Land Tech has not identified this plant on the property at any time. Letter dated 2/2/02 by T. Rochovansky indicates that this species was observed north of

pond #4, close to the shore. The Commission finds that Unit 4 is to be relocated or reduced in size so that it is outside the site specific 25' vegetative buffer and is at least 45' from wetland limits, said modifications being necessary to eliminate significant impact of this unit on the wetlands.

Lycopodium sp. One of the Commission members has identified a species of this genus on the property. Several species of this genus are listed by the DEP. The Environmental Report prepared by Land Tech Consultants indicates this genus in its report. The applicant has stated that Princess Pine (*Lycopodium obscurum)* was observed on the property which is not one of the protected species listed by the Department of Environmental Protection.

E.Mitigation Proposal

The application proposes approximately 2.1 acres of wetland enhancement through the creation of meadow, removal of invasive vegetation, planting of native vegetation within the 15'IWW setback and the WPLO and portions of the wetlands (wetland VI, V and II).

The applicant has proposed to mitigate for the above regulated activities by installation of planting within the 15' IWW setback and the WPLO in locations noted on the plan and by managing three areas of existing wetlands. One portion of wetland I will be planted with wetland meadow plantings where a trail currently exists. A portion of wetland V will be managed for a wet meadow community by installing appropriate plantings and removal of sapling vegetation. And lastly, a portion of wetland VI currently identified as sapling wetland will be managed by removing invasive plants and sapling vegetation and adding meadow seed mix. Page 22 of the Environmental Report prepared by Land Tech Consultants, dated October 23, 2002 indicates 0.52 acres (22,725 sf) of wetland mitigation proposed to compensate for the regulated activities presented in this application.

The applicant has also described a monitoring plan that would entail monitoring the shrub buffer (15' IWW setback) and enhancement areas for the first 3 growing seasons. An annual monitoring report will be submitted to the Conservation Department for review. The wet meadows will be evaluated during the first full growing season to determine the establishment of seeds. The wet meadows will be monitored every three years to identify colonization of woody shrubs, trees and recognized invasive species.The Commission finds a that the site specific 25' IWW vegetative buffer is to be included with the monitoring plan and wetland II. A baseline report is to be submitted indicating all quadrats that will be monitored for the following 3 years. Said report is to be submitted prior to permit issuance.

The report indicates a wetland scientist will be monitoring construction to ensure compliance of permit. All-terrain vehicles are prohibited in wetland areas.

A long range management plan has not been submitted for the wetland enhancement areas or 15' IWW setback and the site specific 25' IWW vegetative buffer located by the Commission. The Commission finds this integral to the protection of the wetland system on this property. Therefore, such a plan is required as a condition of approval.

29. DISCHARGE AND RUNOFF:

The Flood & Erosion Control Board (F&ECB) has reviewed and approved the application on November 7,2001. This approval was made prior to changes in the plan which altered location of the road on the west side of the property or the Newtown Tpke side of the site. In addition, data concerning basement elevations and groundwater elevations relative to the basements were not presented to the F&ECB. In addition, the Commission has approved the proposed plan with modifications. Said modifications are to be reviewed by the F&ECB to determine if the current approval is still applicable.

Flood & Erosion Control Board has approved this application pursuant to the WPLO on November 7, 2001. The conditions of approval are as follows:

a) Proposed site grading, as well as development in general, shall not alter drainage patterns to the detriment of adjoining or downstream properties.

b) Applicant shall provide erosion and sedimentation control devices on all filled embankments, specifically at the toe of filled slopes silt fence and haybales shall be installed. The face of all slopes shall be protected with a temporary erosion control matting or hydroseeding until such time as adequate groundcover grows in.

c) Any current or future work within the WPLO setback shall be performed in strict conformance with the Waterway Protection Line Ordinance, section 148-6, as well applicable State and Federal statutes for work within the regulated waterway.

d) All final plans, details, and calculations shall be reviewed and approved by the Town Engineer.

e) Drainage and grading, proposed in conjunction with the proposed development, shall be subject to review and approval by the Town Engineer. This shall include review of all final plans and calculations and shall include proposals by all future owners within the development.

f) The existing conditions survey shall indicate all points of entry of existing runoff water into the property.

g) The Flood & Erosion Control Board recommends that the Planning & Zoning Commission require a separate maintenance plan for the various drainage structures, drainage basins, and development in general and such plans should be developed and filed as a separate document with Planning & Zoning.

h) Applicant shall submit a drainage analysis for the watershed upstream of the Wilton Road culvert in both existing and proposed conditions.

The Commission finds that locating stormwater discharge outlets, footing drains, roof drains, outside the WPLO and the site specific 25' IWW vegetative buffer will reduce environmental impact and is a feasible alternative to the current design.

Property is not located within the 100 year flood plain as designated by the Federal Emergency Management Agency (FEMA) as Poplar Plains Brook was not fully studied by FEMA in preparation of the Federal Insurance Rate Map for this area of Westport. A 100 year and 25 year floodplain have been partially delineated on the Site Plans, revision date 1/25/02, prepared by Land Tech Consultants. This delineation was determined from the Leonard Jackson studies, completed in 1978. The 100 year floodplain shown on the site plans, is inconsistent with 100 year floodplain shown in exhibit #29 presented by the Land Tech Consultants.

Letter dated 2/1/02, from Leonard Jackson Associates indicates: *" The 100 year floodplain elevation is 61.4'. " (*Site Plans, revision date, 1/25/02 and exhibit 29 show the 100 year floodplain ranging between 59-61').

Letter dated 2/5/02, from M&M item 5 indicates: *"We recommend that the elevation of the 100 year flood event be confirmed using the FEMA Flood Insurance Program standards. There have been many watershed changes and technical advances since the 1978 study was performed."*

30. **6.6 RECREATIONAL AND PUBLIC USES:**

In order to determine that an activity will not have significant impact or major effect on existing or potential recreational or public uses in Wetlands and Watercourses, the Commission shall, as applicable, find that:

a) Access to and use of public recreational and open space facilities, both existing and planned, will not be prevented;
b) Navigable channels and/or small craft navigation will not be obstructed;
c) Open space, recreational or other easements will be deeded whenever appropriate to protect these existing or potential recreational or public uses;
d) Wetlands and Watercourses held in public trust will not be adversely affected.

