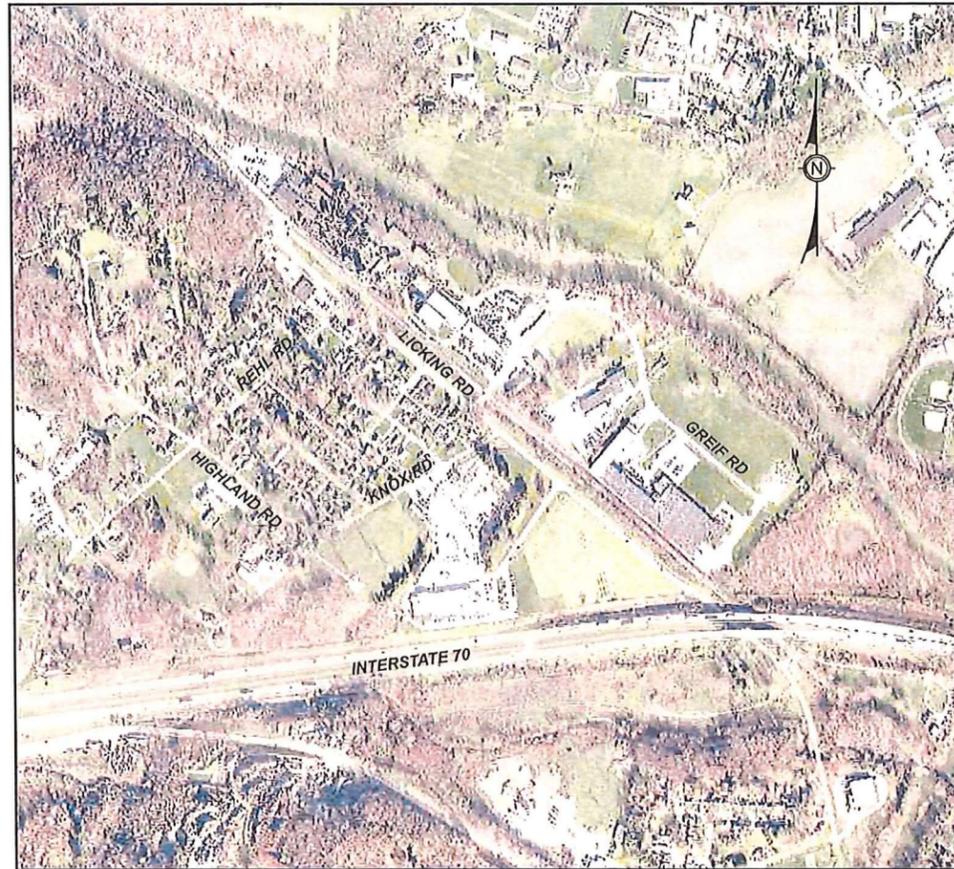


LICKING VIEW SANITARY SEWER IMPROVEMENTS

ZANESVILLE, OH
MUSKINGUM COUNTY

VICINITY MAP



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<i>Cindy S. Cameron</i>	8/15/2023
CINDY S. CAMERON, PRESIDENT MUSKINGUM COUNTY COMMISSIONER	DATE
<i>Mollie S. Crooks</i>	8/15/2023
MOLLIE S. CROOKS MUSKINGUM COUNTY COMMISSIONER	DATE
<i>Melissa J. Bell</i>	8/15/2023
MELISSA J. BELL MUSKINGUM COUNTY COMMISSIONER	DATE

Mark J. Eicher, P.E., P.S.
155 Rehl Road
Zanesville, Ohio 43701
740-454-0155



PREPARED BY:

SANITARY SEWER IMPROVEMENTS

PROJECT NAME:

PROJECT LOCATION:

PLANS APPROVED BY:
MJE

PLANS PREPARED BY:
HJ

DATE:
08/15/2023

REVISED:
09/05/2023

SHEET SIZE:
11" x 17"

SHEET NAME:
TITLE SHEET

SHEET NUMBER:
01

118

ENGINEER'S SEAL:

SIGNED: *Mark J. Eicher*

DATE: 8-17-23

UNDERGROUND UTILITIES

Contact Two Working Days
Before You Dig

OHIO811, 8-1-1, or 1-800-362-2764
(Non-members must be called directly)

NO.	DATE ISSUED	DESCRIPTION	SHEET NOS.
1	09/08/2023	GENERAL NOTES; PAY ITEM, DESCRIPTION CHANGES; EMERGENCY CONTACT INFO; ADDITIONAL SURVEY BENCHMARKS	5, 10, 23, 88, 89, 98
2	TBD	ELIMINATION OF EASEMENT FOR PARCEL NO. 17-86-08-12-000; CHANGES TO SANITARY SEWER IMPROVEMENTS; LOCATION OF GREIF RD PUMP STATION; CHANGES TO DRAINAGE FEATURES; NEW UTILITY WORK	5, 11, 12, 30-33, 105, 106

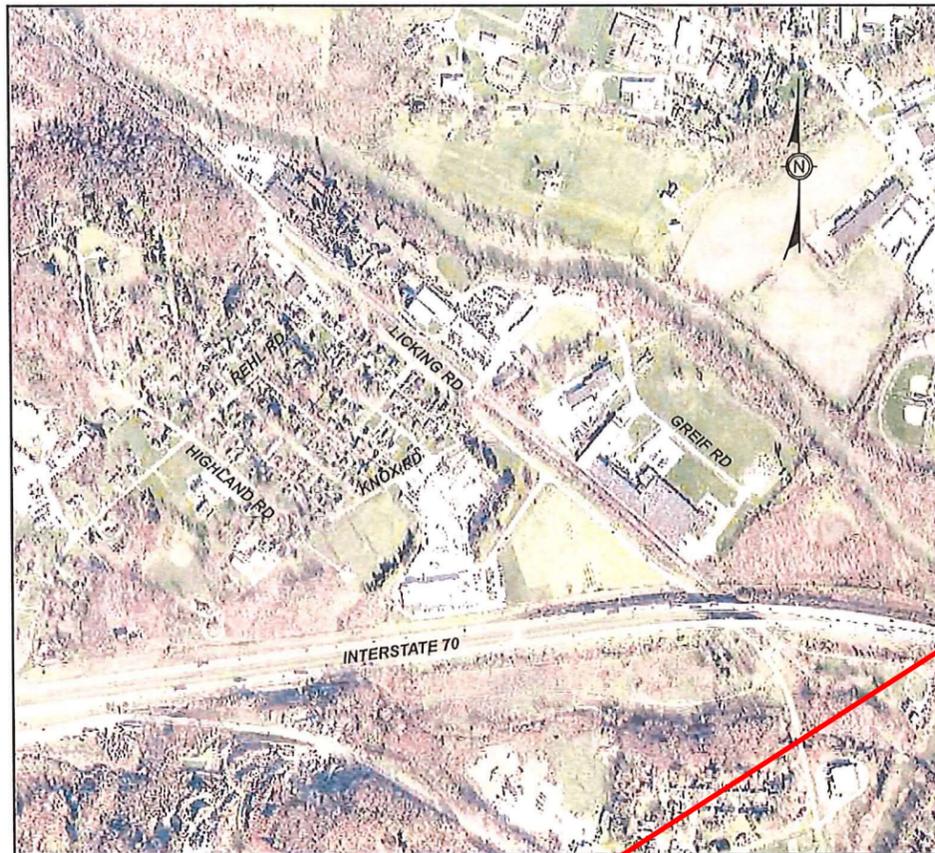
OWNER: MUSKINGUM COUNTY COMMISSIONERS
ADDRESS: 401 MAIN STREET ZANESVILLE, OH 43701

LICKING VIEW SANITARY SEWER IMPROVEMENTS

ZANESVILLE, OH
MUSKINGUM COUNTY

Mark J. Eicher, P.E., P.S.
155 Rehl Road
Zanesville, Ohio 43701
MUSKINGUM COUNTY
ENGINEER'S OFFICE 740-454-0155

VICINITY MAP



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Cindy S. Cameron

CINDY S. CAMERON, PRESIDENT
MUSKINGUM COUNTY COMMISSIONER

8/15/2023
DATE

Mollie S. Crooks

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MUSKINGUM COUNTY COMMISSIONER

8/15/2023
DATE

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MUSKINGUM COUNTY COMMISSIONER

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PREPARED BY:

SANITARY SEWER IMPROVEMENTS

LICKING VIEW
ZANESVILLE, OHIO 43701

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REVISIONS

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UNDERGROUND UTILITIES

Contact Two Working Days
Before You Dig



OHIO811, 8-1-1, or 1-800-362-2764
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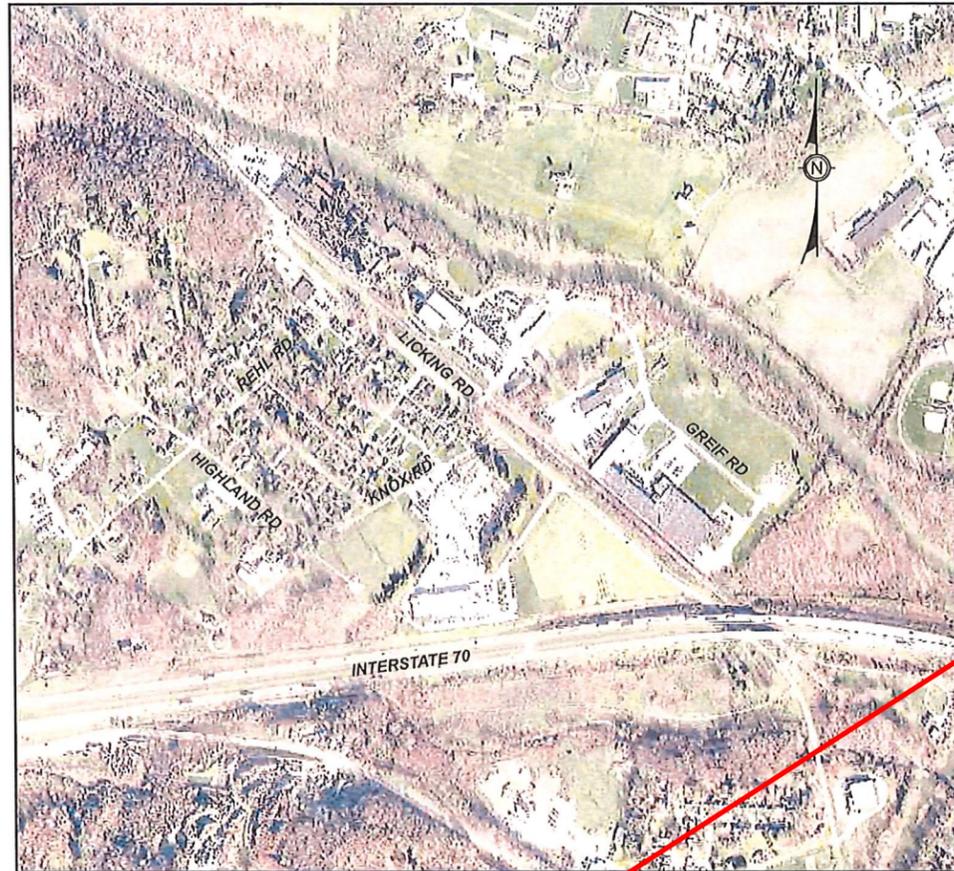
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ZANESVILLE, OH
MUSKINGUM COUNTY

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Mark J. Eicher, P.E., P.S.
155 Rehl Road
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740-454-0155



PREPARED BY:

SANITARY SEWER IMPROVEMENTS

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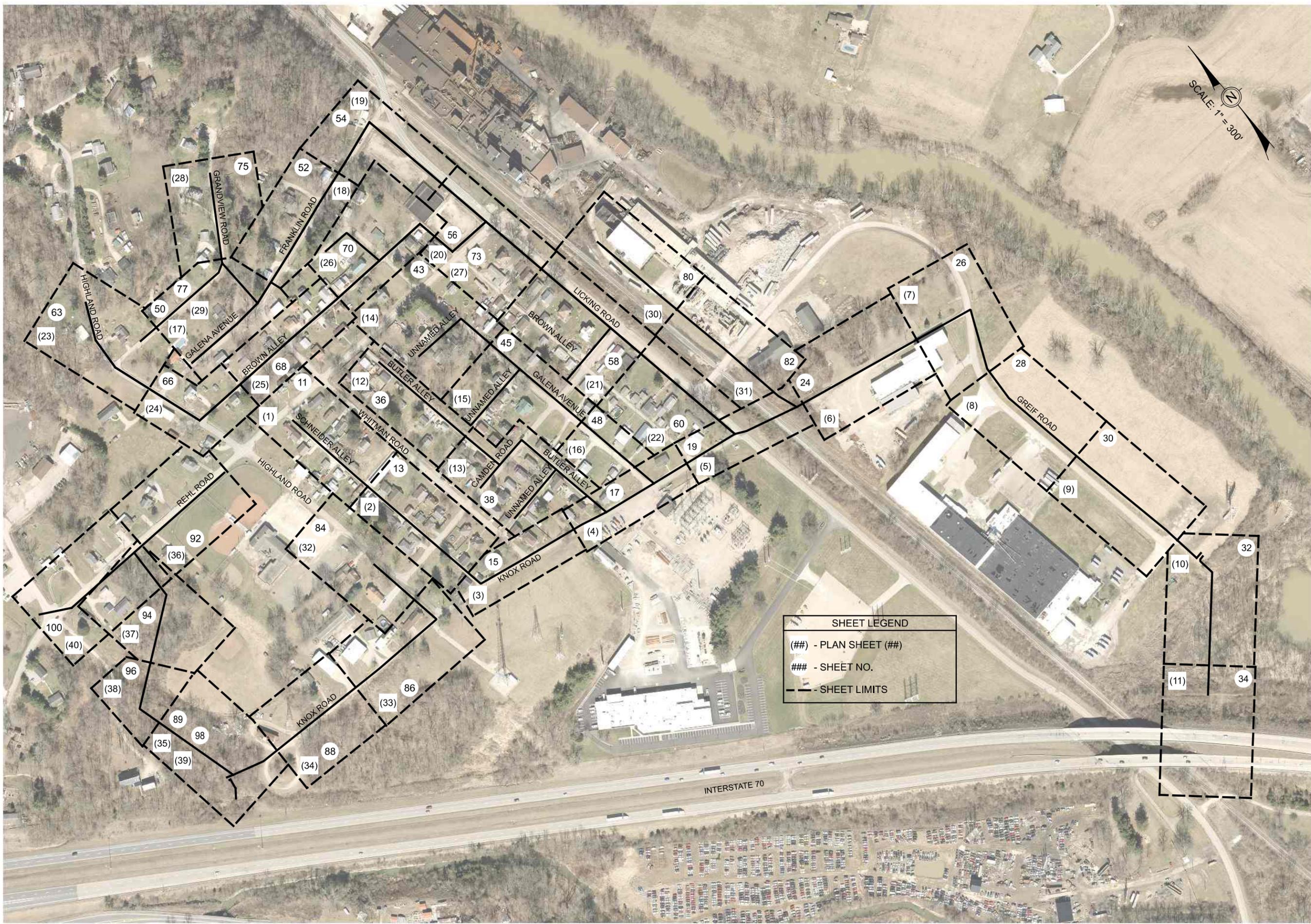
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UNDERGROUND UTILITIES
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OHIO811.org
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(Non-members must be called directly)

OWNER: MUSKINGUM COUNTY COMMISSIONERS
ADDRESS: 401 MAIN STREET ZANESVILLE, OH 43701



SHEET LEGEND

- (##) - PLAN SHEET (##)
- ### - SHEET NO.
- - - SHEET LIMITS

SCALE: 1" = 300'

Mark J. Eicher, P.E., P.S.
 155 Rehl Road
 Zanesville, Ohio 43701
Wiskingum
County
ENGINEER'S OFFICE

PREPARED BY:

PROJECT NAME: SANITARY SEWER IMPROVEMENTS
 PLAN SHEET LAYOUT
 PROJECT LOCATION: LICKING VIEW
 ZANESVILLE, OHIO 43701

PLANS APPROVED BY:
 MJE

PLANS PREPARED BY:
 GJW

DATE:
 08/15/2023

REVISED:

SHEET SIZE:
 11" x 17"

SHEET NAME:
 PLAN SHEET LAYOUT

SHEET NUMBER:
 02
 118

	LIGHT POLE		EXISTING FIRE HYDRANT		EXISTING GAS VALVE		EXISTING ELECTRIC RISER/PULL BOX		STOP CHECK VALVE
	LIGHT/POWER POLE		PROPOSED FIRE HYDRANT		PROPOSED GAS VALVE		PROPOSED ELECTRIC RISER/PULL BOX		EXISTING MAILBOX
	POWER POLE		EXISTING WATER GATE VALVE		EXISTING GAS SERVICE STOP		EXISTING ELECTRIC METER		PROPOSED MAILBOX
	POWER POLE		PROPOSED WATER GATE VALVE		PROPOSED GAS SERVICE STOP		PROPOSED ELECTRIC METER		MAILBOX
	TELECOM POLE		EXISTING WATER METER		EXISTING GAS LINE VENT		EXISTING ELECTRIC MANHOLE		EXISTING TREE
	LIGHT/TELECOM POLE		PROPOSED WATER METER		EXISTING SANITARY SEWER MANHOLE		PROPOSED ELECTRIC MANHOLE		EXISTING EVERGREEN TREE
	TELECOM/LIGHT/POWER POLE		EXISTING WATER MANHOLE		PROPOSED SANITARY SEWER MANHOLE		EXISTING TELECOM MANHOLE		EXISTING SHRUB
	UNKNOWN POLE		PROPOSED WATER MANHOLE		EXISTING SEPTIC TANK		PROPOSED TELECOM MANHOLE		EXISTING STONE FOUND
	SIGN POLE		EXISTING CATCH BASIN NO. 2 - 2B		PROPOSED SEPTIC TANK		EXISTING TELEPHONE PEDESTAL		EXISTING LARGE ROCK
	GUY WIRE ANCHOR		PROPOSED CATCH BASIN NO. 2 - 2B		EXISTING SEWER PUMP STATION		PROPOSED TELEPHONE PEDESTAL		GRINDER PUMP
	CELLPHONE TOWER		EXISTING GAS METER		EXISTING SANITARY SEWER VALVE		EXISTING UNKNOWN PULL BOX		SPRING DEVELOPED
	EXISTING TOWER		PROPOSED GAS METER		PROPOSED SANITARY SEWER VALVE		EXISTING UNKNOWN MANHOLE		SIGNAL PEDESTAL
	HALF HEADWALL		EXISTING GAS MANHOLE		EXISTING SANITARY SEWER LINE VENT		EXISTING UNKNOWN UTILITY VALVE		PRIVATE/PUBLIC SIGN
	HEADWALL		PROPOSED GAS MANHOLE		CLEAN OUT		PLUG VALVE		

LINE TYPES

	PROPOSED SANITARY
	UNDERGROUND ELECTRIC
	UNDERGROUND TELECOM
	ABANDONED FORCEMAIN
	FORCEMAIN
	EXISTING UNDER DRAIN
	GAS LINE
	WATER LINE
	ELECTRIC LINE
	UTILITY LINE
	FENCE
	VEGETATION
	EXISTING FENCE
	EXISTING RIGHT OF WAY
	EXISTING LIMITED ACCESS
	EXISTING RAILROAD RIGHT OF WAY
	PROPOSED EASEMENT
	PROPOSED STORM LINE
	EXISTING STORM LINE
	EXISTING SIDEWALK
	SHOULDER AGGREGATE

Markuskingum County
ENGINEER'S OFFICE

Mark J. Eicher, P.E., P.S.
 155 Nehl Road
 Zanesville, Ohio 43701
 740-454-0155

PROJECT NAME: **SANITARY SEWER IMPROVEMENTS SYMBOLS AND LINE STYLES**
 PROJECT LOCATION: **LICKING VIEW ZANESVILLE, OHIO 43701**

PLANS APPROVED BY: **MJE**

PLANS PREPARED BY: **HJ**

DATE: **08/15/2023**

SHEET SIZE: **11" x 17"**

SHEET NAME: **LEGEND SHEET**

SHEET NUMBER: **03**
118

1. SPECIFICATIONS
THE REQUIREMENTS OF THE TECHNICAL SPECIFICATIONS MUSKINGUM COUNTY WATER AND SEWER DISTRICT AND THE CURRENT EDITION OF THE OHIO DEPARTMENT OF TRANSPORTATION CONSTRUCTION AND MATERIAL SPECIFICATIONS, INCLUDING ALL SUPPLEMENTS THEREIN IN FORCE ON DATE OF THE CONTRACT SHALL GOVERN ALL MATERIALS AND WORKMANSHIP INVOLVED IN THE IMPROVEMENTS SHOWN ON THESE PLANS EXCEPT AS SUCH SPECIFICATIONS ARE MODIFIED BY THE FOLLOWING SPECIFICATIONS OR BY THE LATEST EDITION OF THE AWWA STANDARDS, SHALL APPLY AS NEEDED AND ARE HEREBY CONSIDERED A PART OF THESE PLANS.

2. ELEVATION DATUM
ELEVATIONS SHOWN ON THESE PLANS ARE BASED ON NAVD 88 DATUM.

3. BENCH MARKS
THE CONTRACTOR SHALL CAREFULLY PRESERVE BENCH MARKS, PROPERTY CORNERS, REFERENCE POINTS, AND STAKES. ANY BENCHMARK, PROPERTY CORNER, OR SURVEY MARKER DAMAGED OR DISTURBED BY THE CONTRACTOR SHALL BE RESET BY AN OHIO REGISTERED SURVEYOR AT THE CONTRACTOR'S EXPENSE.

4. SAFETY REQUIREMENTS
THE CONTRACTOR AND ANY AND ALL SUBCONTRACTORS SHALL BE SOLELY RESPONSIBLE FOR COMPLYING WITH 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 SOLELY THE RESPONSIBILITY OF THE CONTRACTOR AND SUBCONTRACTOR TO INITIATE, MAINTAIN, AND SUPERVISE ALL SAFETY REQUIREMENTS, PRECAUTIONS, AND PROGRAMS IN CONNECTION WITH THE WORK, INCLUDING ALL OSHA RULES AND REGULATIONS.

5. CONFINED SPACE ENTRY
THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR FOLLOWING THE OSHA REQUIREMENTS FOR "CONFINED SPACE ENTRY" (CSE), TITLE 29 OF THE FEDERAL REGULATIONS CODE, PART 1910.146, WHILE PERFORMING WORK INSIDE ANY MANHOLE OR OTHER CONFINED SPACE REQUIRING A PERMIT. ONE COPY OF ALL CSE PERMITS SHALL BE GIVEN TO THE COUNTY UPON PROJECT COMPLETION.

6. PERMITS
THE CONTRACTOR SHALL COMPLY WITH ALL PROVISIONS OF APPROVED PERMITS FOR THIS PROJECT. UNIT PRICES MUST REFLECT PROVISIONS. MUSKINGUM COUNTY WILL NOT PROVIDE ADDITIONAL PAYMENT FOR CONTRACTOR'S COMPLIANCE WITH PROVISIONS OUTLINED IN APPROVED PERMITS.

7. WORK HOURS
NO WORK SHALL BE PERMITTED ON WEEKENDS OR ON HOLIDAYS WITHOUT THE PRIOR, WRITTEN APPROVAL OF THE ENGINEER AND/OR THE OWNER.

GENERAL WORK HOURS ON THIS PROJECT SHALL BE 7:00 AM TO 5:00 PM, MONDAY THROUGH FRIDAY.

8. UTILITIES
THE IDENTITY AND LOCATIONS OF EXISTING UNDERGROUND UTILITIES IN THE CONSTRUCTION AREA HAVE BEEN SHOWN ON THE APPROVED CONSTRUCTION DRAWINGS AS ACCURATELY AS PROVIDED BY THE OWNER OF THE UNDERGROUND UTILITY AS REQUIRED BY SECTION 153.64 OR SECTION 3781.27 OF THE OHIO REVISED CODE. THE COUNTY AND THE ENGINEER ASSUME NO RESPONSIBILITY FOR THE ACCURACY OF LOCATIONS OR DEPTHS OF UNDERGROUND FACILITIES SHOWN ON THE APPROVED CONSTRUCTION DRAWINGS.

THE CONTRACTOR SHALL DESIGNATE FOR EXISTING UTILITIES AROUND ALL PROPOSED STRUCTURES BEFORE DIGGING TO VERIFY NO CONFLICTS EXIST. WHEN UNKNOWN OR INCORRECTLY LOCATED UNDERGROUND UTILITIES ARE ENCOUNTERED DURING DESIGNATION AND/OR CONSTRUCTION, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE UTILITY OWNER, THE COUNTY AND THE ENGINEER.

THE CONTRACTOR SHALL NOTIFY THE OHIO UTILITIES PROTECTION SERVICE (OUPS) AT (1-800-362-2764) AT LEAST 48 HOURS, AND NO MORE THAN 10 DAYS PRIOR TO EXCAVATING, WITH SUCH TIME PERIODS NOT INCLUDING WEEKENDS OR HOLIDAYS. CONTRACTOR SHALL SIMILARLY CONTACT ALL UTILITY OWNERS WHO ARE NOT SUBSCRIBERS TO OUPS.

IF THERE ARE MARKERS OR OTHER APPARENT PHYSICAL EVIDENCE IN OR NEAR THE PROJECT AREA THAT MAY INDICATE THE EXISTENCE OF UNDERGROUND PETROLEUM OR NATURAL GAS PIPELINES, THE CONTRACTOR SHALL ADDITIONALLY CONTACT THE OIL & GAS PRODUCERS UNDERGROUND PROTECTION SERVICE (OGPUPS) AT 800-925-0988, TOLL FREE. SAID NOTIFICATION SHALL BE GIVEN A MINIMUM OF 48 HOURS PRIOR TO THE COMMENCEMENT OF CONSTRUCTION.

THE FOLLOWING UTILITIES ARE KNOWN OR CAN BE EXPECTED TO BE LOCATED WITHIN THE LIMITS OF THIS PROJECT:

UTILITY	OWNER	PHONE NUMBER
GAS / PETROLEUM	DIVERSIFIED GAS & OIL	330.493.0440
GAS / PETROLEUM	NATIONAL GAS & OIL	740.344.2102
GAS / PETROLEUM	PETRO QUEST, INC	740.554.5888
GAS	COLUMBIA GAS OF OHIO	740.450.1215
ELECTRIC	AEP OHIO	614.716.1000
WATER	MUSKINGUM COUNTY WATER DEPT	740.453.0678
WATER	CITY OF ZANESVILLE WATER DEPT	740.455.0631
WASTEWATER	MUSKINGUM COUNTY SEWER DEPT	740.452.4940
WASTEWATER	CITY OF ZANESVILLE SEWER DEPT	740.455.0662
COMMUNICATIONS	AT&T OHIO	740.454.3455
COMMUNICATIONS	CHARTER / SPECTRUM COMMUNICATIONS	888.438.2427
COMMUNICATIONS	AEP TELECOM	800.672.2231

THE CONTRACTOR IS RESPONSIBLE FOR THE INVESTIGATION, LOCATION, SUPPORT, PROTECTION AND RESTORATION OF ALL EXISTING UTILITIES AND APPURTENANCES WHETHER SHOWN ON THE PLANS OR NOT. THE CONTRACTOR SHALL PROCEED WITH THE WORK AND PROTECT ALL UNDERGROUND UTILITIES IN A MANNER AT LEAST AS CAUTIOUS AND PROTECTIVE OF SAFETY AND UNDERGROUND UTILITIES AS THOSE METHODS IDENTIFIED IN SECTIONS 3781.25 THROUGH 3781.30 OF THE OHIO REVISED CODE.

ALL MARKED PRIVATE UTILITY REPAIRS OR RELOCATION (GAS, ELECTRIC, PHONE, ETC.) WILL BE THE RESPONSIBILITY OF THE CONTRACTOR.

ANY REPAIRS OR RELOCATION OF UNMARKED PRIVATE UTILITIES (GAS, ELECTRIC, PHONE, ETC) SHALL BE THE RESPONSIBILITY OF THE UTILITY OWNER. ANY REPAIRS OR RELOCATION OF UNMARKED PUBLIC UTILITIES SUCH AS WATER SHALL BE THE RESPONSIBILITY OF THE UTILITY OWNER. ANY REPAIRS TO WATER SERVICE LINES SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND SHALL BE INCLUDED IN THE UNIT PRICE FOR ITEM SPECIAL WATER SERVICE LINE REPAIR. A QUANTITY OF 20 WATER SERVICE LINE REPAIR UNITS HAS BEEN INCLUDED IN THE ESTIMATED QUANTITIES FOR THIS PROJECT.

9. SITE VISIT
THE CONTRACTOR SHALL PERFORM FIELD RECONNAISSANCE TO BECOME ACQUAINTED WITH THE EXISTING SITE CONDITIONS AND THE POTENTIAL EFFECTS UPON THE SCOPE OF WORK.

10. MISCELLANEOUS WORK
THE CONTRACTOR SHALL FURNISH ALL LABOR, MATERIALS, TOOLS, EQUIPMENT, SERVICES, AND RELATED ACCESSORIES FOR A COMPLETE PROJECT, AS SHOWN AND DESCRIBED IN THE PLANS AND SPECIFICATIONS. THE PRICE FOR ITEMS OF WORK OR MATERIALS SHOWN ON THE PLANS OR PROVIDED FOR IN THE

SPECIFICATIONS OR SPECIAL PROVISIONS FOR WHICH NO SPECIFIC METHOD OF PAYMENT IS PROVIDED, SHALL BE PERFORMED BY THE CONTRACTOR AND THE COSTS INCLUDED AMONG THE VARIOUS BID ITEMS. SUBMISSION OF A BID SHALL BE CONSIDERED EVIDENCE THAT THE BIDDER IS SATISFIED WITH THE PLANS AND CONDITIONS, AS SHOWN. NO ADDITIONAL COMPENSATION WILL BE PAID TO CONTRACTOR FOR COMPLIANCE WITH THE PLANS, SPECIFICATIONS, OR SPECIAL PROVISIONS.

11. SUBSURFACE SOIL DATA
TEST BORINGS HAVE BEEN TAKEN AT SEVERAL LOCATIONS ALONG THE PROJECT CORRIDOR FOR DESIGN PURPOSES. THE SUBSURFACE SOILS REPORT IS AVAILABLE FOR THE CONTRACTORS REVIEW. THE CONTRACTOR MUST MAKE WRITTEN REQUEST FOR THIS INFORMATION. ANY PERFORMANCE OF ADDITIONAL SITE SUBSURFACE INVESTIGATIONS (TEST HOLES) SHALL BE COORDINATED IN ADVANCE WITH THE COUNTY AS WARRANTED. EXCAVATED MATERIAL SHALL BE REPLACED IN A CONTROLLED MANNER TO MINIMIZE IMPACT ON FIELD EARTHWORK. ANY REQUIREMENTS OR CONTINGENCIES INCLUDED WITHIN THE SOILS REPORT SHALL BE INCLUDED IN THE VARIOUS BID ITEMS UNLESS SPECIFICALLY IDENTIFIED IN THE ESTIMATE OF QUANTITIES.

12. RIGHTS-OF-WAY
IN ADDITION TO THE DIRECT REQUIREMENTS OF THE CONTRACT SPECIFICATIONS, THE CONTRACTOR SHALL OBSERVE AND CONFORM TO THE SPECIFIC REQUIREMENTS OF ALL RIGHTS-OF-WAY, 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 SPECIFICATIONS FOR SUCH COST UNDER SPECIFIC ITEMS OF THE CONTRACT.

13. WORK LIMITS
THE CONTRACTOR IS RESPONSIBLE FOR CONTAINING ALL PERFORMED WORK AND ALL EQUIPMENT, MATERIALS, VEHICLES, ETC., USED TO COMPLETE THE WORK WITHIN THE RIGHTS-OF-WAY OF THE STREETS, ROADWAYS, PERMANENT EASEMENTS AND THE PROPERTY BOUNDARIES OF THE PROJECT IMPROVEMENTS, AS SHOWN ON THESE PLANS.

THE CONTRACTOR IS RESPONSIBLE FOR COST OF RESTORATION FOR ANY AREA DISTURBED INSIDE OF THE RIGHT-OF-WAY, PERMANENT EASEMENT OR PROJECT PROPERTY BOUNDARIES TO FORMER CONDITION OR BETTER AND TO THE SATISFACTION OF THE ENGINEER.

14. CONTRACT WORK PERFORMED BY THE COUNTY
IN THE EVENT THAT IT BECOMES NECESSARY FOR THE COUNTY TO PERFORM WORK OF AN IMMEDIATE NATURE (SUCH AS THE PLACEMENT OF BARRICADES OR REPLACEMENT OF SIGNS OR OTHER WARNING OR PROTECTIVE DEVICES) REQUIRED OF THE CONTRACTOR BY THIS CONTRACT BECAUSE OF FAILURE OR REFUSAL OF THE CONTRACTOR TO PERFORM SUCH WORK, THE CONTRACTOR SHALL REIMBURSE THE COUNTY AT THE RATE OF 2.5 TIMES THE ACTUAL COST OF LABOR, MATERIALS AND EQUIPMENT NECESSARY TO PERFORM SUCH WORK. THE COUNTY SHALL BE REIMBURSED BY THE CONTRACTOR BY WAY OF A DEDUCTION FROM THE CONTRACTOR'S NET PAYMENT UNDER THE CONTRACT.

15. CONVENIENCE FACILITIES
THE CONTRACTOR SHALL FURNISH AND MAINTAIN SANITARY CONVENIENCE FACILITIES FOR THE WORKMEN AND INSPECTORS FOR THE DURATION OF THE WORK. COST SHALL BE INCLUDED IN THE PRICE BID FOR THE VARIOUS ITEMS.

16. NON-RUBBER TIRED VEHICLES
NO NON-RUBBER TIRED VEHICLES SHALL BE MOVED ON COUNTY STREETS, EXISTING PRIVATE ROADWAYS OR PARKING LOTS. EXCEPTIONS MAY BE GRANTED BY THE COUNTY, FOR PUBLIC ROADWAYS ONLY, WHERE SHORT DISTANCES AND SPECIAL CIRCUMSTANCES ARE INVOLVED. GRANTING OF EXCEPTIONS MUST BE IN WRITING, AND ANY DAMAGE MUST BE REPAIRED BY THE CONTRACTOR TO THE SATISFACTION OF THE COUNTY.

17. SIGNS, MAILBOXES, FENCES, ETC.
THE CONTRACTOR SHALL BE RESPONSIBLE FOR RESTORING ALL SIGNS, MAILBOXES, FENCES, GUARDRAIL, SHRUBS, PROPERTY, DRAINAGE STRUCTURES, OR OTHER PHYSICAL FEATURES DISTURBED OR DAMAGED DURING CONSTRUCTION, WHETHER SHOWN ON THE PLANS OR NOT, TO THEIR ORIGINAL OR BETTER CONDITION AND LOCATION AND TO THE SATISFACTION OF THE PROPERTY OWNER AND THE COUNTY. COST TO BE INCLUDED IN THE UNIT PRICE FOR FORCEMAIN AND/OR SANITARY SEWER PIPE.

18. STANDARD TOPSOIL, SEEDING, FERTILIZER, AND MULCHING
TOPSOIL SHALL BE NATIVE AND OF THE HIGHEST QUALITY AND FREE OF ALL STONES, TRASH AND OTHER DELETERIOUS MATERIALS GREATER THAN 1 INCH.

THE GRADES SHALL MATCH ALL EXISTING LANDSCAPE AND ANY IMPROVEMENTS COMPLETED UNDER THIS PLAN. THE CONTRACTOR SHALL SCARIFY THE SOIL SURFACE TO OPEN THE SOIL PRIOR TO SEEDING. ALL SEEDING, FERTILIZER, AND MULCH SHALL BE PLACED WITHIN 7 WORKING DAYS OF PLACING TOPSOIL. THE SEEDING AND FERTILIZER MIXES SHALL BE AS SPECIFIED BY THE COUNTY AND SHALL BE INSTALLED PER THE MANUFACTURER'S RECOMMENDATIONS.

THE STARTER-FERTILIZER MIX SHALL CONTAIN A HERBICIDE TO PREVENT WEED ESTABLISHMENT. NO WEEDS OR UNDESIRABLE GRASSES WILL BE ACCEPTED IN THE FINAL INSPECTION.

IF THE INITIAL SEEDING IS NOT 95% ESTABLISHED WITHIN 30 DAYS, THE CONTRACTOR SHALL RE-SEED, FERTILIZE, AND MULCH THE EXCAVATED AREAS PRIOR TO 60 DAYS.

19. DEWATERING
THE CONTRACTOR IS SOLELY RESPONSIBLE TO THE OHIO DEPARTMENT OF NATURAL RESOURCES (O.D.N.R.) FOR REGISTRY, MAINTENANCE, AND ABANDONMENT OF ANY WITHDRAWAL DEVICES USED IN THE CONSTRUCTION OF THIS PROJECT.

INSTALLATION OF ANY WELL, WELL POINT, PIT OR OTHER DEVICE USED FOR THE PURPOSE OF LOWERING THE GROUNDWATER LEVEL TO FACILITATE CONSTRUCTION OF THIS PROJECT SHALL BE PROPERLY ABANDONED IN ACCORDANCE WITH THE PROVISIONS OF SECTION 3745-9-10 OF THE OHIO ADMINISTRATIVE CODE OR AS DIRECTED BY THE DIRECTOR OR THEIR DESIGNATED REPRESENTATIVE(S).

THE CONTRACTOR SHALL BE REQUIRED TO COMPLETE AND FILE A WELL LOG AND A DRILLING REPORT FORM WITH O.D.N.R., DIVISION OF WATER, WITHIN 30 DAYS OF THE COMPLETION OF INSTALLATION OF ANY WELL, WELL POINT, PIT OR OTHER DEVICE USED FOR THE PURPOSE OF REMOVING GROUNDWATER FROM AN ACQUIFER, IN ACCORDANCE WITH SECTIONS 1521.01 AND 1521.05 OF THE OHIO REVISED CODE. IN ADDITION, ANY SUCH FACILITY THAT HAS A CAPACITY TO WITHDRAW WATERS OF THE STATE IN AN AMOUNT GREATER THAN 100,000 GALLONS PER DAY FROM ALL SOURCES SHALL BE REGISTERED BY THE CONTRACTOR WITH THE CHIEF OF THE O.D.N.R., DIVISION OF WATER, WITHIN THREE MONTHS OF THE COMPLETION OF THE FACILITY IN ACCORDANCE WITH SECTION 1521.16 OF THE OHIO REVISED CODE. COPIES OF THE NECESSARY PAPERWORK CAN BE OBTAINED AT O.D.N.R., DIVISION OF WATER, FOUNTAIN SQUARE, COLUMBUS, OH, 43224-1387 - (614) 265-6717.

RECORDS OF THESE INSPECTIONS SHALL BE KEPT AND MADE AVAILABLE TO JURISDICTIONAL AGENCIES IF REQUESTED.

ANY SEDIMENT OR DEBRIS WHICH HAS REDUCED THE EFFICIENCY OF A STRUCTURE SHALL BE REMOVED IMMEDIATELY. SHOULD A STRUCTURE OR FEATURE BECOME DAMAGED, THE CONTRACTOR SHALL REPAIR OR REPLACE IT AT NO ADDITIONAL COST TO THE OWNER.

THE CONTRACTOR SHALL FURNISH AND OPERATE SUITABLE PUMPING

EQUIPMENT OF SUCH CAPACITY, ADEQUATE TO DEWATER THE TRENCH, SHOULD WATER BE ENCOUNTERED. THE TRENCH SHALL BE SUFFICIENTLY DEWATERED SO THAT THE PLACEMENT OF BEDDING AND THE LAYING AND JOINING OF PIPE IS MADE ON FIRM, DRY GROUND. IF DEWATERING CANNOT PRODUCE ACCEPTABLE SUBGRADE, AND ONLY AS DIRECTED BY THE ENGINEER, UNSUITABLE MATERIALS SHALL BE REMOVED AND REPLACED BY NO. 2, STONE FOUNDATION. THE CONTRACTOR SHALL CONVEY ALL TRENCH WATER TO A NATURAL DRAINAGE CHANNEL OR STORM SEWER WITHOUT DAMAGE TO PROPERTY. THE CONTRACTOR SHALL BE RESPONSIBLE TO PLACE AND MAINTAIN THE NECESSARY SEDIMENT AND EROSION CONTROL MEASURES TO FILTER THE DEWATERING DISCHARGE AND TO PREVENT EROSION AT THE DISCHARGE LOCATION. COST FOR THE ABOVE SHALL BE INCLUDED IN THE BID PRICE FOR THE VARIOUS IMPROVEMENT ITEMS.

THE COST OF ANY DEWATERING OPERATIONS REQUIRED FOR THE CONSTRUCTION OF THE SANITARY SEWER SHALL BE INCLUDED IN THE PRICE BID FOR THE VARIOUS IMPROVEMENT ITEMS.

20. REPLACEMENT OF DRAIN TILES AND STORM SEWERS
ALL DRAIN TILE AND STORM SEWERS DAMAGED, DISTURBED, OR REMOVED AS A RESULT OF THE CONTRACTOR'S OPERATIONS SHALL BE REPLACED WITH THE SAME QUALITY PIPE OF 12" AT CONTRACTORS COST, MAINTAINING THE SAME GRADIENT AS EXISTING. REPLACED DRAIN TILE SHALL BE LAID ON COMBED BEDDING EQUAL IN DENSITY TO SURROUNDING STRATUM. IF POSSIBLE, THE DRAIN TILE AND / OR STORM SEWER SHALL BE CONNECTED TO A STORM SEWER STRUCTURE, CURB UNDERDRAIN OR OUTLET INTO THE ROADWAY DITCH AS APPLICABLE. REPLACEMENT SHALL BE DONE AT THE TIME OF THE BACKFILL OPERATION. COST OF THIS WORK TO BE INCLUDED IN THE PRICE BID FOR THE VARIOUS ITEMS.

21. 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, UNLESS SPECIFIC PROVISION IS MADE WITHIN THE CONTRACT DOCUMENTS FOR THE MEASURE OF AND PAYMENT FOR SUCH COST SPECIFIC ITEMS, TO A CONDITION SATISFACTORY TO THE ENGINEER.

22. EROSION AND SEDIMENTATION CONTROL
THE CONTRACTOR SHALL PROVIDE SEDIMENT CONTROL AT ALL POINTS WHERE STORM WATER RUNOFF LEAVES THE PROJECT INCLUDING WATERWAYS, OVERLAND SHEET FLOW, AND STORM SEWERS. EROSION AND SEDIMENT CONTROL SHALL BE PROVIDED AS PER THE REQUIREMENTS AND THE STANDARDS AND SPECIFICATIONS OF THE "RAINWATER AND LAND DEVELOPMENT" MANUAL OF THE ODNR.

EROSION CONTROL MEASURES ARE TO BE INSTALLED PER NPDES PERMIT REGULATIONS OR AS DIRECTED BY THE ENGINEER AND ARE TO BE MAINTAINED UNTIL SUCH TIME THAT THEY ARE NO LONGER REQUIRED BY THE PERMIT AND THE ENGINEER. COST FOR EROSION AND SEDIMENTATION CONTROL SHALL BE INCLUDED IN THE PRICE BID FOR C&MS ITEM 207.

ALL LAND DISTURBING ACTIVITIES SHALL BE SUBJECT TO INSPECTION AND SITE INVESTIGATION BY THE COUNTY AND/OR THE OHIO EPA. FAILURE TO COMPLY WITH THESE REGULATIONS IS SUBJECT TO LEGAL ENFORCEMENT ACTION.

THE CONTRACTOR IS RESPONSIBLE TO NOTIFY THE COUNTY 48 HOURS PRIOR TO COMMENCEMENT OF INITIAL SITE LAND DISTURBANCE ON ANY SITE OF ONE OR MORE ACRES. THIS INCLUDES SITE CLEARING, GRUBBING AND ANY EARTH MOVING. PRIMARY EROSION AND SEDIMENT CONTROL PRACTICES ARE MANDATED BY REGULATIONS TO BE IN PLACE FROM THE BEGINNING OF THE CONSTRUCTION ACTIVITY.

ALL DENUDED AREAS SHALL HAVE SOIL STABILIZATION APPLIED WITHIN SEVEN (7) DAYS OF COMPLETION OF GRADING OPERATIONS IF SAID AREAS ARE TO REMAIN UNDISTURBED FOR MORE THAN TWENTY-ONE (21) DAYS.

IT IS THE CONTRACTOR'S RESPONSIBILITY TO MAINTAIN THE SEDIMENT AND EROSION CONTROL FEATURES USED ON THIS PROJECT. THE SITE SHALL BE INSPECTED PERIODICALLY AND WITHIN 24 HOURS OF A SIGNIFICANT RAINFALL EVENT.

23. SOIL STOCKPILES
THE CONTRACTOR SHALL BE RESPONSIBLE FOR KEEPING ALL SOIL STOCKPILES, INCLUDING TRENCH EXCAVATION STOCKPILES, PROTECTED FROM EROSION. THE AREAS SURROUNDING THE STOCKPILES ARE TO BE PROTECTED FROM SEDIMENT WITH THE USE OF PERIMETER CONTROL DEVICES SUCH AS EARTH OR STRAW BALE DEVICES OR SILT FENCES. THESE PERIMETER CONTROL DEVICES SHALL BE MAINTAINED FOR THE DURATION OF THE PROJECT.

24. DISPOSAL OF EXCESS EXCAVATION
THE CONTRACTOR SHALL DISPOSE OF ALL EXCESS EXCAVATION AT A LOCATION OFFSITE AND OUTSIDE OF EXISTING FLOODPLAINS. FOR DISPOSAL OUTSIDE THE LIMITS OF THE PROJECT THE CONTRACTOR SHALL PROVIDE A COPY OF THE SIGNED, WRITTEN AGREEMENT BETWEEN THE CONTRACTOR AND THE OFF-SITE LANDOWNER BEFORE SUCH DISPOSAL OCCURS. THIS WRITTEN AGREEMENT SHALL CLEARLY STATE THE PURPOSE OF THE AGREEMENT AND INDICATE THE LANDOWNER'S PERMISSION FOR SUCH USE.

25. CONSTRUCTION DEBRIS
THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE IMMEDIATE CLEANUP OF ANY DEBRIS, MUD OR DIRT TRACKED OR SPILLED ON COUNTY AND/OR PUBLIC STREETS OR PRIVATE DRIVEWAYS WHETHER INSIDE OR OUTSIDE THE PROJECT AREA. THE CONTRACTOR IS RESPONSIBLE FOR THE COST OF ANY SERVICES CONTRACTED AND / OR COMPLETED BY THE COUNTY IN THE CLEAN UP OF ANY TRACKING OR SPILLAGE ANYTIME DURING PROJECT CONSTRUCTION. THE ENGINEER MAY REQUIRE THE CONTRACTOR TO PERFORM WEEKLY STREET CLEANING IF EXCESSIVE AMOUNTS OF DIRT AND MUD ARE LEFT ALONG THE STREET. THIS MAY INCLUDE REMOVAL BY SWEEPING, POWER CLEANING, OR MANUAL METHODS. THE COST OF THIS WORK SHALL BE INCLUDED IN THE VARIOUS CONTRACT ITEMS, UNLESS OTHERWISE SPECIFIED.

26. CLEAN UP
ALL DEBRIS, RUBBLE, UNUSABLE MATERIALS, AND ITEMS NOT SALVAGED BY THE OWNER SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE REMOVED FROM THE SITE BY THE CONTRACTOR AND DISPOSED OF PROPERLY.

27. MAINTENANCE OF TRAFFIC NOTES
ALL TEMPORARY 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 CONSTRUCTION AND MAINTENANCE OPERATIONS (CURRENT EDITION), COPIES OF WHICH ARE AVAILABLE FROM THE OHIO DEPARTMENT OF TRANSPORTATION, BUREAU OF TRAFFIC, 1980 WEST BROAD STREET, COLUMBUS, OH 43223.

STEADY-BURNING, TYPE "C" LIGHTS SHALL BE REQUIRED ON ALL BARRICADES, DRUMS, AND SIMILAR TRAFFIC CONTROL DEVICES IN USE AT NIGHT. CONES ARE NOT APPROVED FOR USE AT NIGHT.

ACCESS TO ALL PROPERTIES WITHIN THE PROJECT AREA SHALL BE MAINTAINED AT ALL TIMES.

ALL PERMANENT TRAFFIC CONTROLS NOT IN CONFLICT WITH THE TEMPORARY TRAFFIC CONTROLS SHALL BE MAINTAINED THROUGH THIS PROJECT BY THE CONTRACTOR. PERMANENT TRAFFIC CONTROLS MAY BE TEMPORARILY RELOCATED AS APPROVED BY THE ENGINEER. THE CONTRACTOR SHALL ASSUME ALL LIABILITY FOR MISSING, DAMAGED, AND IMPROPERLY PLACED SIGNS.

ANY WORK DONE BY THE COUNTY, INCLUDING INSTALLATION, MODIFICATION, REMOVAL AND/OR REPLACEMENT OF PERMANENT TRAFFIC CONTROL DEVICES

AS A RESULT OF WORK DONE BY THE CONTRACTOR OR AS A RESULT OF THE NEGLIGENCE OF THE CONTRACTOR SHALL BE AT THE EXPENSE OF THE CONTRACTOR.

28. TREE REMOVAL
THE CONTRACTOR SHALL REMOVE TREES AND VEGETATION ONLY AS NECESSARY TO PERFORM HIS WORK WITHIN THE SPECIFIED WORK LIMITS OR RIGHT-OF-WAY. THEY SHALL MAKE EVERY EFFORT TO MINIMIZE REMOVALS EXCEPT THOSE SPECIFICALLY MARKED FOR REMOVAL IN THE PLANS. CONTRACTOR SHALL ALSO COMPLY WITH RESTRICTIONS ON TREE REMOVALS ASSOCIATED WITH THE INDIANA BAT HABITAT.

29. OPEN EXCAVATIONS
ALL EXCAVATIONS WITHIN 40 FEET OF ANY ROADWAY SHALL BE CLOSED OR PLATED DURING NONWORKING HOURS. DRUMS OR CONCRETE BARRIER SHALL BE USED DURING WORKING HOURS TO SEPARATE TRAFFIC FROM THESE HAZARDS. ALL OTHER EXCAVATIONS SHALL BE SECURED BY CONSTRUCTION FENCE.

30. MAINTAINING SEWAGE SYSTEM OPERATION
THE CONTRACTOR SHOULD EXPECT TO ENCOUNTER EXISTING SEPTIC TANKS, PIES OR TREATMENT DEVICES THAT ARE ACTIVE. THE CONTRACTOR SHALL SEQUENTIALLY THEIR WORK AND MAKE PROVISIONS NECESSARY TO MAINTAIN SERVICE FOR THE STRUCTURES SERVED BY THESE SYSTEMS. ALL COSTS FOR PUMPING, HAULING, TEMPORARY STORAGE OR OTHER WORK REQUIRED TO MAINTAIN SERVICE SHALL BE INCLUDED IN THE UNIT PRICE FOR PIPE AND VARIOUS RELATED ITEMS.

31. VOLUNTARY ALTERNATES
THE CONTRACTOR MAY VOLUNTARILY SUBMIT MATERIAL, EQUIPMENT OR METHODS ALTERNATES FOR CONSIDERATION BY THE ENGINEER. EXAMPLES OF VOLUNTARY ALTERNATES INCLUDE, BUT ARE NOT LIMITED TO PIPE MATERIALS, PUMPS AND CONTROLS, DIRECTIONAL BORING PLANS, ETC. ALL SUBMITTALS MUST INCLUDE SUFFICIENT INFORMATION FOR THE ENGINEER TO DETERMINE IF THE ALTERNATE IS EQUAL AND MUST BE DELIVERED TO THE ENGINEER NO LESS THAN 10 DAYS PRIOR TO THE BID OPENING. PLANHOLDERS WILL BE NOTIFIED OF APPROVED ALTERNATES BY ADDENDUM. ALTERNATES MUST BE LISTED ON THE BID FORM, OTHERWISE THE CONTRACT SHALL BE AWARDED BASED ON THE EQUIPMENT SPECIFIED.

32. WYE POLES
THE CONTRACTOR SHALL FURNISH AND PLACE, AS DIRECTED, APPROVED WYE POLES 2" X 2" OR LARGER AT ALL WYE LOCATIONS, ENDS OF EXTENDED SERVICES, OR AT END OF EACH RISER WHERE RISERS ARE REQUIRED, EXTENDING A MINIMUM OF 3 FEET ABOVE FINAL SURFACE GRADES WITH THE TOP 2 FEET BEING PAINTED WHITE. ALL COST FOR POLES AND THEIR INSTALLATION SHALL BE INCLUDED IN THE UNIT PRICES FOR 4", 6" AND 8" SANITARY SERVICE LATERALS.

33. CLEAN WATER CONNECTIONS
NO FOUNDATION DRAINS, ROOF DRAINS, OR OTHER STORMWATER DRAINS OF ANY KIND SHALL BE CONNECTED INTO THE SANITARY SEWER SYSTEM.

34. ITEM SPECIAL: ORANGE CONSTRUCTION FENCE
DURING CONSTRUCTION, THE CONTRACTOR SHALL INSTALL ORANGE CONSTRUCTION FENCE AS REQUIRED TO PROTECT PEDESTRIAN TRAFFIC FROM OPEN TRENCHES, MATERIAL STOCKPILES, OR AS DIRECTED BY THE ENGINEER. FENCE MATERIAL SHALL BE RESNET SL600 OR APPROVED EQUAL AND INSTALLED PER THE FOLLOWING DETAIL ON SHEET 118. THIS PAY ITEM INCLUDES INSTALLATION, ALL MATERIALS REQUIRED FOR INSTALLATION, AND REMOVAL. FENCE SHALL REMOVED ONCE IT HAS SERVED ITS USEFUL PURPOSE AND APPROVAL BY THE ENGINEER IS GRANTED. A QUANTITY OF 1,000 FEET HAS BEEN INCLUDED IN THE ESTIMATED QUANTITIES FOR THIS PROJECT.

35. TRENCH DAMS
THE CONTRACTOR SHALL PLACE A CUT OFF TRENCH DAM OF NATIVE CLAY OR IMPERVIOUS SUBSTRASS AND A LONG 18" TRENCH OVER AND UPSTREAM FROM THE MAIN LINE SEWER CONNECTION TO RETARD AND RESIST THE MOVEMENT OF GROUNDWATER THROUGHOUT THE TRENCH GRANULAR BEDDING OR BACKFILL MATERIAL. THE TRENCH DAMS SHALL BE CAREFULLY COMPACTED AND SHALL BE 3 FEET IN THICKNESS AS MEASURED ALONG THE SERVICE CENTER LINE AND SHALL BE CONSTRUCTED AGAINST THE UNDISTURBED TRENCH SIDES FROM THE SUBGRADE OR BOTTOM OF THE STONE FOUNDATION, WHICHEVER IS LOWER, TO THE LIMIT OF 36 INCHES OVER THE TOP OF THE PIPE, NO MORE THAN 10 FEET FROM THE MAIN LINE SANITARY SEWER.

36. TRACER TAPE & TRACER WIRE
THE CONTRACTOR SHALL INSTALL 12-GAUGE COPPER HEAD JACKETED TRACER WIRE ON ALL FORCE MAINS, FASTEN WIRE TO PIPE IN TWO PLACES PER PIPE SECTION. SPLICE WIRES USING DRYCON CONNECTIONS SPLICING FASTENER. THE CONTRACTOR SHALL ALSO INSTALL CONTINUOUS TRACER TAPE 12 INCHES ABOVE ALL FORCE MAINS. ALL COSTS FOR TRACER TAPE AND TRACER WIRES SHALL BE INCLUDED IN THE UNIT PRICES FOR FORCE MAIN.

37. MAIL SERVICE
THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING MAIL SERVICE IN THE CONSTRUCTION AREA, PRIOR TO DISTURBING ANY MAILBOXES. THE CONTRACTOR SHALL CONTACT THE POSTAL AUTHORITIES AND SHALL TEMPORARILY RELOCATE MAILBOXES IN ACCORDANCE WITH POSTAL REQUIREMENTS. THE CONTRACTOR SHALL RESTORE MAILBOXES TO THEIR ORIGINAL CONDITION AND LOCATION. COST TO BE INCLUDED IN THE UNIT PRICES FOR THE VARIOUS ITEMS.

38. TRASH COLLECTION SERVICE
THE CONTRACTOR SHALL CONTACT THE APPROPRIATE TRASH COLLECTION AUTHORITIES FOR CURRENT COLLECTION DATE EACH WEEK PRIOR TO STARTING WORK AND BE RESPONSIBLE FOR MAINTAINING A 20 FOOT WIDE CLEAR AREA FOR TRASH CAN PLACEMENT IN THE FRONT OF EACH LOT FOR TRASH COLLECTION SERVICE IN THE CONSTRUCTION AREA ON THE DESIGNATED TRASH DAY.

39. FORCEMAIN PLACEMENT
IN AREAS WHERE FORCEMAIN IS PLACED IN ITS OWN TRENCH, IT SHALL BE PLACED 4 FOOT BELOW EXISTING GRADE UNLESS OTHERWISE NOTED IN PLANS.

40. LANDSCAPE, DRIVEWAY, SIDEWALK, ALLEY & ROADWAY REPAIRS
WHERE CONSTRUCTION OF FORCEMAIN AND/OR SANITARY SEWER REQUIRES TRENCHING ACROSS LANDSCAPE, DRIVEWAYS, SIDEWALKS, ALLEYS, AND ROADWAYS, REFER TO SANITARY DETAILS FOR REPAIR REQUIREMENTS. COST OF REPAIRS IS TO BE INCLUDED IN THE UNIT PRICES FOR FORCEMAIN AND/OR SANITARY SEWER PIPE. REFER ALSO TO GENERAL NOTE #17 FOR ADDITIONAL GUIDANCE.

41. SWALE REPAIRS & CONSTRUCTION
WHERE CONSTRUCTION OF FORCEMAIN AND/OR SANITARY SEWER DISTURBS EXISTING DRAINAGE SWALES, THE CONTRACTOR WILL BE REQUIRED TO RESTORE THE DRAINAGE SWALES TO PRE-CONSTRUCTION CONDITIONS. ADDITIONALLY, NEW DRAINAGE SWALE CONSTRUCTION WILL BE REQUIRED IN SOME AREAS DISTURBED BY SANITARY SEWER CONSTRUCTION. ALL SWALE REPAIRS AND/OR NEW CONSTRUCTION SHALL BE INCLUDED IN THE UNIT PRICE FOR FORCEMAIN AND/OR SANITARY SEWER PIPE.

42. FLOW REQUIREMENTS THROUGH PROPOSED SANITARY MANHOLES
CONTRACTOR MUST CONSTRUCT PROPOSED SANITARY MANHOLES WITH A MINIMUM FLOOR SLOPE OF 2.5% TO ENSURE POSITIVE FLOW THROUGH MANHOLES. COST OF FLOOR SLOPE REQUIREMENT INCIDENTAL TO THE COST OF A MANHOLE.

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ENGINEER'S OFFICE 740-454-0155

PREPARED BY:
PROJECT NAME: SANITARY SEWER IMPROVEMENT
PROJECT LOCATION: LICKING VIEW ZANESVILLE, OHIO 43701

PLANS APPROVED BY:
MJE

PLANS PREPARED BY:
HJ

DATE:
08/14/2023

REVISED:

SHEET SIZE:
11" x 17"

SHEET NAME:
GENERAL NOTES (1)

SHEET NUMBER:
04
118

43. FORCEMAIN NOTES

BACKFILL:

WHERE THE FORCEMAIN CROSSES PAVEMENT THE TOP OF BEDDING SHALL BE BACKFILLED WITH SUITABLE MATERIAL. BACKFILL SHALL BE SUITABLE MATERIAL FROM THE BOTTOM OF THE TRENCH TO WITHIN 8" OF THE FINISHED OR EXISTING GRADE. 8" OF COMPACTED GRANULAR MATERIAL SHALL BE PLACED TO FINISHED GRADE. ALL TRENCH BACKFILL SHALL BE COMPACTED IN 12-INCH LAYERS LOOSE MEASUREMENT. COMPACTION SHALL BE TO AT LEAST THE DENSITY OF THE SURROUNDING GROUND. THE COST OF ALL BACKFILL IS TO BE INCLUDED IN THE PRICE BID FOR THE VARIOUS SEWER ITEMS. PAYMENT FOR THIS ITEM SHALL NOT EXCEED A 4 FEET WIDE TRENCH.

MATERIALS:

ALL FORCEMAIN MATERIALS AND INSTALLATIONS SHALL BE IN ACCORDANCE WITH THE CURRENT RULES AND REGULATIONS. ALL FORCE MAIN MATERIAL SHALL BE PVC IN GRADE BETWEEN WATER LINES AND FORCE MAIN. THE FORCEMAIN SHALL BE LOWERED DURING CONSTRUCTION. BACKFILL GROUND OVER THE TOP OF THE PIPE SHALL BE FREE OF ROCKS, ORGANIC REFUSE OR OTHER OBJECTIONABLE MATERIAL. SEE BACKFILL NOTE ABOVE. THE INSTALLING CONTRACTOR IS RESPONSIBLE FOR CONDUCTING PRESSURE AND LEAKAGE TESTS AT A PRESSURE OF 150 PSI IN ACCORDANCE WITH AWWA C-600.

44. SANITARY SEWER NOTES

SERVICE LATERALS:

PIPE FOR ALL SERVICE LATERALS SHALL BE 4-INCH, SCHEDULE 40 PVC SEWER PIPE ASTM D3034, SDR 35 UNLESS NOTED IN PLANS. SERVICE LATERALS ARE SUBJECT TO EITHER THE INFILTRATION/EXFILTRATION OR AIR TEST. ALL SERVICE LATERALS SHALL BE LAID AT A MINIMUM GRADE OF 1/4 INCH PER FOOT. CONTRACTOR SHALL INSTALL A WYE, RISER AND CAP 3' PAST THE PROPERTY LINE WITH CLEANOUT. PAYMENT FOR THESE ITEMS SHALL BE INCLUDED IN THE UNIT PRICE BID FOR 4", 6" OR 8" SANITARY SERVICE LATERAL.

BORINGS FOR SERVICE LATERALS:

WHERE SPECIFIED IN THE PLANS, CONTRACTOR SHALL JACK AND BORE UNDER PAVEMENT TO INSTALL SERVICE LATERALS. IF AN INSTALLATION PIT OR RECEIVING PIT IS REQUIRED ON PRIVATE PROPERTY, THE CONTRACTOR WILL BE REQUIRED TO OBTAIN A WORK AGREEMENT WITH THE PROPERTY OWNER PRIOR TO COMMENCING BORING OPERATIONS. THE COST OF BORING SERVICE LATERALS SHALL BE INCLUDED IN THE UNIT PRICE BID FOR 4", 6" OR 8" SANITARY SERVICE LATERAL.

BACKFILL:

WHERE THE SANITARY SEWER OR SEWER SERVICE CROSSES PAVEMENT THE TOP OF BEDDING SHALL BE BACKFILLED WITH SUITABLE MATERIAL. SEE SANITARY DETAIL SHEETS FOR ADDITIONAL INFORMATION REGARDING BACKFILL REQUIREMENTS. THE COST OF ALL BACKFILL IS TO BE INCLUDED IN THE UNIT PRICE FOR THE VARIOUS SEWER ITEMS.

BEDDING:

ALL PIPE 8" OR SMALLER SHALL BE BEDDED IN #57, 6" BELOW AND 6" ABOVE TOP OF PIPE, AS SHOWN ON SHEET 7.

LEAKAGE TEST:

LEAKAGE TESTS SHALL BE SPECIFIED. THIS MAY INCLUDE APPROPRIATE WATER OR LOW PRESSURE AIR TESTING. THE TESTING METHODS SELECTED SHOULD TAKE INTO CONSIDERATION THE RANGE IN GROUNDWATER ELEVATIONS DURING THE TEST AND ANTICIPATED DURING THE DESIGN LIFE OF THE SEWER.

WATER (HYDROSTATIC) TEST: (FORCEMAIN)

THE LEAKAGE EXFILTRATION OR INFILTRATION SHALL NOT EXCEED 100 GALLONS PER INCH OF PIPE DIAMETER PER MILE PER DAY FOR ANY SECTION OF THE SYSTEM. AN EXFILTRATION OR INFILTRATION TEST SHALL BE PERFORMED WITH A MINIMUM POSITIVE HEAD OF 2 FEET.

AIR TEST: (GRAVITY SEWER)

THE AIR TEST SHALL, AS A MINIMUM, CONFORM TO THE TEST PROCEDURE DESCRIBED IN ASTM C-828-86 FOR CLAY PIPE, ASTM C 924 FOR CONCRETE PIPE, ASTM F-1417 FOR PVC, AND FOR OTHER MATERIALS TEST PROCEDURES APPROVED BY THE REGULATORY AGENCY.

STORM SEWER CROSSINGS:

WHERE THE SANITARY SEWER CROSSES A PROPOSED STORM SEWER, THE TRENCH SHALL BE BACKFILLED TO THE BOTTOM OF THE PROPOSED STORM SEWER WITH COMPACTED GRANULAR MATERIAL, EXTENDING A DISTANCE OF 10 LINEAL FEET CENTERED ON THE STORM SEWER. THE COST OF THIS WORK IS TO BE INCLUDED IN THE UNIT PRICE BID FOR VARIOUS SEWER ITEMS.

WATER LINE CROSSING:

ALL SANITARY SEWERS OR MANHOLES SHALL BE PLACED WITH AT LEAST 10 FEET HORIZONTAL SEPARATION FROM WATER LINES. WHENEVER A WATER LINE AND SEWER MUST CROSS, THE SEWER MAIN SHALL BE LAID SUCH THAT THE CROWN OF THE SEWER IS AT LEAST 18 INCHES BELOW THE INVERT OF THE WATER LINE MEASURED BETWEEN THE OUTSIDE PIPE WALLS. IN CASES WHERE THE REQUIRED SEPARATION CANNOT BE MAINTAINED, CONCRETE ENCASEMENT OF WATER LINE HAS BEEN CALLED OUT IN THE PLANS. THE COST OF CONCRETE ENCASEMENT IS TO BE INCLUDED IN THE UNIT PRICE FOR SANITARY SEWER PIPE PAY ITEMS.

MANHOLES:

ALL MANHOLES SHALL BE PRE-CAST, CONSTRUCTED AND PLACED IN ACCORDANCE WITH ASTM C-478 MATERIAL SPECIFICATIONS. THE JOINTS SHALL CONFORM TO ASTM C-443 JOINT SPECIFICATIONS. ALL MANHOLES SHALL REQUIRE MECHANICAL CHIMNEY SEALS TO BE INSTALLED. ALL MANHOLES SHALL BE VACUUM TESTED IN ACCORDANCE WITH ASTM C-1244 SPECIFICATIONS.

MANHOLE CASTINGS:

ALL MANHOLE CASTINGS SHALL BE NEENAH R-1642 OR R-1642-A, SUBJECT TO THE COUNTY'S APPROVAL. CASTING ADJUSTMENT BY GRADE RINGS MUST BE LESS THAN ONE (1) FOOT BEFORE A BARREL SECTION IS REQUIRED.

SEWER PIPE:

THE MINIMUM REQUIREMENTS FOR SEWER PIPE ON THIS PROJECT SHALL BE PVC-SDR 35 SEWER PIPE ASTM D3034, WITH JOINTS MEETING ASTM D-3212, AND FLEXIBLE RUBBER GASKETS MEETING ASTM F-477. BACKFILL SHALL CONFORM TO ASTM 2321, UNLESS OTHERWISE SHOWN ON THE PLANS.

DEFLECTION TEST:

DEFLECTION TESTS SHALL BE PERFORMED ON ALL FLEXIBLE PIPE. THE TEST SHALL BE CONDUCTED AFTER THE FINAL BACK FILL HAS BEEN IN PLACE AT LEAST 30 DAYS TO PERMIT STABILIZATION OF THE SOIL-PIPE SYSTEM, AND 1 YEAR AFTER INITIAL TESTING.

NO PIPE SHALL EXCEED A DEFLECTION OF 5 PERCENT. IF DEFLECTION EXCEEDS 5 PERCENT, REPLACEMENT OR CORRECTION SHALL BE ACCOMPLISHED IN ACCORDANCE WITH REQUIREMENTS IN THE APPROVED SPECIFICATIONS.

THE RIGID BALL OR MANDREL USED FOR THE DEFLECTION TEST SHALL HAVE A DIAMETER NOT LESS THAN 95 PERCENT OF THE BASE INSIDE DIAMETER OR AVERAGE INSIDE DIAMETER OF THE PIPE DEPENDING ON WHICH IS SPECIFIED IN ASTM SPECIFICATION, INCLUDING THE APPENDIX, TO WHICH THE PIPE IS MANUFACTURED. THE PIPE SHALL BE MEASURED IN COMPLIANCE WITH ASTM D-2122 STANDARD TEST METHOD OF DETERMINING DIMENSIONS OF THERMOPLASTIC PIPE AND FITTINGS. THE TEST SHALL BE PERFORMED WITHOUT MECHANICAL PULLING DEVICES. MANDREL TESTING MUST BE PERFORMED AT 30 DAYS AND ONE (1) YEAR FOLLOWING INSTALLATION.

SEEDING AND MULCHING:

PERMANENT SEEDING SHALL BE PROVIDED FOR ALL EXPOSED SOIL SURFACES WITHIN SEVEN (7) DAYS AFTER THE FINISH GRADE IS REACHED. PERMANENT SEEDING AND MULCHING AS SPECIFIED IN ODOT ITEM 659 IS ACCEPTABLE.

AREAS WHERE PERMANENT SEEDING HAS FAILED TO GERMINATE SHALL BE RESEEDED AND MULCHED AS NECESSARY TO ACHIEVE STABILIZATION AT NO ADDITIONAL COST TO MUSKINGUM COUNTY.

45. GRINDER PUMP INSTALLATIONS:

GRINDER PUMPS HAVE BEEN SPECIFIED FOR TWO PROPERTY OWNERS WHERE GRAVITY LATERAL SERVICE CONNECTIONS FROM THE DWELLING UNIT CANNOT BE ACCOMMODATED. AT THESE LOCATIONS THE CONTRACTOR SHALL COORDINATE THE INSTALLATION DIRECTLY WITH THE PROPERTY OWNER. ELECTRICAL CONNECTIONS FOR GRINDER PUMPS SHALL BE MADE ON THE EXTERIOR AT THE EXISTING METER LOCATIONS. CONTRACTOR SHALL DETERMINE EXISTING SERVICE TYPE, SIZE, AND LOCATION AND PROVIDE A 3R COMBINATION METER BASE WITH A MINIMUM OF FOUR CIRCUITS WITH PASS THROUGH LUGS TO FEED EXISTING LOAD. CONTRACTOR SHALL COORDINATE METER BASE REPLACEMENT WITH PROPERTY OWNER AND UTILITY.

SEE GRINDER PUMP SPECIFICATIONS FOR CIRCUIT BREAKER AND CONDUCTORS REQUIREMENTS BELOW:

GRINDER PUMP SHALL BE E/ONE EXTREME MODEL DH071 MEETING THE FOLLOWING SPECIFICATIONS:

- RATED FOR 700 GPD
- 70 GALLON CAPACITY
- INDOOR OR OUTDOOR INSTALLATION
- STANDARD OUTDOOR HEIGHTS RANGE FROM 61 INCHES TO 160 INCHES

GRINDER PUMP ELECTRIC MOTOR SHALL BE A 1 HP, 1725 RPM, 240 VOLT, 60 HERTZ, 1 PHASE, CAPACITOR START, BALL BEARING, AIR-COOLED INDUCTION TYPE WITH CLASS F INSULATION, AND LOW STARTING CURRENT NOT TO EXCEED 30AMPS.

ALL COSTS FOR PUMP INSTALLATION, UTILITY COORDINATION, UTILITY DISCONNECT, UTILITY RECONNECT AND ALL NECESSARY ELECTRICAL COMPONENTS TO MEET CODE (INCLUDING BUT NOT LIMITED TO EQUIPMENT, CONDUITS, CONDUCTORS, BREAKERS, GROUNDING SYSTEM) SHALL BE INCLUDED IN THE UNIT PRICE FOR GRINDER PUMP STATION.

46. PAY ITEM CLARIFICATIONS

- ON THIS PROJECT 'AWWA C900' PIPE MUST HAVE A DIMENSION RATIO OF 18 (DR 18)
- ON THIS PROJECT 'PVC SDR 26 (DEPTH) RESTRAINED JOINTS (SURFACE)' CAN BE SUBSTITUTED FOR 'PVC SDR 35 (DEPTH) RESTRAINED JOINTS (SURFACE)' SUBJECT TO MUSKINGUM COUNTY'S REVIEW/APPROVAL OF RESTRAINED JOINT SYSTEMS.
- ON THIS PROJECT 'AWWA C906' PIPE MUST HAVE A DIMENSION RATION OF 11 (DR 11)
- ON THIS PROJECT PVC SDR35 PIPE DESIGNATED TO BE BORED OR JACKED (AKA TRENCHLESS) CONSTRUCTION SHALL HAVE RESTRAINED JOINTS.

47. PAVEMENT REPLACEMENT REQUIREMENTS FROM SEWER INSTALLATIONS

IF GREATER THAN 50 PERCENT OF THE WIDTH OF A LANE OR AN ALLEY IS IMPACTED BY SEWER CONSTRUCTION OR A PORTION OF REMAINING LANE OR ALLEY IS LESS THAN 4FT IN DIMENSION, THE ENTIRE LANE/ALLEY SHALL BE REPAVED. SEE DETAIL SHEETS FOR PAVEMENT BUILD-UP REQUIREMENTS. COST OF PAVEMENT REPLACEMENT IS TO BE INCLUDED IN THE UNIT PRICES FOR FORCE MAIN, SANITARY SEWER PIPE, OR STORM SEWER PIPE.

48. POWER POLE INSTALLATION

THE COST OF THE POWER POLE INSTALLATION PAY ITEM SHALL INCLUDE THE COST TO REMOVE THE ELECTRICAL CONDUIT FROM THE EXISTING POWER POLE AND THE SUBSEQUENT REINSTALLATION TO THE PROPOSED POWER POLE.

ESTIMATED QUANTITIES

ITEM NO.	PAY ITEM DESCRIPTION	UNIT	TOTAL QTY
ROADWAY			
201	CLEARING AND GRUBBING	LS	1
207	TEMPORARY SEDIMENT & EROSION CONTROLS	LS	1
659	SEEDING & MULCHING	SY	36,028
SANITARY			
611	8" SANITARY SEWER PIPE, PVC SDR 35 (4 TO 8 FT DEEP) (UNDER VEGETATION)	LF	878
611	8" SANITARY SEWER PIPE, PVC SDR 35 (4 TO 8 FT DEEP) (UNDER ROADWAY)	LF	2,262
611	8" SANITARY SEWER PIPE, PVC SDR 35 (4 TO 8 FT DEEP) (UNDER ALLEYS/DRIVES)	LF	2,627
611	8" SANITARY SEWER PIPE, PVC SDR 35 (4 TO 8 FT DEEP) (UNDER ALLEYS/DRIVES)(DIRECTIONALLY DRILLED)	LF	150
611	8" SANITARY SEWER PIPE, PVC SDR 35 (8 TO 12 FT DEEP) (UNDER VEGETATION)	LF	3,051
611	8" SANITARY SEWER PIPE, PVC SDR 35 (8 TO 12 FT DEEP) (UNDER ROADWAY)	LF	2,050
611	8" SANITARY SEWER PIPE, PVC SDR 35 (8 TO 12 FT DEEP) (UNDER ALLEYS/DRIVES)	LF	2,178
611	8" SANITARY SEWER PIPE, PVC SDR 35 (12 TO 16 FT DEEP) (UNDER ROADWAY)	LF	206
611	8" SANITARY SEWER PIPE, HDPE AWWA C 906 (12 TO 16 FT DEEP) (UNDER ROADWAY) (DIRECTIONALLY DRILLED)	LF	250
611	8" SANITARY SEWER PIPE, HDPE AWWA C 906 (12 TO 16 FT DEEP) (UNDER ROADWAY)	LF	55
611	8" SANITARY SEWER PIPE, PVC AWWA C 900 (4 TO 8 FT DEEP) (UNDER VEGETATION)	LF	342
611	8" SANITARY SEWER PIPE, PVC AWWA C 900 (4 TO 8 FT DEEP)(UNDER ROADWAY)	LF	754
611	8" SANITARY SEWER PIPE, PVC AWWA C 900 (4 TO 8 FT DEEP) (UNDER ALLEYS/DRIVES)	LF	403
611	8" SANITARY SEWER PIPE, PVC AWWA C 900 (4 TO 8 FT DEEP)(RESTRAINED JOINTS)(UNDER ROADWAY)	LF	98
611	8" SANITARY SEWER PIPE, PVC SDR 35 (4 TO 8 FT DEEP) (RESTRAINED JOINTS) (UNDER ALLEYS/DRIVES)	LF	55
611	8" SANITARY SEWER PIPE, PVC AWWA C 900 (8 TO 12 FT DEEP) (UNDER ROADWAY)	LF	349
611	8" SANITARY SEWER PIPE, PVC AWWA C 900 (12 TO 16 FT DEEP)(UNDER ROADWAY)	LF	34
611	8" SANITARY SEWER PIPE, PVC SDR 35 (16 TO 20 FT DEEP)(RESTRAINED JOINTS)(UNDER ROADWAY)	LF	180
611	4" SANITARY SERVICE LATERAL, PVC SDR 35	LF	1,590
611	4" SANITARY SERVICE LATERAL, PVC SDR 35 (BORED OR JACKED)	LF	298
611	6" SANITARY SERVICE LATERAL, PVC SDR 35	LF	218
611	6" SANITARY SERVICE LATERAL, PVC SDR 35 (BORED OR JACKED)	LF	60
611	8" SANITARY SERVICE LATERAL, PVC SDR 35	LF	13
611	8" SANITARY SERVICE LATERAL, PVC SDR 35 (BORED OR JACKED)	LF	110
611	4" FORCE MAIN, PVC DR 18	LF	80
611	4" FORCE MAIN, HDPE AWWA C 906 (DIRECTIONALLY DRILLED)	LF	372
611	48" DIAMETER MANHOLE (4 TO 8 FT DEEP)	EA	58
611	48" DIAMETER MANHOLE (8 TO 12 FT DEEP)	EA	23
611	48" DIAMETER MANHOLE W/ OUTSIDE DROP (4 TO 8 FT DEEP)	EA	1
611	48" DIAMETER MANHOLE W/ OUTSIDE DROP (8 TO 12 FT DEEP)	EA	1
611	48" DIAMETER MANHOLE W/ OUTSIDE DROP (16 TO 20 FT DEEP)	EA	1
638	16" STEEL PIPE ENCASEMENT, SDTM A53 (BORED OR JACKED)	LF	109
SPECIAL	POLE HOLD	EA	1
SPECIAL	POWER POLE INSTALLATION	EA	1
SPECIAL	GRAVITY SEWER AIR TESTING	LS	1
SPECIAL	GRINDER PUMP STATION	EA	2
SPECIAL	FORCE MAIN PRESSURE TESTING	LS	1
SPECIAL	CONNECT TO EXISTING FORCE MAIN	EA	1
SPECIAL	4" AIR RELEASE VALVE (FORCE MAIN)	EA	1
SPECIAL	SANITARY PUMP STATION, GRIEF ROAD	EA	1
SPECIAL	SANITARY PUMP STATION, KNOX ROAD	EA	1
SPECIAL	WATER SERVICE LINE REPAIR	EA	20
SPECIAL	ORANGE CONSTRUCTION FENCE	LF	1,000
DRAINAGE			
202	ABANDON MISC., JUNCTION BOX	EA	1
202	ABANDON MISC., EXIST. PIPE 12" AND UNDER	LF	1,152
202	CLASS QC1 CONCRETE, HEADWALL	LF	1,096
511	CLASS QC1 CONCRETE, HEADWALL	CY	0.81
611	12" CONDUIT, TYPE A	LF	847
611	12" CONDUIT, TYPE B	LF	491
611	15" CONDUIT, TYPE A	LF	86
611	15" CONDUIT, TYPE B	LF	537
611	18" CONDUIT, TYPE A	LF	38
611	18" CONDUIT, TYPE B	LF	223
611	30" CONDUIT, TYPE B	LF	68
611	CATCH BASIN, V-MOTCH WITH BICYCLE SAFE GRATE	EA	9
611	CATCH BASIN, NO. 2-3 WITH BICYCLE SAFE GRATE	EA	4
611	MANHOLE, TYPE 3	EA	4
MAINTENANCE OF TRAFFIC			
614	MAINTENANCE OF TRAFFIC	LS	1
623	CONSTRUCTION LAYOUT STAKING	LS	1
624	MOBILIZATION	LS	1

REVISION

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REVISION	REV. BY	DATE	DESCRIPTION
△	GJW	03/08/2024	PAY ITEMS, QUANTITIES, AND CLARIFICATIONS ASSOCIATED WITH CHANGES IN SANITARY SEWER, GREIF PUMP STATION LOCATION, DRAINAGE FEATURES, AND NEW UTILITY WORK

Mark J. Echer, P.E., P.S.
155 Rehl Road
Zanesville, Ohio 43701
Muskingum County ENGINEER'S OFFICE
740-454-0155

PREPARED BY:
PROJECT NAME: SANITARY SEWER IMPROVEMENTS
GENERAL NOTES AND QUANTITY SUMMARY
PROJECT LOCATION: LICKING VIEW ZANESVILLE, OHIO 43701

PLANS APPROVED BY:
MJE

PLANS PREPARED BY:
GJW

DATE:
08/17/2023

REVISED:
03/08/2024

SHEET SIZE:
11" x 17"

SHEET NAME:
GENERAL NOTES (2)

SHEET NUMBER:
05
118

43. FORCEMAIN NOTES

BACKFILL:
WHERE THE FORCEMAIN CROSSES PAVEMENT THE TOP OF BEDDING SHALL BE BACKFILLED WITH SUITABLE MATERIAL. BACKFILL SHALL BE SUITABLE MATERIAL FROM THE BOTTOM OF THE TRENCH TO WITHIN 8" OF THE FINISHED OR EXISTING GRADE. 8" OF COMPACTED GRANULAR MATERIAL SHALL BE PLACED TO FINISHED GRADE. ALL TRENCH BACKFILL SHALL BE COMPACTED IN 12-INCH LAYERS LOOSE MEASUREMENT. COMPACTION SHALL BE TO AT LEAST THE DENSITY OF THE SURROUNDING GROUND. THE COST OF ALL BACKFILL IS TO BE INCLUDED IN THE PRICE BID FOR THE VARIOUS SEWER ITEMS. PAYMENT FOR THIS ITEM SHALL NOT EXCEED A 4 FEET WIDE TRENCH.

MATERIALS:
ALL FORCEMAIN MATERIALS AND INSTALLATIONS SHALL BE IN ACCORDANCE WITH THE CURRENT RULES AND REGULATIONS. ALL FORCE MAIN MATERIAL SHALL BE PVC IN GRADE BETWEEN WATER LINES AND FORCE MAIN. THE FORCEMAIN SHALL BE LOWERED DURING CONSTRUCTION. BACKFILL GROUND OVER THE TOP OF THE PIPE SHALL BE FREE OF ROCKS, ORGANIC REFUSE OR OTHER OBJECTIONABLE MATERIAL. SEE BACKFILL NOTE ABOVE. THE INSTALLING CONTRACTOR IS RESPONSIBLE FOR CONDUCTING PRESSURE AND LEAKAGE TESTS AT A PRESSURE OF 150 PSI IN ACCORDANCE WITH AWWA C-600.

44. SANITARY SEWER NOTES

SERVICE LATERALS:
PIPE FOR ALL SERVICE LATERALS SHALL BE 4-INCH, SCHEDULE 40 PVC SEWER PIPE ASTM D3034, SDR 35 UNLESS NOTED IN PLANS. SERVICE LATERALS ARE SUBJECT TO EITHER THE INFILTRATION/EXFILTRATION OR AIR TEST. ALL SERVICE LATERALS SHALL BE LAID AT A MINIMUM GRADE OF 1/4 INCH PER FOOT. CONTRACTOR SHALL INSTALL A WYE, RISER AND CAP 3' PAST THE PROPERTY LINE WITH CLEANOUT. PAYMENT FOR THESE ITEMS SHALL BE INCLUDED IN THE UNIT PRICE BID FOR 4", 6" OR 8" SANITARY SERVICE LATERAL.

BORINGS FOR SERVICE LATERALS:
WHERE SPECIFIED IN THE PLANS, CONTRACTOR SHALL JACK AND BORE UNDER PAVEMENT TO INSTALL SERVICE LATERALS. IF AN INSTALLATION PIT OR RECEIVING PIT IS REQUIRED ON PRIVATE PROPERTY, THE CONTRACTOR WILL BE REQUIRED TO OBTAIN A WORK AGREEMENT WITH THE PROPERTY OWNER PRIOR TO COMMENCING BORING OPERATIONS. THE COST OF BORING SERVICE LATERALS SHALL BE INCLUDED IN THE UNIT PRICE BID FOR 4", 6" OR 8" SANITARY SERVICE LATERAL.

BACKFILL:
WHERE THE SANITARY SEWER OR SEWER SERVICE CROSSES PAVEMENT THE TOP OF BEDDING SHALL BE BACKFILLED WITH SUITABLE MATERIAL. SEE SANITARY DETAIL SHEETS FOR ADDITIONAL INFORMATION REGARDING BACKFILL REQUIREMENTS. THE COST OF ALL BACKFILL IS TO BE INCLUDED IN THE UNIT PRICE FOR THE VARIOUS SEWER ITEMS.

BEDDING:
ALL PIPE 8" OR SMALLER SHALL BE BEDDED IN #57, 6" BELOW AND 6" ABOVE TOP OF PIPE, AS SHOWN ON SHEET 7.

LEAKAGE TEST:
LEAKAGE TESTS SHALL BE SPECIFIED. THIS MAY INCLUDE APPROPRIATE WATER OR LOW PRESSURE AIR TESTING. THE TESTING METHODS SELECTED SHOULD TAKE INTO CONSIDERATION THE RANGE IN GROUNDWATER ELEVATIONS DURING THE TEST AND ANTICIPATED DURING THE DESIGN LIFE OF THE SEWER.

WATER (HYDROSTATIC) TEST: (FORCEMAIN)
THE LEAKAGE EXFILTRATION OR INFILTRATION SHALL NOT EXCEED 100 GALLONS PER INCH OF PIPE DIAMETER PER MILE PER DAY FOR ANY SECTION OF THE SYSTEM. AN EXFILTRATION OR INFILTRATION TEST SHALL BE PERFORMED WITH A MINIMUM POSITIVE HEAD OF 2 FEET.

AIR TEST: (GRAVITY SEWER)
THE AIR TEST SHALL, AS A MINIMUM, CONFORM TO THE TEST PROCEDURE DESCRIBED IN ASTM C-828-86 FOR CLAY PIPE, ASTM C 924 FOR CONCRETE PIPE, ASTM F-1417 FOR PVC, AND FOR OTHER MATERIALS TEST PROCEDURES APPROVED BY THE REGULATORY AGENCY.

STORM SEWER CROSSINGS:
WHERE THE SANITARY SEWER CROSSES A PROPOSED STORM SEWER, THE TRENCH SHALL BE BACKFILLED TO THE BOTTOM OF THE PROPOSED STORM SEWER WITH COMPACTED GRANULAR MATERIAL, EXTENDING A DISTANCE OF 10 LINEAL FEET CENTERED ON THE STORM SEWER. THE COST OF THIS WORK IS TO BE INCLUDED IN THE UNIT PRICE BID FOR VARIOUS SEWER ITEMS.

WATER LINE CROSSING:
ALL SANITARY SEWERS OR MANHOLES SHALL BE PLACED WITH AT LEAST 10 FEET HORIZONTAL SEPARATION FROM WATER LINES. WHENEVER A WATER LINE AND SEWER MUST CROSS, THE SEWER MAIN SHALL BE LAID SUCH THAT THE CROWN OF THE SEWER IS AT LEAST 18 INCHES BELOW THE INVERT OF THE WATER LINE MEASURED BETWEEN THE OUTSIDE PIPE WALLS. IN CASES WHERE THE REQUIRED SEPARATION CANNOT BE MAINTAINED, CONCRETE ENCASEMENT OF WATER LINE HAS BEEN CALLED OUT IN THE PLANS. THE COST OF CONCRETE ENCASEMENT IS TO BE INCLUDED IN THE UNIT PRICE FOR SANITARY SEWER PIPE PAY ITEMS.

MANHOLES:
ALL MANHOLES SHALL BE PRE-CAST, CONSTRUCTED AND PLACED IN ACCORDANCE WITH ASTM C-478 MATERIAL SPECIFICATIONS. THE JOINTS SHALL CONFORM TO ASTM C-443 JOINT SPECIFICATIONS. ALL MANHOLES SHALL REQUIRE MECHANICAL CHIMNEY SEALS TO BE INSTALLED. ALL MANHOLES SHALL BE VACUUM TESTED IN ACCORDANCE WITH ASTM C-1244 SPECIFICATIONS.

MANHOLE CASTINGS:
ALL MANHOLE CASTINGS SHALL BE NEENAH R-1642 OR R-1642-A, SUBJECT TO THE COUNTY'S APPROVAL. CASTING ADJUSTMENT BY GRADE RINGS MUST BE LESS THAN ONE (1) FOOT BEFORE A BARREL SECTION IS REQUIRED.

SEWER PIPE:
THE MINIMUM REQUIREMENTS FOR SEWER PIPE ON THIS PROJECT SHALL BE PVC-SDR 35 SEWER PIPE ASTM D3034, WITH JOINTS MEETING ASTM D-3212, AND FLEXIBLE RUBBER GASKETS MEETING ASTM F-477. BACKFILL SHALL CONFORM TO ASTM 2321, UNLESS OTHERWISE SHOWN ON THE PLANS.

DEFLECTION TEST:
DEFLECTION TESTS SHALL BE PERFORMED ON ALL FLEXIBLE PIPE. THE TEST SHALL BE CONDUCTED AFTER THE FINAL BACKFILL HAS BEEN IN PLACE AT LEAST 30 DAYS TO PERMIT STABILIZATION OF THE SOIL-PIPE SYSTEM, AND 1 YEAR AFTER INITIAL TESTING.

NO PIPE SHALL EXCEED A DEFLECTION OF 5 PERCENT. IF DEFLECTION EXCEEDS 5 PERCENT, REPLACEMENT OR CORRECTION SHALL BE ACCOMPLISHED IN ACCORDANCE WITH REQUIREMENTS IN THE APPROVED SPECIFICATIONS.

THE RIGID BALL OR MANDREL USED FOR THE DEFLECTION TEST SHALL HAVE A DIAMETER NOT LESS THAN 95 PERCENT OF THE BASE INSIDE DIAMETER OR AVERAGE INSIDE DIAMETER OF THE PIPE DEPENDING ON WHICH IS SPECIFIED IN ASTM SPECIFICATION, INCLUDING THE APPENDIX, TO WHICH THE PIPE IS MANUFACTURED. THE PIPE SHALL BE MEASURED IN COMPLIANCE WITH ASTM D-2122 STANDARD TEST METHOD OF DETERMINING DIMENSIONS OF THERMOPLASTIC PIPE AND FITTINGS. THE TEST SHALL BE PERFORMED WITHOUT MECHANICAL PULLING DEVICES. MANDREL TESTING MUST BE PERFORMED AT 30 DAYS AND ONE (1) YEAR FOLLOWING INSTALLATION.

SEEDING AND MULCHING:
PERMANENT SEEDING SHALL BE PROVIDED FOR ALL EXPOSED SOIL SURFACES WITHIN SEVEN (7) DAYS AFTER THE FINISH GRADE IS REACHED. PERMANENT SEEDING AND MULCHING AS SPECIFIED IN ODOT ITEM 659 IS ACCEPTABLE.

AREAS WHERE PERMANENT SEEDING HAS FAILED TO GERMINATE SHALL BE RESEEDED AND MULCHED AS NECESSARY TO ACHIEVE STABILIZATION AT NO ADDITIONAL COST TO MUSKINGUM COUNTY.

45. GRINDER PUMP INSTALLATIONS:
GRINDER PUMPS HAVE BEEN SPECIFIED FOR TWO PROPERTY OWNERS WHERE GRAVITY LATERAL SERVICE CONNECTIONS FROM THE DWELLING UNIT CANNOT BE ACCOMMODATED. AT THESE LOCATIONS THE CONTRACTOR SHALL COORDINATE THE INSTALLATION DIRECTLY WITH THE PROPERTY OWNER. ELECTRICAL CONNECTIONS FOR GRINDER PUMPS SHALL BE MADE ON THE EXTERIOR AT THE EXISTING METER LOCATIONS. CONTRACTOR SHALL DETERMINE EXISTING SERVICE TYPE, SIZE, AND LOCATION AND PROVIDE A 3R COMBINATION METER BASE WITH A MINIMUM OF FOUR CIRCUITS WITH PASS THROUGH LUGS TO FEED EXISTING LOAD. CONTRACTOR SHALL COORDINATE METER BASE REPLACEMENT WITH PROPERTY OWNER AND UTILITY.

SEE GRINDER PUMP SPECIFICATIONS FOR CIRCUIT BREAKER AND CONDUCTORS REQUIREMENTS BELOW:

GRINDER PUMP SHALL BE E/ONE EXTREME MODEL DH071 MEETING THE FOLLOWING SPECIFICATIONS:
RATED FOR 700 GPD
70 GALLON CAPACITY
INDOOR OR OUTDOOR INSTALLATION
STANDARD OUTDOOR HEIGHTS RANGE FROM 61 INCHES TO 160 INCHES

GRINDER PUMP ELECTRIC MOTOR SHALL BE A 1 HP, 1725 RPM, 240 VOLT, 60 HERTZ, 1 PHASE, CAPACITOR START, BALL BEARING, AIR-COOLED INDUCTION TYPE WITH CLASS F INSULATION, AND LOW STARTING CURRENT NOT TO EXCEED 30AMPS.

ALL COSTS FOR PUMP INSTALLATION, UTILITY COORDINATION, UTILITY DISCONNECT, UTILITY RECONNECT AND ALL NECESSARY ELECTRICAL COMPONENTS TO MEET CODE (INCLUDING BUT NOT LIMITED TO EQUIPMENT, CONDUITS, CONDUCTORS, BREAKERS, GROUNDING SYSTEM) SHALL BE INCLUDED IN THE UNIT PRICE FOR GRINDER PUMP STATION.

46. PAY ITEM CLARIFICATIONS
- ON THIS PROJECT 'AWWA C900' PIPE MUST HAVE A DIMENSION RATIO OF 18 (DR 18)
- ON THIS PROJECT 'PVC SDR 26 (DEPTH) RESTRAINED JOINTS (SURFACE)' CAN BE SUBSTITUTED FOR 'PVC SDR 35 (DEPTH) RESTRAINED JOINTS (SURFACE)' SUBJECT TO MUSKINGUM COUNTY'S REVIEW/APPROVAL OF RESTRAINED JOINT SYSTEMS.
- ON THIS PROJECT 'AWWA C906' PIPE MUST HAVE A DIMENSION RATION OF 11 (DR 11)
- ON THIS PROJECT PVC SDR35 PIPE DESIGNATED TO BE BORED OR JACKED (AKA TRENCHLESS) CONSTRUCTION SHALL HAVE RESTRAINED JOINTS.

47. PAVEMENT REPLACEMENT REQUIREMENTS FROM SEWER INSTALLATIONS
IF GREATER THAN 50 PERCENT OF THE WIDTH OF A LANE OR AN ALLEY IS IMPACTED BY SEWER CONSTRUCTION OR A PORTION OF REMAINING LANE OR ALLEY IS LESS THAN 4FT IN DIMENSION, THE ENTIRE LANE/ALLEY SHALL BE REPAVED. SEE DETAIL SHEETS FOR PAVEMENT BUILD-UP REQUIREMENTS. COST OF PAVEMENT REPLACEMENT IS TO BE INCLUDED IN THE UNIT PRICE FOR FORCE MAIN, SANITARY SEWER PIPE, OR STORM SEWER PIPE.

