

A. Overview (See Map No. 3)

The Castleton/Schodack waterfront area is an eight mile long, sparsely developed strip on the east side of the Hudson River. Virtually all of the riverfront is undeveloped and isolated from the rest of the waterfront area by a high speed rail line. The Village of Castleton-on-Hudson, approximately in the center of the waterfront area, is the only urbanized area and the only place where there is direct contact with the River. Although within five miles of downtown Albany, the waterfront area is a quiet backwater containing wildlife habitats, wetlands and agricultural uses (see Photo 1). Urban development has by-passed it, following Route 9 to the east rather than the river.

Chapter B, below, describes each of the natural and man-made features of the waterfront area and analyzes its implications for waterfront policy decisions. Chapter C highlights the major issues identified during the inventory and analysis stage, as well as those revealed during the many meetings held and by the questionnaire which was distributed.

B. Inventory and Analysis

Field surveys, previous studies, interviews and published data were all used to assemble an inventory of existing conditions and features in the waterfront area. Base maps at several different scales were prepared in order to map the data, and photographs were taken to record selected images. (Exhibit II-A contains all photographs referred to in this section.) The results of this inventory and analysis process are presented below and on the accompanying maps.

1. Existing Land and Water Use

a. Land Use Patterns (See Maps 3A and 3B)

The basic land use pattern in the waterfront area is quite clear and pronounced. The Village of Castleton -- a compact urban settlement with a mixture of residential types, businesses, industry and community facilities -- is situated at the point where the Hudson River, Route 9J and Route 150 all come together (see Photos 2 and 3). Schodack Landing, near the southern Town boundary, is a residential hamlet along Route 9J. The remainder of the waterfront area is either sparse rural development, agricultural lands, or vacant wetlands or woodlands.

One of the most important factors affecting use of the waterfront area is the ownership pattern. Of the eight miles of riverfront, New York State owns four -- the southern half of the Town's waterfront acquired for the as yet undeveloped Castleton Island State Park. The northernmost water frontage, the two mile long Campbell Island, is comprised of only four parcels. Thus, three-quarters of the total riverfront is controlled by five property owners.

b. Water-dependent Uses

The only water-dependent uses are located in or adjacent to the Village of Castleton. The many ice houses which once lined the riverfront in the Town have long since disappeared. Two private recreation oriented uses are situated on man-made land west of the railroad. The Castleton Boat Club (see Photo 4) is a private membership club which has docking space and a boat launch for members. It also provides some transient docking space and use of a winch for raising and lowering masts before or after trips through the State Canal System to the north. The boat club site is small and parking is limited. A new marine sales establishment opened in 1985 (see Photo 5) -- one of the few water dependent uses in many years and, perhaps, a harbinger of increased waterfront activity. At the north end of the Village, Fort Orange Paper Company (see Photo 6) was established because of the supply of water for energy from the Moordener Kill. The related disposal of effluent was a problem in the past until on-site treatment was provided. The only other water-dependent use is the Village's sewage treatment plant on Cow Island.

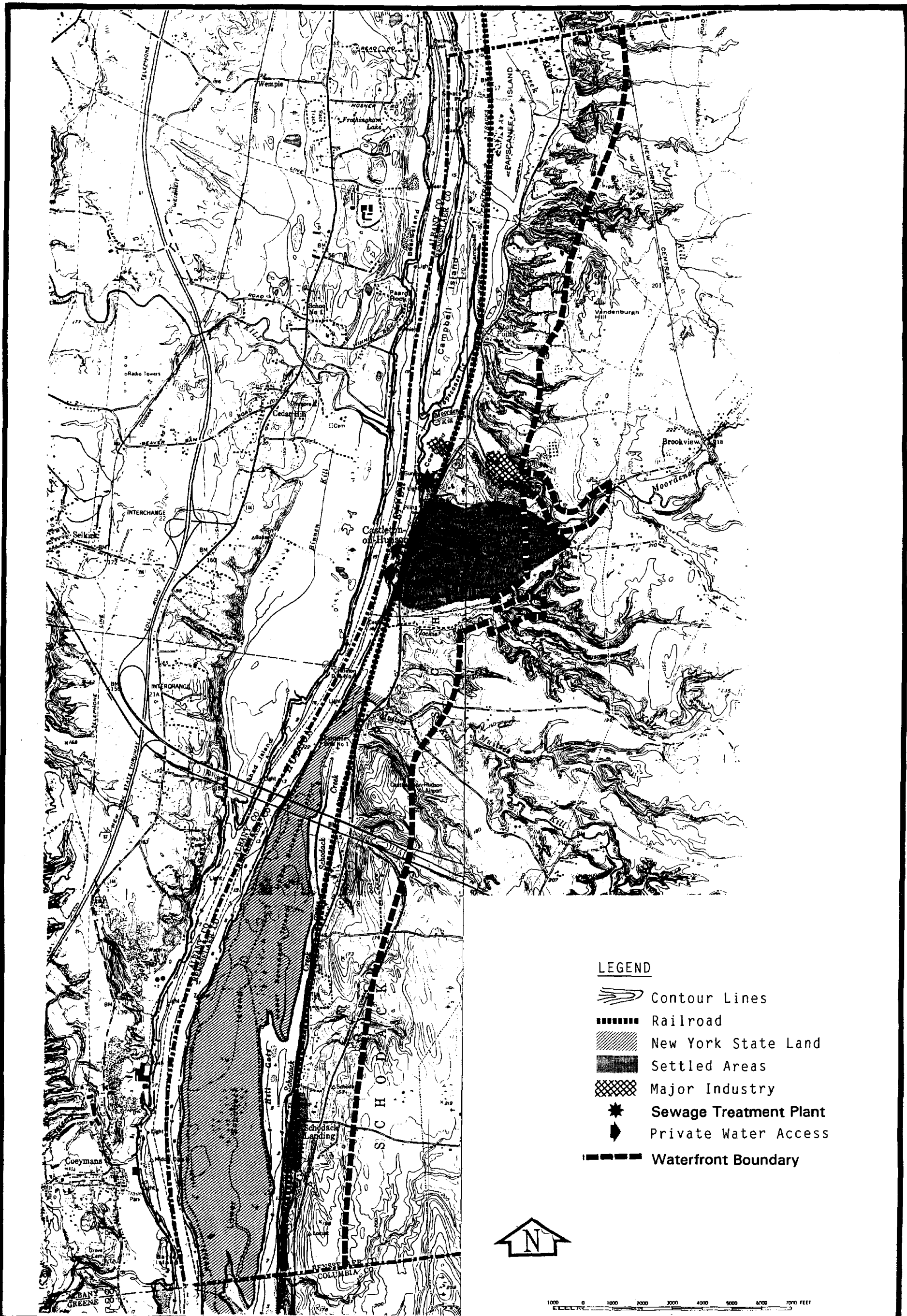
c. Underutilized Sites

Much of the waterfront area is virtually unused, due in large part to a combination of ownership patterns, access constraints and physical development limitations which are discussed elsewhere. Where these factors do not exist, primarily in the Village, there are few significant underutilized sites. The one notable exception is the middle one of the three man-made docks which extend into the river on the west side of the railroad. While the other two are occupied by water-dependent uses (the boat club and marine sales), this key property is vacant and its bulkhead decaying (see Photo 7). Access to, and use of, this privately owned parcel are severely limited, not only by the railroad, but also by a private right-of-way.

d. Recreation and Public Access

There is virtually no public access to the water's edge in the entire waterfront area. Whether in the Village or the Town (see Photos 8 and 9), the high speed rail line is the major barrier. North of the Village, an at-grade crossing at Staats Road provides access to private property only. Although four miles of river frontage are owned by the State in the southern end of Town, no safe or legal access exists.

Three rail crossings are located in the Village, providing access to the three docks, two of which are protected. They provide access only to private land,



VILLAGE OF CASTLETON-ON-HUDSON/TOWN OF SCHODACK

Local Waterfront Revitalization Program

Shuster Associates












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RECONNAISSANCE

Map No.

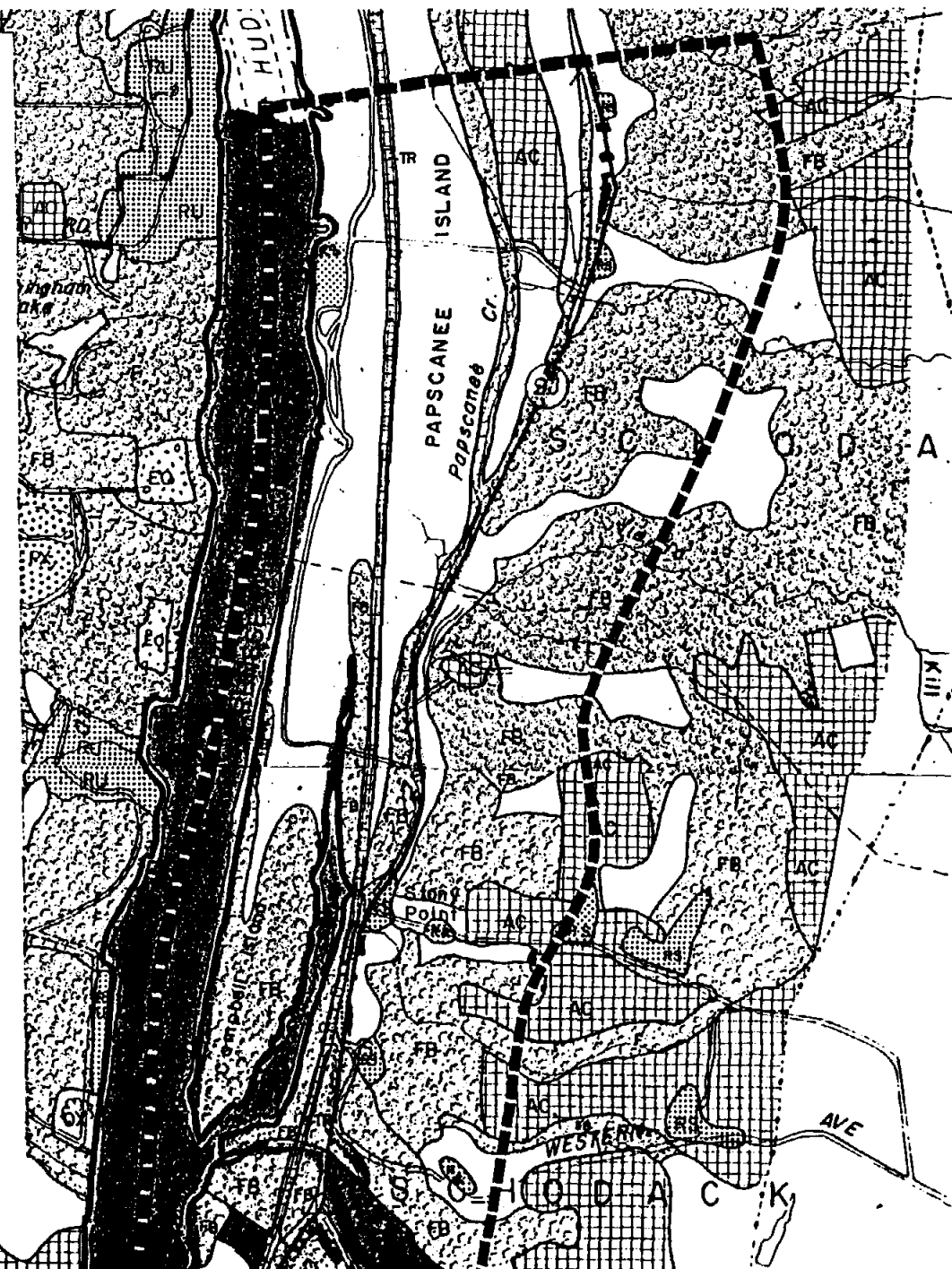
3

Existing Land and Water Use (in part)

