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NEW YORK STATE OF OPPORTUNITY. Canal Corporation

NEW YORK STATE CANAL CORPORATION

Earthen Embankment Integrity Program

SEQR Draft Generic Environmental Impact Statement

APPENDIX A
EMBANKMENT MAINTENANCE GUIDEBOOK

ATTACHMENT 3
TABLES OF CANAL SECTIONS FOR ISOLATION AND DEWATERING

March 2021

Erie Canal Isolation and Dewatering Segments

West Segment Limit Isolation Structure	Canal Milepost	East Segment Limit Isolation Structure	Canal Milepost	Isolated Length (mi)	River or Canal Segment	Segment Dewatering Features and Outlets	Notes
Lake Erie		Guard Gate 18	325.09	N/A	Canal	Spillway, State Ditch W Stream Entrance	Cannot isoalate at Lake Erie
Guard Gate 18	325.09	Locks E34-E35, Lockport	320.68	4.41	Canal	Spillway, State Ditch E Stream Entrance Lockport Bypass Locks E34 and E35	
Locks E34-E35, Lockport	320.68	Guard Gate 17, Gasport	313.75	6.93	Canal	Waste Weir, Halls	
Guard Gate 17, Gasport	313.75	Guard Gate 16, Middleport	307.34	6.41	Canal	Waste Weir, Maybees Waste Weir, Watsons Waste Weir, Middleport	
Guard Gate 16, Middleport	307.34	Guard Gate 15, Medina	302.65	4.69	Canal	Waste Weir, Medina	
Guard Gate 15, Medina	302.65	Guard Gate 14, Albion	294.29	8.36	Canal	Waste Weir, Eagle Harbor	
Guard Gate 14, Albion	294.29	Guard Gate 13, Holley	284.16	10.13	Canal	Waste Weir, Albion Waste Weir, Brockville	
Guard Gate 13, Holley	284.16	Guard Gate 12, Brockport	279.8	4.36	Canal	Waste Weir, Holley	
Guard Gate 12, Brockport	279.8	Guard Gate 11, Spencerport	269.93	9.87	Canal	Waste Weir, Brockport Waste Weir, Adams Basin Waste Weir, Spencerport	
Guard Gate 11, Spencerport	269.93	West Guard Lock, Rochester, at Genesee River	261.02	8.91	Canal	Waste Weir, South Greece	
West Guard Lock, Rochester, at Genesee River	261.02	East Guard Lock, Rochester, at Genesee River	259.95	1.07	River		Junction with Genesee River
East Guard Lock, Rochester, at Genesee River	259.95	Lock E33, Rochester	256.4	3.55	Canal	Lock E33 and E33 Bypass	
Lock E33, Rochester	256.4	Lock E32, Pittsford	255.14	1.26	Canal	Lock E32 and E32 Bypass	
Lock E32, Pittsford	255.14	Guard Gate 10, Cartersville	252.35	2.79	Canal	Spillway, Cartersville (at Guard Gate 10)	
Guard Gate 10, Cartersville	252.35	Guard Gate 9, Bushnell's Basin	249.96	2.39	Canal	Sluice Gate, Bushnell's Basin	
Guard Gate 9, Bushnell's Basin	249.96	Lock E30, Macedon	239.02	10.94	Canal	Spillway, Fairport Spillway, Thomas Creek Stream Entrance Sluice Gate, Macedon Bypass Lock E30	
Lock E30, Macedon	239.02	Lock E29, Palmyra	236.04	2.98	Canal	E29 Powerhouse & Bypass, Palmyra Spillway, Aqueduct at Palymra Lock E29	
Lock E29, Palmyra	236.04	Lock E28B, Newark	226.25	9.79	Canal	Sluice Gate, Barnhars (Bypass & Sill) Spillways and Sluice Gate, Harrison Center Spillway, Peeks Lock E28B	
Lock E28B, Newark	226.25	Lock E28A, Lyons	222.27	3.98	Canal	Spillway and Sluice Gate, Trout Run Lock E28A	
Lock E28A, Lyons	222.27	Lock and Dam E27, Lyons	220.99	1.28	Canal	Lock E27 Spillway, Tainter Gates, Sluice Gate Lock E27	
Lock and Dam E27, Lyons	220.99	Lock and Dam E26, Clyde	208.94	12.05	Canal	Lock E26 Spillways and Tainter Gate Lock E26	
Lock and Dam E26, Clyde	208.94	Lock E25 & MD18, May's Point	203.11	5.83	River	Movable Dam 18 at May's Point Lock E25	Includes Clyde River
Lock E25 & MD18, May's Point	203.11	Guard Gate, Lock & Dam E24, Baldwinsville	172.42	30.69	River	Fixed Crest Dam, Tainter Gate at Baldwinsville Lock E24	Junction with C&S Canal and Seneca River
Guard Gate, Lock & Dam E24, Baldwinsville	172.42	Lock and Guard Gate E23, Brewerton and Caugdenoy Dam and Guard Gate	153.65	18.77	River	Dam and Gates at Lock O1	Junction with Oswego River, Oswego Canal, and Ondeida River
Lock and Guard Gate E23, Brewerton and Caugdenoy Dam and Guard Gate	153.65	Lock E22, New London	124.74	28.91	River	Caughdenoy Dam and Guard Gate Lock E23	Includes Oneida Lake and Oneida River
Lock E22, New London	124.74	Lock E21, New London	123.42	1.32	Canal	Spillway E21, New London Lock E22	