The proposed use will not significantly impact recreational and public uses provided it is constructed appropriately, occurring adjacent or within this property. The applicant has removed their request to create, enhance or maintain trails on this property. The Commission finds that details submitted for the proposed fishing platform are incomplete and therefore the proposal is unacceptable.

Findings Pertaining to Intervention Petitions

I. Notice of Intervention filed by Arthur Cohen and Claudia Cohen of 67 Old Hill Road.

With regard to this petition:
A. The Westport Conservation Commission finds that the intervenors are appropriate parties to intervene.
B. The intervenors have filed a verified pleading,
C. The pleading alleges claims consistent with Section 22a-19 of the Connecticut General Statues; and
E. Based upon the record, the Commission finds that the proposed conduct will not cause unreasonable pollution, impairment or destruction of the air, water or other natural resources of the state, as follows:

The intervenor asserts that "this proceeding involves conduct which is reasonably likely to have the effect of unreasonably polluting, impairing or destroying the public trust in the air, water or other natural resources of the State including, but not limited to the following." Based on the evidence of record, the Westport Conservation Commission makes the following findings:

1. **Impairment or destruction of the Northern Leopard Frog.**
2. **Impairment or destruction of the Five Line Skink.**
3. **Impairment or destruction of the Eastern Box Turtle.**
4. **Impairment or destruction of Meadow Horse Tails.**
5. **Impairment or destruction of other species based upon the destruction of the wetlands.**

With regards to items 1-5, based on the evidence of record, the activity will not have the effect of unreasonably impairing or destroying these species. Specifically, the Northern Leopard Frog was mistakenly identified on the site/and is unlikely to live in this area of the state. The Five-Line Skink, though originally thought to occupy the site, was later found not to exist on the property. Wildlife Biologist for the Town who has extensive knowledge of the site, confirmed that suitable habitat does not exist on the property for this species. Meadow HorseTail was found to be located on the north shore of Pond 4. This is near unit 4, but Commission required relocation of this unit to protect this area. The Eastern Box Turtle was located on the site, but it is the testimony of record that development will occur outside the habitat and migration radius of this species. Application proposes that precautions be installed to isolate habitat from construction disturbance.

6. **Destruction of the uplands will result in the permanent loss of a large amount of critical habitat. These uplands are critical to the survival of many wetland species including amphibians, reptiles, birds, mammals, and invertebrates. A loss of the uplands may impair or destroy these species.**

7. In addition, both the wetlands and uplands will result in an impairment or destruction of the functional interaction between the upland and wetland areas. This would impair or destroy wildlife currently using these areas.

With regards to item 6&7 the Conservation Commission finds that adequate upland will remain for use as critical habitat and provision of functional interaction between upland and wetland areas. The site measures approximately 56 acres. Approximately 36 acres are occupied by wetlands and 20 acres by upland. As stated by the applicant, approximately 10 acres in all will become either impervious, or grassed, or otherwise altered by this plan. Subtracting the 10 acres of the affected land area from the total 56 acres leaves 46 acres of undisturbed land. In addition, the Commission has further reduced the number of proposed housing units from 31 to 26. Two of these units are in upland areas and these uplands will be included in a conservation easement area.

8. The failure to have a proper storm management plan will impair water and other natural resources.

Based on the evidence of record, the Commission finds that a detailed stormwater management plan is currently lacking, but has made it a condition of approval that one be submitted that is to be reviewed and approved by the Commission. As stated in its November 7, 2001 approval, the Flood and Erosion Control Board has also made this a condition of their approval.

9. The use of Pond #2 as a stormwater collection treatment area.

The Conservation Commission finds that the water entering into this pond will be first filtered through a wetland and vegetated swale before entering into the pond. Therefore, the Commission finds that use of Pond 2 for stormwater collection does not pose a significant impact.

10. The use of mitigation measures and management practices other than minimizing the disturbance of sensitive habitats will impair or destroy the public trust in the water and/or other natural resources of the State.

Based on the evidence of record, and conditions imposed by the Commission, the Conservation Commission finds the condition of submitting an Integrated Pest Management Plan, Stormwater Treatment Plan and detailed sediment and erosion control plan, planting plan and Homeowner Association By-laws that include environmentally related restrictions, will provide sufficient mitigation measures and management practices to avoid disturbance of sensitive habitats and will not destroy the public trust in the water and/or other natural resources of the state.

11. The substantial encroachment on wetlands will impair or destroy public trust in the water and/or other natural resources of the State.

Based on the evidence of record and reduction of intrusion into wetlands and wetland setbacks as conditioned by this approval, the Conservation Commission finds that there is no substantial encroachment on wetlands that will impair or destroy the public

trust in the water and/or other natural resources of the State. Specifically, the original application proposed a much larger degree of intrusion into the wetland. However, with changes made to the plan by the applicant, as well as conditions imposed by the Commission, the remaining encroachments as set forth in the findings, either pose no significant impact, pose an impact but, have no other prudent or feasible alternative or, pose an impact and have alternatives that have been required as conditions of approval.

12. <u>The use of the 35-foot setback line, as proposed.</u>

Based on Section 7.5(b) of the Regulations for the Protection and Preservation of wetlands and watercourses the setback for a single-family residence from a wetland or watercourse is established at 35-ft. In accordance with Section 9.5, Summary Ruling and Section 9.6, Plenary Ruling, an application may be filed with the Conservation Commission requesting activity in a regulated setback or directly in a regulated wetland or watercourse. The Commission finds that in most areas, the 35 ft. setback adequately protects the wetlands However, to better protect the wetland, 14 units have been moved so that they are at least 45' feet from the wetland boundary. In addition, for these homes there can be no disturbance within 25' of the wetland boundary. In some instances, modifications to the location of units and or roads were necessary to eliminate significant impact on the wetlands. For these homes and or roads, their locations were modified so that they were at least 45' from the wetland boundary.

Furthermore, Section 7.6 of the Regulations allows the Commission to establish a 100-ft setback from wetlands and an 85-ft setback from watercourses for those properties also underlain by an aquifer. Units 20-29 and 30 and 31 as proposed are underlain by an aquifer. However, based on the evidence of record, including the installation of a sanitary sewer, public water and implementation of an Integrated Pest Management plan, it is the finding of the Commission that the aquifer will be adequately protected and a larger setback is not warranted. In addition, 3 of the original 12 units proposed over the aquifer have been eliminated.

