190 Attachment 12

WELLHEAD PROTECITON AREAS
APPENDIX A

Types of Facilities that are Major Potential Pollutant Sources
(Facilities with Toxicity Ratings of II or Greater)
[N.J.A.C. 7:10A-1.14(c)4, Table II(N)]
(Section 190-58)

SIC Code for Industrial Facility*	Description of Industrial Facility Which Includes Activities That May Release Hazardous Substances	Toxicity Rating
Any SIC Code	All groundwater remediation of toxic substances, including priority pollutants	V
Any SIC Code	Contaminated stormwater runoff from any type of facility listed below	
0721	Crop dusting and spraying	IV
10xx	Metal mining	V
12xx	Coal mining	Ill
1475	Phosphate rock mining	IV
22xx	Textile mills with finishing operations (dyeing, coating, etc.)	V
2491	Wood preserving	VI
2493	Reconstituted wood products	II
25xx	Furniture & fixtures with metal finishing	V
261x, 262x, 263x	Pulp, paper, and paperboard mills	V
27xx	Printing & publishing	II
2812	Inorganic chemicals, alkalies & chlorine	V
2813	Industrial gases	II
2816	Inorganic pigments	IV
2819	Industrial inorganic chemicals	IV
282x	Plastic materials & synthetic resins	V
283x	Drugs	V
284x	Soaps, detergents, etc.	III
285x	Paints, etc.	IV
2861	Gum & wood chemicals	III
2865, 2869	Industrial organic chemicals	VI
2879	Pesticides & agricultural chemicals	VI
289x, except 2891	Miscellaneous chemical products	IV
2891	Adhesives & sealants	V
29xx	Petroleum refining	V
30xx	Rubber & plastic products	IV
3111	leather tanning & finishing	IV
331x, except 3313	Steel mills	VI
3313	Electrometallurgical products, except steel	III
332x	Iron & steel foundries	V

SIC Code for Industrial Facility*	Description of Industrial Facility Which Includes Activities That May Release Hazardous Substances	Toxicity Rating
333x	Primary smelting, nonferrous metals	VI
334x	Secondary smelting, nonferrous metals	V
335x	Rolling, drawing, extruding, nonferrous metals	V
336x	Nonferrous foundries	V
339x	Miscellaneous primary metals products	V
341x, 342x, 343x, 344x, 345x, 346x. except 3431 & 3463	Fabricated metal products, with metal finishing	V
3431	Enameled sanitary ware, cast iron basis	VI
3463	Nonferrous forgings	V
347x	Plating & coating	V
348x	Ordinance, with metal finishing	V
348x	Ordinance, explosive load, assembly, packing	IV
349x, except 3497	Miscellaneous fabricated metal products, with metal finishing	V
3497	Metal foil & leaf	V
35xx	Industrial/commercial machinery & equipment, with metal finishing	V
36xx	Electronic equipment, with metal finishing or porcelain enameling	V
3624	Carbon & graphite products	V
3671	Cathode ray tubes	V
3672	Printed circuit boards	V
3674	Semiconductors	VI
3679	Electronic crystals only	III
3691, 3692	Batteries	IV
37xx, except 3731	Transportation equipment, with metal finishing	V
3731	Shipbuilding	IV
38xx	Measuring, analyzing & controlling instruments, with metal finishing	V
3844, 3845	Measuring, analyzing & controlling instruments, with electron tube manufacture	V
3861	Photographic related chemicals	V
39xx	Miscellaneous manufacturing industries, with metal finishing	V
4231	Trucking terminals	III
4493	Marinas	III
4499	Water transportation services	III
46xx	Pipelines, except natural gas	V
4911, 4931	Electric services	IV
4941	Water supply	IV
4953	Solid waste facilities	IV
4953	Hazardous waste treatment facilities	VI
5052	Coal & other minerals & ores	V

SIC Code for Industrial Facility*	Description of Industrial Facility Which Includes Activities That May Release Hazardous Substances	Toxicity Rating
5093	Scrap & waste materials	VI
5169	Chemicals & allied products	VI
5171	Petroleum bulk stations & terminals	V
5191	Farm supplies	IV
7211, 7215, 7216 & 7217	Laundries, dry-cleaning & carpet/upholstery cleaning	II
7213, 7218	Linen supply & industrial launderers	IV
7342	Disinfecting & pest control services	VI
7389	Solvents recovery services only	VI
7542	Car & truck washes	II
7699	Repair shops, with metal finishing	V
8062	General medical & surgical hospitals	VI
8069	Specialty hospitals	VI
8071	Medical laboratories	VI
8731	Commercial research organizations	IV
8733	Noncommercial research organizations	IV

* For the purposes of this table, SIC (Standard Industrial Classification) Codes are determined from the Federal Standard Industrial Classification Manual (1987) issued by the United States Office of Management and Budget.