Erie Canal Isolation and Dewatering Segments

West Segment Limit Isolation Structure	Canal Milepost	East Segment Limit Isolation Structure	Canal Milepost	Isolated Length (mi)	River or Canal Segment	Segment Dewatering Features and Outlets	Notes
Lock E21, New London	123.42	Guard Gate 7, West Rome	115.05	8.37	Canal	Spillway, New London Spillway, Stony Brook Spillway, Mud Creek Lock E21	
Guard Gate 7, West Rome	115.05	Guard Gate 6, East Rome	111.8	3.25	River	Spillway, Guard Gate at East Rome	Includes inflow from Mohawk River originating at Delta Dam
Guard Gate 6, East Rome	111.8	Lock E20, Whitesboro	105.32	6.48	River	Spillway, Nine Mile Creek Spillway, Cane Creek Lock E20	Inflow from Nine Mile Creek
Lock E20, Whitesboro	105.32	Lock E19, Frankfort	95.04	10.28	Canal	Utica Harbor Lock Spillway, Days and Sluice Gate, Schuyler Spillway, Sterling Creek Lock E19	
Lock E19, Frankfort	95.04	Guard Gate 5 and Dams, Herkimer	87.2	7.84	River	Movable Dam 14 and Crest Gate	Includes junction with Mohawk River
Guard Gate 5 and Dams, Herkimer	87.2	Lock E18, Jacksonburg	83.19	4.01	Canal	Lock E18	Canal parallels Mohawk River between structures.
Lock E18, Jacksonburg	83.19	Guard Gate 4, Little Falls	79.84	3.35	River	Little Falls Dam Powerhouse	Includes Mohawk River
Guard Gate 4, Little Falls	79.84	Lock and Lift Gate E17, Little Falls	78.99	0.85	Canal	Moss Island Powerhouse Lock E17	Canal parallels Mohawk River between structures.
Lock and Lift Gate E17, Little Falls	78.99	Guard Gate 3, Indian Castle	74.54	4.45	River	Movable Dam at Rocky Rift	Includes Mohawk River
Guard Gate 3, Indian Castle	74.54	Lock E16, St. Johnsville	71.02	3.52	Canal	Lock E16	Canal parallels Mohawk River between structures.
Lock E16, St. Johnsville	71.02	Lock E15, Fort Plain	64.3	6.72	River	Movable Dam 11	Includes Mohawk River
Lock E15, Fort Plain	64.3	Lock E14, Canajoharie	60.95	3.35	River	Movable Dam 10	Includes Mohawk River
Lock E14, Canajoharie	60.95	Lock E13, Yosts	53.12	7.83	River	Movable Dam 9	Includes Mohawk River
Lock E13, Yosts	53.12	Lock E12, Tribes Hill	43.52	9.6	River	Movable Dam 8	Includes Mohawk River
Lock E12, Tribes Hill	43.52	Lock E11, Amsterdam	39.29	4.23	River	Movable Dam 7	Includes Mohawk River
Lock E11, Amsterdam	39.29	Lock E10, Cranesville	35.02	4.27	River	Movable Dam 6	Includes Mohawk River
Lock E10, Cranesville	35.02	Lock E9, Rotterdam	29.07	5.95	River	Movable Dam 5	Includes Mohawk River
Lock E9, Rotterdam	29.07	Lock E8, Scotia	24.04	5.03	River	Movable Dam 4	Includes Mohawk River
Lock E8, Scotia	24.04	Lock E7, Vischer Ferry	13.07	10.97	River	Powerhouse at Vischer Ferry Dam	Includes Mohawk River
Lock E7, Vischer Ferry	13.07	Guard Gate 2, Crescent	2.77	10.3	River	Powerhouse at Crescent Dam	Includes Mohawk River
Guard Gate 2, Crescent	2.77	Guard Gate 1, Crescent	2.52	0.25	Canal	Sluice Gate at Guard Gate 1	
Guard Gate 1, Crescent	2.52	Lock E6, Crescent	2.15	0.37	Canal	E6 Culvert Bypass Lock E6	
Lock E6, Crescent	2.15	Lock E5, Waterford	1.87	0.28	Canal	E5 Spillway and Sluice Gate Bypass Lock E5	
Lock E5, Waterford	1.87	Lock E4, Waterford	1.6	0.27	Canal	E4 Spillway and Sluice Gate Bypass Lock E4	
Lock E4, Waterford	1.6	Lock E3, Waterford	1.09	0.51	Canal	E3 Spillway and Sluice Gate Bypass Lock E3	
Lock E3, Waterford	1.09	Lock E2, Waterford	0.63	0.46	Canal	E2 Spillway Bypass Lock E2	Includes Old Champlain Canal Feeder
Lock E2, Waterford	0.63	Hudson River	0	0.63	River		Cannot isolate at Hudson River