13. <u>The impact on the wetlands could have a substantial impact on an aquifer that is on the site. This effect could include a reduction in recharge to the aquifer and impact the water quality in the aquifer. This could also affect water downstream. This has not been adequately addressed.</u>

Based on the evidence of record, including the finding referenced in response to assertion 12, the Commission finds that impact to the wetland will not have a substantial impact on the aquifer that partially underlies this site. Specifically, based on the evidence of record, no reduction in recharge to the aquifer or impact to water quality will be realized. Installation of proper sediment and erosion controls, adherence to the proposed construction Phasing Plan and implementation of the Integrated Pest Management Plan will negate adverse impact to water quality downstream. Furthermore the aquifer underlying the southern half of the site is part of the large Saugatuck River Aquifer. This aquifer underlies a large percentage of the Town of Westport. The section of the aquifer underlying this property feeds into one of the Town water supply wells, but not directly. Conversations with Bridgeport Hydraulic

Company confirm their knowledge of this application and preliminary approval to provide public water to the site. Connection of the proposed dwellings to sanitary sewer will eliminate leachate entering into the aquifer normally realized from failed septic systems and thus will greatly diminish possible impact to the water quality of the aquifer.

14. <u>The impairment of the wetlands is reasonably likely to result in storm water diversion.</u>

Based on the evidence of record, the Commission finds that the impairment of the wetlands as a result of stormwater diversion is not likely. The applicant proposes to employ the technique of directional drilling of the sewer and water lines through the wetlands, thus avoiding trenching activity in the wetland. Furthermore, a water diversion permit will be required by the Department of Environmental Protection for sewer installation and a general permit for the discharge of stormwater will also be required by the Connecticut DEP.

15. <u>Failure to have calculations or engineering studies regarding aquifer recharge.</u>

Based on the evidence of record, it is the Commission's finding that calculations or engineering studies regarding aquifer recharge are not necessary. According to Russell Slayback, Hydrogeologist with Leggette, Brasheas and Graham, the Saugatuck River watershed is approximated at 446 acres of which approximately 45 acres are developed primarily as single family residential dwellings serviced by septic systems. Assuming half of this 56 acre parcel is underlain by the aquifer, (i.e. 28 acres), of which only a portion would be developed, does not warrant submission of calculations or engineering studies. Furthermore, as conveyed to the applicant and staff by the Bridgeport Hydraulic Company, preliminary permission for expansion of public water into this area has been given. Any concerns regarding adverse impact to the water supply would have been raised by this entity. In the past, BHC has supported servicing of the site by a sewer system since it will better protect the water supply than would otherwise be provided by septic systems.

16. <u>The destruction of the wetlands areas will result in the reduction of filtration reducing the facilitation of natural biological removal of nutrients and toxins from the water (both of which are undesirable) will have the effect of unreasonably destroying the public water and/or other natural resources of the State.</u>

Based on the evidence of record, and conditions imposed by the Commission, it is the finding of this Commission that the elimination of less than .35 acres of wetlands on the site will not result in the reduction of filtration which would thereby reduce the facilitation of natural biological removal of nutrients and toxins from the water. Specifically, all but one of the 4 housing units (Unit 21) proposed in the wetlands has been eliminated from the wetland. Also, some roadways proposed partially in a wetland are required to be relocated so as to avoid wetland crossing. Furthermore, use of mitigation measures including wetland enhancement around Pond 2 will be

employed to increase water filtration capability of the wetland in that area. This represents the largest proposed wetland alteration.

17. The proposed development will increase the extent of impermeable surface over the site and will decrease the retention time and biological contact time of stormwater from portions of the site. This will reduce the effectiveness of the wetlands in protecting water quality in the underlying aquifer.

Based on the evidence of record and conditions imposed by the Commission, including: elimination of 3 of 4 housing units directly in the wetland; redesign of the road layout in the northern section of the property; increase of non-disturbance setbacks in some areas to allow greater separating distance between stormwater galleries and wetlands; and conditions imposed by the Flood & Erosion Control Board, it is the finding of the Commission that the extent of impermeable surface over the site will not decrease the retention time and biological contact time of storm water from portions of the site. In addition, stormwater management measures, adherence to 15-ft and 25 ft. non-disturbance vegetated buffer and installation of shrub management plan will further alleviate runoff and act as a biofilter for runoff entering into wetlands.

18 There is a serious potential of contaminated soil being on the property. The measures taken to date do not provide proper verification that this does not exist and could expose the public to deleterious effects from arsenic. This is particularly true if it is not properly addressed prior to any grading activities. Insufficient testing can have a negative effect.

Based on the evidence of record and conditions imposed by the Commission, it is the finding of the Commission that verification does exist that contaminated soil has been removed from the site and no longer exposes the public to deleterious effects from arsenic. The 1999 Hopkins Environmental Management Inc. report of June 3, 1999 concludes that "the groundwater impacts are minimal and are associated with historic landfilling activities on the abutting property. In our opinion, the associated risk to the site owner is low. No additional groundwater investigation is recommended at this time." The report also concluded that additional testing in the area of the tire piles be conducted to determine the extent of arsenic contamination in surface soils. Proof exists in the record which confirms that the applicant removed 238.25 tons of arsenic-laden soil rom the site and disposed of it in the Branford, CT disposal site in the summer of 2001. Also, some arsenic occurs naturally in the soil. Intervenors have not submitted evidence into the record to support this claim of contamination.

The Commission's condition to eliminate Unit 16 and prohibit basements for Units 17-19 reduces the amount of blasting in the area of the tire pile, thus further reducing the possibility of exposing contaminants. However, as testimony reveals, some of the other elements found in the ground either occur naturally or do not occur in quantities that are of significant concern. Refer to Findings.

19. The failure to have proper and sufficient information on mitigation measures to be taken in the plan regarding wetlands.

Based on the evidence of record and conditions imposed by the Commission, it is the finding of this Commission that proper mitigation measures have been or will be taken to protect on-site wetlands. Submission of the Integrated Pest Management Plan, a Stormwater Maintenance Plan (also required by the Flood and Erosion Control Board), a Long Range Management plan, and environmentally related components of the Homeowner's Association By-laws and deed restrictions,
are, or will be sufficient to protect wetlands.