Appendix B
New Jersey Department of Environmental Protection (NJDEP) Delineations of Wellhead Protection Areas (WHPAs) around Public Community Water Supply Wells (Section 190-56)

[Excerpts from: New Jersey Geological Survey, New Jersey Department of Environmental Protection, New Jersey Public Community Water Supply Well Head Protection Areas, Edition 2, Geospatial Data Presentation, New Jersey Digital Data Series, DGS02-2, dated 18 June 2002.]

Description of WHPAs: A Wellhead Protection Area (WHPA) is an area calculated around a Public Community Water Supply (PCWS) well in New Jersey that delineates the horizontal extent of groundwater captured by a well pumping at a specific rate over two-, five-, and twelve-year periods of time. The area of capture is defined using line boundaries and polygon areas generated with the ARC/INFO Geographic Information System (GIS). GIS coverages are produced for each PCWS well and for the set of all PCWS wells in a county using the ARC/INFO UNION command on individual coverages. WHPA delineation methods are described in "Guidelines for Delineation of Well Head Protection Areas in New Jersey" (<http://www.state.nj.us/dep/njgs/whpaguide.pdf>). An ARC/INFO point coverage of associated PCWS wells is available as N.J. Geological Survey Digital Geodata Series DGS97-1 (<http://www.state.nj.us/dep/njgs/geodata/dgs97-1.htm>).

Internet Address:

<http://www.state.nj.us/dep/njgs/geodata/dgs02-2.htm>

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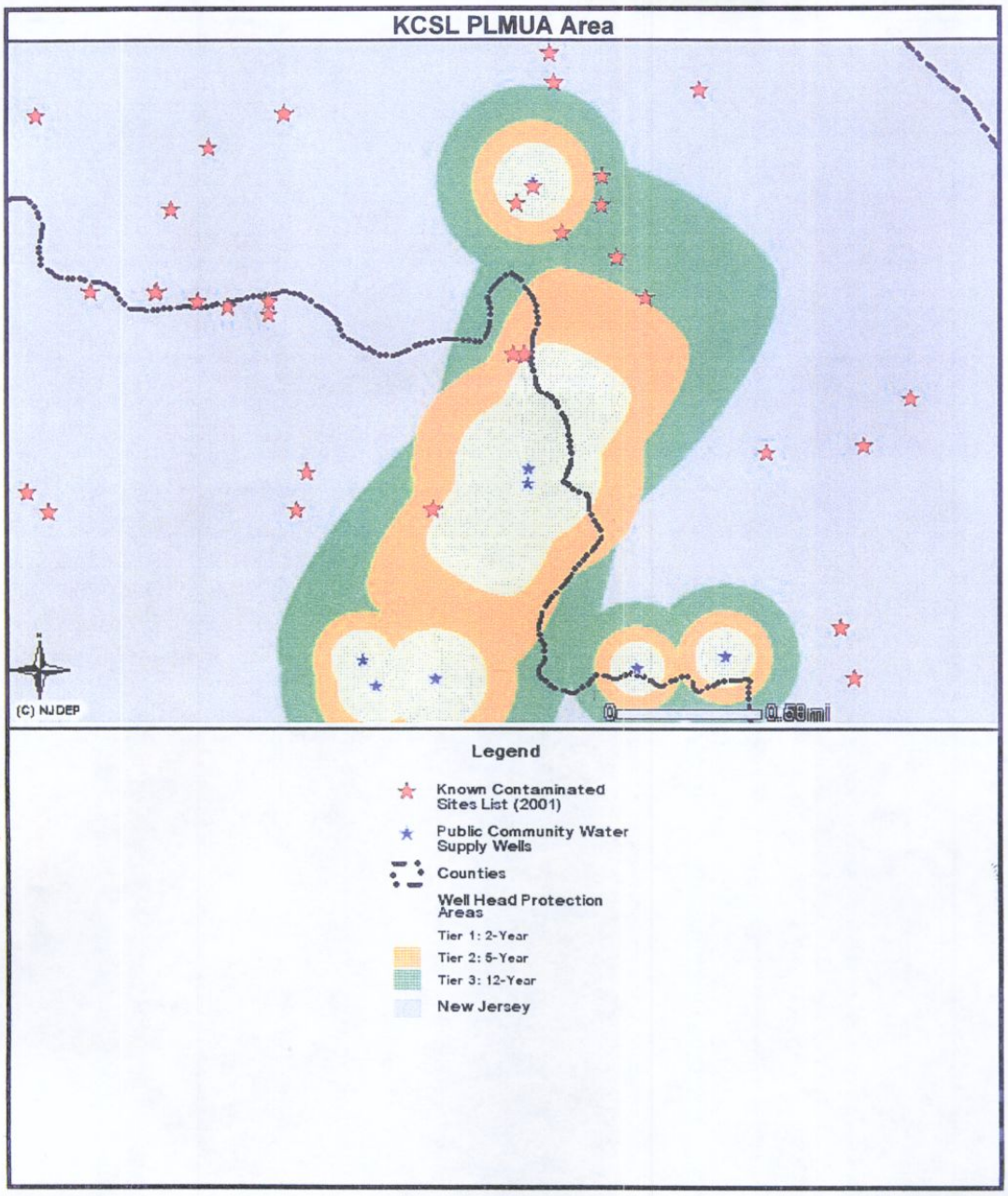
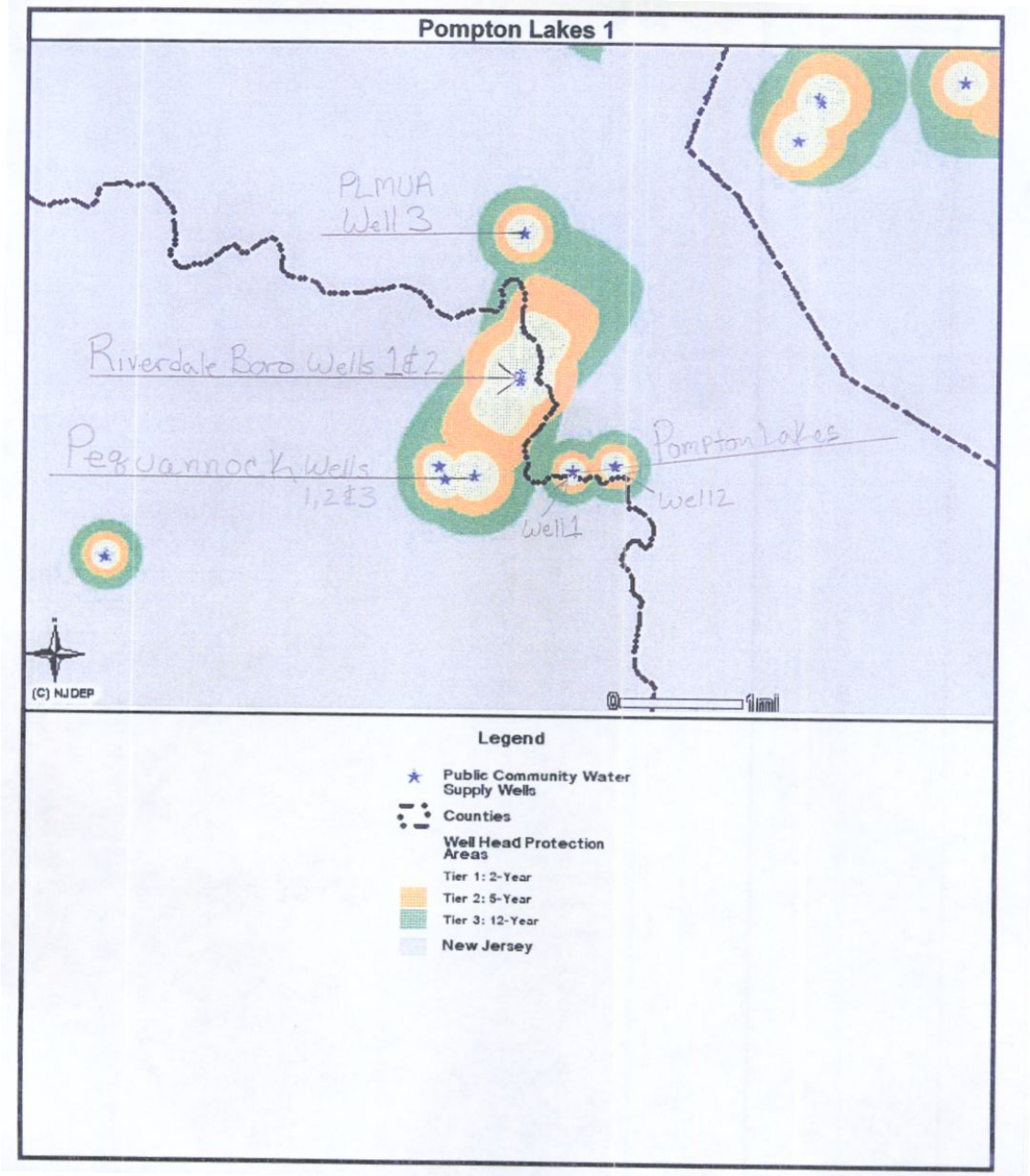
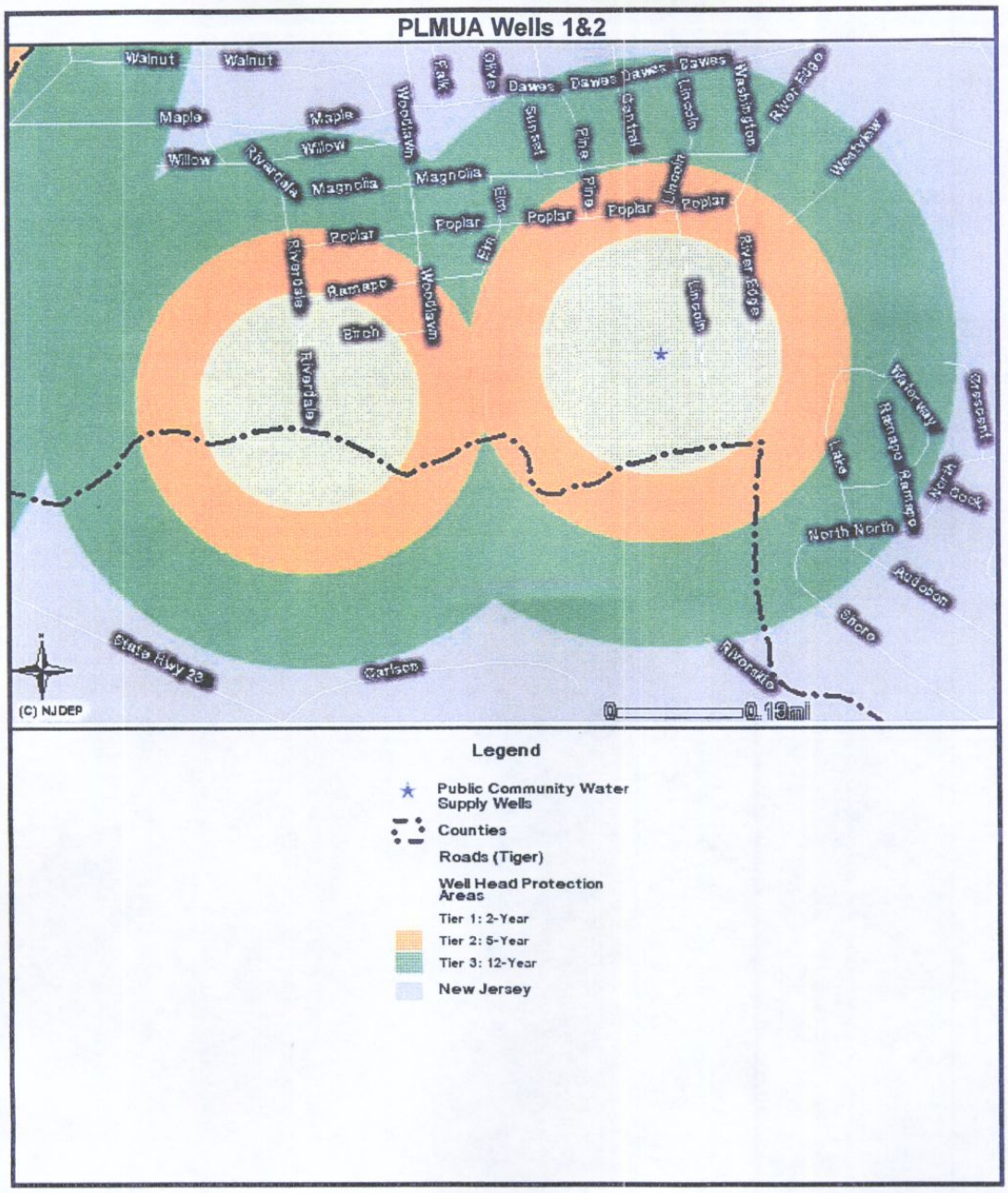
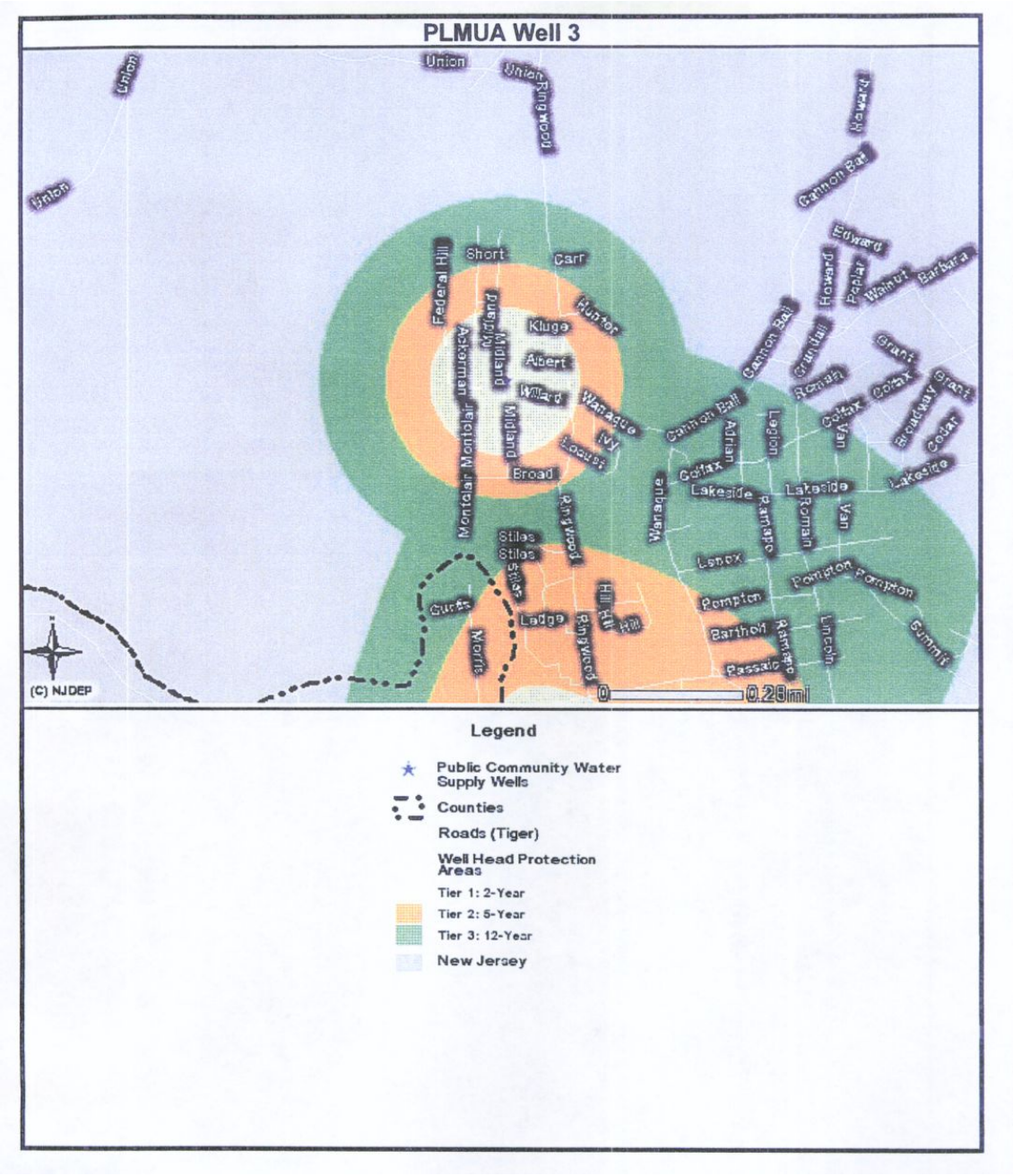
Process Description:
The WHPA delineations were created using the methods outlined in "Guidelines for Delineation of Well Head Protection Areas in New Jersey" available as a download at <http://www.state.nj.us/dep/njgs/whpaguide.pdf>. Coordinate files delineating each WHPA boundary were generated using a custom MS-DOS program on-file at the offices of the N.J. Geological Survey. The MS-DOS coordinate files are formatted as ARC/INFO coverages and contain line attributes specifying each time of travel tier for groundwater to the well. Each coverage was built as both a line and a polygon coverage having both arc and polygon attributes for the three time of travel (TOT) tiers. PCWS wells were located using a global positioning system (GPS). WHPA delineations are considered to have an accuracy of plus or minus 40 feet in any direction from the mapped location. WHPA delineations for wells completed in the glacial sand and gravel aquifer were clipped to a custom hydrologic boundary. Sand and gravel aquifers occur where deposits are more than fifty-feet thick. The hydrologic boundary is generated as a two-thousand-foot buffer around the polygon representing the contact of the sand and gravel aquifer for those areas where the aquifer is less than fifty-feet thick. This distance was selected based on an average distance between the fifty- and one-hundred-foot thickness contours of the sand and gravel aquifer. The average inter-contour distance was doubled to provide a conservative estimate of the thickness variation. Therefore, any portion of the WHPA delineation that lies beyond this extent is clipped.

