OSWEGO CANAL
Three Rivers to Oswego

Mile 0.62
E395312
N4785099
LYSANDER SHOPS (1 Non-Contributing Structure, 2 Non-Contributing Buildings)
West bank of Oswego River/Canal, 9052 River Road, Town of Lysander, Onondaga County
Lysander shops were constructed in 2003 to accommodate canal operations that had been based at Syracuse Inner Harbor. Site includes a 854’ long dock wall, a two-story shop building, and a lumber shed. All were built after the period of significance and are non-contributing.

Mile 1.99
E394488
N4786953
Bridge House, Phoenix (1 Contributing Building)
East Side of Oswego River, State Street at end of Lock Street, Village of Phoenix, Oswego County
Concrete control tower for bascule bridge (no longer extant).

History: A bridge across the Oswego River, with a double-leaf bascule section over the navigation channel and approach to Lock O-1 on the eastern shore, was constructed here in 1917 as part of Contract 103. The bridge was removed in the 1970s; the only remnants are the flat-roofed concrete control tower on the east bank and some piers that now support a picnic shelter and a catwalk that provides access to the middle Taintor gates of Phoenix Dam. The control tower shares similar architecture with others on the system but is larger than most – five bays wide by three deep, with a hip-roofed extension on the south end. The building now serves as headquarters for the “Bidgehouse Brats,” a community youth organization that welcomes and provides services for visiting boaters.

Syracuse petitioned to have draw bridges built on the Oswego Canal so that lake freighters could travel from Lake Ontario to the inner harbor on Onondaga Lake. A number of bascule and swing bridges were built, including three at Phoenix. In other places, like Minetto and Fulton, where the underside of a bridge was more than 15’ (later 20’) above the water, structures were built that could accommodate installation of bascule leaves and machinery at a later date but were fitted with cheaper fixed spans over the channel at the outset. Ship traffic never materialized and none of the bridges ever had to be retrofitted.

Structural & mechanical details in BoP, Plates 142-145.
Mile 2.15
E394317
N4787111

LOCK O-1, Phoenix (3 Contributing Structures, 1 Contributing Building)
HAER NY-529
East side of Oswego River, 87 State Street, Village of Phoenix, Oswego County
 Constructed 1911, Construction Contract 53, Electrical Contract 90, 90A, 93

The site includes Lock O-1, Phoenix Dam, Bridge Street lift bridge, a lockhouse, and
a non-contributing garage.

Phoenix Dam zig-zags across the Oswego River atop a ledge from the upstream
(south) end of Mill Island to a hydroelectric plant at a former paper mill site on the
west bank in West Phoenix, town of Lysander, Onondaga County. The eastern end of
the dam, roughly opposite the upstream gates of Lock O-1 has a pair of Tainter gates.
A fixed-crest spillway upstream, almost parallel with the riverbank, about 383’ to
another set of four Tainter gates at right angles to the flow. Another fixed-crest
spillway, about 166’ long leads from those gates to the corner of the Phoenix
hydroelectric project powerhouse (FERC P-4113). The powerhouse was constructed in
1986 and is outside the project boundary.

Lock O-1 is the uppermost lock on the Oswego Canal. It has a 10.2’ lift to the south
with normal pool elevations of 352.8’ below and 363’ above. It is near the middle of
Mill Island, an artificial land body created when earlier versions of the Oswego Canal
and subsequent power canals cut across a bend in the river. Mill Island is now open
park land, but when the Barge Canal was constructed both sides of the channel were
lined with densely packed multi-story brick factory buildings. The chamber has been
lined with steel plates. The valve and gate operating machinery is original, but
different than that found at most other locks on the system. D’Oliver Engineering
Company installed electrical equipment and machinery at Locks O-1, O-2, O-7, and
O-8 on the Oswego Canal under Contract 90, along with E24 on the Erie and C9,
C11, and C12 on the Champlain. Lupfer & Remick completed the Oswego Canal
power plants under Contract 90-A. The “Contract 90” machinery does not look like
equipment installed at most other locks by MacArthur Brothers Company & Lord
Electric Company under Contracts 92, 92, and 94. The spars and other operating
machinery are lighter gauge forgings. The motors and reduction gears are enclosed in
waterproof cast-iron housings, mounted in pits below deck level. The controllers have
a vertical panel mounted on a post, rather than a horizontal cabinet atop a cabinet.