20. The failure to evaluate alternatives including the construction of fewer units, the rerouting of roads and utilities corridors to avoid construction within the wetlands, etc., nondisturbance buffer courses, the use of alternative designs or construction proceedings to minimize impact during construction, the use of water wells to eliminate disturbance to the utility construction, the use of unpaved setbacks to reduce the area extent of impermeable surface and the use of larger setback distances.

Based on the evidence of record, it is the Commission's finding that alternatives were explored and evaluated and were determined not to have an unreasonable impact. Specifically, modifications made to the original plan include elimination of the original loop road design to reduce impact of Pond 2 and the Directional Drilling Methodology for installation of the sanitary sewer and water lines through the wetland, upon which the approval is contingent, was substituted for the original trench methodology proposed. Other modifications have been imposed by the Commission through condition of approval, some of which include elimination of 5 housing units, increase in setbacks, and relocation of some roads, houses and driveways out of regulated areas. In addition, the applicant submitted 12 different alternative designs which were compared and analyzed by staff in their January 11, 2002 report.

21. A complete clearing of 9 acres within 100 feet or more of wetlands, vernal pools, ephemeral pools and underwater courses, some of which will occur directly within the wetlands.

Based on the evidence of record, land within 100 ft or more of wetlands, vernal pools, ephemeral pools will be disturbed but it is the Commission's finding that conditions imposed will ensure no adverse impact. Plans indicate up to 10 acres of the 56 acre site will be cleared. Of the 10 acres, no more than .35 acres of wetland soil will be lost and no vernal pools or ephemeral pools will be eliminated. It is the Commission's finding that the total site disturbance will not result in a significant impact to vernal pools or ephemeral pools. Specifically, flow across the site is from west to east. Vernal pools located in the northwest section of the site will not be adversely affected since flow of water will not be changed to the west and the eastern border of the pools will be protected by a berm. Furthermore, as conditioned by the Commission, Unit 16, the unit closest to some vernal pools, has been eliminated, the sewer line in this area has been relocated to the front of units 17-19 rather than the rear and, units 17-19 are prohibited from having basements, thereby eliminating the need for blasting and disruption to the vernal pools in this area.

22. Failure to have proper plans for construction related sedimentation in the existing pools and ponds.

Based on the evidence of record, it is the Commission's finding that proper sedimentation and erosion controls will be installed. Moreover, a 3 phase construction plan will be required which restricts development to one phase at a time with complete stabilization, before moving on to the next phase. Both temporary and permanent erosion controls in the form of plantings will be employed as conditions of approval.

23. The construction plans will have a negative effect on downstream water quality, which cannot, based upon the lack of testing and evaluation, be properly evaluated now.

Based upon the evidence of record, and conditions imposed by the Commission, it is the Commission's finding that the construction plan will not have a negative effect on downstream water quality. The Commission finds that use of temporary and permanent sediment and erosion controls, installation of sanitary sewers and implementation of the Integrated Pest Management plan will reduce or eliminate negative effects on downstream water quality. Furthermore, baseline testing of water quality of the on-site ponds is a condition of the permit.

II. Response to Intervenor's Memorandum

(John Pancoast, John B and Polly Parker Kennedy, Mort Van Summern, Peggy Sawyer)

With regard to this petition:

A. The Commission finds that the intervenors are appropriate parties to intervene;
B. The intervenors have filed a verified pleading;
C. The pleading alleges claims consistent with Section 22a-19 of the Connecticut General Statutes; and
D. Based upon the record, the Commission finds that the proposed conduct will not cause unreasonable pollution, impairment or destruction of the air, water or other natural resources of the state, as follows:

Assertion 1:

The proposed site development will have, or is reasonably likely to have, the effect of causing unreasonable pollution, impairment or destruction of the air, water or other natural resources located both on, and off, the properties included in the proposed site development, for the following reasons:

a. The proposed site development involves the filling of valuable wetland and watercourse resources for house and infrastructure development;

b. The proposed site development intrudes into the delineated wetlands and regulatory buffer or setback areas:

With regards to assertions 1a and 1b, based on the evidence of record, the Conservation Commission finds that the site consists of approximately 56 acres, of which approximately 36 acres are designated wetlands. The application proposes to fill less than .5 acres of wetland and wetland setback area and enhance approximately 2.1 acres of existing wetland. Since the time of application submission, changes to the plan resulted in a reduction of impervious road surface in the regulated area. Furthermore, with conditions imposed by the Conservation Commission, 3 units originally proposed in the wetlands have been eliminated. Therefore, encroachment into the regulated area has been reduced since the time of the original application. The Commission further concludes that the remaining encroachments as set forth in the findings, either pose no significant impact, pose an impact but, have no other prudent or feasible alternative or, pose an impact and have alternatives that have been required as conditions of approval.

c. The proposed site development is too intensive for the site and will adversely impact the fragile wetland resources on the site;

Based on the evidence of record, the Commission finds that the 19 acres of upland area occupying the 55 acre site is scattered in various pockets throughout the property. The property is zoned Open Space Residential Development and was intended to be designed in a clustered fashion, without lot lines, to restrict development to the upland. Furthermore, the Commission has eliminated 5 of the 31 units originally proposed and has imposed conditions on 11 of the remaining units which would reduce the original footprint of the unit by 20%. With these changes, the Commission finds the proposed development is not too intensive.

d. The proposed site development will adversely impact breeding habitat for valuable amphibious life.
e. The proposed site development will adversely impact existing vernal and ephemeral pools on the site;

With regards to assertion 1d and 1e, based on the evidence of record and conditions imposed by the Commission, it is the Commission's finding that the clearing of upland and the filling of less than 2 acres of wetland will not unreasonably impact vernal pools or ephemeral pools. Specifically, flow across the site is from west to east. Vernal pools located in the northwest section of the site will not be adversely affected since flow of water will not be changed from the west and the eastern border of the pools will be protected by a berm. Furthermore, Unit 16, the unit closest to some vernal pools, has been eliminated by the Commission. Also, the sewer line has been relocated to the front of units 17-19, away from the vernal pools and these units are prohibited from having basements thereby eliminating the need for blasting and disruption to the vernal pools in this area.

f. The proposed site development will increase/accelerate runoff into the wetlands and watercourses on the site and downstream, which will have an adverse impact on the water quality of those resources and will increase erosion.

