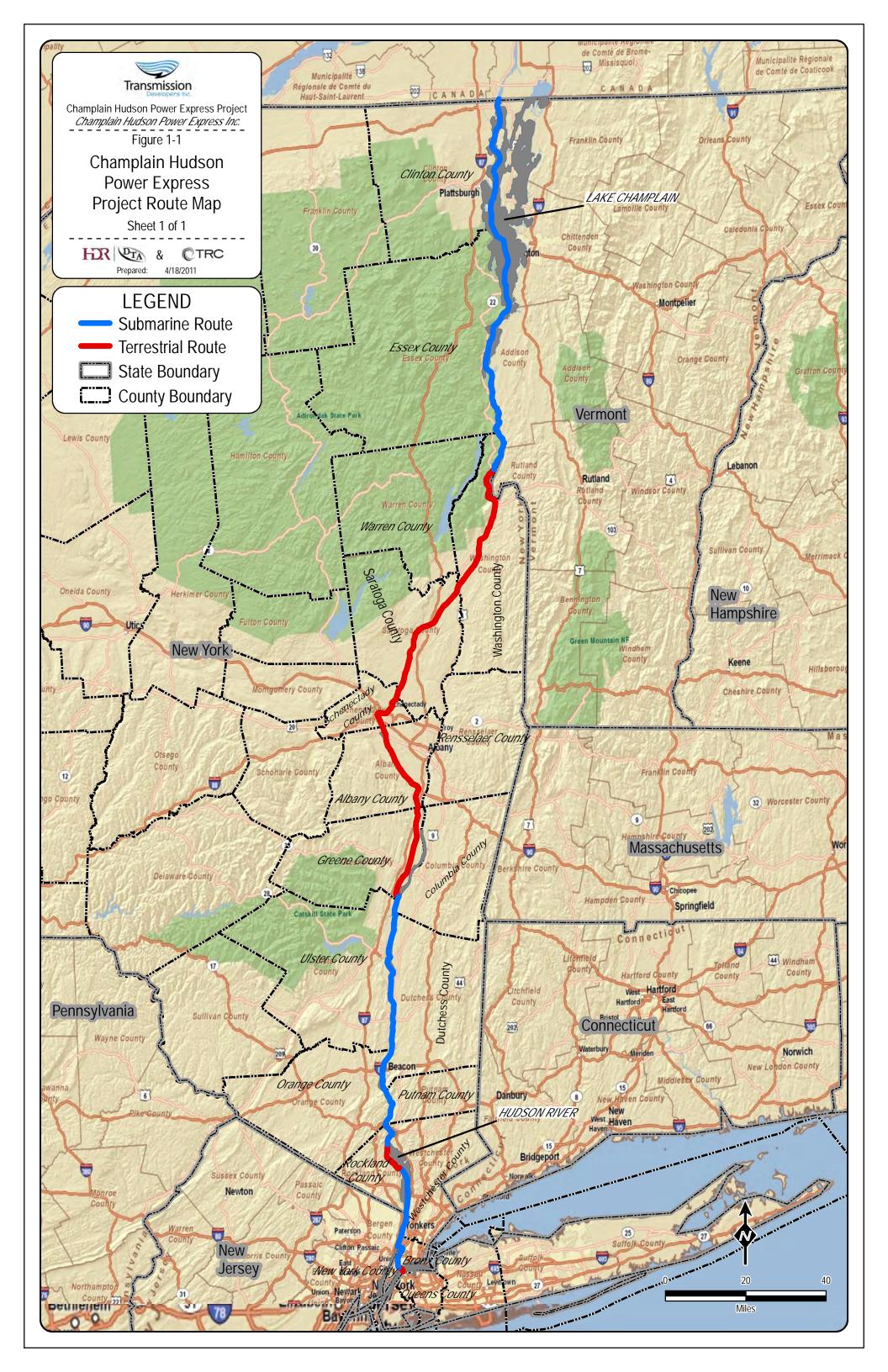
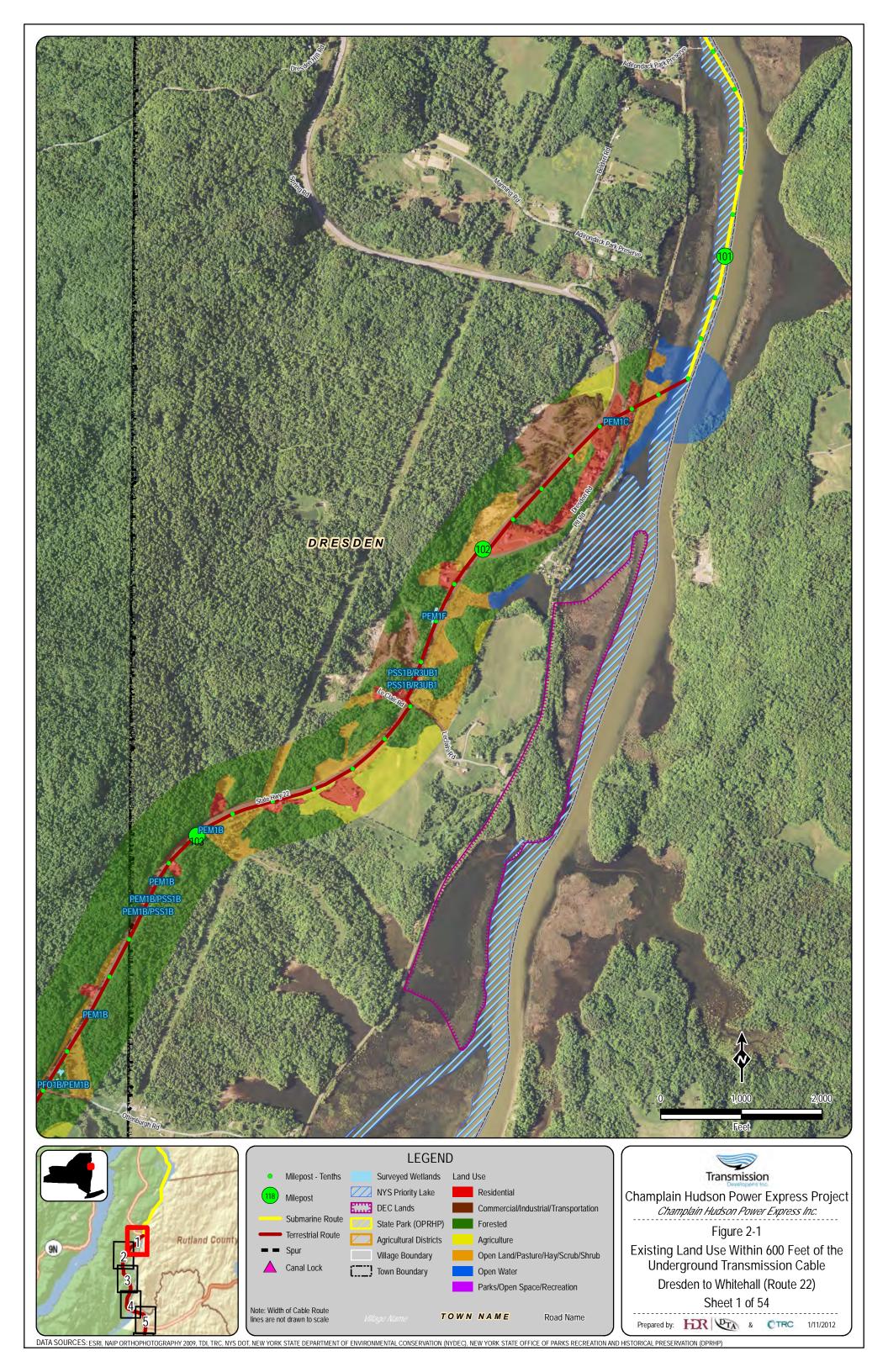
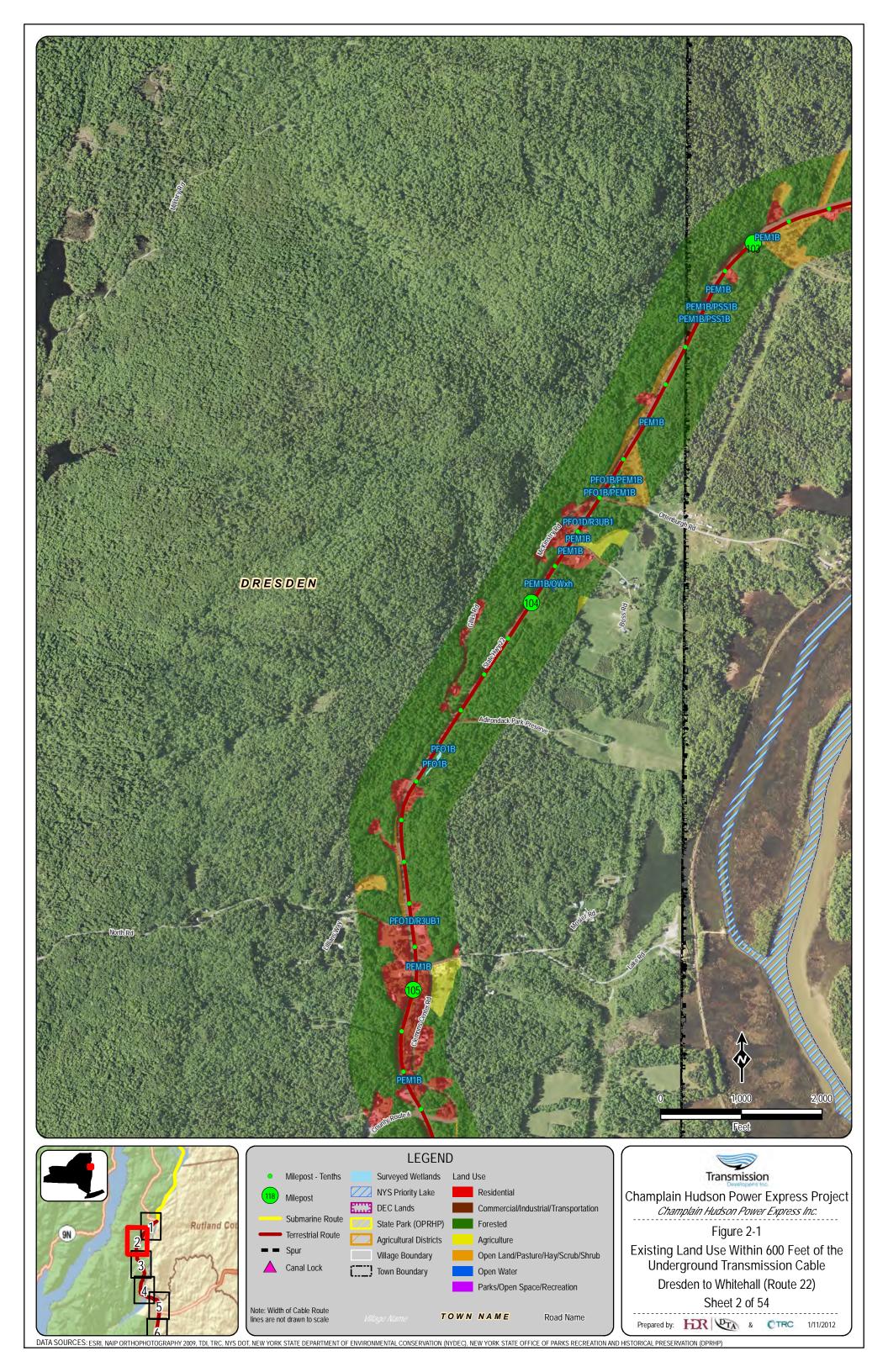
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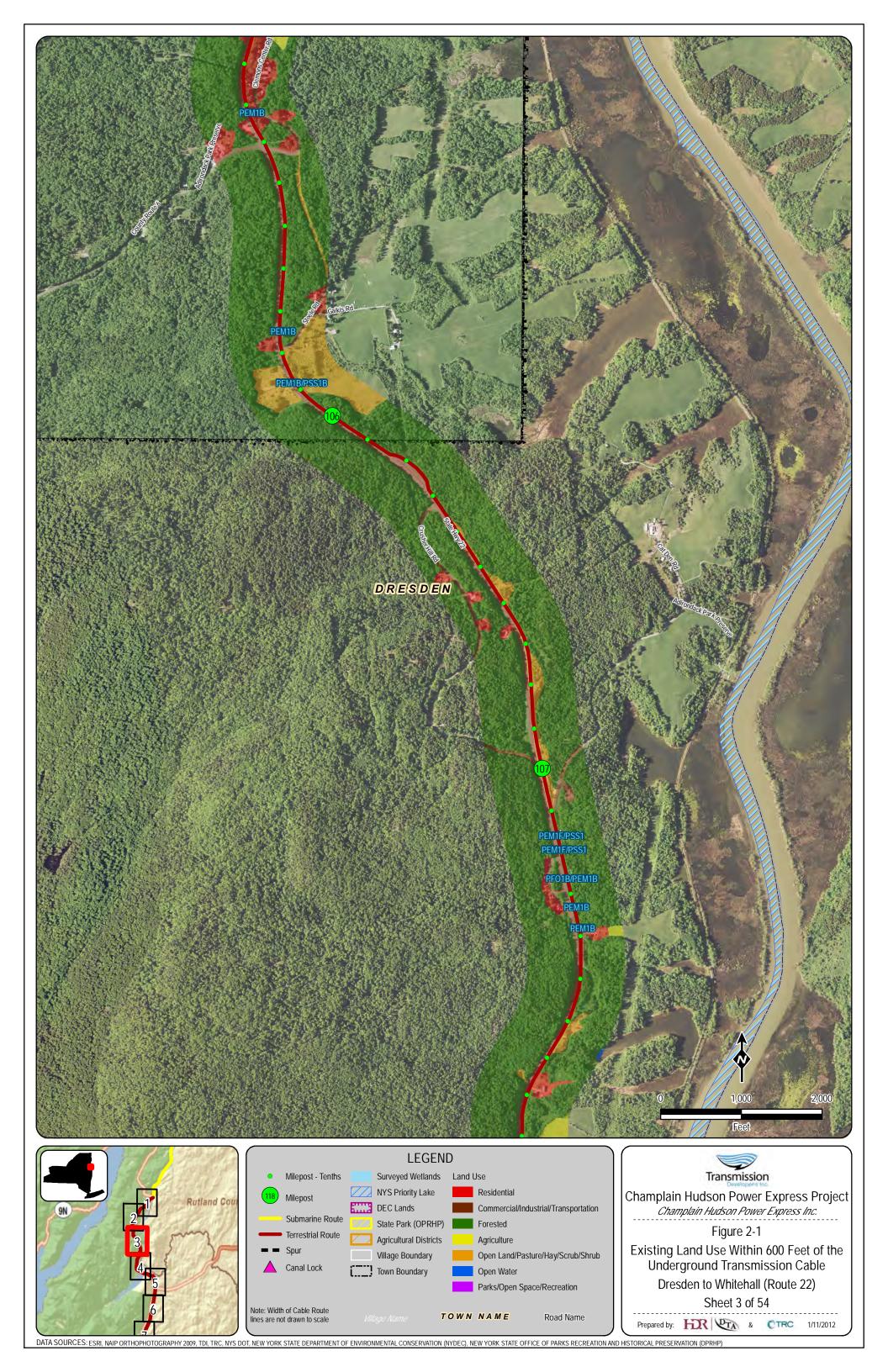
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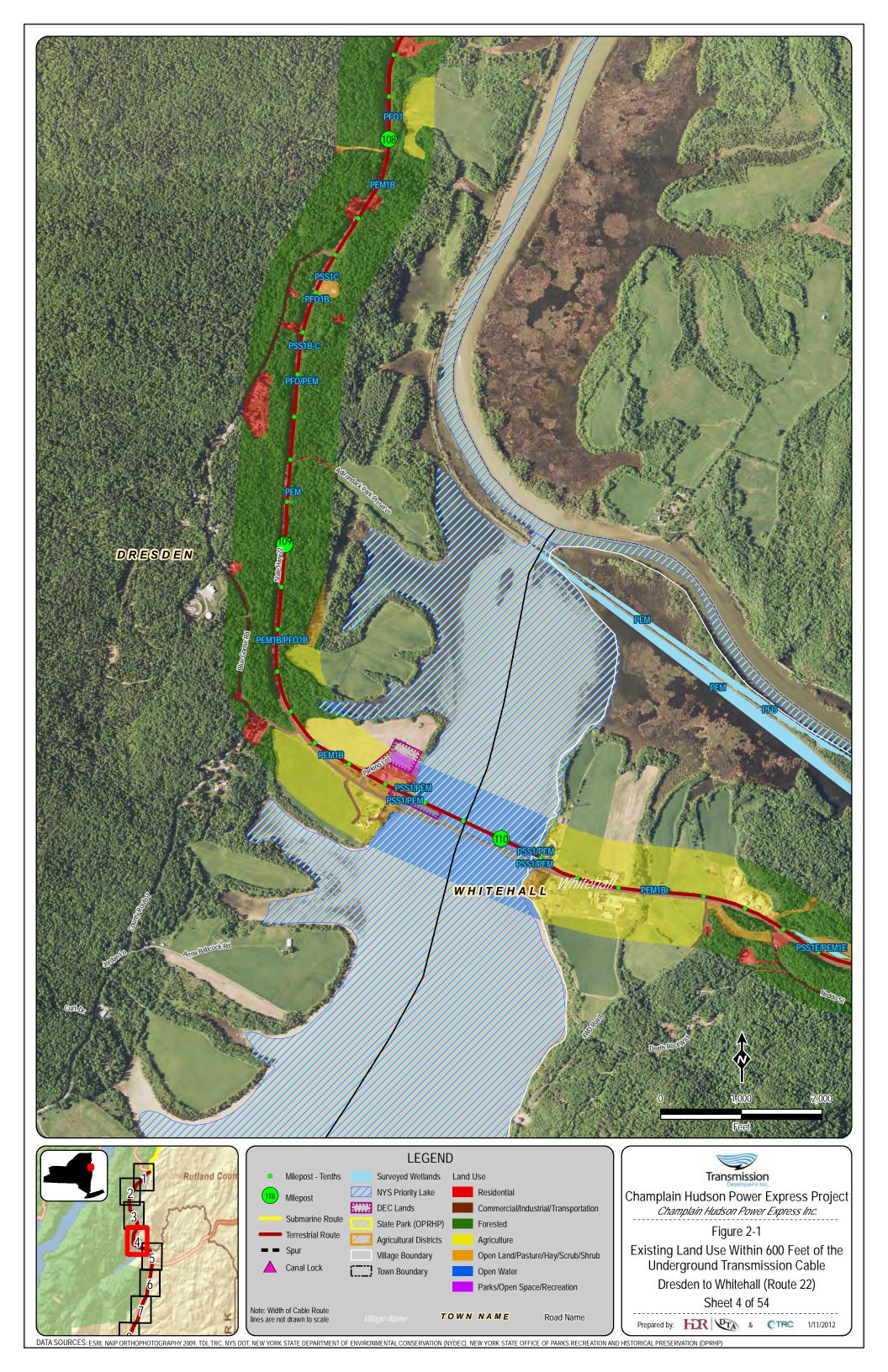
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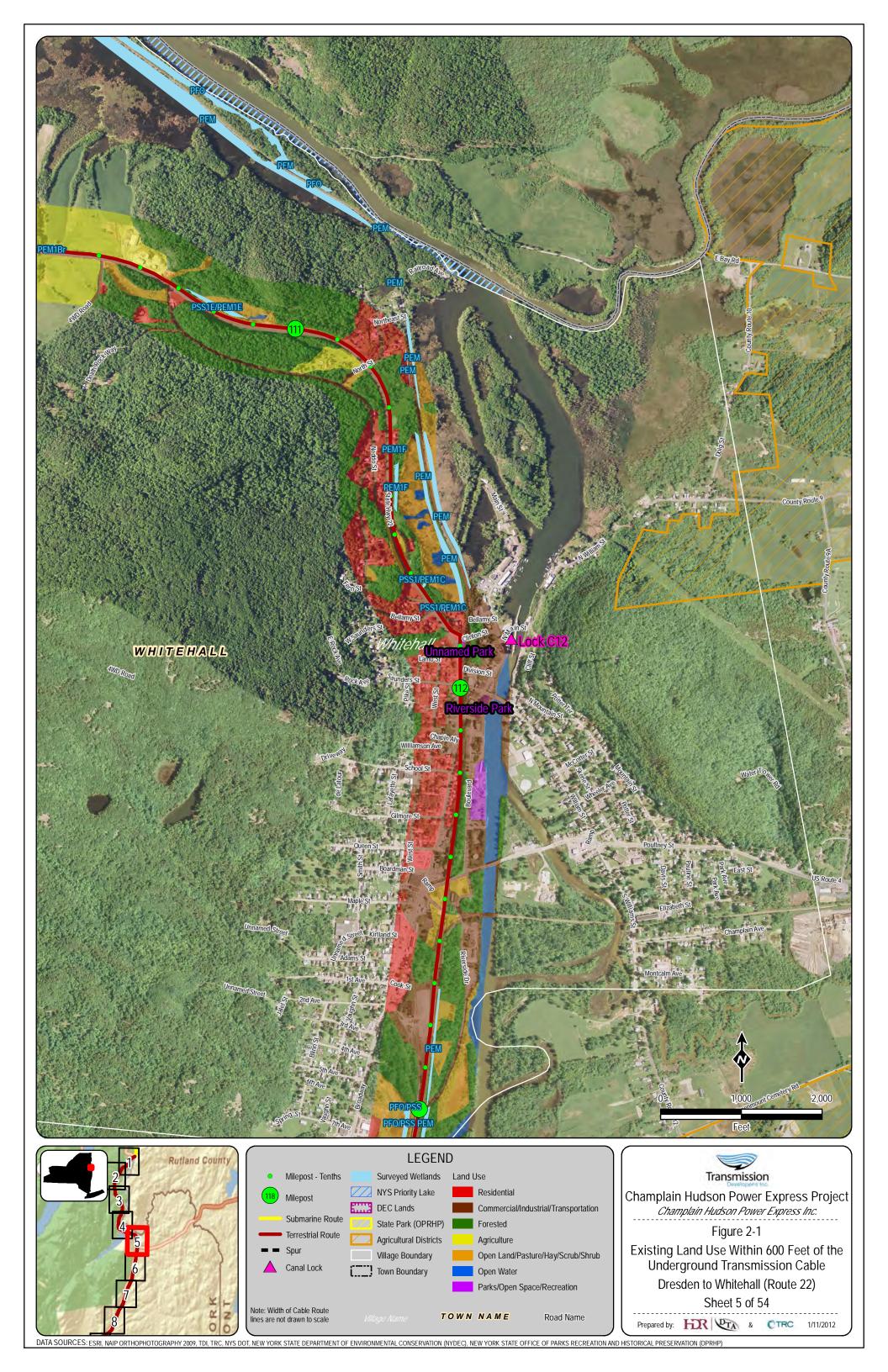