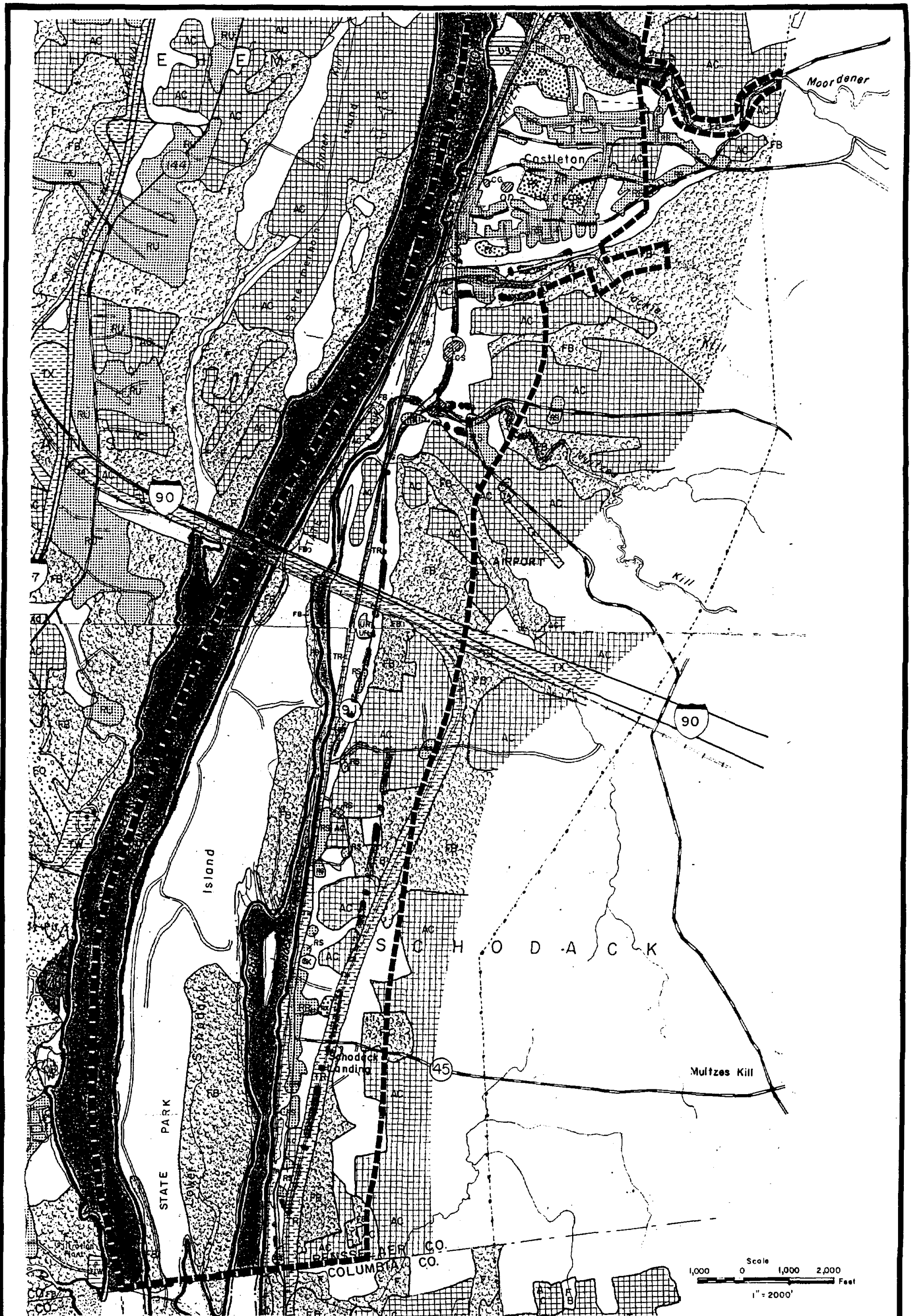
	AGRICULTURE	
	Orchards & Vineyards	AO
	High Intensity Cropland	AT
	Other Cropland	AC
	Other Agriculture	AX
	FOREST	
	Forest Land	F
	Forest Brushland	FB
	RESIDENTIAL	
	Urban	RU
	Hamlet	RR
	Rural	RS
	Shoreline Development	RK
	COMMERCIAL	
	General Commercial	CG
	Resorts	CR
	PUBLIC & SEMI-PUBLIC INSTITUTIONS & FACILITIES	
	Educational	PE
	Medical & Health	PH
	Other	PX
	INDUSTRIAL	
	Light	IL
	Heavy	IH
	Oil & Gas Storage	IS
	EXTRACTIVE	
	Shaft Mining	ES
	Open Pit, Quarries	EO
	Oil, Gas, Sulphur & Other Wells	EW
	RECREATION *	
	Beaches & Pools	OS
	Camping Areas	OC
	Marinas & Boat Launching Sites	OB
	Other Recreational Uses	OX
	TRANSPORTATION	
	Airports & Related Facilities	TA
	Railway Facilities	TR
	Water Transport Facilities	TW
	Other Transportation Facilities	TX
	UTILITIES & COMMUNICATIONS	
	Electric Generation & Transmission	UE
	Gas & Oil Transmission	UG
	Water Treatment & Transmission	UW
	Sewage Treatment	US
	Solid Waste	UR
	Other Facilities	UX
	VACANT	

 **WATERFRONT BOUNDARY**

* Ownership: State (S), Other Public (P), Private (V) e.g. OS-p



Match Line



VILLAGE OF CASTLETON-ON-HUDSON/TOWN OF SCHODACK

Local Waterfront Revitalization Program

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EXISTING LAND AND WATER USE
(in part)

Map No.

3A/B

however. The only other public land is the site of the Village's sewage treatment plant. While opportunities for other public uses are possible, the grade crossing is a shared right-of-way with Hamilton Printing and the geometry of the intersection is less than optimum.

The only official water-related recreation is that available to members of the Castleton Boat Club. Despite the obstacles to access and use of the waterfront, many people do, nevertheless, take advantage of both State and private lands to hike, hunt, bird-watch, snow-mobile, etc, at their own risk, because of its diverse quality and the lack of publicly sanctioned opportunities. The New York State Department of Environmental Conservation, in its report entitled "Recommendations for Improving Public Recreational Access to the Hudson River", dated November 1984, stated the following concerning the State land (page 72):

"Castleton Island State Park: This site is located in the Town of Schodack, Rensselaer County at river mile 136. The nearest public boat ramp south of here on the east bank of the river is 19 miles away. There are no public ramps north of here on the east bank in the tidal portion of the river. Development of this site has been assigned a medium priority.

This site is suitable for development of a boat ramp due to its proximity to good roads, deep water offshore, adequate area for parking facilities and its current State ownership. In order to develop this site, however, approximately one mile of dirt road will need upgrading, as well as a railroad crossing."

A small Village park is located on the north side of the Vlockie Kill, east of Route 9J. It includes some picnic areas and trails, but is mostly undeveloped. Bicentennial Park, on the north end of the Village on the east side of Route 9J, provides views of the river, but not active recreation. A small informal boat launch has existed at the entrance to the northern (Lewis) dock for years. It is on private land with awkward access and no parking area.

2. Geology

a. Topography

The waterfront area in Schodack contains three distinct topographic zones. The first is the Hudson River floodplain, composed of nearly level lowlands and marshes varying in elevation from water level to a maximum of about 22 ft. This zone includes Papscanee, Campbell, Cow and Schodack Islands. The second zone consists of the steep escarpment which divides the floodplain from the

upland areas to the east. This zone consists of numerous steep, drainage ravines and is cut by several larger streams (the Moordener, Vlockie, Muitzes and Vierde Kills), all flowing west down to the Hudson River floodplains. The escarpment rises abruptly 150 to 200 feet from the river with 20 to 30% slopes which present a severe development constraint. The third zone consists of the nearly level areas at the top of the escarpment. Elevations in this zone range from 150 to 270 feet and slopes from 0 to 8%.

b. Bedrock

The Town of Schodack and the Village of Castleton are underlain by Normanskill Shale which dates from the Ordovician Period, about 450 to 500 million years ago. The Normanskill Shale consists of about 2,000 feet of dark grey and black clayey shale mixed with thin (2 to 10 feet thick) beds of grit and chert. The formation is famous for its diversity and concentration of fossil graptolites -- extinct organisms believed to be related to primitive chordates. The Normanskill Shale was folded into a series of north-south trending hills and valleys covered by glacial sediments. Bedrock outcrops visible in the study area occur at the crest of these underlying ridges at the top of the escarpment, in the ravines of the Moordener and Muitzes Kill, and along occasional road cuts.

Underlying Schodack Landing, the westernmost edge of the Village of Castleton and the East Greenbush Town Line are patches of older rock called the Taconic Melange, consisting of a chaotic mixture of pebble to block size, angular to rounded rock fragments in a muddy matrix. The melange was formed during a submarine landslide.

c. Surficial Geology

Prior to the Pleistocene glaciation, the topography of the waterfront area consisted of low relief north-south trending hills and valleys. The continental glacier that covered the region reduced the relief and buried the area under glacial sediments, with a thin layer of till being deposited over much of the area. Till and rock outcrops are seen today along the underlying bedrock ridges. See Map 4A.

The bulk of the sediments in the area were deposited in the glacial Lake Albany. The waterfront area is covered by silts and clays that were deposited in the lake. Sand content increases eastward for about a mile where beach sand and beach ridge features are evident. As the glaciers receded, rushing melt-waters carved out the Hudson River Valley in these sediments.

The low-lying land along the Hudson River (Papscanee Island and Schodack Island) and the floodplains of the streams along the Moordener Kill, Muitzes Kill and Vlockie Kill, are covered with recent alluvium. Alluvium is eroded sediment

carried by the rivers and streams during periods of high flow and deposited in floodplains as floodwaters recede.

The islands in the Hudson River have a history of significant natural and man-induced alteration. Before bulkheads were built along the shore, the Hudson River would cause frequent change in island boundaries. Historical accounts indicate that the main channel of the river shifted almost every year. Dredge and fill operations have been undertaken in this portion of the Hudson River since 1920. Large portions of Campbell and Schodack Islands are composed of dredge spoils (see Photo 10).