The Flood and Erosion Control Board approved Application #WPL-6678-01. Conditions of the board included the following safeguards against increase in erosion and runoff:

1) "Proposed site grading, as well as development in general, shall not alter drainage patterns to the detriment of adjoining or downstream properties."
2) "The applicant shall provide erosion and sedimentation control devices on all filled embankments, specifically at the toe of filled slopes silt fence and haybales shall be installed. The face of all slopes shall be protected with a temporary erosion control matting or hydroseeding until such time as adequate ground cover grows in."
3) "Any current or future work within the WPLO setback shall be performed in strict conformance with the Waterway Protection Line Ordinance, section 148-6, as well as applicable State and Federal statutes for work within a regulated waterway."
4) "All final plans, details, and calculations shall be reviewed and approved by the Town Engineer."
5) "Drainage and grading, proposed in conjunction with the proposed development, shall be subject to review and approval by the Town Engineer. This shall include review of all final plans and calculations and shall include proposals by all future owners within the development."
6) The existing conditions survey shall indicate all points of entry of existing runoff into the property."
7) The Flood and Erosion Control Board recommends that the Planning and Zoning Commission require a separate maintenance plan for the various drainage structures, drainage basins, and development in general and such plans should be developed and filed as a separate document with Planning and Zoning."
8) "The applicant shall submit a drainage analysis for the watershed upstream of the Wilton Road culvert in both existing and proposed conditions."

In addition to these conditions by the Flood and Erosion Control Board the Conservation Commission has required as a condition of approval that construction be conducted in phasing so that only portions of the site are disturbed at one time. Therefore, based on the conditions of approval imposed by both the Conservation Commission and the Flood and Erosion Control Board, it is the finding of the Conservation Commission that the proposed site development will not increase or accelerate runoff into wetlands and watercourses.

g. The proposed site development will result in a significant loss of habitat for the local fauna population, and a significant destruction of the local flora.

Based on the evidence of record, the Commission finds that the site development, as conditioned by the resolution, will not result in a significant loss of habitat for the local fauna population and a significant destruction of the local flora. The site is comprised of approximately 56 acres of which the following will be disturbed by development:

10.3 acres of upland

0.35 acres of wetland
1.0 acres of wetland setback

In addition, during deliberation the Commission resolved to eliminate 3 units located in wetlands and 2 units located in uplands, thereby further reducing the encroachment into these areas. The remaining 43.5 acres of land will be established as a conservation easement in which no clearing, cutting, filling, grading or building can take place, except for the area to be counted toward the "Usable Open Space Area," in the southwest corner of the site, without permission from the Conservation Commission, including the installation of any trails. It is the finding of the Conservation Commission that there will be enough remaining undisturbed on-site habitat so as not to displace the flora and fauna from the property.

Assertion 2: There exist feasible and prudent alternatives to the proposed site development that are consistent with the reasonable requirements of the public health, safety and welfare, and required to protect the air, water, and other natural resources associated with the subject property,; such feasible and prudent alternatives include the following:

a. A modification of the proposed site development resulting in a less intense development, including the elimination of any filling of, or intrusion into, the delineated wetlands and/or watercourse resources, and regulatory buffer areas:

Based on the evidence of record, and the conditions imposed by the Commission, the Conservation Commission finds that modifications made to the proposed site development have resulted in a less intense development and included the elimination of filling or intrusion into the regulated area. Specifically, the following modifications made to the original proposal have resulted in less impact to the regulated area: 3 units have been eliminated from the wetland; 2 units have been eliminated from the upland; units in the setback must be relocated and/or reduced in size to avoid intrusion into the wetland setback; the original loop road in the vicinity of Pond 2 was redesigned so as to cause less impact to Pond 2; and the original trench method of installing the sewer through the wetland has been substituted with the directional drilling method which requires no direct impact on the wetland and is a requirement of the approval.

b. The use of the property in a manner which will not involve the adverse environmental impact of the proposed site development;

c. Not utilizing the property for an intensive residential development, but for another use as permitted by existing zoning regulations which is not adverse to the unique natural resources associated with the property;

d. The relocation of the proposed site development to a different site that would not require the same adverse environmental impact;

The Conservation Commission finds that the proposed use of the site for single family residential dwellings is allowed pursuant to the Open Space Residential District as

defined in the Westport Zoning Regulations. One of the purposes outlined in the OSRD regulations is “to provide a better layout and design of housing in environmentally sensitive areas.”

e. The modification of the proposed site development to delete that portion of the plan that eliminates Pond 2 and creates a storm water storage and treatment basin in its place, and the subsequent discharge of the development’s stormwater into Pond 1;

f. The modification of the proposed site development to delete Road B and the associated site development in its entirely which proposes to fill wetland and/or watercourse resources;

Based on the evidence of record, the Conservation Commission finds that modifications have been made to the plan which eliminated loop Road B and avoid deletion of Pond 2. Said modifications call for saving pond 2 and creation of a wetland enhancement area around it which will process stormwater before entering into Pond 1 and relocation of stormwater retention north of road A.

g. The modification of the proposed site development to redesign Road D so that no construction occurs with[in] a wetland and/or watercourse, or within a regulated upland area;

Based on the evidence of record, and conditions imposed by the Commission, it is the finding of the Conservation Commission, including the elimination of units 23 and 24, there is no encroachment by Road D into the wetland or wetland setback.

h. The modification of the proposed development to delete House 12, which is proposed to be located within a wetlands resource;

Based on the evidence of record and conditions imposed by the Commission, the Conservation Commission finds that House 12 has been eliminated because of its significant impact to the wetland.

i. The provision by the applicant of sufficient additional information to enable a thorough review of the proposed site development, including an analysis of the location of the groundwater table and aquifers on the site relative to the on-site wetlands and watercourse resources.

