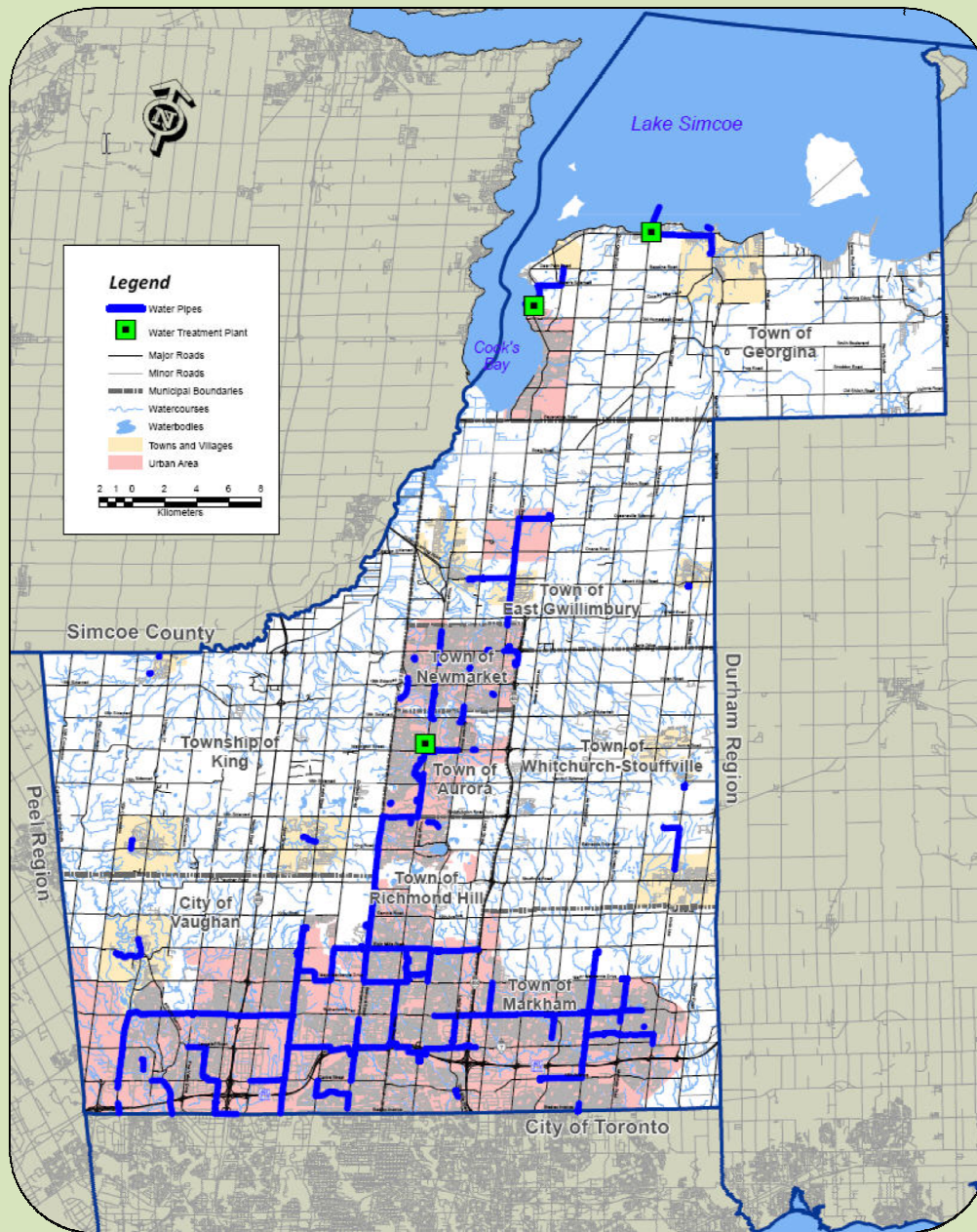


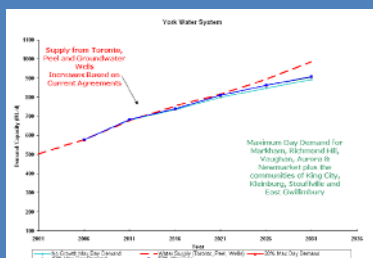
York Water System



Water Servicing

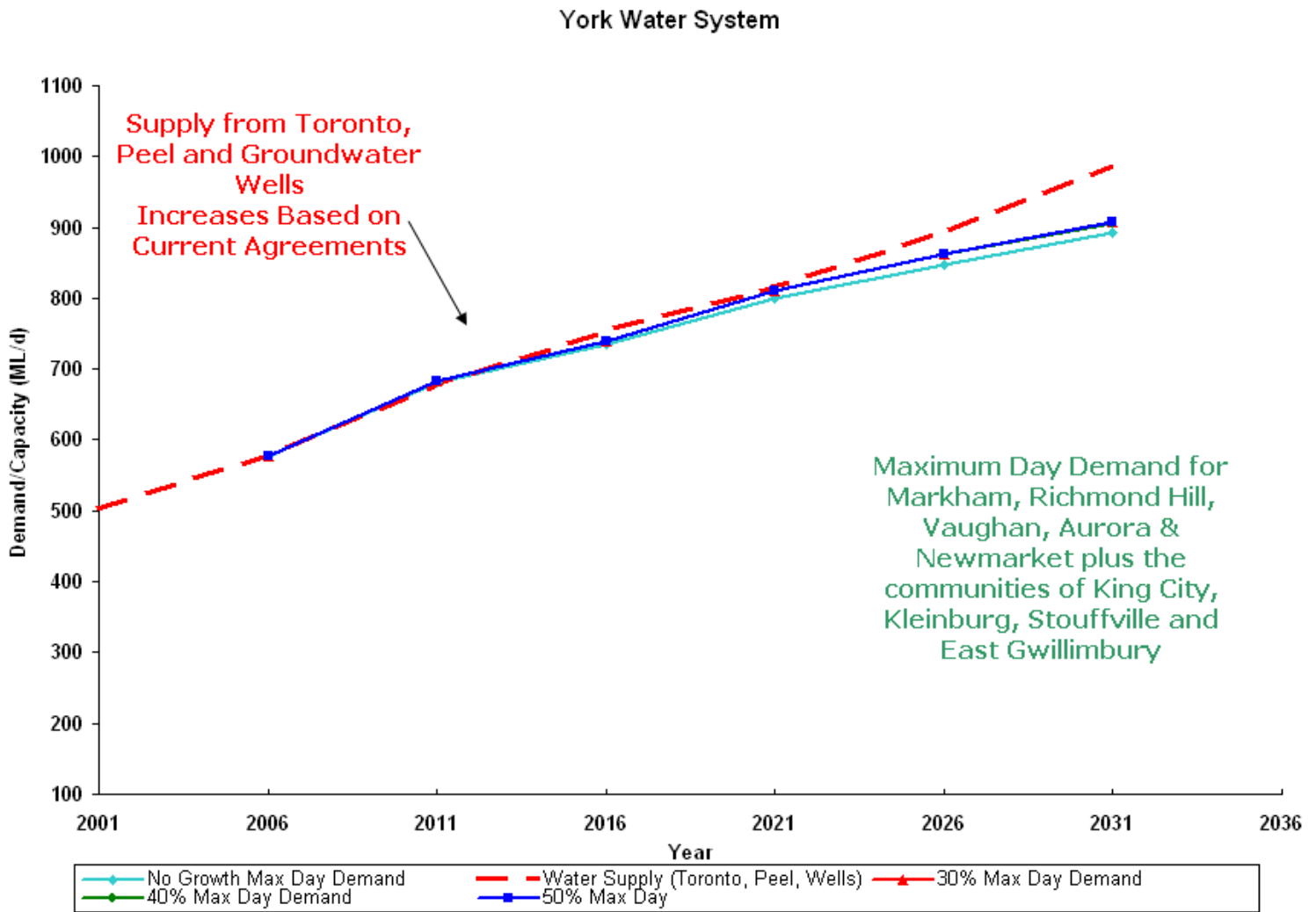
- Water Supply from Lake Ontario through Toronto and Peel
- Groundwater Supply in Aurora and Newmarket supplemented by surface water
- System consists of 13 pressure districts
- System storage consists of 11 Elevated Tanks and 14 Reservoirs
- Current supply 538 ML/d increasing to 987 ML/d through agreements with Toronto and Peel

