

ML

Cranbury

~~11/20~~ 20-Sept-84

Expert Report regarding Suitability  
Evaluation Criteria Sites within  
the Twp. of Cranbury by Toll Brothers  
⊕ cover letter

ppr = 26

ML 000840E

# Toll Brothers

ML000840E

101 WITMER ROAD, HORSHAM, PA. 19044 (215) 441-4400

DIRECT DIAL NUMBER:

(215) 441-

September 20, 1984

Mr. Philip B. Caton  
Clarke & Caton  
342 W. State St.  
Trenton, NJ 08618

Re: Cranbury Township  
Toll Brothers Parcel

Dear Mr. Caton:

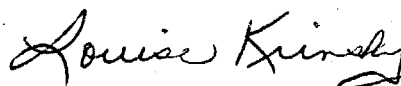
Enclosed please find a package regarding the 104.36 acre parcel on Plainsboro-Cranbury Road which is identified as #6 of the Suitability Evaluation Criteria Sites on the marked-up version of the Cranbury Township Zoning map and referred to as Cranbury Hunt by Toll Brothers. Included in the package is information addressing Toll Brothers' proposal itself, site suitability and market absorption as well as a conceptual site plan.

We will be prepared to address proposed modifications to the existing land use regulations at the meeting on September 25th.

I look forward to working with you and the Township and appreciate the assistance you have provided thus far. Please let me know if you require any additional information prior to September 25th. Thank you for your cooperation.

Very truly yours,

TOLL BROTHERS, INC.



Louise Krinsky  
Project Manager

LK/mlk

Enclosure

cc: George Raymond  
Georgea von Lutcken  
Guliet Hirsch

SITE SUITABILITY ANALYSIS

CRANBURY HUNT  
Cranbury, New Jersey

Prepared for: Cranbury Township

Prepared by: Toll Brothers  
101 Witmer Road  
Horsham, PA 19044

Date: September, 1984

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PROJECT OVERVIEW

## Concept

Cranbury Hunt is a planned residential community consisting of 100 condominium apartments (either rented or sold) and 400 fee simple zero lot line patio homes. The condominium units will be grouped into buildings of eight and/or sixteen units each and will be arranged in neighborhood clusters. The patio homes will be on approximately 50' x 100' lots and will be situated on typical residential streets. The site consists of 104.4 acres, presently in agricultural use.

## Zoning

The current zoning of the site is A-100/Agricultural Zone which requires 6 acre lots and permits detached single family dwellings. The proposed plan calls for 4.8 units per acre composed of 400 detached units and 100 attached units for low and moderate income housing.

## Units and Market

The low and moderate units will consist of one bedroom, one bedroom plus den, and two bedroom designs ranging from approximately 745 to 1,125 sq. ft. Prices are estimated to average \$35,000 to \$44,000 for the low income units and \$55,000 to \$70,000 for the moderate income units in 1984 dollars and presuming current mortgage conditions in the marketplace.

The single family homes will consist of three bedroom designs ranging from 1,600 to 1,800 square feet in size. Prices are anticipated to range from the mid \$90,000's to mid \$100,000's for the units.

The market for the low income units will be those earning less than 50% of the median income for the region (less than \$15,368), while for the moderate income units it will be those earning 50% to 80% of the median or \$15,368 to \$24,588.

According to a market evaluation by Toll Brothers, the market for the patio homes is expected to consist mainly of singles and couples in the 35-44 age group and small families in the 25-34 age group. The majority of the buyers will be professionals, office workers, or in sales with incomes in the \$25,000 - \$50,000 range and working in the Princeton or New York City/northern New Jersey area.

### Type Of Construction

The units will be wood frame construction with exterior sidings of stucco, vinyl, or aluminum.

### Form Of Ownership

At the present time it is anticipated that the low/moderate housing will be under condominium ownership. However, this is subject to change to a rental arrangement if the market or other outside forces dictate. Residents of the patio homes will have fee simple ownership.

Streets in the low/moderate housing area will be private and maintained by the condominium association through monthly maintenance fees collected from the individual owners. The streets within the single family area will be dedicated to the public.

### Demographics

Based on an analysis prepared for Cranbury Hunt, approximately 1,524 residents are expected once the project is completed. Of these, 288 or 19% are anticipated to be school-age children.

