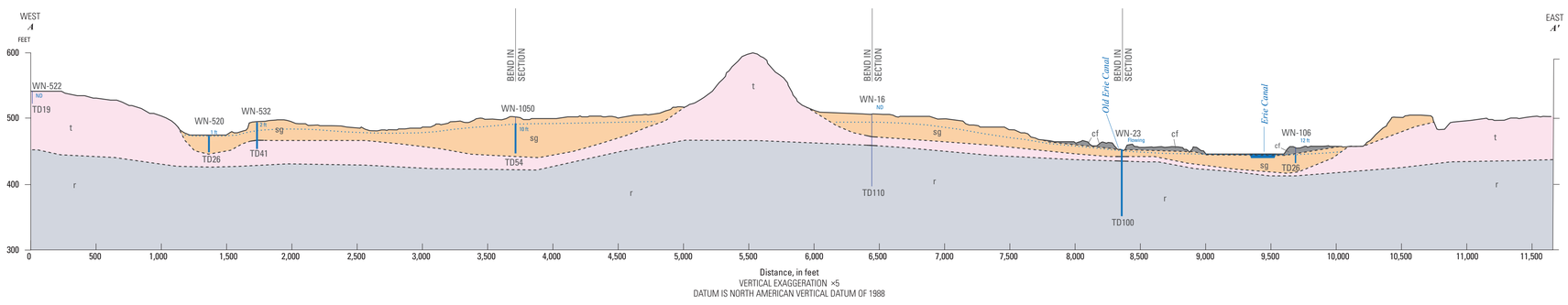
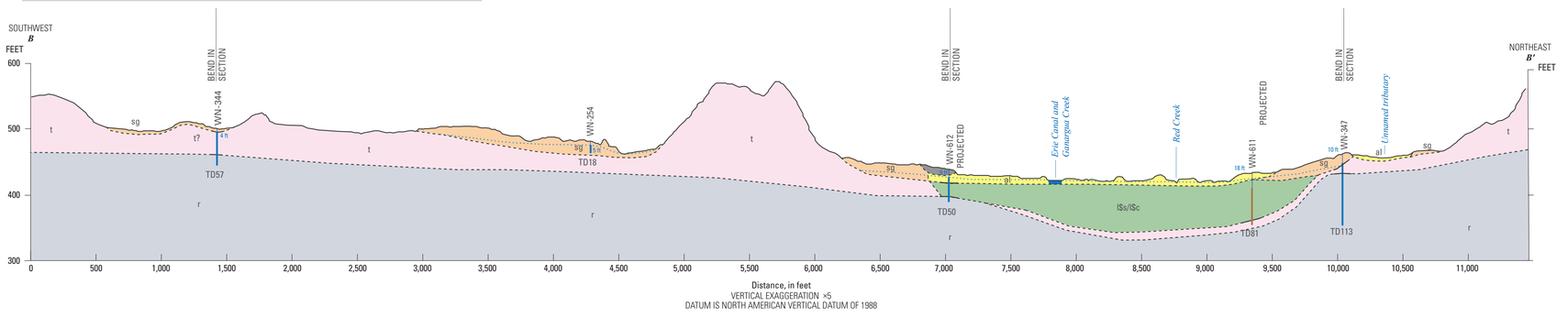
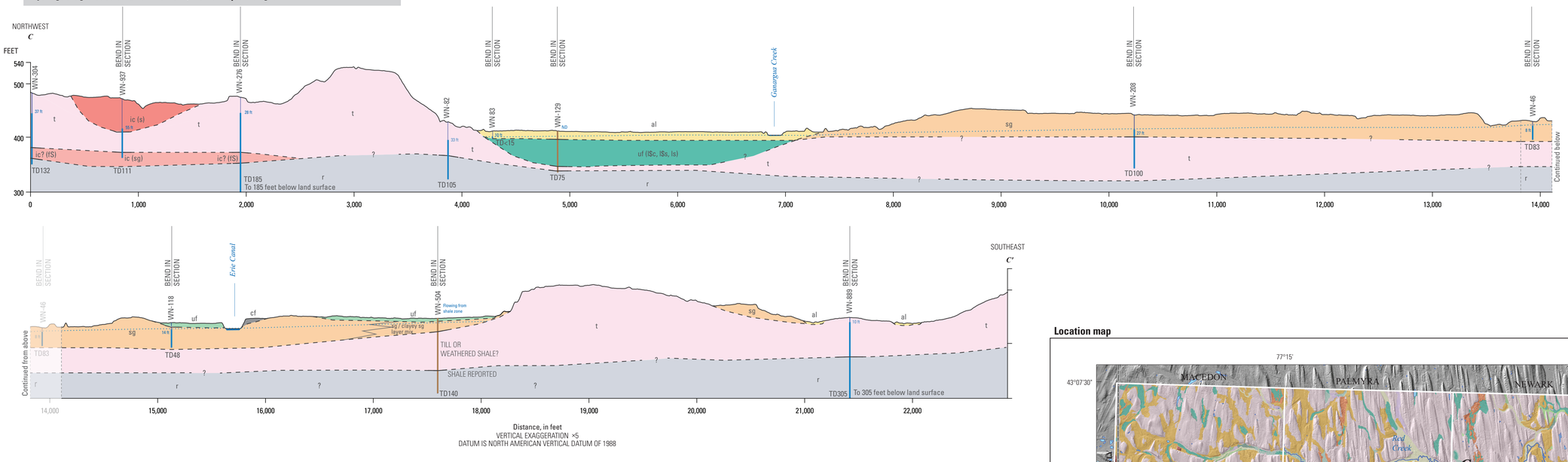
Hydrogeologic section *A–A′* Macedon, Macedon quadrangle