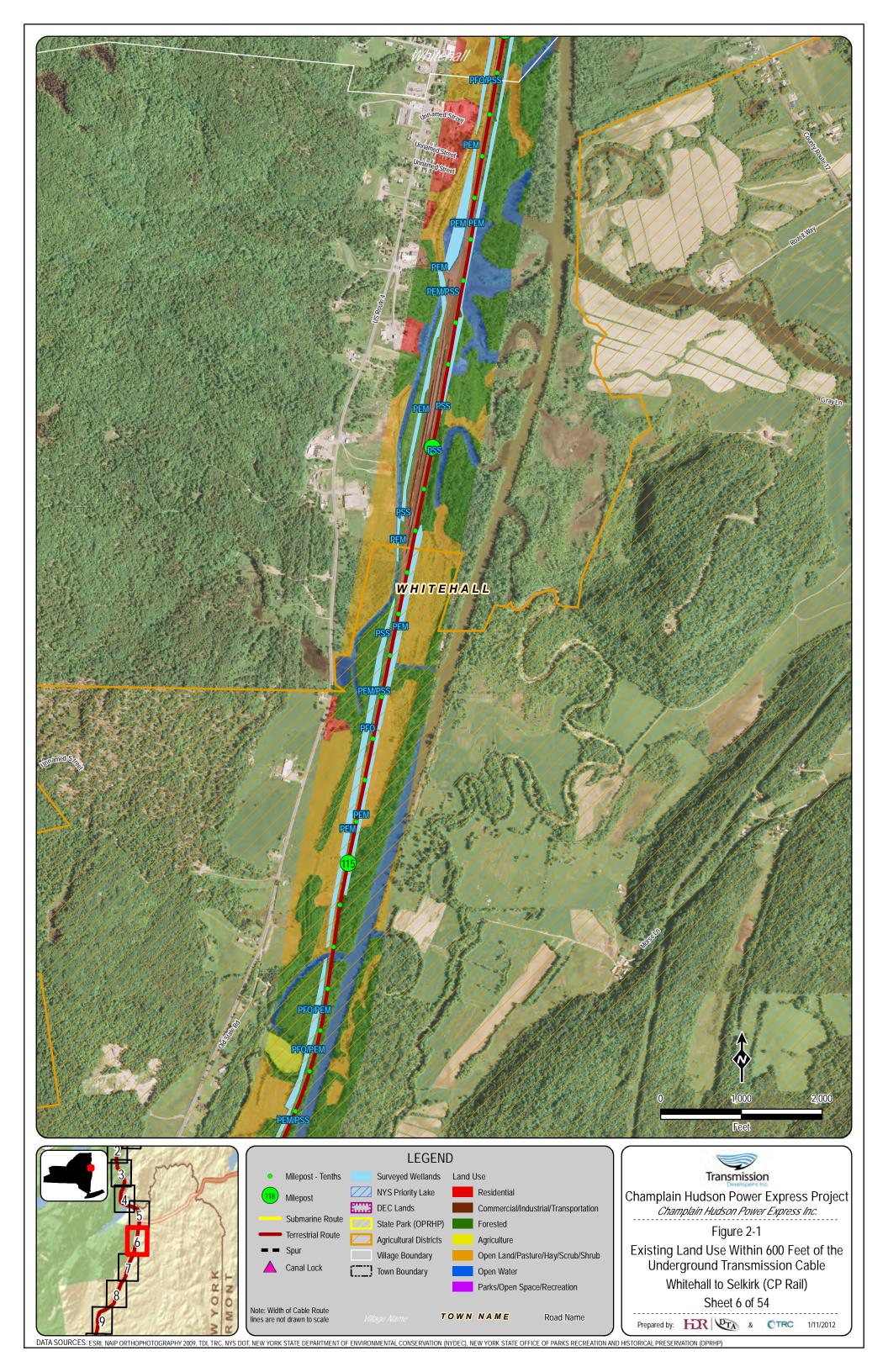


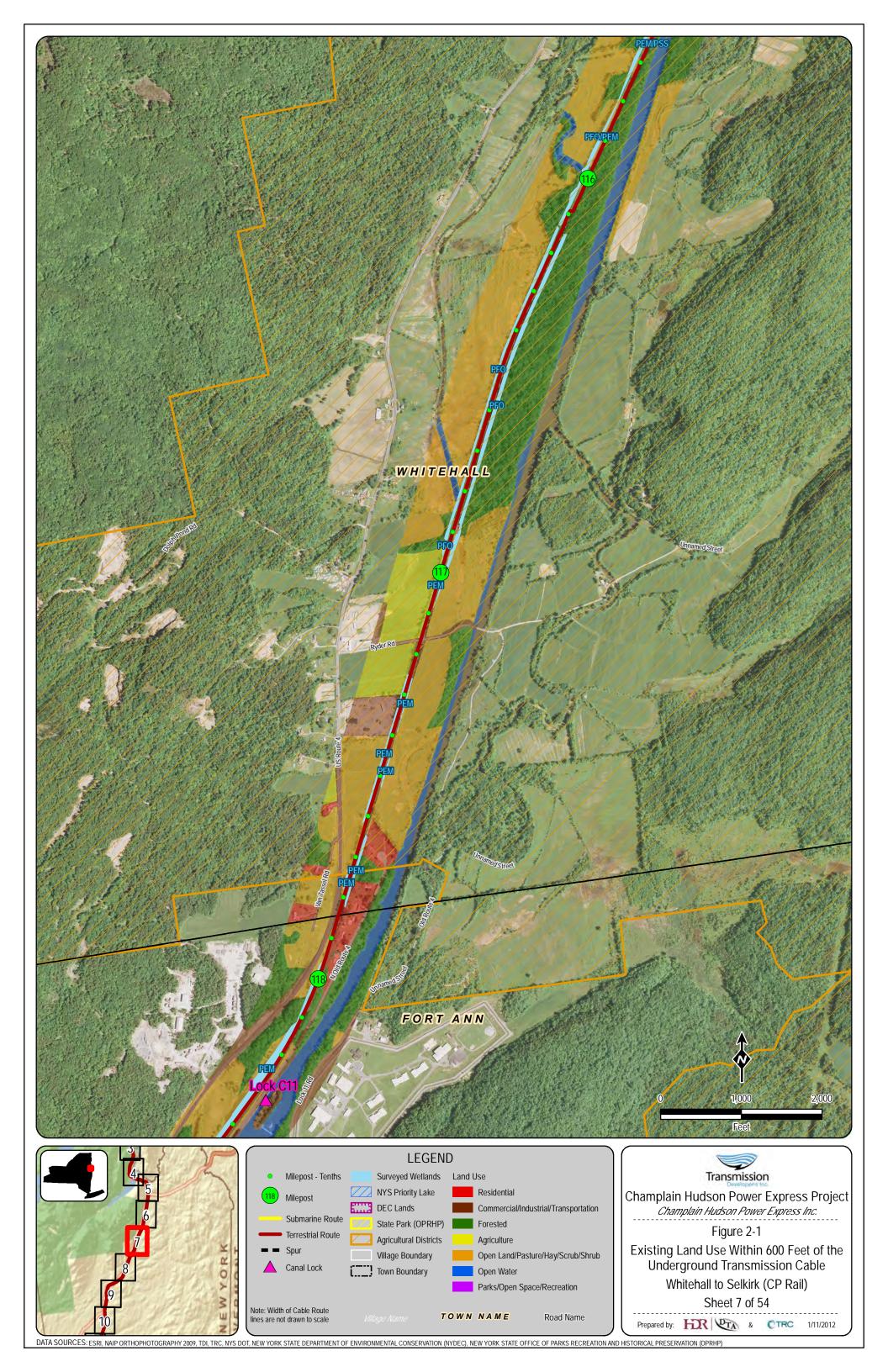


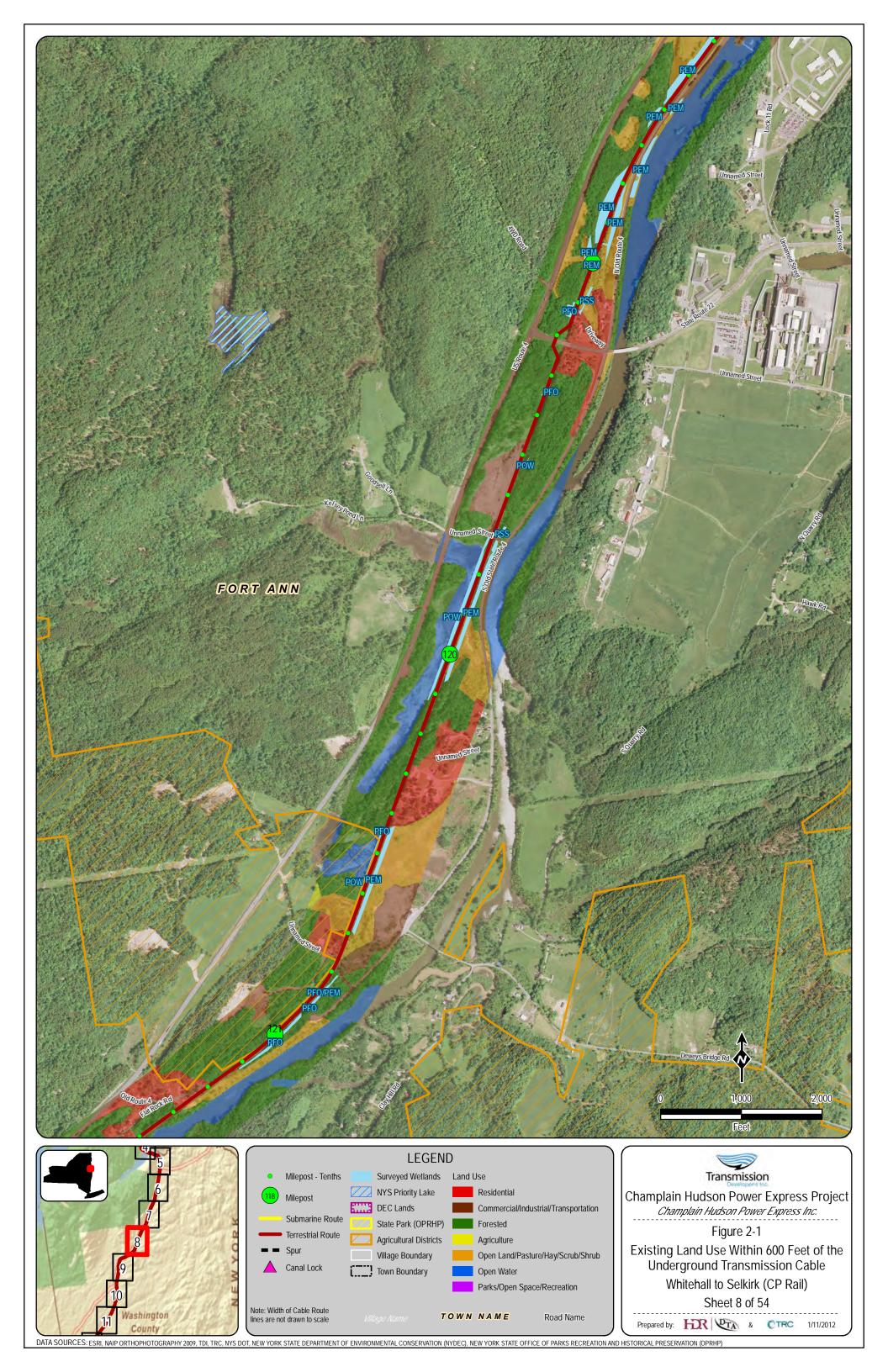


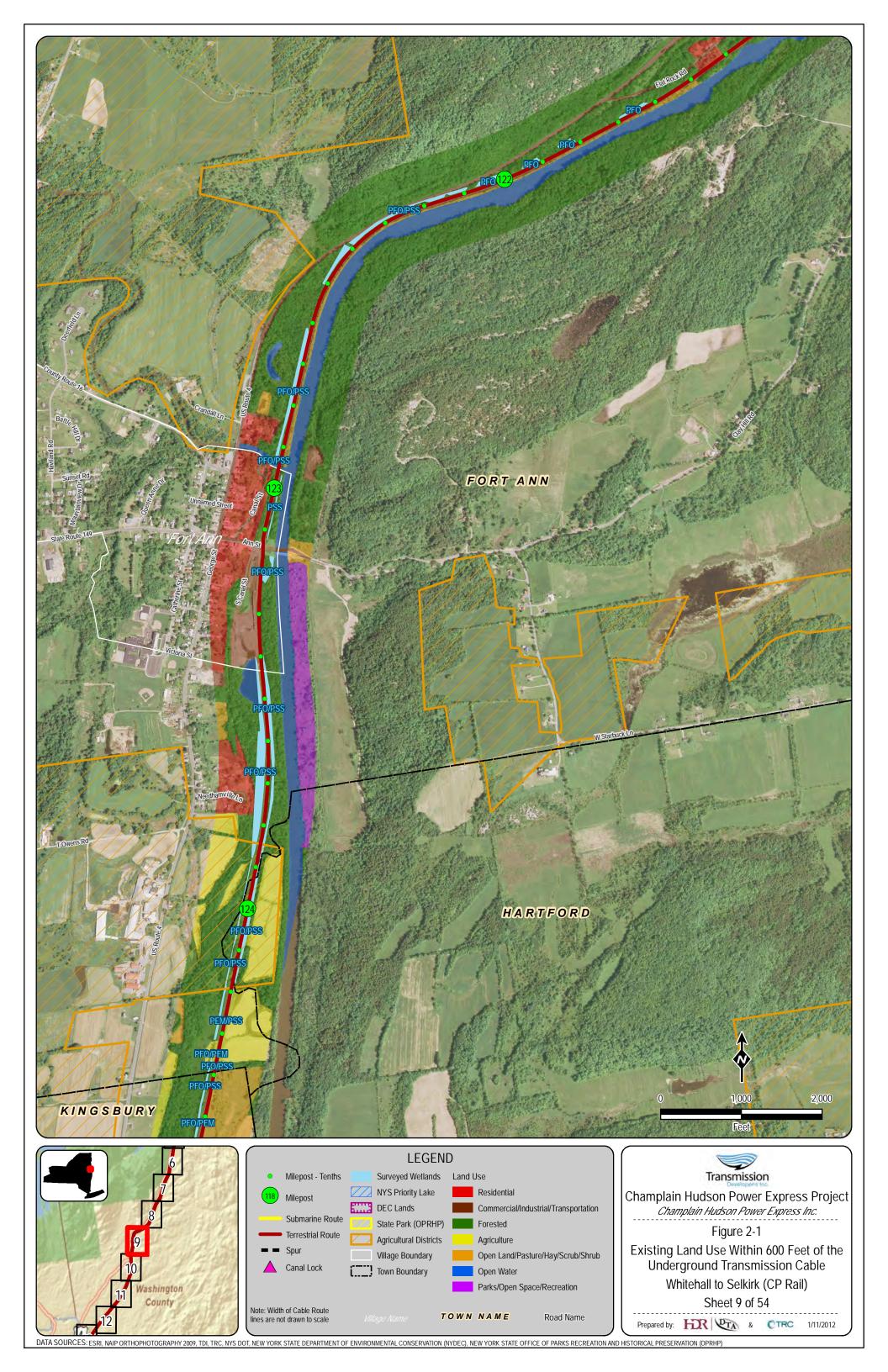


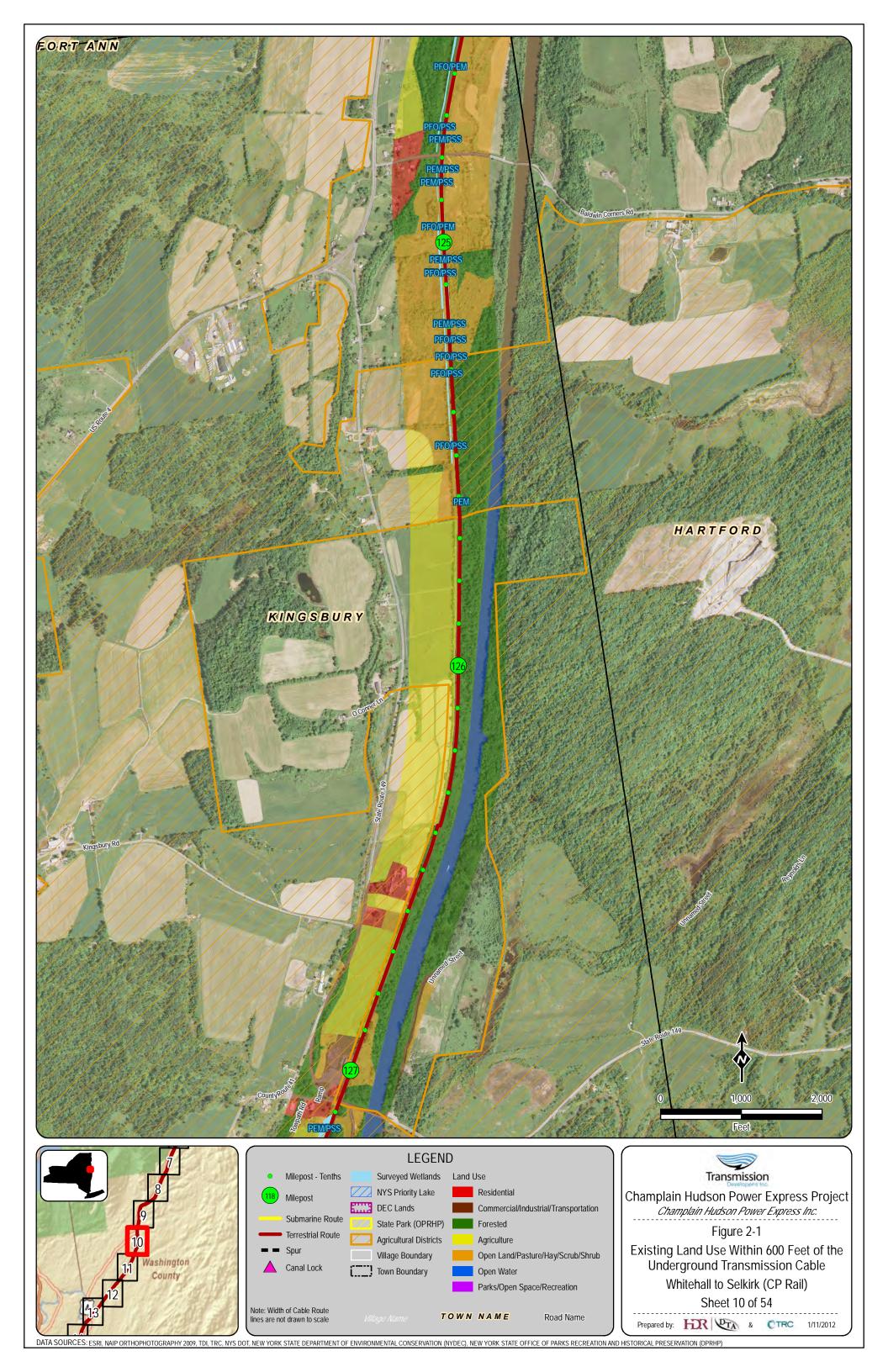


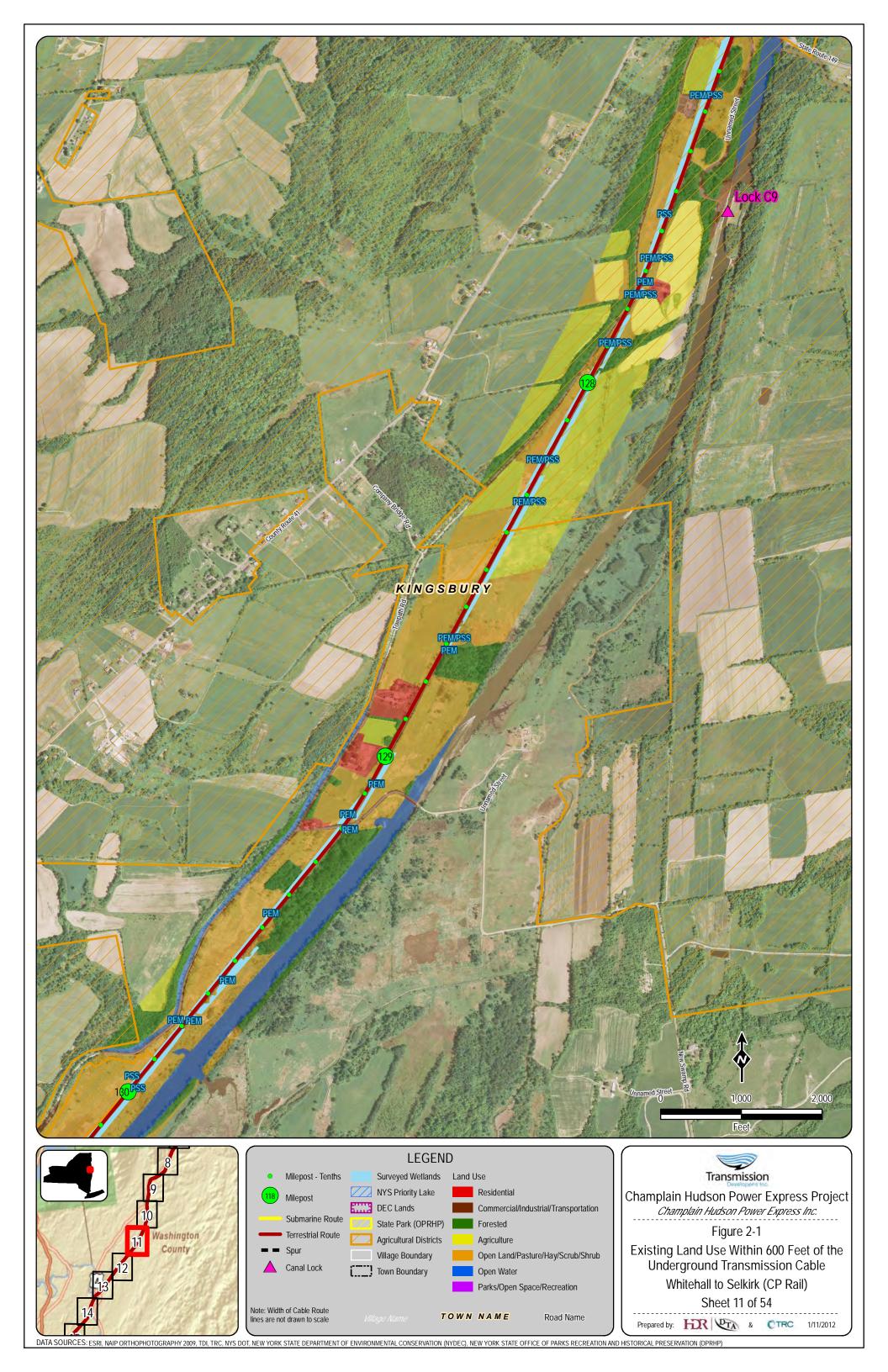


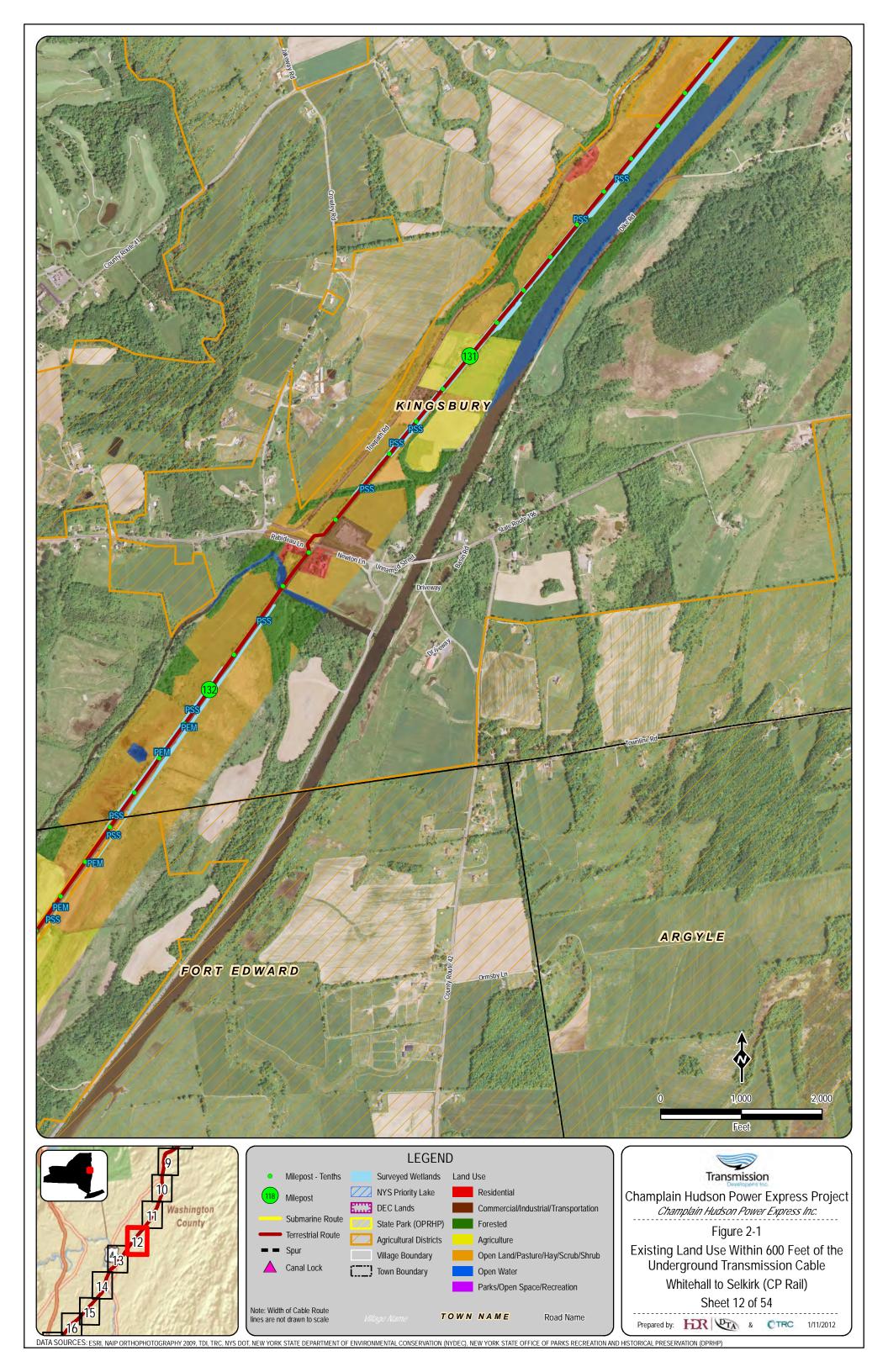


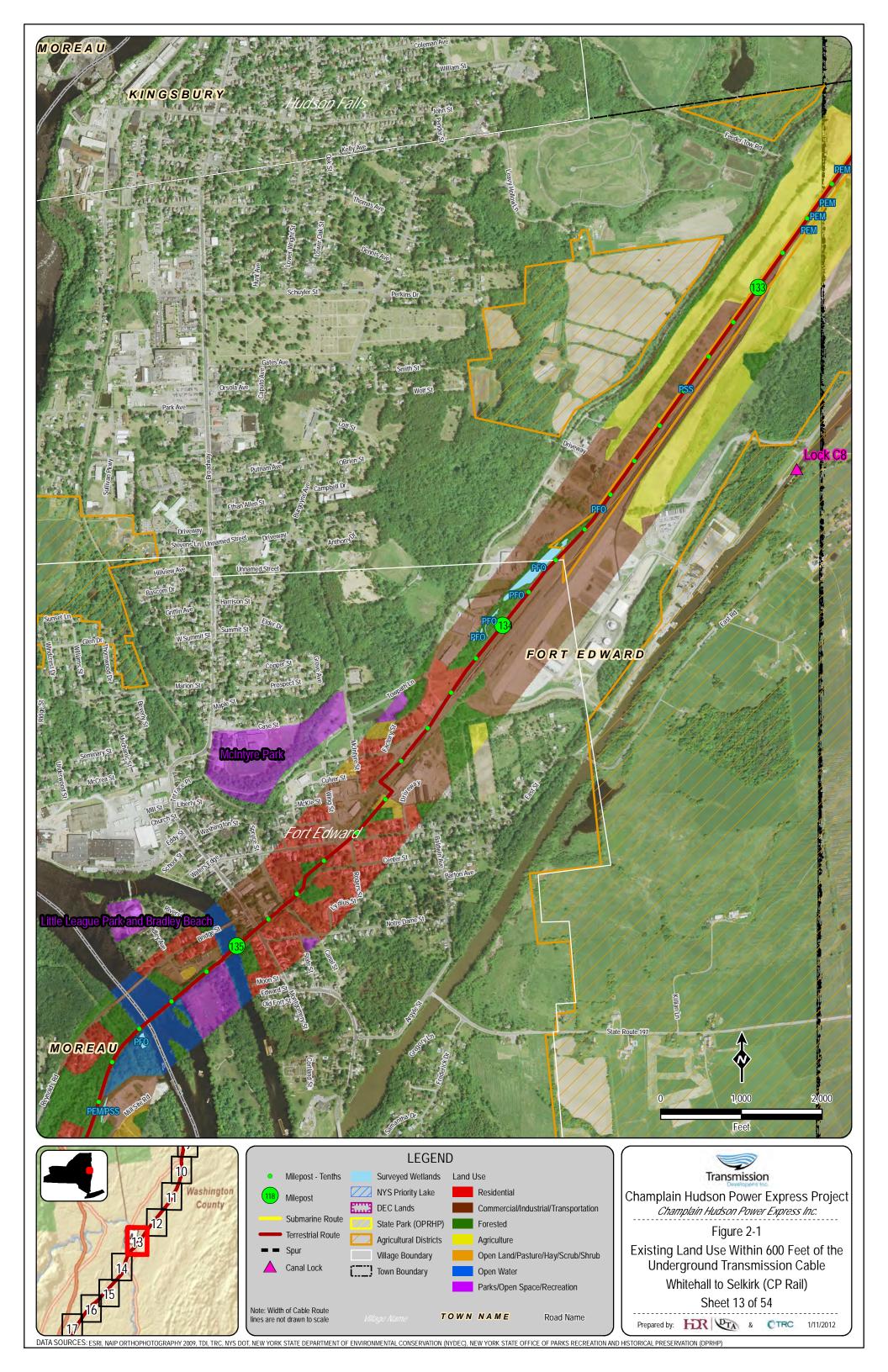


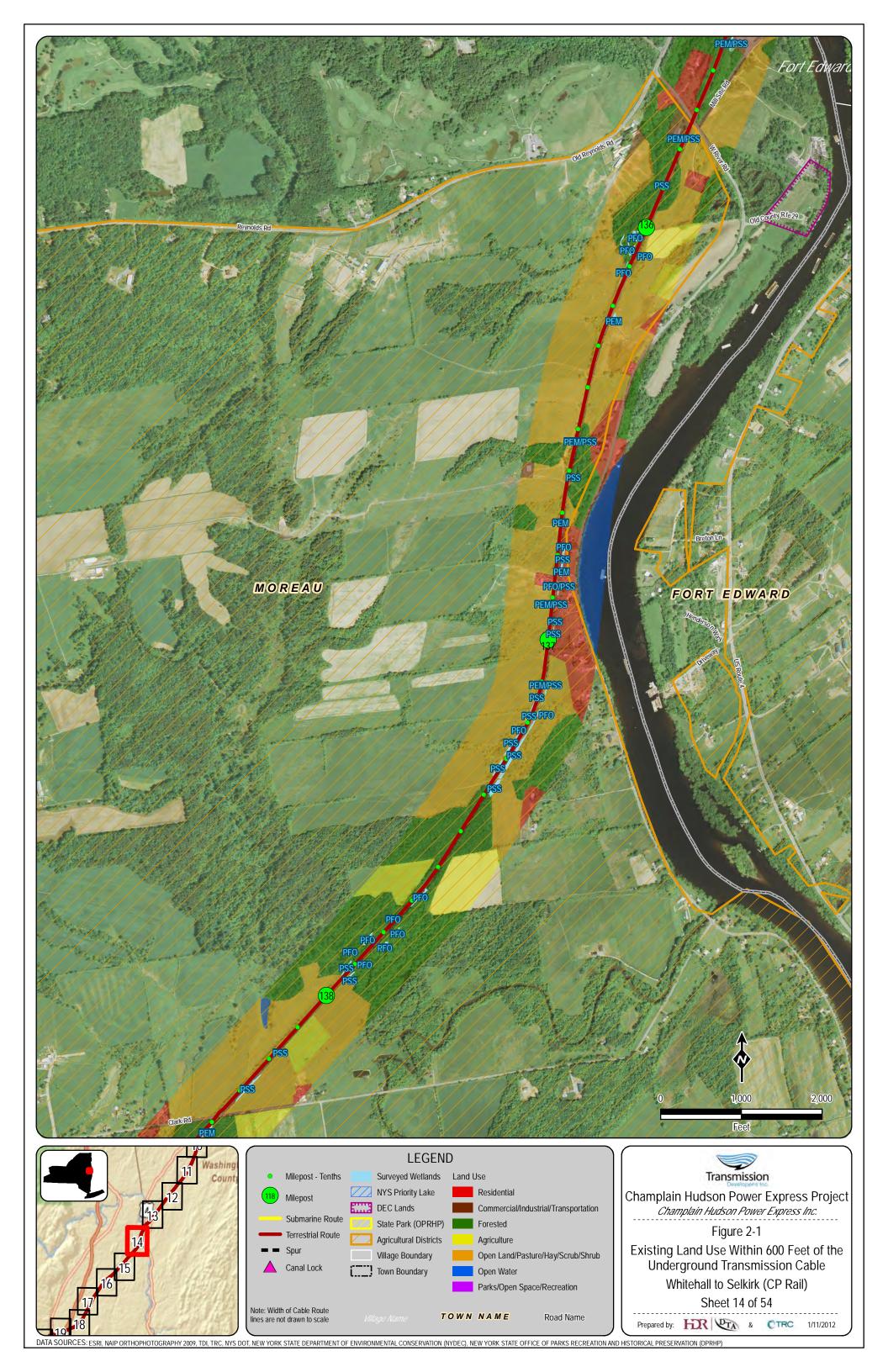


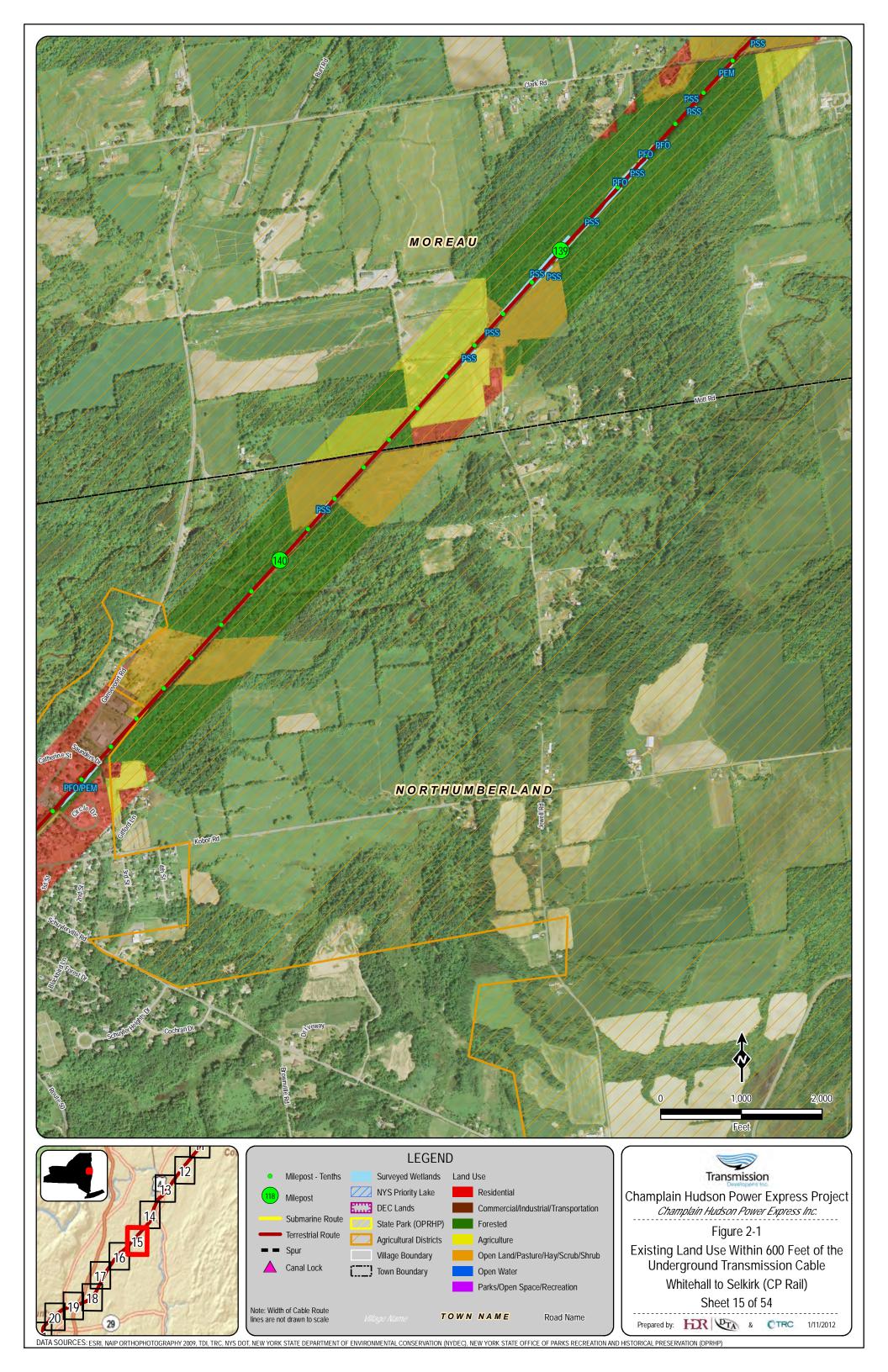


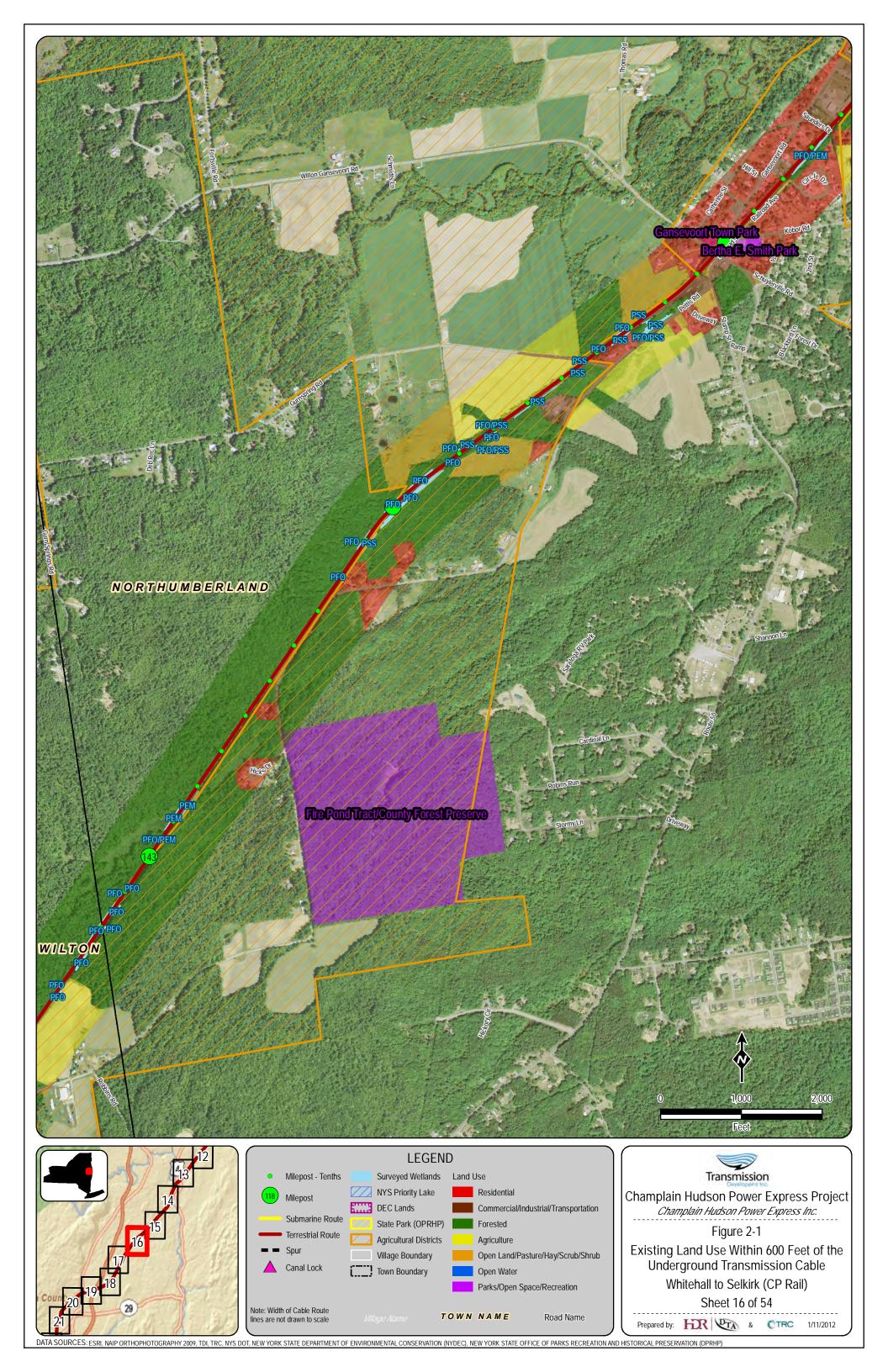


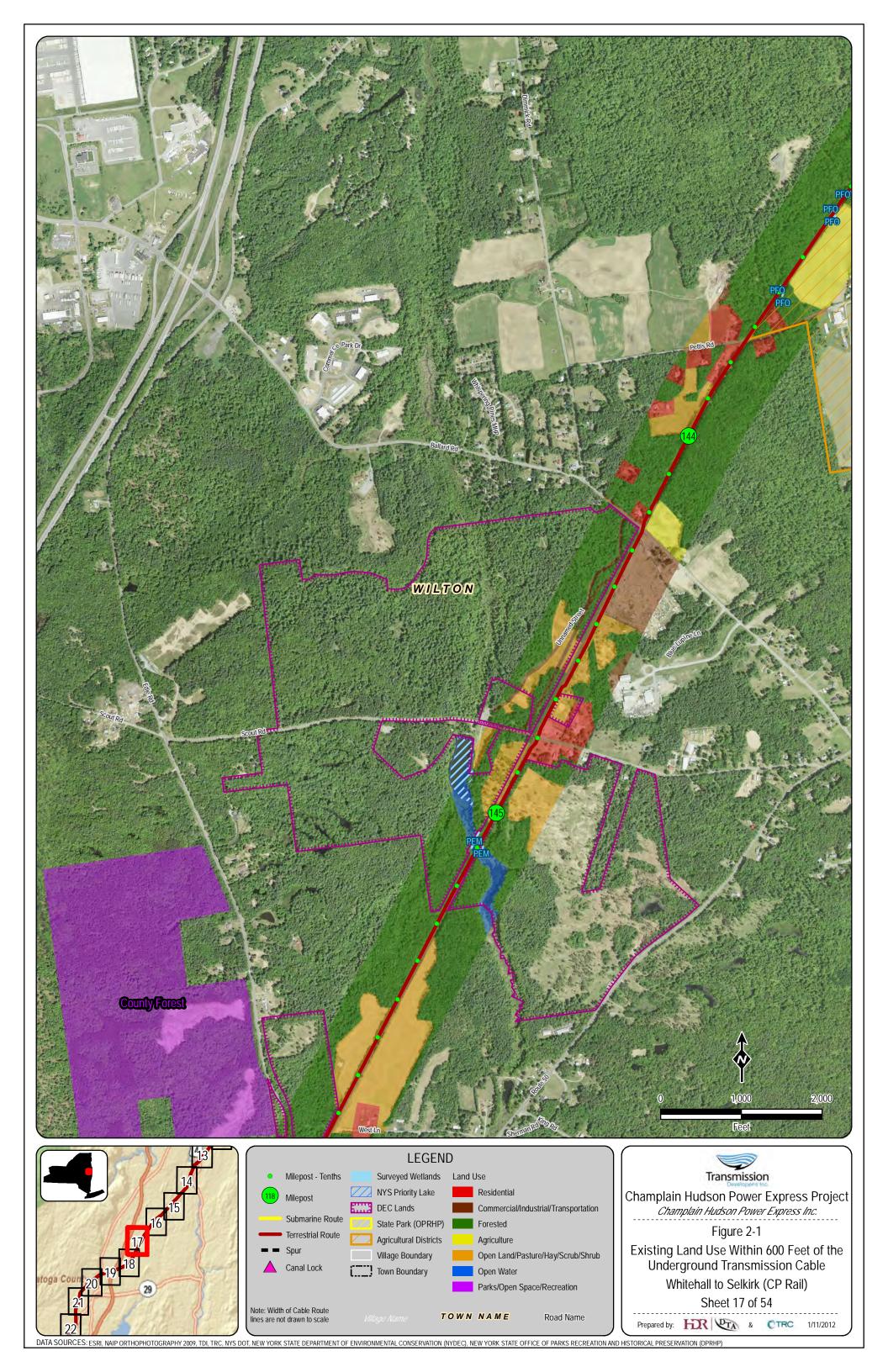


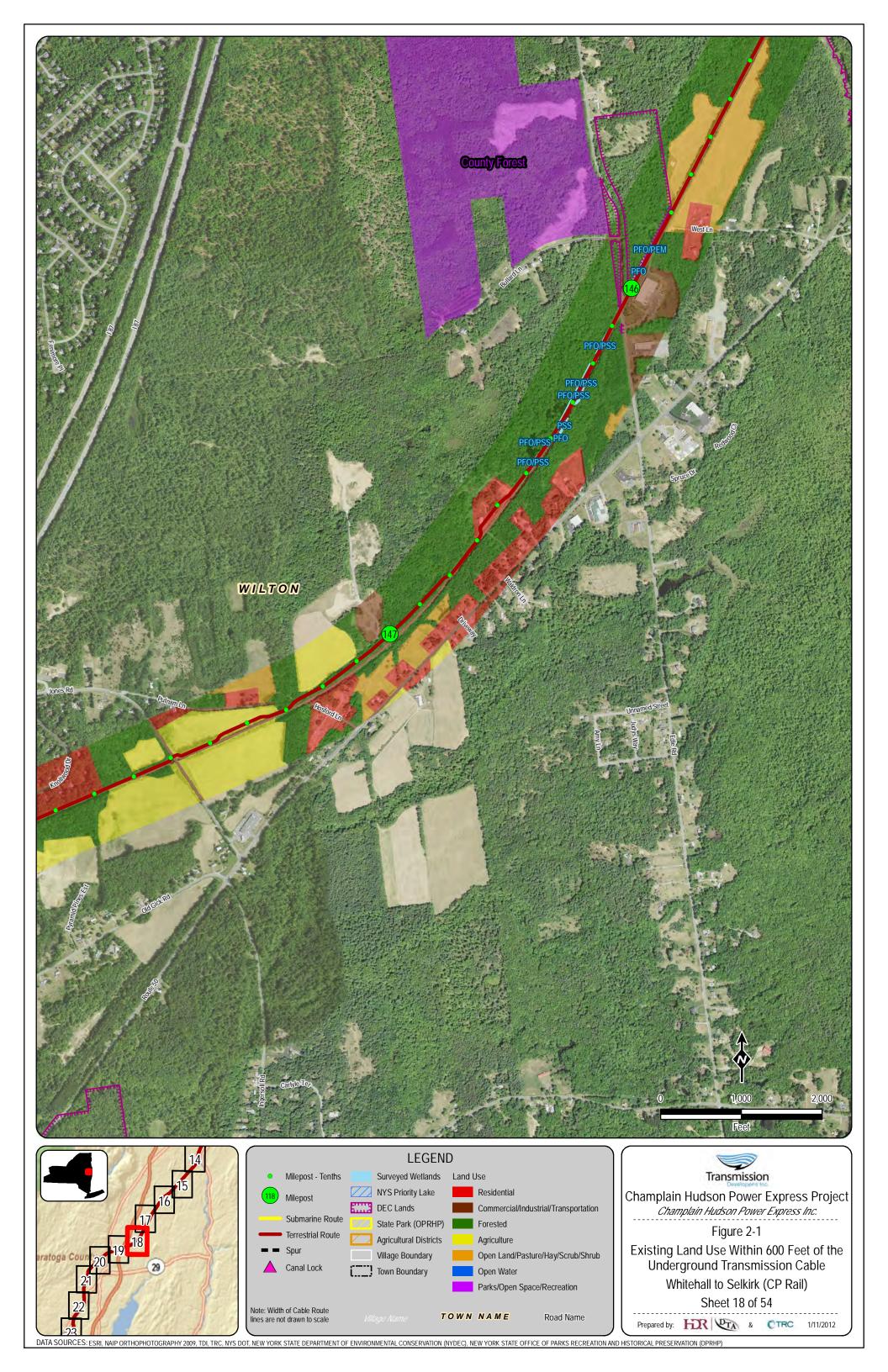


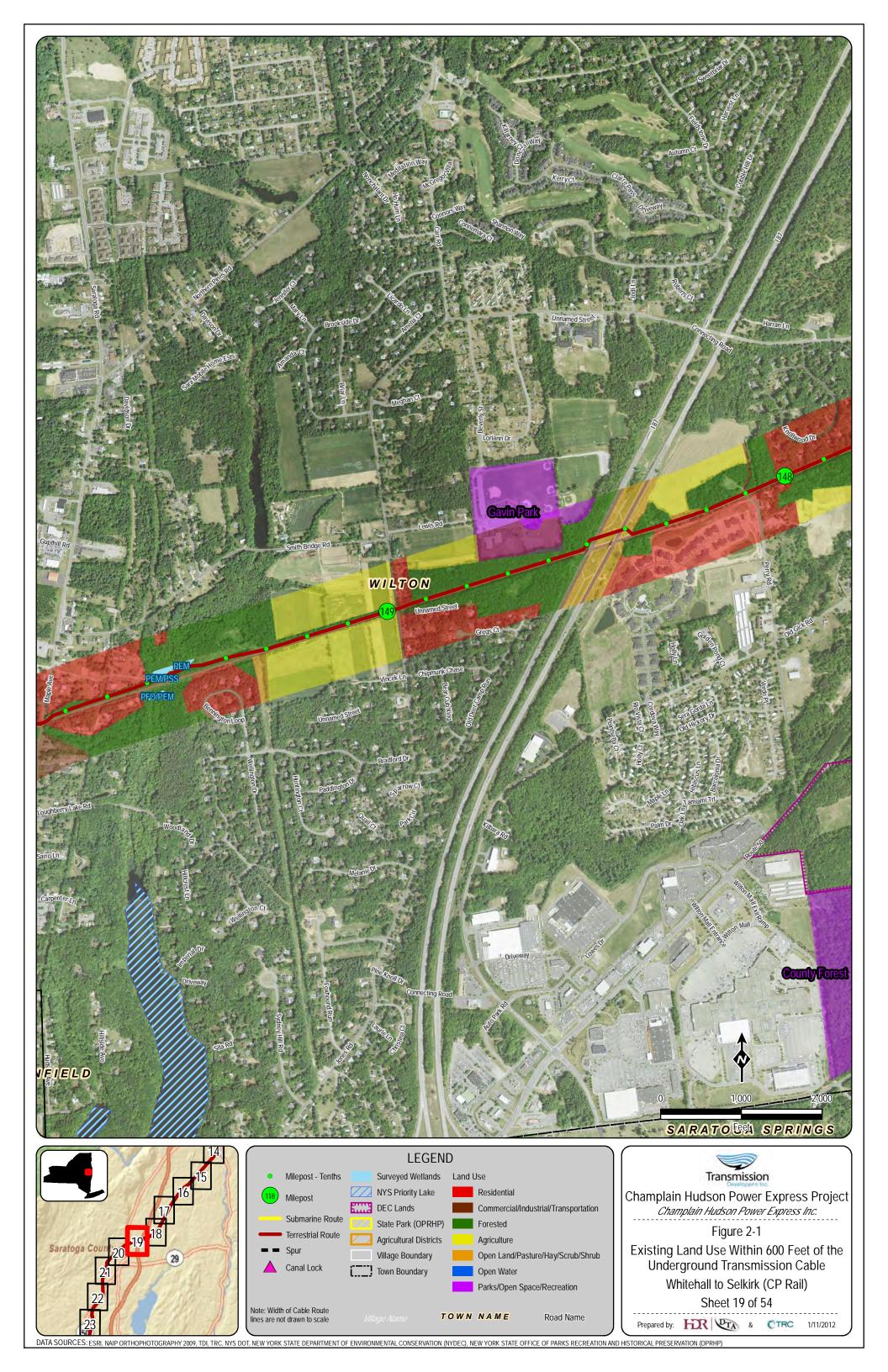