Water Servicing



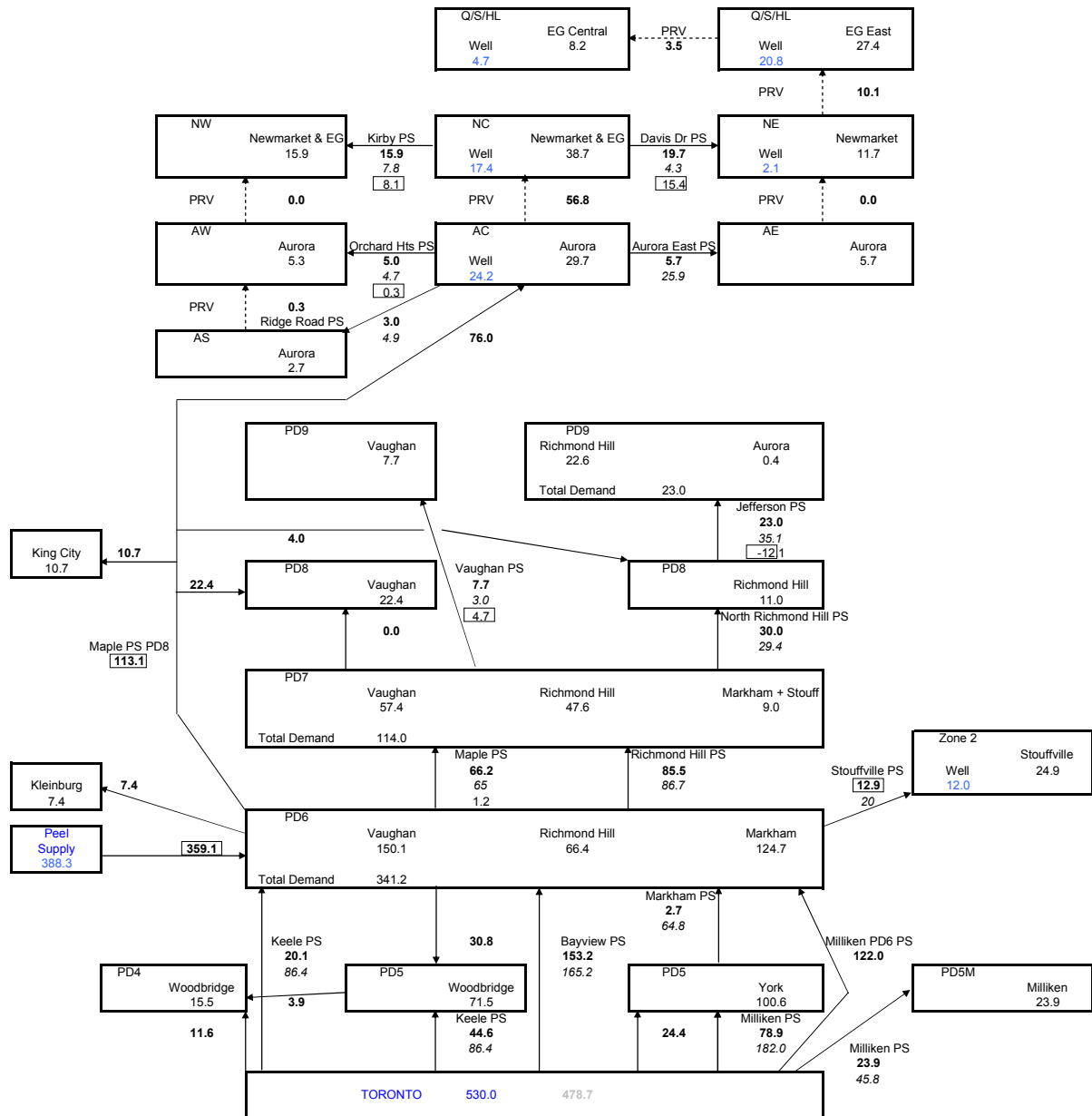
Required Infrastructure

- Agreements with Toronto and Peel have planned supply increases to meet population growth
- Additional storage will be required in some pressure districts



Note: Planning data and unit rates are subject to change

York Water System Flows 2031 Max Day 30% Intensification Scenario



Numbers in italics - current pumping station capacities
Numbers in box - pumping station capacity upgrade required

Regional Capital Works

Summary of Capital Costs 30% Intensification			
Facilities	York Water System Capital Cost \$	Smaller Urban Systems Capital Cost \$	York Capital Cost \$
Watermains	83,860,000	19,145,000	103,005,000
Pumping Stations	7,154,000	1,500,000	8,654,000
Storage Facilities	37,983,000	6,808,000	44,791,000
Supply & Treatment	16,654,000	37,763,000	54,417,000
Decommission	1,380,000	500,000	1,880,000
TOTALS	147,031,000	65,716,000	212,747,000

