Delaware County Engineer's Office (DCEO)
Scope of Services

C-R-S: DEL TR 95 0.58

1. General Information

County: Delaware
PID#: 1904 (DCEO)

	No.	Scope of Services Meeting Date	Approved Final Scope of Services
Prime Agreement	1	TBD	TBD

Refer to exhibits and scope narrative for design designation and project limits.

2. PDP Phases Included in this Agreement: Phase PE through Phase FE
Agreement between Consultant and: Delaware County Board of Commissioners

This scope approval includes development through Phase FE final tracings submittal.

3. Funding:

100% county funds will be used for all phases of this project.

4. Project Location:

Roloson-Piatt Road Phase C, extending from a point approximately 0.58 miles north of Berlin Station Road to the intersection of Curve Road and Roloson Road.

5. Project Description:

0.58 miles of new three (3) lane open-ditch roadway with retention/detention basins and storm sewer outlets.

6. Communication/Contacts:

The respective project managers (DCEO and Consultant) will be the primary points of communication. Rules for communication between project staff listed below will be discussed at the Scope of Services Meeting and further described herein. Technical issues may be discussed directly (between project staff) below the project manager level, but the respective project managers must be informed of such discussions and any decisions resulting there from. Contractual issues should always be communicated at the project manager level.

	Name	**Phone**	**Email**
DCEO Project Manager	Tiffany Jenkins, P.E.	740-833-2400	tjenkins@co.delaware.oh.us
Consultant	TBD		
Consultant Project Manager	TBD		
Consultant Staff	TBD		

7. Schedule

Completion Time for Phases	Completion of FE Final Tracings: 18 months

The following commitment dates are to be used by the Consultant in developing the project schedule. 30 day DCEO review period for stage submittals is anticipated.

Milestone		Date
Consultant NTP		1/1/2025
Stage 1 Submittal		8/1/2025
Preliminary R/W Submittal		2/1/2026
Stage 2 Submittal		2/1/2026
Final R/W Submittal		6/1/2026
Stage 3 Submittal		7/1/2026
Final Tracings Submittal		9/1/2026
R/W Acquired		7/1/2027
Sale Date		11/1/2027
Award		12/1/2027
Estimated Begin Construction		3/1/2028
Estimated End Construction		9/1/2028

The Consultant will prepare a detailed Master Schedule Gantt Chart (from initial authorization of the agreement thru completion (final plan package) utilizing Microsoft Project. This schedule is to be included with the price proposal. The Schedule will include beginning and ending dates as well as key milestones on the critical path for the project. Based on the type of Consultant Agreement, the Schedule shall also accommodate appropriate time frames for scoping, negotiation and authorization for the additional Phases. The overall schedule past those phases contracted for may be general in nature meeting the dates as established within this scope. The Consultant will be responsible for timelines of Phases as authorized within this agreement. The Consultant is responsible for updating the schedule as needed throughout the PDP (or as requested by DCEO) and providing these schedules monthly or as mutually agreed at the time of scope meeting (typically with Consultant Invoices). Monthly project updates are required to be submitted to the DCEOs Project Manager at a minimum indicating or identifying work completed this month, expected work next month and identifying any critical items needing action from both the Consultant and DCEO's personnel. These updates are typically provided with monthly invoicing and should be coordinated with the DCEO's Project Manager for an approved format and schedule.

8. Electronic Distribution of Design Information

The development of this project shall be performed in accordance with the ODOT and DCEO design manuals and documents. The consultant shall perform all work required by the design manuals unless a specific exception is included herein. Absence of a specific reference to required elements of the work either in this Scope of Services or the consultant's price proposal shall not relieve the consultant of responsibility to perform the work or justify additional compensation. The consultant's price proposal shall be based on the most current revision of each manual at the date of the Scope of Services Meeting.

The consultant shall also be responsible to revise the plans to conform to the most recent revision of the design manuals and documents. The Department maintains current documents and a summary of the latest revisions through the Design

Reference Resource Center (DRRC) (http://www.dot.state.oh.us/drrc/) (the DRRC page of the Department's Website). This site will release all new and revised design information quarterly, on four specific dates. The most significant recent changes made to this page are reflected under the heading "Latest Revision/Revision History."

Minor changes should be routinely incorporated in the work. The consultant shall notify the DCEO in writing of any subsequent changes in design manuals or other documents that would substantially impact work already performed or change the overall impacts of the project including construction costs, right of way impacts or environmental impacts. The DCEO will respond in writing concerning the disposition of any such changes. The DCEO agrees that a substantial change in design policy or plan preparation requirements may constitute a valid request for additional compensation.

The correspondence transmitting final deliverables shall note the last revision date of the Design Reference Resource Center upon which the plans were based.

9. Variations from the Scope of Service

This Scope of Services document is based on the DCEO's knowledge of project requirements at the time when the document was prepared, and serves as the basis for the price proposal and agreed fee. However, changes in the work may be required as the project develops and more complete information becomes available. Such changes also may be dictated by written procedures included in manuals or decisions made by the Department or DCEO. As the project develops, it is the Consultant's responsibility to advise the DCEO of significant changes in the work that may require modification of the agreement, and to maintain separate cost accounting for each specific issue. The DCEO's written comments and other technical decisions concerning development of the project shall not be construed as authorization for extra work for which additional compensation may be claimed. Modification of the agreement or written authorization to proceed is required prior to the performance of additional work. In short, at all times the Consultant remains responsible to advise the DCEO of work that exceeds the scope of services.

Requests for modification will be evaluated from the standpoint of the scope of services in its entirety and not in terms of a single issue. Additions to the scope of services may be offset by reductions in other areas of the work.

10. PDP Process

The Ohio Department of Transportation (ODOT) has developed and implemented a Project Development Process (PDP) that includes regular communication among technical disciplines, results in quality plans and minimizes cost overruns during right-of-way acquisition and project construction. Depending on their size, complexity, and/or potential impact to the environment, ODOT transportation projects are categorized as one of five paths (Path 1– 5). The PDP consists of five phases that projects must advance through prior to construction. These phases include Planning, Preliminary Engineering, Environmental Engineering, Final Engineering and Construction. While all projects advance through these phases, project managers have the flexibility to adjust scope activities within the phases to better support decision-making.

The PDP is a project management and transportation decision-making procedure that outlines project development from concept through completion. Each PDP activity is timed to facilitate informed decision making based on an appropriate level of project development and risk management. The PDP encourages communication among disciplines, requires documentation of the reasoning behind project related decisions, eliminates duplicated effort among disciplines and provides for early identification of potential issues. Involvement of all disciplines during the early stages of project development ensures that issues affecting project type, scope, development schedule and costs can be correctly evaluated and anticipated.

The manual and associated tools provide guidelines to identify activities required during each phase of project development. The project scope determines the amount of work performed within the phases. Although the manual and web-based tool identifies work tasks, deliverables and potential stakeholders for each phase in the process, the process requires coordination of people and tasks between phases to ensure continued review and study of the best possible options.

DCEO utilizes the framework of the ODOT PDP as the basis for developing projects; however, DCEO is not required to complete every step and may omit certain tasks when not required.

Communication and transition among disciplines are critical to a project's success. By establishing communication opportunities and responsibilities throughout the PDP, the project manager ensures that those involved in the project fulfill their project commitments. The project manager for each step is responsible for ensuring appropriate coordination and involvement of other disciplines throughout the process.

11. On-Going Consultant Involvement during the Construction Phase

The Consultant shall provide construction phase services as requested by the DCEO, for the purpose of advising the DCEO concerning interpretations of the plans and specifications prepared by the consultant, advising the DCEO of any changed or unanticipated field conditions that will impact the work, and participating in a formal Partnering process if applicable. The consultant will not have any formal ongoing duties in administration of the construction contract or inspection and testing of the project. The Consultant's personnel assigned to this phase of the work shall be the same personnel that designed the project and prepared the plans (generally the personnel whose initials appear on the drawings).

The Consultant shall provide the following construction phase services as requested by the DCEO:

1. Attend meetings including the preconstruction meeting, job progress meetings, partnering meetings if applicable, and other meetings as requested.

2. In conjunction with job progress meetings or as requested, visit the job site at appropriate intervals to monitor critical areas of the work and advise the DCEO of any conditions that would affect the work.

3. If authorized, provide on-site geotechnical support for construction of geotechnical complex systems.

4. Respond to questions and visit the job site on an as needed basis.

5. Assist the DCEO in evaluation of change orders or claims.

6. If directed by the DCEO, replace right of way monumentation destroyed by the Contractor's construction operations. Monuments shall be ¾ inch diameter steel rod, 30 inches long, with an aluminum cap having a minimum diameter of 1 ½ inch, stamped ODOT R/W and bearing the surveyor's Ohio Registration Number and name, and/or company name. In order to support the DCEO's efforts in recovering costs from the Contractor, maintain separate cost accounting records for this work.

