



Constance C. Holland, AICP
Director, Office of State Planning Coordination
State of Delaware
122 William Penn Street, Suite 302
Haslet Building, Third Floor
Dover, DE 19901

13 May 2008
Via: US Mail

RECEIVED
OFFICE OF STATE PLANNING AND COORDINATION
MAY 19 PM 12 36

RE: PLUS review – PLUS 2007-12-10; Delmar Grove

Dear Ms. Holland:

In regard to the above referenced project and pursuant to your comment letter dated 11 March 08, please find the following point by point response in blue for your review. A revised site plan and additional exhibits have been included with this resubmittal and are referenced here on in.

Office of State Planning Coordination – Contact: Bryan Hall 739-3090

The Office of State Planning and Coordination recognizes the proposed project is located within an Investment Level 3 as defined by the Strategies for State Policy and Spending and is within the future / long-term growth area for the Town of Delmar. At this time the developer and the Town of Delmar have expressed a mutual intent to annex the proposed as a conditional use to support the proposed mixed use development. Based upon this intent for annexation this office offers the following comments:

- The developer should work with the Department of Transportation to address concerns for connective to adjacent future development sites within the area to promote alternative means of transportation for residents.

Comment Acknowledged. Element will coordinate with the Department to determine if connections to future adjacent developments is feasible or not. Given the undevelopable wetlands on the eastern portion of the site, the 150' Delmarva Power and Light Easement to the south, and the single family residential property to the west, it is expected that future connections will not be practical. However, every effort will be taken to provide them, as well as the possibility for adding bicycle and pedestrian access to these areas.

- The developer should work with the Delaware Forest Service to develop a future reforestation plan and forest preservation plan to allow for the transition of the working forest lands to urban forest lands to enhance forest canopy resources and address future tree management needs.

Comment Acknowledged and Appreciated. Element will coordinate with the Forest Service to develop a reforestation and preservation plan to convert and protect the timber farm to a functioning urban forest. It is desired to utilize the large tract of forested wetlands on the eastern side of the site as a park and trail system, and the health of the forest will only benefit this goal.

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- The developer should work with DNREC and the Town of Delmar to address future impacts to the excellent recharge area located within the site. This may include limiting impervious surface, additional forest / wetland restoration and other Best Management Practices to minimize impact to this resource.

Comment Acknowledged. It should be noted that per Exhibit F in the original submission, the proposed developed portion of the site is located entirely in the Fair recharge zone, while the Good and Excellent recharge areas will remain undeveloped in the forested wetland area. If permitting is feasible and a park and trail system is coordinated for this undeveloped area, Element will work with DNREC and the Town to minimize the impacts of the park on the Excellent recharge zone and to enhance the resource.

- The developer should continue to work with the Town to address their concerns regarding future growth within the area through the development of a formal annexation agreement. This document will allow for a clear path forward for this project and outline any conditions that may need to be addressed to ensure a successful project.

Comment Acknowledged. The Developer has coordinated with the Town in order to develop Annexation Documents which the Town is now in receipt of the signed documents. The site is pending official annexation until the parcel that makes the others contiguous has also completed its paperwork.

Division of Historical and Cultural Affairs – Contact: Terrance Burns 739-5685

There did not appear to be any historic or cultural resource sites, no archaeological sites, or listed national register properties on this parcel/property, but the developer should be aware that there are a few known historic or cultural resource sites nearby.

Comment Acknowledged.

The developer should also be aware that this parcel/property is within the historic vicinity of Little Creek Hundred. According to the historic Beers Atlas/Map of 1868, there is evidence on the atlas/map that indicates that the vicinity of Little Creek Hundred does have some historical areas. The developer should also be aware that it is a possibility that there could potentially be historic or cultural resources on this parcel/property (project area) because of the historical background of the area or vicinity. These historic or cultural resources could be archaeological resources such as be a cemetery, burial ground, unmarked human remains, or the parts or pieces or something demolished, destroyed, or ruined historically.

Comment Acknowledged.

The State Historic Preservation Office of the Division of Historic & Cultural Affairs recommends the prior to any demolition, ground-disturbing activities or construction on this parcel/property (project area) that the developer show review Chapters 53 and 54, in Title 7, of the Delaware State Code. Chapter 53 pertains to the discovery and disposition

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of “Conservation of Archaeological Resources In or On State Lands”. Chapter 54 pertains to the “Delaware Unmarked Human Remains Act of 1987”, such as the discovery and disposition of Unmarked Human Burials or Skeletal Remains”. The unexpected discovery of unmarked human remains during construction can result in significant delays while the process is carried out.

Comment Acknowledged. However, since the site is an active agricultural timber farm it is unexpected that any remains on-site would now be discovered.

The State Historic Preservation Office of the Division of Historic & Cultural Affairs also recommends that prior to any demolition, ground-disturbing activities, or construction that the developer should consider hiring an archaeological consultant to check or examine parcel/property (project area) thoroughly, and see if there is any evidence or indication of potential historic or cultural resources, or archaeological resources on it, such as a cemetery, burial ground, unmarked human remains, or the parts or pieces or something demolished, destroyed, or ruined historically.

Comment Acknowledged. However, since the site is an active agricultural timber farm it is unexpected that any historic, cultural or archeological resources would be unearthed during construction as the land has already been disturbed.

If you would like to discuss this information or recommendations in further detail, contact Mr. Terence Burns at State Historic Preservation Office of Division of Historic & Cultural Affairs at (302) 736-7400 ext.25.

Department of Transportation – Contact: Bill Brockenbrough 760-2109

1) DelDOT’s policy is to require a dedication of 30 feet from the centerline on local roads, such as Iron Hill Road and Old Stage Road. Therefore the applicant should anticipate a requirement to dedicate any additional frontage needed to meet this standard.

Comment Acknowledged. Element is aware of the 60 foot ultimate right-of-way widths on both Iron Hill Road and Old Stage Road, and showed the necessary 5 foot dedication to obtain this required width on Iron Hill Road (where the developed portion of the site fronts) in the initial Concept Plan. It is now known that a 5 foot dedication will also be required on Old Stage Road (fronting the undeveloped portion of the site) and will be shown on Site Plan’s moving forward.

2) DelDOT will also require the developer to provide a 10-foot wide shared use path in a 15-foot wide permanent easement along the property frontage on at least Iron Hill Road and possibly both roads, with a connection if possible, to the adjoining Wieland Mobile Home Court.

Comment Acknowledged. Element and the Developer will expect to place the 10 foot multi-use path in a 15 foot easement along the property frontage of Iron Hill Road and will discuss with DelDOT during the Entrance Plan approval process if additional paths are needed along Old Stage road and to the Wieland Mobile Home Court.

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3) Previously, on July 26, 2007, DelDOT provided a scope of work for a traffic impact study (TIS) for a 778-unit condominium project on the subject land. Apparently site constraints, that is wetlands, have reduced the developable area and therefore the number of units proposed. On December 21, 2007, DelDOT adopted revised regulations regarding land development applications, effective as of that date. Because a TIS would be warranted under these new regulations, we recommend that the developer complete and submit that study. Note, however, that if the special exception application is submitted to the Town and is accepted for review by the Town in accordance with required local procedures by March 31, 2008, no TIS will be required as part of DelDOT's grandfathering provisions.

Comment Acknowledged. A Traffic Impact Study reflecting the proposed 120 condominium units is currently in progress and a Final Report has been reviewed and commented on by the Department. While a TIS would not be required under the old regulations it was not known when the Annexation process would be finalized and was therefore pursued.

4) DelDOT's previous comment notwithstanding, DelDOT is considering the initiation of an area study that would examine the need for road improvements in a larger section of the Route 13 corridor in the greater Delmar area. If it proceeds, that study could affect the recommendations regarding this project.

Comment Acknowledged. It is assumed that the recommendations made by the Department on March 14, 2008 in regards to the Final TIS are their recommendations for the Route 13 corridor unless heard from otherwise.

5) If the special exception is approved, the developer's site engineer should contact the DelDOT Subdivision Manager for western Sussex County, Mr. Derek Sapp, regarding specific requirements for access and off-site improvements. Mr. Sapp may be reached at (302) 760-4803.

Comment Acknowledged. Element is in the habit of coordinating with the Department and will work with Mr. Sapp during the Preliminary Record Plan and Entrance Plan approval processes.

**The Department of Natural Resources and Environmental Control – Contact:
Kevin Coyle 739-9071**

Soils

According to the Sussex County soil survey update, Rockawalkin and Lenni were mapped in the immediate vicinity of the proposed construction. Rockawalkin is a moderately well-drained soil of low-lying uplands that has moderate limitations for development. Lenni is a poorly-drained wetland associated (hydric) soil that has severe limitations for development. Approximately 80-90% of the soils mapped on subject parcel were mapped as Lenni. These soils should not be developed because of their potential to increase the intensity, duration, and frequency of future flooding events (both

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onsite and offsite) should they be filled, graded, or further disturbed.

Comment Acknowledged. Included in this resubmittal is an added Exhibit J, showing the soils overlay. The Lenni soils, LfA and LhA, are found in the forested wetland area of the site and therefore their flooding impacts will not effect the proposed apartment complex as this area remains undeveloped. The soil in the developed area is the Rockawalkin soil (RkA), which, as noted, only has moderate limitations to development of the site.

Wetlands

Based on Statewide Wetlands Mapping Project (SWMP) mapping, palustrine wetlands were mapped throughout most of the parcel (estimated 80-90%).

Impacts to Palustrine wetlands are regulated by the U.S. Army Corps of Engineers (USACE, or "the Corps") through Section 404 of the Clean Water Act. In addition, individual 404 permits and certain Nationwide Permits from the Corps also require 401 Water Quality Certification from the DNREC Wetland and Subaqueous Land Section and Coastal Zone Federal Consistency Certification from the DNREC Division of Soil and Water Conservation, Delaware Coastal Management Program (DCMP) Section. Each of these certifications represents a separate permitting process. Please be advised that nationwide permits have been suspended in Delaware and are pending further coordination with the Corps. Therefore, contrary to past practices, Coastal Zone Management approval can no longer be assumed. Individual certifications must be granted from the DCMP office for each project intending to utilize a Nationwide Permit. For more information on the Federal Consistency process, please contact the DCMP office at 302.739.9283. To find out more about permitting requirements, the applicant is encouraged to attend a Joint Permit Process Meeting. These meetings are held monthly and are attended by federal and state resource agencies responsible for wetland permitting. Contact Denise Rawding at (302) 739-9943 to schedule a meeting.

