POTOMAC YARD/POTOMAC GREENS

SMALL AREA PLAN

ADOPTED 1992 MASTER PLAN

ALEXANDRIA, VIRGINIA

Amended-11/24/1992 Ordinance #3603
Amended-11/18/1995 Ordinance #3836

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The listing of City Officials and Staff from the original adopted version of this Small Area Plan does not reflect current appointments and therefore is not included in this online version.

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PURPOSE OF THE PLAN

The purpose of this document is to update the Adopted 1974 Consolidated Master Plan for the Potomac Yard/Potomac Greens area and as a part of the City's new Master Plan. Once adopted, the Small Area Plan will serve as the basis for future City Council policy initiatives and actions affecting land use, zoning, capital improvements and programs in the Potomac Yard/Potomac Greens area.

ORGANIZATION AND CONTENTS

The Small Area Plan is organized into two sections: Background and Issues and Recommendations. The first section reviews and analyzes existing conditions and trends in the study area including physical description, demographics, land use, zoning economic development activities and trends, transportation and urban design_ This section also retraces past City policies in the area, including the 1974 Master Plan, rezoning, resolutions and capital improvement programs. Based on this analysis this section identifies issues which need to be addressed in the plan for the area.

The second section lists the goats, objectives and specific, recommendations on land use, zoning, transportation and urban design.

BACKGROUND AND ISSUES

DESCRIPTION OF THE AREA

The Potomac Yard/Potomac Greens plan area (Map 1) is located in the northeastern section of the City along the Potomac Corridor. This area is bounded generally by Jefferson Davis Highway (U.S. Route 1) on the west; Four Mile Run on the north; the Potomac River on the east; and the eastern right-of-way of the RF&P Railroad tracks, Slaters Lane, and the northern property lines of Potowmack Crossing Apartments, the Towngate Office Development and Marina Towers to the south.

The George Washington Memorial Parkway runs north-south through the study area, physically separating two distinctly different sections of the study area. East of the Parkway on the Potomac River is the federally owned park area, Daingerfield Island. To the west of the Parkway are the Potomac Yard and Potomac Greens, properties of the RF&P Railroad.

Daingerfield Island

Daingerfield island is a 109 acre, federally owned park which is part of the George Washington Memorial Parkway System. The park is located east of the Parkway on the Potomac River and includes a sailing marina, a restaurant, several mufti-purpose playfields and a wooded park area.

Potomac Yard/Potomac Greens

Within the 264.2 acres comprising the Alexandria portion of the Potomac Yard are the RF&P Railroad tracks, the Amtrak service route and the Metrorail line. The Yard contains facilities for classifying, interchanging and servicing freight cars and engines. Along the southeastern portion of the Yard east of the Metrorail tracks is a piggyback facility involving the transport of truck trailers by flatbed rail cars.

North of the piggyback facility is the Potomac Greens site. This parcel is a 38.6 acre vacant tract of railroad property, adjacent to the Parkway, for which the RF&P Railroad has proposed to develop 2.4 million square feet of predominately commercial office uses.

AREA HISTORY

The Potomac Yard/Potomac Greens study area is part of the original 6,000 acre tract purchased by John Alexander, the founder of the City of Alexandria. When the cities of Alexandria and Georgetown were established in the 1700s, a transportation corridor was developed along the site. In 1843, the Alexandria Canal was completed through the site, running along the western edge of Potomac yard and providing a link to the C&O Canal at Georgetown. The Canal ceased operation in the late 1880s, as railroad use increased.

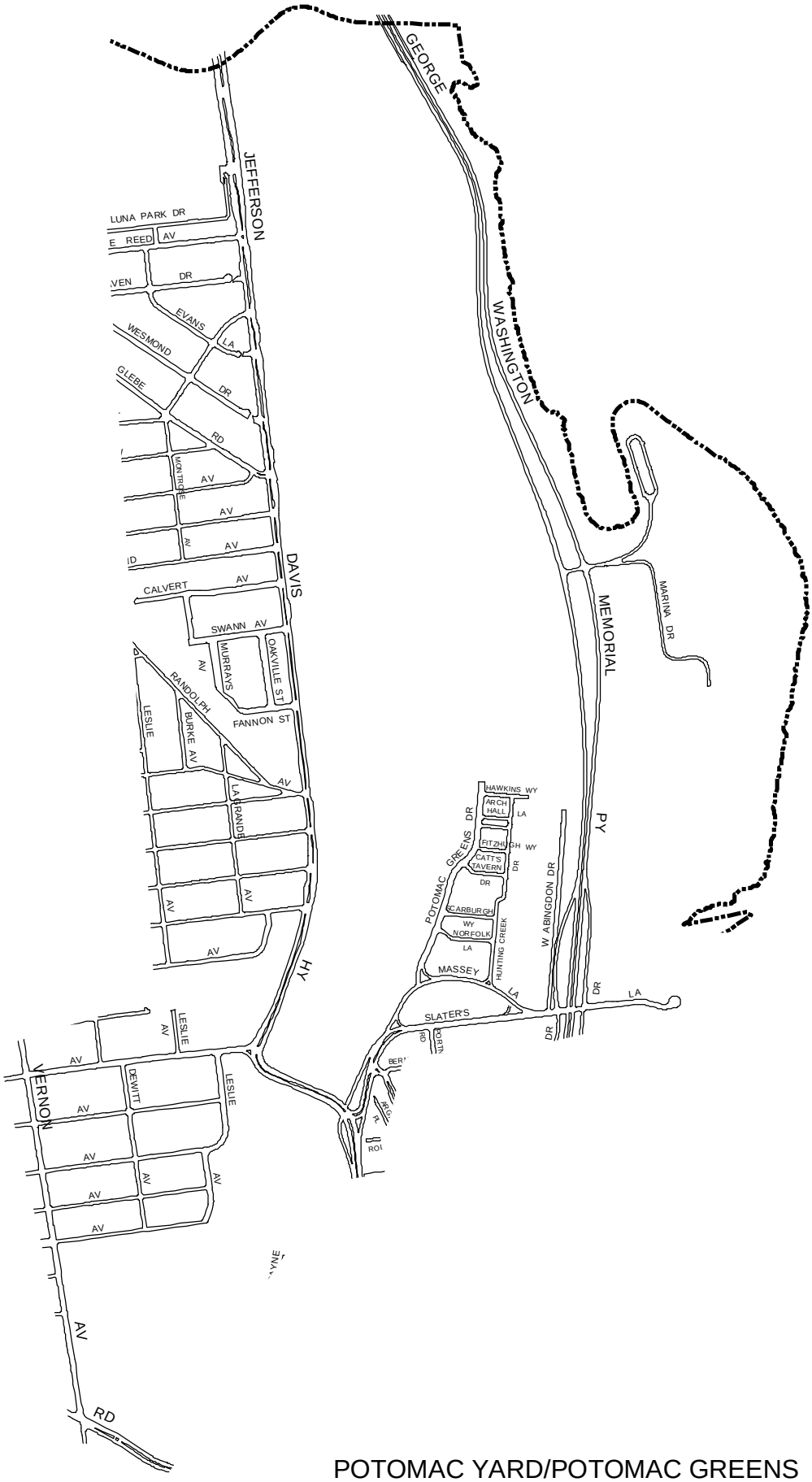
The first rail line on the Potomac Yard was completed in 1857 and connected Old Town Alexandria with South Arlington. Service was soon extended between Alexandria and Leesburg. The Potomac Yard opened in 1906 for the purpose of classifying the freight of six different railroads. Known as the "Gateway to the South," the new yard was one of the largest in the United States. Yard operations reached their peak during World War II.

The Railroad Yard provided a major impetus for the development of surrounding residential areas. The town of Potomac, now the Dei Ray and Mi. Jefferson neighborhoods in Alexandria, was known as a railroad town; many of its residents were railroad workers.

Today, about 1,500 cars a day are processed by the Yard, down from a peak of almost 5,000 cars years ago. Half of the Yard has already been closed, and the RF&P Railroad now plans to close the remainder of the Yard and maintain just a rail corridor through the site.

Map 1

Study Area



POTOMAC YARD/POTOMAC GREENS

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DEMOGRAPHICS

Population

There is no residential development, and therefore no population, in the Potomac Yard/Potomac Greens planning area.

Employment

An estimated 266 persons were employed within the Potomac Yard/Potomac Greens Area in 1990. Over half of these persons (54%) are employed by the railroad at Potomac Yard. The number of persons employed at the railyard has been declining since the late 1970s as railyard operations have been declining; less than half the volume of freight cars are handled by the Potomac Yard compared to the late 1970s.

The remainder of the persons employed in the area work at Daingerfield Island, at the sailing Marina and restaurant; and in the commercial service buildings in the north side of Slaters Lane.

TABLE 1
Estimated Employment[1]

Area	1980	1985	1990
Potomac Yard	388	323	143
Daingerfield Island	10	10	50
Slaters Lane Area	–	47	73
Total Employment	390	333	193

[1] Estimated by the Department of Planning and Community Development.

EXISTING LAND USE

The Potomac Yard/Potomac Greens study area consists of approximately 412.9 acres. The major land uses within the tract are railroad transportation use and park use; there is also the large vacant Potomac Greens parcel and a small amount of service commercial use. Map 2 shows the existing land use.

Transportation/Utility Land Use

About 266 acres, over two-thirds of the total land area within the study area, is used for railroad use and is classified as transportation/utility (Table 2). The RF&P Potomac Yard is known as the "Gateway to the South" and provides terminal service to five different railroad companies. The basic function of the yard is to receive, classify and dispatch freight cars servicing the Eastern Seaboard. As indicated previously, this function is being phased out; trackage on the southbound hump is already being removed as of this writing. The railroad land use also includes the right-of-ways for passenger, freight, and Metro rail service.

Park, Recreation and Open Space Land Use

Daingerfield Island is a 109 acre recreation area owned by the Federal Government which includes facilities for sailing, biking, hiking and field sports.

<<Map 2 Existing Land Use>>
This map not yet available in online version.

A sailing marina is located at the northern tip, with slips for 185 boats and a dry storage area for about 450 boats. The marina also includes boat storage sheds, a repair and ramp area and a five-ton boat crane. A new restaurant, snack bar and concession shop were recently constructed in this area. Further south is a picnic area and a soccer field.

The center of Daingerfield Island includes a National Park Service tree research nursery and maintenance facility. This part of the site is not open to the public.

There is a natural zone occupying the remainder of the site. In accordance with the Master Plan for Daingerfield Island this portion of the site to be kept in its natural state.

The Mount Vernon Trail, a bike and pedestrian path, runs through Daingerfield Island adjacent to the Parkway. This is a 17 mile trail stretching between Roosevelt Island and Mount Vernon.

TABLE 2
EXISTING LAND USE [1]

Land Use	Square Feet	Acres	Percent
Utility/Transportation	11,578,248	264.2	64.0
Recreation/Open Space	4,748,040	109.0	26.4
Service Commercial	41,213	0.9	0.2
Vacant	1,679,673	38.6	9.4
Total	18,047,174	412.7	100.0

[1] Land use area is estimated on data from several sources.

Service Commercial

A small amount of land (0.9 acres) on the north side of Slaters Lane is in service commercial use. There are three warehouse type buildings in this area, including two located on property leased from the RF&P railroad. These buildings are occupied by Domino's Pizza, an Avis garage and storage facility and a commercial firm, Staff Directories Ltd.

Vacant Land

The only vacant parcel within the study area is the Potomac Greens site which comprises 9% of the study area.

EXISTING ZONING

Existing zoning within the area (Map 3) is generally 1-2 Industrial west of the George Washington Parkway, on the Potomac Yard and Potomac Greens parcels; and WPR-Waterfront Parks and recreation east of the Parkway, on Daingerfield Island. There are also a few acres with 1-1 Industrial zoning.

<<Map 3 Existing Zoning>>
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Industrial Zoning

In total, about 298 acres are zoned industrial, and all but 3.4 of these acres are zoned 1-2 Industrial. The I-2 zone allows heavy industrial uses such as railroad yards, warehouses and truck terminals, but also allows high density commercial development up to a Floor Area Ratio (F.A.R.) of 3.0. Commercial and residential development up to a 5.0 F.A.R. is allowed under the 1-2 zoning with a Planned Unit Development. The small amount (3.4 acres) of 1-1 Industrial is located on the north side of Slaters Lane. The I-1 zone is similar to the 1-2 zone but does not allow heavy industrial uses; it also allows high density commercial development up to a 2.5 F.A.R. by right or a 5.0 F.A.R. with a Planned Unit Development.