   Centerline Adjustable Monument Assemblies shown on the Recorded Centerline Plat shall be set by the consultant at an appropriate stage of construction, as directed by the DCEO. After construction of the Centerline Adjustable Monument Assemblies by the contractor, the Consultant shall set the iron pin and cap in the Centerline Adjustable Monument Assembly Box. All centerline monuments, reference monuments and right of way monuments shall conform to Standard Construction Drawing RM-1.1 (pages 1 and 2)

7. Attend the post construction meeting and prepare minutes of the meeting including a discussion of preventable change orders.

Compliance with Health and Safety Requirements

For Consultant personnel visiting the site, the Consultant shall be responsible for compliance with applicable health and safety requirements including OSHA requirements (CFR 29-1926), and medical testing required by OSHA and DCEO rules and regulations.

The Consultant shall provide, as a minimum, the same level of safety equipment as required for DCEO inspectors. Consultant personnel shall be subject to compliance inspections by DCEO personnel.

Responsibilities of the DCEO:

1. The DCEO Project Manager for the design agreement will remain as the point of contact for the consultant during the construction phase

2. DCEO construction personnel may contact the consultant directly regarding any plan questions or interpretations, but the DCEO Project Manager for the design agreement will be notified of all such communications.

3. The DCEO will advise the consultant in writing of any potential errors or omissions which must be corrected without undue delay and without additional costs to the County.

4. The DCEO will direct the consultant to set the iron pin and cap in the Adjustable Monument Assembly Boxes at an appropriate stage of construction.

12. Exceptions/Clarification from Manuals

Delaware County Supplement to the ODOT Location and Design Manual, Bridge Design Manual, CADD Standards Manual, and Traffic Engineering Manual incorporated by reference URL: https://engineer.co.delaware.oh.us/drp/

13. Existing Documents (Provided to Selected Consultant After Selection Only)

Final Engineering Plan – Berlin Farm West Section 4 (May 2024)

14. Attachments (Attached to the Scope of Services)

Scope Narrative

15. Task List

To be developed by Consultant as part of fee proposal

C-R-S: DEL TR 95 0.58

Scope Narrative

General Information:

County: Delaware County
PID#: 1904
Description: The Consultant's services include preparation of final construction and right of way plans for a 0.58 mile three (3) lane roadway with retention/detention basins and stormwater outlets.

Traffic Analysis:

No traffic analysis is required for this project. Design designation shall be as follows. No roundabout operational analysis will be required.

Design Designation:

	Roloson-Piatt Road	Curve Road	Roloson Road
Current ADT (2024)	0	570	300
Design Year ADT (2048)	5500	2800	3500
DHV (2048)	560	290	370
Directional Distribution	60%	55%	55%
Trucks (24 Hour B&C)	5%	4%	8%
Design Speed:	45 mph	45 mph	55 mph
Legal Speed	45 mph	45 mph	55 mph
Current Functional Classification	N/A	Rural Local	Rural Local
Design Functional Classification	Urban Minor Collector	Rural Minor Collector	Rural Local

Design Exceptions:

None

Survey Parameters:

Based on NGS monuments located near the project location, estimated difference in grid to ground measurements is less than 20 parts per million resulting in an absolute difference of less than 0.04 feet from extreme ends of project limits. At the surveyor's option, project may be base mapped and designed on state plane coordinates. Ohio North Zone should be used. If the Ohio/Delaware County Low Distortion Projection (LDP) has been implemented and available for use by the time of field survey, the LDP coordinate system may be used.

Plan Sheets:

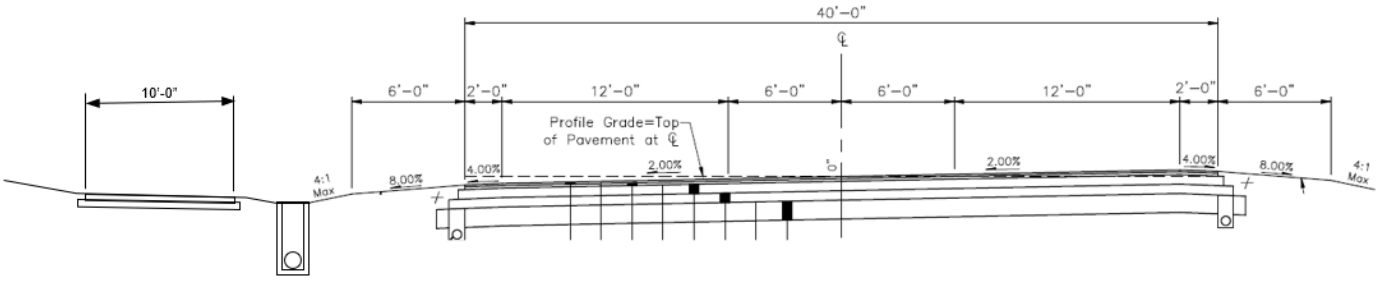
The following plan sheets are anticipated.

Title Sheet (1)	Cross Sections at 50' Plus Driveway Profiles (14)
Schematic Plan (1)	Culvert Details (3)
Typical Sections (4)	Retention/Detention Basin Plan at 10 or 20 scale (2)
General Notes (2)	Basin and Miscellaneous Drainage Details (2)
Maintenance of Traffic Notes (2)	Storm Sewer Outlet Plan and Profile (3)
MOT Details for Local Access (4)	Driveway Subsummary (1)
Detour Plan (1)	Driveway Details (2)
General Summary (2)	Right of Way Legend Sheet (1)
Estimated Quantities (2)	Centerline Plat at 50 scale (1)
Drainage Subsummary (2)	Summary of Additional ROW (2)
Project Site Plan at 50 scale (2)	ROW Topo Sheets at 20 scale (9)
Plan and Profile at 20 scale (9)	ROW Boundary Sheets at 20 scale (9)

Total Estimated Plan Sheets: 82±

Cross Section:

Lane Width	12' (3 lanes)
Treated Shoulder Width	2' paved (full depth)
Total Shoulder Width	8' (2' paved, 6' graded turf)
Curb Type:	Type 2 at roundabout approaches
Guardrail Type	Do not use guardrail
Maximum Foreslope	4:1
Maximum Backslope	4:1



Pavement:

Consultant should consider widening and overlay of approaches in lieu of full depth reconstruction where no profile adjustment is needed, in order to reduce cost and simplify access to work zone residences. Planing/milling of existing asphalt is not desired due to lack of thickness of existing asphalt.

Pavement buildup for full depth sections:

- 1 1/4" Item 441, Asphalt Concrete Surface Course, Type 1 (448), PG64-22
- Item 407 Tack Coat @ 0.04 gal/sy
- 1 3/4" Item 441, Asphalt Concrete Surface Course, Type 2 (448), PG64-22
- Item 407 Tack Coat @ 0.075 gal/sy
- 8" Item 302, Asphalt Concrete Base
- Item 408 Prime Coat @ 0.4 gal/sy
- 6" Item 304, Aggregate Base
- 12" Item 206, Cement Stabilized Subgrade (new alignment section only)

Roadside:

Consultant shall consider use of enclosed ditches (storm sewer and catch basins) in areas near existing homes to minimize the ROW limits and lessen the depth of roadside ditches. Do not exceed an open ditch depth of 3 feet measured vertically from the edge of pavement in areas near homes or maintained lawns.

Existing leach fields and on-lot sanitary treatment systems are expected within the areas of proposed roadside work. Consultant shall research Delaware General Health District records and delineate limits of existing systems.

Roundabout:

Proposed roundabout shall be a single lane. Geometric design of roundabout should generally conform to sample plans provided by DCEO with preferred 130 to 140' inscribed circle diameter.

Lighting:

Provide lighting design in general conformance with sample plans provided by DCEO. Photometric analysis not required if the spacing of poles is less than 175 feet and poles are located in the typical configuration of the sample plans provided. Lighting shall be designed in accordance with DCEO's Design Resource Page.

Traffic Control:

Provide notes per the DCEO Design Resource Page and from sample plans provided by DCEO for sign sheet and sign support material types. Specify 5-inch pavement markings for centerlines and edge lines.

Bicycle/Pedestrian Facilities:

Provide a 10’ wide shared use path on the west side of the proposed roadway connecting to the proposed path in Phase B. Path shall continue through the roundabout to the northwest corner and terminate at the curb ramp/landing in that quadrant.

Consultant shall investigate an enclosed ditch system (storm sewer with catch basins) on the side with the shared use path to minimize right of way limits. Minimum offset from path to edge of traveled way shall be 12’ (16’ preferred).

Maintenance of Traffic:

A full closure with detour plan at Curve and Roloson Road is anticipated to be the preferred MOT method for roundabout construction. Ingress and egress from work zone properties located on Dale-Ford Road shall be maintained with traffic compacted surface through the proposed roadway.