### Absorption

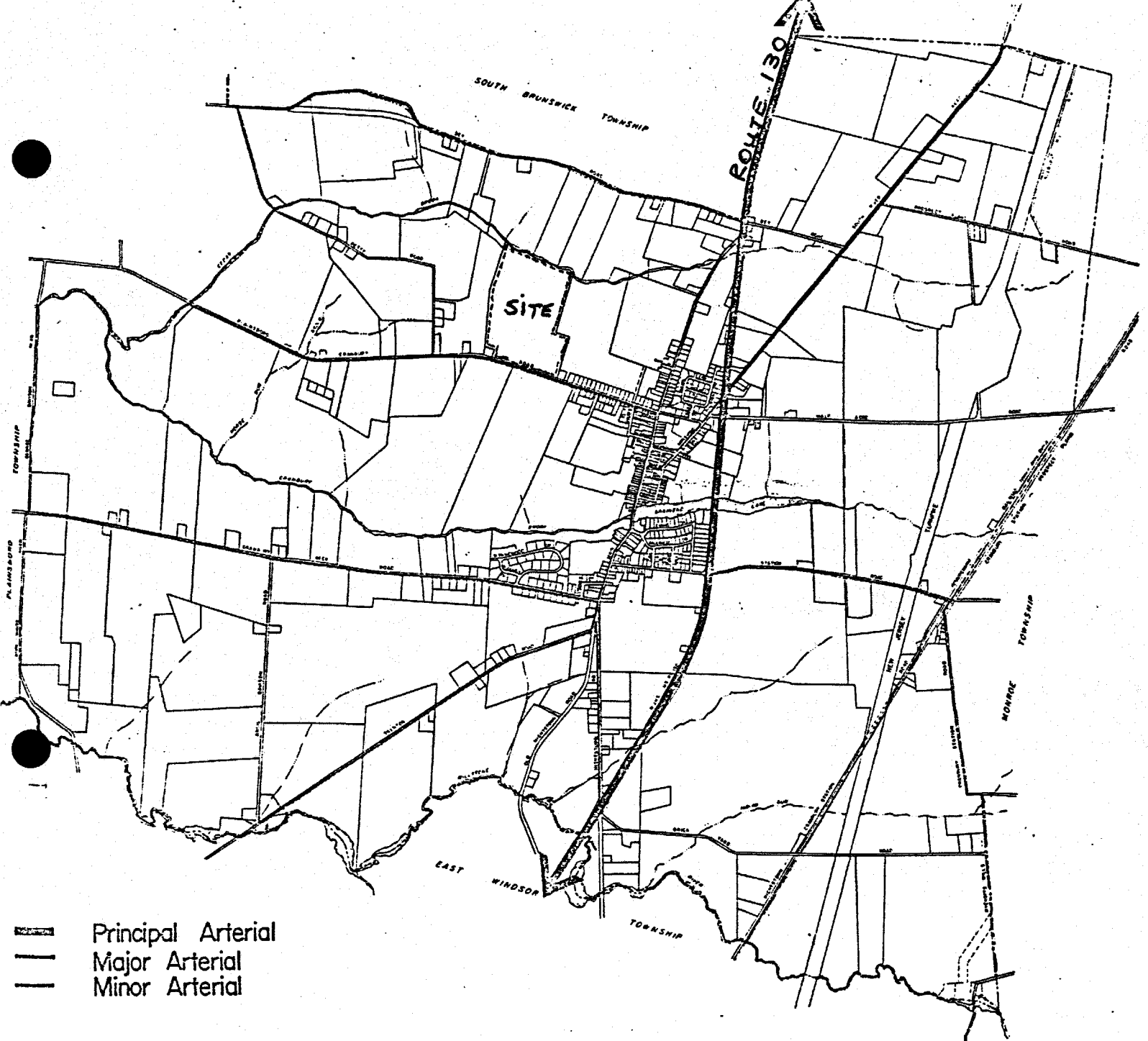
It is anticipated that the 100 low and moderate income units will be absorbed by the market within one year. The single family market-priced units are expected to be absorbed at a pace of 120 homes per year for an overall absorption period of 3-1/2 years. Therefore, the 500 units comprising the total development are projected to sell-out over a 3-1/2 year period.

### Compatibility With Neighboring Land Uses

The land surrounding the subject site is predominantly farmland and, therefore, the proposed development of Cranbury Hunt is not a directly compatible land use. However, for many years single family and multi-family developments have been interspersed with farmland in similar areas with no apparent adverse impact on the farmland.

