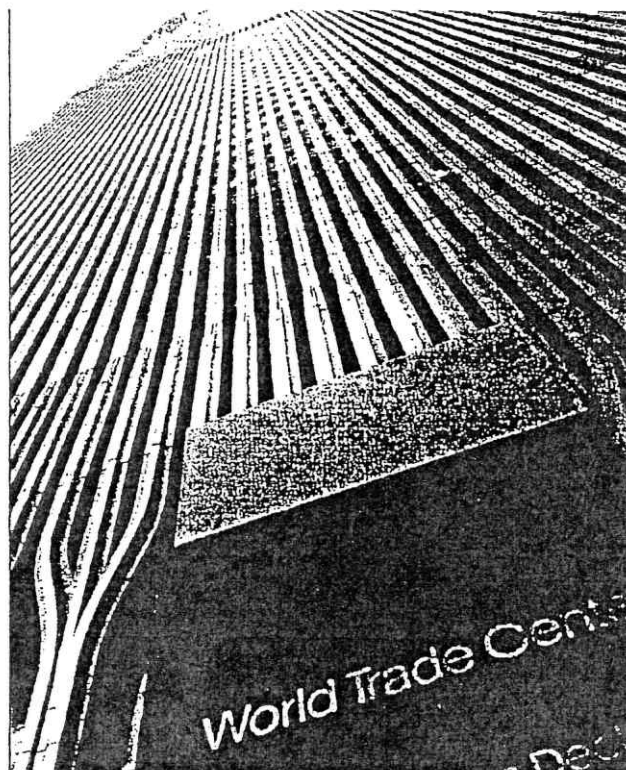


PROPERTY CONDITION ASSESSMENT
OF
WORLD TRADE CENTER PORTFOLIO



TWO WORLD TRADE CENTER

Located In

NEW YORK, NEW YORK

Prepared For

**THE PORT AUTHORITY OF NY & NJ
WORLD TRADE CENTER COMPLEX
NEW YORK, NEW YORK 10048**

Prepared By

**MERRITT & HARRIS, INC.
110 East 42nd Street
New York, New York 10017
(212) 697-3188
FAX: (212) 687-2859**

FINAL DRAFT

Property #2

Merritt & Harris, Inc. Project Number 20-251E

20-251E

December 6, 2000

Mr. Jeffrey S. Green
General Counsel
The Port Authority of NY & NJ
1 World Trade Center
New York, New York 10048

Re: **Due Diligence Physical Condition Survey**
World Trade Center
New York, New York

Dear Mr. Green:

Enclosed are 7 copies of our report of the conditions observed during our site visits to the referenced property between September 13 and October 31, 2000. For this report, I served as the Project Coordinator, with Peter J. Brady, P.E., as Project Manager and Structural Engineer, and Jack M. Kagan and Joseph Marciano, P.E., as Mechanical/Electrical Engineers.

As previously agreed, Merritt & Harris, Inc. has divided the report into 7 segments as follows:

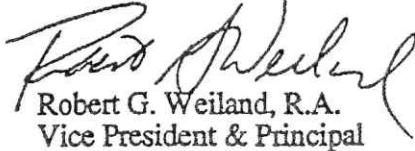
1. One World Trade Center (Tower A)
2. Two World Trade Center (Tower B)
3. Retail Mall and Plaza
4. Four World Trade Center (Southeast Plaza Building)
5. Five World Trade Center (Northeast Plaza Building)
6. Central Services
7. Subgrade

For convenience, identical copies of Sections I - IV (I - Identification, II - Objective, III - Procedures and Limitations, and IV - Executive Summary) have been included with each report so they can stand independently, if required to do so.

Thank you for selecting Merritt & Harris, Inc. as your consultant on this project. If you have any questions, please call me.

Very truly yours,

MERRITT & HARRIS, INC.



Robert G. Weiland, R.A.
Vice President & Principal

RGW:rw
Enclosure

cc: Thomas C. Richard
Peter Brady
Jack Kagan
Joseph Marciano

**REPORT OF
DUE DILIGENCE PHYSICAL CONDITION SURVEY
WORLD TRADE CENTER**

Located At

**WORLD TRADE CENTER COMPLEX
NEW YORK, NEW YORK**

Prepared For

**THE PORT AUTHORITY OF NEW YORK AND NEW JERSEY
1 WORLD TRADE CENTER
NEW YORK, NEW YORK 10048**

Prepared By

**MERRITT & HARRIS, INC.
110 EAST 42ND STREET - SUITE 1200
NEW YORK, NEW YORK 10017-5685**

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SECTION I - IDENTIFICATION

Project Name: World Trade Center

Location: One - Five World Trade Center
New York, New York 10048

Report Prepared For: Mr. Jeffrey S. Green, General Counsel
The Port Authority of NY & NJ
1 World Trade Center
New York, New York 10048

Site Visits and Report By: Thomas C. Richard, AIA
President and CEO
Merritt & Harris, Inc.

Robert G. Weiland, R.A.
Project Coordinator
Merritt & Harris, Inc.

Peter J. Brady, P.E.
Project Manager and Structural Engineer
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Jack M. Kagan
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Mechanical Engineer
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Vish Shetty
Elevator Field Engineer
BOCA Group International

John Beamish
Elevator Field Engineer
BOCA Group International

Robert Wernon
Elevator Field Engineer
BOCA Group International

William G. Young, P.E.
Facade Consultant
Heitmann & Associates

Wayne Crandlemere
Environmental Consultant
Crandlemere & Associates

**Port Authority Personnel
Present During Visits:**

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Telephone: (212) 435-8507

Dates of Site Visits:

September 13 - October 31, 2000

SECTION II - OBJECTIVE

The purpose of the on-site evaluation and document review is to assess the general physical condition of the property as it currently exists. This report provides a narrative and photographic description of the buildings, as well as a listing of any deficiencies that were noted during our site visit.