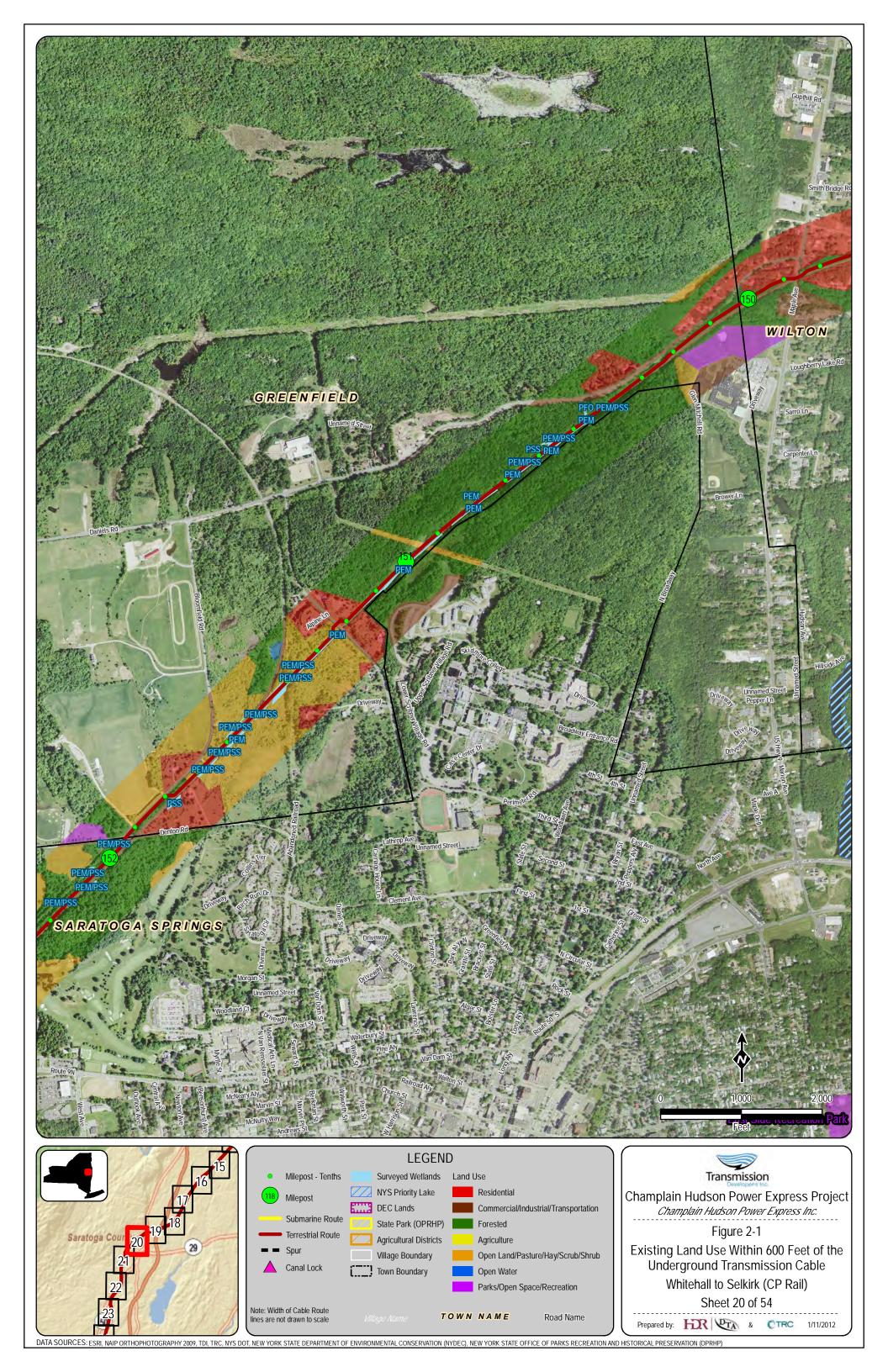


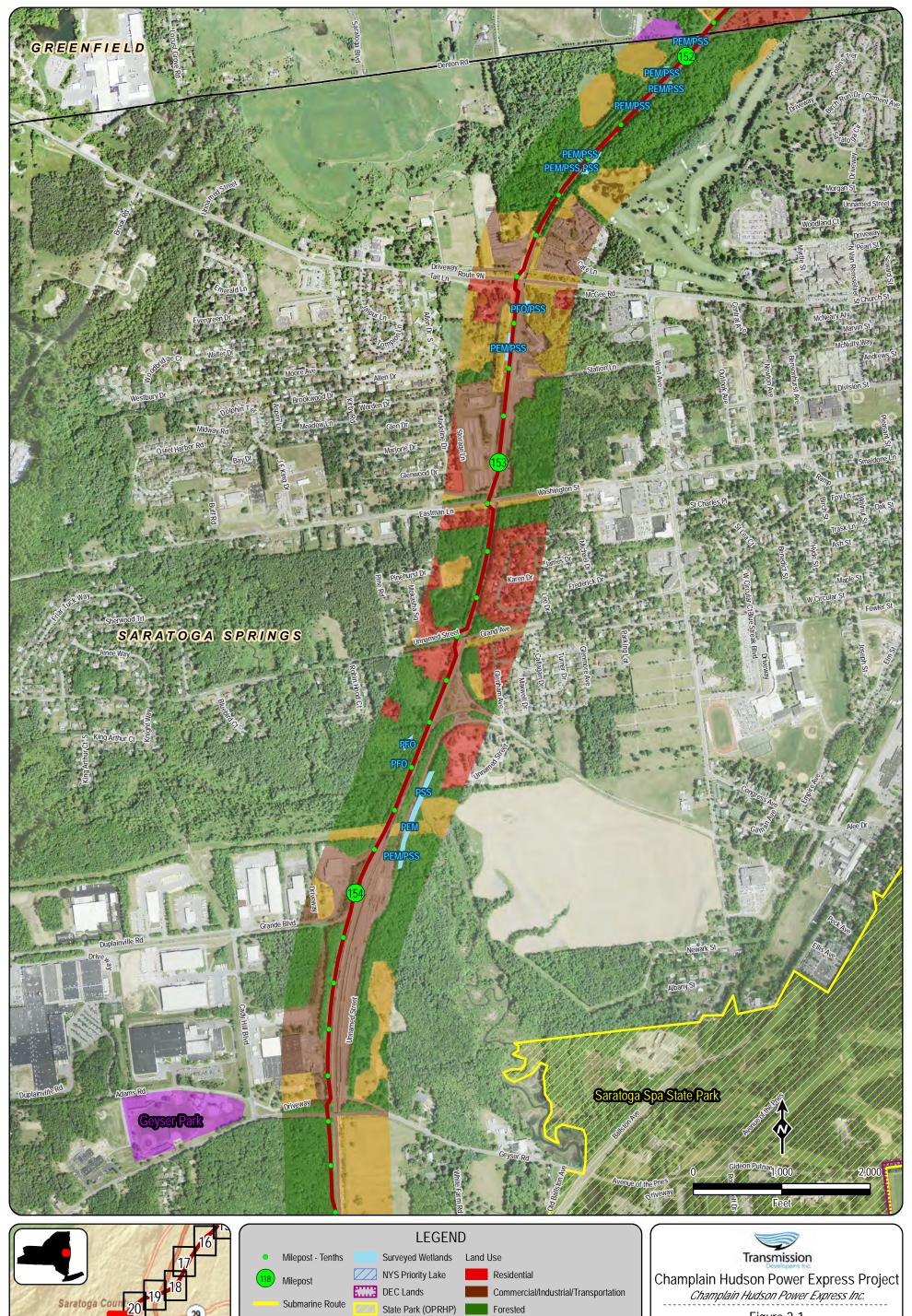












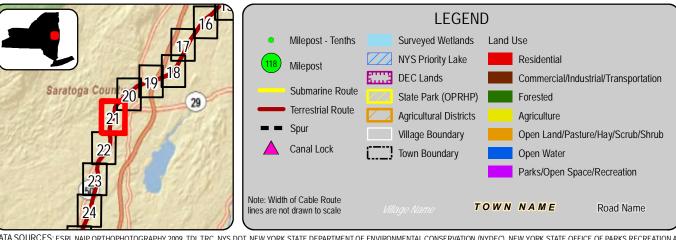


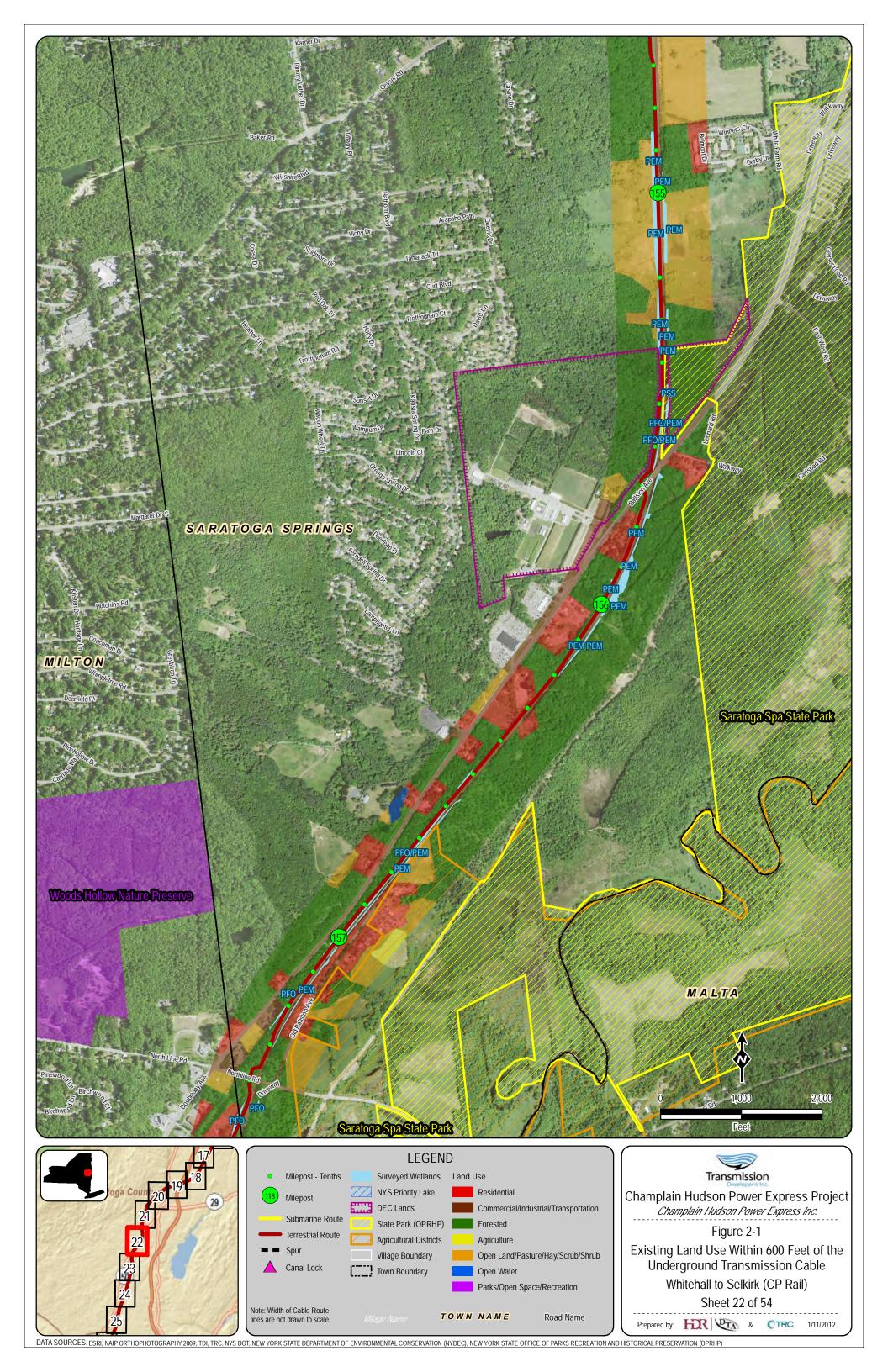
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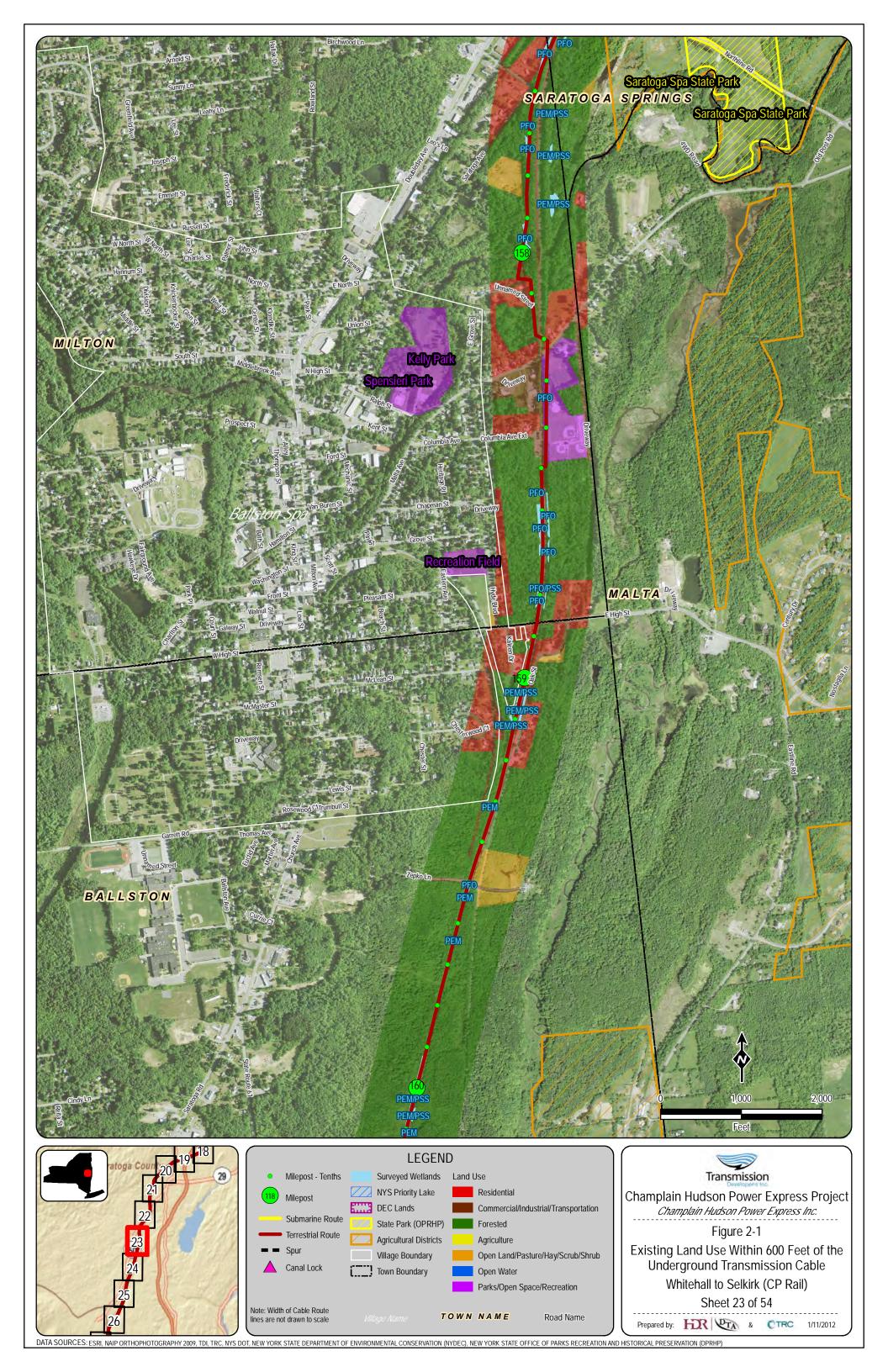
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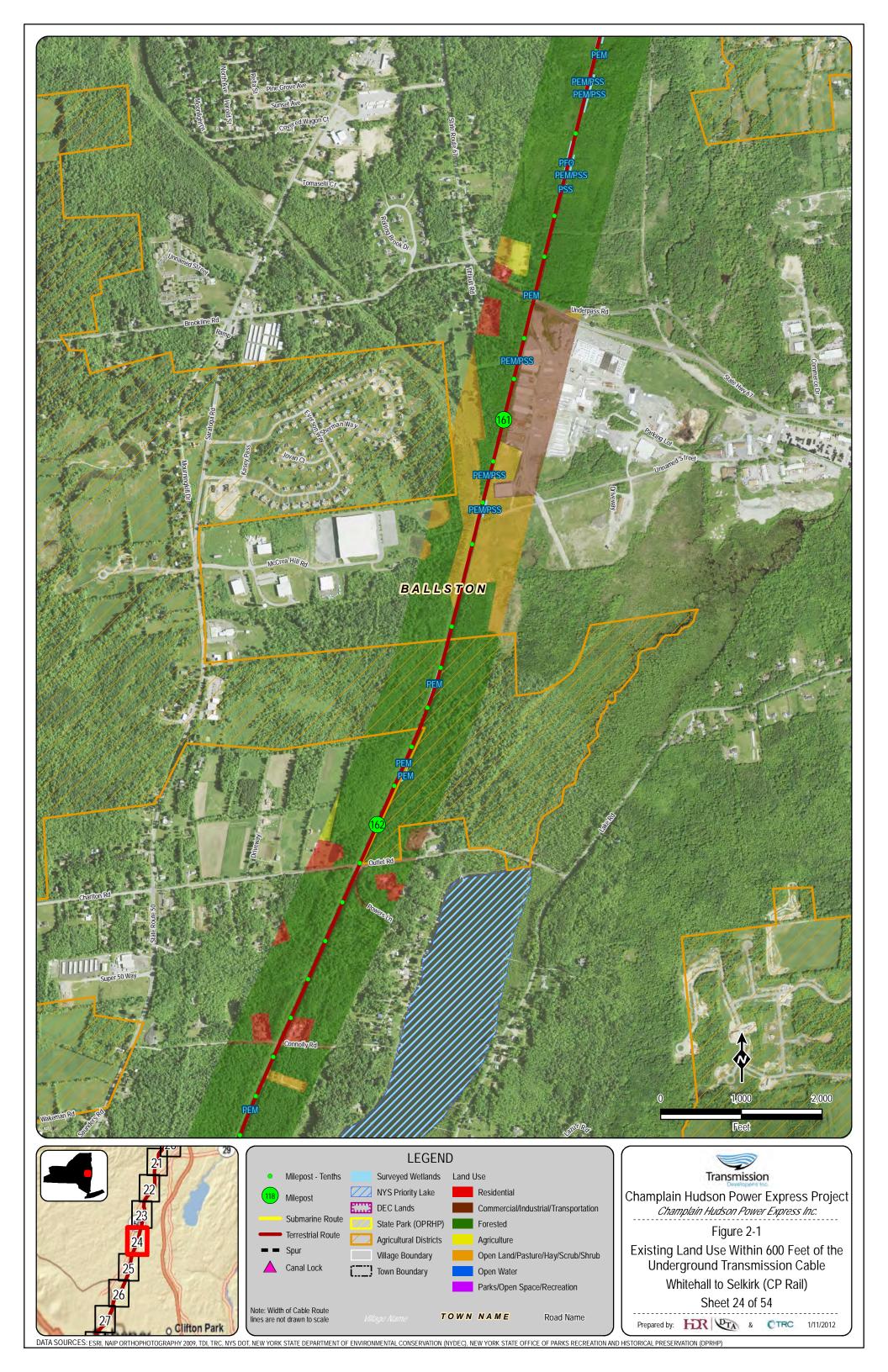
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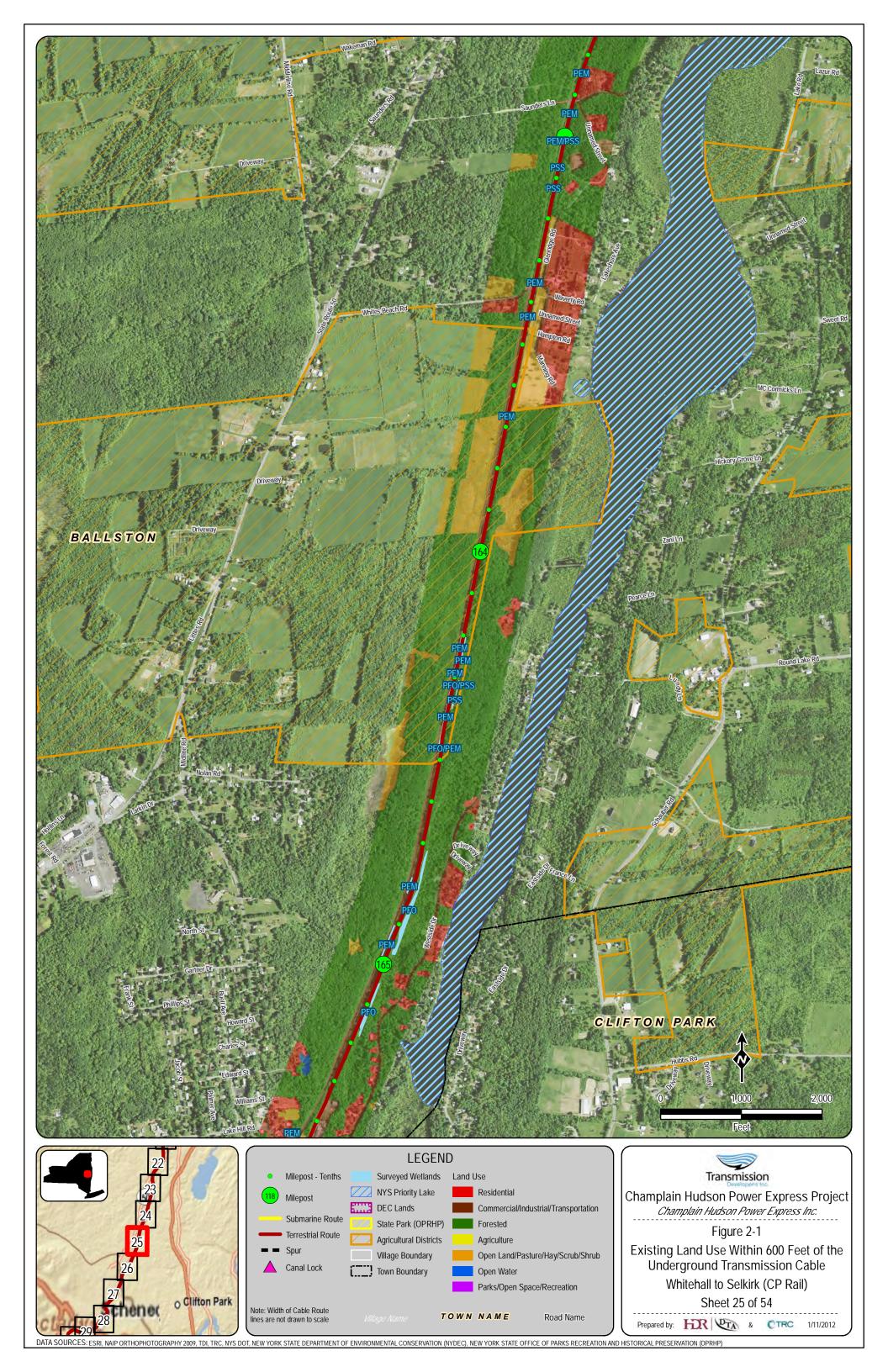
Prepared by: HR VTA & CTRC 1/11/2012

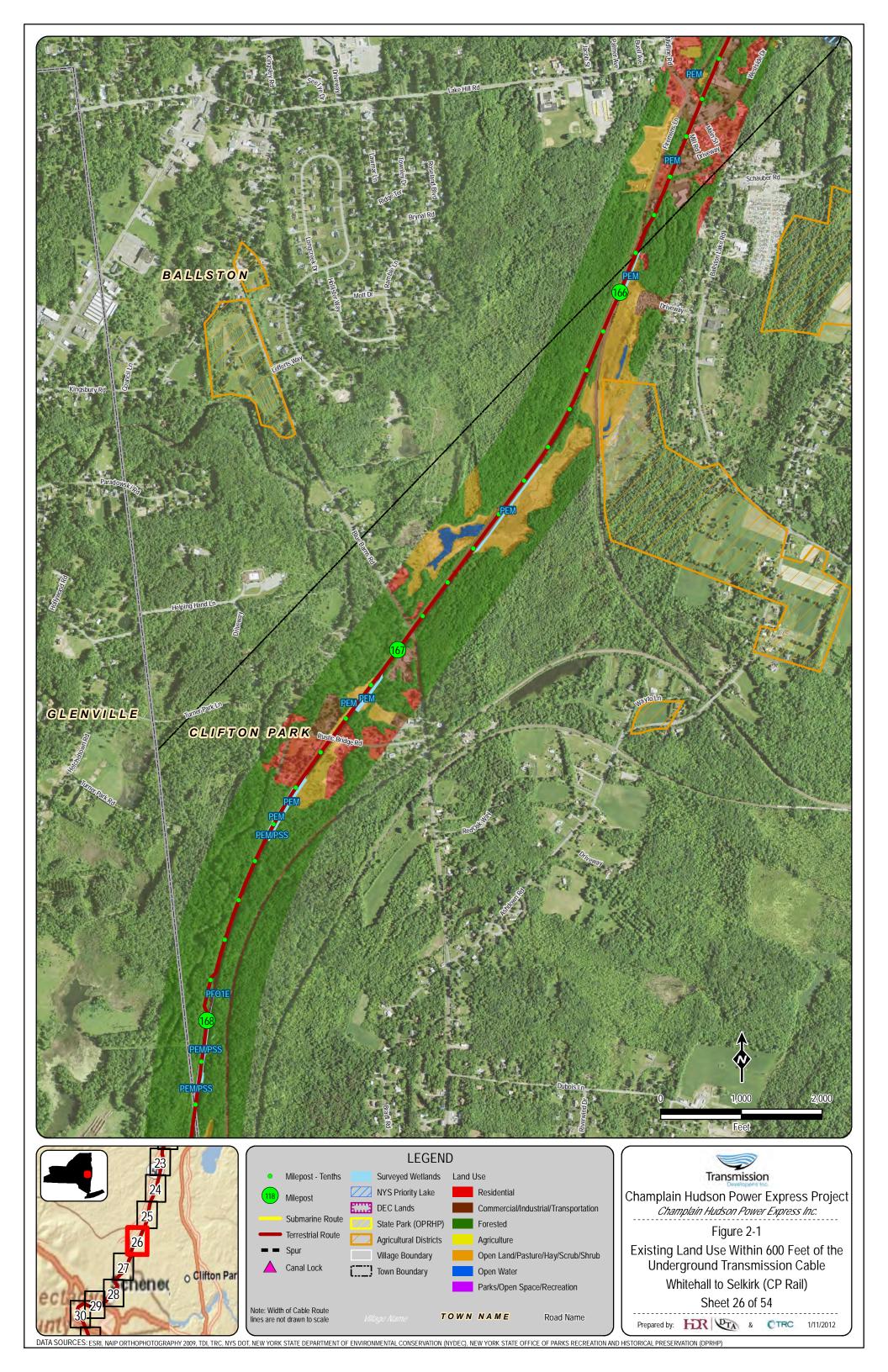
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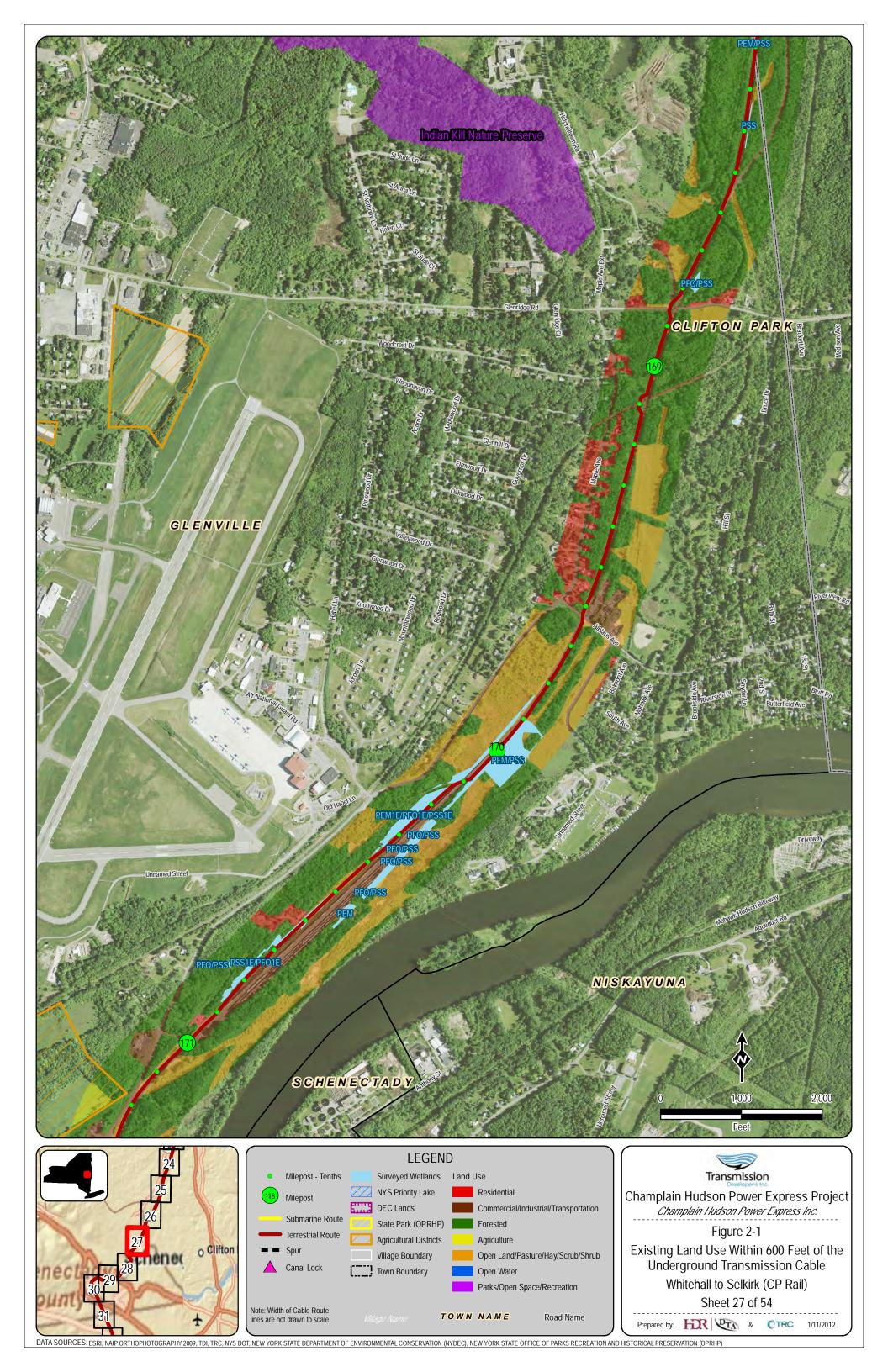