Regional Capital Works

WATERMAINS						
Project	Description	Length m	Diameter mm	Land Use Code	Unit Cost \$/m	Total Cost
York Water System Watermains PD 4						
PD 5						
Highway 27 North	Rutherford Road to Kleinburg Reservoir	5,306	750	1	1,170	6,209,000
Highway 27 South	Rutherford Road to Martingrove	1,151	750	1	1,170	1,347,000
McCowan Road	Steeles Ave to 14th Ave	2,116	600	2	909	1,924,000
PD 6						
PD 7						
Elgin Mills Road	Enford Rd. to Bayview Ave.	1,576	600	3	1,021	1,610,000
Bayview Avenue	Elgin Mills to 19th Avenue Bayview Reservoir	3,998	600	1	810	3,239,000
Gamble Sdrd	Bayview Ave. to Leslie	2,006	450	2	681	1,367,000
Major Mackenzie	Richmond Hill Pd 7 PS to Bayview Ave.	1,261	600	2	909	1,147,000
	Richmond Hill Pd 7 PS to Dufferin St	5,065	500	2	713	3,612,000
Dufferin Street	Major Mackenzie to Rutherford Road	2,071	500	2	713	1,477,000
Rutherford Road	Dufferin St to Keele St	2,410	500	2	713	1,719,000
Bathurst St	Major Mackenzie to Carrington	198	300	2	469	93,000
PD 8						
Bathurst Street	Gamble Rd. to Jefferson Reservoir	1,416	750	1	1,170	1,657,000
Kirby Road	Keele to Jane	2,000	450	2	681	1,362,000
Jane Street	Kirby Road to King-Vaughan	2,000	450	2	681	1,362,000
PD 9						
Jefferson Sideroad	Jefferson PS to Yonge Street	1,959	500	1	625	1,225,000
Yonge Street	Jefferson Sideroad to Lake Avenue	2,230	500	2	713	1,590,000
Bayview Ave	Lake Rd to Bloomington Rd	1,569	500	2	713	1,119,000
Bloomington Rd	Yonge St to Bloomington Res	4,902	500	1	625	3,064,000
Keele Street	Vaughan PS to King-Vaughan	3,000	400	2	617	1,851,000
Aurora Central						
Bloomington Sideroad	Pressure Break Reservoir to Yonge St.	2,483	900	2	1,526	3,790,000
Vandorf Sideroad	Yonge Street to Leslie Street	4,035	900	1	1,383	5,581,000
Leslie Avenue	Vandorf Sideroad to Wellington Street	2,114	900	1	1,383	2,924,000
Wellington Street	Bayview Avenue to Leslie Street	300	900	1	1,383	415,000
Wellington St. Reservoir Connection	Leslie St. to Reservoir	448	900	1	1,383	620,000
Aurora East						
<i>Connection to proposed St. John's ET and distribution watermain for PD Aurora East</i>						
Wellington Street East	From Aurora East PS to Leslie Street	1,053	750	1	1,170	1,233,000
Leslie Street	From Wellington Street to Proposed St. John's Elevated Tank	1,696	750	1	1,170	1,985,000
	From St. John's Tank to Newmarket East PRV	1,220	750	1	1,170	1,428,000
Newmarket Central						
Bayview Avenue North	Pendersen Dr. to Laurelwood Gate	847	750	2	1,296	1,098,000
	Laurelwood Gate to Davis Dr.	3,643	400	2	617	2,248,000
Newmarket East						
Leslie Street	From Newmarket East PRV to Davis Drive	3,729	750	1	1,170	4,363,000
	Davies Dr. to Stellar Dr.	1,239	750	1	1,170	1,450,000
	Stellar Dr. to Mount Albert Rd.	3,362	600	1	810	2,724,000
	Mount Albert Rd. to South Queensville tank	900	600	1	810	729,000
Newmarket West						
Interconnection between West Newmarket Reservoir and Northwest Elevated Tank	Along Tilston Gr., Heathwood Heights Dr. and Bathurst St. from Northwest Tank to West Newmarket Reservoir.	2,976	600	1	810	2,411,000
Holland Landing						

Regional Capital Works

WATERMAINS						
Project	Description	Length m	Diameter mm	Land Use Code	Unit Cost \$/m	Total Cost
Mt Albert Sdrd	2nd Conc. to Leslie Street	2,100	450	1	537	1,128,000
King City						
	PD8 Feedermain to King City					4,560,000
Kleinburg						
	Proposed ET to Town	500	400	1	537	269,000
	Huntington Road					6,370,000
	Islington Road					1,560,000
Total Capital Cost York WS						\$ 83,860,000
Ballantrae						
	From Proposed Well 3 to Town	1,000	400	1	537	537,000
Mount Albert						
	From Proposed Well 3 to Town	1,000	400	1	537	537,000
Nobleton						
	Proposed ET to Town	1000	400	1	537	537,000
	From Proposed Well 4 to Town	1,000	400	1	537	537,000
	From Proposed Well 5 to Town	1,000	400	1	537	537,000
Schomberg						
	From Proposed Well 4 to Town	1,000	400	1	537	537,000
	From Well 2 to proposed treatment facility					200,000
	From proposed treatment facility to distribution					250,000
Sutton						
Sutton parallel	Metro Rd. to Black River Rd. within new development	1,310	400	2	617	809,000
Black River Road	From parallel wm to Dalton Rd.	320	300	2	4,556	1,458,000
Keswick						
Woodbine Avenue	Old Homestead Rd. to Wexford Dr.	1,800	750	2	1,296	2,333,000
	Wexford Dr. to Biscayne Blvd. (parallel exist.)	1,800	450	2	681	1,226,000
	Biscayne Blvd. to Glenwoods	1,000	750	2	1,296	1,296,000
	Glenwoods to Ravenshoe Rd.	2,000	750	2	1,296	2,592,000
Ravenshoe Road	Woodbine Ave. to Keswick Tank	2,950	750	2	1,296	3,824,000
Queensway North	Boyers Sideroad to Reservoir	800	500	1	625	500,000
Boyers Sideroad	Woodbine Ave. to Queensway N.	1,070	400	1	537	575,000
Stouffville Zone 1						
Stouffville Zone 2						
10th Line	Proposed ET to Town	1,600	400	1	537	860,000
Total Capital Cost York Small Urban Systems						\$ 19,145,000
Total Capital Cost York						\$ 103,005,000

Regional Capital Works

PUMPING STATIONS						
Project	Description	Location	Required ML/d	Existing ML/d	Capacity ML/d	Cost (Rounded) \$
Vaughan PS	PS to replace existing Vaughan PS	North Maple Reservoir	8.2	3	8	914,000
Newmarket East						
Davis Drive PS	Replace old PS	Davis Dr PS Site	20.5	4.3	21	1,880,000
Newmarket West						
Kirby PS	New PS to replace existing		16.7	7.8	17	1,600,000
King City	Booster Pump Station					1,200,000
Kleinburg	Booster Pump Station					1,560,000
Total Capital Cost York WS						\$ 7,154,000
Schomberg						
	New PS at treatment facility					1,500,000
Total Capital Cost York Small Urban Systems						1,500,000