ACCESSIBILITY AND TRAFFIC IMPACT





### LOCATION OF SITE

The parcel, which is 104.36 acres, parallels Plainsboro-Cranbury Road. It is bounded on the north by Cedar Brook, on the east by farmland and single family residences, on the south by Plainsboro-Cranbury Road, and on the west by farmland.

Accessibility

The site is conveniently located with direct access off of Plainsboro-Cranbury Road. Access to the center of Cranbury, to Plainsboro, and to major roadways is indicated below.

Distance from site to:

Main Street - less than 1/2 mile.

Plainsboro - 2-3 miles.

Route 130 - less than 1 mile.

New Jersey Turnpike - 2-3 miles.

Route 1 - 5-6 miles.

Traffic

Access to Cranbury Hunt will be off of Plainsboro-Cranbury Road. Based on the proposed development density of 500 units the following table represents the estimates of several traffic consultants regarding traffic generation during the morning and evening peak hours and over a twenty-four hour period.

Traffic Generation  
Cranbury Hunt - 500 Units

A.M. Peak Street Hours			P.M. Peak Street Hours		
<u>In</u>	<u>Out</u>	<u>Total</u>	<u>In</u>	<u>Out</u>	<u>Total</u>
90	270	360	330	180	510

Daily

<u>In</u>	<u>Out</u>
4,610	4,610

Traffic (Continued)

Information obtained from a 1981 study regarding the proposed Route 92 indicates the following traffic generation on Plainsboro-Cranbury Road.<sup>1</sup>:

A.M. Peak Street Hours		P.M. Peak Street Hours	
<u>Eastbound</u>	<u>Westbound</u>	<u>Eastbound</u>	<u>Westbound</u>
264	902	786	297

Daily - 10,120

Traffic on Main Street south of Plainsboro-Cranbury Road is 5,400 per day and north of Plainsboro-Cranbury Road is 2,300 per day.

Abbingtion-Ney Associates, Consulting Engineers and Planners, indicated that as a general rule there will be no adverse impact generated by the Cranbury Hunt project on the level of traffic on Plainsboro-Cranbury Road although it may be necessary to do some localized improvements to accommodate left-turn and/or other access movements. However, until the exact locations and number of units contained in all of the proposed developments are determined, it is not possible to accurately predict the impact of traffic on the road system currently in place in Cranbury Township and the surrounding areas.

Air Quality and Noise Impact

Until the location and total number of planned housing units are determined, it is not possible to address the impact of traffic on air quality and noise levels.

Abbingtion-Ney indicated that, in general, the traffic generated by Cranbury Hunt alone will not be detrimental to air quality and noise levels.

1. A 10% factor was added to these numbers for conservatism.

SERVICES

## Public and Private Services

The proposed project will require additional Township services, including educational facilities, police and fire services.

The Township is in the process of determining the potential effects on the various public services if the additional units required by the court's decision are constructed.

Private services are available as follows:

- Grocery Stores - several within a three mile range.
- Shopping - Quakerbridge Mall on Route 1 is 10-12 miles from the site.  
Plainsboro Shopping Center is 2-3 miles from the site.
- Hospitals - Princeton Medical Center is approximately 12 miles from the site.
- Transportation - Princeton Junction train station on Princeton-Hightstown Road is approximately 8 miles from the site.

The nearest bus service to New York City is located approximately 4.5 miles from the site.

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WATER AND SEWER AVAILABILITY

### Water Supply

It is proposed to connect to the water main that is maintained by the Cranbury Water Department. According to the Supervisor of Public Works, there is a 6 inch water main approximately 200 feet from the southeast corner of the subject site. The line is located within an 80 foot right-of-way between lots 55 and 56 with lot 56 immediately adjacent to the subject site.

The Township Engineer is in the process of evaluating the capacity of the existing facility. Once this evaluation is complete, appropriate plans will be developed for the necessary connections.

At the completion of the proposed project, the total population is expected to be 1,524 persons (see demographic section). Based on the D.E.P. standard of 75 gallons per person per day, the anticipated water demand for the proposed project is 114,300 gallons per day.

### Sanitary Sewer System

It is proposed to connect to the Cranbury Township sewer system by way of a 10-inch gravity flow line that is located approximately 200 feet from the southeast corner of the subject property. According to the Supervisor of Public Works the line is 13 feet underground and is located within the 80 foot right-of-way between lots 55 and 56. The Township Engineer has indicated that he believes a pumping station will be necessary to handle the sewage generated by the development of this site.

