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Task 56

Final Product

CITY OF NEWPORT NEWS

Department of Planning and Development

Wetlands Survey and Analysis

Applied Research Center

Patrick Henry CommerCenter

Oakland Plantation Industrial Park

Newport News (Va.). Dept. of Planning and Development.

Wetlands Survey and Analysis

Applied Research Center
Patrick Henry CommerCenter
Oakland Plantation Industrial Park

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WETLANDS IDENTIFICATION SURVEY

Introduction

The following is a comprehensive report documenting the evaluations of three designated project locations for the purpose of identifying nontidal wetlands. These properties which are managed by the Industrial Development Authority of Newport News, are the Applied Research Center, Oakland Plantation Industrial Park, and Patrick Henry CommerCenter. For the most part, these industrial parks are in the planning stages and/or the early development phases.

Questionable sites within the industrial parks were identified by preliminary investigation using standard and infrared aerial photography, and NWI maps. On-site wetland delineations were conducted in accordance with the 1989 Federal Manual for Identifying and Delineating Jurisdictional Wetlands. Each site was tested for the presence of the three wetland criterion (hydrophytic vegetation, hydric soils, wetland hydrology) using the routine method as outlined in the manual.

The results and findings of the wetland investigations include inventory, field notes, data sheets, and maps of potential nontidal wetland areas. Background information on soils is insufficient because no soil survey exists for the cities of the Lower Peninsula including the City of Newport News. Also, native vegetation dominating Southeastern Virginia meets the hydrophytic criteria.

Applied Research Center

A field investigation was conducted for the presence of nontidal wetlands on 74.66 acres of the ARC Development Site in Newport News. Normal environmental conditions exist and there is no evidence of significant disturbance of the site. Overall, the site is generally flat with vegetation indigenous to the area.

There were no obvious visual signs to indicate the presence of nontidal wetland areas (e.g. ground surface inundation, soil saturation). However, there was a questionable area near the William and Mary property. A small nontidal wetland area indicated on the NWI maps (see Map 1.1). Therefore, 3 test plots were explored in the main portion of the ARC site along Oyster Point Road (see Map 1.2). These plots were chosen in areas that might have been inundated at some time (e.g. tufts of grass, small depressions, raised trees, slight buttressing). An 18" pit was dug and the 3 wetland criterion were analyzed at each plot. Using the 50/20% Dominance Rule, the vegetation at each plot met the hydrophytic vegetation criterion, which as mentioned before is typical for Newport News. Also, at each plot no water was found in the 18" deep pit. The sandy-clay soil (80:20 ratio) was well-drained. The hydric soil criterion and the wetland hydrology criterion appear not to have been met. From the data provided, the test areas do not provide sufficient evidence to support the presence of nontidal wetlands.

Oakland Industrial Park

This site in Oakland Industrial Park investigated for the presence of nontidal wetlands consisted of two parcels adjacent to Option, Inc. Normal environmental conditions exist and the vegetation, soil, and hydrology have not been significantly disturbed.

Area 1- Although the initial routine investigation of vegetation, soil, and hydrology did not support the evidence of nontidal wetlands, there are two questionable low lying areas on site (see Map 2.2). In these areas, were evidence of water stained leaves and minor tree buttressing, but there was no evidence of prolonged ground surface inundation. Also, no standing water nor water in the test plot was found and the soil appeared not to be saturated.

Area 2- Findings at this site across Enterprise Drive were similar to those parcels adjacent to Option, Inc. Although no freestanding water was observed in the test plot no in the ground surface, a depressed area of water stained leaves and slight tree buttressing was noted. Again the hydrophytic vegetation criterion was met, but the evidence for the presence of hydric soils and wetland hydrology was weak.

Area 3- A field survey of 3 adjacent land parcels was conducted for the possible presence of nontidal wetland areas. A major portion of the 3 parcels is disturbed land consisting mainly of field grasses, tree seedlings, and other brush responding to natural succession. In the center of the site is a thick area of brush consisting largely of blackberry and raspberry shrubs. The rear of the site is bounded by a heavily wooded ravine. The question of possible wet areas lies mostly in the relatively flat disturbed area.

There is a small (12") ditch which bisects the 9.3 acre parcel. On the 9.7 acre parcel near Enterprise Drive there are several tiny wet areas complete with emerging cattails and 2-3" standing water (see Map 2.3). These wet areas are confined to wheel cut trenches 4-5" deep, which were a result of the land being cleared by large equipment. Note that these "wet areas" in question are small and isolated, lacking a hydrologic connection and are located on a disturbed site. Soil excavated from the construction of drainage ditches is being stockpiled on the 12.2 acre parcel. Otherwise, no questionable areas were noted.

Patrick Henry CommercCenter

A site survey was conducted at several parcels within the Patrick Henry CommerCenter property off Bland and McManus Boulevards. Five specific areas were studied as shown on the attached map. In each of these areas, three wetland criteria were assessed: hydrophytic vegetation, hydric soils, and wetland hydrology.

In all 5 sites, normal environmental conditions exist, and the vegetation, soils, and/or hydrology have not been significantly disturbed within the last 20 years. During the years that the site operated as a prison camp, several roads and drainage ditches were cut throughout the property, creating knolls and swales that naturally would not have occurred in this area. Over the years, the growth of vegetation in these areas could have possibly altered the drainage.

Attached is a map of the entire property surveyed (see Map 3.1).

Area 1- The ground surface of this site is partially inundated with water at a depth of 1"-4" as indicated on the detailed map. This is probably a result of poor drainage. The vegetation in this area was not indicative of hydrophytic vegetation, except in those areas of obvious standing water. The test plot revealed no standing water in the hole, however, the soil test revealed a low chroma number of 2 (coloring agent of soil) with light colored mottles. A low chroma number (2 or less) is a possible indicator of soil reducing properties caused by saturation. There were no signs of a hydrologic connection; therefore, the wetlands would be isolated (see Map 3.2).

Area 2- The majority of this site appears to be free of wetlands except for a small area on the southeast boundary along the proposed Turnberry Boulevard extension. The vegetation was not characteristic of hydrophytic vegetation. However, the text plot revealed a capillary flow of water 12" below the ground surface, and the soil test showed a chroma number of 2 and iron/orange color mottles. Iron concretions are a sign of soil reducing properties. The hydric soil and wetland hydrology criterion seems to have been met; therefore, this area should be checked for the actual extent of the wetland boundary. Again there were no signs of a hydrologic connection. When the preliminary clearing for the proposed road occurred, the drainage appears to have been disturbed in this area (see Map 3.3).

Area 3- A good portion of area 3 indicates the presence of wetlands. There seems to be an area of standing water (pond) and a series of drainage channels and swales throughout the area. Furthermore, an apparent hydrologic connection exists between these drainage patterns and Lucas Creek. Although the hydrophytic vegetation criterion has not been met, the test plot revealed saturated soil and a 10"-12" depth to capillary flow of water. Other field evidence recorded were buttressed tree trunks and multi-trunk trees. The soil test noted a low chroma number and the presence of hydrogen sulfide (emitting an odor of rotten eggs), which supports evidence of soil saturation in a soil reducing environment. Further investigation is suggested to detail the boundaries of these wetland channels.

Area 4- There are a series of minor drainage ditches along old road beds throughout this site (see Map 3.4). Although the hydrophytic vegetation criterion was met on this site, there is no supporting evidence from the soils and hydrology to indicate the presence of wetlands.

Area 5- On this large site, the northern and western portion appeared to be dry. Although the hydrophytic vegetation criterion was met on this portion of the site; there was no further field evidence (e.g. soils, hydrology) to support the presence of wetland areas. Note that there is a drainage ditch along or near the northwest property line, and several concrete foundations along the northern property line (see Map 3.5).

There is a small low-lying area that is in question located along the upper southeastern boundary line. The hydrophytic vegetation was met in this area as well as the test plot revealed saturated soil, 9" depth to freestanding water, and minor buttressed tree trunks. The soil test showed an extremely low croma number of 1, which indicates soil reducing properties. There were not signs of an hydrologic connection; therefore, this is a potential isolated nontidal wetland.

The southeastern corner of the site is a marsh-like area with water 3"-8" deep. On the other side of a berm, northeast of this area appears to be a potential nontidal wetland area. A hydrologic connection is questionable. Surface inundation was scattered throughout this area at a depth of 1/2"-1". Other field evidence of previous surface inundation of soil saturation were water stained leaves, extreme buttressing of tree trunks (90% of trees in this area), and a large amount of debris and tree litter. The vegetation in this area met the hydrophytic vegetation criterion by 100%.

Conclusions

The survey revealed no significant evidence to indicate the presence of wetlands in the ARC site. The Oakland and CommerCenter sites contained a few, what appear to be isolated areas, meeting some of the identification criteria. The recommended approach to dealing with these questionable areas is a site-specific detail analysis prior to any development taking place on them.

