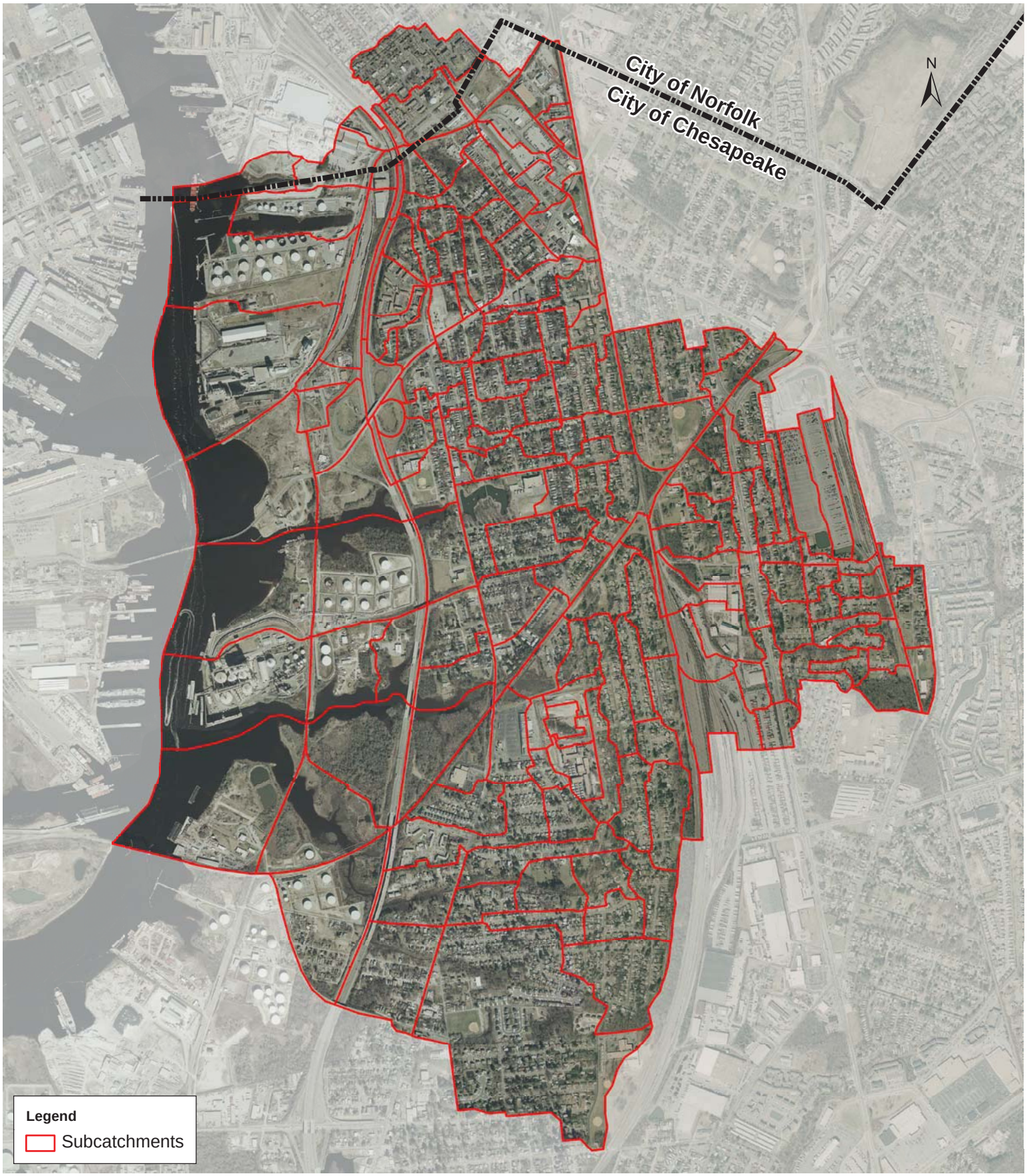
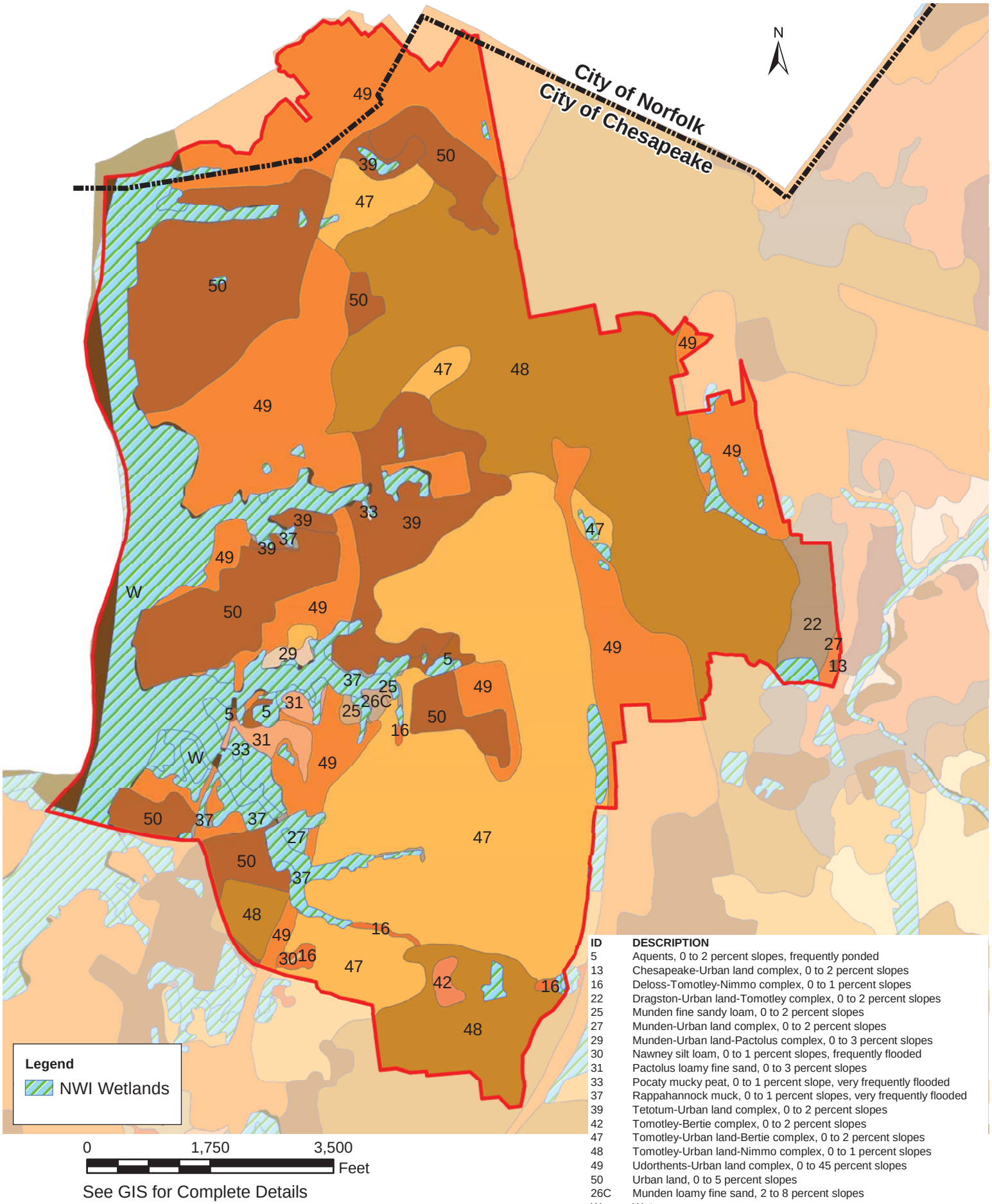


0 1,750 3,500 Feet

Aerial Imagery @ 2006, 2007 Commonwealth of Virginia.