Waterfront Park and Recreation

The 109 acres of Daingerfield Island are zoned WPR-Waterfront Park and Recreation. The WPR zone limits the use of property to waterfront activities such as boating and docking facilities, restaurant use, public buildings and public parks. This zone does not have a F.A.A. limitation, but limits a building's lot coverage to a maximum 30 percent and requires that a minimum of 25 percent of the area be open space.

TABLE 3
EXISTING ZONING

Zone		Square Feet	Acres	Percent
Industrial	I-1	148,104	3.4	0.8
	I-2	13,150,765	301.9	73.0
Waterfront, Park & Recreation	WPR	4,748,040	109.0	26.2
Total		18,046,909	414.3	100

EXISTING HEIGHT LIMITS

Height limits in the area are determined by the Old and Historic Alexandria District and by zoning restrictions (Map 4.) The Old and Historic Alexandria District limits height to 50 feet within 500 feet of the center line of the George Washington Memorial Parkway. To the east of the Parkway, on Daingerfield Island, the WPR zoning restricts heights to a maximum of 30 feet.

West of the Parkway and outside of the Old and Historic District, development rights are limited by the industrial zoning to 77 feet by right. Additional height, up to 200 feet is possible with a special use permit under the existing Industrial zoning.

Heights in the area are also subject to FAA height limitation because of this area's location relative to National Airport. These FAA regulations are discussed below in the section on development constraints.

<<Map 4 Existing Heights>>
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ENVIRONMENTAL CONDITIONS

Topography

The Potomac Yard/Potomac Greens Area's topography is flat to gently sloping, with elevations ranging from 2.5 to 49 feet. East of the Parkway, on Daingerfield Island, elevations range from 2.5 to 10 or 11 feet. The limited areas where the elevation drops below three feet consist of drainage areas which act as ponding areas during periods of heavy rain. These areas are in their natural state.

The land west of the Parkway, at Potomac Yard and Potomac Greens, is gently sloping. Elevations range from 10 to 49 feet, with most of the land between the elevation of 25 and 37 feet. The highest elevations are at the man-made hump used to switch railroad cars.

Flood Plain

The City's 1991 Flood Plan Maps show that about half of the study area is located within the 100 year flood plain; that is, within the area likely to be partially or completely inundated by a level of flooding that occurs at least every 100 years.

The 100 year flood plain covers Daingerfield Island, the Potomac Greens site, and a small portion of the Potomac Yard located at the northern end of the site along Four Mile Run (Map 5).

The City code restricts development within the floodplain in accordance with Federal regulations. These regulations restrict residential development within the floodplain, unless the first floor of the structure is raised above the 100 year flood level. Non-residential development is allowed to be built within the flood plain provided that utility and sanitary facilities are flood-proofed up to the 100-year flood level and that other restrictions relating to electrical and mechanical systems are observed.

The City code also prohibits any kind of filling within the flood plain area that would increase the water surface elevation of the 100 year flood more than 0.5 feet.

Wetlands

Currently, wetlands regulation in the City is developed and enforced by the Army Corps of Engineers and the Virginia Marine Resources Commission. Corps regulations require the protection and/or replacement of wetlands during the development process. The law requires that the Corps review all development projects involving either dredging or filling (i.e. any change in grade or land disturbance) within wetlands. Individual project permits are required for projects involving ten or more acres of wetlands disturbance. Projects with less than ten acres of disturbance may qualify for consideration under a general permit but the Corps retains the discretion to 'require a specific project permit according to the circumstances. In addition, all development in tidal wetlands requires a specific project permit from the Virginia Marine Resources Commission in accordance with the Virginia Wetlands Act. The Corps and other federal and state agencies define wetlands as those areas meeting all three criteria:

- the area must exhibit wetlands hydrology
- the predominant vegetation must be wetlands type vegetation
- it must have hydric soils.

Based on this definition and preliminary research, a consultant, working for the Northern Virginia Planning District Commission in conjunction with implementation of the Chesapeake Bay Preservation Act, has mapped existing wetlands within the study area. One wetland area is located on the east side of the George Washington Parkway in the south central part of Daingerfield island. The other wetland area is located along the west side of the George Washington Parkway (see Map 6).

<<Map 5 Constraints>>
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<<Map 6 Wetlands Preservation Area>>
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Chesapeake Bay Preservation Act

These wetlands in the study area will be affected by the Chesapeake Bay Preservation Act. This Act was enacted by the Virginia General Assembly in 1988 to initiate a cooperative state and local effort to protect the water quality of the Chesapeake Bay and its tributaries through land use control management.

Under the direction of the Chesapeake Bay Local Advisory Board, the City of Alexandria, like other jurisdictions throughout northern and eastern Virginia, formulated a local ordinance which implements the State's Chesapeake Bay Preservation Act. The Ordinance, which was adopted January 28, 1992, establishes policies that will protect the quality of water in the Chesapeake Bay and its tributaries through the control of non-point pollution.

Specific land management policies will apply to each class of land in the City. The most environmentally sensitive areas, including all wetlands, are classified as "Resource Protection Areas" and are limited to redevelopment and water dependent development as defined in the Chesapeake Bay regulations, except for specific exceptions contained in the act such as public roads and utilities. This ordinance will affect development within the study area, particularly on the Potomac Greens site where there are wetlands.

Hazardous or Toxic Soil Conditions

A 1977 City map. of areas in the City which are exposed to possible contamination of soils indicates that the study area is free of arsenic contamination, methane gas generation and other hazardous soil conditions. As the draft Environmental impact Statement for the Potomac Greens site prepared by the National Park Service notes, there is a possibility, based on past uses of the RF&P rail yard, that some of the soils in the study area are contaminated with hazardous materials, including PCBs and heavy metals. However, there is no evidence to confirm this.

A preliminary analysis of soils on the Potomac Yard section of the site was conducted by Hydrosystems, Inc. iri 1988 and was reviewed by the Virginia Department of Waste Management. Soil or water samples were collected from ten locations on the Potomac Yard. The soil analysis showed no particular problems on the site with PCB, volatiles, metal or arsenic concentrations. Extensive additional testing, and remediation in the event of adverse findings, would be required under Federal and State regulations prior to any development of the area. The site is also currently under review by the U.S. Environmental Protection Agency Region III Superfund program.

The 1988 Hydrosystems study states that the northern part of the Potomac Yard is composed of marshland that was filled some time ago with fly ash. The Potomac Greens Draft EIS indicates that there is also a 6 to 16 foot layer of fly ash on much of the Potomac Greens site.

ADDITIONAL FACTORS AFFECTING DEVELOPMENT

Federal Aviation Administration Height Restrictions

Heights within the study area are limited by Federal regulations because of the location relative to National Airport. The FAA regulations restrict heights in the area to 150 feet above the existing airport elevation. Since National Airport, which was built at 16 feet above sea level, no building can be built above 166 feet above sea level. This restriction applies to the entire study area.

In addition to the overall restriction of building height to 166 feet above sea level, the FAA limits heights of structures along the approach to airport runways. Because the flight path to one of the runways of National Airport passes directly over the Potomac Yard/Potomac Greens Study Area, building height along a portion of the center of the site is restricted to between 66 and 166 feet above sea level (see Map 5).

<<Map 7 National Airport Noise Contours>>
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Noise

Most of the land within the study area is impacted by noise from National Airport flight patterns. In addition, Metro and railroad noise have significant impacts in the area near the rail corridor.

The Federal Aviation Administration provides voluntary guidelines for noise levels in areas near airports. These guidelines establish a grid around airports which estimate decibel levels. The FM grid estimates that most of Potomac Yard and Potomac Greens are in the 65-7D Ldn (Level Day Night noise, the standard measure of environmental noise) range, with the eastern section of Potomac Greens and all of Daingerfield Island in the 70-75 Ldn range (see Map 7).

A 1989 study conducted by Polysonics for Alexandria 2020 summarized generally recommended noiseland use compatibilities:

Noise Level	Compatible Land Uses
Less than 65 Ldn	Residential and all uses
65-70 Ldn	Residential, educational, hospital not recommended. Commercial acceptable.
70-75 Ldn	Residential, educational, hospital unacceptable. Commercial acceptable.
75 Ldn	Airport, railroad functions only

A preliminary noise analysis of the Potomac Yard conducted by Polysonics for Alexandria 2020 in 1989 showed Ldn levels ranging from 67-68 Ldn on the southern and western portions of the Potomac Yard site to 78 Ldn on the eastern portion of the site. The noise level will be reduced when the Potomac Yard closes.

1. Commercial uses are compatible with the noise levels over the entire site

2. Residential uses should be set back from railway tracks, metro tracks, U.S. Route 1, and the east side of the northern portion of the Potomac Yard site because of aircraft noise; should be buffered from the rail and aircraft noise by commercial uses; and should be designed acoustically to reduce interior noise.

Noise measurements on the Potomac Greens site taken in conjunction with the EIS showed sound levels of 68 Ldn to the west and 65 Ldn to the east.

Railroad Services

The RF&P classification yard is planned to be phased out over time, leaving only a rail corridor. In addition to freight service, this corridor must serve Amtrak rail service, which currently passes through the western edge of the site. Commencing in the Fall of 1991, commuter rail service from Fredericksburg and Manassas to Washington D.C. will also make use of this rail corridor. According to RF&P, two rail lines are needed to maintain service. This rail corridor will require a 90 to 120 foot wide area through the site. Any structures built over the rail lines must provide a clearance of at least 27 feet.

In addition to the rail service that traverses the rail yard, there is a rail spur line that services the Pepco power plant at Slaters Lane and Robinson Terminal at North Union Street between Pendleton and Oronoco Streets. This spur line is used in the evening or night on a daily basis to resupply coal to Pepco and is used to supply newsprint paper to Robinson Terminal. This spur line may need to be maintained.

Easements and Right-of-Ways

A number of easements and right-of-ways traverse the Potomac Yard, as described below.

Metrorail Right of Way

The Washington Area Metro Transit Authority right-of-way traverses the Potomac Yard area. The line runs above ground along the eastern edge of the Yard on, the northern portion of the site, then goes underground and crosses under U.S. Route 1, emerging above ground again for the remainder of the service route.

Electric Transmission Line Easements

There are currently two PEPCO electric power transmission line easements that are within the Potomac yard rail facility. One easement contains a 230,000 volt overhead transmission line that is located along the east side of Jefferson Davis Highway. A second easement is located just north of the Monroe Avenue Bridge and contains a 69,000 volt cable underground. The high-voltage line will have to be undergrounded as, development on the site occurs.

Jet Fuel Pine Line

A jet fuel pipe line, which provides fuel to National Airport, is located along the eastern side of the Potomac Rail yard property just west of the Washington Metro right-of-way. This pipeline must be maintained, but its location could be shifted to accommodate development, if necessary.

Telephone Company Easements

Easements containing underground MCI fiber optic cables and C&P lines are located near the Monroe Avenue Bridge. These facilities must be accommodated through the site; however their location could also be shifted if necessary to accommodate development.

LAND USE POLICY HISTORY

1974 Consolidated Master Plan

The 1974 Land Use Plan (see Map 8) designated the railroad yards Industrial, for continuing industrial use, and Daingerfield island Park, for continuing recreation and open space use (see Map 17).

The vacant Potomac Greens tract was the only site within this study area that was envisioned for development in the 1974 plan. The 1974 plan designated the Potomac Greens site as a "development potential" area in recognition of the vacant site's convenient location to the National Airport and downtown Washington and away from single family residential areas. The 1974 plan noted that full development of the site was contingent on the resolution of access problems. The 1974 plan recommended that the site be developed for a mix of uses with the intensity of the development governed by the overall design of the project and the impact of projected traffic levels on the surrounding areas.

<<Map 8 1974 Master Plan>>
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Rezonings

Since the adoption of the 1974 Consolidated Master Plan, the only rezoning in the study area has been the rezoning of Daingerfield Island and the Parkway from RA Residential to WPR Waterfront Park and Recreation. This rezoning was consistent with the existing and planned use of the area for water-related open space and recreation purposes.

Potomac Greens Site

The potential development of the vacant Potomac Greens site has been the focus of substantial debate since 1970, when the National Park Service traded access rights from the George Washington Parkway to the Potomac Greens site in exchange for a 28 acre site in Fairfax County known as Dyke Marsh.