ESTIMATED QUANTITIES

ITEM NO.	PAY ITEM DESCRIPTION	UNIT	TOTAL QTY
ROADWAY			
201	CLEARING AND GRUBBING	LS	1
207	TEMPORARY SEDIMENT & EROSION CONTROLS	LS	1
659	SEEDING & MULCHING	SY	36,028
SANITARY			
611	8" SANITARY SEWER PIPE, PVC SDR 35 (4 TO 8 FT DEEP) (UNDER VEGETATION)	LF	878
611	8" SANITARY SEWER PIPE, PVC SDR 35 (4 TO 8 FT DEEP) (UNDER ROADWAY)	LF	2,262
611	8" SANITARY SEWER PIPE, PVC SDR 35 (4 TO 8 FT DEEP) (UNDER ALLEYS/DRIVES)	LF	2,673
611	8" SANITARY SEWER PIPE, PVC SDR 35 (4 TO 8 FT DEEP) (UNDER ALLEYS/DRIVES)(DIRECTIONALLY DRILLED)	LF	150
611	8" SANITARY SEWER PIPE, PVC SDR 35 (8 TO 12 FT DEEP) (UNDER VEGETATION)	LF	3,142
611	8" SANITARY SEWER PIPE, PVC SDR 35 (8 TO 12 FT DEEP) (UNDER ROADWAY)	LF	2,050
611	8" SANITARY SEWER PIPE, PVC SDR 35 (8 TO 12 FT DEEP) (UNDER ALLEYS/DRIVES)	LF	2,178
611	8" SANITARY SEWER PIPE, PVC SDR 35 (12 TO 16 FT DEEP) (UNDER ROADWAY)	LF	206
611	8" SANITARY SEWER PIPE, HDPE AWWA C 906 (12 TO 16 FT DEEP) (UNDER ROADWAY) (DIRECTIONALLY DRILLED)	LF	250
611	8" SANITARY SEWER PIPE, HDPE AWWA C 906 (12 TO 16 FT DEEP) (UNDER ROADWAY)	LF	55
611	8" SANITARY SEWER PIPE, PVC AWWA C 900 (4 TO 8 FT DEEP) (UNDER VEGETATION)	LF	342
611	8" SANITARY SEWER PIPE, PVC AWWA C 900 (4 TO 8 FT DEEP) (UNDER ROADWAY)	LF	754
611	8" SANITARY SEWER PIPE, PVC AWWA C 900 (4 TO 8 FT DEEP) (UNDER ALLEYS/DRIVES)	LF	403
611	8" SANITARY SEWER PIPE, PVC AWWA C 900 (4 TO 8 FT DEEP) (RESTRAINED JOINTS) (UNDER ROADWAY)	LF	98
611	8" SANITARY SEWER PIPE, PVC SDR 35 (4 TO 8 FT DEEP) (RESTRAINED JOINTS) (UNDER ALLEYS/DRIVES)	LF	55
611	8" SANITARY SEWER PIPE, PVC AWWA C 900 (8 TO 12 FT DEEP) (UNDER ROADWAY)	LF	349
611	8" SANITARY SEWER PIPE, PVC AWWA C 900 (12 TO 16 FT DEEP) (UNDER ROADWAY)	LF	34
611	8" SANITARY SEWER PIPE, PVC SDR 35 (16 TO 20 FT DEEP) (RESTRAINED JOINTS) (UNDER ROADWAY)	LF	180
611	4" SANITARY SERVICE LATERAL, PVC SDR 35	LF	1,590
611	4" SANITARY SERVICE LATERAL, PVC SDR 35 (BORED OR JACKED)	LF	298
611	6" SANITARY SERVICE LATERAL, PVC SDR 35	LF	218
611	6" SANITARY SERVICE LATERAL, PVC SDR 35 (BORED OR JACKED)	LF	60
611	8" SANITARY SERVICE LATERAL, PVC SDR 35	LF	13
611	8" SANITARY SERVICE LATERAL, PVC SDR 35 (BORED OR JACKED)	LF	110
611	4" FORCE MAIN, PVC DR 18	LF	94
611	4" FORCE MAIN, HDPE AWWA C 906 (DIRECTIONALLY DRILLED)	LF	372
611	48" DIAMETER MANHOLE (4 TO 8 FT DEEP)	EA	58
611	48" DIAMETER MANHOLE (8 TO 12 FT DEEP)	EA	23
611	48" DIAMETER MANHOLE W/ OUTSIDE DROP (4 TO 8 FT DEEP)	EA	1
611	48" DIAMETER MANHOLE W/ OUTSIDE DROP (8 TO 12 FT DEEP)	EA	1
611	48" DIAMETER MANHOLE W/ OUTSIDE DROP (16 TO 20 FT DEEP)	EA	1
638	16" STEEL PIPE ENCASEMENT, SDTM A53 (BORED OR JACKED)	LF	109
SPECIAL	POLE HOLD	EA	12
SPECIAL	GRAVITY SEWER AIR TESTING	LS	1
SPECIAL	GRINDER PUMP STATION	EA	2
SPECIAL	FORCE MAIN PRESSURE TESTING	LS	1
SPECIAL	CONNECT TO EXISTING FORCE MAIN	EA	1
SPECIAL	4" AIR RELEASE VALVE (FORCE MAIN)	EA	1
SPECIAL	SANITARY PUMP STATION, GRIEF ROAD	EA	1
SPECIAL	SANITARY PUMP STATION, KNOX ROAD	EA	1
SPECIAL	WATER SERVICE LINE REPAIR	EA	20
SPECIAL	ORANGE CONSTRUCTION FENCE	LF	1,000
DRAINAGE			
202	ABANDON MISC., JUNCTION BOX	EA	1
202	ABANDON MISC., EXIST. PIPE 12" AND UNDER	LF	1,152
202	CLASS QC1 CONCRETE, HEADWALL	LF	1,096
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611	12" CONDUIT, TYPE A	LF	847
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611	MANHOLE, TYPE 3	EA	2
MAINTENANCE OF TRAFFIC			
614	MAINTENANCE OF TRAFFIC	LS	1
623	CONSTRUCTION LAYOUT STAKING	LS	1
624	MOBILIZATION	LS	1

REVISION Δ

REVISION Δ

REV Δ

REVISION	REV. BY	DATE	DESCRIPTION
Δ	GJW	09/08/2023	PAY ITEM CLARIFICATIONS, GENERAL NOTES

Mark J. Eicher, P.E., P.S.
155 Rehl Road
Zanesville, Ohio 43701
Muskingum County ENGINEER'S OFFICE
740-454-0155

PREPARED BY:
PROJECT NAME: SANITARY SEWER IMPROVEMENTS
GENERAL NOTES AND QUANTITY SUMMARY
PROJECT LOCATION: LICKING VIEW ZANESVILLE, OHIO 43701

PLANS APPROVED BY:
MJE

PLANS PREPARED BY:
HJ

DATE:
08/17/2023

REVISED:
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SHEET SIZE:
11" x 17"

SHEET NAME:
GENERAL NOTES (2)

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118

43. FORCEMAIN NOTES

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44. SANITARY SEWER NOTES

SERVICE LATERALS:
PIPE FOR ALL SERVICE LATERALS SHALL BE 4-INCH, SCHEDULE 40 PVC SEWER PIPE ASTM D3034, SDR 35 UNLESS NOTED IN PLANS. SERVICE LATERALS ARE SUBJECT TO EITHER THE INFILTRATION/EXFILTRATION OR AIR TEST. ALL SERVICE LATERALS SHALL BE LAID AT A MINIMUM GRADE OF 1/4 INCH PER FOOT. CONTRACTOR SHALL INSTALL A WYE, RISER AND CAP 3' PAST THE PROPERTY LINE WITH CLEANOUT. PAYMENT FOR THESE ITEMS SHALL BE INCLUDED IN THE UNIT PRICE BID FOR 4", 6" OR 8" SANITARY SERVICE LATERAL.

BORINGS FOR SERVICE LATERALS:
WHERE SPECIFIED IN THE PLANS, CONTRACTOR SHALL JACK AND BORE UNDER PAVEMENT TO INSTALL SERVICE LATERALS. IF AN INSTALLATION PIT OR RECEIVING PIT IS REQUIRED ON PRIVATE PROPERTY, THE CONTRACTOR WILL BE REQUIRED TO OBTAIN A WORK AGREEMENT WITH THE PROPERTY OWNER PRIOR TO COMMENCING BORING OPERATIONS. THE COST OF BORING SERVICE LATERALS SHALL BE INCLUDED IN THE UNIT PRICE BID FOR 4", 6" OR 8" SANITARY SERVICE LATERAL.

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BEDDING:
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LEAKAGE TESTS SHALL BE SPECIFIED. THIS MAY INCLUDE APPROPRIATE WATER OR LOW PRESSURE AIR TESTING. THE TESTING METHODS SELECTED SHOULD TAKE INTO CONSIDERATION THE RANGE IN GROUNDWATER ELEVATIONS DURING THE TEST AND ANTICIPATED DURING THE DESIGN LIFE OF THE SEWER.

WATER (HYDROSTATIC) TEST: (FORCEMAIN)
THE LEAKAGE EXFILTRATION OR INFILTRATION SHALL NOT EXCEED 100 GALLONS PER INCH OF PIPE DIAMETER PER MILE PER DAY FOR ANY SECTION OF THE SYSTEM. AN EXFILTRATION OR INFILTRATION TEST SHALL BE PERFORMED WITH A MINIMUM POSITIVE HEAD OF 2 FEET.

AIR TEST: (GRAVITY SEWER)
THE AIR TEST SHALL, AS A MINIMUM, CONFORM TO THE TEST PROCEDURE DESCRIBED IN ASTM C-828-86 FOR CLAY PIPE, ASTM C 924 FOR CONCRETE PIPE, ASTM F-1417 FOR PVC, AND FOR OTHER MATERIALS TEST PROCEDURES APPROVED BY THE REGULATORY AGENCY.

STORM SEWER CROSSINGS:
WHERE THE SANITARY SEWER CROSSES A PROPOSED STORM SEWER, THE TRENCH SHALL BE BACKFILLED TO THE BOTTOM OF THE PROPOSED STORM SEWER WITH COMPACTED GRANULAR MATERIAL, EXTENDING A DISTANCE OF 10 LINEAL FEET CENTERED ON THE STORM SEWER. THE COST OF THIS WORK IS TO BE INCLUDED IN THE UNIT PRICE BID FOR VARIOUS SEWER ITEMS.

WATER LINE CROSSING:
ALL SANITARY SEWERS OR MANHOLES SHALL BE PLACED WITH AT LEAST 10 FEET HORIZONTAL SEPARATION FROM WATER LINES. WHENEVER A WATER LINE AND SEWER MUST CROSS, THE SEWER MAIN SHALL BE LAID SUCH THAT THE CROWN OF THE SEWER IS AT LEAST 18 INCHES BELOW THE INVERT OF THE WATER LINE MEASURED BETWEEN THE OUTSIDE PIPE WALLS. IN CASES WHERE THE REQUIRED SEPARATION CANNOT BE MAINTAINED, CONCRETE ENCASEMENT OF WATER LINE HAS BEEN CALLED OUT IN THE PLANS. THE COST OF CONCRETE ENCASEMENT IS TO BE INCLUDED IN THE UNIT PRICE FOR SANITARY SEWER PIPE PAY ITEMS.

MANHOLES:
ALL MANHOLES SHALL BE PRE-CAST, CONSTRUCTED AND PLACED IN ACCORDANCE WITH ASTM C-478 MATERIAL SPECIFICATIONS. THE JOINTS SHALL CONFORM TO ASTM C-443 JOINT SPECIFICATIONS. ALL MANHOLES SHALL REQUIRE MECHANICAL CHIMNEY SEALS TO BE INSTALLED. ALL MANHOLES SHALL BE VACUUM TESTED IN ACCORDANCE WITH ASTM C-1244 SPECIFICATIONS.

MANHOLE CASTINGS:
ALL MANHOLE CASTINGS SHALL BE NEENAH R-1556 OR R-1556 A WITH "MUSKINGUM COUNTY SEWER" STAMPED ON THEM, SUBJECT TO THE COUNTY'S APPROVAL. CASTING ADJUSTMENT BY GRADE RINGS MUST BE LESS THAN ONE (1) FOOT BEFORE A BARREL SECTION IS REQUIRED.

SEWER PIPE:
THE MINIMUM REQUIREMENTS FOR SEWER PIPE ON THIS PROJECT SHALL BE PVC-SDR 35 SEWER PIPE ASTM D3034, WITH JOINTS MEETING ASTM D-3212, AND FLEXIBLE RUBBER GASKETS MEETING ASTM F-477. BACKFILL SHALL CONFORM TO ASTM 2321, UNLESS OTHERWISE SHOWN ON THE PLANS.

DEFLECTION TEST:
DEFLECTION TESTS SHALL BE PERFORMED ON ALL FLEXIBLE PIPE. THE TEST SHALL BE CONDUCTED AFTER THE FINAL BACKFILL HAS BEEN IN PLACE AT LEAST 30 DAYS TO PERMIT STABILIZATION OF THE SOIL-PIPE SYSTEM, AND 1 YEAR AFTER INITIAL TESTING.

NO PIPE SHALL EXCEED A DEFLECTION OF 5 PERCENT. IF DEFLECTION EXCEEDS 5 PERCENT, REPLACEMENT OR CORRECTION SHALL BE ACCOMPLISHED IN ACCORDANCE WITH REQUIREMENTS IN THE APPROVED SPECIFICATIONS.

THE RIGID BALL OR MANDREL USED FOR THE DEFLECTION TEST SHALL HAVE A DIAMETER NOT LESS THAN 95 PERCENT OF THE BASE INSIDE DIAMETER OR AVERAGE INSIDE DIAMETER OF THE PIPE DEPENDING ON WHICH IS SPECIFIED IN ASTM SPECIFICATION, INCLUDING THE APPENDIX, TO WHICH THE PIPE IS MANUFACTURED. THE PIPE SHALL BE MEASURED IN COMPLIANCE WITH ASTM D-2122 STANDARD TEST METHOD OF DETERMINING DIMENSIONS OF THERMOPLASTIC PIPE AND FITTINGS. THE TEST SHALL BE PERFORMED WITHOUT MECHANICAL PULLING DEVICES. MANDREL TESTING MUST BE PERFORMED AT 30 DAYS AND ONE (1) YEAR FOLLOWING INSTALLATION.

SEEDING AND MULCHING:
PERMANENT SEEDING SHALL BE PROVIDED FOR ALL EXPOSED SOIL SURFACES WITHIN SEVEN (7) DAYS AFTER THE FINISH GRADE IS REACHED. PERMANENT SEEDING AND MULCHING AS SPECIFIED IN ODOT ITEM 659 IS ACCEPTABLE.

AREAS WHERE PERMANENT SEEDING HAS FAILED TO GERMINATE SHALL BE RESEEDED AND MULCHED AS NECESSARY TO ACHIEVE STABILIZATION AT NO ADDITIONAL COST TO MUSKINGUM COUNTY.

45. GRINDER PUMP INSTALLATIONS:
GRINDER PUMPS HAVE BEEN SPECIFIED FOR TWO PROPERTY OWNERS WHERE GRAVITY LATERAL SERVICE CONNECTIONS FROM THE DWELLING UNIT CANNOT BE ACCOMMODATED. AT THESE LOCATIONS THE CONTRACTOR SHALL COORDINATE THE INSTALLATION DIRECTLY WITH THE PROPERTY OWNER. ELECTRICAL CONNECTIONS FOR GRINDER PUMPS SHALL BE MADE ON THE EXTERIOR AT THE EXISTING METER LOCATIONS. CONTRACTOR SHALL DETERMINE EXISTING SERVICE TYPE, SIZE, AND LOCATION AND PROVIDE A 3R COMBINATION METER BASE WITH A MINIMUM OF FOUR CIRCUITS WITH PASS THROUGH LUGS TO FEED EXISTING LOAD. CONTRACTOR SHALL COORDINATE METER BASE REPLACEMENT WITH PROPERTY OWNER AND UTILITY.

SEE GRINDER PUMP SPECIFICATIONS FOR CIRCUIT BREAKER AND CONDUCTORS REQUIREMENTS BELOW:

GRINDER PUMP SHALL BE E/ONE EXTREME MODEL DH071 MEETING THE FOLLOWING SPECIFICATIONS:
RATED FOR 700 GPD
70 GALLON CAPACITY
INDOOR OR OUTDOOR INSTALLATION
STANDARD OUTDOOR HEIGHTS RANGE FROM 61 INCHES TO 160 INCHES

GRINDER PUMP ELECTRIC MOTOR SHALL BE A 1 HP, 1725 RPM, 240 VOLT, 60 HERTZ, 1 PHASE, CAPACITOR START, BALL BEARING, AIR-COOLED INDUCTION TYPE WITH CLASS F INSULATION, AND LOW STARTING CURRENT NOT TO EXCEED 30AMPS.

ALL COSTS FOR PUMP INSTALLATION, UTILITY COORDINATION, UTILITY DISCONNECT, UTILITY RECONNECT AND ALL NECESSARY ELECTRICAL COMPONENTS TO MEET CODE (INCLUDING BUT NOT LIMITED TO EQUIPMENT, CONDUITS, CONDUCTORS, BREAKERS, GROUNDING SYSTEM) SHALL BE INCLUDED IN THE UNIT PRICE FOR GRINDER PUMP STATION.

ESTIMATED QUANTITIES

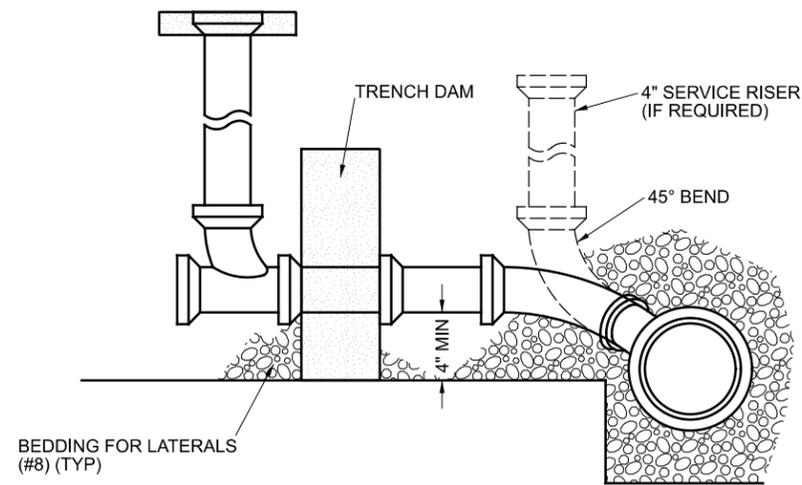
ITEM NO.	PAY ITEM DESCRIPTION	UNIT	TOTAL QTY
ROADWAY			
201	CLEARING AND GRUBBING	LS	1
207	TEMPORARY SEDIMENT & EROSION CONTROLS	LS	1
659	SEEDING & MULCHING	SY	36,028
SANITARY			
611	8" SANITARY SEWER PIPE, PVC SDR 35 (4 TO 8 FT DEEP) (UNDER VEGETATION)	LF	878
611	8" SANITARY SEWER PIPE, PVC SDR 35 (4 TO 8 FT DEEP) (UNDER ROADWAY)	LF	2,262
611	8" SANITARY SEWER PIPE, PVC SDR 35 (4 TO 8 FT DEEP) (UNDER ALLEYS/DRIVES)	LF	2,673
611	8" SANITARY SEWER PIPE, PVC SDR 35 (4 TO 8 FT DEEP) (UNDER ALLEYS/DRIVES)(DIRECTIONALLY DRILLED)	LF	150
611	8" SANITARY SEWER PIPE, PVC SDR 35 (8 TO 12 FT DEEP) (UNDER VEGETATION)	LF	3,142
611	8" SANITARY SEWER PIPE, PVC SDR 35 (8 TO 12 FT DEEP) (UNDER ROADWAY)	LF	2,050
611	8" SANITARY SEWER PIPE, PVC SDR 35 (8 TO 12 FT DEEP) (UNDER ALLEYS/DRIVES)	LF	2,178
611	8" SANITARY SEWER PIPE, PVC SDR 35 (12 TO 16 FT DEEP) (UNDER ROADWAY)	LF	206
611	8" SANITARY SEWER PIPE, HDPE AWWA C 906 (12 TO 16 FT DEEP) (UNDER ROADWAY) (DIRECTIONALLY DRILLED)	LF	250
611	8" SANITARY SEWER PIPE, HDPE AWWA C 906 (12 TO 16 FT DEEP) (UNDER ROADWAY)	LF	55
611	8" SANITARY SEWER PIPE, PVC AWWA C 900 (4 TO 8 FT DEEP) (UNDER VEGETATION)	LF	342
611	8" SANITARY SEWER PIPE, PVC AWWA C 900 (4 TO 8 FT DEEP) (UNDER ROADWAY)	LF	754
611	8" SANITARY SEWER PIPE, PVC AWWA C 900 (4 TO 8 FT DEEP) (UNDER ALLEYS/DRIVES)	LF	403
611	8" SANITARY SEWER PIPE, PVC SDR 35 (4 TO 8 FT DEEP) (RESTRAINED JOINTS) (UNDER ROADWAY)	LF	98
611	8" SANITARY SEWER PIPE, PVC SDR 35 (4 TO 8 FT DEEP) (RESTRAINED JOINTS) (UNDER ALLEYS/DRIVES)	LF	55
611	8" SANITARY SEWER PIPE, PVC AWWA C 900 (8 TO 12 FT DEEP) (UNDER ROADWAY)	LF	349
611	8" SANITARY SEWER PIPE, PVC AWWA C 900 (12 TO 16 FT DEEP) (RESTRAINED JOINTS) (UNDER ROADWAY)	LF	34
611	8" SANITARY SEWER PIPE, PVC SDR 35 (16 TO 20 FT DEEP) (RESTRAINED JOINTS) (UNDER ROADWAY)	LF	180
611	4" SANITARY SERVICE LATERAL, PVC SDR 35	LF	1,590
611	4" SANITARY SERVICE LATERAL, PVC SDR 35 (BORED OR JACKED)	LF	298
611	6" SANITARY SERVICE LATERAL, PVC SDR 35	LF	218
611	6" SANITARY SERVICE LATERAL, PVC SDR 35 (BORED OR JACKED)	LF	60
611	8" SANITARY SERVICE LATERAL, PVC SDR 35	LF	13
611	8" SANITARY SERVICE LATERAL, PVC SDR 35 (BORED OR JACKED)	LF	110
611	4" FORCE MAIN, PVC DR 18	LF	94
611	4" FORCE MAIN, HDPE AWWA C 906 (DIRECTIONALLY DRILLED)	LF	372
611	48" DIAMETER MANHOLE (4 TO 8 FT DEEP)	EA	58
611	48" DIAMETER MANHOLE (8 TO 12 FT DEEP)	EA	23
611	48" DIAMETER MANHOLE W/ OUTSIDE DROP (4 TO 8 FT DEEP)	EA	1
611	48" DIAMETER MANHOLE W/ OUTSIDE DROP (8 TO 12 FT DEEP)	EA	1
611	48" DIAMETER MANHOLE W/ OUTSIDE DROP (16 TO 20 FT DEEP)	EA	1
638	16" STEEL PIPE ENCASEMENT, SDTM A53 (BORED OR JACKED)	LF	109
SPECIAL	POLE HOLD	EA	12
SPECIAL	GRAVITY SEWER AIR TESTING	LS	1
SPECIAL	GRINDER PUMP STATION	EA	2
SPECIAL	FORCE MAIN PRESSURE TESTING	LS	1
SPECIAL	CONNECT TO EXISTING FORCE MAIN	EA	1
SPECIAL	4" AIR RELEASE VALVE (FORCE MAIN)	EA	1
SPECIAL	SANITARY PUMP STATION, GRIEF ROAD	EA	1
SPECIAL	SANITARY PUMP STATION, KNOX ROAD	EA	1
SPECIAL	WATER SERVICE LINE REPAIR	EA	20
SPECIAL	ORANGE CONSTRUCTION FENCE	LF	1,000
DRAINAGE			
202	ABANDON MISC., JUNCTION BOX	EA	1
202	ABANDON MISC., EXIST. PIPE 12" AND UNDER	LF	1,152
202	CLASS QC1 CONCRETE, HEADWALL	LF	1,096
511	CLASS QC1 CONCRETE, HEADWALL	CY	0.81
611	12" CONDUIT, TYPE A	LF	847
611	12" CONDUIT, TYPE B	LF	491
611	15" CONDUIT, TYPE A	LF	86
611	15" CONDUIT, TYPE B	LF	537
611	18" CONDUIT, TYPE A	LF	38
611	18" CONDUIT, TYPE B	LF	223
611	CATCH BASIN, V-NOTCH WITH BICYCLE SAFE GRATE	EA	1
611	CATCH BASIN, NO. 2-3 WITH BICYCLE SAFE GRATE	EA	9
611	MANHOLE, TYPE 3	EA	2
MAINTENANCE OF TRAFFIC			
614	MAINTENANCE OF TRAFFIC	LS	1
623	CONSTRUCTION LAYOUT STAKING	LS	1
624	MOBILIZATION	LS	1

Mark J. Eicher, P.E., P.S.
 155 Rehl Road
 Zanesville, Ohio 43701
Muskingum County
ENGINEER'S OFFICE 740-454-0155

PREPARED BY:
SANITARY SEWER IMPROVEMENTS
GENERAL NOTES AND QUANTITY SUMMARY
 PROJECT NAME:
 PROJECT LOCATION:
 LICKING VIEW
 ZANESVILLE, OHIO 43701

PLANS APPROVED BY:
MJE
 PLANS PREPARED BY:
HJ
 DATE:
08/17/2023
 REVISID:

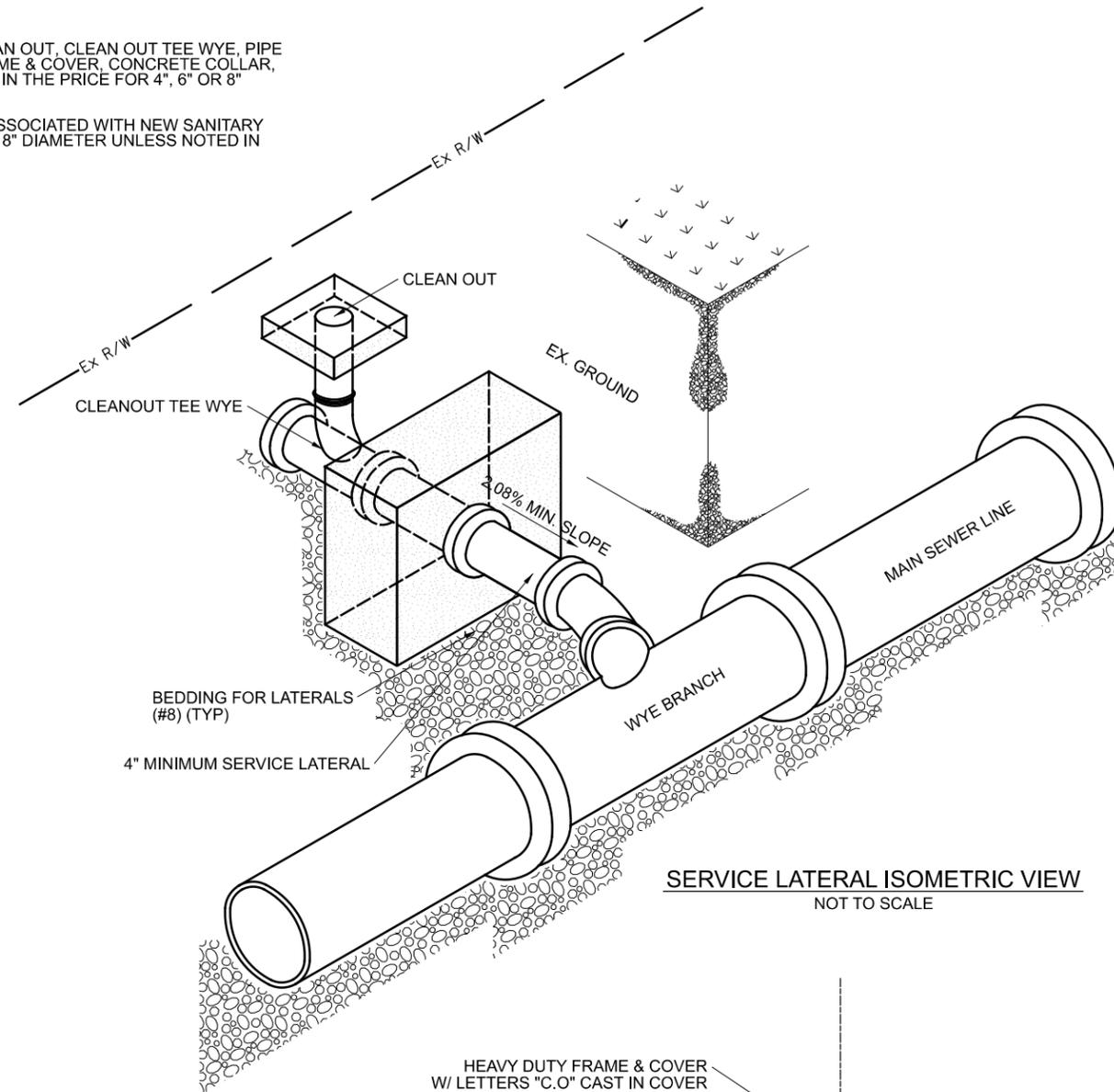
SHEET SIZE:
11" x 17"
 SHEET NAME:
GENERAL NOTES (2)
 SHEET NUMBER:
05
118



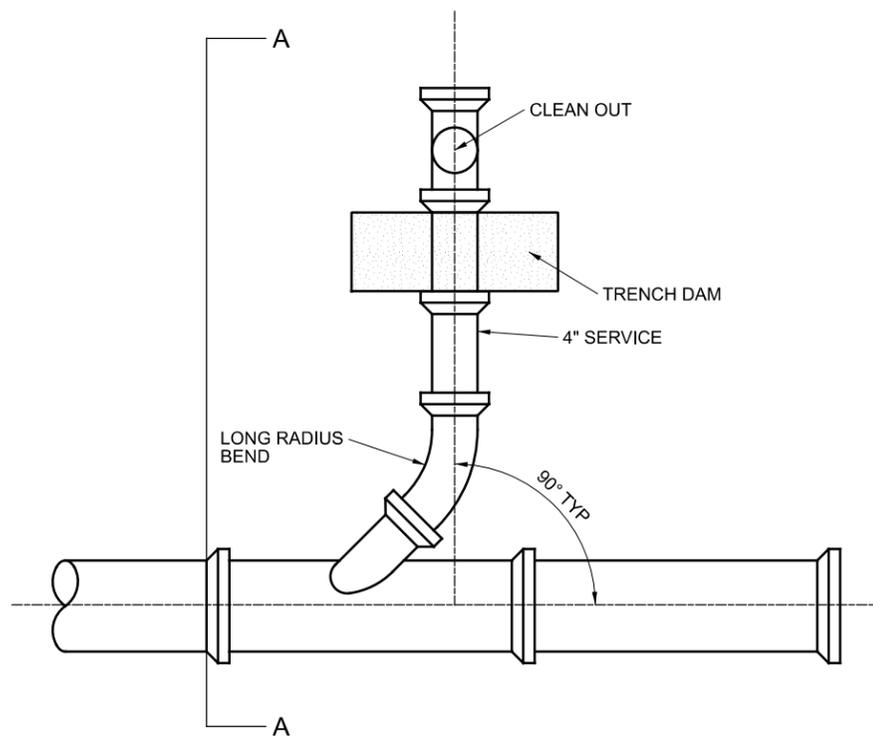
SERVICE LATERAL SECTION A - A
NOT TO SCALE

NOTES:

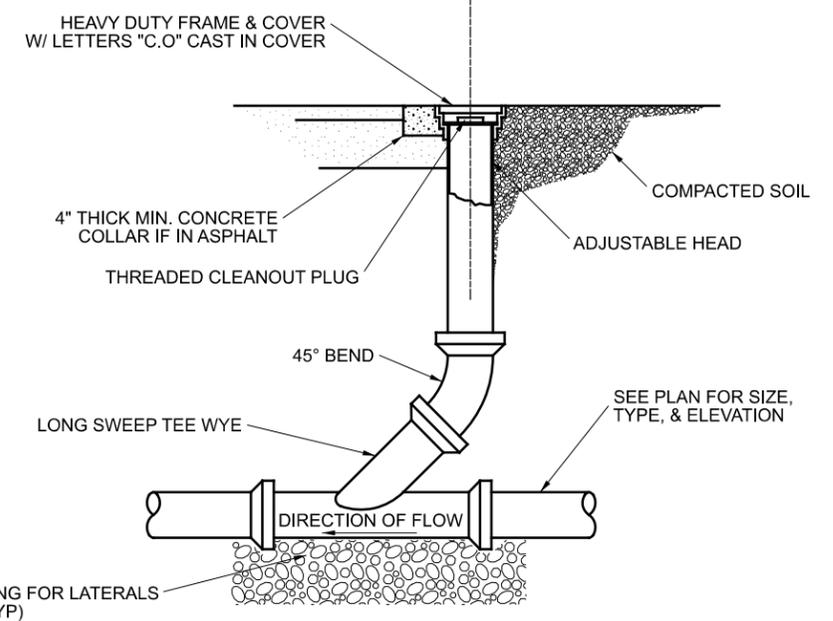
1. COST OF TRENCH DAM, RISER, CLEAN OUT, CLEAN OUT TEE WYE, PIPE BENDS, BEDDING, HEAVY DUTY FRAME & COVER, CONCRETE COLLAR, AND COMPACTION TO BE INCLUDED IN THE PRICE FOR 4", 6" OR 8" SANITARY SERVICE LATERAL.
2. ALL SERVICE LINES, RISERS, ETC. ASSOCIATED WITH NEW SANITARY SEWER SERVICE SHALL BE 4", 6" OR 8" DIAMETER UNLESS NOTED IN THE PLANS OTHERWISE.



SERVICE LATERAL ISOMETRIC VIEW
NOT TO SCALE



SERVICE LATERAL PLAN VIEW
NOT TO SCALE



ROAD ONLY CLEANOUT DETAIL
NOT TO SCALE

Mark J. Eicher, P.E., P.S.
155 Rehl Road
Zanesville, Ohio 43701



PREPARED BY:

SANITARY SEWER IMPROVEMENTS
MISCELLANEOUS SEWER DETAILS

LICKING VIEW
ZANESVILLE, OHIO 43701

PROJECT NAME:

PROJECT LOCATION:

PLANS APPROVED BY:

MJE

PLANS PREPARED BY:

HJ

DATE:

08/14/2023

REVISED:

SHEET SIZE:

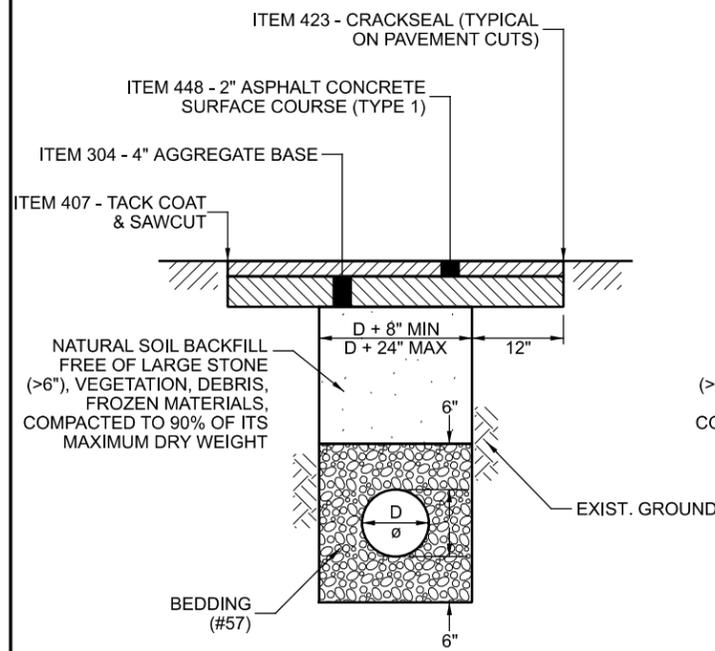
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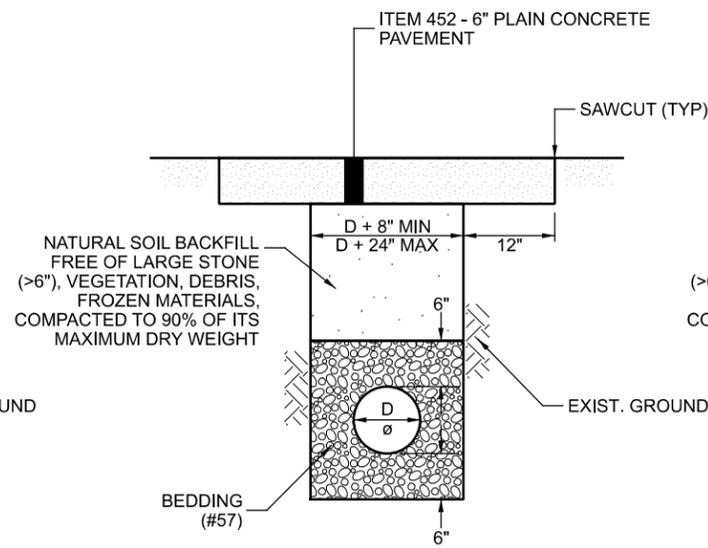
DETAIL SHEET (1)

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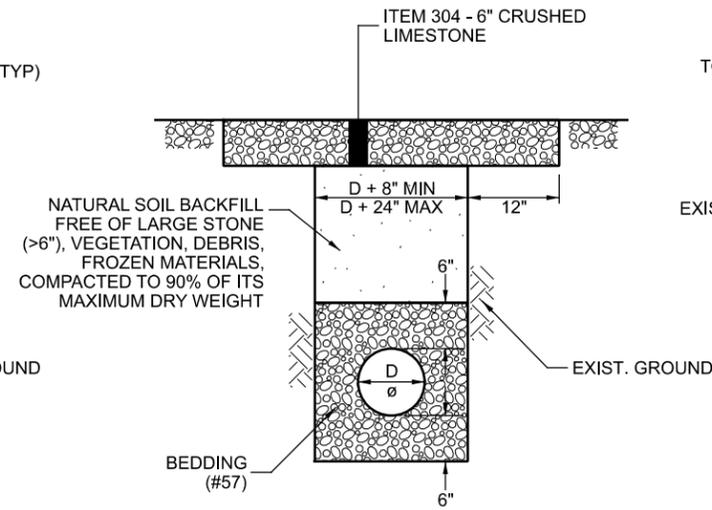
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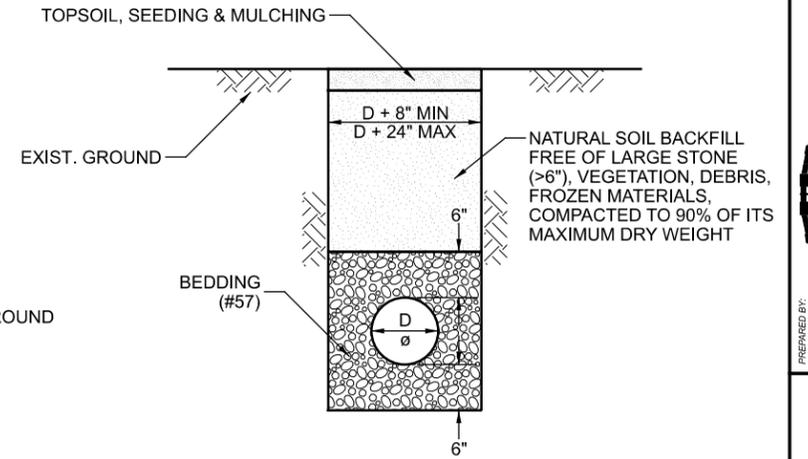
ASPHALT DRIVEWAY REPAIR
NOT TO SCALE



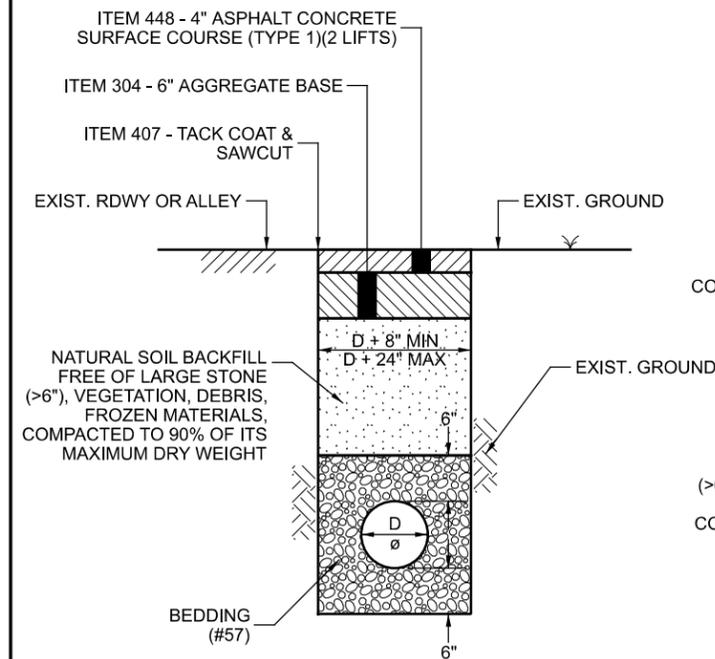
CONCRETE DRIVEWAY REPAIR
NOT TO SCALE



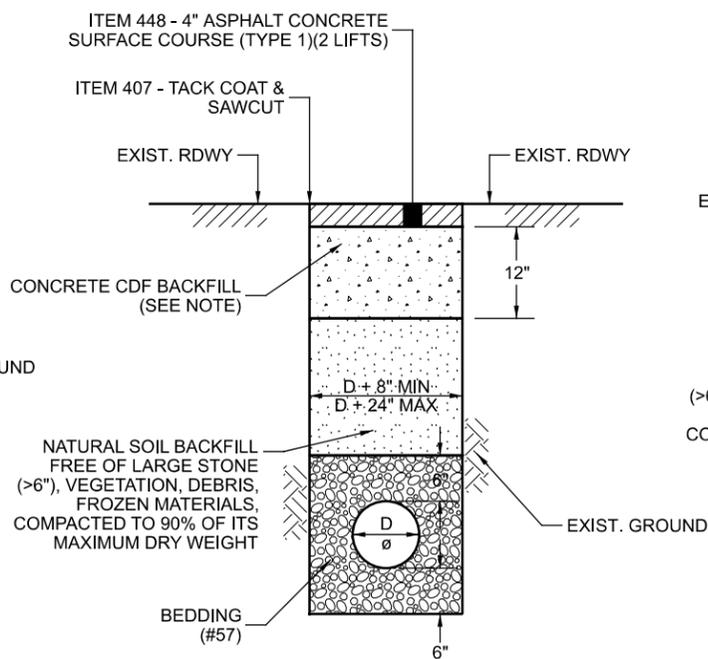
GRAVEL DRIVEWAY REPAIR
NOT TO SCALE



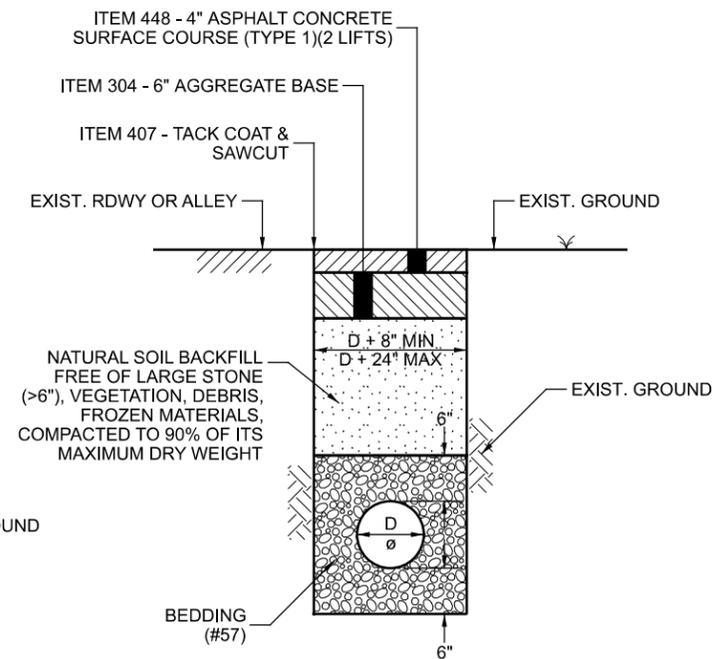
LANDSCAPED AREA REPAIR
NOT TO SCALE



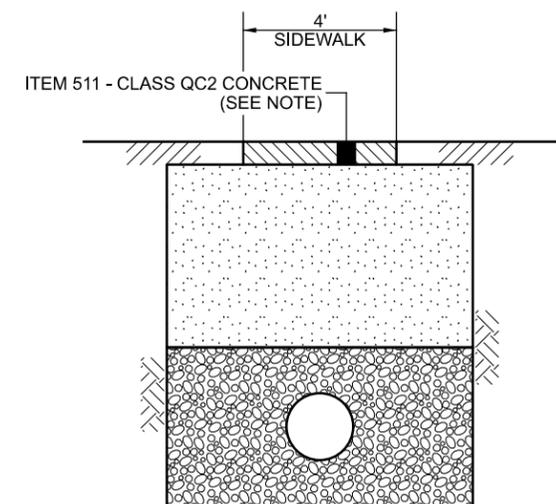
**ROADWAY & ALLEY PAVEMENT REPAIR
(PARALLEL CONSTRUCTION)**
NOT TO SCALE



**ROADWAY PAVEMENT REPAIR
(TRANSVERSE CONSTRUCTION)**
NOT TO SCALE



**ALLEY PAVEMENT REPAIR
(TRANSVERSE CONSTRUCTION)**
NOT TO SCALE



SIDEWALK REPAIR
NOT TO SCALE

NOTE:
CONTRACTOR SHALL SUBMIT MIX DESIGN FOR 5 SACK
CONCRETE CDF BACKFILL PRIOR TO CONSTRUCTION
FOR ENGINEER'S APPROVAL.

NOTE:
SIDEWALK SHALL BE RECONSTRUCTED ON FIRM AND
UNYIELDING SOIL AND HAVE A THICKNESS OF 4 INCHES
UNLESS ITS RECONSTRUCTED THROUGH A DRIVE. THE
SIDEWALK THICKNESS MUST INCREASE TO 6 INCHES
WITHIN DRIVEWAY LIMITS.

PREPARED BY:

SANITARY SEWER IMPROVEMENTS
SEWER TRENCH DETAILS

PROJECT NAME:

MJE

PLANS PREPARED BY:

HJ

DATE:

08/14/2023

REVISED:

SHEET SIZE:

11" x 17"

SHEET NAME:

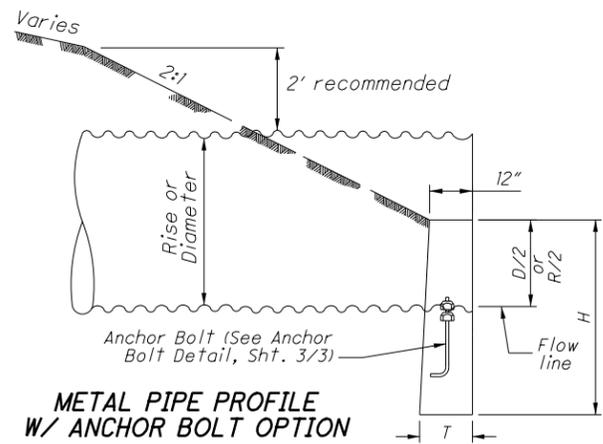
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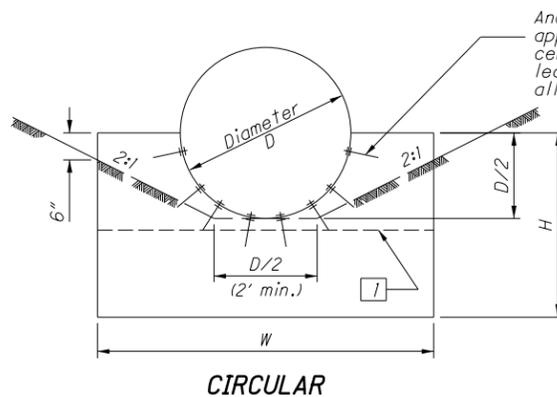
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LICKING VIEW
ZANESVILLE, OHIO 43701

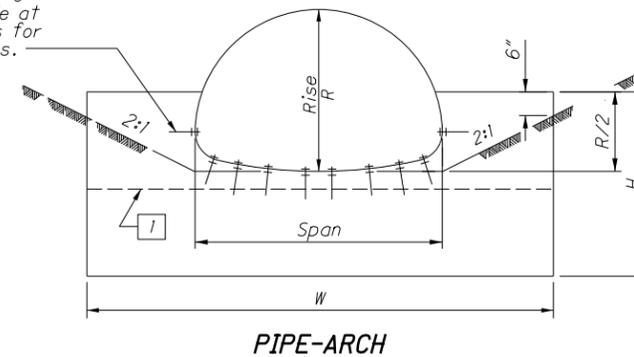


METAL PIPE PROFILE
W/ ANCHOR BOLT OPTION



CIRCULAR

METAL PIPE END TREATMENT "A" W/ ANCHOR BOLT OPTION



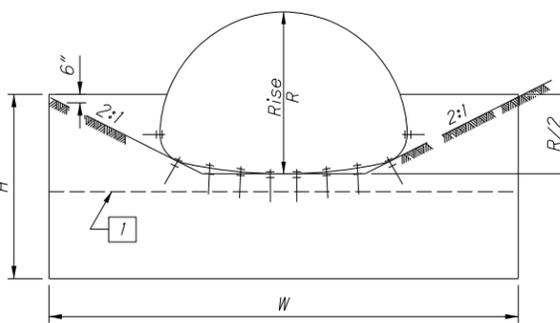
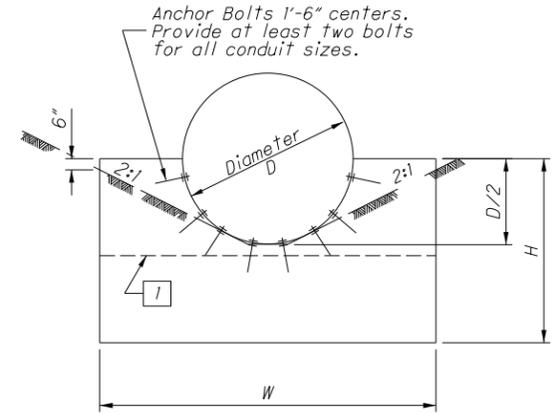
PIPE-ARCH

CAST-IN-PLACE HW FOR CORRUGATED METAL PIPE & PLASTIC PIPE (English)

CIRCULAR				PIPE ARCH							PIPE ARCH						
D	W	H	T	CONC. cu. yds.	SPAN	RISE	W	H	T	CONC. cu. yds.	SPAN	RISE	W	H	T	CONC. cu. yds.	
2.67x1/2" Corrugations																	
12"	2'-0"	3'-0"	12"	0.21							*81"	59"	12'-4"	5'-5"	15"	2.14	
15"	2'-6"	3'-2"	12"	0.27	17"	13"	3'-0"	3'-0"	12"	0.31	87"	63"	13'-0"	5'-7"	17"	2.50	
18"	3'-0"	3'-3"	12"	0.33	21"	15"	3'-6"	3'-0"	12"	0.35	95"	67"	14'-0"	5'-9"	20"	3.14	
21"	3'-6"	3'-4"	12"	0.39	24"	18"	4'-0"	3'-2"	12"	0.43	103"	71"	15'-0"	5'-11"	22"	3.54	
24"	4'-0"	3'-6"	12"	0.46	28"	20"	4'-6"	3'-3"	12"	0.48	112"	75"	16'-0"	6'-1"	24"	3.96	
27"	4'-6"	3'-8"	12"	0.53	35"	24"	5'-6"	3'-5"	12"	0.61	117"	79"	17'-9"	6'-3"	25"	4.89	
30"	5'-0"	3'-9"	12"	0.60	42"	29"	6'-6"	3'-7"	12"	0.73	128"	83"	18'-0"	6'-5"	26"	5.01	
33"	5'-6"	3'-10"	12"	0.68	49"	33"	7'-8"	3'-9"	12"	0.90	137"	87"	19'-0"	6'-7"	27"	5.45	
36"	6'-0"	4'-0"	12"	0.76	57"	38"	9'-0"	4'-0"	12"	1.10	142"	91"	20'-9"	6'-9"	27"	6.31	
39"	6'-6"	4'-2"	12"	0.84	64"	43"	10'-0"	4'-4"	12"	1.31							
42"	7'-0"	4'-3"	12"	0.92	71"	47"	11'-0"	4'-8"	12"	1.54							
48"	8'-0"	4'-6"	12"	1.10	*77"	52"	11'-8"	5'-3"	12"	1.84	*6'-1"	4'-7"	11'-8"	5'-7"	12"	1.89	
54"	9'-3"	4'-9"	12"	1.33	*83"	57"	12'-4"	5'-5"	15"	2.46	*6'-4"	4'-9"	12'-0"	5'-8"	14"	2.12	
60"	10'-6"	5'-6"	12"	1.78							*6'-9"	4'-11"	12'-4"	5'-9"	15"	2.42	
66"	11'-9"	5'-9"	12"	2.06							*7'-0"	5'-1"	12'-8"	5'-10"	16"	2.44	
6"x2" Corrugations (18" Corner Radius)																	
72"	13'-0"	6'-0"	12"	2.37	13'-3"	9'-4"	23'-11"	7'-11"	32"	9.63	7'-3"	5'-3"	12'-11"	5'-11"	17"	2.69	
78"	14'-3"	6'-3"	14"	2.94	13'-6"	9'-6"	24'-9"	8'-0"	32"	10.12	7'-8"	5'-5"	13'-2"	6'-0"	18"	2.77	
84"	15'-6"	6'-6"	14"	3.30	14'-0"	9'-8"	24'-10"	8'-1"	33"	10.33	7'-11"	5'-7"	14'-0"	6'-1"	20"	3.15	
90"	16'-9"	6'-9"	16"	4.00	14'-2"	9'-10"	25'-9"	8'-2"	33"	10.87	8'-2"	5'-9"	14'-8"	6'-2"	21"	3.45	
96"	18'-0"	7'-0"	16"	4.40	14'-5"	10'-0"	26'-7"	8'-3"	33"	11.39	8'-7"	5'-11"	15'-0"	6'-3"	22"	3.75	
102"	19'-3"	7'-3"	18"	5.28	14'-11"	10'-2"	26'-9"	8'-4"	34"	11.68	8'-10"	6'-1"	15'-10"	6'-4"	23"	4.15	
108"	20'-6"	7'-6"	20"	6.21	15'-4"	10'-4"	26'-11"	8'-5"	34"	11.96	9'-4"	6'-3"	16'-0"	6'-5"	24"	4.65	
114"	21'-9"	7'-9"	22"	7.25	15'-7"	10'-6"	27'-9"	8'-6"	34"	12.51	9'-6"	6'-5"	16'-10"	6'-6"	26"	4.93	
120"	23'-0"	8'-0"	24"	8.38	15'-10"	10'-8"	28'-7"	8'-7"	35"	13.06	9'-9"	6'-7"	17'-9"	6'-7"	27"	5.41	
*126"	23'-0"	8'-3"	26"	8.64	16'-3"	10'-10"	28'-8"	8'-8"	35"	13.34	10'-3"	6'-9"	17'-10"	6'-8"	27"	5.45	
132"	23'-0"	8'-6"	28"	9.23	16'-6"	11'-0"	29'-7"	8'-9"	35"	13.94	10'-8"	6'-11"	17'-11"	6'-9"	27"	5.59	
138"	24'-1"	8'-9"	30"	10.50	17'-0"	11'-2"	29'-8"	8'-10"	36"	14.24	10'-11"	7'-1"	18'-10"	6'-10"	28"	5.97	
144"	25'-2"	9'-0"	32"	11.89	17'-2"	11'-4"	30'-7"	8'-11"	36"	14.84	11'-5"	7'-3"	18'-11"	6'-11"	28"	6.12	
150"	26'-4"	9'-3"	34"	13.38	17'-5"	11'-6"	31'-5"	9'-0"	36"	15.42	11'-7"	7'-5"	19'-9"	7'-0"	28"	6.52	
156"	27'-5"	9'-6"	36"	15.01	17'-11"	11'-8"	31'-7"	9'-1"	37"	15.83	11'-10"	7'-7"	20'-9"	7'-1"	29"	6.94	
162"	28'-7"	9'-9"	38"	16.75	18'-1"	11'-10"	32'-5"	9'-2"	37"	16.43	12'-4"	7'-9"	20'-10"	7'-2"	29"	7.12	
168"	29'-8"	10'-0"	40"	18.61	18'-7"	12'-0"	32'-6"	9'-3"	37"	16.78	12'-6"	7'-11"	21'-8"	7'-3"	29"	7.53	
174"	30'-9"	10'-3"	42"	20.28	18'-9"	12'-2"	33'-4"	9'-4"	38"	17.43	12'-8"	8'-1"	22'-7"	7'-4"	30"	7.95	
180"	31'-11"	10'-6"	43"	21.87	19'-3"	12'-4"	33'-5"	9'-5"	38"	17.78	12'-10"	8'-4"	23'-7"	7'-5"	30"	8.48	
186"	33'-0"	10'-9"	44"	23.54	19'-6"	12'-6"	34'-5"	9'-6"	38"	18.49	13'-5"	8'-5"	23'-7"	7'-6"	30"	8.63	
192"	34'-2"	11'-0"	45"	25.30	19'-8"	12'-8"	35'-3"	9'-7"	39"	19.19	13'-11"	8'-7"	23'-7"	7'-7"	31"	8.81	
198"	35'-3"	11'-3"	46"	27.12	19'-11"	12'-10"	36'-3"	9'-8"	39"	19.95	14'-1"	8'-9"	25'-1"	7'-8"	31"	9.29	
204"	36'-4"	11'-6"	47"	29.15	20'-5"	13'-0"	36'-3"	9'-9"	39"	20.30	14'-3"	8'-11"	25'-6"	7'-9"	31"	9.78	
210"	37'-6"	11'-9"	48"	31.03	20'-7"	13'-2"	37'-2"	9'-10"	40"	21.05	14'-10"	9'-1"	25'-6"	7'-10"	32"	10.25	
216"	38'-7"	12'-0"	49"	33.43							15'-4"	9'-3"	25'-6"	7'-11"	32"	10.25	
3"x1" Corrugations																	
222"	39'-9"	12'-3"	50"	36.26	40"	31"	6'-6"	3'-7"	12"	0.70	15'-6"	9'-5"	26'-5"	8'-0"	32"	10.74	
228"	40'-10"	12'-6"	51"	37.52	46"	36"	7'-8"	3'-9"	12"	0.85	15'-8"	9'-7"	27'-5"	8'-1"	33"	11.28	
234"	42'-0"	12'-9"	52"	39.86	53"	41"	9'-0"	4'-0"	12"	1.06	15'-10"	9'-10"	28'-5"	8'-2"	33"	12.00	
240"	43'-1"	13'-0"	53"	42.28	60"	46"	10'-0"	4'-4"	12"	1.27	16'-5"	9'-11"	28'-5"	8'-3"	33"	12.09	
246"	44'-2"	13'-3"	54"	44.83	66"	51"	11'-0"	4'-8"	12"	1.54	16'-7"	10'-1"	29'-4"	8'-4"	34"	12.64	
252"	45'-4"	13'-6"	55"	47.44	*73"	55"	11'-8"	5'-3"	12"	1.81	--	--	--	--	--	--	

* Determine channel configuration for pipe sizes between end treatment "A" and end treatment "B" by 2:1 slopes passing through a point 6" below the top and at each side of the headwall. For end treatment "B", 2:1 slopes are tangent to pipe.

1 Top surface of 6" inlet headwall extension



METAL PIPE END TREATMENT "B"
W/ ANCHOR BOLT OPTION

STATE OF OHIO DEPARTMENT OF TRANSPORTATION

STATE HYDRAULIC ENGINEER

REVISIONS
7/30/07
7/20/12
1/18/13

ROADWAY HYDRAULIC ENGINEER
McGitt
Cozzoli

OFFICE OF HYDRAULIC ENGINEERING

STANDARD HYDRAULIC CONSTRUCTION DRAWING

HALF-HEIGHT HEADWALLS FOR CORRUGATED METAL PIPE AND PLASTIC PIPE

SCD NUMBER
HW - 2.1

1 / 3

PREPARED BY:
Mark J. Eicher, P.E., P.S.
155 Rehl Road
Zanesville, Ohio 43701
ENGINEER'S OFFICE 740-454-0155

PROJECT NAME:
SANITARY SEWER IMPROVEMENTS
SEWER TRENCH DETAILS

PROJECT LOCATION:
LICKING VIEW
ZANESVILLE, OHIO 43701

PLANS APPROVED BY:
MJE

PLANS PREPARED BY:
HJ

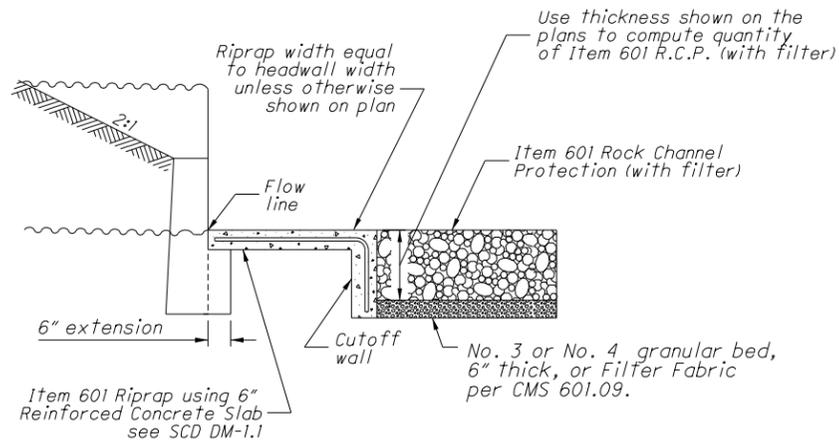
DATE:
08/14/2023

REVISED:

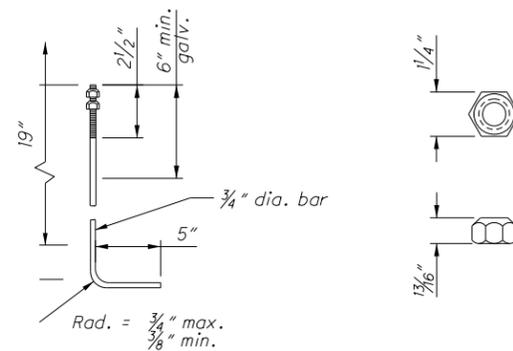
SHEET SIZE:
11" x 17"

SHEET NAME:
DETAIL SHEET (3)

SHEET NUMBER:
118



OUTLET CHANNEL PROTECTION DETAIL



ANCHOR BOLT

NUT

(ASTM A 325 and A 153)

NOTES

GENERAL: Provide a riprap reinforced concrete slab according to SCD DM-1.1 if the pipe is depressed or it is specified in the plan. Payment for the slab is made per square yard of **Item 601 Riprap Using 6" Reinforced Concrete Slab** and includes the cost of the cutoff wall.

This drawing is for cast-in-place half-height concrete headwalls. When furnishing precast half-height headwalls, conform to pre-approved designs on file with the Office of Materials Management. Precast half-height headwalls are only approved for round conduits with a maximum conduit diameter of 78". When precast headwalls are furnished, provide openings for the anchor cable as shown and fill with grout after placement of the anchor cable. If anchor bolts are to be used with a precast headwall, fill the anchor cable openings with grout.

CONCRETE: Use 4000 psi compressive strength concrete for headwall. Concrete quantities are based on headwalls without the 6" extension under the channel protection.

ANCHOR BOLTS: Furnish bolts (see detail sheet 2/3) that meet ASTM A 307 for anchoring both ends of metal pipe. The top 6" min. of the bolt must be galvanized according to ASTM A 153. Cost of anchors is included in the price bid per foot of Item 611.

Headwall dimensions are based on end treatment "A" for pipe sizes up to and including 120", 71"x47", and 66"x51", and on end treatment "B" for sizes over and including 132", 13'-3"x9'-4", and 7'-3"x5'-3".

PLASTIC PIPE: Plastic pipe may not be available in all the sizes specified on this drawing.

ANCHOR CABLE: Furnish anchor cable (see detail sheet 2/3) that meets ASTM A 603 for anchoring both ends of plastic pipe. Wire rope clip must be galvanized according to ASTM A 153. Cost of anchor cable and wire rope clip is included in the unit price bid per foot of Item 611.

IMPROVED INLET FOR HDPE PIPE: Furnish improved inlet at upstream end of culverts and open-ended storm sewers using plastic pipe.

Use HDPE smooth cap and flange materials according to ASTM D 3350 345464C.

HALF-HEIGHT HEADWALL DETAILS
NOT TO SCALE

STATE OF OHIO DEPARTMENT OF TRANSPORTATION

REVISIONS
7/30/07
7/20/12
1/18/13

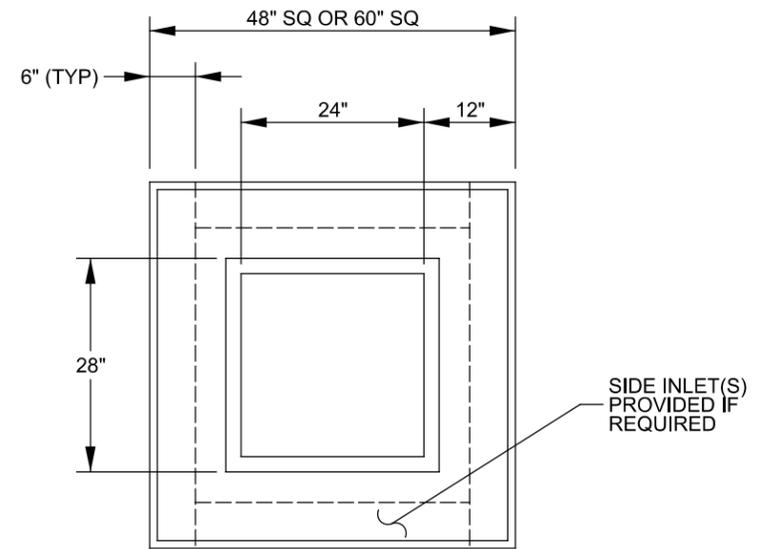
ROADWAY
HYDRAULIC
ENGINEER
Matt
Cozzoli

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HYDRAULIC
ENGINEERING

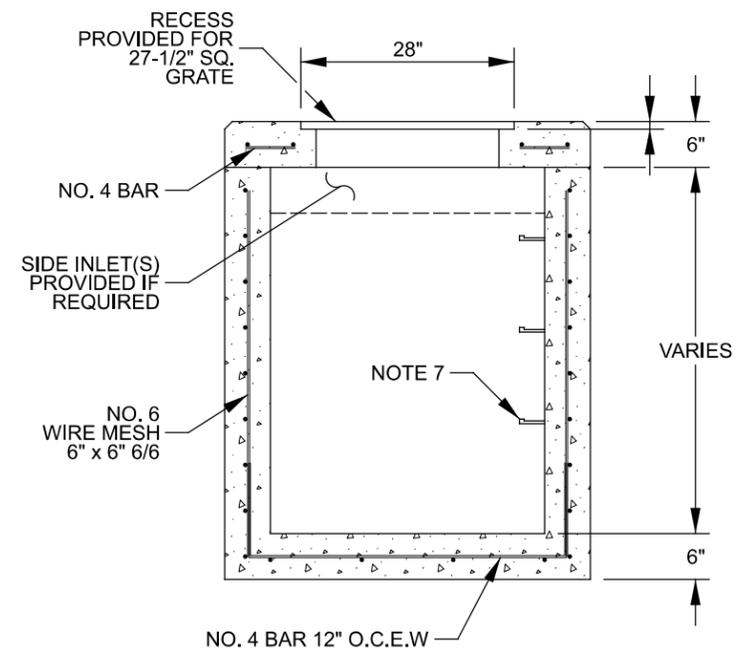
STANDARD HYDRAULIC CONSTRUCTION DRAWING
HALF-HEIGHT HEADWALLS FOR
CORRUGATED METAL PIPE AND
PLASTIC PIPE

SCD NUMBER
HW-2.1

3 / 3



TOP VIEW



SECTION VIEW

NOTES

1. CONCRETE 4,000 P.S.I AT 28 DAYS MINIMUM.
2. CAST IRON IS OPTIONAL.
3. HOLES FOR PIPE ARE 2" LARGE THAN PIPE O.D.
4. CONFORMS TO O.D.O.T. STANDARD CONSTRUCTION DRAWING CB 2-3 & 2-4.
5. TOPS ALSO AVAILABLE 52" & 64" SQUARE FOR FIELD-BUILT STRUCTURES.
6. HEAVY DUTY ANGLE FRAMES (CAST-IN) ALSO AVAILABLE FOR VEHICULAR AND/OR BICYCLE TRAFFIC AREAS.
7. STEPS ARE M.A. INDUSTRIES POLYPROPYLENE ON 12" CENTERS.

SIDE ENTRY CATCH BASIN DETAILS
NOT TO SCALE

Mark J. Eicher, P.E., P.S.
155 Rehl Road
Zanesville, Ohio 43701

Wiskingum
County
ENGINEER'S OFFICE

PREPARED BY:

SANITARY SEWER IMPROVEMENTS
SIDE ENTRY CATCH BASIN DETAIL

PROJECT NAME:

PROJECT LOCATION:

PLANS APPROVED BY:

MJE

PLANS PREPARED BY:

HJ

DATE:

08/14/2023

REVISED:

SHEET SIZE:

11" x 17"

SHEET NAME:

DETAIL SHEET (4)

SHEET NUMBER:

09

118

PREPARED BY:

SANITARY SEWER IMPROVEMENTS
 SIDE ENTRY CATCH BASIN DETAIL

LICKING VIEW
 ZANESVILLE, OHIO 43701

PROJECT NAME:

PLANS APPROVED BY:
 MJE

PLANS PREPARED BY:
 HJ

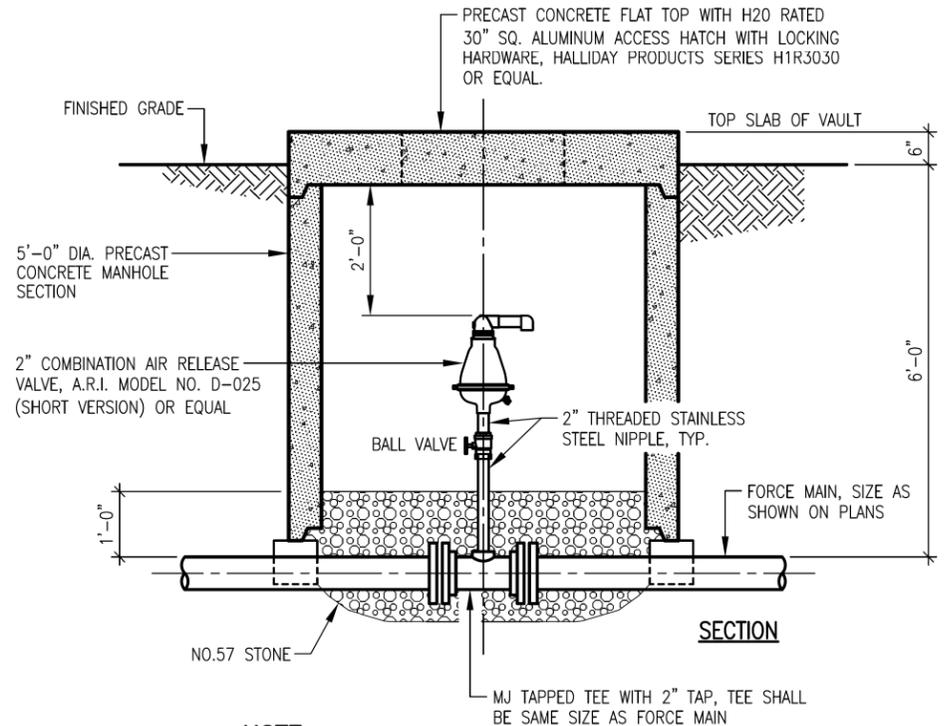
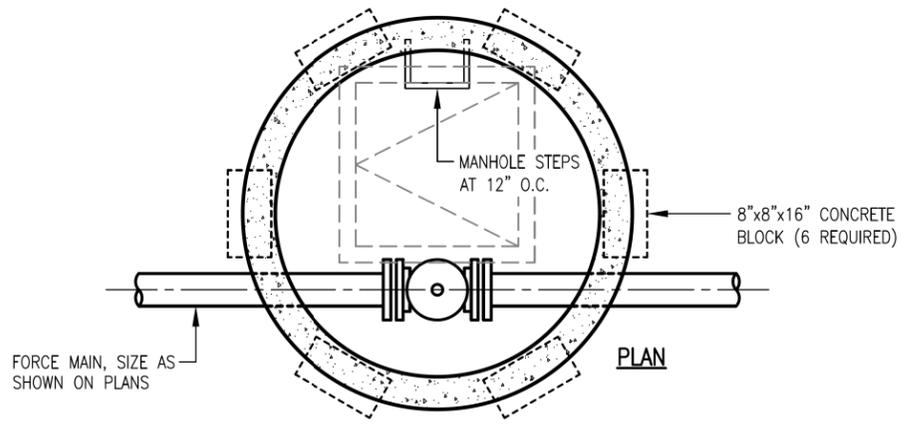
DATE:
 08/14/2023

REVISED:
 09/08/2023

SHEET SIZE:
 11" x 17"

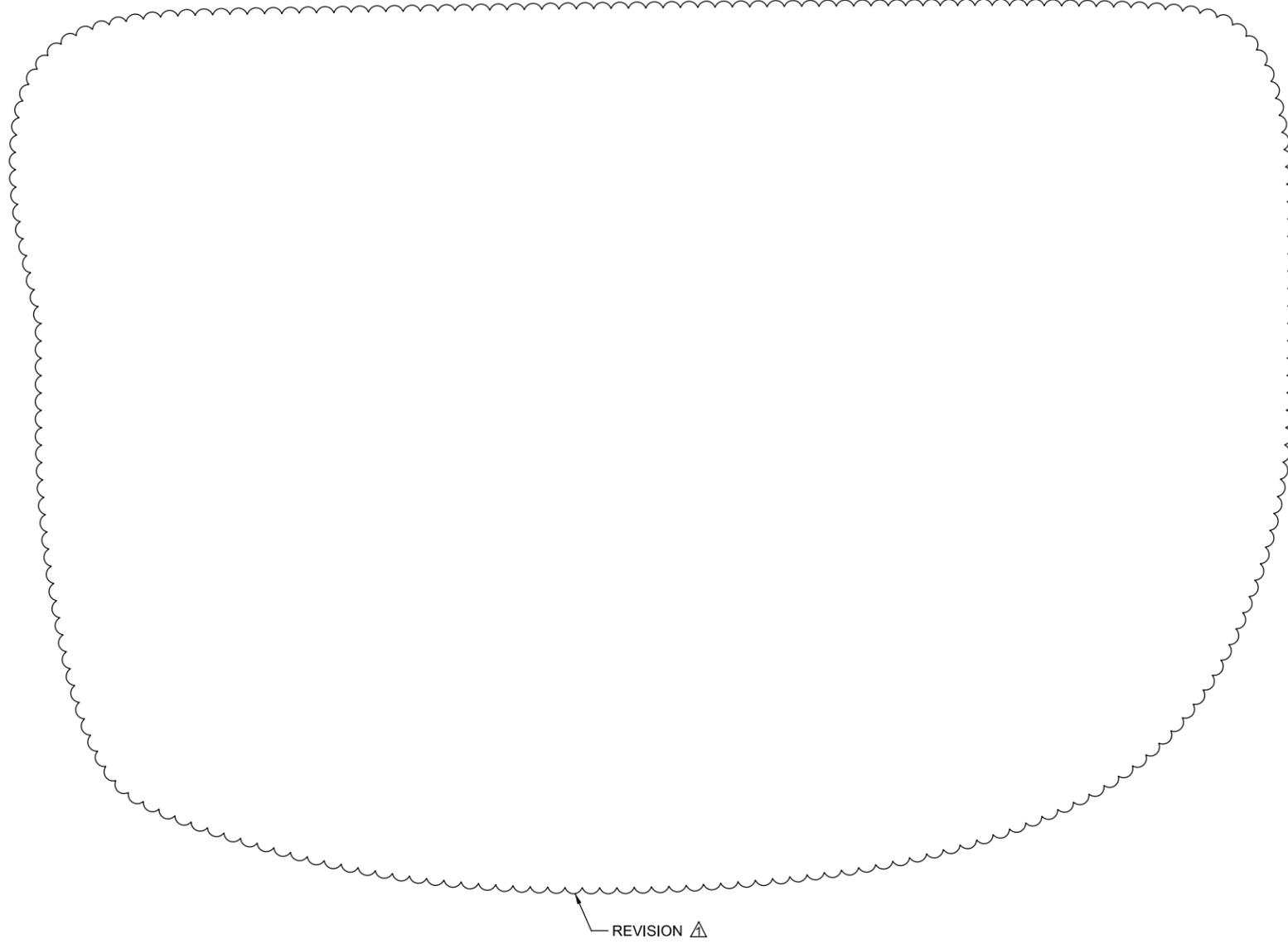
SHEET NAME:
 DETAIL SHEET (5)

SHEET NUMBER:



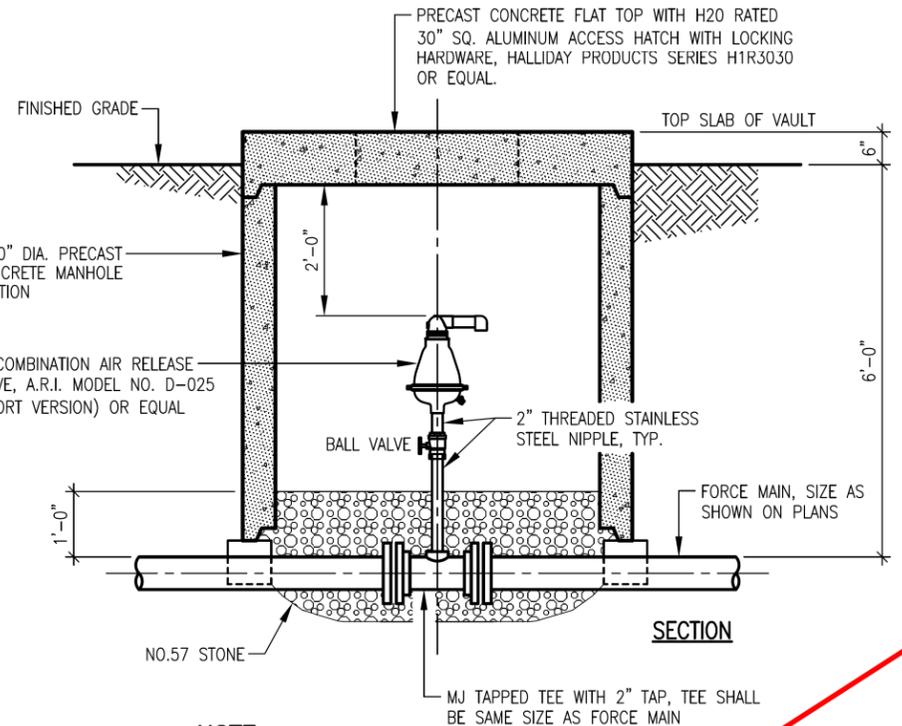
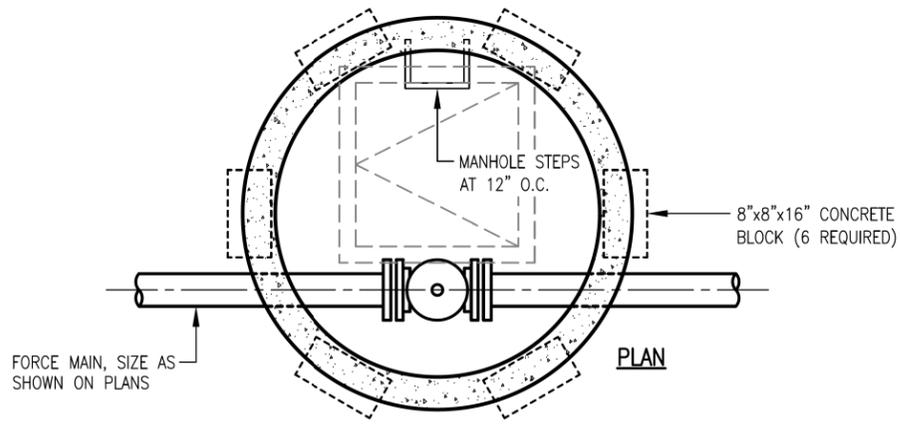
NOTE:
 MAIN LINE AND VALVE SHALL BE OFFSET FROM CENTER OF MANHOLE TO ALLOW ACCESS.

SEWAGE COMBINATION AIR RELEASE DETAIL
 NOT TO SCALE



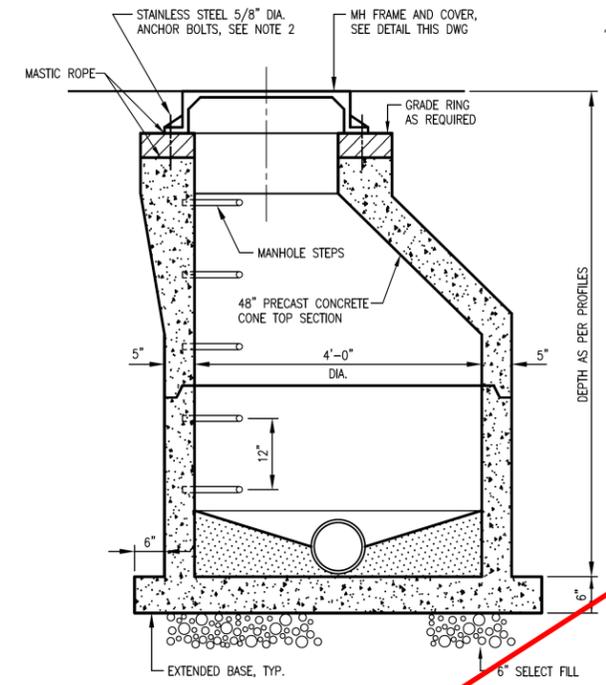
REVISION Δ

REVISION	REV. BY	DATE	DESCRIPTION
Δ	GJW	09/08/2023	MANHOLE DETAIL ELIMINATED



NOTE:
 MAIN LINE AND VALVE SHALL BE OFFSET FROM CENTER OF MANHOLE TO ALLOW ACCESS.

SEWAGE COMBINATION AIR RELEASE DETAIL
 NOT TO SCALE

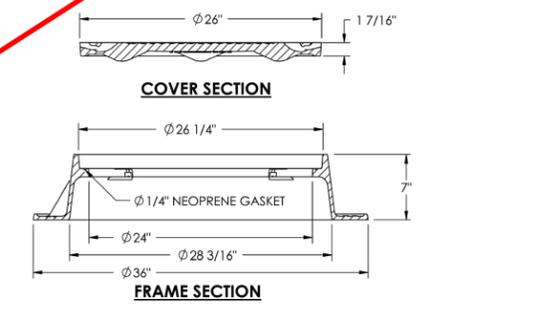
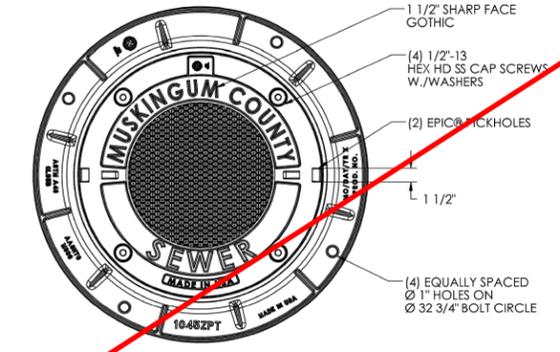


GENERAL MANHOLE NOTES:

- 1) ALL MANHOLE PIPE PENETRATIONS SHALL BE 7' LOCK OR EQUAL, WATERTIGHT, FLEXIBLE AND NON-SHRINK
- 2) ANCHOR BOLTS SHALL BE EMBEDDED INTO CONE SECTION, BOLT SHALL EXTEND THRU GRADE RING AS SHOWN.

MANHOLE DETAIL

1040APT 1045ZPT Assembly



MANHOLE DETAIL
 NOT TO SCALE

Product Number
 00104547

Design Features

- Materials
 Cover
 Gray Iron (CL35B)
- Frame
 Gray Iron (CL35B)

-Design Load
 Heavy Duty

-Open Area
 n/a

-Coating
 Dipped

-√ Designates Machined Surface

Certification

- ASTM A48
- Country of Origin: USA

Major Components

00104136
 00104512

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 155 Rehl Road
 Zanesville, Ohio 43701
Muskingum County ENGINEER'S OFFICE 740-454-0155

SANITARY SEWER IMPROVEMENTS
 SIDE ENTRY CATCH BASIN DETAIL

LICKING VIEW
 ZANESVILLE, OHIO 43701

PLANS APPROVED BY:
 MJE

PLANS PREPARED BY:
 HJ

DATE:
 08/14/2023

REVISED:

SHEET SIZE:
 11" x 17"

SHEET NAME:
 DETAIL SHEET (5)

SHEET NUMBER:
 10
 118

43. FORCEMAIN NOTES

BACKFILL:

WHERE THE FORCEMAIN CROSSES PAVEMENT THE TOP OF BEDDING SHALL BE BACKFILLED WITH SUITABLE MATERIAL. BACKFILL SHALL BE SUITABLE MATERIAL FROM THE BOTTOM OF THE TRENCH TO WITHIN 8" OF THE FINISHED OR EXISTING GRADE. 8" OF COMPACTED GRANULAR MATERIAL SHALL BE PLACED TO FINISHED GRADE. ALL TRENCH BACKFILL SHALL BE COMPACTED IN 12-INCH LAYERS LOOSE MEASUREMENT. COMPACTION SHALL BE TO AT LEAST THE DENSITY OF THE SURROUNDING GROUND. THE COST OF ALL BACKFILL IS TO BE INCLUDED IN THE PRICE BID FOR THE VARIOUS SEWER ITEMS. PAYMENT FOR THIS ITEM SHALL NOT EXCEED A 4 FEET WIDE TRENCH.

MATERIALS:

ALL FORCEMAIN MATERIALS AND INSTALLATIONS SHALL BE IN ACCORDANCE WITH THE CURRENT RULES AND REGULATIONS. ALL FORCE MAIN MATERIAL SHALL BE PVC IN GRADE BETWEEN WATER LINES AND FORCE MAIN. THE FORCEMAIN SHALL BE LOWERED DURING CONSTRUCTION. BACKFILL GROUND OVER THE TOP OF THE PIPE SHALL BE FREE OF ROCKS, ORGANIC REFUSE OR OTHER OBJECTIONABLE MATERIAL. SEE BACKFILL NOTE ABOVE. THE INSTALLING CONTRACTOR IS RESPONSIBLE FOR CONDUCTING PRESSURE AND LEAKAGE TESTS AT A PRESSURE OF 150 PSI IN ACCORDANCE WITH AWWA C-600.

44. SANITARY SEWER NOTES

SERVICE LATERALS:

PIPE FOR ALL SERVICE LATERALS SHALL BE 4-INCH, SCHEDULE 40 PVC SEWER PIPE ASTM D3034, SDR 35 UNLESS NOTED IN PLANS. SERVICE LATERALS ARE SUBJECT TO EITHER THE INFILTRATION/EXFILTRATION OR AIR TEST. ALL SERVICE LATERALS SHALL BE LAID AT A MINIMUM GRADE OF 1/4 INCH PER FOOT. CONTRACTOR SHALL INSTALL A WYE, RISER AND CAP 3' PAST THE PROPERTY LINE WITH CLEANOUT. PAYMENT FOR THESE ITEMS SHALL BE INCLUDED IN THE UNIT PRICE BID FOR 4", 6" OR 8" SANITARY SERVICE LATERAL.

BORINGS FOR SERVICE LATERALS:

WHERE SPECIFIED IN THE PLANS, CONTRACTOR SHALL JACK AND BORE UNDER PAVEMENT TO INSTALL SERVICE LATERALS. IF AN INSTALLATION PIT OR RECEIVING PIT IS REQUIRED ON PRIVATE PROPERTY, THE CONTRACTOR WILL BE REQUIRED TO OBTAIN A WORK AGREEMENT WITH THE PROPERTY OWNER PRIOR TO COMMENCING BORING OPERATIONS. THE COST OF BORING SERVICE LATERALS SHALL BE INCLUDED IN THE UNIT PRICE BID FOR 4", 6" OR 8" SANITARY SERVICE LATERAL.

BACKFILL:

WHERE THE SANITARY SEWER OR SEWER SERVICE CROSSES PAVEMENT THE TOP OF BEDDING SHALL BE BACKFILLED WITH SUITABLE MATERIAL. SEE SANITARY DETAIL SHEETS FOR ADDITIONAL INFORMATION REGARDING BACKFILL REQUIREMENTS. THE COST OF ALL BACKFILL IS TO BE INCLUDED IN THE UNIT PRICE FOR THE VARIOUS SEWER ITEMS.

BEDDING:

ALL PIPE 8" OR SMALLER SHALL BE BEDDED IN #57, 6" BELOW AND 6" ABOVE TOP OF PIPE, AS SHOWN ON SHEET 7.

LEAKAGE TEST:

LEAKAGE TESTS SHALL BE SPECIFIED. THIS MAY INCLUDE APPROPRIATE WATER OR LOW PRESSURE AIR TESTING. THE TESTING METHODS SELECTED SHOULD TAKE INTO CONSIDERATION THE RANGE IN GROUNDWATER ELEVATIONS DURING THE TEST AND ANTICIPATED DURING THE DESIGN LIFE OF THE SEWER.

WATER (HYDROSTATIC) TEST: (FORCEMAIN)

THE LEAKAGE EXFILTRATION OR INFILTRATION SHALL NOT EXCEED 100 GALLONS PER INCH OF PIPE DIAMETER PER MILE PER DAY FOR ANY SECTION OF THE SYSTEM. AN EXFILTRATION OR INFILTRATION TEST SHALL BE PERFORMED WITH A MINIMUM POSITIVE HEAD OF 2 FEET.

AIR TEST: (GRAVITY SEWER)

THE AIR TEST SHALL, AS A MINIMUM, CONFORM TO THE TEST PROCEDURE DESCRIBED IN ASTM C-828-86 FOR CLAY PIPE, ASTM C 924 FOR CONCRETE PIPE, ASTM F-1417 FOR PVC, AND FOR OTHER MATERIALS TEST PROCEDURES APPROVED BY THE REGULATORY AGENCY.

STORM SEWER CROSSINGS:

WHERE THE SANITARY SEWER CROSSES A PROPOSED STORM SEWER, THE TRENCH SHALL BE BACKFILLED TO THE BOTTOM OF THE PROPOSED STORM SEWER WITH COMPACTED GRANULAR MATERIAL, EXTENDING A DISTANCE OF 10 LINEAL FEET CENTERED ON THE STORM SEWER. THE COST OF THIS WORK IS TO BE INCLUDED IN THE UNIT PRICE BID FOR VARIOUS SEWER ITEMS.

WATER LINE CROSSING:

ALL SANITARY SEWERS OR MANHOLES SHALL BE PLACED WITH AT LEAST 10 FEET HORIZONTAL SEPARATION FROM WATER LINES. WHENEVER A WATER LINE AND SEWER MUST CROSS, THE SEWER MAIN SHALL BE LAID SUCH THAT THE CROWN OF THE SEWER IS AT LEAST 18 INCHES BELOW THE INVERT OF THE WATER LINE MEASURED BETWEEN THE OUTSIDE PIPE WALLS. IN CASES WHERE THE REQUIRED SEPARATION CANNOT BE MAINTAINED, CONCRETE ENCASEMENT OF WATER LINE HAS BEEN CALLED OUT IN THE PLANS. THE COST OF CONCRETE ENCASEMENT IS TO BE INCLUDED IN THE UNIT PRICE FOR SANITARY SEWER PIPE PAY ITEMS.

MANHOLES:

ALL MANHOLES SHALL BE PRE-CAST, CONSTRUCTED AND PLACED IN ACCORDANCE WITH ASTM C-478 MATERIAL SPECIFICATIONS. THE JOINTS SHALL CONFORM TO ASTM C-443 JOINT SPECIFICATIONS. ALL MANHOLES SHALL REQUIRE MECHANICAL CHIMNEY SEALS TO BE INSTALLED. ALL MANHOLES SHALL BE VACUUM TESTED IN ACCORDANCE WITH ASTM C-1244 SPECIFICATIONS.

MANHOLE CASTINGS:

ALL MANHOLE CASTINGS SHALL BE NEENAH R-1556 OR R-1556 A WITH "MUSKINGUM COUNTY SEWER" STAMPED ON THEM, SUBJECT TO THE COUNTY'S APPROVAL. CASTING ADJUSTMENT BY GRADE RINGS MUST BE LESS THAN ONE (1) FOOT BEFORE A BARREL SECTION IS REQUIRED.

SEWER PIPE:

THE MINIMUM REQUIREMENTS FOR SEWER PIPE ON THIS PROJECT SHALL BE PVC-SDR 35 SEWER PIPE ASTM D3034, WITH JOINTS MEETING ASTM D-3212, AND FLEXIBLE RUBBER GASKETS MEETING ASTM F-477, BACKFILL SHALL CONFORM TO ASTM 2321, UNLESS OTHERWISE SHOWN ON THE PLANS.

DEFLECTION TEST:

DEFLECTION TESTS SHALL BE PERFORMED ON ALL FLEXIBLE PIPE. THE TEST SHALL BE CONDUCTED AFTER THE FINAL BACK FILL HAS BEEN IN PLACE AT LEAST 30 DAYS TO PERMIT STABILIZATION OF THE SOIL-PIPE SYSTEM, AND 1 YEAR AFTER INITIAL TESTING.

NO PIPE SHALL EXCEED A DEFLECTION OF 5 PERCENT. IF DEFLECTION EXCEEDS 5 PERCENT, REPLACEMENT OR CORRECTION SHALL BE ACCOMPLISHED IN ACCORDANCE WITH REQUIREMENTS IN THE APPROVED SPECIFICATIONS.

THE RIGID BALL OR MANDREL USED FOR THE DEFLECTION TEST SHALL HAVE A DIAMETER NOT LESS THAN 95 PERCENT OF THE BASE INSIDE DIAMETER OR AVERAGE INSIDE DIAMETER OF THE PIPE DEPENDING ON WHICH IS SPECIFIED IN ASTM SPECIFICATION, INCLUDING THE APPENDIX, TO WHICH THE PIPE IS MANUFACTURED. THE PIPE SHALL BE MEASURED IN COMPLIANCE WITH ASTM D-2122 STANDARD TEST METHOD OF DETERMINING DIMENSIONS OF THERMOPLASTIC PIPE AND FITTINGS. THE TEST SHALL BE PERFORMED WITHOUT MECHANICAL PULLING DEVICES. MANDREL TESTING MUST BE PERFORMED AT 30 DAYS AND ONE (1) YEAR FOLLOWING INSTALLATION.

SEEDING AND MULCHING:

PERMANENT SEEDING SHALL BE PROVIDED FOR ALL EXPOSED SOIL SURFACES WITHIN SEVEN (7) DAYS AFTER THE FINISH GRADE IS REACHED. PERMANENT SEEDING AND MULCHING AS SPECIFIED IN ODOT ITEM 659 IS ACCEPTABLE.

AREAS WHERE PERMANENT SEEDING HAS FAILED TO GERMINATE SHALL BE RESEEDED AND MULCHED AS NECESSARY TO ACHIEVE STABILIZATION AT NO ADDITIONAL COST TO MUSKINGUM COUNTY.

45. GRINDER PUMP INSTALLATIONS:

GRINDER PUMPS HAVE BEEN SPECIFIED FOR TWO PROPERTY OWNERS WHERE GRAVITY LATERAL SERVICE CONNECTIONS FROM THE DWELLING UNIT CANNOT BE ACCOMMODATED. AT THESE LOCATIONS THE CONTRACTOR SHALL COORDINATE THE INSTALLATION DIRECTLY WITH THE PROPERTY OWNER. ELECTRICAL CONNECTIONS FOR GRINDER PUMPS SHALL BE MADE ON THE EXTERIOR AT THE EXISTING METER LOCATIONS. CONTRACTOR SHALL DETERMINE EXISTING SERVICE TYPE, SIZE, AND LOCATION AND PROVIDE A 3R COMBINATION METER BASE WITH A MINIMUM OF FOUR CIRCUITS WITH PASS THROUGH LUGS TO FEED EXISTING LOAD. CONTRACTOR SHALL COORDINATE METER BASE REPLACEMENT WITH PROPERTY OWNER AND UTILITY.

SEE GRINDER PUMP SPECIFICATIONS FOR CIRCUIT BREAKER AND CONDUCTORS REQUIREMENTS BELOW:

GRINDER PUMP SHALL BE E/ONE EXTREME MODEL DH071 MEETING THE FOLLOWING SPECIFICATIONS:

- RATED FOR 700 GPD
- 70 GALLON CAPACITY
- INDOOR OR OUTDOOR INSTALLATION
- STANDARD OUTDOOR HEIGHTS RANGE FROM 61 INCHES TO 160 INCHES

GRINDER PUMP ELECTRIC MOTOR SHALL BE A 1 HP, 1725 RPM, 240 VOLT, 60 HERTZ, 1 PHASE, CAPACITOR START, BALL BEARING, AIR-COOLED INDUCTION TYPE WITH CLASS F INSULATION, AND LOW STARTING CURRENT NOT TO EXCEED 30AMPS.

ALL COSTS FOR PUMP INSTALLATION, UTILITY COORDINATION, UTILITY DISCONNECT, UTILITY RECONNECT AND ALL NECESSARY ELECTRICAL COMPONENTS TO MEET CODE (INCLUDING BUT NOT LIMITED TO EQUIPMENT, CONDUITS, CONDUCTORS, BREAKERS, GROUNDING SYSTEM) SHALL BE INCLUDED IN THE UNIT PRICE FOR GRINDER PUMP STATION.