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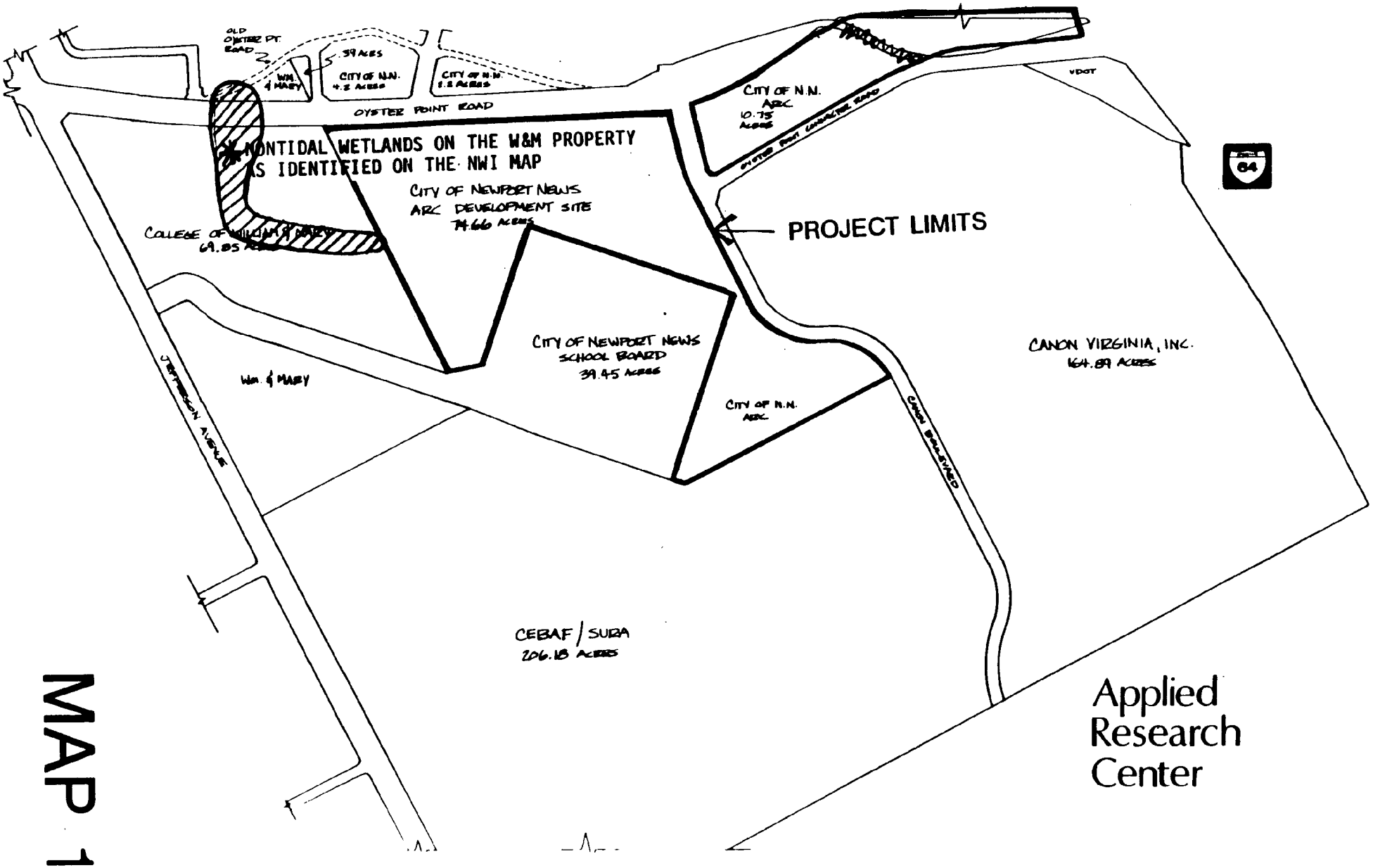
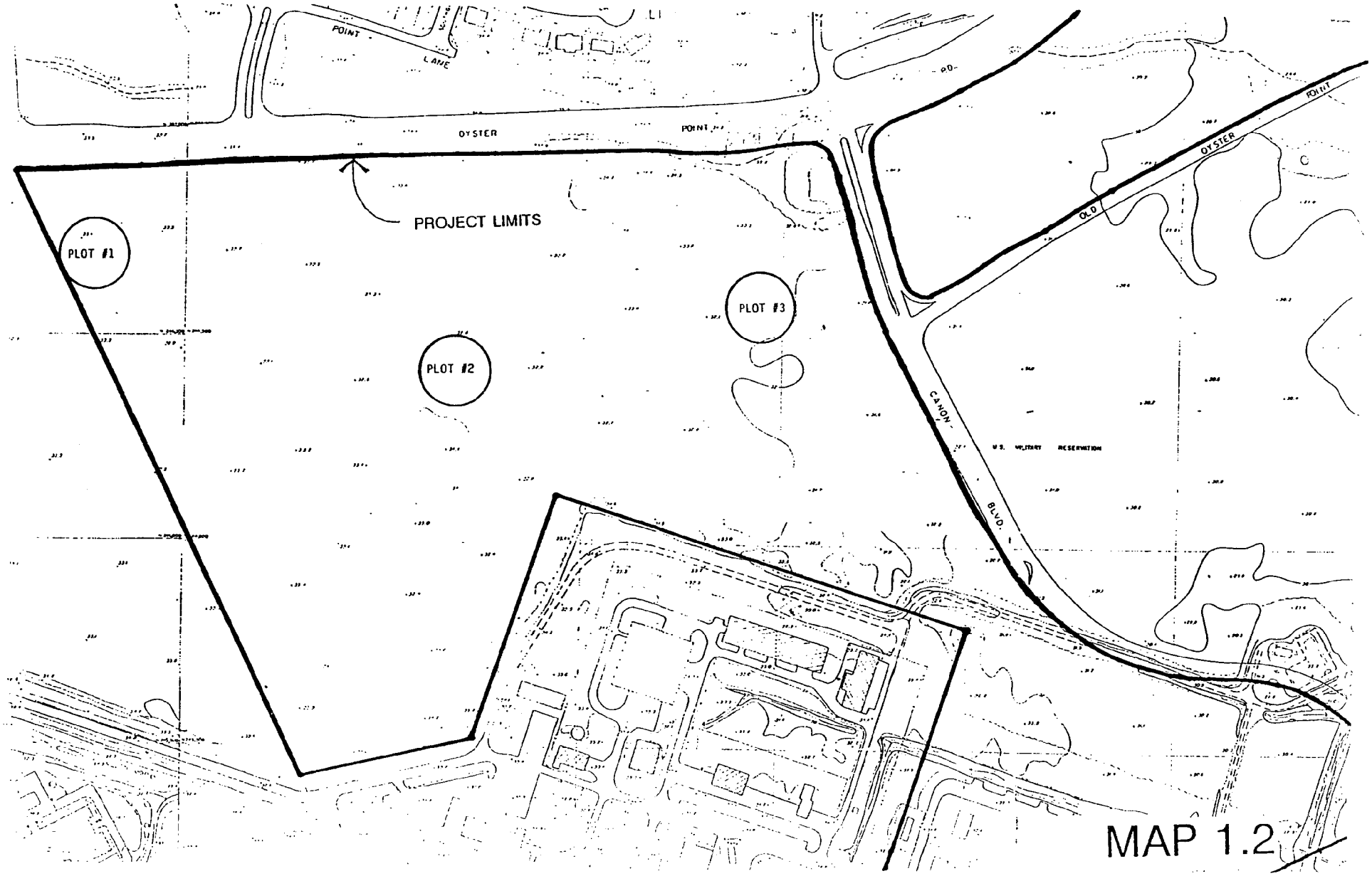
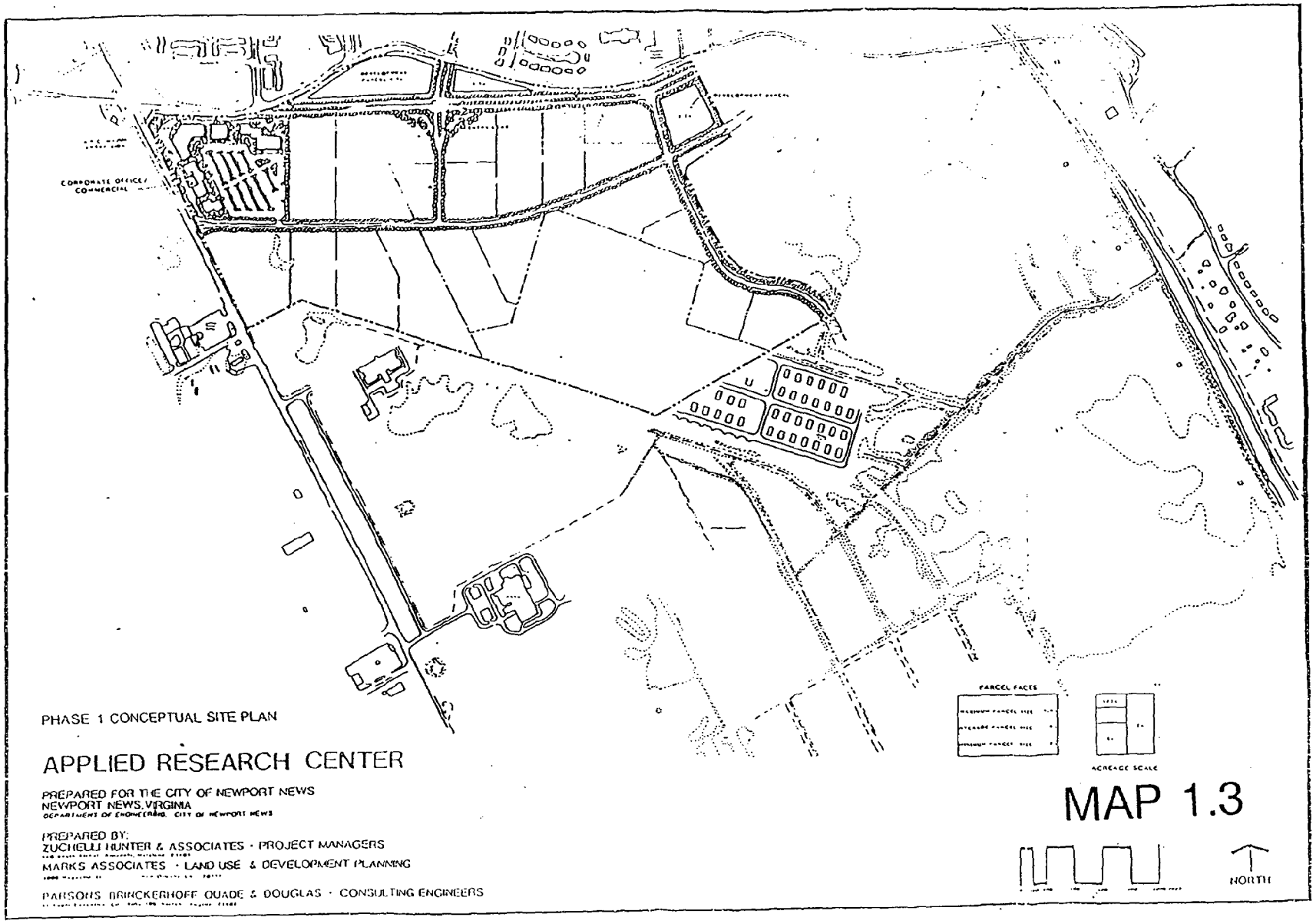


Applied Research Center

MAP 1.1


POINT
LANE
OYSTER
POINT
PROJECT LIMITS
PLOT #1
PLOT #2
PLOT #3
OLD
OYSTER
POINT
CANON
BLVD.
U.S. MILITARY RESERVATION

MAP 1.2



PHASE 1 CONCEPTUAL SITE PLAN

APPLIED RESEARCH CENTER

PREPARED FOR THE CITY OF NEWPORT NEWS
NEWPORT NEWS, VIRGINIA
DEPARTMENT OF ENGINEERING, CITY OF NEWPORT NEWS

PREPARED BY:
ZUCHELLI HUNTER & ASSOCIATES · PROJECT MANAGERS
MARKS ASSOCIATES · LAND USE & DEVELOPMENT PLANNING
PARSONS BRINCKERHOFF QUADE & DOUGLAS · CONSULTING ENGINEERS

MAP 1.3

DATA FORM
ROUTINE ONSITE DETERMINATION METHOD[1]

Field Investigator(s): Ken Whipple/Steve Summerfield Date: 5/16/91
Project/Site: NRC Site (Test Site #1) State: VA County: N.N.
Applicant/Owner: N.N. Plant Community #/Name:
Note: If a more detailed site description is necessary, use the back of data form or a field notebook.

Do normal environmental conditions exist at the plant community?
Yes ✓ No ____ (If no, explain on back)
Has the vegetation, soils, and/or hydrology been significantly disturbed?
Yes ____ No ✓ (If yes, explain on back)

VEGETATION

Dominant Plant Species		Indicator Status	Stratum	Dominant Plant Species	Indicator Status	Stratum
1. Loblolly Pine	30%	FAC-	T d	11.		
2. White Oak	30%	FACU	T d	12.		
3. Red Maple	30%	FAC	T d	13.		
4. Willow Oak	1%		T	14.		
5. Sweetgum	20%	FAC	Sa d	15.		
6. Oak	30%	FACU	Sa d	16.		
7. Red Maple	20%	FAC	Sh d	17.		
8. Smilax	5%		H	18.		
9. Grass	20%		H d	19.		
10.				20.		

Percent of dominant species that are OBL, FACW, and/or FAC 67%
Is the hydrophytic vegetation criterion met? Yes X No ____
Rationale: 50% of dominant vegetation is FAC, FACW, or OBL

SOILS

Series/phase: Not Known Subgroup:[2] ✓
Is the soil on the hydric soils list? Yes ____ No ____ Undetermined ✓
Is the soil a Histosol? Yes ____ No ____ Histic epipedon present? Yes ____ No ____
Is the soil: Mottled? Yes ____ No ____ Gleyed? Yes ____ No X
Matrix Color: 7.5 YR 5/2 Mottle Colors: Yellow; Orange
Other hydric soil indicators:
Is the hydric soil criterion met? Yes ____ No X
Rationale: although soil may be frequently flooded, soil appears to be well-drained and no water found in test hole.

HYDROLOGY

Is the ground surface inundated? Yes ____ No X Surface water depth: N/A
Is the soil saturated? Yes ____ No X
Depth to free-standing water in pit/soil probe hole: No water (18" depth hole - dry)
List other field evidence of surface inundation or soil saturation.
moss; grass tufts; small depressions (bumpy land); raised trees
Is the wetland hydrology criterion met? Yes ____ No X
Rationale: no strong supporting evidence.

JURISDICTIONAL DETERMINATION AND RATIONALE

Is the plant community a wetland? Yes ____ No X
Rationale for jurisdictional decision:

[1] This data form can be used for the Hydric Soil Assessment Procedure and the Plant Community Assessment Procedure.
[2] Classification according to "Soil Taxonomy."

DATA FORM
ROUTINE ONSITE DETERMINATION METHOD[1]

Field Investigator(s): Don Whipple / Steve Summerfelt Date: 5/16/91
Project/Site: ABC (Test Site #2) State: VA County: N.N.
Applicant/Owner: N.N. Plant Community #/Name:
Note: If a more detailed site description is necessary, use the back of data form or a field notebook.

Do normal environmental conditions exist at the plant community?
Yes X No ____ (If no, explain on back)
Has the vegetation, soils, and/or hydrology been significantly disturbed?
Yes ____ No X (If yes, explain on back)

VEGETATION

Dominant Plant Species	Indicator Status	Stratum	Dominant Plant Species	Indicator Status	Stratum
1. Oak 60%	FACU	T	11.		
2. Loblolly Pine 30%	FAC-	T	12.		
3. Sweetgum 20%	FAC	Sa	13.		
4. Oak 20%	FACU	Sa	14.		
5. Red Maple 40%	FAC	Sa	15.		
6. Blackgum 15%	FAC	Sh	16.		
7. Highbush Blueberry 10%		Sh	17.		
8. Red Maple 25%	FAC	Sh	18.		
9. Sweetgum 20%	FAC	Sh	19.		
10. Highbush Blueberry 10%	FACW-	H	20.		

Percent of dominant species that are OBL, FACW, and/or FAC 78%
Is the hydrophytic vegetation criterion met? Yes X No
Rationale: over 50% of dominant vegetation is OBL, FACW, and/or FAC

SOILS

Series/phase: Not Known Subgroup:[2]
Is the soil on the hydric soils list? Yes ~~N/A~~ No ____ Undetermined ✓
Is the soil a Histosol? Yes N/A No ____ Histic epipedon present? Yes ____ No ____
Is the soil: Mottled? Yes ____ No ____ Gleyed? Yes ____ No X
Matrix Color: 5YR 5/2 Mottle Colors: N/A
Other hydric soil indicators: sandy clay; well drained
Is the hydric soil criterion met? Yes ____ No X
Rationale: although ground may be frequently flooded, soil appears to be well drained and no water was found in test hole

HYDROLOGY

Is the ground surface inundated? Yes ____ No X Surface water depth: N/A
Is the soil saturated? Yes ____ No X
Depth to free-standing water in pit/soil probe hole: No water (18" depth hole - dry)
List other field evidence of surface inundation or soil saturation.
low area; few multi-trunk trees; minor tree buttress
Is the wetland hydrology criterion met? Yes ____ No X
Rationale: no strong supporting evidence

JURISDICTIONAL DETERMINATION AND RATIONALE

Is the plant community a wetland? Yes ____ No X
Rationale for jurisdictional decision:

[1] This data form can be used for the Hydric Soil Assessment Procedure and the Plant Community Assessment Procedure.
[2] Classification according to "Soil Taxonomy."

DATA FORM
ROUTINE ONSITE DETERMINATION METHOD[1]

Field Investigator(s): DON WHIPPLE / STEVE SUMMERFIELD Date: 5/16/91
Project/Site: ARC (TEST SITE #3) State: VA County: N.N.
Applicant/Owner: _____ Plant Community #/Name: _____
Note: If a more detailed site description is necessary, use the back of data form or a field notebook.

