Borough of Island Heights

Proposed Water Storage Tank

Site Evaluation Study

Prepared for:

Borough of Island Heights
P.O. Box 797
Island Heights, New Jersey 08732

Prepared By:
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November 2008
Project #08066.00

Proposed Water Storage Tank

Site Evaluation Study

I. Introduction

The Borough of Island Heights is pursuing replacement of its existing 280,000 gallon standpipe that is used for potable water storage. The tank presently serves to handle peak demands and fire protection storage. The water tank is an old (1928 ±) riveted steel tank with effective storage less than 100,000 gallons, that recently had to have its drain pipe replaced due to severe corrosion and leakage.

The proposed tank is to replace the standpipe in either of two (2) sites: the existing site or the Department of Public Works (DPW) yard near Well No. 9. The existing site fronts Van Sant Avenue and to the rear fronts Summit Avenue. The wooded property severely drops approximately 14 feet in elevation from Van Sant Avenue to Summit Avenue and is surrounded by existing homes.

Contrasting, the DPW site is wide open. Located on the site are two (2) potable water supply wells, DPW offices and garage, recycling center, equipment storage areas and Water Treatment Plant. The site is large and spacious. The site is free of trees and large vegetation. The only property constraint is there is approximately 14 feet of non hazardous construction debris fill on the site that encumbers most of the yard. The debris was exposed during construction of Well No. 9 and it consists mostly of leaf bags, stumps, concrete, bricks, logs, boards, old pipes, etc. Neighbors are much more distant than around the existing site.

These sites will be evaluated with respect to constructability of a new elevated water storage tank.

II. Water Storage Tank Sizing

Storage facilities should have sufficient capacity to meet domestic demands and where fire protection is provided, fire flow demands. The minimum storage capacity for systems not providing for protection should be equal to average daily demand of the service area or community. This requirement is reduced when the water system has multiple sources, interconnects and/or auxiliary power at the water supply. Auxiliary power and interconnections must be able to handle 50% of the average production. New Jersey Administrative Code, N.J.A.C. 7:19-6.7 "System Pressure and Storage" (b) dictates the minimum storage percentage of average daily demand with the type of water system being evaluated.

Fire flow requirements are typically established by "Insurance Services Office" (ISO). American Water Works Association, AWWA Manual of Water Supply Practices, "Distribution System Requirements for Fire Protection (AWWA M31) incorporates ISO and is being utilized to determine the storage required for fire flow requirements for the Borough. The rate of flow and the duration of flow required equals the volume of storage needed for fire protection.

For all practical purposes, the Borough of Island Heights is a residential community. Table I-5 "Needed Fire Flow for One and Two Family Dwellings" in AWWA M31 dictates a needed fire flow of 1000-1500 gpm for building separations less than 11 feet to 30 feet. Due to the Borough having a condominium, bed and breakfast establishments, nursery schools, grade school, commercial car repairs, body shop, marinas and the close proximity between homes, the 1500 gpm rate is being utilized in sizing of the tank.

There are always some exceptions to the required fire flow that may be too excessive and impractical for a community to provide. In these isolated cases, governing bodies usually develop ordinances and regulations that would require these isolated properties to provide their own fire protection, to reduce their fire flow requirements by going to full sprinkling or to provide on site storage and pumping capabilities to meet their own particular fire suppression needs.

AWWA M31 Table 1-1 "Fire Flow Duration" table requires a duration of 2 hours for required fire flows of 2500 gpm or less. A 2 hour fire flow duration period is being used in the calculations to size the Borough's water storage tank.

Sizing Calculations

I. Domestic Demand / Storage

a. 15 year projection – Water Allocation Permit. Average Daily Demand = 0.21 mgd
b. NJAC – System Pressure and Storage
   1. Type of System – multiple sources, interconnection, auxiliary power provided at water source
   2. Minimum storage percentile of Average Daily Demand – 30%
c. Domestic Demand Storage Requirement – 0.21 mgd x 30% = 0.063 mgd = 63,000 gallons

2. Fire Flow Demand / Storage

a. AWWA – 1-2 family dwelling: Required fire flow rate – 1500 gpm
b. AWWA – Fire Duration: Fire Flow Duration – 2 hours (120 minutes)
c. Fire Flow Storage Requirements: 1500 gpm x 120 minutes = 180,000 gallons

3. Total Storage Requirements

63,000 gallons domestic requirement
180,000 gallons fire flow requirement
243,000 gallons total Say 250,000.00 gallons

Water storage tank size = 250,000 gallons

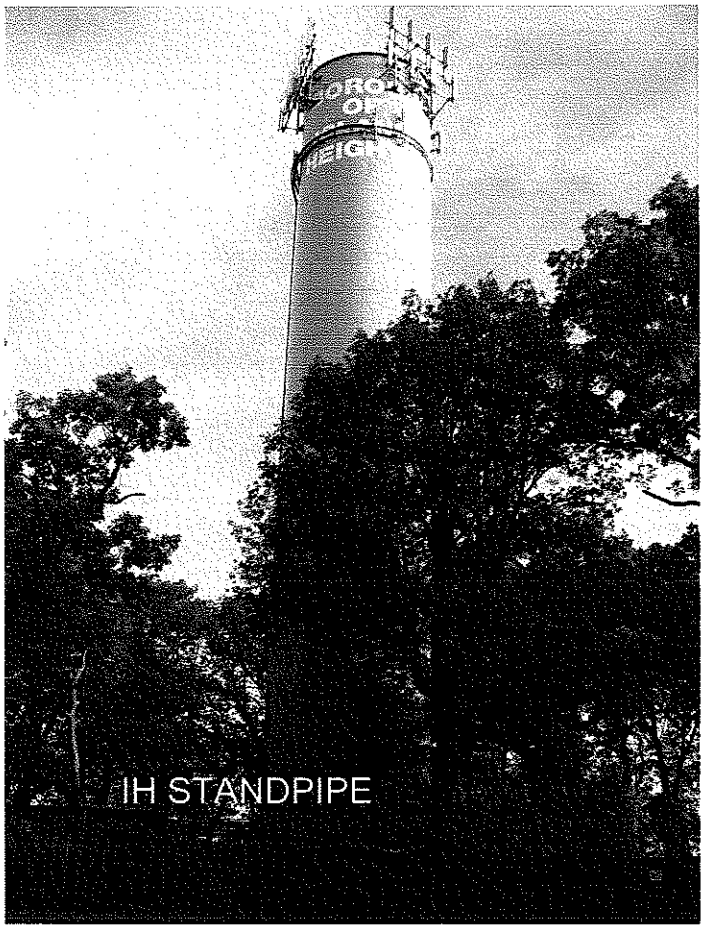
III. Location and Design Concerns

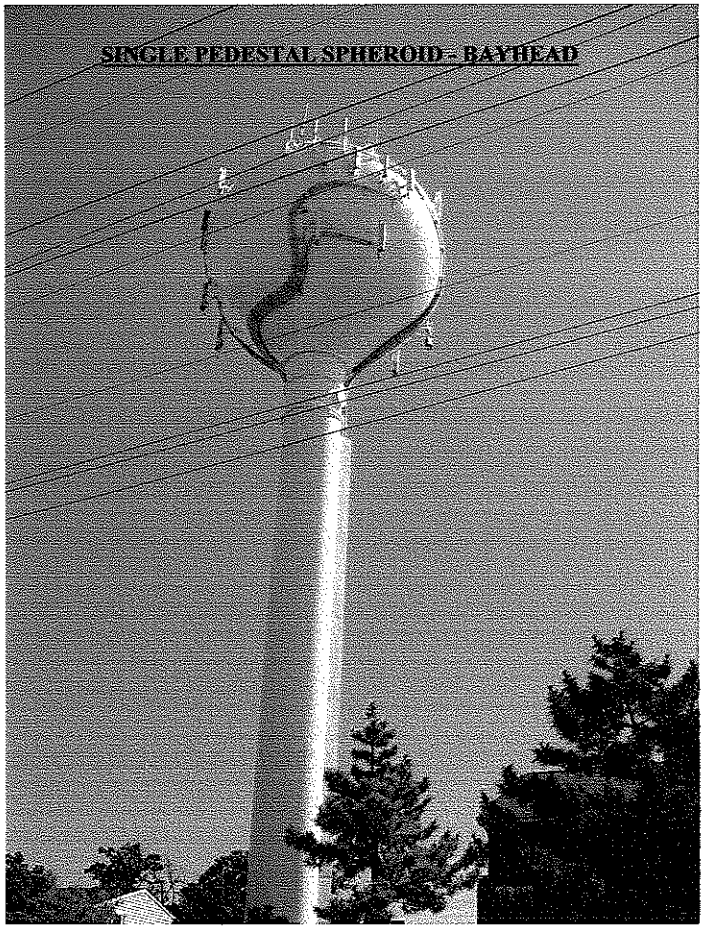
The contract period for construction of the new water storage tank from contract award to filling of the tank is estimated to be one year. Active construction for site work, foundations and tank erection is approximately a six month period. The length of construction is a major concern as the existing water tank is utilized by the water treatment process to meet chlorine contact requirements and also to handle peak and fire flow conditions. To take this tank out of source to construct the new tank at the same location will be very difficult and costly. In addition to the loss of fire protection, it will require some combination or all of the following: installation of an automatic variable frequency drive (VFD) at Well #9, installation of blow offs (that discharge water to waste) to relieve pressures on off peak periods since there is no storage tank to cushion the affects of peak flow rates, opening of interconnect and purchase water from United Water Toms River and operation of Borough water plant and wells 24 hours per day to handle domestic average and peak flow conditions. It also has a potential affect to lose the cellular companies revenues while the new tank is being constructed.

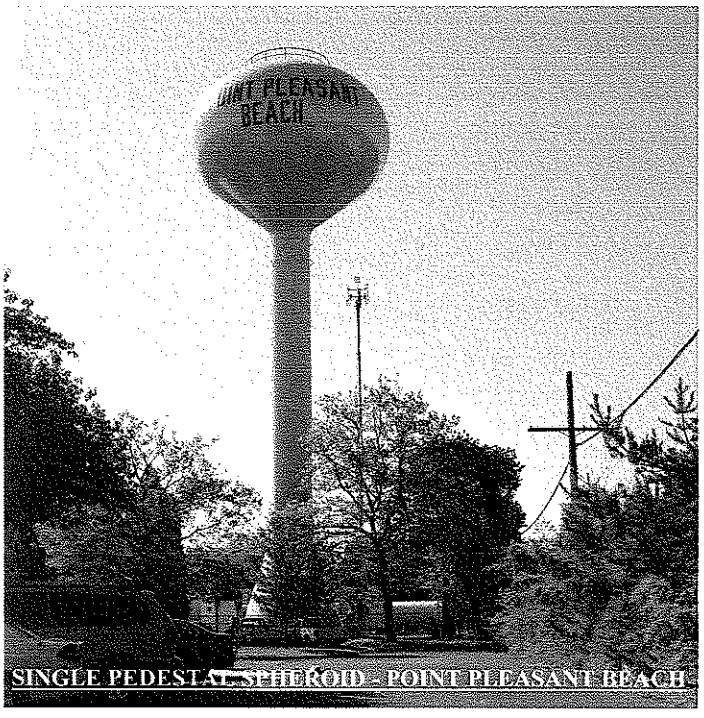
IV. Types of Tanks

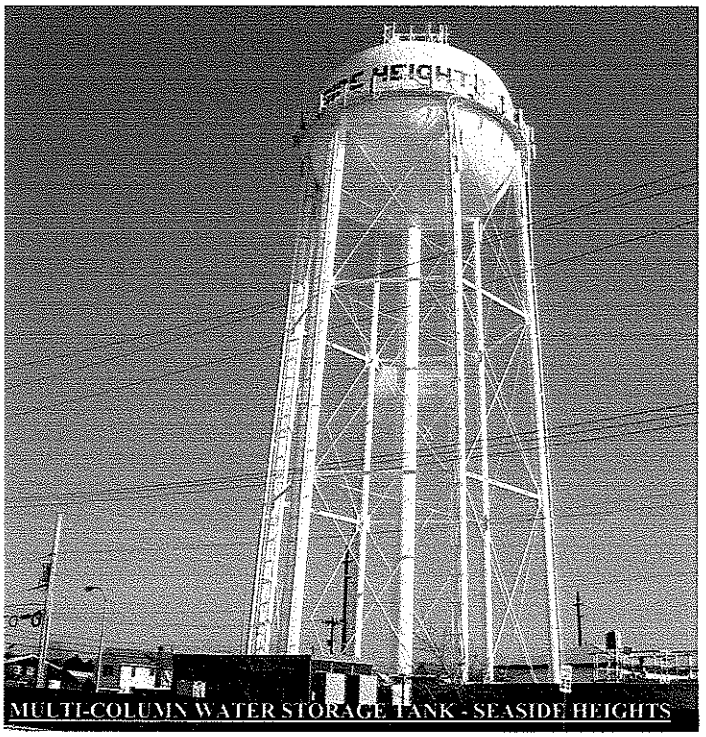
In addition to storage capacity, appearance and cost, an additional concern to the Borough is the installation of cellular antennas on the water tank. Generally, there are two (2) styles of tanks to look at; The typical multi-column (Seaside Heights, Seaside Park, Ocean Gate) and the single pedestal spheroid (Bay Head, Point Pleasant Beach). See photos. Either tank should meet the Borough needs, however, the multi- column tank will more easily accommodate cellular companies with more available space to isolate its respective components. However, the multi-column tank is more difficult to maintain due to multiple legs, support rods and irregular surfaces prevalent in these designs.

Spheroid type construction is so prevalent in the industry today that one of the major tank manufacturers, Chicago Bridge & Iron (CBI) (PDM) does not construct the multi-column tanks any more. Two (2) other tank manufacturers, Phoenix (Pittsburgh Tank and Tower) and Caldwell Tanks still manufacture both styles of tanks.


IH STANDPIPE


SINGLE PEDESTAL SPHEROID - BAYHEAD


POINT PLEASANT BEACH
SINGLE PEDESTAL SPHEROID - POINT PLEASANT BEACH


MULTI-COLUMN WATER STORAGE TANK - SEASIDE HEIGHTS

For comparison purposes, the following are manufacturers pricing for the different style water tanks. They are however, based on standard foundations, which is not the case for the Island Heights proposed sites.

Type	Cost
Single Pedestal Spheroid 250,000 gallons Diameter 44 feet, Height 140 feet	$900,000.00
Multi-Column 250,000 gallons Diameter 42 feet, Height 140 feet	$775,000.00

There are all sorts of variations and styles of elevated water storage tanks, but these two are standard within the industry. Since they both meet the Borough's needs, both can be bid as alternates and the Borough can choose their preferred tank based on budget after the bids are received.

V. Alternate Site Description

Existing Site

The existing water tank site consists formerly of 12 lots, now Block 25, Lot 13, between Van Sant and Summit Avenues with Laurel Avenue just to the east of the site; See Figure #1. The elevation of the site where the existing tank is located facing Van Sant Avenue is 42 feet +/- but falls off steeply in the rear toward Summit Avenue to 37 feet midway and 30 feet near the road. The lots facing Summit Avenue are heavily wooded with several very large trees.