3. Soils

The waterfront area can be divided into four soil divisions: two along the shoreline of the Hudson River and two in the eastern part of the waterfront area.

Much of the Hudson River floodplain consists of dredge and fill material, riverine deposits, and organic marsh deposits. The low lying riverine deposits and marsh deposits are submerged much of the time and are, therefore, unsuitable for development of any type.

The higher soils of the Hudson River floodplain consist of silt loams, belonging to the Hamlin, Teel, and Limerick series. These are deep, moderately well drained, nearly level soils that form on floodplains. Periodic flooding may be a problem, but the highest areas of Campbell and Schodack Islands appear to be above the 100-year flood elevation. These soils have potential for many recreational uses and are good agricultural soils.

In the upland areas, the Hudson and Rhinebeck silt loams are the most common soil type. These are deep, moderately well to somewhat poorly drained, gently sloping soils formed in glacial Lake Albany silt and clay deposits. The soils have a perched water table at about 1 to 2 inches in late winter, spring and other excessively wet periods. Permeability is moderately slow in the surface layer and is slow in the subsoil and substratum. This soil is suited to cultivated crops, hay and pasture. Seasonal wetness may delay planting and artificial drainage may be necessary in areas. The perched high water table, low strength, and slow permeability of the subsoil and substratum are limitations on urban use. If used for sewage, a specially designed septic tank absorption field must be built.

Parts of Schodack Landing and Castleton are located on coarser textured soils, including the Bernardston-Nassau shaley silt loam and the Windsor loamy sand, respectively. The Bernardston-Nassau soils are well to excessively well drained upland soils formed in stony glacial till. The Windsor series are deep, excessively well drained soils formed on deposits of sand and loamy sand (glacial lake deposits) and are more suitable for development than the Hudson and Rhinebeck soils because of better drainage.

Soil erosion is a hazard throughout the waterfront area. The riverine areas have historically been frequently shifted around by the Hudson River, though now the river channel has been stabilized by the construction of rip-rap and cement bulkheads along Campbell and Schodack Islands (see Photo 11). Even today a major flood could cause significant changes in the riverine landscape.

The silt and clay soils which form the escarpment are very steep and highly erodible. Where vegetative cover has been removed, these soils are susceptible to gully erosion and somewhat prone to slumping when wet. In addition, steep areas may be slow to revegetate when cleared of vegetation due to the constant movement of soil downslope.

4. Agriculture

Farming takes place within the waterfront area on Papscanee Island and on top of the escarpment to the east. The agricultural soils on Papscanee Island are the Teel silt loams located at the northern end of the island in the vicinity of Staats Island Road. These soils are good agricultural soils, though they are subject to occasional flooding. These areas are currently used for corn production.

The agricultural soils on the escarpment are generally the Rhinebeck soils in the 0 to 3% and 3 to 8% slope categories. These soils are somewhat poorly drained, heavy soils comprised of silts and clays. With artificial drainage, these soils are considered prime agricultural land and are used primarily for dairy farming. The most common crop grown on the Rhinebeck soils is silage corn. The location of all soils in productivity groups 1-4 is shown on Map No. 4. North of the Village, most of these soils are within the Agricultural Districts shown on Map No. 5. South of the Village, these soils are in small dispersed areas, including much of the State-owned land on Schodack Island; the Agricultural Districts are east of Schodack Landing.

5. Wildlife

a. Significant Coastal Fish and Wildlife Habitats

Significant coastal fish and wildlife habitats are evaluated, designated and mapped under the authority of the State Coastal Management Program's enabling legislation, the Waterfront Revitalization of Coastal Areas and Inland Waterways Act (Executive Law, Article 42). These designations are subsequently incorporated into the Coastal Management Program under authority provided by the Federal Coastal Zone Management Act.

New York State has designated two sites in the Town of Schodack as Significant Coastal Fish and Wildlife Habitats. These habitats are the Papscanee Marsh and

Creek, and the Schodack and Houghtaling Islands and Schodack Creek described below. See the maps set forth in Appendices A and B for precise locations.

Papscanee Marsh and Creek (see Photo 12)

(1) Location and Description of Habitat

Papscanee Marsh and Creek is located on the east side of the Hudson River, beginning just south of the City of Rensselaer and extending south along the west side of N.Y.S. Route 9J for approximately four miles. The fish and wildlife habitat is located in the Towns of East Greenbush and Schodack, Rensselaer County (7.5 Quadrangles: Delmar, N.Y.; and East Greenbush, N.Y.). The Papscanee Marsh and Creek habitat is primarily a floodplain wetland area, encompassing a large tidal creek, emergent marshes, freshwater tributaries, old fields, and young woodlands. The habitat also includes an approximate one mile segment of the Moordener Kill, which is a medium gradient, warmwater stream, with a gravelly substrate and a drainage area of approximately 33 square miles. Papscanee Marsh and Creek has been subject to considerable human disturbance, as a result of agricultural use, and nearby commercial and industrial developments.

(2) Fish and Wildlife Values

Papscanee Marsh and Creek is the northernmost of several major wetland areas located along the upper Hudson River. The marsh is very productive biologically and is a major contributor to the food chains of many fish and wildlife species in the northern section of the Hudson Valley. Papscanee Marsh is an important resting and feeding area for migratory waterfowl such as black duck, mallard, teal, wood duck, and pintail, and is used by limited numbers of waterfowl for nesting. Probable or confirmed breeding bird species in the area include green-backed heron, least bittern (SC), Canada goose, mallard, black duck, wood duck, Virginia rail, common moorhen, common snipe, spotted sandpiper, belted kingfisher, marsh wren, and swamp sparrow. Papscanee Creek and its tributaries, especially the Moordener Kill, are important spawning and nursery areas for a variety of anadromous fish species, such as blueback herring, alewife, white perch, and American shad. Hudson River tributaries such as this are important producers of forage fish (killifish, shiners, etc.) which are consumed by the larger fish species noted above. Many resident freshwater fish species are also found here, including white catfish and black bass (largemouth and smallmouth). A population of map turtles has been reported to reside in this area.

Papscanee Marsh and Creek provides recreational and educational opportunities to residents from throughout the Capital District, including Albany, Rensselaer, and Columbia Counties. Waterfowl, hunting, trapping, fishing, and bird-watching are all significant recreational uses. Human use of the area is, however, somewhat limited by the lack of public access facilities.

Schodack and Houghtaling Islands and Schodack Creek

(1) Location and Description of Habitat

Schodack and Houghtaling Islands and Schodack Creek are located along the eastern shore of the Hudson River, beginning approximately one mile south of the Village of Castleton-on-Hudson, and including portions of the Town of New Baltimore in Greene County, the Town of Schodack in Rensselaer County, and the Town of Stuyvesant in Columbia County (7.5 Quadrangles: Delmar, N.Y. and Ravena, N.Y.). The Schodack and Houghtaling Islands and Schodack Creek area is approximately 1,800 acres in size, containing a diverse combination of ecological communities, including extensive floodplain forests, brushlands, cultivated fields, tidal creeks and mudflats, littoral zones, the lower portion of the Muitzes Kill, and emergent marshes. Much of this area is within Castleton Island State Park, which is an undeveloped property owned by the N.Y.S. Office of Parks, Recreation, and Historic Preservation. Habitat disturbances in the area are generally limited to occasional dredge spoil disposal, agricultural activities, and uncontrolled recreational use.

(2) Fish and Wildlife Values

Schodack Creek and its associated riverine islands comprise a large, complex, floodplain ecosystem that is rare in the Hudson Valley. The creek is a relic side-channel of the Hudson River, that now functions as a biologically productive backwater area. Schodack Creek generally supports larger populations of fish, plankton, and rooted area for post-larval and young-of-the-year fish. Although considered a minor tributary, the creek is a significant spawning, nursery, and feeding area for American shad, white perch, alewife, blueback herring, black bass, and other freshwater fish species. Schodack Creek is the northernmost shad spawning area on the Hudson River. Adult and juvenile shortnose sturgeon (E) have been found in the Schodack Creek area, but habitat use has not been thoroughly documented. Mudflats, littoral zones, and wetlands are also important in various life stages of fish species inhabiting the area.

Wetland areas around Schodack and Houghtaling Islands and Schodack Creek serve as nesting habitats for a variety of bird species, such as green-backed heron, mallard, black duck, spotted sandpiper, American woodcock, marsh wren, and swamp sparrow. Upland habitats on the islands support many species of wildlife, including white-tailed deer and ruffed grouse. During spring and fall migrations (March-May and September-November, generally), Schodack and Houghtaling Islands and Schodack Creek receive considerable use by concentrations of waterfowl, raptors, shorebirds, and passerines. Of particular note is the regular occurrence of osprey on Lower Schodack Island during the spring migration of this species. As many as 10 osprey have been observed roosting in trees on the island, and the lower end of Schodack Creek probably provides a feeding area for these birds.

The Schodack Islands area is used by residents of the Albany area for hunting, birdwatching, trapping, and informal nature study. In addition to supporting the commercially important shad, Schodack Creek is used by local residents for recreational fishing.

Neighboring Areas

Although not within the boundaries of the Town of Schodack, there are several neighboring areas that have been nominated as potential Significant Coastal Fish and Wildlife Habitats. Major development in the Schodack waterfront area could impact these areas.

The Shad and Schermerhorn Islands habitat is located on the western side of the Hudson River from the Vloman Kill (across from Mordener Kill) to the southern tip of Shad Island (approximately at the Conrail bridge) and is a riverine environment with some agriculture and mature woodlands. Hannacrois Creek empties into the Hudson River on the western side of the river opposite the Rensselaer-Columbia County line. The wetlands and tidal flats at the mouth of the river are believed to be important spawning areas for herring, and possibly, striped bass.

Coeymans Creek empties into the Hudson River about one mile north of Hannacrois Creek opposite lower Schodack Island. The wetlands and tidal flats at the mouth of Coeymans Creek are not as well developed as in Hannacrois Creek. The mouth of the tributary, however, is believed to be an important spawning ground for anadromous fish.

b. Wetlands

The State Legislature has declared that it is "the public policy of the State to preserve, protect and conserve freshwater wetlands and the benefits derived therefrom" (Section 24-0103, Environmental Conservation Law). Accordingly, the Department of Environmental Conservation (DEC) has identified and mapped all freshwater wetlands larger than 12.4 acres, or those considered to be of unusual local importance. These wetlands are protected under Article 24 of the Environmental Conservation Law. Wetlands adjacent to navigable waters, regardless of size, are regulated under Article 15 of the Environmental Conservation Law. Any development of protected wetlands requires a "wetlands" permit from DEC. Based on their evaluation of the permit application, DEC may limit development, require mitigation measures or prevent development. DEC should be consulted for further definition and information on wetland mapping.

Two wetland areas have been officially mapped in the waterfront area: Papscaanee Creek (EG-1, Class I) and Schodack Creek (R-20i, Class I). These sites are shown on Map 4. Note that the wetlands are generally within the significant habitat areas described above.