Comment Acknowledged. The proposed developed portion of the site remains outside of the delineated wetlands area, and is therefore expected not to need any permitting. However, in anticipation that the Town would like a dedicated park in the undeveloped wetland portion of the site, Element, with the support of Envirotech Environmental Consultants (or other wetland consultant), will work with the DCMP Section of DNREC to coordinate the permitting process.

Based on a review of existing buffer research by Castelle et al. (1994), an adequately sized buffer that effectively protects wetlands and streams, in most circumstances, is about 100-foot in width. In recognition of this research and the need to protect water quality, the Watershed Assessment Section recommends that the applicant maintain/establish a minimum 100-foot upland buffer (planted in native vegetation) from the landward edge of all wetlands and water bodies (including all ditches).

Comment Acknowledged. Due to the limited developable area of the site (approximately 12.3% of the site) a 50 foot buffer from the forested wetland area was established at minimum. In the revised Site Plan included within this response package, it should be noted

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that except for the parking by Building Two, the distance from the wetlands to the nearest impervious source is well over 50 feet, ranging from 75 to 165 feet.

As mentioned previously, most of the mapped soils on this parcel are mapped as poorly drained hydric Lenni soils (estimated 80-90%). Hydric soils typically have a seasonal high water table at or near the soil surface (within one-foot of soil surface or less). Building in such soils is likely to leave prospective residents of this and adjoining properties susceptible to future flooding problems from groundwater-driven surface water ponding, especially during extended periods of high-intensity rainfall events such as tropical storms/hurricanes or "nor'easters." This is in addition to increased flooding probabilities from surface water runoff emanating from future created forms of structural imperviousness (roof tops, roads, sidewalks, and stormwater management structures).

Comment Acknowledged. As seen in the re-submitted Exhibit J, the poorly drained Lenni soils lay within the undeveloped, forested wetland portion of the site. The apartment buildings and associated site features fall within the Rockawalkin soil range, which does not pose as severe flooding potentials.

Based on the Chapter 99, Section 16A of the Sussex County Code (paraphrased), lands compromised by improper drainage or flooding potential pose significant threats to the safety and general welfare of future residents and, therefore, shall not be developed. Soils mapped as Lenni fit the criterion for improper drainage or high flooding potential, and should be avoided. The Watershed Assessment Section believes permitting development on such soils would be inconsistent with the above-mentioned regulatory guidelines in the Sussex County Code.

Comment Acknowledged. As discussed above, the developed portion of the site falls outside of the Lenni soil range, within the Rockawalkin soils, and therefore is not seen as a severe threat to the safety and welfare of future residents. The Lenni portion of the site will remain undeveloped since this area has been delineated as forested wetlands. It may be sought to add trails and/or a park in this area, however, that is not seen as significant threat since permanent residences will not be within the soils.

Impervious Cover

The applicant estimates this project's post-development surface imperviousness to reach 4 percent. However given the scope and density of this project, this projection is likely to be a significant underestimate. The applicant should realize that all forms of constructed surface imperviousness (i.e., rooftops, sidewalks, open-water stormwater management structures, and roads) should be included in the calculation for surface imperviousness. Failure to do so will result in an underestimate of this project's likely post-construction environmental impacts. The calculation for surface imperviousness should be corrected and/or recalculated to reflect all the above-mentioned concerns.

The 4% estimate for the project's imperviousness area was accurate based on the site's total acreage (3.80 acres of imperviousness out of 96.93 total acres). Omitting the undevelopable wetlands and Delmarva Power and Light Easement areas, the percent imperviousness for the developable portion of the site is approximately 32%. Included in this re-submittal, as

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Exhibit K, is an Impervious Cover Exhibit. The layout is slightly adjusted from the original submission due to a more accurate wetland delineation but the intent remains the same with (5) 24-unit apartment buildings. The exhibit indicates the impervious areas per building, paved and sidewalk coverage, which totals 4.14 acres (similar to the 3.80 acres from the first submission). This new acreage of imperviousness equates to 4.27% of the total site and 34.73% of the developable area of the site.

Studies have shown a strong relationship between increases in impervious cover to decreases in a watershed's overall water quality. It is strongly recommended that the applicant implement best management practices (BMPs) that reduce or mitigate some of its most likely adverse impacts. Reducing the amount of surface imperviousness through the use of pervious paving materials ("pervious pavers") in lieu of asphalt or concrete in conjunction with an increase in forest cover preservation or additional tree plantings are some examples of practical BMPs that could easily be implemented to help reduce surface imperviousness.

Comment Acknowledged. It is anticipated that green best management practices will be used to treat the stormwater management (at minimum for water quality) and then discharge to the wetland area to promote groundwater recharge. However, the stormwater design will ultimately depend on further soil investigations and the groundwater and limiting zone elevations. Preliminary landscaping has also been provided and can be seen in re-submitted Exhibit L, which will help to reduce the effects of the proposed development. In addition, the sidewalks are only proposed when connecting parking areas directly to the buildings; elsewhere will be a mulched trail system.

ERES Waters

This project is located adjacent to receiving waters of the Broad Creek watershed, and designated as having waters of Exceptional Recreational or Ecological Significance (ERES). ERES waters are recognized as special assets of the State, and shall be protected and/ or restored, to the maximum extent practicable, to their natural condition. Provisions in Section 5.6 of Delaware's "Surface Water Quality Standards" (as amended July 11, 2004), specify that all designated ERES waters and receiving tributaries develop a "pollution control strategy" to reduce non-point sources of pollutants through implementation of Best Management Practices (BMPs). Moreover, provisions defined in subsection 5.6.3.5 of same section, specially authorize the Department to mandate BMPs to meet standards for controlling the addition of pollutants and reducing them to the greatest degree achievable and, where practicable, implementation of a standard requiring no discharge of pollutants.

Comment Acknowledged. The project will conform to the review and approval of the Sussex Conservation District will utilize best management practices.

TMDLs

Total Maximum Daily Loads (TMDLs) for nitrogen and phosphorus have been promulgated through regulation for the Broad Creek watershed. A TMDL is the maximum level of pollution allowed for a given pollutant below which a "water quality limited water body" can assimilate and still meet water quality standards to the extent

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necessary to support use goals such as, swimming, fishing, drinking water and shell fish harvesting. Although TMDLs are required by federal law, states are charged with developing and implementing standards to support these desired use goals. In the greater Nanticoke watershed, “target-rate-nutrient reductions” of 30 and 50 percent will be required for nitrogen and phosphorus, respectively. Additionally, “target-ratereductions” of 2 percent will be required for bacteria.

Comment Acknowledged. During stormwater design of the site, it will be ensured that the nitrogen and phosphorus contents have been reduced to 30 and 50% respectively, and bacteria to 2%.

TMDL Compliance through the PCS

As indicated above, Total Maximum Daily Loads (TMDLs) for nitrogen and phosphorus have been proposed for the Broad Creek watershed. The TMDL calls for a 30 and 50 percent reduction in nitrogen and phosphorus from baseline conditions. The TMDL also calls for a 2 percent reduction in bacteria. A Pollution Control Strategy (PCS) will be used as a regulatory framework to ensure that these nutrient reduction targets are attained. The Department has developed an assessment tool to evaluate how your proposed development may reduce nutrients to meet the TMDL requirements. Additional nutrient reductions may be possible through the implementation of BMPs such as wider vegetated buffers along watercourses/wetlands, increasing the amount of passive, wooded open space, use of pervious paving materials to reduce surface imperviousness, deployment of green-technology stormwater management treatment technologies, and connection to a central sewer. Contact Lyle Jones at 302-739-9939 for more information on the assessment tool.

Comment Acknowledged. To ensure the above mentioned reductions are met, Element will work with DNREC and utilize their DURMM model to calculate the percent reductions from pre to post development.

Water Supply

The project information sheets state that water will be provided to the project by the Town of Delmar (through Tidewater) via a public water system. Our records indicate that the project site is not located in an area where public water service is available. Any public water utility providing water to the site must obtain a certificate of public convenience and necessity (CPCN) from the Public Service Commission. According to §203C, Subchapter II, Chapter 1, Title 26, Delaware Code, the municipality is required to give notice to the Public Service Commission when the annexation is complete. Information on CPCNs and the application process can be obtained by contacting the Public Service Commission at 302-739-4247. Should an on-site public/miscellaneous public well be needed, a minimum isolation distance of 150 feet is required between the well and any potential source of contamination, such as a septic tank and sewage disposal area. The Division of Water Resources will consider applications for the construction of on-site wells provided the wells can be located and constructed in compliance with all requirements of the Regulations Governing the Construction and Use of Wells. A well construction permit must be obtained prior to constructing any wells.

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Comment Acknowledged. The site will utilize Town water provided by Tidewater Utilities, Inc. and will not have on-site wells. The annexation agreement is now finalized and the Town of Delmar should notify the Public Service Commission in order to obtain the CPCN.

Should dewatering points be needed during any phase of construction, a dewatering well construction permit must be obtained from the Water Supply Section prior to construction of the well points. In addition, a water allocation permit will be needed if the pumping rate will exceed 50,000 gallons per day at any time during operation.

Comment Acknowledged. If a dewatering well is required during construction, a permit will be obtained beforehand from the Water Supply Section.

All well permit applications must be prepared and signed by licensed water well contractors, and only licensed well drillers may construct the wells. Please factor in the necessary time for processing the well permit applications into the construction schedule. Dewatering well permit applications typically take approximately four weeks to process, which allows the necessary time for technical review and advertising.

Comment Acknowledged.

Should you have any questions concerning these comments, please contact Rick Rios at 302-739-9944.