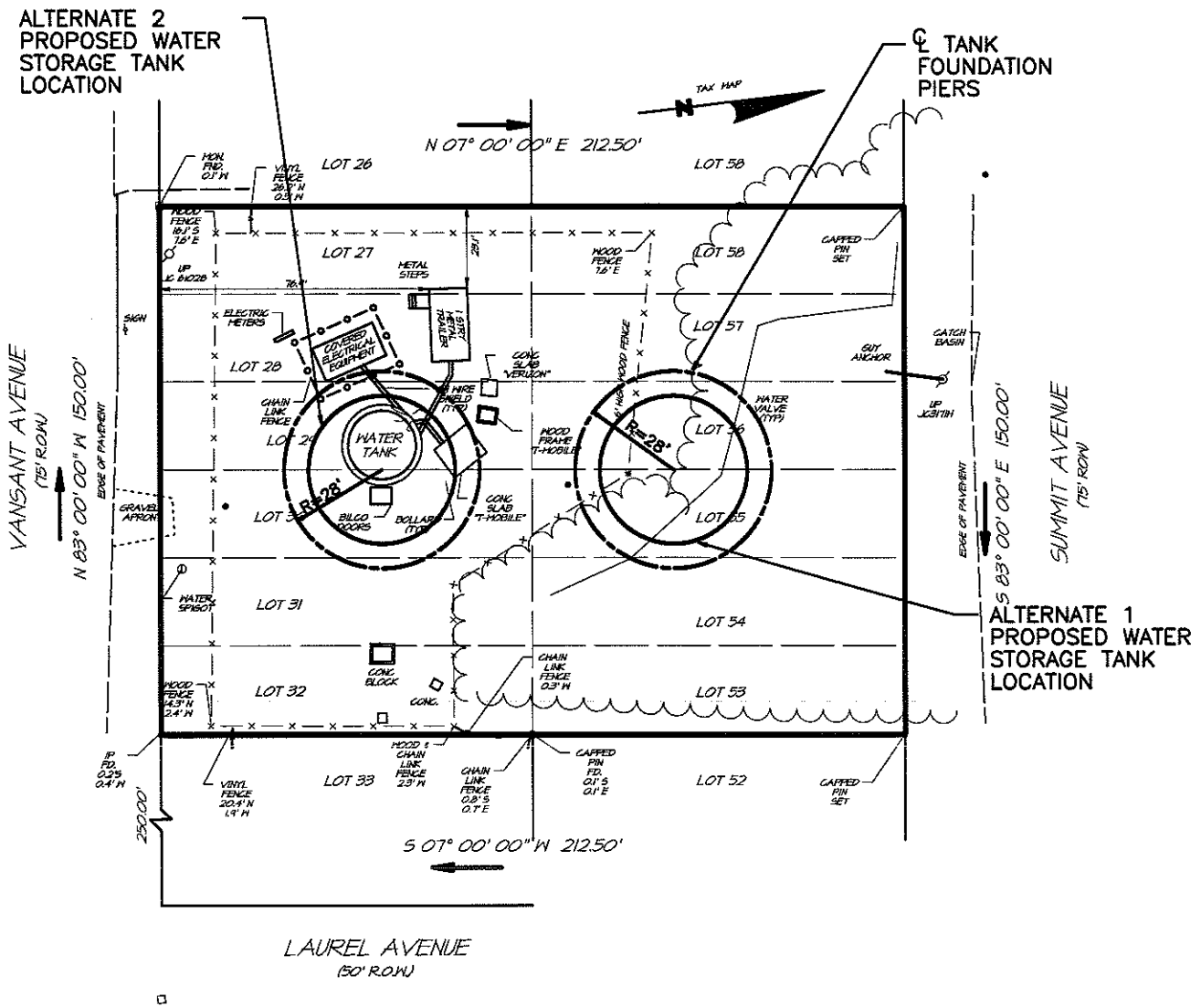
Immediately to the east of the existing water tank are concrete foundation remains from a previously demolished small elevated water tank. The entire site is bounded closely by residential homes on the east and west, Van Sant Avenue and homes to the south and by Summit Avenue and the DPW yard on the north.

There are two (2) alternates available to the Borough on the site:

Alternate 1 will require the tank to be constructed on the side hill immediately in the rear of the existing tank. Construction will require complete stripping (clearing) of the site, construction of a retaining wall, site grading and difficult construction due to lack of staging areas, irregular terrains, close proximity of homes and difficulty on positioning a very large crane. Construction will most likely require long term road closures.

The new tank, a much larger structure, will be constructed immediately adjacent to at least two (2) homes. While it is the existing site for the Borough's water tank, the new tank will be a much more massive structure and the Borough is cautioned it may be overwhelming to the residents in the immediate area.

Alternate 2 will construct the new tank in the general vicinity of the existing standpipe on top of the hill. Locating the tank at this location has the benefit that due to the elevation of the site it will be the shortest tank of the three (3) alternates. It does however, require some or all of the combination of water supply and pressure controls listed in Section III "Location and Design Concerns" above for the Borough to meet its domestic needs. Also, for all practical purposes, the Borough will lose its fire protection storage. It is estimated that between the Borough's water supply and utilizing United Water Toms River interconnect, a water supply of approximately 900-1,000 gpm can be provided. Since the fire flow now must come from supply and not storage, the difference in the domestic demand at the time of the fire and the supply is the available fire flow. The following is estimated fire flow rates available at the existing water storage tank site on VanSant Avenue at estimated Island Heights flow conditions:



NO.	DATE	DESCRIPTION OF REVISION	BY	ENGR.

PROPOSED WATER STORAGE TANK SITE EVALUATION STUDY EXISTING TANK SITE PLAN FIGURE NO. 1

BOROUGH OF ISLAND HEIGHTS

OCEAN COUNTY **NEW JERSEY**

CHECKED BY	CALC. BY	DRAWN BY	SCALE	DATE	PROJECT NO.	DWG NO.
CBA	JRB	TRP	1"=50'	09/18/08	08066.00	1 / 1

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Condition	Flow Rate	Available Fire Flow *
Average Daily Flow	118 gpm	882 gpm
Maximum Day Flow	305 gpm	695 gpm
Peak Hourly	605 gpm	395 gpm

* Based upon 1,000 gpm water supply

The existing water plant can produce 400 gpm of treated water. Any demands exceeding this rate must made up through the interconnect with United Water Toms River. It is estimated typical peak conditions occur for approximately 8 hours/day and has a rate of about 605 gpm (2x maximum daily rate). Thereby, the Borough must purchase water at a rate of approximately 205 gpm (605 gpm-400 gpm) for 8 hr./day for the 6 month construction period. The estimated cost for this work at todays rate of $3.09/1,000 gal. is $70,000.00. It should be noted that United Water Toms River is presently seeking a significant rate increase which will affect the Borough's water purchase cost.

Construction will require complete demolition of the existing tank and foundation and relocation of existing piping prior to new tank construction. Construction of the tank may require significant periods of road closure on Van Sant Avenue.

DPW Yard Site

The DPW yard is a spacious property located at the corner of Lake Avenue (north), Laurel Avenue (east) and Summit Avenue (south); See Figure #2. As stated before, generally, the site contains the DPW Garage, Recycling Center, Wells No. 9 and 10 and the Water Plant. A new water plant will most likely be constructed immediately adjacent to Well House No. 9 in the future. The proposed water tank would be constructed toward the middle of the property, north of Well House No. 9. At this point, it is not in close proximity to any homes or businesses as far as construction is concerned. The periphery of the site can be landscaped with fast growing evergreens. The closeness of the trees to the homes will partially screen the tank; however, the 140+/- foot tall, 250,000 gallon tank will definitely be visible to area residents at either site.

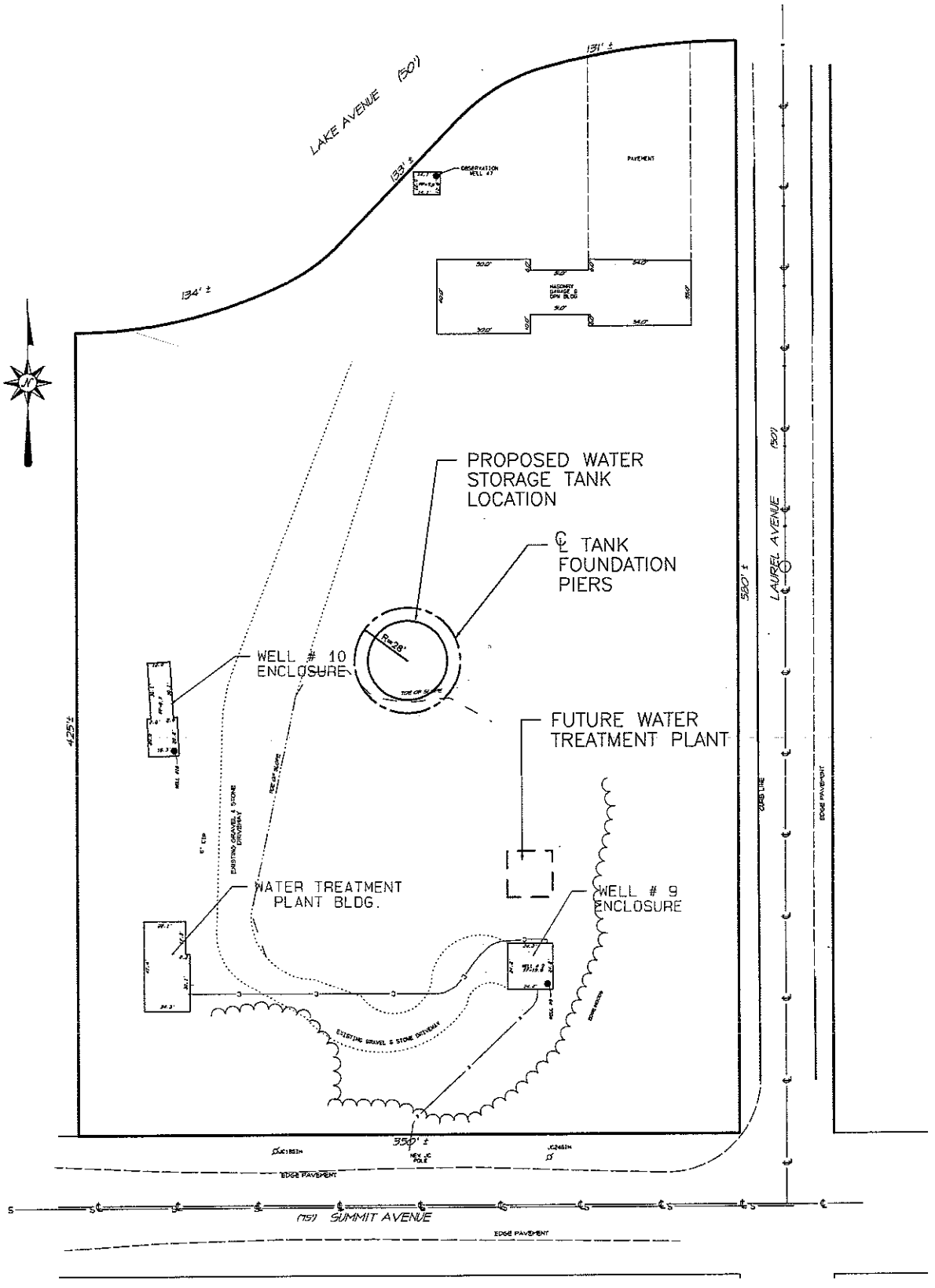
The property provides for easy construction, accessibility, staging, crane positioning, etc. and no significant road closures are expected. The only real problem with the site is the tank will be located on 14 feet of fill consisting of construction demolition and site clearing debris and leaf bags. It is unstable for tank foundations. This waste fill will require the site to be excavated to virgin ground and filled with structural fill (this procedure was utilized for Well House No. 9) or build the tank on piles or caissons.

Next, the site is at an elevation 22 feet +/- below the existing water tank site, or about 10 feet below the expected grade of the new tank, if it was constructed on the existing tank property. The site elevation requires the tank to be constructed 10+/- feet taller than if it was constructed on the alternate site near the existing tank; See Figure #3.

Finally, relocating the water tank to the new site requires approximately 1,000 liner feet of new water mains to be constructed from the water plant to the new tank and from the tank up Laurel Avenue to connect to the water main on Van Sant Avenue. However, some of the onsite piping would also be required and utilized when the new water plant is constructed.

VI. Summary

The cost estimates presented in this report are based upon the multi-column water storage tank as this tank is the most cost effective tank and is best suited for cellular antennas. Other tanks are more expensive and require more costly specialized foundations. The costs presented assume adequate subsurface soil conditions on the existing site and below the landfill material on the DPW yard site that must be confirmed by geotechnical data obtained from site specific soil borings. The cost also reflects a recent significant increase in steel prices over the last four (4) months.



NO.	DATE	DESCRIPTION OF REVISION	BY	ENGR.

PROPOSED WATER STORAGE TANK SITE EVALUATION STUDY
DEPARTMENT OF PUBLIC WORKS SITE PLAN
FIGURE NO. 2

BOROUGH OF ISLAND HEIGHTS

OCEAN COUNTY **NEW JERSEY**

CHECKED BY	CALC. BY	DRAWN BY	SCALE	DATE	PROJECT NO.	DWG. NO.
CBA	JRB	TRP	1"=80'	09/18/08	08066.00	1/1

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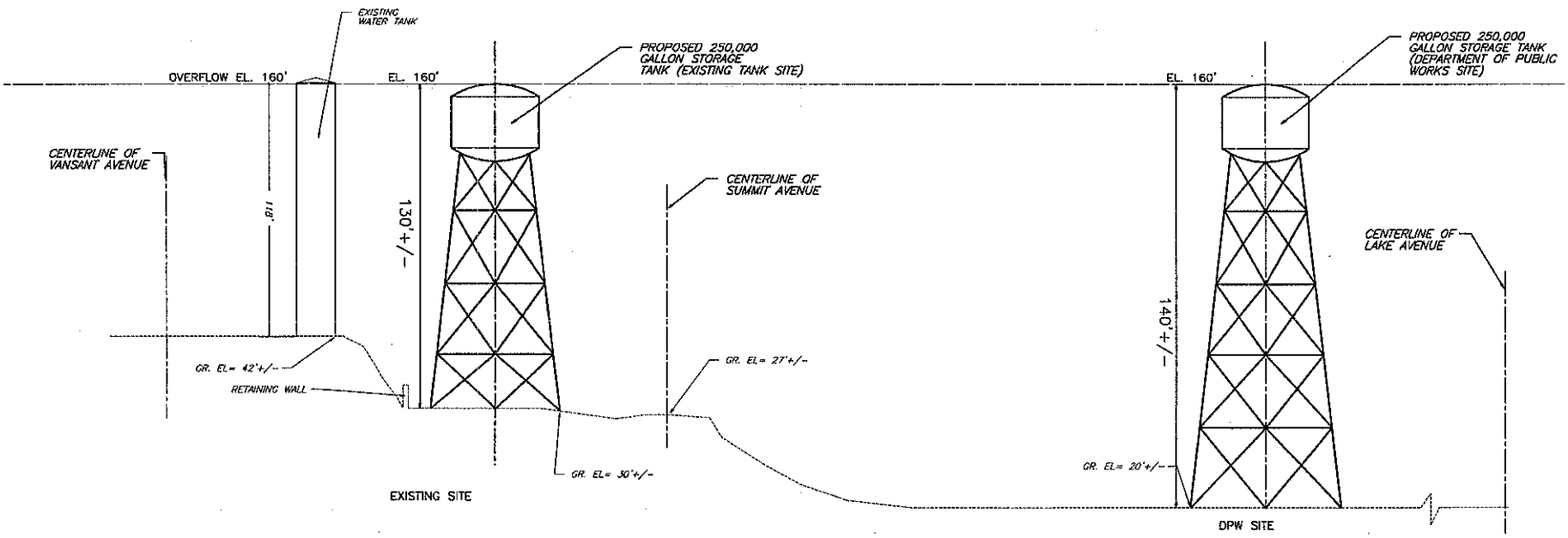

SITE COMPARISON PROFILE

N.T.S.

NO.	DATE	DESCRIPTION OF REVISION	BY	ENGR.

PROPOSED WATER STORAGE TANK SITE EVALUATION STUDY ALTERNATE TANK SITE PROFILE FIGURE NO. 3

BOROUGH OF ISLAND HEIGHTS

OCEAN COUNTY NEW JERSEY

CHECKED BY	CALC. BY	DRAWN BY	SCALE	DATE	PROJECT NO.	DWG NO.
CBA	JRB	TRP	NONE	09/18/08	08066.00	1 / 1

Tables 1, 2 and 3 present the advantages and disadvantages of constructing a water tank on each evaluated site and "todays" cost estimate for the respective construction work.

