

Trail Ridge Landfill Wetlands Monitoring Plan

Attachment B

Recd 1/3/92

Color Photographs
of
Wetlands Adjacent to Stormwater Pond
for
Class I Landfill Cell

T1 - Transect 1
S1 - Sampling Plot 1

Photographs taken
on 12/30/91

Trail Ridge Landfill



T1
Pines/Gallberry Wetland along Transect 1.

Trail Ridge Landfill



T1-S1



T1-S2

Trail Ridge Landfill



T1-S3

General Photograph of St. Johns wort/grassy wetland pocket
note dead St. Johns wort



T1-S4

Trail Ridge Landfill



T1-S5

Trail Ridge Landfill



T2

St. Johns wort/grassy wetland fringe in foreground with
tupelo/cypress swamp in background.

Trail Ridge Landfill



T2-S3

Trail Ridge Landfill



T2-S1



T2-S2

Trail Ridge Landfill



T2-S4

Trail Ridge Landfill



T2-S5



T2-S6

Trail Ridge Landfill



T2-S7

Trail Ridge Landfill



T3
Survey marker (left)
Piezometer (right)

Trail Ridge Landfill



T3
Flow channel in middle of transect.



T3
Flow channel in middle of transect.

Trail Ridge Landfill



T3
In center of cut-over Hardwood swamp looking east.

Trail Ridge Landfill



T3-S1



T3-S2

Trail Ridge Landfill



T3-S3



T3-S4

Trail Ridge Landfill



T3-S5



T3-S6

Trail Ridge Landfill



T4
In cut-over Hardwood swamp looking south.

Trail Ridge Landfill



T4-S1



T4-S2

Trail Ridge Landfill



T4-S3

Trail Ridge Landfill



T5
Pond pine seepage slope.

Trail Ridge Landfill



T5-S1

Trail Ridge Landfill



T5-S2

Trail Ridge Landfill



T5-S3



T6

Pond pine seepage slope/hardwood swamp edge.

Trail Ridge Landfill



T6
Base of tupelo.



T6-S1

Trail Ridge Landfill



T6-S2



T6-S3

Trail Ridge Landfill



T7
Mature Hardwood swamp.

Trail Ridge Landfill



T7
Mature Hardwood swamp.

Trail Ridge Landfill



T7-S1



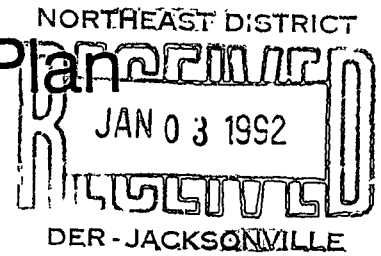
T7-S2

Trail Ridge Landfill



T7-S3

Trail Ridge Landfill Wetlands Monitoring Plan



Attachment C

Transect Data
from
Baseline Study

TRAILRIDGE LANDFILL - WETLANDS MONITORING PLAN
CLASS I - STORMWATER POND

BASELINE STUDY
TRANSECT NO. T1

DATE: 12/18/91
FIELD INVESTIGATOR: Byron Tracoch

Hydrology:

Peizometer No.: P-1

Water Elevation: 108.38'

Vegetation:

Quadrant No.: 51

~~Herbaceous:~~ Ground Cover:

<u>Species</u>	<u>Status</u>	<u>% Cover</u>
<u>Alex glabra</u>	<u>U</u>	<u>100%</u>
<u> </u>	<u> </u>	<u> </u>
<u> </u>	<u> </u>	<u> </u>
<u> </u>	<u> </u>	<u> </u>
<u> </u>	<u> </u>	<u> </u>
<u> </u>	<u> </u>	<u> </u>
<u> </u>	<u> </u>	<u> </u>

~~Forest:~~ Vegetation in General Vicinity:

<u>Species</u>	<u>Status</u>	<u>% Cover</u>
<u>Pinus elliotii</u>	<u>U</u>	<u>planted in rows</u>
<u>Myrica asyatica v. biflora</u>	<u>S</u>	<u>scattered in subcanopy</u>
<u>Magnolia virginiana</u>	<u>S</u>	<u>"</u>
<u>Sphagnum sp.</u>	<u>S</u>	<u>in patches on ground</u>
<u>Smilax glabra</u>	<u>U</u>	<u>on gallberry</u>
<u> </u>	<u> </u>	<u> </u>
<u> </u>	<u> </u>	<u> </u>

Notes: gallberry very dense and tall
scattered crayfish burrows on ground

91-297.4

pine / gallberry wetland

TRAILRIDGE LANDFILL - WETLANDS MONITORING PLAN
CLASS I - STORMWATER POND

BASELINE STUDY
TRANSECT NO. T1

DATE: 12/18/91
FIELD INVESTIGATOR: Byron Peacock

Hydrology:

Peizometer No.: P-2

Water Elevation: 107.83'

Vegetation:

Quadrant No.: S2

~~Herbaceous:~~ Ground Cover:

Species	Status	% Cover
<u>Ilex glabra</u>	<u>U</u>	<u>100%</u> chest to waist high
<u>Sphagnum sp.</u>	<u>S</u>	<u>30%</u>
<u>Osmunda cinnamomea</u>	<u>T</u>	<u>30%</u>
<u>Woodwardia areolata</u>	<u>T</u>	<u>15%</u>
<u>Eriocaulon sp.</u>	<u>S</u>	<u>15%</u>

~~Tree~~ Vegetation in General Vicinity

Species	Status	% Cover
<u>Pinus elliottii</u>	<u>U</u>	<u>planted in row</u>
<u>Magnolia virginiana</u>	<u>S</u>	<u>< scattered in</u>
<u>Persea palustris</u>	<u>S</u>	<u>subcanopy</u>
<u>Smilax latifolia</u>	<u>S</u>	