See GIS for Complete Details

Figure 1. South Norfolk Watershed MDP Map



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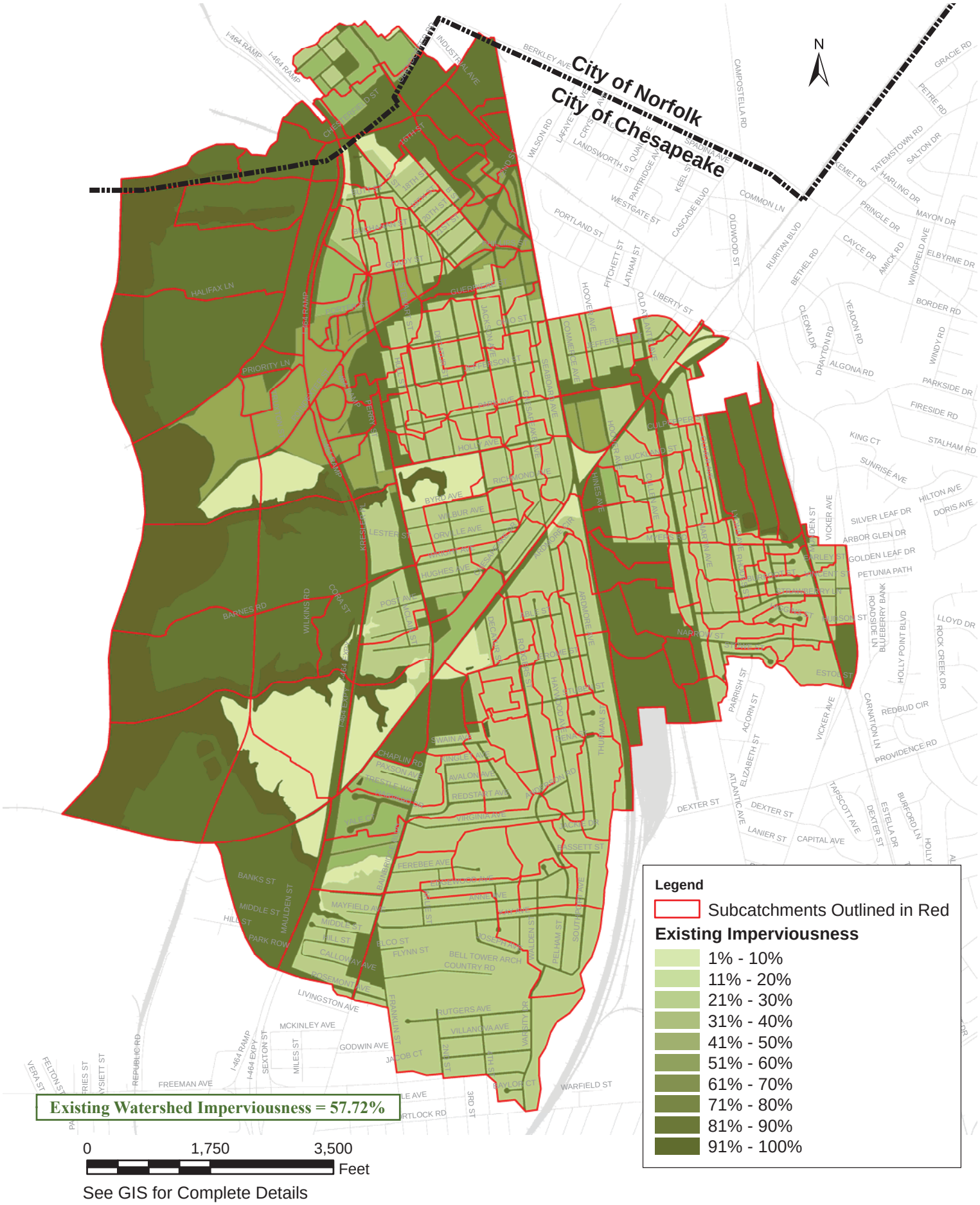
ID	DESCRIPTION
5	Aquents, 0 to 2 percent slopes, frequently ponded
13	Chesapeake-Urban land complex, 0 to 2 percent slopes
16	Deloss-Tomotley-Nimmo complex, 0 to 1 percent slopes
22	Dragston-Urban land-Tomotley complex, 0 to 2 percent slopes
25	Munden fine sandy loam, 0 to 2 percent slopes
27	Munden-Urban land complex, 0 to 2 percent slopes
29	Munden-Urban land-Pactolus complex, 0 to 3 percent slopes
30	Nawney silt loam, 0 to 1 percent slopes, frequently flooded
31	Pactolus loamy fine sand, 0 to 3 percent slopes
33	Pocaty mucky peat, 0 to 1 percent slope, very frequently flooded
37	Rappahannock muck, 0 to 1 percent slopes, very frequently flooded
39	Tetotum-Urban land complex, 0 to 2 percent slopes
42	Tomotley-Bertie complex, 0 to 2 percent slopes
47	Tomotley-Urban land-Bertie complex, 0 to 2 percent slopes
48	Tomotley-Urban land-Nimmo complex, 0 to 1 percent slopes
49	Udorthents-Urban land complex, 0 to 45 percent slopes
50	Urban land, 0 to 5 percent slopes
26C	Munden loamy fine sand, 2 to 8 percent slopes
W	Water