Existing tank and foundation demolition and related site restoration work is generally typical to all site alternatives. It is estimated the demolition and removal of the existing tank and foundations, abandoned site piping removal and backfilling, topsoiling and seeding disturbed areas will cost approximately $35,000.00. This price is reflective on steel pricing and will drop as steel prices increase due to the high price of steel salvage rights.

Due to the long lead time related to project financing, design and one (1) year construction contract period the Borough must make allowances for steel price increases over a two (2) year period. Tank manufacturers feel the cost of steel may be leveling off, but for budgetary purposes to expect an increase of 10% ± of the water storage tank construction cost over the next two (2) years. Steel reflects approximately 20% of the Water Storage tank construction cost.

Operation and Maintenance (O&M) of the tank also has to be considered in the Borough's decision making process. The tank will sweat and constantly drip during the summer months. It is suggested that no structures are located in close proximity to the tank as the dripping will be a real nuisance. Next, the tank requires O&M to protect its investment by maintaining its protective coating (paint). Blasting and painting the tank on the existing property will require shrouding due to the close proximity to the homes. Shrouding a tank is expensive and will cost in the neighborhood of $100,000.00. A tank located in the interior area of the DPW site should not require shrouding, resulting in a substantial cost savings in O&M costs.

NJDEP Drinking Water State Revolving Fund (DWSRF) financing requires approval from various agencies. The DPW site has already received a waiver from Cultural Resources and a Letter of No Interest from CAFRA for construction of potable water supply Well No. 9. Copies of these decisions are in the appendix of this report. This precedent, however, does not cover the existing water tank site.

Finally, a major consideration in site selection is the value of the property on which the existing water tank is located. It is assumed the site can be subdivided into four (4) building lots. The Borough hired an appraiser to evaluate the value of the property and selling of the lots should be incorporated in the Borough site selection decision. The value of the property has been included on Table 3 as an advantage for constructing the tank on the DPW site. A copy of the appraisal is in the appendix.

Table 1
Advantages and Disadvantages
for
Proposed Water Tank Located at Existing Tank Site (Adjacent to Standpipe)

Advantages	Disadvantages
• No disruption to cellular antennas. • Proposed tank to be situated within the existing tank property limits. • May be able to use existing site piping.	• Site is narrow and restrictive limiting the proposed tank location. • Existing water tank utilized as part of water treatment process. Cannot remove from service for construction. • Multiple site restrictions include existing tank, cellular equipment, yard piping and sloping site. (Estimate 14-foot grade difference from Summit Avenue to existing tank). • A narrow site and multiple site restrictions necessitate longer construction period. Limited area for storage of material and to fabricate and erect tank sections. • Clearing heavily wooded sloping site to Summit Avenue required. • Setting of erection crane difficult • Construct bypass piping to connect WTP to the distribution system. • Keystone retaining wall required due to the sloping ground surface. • Close proximity to homes may be overwhelming. • May require long term closing of Summit Avenue and or Van Sant Avenue to facilitate tank erection. • Tank shrouding required to paint tank due to close proximity of homes. • No potential sale of property.

Elevated Water Storage Tank Preliminary Construction Cost Estimate for Existing Tank Site (Adjacent to Standpipe)

Item	Description	Cost
1.	Site Clearing/Preparation	$ 15,000.00
2.	Keystone Retaining Wall	$ 80,000.00
3.	Tank Foundation	$115,000.00
4.	Tank Erection & Painting (includes shrouding)	$910,000.00
	Subtotal	$1,120,000.00
	20% Contingency	$ 244,000.00
	Total	$1,344,000.00

Note
1. Cost based upon multi-column tank construction and adequate subsurface soil conditions, as no soil borings were performed for this study.
2. Cost reflects steel pricing increases.
3. Cost excludes demolition of existing standpipe and foundations that is estimated to be $35,000.00..

Table 2
Advantages and Disadvantages
for
Remove and Replace Water Tank at Same Location

Advantages	Disadvantages
• New tank will be situated where the standpipe is located.	• Anticipate a 6 month interruption of cellular antenna usage during the standpipe removal and new tank erection period. Estimated loss of revenue $43,000.00.
• May be able to utilize existing site piping.	• New tank diameter is approximately 20-feet larger than standpipe. The distance to adjacent homes is reduced to an estimated 60-feet. More intrusive to neighbors.
• Shortest tank of three (3) alternatives.	• Automate Well #9 VFD needed to maintain system pressure and supply with standpipe removed from service and during new tank erection.
	• Increase well operation, possibly 24 hours a day.
	• Construct bypass piping to connect WTP to the distribution system.
	• Purchase water from United Water Toms River through interconnection for peak demands and or emergencies.
	• Install hydrant blowoffs to relieve system pressure for off peak hours.
	• Small and narrow site restrictions necessitates longer construction period. Limited space for material storage, tank fabrication and erection of tank sections.
	• Closing Van Sant Avenue for significant periods may be necessary for standpipe demolition and new tank erection.
	• No potential sale of property.

Remove and Replace Water Tank at Same Location

Item	Description		Cost
1.	Site Preparation		$ 5,000.00
2.	Tank Foundation		$ 115,000.00
3.	Tank Erection & Painting (includes shrouding)		$ 885,000.00
4.	Yard Bypass Piping		$ 50,000.00
		Subtotal	$1,055,000.00
		20% Contingency	$ 211,000.00
5.	6 month loss in Borough revenue from interruption in cellular antenna usage.		$ 43,000.00
		Total Cost	$1,309,000.00

Note

1. Cost based upon multi column tank construction and adequate subsurface soil conditions, as no soil borings were performed for this study.
2. Cost reflects steel pricing increases. Cost excludes demolition costs for standpipe/foundation removal that is estimated to be $35,000.00

Table 3
Advantages and Disadvantages
for
Proposed Water Tank Located at Department of Public Works Site

Advantages	Disadvantages
• Spacious & unencumbered site. Ample area for storage of material, & fabrication and erection of tank.	• Poor foundation material requiring piles to support the tank.
• Potential sale of entire tank property is estimated at $1,090,000.00 or $1,140,000.00 if subdivided into 4 lots per Benchmark Appraisal, Inc., dated 10/14/08.	• Water main extension Laurel Avenue to Van Sant Avenue required.
• No disruption to cellular antennas.	• Lowest elevation of two sites evaluated requiring higher tank construction.
• Much less intrusive to neighbors.	
• Water supply, treatment and storage will all be located at one site.	

Elevated Water Storage Tank Preliminary Construction Cost Estimate for Department of Public Works Site

Item	Description	Cost
1.	Site Preparation	$ 5,000.00
2.	Pile Driving	$156,000.00
3.	Tank Foundation	$ 88,000.00
4.	Tank Erection & Painting	$835,000.00
5.	Yard & Offsite Piping (Laurel Ave)	$100,000.00
	Subtotal	$1,184,000.00
	20% Contingency	$ 237,000.00
	Total	$1,421,000.00
6.	Property Sale	($1,100,000.00)
	Total Cost	$ 321,000.00

Note

1. Cost based upon multi-column tank construction and adequate subsurface soil conditions, as no soil borings were performed for this study.
2. Cost reflects steel pricing increases.
3. Cost excludes demolition of existing standpipe and foundations that is estimated to be $35,000.00.

APPENDIX

JRB

O'DONNELL, STANTON & ASSOCIATES, Inc. *ENGINEERS • PLANNERS • SURVEYORS*

1705 ROUTE 37 EAST, TOMS RIVER, NEW JERSEY 08753 (732) 573-0490 • FAX (732) 573-0499

James F. Stanton, PE, PP, CME
Michael F. O'Donnell, PE, PP, CME
E-mail: osa@csionline.net

Matthew Smith
John R. Berens, PE
Certificate of Authorization No. GA 276876

January 17, 2003

NJDEP / Municipal Finance & Construction Element
Attn: T. Cregg Madrigal, TSS
P.O. Box 425
Trenton, New Jersey 08625-0425

NJ Environmental Infrastructure Financing Program
Project #1510001-001
Construction of Water Supply Well #9
Borough of Island Heights
Stage 1 Cultural Resource

Dear Mr. Madrigal:

Pursuant to our conversation I have investigated the amount of disturbance that may take place in existing firm soils ("virgin") below the fill area upon which Well #9 will be constructed. I have also taken photographs, which will assist, in visualizing what has taken place in the Department of Public Works yard (DPW). The DPW yard has been used as a landfill area for excavated spoil material (sand, gravel, cinder blocks, concrete blocks, roots, clay, etc.) since the late 1970's.

The superintendent of Public Works remembers the property used to slope steeply from Laurel Avenue into the site. He stated the general grade of the site was similar to the existing access road from the Borough Garage to the Water Plant (elevation 8-10 feet.). This estimate is corroborated by our test pit performed at the proposed Well House #9. The elevation of the ground at the proposed well house site is 19-feet and the test pit hit good foundation material at a depth of 7+ feet. The original ground surface apparently sloped from elevation 12 to 8 feet notwithstanding disturbances typical in a DPW yard prior to the fill including excavation and grading work in "virgin" soils.

It must be understood this is an active DPW yard in which major disturbances are a common occurrence. It should also be known that the access road at the water plant where the raw water line from Well #9 terminates has already been disturbed by construction of a sanitary sewer, transmission water main and a gas service, as well as excavation

used in construction of the water plant. It can be assumed the roadway in this area has been disturbed to a depth of 6-8 feet.

As shown on the construction plans for Well House #9, excavation work is required to be made to the top of the firm sand. Only the individual columns will impregnate this sand. The columns are about 18" in diameter and will be imbedded approximately one foot into the sand. Construction of the well house will have negligible affect on the original "virgin" soils.

The raw water pipe from the well to the water plant will be constructed with three feet of cover in the fill material. The only time it will approach the original grade of this site is at the water plant where the ground has already had major disturbances through construction of the utilities and the water plant.

Enclosed are site photographs which I feel show the fill area and an estimated cross section of the project area. As you can see, construction of Well #9 has virtually no affect on "virgin" soils, and we therefore request a waiver on performing a Stage 1 Cultural Resource Survey.

Should you have any questions concerning this matter please do not hesitate to call.

Very truly yours,

O'DONNELL, STANTON & ASSOCIATES, INC.

John R. Berens, PE

JRB/sp
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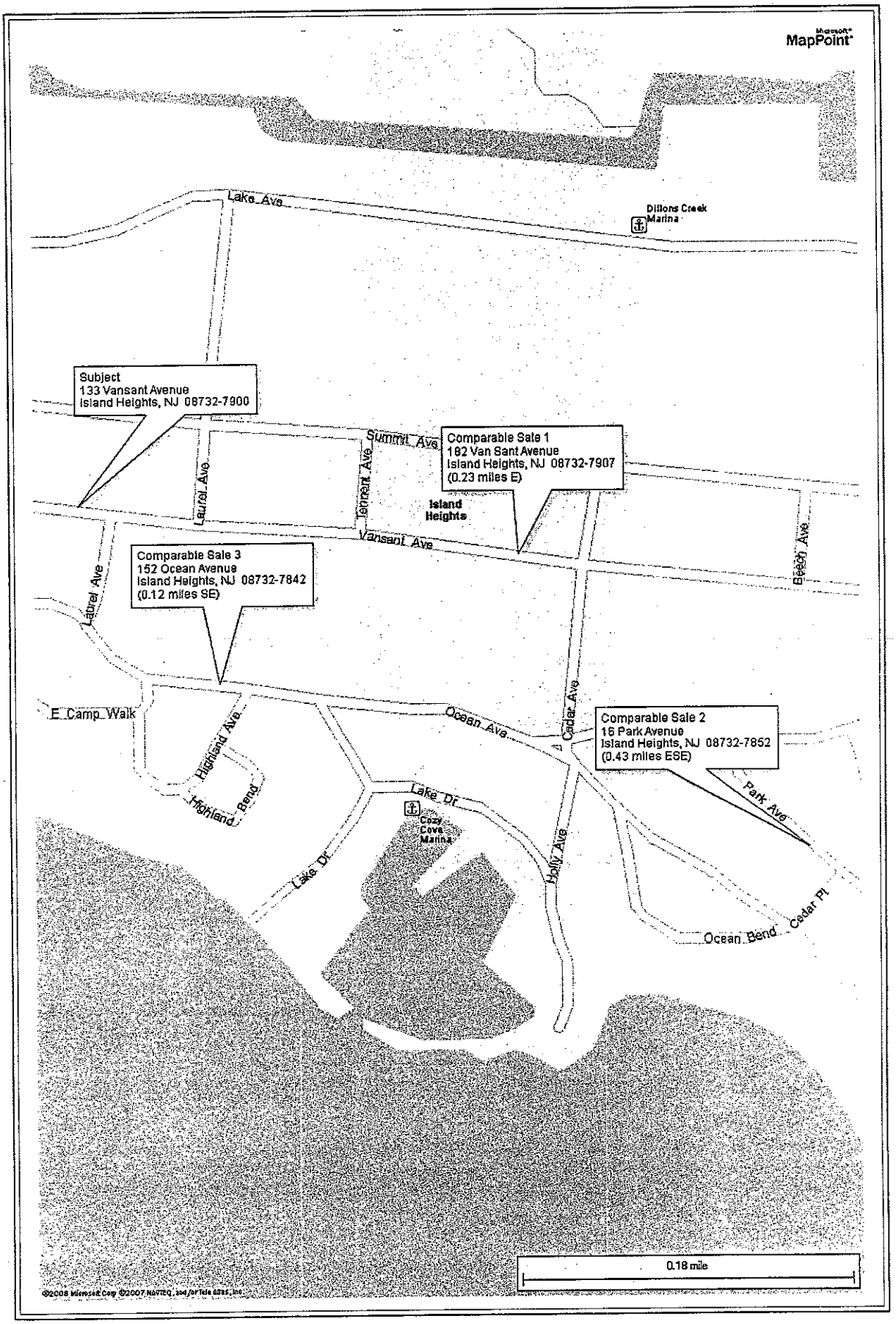
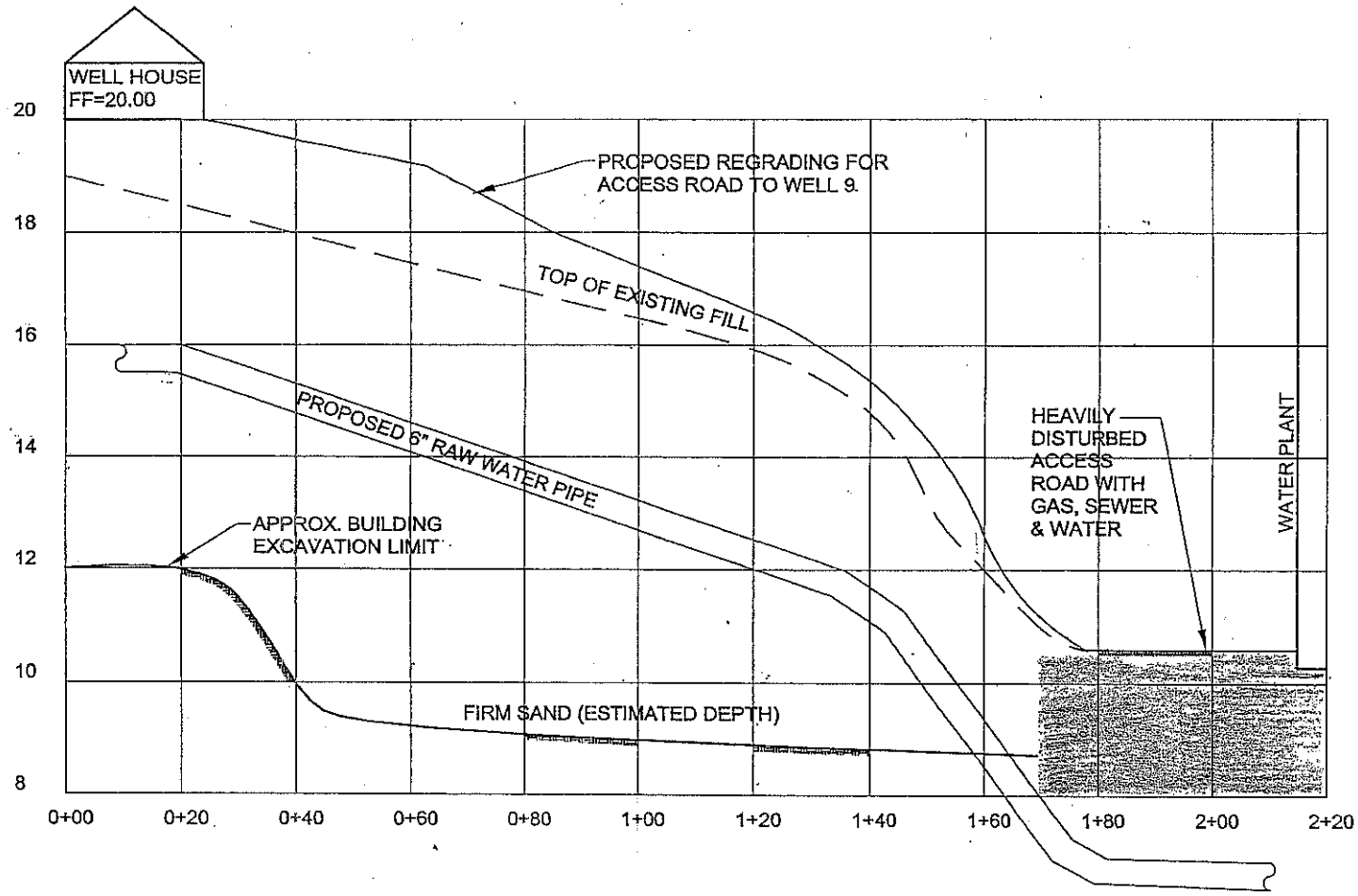
Enclosure

cc: Walter Olivant, NJ DEP
Mayor & Council
Ellie Rogalski, Clerk
Adrian Fanning, Administrator/CFO