The exchange agreement was made between the Park Service and Charles Fairchild, who at that time held a long term lease for the Potomac Greens site from the RF&P Railroad. The agreement expressly restricts access to the interchange to include only the Potomac Greens site.

Between 1973 and 1977, Mr. Fairchild made several development proposals for what was then called the Potomac Center site; one with almost 15 million square feet of mixed use development and a second with about half that amount of development. However, the, only formal site plans filed with the City were two different applications for a single office building on a portion of the site. The first site plan was denied by the Planning Commission in November 1973 because no comprehensive development proposal for the site was presented and because the proposed building appeared to encroach on planned Metrorail right-of-way. The second site plan, for a single office building of 124,000 sq.ft., was approved by the City in 1975. However, the Fairchild Company did not commence construction and the site plan expired in 1977.

Mr. Fairchild submitted no additional development plans to the City, but he did pursue approval of an interchange design with the National Park Service, submitting concept plans for the interchange to the Park Service in 1975. Although Mr. Fairchild was able to get an interchange concept approval from the Park Service, he was not able to get all of the other federal approvals required to construct the interchange, and in January 1982, the RF&P Railroad Company terminated Mr. Fairchild's lease on the property.

Following its termination of Mr. Fairchild's lease, RF&P pursued the federal approvals for construction of the interchange. RF&P secured approvals for the interchange from the Fine Arts Commission and the National Capital Parks and Planning Commission in 1983. In September 1986, the Savage Fogarty Company, in joint venture with RF&P, submitted a special use permit application to the City for the construction of a mixed use, planned unit development of 2,004,000 sq.ft. of office space, 107,000 sq.ft. of retail space, a 300 room hotel and 202 residential units on the old Fairchild leasehold and renamed the project Potomac Greens.

When the City deferred action on the proposal, Savage Fogarty withdrew the application and the Potomac Greens Associates submitted a site plan for 2,343,300 sq. ft. of office space and 107,100 sq.ft. of retail space. This second plan was rejected by the Planning Commission in May 1987 and, on appeal, by the City Council in June 1987. After approval of the development had been denied, Potomac Greens Associates filed a civil suit against the City in July 1987.

In February 1988, in an agreement with the City, Potomac Greens Associates withdrew their law suit and resubmitted a second mixed use, planned unit development plan for 1,990,000 sq.ft. of office space, 106,500 sq. ft. of retail space, a 300 room hotel and 448 residential units.

This submittal was under review, pending the publication of a final Environmental impact Statement by the U.S. Park Service for the U.S. Congress, when Potomac Greens Associates refiled their lawsuit against the City for denying the previous site plan. In April 1991, the U.S. District Court upheld the Potomac Greens Associates site plan for 2,413,000 sq.ft. of development. The City has appealed the District Court decision. A decision from the Court of Appeals is expected in the summer of 1992.

Historically, the proposed development of the Potomac Greens site has met with great opposition because of the concerns with the impact of the development and the construction of an interchange to serve that development on the historic integrity and memorial character of the George Washington Memorial Parkway, on the recreational facilities in the immediate area and on traffic congestion along a major north/south commuter route through the City.

In 1987, in recognition of these concerns, the U.S. Congress barred the National Park Service from issuing any construction permit for a parkway interchange until an Environmental Impact Statement (EIS) had been prepared. A Draft EIS was completed in November 1989 and a final EIS was filed with Congress in May 1991. The EIS reviewed the environmental, aesthetic, historic, recreational and traffic impacts of four alternative development scenarios. The first alternative included the 1986 site plan and the 1988 planned unit development proposal. Alternatives 2-4 assumed, respectively, purchase of the interchange rights, purchase of a visual buffer to protect the parkway and purchase of the entire site. The effect of these purchase alternatives was to limit or eliminate private development on the property.

Save the George Washington Memorial Parkway Citizen Suit

In 1987, a citizen group opposed to the construction of the Potomac Greens interchange, "Save the George Washington Parkway" filed a lawsuit against the National Park Service. This suit challenged the 1970 federal decision that gave the developers rights to the parkway interchange in exchange of the 28 acre Dyke Marsh in Fairfax County. The U.S. District Court ruled against the Citizens group in the Fall of 1989, saying that too much time had elapsed since the exchange for the interchange was made. The group appealed the decision, and in October 1990, the Court of Appeals reversed the U.S. District Court decision and remanded the case to the Court for further proceedings. In early 1991, 'the RF&P Railroad, which had earlier intervened in the suit, requested the U.S. Supreme Court to reverse the Court of Appeals decision. The Supreme Court refused to review the case which is now pending before the District Court.

Park Service and RF&P Railroad Lawsuits

The National Park Service claims that it holds an easement over a portion of the Potomac Yard located north of Four Mile Run in Arlington County. This easement would prevent private development on this part of the Yard. Negotiations between the National Park Service and the RF&P Railroad for a possible exchange under which the Park Service would relinquish the easement over the Arlington portion of the tract in return for RF&P relinquishing access rights to the Parkway were unsuccessful. The RF&P railroad filed two suits against the Park Service over the easement. RF&P filed the first suit in the Federal District Court for the Eastern District Court of Virginia to secure quiet title to the easement. The court barred the suit because of the length of time that had elapsed since the easement was granted. The RF&P is appealing this decision to the 4th Circuit in Richmond and the appeal is scheduled to be heard in July. RF&P's second suit was filed in the U.S. Claims Court in D.C.; discovery will continue throughout the summer.

Potomac Yard - Alexandria 2020

Working as a joint venture called "Alexandria 2020," the RF&P Railroad Company and CSX Realty, Inc. have been preparing a plan for the past two years to redevelop the Potomac Yard tract, including the Arlington portion of the site.

The preliminary concept plan envisions 17 million square feet of mixed use development on the site, with about half of the development in residential uses. The concept includes the provision of almost 4 million square feet of office space for the Navy Consolidation project on the Arlington portion of the tract. In the Alexandria portion of the project, the concept plan provides for predominately residential development, with commercial development around a proposed new metro station near the center of the Alexandria portion of the tract, adjacent to the Potomac Greens tract.

TABLE 4
ALEXANDRIA 2020/POTOMAC GREENS PROPOSED DEVELOPMENT PROGRAM

	2020			Potomac Greens	
	Gross Sq. Ft. In Arlington	Gross Sq. Ft. In Alexandria	Gross Sq. Ft. Total	Gross Sq. Ft. Total	Gross Sq. Ft. Total
Office	4,140,900	3,529,100	7,670,000	2,343,300	10,013,300
Hotels	180,000	527,500	707,500		707,500
Residential	340,000	7,322,500	7,662,500	107,100	7,769,600
Support Retail	70,000	440,000	510,000		615,000
Other	35,000	415,000	450,000		450,000
Total	4,765,900	12,234,100	17,000,000	2,450,400	19,555,400

Sources: Alexandria 2020 Potomac Yard Fact Sheet, Concept Plan II, February 15, 1990. Potomac Greens Site Plan Applications, 1987.

TRANSPORTATION

The study area is located between two major north-south commuter routes that serve as key links between the residential areas of Fairfax County and Prince William County and the employment centers of Crystal City, the Pentagon and downtown Washington D.C. These two routes are the George Washington Memorial Parkway, which is located to the east and separates Daingerfield Island from the rest of the study area, and Jefferson Davis Highway (U.S. Route t), which is located along the western edge of the Small Area Plan. Another major street, Slaters Lane. runs east-west along the southern edge of the study area connecting the Parkway and U.S. Route 1. The Monroe Avenue bridge serves as a major link in this system; the bridge was recently replaced by a new structure with greater capacity than the old bridge.

George Washington Memorial Parkway

The George Washington Memorial Parkway is a system of parkways and parklands located on both sides of the Potomac River which is maintained by the National Park Service. Although planned and constructed for a memorial function and to serve as a scenic gateway for visitors entering and leaving the National Capital Area, the Parkway has also become a major north-south commuter route. The Parkway is a four lane limited access divided arterial which is restricted from use by commercial vehicles. One-way frontage roads, East and West Abingdon Drives, run parallel to the Parkway from north of Slaters Lane to First Street. At First Street, the divided Parkway ends and becomes Washington Street, the major north-south street through Old Town Alexandria. Washington Street has six lanes, with the right lane reserved for high-occupancy-vehicles during peak periods and for parking in the off-peak periods. Within the study area, access to the Parkway is currently limited to Slaters Lane, Abingdon Drive, the Daingerfield island entrance and Washington Street to

the south.

Jefferson Davis Highway

The Jefferson Davis Highway (U.S. Route 1) is a four-lane divided arterial road from Reed Avenue near the northern City limits south to the Monroe Avenue bridge, which provides access over the RF&P railroad tracks. The bridge itself is a four lane facility, with separate left turn lanes providing access to Monroe Avenue and Slaters Lane.

South of the Monroe Avenue Bridge, U.S. Route 1 is carried northbound on Patrick Street and southbound on Henry. Street. These streets are operated as a one-way pair with three lanes each. The Patrick and Henry Street pair have one lane reserved for high-occupancy-vehicles during peak periods. There are HOV lanes only on this short section of U.S. Route 1 from the southern Alexandria boundary to the Monroe Avenue bridge: there are no HOV lanes on Route 1 in Arlington, in Fairfax County or in the portion of Alexandria north of the Monroe Street bridge.

Major improvements to U.S. Route 1 in Arlington County have been undertaken in the past decade in conjunction with development of Crystal City; these improvements include widening U.S. Route 1 to three through lanes in each direction in Arlington and increasing access from the corridor into Crystal City through new streets, ramps and improved intersections. As part of the project, Jefferson Davis Highway in Alexandria was widened to six lanes north of Reed Avenue.

Monroe Avenue Bridge

The Monroe Avenue bridge connects U.S. Route 1 (Patrick and Henry Streets) to Jefferson Davis Highway over the Potomac Yard and also connects Slaters Lane to Monroe Avenue. In 1988, the old bridge was replaced by a new bridge located further south. The new bridge has the same number of through lanes as the bridge it replaced, two lanes in each direction; however, the new alignment of the bridge was altered significantly, changing the circulation patterns and improving traffic flow. The new' alignment facilitates traffic movement from Slaters Lane on to U.S. Route 1, while discouraging the use of Powhatan Street. As part of the bridge project, the intersection of Bashford Lane and U.S. Route 1 was closed.

Slaters Lane

Slaters Lane is a four lane undivided roadway which is the northernmost link in Alexandria between U.S. Route 1 and the Parkway. The replacement of the Monroe Avenue bridge improved access from Slaters Lane to U.S. Route 1 through the addition of turning lanes and slip ramps. The intersection of Slaters Lane and the Parkway is signalized. Slaters Lane also provides access to the RF&P piggyback yards and other commercial and industrial sites located along its length.

Public Transportation Facilities

Although the Potomac Yard/Potomac Greens study area is not currently well served by transit, there is potential for excellent transit access. A new Metro station could be built in Alexandria between the Potomac Yard and Potomac Green tracts.

Metrorail

The Braddock Road Metro Station is located toward the southern end of the study area, along the RF&P rail lines near Braddock Road. The Washington Metropolitan Area Transit Authority Metrorail right-of-way runs along the eastern edge of the Potomac Yard site. The rail system was planned and built so that a new station could be constructed on this right-of-way, about midway between the Braddock Road and National Airport stations, near the Center of the Potomac Yard and Potomac Greens tracts.

Currently, WMATA runs service between D.C. and Huntington along this corridor. The yellow4ine serves the Braddock Road, King Street, Eisenhower Avenue and Huntington stations to the south, and the National Airport, Crystal City, Pentagon City, Pentagon and downtown D.C. stations to the north. Additional blue line service from Maryland and D.C. extends through the site from D.C. to the Van Dorn Metro station to the south. Any new metrorail station on the site would be served by both the Blue and Yellow lines.

Commuter Rail Service

Commuter rail service is scheduled to begin operation in early 1992 from Fredericksburg and Manassas to downtown D.C.. Since the rail lines will service commuter rail via Potomac Yard, there is potential for a commuter rail station to be located along with a future Potomac Yard Metrorail station. There is a planned commuter rail stop at the King Street Metro Station.