Sediment and Erosion Control/ Stormwater Management

A detailed sediment and stormwater plan will be required prior to any land disturbing activity taking place on the site. Contact the reviewing agency to schedule a preapplication meeting to discuss the sediment and erosion control and stormwater management components of the plan as soon as practicable. The site topography, soils mapping, pre- and post-development runoff, and proposed method(s) and location(s) of stormwater management should be brought to the meeting for discussion. The plan review and approval as well as construction inspection will be coordinated through the Sussex Conservation District. Contact Jessica Watson at the Sussex Conservation District at (302) 856-7219 for details regarding submittal requirements and fees.

Comment Acknowledged. An Erosion and Sediment Control Plan will be prepared for the site during final engineering, and its review and approval will be coordinated with the Sussex Conservation District.

Because of the parcel's location in an impaired watershed and the amount of impervious surface, consider incorporating more green technology BMPs and low impact development practices to reduce stormwater flow and to meet water quality goals.

Comment Acknowledged. Element will strive to only use green best management practices on-site, however given the site's soil limitations and water quantity regulations, a traditional stormwater pond maybe needed in conjunction with the green bmp's. Further engineering and testing will determine the stormwater design.

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The Sediment and Stormwater Management Program ensures sediment and erosion control plans and stormwater plans comply with local land use ordinances and policies, including the siting of stormwater management facilities. However, DNREC does not support placement in resource protection areas or the removal of trees for the sole purpose of placement of a stormwater management facility/practice.

Comment Acknowledged.

Drainage

- The portion of property that is proposed to be developed is not within the Ward Cordrey Tax Ditch. However, you may want to explore a tax ditch outlet for stormwater.

Comment Acknowledged. Utilizing the Ward Tax Ditch for stormwater discharge will be investigated, particularly since a portion of the site is currently within the drainage limits of the ditch (as seen in Exhibit M of the re-submittal) and there are access points to the ditch on the opposite side of the right-of-way on Iron Hill Road.

- The Drainage Program requests that the engineer take precautions to ensure the project does not hinder any off site drainage upstream of the project or create any off site drainage problems downstream by the release of on site storm water. The Drainage Program requests that the engineer check existing downstream ditches and pipes for function and blockages prior to the construction. Notify downstream landowners of the change in volume of water released on them.

Comment Acknowledged. A field check of the existing ditches and pipes will be performed prior to construction.

- The Drainage Program encourages the elevation of rear yards to direct water towards the streets and alleyways where storm drains are accessible for maintenance. However, the Drainage Program recognizes the need for catch basins in yards in certain cases. Therefore, catch basins placed in rear and side yards will need to be clear of obstructions and be accessible for maintenance. Decks, sheds, fences, pools, and kennels can hinder drainage patterns as well as future maintenance to the storm drain or catch basin. Deed restrictions, along with drainage easements recorded on deeds, should ensure adequate future maintenance access.

Comment Acknowledged but is Not Applicable. The site will be condominiumized and will not have individual lot lines.

- An increase of the side yard setback to 15 feet may be needed on all properties with a drainage easement on the side. The increase will allow room for equipment to utilize the entire easement and maneuver free of obstructions if the drainage conveyance requires periodic maintenance or future re-construction. The side yard setback would only increase on the side with the drainage easement.

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Comment Acknowledged but is Not Applicable. The site will be condominiumized and will not have individual lot and/or setback lines.

- All catch basins in rear or side yards should have a 10-foot drainage easement around them on all sides. Place restrictions on fences, sheds, and other structures within the easement to prevent obstructions from being placed next to the catch basin. Record the easement on the deed.

Comment Acknowledged but is Not Applicable. The site will be condominiumized and will not have individual lot and/or setback lines.

- Have all drainage easements recorded on deeds and place restrictions on obstructions within the easements to ensure access for periodic maintenance or future re-construction. Future property owners may not be aware of a drainage easement on their property if the easement is only on the record plan. However, by recording the drainage easement on the deed, the second owner, and any subsequent owner of the property, will be fully aware of the drainage easement on their property.

Comment Acknowledged but is Not Applicable. The site will be condominiumized and will not have individual lot and/or setback lines. However, if any off-site drainage easements are required, it will be noted as such on the Final Record Plan and HOA Documents.

Rare Species

DNREC has never surveyed this property; therefore, it is unknown if there are State-rare or federally listed plants, animals or natural communities at this project site. There are records of mud salamander (*Pseudotriton montanus*) in the vicinity. This State-rare amphibian typically inhabits forested wetlands such as those on site. It is unknown if this species is present due to the history of timber harvest. If the site has been allowed to regenerate, this species and perhaps other forest and wetland dependent species could be present.

Recommendations:

1. DNREC recommends that efforts to minimize wetland impacts be made, and consideration should be made for allowing the open space to naturally regenerate. There are wildlife species, some of which are game, that benefit from early successional habitat.

If preservation of the open space is considered, there are many incentive-based programs for wildlife management available to private landowners through our agency. Please contact Shelly Tovell at (302) 735-3600 if the landowner(s) is interested in more information.

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Comment Acknowledged. All of the proposed site improvements are located entirely outside of the delineated wetlands and, at its minimum, a 50 foot wetland buffer is provided.

2. If a trail system through the wetland is planned, a layout with the least amount of wetland crossings and that leaves adequate upland buffers around the wetlands would minimize impacts. We recommend a wildlife habitat assessment be conducted to determine which wetland areas have value for amphibian breeding so that impacts can be minimized. Our community ecologist, Robert Coxe, would gladly assist in evaluating the area for habitat that benefits local species. Robert would also provide a vegetative community map of the area which would aide in planning of a trail system. This evaluation would be conducted at no cost or liability to the landowner/developer. If interested, please contact Edna Stetzar at (302) 653-2883.

Comment Acknowledged. If the park and/or trail system is permissible, Element will work with the Town and DNREC to locate it in the most beneficial area, both for the natural resources and Town.

Underground Storage Tanks

There is one inactive LUST site(s) located near the proposed project:

Warner Freuhauf Building, Facility # 5-000386, Project # S9401007

No environmental impact is expected from the above inactive/active LUST site(s). However, should any underground storage tank or petroleum contaminated soil be discovered during construction, the Tank Management Branch must be notified as soon as possible. It is not anticipated that any construction specifications would need to be changed due to petroleum contamination. However, should any unanticipated contamination be encountered and PVC pipe is being utilized, it will need to be changed to ductile steel with nitrile rubber gaskets in the contaminated areas.

Comment Acknowledged. The requested material will be implemented should petroleum contaminated soil be encountered during construction.

Air Quality

Once complete, vehicle emissions associated with this project are estimated to be 9.2 tons (18,418.7 pounds) per year of VOC (volatile organic compounds), 7.6 tons (15,249.5 pounds) per year of NO_x (nitrogen oxides), 5.6 tons (11,251.3 pounds) per year of SO₂ (sulfur dioxide), 0.5 ton (1,001.6 pounds) per year of fine particulates and 770.4 tons (1,540,704.8 pounds) per year of CO₂ (carbon dioxide).

Comment Acknowledged.

Emissions from area sources associated with this project are estimated to be 3.7 tons (7,429.1 pounds) per year of VOC (volatile organic compounds), 0.4 ton (817.4 pounds) per year of NO_x (nitrogen oxides), 0.3 ton (678.3 pounds) per year of SO₂ (sulfur

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dioxide), 0.4 ton (875.4 pounds) per year of fine particulates and 15.1 tons (30,116.0 pounds) per year of CO₂ (carbon dioxide).

Comment Acknowledged.

Emissions from electrical power generation associated with this project are estimated to be 1.5 tons (2,944.4 pounds) per year of NO_x (nitrogen oxides), 5.1 tons (10,241.3 pounds) per year of SO₂ (sulfur dioxide) and 755.3 tons (1,510,588.8 pounds) per year of CO₂ (carbon dioxide).

Comment Acknowledged.

	VOC	NO _x	SO ₂	PM _{2.5}	CO ₂
Mobile	9.2	7.6	5.6	0.5	770.4
Residential	3.7	0.4	0.3	0.4	15.1
Electrical Power		1.5	5.1		755.3
TOTAL	12.9	9.5	11.0	0.9	1540.8

For this project the electrical usage via electric power plant generation alone totaled to produce an additional 1.5 tons of nitrogen oxides per year and 5.1 tons of sulfur dioxide per year.

Comment Acknowledged.

A significant method to mitigate this impact would be to require the builder to construct Energy Star qualified homes. Every percentage of increased energy efficiency translates into a percent reduction in pollution. Quoting from their webpage, <http://www.energystar.gov/>:

“ENERGY STAR qualified homes are independently verified to be at least 30% more energy efficient than homes built to the 1993 national Model Energy Code or 15% more efficient than state energy code, whichever is more rigorous. These savings are based on heating, cooling, and hot water energy use and are typically achieved through a combination of:

- building envelope upgrades,
- high performance windows,
- controlled air infiltration,
- upgraded heating and air conditioning systems,
- tight duct systems and
- upgraded water-heating equipment.”

The DNREC Energy Office is in the process of training builders in making their structures more energy efficient. The Energy Star Program is excellent way to save on energy costs and reduce air pollution. They highly recommend this project development element



and other residential proposals increase the energy efficiency of their homes.

Comment Acknowledged. The Developer of the project has built several Energy Star houses and communities, and should Element be the architectural designer of the buildings, will strive to incorporate energy efficient designs in the construction documents.

It is also recommended that the home builders offer geothermal and photo voltaic energy options. Applicable vehicles should use retrofitted diesel engines during construction. The development should provide tie-ins to the nearest bike paths, links to mass transit, and fund a lawnmower exchange program for their new occupants.

Element and the Developer will look at geothermal and solar energy options for the site both for heating and cooling and energy production, as efforts should be made to minimize natural resource dependencies. In addition, passive open space areas will be recommended to be planted with native meadow grasses to reduce mowing and irrigation requirements, and pedestrian/bicycle paths will be provided where applicable to adjacent sites.

State Fire Marshal's Office – Contact: Duane Fox 856-5298

These comments are intended for informational use only and do not constitute any type of approval from the Delaware State Fire Marshal's Office. At the time of formal submittal, the applicant shall provide; completed application, fee, and three sets of plans depicting the following in accordance with the Delaware State Fire Prevention Regulation (DSFPR):

a. Fire Protection Water Requirements:

- Water distribution system capable of delivering at least 1000 gpm for 1-hour duration, at 20-psi residual pressure is required. Fire hydrants with 800 feet spacing on centers.