The Township Engineer of Cranbury is in the process of evaluating the capacity of the existing sewer system and in addition, the contract with South Brunswick to handle 256,000 gallons of sewage per day must be renegotiated in the near future. However, the Township Engineer of South Brunswick has indicated that the Middlesex County Sewage Authority treatment plant is currently using only 3 million of the 9 million gallons per day total capacity.

Sanitary Sewer System (Continued)

Once the evaluation of the entire system is complete, appropriate plans will be developed for the sewage lines and any other facilities necessary to handle the sewage generated by the future residents of the proposed project.

It is estimated that the total population of the project will be 1,524 persons. Based on the D.E.P. standard of 75 gallons per person per day, the anticipated sewage generated will be 114,300 gallons per day.



ENVIRONMENTAL SUITABILITY

## Water Quality

Cedar Brook is the nearest body of water which receives run-off from the subject site. When completed, the proposed project will increase the amount of impervious coverage on-site in the form of buildings, roadways and paving. Consequently, there will be an increase in contaminants in the paved areas consisting primarily of particulate matter.

Major sources of contaminants include decomposing pavement materials; motor vehicles' leakage of fuel, lubricants, hydraulic fluids, and coolants; fine particles worn off tires; and particulate exhaust emissions.

A detention basin and storm water control system will be built as part of the project. Besides controlling storm water flow, the proposed detention basin(s) will be designed to meet the water quality criteria of the Delaware and Raritan Canal Commission. As such, the detention basin(s) will ensure a sufficient retention period to allow for heavier particles to settle out to the bottom of the detention basin. This, in turn, will reduce the potential of pollutants entering the downstream surface waters. In addition, a grease trap will be constructed which will act as a backup measure in the removal of the pollutants.

Since no land disturbance will occur within the flood plain, the probability of adverse impact on the water quality of Cedar Brook as well as on the site's ground water recharge capability will not increase beyond the predeveloped condition.

## Hydrology and Drainage

At present, the majority of the subject site flows in a northeasterly direction towards Cedar Brook. Approximately 10 acres of the site along Cedar Brook is designated as a flood plain area and will be open space.

As part of the proposed project, a complete storm water management system will be designed. Therefore, a storm sewer system, collecting excess rainfall and water run-off from the site, will outfall into one or more detention basins which will be located above the 100 year flood elevation.

## Hydrology and Drainage (Continued)

The detention basin(s) will be designed to handle excess rainfall from storm frequencies of 2-year, 5, 10, 15, 20, 25, 50, and 100 year storm events. In addition, the detention area(s) will conform to the requirements of the Delaware and Raritan Canal Commission.

The storm sewer system and detention basin(s) will be designed to adequately handle the excess run-off resulting from the increased impervious coverage on-site. Therefore, it is not anticipated that the proposed project will have an adverse impact on existing hydrologic conditions.

## Geology

The proposed development will result in an increase of impervious cover of approximately 22 percent. Consequently, some of the rainfall that normally seeps into the ground will runoff into the proposed detention basin(s).

The proposed detention basin(s) will mitigate some loss of impervious cover by providing a detention time allowing for groundwater recharge.

The loss of impervious cover resulting in increased runoff should not significantly affect groundwater supply or quality upon the completion of the project.

## Soils

A soils and subsurface analysis was performed by the Princeton Junction Engineering Co., Professional Engineers and Land Surveyors. Field explorations included 15 test borings advanced to an average depth of 10 feet.

Approximately 80% of the property is Sassafras sand loam consisting mainly of sand with traces of clay and gravel and with a seasonal high water table depth of 5-6 feet. Woodstown sandy loam is found along the westerly boundary of the site. This soil consists of sand and clay and has a seasonal high ground water table of approximately 2 feet. The northerly side of the property is Fallsington soil which is sandy and has a high water table of 1 foot.

The report concluded that, in general, the soil on the property is good as far as developability and drainage are concerned.

### Soil Erosion Control

During the construction phases of the project, an approved soil erosion and sediment control plan will be implemented. This plan will insure that sediments removed from the site will not enter the surface water. A perforated riser will be placed on the detention basin outfall which will permit the basin to act as a sediment trap until the construction within the water shed can be completed.

Construction of the project will be phased which will minimize the area of the site which is stripped of vegetation at any given time.