ESTIMATED QUANTITIES

ITEM NO.	PAY ITEM DESCRIPTION	UNIT	TOTAL QTY
ROADWAY			
201	CLEARING AND GRUBBING	LS	1
207	TEMPORARY SEDIMENT & EROSION CONTROLS	LS	1
659	SEEDING & MULCHING	SY	36,028
SANITARY			
611	8" SANITARY SEWER PIPE, PVC SDR 35 (4 TO 8 FT DEEP) (UNDER VEGETATION)	LF	878
611	8" SANITARY SEWER PIPE, PVC SDR 35 (4 TO 8 FT DEEP) (UNDER ROADWAY)	LF	2,262
611	8" SANITARY SEWER PIPE, PVC SDR 35 (4 TO 8 FT DEEP) (UNDER ALLEYS/DRIVES)	LF	2,673
611	8" SANITARY SEWER PIPE, PVC SDR 35 (4 TO 8 FT DEEP) (UNDER ALLEYS/DRIVES)(DIRECTIONALLY DRILLED)	LF	150
611	8" SANITARY SEWER PIPE, PVC SDR 35 (8 TO 12 FT DEEP) (UNDER VEGETATION)	LF	3,142
611	8" SANITARY SEWER PIPE, PVC SDR 35 (8 TO 12 FT DEEP) (UNDER ROADWAY)	LF	2,050
611	8" SANITARY SEWER PIPE, PVC SDR 35 (8 TO 12 FT DEEP) (UNDER ALLEYS/DRIVES)	LF	2,178
611	8" SANITARY SEWER PIPE, PVC SDR 35 (12 TO 16 FT DEEP) (UNDER ROADWAY)	LF	206
611	8" SANITARY SEWER PIPE, HDPE AWWA C 906 (12 TO 16 FT DEEP) (UNDER ROADWAY) (DIRECTIONALLY DRILLED)	LF	250
611	8" SANITARY SEWER PIPE, HDPE AWWA C 906 (12 TO 16 FT DEEP) (UNDER ROADWAY)	LF	55
611	8" SANITARY SEWER PIPE, PVC AWWA C 900 (4 TO 8 FT DEEP) (UNDER VEGETATION)	LF	342
611	8" SANITARY SEWER PIPE, PVC AWWA C 900 (4 TO 8 FT DEEP)(UNDER ROADWAY)	LF	754
611	8" SANITARY SEWER PIPE, PVC AWWA C 900 (4 TO 8 FT DEEP) (UNDER ALLEYS/DRIVES)	LF	403
611	8" SANITARY SEWER PIPE, PVC SDR 35 (4 TO 8 FT DEEP) (RESTRAINED JOINTS)(UNDER ROADWAY)	LF	98
611	8" SANITARY SEWER PIPE, PVC SDR 35 (4 TO 8 FT DEEP) (RESTRAINED JOINTS) (UNDER ALLEYS/DRIVES)	LF	55
611	8" SANITARY SEWER PIPE, PVC AWWA C 900 (8 TO 12 FT DEEP) (UNDER ROADWAY)	LF	349
611	8" SANITARY SEWER PIPE, PVC AWWA C 900 (12 TO 16 FT DEEP)(RESTRAINED JOINTS)(UNDER ROADWAY)	LF	34
611	8" SANITARY SEWER PIPE, PVC SDR 35 (16 TO 20 FT DEEP)(RESTRAINED JOINTS)(UNDER ROADWAY)	LF	180
611	4" SANITARY SERVICE LATERAL, PVC SDR 35	LF	1,590
611	4" SANITARY SERVICE LATERAL, PVC SDR 35 (BORED OR JACKED)	LF	298
611	6" SANITARY SERVICE LATERAL, PVC SDR 35	LF	218
611	6" SANITARY SERVICE LATERAL, PVC SDR 35 (BORED OR JACKED)	LF	60
611	8" SANITARY SERVICE LATERAL, PVC SDR 35	LF	13
611	8" SANITARY SERVICE LATERAL, PVC SDR 35 (BORED OR JACKED)	LF	110
611	4" FORCE MAIN, PVC DR 18	LF	94
611	4" FORCE MAIN, HDPE AWWA C 906 (DIRECTIONALLY DRILLED)	LF	372
611	48" DIAMETER MANHOLE (4 TO 8 FT DEEP)	EA	58
611	48" DIAMETER MANHOLE (8 TO 12 FT DEEP)	EA	23
611	48" DIAMETER MANHOLE W/ OUTSIDE DROP (4 TO 8 FT DEEP)	EA	1
611	48" DIAMETER MANHOLE W/ OUTSIDE DROP (8 TO 12 FT DEEP)	EA	1
611	48" DIAMETER MANHOLE W/ OUTSIDE DROP (16 TO 20 FT DEEP)	EA	1
638	16" STEEL PIPE ENCASEMENT, SDTM A53 (BORED OR JACKED)	LF	109
SPECIAL	POLE HOLD	EA	12
SPECIAL	GRAVITY SEWER AIR TESTING	LS	1
SPECIAL	GRINDER PUMP STATION	EA	2
SPECIAL	FORCE MAIN PRESSURE TESTING	LS	1
SPECIAL	CONNECT TO EXISTING FORCE MAIN	EA	1
SPECIAL	4" AIR RELEASE VALVE (FORCE MAIN)	EA	1
SPECIAL	SANITARY PUMP STATION, GRIEF ROAD	EA	1
SPECIAL	SANITARY PUMP STATION, KNOX ROAD	EA	1
SPECIAL	WATER SERVICE LINE REPAIR	EA	20
SPECIAL	ORANGE CONSTRUCTION FENCE	LF	1,000
DRAINAGE			
202	ABANDON MISC., JUNCTION BOX	EA	1
202	ABANDON MISC., EXIST. PIPE 12" AND UNDER	LF	1,152
202	CLASS QC1 CONCRETE, HEADWALL	LF	1,096
511	CLASS QC1 CONCRETE, HEADWALL	CY	0.81
611	12" CONDUIT, TYPE A	LF	847
611	12" CONDUIT, TYPE B	LF	491
611	15" CONDUIT, TYPE A	LF	86
611	15" CONDUIT, TYPE B	LF	537
611	18" CONDUIT, TYPE A	LF	38
611	18" CONDUIT, TYPE B	LF	223
611	CATCH BASIN, V-NOTCH WITH BICYCLE SAFE GRATE	EA	1
611	CATCH BASIN, NO. 2-3 WITH BICYCLE SAFE GRATE	EA	9
611	MANHOLE, TYPE 3	EA	2
MAINTENANCE OF TRAFFIC			
614	MAINTENANCE OF TRAFFIC	LS	1
623	CONSTRUCTION LAYOUT STAKING	LS	1
624	MOBILIZATION	LS	1

Mark J. Elcher, P.E., P.S.
 155 Rehl Road
 Zanesville, Ohio 43701
Muskingum County
ENGINEER'S OFFICE 740-454-0155

PREPARED BY:

SANITARY SEWER IMPROVEMENTS
 GENERAL NOTES AND QUANTITY SUMMARY
 PROJECT NAME:

PROJECT LOCATION:
 LICKING VIEW
 ZANESVILLE, OHIO 43701

PLANS APPROVED BY:

MJE

PLANS PREPARED BY:

HJ

DATE:

08/17/2023

REVISED:

SHEET SIZE:

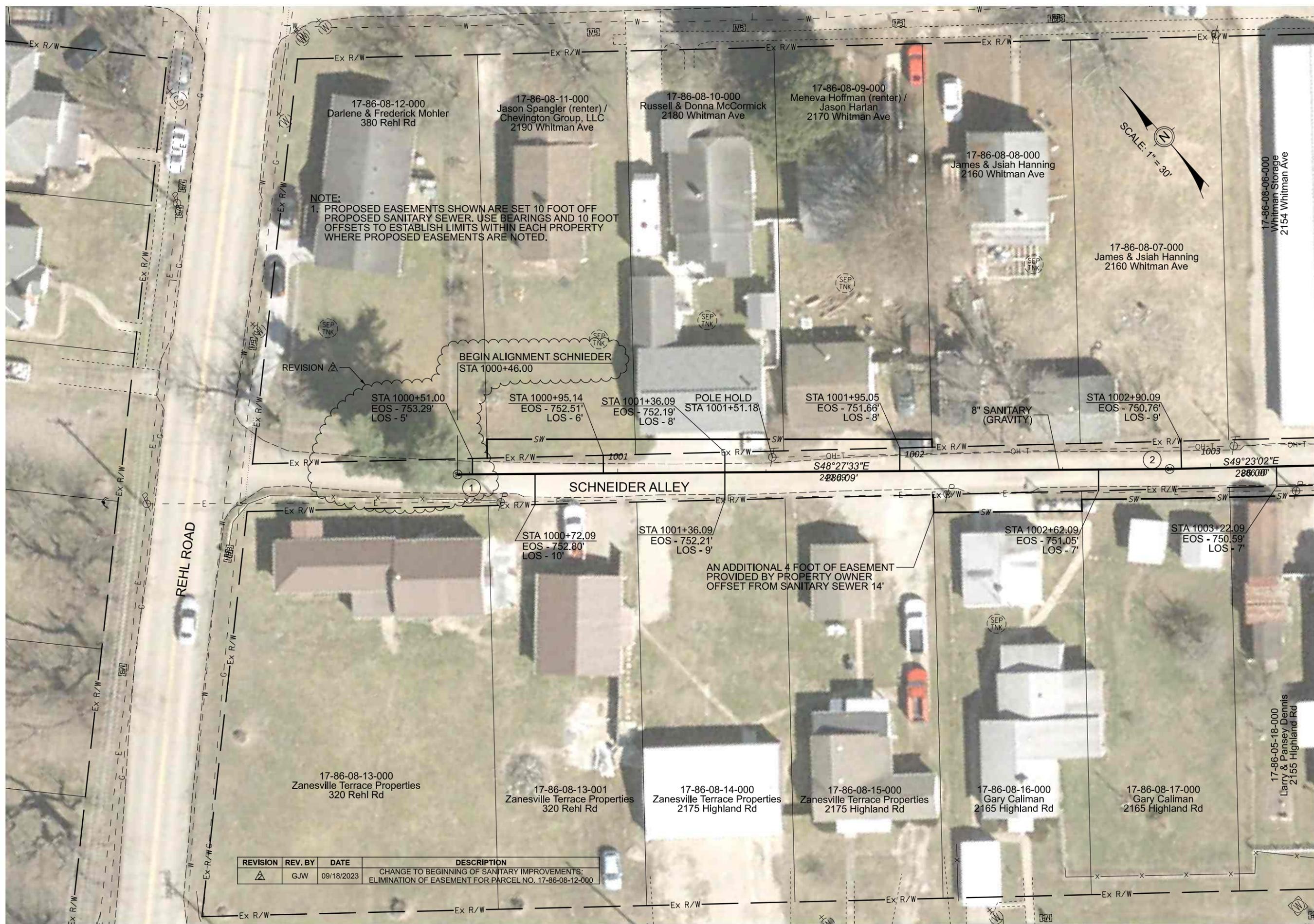
11" x 17"

SHEET NAME:

GENERAL NOTES (2)

SHEET NUMBER:

05
118



NOTE:
 1. PROPOSED EASEMENTS SHOWN ARE SET 10 FOOT OFF PROPOSED SANITARY SEWER. USE BEARINGS AND 10 FOOT OFFSETS TO ESTABLISH LIMITS WITHIN EACH PROPERTY WHERE PROPOSED EASEMENTS ARE NOTED.

REVISION	REV. BY	DATE	DESCRIPTION
△	GJW	09/18/2023	CHANGE TO BEGINNING OF SANITARY IMPROVEMENTS; ELIMINATION OF EASEMENT FOR PARCEL NO. 17-86-08-12-000



MATCHLINE STA. 1003+35

PREPARED BY: **Mark J. Eicher, P.E., P.S.**
 155 Rehl Road
 Zanesville, Ohio 43701
Wiskingum
County
ENGINEER'S OFFICE 740-434-0155

PROJECT NAME: SANITARY SEWER IMPROVEMENTS
 SCHNEIDER ALLEY
 PROJECT LOCATION: LICKING VIEW
 ZANESVILLE, OHIO 43701

PLANS APPROVED BY: **MJE**
 PLANS PREPARED BY: **GJW**
 DATE: 08/15/2023
 REVISED: 03/08/2023
 SHEET SIZE: 11" x 17"
 SHEET NAME: PLAN SHEET (1)
 SHEET NUMBER: 11 / 118

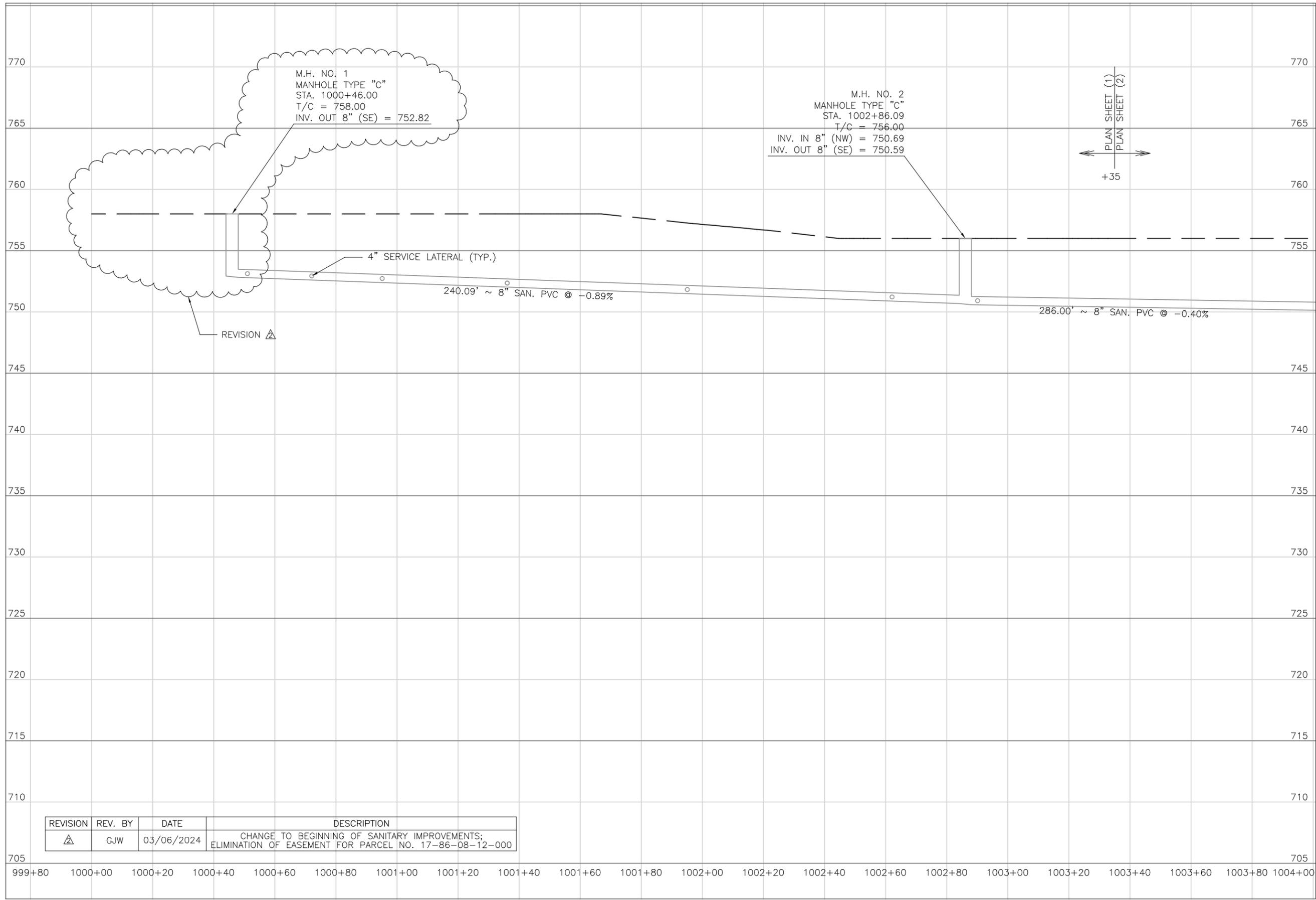


NOTE:
 1. PROPOSED EASEMENTS SHOWN ARE SET 10 FOOT OFF PROPOSED SANITARY SEWER. USE BEARINGS AND 10 FOOT OFFSETS TO ESTABLISH LIMITS WITHIN EACH PROPERTY WHERE PROPOSED EASEMENTS ARE NOTED.



MATCHLINE STA. 1003+35

PREPARED BY: Mark J. Eichel, P.E., P.S. Whiskingum County ENGINEER'S OFFICE 155 Rehl Road Zanesville, Ohio 43701 740-434-0155	
PROJECT NAME: SANITARY SEWER IMPROVEMENTS SCHNEIDER ALLEY	PROJECT LOCATION: LICKING VIEW ZANESVILLE, OHIO 43701
PLANS APPROVED BY: <div style="text-align: center;">MJE</div>	
PLANS PREPARED BY: <div style="text-align: center;">GJW</div>	
DATE: <div style="text-align: center;">08/15/2023</div>	
SHEET SIZE: <div style="text-align: center;">11" x 17"</div>	
SHEET NAME: <div style="text-align: center;">PLAN SHEET (1)</div>	
SHEET NUMBER: <div style="text-align: center;">11</div>	

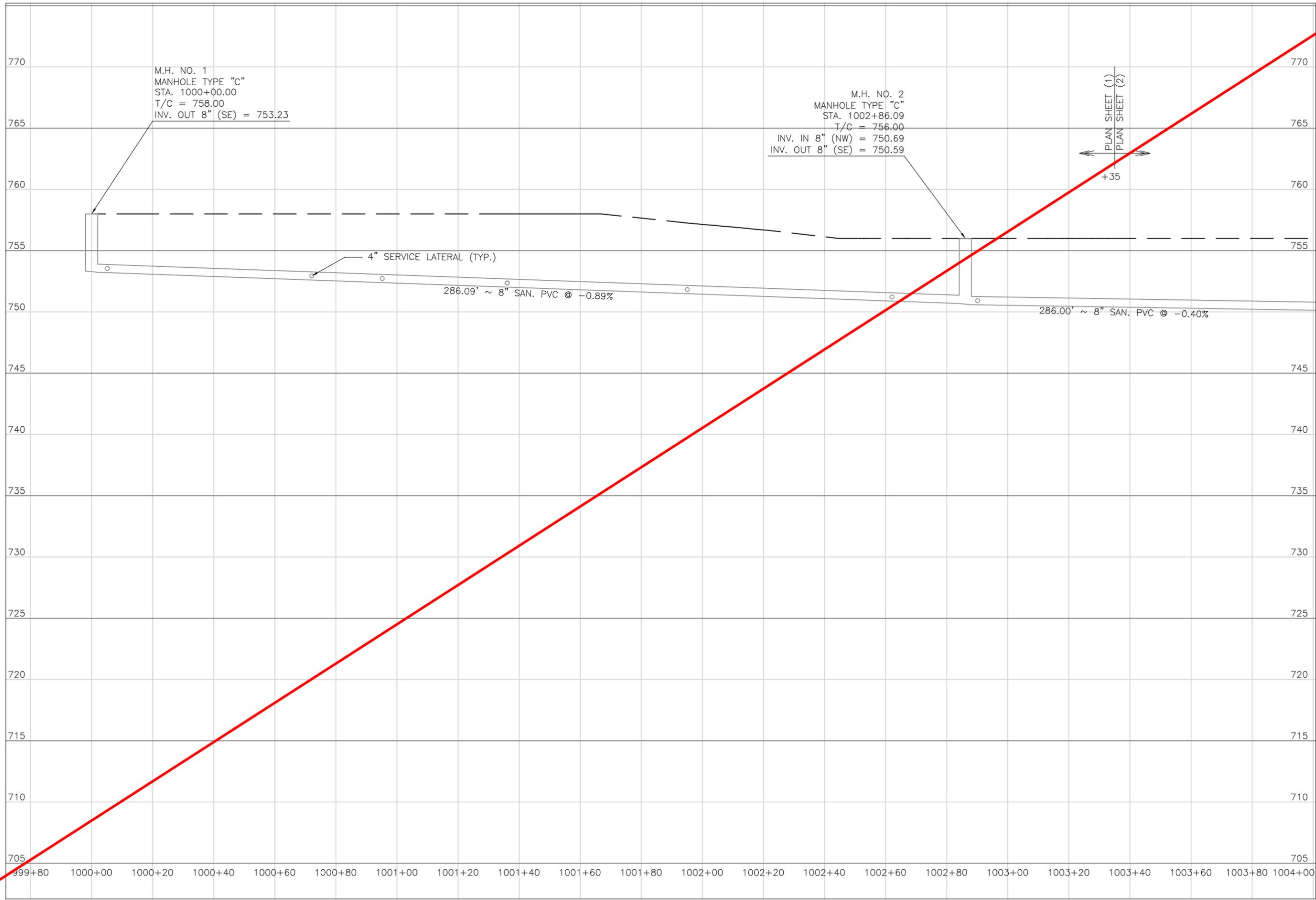


REVISION	REV. BY	DATE	DESCRIPTION
△	GJW	03/06/2024	CHANGE TO BEGINNING OF SANITARY IMPROVEMENTS; ELIMINATION OF EASEMENT FOR PARCEL NO. 17-86-08-12-000

Mark J. Eicher, P.E., P.S.
Muskingum
 COUNTY ENGINEER'S OFFICE
 155 Kehl Road
 Zanesville, Ohio 43701
 740-454-0155

PREPARED BY: [Blank]
 PROJECT NAME: SANITARY SEWER IMPROVEMENTS SCHNEIDER ALLEY
 PROJECT LOCATION: LICKING VIEW ZANESVILLE, OHIO 43701

PLANS APPROVED BY: **MJE**
 PLANS PREPARED BY: **GJW**
 DATE: **08/15/2023**
 REVISED: **03/06/2024**
 SHEET SIZE: **11" x 17"**
 SHEET NAME: **PROFILE MANHOLE 1 & 2**
 SHEET NUMBER: **12** / 118



Mark J. Eicher, P.E., P.S.

 Muskingum County
 ENGINEER'S OFFICE
 155 Kehl Road
 Zanesville, Ohio 43701
 740-454-0155

PREPARED BY:
 PROJECT NAME: SANITARY SEWER IMPROVEMENTS
 SCHNEIDER ALLEY
 PROJECT LOCATION: LICKING VIEW
 ZANESVILLE, OHIO 43701

PLANS APPROVED BY:
MJE

PLANS PREPARED BY:
HJ

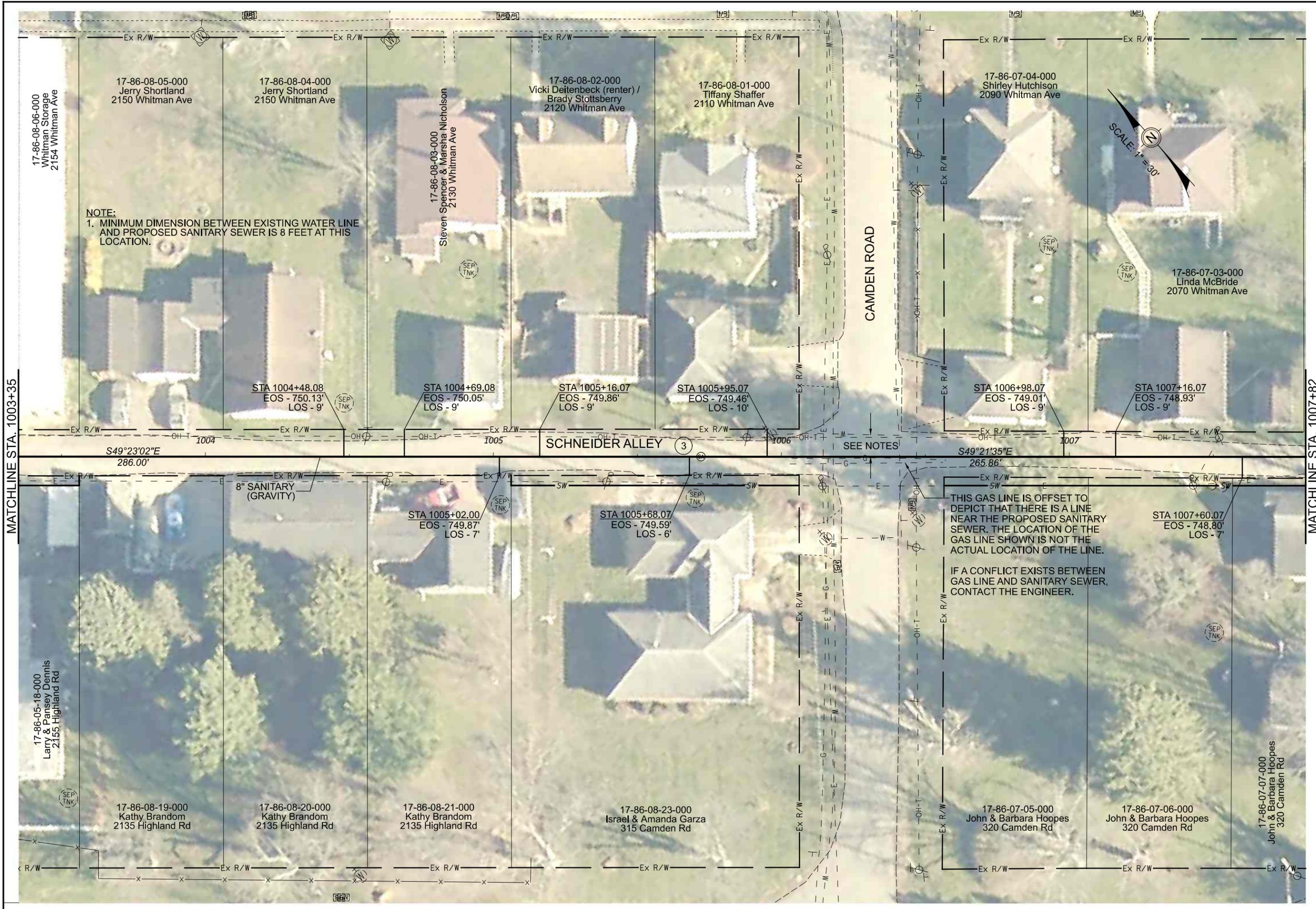
DATE:
08/15/2023

REVISED:

SHEET SIZE:
11" x 17"

SHEET NAME:
**PROFILE MANHOLE
 1 & 2**

SHEET NUMBER:

NOTE:
 1. MINIMUM DIMENSION BETWEEN EXISTING WATER LINE AND PROPOSED SANITARY SEWER IS 8 FEET AT THIS LOCATION.

THIS GAS LINE IS OFFSET TO DEPICT THAT THERE IS A LINE NEAR THE PROPOSED SANITARY SEWER. THE LOCATION OF THE GAS LINE SHOWN IS NOT THE ACTUAL LOCATION OF THE LINE.

IF A CONFLICT EXISTS BETWEEN GAS LINE AND SANITARY SEWER, CONTACT THE ENGINEER.

Mark J. Eicher, P.E., P.S.
 155 Rehl Road
 Zanesville, Ohio 43701
Wiskingum County ENGINEER'S OFFICE 740-454-0155

PREPARED BY:
 PROJECT NAME: SANITARY SEWER IMPROVEMENTS SCHNEIDER ALLEY
 PROJECT LOCATION: LICKING VIEW ZANESVILLE, OHIO 43701

PLANS APPROVED BY:
 MJE

PLANS PREPARED BY:
 GJW

DATE:
 08/14/2023

REVISED:

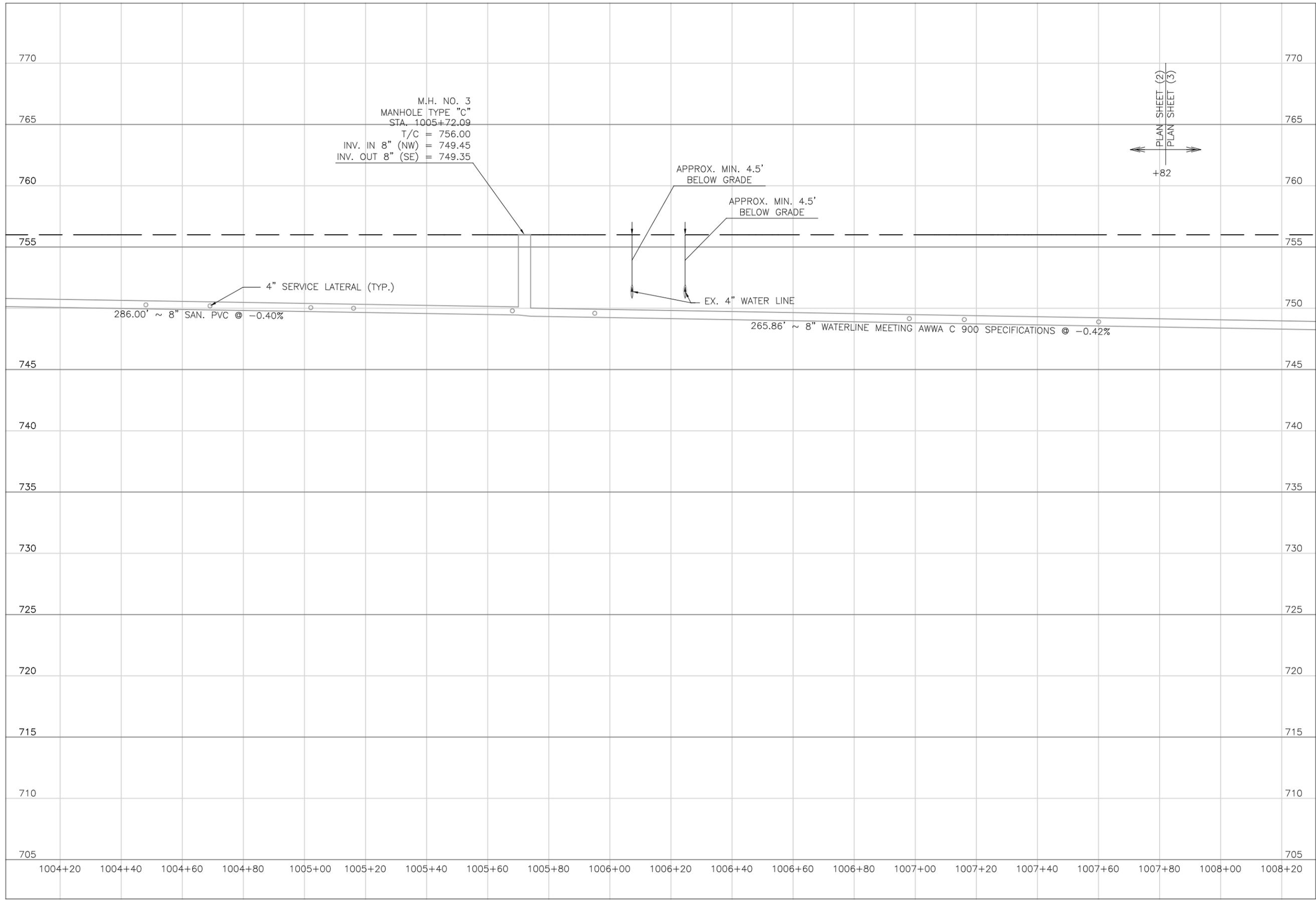
SHEET SIZE:
 11" x 17"

SHEET NAME:
 PLAN SHEET (2)

SHEET NUMBER:
 13 / 118

MATCHLINE STA. 1003+35

MATCHLINE STA. 1007+82



Mark J. Eicher, P.E., P.S.
 Muskingum County Engineer's Office
 155 Nehl Road
 Zanesville, Ohio 43701
 740-454-0155

PREPARED BY:

SANITARY SEWER IMPROVEMENTS
 SCHNEIDER ALLEY
 LICKING VIEW
 ZANESVILLE, OHIO 43701

PROJECT NAME:
 PROJECT LOCATION:

PLANS APPROVED BY:
MJE

PLANS PREPARED BY:
HJ

DATE:
08/15/2023

REVISED:

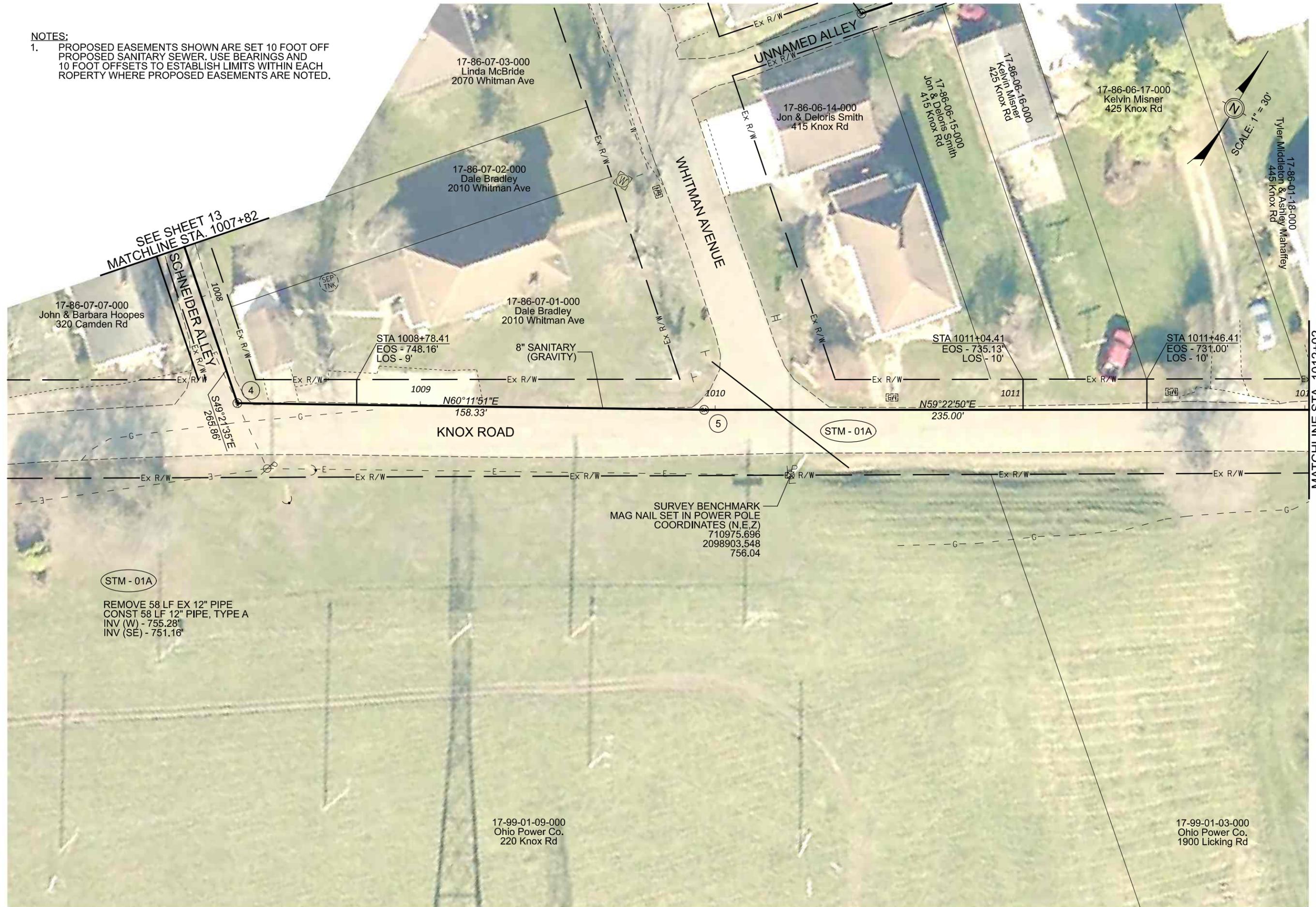
SHEET SIZE:
11" x 17"

SHEET NAME:
PROFILE MANHOLE 3

SHEET NUMBER:
14
 118

NOTES:

1. PROPOSED EASEMENTS SHOWN ARE SET 10 FOOT OFF PROPOSED SANITARY SEWER. USE BEARINGS AND 10 FOOT OFFSETS TO ESTABLISH LIMITS WITHIN EACH PROPERTY WHERE PROPOSED EASEMENTS ARE NOTED.



Mark J. Eicher, P.E., P.S.
155 Rehl Road
Zanesville, Ohio 43701
Wiskingum
County
ENGINEER'S OFFICE 740-454-0155

PREPARED BY:

PROJECT NAME:
SANITARY SEWER IMPROVEMENTS
SCHNEIDER ALLEY TO KNOX ROAD

PROJECT LOCATION:
LICKING VIEW
ZANESVILLE, OHIO 43701

PLANS APPROVED BY:
MJE

PLANS PREPARED BY:
GJW

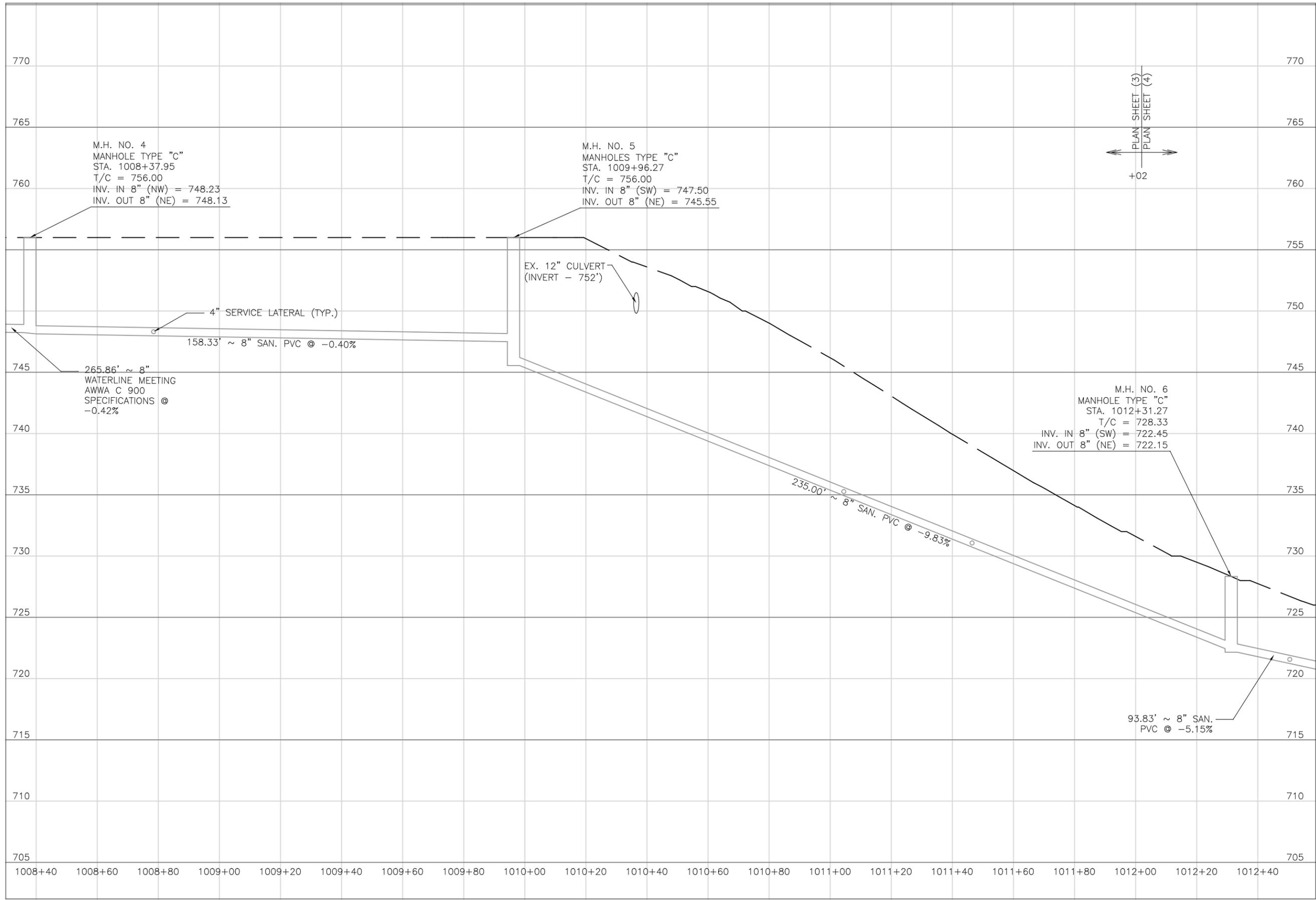
DATE:
08/14/2023

REVISED:

SHEET SIZE:
11" x 17"

SHEET NAME:
PLAN SHEET (3)

SHEET NUMBER:
15
118



PREPARED BY:
PROJECT NAME: SANITARY SEWER IMPROVEMENTS
SCHNEIDER ALLEY TO KNOX ROAD
PROJECT LOCATION: LICKING VIEW
ZANESVILLE, OHIO 43701

PLANS APPROVED BY:
MJE

PLANS PREPARED BY:
HJ

DATE:
08/15/2023

REVISED:

SHEET SIZE:
11" x 17"

SHEET NAME:
**PROFILE MANHOLE
4 - 6**

SHEET NUMBER:
16
118

NOTES:

1. PROPOSED EASEMENTS SHOWN ARE SET 10 FOOT OFF PROPOSED SANITARY SEWER. USE BEARINGS AND 10 FOOT OFFSETS TO ESTABLISH LIMITS WITHIN EACH PROPERTY WHERE PROPOSED EASEMENTS ARE NOTED.

SEE SHEET 48

SEE SHEET 38
MATCHLINE STA. 309+34

SCALE: 1" = 30'



MATCHLINE STA. 1012+02

MATCHLINE STA. 1016+42

Mark J. Eicher, P.E., P.S.
155 Rehl Road
Zanesville, Ohio 43701
Licking County
ENGINEER'S OFFICE 740-454-0155

PROJECT NAME: SANITARY SEWER IMPROVEMENTS
KNOX ROAD
PROJECT LOCATION: LICKING VIEW
ZANESVILLE, OHIO 43701

PLANS APPROVED BY:
MJE

PLANS PREPARED BY:
GJW

DATE:
08/14/2023

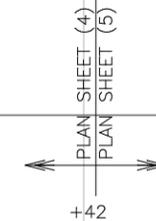
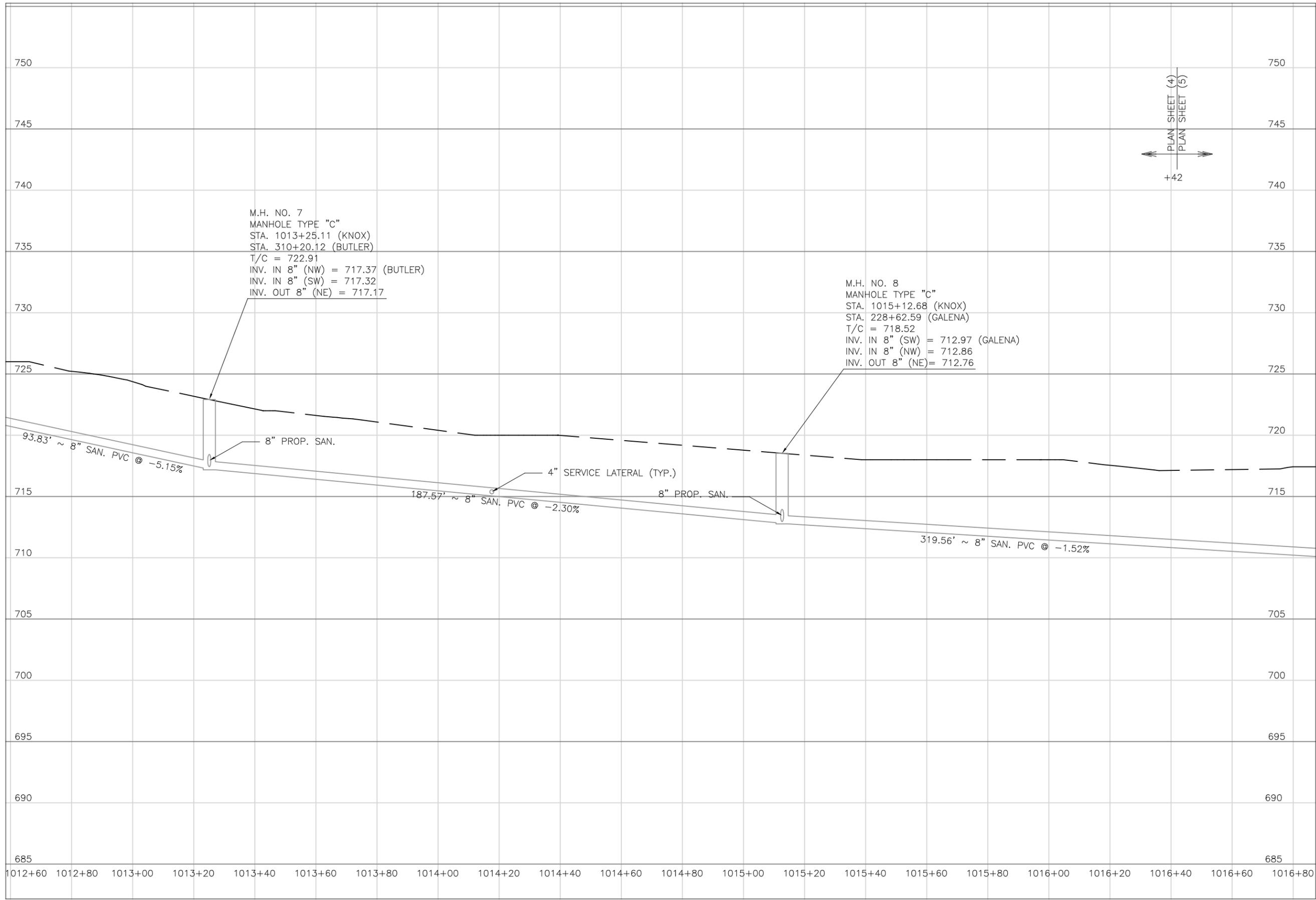
REVISED:

SHEET SIZE:
11" x 17"

SHEET NAME:
PLAN SHEET (4)

SHEET NUMBER:
17
118

17-99-01-03-000
Ohio Power Co.
1900 Licking Rd



Mark J. Eicher, P.E., P.S.
Muskingum
 COUNTY ENGINEER'S OFFICE
 155 Kehl Road
 Zanesville, Ohio 43701
 740-454-0155

PREPARED BY:
 PROJECT NAME: SANITARY SEWER IMPROVEMENTS
 KNOX ROAD
 PROJECT LOCATION: LICKING VIEW
 ZANESVILLE, OHIO 43701

PLANS APPROVED BY:
MJE

PLANS PREPARED BY:
HJ

DATE:
08/15/2023

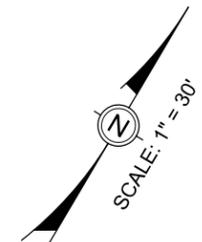
REVISED:

SHEET SIZE:
11" x 17"

SHEET NAME:
**PROFILE MANHOLE
 7 & 8**

SHEET NUMBER:
18
 118

SEE SHEET 60



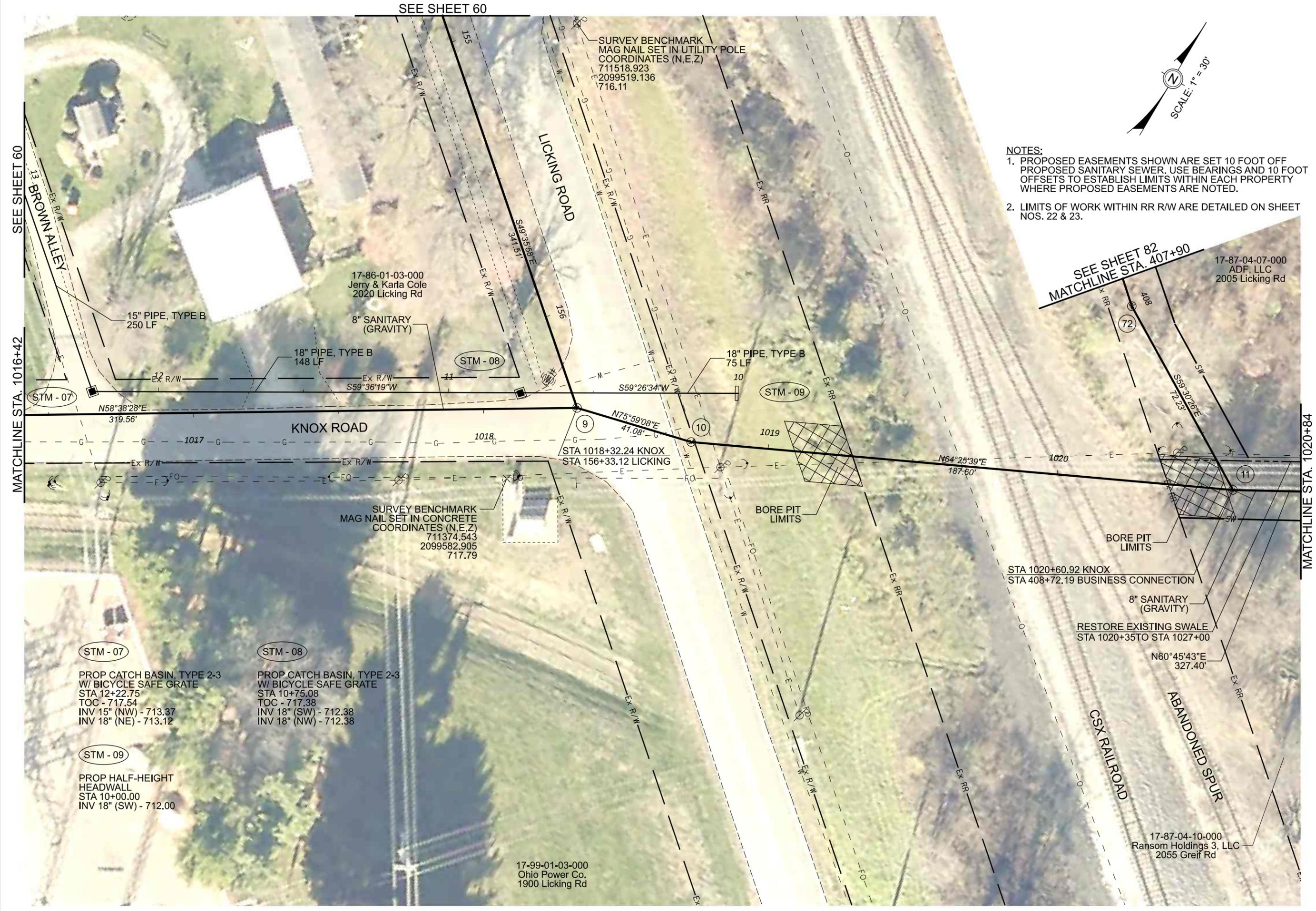
NOTES:

1. PROPOSED EASEMENTS SHOWN ARE SET 10 FOOT OFF PROPOSED SANITARY SEWER. USE BEARINGS AND 10 FOOT OFFSETS TO ESTABLISH LIMITS WITHIN EACH PROPERTY WHERE PROPOSED EASEMENTS ARE NOTED.
2. LIMITS OF WORK WITHIN RR R/W ARE DETAILED ON SHEET NOS. 22 & 23.

SEE SHEET 60

MATCHLINE STA. 1016+42

MATCHLINE STA. 1020+84



Mark J. Eicher, P.E., P.S.
 155 Rehl Road
 Zanesville, Ohio 43701
Wiskingum
County
ENGINEER'S OFFICE 740-434-0155

PREPARED BY:
 17-87-04-07-000
 ADF, LLC
 2005 Licking Rd

PROJECT NAME:
 SANITARY SEWER IMPROVEMENTS
 KNOX ROAD TO GRIEF ROAD

PROJECT LOCATION:
 LICKING VIEW
 ZANESVILLE, OHIO 43701

PLANS APPROVED BY:
 MJE

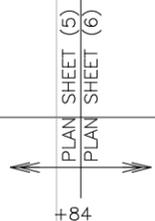
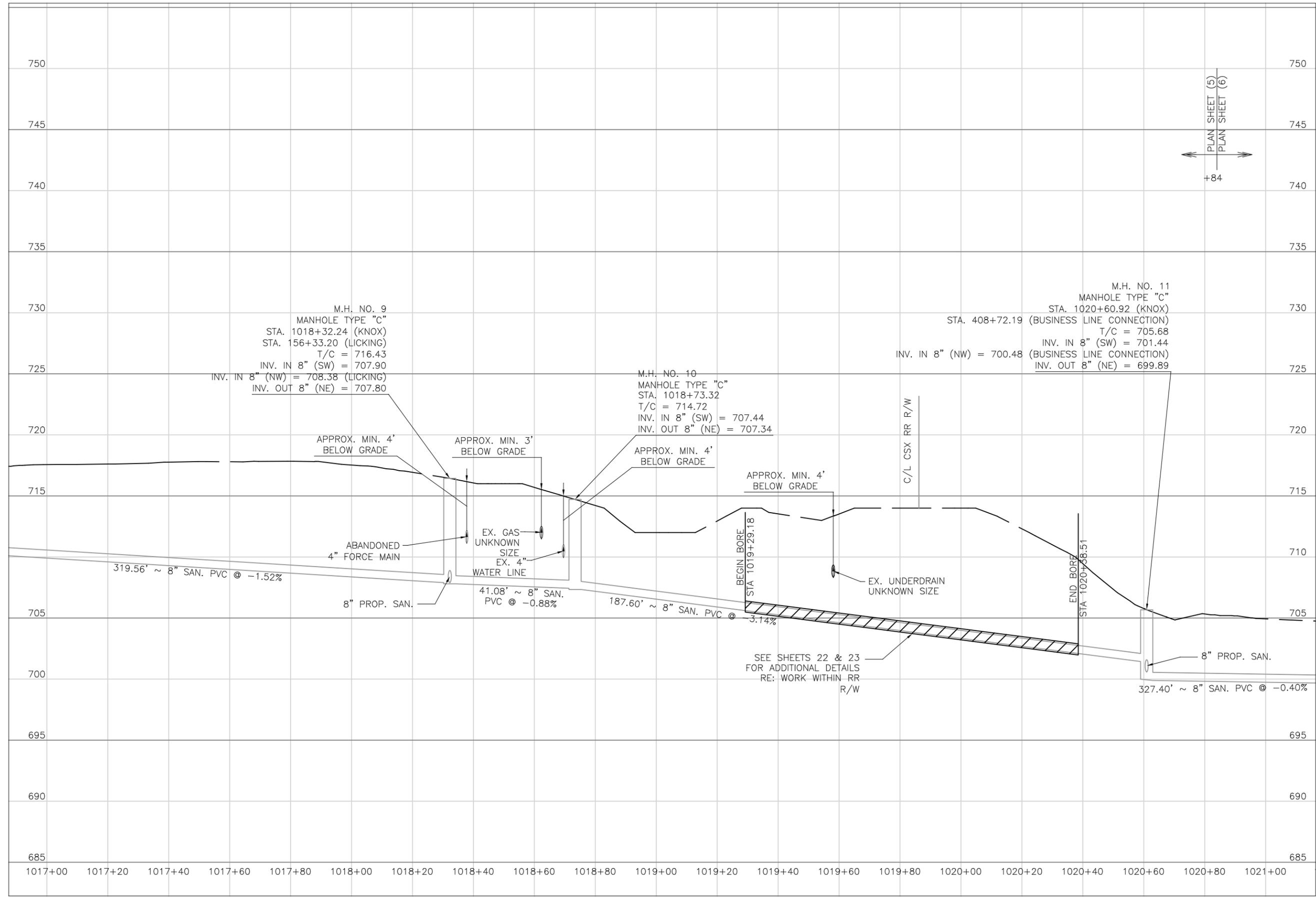
PLANS PREPARED BY:
 GJW

DATE:
 08/14/2023

SHEET SIZE:
 11" x 17"

SHEET NAME:
 PLAN SHEET (5)

SHEET NUMBER:
 19
 118



M.H. NO. 9
MANHOLE TYPE "C"
STA. 1018+32.24 (KNOX)
STA. 156+33.20 (LICKING)
T/C = 716.43
INV. IN 8" (SW) = 707.90
INV. IN 8" (NW) = 708.38 (LICKING)
INV. OUT 8" (NE) = 707.80

M.H. NO. 10
MANHOLE TYPE "C"
STA. 1018+73.32
T/C = 714.72
INV. IN 8" (SW) = 707.44
INV. OUT 8" (NE) = 707.34

M.H. NO. 11
MANHOLE TYPE "C"
STA. 1020+60.92 (KNOX)
STA. 408+72.19 (BUSINESS LINE CONNECTION)
T/C = 705.68
INV. IN 8" (SW) = 701.44
INV. IN 8" (NW) = 700.48 (BUSINESS LINE CONNECTION)
INV. OUT 8" (NE) = 699.89

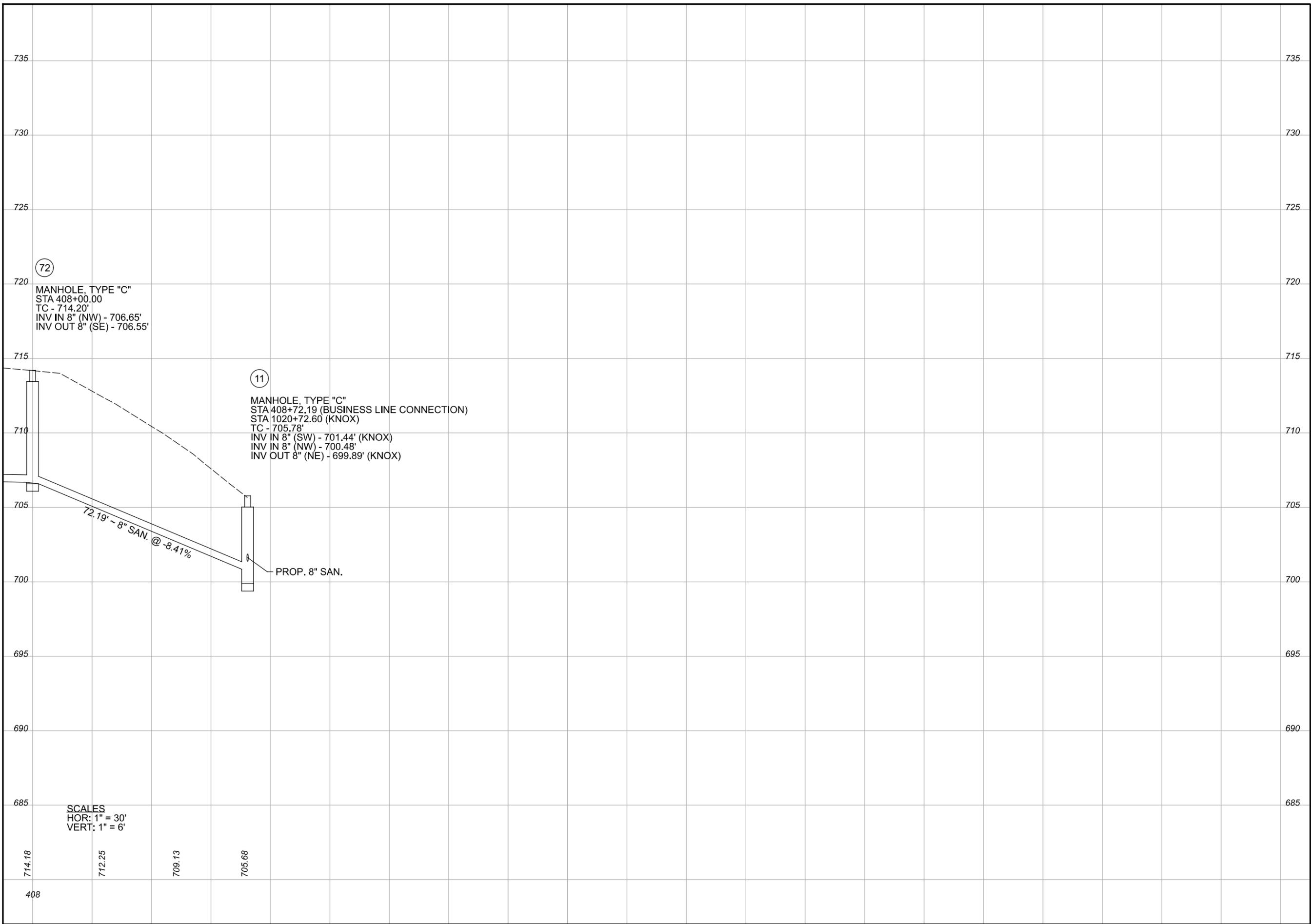
PREPARED BY:	
PROJECT NAME:	SANITARY SEWER IMPROVEMENTS KNOX ROAD
PROJECT LOCATION:	LICKING VIEW ZANESVILLE, OHIO 43701

PLANS APPROVED BY:	MJE
PLANS PREPARED BY:	HJ
DATE:	08/15/2023

REVISION:	
SHEET SIZE:	11" x 17"

SHEET NAME:	PROFILE MANHOLE 9 - 11
-------------	------------------------------

SHEET NUMBER:	20 118
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72
 MANHOLE, TYPE "C"
 STA 408+00.00
 TC - 714.20'
 INV IN 8" (NW) - 706.65'
 INV OUT 8" (SE) - 706.55'

11
 MANHOLE, TYPE "C"
 STA 408+72.19 (BUSINESS LINE CONNECTION)
 STA 1020+72.60 (KNOX)
 TC - 705.78'
 INV IN 8" (SW) - 701.44' (KNOX)
 INV IN 8" (NW) - 700.48'
 INV OUT 8" (NE) - 699.89' (KNOX)

72.19' - 8" SAN. @ -8.41%

PROP. 8" SAN.

SCALES
 HOR: 1" = 30'
 VERT: 1" = 6'

714.18
 712.25
 709.13
 705.68

408

PREPARED BY:

PROJECT NAME:
 SANITARY SEWER IMPROVEMENT
 BUSINESS LINE CONNECTION TO KNOX ROAD

PROJECT LOCATION:
 LICKING VIEW
 ZANESVILLE, OHIO 43701

PLANS APPROVED BY:
 MJE

PLANS PREPARED BY:
 HJ

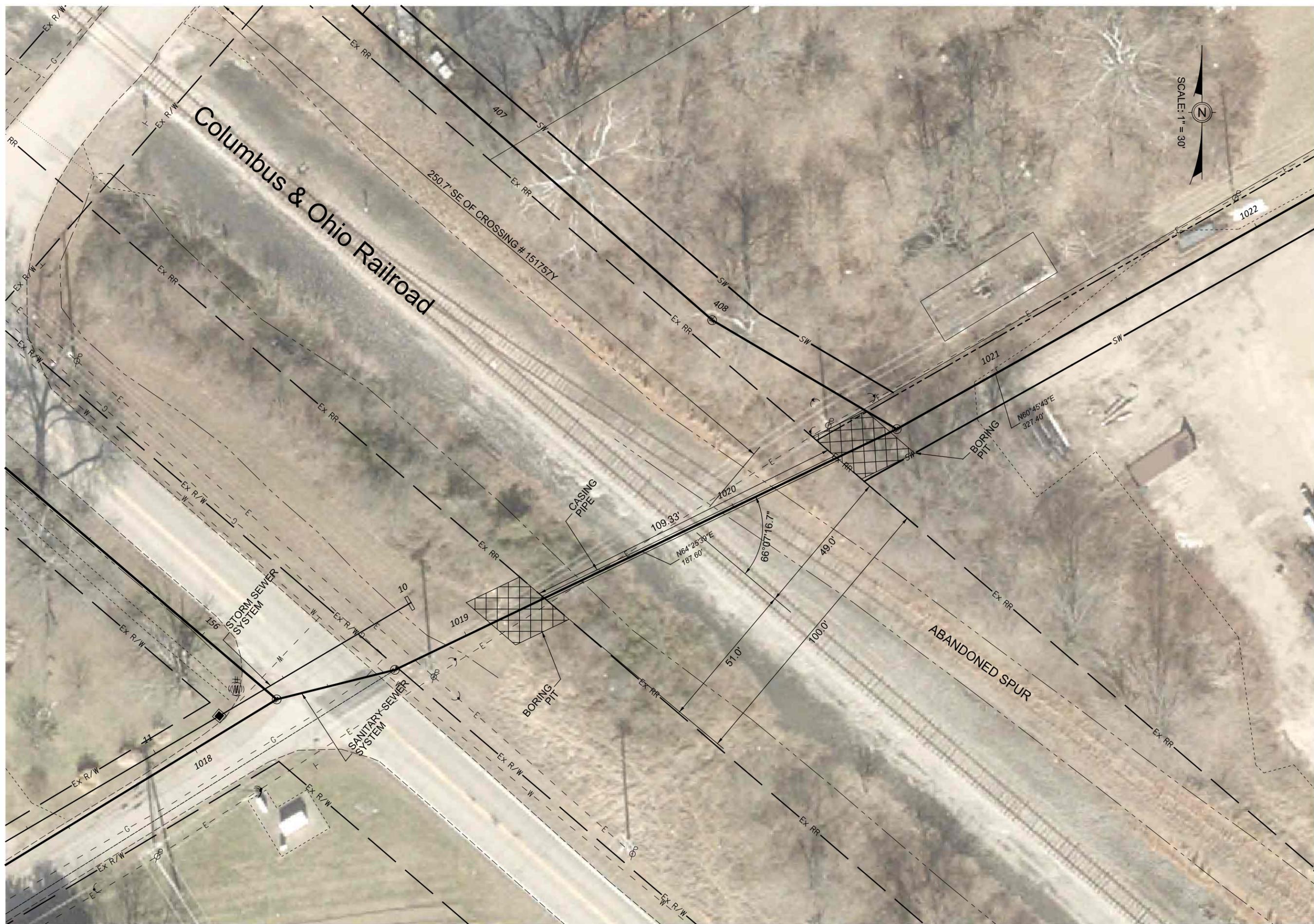
DATE:
 06/26/2023

REVISED:

SHEET SIZE:
 11" x 17"

SHEET NAME:
 PROFILE
 MANHOLE 72

SHEET NUMBER:
 21



SCALE: 1" = 30'

Mark J. Eichel, P.E., P.S.
 155 Rehl Road
 Zanesville, Ohio 43701
ENGINEER'S OFFICE 740-434-0155

PREPARED BY:

PROJECT NAME: SANITARY SEWER IMPROVEMENTS RAILROAD RIGHT-OF-WAY
 PROJECT LOCATION: LICKING VIEW ZANESVILLE, OHIO 43701

PLANS APPROVED BY:
 MJE

PLANS PREPARED BY:
 HJ

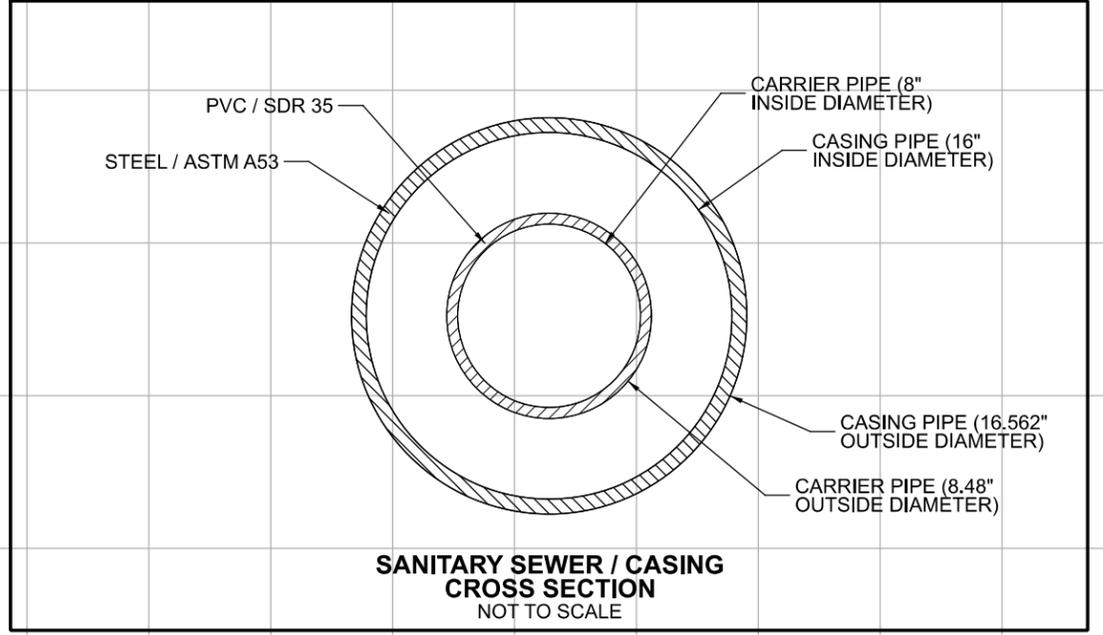
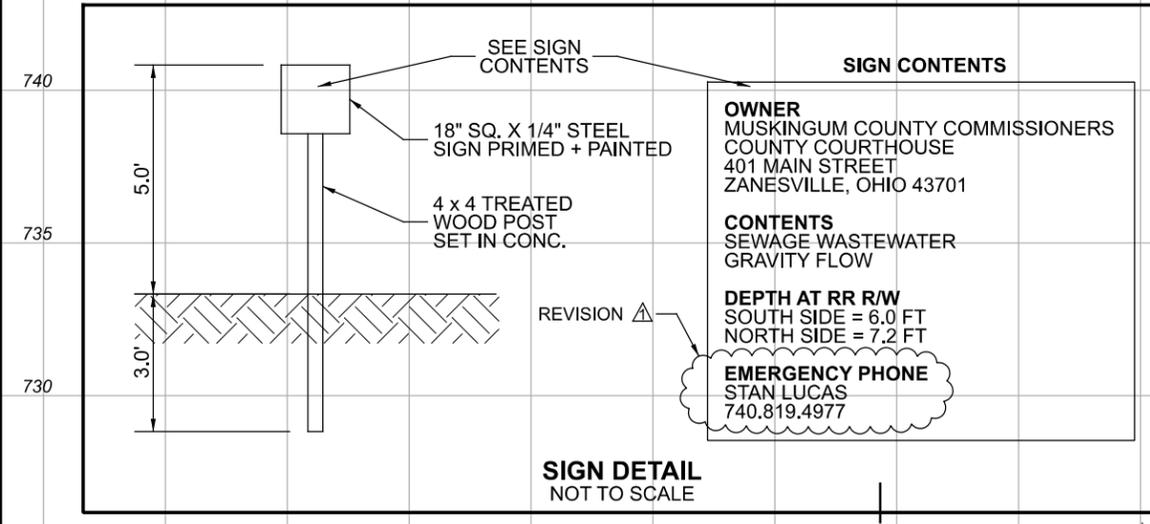
DATE:
 08/15/2023

REVISED:

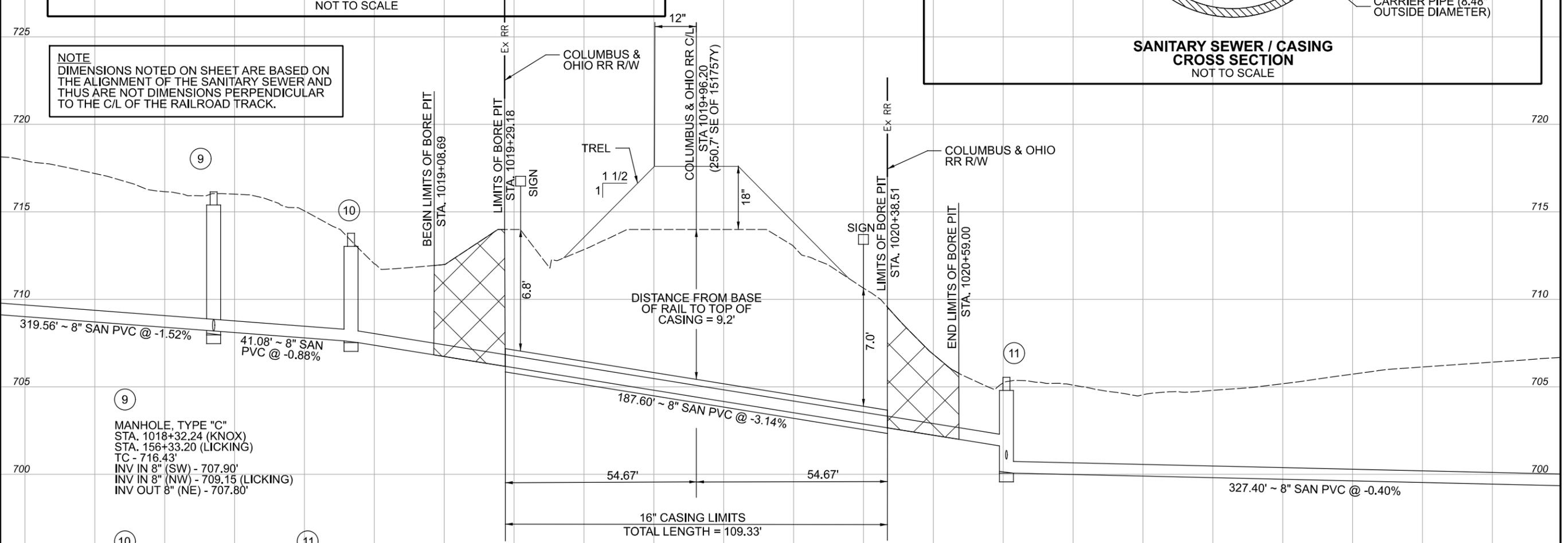
SHEET SIZE:
 11" x 17"

SHEET NAME:
 PLAN SHEET

SHEET NUMBER:
 22
 118



NOTE
DIMENSIONS NOTED ON SHEET ARE BASED ON THE ALIGNMENT OF THE SANITARY SEWER AND THUS ARE NOT DIMENSIONS PERPENDICULAR TO THE C/L OF THE RAILROAD TRACK.



9
MANHOLE, TYPE "C"
STA. 1018+32.24 (KNOX)
STA. 156+33.20 (LICKING)
TC - 716.43'
INV IN 8" (SW) - 707.90'
INV IN 8" (NW) - 709.15 (LICKING)
INV OUT 8" (NE) - 707.80'

10
MANHOLE, TYPE "C"
STA. 1018+73.32
TC - 714.72'
INV IN 8" (SW) - 707.44'
INV OUT 8" (NE) - 707.34'

11
MANHOLE, TYPE "C"
STA. 1020+60.92 (KNOX)
STA. 408+72.19 (BUSINESS LINE CONNECTION)
TC - 705.68'
INV IN 8" (SW) - 701.44'
INV IN 8" (NW) - 700.85' (BUSINESS LINE CONNECTION)
INV OUT 8" (NE) - 699.89'

CARRIER & CASING PIPE MATERIAL DETAILS									
CARRIER PIPE DETAILS									
MATERIAL	SIZE	PIPE SPECS	JOINT SPEC	INSTALLATION	PRESSURE	WALL THICKNESS(IN)	GRADE	TENSILE STRENGTH MIN PSI	YEILD STRENGTH MIN PSI
PVC/SDR35	8"	ASTM D3034	ASTM D3212	ASTM D2321	46	0.253	-	-	-
CASING PIPE DETAILS									
STEEL	16"	-	-	-	1148	.375	A	48000	30000

REVISION	REV. BY	DATE	DESCRIPTION
△	GJW	09/08/2023	EMERGENCY CONTACT PHONE NUMBER

Mark J. Echer, P.E., P.S.
155 Rehl Road
Zanesville, Ohio 43701
Muskingum County ENGINEER'S OFFICE 740-454-0155

PROJECT NAME: SANITARY SEWER IMPROVEMENTS RAILROAD RIGHT-OF-WAY
PROJECT LOCATION: LICKING VIEW ZANESVILLE, OHIO 43701

PLANS APPROVED BY: MJE

PLANS PREPARED BY: HJ

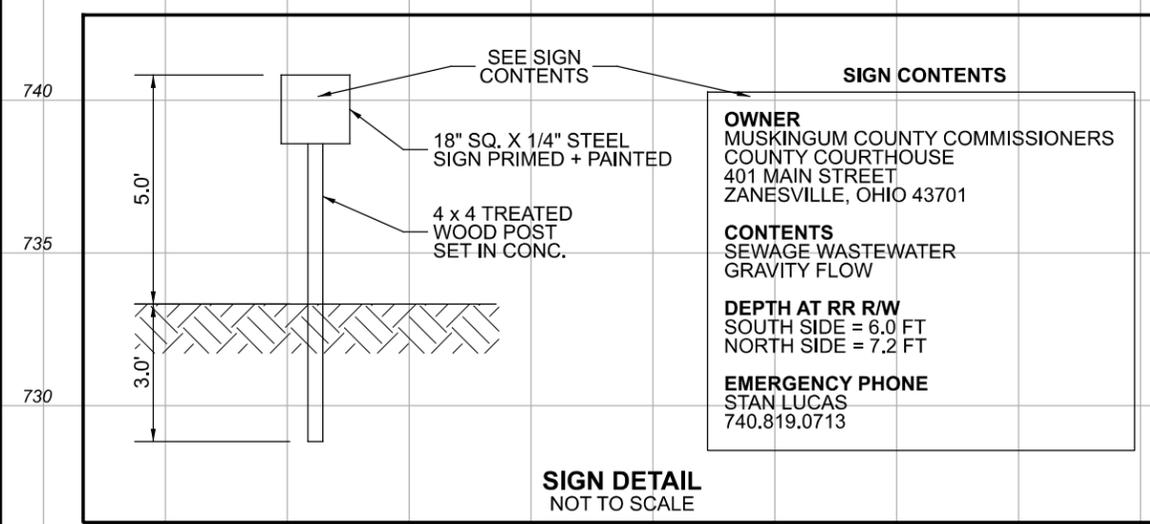
DATE: 08/15/2023

REVISED: 09/08/2023

SHEET SIZE: 11" x 17"

SHEET NAME: PROFILE RR X-ING

SHEET NUMBER: 23 / 118



SIGN CONTENTS

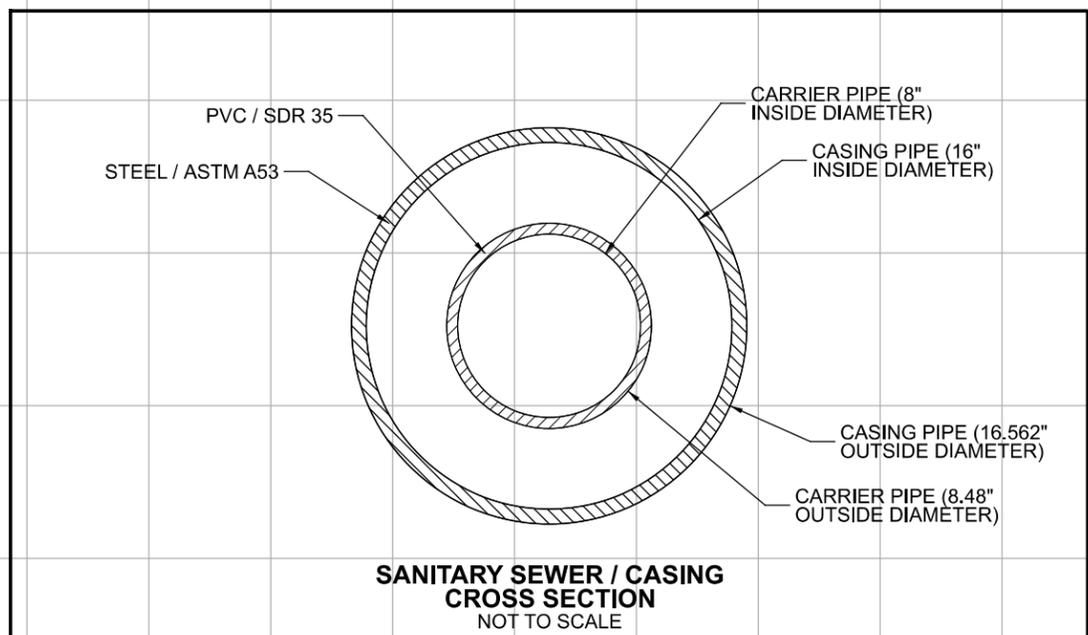
OWNER
MUSKINGUM COUNTY COMMISSIONERS
COUNTY COURTHOUSE
401 MAIN STREET
ZANESVILLE, OHIO 43701

CONTENTS
SEWAGE WASTEWATER
GRAVITY FLOW

DEPTH AT RR R/W
SOUTH SIDE = 6.0 FT
NORTH SIDE = 7.2 FT

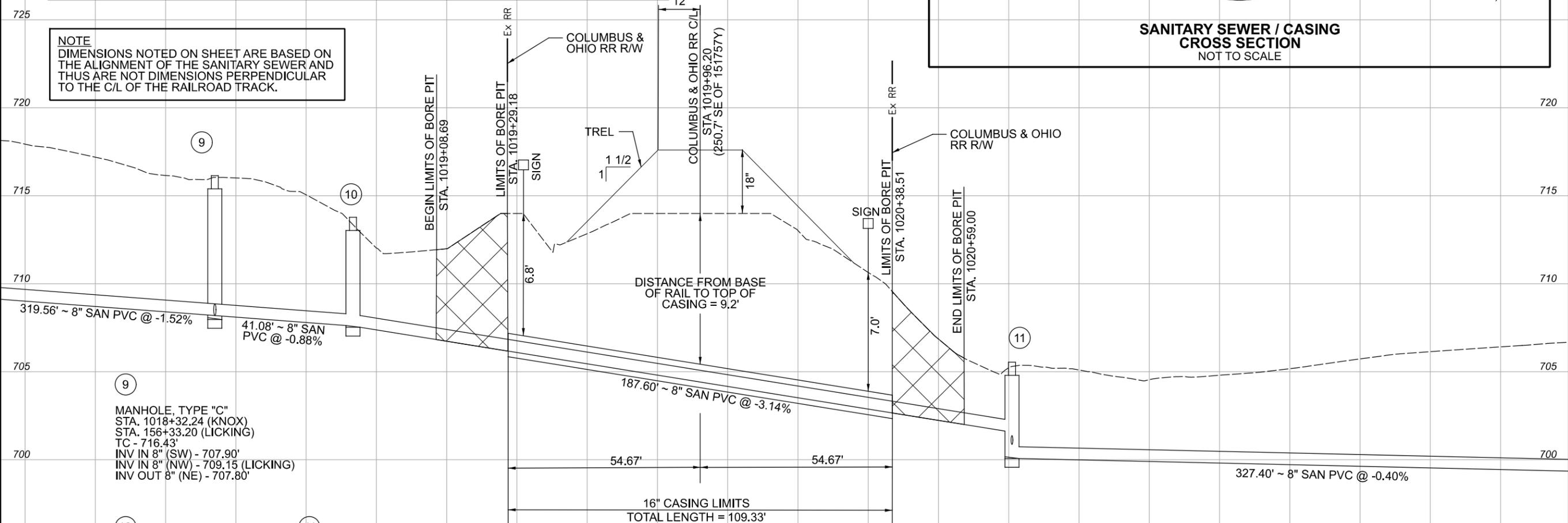
EMERGENCY PHONE
STAN LUCAS
740.819.0713

SIGN DETAIL
NOT TO SCALE



SANITARY SEWER / CASING
CROSS SECTION
NOT TO SCALE

NOTE
DIMENSIONS NOTED ON SHEET ARE BASED ON THE ALIGNMENT OF THE SANITARY SEWER AND THUS ARE NOT DIMENSIONS PERPENDICULAR TO THE C/L OF THE RAILROAD TRACK.



9
MANHOLE, TYPE "C"
STA. 1018+32.24 (KNOX)
STA. 156+33.20 (LICKING)
TC - 716.43'
INV IN 8" (SW) - 707.90'
INV IN 8" (NW) - 709.15' (LICKING)
INV OUT 8" (NE) - 707.80'

10
MANHOLE, TYPE "C"
STA. 1018+73.32
TC - 714.72'
INV IN 8" (SW) - 707.44'
INV OUT 8" (NE) - 707.34'

11
MANHOLE, TYPE "C"
STA. 1020+60.92 (KNOX)
STA. 408+72.19 (BUSINESS LINE CONNECTION)
TC - 705.68'
INV IN 8" (SW) - 701.44'
INV IN 8" (NW) - 700.85' (BUSINESS LINE CONNECTION)
INV OUT 8" (NE) - 699.89'

CARRIER & CASING PIPE MATERIAL DETAILS									
CARRIER PIPE DETAILS									
MATERIAL	SIZE	PIPE SPECS	JOINT SPEC	INSTALLATION	PRESSURE	WALL THICKNESS(IN)	GRADE	TENSILE STRENGTH MIN PSI	YEILD STRENGTH MIN PSI
PVC/SDR35	8"	ASTM D3034	ASTM D3212	ASTM D2321	46	0.253	-	-	-
CASING PIPE DETAILS									
STEEL	16"	-	-	-	1148	.375	A	48000	30000

Mark J. Echer, P.E., P.S.
155 Rehl Road
Zanesville, Ohio 43701
Muskingum County ENGINEER'S OFFICE 740-454-0155

PROJECT NAME: SANITARY SEWER IMPROVEMENTS RAILROAD RIGHT-OF-WAY
PROJECT LOCATION: LICKING VIEW ZANESVILLE, OHIO 43701

PLANS APPROVED BY: MJE

PLANS PREPARED BY: HJ

DATE: 08/15/2023

REVISED:

SHEET SIZE: 11" x 17"

SHEET NAME: PROFILE RR X-ING

SHEET NUMBER:

MATCHLINE STA. 1020+84

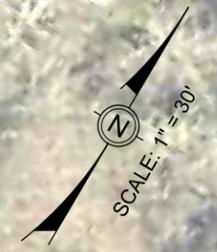
MATCHLINE STA. 1025+25

17-87-04-07-000
ADF, LLC
2005 Licking Rd

17-87-04-09-000
ADF, LLC
Greif Rd

17-87-04-10-000
Ransom Holdings 3, LLC
2055 Greif Rd

- NOTES:
1. PROPOSED EASEMENTS SHOWN ARE SET 10 FOOT OFF PROPOSED SANITARY SEWER. USE BEARINGS AND 10 FOOT OFFSETS TO ESTABLISH LIMITS WITHIN EACH PROPERTY WHERE PROPOSED EASEMENTS ARE NOTED.
 2. MANHOLE NO. 12 NOT USED.



Mark J. Eicher, P.E., P.S.
155 Rehl Road
Zanesville, Ohio 43701
Wiskingum
County
ENGINEER'S OFFICE

PREPARED BY:

PROJECT NAME: SANITARY SEWER IMPROVEMENTS TO GRIEF ROAD
PROJECT LOCATION: LICKING VIEW ZANESVILLE, OHIO 43701

PLANS APPROVED BY: MJE

PLANS PREPARED BY: GJW

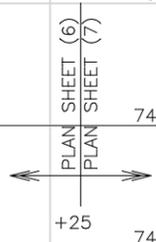
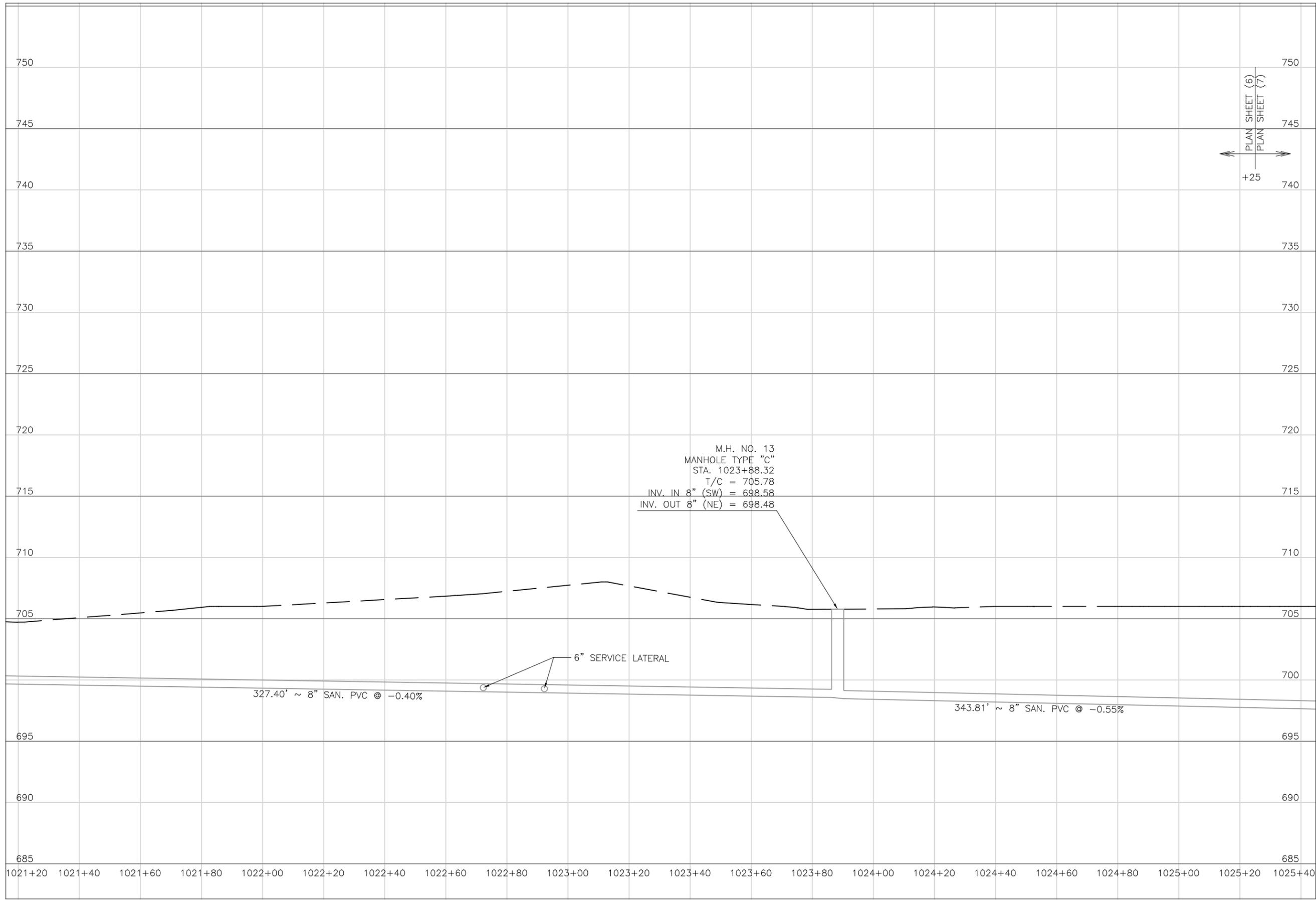
DATE: 08/14/2023

REVISED:

SHEET SIZE: 11" x 17"

SHEET NAME: PLAN SHEET (6)

SHEET NUMBER: 24 / 118



Mark J. Eicher, P.E., P.S.
Muskingum County ENGINEER'S OFFICE
 155 Nehl Road
 Zanesville, Ohio 43701
 740-454-0155

PREPARED BY:

PROJECT NAME: **SANITARY SEWER IMPROVEMENTS
KNOX ROAD TO GRIEF ROAD**

PROJECT LOCATION: **LICKING VIEW
ZANESVILLE, OHIO 43701**

PLANS APPROVED BY: **MJE**

PLANS PREPARED BY: **HJ**

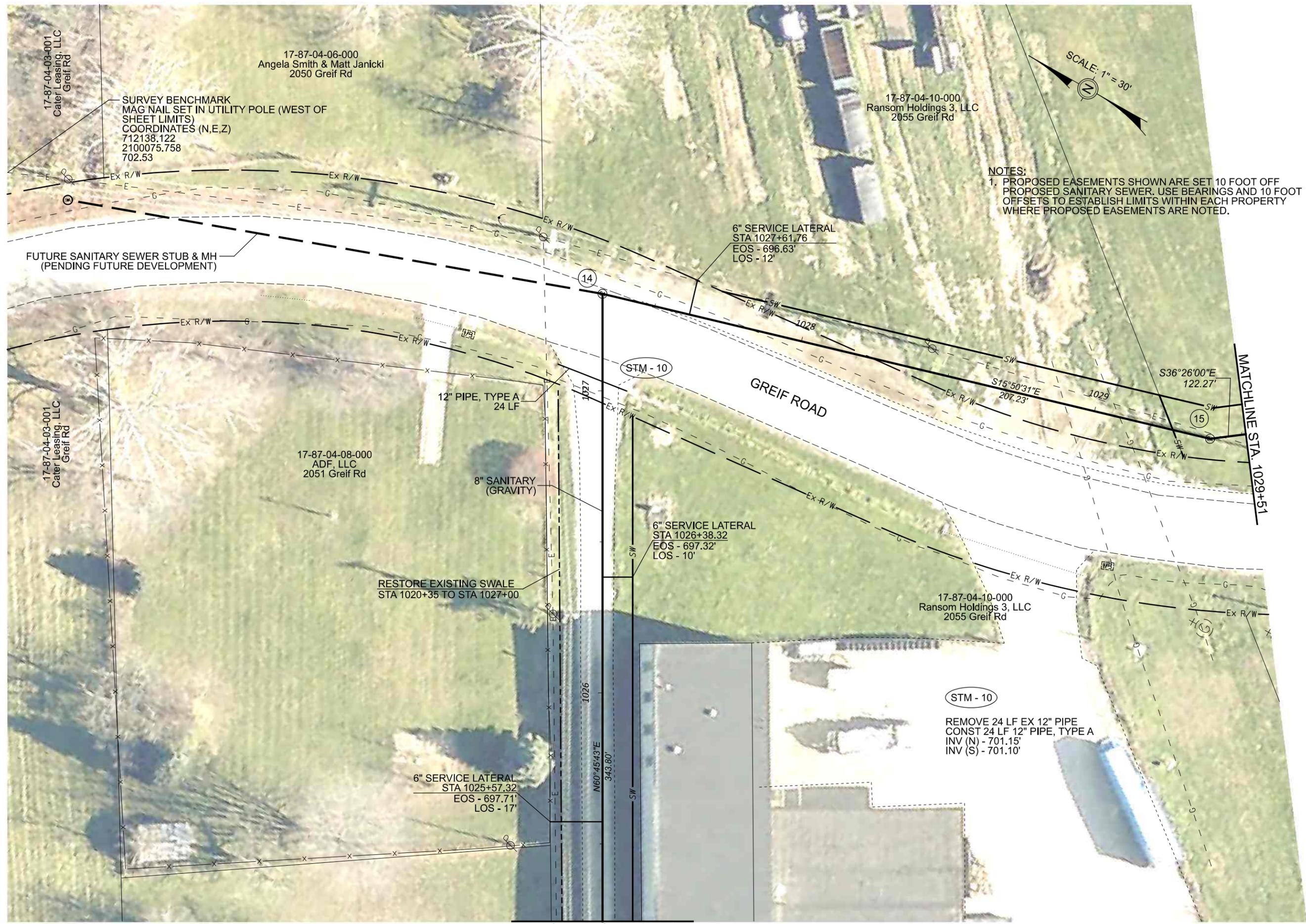
DATE: **08/15/2023**

REVISED:

SHEET SIZE: **11" x 17"**

SHEET NAME: **PROFILE
MANHOLE 13**

SHEET NUMBER: **25**
 118



NOTES:
 1. PROPOSED EASEMENTS SHOWN ARE SET 10 FOOT OFF PROPOSED SANITARY SEWER. USE BEARINGS AND 10 FOOT OFFSETS TO ESTABLISH LIMITS WITHIN EACH PROPERTY WHERE PROPOSED EASEMENTS ARE NOTED.