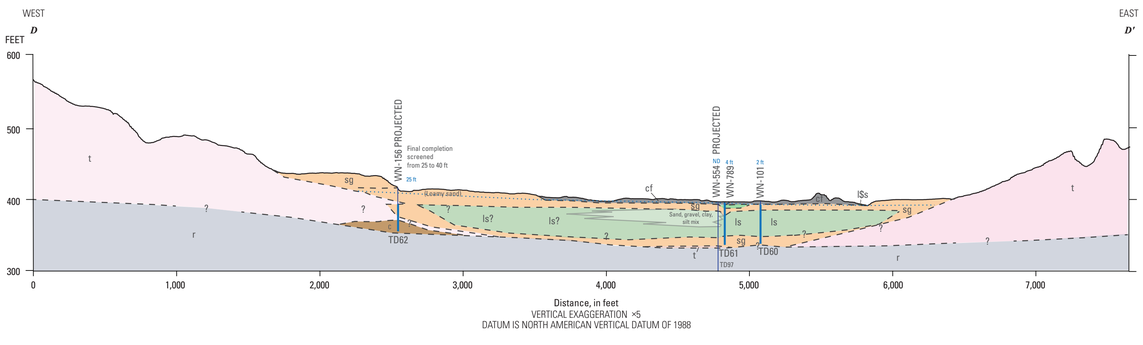
Hydrogeologic section *B–B′* Palmyra, Palmyra quadrangle