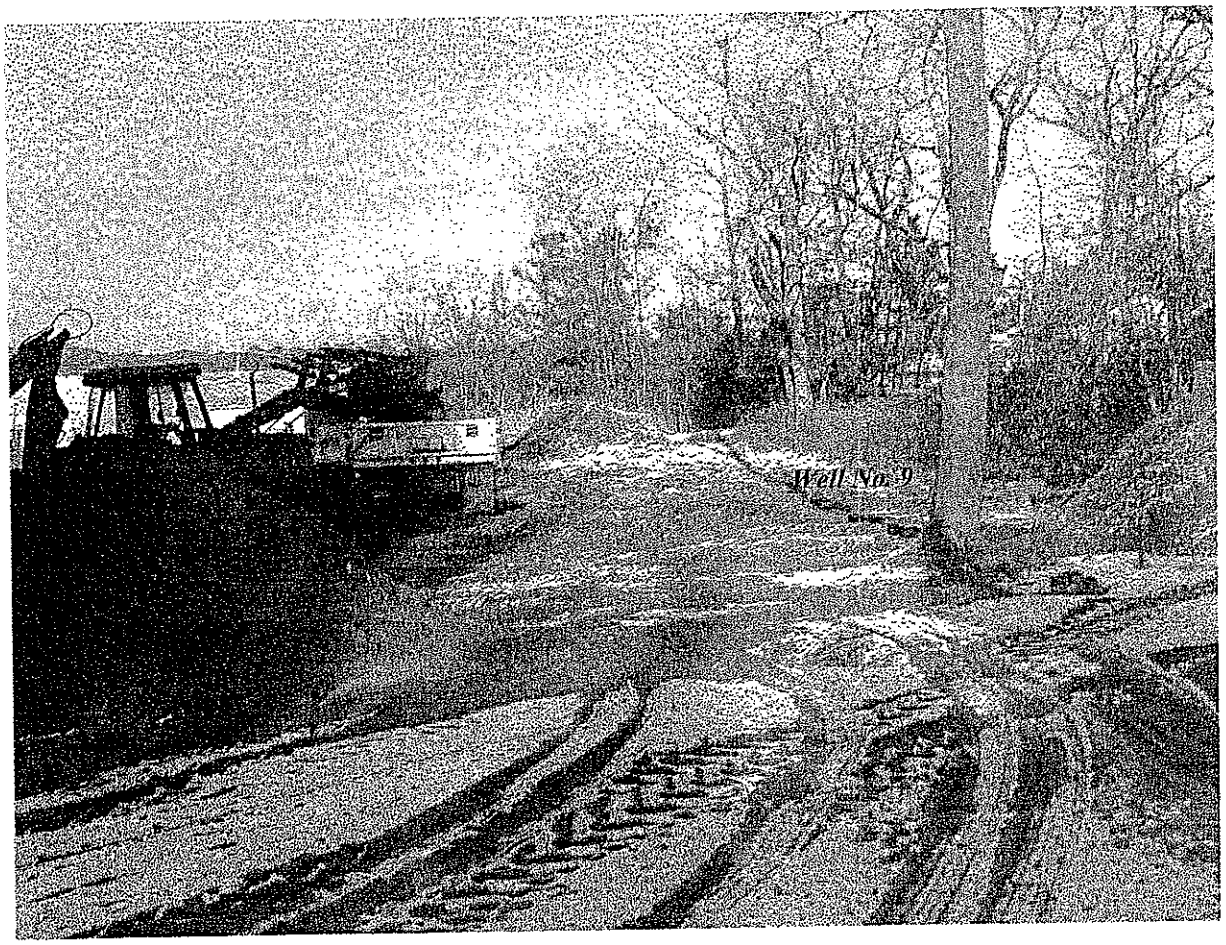
LOCATION MAP

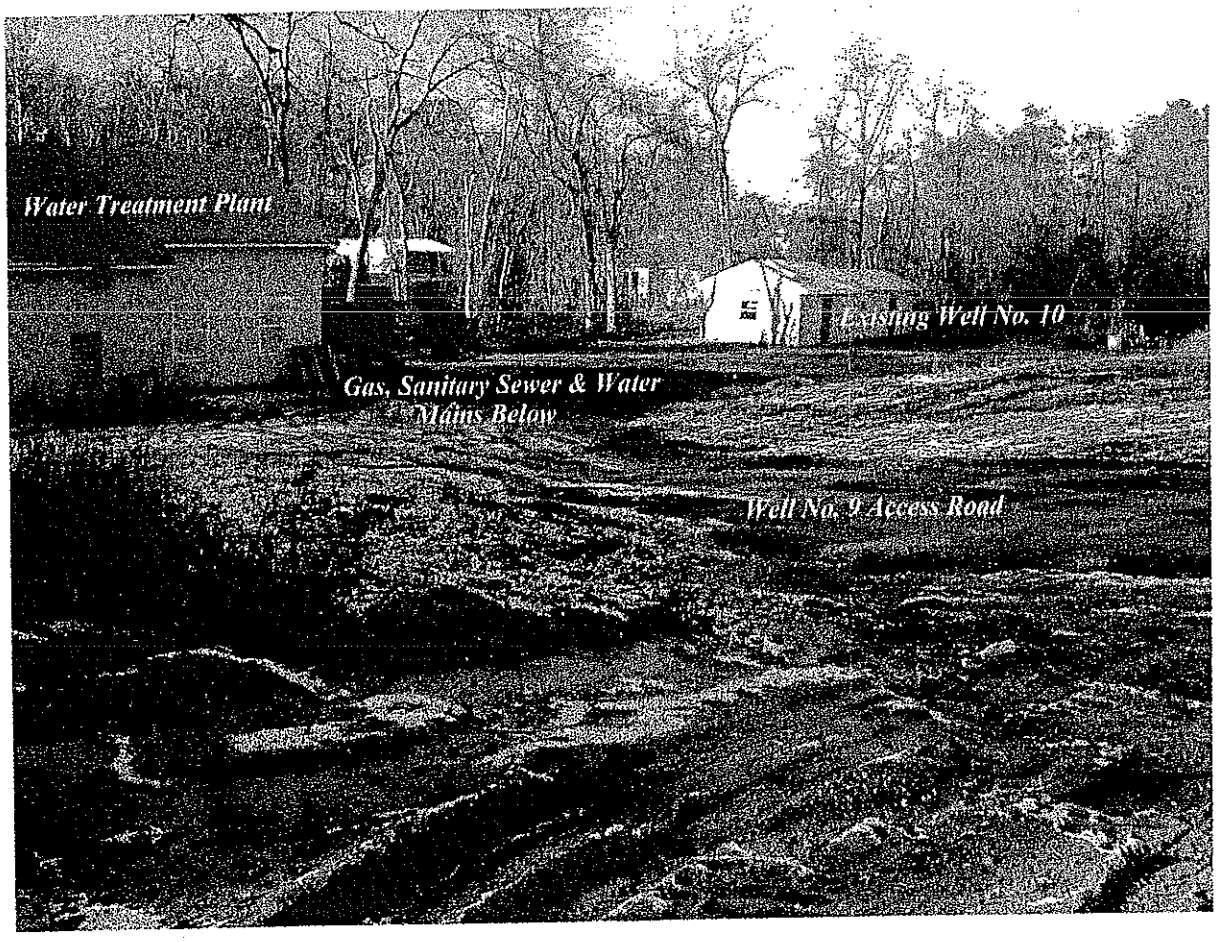
Client: **Borough of Island Heights**	File No.: **08S-1013**
Property Address: **133 Vansant Avenue**	Case No.:
City: **Island Heights Boro**	State: **NJ** Zip: **08732**





BOROUGH OF ISLAND HEIGHTS
DPW YARD - WELL #9 TO WATER PLANT


Well No. 9


Water Treatment Plant
Existing Well No. 10
Gas, Sanitary Sewer & Water
Mains Below
Well No. 9 Access Road

State of New Jersey

James E. McGreevey
Governor

Department of Environmental Protection

Bradley M. Campbell
Commissioner

To All Interested Government Agencies and Public Groups:

In accordance with procedures established to evaluate projects that have applied for assistance under the New Jersey Environmental Infrastructure Financing Program, an environmental review has been completed for the proposed project described below:

Project Name:	Construction of New Water Supply Well No. 9 Borough of Island Heights, Ocean County
Project Number:	1510001-001
Purpose of Project:	The purpose of the project is to provide a safe and reliable drinking water source and to provide 100 percent water supply backup to existing well no. 10 for the residents of the Borough of Island Heights. By constructing a new water supply well no. 9 and appurtenances to replace failing well no. 7, the Borough of Island Heights' water supply system will be in compliance with the requirements of the Federal and State Safe Drinking Water Acts.
Project Originator:	Borough of Island Heights
Project Location:	Borough of Island Heights, Ocean County
Project Description:	The project entails the construction of well no. 9 to be drilled into the Shark River Formation of the Piney Point Aquifer. The proposed screen interval for well no. 9 will be 260 to 393 feet below grade. In addition, the project consists of the construction of a new 24-foot x 24-foot well house and 185 linear feet of piping to connect the new well to the existing water treatment system. The new well and appurtenances will be located at the Borough of Island Heights Public Works Yard.
Proposed Project Cost:	$413,460
Proposed Loan:	$413,460

The environmental review for this project indicates that no significant environmental impacts will result from the proposed action. This decision is based on a careful review of the data submitted in support of this proposed project. All documents submitted are on file at the New Jersey Department of Environmental Protection (Department), where they are available for

public review upon request. A copy of the Environmental Appraisal prepared by the Department for the proposed action is enclosed.

Based on the results of the environmental review, the Department has made a preliminary decision to assist this project under the New Jersey Environmental Infrastructure Financing Program. This decision allows the applicant to retain eligibility under this program but is not a commitment of federal or state funds for the project. Comments supporting or disagreeing with this decision or the Environmental Appraisal may be submitted to the Department for review. All comments must be received within thirty days of the date of this letter. Please address your comments to: Anthony Puniello, Ph.D., Section Chief, Technical Services Section, Municipal Finance and Construction Element, P. O. Box 425, Trenton, New Jersey, 08625-0425. After evaluating any comments received, the Department will make a final decision at the conclusion of the comment period.

Very truly yours,

Stanley Cach, P.E., P.P.
Assistant Director
Municipal Finance and Construction Element
Division of Water Quality

Enclosure

ENVIRONMENTAL APPRAISAL

I. Project Identification

Project Name:	Borough of Island Heights Construction of Water Supply Well No. 9
Name and Address of Applicant:	Borough of Island Heights P.O. Box AH Van Sant @ East End Avenue Island Heights, New Jersey 08732
Project Number:	1510001-001
Project Location:	Borough of Island Heights, Ocean County

II. Project Description

The Borough of Island Heights (borough) is a suburban community situated on the northern bank of the Toms River, south of Route 37 and west of Barnegat Bay in Ocean County as shown in Figure 1. The topography in the area is gently sloping, with elevations ranging from sea level to 38 feet above mean sea level. The borough encompasses approximately 0.89 square miles, has an estimated total population of 1,751 people and is considered to be built-out (Figure 2).

The public water supply system is owned and operated by the Borough of Island Heights, supplies water to the entire borough, and is located at the borough's public works yard bordered by Lake, Laurel, and Summit Avenues. Currently, the existing water system consists of one water supply well, no. 10, a treatment plant, a .2820 million gallon standpipe, and an emergency interconnection with United Water, Toms River. Well no. 10 is screened in the Piney-Point Aquifer. The borough's current peak water demand is 0.235 million gallons per day (MGD) and approximately 7.05 million gallons per month (MGM). The current permitted water allocation is 900 gallons per minute (1.296 MGD).

In addition to well no. 10, wells no. 7 and 8 are located at the borough's public works yard but are no longer operational. Well no. 10 was constructed on an emergency basis when well no. 8 failed in the spring of 2001. Well no. 7 is over fifty years old and its drinking water quality does not meet Safe Drinking Water Standards for color. To provide 100 percent water supply backup to well no. 10, the borough proposes to replace well no. 7 with a new well, no. 9. Well no. 9 will be constructed approximately 436 feet southeast of well no. 7 and will be drilled into the Shark River Formation of the Piney Point Aquifer (Figure 3). The proposed screen interval for well no. 9 will be 260 to 393 feet below grade. A new 24-foot x 24-foot well house and 185 linear feet of piping to connect the new well to the existing water treatment plant will also be constructed at the

borough's public works yard as part of the proposed project. Well no. 7 will continue to be used as a U.S. Geological Survey groundwater monitoring well. Well no. 8 has been removed from service and permanently sealed.

The Bureau of Safe Drinking Water (BSDW) issued a "construct-only" permit on March 25, 2002 to construct well no. 9. A permit to "operate" well no. 9 will have to be issued by the BSDW prior to putting the well into service. The permit review process ensures that designs and construction of public water works comply with the requirements of N.J.A.C. 7:10-11 standards. In doing so, the Department of Environmental Protection (Department) ensures that facilities constructed for the purpose of deriving, treating and delivering public potable water are reliable and produce drinking water of the highest quality and of sufficient volume and pressure to meet the state's public water needs.

In addition, the Borough of Island Heights will be required to obtain approval from the Bureau of Water Allocation (BWA) to utilize the Piney Point well, through a major modification of their Water Allocation Permit. The BWA permitting process will assess potential impacts from the proposed use of the well to the Piney Point Aquifer, other users of the aquifer and the threat of salt-water intrusion and groundwater contamination. Public notice of the applications will be given with an opportunity for the public to review the applications, submit written comments or request a public hearing.

III. Evaluation of Alternatives

A. No Action

Under this alternative, the residents of the Borough of Island Heights would continue to receive potable water only from well no. 10 without a safe, reliable drinking water source that can provide a 100 percent backup water supply. As this alternative fails to meet the requirements of the Federal and State Safe Drinking Water Acts, the no action alternative was rejected.