Mark J. Eicher, P.E., P.S.
 155 Rehl Road
 Zanesville, Ohio 43701
Wiskingum County
ENGINEER'S OFFICE 740-434-0155

PREPARED BY:
 PROJECT NAME: SANITARY SEWER IMPROVEMENTS
 PROJECT LOCATION: LICKING VIEW
 ZANESVILLE, OHIO 43701

PLANS APPROVED BY:
 MJE

PLANS PREPARED BY:
 GJW

DATE:
 08/14/2023

REVISD:

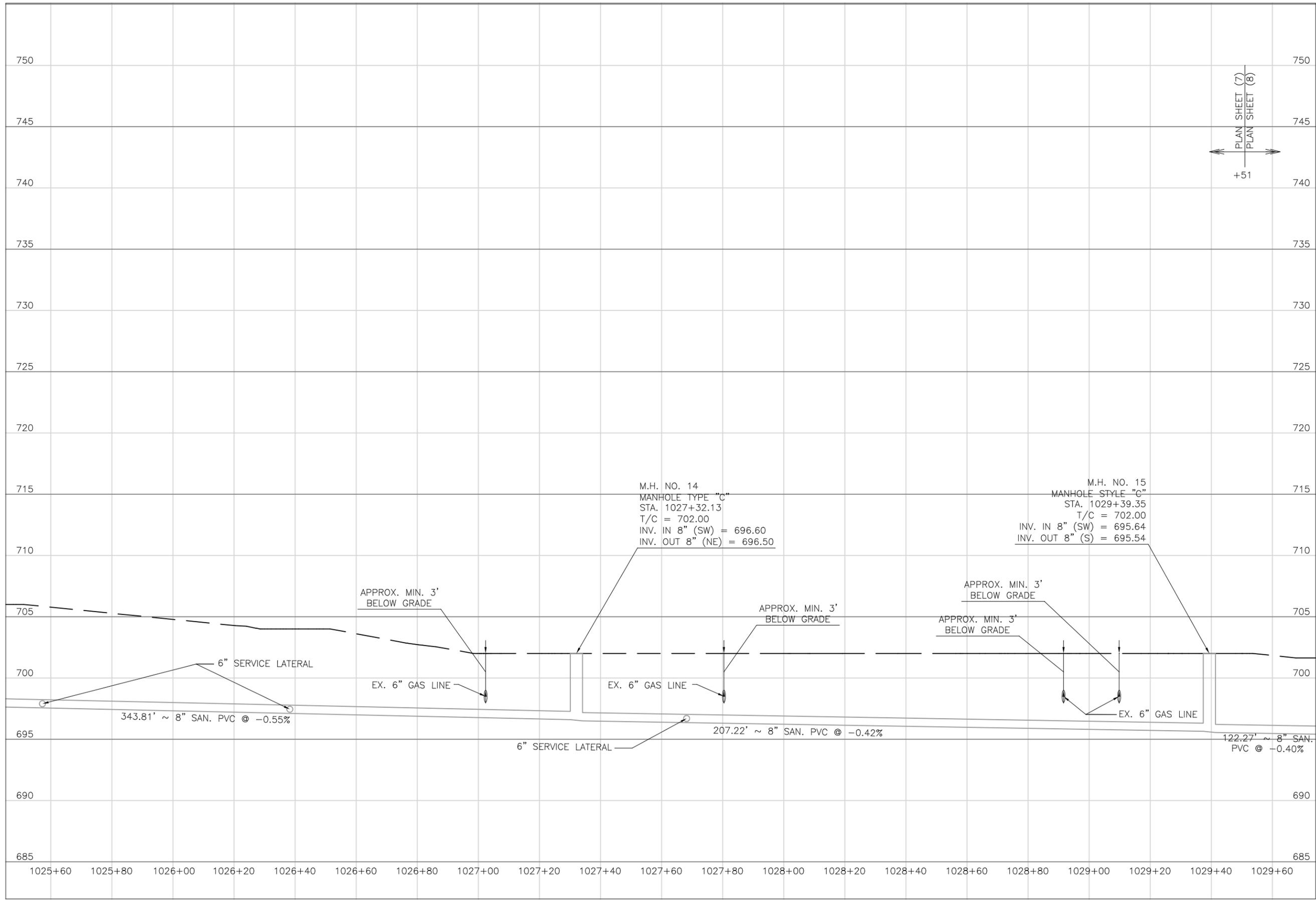
SHEET SIZE:
 11" x 17"

SHEET NAME:
 PLAN SHEET (7)

SHEET NUMBER:
 26
 118

MATCHLINE STA. 1025+25

MATCHLINE STA. 1029+51



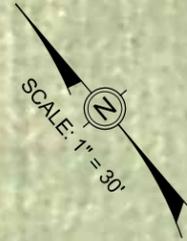
Mark J. Eicher, P.E., P.S.
Muskingum County ENGINEER'S OFFICE
 155 Kehl Road
 Zanesville, Ohio 43701
 740-454-0155

PREPARED BY: **Muskingum County ENGINEER'S OFFICE**
 PROJECT NAME: **SANITARY SEWER IMPROVEMENTS TO GRIEF ROAD**
 PROJECT LOCATION: **LICKING VIEW ZANESVILLE, OHIO 43701**

PLANS APPROVED BY: **MJE**
 PLANS PREPARED BY: **HJ**
 DATE: **08/15/2023**

SHEET SIZE: **11" x 17"**
 SHEET NAME: **PROFILE MANHOLE 14 & 15**
 SHEET NUMBER: **27** (of 118)

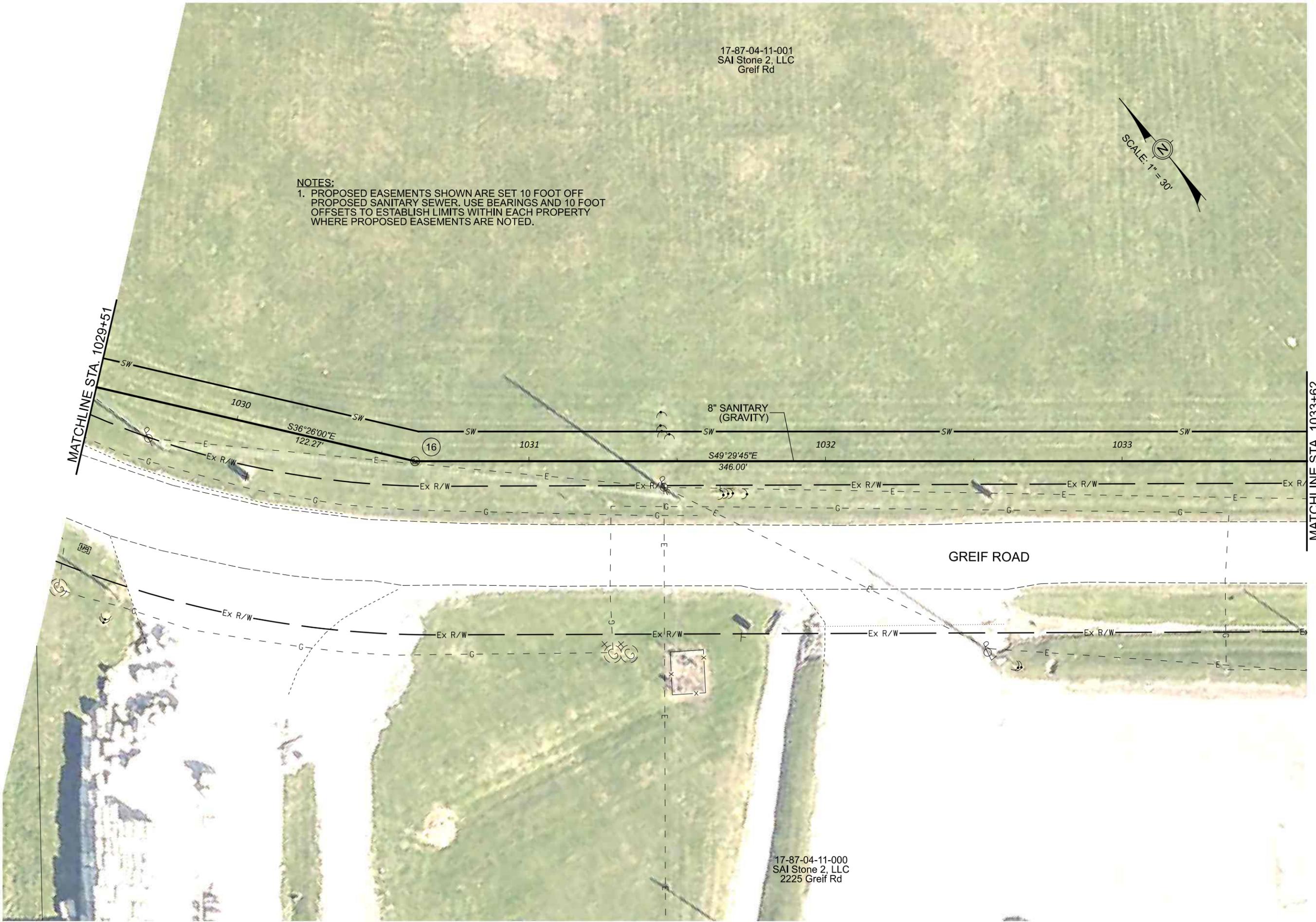
17-87-04-11-001
SAI Stone 2, LLC
Greif Rd



NOTES:
1. PROPOSED EASEMENTS SHOWN ARE SET 10 FOOT OFF PROPOSED SANITARY SEWER. USE BEARINGS AND 10 FOOT OFFSETS TO ESTABLISH LIMITS WITHIN EACH PROPERTY WHERE PROPOSED EASEMENTS ARE NOTED.

MATCHLINE STA. 1029+51

MATCHLINE STA. 1033+62



17-87-04-11-000
SAI Stone 2, LLC
2225 Greif Rd

Mark J. Eicher, P.E., P.S.
155 Rehl Road
Zanesville, Ohio 43701
Wiskingum
County
ENGINEER'S OFFICE 740-454-0155

PREPARED BY:

PROJECT NAME: SANITARY SEWER IMPROVEMENTS
GRIEF ROAD
PROJECT LOCATION: LICKING VIEW
ZANESVILLE, OHIO 43701

PLANS APPROVED BY:

MJE

PLANS PREPARED BY:

GJW

DATE:

08/14/2023

REVISED:

SHEET SIZE:

11" x 17"

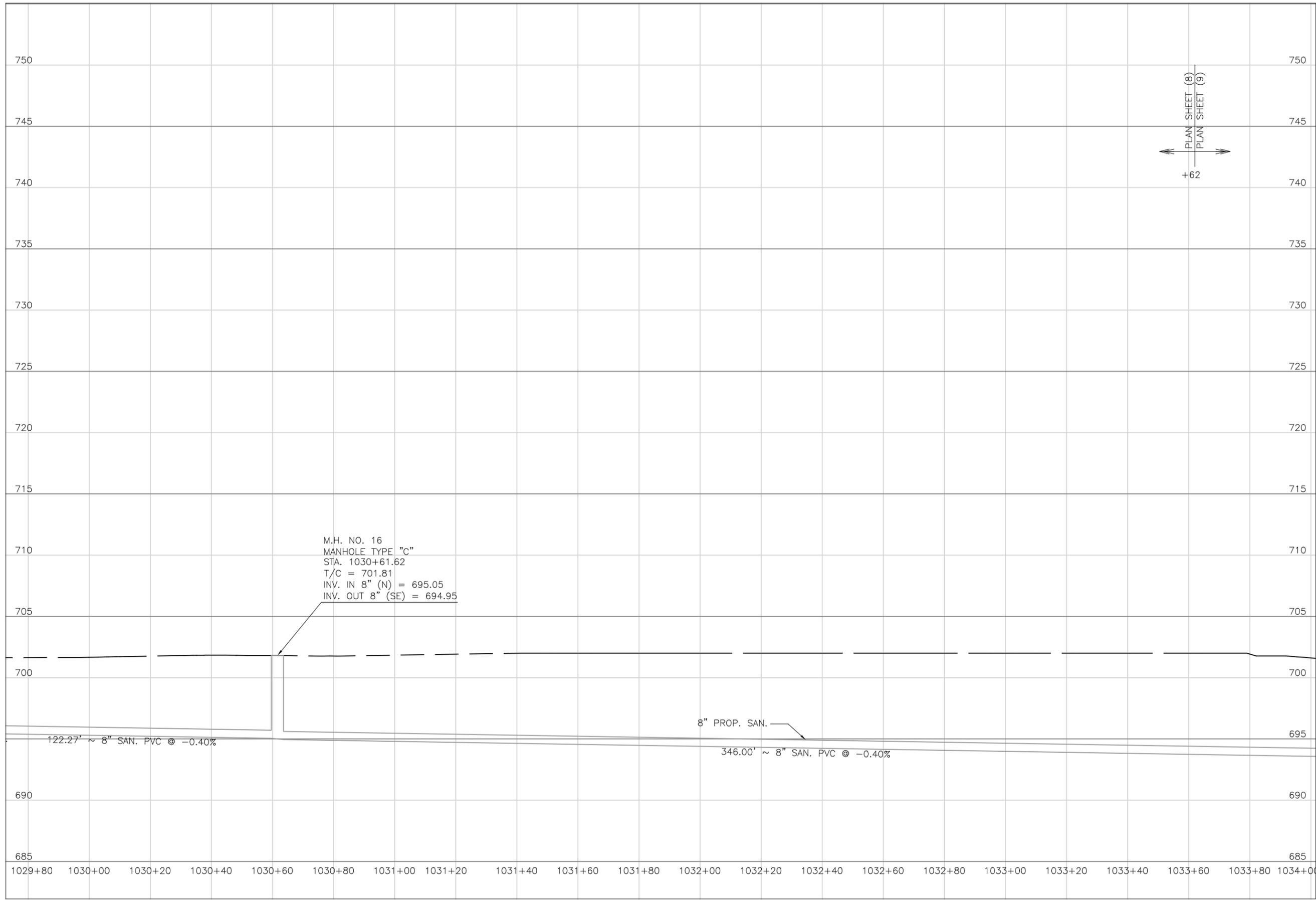
SHEET NAME:

PLAN SHEET (8)

SHEET NUMBER:

28

118



PLAN SHEET (8)
 PLAN SHEET (9)
 +62

PREPARED BY:
 PROJECT NAME: **SANITARY SEWER IMPROVEMENTS**
 PROJECT LOCATION: **LICKING VIEW GRIEF ROAD**
ZANESVILLE, OHIO 43701

PLANS APPROVED BY:
MJE

PLANS PREPARED BY:
HJ

DATE:
08/15/2023

REVISED:

SHEET SIZE:
11" x 17"

SHEET NAME:
PROFILE MANHOLE 16

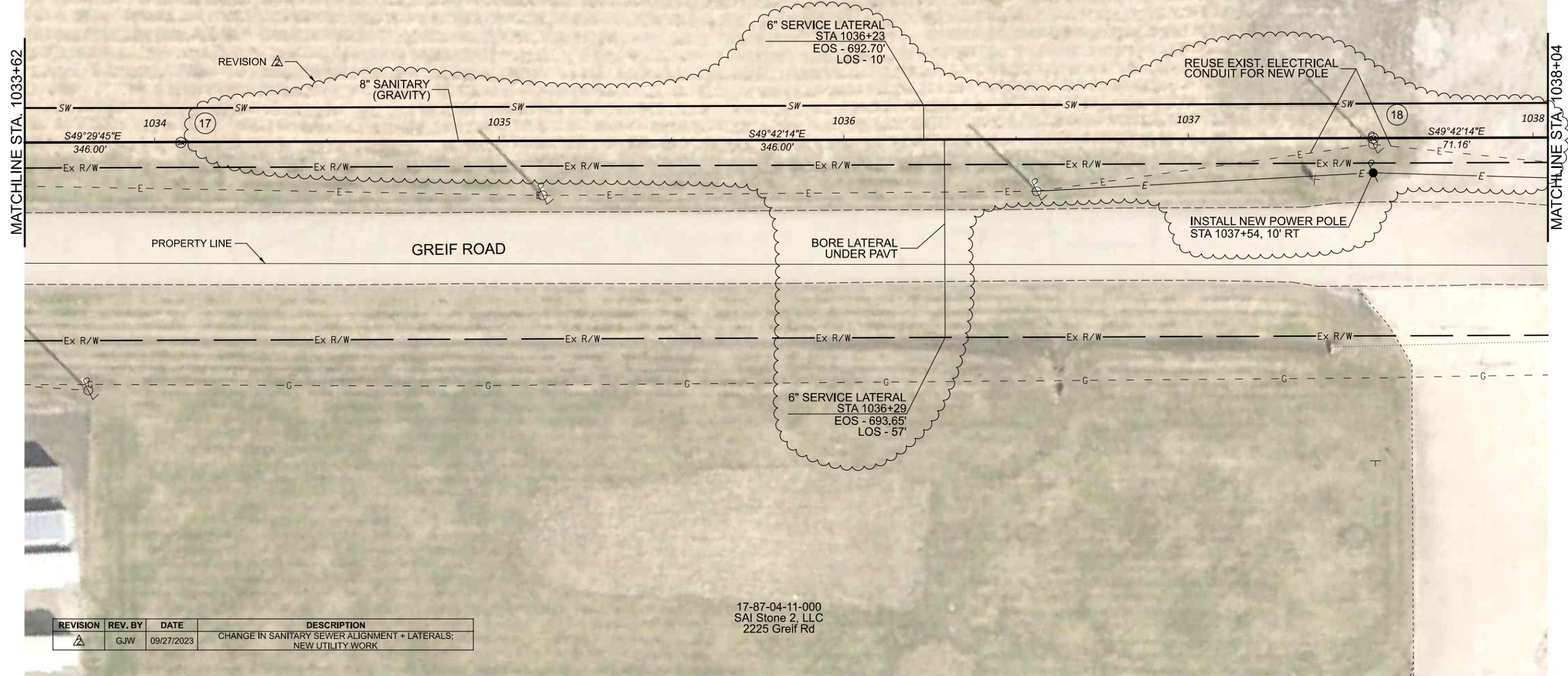
SHEET NUMBER:
29
118

17-87-04-11-001
SAI Stone 2, LLC
Greif Rd



NOTES:

1. PROPOSED EASEMENTS SHOWN ARE SET 10 FOOT OFF PROPOSED SANITARY SEWER. USE BEARINGS AND 10 FOOT OFFSETS TO ESTABLISH LIMITS WITHIN EACH PROPERTY WHERE PROPOSED EASEMENTS ARE NOTED.
2. SERVICE LATERAL @ STA 1036+29 RT SHALL BE BORED UNDER GREIF RD TO MAINTAIN BUSINESS ACCESS TO PROPERTY AT 2225 GREIF RD.



17-87-04-11-000
SAI Stone 2, LLC
2225 Greif Rd

REVISION	REV. BY	DATE	DESCRIPTION
△	GJW	09/27/2023	CHANGE IN SANITARY SEWER ALIGNMENT + LATERALS; NEW UTILITY WORK

Mark J. Echer, P.E., P.S.
155 Rehl Road
Zanesville, Ohio 43701
ENGINEER'S OFFICE 740-454-0155

PREPARED BY:
Wiskingum
County
ENGINEER'S OFFICE

PROJECT NAME:
SANITARY SEWER IMPROVEMENTS
GRIEF ROAD TO PUMP STATION

PROJECT LOCATION:
LICKING VIEW
ZANESVILLE, OHIO 43701

PLANS APPROVED BY:

MJE

PLANS PREPARED BY:

GJW

DATE:

08/14/2023

REVISED:

03/08/2024

SHEET SIZE:

11" x 17"

SHEET NAME:

PLAN SHEET (9)

SHEET NUMBER:

30
118

17-87-04-11-001
SAI Stone 2, LLC
Greif Rd

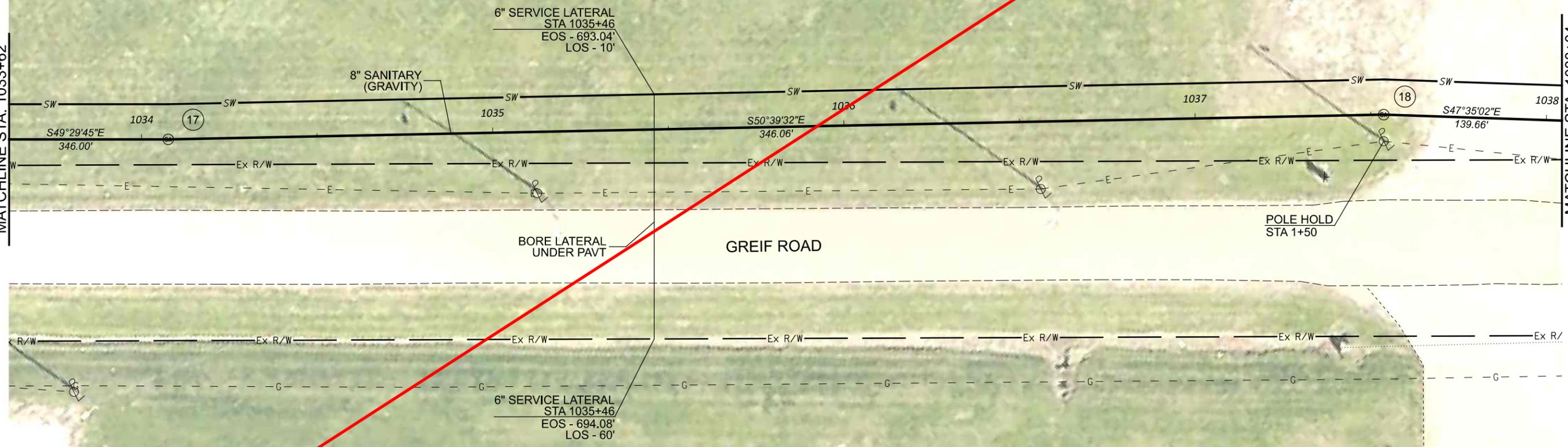
NOTES:

1. PROPOSED EASEMENTS SHOWN ARE SET 10 FOOT OFF PROPOSED SANITARY SEWER. USE BEARINGS AND 10 FOOT OFFSETS TO ESTABLISH LIMITS WITHIN EACH PROPERTY WHERE PROPOSED EASEMENTS ARE NOTED.
2. SERVICE LATERAL @ STA 1035+46 RT SHALL BE BORED UNDER GREIF RD TO MAINTAIN BUSINESS ACCESS TO PROPERTY AT 2225 GREIF RD.



MATCHLINE STA. 1033+62

MATCHLINE STA. 1038+04



17-87-04-11-000
SAI Stone 2, LLC
2225 Greif Rd

Mark J. Eichel, P.E., P.S.
155 Rehl Road
Zanesville, Ohio 43701
ENGINEER'S OFFICE 740-434-0155

PREPARED BY:
Wiskingum
County
ENGINEER'S OFFICE

PROJECT NAME:
SANITARY SEWER IMPROVEMENTS
GRIEF ROAD TO PUMP STATION

PROJECT LOCATION:
LICKING VIEW
ZANESVILLE, OHIO 43701

PLANS APPROVED BY:
MJE

PLANS PREPARED BY:
GJW

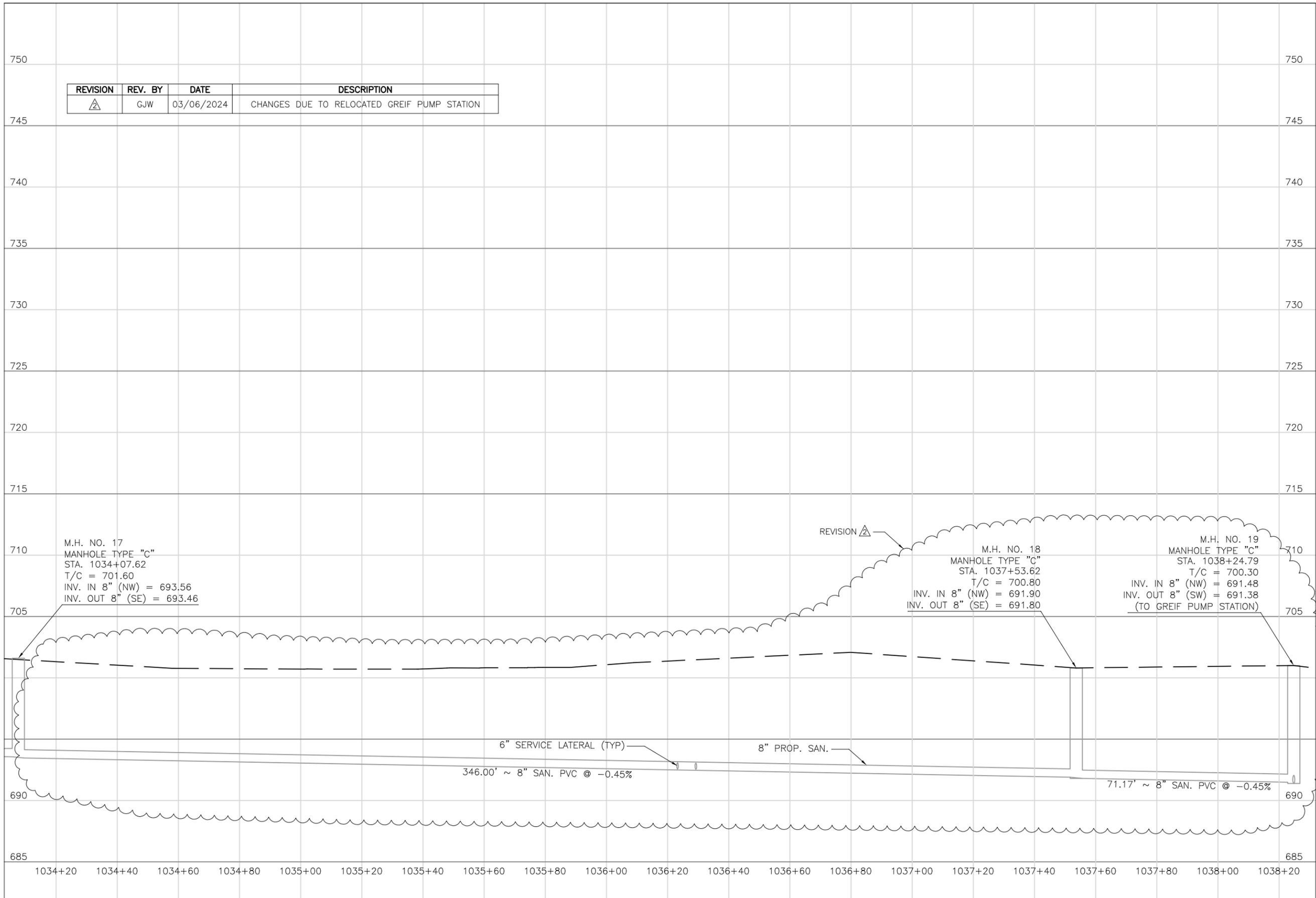
DATE:
08/14/2023

REVISIONS:

SHEET SIZE:
11" x 17"

SHEET NAME:
PLAN SHEET (9)

SHEET NUMBER:
30
118



REVISION	REV. BY	DATE	DESCRIPTION
△	GJW	03/06/2024	CHANGES DUE TO RELOCATED GREIF PUMP STATION

Mark J. Eicher, P.E., P.S.
 155 Kehl Road
 Zanesville, Ohio 43701
Muskingum
County
ENGINEER'S OFFICE 740-454-0155

PREPARED BY:
 PROJECT NAME: SANITARY SEWER IMPROVEMENTS
 GRIEF ROAD
 PROJECT LOCATION: LICKING VIEW
 ZANESVILLE, OHIO 43701

PLANS APPROVED BY:
MJE

PLANS PREPARED BY:
GJW

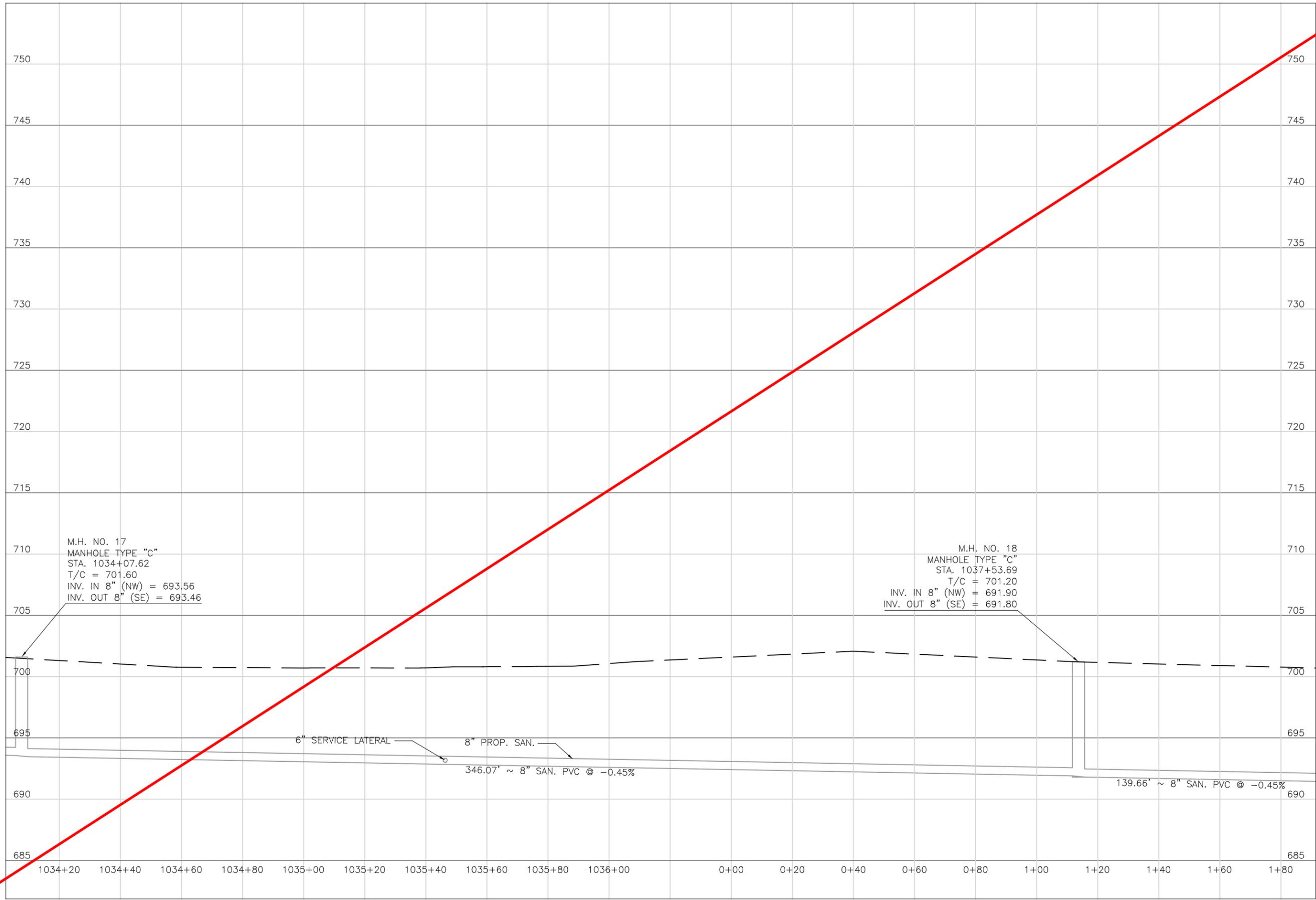
DATE:
08/15/2023

REVISED:
03/06/2024

SHEET SIZE:
11" x 17"

SHEET NAME:
PROFILE MANHOLES 17, 18 & 19

SHEET NUMBER:
31
118



Mark J. Eicher, P.E., P.S.
Muskingum
County
ENGINEER'S OFFICE 740-454-0155
 155 Kehl Road
 Zanesville, Ohio 43701

PREPARED BY:
 PROJECT NAME: **SANITARY SEWER IMPROVEMENTS**
 PROJECT LOCATION: **LICKING VIEW**
GRIEF ROAD
ZANESVILLE, OHIO 43701

PLANS APPROVED BY:
MJE

PLANS PREPARED BY:
HJ

DATE:
08/15/2023

REVISED:

SHEET SIZE:
11" x 17"

SHEET NAME:
PROFILE
MANHOLE
17 & 18

SHEET NUMBER:
31
118

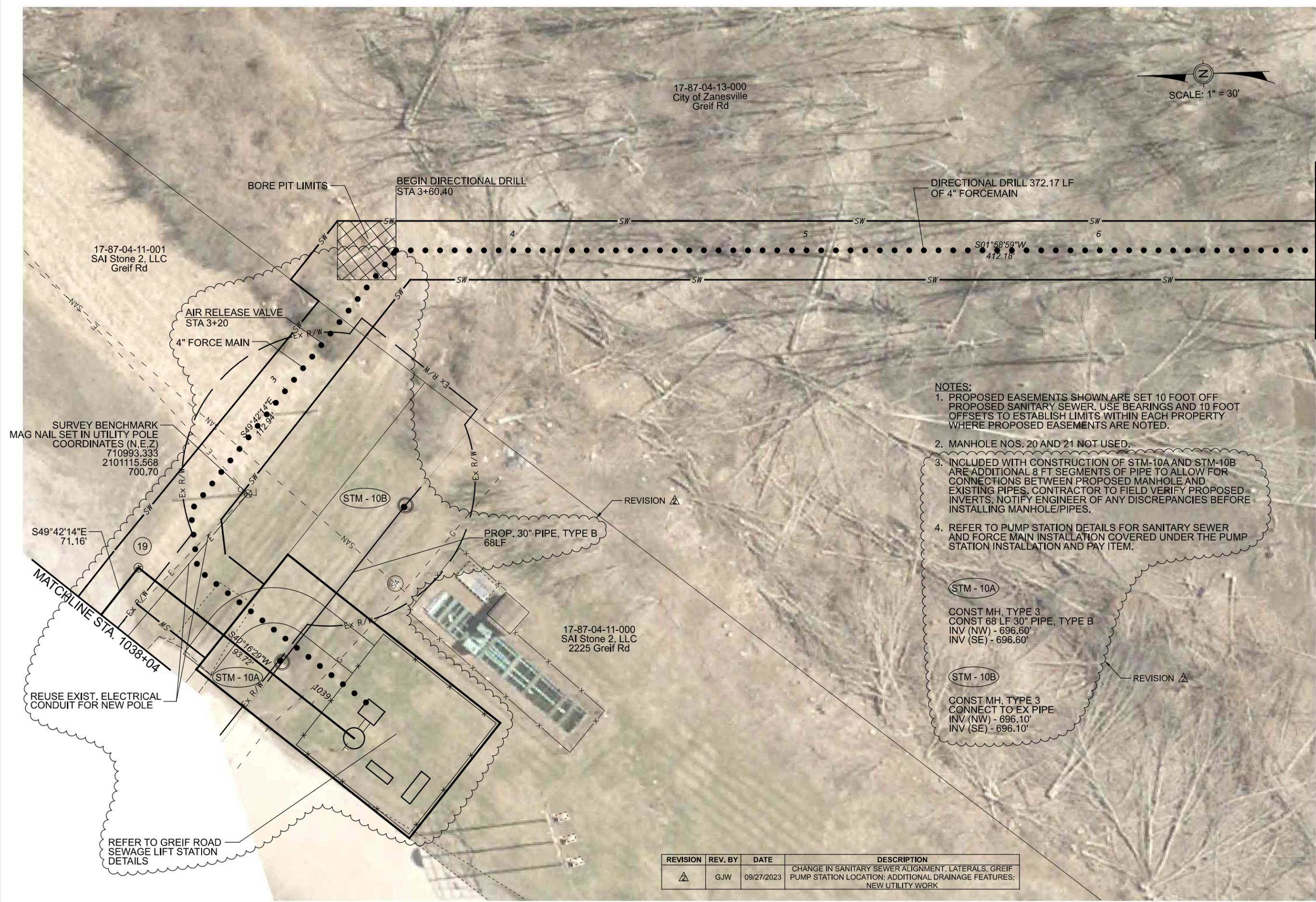
17-87-04-13-000
City of Zanesville
Greif Rd



Mark J. Echer, P.E., P.S.
155 Rehl Road
Zanesville, Ohio 43701
740-454-0155



MATCHLINE STA. 06+74



- NOTES:**
1. PROPOSED EASEMENTS SHOWN ARE SET 10 FOOT OFF PROPOSED SANITARY SEWER. USE BEARINGS AND 10 FOOT OFFSETS TO ESTABLISH LIMITS WITHIN EACH PROPERTY WHERE PROPOSED EASEMENTS ARE NOTED.
 2. MANHOLE NOS. 20 AND 21 NOT USED.
 3. INCLUDED WITH CONSTRUCTION OF STM-10A AND STM-10B ARE ADDITIONAL 8 FT SEGMENTS OF PIPE TO ALLOW FOR CONNECTIONS BETWEEN PROPOSED MANHOLE AND EXISTING PIPES. CONTRACTOR TO FIELD VERIFY PROPOSED INVERTS. NOTIFY ENGINEER OF ANY DISCREPANCIES BEFORE INSTALLING MANHOLE/PIPES.
 4. REFER TO PUMP STATION DETAILS FOR SANITARY SEWER AND FORCE MAIN INSTALLATION COVERED UNDER THE PUMP STATION INSTALLATION AND PAY ITEM.

- STM - 10A**
CONST MH, TYPE 3
CONST 68 LF 30" PIPE, TYPE B
INV (NW) - 696.60'
INV (SE) - 696.60'
- STM - 10B**
CONST MH, TYPE 3
CONNECT TO EX PIPE
INV (NW) - 696.10'
INV (SE) - 696.10'

REVISION	REV. BY	DATE	DESCRIPTION
△	GJW	09/27/2023	CHANGE IN SANITARY SEWER ALIGNMENT, LATERALS, GREIF PUMP STATION LOCATION; ADDITIONAL DRAINAGE FEATURES; NEW UTILITY WORK

PROJECT NAME: SANITARY SEWER IMPROVEMENTS
GRIEF ROAD PUMP STATION TO FORCEMAIN CONNECTION

PROJECT LOCATION: LICKING VIEW
ZANESVILLE, OHIO 43701

PLANS APPROVED BY: MJE

PLANS PREPARED BY: GJW

DATE: 08/17/2023

REVISED: 03/08/2024

SHEET SIZE: 11" x 17"

SHEET NAME: PLAN SHEET (10)

SHEET NUMBER:

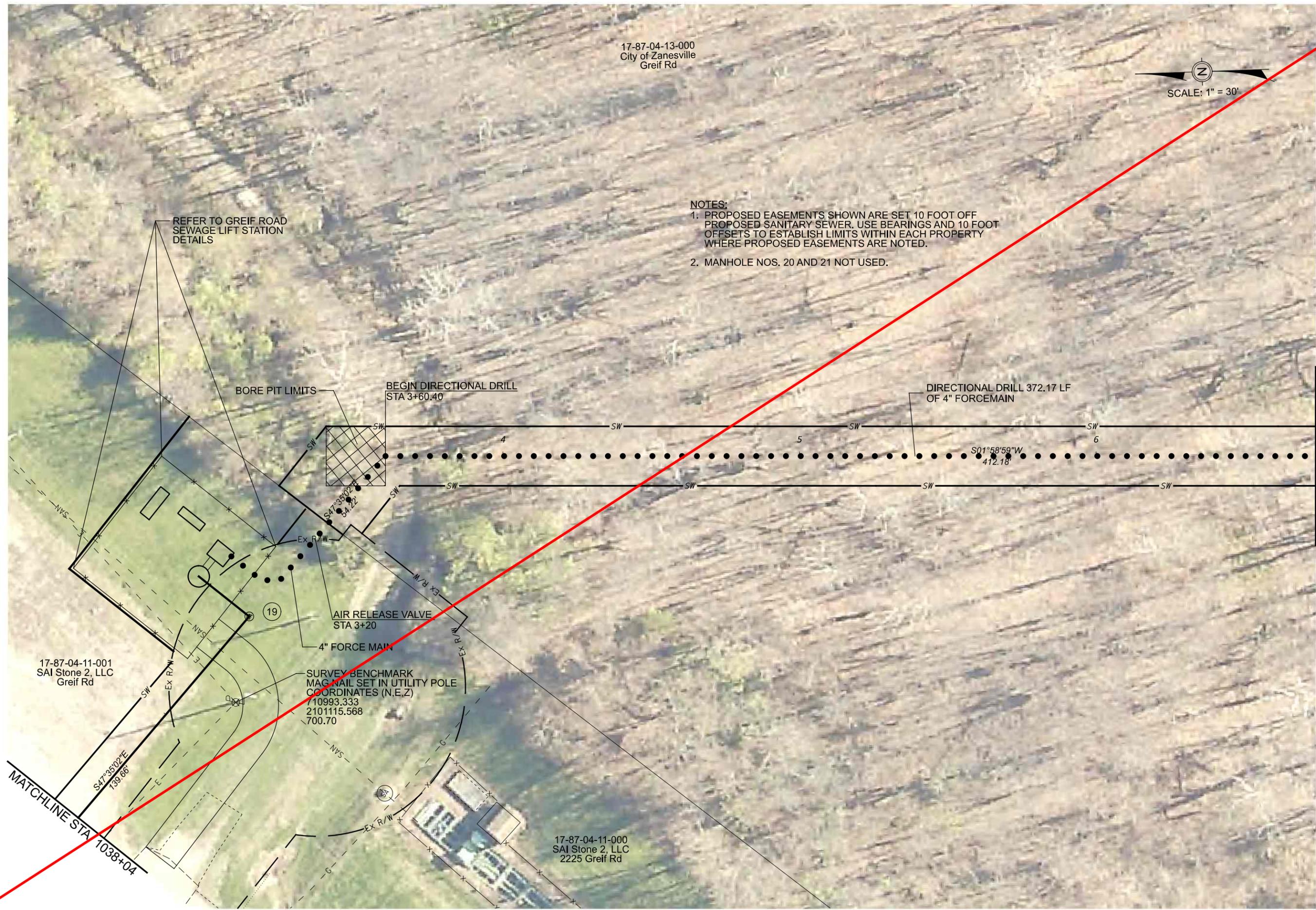
17-87-04-13-000
City of Zanesville
Greif Rd



NOTES:

1. PROPOSED EASEMENTS SHOWN ARE SET 10 FOOT OFF PROPOSED SANITARY SEWER. USE BEARINGS AND 10 FOOT OFFSETS TO ESTABLISH LIMITS WITHIN EACH PROPERTY WHERE PROPOSED EASEMENTS ARE NOTED.
2. MANHOLE NOS. 20 AND 21 NOT USED.

REFER TO GREIF ROAD
SEWAGE LIFT STATION
DETAILS



17-87-04-11-001
SAI Stone 2, LLC
Greif Rd

SURVEY BENCHMARK
MAG NAIL SET IN UTILITY POLE
COORDINATES (N,E,Z)
710993.333
2101115.568
700.70

17-87-04-11-000
SAI Stone 2, LLC
2225 Greif Rd

MATCHLINE STA. 06+74

Mark J. Eicher, P.E., P.S.
155 Rehl Road
Zanesville, Ohio 43701
740-454-0155



PROJECT NAME: SANITARY SEWER IMPROVEMENTS
GRIEF ROAD PUMP STATION TO FORCEMAIN CONNECTION
PROJECT LOCATION: LICKING VIEW
ZANESVILLE, OHIO 43701

PLANS APPROVED BY:
MJE

PLANS PREPARED BY:
GJW

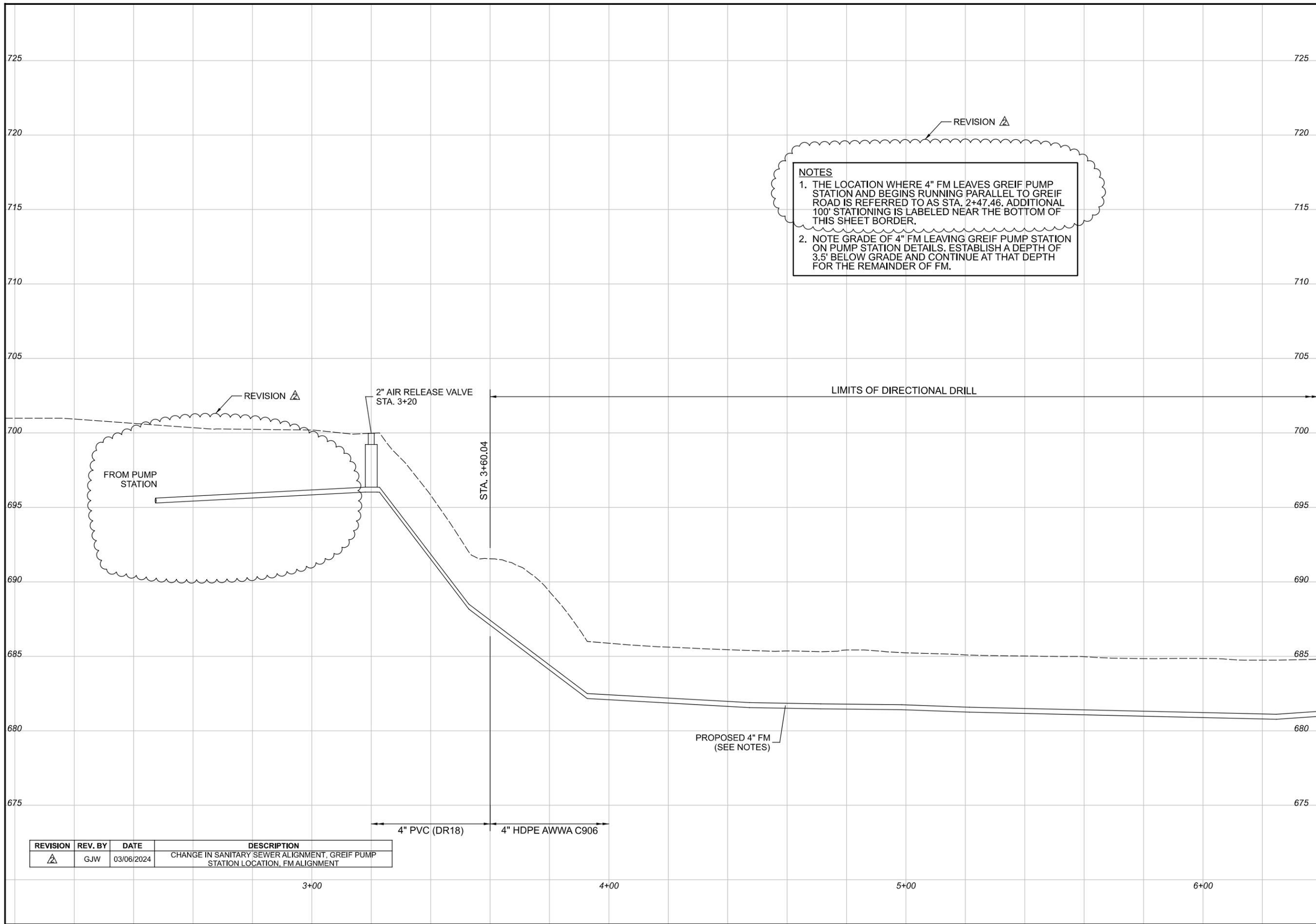
DATE:
08/17/2023

REVISIONS:

SHEET SIZE:
11" x 17"

SHEET NAME:
PLAN SHEET (10)

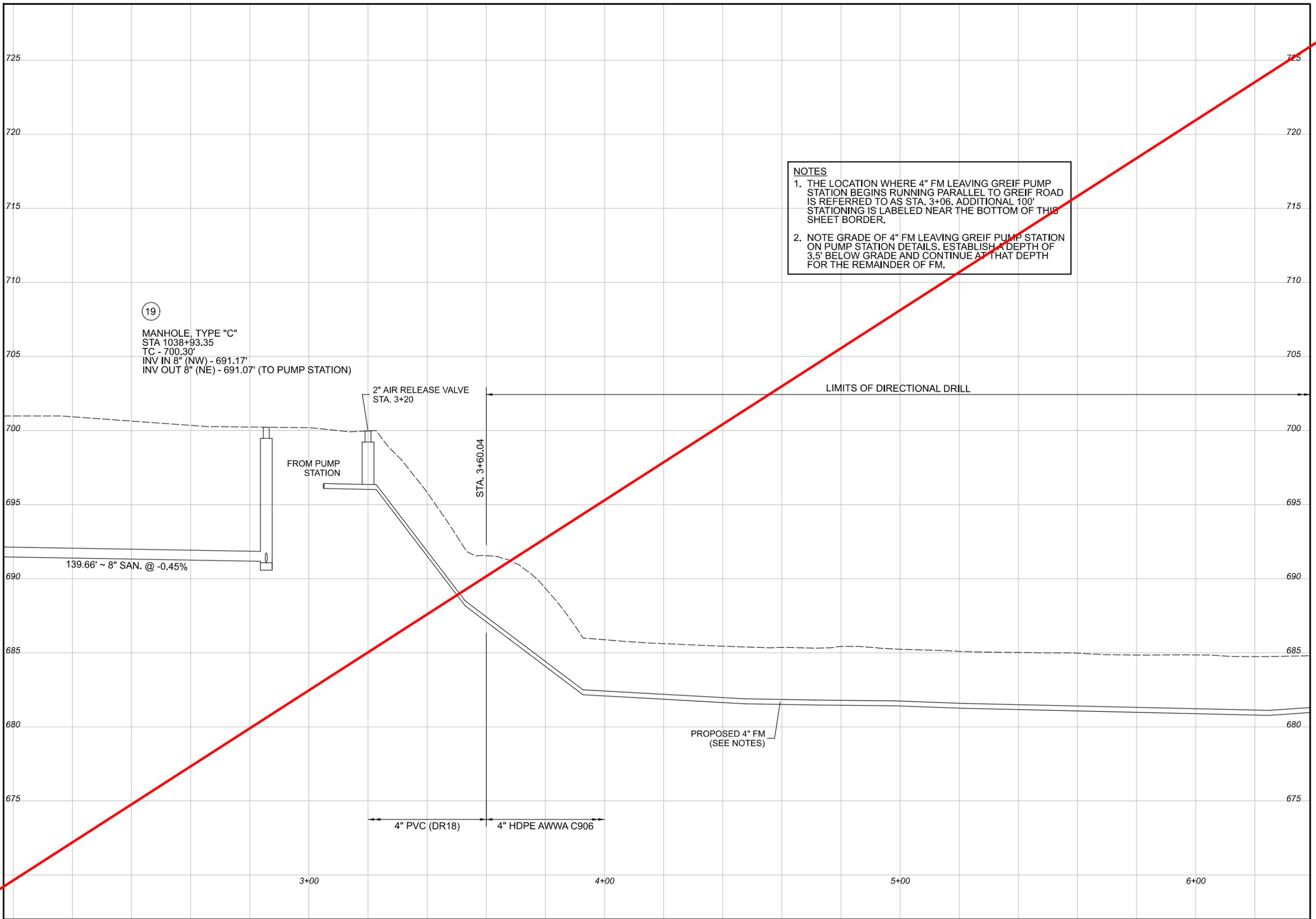
SHEET NUMBER:
32
118



NOTES

1. THE LOCATION WHERE 4" FM LEAVES GREIF PUMP STATION AND BEGINS RUNNING PARALLEL TO GREIF ROAD IS REFERRED TO AS STA. 2+47.46. ADDITIONAL 100' STATIONING IS LABELED NEAR THE BOTTOM OF THIS SHEET BORDER.
2. NOTE GRADE OF 4" FM LEAVING GREIF PUMP STATION ON PUMP STATION DETAILS. ESTABLISH A DEPTH OF 3.5' BELOW GRADE AND CONTINUE AT THAT DEPTH FOR THE REMAINDER OF FM.

REVISION	REV. BY	DATE	DESCRIPTION
△	GJW	03/06/2024	CHANGE IN SANITARY SEWER ALIGNMENT, GREIF PUMP STATION LOCATION, FM ALIGNMENT



(19)
 MANHOLE, TYPE "C"
 STA 1038+93.35
 TC - 700.30'
 INV IN 8" (NW) - 691.17'
 INV OUT 8" (NE) - 691.07' (TO PUMP STATION)

2" AIR RELEASE VALVE
 STA. 3+20

FROM PUMP STATION

STA. 3+60.04

LIMITS OF DIRECTIONAL DRILL

PROPOSED 4" FM
 (SEE NOTES)

4" PVC (DR18) 4" HDPE AWWA C906

NOTES

1. THE LOCATION WHERE 4" FM LEAVING GREIF PUMP STATION BEGINS RUNNING PARALLEL TO GREIF ROAD IS REFERRED TO AS STA. 3+06. ADDITIONAL 100' STATIONING IS LABELED NEAR THE BOTTOM OF THIS SHEET BORDER.
2. NOTE GRADE OF 4" FM LEAVING GREIF PUMP STATION ON PUMP STATION DETAILS. ESTABLISH A DEPTH OF 3.5' BELOW GRADE AND CONTINUE AT THAT DEPTH FOR THE REMAINDER OF FM.

Mark J. Eicher, P.E., P.S.
 155 Rehl Road
 Zanesville, Ohio 43701
Wiskingum
County
ENGINEER'S OFFICE 740-434-0155

PREPARED BY:
 PROJECT NAME: SANITARY SEWER IMPROVEMENTS
 GRIEF ROAD PUMP STATION TO WEST PIKE FM CONNECTION
 PROJECT LOCATION: LICKING VIEW
 ZANESVILLE, OHIO 43701

PLANS APPROVED BY:
 MJE

PLANS PREPARED BY:
 HJ

DATE:
 08/14/2023

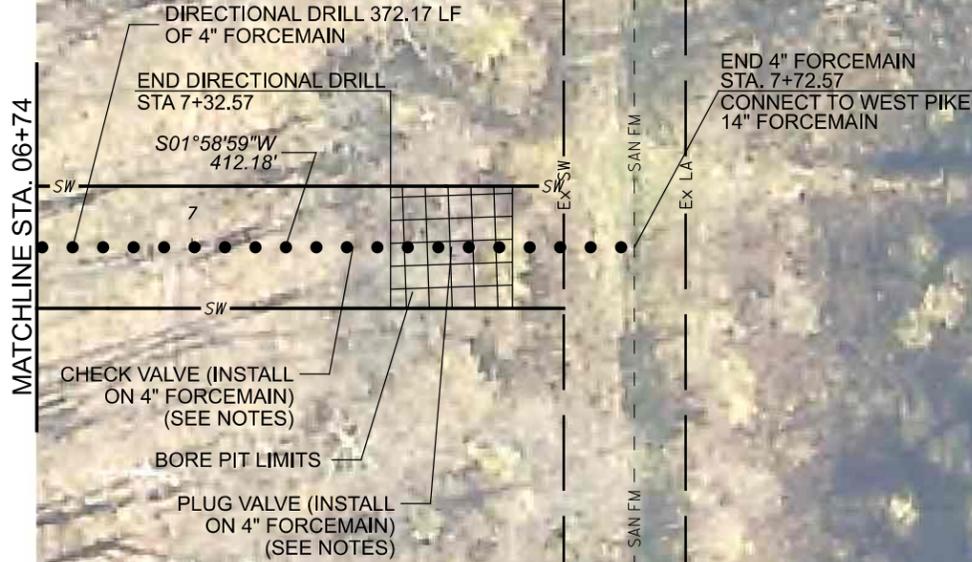
REVISED:

SHEET SIZE:
 11" x 17"

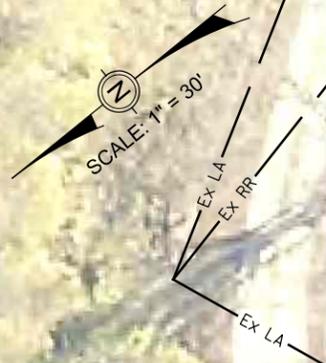
SHEET NAME:
 PROFILE
 MANHOLE 19
 TO PUMP STA
 & W PIKE FM

SHEET NUMBER:
 33
 118

17-87-04-13-000
City of Zanesville
Greif Rd



- NOTES:**
1. PRIOR TO CONSTRUCTION, CONTRACTOR SHALL FIELD VERIFY EXISTING SANITARY FORCEMAIN HORIZONTAL LOCATION AND VERTICAL ELEVATION AT PROPOSED FORCEMAIN CONNECTION LOCATION AND SHALL NOTIFY ENGINEER OF FIELD VERIFIED ELEVATION AND COORDINATES.
 2. PRIOR TO ANY PROPOSED WORK ON EXISTING FORCEMAIN, CONTRACTOR SHALL NOTIFY MUSKINGUM COUNTY SEWER DEPARTMENT MANAGER STAN LUCAS (740.452.4940) AT LEAST 24 HOURS BEFORE BEGINNING WORK. CONTRACTOR SHALL COORDINATE WITH MUSKINGUM COUNTY SEWER DEPARTMENT ON EXISTING LIFT STATION SHUTDOWN WINDOW AND TIMELINE. EXISTING LIFT STATION AND FORCEMAIN SHUT DOWN WILL BE A MAXIMUM OF 4 HOURS AT ONE TIME. CONTRACTOR WILL NOT BE RESPONSIBLE FOR HAULING WASTE FROM EXISTING LIFT STATION DURING SHUTDOWN. CONTRACTOR WILL BE RESPONSIBLE FOR HAULING AND PROPERLY DISPOSING OF ANY WASTE IN EXISTING FORCEMAIN AT PROPOSED FORCEMAIN TIE-IN LOCATION.
 3. PROPOSED EASEMENTS SHOWN ARE SET 10 FOOT OFF PROPOSED SANITARY SEWER. USE BEARINGS AND 10 FOOT OFFSETS TO ESTABLISH LIMITS WITHIN EACH PROPERTY WHERE PROPOSED EASEMENTS ARE NOTED.



PREPARED BY: **Mark J. Eicher, P.E., P.S.**
155 Rehl Road
Zanesville, Ohio 43701
Muskingum County ENGINEER'S OFFICE 740-454-0155

PROJECT NAME: **SANITARY SEWER IMPROVEMENTS CONNECTION TO FORCEMAIN**

PROJECT LOCATION: **LICKING VIEW ZANESVILLE, OHIO 43701**

PLANS APPROVED BY: **MJE**

PLANS PREPARED BY: **GJW**

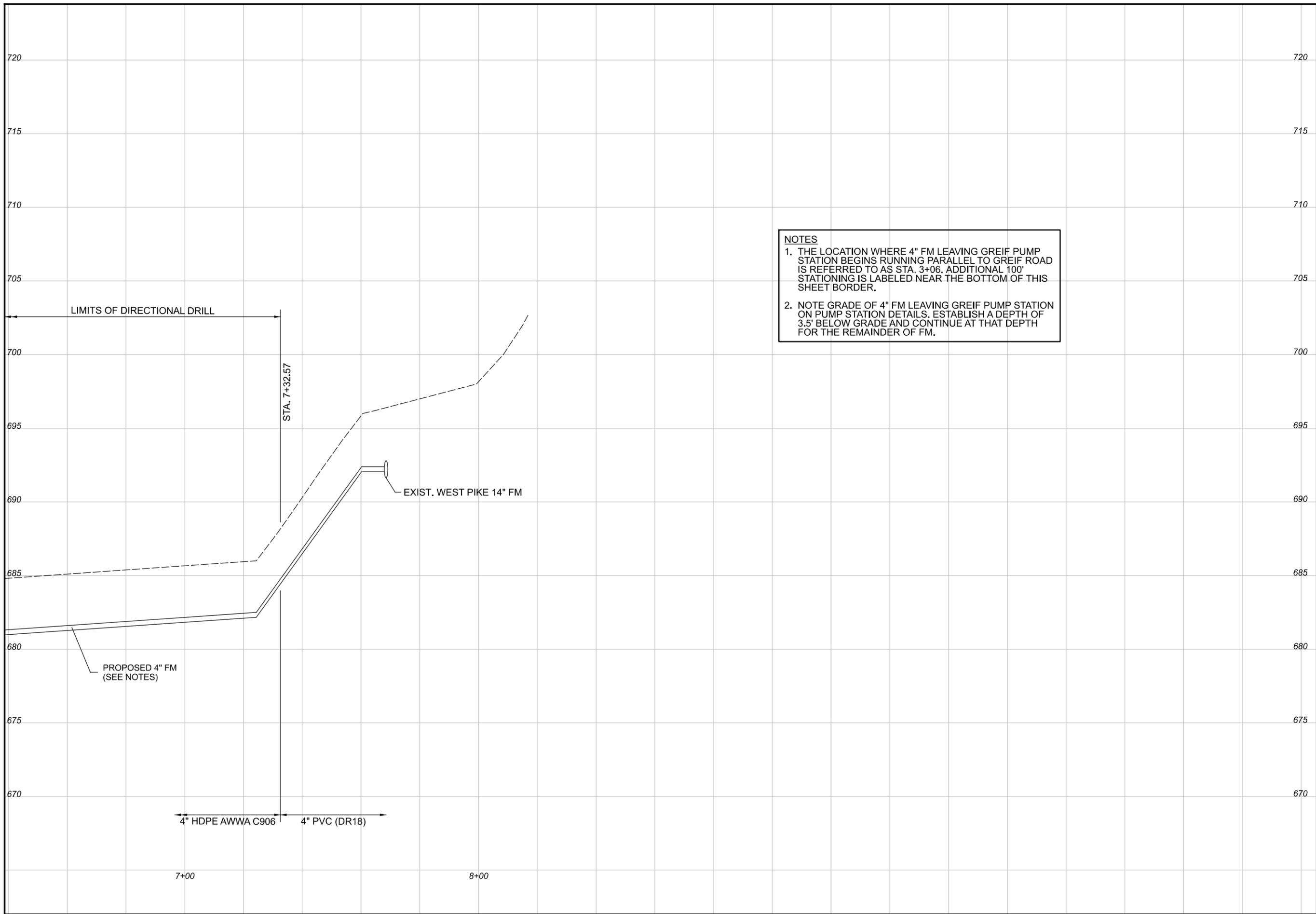
DATE: **08/14/2023**

REVISED:

SHEET SIZE: **11" x 17"**

SHEET NAME: **PLAN SHEET (11)**

SHEET NUMBER: **34** (out of 118)



NOTES

1. THE LOCATION WHERE 4" FM LEAVING GREIF PUMP STATION BEGINS RUNNING PARALLEL TO GREIF ROAD IS REFERRED TO AS STA. 3+06. ADDITIONAL 100' STATIONING IS LABELED NEAR THE BOTTOM OF THIS SHEET BORDER.
2. NOTE GRADE OF 4" FM LEAVING GREIF PUMP STATION ON PUMP STATION DETAILS. ESTABLISH A DEPTH OF 3.5' BELOW GRADE AND CONTINUE AT THAT DEPTH FOR THE REMAINDER OF FM.

PREPARED BY:

PROJECT NAME: SANITARY SEWER IMPROVEMENT CONNECTION TO FORCEMAIN
PROJECT LOCATION: LICKING VIEW ZANESVILLE, OHIO 43701

PLANS APPROVED BY:

MJE

PLANS PREPARED BY:

HJ

DATE:

08/14/2023

REVISED:

SHEET SIZE:

11" x 17"

SHEET NAME:

PROFILE GRIEF FM TO W PIKE FM

SHEET NUMBER:

SEE SHEET 43

SEE SHEET 45



Mark J. Echer, P.E., P.S.
 155 Rehl Road
 Zanesville, Ohio 43701
Wiskingum
County
ENGINEER'S OFFICE 740-454-0155

PREPARED BY:

PROJECT NAME:

SANITARY SEWER IMPROVEMENTS
 BUTLER ALLEY
 LICKING VIEW
 ZANESVILLE, OHIO 43701

PROJECT LOCATION:
 MATCHLINE STA. 303+82

PLANS APPROVED BY: MJE

PLANS PREPARED BY: GJW

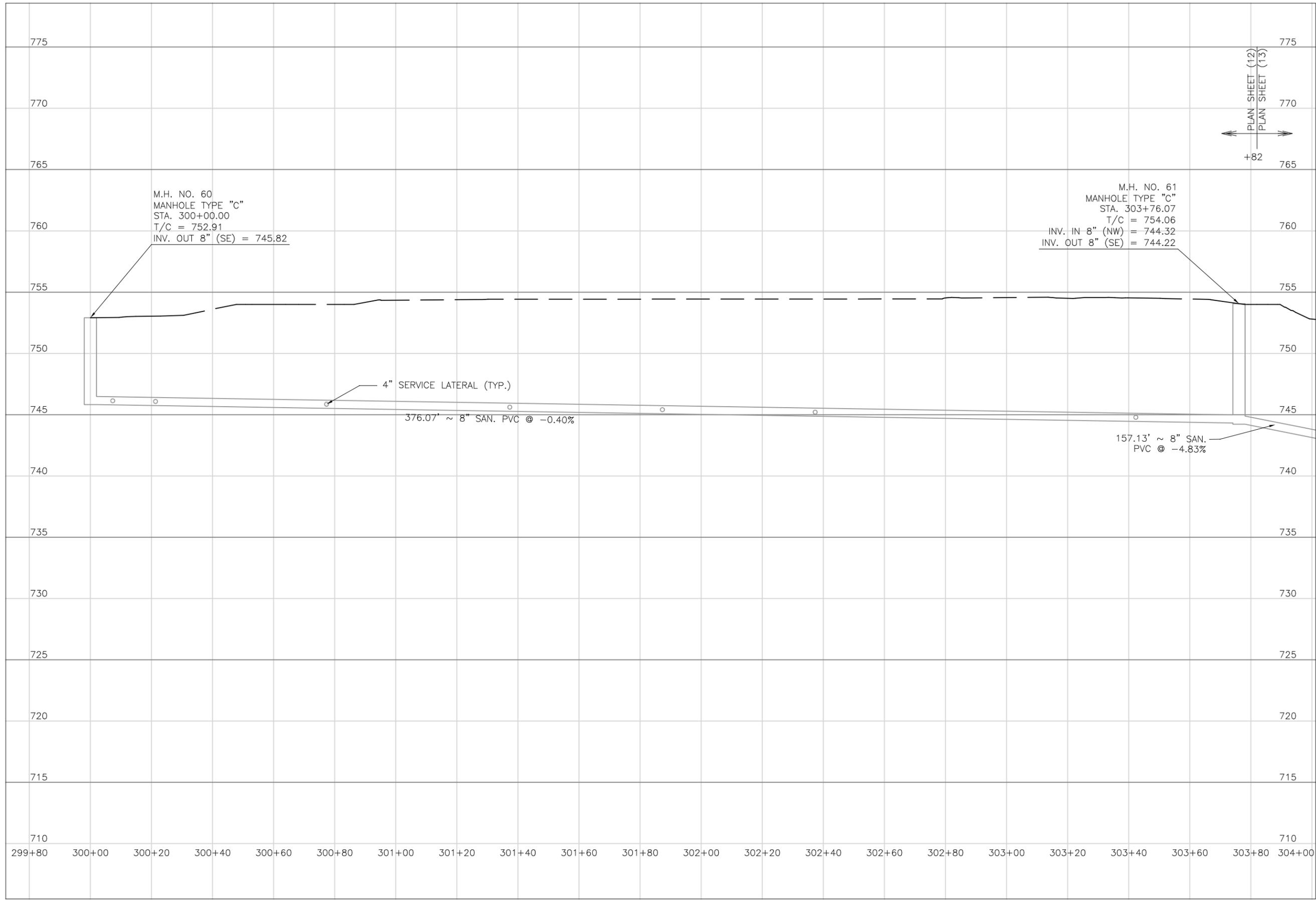
DATE: 08/14/2023

REVISED:

SHEET SIZE: 11" x 17"

SHEET NAME: PLAN SHEET (12)

SHEET NUMBER:
 36
 118



Mark J. Eicher, P.E., P.S.
155 Kehl Road
Zanesville, Ohio 43701
Muskingum
County
ENGINEER'S OFFICE 740-454-0155

PREPARED BY:
PROJECT NAME: SANITARY SEWER IMPROVEMENTS BUTLER ALLEY
PROJECT LOCATION: LICKING VIEW ZANESVILLE, OHIO 43701

PLANS APPROVED BY:
MJE

PLANS PREPARED BY:
HJ

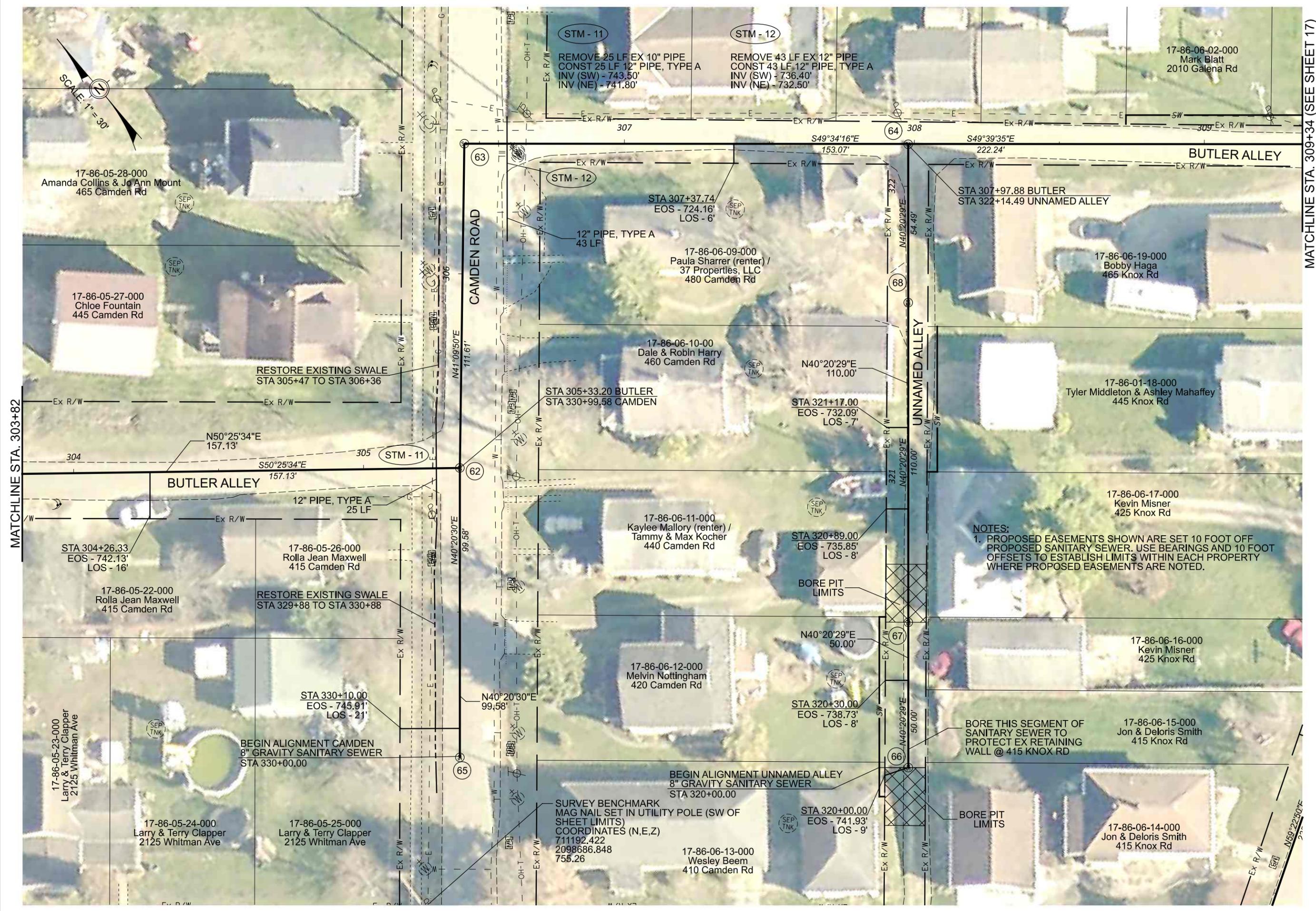
DATE:
08/15/2023

REVISED:

SHEET SIZE:
11" x 17"

SHEET NAME:
PROFILE MANHOLE 60 & 61

SHEET NUMBER:
37
118



MATCHLINE STA. 303+82

MATCHLINE STA. 309+34 (SEE SHEET 17)

Mark J. Eicher, P.E., P.S.

 155 Rehl Road
 Zanesville, Ohio 43701
 ENGINEER'S OFFICE 740-454-0155

PROJECT NAME: SANITARY SEWER IMPROVEMENTS
 BUTLER ALLEY TO CAMDEN ROAD TO BUTLER ALLEY
 PROJECT LOCATION: LICKING VIEW
 ZANESVILLE, OHIO 43701

PLANS APPROVED BY:
 MJE

PLANS PREPARED BY:
 GJW

DATE:
 08/14/2023

REVISED:

SHEET SIZE:
 11" x 17"

SHEET NAME:
 PLAN SHEET (13)

SHEET NUMBER:
 38
 118

NOTES:
 1. PROPOSED EASEMENTS SHOWN ARE SET 10 FOOT OFF PROPOSED SANITARY SEWER. USE BEARINGS AND 10 FOOT OFFSETS TO ESTABLISH LIMITS WITHIN EACH PROPERTY WHERE PROPOSED EASEMENTS ARE NOTED.

BORE THIS SEGMENT OF SANITARY SEWER TO PROTECT EX RETAINING WALL @ 415 KNOX RD

BORE PIT LIMITS

SURVEY BENCHMARK
 MAG NAIL SET IN UTILITY POLE (SW OF SHEET LIMITS)
 COORDINATES (N,E,Z)
 711192.422
 2098686.848
 755.26

17-86-06-13-000
 Wesley Beem
 410 Camden Rd

17-86-06-15-000
 Jon & Deloris Smith
 415 Knox Rd

17-86-06-16-000
 Kevin Misner
 425 Knox Rd

17-86-06-17-000
 Kevin Misner
 425 Knox Rd

17-86-01-18-000
 Tyler Middleton & Ashley Mahaffey
 445 Knox Rd

17-86-06-19-000
 Bobby Haga
 465 Knox Rd

17-86-06-09-000
 Paula Sharrer (renter) /
 37 Properties, LLC
 480 Camden Rd

17-86-06-10-00
 Dale & Robin Harry
 460 Camden Rd

17-86-06-11-000
 Kaylee Mallory (renter) /
 Tammy & Max Kocher
 440 Camden Rd

17-86-06-12-000
 Melvin Nottingham
 420 Camden Rd

17-86-05-25-000
 Larry & Terry Clapper
 2125 Whitman Ave

17-86-05-24-000
 Larry & Terry Clapper
 2125 Whitman Ave

17-86-05-23-000
 Larry & Terry Clapper
 2125 Whitman Ave

17-86-05-22-000
 Rolla Jean Maxwell
 415 Camden Rd

17-86-05-26-000
 Rolla Jean Maxwell
 415 Camden Rd

STA 304+26.33
 EOS - 742.13'
 LOS - 16'

STA 305+33.20 BUTLER
 STA 330+99.58 CAMDEN

STA 321+17.00
 EOS - 732.09'
 LOS - 7'

STA 320+89.00
 EOS - 735.85'
 LOS - 8'

STA 320+30.00
 EOS - 738.73'
 LOS - 8'

STA 320+00.00
 EOS - 741.93'
 LOS - 9'

STA 307+37.74
 EOS - 724.16'
 LOS - 6'

STA 307+97.88 BUTLER
 STA 322+14.49 UNNAMED ALLEY

RESTORE EXISTING SWALE
 STA 305+47 TO STA 306+36

RESTORE EXISTING SWALE
 STA 329+88 TO STA 330+88

BEGIN ALIGNMENT CAMDEN
 8" GRAVITY SANITARY SEWER
 STA 330+00.00

BEGIN ALIGNMENT UNNAMED ALLEY
 8" GRAVITY SANITARY SEWER
 STA 320+00.00

STM - 11
 REMOVE 25 LF EX 10" PIPE
 CONST 25 LF 12" PIPE, TYPE A
 INV (SW) - 743.50'
 INV (NE) - 741.80'

STM - 12
 REMOVE 43 LF EX 12" PIPE
 CONST 43 LF 12" PIPE, TYPE A
 INV (SW) - 736.40'
 INV (NE) - 732.50'

17-86-06-02-000
 Mark Blatt
 2010 Galena Rd

BUTLER ALLEY

UNNAMED ALLEY

CAMDEN ROAD

65

62

63

64

68

67

66

N59°22'50"E

N41°09'50"E

N40°20'30"E

N40°20'30"E

N40°20'30"E

N40°20'29"E

N40°20'29"E

N40°20'29"E

S49°34'16"E

N40°20'29"E

N40°20'29"E

N40°20'29"E

N40°20'29"E

S49°39'35"E

N40°20'29"E

N40°20'29"E

N40°20'29"E

N40°20'29"E

S49°34'16"E

N40°20'29"E

N40°20'29"E

N40°20'29"E

N40°20'29"E

S49°39'35"E

N40°20'29"E

N40°20'29"E

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N40°20'29"E

S49°34'16"E

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S49°34'16"E

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N40°20'29"E

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S49°34'16"E

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S49°39'35"E

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N40°20'29"E

S49°34'16"E

N40°20'29"E

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S49°39'35"E

N40°20'29"E

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N40°20'29"E

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N40°20'29"E

N40°20'29"E

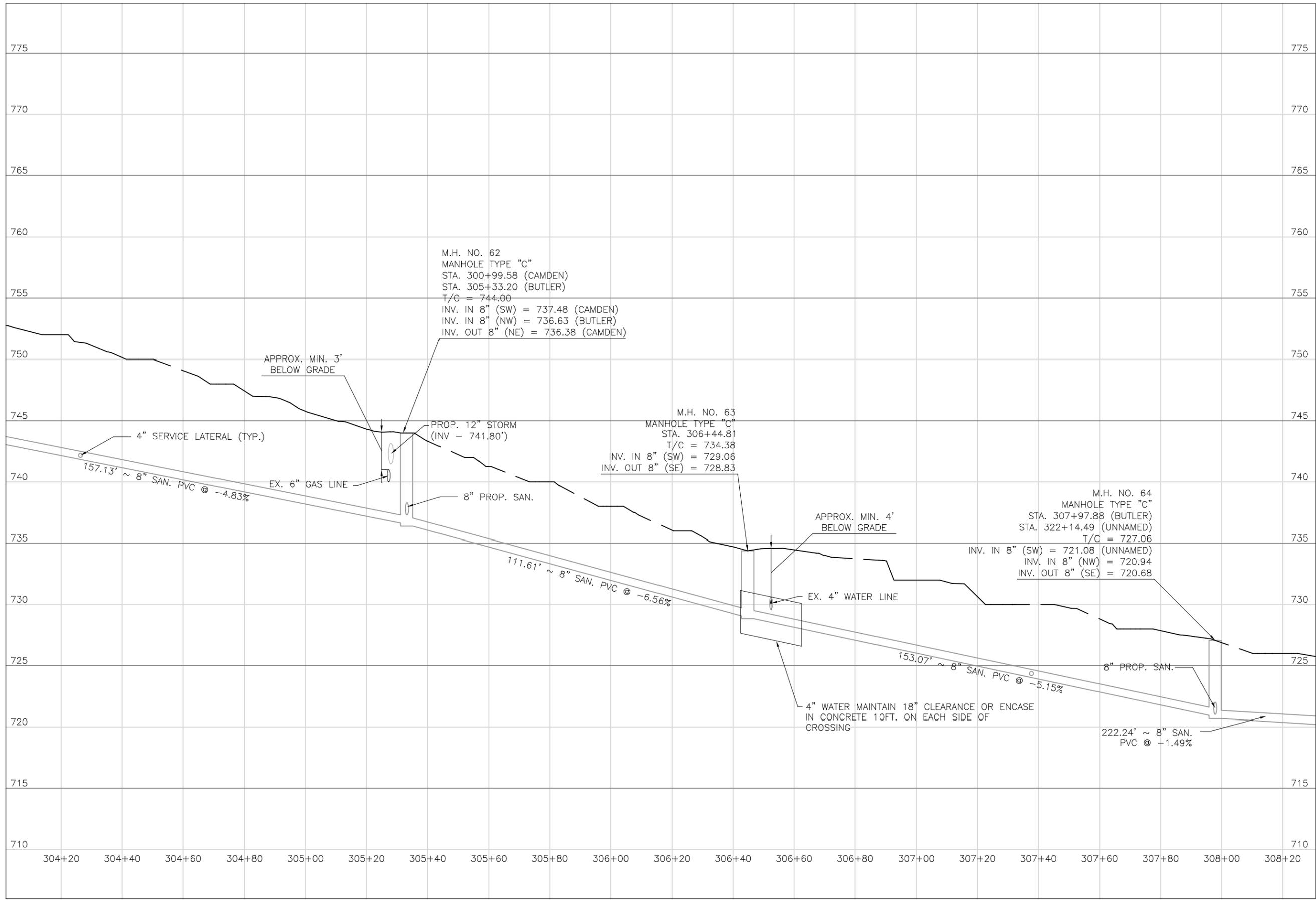
S49°39'35"E

N40°20'29"E

N40°20'29"E

N40°20'29"E

N40°20'29"E



M.H. NO. 62
 MANHOLE TYPE "C"
 STA. 300+99.58 (CAMDEN)
 STA. 305+33.20 (BUTLER)
 T/C = 744.00
 INV. IN 8" (SW) = 737.48 (CAMDEN)
 INV. IN 8" (NW) = 736.63 (BUTLER)
 INV. OUT 8" (NE) = 736.38 (CAMDEN)

M.H. NO. 63
 MANHOLE TYPE "C"
 STA. 306+44.81
 T/C = 734.38
 INV. IN 8" (SW) = 729.06
 INV. OUT 8" (SE) = 728.83

M.H. NO. 64
 MANHOLE TYPE "C"
 STA. 307+97.88 (BUTLER)
 STA. 322+14.49 (UNNAMED)
 T/C = 727.06
 INV. IN 8" (SW) = 721.08 (UNNAMED)
 INV. IN 8" (NW) = 720.94
 INV. OUT 8" (SE) = 720.68

Mark J. Echter, P.E., P.S.
 155 Rehl Road
 Zanesville, Ohio 43701
 ENGINEER'S OFFICE 740-454-0155

PREPARED BY: **Muskingum County ENGINEER'S OFFICE**

PROJECT NAME: **SANITARY SEWER IMPROVEMENTS BUTLER ALLEY TO CAMDEN ROAD TO BUTLER ALLEY**

PROJECT LOCATION: **LICKING VIEW ZANESVILLE, OHIO 43701**

PLANS APPROVED BY: **MJE**

PLANS PREPARED BY: **HJ**

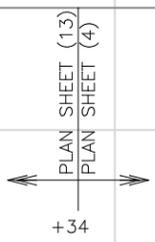
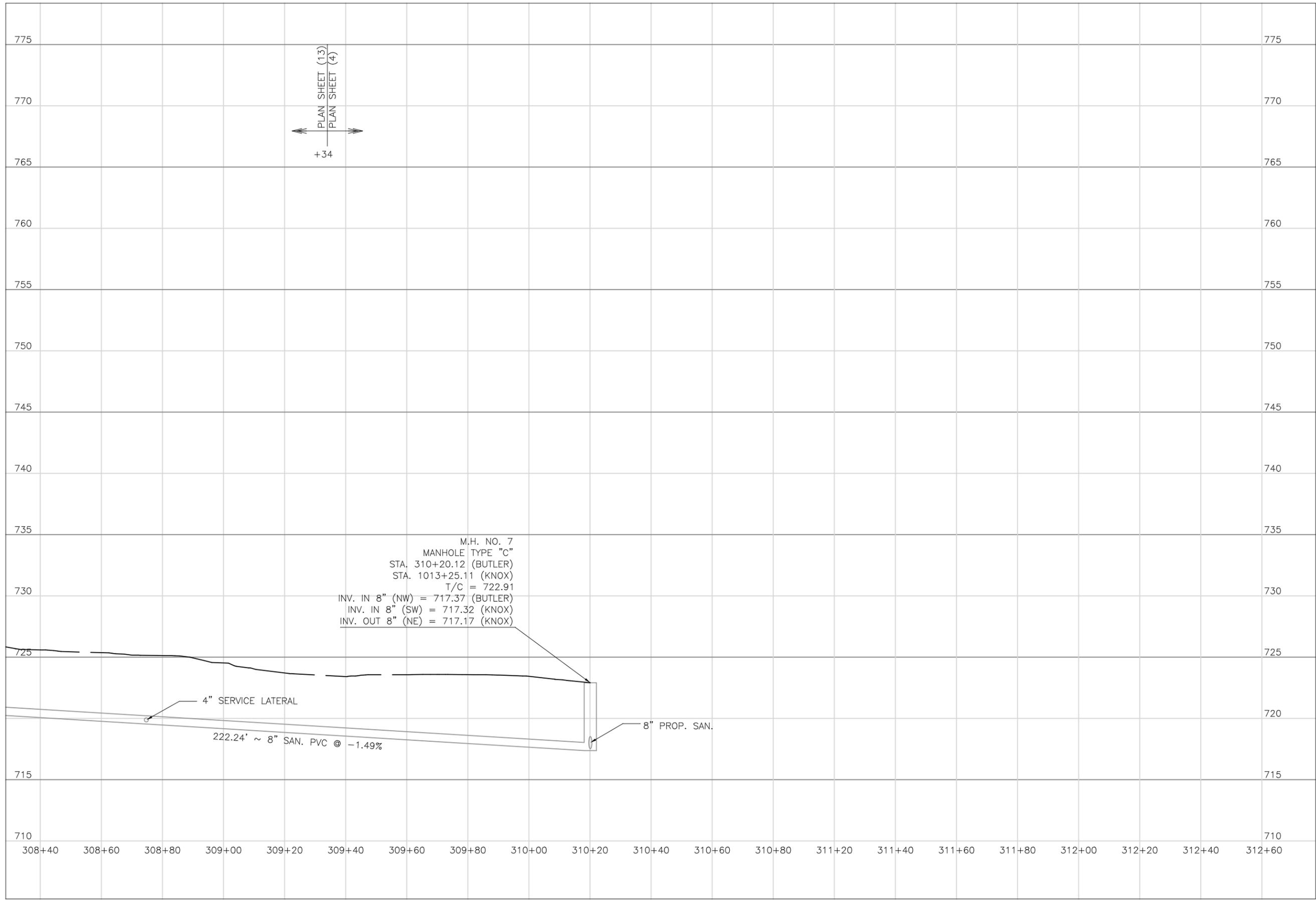
DATE: **08/15/2023**

REVISIONS:

SHEET SIZE: **11" x 17"**

SHEET NAME: **PROFILE MANHOLE 62 - 64**

SHEET NUMBER: **39**
 118



Mark J. Eicher, P.E., P.S.
Muskingum
A COUNTY
ENGINEER'S OFFICE 740-454-0155
 155 Nehl Road
 Zanesville, Ohio 43701

PREPARED BY:

PROJECT NAME: SANITARY SEWER IMPROVEMENTS BUTLER ALLEY TO KNOX ROAD
 PROJECT LOCATION: LICKING VIEW ZANESVILLE, OHIO 43701

PLANS APPROVED BY: **MJE**

PLANS PREPARED BY: **HJ**

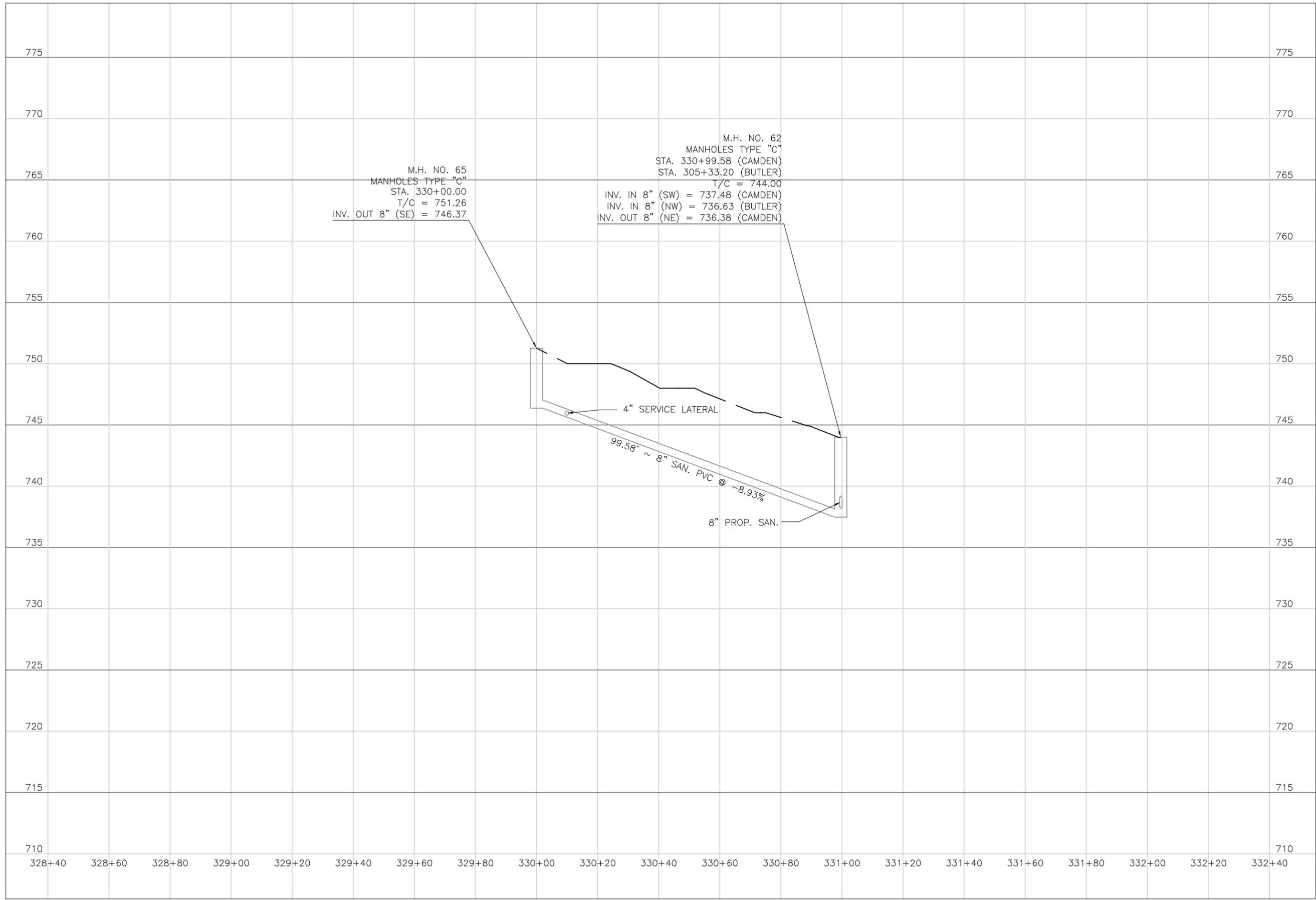
DATE: **08/15/2023**

REVISED:

SHEET SIZE: **11" x 17"**

SHEET NAME: **PROFILE MANHOLE 7**

SHEET NUMBER: **40** / **118**



Mark J. Eicher, P.E., P.S.
155 Nehl Road
Zanesville, Ohio 43701
Muskingum
County
ENGINEER'S OFFICE 740-454-0155

PREPARED BY:

PROJECT NAME:
SANITARY SEWER IMPROVEMENTS
CAMDEN ROAD

PROJECT LOCATION:
LICKING VIEW
ZANESVILLE, OHIO 43701

PLANS APPROVED BY:
MJE

PLANS PREPARED BY:
HJ

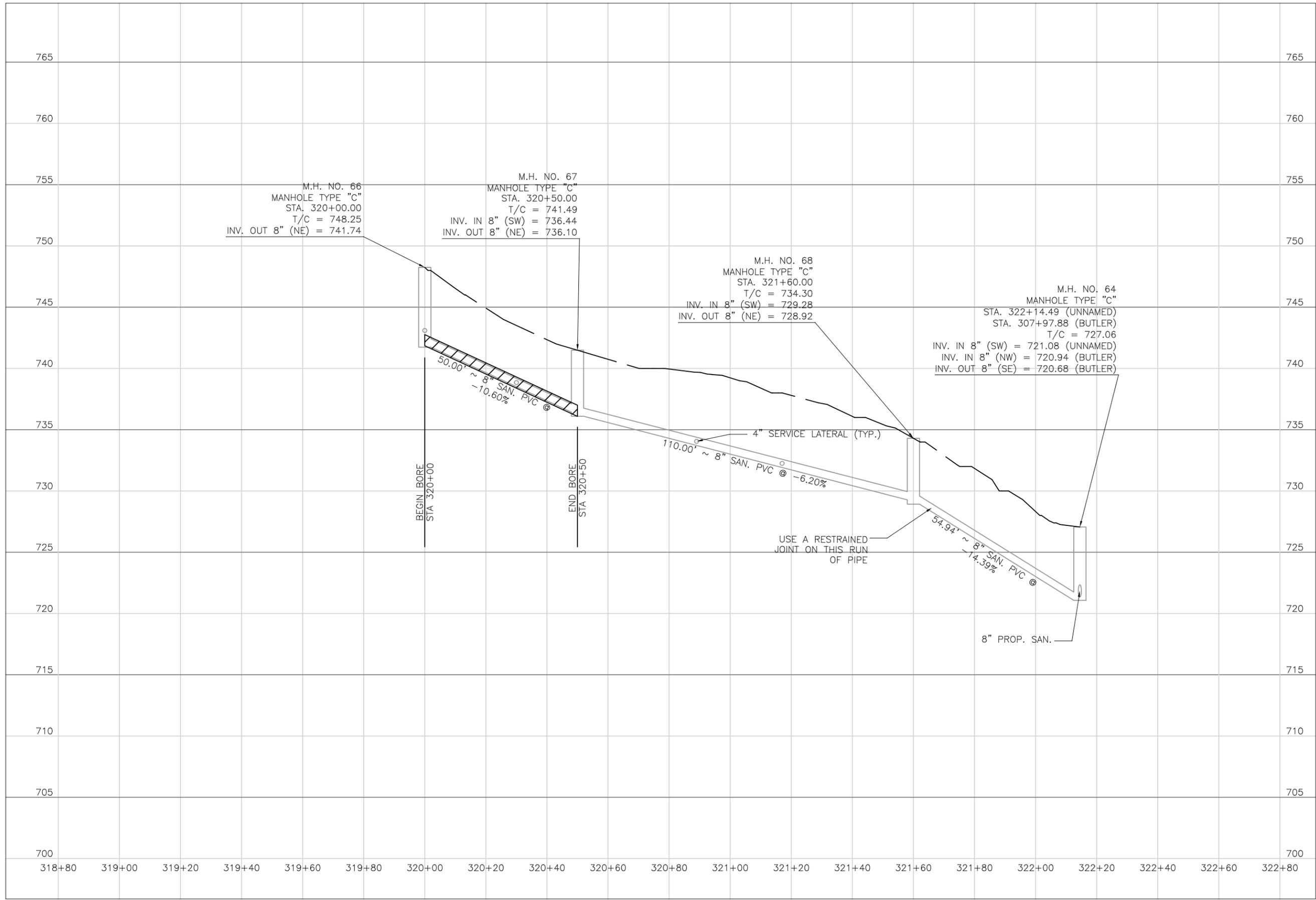
DATE:
08/15/2023

REVISED:

SHEET SIZE:
11" x 17"

SHEET NAME:
**PROFILE MANHOLE
65 & 62**

SHEET NUMBER:
41
118





NOTES:
 1. GRINDER PUMP SHALL BE INSTALLED AT THIS SERVICE LATERAL INSTALLATION FOR PROPERTY'S DISCHARGE.



