

**GENERAL NOTES**

The current County of Delaware requirements, together with the Specifications of the State of Ohio, Department of Transportation, including all supplements thereto, in force on the date of contract shall govern all construction items that are a part of this plan. The Contractor shall refer to the "Standard Plans and Specifications for Construction of Sanitary Facilities in Delaware County, Ohio" for all necessary construction details.

Sewer trenches shall be de-watered to 2" below bell of pipe prior to installation of pipe.

Any field tile disturbed during construction shall be replaced as directed by the County, with ABS pipe spanning the trench. The trench shall be filled with Compacted Granular Material. Cost of this work is to be included in the price bid for the various items.

Roof drains, foundation drains and other clean water connections to the Sanitary Sewer are prohibited on this project.

**TESTING**

Force mains shall be tested by a hydrostatic pressure and leakage test. With the main subjected to a hydrostatic pressure of 125 psi at its lowest elevation, allowable leakage shall not exceed 20 gallons per inch diameter per mile per 24 hours.

The Contractor shall cooperate with the Delaware County Sanitary Engineer and shall provide all necessary equipment to perform all testing.

**TREES**

All trees, whether shown or not shown on the plans, are to be preserved unless approval to remove is given in writing by the Engineer or their removal has been designated thusly on the plans. The Contractor shall use special precautions to avoid damage to all other trees. When, in the opinion of the Engineer, trunks or branches of trees would be endangered by the use of mechanical excavation devices, hand excavation will be required. The cost of tree removal and disposal and the cost of tree protection shall be included in the price bid for Trees Removed and Disposed of. Tree removal and replacement requirements of Powell Zoning Code shall be followed.

**SAFETY REQUIREMENTS**

The Contractor and Sub-Contractor shall be solely responsible for all federal, state and local safety requirements, together with exercising precautions at all times for the protection of persons (including employees) and property. It is also the sole responsibility of the Contractor and Sub-Contractor to initiate, maintain and supervise all safety requirements, precautions and programs in connection with the work.

**EXISTING UTILITIES**

The identity and location of the existing underground utility facilities known to be located in the construction area have been shown on the plans as accurately as provided by the Owner of the underground utility. Delaware County and/or the Engineer assume no responsibility as to the accuracy of the underground facilities shown on the plans.

Support, protection and restoration of all existing utilities and appurtenances shall be the responsibility of the Contractor. The cost of this work shall be included in the price bid for the various items.

The Contractor shall cause notice to be given to the Ohio Utilities Protection Service (O.U.P.S.) (Telephone 1-800-362-2764 toll free) and to the Owners of underground utility facilities shown on the plans who are not members of a registered underground protection service in accordance with Section 153.64 of the Revised Code. The above mentioned notice shall be given at least 48 hours prior to start of construction.

The following utilities are located within the work limits of this project and the Owners do not subscribe to a registered underground utility protection service.

UTILITY	OWNER	TELEPHONE
Water Mains	Delco Water Co. 6773 Olentangy River Road Delaware, Ohio 43015	(740) 548-7746
Sanitary Sewers	Delaware County Sanitary Engineer 50 Channing Street Delaware, Ohio 43015	(740) 368-5870
Storm Sewers	Village of Powell 47 Hall Street Powell, Ohio 43065	(614) 885-5380

**AREA RESTORATION**

All areas including the public right-of-way, including fence, that are disturbed by this project, shall be restored to original or better condition, per Item 659 (Seeding and Mulching), Item 607 (Fence), or other applicable specification.

**STORAGE OF EQUIPMENT AND MATERIALS**

No materials, including pipe, shall be stored within twenty (20) feet of the edge of pavement of LIBERTY ROAD within fifty (50) feet of any intersecting street or driveway. During non-working hours, storage of equipment shall comply with these same requirements. Compliance with these requirements shall not in any way relieve the Contractor of his legal responsibilities or liabilities for the safety of the public.

**EXPOSE**

The Contractor shall expose the utility or structure indicated sufficiently in advance of laying the proposed sewer in order to verify the proposed location. Cost to be included in the price bid for the various sewer items.

**NON-RUBBER Tired VEHICLES**

No non-rubber tired vehicles shall be moved on public streets. Exceptions may be granted by the Administrator of Construction (with the approval of the District Construction Engineer, Ohio Department of Transportation, where applicable) where short distances and special circumstances are involved. Granting of exceptions must be in writing, and any damage must be repaired to the satisfaction of the County of Delaware and the Ohio Department of Transportation, where applicable.