Notes and Assumptions:

For defining segments, it is assumed that guard gates can be loaded from either side for dewatering

It is assumed that any and all navigation locks can be cross fed to pass water downstream and they are listed as dewatering/outlet features for upstream segments.

Canal mileposts taken from www.canals.ny.gov boating information tables and online map

Listing of dewatering features and outlets in each segment are preliminary and subject to review and revision. The feasibility of safely dewatering the segments listed is not assured and should be evaluated by staff familiar with the operation and limitations of the segment and applicable features.

Sections are classified as a canal if it is anticipated that essentially all inflow to the section can be stopped using existing controls, otherwise segments are considered rivers, which includes sections with smaller flows fed by streams or coincedent with lakes.

Champlain Canal Isolation and Dewatering Segments

South Segment Limit Structure	Canal Milepost	North Segment Limit Structure	Canal Milepost	Isolated Length (mi)	River or Canal Segment	Segment Dewatering Features and Outlets	Notes
Hudson River, Troy Lock, USACE	-2.07	Lock C1, Waterford	3.43	5.5	River		Includes junction with Erie Canal/Mohawk River to Hudson River, controls at Troy Lock and Dam by USACE.
Lock C1, Waterford	3.43	Lock C2, Mechanicville	7.37	3.94	River	Fixed crest dam and tainter gates at C1 Waterford Lock C1	
Lock C2, Mechanicville	7.37	Lock C3, Mechanicville	9.92	2.55	River	Fixed Crest Dam and Powerhouse? At C2 Lock C2	
Lock C3, Mechanicville	9.92	Lock C4, Stillwater	11.76	1.84	River	Fixed Crest / Obermeyer Gated Dam and Powerhouse at C3 Lock C3	
Lock C4, Stillwater	11.76	Lock C5, Northumberland	26.17	14.41	River	Fixed Crest Dam and Powerhouse North of C4? Lock C4	
Lock C5, Northumberland	26.17	Lock C6, Fort Miller	29.9	3.73	River	Sluice Gate, Junction Lock Bypass, Schuylerville Lock C5	
Lock C6, Fort Miller	29.9	Guard Gate, Crocker Reef	31.84	1.94	Canal	Lock C6	
Guard Gate, Crocker Reef	31.84	Lock C7, Fort Edward	37.03	5.19	River	None	Includes junction with Hudson River.
Lock C7, Fort Edward	37.03	Lock C8, Fort Edward	39.21	2.18	Canal	Fort Edward Siphon Spillway Culvert and Sluice Gate Lock C7	
Lock C8, Fort Edward	39.21	Lock C9, Smith's Basin	45.04	5.83	Canal	Siphon spillway at C9 Lock C8 Bypass Lock C8 Lock C9	Inflow from Glens Falls Feeder Canal
Lock C9, Smith's Basin	45.04	Lock C11, Comstock	54.28	9.24	River	Fixed crest dam at C11 Lock C11	Includes junctions with Big Creek, Winchell Creek, and small streams
Lock C11, Comstock	54.28	Lock C12, Whitehall	60.72	6.44	River	Tainter gate and sluice gate at C12 Lock C12	Includes junction with Mettawee River
Lock C12, Whitehall	60.72	Poultney River to Lake Champlain		N/A	River		Cannot isolate at Poultney River/Lake.

Notes and Assumptions:

It is assumed that any and all navigation locks can be cross fed to pass water downstream and they are listed as dewatering/outlet features for upstream segments.

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Cayuga and Seneca Canal Isolation and Dewatering Segments							
West Segment Limit		East Segment Limit		Isolated Length (mi)	River or Canal Segment	Segment Dewatering Features and Outlets	Notes
Isolation Structure	Canal Milepost	Isolation Structure	Canal Milepost				
Seneca Lake		Lock and Dam C&S4	12.31	N/A	River	Tainter gates (to powerhouse forebay?) at dam Lock CS&4	Cannot isoalate at Lake.
Lock and Dam C&S4	12.31	Lock and Dam C&S2	8.01	4.3	River	Powerstation, obermeyer gates, sluice gates at C&S2 Lock C&S2	
Lock and Dam C&S2	8.01	Lock and Dam C&S1	4.04	3.97	River	Tainter gates at dam Lock C&S1	Includes junction with Cayuga Lake.
Lock and Dam C&S1	4.04	Erie Canal	0	4.04	River	None in C&S Canal Length. See Erie Canal dewatering of Section between Lock E24 at Baldwinsville and Lock E25 and Movable Dam 18 at Mays Point	

Notes and Assumptions:

It is assumed that any and all navigation locks can be cross fed to pass water downstream and they are listed as dewatering/outlet features for upstream segments.

Canal mileposts taken from www.canals.ny.gov boating information tables and online map

Listing of dewatering features and outlets in each segment are preliminary and subject to review and revision. The feasibility of safely dewatering the segments listed is not assured and should be evaluated by staff familiar with the operation and limitations of the segment and applicable features.

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Oswego Canal Isolation and Dewatering Segments