B. Construction of Water Supply Well No. 9 Drawing From the Piney Point Aquifer (Selected Plan)

Under this alternative, as described in Section II, the residents of the Borough of Island Heights will continue to be served by well no. 10 and the new well, no. 9, that will provide a 100 percent backup water supply in accordance with the Federal and State Safe Drinking Water Acts. Based on the ability of the drinking water system to provide a safe, reliable water supply to the borough residents, this alternative was selected.

IV. Environmental Consequences of the Selected Plan

A. Direct and Indirect Impacts

Water Quality and Hydrology

Surface water quality and hydrology will not be impacted by the proposed project. No significant direct, long-term impacts on water quality are expected as a result of this project. No significant point sources of water pollution will be created as a result of this project. No changes in allocation or pumping rate of existing wells are proposed. No change in total amount of water allocation is proposed. The impacts to the aquifer will be assessed during the BWA permitting process.

Air Quality

No significant direct, long-term impacts on air quality are expected as a result of this project. No significant point sources of air pollution will be created as a result of this project.

Some short-term impacts on air quality may include increased vehicular emissions from construction equipment. These impacts will be temporary and localized. Further, these impacts will be minimized by requiring proper operation and maintenance of construction equipment.

Noise

There will be some short-term, localized noise impacts during the construction period. These impacts are unavoidable, but will be minimized by requiring construction vehicles to be equipped with proper mufflers, limiting the number of machines in operation and limiting construction activities to avoid weekends and holidays. Long-term noise generated by the existing water supply system will not be increased by the operation of well no. 9, and the noise generated by well no. 9 is not expected to disturb adjacent residents.

Cultural Resources

The proposed project has been reviewed for its potential to affect significant cultural resources. Soils within the project area have been extensively disturbed by grading, fill, and the installation of utility lines. The Island Heights Historic District, which is listed on both the New Jersey and National Registers of Historic Places, is located south of the project area and will not be affected by the proposed project. Therefore, the construction of the proposed facilities will have no effect on properties listed or eligible for listing on the New Jersey or National Registers of Historic Places. Documentation supporting this determination is on file at the Municipal Finance and Construction Element, and at the Historic Preservation Office, both in the Department.

Natural Resources

Construction will occur at the borough's public works yard and will include the construction of a new well, a 24-foot x 24-foot well house, and 185 linear feet of piping. The public works yard is 4.18 acres in size and has been subject to past disturbances including excavation, grading, and the installation of sewer, water, and gas service. The majority of the proposed project will be constructed within existing cleared areas. Trees located on the perimeter of the property may be trimmed to accommodate construction of the project. Disturbed land area for pipe construction is approximately 900 square feet. No significant adverse visual impacts are expected in connection with this project.

Environmentally Critical Areas

The proposed project will not result in any direct or indirect adverse impacts to any Agricultural Development Areas, important farmlands, parks and preserves, designated wild and scenic rivers, steep slopes or designated habitats of endangered or threatened species. There are no environmentally constrained areas, streams or wetlands in the area of the proposed well, no. 9.

Social and Economic Factors

The project is intended to serve a predominantly developed area. As the Department supports the award of financing to facilitate improvement of inadequate infrastructure to encourage development and the channeling of growth in areas of the State that have already been developed, funding of the proposed project is consistent with New Jersey's smart growth objectives.

Construction of the proposed project may cause short-term nuisances to adjacent residents as a result of noise, and dust. These impacts will be localized and temporary and will be mitigated.

The current average per household water user charge in the Borough of Island Heights is approximately $145 per year. The current user charge will not increase as a result of this project. The 2000 median annual household income for the Borough of Island Heights is $61,125 based on 2000 U.S. Census data. Because the proposed project will not result in a user cost increase, the user costs are within the guidelines for assessing user cost burden.

B. Steps to Minimize Adverse Effects to the Environment

Siting of the proposed facilities to avoid important natural resources and critical areas to the greatest extent possible has been the main mechanism to ensure that there will not be any significant adverse impacts to the environment. In addition, the use of proper construction techniques and constraints will minimize and adequately mitigate any

potential for adverse effects of the proposed construction on the environment. Included are:

- use of proper erosion and sediment control measures such as hay bales and mulching, in accordance with the "Standards for Soil Erosion and Sediment Control in New Jersey" and the Environmental Assessment Requirements for State Assisted Environmental Infrastructure Facilities" (N.J.A.C. 7:22-10);

- dust control by wetting down and sweeping the construction sites. No chemicals will be used;

- noise control by requiring construction vehicles to have proper mufflers, limiting the number of machines in operation, limiting the hours of operation to normal working hours and limiting construction activities to avoid weekends and holidays;

- limiting clearing to the areas absolutely essential for construction and operation of the project, and protection of specimen trees adjacent to construction areas with appropriate measures such as snow fencing or batter boards;

- restoration of vegetated areas temporarily disturbed during construction;

- avoidance of environmentally sensitive areas, such as wetlands, floodplains, and sites with mature vegetation, in locating stockpile, storage and erosion/siltation control measures;

- ensuring that all applicable state permits and local approvals are obtained prior to the initiation of construction activities.

V. Coordination of the Environmental Review

A. Public Participation

A public hearing was held by the Borough of Island Heights on October 10, 2002 at the Borough of Island Heights Municipal Building to receive public comments regarding the planning for the proposed project. Notice of this hearing was advertised in The Observer of Neptune, New Jersey on September 2, 2002. Planning documents were made available to the public and public comment was invited. No members of the public were in attendance. There are no objections to the project on file with the Department.

B. Agencies Consulted About the Project

New Jersey Department of Environmental Protection

- Bureau of Safe Drinking Water

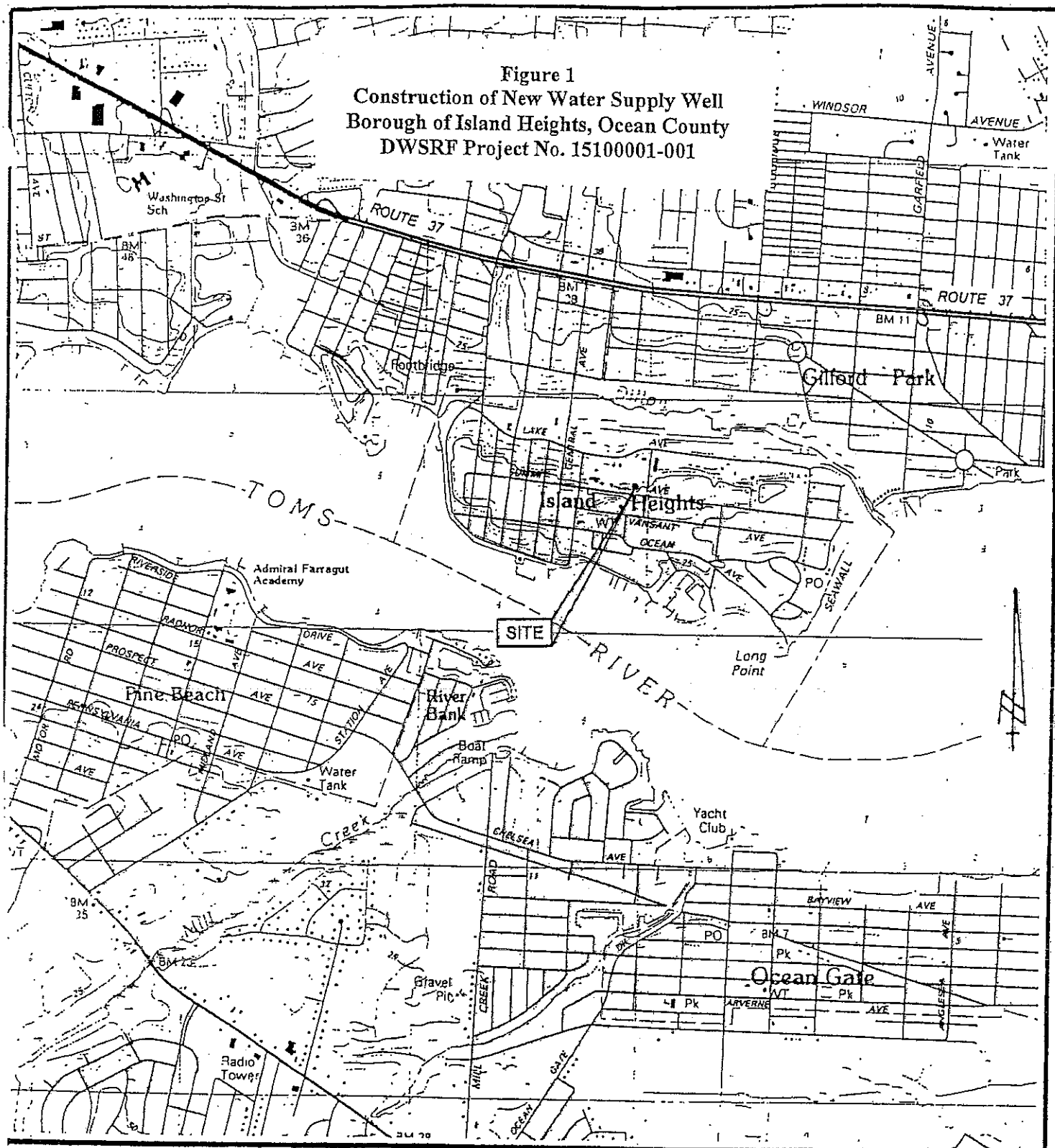
- Bureau of Water Allocation
- Land Use Regulation Program
- Historic Preservation Office

C. Reference Documents

1. Project Planning Report entitled "DWSRF Project # 1510001-001, Infrastructure Loan for the Borough of Island Heights, Ocean County, NJ for the Construction of Potable Water Supply Well No. 9, Application Package and Back-up Documents" prepared by O'Donnell, Stanton & Associates, Inc. dated November 1, 2002.

2. Project correspondence.

Figure 1
Construction of New Water Supply Well
Borough of Island Heights, Ocean County
DWSRF Project No. 15100001-001



O'DONNELL, STANTON & ASSOCIATES, Inc.
Engineers • Planners • Surveyors
1705 ROUTE 37 EAST, TOMS RIVER, NJ 08753
(732) 573-0490 Fax (732) 573-0499

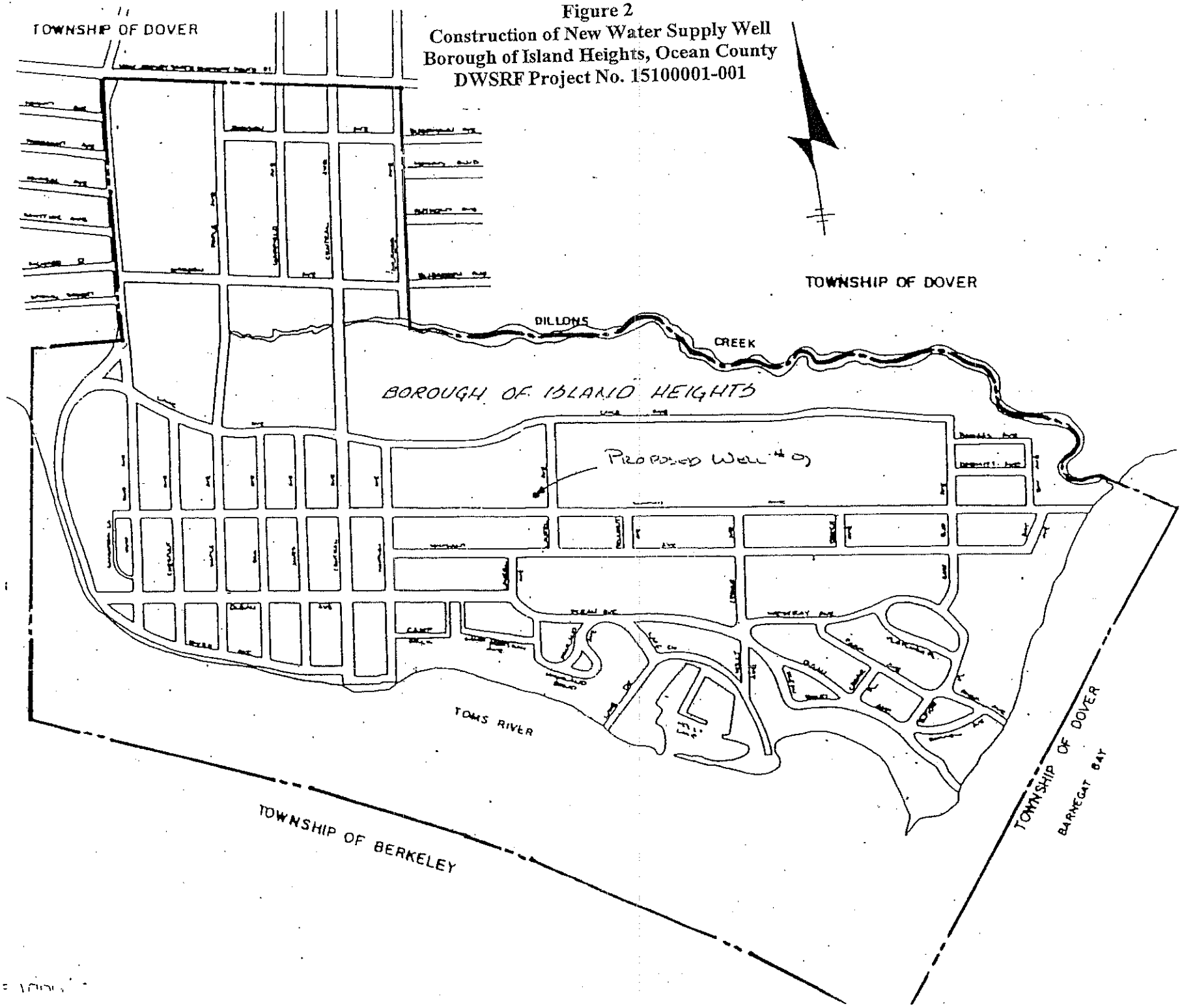
SOURCE: TOMS RIVER QUADRANGLE
NEW JERSEY - OCEAN CO.
1989
JULY 26, 2001 SCALE 1" = 2000'

NEW JERSEY
Project Location

LOCATION MAP FOR PROPOSED WELL NO. 9

BOROUGH OF ISLAND HEIGHTS
OCEAN COUNTY NEW JERSEY

Figure 2
Construction of New Water Supply Well
Borough of Island Heights, Ocean County
DWSRF Project No. 15100001-001