Bridge Street lift bridge (BIN-4434050) is a heel trunnion single-leaf bascule with a,
55’ long plate girder deck raised by overhead counterweighted booms. The motor that
operated the bridge is attached to the counterweight and engages a rack-gear spar. The
bridge was constructed on the west side of the lock chamber in 1912 under Contract
85 and originally provided access to the lockhouse and factories on Mill Island. It is no longer used and is now blocked in the “up” position, with access to the lockhouse and park facilities on Mill Island by way of a driveway off Culvert Street.

The concrete block **lockhouse** was constructed in 1958. Its long axis and the ridgeline of its gable roof are parallel to the chamber.

Mile 2.19  
**Culvert Street Lift Bridge, Phoenix (O-4)** (1 Non-Contributing Structure)  
BIN-4434060  
Village of Phoenix, Oswego County  
Heel trunnion single leaf Bascule, 67' long, 28' between curbs. Constructed 1990. An elevated fixed pipeline crossing (O-4A) was built at the same time immediately downstream.

Mile 5.27  
**CR 46 Bridge, Hinmansville O-5** (1 Contributing Structure)  
BIN-4434070  
Towns of Schroeppel & Granby, Oswego County  
Two unequal length thru-trusses supported on midriver pier. Longer Baltimore truss over canal channel to west, shorter Warren truss with verticals to east. 285' long overall, 15.1' between curbs, sidewalks on both sides outboard of trusses. Constructed 1915 under Contract 100.

Mile 11.48  
**LOCK O-2, Fulton** (3 Contributing Structures, 1 Contributing Building)  
HAER NY-530  
East side of Oswego River, East Broadway at South First, City of Fulton, Oswego County  
Contracts 10 & 10B, Electrical Contracts 90, 90A  
When it was built at the head of Oswego Falls in Fulton, Lock O-2 was sandwiched between the Sealrite factory and a commercial hydroelectric plant. The paper mill has been replaced by parking lots; the hydro plant remains. The complex includes Oswego Falls Dam, Lock O-2, the lockhouse, and a swing bridge that provides access across the middle of the chamber. The Oswego Falls East and Oswego Falls West hydroelectric plants (licensed together under FERC P-5984) are outside the NR district boundary.

**Oswego Falls Dam** looks like a square edged “U” in plan, built atop an irregular ledge across the river. A fixed crest section extends about 467’ upstream from the east side powerhouse, roughly parallel to the riverbank. It is slightly higher than the

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middle section and only spills during high flows. The middle section, running at right angles to the flow, includes a 186’ long fixed crest spillway with six Tainter gates at the west end. The eastern section is about 282’ long, running from the Tainter gates to the corner of the westside hydro plant, creating a forebay for that facility. Like its counterpart on the east, it is higher than the center section and only spills during high flows.

Lock O-2 has a 17.8’ lift to the south with normal pool elevations of 335.0’ below and 352.8’ above. It has light gauge “Contract 90” gate and valve operating machinery, similar to that at O-1. A cable bridge spans the middle of the chamber, upstream of the lockhouse and swing bridge. The chamber has been relined with new concrete and features recessed glide rail mooring fixtures.

The concrete block lockhouse is on the west side of the chamber on the artificial island formed between the lock and the hydro plant tailrace. On a constricted site, its long axis and ridgeline are parallel to the chamber. Although it stands next to a large commercial hydroelectric plant, O-2 was provided with its own DC hydro plant, just like other locks on the system. It was removed sometime after 1945. The sills and gates were lowered in 1958.

The center bearing swing bridge is an unequal length counterweighted span, pivoted on a bearing on the east side of the chamber. A plate reads: “1919 Built by Fort Pitt Bridge Works Pittsburgh, Pa.”