South Segment Limit Structure	South Segment Limit Canal Milepost	North Segment Limit Structure	North Segment Limit Canal Milepost	Isolated Length (mi)	River or Canal Segment	Segment Dewatering Features and Outlets	Notes
Erie Canal	0	Lock O1, Phoenix	2.15	2.15	River	Spillways and Tainter Gates at Phoenix Dam at Lock O1 and Lock O1. Powerhouse at dam? See Erie Canal dewatering of segment between Lock E24 at Baldwinsville and Lock E23 at Brewerton (and Caughdenoy Dam and Guard Gate)	Includes flows from Oswego River fed by Oneida River, Seneca River, and Onondaga Lake
Lock O1, Phoenix	2.15	Lock O2, Fulton	11.48	9.33	River	Fixed Crest and Tainter Gated Dam O2 at Fulton Powerhouse at dam? Lock O2	Includes Oswego River
Lock O2, Fulton	11.48	Lock O3, Fulton	12.06	0.58	River	Fixed Crest Dam O3 at Fulton Powerhouse at dam? Lock O3	Includes Oswego River
Lock O3, Fulton	12.06	Lock O5, Minetto	18.49	6.43	River	Fixed Crest Dam 05 at Minetto Powerhouse at dam? Lock O5	Includes Oswego River
Lock O5, Minetto	18.49	Lock O6, High Dam	21.78	3.29	River	High Dam (Fixed Crest at O6) Powerhouse at dam? Lock O6	Includes Oswego River
Lock O6, High Dam	21.78	Lock O7, Oswego	22.45	0.67	River	Curved Dam (Fixed Crest at O7) Powerhouse at dam? Lock O7 Bypass Culvert and Sluice Gate Lock O7	Includes Oswego River
Lock O7, Oswego	22.45	Lock O8, Oswego	22.89	0.44	Canal	Side Spillway between O7 and O8 Sluice gate above O8 Spillway above O8 Lock O8	Canal parallels Oswego River bewteen structures.
Lock O8, Oswego	22.89	Lake Ontario		N/A	River		Cannot isolate at Lake Ontario. Includes Oswego River.

Notes and Assumptions:

It is assumed that any and all navigation locks can be cross fed to pass water downstream and they are listed as dewatering/outlet features for upstream segments.

Canal mileposts taken from www.canals.ny.gov boating information tables and online map

Listing of dewatering features and outlets in each segment are preliminary and subject to review and revision. The feasibility of safely dewatering the segments listed is not assured and should be evaluated by staff familiar with the operation and limitations of the segment and applicable features.

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Feeder and Remenant Canals Isolation and Dewatering Segments