Do normal environmental conditions exist at the plant community?
Yes X No ____ (If no, explain on back)
Has the vegetation, soils, and/or hydrology been significantly disturbed?
Yes ____ No X (If yes, explain on back)

VEGETATION

Dominant Plant Species	Indicator Status	Stratum	Dominant Plant Species	Indicator Status	Stratum
1. Red Maple 10%		Sh	11.		
2. Sweetgum 10%		Sh	12.		
3. Am. Holly 5%		Sh	13.		
4. Highbush Blueberry 50%	FACW-	Sh d	14.		
5. Oak 50%	FACU	Sa d	15.		
6. Sweetgum 20%	FAC	Sa d	16.		
7. Red Maple 30%	FAC	Sa d	17.		
8. Loblolly Pine 20%	FAC-	T d	18.		
9. Oak 60%	FACU	T d	19.		
10. Red Maple 10%		T	20.		

Percent of dominant species that are OBL, FACW, and/or FAC 67%
Is the hydrophytic vegetation criterion met? Yes X No ____
Rationale: 50% of dominant vegetation is OBL, FACW, and/or FAC

SOILS

Series/phase: Not Known Subgroup:[2] _____
Is the soil on the hydric soils list? Yes ____ No ____ Undetermined X
Is the soil a Histosol? Yes N/A No ____ Histic epipedon present? Yes ____ No ____
Is the soil: Mottled? Yes ____ No ____ Gleyed? Yes ____ No X
Matrix Color: 5YR 6/2 Mottle Colors: N/A
Other hydric soil indicators: Sandy clay, well drained (80:20 ratio)
Is the hydric soil criterion met? Yes ____ No ____
Rationale: _____

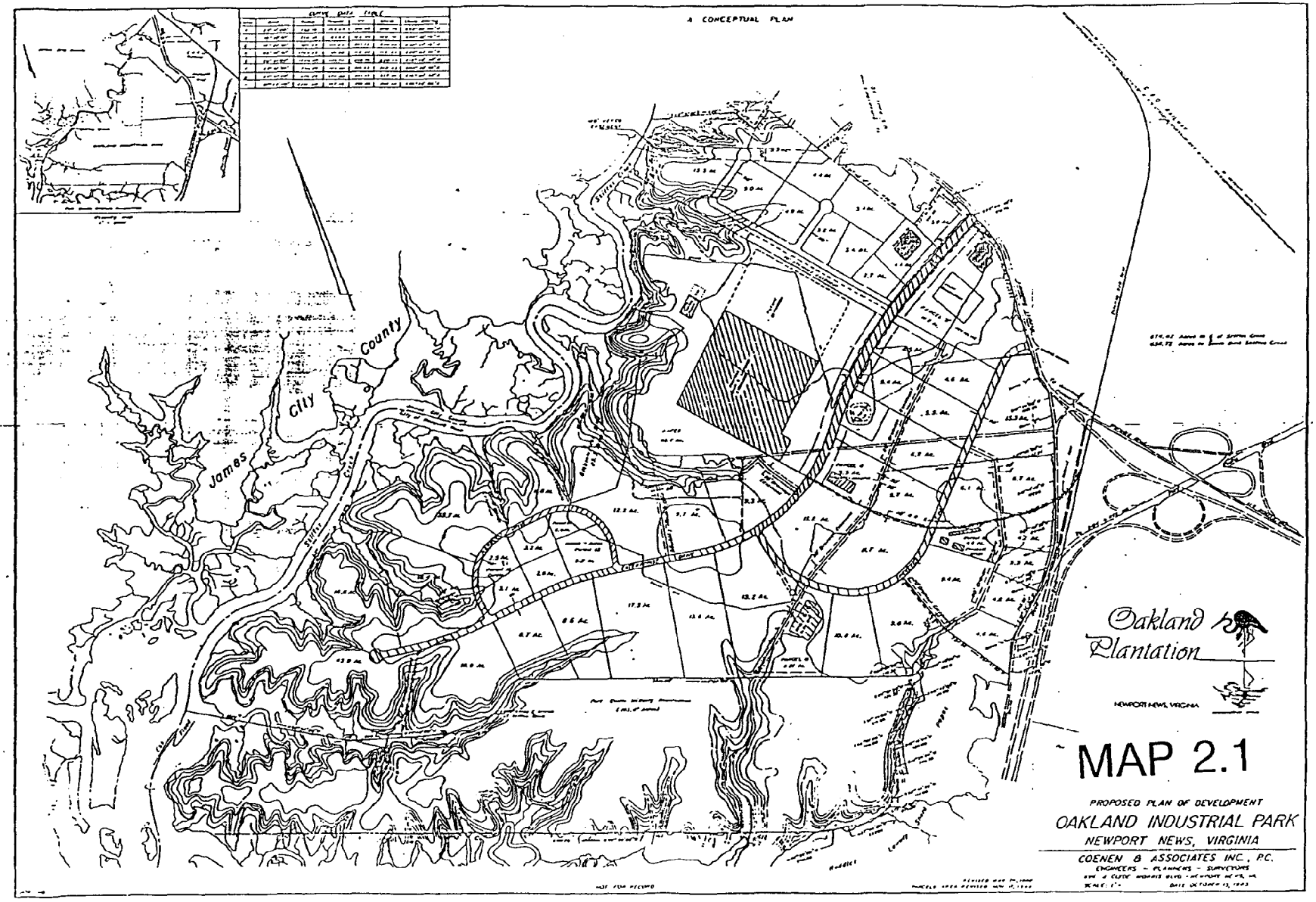
HYDROLOGY

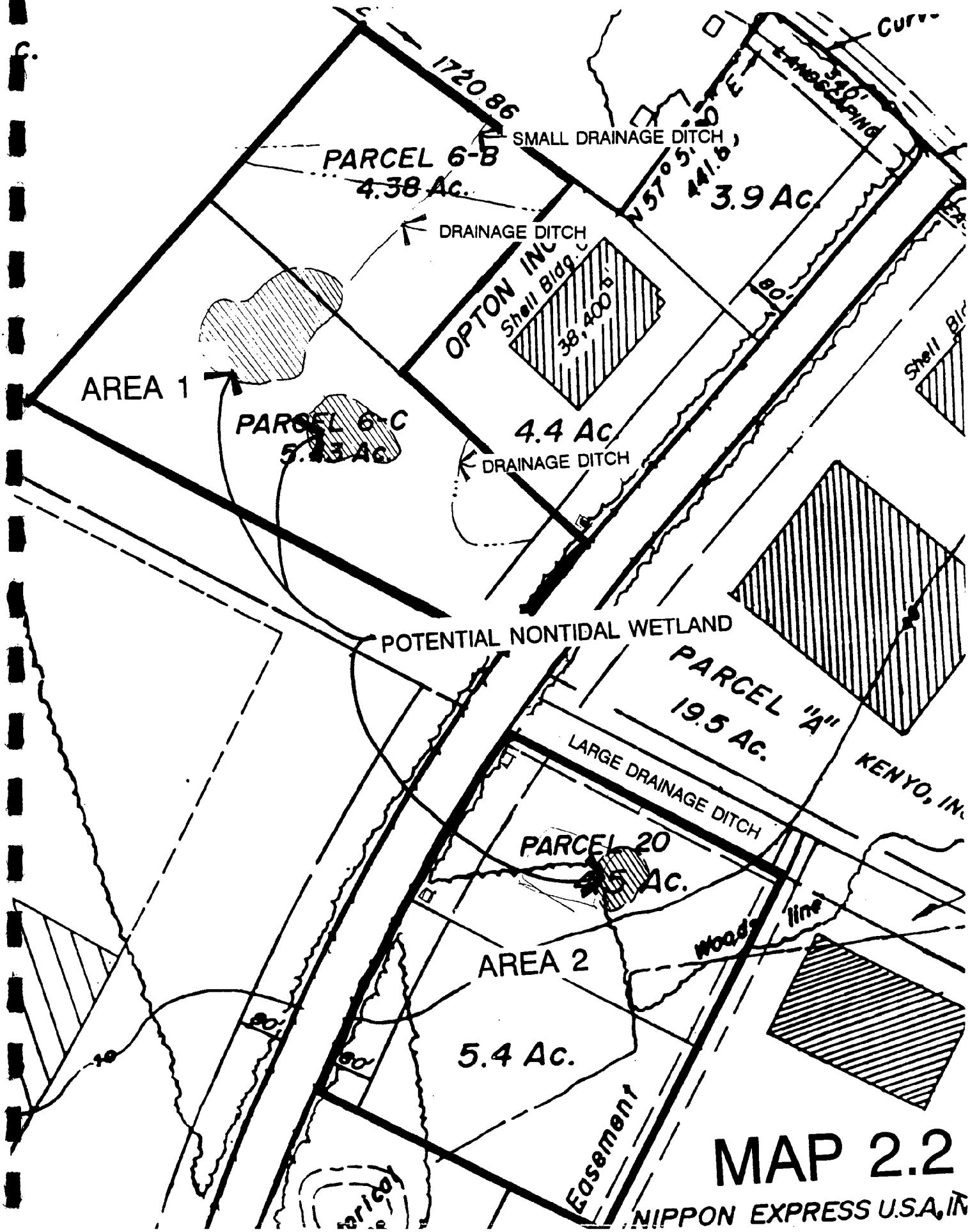
Is the ground surface inundated? Yes ____ No X Surface water depth: N/A
Is the soil saturated? Yes ____ No X
Depth to free-standing water in pit/soil probe hole: No water (18" depth hole - dry)
List other field evidence of surface inundation or soil saturation.
low area; slight tree buttresses; few multi-trunk trees.
Is the wetland hydrology criterion met? Yes ____ No X
Rationale: no strong support evidence

JURISDICTIONAL DETERMINATION AND RATIONALE

Is the plant community a wetland? Yes ____ No X
Rationale for jurisdictional decision: _____

[1] This data form can be used for the Hydric Soil Assessment Procedure and the Plant Community Assessment Procedure.
[2] Classification according to "Soil Taxonomy."


A CONCEPTUAL PLAN
James
City
County
Oakland Plantation
NEWPORT NEWS, VIRGINIA
MAP 2.1
PROPOSED PLAN OF DEVELOPMENT
OAKLAND INDUSTRIAL PARK
NEWPORT NEWS, VIRGINIA
COENEN & ASSOCIATES INC., P.C.
ENGINEERS - PLANNERS - SURVEYORS


1720.86
SMALL DRAINAGE DITCH
PARCEL 6-B
4.38 Ac.
DRAINAGE DITCH
N 57° 5' E
441.6'
3.9 Ac.
OPTON INC
Shell Bldg.
38,400 ft
80'
AREA 1
PARCEL 6-C
5.13 Ac.
4.4 Ac.
DRAINAGE DITCH
POTENTIAL NONTIDAL WETLAND
PARCEL "A"
19.5 Ac.
LARGE DRAINAGE DITCH
KENYO, INC
PARCEL 20
4.5 Ac.
Woods line
AREA 2
5.4 Ac.
80'
80'
Easement
MAP 2.2
NIPPON EXPRESS U.S.A. IN

DATA FORM
ROUTINE ONSITE DETERMINATION METHOD[1]

Field Investigator(s): DON WHIPPLE / ANNE M. Date: _____
Project/Site: OPTON - OAKLAND IND. State: VA County: _____
Applicant/Owner: AREA 1 Plant Community #/Name: _____
Note: If a more detailed site description is necessary, use the back of data form or a field notebook.

Do normal environmental conditions exist at the plant community?
Yes X No ____ (If no, explain on back)
Has the vegetation, soils, and/or hydrology been significantly disturbed?
Yes ____ No X (If yes, explain on back)

VEGETATION

* Dominant Plant Species	Indicator Status	Stratum	Dominant Plant Species	Indicator Status	Stratum
* 1. WILLOW OAK	FAC+	T	11. SWEETGUM	FAC	H
• 2. BLACKGUM	FAC	T	12. (NON WETLAND) GRASSES		H
* 3. BLACKGUM	FAC	Sa	13.		
• 4. LOBLOLLY PINE	FAC-	Sa	14.		
• 5. HIGHBUSH BLUEBERRY	FACW-	Sh	15.		
* 6. HOLLY	FACU+	Sh	16.		
• 7. SWEETGUM	FAC/FACW	Sh	17.		
8. RED MAPLE	FAC	Sh	18.		
* 9. SMILAX	FAC	H	19.		
• 10. HIGHBUSH B.B.	FACW-	H	20.		

• Codominant Species

Percent of dominant species that are OBL, FACW, and/or FAC 90%
Is the hydrophytic vegetation criterion met? Yes X No ____
Rationale: 90% > 50%

SOILS

Series/phase: unknown Subgroup:[2] _____
Is the soil on the hydric soils list? Yes ____ No ____ Undetermined X
Is the soil a Histosol? Yes ____ No ____ Histic epipedon present? Yes ____ No ____
Is the soil: Mottled? Yes ____ No X Gleyed? Yes ____ No X
Matrix Color: 7.5 YR 5/2 Mottle Colors: N/A
Other hydric soil indicators: crumbly, flaky soil, dry appearance
Is the hydric soil criterion met? Yes ____ No X
Rationale: _____

HYDROLOGY

Is the ground surface inundated? Yes ____ No X Surface water depth: N/A
Is the soil saturated? Yes ____ No X
Depth to free-standing water in pit/soil probe hole: no free-standing water present
List other field evidence of surface inundation or soil saturation.
minor water stained leaves, minor butressing, no standing water, no multi-trunk tree
Is the wetland hydrology criterion met? Yes ____ No X
Rationale: not enough supporting evidence, inconclusive soils

JURISDICTIONAL DETERMINATION AND RATIONALE

Is the plant community a wetland? Yes ____ No X
Rationale for jurisdictional decision: questionable whether site is an isolated nontidal wetland - portions of site appear to be poorly drained; however significant soil and hydrology factors are not present.