MATCHLINE STA. 221+38

Mark J. Eicher, P.E., P.S.
Wiskingum
County
ENGINEER'S OFFICE
 155 Rehl Road
 Zanesville, Ohio 43701
 740-454-0155

PROJECT NAME:
 SANITARY SEWER IMPROVEMENTS
 GALENA AVENUE TO KNOX ROAD

PROJECT LOCATION:
 LICKING VIEW
 ZANESVILLE, OHIO 43701

PLANS APPROVED BY:
 MJE

PLANS PREPARED BY:
 GJW

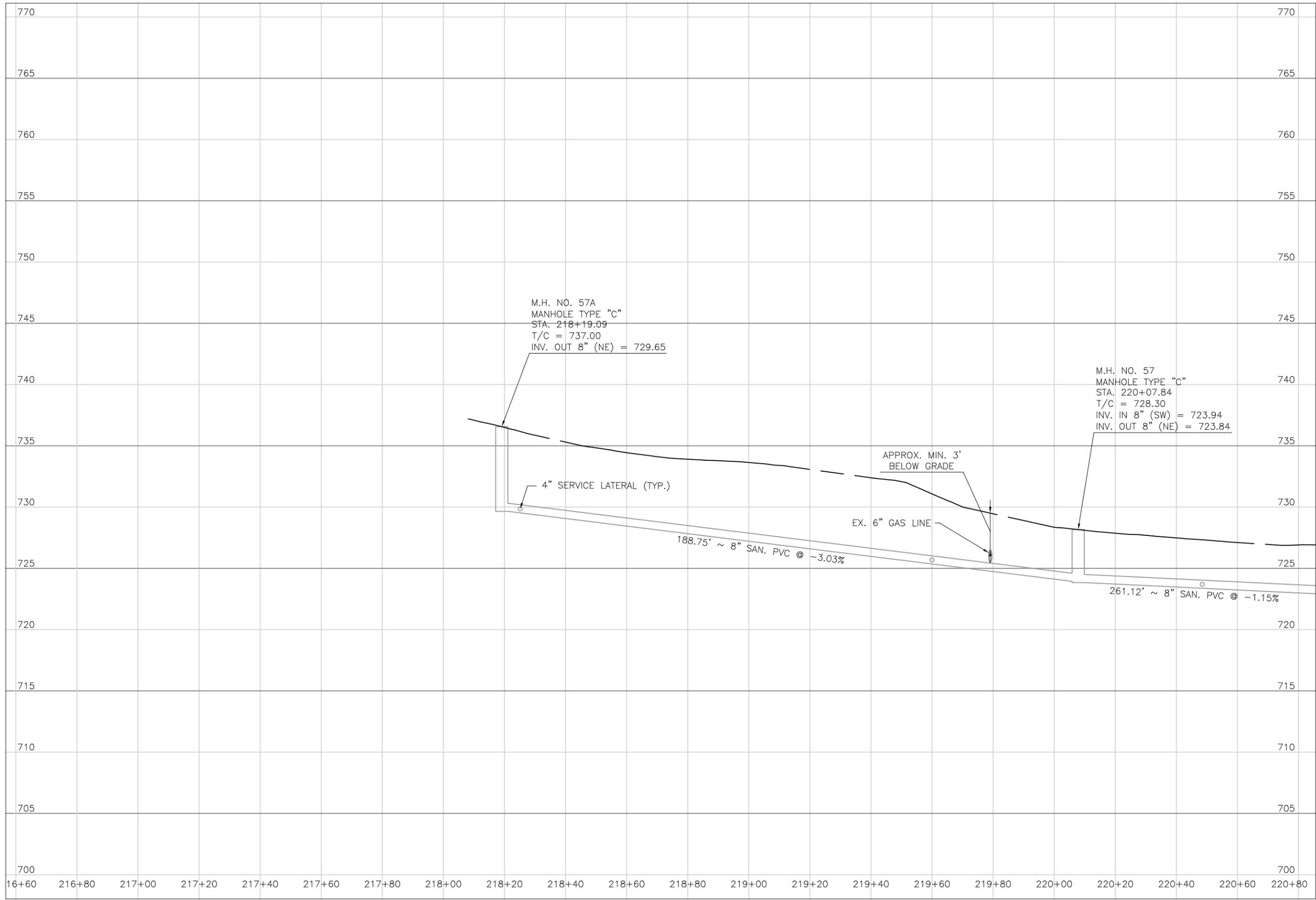
DATE:
 08/14/2023

REVISED:

SHEET SIZE:
 11" x 17"

SHEET NAME:
 PLAN SHEET (14)

SHEET NUMBER:
 43
 118



PREPARED BY:

PROJECT NAME: SANITARY SEWER IMPROVEMENTS
GALENA AVENUE
PROJECT LOCATION: LICKING VIEW
ZANESVILLE, OHIO 43701

PLANS APPROVED BY:
MJE

PLANS PREPARED BY:
HJ

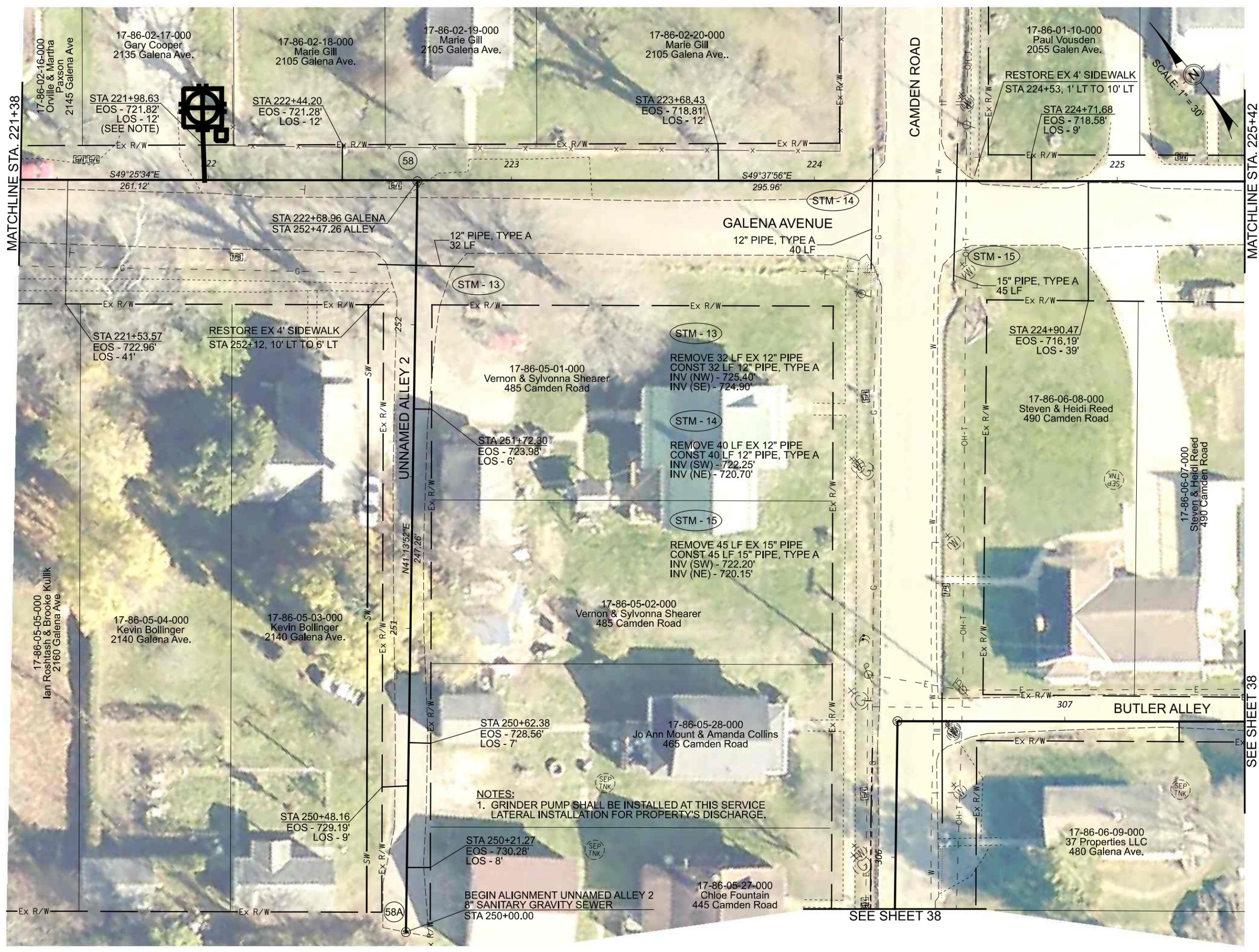
DATE:
08/15/2023

REVISED:

SHEET SIZE:
11" x 17"

SHEET NAME:
**PROFILE MANHOLE
57A & 57**

SHEET NUMBER:
44
118



MATCHLINE STA. 221+38

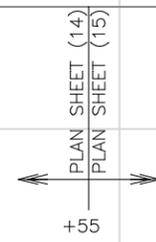
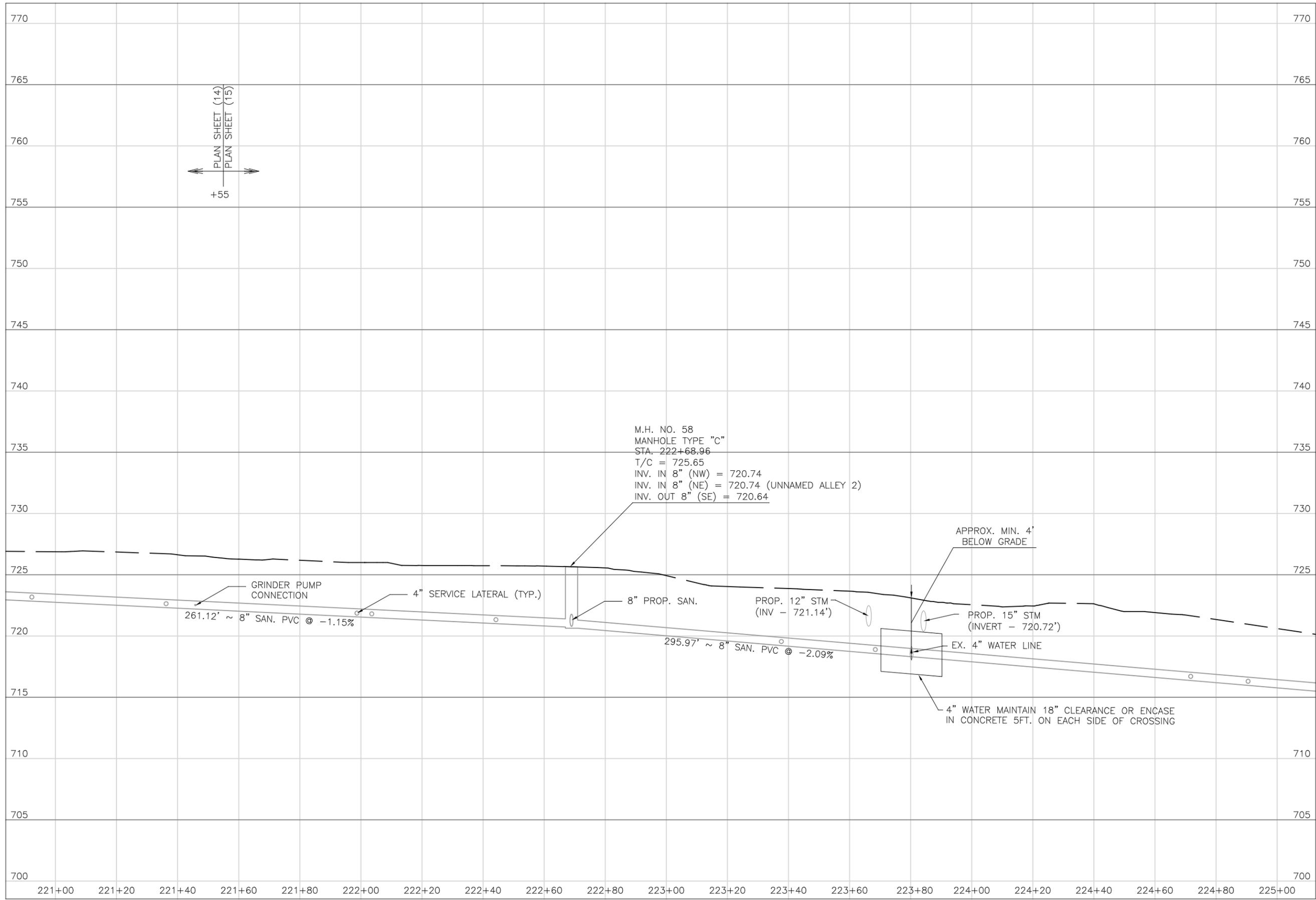
MATCHLINE STA. 225+42



NOTES:
 1. GRINDER PUMP SHALL BE INSTALLED AT THIS SERVICE LATERAL INSTALLATION FOR PROPERTY'S DISCHARGE.

SEE SHEET 38

SEE SHEET 38



M.H. NO. 58
 MANHOLE TYPE "C"
 STA. 222+68.96
 T/C = 725.65
 INV. IN 8" (NW) = 720.74
 INV. IN 8" (NE) = 720.74 (UNNAMED ALLEY 2)
 INV. OUT 8" (SE) = 720.64

APPROX. MIN. 4'
 BELOW GRADE

GRINDER PUMP
 CONNECTION

4" SERVICE LATERAL (TYP.)

8" PROP. SAN.

PROP. 12" STM
 (INV - 721.14')

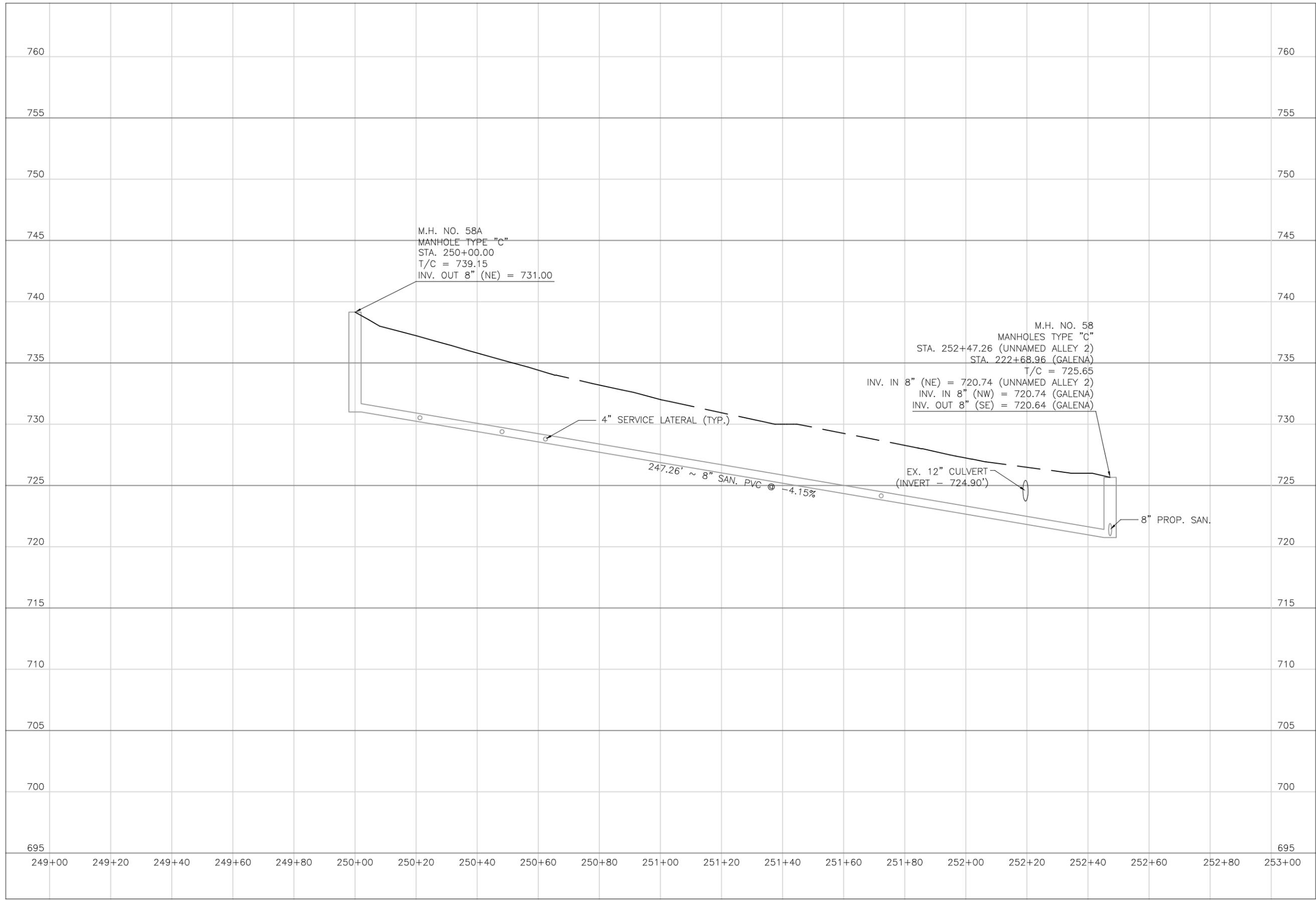
PROP. 15" STM
 (INVERT - 720.72')

EX. 4" WATER LINE

4" WATER MAINTAIN 18" CLEARANCE OR ENCASE
 IN CONCRETE 5FT. ON EACH SIDE OF CROSSING

261.12' ~ 8" SAN. PVC @ -1.15%

295.97' ~ 8" SAN. PVC @ -2.09%



PREPARED BY:

PROJECT NAME:
SANITARY SEWER IMPROVEMENTS
TO GALENA AVENUE

PROJECT LOCATION:
LICKING VIEW
ZANESVILLE, OHIO 43701

PLANS APPROVED BY:
MJE

PLANS PREPARED BY:
HJ

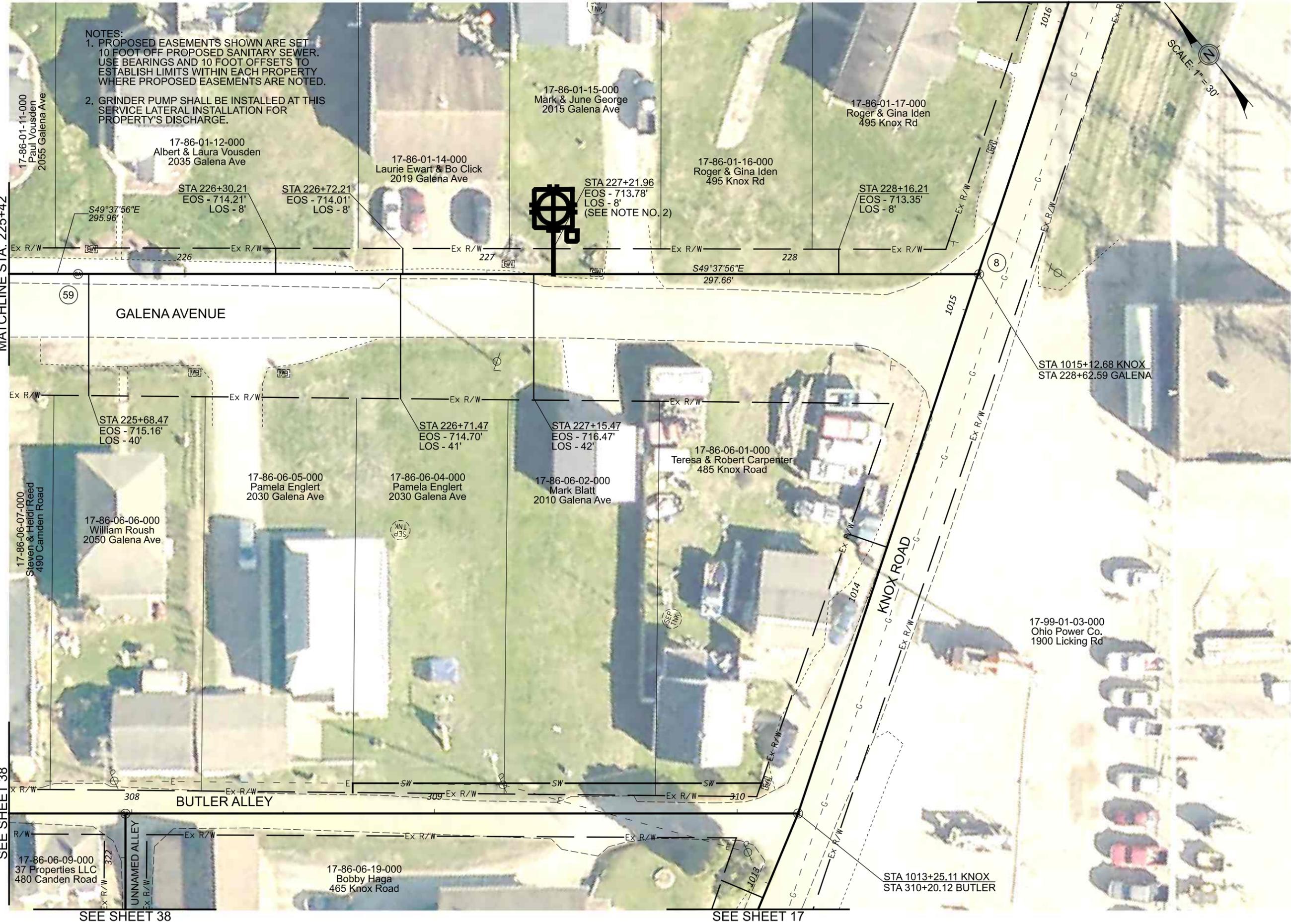
DATE:
08/15/2023

REVISED:

SHEET SIZE:
11" x 17"

SHEET NAME:
**PROFILE
MANHOLE
58A & 58**

SHEET NUMBER:
47
118



MATCHLINE STA. 225+42

SEE SHEET 38

SEE SHEET 38

SEE SHEET 17

SEE SHEET 17



Mark J. Eicher, P.E., P.S.
 155 Rehl Road
 Zanesville, Ohio 43701
Wiskingum
County
ENGINEER'S OFFICE

PREPARED BY:

PROJECT NAME:
 SANITARY SEWER IMPROVEMENTS
 GALENA AVENUE TO KNOX ROAD

PROJECT LOCATION:
 LICKING VIEW
 ZANESVILLE, OHIO 43701

PLANS APPROVED BY:
 MJE

PLANS PREPARED BY:
 GJW

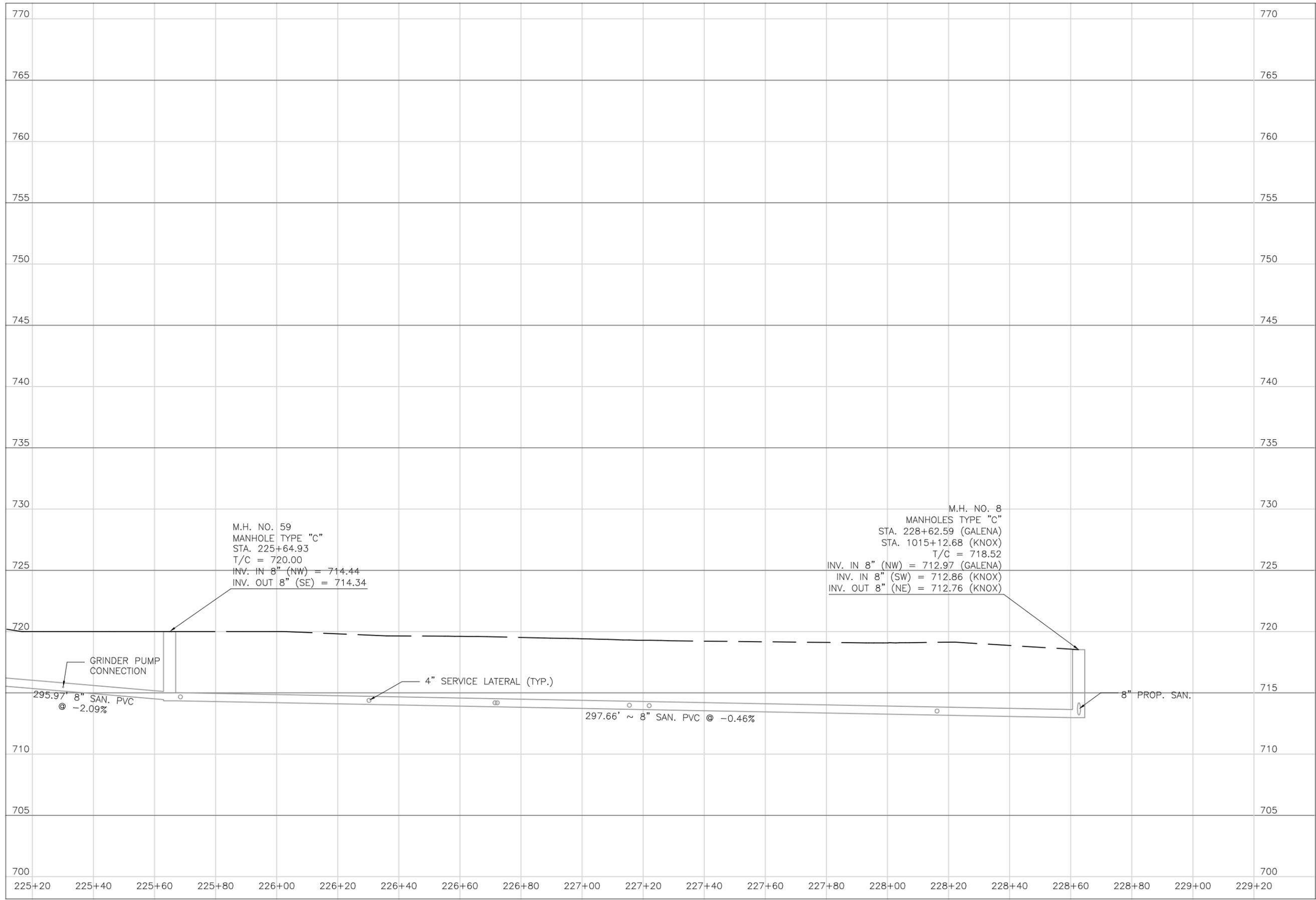
DATE:
 08/14/2023

REVISED:

SHEET SIZE:
 11" x 17"

SHEET NAME:
 PLAN SHEET (16)

SHEET NUMBER:
 48
 118



PREPARED BY:

PROJECT NAME: SANITARY SEWER IMPROVEMENTS
GALENA AVENUE TO KNOX ROAD

PROJECT LOCATION: LICKING VIEW
ZANESVILLE, OHIO 43701

PLANS APPROVED BY:
MJE

PLANS PREPARED BY:
HJ

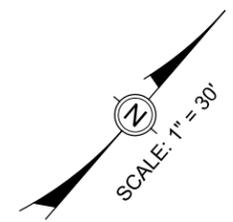
DATE:
08/15/2023

REVISED:

SHEET SIZE:
11" x 17"

SHEET NAME:
PROFILE
MANHOLE
59 & 8

SHEET NUMBER:
49
118



SEE SHEET 63

SEE SHEET 75

MATCHLINE STA. 134+11

17-85-02-13-000 T & H Rentals 315 Grandview Rd
 17-85-02-14-000 T & H Rentals 315 Grandview Rd
 17-85-02-15-000 Jamye Griffin et al 325 Grandview Rd
 17-85-02-16-000 Jamye Griffin et al 325 Grandview Ave
 17-85-02-17-000 Brigette Gooden 335 Grandview Ave

17-85-02-18-000 Brigette Gooden 335 Grandview Ave

17-85-01-11-000 Bonnie Adams 505 Franklin Rd

17-85-01-16-000 Janice Wills & Madelene Shaver 345 Galena Ave

17-85-01-17-000 Tamara Hemmer 325 Galena Ave

17-85-01-15-000 Vernon & Marla Kimble 345 Galena Ave

17-85-01-14-000 Vernon & Marla Kimble 345 Galena Ave

17-85-01-13-000 Vernon & Marla Kimble 345 Galena Ave

17-85-01-12-000 Vernon & Marla Kimble 345 Galena Ave

SURVEY BENCHMARK
 MAG NAIL SET IN UTILITY POLE
 COORDINATES (N.E.Z)
 711837.568
 2097959.616
 751.73

RESTORE EXISTING SWALE
 STA 132+07 TO STA 134+21

- NOTES:
- PROPOSED EASEMENTS SHOWN ARE SET 10 FOOT OFF PROPOSED SANITARY SEWER. USE BEARINGS AND 10 FOOT OFFSETS TO ESTABLISH LIMITS WITHIN EACH PROPERTY WHERE PROPOSED EASEMENTS ARE NOTED.
 - REMOVE OR TRIM TREES AS NEEDED TO BE ABLE CONSTRUCT THE SANITARY SEWER.
 - MANHOLE NO. 55 NOT USED.
 - STM-19 NOT USED.
 - MINIMUM DIMENSIONS BETWEEN EXISTING WATER LINE AND PROPOSED SANITARY SEWER AT VARIOUS LOCATIONS ARE NOTED IN THE TABLE BELOW:

LOCATION	SEPARATION
A	7'
B	6'
C	5'

STM - 16

STM - 18

STM - 17

STM - 20

REMOVE 51 LF EX 12" PIPE
 CONST 51 LF 12" PIPE, TYPE A
 INV (SW) - 769.50'
 INV (NE) - 766.60'

REMOVE 22 LF EX 12" PIPE
 CONST 22 LF 12" PIPE, TYPE A
 INV (SW) - 760.60'
 INV (NE) - 758.70'

REMOVE 15 LF EX 12" PIPE
 CONST 15 LF 12" PIPE, TYPE A
 INV (SW) - 761.10'
 INV (NE) - 760.80'

REMOVE 26 LF EX 12" PIPE
 CONST 26 LF 12" PIPE, TYPE A
 INV (W) - 784.90'
 INV (E) - 782.25'

12" PIPE, TYPE A
 26 LF

SHED ON PROPERTY

BEGIN ALIGNMENT GALENA
 8" GRAVITY SANITARY SEWER
 STA 130+00.00

STA 130+10.09
 EOS - 767.19'
 LOS - 20'

STA 130+78.15
 EOS - 763.00'
 LOS - 21'

STA 131+25.11
 EOS - 760.11'
 LOS - 22'

RESTORE EXISTING SWALE
 STA 131+79 TO STA 131+86

12" PIPE, TYPE A
 15 LF

12" PIPE, TYPE A
 22 LF

12" PIPE, TYPE A
 51 LF

RESTORE EXISTING SWALE
 STA 130+59 TO STA 131+65

GALENA AVENUE

STA 184+84.18 GRANDVIEW
 STA 132+97.94 GALENA

STA 132+50.00
 EOS - 748.34'
 LOS - 30'

Mark J. Echer, P.E., P.S.
 155 Rehl Road
 Zanesville, Ohio 43701
Wiskingum
County
ENGINEER'S OFFICE 740-434-0155

PROJECT NAME: SANITARY SEWER IMPROVEMENTS
 GALENA AVENUE TO FRANKLIN ROAD
 PROJECT LOCATION: LICKING VIEW
 ZANESVILLE, OHIO 43701

PLANS APPROVED BY: MJE

PLANS PREPARED BY: GJW

DATE: 08/14/2023

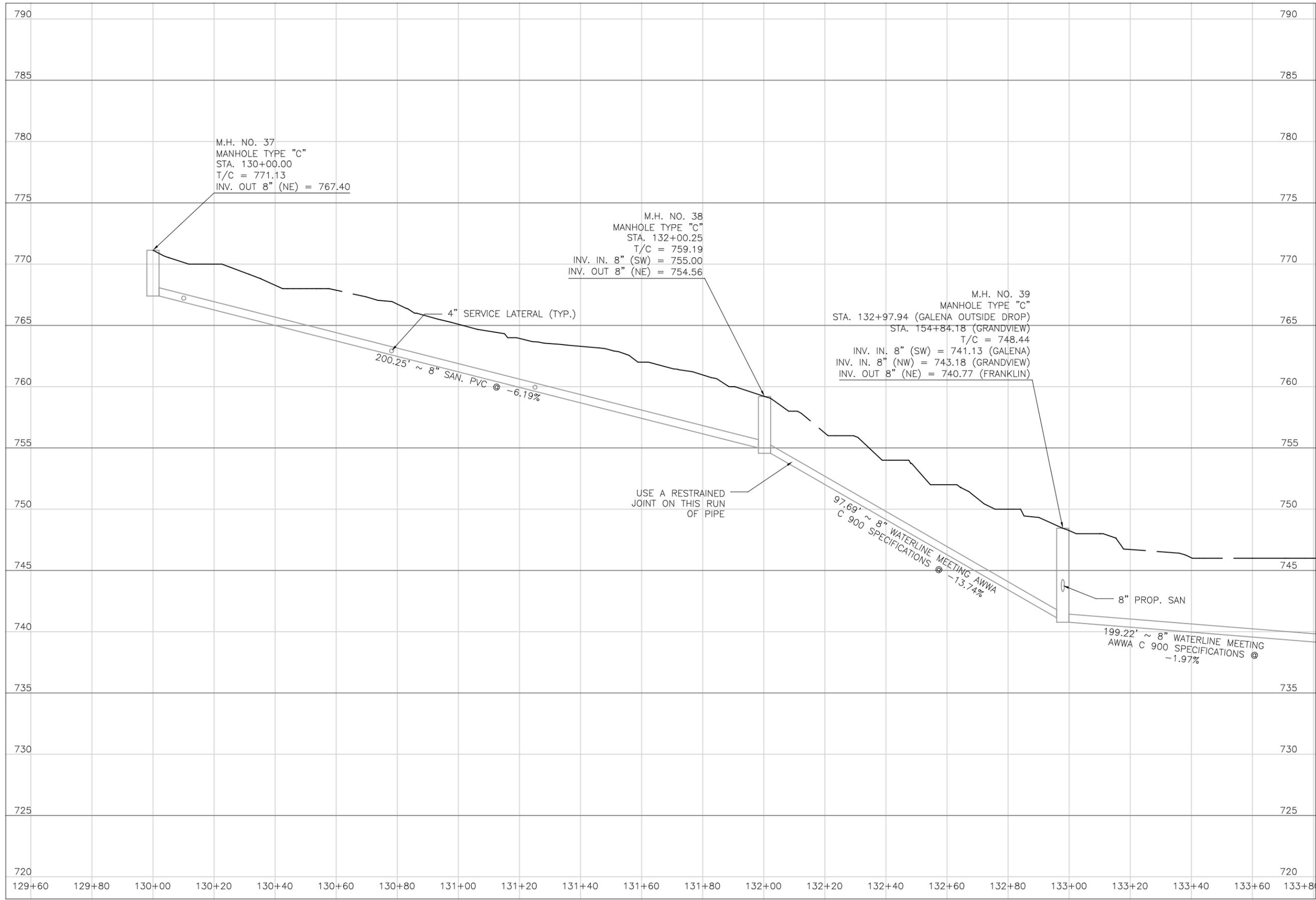
REVISED:

SHEET SIZE: 11" x 17"

SHEET NAME: PLAN SHEET (17)

SHEET NUMBER:

50
118



PREPARED BY:
PROJECT NAME: SANITARY SEWER IMPROVEMENTS
GALENA AVENUE
PROJECT LOCATION: LICKING VIEW
ZANESVILLE, OHIO 43701

PLANS APPROVED BY:
MJE

PLANS PREPARED BY:
HJ

DATE:
08/15/2023

REVISED:

SHEET SIZE:
11" x 17"

SHEET NAME:
**PROFILE MANHOLE
37 - 39**

SHEET NUMBER:
51
118

17-85-01-11-000
Bonnie Adams
505 Franklin Rd

17-85-01-10-000
Bonnie Adams
505 Franklin Rd

17-85-01-09-000
Bonnie Adams
505 Franklin Rd

17-85-01-07-000
David Harrier
535 Franklin Rd

17-85-01-06-000
Old National Road Properties, LLC
Franklin Rd

17-85-01-08-000
Carter Walters
525 Franklin Rd



STM - 21

REMOVE 55 LF EX 15" PIPE
CONST 55 LF 15" PIPE, TYPE A
INV (SW) - 743.00'
INV (NE) - 740.50'

STM - 22

REMOVE 35 LF EX 12" PIPE
CONST 35 LF 12" PIPE, TYPE A
INV (SW) - 738.50'
INV (NE) - 737.15'

STM - 23

REMOVE 11 LF EX 12" PIPE
CONST 11 LF 12" PIPE, TYPE A
INV (SW) - 734.30'
INV (NE) - 733.60'

STM - 24

REMOVE 28 LF EX 15" PIPE
CONST 28 LF 15" PIPE, TYPE A
INV (W) - 732.60'
INV (E) - 730.60'

NOTES:

1. MINIMUM DIMENSIONS BETWEEN EXISTING WATER LINE AND PROPOSED SANITARY SEWER AT VARIOUS LOCATIONS ARE NOTED IN THE TABLE BELOW:

LOCATION	SEPARATION
A	5'
B	7'
C	8'
D	6'

MATCHLINE STA. 134+11

MATCHLINE STA. 138+14

RESTORE EXISTING SWALE
STA 132+07 TO STA 134+21

RESTORE EXISTING SWALE
STA 134+69 TO STA 135+62

12" PIPE, TYPE A
35 LF

RESTORE EXISTING SWALE
STA 135+97 TO STA 136+44

STA 136+23.27
EOS - 731.05'
LOS - 16'

RESTORE EXISTING SWALE
STA 136+55 TO STA 136+75

STA 136+57.29
EOS - 729.38'
LOS - 14'

RESTORE EXISTING SWALE
STA 137+22 TO STA 139+06

6" SERVICE LATERAL
STA 137+35.30
EOS - 725.12'
LOS - 13'

STM - 21

15" PIPE, TYPE A
55 LF

SEE NOTES

SEE NOTES

STM - 23

15" PIPE, TYPE A
28 LF

STM - 24

SEE NOTES

SEE NOTES

STA 137+67.30
EOS - 723.53'
LOS - 20'

17-86-03-09-000
Michael Young
2285 Galena Ave

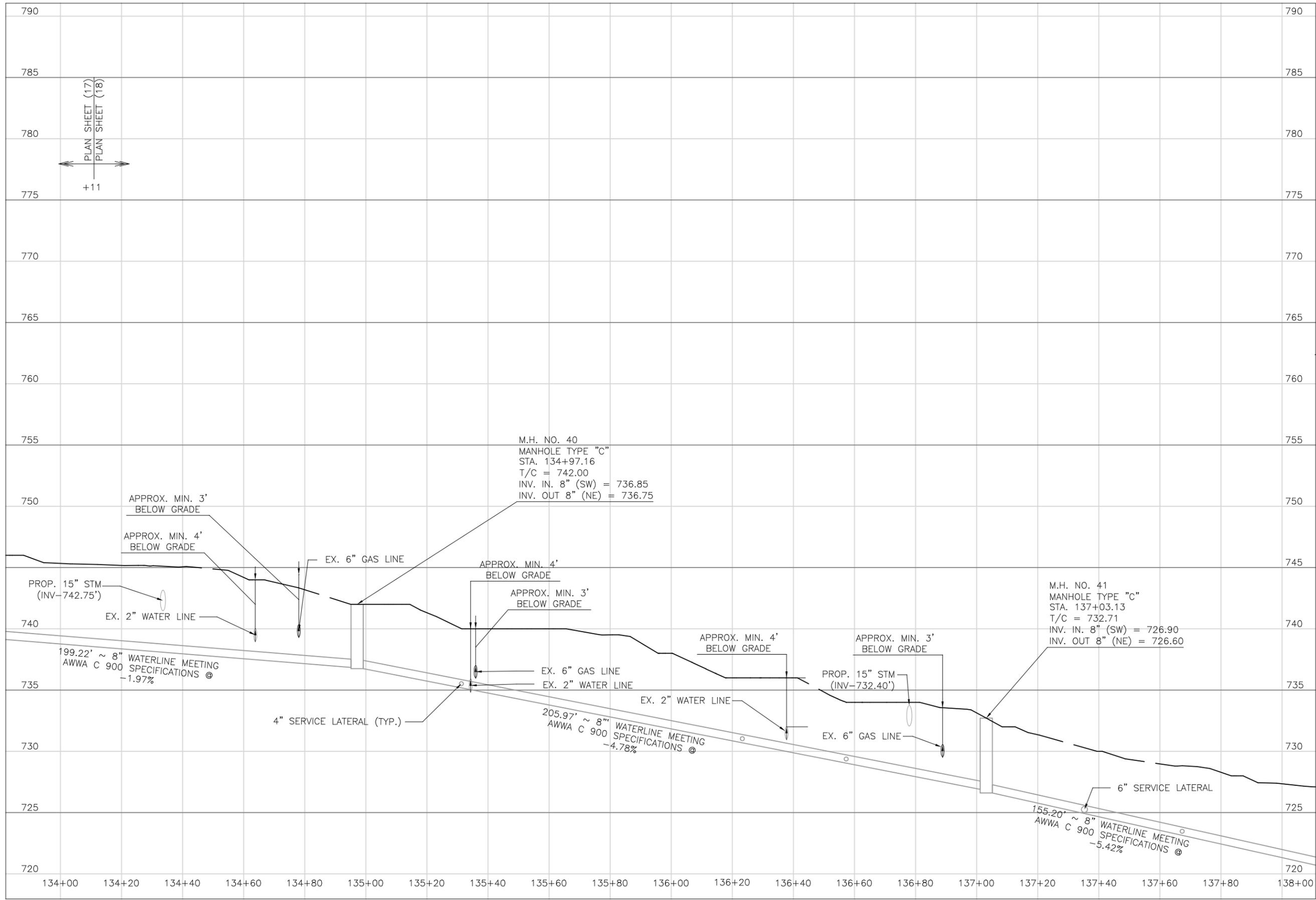
17-86-03-11-000
Michael Young
2285 Galena Ave

17-86-04-04-000
Alan & Ashley Sutton
2270 Galena Ave

17-86-04-03-000
Alan & Ashley Sutton
2270 Galena Ave

17-86-04-01-000
Alan & Ashley Sutton
2270 Galena Ave

SEE SHEET 70





SURVEY BENCHMARK
MAG NAIL SET IN UTILITY POLE
COORDINATES (N,E,Z)
712476.981
2098391.561
723.76



NOTES:
1. MINIMUM DIMENSIONS BETWEEN EXISTING WATER LINE AND PROPOSED SANITARY SEWER AT VARIOUS LOCATIONS ARE NOTED IN THE TABLE BELOW:

LOCATION	SEPARATION
A	5'
B	5'
C	6'
D	5'

MATCHLINE STA. 143+35

Mark J. Echer, P.E., P.S.
155 Rehl Road
Zanesville, Ohio 43701
Wiskingum
County
ENGINEER'S OFFICE

PREPARED BY:
SANITARY SEWER IMPROVEMENTS
FRANKLIN ROAD TO LICKING ROAD
LICKING VIEW
ZANESVILLE, OHIO 43701

PLANS APPROVED BY:
MJE

PLANS PREPARED BY:
GJW

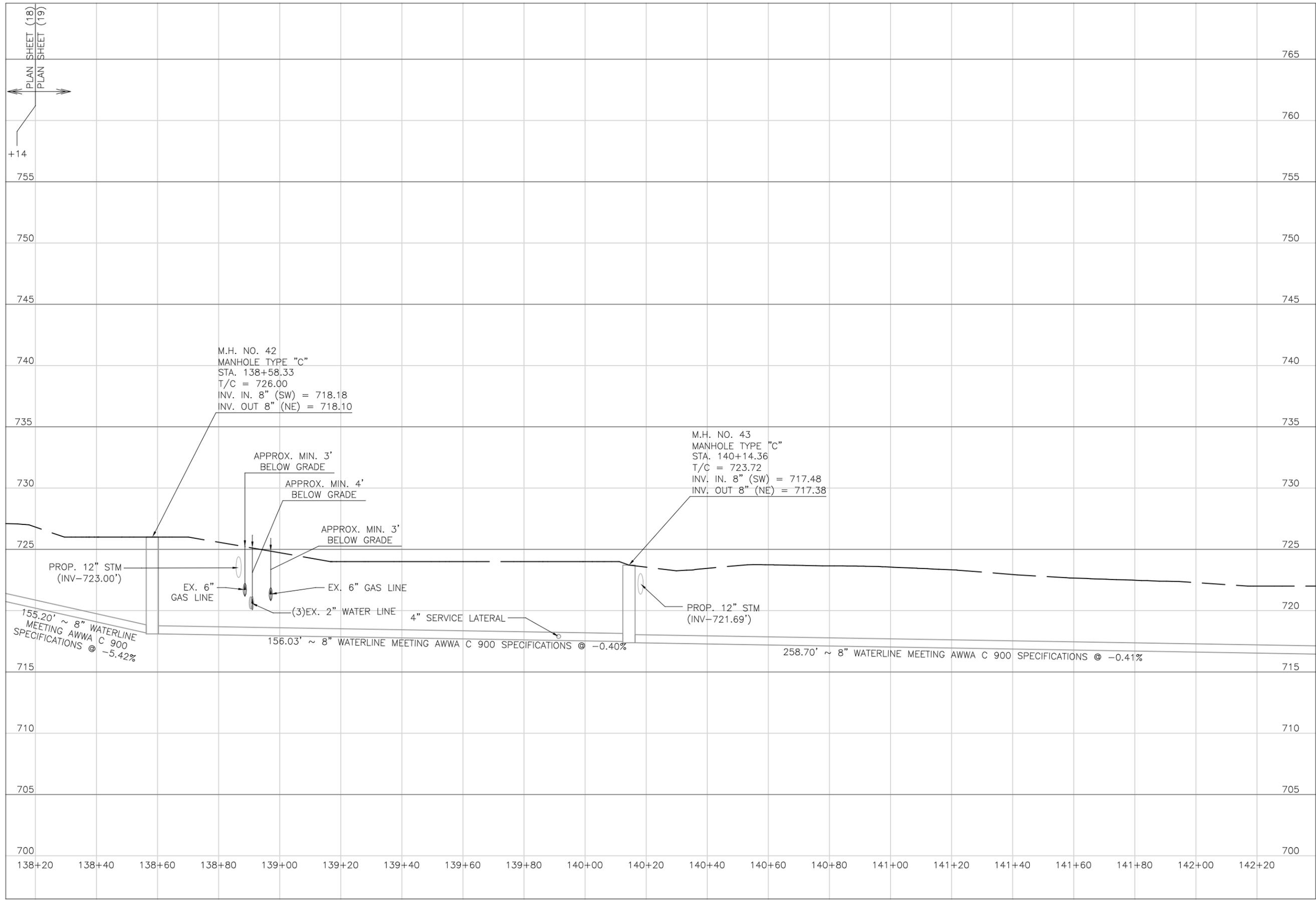
DATE:
08/14/2023

REVISD:

SHEET SIZE:
11" x 17"

SHEET NAME:
PLAN SHEET (19)

SHEET NUMBER:
54
118



Mark J. Eicher, P.E., P.S.
 155 Nehl Road
 Zanesville, Ohio 43701
 740-454-0155

Muskingum County
ENGINEER'S OFFICE

PREPARED BY: [Blank]

PROJECT NAME: SANITARY SEWER IMPROVEMENTS
 FRANKLIN ROAD TO LICKING ROAD

PROJECT LOCATION: LICKING VIEW
 ZANESVILLE, OHIO 43701

PLANS APPROVED BY: MJE

PLANS PREPARED BY: HJ

DATE: 08/15/2023

REVISED: [Blank]

SHEET SIZE: 11" x 17"

SHEET NAME: PROFILE MANHOLE
 42 & 43

SHEET NUMBER: 55
 118



NOTES:
 1. MINIMUM DIMENSIONS BETWEEN EXISTING WATER LINE AND PROPOSED SANITARY SEWER AT VARIOUS LOCATIONS ARE NOTED IN THE TABLE BELOW:

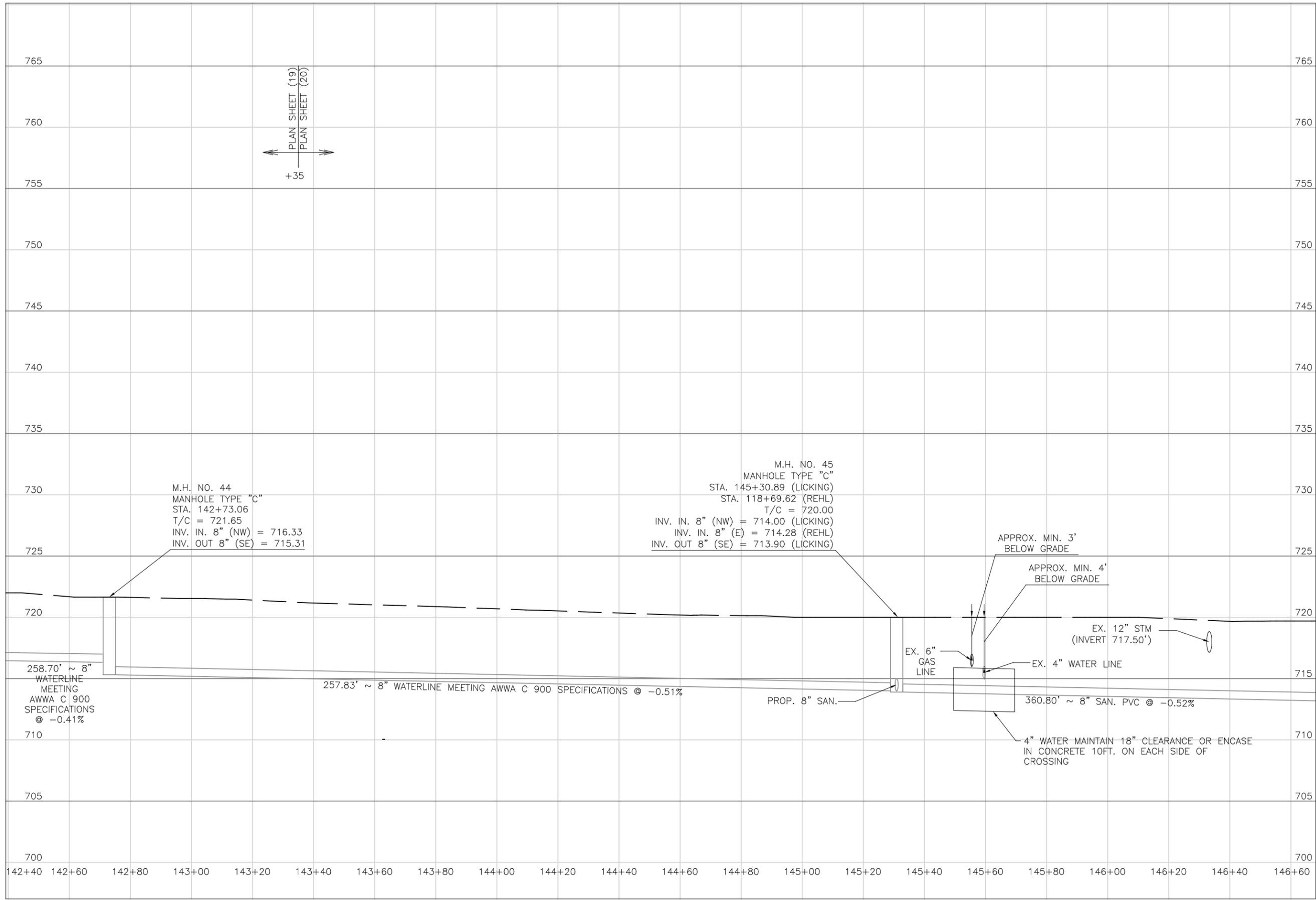
LOCATION	SEPARATION
A	5'

2. INCLUDED WITH CONSTRUCTION OF STM-34 ARE TWO 8 FT SEGMENTS OF PIPE TO ALLOW FOR CONNECTIONS BETWEEN PROPOSED CATCH BASIN AND EXISTING PIPES. CONTRACTOR TO FIELD VERIFY PROPOSED INVERTS. NOTIFY ENGINEER OF ANY DISCREPANCIES BEFORE INSTALLING INLET/PIPES.

MATCHLINE STA. 143+35

MATCHLINE STA. 147+76

SEE SHEET 70



PLAN SHEET (19)
 PLAN SHEET (20)
 +35

PREPARED BY:
 PROJECT NAME:
 PROJECT LOCATION:

SANITARY SEWER IMPROVEMENTS
 LICKING ROAD
 LICKING VIEW
 ZANESVILLE, OHIO 43701

PLANS APPROVED BY:
MJE

PLANS PREPARED BY:
HJ

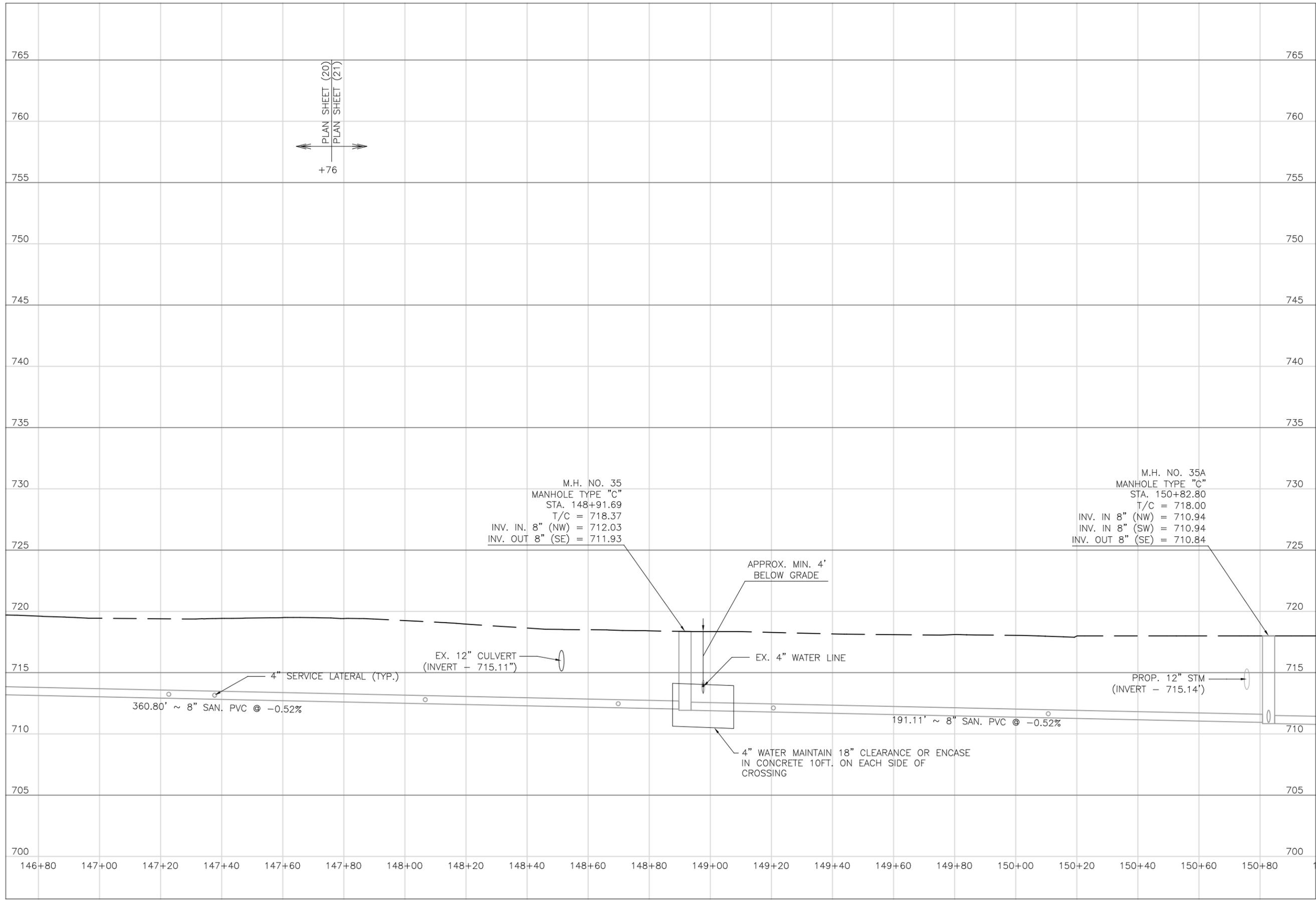
DATE:
08/15/2023

REVISED:

SHEET SIZE:
11" x 17"

SHEET NAME:
**PROFILE MANHOLE
 44 & 45**

SHEET NUMBER:



PLAN SHEET (20)
 PLAN SHEET (21)
 +76

PREPARED BY:
 PROJECT NAME: SANITARY SEWER IMPROVEMENTS
 LICKING ROAD
 PROJECT LOCATION: LICKING VIEW
 ZANESVILLE, OHIO 43701

PLANS APPROVED BY:
MJE

PLANS PREPARED BY:
HJ

DATE:
08/15/2023

REVISED:

SHEET SIZE:
11" x 17"

SHEET NAME:
**PROFILE MANHOLE
 35 & 35A**

SHEET NUMBER:
59
 118



MATCHLINE STA. 152+17

MATCHLINE STA 15+79

SEE SHEET 19

SEE SHEET 17

Mark J. Eichel, P.E., P.S.
 155 Rehl Road
 Zanesville, Ohio 43701
Wiskingum
County
ENGINEER'S OFFICE 740-434-0155

PREPARED BY:
 PROJECT NAME: SANITARY SEWER IMPROVEMENTS
 LICKING ROAD TO KNOX ROAD
 PROJECT LOCATION: LICKING VIEW
 ZANESVILLE, OHIO 43701

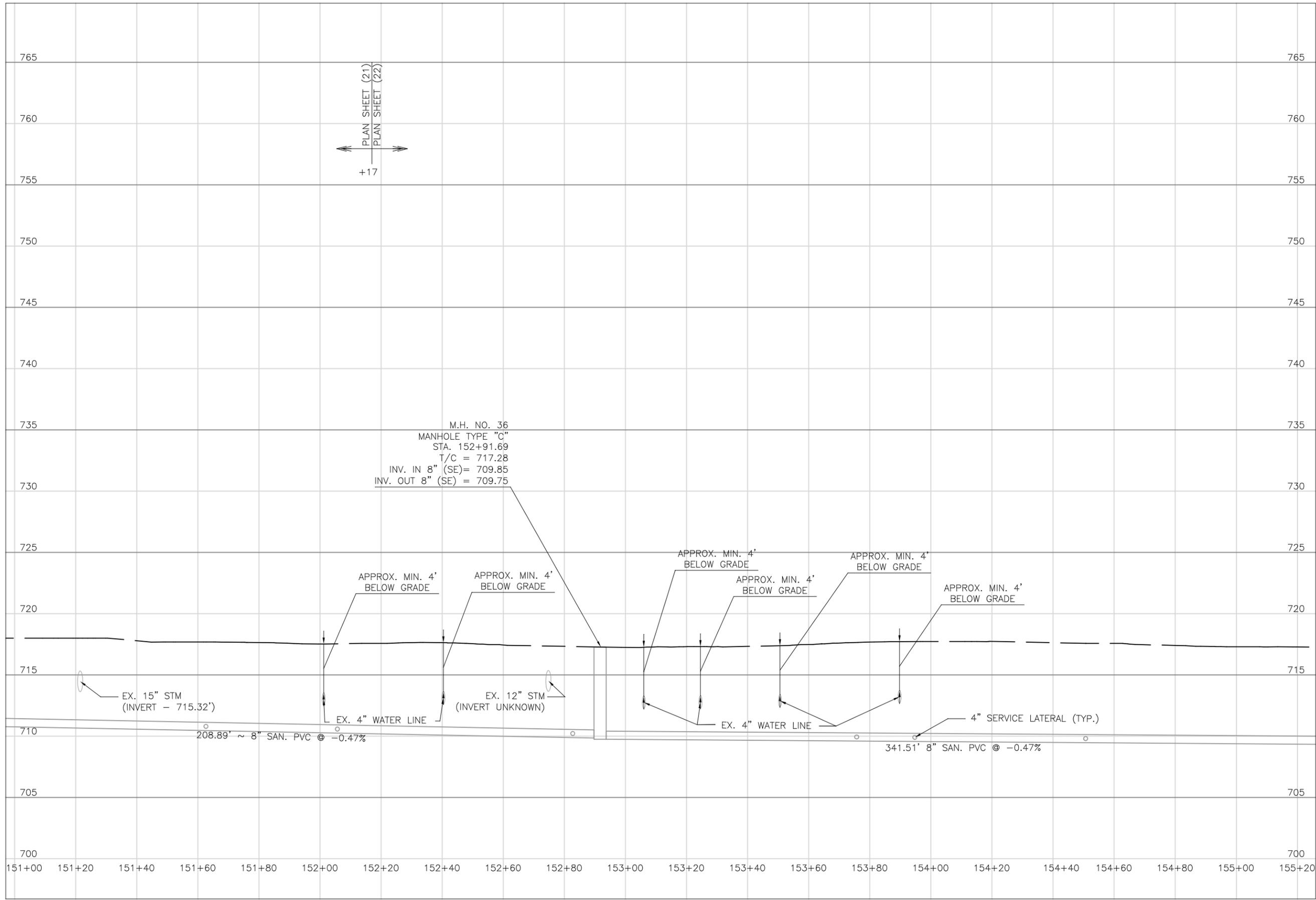
PLANS APPROVED BY:
 MJE
 PLANS PREPARED BY:
 GJW

DATE:
 08/14/2023

SHEET SIZE:
 11" x 17"

SHEET NAME:
 PLAN SHEET (22)

SHEET NUMBER:
 60
 118



PLAN SHEET (21)
PLAN SHEET (22)
+17

M.H. NO. 36
MANHOLE TYPE "C"
STA. 152+91.69
T/C = 717.28
INV. IN 8" (SE) = 709.85
INV. OUT 8" (SE) = 709.75

EX. 15" STM
(INVERT - 715.32')

EX. 12" STM
(INVERT UNKNOWN)

208.89' ~ 8" SAN. PVC @ -0.47%

341.51' 8" SAN. PVC @ -0.47%

APPROX. MIN. 4'
BELOW GRADE

EX. 4" WATER LINE

EX. 4" WATER LINE

4" SERVICE LATERAL (TYP.)

Mark J. Eicher, P.E., P.S.
155 Kehl Road
Zanesville, Ohio 43701
Muskingum
County
ENGINEER'S OFFICE 740-454-0155

PROJECT NAME: SANITARY SEWER IMPROVEMENTS
PROJECT LOCATION: LICKING ROAD
LICKING VIEW
ZANESVILLE, OHIO 43701

PLANS APPROVED BY: MJE

PLANS PREPARED BY: HJ

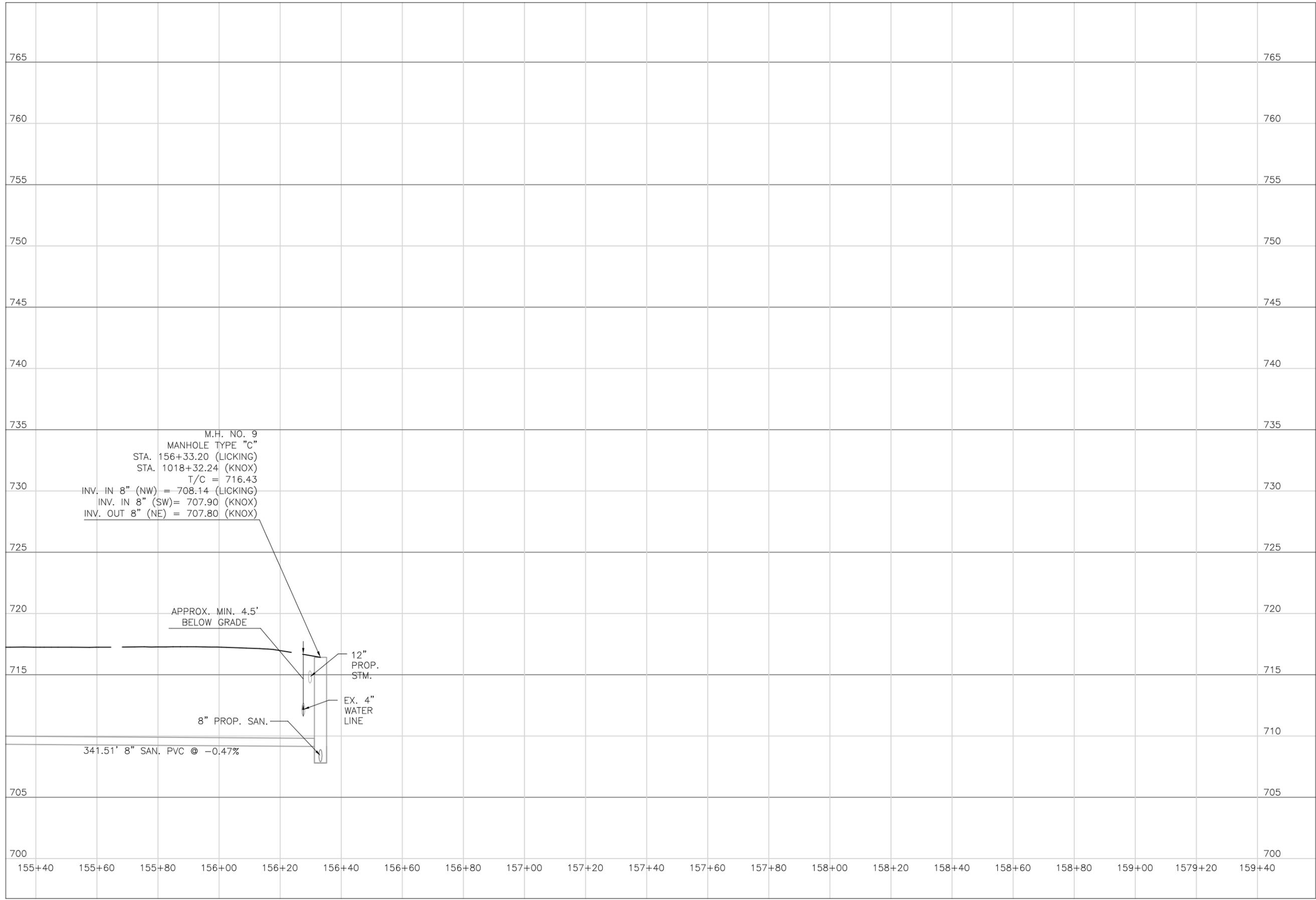
DATE: 08/15/2023

REVISED:

SHEET SIZE: 11" x 17"

SHEET NAME: PROFILE MANHOLE 36

SHEET NUMBER: 61 / 118



PREPARED BY:

PROJECT NAME:
 SANITARY SEWER IMPROVEMENTS
 LICKING ROAD TO KNOX ROAD

PROJECT LOCATION:
 LICKING VIEW
 ZANESVILLE, OHIO 43701

PLANS APPROVED BY:
MJE

PLANS PREPARED BY:
HJ

DATE:
08/15/2023

REVISED:

SHEET SIZE:
 11" x 17"

SHEET NAME:
**PROFILE
 MANHOLE 9**

SHEET NUMBER:
 62
 118



BEGIN ALIGNMENT HIGHLAND
8" GRAVITY SANITARY SEWER
STA 100+00.00

STA 100+65.11
EOS - 812.43'
LOS - 22'

STA 100+10.00
EOS - 821.57'
LOS - 11'

17-84-02-17-000
Donald & Judy Kocher
2330 Highland Rd

17-85-02-08-000
Carie Maziar
2335 Highland Rd

17-85-02-11-000
T & H Rentals
315 Grandview Ave

17-85-02-13-000
T & H Rentals
315 Grandview Ave

17-85-02-12-000
T & H Rentals
315 Grandview Ave

17-85-02-10-000
Jamie Waller
2325 Highland Rd

17-85-02-09-000
Jamie Waller
2325 Highland Rd

RESTORE EXISTING SWALE
STA 101+55 TO STA 102+24

17-85-01-18-000
Tamara Hemmer
325 Galena Ave

RESTORE EXISTING SWALE
STA 102+64 TO STA 104+08

SURVEY BENCHMARK
MAG NAIL SET IN UTILITY POLE
COORDINATES (N,E,Z)
711616.511
2097491.773
796.34

17-98-02-01-000
Timothy & Karen Smith
2300 Highland Rd

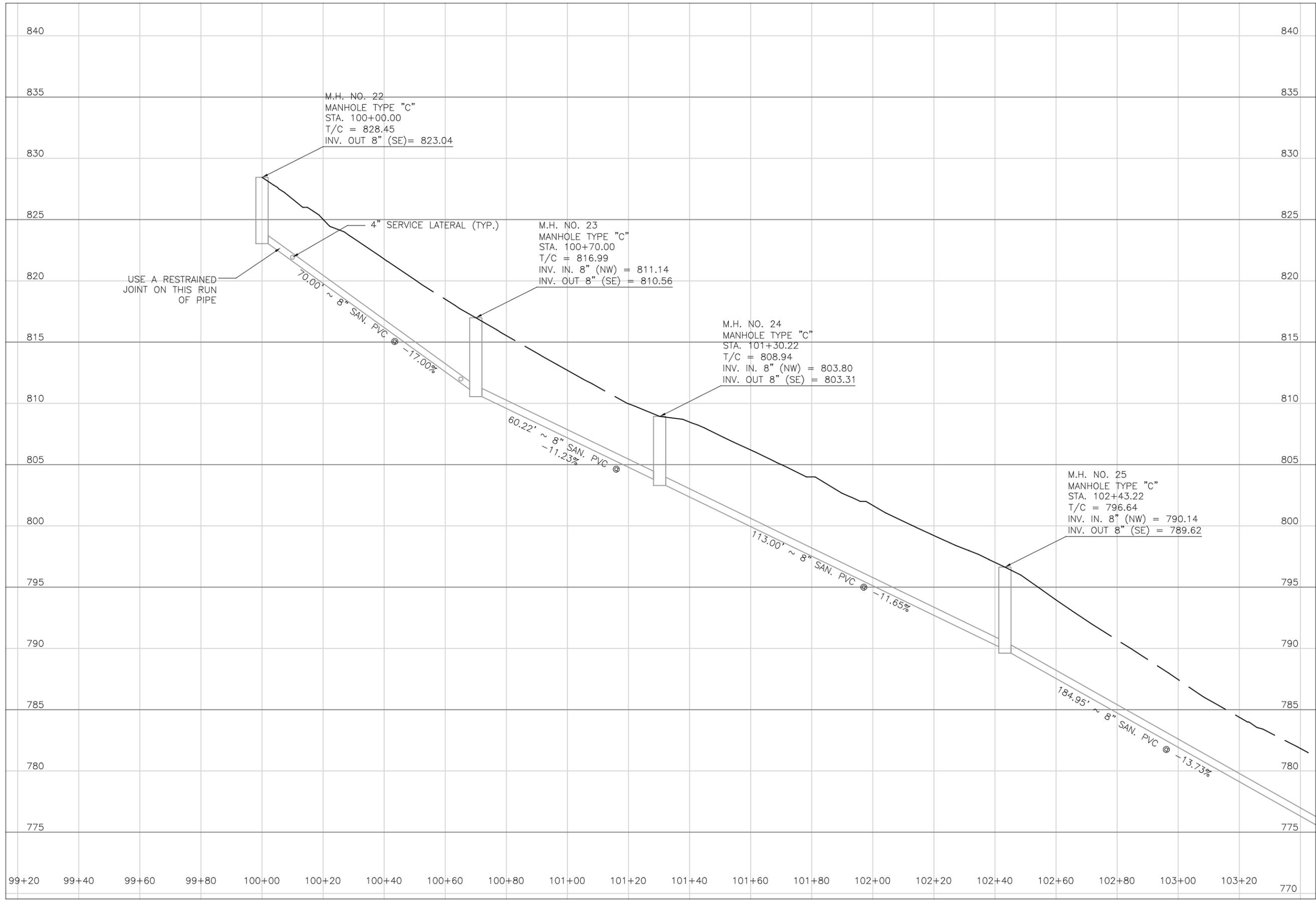
- NOTES:
1. MANHOLE NOS 19, 20, AND 21 NOT USED.
2. MINIMUM DIMENSIONS BETWEEN EXISTING WATER LINE AND PROPOSED SANITARY SEWER AT VARIOUS LOCATIONS ARE NOTED IN THE TABLE BELOW:

LOCATION	SEPARATION
A	5'
B	6'



SEE SHEET 77
MATCHLINE STA. 160+70

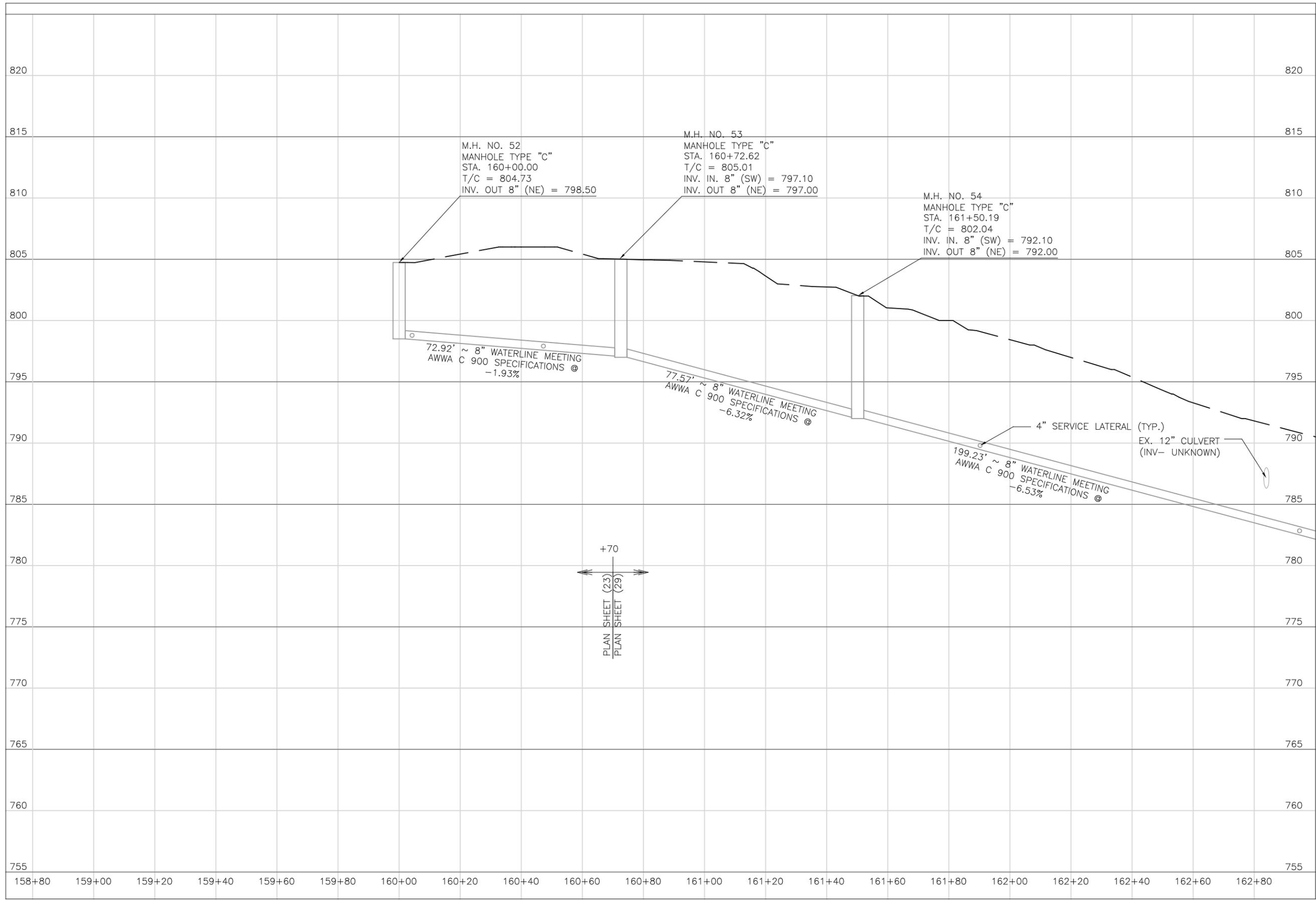
MATCHLINE STA. 103+78



PREPARED BY: **Mark J. Eicher, P.E., P.S.**
Muskingum County
ENGINEER'S OFFICE
 155 Kehl Road
 Zanesville, Ohio 43701
 740-454-0155

PROJECT NAME: **SANITARY SEWER IMPROVEMENTS
HIGHLAND ROAD**
 PROJECT LOCATION: **LICKING VIEW
ZANESVILLE, OHIO 43701**

PLANS APPROVED BY: **MJE**
 PLANS PREPARED BY: **HJ**
 DATE: **08/15/2023**
 REVISED:
 SHEET SIZE: **11" x 17"**
 SHEET NAME: **PROFILE
MANHOLE
22 - 25**
 SHEET NUMBER: **64** / **118**



SEE SHEET 50

17-85-01-17-000
Tamara Hemmer
325 Galena Ave

17-85-01-18-000
Tamara Hemmer
325 Galena Ave

17-86-09-06-000
Hayley DeVoll (renter) / Cynthia Clegg
2255 Highland Rd

17-86-09-06-000
Hayley DeVoll (renter) / Cynthia Clegg
2255 Highland Rd

17-86-09-07-000
Hayley DeVoll (renter) / Cynthia Clegg
2255 Highland Rd

STA 106+20.56
EOS - 752.80'
LOS - 7'

RESTORE EXISTING SWALE
STA 104+36 TO STA 105+70

STM - 39

STM - 39

REMOVE 29 LF EX 18" PIPE
CONST 29 LF OF 18" PIPE, TYPE A
(NO HEADWALLS)
INV (NW) - 759.20
INV (SE) - 757.80

SURVEY BENCHMARK
MAG NAIL SET IN UTILITY POLE
COORDINATES (N.E.Z)
711375.16
2097925.656
758.73

17-86-09-08-000
Jay & Melissa Pickering
315 Rehl Rd

17-86-09-09-000
Jay & Melissa Pickering
315 Rehl Rd

STA 107+53.00
EOS - 749.25'
LOS - 11'

MATCHLINE STA. 107+62

MATCHLINE STA. 103+78

GALENA AVENUE

BROWN ALLEY

HIGHLAND ROAD

REHL ROAD



Mark J. Eicher, P.E., P.S.
155 Rehl Road
Zanesville, Ohio 43701
Wiskingum
County
ENGINEER'S OFFICE 740-434-0155

PROJECT NAME: SANITARY SEWER IMPROVEMENTS
HIGHLAND ROAD TO BROWN ALLEY
PROJECT LOCATION: LICKING VIEW
ZANESVILLE, OHIO 43701

PLANS APPROVED BY: MJE

PLANS PREPARED BY: GJW

DATE: 08/14/2023

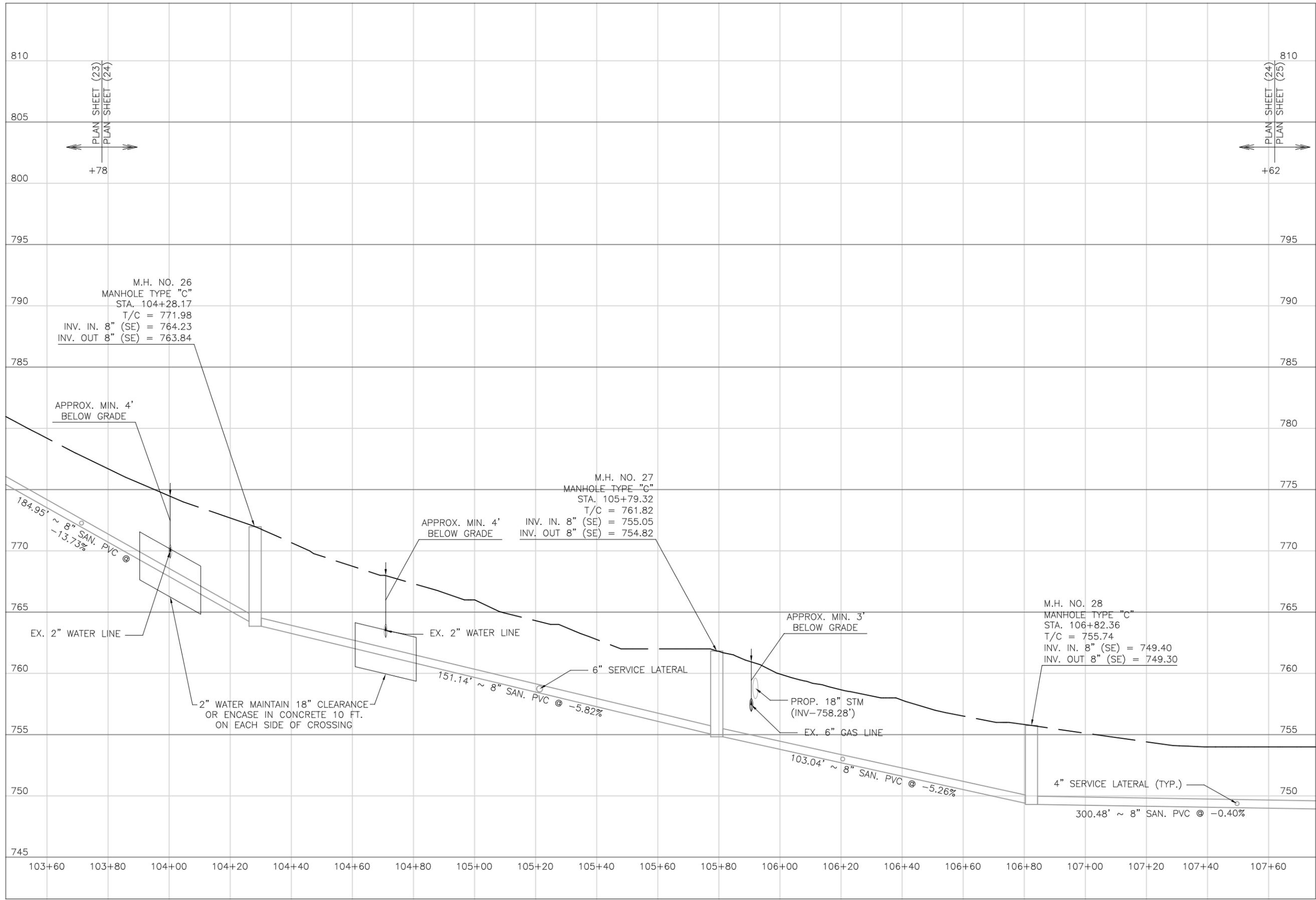
REVISED:

SHEET SIZE: 11" x 17"

SHEET NAME: PLAN SHEET (24)

SHEET NUMBER:

66
118



PLAN SHEET (23)
PLAN SHEET (24)
+78

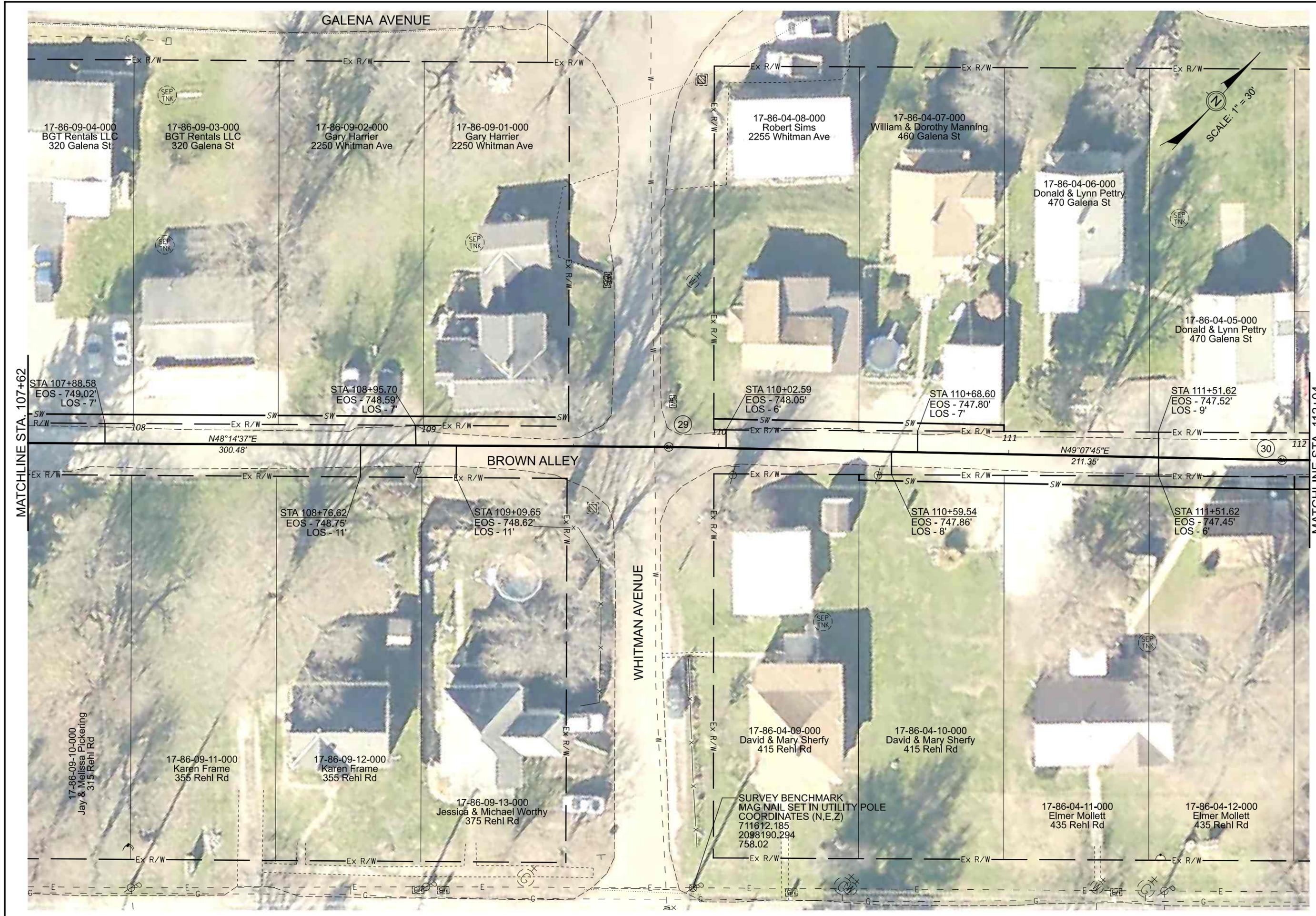
PLAN SHEET (24)
PLAN SHEET (25)
+62

M.H. NO. 26
MANHOLE TYPE "C"
STA. 104+28.17
T/C = 771.98
INV. IN. 8" (SE) = 764.23
INV. OUT 8" (SE) = 763.84

M.H. NO. 27
MANHOLE TYPE "C"
STA. 105+79.32
T/C = 761.82
INV. IN. 8" (SE) = 755.05
INV. OUT 8" (SE) = 754.82

M.H. NO. 28
MANHOLE TYPE "C"
STA. 106+82.36
T/C = 755.74
INV. IN. 8" (SE) = 749.40
INV. OUT 8" (SE) = 749.30

2" WATER MAINTAIN 18" CLEARANCE
OR ENCASE IN CONCRETE 10 FT.
ON EACH SIDE OF CROSSING



Mark J. Eicher, P.E., P.S.
 155 Rehl Road
 Zanesville, Ohio 43701
Wiskingum County ENGINEER'S OFFICE

PREPARED BY:

PROJECT NAME: SANITARY SEWER IMPROVEMENTS BROWN ALLEY
 PROJECT LOCATION: LICKING VIEW ZANESVILLE, OHIO 43701

PLANS APPROVED BY:
MJE

PLANS PREPARED BY:
GJW

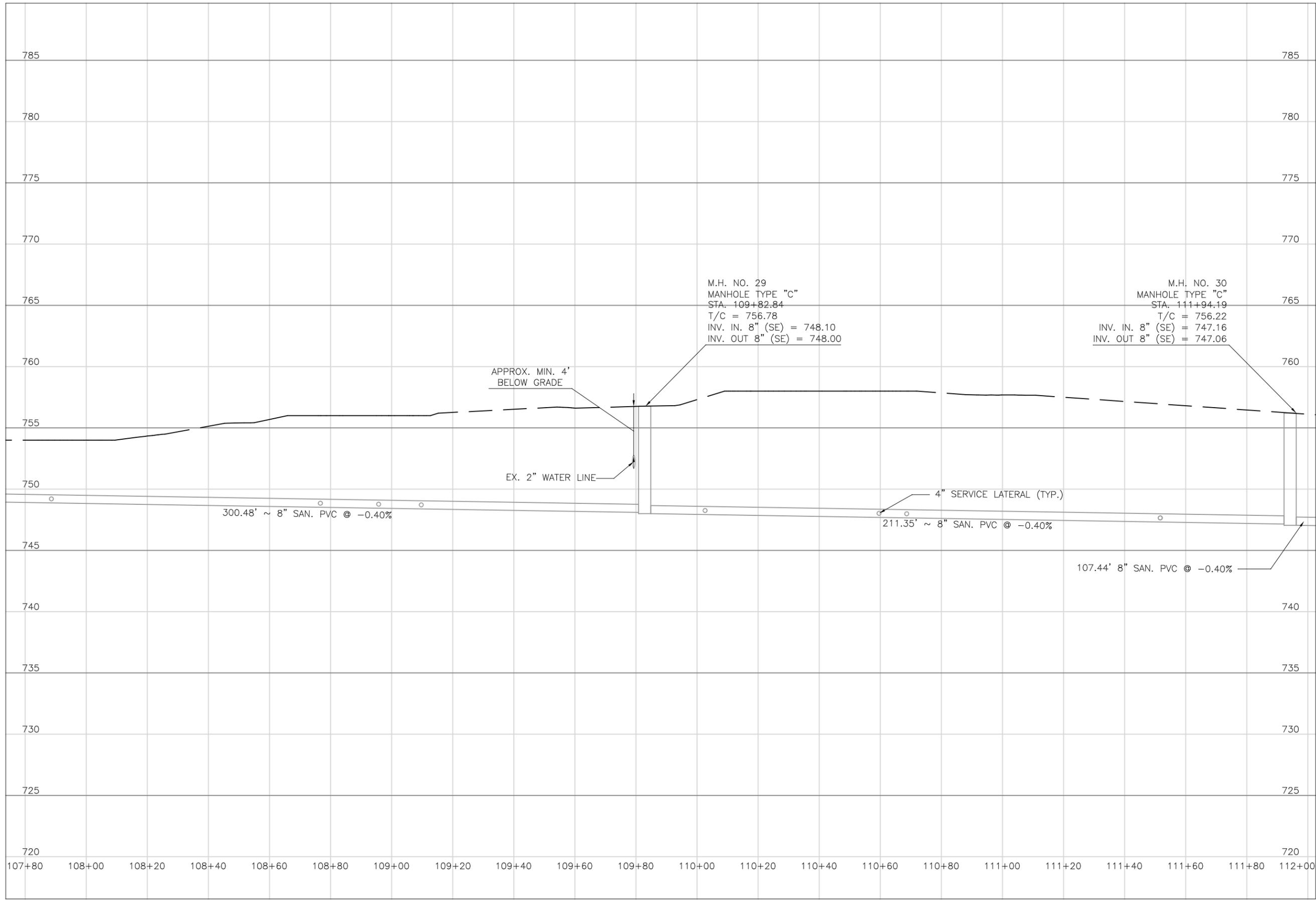
DATE:
 08/14/2023

REVISED:

SHEET SIZE:
 11" x 17"

SHEET NAME:
 PLAN SHEET (25)

SHEET NUMBER:
 68
 118



PREPARED BY:
 PROJECT NAME: SANITARY SEWER IMPROVEMENTS
 BROWN ALLEY
 PROJECT LOCATION: LICKING VIEW
 ZANESVILLE, OHIO 43701

PLANS APPROVED BY:
MJE

PLANS PREPARED BY:
HJ

DATE:
08/15/2023

REVISED:

SHEET SIZE:
11" x 17"

SHEET NAME:
**PROFILE
 MANHOLE
 29 & 30**

SHEET NUMBER:
69
118



Mark J. Eicher, P.E., P.S.
Wiskingum
County
ENGINEER'S OFFICE
 155 Rehl Road
 Zanesville, Ohio 43701
 740-454-0155

PREPARED BY:
 PROJECT NAME: **SANITARY SEWER IMPROVEMENTS BROWN ALLEY**
 PROJECT LOCATION: **LICKING VIEW ZANESVILLE, OHIO 43701**

PLANS APPROVED BY:
MJE

PLANS PREPARED BY:
GJW

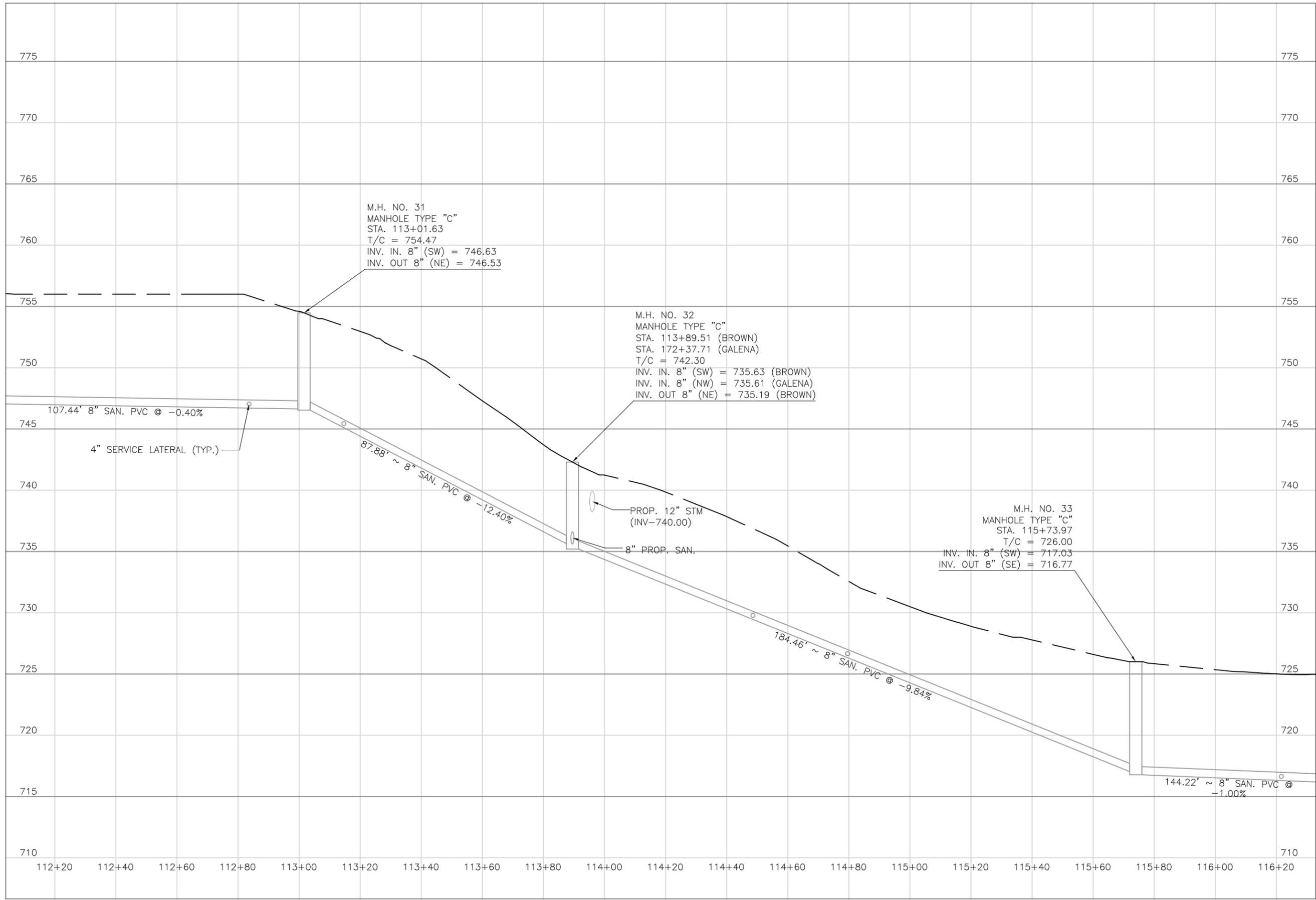
DATE:
08/14/2023

REVISED:

SHEET SIZE:
11" x 17"

SHEET NAME:
PLAN SHEET (26)

SHEET NUMBER:
70
118



PREPARED BY:
 PROJECT NAME: SANITARY SEWER IMPROVEMENTS
 BROWN ALLEY
 PROJECT LOCATION: LICKING VIEW
 ZANESVILLE, OHIO 43701

PLANS APPROVED BY:
MJE

PLANS PREPARED BY:
HJ

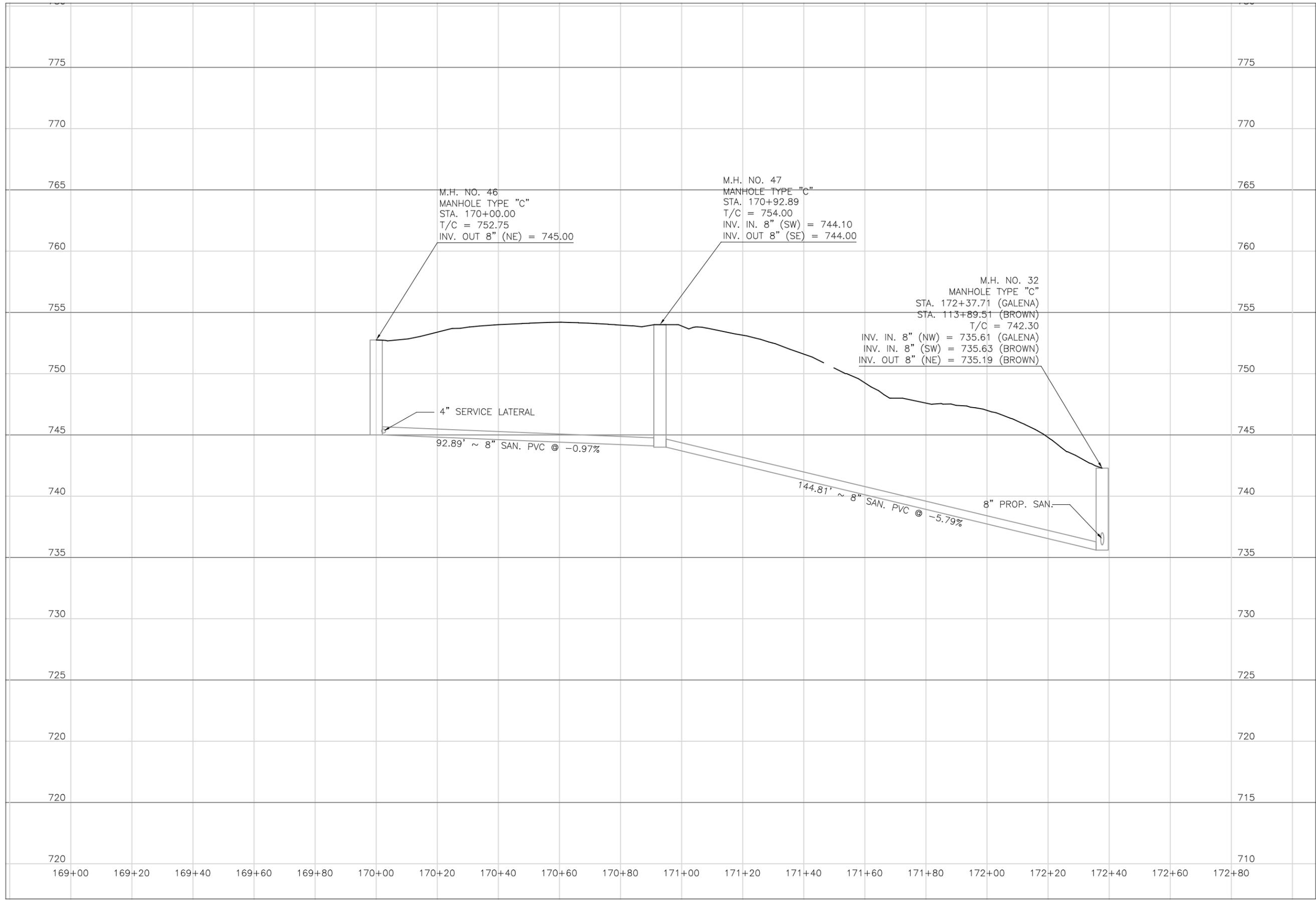
DATE:
08/15/2023

REVISED:

SHEET SIZE:
11" x 17"

SHEET NAME:
PROFILE MANHOLE 31 - 33

SHEET NUMBER:
71
 118



PREPARED BY:

PROJECT NAME: SANITARY SEWER IMPROVEMENTS
 GALENA AVE TO BROWN ALLEY

PROJECT LOCATION: LICKING VIEW
 ZANESVILLE, OHIO 43701

PLANS APPROVED BY:
MJE

PLANS PREPARED BY:
HJ

DATE:
08/15/2023

REVISED:

SHEET SIZE:
11" x 17"

SHEET NAME:
**PROFILE
 MANHOLE
 46-47 & 32**

SHEET NUMBER:
72
 118



SURVEY BENCHMARK
MAG NAIL SET IN UTILITY POLE
COORDINATES (N,E,Z)
712152.831
2098793.184
719.98



STA 118+69.60 GALENA/REHL
STA 145+30.81 LICKING

LICKING ROAD

REHL ROAD

BROWN ALLEY

BORE LATERAL
UNDER PAVT

17-86-02-10-000
David & Linda Pierce
2180 Licking Rd

17-86-02-09-000
David & Linda Pierce
2180 Licking Rd

17-86-02-08-000
David & Linda Pierce
2180 Licking Rd

17-86-02-07-000
Jeremy & Miranda Hood
2170 Licking Rd

17-86-02-06-000
Joseph & Pamela Ankrum/
Brian Phillin (renter)
2160 Licking Rd

17-86-02-05-000
Kevin Kochalko
2150 Licking Rd

17-86-02-14-000
Lynn & John Dooley
2175 Galena Ave

17-86-02-15-000
Susan Taylor
2155 Galena Ave

17-86-03-04-001
Casting Solutions, LLC
2345 Licking Rd

17-86-03-04-000
Casting Solutions, LLC
2345 Licking Rd

RESTORE EX 4' SIDEWALK
STA 117+22 TO STA 118+56

RESTORE EXISTING SWALE
STA 117+30 TO STA 118+56

STM - 33
REMOVE 19 LF OF 12" EX PIPE
CONST 19 LF 12" PIPE, TYPE A
(NO HEADWALLS)
INV 12" (S) - 718.40
INV 12" (N) - 718.30

STM - 41
REMOVE 28 LF OF 12" EX PIPE
CONST 28 LF 12" PIPE, TYPE A
(NO HEADWALLS)
INV 12" (SW) - 720.15
INV 12" (NE) - 720.15

STA 117+23.21
EOS - 716.18'
LOS - 47'

ABANDONED AIR RELEASE
VALVE

NOTES:

1. SEE SHEETS 58 AND 60 FOR INFORMATION REGARDING DRAINAGE IMPROVEMENTS ON BROWN ALLEY.
2. SERVICE LATERAL @ STA 117+23 RT SHALL BE BORED UNDER REHL RD TO MAINTAIN ACCESS
3. BORING LATERAL ACROSS REHL ROAD MAY REQUIRE TEMPORARY EASEMENT FROM PROPERTY OWNER. CONTRACTOR TO COORDINATE DIRECTLY WITH PROPERTY OWNER TO OBTAIN EASEMENT.