**SIGNS, FENCES, DRAINAGE STRUCTURES, ETC.**

All signs, fences, shrubs, drainage structures, or other physical features disturbed or damaged during work under this Contract shall be restored to their original condition by the Contractor. Unless otherwise provided in the Contract, the cost of all such work shall be included in the price bid for the various sewer items.

**SANITARY FACILITIES**

The Contractor shall furnish and maintain sanitary convenience facilities for the workmen and inspectors for the duration of the work.

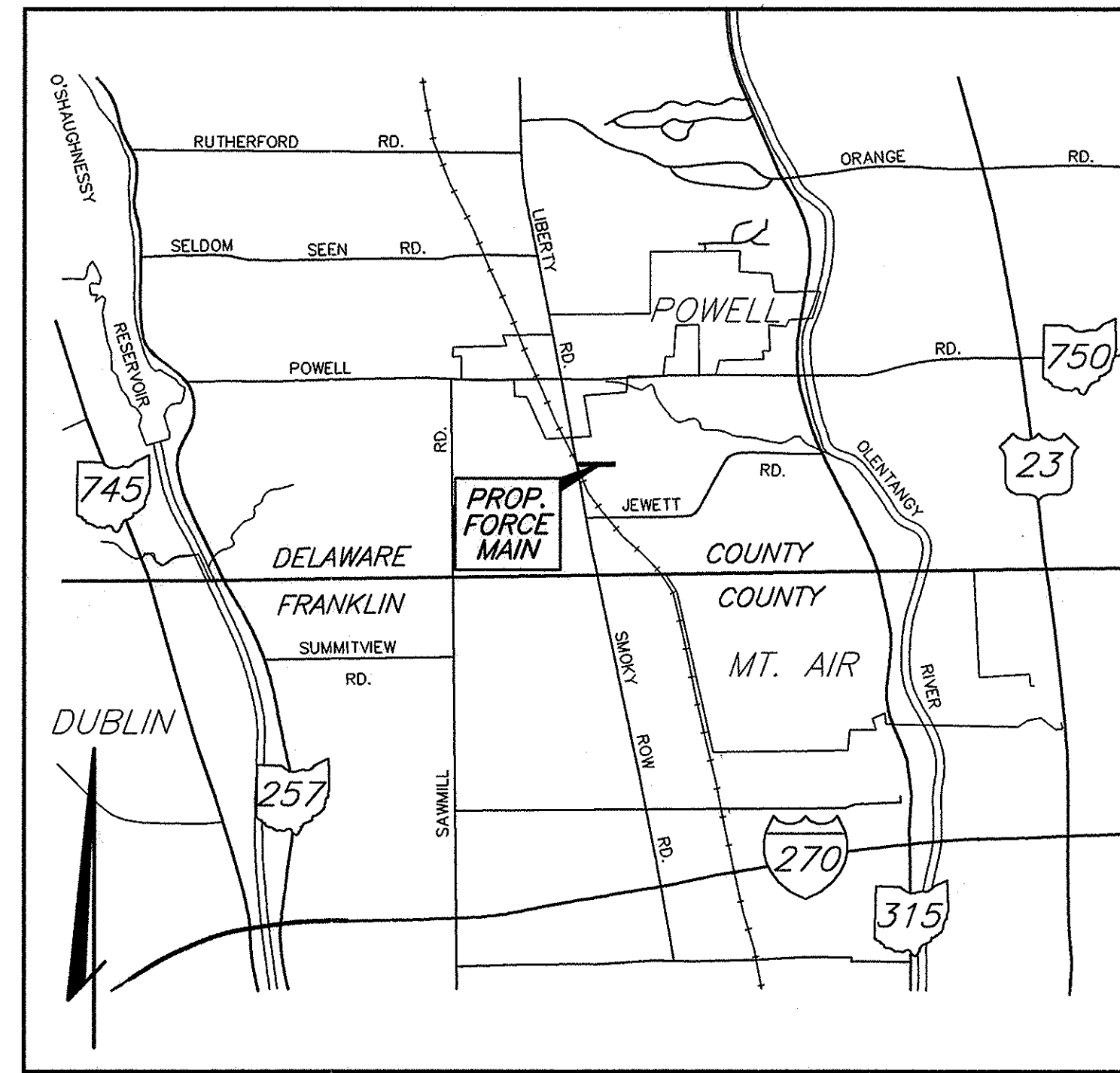
**EXTRA COMPENSATION**

No extra compensation will be paid the Contractor by reason of compliance with any of the requirements indicated on the plans, but payment shall be deemed to be included among the several items, as bid upon, unless otherwise specifically provided.