[1] This data form can be used for the Hydric Soil Assessment Procedure and the Plant Community Assessment Procedure.
[2] Classification according to "Soil Taxonomy."

DATA FORM
ROUTINE ONSITE DETERMINATION METHOD[1]

Field Investigator(s): DON WHIPPLE / ANNE Date: _____
Project/Site: OAKLAND AREA 2 State: _____ County: _____
Applicant/Owner: _____ Plant Community #/Name: _____
Note: If a more detailed site description is necessary, use the back of data form or a field notebook.

Do normal environmental conditions exist at the plant community?
Yes X No ____ (If no, explain on back)
Has the vegetation, soils, and/or hydrology been significantly disturbed?
Yes ____ No X (If yes, explain on back)

VEGETATION

*Dominant Plant Species	Indicator Status	Stratum	Dominant Plant Species	Indicator Status	Stratum
* 1. SMILAX	FAC	WV	11.		
• 2. RED MAPLE	FAC	T	12.		
• 3. SWEETGUM	FAC/FACV	T	13.		
* 4. OAK	FACU	T	14.		
* 5. OAK	FACU	Sa	15.		
• 6. RED MAPLE	FAC	Sa	16.		
* 7. HIGHBUSH BLUBERRY	FACW-	Sh	17.		
• 8. HOLLY	FACU+	Sh	18.		
9.			19.		
10.			20.		

Percent of dominant species that are OBL, FACW, and/or FAC 62.5%
Is the hydrophytic vegetation criterion met? Yes X No ____
Rationale: > 50% of dominant vegetation is FAC, FACW, or OBL.

SOILS

Series/phase: unknown Subgroup:[2] _____
Is the soil on the hydric soils list? Yes ____ No ____ Undetermined X
Is the soil a Histosol? Yes ____ No X Histic epipedon present? Yes ____ No X
Is the soil: Mottled? Yes ____ No X Gleyed? Yes ____ No X
Matrix Color: 7.5 YR 5/2 Mottle Colors: N/A
Other hydric soil indicators: _____
Is the hydric soil criterion met? Yes ____ No X
Rationale: _____

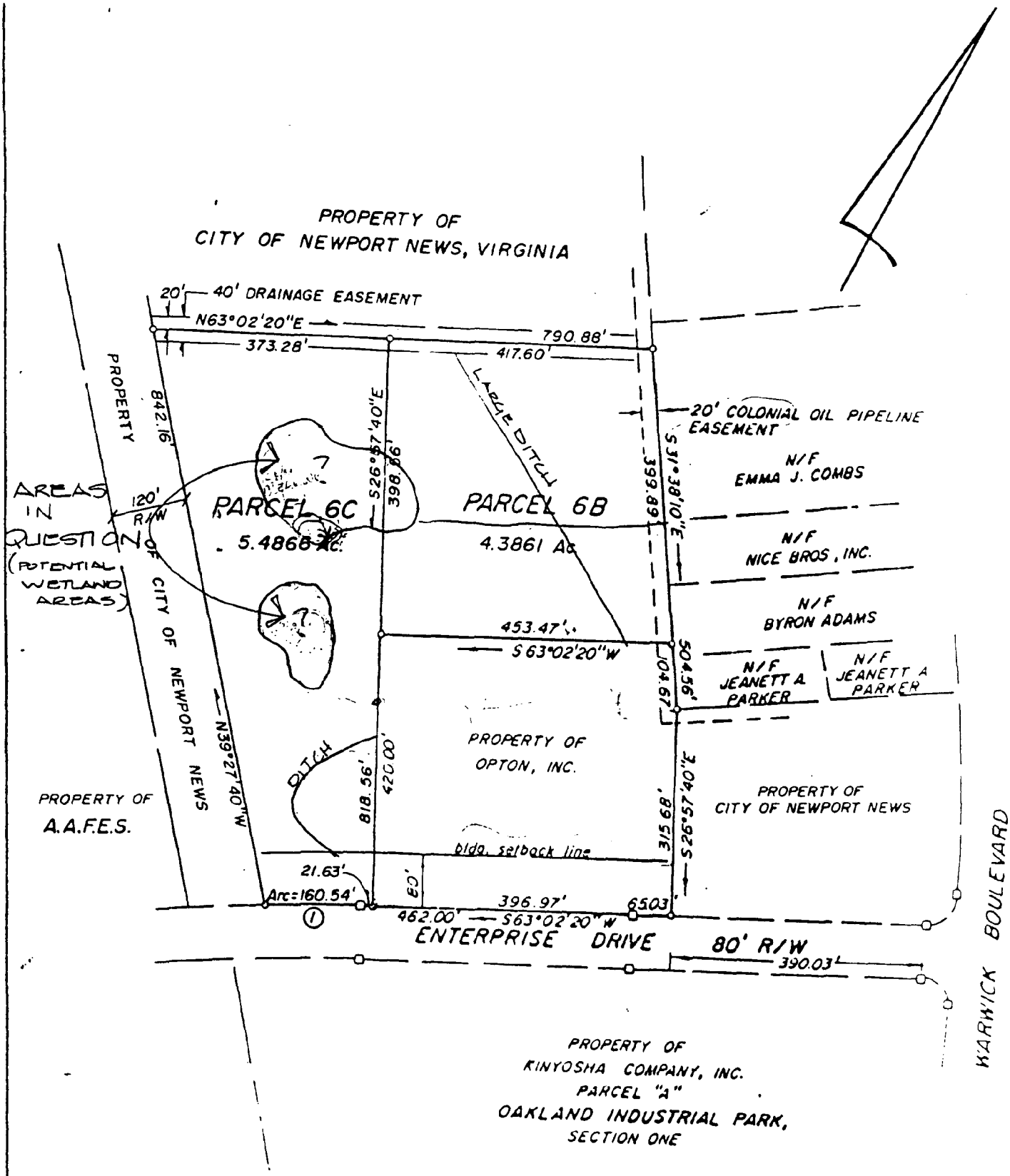
HYDROLOGY

Is the ground surface inundated? Yes ____ No X Surface water depth: N/A
Is the soil saturated? Yes ____ No ____
Depth to free-standing water in pit/soil probe hole: no free standing water present
List other field evidence of surface inundation or soil saturation.
large depression w/ areas of water stained leaves; slight buttress[illegible]
Is the wetland hydrology criterion met? Yes ____ No ____
Rationale: _____

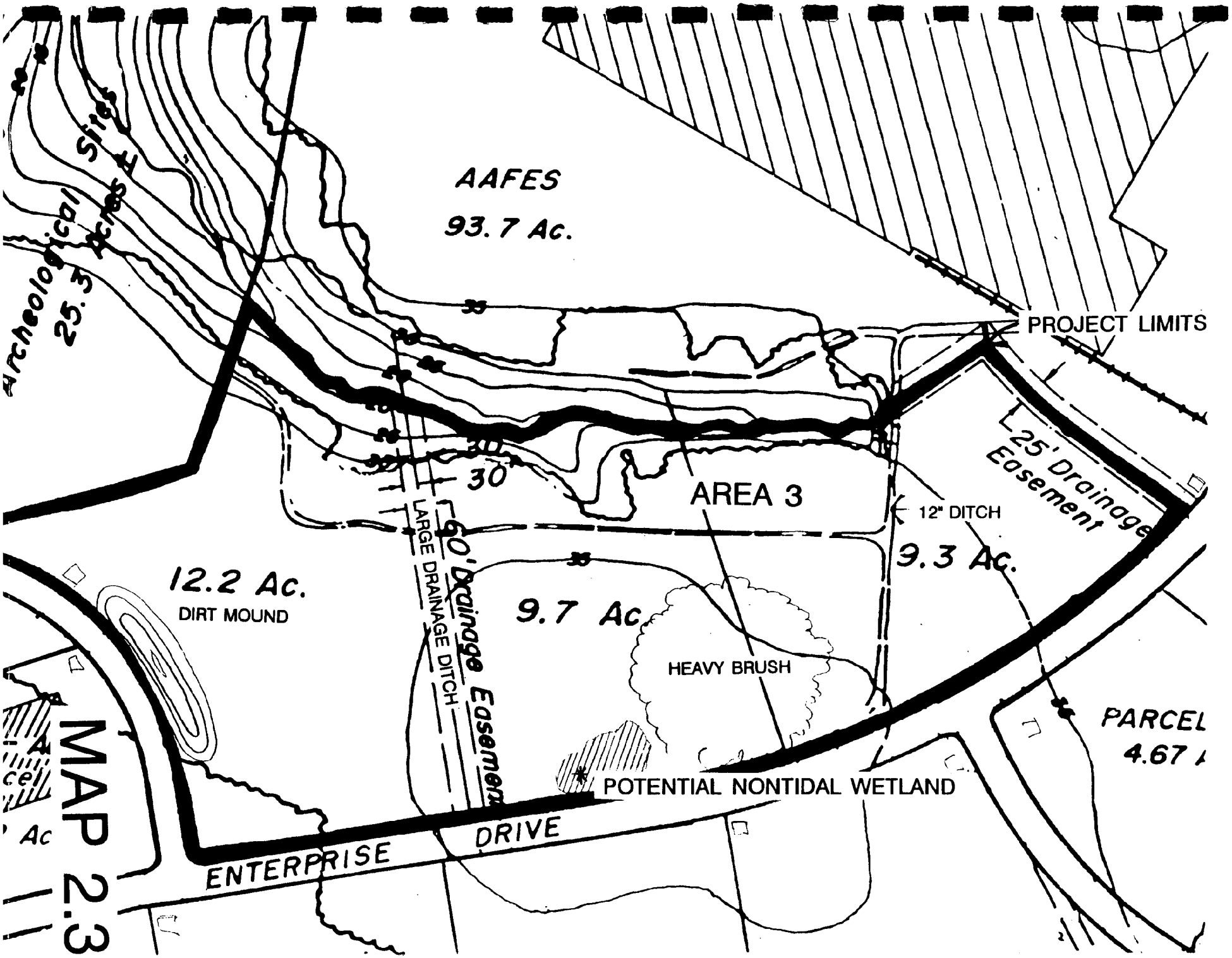
JURISDICTIONAL DETERMINATION AND RATIONALE

Is the plant community a wetland? Yes ____ No X
Rationale for jurisdictional decision: Although hydrophytic vegetation is present [illegible] of prolonged inundation to bring about wetland condition is weak

[1] This data form can be used for the Hydric Soil Assessment Procedure and the Plant Community Assessment Procedure.
[2] Classification according to "Soil Taxonomy."



CURVE DATA TABLE						
NO.	DELTA	RADIUS	TANGENT	ARC	CHORD	CHORD BEARING
1	2°35'54"	3,540.00'	80.28'	160.54'	160.52'	S 61° 44'23"W


AAFES
93.7 Ac.
Archeological Site
25.3 Acres
PROJECT LIMITS
25' Drainage Easement
AREA 3
12" DITCH
9.3 Ac.
30
60' Drainage Easement
LARGE DRAINAGE DITCH
12.2 Ac.
DIRT MOUND
9.7 Ac
HEAVY BRUSH
POTENTIAL NONTIDAL WETLAND
PARCEL
4.67
ENTERPRISE DRIVE
MAP 2.3

DATA FORM
ROUTINE ONSITE DETERMINATION METHOD[1]

Field Investigator(s): DON WHIPPLE/S. SUMMERFIELD Date: _____
Project/Site: OAKLAND IND. PARK AREA 3 State: VA County: N.N.
Applicant/Owner: CITY Plant Community #/Name: _____
Note: If a more detailed site description is necessary, use the back of data form or a field notebook.

Do normal environmental conditions exist at the plant community?
Yes X No ____ (If no, explain on back)
Has the vegetation, soils, and/or hydrology been significantly disturbed?
Yes X No ____ (If yes, explain on back)

VEGETATION

	Dominant Plant Species	Indicator Status	Stratum		Dominant Plant Species	Indicator Status	Stratum
*	1. FIELD GRASS	N/A	H		11.		
•	2. SCOTCHBROOM	N/A	Sh		12.		
	3. WAXMYRTLE	FAC	Sh		13.		
*	4. HONEYSUCKLE	FAC-	WV		14.		
•	5. EASTERN RED CEDAR	FACU	Sh		15.		
•	6. BLACK LOCUST	FACU-	Sh		16.		
*	7. BLACK LOCUST	FACU-	Sa		17.		
	8.				18.		
	9.				19.		
	10.				20.		