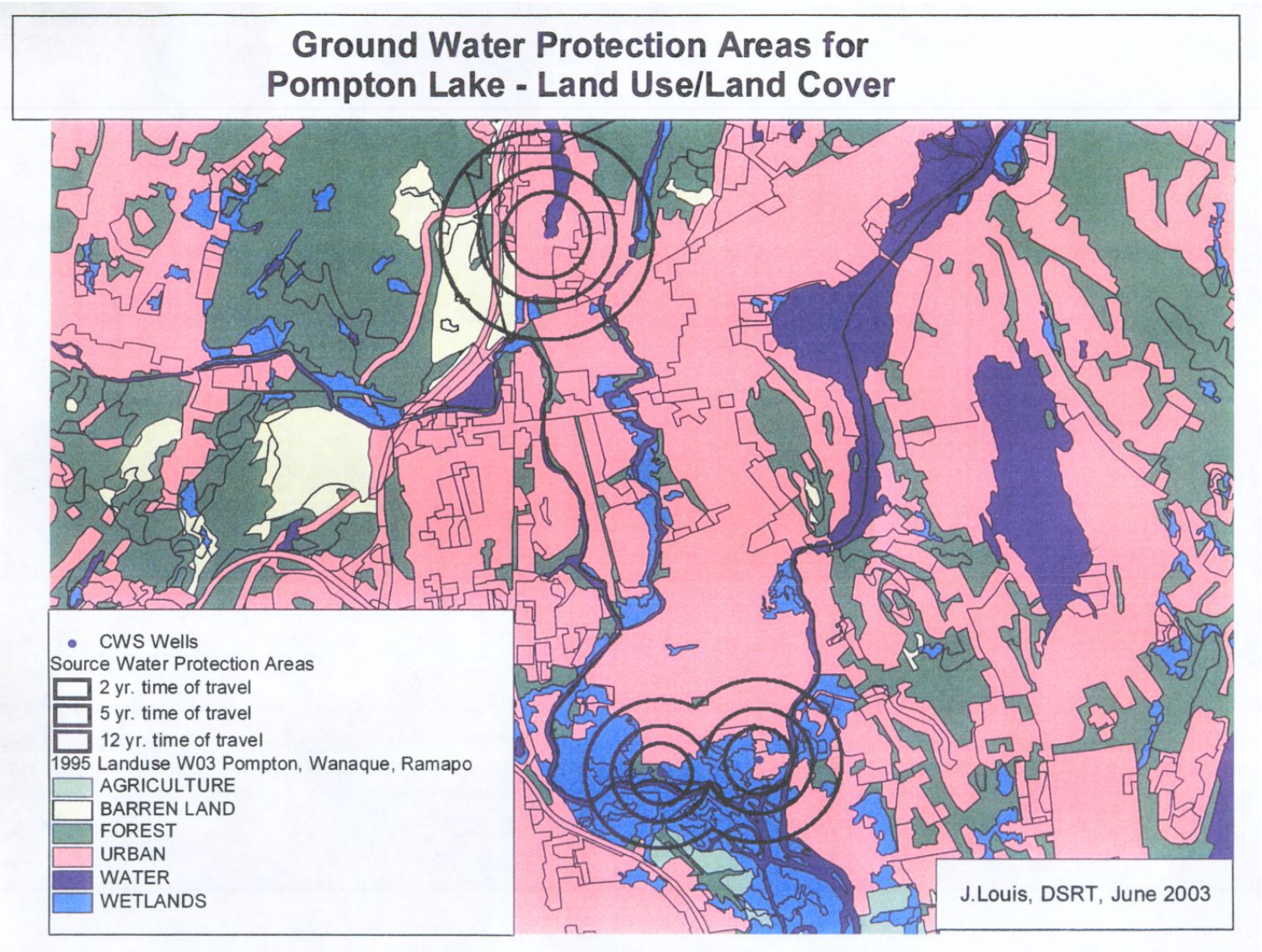
APPENDIX C
Wellhead Protection Areas Maps
(Section 190-56)