**RIGHTS OF WAY**

In addition to direct requirements of the Contract Documents, the Contractor shall observe and conform to the specific requirements of all rights-of-ways including easements, court entries, rights of entry or action filed in court in accordance with the code of the applicable governing agency. The cost of the operations necessary to fulfill such requirements shall be included in the price bid for the various items of the contract unless specific provision is made in the Contract Documents for the measurement of and payment for such cost specific items of the Contract.

# DELAWARE COUNTY, OHIO PRIVATE SANITARY SEWER IMPROVEMENT FOR LAKES OF POWELL OFFSITE FORCE MAIN 1999



LOCATION MAP  
No Scale

**VILLAGE OF POWELL:**

The signatures below signify only concurrence with general purposes and general location of the project. All technical details remain the responsibility of the Engineer preparing the plan.

*[Signature]* 12/14/99  
Village Engineer  
*[Signature]* 12/21/99  
Mayor  
*[Signature]* 12/14/99  
Planning & Zoning Commission

**TRAFFIC**

All traffic control devices shall be furnished, erected, maintained and removed by the Contractor in accordance with the "Ohio Manual of Uniform Traffic Control Devices for Streets and Highways", copies of which are available from the Ohio Department of Transportation, Bureau of Traffic, 1980 West Broad Street, Columbus, Ohio 43223.

Type C Steady Burn Lights shall be used on all barricades, drums and similar traffic control devices in use at night.

All trenches shall be backfilled or securely plated during non-working hours.

Ingress and egress shall be maintained at all times to public and private property.

**MAINTAIN DRAINAGE**

The flow in all sewers, drains and watercourses encountered shall be maintained by the Contractor at his own expense, and whenever such watercourses and drains are disturbed or destroyed during the prosecution of the work they shall be restored by the Contractor at his own cost and expense to a condition satisfactory to the Engineer.

**BACKFILL**

All backfill shall be compacted to a density of 95% of maximum laboratory density unless otherwise noted.

All sanitary trenches under road pavement, starting at a distance of five feet from edges of pavement and extending one foot in distance for each one foot in depth are to be compacted with granular material meeting the requirements of No. 57 size aggregate of Item 304 (April 1 to October 1) or low strength mortar backfill, Class LSM -100 (October 1 to April 1). This backfill shall be compacted to 98% of maximum dry laboratory weight at ±1.5% optimum moisture.

For sanitary sewer trenches which run parallel to the pavement and are in the area of influence of the pavement, the backfill is to meet the requirements of 203.12.

All sewer trenches under existing driveways shall be Compacted Granular Material.

The cost of Compacted Granular Material shall be included in the price bid for the Force Main.

**PIPE MATERIALS**

All Force Mains shall be Cast Iron Pipe meeting the requirements of ANSI Specifications A21.6 (AWWA C106) or A21.8 (AWWA C108); Ductile Iron Pipe meeting the requirements of ANSI A21.51 (AWWA C151); PE Plastic Pipe meeting the requirements of ASTM Specification D-1248 and D-2837 or PVC Pipe Meeting the requirements of ASTM D-1784 and ASTM D-2241 and shall be a minimum SDR 21. Cast Iron Pipe and Ductile Iron Pipe minimum barrel thickness shall be calculated meeting the requirements of the Standard Plans and Specifications for Construction of Sanitary Facilities in Delaware County, Ohio.

ESTIMATE OF QUANTITIES			
ITEM	QUANTITY	UNIT	DESCRIPTION
SPEC	2	Each	Automatic Air Release Valve & Manhole
SPEC	1	Each	3/4" Manual Air Release Valve
SPEC	895	Lin.Ft.	2" Sewage Force Main
SPEC	1925	Lin. Ft.	8" Sewage Force Main
201	LUMP	SUM	Clearing and Grubbing
207	-	Lin. Ft.	Sedimentation Control - Silt Fence
659	-	Sq. Yds	Seeding and Mulching
Calc. By:		Date:	Chkd. By: Date:

Note: The quantities shown on this plan are the Engineers best determination of the work to be performed. The Contractor, in making his bid, should make his own determination of the quantities and discuss any differences with the Engineer prior to bidding.