The Papscaanee Creek wetland area is considered 15% freshwater tidal and 85% emergent marsh. Dominant vegetative species include purple loosestrife (Lythrum salicaria), cattail (Typha augustifolia), pickerelweed (Pontederia cordata), arrowhead (Sagittaria latifolia), and pondweed (Potamogeton sp.). It is considered a highly vulnerable area because of its proximity to the Capital District and encroaching development.

Schodack Island Marsh is a freshwater tidal marsh influenced by the tidal action of the Hudson River. The dominant plants are pickerelweed (Pontederia cordata), purple loosestrife (Lythrum salicaria), and cattail (Thypha augusti-folia).

c. Birds

Information on birds in the waterfront area was obtained from Paul F. Conner, former State Zoologist. Mr. Conner is a resident of Castleton and has kept detailed records of birds in the area for many years.

Breeding Species

The following list includes confirmed breeders (identified by finding a nest, an adult feeding young, or fledglings) and probable breeders (indicated by birds regularly on territory or singing males consistently present). Some on the list are present throughout the year. Others, such as most marsh birds, flycatchers, swallows, thrushes, vireos, and warblers, are present only during the warmer

spring and summer months. Abundance varies considerably from species to species. Some are found virutally everywhere; a few are quite rare and may not even nest every year.

Green-backed Heron	Ruffed Grouse
Least Bittern	Ring-necked Pheasant
Mallard	Killdeer
American Black Duck	Spotted Sandpiper
Wood Duck	American Woodcock
Red-tailed Hawk	Rock Dove
Broad-winged Hawk	Morning Dove
American Kestrel	Yellow-billed Cuckoo
Black-billed Cuckoo	Common Crow
Eastern Screech Owl	Fish Crow
Great Horned Owl	Black-capped Crow
Chimney Swift	White-breasted Nuthatch
Belted Kingfisher	House Wren
Northern Flicker	Marsh Wren
Pileated Woodpecker	Northern Mockingbird
Hairy Woodpecker	Gray Catbird
Downy Woodpecker	Brown Thrasher
Eastern Kingbird	American Robin
Great Crested Flycatcher	Wood Thrush
Eastern Phoebe	Veery
Willow Flycatcher	Blue-gray Gnatcatcher
Alder Flycatcher	Cedar Waxwing
Least Flycatcher	European Starling
Eastern Wood Pewee	Yellow-throated Vireo
Tree Swallow	Red-eyed Vireo
Bank Swallow	Warbling Vireo
Northern Rough-winged Swallow	Golden-winged Warbler
Barn Swallow	Blue-winged Warbler
Blue Jay	Yellow Warbler
Cerulean Warbler	Brown-headed Cowbird
Chestnut-sided Warbler	Scarlet Tanager
Ovenbird	Northern Cardinal
Louisiana Waterthrush	Rose-breasted Grosbeak
Common Yellowthroat	Indigo Bunting
American Redstart	House Finch
House Sparrow	American Goldfinch
Bobolink	Rufous-sided Towhee
Eastern Meadowlark	Savannah Sparrow
Red-winged Blackbird	Chipping Sparrow

Orchard Oriole
Northern Oriole
Common Grackle

Field Sparrow
Swamp Sparrow
Song Sparrow

The most significant change observed in the area in recent years is a drastic decline in nesting marsh birds. Most of these occurred in the extensive marshes between Castleton and Rensselaer often called the "Castleton" or "Schodack" marshes, even though located mostly in the Town of East Greenbush. Formerly this was one of the most productive marshes for bird life in the Hudson Valley, and some species nested nowhere else in the county. Species affected include least bittern, green-winged teal, blue-winged teal, Virginia rail, common gallinule and common snipe. Least bittern, much reduced, still hangs on but the others seem to be gone; Virginia rail and gallinule were the most characteristic, and one could see or hear many individuals up to about 1978. By 1979 the decline was noticeable, and apparently complete by 1981. Habitat deterioration due to new drainage ditches (and perhaps other agricultural activities) seem significant from casual observation. A few pairs may remain in small pockets of suitable marsh, thus this fragile habitat should be a major concern. Green-back heron, mallard, willow flycatcher, and swamp sparrow seem unaffected, although the marsh wren may be declining.

Most of the birds of woods and fields nest more or less throughout, although a few seem to nest mainly on the east (upland) side of Route 9J, including the pileated woodpecker, golden winged warbler, Louisiana waterthrush and bobolink. The woodpecker ranges widely, however, and may even be seen flying across the Hudson River. The waterthrush is uncommon and local regionally, but is found near Castleton along Moordiner and Vlockie Kills, where the woods are highly productive of bird life.

The Castleton area is notable for the presence in very limited numbers of two southern species rarely seen in eastern New York: the Cerulean warbler and orchard oriole. The Cerulean warbler is characteristic of stands of tall cottonwoods on Schodack Island, and has also been found in these trees on Campbell Island, near Vlockie Kill, and at Schodack Landing.

Another southern but more conspicuous bird, the fish crow, is a very recent arrival in the area. In 1983 local residents first noted the presence of fish crows by the river in the village. Usually restricted to coasts and tidal waters, this species has been spreading north in recent years, but the Castleton nesting is the first such record this far north on the Hudson River.

Some of the more common birds in the sanay woodlands of Schodack Island are ruffed grouse, wood-pewee, brown thrasher, wood thrush, veery, yellow-throated vireo, warbling vireo, American redstart, northern oriole, rose-breasted grosbeak,

indigo bunting, and towhee. The colonial bank swallow is specialized in depending on sand pits or steep, high sandy banks for its nest burrows; such sites are present along the waterfront, but are still few and limited so that disruptions in the nesting season such as digging or target shooting can seriously affect the local population. Bank swallows have been found in large groups of 100 or more hunting insects over the water, as at the Hellgate area off Schodack Creek. The kingfisher also depends on banks for digging burrows, but the birds' solitary and wary habits gives it a degree of protection.

Migrant and Other Visitors

Listed below are those species or groups making significant or conspicuous use of the Hudson Valley as a migration route. Species which could be seen just as well or better in upstate eastern New York are not included.

The most striking phenomenon is the spring migration of waterfowl, when ducks can be seen in numbers at close range in handsome breeding plumage. This takes place in March and April, beginning locally as soon as the ice leaves Papscanee and Schodack Creeks (before interior lakes at the same latitude thaw). Rarely, this can begin as early as the third week in February (as in 1984); peak numbers are generally reached in late March or early April. When fields are flooded from rain, many of the shallow-water or dabbling ducks can be seen there (Staats Island). In some years, the migration is much more pronounced than in others. The following species have been observed in the Hudson River, Schodack Creek, and Papscanee Creek areas of the town in spring.

Canada Goose	Ring-necked Duck
Snow Goose	Canvasback
Mallard	Greater Scaup
American Black Duck	Lesser Scaup
Gadwall	Common Goldeneye
Northern Pintail	Bufflehead
Green-winged Teal	Oldsquaw
Blue-winged Teal	Black Scoter
American Wigeon	Hooded Merganser
Northern Shoveler	Common Merganser
Wood Duck	Red-breasted Merganser
Redhead	

Gadwall, shoveler, redhead, oldsquaw and scoter most years are uncommon to rare. Scoters, at least, may be more common in fall. The rare Eurasian teal (a race of the Green-winged) has been seen at Stockport Creek in Columbia County. The common merganser is the most numerous merganser, and the duck most likely to be seen in winter after the mallard and black-duck. The handsome

hooded merganser can also be viewed at close range in spring. Several observers have noted flights of brant geese up the valley in late spring. In some years, spectacular flights or concentrations of snow geese may be seen.

At least three duck habitats are utilized--upper Papscanee Creek and marsh; Schodack Creek and lower Papscanee Creek (below Stony Point); and the Hudson River. Each is important to certain species in migration, but several kinds show considerable overlap in choice of habitat or shift about during the 24-hour period. Other water birds commonly seen in migration are:

Common Loon	Great Black-backed Gull
Horned Grebe	Herring Gull
Pied-billed Grebe	Ring-billed Gull
Double-crested Cormorant	Bonaparte's Gull

Migrating cormorants assume V-shaped flocks in flight, and are easily confused with geese if not seen close enough to note the black coloration (these birds are also silent, unlike geese). The spring migration of ring-billed gulls on the Hudson River takes place when the ducks come through; hundreds of the whitish adults may be seen in a few hours. The Bonaparte's is the least common gull listed. Several rare gulls may occur from time to time; the Iceland gull has been observed at Rensselaer. Otherwise, the migration of hawks and other diurnal birds of Frey is probably the most notable event, although more dependent on weather conditions such as wind direction, and involving smaller concentrations of individuals than the waterfowl. It often goes mostly undetected, the birds passing high overhead, or keeping over the ridges parallel to the river. At times in spring, when conditions are right, the birds pass low overhead following the river or creek lowlands.

A notable change in recent years is the return of the osprey following a decline due to pesticides, so that it is once again common along the river in its travels between the coast and northern breeding grounds. On a Hudson-Mohawk Bird Club trip in April, 1983, at least 32 ospreys were seen between Rensselaer and Lower Schodack Island, mostly along Schodack Creek including eight perched together in trees on Lower Schodack Island. The bald eagle is now being seen a little more frequently and two or three may be seen in a year in the town by an active observer. The red-tailed hawk is the most numerous hawk, a large conspicuous species which also nests in the area, and is present around the year. In winter, numbers are usually greater since the birds concentrate to feed on the meadow voles and other rodents in the open lowlands.

Small bird movements are generally less noticeable except for the large flocks of blackbirds moving through in early spring. These consist of red-winged blackbirds, grackles, and cowbirds, either in separate or mixed flocks. The

flocks consist of hundreds or even thousands of birds; large roosts form in the trees or marshes at times and may include starlings, a much less common species, the rusty blackbird, unlike the other three, nests only in the far north (south to the Adirondacks); a few can be found annually on migration here, in small groups in trees, near water.

6. Hydrology and Water Quality

a. Surface Waters

The Town of Schodack lies in the Hudson River drainage basin. North of Moordener Kill, the hills in the western part of the waterfront area are drained by numerous small streams which flow into Papscanee Creek, and eventually the Hudson River. The Moordener and Vlockie Kills are major drainage avenues from the eastern hills directly into the Hudson River. Muitzes Kill is the third major stream draining the hills to the east (see Photo 13). It turns abruptly south at the base of the escarpment and enters a three mile long backwater of the Hudson known as Schodack Creek. Waters from Schodack Creek enter the Hudson River south of the Town of Schodack in Columbia County. Those streams which are navigable and/or classified by DEC as C (T) or better are protected and require a stream disturbance permit under Article 15 of the Environmental Conservation Law.

b. Climate

The climate in the Town of Schodack is primarily continental in character, but subject to some modifications from the maritime climate that prevails in the southern portion of the State. In the summer, temperatures rise rapidly during the daytime to moderate levels, although week long periods of oppressive heat occur occasionally. Winters are cold and occasionally severe, with nighttime temperatures frequently dropping to 10°F or lower. Snowfall is variable, but may range up to 75 inches at higher elevations. There is an annual average of about 35 inches of precipitation, distributed evenly through the year.

c. Flood Protection

The Federal Emergency Management Agency has developed a flood insurance study and Flood Hazard Area maps for the Town of Schodack and the Village of Castleton that indicate flood events which are expected to be equalled or exceeded once during a 100--or--500--year period. The maps also show base flood elevation lines which indicate the anticipated water-surface elevations during a 100-year flood. Local planning policy requires that developments must either be

built above the base flood elevations or contain flood protection devices to this height. The 100-year flood plain boundary is shown in Map 5.