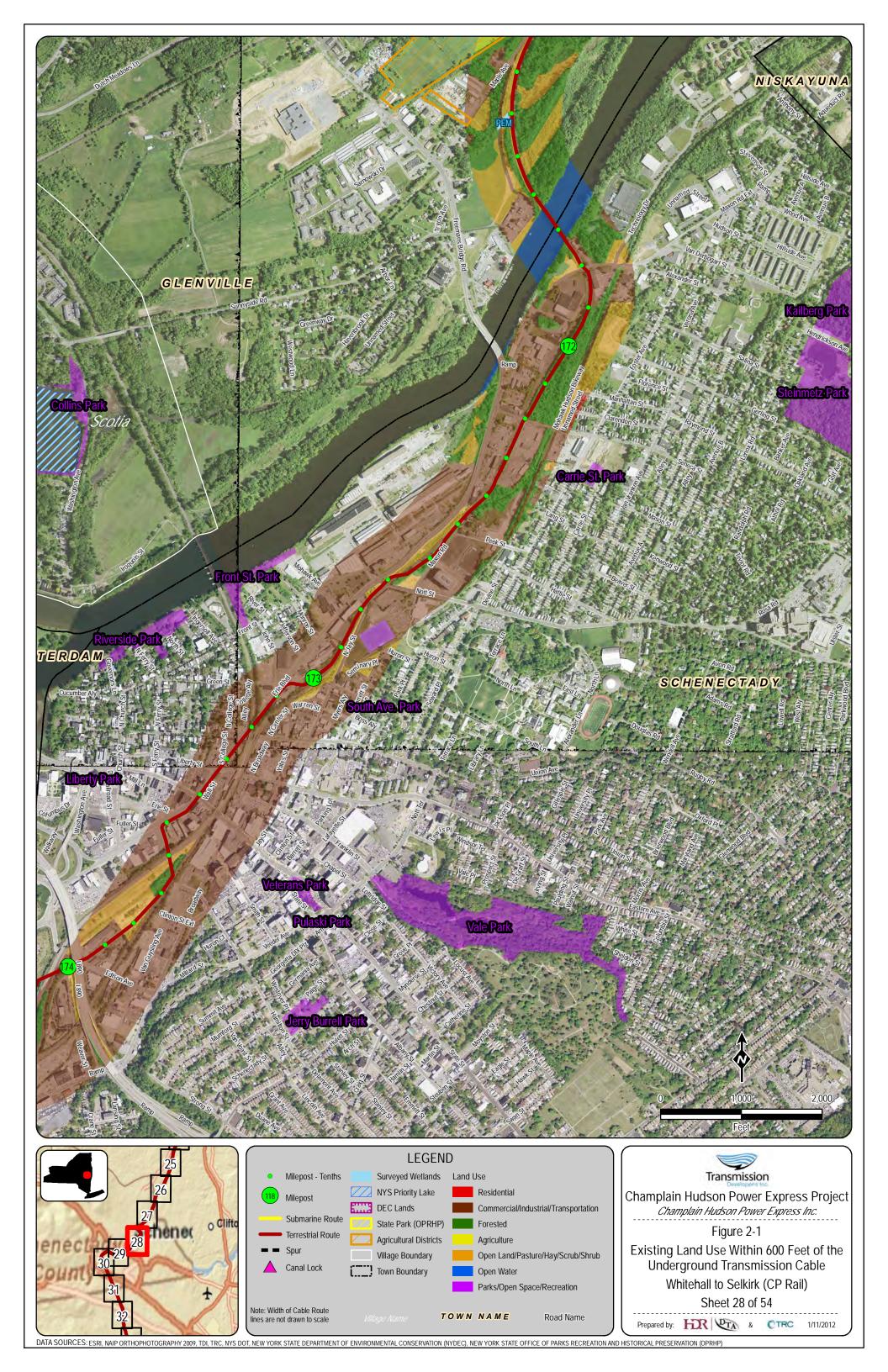


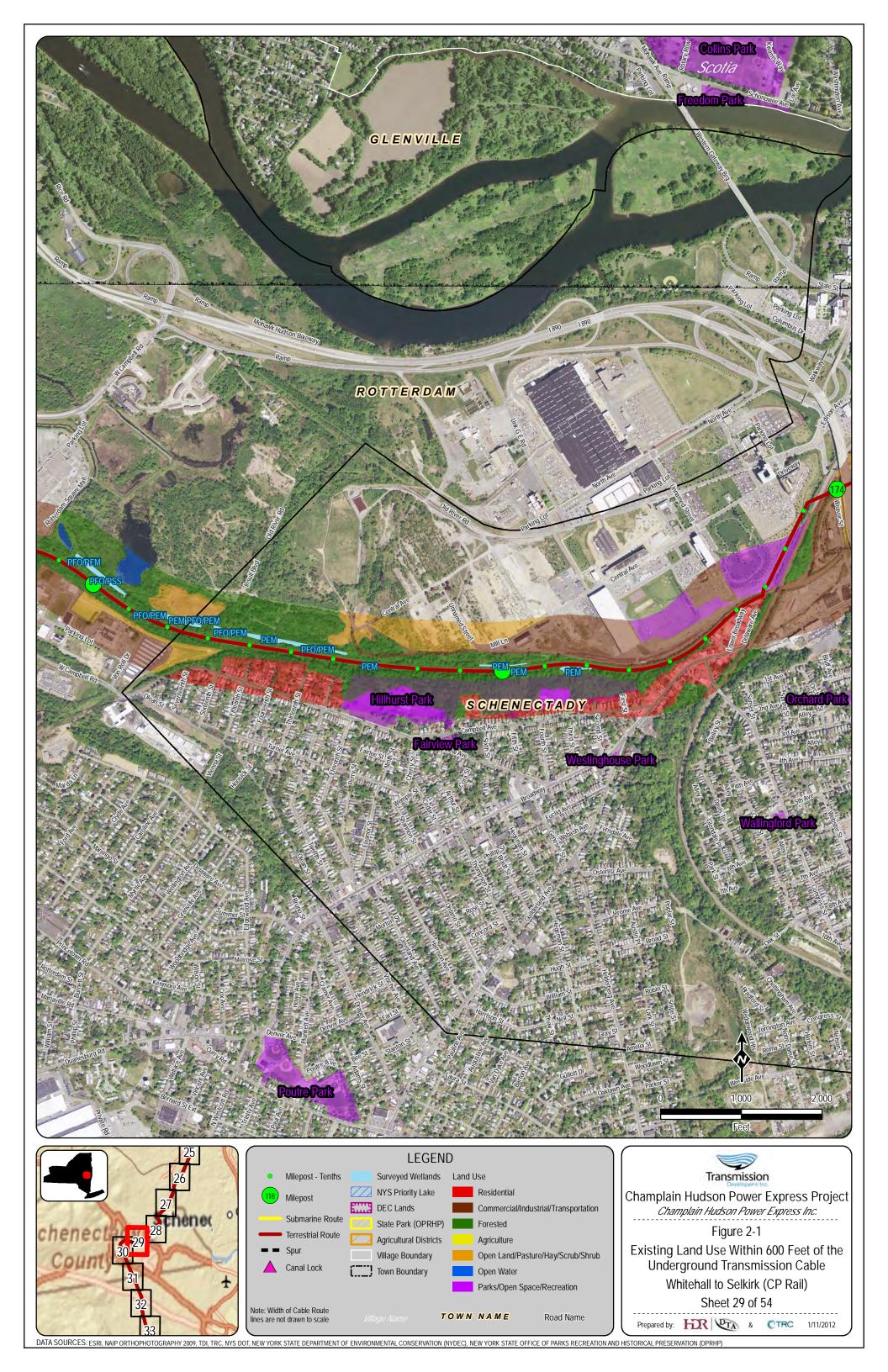


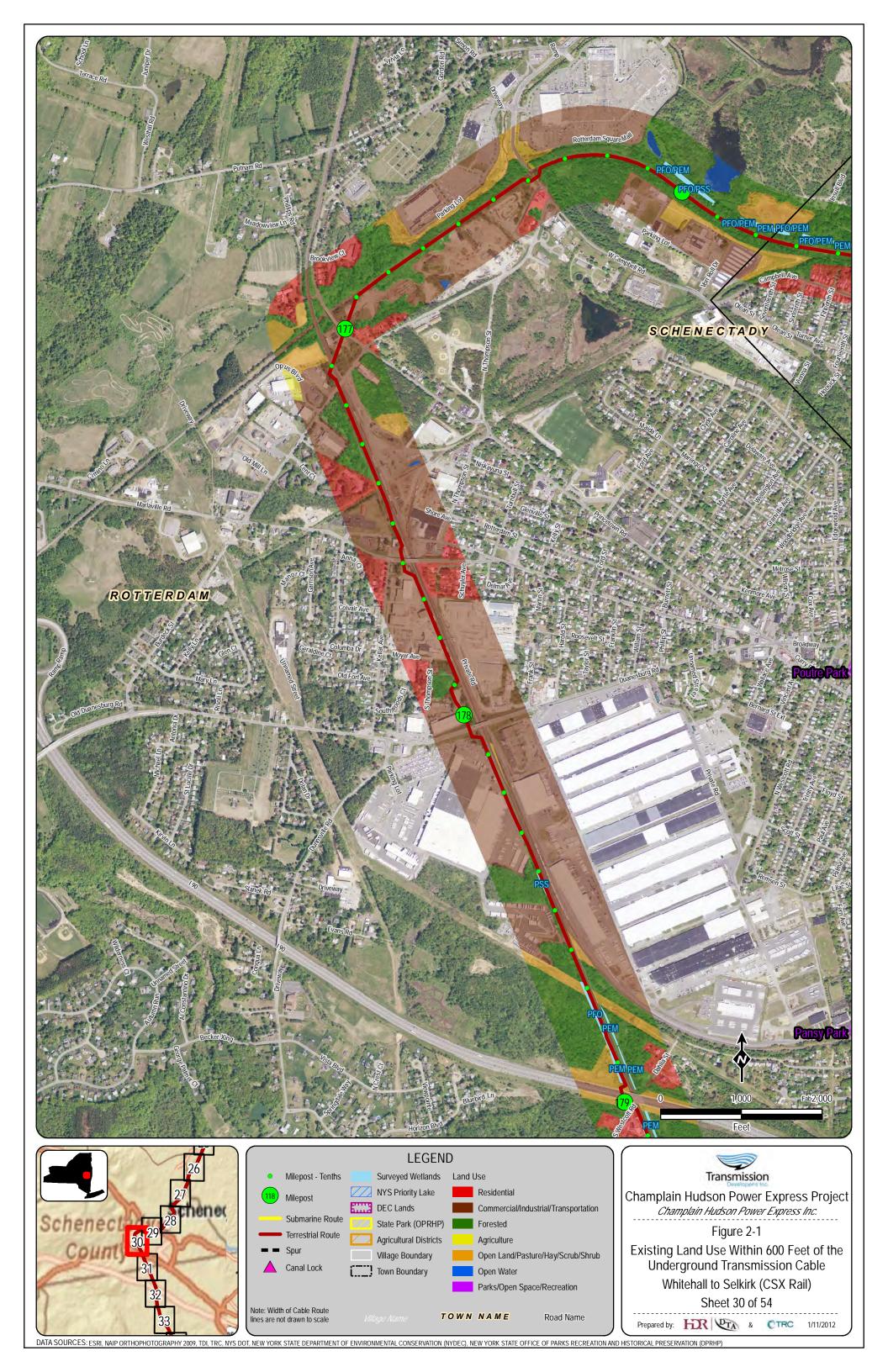


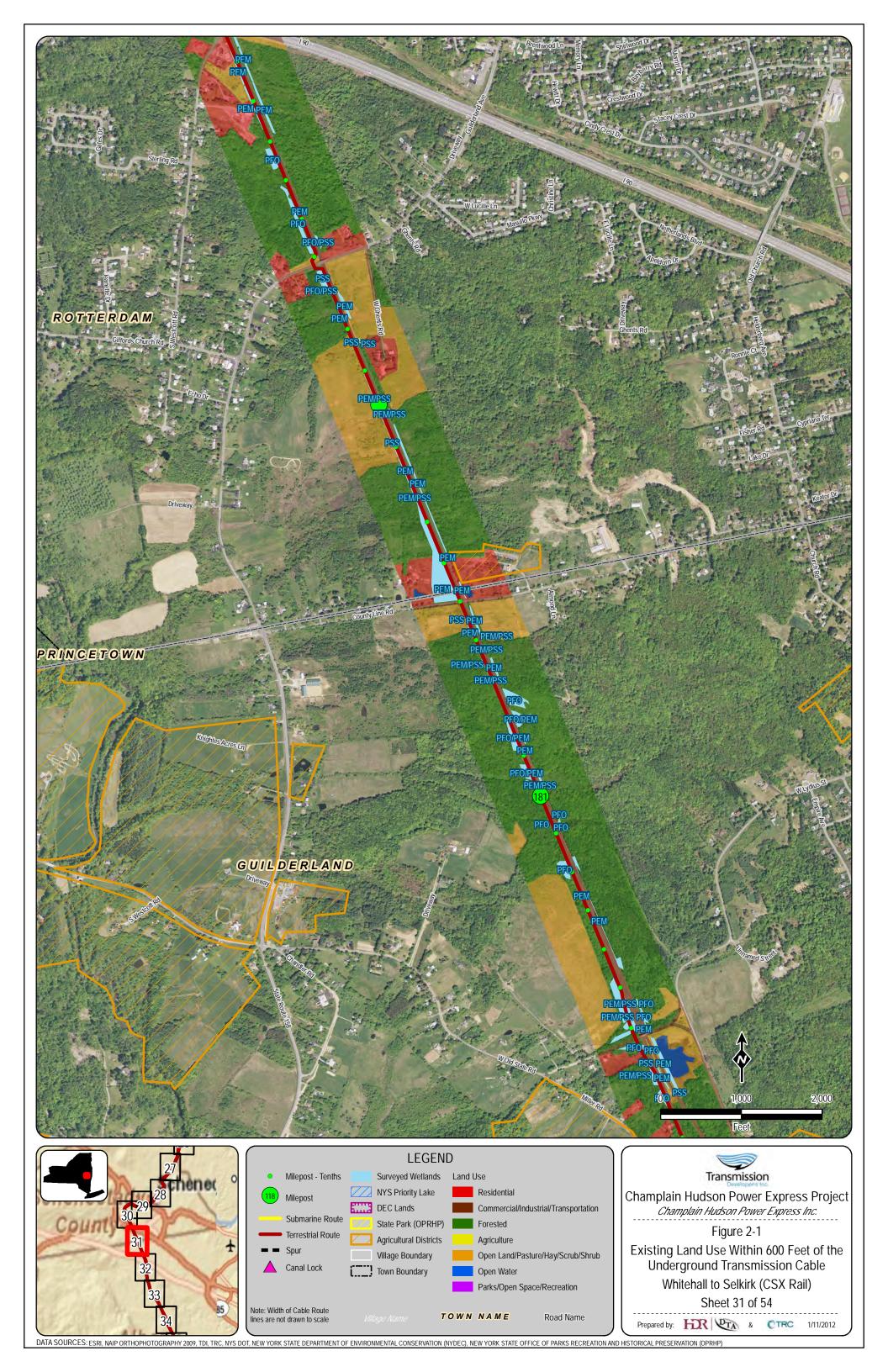


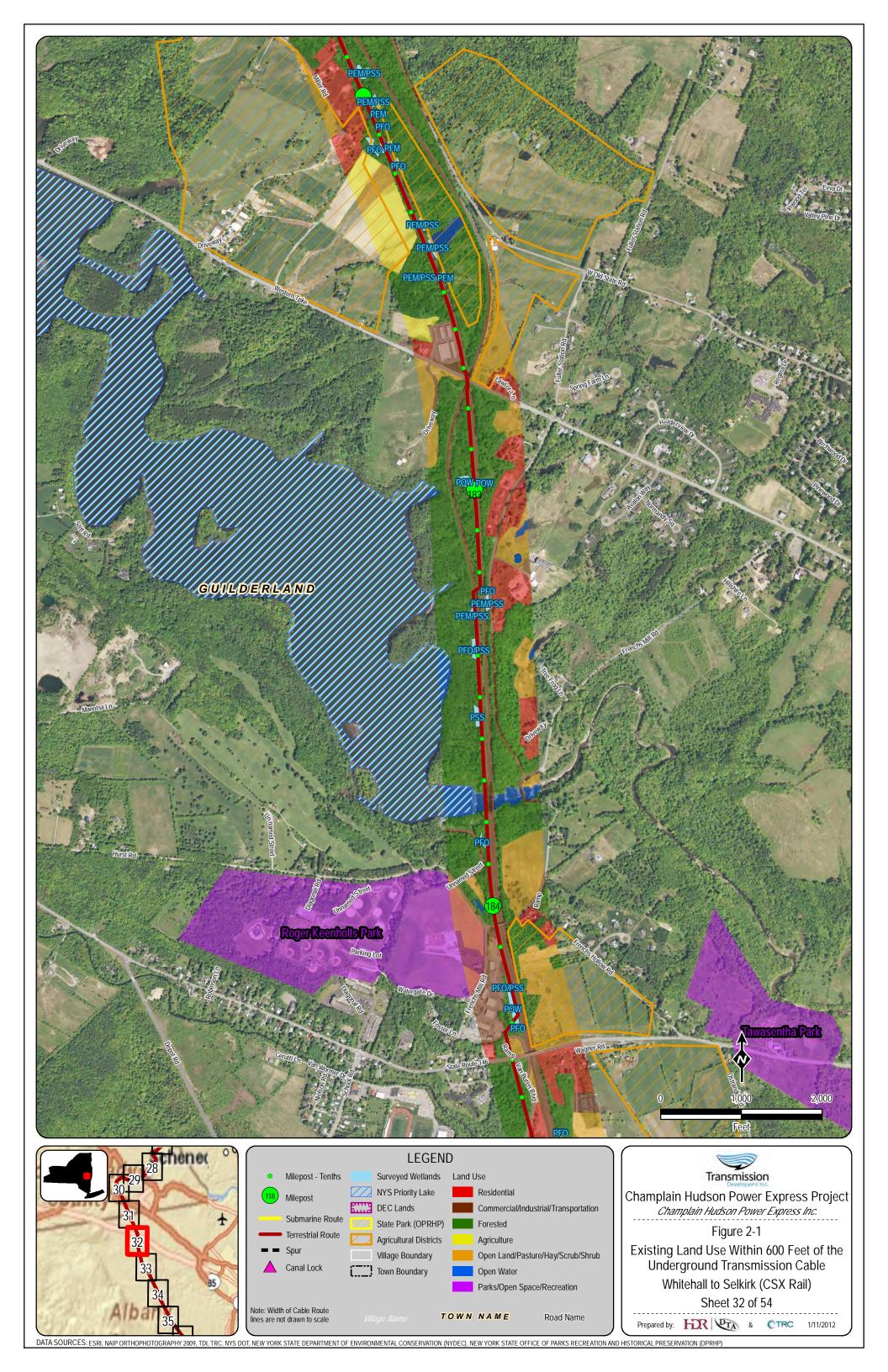


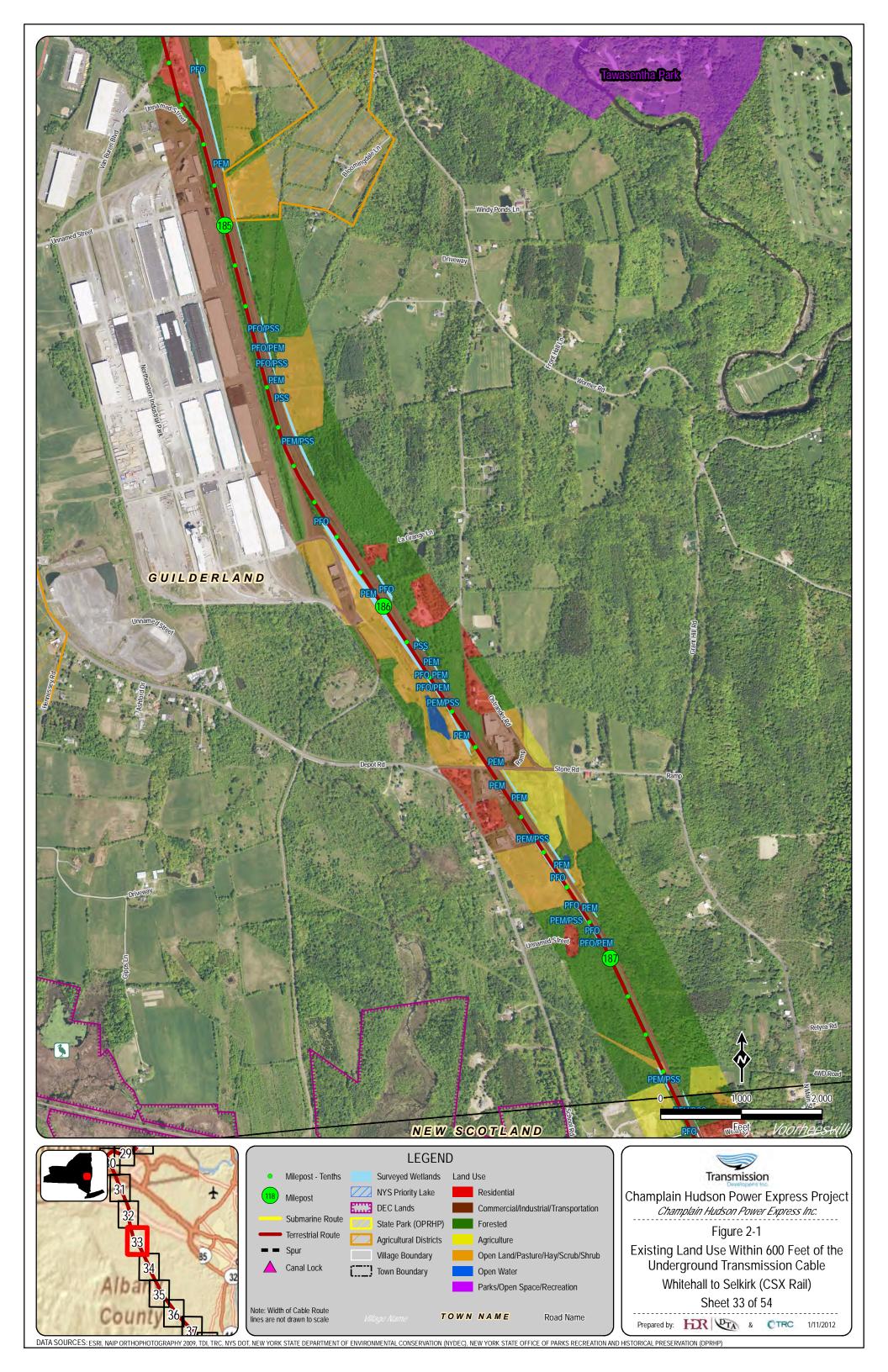


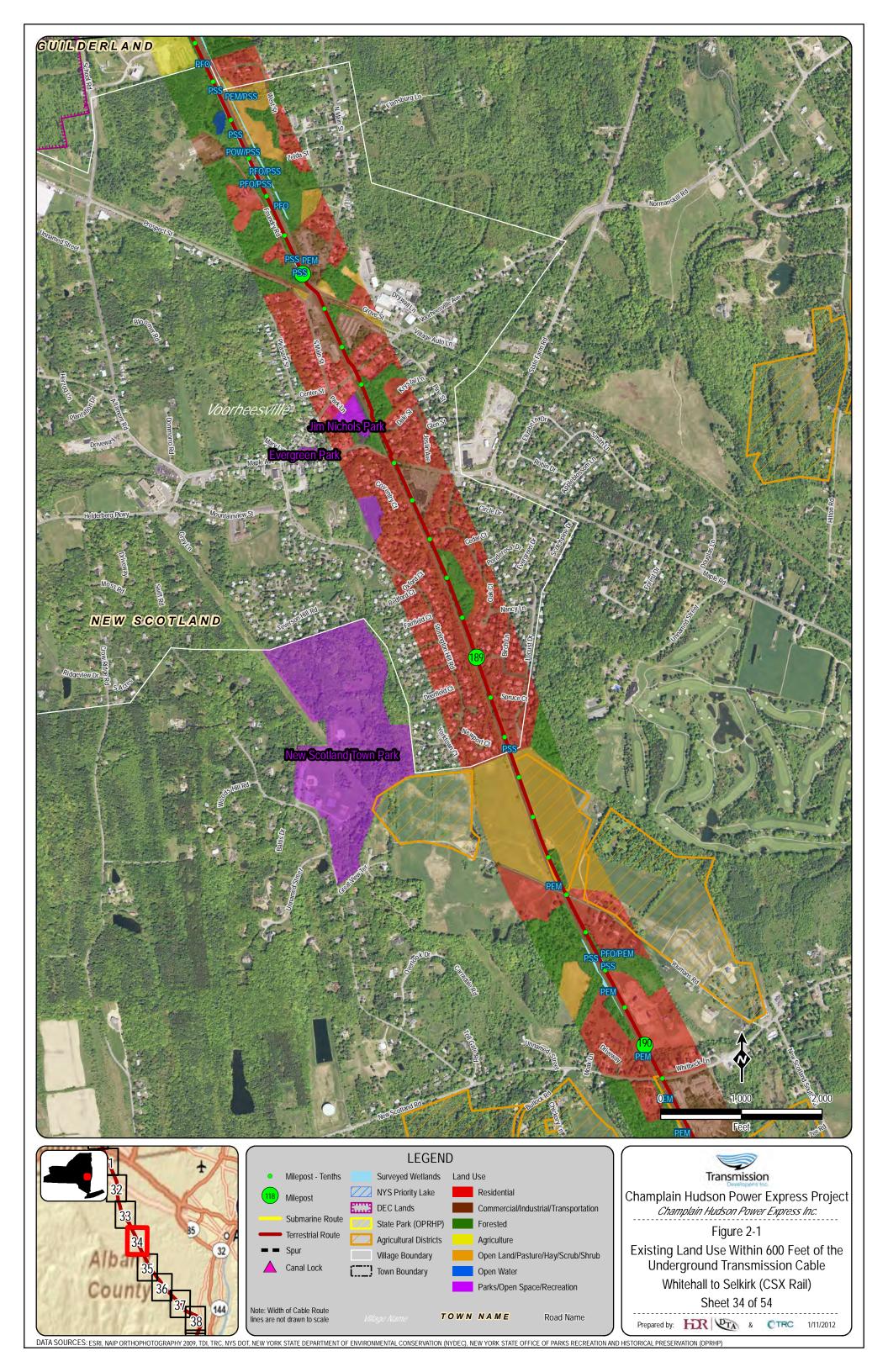


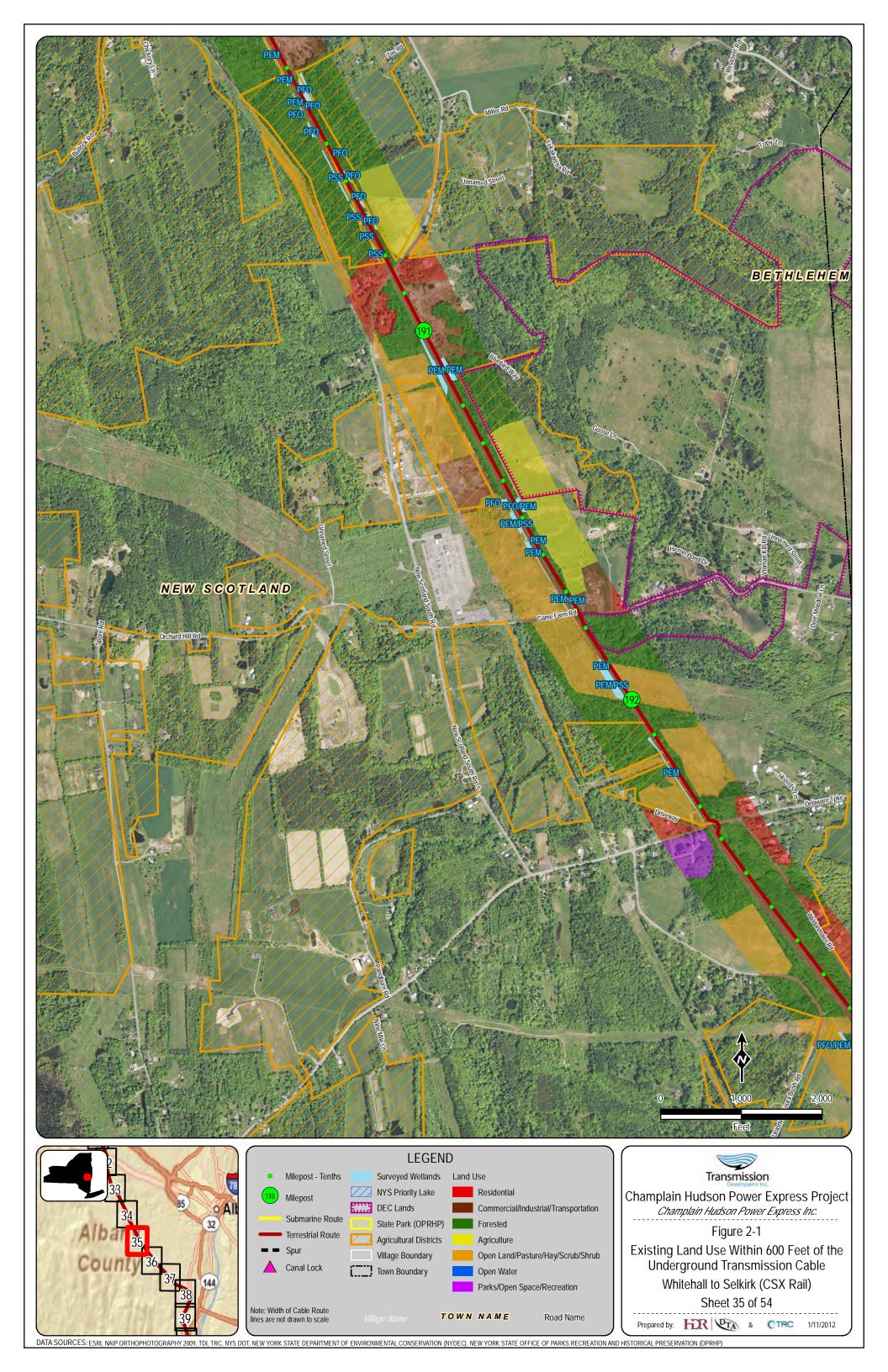


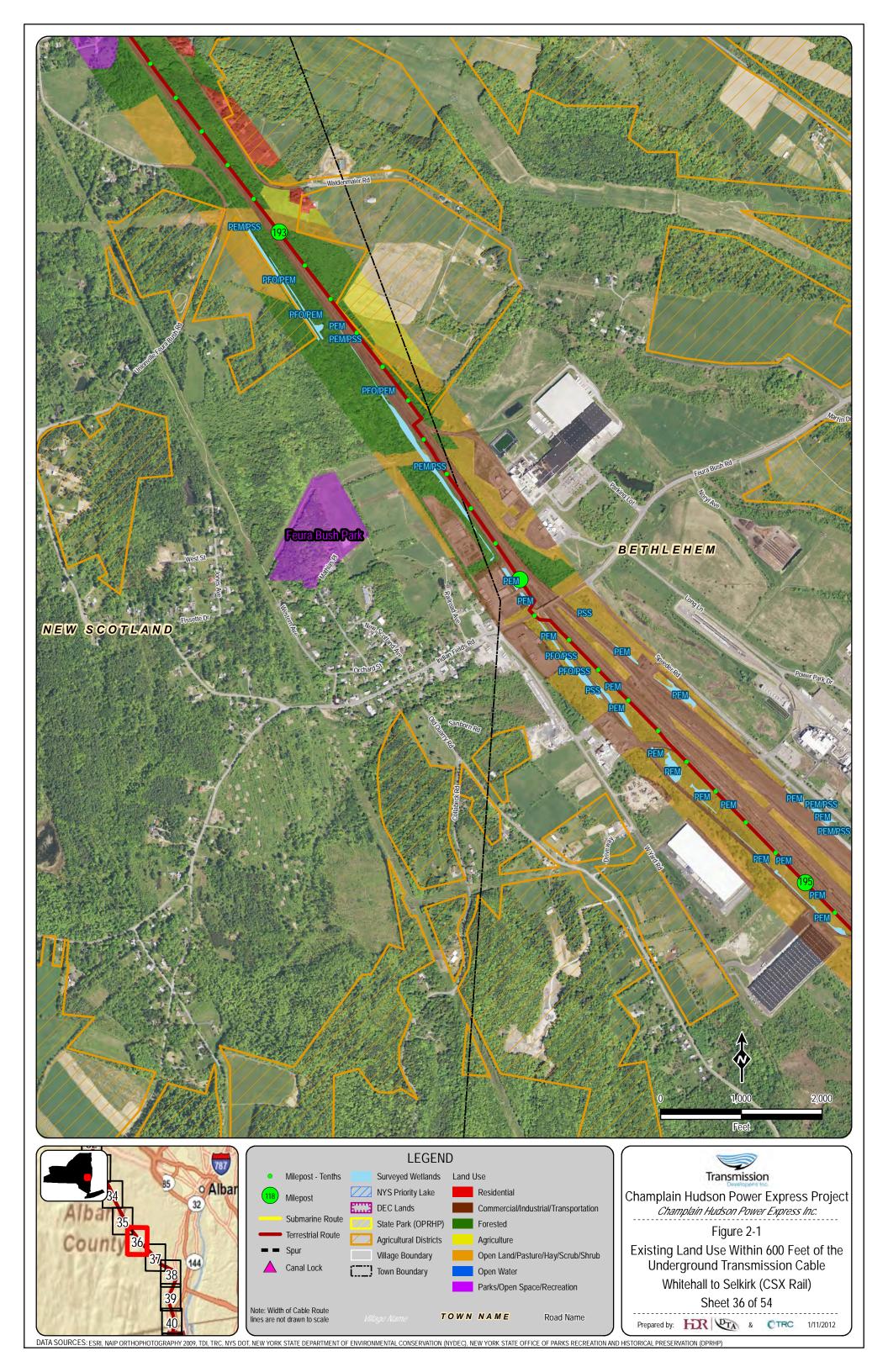


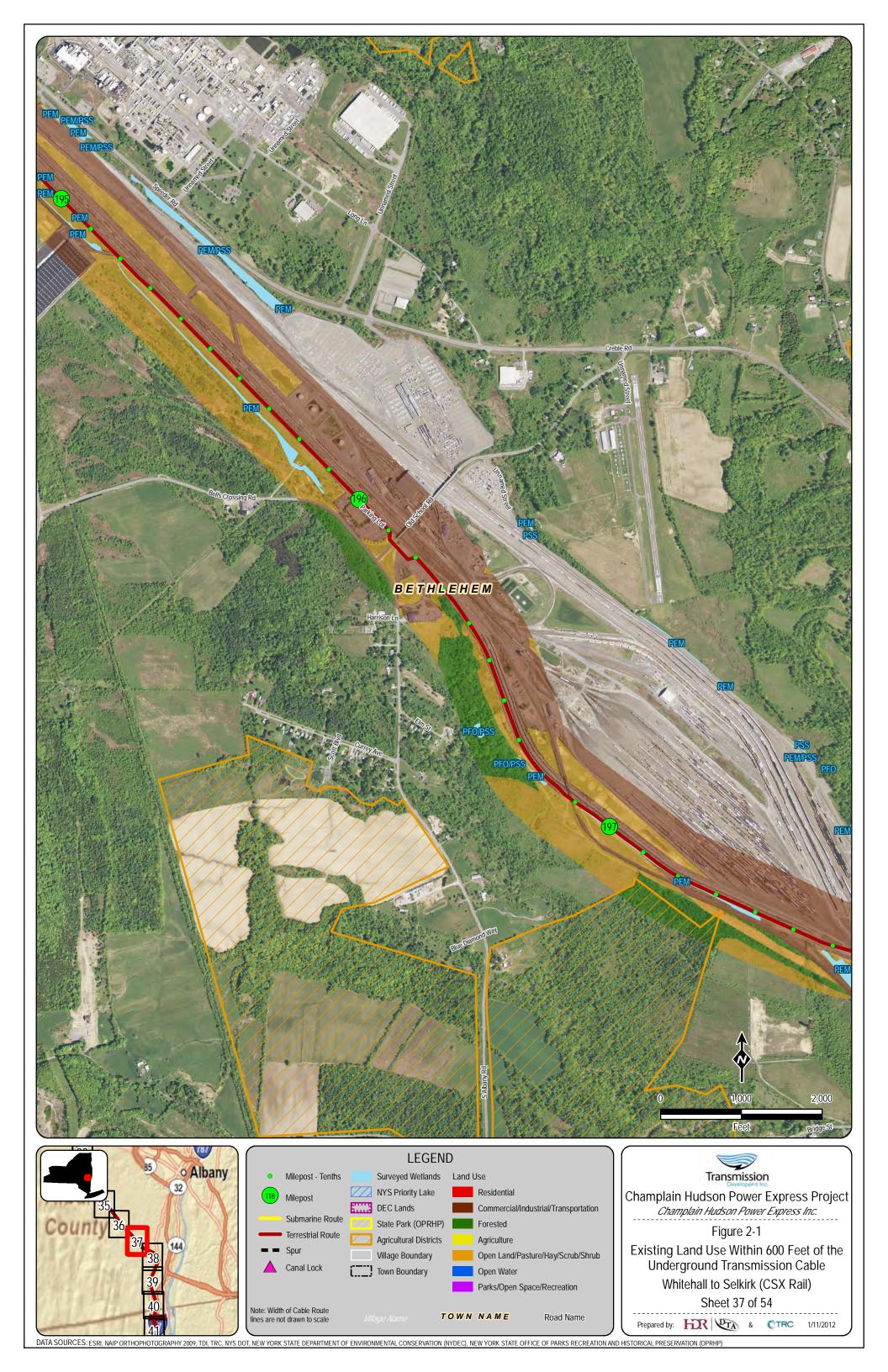


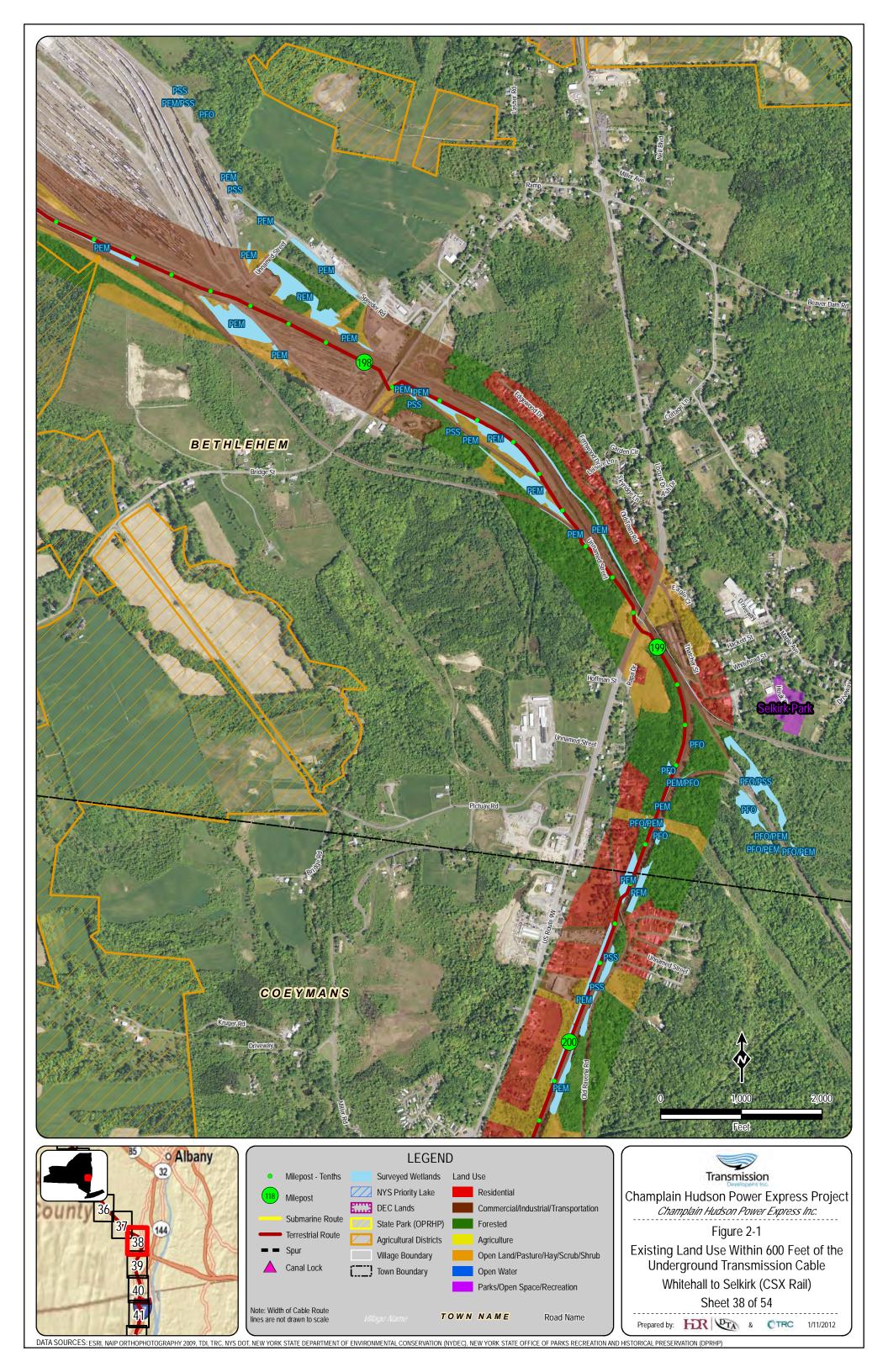


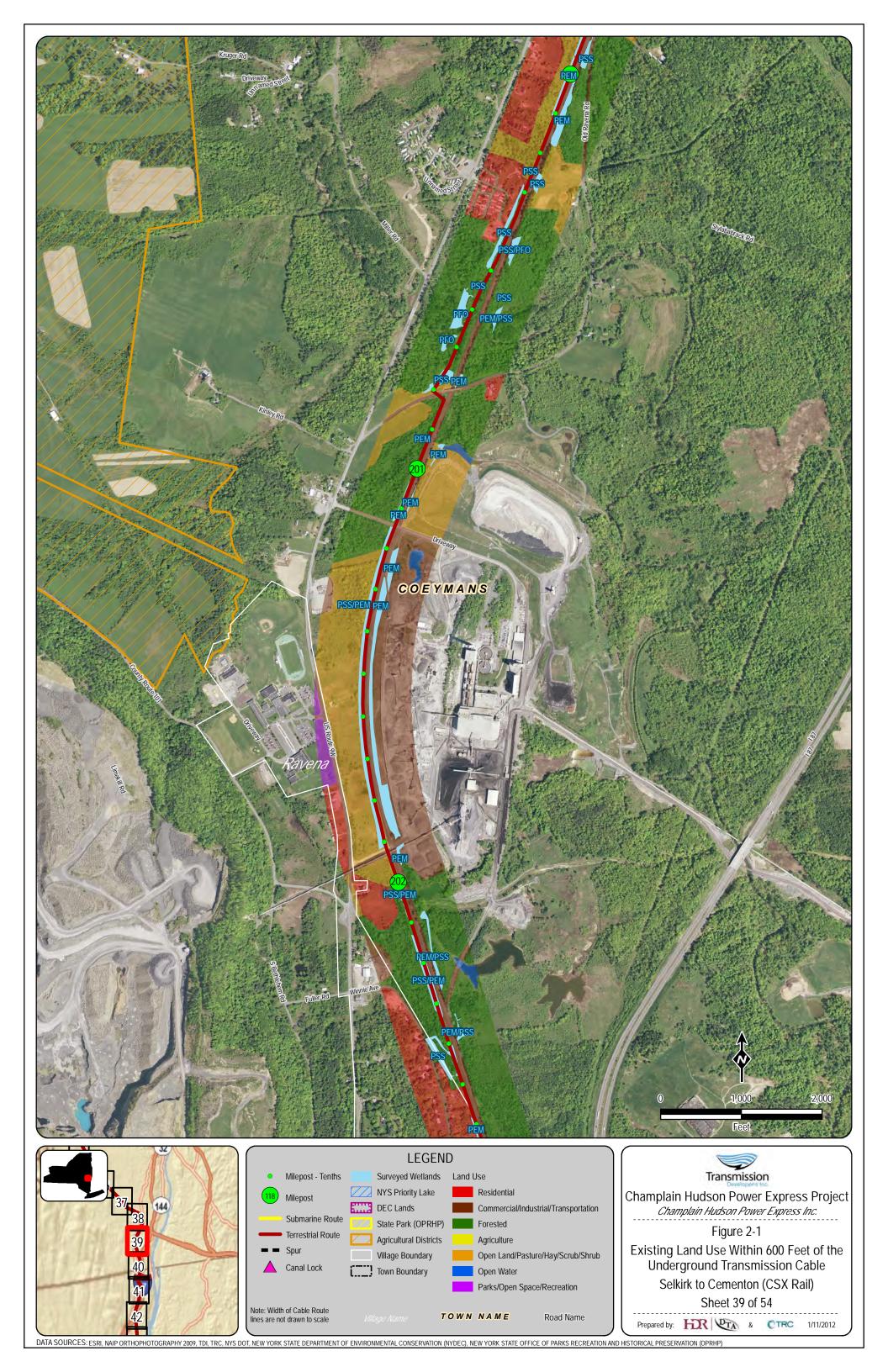


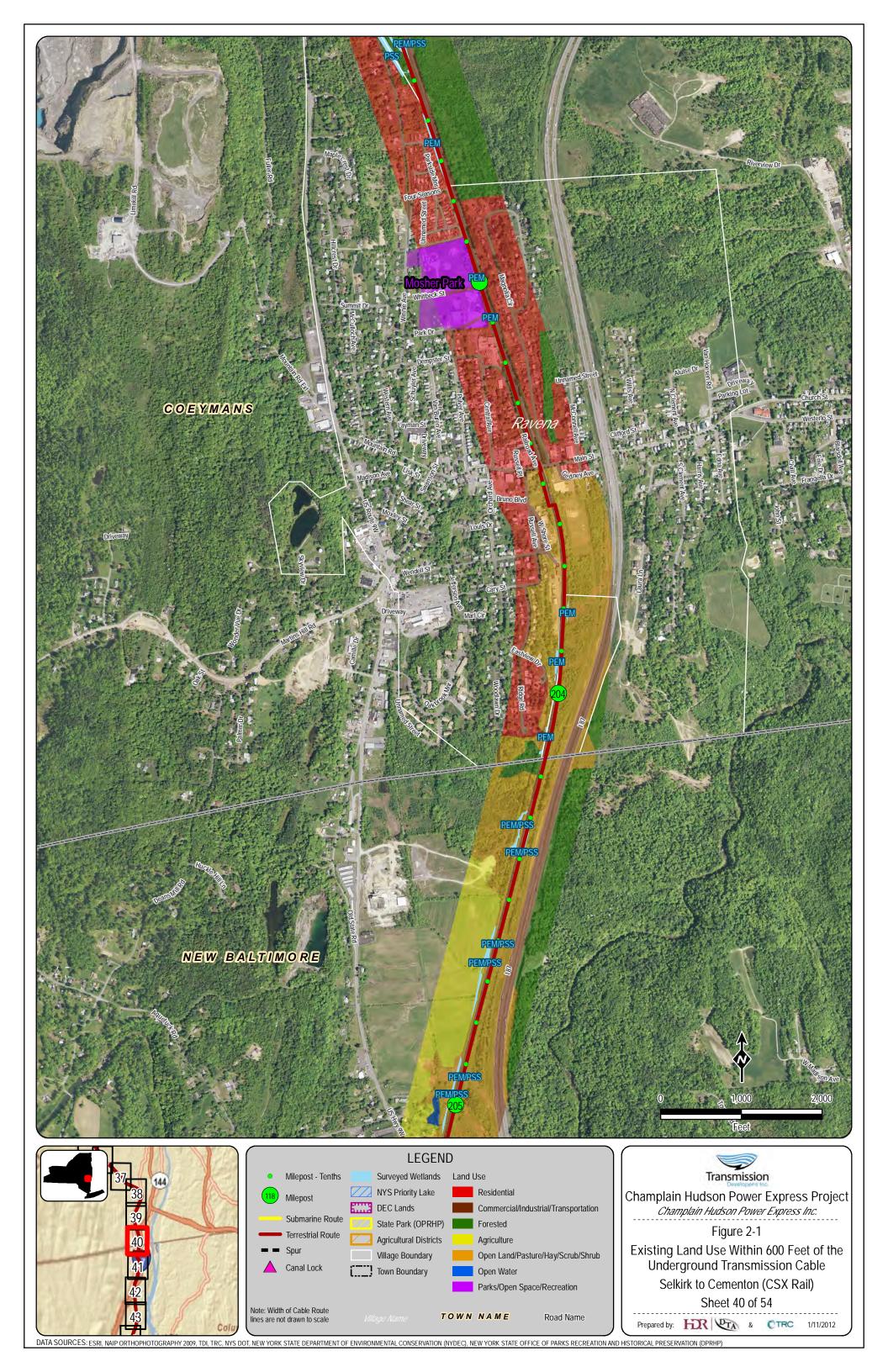


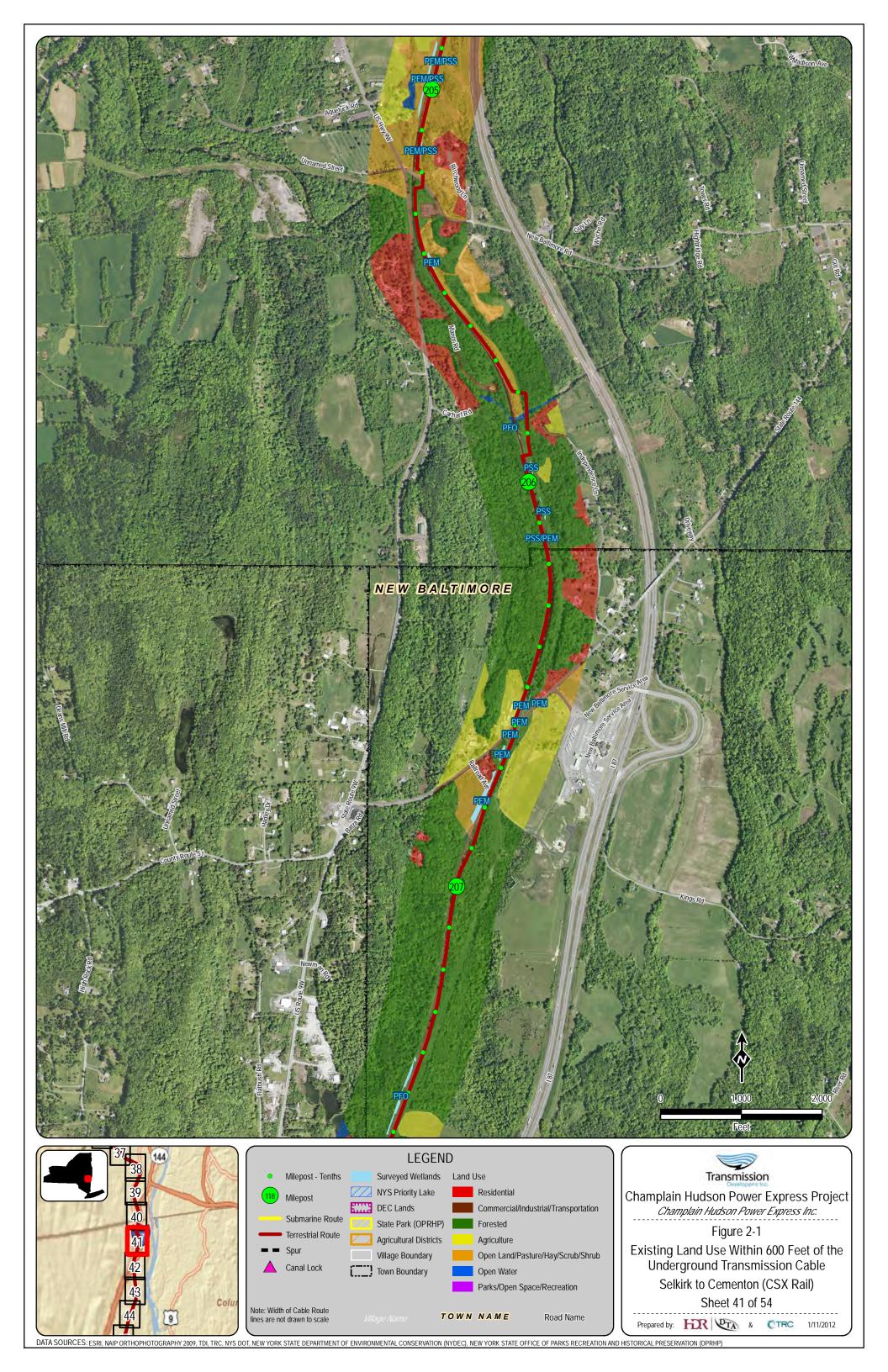


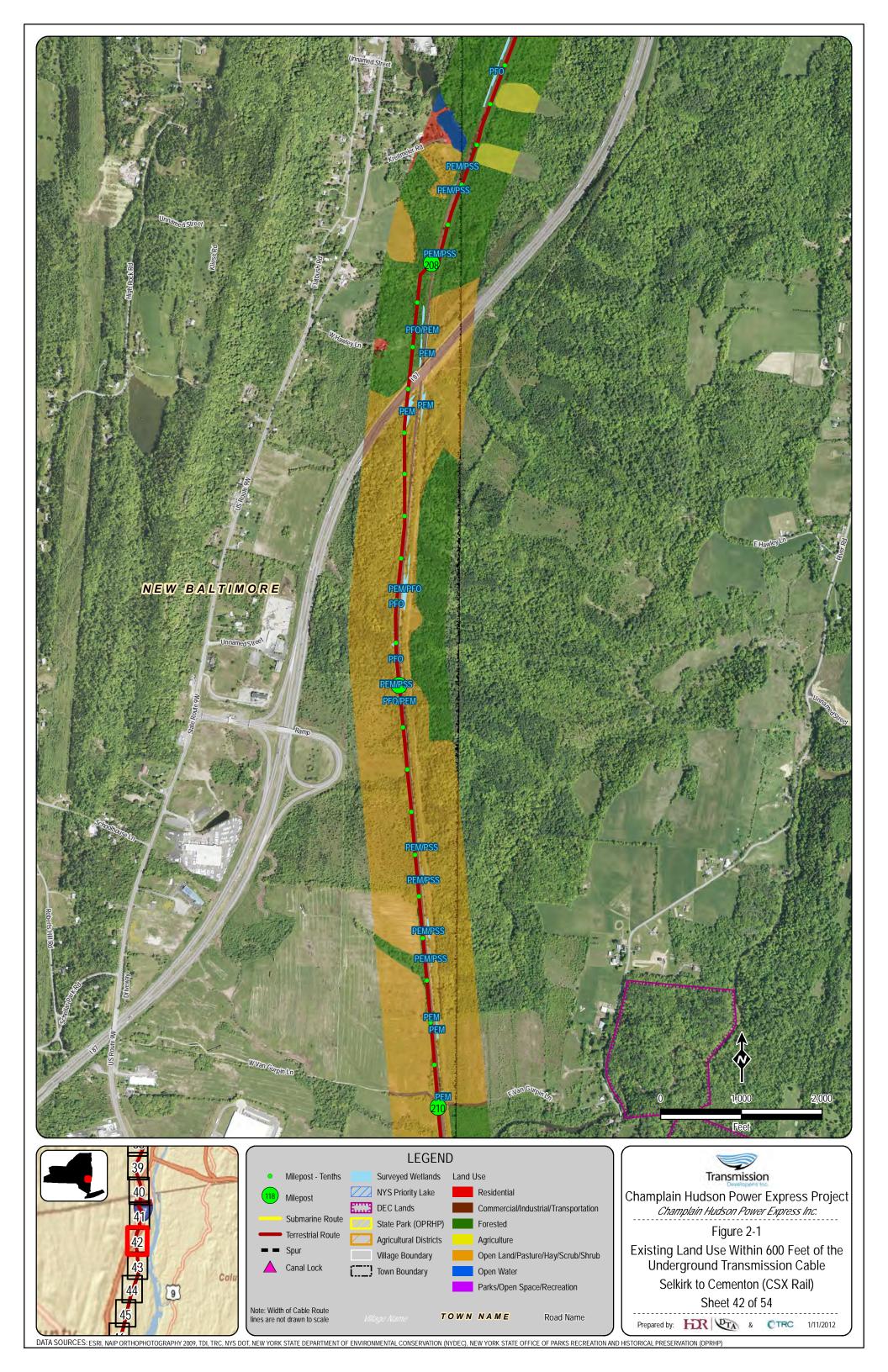


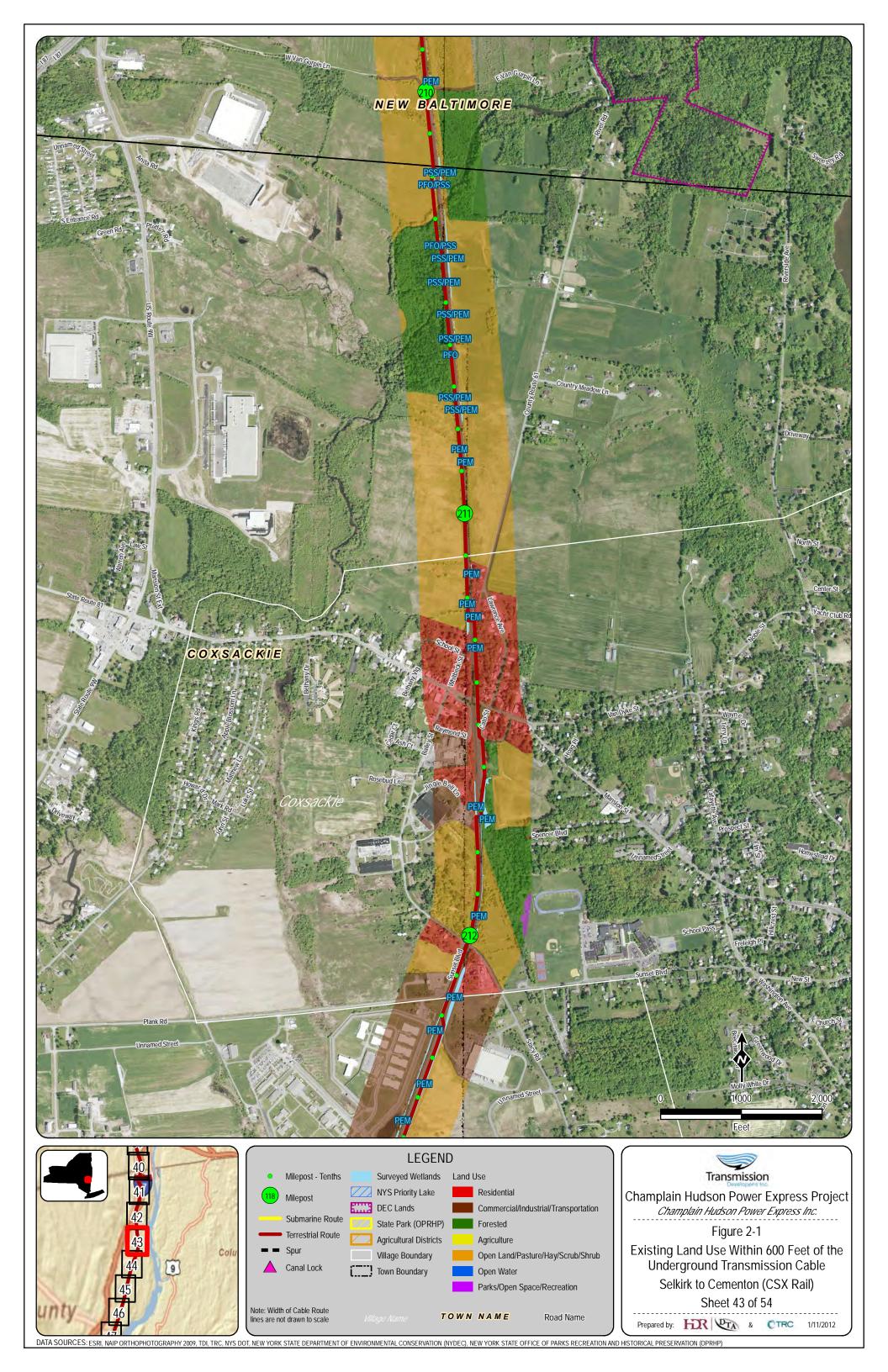




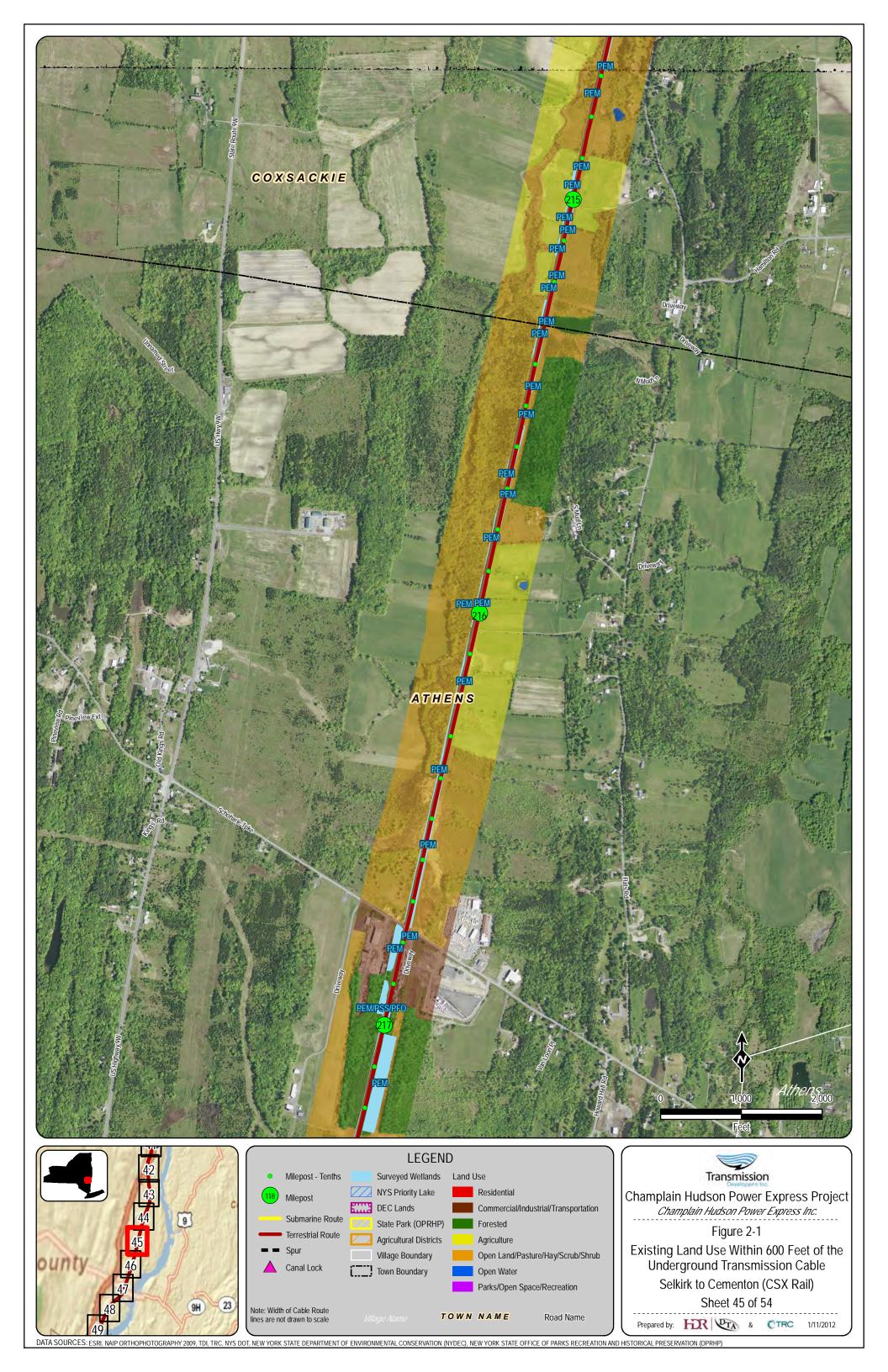


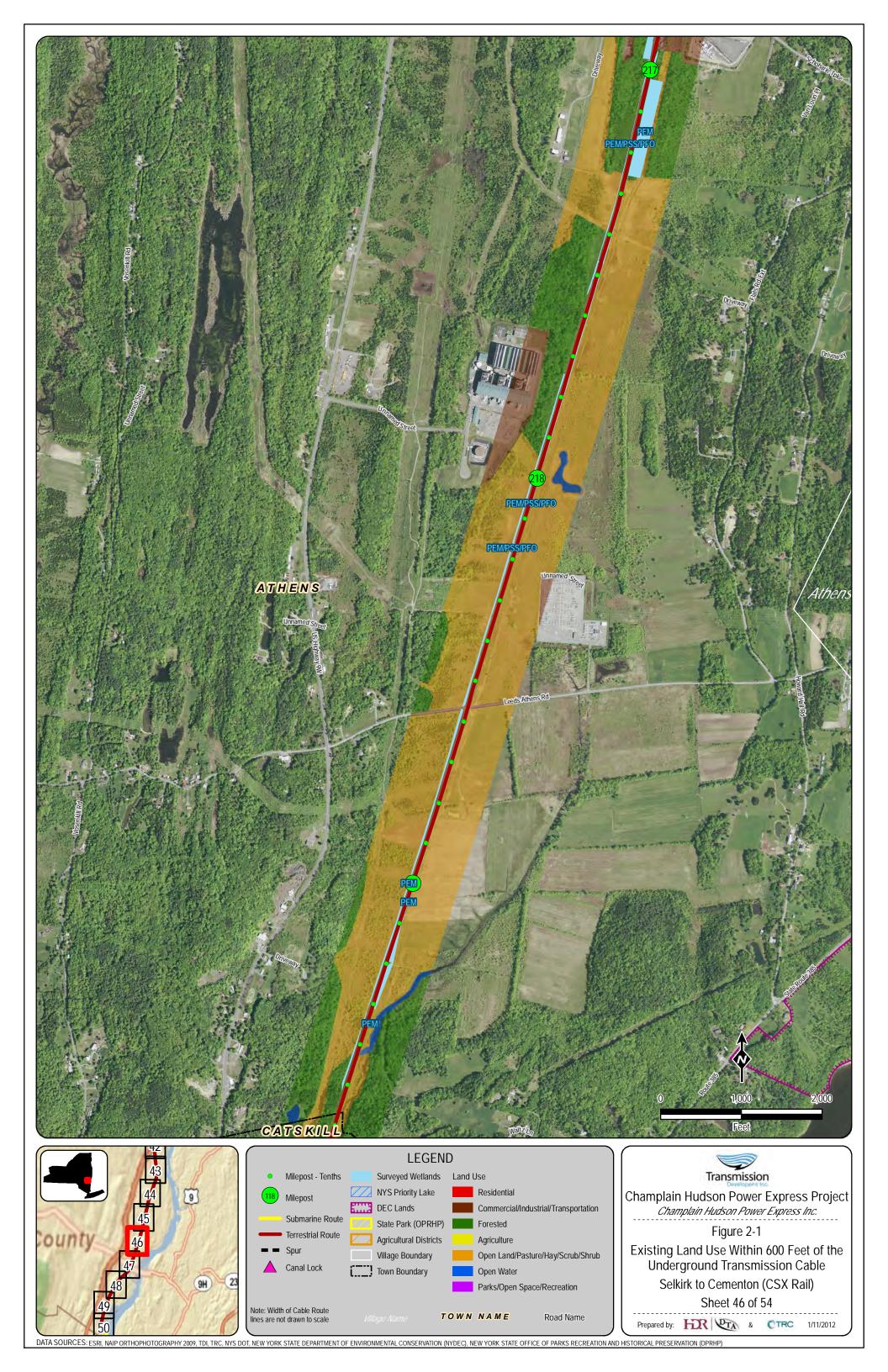


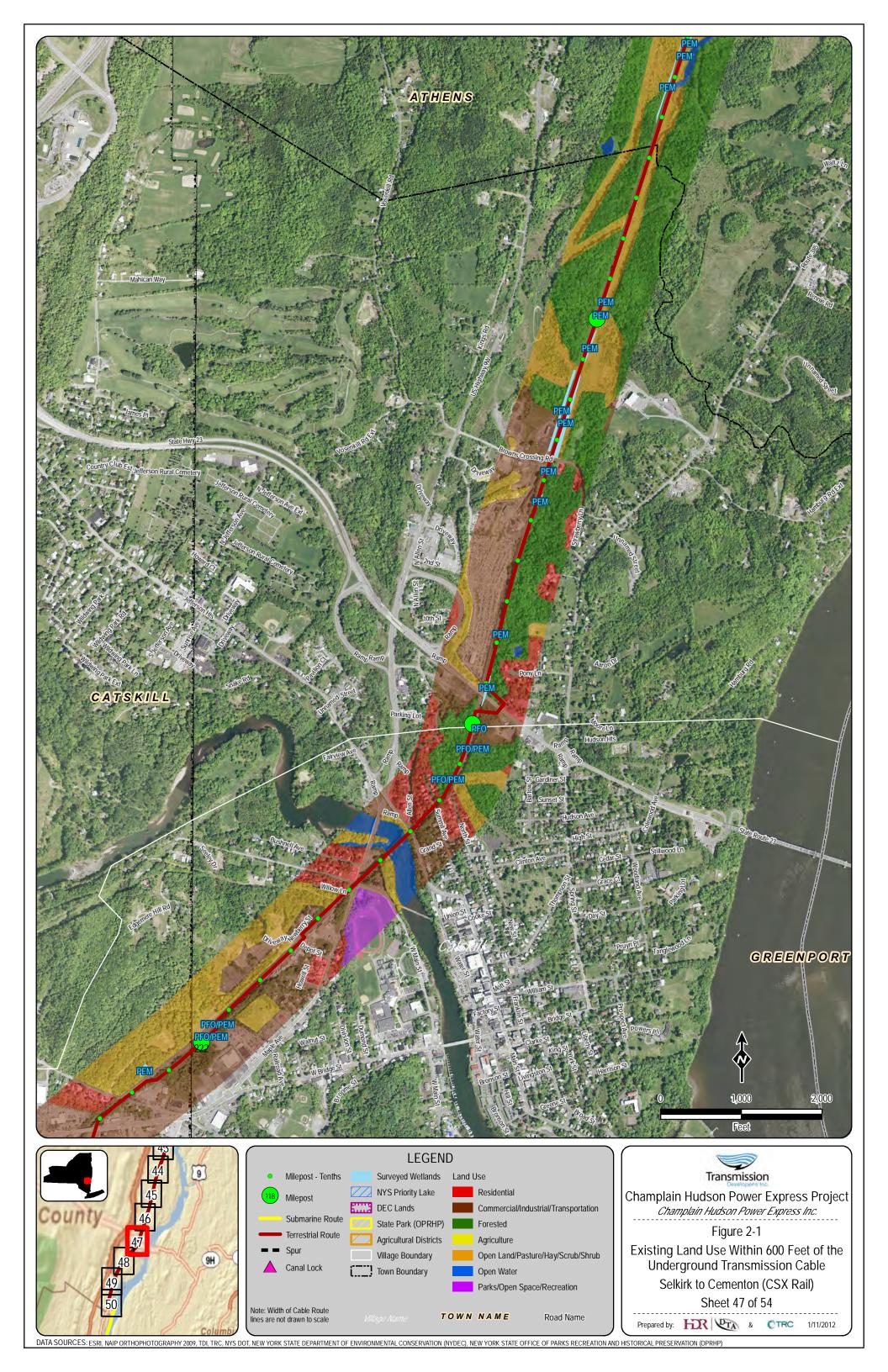


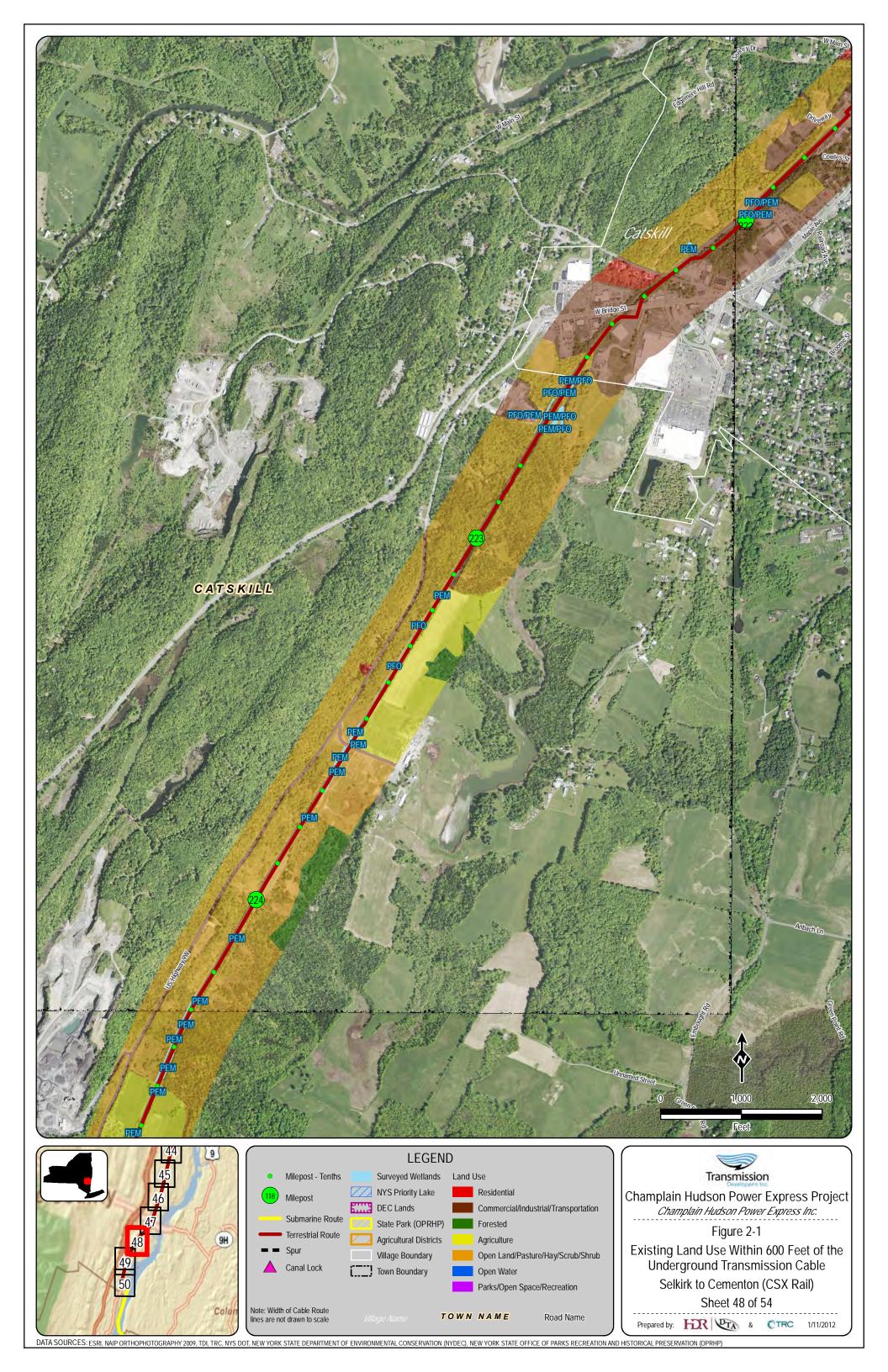


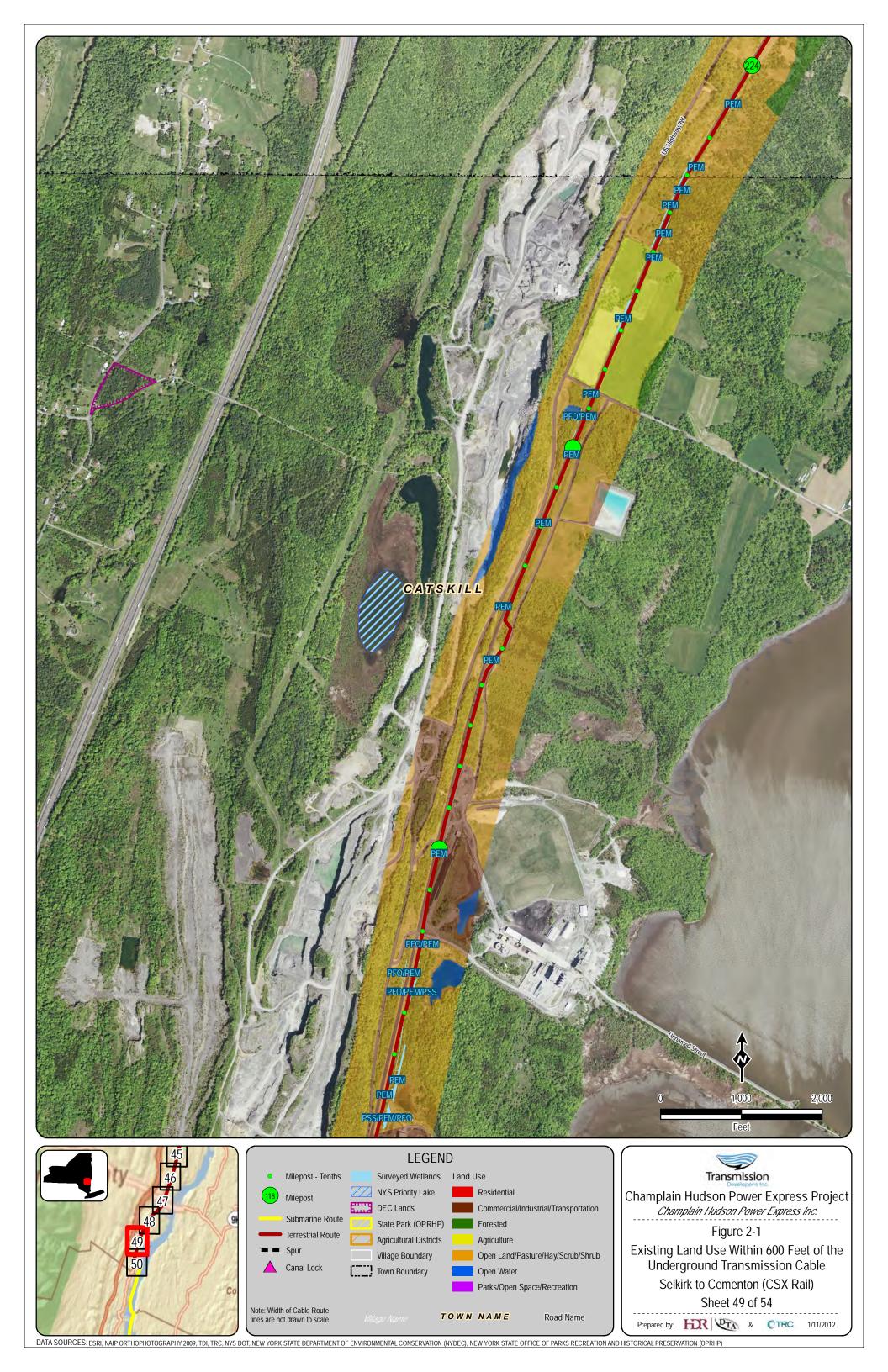






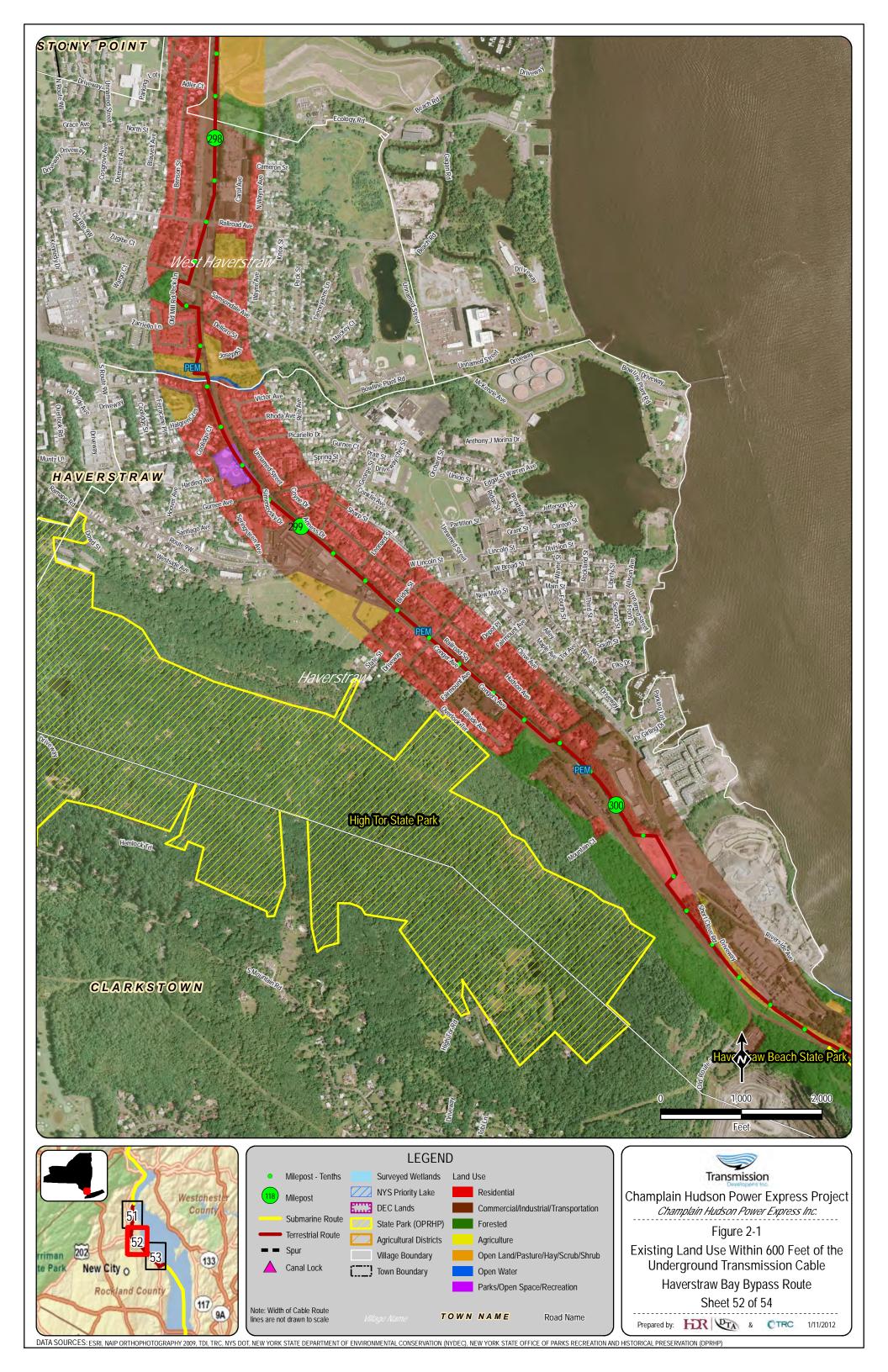


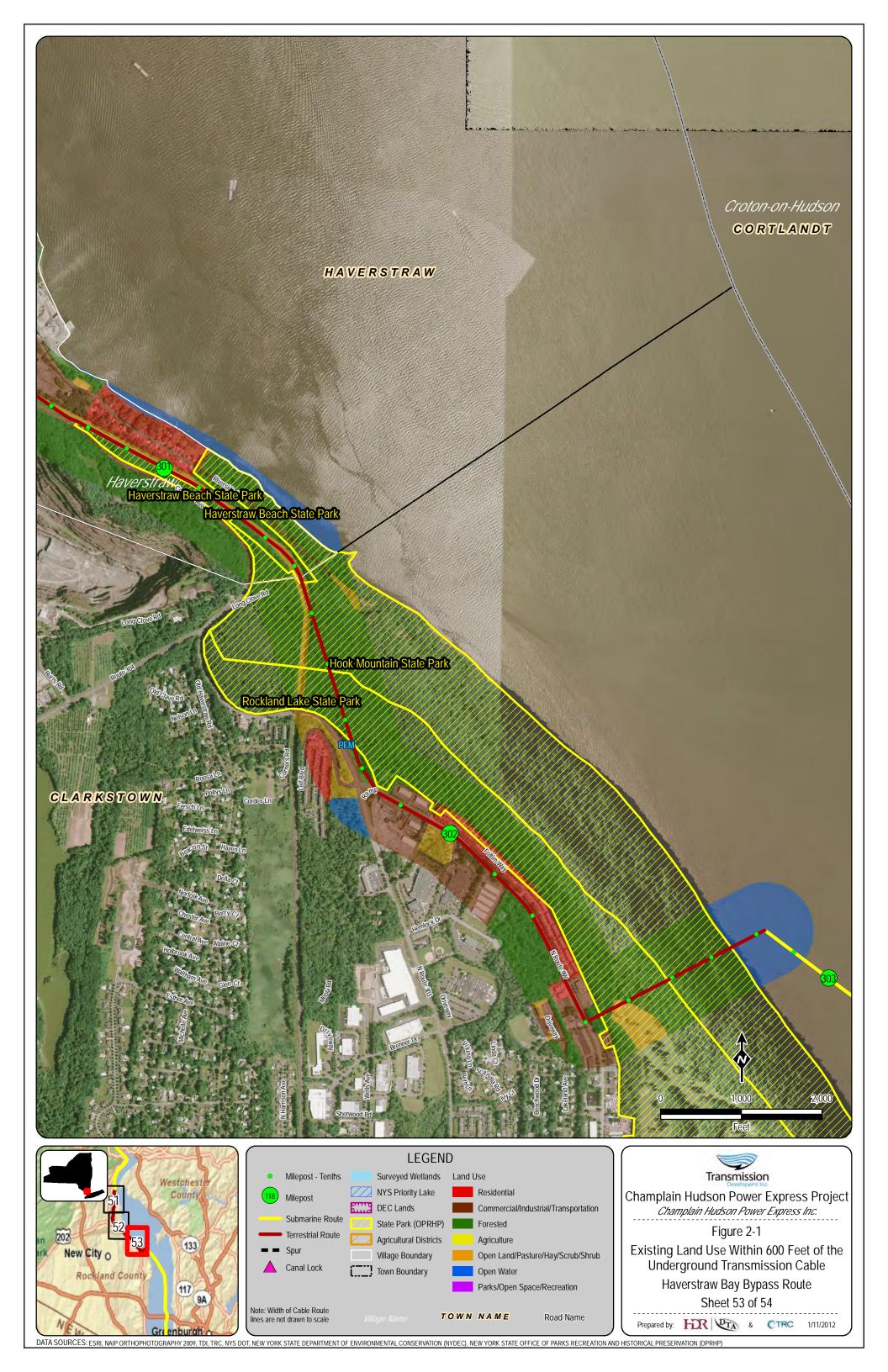


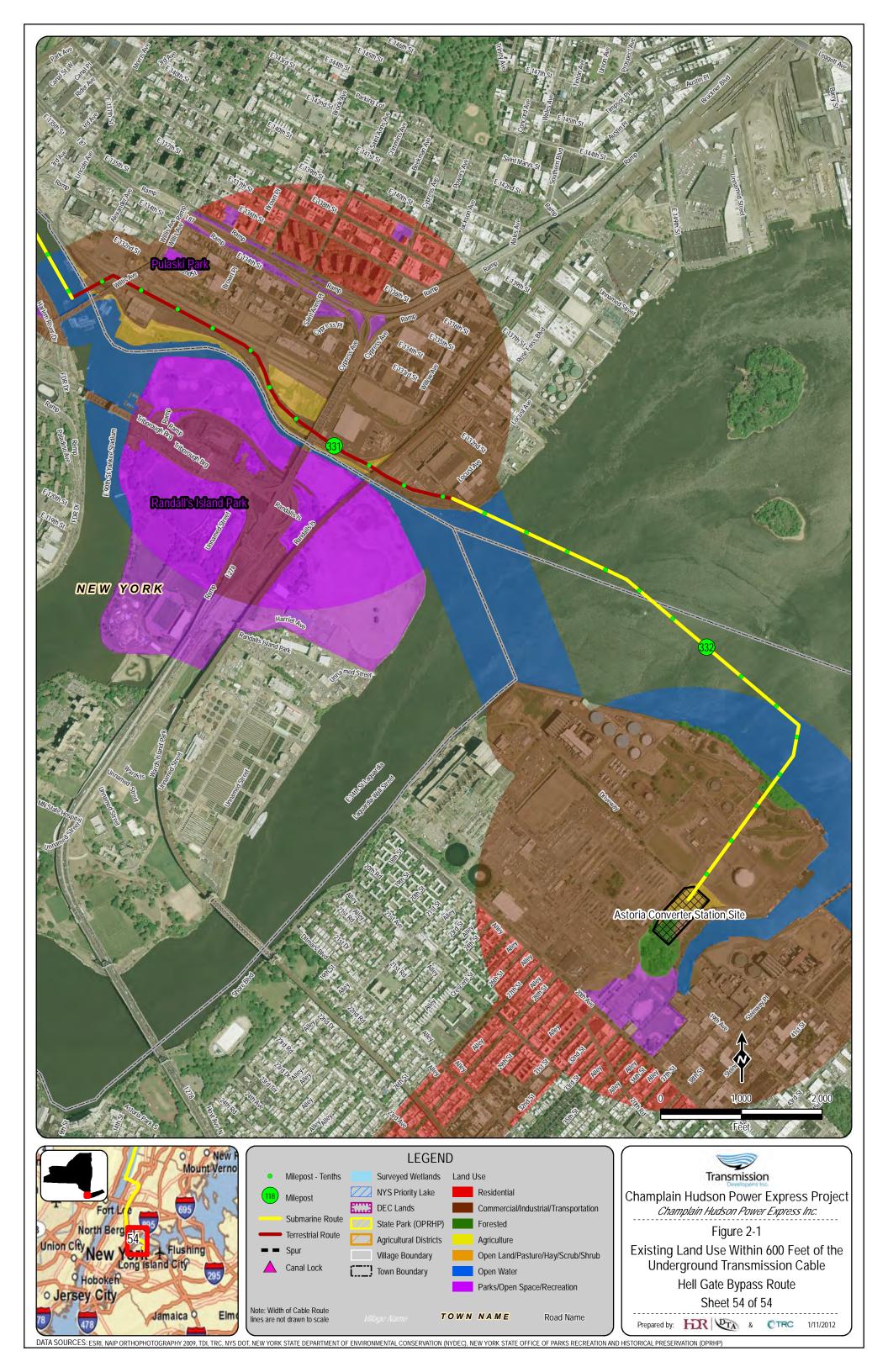


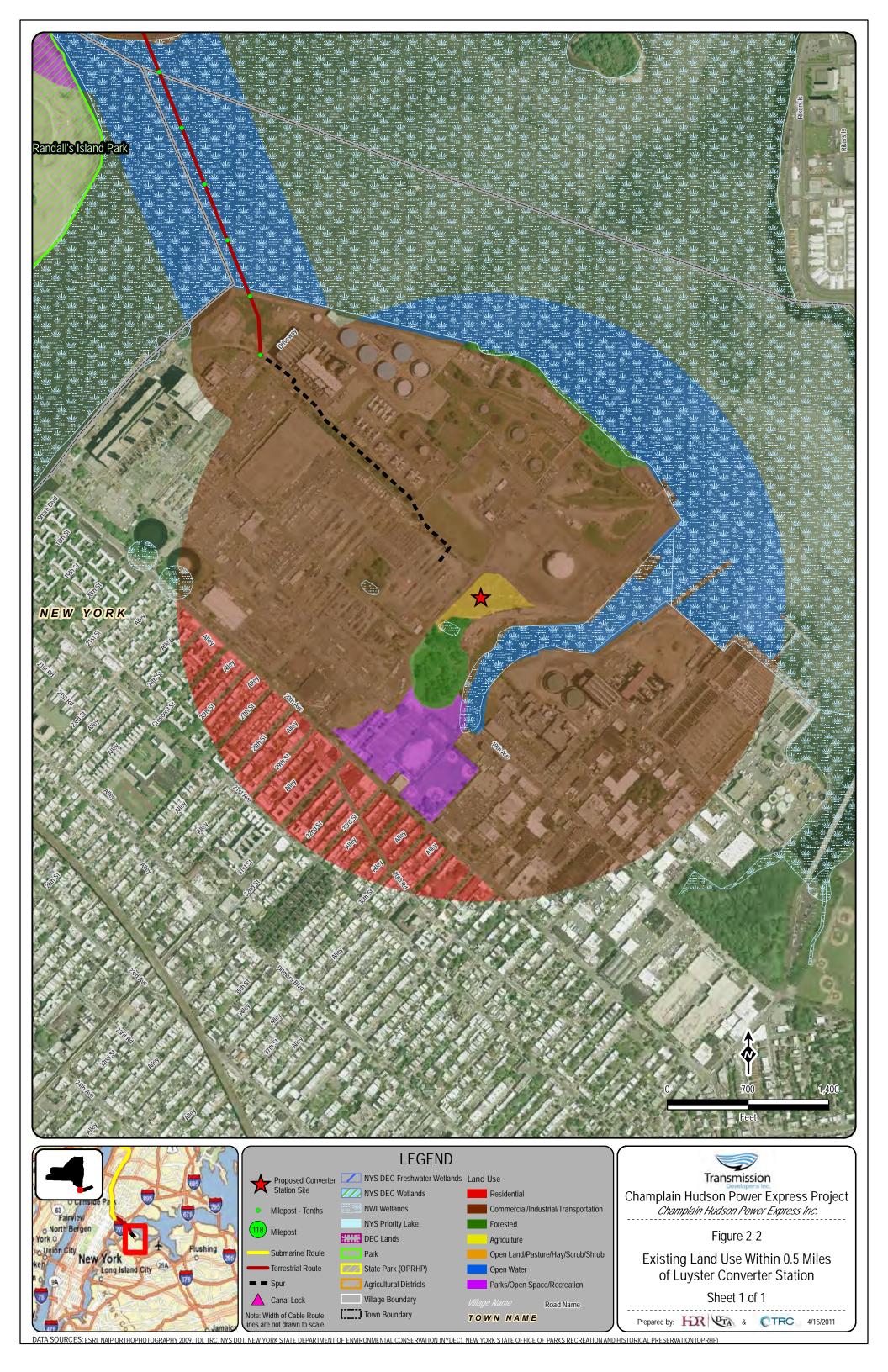












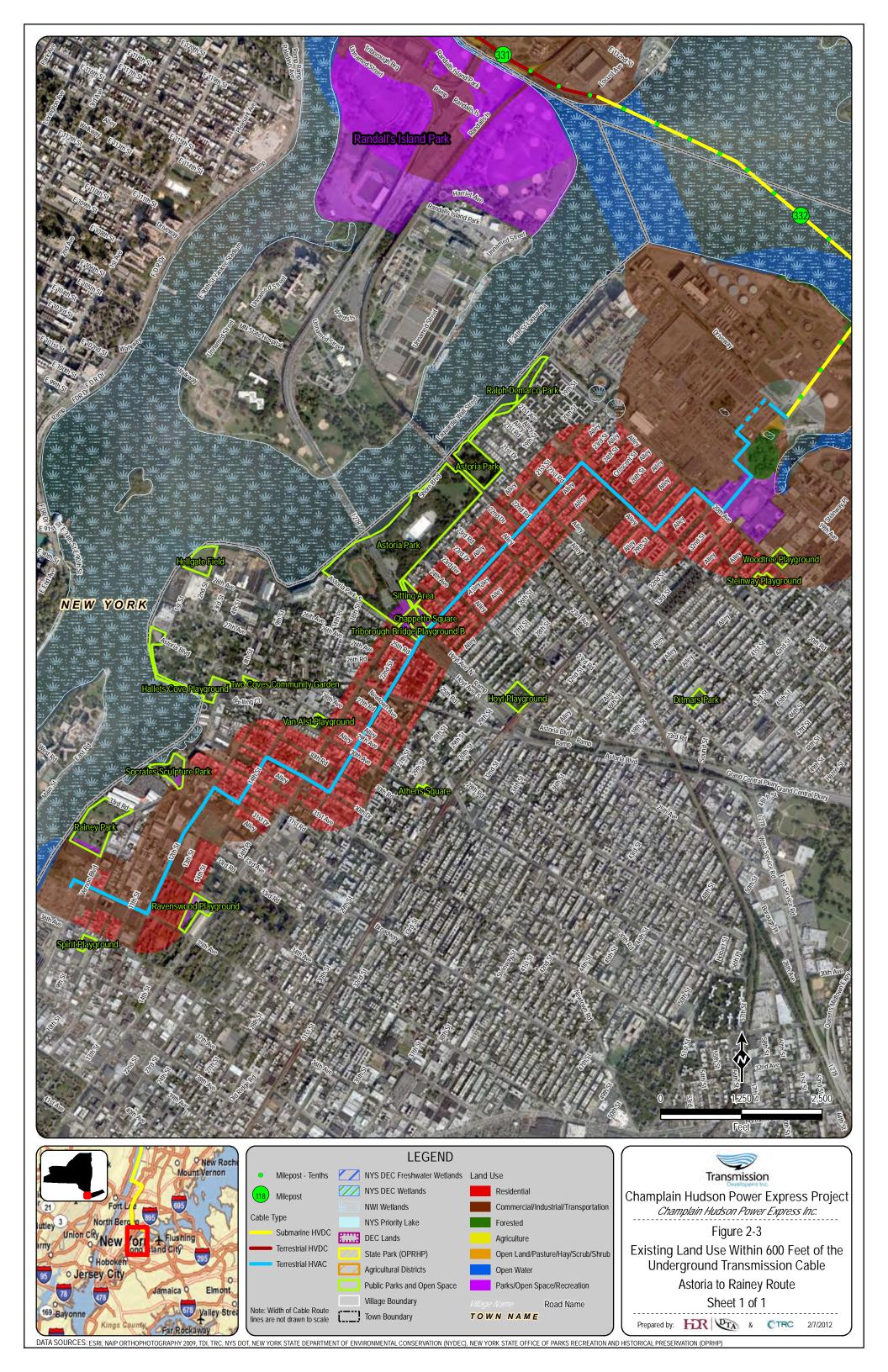
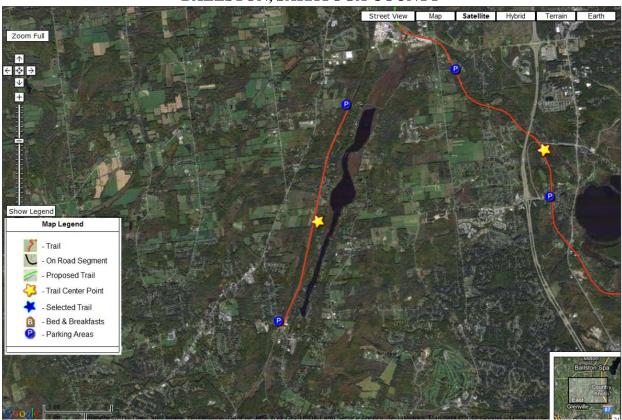
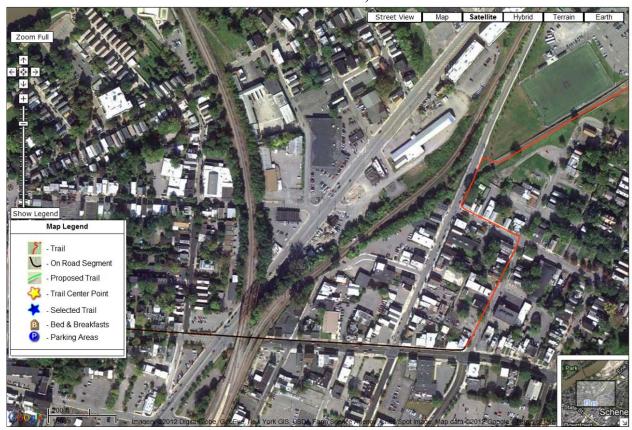