Hydraulics:

Standards: Hydrologic and hydraulic analysis should be performed in accordance with ODOT L&D Volume 2.
Conduit Material Type: Culvert and storm sewer material preference should be as per the DCEO Supplement to the ODOT L&D Manual.
BMP Type: A retention/detention basin(s) is anticipated to be the most feasible BMP for the project. BMP layout and sizing should be done early in preliminary design to ensure the outlet is adequate.

Geotechnical:

Soil Borings and Geotechnical Investigation: Perform geotechnical analysis to confirm suitability of chemical subgrade stabilization.
Pavement Design: The Consultant shall use the pavement design specified above.

Environmental:

This project is located in the Alum Creek watershed and no special riparian setback or stream mitigation requirements are necessary. No jurisdictional wetland or stream impacts are anticipated. DCEO may direct the consultant to provide an encumbrance of funds in the fee proposal for if-authorized environmental studies.

Utilities:

Consultant shall ensure that overhead utilities (electric and telecom) have feasible locations within new or existing public right of way to relocate poles and that overhead utilities do not conflict with proposed light poles. A preliminary layout of relocated utilities should be done during geometric layout of the roundabout. Detailed design of utilities is not required, but conceptual location of new and existing poles and above ground structures should be noted in the preliminary roundabout plan to ensure feasibility of the design.

Public Involvement:

A public meeting will be required and the Consultant shall provide maps and plan exhibits showing the proposed roadway and drainage features. Project maps shall show proposed work limits and shaded right of way limits, and an exhibit including photo(s) of similar roadway typical sections and general information about the project.

DCEO anticipates direct mailing to affected property owners and a project information web page hosted on the DCEO website for interim PI activities.

Right of Way Design:

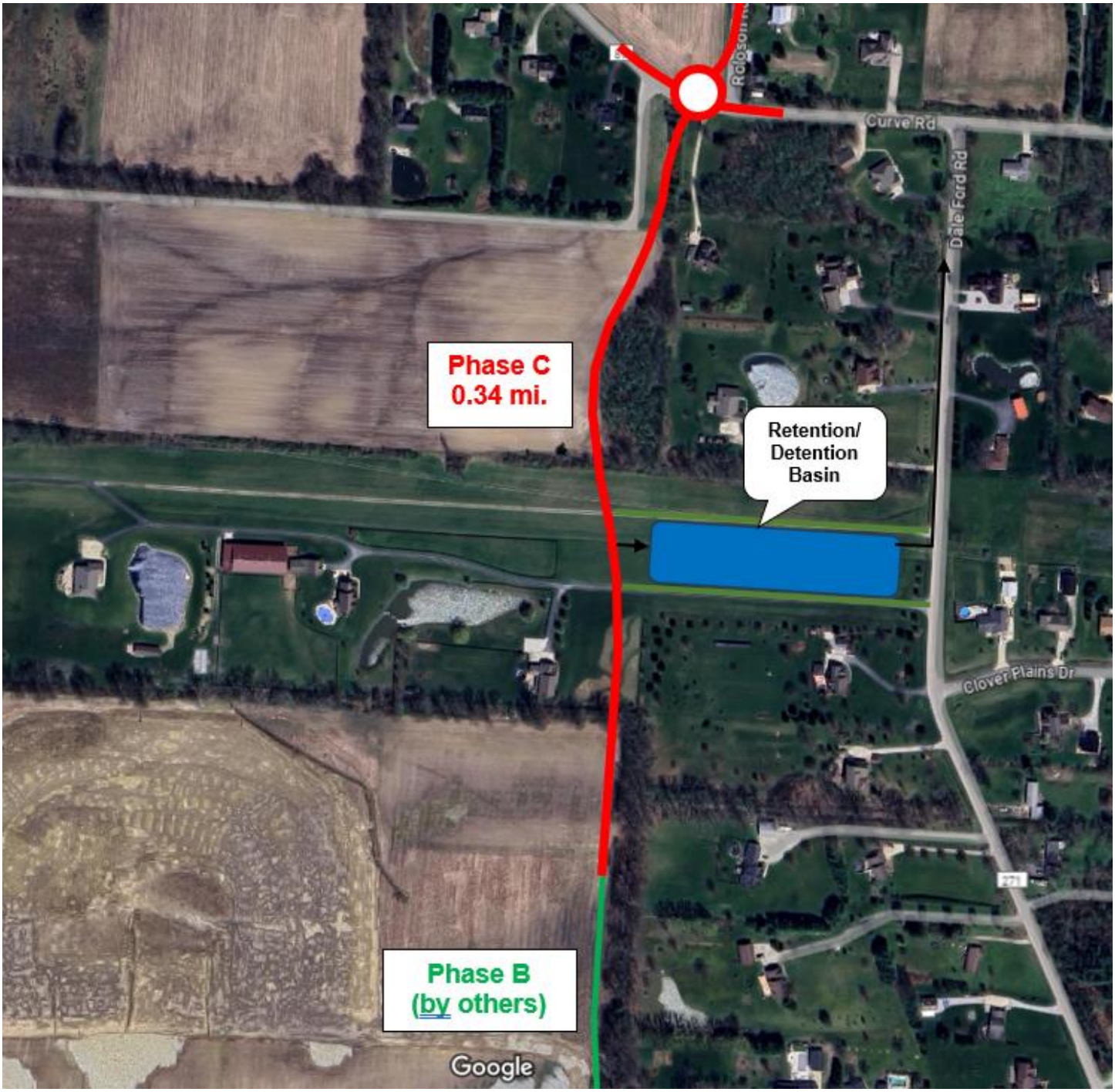
Consultant shall specify WD right of way for parcels to be acquired in the name of the Delaware County Board of Commissioners where appropriate. TMP parcels for a duration of 24 months shall be used to minimize the extent of permanent ROW where tie-in grading is required and no significant change to the grading of such areas results from the project.

Coordination With Other Projects:

Rolson-Piatt Road, Phase B: MI Homes of Central Ohio is developing the Berlin Farm West subdivision immediately south and west of the project location. MI Homes has agreed with Delaware County to construct “Phase B” of the Roloson-Piatt Road extension as part of Section 4 of the subdivision.

Final Engineering Plans for Section 4 have been approved by DCEO and are provided as a scope attachment.

Conceptual Location Plan:



FARM LOT 13 & 15, TOWNSHIP 4, RANGE 18
UNITED STATES MILITARY DISTRICT
BERLIN TOWNSHIP, DELAWARE COUNTY, OHIO
STREET, STORM SEWER & WATER IMPROVEMENTS
FOR
BERLIN FARM WEST
SECTION 4 & ROLOSON-PIATT ROAD
2024

RPC #33-19

STREET, STORM SEWER AND WATER IMPROVEMENTS SHEET INDEX

STORMWATER POLLUTION PREVENTION PLAN SHEET INDEX

Notify OHIO811.org Before You Dig
Notify online using Remote Ticket Entry
To call dial 8-1-1 or 800-362-2764
jldig

BENCH MARKS
(NAVD 1988)

BM#1 Railroad spike in the north side of a wooden utility pole on the south side of Berlin Station Road, located approximately 50 feet east of a gravel driveway at 3318 Berlin Station Road.
Elev = 951.03

BM#4 Railroad spike on the north side of a wooden utility pole located on the south side of Berlin Station Road, being the first utility pole east of the main entrance to Olentangy Berlin High School.
Elev = 954.27

BM#6 Magspike on the north side of a wooden utility pole (UTP #56969) located on the north side of Berlin Station Road, being the fourth utility pole east of Gregory Road.
Elev = 954.30

BM#7 Nail on the north side of a wooden utility pole located on the south side of Berlin Station Road, being the first utility pole west of Gregory Road.
Elev = 952.98

FLOODPLAIN

All of Berlin Farm West is in the Flood Hazard Zone X (areas determined to be outside of the 0.2% annual chance floodplain). as shown on the Federal Emergency Management Agency Flood Insurance Rate Map Numbers 39041C0150K, effective date April 16, 2009 and 39041C0120K, effective date April 16, 2009.