The Hudson River in the Town of Schodack has a mean elevation near zero (sea level). Since the river is influenced by tides its actual elevation fluctuates daily. The mean monthly tidal range is 4.3 feet.

The 100-year flood elevation ranges from 19 feet at the northern town boundary to 16 feet at the southern boundary, meaning that in a 100-year flood much of Papscanee Island, Campbell Island, and Schodack Island would be inundated. Much of Route 9J north of Schodack Landing would also be flooded, including some of Main Street in Castleton. In general, flood waters would enter right to the toe of the hills which rise steeply from the flood plain. The 500-year flood would cover only slightly more than the 100-year due to the general steepness of the escarpment.

Local history indicates that flooding in Castleton and along 9J was a regular occurrence, particularly during spring thaws. Since the development of the Sacandaga Reservoir in the 1930's, flooding has been greatly reduced. However, as discussed above, a 100-year or greater event would still inundate portions of the Village and much of the road.

d. Sewage

The Town of Schodack, except for the Village of Castleton, disposes of residential and commercial sewage with individual septic tanks. In sandy and gravelly areas the septic systems are more than adequate. In areas overlying glacial lake sediments (silts and clays), specially designed septic systems must be installed.

Schodack Landing, although fairly densely populated, has no sewer system. Soil conditions for septic systems vary from poor to good. No back flooding problems are found in Schodack Landing because the hamlet is well elevated above the Hudson River. Certain areas have very fine soils which suffer from slow permeability and poor drainage. In some areas, excessively well-drained soils may present a pollution hazard to Schodack Creek.

New storm sewer lines have recently been installed in Castleton to separate stormwater flow from sanitary sewage. A new Village sewage treatment plant was recently completed. The only regulated point sources of pollution discharge are at the Village treatment plant and Fort Orange Paper Company. No non-point discharges have been identified.

e. Drinking Water and Groundwater

Residents within the waterfront area, except for those within the Village of Castleton, draw their water from private wells. Most of these are bedrock wells, tapping the underlying Normanskill Shale, which typically yield from 2 to 10 gallons per minute, which is sufficient for local residents and small farms. Well water obtained from the Normanskill Shale frequently smells of hydrogen sulphide.

The Village of Castleton obtains its drinking water from the Vlockie Kill. The intake is located east of the waterfront area. Water is drawn from the stream, treated centrally and distributed throughout the Village.

7. Air Quality

The New York State Department of Environmental Conservation follows the federal Environmental Protection Agency (EPA) quality standards for ambient air. Areas where the ambient concentration of a pollutant is greater than the standard for each major category of pollutant (total suspended particulates, carbon monoxide, sulphur dioxide, oxides of nitrogen and ozone) are considered to be in non-attainment for that pollutant, areas where ambient concentrations are less than standard are considered in attainment.

The Town of Schodack and Village of Castleton are currently classified as attainment areas for criteria pollutants. When considering the siting of a new facility or modification of an existing facility, the status of air quality at the facility and the magnitude of the projected annual emissions of criteria pollutants must be evaluated.

8. Cultural and Archaeological Resources

a. Cultural Resources

The three major cultural resources identified by the New York State Office of Parks, Recreation and Historic Preservation are the Schodack Landing Historical District, the Castleton Historic Area, and the Joachim Staats house.

Schodack Landing: Schodack Landing was first settled in 1707 by Jacob Schermerhorn and three related "tenants in common". The Schermerhorns were joined by the Van Valkenburghs, Barheys, Van Alstyne, Jansens, and Van Burens. By the mid-1750's, the community was large enough to establish its own Reformed Dutch Church. By the 1760's, Schodack Landing had grown into a thriving town deriving income from shoemaking, tanning and cut lumber. Over time, the community became an important export center for the intensely

developed inland farmlands and for the sale of river ice to New York City. When the need for ice dwindled in the early twentieth century, Schodack Landing became primarily residential.

Schodack Landing's historic district is listed on the National Register of Historic Places. The district boundary is shown on Map 4. Most of the approximately 86 buildings located within the historic district are scattered along both sides of Route 9J. As a result of the successive waves of development that occurred in Schodack Landing, buildings were constructed during every historical period. About 16 are thought to date from before 1790, 9 from between 1790 and 1830, 31 from between 1830 and 1880 and 18 from between 1880 and 1915. A selected group of the more notable houses is listed in Table 1.

Joachim Staats House and Gerrit Staats Ruin: The Joachim Staats House and Gerrit Staats Ruin are located on the western edge of Papscaene Island at Staats Road. The Joachim Staats House (see Photo 14) is on the river north of a bulge in the shoreline which is the location of a former sloop landing. A cemetery containing burial plots from the early eighteenth century onwards lies behind the house and to the north. The Joachim Staats House is listed on the National Register of Historic Places. Further from the shore are the ruins of the Gerrit Staats house.

The Joachim Staats House consists of a rectangular, two story stone building (c. 1700), with one brick addition (c. 1790) and one wood addition (c. 1880). The interior contains many original features, preserving a Dutch family's history from 1700 through successive alterations. The Gerrit Staats house, built in 1758, was destroyed by fire in 1973.

Castleton-on-Hudson: Castleton-on-Hudson has not yet been placed on the National Register of Historic Places, but the Village has a rich cultural history.

Joahannes Van Buren is believed to be the first settler in the area. His house lies just south of the Village limits on the east side of Main Street. Settlement into the area was sparse through the agricultural era. After the beginning of the 19th century. Main Street, from Stimson Avenue to Seaman Avenue, became a major trade center. Initially, brickyards prospered but these were later replaced in importance by ice houses and paper mills. In the last quarter of the 19th century a screw factory was built on Cow Island. This factory was replaced shortly thereafter by a piano action factory. Workers for these factories lived in housing spreading up the hill toward the eastern end of the Village. The same demographic distribution has continued into the present day.

Many of the historic structures in this area have been disturbed by fire, flooding and remodelling. Historic structures line Main Street. The majority of these

Table 1

Selected Historic Buildings

Schodack Landing

Name	Date	Architectural	Historical
Schermerhorn	c. 1770	Gambrel-roofed brick Dutch farmhouse with mid and late 19th century alterations such as Italiante entrance, marble and roof overhang.	Probably built by Jacob C. Schermerhorn (b. 1743), wealthy merchant; later owned by Peter Gansevoort Ten Ecyk.
Barent Schermerhorn	c. 1805-1810	Federal period 5 bay horn home with Palladian window; end chimneys.	Built by Barent Schermerhorn, son of Jacob C.; was also a merchant.
Anthony Ten Eyck or his father Jacob C.	c. 1770	Gambrel-roofed brick Dutch Farmhouse with early 19th century alteration; original wainscot, stairway, mantels, chair rails.	Anthony Ten Eyck was a member of the Constitutional Convention of 1787-88, first Judge of Rensselaer County in the 1790's, and a State Senator in 1797.
Ten Eyck General Store	c. 1770	Simple 18th century one and a half story wood building with end chimneys.	Probably built by Anthony Ten Eyck--presently endangered due to lack of room for septic system.
Daniel Schermerhorn	c. 1780; addition c. 1800; facade alterations c. 1800; Barn c. 1750	Rear ell with original fireplace & woodwork; 1880 alterations to the 1800 build consisted of addition of bracketed veranda and arched windows: Dutch barn in a good state of preservation, early corn crib.	Built by Daniel Schermerhorn who owned several farms at time of his death.
Martin Egbertse	c. 1790	Cellar contains well preserved 18th century kitchen with original paneled cupboards	Egbertse worked as a tanner was arrested in 1781 as a conspirator, jailed and released.

fireplace; this is a simple one and a half story, 5 bay end chimney farmhouse.

Cornelius Sebring	1784	Originally a Dutch brick gambrel-roofed building; roof changed to mansard with dormers.	Sebring was a wealthy merchant; subsequently owner in 1834 was Jacob A. Ten Eyck.
John Herrick	c. 1880	5 bay house with bay windows and bracketed veranda, cupola.	Built by Herrick, a store keeper.
Present Owner:	c. 1880	Mansard roofed framehouse with a fine veranda which retains its intricate brackets.	
N.G. Spaulding	c. 1875	Small one and a half story cottage with decorative bargeboard and bracketed veranda unaltered.	
	c. 1835	One and a half story frame with cornice returns, fan in gable end bracketed veranda.	
Jacob Schermerhorn	Before 1767	Brick, Dutch cross and common bond, molded water table, flat brick arched lintels, end chimneys.	Appears on the Bleeker Map of 1767 as Jacob Schermerhorn's residence.
Wouter Barheyt	Before 1767	One and a half story simple home with much old interior fabric, wood locks, old glass and 12/8 lights cellar kitchen.	Appears on the Bleeker Map of 1767 as Wouter Barheyt's property.
Douw Van Buren	c. 1800	Two story, five bay home with Palladian window.	Built by Douw Van Buren; property owned since 1740.
	C. 1900	Two story, Queen Anne tower; veranda; large house.	Now used as a nursing home. Built by Charles Gardiner.

were built in the 1860s and 1870s. Later additions and renovations have destroyed the historical integrity of many of these structures (see Photo 15).

b. Archaeology

Joachim Staats and Gerrit Staats Ruin: The area in the vicinity of Joachim and Gerrit Staats houses was briefly inspected by Paul R. Huey and Joseph E. McEvoy on May 2, 1977. Artifacts recovered from the site suggest chronological assignments of the 18th and 19th century, late Prehistoric or early historic Indian, and unknown Indian period, and possibly early Archaic.

Castleton-on-Hudson: A review of historical literature revealed five sites of potential archaeological sensitivity (Roberts, 1977). Cow Island is the site of the Sunnyside Ice Company (late 19th century) and of an amusement park of a later date. The ruins of the Union Free School, built somewhere between 1815 and 1837, are believed to exist in the vicinity of the present Village Hall. Four early houses, c. 1800, are thought to have existed on Main Street near Green Avenue. In the vicinity of the fire house, the ruins of a c. 1875 brickyard, the Castleton Screw Factory and the piano action factory are known to be buried.

Prehistoric Village Site: A prehistoric village site has been mapped at the very western edge of the Village of Castleton. This site is believed to have been occupied by a sedentary tribe of the middle to late Woodland period. This site has been mapped based on its locational suitability (i.e., proximity to water, game, and vegetable supplies) rather than any excavation.