FIGURE 2-4
AERIAL PHOTOGRAPH OF BALLSTON VETERANS BIKEWAY, TOWN OF BALLSTON, SARATOGA COUNTY



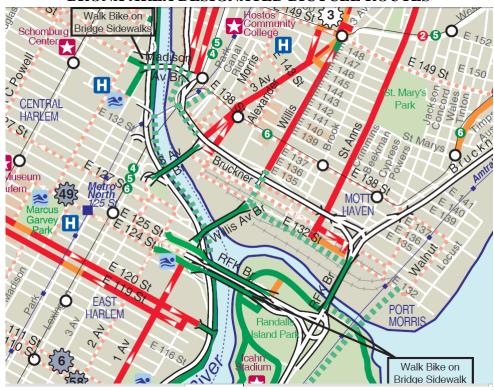
Source: http://www.ptny.org/Trailfinder/Default.aspx.

FIGURE 2-5
ERIE CANALWAY TRAIL LOCATION AT SCHENECTADY, NY



Source: http://www.ptny.org/Trailfinder/Default.aspx

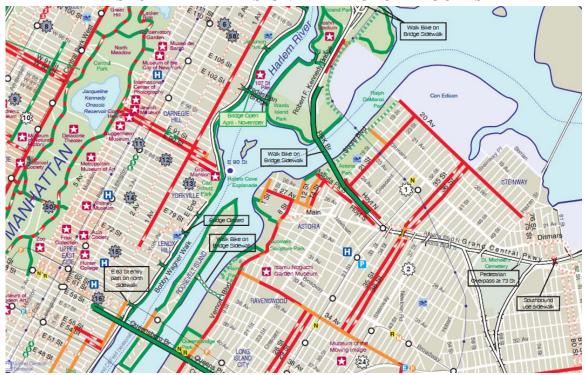
FIGURE 2-6
BRONX AREA DESIGNATED BICYCLE ROUTES





Source: 2011 NYC Cycling Map www.nyc.gov.bikes

FIGURE 2-7
ASTORIA AREA DESIGNATED BICYCLE ROUTES





Source: 2011 NYC Cycling Map www.nyc.gov.bikes

FIGURE 2-8A
PORTION OF FEMA FLOOD HAZARD MAP PANEL 3604970092F

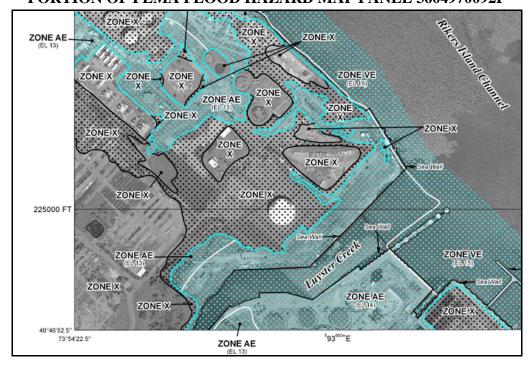
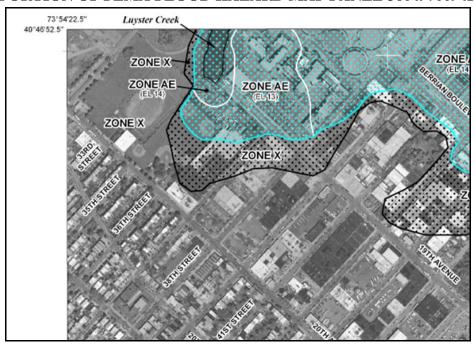
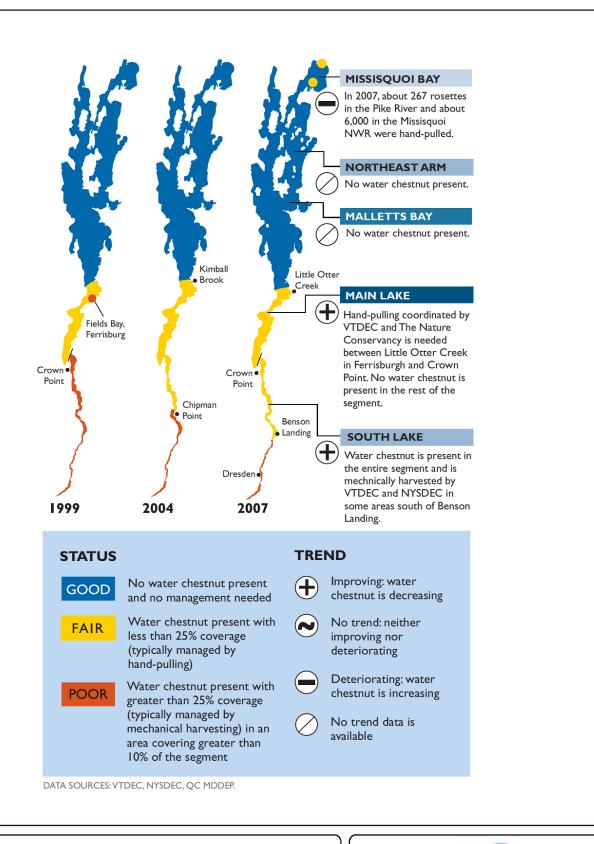


FIGURE 2-8B PORTION OF FEMA FLOOD HAZARD MAP PANEL 3604970094F





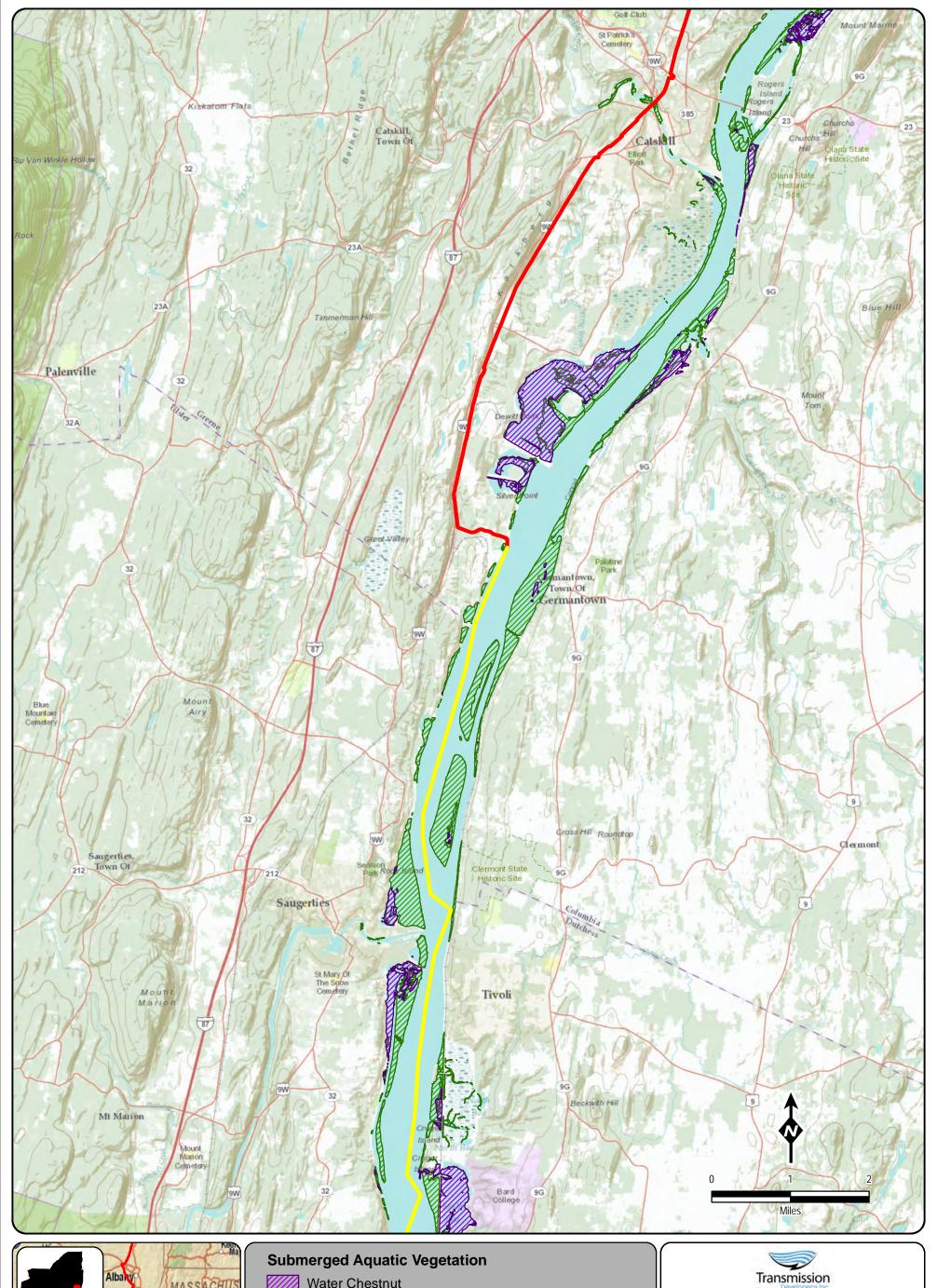
# Figure 4-1 Status of Water Chestnut Infestation in Lake Champlain



#### Champlain Hudson Power Express Project

Champlain Hudson Power Express Inc.

Prepared by: HR PTA & CTRC





Water Chestnut

Water Celery

# **Proposed CHPEI Route**

Submarine Route

Terrestrial Route