Comment Acknowledged.

- Where a water distribution system is proposed for multi-family residential sites, the infrastructure for fire protection water shall be provided, including the size of water mains for fire hydrants and sprinkler systems.

Comment Acknowledged. Water Fire Protection Requirements will be incorporated into the final engineering and building construction documents.

b. Fire Protection Features:

- All structures over 10,000 sqft aggregate will require automatic sprinkler protection installed.

Comment Acknowledged.

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- Buildings greater than 10,000 sqft, 3-stories or more, over 35 feet, or classified as High Hazard, are required to meet fire lane marking requirements

Comment Acknowledged.

- Show Fire Department Connection location (Must be within 300 feet of fire hydrant), and detail as shown in the DSFPR.

Comment Acknowledged.

- Show Fire Lanes and Sign Detail as shown in DSFPR

Comment Acknowledged. Fire Protection Requirements will be incorporated into the final engineering and building construction documents.

c. Accessibility:

- All premises, which the fire department may be called upon to protect in case of fire, and which are not readily accessible from public roads, shall be provided with suitable gates and access roads, and fire lanes so that all buildings on the premises are accessible to fire apparatus. This means that the access road to the subdivision from Iron Hill Rd. must be constructed so fire department apparatus may negotiate it.

Comment Acknowledged.

- Fire department access shall be provided in such a manner so that fire apparatus will be able to locate within 100 ft. of the front door.

Comment Acknowledged.

- The use of speed bumps or other methods of traffic speed reduction must be in accordance with Department of Transportation requirements.

Comment Acknowledged.

- The local Fire Chief, prior to any submission to our Agency, shall approve in writing the use of gates that limit fire department access into and out of the development or property.

Comment Acknowledged. The final engineering of the site will address all of the accessibility concerns and the Fire Marshal Plan will be submitted to the Office for approval.

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d. Gas Piping and System Information

- Provide type of fuel proposed, and show locations of bulk containers on plan.

Comment Acknowledged.

e. Required Notes:

- Provide a note on the final plans submitted for review to read “ All fire lanes, fire hydrants, and fire department connections shall be marked in accordance with the Delaware State Fire Prevention Regulations”
- Proposed Use
- Alpha or Numerical Labels for each building/unit for sites with multiple buildings/units
- Square footage of each structure (Total of all Floors)
- National Fire Protection Association (NFPA) Construction Type
- Maximum Height of Buildings (including number of stories)
- Note indicating if building is to be sprinklered
- Name of Water Provider
- Letter from Water Provider approving the system layout
- Provide Lock Box Note (as detailed in DSFPR) if Building is to be Sprinklered
- Provide Road Names, even for County Roads

Comments Acknowledged.

All required notes will be included on the Fire Marshal Plan at time of final engineering.

Preliminary meetings with fire protection specialists are encouraged prior to formal submittal. Please call for appointment. Applications and brochures can be downloaded from our website: www.statefiremarshal.delaware.gov technical services link, plan review, applications or brochures.

Department of Agriculture - Contact: Scott Blaier 698-4500

The Delaware Department of Agriculture has no objections to the proposed application. The project is to be annexed Town of Delmar and the *Strategies for State Policies and Spending* encourages environmentally responsible development in areas within

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Investment Level 3.

A portion of this site has been designated as having “excellent” ground-water recharge potential. DNREC has mapped all ground-water recharge-potential recharge areas for the state, and an “excellent” rating designates an area as having important groundwater recharge qualities.

Comment Acknowledged.

Senate Bill 119, enacted by the 141st General Assembly in June of 2001, requires the counties and municipalities with over 2,000 people to adopt as part of the update and implementation of their 2007 comprehensive land use plans, areas delineating excellent ground-water recharge potential areas. Furthermore, the counties and municipalities are required to adopt regulations by December 31, 2007 governing land uses within those areas to preserve ground-water quality and quantity.

Comment Acknowledged.

Maintaining pervious cover in excellent and good recharge areas is crucial for the overall environmental health of our state and extremely important to efforts which ensure a safe drinking water supply for future generations. Retention of pervious cover to ensure an adequate future water supply is also important for the future viability of agriculture in the First State. The loss of every acre of land designated as “excellent” and “good” recharge areas adversely impacts the future prospects for agriculture in Delaware. The developer should make every effort to protect and maintain valuable ground-water recharge potential areas.

Comment Acknowledged. As previously mentioned, the developed portion of the site falls entirely within a Fair recharge zone, and the Good and Excellent zones will remain undeveloped as forested wetlands with the exception of trails and a possible park.

Right Tree for the Right Place

The Delaware Department of Agriculture Forest Service encourages the developer to use the “Right Tree for the Right Place” for any design considerations. This concept allows for the proper placement of trees to increase property values in upwards of 25% of appraised value and will reduce heating and cooling costs on average by 20 to 35 dollars per month. In addition, a landscape design that encompasses this approach will avoid future maintenance cost to the property owner and ensure a lasting forest resource.

Comment Acknowledged. A preliminary landscape plan (Exhibit L) has been included in this re-submittal and incorporates shade, ornamental, and evergreen trees into the developed portion of the site. The landscape plan will be designed further with final engineering.

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Do Not Plant List

Due to the high risk of mortality from insects and disease, the Delaware Forest Service does not recommend planting any of the following species:

Callery Pear
Leyland Cypress
Red Oak (except for Willow Oak)
Ash Trees

Comment Acknowledged. The final landscape will not incorporate the above mentioned species, and will only specify native species to increase survival and reduce irrigation needs.

Please contact the Delaware Forest Service for more information at (302) 698-4500.

Native Landscapes

The Delaware Department of Agriculture and the Delaware Forest Service encourages the developer to use native trees and shrubs to buffer the property from the adjacent landuse activities near this site. A properly designed forested buffer can create wildlife habitat corridors and improve air quality to the area by removing six to eight tons of carbon dioxide annually and will clean our rivers and creeks of storm-water run-off pollutants. To learn more about acceptable native trees and how to avoid plants considered invasive to our local landscapes, please contact the Delaware Department of Agriculture Plant Industry Section at (302) 698-4500.

Comment Acknowledged. The preliminary landscape plan, Exhibit L, shows a buffer of evergreens along the western property line. Although the species are not indicated at this time, the final plans will only specify native species. The Department of Agriculture will be contacted if necessary for appropriate tree listings.

Public Service Commission - Contact: Andrea Maucher 739-4247

Any expansion of natural gas or installation of a closed propane system must fall within Pipeline Safety guidelines. Contact: Malak Michael at (302) 739-4247.

Comment Acknowledged. Any expansion, if applicable, will adhere to the Pipeline Safety guidelines.

Delaware State Housing Authority – Contact Vicki Powers 739-4263

This proposal is for a site plan review of 120 residential units on 97.25 acres on the southwest corner of Iron Hill Road and Old Stage Road in the Town of Delmar. According to the *State Strategies Map*, the proposal is located in an Investment Level 3 area and in a growth zone. As a general planning practice, DSHA encourages residential development in these areas where residents will have proximity to services, markets, and employment opportunities. DSHA supports the fact that this proposal targets first time homebuyers. According to the most recent real estate data collected by DSHA, the average home price in Sussex County is \$280,000. However, families earning

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respectively 100% of Sussex County's median income only qualify for mortgages of \$164,791, thus creating an affordability gap of \$115,209. The provision of units within reach of families earning at least 100% of Sussex County's median income will ensure housing that is affordable to first time homebuyers.

Comment Acknowledged. Affordable units will continue to be high priority for the project.

Department of Education – Contact: John Marinucci 735-4055

DOE offers the following comments on behalf of the Delmar School District.

Using the DOE standard formula, this development will generate an estimated 60 students.

1. DOE records indicate that the Delmar School Districts' *secondary schools are at or beyond 100% of current capacity* based on September 30, 2007 secondary enrollment.

Comment Acknowledged. The Town has accepted the annexation proposal and is therefore accepting the additional capacity on the schools. However, the Developer and/or Element will work with the School District to alleviate the rise in students as best as possible.

2. This development will create additional middle and high school student population growth which will further compound the existing shortage of space.

Comment Acknowledged. The Town has accepted the annexation proposal and is therefore accepting the additional capacity on the schools. However, the Developer and/or Element will work with the School District to alleviate the rise in students as best as possible.

3. The developer is strongly encouraged to contact the Delmar School District Administration to address the issue of secondary school over-crowding that this development will exacerbate.

Comment Acknowledged. The Town has accepted the annexation proposal and is therefore accepting the additional capacity on the schools. However, the Developer and/or Element will work with the School District to alleviate the rise in students as best as possible.

4. DOE requests developer work with the Delmar School District transportation department to establish developer supplied bus stop shelter ROW and shelter structures, interspersed throughout the development as determined and recommended by the local school district.

Comment Acknowledged. Element will work with the School District to determine their school bus shelter requirements and incorporate, them as necessary, into the final plans.

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Sussex County – Contact: Richard Kautz 855-7878

Sussex County has no comment about the project. The site is to be entirely within the town limits and does not directly impact County services or properties outside the town limits.

Comment Acknowledged.

The town is encouraged to avoid the creation of new enclaves when annexing, to eliminate existing enclaves during its negotiation of the annexation agreement, and to notify the Sussex County Planning Department when the annexation becomes effective.

Comment Acknowledged.

The Sussex County Engineer Comments:

The proposed project is in the town of Delmar. The project proposes sewer service from the town of Delmar (through Tidewater). Contact the town of Delmar regarding sewer service at this location.

Comment Acknowledged.