Notes: gallberry very dense and tall
scattered crayfish burrows on ground

91-297.4

pine / gallberry wetland

TRAILRIDGE LANDFILL - WETLANDS MONITORING PLAN
CLASS I - STORMWATER POND

BASELINE STUDY
TRANSECT NO. T1

DATE: 12/18/91
FIELD INVESTIGATOR: Byron Peacock

Hydrology:

Peizometer No.: P-3

Water Elevation: 107.6'

Vegetation:

Quadrant No.: 53

Herbaceous: Ground Cover:

Species	Status	% Cover	
<u>Hypericum fasciculatum</u>	<u>T</u>	<u>100%</u>	waist high 4 individuals (all dead) 1 at @ corner
<u>Lachnanthes caroliniana</u>	<u>T</u>	<u>20%</u>	} under Hypericum bushes
<u>Ampicaryum mühlenbergianum</u>	<u>U</u>	<u>60%</u>	
<u>Aristida sp.</u>	<u>U</u>	<u>20%</u>	

Vegetation in General Vicinity:

Species	Status	% Cover
<u>Eriocaulon sp.</u>	<u>S</u>	
<u>Smilax laurifolia</u>	<u>S</u>	
<u>Andropogon sp.</u>	<u>U</u>	
<u>Ilex glabra</u>	<u>U</u>	
<u>Panicum sp.</u>	<u>U</u>	
<u>Xyris sp.</u>	<u>T</u>	
<u>Nyssa sylvatica var. biflora</u>	<u>S</u>	

other species { widely scattered

Notes:

planted pines are very scarce
and stunted
open ground cover nearby

91-297.4

pine / St. Johns wort wetland

TRAILRIDGE LANDFILL - WETLANDS MONITORING PLAN
CLASS I - STORMWATER POND

BASELINE STUDY
TRANSECT NO. 11

DATE: 12/18/91
FIELD INVESTIGATOR: Byron Peacock

Hydrology:

Peizometer No.: P-4
P-5 on wetland line

Water Elevation: 106.16'
(P-5 105.13')

Vegetation:

Quadrant No.: 54 no 55 taken because it was next to 54

Herbaceous: Ground Cover:

Species	Status	% Cover
<i>Lachnanthes caroliniana</i>	T	60%
<i>Amphicarpum muhlenbergianum</i>	U	30%
<i>Andropogon</i> sp.	U	10%

Vegetation in General Vicinity:

same as for 53

Species	Status	% Cover

Notes:

deeper pocket w/ open ground cover
water stained vegetation
indicates area holds
shallow puddled water

91-297.4

pine/St. Johns wort wetland

TRAILRIDGE LANDFILL - WETLANDS MONITORING PLAN
CLASS I - STORMWATER POND

BASELINE STUDY
TRANSECT NO. T2

DATE: 12/18/91
FIELD INVESTIGATOR: Byron Peacock

Hydrology:

Peizometer No.: P-1

Water Elevation: 102.53'

Vegetation:

Quadrant No.: S1

~~Herbaceous~~ Ground Cover:

3'-4'
high

shrub
layer

Species	Status	% Cover
<u>Ilex glabra</u>	<u>U</u>	<u>80%</u>
<u>Amygdalopsis mahlenbergianum</u>	<u>U</u>	<u>70%</u>
<u>Andropogon sp.</u>	<u>U</u>	<u>30%</u>
<u>Smilax laurifolia</u>	<u>S</u>	<u>1 individual seedling</u>

~~Trees~~ Vegetation in General Vicinity:

Species	Status	% Cover
<u>Eriocaulon sp.</u>	<u>S</u>	{ <u>scattered</u>
<u>Lycopodium sp.</u>	<u>U</u>	
<u>Hypericum fasciculatum</u>	<u>T</u>	
<u>Ilex coriacea</u>	<u>T</u>	
<u>Cypripedium florum</u>	<u>I</u>	
<u>Pinus elliotii</u>	<u>U</u>	<u>planted in rows on edge of wetland</u>

Notes:

crayfish burrows scattered on ground

pine / gallberry wetland

TRAILRIDGE LANDFILL - WETLANDS MONITORING PLAN
CLASS I - STORMWATER POND

BASELINE STUDY
TRANSECT NOT 2

DATE: 12/18/91
FIELD INVESTIGATOR: Bryan Peacock

Hydrology:

Peizometer No.: P-2

Water Elevation: 101.22'

Vegetation:

Quadrant No.: S 2

Herbaceous: Ground Cover Vegetation

Species	Status	% Cover
<u>Hypericum fasciculatum</u>	<u>T</u>	<u>1 live shrub</u>
<u>Smilax laurifolia</u>	<u>S</u>	<u>30 - 40%</u>
<u>Ilex glabra</u>	<u>U</u>	<u>70 - 60%</u>
<u>Eriocaulon sp.</u>	<u>S</u>	<u>1 individual</u>
<u>Dicranthelium sp.</u>	<u>U</u>	<u>1-2 individuals</u>

Vegetation in General Vicinity:

Species	Status	% Cover
<u>Sphagnum sp.</u>	<u>S</u>	
<u>Lyris sp.</u>	<u>T</u>	
<u>Lycopodium sp.</u>	<u>U</u>	
<u>Ilex myrtifolia</u>	<u>S</u>	
<u>Cyrtilla racemiflora</u>	<u>I</u>	
<u>Rhus sylvestris var. biflora</u>	<u>S</u>	
<u>Persea palustris</u>	<u>S</u>	
<u>Pinus elliotii</u>	<u>U</u>	

other species
in ground
cover

widely
scattered
shrubs and
small trees

Notes:

planted slash pine widely scattered and stunted
open ground cover

91-297.4

pine / St. Johns wort wetland

TRAILRIDGE LANDFILL - WETLANDS MONITORING PLAN
CLASS I - STORMWATER POND

BASELINE STUDY
TRANSECT NO. 2

DATE: 12/18/91
FIELD INVESTIGATOR: Byron Pascoe

Hydrology:

Peizometer No.: P-3

Water Elevation: 100.81

Vegetation:

Quadrant No.: S3

~~Herbaceous~~ Ground Cover:

	Species	Status	% Cover
shrub	<u>Magnolia virginiana</u>	<u>S</u>	<u>5-6 saplings and seedlings</u>
	<u>Hypericum fasciculatum</u>	<u>T</u>	<u>2 dead bushes</u>
	<u>Aristida sp.</u>	<u>U</u>	<u>80%</u>
	<u>Sphagnum sp.</u>	<u>S</u>	<u>20%</u>

~~Tree~~ Vegetation in General Vicinity:

	Species	Status	% Cover
	<u>Hypericum fasciculatum</u>	<u>T</u>	<u>40% alive</u> <u>60% dead</u>
	<u>Lachnanthes caroliniana</u>	<u>T</u>	
	<u>Nyssa sylvatica</u> var. <u>biflora</u>	<u>S</u>	1 sapling scattered
	<u>Panicum sp.</u>	<u>U</u>	
	<u>Andropogon sp.</u>	<u>U</u>	
	<u>Erianthus sp.</u>	<u>U</u>	
	<u>Ilex glabra</u>	<u>U</u>	
Notes:	<u>Smilax latifolia</u>	<u>S</u>	

plot is next to slightly deeper hole
where there is water stained vegetation
relatively open ground cover

91-297.4

pine / St. Johns wet wetland

TRAILRIDGE LANDFILL - WETLANDS MONITORING PLAN
CLASS I - STORMWATER POND

BASELINE STUDY
TRANSECT NO. T2

DATE: 12/18/91
FIELD INVESTIGATOR: Byron Peacock

Hydrology:

Peizometer No.: P 4

Water Elevation: 100.69'

Vegetation:

Quadrant No.: 54

Herbaceous: Ground Cover:

	Species	Status	% Cover
ground cover	<u>Sphagnum sp.</u>	<u>S</u>	<u>100%</u>
shrubs and saplings at 4 corners	<u>Persea palustris</u>	<u>S</u>	<u>25%</u>
	<u>Rhododendron canescens(?)</u>	<u>U</u>	<u>50%</u>
	<u>Nyssa sylvatica var. biflora</u>	<u>S</u>	<u>25%</u>

Trees: Vegetation in General Vicinity:

	Species	Status	% Cover	
canopy	<u>Nyssa sylvatica var. biflora</u>	<u>S</u>	<u>70%</u>	
	<u>Taxodium distichum</u>	<u>S</u>	<u>30%</u>	
	<u>Pinus elliotii</u>	<u>U</u>		
	<u>Magnolia virginiana</u>	<u>S</u>		widely scattered
other ground cover species	<u>Carex sp.</u>	<u>T</u>		
	<u>Woodwardia virginica</u>	<u>T</u>		
	<u>Andropogon sp.</u>	<u>U</u>		mixed

Notes:

second growth swamp

relatively open underneath

plot taken near deepest part of wetland

91-297.4

water-stained leaf litter + stain lines on trees

12"-18" from surface

cut-over hardwood swamp

TRAILRIDGE LANDFILL - WETLANDS MONITORING PLAN
CLASS I - STORMWATER POND

BASELINE STUDY
 TRANSECT NO. T2

DATE: 12/18/91
 FIELD INVESTIGATOR: Byron Peacock

Hydrology:

Peizometer No.: P 5

Water Elevation: 100.22

Vegetation:

Quadrant No.: S 5

Herbaceous: Ground Cover + Shrubs:

	Species	Status	% Cover	
shrub layer {	<u>Nyssa sylvatica var. biflora</u>	<u>S</u>	<u>11%</u>	<u>1 shrub</u>
	<u>Magnolia virginiana</u>	<u>S</u>	<u>44%</u>	<u>4 shrubs</u>
	<u>Hypericum fasciculatum</u>	<u>T</u>	<u>34%</u>	<u>3 dead shrubs</u>
	<u>Nyssa heterophylla</u>	<u>U</u>	<u>11%</u>	<u>1 shrub</u>
ground cover {	<u>Sphagnum sp.</u>	<u>S</u>	<u>70-80%</u>	
	<u>Aristida sp.</u>	<u>U</u>	<u>30-20%</u>	

Trees: Vegetation in General Vicinity:

	Species	Status	% Cover
scattered trees + shrubs {	<u>Pinus elliottii</u>	<u>U</u>	
	<u>Ilex myrtifolia</u>	<u>S</u>	
	<u>Taxodium distichum</u>	<u>S</u>	
also in ground cover	<u>Erianthus sp.</u>	<u>U</u>	

Notes:

along upper edge of swamp
not regularly inundated

91-297.4

cut-over hardwood swamp

TRAILRIDGE LANDFILL - WETLANDS MONITORING PLAN
CLASS I - STORMWATER POND

BASELINE STUDY
TRANSECT NO. 2

DATE: 12/18/91
FIELD INVESTIGATOR: Byron Peacock

Hydrology:

Peizometer No.: P 6

Water Elevation: 99.74 '

Vegetation:

Quadrant No.: 5 6

~~Herbaceous:~~ Ground Cover + Shrubs:

	Species	Status	% Cover
	<u>Ilex glabra</u>	<u>U</u>	<u>20-30%</u> remainder is open
saplings {	<u>Magnolia virginiana</u>	<u>S</u>	<u>60%</u>
	<u>Nyssa sylvatica var. biflora</u>	<u>S</u>	<u>20%</u>
	<u>Pinus elliotii</u>	<u>U</u>	<u>20%</u>

Trees:

Species	Status	% Cover

Notes:

pine / gallberry wetland

TRAILRIDGE LANDFILL - WETLANDS MONITORING PLAN
CLASS I - STORMWATER POND

BASELINE STUDY
 TRANSECT NO. T 2

DATE: 12 / 18 / 91
 FIELD INVESTIGATOR: Byron Peacock

Hydrology:

Peizometer No.: P 7

Water Elevation: 99.79'

Vegetation:

Quadrant No.: 5 7

~~Herbaceous:~~ Ground Cover:

<u>Species</u>	<u>Status</u>	<u>% Cover</u>	
<u>Ilex glabra</u>	<u>U</u>	<u>72%</u>	<u>5 shrubs</u>
<u>Hypericum fasciculatum</u>	<u>T</u>	<u>14%</u>	<u>1 dead shrub</u>
<u>Myrica heterophylla</u>	<u>U</u>	<u>14%</u>	<u>1 shrub</u>
_____	_____	_____	
_____	_____	_____	
_____	_____	_____	
_____	_____	_____	

~~Trees:~~ Vegetation in General Vicinity:

<u>Species</u>	<u>Status</u>	% <u>Cover</u>
<u>Ilex coriacea</u>	<u>T</u>	_____
<u>Smilax latifolia</u>	<u>S</u>	_____
<u>Smilax glauca</u>	<u>U</u>	_____
<u>Pinus elliotii</u>	<u>U</u>	_____
<u>Ilex glabra</u>	<u>U</u>	_____

planted in
rows
w/ gallberry
ground cover

Notes:

pine / gallberry wetland

TRAILRIDGE LANDFILL - WETLANDS MONITORING PLAN
CLASS I - STORMWATER POND

BASELINE STUDY
TRANSECT NO. 3

DATE: 12/18/91
FIELD INVESTIGATOR: Byron Peacock

Hydrology:

Peizometer No.: P1

Water Elevation: 102.35'

Vegetation:

Quadrant No.: 51

~~Herbaceous:~~ Ground Cover:

<u>Species</u>	<u>Status</u>	<u>% Cover</u>
<u>Lycopodium sp.</u>	<u>U</u>	<u>80%</u>
<u>Ilex glabra</u>	<u>U</u>	<u>15%</u>
<u>Eriocaulon sp.</u>	<u>S</u>	<u>5%</u>
<u>Myrica cerifera</u>	<u>U</u>	<u>3 seedling</u>
<u>Lachnanthes caroliniana</u>	<u>T</u>	<u>2-3 seedling</u>

~~Trees:~~ Vegetation in General Vicinity:

	<u>Species</u>	<u>Status</u>	% Cover	
shrubs	<u>Ilex glabra</u>	<u>U</u>	<u>100%</u>	wait to chest high
scattered saplings	<u>Magnolia virginiana</u>	<u>S</u>		
	<u>Nyssa sylvatica var. biflora</u>	<u>S</u>		
	<u>Ilex coriacea</u>	<u>T</u>		

Notes:

bedded row of pine

91-297.4

pine / gallery wetland edge

TRAILRIDGE LANDFILL - WETLANDS MONITORING PLAN
CLASS I - STORMWATER POND

BASELINE STUDY
 TRANSECT NO. T3

DATE: 12/18/91
 FIELD INVESTIGATOR: Byron Peacock

Hydrology:

Peizometer No.: P2

Water Elevation: 102.76'

Vegetation:

Quadrant No.: S2

Herbaceous: Ground Cover + Shrubs:

	<u>Species</u>	<u>Status</u>	<u>% Cover</u>	
shrub {	<u>Hypericum fasciculatum</u>	<u>T</u>	<u>75%</u>	<u>4 dead</u>
	<u>Myrica heterophylla</u>	<u>V</u>	<u>25%</u>	<u>2 alive</u>
ground cover {	<u>Sphagnum sp.</u>	<u>S</u>	<u>80-90%</u>	
	<u>Sarracenia minor</u>	<u>T</u>	<u>20-10%</u>	<u>2-3 indiv.</u>
	<u> </u>	<u> </u>	<u> </u>	
	<u> </u>	<u> </u>	<u> </u>	

~~Herbaceous~~ Vegetation in General Vicinity:

	<u>Species</u>	<u>Status</u>	<u>% Cover</u>
scattered	<u>Cynilla racemiflora</u>	<u>I</u>	<u> </u>
	<u>Ilex coriacea</u>	<u>T</u>	<u> </u>
	<u>Crocanlon sp.</u>	<u>S</u>	<u> </u>
	<u> </u>	<u> </u>	<u> </u>
	<u> </u>	<u> </u>	<u> </u>
	<u> </u>	<u> </u>	<u> </u>

Notes:

pine / St. Johns wort wetland

TRAILRIDGE LANDFILL - WETLANDS MONITORING PLAN
CLASS I - STORMWATER POND

BASELINE STUDY
 TRANSECT NO. T3

DATE: 12/18/91
 FIELD INVESTIGATOR: Byron Peacock

Hydrology:

Peizometer No.: P3

Water Elevation: 103.1'

Vegetation:

Quadrant No.: 53

~~Herbaceous:~~ Ground Cover:

	Species	Status	% Cover	
small shrubs {	<u>Myrica heterophylla</u>	<u>U</u>	<u>20-30%</u>	
	<u>Ilex coriacea</u>	<u>T</u>	<u>20-30%</u>	
	<u>Lyonia lucida</u>	<u>T</u>	<u>50%</u>	
ground cover -	<u>Sphagnum sp.</u>	<u>S</u>	<u>60%</u>	rest open at corners
	<u>Persea palustris</u>	<u>S</u>	<u>25%</u>	
	<u>Aronia arbutifolia</u>	<u>U</u>	<u>25%</u>	
	<u>Ilex cassine</u>	<u>S</u>	<u>50%</u>	

~~Trees:~~ Vegetation in General Vicinity:

Species	Status	% Cover
<u>Myrica sylvatica</u> var. <u>biflora</u>		<u>25%</u>
<u>Cyrtilla racemiflora</u>		<u>scattered</u>
<u>Magnolia virginiana</u>		<u>50%</u>
<u>Persea palustris</u>		<u>25%</u>
<u>Carex sp.</u>		

Notes:

standing water in puddles
 1" - 2" deep

91-297.4

cut-over hardwood swamp

TRAILRIDGE LANDFILL - WETLANDS MONITORING PLAN
CLASS I - STORMWATER POND

BASELINE STUDY
TRANSECT NO. T3

DATE: 12/18/91
FIELD INVESTIGATOR: Baron Pearce

Hydrology:

Peizometer No.: P4

Water Elevation: 103.5

Vegetation:

Quadrant No.: 54

Herbaceous: Ground Cover + Shrubs:

shrubs w/in
plot and at
corners

Species	Status	% Cover
<u>Sphagnum sp.</u>	<u>S</u>	<u>100%</u>
<u>Cyrtilla racemiflora</u>	<u>I</u>	<u>20%</u>
<u>Myrica heterophylla</u>	<u>U</u>	<u>40%</u>
<u>Ilex glabra</u>	<u>U</u>	<u>20%</u>
<u>Nyssa sylvatica</u> var. <u>biflora</u>	<u>S</u>	<u>20%</u>

Tree: Vegetation in General Vicinity:

tree +
shrubs

Species	Status	% Cover
<u>Magnolia virginiana</u>	<u>S</u>	<u>40%</u>
<u>Nyssa sylvatica</u> var. <u>biflora</u>	<u>S</u>	<u>60%</u>
<u>Myrica cerifera</u>	<u>U</u>	
<u>Lysichiton lucida</u>	<u>T</u>	
<u>Ilex virginica</u>	<u>S</u>	
<u>Andropogon sp.</u>	<u>U</u>	
<u>Sicanthelium sp.</u>	<u>U</u>	

scattered

Notes:

shallow puddled water

91-297.4

cut-over hardwood swamp

TRAILRIDGE LANDFILL - WETLANDS MONITORING PLAN
CLASS I - STORMWATER POND

BASELINE STUDY
 TRANSECT NO. T3

DATE: 12/18/91
 FIELD INVESTIGATOR: Byron Peacock

Hydrology:

Peizometer No.: P5

Water Elevation: 103.2

Vegetation:

Quadrant No.: 55

~~Herbaceous:~~ Ground Cover:

	<u>Species</u>	<u>Status</u>	<u>% Cover</u>
ground cover {	<u>Sphagnum sp.</u>	<u>S</u>	<u>40%</u>
	<u>Cyperus sp. or Carex sp.</u>	<u>T/S?</u>	<u>60%</u>
shrubs on edges {	<u>Ilex coriacea</u>	<u>T</u>	
	<u>Ilex glabra</u>	<u>U</u>	
	<u>Nyssa sylvatica var. biflora</u>	<u>S</u>	

~~Trees:~~ Vegetation in General Vicinity:

	<u>Species</u>	<u>Status</u>	<u>% Cover</u>
widely scattered trees	<u>Magnolia virginiana</u>	<u>S</u>	
	<u>Corylla racemiflora</u>	<u>T</u>	
large shrubs	<u>Rhyrica cerifera</u>	<u>U</u>	
also in ground cover {	<u>Andropogon sp.</u>	<u>U</u>	
	<u>Xyris sp.</u>	<u>T</u>	
	<u>Ludwigia sp.</u>	<u>S</u>	

Notes:

shallow puddled water

91-297.4

cut-over hardwood swamp

TRAILRIDGE LANDFILL - WETLANDS MONITORING PLAN
CLASS I - STORMWATER POND

BASELINE STUDY
TRANSECT NO. T3

DATE: 12/18/91
FIELD INVESTIGATOR: Byron Peacock

Hydrology:

Peizometer No.: P6

Water Elevation: 102.57

Vegetation:

Quadrant No.: 56

~~Herbaceous:~~ Ground Cover + Shrubs:

	Species	Status	% Cover	
shrubs {	<i>Lyonia lucida</i>	T	90%	
	<i>Ilex glabra</i>	U	10%	
	<i>Corylla racemiflora</i>	I		on one corner
	<i>Aronia arbutifolia</i>	U		

Trees: Vegetation in General Vicinity:

Species	Status	% Cover
<i>Aronia arbutifolia</i>	U	
<i>Gordonia lasiantha</i>	S	

Notes:

crayfish burrow on ground
on edge of swamp + pine
plantation

91-297.4

Cut-over hardwood swamp
edge

Environmental Services

8711 Perimeter Park Blvd. Suite 11

Jacksonville, FL 32216

(904) 645-9900

FAX (904) 645-9954

LETTER OF TRANSMITTAL

TO Florida Department of Environmental Regulation
Northeast District
7825 Baymeadows Way
Jacksonville, FL 32256