Bus Service

WMATA Metrobus service in the area is limited to two lines. The Metrobus 9 line originates at Fort Belvoir to the South and follows U.S. Route 1 through Fairfax County to Washington Street in Alexandria and then crosses over to Route 1 at the Monroe Avenue Bridge, passing along the western edge of the Potomac Yard track. This line terminates at the Pentagon. The, second bus line, Metrobus 11, also originates at Fort Belvoir but follows the Mt. Vernon Parkway/Washington Street/George Washington Parkway alignment. This line stops at National Airport and provides service to downtown D.C. The City's DASH bus system does not currently serve the study area.

Transportation Policy

The City's overall transportation policy has been to protect the eastern portion of the City and its. neighborhoods from through traffic emanating from Fairfax County, Maryland and from other jurisdictions south of the City. The City has a policy of maintaining constrictions at the portals to the City from the south and not widening arterial roadways serving north/south traffic.

While it has not encouraged the movement of additional cars through its eastern half, the City has encouraged increased movement of people through the city by its support of Metrorail, Metrobus, and DASH and of High Occupancy Vehicle lanes on Washington Street and on U.S. Route 1.

Nevertheless, traffic has steadily increased and there has been a persistent debate about what to do about the problem. The debate has included solutions ranging from doing nothing and hoping that increased congestion will discourage commuters, to constructing a billion dollar tunnel on U.S. Route 1 through the City, to hoping that traffic will quietly and invisibly flow through the City with minimum disruption to Alexandria's residents.

U.S. Route 1 and Other Improvements

A very large part of the debate relates to U.S. Route 1. In 1977, Council established its position on the Route t corridor in a Resolution (#554) which stated Council's opposition to:

1. The replacement of the Monroe Avenue Bridge with a 6 lane bridge.
2. The widening of Jefferson Davis Highway to six lanes from a point 100 ft. north of Reed Avenue southward.
3. The Potomac Expressway (a new road along Four Mile Run).
4. The Northeast Expressway (a road from Washington Street on Powhatan Street and through the Potomac Yard Tract to the north)
5. Any Commonwealth Avenue-Fads Street connection
6. Any widening of Reed Avenue.

These policies have not been changed. In accordance with these policies, the new Monroe Avenue replacement bridge was restricted to four lanes. The bridge was designed to serve U.S. Route 1 traffic and to improve the connection between the corridor and the George Washington Memorial Parkway using Slaters Lane; However, the redesign removed the direct connection between the bridge and Powhatan Street and therefore afforded the Northeast neighborhood some protection from through traffic.

Similarly, the City has resisted pressure to improve Jefferson Davis Highway north of the Monroe Avenue Bridge to Four Mile Run, although the Virginia Department of Transportation has recently completed a major widening of Jefferson Davis Highway within Arlington County to six lanes from Crystal City to just north of Reed Avenue in Alexandria.

U.S. Route 1 Relocation

Since the mid-1970's the City has considered eliminating the one way pairing of Patrick and Henry streets to serve as U.S. Route 1 through the older neighborhoods of the City. Most recently, in 1987, the City asked the Washington Metropolitan Council of Governments (WMCOG) to conduct a preliminary feasibility study on the relocation of the Route 1 corridor.

The WMCOG study reviewed four alternative alignments of U.S. Route 1, including a tunnel under Patrick and Henry Streets, a tunnel under Fayette Street, a four lane alignment along the RF&P railroad tracks and connecting to Huntington Avenue south of the Beltway, and a four lane alignment from Huntington Avenue into a tunnel in the Potomac paralleling the river bank. The study found that all of the new facilities would improve traffic conditions only temporarily: a new facility would attract new traffic and by the year 2010 Patrick and Henry Streets and any new facility would be severely congested. The costs of all of the alternatives were estimated to be prohibitively expensive.

WMCOG also analyzed several HOV alternatives for U.S. Route 1, including the H0,V lanes on the new alignment alternatives, and the construction of an HOV-only facility. WMCOG found that the HOV alternatives kept congestion at or below 1988 levels while accommodating future growth in the corridor and recommended further study of the HOV possibilities.

George Washington Memorial Parkway Interchange

Council has stated their opposition to construction of an interchange on the George Washington Memorial Parkway at the Potomac Greens site, because of the transportation impacts on surrounding areas and because of the visual impact along the Parkway, which is within the City's historic district. A citizen civil suit challenging the legality of the exchange which resulted in the railroad's right to build the interchange is also pending and could also determine whether or not the interchange is ultimately built.

Existing Traffic Conditions

Existing intersection Level of Service By Approach

The table below shows existing intersection levels of service. Key intersections on the Parkway near the study area are currently operating at level of service F during both the morning and evening peak hours. Conditions are better on the Washington Street portion of the Parkway system. The other major street serving through traffic, Route 1, is operating much better at key intersections, generally in the B-C range.

TABLE 5
1990 Intersection Level of Service

Intersection	Peak Hour	NB	SB	EB	WB	Overall
GW Parkway/E. Abingdon Dr.	AM	F	-	-	F	F
	PM	-	-	-	F	F
GW Parkway/Slaters Ln.	AM	F	B	E	B	F
	PM	B	F	D	C	F
Washington St./First St.	AM	B	B	-	C	B
	PM	A	F	-	C	F
Washington St./Montgomery St./Powhatan St.	AM	C	B	D	-	C
	PM	F	F	C	-	F
Jeff Davis Hwy./E. Glebe Rd.	AM	C	B	D	-	C
	PM	B	F	C	-	F
Monroe St./Jeff Davis Hwy.	AM	F	D	-	C	F
	PM	C	C	-	D	C
Monroe St./Henry St.	AM	F	D	-	C	F
	PM	C	C	-	D	C
Patrick St./Montgomery St.	AM	D	-	-	C	D
	PM	B	-	-	C	B
Madison St./Patrick St.	AM	E	-	C	-	E
	PM	B	-	C	-	B
Henry St./Montgomery St.	AM	-	B	-	C	B
	PM	-	D	-	D	D

Source: Turning Movement Counts -1990 Frederic R. Harris, Inc.; Level of Service Calculations – Department of Transportation and Environmental Services.

Existing Traffic Volumes

The table below shows existing traffic volumes on the key streets near the study area. The Parkway carries about 2,300 northbound vehicles during the am. peak hour and 2,000 in the p.m. peak hour. Along the western edge of the study area, Route 1 carries about 2,000 vehicles northbound in the morning and southbound in the evening.

TABLE 6
Traffic Volumes on Key Links

	AM	PM
GW M Parkway NB at Slaters Lane	2,321	1,370
GW M Parkway SB at Slaters Lane	918	2,000
Slaters Lane WB at GWM Parkway	61	136
Slaters Lane WB at Powhatan Street	58	233
Slaters Lane EB at GWM Parkway	842	376
Slaters Lane EB at Powhatan Street	851	399
Powhatan Street NB at Slaters Lane	239	276
U.S. Route 1 NB at Monroe Avenue	2,170	1,237
U.S. Route 1 NB at East Custis Avenue	1,983	984
U.S. Route 1 NB at Reed Avenue	1,959	864
U.S. Route 1 NB at East Glebe Road	1,962	1,020
U.S. Route 1 SB at Monroe Avenue	1,282	1,874
U.S. Route 1 SB at East Custis Avenue	906	1,710
U.S. Route 1 SB at Reed Avenue	756	1,934
U.S. Route 1 SB at East Glebe Road	756	2,034
Monroe Avenue EB at U.S. Route 1	149	367
East Custis Avenue EB at U.S. Route 1	183	42
Reed Avenue EB at U.S. Route 1	244	80
East Glebe Road EB at U.S. Route 1	313	164

Source: 1990, Frederic R. Harris, Inc.

Frederic R. Harris Traffic Analysis

Information about future traffic conditions in the study area was developed using the City's computerized traffic model. The City commissioned the transportation consulting firm of Frederic R. Harris to do a transportation study of the area using outputs from the City's traffic model. The Harris study analyzed the transportation impacts of three development levels and different roadway and transit improvements. The assumptions for each of the scenarios are summarized in the table below:

TABLE 7 Land Use and Network Assumptions Frederic R. Harris Traffic Analysis			
	Scenario	Land Use	Road Network
A.	No Growth in City; Full Regional Growth	No Development on Yard/Greens or in rest of the City beyond 1990 levels	2010 base network
B.	No PY/PG Growth; Full City Growth; Full Regional Growth	14 Million sq. ft. office development in the City, with none on Potomac Yard or Potomac Greens	2010 base network
C.	Low PY/PG Growth; Full City Growth; Full Regional Growth (Figure 3)	1.1 Million sq. ft. of office development in the City on PY/PG (plus 2.0 sq. ft. in Arlington), 3,260 residential units in the City on PY/PG, plus 12.9 million sq. ft. of office development in the rest of the City.	2010 base network plus Potomac Yard street improvements; No Metro station
D.	Medium PY/PG Growth; Full City Growth; Full Regional Growth (Figures 2 & 4)	3.8 Million sq. ft. of office development in the City on PY/PG (plus 2.8 million sq. ft. in Arlington), 6,750 residential units in the City on PY/PG, plus 10.2 million sq. ft. of office development in the rest of the City.	2010 base network plus Potomac Yard street improvements plus Parkway interchange; With Metro station
E.	High PY/PG Growth; Full City Growth; Full Regional Growth (Figure 5)	5.6 Million sq. ft. of office development in the City on PY/PG (plus 4.1 million sq. ft. in Arlington), 6,750 residential units in the City on PY/PG, plus 8.4 million sq. ft. of office development in the rest of the City.	2010 base network plus Potomac Yard street improvements plus Parkway interchange; With Metro station

PY/PG: Potomac Yard/Potomac Greens

2010 Base Network includes these major roadway improvements:

City:

- a ramp connecting the Telegraph Rd. exit ramp from EB 1-95 with Eisenhower Avenue
- a collector/distributor road along WB 1-95 between the Rte. 1 and Telegraph Rd. interchanges
- an interchange on 1-95 at Clermont Avenue

Region:

- the Eastern Bypass
- the widening of the Woodrow Wilson Bridge from 6 to 10 lanes
- the widening of the Capital Beltway in Virginia from 8 to 12 lanes
- the extension of Crystal Drive North to 1-395
- alt other roadway improvements in the MWCOG 2010 network and the Northern Virginia 2010 regional plan

Potomac Yard Improvements are:

- a four Lane, two-way spine road from the Monroe Avenue Bridge to Crystal City Drive
- a grid of local streets within the Potomac Yard connecting to Route 1 and the "spine road"
- a realigned Monroe Avenue Bridge

The Harris findings are detailed in a separate report, and the major findings of the study are summarized below.

Future Traffic Conditions with No Additional Development in the City (Scenario A)

The most important conclusion of the Harris study is that regional growth will have a significant impact on peak hour traffic conditions in Alexandria. The Harris analysis shows that peak hour traffic conditions in the year 2010 within the City will be much worse than they are today because of regional growth, even if the City allows no new development anywhere in the City. Figure 1 shows congested links under this scenario. The report states:

> increases in projected regional growth will have a significant impact upon travel within the City of Alexandria, regardless of whether or not any new development is permitted with the boundaries of the City. Traffic volumes generated elsewhere in the region will continue to result in increased levels of traffic congestion on Alexandria's streets. In particular, increases in peak period traffic volumes on U.S. Route 1, the GWM Parkway, and the collector streets leading to these major commuter routes will account for much of this congestion. As peak hour and peak period traffic volumes continue to grow, alternative arterial routes, collector streets, and even local neighborhood streets will be affected as traffic seeks ways to avoid congested intersections and street segments (p. 41).

It is important to keep this finding in mind. The traffic impacts of the Potomac Yard/Greens site cannot only be measured relative to today's traffic conditions, because even if no additional development in the City occurs, traffic conditions will not stay as they are today: they will become considerably worse. The Harris screenline analysis shows that, overall, northbound and eastbound peak hour traffic within the Potomac West area can be expected to increase by almost 100 percent by 2010 and that northbound traffic within the Old Town area can be expected to increase by about 40-45%, compared to current levels.

The predicted traffic impacts of the Potomac Yard/Potomac Greens development must be compared to the traffic conditions that are predicted for the year 2010 if no development occurs on the site.