Regional Capital Works

STORAGE FACILITIES				
Project	Description	Location	Capacity ML	Cost (Rounded) \$
PD 5				
North Kleinburg Reservoir	To supply PD 5 including East Woodbridge	Close to the intersection of Hwy 27 and Hedgerow Lane	12	3,769,000
PD 6				
North Markham Reservoir	To supply the east side of PD 6 including Markham	Close to the intersection of McCowan Rd. and Stouffville Rd.	20	5,724,000
PD 7				
Bayview Avenue Reservoir	To supply the new development area at the east side of PD 7	Intersection of Bayview Ave. and Stouffville Rd.	10	3,392,000
PD 8				
Vaughan PD8	To supply the new development area in Vaughan	Hwy 400 and King Vaughan	2	1,082,000
PD 9				
Vaughan			4.0	1,862,000
Oak Ridges ET Replacement	To supply the Town of Richmond Hill	Bloomington Sideroad and Yonge St.	4.1	1,920,000
Aurora Central				
Wellington St. Reservoir	Additional storage for PD Aurora Cental	Between Wellington St. and Vandorf Sideroad	11	3,645,000
Aurora East				
St. John's Elevated Tank	To supply PD Aurora East	Between St. John's Sideroad and Wellington St. close to Leslie St.	6	3,273,000
Newmarket Central				
Near London Road	supply to the Central Zone		2	1,119,000
Newmarket West				
Glenway Reservoir Expansion			9	3,237,000
Queensville				
Queensville Tank 2	Additional storage for Queensville & Sharon	Queensville Sdrd	7	3,730,000
King City				
King City Tank 2	Additional storage for King City		4	2,760,000
Kleinburg				
Kleinburg Tank 2	Additional storage for Kleinburg		2	2,470,000
Total Capital Cost York WS				37,983,000
Nobleton				
Nobleton Tank 2	Additional storage for Nobleton		2	1,410,000
Schomberg				
	In ground reservoir 1700 cu.m/day			1,800,000
Keswick				
Keswick Tank	Additional storage for Georgina		7	3,598,000
Stouffville				
Zone 2 ET	Additional storage for PD Stouffville Zone 2			0
Total Capital Cost York Small Urban Systems				6,808,000
Total Capital Cost York				44,791,000