DATE	January 6, 1992	JOB NO. 29714
ATTENTION	Mike Eaton	JAN 08 1992
RE	Trail Ridge Landfill wetlands monitoring plan permit SC 16-184444	

WE ARE SENDING YOU ☒ Attached ☐ Under separate cover via _____ the following items

- ☐ Shop drawings ☐ Prints ☐ Plans ☐ Samples ☐ Specifications
☐ Copy of letter ☐ Change order ☐ _____

COPIES	DATE	NO	DESCRIPTION
1			data sheets for transects 4,5,6 and 7

THESE ARE TRANSMITTED as checked below:

- ☐ For approval ☐ Approved as submitted ☐ Resubmit _____ copies for approval
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☐ For review and comment ☐ _____

☐ FOR BIDS DUE _____ 19 _____ ☐ PRINTS RETURNED AFTER LOAN TO US

REMARKS

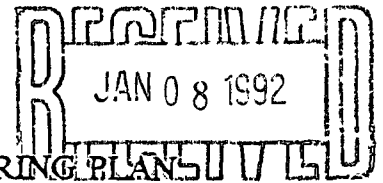
Mike,

Please attach these data sheets to the Trail Ridge information that you received on January 3. I inadvertantly left them out of the first package. Call me if you have any questions.

COPY TO _____

SIGNED: _____

Byron Peach



TRAILRIDGE LANDFILL - WETLANDS MONITORING PLAN
CLASS I - STORMWATER POND DER-JACKSONVILLE

BASELINE STUDY
TRANSECT NO. T 4

DATE: 12/18/9
FIELD INVESTIGATOR: Byron Peacock

Hydrology:

Peizometer No.: P-1

Water Elevation: 105.45'

Vegetation:

Quadrant No.: S-1

~~Herbaceous:~~ Ground Cover & Shrubs:

	Species	Status	% Cover	
shrubs {	<i>Hypericum fasciculatum</i>	T	60%	6 plants 2 alive 4 dead
	<i>Myrica heterophylla</i>	U	20%	
	<i>Ilex glabra</i>	U	20%	
ground cover {	<i>Dicanthelium</i> sp.	U	50%	small, scattered
	<i>Carex</i> sp. or <i>Cyperus</i> sp.	T/S?	50%	
	<i>Eriocaulon</i> sp.	S	1	
	<i>Woodwardia areolata</i>	T	1	
	Tree: <i>Lycopodium</i> sp.	U	1	
<u>Vegetation in General Vicinity:</u>				
	Species	Status	% Cover	
scattered planted pine	<i>Pinus elliotii</i>	U		
other trees {	<i>Magnolia virginiana</i>	S		
	<i>Nyssa sylvatica</i> var. <i>biflora</i>	S		
other shrubs {	<i>Ilex glabra</i>	U		
	<i>Hypericum fasciculatum</i>	T		
open, grassy ground cover	<i>Dicanthelium</i> spp.	U		
	<i>Xyris</i> sp.	T		
	<i>Eriocaulon</i> sp.	S		

Notes:

Notes:

pine / St. Johns wet wetland

TRAILRIDGE LANDFILL - WETLANDS MONITORING PLAN
CLASS I - STORMWATER POND

BASELINE STUDY
TRANSECT NO. I-4

DATE: 12/18/91
FIELD INVESTIGATOR: Byron Peacock

Hydrology:

Peizometer No.: P-2

Water Elevation: 106.18'

Vegetation:

Quadrant No.: S-2

~~Herbaceous:~~ Ground Cover + Shrubs:

	Species	Status	% Cover	
shrubs	<i>Hypericum fasciculatum</i>	T	50%	1 alive
	<i>Ilex glabra</i>	U	50%	1 dead
				2 shrubs
ground cover	<i>Eriocaulon</i>	S	90%	
	<i>Centella asiatica</i>	T	5%	
	<i>Aristida</i> sp.	U	5%	

~~Trees:~~ Vegetation in General Vicinity:

	Species	Status	% Cover	
even mix of shrubs	<i>Ilex coriacea</i>	T		
	<i>Magnolia virginiana</i>	S		
	<i>Lysia sylvatica</i> var. <i>biflora</i>	S		
	<i>Persea palustris</i>	S		
	<i>Pinus elliotii</i>	U		very widely scattered

Notes:

at very edge of planted slash pine

pine / St. Johns wet wetland

BASELINE STUDY
TRANSECT NO. T-4

DATE: 12/18/91
FIELD INVESTIGATOR: Byron Peacock

Peizometer No.: P-3

Water Elevation: 108.35'

Quadrant No.: 5-3

~~Herbaceous:~~ Ground Cover + Shrubs:

head high $\pm$	Species	Status	% Cover
shrub layer	<i>Ilex coriacea</i>	T	100?
	<i>Lysonia lucida</i>	T	90?
	<i>Ilex coriacea</i>	T	10?