Figure 2. Soils with Wetlands Overlay



See GIS for Complete Details

Figure 3. Existing Conditions Subcatchments with shaded Imperviousness

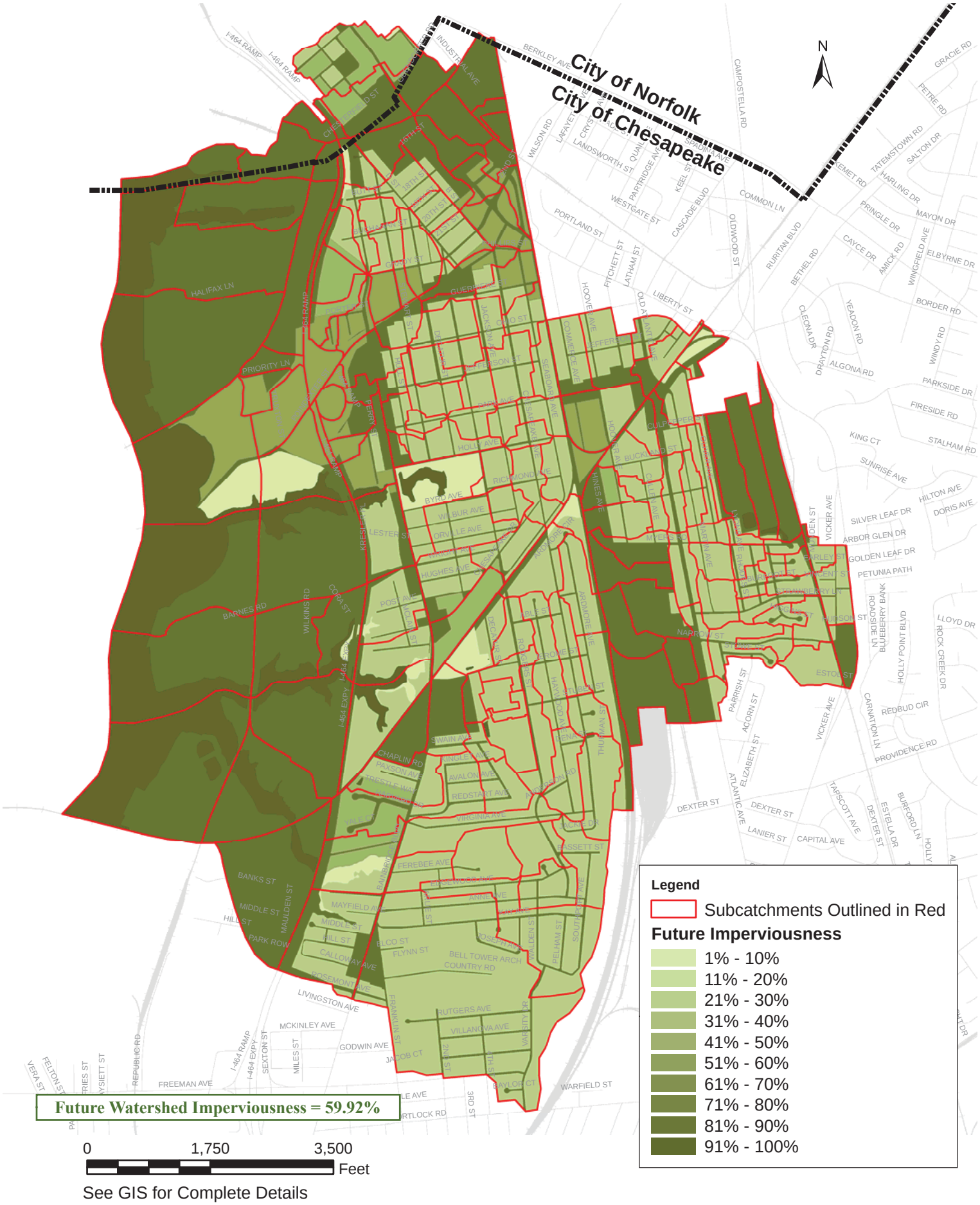