Feeder or Remenant Canal	Upstream Limit Structure	Downstream Limit Structure	Length (mi)	River or Canal Segment	Segment Dewatering Features and Outlets	Notes
Glens Falls Feeder Canal (GFFC)	Glens Falls Feeder Intake Sluice Gate (1FGFI3D)	GFFC Spillway at Champlain Canal (1F0SW3D) above Lock C-8 at Fort Edward	8.4	Canal	Shut off inflow at Intake Outlet flow at Champlain Canal Other sluice gates upstream of old locks	
Black River Canal	Foresport Feeder at Sargent's Waste Weir (Boonville)	Spillway to Lansing Kill (4F0463D)	3.9	Canal	Limit inflow with control from Foresport Feeder Spillway to Lansing Kill (4F0463D)	
Forestport Feeder	Alder Pond Dam (Foresport)	Black River Canal at Sargent's Waste Weir (Booneville)	10.3	Canal	Obermeyer Gate - Dutch Hill (4F0043C) Sluice Gates - Forestport Feeder Hydro (Head) (4FF483D) Feeder Waste Weir - Williams (4F0026B) Feeder Waste Weir - Nugents (4F0016B)	
Nine Mile Feeder	Nine Mile Feeder Headgates on West Canada Creek (Trenton Falls) (4F0453D)	Nine Mile Feeder Flume (4F0263D)	5.7	Canal	Shut off inflow at Headgates intake Outlet flow at Flume	
Chenango Canal	Woodman Pond Spillway (4F0373D) and Madison Feeder near Woodman Pond	Solsville Spillway at Oriskany Creek (4X0253D)	5.7	Canal	Control inflow from Chenango Feeder, Madison Feeder and Leland Pond Outlet Outlet flow at Solsville Spillway to Oriskany Creek	See limitations on Leland Pond Outlet controls.
Leland Pond Outlet	Leland Pond Dam	Chenango Canal north of Peckport	0.3	River	Limit Leland Pond outflow by closing LLO valves; no control available for stoping or diverting flow at fixed crest spillway.	Connector is only outlet for Leland Pond so functions as river where reservoir ouflow must be passed.
Madison Feeder	Payne Brook Sluice Gates at Madison Feeder	Chenango Canal near Woodman Pond	2.2	Canal	Shut off inflow from Payne Brook at Sluice Gates Outlet into Chenango Canal	
Chenango Feeder	Chenango Feeder Headgates at Chenango River (4F0543D) at Randallsville Dam	Chenango Canal near Woodman Pond	5.9	Canal	Shut off inflow at Feeder Dam Sluice Gate Intake Waste Weir (4F0156B) and Spillway (4F0383D) Feeder Waste Weir - S of Bridge 13A (4F0146B) Outlet into Chenango Canal	
Kingsley (Lebanon) Feeder and Bradley Brook Feeder (AKA continuation of Chenango Feeder)	Kingsley Book and Bradley Brook	Chenango River at Chenago Feeder Head	2.6	N/A	N/A	***Segment abandoned.***