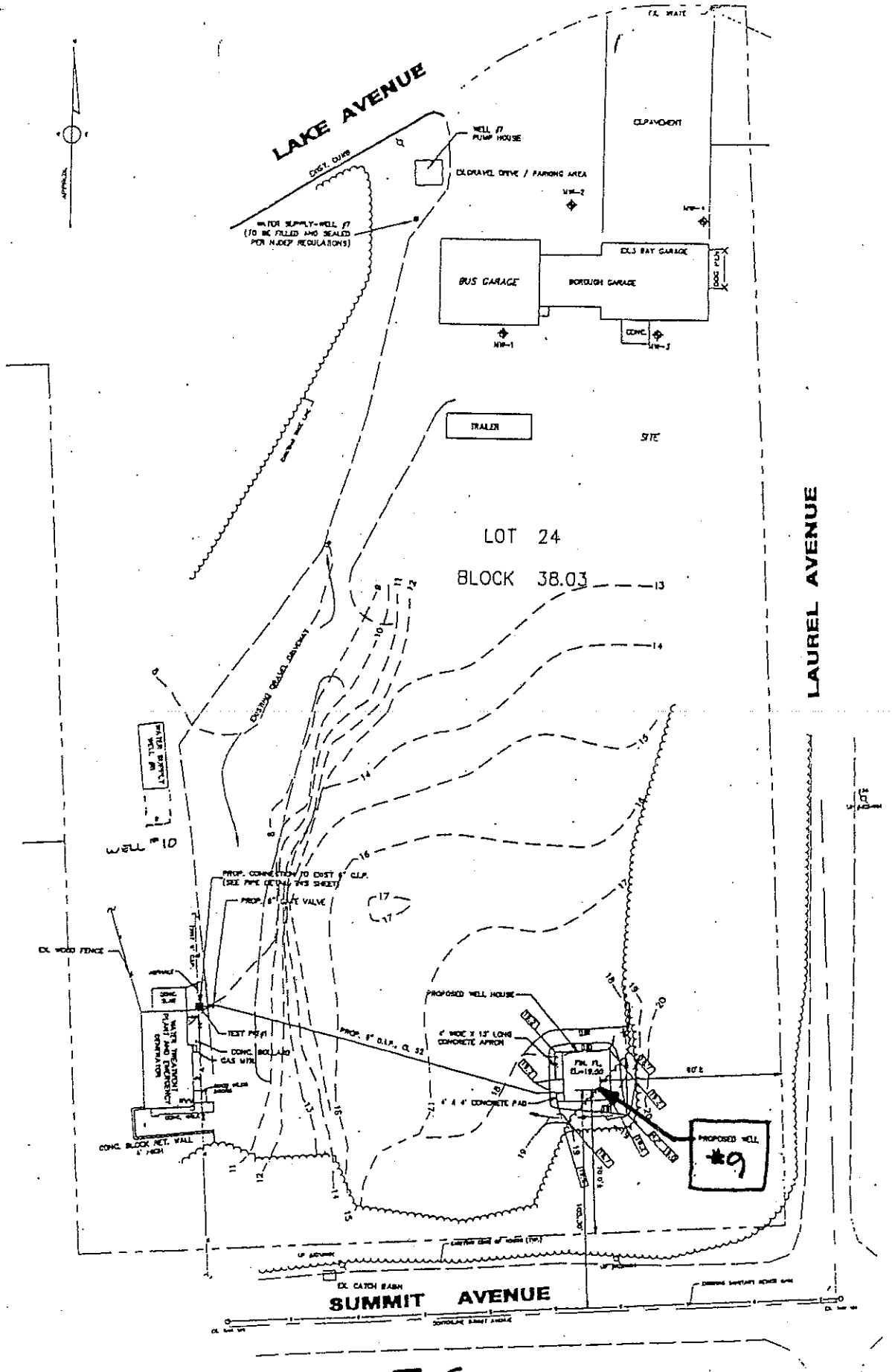


Figure 3
Construction of New Water Supply Well
Borough of Island Heights, Ocean County

SITE PLAN
WELL No. 9

CC: MFOD

James E. McGreevey
Governor

State of New Jersey

Department of Environmental Protection
Land Use Regulation Program
P O Box 439
501 East State Street
Trenton, NJ 08625-0439
Fax: (609) 292-8115
www.state.nj.us/dep/landuse

Bradley M. Campbell.
Commissioner

RECEIVED
JUN 25 2003
ODONNELL STANTON & ASSOC.
JUN 12 2003

Mr. John R. Berens, P.E.
O'Donnell, Stanton & Associates, Inc.
1705 Route 37 E.
Toms River, NJ 08753

Re: LURP File No.: 1510-03-0001.1 APD 030001
Project: Construction of Water Supply Well No. 9
Borough of Island Heights, Ocean County
NPR

Dear Mr. Berens:

This letter is in response to your request for a jurisdictional determination as referenced above. Potentially applicable statutes include Waterfront Development Act (N.J.S.A. 12:5-3 et seq.), Wetlands Act of 1970 (N.J.S.A. 13:9A-1 et. seq.) and the Coastal Area Facility Review Act, CAFRA, (N.J.S.A. 13:9-1 et. seq.). Based upon a review of information submitted, a site inspection conducted by Program staff on June 10, 2003 and a review of information as maintained on the Department's Geographic Information System the following statutes will apply:

( ) A Waterfront Development Permit will be required because:
- ( ) Work will be performed at or below (outshore) of the Mean High Water Line.
- ( ) Work will be performed within 500 feet of the Mean High Water Line.

(**x**) A Waterfront Development permit is not required.

Based on a review of the Coastal Wetlands Maps, the following determination is made:
(**x**) There are no mapped Coastal Wetlands on this site, no permit is required.
( ) Coastal Wetlands are mapped within 500 feet of this site. No activity is proposed at or below the Upper Wetlands Boundary and therefore no permit is required.

Based on a review of the submitted documentation, the Coastal Area Facility Review Act, CAFRA, **is not** applicable to the proposed construction of water supply well No. 9 as shown on sheet 2 of 7 entitled, "Borough of Island Heights, Construction of Water Supply Well No. 9, Site Plan, Soil Erosion & Sediment Control Plan, Ocean County, New Jersey", prepared by O'Donnel Stanton & Associates, Inc., dated June 14, 2001, revised through October 30, 2002..

This letter does not constitute a jurisdictional determination for the Freshwater Wetlands Protection Act Rules at N.J.A.C. 7:7A and the Flood Hazard Area Control Act Rules at N.J.A.C. 7:13-1.1 et seq. Assistance with the applicability of these statutes is available from this Programs County# County Region group which may be contacted at the above address.

This letter does not relieve the applicant of the responsibility of obtaining any other required State, Federal or local permits or approvals as required by law and is based on the information submitted in accordance with existing regulation. This determination shall be considered null and void if the submitted information is incorrect, site conditions or regulations change.

Should you have any questions regarding this determination, please contact Charles Welch of my staff me at the above address or by telephone at (609) 292-8262, email: charlie.welch@dep.state.nj.us. Requests for assistance must include the file number as found at the top of page one of this determination.

Sincerely,

Robert N. Cubberley
Environmental Scientist 2
Land Use Regulation Program

c: Andrew Heyl, Region Supervisor, LURP
Bureau of Enforcement, Toms River
Borough of Island Heights Construction Official
Borough of Island Heights Zoning Officer
Walter Olivant, Municipal and Finance Construction Element

File No. 08S-1013

APPRAISAL OF

LOCATED AT:

133 Van Sant Avenue
Island Heights Boro, NJ 08732

CLIENT:

Borough of Island Heights
One Wanamaker Municipal Complex
Island Heights, NJ 08732-0797

AS OF:

October 9, 2008

BY:

Gerald R. Malanga SRA, SCRREA
Senior Appraiser

BENCHMARK APPRAISAL, INC.
Real Estate Appraisers/Consultants

Fountain 9 Mall
2153 Highway 35, Suite 4
Sea Girt, New Jersey 08750
(732) 974-9333 Fax: 732-974-3131
orders@benchmarkappraisal.com

October 14, 2008

Mr. Adrian Fanning, Borough Administrator
Borough of Island Heights
One Wanamaker Municipal Complex
Island Heights, NJ 08732-0797

Dear Mr. Fanning:

In accordance with your recent request, I made an inspection of the property described herein, which is located at 123 Van Sant Avenue, Island Heights Borough, Ocean County, and State of New Jersey; for the purpose of completing an appraisal report of the property's market value as of October 9, 2008.

I submit herewith my appraisal report, together with an analysis of data and the reasoning underlying the conclusions derived in my investigation.

The property or properties can be described more fully as being known as Lot 13, in Block 25, as shown on the municipal tax map Borough of Island Heights, County of Ocean, and State of New Jersey.

Market Value is the most probable price, which a property should bring in a competitive and open market, under all conditions requisite to fair sale, the buyer and seller each acting prudently, knowledgeably, and assuming the price is not affected by undue stimulus. Implicit in this definition is the consummation of a sale as of a specified date and the passing of title from seller to buyer under conditions whereby:

1. buyer and seller are typically motivated;
2. both parties are well informed or well advised, and acting in what they consider their best interests;
3. a reasonable time is allowed for exposure in the open market;
4. payment is made in terms of cash in United States dollars or in terms of financial arrangements comparable thereto; and
5. the price represents the normal consideration for the property sold unaffected by special or creative financing or sales concessions granted by anyone associated with the sale.

(Source: Uniform Standards of Professional Practice by the Appraisal Foundation)

After careful consideration and analyzation of the data presented herein, I estimate the market value of the herein-described property or properties, as of October 9, 2006, 2008, to be as follows:

$1,140,000 – With Final Subdivision Approval

ONE MILLION ONE HUNDRED FORTY THOUSAND DOLLARS

$1,090,000 – Without Subdivision Approval

ONE MILLION NINETY THOUSAND DOLLARS

I trust if you have any questions, you will feel free to call me.

Respectfully,

Gerald R. Malanga, SRA, SCRREA
Senior Appraiser

Land Appraisal Report

File No. 08S-1013

PURPOSE

The purpose of this appraisal report is to provide the client with a credible opinion of the defined value of the subject property, given the intended use of the appraisal.

Client Name/Intended User **Borough of Island Heights** E-mail

Client Address **One Wanamaker Municipal Complex** City **Island Heights** State **NJ** Zip **08732-0797**

Additional Intended User(s) **N/A**

Intended Use **The intended use of appraisal is aid the Boro of Island Heights in making a decision as to the possible dispostion of boro owned property.**

SUBJECT

Property Address **133 Van Sant Avenue** City **Island Heights Boro** State **NJ** Zip **08732**

Owner of Public Record **Boro of Island Heights** County **Ocean**

Legal Description **Block:25, Lot:13**

Assessor's Parcel # **11-00032-0000-00004** Tax Year **2007** R.E. Taxes $ **8,314.06**

Neighborhood Name **N/A** Map Reference **HAG 3 O-10** Census Tract **7260 MD 20764**

Property Rights Appraised [X] Fee Simple [ ] Leasehold [ ] Other (describe)

SALES HISTORY

My research [ ] did [X] did not reveal any prior sales or transfers of the subject property for the three years prior to the effective date of this appraisal.

Prior Sale/Transfer: Date **N/A** Price **N/A** Source(s) **N/A**

Analysis of prior sale or transfer history of the subject property (and comparable sales, if applicable) **The subject property has not transferred title within the past three years. The subject has not been listed for sale within the past year.**

Offerings, options and contracts as of the effective date of the appraisal **None**

NEIGHBORHOOD

Neighborhood Characteristics				One-Unit Housing Trends				One-Unit Housing		Present Land Use %	
Location	[ ] Urban	[X] Suburban	[ ] Rural	Property Values	[ ] Increasing	[ ] Stable	[X] Declining	PRICE	AGE	One-Unit	90% %
Built-Up	[X] Over 75%	[ ] 25-75%	[ ] Under 25%	Demand/Supply	[ ] Shortage	[ ] In Balance	[X] Over Supply	$(000)	(yrs)	2-4 Unit	1% %
Growth	[ ] Rapid	[X] Stable	[ ] Slow	Marketing Time	[ ] Under 3 mths	[X] 3-6 mths	[ ] Over 6 mths	225 Low	New	Multi-Family	%
								2.75 M High	125+-	Commercial	4% %
								300-400 Pred.	40-50	Other	%

Neighborhood Boundaries **Route #37 forms the north boundary and the Toms River forms the south and eastern boundary. The Toms River Twp. border forms the west boundary.**

Neighborhood Description **See Attached Addendum**

Market Conditions (including support for the above conclusions) **Mortgage interest rates remained low but values in this area have declined over the past 1-2 years. Demand has lessened significantly. Financing off all types is available. However, strong credit and larger down payments are much more necessary than over the previous 4-5 years.**

SITE

Dimensions **150 X 212.50** Area **31875 Sq.Ft.** Shape **Rectangular** View **Average**

Specific Zoning Classification **MR** Zoning Description **Medium Density Residential Minimum frontage-75'**

Zoning Compliance [X] Legal [ ] Legal Nonconforming (Grandfathered Use) [ ] No Zoning [ ] Illegal (describe)

Highest and best use of the subject property **Refer to the attached addendum**

Utilities	Public	Other (describe)		Public	Other (describe)	Off-site Improvements—Type	Public	Private
Electricity	[X]	[ ]	Water	[X]	[ ]	Street **Macadam**	[X]	[ ]
Gas	[X]	[ ]	Sanitary Sewer	[X]	[ ]	Alley **None**	[ ]	[ ]

Site Comments **Refer to the attached addendum.**

MARKET DATA ANALYSIS

ITEM	SUBJECT	COMPARABLE NO. 1		COMPARABLE NO. 2		COMPARABLE NO. 3	
Address	133 Van Sant Avenue Island Heights Boro	182 Van Sant Avenue Island Heights Boro		16 Park Avenue Island Heights Boro		152 Ocean Avenue Island Heights Boro	
Proximity to subject		Same street		+-.5 Miles SE		+-.25 Miles SE	
Sales Price	$ N/A		$ 350,000		$ 300,000		$ 322,500
Price $ / sf.	N/A		18.66		38.26		35.98
Data Source	Inspection	MLS/Fares		MLS/Fares/Broker		MLS/Fares	
Date of Sale and Time Adjustment	DESCRIPTION	DESCRIPTION	+(-) Adjust.	DESCRIPTION	+(-) Adjust.	DESCRIPTION	+(-) Adjust.
	October 2008	10/18/07-11/07	-21,000	11/19/07-2/08	-15,000	4/21/08-6/08	-9,675
Location	Good	Good		Good		Good	
Site/View	75X106/Avg.	100X187/Avg.	-35,000	75Xirr./Avg		100Xirr./Avg	
Topography	Level/Pt. Wood	Level/Pt. Wood		Level/Pt. Wood		Level/Cleared	
Mun Utilities	Yes	Yes		Yes		Yes	
Demolition	None	Yes	10,000	None		None	
Improvements	None	None		None		Yes	-30,000
Sales or Financing Concessions		Cash		Cash		Conv. Mtg.	
Net Adj. (Total)		[ ] + [X] -	$ 46,000	[ ] + [X] -	$ 15,000	[ ] + [X] -	$ 39,675
Indicated Value of Subject		Net Adj. -13.1% Gross Adj. 18.9%	$ 304,000	Net Adj. -5.0% Gross Adj. 5.0%	$ 285,000	Net Adj. -12.3% Gross Adj. 12.3%	$ 282,825

Summary of Sales Comparison Approach **Refer to the attached addendum.**

RECONCILIATION

This appraisal is made [ ] "as is," [X] subject to the following: **The appraised value assumes that a subdivision of the subject site has been granted and that all four lots are vacant and would be considered buildable by Boro of Island Heights.**

Based on the scope of work, assumptions, limiting conditions and appraiser's certification, my (our) opinion of the defined value of the real property that is the subject of this report is $ **1,140,000** as of **October 9, 2008**, which is the effective date of this appraisal.

ADDENDUM

Client: Borough of Island Heights	File No.: 08S-1013	
Property Address: 133 Van Sant Avenue	Case No.:	
City: Island Heights Boro	State: NJ	Zip: 08732

Neighborhood Description
The subject property is located in a residential area which is comprised of various size and style single family homes. Many of the homes in the area are older colonial style homes. All residential amenities, including schools and shopping, are readily available. The local grammar school is within walking distance of the subject. No adverse neighborhood conditions were noted. Marketability in this area is good.

Highest and Best Use
The subject is located in the MD (medium density) Residential District. The MD district requires a minimum frontage of 75' and a minimum lot size of 7500 sf.. As indicated previously the subject has frontage of 150' on two streets. The site contains 31,875 sf.. When taking into account the requirements of the MD zone it is readily apparent that the subject site can be subdivided into four 7,969+- sf. lots each with 75' of frontage. Two lots would front on Van Sant Avenue and two lots would front on Summit Avenue.

As indicated the boro water tower is located on the subject site. The client has asked the appraiser to value the subject property as if the site is 100% vacant. Therefore no value has been given to the improvements presently on the site and no cost to remove/demolish the existing improvements has been considered.