Please find enclosed for your review previously submitted exhibits (A-I) and additional site exhibits:

- Exhibit J: NRCS Soils Map
- Exhibit K: Impervious Cover
- Exhibit L: Preliminary Landscaping Plan
- Exhibit M: DNREC Tax Ditch Map
- Exhibit N: Revised Overall Site Plan

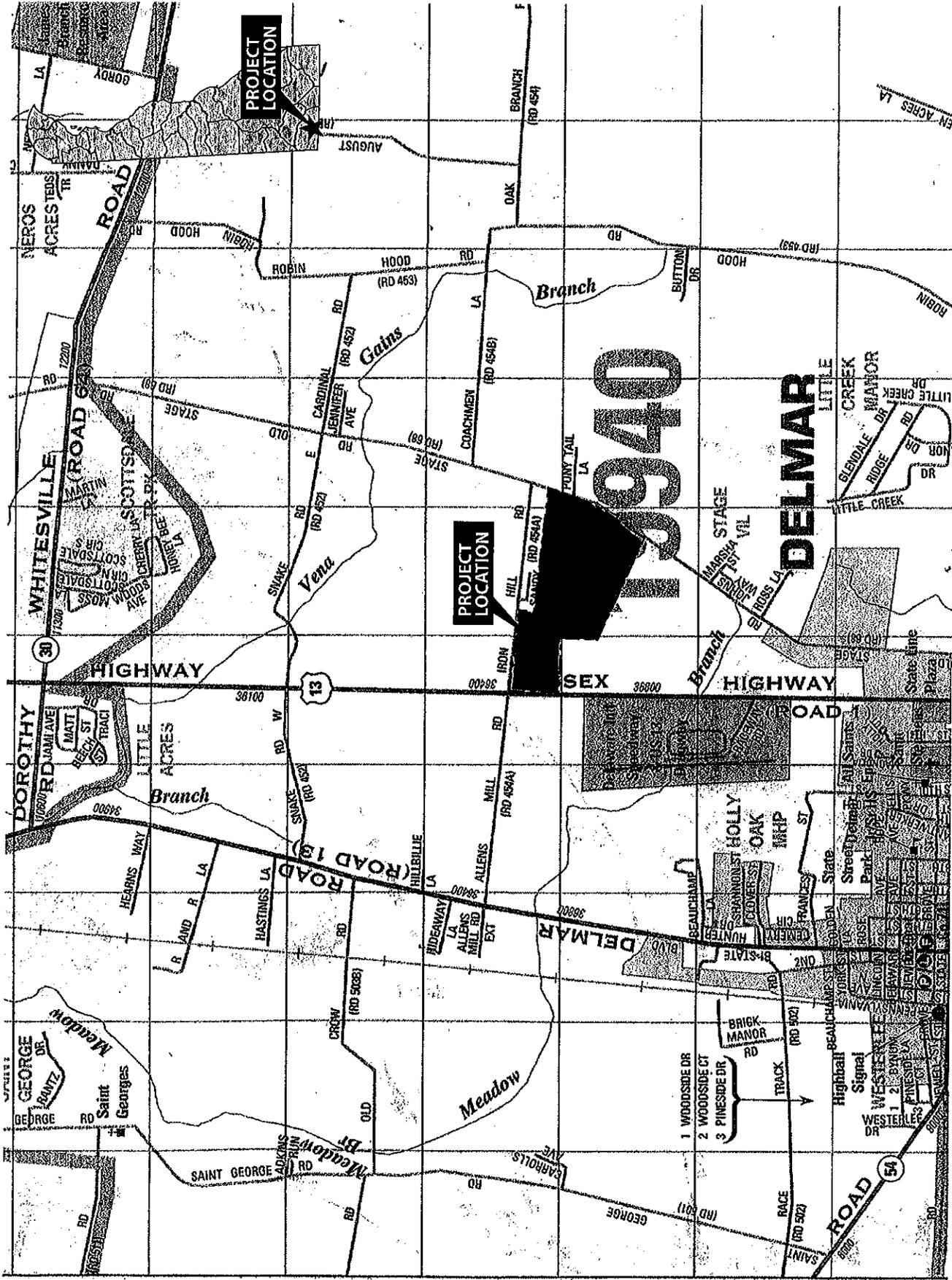
Upon your review of the above, should you have any questions or require additional information, please do not hesitate to contact this office at 302.645.0777. Thank you.

Sincerely,
Element

Douglas M. Warner, PE

CC: Town of Delmar (w/enc)
Lincoln Davis, OAA (w/enc)
File

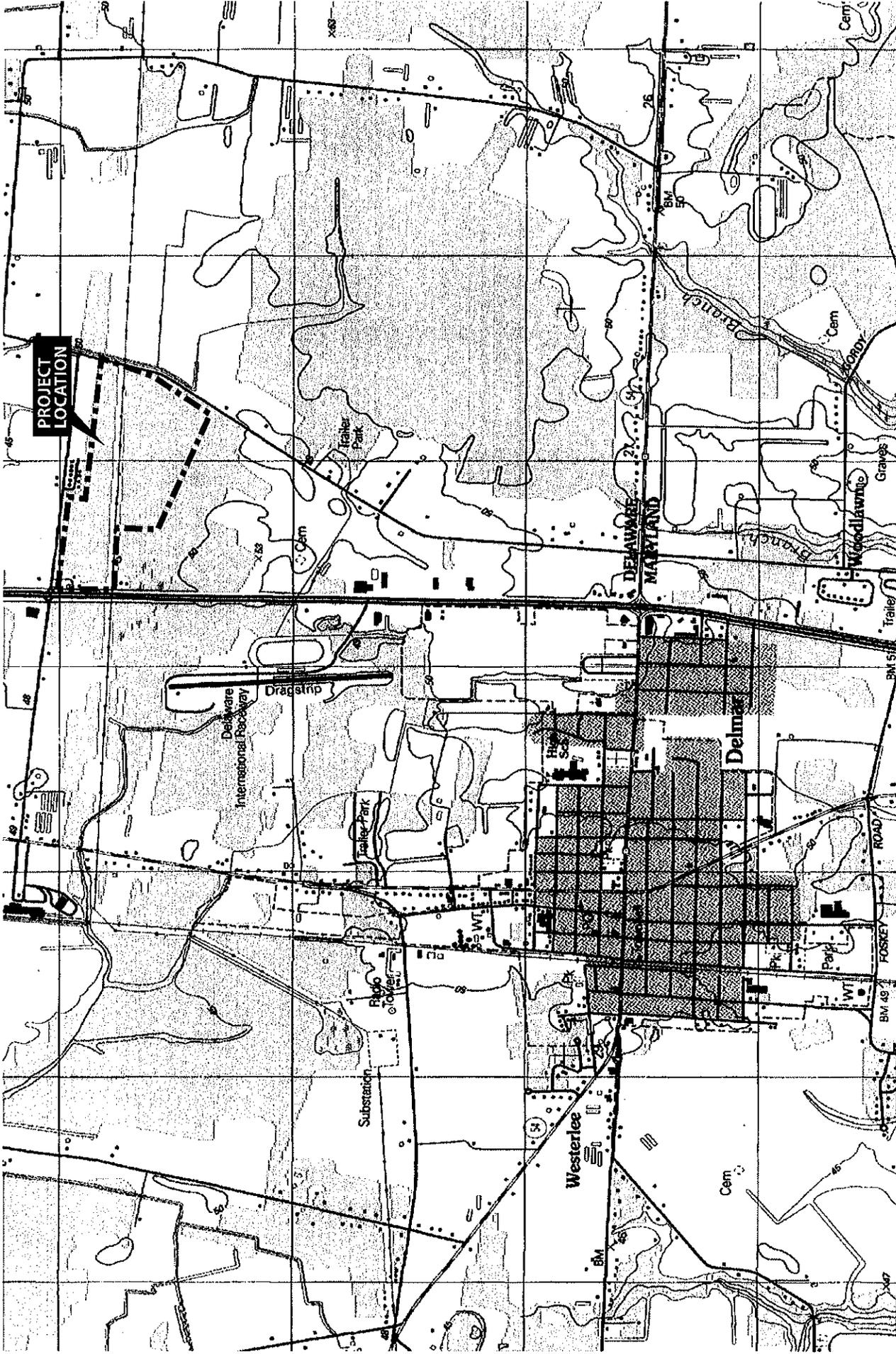
element



ELEMENT

EXHIBIT A: Project Location
 PLUS REVIEW : 30 Nov 2007

e0722 Delmar Grove- Town of Delmar, Sussex County, DE



ELEMENT

EXHIBIT B: USGS Overlay

PLUS REVIEW : 30 Nov 2007

e0722 Delmar Grove - Town of Delmar, Sussex County, DE



ELEMENT

EXHIBIT C: Project Parcels
 PLUS REVIEW : 30 Nov 2007
 e0722 Delmar Grove - Town of Delmar, Sussex County, DE