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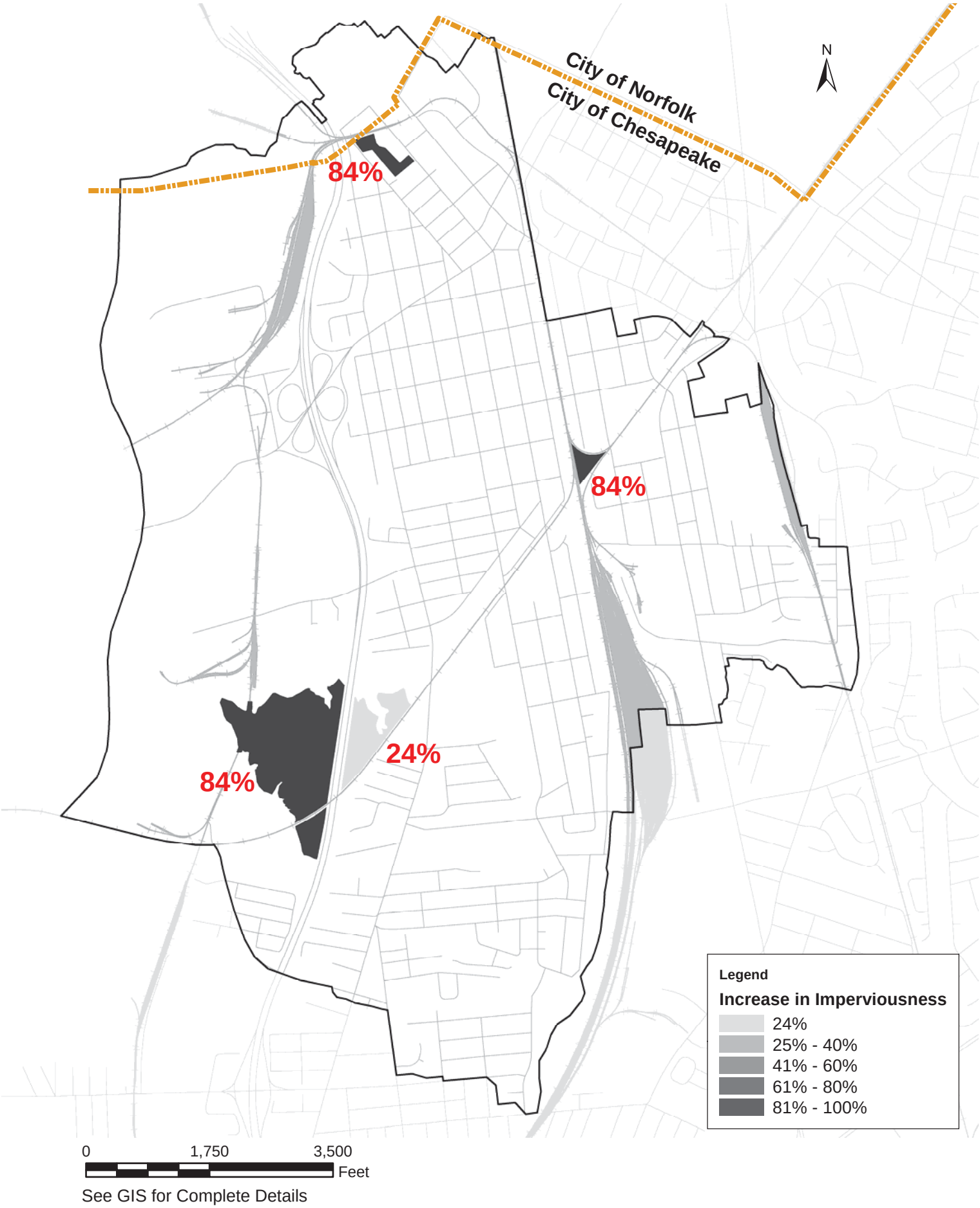
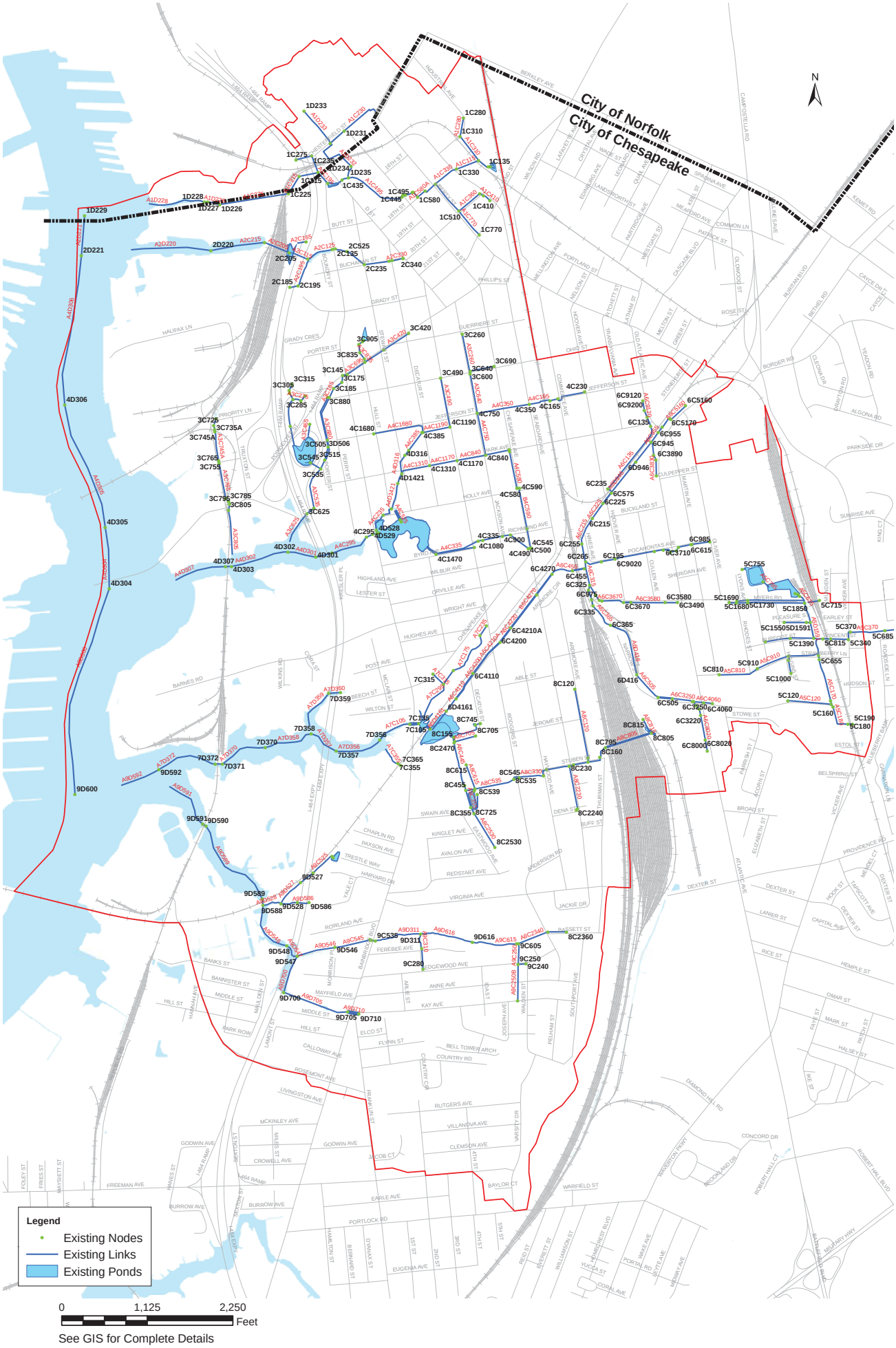
Figure 4. Future Conditions Subcatchments with shaded Imperviousness