GENERAL SUMMARY

Total Acres	26.36 Ac (Section 4) 3.33 Ac (Roloson–Piatt Rd)
Number of Lots	28
Gross Density	1.06 Dwelling Unit/Acre
Right–of–Way	3.79 Ac (Section 4)
Open Space	14.23 Ac
Zoning	R–3 PRD
Front Yard Setback	30' from Right–of–Way of all Streets
Side Yard Setback	12.5' (Total 25')
Rear Yard Setback	25'
Terrain Classification	Level
Development Density Ratio	1.93 Dwelling Units/Ac, Medium Density

STANDARD CONSTRUCTION DRAWINGS

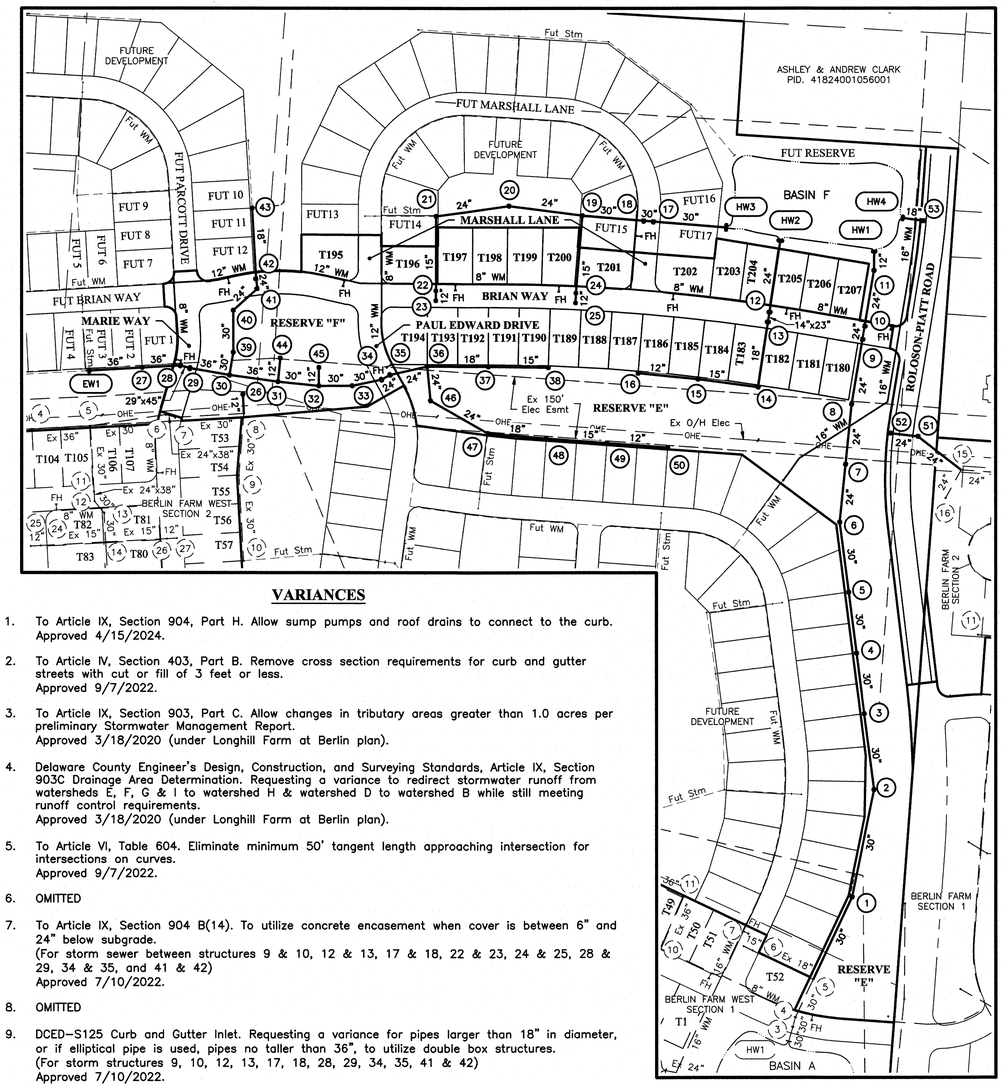
DELAWARE COUNTY

The Delaware County Engineer's Design, Construction and Surveying Standards, current edition, the standard specifications of the State of Ohio Department of Transportation, current edition (English Units), including standard drawings and supplemental specifications listed shall govern this improvement.

DCED–R100	DCED–S102	DCED–S149
DCED–R103	DCED–S106	DCED–S150
DCED–R1441	DCED–S107	DCED–S151
DCED–R1450	DCED–S112	DCED–S152
DCED–R2010	DCED–S113	DCED–S153
DCED–R2135A	DCED–S117	DCED–S155
DCED–R2135C	DCED–S119	DCED–S168
DCED–R2135D	DCED–S125	DCED–S169
DCED–R2175	DCED–S128	DCED–S175
DCED–R2185	DCED–S133A,B,C&D	DCED–S176
DCED–R2190	DCED–S139	DCED–S441A&B
DCED–R2201A		
DCED–R2300		

CHANGE ORDER SCHEDULE

CHANGE	PREPARED	DATE OF CHANGE	DESCRIPTION OF CHANGE	SHEET NO.	APPROVED	DATE OF APPROVAL

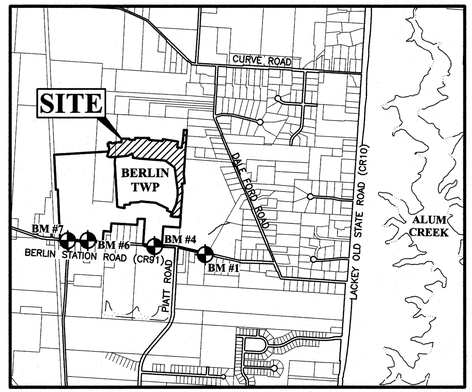


VARIANCES

1. To Article IX, Section 904, Part H. Allow sump pumps and roof drains to connect to the curb. Approved 4/15/2024.
2. To Article IV, Section 403, Part B. Remove cross section requirements for curb and gutter streets with cut or fill of 3 feet or less. Approved 9/7/2022.
3. To Article IX, Section 903, Part C. Allow changes in tributary areas greater than 1.0 acres per preliminary Stormwater Management Report. Approved 3/18/2020 (under Longhill Farm at Berlin plan).
4. Delaware County Engineer's Design, Construction, and Surveying Standards, Article IX, Section 903C Drainage Area Determination. Requesting a variance to redirect stormwater runoff from watersheds E, F, G & I to watershed H & watershed D to watershed B while still meeting runoff control requirements. Approved 3/18/2020 (under Longhill Farm at Berlin plan).
5. To Article VI, Table 604. Eliminate minimum 50' tangent length approaching intersection for intersections on curves. Approved 9/7/2022.
6. OMITTED
7. To Article IX, Section 904 B(14). To utilize concrete encasement when cover is between 6" and 24" below subgrade. (For storm sewer between structures 9 & 10, 12 & 13, 17 & 18, 22 & 23, 24 & 25, 28 & 29, 34 & 35, and 41 & 42) Approved 7/10/2022.
8. OMITTED
9. DCED–S125 Curb and Gutter Inlet. Requesting a variance for pipes larger than 18" in diameter, or if elliptical pipe is used, pipes no taller than 36", to utilize double box structures. (For storm structures 9, 10, 12, 13, 17, 18, 28, 29, 34, 35, 41 & 42) Approved 7/10/2022.
10. OMITTED
11. To Appendix B, IX 904 B(14). Reduce minimum cover for pipe outside R/W from 1.5' to 1.0'. (For storm sewer between structures Ex 5–7, 13–16, 19–21, EW1–28, 30–34, 37–38, and 49–50) Approved 9/7/2022.

INDEX MAP
Scale: 1" = 200'

GRAPHIC SCALE
0 100 200 400
1 inch = 200 feet



LOCATION MAP
Not to Scale

DEVELOPER/OWNER
M/I Homes of Central Ohio, LLC
Jason Francis, PE
4131 Worth Avenue, Suite 310
Columbus, Ohio 43219
Tel: (614) 418–8000
Fax: (614) 418–8030
Email: jfrancis@mihomes.com

ENGINEER
EMH&T Inc.
Kyle Harmon, PE
5500 New Albany Rd
Columbus, Ohio 43054
Tel: (614) 775–4500
Email: kharmon@emht.com

DELAWARE COUNTY APPROVAL

The Delaware County Engineer's Design, Construction and Surveying Standards, the Standard Specifications of the City of Columbus, current edition, including Standard Drawings and Supplemental Specifications listed shall Govern this Improvement.

The Delaware County Engineer's signature on this plan signifies only concurrence with the general purpose and location of the proposed Improvements within the right–of–way, stormwater management, and erosion & sediment control. All technical details remain the responsibility of the Professional Engineer who prepared and certified these plans.

Delaware County Engineer:

Chris Bauserman — Date

Water System Approval:

Chief Operating Officer, Del–Co Water Co, Inc — Date

PREPARED BY:

EMH&T
Evans, Mechwart, Hambleton & Tilton, Inc.
Engineers • Surveyors • Planners • Scientists
5500 New Albany Road, Columbus, OH 43054
Phone: 614.775.4500 Toll Free: 888.775.3648
emht.com

ENGINEER'S CERTIFICATION

This is to certify that good engineering practices have been utilized in the design of this project and that all of the minimum standards as delineated in the Delaware County Design, Construction and Surveying Standards Manual have been met, including those standards greater than minimum where, in my opinion, they are needed to protect the safety of the public. Any variances to the above standards are consistent with sound engineering practice and are not detrimental to the public safety and convenience. These variances have been listed herein and have been approved by the Delaware County Engineer.