Old Erie Canal Feeder	Butternut Aquaduct at Old Erie Canal Feeder (5F0027A)	Erie Canal in New London	30.9	Canal	Shut off inflow from Butternut, Limestone, Chittenango Feeders Outlet at Aquaduct Sluice Gates - Butternut (5F0023D), Limestone (5F0013D) and at Waste Weirs - Pools Brook (5F0016B), Chittenango Aqueduct (4F0126B), Cowaselon Aqueduct (4F0116B), Durhamville Aquaduct (4F0106B and 4F0096B) Spillway at Verona (4F0683D)	Operation and control of inflow from other feeders is required.
Butternut Feeder	Diversion Dam on Butternut Creek (5F0B13A)	Butternut Aquaduct at Old Erie Canal Feeder (5F0027A)	2.2	Canal	Shut off inflow at Diversion Dam Sluice Gate (5F0B13D) Outlet flow through Sluice Gate at Butternut Aqueduct (5F0023D) and other waste weirs and sluice gates of Old Erie Canal	
Limestone Feeder	Limestone Feeder Bulkhead (5F0F13D)	Old Erie Canal Feeder	0.9	Canal	Shut off inflow at Bulkhead Waste Weir (5F0F16B) Outlet flow through Sluice Gate at Limestone Aqueduct (5F0013D) and other waste weirs and sluice gates of Old Erie Canal	

Feeder and Remenant Canals Isolation and Dewatering Segments						
Feeder or Remenant Canal	Upstream Limit Structure	Downstream Limit Structure	Length (mi)	River or Canal Segment	Segment Dewatering Features and Outlets	Notes
Chittenango Feeder	Headgates on Chittenango Creek (4F0513D)	Old Erie Canal Feeder	0.3	Canal	Shut off inflow at Dam Headgates	
Hatch-Bradley Connector	Hatch Lake Reservoir Dam (4Y0593A)	Bradley Brook Reservoir	0.2	River	Limit Hatch Lake outflow by closing headgate valves; no control available for stoping or diverting flow at fixed crest spillway.	Connector is only outlet for Hatch Lake so functions as river where lake outflow must be passed.
Old Champlain Canal	Old Champlain Canal Dry Wall Lock 4 SW Approach (2XSW4D)	North End Abandonment (0.7mi north of STRIN 2OCF46A)	2.1	Canal	Limit inflow from Lock E-3 and closure of intake for Old Champlain Canal (2X0C43E) Drain with E-2 Bypass spillway and crossfeed at Lock E-2	

Notes and Assumptions:

Lengths taken from December 2008 NYSCC Reservoir System Analysis Final Report by Bergmann or aerial pictometry measurements.

Additional small connector canals and natural watercourses used in the canal feeder system may require manipulation of reservoir and watercourse controls in conjunction with the segments noted herein.

Listing of segments and of dewatering features and outlets in each segment are preliminary and subject to review and revision. The feasibility of safely dewatering the segments listed is not assured and should be evaluated by staff familiar with the operation and limitations of the segment and applicable features.

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