Additional Sites: The New York State Museum archeological site file identifies six possible sites with sensitive archeological resources in both the Town and Village. The NYS Historic Preservation Officer's site file indicates three additional sites in the Town. Due to the nature of this information all relatively level, well-drained areas within the waterfront area should be treated as archeologically sensitive.

9. Transportation

Local transportation is predominantly via private vehicles. Route 9J is the primary route, extending along the river to the cities of Rensselaer to the north and Hudson to the south. Route 150 runs perpendicular to the river, providing access to the remainder of the Town. Routes 9 and Interstate 90 are major north-south regional highways some four miles inland. The Berkshire Section of the New York State Thruway crosses high over the river and the waterfront area, south of the Village of Castleton, but provides no direct access to it. A commuter bus line operates to Albany, as does a Wednesday shopper's bus for senior citizens.

The high speed rail line which traverses the riverfront severely impacts the waterfront area but provides no service to it. Another line crosses the river adjacent to the Thruway and a third

runs parallel to the river inland from the waterfront area boundary. Commercial vessels use the river, but do not serve any uses in the waterfront area.

10. Scenic Resources

The primary scenic resource in the waterfront area is the montage of views of the varied riverfront environment. Route 9J provides vistas of open water, wetlands, narrow backwaters and rural development--both from water level and from higher vantage points. These peaceful views of the largely undisturbed riverfront are a pleasant contrast to urban development elsewhere in the Town and the metropolitan area. The rear elevations of some structures in the Village detracts from views from the river, as does some isolated instances of abandoned cars or outdoor storage.

C. Major Waterfront Issues and Opportunities

The LWRP addresses a great many aspects of the waterfront area. Certain issues, however, are of greater concern than others as revealed in discussions of the Advisory Committee, meetings with local officials and responses to a questionnaire (see Exhibit II-A). The priority issues are summarized below:

1. Restricted Access to the Hudson River

There is currently no public access to the river and only limited private access. Several problems must be overcome to provide such access. Several opportunities exist in the Village, however, the four miles of State owned riverfront offer a major opportunity which has not, as yet, been addressed (see 2 below).

2. Future Use and Development of Castleton Island State Park

Castleton Island was the most significant acquisition recommended in the 1969 "Master Plan for Outdoor Recreation in the Capital District State Park Region". Although acquisition has been completed, no action to develop the park has been taken due to a variety of factors, of which fiscal constraints are probably the most significant. While priorities have changed and projected demands have not been realized, the land now in State ownership is a magnificent resource and a great potential asset to the State and the surrounding community.

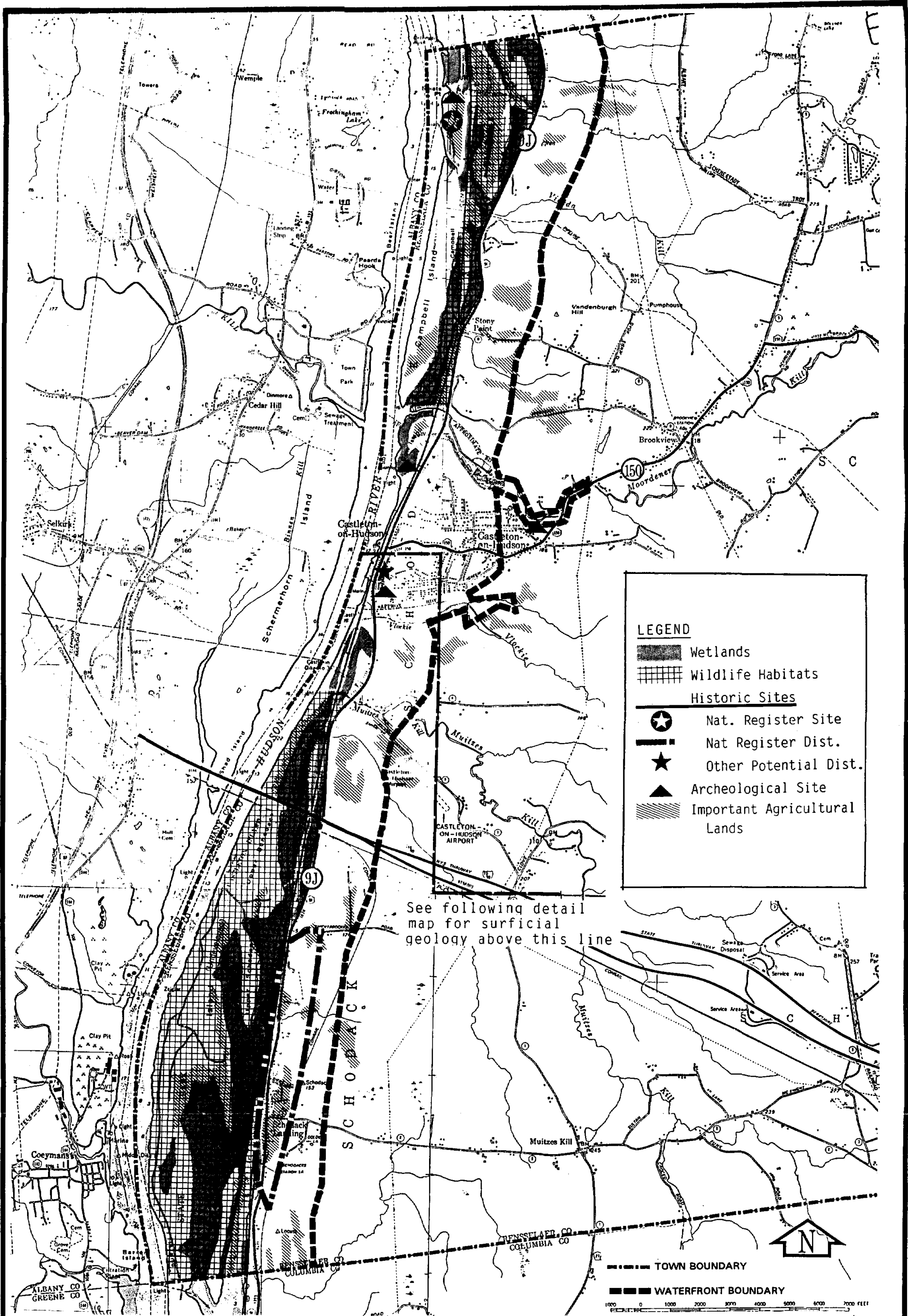
The recent allocation of funds to the New York State Office of Parks, Recreation and Historic Preservation, for use at Castleton Island, offers an opportunity to re-evaluate the proposed use and development program for the park, in light of current conditions, and identify and resolve specific problems. To be most useful, such a process should be carried out in cooperation with the involved communities and coordinated with plans and policies for the river being developed under the Local Waterfront Revitalization Program.

3. Revitalization of the Village Center

The Village Center has suffered from loss of business in recent years and resulting deterioration of some structures. Recent efforts have brought about some rehabilitation and the recent completion of the sewage treatment plan should alleviate a long-standing problem. Increased access to and use of the river, as well as appropriate development of Castleton Island State Park can be used as a catalyst to further revitalization.

4. Preservation of the Waterfront Environment

The natural environment of the waterfront area is sensitive and diverse. Efforts to increase access to the waterfront must be undertaken in a manner that preserves and protects these features while expanding opportunities for their use and enjoyment.



VILLAGE OF CASTLETON-ON-HUDSON/TOWN OF SCHODACK

Local Waterfront Revitalization Program

NATURAL AND CULTURAL FEATURES







Map No.

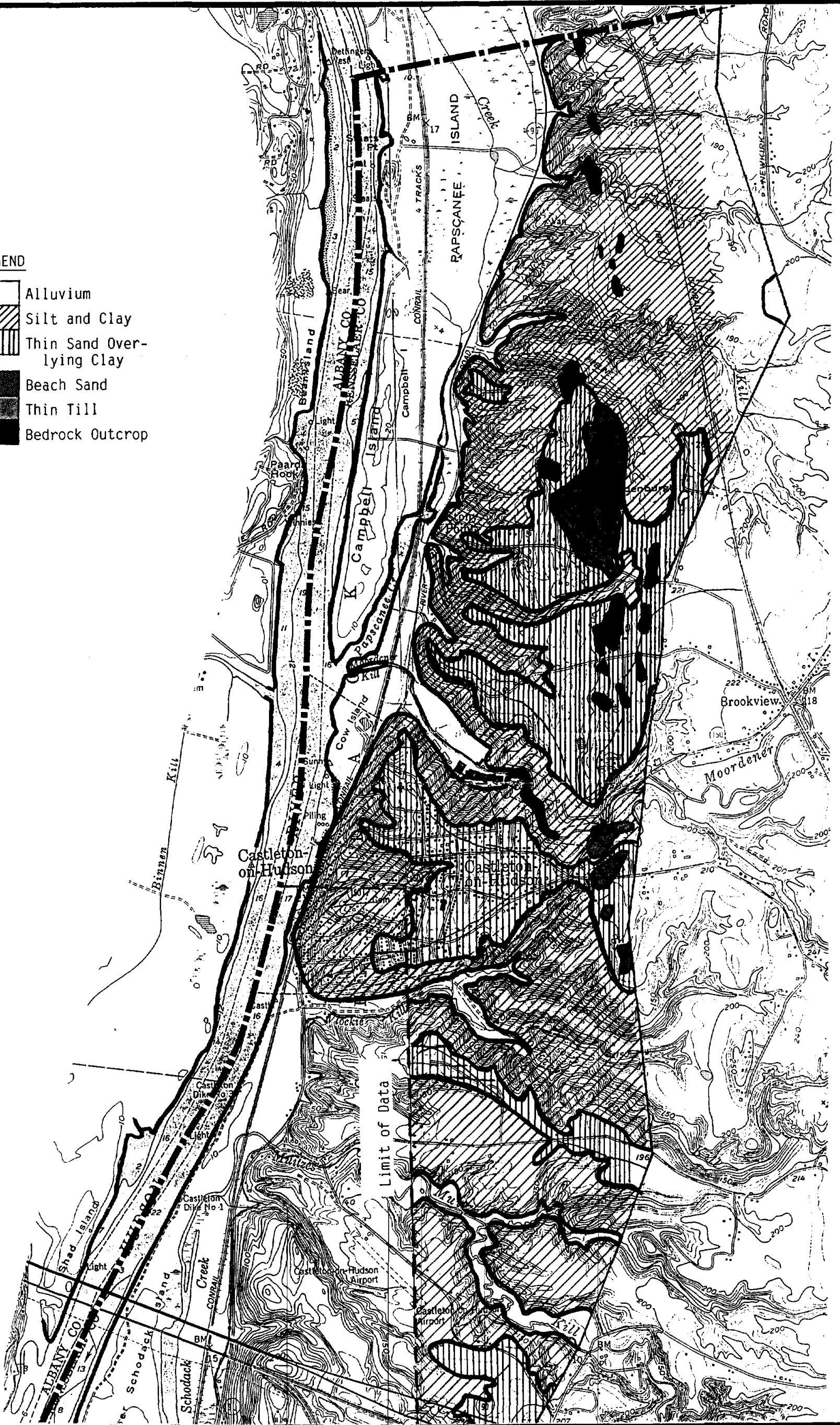
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Shuster Associates