Registered Engineer No. E-87410 — 5/22/2024 Date

STATE OF OHIO — KYLE J. HARMON E-87410 — PROFESSIONAL ENGINEER — REGISTERED

REVISIONS

MARK	DATE	DESCRIPTION

M/I HOMES
mihomes.com

BERLIN TOWNSHIP DELAWARE COUNTY, OHIO
STREET, STORM SEWER & WATER IMPROVEMENTS FOR
BERLIN FARM WEST
SECTION 4 & ROLOSON-PIATT ROAD
TITLE SHEET

EMH&T
Evans, Mechwart, Hambleton & Tilton, Inc.
Engineers • Surveyors • Planners • Scientists
5500 New Albany Road, Columbus, OH 43054
Phone: 614.775.4500 Toll Free: 888.775.3648
emht.com

DATE: May, 2024
SCALE: As Noted
JOB NO.: 20230988
SHEET: 1/30

DELAWARE COUNTY GENERAL NOTES

1. THE DELAWARE COUNTY DESIGN, CONSTRUCTION AND SURVEYING STANDARDS, LATEST EDITION, TOGETHER WITH THE CITY OF COLUMBUS (C.O.C.) CONSTRUCTION AND MATERIAL SPECIFICATIONS, LATEST EDITION, ALONG WITH THE DELAWARE COUNTY ENGINEER (DCEO) SUPPLEMENTAL SPECIFICATIONS, SHALL GOVERN ALL MATERIALS AND WORKMANSHIP INVOLVED IN THE IMPROVEMENTS SHOWN ON THESE PLANS, UNLESS OTHERWISE NOTED.
2. A PRECONSTRUCTION CONFERENCE SHALL BE HELD AT THE COUNTY ENGINEER'S OFFICE BEFORE ANY WORK IS BEGUN. REPRESENTATIVES OF THE OWNER, DESIGN ENGINEER, AND CONTRACTOR SHALL BE IN ATTENDANCE. A SCHEDULE OF SEQUENCE OF EVENTS DURING CONSTRUCTION MUST BE SUBMITTED FOR REVIEW PRIOR TO THIS MEETING.
3. PROOF SURVEYS ARE REQUIRED TO BE PERFORMED BY THE OWNER IN ORDER TO DEMONSTRATE CONCLUSIVELY THAT THE FACILITIES ARE CONSTRUCTED TO THE CAPACITY, ELEVATIONS, SLOPES, GRADES AND SIZES SHOWN ON THE APPROVED PLANS. SUCH SURVEYS SHALL BE CONDUCTED BY A REGISTERED PROFESSIONAL SURVEYOR, SHALL EMPLOY STANDARD TECHNIQUES, AND SHALL PRODUCE AND FURNISH FIELD NOTES TO THE COUNTY ENGINEER FOR REVIEW AND RECORD PURPOSES. REDUCTION OF NOTES AND ANY PLOTTING NECESSARY TO MAKE NOTES INTERPRETABLE SHALL BE COMPLETED BY THE SURVEYOR PERFORMING THE PROOF SURVEY. PROOF SURVEYS SHALL BE IN ADDITION TO, AND SEPARATE FROM, OTHER INSPECTIONS BY THE COUNTY ENGINEER. ALL DISCREPANCIES REVEALED IN THE AS-CONSTRUCTED FACILITIES BY THE PROOF SURVEY SHALL BE RECTIFIED BY THE OWNER AND THE PROOF SURVEY RE-PERFORMED IN ORDER TO DEMONSTRATE CONFORMANCE. THE PROOF SURVEY SHALL BE APPROVED BY THE COUNTY ENGINEER, IN WRITING, PRIOR TO THE RELEASE OF THE BUILDING PERMITS.
4. BE ADVISED: A SUBSURFACE DRAINAGE SYSTEM MAY EXIST ON THIS SITE. THE CONTRACTOR SHALL MAINTAIN ALL EXISTING DRAIN PIPES OR TILES ENCOUNTERED IN THE FIELD AT ALL TIMES AND, IF DAMAGED, SHALL REPAIR OR REPLACE THEM IMMEDIATELY WITH THE SAME SIZE AND QUALITY OF MATERIALS AS FOUND. ALL DRAINAGE TILES ENCOUNTERED IN THE FIELD SHALL BE CONNECTED TO THE STORM SEWER SYSTEM AT A STRUCTURE.
5. THE CONTRACTOR SHALL NOTIFY THE COUNTY ENGINEER'S OFFICE FORTY-EIGHT (48) HOURS PRIOR TO ANY CONSTRUCTION.
6. THE CONTRACTOR'S BID SHALL BE COMPREHENSIVE AND INCLUDE ALL LABOR AND MATERIALS NECESSARY TO COMPLETE ALL IMPROVEMENTS ACCORDING TO THE ENGINEERING PLANS AND SPECIFICATIONS.
7. THE CONTRACTOR SHALL LOCATE ALL UTILITIES OR UNDERGROUND STRUCTURES PRIOR TO CONSTRUCTION AND NOTIFY EACH RESPECTIVE UTILITY OWNER FORTY-EIGHT (48) HOURS PRIOR TO COMMENCEMENT OF CONSTRUCTION. CONTACT O.U.P.S. AT 1-800-362-2764.
8. IF A DISCREPANCY EXISTS BETWEEN THE PLANS AND SPECIFICATIONS, THE COUNTY ENGINEER AND THE OWNER'S ENGINEER SHALL BE NOTIFIED BEFORE WORK IS COMMENCED.
9. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO EXERCISE SAFETY PRECAUTIONS AND TO PROVIDE ALL SAFETY EQUIPMENT TO SAFEGUARD WORKMEN AND ALL PERSONS ON OR NEAR THE WORK SITE.
10. THE CONTRACTOR SHALL EXAMINE THE WORK SITE AND SHALL SATISFY HIMSELF AS TO THE CHARACTER, QUALITY AND QUANTITIES OF WORK TO BE PERFORMED.
11. HORIZONTAL AND VERTICAL LOCATION OF ALL EXISTING FEATURES WITHIN THIS SUBDIVISION IS APPROXIMATE. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO FIELD VERIFY THE LOCATION OF EXISTING FEATURES SHOWN ON PLANS, SUCH AS GAS LINES, WATER LINES AND FIELD TILE, TO PROPERLY EXECUTE THE WORK OF HIS CONTRACT. IT SHALL FURTHER BE THE RESPONSIBILITY OF THE CONTRACTOR TO EXERCISE DUE CAUTION AROUND EXISTING COMPLETED WORK ON THE SITE.
12. THE CONTRACTOR SHALL REPAIR OR REPLACE ANY AND ALL EXISTING WORK DAMAGED DURING OR DUE TO THE EXECUTION OF THIS CONTRACT AT HIS OWN EXPENSE. ALL SAID WORK IS TO BE REPAIRED OR REPLACED TO THE SATISFACTION OF THE OWNER AND THE COUNTY ENGINEER.
13. SITE CLEARING SHALL COMPLY WITH C.O.C. ITEM 201. REMOVAL OF EXISTING PIPE, PAVEMENT, STRUCTURES AND OTHER OBSTRUCTIONS SHALL COMPLY WITH C.O.C. ITEM 202.
14. ALL MATERIAL DEEMED UNSUITABLE BY THE COUNTY ENGINEER SHALL BE REMOVED FROM THE PROPOSED RIGHT-OF-WAY, CONSTRUCTION LIMITS OR FOR ANY EXCAVATION FOR THE STORM SEWER SYSTEM. THE MATERIAL REMOVED INCLUDES, BUT IS NOT LIMITED TO, ORGANIC SOIL, TOPSOIL, VEGETATION, TREES, STUMPS, ROOTS OR EXCESSIVELY WET INORGANIC MATERIALS. THE MATERIAL SHALL BE REMOVED REGARDLESS OF THE AMOUNT OF EMBANKMENT TO BE CONSTRUCTED AND SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 203, EXCAVATION.
15. THE DELAWARE COUNTY ENGINEER OR HIS DESIGNATED REPRESENTATIVE SHALL OBSERVE AND APPROVE ALL SUB-BASE MATERIALS AND COMPACTION IN PUBLIC FILL AREAS.
16. NON-ORGANIC SITE SOILS ARE ACCEPTABLE AS USE FOR STRUCTURAL FILL PROVIDED THEY MEET ALL REQUIREMENTS OF C.O.C. ITEM 203. MOISTURE ADJUSTMENT MAY BE REQUIRED AND SHALL BE PERFORMED BY THE CONTRACTOR.
17. ANY LANDSCAPE FEATURES, SUCH AS TREES, FENCES, RETAINING WALLS, ETC. IN DRAINAGE EASEMENTS SHALL BE REVIEWED BY THE DELAWARE COUNTY SOIL AND WATER CONSERVATION DISTRICT (DCSWCD) AND THE DELAWARE COUNTY ENGINEER (DCEO) PRIOR TO INSTALLATION. THE DCSWCD AND DCEO WILL REVIEW THE PROPOSED IMPROVEMENTS TO ASSURE THAT THE IMPROVEMENTS WILL NOT INTERFERE WITH THE STORM WATER CONTROL FACILITIES.
18. ALL CONTRACTOR(S) WORKING ON THIS SITE SHALL REFERENCE ALL IRON PINS AND MONUMENTS BEFORE EXCAVATING AT OR NEAR SAID IRON PINS OR MONUMENTS. IF ANY PINS OR MONUMENTS ARE DESTROYED OR DAMAGED BY THE CONTRACTOR, THEY SHALL BE REPLACED BY A PROFESSIONAL OHIO LICENSED SURVEYOR AT THE COMPLETION OF THE PROJECT OR AT THE DIRECTION OF THE COUNTY ENGINEER AT NO EXPENSE TO THE OWNER. THE COST FOR THIS SHALL BE INCLUDED IN THE PRICE BID FOR VARIOUS ITEMS.
19. ALL QUESTIONS SHALL BE DIRECTED TO THE DELAWARE COUNTY ENGINEER AT (740) 833-2400.