12" PIPE, TYPE A
28LF

SEE SHEET 56

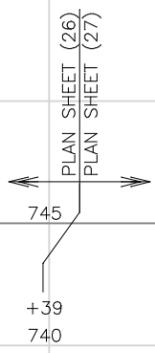
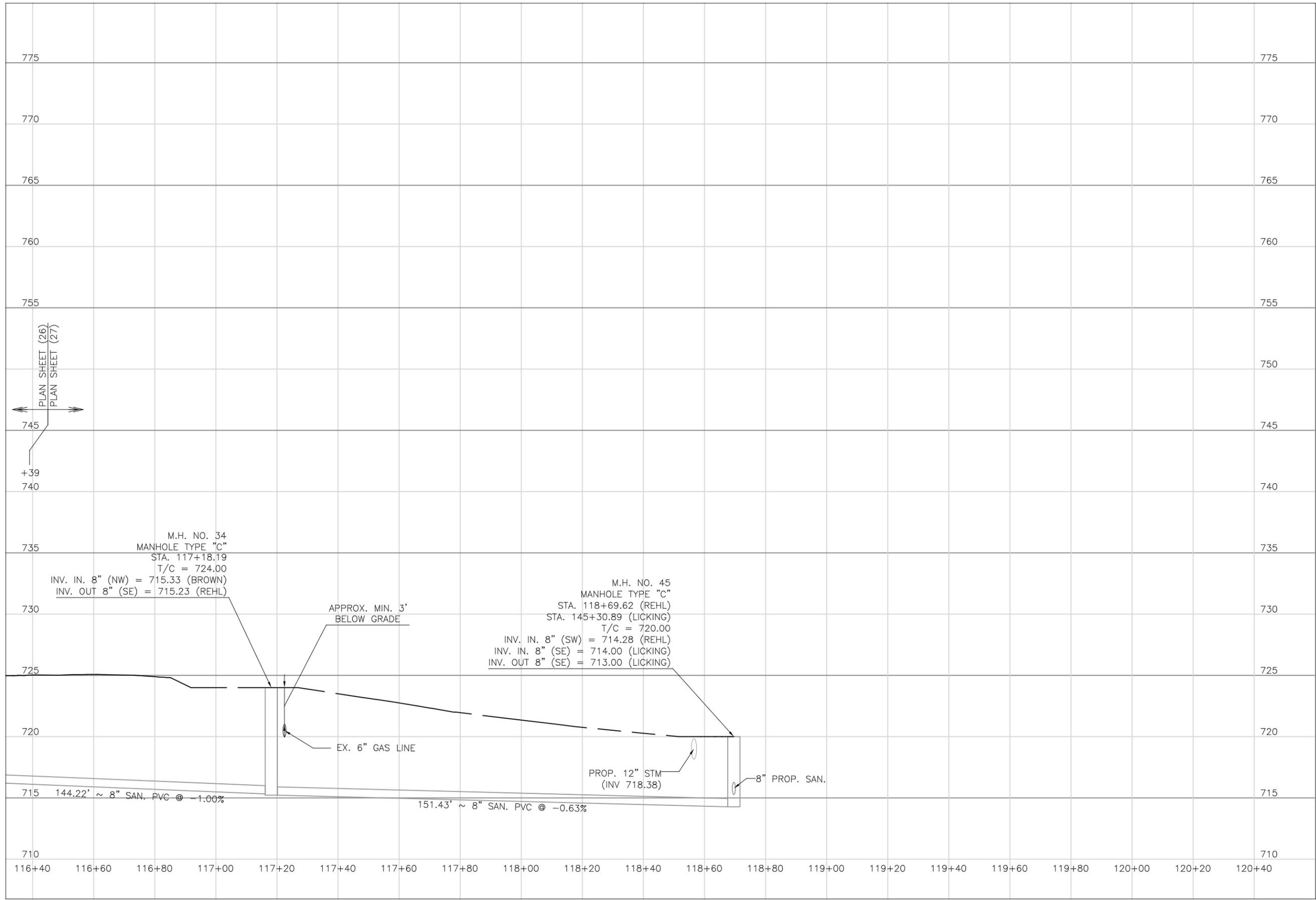
SEE SHEET 58

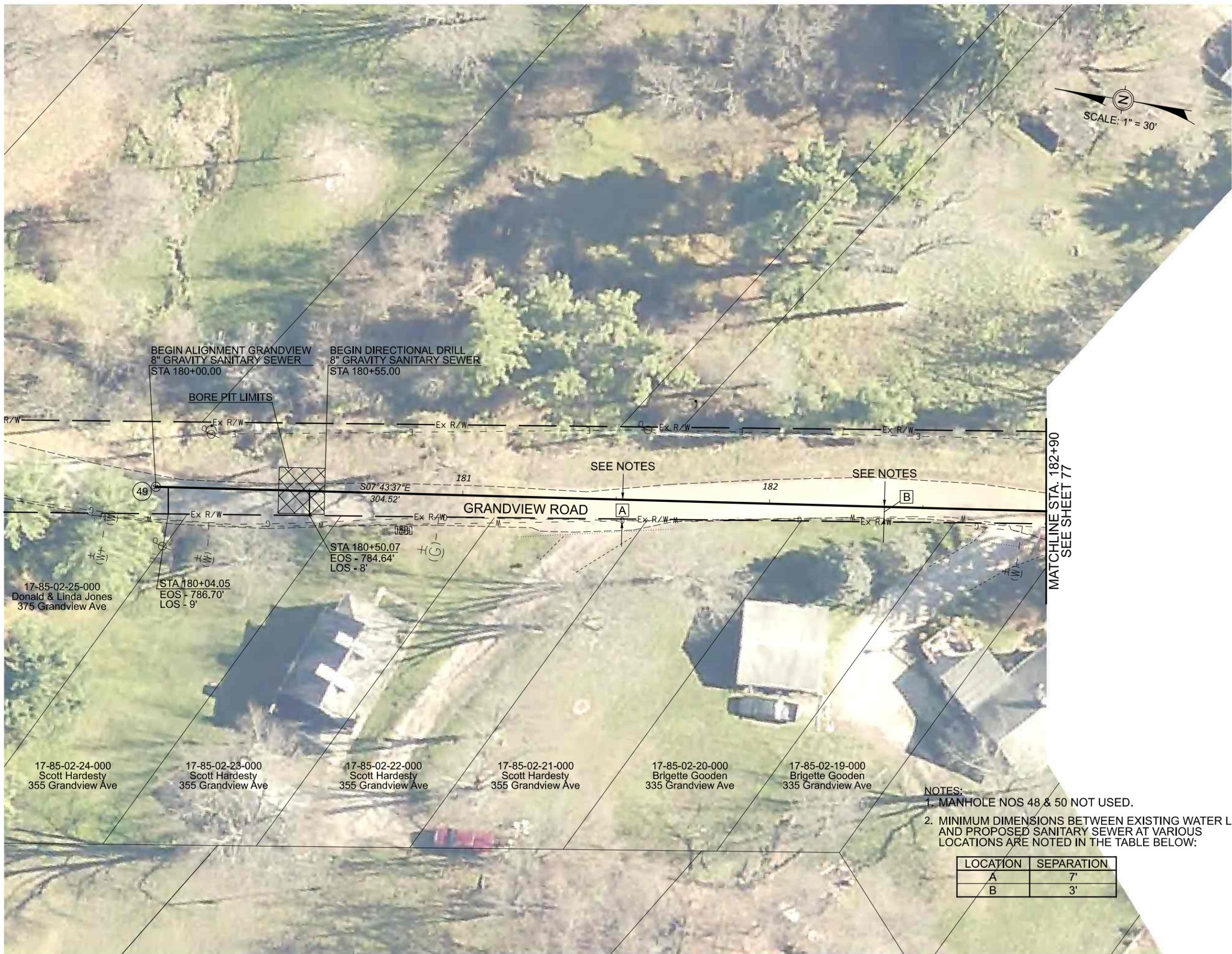
MATCHLINE STA. 116+39

SEE SHEET 58

Mark J. Eicher, P.E., P.S.
155 Rehl Road
Zanesville, Ohio 43701
Wiskingum
County
ENGINEER'S OFFICE 740-434-0155

PREPARED BY:	PROJECT NAME:	PROJECT LOCATION:
PLANS APPROVED BY:	SANITARY SEWER IMPROVEMENTS BROWN ALLEY TO LICKING ROAD	
DATE:	LICKING VIEW ZANESVILLE, OHIO 43701	
REVISED:	MJE	
SHEET SIZE:	GJW	
SHEET NAME:	PLAN SHEET (27)	
SHEET NUMBER:	73 118	





SCALE: 1" = 30'

BEGIN ALIGNMENT GRANDVIEW 8" GRAVITY SANITARY SEWER STA 180+00.00
 BEGIN DIRECTIONAL DRILL 8" GRAVITY SANITARY SEWER STA 180+55.00

BORE PIT LIMITS

SEE NOTES

SEE NOTES

MATCHLINE STA. 182+90
 SEE SHEET 77

17-85-02-25-000
 Donald & Linda Jones
 375 Grandview Ave

STA 180+04.05
 EOS - 786.70'
 LOS - 9'

STA 180+50.07
 EOS - 784.64'
 LOS - 8'

17-85-02-24-000
 Scott Hardesty
 355 Grandview Ave

17-85-02-23-000
 Scott Hardesty
 355 Grandview Ave

17-85-02-22-000
 Scott Hardesty
 355 Grandview Ave

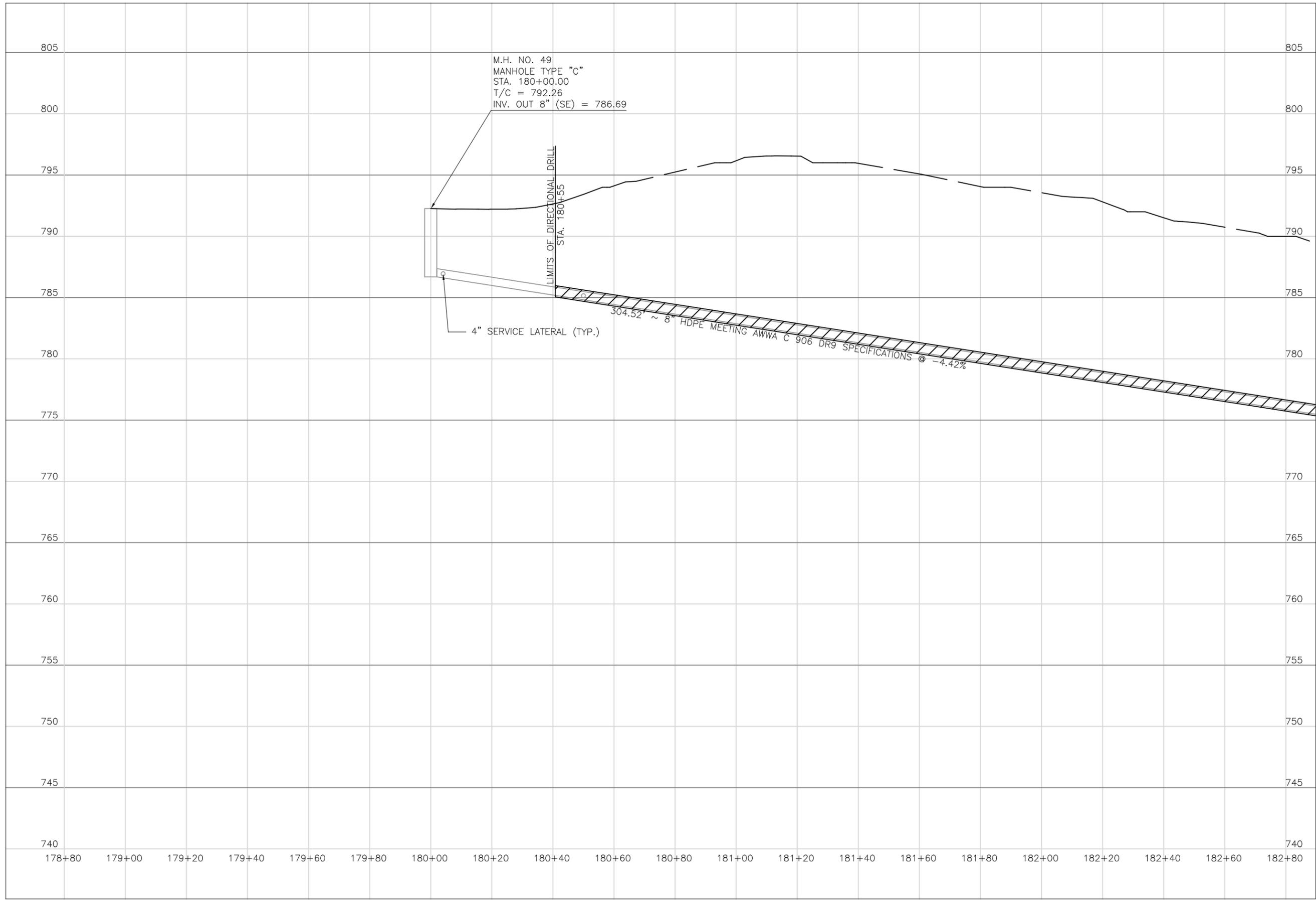
17-85-02-21-000
 Scott Hardesty
 355 Grandview Ave

17-85-02-20-000
 Brigitte Gooden
 335 Grandview Ave

17-85-02-19-000
 Brigitte Gooden
 335 Grandview Ave

- NOTES:
 1. MANHOLE NOS 48 & 50 NOT USED.
 2. MINIMUM DIMENSIONS BETWEEN EXISTING WATER LINE AND PROPOSED SANITARY SEWER AT VARIOUS LOCATIONS ARE NOTED IN THE TABLE BELOW:

LOCATION	SEPARATION
A	7'
B	3'



PREPARED BY:

PROJECT NAME:
 SANITARY SEWER IMPROVEMENTS
 GRANDVIEW ROAD

PROJECT LOCATION:
 LICKING VIEW
 ZANESVILLE, OHIO 43701

PLANS APPROVED BY:
MJE

PLANS PREPARED BY:
HJ

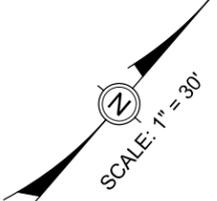
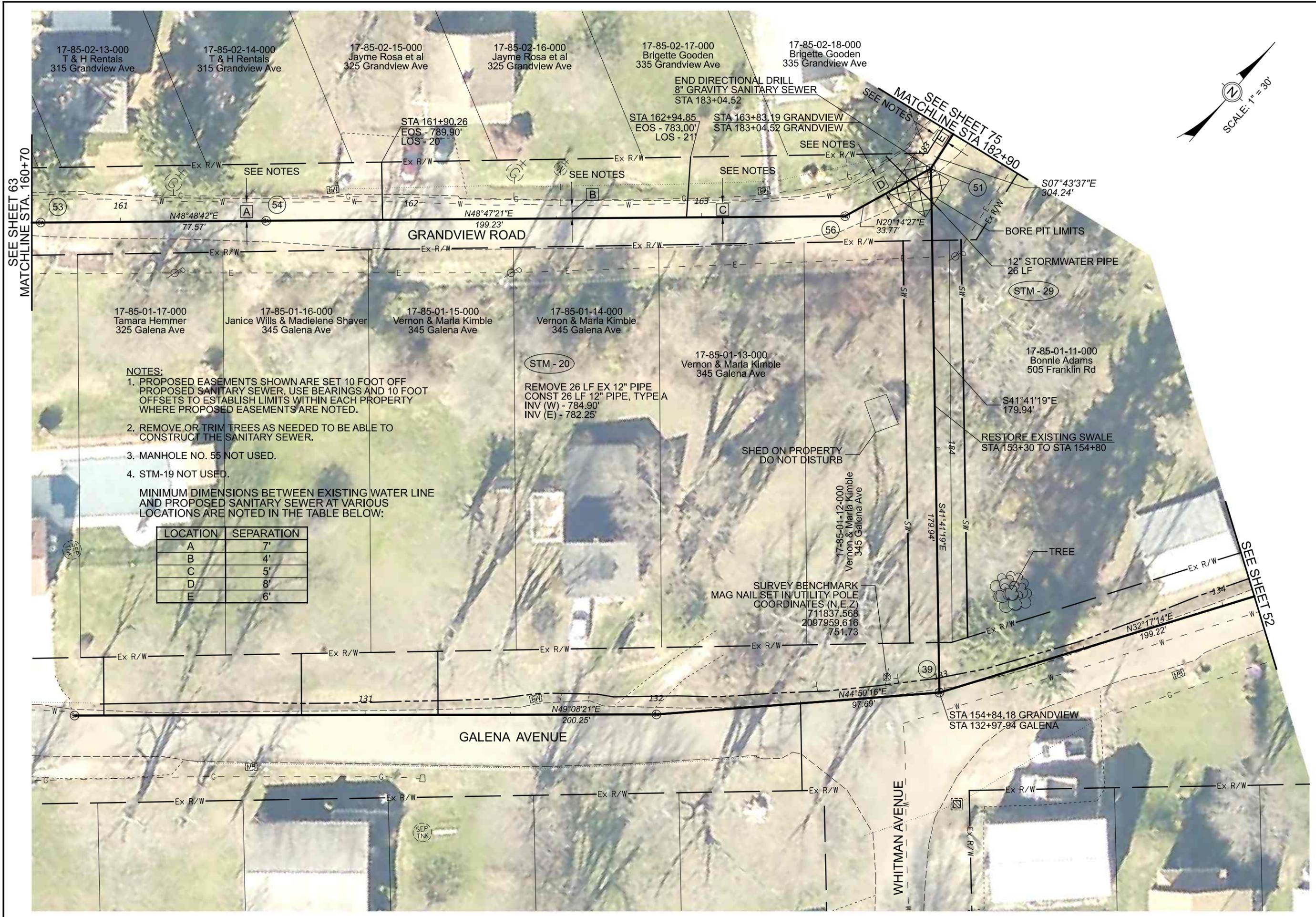
DATE:
08/15/2023

REVISED:

SHEET SIZE:
 11" x 17"

SHEET NAME:
**PROFILE
 MANHOLE 49**

SHEET NUMBER:
 76
 118



- NOTES:**
1. PROPOSED EASEMENTS SHOWN ARE SET 10 FOOT OFF PROPOSED SANITARY SEWER. USE BEARINGS AND 10 FOOT OFFSETS TO ESTABLISH LIMITS WITHIN EACH PROPERTY WHERE PROPOSED EASEMENTS ARE NOTED.
 2. REMOVE OR TRIM TREES AS NEEDED TO BE ABLE TO CONSTRUCT THE SANITARY SEWER.
 3. MANHOLE NO. 55 NOT USED.
 4. STM-19 NOT USED.

MINIMUM DIMENSIONS BETWEEN EXISTING WATER LINE AND PROPOSED SANITARY SEWER AT VARIOUS LOCATIONS ARE NOTED IN THE TABLE BELOW:

LOCATION	SEPARATION
A	7'
B	4'
C	5'
D	8'
E	6'

(STM - 20)

REMOVE 26 LF EX 12" PIPE
CONST 26 LF 12" PIPE, TYPE A
INV (W) - 784.90'
INV (E) - 782.25'

SHED ON PROPERTY
DO NOT DISTURB

SURVEY BENCHMARK
MAG NAIL SET IN UTILITY POLE
COORDINATES (N.E.Z.)
711837.568
2097959.616
751.73

TREE

Mark J. Echer, P.E., P.S.
155 Rehl Road
Zanesville, Ohio 43701
Wiskingum
County
ENGINEER'S OFFICE

PREPARED BY:
PROJECT NAME:
PROJECT LOCATION:
SANITARY SEWER IMPROVEMENTS
GRANDVIEW ROAD TO GALENA AVENUE
LICKING VIEW
ZANESVILLE, OHIO 43701

PLANS APPROVED BY:
MJE

PLANS PREPARED BY:
GJW

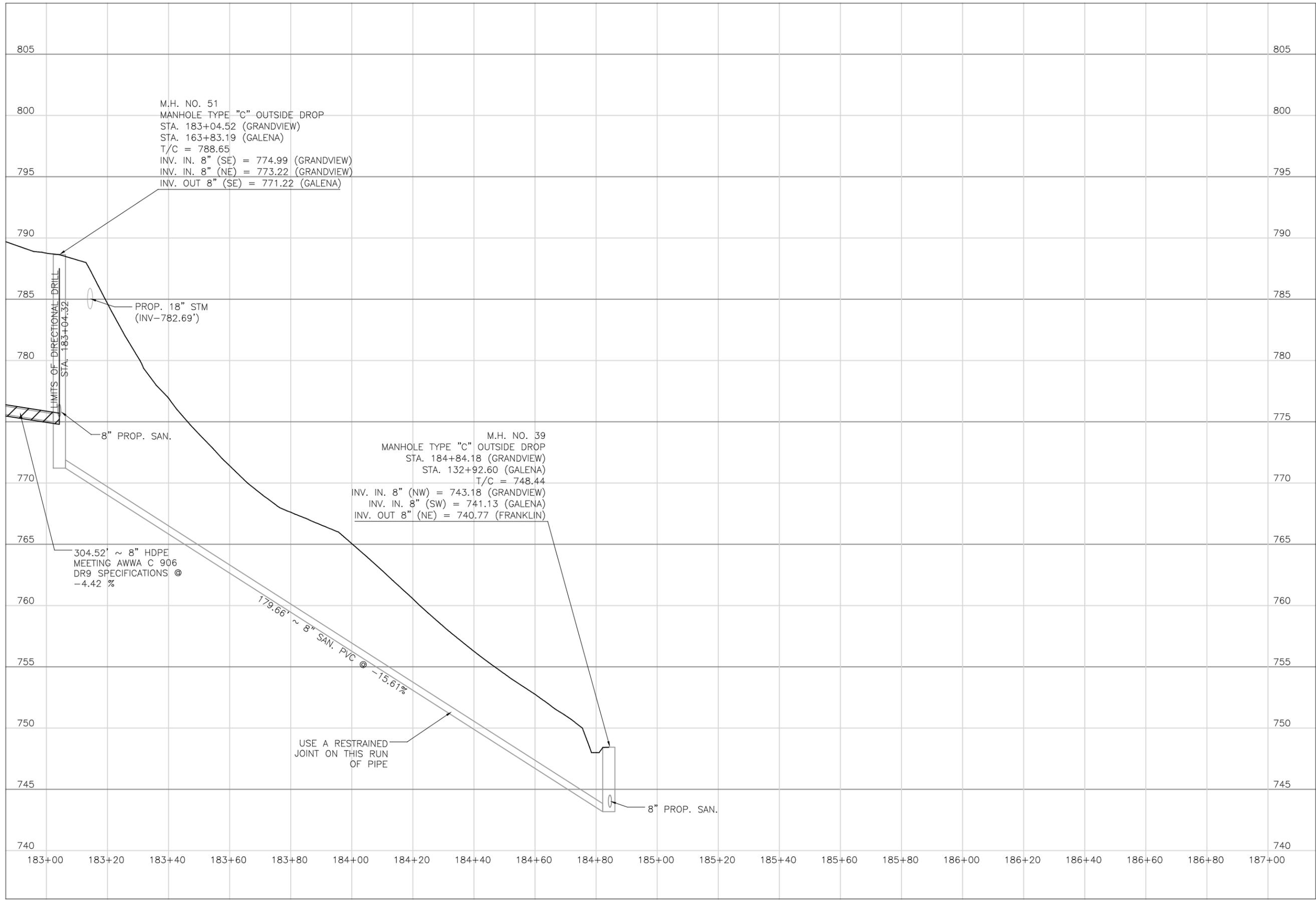
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08/14/2023

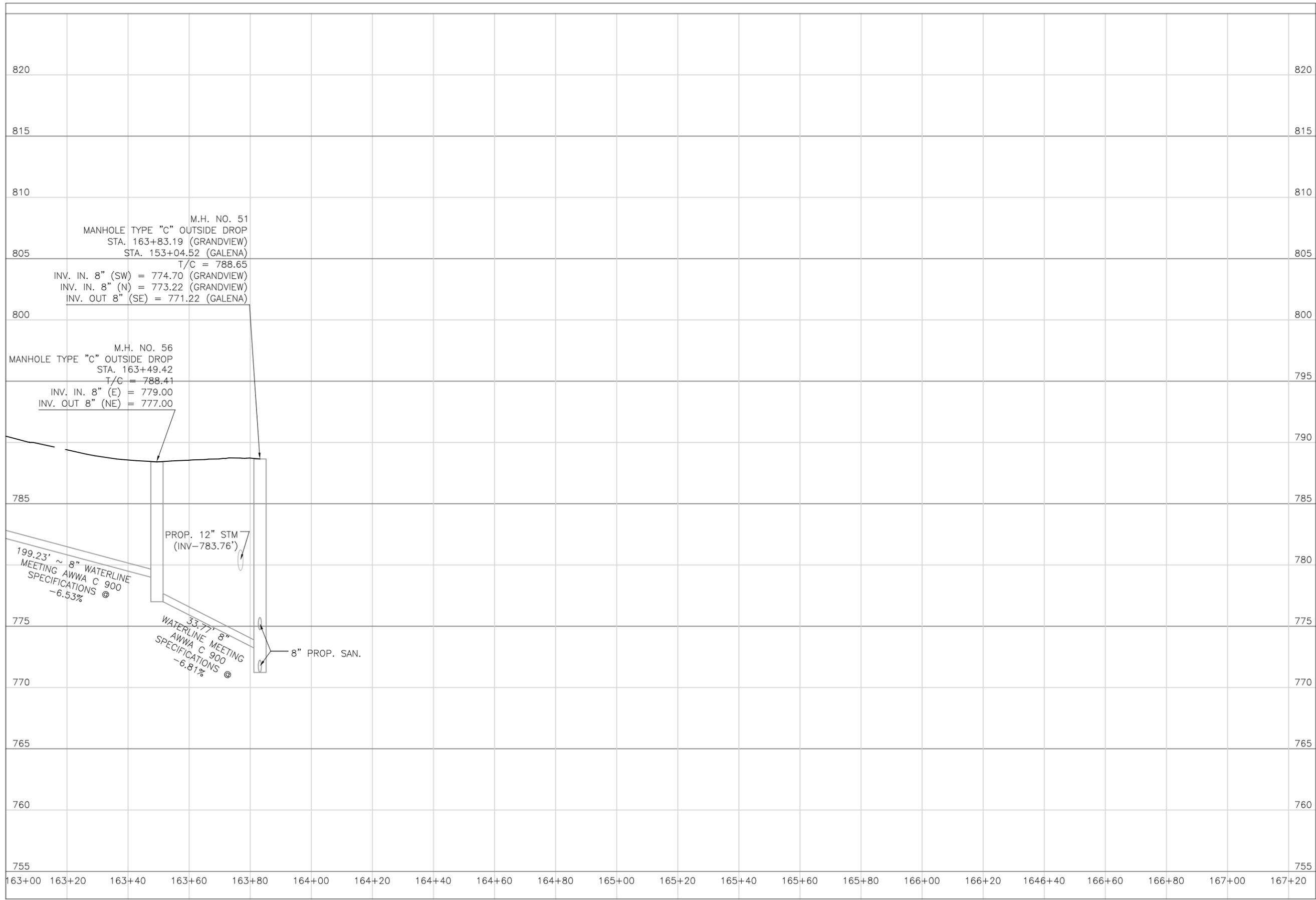
REVISED:

SHEET SIZE:
11" x 17"

SHEET NAME:
PLAN SHEET (29)

SHEET NUMBER:
77
118





Mark J. Eicher, P.E., P.S.
Muskingum
County
ENGINEER'S OFFICE 740-454-0155
 155 Nehl Road
 Zanesville, Ohio 43701

PREPARED BY:
 PROJECT NAME: **SANITARY SEWER IMPROVEMENTS**
 GRANDVIEW ROAD
 PROJECT LOCATION: **LICKING VIEW**
 ZANESVILLE, OHIO 43701

PLANS APPROVED BY:
MJE

PLANS PREPARED BY:
HJ

DATE:
08/15/2023

REVISED:

SHEET SIZE:
11" x 17"

SHEET NAME:
PROFILE
MANHOLE
56 & 51

SHEET NUMBER:
79
118

17-87-04-03-000
Zaac Realty, LTD
2235 Licking Rd



- NOTES:**
1. MAINTAIN ACCESS TO / FROM OFFICE BUILDING AND THE PARKING LOT AT ALL TIMES.
 2. PROPOSED EASEMENTS SHOWN ARE SET 10 FOOT OFF PROPOSED SANITARY SEWER. USE BEARINGS AND 10 FOOT OFFSETS TO ESTABLISH LIMITS WITHIN EACH PROPERTY WHERE PROPOSED EASEMENTS ARE NOTED.

BEGIN ALIGNMENT GALENA
8" GRAVITY SANITARY SEWER
STA 400+00.00

8" SERVICE LATERAL
STA 400+00.00
EOS - 710.83'
LOS - 13'

6" SERVICE LATERAL
STA 402+10.00
EOS - 709.54'
LOS - 10'

17-87-04-01-000
Casting Solutions, LLC
2345 Licking Rd

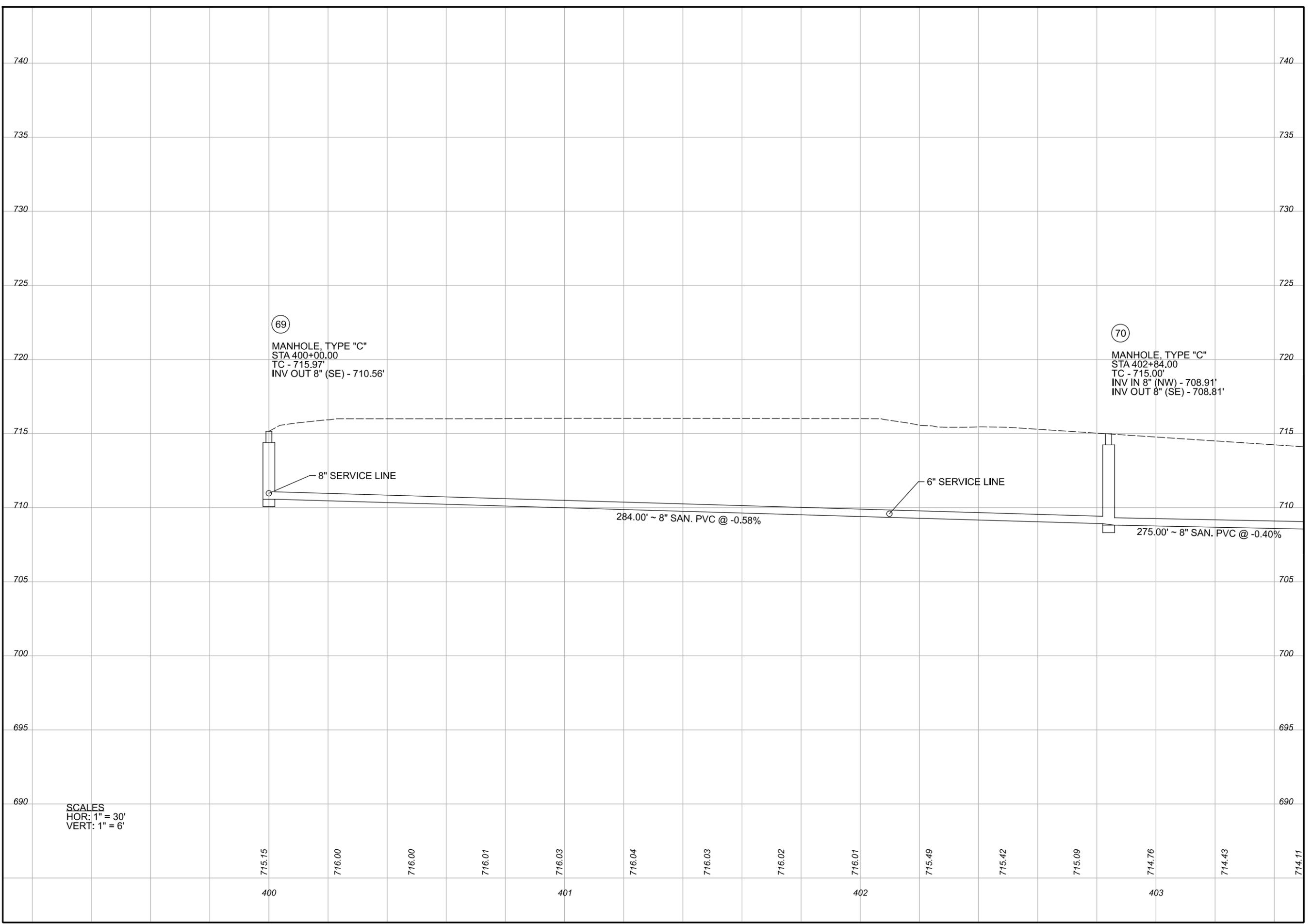
MATCHLINE STA. 403+50



ACTIVE SPUR
CSX RAILROAD

Mark J. Eicher, P.E., P.S.
155 Rehl Road
Zanesville, Ohio 43701
Wiskingum
County
ENGINEER'S OFFICE 740-434-0155

PREPARED BY:	PROJECT NAME:
PROJECT LOCATION:	PLANS APPROVED BY:
PROJECT LOCATION:	MJE
PROJECT LOCATION:	PLANS PREPARED BY:
PROJECT LOCATION:	GJW
PROJECT LOCATION:	DATE:
PROJECT LOCATION:	08/14/2023
PROJECT LOCATION:	REVISED:
PROJECT LOCATION:	SHEET SIZE:
PROJECT LOCATION:	11" x 17"
PROJECT LOCATION:	SHEET NAME:
PROJECT LOCATION:	PLAN SHEET (30)
PROJECT LOCATION:	SHEET NUMBER:
PROJECT LOCATION:	80
PROJECT LOCATION:	118



SCALES
 HOR: 1" = 30'
 VERT: 1" = 6'

PREPARED BY:

PROJECT NAME: SANITARY SEWER IMPROVEMENTS
 BUSINESS LINE CONNECTION

PROJECT LOCATION: LICKING VIEW
 ZANESVILLE, OHIO 43701

PLANS APPROVED BY:

MJE

PLANS PREPARED BY:

HJ

DATE:

08/15/2023

REVISED:

SHEET SIZE:

11" x 17"

SHEET NAME:

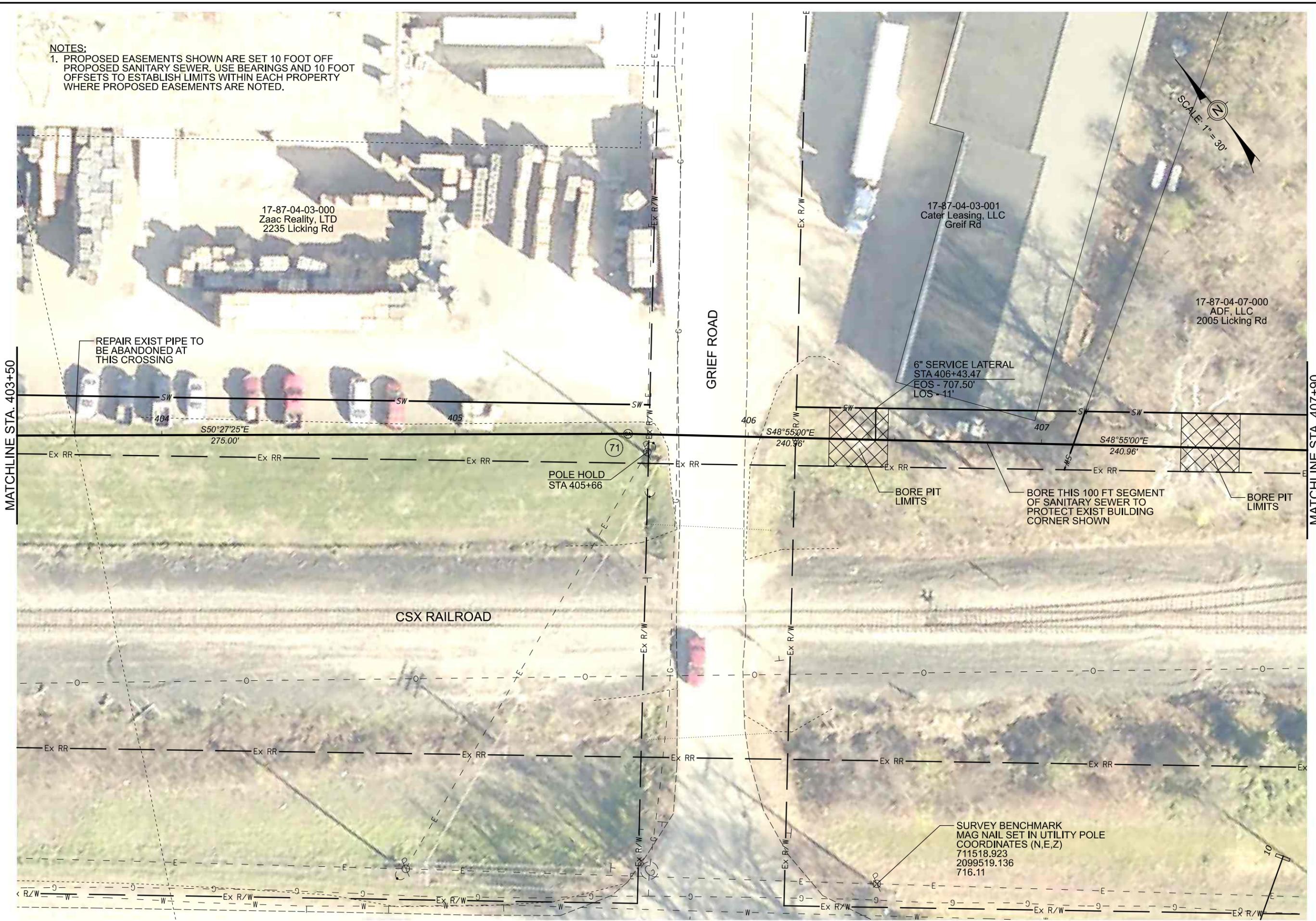
PROFILE
 MANHOLE
 69 & 70

SHEET NUMBER:

81
 118

NOTES:

1. PROPOSED EASEMENTS SHOWN ARE SET 10 FOOT OFF PROPOSED SANITARY SEWER. USE BEARINGS AND 10 FOOT OFFSETS TO ESTABLISH LIMITS WITHIN EACH PROPERTY WHERE PROPOSED EASEMENTS ARE NOTED.



17-87-04-03-000
Zaac Reality, LTD
2235 Licking Rd

17-87-04-03-001
Cater Leasing, LLC
Greif Rd

17-87-04-07-000
ADF, LLC
2005 Licking Rd

POLE HOLD
STA 405+66

SURVEY BENCHMARK
MAG NAIL SET IN UTILITY POLE
COORDINATES (N,E,Z)
711518.923
2099519.136
716.11

MATCHLINE STA. 403+50

MATCHLINE STA. 407+90
SEE SHEET 14


Wiskingum County
ENGINEER'S OFFICE
 Mark J. Echer, P.E., P.S.
 155 Rehl Road
 Zanesville, Ohio 43701
 740-454-0155

PROJECT NAME: SANITARY SEWER IMPROVEMENTS
 BUSINESS LINE CONNECTION
 PROJECT LOCATION: LICKING VIEW
 ZANESVILLE, OHIO 43701

PLANS APPROVED BY:
 MJE

PLANS PREPARED BY:
 GJW

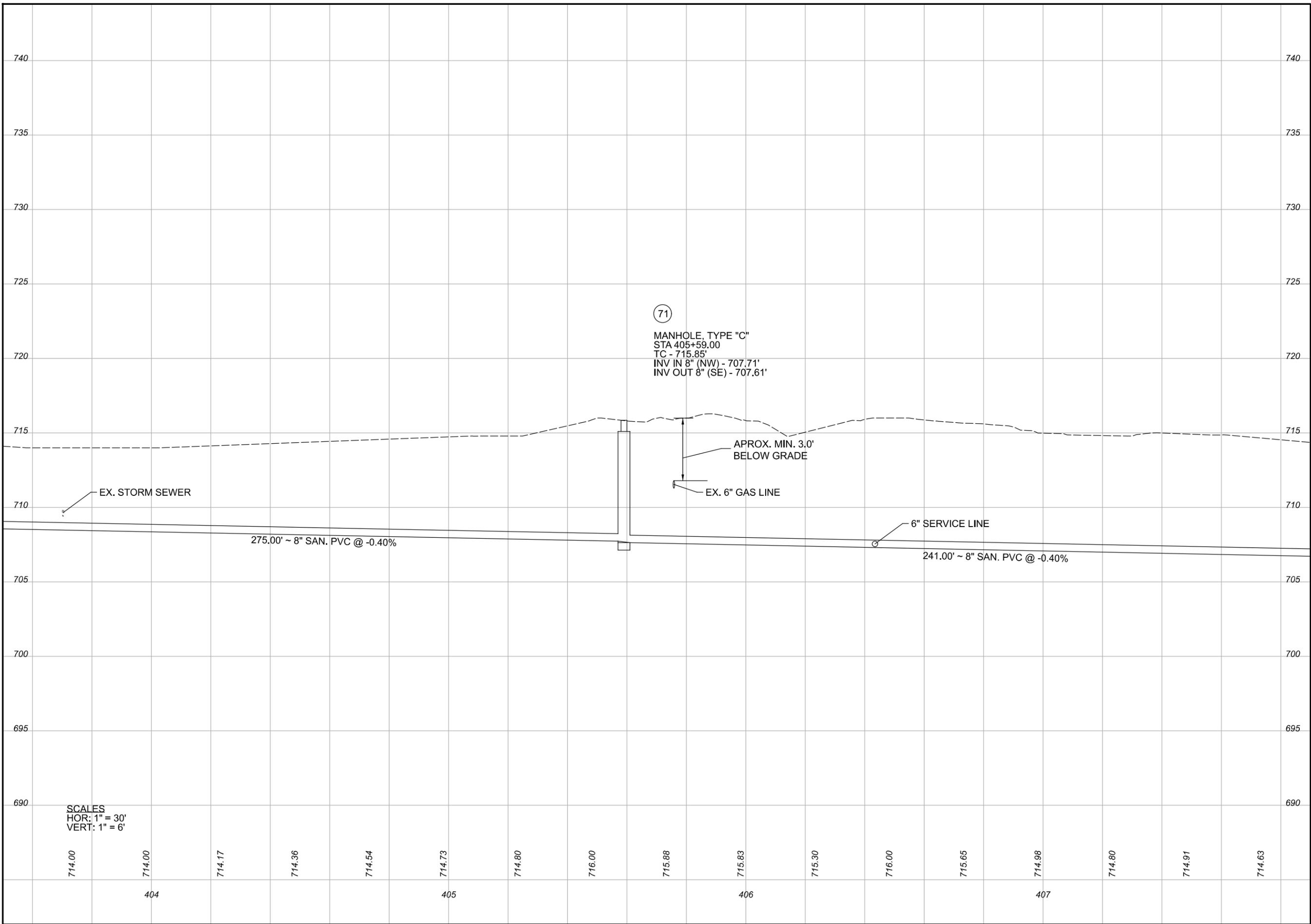
DATE:
 08/14/2023

REVISED:

SHEET SIZE:
 11" x 17"

SHEET NAME:
 PLAN SHEET (31)

SHEET NUMBER:
 82
 118



PREPARED BY:

PROJECT NAME: SANITARY SEWER IMPROVEMENTS
 BUSINESS LINE CONNECTION
 PROJECT LOCATION: LICKING VIEW
 ZANESVILLE, OHIO 43701

PLANS APPROVED BY:
MJE

PLANS PREPARED BY:
HJ

DATE:
08/15/2023

REVISED:

SHEET SIZE:
11" x 17"

SHEET NAME:
PROFILE
MANHOLE 71

SHEET NUMBER:
83
118



NOTES:
 1. MANHOLE NO. 73 NOT USED.

17-98-01-03-000
 Matthew Brettrager
 2120 Highland Rd

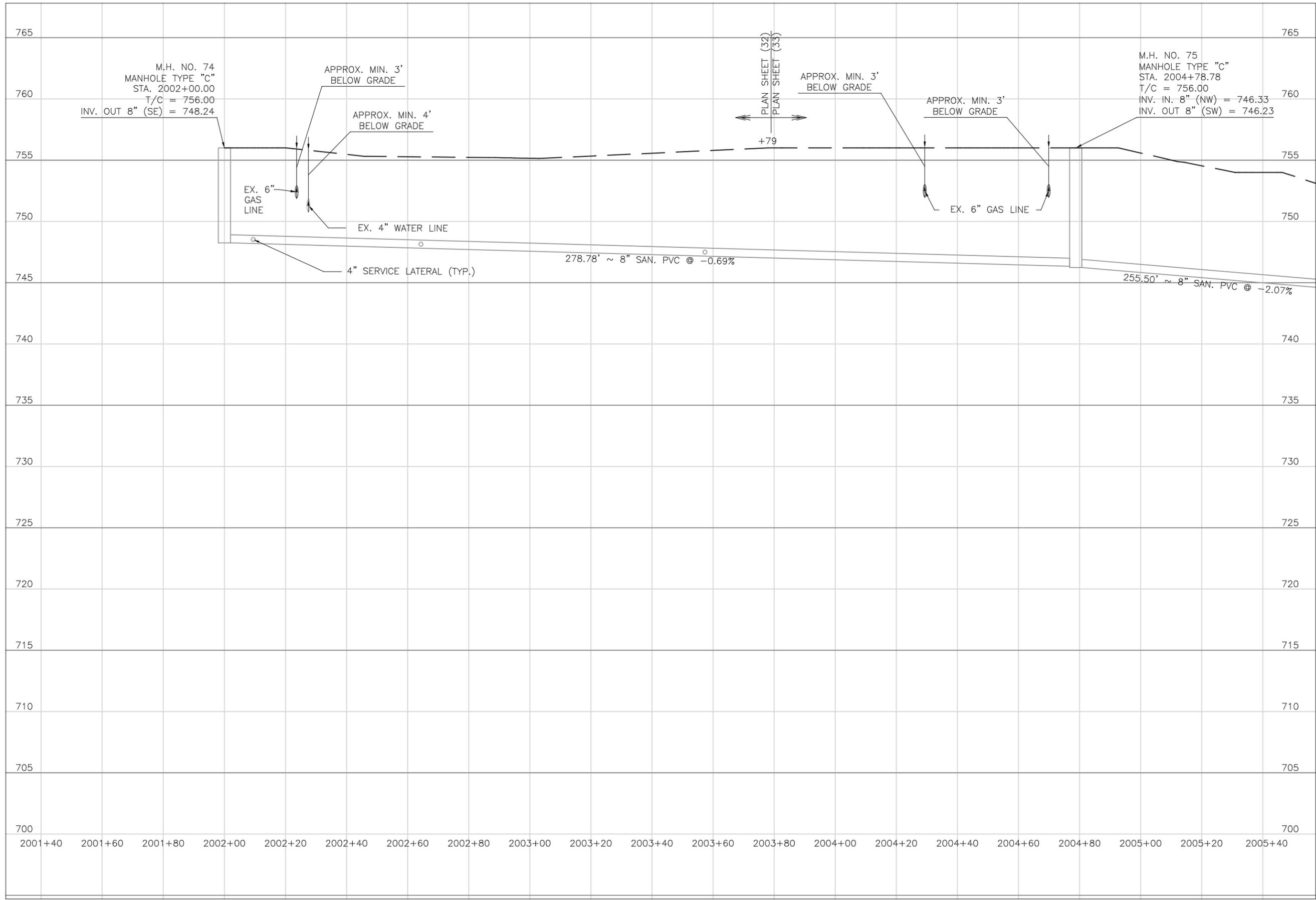
17-98-01-02-000
 Shirley Montgomery
 2110 Highland Rd

17-98-01-01-000
 Cody Meadows
 2015 Highland Rd



MATCHLINE STA. 2003+79

PREPARED BY: Mark J. Eicher, P.E., P.S. 155 Rehl Road Zanesville, Ohio 43701 ENGINEER'S OFFICE 740-434-0155	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%; vertical-align: top;"> PROJECT NAME: SANITARY SEWER IMPROVEMENTS HIGHLAND ROAD </td> <td style="width: 50%; vertical-align: top;"> PROJECT LOCATION: LICKING VIEW ZANESVILLE, OHIO 43701 </td> </tr> <tr> <td colspan="2"> PLANS APPROVED BY: <div style="text-align: center; font-weight: bold;">MJE</div> </td> </tr> <tr> <td colspan="2"> PLANS PREPARED BY: <div style="text-align: center; font-weight: bold;">GJW</div> </td> </tr> <tr> <td colspan="2"> DATE: <div style="text-align: center;">08/14/2023</div> </td> </tr> <tr> <td colspan="2"> REVISED: </td> </tr> <tr> <td colspan="2"> SHEET SIZE: <div style="text-align: center;">11" x 17"</div> </td> </tr> <tr> <td colspan="2"> SHEET NAME: <div style="text-align: center;">PLAN SHEET (32)</div> </td> </tr> <tr> <td colspan="2"> SHEET NUMBER: <div style="text-align: center; border: 1px solid black; border-radius: 50%; width: 30px; height: 30px; display: flex; align-items: center; justify-content: center; margin: 0 auto;"> 84 118 </div> </td> </tr> </table>	PROJECT NAME: SANITARY SEWER IMPROVEMENTS HIGHLAND ROAD	PROJECT LOCATION: LICKING VIEW ZANESVILLE, OHIO 43701	PLANS APPROVED BY: <div style="text-align: center; font-weight: bold;">MJE</div>		PLANS PREPARED BY: <div style="text-align: center; font-weight: bold;">GJW</div>		DATE: <div style="text-align: center;">08/14/2023</div>		REVISED:		SHEET SIZE: <div style="text-align: center;">11" x 17"</div>		SHEET NAME: <div style="text-align: center;">PLAN SHEET (32)</div>		SHEET NUMBER: <div style="text-align: center; border: 1px solid black; border-radius: 50%; width: 30px; height: 30px; display: flex; align-items: center; justify-content: center; margin: 0 auto;"> 84 118 </div>	
PROJECT NAME: SANITARY SEWER IMPROVEMENTS HIGHLAND ROAD	PROJECT LOCATION: LICKING VIEW ZANESVILLE, OHIO 43701																
PLANS APPROVED BY: <div style="text-align: center; font-weight: bold;">MJE</div>																	
PLANS PREPARED BY: <div style="text-align: center; font-weight: bold;">GJW</div>																	
DATE: <div style="text-align: center;">08/14/2023</div>																	
REVISED:																	
SHEET SIZE: <div style="text-align: center;">11" x 17"</div>																	
SHEET NAME: <div style="text-align: center;">PLAN SHEET (32)</div>																	
SHEET NUMBER: <div style="text-align: center; border: 1px solid black; border-radius: 50%; width: 30px; height: 30px; display: flex; align-items: center; justify-content: center; margin: 0 auto;"> 84 118 </div>																	



Mark J. Elcher, P.E., P.S.
Muskingum
 COUNTY ENGINEER'S OFFICE
 155 Keel Road
 Zanesville, Ohio 43701
 740-454-0155

PREPARED BY:

PROJECT NAME:
 SANITARY SEWER IMPROVEMENTS
 HIGHLAND ROAD

PROJECT LOCATION:
 LICKING VIEW
 ZANESVILLE, OHIO 43701

PLANS APPROVED BY:
MJE

PLANS PREPARED BY:
HJ

DATE:
08/15/2023

REVISED:

SHEET SIZE:
 11" x 17"

SHEET NAME:
**PROFILE
 MANHOLE
 74 & 75**

SHEET NUMBER:
 85
 118



SURVEY BENCHMARK
MAG NAIL SET IN UTILITY POLE
COORDINATES (N,E,Z)
710828.334
2098590.609
756.16

8" SANITARY SEWER

17-99-01-09-000
Ohio Power Co.
220 Knox Rd

KNOX ROAD

HIGHLAND ROAD

17-98-01-01-000
Cody Meadows
2015 Highland Rd

17-98-01-30-000
Linda King
215 Knox Rd

17-98-01-29-000
S & S Ranch, LLC
209 Knox Rd

STA 2006+84.85
EOS - 742.28'
LOS - 15'

6" SERVICE LATERAL
STA 2007+73.87
EOS - 740.69'
LOS - 10'

SCALE: 1" = 30'

MATCHLINE STA. 2008+35

MATCHLINE STA. 2003+79

Wiskingum
County
ENGINEER'S OFFICE

Mark J. Eicher, P.E., P.S.
155 Rehl Road
Zanesville, Ohio 43701
740-454-0155

PROJECT NAME:
SANITARY SEWER IMPROVEMENTS
HIGHLAND ROAD TO KNOX ROAD

PROJECT LOCATION:
LICKING VIEW
ZANESVILLE, OHIO 43701

PLANS APPROVED BY:
MJE

PLANS PREPARED BY:
GJW

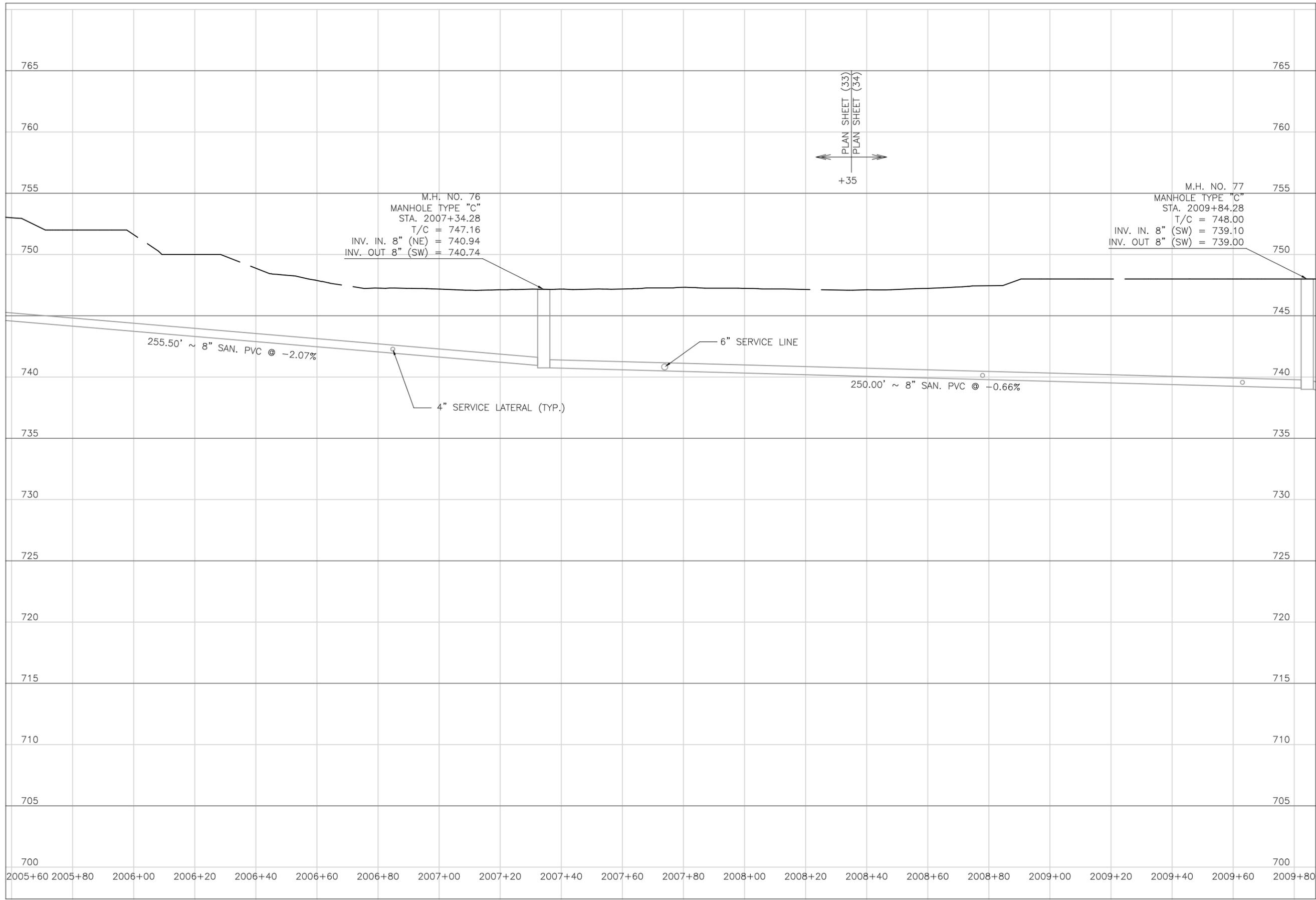
DATE:
08/14/2023

REVISED:

SHEET SIZE:
11" x 17"

SHEET NAME:
PLAN SHEET (33)

SHEET NUMBER:
86
118



Mark J. Eicher, P.E., P.S.
Muskingum
County
ENGINEER'S OFFICE
 155 Kehl Road
 Zanesville, Ohio 43701
 740-454-0155

PREPARED BY:
 PROJECT NAME:
 PROJECT LOCATION:

SANITARY SEWER IMPROVEMENTS
 HIGHLAND ROAD TO KNOX ROAD
 LICKING VIEW
 ZANESVILLE, OHIO 43701

PLANS APPROVED BY:
MJE

PLANS PREPARED BY:
HJ

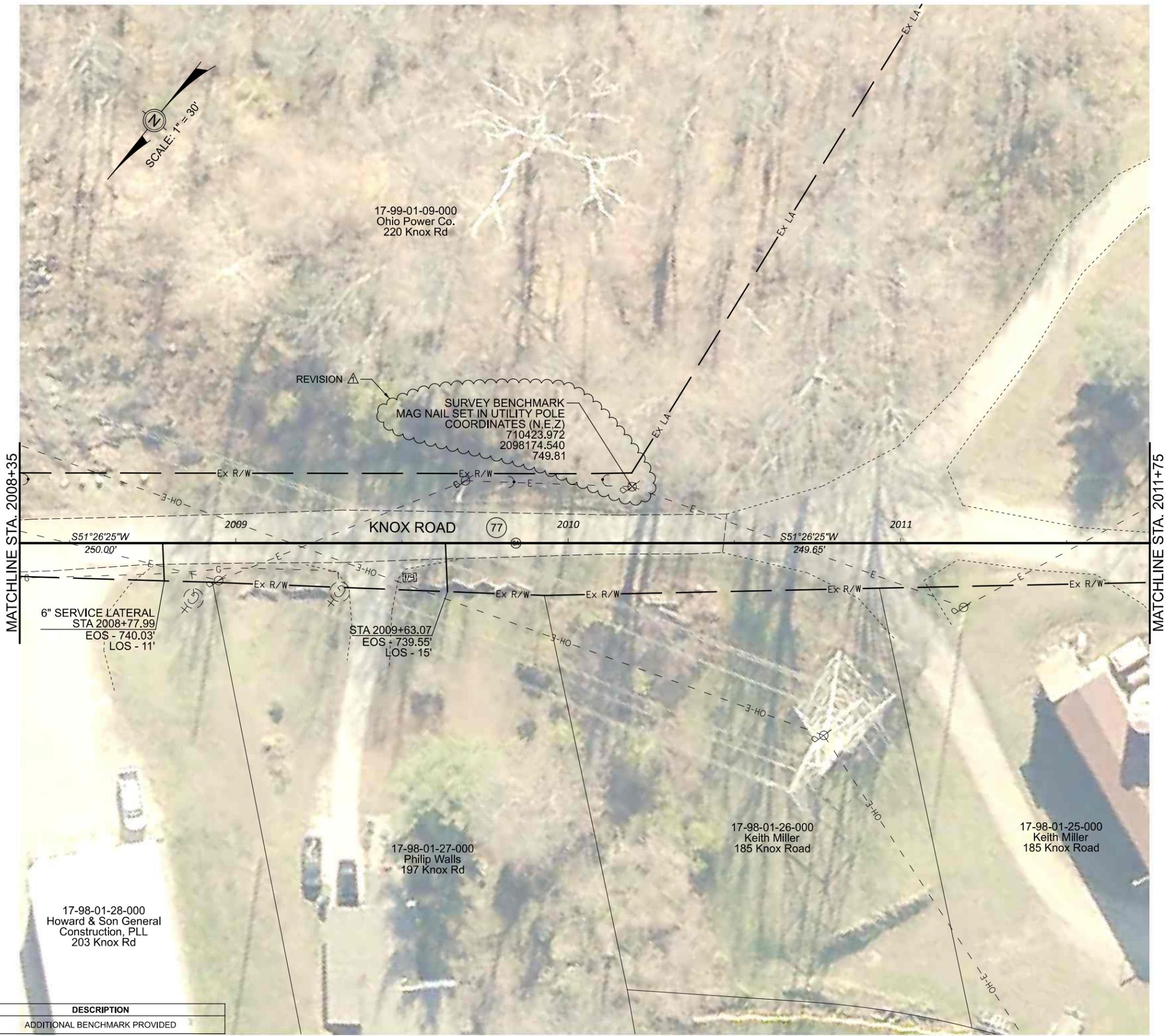
DATE:
08/15/2023

REVISED:

SHEET SIZE:
11" x 17"

SHEET NAME:
**PROFILE
 MANHOLE
 76 & 77**

SHEET NUMBER:
87
 118



17-99-01-09-000
Ohio Power Co.
220 Knox Rd

REVISION Δ
SURVEY BENCHMARK
MAG NAIL SET IN UTILITY POLE
COORDINATES (N,E,Z)
710423.972
2098174.540
749.81

6" SERVICE LATERAL
STA 2008+77.99
EOS - 740.03'
LOS - 11'

STA 2009+63.07
EOS - 739.55'
LOS - 15'

17-98-01-27-000
Philip Walls
197 Knox Rd

17-98-01-26-000
Keith Miller
185 Knox Road

17-98-01-25-000
Keith Miller
185 Knox Road

17-98-01-28-000
Howard & Son General
Construction, PLL
203 Knox Rd

REVISION	REV. BY	DATE	DESCRIPTION
Δ	GJW	09/08/2023	ADDITIONAL BENCHMARK PROVIDED

Wiskingum
County
ENGINEER'S OFFICE

Mark J. Eicher, P.E., P.S.
155 Rehl Road
Zanesville, Ohio 43701
740-454-0155

PROJECT NAME:
SANITARY SEWER IMPROVEMENTS
HIGHLAND ROAD TO KNOX ROAD

PROJECT LOCATION:
LICKING VIEW
ZANESVILLE, OHIO 43701

PLANS APPROVED BY:
MJE

PLANS PREPARED BY:
GJW

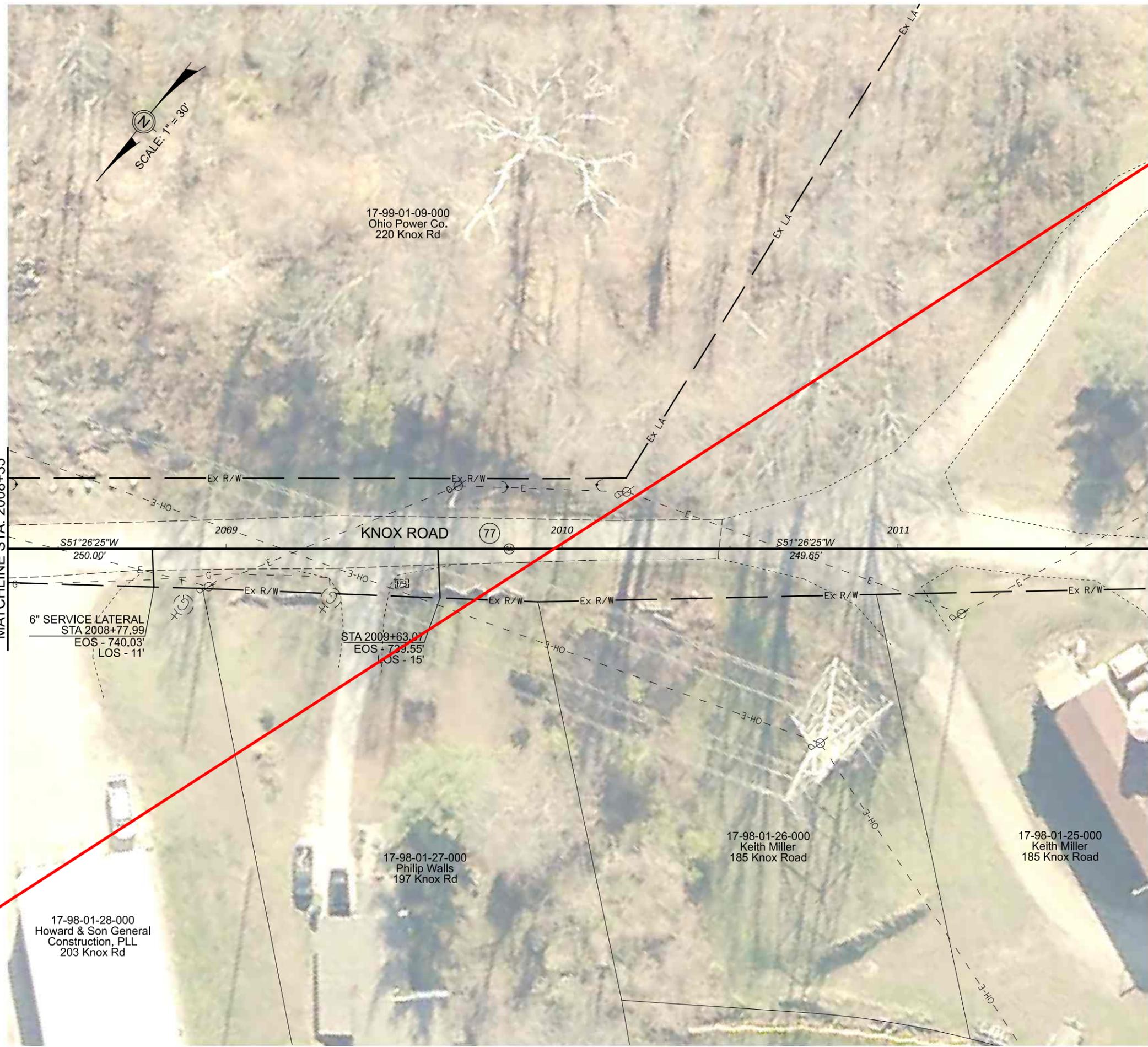
DATE:
08/14/2023

REVISED:
09/08/2023

SHEET SIZE:
11" x 17"

SHEET NAME:
PLAN SHEET (34)

SHEET NUMBER:
88
118




 Mark J. Eicher, P.E., P.S.
 155 Rehl Road
 Zanesville, Ohio 43701
 ENGINEER'S OFFICE 740-454-0155

PREPARED BY:

PROJECT NAME: SANITARY SEWER IMPROVEMENTS
 HIGHLAND ROAD TO KNOX ROAD
 PROJECT LOCATION: LICKING VIEW
 ZANESVILLE, OHIO 43701

PLANS APPROVED BY:
 MJE

PLANS PREPARED BY:
 GJW

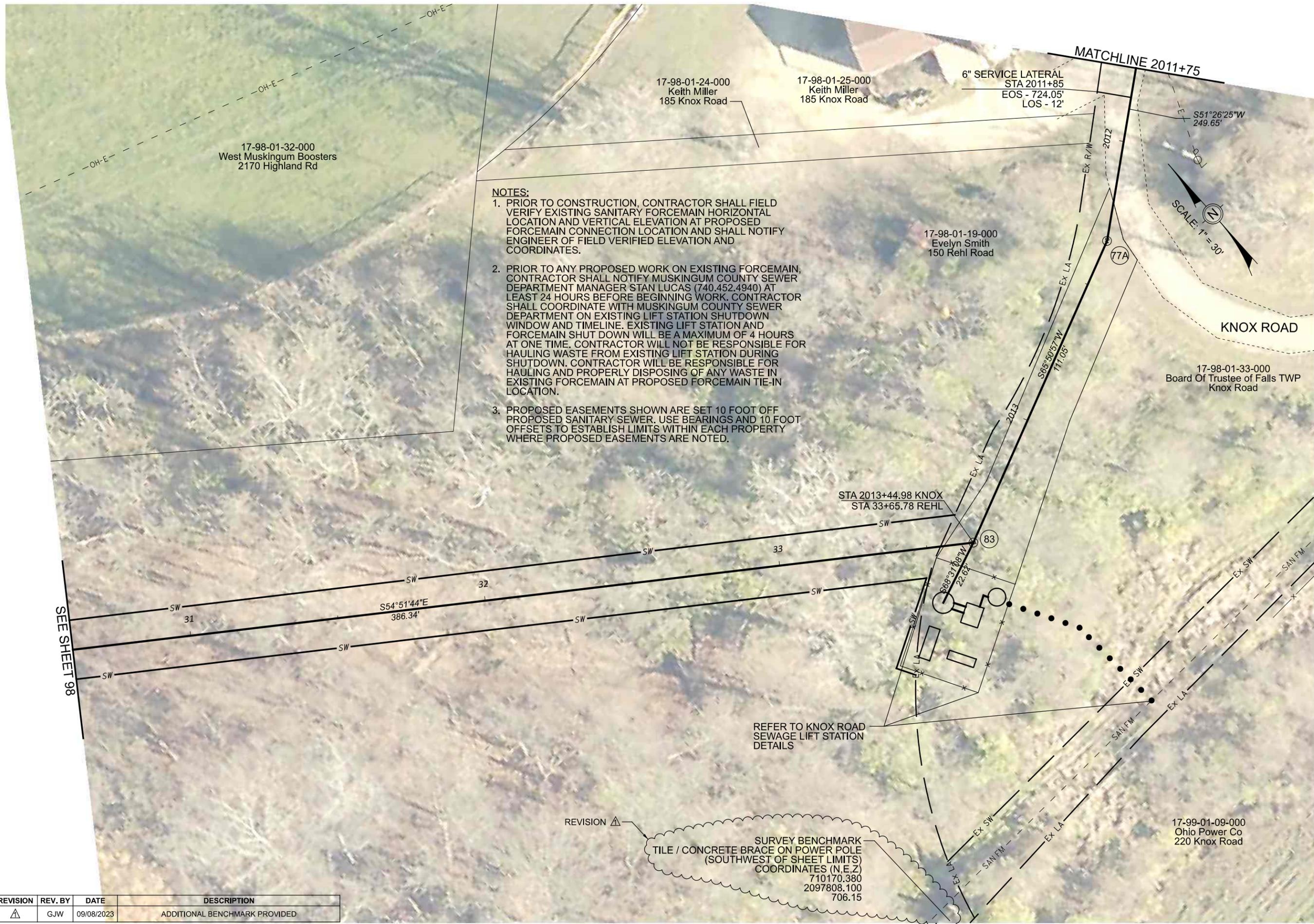
DATE:
 08/14/2023

REVISED:

SHEET SIZE:
 11" x 17"

SHEET NAME:
 PLAN SHEET (34)

SHEET NUMBER:
 88 / 118



- NOTES:**
1. PRIOR TO CONSTRUCTION, CONTRACTOR SHALL FIELD VERIFY EXISTING SANITARY FORCEMAIN HORIZONTAL LOCATION AND VERTICAL ELEVATION AT PROPOSED FORCEMAIN CONNECTION LOCATION AND SHALL NOTIFY ENGINEER OF FIELD VERIFIED ELEVATION AND COORDINATES.
 2. PRIOR TO ANY PROPOSED WORK ON EXISTING FORCEMAIN, CONTRACTOR SHALL NOTIFY MUSKINGUM COUNTY SEWER DEPARTMENT MANAGER STAN LUCAS (740.452.4940) AT LEAST 24 HOURS BEFORE BEGINNING WORK. CONTRACTOR SHALL COORDINATE WITH MUSKINGUM COUNTY SEWER DEPARTMENT ON EXISTING LIFT STATION SHUTDOWN WINDOW AND TIMELINE. EXISTING LIFT STATION AND FORCEMAIN SHUT DOWN WILL BE A MAXIMUM OF 4 HOURS AT ONE TIME. CONTRACTOR WILL NOT BE RESPONSIBLE FOR HAULING WASTE FROM EXISTING LIFT STATION DURING SHUTDOWN. CONTRACTOR WILL BE RESPONSIBLE FOR HAULING AND PROPERLY DISPOSING OF ANY WASTE IN EXISTING FORCEMAIN AT PROPOSED FORCEMAIN TIE-IN LOCATION.
 3. PROPOSED EASEMENTS SHOWN ARE SET 10 FOOT OFF PROPOSED SANITARY SEWER. USE BEARINGS AND 10 FOOT OFFSETS TO ESTABLISH LIMITS WITHIN EACH PROPERTY WHERE PROPOSED EASEMENTS ARE NOTED.

REVISION Δ

SURVEY BENCHMARK
 TILE / CONCRETE BRACE ON POWER POLE
 (SOUTHWEST OF SHEET LIMITS)
 COORDINATES (N,E,Z)
 710170.380
 2097808.100
 706.15

SEE SHEET 98

REVISION	REV. BY	DATE	DESCRIPTION
Δ	GJW	09/08/2023	ADDITIONAL BENCHMARK PROVIDED

Mark J. Echer, P.E., P.S.
 155 Rehl Road
 Zanesville, Ohio 43701
Muskingum County
ENGINEER'S OFFICE 740-454-0155

PREPARED BY:
 PROJECT NAME: SANITARY SEWER IMPROVEMENTS
 HIGHLAND ROAD TO KNOX ROAD
 PROJECT LOCATION: LICKING VIEW
 ZANESVILLE, OHIO 43701

PLANS APPROVED BY:
 MJE

PLANS PREPARED BY:
 GJW

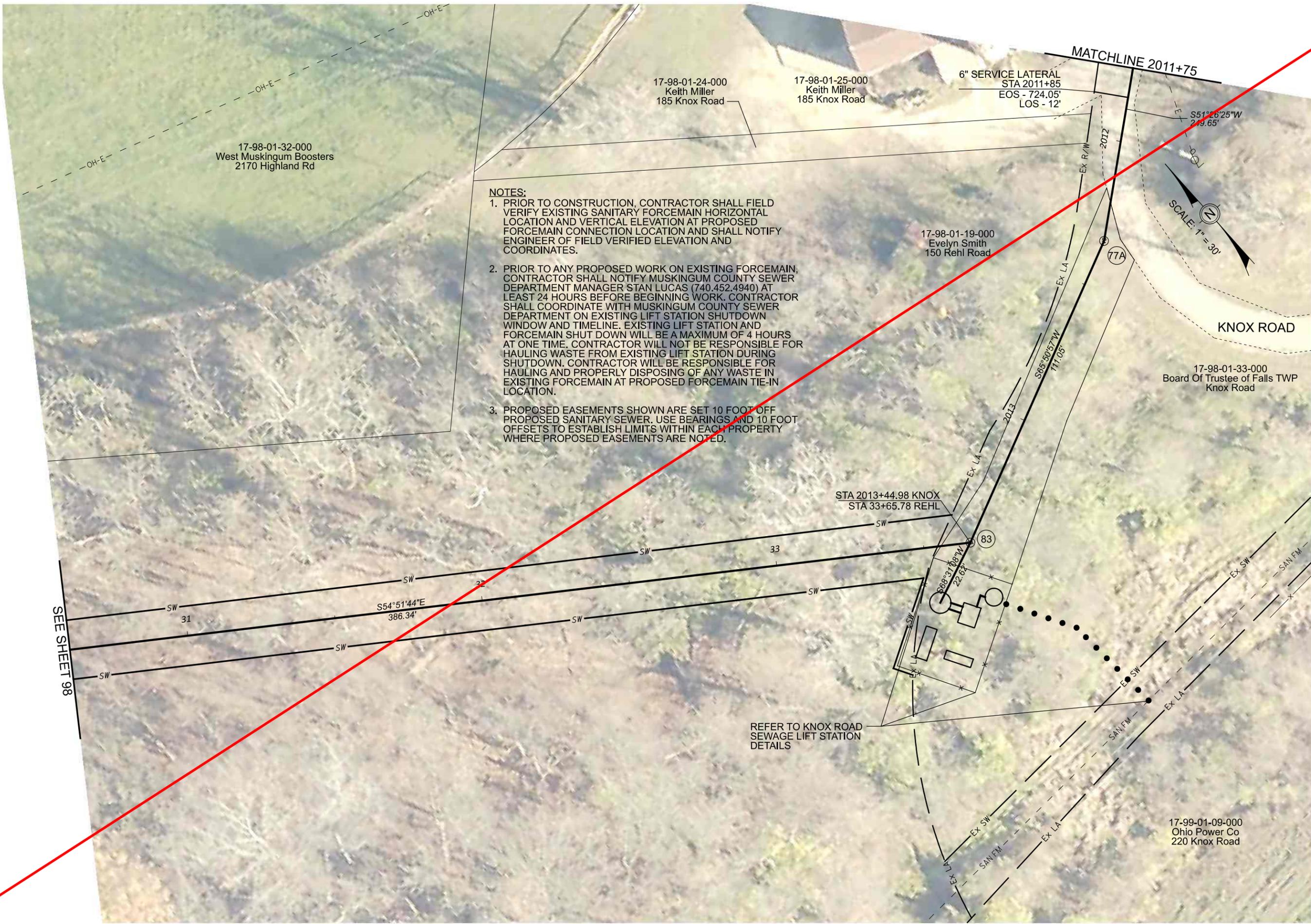
DATE:
 08/14/2023

REVISED:
 09/08/2023

SHEET SIZE:
 11" x 17"

SHEET NAME:
 PLAN SHEET (35)

SHEET NUMBER:
 89
 118



- NOTES:**
1. PRIOR TO CONSTRUCTION, CONTRACTOR SHALL FIELD VERIFY EXISTING SANITARY FORCEMAIN HORIZONTAL LOCATION AND VERTICAL ELEVATION AT PROPOSED FORCEMAIN CONNECTION LOCATION AND SHALL NOTIFY ENGINEER OF FIELD VERIFIED ELEVATION AND COORDINATES.
 2. PRIOR TO ANY PROPOSED WORK ON EXISTING FORCEMAIN, CONTRACTOR SHALL NOTIFY MUSKINGUM COUNTY SEWER DEPARTMENT MANAGER STAN LUCAS (740.452.4940) AT LEAST 24 HOURS BEFORE BEGINNING WORK. CONTRACTOR SHALL COORDINATE WITH MUSKINGUM COUNTY SEWER DEPARTMENT ON EXISTING LIFT STATION SHUTDOWN WINDOW AND TIMELINE. EXISTING LIFT STATION AND FORCEMAIN SHUT DOWN WILL BE A MAXIMUM OF 4 HOURS AT ONE TIME. CONTRACTOR WILL NOT BE RESPONSIBLE FOR HAULING WASTE FROM EXISTING LIFT STATION DURING SHUTDOWN. CONTRACTOR WILL BE RESPONSIBLE FOR HAULING AND PROPERLY DISPOSING OF ANY WASTE IN EXISTING FORCEMAIN AT PROPOSED FORCEMAIN TIE-IN LOCATION.
 3. PROPOSED EASEMENTS SHOWN ARE SET 10 FOOT OFF PROPOSED SANITARY SEWER. USE BEARINGS AND 10 FOOT OFFSETS TO ESTABLISH LIMITS WITHIN EACH PROPERTY WHERE PROPOSED EASEMENTS ARE NOTED.

Mark J. Eichel, P.E., P.S.
 155 Rehl Road
 Zanesville, Ohio 43701
Muskingum County
ENGINEER'S OFFICE 740-454-0155

PREPARED BY:
Muskingum County
ENGINEER'S OFFICE
 PROJECT NAME: SANITARY SEWER IMPROVEMENTS
 HIGHLAND ROAD TO KNOX ROAD
 PROJECT LOCATION: LICKING VIEW
 ZANESVILLE, OHIO 43701

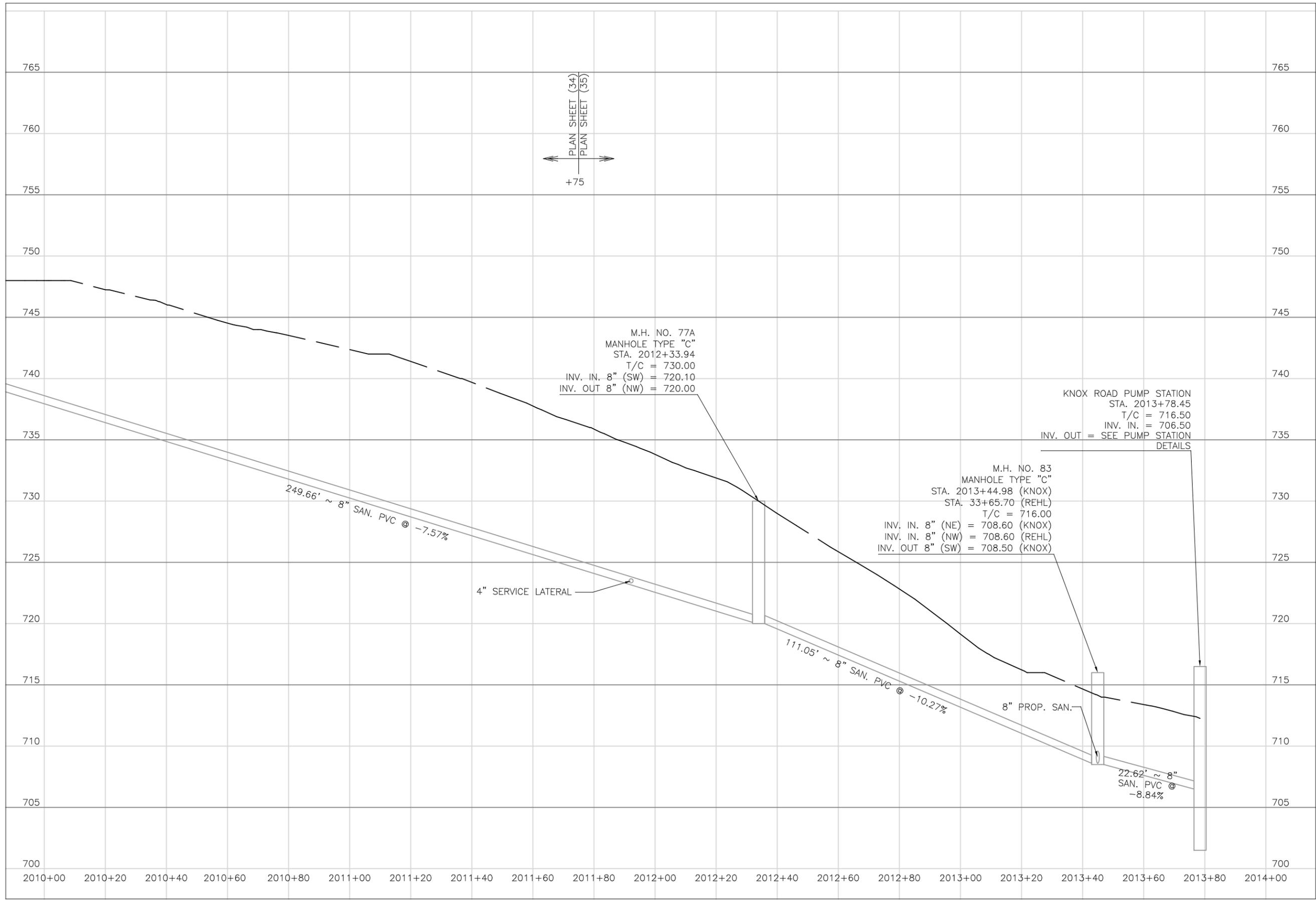
PLANS APPROVED BY:
MJE
 PLANS PREPARED BY:
GJW

DATE:
 08/14/2023

SHEET SIZE:
 11" x 17"

SHEET NAME:
 PLAN SHEET (35)

SHEET NUMBER:
 89
 118



PLAN SHEET (34)
 PLAN SHEET (35)
 +75

PREPARED BY:

PROJECT NAME: SANITARY SEWER IMPROVEMENTS
 KNOX ROAD
 PROJECT LOCATION: LICKING VIEW
 ZANESVILLE, OHIO 43701

PLANS APPROVED BY:

MJE

PLANS PREPARED BY:

HJ

DATE:

08/15/2023

REVISED:

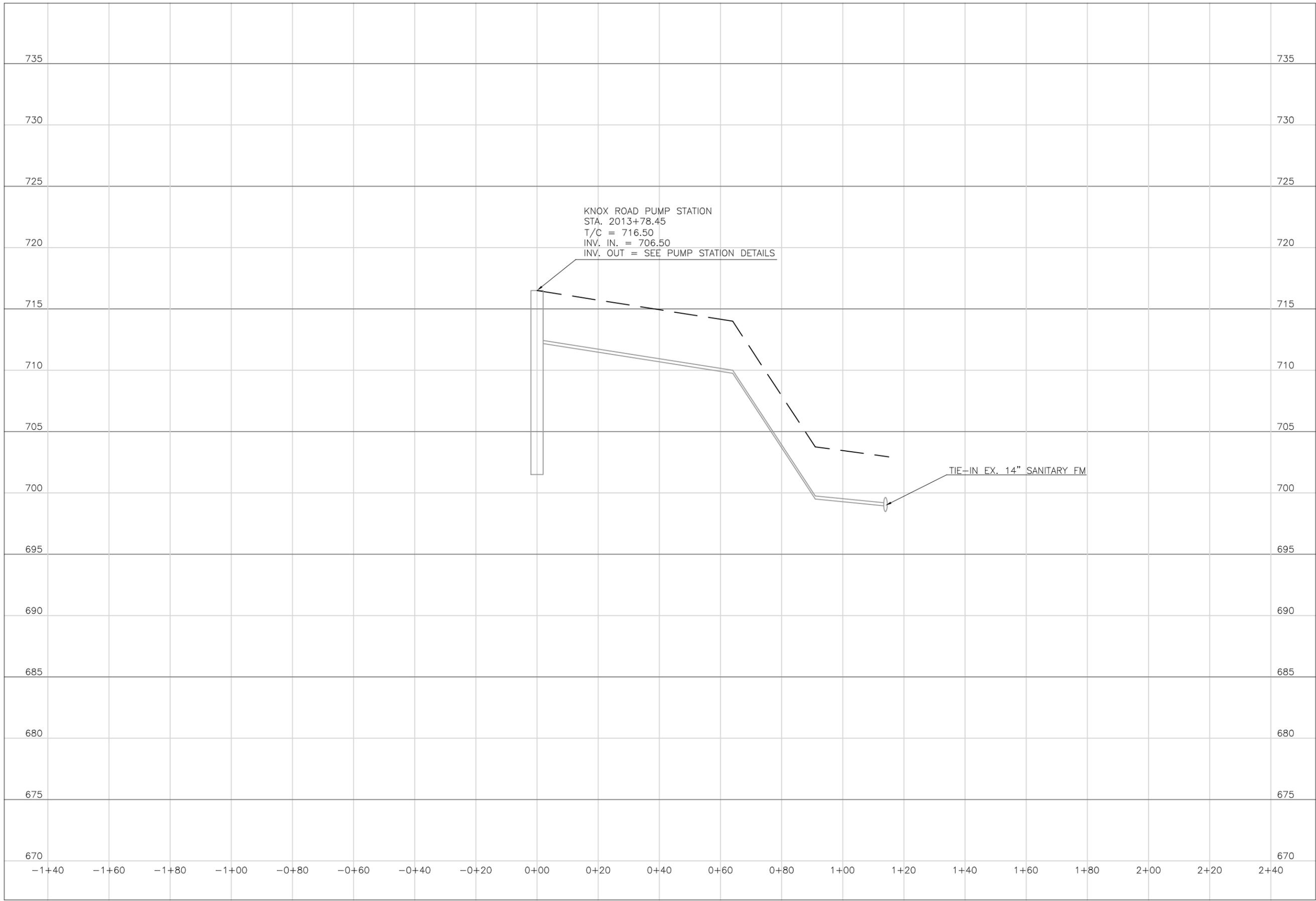
SHEET SIZE:

11" x 17"

SHEET NAME:

PROFILE
 MANHOLE
 77A & 83
 PUMP STATION

SHEET NUMBER:



Mark J. Eicher, P.E., P.S.
 155 Rehl Road
 Zanesville, Ohio 43701
Muskingum
County
ENGINEER'S OFFICE 740-454-0155

PREPARED BY:
SANITARY SEWER IMPROVEMENTS
TIE-IN KNOX PUMP STATION TO EXISTING FORCEMAIN
 PROJECT LOCATION:
 LICKING VIEW
 ZANESVILLE, OHIO 43701

PLANS APPROVED BY:
MJE

PLANS PREPARED BY:
HJ

DATE:
08/15/2023

REVISED:

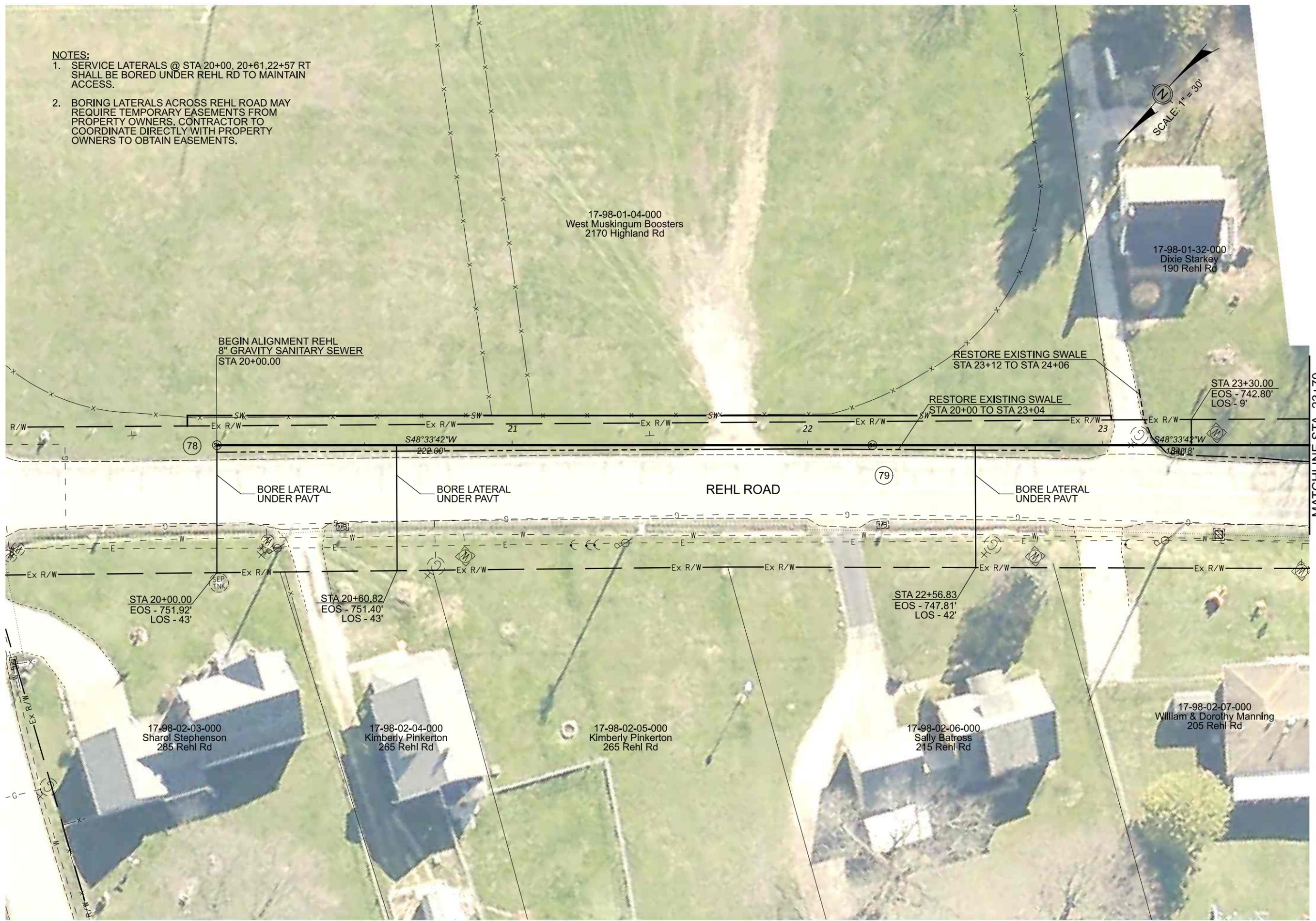
SHEET SIZE:
11" x 17"

SHEET NAME:
TIE-IN TO FM FROM PUMP STATION

SHEET NUMBER:
91
118

NOTES:

1. SERVICE LATERALS @ STA 20+00, 20+61.22+57 RT SHALL BE BORED UNDER REHL RD TO MAINTAIN ACCESS.
2. BORING LATERALS ACROSS REHL ROAD MAY REQUIRE TEMPORARY EASEMENTS FROM PROPERTY OWNERS. CONTRACTOR TO COORDINATE DIRECTLY WITH PROPERTY OWNERS TO OBTAIN EASEMENTS.