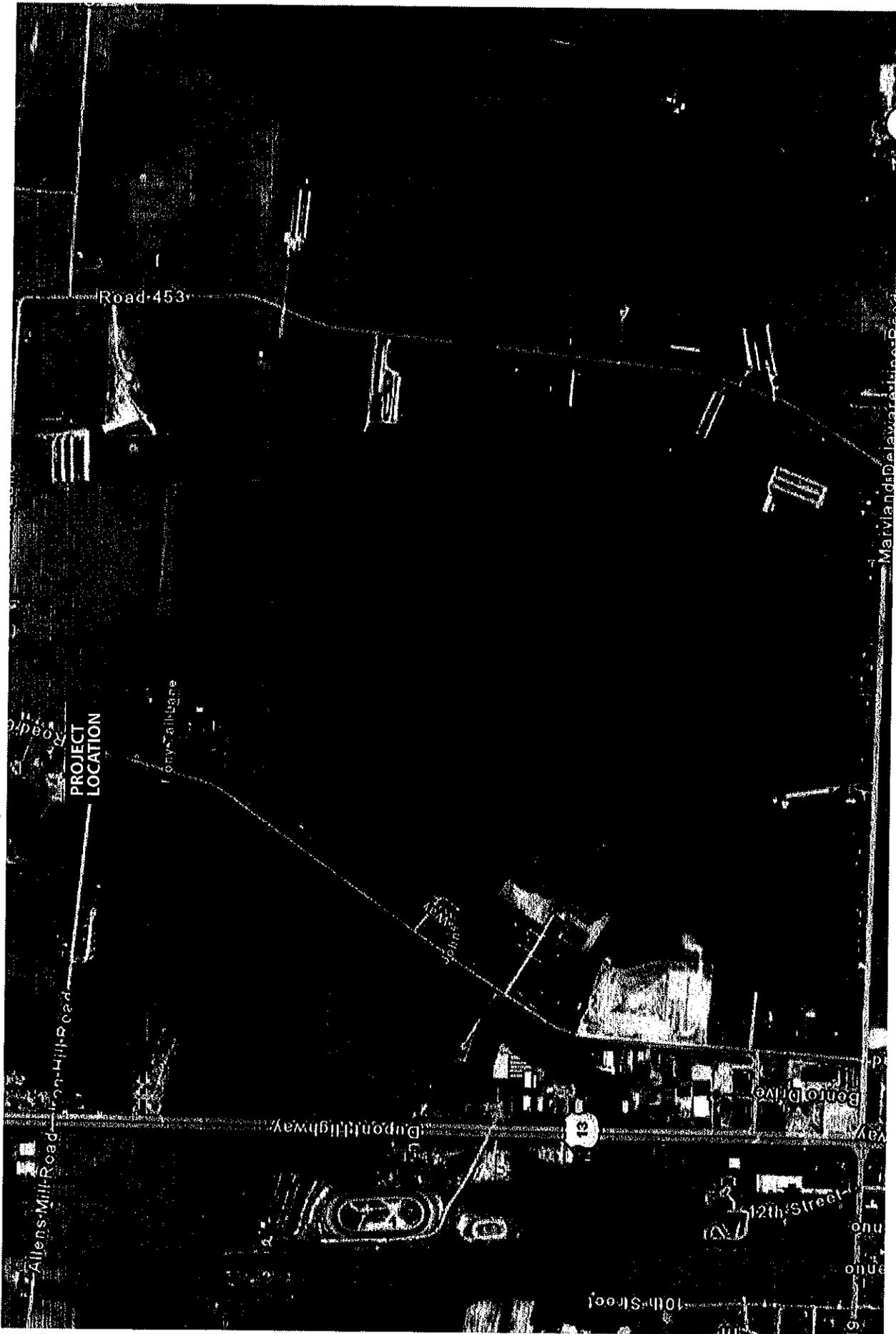
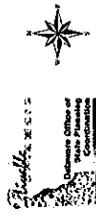


EXHIBIT D: Project Aerial
PLUS REVIEW : 30 NOV 2007
e0722 Delmar Grove - Town of Delmar, Sussex County, DE



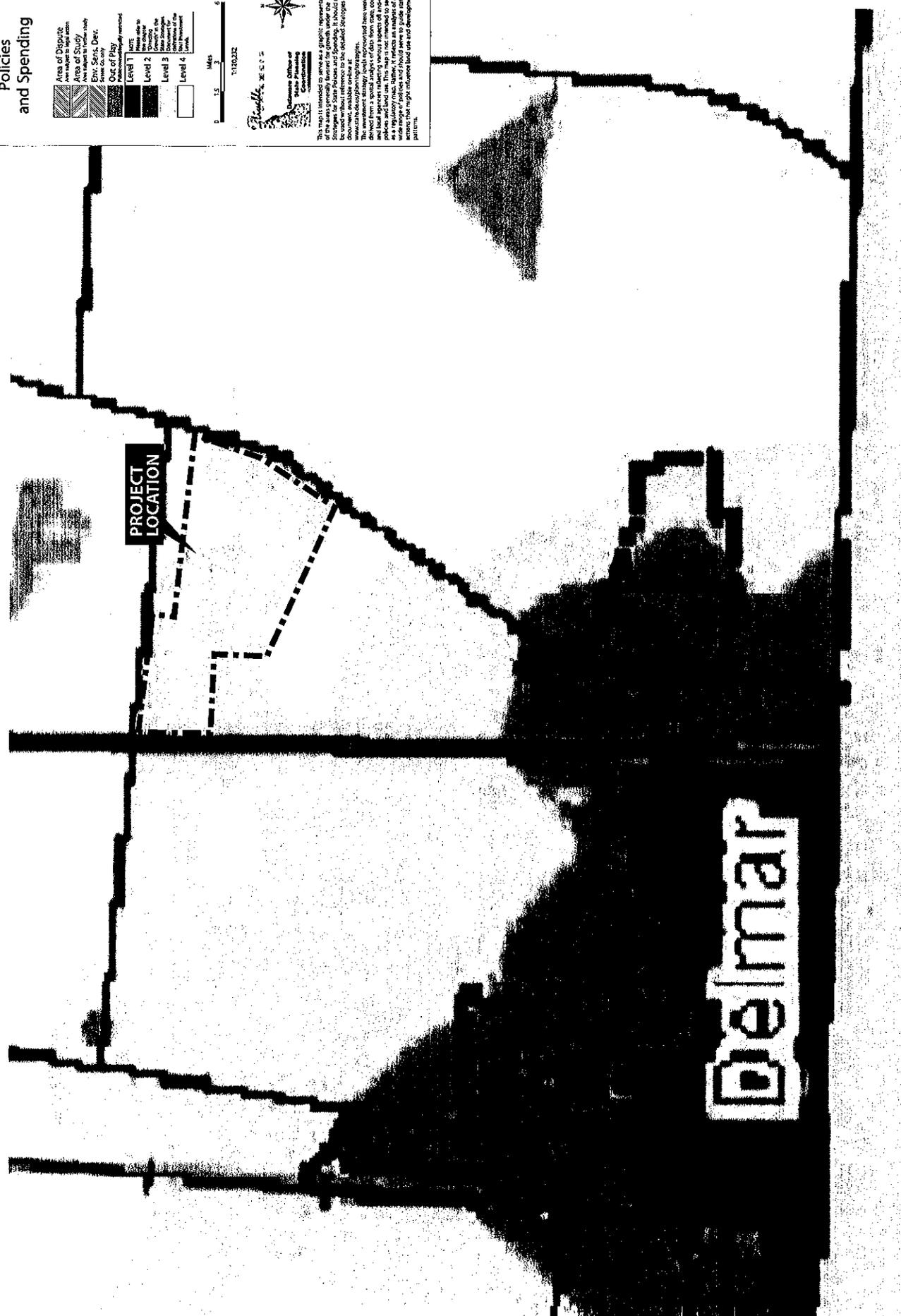
State Strategies for Policies and Spending

- Area of Interest
- Area of Study
- Env. Sens. Dist.
- Out of Play
- Level 1
- Level 2
- Level 3
- Level 4



This map is intended to serve as a graphic representation of the State Strategies for Policies and Spending. It should not be used without reference to the detailed Strategies for Policies and Spending available at www.delpa.state.de.us.

The information on this map is derived from the Delaware Office of Public Planning and Administration's State Strategies for Policies and Spending. It is intended to serve as a graphic representation of the State Strategies for Policies and Spending. It should not be used without reference to the detailed Strategies for Policies and Spending available at www.delpa.state.de.us.

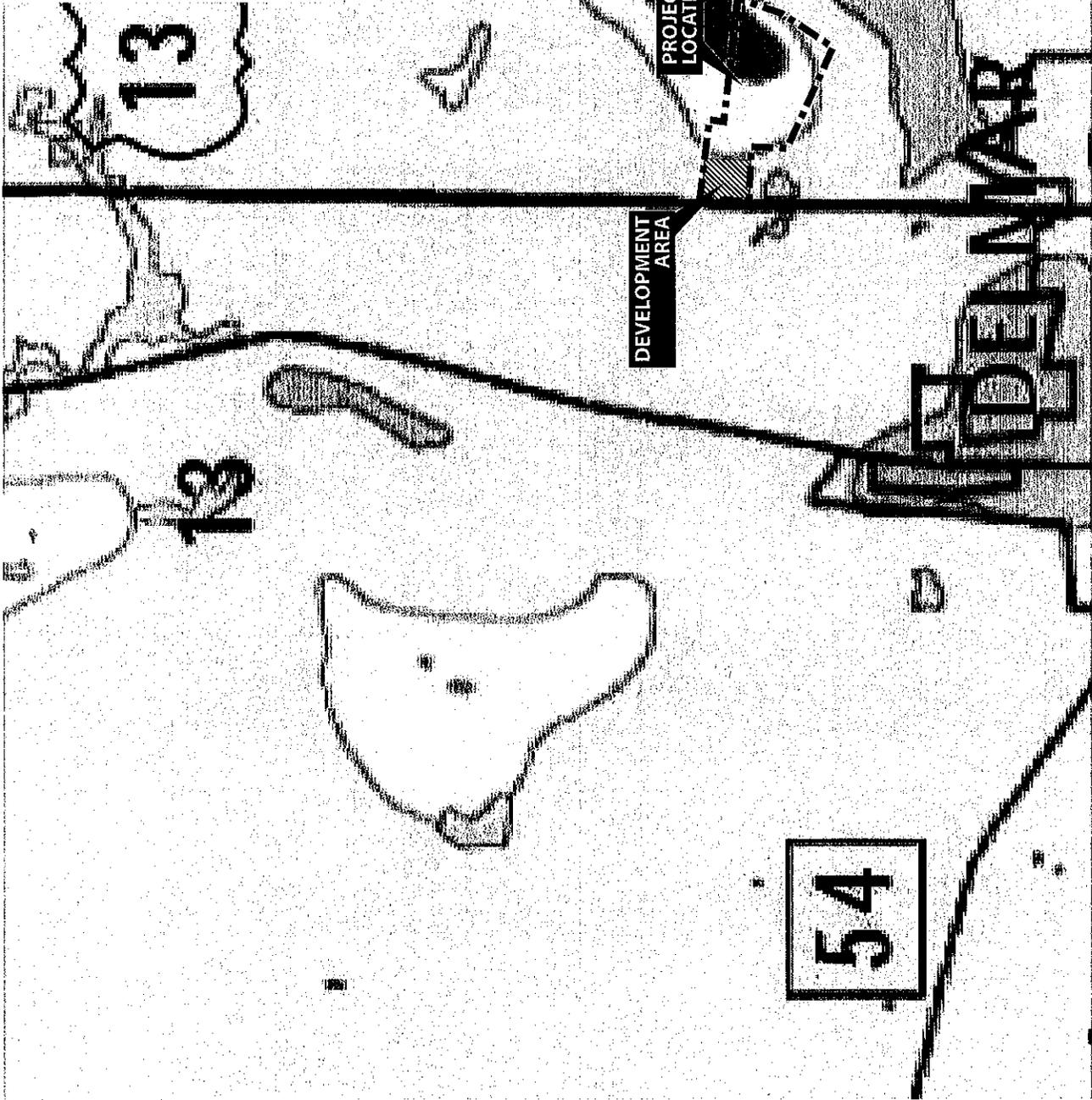
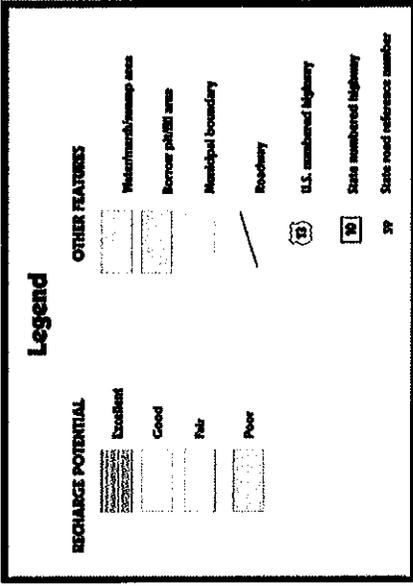