Mile 12.00 Fulton Terminal (1 Contributing Structure) HAER NY-531 East side of canal at end of Canal Street, Canal Park, City of Fulton, Oswego County Constructed c1914, Probably built as part of Contract 10B

Mile 12.06 LOCK O-3, Fulton (2 Contributing Structures, 1 Contributing Building, 1 Non-Contributing Building) HAER NY-532

185 Original detailed in BoP, plates 113-119.
East side of Oswego River, First Street at Oneida, City of Fulton, Oswego County
Constructed 1914, Construction Contract 10, Electrical Contract 93

The site includes Fulton Dam, Lock O-3, and a lockhouse. The Granby hydroelectric plant on the west bank (FERC P-2837, constructed 1980) and the Fulton hydroelectric plant at the east end of the dam, next to lock O-3, are not included in the district boundary.

There had been a dam on the site of Fulton Dam, but it was raised and extensively rebuilt as part of Barge Canal construction. The existing overflow weir is about 483’ wide with a full-width sloping apron on the downstream side.

Lock O-3 has a 27’ lift to the south with normal pool elevations of 308’ below and 335’ above. It retains original DC gate and valve operating machinery. The lock chamber has been refaced with new concrete that includes recessed mooring glide rails. There are downstream approach walls on both banks and an upstream approach on the east bank. The upstream approach is a concrete slab dock, supported on piers that allowed water to flow around the east side of Lock O-3 into a penstock supplying mills on the east bank below Fulton Dam. That conduit was closed by the 1970s, after manufacturers stopped drawing water, and one of the dock slabs was removed, creating a protected mooring area for small boats in the old forebay.

The concrete block lockhouse stands on the east side of the chamber at about the mid-point. Its long axis and the ridgeline of its gable roof are parallel to the lock. The recently constructed visitor center/comfort station is non-contributing.

The Oswego River drops over a series of ledges below Fulton Dam. The navigation channel below Lock O-3, the tailrace of Fulton hydroelectric plant, the main river channel below Fulton Dam, and the tailrace of the Granby hydroelectric plant are separated from each other by long earth dikes reinforced by rip-rap. These were built to keep high water in the river from overpowering the canal or creating backwater for the power plant turbines. In an earlier era, they also helped moderate fluctuations as water-powered factories in Fulton came on and off shift. The canal dike is the longest, extending about 3,700’ from the lower end of Lock O-3 to the northern tip of an unnamed island near the Fulton boat launch. A 364’ concrete spillway near the midpoint allows some water to spill from the center river channel into the canal.

Mile 12.10
E384951
N4797878

Oneida Street Bridge, Fulton O-9 (1 Non-Contributing Structure)
BIN-4434120
City of Fulton, Oswego County
Steel stringer/multi-beam, 900’ long, 40’ between curbs. Owned by City of Fulton.
Constructed 1985.

See continuation sheet
Minetto Storehouse (1 Contributing Building)

HAER NY-533
West bank, Rt. 48, opposite end of Community Drive, at canoe launch ramp, Town of Minetto, Oswego County. Constructed 1914.
Typical windowless concrete storage building with standing-seam metal hip-roof and triangular ventilation dormer. Unlike most others on the system, this one is more than 1,200 feet from the associated lock, probably because there is no open ground at O-5.

Minetto Bridge Road / CR 25 Bridge O-10 (1 Contributing Structure)

BIN-4434140
Town of Minetto, Oswego County
Deck supported by three open spandrel arches on east side, constructed 1917 under Contract 99. Two steel multi-beam sections to the west are later. Minetto bridge is 799' long overall, 25' between curbs. Its deck slopes down from east bank to west. The abutments on either side of the navigation channel were designed to support a twin leaf bascule, in the event that ship navigation from Oswego to Syracuse ever materialized. A fixed truss was initially installed over the navigation channel with a peculiar right angle approach ramp on the west end. That was later replaced by a multi-stringer fixed span.

LOCK O-5, Minetto (2 Contributing Structures, 2 Contributing Buildings)

NOTE: There is no Lock O-4.
HAER NY-534
West side of Oswego River, NY 48, (access through Minetto hydroelectric plant), Town of Minetto, Oswego County
Lock O-5 is sandwiched between Minetto Dam and the Minetto hydroelectric plant. The site includes Minetto Dam, Lock O-3, the lock’s powerhouse, and a lockhouse. The district boundary does not encompass the Minetto hydroelectric plant (part of FERC P-5984, constructed 1915) or the headgates for that plant.