Percent of dominant species that are OBL, FACW, and/or FAC 25%
Is the hydrophytic vegetation criterion met? Yes ____ No X
Rationale: 25% is less than 50%

SOILS

Series/phase: N/A Subgroup:[2] _____
Is the soil on the hydric soils list? Yes ____ No ____ Undetermined _____
Is the soil a Histosol? Yes ____ No ____ Histic epipedon present? Yes ____ No ____
Is the soil: Mottled? Yes ____ No ____ Gleyed? Yes ____ No ____
Matrix Color: N/A Mottle Colors: _____
Other hydric soil indicators: _____
Is the hydric soil criterion met? Yes ____ No ____ N/A
Rationale: soil has been significantly disturbed - high clay content

HYDROLOGY

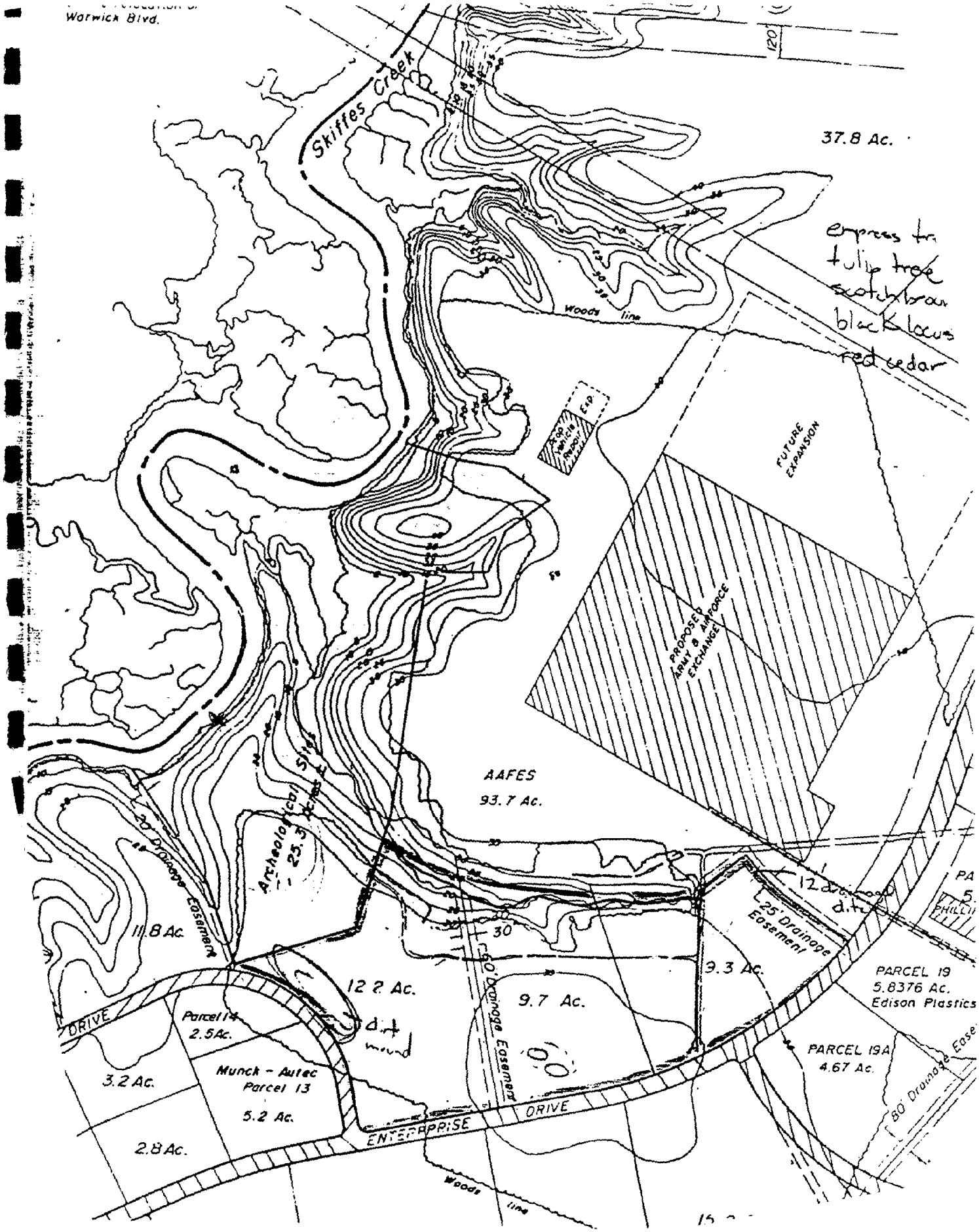
Is the ground surface inundated? Yes X No ____ Surface water depth: 1-2"
Is the soil saturated? Yes X No ____
Depth to free-standing water in pit/soil probe hole: N/A
List other field evidence of surface inundation or soil saturation.
water standing in wheel ruts
Is the wetland hydrology criterion met? Yes ____ No ____
Rationale: _____

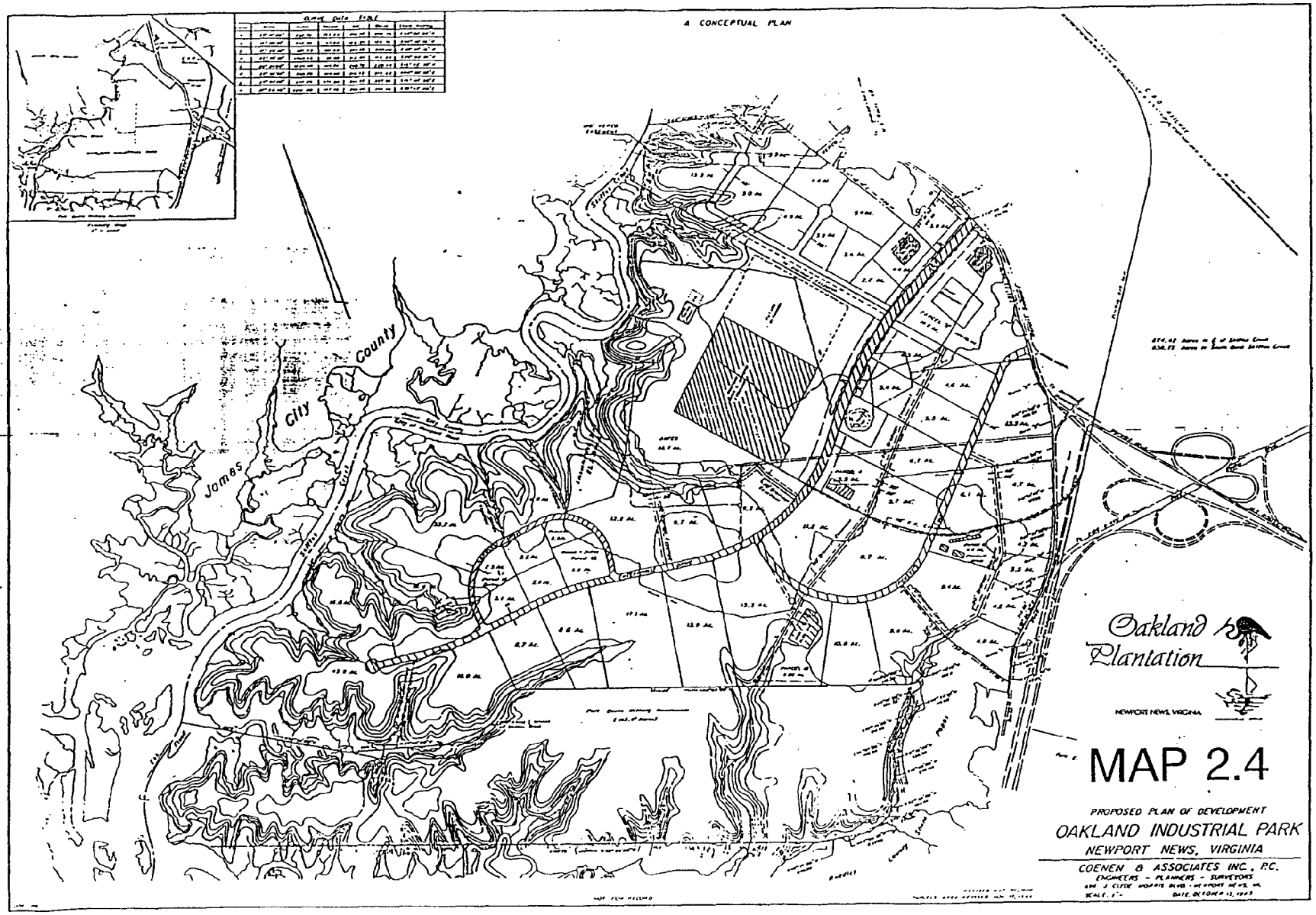
JURISDICTIONAL DETERMINATION AND RATIONALE

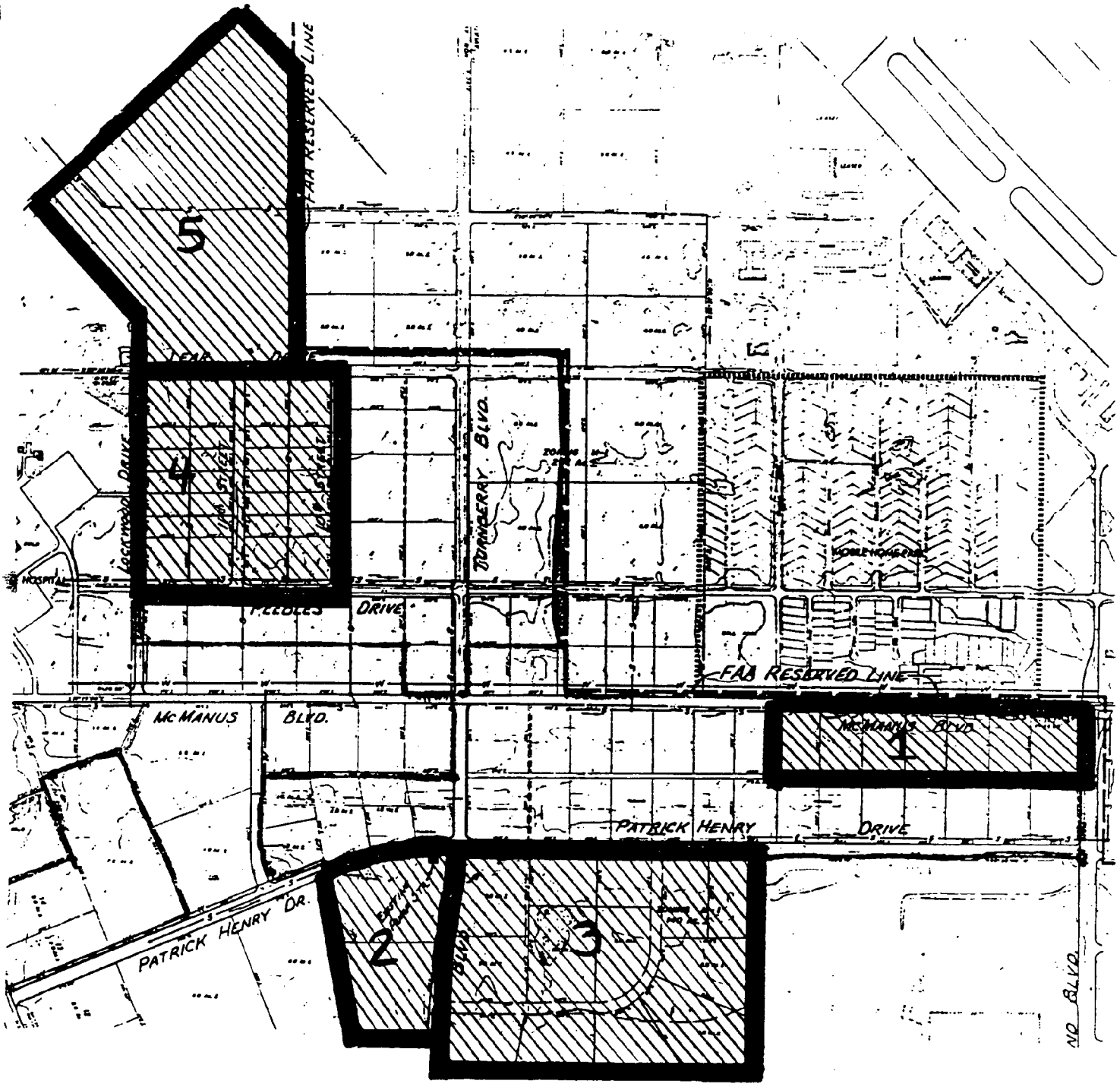
Is the plant community a wetland? Yes ____ No X
Rationale for jurisdictional decision: surface inundation is localized to a small area of tractor wheel ruts - water is not able to drain.

[1] This data form can be used for the Hydric Soil Assessment Procedure and the Plant Community Assessment Procedure.
[2] Classification according to "Soil Taxonomy."