Based on the evidence of record and conditions imposed by the Conservation Commission, the Commission finds that a plan was submitted into the record, (exhibit 23) which documents location of the underlying Saugatuck River Aquifer relative to proposed units. Furthermore, documentation has been submitted by Land-Tech Consultants in the form of a letter dated November 28, 2001 which estimated the elevation of the groundwater at both the Newtown Turnpike and Partrick Road sides of the property. Evidence shows that the aquifer is located under units 20-29 and 30 and 31. Units 23, 24 and 28 have been eliminated because of their encroachment into wetlands or wetland setbacks. Evidence of record indicates units underlain by the

aquifer are to be connected to sanitary sewer and public water (with the exception of units 30 and 31which will be served by wells, if a variance from the Zoning Board of Appeals is granted). In addition, the Integrated Pest Management Plan will adequately address issues of possible non-point sources of pollution to the aquifer from lawn fertilizers and pesticides. Furthermore, Bridgeport Hydraulic Company, the supplier of public water for the town, has given preliminary approval for extension of public water to service the site.

RESOLUTION
The Reserve at Poplar Plains
#WPL 6678-01

The Conservation Commission resolves to **DENY IN PART AND APPROVE IN PART Application #WPL 6678-01**, by ARS Partners, LLC, for the construction of 31 single family homes on the 55 acre site located between Newtown Turnpike and Partrick

Road, Assessor's Map 5272-1 and 5271-2, lot 1 with the following modifications and conditions of approval:

1. The Commission finds the construction of Units 12, 24 and 28 will adversely impact natural resources and ecosystems of the waterway due to their inconsistency with the Waterway Protection Line Ordinance (WPLO) and are therefore DENIED.

2. The Commission finds the construction of Units 21 and 29 will not adversely impact natural resources and ecosystems of the waterway and are therefore APPROVED pursuant to the Waterway Protection Line Ordinance with the modifications, exceptions, restrictions, limitations and conditions as stipulated herein.

3. Conformance to the following plans with the modifications, exceptions, restrictions, limitations and conditions as stipulated herein:

    a) "The Reserve at Poplar Plains, Open Space Residential Community, Newtown Turnpike, Partrick Road, Westport, Connecticut" Site Plan, Details & Notes prepared by Land Tech Consultants, Roger Ferris & Partners LLC, Barkan & Mess Associates, Inc., scale 1"=40'-0", date 10/16/01, revision date 1/25/02, sheets 1-13.
    b) "Existing & Proposed Conditions Watershed Boundaries" photogrammetry by Geomaps, 1"=40'-0", date 2/27/01, watersheds drawn by Land Tech Consultants.
    c) "The Reserve at Poplar Plains, Westport, Connecticut, Environmental Report, prepared for ARS Partners, dated October 23, 2001, prepared by Land Tech Consultants.
    d) "The Reserve at Poplar Plains, Open Space Residential Community, Newtown Turnpike, Partrick Road, Westport, Connecticut**"** Existing Natural Resources, Soils, Proposed Site Management Plan**,** prepared by Land Tech Consultants, Roger Ferris & Partners LLC Architects, Barkan & Mess Associates, Inc.Traffic engineers, scale 1"=40'-0", date 10/16/01, sheet 1-13.
    e) The Reserve at Poplar Plains, Hydrology Report, date October 16, 2001, prepared by Land Tech Consultants
    f) The Reserve at Poplar Plains, Clustered Residential Community, Integrated Pest Management Plan (IPM) plan, prepared by Land Tech Consultants for ARS Partners, date January 25, 2002.
    g) Hydrogeologic Assessment, The Reserve at Poplar Plains, date 11/21/01, prepared by Leggette, Brashears & Graham, Inc., professional groundwater and environmental engineering services.

MODIFICATIONS

1. The Commission finds that the entry road from Newtown Tpke located within the the WPLO of wetland I is APPROVED with the following modification to eliminate adverse impact to natural resources and ecosystems of the waterway:

a) Road is to be constructed without curbs.
b) Stormwater retention is to be directed to the north of the road.

The Commission finds no other feasible alternative to provide access to site.

2. The Commission finds that proposed grading within the WPLO of wetland IX is DENIED for the purposes of installing a sewer line and access to units 23. Proposed grading within the WPLO of wetland IX will adversely impact natural resources and ecosystems pursuant to the Waterway Protection Line Ordinance.

3. Proposed sewer and water line through wetland and stream corridor, also located within the WPLO, is APPROVED with the following modifications to eliminate adverse impact to natural resources and ecosystems of the waterway pursuant to the Waterway Protection Line Ordinance:

a) Soil borings, probes or test drilling shall be performed prior construction commencement to determine whether directional drilling can be conducted without having a significant impact on the wetlands.
b) Conservation Department shall be notified one week prior to testing.
c) Documentation shall be submitted to the Conservation Department that indicates directional drilling is possible. Conservation Department representative is to be onsite during test drilling.
d) If directional drilling is not possible, this permit is null and void.
e) Said line is to be relocated so that access is south of wetland VII and wetland XI.
f) Staging area for directional drilling shall be located in the upland sides and shown on plans prior to permit issuance.
g) The proposed 2 inch sewer line shall be encased within an 6 inch sleeve to provide for possible, future expansion. Said sleeve shall be equipped with alarm system to signify blockages or leaks.
h) On site monitor (professional wetland scientist) is to be retained during the construction activities. Monitor shall be selected by the Conservation Director and the cost borne by the developer.
i) If proposed blasting for directional drilling is found to cause significant impact to wetlands, then blasting is to stop and Conservation Department informed.

4. The Commission finds that filling Wetland XII (approximately 2,700 sf) will not adversely impact natural resources and ecosystems of the waterway as they are regulated the Waterway Protection Line Ordinance. Therefore, the construction of Units 21 and 20 is APPROVED.

5. The Commission finds that filling of wetlands X, XI and XIII and proposed grading within the WPLO for the construction of Units 12, 24, 28, 29 will adversely impact natural resources and ecosystems of the waterway pursuant to the WPLO and therefore DENIED. The Commission finds that locating Unit 29 outside the WPLO is a feasible and prudent alternative to the currently proposed location.

6. The Commission finds that the driveway and associated grading proposed to access Unit 23 will adversely impact natural resources and ecosystems of the waterway pursuant to the WPLO and is therefore DENIED.

7. The Commission finds that the proposed road crossing located within the WPLO of wetland II in order to access Unit 3 and 4 will not adversely impact natural resources and ecosystems of the waterway pursuant to the Waterway Protection Line Ordinance with the modifications below. Therefore, said driveway is APPROVED with the following modification to eliminate adverse impact of natural resources and ecosystems of the waterway:

    a) Said road is to be located outside wetland II and the WPLO.
    b) Said road shall be gravel and constructed without curbs.