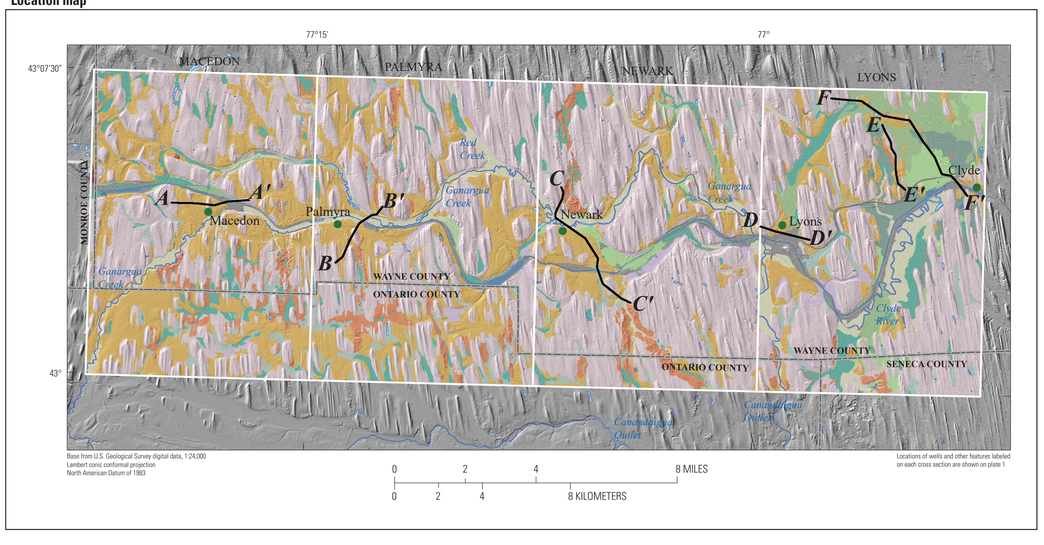
Hydrogeologic section *C–C′* Newark, Newark quadrangle



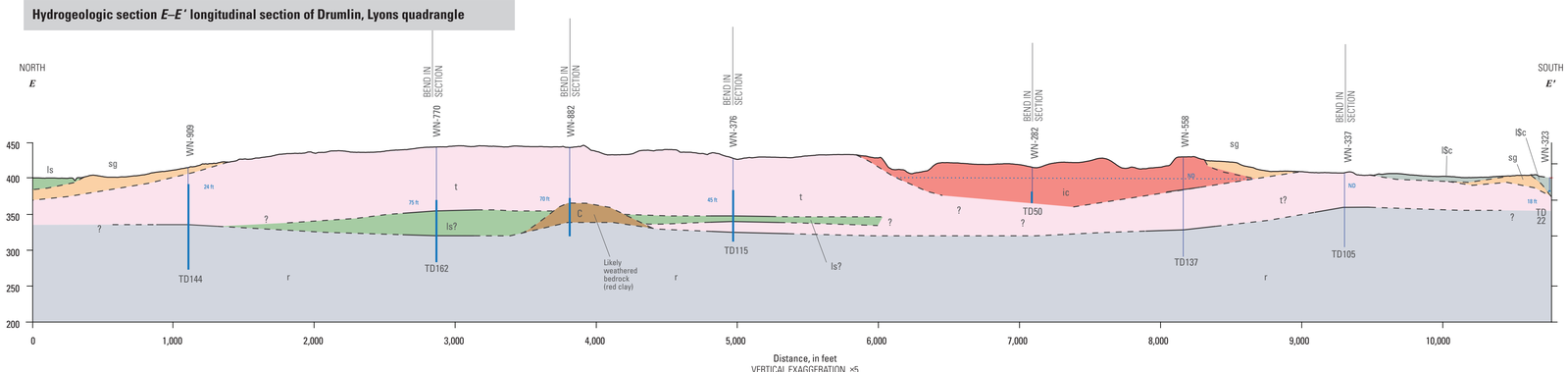
Hydrogeologic section *D–D′* Lyons, Lyons quadrangle