**BENCH MARKS**

B.M. #1 - Top of E.M.H.&T. IP No. 2. Elev. 888.70  
B.M. #2 - Top of E.M.H.&T. IP No. 5. Elev. 895.94

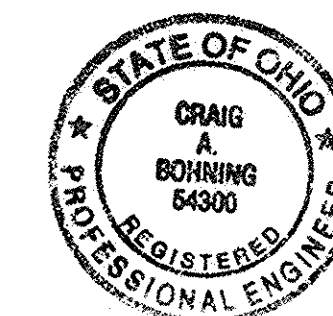
**STANDARD CONSTRUCTION DRAWINGS**

The Standard Construction Drawings Listed On These Plans Shall Be Considered A Part Thereof.

DESCRIPTION	DWG. NO.
Sewer Installation	01
Force Main Connection to Manhole	14
Storm Sewer Replacement Detail	20
Concrete Reaction Backing Details	23
Backing for Vertical Bends	24
Automatic Air Release Valve	25
3/4" Manual Air Release Valve	L-6473 (Columbus)

Signatures below signify only concurrence with the general purpose of this project. All technical details are the responsibility of Evans, Mechwart, Hambleton, & Tilton, Inc., Consulting Engineers and Surveyors.

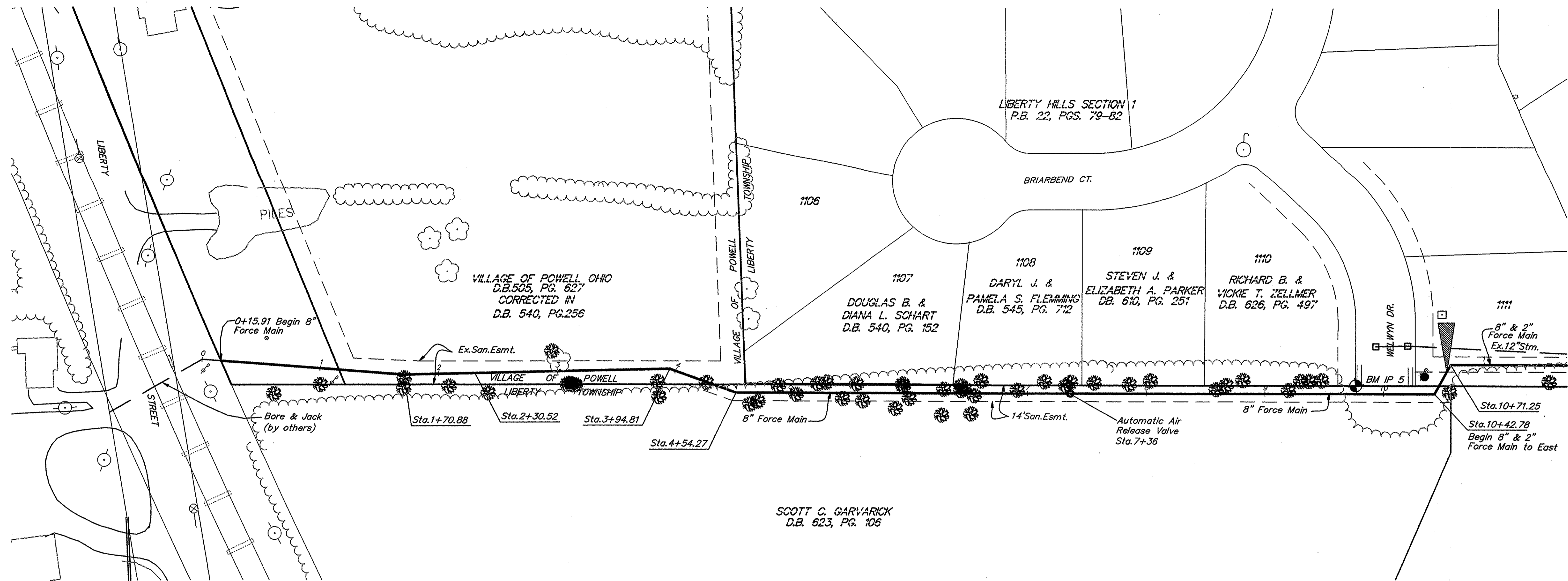
Approved this 10 day of JAN 2000 *[Signature]*  
County Commissioner  
Approved this 10 day of Jan 2000 *[Signature]*  
County Commissioner  
Approved this 10 day of January 2000 *[Signature]*  
County Commissioner  
Approved this 8<sup>th</sup> day of November 1999 *[Signature]*  
Delaware County Sanitary Engineer