Future Traffic Conditions with Potomac Yard/Potomac Greens Development

The number of trips generated during the a.m. peak hour under each of the Potomac Yard/Potomac Greens development scenarios is shown as follows:

TABLE 8
Estimated Peak Hour Vehicle Trips
Potomac Yard/Green Development
(Alexandria and Arlington Portions)

Scenario C	4,280
Scenario D	5,896
Scenario E	7,938

The actual volume of traffic that would be generated by the development could vary substantially depending on a number of factors, most notably the percentage of transit ridership and number of persons per auto that are achieved in the development and in surrounding neighborhoods. in the Harris report, the assumptions include moderate transit usage (15%) and carpooling rates (1.3 auto occupancy) for Scenario C, which would not have a Metrorail station, and higher target transit usage (30%) and carpooling rates (1.4 auto occupancy) in Scenarios D and E, which would include a Metrorail station. These mode splits and auto occupancies also assume a stringent TMP program for the development; if less stringent TMP measures were enacted, more vehicles would be generated.

<<Figure 1 Peak Hour Traffic Conditions>>
This map not yet available in online version.

Figure 2 shows the estimated peak hour directional distribution of the traffic that would be destined for the Potomac Yard tract as forecasted by the City's traffic model for Scenario D. Slightly over one-fourth (26.2%) of the traffic to the project would come from the south on U.S. Route 1 and the George Washington Memorial Parkway, with most of this traffic on U.S. Route 1. Over half (52.1%) of the traffic would approach the project from the west, including traffic that originates from the south but comes up 1-395 and approaches the project from the west. Almost half of the traffic approaching from the west is likely to be on S. Glebe Road in Arlington. Without preventative action by the City, the other traffic from the west would filter through on other streets such as E. Glebe Road and Monroe Avenue onto U.S. Route 1 and into the project. About 21.6% of the total traffic is estimated to approach the project from the north, including a very low percent (2.4%) coming southbound on the Parkway to Slaters Lane. Most of the traffic from the north is likely to approach the project from Jefferson Davis Highway southbound through Arlington.

Scenario C (Tests Council Members Plan)

Scenario C tests the impact of 1.1 million square feet of office space and 3,260 residential units on the Alexandria portion of the Yard (plus an additional 2.0 million square feet of office space on the, Arlington portion of the site). This scenario assumes no Metrorail station. Figure 3 shows congested road segments(level of service F or worse) under development Scenario C. Substantial areas of congestion exist throughout the area, including the downtown area and Potomac West, U.S. Route 1 and the George Washington Memorial Parkway. However, there is actually less congestion City-wide than under Scenario A, where no development occurs on the Yard or in the rest of the City.

There are several processes occurring which explain this result:

1. Construction of the Potomac Yard Network provides substantial new roadway capacity in the area of the project, alleviating congestion on other roads.

2. The regional effect of a development the size of the Yard is substantial and existing trip patterns will eventually shift. For example, because the Yard is so close to D.C., many of the projected residents will have jobs in close-in D.C., Alexandria and Arlington. These shorter trips will replace longer trips from Fairfax, Prince William, etc., through Alexandria to Arlington and D.C, reducing traffic through Alexandria.

3. Some through trips on the City's streets will be displaced by local traffic destined for the Yard.

Scenario D

Scenario D tests the affect of 3.8 million square feet of office space and 6,450 residential units on the Alexandria portion of Potomac Yard and Potomac Greens (plus an additional 2.8 million square feet of office development and 300 residential units on Potomac Yard in Arlington). This scenario also includes a Metrorail station.

Figure 4 shows the impact of this development level in the study area. While Scenario C introduces an additional 3.5 million square feet of office development and several thousand residential units, the addition of the Metrorail station increases the percentage of non-auto trips, both within the development and within neighborhoods in the Potomac West area. Overall, there is very little difference in peak hour congestion levels between this scenario with moderate development, and the lower level of development shown in Scenario C.

<<Figure 2 Estimated Directional Distribution of Trips To Potomac Yard and Potomac Greens>>
This map not yet available in online version.

<<Figure 3 Traffic Scenario C>>
This map not yet available in online version.

<<Figure 4 Traffic Scenario D>>
This map not yet available in online version.

Scenario E (Tests Alexandria 2020 and Potomac Greens Plan)

Scenario E tests full development of Potomac Yard and Potomac Greens: 5.6 million square feet of office development and 6,450 residential units on Potomac Yard in Alexandria and Potomac Greens (plus an additional 4.1 million square feet of office development and 300 residential units on the Arlington portion of Potomac Yard). Scenario E represents full build-out of the Potomac Yard and Greens sites as currently proposed by their owners compared with Scenario D. Although congestion does increase slightly when the additional development is added in this scenario, generally, peak hour congestion levels remain generally the same as under Scenario D; there is moderate congestion on north-south streets in the Potomac West area and more marked congestion within the Old Town and Braddock areas.

Effect of Additional Road Improvements

The Harris report analyzed additional scenarios which tested the effect of various road improvements on congestion levels and concluded that the following improvements would offset some of the problems created by growth:

1. construction of streets proposed as part of the Potomac Yard project, especially the spine road connecting Route 1 at Monroe Street with Crystal Drive in Arlington,

2. construction of an at-grade, controlled access, two-lane, reversible roadway along the eastern edge of the RF&P railroad right-of-way from the proposed 1-95 interchange at Clermont Avenue to the Potomac Yard development,

3. widening of U.S. Route 1 from 4 to 6 lanes between Monroe Avenue and Reed Avenue, with all the widenings to be done within the boundary of the Potomac Yards project, and

4. enhancement of the 1-395 northbound exit ramp to Glebe Road and the widening of S. Glebe road to six lanes between the interchange and U.S. Route 1.

The Harris report finds that these proposed roadway improvements would not solve all of the traffic problems in the area, but that they would bring about a considerable reduction in traffic congestion, particularly on the Jefferson Davis Highway and on some east-west streets in the neighborhoods immediately west of Potomac Yard. However, none of these proposed improvements would contribute substantially to alleviating the congestion within Old Town.

Conclusions from Report

- Peak hour traffic conditions within the City will continue to deteriorate and will be extremely congested by the year 2010, whether or not any development occurs on the Potomac Yard/Potomac Greens tract, because of the regional growth of traffic.

- With or without Potomac Yard/Greens development, the City will need to consider improvements to the transportation system that will reduce traffic impacts on residential neighborhoods near the tract.

- Based on the traffic study, the major opportunity to decrease peak hour future traffic congestion from what it might otherwise be in 2020 is to encourage the construction of the spine road and street grid proposed as part of the development of the Potomac Yard; those roads will be beneficial regardless of whether or not Alexandria 2020 is built.

<<Figure 5 Traffic Scenario E>>
This map not yet available in online version.

- Development on the Yard and its associated road and transit improvements can improve transit and high occupancy vehicle,,use. A metro station, a commuter rail facility, and improved bus service feeding into rail transit can benefit the entire eastern portion of the City. By providing a network of streets, the development of the Yard can help distribute traffic along. several streets thereby alleviating traffic congestion on Jefferson Davis Highway. The people moving potential of the U.S. Route 1 corridor could also be improved with construction of additional HOV lanes connecting Fairfax County and Arlington County.

- With development in Alexandria, locally destined traffic may begin to displace the peak hour through traffic. Although this displacement of through traffic does not necessarily diminish traffic problems, the City has a greater opportunity to mitigate local traffic impacts through the Transportation Management Program and the use of other traffic control measures than it does regional through traffic.

- In the Old Town and Braddock Road Metro areas, development of the Yard results in displacement of some peak hour through traffic; therefore, the peak hour impacts of the Potomac Yard development are not as great as might be expected, although conditions are still very congested. The construction of a two-lane reversible road along the RF&P right of way into the project does not help to alleviate congestion in the Old Town area, but does alleviate peak hour congestion in the Potomac West area.

- Large scale commercial development on the Potomac Greens site could not be accommodated without construction of an interchange and additional merge lanes along the Parkway at the interchange. Intense commercial development on the Greens site would also impact the Slaters Lane/Washington Street intersection more severely than would similar development on the Yard site.

A Final Note Regarding The Transportation Analysis:

The analysis in the Harris report is based on the use of the City traffic model which is based on an analysis of traffic conditions only in the A.M. peak hour. Therefore, the study findings are relevant only for that peak hour; the model cannot accurately predict the peak period impacts, which might be far greater, or the impact on local streets.

The traffic model allocates peak hour traffic to the fastest route between two points. The computer may assign "traffic" to one route over another because the calculated travel time is 0.1 second faster. As a street reaches capacity, the model will search for alternate, less congested routes. However, the traffic model will continue to allocate peak hour traffic to streets even after those streets have reached their real capacity, if less congested alternative routes are not available. As a practical matter, however, as all of the available alternatives reach capacity, traffic will be displaced from the peak hour to adjacent hours in the peak period under all the scenarios tested.

Although the traffic model can predict that most major radial streets will be filled to capacity at peak hour with or without the Potomac Yard development, the model cannot predict the extent to which the peak period will be lengthened. Based on recent trends, we would expect congestion to increase significantly within the peak period.

Therefore, the model predicts that construction of the Potomac Yard/Greens development will have a limited additional impact on major radials in the peak hour over and above the congestion created by 20 years of growth in the region, if major road improvements are constructed. Still, development will very likely result in lengthening congestion beyond the peak hour to include at least other hours in the peak period, and lengthening the peak period itself.

LAND USE AND URBAN DESIGN ANALYSIS

The prospect of development of the Potomac Area over the next 30 years has enormous implications for the City. Redevelopment of the railroad properties has the potential to physically transform these largely vacant sites into an urban center with homes, offices, shops, parks and roads. This redevelopment will also inevitably affect the City's image and character, and how it is perceived by its citizens and by others.

The railroad properties including Potomac Yard and Potomac Greens collectively constitute the largest contiguous tract of land available for development in the City of Alexandria, with an area of approximately 303 acres. It is one third of a mile wide by two miles long, comparable to an area in Old Town and Old Town North from Slater's Lane to the Capital Beltway and from St. Asaph Street to the Potomac River.

The redevelopment of this area is equivalent to creating an entirely new community within the City. It is unlikely that this new community will mirror the low density patterns of development which surround the site. Those areas were bunt in earlier times and in response to different historical patterns.

On the other hand, the City does not desire that this new community mirror the densities, heights or character of Crystal City or Pentagon City. Alexandria has consistently pursued development policies for moderate heights and densities (except near transit stations) to suit its land use objectives and to ensure that new development does not overwhelm surrounding, residential areas.

This analysis explores the issue of appropriate development densities and heights for this area. The analysis is based on the City's overall land use objectives and the urban context, legal issues concerning the development of the site, and the physical opportunities and constraints attendant to that development. The purpose of the analysis is to develop specific land use and design principles which will serve as guidelines for redevelopment of the Potomac Yard and Greens sites. The intent of these guidelines is to create a new Potomac community that will add vitality and diversity to the City and strengthen and enhance adjacent neighborhoods.

Urban Context

To the north, the study area is defined by Four Mile Run which flows from west to east under Jefferson Davis Highway and the George Washington Memorial Parkway and out into the Potomac River (Map 1). A very small area of Alexandria, approximately 1.6 acres, lies north of Four Mile Run. This area, and the rest of the Potomac Yard site in Alexandria constitute approximately 264 acres. The remainder of the Yard north of Four Mile Run is in Arlington County.

To the east, the Potomac Greens site, an area of approximately 39 acres, borders the George Washington Memorial Parkway. East of the Parkway is the Daingerfield Island Park and marina where the dominant visual features are the trees and occasional views of the Potomac River. The context for development of the Potomac Greens site is a natural and mostly undeveloped scenic environment.

To the west, Jefferson Davis Highway and a strip of commercial and industrial uses along the highway separates Potomac Yard form nearby residential neighborhoods. The commercial and industrial uses, although not generally compatible with the abutting residential area, act to buffer the residential neighborhoods of the Potomac West community from the heavily traveled Jefferson Davis Highway and from the railroad yard.

There are two large potential redevelopment sites along the Highway across from the Potomac Yard. One is a 30 acre site adjacent to Four Mile Run consisting of vacant, industrial land which is being considered for mixed use development under the guidelines of a Coordinated Development District. This site along with the northwest portion of the Potomac Yard forms a northern gateway to the City.

The other large redevelopment site is the 24 acre Oakville Triangle site, located along Jefferson Davis Highway between the former W & OD right-of-way and Swann Street, which consists of a large concentration of light industrial uses. While the Potomac West Small Area Plan calls for continued industrial development of this site, long term redevelopment of the site, possibly for mixed use development, could occur as the value of the land increases and as industrial uses become less viable within the city.