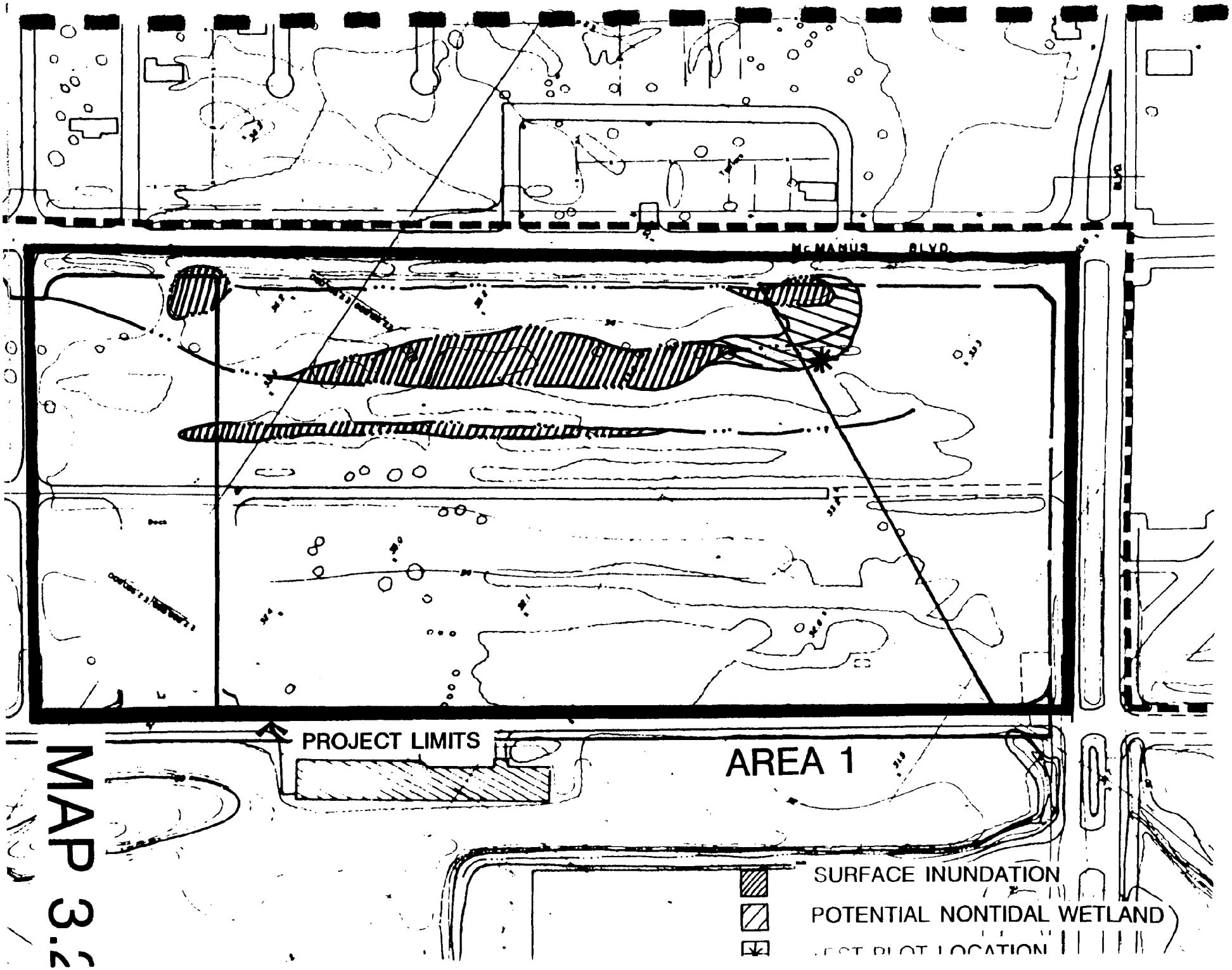
* SITE HAS BEEN CLEAR CUT + DISTURBED


Warwick Blvd.
Skiffes Creek
37.8 Ac.
Woods line
FUTURE EXPANSION
PROPOSED ARMY & AIRFORCE EXCHANGE
AAFES
93.7 Ac.
Archeological Sites
25.3 Acres
20' Drainage Easement
11.8 Ac.
12.2 Ac.
dirt mound
Parcel 14
2.5 Ac.
3.2 Ac.
Munck - Autec
Parcel 13
5.2 Ac.
2.8 Ac.
DRIVE
ENTERPRISE DRIVE
60' Drainage Easement
9.7 Ac.
9.3 Ac.
25' Drainage Easement
12 drainage ditch
PARCEL 19
5.8376 Ac.
Edison Plastics
PARCEL 19A
4.67 Ac.
80' Drainage Ease
Woods line
120
30

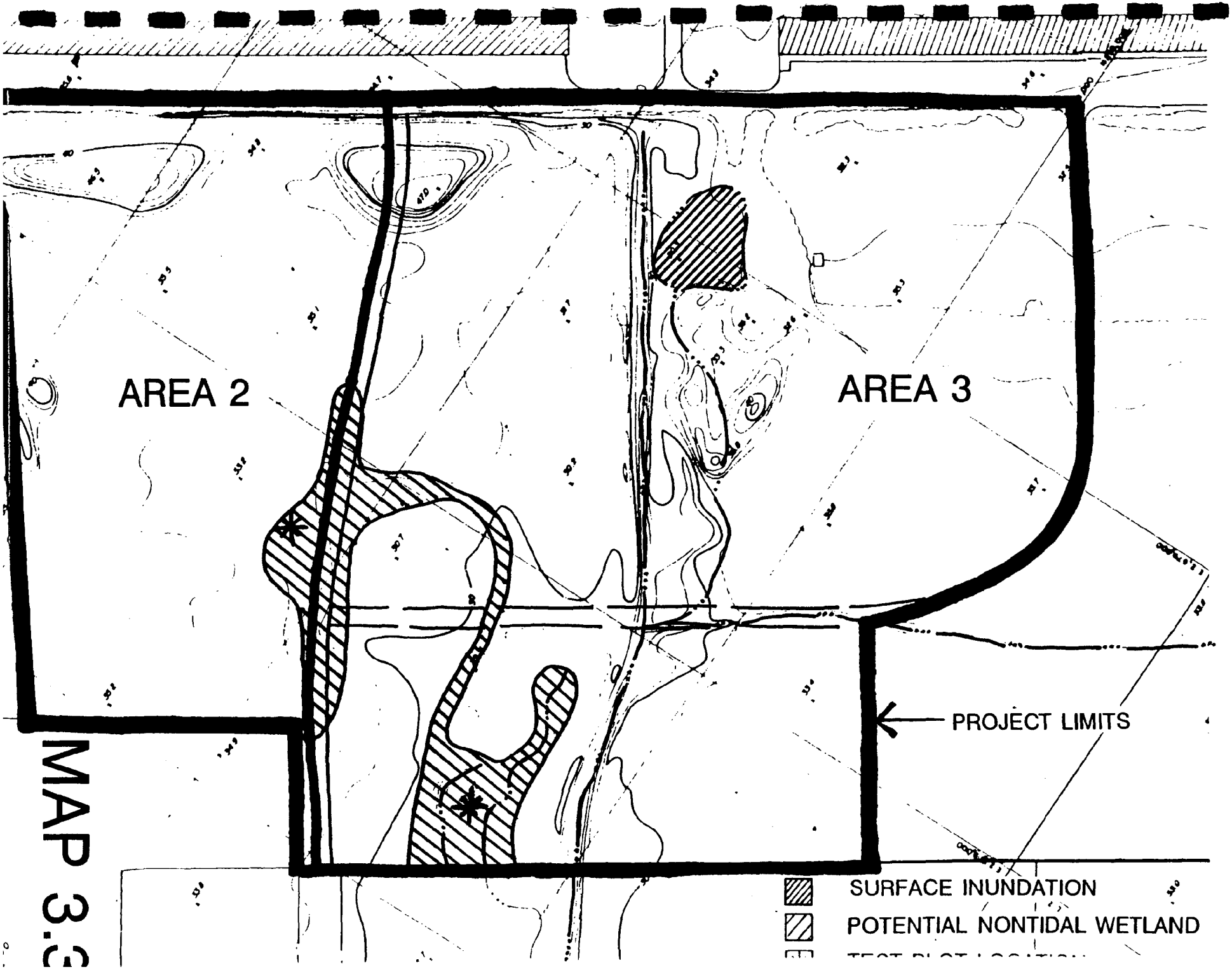

A CONCEPTUAL PLAN
James
City
County
Oakland Plantation
NEWPORT NEWS, VIRGINIA
MAP 2.4
PROPOSED PLAN OF DEVELOPMENT
OAKLAND INDUSTRIAL PARK
NEWPORT NEWS, VIRGINIA
COENEN & ASSOCIATES INC., P.C.
ENGINEERS - PLANNERS - SURVEYORS


5
4
1
2
3
FAA RESERVED LINE
TOMBERRY BLVD.
PEEBLES DRIVE
McMANUS BLVD.
PATRICK HENRY DRIVE
PATRICK HENRY DR.
HOSPITAL
MOBILE HOME PARK