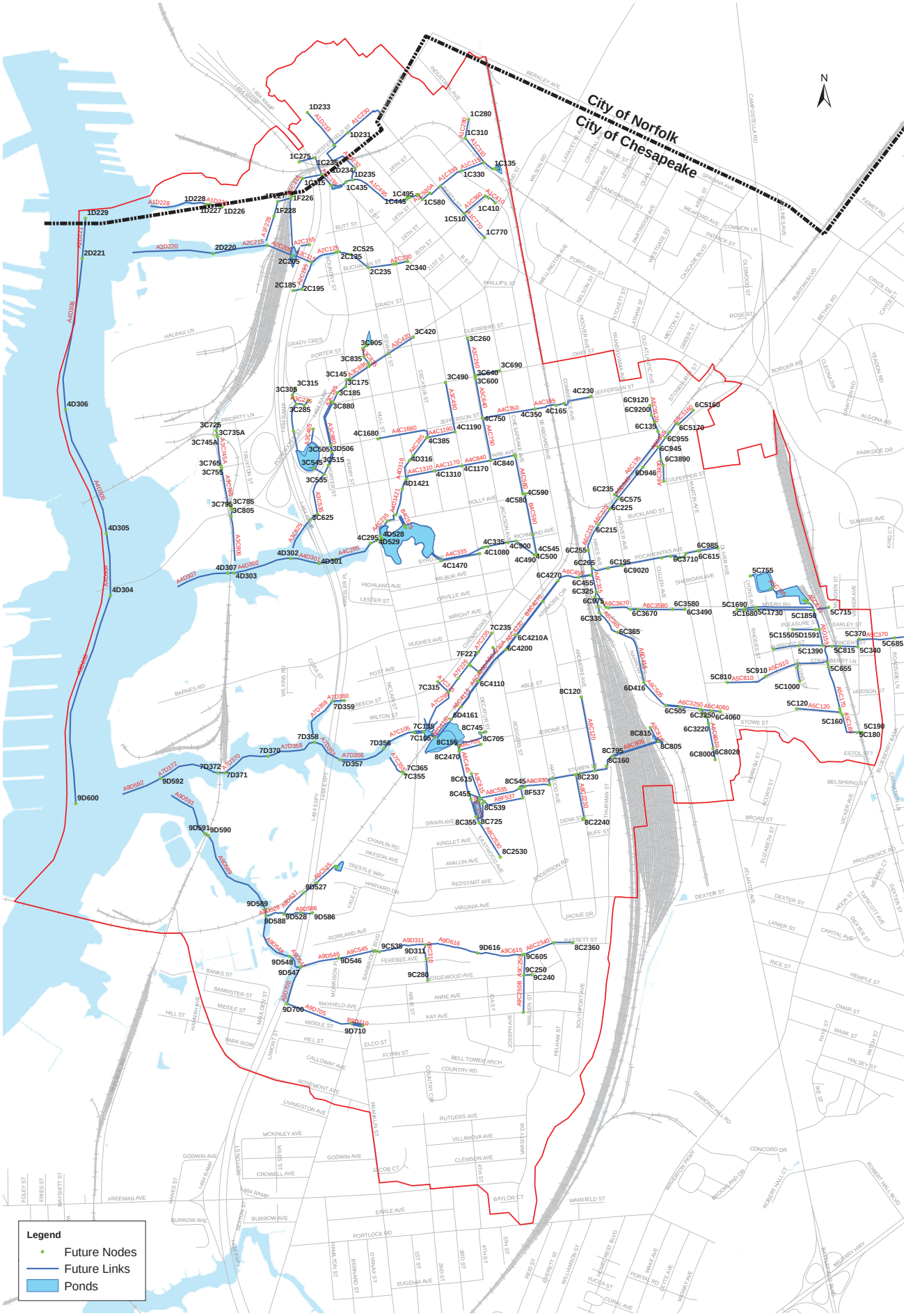
See GIS for Complete Details

Figure 5. Potential Increase In Imperviousness



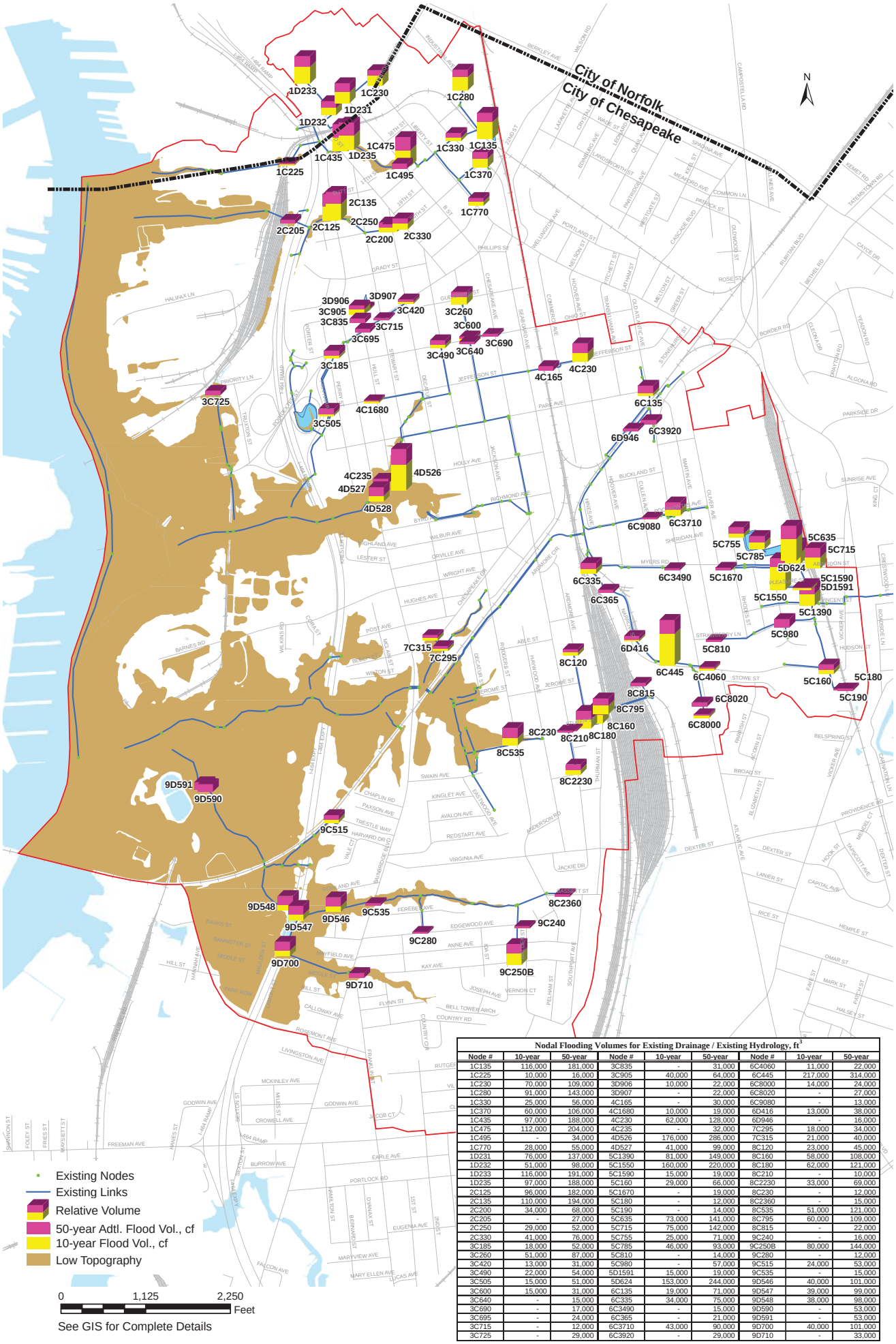
See GIS for Complete Details

Figure 6. Link-Node Diagram - Existing Conditions



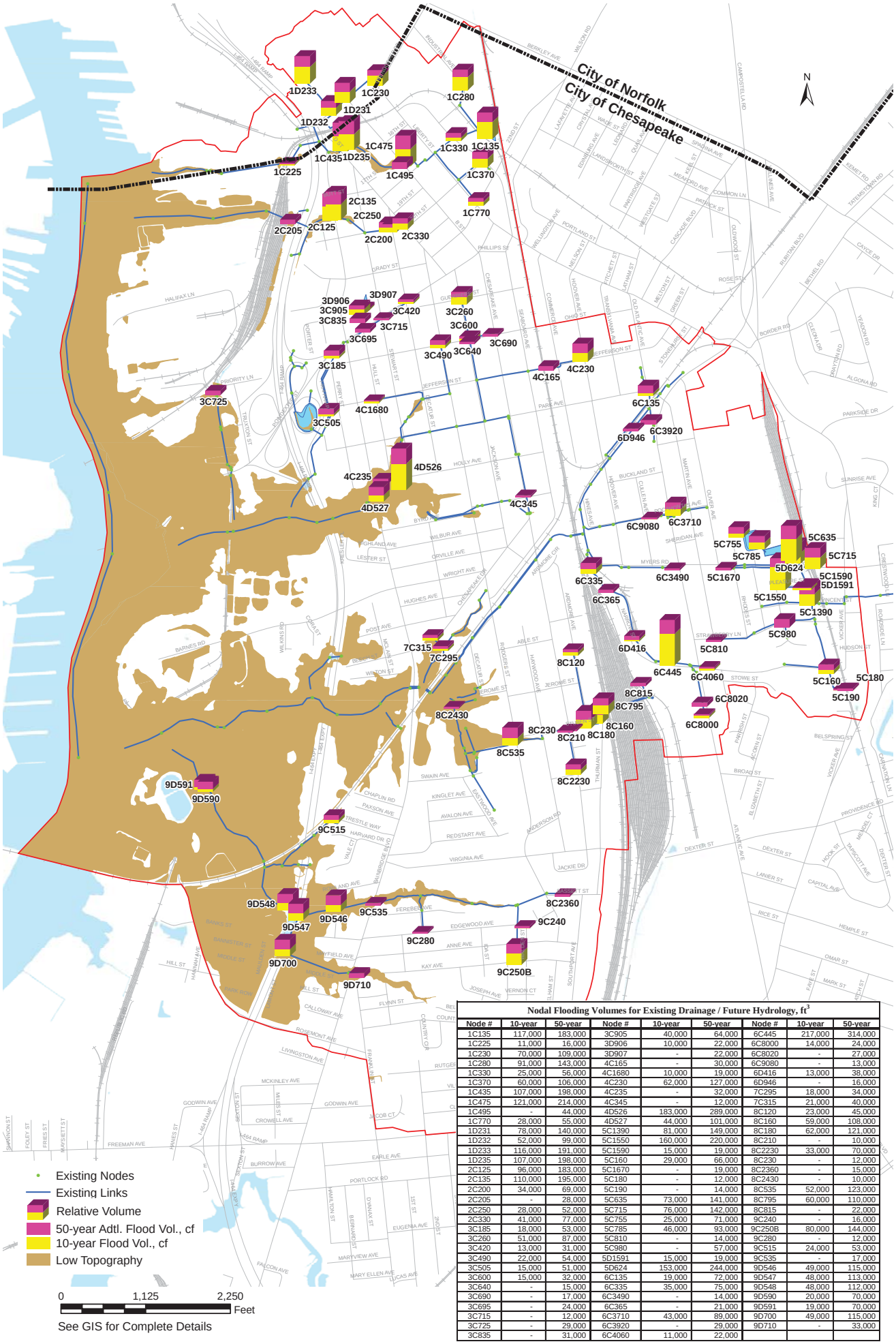
See GIS for Complete Details

Figure 7. Link-Node Diagram - Future Conditions



Nodal Flooding Volumes for Existing Drainage / Existing Hydrology, ft^3								
Node #	10-year	50-year	Node #	10-year	50-year	Node #	10-year	50-year
1C135	116,000	181,000	3C835	-	31,000	6C4060	11,000	22,000
1C225	10,000	16,000	3C905	40,000	64,000	6C445	217,000	314,000
1C230	70,000	109,000	3D906	10,000	22,000	6C8000	14,000	24,000
1C280	91,000	143,000	3D907	-	22,000	6C8020	-	27,000
1C330	25,000	56,000	4C165	-	30,000	6C9080	-	13,000
1C370	60,000	106,000	4C1680	10,000	19,000	6D416	13,000	38,000
1C435	97,000	188,000	4C230	62,000	128,000	6D946	-	16,000
1C475	112,000	204,000	4C235	-	32,000	7C295	18,000	34,000
1C495	-	34,000	4D526	176,000	286,000	7C315	21,000	40,000
1C770	28,000	55,000	4D527	41,000	99,000	8C120	23,000	45,000
1D231	76,000	137,000	5C1390	81,000	149,000	8C160	58,000	108,000
1D232	51,000	98,000	5C1550	160,000	220,000	8C180	62,000	121,000