The southern portion of the Potomac Yard, including the piggyback yard, borders on the Braddock Road Metro station area and the Parker Gray and Northeast neighborhoods. These neighborhoods are predominantly residential with commercial and industrial uses generally providing the buffer between residences and the rail yard. North of Slater's Lane and along the Parkway is Potowmack Crossing, a garden apartment complex, and the only residential area immediately adjacent to the study area.

Along Monroe Avenue and west of the Yard is Simpson Field. South of Monroe Avenue is a mix of low scale residential and industrial uses along Leslie Avenue, the George Washington Junior High school and various softball and soccer/football fields and track.

Legal Context

Two legal issues influence the development of the Potomac Yard and Potomac Greens sites: the court approved Potomac Greens site plan and access from Potomac Greens to the George Washington Memorial Parkway. In determining the appropriate levels of development for the new Potomac community, each of these issues must be addressed.

The Potomac Greens site plan which was submitted in April, 1987 proposed 2,343,300 square feet of office and 107,100 square feet of retail development. This plan was not approved by the City. However, following a suit by the developer, the site plan was upheld by the Federal District Court and an order requiring the city to approve the site plan was entered. That decision is now being appealed by the City. Pending the outcome of the appeal, the district court order has been stayed. If the site plan is subsequently upheld, the development requested in the site plan must be granted. In this event, the small area plan will have to be reviewed in its entirety.

The site plan requires access directly to the George Washington Memorial Parkway. The Parkway is a major north/south, regional highway serving traffic with a four lane, limited access roadway and a large landscaped median. There are no turning lanes or interchanges now provided to serve the Potomac Greens site. RF&P and the National Park Service have contracted to allow RF&P to construct a diamond interchange with the Parkway at Daingerfield Island. This agreement is being contested by a citizens' suit. The City does not advocate the interchange. This small area plan contemplates that there will be no access to the Potomac Greens from the Parkway.

Constraints on Development

Development of the Potomac Yard and Potomac Greens sites will be affected by several major physical constraints. (Map 5) Although the Potomac Classification Yard is closing, other rail services must be maintained. In addition to the Metrorail tracks, which will stay in their present location, two or possibly three tracks requiring a right-of-way of about 120 feet must be retained on the site to accommodate freight, Amtrak, and future Virginia Commuter service. Continued service to the PEPCO Generating Plant on Slater's Lane must also be accommodated.

Regardless of where these required tracks are located, they will have the effect of separating developable portions of the site from each other or from the community. The impacts of the rail corridors would be reduced if rail trackage were moved to the eastern edge of Potomac Yard adjacent to the Metrorail line.

Environmental constraints also exist on the Potomac Greens site. It is probable that the wetlands areas bordering the Parkway will be designated as a preservation area under the forthcoming Chesapeake Bay regulations; development is likely to be limited to the remainder of the site. Map 6 illustrates the proposed wetlands preservation area.

Because of the proximity of the site to National Airport, the FAA regulations will constrain the heights of buildings throughout the area. In addition, the FM regulations will specify where the tallest buildings may be located and where only buildings of moderate height would be allowed due to the established flight path.

Opportunities for Development

Although the constraints for redevelopment of the site are considerable, so are the opportunities (see Map 9). The Potomac Yard and Potomac Greens sites are among the largest urban properties available for redevelopment inside the Beltway. These sites are favorably located near the employment hub of the Washington Metropolitan area and near major transportation facilities, including Washington National Airport, 1-395, U.S. Route 1, the George Washington Memorial Parkway and Metrorail.

The sites are also located near major open space/recreational facilities and residential uses which creates the opportunity to physically and functionally connect new development to existing neighborhoods and open space systems. For example, the eastern portion of the property bordering the George Washington Memorial Parkway offers views of the Potomac River and provides opportunities for development in a park-like setting. The proximity of Daingerfield Island provides open space amenities and recreational areas particularly appropriate for higher quality residential development on Potomac Greens.

Four Mile Run provides the site with a valuable recreational and scenic opportunity. With removal of some of the trackage across the Run, more of this water feature could be exposed to view. Landscaping and the development of recreational water oriented uses would provide an attractive setting for development on both sides of the Run.

Near Four Mile Run, a portion of the Yard extends out toward the George Washington Memorial Parkway. This area provides some of the best views of the Potomac River and the national monuments and is a natural area for a large open space area with surrounding residential development.

The site provides the opportunity to create a new Metro station in the center of the area, providing access to an extensive regional transportation system. If built, the new Metro station will also provide transit service within walking distance to new residential development on the Potomac Yard and Potomac Greens sites and proximate to existing residential neighborhoods. Map 10 indicates distances to the new Metro station proposed for the Potomac Yard and Potomac Greens sites. Most of the Potomac Yard site north of the Monroe Street Bridge and a large portion of Potomac West would be within a 10 to 15 minute walk of the Metro station. The portion of the site south of the Monroe Street Bridge is within a 10 to 15 minute walk of the Braddock Road Metro station.

While the piggyback yard north of Slater's lane is not especially attractive today, redevelopment of the Yard and removal of the piggyback facility will provide a site insulated from through traffic movements and with potential for a residential neighborhood.

<<Map 9 Vistas>>
This map not yet available in online version.

<<Map 10 Distances from Metro Stations>>
This map not yet available in online version.

LAND USE PLAN CONCEPT

Relationship to Alexandria 2020 and Potomac Greens Plans

In preparing a land use concept for this area, staff was able to draw upon useful analysis and plans prepared for Potomac Yard. While staff differs with Alexandria 2020 with respect to the overall densities proposed, there are many aspects of the Alexandria 2020 plan which are well thought out and staff has incorporated those elements into this area concept plan.

Area of Development

According to the analysis by Alexandria 2020, only a portion of the total 264 acres in Potomac Yard would consist of developable area; the remainder would be for other purposes, such as streets and rights of way, open space and railroad use. On Potomac Greens, a much smaller percentage of the area will be required for infrastructure such as roads, but a large portion of the site will be required to be reserved as a wetlands preservation area. Table 9 illustrates the breakdown of total acreage for both sites.

TABLE 9
SITE AREA SUMMARY

Potomac Yard*	Acres
Gross Site Area	264
Railroad Corridor	31
Streets and Rights of Way, including Metro	71
Four Mile Run	4
NET SITE AREA	158
Parks and Open Space	45
AREA AVAILABLE FOR DEVELOPMENT	113

*Based on information provided by Alexandria 2020

Potomac Greens	
Site Area	39
Wetlands Preservation Area (Estimated)	20
Streets and Rights of Way (Estimated)	4
NET SITE AREA/AREA AVAILABLE FOR DEVELOPMENT	15

General Land Use Concept

This land use concept plan calls for a new Metro station in the center of the site, with higher density mixed use development, consisting of office, retail, hotel and residential uses, to be concentrated near the station. The plan proposes a mixed use development along the Four Mile Run, consisting of predominantly residential and retail uses, to take advantage of the opportunities of building near the water, and a public facility and commercial center in the vicinity of Monroe Street, serving the project and the nearby residential area. The plan recommends that the remainder of the developable portions of the site be developed with residences or devoted to recreational facilities (see Map 11).

The plan proposes a variety of residential neighborhoods and a number of public open spaces and recreational opportunities serving both the project area and the nearby residential neighborhoods.

Transportation System

A key element of the land use concept plan is a new Metro station on the existing Metro rail line at a straight section of track roughly east of Raymond Avenue. A commuter rail facility should be built near the new Metro station.

The major organizing structure of the plan for the area west of the Metro tracks is a grid system of streets with a spine road through the center of the site connecting U.S. Route 1 south of Monroe Street to Crystal Drive in Arlington. The spine road would provide new access to the major part of the project from the south. The grid pattern of streets would make it likely that the development within Potomac Yard would be urban in character, oriented toward streets, a pattern found in most of the surrounding areas of the City.

The area east of the Metro tracks is too long and narrow to support a grid network of streets. Instead, this plan calls for a single road running north/south through the site connecting with Slaters Lane. If access to the Parkway is gained by the developer of Potomac Greens the road network will need to be designed so as to limit the possibility of significant through movements between the Parkway and Slaters Lane.

Open Space System

The second major organizing feature of the plan is a system of open spaces, recreational facilities and pedestrian/bicycle trails which extend throughout the site and connect to existing open spaces and trails in the immediate vicinity.

The plan calls for a major open space in the southern part of the yard in the vicinity of Monroe Avenue and connecting to Simpson Stadium; and an open space on both sides of Four Mile Run with connections to Four Mile Run Park, an existing open area at the north of the Potomac Greens site. In total, new open space areas should comprise at least 30%, (approximately 48 acres), of the 158 acres of developable area in Potomac Yard.

The plan proposes a series of bikeways through the site, offering north/south routes connecting Alexandria with Arlington, and several east/west routes connecting Potomac West with the site and the parks along the Potomac River. All waterfront areas, including Four Mile Run, should be connected by bike paths finking up with the existing bike trail system. In this way, the new open space and recreational areas will enhance the accessibility of existing areas, and make those areas more available to the city as a whole (see Map 12).

<<Map 11 Land Use Concept>>
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<<Map 12 Open Space Concept>>
This map not yet available in online version.

Description of the Neighborhoods

The land use concept plan can be more specifically described and explained by subdividing the Potomac sites into 8 areas as shown on Map 13.

1. Metro Station Area

   This area is proposed to be the high density central core of the Potomac Yard site and includes the proposed Metro Station. A mix of higher density commercial office, retail, hotel and residential uses is proposed to be concentrated near the transit facility within 1000 feet of the Metro station.

2. Four Mile Run Area

   The Four Mile Run area, which includes the northern tier of the Potomac Yard in Alexandria, should serve as a gateway to the City and distinguish Alexandria from Crystal City development to the North. If possible, development of this area should be coordinated on both sides of Four Mile Run, regardless of the jurisdictional boundary, to take advantage of scenic and recreational opportunities offered by this waterway. The area near the Run should be planned as an natural extension of Four Mile Run Park in Alexandria and as part of the entire Four Mile Run park system in Arlington County.

   This area is an appropriate location for a mix of uses, predominantly residential and retail. Retail stores and restaurants should be encouraged to support pedestrian activity next to what should be developed as a major water attraction and open space area.

3. Monroe Avenue Area

   The Monroe Avenue area lies between Monroe Avenue, Slater's Lane and Route 1 and is centrally located relative to surrounding residential neighborhoods and recreational facilities. Because of its accessibility, this area is a .suitable location for a community retail center, lower density professional offices, major active recreational facilities and other public facilities as may be needed.

4. Northern Yard

   This area is proposed to be predominantly residential with a mix of housing types.

5. Southern Yard Area

   This area lies between the Metro station area and the open space and community facilities to the south, and is proposed to be residential with a variety of housing types, predominantly townhouse.

6. Braddock Road

   The Braddock Road area south of the Monroe Avenue Bridge is wedged between the George Washington Junior High and industrial uses to the west and the Metrorail line to the east and is the most isolated area within the Potomac Yard site. With the consolidation of the rail lines along the Metro line, the remaining land could be developed residentially and integrated with the existing Del Ray neighborhood. Over time, it may be desirable to encourage the residential redevelopment of the small amount of industrial and commercial uses located along Leslie Avenue. The City may wish to consider acquiring the southern portion of this area as an addition to the George Washington School recreational facilities.

<<Map 13 Neighborhoods>>
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7. Slater's Lane Area

This subarea includes what is now the piggyback yard and is located between the Metrorail line, the Potowmack Crossing Apartments located on W. Abington Drive, and Potomac Greens. Residential development of the Slater's Lane area would extend and strengthen the residential character of the Northeast neighborhood and provide a focus of residential development oriented along the Parkway.

Moderately scaled residential, predominantly townhouse, would be appropriate to relate to existing and proposed adjacent residential development.

8. Potomac Greens Area

Potomac Greens, located adjacent to the Parkway, enjoys excellent views of the river and good access to the recreational facilities on Daingerfield Island. While this site is most appropriate for predominantly residential development and this plan recommends only residential development, the ongoing litigation affecting this site may ultimately determine the character of its development If the site plan is upheld by the courts, a high density, all commercial development will be able to proceed on the site: If commercial development is approved for this site, this plan will encourage a shift of commercial densities from Potomac Greens to Potomac Yard, with a compensating shift of residential to Potomac Greens. Development of this site will need to be sensitively designed to avoid any negative impacts on the memorial character of the Parkway.