# DATA SOURCES:

ESRI, TDI, TRC, Hudson River National Estuarine Research Reserve (NERR) and New York State Department of Environmental Conservation (NYSDEC)

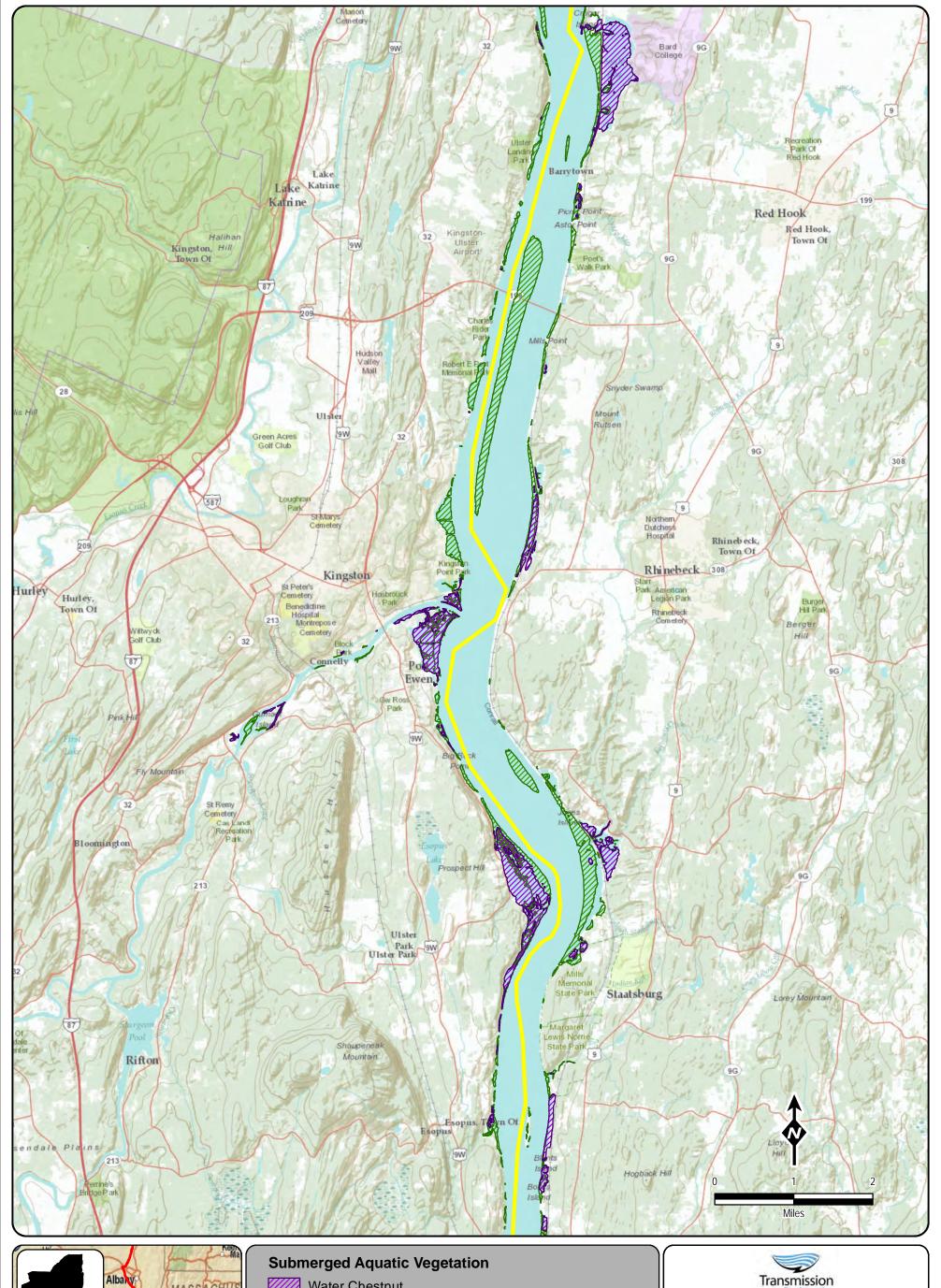
Champlain Hudson Power Express Project Champlain Hudson Power Express Inc.

Figure 4-2

**Hudson River Submerged** Aquatic Vegetation Beds

Sheet 1 of 7

Prepared by: **HR Prepared** & **CTRC** 1/11/2012





Water Chestnut

Water Celery

# **Proposed CHPEI Route**

Submarine Route

Terrestrial Route

#### DATA SOURCES:

ESRI, TDI, TRC, Hudson River National Estuarine Research Reserve (NERR) and New York State Department of Environmental Conservation (NYSDEC)

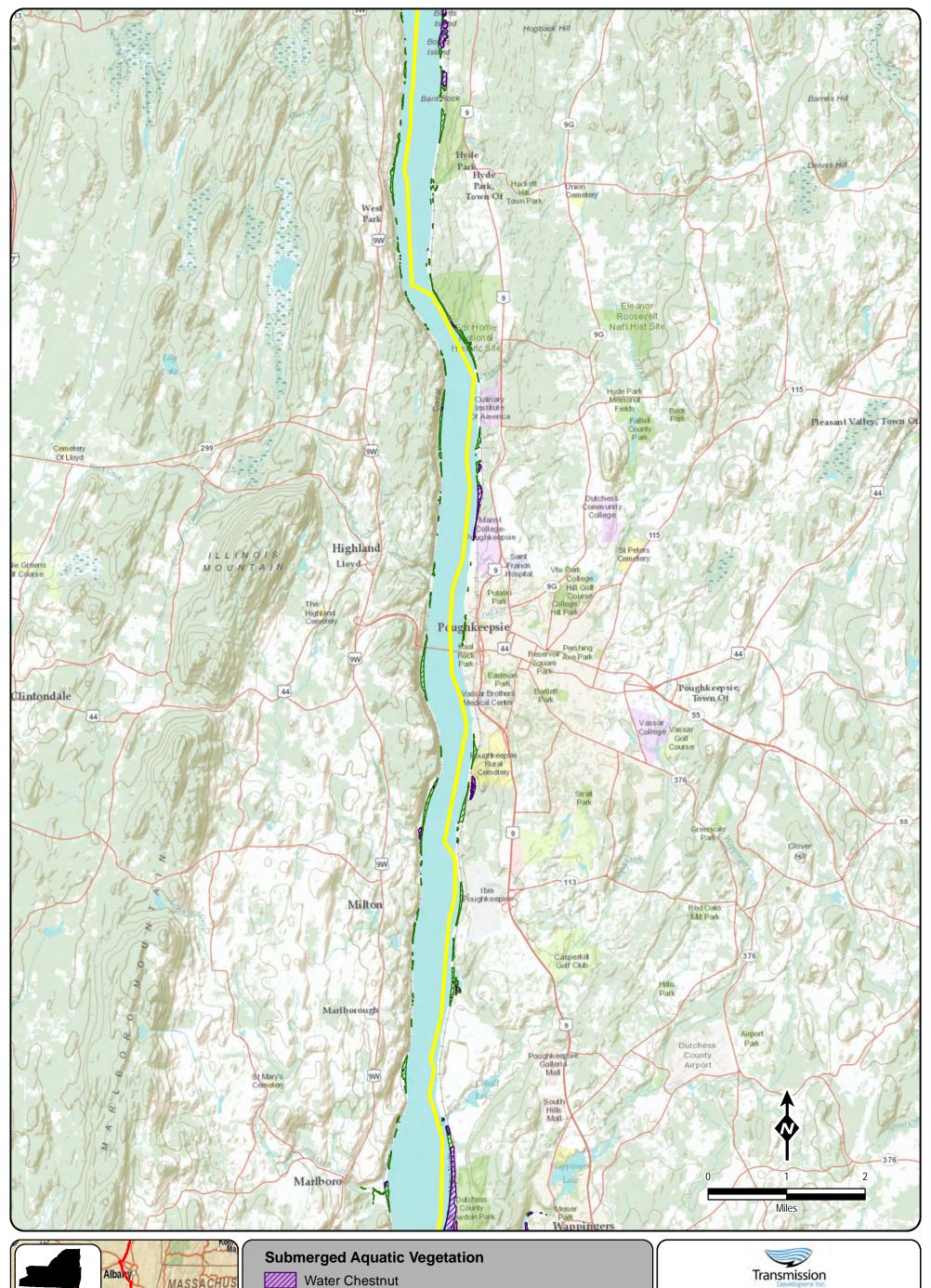
Champlain Hudson Power Express Project Champlain Hudson Power Express Inc.

Figure 4-2

**Hudson River Submerged** Aquatic Vegetation Beds

Sheet 2 of 7

Prepared by: **HR PTA** & **CTRC** 1/11/2012





Water Celery

# **Proposed CHPEI Route**

Submarine Route

Terrestrial Route

#### DATA SOURCES:

ESRI, TDI, TRC, Hudson River National Estuarine Research Reserve (NERR) and New York State Department of Environmental Conservation (NYSDEC)

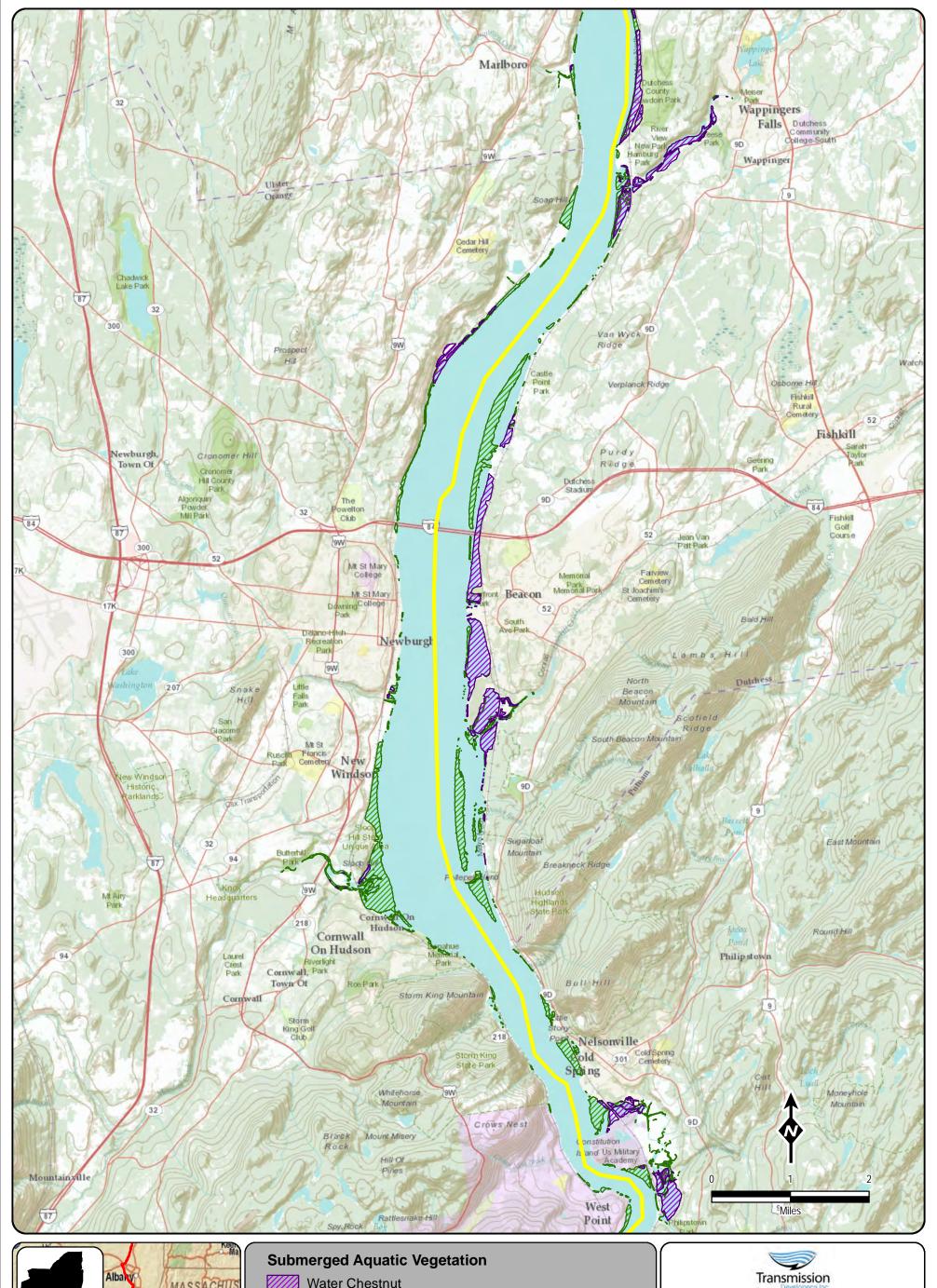
Champlain Hudson Power Express Project Champlain Hudson Power Express Inc.