The report has been divided as follows into seven component sections for ease of handling:

1. One World Trade Center (Tower A)
2. Two World Trade Center (Tower B)
3. Retail Mall and Plaza
4. Four World Trade Center (Southeast Plaza Building)
5. Five World Trade Center (Northeast Plaza Building)
6. Central Services
7. Subgrade

Each of the volumes contains descriptions of the component, recommendations for items requiring action, and photographs and supporting documentation specific to each component of the project. An overall Executive Summary, identical for all volumes, has been reproduced and included in each of the volumes for convenience. Shared site feature and service elements are described and discussed within the Executive Summary section. Due to the nature of the project, some of the construction elements may be shared or physically interconnected among 2 or more of the project components. As a result there may be some redundancy noted in the report in order to indicate the support of 2 or more project components by these systems.

The Recommendations section for each volume is a listing of items that will require action within the next 10-year period. **Immediate (0-1 Year)** issues are deficiencies which are in violation of codes, which pose a danger to public safety, or which, if left uncorrected, will lead to further deterioration of the property or significantly impact marketability or habitability. Issues that will require addressing during the second to the tenth years are divided into 2 categories, **Future (1-5 Years)** and **Future (6-10 Years)**. These categories represent work not required by agencies or codes, but which, in our opinion, are issues that should be attended to in the context of the prudent management of the property.

ADA compliance work is considered to be mandatory and is listed separately.

SECTION III - PROCEDURES AND LIMITATIONS

To adequately determine the present conditions at the World Trade Center (WTC), Merritt & Harris, Inc. performed on-site observations between September 13 and October 31, 2000. Mr. Leandro Zucchi, Assistant General Manager, Building Services Management of the Port Authority, acted as the Project Coordinator, arranging security clearances, providing knowledgeable escorts for the various components of the project, and facilitating review of available documentation. Over a period of several weeks, our field personnel physically observed the buildings, reviewed documentation, and interviewed Port Authority personnel regarding building conditions, operations and maintenance procedures, and capital projects.

Because of the physical complexity of so large a project, the separation of individual systems into definable areas for inclusion in the reports of the various buildings was not easily achieved. While we have attempted, with the assistance of Port Authority personnel, to assign systems to their associated buildings, the assignments are based on our opinion, with input from the Port Authority, of where the systems logically fall. As the division of buildings and systems into individual entities was never planned or previously assigned, any attempt to separate the buildings and systems for individual transactions should be carefully studied and documented. As we understand from the Port Authority that the WTC transaction will be accomplished by treating the complex as a single entity, the division of buildings and systems in this report has been done to clarify the reporting and simplify the task of reading so large a document.

Merritt & Harris, Inc. selectively reviewed documentation available in the WTC Data Center, located on the 3rd floor of 5 WTC. Merritt & Harris, Inc. focused on those items relating to the physical buildings, and did not review such items as financial reports and leasing documentation. The primary documentation used by Merritt & Harris, Inc. was from the following categories in the Checklist Items:

- A. General Property Information
- D. Environmental Information (Note that this information was not in the Data Room, but was provided to Mr. Crandlemere in the Port Authority office of Mr. Phil Taylor)
- E. Operating and Maintenance Manuals
- I. Structural Integrity Inspection Reports
- J. Facades
- K. Mechanical Reports/Information
- L. Vertical Transportation Profile & Inspection Reports
- M. Electrical Reports
- N. Blast Related Reports/Information
- O. Life Safety Code Analysis

Attachment 3 is the Due Diligence Checklist, or listing of available documents as of October 31, 2000.

In addition, a set of original construction documents was available on CD ROM format. A selective review of these drawings was done to familiarize our staff with the basic building layouts, material selections, and design criteria. Due to the volume of documentation available, an exhaustive plan, specification and code review of this property was not performed. Merritt & Harris, Inc. accessed these documents in an attempt to clarify issues raised by observations in the field or to further research references to building components mentioned in the reports by other consultants available in the Data Room.

Our observations were limited to those portions of the project that were visible during the walk-through. In many areas, building finishes concealed structural components from view. Merritt & Harris, Inc. neither took material samples nor performed tests on the building materials or systems. Our investigation of the building facades was performed from ground level and from the roofs.

Some equipment observed was not operating during our visit due to seasonal requirements. No attempt was made to operate the equipment as the facility was occupied and appropriate climate control was required. In the case of idle machinery or equipment, our opinions were formed by interviewing available personnel and reviewing any maintenance records presented to us. In order to be as fully apprised as possible of the operating condition of the major pieces of machinery, a Mechanical Contractor should be retained to start the equipment and witness its operation over a period of time.

While the Port Authority does have a basic emergency plan for dealing with flooding on the property, there is no existing control method to prevent catastrophic flooding of the subgrade levels up to level B-2 due to the total flooding of the PATH tubes. Pockets for control doors were built into the perimeter slurry wall, but doors were never installed, as this method of protecting the building would pose a life-safety threat to trains and passengers in the PATH tubes. The complexity of this problem and the specific expertise needed to address the issues is beyond the scope of competence of Merritt & Harris, Inc. and has not been addressed in this report.

It is not the intent of Merritt & Harris, Inc. to assume any part of the design responsibility, but rather to report our findings to our Client to whom this report is addressed. It is further understood that as building maintenance is ongoing, some areas of concern noted in this report may have been addressed subsequent to our site visit and may no longer be applicable.

The square footage areas used in the following sections are as provided in the J.P. Morgan Offering Memorandum, dated June 21, 2000 (the Offering Memorandum), and in the J.P. Morgan Property Book, dated June 21, 2000 (the Property Book). Independent field measurement of buildings and/or tenant spaces or plan takeoffs is outside the scope of this assignment.