Coordinated Development District

The most comprehensive approach towards developing a large scale, mixed use project is to designate all the property in the Potomac Area excluding federally owned land and the small amount of existing commercially developed land north of Slater's Lane, as one Coordinated Development District (CDD). The CDD would include both Potomac Yard and Potomac Greens. It is logical to place all of this land in one CDD because all of the land is owned by the RF&P railroad and constitutes one. contiguous redevelopment area.

The CDD designation will help ensure that redevelopment of this large site will be based on overall design principles that will provide cohesion and continuity to site development and will be compatible with adjacent areas of the City.

DEVELOPMENT PARAMETERS

The Potomac Yard/Potomac Greens CDD and the land use concept plan need to be based on a set of principles to guide development of the site. The most important of these principles, density and height, establish the scale and level of development desired for Potomac Yard and Potomac Greens and are discussed at length below. Other principles which address issues such as design guidelines are found in the Recommendations section.

Density

The level of density in Potomac Yard and Potomac Greens will be a key determinant of the character of the development in the Potomac Yard Potomac Greens sites. In establishing the appropriate level of density, two factors must be considered:

1. Transportation: The impact of different levels of development on the City's transportation network and areas of the city near Potomac Yard and Potomac Greens

2. Character of Development: A judgment about the type of development appropriate for the new Potomac community

Each of these factors are discussed below.

Factors affecting Density

1. Transportation

   The traffic impact of alternative levels of development has been addressed earlier in this plan and in a study by Frederic R. Harris, transportation consultant. The traffic study suggests that the development proposed by this plan will have limited impact on peak hour traffic, but may result in exacerbating the longer peak period. The road system built in the Potomac area may alleviate some of the congestion from development predicted to occur.

2. Character of Development

   The character of Potomac Yard and Potomac Greens will be determined in large part by the density and location of commercial and residential development.

   This plan is based on the assumption that a Metro station is necessary in order to attain a high quality mixed use development. The location of a proposed Metro station is substantially determined by configuration of the Metro tracks. The station needs to be located on a straight stretch of track; since there is only one such stretch, the station would be located approximately east of Raymond Avenue.

Office Density

The potential construction of a Metro Station in the Potomac Area is the key determinant of the location and density of office development for the project. in other Metro station locations, the City has encouraged a concentration of higher density mixed use development, including high density office uses within convenient walking distance to the station (about a 1,000 foot radius). Recent research has shown that the number of people taking Metro rail in the Washington Metropolitan area is a function of the distance from the station to the destination. Ridership begins to fall off markedly after 2000 feet. Therefore, this plan calls for most of the 2,750,000 square feet of office development in the area to be located near the new Metro station.

To place this amount of office development into perspective, a comparison to the King Street Metro Station area is instructive The King Street Metro Station area consists of approximately 28 acres, excluding public rights of way. This area is currently planned for approximately 2.6 million square feet of office space, of which 1.7 million has already been built, and an additional 0.9 million planned, not including the Carlyle project. Much of the office development around the King Street Metro station has been or will be development at densities of between 2.5 and 3.0 F.A.R. (see Figure 6).

It would be preferable to concentrate the commercial development west of the tracks, on the Potomac Yard site where street access is superior. This would eliminate the need for an intersection or an interchange with the Parkway, since a substantially residential development could be served by Slaters Lane to the south.

Residential Density

This plan allows for the development of up to 3,500 residential units, to include a variety of densities. At least two-thirds of the residential development should be townhouses.

In allocating the required amount of residential density in the land use concept plan, staff has considered which areas are appropriate for higher residential densities and which areas require lower densities more compatible with adjacent existing areas. Map 14 shows how these housing types would be arrayed by neighborhood in the Potomac Yard/Potomac Greens Small Area Plan.

<<Figure 6 King Street Metro Station Area>>
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<<Map 14 General Character of Residential Areas>>
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General Character of Residential Areas

The vicinity of the Metro station is the area appropriate for higher residential densities on the Potomac Yard. Although this area is likely to be predominantly office and commercial retail, some residential development at higher densities should be encouraged on Yard to provide a true mixed use environment.

The Potomac Greens area would have about all of its estimated 15 acres developed in a mix of residential types. In order to minimize the visual intrusion of development on the Parkway, the type and arrangement of the residential structures on this site is critical. The buildings in this area must be set back from the Parkway and set back from each other to allow generous landscaped open spaces between buildings. The low buildings closest to the Parkway should screen the taller buildings to the west. An important goal of development in this area is to ensure that the natural setting and visual character of the Parkway will be preserved.

A lower scale of residential development is appropriate for the Braddock Road subarea. Low to moderate density and scale townhouses should be oriented toward the existing low scale residential neighborhood along Glendale and Alexandria Avenues. Mid-rise residential development is appropriate further east and closer to the Braddock Road Metro station.

The remaining large open portions of the Yard and the Slater's area are proposed to be predominantly low scale and moderate density residential development, consisting mostly of townhouses.

Examples of Residential Densities

In general, the eastern part of the City is predominantly a mix of townhouses and garden apartments, with a few scattered midrise and highrise residential buildings. The densities of these townhouse or garden apartment blocks are typically around 20 du/acre for townhouses, with garden apartments or stacked townhouses (flats) at up to 50 du/acre. Midrise buildings (between 5 and 8 stories) are typically between 50 and 70 du/acre, and highrise buildings (generally above 9 stories) range between 50 du/acre and 100 du/acre.

There are many examples of townhouses and garden apartments in Alexandria within the 20-50 du/acre range of densities. Traditional townhouses, such as Bulfinch Square (North St. Asaph, Pitt and Princess Streets), are at the lower end of this range. This block has surface parking on the interior of the block and a density of approximately 20 du/acre (see Figure 7). Townhouse densities in many blocks in Old Town generally range between 20 and 30 du/acre.

The Watergate project (Figure 8) in Old Town North at 32 du/acre and Brockett's Crossing (Figure 9) on North St. Asaph and Pendleton Streets at 39 du/acre represent townhouse projects at the upper end of the range. The Watergate project has underground parking, although Brockett's Crossing, a much smaller project, does not. However, it is usually difficult to meet the parking requirements of these densities without underground parking.

St. Asaph Square (South St. Asaph, Green, Pitt and Jefferson Streets) at 56 du/acre, provides an example of a denser, garden apartment project slightly above the 20-50 du/acre density range (Figure 10). Barton's Crossing, The Arbors at Landmark and Wyndham garden to mid-rise apartment complexes are also about 60 du/acre, but this plan does not advocate those projects as suitable models of development.

The Colecroft project (see Figure 11), consisting of midrise buildings, townhouses and garden apartments, provides an example of a mix of housing types that average 42 du/acre; the midrise buildings are at 72 du/acre and the townhouses are 28 du/acre. Even though its on-site parking is slightly inadequate, Colecroft is one of the best recent examples within the city of a mix of housing types at moderate densities.

<<Figure 7 Bulfinch Square>>
<<Figure 8 Watergate>>
This map not yet available in online version.

<<Figure 9 Brockett's Crossing>>
<<Figure 10 St. Asaph Square>>
This map not yet available in online version.

<<Figure 11 Colecroft Midrise/Townhouse>>
<<Figure 12 Port Royal>>
This map not yet available in online version.

The conclusion drawn from the above analysis is that attractive and livable townhouse development with underground parking can occur at densities of up to 35 du/acre and garden apartments or mixed housing areas at densities of up to 40-50 du/acre.

The City has few residential projects which exceed 60 dwelling units per acre. A notable example is the Port Royal condominiums, a high rise building in Old Town North at 100 dwelling units per acre (Figure 12). While the City seldom approves residential developments at above 54 du/acre, the City has, however, followed a policy of increasing residential density allowances near transit stations. For example, the City approved new zoning within 1000 feet of the King Street Metro Station that would allow up to 160 dwelling units per acre. At 'the Eisenhower Avenue Station, City Council approved the Mill Race project which will nave a density of approximately 130 dwelling units per acre. Residential development above 100 units per acre was also approved at selected blocks in the CNS project located between the King Street and Eisenhower Avenue Metro stations.

Hotel and Retail Uses

The appropriate level of hotel development is based on the level of office development. With 2.1 million square feet of office development, approximately 625 hotel rooms are supportable.

Land use goals as well as residential and office development levels are considered in determining the appropriate amount of retail development. With 2.75 million square feet of office space and 3,500 residential units, an estimated 300,000 square feet of retail development can be supported. This amount will provide adequate retail space to support the new residential and office areas. Included in this amount is up to 160,000 square feet for a larger retail center, approximately the size of Hechinger Commons shopping center, serving both the new areas and the existing surrounding community.

Height

Building heights within the Potomac Yard and Potomac Greens sites should serve a variety of functions and purposes; to emphasize important locations on the site, to provide a focal point for development, to provide special views of landmarks, to provide transitions compatible with adjacent low scale areas, and to add visual interest to the project (see Map 15).

The location of the Metro station in the middle of the site is the appropriate location for greater heights in the Potomac Area On Potomac Yard tall buildings with heights of up to 110 feet should be concentrated around this area, with the tallest buildings adjacent to the station to provide a focus for the entire area. Areas adjacent to the commercial core should provide a transition from an intense concentration of tall buildings to buildings of more moderate heights.

On the Potomac Greens site, all buildings within 500 feet of the centerline of the Parkway are within the Old and Historic Alexandria District and must remain below 50 feet above average finished grade. This small area plan limits heights adjacent to the Parkway to 45 feet. Buildings outside the 45 foot area and adjacent to the proposed Metro station could rise to varied heights, up to a maximum of 77 feet.

The heights near existing neighborhoods should be kept predominately low, 50 feet or under, to protect these areas from taller, larger scaled buildings. These areas include the southern portion of the site, adjacent to the Braddock Road and Del Ray neighborhoods, and the area adjacent to Potowmack Crossing. West of the railroad tracks, within the residential areas, a limited number of buildings may be allowed to rise to 77 feet. The height of development along Route 1 should also be 50 feet or under to mirror development to the west, except that one to two buildings may be allowed to rise to 77 feet at Four Mile Run, to mark the entrance to the City.

<<Map 15 Predominant Height Limits for CDD>>
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GOALS AND RECOMMENDATIONS

GOALS AND OBJECTIVES

The goals of the Potomac Yard/Potomac Greens Small Area Plan are:

- to encourage the redevelopment of Potomac Yard and Potomac Greens as a pedestrian oriented urban environment with a mix of uses
- to develop livable neighborhoods and successful commercial areas
- to integrate redevelopment of Potomac Yard into the fabric of the City through the design and arrangement of uses, streets, open space and pedestrian systems.
- to protect neighboring residential areas from the impacts of traffic and incompatible development.
- to minimize traffic, visual and environmental effects of development on the George Washington Memorial Parkway
- to increase the accessibility of existing neighborhoods to the Potomac River, Four Mile Run and transit facilities.

PROPOSED LAND USE AND ZONING

To achieve these goals, this Plan recommends that the entire privately owned area within the Small Area Plan be designated a Coordinated Development District, except for the commercial properties located on the north side of Slater's Lane. These-properties are not owned by RF&P and should be designated OC-Office Commercial, compatible with the properties on the south side of Slater's Lane. Daingerfield Island and the George Washington Memorial Parkway should be designated WPR-Waterfront Park.

Development in the Coordinated Development District will be guided by a land use concept plan as discussed in the Land Use and Urban Design Analysis section of this Plan, and by the CDD principles expressed below. This section includes the following maps:

Map 16 - 1974 Master Plan
Map 17 - Land Use Changes
Map 18 - Proposed Land Use
Map 19 - Existing Zoning
Map 20 - Zoning Changes
Map 21 - Proposed Zoning
Map 22 - Existing Heights
Map 23 - Land Use Concept
Map 24 - Height Limits for CDD

<<Map 16 1974 Master Plan>>
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<<Map 17 Land Use Changes>>
This map not yet available in online version.