BACKFILLING FOR STORM SEWERS, CULVERTS AND UTILITIES

1. UTILITY TRENCHES OUTSIDE THE RIGHT-OF-WAY SHALL BE BACKFILLED WITH SOILS MEETING THE REQUIREMENTS OF ITEM 203 (100 PCF OR GREATER). THESE TRENCHES ARE TO BE COMPACTED IN ACCORDANCE TO STANDARD DRAWING DCED-R100 AT +/- 2% OF OPTIMUM MOISTURE.
2. ALL UTILITY TRENCHES IN THE RIGHT-OF-WAY RUNNING PARALLEL TO THE EDGE PAVEMENT AND NOT OVER FIVE FEET (5') IN DEPTH SHALL BE BACKFILLED ACCORDING TO STANDARD DRAWING DCED-R100.
3. ALL UTILITY TRENCHES UNDER ROAD PAVEMENT, STARTING AT A DISTANCE OF FIVE FEET (5') FROM THE EDGE OF THE PAVEMENT AND EXTENDING ONE FOOT (1') IN DISTANCE FOR EACH ONE FOOT (1') IN DEPTH SHALL BE BACKFILLED WITH COMPACTED GRANULAR MATERIALS PER STANDARD DRAWING DCED-R100 OR LOW STRENGTH MORTAR BACKFILL. ALSO, THE TOP OF ALL UTILITY CONDUITS SHALL BE LOCATED AT LEAST ONE FOOT BELOW THE UNDERDRAINS.
4. ALL UTILITY TRENCHES OVER FIVE FEET (5') IN DEPTH WHICH RUN PARALLEL TO THE EDGE OF PAVEMENT OR THAT ARE IN THE ZONE OF INFLUENCE SHALL BE BACKFILLED AS PER STANDARD DRAWING DCED-R100.
5. THE CONTRACTOR SHALL INCLUDE IN THE UNIT PRICE BID FOR UNDERGROUND UTILITY PIPE, ALL TRENCHING, BACKFILLING AS PER PLAN, AND THE REMOVAL AND DISPOSAL OF BRUSH, TREES, STUMPS, ETC. WITHIN THE AREA OF EXCAVATION OF THE TRENCH.
6. THE CONTRACTOR SHALL REFER TO THE UTILITY PLAN AND PROFILE SHEETS TO DETERMINE CRITICAL UTILITY CROSSINGS.
7. IN PAVEMENT, SIDEWALK, AND UTILITY CROSSING AREAS THE BACKFILL SHALL BE COMPACTED GRANULAR MATERIAL PER C.O.C. ITEM 304, AND ALL OTHER REMAINING AREAS SHALL BE BACKFILLED PER C.O.C. ITEM 603.08.
8. THE CONTRACTOR SHALL RESTORE OFF-SITE CONSTRUCTION AREAS TO AN EQUAL OR BETTER CONDITION THAN THAT EXISTING PRIOR TO COMMENCEMENT OF CONSTRUCTION TO THE SATISFACTION OF THE COUNTY ENGINEER.
9. CASING PIPE REQUIRED WITHIN THE RIGHT-OF-WAY SHALL BE SDR 21 OR SCHEDULE 40 FOR NON-PRESSURIZED LINES AND C-900 (LESS THAN 12-INCHES) OR C-905 (GREATER THAN 12-INCHES) FOR PRESSURIZED LINES.

STORM SEWERS

1. THE CONTRACTOR SHALL INCLUDE IN THE UNIT PRICE BID FOR ITEM 603, ALL TRENCHING, EXCAVATION AND BACKFILLING PER STANDARD DRAWING DCED R-100, AND THE REMOVAL AND DISPOSAL OF BRUSH, TREES, STUMPS ETC. WITHIN THE AREA OF EXCAVATION OF THE TRENCH, UNLESS BID IN ITEM 203.
2. THE PROPOSED ELEVATIONS AND LOCATIONS OF INLETS, CATCH BASINS, AND PIPES, AND THE ESTIMATED LENGTHS OF PIPES, MAY BE ADJUSTED BY THE COUNTY ENGINEER DURING THE ENTIRE IMPROVEMENT OF THIS PROJECT. BASIS OF PAYMENT FOR POSSIBLE ADJUSTMENTS SHALL BE INCLUDED IN THE UNIT PRICE BID FOR VARIOUS STORM SEWERS TO BE ADJUSTED.
3. UNLESS OTHERWISE NOTED ON THE PLANS, ALL STORM SEWERS SHALL BE AS HEREAFTER SPECIFIED:

   TYPE A – ROADWAY CULVERTS (COC: 706.02, 706.03)

   TYPE B – STORM SEWER LOCATED UNDER PAVEMENT OR SIDEWALK/MULTI-USE PATH

   (COC CMS: 706.02, 720.10, 720.13 OR 720.14)

   TYPE C – STORM SEWERS NOT UNDER PAVEMENT OR SIDEWALK/MULTI-USE PATH

   (COC CMS: 706.02, 720.13, 720.14 OR FOR 30" & SMALLER-720.08, 720.09, 720.10 720.11, OR 720.12)
4. ALL TYPE "A", "B", AND "C" CONDUIT SHALL HAVE JOINTS, PER CITY OF COLUMBUS 901.15 AND SHALL USE TYPE C BITUMINOUS PIPE JOINT FILLER.
5. GRANULAR BEDDING SHALL BE PROVIDED FOR ALL TYPE "A", "B", AND "C" CONDUIT PER DELAWARE COUNTY STANDARD DRAWINGS DCED-S149, DCED-S151, DCED-S152, DCED-S153 AND DCED-S155.
6. ALL PIPES OUTSIDE THE RIGHT-OF-WAY SHALL HAVE A COVER OF 1.5 FEET MINIMUM. WHEREVER THIS IS NOT THE CASE, EMBANKMENT SHALL BE PLACED TO PROVIDE A MINIMUM COVER PRIOR TO THE INSTALLATION OF THE STORM SEWER.
7. OPENINGS SHALL BE PROVIDED IN THE DRAINAGE STRUCTURES TO ACCOMMODATE UNDERDRAIN OUTLETS. ANY CORING NECESSARY SHALL BE INCLUDED WITHIN THE COST OF THE UNDERDRAIN. UNDERDRAINS TO BE CONSTRUCTED IN ACCORDANCE WITH THE PLAN SPECIFICATIONS.
8. WHERE PLASTIC PIPE (HDPE) IS USED FOR STORM SEWERS TO BE PLACED ON DRAINAGE MAINTENANCE, 100% OF THE PIPE SHALL BE MANDRELLED 30 DAYS AFTER INSTALLATION. ALL PLASTIC PIPE FAILING THE MANDREL TEST SHALL BE RETESTED AND/OR REPLACED PER THESE STANDARDS AND SUPPLEMENTAL SPECIFICATIONS. IN ADDITION TO NOTIFYING THE COUNTY INSPECTOR, PLEASE ALSO NOTIFY MATT LANUM AT 740-368-1921 AT LEAST 2 BUSINESS DAYS PRIOR TO THE INSTALLATION TO GIVE THEM BOTH THE CHANCE TO OBSERVE THE CONSTRUCTION OF DRAINAGE FACILITIES TO BE PLACED ON DRAINAGE MAINTENANCE PARTICULARLY INCLUDING THE MANDREL TESTING.