On behalf of the Client, Merritt & Harris, Inc. engaged an independent consultant to conduct a **Phase I Environmental Site Assessment and Asbestos Audit** at the site in conjunction with the due diligence. The survey was conducted by members of the staff of R.W. Crandlemere and Associates, Inc. (Crandlemere) of Weymouth, Massachusetts. The survey included visual observations of the site and buildings, and the accumulation and review of available documentation pertaining to asbestos, hazardous waste, and electromagnetic radiation generated by the roof-mounted communications transmission equipment. Crandlemere took no samples and made no physical tests. The results of the survey and any associated recommendations are contained as attachments to this report. Merritt & Harris, Inc. assumes no liability regarding asbestos audits, hazardous or toxic material monitoring, surveying, or reporting and cannot be responsible for the

work or opinions of other independent consultants engaged to do so. Merritt & Harris, Inc. reviewed the subconsultant's report and extracted summary information for inclusion within our narratives for the convenience of the reader. The environmental subconsultant's reports are provided as attachments to the individual building reports and in their entirety in Attachment 6 (separate binder) of this portion of the report.

On behalf of the Client, Merritt & Harris, Inc. engaged an independent consultant to conduct an Elevator Review at the site in conjunction with the due diligence. The survey was conducted by members of the staff of The BOCA Group International (BOCA) of New York, New York. The survey initially included visual observations of a pre-selected random sampling of 21 elevator and escalator devices at the buildings, and the review of available documentation pertaining to elevator maintenance and modernization programs. The sample elevators selected for observation were chosen to provide a representative specimen from each building and zone and included modernized, partially modernized, and original elevators. Following the initial sampling, BOCA further reviewed and observed additional devices based on callback data provided by the Vertical Transportation Department and on reports prepared by the Port Authority's independent elevator consultant. The reader should note that a bank of elevators (18-23B) was involved in a recent run-by incident. These elevators were not observed and have been excluded from our review to avoid interference with an ongoing legal investigation. The tenant-owned and operated elevators and escalators were not observed and do not form part of this report. Merritt & Harris, Inc. reviewed the subconsultant's report and extracted summary information for inclusion within our narratives for the convenience of the reader. The subconsultant's reports are provided in their entirety as attachments to the individual building reports.

On behalf of the Client, Merritt & Harris, Inc. engaged an independent consultant to conduct a Curtainwall Investigation at the site in conjunction with the due diligence. The survey was conducted by members of the staff of Heitmann & Associates, Inc. (Heitmann) of New York, New York. The survey included visual observations of the facades from interior spaces, grade level, and roofs of the buildings, and reviews of available documentation pertaining to the exterior wall maintenance and inspection programs. Heitmann personnel did not ride or descend on any scaffolding or rigging to observe the exterior walls. Merritt & Harris, Inc. reviewed the subconsultant's report and extracted summary information for inclusion within our

narratives for the convenience of the reader. The subconsultant's reports are provided in their entirety as attachments to the individual building reports.

The Merritt & Harris, Inc. assignment included a general review of the building's compliance with Title III of the Americans with Disabilities Act (ADA). Items of nonconformance are cited without regard for whether or not they are, by ADA definition, readily achievable. Factors to be considered in determining whether or not an action is readily achievable include the nature and the cost of the action needed, the overall financial resources of the operation, and the number of persons employed at the site. The decision as to which actions are to be undertaken rests, therefore, with the building ownership in consultation with its accountants, lawyers, and architects. Our general observation of the property's ADA status and related comments is not intended, and should not be construed, to replace a full ADA audit and report.

As stated in the Offering Memorandum, "The Port Authority is a municipal corporate instrumentality and political subdivision of the States of New York and New Jersey which provides transportation, terminal, and other facilities of commerce within the Port District. As such, in connection with the Transaction, the PA will continue to maintain exclusive jurisdiction with respect to certain administrative and governmental matters involving the Complex, including compliance with building, environmental, fire and health codes." The New York City Department of Buildings has indicated to our personnel that they do not maintain any records of violations for this property. A request for a Property Profile Overview for this block and lot number yields no records. The Fire Department provides normal fire fighting and a life safety service to the facility. A Memorandum of Understanding exists between the Port Authority and the Fire Department in which the Fire Department performs regular inspections and directly notifies the Port Authority Fire and Life Safety group of deficiencies to be corrected. Under a protocol with the New York City Fire Department, Port Authority Police personnel investigate certain fire alarms at the World Trade Center rather than transmitting such alarms to the New York City Fire Department.

The Merritt & Harris, Inc. report is intended for the use of the General Counsel of the Port Authority.

SECTION IV - EXECUTIVE SUMMARY

Project Scope

Property Components

The subject property consists of a 6-building complex (4 office buildings, a separate government office building, and a hotel) constructed on top of a 2-level retail mall and a 6-level Subgrade development. The Subgrade contains an underground parking garage, loading docks, storage facilities, and central mechanical and electrical services for the overall property. The Hotel, the New York Marriott World Trade Center (3 WTC), and the governmental office building, the Customs House (6 WTC), are not included in the transaction and, therefore, are not included in the scope of the Merritt & Harris, Inc. assignment or this report. The complex is located in the Financial District of downtown Manhattan, New York City and was completed in phases between 1970 and 1977. The following area summary information is taken from the Offering Memorandum and Property Book.