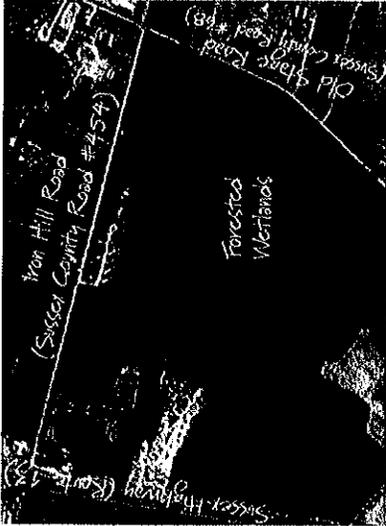
ELEMENT

EXHIBIT E: State Strategies Map

PLUS REVIEW : 30 Nov 2007

e0722 Delmar Grove - Town of Delmar, Sussex County, DE





VICINITY MAP

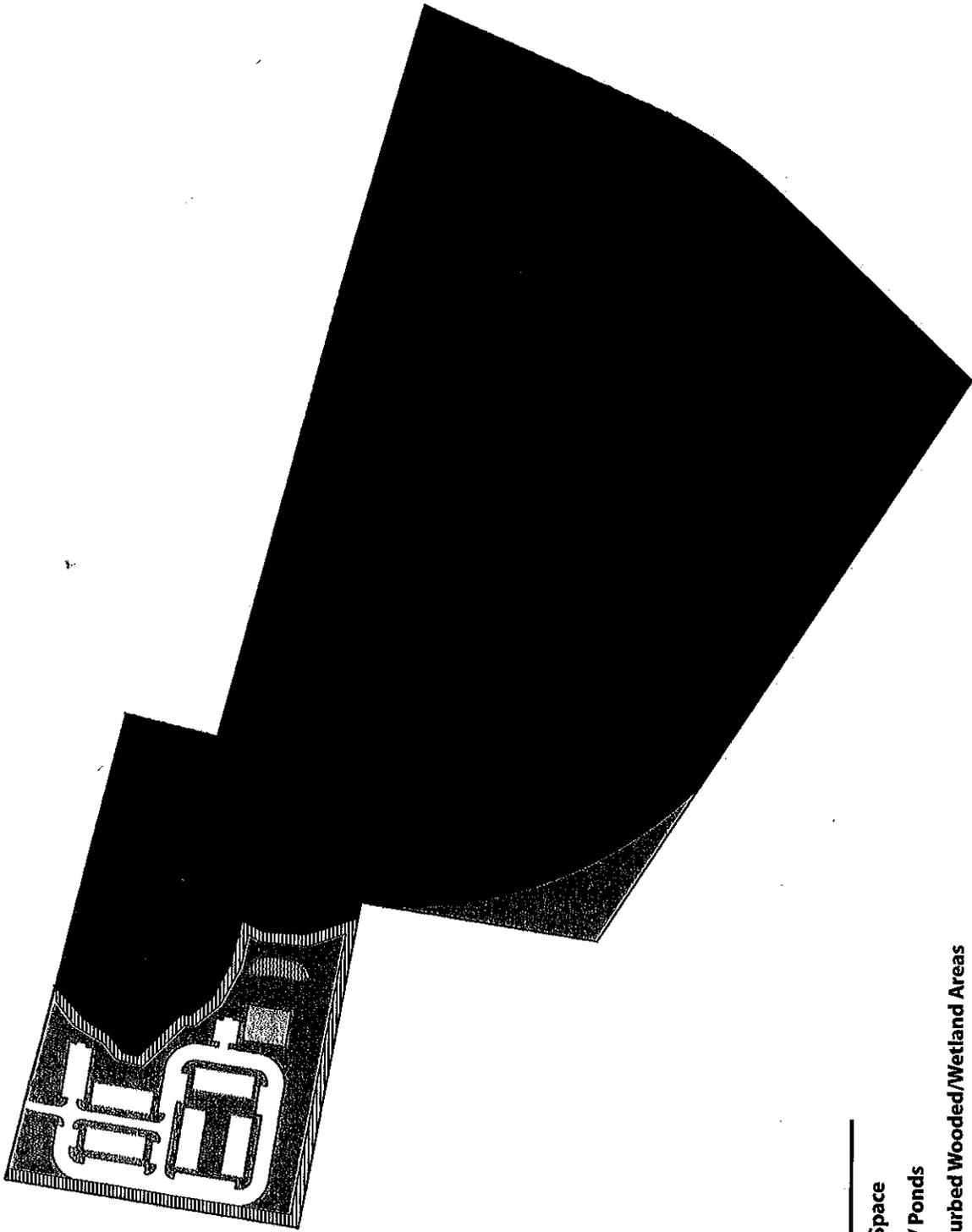
EXHIBIT H: Proposed Plan

PLUS REVIEW : 30 NOV 2007

e0722 Delmar Grove - Town of Delmar, Sussex County, DE

ELEMENT





KEY:

- Open Space
- ▤ Lakes / Ponds
- ▨ Undisturbed Wooded/Wetland Areas
- ▣ Amenity Area
- ▧ Buffer Area

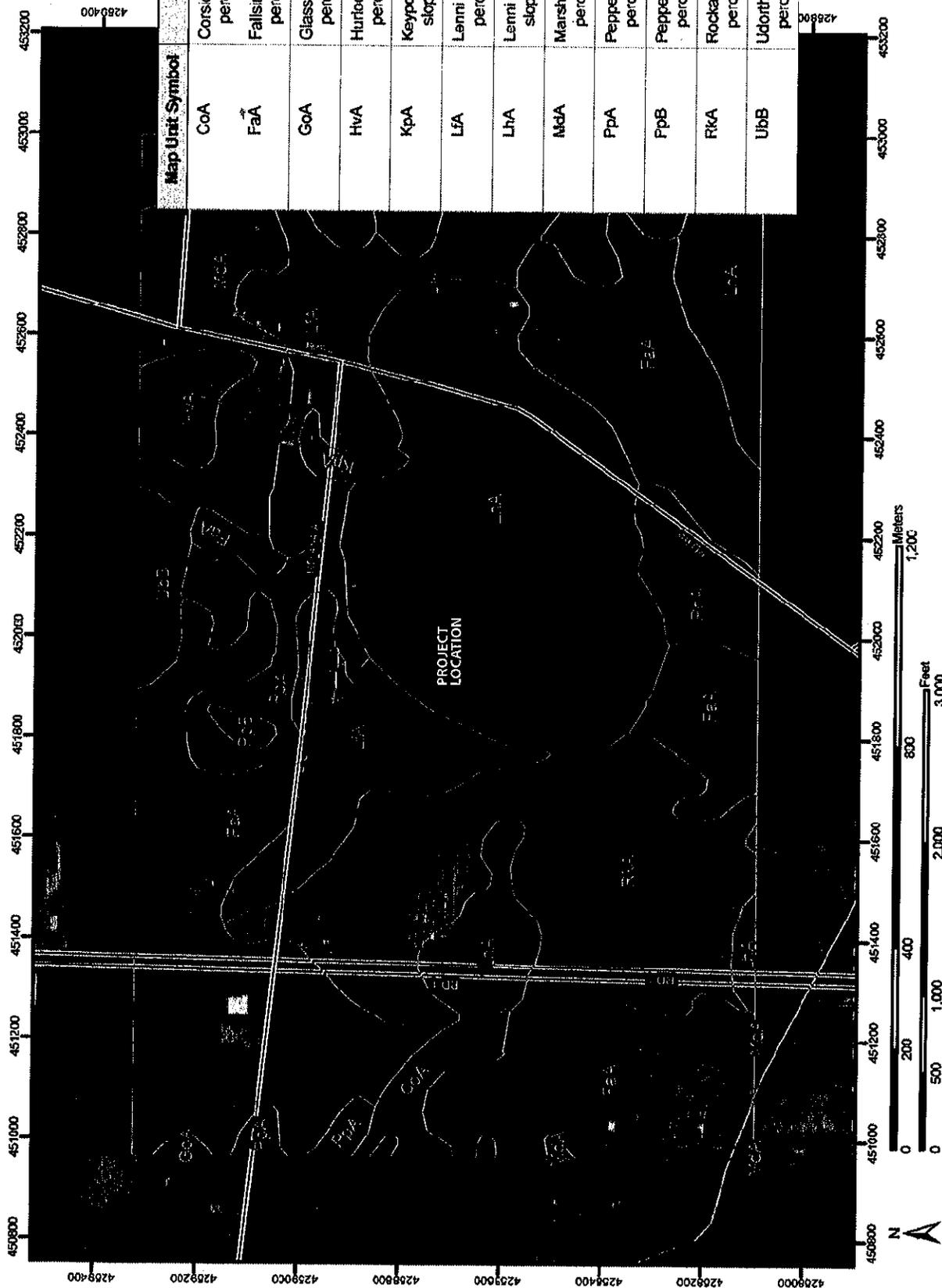
EXHIBIT I: Open Space Areas

PLUS REVIEW : 30 Nov 2007

e0722 Delmar Grove - Town of Delmar, Sussex County, DE



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Map Unit Symbol	Map Unit Name
CoA	Corsica mucky loam, 0 to 2 percent slopes
FaA	Fallington sandy loam, 0 to 2 percent slopes
GoA	Classboro sandy loam, 0 to 2 percent slopes
HVA	Hurlock sandy loam, 0 to 2 percent slopes
KpA	Keyport silt loam, 0 to 2 percent slopes
LfA	Lenni sandy loam, 0 to 2 percent slopes
LhA	Lenni silt loam, 0 to 2 percent slopes
MGA	Marshyhope sandy loam, 0 to 2 percent slopes
PpA	Pepperbox loamy sand, 0 to 2 percent slopes
PpB	Pepperbox loamy sand, 2 to 5 percent slopes
RkA	Rockwalkin loamy sand, 0 to 2 percent slopes
UbB	Udorthents, borrow area, 0 to 5 percent slopes