Planning Consultants

LEGEND

-  Alluvium
-  Silt and Clay
-  Thin Sand Overlying Clay
-  Beach Sand
-  Thin Till
-  Bedrock Outcrop



VILLAGE OF CASTLETON-ON-HUDSON/TOWN OF SCHODACK

Local Waterfront Revitalization Program

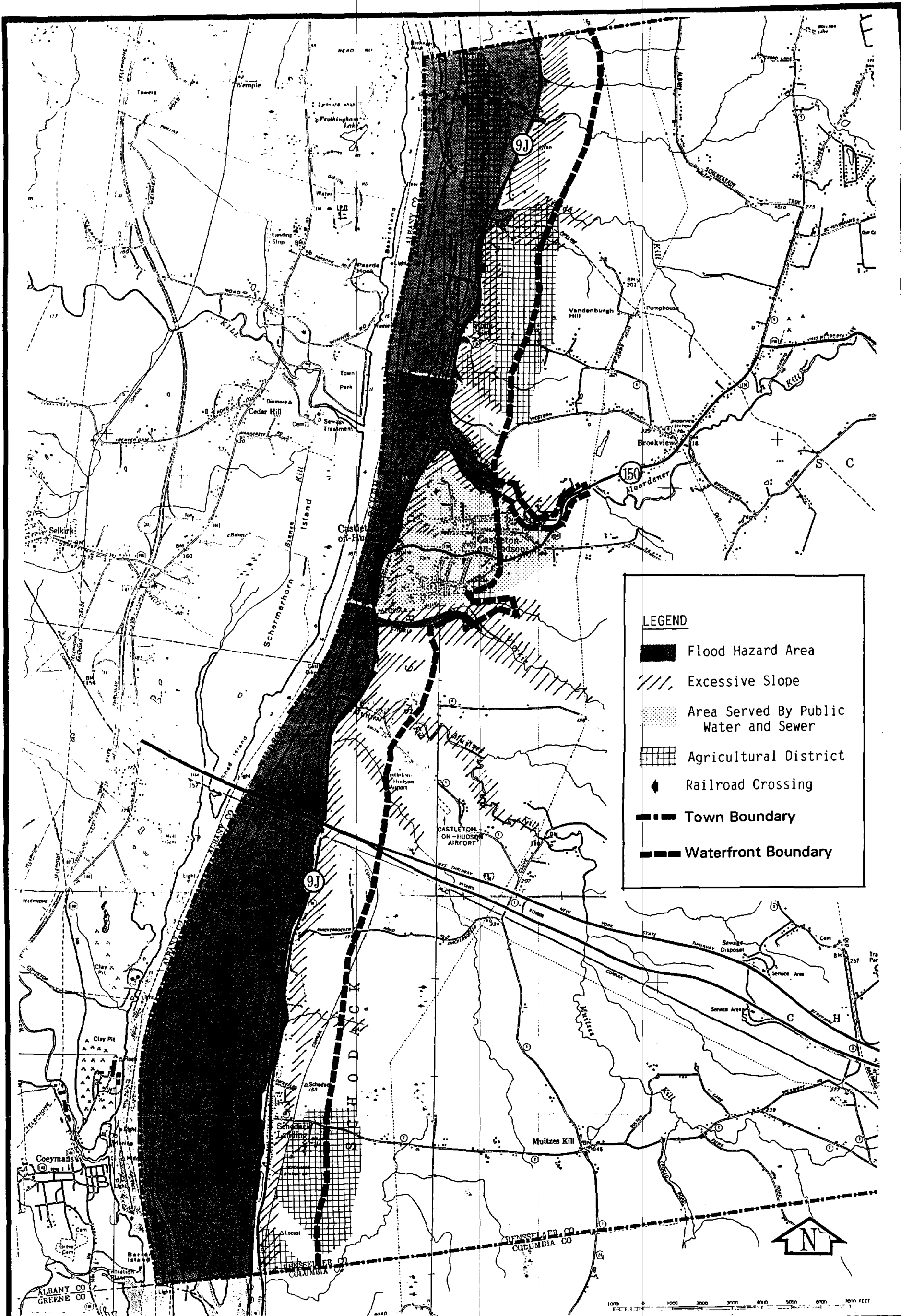
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SURFICIAL GEOLOGY

Map No.

4A



VILLAGE OF CASTLETON-ON-HUDSON/TOWN OF SCHODACK

Local Waterfront Revitalization Program

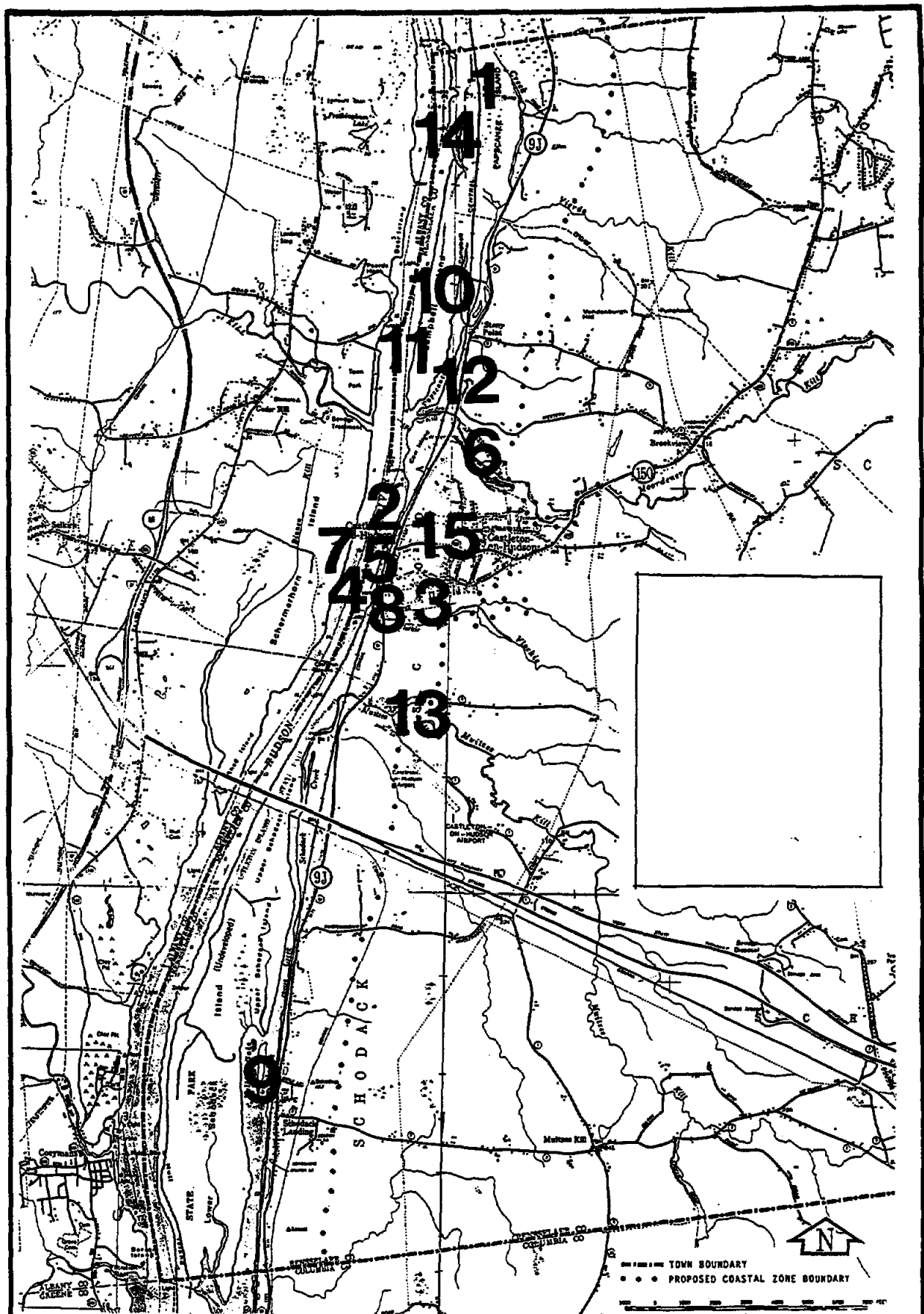
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DEVELOPMENT CONSIDERATIONS

Map No.

5



VILLAGE OF CASTLETON-ON-HUDSON/TOWN OF SCHODACK

Local Waterfront Revitalization Program

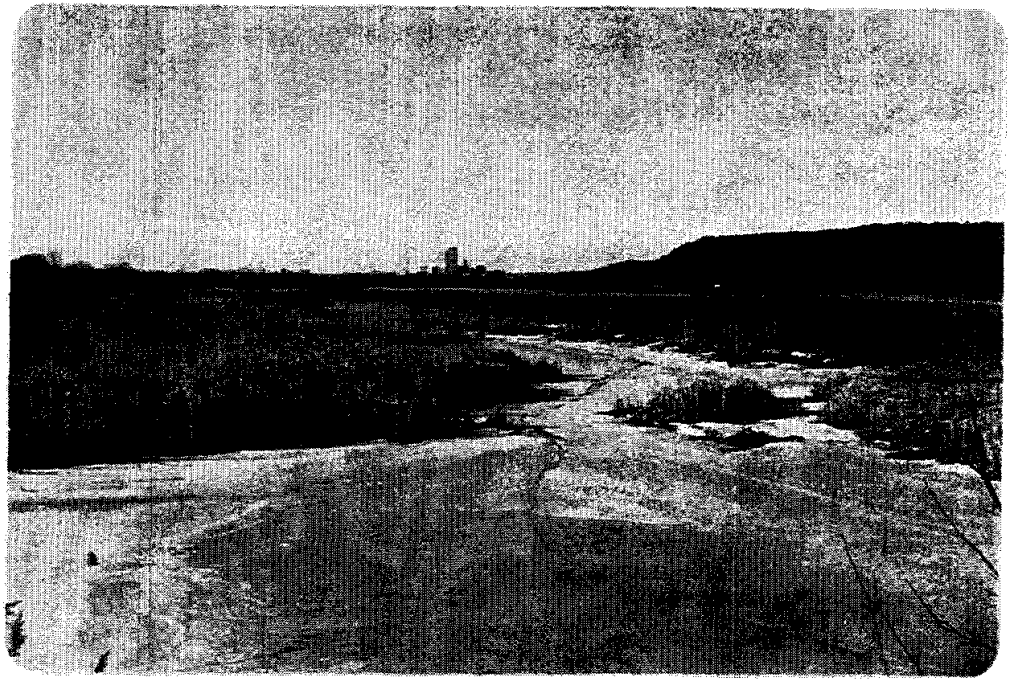
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Exhibit II - A
PHOTO LOCATIONS

Map No.