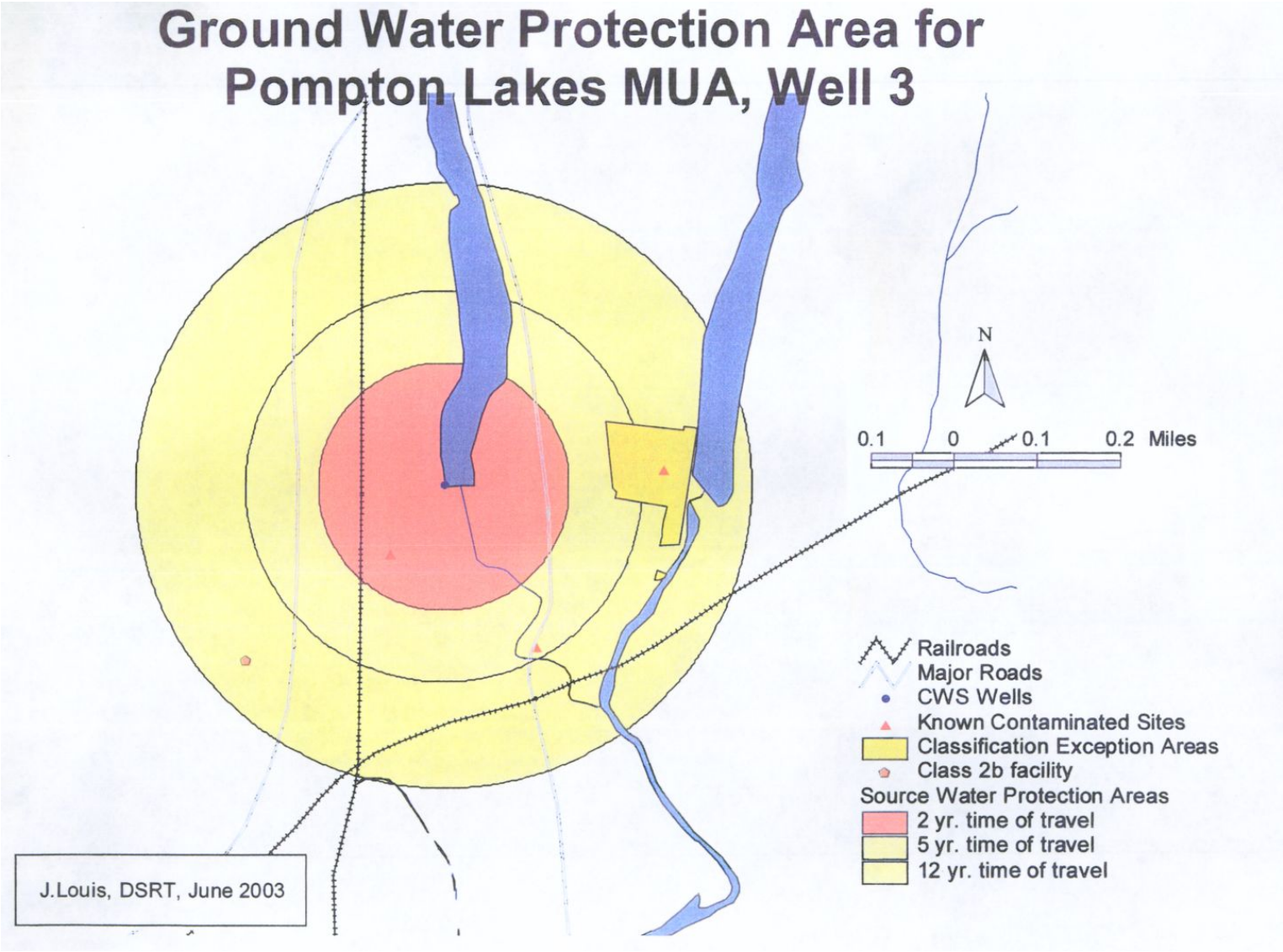



Pompton Lakes 1
PLMUA
Well 3
Riverdale Boro Wells 1&2
Pequannock Wells
1,2&3
Pompton Lakes
well 2
well 1
(C) NJDEP
0
1 mi
Legend
Public Community Water Supply Wells
Counties
Well Head Protection Areas
Tier 1: 2-Year
Tier 2: 5-Year
Tier 3: 12-Year
New Jersey


PLMUA Wells 1&2
Walnut
Walnut
Maple
Maple
Willow
Willow
Riverdale
Magnolia
Magnolia
Woodlawn
Falk
Olive
Dawes
Dawes
Dawes
Dawes
Sunset
Pine
Central
Lincoln
Washington
River Edge
Westview
Elm
Poplar
Poplar
Poplar
Poplar
Poplar
Elm
Riverdale
Ramapo
Birch
Woodlawn
Riverdale
Lincoln
River Edge
Waterway
Crescent
Ramapo
Ramapo
Lake
North
Cook
North North
Audubon
Shore
Riverside
State Hwy 23
Carlson
(C) NJDEP
0
0.13mi
Legend
Public Community Water Supply Wells
Counties
Roads (Tiger)
Well Head Protection Areas
Tier 1: 2-Year
Tier 2: 5-Year
Tier 3: 12-Year
New Jersey


PLMUA Well 3
Union
Union
Union
Union
Ringwood
Howard
Cannon Bal
Edward
Howard
Poplar
Walnut
Barbara
Short
Carr
Federal Hill
Midland
Kluge
Huntor
Ackerman
Midland
Albert
Willard
Wanaque
Ivy
Locust
Broad
Montclair
Montclair
Midland
Cannon Bal
Grandall
Romain
Grant
Colfax
Grant
Broadway
Cedar
Cannon Bal
Adrian
Legion
Colfax
Van
Colfax
Lakeside
Lakeside
Lakeside
Wanaque
Ramapo
Romain
Van
Ringwood
Stiles
Stiles
Stiles
Lenox
Pompton
Pompton
Pompton
Gurtis
Ledge
Hill
Hill
Hill
Ringwood
Morris
Bartholf
Ramapo
Lincoln
Summit
Passaic
(C) NJDEP
0
0.28mi
Legend
Public Community Water Supply Wells
Counties
Roads (Tiger)
Well Head Protection Areas
Tier 1: 2-Year
Tier 2: 5-Year
Tier 3: 12-Year
New Jersey


Ground Water Protection Areas for
Pompton Lake - Land Use/Land Cover
CWS Wells
Source Water Protection Areas
2 yr. time of travel
5 yr. time of travel
12 yr. time of travel
1995 Landuse W03 Pompton, Wanaque, Ramapo
AGRICULTURE
BARREN LAND
FOREST
URBAN
WATER
WETLANDS
J.Louis, DSRT, June 2003


Ground Water Protection Area for
Pompton Lakes MUA, Well 3
N
0.1
0
0.1
0.2 Miles
Railroads
Major Roads
CWS Wells
Known Contaminated Sites
Classification Exception Areas
Class 2b facility
Source Water Protection Areas
2 yr. time of travel
5 yr. time of travel
12 yr. time of travel
J.Louis, DSRT, June 2003