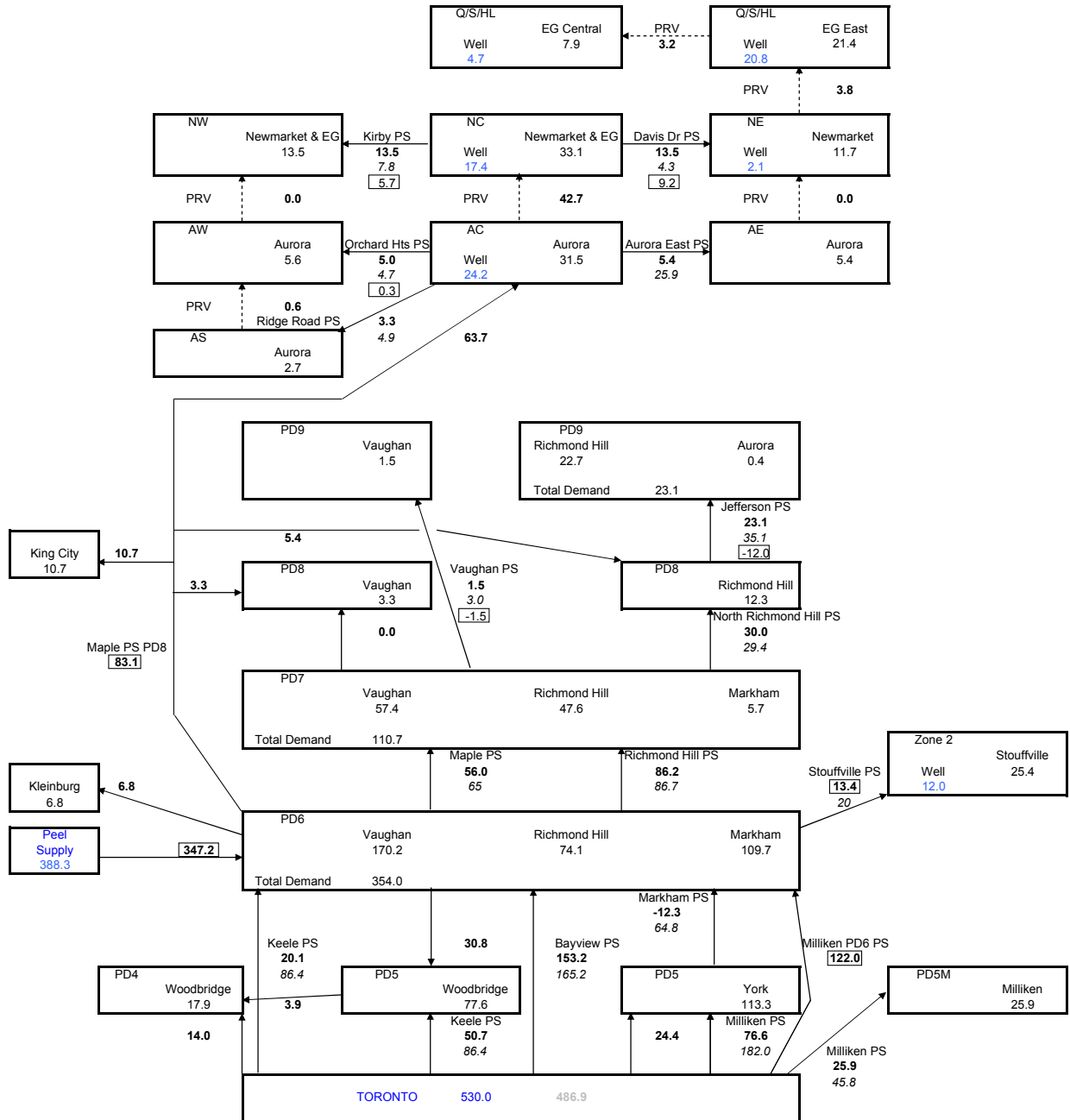
Regional Capital Works

SUPPLY & TREATMENT		
Project Description	Location	Cost (Rounded)
		\$
PD 5		
Pressure Reduction Station from York-Peel Feedermain	Highway 27/Rutherford Road	550,000
PD 8		
Newmarket East		
PRV to supply PD Newmarket East from proposed St. John's ET	At the connection to the proposed 500 mm watermain in PD Aurora East running along Leslie St.	100,000
Aurora/Newmarket Wells		
Aurora/Newmarket Treatment		
<i>LONG TERM COSTS (iron removal)</i>		
Aurora Wells 1 - 4		3,074,000
Aurora Wells 5 & 7		1,827,000
Aurora Wells 6 & 8		772,000
Newmarket Wells 1 & 2		460,000
Newmarket Wells 13 & 16		2,064,000
Newmarket Well 15		460,000
Queensville Wells 1 & 2		2,435,000
Queensville Wells 3 & 4		2,435,000
Holland Landing Well 3		1,827,000
Kleinburg		
Pressure Reducing Valve		130,000
Upgrades to Well #3		520,000
Total Capital Cost York WS		16,654,000
Ballantrae		
New Ballantrae Well 3	Firm capacity	2,750,000
Mount Albert		
New Mount Albert Well 3	Firm capacity	2,750,000
Nobleton		
New Nobleton Well 4	Additional supply	2,200,000
New Nobleton Well 5	Firm capacity	1,650,000
Schomberg		
New treatment facility at Well 3		7,213,000
New Schomberg Well 4	Firm capacity	1,500,000
Georgina WTP		
Expansion		13,200,000
Expansion		6,500,000
Stouffville		
Total Capital Cost York Small Urban Systems		37,763,000
Total Capital Cost York		54,417,000

Regional Capital Works

DECOMMISSION		
Project Description	Pressure District	Cost (Rounded)
		\$
East Woodbridge ET	PD5E	165,000
East Woodbridge PS	PD5E	220,000
Wooten Way ET	PD6M	165,000
Sharon ET	East Gwillimbury	165,000
Holland Landing Tank	East Gwillimbury	165,000
King City (2 wells)		250,000
Kleinburg (2 wells)		250,000
Total Capital Cost		\$ 1,380,000

York Water System Flows 2031 Max Day No Growth Scenario



Numbers in italics - current pumping station capacities
Numbers in box - pumping station capacity upgrade required

Regional Capital Works

Summary of Capital Costs No Growth			
Facilities	York Water System Capital Cost \$	Smaller Urban Systems Capital Cost \$	York Capital Cost \$
Watermains	82,009,000	19,145,000	101,154,000
Pumping Stations	5,466,000	1,500,000	6,966,000
Storage Facilities	32,999,000	6,808,000	39,807,000
Supply & Treatment	16,654,000	37,763,000	54,417,000
Decommission	1,380,000	500,000	1,880,000
TOTALS	138,508,000	65,716,000	204,224,000