Building	Year Built	Gross Sq. Ft.	Remeasured Sq. Ft.	Rent Roll Sq. Ft.
One	1970	4,761,416	4,468,634	4,358,604
Two	1972	4,761,416	4,470,598	4,173,612
Four	1977	462,738	505,670	470,978
Five	1975	581,238	632,782	612,958
Subtotal Offices		10,566,808	10,077,684	9,616,152
Retail	1970	614,901	440,327	427,448
Total		11,181,709	10,518,011	10,043,600

Common Site Features

The following site features are common to all of the 7 Property Components:

Legal Description

Block 58, Lot 1

Zoning District

C6-4, C5-3

*Easements and/or
Encroachments*

A property survey is reportedly being prepared, but was not yet completed at the time of this assignment. Our investigation of other documentation and interview of various Port Authority personnel during this assignment have yielded certain information about possible easements or encroachments.

The site is shared by 6 buildings and the retail mall. The Marriott Hotel (WTC 3) and the Customs House (WTC 6) are outside the scope of this transaction; however, there are known interconnections of services and access to shared facilities.

Conventional utility company easements are assumed. In addition there are public rights-of-way for the New York City Transit Authority subways and the PATH rail system throughout the complex.

Interconnecting bridges to three adjacent properties (130 Liberty Street, 2 World Financial Center, and 7 WTC) are reportedly the responsibility of the adjacent owners. There are, however, certain physical connections such as foundations, and service connections such as electrical power services that may be subject to easement or covenant agreements.

The WTC complex also includes a remote river water pumping station, west of West Street in Battery Park City. This station is located under the Plaza near the marina at the Hudson River and Liberty Place. The interconnecting river water loop piping runs underground from the pump station, east along Liberty Place, then north along the west side of West Street, and then eastward across West Street entering the complex at 1 WTC. There is also a river water return out-fall which occurs underground behind the sea wall near the adjacent 2 World Financial Center.

Size/Layout

The site is trapezoidal in shape and contains 15.65 acres. The site is bordered by Vesey Street on the north, Church Street on the east, Liberty Street on the south, and West Street on the west. The Marriott Hotel and the Customs House are excluded from the disposition; however, the land leased for those properties is included in the total site area noted.

Topography

The site slopes gradually downward from the east, where the street grade is roughly equal to Plaza Level, towards the west where the street grade is at Concourse level. The constructed Tobin Plaza, in the central area of the site, is accessed by gently sloped ramps up from Church Street, and by exterior stairways and escalators from the other streets.

Flood Plain

The bulk of the site towards the east side is located in Flood Zone C, an area of minimal flooding outside the 500 year flood plain as indicated on the National Flood Insurance Program Flood Insurance Rate Map, Community Panel Number 360497 0054B effective November 16, 1983. Two areas at the midpoint of the north and south boundaries are within Zone B, areas between the limits of the 100-year flood and 500-year flood, and the western edge of the site is within the 100-year flood zone. While the Port Authority does have a basic emergency plan for dealing with flooding on the property, there is no existing control method to prevent catastrophic flooding of the subgrade levels up to level B-2 due to the total flooding of the PATH tubes. Pockets for control doors were built into the perimeter slurry wall, but doors were never installed, as this method of protecting the building would pose a life-safety threat to trains and passengers in the PATH tubes.

Geological Hazards

The site is located in UBC Seismic Zone 2a, an area of minimal seismicity.

Service Utilities

A complete site survey is in the process of being compiled, but was not available at the time of this report. The information contained in this report is based upon a combination of directly observed utilities and information contained in other reports. In this way, the exact number and size of the utility services has not been included.

Electric - Consolidated Edison (New York Power Authority)
Steam - Consolidated Edison
Gas - Consolidated Edison
Water and Sewer - City of New York
Various telecommunications carriers

*Underground
Irrigation System*

None

Access

Pedestrian access is provided at grade on all four bounding streets of the complex and from the central Tobin Plaza. The project also has direct interior access to NYC subway systems (five interior access points to 3 separate subway lines) and the interstate PATH mass-transit systems.

Vehicular access for automobiles is limited to pre-screened tenants on a rental basis, to selected Port Authority employees, and to contractors having an agreement with the Port Authority for parking privileges. There are 4 ramps for access to the automobile parking areas; 1 entrance and 1 exit ramp (Ramps B&C) on the north end of the property on West Street, an exit ramp (Ramp D) on the south end of the property on West Street, and an entrance ramp (Ramp H) on the west end of the property on Liberty Street. These ramps are protected by guard station checkpoints and Delta barriers, which are mechanically operated barriers, which swing up out of the pavement to physically block the ramp.

Delivery access is by means of a ramp from Barclay Street, one block north. This ramp passes under an adjacent building, 7 WTC. It is protected by a security checkpoint.

Paving

Surrounding streets are paved with asphalt. Parking ramps are concrete.

Sidewalks

The sidewalks surrounding the complex are generally exposed aggregate concrete, with some areas of granite paving that have been installed to accent building entrances.

Curbing

Curbs at the roadways are steel.

Plaza Deck

The Plaza is a granite surfaced reinforced concrete deck with a bituminous waterproof membrane. Areas of the perimeter of the deck, particularly under the building overhangs of 4, 5, and 6 WTC remain the original concrete with exposed aggregate surface. Expansion joints occur at the perimeter of each of the Tower buildings, and along the east side of the Plaza at the high end of the Church Street entry stairway and ramps.

Deck Drainage

The Plaza generally pitches towards the central area near the fountain where the runoff is collected by a circular trench drain surrounding the recessed fountain area.

Landscaping

Sidewalk wells, with cast iron gratings, framed in red granite pavers are provided for street trees along the Liberty, Church and Vesey Street sidewalks. Raised planters with shrubs and annual flowers separate the central stairway from the 2 ramps at the Church Street entrance to Tobin Plaza. All other plantings are contained in monumental sized concrete planters that also serve as security barriers to prevent unauthorized vehicular access. Other street furniture includes concrete benches and concrete and stainless steel security barriers in sculptural shapes.