1



2



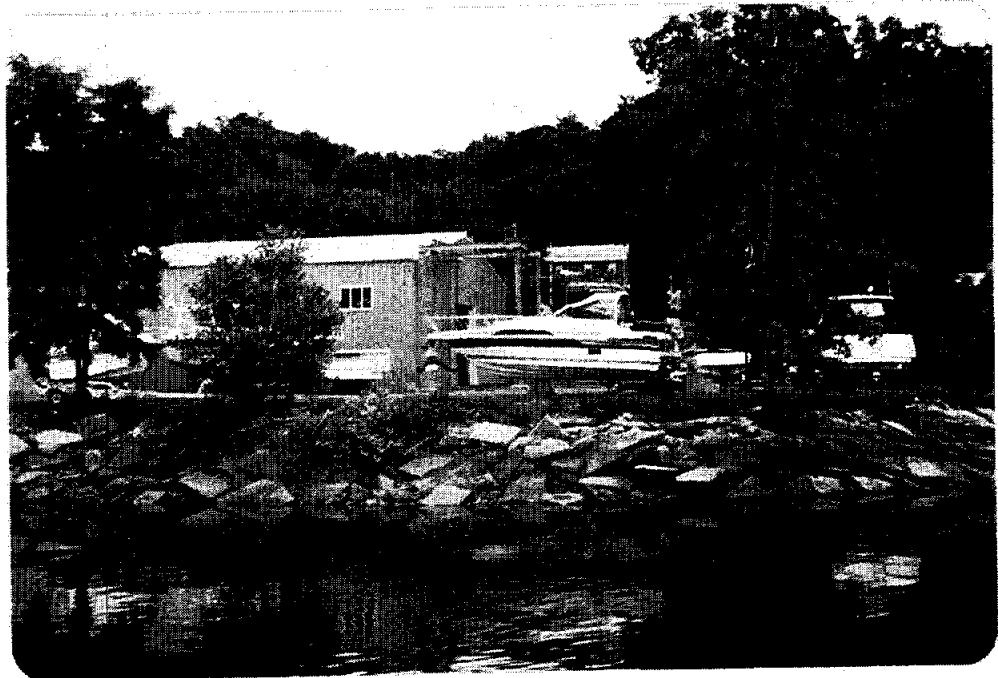
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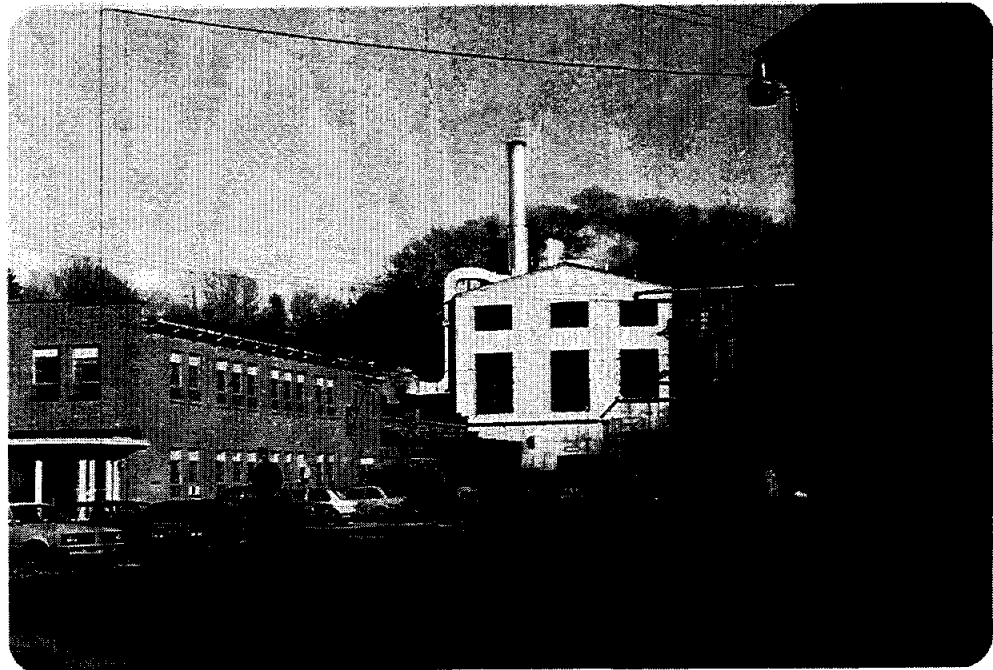
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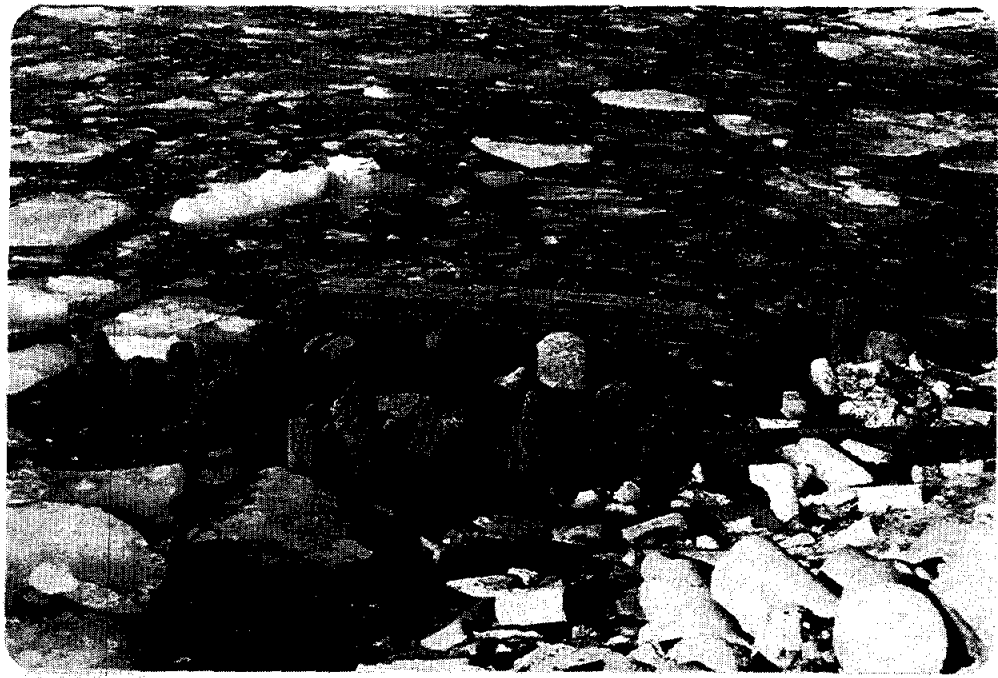
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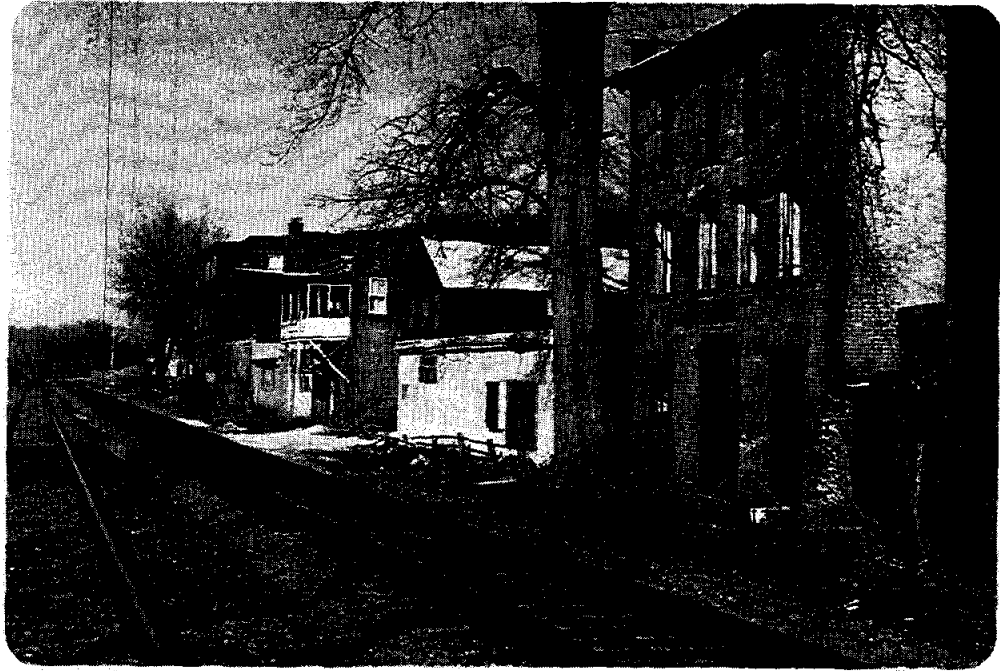
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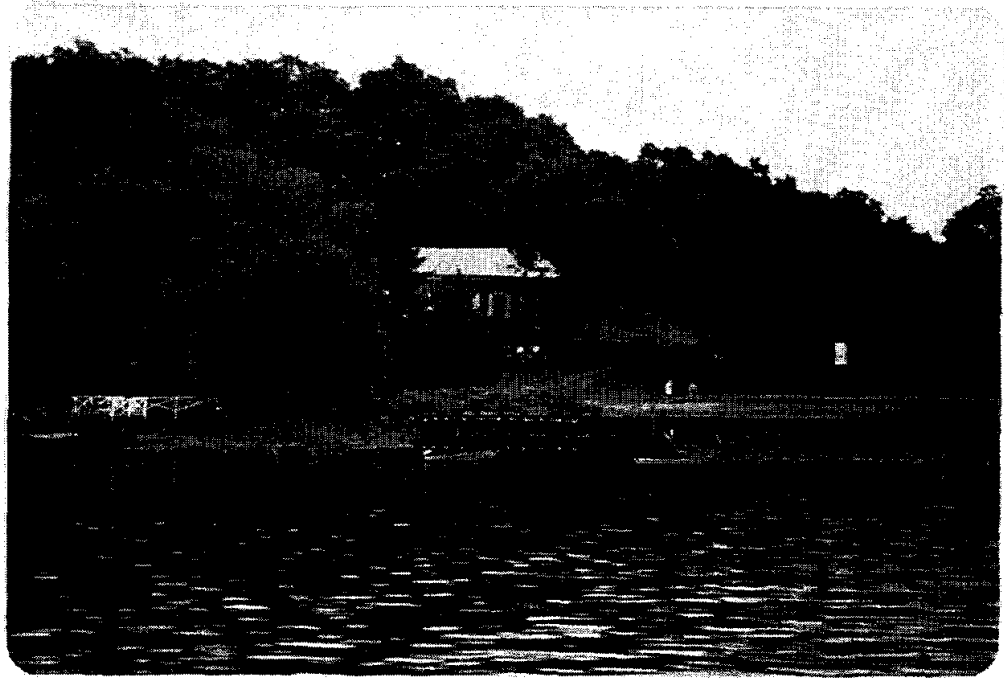
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13



14



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