Regional Capital Works

WATERMAINS						
Project	Description	Length	Diameter	Land Use	Unit Cost	Total
		m	mm	Code	\$/m	Cost
York Water System Watermains						
PD 5						
Highway 27 North	Rutherford Road to Kleinburg Reservoir	5,306	750	1	1,170	6,209,000
Highway 27 South	Rutherford Road to Martingrove	1,151	750	1	1,170	1,347,000
McCowan Road	Steeles Ave to 14th Ave	2,116	600	2	909	1,924,000
PD 7						
Elgin Mills Road	Enford Rd. to Bayview Ave.	1,576	600	3	1,021	1,610,000
Bayview Avenue	Elgin Mills to 19th Avenue Bayview Reservoir	3,998	600	1	810	3,239,000
Gamble Sdrd	Bayview Ave. to Leslie	2,006	450	2	681	1,367,000
Major Mackenzie	Richmond Hill Pd 7 PS to Bayview Ave.	1,261	600	2	909	1,147,000
	Richmond Hill Pd 7 PS to Dufferin St	5,065	500	2	713	3,612,000
Dufferin Street	Major Mackenzie to Rutherford Road	2,071	500	2	713	1,477,000
Rutherford Road	Dufferin St to Keele St	2,410	500	2	713	1,719,000
Bathurst St	Major Mackenzie to Carrington	198	300	2	469	93,000
PD 8						
Bathurst Street	Gamble Rd. to Jefferson Reservoir	1,416	750	1	1,170	1,657,000
Kirby Road	Keele to Jane	2,000	450	2	681	1,362,000
Jane Street	Kirby Road to King-Vaughan	2,000	450	2	681	1,362,000
PD 9						
Jefferson Sideroad	Jefferson PS to Yonge Street	1,959	500	1	625	1,225,000
Yonge Street	Jefferson Sideroad to Lake Avenue	2,230	500	2	713	1,590,000
Bayview Ave	Lake Rd to Bloomington Rd	1,569	500	2	713	1,119,000
Bloomington Rd	Yonge St to Bloomington Res	4,902	500	1	625	3,064,000
Aurora Central						
Bloomington Sideroad	Pressure Break Reservoir to Yonge St.	2,483	900	2	1,526	3,790,000
Vandorf Sideroad	Yonge Street to Leslie Street	4,035	900	1	1,383	5,581,000
Leslie Avenue	Vandorf Sidestreet to Wellington Street	2,114	900	1	1,383	2,924,000
Wellington Street	Bayview Avenue to Leslie Street	300	900	1	1,383	415,000
Wellington St. Reservoir Connection	Leslie St. to Reservoir	448	900	1	1,383	620,000
Aurora East						
<i>Connection to proposed St. John's ET and distribution watermain for PD Aurora East</i>						
Wellington Street East	From Aurora East PS to Leslie Street	1,053	750	1	1,170	1,233,000
Leslie Street	From Wellington Street to Proposed St. John's Elevated Tank	1,696	750	1	1,170	1,985,000
	From St. John's Tank to Newmarket East PRV	1,220	750	1	1,170	1,428,000
Newmarket Central						
Bayview Avenue North	Pendersen Dr. to Laurelwood Gate	847	750	2	1,296	1,098,000
	Laurelwood Gate to Davis Dr.	3,643	400	2	617	2,248,000
Newmarket East						
Leslie Street	From Newmarket East PRV to Davis Drive	3,729	750	1	1,170	4,363,000
	Davies Dr. to Stellar Dr.	1,239	750	1	1,170	1,450,000
	Stellar Dr. to Mount Albert Rd.	3,362	600	1	810	2,724,000
	Mount Albert Rd. to South Queensville tank	900	600	1	810	729,000
Newmarket West						
Interconnection between West Newmarket Reservoir and Northwest Elevated Tank	Along Tilston Gr., Heathwood Heights Dr. and Bathurst St. from Northwest Tank to West Newmarket Reservoir.	2,976	600	1	810	2,411,000
Holland Landing						
Mt Albert Sdrd	2nd Conc. to Leslie Street	2,100	450	1	537	1,128,000
King City						
	PD8 Feedermain to King City					4,560,000
Kleinburg						
	Proposed ET to Town	500	400	1	537	269,000
	Huntington Road					6,370,000
	Islington Road					1,560,000
Total Capital Cost York WS						\$ 82,009,000

Regional Capital Works

WATERMAINS						
Project	Description	Length m	Diameter mm	Land Use Code	Unit Cost \$/m	Total Cost
Ballantrae						
	From Proposed Well 3 to Town	1,000	400	1	537	537,000
Mount Albert						
	From Proposed Well 3 to Town	1,000	400	1	537	537,000
Nobleton						
	Proposed ET to Town	1000	400	1	537	537,000
	From Proposed Well 4 to Town	1,000	400	1	537	537,000
	From Proposed Well 5 to Town	1,000	400	1	537	537,000
Schomberg						
	From Proposed Well 4 to Town	1,000	400	1	537	537,000
	From Well 2 to proposed treatment facility					200,000
	From proposed treatment facility to distribution					250,000
Sutton						
Sutton parallel	Metro Rd. to Black River Rd. within new development	1,310	400	2	617	809,000
Black River Road	From parallel wm to Dalton Rd.	320	300	2	4,556	1,458,000
Keswick						
Woodbine Avenue	Old Homestead Rd. to Wexford Dr.	1,800	750	2	1,296	2,333,000
	Wexford Dr. to Biscayne Blvd. (parallel exist.)	1,800	450	2	681	1,226,000
	Biscayne Blvd. to Glenwoods	1,000	750	2	1,296	1,296,000
	Glenwoods to Ravenshoe Rd.	2,000	750	2	1,296	2,592,000
Ravenshoe Road	Woodbine Ave. to Keswick Tank	2,950	750	2	1,296	3,824,000
Queensway North	Boyers Sideroad to Reservoir	800	500	1	625	500,000
Boyers Sideroad	Woodbine Ave. to Queensway N.	1,070	400	1	537	575,000
Stouffville Zone 2						
10th Line	Proposed ET to Town	1,600	400	1	537	860,000
Total Capital Cost York Small Urban Systems						\$ 19,145,000
Total Capital Cost York						\$ 101,154,000