Topic: Vegetation in General Vicinity:

	Species	Status	% Cover
1 large tree nearby	<u>Pinus serotina</u>	<u>T</u>	
scattered subcanopy - size	<u>Persea palestina</u>	<u>S</u>	
	<u>Magnolia virginiana</u>	<u>S</u>	
	<u>Cyrilla racemiflora</u>	<u>I</u>	

tall, dense sweet gallberry

cut-over hardwood swamp

91-297.4

* flow channel
not N or S end of transect

at far S end of transect → canopy 90% tupelo
ground cover { sweetgallberry mixed w/ sweet bay } 10%
 { pittierbush swamp bay }
 dog hobble, cinnamon fern pond pine }

TRAILRIDGE LANDFILL - WETLANDS MONITORING PLAN
CLASS I - STORMWATER POND

BASELINE STUDY
TRANSECT NO. T-5

DATE: 12/18/91
FIELD INVESTIGATOR: Byron Peacock

Hydrology:

Peizometer No.: P-1

Water Elevation: 114.28'

Vegetation:

Quadrant No.: S-1

~~Herbaceous:~~ Ground Cover:

	Species	Status	% Cover
knee-high	<u>Ilex glabra</u>	<u>U</u>	<u>100%</u>

~~Trees:~~ Vegetation in General Vicinity:

	Species	Status	% Cover
canopy:	<u>Pinus serotina</u>	<u>T</u>	<u>100%</u>
subcanopy {	<u>Persea palustris</u>	<u>S</u>	<u>70%</u>
	<u>Magnolia virginiana</u>	<u>S</u>	<u>30%</u>
	<u>Nyssa sylvatica</u> var. <u>biflora</u>	<u>S</u>	<u>- widely scattered</u>

Notes:

pond pine seepage slope

TRAILRIDGE LANDFILL - WETLANDS MONITORING PLAN
CLASS I - STORMWATER POND

BASELINE STUDY
TRANSECT NO. T-5

DATE: 12/18/91
FIELD INVESTIGATOR: Byron Peacock

Hydrology:

Peizometer No.: P-2

Water Elevation: 114.6'

Vegetation:

Quadrant No.: S-2

~~Herbaceous~~ Ground Cover + Shrubs:

<u>Species</u>	<u>Status</u>	<u>% Cover</u>
<u>Ilex coriacea</u>	<u>T</u>	<u>70-80%</u>
<u>Ilex glabra</u>	<u>V</u>	<u>30-20%</u>
<u>Leucothoe axillaris</u>	<u>T</u>	<u>1 plant</u>
<u> </u>	<u> </u>	<u> </u>
<u> </u>	<u> </u>	<u> </u>
<u> </u>	<u> </u>	<u> </u>

~~Forest~~ Vegetation in General Vicinity:

<u>Species</u>	<u>Status</u>	<u>% Cover</u>
<u>Pinus serotina</u>	<u>T</u>	<u>80%</u>
<u>Myrica sylvatica var. biflora</u>	<u>S</u>	} <u>20%</u>
<u>Magnolia virginiana</u>	<u>S</u>	
<u>Persea palustris</u>	<u>S</u>	
<u> </u>	<u> </u>	<u> </u>
<u>Osmondia cinnamomea</u>	<u>T</u>	<u> </u>

also in
ground
cover

Notes:

pond pine seepage slope

TRAILRIDGE LANDFILL - WETLANDS MONITORING PLAN
CLASS I - STORMWATER POND

BASELINE STUDY
TRANSECT NO. I-5

DATE: 12/18/91
FIELD INVESTIGATOR: Byron Peacock

Hydrology:

Peizometer No.: P-3

Water Elevation: 113.8'

Vegetation:

Quadrant No.: S-3

~~Herbaceous:~~ Ground Cover and Shrubs:

	Species	Status	% Cover	
ground cover	<u>Ilex glabra</u>	<u>U</u>	<u>30-40%</u>	(rest is pine needles)
shrubs	<u>Myrica sylvatica var. biflora</u>	<u>S</u>	<u>67%</u>	2 shrubs
	<u>Myrica cerifera</u>	<u>U</u>	<u>33%</u>	1 at corner

~~Herbaceous:~~ Vegetation in General Vicinity:

	Species	Status	% Cover	
canopy	<u>Pinus serotina</u>	<u>T</u>	<u>90%</u>	
	<u>Persea palustris</u>	<u>S</u>		
	<u>Magnolia virginiana</u>	<u>S</u>		> 10%
subcanopy	<u>Myrica sylvatica var. biflora</u>	<u>S</u>		many whippy small saplings
ground cover	<u>Ilex glabra</u>	<u>U</u>		
	<u>Myrica cerifera</u>	<u>U</u>		
	<u>Osmunda cinnamomea</u>	<u>T</u>		

Notes:

knee-high gallberry in ground cover
hardwood swamp 100's of feet farther into wetland

91-297.4

pond pine seepage slope

TRAILRIDGE LANDFILL - WETLANDS MONITORING PLAN
CLASS I - STORMWATER POND

BASELINE STUDY
TRANSECT NO. T-6

DATE: 12/18/91
FIELD INVESTIGATOR: Byron Peacock

Hydrology:

Peizometer No.: P-1

Water Elevation: 114.65'

Vegetation:

Quadrant No.: S-1

Herbaceous: Shrubs + Ground Cover:

Species	Status	% Cover
<u>Ilex glabra</u>	<u>U</u>	<u>90%</u>
<u>Itea virginica</u>	<u>S</u>	
<u>Nyssa sylvatica var. biflora</u>	<u>S</u>	
<u>Smilax latifolia</u>	<u>S</u>	

} 10%

Trees: Vegetation in General Vicinity:

	Species	Status	% Cover
canopy:	<u>Pinus elliotii</u>	<u>U</u>	
			<u>planted in row</u>
dense, head high shrubs:	<u>Ilex glabra</u>	<u>U</u>	
subcanopy:	<u>Nyssa sylvatica var. biflora</u>	<u>S</u>	
			<u>- widely scattered</u>

Notes:

pine / gallberry wetland
on very edge

TRAILRIDGE LANDFILL - WETLANDS MONITORING PLAN
CLASS I - STORMWATER POND

BASELINE STUDY
TRANSECT NO. I-6

DATE: 12/18/91
FIELD INVESTIGATOR: Byron Peacock

Hydrology:

Peizometer No.: P-2

Water Elevation: 113.62'

Vegetation:

Quadrant No.: S-2

Herbaceous: Ground Cover + Shrubs:

<u>Species</u>	<u>Status</u>	<u>% Cover</u>
<u>Ilex coriacea</u>	<u>T</u>	<u>100 %</u>
<u> </u>	<u> </u>	<u> </u>
<u> </u>	<u> </u>	<u> </u>
<u> </u>	<u> </u>	<u> </u>
<u> </u>	<u> </u>	<u> </u>
<u> </u>	<u> </u>	<u> </u>

Trees: Vegetation in General Vicinity:

	<u>Species</u>	<u>Status</u>	<u>% Cover</u>
<u>canopy</u>	<u>Pinus serotina</u>	<u>T</u>	<u>50 %</u>
	<u>Pinus elliotii</u>	<u>U</u>	<u>50 %</u>
<u>sub canopy</u>	<u>Magnolia virginiana</u>	<u>S</u>	<u>30 %</u>
	<u>Persea palustris</u>	<u>S</u>	<u>30 %</u>
	<u>Nyssa sylvatica var. biflora</u>	<u>S</u>	<u>30 %</u>
	<u>Cyrilla racemiflora</u>	<u>I</u>	<u>10 %</u>

Notes: also in ground cover
Osmunda cinnamomea T

pond pine seepage slope

TRAILRIDGE LANDFILL - WETLANDS MONITORING PLAN
CLASS I - STORMWATER POND

BASELINE STUDY
TRANSECT NO. I-7

DATE: 12/18/91
FIELD INVESTIGATOR: Byron Peacock

Hydrology:

Peizometer No.: P-1

Water Elevation: 110.17'

Vegetation:

Quadrant No.: S-1

Herbaceous: Ground Cover + Shrubs:

Species	Status	% Cover
<u>Ilex glabra</u>	<u>U</u>	<u>90%</u>
<u>Xyris sp.</u>	<u>T?</u>	<u>5%</u>
<u>Sicanthelium sp.</u>	<u>U</u>	<u>5%</u>

1 plant @

Trees: Vegetation in General Vicinity:

	Species	Status	% Cover
canopy	<u>Pinus elliotii</u>	<u>U</u>	<u>planted in rows</u>
subcanopy	<u>Persea palustris</u>	<u>S</u>	<u>33%</u>
	<u>Magnolia virginiana</u>	<u>S</u>	<u>33%</u>
	<u>Nyssa sylvatica var. biflora</u>	<u>S</u>	<u>33%</u>
ground cover	<u>Ilex glabra</u>	<u>U</u>	<u>90%</u>
	<u>Myrica heterophylla</u>	<u>U</u>	
	<u>Smilax laurifolia</u>	<u>S</u>	
	<u>Smilax glauca</u>	<u>U</u>	

Notes:

pine / gallberry wetland

TRAILRIDGE LANDFILL - WETLANDS MONITORING PLAN
CLASS I - STORMWATER POND

BASELINE STUDY
TRANSECT NO. T-7

DATE: 12/18/91
FIELD INVESTIGATOR: Byron Pearson

Hydrology:

Peizometer No.: P-2

Water Elevation: 109.35'

Vegetation:

Quadrant No.: S-2

Herbaceous: Ground Cover + Shrubs:

Species	Status	% Cover
<u>Ilex virginica</u>	<u>S</u>	<u>20%</u> 2 plants
<u>Leucothoe sp. (mariana?)</u>	<u>T</u>	<u>80%</u>

Vegetation in General Vicinity:

	Species	Status	% Cover
canopy	<u>Pinus elliotii</u>	<u>U</u>	<u>planted in rows</u>
subcanopy	<u>Persea palustris</u>	<u>S</u>	
	<u>Ilex coriacea</u>	<u>T</u>	
	<u>Ilex cassine</u>	<u>S</u>	
ground cover + shrubs	<u>Vaccinium corymbosum</u>	<u>U</u>	
	<u>Ilex glabra</u>	<u>U</u>	

Notes:

pine / gallberry wetland
on edge of pond pine seepage
slope 91-297.4

TRAILRIDGE LANDFILL - WETLANDS MONITORING PLAN
CLASS I - STORMWATER POND

BASELINE STUDY
TRANSECT NO. I-7

DATE: 12/18/91
FIELD INVESTIGATOR: Byron Peacock

Hydrology:

Peizometer No.: P-3

Water Elevation: 109.33'

Vegetation:

Quadrant No.: S-3

~~Herbaceous:~~ Ground Cover + Shrubs:

	Species	Status	% Cover	
ground cover {	<u>Osmunda cinnamomea</u>	<u>T</u>		1 fern
	<u>Persea palustris</u>	<u>S</u>		1 seedling
shrubs {	<u>Nyssa sylvatica</u> var.	<u>S</u>	<u>75%</u>	saplings
	<u>Persea palustris</u> <u>villosa</u>	<u>S</u>	<u>25%</u>	

the remaining ground cover consists of pine needles

Vegetation in General

Vicinity:

	Species	Status	% Cover
canopy	<u>Pinus elliotii</u>	<u>U</u>	scattered + naturally occurring
subcanopy {	<u>Persea palustris</u>	<u>S</u>	
	<u>Magnolia virginiana</u>	<u>S</u>	
at point where +	<u>Ilex glabra</u> thins out	<u>U</u>	
	<u>Ilex coriacea</u> picks up	<u>T</u>	

Notes:

change in topo a sampling station

bitter gallberry thins out +
sweet gallberry picks up

91-297.4

flow channels begin at 300' station
canopy primarily tupelo in the middle
w/ bay + slash pine
+ sweet gallberry shrub layer

pond pine seepage slope on edge of mature hardwood swamp