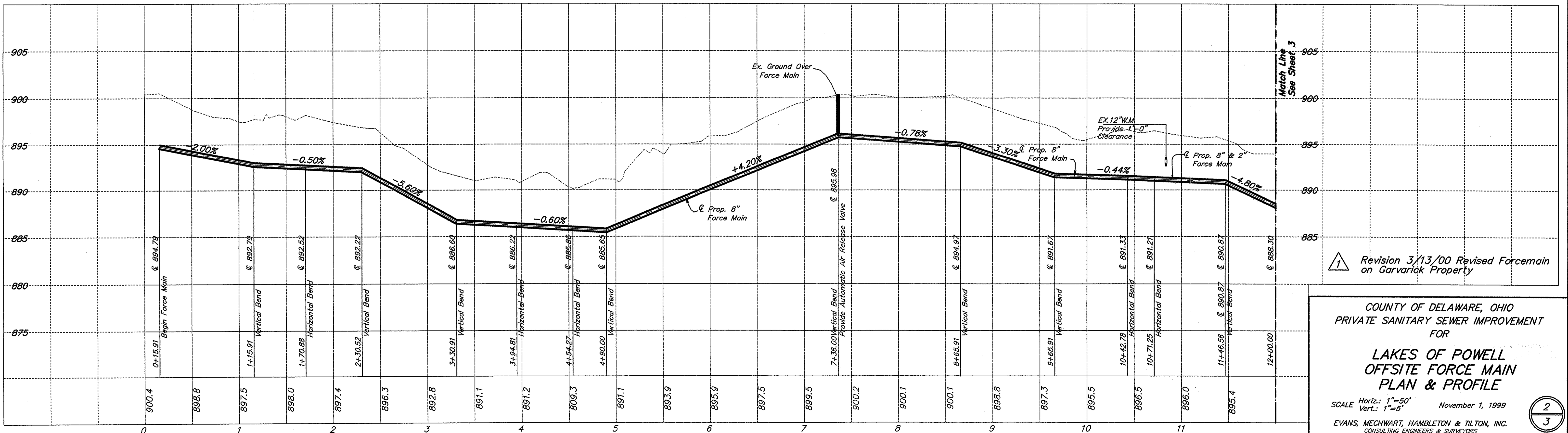
PREPARED BY  
EVANS, MECHWART, HAMBLETON & TILTON, INC.  
CONSULTING ENGINEERS & SURVEYORS  
GAHANNA, OHIO

*[Signature]* 11/2/99  
Registered Engineer Date

CHANGE ORDER SCHEDULE					
Approved	Prepared	Change	Date	Items	Sheet No.
	CAB	1A	3/13/00	Revised force main on Garvack property	2, 3