Site Lighting

City street lighting on perimeter sidewalks, newly installed site lighting from the roof line of 4 and 5 WTC, and pole-mounted, multiple-lamp fixtures on the Plaza.

Fencing

Some rollaway security gates are provided at the base of exterior stairways to prevent unauthorized after-hours entry.

Amenities/Special Features

The major site amenity is the central Austin Tobin Plaza, a public space enclosed by the 6 buildings that make up the complex. The Plaza focuses on a central fountain and sculpture, representing the sun and its outward flowing rays. The Plaza is the focus of formal and informal activity during the warm weather months, when outdoor music, street vendors, and seating for the Plaza Level restaurant tenants all contribute to the life of the space. A smaller "Memorial Fountain" commemorating those who lost their lives in the terrorist bombing, is located at the west side of the Plaza between 1 WTC and the Hotel building. The Plaza is reportedly closed down in the winter months to prevent potential injury to pedestrians by the possibility of ice falling from the Towers.

The asphalt-paved area to the east of the site has recently had benches and planters installed, adding more outdoor seating for public use. A covered performance stage was installed in this area during the past summer for the Plaza's summer music program. A temporary "Green Market" is also one of the seasonal features used to draw street traffic to the site. Some sections of this area have at times been used for special parking requirements.

Signage

There is a polished stainless steel monolith with a bronze plaque and a red numeral designation at the main entrance door for each of the buildings in the complex. Additional exterior signage is building installed.

Mall entrances are marked with back-painted signs on the glass transoms above the entrance doors. Retail tenants with exterior exposure have window-mounted signage. Major commercial office tenants have signage on some of the entrance door transoms. Awnings with Mall signage have recently been installed at Mall entrances.

Ancillary Structures

The river water pump station is located about one block west of the site at Liberty Place and the Hudson River. It is an underground structure beneath the pavement of Battery Park City Plaza. It is included in the Central Plant Report.

There are some minor kiosk installations for bus shelters, street vendors, and taxi cab dispatchers around the site.

Project Condition

The buildings were originally constructed of good quality materials. The overall present condition of the property is good. However, as with any large complex of this age, ongoing repair and maintenance should be expected to be required.

Site

Site improvements are adequate and appropriate for a project of this size and status. The majority of the Plaza, which serves as the roof for the retail mall, was resurfaced in red and gray granite during the Plaza rehabilitation of 1998-99. The fountain was rehabilitated and made fully operational. New benches and planters were installed. The membrane waterproofing beneath the old pavement was probed and found to be functioning well. In general, the concrete sidewalks around the site perimeter are sound without tripping hazards, but there has been spalling and cracking over the years that is beginning to lead to an unattractive appearance. A 1999 study of the sidewalk conditions was performed by M.E.D.D, a unit within the Port Authority Engineering Department. M.E.D.D. included several recommendations for upgrades; however, there has been no decision to proceed with any of the work at this time. Plaza areas outside of the new granite surface have varying degrees of deterioration. However, the repairs have not been implemented pending the coordination of pavement repairs with the possible extension of retail areas under the building overhangs of 4 and 5 WTC. Pavement replacement is in progress along the West Street side of the site adjacent to the Customs House as a separate project under the auspices of the U.S. General Services Administration.

Structural

The building structures appear to be in adequate overall condition. Major structural repairs following the 1993 bomb blast were successfully completed and signed-off by a Permit to Occupy or Use issued by the Port Authority Office of the Chief Engineer on October 10, 1997. The repairs appear to have been properly engineered and executed. Following the bombing incident, stringent security measures were implemented at the vehicular entrances to the Plaza and subgrade facilities.

In the buildings we observed only minor cracking in some slabs, partitions or in stairwells of the buildings. Some minor slab cracks have been noted which should be monitored by the PA's structural consultant. The slabs at the truck dock and delivery area on level B-1 have deteriorated due to ice-melting salts that enter the building on vehicles during the winter. A slab replacement program is ongoing and should be continued until all of the damaged slabs are replaced. The monitoring of the visco-elastic movement dampers in the two Towers is an essential program that has been strongly recommended for continuation by the PA's outside structural consultant. Building movement is monitored by analysis of measurements taken and recorded by devices located in the 108th floor of 1 WTC. Analysis of these records is done by the Port Authority's independent engineer (LERA) and should continue in the future. In addition, physical sampling and analysis of the condition of the visco-elastic dampers is reportedly continuing on a 5-year cycle, with the next sampling to be done in 2001. The slurry wall that surrounds and contains the subgrade levels of the complex has some seepage that is contained by curbing and leaders, and is discharged by sump pumps in the lowest levels.

The slurry wall and the adjacent floor slabs that brace the wall are inspected on an ongoing basis to ensure that unsafe conditions do not develop. Structural Integrity Inspection (SII) Report I-38, dated April 3, 1998, provided in the Data Room, found the conditions to be acceptable. These periodic inspections should continue.

The rating of the structural fireproofing in the Towers and subgrade has been judged to be an adequate 1-hour rating considering the fact that all Tower floors are now sprinklered. An ongoing program of re-fireproofing the structural steel to the full thickness for 2-hour rating is in place. This work is done on a lease rollover basis whenever there is a full floor of space being built out for new occupancy. To date approximately 30 floors have been completed in the two towers. The PA will require this program to continue. The presence of asbestos containing

structural fireproofing is documented and abatement in tenant spaces is being done in conjunction with lease rollovers. Abatement of asbestos containing fireproofing material in elevator shafts is ongoing. Air monitoring and physical inspections are carried out as part of the regular asbestos O&M Plan. Patching of non-asbestos fireproofing is handled through a program of in-house inspection and repair.