8. The Commission finds the proposed primary road crossing wetland I & II and associated grading within the WPLO is APPROVED with the following modification to eliminate adverse impact of natural resources and ecosystems of the waterway with the following modification. The Commission finds no other feasible alternative to provide access to site.
    a) Said road shall not have curbs.

9. The Commission finds that stormwater discharge outlets, footing drains, and infiltrator structures are located within the WPLO will adversely impact the preservation of natural resources and ecosystems of the waterway pursuant to the Waterway Protection Line Ordinance and are therefore DENIED. The Commission finds that locating such outlets, footing drains, etc outside WPLO is a feasible and prudent alternative to the current locations. Said outfalls are to incorporate velocity dissapators prior to discharge.

10. The Commission finds that stormwater retention between Vernal pool 2 and vernal pool 1B which encroaches within the WPLO will adversely impact natural resources and ecosystems of the waterway pursuant to the Waterway Protection Line Ordinance and are therefore DENIED. The Commission further finds that it is a feasible and prudent alternative to locate stormwater retention north of road A outside the WPLO.

11. The Commission finds that proposed sewer lines located on the wetland side of proposed units 17-19 located within the WPLO will adversely impact natural resources and ecosystems of the waterway pursuant to the Waterway Protection Line Ordinance and are therefore DENIED. The Commission finds

that locating sewer lines for Units 17-19 to the front of the house is a feasible and prudent alternative.

12. The Commission finds that blasting may significantly impact wetlands, watercourses and vernal pools pursuant to the Waterway Protection Line Ordinance. Therefore, the Commission finds that blasting required to construct basements for Units 17-19 will adversely impact natural resources and ecosystems of the waterway and are therefore DENIED. The Commission finds that eliminating basements for Units 17-19 is a feasible and prudent alternative to protecting the natural resources and ecosystems of the waterway from adverse impact.

13. The Commission finds that details submitted for the proposed fishing platform are incomplete and therefore the proposal is DENIED pursuant to the Waterway Protection Line Ordinance.

CONDITIONS

ITEMS REQUIRED TO BE SUBMITTED PRIOR TO ISSUANCE OF PERMIT

1. The Commission recommends that the Flood & Erosion Control Board review modifications approved by the Commission. The F&ECB shall determine whether approved plan is consistent with current approval provided by the Board. If the Board cannot approve modifications with respect to the existing resolution then a new application must be filed.

2. Test borings shall be conducted to confirm feasibility of directional drilling methods for sewer installation. Test soil boring data to be submitted to verify conclusion. **If directional drilling methodology is not feasible, then project approval is null and void.**

3. Site Plans and Proposed Site Management Plans shall be revised to reflect resolution approved by the Commission and shall be submitted prior to permit issuance with appropriate documentation of usage and distribution. Tabulation in acres of total wetlands, uplands, area in conservation easement, encroachment in wetlands and wetland setbacks, uplands disturbed and protected.

4. Submittal of Revised Erosion Control Plan. Said plan shall include the following:
   a) A Phasing Plan is to be incorporated with current Erosion Control Plans. , indicating project sequencing, and stock piling locations with the associated erosion controls. Each phase shall be conducted one at a time with advancement onto the next phase not commencing until the prior phase disturbance has been completely stabilized.
   b) Tree protection measures shall be at drip line of trees at the Conservation Easement limits.
   c) Plan to be approved by Conservation Department and Deputy Town Engineer.

d) Said plan shall indicate note that the Conservation Department shall be contacted to inspect erosion controls at each phase prior to commencement.
e) Conservation Department shall be contacted one week prior to construction commencement in order to conduct inspection of erosion controls and tree protection measures and confirm proper installation.

5. Submittal of a Stormwater Maintenance Plan. Said plan shall include the following:
    a) Said plan is to be approved by Conservation Director and Deputy Engineer and to be submitted prior to permit issuance.
    b) Said plan is to include schedules for sweeping, catchbasin cleaning, stormgate units, large particle oil separator maintenance and inspection.
    c) Said plan is to include the schedules for inspection and water quality testing. Pre and post construction water quality testing shall be conducted in waterbodies near stormwater discharge outlets at wetland I, wetland VI, wetland VII (pond 4), wetland II (pond 2) & wetland III (pond 1 and 3). Testing to include sediments, nutrients, dissolved oxygen and metals.
    d) All catchbasins shall have hooded traps and sumps.
    e) An individual permit is to be obtained for the removal of sediment occurring in waterbodies.

6. Submittal of a Conservation Easement Plan and Language. Said plan shall include the following:
    a) All wetland and upland areas protected from development by this approval.
    b) 15’ IWW setback and the site specific 25’ IWW vegetative buffer.
    c) Concrete monuments shall be placed into the ground at the 15’ IWW setback and the site specific 25’IWW vegetative buffer and limit of uplands protected as part of this approval at a separation distance of 100 feet.Said monuments are to be installed prior to construction.
    d) Management responsibility shall be provided by the Homeowners Association (HOA) in perpetuity.
    e) Said easement shall prohibit cutting, clearing, filling or building without prior permission from Conservation Commission.
    f) Proposed plan and language shall be filed on the land records and all individual house deeds and incorporated into the homeowners’ by-laws.
    g) Proposed plan and language for recording shall be reviewed and approved by Town of Westport Town Attorney and the Conservation Department.
    h) All-terrain vehicles are not permitted within conservation easement limits.

7. Submittal of the Homeowners Association Bylaws. The following information shall to be incorporated into the Bylaws. Said bylaws are to be submitted prior to permit issuance.

    a) Stormwater Maintenance Plan
    b) Long Term Wetlands Management Plan
    c) Amenities not permitted on this property.

d) Inland Wetlands and Watercourses Regulations, including fine procedure.
e) Conservation Easement Language and Plan
f) Integrated Pest Management Plan, dated 1/25/02, prepared by Land Tech Consultants with the following conditions:
    a) No personal use of pesticides and fertilizers is permitted.
    b) Said plan is to be carried out by a licensed applicator.
    c) All areas indicated within the Conservation Easement area ARE NOT to be included in the IPM plan.
g) Changes to the bylaws relating to wetlands or property maintenance are to be reviewed by the Conservation Commission.
h) All terrain vehicles are not permitted within Conservation Easement limits.
i) All outdoor oil tanks, whether above or below ground, are prohibited. Any fuel tank located inside the house must be surrounded by a concrete lip to contain any spills.