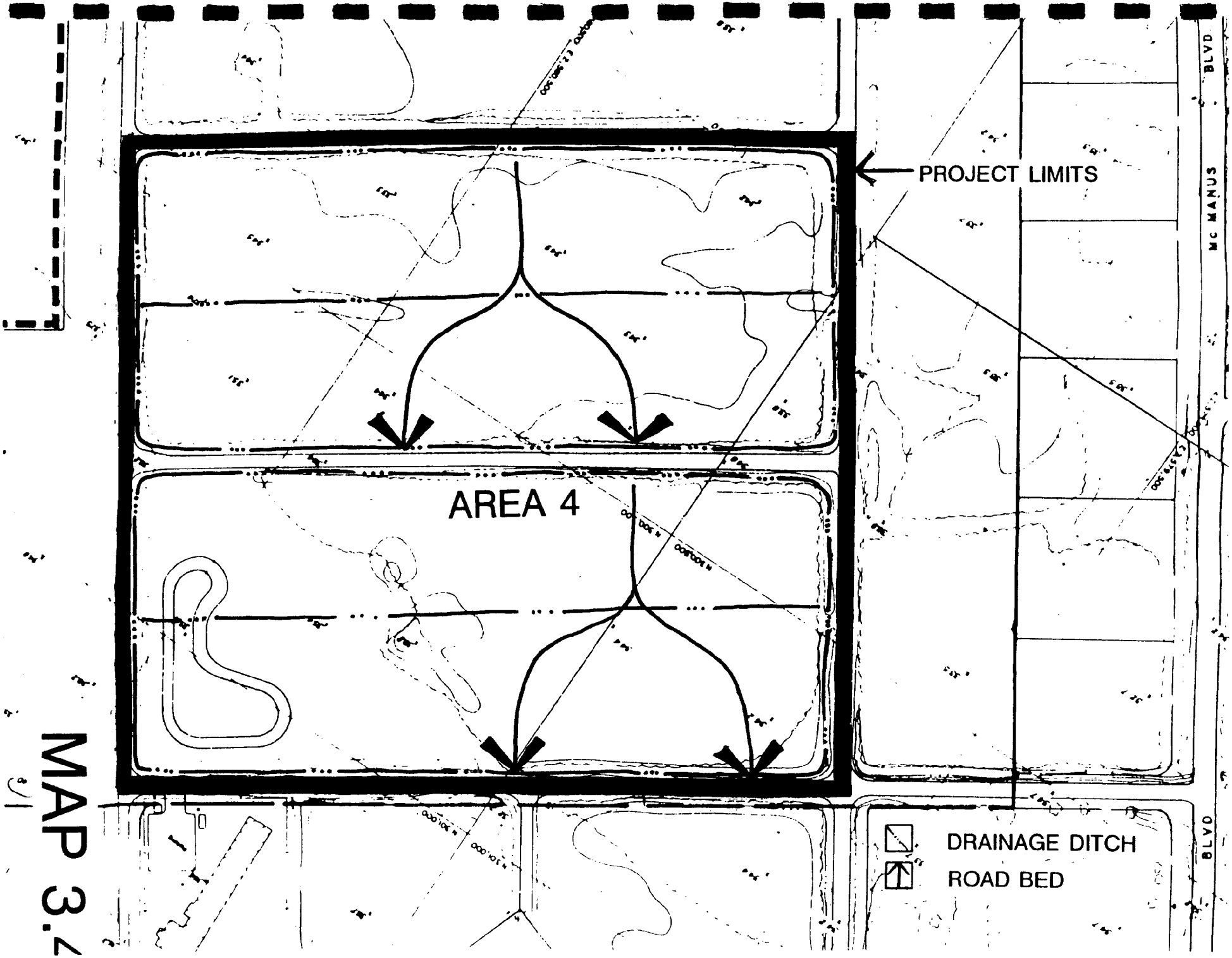
MAP 3.1


McMANUS BLVD.
PROJECT LIMITS
AREA 1
SURFACE INUNDATION
POTENTIAL NONTIDAL WETLAND

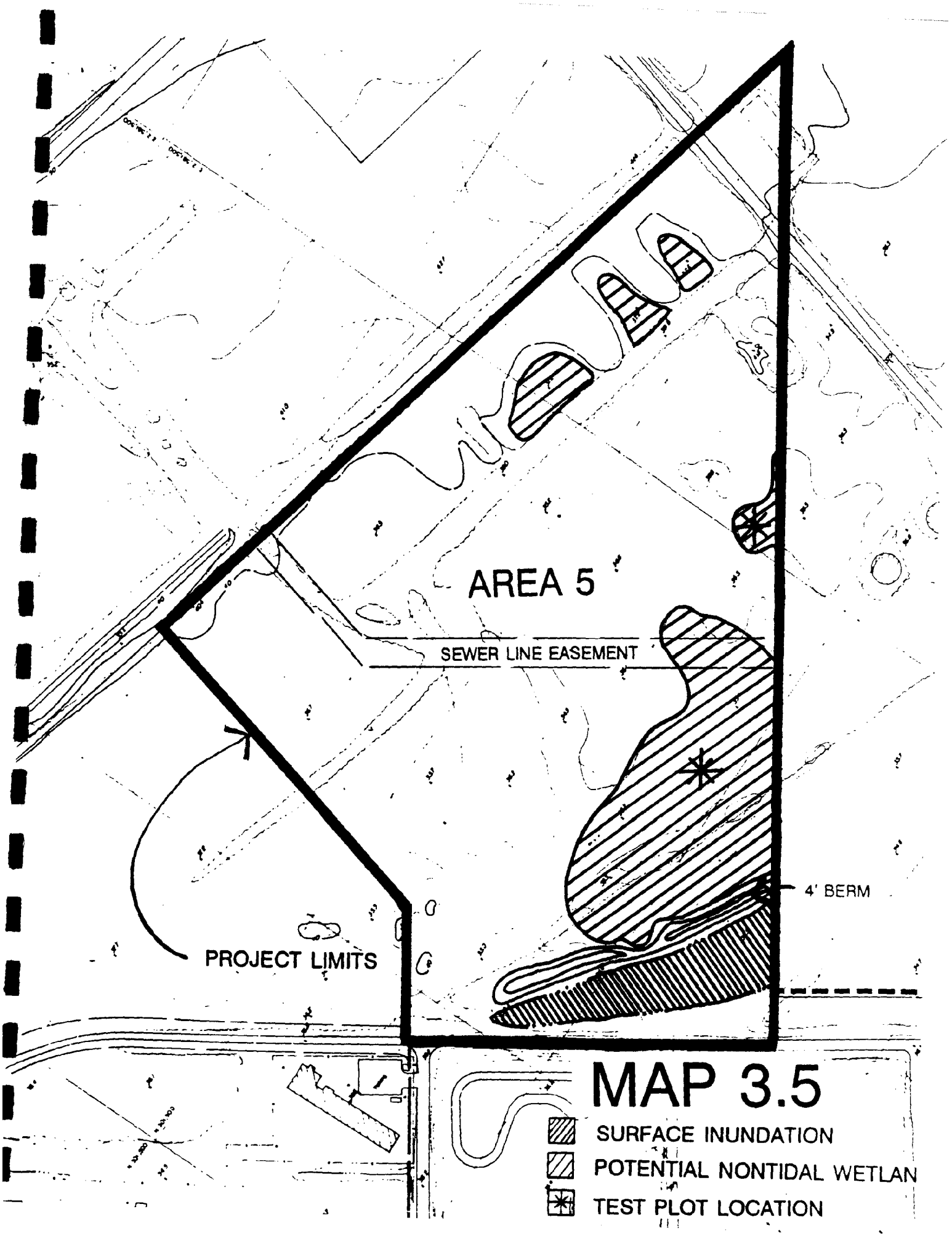
MAP 3.2

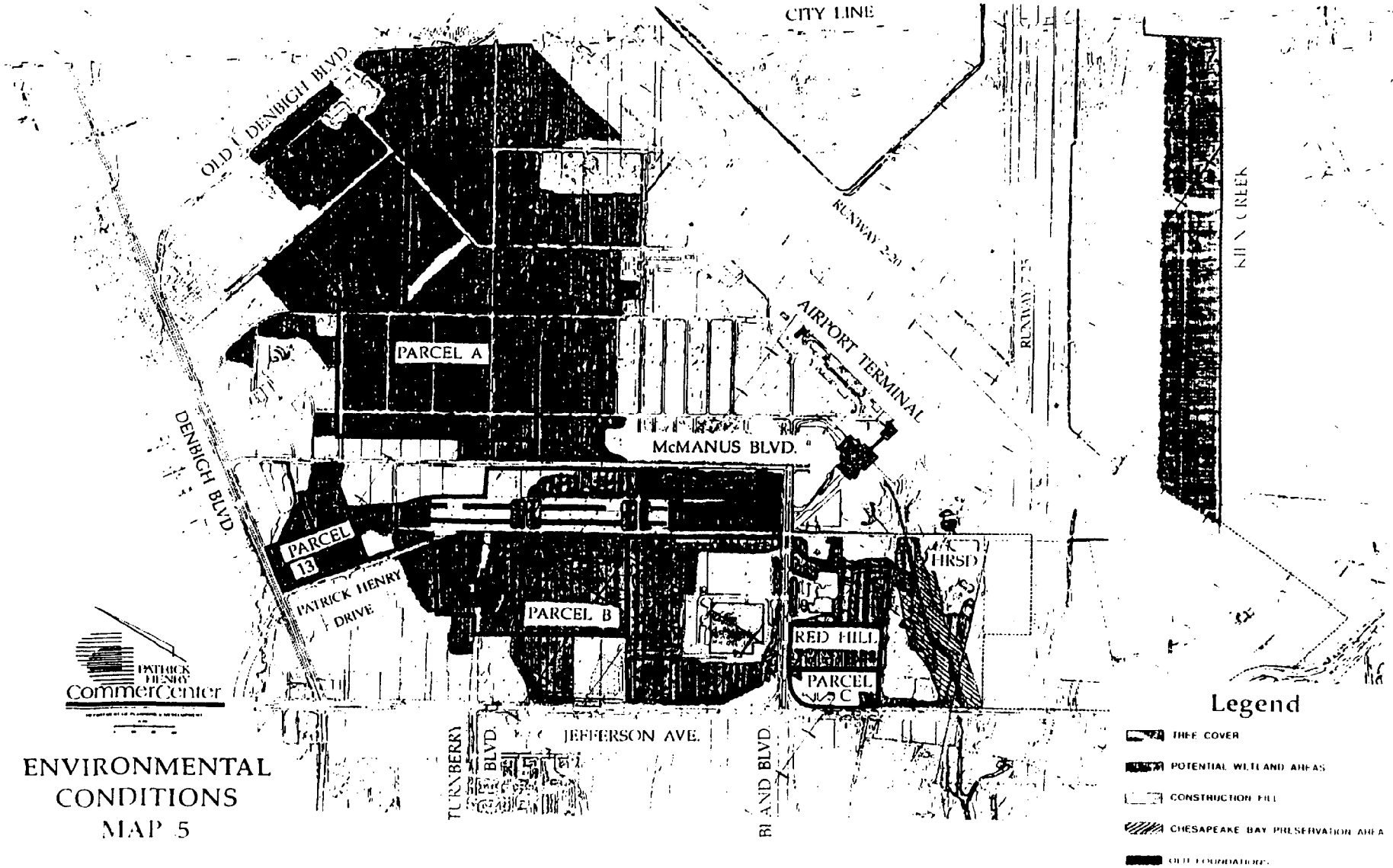

AREA 2
AREA 3
PROJECT LIMITS
SURFACE INUNDATION
POTENTIAL NONTIDAL WETLAND

MAP 3.3


PROJECT LIMITS
AREA 4
MC MANUS BLVD
BLVD
DRAINAGE DITCH
ROAD BED

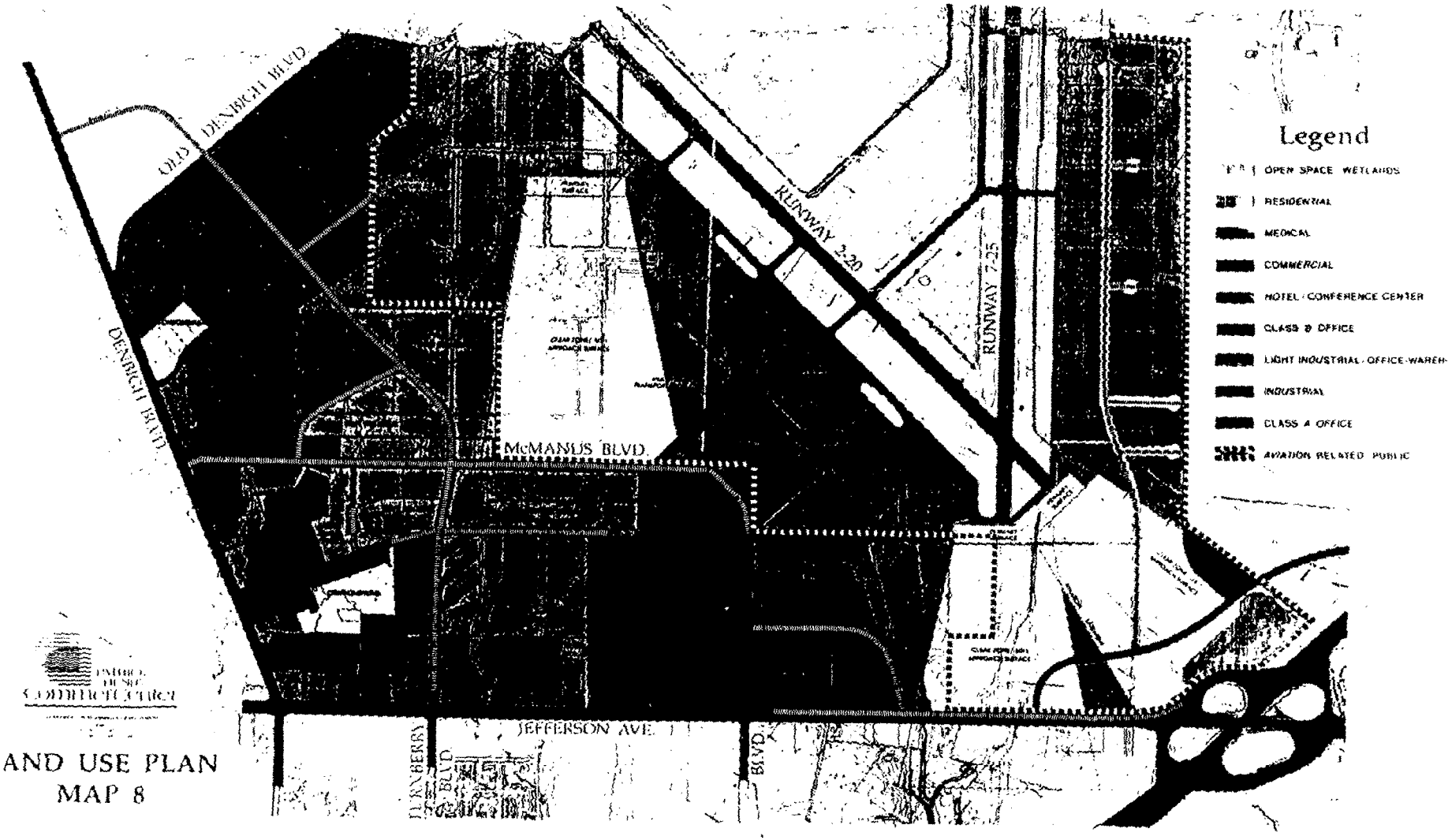
MAP 3.7


AREA 5
SEWER LINE EASEMENT
4' BERM
PROJECT LIMITS
MAP 3.5
SURFACE INUNDATION
POTENTIAL NONTIDAL WETLAN
TEST PLOT LOCATION



PATRICK HENRY CommerCenter

ENVIRONMENTAL CONDITIONS MAP 5



AND USE PLAN
MAP 8

DATA FORM
ROUTINE ONSITE DETERMINATION METHOD[1]

Field Investigator(s): DAW/AAM Date: 4/10/90
Project/Site: PHC AREA 1 State: VA County:
Applicant/Owner: NN Plant Community #/Name:
Note: If a more detailed site description is necessary, use the back of data form or a field notebook.

Do normal environmental conditions exist at the plant community?
Yes ✓ No ____ (If no, explain on back)
Has the vegetation, soils, and/or hydrology been significantly disturbed?
Yes ____ No ✓ (If yes, explain on back) Not within the last 20 yrs.

VEGETATION

Dominant Plant Species	Indicator Status	Stratum	Dominant Plant Species	Indicator Status	Stratum
c 1. LOBLOLLY PINE	FAC-	T	11.		
c 2. TULIP TREE	FACU	T	12.		
c 3. LOBLOLLY PINE	FAC-	Sa	13.		
c 4. TULIP TREE	FACU	Sa	14.		
c 5. RED CEDAR	FACU	Sa	15.		
d 6. HORNBEAM	FAC	Sh	16.		
c 7. CHERRY	FACU	Sh	17.		
c 8. OAK	FACU	Sh	18.		
d 9. HONEYSUCKLE	FAC-	H	19.		
10.			20.		

Percent of dominant species that are OBL, FACW, and/or FAC 44%
Is the hydrophytic vegetation criterion met? Yes ____ No ✓
Rationale: % of dominant species is < 50%

SOILS

Series/phase: N/A Subgroup:[2] N/A
Is the soil on the hydric soils list? Yes ____ No ____ Undetermined ✓
Is the soil a Histosol? Yes ____ No ____ Histic epipedon present? Yes ____ No ____
Is the soil: Mottled? Yes ✓ No ____ Gleyed? Yes ____ No ✓
Matrix Color: 2.5Y 5/2 Mottle Colors: yellow/brown
Other hydric soil indicators: charcoal fragments
Is the hydric soil criterion met? Yes ✓ No ____
Rationale:

HYDROLOGY

Is the ground surface inundated? Yes ✓ No ____ Surface water depth: PARTIALLY - 1"-4"
Is the soil saturated? Yes ✓ No ____
Depth to free-standing water in pit/soil probe hole: N/A
List other field evidence of surface inundation or soil saturation:
water stained leaves, buttressed trunks, mult-trunks
Is the wetland hydrology criterion met? Yes ✓ No ____
Rationale:

JURISDICTIONAL DETERMINATION AND RATIONALE

Is the plant community a wetland? Yes ____ No ____
Rationale for jurisdictional decision:

[1] This data form can be used for the Hydric Soil Assessment Procedure and the Plant Community Assessment Procedure.
[2] Classification according to "Soil Taxonomy."

DATA FORM
ROUTINE ONSITE DETERMINATION METHOD[1]

Field Investigator(s): DAW/AAM Date: 4/10/90
Project/Site: PHCC-AREA 2 State: VA County: ____
Applicant/Owner: N.N. Plant Community #/Name: ____
Note: If a more detailed site description is necessary, use the back of data form or a field notebook.

Do normal environmental conditions exist at the plant community?
Yes ✓ No ____ (If no, explain on back)
Has the vegetation, soils, and/or hydrology been significantly disturbed?
Yes ____ No ✓ (If yes, explain on back) Not within the last 20yrs.

VEGETATION

	Dominant Plant Species	Indicator Status	Stratum		Dominant Plant Species	Indicator Status	Stratum
d	1. OAK	FACU	I		11.		
d	2. OAK	FACU	5a		12.		
c	3. RED MAPLE	FAC	5a		13.		
c	4. SWEETGUM	FAC	5b		14.		
c	5. OAK	FACU	5b		15.		
	6.				16.		
	7.				17.		
	8.				18.		
	9.				19.		
	10.				20.		