Site Comments
The subject site is a partially wooded parcel of vacant land which has approximately 150' of frontage on the north side of Van Sant Avenue and approximately 150' of frontage on Summit Avenue. The subject site extends to an approximate depth of 212.5' and contains approximately 31,875 sf. or .73 acres. Currently the subject site is improved with a wooded fence which extends across the portion of the subject property which fronts on Van Sant Avenue. The municipal water tower is also located on the site.

The subject site is basically level and partially wooded. It does slope slightly downwards towards the area which fronts on Summit Avenue. The front portion which fronts on Van Sant Ave. is mostly cleared while the rear half of the site is fully wooded.

All municipal utilities, including water and sewers, are available to the subject site. There are no sidewalks or curbs which is typical of the area and has no adverse affect on the value or marketability of the site. Both Van Sant and Summit Avenues are asphalt paved.

Comments on Sales Comparison
As indicated on the appraisal values in this area have declined over the past year. Downward time adjustments have been applied to the sales from the reported contract dates of the comparables through the valuation date of this report. Downward time adjustments have been applied at an approximate rate of .5% per month. It should be noted that the decline in values for single family homes in this area appears to be greater than that of vacant land. This is due in part to the lack of available vacant land for sale, especially in the boro of Island Heights.

The site adjustments take into account the overall size and utility of the comparable sites when compared to the same for the subject site. Sales 2 and 3 are more irregular in shape when compared to the subject but are very similar in terms of overall lot size therefore no site adjustment was deemed necessary for these sales.

Sale 1 was improved with a +-1350 sf. single family home at the time it was purchased. The improvements were subsequently demolished in order for a new home to be built. This home was purchased for its site value. This sale has been adjusted approximately $10,000 to reflect the estimated cost to demolish the existing improvements.

The lack of sales of vacant land in Island Heights necessitated the use of one improved sale in the analysis. The estimated contributory value of the improvements was than deducted from the sales price to determine the site value. This is known as the "abstraction method" of land valuation. Sale 3 is improved with a +-1,000 sf. ranch style home. The depreciated contributory value of the improvements is estimated to be $30,000. The $30,000 was than deducted from the sales price of $322,500 to reflect an estimated site value (taking into account all other adjustments) of $282,825.

Client: Borough of Island Heights		File No.: 08S-1013
Property Address: 133 Van Sant Avenue		Case No.:
City: Island Heights Boro	State: NJ	Zip: 08732

All other adjustments are considered self explanatory and are indicated on the grid.

Conclusion:

The indicated range of value for the typical lot after adjustments is from $282,825 to $304,000. Sales 1 and 2 are sales of vacant land while sale 3 is the most recent sale. As no one sale can be deemed a superior indicator of value all three sales have been considered when estimating the market value of the subject property.

As indicated in the Highest and Best Use analysis there is the potential to subdivide the subject site into four building lots, each with 75' of frontage and extending to an approximate depth of 106'. Two of the lots would front on Van Sant Avenue and two of the lots would front on Summit Avenue.

In order to determine the value of the total subject site the appraiser has valued a typical 75' X 106' vacant lot. The appraiser has estimated the value of one lot at $285,000. Therefore, the estimated value of the subject site as of October 9, 2008 is (4 X $285,000) $1,140,000. This value assumes that subdivision approvals have been granted by the Boro of Island Heights.

The client has also requested that the subject property be valued "as is" without subdivision approval. Any potential purchaser of the subject property would expect to receive a "discount" if the property was to be purchased without subdivision approval. This is due to the added time and cost associated with applying for a subdivision of the subject site. These costs would include, but are not limited to title searches, surveys, legal and engineering fees and other miscellaneous costs associated with such an undertaking. There is also the value associated with the time necessary to complete the foregoing items. The appraiser has estimated the cost of the above to be $50,000. Therefore, the estimated value of the subject property as is, without subdivision approval, is ($1,140,000-$50,000) $1,090,000.

It should be noted that both of the foregoing value conclusions assume that the subject property is vacant. The client has indicated that the water tower, currently on the site, will be moved and the site will be vacant when potentially offered for sale. Therefore, no value has been given to the water tower and no consideration of the cost to remove the tower has been considered when estimating the market value of the subject property.

Scope of Work, Assumptions and Limiting Conditions

Scope of work is defined in the Uniform Standards of Professional Appraisal Practice as " the type and extent of research and analyses in an assignment." In short, scope of work is simply what the appraiser did and did not do during the course of the assignment. It includes, but is not limited to: the extent to which the property is identified and inspected, the type and extent of data researched, the type and extent of analyses applied to arrive at opinions or conclusions.

The scope of this appraisal and ensuing discussion in this report are specific to the needs of the client, other identified intended users and to the intended use of the report. This report was prepared for the sole and exclusive use of the client and other identified intended users for the identified intended use and its use by any other parties is prohibited. The appraiser is not responsible for unauthorized use of the report.

The appraiser's certification appearing in this appraisal report is subject to the following conditions and to such other specific conditions as are set forth by the appraiser in the report. All extraordinary assumptions and hypothetical conditions are stated in the report and might have affected the assignment results.

1. The appraiser assumes no responsibility for matters of a legal nature affecting the property appraised or title thereto, nor does the appraiser render any opinion as to the title, which is assumed to be good and marketable. The property is appraised as though under responsible ownership.

2. Any sketch in this report may show approximate dimensions and is included only to assist the reader in visualizing the property. The appraiser has made no survey of the property.

3. The appraiser is not required to give testimony or appear in court because of having made the appraisal with reference to the property in question, unless arrangements have been previously made thereto.

4. Neither all, nor any part of the content of this report, copy or other media thereof (including conclusions as to the property value, the identity of the appraiser, professional designations, or the firm with which the appraiser is connected), shall be used for any purposes by anyone but the client and other intended users as identified in this report, nor shall it be conveyed by anyone to the public through advertising, public relations, news, sales, or other media, without the written consent of the appraiser.

5. The appraiser will not disclose the contents of this appraisal report unless required by applicable law or as specified in the Uniform Standards of Professional Appraisal Practice.

6. Information, estimates, and opinions furnished to the appraiser, and contained in the report, were obtained from sources considered reliable and believed to be true and correct. However, no responsibility for accuracy of such items furnished to the appraiser is assumed by the appraiser.

7. The appraiser assumes that there are no hidden or unapparent conditions of the property, subsoil, or structures, which would render it more or less valuable. The appraiser assumes no responsibility for such conditions, or for engineering or testing, which might be required to discover such factors. This appraisal is not an environmental assessment of the property and should not be considered as such.

8. This appraisal report should not be used to disclose the condition of the property as it relates to the presence/absence of defects. The client is invited and encouraged to employ qualified experts to inspect and address areas of concern. If negative conditions are discovered, the opinion of value may be affected.

9. Appraisals involving hypothetical conditions related to completion of new construction, repairs or alteration are based on the assumption that such completion, alteration or repairs will be competently performed.

Additional Comments Related To Scope Of Work, Assumptions and Limiting Conditions

The appraised value is subject to the hypothetical assumption that the water tower would be removed and subdivision approval would be granted by the Boro of Island Heights to divide the subject site into four building lots.

Appraiser's Certification

The appraiser(s) certifies that, to the best of the appraiser's knowledge and belief:

1. The statements of fact contained in this report are true and correct.
2. The reported analyses, opinions, and conclusions are limited only by the reported assumptions and limiting conditions and are the appraiser's personal, impartial, and unbiased professional analyses, opinions, and conclusions.
3. Unless otherwise stated, the appraiser has no present or prospective interest in the property that is the subject of this report and has no personal interest with respect to the parties involved.
4. The appraiser has no bias with respect to the property that is the subject of this report or to the parties involved with this assignment.
5. The appraiser's engagement in this assignment was not contingent upon developing or reporting predetermined results.
6. The appraiser's compensation for completing this assignment is not contingent upon the development or reporting of a predetermined value or direction in value that favors the cause of the client, the amount of the value opinion, the attainment of a stipulated result, or the occurrence of a subsequent event directly related to the intended use of this appraisal.
7. The appraiser's analyses, opinions, and conclusions were developed, and this report has been prepared, in conformity with the Uniform Standards of Professional Appraisal Practice.
8. Unless otherwise noted, the appraiser has made a personal inspection of the property that is the subject of this report.
9. Unless noted below, no one provided significant real property appraisal assistance to the appraiser signing this certification. Significant real property appraisal assistance provided by:

Additional Certifications:

Definition of Value: [X] Market Value [ ] Other Value: _____

Source of Definition: _____

ADDRESS OF THE PROPERTY APPRAISED:
133 Van Sant Avenue
Island Heights Boro, NJ 08732
EFFECTIVE DATE OF THE APPRAISAL: October 9, 2008
APPRAISED VALUE OF THE SUBJECT PROPERTY $ 1,140,000

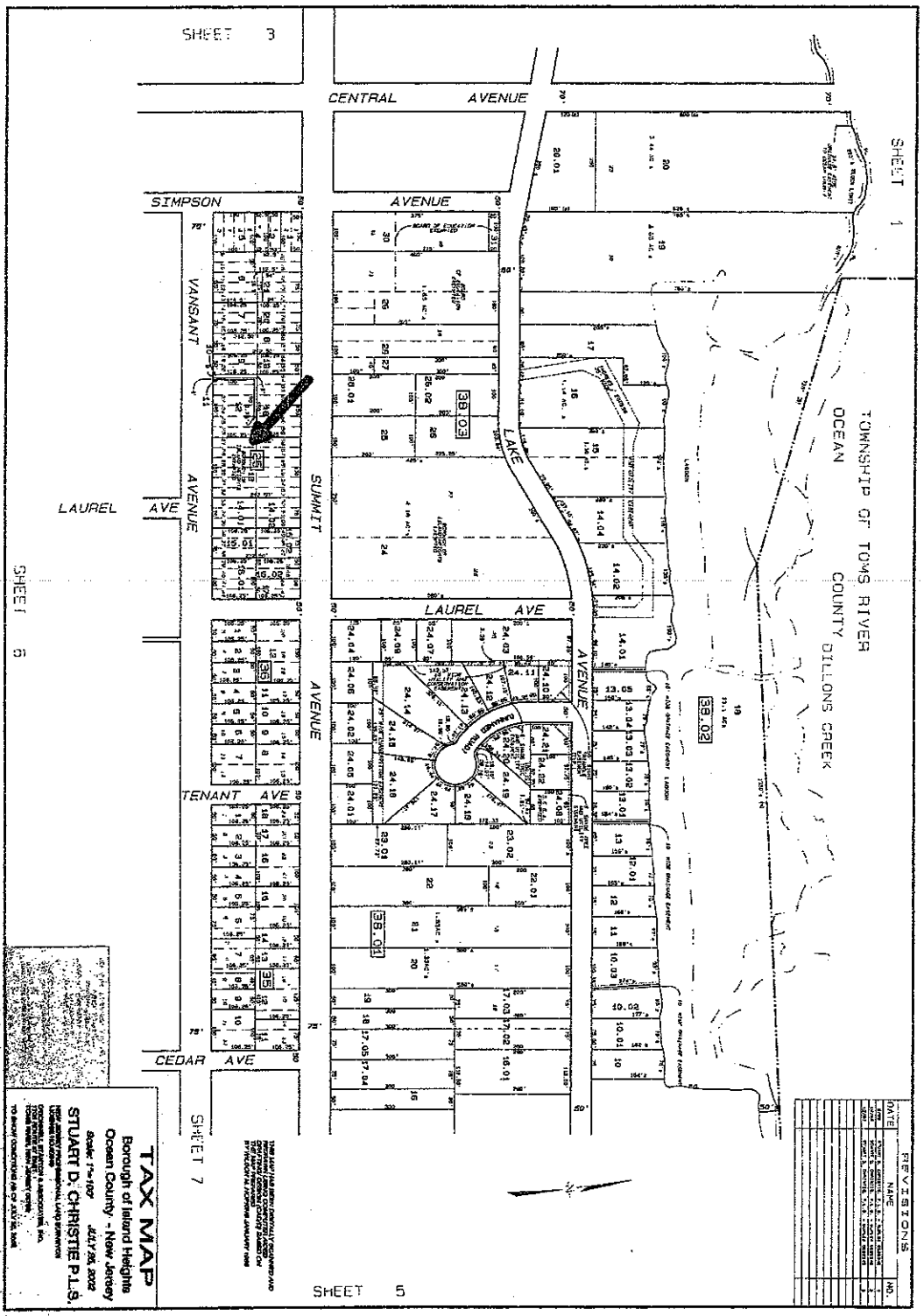
APPRAISER

Signature: _____
Name: Gerald R. Malanga SRA, SCRREA
State Certification # 42RC000381000
or License # _____
or Other (describe): _____ State #: _____
State: NJ.
Expiration Date of Certification or License: 12/31/09
Date of Signature and Report: October 14, 2008
Date of Property Viewing: October 9, 2008
Degree of property viewing:
[X] Did personally view [ ] Did not personally view

SUPERVISORY APPRAISER

Signature: _____
Name: _____
State Certification # _____
or License # _____
State: _____
Expiration Date of Certification or License: _____
Date of Signature: _____
Date of Property Viewing: _____
Degree of property viewing:
[ ] Did personally view [ ] Did not personally view

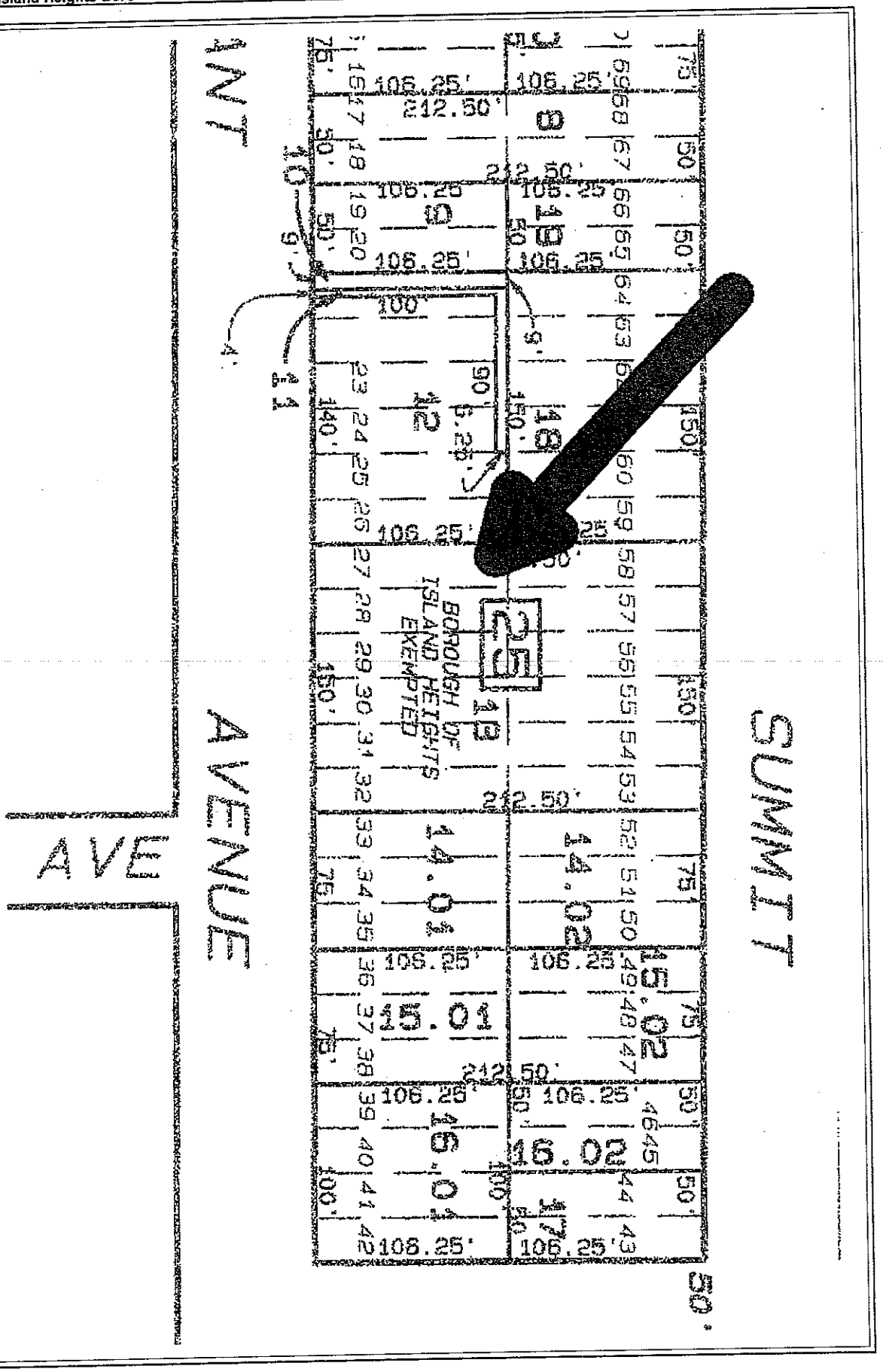
Client: **Borough of Island Heights**	File No.: **08S-1013**
Property Address: **133 Vansant Avenue**	Case No.:
City: **Island Heights Boro**	State: **NJ** Zip: **08732**