8. Items to be placed on the deed restrictions
    a) Amenities not permitted on the property
    b) Conservation Easement Language and Plan

9. Submittal of a Long Range Wetland Management Plan. Said plan shall include the following:
    a) Baseline monitoring report: In order to monitor the efficacy of wetland enhancement efforts and mitigation measures, a number of monitoring plots must be selected for regular monitoring. Initial testing and inventory must be conducted prior to work commencement in order for a body of baseline data to be established from which future comparisons can be made. Said monitoring plots are also to include the 15' IWW setback and the site specific 25' IWW vegetative buffer. Said report shall include water quality testing results as required in stormwater maintenance plan. In addition, said plan shall include water testing in Poplar Plains Brook upstream on the property and at the downstream outlet on the property. Transects and monitoring quadrats shall be shown on this plan where monitoring will take place for the next 3 three years. After three (3) years the HOA or Owner shall request a review of monitoring results by the Conservation Commission to determine whether additional monitoring is necessary. Baseline monitoring report shall be submitted prior to permit issuance.

    b) Conservation Easement plan shall be included with this report.

    c) The "Proposed Management Plans" shall be revised to indicate the Conservation Easement limits. This includes the area within the 15' IWW setback, site specific 25' IWW vegetative buffer area, proposed planted areas and those upland areas that will be left undisturbed as approved

by the Commission. The following information is to be shown on these plans:

1) Existing trees (8" dbh and greater) along conservation easement limit and within wetland II outside proposed swale. In addition, said trees are to be flagged in the field. Conservation Department to review trees and determine which, if any, may be removed.
2) Areas to be planted.
3) The following notes shall be included in the plan:
    a) Native shrubs and understory are to remain
    b) Invasive non native vegetation as listed by the DEP may be removed by hand. Herbicide may be used on a spot by spot basis (tree by tree basis)
    c) Aggressive native vegetation may be cut back but not removed within the 15'IWW setback and site specific 25' IWW setback. This does not include other site specific upland areas as approved by the Commission.
4) No fertilizers, herbicides, or pesticides are to be used within this area
5) Maintenance of these areas belong to the Homeowners Association or the owner.

d) Annual Monitoring Report (as proposed by the applicant) shall include the following:

1) All transects and quadrats shown on the baseline report, photographs and vegetation inventory.
2) Recommendations for improving wetland buffers (additional plantings, invasive vegetation management, water quality testing, etc
3) Status of the Eastern Box Turtle, wildlife observation as well as the observance of any other listed species as indicated in the report prepared by the applicant. Applicant to include all efforts used to sustain species and improve habitat on property as part of the long term management of this wetland.
4) 1st monitoring report is required after first growing season after construction begins.
5) Water quality monitoring

10. Individual house permits for units 30 and 31 are required. Units 30 and 31 are proposed to be served by individual wells. However, use of a well will require a variance from the Zoning Board of Appeals since Section 17 of the Zoning

Regulations states that all units in OSRD are to be served by public water. Should a variance be granted, no permit for construction of units 30 and 31 will be issued until Health Department approval for a well is issued. Should the applicant fail to secure a variance, the water line must be located in the street as is the sewer line. Wells are not to be installed in the 25' IWW setback.

AMENITIES NOT INCLUDED IN THIS PERMIT

1. Sidewalks,visitor parking, trails and fishing platform. Said proposals require applicant to return to the Conservation Commission for approval.

2. Sidewalks,visitor parking, trails and fishing platform. Said proposals Pools, tennis courts, decks, patios, shed, fences, walls (with the exception of well and or retaining wall for tree protection) ARE NOT PERMITTED on this property. Said resolution shall be included in all property deeds and included in the Homeowner Association Bylaws.

3. All outdoor oil tanks, whether above or below ground, are prohibited. Any fuel tank located inside the house must be surrounded by a concrete lip to contain any spills.

WORK TO BE COMPLETED PRIOR TO CONSTRUCTION COMMENCEMENT OF EACH PHASE

1. Implementation of the Erosion and Control Plan, to be installed prior to construction.

2. Tree protection devices shall be installed along border of 15' IWW setback and site specific 25' vegetative buffer.

3. On site construction monitor shall be retained. Monitor shall be selected by the Conservation Department. Said cost of monitor shall be borne by the Developer or property owner. Name, and contact address and telephone number to be on file at the Conservation Department. Said monitor shall provide bi-weekly reports to the Conservation Department throughout the construction activity.

4. Conservation Easement limit areas are to be flagged in the field and monuments installed. Conservation Department shall be contacted one (1) week prior to construction commencement in order to allow time for inspection by Conservation Department staff and or Monitor to confirm erosion controls and tree protection measures are in place.

5. Protective measures, ie fence, for Eastern Box turtle home range shall be installed.

6. Bond shall be submitted to cover the cost of plantings within the 15' IWW setback and site specific 25' IWW vegetative buffer, mitigation areas, erosion control and labor. Bond estimate shall be submitted to and approved by Conservation Director and bond monies shall be submitted prior to issuance of Conservation permit. A separate bond shall be submitted for each phase of construction.

7. General Contractor, Owner and Site Contractor shall sign a copy of this permit indicating he/she understands terms and conditions of permit. Said signature acknowledges that all his/her subcontractors are aware of this permit and its conditions. Property Owner is held responsible for all fines that may be associated with violations. Copy of signed permit shall be filed in the Conservation Department with contact phone number and address.

8. Onsite fracture tracer tests shall be performed and documentation shall be submitted to the Conservation Department prior to construction.

OTHER CONDITIONS

1. Educational brochure shall be prepared for future homeowners describing the rules and regulations and proper housekeeping for residences who live in close proximity to wetlands. Said brochure should also include limit of landscaping responsibility of the homeowner and the HOA.

2. This is a conditional approval. Each and every condition is an integral part of the Commission decision. Should any of the conditions on appeal from this decision be found to be void or of no legal effect, then this conditional approval is likewise void. The applicant my refile another application for review.

Motion:	Kagan
Second:	Freeman
Ayes:	Kagan, Freeman, Davidson, Walker, Shufro, Starr & Weil
Nayes:	None
Votes:	7:0:0