Exteriors

Building exteriors are generally functioning adequately. A regular program of inspection is carried on by ABM, the maintenance contractor, and is monitored by a private consultant engaged by the Port Authority. Exterior caulking and repairs are done as required based on the findings of the 2 inspecting agencies. Ongoing repair to the finishes on the 4 and 5 WTC buildings should be expected and, within the 10-year term, it would be advisable to consider a wet-seal and repainting program for those 2 buildings. There have been proposals for refinishing the 2 Tower buildings which, to date have not yet been implemented. This issue will also need to be addressed within the 10-year term. Other exterior conditions, which require ongoing monitoring, and repair as necessary are the exterior marble panels on some of the lower areas of the retail base of the complex and the exterior plaster soffits on the 4 and 5 WTC buildings.

There has been a problem with ice forming on and falling from the Towers during early and late winter months. The problem is most severe when the temperature at the upper Tower levels (which is several degrees colder than at the Plaza Level) falls below freezing. During high humidity days, ice balls can form and dislodge from the wall and roof surfaces. Damage to nearby buildings and injury to pedestrians has occurred. The Port Authority is well aware of this condition and the PA Police Department takes appropriate action to restrict access to sidewalks and the Plaza when the condition occurs. When surrounding streets are involved, the NYC Police are also advised and involved accordingly. There does not appear to be an architectural solution to this problem as it is caused by an unusual atmospheric condition. In addition, there are incidences of noise generated either by the movement of the Tower corner panels or by the movement of underlying back up deck material during high wind conditions when the Tower movement is significant. There are no signs that this movement has caused any damage to the panels or attachments at this time.

Roofs

The roofs of 1 and 2 WTC are the original membrane systems protected by rigid insulation and a 5" thick concrete overlay. These roofs appear to be serving adequately, with only local repairs to the spalled concrete wearing course required over the next 5 years. The roof of 4 WTC is nearing the end of its anticipated service life and replacement should be anticipated. The roof of 5 WTC was replaced in 1991 and may still be under warranty. Requirements for warranty transfer should be investigated. The bituminous membrane under the Plaza deck, which acts as the roof of the retail area, was examined extensively as part of the work done when the Plaza was refinished last year. There are still some chronic leaks at specific locations; such as at the Tower expansion joints and the expansion joint along the Church Street side, but these leaks are corrected as they occur as part of maintenance.

Interiors

Interior conditions are generally good. Full floor office tenants are reportedly responsible for all finishes on their floors. Finishes on the multi-tenant floors will continue to need periodic replacement. Rest room finishes are now about 25 years old and thought should be given to a phased program of modernization on multi-tenant floors. The 20" x 20" ceiling tiles used in some areas are no longer manufactured and the replacement of these ceilings with standard grid ceilings, rather than having custom tiles manufactured, is recommended when replacement or modernization is necessary. Remediation of deficient tenant separation walls and public corridor walls on office floors is being accomplished as new tenant spaces are built-out. While some of these walls do not extend to the underside of the slab, the condition is not deemed to be an immediate problem in this fully sprinklered facility. Vestibule entries for mechanical rooms entered from fire stairs will need to be added in phases.

The Mall spaces are in good condition with various recent build-outs by national retailers. Phased upgrades of Mall common area finishes have also begun, and consideration should be given to continuing the upgrading throughout the rest of the Mall. Monitoring of the Mall ceiling suspension system is done on a regular basis and should continue to be part of the normal maintenance program. Two additional means of egress have been added to the Mall circulation pattern, following a 1992 study by the World Trade and Engineering Departments. Installation of the third additional Mall egress is pending.

Vertical Transportation

The 238 WTC elevators are being maintained under a full-service contract with Ace Elevator. The survey by BOCA Group International, Inc. initially included visual observations of a pre-selected random sampling of 21 elevator and escalator devices at the buildings, and the review of available documentation pertaining to elevator maintenance and modernization programs. The sample elevators selected for observation were chosen to provide a representative specimen from each building and zone and included modernized, partially modernized, and original elevators. Following the initial sampling, BOCA further reviewed and observed additional devices based on callback data provided by the Vertical Transportation Department and on reports prepared by the Port Authority's independent elevator consultant. An evaluation of the maintenance indicates that "maintenance practices range from acceptable to marginally acceptable, with definite room for improvement in the area of housekeeping." In addition the elevator survey reported significant deficiencies that should be addressed under the terms of the full service contract. In general, it was reported that the service contractor is not proactive in addressing problems and that close oversight by the PA Vertical Transportation Department is necessary to maintain acceptable service and maintenance levels.

The modernization of all passenger cabs with new interior finishes, overlay controllers, ADA features, and firemen's recall has recently been completed. The second phase of the modernization program, including switching over from motor generator sets to SCRs, retrofitting door operators, and installing new door-reopening devices, is ongoing (126 completed, 8 in progress) and should be continued to completion (104 not yet modernized). The modernization is resulting in better service and a higher quality ride. When completed, the elevator system can be considered to be equal to those of new Class "A" office buildings. The high-rise shuttle cars in 1 and 2 WTC and the 6 and 7 cars in each Tower are equipped with "elevator followers" which are designed to eliminate rope impact on shaft elements. The venting of elevator shafts in the two towers is through the elevator machine rooms, due to the configuration of elevators over elevators in the central cores. This has been accepted as the only viable solution by the Port Authority as the Code enforcing agent. A test sample of the "Captivate" system, a high resolution monitor carrying news, weather, and internet information within elevator cabs was recently completed. The system is now to be installed throughout the complex.

All escalators have been modernized with start/stop switches, comb plate switches, demarcation lights, caution signs, controlled descent devices, and remote monitoring systems. Carl White devices have thus far been installed on 2 escalator units.