Web Soil Survey 2.0
National Cooperative Soil Survey

3/26/2008
Page 1 of 3

EXHIBIT J: NRCS Soils Map
PLUS RESUBMITTAL : 09 May 2008
e0722 Delmar Grove - Town of Delmar, Sussex County, DE



ELEMENT



ELEMENT

IMPERVIOUS COVER	
	BUILDINGS = 1.14 ± ACRES
	PAVED AREA = 2.76 ± ACRES
	SIDEWALK AREA = 0.24 ± ACRES
	STORMWATER AREA = N/A (anticipating green bmp or dry pond)
	TOTAL = 4.14 ± ACRES = 4.27% OF TOTAL SITE = 34.73% OF DEVELOPABLE AREA (11.92 ± ACRES)

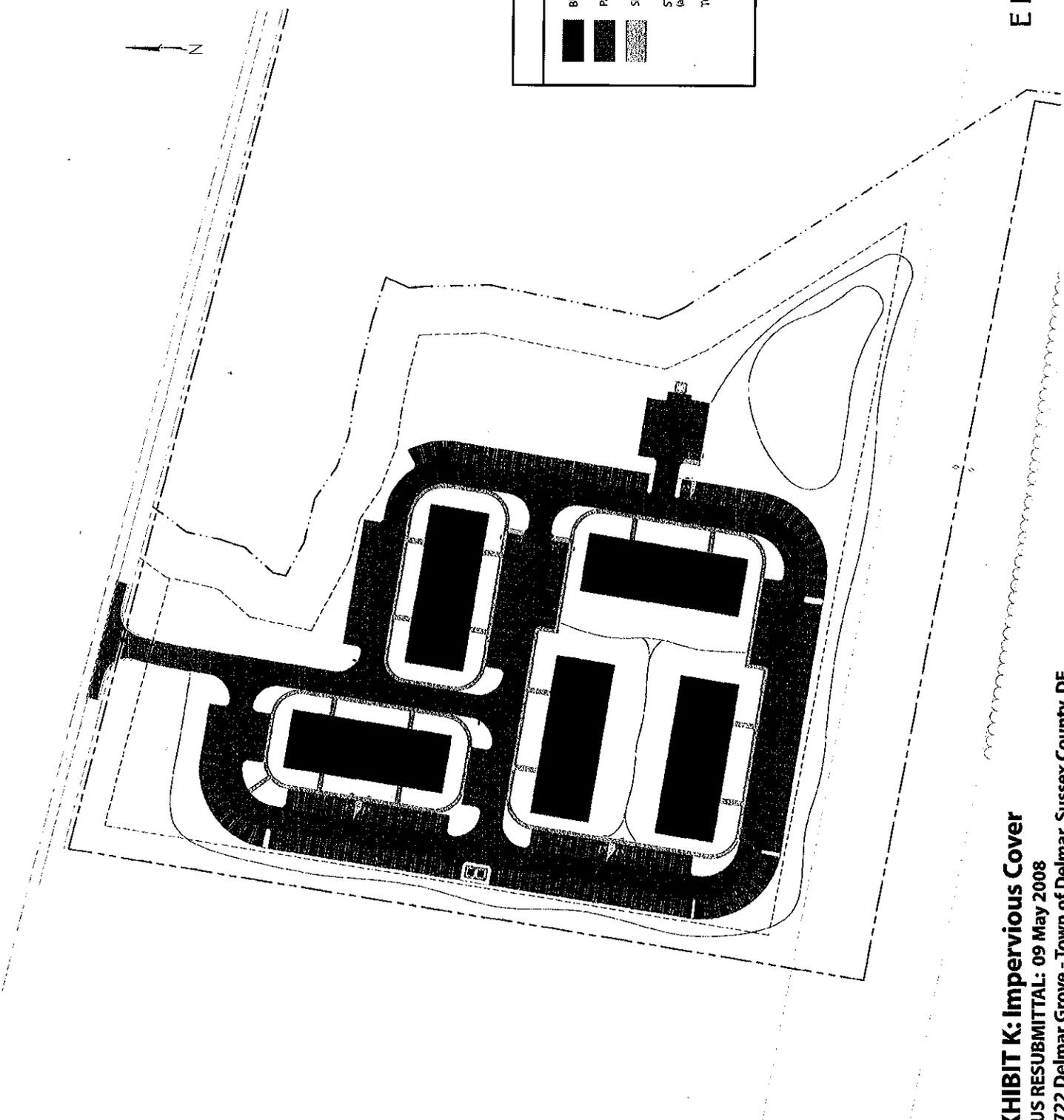


EXHIBIT K: Impervious Cover
PLUS RESUBMITTAL: 09 May 2008
e0722 Delmar Grove - Town of Delmar, Sussex County, DE



ELEMENT

LEGEND	
	30' Ø SHADE TREE
	15' Ø ORNAMENTAL TREE
	10' Ø EVERGREEN TREE
	STORMWATER POND GRASSES AND PLANTINGS

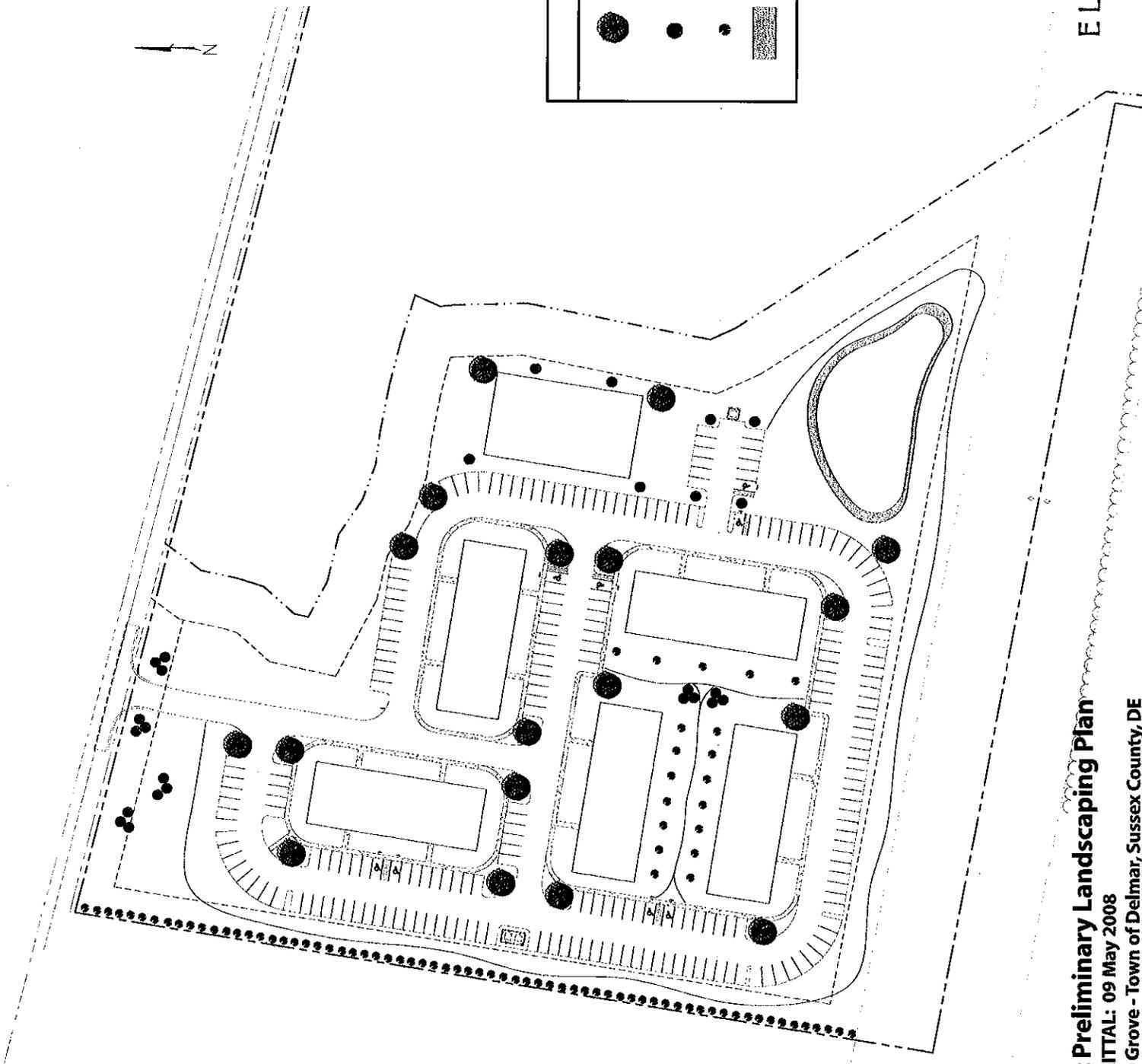


EXHIBIT L: Preliminary Landscaping Plan
PLUS RESUBMITTAL: 09 May 2008
e0722 Delmar Grove - Town of Delmar, Sussex County, DE



EXHIBIT M: DNREC Tax Ditch Map
PLUS RESUBMITTAL : 09 May 2008
e0722 Delmar Grove - Town of Delmar, Sussex County, DE

ELEMENT