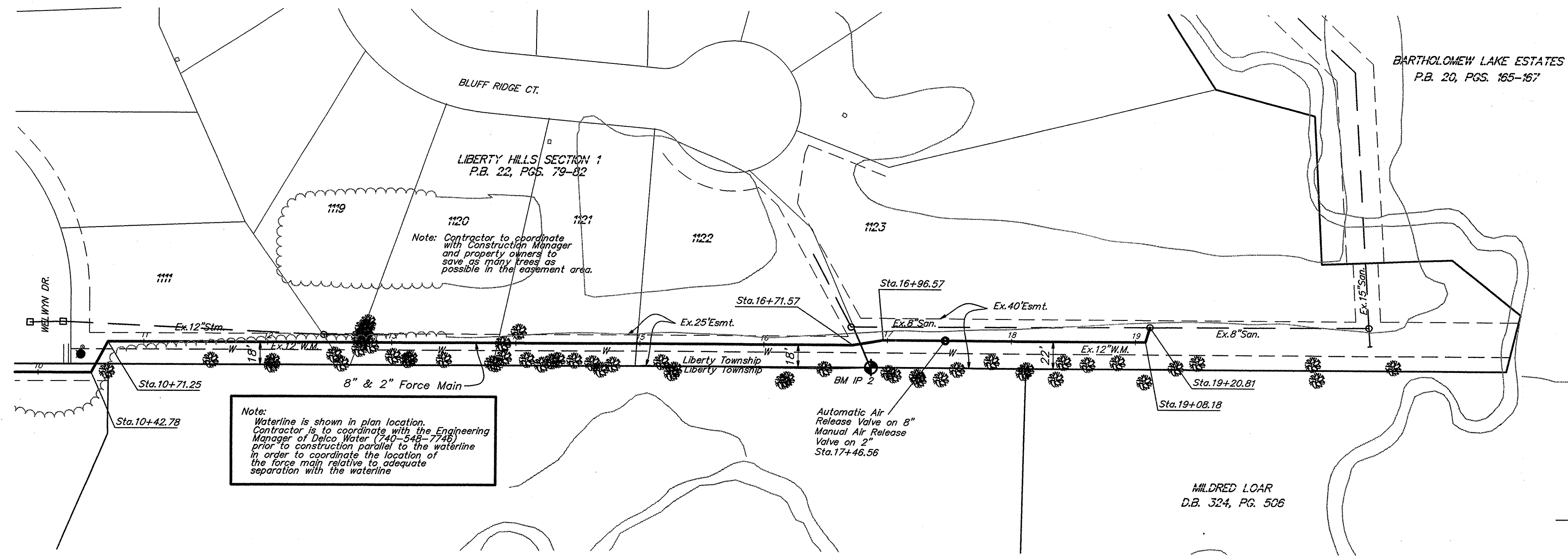
SCOTT C. GARVARIK  
D.B. 623, PG. 106



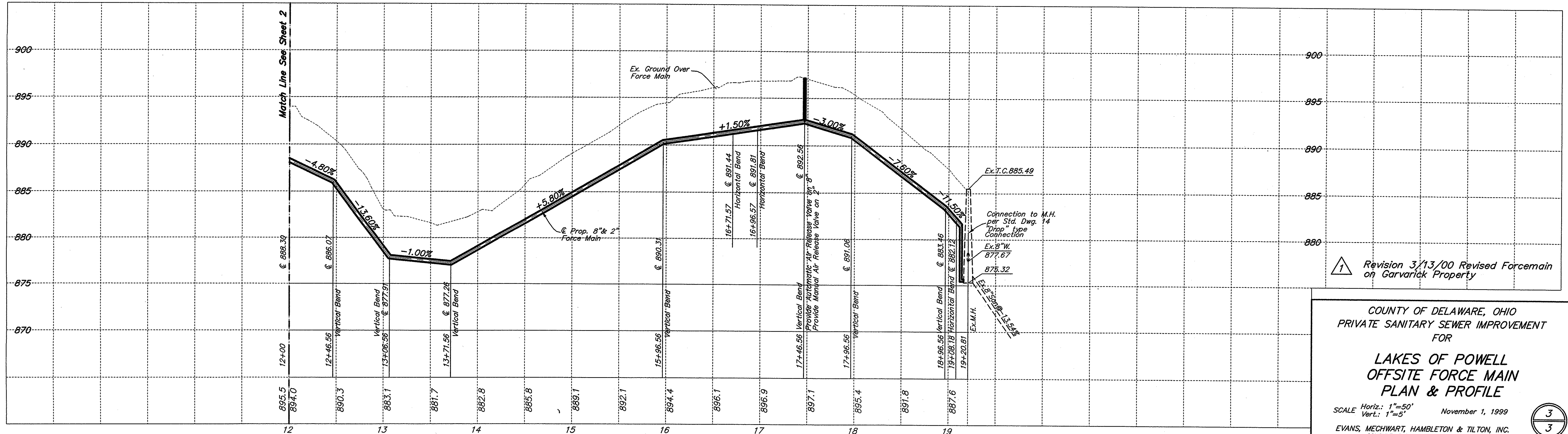
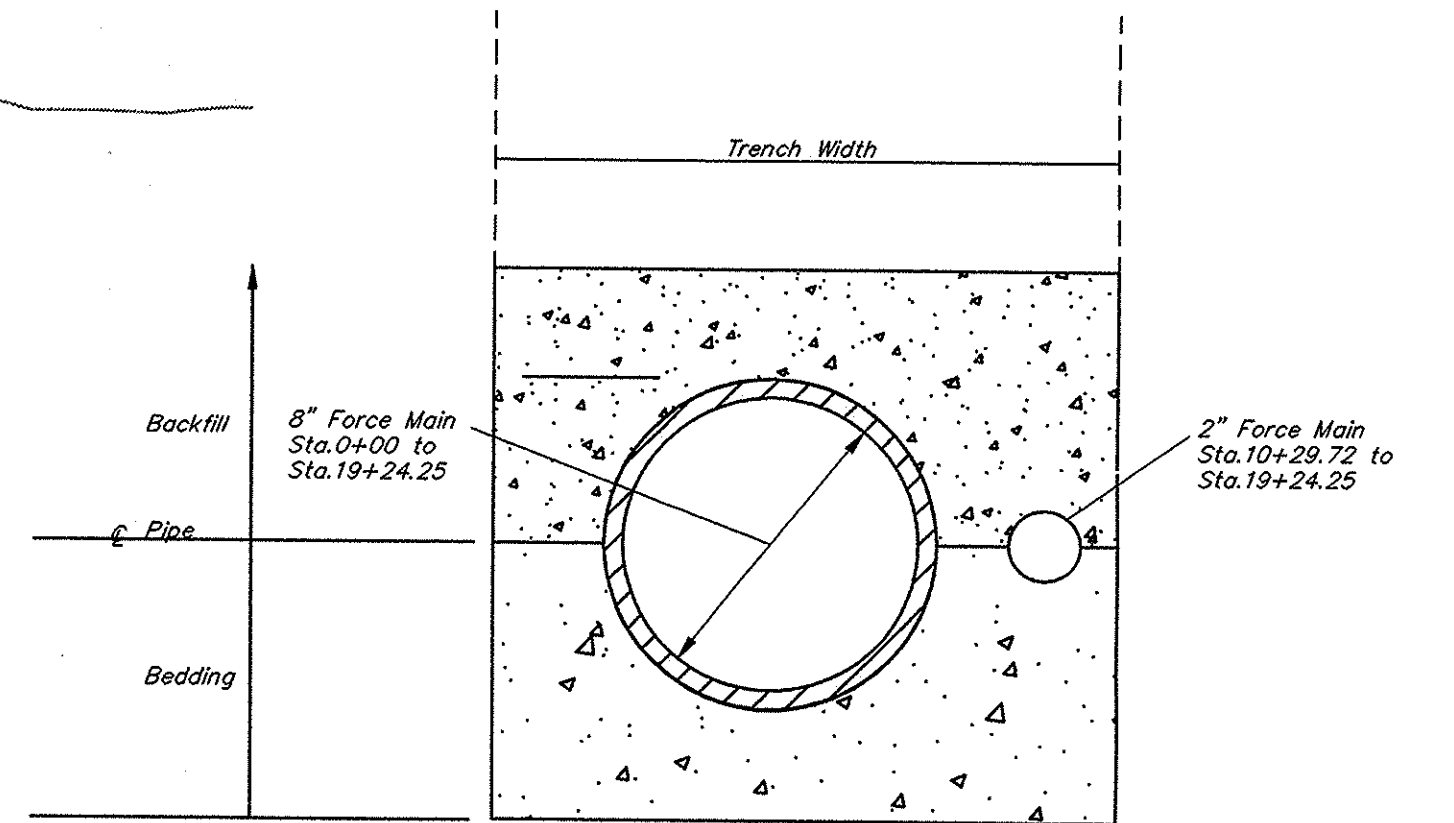
Revision 3/13/00 Revised Force Main on Garvarick Property

COUNTY OF DELAWARE, OHIO  
PRIVATE SANITARY SEWER IMPROVEMENT FOR  
**LAKES OF POWELL OFFSITE FORCE MAIN PLAN & PROFILE**  
SCALE Horiz.: 1"=50'  
Vert.: 1"=5'  
November 1, 1999  
EVANS, MECHWART, HAMLETON & TILTON, INC.  
CONSULTING ENGINEERS & SURVEYORS





Note:  
Waterline is shown in plan location.  
Contractor is to coordinate with the Engineering  
Manager of Delco Water (740-548-7748)  
prior to construction parallel to the waterline  
in order to coordinate the location of  
the force main relative to adequate  
separation with the waterline



Revision 3/13/00 Revised Forcemain on Garvarick Property

COUNTY OF DELAWARE, OHIO  
PRIVATE SANITARY SEWER IMPROVEMENT  
FOR  
**LAKES OF POWELL  
OFFSITE FORCE MAIN  
PLAN & PROFILE**

SCALE Horiz.: 1"=50'  
Vert.: 1"=5' November 1, 1999

EVANS, MECHWART, HAMBLETON & TILTON, INC.  
CONSULTING ENGINEERS & SURVEYORS