Minetto dam is a concrete gravity structure with a semi-circular fixed crest ogee spillway and a curved sloping apron on the downstream face.
The upper end of Lock O-5 forms the west abutment for Minetto Dam. O-5 has a 18’ lift to the south with normal pool elevations of 290’ below and 308’ above. Unlike any other lock on the system, there is no earth fill on either side of O-5’s chamber. The concrete walls are entirely exposed (or submerged). A 300’ upstream approach wall on the east side, extended by a row of eight guide cribs spanning 380,’ were installed to keep down-bound boats from being swept over the dam. A flaring row of

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guide cribs to the west, about 238’ long, keeps most from being drawn into the power plant intake. There is a 300’ long lower approach wall extending from the east side of the chamber. The lock retains original DC gate and valve operating machinery.

The powerhouse is attached to the east river wall of the lock chamber a short distance below the dam abutment. It is slightly wider than some; four bays rather than the usual three, but otherwise similar. Entry is through double doors on the narrow upstream end. The original vertical-shaft hydroelectric generators and governors are in place but have not operated for many years.

The concrete block lockhouse stands on the wall separating the west side of the lock chamber from the powerplant forebay. Photos from the 1950s show an earlier wood frame lockhouse at the upper end of the chamber on the east side, on top of the triangular concrete slab formed at the intersection of the curved dam abutment and the straight lock wall. The rusticated concrete block foundation survives but the rest of the building is gone.

History: Minetto Dam and Lock O-5 were constructed 1911-14 under Contract 37. Powerhouse equipment and valve and gate operating machinery were installed under Electrical Contract 93. The chamber of O-5 was lined with steel plate and new gates were installed in 1964 under Contract M64-2.

LOCK O-6, High Dam (2 Contributing Structures, 2 Contributing Buildings)
HAER NY-535
East Side of Oswego River, East River Road (NY 481) opposite Ludlow Street, City of Oswego, Oswego County
Constructed 1915, Construction Contract 37, Electrical Contract 93

The complex includes High Dam, Lock O-6, a storehouse, and a lockhouse. The NR district boundary does not include the High Dam hydroelectric plant (FERC P-10551, constructed 1928)

High Dam was a new concrete overflow weir built as part of the Barge Canal project. The fixed crest spillway is about 510’ long with a sloping apron on the downstream air face. The east end of the dam abuts Lock O-6 at the upstream gates. The west end was modified in 1928 to form the forebay of the City of Oswego’s High Dam hydroelectric plant.

Lock O-6 has a 20’ lift to the south with normal pool elevations of 270’ below and 290’ above. There are upstream and downstream approach walls on the east bank and a row of four concrete guide cribs between the west side of the chamber and the dam spillway. It retains original DC gate and valve operating machinery. The chamber

See continuation sheet
lining has been refaced with new concrete that incorporates slots for tensioned glide cables. The east side is backfilled with earth; the west (river) wall is exposed concrete.

A hydroelectric powerhouse was originally attached to the west (river) wall of the lock chamber, about 90’ below the upstream gates. Only a portion of the substructure remains and that is too small to count.

The concrete block **lockhouse** is on the east side of the chamber at about the midpoint. Its long axis and the ridgeline of its gable roof are parallel to the lock.

The hip-roofed concrete **storehouse** is next to the lower gates on the east side. Unlike all but a couple others on the system, this one has windows.

**LOC O-7, Oswego** (3 Contributing Structures, 1 Non-Contributing Building)

HAER NY-536

East side of Oswego River, Lock Road off East River Road (CR 57) Leto Island, City of Oswego, Oswego County

Constructed 1910, Construction Contract 35, Electrical Contract 90, 90A

The site includes Varick Dam, Lock O-7, a lockhouse, and an access bridge. The NR boundary does not encompass the Varick hydroelectric plant (FERC P-5984, constructed 1926) or its power canal leading from the west end of the dam.

**Varick Dam** has a curved crest about 491’ long with a nearly vertical air face and aprons below to break the impact of falling water. A curved stone dam was built here in 1857 to power manufacturers on both sides of the river in Oswego. It was modified several times and its crest was raised and capped with concrete as part of Barge Canal construction. The crest is fitted with flashboards.