MATCHLINE STA. 23+70

Mark J. Eicher, P.E., P.S.
 155 Rehl Road
 Zanesville, Ohio 43701
ENGINEER'S OFFICE 740-454-0155

PROJECT NAME: SANITARY SEWER IMPROVEMENTS REHL ROAD
PROJECT LOCATION: LICKING VIEW ZANESVILLE, OHIO 43701

PLANS APPROVED BY:
 MJE

PLANS PREPARED BY:
 GJW

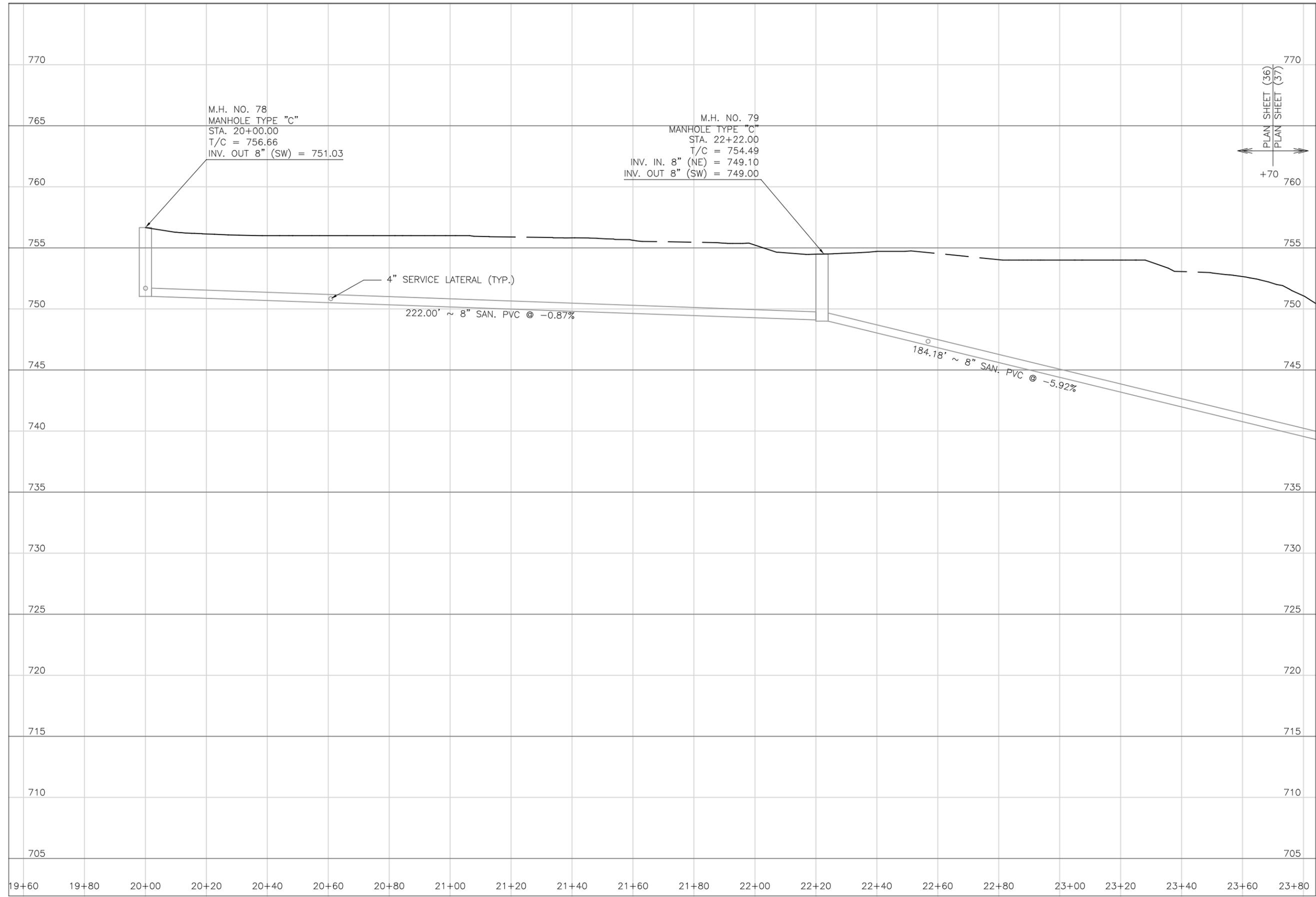
DATE:
 08/14/2023

REVISED:

SHEET SIZE:
 11" x 17"

SHEET NAME:
 PLAN SHEET (36)

SHEET NUMBER:
 92 / 118



PREPARED BY:

PROJECT NAME:
SANITARY SEWER IMPROVEMENTS
REHL ROAD

PROJECT LOCATION:
LICKING VIEW
ZANESVILLE, OHIO 43701

PLANS APPROVED BY:
MJE

PLANS PREPARED BY:
HJ

DATE:
08/15/2023

REVISED:

SHEET SIZE:
11" x 17"

SHEET NAME:
**PROFILE
MANHOLE
78 & 79**

SHEET NUMBER:
93
118



SEE SHEET 100

SEE SHEET 100

MATCHLINE STA. 23+70

MATCHLINE STA. 28+20

S48°33'42"W
184.18'

RESTORE EXISTING SWALE
STA 23+12 TO STA 24+06

STA 24+06.18 REHL TO KNOX
STA 52+80.76 REHL

S37°35'32"E
179.26'

17-98-01-32-000
Dixie Starkey
190 Rehl Rd

NOTES:
1. PROPOSED EASEMENTS SHOWN ARE SET 10 FOOT OFF PROPOSED SANITARY SEWER. USE BEARINGS AND 10 FOOT OFFSETS TO ESTABLISH LIMITS WITHIN EACH PROPERTY WHERE PROPOSED EASEMENTS ARE NOTED.

SCALE: 1" = 30'

17-98-01-06-000
Cheryl Worthington
170 Rehl Rd

17-98-01-09-000
Sheena Ivoska &
John Fortner
160 Rehl Rd

WEST MUSKINGUM
BOOSTERS
SERVICE LATERAL
(BY OTHERS)

17-98-01-32-000
West Muskingum Boosters
2170 Highland Rd

PREPARED BY:

PROJECT NAME: SANITARY SEWER IMPROVEMENT REHL ROAD TO KNOX ROAD
PROJECT LOCATION: LICKING VIEW ZANESVILLE, OHIO 43701

PLANS APPROVED BY:
MJE

PLANS PREPARED BY:
GJW

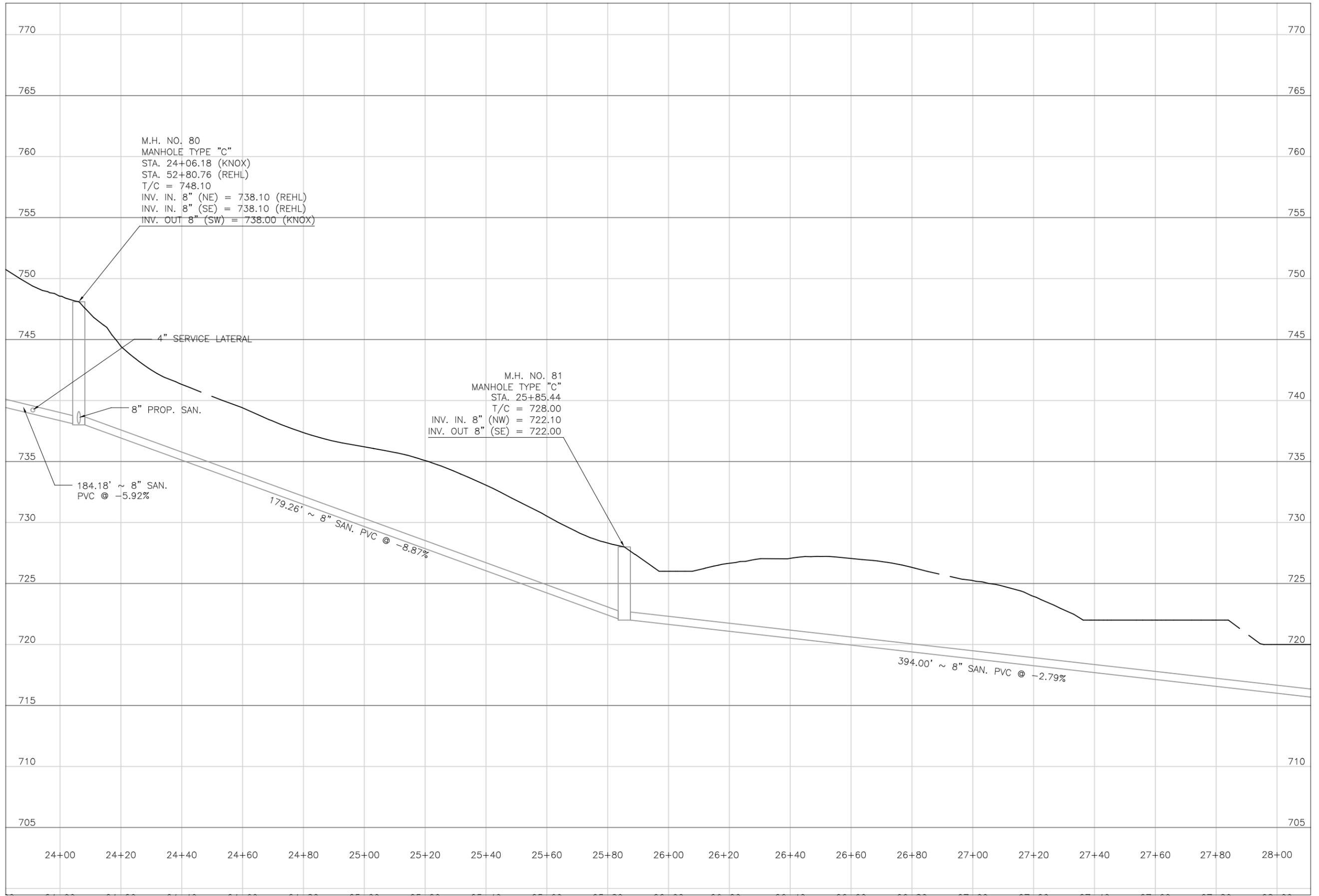
DATE:
08/14/2023

REVISED:

SHEET SIZE:
11" x 17"

SHEET NAME:
PLAN SHEET (37)

SHEET NUMBER:
94
118



Mark J. Eicher, P.E., P.S.
Muskingum
 COUNTY ENGINEER'S OFFICE
 155 Rehl Road
 Zanesville, Ohio 43701
 740-454-0155

PREPARED BY:
 PROJECT NAME: SANITARY SEWER IMPROVEMENTS
 REHL ROAD TO KNOX PUMP STATION
 PROJECT LOCATION: LICKING VIEW
 ZANESVILLE, OHIO 43701

PLANS APPROVED BY:
MJE

PLANS PREPARED BY:
HJ

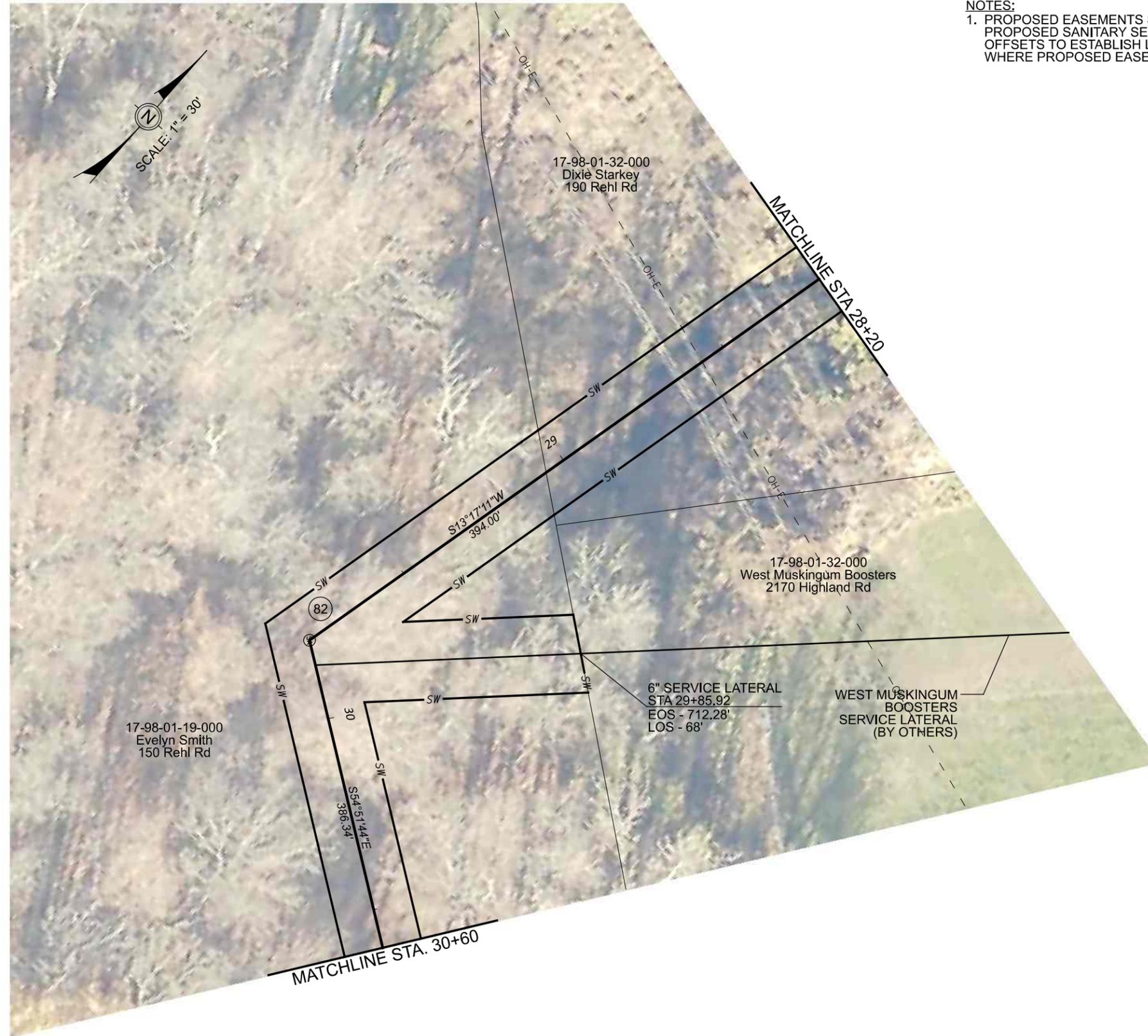
DATE:
08/15/2023

REVISED:

SHEET SIZE:
11" x 17"

SHEET NAME:
PROFILE MANHOLE 80 & 81

SHEET NUMBER:
95
 118



NOTES:

1. PROPOSED EASEMENTS SHOWN ARE SET 10 FOOT OFF PROPOSED SANITARY SEWER. USE BEARINGS AND 10 FOOT OFFSETS TO ESTABLISH LIMITS WITHIN EACH PROPERTY WHERE PROPOSED EASEMENTS ARE NOTED.

PREPARED BY:

PROJECT NAME: **SANITARY SEWER IMPROVEMENTS REHL ROAD TO KNOX ROAD**
 PROJECT LOCATION: **LICKING VIEW ZANESVILLE, OHIO 43701**

PLANS APPROVED BY:
MJE

PLANS PREPARED BY:
GJW

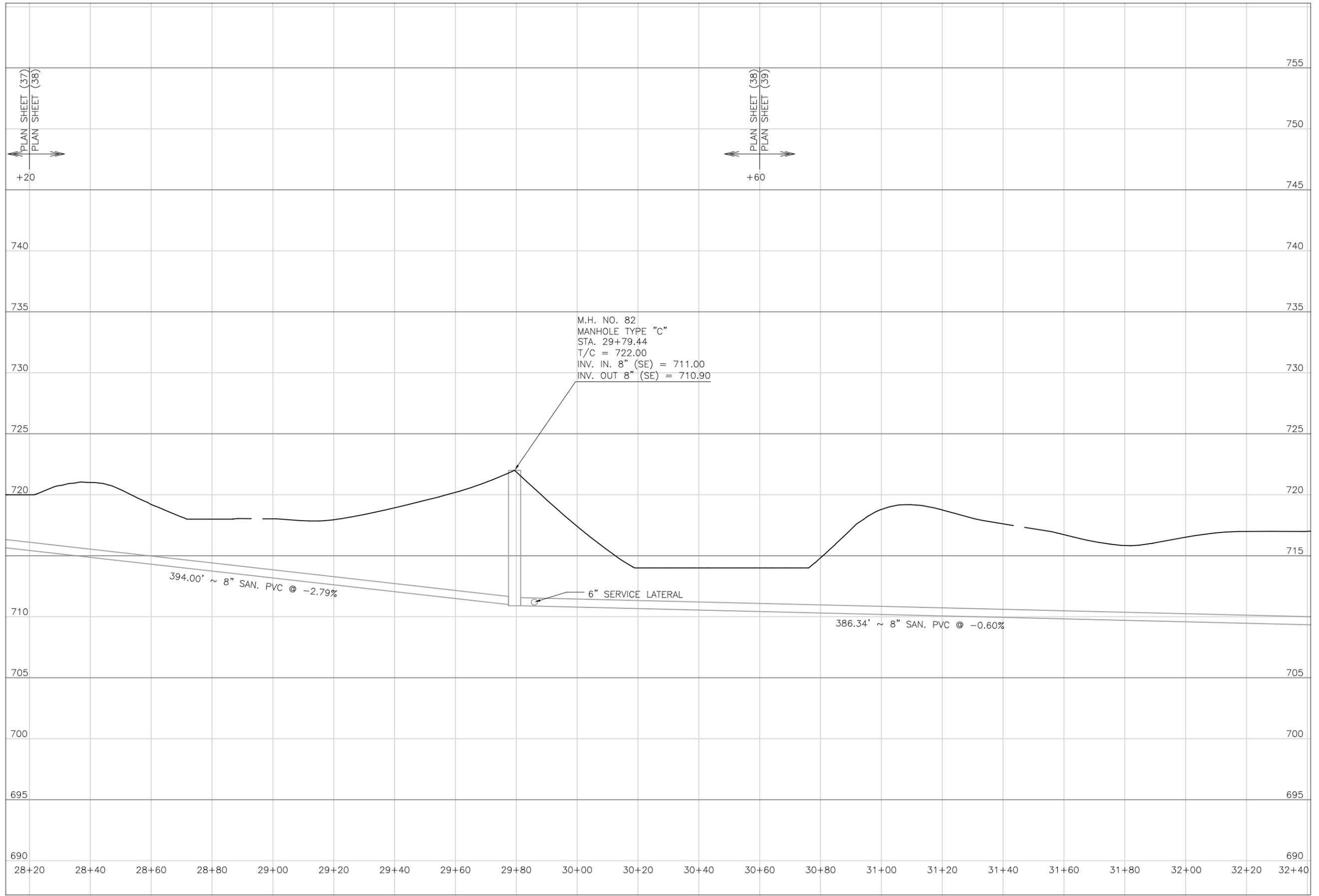
DATE:
08/14/2023

REVISED:

SHEET SIZE:
11" x 17"

SHEET NAME:
PLAN SHEET (38)

SHEET NUMBER:

PLAN SHEET (37)
PLAN SHEET (38)

PLAN SHEET (38)
PLAN SHEET (39)

PREPARED BY:
 PROJECT NAME: **SANITARY SEWER IMPROVEMENTS
KNOX ROAD TO PUMP STATION**
 PROJECT LOCATION: **LICKING VIEW
ZANESVILLE, OHIO 43701**

PLANS APPROVED BY:
MJE

PLANS PREPARED BY:
HJ

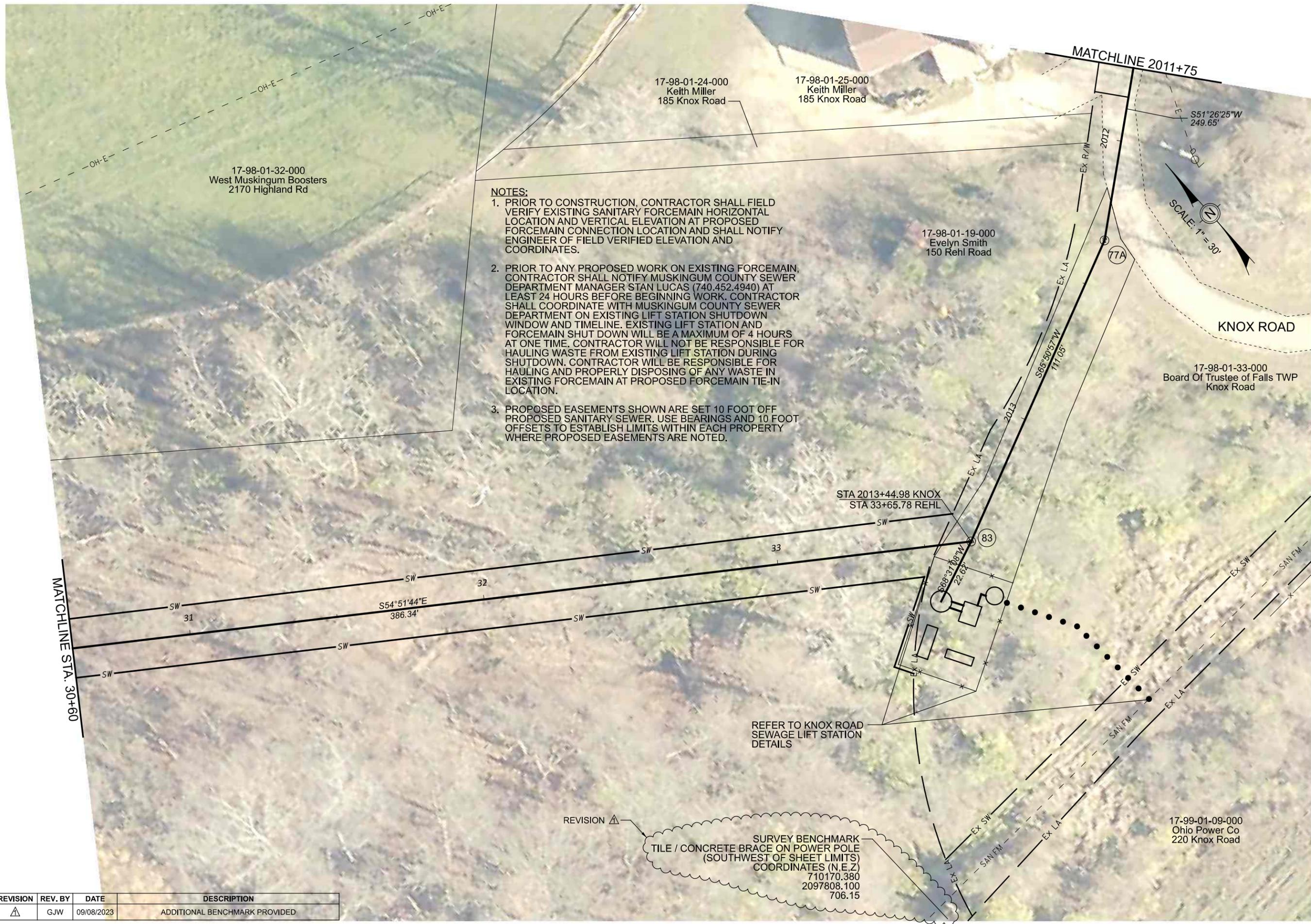
DATE:
08/15/2023

REVISED:

SHEET SIZE:
11" x 17"

SHEET NAME:
**PROFILE
MANHOLE 82**

SHEET NUMBER:
97
118



- NOTES:**
1. PRIOR TO CONSTRUCTION, CONTRACTOR SHALL FIELD VERIFY EXISTING SANITARY FORCEMAIN HORIZONTAL LOCATION AND VERTICAL ELEVATION AT PROPOSED FORCEMAIN CONNECTION LOCATION AND SHALL NOTIFY ENGINEER OF FIELD VERIFIED ELEVATION AND COORDINATES.
 2. PRIOR TO ANY PROPOSED WORK ON EXISTING FORCEMAIN, CONTRACTOR SHALL NOTIFY MUSKINGUM COUNTY SEWER DEPARTMENT MANAGER STAN LUCAS (740.452.4940) AT LEAST 24 HOURS BEFORE BEGINNING WORK. CONTRACTOR SHALL COORDINATE WITH MUSKINGUM COUNTY SEWER DEPARTMENT ON EXISTING LIFT STATION SHUTDOWN WINDOW AND TIMELINE. EXISTING LIFT STATION AND FORCEMAIN SHUT DOWN WILL BE A MAXIMUM OF 4 HOURS AT ONE TIME. CONTRACTOR WILL NOT BE RESPONSIBLE FOR HAULING WASTE FROM EXISTING LIFT STATION DURING SHUTDOWN. CONTRACTOR WILL BE RESPONSIBLE FOR HAULING AND PROPERLY DISPOSING OF ANY WASTE IN EXISTING FORCEMAIN AT PROPOSED FORCEMAIN TIE-IN LOCATION.
 3. PROPOSED EASEMENTS SHOWN ARE SET 10 FOOT OFF PROPOSED SANITARY SEWER. USE BEARINGS AND 10 FOOT OFFSETS TO ESTABLISH LIMITS WITHIN EACH PROPERTY WHERE PROPOSED EASEMENTS ARE NOTED.



REVISION	REV. BY	DATE	DESCRIPTION
△	GJW	09/08/2023	ADDITIONAL BENCHMARK PROVIDED

Mark J. Eicher, P.E., P.S.
 155 Rehl Road
 Zanesville, Ohio 43701
Muskingum County
ENGINEER'S OFFICE 740-454-0155

PROJECT NAME: SANITARY SEWER IMPROVEMENTS
 REHL ROAD TO KNOX ROAD PUMP STATION
 PROJECT LOCATION: LICKING VIEW
 ZANESVILLE, OHIO 43701

PLANS APPROVED BY:
 MJE

PLANS PREPARED BY:
 GJW

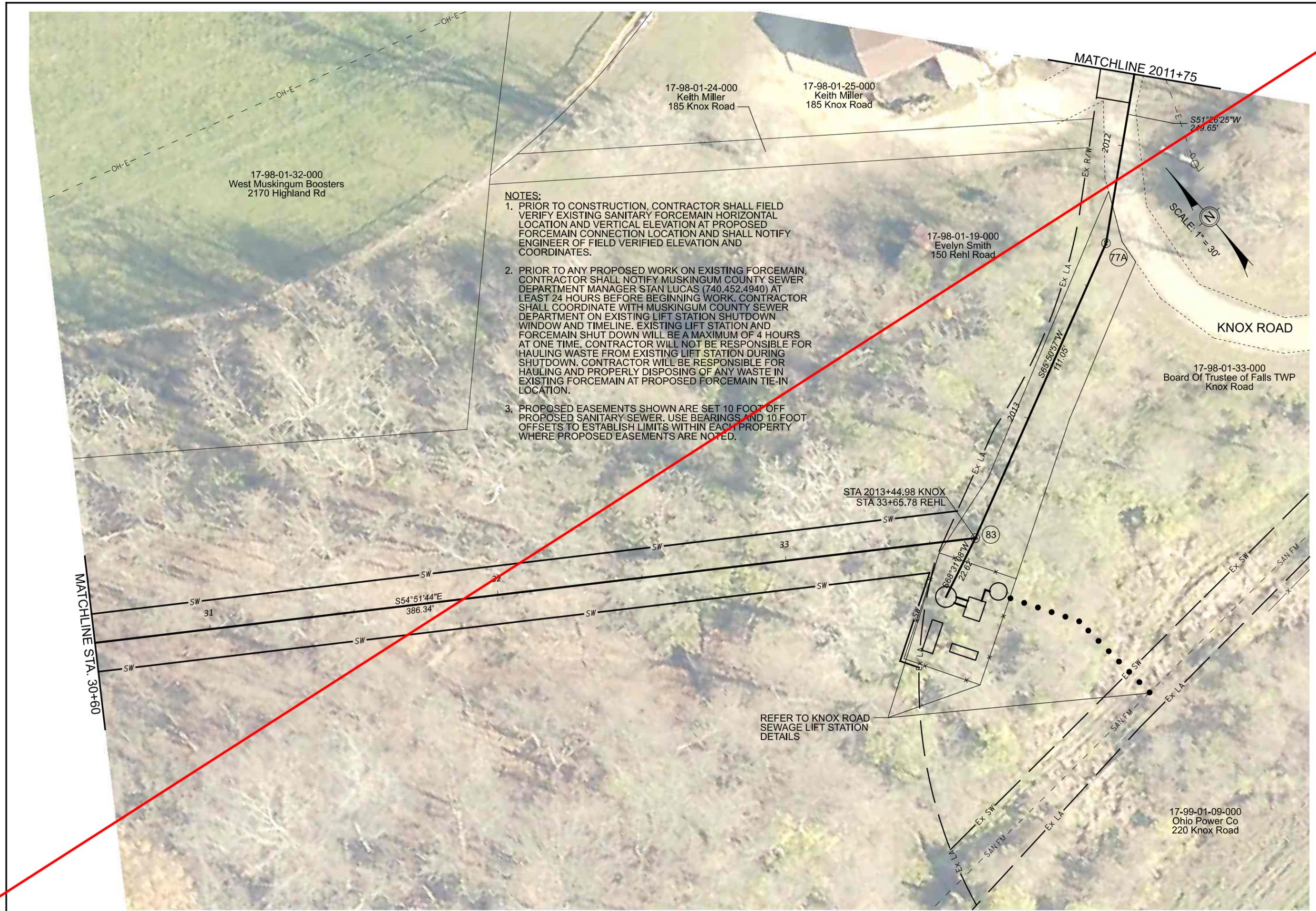
DATE:
 08/14/2023

REVISED:
 09/08/2023

SHEET SIZE:
 11" x 17"

SHEET NAME:
 PLAN SHEET (39)

SHEET NUMBER:
 98
 118



NOTES:

1. PRIOR TO CONSTRUCTION, CONTRACTOR SHALL FIELD VERIFY EXISTING SANITARY FORCEMAIN HORIZONTAL LOCATION AND VERTICAL ELEVATION AT PROPOSED FORCEMAIN CONNECTION LOCATION AND SHALL NOTIFY ENGINEER OF FIELD VERIFIED ELEVATION AND COORDINATES.
2. PRIOR TO ANY PROPOSED WORK ON EXISTING FORCEMAIN, CONTRACTOR SHALL NOTIFY MUSKINGUM COUNTY SEWER DEPARTMENT MANAGER STAN LUCAS (740.452.4940) AT LEAST 24 HOURS BEFORE BEGINNING WORK. CONTRACTOR SHALL COORDINATE WITH MUSKINGUM COUNTY SEWER DEPARTMENT ON EXISTING LIFT STATION SHUTDOWN WINDOW AND TIMELINE. EXISTING LIFT STATION AND FORCEMAIN SHUT DOWN WILL BE A MAXIMUM OF 4 HOURS AT ONE TIME. CONTRACTOR WILL NOT BE RESPONSIBLE FOR HAULING WASTE FROM EXISTING LIFT STATION DURING SHUTDOWN. CONTRACTOR WILL BE RESPONSIBLE FOR HAULING AND PROPERLY DISPOSING OF ANY WASTE IN EXISTING FORCEMAIN AT PROPOSED FORCEMAIN TIE-IN LOCATION.
3. PROPOSED EASEMENTS SHOWN ARE SET 10 FOOT OFF PROPOSED SANITARY SEWER. USE BEARINGS AND 10 FOOT OFFSETS TO ESTABLISH LIMITS WITHIN EACH PROPERTY WHERE PROPOSED EASEMENTS ARE NOTED.

Mark J. Eichel, P.E., P.S.
 155 Rehl Road
 Zanesville, Ohio 43701
Muskingum County
ENGINEER'S OFFICE 740-454-0155

PREPARED BY:
 PROJECT NAME: SANITARY SEWER IMPROVEMENTS
 REHL ROAD TO KNOX ROAD PUMP STATION
 PROJECT LOCATION: LICKING VIEW
 ZANESVILLE, OHIO 43701

PLANS APPROVED BY:
 MJE

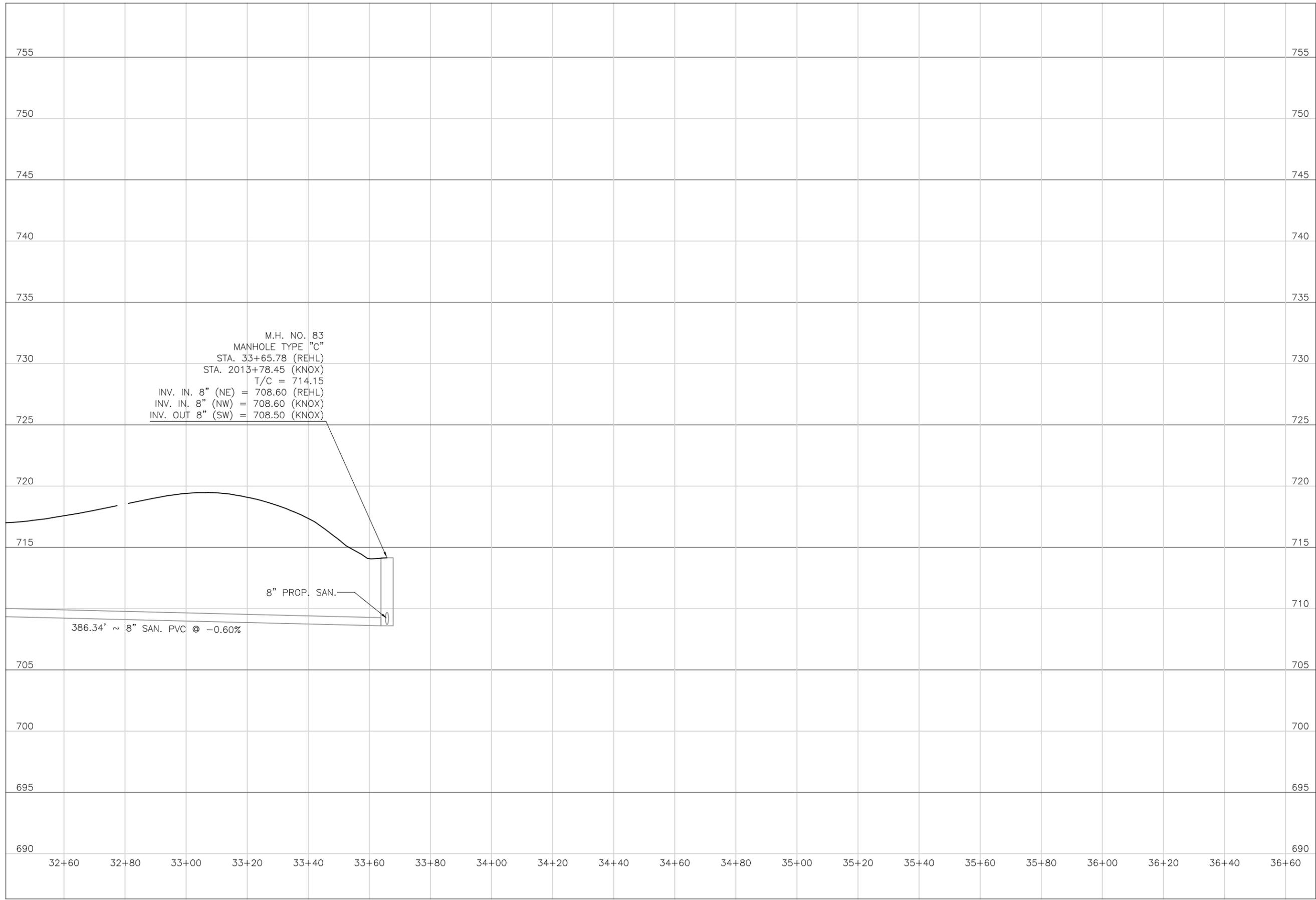
PLANS PREPARED BY:
 GJW

DATE:
 08/14/2023

REVISED:
 SHEET SIZE:
 11" x 17"

SHEET NAME:
 PLAN SHEET (39)

SHEET NUMBER:
 98
 118



PREPARED BY:

PROJECT NAME:
 SANITARY SEWER IMPROVEMENTS
 TO KNOX ROAD

PROJECT LOCATION:
 LICKING VIEW
 ZANESVILLE, OHIO 43701

PLANS APPROVED BY:
MJE

PLANS PREPARED BY:
HJ

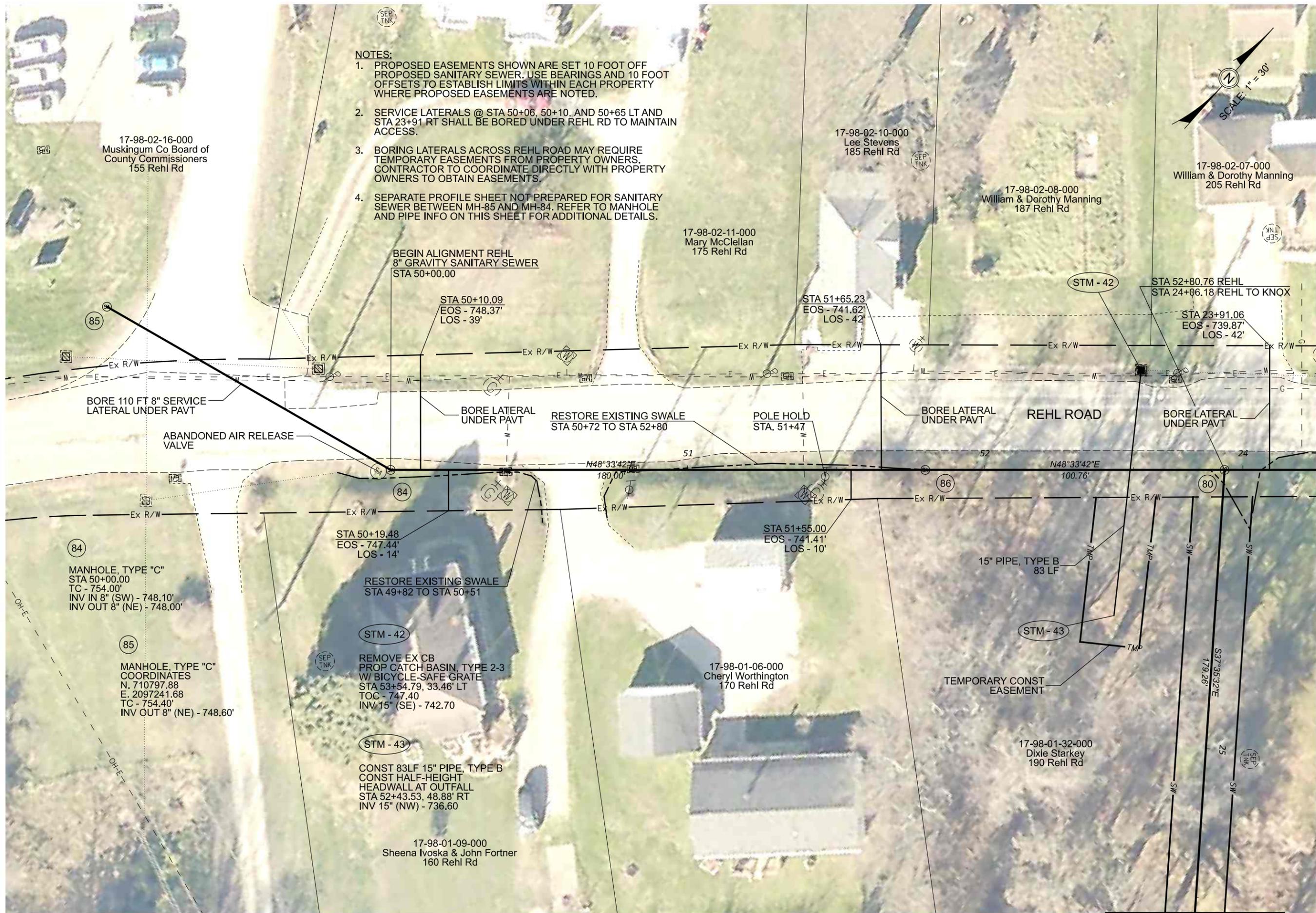
DATE:
08/15/2023

REVISED:

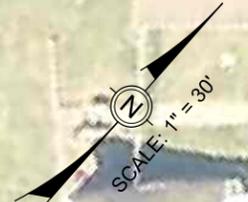
SHEET SIZE:
 11" x 17"

SHEET NAME:
**PROFILE
 MANHOLE 83**

SHEET NUMBER:
 99
 118



- NOTES:**
1. PROPOSED EASEMENTS SHOWN ARE SET 10 FOOT OFF PROPOSED SANITARY SEWER. USE BEARINGS AND 10 FOOT OFFSETS TO ESTABLISH LIMITS WITHIN EACH PROPERTY WHERE PROPOSED EASEMENTS ARE NOTED.
 2. SERVICE LATERALS @ STA 50+06, 50+10, AND 50+65 LT AND STA 23+91 RT SHALL BE BORED UNDER REHL RD TO MAINTAIN ACCESS.
 3. BORING LATERALS ACROSS REHL ROAD MAY REQUIRE TEMPORARY EASEMENTS FROM PROPERTY OWNERS. CONTRACTOR TO COORDINATE DIRECTLY WITH PROPERTY OWNERS TO OBTAIN EASEMENTS.
 4. SEPARATE PROFILE SHEET NOT PREPARED FOR SANITARY SEWER BETWEEN MH-85 AND MH-84. REFER TO MANHOLE AND PIPE INFO ON THIS SHEET FOR ADDITIONAL DETAILS.



SEE SHEET 90

SEE SHEET 94

Mark J. Eicher, P.E., P.S.
 155 Rehl Road
 Zanesville, Ohio 43701
Muskingum County ENGINEER'S OFFICE
 740-454-0155

PREPARED BY:
 PROJECT NAME: SANITARY SEWER IMPROVEMENT REHL ROAD
 PROJECT LOCATION: LICKING VIEW ZANESVILLE, OHIO 43701

PLANS APPROVED BY:
 MJE

PLANS PREPARED BY:
 GJW

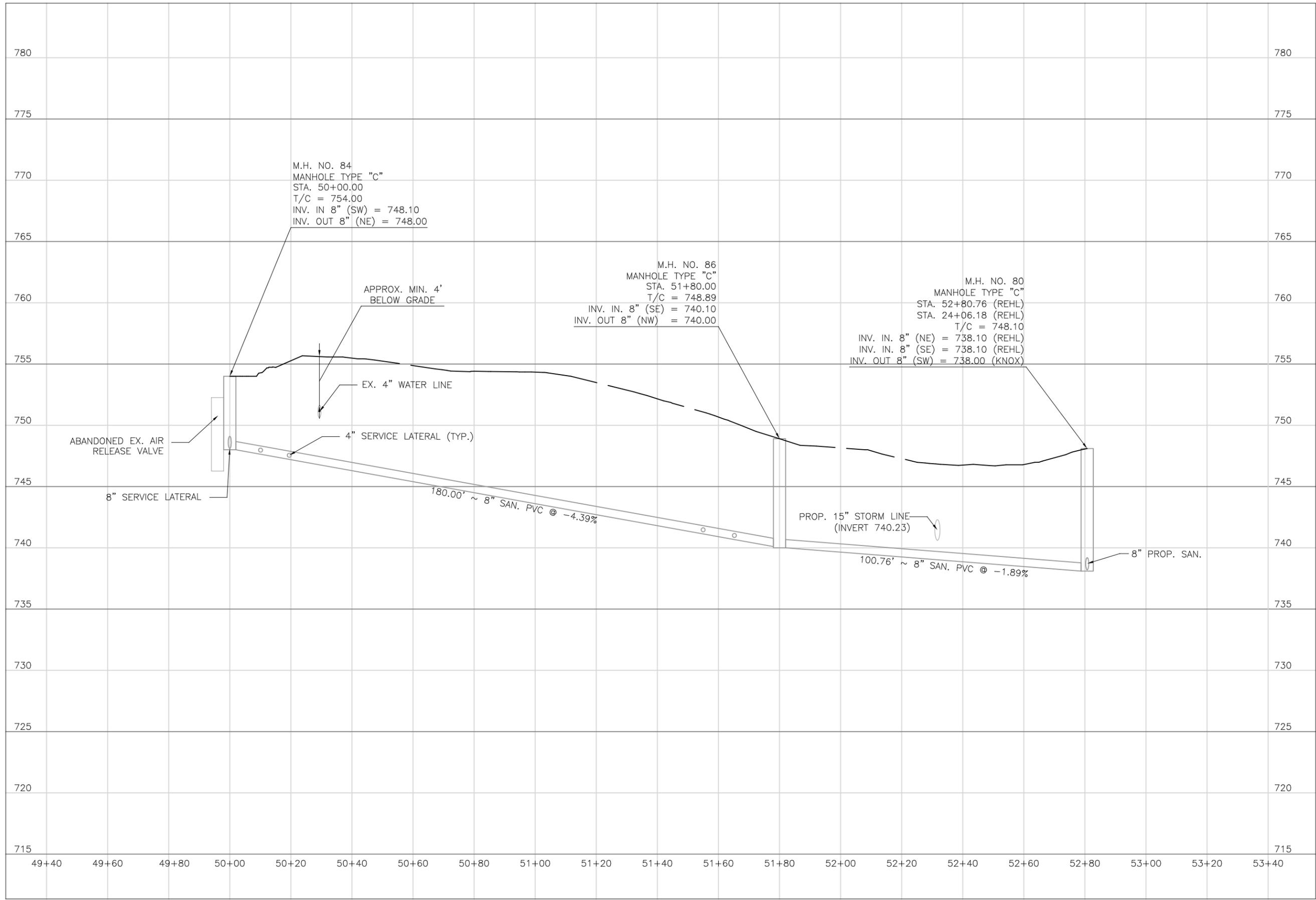
DATE:
 08/14/2023

REVISED:

SHEET SIZE:
 11" x 17"

SHEET NAME:
 PLAN SHEET (40)

SHEET NUMBER:
 100
 118



M.H. NO. 84
 MANHOLE TYPE "C"
 STA. 50+00.00
 T/C = 754.00
 INV. IN 8" (SW) = 748.10
 INV. OUT 8" (NE) = 748.00

M.H. NO. 86
 MANHOLE TYPE "C"
 STA. 51+80.00
 T/C = 748.89
 INV. IN 8" (SE) = 740.10
 INV. OUT 8" (NW) = 740.00

M.H. NO. 80
 MANHOLE TYPE "C"
 STA. 52+80.76 (REHL)
 STA. 24+06.18 (REHL)
 T/C = 748.10
 INV. IN 8" (NE) = 738.10 (REHL)
 INV. IN 8" (SE) = 738.10 (REHL)
 INV. OUT 8" (SW) = 738.00 (KNOX)

PREPARED BY:
 PROJECT NAME: SANITARY SEWER IMPROVEMENTS
 REHL ROAD
 PROJECT LOCATION: LICKING VIEW
 ZANESVILLE, OHIO 43701

PLANS APPROVED BY:
MJE

PLANS PREPARED BY:
HJ

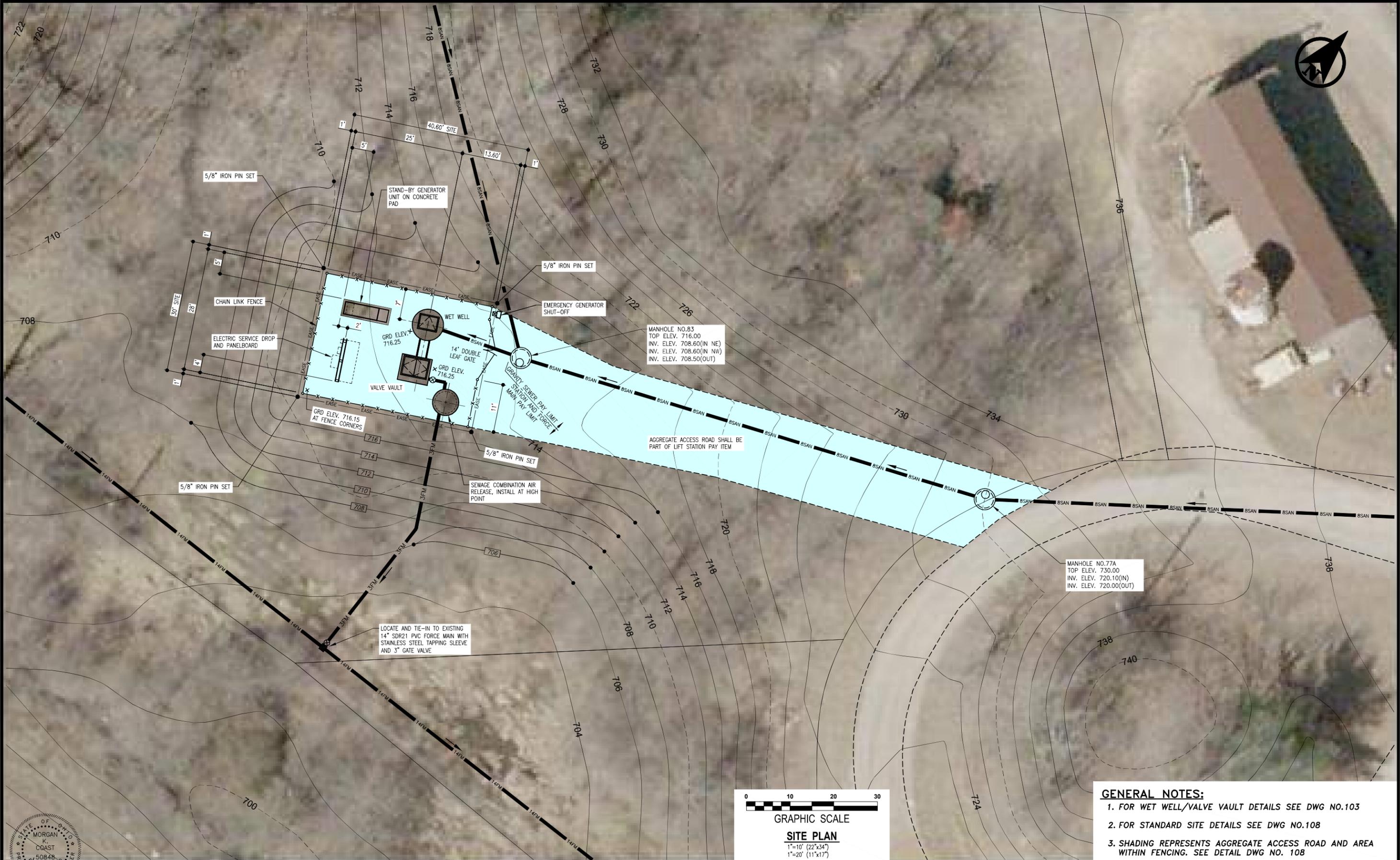
DATE:
08/15/2023

REVISED:

SHEET SIZE:
11" x 17"

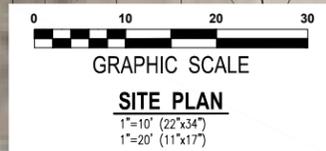
SHEET NAME:
**PROFILE
 MANHOLE
 84, 86, & 80**

SHEET NUMBER:
101
 118



GENERAL NOTES:

1. FOR WET WELL/VALVE VAULT DETAILS SEE DWG NO.103
2. FOR STANDARD SITE DETAILS SEE DWG NO.108
3. SHADING REPRESENTS AGGREGATE ACCESS ROAD AND AREA WITHIN FENCING. SEE DETAIL DWG NO. 108



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 Morgan K. Coast 5/11/22
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NO.	DATE	REVISION

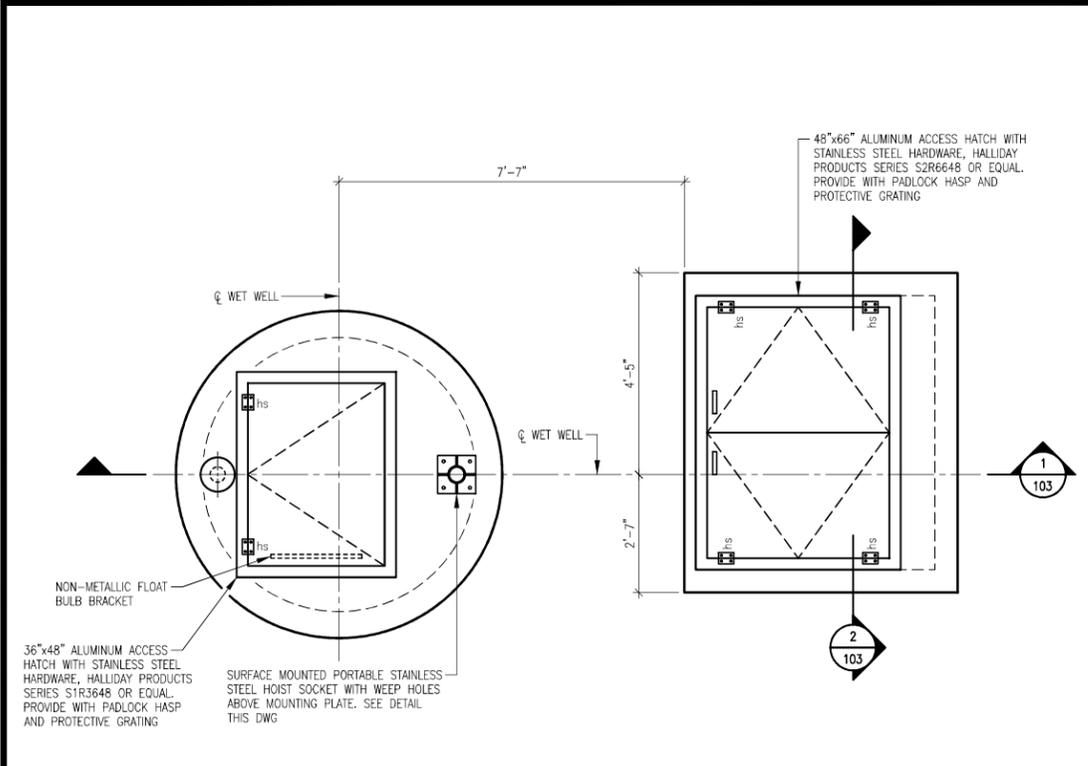
DRAWN BY: DAVID STEWART
CHECKED BY: MORGAN K. COAST

VAUGHN, COAST & VAUGHN, INC.
 Engineers
 154 South Marietta Street
 St. Clairsville, Ohio 43950
 740-695-7256 Fax: 740-695-2203

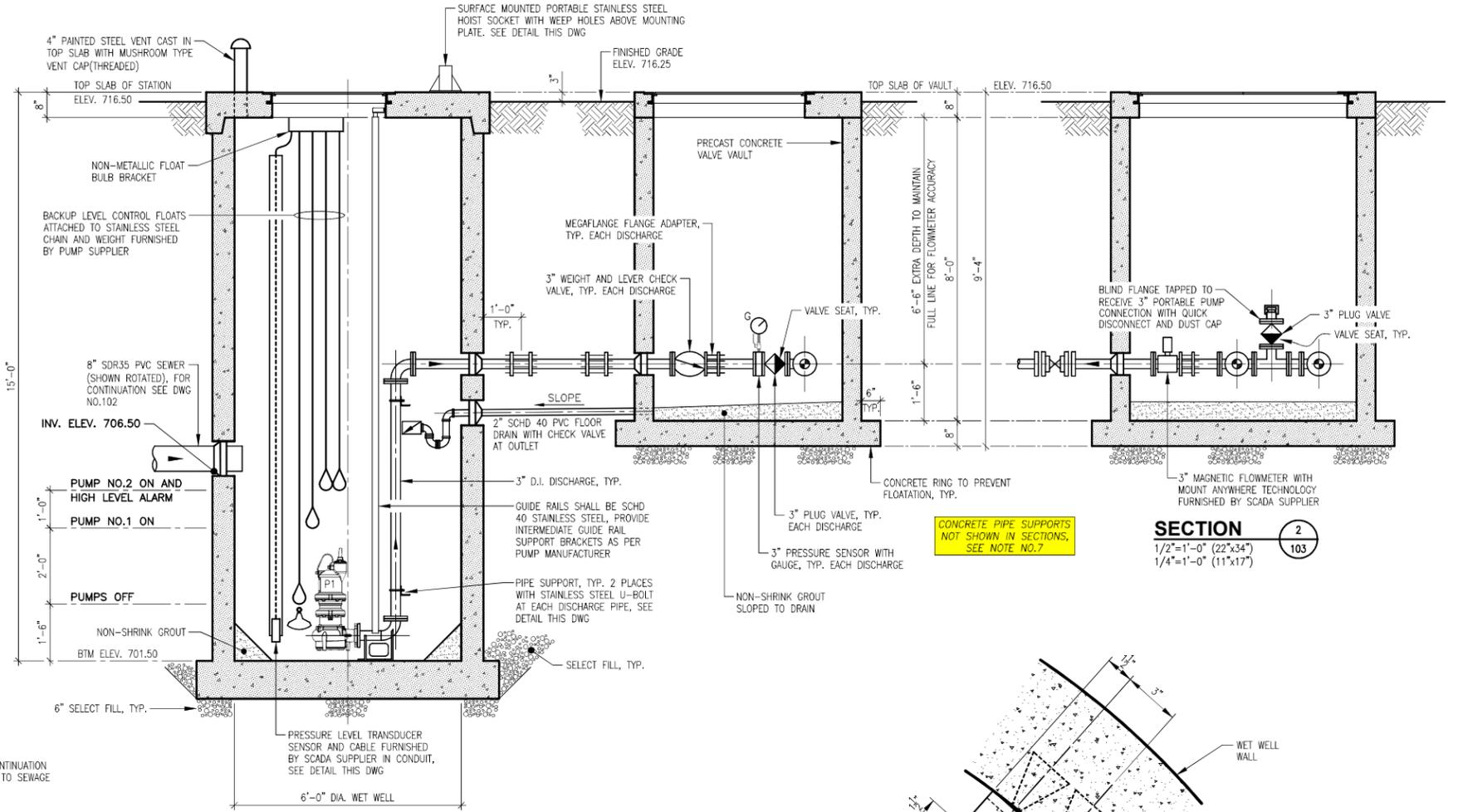
MUSKINGUM COUNTY COMMISSIONERS
 Muskingum County Water and Sewer District
 Muskingum County, Ohio

LICKING VIEW SANITARY SEWER IMPROVEMENTS
KNOX ROAD SEWAGE LIFT STATION
 SITE PLAN

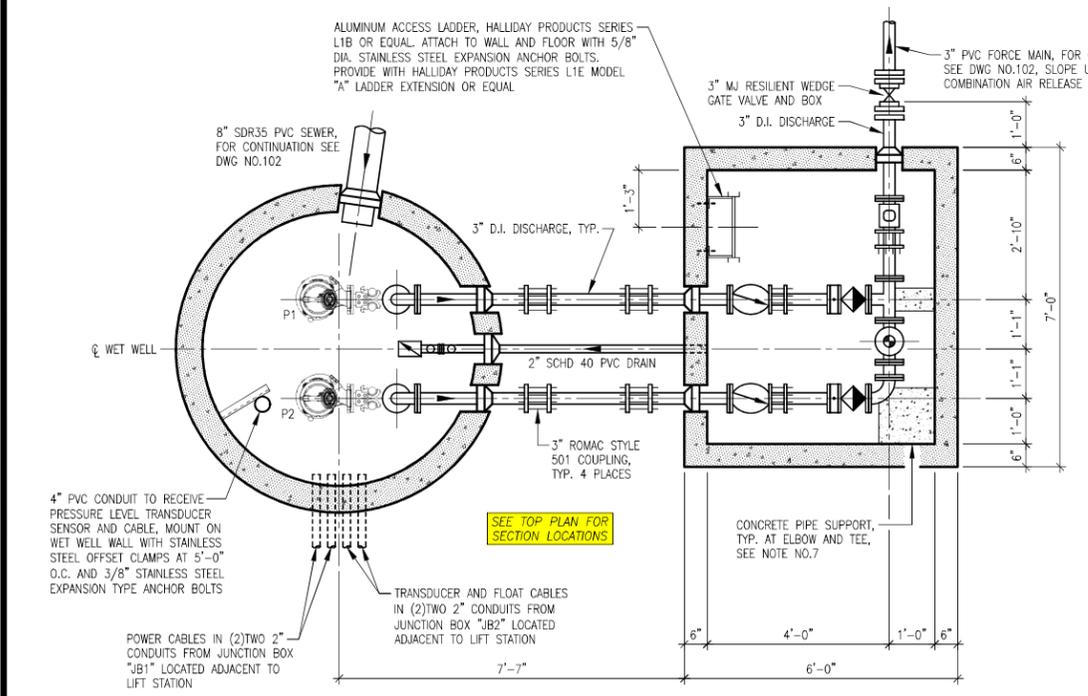
SCALE: AS SHOWN	PROJECT NO. 21038
DATE: MAY 2022	DRAWING NO. 102



KNOX ROAD SEWAGE LIFT STATION TOP PLAN
 1/2"=1'-0" (22"x34")
 1/4"=1'-0" (11"x17")

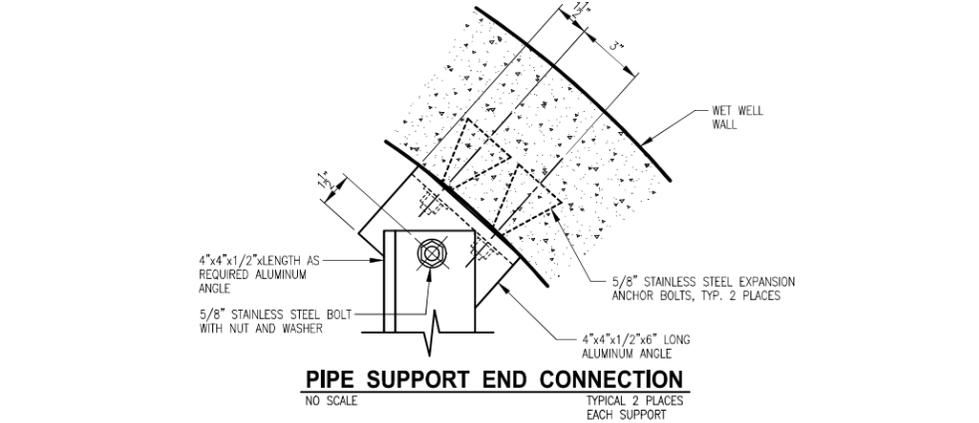


SECTION 1
 1/2"=1'-0" (22"x34")
 1/4"=1'-0" (11"x17")

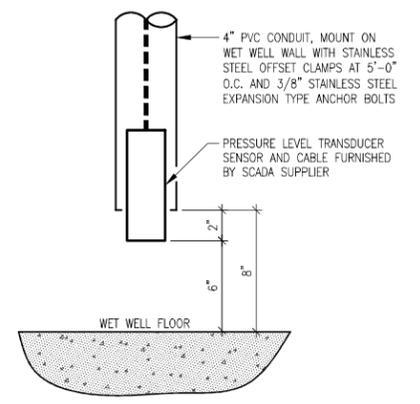


KNOX ROAD SEWAGE LIFT STATION SECTIONAL PLAN
 1/2"=1'-0" (22"x34")
 1/4"=1'-0" (11"x17")

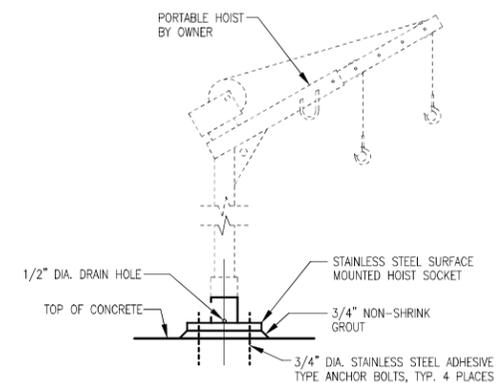
- GENERAL NOTES FOR LIFT STATION AND VAULT:**
1. ALL MECHANICAL JOINT FITTINGS AND VALVES SHALL BE EPOXY COATED, HAVE STAINLESS STEEL BOLTS AS PER SPECIFICATIONS.
 2. ALL MECHANICAL JOINT FITTINGS SHALL BE RESTRAINED WITH MEGALUG JOINT RESTRAINT SYSTEM.
 3. ALL METALLIC SURFACES IN CONTACT WITH CONCRETE SHALL RECEIVE 2 COATS OF COAL TAR EPOXY.
 4. STRUCTURAL ALUMINUM SHALL BE 6061-T6.
 5. ALL PIPE PENETRATIONS SHALL BE PSX BOOT GASKET, Z-LOK OR EQUAL, WATERTIGHT, FLEXIBLE AND NON-SHRINK UNLESS OTHERWISE NOTED.
 6. CONTRACTOR SHALL PLACE SELECT FILL ON ORIGINAL, UNDISTURBED GROUND AND COMPACT TO 95% PROCTOR BENEATH AND ADJACENT TO ALL PRECAST CONCRETE STRUCTURES.
 7. CONTRACTOR SHALL PROVIDE REINFORCED CONCRETE PIPE SUPPORTS UNDER 90° ELBOW AND TEE LOCATED IN VALVE VAULT. HEIGHT OF SUPPORT SHALL BE TO CENTER LINE OF PIPING.
 8. SEE DWG NO.104 FOR ELECTRICAL.



PIPE SUPPORT END CONNECTION
 NO SCALE
 TYPICAL 2 PLACES EACH SUPPORT



PRESSURE LEVEL TRANSDUCER DETAIL
 NO SCALE



PORTABLE HOIST DETAIL
 NO SCALE



5/11/22

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NO.	DATE	REVISION

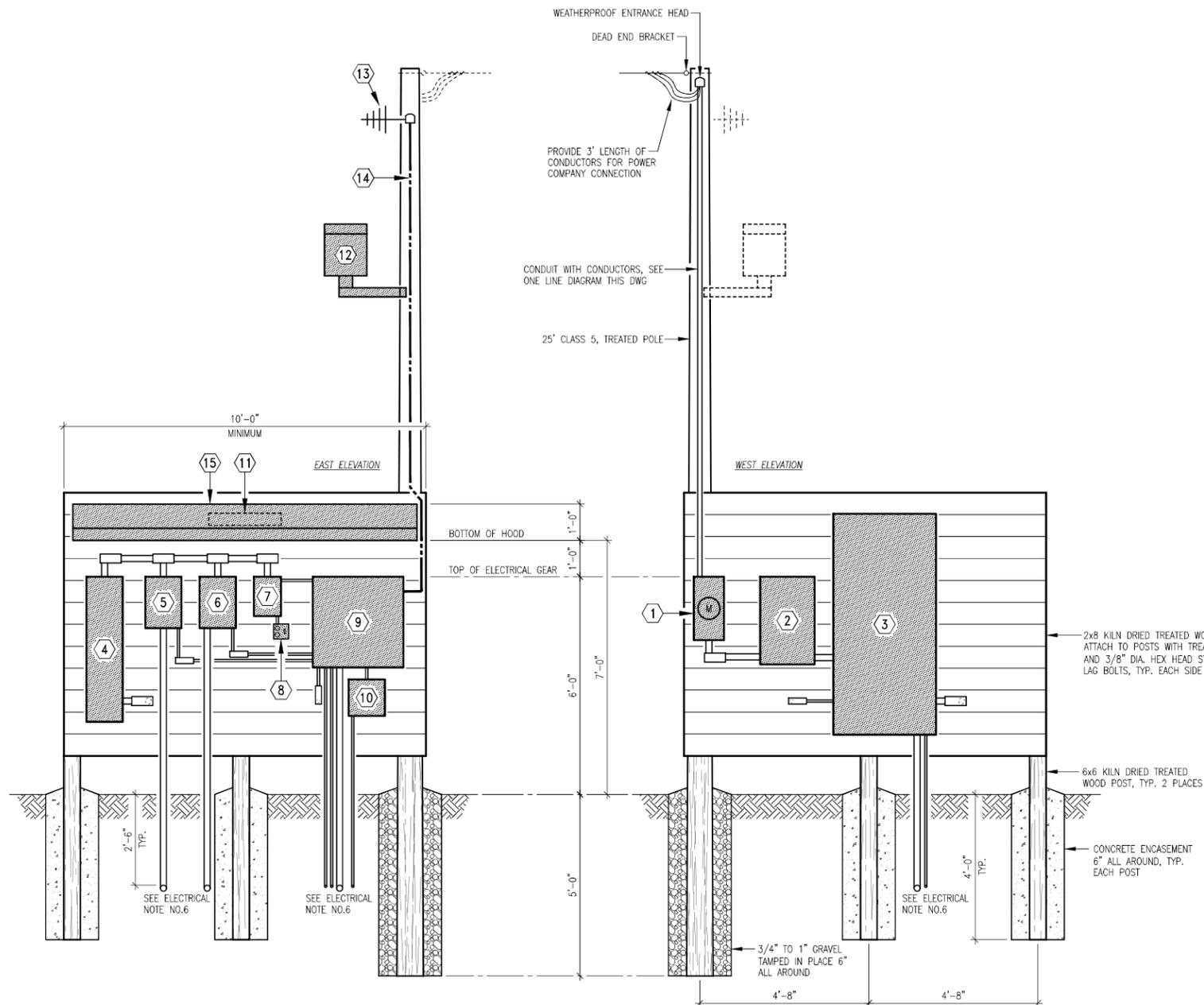
DRAWN BY:
DAVID STEWART
 CHECKED BY:
MORGAN K. COAST

VAUGHN, COAST & VAUGHN, INC.
 Engineers
 154 South Marietta Street
 St. Clairsville, Ohio 43950
 740-695-7256 Fax: 740-695-2203

MUSKINGUM COUNTY COMMISSIONERS
 Muskingum County Water and Sewer District
 Muskingum County, Ohio

LICKING VIEW SANITARY SEWER IMPROVEMENTS
KNOX ROAD SEWAGE LIFT STATION
 PLANS, SECTIONS AND DETAILS

SCALE: AS SHOWN	PROJECT NO. 21038
DATE: MAY 2022	DRAWING NO. 103



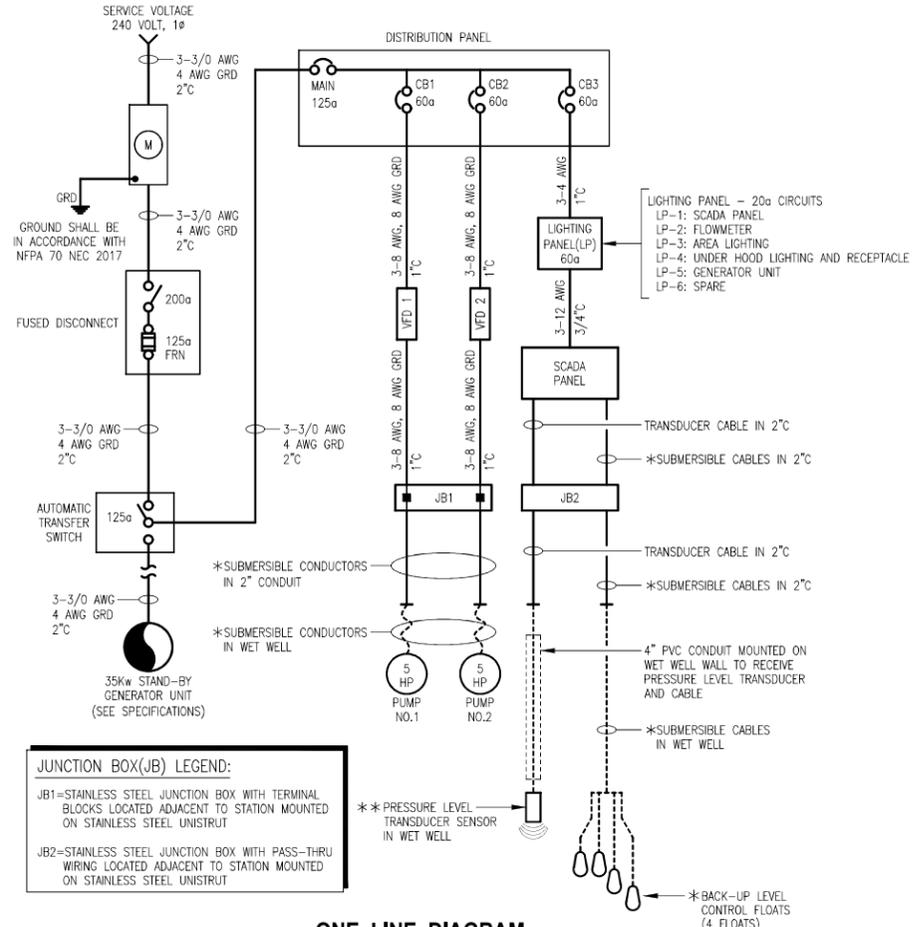
ELECTRIC PANELBOARD DETAIL
NO SCALE

KEY NOTE LEGEND FOR PANELBOARD DETAIL

- | | |
|--|--|
| 1 METER | 10 FLOW TRANSMITTER |
| 2 FUSED DISCONNECT, NEMA 4X STAINLESS STEEL(SST) | 11 UNDER THE HOOD LIGHTING SHALL BE RAB LED LIGHTING MODEL NO. SHARK2-25NW/D10 OR EQUAL |
| 3 AUTOMATIC TRANSFER SWITCH, NEMA 4X STAINLESS STEEL(SST), SUPPLIED BY STAND-BY GENERATOR UNIT MANUFACTURER. | 12 AREA LIGHTING SHALL BE RAB LED FLOODLIGHTING MODEL NO. FFLED-12-T-N WITH PHOTOCELL OR EQUAL, LIGHT SHALL FACE SEWAGE LIFT STATION |
| 4 DISTRIBUTION PANEL IN NEMA 4X ENCLOSURE, 240V, SINGLE PHASE | 13 SCADA ANTENNA WITH COAXIAL CABLE TO SCADA PANEL. |
| 5 VARIABLE FREQUENCY DRIVE NO.1, NEMA 4X STAINLESS STEEL | 14 1" CONDUIT WITH SCADA ANTENNA COAXIAL CABLE TO SCADA PANEL. |
| 6 VARIABLE FREQUENCY DRIVE NO.2, NEMA 4X STAINLESS STEEL | 15 PRE-ENGINEERED 14ga. GALVANIZED STEEL HOOD WITH 36" PROJECTION FROM TREATED WOOD BOARDS AND 9'-6" LONG, PERMA TECH, INC. "PERMA METAL HOOD" OR EQUAL, COLOR: FOREST GREEN. BOLT TO TREATED BOARDS WITH 1/2" DIA. STAINLESS STEEL BOLTS, NUTS AND WASHERS SPACED PER MANUFACTURERS SPECIFICATIONS. |
| 7 LIGHTING PANEL IN NEMA 4X ENCLOSURE, PROVIDE WITH SIX(6) 120V-20a CIRCUIT BREAKERS, SEE DIAGRAMS THIS DWG. | |
| 8 DUPLEX GFCI RECEPTACLE AND SWITCH FOR UNDER HOOD LIGHTING IN WEATHERPROOF BOX. | |
| 9 SCADA PANEL, NEMA 4X STAINLESS STEEL. | |

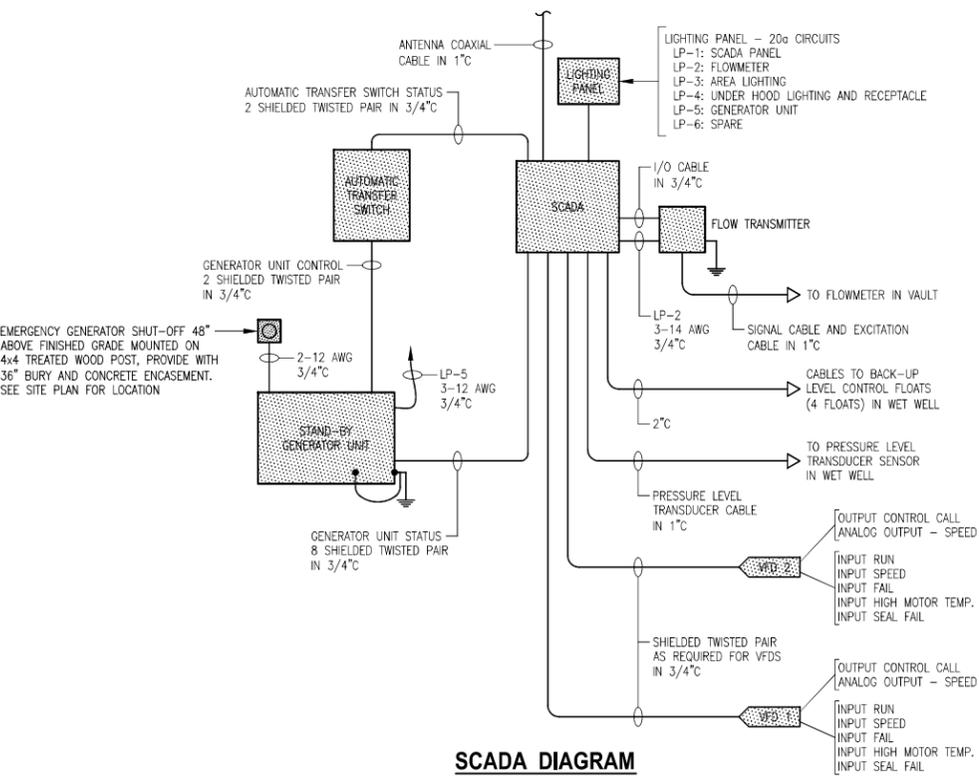
ELECTRICAL NOTES:

- ALL ELECTRICAL WORK SHALL BE COMPLETED IN ACCORDANCE WITH NFPA 70 NEC 2017.
- SERVICE ENTRANCE GROUNDING SHALL BE IN CONFORMANCE WITH NEC 2017 250.53.
- ALL CONDUITS SHALL BE SCHD 40 PVC WITH SIZE PER NEC 2017 ANNEX C TABLE C-10, ALL BURIED CONDUITS SHALL HAVE MINIMUM 30" COVER AND WARNING TAPE.
- SIZE ALL CONDUCTORS IN ACCORDANCE WITH NEC 2017 TABLE 310.15(B)(16)
- CONDUIT SUPPORT CLIPS SHALL BE NONMETALLIC AND HAVE STAINLESS STEEL ANCHOR SCREWS. CLIP SPACING SHALL BE AS PER MANUFACTURER SPECIFICATIONS.
- SEE ONE LINE DIAGRAM AND SCADA DIAGRAM FOR CONDUIT AND WIRES SIZES THAT ARE NOT SHOWN.
- * POWER AND BACK-UP FLOAT SYSTEM CABLES TO BE PROVIDED BY PUMP SUPPLIER, CONDUCTOR SIZES SHALL CONFORM TO NFPA 70 NEC 2017.
- ** SENSOR AND CABLE PROVIDED BY SCADA SUPPLIER.
- COORDINATE NUMBER AND LOCATION OF ALL CONDUITS BETWEEN GENERATOR CONDUIT STUB-UP AREA AND PANELBOARD GEAR.

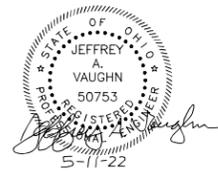


ONE LINE DIAGRAM

JUNCTION BOX(JB) LEGEND:
 JB1=STAINLESS STEEL JUNCTION BOX WITH TERMINAL BLOCKS LOCATED ADJACENT TO STATION MOUNTED ON STAINLESS STEEL UNISTRUT
 JB2=STAINLESS STEEL JUNCTION BOX WITH PASS-THRU WIRING LOCATED ADJACENT TO STATION MOUNTED ON STAINLESS STEEL UNISTRUT



SCADA DIAGRAM



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NO.	DATE	REVISION

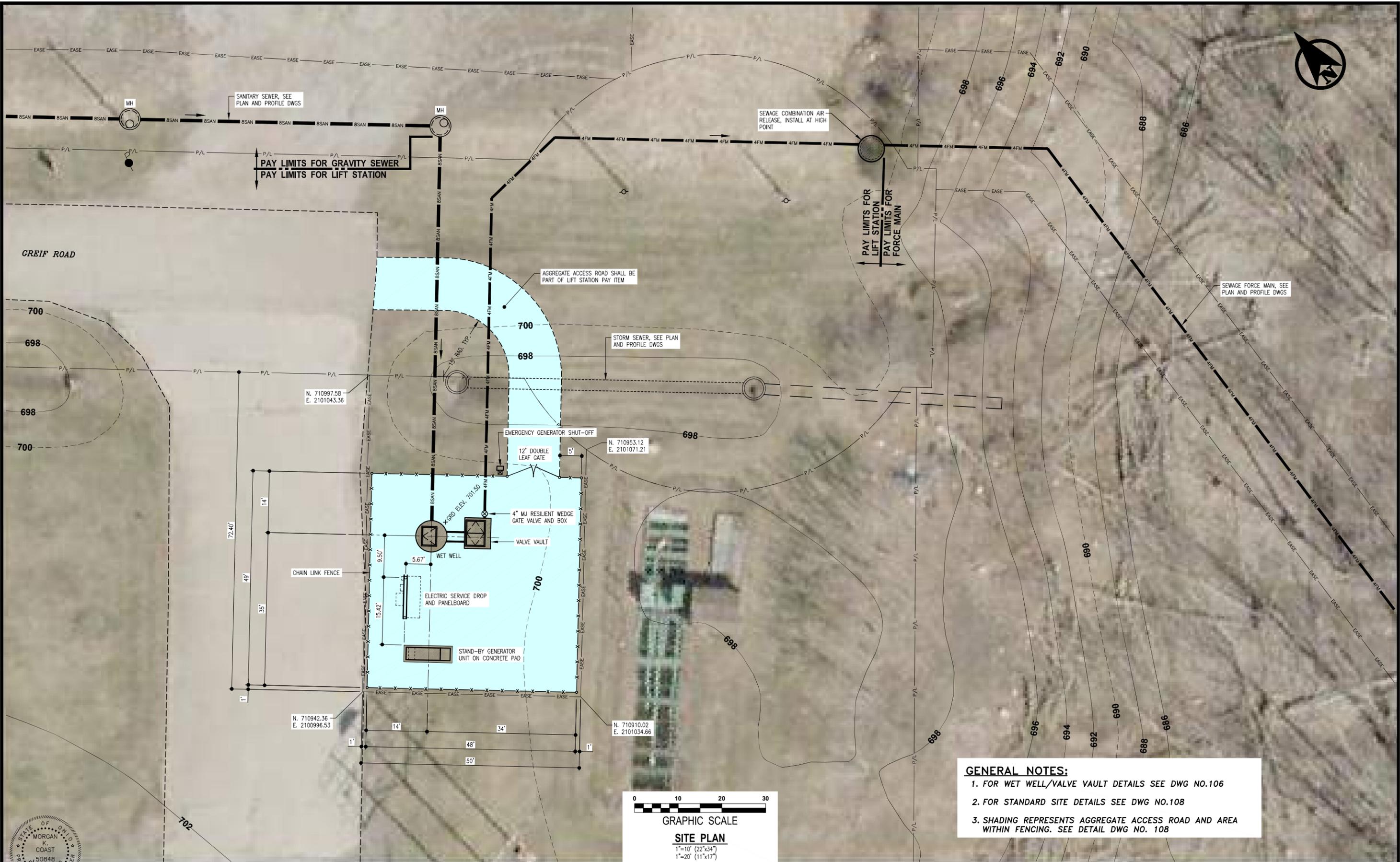
DRAWN BY:
DAVID STEWART
 CHECKED BY:
JEFFREY A. VAUGHN

VAUGHN, COAST & VAUGHN, INC.
 Engineers
 154 South Marietta Street
 St. Clairsville, Ohio 43950
 740-695-7256 Fax: 740-695-2203

MUSKINGUM COUNTY COMMISSIONERS
 Muskingum County Water and Sewer District
 Muskingum County, Ohio

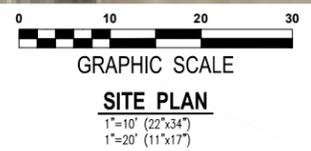
LICKING VIEW SANITARY SEWER IMPROVEMENTS
KNOX ROAD SEWAGE LIFT STATION
ELECTRICAL DETAIL AND DIAGRAMS

SCALE: AS SHOWN	PROJECT NO. 21038
DATE: MAY 2022	DRAWING NO. 104



GENERAL NOTES:

1. FOR WET WELL/VALVE VAULT DETAILS SEE DWG NO.106
2. FOR STANDARD SITE DETAILS SEE DWG NO.108
3. SHADING REPRESENTS AGGREGATE ACCESS ROAD AND AREA WITHIN FENCING. SEE DETAIL DWG NO. 108



Morgan K. Coast 5/11/22

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NO.	DATE	REVISION
1	3/20/24	REVISED SEWAGE LIFT STATION SITE LOCATION

DRAWN BY:
DAVID STEWART

CHECKED BY:
MORGAN K. COAST

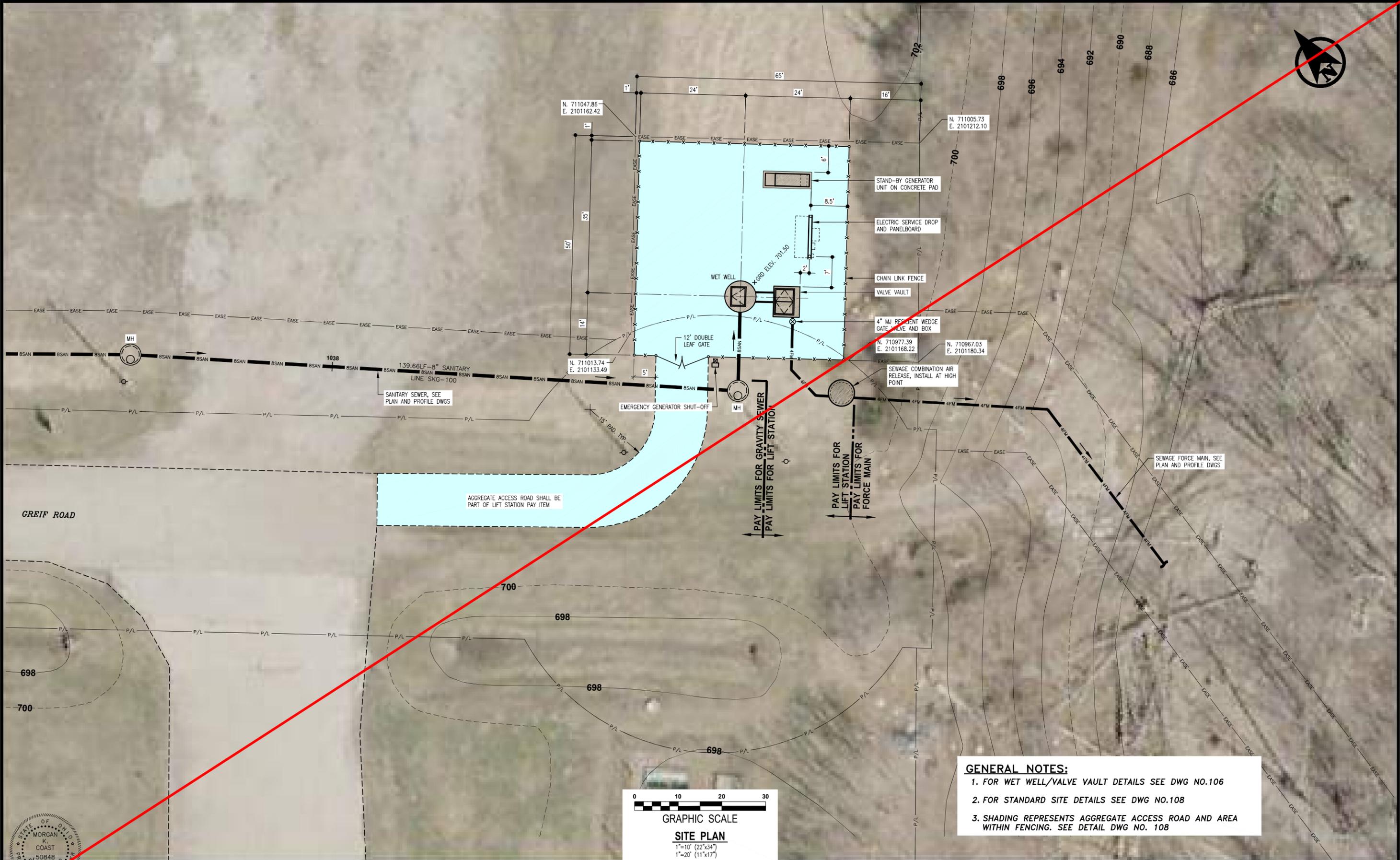
VAUGHN, COAST & VAUGHN, INC.
 Engineers
 154 South Marietta Street
 St. Clairsville, Ohio 43950
 740-695-7256 Fax: 740-695-2203

MUSKINGUM COUNTY COMMISSIONERS
 Muskingum County Water and Sewer District
 Muskingum County, Ohio

LICKING VIEW SANITARY SEWER IMPROVEMENTS
GREIF ROAD SEWAGE LIFT STATION
 SITE PLAN

SCALE: AS SHOWN	PROJECT NO. 21038
DATE: MAY 2022	DRAWING NO. 105

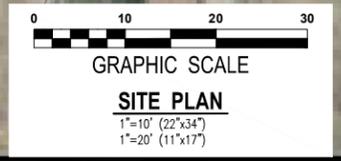
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AGGREGATE ACCESS ROAD SHALL BE PART OF LIFT STATION PAY ITEM

PAY LIMITS FOR GRAVITY SEWER
PAY LIMITS FOR LIFT STATION
PAY LIMITS FOR FORCE MAIN

- GENERAL NOTES:**
1. FOR WET WELL/VALVE VAULT DETAILS SEE DWG NO.106
 2. FOR STANDARD SITE DETAILS SEE DWG NO.108
 3. SHADING REPRESENTS AGGREGATE ACCESS ROAD AND AREA WITHIN FENCING. SEE DETAIL DWG NO. 108



NO. DATE REVISION

DAVID STEWART

MORGAN K. COAST 5/11/22

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NO.	DATE	REVISION

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CHECKED BY: MORGAN K. COAST

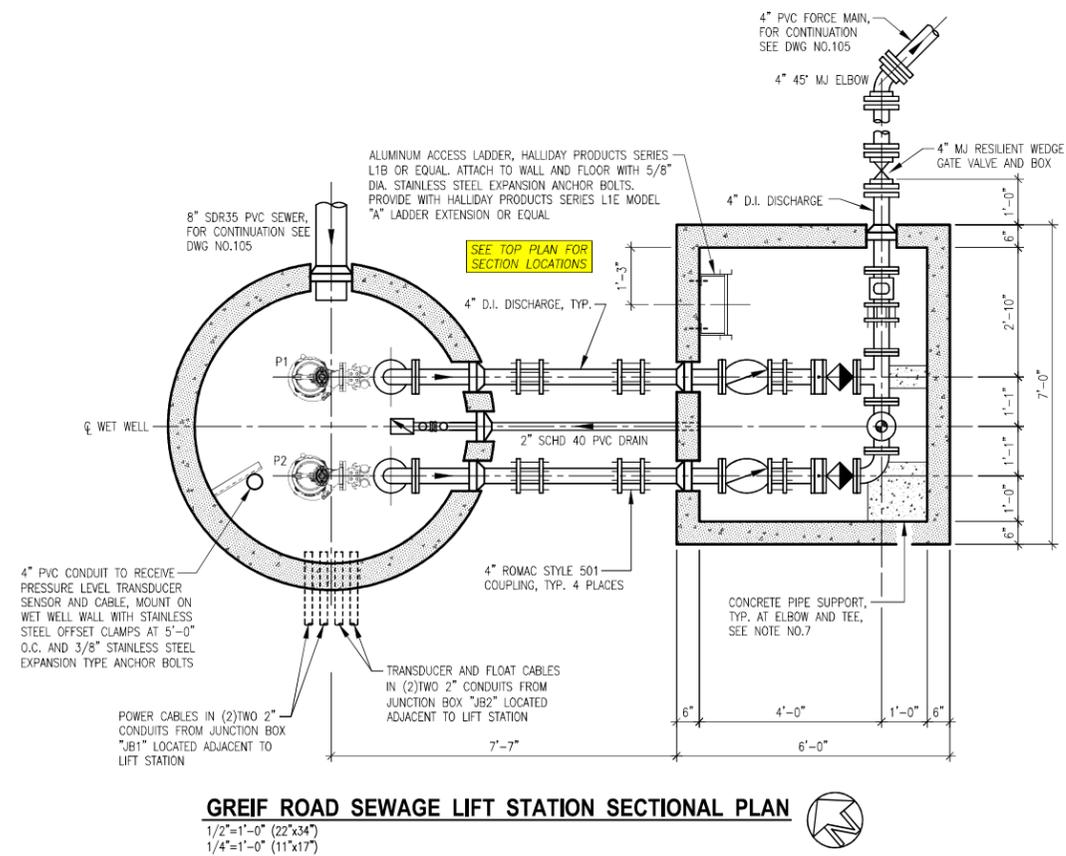
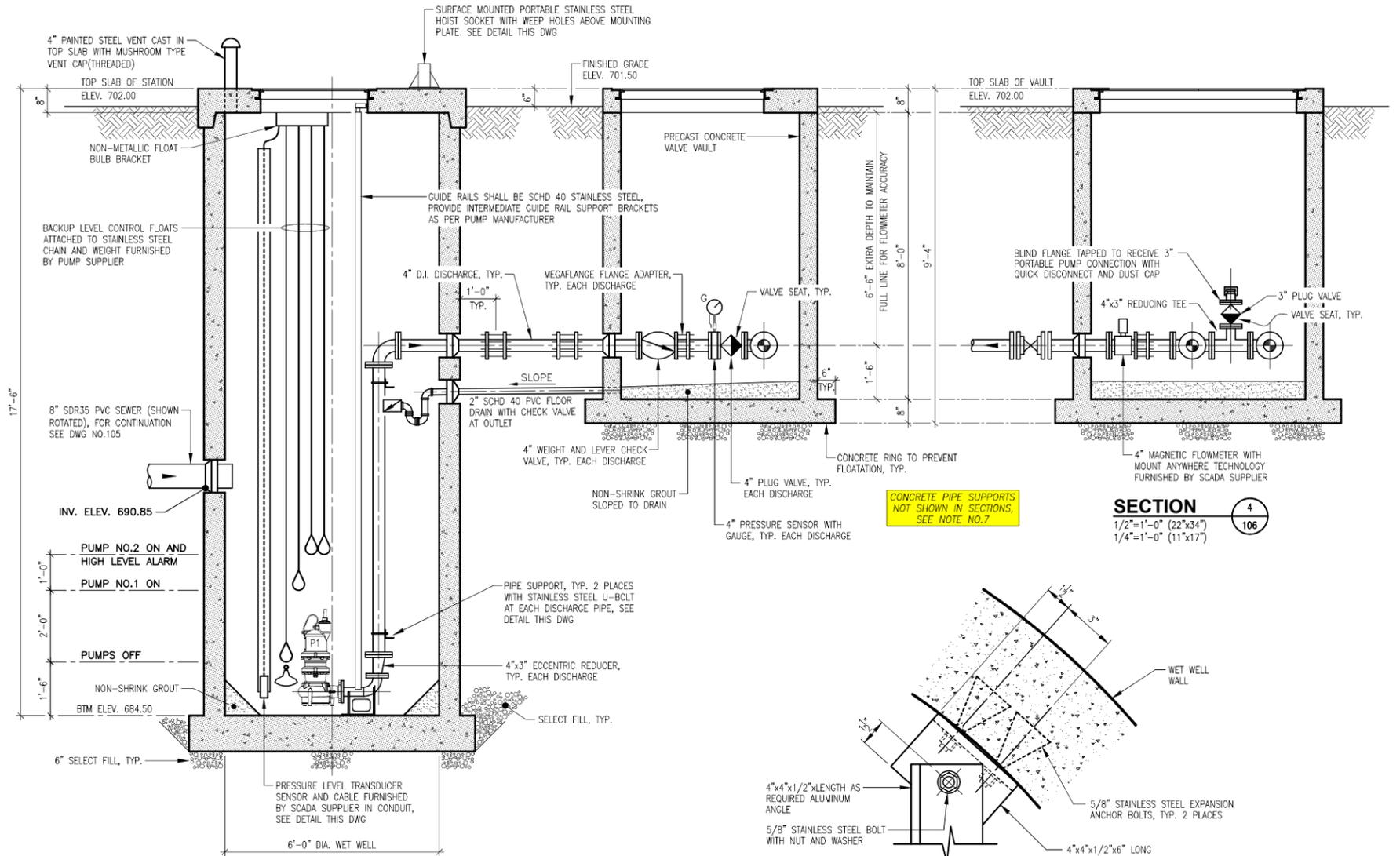
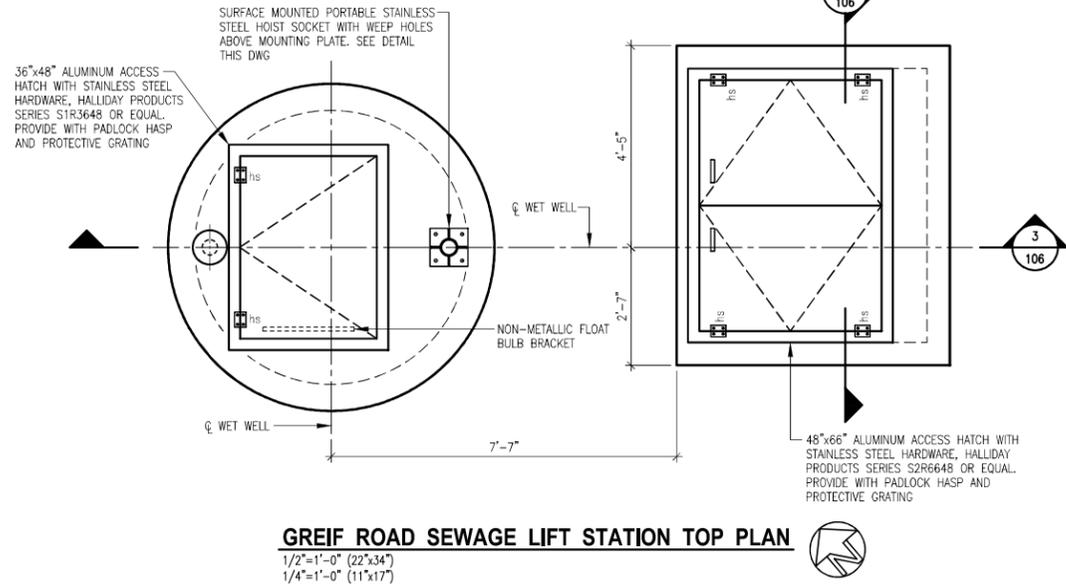
VAUGHN, COAST & VAUGHN, INC.
Engineers
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St. Clairsville, Ohio 43950
740-695-7256 Fax: 740-695-2203

MUSKINGUM COUNTY COMMISSIONERS
Muskingum County Water and Sewer District
Muskingum County, Ohio

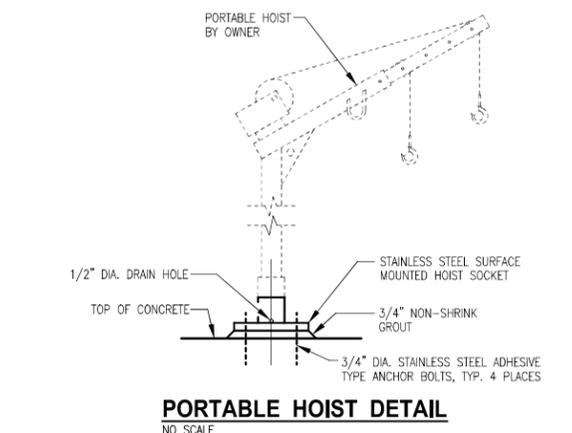
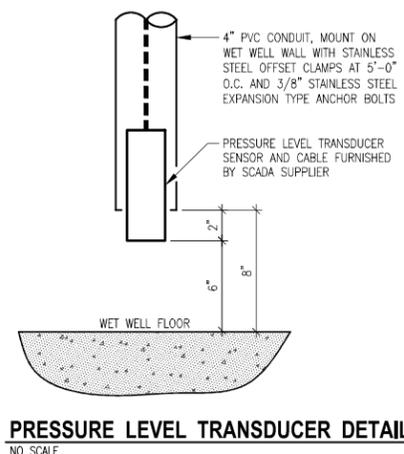
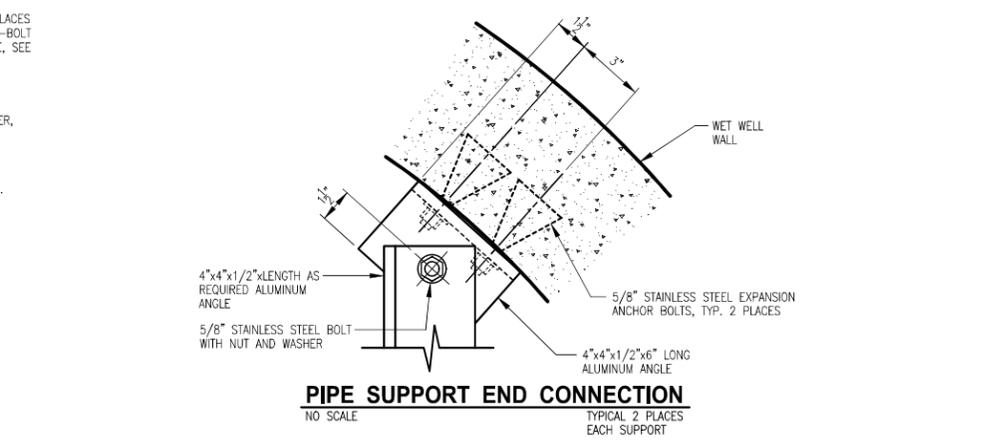
LICKING VIEW SANITARY SEWER IMPROVEMENTS
GREIF ROAD SEWAGE LIFT STATION
SITE PLAN

SCALE: AS SHOWN	PROJECT NO. 21038
DATE: MAY 2022	DRAWING NO. 105

V:\Autocad\Projects\MUSKINGUM\2021 Licking View Sewer Lift Station\105_Greif Lift Station.dwg, 8/14/2023 13:12:12 PM, AutoCAD PDF (High Quality) Plot.pc3, 110



- GENERAL NOTES FOR LIFT STATION AND VAULT:**
1. ALL MECHANICAL JOINT FITTINGS AND VALVES SHALL BE EPOXY COATED, HAVE STAINLESS STEEL BOLTS AS PER SPECIFICATIONS.
 2. ALL MECHANICAL JOINT FITTINGS SHALL BE RESTRAINED WITH MEGALUG JOINT RESTRAINT SYSTEM.
 3. ALL METALLIC SURFACES IN CONTACT WITH CONCRETE SHALL RECEIVE 2 COATS OF COAL TAR EPOXY.
 4. STRUCTURAL ALUMINUM SHALL BE 6061-T6.
 5. ALL PIPE PENETRATIONS SHALL BE PSX BOOT GASKET, Z-LOK OR EQUAL, WATER TIGHT, FLEXIBLE AND NON-SHRINK UNLESS OTHERWISE NOTED.
 6. CONTRACTOR SHALL PLACE SELECT FILL ON ORIGINAL, UNDISTURBED GROUND AND COMPACT TO 95% PROCTOR BENEATH AND ADJACENT TO ALL PRECAST CONCRETE STRUCTURES.
 7. CONTRACTOR SHALL PROVIDE REINFORCED CONCRETE PIPE SUPPORTS UNDER 90° ELBOW AND TEE LOCATED IN VALVE VAULT. HEIGHT OF SUPPORT SHALL BE TO CENTER LINE OF PIPING.
 8. SEE DWG NO.107 FOR ELECTRICAL.