### Topography and Slope

The relief of the existing site generally slopes from the southerly portion of the site to Cedar Brook along the northerly boundary. The site ranges from approximately 90 feet in elevation along Cedar Brook to 120 feet in elevation mid-site and along Plainsboro-Cranbury Road.

According to the Cranbury Township Land Use Plan the flood plain extends 200 feet into the subject property from Cedar Brook. Since no existing drainage systems are available on-site, it is proposed to regrade the site by taking advantage of the natural contouring as much as possible. The stormwater collection system will interrupt surface runoff and drain it to a detention basin which will outfall directly into Cedar Brook. Therefore, surface runoff will have no adverse impact on abutting landowners.

### Solid Waste

The single family homes will be required to contract with a private carting service on an individual basis. The residents of the low and moderate housing units will be provided with dumpsters which will be serviced by a private carting service under contract with the condominium association.

It is estimated that the solid waste generated from residential developments ranges from a low of 2.49 pounds per day per person to a high of 3.5 pounds per day per person (Solid Wastes: Factors Influencing Generation Rates, Douglas B. Cargo)

(Unit Operations in Resource Recovery Engineering, Vesilind and Rimer)

Solid Waste (Continued)

Based upon a conservatively low density of 150 pounds per cubic yard, we have concluded that a two-cubic yard dumpster will service 10.5 condominium units. Five trash enclosures, each containing two 2-cubic yard dumpsters will be strategically located throughout the area containing attached unit housing and visual screening will be provided for each enclosure.

The solid waste generated by the development will be discarded at a New Jersey State Department of Environmental Protection approved landfill.

It is not anticipated that the solid waste generated by the proposed project will be of a magnitude to have a significant impact on the ultimate disposal site.

DEMOGRAPHICS

Demographic Impact

Projected Number of Residents

Using multipliers obtained from the New Jersey Public Use Sample of the U.S. Census of Population and Housing, it is projected that the development will have a total of 1,524 residents when completed. This is derived as follows:

<u>Unit Type</u>	<u>Mix of Units</u>	<u>Multiplier</u>	<u>Projected Population</u>
Low/Moderate:			
1 Bedroom	25	1.535	38.4
1 Bedroom/Den 1.	25	1.995	49.9
2 Bedroom	<u>50</u>	2.455	<u>122.8</u>
Total	100		211.1
Market:			
3 Bedroom/ Family Room	400	3.281	1,312.4
Overall Total	500		1,524 residents

Projected Number of School-Age Children

Using multipliers obtained from the aforementioned source, it is projected that 288 school-age children will be living at the proposed development at any given time:

<u>Unit Type</u>	<u>Unit Mix</u>	<u>Multiplier</u>	<u>Projected School-Age Children</u>
Low/Moderate:			
1 Bedroom	25	.028	.7
1 Bedroom/Den <sup>1.</sup>	25	.179	4.5
2 Bedroom	50	.329	16.5
Market:			
3 Bedroom-Family Room	<u>400</u>	.664	<u>265.6</u>
	500		288

1. Average of multipliers for 1BR and 2BR garden apartment/condominium units.



SUMMARY

## Unavoidable or Adverse Impacts

1. Issues regarding vehicular traffic
  - a. Additional vehicular traffic on the surrounding road network.
  - b. Additional air pollutants generated from increased vehicular traffic.
  - c. Additional water pollutants generated from increased vehicular traffic.
2. Loss of groundwater seepage as a result of proposed impervious coverage.
3. Additional sewage generated as a result of the project.
4. Additional noise generated from the proposed project.
5. Additional solid waste generated from future residents of the site.
6. Increased water usage.
7. Loss of land currently designated for agricultural use.

## Mitigating Measures

1. Ample parking spaces will be provided on-site and efficient traffic circulation patterns will be established to insure efficient traffic circulation on-site and the adjacent roadways. This will reduce on-site traffic congestion and queuing, thereby lessening the impact of pollutants generated.

2. Detention basins will be designed to allow heavier particulates to settle so as to reduce the impact on the existing water quality. In addition, the basins will mitigate the additional runoff from site resulting from the additional impervious cover.

3. A proposed landscaping plan will be incorporated in the development.

Mitigating Measures (Continued)

4. The entire floodplain area will be left in its natural state.

5. An approved Soil Erosion and Sediment Control Plan will be incorporated in the project.

6. The soil comprising the site is well-suited for development.

7. The subject site does not abut the historically-designated Cranbury Township Village area and, therefore, development of the site will not have any direct impact from a historic preservation viewpoint.