1D233	116,000	191,000	5C1590	15,000	19,000	8C210	-	10,000
1D235	97,000	188,000	5C160	29,000	66,000	8C2230	33,000	69,000
2C125	96,000	182,000	5C1670	-	19,000	8C230	-	12,000
2C135	110,000	194,000	5C180	-	12,000	8C2360	-	15,000
2C200	34,000	68,000	5C190	-	14,000	8C535	51,000	121,000
2C205	-	27,000	5C635	73,000	141,000	8C795	60,000	109,000
2C250	29,000	52,000	5C715	75,000	142,000	8C815	-	22,000
2C330	41,000	76,000	5C755	25,000	71,000	9C240	-	16,000
3C185	18,000	52,000	5C785	46,000	93,000	9C250B	80,000	144,000
3C260	51,000	87,000	5C810	-	14,000	9C280	-	12,000
3C420	13,000	31,000	5C980	-	57,000	9C515	24,000	53,000
3C490	22,000	54,000	5D1591	15,000	19,000	9C535	-	15,000
3C505	15,000	51,000	5D624	153,000	244,000	9D546	40,000	101,000
3C600	15,000	31,000	6C135	19,000	71,000	9D547	39,000	99,000
3C640	-	15,000	6C335	34,000	75,000	9D548	38,000	98,000
3C690	-	17,000	6C3490	-	15,000	9D590	-	53,000
3C695	-	24,000	6C365	-	21,000	9D591	-	53,000
3C715	-	12,000	6C3710	43,000	90,000	9D700	40,000	101,000
3C725	-	29,000	6C3920	-	29,000	9D710	-	33,000

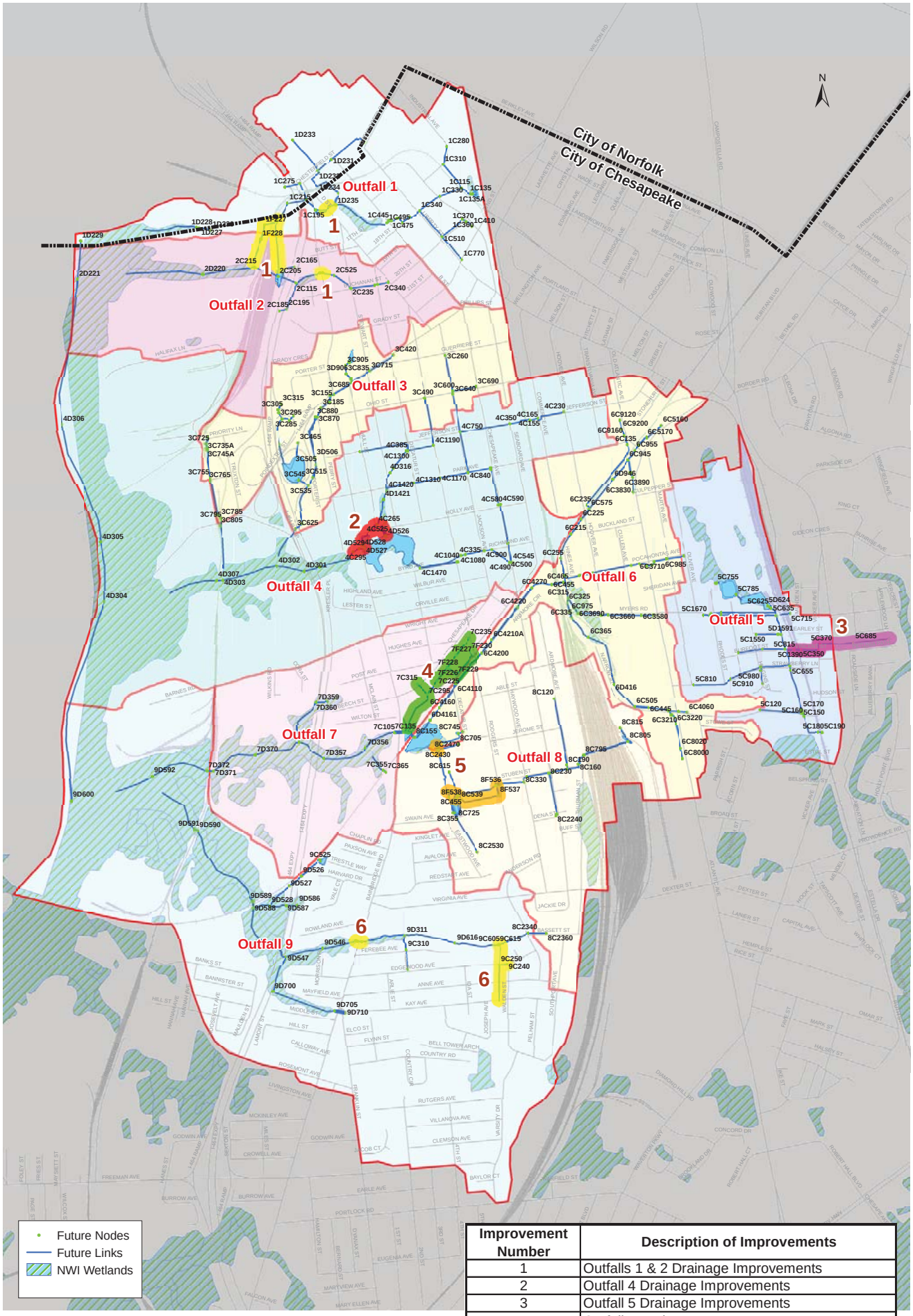
Figure 8. Flooding for 10-Yr and 50-Yr Storms: Existing Hydrology, Existing Drainage (Scenario 1)