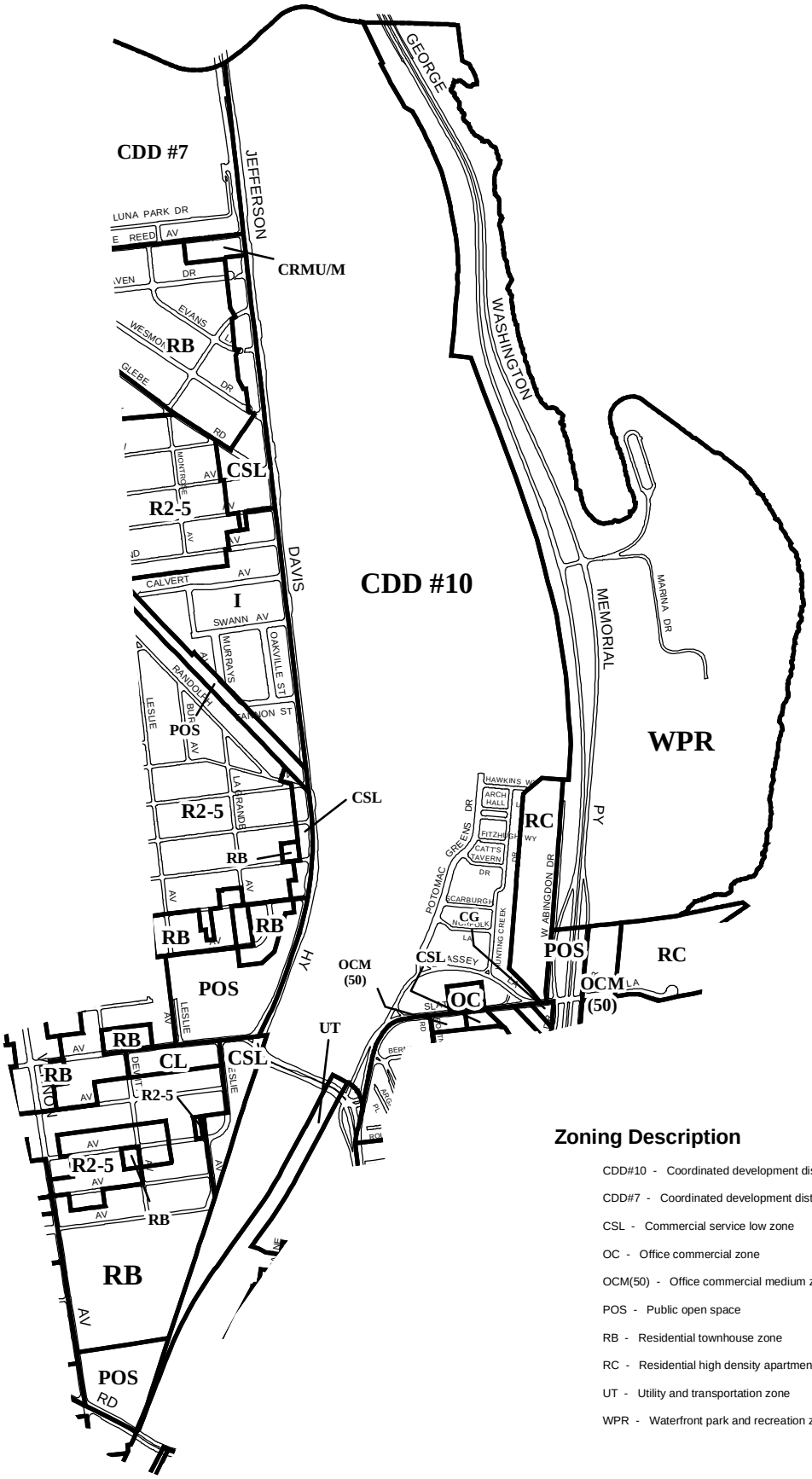
<<Map 18 Proposed Land Use>>
This map not yet available in online version.

<<Map 19 Existing Zoning>>
This map not yet available in online version.

<<Map 20 Zoning Changes>>
This map not yet available in online version.

Map 21

Proposed Zoning



Zoning Description

CDD#10 - Coordinated development district #10

CDD#7 - Coordinated development district #7

CSL - Commercial service low zone

OC - Office commercial zone

OCM(50) - Office commercial medium zone

POS - Public open space

RB - Residential townhouse zone

RC - Residential high density apartment zone

UT - Utility and transportation zone

WPR - Waterfront park and recreation zone

<<Map 22 Existing Heights>>
This map not yet available in online version.

<<Map 23 Land Use Concept
Amended by Ordinance 4076, 10/16/99>>
This map not yet available in online version.

Map 24

Predominant Height Limits for CDD

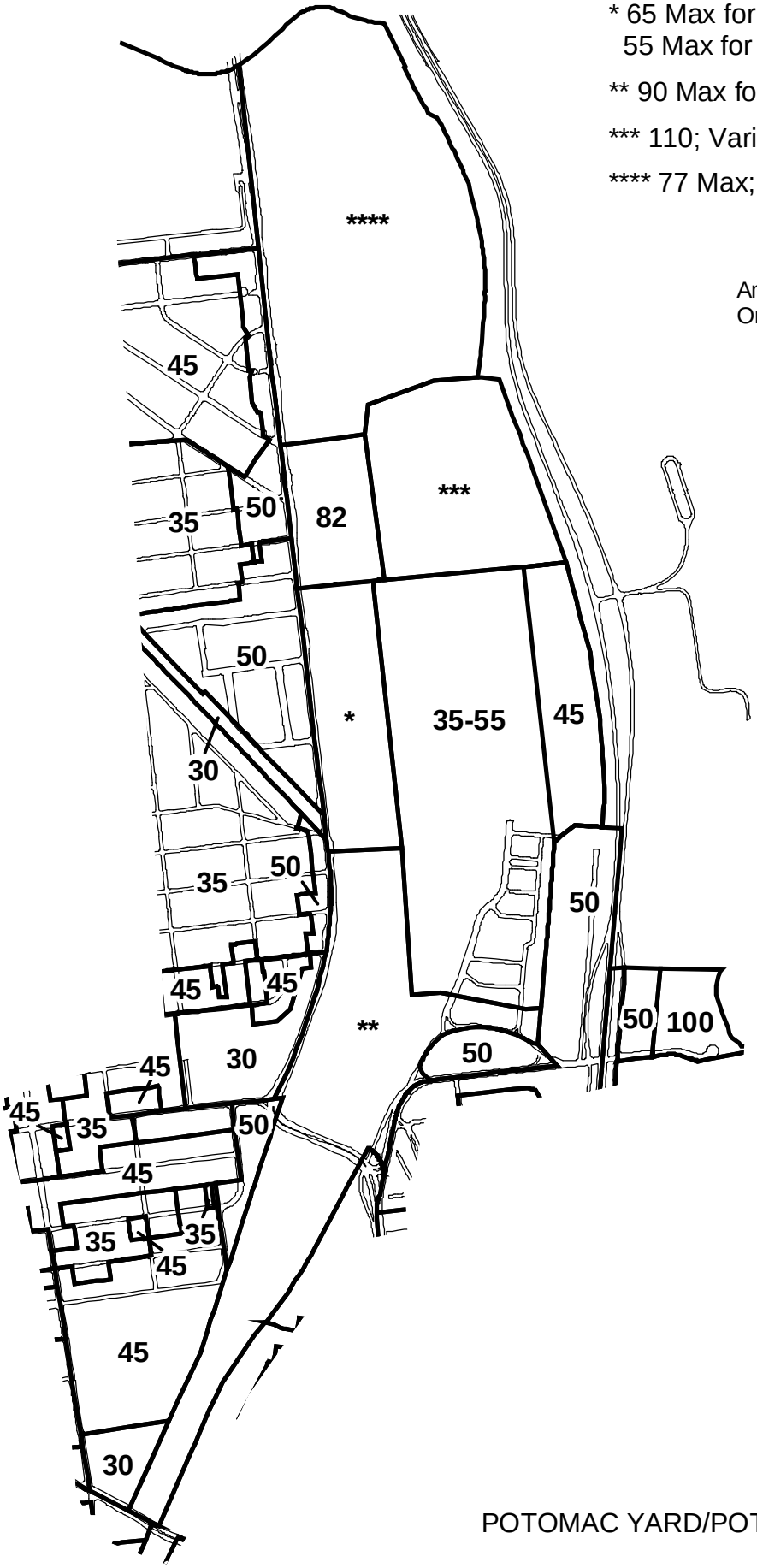
* 65 Max for 4 Buildings;
  55 Max for Remainder of Buildings

** 90 Max for 5 bldgs; 60 Max for Remainder

*** 110; Variety of Heights Required

**** 77 Max; Most at 50 or Below

Amended 10/16/99
Ordinance #4076



POTOMAC YARD/POTOMAC GREENS

CDD Guidelines for Potomac Yard/Potomac Greens
Amended by Ordinance #4076 October 16, 1999

Development under the Special Use Permit procedures within the CDD shall be in accord with the following principles:

Land Use

1. The maximum amount of development permitted in this CDD shall be:
   a) 625 hotel rooms,
   b) 735,000 net square feet of retail space,
   c) 2,200 residential units, and
   d) 1.9 million net square feet of office space.

2. The CDD shall be predominantly residential and mixed use, with the highest densities of commercial uses adjacent to the existing Potomac Yard shopping center, near the location where a future Metro station could be located. Uses shall be consistent with the concept plan shown on Map 1.

3. The Potomac Greens site shall be developed entirely in residential use, except for a possible Metro station.

4. At least one-third of the residential units shall be townhouses; no more than one-third shall be multifamily units; no more than one-third shall be stacked townhouse units.

5. At least one-third of the area of the CDD excluding streets, Four Mile Run, and the operating rail corridor shall be public open space or common private open space. The City may utilize a portion of this land private land for institutional uses.

Transportation

6. Development within the CDD shall not preclude the possible future construction of a Metro Station; nor shall development within any right-of-way or dedicated open space within the CDD preclude the future construction of a light rail or other similar transit system.

7. A comprehensive transportation management plan shall be implemented to encourage residents and employees to travel by modes other than single-occupancy-vehicles.

8. A road with a minimum of four travel lanes shall be provided in Potomac Yard to connect Route 1 at its intersection with Slater's Lane to the area north of Four Mile Run in Arlington County. Construction on this road shall occur at a time or level of development as determined in the Concept Plan.

9. The street system within the CDD shall be designed to minimize use of existing residential streets to the east, west and south of the district by traffic heading to or from the district. Through vehicular connections between the Potomac West area and the Potomac Yard tract shall only occur at E. Glebe Road and Swann Avenue, unless other connections are approved by the Director of Transportation and Environmental Services after consultation with the neighborhoods.

10. A system of pedestrian and bicycle trails shall be provided throughout the CDD, connecting to existing trails outside the district and connecting open spaces and neighborhoods within the district.

11. There shall be no intersection or connection between the George Washington Memorial Parkway and the Potomac Greens site by which motor vehicles can access that site from the Parkway or by which vehicles can access the Parkway directly from the site.

12. In the event projected development results in traffic spillover onto residential streets, the City shall implement traffic control mechanisms to mitigate such spillover and protect local neighborhoods. These measures shall include the neighborhood protection measures discussed on pages 31-33 of the City's Master Transportation Plan.

Urban Design

13. Buildings on the Potomac Greens site shall be designed and sited so as to minimize the visual impact on the Parkway.

14. Required parking in the CDD shall be underground or embedded within the block, to the maximum extent possible. Required parking for individual townhouses and other single family units shall be served by alleys to the maximum extent feasible.

15. In general, a grid system with moderate block sizes shall be favored.

16. A process shall be established whereby a Design Review Board established by City Council for the District shall review and comment upon each building within the district.

17. Heights shall be limited as shown on Map 2.

DEVELOPMENT WITHOUT A CDD SPECIAL USE PERMIT

Within the CDD zone the uses permitted without a CDD special use permit shall be as follows: the area south of the Monroe Street Bridge and the area east of the Metro tracks shall be RB (townhouse); the first 250 feet east of Route 1 shall be CSL; the remainder of the site shall be I (Industrial); except that the U/T regulations of the site shall apply to an area approximately 120 feet wide located just west of the Metrorail right-of-way for the purpose of accommodating the relocated rail mainline on the yard; and except also that the area known as the 'Piggyback Yard' and Slaters Lane portion of Potomac Yard may be developed pursuant to the CRMU-L zone provided that the Piggyback Yard:

a) shall contain no more than 275 dwelling units;
b) shall contain no more than 60,000 sq.ft. of commercial space, of which no more than 30,000 may be office;
c) shall be planned and developed pursuant to a special use permit;
d) shall have a maximum height of 50'; and
e) shall generally be consistent with the goals and the guidelines of the small area plan.