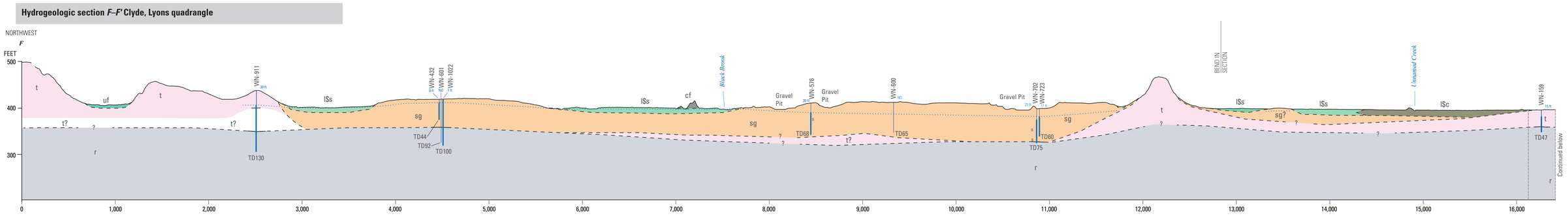
Location map

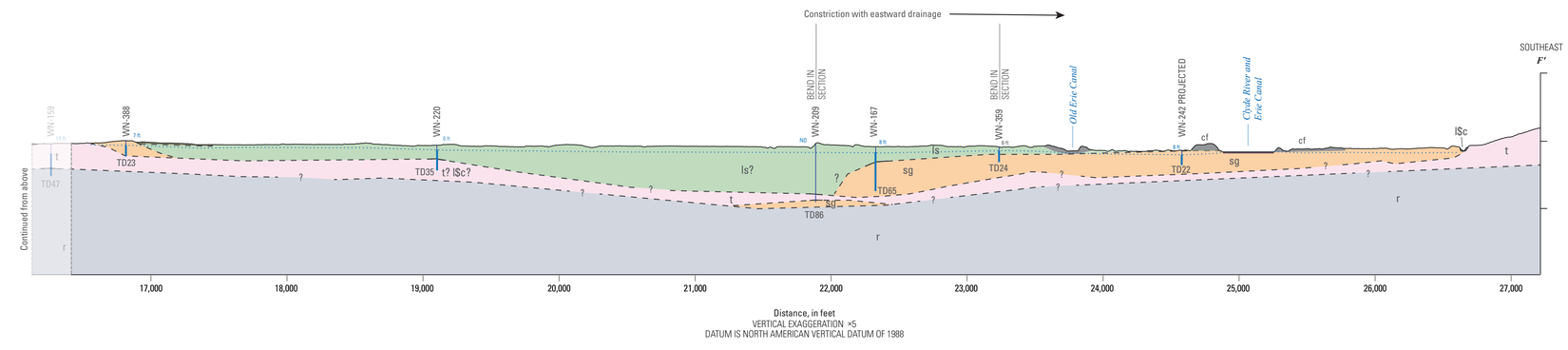


Hydrogeologic section *E–E′* longitudinal section of Drumlin, Lyons quadrangle



Hydrogeologic section *F–F′* Clyde, Lyons quadrangle





EXPLANATION

POSTGLACIAL (HOLOCENE-AGE) DEPOSITS

al — **Alluvium**—River and stream flood-plain deposits typically less than 15 feet (ft) above the present-day stream level. Consists predominantly of stratified silt and clean to silty sand, commonly with some gravel at the base of the deposit. Thicknesses are as much as 15 to 20 ft in the largest meltwater channels occupied by streams

uf — **Undifferentiated fine-grained stratified sediments**—Local areas of mostly fine-grained stratified sediments (alluvium and lacustrine fine sand, silt, and clay) outside of the largest meltwater channels as defined in the county soil surveys. Likely postglacial and glacial sediments

cf — **Cut and filled lands**—Excavated and constructed landforms; the chief area is the Erie Canal and adjacent spoil areas. Also included are industrial and municipal sites. Railroad and highway grades and cuts are numerous and are not included but are visible on the light detection and ranging (lidar) imagery

Open water—Areas of open water such as rivers, lakes, and large ponds. Labeled with waterbody name on sections