Regional Capital Works

PUMPING STATIONS						
Project	Description	Location	Required ML/d	Existing ML/d	Capacity ML/d	Cost (Rounded) \$
Newmarket East						
Davis Drive PS	Replace old PS	Davis Dr PS Site	13.5	4.3	14	1,353,000
Newmarket West						
Kirby PS	New PS to replace existing	Ex. Kirby Site	13.5	7.8	14	1,353,000
King City	Booster Pump Station					1,200,000
Kleinburg	Booster Pump Station					1,560,000
Total Capital Cost York WS						5,466,000
Schomberg						
	New PS at treatment facility					1,500,000
Total Capital Cost York Small Urban Systems						1,500,000

Regional Capital Works

STORAGE FACILITIES				
Project	Description	Location	Capacity ML	Cost (Rounded) \$
PD 5				
North Kleinburg Reservoir	To supply PD 5 including East Woodbridge	Close to the intersection of Hwy 27 and Hedgerow Lane	14	4,372,000
PD 6				
North Markham Reservoir	To supply the east side of PD 6 including Markham	Close to the intersection of McCowan Rd. and Stouffville Rd.	20	5,724,000
PD 7				
Bayview Avenue Reservoir	To supply the new development area at the east side of PD 7	Intersection of Bayview Ave. and Stouffville Rd.	10	3,392,000
PD 8				
PD 9				
Oak Ridges ET Replacement	To supply the Town of Richmond Hill	Bloomington Sideroad and Yonge St.	1.5	551,000
Aurora Central				
Wellington St. Reservoir	Additional storage for PD Aurora Cental	Between Wellington St. and Vandorf Sideroad	11	3,645,000
Aurora East				
St. John's Elevated Tank	To supply PD Aurora East	St. John's Sideroad and Wellington St.	6	3,273,000
Newmarket Central				
Near London Road	supply to the Central Zone		2	1,119,000
Newmarket West				
Glenway Reservoir Expansion			9	3,237,000
Queensville				
Queensville Tank 2	Additional storage for Queensville & Sharon	Queensville Sdrd	5	2,456,000
King City				
King City Tank 2	Additional storage for King City		4	2,760,000
Kleinburg				
Kleinburg Tank 2	Additional storage for Kleinburg		2	2,470,000
Total Capital Cost York WS				32,999,000
Nobleton				
Nobleton Tank 2	Additional storage for Nobleton		2	1,410,000
Schomberg				
	In ground reservoir 1700 cu.m/day			1,800,000
Keswick				
Keswick Tank	Additional storage for Georgina		7	3,598,000
Stouffville				
Zone 2 ET	Additional storage for PD Stouffville Zone 2			0
Total Capital Cost York Small Urban Systems				6,808,000
Total Capital Cost York				39,807,000

Regional Capital Works

SUPPLY & TREATMENT		
Project Description	Location	Cost (Rounded)
		\$
PD 5		
Pressure Reduction Station from York-Peel Feedermain	Highway 27/Rutherford Road	550,000
PD 8		
Newmarket East		
PRV to supply PD Newmarket East from proposed St. John's ET	At the connection to the proposed 500 mm watermain in PD Aurora East running along Leslie St.	100,000
Aurora/Newmarket Wells		
Aurora/Newmarket Treatment		
<i>LONG TERM COSTS (iron removal)</i>		
Aurora Wells 1 - 4		3,074,000
Aurora Wells 5 & 7		1,827,000
Aurora Wells 6 & 8		772,000
Newmarket Wells 1 & 2		460,000
Newmarket Wells 13 & 16		2,064,000
Newmarket Well 15		460,000
Queensville Wells 1 & 2		2,435,000
Queensville Wells 3 & 4		2,435,000
Holland Landing Well 3		1,827,000
Kleinburg		
Pressure Reducing Valve		130,000
Upgrades to Well #3		520,000
Total Capital Cost York WS		16,654,000
Ballantrae		
New Ballantrae Well 3	Firm capacity	2,750,000
Mount Albert		
New Mount Albert Well 3	Firm capacity	2,750,000
Nobleton		
New Nobleton Well 4	Additional supply	2,200,000
New Nobleton Well 5	Firm capacity	1,650,000
Schomberg		
New treatment facility at Well 3		7,213,000
New Schomberg Well 4	Firm capacity	1,500,000
Georgina WTP		
Expansion		13,200,000
Expansion		6,500,000
Stouffville		
Total Capital Cost York Small Urban Systems		37,763,000
Total Capital Cost York		54,417,000

Regional Capital Works

DECOMMISSION		
Project Description	Pressure District	Cost (Rounded)
		\$
East Woodbridge ET	PD5E	165,000
East Woodbridge PS	PD5E	220,000
Wooten Way ET	PD6M	165,000
Sharon ET	East Gwillimbury	165,000
Holland Landing Tank	East Gwillimbury	165,000
King City (2 wells)		250,000
Kleinburg (2 wells)		250,000
Total Capital Cost		\$ 1,380,000