**Lock O-7** has a 14.5’ lift to the south with normal pool elevations of 255.5’ below and 270’ above. There are upstream and downstream approach walls on both sides. The chamber is lined with steel plate. Original gate and valve operating machinery were installed under Contract 90 but they were replaced with hydraulic operators in 1970 under Contract M70-9. The chamber was lined with steel plate as part of that project.

The hydroelectric powerhouse that supplied electricity to locks O-7 and O-8 originally stood on the west side of the chamber next to the lower dates, but it was demolished during the 1970s. Only the floor slab remains today and that is too small to count.

The wood-frame **lockhouse** on the west (Leto Island) side of the chamber at about the mid-point was built in 2001 to replace a concrete block building that had probably

☐ See continuation sheet
been built in the 1950s. The existing building post-dates the period of significance and is non-contributing.

**Leto Island / Powerhouse Road Bridge** (bridge O-11, BIN-4434180) is a 183’ long plate-girder pony span crossing just below the downstream gates, constructed in 1908.

**Mile 22.64**
**E378075**
**N4812263**

**Utica Street Bridge, Oswego O-12** (1 Non-Contributing Structure)
BIN-4434190
City of Oswego, Oswego County
Steel girder & floorbeam, 600' long, 50' between curbs. Constructed 1953.

**Mile 22.5 to 22.9**
The canal channel between locks O-7 and O-8 is maintained at a higher elevation than the river by a vertical concrete wall along the west side of the channel. Two spillway sections, a long one just below O-7 and a shorter just above O-8, allow excess water to spill into the river.

**Mile 22.73**
**E378026**
**N4812389**

**New York, Ontario & Western Railroad Bridge O-13** (1 Contributing Structure)
BIN-4434200
City of Oswego, Oswego County
Crossing Oswego River and canal on the diagonal. Five plate girder sections supported by five piers over river, inverted Warren deck truss over canal, with shallower Warren deck truss on eastern end. 842’ long overall, 16.2’ wide. Constructed 1911, converted to pedestrian bridge.

**Mile 22.89**
**E377874**
**N4812626**

**Oswego Terminal** (1 Contributing Structure)
HAER NY-537 Constructed 1916, Contracted T30
Off Canal View Drive, south of Lock O-8, City of Oswego, Oswego County

**Mile 22.90**
**E377934**
**N4812626**

**LOCK O-8, Oswego** (1 Contributing Structure, 1 Contributing Building)
HAER NY-538
East side of Oswego River, Canal View Drive, City of Oswego, Oswego County
The complex includes Lock O-8 and its associated lockhouse.

**Lock O-8** has a 10.5’ lift to the north with normal pool elevation of Lake Ontario at 245’ below and the pool between O-8 and O-7 at 255.5’ above. The outside of the west (river) wall is exposed concrete with 21 arches supporting the working deck.

The two-story hip-roofed concrete lockhouse dates to initial construction and is larger than most others. Its form and scale are similar to the lockhouse at E34-35 in

[See continuation sheet]
Lockport. Oswego and Lockport are significant entry points to the canal system, which may explain why the state built more substantial lockhouses at those locations.

**History:** Lock O-8 was constructed 1910 under Contract 35, electrical machinery was installed under Contracts 90 & 90A. O-6 was built as a siphon lock, the only one on the Barge Canal system. Flow of water into and out of the chamber was effected by siphons, housed in concrete “humps” at the four corners of the lock. Rather than opening and closing mechanical valves, the operator manipulated hand valves on 4” vacuum pipes to initiate the siphon action and start water flowing into or out of the culverts on either side of the chamber. The design got a lot of attention in the contemporary engineering press. Reports claimed that the siphons filled the chamber faster and with less turbulence than conventional slide valves and required virtually no power to operate. A vacuum pump was installed in 1943 to supplement the siphon when they were inhibited by periods of high water in Lake Ontario. Electric butterfly valves replaced the siphons and the chamber was lined with steel plate in 1968 and hydraulic gate operators were installed in 1975. The cable bridge spanning the middle of the chamber was built in 1949.

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**Erie Canal near Montezuma to Cayuga Lake at Cayuga and Seneca Lake, town of Waterloo**

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187 AR-SPW, 1943, p 51.
188 Maintenance Contracts M66-6, M75-5
189 AR-SPW, 1949, p. 126