Percent of dominant species that are OBL, FACW, and/or FAC 40%
Is the hydrophytic vegetation criterion met? Yes ____ No ✓
Rationale: % of dominant species is ≤50%

SOILS

Series/phase: N/A Subgroup:[2] —
Is the soil on the hydric soils list? Yes ____ No ____ Undetermined ✓
Is the soil a Histosol? Yes ____ No ____ Histic epipedon present? Yes ____ No ____
Is the soil: Mottled? Yes ✓ No ____ Gleyed? Yes ____ No ✓
Matrix Color: 2.5YR/2 Mottle Colors: iron, orange
Other hydric soil indicators: iron concretions
Is the hydric soil criterion met? Yes ✓ No ____
Rationale: ____

HYDROLOGY

Is the ground surface inundated? Yes ____ No ✓ Surface water depth: —
Is the soil saturated? Yes ✓ No ____ below surface
Depth to free-standing water in pit/soil probe hole: 12" to capillary action - slow
List other field evidence of surface inundation or soil saturation:
iron concretions - sign of soil reducing
Is the wetland hydrology criterion met? Yes ✓ No ____
Rationale: ____

JURISDICTIONAL DETERMINATION AND RATIONALE

Is the plant community a wetland? Yes ____ No ____
Rationale for jurisdictional decision: ____

[1] This data form can be used for the Hydric Soil Assessment Procedure and the Plant Community Assessment Procedure.
[2] Classification according to "Soil Taxonomy."

DATA FORM
ROUTINE ONSITE DETERMINATION METHOD[1]

Field Investigator(s): DAW/AAM Date: 4/10/90
Project/Site: PITC - AREA 3 State: VA County: ____
Applicant/Owner: N. N. Plant Community #/Name: ____
Note: If a more detailed site description is necessary, use the back of data form or a field notebook.

Do normal environmental conditions exist at the plant community?
Yes ✓ No ____ (If no, explain on back)
Has the vegetation, soils, and/or hydrology been significantly disturbed?
Yes ____ No ✓ (If yes, explain on back) Not within last 20 yrs.

VEGETATION

Dominant Plant Species	Indicator Status	Stratum	Dominant Plant Species	Indicator Status	Stratum
d 1. OAK	FACU	T	11.		
c 2. OAK	FACU	Sa	12.		
c 3. DOGWOOD	FACU-	Sa	13.		
c 4. RED MAPLE	FAC	Sh	14.		
c 5. OAK	FACU	Sh	15.		
c 6. HORNBEAM	FAC	Sh	16.		
7.			17.		
8.			18.		
9.			19.		
10.			20.		

Percent of dominant species that are OBL, FACW, and/or FAC 33%
Is the hydrophytic vegetation criterion met? Yes ____ No ✓
Rationale: % of dominant species < 50%

SOILS

Series/phase: N/A Subgroup:[2] —
Is the soil on the hydric soils list? Yes ____ No ____ Undetermined ✓
Is the soil a Histosol? Yes ____ No ____ Histic epipedon present? Yes ____ No ____
Is the soil: Mottled? Yes ✓ No ____ Gleyed? Yes ____ No ✓
Matrix Color: 5YR 6/2 Mottle Colors: brown
Other hydric soil indicators: sulfidic material (emit odor of rotten eggs)
Is the hydric soil criterion met? Yes ✓ No ____
Rationale: ____

HYDROLOGY

Is the ground surface inundated? Yes ____ No ✓ Surface water depth: —
Is the soil saturated? Yes ✓ No ____
Depth to free-standing water in pit/soil probe hole: 10-12" to capillary action
List other field evidence of surface inundation or soil saturation.
tree buttressing + multi-trunks
Is the wetland hydrology criterion met? Yes ✓ No ____
Rationale: ____

JURISDICTIONAL DETERMINATION AND RATIONALE

Is the plant community a wetland? Yes ____ No ____
Rationale for jurisdictional decision: ____

[1] This data form can be used for the Hydric Soil Assessment Procedure and the Plant Community Assessment Procedure.
[2] Classification according to "Soil Taxonomy."

DATA FORM
ROUTINE ONSITE DETERMINATION METHOD[1]

Field Investigator(s): DAW/AAM Date: 4/24/90
Project/Site: [illegible] AREA 4 State: VA County: _____
Applicant/Owner: N.N. Plant Community #/Name: _____
Note: If a more detailed site description is necessary, use the back of data form or a field notebook.

Do normal environmental conditions exist at the plant community?
Yes ✓ No ____ (If no, explain on back)
Has the vegetation, soils, and/or hydrology been significantly disturbed?
Yes ____ No ✓ (If yes, explain on back) Not within the last 20yrs

VEGETATION

	Dominant Plant Species	Indicator Status	Stratum		Dominant Plant Species	Indicator Status	Stratum
c	1. RED MAPLE	FAC	T	11.			
c	2. OAK	FACU	T	12.			
c	3. HORNBEAM	FAC	T	13.			
d	4. SWEETGUM	FAC	Sa	14.			
c	5. HORNBEAM	FAC	Sa	15.			
d	6. SMILAX	FACW	H	16.			
	7.			17.			
	8.			18.			
	9.			19.			
	10.			20.			

Percent of dominant species that are OBL, FACW, and/or FAC 83%
Is the hydrophytic vegetation criterion met? Yes ✓ No ____
Rationale: 83% > 50%

SOILS

Series/phase: N/A Subgroup:[2] ✓
Is the soil on the hydric soils list? Yes ____ No ____ Undetermined ✓
Is the soil a Histosol? Yes ____ No ____ Histic epipedon present? Yes ____ No ____
Is the soil: Mottled? Yes ____ No ____ Gleyed? Yes ____ No ____
Matrix Color: N/A Mottle Colors: _____
Other hydric soil indicators: _____
Is the hydric soil criterion met? Yes ____ No ✓ (Undetermined)
Rationale: _____

HYDROLOGY

Is the ground surface inundated? Yes ____ No ✓ Surface water depth: _____
Is the soil saturated? Yes ____ No ✓
Depth to free-standing water in pit/soil probe hole: N/A
List other field evidence of surface inundation or soil saturation.
series of minor drainage ditches along old road beds [illegible] the [illegible]
Is the wetland hydrology criterion met? Yes ____ No ✓
Rationale: _____

JURISDICTIONAL DETERMINATION AND RATIONALE

Is the plant community a wetland? Yes ____ No ____
Rationale for jurisdictional decision: _____

[1] This data form can be used for the Hydric Soil Assessment Procedure and the Plant Community Assessment Procedure.
[2] Classification according to "Soil Taxonomy."

DATA FORM
ROUTINE ONSITE DETERMINATION METHOD[1]

Field Investigator(s): DAW/AAM Date: 4/24/97
Project/Site: PACC AREA 5 #1 State: VA County:
Applicant/Owner: Plant Community #/Name:
Note: If a more detailed site description is necessary, use the back of data form or a field notebook.

Do normal environmental conditions exist at the plant community?
Yes ✓ No ____ (If no, explain on back)
Has the vegetation, soils, and/or hydrology been significantly disturbed?
Yes ____ No ✓ (If yes, explain on back) Not within the last 20yrs.

VEGETATION

Dominant Plant Species	Indicator Status	Stratum	Dominant Plant Species	Indicator Status	Stratum
d 1. LOBLOLLY PINE	FAC-	T	11.		
c 2. RED MAPLE	FAC	Sa	12.		
c 3. OAK	FACU	Sa	13.		
c 4. LOBLOLLY PINE	FAC-	Sa	14.		
5.			15.		
6.			16.		
7.			17.		
8.			18.		
9.			19.		
10.			20.		

Percent of dominant species that are OBL, FACW, and/or FAC 75%
Is the hydrophytic vegetation criterion met? Yes ✓ No ____
Rationale: 75% > 50%

SOILS

Series/phase: N/A Subgroup:[2] —
Is the soil on the hydric soils list? Yes ____ No ____ Undetermined ✓
Is the soil a Histosol? Yes ____ No ____ Histic epipedon present? Yes ____ No ____
Is the soil: Mottled? Yes ____ No ____ Gleyed? Yes ____ No ____
Matrix Color: — Mottle Colors:
Other hydric soil indicators: NONE
Is the hydric soil criterion met? Yes ____ No ✓
Rationale:

HYDROLOGY

Is the ground surface inundated? Yes ____ No ✓ Surface water depth:
Is the soil saturated? Yes ____ No ✓
Depth to free-standing water in pit/soil probe hole: N/A
List other field evidence of surface inundation or soil saturation.
NONE
Is the wetland hydrology criterion met? Yes ____ No ✓
Rationale:

JURISDICTIONAL DETERMINATION AND RATIONALE

Is the plant community a wetland? Yes ____ No ____
Rationale for jurisdictional decision:

[1] This data form can be used for the Hydric Soil Assessment Procedure and the Plant Community Assessment Procedure.
[2] Classification according to "Soil Taxonomy."

DATA FORM
ROUTINE ONSITE DETERMINATION METHOD[1]

Field Investigator(s): DAW/AVM Date: 4/24/90
Project/Site: PHCC - AREA 5 #2 State: VA County: ____
Applicant/Owner: N.N. Plant Community #/Name: ____
Note: If a more detailed site description is necessary, use the back of data form or a field notebook.

Do normal environmental conditions exist at the plant community?
Yes ✓ No ____ (If no, explain on back)
Has the vegetation, soils, and/or hydrology been significantly disturbed?
Yes ____ No ✓ (If yes, explain on back) Not within the last 20yrs.

VEGETATION

	Dominant Plant Species	Indicator Status	Stratum		Dominant Plant Species	Indicator Status	Stratum
d	1. LOBLOLLY PINE	FAC-	T		11.		
c	2. RED MAPLE	FAC	Sa		12.		
c	3. OAK	FACU	Sa		13.		
c	4. LOBLOLLY PINE	FAC-	Sa		14.		
d	5. SWEETGUM	FAC	Sb		15.		
c	6. DOGWOOD	FACU-	Sb		16.		
	7.				17.		
	8.				18.		
	9.				19.		
	10.				20.		

Percent of dominant species that are OBL, FACW, and/or FAC 67%
Is the hydrophytic vegetation criterion met? Yes ✓ No ____
Rationale: 67% > 50%

SOILS

Series/phase: N/A Subgroup:[2] —
Is the soil on the hydric soils list? Yes ____ No ____ Undetermined ✓
Is the soil a Histosol? Yes ____ No ____ Histic epipedon present? Yes ____ No ____
Is the soil: Mottled? Yes ____ No ✓ Gleyed? Yes ____ No ✓
Matrix Color: 5Y 5/1 Mottle Colors: —
Other hydric soil indicators: ____
Is the hydric soil criterion met? Yes ✓ No ____
Rationale: ____

HYDROLOGY

Is the ground surface inundated? Yes ____ No ✓ Surface water depth: ____
Is the soil saturated? Yes ✓ No ____
Depth to free-standing water in pit/soil probe hole: 9" - free standing water
List other field evidence of surface inundation or soil saturation.
tree trunk buttressing
Is the wetland hydrology criterion met? Yes ✓ No ____
Rationale: ____

JURISDICTIONAL DETERMINATION AND RATIONALE

Is the plant community a wetland? Yes ✓ No ____
Rationale for jurisdictional decision: ____

[1] This data form can be used for the Hydric Soil Assessment Procedure and the Plant Community Assessment Procedure.
[2] Classification according to "Soil Taxonomy."

DATA FORM
ROUTINE ONSITE DETERMINATION METHOD[1]

Field Investigator(s): DAW/AAM Date: 4/24/90
Project/Site: PHCC - AREA 5 #3 State: VA County: _____
Applicant/Owner: N.N. Plant Community #/Name: _____
Note: If a more detailed site description is necessary, use the back of data form or a field notebook.

Do normal environmental conditions exist at the plant community?
Yes ✓ No ____ (If no, explain on back)
Has the vegetation, soils, and/or hydrology been significantly disturbed?
Yes ____ No ✓ (If yes, explain on back)

VEGETATION

	Dominant Plant Species	Indicator Status	Stratum		Dominant Plant Species	Indicator Status	Stratum
d	1. WILLOW OAK	FAC+	T		11.		
d	2. RED MAPLE	FAC	Sa		12.		
c	3. BOXELDER	FAC+	Sa		13.		
c	4. LOBLOLLY PINE	FAC-	Sa		14.		
c	5. SWEETGUM	FAC	Sh		15.		
c	6. BLACKGUM	FAC	Sh		16.		
d	7. BOXELDER	FAC+	Sh		17.		
d	8. HONEYSUCKLE	FAC-	H		18.		
	9.				19.		
	10.				20.		

Percent of dominant species that are OBL, FACW, and/or FAC 100%
Is the hydrophytic vegetation criterion met? Yes ✓ No ____
Rationale: 100% > 50%

SOILS

Series/phase: N/A Subgroup:[2] _____
Is the soil on the hydric soils list? Yes ____ No ____ Undetermined ✓
Is the soil a Histosol? Yes ____ No ____ Histic epipedon present? Yes ____ No ____
Is the soil: Mottled? Yes ____ No ✓ Gleyed? Yes ____ No ____
Matrix Color: N/A Mottle Colors: _____
Other hydric soil indicators: _____
Is the hydric soil criterion met? Yes ____ No ____ UNDETERMINED
Rationale: _____

HYDROLOGY

Is the ground surface inundated? Yes ✓ No ____ Surface water depth: ½ - 1" MARSH AREA 3-5"
Is the soil saturated? Yes ✓ No ____
Depth to free-standing water in pit/soil probe hole: N/A
List other field evidence of surface inundation or soil saturation:
water stained leaves, extreme buttressing @ 90% of trees, drainage low area
Is the wetland hydrology criterion met? Yes ✓ No ____
Rationale: _____

JURISDICTIONAL DETERMINATION AND RATIONALE

Is the plant community a wetland? Yes ✓ No ____
Rationale for jurisdictional decision: _____

[1] This data form can be used for the Hydric Soil Assessment Procedure and the Plant Community Assessment Procedure.
[2] Classification according to "Soil Taxonomy."

DATE DUE

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