Figure 4-2

**Hudson River Submerged** Aquatic Vegetation Beds

Sheet 3 of 7

Prepared by: **HR PTA** & **CTRC** 1/11/2012





Water Chestnut

Water Celery

# **Proposed CHPEI Route**

Submarine Route

Terrestrial Route

#### DATA SOURCES:

ESRI, TDI, TRC, Hudson River National Estuarine Research Reserve (NERR) and New York State Department of Environmental Conservation (NYSDEC)

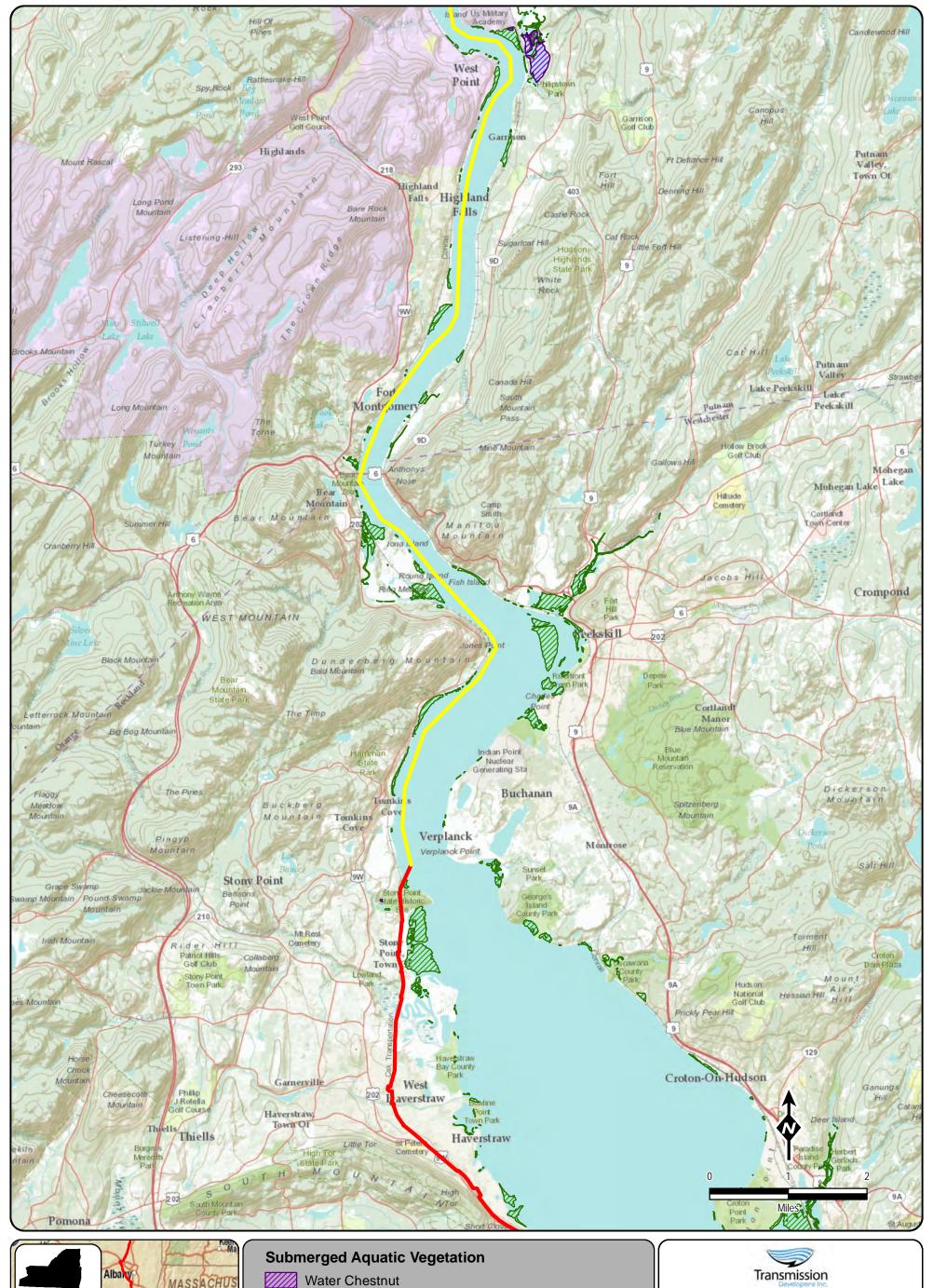
Champlain Hudson Power Express Project Champlain Hudson Power Express Inc.

Figure 4-2

**Hudson River Submerged** Aquatic Vegetation Beds

Sheet 4 of 7

Prepared by: **HR Prepared** & **CTRC** 1/11/2012





Water Celery

# **Proposed CHPEI Route**

Submarine Route

Terrestrial Route

#### DATA SOURCES:

ESRI, TDI, TRC, Hudson River National Estuarine Research Reserve (NERR) and New York State Department of Environmental Conservation (NYSDEC)

Champlain Hudson Power Express Project Champlain Hudson Power Express Inc.

Figure 4-2

**Hudson River Submerged Aquatic Vegetation Beds** 

Sheet 5 of 7

Prepared by: **HIR Prepared** & **CTRC** 1/11/2012





Water Celery

# **Proposed CHPEI Route**

Submarine Route

Terrestrial Route

#### DATA SOURCES:

ESRI, TDI, TRC, Hudson River National Estuarine Research Reserve (NERR) and New York State Department of Environmental Conservation (NYSDEC)

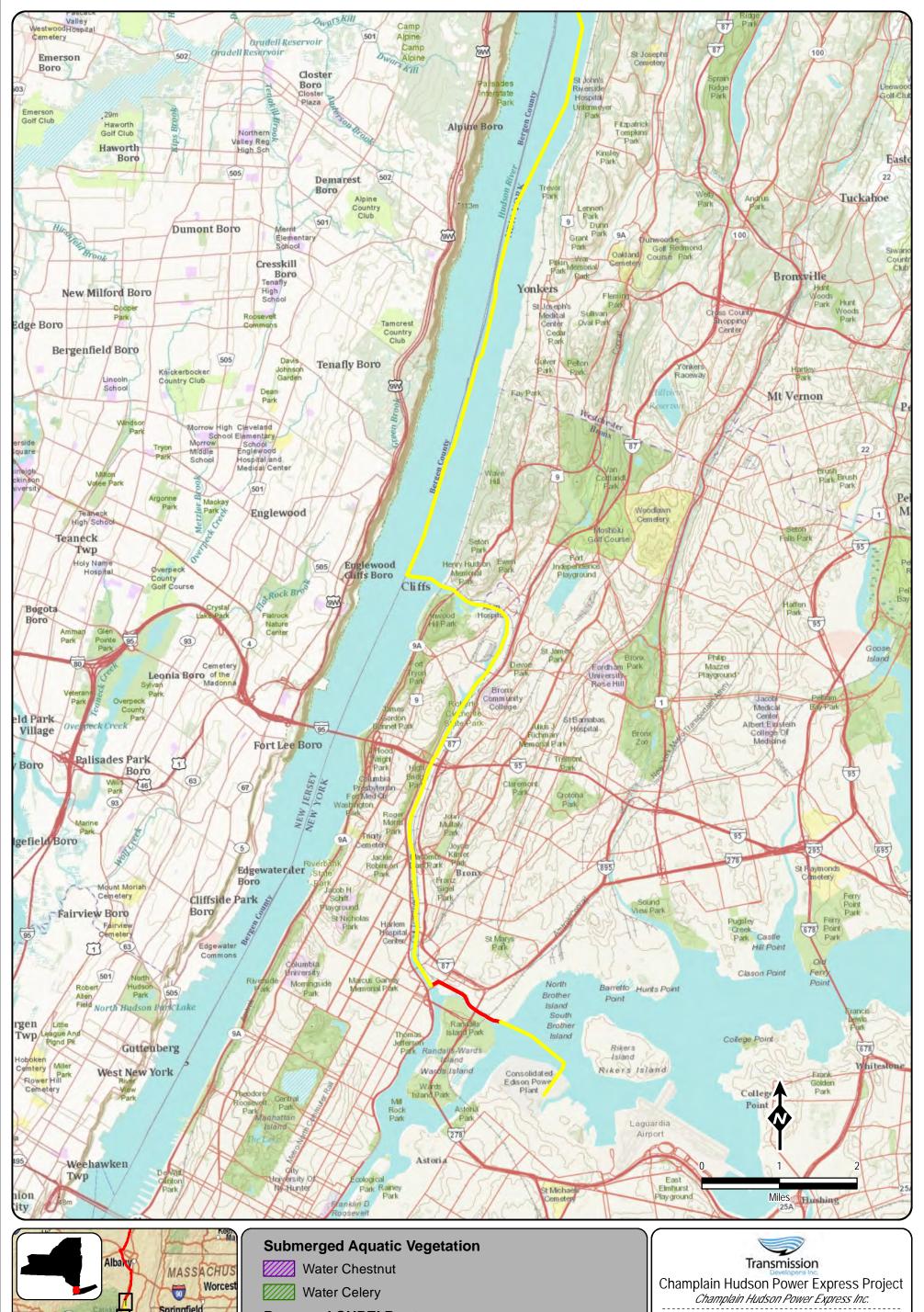
Champlain Hudson Power Express Project Champlain Hudson Power Express Inc.

Figure 4-2

Hudson River Submerged Aquatic Vegetation Beds

Sheet 6 of 7

Prepared by: HIR VIA & CTRC 1/11/2012



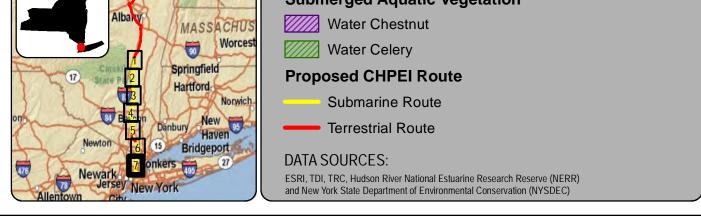


Figure 4-2

Hudson River Submerged Aquatic Vegetation Beds

Sheet 7 of 7

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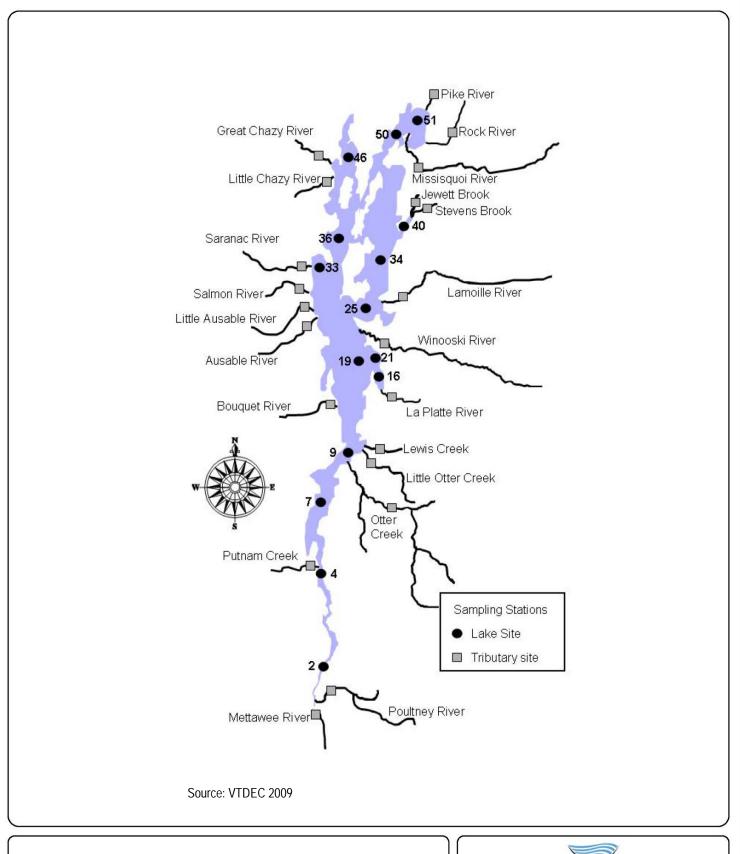
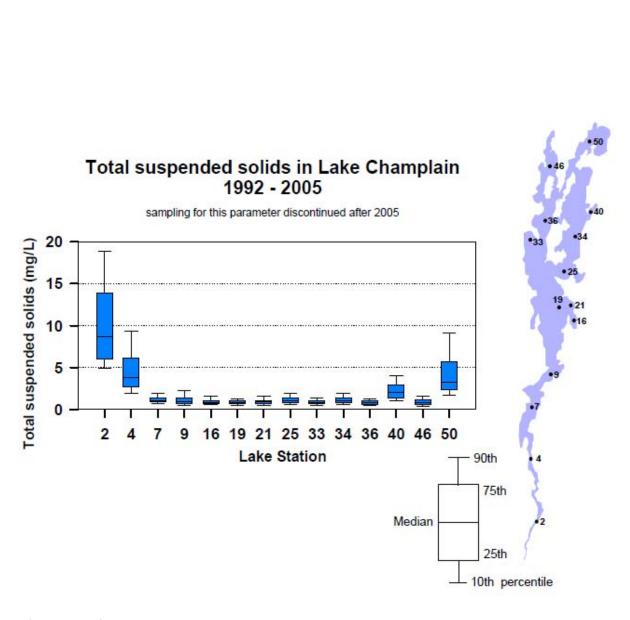


Figure 6-1

Lake Champlain Long-Term Water Quality and Biological Monitoring Program Sampling Stations





Source: VTDEC 2009

Figure 6-2

Lake Champlain Total Suspended Solids

Concentrations 1992 to 2005



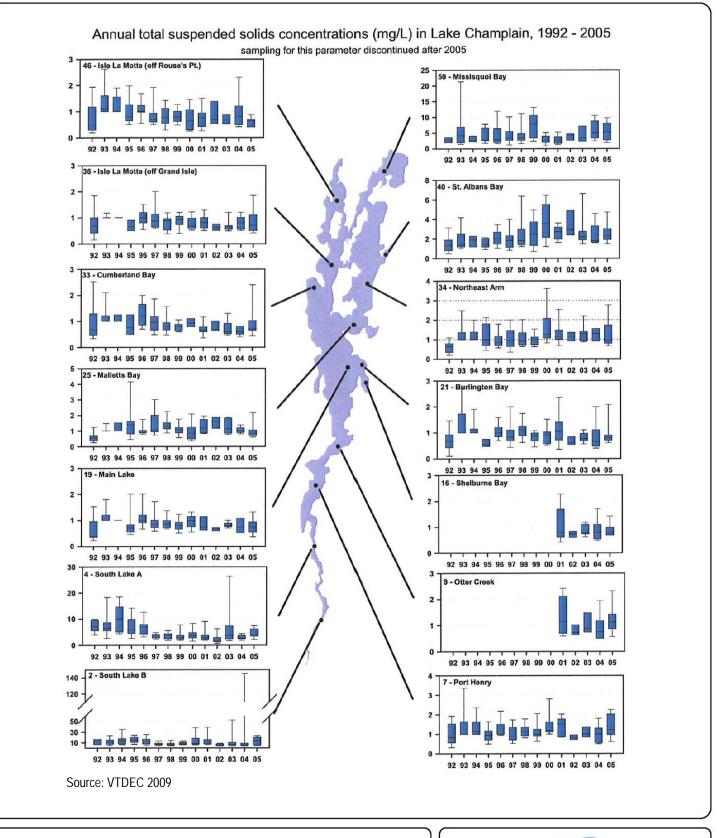


Figure 6-3
Annual Total Suspended Solids Concentrations in Lake Champlain 1992 to 2005



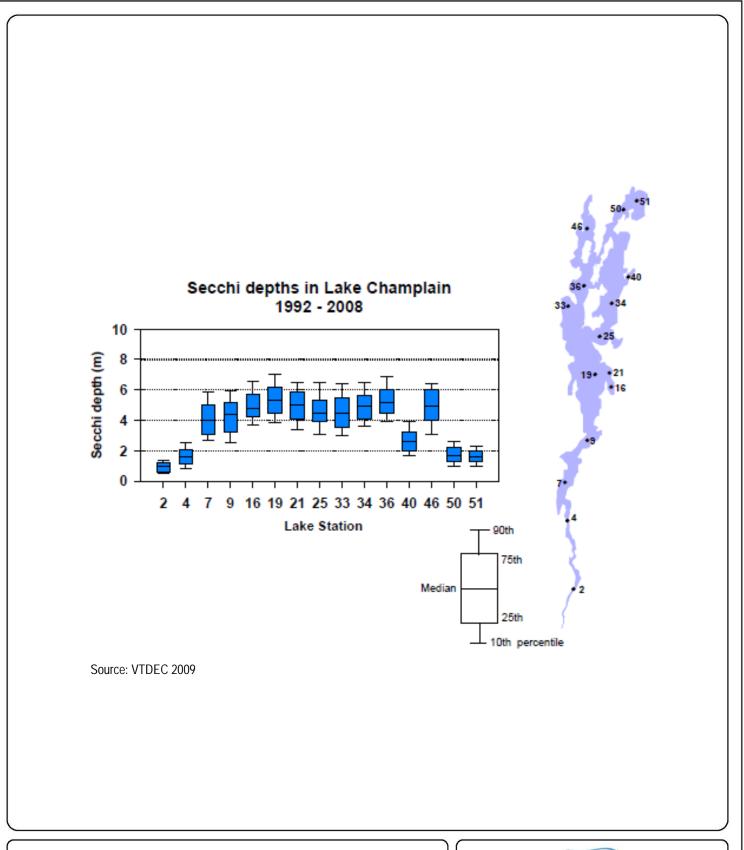


Figure 6-4
Lake Champlain Secchi Depths 1992 to 2008



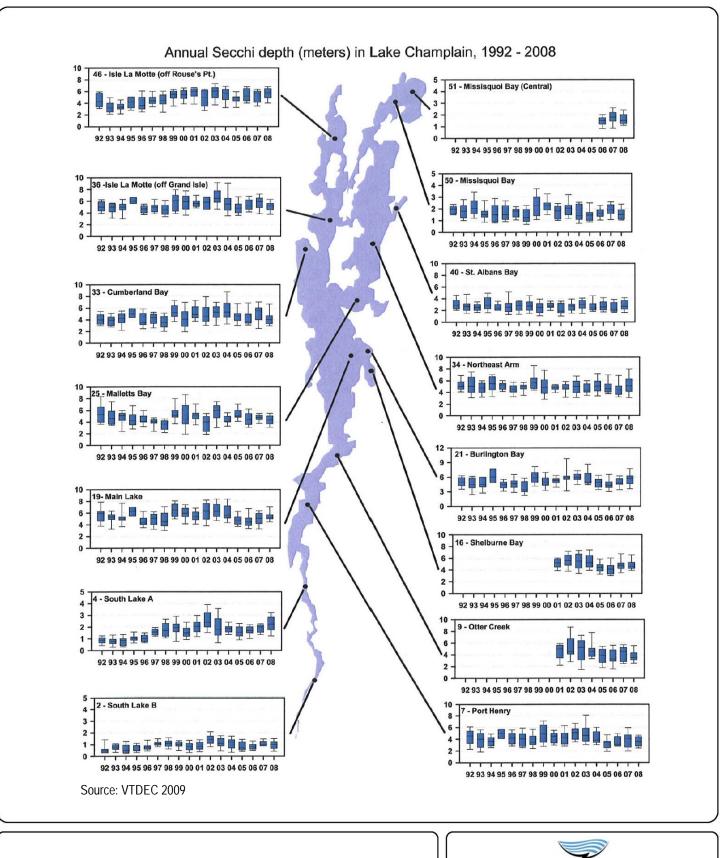


Figure 6-5
Annual Secchi Depths in Lake Champlain
1992 to 2008



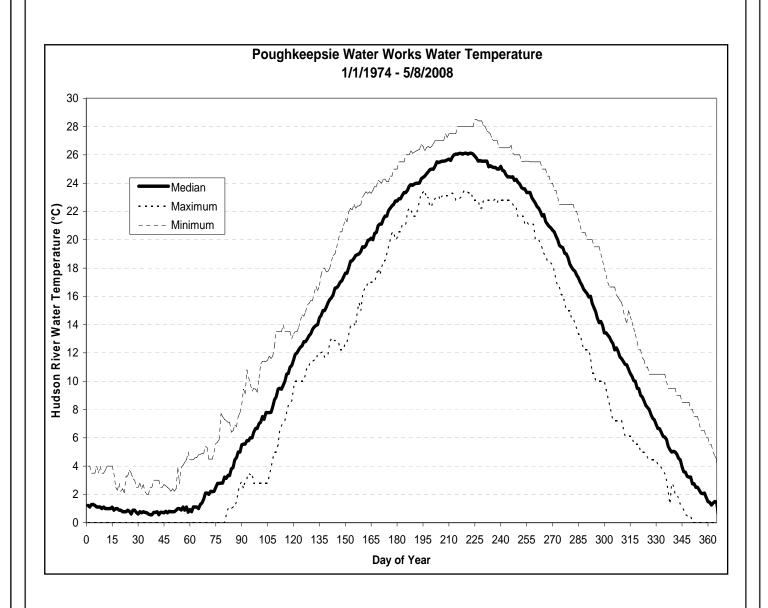
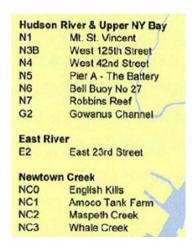
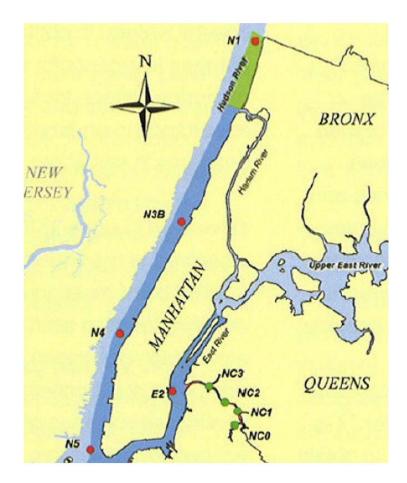


Figure 6-6
A Summary of Poughkeepsie Water Works Data from 1974 through May 8, 2008







Source: NYCDEP 2008

Figure 6-7
NYCDEP New York Harbor Water Quality
Sampling Stations



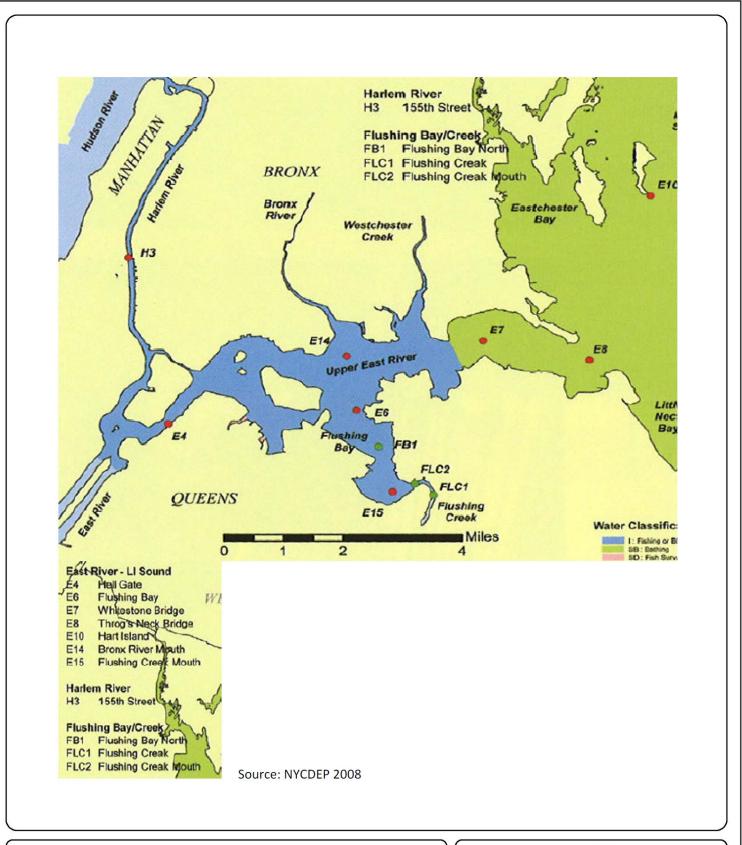


Figure 6-8

NYCDEP Upper East River – Western Long Island
Sound Sampling Stations



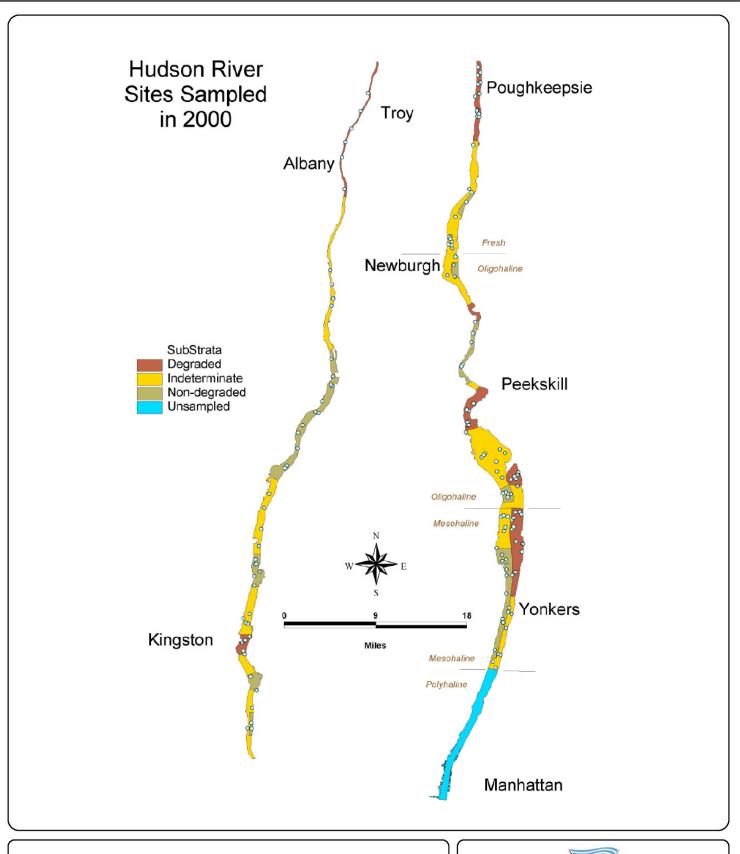
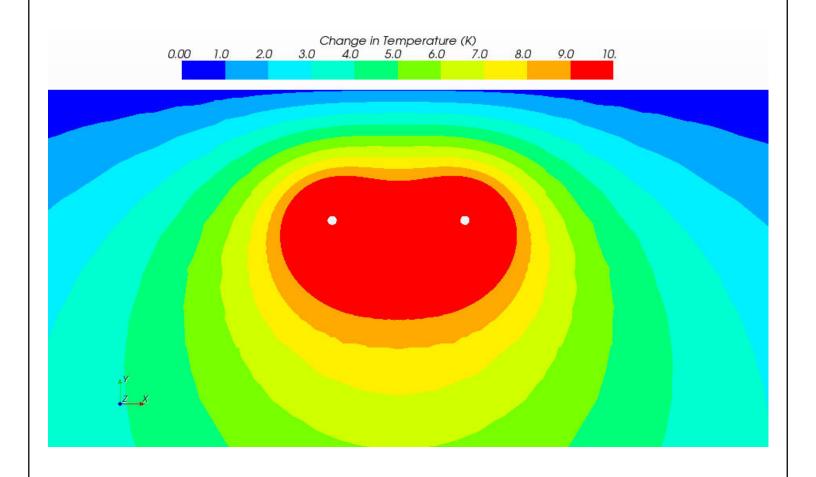
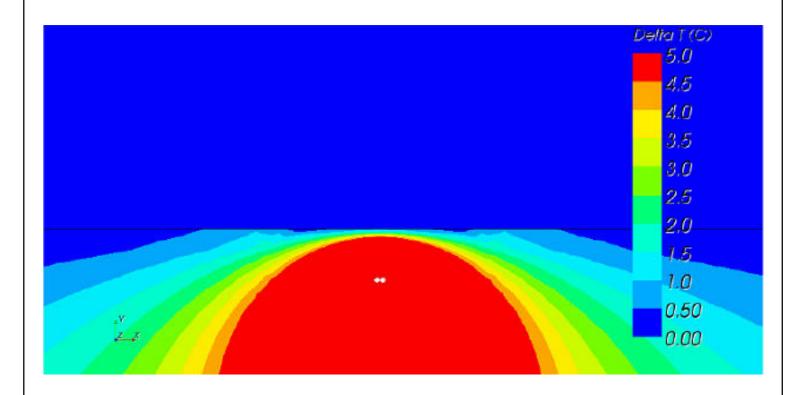


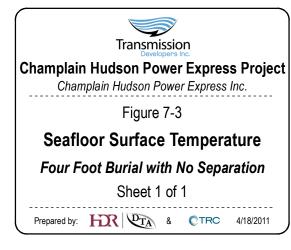
Figure 7-1
Hudson River Biocriteria Project
Benthic Sampling Locations











GRID X – Hudson River					
Species	Eggs	Larvae	Juveniles	Adults	Spawning Adults
red hake (Urophycis chuss)		M,S	M,S	M,S	
winter flounder (Pleuronectes americanus)	M,S	M,S	M,S	M,S	M,S
windowpane flounder (Scopthalmus aquosus)	M,S	M,S	M,S	M,S	M,S
Atlantic sea herring (Clupea harengus)		M,S	M,S	M,S	
bluefish (Pomatomus saltatrix)			M,S	M,S	
Atlantic butterfish (Peprilus triacanthus)		M	M,S	M,S	
Atlantic mackerel (Scomber scombrus)			S	S	
summer flounder (Paralicthys dentatus)		F,M,S	M,S	M,S	
scup (Stenotomus chrysops)	S	S	S	S	
black sea bass (Centropristus striata)			M,S	M,S	
king mackerel (Scomberomorus cavalla)	X	X	X	X	
Spanish mackerel (Scomberomorus maculatus)	X	X	X	X	
cobia (Rachycentron canadum)	X	X	X	X	

Species	Eggs	Larvae	Juveniles	Adults
Atlantic cod (Gadus morhua)			X	X
pollock (Pollachius virens)			X	X
red hake (Urophycis chuss)	X	X	X	X
winter flounder (Pleuronectes americanus)	X	X	X	X
windowpane flounder (Scopthalmus aquosus)	X	X	X	X
Atlantic sea herring (Clupea harengus)		X	X	X
bluefish (Pomatomus saltatrix)			X	X
Atlantic butterfish (Peprilus triacanthus)		X	X	X
Atlantic mackerel (Scomber scombrus)			X	X
summer flounder (Paralicthys dentatus)		X	X	X
scup (Stenotomus chrysops)	X	X	X	X
black sea bass (Centropristus striata)	n/a		X	X
king mackerel (Scomberomorus cavalla)	X	X	X	X
Spanish mackerel (Scomberomorus maculatus)	X	X	X	X
cobia (Rachycentron canadum)	X	X	X	X
sand tiger shark (Odontaspis taurus)		X		

GRID #4				
Species	Eggs	Larvae	Juveniles	Adults
Atlantic salmon (Salmo salar)			X	X
pollock (Pollachius virens)			X	X
red hake (Urophycis chuss)	X	X	X	X
winter flounder (Pleuronectes americanus)	X	X	X	X
windowpane flounder (Scopthalmus aquosus)	X	X	X	X
Atlantic sea herring (Clupea harengus)			X	X
bluefish (Pomatomus saltatrix)			X	X
Atlantic mackerel (Scomber scombrus)	X	X	X	X
summer flounder (Paralicthys dentatus)			X	
scup (Stenotomus chrysops)	X	X	X	X
black sea bass (Centropristus striata)			X	
king mackerel (Scomberomorus cavalla)	X	X	X	X
Spanish mackerel (Scomberomorus maculatus)	X	X	X	X
cobia (Rachycentron canadum)	X	X	X	X
sand tiger shark (Odontaspis taurus)		X		

GRID #5				
Species	Eggs	Larvae	Juveniles	Adults
Atlantic salmon (Salmo salar)			X	X
pollock (Pollachius virens)			X	X
red hake (Urophycis chuss)	X	X	X	X
winter flounder (Pleuronectes americanus)	X	X	X	X
windowpane flounder (Scopthalmus aquosus)	X	X	X	X
American plaice (Hippoglossoides platessoides)			X	X
Atlantic sea herring (Clupea harengus)			X	X
bluefish (Pomatomus saltatrix)			X	X
Atlantic mackerel (Scomber scombrus)	X	X	X	X
summer flounder (Paralicthys dentatus)			X	
scup (Stenotomus chrysops)	X	X	X	X
black sea bass (Centropristus striata)	n/a		X	
king mackerel (Scomberomorus cavalla)	X	X	X	X
Spanish mackerel (Scomberomorus maculatus)	X	X	X	X
cobia (Rachycentron canadum)	X	X	X	X
sand tiger shark (Odontaspis taurus)		X		

GRID #7				
Species	Eggs	Larvae	Juveniles	Adults
Atlantic salmon (Salmo salar)			X	X
pollock (Pollachius virens)			X	X
red hake (Urophycis chuss)	X	X	X	X
winter flounder (Pleuronectes americanus)	X	X	X	X
windowpane flounder (Scopthalmus aquosus)	X	X	X	X
American plaice (Hippoglossoides platessoides)			X	X
ocean pout (Macrozoarces americanus)	X	X	X	X
Atlantic sea herring (Clupea harengus)			X	X
bluefish (Pomatomus saltatrix)			X	X
Atlantic mackerel (Scomber scombrus)	X	X	X	X
summer flounder (Paralicthys dentatus)			X	
scup (Stenotomus chrysops)	X	X	X	X
black sea bass (Centropristus striata)			X	
king mackerel (Scomberomorus cavalla)	X	X	X	X
Spanish mackerel (Scomberomorus maculatus)	X	X	X	X
cobia (Rachycentron canadum)	X	X	X	X
sand tiger shark (Odontaspis taurus)		X		

GRID #1				
Species	Eggs	Larvae	Juveniles	Adults
pollock (Pollachius virens)			X	X
red hake (Urophycis chuss)		X	X	X
winter flounder (Pleuronectes americanus)	X	X	X	X
windowpane flounder (Scopthalmus aquosus)	X	X	X	X
Atlantic sea herring (Clupea harengus)		X	X	X
bluefish (Pomatomus saltatrix)			X	X
Atlantic butterfish (Peprilus triacanthus)		X	X	X
Atlantic mackerel (Scomber scombrus)			X	X
summer flounder (Paralicthys dentatus)		X	X	X
scup (Stenotomus chrysops)	X	X	X	X
black sea bass (Centropristus striata)			X	X
king mackerel (Scomberomorus cavalla)	X	X	X	X
Spanish mackerel (Scomberomorus maculatus)	X	X	X	X
cobia (Rachycentron canadum)	X	X	X	X
sand tiger shark (Odontaspis taurus)		X		
dusky shark (Charcharinus obscurus)		X		·
sandbar shark (Charcharinus plumbeus)		X		X

	red hake (Urophycis chuss)		X	X	X	red hake (Urophycis chuss)	X	X	X
	winter flounder (Pleuronectes americanus)	X	X	X	X	winter flounder (Pleuronectes americanus)	X X	X	X
	windowpane flounder (Scopthalmus aquosus)	X	X	X	X	windowpane flounder (Scopthalmus aquosus)	X X	X	X
	Atlantic sea herring (Clupea harengus)		X	X	X	Atlantic sea herring (Clupea harengus)	X	X	X
	bluefish (Pomatomus saltatrix)			X	X	bluefish (Pomatomus saltatrix)		X	X
	Atlantic butterfish (Peprilus triacanthus)		X	X	X	Atlantic butterfish (Peprilus triacanthus)	X	X	X
	Atlantic mackerel (Scomber scombrus)			X	X	Atlantic mackerel (Scomber scombrus)		X	X
	summer flounder (Paralicthys dentatus)		X	X	X	summer flounder (Paralicthys dentatus)	X	X	X
	scup (Stenotomus chrysops)	X	X	X	X	scup (Stenotomus chrysops)	X X	X	X
	black sea bass (Centropristus striata)			X	X	black sea bass (Centropristus striata)		X	X
	king mackerel (Scomberomorus cavalla)	X	X	X	X	king mackerel (Scomberomorus cavalla)	X X	X	X
	Spanish mackerel (Scomberomorus maculatus)	X	X	X	X	Spanish mackerel (Scomberomorus maculatus)	X X	X	X
	cobia (Rachycentron canadum)	X	X	X	X	cobia (Rachycentron canadum)	X X	X	X
	sand tiger shark (Odontaspis taurus)		X			sand tiger shark (Odontaspis taurus)	X		
	dusky shark (Charcharinus obscurus)		X			dusky shark (Charcharinus obscurus)	X		
	sandbar shark (Charcharinus plumbeus)		X		X	sandbar shark (Charcharinus plumbeus)	X	X	X
74°0'0"W	73°50'0"W	•	73°40'0"W	•	•	73°30'0"W 73°20'0"W	73°10'0"W	•	
Pomona Mount 195m 195m 195m 195m 195m 195m 195m 195m	Croton- on- Hudson  Croton Polt  Park  Cowouckin Park  Cawouckin Park	Park Buter Memorial Sanctuary	2) Vivistmoreland Sanctuary		124	WBton Bradley Park  136  136  136  137  138  138  139  130  130  130  130  130  130  130	113		41°
New City  New 45 Squaru  Hillcrest  Spring	Ossining  Congers  Ossining  Ossinin	opst Pond Elmann Park (28) Nichol	dat Rocks Park		137 104 Stamford	Cranbury Park  Westport  New Canaba High Park  Norwalk  Norwalk  Norwalk  Norwalk	Park Pleature Americal Beath Park Asport	Short Beach Park	) Y-

GRID #2
Species
pollock (Pollachius virens)