Nodal Flooding Volumes for Existing Drainage / Future Hydrology, ft^3

Node #	10-year	50-year	Node #	10-year	50-year	Node #	10-year	50-year
1C135	117,000	183,000	3C905	40,000	64,000	6C445	217,000	314,000
1C225	11,000	16,000	3D906	10,000	22,000	6C8000	14,000	24,000
1C230	70,000	109,000	3D907	-	22,000	6C8020	-	27,000
1C280	91,000	143,000	4C165	-	30,000	6C9080	-	13,000
1C330	25,000	56,000	4C1680	10,000	19,000	6D416	13,000	38,000
1C370	60,000	106,000	4C230	62,000	127,000	6D946	-	16,000
1C435	107,000	198,000	4C235	-	32,000	7C295	18,000	34,000
1C475	121,000	214,000	4C345	-	12,000	7C315	21,000	40,000
1C495	-	44,000	4D526	183,000	289,000	8C120	23,000	45,000
1C770	28,000	55,000	4D527	44,000	101,000	8C160	59,000	106,000
1D231	78,000	140,000	5C1390	81,000	149,000	8C180	62,000	121,000
1D232	52,000	99,000	5C1550	160,000	220,000	8C210	-	10,000
1D233	116,000	191,000	5C1590	15,000	19,000	8C2230	33,000	70,000
1D235	107,000	198,000	5C160	29,000	66,000	8C230	-	12,000
2C125	96,000	183,000	5C1670	-	19,000	8C2360	-	15,000
2C135	110,000	195,000	5C180	-	12,000	8C2430	-	10,000
2C200	34,000	69,000	5C190	-	14,000	8C535	52,000	123,000
2C205	-	28,000	5C635	73,000	141,000	8C795	60,000	110,000
2C250	28,000	52,000	5C715	76,000	142,000	8C815	-	22,000
2C330	41,000	77,000	5C755	25,000	71,000	9C240	-	16,000
3C185	18,000	53,000	5C785	46,000	93,000	9C250B	80,000	144,000
3C260	51,000	87,000	5C810	-	14,000	9C280	-	12,000
3C420	13,000	31,000	5C980	-	57,000	9C515	24,000	53,000
3C490	22,000	54,000	5D1591	15,000	19,000	9C535	-	17,000
3C505	15,000	51,000	5D624	153,000	244,000	9D546	49,000	115,000
3C600	15,000	32,000	6C135	19,000	72,000	9D547	48,000	113,000
3C640	-	15,000	6C335	35,000	75,000	9D548	48,000	112,000
3C690	-	17,000	6C3490	-	14,000	9D590	20,000	70,000
3C695	-	24,000	6C365	-	21,000	9D591	19,000	70,000
3C715	-	12,000	6C3710	43,000	89,000	9D700	49,000	115,000
3C725	-	29,000	6C3920	-	29,000	9D710	-	33,000
3C835	-	31,000	6C4060	11,000	22,000			

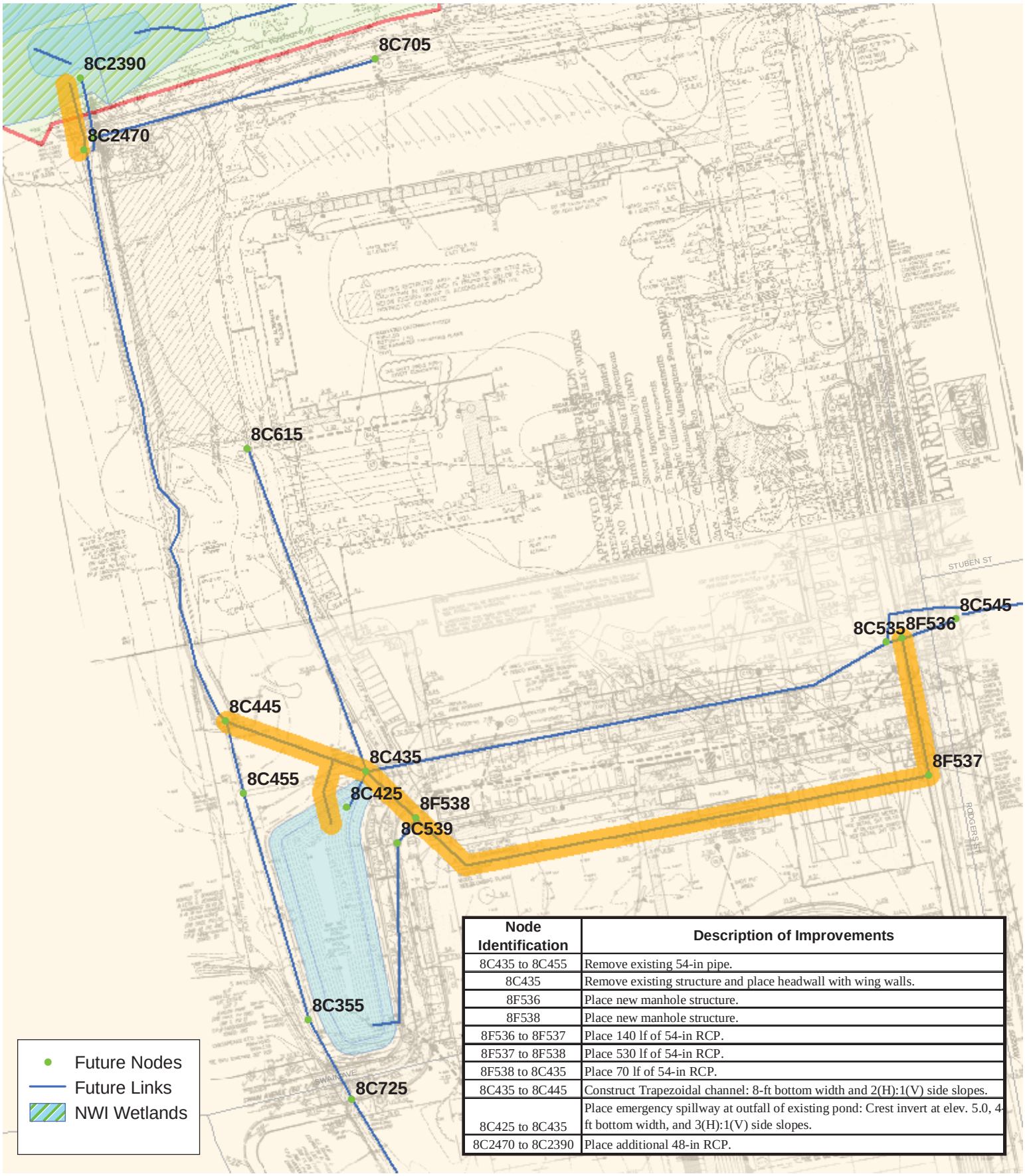
Figure 9. Flooding for 10-Yr and 50-Yr Storms: Future Hydrology, Existing Drainage (Scenario 2)