HVAC

The mechanical systems were adequately designed and constructed using brand-name equipment, which provides adequate cooling for the complex. The freeze protection system, recently installed in the 108th floor mechanical equipment room (MER) of 1 WTC, is budgeted to be installed in all the buildings' MERs so that air conditioning will be available throughout the year (especially during normally cooler months when the outdoor temperatures rise higher than normal).

The 2 Towers exhibit a stack effect where there is either high negative or positive pressures that effect the opening and closing of doors and emit loud noise through the elevator shafts. This is particularly noticeable when there are large differences between indoor and outdoor temperatures, especially in the winter and on very humid days. The stack effect will also cause smoke from any subgrade fires to be pulled upward into the building. For this reason, a smoke evacuation system for the PATH station has been designed and budgeted (see Life Safety in this section).

In 1985, Lucius Pitkin Consulting Engineers, an independent consulting firm, was hired to examine the welds on the high-pressure steam pipe risers. The Pitkin Report stated that many welds exhibited flaws, such as insufficient penetration and cracks in circumferential welds. The report recommended that all welds be examined and that any weld lacking 50% or less penetration be removed and repaired. To date this work has not been done, nor have any welds exhibited leaks. Based on the piping system's satisfactory history, we recommend that the program of monitoring the pipe welds be continued and that the leaks be repaired as they occur. We do not find any evidence that warrants any program of system-wide corrective action.

Although in operation, the majority of equipment is past its published service life, and replacement of the equipment should be anticipated. A major capital project to update the air handling systems has effectively increased the service life and reliability of the air handling equipment. Equipment and component replacement is now performed as part of the ABM service contract.

Since its original construction, the central refrigeration plant has been expanded to include an additional 10,000 tons of capacity and improved performance. Full winter operation of the chilled water systems is now possible and redundant river water piping systems allow for improved service and maintenance programs. Both refrigeration plants operate on R-22 refrigerant. The use of Hudson River water for the cooling plant is in compliance with environmental regulations.

Merritt & Harris, Inc. reviewed the findings of a report written by Jaros, Baum, & Bolles (JB&B), Consulting Engineers, New York, New York, dated October 31, 1996. The report was written for the Port Authority and JP Morgan & Co. Inc. It presented an evaluation of the physical condition of the existing Base Building HVAC, electrical, plumbing, and fire protection systems at the WTC. The WTC 1, 2, 4, and 5; the Mall; and the Subgrade were covered in the report. The majority of the JB&B report's findings addressed issues that we consider to fall within the category of normal maintenance. The Port Authority has addressed, or is in the process of addressing and correcting, the issues noted in the JB&B report. Our observations and reviews of documents have confirmed that the issues are being addressed.

Plumbing

The plumbing systems appear to be functioning satisfactorily. Although operational, the majority of plumbing equipment is past its published service life, and replacement of the equipment should be anticipated. Equipment component maintenance and repair is performed as part of the ABM service contract.

Water hammer arrestors, on a 2" water line in a wall on the 55th floor of Tower 1, recently failed flooding the 55th - 44th floors. Samples of the arrestors were sent out for independent evaluation. It was determined that the bellows in the arrestors failed due to repeated expansions and contractions over a 27-year period. Therefore, it is recommended that a program be undertaken to replace all water hammer arrestors in all buildings, before more failures and flooding occur.

Electrical

The electrical systems appear to be functioning satisfactorily, and adequate electrical capacity is provided for all of the buildings. Major upgrades have taken place including feeder and bus duct replacements. The main electric substations are not in compliance with NYC Code and there is no variance in place. The primary issue is the lack of ground fault protection provision before the switchboard. It is understood that the Port Authority approved this configuration, and since the Port Authority is expected to remain the Code interpreter for this installation, new requirements for compliance will not occur in the future. Some of the electrical substations have been modernized as part of a project-wide infrastructure program. In some of the smaller closets, there are clearance issues where new equipment has been installed. These installations are reportedly grandfathered until any new equipment is added and have been accepted by the Port Authority in its role as Code interpretation official. A new standby power plant, located on the roof of 5 WTC and distribution network (beyond that for emergency power), is available for tenant use. It is understood that an operating certification is not required for this installation since it is not intended for use as a co-generation facility.

Life Safety

The life safety systems are appropriate for this type of facility, and have been upgraded during the life of the complex. Currently a new fire alarm system is being installed throughout the facility, and this installation is addressing open issues including return air smoke detection and annunciation, elevator lobby smoke detector activation, public address loudspeakers, and standpipe telephone jacks. The Fire Command stations in each building have been completed and approved. The majority of spaces are sprinklered, except for main lobbies, electrical and mechanical spaces, and some toilet rooms. The sprinklering plan is consistent with the requirements of the New York City Building Code. A survey is required to determine which floors may have inadequate fire hose reach, and to establish a plan to make these floors become code-comforming.

Technically, the stairwells of the Tower buildings should be vented. Because of the height of the stairwells, however the installation of venting fans would not be practical and would, most likely, pull smoke into the stairways from the corridors, a condition that is not favorable. The Port Authority is aware of the lack of venting in the stairwells and, as the code enforcement agency, has accepted that the addition of venting would cause an unsafe emergency exiting situation.

Because of the stack effect, fumes and smoke from fires that may occur in the PATH station can migrate into the Mall area and eventually into the buildings. A plan to install smoke barrier drops at the PATH entrance ceiling and ducted smoke evacuation from the PATH station through the subgrade space have been approved and budgeted. This plan appears to be a sound one. We are informed that this work will begin shortly.

An egress study has been made which recommended that 3 additional means of egress be constructed in the Mall. Two exits were added and a third, exiting from the vicinity of the present Godiva Chocolatier shop, is planned and budgeted.