Eggs Larvae Juveniles Adults

Long

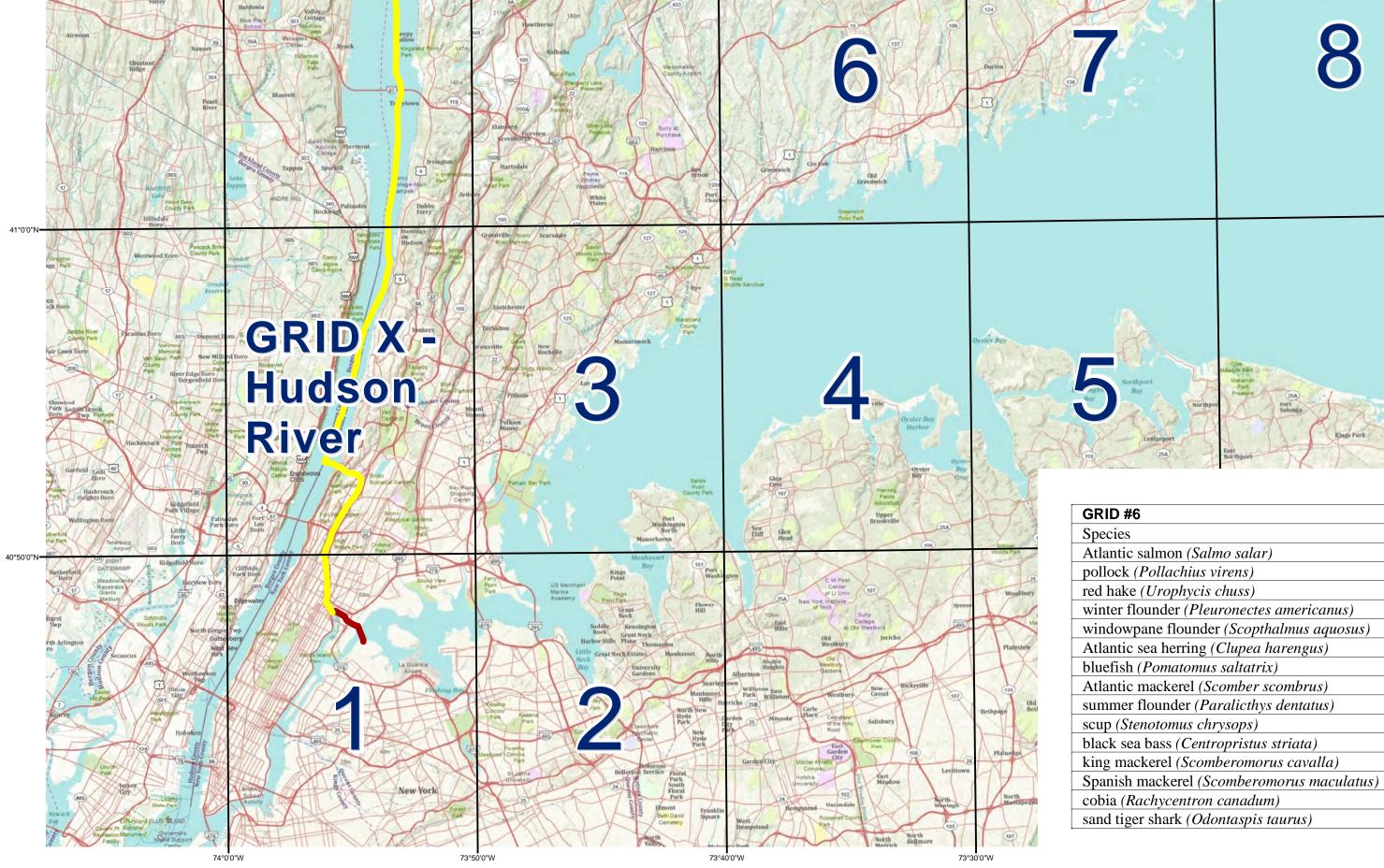
Island

Sound

Eggs Larvae Juveniles Adults

X

X



74°0 <sup>°</sup> 0"W	73°50'0"W			73°4
GRID #8				
Species	Eggs	Larvae	Juveniles	Adults
Atlantic salmon (Salmo salar)			X	X
pollock (Pollachius virens)			X	X
whiting (Merluccius bilinearis)				X
red hake (Urophycis chuss)	X	X	X	X
winter flounder (Pleuronectes americanus)	X	X	X	X
windowpane flounder (Scopthalmus aquosus)	X	X	X	X
American plaice (Hippoglossoides platessoides)			X	X
ocean pout (Macrozoarces americanus)	X	X	X	X
Atlantic sea herring (Clupea harengus)			X	X
bluefish (Pomatomus saltatrix)			X	X
Atlantic mackerel (Scomber scombrus)	X	X	X	X
scup (Stenotomus chrysops)	X	X	X	X
black sea bass (Centropristus striata)			X	
king mackerel (Scomberomorus cavalla)	X	X	X	X

X

X

Spanish mackerel (Scomberomorus maculatus)

cobia (Rachycentron canadum)

sand tiger shark (Odontaspis taurus)

Species	Eggs	Larvae	Juveniles	Adults	Spawning Adults
Atlantic salmon (Salmo salar)			F,M,S	F,M,S	
pollock (Pollachius virens)			S	S	
red hake (Urophycis chuss)			M,S	M,S	
winter flounder (Pleuronectes americanus)	M,S	M,S	M,S	M,S	M,S
windowpane flounder (Scopthalmus aquosus)	M,S	M,S	M,S	M,S	M,S
Atlantic sea herring (Clupea harengus)			M,S	M,S	
bluefish (Pomatomus saltatrix)			M,S	M,S	
Atlantic mackerel (Scomber scombrus)	S	S	S	S	
summer flounder (Paralicthys dentatus)			M,S		
scup (Stenotomus chrysops)	S	S	S	S	
black sea bass (Centropristus striata)			S		
king mackerel (Scomberomorus cavalla)	X	X	X	X	
Spanish mackerel (Scomberomorus maculatus)	X	X	X	X	
cobia (Rachycentron canadum)	X	X	X	X	

Atlantic salmon (Salmo salar)

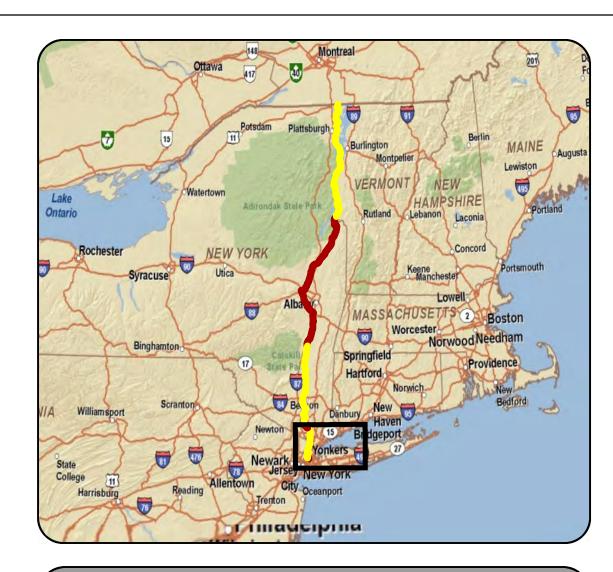
bluefish (Pomatomus saltatrix)

scup (Stenotomus chrysops)

windowpane flounder (Scopthalmus aquosus)

Atlantic sea herring (Clupea harengus)

Atlantic mackerel (Scomber scombrus) summer flounder (Paralicthys dentatus)





Proposed CHPEI Route

- Submarine Route
- Terrestrial Route

#### Notes:

- S = seawater salinity zone (salinity > or = 25.0%)
  M = mixing/brackish salinity zone (0.5% < salinity < 25.0%)
  F = freshwater salinity zone (0.0% < or = salinity < or = 0.5%)
  X = species designated for that particular life stage



DATA SOURCES: ESRI, TDI, TRC, NOAA 2009



| Champlain Hudson Power Express Project | Champlain Hudson Power Express Inc.

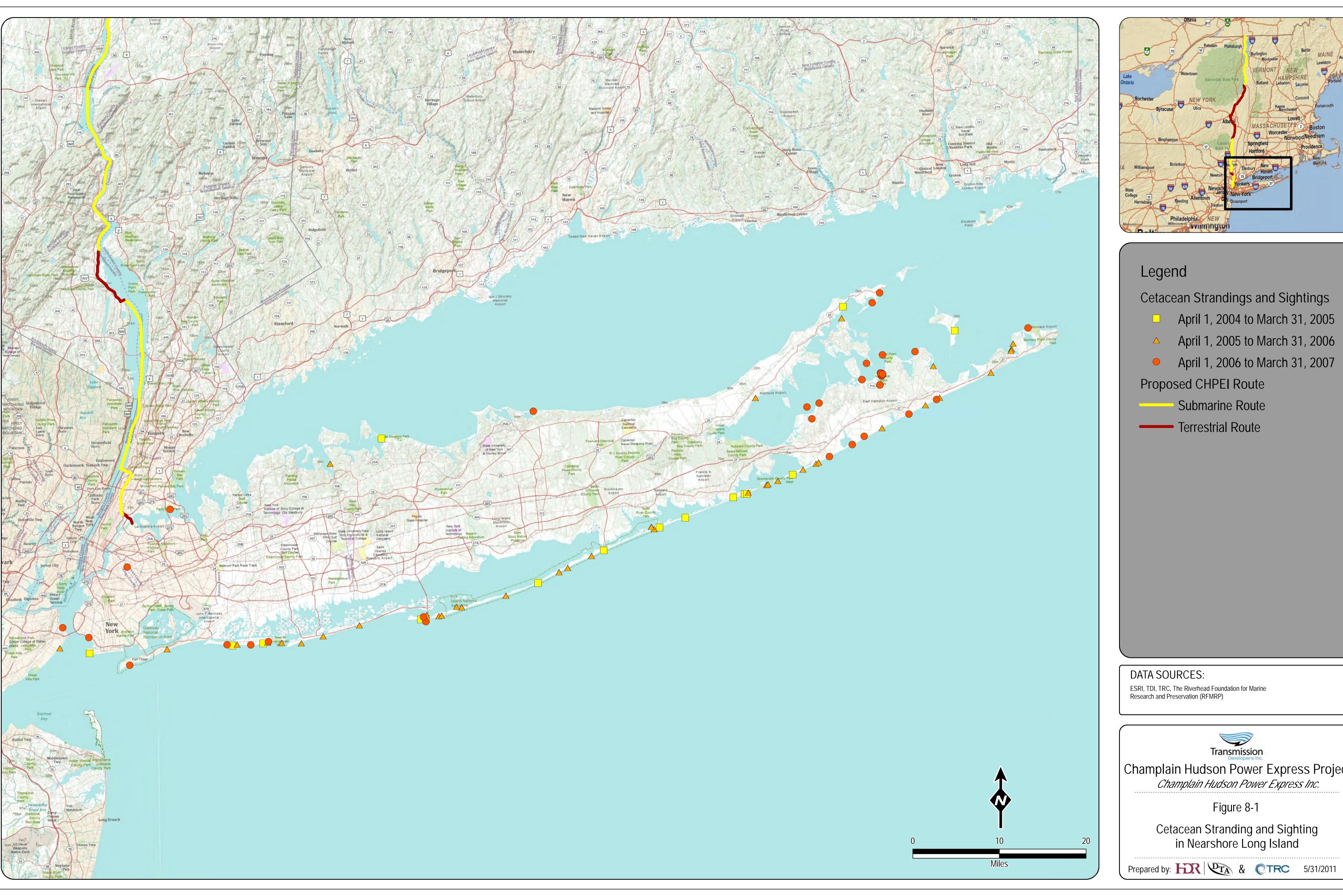
Figure 7-4

Essential Fish Habitat Designations











Cetacean Strandings and Sightings

- April 1, 2004 to March 31, 2005
- April 1, 2005 to March 31, 2006
- April 1, 2006 to March 31, 2007

Proposed CHPEI Route

- Submarine Route



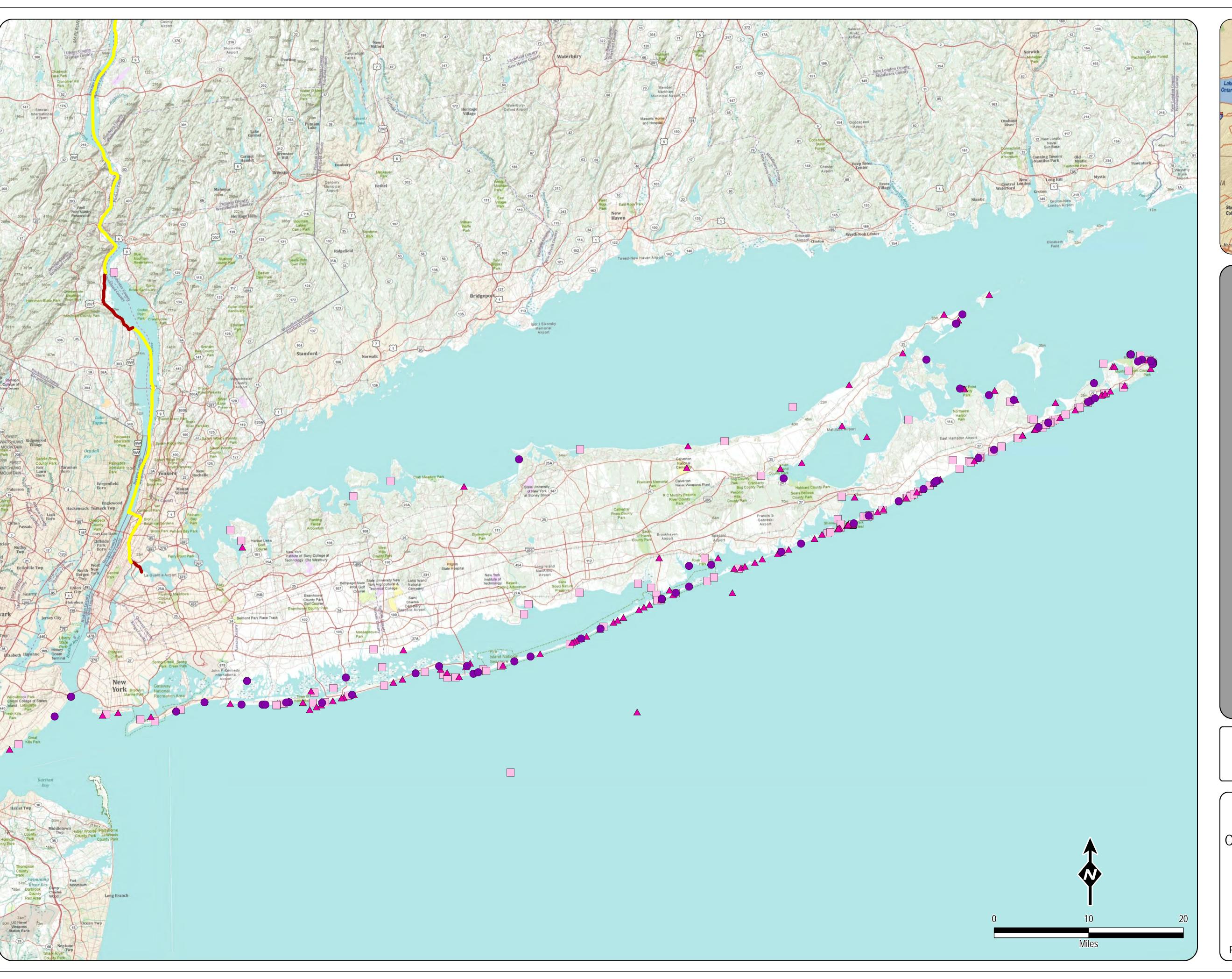
Champlain Hudson Power Express Project

Champlain Hudson Power Express Inc.

Figure 8-1

Cetacean Stranding and Sighting in Nearshore Long Island







## Legend

Pinniped Strandings and Sightings

- April 1, 2004 to March 31, 2005
- April 1, 2005 to March 31, 2006
- April 1, 2006 to March 31, 2007

Proposed CHPEI Route

- Submarine Route
- Terrestrial Route

### DATA SOURCES:

ESRI, TDI, TRC, The Riverhead Foundation for Marine Research and Preservation (RFMRP)



Champlain Hudson Power Express Project

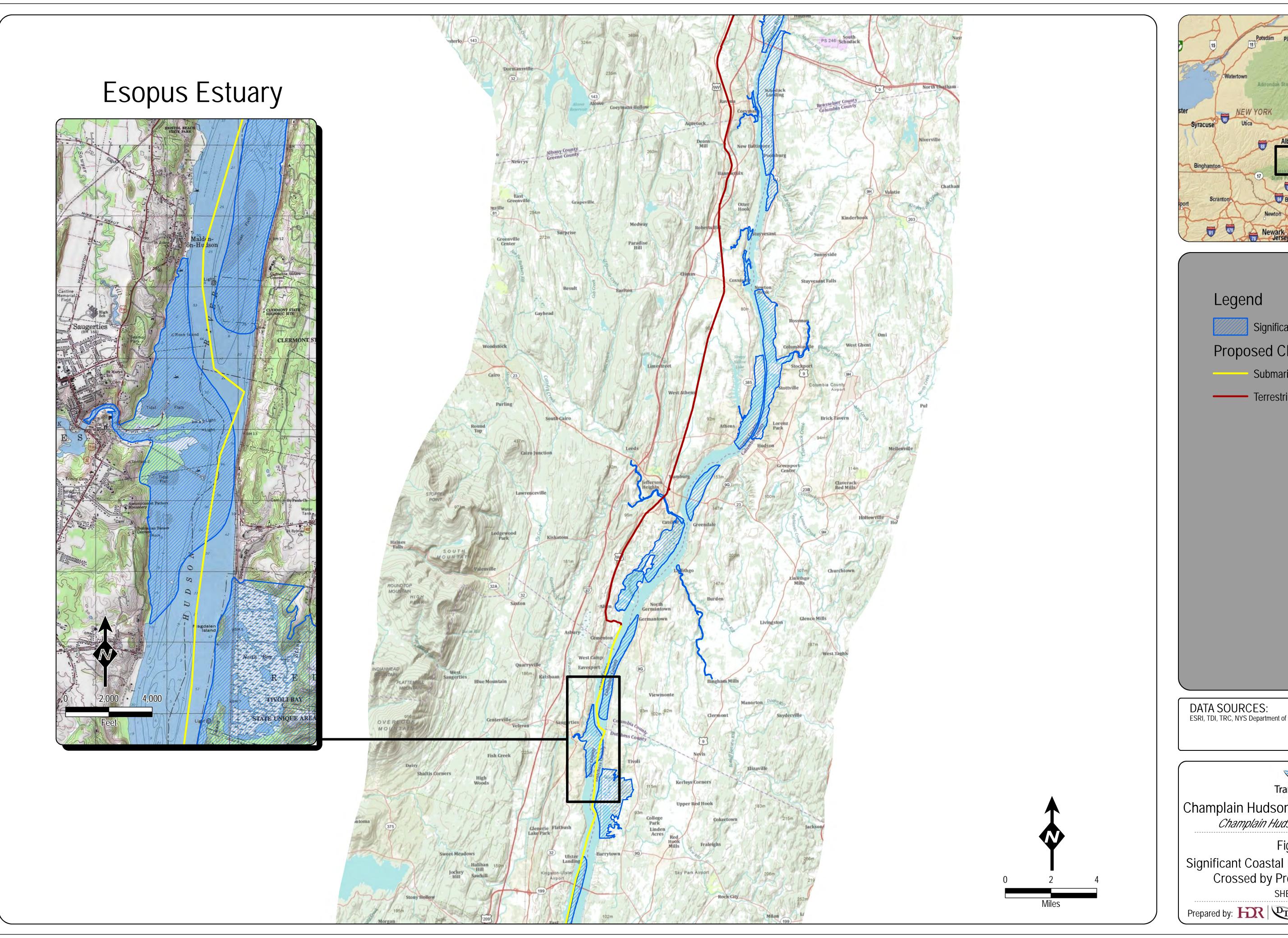
Champlain Hudson Power Express Inc.

Figure 8-2

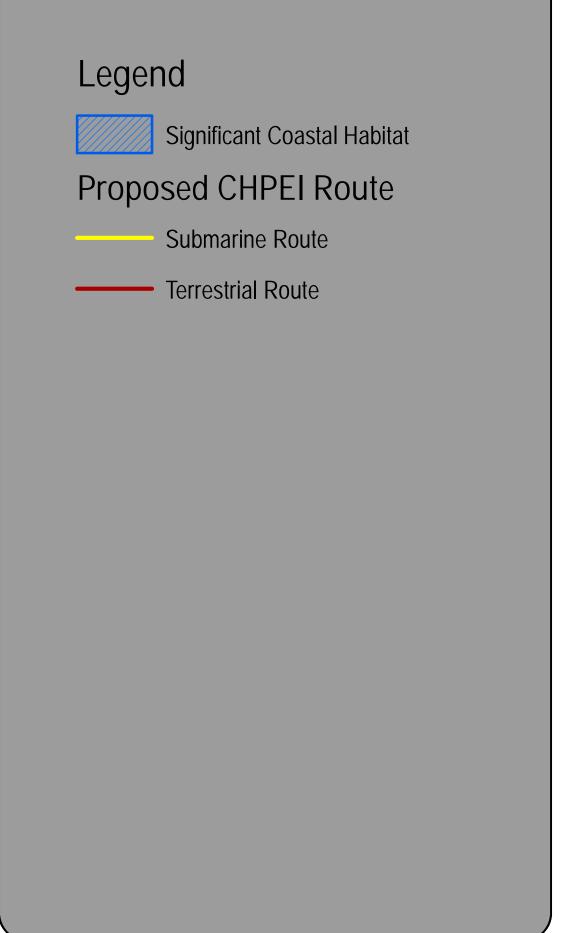
Pinniped Stranding and Sighting in Nearshore Long Island

Prepared by: HTA & CTRC 5/31/2011









DATA SOURCES:
ESRI, TDI, TRC, NYS Department of State, Division of Coastal Resources



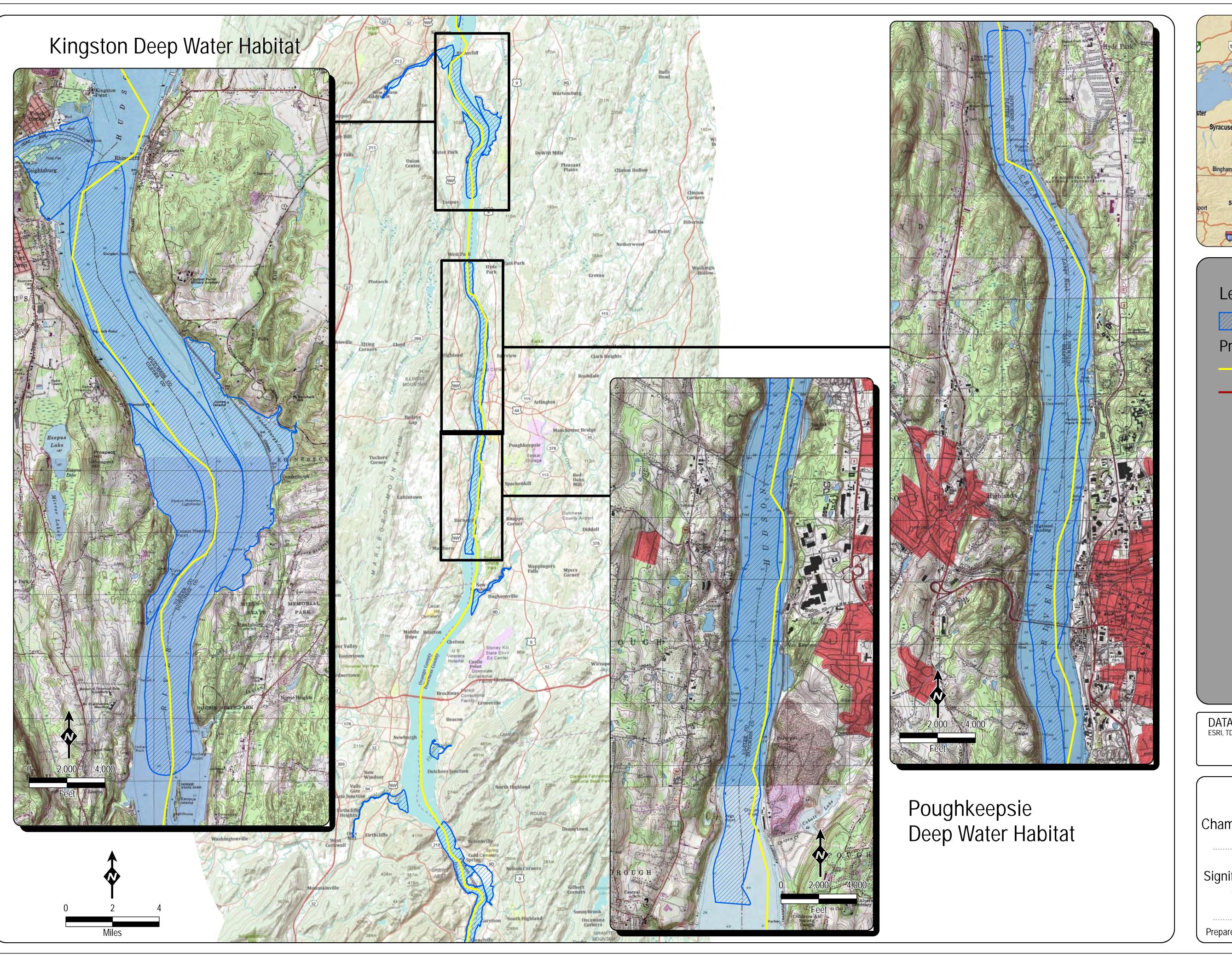
Champlain Hudson Power Express Project

Champlain Hudson Power Express Inc.

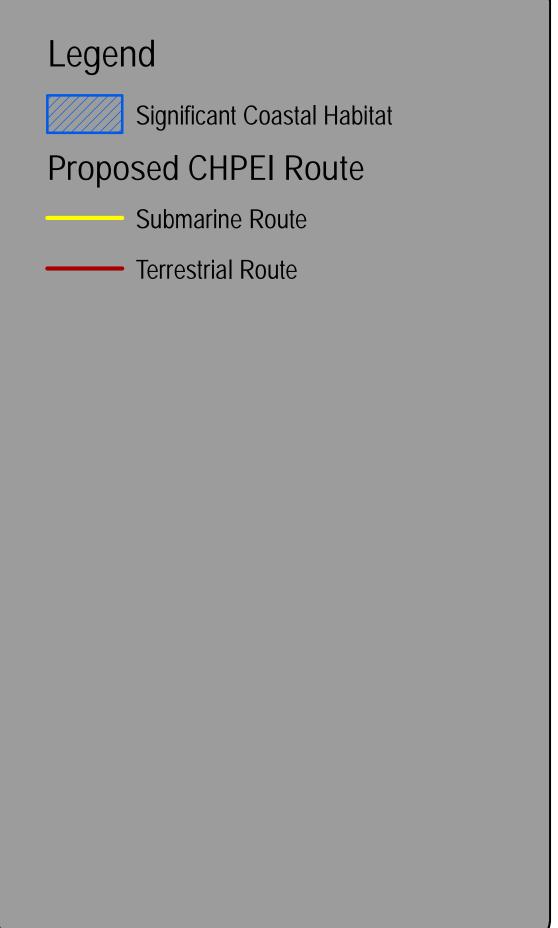
Figure 8-3

Significant Coastal Fish and Wildlife Habitats
Crossed by Proposed Cable Route
SHEET 1 OF 3

Prepared by: HTA & CTRC 4/15/2011







DATA SOURCES:
ESRI, TDI, TRC, NYS Department of State, Division of Coastal Resources



Champlain Hudson Power Express Project

Champlain Hudson Power Express Inc.

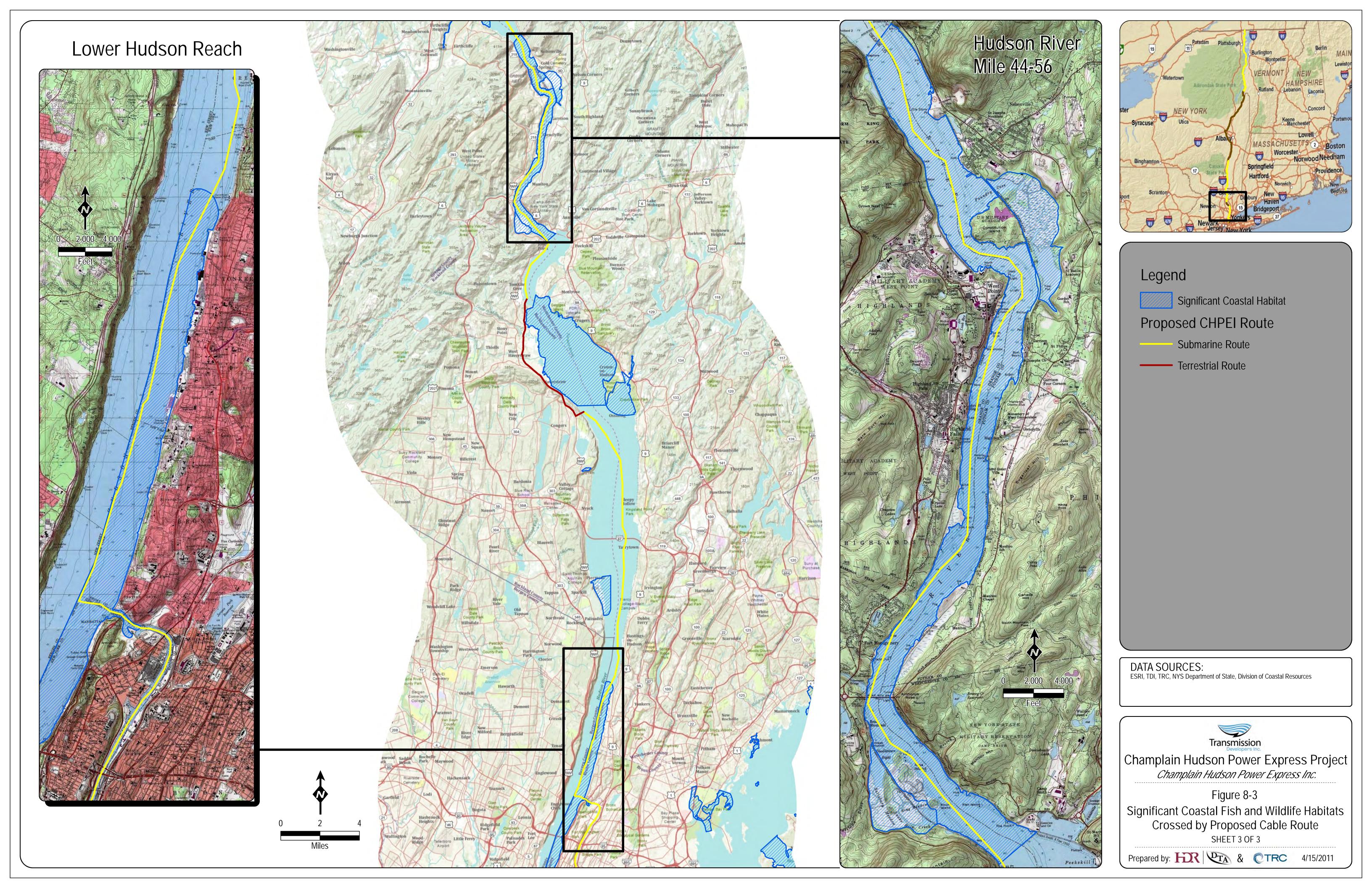
Figure 8-3

Significant Coastal Fish and Wildlife Habitats Crossed by Proposed Cable Route

SHEET 2 OF 3

Prepared by: HTA & CTRC 4/15/2011





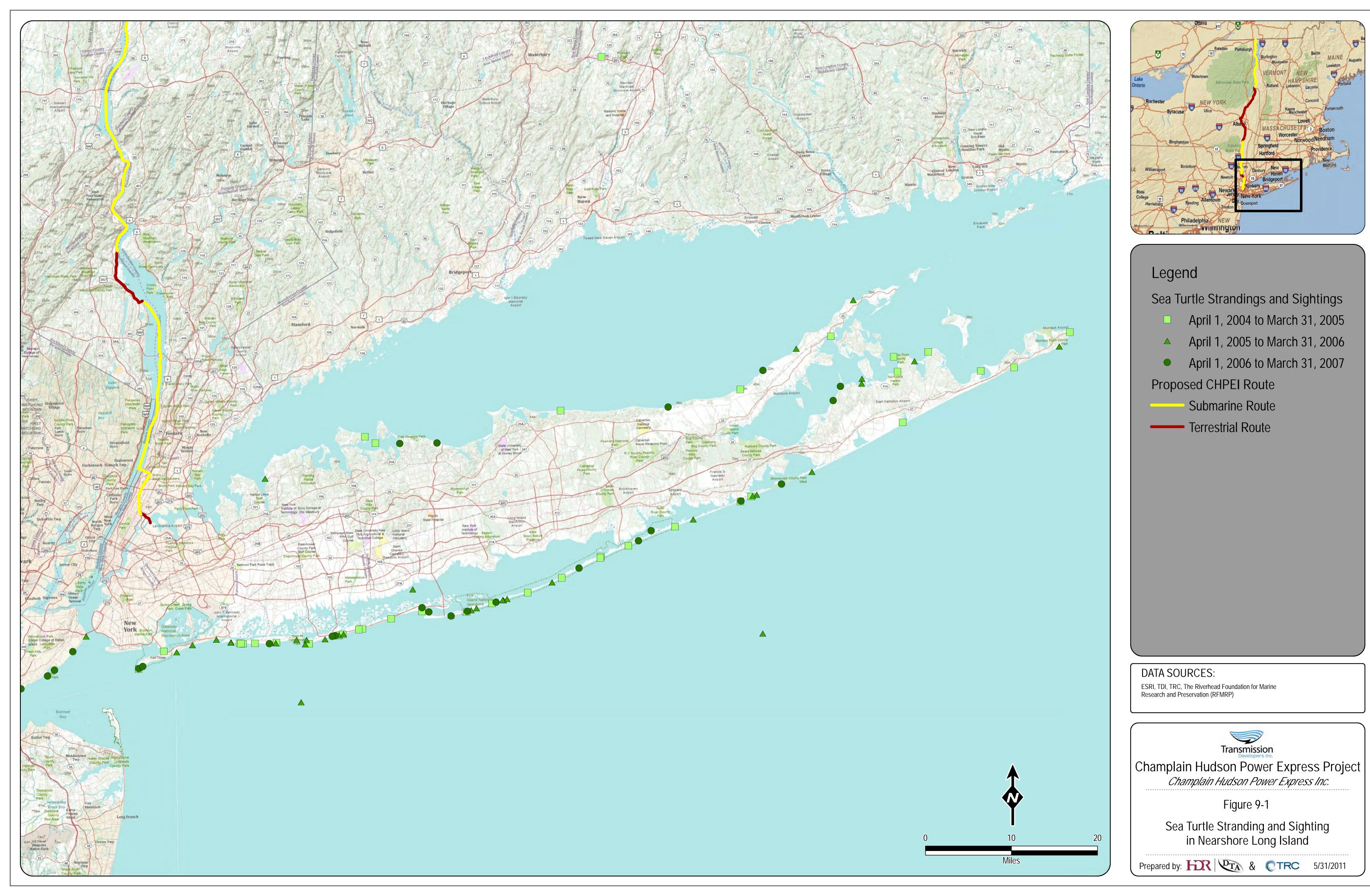


FIGURE 11-1 VIEW WEST FROM SASS SUBUNIT CO-6 OLANA VERANDA TO CO-3

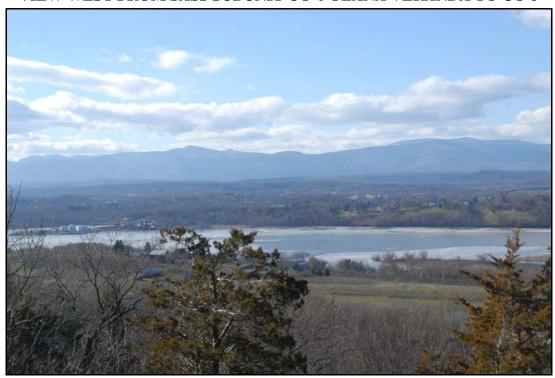


FIGURE 11-2 VIEW EAST AT CO-3, 1.25 MILES NORTH OF EMBOUGHT ROAD



FIGURE 11-3 NYS ROUTE 9 VIEW EAST AT CO-3, NORTH OF EMBOUGHT ROAD



FIGURE 11-4
TYPICAL CABLE SIGNAGE







FIGURE 11-5
CEMENTON VIEW WEST FROM GERMANTOWN, COLUMBIA COUNTY

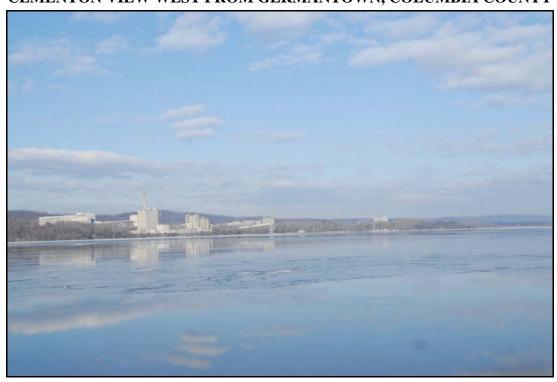


FIGURE 11-6
CEMENTON LANDFALL VIEW FROM GERMANTOWN, COLUMBIA COUNTY



FIGURE 11-7 OVERVIEW OF PROPOSED LUYSTER CREEK CONVERTER STATION SITE IN ASTORIA, NY



# FIGURE 11-8 PHOTOSIMULATION OF PROPOSED LUYSTER CREEK CONVERTER STATION SITE





Viewpoint Coordinates	657666.9 E
In NYSP East	709686.7 N
Viewpoint Location	19th Street
Viewer Elevation	6 ft msl
Distance to Closest Element	785 feet
Distance to Furthest Element	0.25 miles
Camera Model	Canon Rebel T 1i
Lens Setting	50 mm
Date/Time	11.11.09/8:56 am



#### VIEWPOINT 19th STREET





Viewpoint Coordinates	657666.9E
In NYSP East	709686.7N
Viewpoint Location	19" Street
Viewer Elevation	6 ft msl
Distance to Closest Element	785 feet
Distance to Furthest Element	0.25 miles
Camero Model	Canon Rebal 7 1
Lens Setting	50 mm
Date/Time	11.11.09/8:56 am



VIEWPOINT 19th STREET

FIGURE 12-1 ASTORIA HVDC CONVERTER STATION OPERATIONAL NOISE CONTOUR MAP (dBA)