See GIS for Complete Details

Improvement Number	Description of Improvements
1	Outfalls 1 & 2 Drainage Improvements
2	Outfall 4 Drainage Improvements
3	Outfall 5 Drainage Improvements
4	Outfall 7 Drainage Improvements
5	Outfall 8 Drainage Improvements
6	Outfall 9 Drainage Improvements

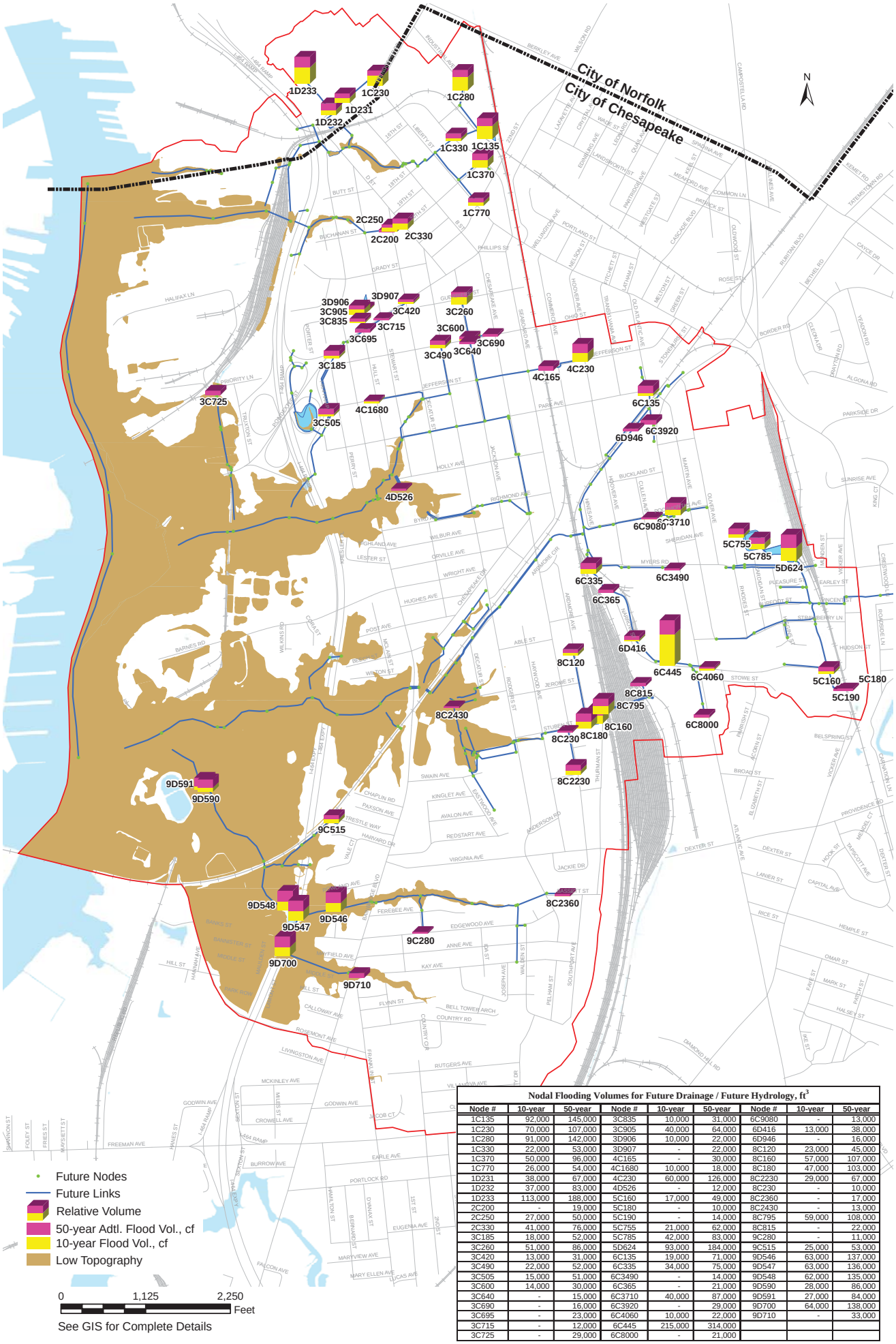
Figure 10. Future Improvements with Wetlands Underlay



Node Identification	Description of Improvements
8C435 to 8C455	Remove existing 54-in pipe.
8C435	Remove existing structure and place headwall with wing walls.
8F536	Place new manhole structure.
8F538	Place new manhole structure.
8F536 to 8F537	Place 140 lf of 54-in RCP.
8F537 to 8F538	Place 530 lf of 54-in RCP.
8F538 to 8C435	Place 70 lf of 54-in RCP.
8C435 to 8C445	Construct Trapezoidal channel: 8-ft bottom width and 2(H):1(V) side slopes.
8C425 to 8C435	Place emergency spillway at outfall of existing pond: Crest invert at elev. 5.0, 4-ft bottom width, and 3(H):1(V) side slopes.
8C2470 to 8C2390	Place additional 48-in RCP.

See GIS for Complete Details

Figure 10a. Oscar F. Smith Middle School Scenario 3



Nodal Flooding Volumes for Future Drainage / Future Hydrology, ft^3

Node #	10-year	50-year	Node #	10-year	50-year	Node #	10-year	50-year
1C135	92,000	145,000	3C835	10,000	31,000	6C9080	-	13,000
1C230	70,000	107,000	3C905	40,000	64,000	6D416	13,000	38,000
1C280	91,000	142,000	3D906	10,000	22,000	6D946	-	16,000
1C330	22,000	53,000	3D907	-	22,000	8C120	23,000	45,000
1C370	50,000	96,000	4C165	-	30,000	8C160	57,000	107,000
1C770	26,000	54,000	4C1680	10,000	18,000	8C180	47,000	103,000
1D231	38,000	67,000	4C230	60,000	126,000	8C2230	29,000	67,000
1D232	37,000	83,000	4D526	-	12,000	8C230	-	10,000
1D233	113,000	188,000	5C160	17,000	49,000	8C2360	-	17,000
2C200	-	19,000	5C180	-	10,000	8C2430	-	13,000
2C250	27,000	50,000	5C190	-	14,000	8C795	59,000	108,000
2C330	41,000	76,000	5C755	21,000	62,000	8C815	-	22,000
3C185	18,000	52,000	5C785	42,000	83,000	9C280	-	11,000
3C260	51,000	86,000	5D624	93,000	184,000	9C515	25,000	53,000
3C420	13,000	31,000	6C135	19,000	71,000	9D546	63,000	137,000
3C490	22,000	52,000	6C335	34,000	75,000	9D547	63,000	136,000
3C505	15,000	51,000	6C3490	-	14,000	9D548	62,000	135,000
3C600	14,000	30,000	6C365	-	21,000	9D590	28,000	86,000
3C640	-	15,000	6C3710	40,000	87,000	9D591	27,000	84,000
3C690	-	16,000	6C3920	-	29,000	9D700	64,000	138,000
3C695	-	23,000	6C4060	10,000	22,000	9D710	-	33,000
3C715	-	12,000	6C445	215,000	314,000			
3C725	-	29,000	6C8000	-	21,000			

Figure 11. Flooding for 10-Yr and 50-Yr Storms: Future Hydrology, Future Drainage (Scenario 3)