GLACIAL (PLEISTOCENE-AGE) DEPOSITS

sg — **Glaciofluvial sand and gravel**—Deposited in early stages of eastward meltwater discharge from glacial lakes and from ice to the north. Also includes sand and gravel of uncertain origin. Mostly in the form of high terraces as much as 60 ft above adjacent, late-stage meltwater channels that in many areas incised completely through the sand and gravel. Most common in wide, low areas where the meltwater velocities slowed enough for sand and gravel deposition. Most villages, such as Macedon, Palmyra, Newark, and Lyons, were built on these terraces. Water-resource potential from these deposits is greatest where the deposits are thickest (most saturated) and most areally extensive, or where the deposits have not been completely eroded in meltwater channels that contain large streams or the Erie Canal. Large-diameter municipal wells have reported yields of a few hundred gallons per minute. Away from the primary meltwater channels, these deposits are relatively thin with limited water-resource potential

ic — **Ice-contact deposits**—Sand, gravel, and silt with highly variable sorting. Typically more sand than gravel in this area because of fine-grained source material. Sediment type listed in parentheses for additional detail—sg (sand and gravel), fs (fine sand). Deposited beneath, within, or adjacent to glacial ice. Often in the form of hummocky terrain in poorly drained areas that were not inundated or eroded by meltwater flows, such as in the lee (east side) of drumlins. Most common in several north-south subglacial drainageways, alternating with areas of dissected drumlins, and along an east-west belt (an inferred ice margin) in the southern part of the study area. Water-resource potential is limited by thin saturated thickness and local extent of deposits

Lacustrine (lake) deposits—Progressively lower energy depositional environments (sand > silt > clay). Silt and clay deposits act as confining units above permeable sand and gravel or bedrock. Total thicknesses as much as 50–60 ft. Wide range of sediment size in some areas

ls — **Sand**—Generally fine to very fine sand. Not a direct source of water supply, but saturated lacustrine sands can store and contribute groundwater to pumped underlying sand and gravel or bedrock. Production wells in Lyons likely derive some water from an overlying lacustrine sand deposit

lSs — **Silt**—Silt with a range of fine or very fine sand content. Common in abandoned meltwater channels and in the broad lake plain traversed by the Clyde River (Lyons quadrangle). May include localized beds of sandy or gravely silt

lSc — **Silt and clay**—Mostly in the broad lake plain traversed by the Clyde River (Lyons quadrangle) as indicated by soil surveys. May included localized beds of sand or gravely silt

C — **Clay**—Clay unit derived from highly eroded bedrock.

t — **Till**—An unsorted, unstratified mixture of clay, silt, sand, gravel, and boulders deposited beneath the ice as lodgment till during glacial advance or as ablation till as the ice front downwasted or retreated. Till in the area has less gravel and boulder content because the ice overrode lacustrine deposits in the Lake Ontario basin. Typically up to 80–90 ft thick but, in a few locales, as much as 120–140 ft thick. Low permeability and a confining unit, but may yield adequate amounts of water for domestic use where permeable gravelly zones exist

SILURIAN AGE ROCK UNITS

r — **Bedrock**—Primarily Vernon and Camillus Shales; sandstone and limestone reported in some logs

OTHER FEATURES

Geologic contact—Indicates approximate location of contact between units. Dashed where inferred

Water table—Inferred in areas of sand or gravel

Wells and test holes—Site name is assigned by the U.S. Geological Survey. WN, Wayne County; number following county abbreviation is the sequential well number

Test hole—Test hole or boring used to define subsurface characteristics for engineering construction properties; no casing installed

WELL—Generally used for domestic, farm, or public water supply. Well is designated by thinner blue line; water level in well is graphically portrayed as the thicker blue line. Number in blue text is the reported depth to water from the well record. "ND" signifies no water-level measurement recorded. Total depth of well "TD," in feet, noted below well

? — **Question mark**—Indicated uncertainty in position of geologic contact or in sediment type

NOTE—Location of wells and other features labeled on each geologic section are shown on plate 1

Geologic Sections for the Fairport-Lyons Channel System and Adjacent Areas in Wayne, Ontario, and Seneca Counties, New York: *A–A′* through *E–E′*

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2022

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