5/11/22

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NO.	DATE	REVISION
1	3/20/24	REVISED SEWAGE LIFT STATION PER SITE REVISIONS

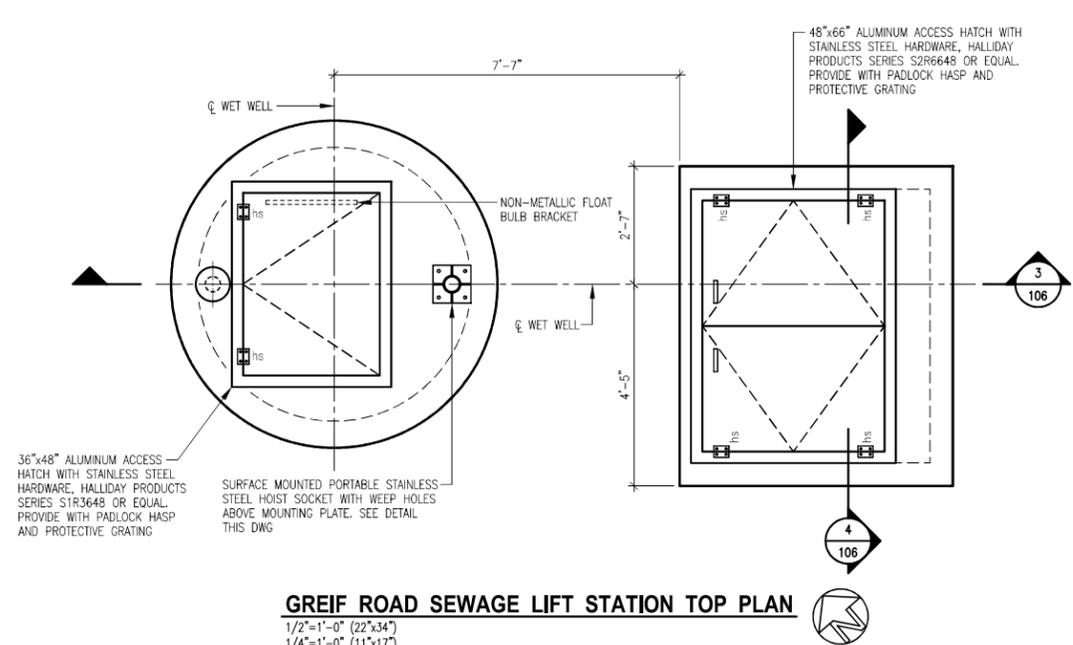
DRAWN BY:
DAVID STEWART
CHECKED BY:
MORGAN K. COAST

VAUGHN, COAST & VAUGHN, INC.
 Engineers
 154 South Marietta Street
 St. Clairsville, Ohio 43950
 740-695-7256 Fax: 740-695-2203

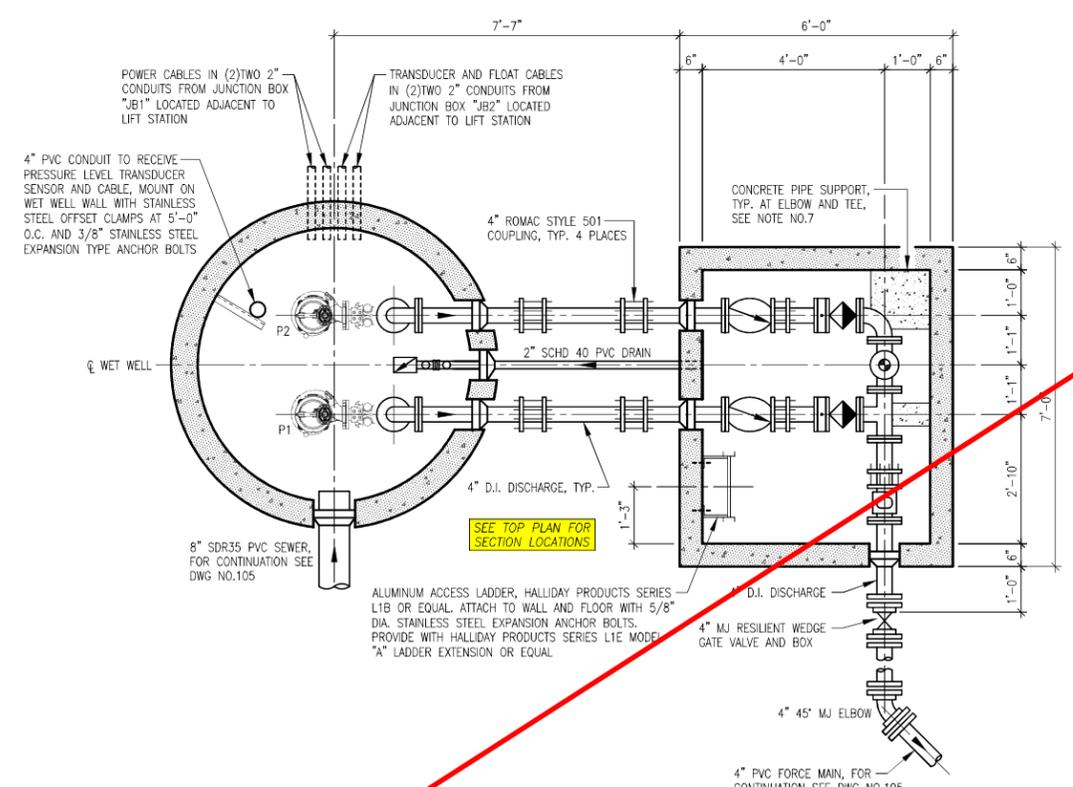
MUSKINGUM COUNTY COMMISSIONERS
 Muskingum County Water and Sewer District
 Muskingum County, Ohio

LICKING VIEW SANITARY SEWER IMPROVEMENTS
GREIF ROAD SEWAGE LIFT STATION
 PLANS, SECTIONS AND DETAILS

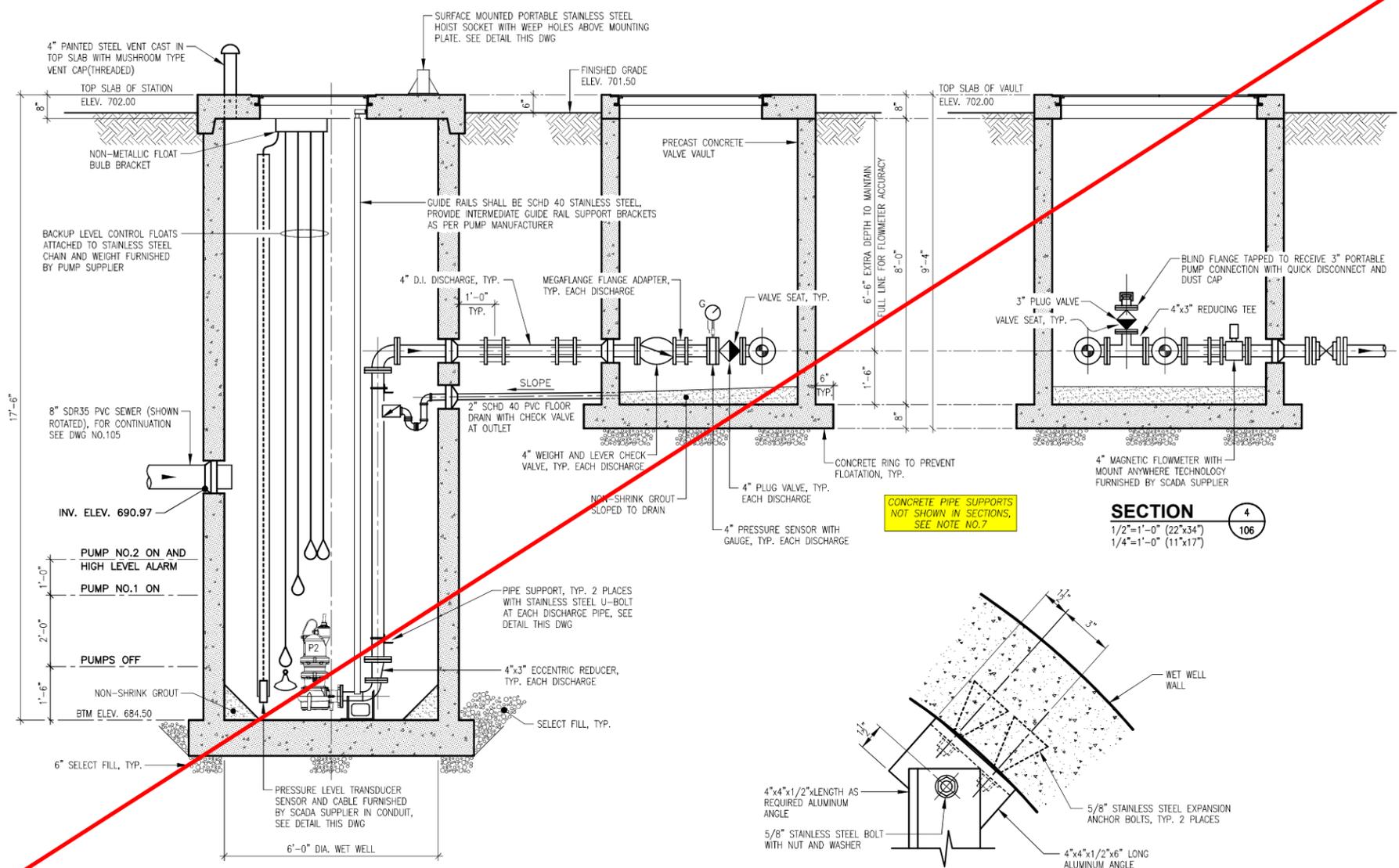
SCALE: AS SHOWN	PROJECT NO. 21038
DATE: MAY 2022	DRAWING NO. 106r



GREIF ROAD SEWAGE LIFT STATION TOP PLAN
 1/2"=1'-0" (22"x34")
 1/4"=1'-0" (11"x17")



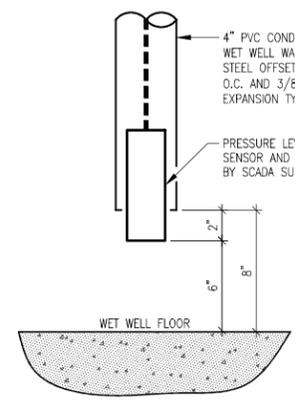
GREIF ROAD SEWAGE LIFT STATION SECTIONAL PLAN
 1/2"=1'-0" (22"x34")
 1/4"=1'-0" (11"x17")



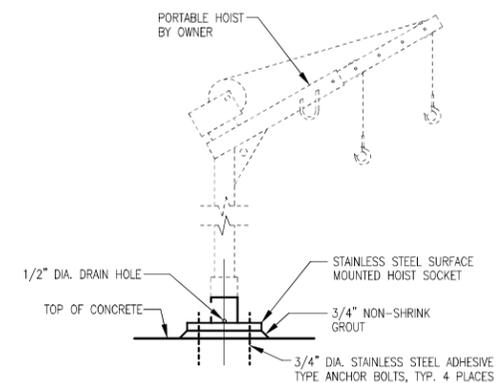
SECTION 3
 1/2"=1'-0" (22"x34")
 1/4"=1'-0" (11"x17")

SECTION 4
 1/2"=1'-0" (22"x34")
 1/4"=1'-0" (11"x17")

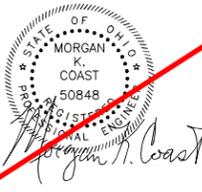
- GENERAL NOTES FOR LIFT STATION AND VAULT:**
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 2. ALL MECHANICAL JOINT FITTINGS SHALL BE RESTRAINED WITH MEGALUG JOINT RESTRAINT SYSTEM.
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 7. CONTRACTOR SHALL PROVIDE REINFORCED CONCRETE PIPE SUPPORTS UNDER 90° ELBOW AND TEE LOCATED IN VALVE VAULT. HEIGHT OF SUPPORT SHALL BE TO CENTER LINE OF PIPING.
 8. SEE DWG NO.107 FOR ELECTRICAL.



PRESSURE LEVEL TRANSDUCER DETAIL
 NO SCALE



PORTABLE HOIST DETAIL
 NO SCALE



Morgan K. Coast 5/11/22

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NO.	DATE	REVISION

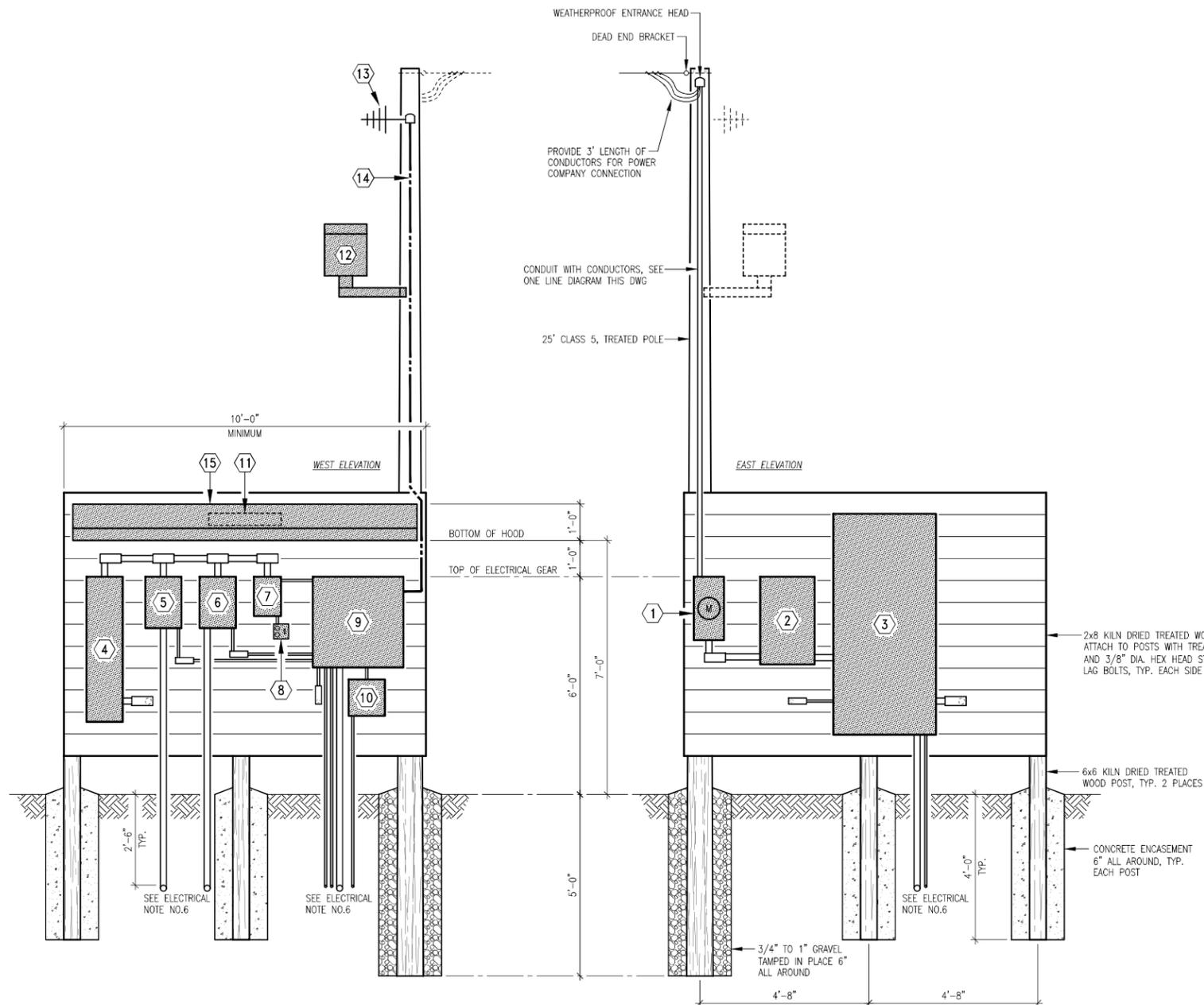
DRAWN BY: DAVID STEWART
 CHECKED BY: MORGAN K. COAST

VAUGHN, COAST & VAUGHN, INC.
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MUSKINGUM COUNTY COMMISSIONERS
 Muskingum County Water and Sewer District
 Muskingum County, Ohio

LICKING VIEW SANITARY SEWER IMPROVEMENTS
GREIF ROAD SEWAGE LIFT STATION
 PLANS, SECTIONS AND DETAILS

SCALE: AS SHOWN	PROJECT NO. 21038
DATE: MAY 2022	DRAWING NO. 106



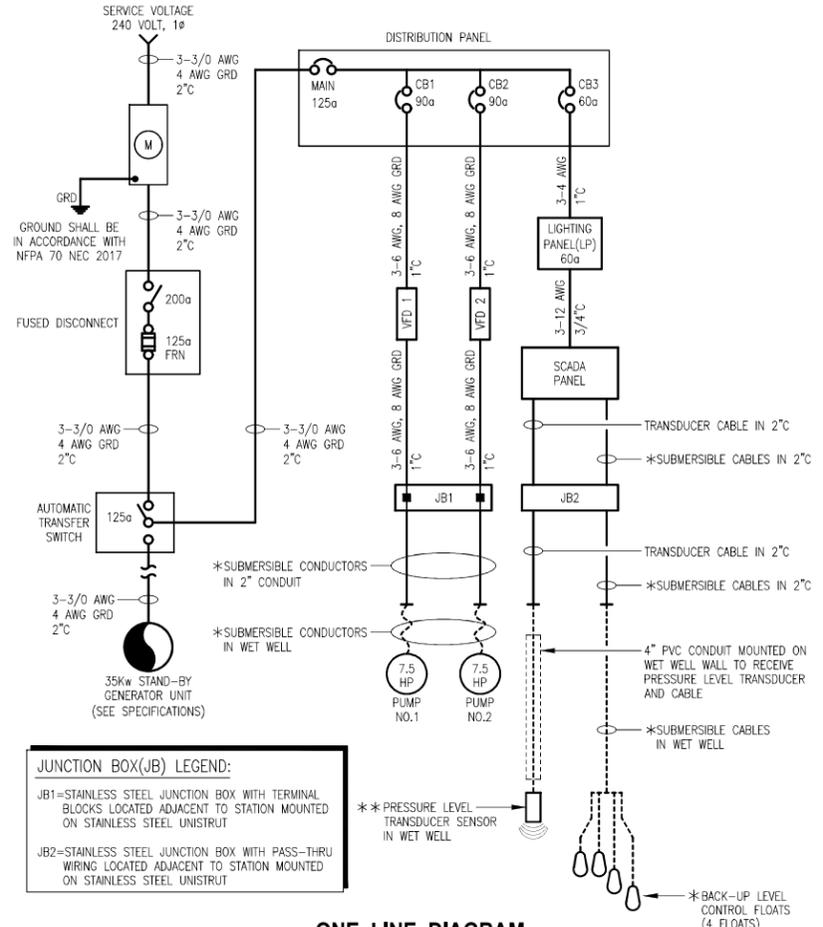
ELECTRIC PANELBOARD DETAIL
NO SCALE

KEY NOTE LEGEND FOR PANELBOARD DETAIL

- | | |
|--|---|
| ① METER | ⑩ FLOW TRANSMITTER |
| ② FUSED DISCONNECT, NEMA 4X STAINLESS STEEL(SST) | ⑪ UNDER THE HOOD LIGHTING SHALL BE RAB LED LIGHTING MODEL NO. SHARK2-25NW/D10 OR EQUAL. |
| ③ AUTOMATIC TRANSFER SWITCH, NEMA 4X STAINLESS STEEL(SST), SUPPLIED BY STAND-BY GENERATOR UNIT MANUFACTURER. | ⑫ AREA LIGHTING SHALL BE RAB LED FLOODLIGHTING MODEL NO. FFLED-12-T-N WITH PHOTOCELL OR EQUAL, LIGHT SHALL FACE SEWAGE LIFT STATION |
| ④ DISTRIBUTION PANEL IN NEMA 4X ENCLOSURE, 240V, SINGLE PHASE | ⑬ SCADA ANTENNA WITH COAXIAL CABLE TO SCADA PANEL. |
| ⑤ VARIABLE FREQUENCY DRIVE NO.1, NEMA 4X STAINLESS STEEL | ⑭ 1" CONDUIT WITH SCADA ANTENNA COAXIAL CABLE TO SCADA PANEL. |
| ⑥ VARIABLE FREQUENCY DRIVE NO.2, NEMA 4X STAINLESS STEEL | ⑮ PRE-ENGINEERED 14ga. GALVANIZED STEEL HOOD WITH 36" PROJECTION FROM TREATED WOOD BOARDS AND 9'-6" LONG, PERMA TECH, INC. "PERMA METAL HOOD" OR EQUAL, COLOR: FOREST GREEN. BOLT TO TREATED BOARDS WITH 1/2" DIA. STAINLESS STEEL BOLTS, NUTS AND WASHERS SPACED PER MANUFACTURERS SPECIFICATIONS. |
| ⑦ LIGHTING PANEL IN NEMA 4X ENCLOSURE, PROVIDE WITH SIX(6) 120V-20a CIRCUIT BREAKERS | |
| ⑧ DUPLEX GFCI RECEPTACLE AND SWITCH FOR UNDER HOOD LIGHTING IN WEATHERPROOF BOX. | |
| ⑨ SCADA PANEL, NEMA 4X STAINLESS STEEL. | |

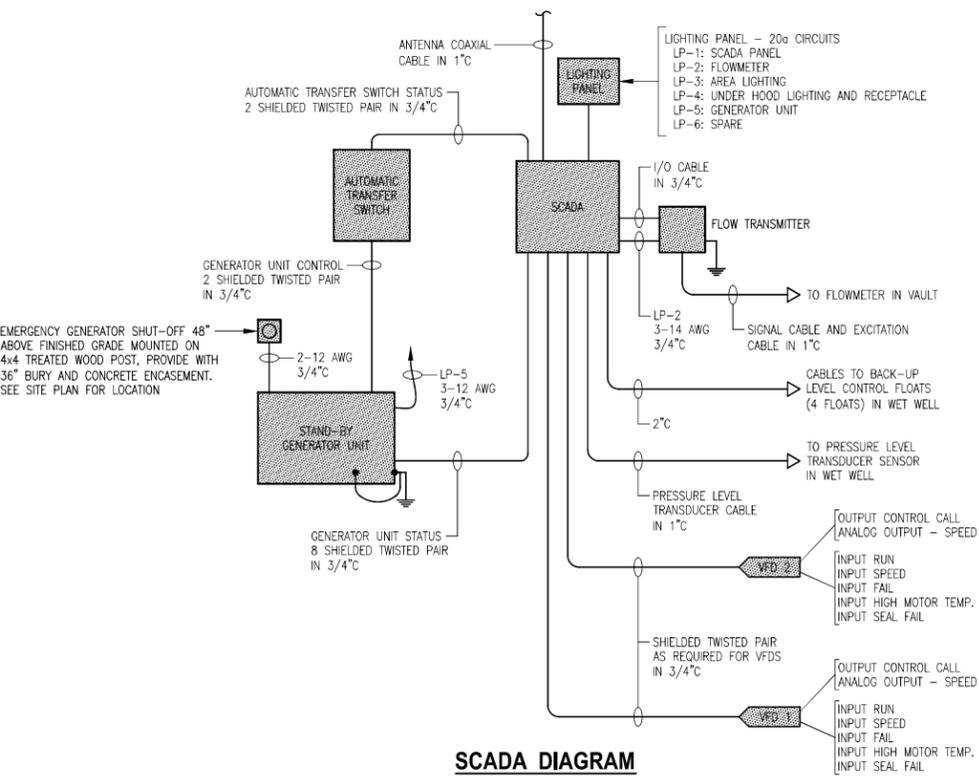
ELECTRICAL NOTES:

- ALL ELECTRICAL WORK SHALL BE COMPLETED IN ACCORDANCE WITH NFPA 70 NEC 2017.
- SERVICE ENTRANCE GROUNDING SHALL BE IN CONFORMANCE WITH NEC 2017 250.53.
- ALL CONDUITS SHALL BE SCHD 40 PVC WITH SIZE PER NEC 2017 ANNEX C TABLE C-10. ALL BURIED CONDUITS SHALL HAVE MINIMUM 30" COVER AND WARNING TAPE.
- SIZE ALL CONDUCTORS IN ACCORDANCE WITH NEC 2017 TABLE 310.15(B)(16)
- CONDUIT SUPPORT CLIPS SHALL BE NONMETALLIC AND HAVE STAINLESS STEEL ANCHOR SCREWS. CLIP SPACING SHALL BE AS PER MANUFACTURER SPECIFICATIONS.
- SEE ONE LINE DIAGRAM AND SCADA DIAGRAM FOR CONDUIT AND WIRES SIZES THAT ARE NOT SHOWN.
- * POWER AND BACK-UP FLOAT SYSTEM CABLES TO BE PROVIDED BY PUMP SUPPLIER, CONDUCTOR SIZES SHALL CONFORM TO NFPA 70 NEC 2017.
- ** SENSOR AND CABLE PROVIDED BY SCADA SUPPLIER.
- COORDINATE NUMBER AND LOCATION OF ALL CONDUITS BETWEEN GENERATOR CONDUIT STUB-UP AREA AND PANELBOARD GEAR.

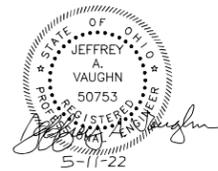


ONE LINE DIAGRAM

JUNCTION BOX(JB) LEGEND:
JB1=STAINLESS STEEL JUNCTION BOX WITH TERMINAL BLOCKS LOCATED ADJACENT TO STATION MOUNTED ON STAINLESS STEEL UNISTRUT
JB2=STAINLESS STEEL JUNCTION BOX WITH PASS-THRU WIRING LOCATED ADJACENT TO STATION MOUNTED ON STAINLESS STEEL UNISTRUT



SCADA DIAGRAM



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NO.	DATE	REVISION

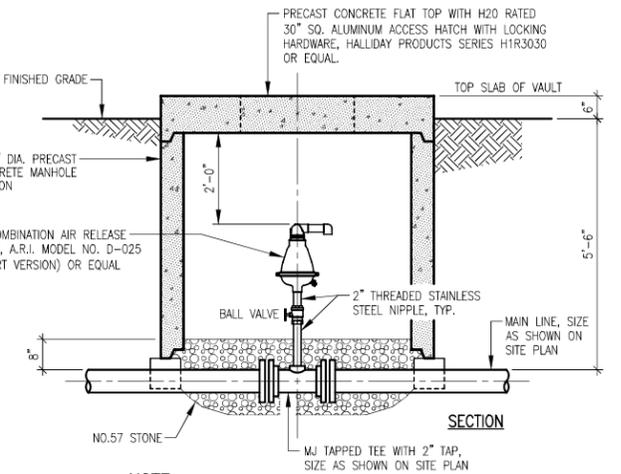
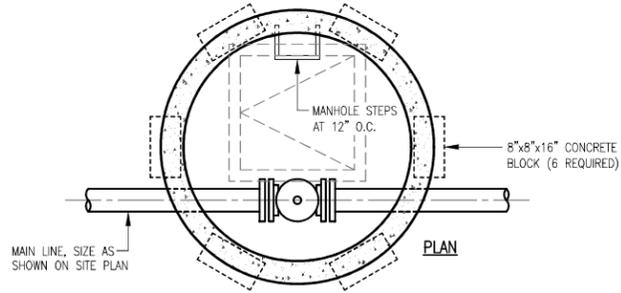
DRAWN BY:
DAVID STEWART
CHECKED BY:
JEFFREY A. VAUGHN

VAUGHN, COAST & VAUGHN, INC.
Engineers
154 South Marietta Street
St. Clairsville, Ohio 43950
740-695-7256 Fax: 740-695-2203

MUSKINGUM COUNTY COMMISSIONERS
Muskingum County Water and Sewer District
Muskingum County, Ohio

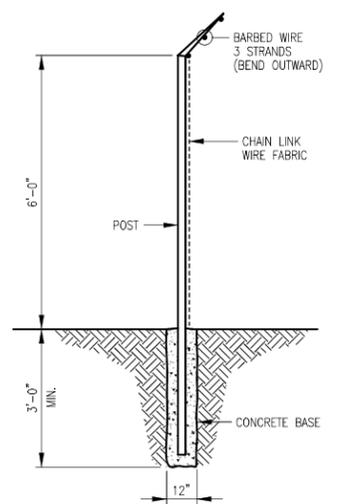
LICKING VIEW SANITARY SEWER IMPROVEMENTS
GREIF ROAD SEWAGE LIFT STATION
ELECTRICAL DETAIL AND DIAGRAMS

SCALE: AS SHOWN
DATE: MAY 2022
PROJECT NO. 21038
DRAWING NO. **107**

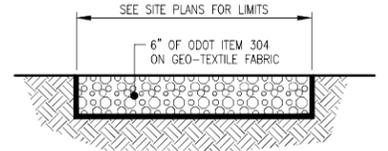


NOTE:
MAIN LINE AND VALVE SHALL BE OFFSET FROM CENTER OF MANHOLE TO ALLOW ACCESS.

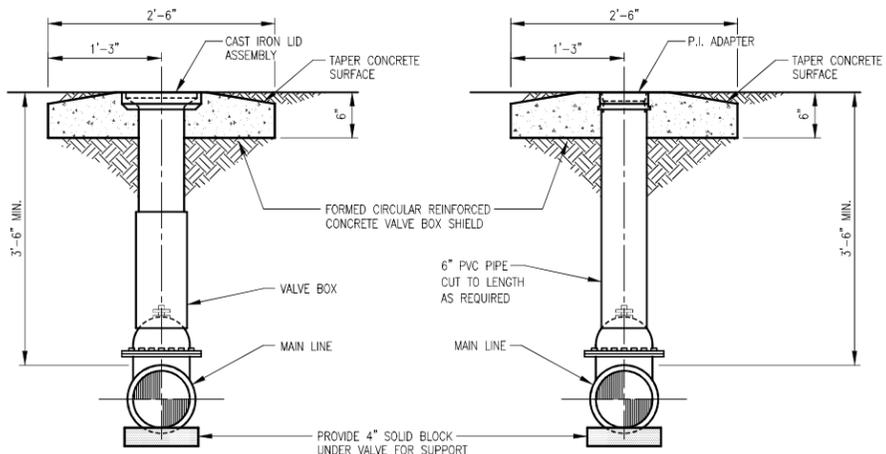
SEWAGE COMBINATION AIR RELEASE DETAIL
NO SCALE



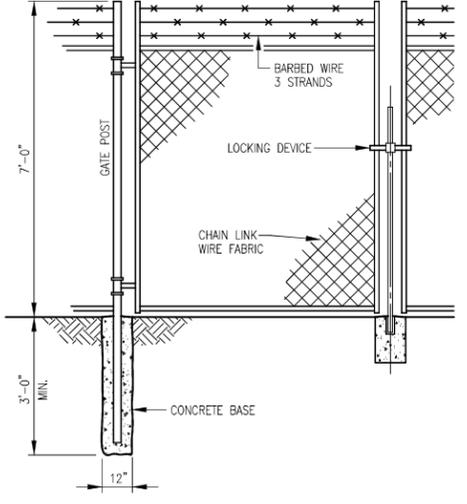
FENCE DETAIL
NO SCALE



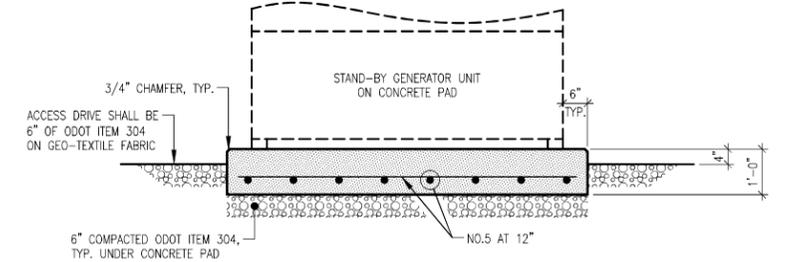
AGGREGATE ACCESS DRIVE AND PARKING DETAIL
NO SCALE



VALVE BOX SETTINGS
NO SCALE



DOUBLE LEAF GATE DETAIL
NO SCALE



CONCRETE PAD DETAIL
NO SCALE



5/11/22

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DAVID STEWART
CHECKED BY:
MORGAN K. COAST

VAUGHN, COAST & VAUGHN, INC.
Engineers
154 South Marietta Street
St. Clairsville, Ohio 43950
740-695-7256 Fax: 740-695-2203

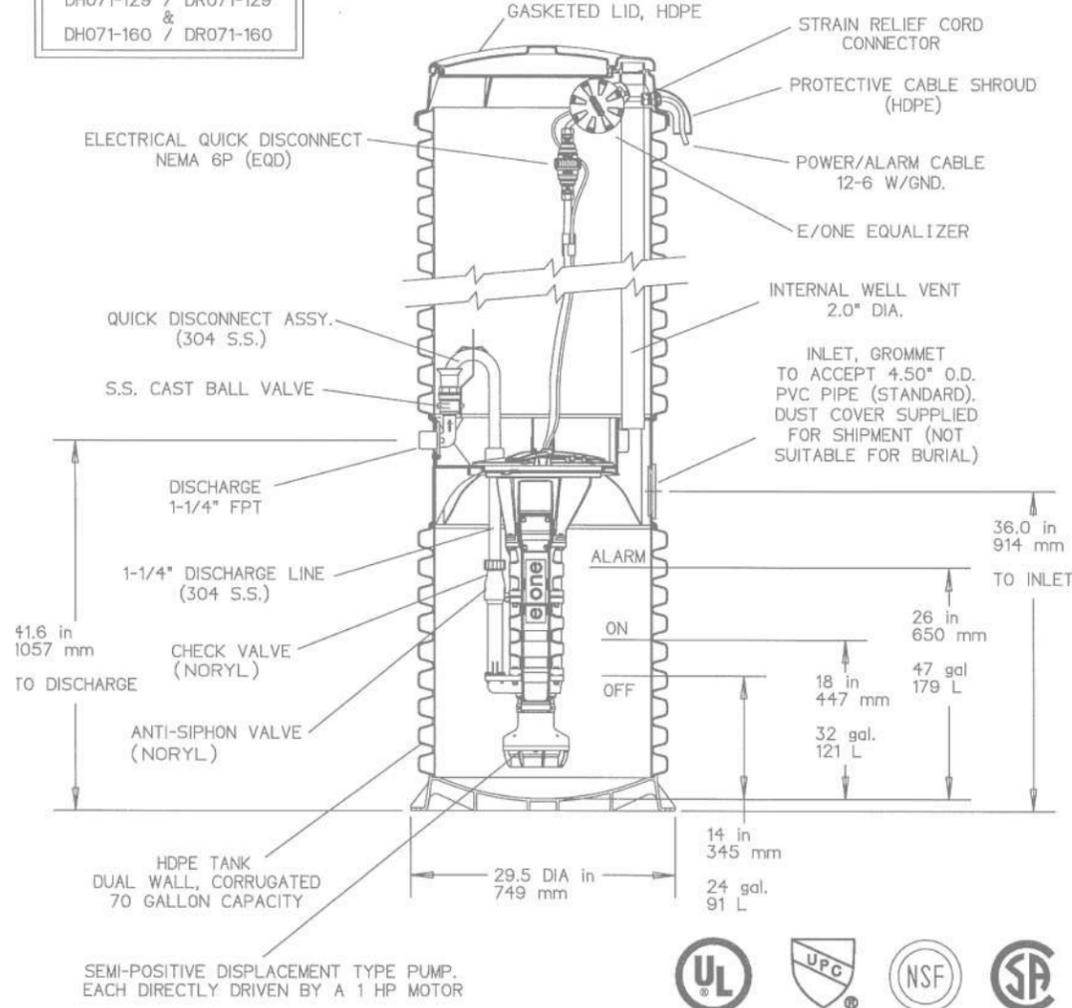
MUSKINGUM COUNTY COMMISSIONERS
Muskingum County Water and Sewer District
Muskingum County, Ohio

LICKING VIEW SANITARY SEWER IMPROVEMENTS
SEWAGE LIFT STATIONS
STANDARD SITE DETAILS

SCALE: AS SHOWN	PROJECT NO. 21038
DATE: MAY 2022	DRAWING NO. 108

FIELD JOINT REQUIRED
FOR MODELS
DH071-129 / DR071-129
&
DH071-160 / DR071-160

OPTIONS : **DH071** (HARD WIRED LEVEL CONTROLS)
 DR071 (WIRELESS LEVEL CONTROLS)



CONCRETE BALLAST MAY BE REQUIRED
SEE INSTALLATION INSTRUCTION
FOR DETAILS

NOTE: DIMENSIONS ARE FOR REF ONLY

AD	CH	10/20/10	E	
DR BY	CHK'D	DATE	ISSUE	SCALE
eone SEWER SYSTEMS				
MODEL DH071 / DR071 DETAIL SHEET				
NA0050P02				

GRINDER PUMP SPECIFICATIONS

NOT TO SCALE

Muskingum County
Sewer Department
375 Richard Roads
Zanesville, Ohio 43701
Telephone (740) 452-4940
Fax (740) 453-6448



PREPARED BY:

PROJECT NAME: MUSKINGUM COUNTY SEWER STANDARDS
PROJECT LOCATION: MUSKINGUM COUNTY, OHIO

PLANS APPROVED BY:

MJE

PLANS PREPARED BY:

HJ

DATE:

06/22/2022

REVISED:

SHEET SIZE:

11"x17"

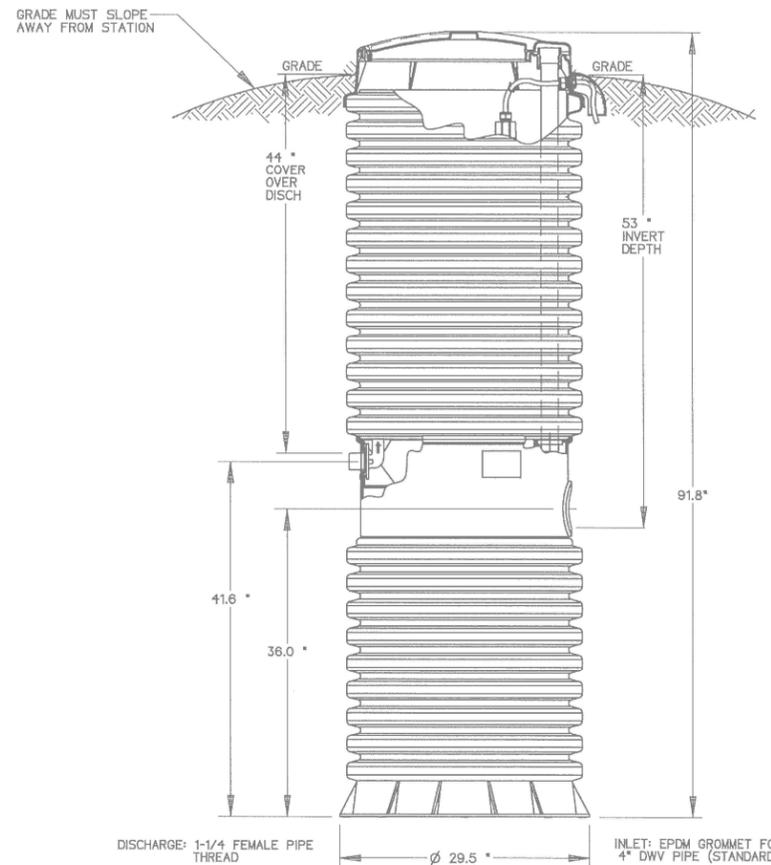
SHEET NAME:

GRINDER PUMP SPECS

SHEET NUMBER:

109
118

OPTIONS : **DH071-93** (HARD WIRED LEVEL CONTROLS)
 DR071-93 (WIRELESS LEVEL CONTROLS)



CONCRETE BALLAST MAY BE REQUIRED
SEE INSTALLATION INSTRUCTIONS
FOR DETAILS

NOTE: DIMENSIONS ARE FOR REF ONLY



AD	CAH	07/12/07	B	1/16
DR BY	CHK'D	DATE	ISSUE	SCALE



MODEL DH071-93 / DR071-93

NA0050P06

GRINDER PUMP
NOT TO SCALE

Muskingum County
Sewer Department
375 Richard Roads
Zanesville, Ohio 43701
Telephone (740) 452-4940
Fax (740) 453-6448



PREPARED BY:

MUSKINGUM COUNTY
SEWER STANDARDS

MUSKINGUM COUNTY, OHIO

PROJECT NAME:

PLANS APPROVED BY:

MJE

PLANS PREPARED BY:

HJ

DATE:

06/22/2022

REVISED:

SHEET SIZE:

11"x17"

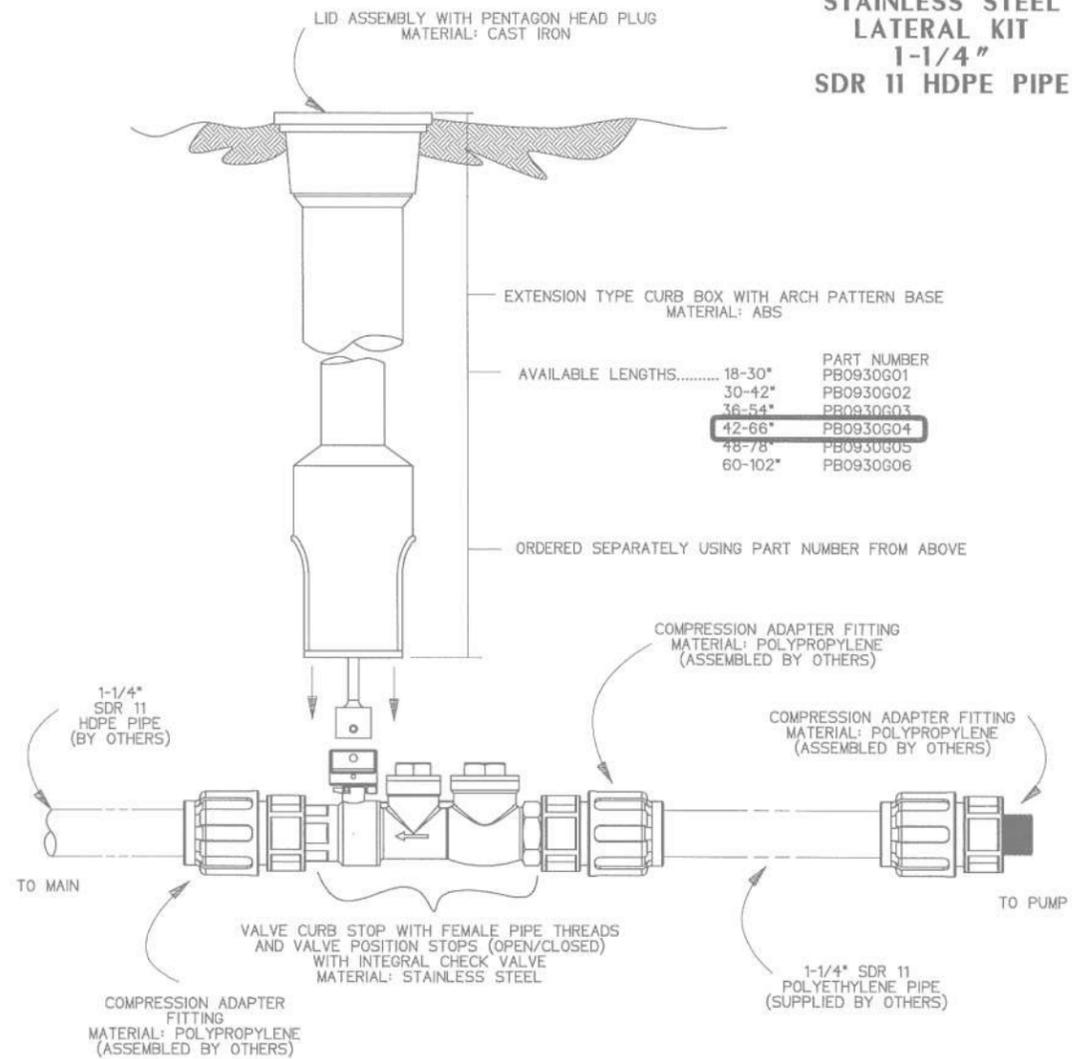
SHEET NAME:

GRINDER
PUMP

SHEET NUMBER:

110
118

**STAINLESS STEEL
LATERAL KIT
1-1/4"
SDR 11 HDPE PIPE**



- NOTES:
1. SS CURB STOP/CHECK VALVE AND FITTINGS ARE PROVIDED SEPARATELY, TO BE ASSEMBLED BY OTHERS
 2. TO ASSEMBLE, APPLY A DOUBLE LAYER OF TEFLON TAPE, AND A LAYER OF PIPE DOPE (SUPPLIED BY OTHERS) TO THE THREADS ON THE PLASTIC FITTINGS AND INSTALL PER THE MANUFACTURER'S INSTRUCTIONS
*FOR SS FITTING INTO SS THREAD, USE PIPE DOPE OR TEFLON TAPE, NOT BOTH
 3. ASSEMBLY IS TO BE PRESSURE TESTED (BY OTHERS)
 4. ASSEMBLY IS TO BE USED WITH SDR11 HDPE PIPE
 5. TO ORDER SS LATERAL KIT, USE PART NUMBER NCO193G01
 6. CURB BOX IS TO BE ORDERED SEPARATELY, SEE ABOVE

KIT PARTS ARE NOT ASSEMBLED

SGS	DN	11/02/11	B	3/16
DR BY	CHK'D	DATE	ISSUE	SCALE
STAINLESS STEEL LATERAL KIT 1-1/4" SDR 11 HDPE PIPE				
NA0330P02				

Muskingum County
Sewer Department
375 Richard Roads
Zanesville, Ohio 43701
Telephone (740) 452-4940
Fax (740) 453-6448



PREPARED BY:

MUSKINGUM COUNTY
SEWER STANDARDS

MUSKINGUM COUNTY, OHIO

PLANS APPROVED BY:

MJE

PLANS PREPARED BY:

HJ

DATE:

06/22/2022

REVISED:

SHEET SIZE:

11"x17"

SHEET NAME:

LATERAL KIT

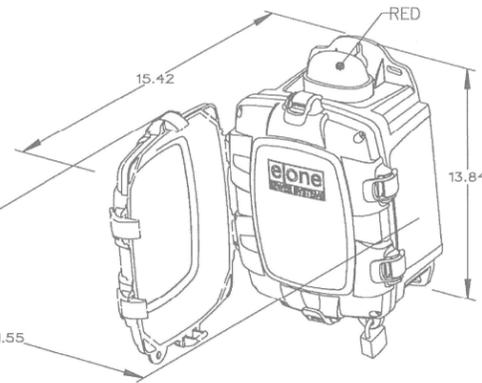
SHEET NUMBER:

111
118

LATERAL KIT HDPE PIPE
NOT TO SCALE

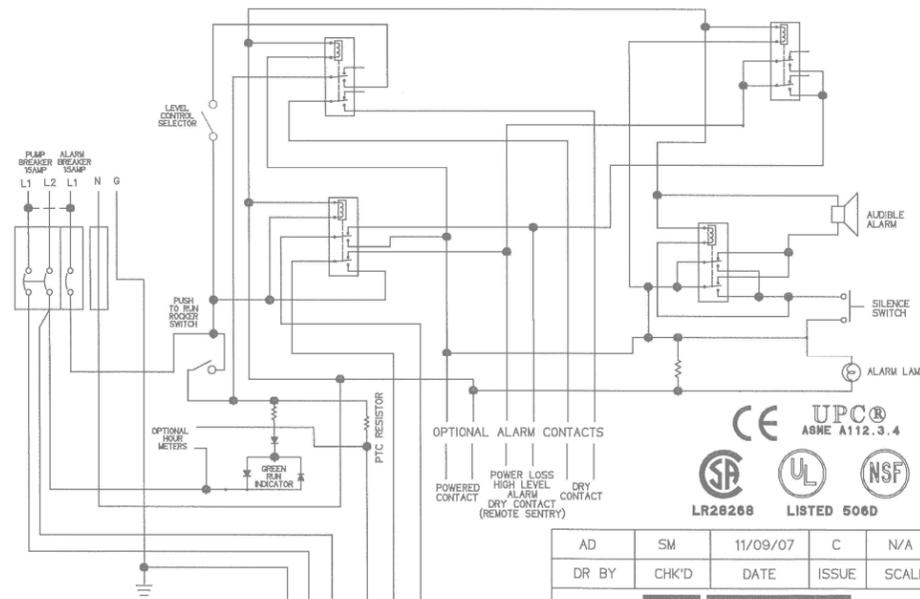
SIMPLEX SENTRY

REDUNDANT RUN (HIGH LEVEL)
 EXTERNAL VISUAL & AUDIBLE ALARM
 EXTERNAL LATCHING MANUAL SILENCE
 MANUAL RUN
 PUMP RUN INDICATOR
 CONFORMAL COATED CIRCUIT BOARD
 PADLOCK
 NEMA 4X ENCLOSURE ASSEMBLY
 CORROSION PROOF THERMOPLASTIC
 POLYESTER APPROVED BY UL FOR
 ELECTRICAL CONTROL ENCLOSURE



OPTIONS:

- ALARM CONTACTS
- HOUR METER



PIN	FUNCTION	2000S	EXTREME
1	MANUAL RUN	RED	BROWN
2	L1	BLACK	RED
3	L2	WHITE	BLACK
4	GND	GREEN	GRN/YEL
5	ALARM FEED	ORANGE	YELLOW
6	ALARM RETURN	BLUE	BLUE

CONTROL CABLE:
 TYPE TC DIRECT BURIAL, 12AWG,
 SIX CONDUCTOR

AD	SM	11/09/07	C	N/A
DR BY	CHK'D	DATE	ISSUE	SCALE

eone
 SEWER SYSTEMS
 SIMPLEX SENTRY, 240V 60Hz.
 DOUBLE POLE POWER
 LM000326

Muskingum County
 Sewer Department
 375 Richard Roads
 Zanesville, Ohio 43701
 Telephone (740) 452-4940
 Fax (740) 453-6448



PREPARED BY:

PROJECT NAME: MUSKINGUM COUNTY SEWER STANDARDS
 PROJECT LOCATION: MUSKINGUM COUNTY, OHIO

PLANS APPROVED BY:

MJE

PLANS PREPARED BY:

HJ

DATE:

06/22/2022

REVISED:

SHEET SIZE:

11"x17"

SHEET NAME:

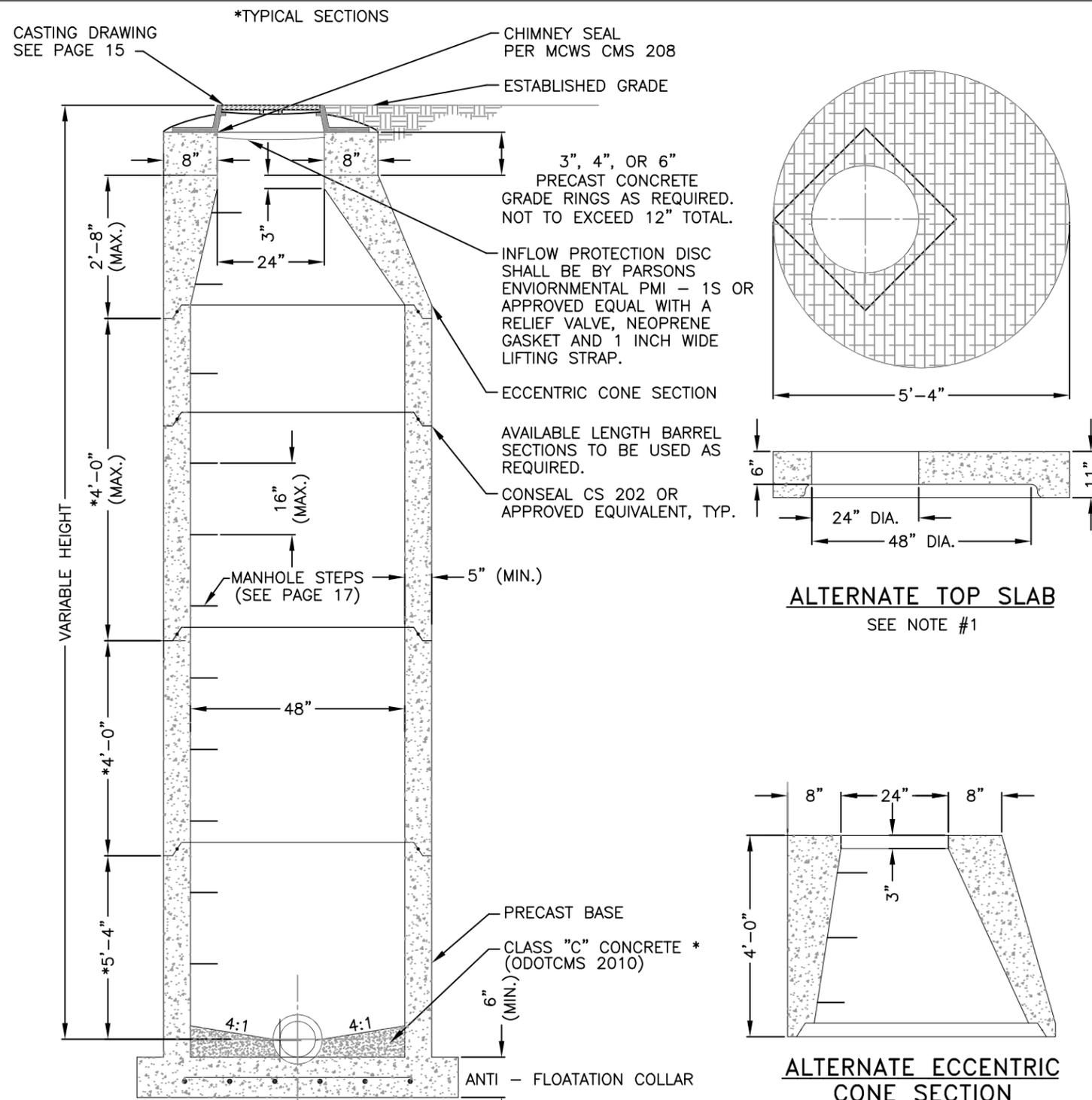
ALARM BOX

SHEET NUMBER:

112
118

ALARM BOX FOR GRINDER PUMP

NOT TO SCALE



- NOTES:
1. WHEN SHOWN IN TRAFFIC AREAS, THE ALTERNATE TOP SLAB SHALL BE DESIGNED FOR HS-25 TRAFFIC LOADING.
 2. ALL CONSTRUCTION AND MATERIALS SHALL CONFORM TO ASTM C478-20 UNLESS OTHERWISE SHOWN.
 3. ALL CORE DRILLED OPENINGS SHALL BE DONE ONLY AS APPROVED AND DIRECTED BY THE ENGINEER.
 4. PRECAST CONCRETE GRADE RINGS, SEALED WITH CONSEAL, SHALL BE USED BETWEEN THE SLAB OR CONE TOP AND THE ACCESS FRAME CASTING AND COVER. NO MANHOLE BRICK SHALL BE PERMITTED FOR USE.
 5. SEWER PIPE SHALL BE SECURED THROUGH THE MANHOLE WALL BY KOR-N-SEAL BOOT, PRESS WEDGE 2 GASKET OR APPROVED EQUIVALENT MEETING ASTM C923.
 6. ALL MATERIAL SHOULD FOLLOW ODOTCMS 2019 EDITION UNLESS OTHERWISE NOTED.

PRECAST CONCRETE MANHOLE (24" PIPE AND SMALLER)
NOT TO SCALE

Muskingum County
Sewer Department
375 Richard Roads
Zanesville, Ohio 43701
Telephone (740) 452-4940
Fax (740) 453-6448



PREPARED BY:

MUSKINGUM COUNTY
SEWER STANDARDS

MUSKINGUM COUNTY, OHIO

PLANS APPROVED BY:

MJE

PLANS PREPARED BY:

HJ

DATE:

06/22/2022

REVISED:

SHEET SIZE:

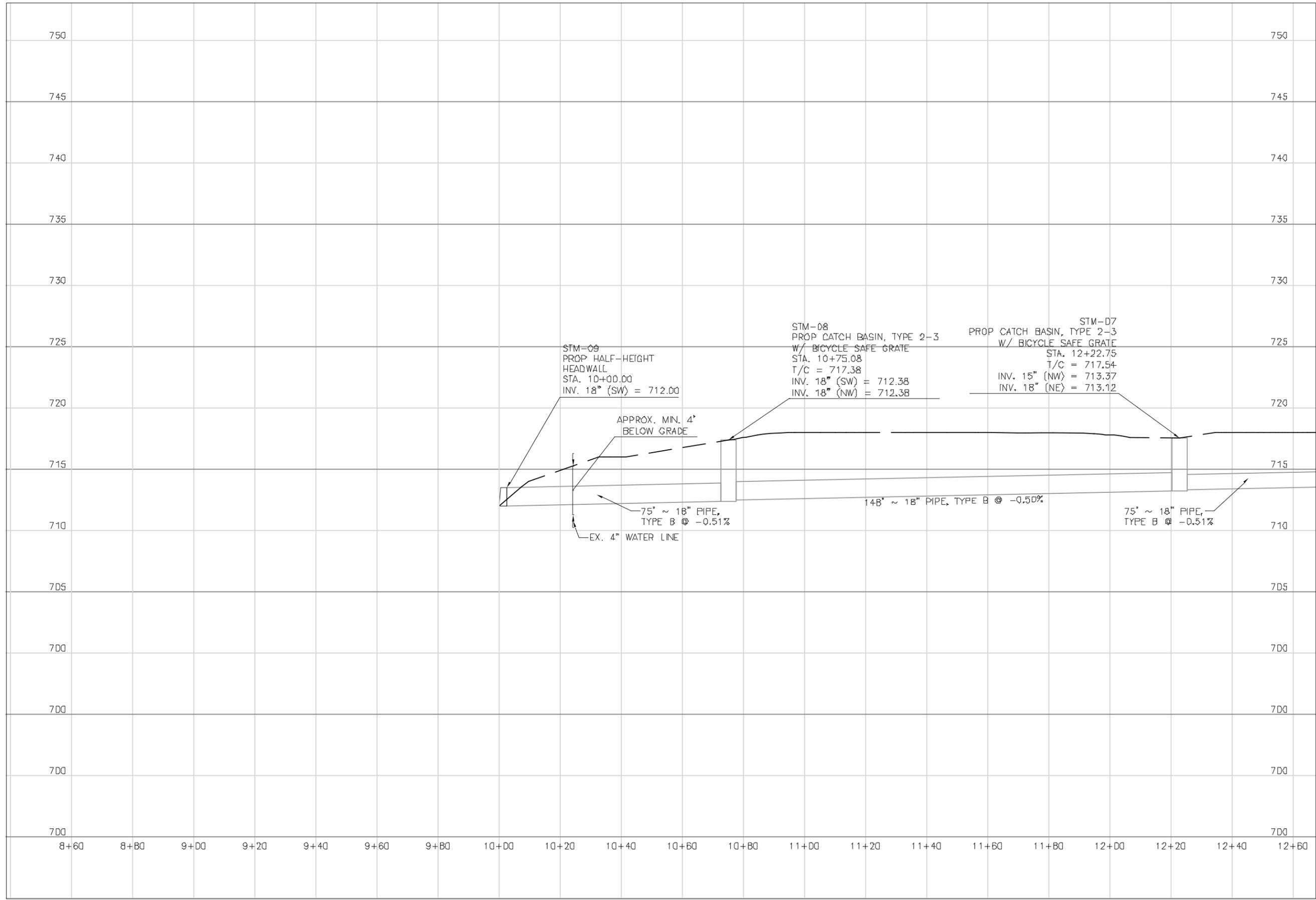
11"x17"

SHEET NAME:

PRECAST CON.
MH 24" - SM

SHEET NUMBER:

113
118



PREPARED BY:

PROJECT NAME: SANITARY SEWER IMPROVEMENTS
 BROWN ALLEY STORM SEWER
 PROJECT LOCATION: LICKING VIEW
 ZANESVILLE, OHIO 43701

PLANS APPROVED BY:

MJE

PLANS PREPARED BY:

HJ

DATE:

08/15/2023

REVISED:

SHEET SIZE:

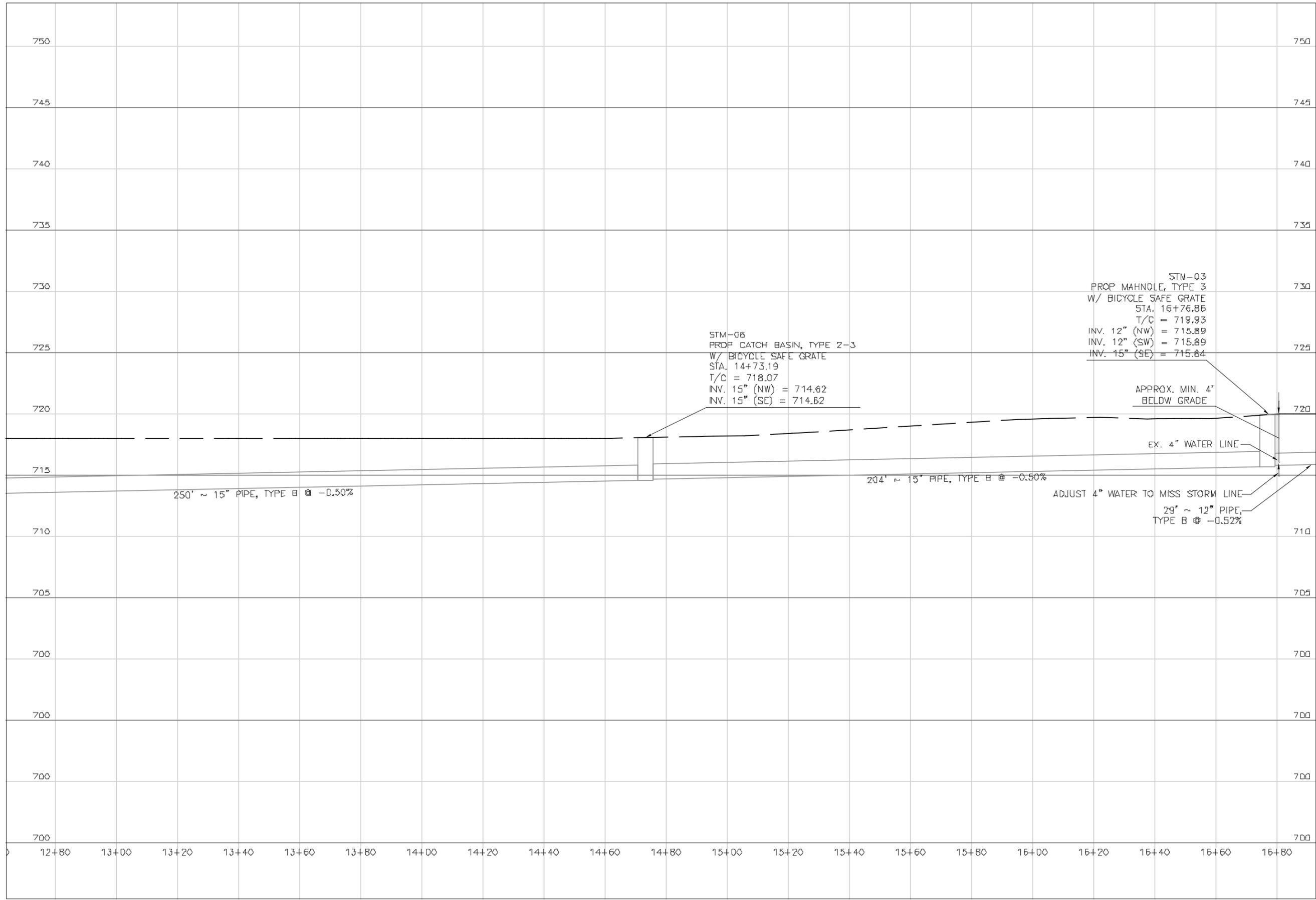
11" x 17"

SHEET NAME:

PROFILE
 STM - 07, - 08,
 - 09

SHEET NUMBER:

114
 118



PREPARED BY:

PROJECT NAME: SANITARY SEWER IMPROVEMENTS
 BROWN ALLEY STORM SEWER
 PROJECT LOCATION: LICKING VIEW
 ZANESVILLE, OHIO 43701

PLANS APPROVED BY:

MJE

PLANS PREPARED BY:

HJ

DATE:

08/15/2023

REVISED:

SHEET SIZE:

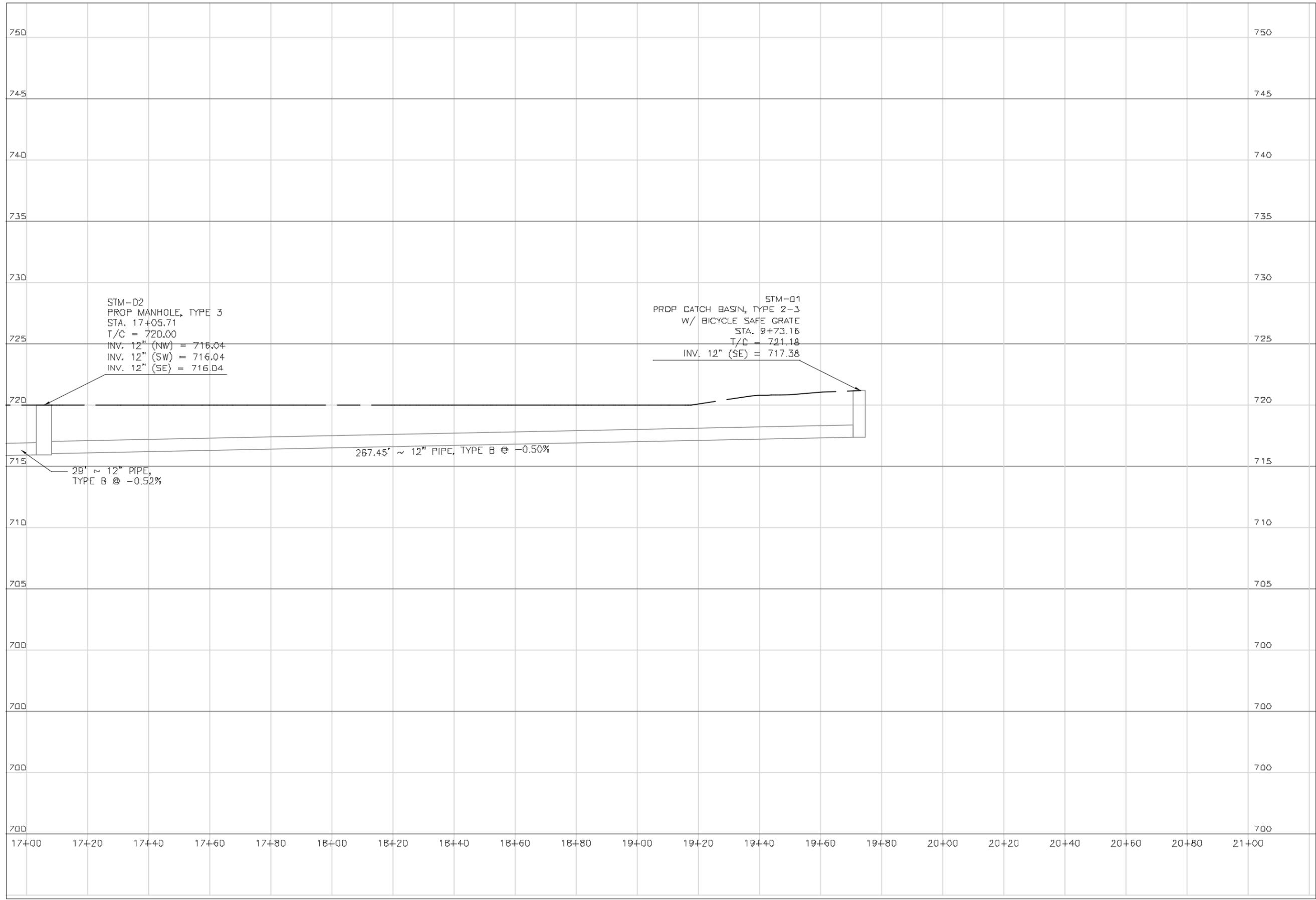
11" x 17"

SHEET NAME:

PROFILE
 STM - 03, - 06

SHEET NUMBER:

115
 118



STM-02
PROP MANHOLE, TYPE 3
STA. 17+05.71
T/C = 720.00
INV. 12" (NW) = 716.04
INV. 12" (SW) = 716.04
INV. 12" (SE) = 716.04

STM-01
PRDP CATCH BASIN, TYPE 2-3
W/ BICYCLE SAFE GRATE
STA. 19+73.16
T/C = 721.18
INV. 12" (SE) = 717.38

29' ~ 12" PIPE,
TYPE B @ -0.52%

267.45' ~ 12" PIPE, TYPE B @ -0.50%

PREPARED BY:

PROJECT NAME:
SANITARY SEWER IMPROVEMENTS
BROWN ALLEY STORM SEWER

PROJECT LOCATION:
LICKING VIEW
ZANESVILLE, OHIO 43701

PLANS APPROVED BY:

MJE

PLANS PREPARED BY:

HJ

DATE:

08/15/2023

REVISED:

SHEET SIZE:

11" x 17"

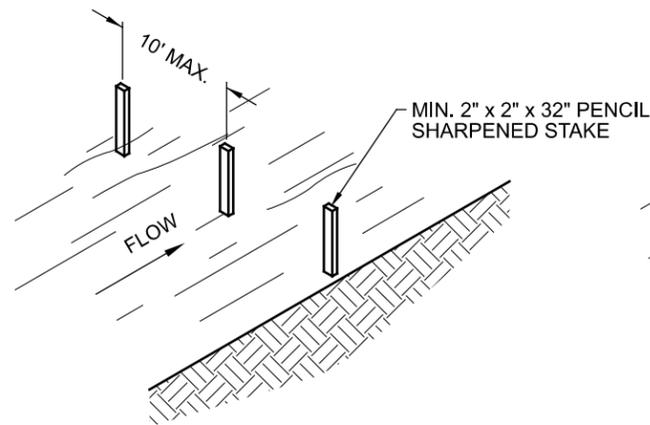
SHEET NAME:

PROFILE
STM - 01, -02

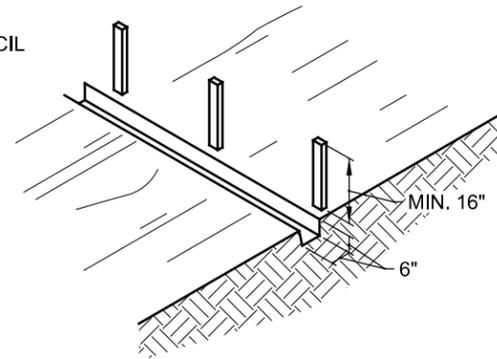
SHEET NUMBER:

116
118

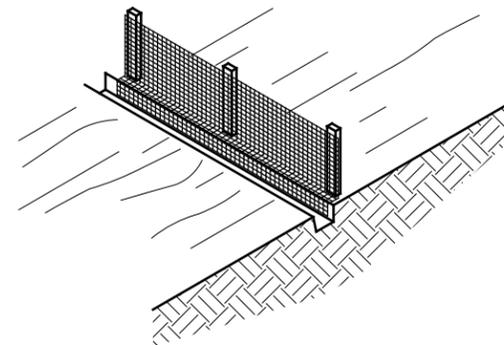
1) SET THE STAKES



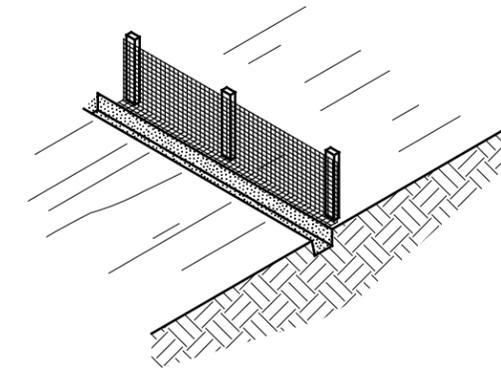
2) EXCAVATE A 6"X6" TRENCH UPSLOPE ALONG THE LINE STAKES.



3) STAPLE FILTER MATERIAL TO STAKES AND EXTEND IT INTO THE TRENCH.



4) BACKFILL AND COMPACT THE EXCAVATED SOIL



SEDIMENT FENCE DETAIL

SILT FENCE SHALL BE CONSTRUCTED BEFORE UPSLOPE LAND DISTURBANCE BEGINS.

ALL SILT FENCE SHALL BE PLACED AS CLOSE TO THE CONTOUR AS POSSIBLE SO THAT WATER WILL NOT CONCENTRATE AT LOW POINTS IN THE FENCE AND SO THAT SMALL SWALES OR DEPRESSIONS WHICH MAY CARRY SMALL CONCENTRATED FLOWS TO THE SILT FENCE ARE DISSIPATED ALONG ITS LENGTH.

TO PREVENT WATER PONDED BY THE SILT FENCE FROM FLOWING AROUND THE ENDS, EACH END SHALL BE CONSTRUCTED UPSLOPE SO THAT THE ENDS ARE AT A HIGHER ELEVATION.

WHERE POSSIBLE, SILT FENCE SHALL BE PLACED ON THE FLATTEST AREA AVAILABLE.

WHERE POSSIBLE, VEGETATION SHALL BE PRESERVED FOR 5 FT. (OR AS MUCH AS POSSIBLE) UPSLOPE FROM THE SILT FENCE. IF VEGETATION IS REMOVED, IT SHALL BE REESTABLISHED WITHIN 7 DAYS FROM THE INSTALLATION OF THE SILT FENCE.

THE HEIGHT OF THE SILT FENCE SHALL BE A MINIMUM OF 16 IN. ABOVE THE ORIGINAL GROUND SURFACE.

THE SILT FENCE SHALL BE PLACED IN A TRENCH CUT A MINIMUM OF 6 IN. DEEP. THE TRENCH SHALL BE CUT WITH A TRENCHER, CABLE LAYING MACHINE, OR OTHER SUITABLE DEVICE WHICH WILL ENSURE AN ADEQUATELY UNIFORM TRENCH DEPTH.

THE SILT FENCE SHALL BE PLACED WITH THE STAKES ON THE DOWNSLOPE SIDE OF THE GEOTEXTILE AND SO THAT 8 IN. OF CLOTH ARE BELOW THE GROUND SURFACE. EXCESS MATERIAL SHALL LAY ON THE BOTTOM OF THE 6 IN. DEEP TRENCH. THE TRENCH SHALL BE BACKFILLED AND COMPACTED.

SEAMS BETWEEN SECTION OF SILT FENCE SHALL BE OVERLAPPED WITH THE END STAKES OF EACH SECTION WRAPPED TOGETHER BEFORE DRIVING INTO THE GROUND.

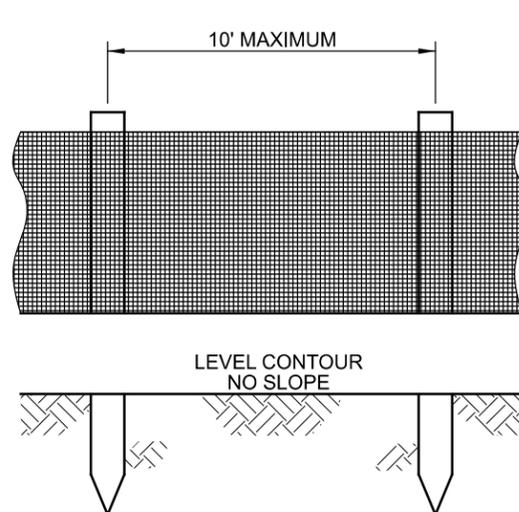
MAINTENANCE:

SILT FENCE SHALL ALLOW RUNOFF TO PASS ONLY AS DIFFUSE FLOW THROUGH THE GEOTEXTILE. IF RUNOFF OVERTOPS THE SILT FENCE, FLOWS UNDER OR AROUND THE ENDS, OR IN ANY OTHER WAY BECOMES A CONCENTRATED FLOW, ONE OF THE FOLLOWING SHALL BE PERFORMED, AS APPROPRIATE: 1) THE LAYOUT OF THE SILT FENCE SHALL BE CHANGED, 2) ACCUMULATED SEDIMENT SHALL BE REMOVED, OR 3) OTHER PRACTICES SHALL BE INSTALLED.

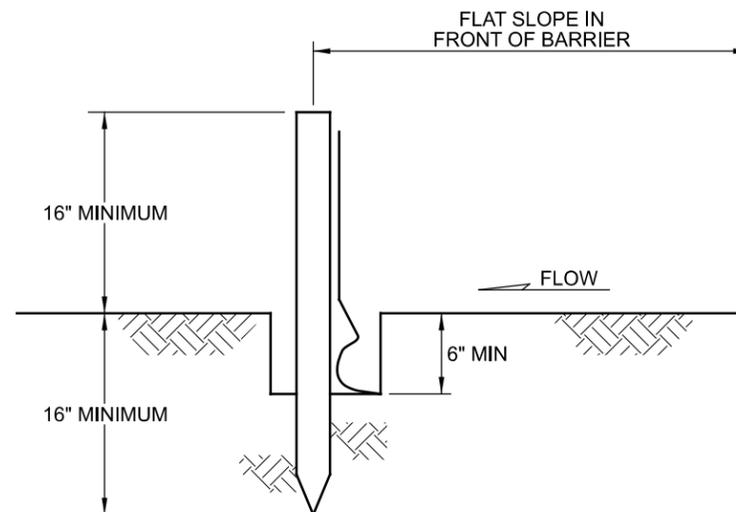
CRITERIA FOR SILT FENCE MATERIALS:

1. FENCE POSTS: THE LENGTH SHALL BE A MINIMUM OF 32 IN. LONG. WOOD POSTS WILL BE 2-BY-2-IN. HARDWOOD OF SOUND QUALITY. THE MAXIMUM SPACING BETWEEN POSTS SHALL BE 10 FT.
2. SILT FENCE FABRIC SHALL BE ODOT TYPE C GEOTEXTILE FABRIC OR AS DESCRIBED BY THE CHART BELOW:

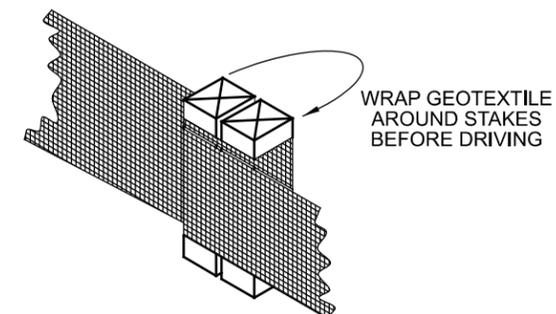
FABRIC PROPERTIES	
MINIMUM TENSILE STRENGTH.....	120 LBS.
MAXIMUM ELONGATION AT 60 LBS.....	50%
MINIMUM PUNCTURE STRENGTH.....	50 LBS.
MINIMUM TEAR STRENGTH.....	40 LBS.
MINIMUM BURST STRENGTH.....	200 PSI
APPARENT OPENING SIZE.....	≤ 0.84MM
MINIMUM PERMITTIVITY.....	1X10 ⁻² SEC ⁻¹
ULTRAVIOLET EXPOSURE STRENGTH RETENTION.....	70%



ELEVATION



SECTION



JOINING SECTIONS OF SILT FENCE

SEDIMENT & EROSION CONTROL GENERAL NOTES

IMPLEMENT SOIL EROSION AND SEDIMENTATION CONTROL MEASURES DURING CONSTRUCTION TO THE STANDARDS AND SPECIFICATIONS OF THE STATE OF OHIO AND THEY ARE TO REMAIN IN EFFECT UNTIL AREAS ARE PERMANENTLY STABILIZED.

MAKE DAILY INSPECTIONS OF THE SITE TO INSURE EFFECTIVENESS OF EROSION AND SEDIMENTATION CONTROL MEASURES, IMMEDIATELY MAKE NECESSARY REPAIRS.

IT MAY BECOME NECESSARY TO REMOVE PORTIONS OF THE BARRIER DURING CONSTRUCTION TO FACILITATE THE GRADING OPERATIONS IN CERTAIN AREAS. HOWEVER, THE BARRIER SHALL BE IN PLACE IN THE EVENING OR DURING ANY INCLEMENT WEATHER.

EROSION AND ANY SEDIMENTATION FROM THE WORK ON THIS SITE SHALL BE CONTAINED ON THE SITE AND NOT ALLOWED TO COLLECT IN ANY OFF-SITE DRAINAGE COURSE, WHETHER NATURAL OR MAN-MADE.

ALL EARTH CHANGES SHALL BE CONSTRUCTED AND COMPLETED IN SUCH A MANNER TO LIMIT THE EXPOSED AREA OF ANY DISTURBED LAND FOR THE SHORTEST PERIOD OF TIME.

ALL CONSTRUCTION TRAFFIC SHALL ENTER AND LEAVE BY THE DESIGNATED ENTRANCE. THIS ENTRANCE SHALL BE CONSTRUCTED OF CRUSHED STONE TO HELP FREE TIRES OF SOIL WHEN LEAVING THE SITE. INSTRUCT ALL VEHICLES TO CLEAN SOIL, MISCELLANEOUS DEBRIS, OR OTHER MATERIAL SPILLED, DUMPED OR OTHERWISE DEPOSITED ON PUBLIC STREETS, HIGHWAYS, SIDEWALKS OR OTHER PUBLIC THOROUGHFARES DURING TRANSIT TO AND FROM THE SITE.

INSTALL TEMPORARY EROSION AND SEDIMENTATION DEVICES AS SHOWN AND REQUIRED BY THESE PLANS. THESE DEVICES SHALL REMAIN IN PLACE AND BE MAINTAINED UNTIL PERMANENT STABILIZATION OF SLOPES, DITCHES AND OTHER EARTH CHANGES HAVE BEEN ACCOMPLISHED.

CATCH BASINS LOCATED IN THE STREET OR NEAR THE SITE WILL BE PROTECTED TO PREVENT SEDIMENTATION FROM ENTERING FACILITY. THE COVERS SHALL BE CHECKED PERIODICALLY AND CLEANED WHENEVER THEY FAIL TO FILTER RUNOFF.

WHERE APPLICABLE, THE DETENTION BASIN SHALL BE USED AS A TEMPORARY SEDIMENTATION BASIN. ALL SURFACE RUNOFF FROM THE PROJECT AREAS SHALL BE DIRECTED BY TEMPORARY DRAINAGE SWALES TO THE BASINS. AT THE COMPLETION OF CONSTRUCTION WHEN ALL DISTURBED AREAS HAVE BEEN STABILIZED THE BASINS SHALL BE CAREFULLY DRAINED WITHOUT DISTURBING THE SETTLED SILT, AND THEN GRADED AND SODDED TO CONFORM TO THE SITE GRADING PLAN.

THE LIMITS OF SEEDING AND MULCHING ARE AS SHOWN WITHIN THE PLAN. SEEDING HAS BEEN ASSUMED TO 5' OUTSIDE THE WORK LIMITS OR RIGHT-OF-WAY WHICHEVER IS GREATER. ALL AREAS NOT DESIGNATED TO BE SEEDED SHALL REMAIN UNDER NATURAL GROUND COVER. THOSE AREAS DISTURBED OUTSIDE THE SEEDING LIMITS SHALL BE MULCHED.

ALL SOIL EROSION AND SEDIMENTATION CONTROL MEASURES SHALL BE INSTALLED PRIOR TO, OR IN CONJUNCTION WITH, THE START OF EXCAVATION AND ARE TO REMAIN IN EFFECT UNTIL AREAS ARE STABILIZED. FIELD ADJUSTMENTS WITH RESPECT TO LOCATION AND DIMENSIONS MAY BE MADE BY THE ENGINEER AS REQUIRED.

FILTER BARRIERS CONSIST OF FILTER FABRIC AS SHOWN HEREON.

OHIO EPA PERMITS FOR TEMPORARY EROSION CONTROL ON THE CONSTRUCTION SITE SHALL BE OBTAINED. THE DESIGN OF THE EROSION CONTROL SYSTEMS SHALL FOLLOW THE REQUIREMENTS OF OHIO EPA, ITEM 207 OF OHIO DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS, AND THE CITY ENGINEER.

ADEQUATE DRAINAGE OF THE WORK AREA SHALL BE PROVIDED AT ALL TIMES, CONSISTENT WITH EROSION CONTROL PRACTICES.

SEEDING

DISTURBED AREAS THAT WILL REMAIN UNWORKED FOR 21 DAYS OR MORE SHALL BE SEEDED. OTHER SEDIMENT CONTROLS THAT ARE INSTALLED SHALL BE MAINTAINED UNTIL VEGETATION GROWTH HAS BEEN ESTABLISHED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REMOVAL OF ALL TEMPORARY SEDIMENT DEVICES AT THE CONCLUSION OF CONSTRUCTION BUT NOT BEFORE GROWTH OF PERMANENT GROUND COVER.

TEMPORARY SEEDING (TS) SHALL BE PROVIDED FOR ALL EXPOSED SURFACES AND SOIL STOCKPILES WHERE PERMANENT SEEDING OR ADDITIONAL WORK IS NOT SCHEDULED FOR A PERIOD OF TWENTY-ONE (21) DAYS. SEEDING SHALL BE PROVIDED WITHIN SEVEN (7) DAYS AFTER CONSTRUCTION OPERATIONS CEASE.

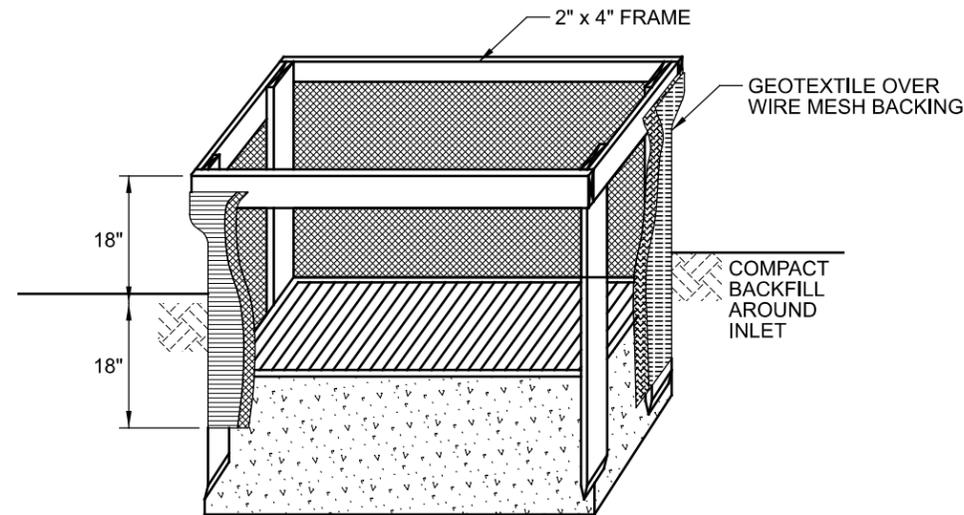
PERMANENT SEEDING (PS) SHALL BE PROVIDED FOR ALL EXPOSED SOIL SURFACES WITHIN SEVEN (7) DAYS AFTER THE FINISH GRADE IS REACHED.

TEMPORARY AND PERMANENT SEEDING, AS SPECIFIED IN ODOT ITEMS 207 AND 659, IS ACCEPTABLE.

AREAS WHERE TEMPORARY OR PERMANENT SEEDING HAS FAILED TO GERMINATE SHALL BE RESEEDING AND MULCHED AS NECESSARY TO ACHIEVE STABILIZATION.

SODDING (SO), CRITICAL AREA PLANTING (GC) AND TEMPORARY AND PERMANENT MULCHING (M) SHALL BE PROVIDED WITHIN SEVEN (7) DAYS AFTER FINISHED GRADE IS REACHED. AS SPECIFIED ODOT ITEM 660.

CATCH BASIN PROTECTION DETAIL



INLET PROTECTION SHALL BE CONSTRUCTED EITHER BEFORE UPSLOPE LAND DISTURBANCES BEGINS OR BEFORE THE STORM DRAIN BECOMES OPERATIONAL.

THE EARTH AROUND THE CATCH BASIN SHALL BE EXCAVATED COMPLETELY TO A DEPTH OF AT LEAST 18 INCHES.

THE WOODEN FRAME SHALL BE CONSTRUCTED OF 2 x 4 INCH CONSTRUCTION GRADE LUMBER. THE 2 x 4 INCH POSTS SHALL BE DRIVEN 1 FOOT INTO THE GROUND AT FOUR CORNERS OF THE INLET AND THE TOP PORTION OF 2 x 4 INCH FRAME ASSEMBLED USING THE OVERLAP JOINT SHOWN. THE TOP OF THE FRAME SHALL BE AT LEAST 6 INCHES BELOW ADJACENT ROADS IF PONDED WATER WOULD POSE A SAFETY HAZARD TO TRAFFIC.

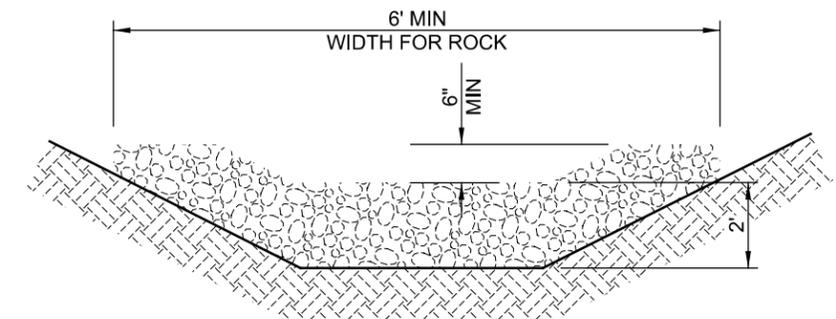
WIRE MESH SHALL BE SUFFICIENT STRENGTH TO SUPPORT FABRIC WITH WATER FULLY IMPOUNDED AGAINST IT. IT SHALL BE STRETCHED TIGHTLY AROUND THE FRAME AND FASTENED SECURELY TO THE FRAME.

GEOTEXTILE SHALL HAVE AN EQUIVALENT OPENING SIZE OF 20-40 SIEVE AND BE RESISTANT TO SUNLIGHT. IT SHALL BE STRETCHED TIGHTLY AROUND THE FRAME AND FASTENED SECURELY. IT SHALL EXTEND FROM THE TOP OF THE FRAME TO 18 INCHES BELOW THE INLET NOTCH ELEVATION. THE GEOTEXTILE SHALL OVERLAP ACROSS ONE SIDE OF THE INLET SO THE ENDS OF THE CLOTH ARE NOT FASTENED TO THE SAME POST.

BACKFILL SHALL BE PLACED AROUND THE INLET IN COMPACTED 6 INCH LAYERS UNTIL THE EARTH IS EVEN WITH NOTCH ELEVATION ON ENDS AND TOP ELEVATION ON SIDES.

A COMPACTED EARTH DIKE OR A CHECK DAM SHALL BE CONSTRUCTED IN THE DITCH LINE BELOW THE INLET IF THE INLET IS NOT IN A DEPRESSION AND IF RUNOFF BYPASSING THE INLET WILL NOT FLOW TO A SETTLING POND. THE TOP OF EARTH DIKES SHALL BE AT LEAST 6 INCHES HIGHER THAN THE TOP OF THE FRAME.

ROCK CHECK DETAIL

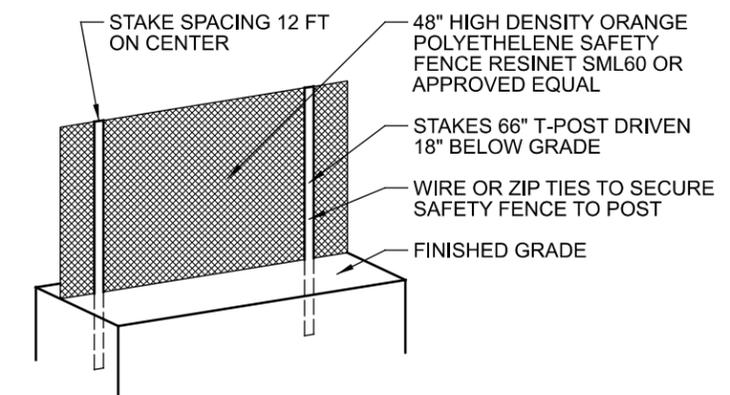


MINIMUM DIMENSIONS: 2' HIGH x 6' WIDE x 3' LONG

ROCK CHECKS:
MATERIALS: FURNISH MATERIAL CONFORMING TO ITEM 601
ROCK CHANNEL PROTECTION TYPE C OR D WITHOUT FILTER.

CONSTRUCTION:
PLACE THE ROCK OUTSIDE THE TRAFFIC CLEAR ZONE IN THE DITCH.

ORANGE CONSTRUCTION FENCE DETAIL



INSTALLATION NOTES:

INSTALL 66" T-POSTS AT A MAXIMUM 12 FT ON CENTER. SINK POSTS 18" INTO GROUND. USE WIRE OR ZIP TIES TO FASTEN FENCE TO POSTS.

Mark J. Eicher, P.E., P.S.
155 Rehl Road
Zanesville, Ohio 43701
ENGINEER'S OFFICE

PREPARED BY:
Lickingview
LICKINGVIEW, OHIO 43701

PROJECT NAME:
SANITARY SEWER IMPROVEMENTS
STORMWATER POLLUTION PREVENTION PLAN DETAILS
PROJECT LOCATION:
LICKINGVIEW, OHIO 43701

PLANS APPROVED BY:
MJE

PLANS PREPARED BY:
GJW

DATE:
07/28/2023

REVISED:

SHEET SIZE:
11" x 17"

SHEET NAME:
SWPPP
DETAIL
SHEET (2)

SHEET NUMBER:
118