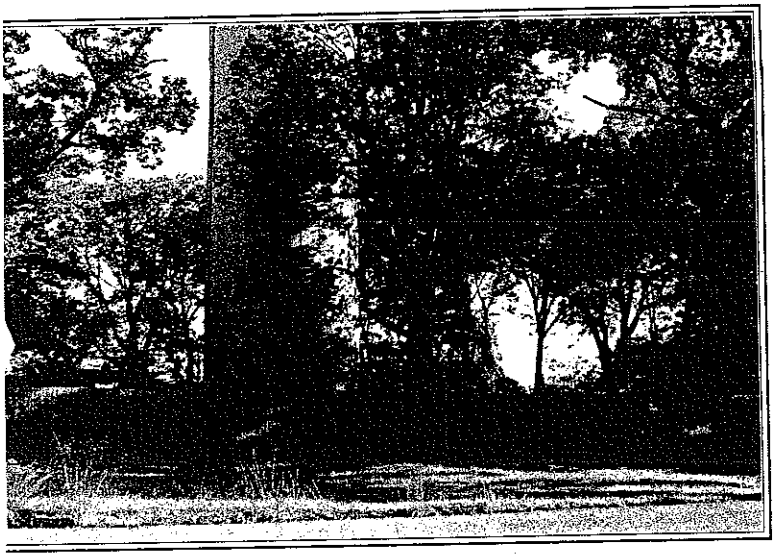
Client: **Borough of Island Heights** File No.: **08S-1013**

Property Address: **133 Vansant Avenue** Case No.:

City: **Island Heights Boro** State: **NJ** Zip: **08732**



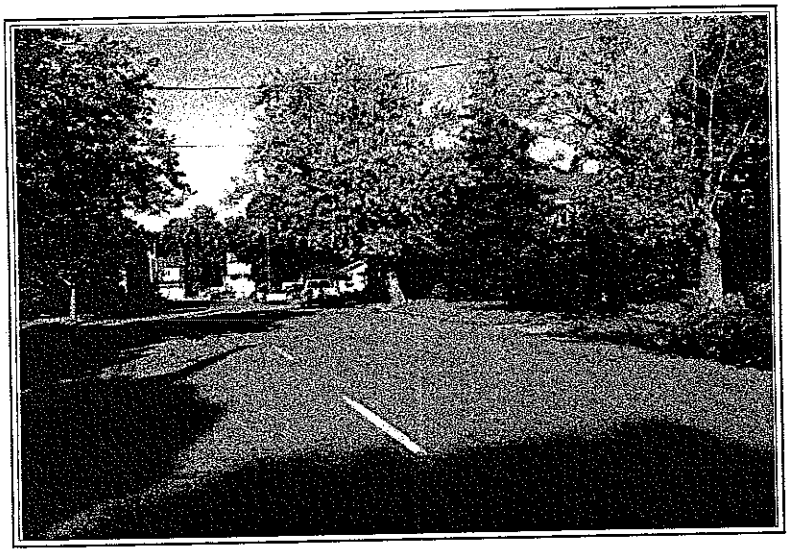
Client: Borough of Island Heights
Property Address: 133 Van Sant Avenue
City: Island Heights Boro State: NJ Zip: 08732
File No.: 08S-1013
Case No.:



FRONT VIEW OF SUBJECT PROPERTY

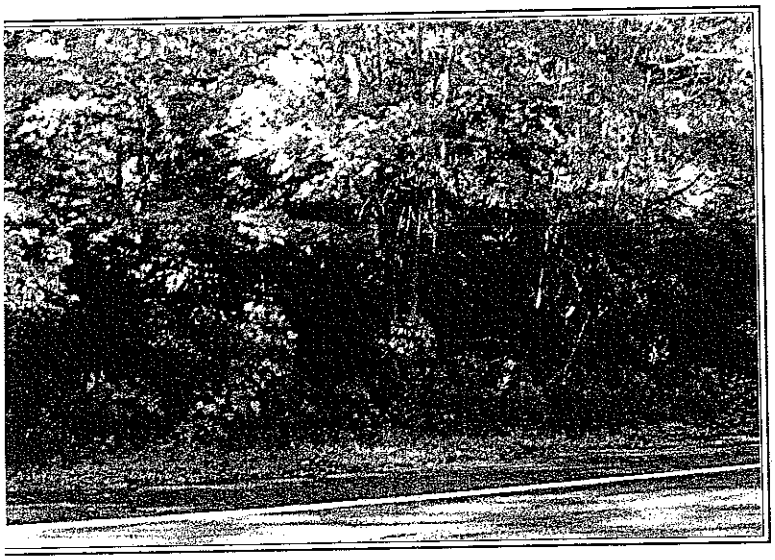
Appraised Date: **October 9, 2008**
Appraised Value: **$ 1,140,000**

REAR VIEW OF SUBJECT PROPERTY

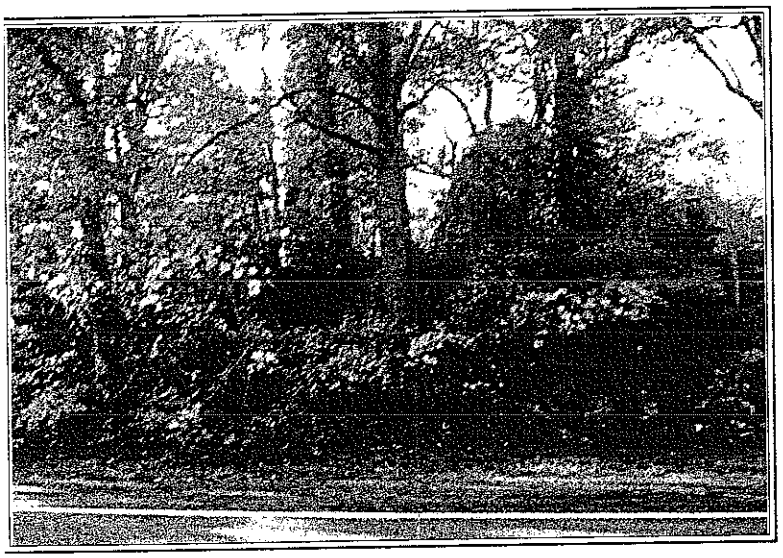


STREET SCENE

Client: Borough of Island Heights
Property Address: 133 Van Sant Avenue
City: Island Heights Boro State: NJ Zip: 08732
File No.: 08S-1013
Case No.:



View of subject site fronting on Summit Avenue

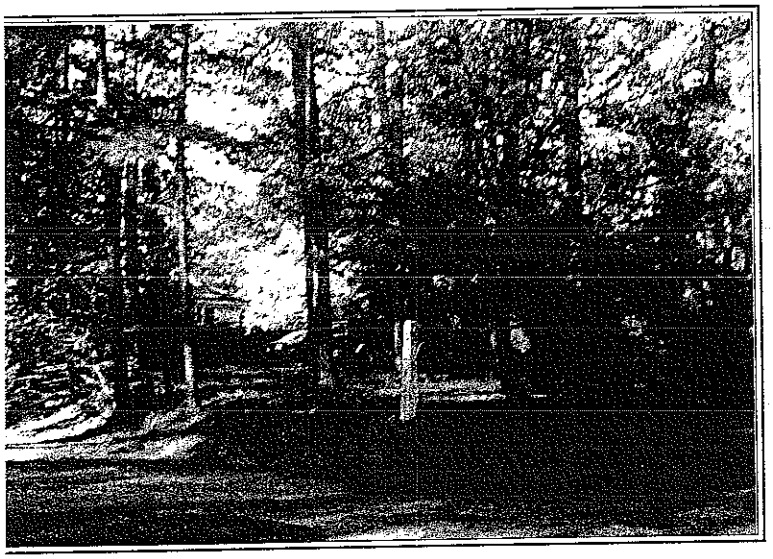


View of subject fronting on Summit Avenue

ient: Borough of Island Heights | File No.: 08S-1013
operty Address: 133 Van Sant Avenue | Case No.:
ty: Island Heights Boro | State: NJ | Zip: 08732

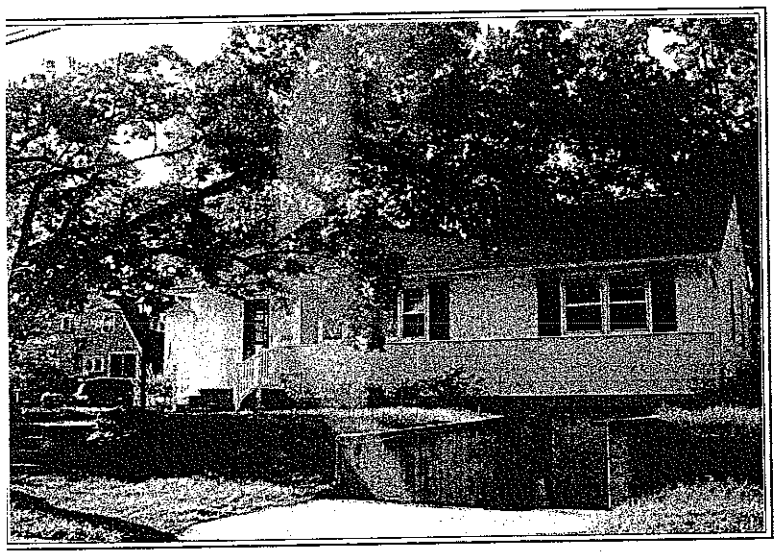
COMPARABLE SALE #1

182 Van Sant Avenue
Island Heights Boro
Sale Date: **10/18/07-11/07**
Sale Price: $ **350,000**



COMPARABLE SALE #2

16 Park Avenue
Island Heights Boro
Sale Date: **11/19/07-2/08**
Sale Price: $ **300,000**



COMPARABLE SALE #3

152 Ocean Avenue
Island Heights Boro
Sale Date: **4/21/08-6/08**
Sale Price: $ **322,500**

QUALIFICATIONS
OF
GERALD R. MALANGA, SRA
(SCRREA #42RC00115600)

EMPLOYMENT

01/88—Present	Senior Appraiser Benchmark Appraisal, Inc. Sea Girt, New Jersey
08/87—12/87	Senior Appraiser City Appraisal Services, Inc. Lakewood, New Jersey
06/86—08/87	Regional Appraiser City Appraisal Services, Inc. Lakewood, New Jersey
07/84—06/86	Appraiser City Appraisal Services, Inc. Lakewood, New Jersey

EDUCATION

1980—1981	Stockton State College B.S. degree in Business Administration/Marketing. Fields of study include advanced courses in management strategies, marketing management, sales force management and marketing research. Also courses in finance and retailing
1979—1980	Ocean County College Basic Business and Marketing courses, also business law, accounting and economics
1977—1978	Rutgers University Basic study in pre-med curriculum

Appraisal Institute (AI) formerly AIREA & SREA

12/05	AI – Online Cool tools: New Technology for Real Estate Appraisers (7 Hrs.)
11/05	AI – USPAP 7-Hour Update (7 Hrs)
08/05	School of Real Estate Appraising, Inc. – The New Fannie Mae Appraisal Reports (7 Hrs)
10/04	AI – 2nd Annual Fall Conference (6 Hrs)
09/04	AI – 9th Annual September Symposium (7.5 Hrs)
10/03	AI – Business Practices & Ethics – Course 420 (7 Hrs)
10/03	AI – USPAP – Standards & Ethics for Professionals – Course 400 (7.5 Hrs)
09/03	AI – September Symposium (7.5 Hrs)
09/02	AI – September Symposium (7.5 Hrs)
12/01	McKissock Data Systems – Information Technology & The Appraiser (8 Hrs)
10/01	AI – September Symposium (7.5 Hrs)

EDUCATION (Continued)

06/01	AI – 65th Annual Princeton Conference (7.5 Hrs)
09/00	AI – 5th Annual September Symposium (7.5 Hrs)
12/99	Business Learning Center, Inc. – HUDFHA Appraisal Using New HUD (7 Hrs)
10/99	AI – Standards of Professional Practice Course 430-C
06/99	AI – Annual Princeton Conference
06/98	AI – Annual Princeton Conference
10/97	AI – Standards of Professional Practice – Parts A & B
03/95	National Association of Independent Fee Appraisers – Basic Residential HUD Appraisal Requirements
09/94	AI – Understanding Limited Appraisals/Residential
06/94	AI – 58th Annual Princeton Appraisal Conference
09/93	AI – 2nd Annual Appraisal Symposium
06/93	AI – Recent Additions to Uniform Appraisal Standards
09/92	AI – Changing Values in a Changing World – Appraisal Seminar
06/92	AI – 56th Annual Princeton Appraisal Conference
09/90	AI – Licensing/Certification Update Exam Prep Seminar
04/89	AI – Environmental Issues/Fannie Mae Guidelines
09/88	Appraisal Symposium
02/88	Standards of Professional Practice Course
04/86	Course 201 – Principles of Income Property Valuation
12/85	Course 102 – Applied Residential Property Valuation
06/84	Course 101 – Introduction to Appraising Real Property

EXPERT TESTIMONY

Superior Court of New Jersey (Judge Sheldon R. Franklin – Dover Township, NJ)
Ocean County Board of Taxation and Municipal Planning Boards

PROFESSIONAL AFFILIATIONS

Director, Appraisal Institute – Central New Jersey Chapter

Affiliate Member, South Monmouth Board of Realtors

APPRAISAL DESIGNATION

Senior Residential Member (SRA), Appraisal Institute

LICENSES

State Certified Residential Real Estate Appraiser

THIS DOCUMENT IS PRINTED ON WATERMARKED PAPER, WITH A MULTI-COLORED BACKGROUND AND MULTIPLE SECURITY FEATURES. PLEASE VERIFY AUTHENTICITY.

State Of New Jersey
New Jersey Office of the Attorney General
Division of Consumer Affairs

THIS IS TO CERTIFY THAT THE

Real Estate Appraisers Board

HAS CERTIFIED

GERALD R. MALANGA
26 PERSHING BLVD
LAVALLETTE NJ 08735-2831

FOR PRACTICE IN NEW JERSEY AS A(N): Cert Residential Appraiser

11/23/2007 TO 12/31/2009
VALID

42RC00115600
LICENSE/REGISTRATION/CERTIFICATION #

Signature of Licensee/Registrant/Certificate Holder

ACTING DIRECTOR

New Jersey Office of the Attorney General
Division of Consumer Affairs
THIS IS TO CERTIFY THAT THE
Real Estate Appraisers Board
HAS CERTIFIED
GERALD R MALANGA
Cert Residential Appraiser

11/23/2007 TO 12/31/2009
VALID

SIGNATURE

42RC00115600
License/Registration/Certificate #

ACTING DIRECTOR