Energy Conservation

The buildings have a mix of clear single-pane glazing or tinted single-pane glazing. There is no energy management system, although the central plant control system can be used to check trends and manually optimize the equipment operation. It is of note that electrical power is provided by Consolidated Edison, but purchased directly from the New York Power Authority at a relatively low cost.

Maintenance

Electrical, HVAC and general maintenance is performed under the terms of a consolidated performance-based service contract by ABM Engineering, with oversight by the Port Authority World Trade Department's Building Services Management Division. In general, maintenance of the systems appears to be adequate. Housekeeping (cleaning) deficiencies were noted in stairwells, electrical closets, and service areas. Ongoing repairs and replacement of components were observed to be in progress in various areas. It should be noted that the ABM Engineering contract calls for both the maintenance and repair of equipment. If a new contract is entered into with a service company for maintenance only, the replacement of equipment must be accounted for separately.

ADA Accessibility

The office building entrances, travel routes, and elevators are ADA compliant. ADA compliance on most full tenant floors is reportedly the responsibility of the tenants under terms of the leases (Merritt & Harris, Inc. did not review the leases), which would be a common practice. ADA compliance for toilet rooms on multi-tenant floors is a building owner's responsibility. Upgrades to toilet rooms, signage, and door hardware for building common spaces should be made on multiple-tenant floors.

The Mall has ADA-accessible entrances on grade in numerous clearly marked locations. All ADA entrances have power-assist doors. Although the 2 Mall levels are individually accessible, interior interconnection between the Concourse and the Plaza Levels is available only by ramp and elevator in the 5 WTC building, the office building elevators in 4 WTC, and a private tenant elevator in the Border's Store. We recommend that the redevelopment of the vacant retail space in the southeast section (4 WTC area) include consideration for a public elevator in the Mall common area to streamline ADA access between levels. Public rest rooms in the Mall are accessible as defined by the ADA.

Violation Status

As stated in the Offering Memorandum, "The Port Authority is a municipal corporate instrumentality and political subdivision of the States of New York and New Jersey which provides transportation, terminal, and other facilities of commerce within the Port District. As such, in connection with the Transaction, the PA will continue to maintain exclusive jurisdiction with respect to certain administrative and governmental matters involving the Complex, including compliance with building, environmental, fire and health codes." The New York City Department of Buildings has indicated that they do not maintain any records of violations for this property. A request for a Property Profile Overview for this block and lot number yields no records. The Fire Department provides normal fire fighting and a life safety service to the facility. A Memorandum of Understanding exists between the Port Authority and the Fire Department in which the Fire Department performs regular inspections and directly notifies the Port Authority Fire and Life Safety group of deficiencies to be corrected. Under a protocol with the New York City Fire Department, Port Authority Police personnel investigate certain fire alarms at the World Trade Center rather than transmitting such alarms to the New York City Fire Department.

Environmental Site Assessment

During construction, essentially all soil down to 75' was removed, eliminating any potential pollution from previous uses of the site. R.W. Crandlemere & Associates identified other locations of recognized environmental conditions in the search radius, but concludes that none of these sites or the current use of the WTC, are likely to impact the environmental integrity of the subject site.

The use of Hudson River water for the cooling plant is in compliance with regulations. The current NYDEC State Pollutant Discharge Elimination System (SPDES) permit extends to May 1, 2004. Monitoring reports and SPDES inspections performed in 1999 and 2000 state, "no reported permit limit exceedences."

The 1999 Denny & Associates report concerning the broadcasting and transmission devices mounted on the roof of WTC1 were reviewed. Operational guidelines are currently in place to provide protection to trained workers and escorted visitors. Based on the Denny & Associates report, R.W. Crandlemere & Associates recommends further additional investigation concerning radio frequency exposure levels for visitors to the observation deck on 2 WTC.

The R.W. Crandlemere & Associates *Environmental Site Assessment* is included in its entirety in this report.

Asbestos

Asbestos-containing materials (ACM) were used as sprayed-on fireproofing and pipe insulation during the original construction. Vinyl-asbestos tile is present throughout the complex. The Port Authority has identified the areas having ACM, which are primarily tenant spaces, mechanical rooms, subgrade areas, and elevator shafts. A large portion of the ACM has been removed and the abatement process is continuing as tenant leases rollover and the spaces are retrofitted. Some abatement projects are carried in the capital budgets for 2001-2005 and other VAT and spray-on abatement work is treated as an operating cost. An Operations and Maintenance Plan has been produced and specific staff personnel have been trained and certified as ACM handlers to deal with incidental disturbance of the material. Much of the ACM in the pipe insulation in the subgrade areas has been removed. Tenants occupying floors that may still contain asbestos material have been formally notified.

There is a reported litigation in process for cost recovery related to ACM abatement. This litigation was not reviewed as part of this report and questions pertaining to the subject should be addressed to the appropriate legal entity.

R.W. Crandlemere & Associates reports addressing the presence of ACM are provided in each individual building section of this report.

*Specific
Recommendations*

Specific recommendations, items of concern, and building deficiencies are noted in "E. Recommendations" section of the individual property component reports. Priorities are divided into Immediate (0-1 Year), Future (1-5 Years) and Future (6-10 Years) categories.

EXECUTIVE SUMMARY ATTACHMENTS

1. Neighborhood Map (Reproduced with permission from J.P. Morgan Property Book)
2. Résumés of participating Merritt & Harris, Inc. staff personnel
3. Due Diligence Check List of Documents as of October 31, 2000
4. WTC - Proposed 2001 Capital Plan
5. WTC - Proposed 2002-2005 Capital Plan
6. R.W. Crandlemere & Associates Environmental Site Assessment Phase I Report (separate binder)
7. BOCA Group International, Inc. - Overall Observation