GRADING NOTES

1. EXCAVATION AND EMBANKMENT SHALL COMPLY WITH C.O.C. ITEM 203 AND DELAWARE COUNTY SUPPLEMENTAL SPECIFICATIONS.
2. THE CONTRACTOR'S BID SHALL BE COMPREHENSIVE AND INCLUDE ALL LABOR AND EQUIPMENT TO COMPLETE ALL EXCAVATION, FILL AND GRADING IN ACCORDANCE WITH THE APPROVED ENGINEERING PLANS AND SPECIFICATIONS.
3. EXCAVATION AND EMBANKMENT QUANTITIES DO NOT INCLUDE ANY PROVISION FOR UNDERCUTTING, FOOTINGS, OR UNSUITABLE MATERIAL.
4. AFTER THE TOPSOIL IS REMOVED, PROOFROLL THE PAVEMENT AND BUILDING AREA SUBGRADES TO BE FILLED. SOFT AREAS SHOULD BE UNDERCUT AND STABILIZED PRIOR TO FILLING OPERATIONS. RELATIVE DEPTH OF UNDERCUT WILL BE DETERMINED WHEN SOFT AREAS ARE DISCOVERED. THE DELAWARE COUNTY ENGINEER SHALL DETERMINE THE DEPTH AND EXTENT OF THE UNDERCUT.

EROSION AND SEDIMENTATION CONTROL

SEE THE INCLUDED SWPPP SHEETS FOR EROSION CONTROL REQUIREMENTS AND NOTES THAT APPLY TO THIS PROJECT.

PIPE UNDERDRAINS

1. ALL MATERIALS AND WORKMANSHIP FOR UNDERDRAINS SHALL COMPLY WITH C.O.C. ITEM 605.
2. UNDERDRAINS SHALL BE INSTALLED AND BACKFILLED TO SUBGRADE ELEVATIONS IMMEDIATELY PRIOR TO CONSTRUCTION OF SUB-BASE AND AFTER THE PROOFROLL OF THE SUBGRADE. HOWEVER, WHERE SUBSURFACE CONDITIONS ARE SUCH THAT IMPROVEMENT OF UNSTABLE SUBGRADE CAN BE ACCOMPLISHED THROUGH DRYING ACTION OF UNDERDRAINS, THE COUNTY ENGINEER MAY AUTHORIZE OR REQUIRE THE CONTRACTOR TO DELAY CONSTRUCTION OF THE SUB-BASE AS NECESSARY.
3. IMMEDIATELY PRIOR TO THE CONSTRUCTION OF CURBS, THE MATERIAL LOCATED ABOVE AND WITHIN THE UNDERDRAIN TRENCH SHALL BE REMOVED TO A DEPTH NECESSARY TO EXPOSE CLEAN #8 OR #57 STONE. BACKFILL THE EXCAVATED AREA WITH CLEAN #8 OR #57 STONE.
4. REINFORCED ENDS SHALL BE PROVIDED FOR THE EXPOSED ENDS OF ALL UNDERDRAIN OUTLETS, IF THE EXPOSED PIPE ENDS ARE UNPROTECTED BY HEADWALLS, CATCH BASINS, OR MANHOLES. THE LAST 10 FEET OF UNDERDRAIN SHALL BE TYPE "F" WHEN OUTLETTING IN DITCH.

SITE CLEANUP

1. DURING CONSTRUCTION AND PRIOR TO ACCEPTANCE OF ANY PUBLIC IMPROVEMENTS, THE OWNER/DEVELOPER SHALL REMOVE OR CAUSE TO BE REMOVED ALL REFUSE, RUBBISH, UNUSED MATERIALS, EXCESS EARTH, FILL, ROCK, DEBRIS, AND FOREIGN MATTER FROM ALL PUBLIC RIGHTS OF WAY, IMPROVEMENTS, AND/OR EASEMENTS AS WERE DEPOSITED, LEFT OR RESULTED FROM THE CONSTRUCTION OF IMPROVEMENTS OF ANY NATURE WITHIN THE DEVELOPMENT. SUCH REMOVAL SHALL TAKE PLACE WITHIN TWENTY-FOUR (24) HOURS AFTER BEING NOTIFIED BY THE COUNTY ENGINEER THAT SUCH WORK IS REQUIRED, AND SHALL BE COMPLETED TO THE SATISFACTION OF THE COUNTY ENGINEER.
2. THIS WORK SHALL BE PERFORMED IN A MANNER WHICH PREVENTS EROSION AS WELL AS PREVENTS STORM WATER FROM ACCUMULATING OR PONDING ON THE SITE. THE WORK SHALL ALSO BE PERFORMED IN A MANNER THAT PREVENTS DISRUPTING OR IMPEDING SURFACE DRAINAGE FROM ONSITE OR OFFSITE SOURCES AND PREVENTS ANY NEGATIVE EFFECTS ON ADJACENT PROPERTIES. A SIX-INCH OVERLAY OF TOPSOIL SHALL BE PROVIDED AND SHALL BE SEEDED PER DELAWARE COUNTY STANDARDS.

SEEDING

1. BASED ON CONSTRUCTION START-UP DATE AND CONTRACTOR'S SCHEDULE OF EVENTS, THE SEEDING MIXTURE AND SEDIMENT CONTROL MAY BE CHANGED TO COMPLY WITH DELAWARE COUNTY STANDARDS AND SUPPLEMENTAL SPECIFICATIONS, DUE TO A NON-GROWING SEASON AT THE TIME OF START-UP.
2. THE CONTRACTOR SHALL APPLY TEMPORARY AND PERMANENT SEEDING, FERTILIZER, AND MULCHING TO THE SATISFACTION OF THE COUNTY ENGINEER.
3. ALL SEEDING AND MULCHING SHALL BE BASED ON DELAWARE COUNTY STANDARDS AND SUPPLEMENTAL SPECIFICATIONS.

RETENTION/DETENTION BASINS

1. ANTI-SEEP COLLARS ARE REQUIRED FOR ALL RETENTION/DETENTION POND OUTLETS. A MINIMUM OF TWO COLLARS ARE REQUIRED. COLLARS MUST BE CONSTRUCTED (EXCAVATED) A MINIMUM OF 3.0' INTO UNDISTURBED SOIL ON ALL THREE SIDES. CLASS C CONCRETE PER CURRENT DELAWARE COUNTY SUPPLEMENTAL SPECIFICATIONS SHALL BE USED FOR REPLACEMENT OF THE EXCAVATED MATERIAL. THE COLLARS MUST BE A MINIMUM OF 8 INCHES THICK.
2. A CLAY CORE OF SUFFICIENT THICKNESS IS REQUIRED FOR ALL DETENTION AND RETENTION PONDS IN CUT AREAS. THE COUNTY ENGINEER SHALL FIELD APPROVE THE CORE THICKNESS OF THE CONDITION OF THE EXISTING SOILS AS A SUBSTITUTE FOR A CLAY CORE (E.G., EXISTING CLAY MATERIAL).
3. TREES AND LANDSCAPING SHALL NOT BE PERMITTED ON EMBANKMENT SURFACES.

MISCELLANEOUS

1. THE CONTRACTOR IS RESPONSIBLE TO VISIT THE SITE AND VERIFY THE EXTENT OF WORK TO BE PERFORMED PRIOR TO MAKING HIS BID. SPECIAL REGARD SHOULD BE GIVEN TO ANY REMOVAL ITEMS. ALL EXISTING STRUCTURES ARE TO BE REMOVED, UNLESS OTHERWISE NOTED. COST IS TO BE INCLUDED IN THE PRICE BID FOR ITEM 201.
2. THE CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS PRIOR TO CONSTRUCTION.
3. THE CONTRACTOR AND SUB-CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR COMPLYING WITH ALL FEDERAL, STATE AND LOCAL SAFETY REQUIREMENTS, AND TO INITIATE, EXERCISE, MAINTAIN, AND SUPERVISE ALL SAFETY REQUIREMENTS PRECAUTIONS AND PROGRAMS IN CONNECTION WITH THE WORK, FOR THE PROTECTION OF PERSONS (INCLUDING EMPLOYEES) AND PROPERTY, AT ALL TIMES.
4. THE IDENTITY AND LOCATION OF EXISTING UNDERGROUND UTILITY FACILITIES KNOWN TO BE LOCATED IN THE AREA HAVE BEEN SHOWN ON THESE PLANS AS ACCURATELY AS POSSIBLE WITH THE INFORMATION PROVIDED BY THE OWNER OF THE UNDERGROUND UTILITY FACILITY. THE ENGINEER ASSUMES NO RESPONSIBILITY FOR THE ACCURACY OF THE LOCATION OR THE DEPTHS OF THE UNDERGROUND FACILITIES SHOWN ON THESE PLANS.
5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE SUPPORT, PROTECTION AND RESTORATION OF ALL EXISTING UTILITIES. THE COST OF THIS WORK SHALL BE INCLUDED IN THE PRICE BID FOR THE VARIOUS ITEMS.
6. THE CONTRACTOR SHALL CAUSE NOTICE TO BE GIVEN, AT LEAST FORTY-EIGHT (48) HOURS PRIOR TO THE START OF CONSTRUCTION, TO THE OHIO UTILITIES PROTECTION SERVICE (TELEPHONE 1-800-362-2764 TOLL FREE) AND TO THE OWNERS OF UNDERGROUND UTILITY FACILITIES SHOWN ON THE PLANS WHO ARE NOT MEMBERS OF A REGISTERED UNDERGROUND PROTECTION SERVICE IN ACCORDANCE WITH SECTION 153.64 OF THE REVISED CODE.
7. THE FOLLOWING UTILITIES ARE LOCATED WITHIN THE WORK LIMITS OF THIS PROJECT AND THE OWNERS DO NOT SUBSCRIBE TO A REGISTERED UNDERGROUND UTILITY PROTECTION SERVICE:

UTILITY	ADDRESS	TELEPHONE
WATER MAINS	DEL-CO WATER CO., INC. 6658 OLENTANGY RIVER ROAD DELAWARE, OHIO 43015	740-548-7746
STORM SEWERS	DELAWARE COUNTY 1610 STATE ROUTE 521 DELAWARE, OHIO 43015	740-833-2400
SANITARY SEWERS	DELAWARE COUNTY 1610 STATE ROUTE 521 DELAWARE, OHIO 43015	740-833-2240
GAS COMPANY	COLUMBIA GAS OF OHIO 1600 DUBLIN ROAD COLUMBUS, OH 43215	614-280-7372
ELECTRIC COMPANY	AEP 850 TECH CENTER DRIVE GAHANNA, OH 43230	614-883-6701
CABLE COMPANY	CHARTER COMMUNICATIONS 3760 INTERCHANGE ROAD COLUMBUS, OH 43204	614-481-5047
TELEPHONE COMPANY	VERIZON-FRONTIER COMMUNICATIONS 15300 COLUMBUS SANDUSKY RD MARION, OHIO 43302	740-383-0551

8. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING THE RELOCATION AND/OR PROTECTION OF ANY UTILITIES AS REQUIRED BY THE PLAN WITH THE OWNER OF THE EFFECTED UTILITY.
9. PRIVATE UTILITY MANHOLES WITHIN THE LIMITS OF THE WORK SHALL BE ADJUSTED TO GRADE BY THE RESPECTIVE UTILITY COMPANY.
10. UTILITY POLES WITHIN INFLUENCE OF THE UTILITY OPERATIONS SHALL BE REINFORCED BY THE UTILITY COMPANY PRIOR TO THESE CONSTRUCTION ACTIVITIES. NOTIFICATION OF THE UTILITY COMPANY PRIOR TO CONSTRUCTION SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
11. THE CONTRACTOR SHALL BE RESPONSIBLE TO FURNISH, ERECT, MAINTAIN, AND REMOVE ALL TRAFFIC CONTROL DEVICES IN ACCORDANCE WITH THE "OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES FOR CONSTRUCTION AND MAINTENANCE OPERATIONS", COPIES OF WHICH ARE AVAILABLE FROM THE OHIO DEPARTMENT OF TRANSPORTATION BUREAU, 1980 WEST BROAD STREET, COLUMBUS, OHIO 43223.
12. TYPE "C" STEADY BURN LIGHTS SHALL BE USED ON ALL BARRICADES, DRUMS AND SIMILAR TRAFFIC CONTROL DEVICES IN USE AT NIGHT.

DEL-CO WATER COMPANY

GENERAL NOTES FOR WATER LINE CONSTRUCTION

REVISED JANUARY 17, 2020

1. GENERAL NOTES AS MODIFIED BY DEL-CO AND SHOWN ON THE APPROVED CONSTRUCTION DRAWINGS SHALL SUPERSEDE THE REQUIREMENTS OF THE DEL-CO WATER COMPANY CONSTRUCTION STANDARDS MANUAL WHEREVER DISCREPANCIES OCCUR.
2. STANDARD GENERAL NOTES:
   a. WATER LINE DESIGN, MATERIALS, AND INSTALLATION METHODS SHALL CONFORM TO APPLICABLE SECTIONS OF RECOMMENDED STANDARDS FOR WATER WORKS (TEN STATES STANDARDS), AMERICAN WATER WORKS ASSOCIATION (AWWA) STANDARDS, AND THE DEL-CO WATER COMPANY CONSTRUCTION STANDARDS MANUAL. CONTRACTOR SHALL OBTAIN A COPY OF THE STANDARDS AND HAVE IN THEIR POSSESSION AT ALL TIMES DURING CONSTRUCTION. COORDINATE WORK WITH DEL-CO WATER (740) 548-7746.
   b. DEL-CO.'S SIGNATURE ON THIS PLAN SIGNIFIES ONLY CONCURRENCE WITH THE GENERAL PURPOSE AND LOCATION OF THE PROPOSED WATER LINE IMPROVEMENTS. ALL TECHNICAL DETAILS REMAIN THE RESPONSIBILITY OF THE PROFESSIONAL ENGINEER WHO PREPARED AND CERTIFIED THESE PLANS. DEL-CO WATER COMPANY TAKES NO RESPONSIBILITY, FINANCIAL OR OTHERWISE, REGARDING ERRORS IN THIS PLAN.
   c. CORRECTION OF ERRORS SHALL BE TO THE APPLICABLE DEL-CO WATER COMPANY STANDARD, AND THE SOLE RESPONSIBILITY OF THE DEVELOPER. ALL CORRECTIONS, OR REVISIONS THAT AFFECT DEL-CO.'S WATER LINE PLANS, DIRECTLY OR INDIRECTLY SHALL BE SUBMITTED TO, AND APPROVED BY DEL-CO WATER COMPANY PRIOR TO REVISIONS BEING ISSUED.
   d. GPS COORDINATES SHALL BE PROVIDED TO DEL-CO WATER AT THE COMPLETION OF THE WATERLINE INSTALLATION. THESE COORDINATES SHALL INCLUDE ALL MATERIALS, EQUIPMENT AND LABOR NECESSARY TO OBTAIN HORIZONTAL AND VERTICAL (NORTHING, EASTING AND ELEVATION) SURVEY COORDINATES FOR THE WATER MAIN IMPROVEMENTS. THE SURVEY COORDINATES SHALL BE OBTAINED AT THE COMPLETION OF THE WATER MAIN INSTALLATION AND SHALL INCLUDE ALL VALVES, TEES, FIRE HYDRANTS, BENDS, PLUGS, REDUCERS, TAPPED TEES, CURB STOPS, AIR RELEASES, 2" END-OF-LINE FIRE HYDRANTS, ENDS OF CASING PIPE, SERVICE SADDLES AND CORPORATIONS. ADDITIONAL GPS COORDINATES ARE REQUIRED ON THE WATER MAIN EVERY 200' WHERE NO FITTINGS OR SERVICE SADDLES ARE TO BE INSTALLED.
   e. GPS COORDINATES SHALL BE REFERENCED TO THE APPLICABLE COUNTY ENGINEER'S MONUMENTS AND SHALL BE BASED ON THE NORTH AMERICAN DATUM OF 1983 (NAD WITH THE NSRS2007 ADJUSTMENT, WITH FURTHER REFERENCE MADE TO THE OHIO STATE PLANE NORTH COORDINATE SYSTEM, NORTH ZONE, WITH ELEVATIONS BASED ON NAVD 88 DATUM. ALL COORDINATES (NORTHING, EASTING AND ELEVATION) SHALL BE REFERENCED TO THE NEAREST HUNDREDTH. ALL SURVEY COORDINATES SHALL BE ACCURATE TO WITHIN 0.6 FOOT OR LESS HORIZONTAL AND VERTICAL.
   f. THE GPS COORDINATES SHALL BE SUBMITTED TO THE DEL-CO WATER ENGINEERING DEPARTMENT IN DIGITAL SPREADSHEET FORM AND SHALL INCLUDE THE APPLICABLE ITEM, STATION, NORTHING, EASTING AND ELEVATION COORDINATES. THE ABOVE LISTED GPS COORDINATE INFORMATION SHALL BE SUBMITTED TO THE DEL-CO WATER ENGINEERING DEPARTMENT AS PART OF THE AS-BUILT DRAWING SUBMITTAL.
   g. AS-BUILT DRAWINGS ARE REQUIRED FOLLOWING THE COMPLETION OF CONSTRUCTION. ONE SET OF DRAWINGS MARKED "AS-BUILT" SHALL BE SUBMITTED BY THE DEVELOPER TO DEL-CO'S INSPECTION DEPARTMENT FOR REVIEW AND APPROVAL. WATER MAINS CANNOT RECEIVE A FINAL ACCEPTANCE UNTIL AS-BUILT DRAWINGS HAVE BEEN APPROVED. PLEASE NOTE: TAPS MAY NOT BE PURCHASED NOR INSTALLED UNTIL WATER LINES HAVE RECEIVED A FINAL ACCEPTANCE.
   h. WATER MAINS SHALL BECOME THE OWNERSHIP OF DEL-CO WATER UPON FINAL ACCEPTANCE.
   i. WATER LINE CONSTRUCTION PLANS ARE APPROVED FOR A PERIOD OF ONE YEAR FROM THE DATE OF THE APPROVAL LETTER OR SIGNED PLANS. IF CONSTRUCTION HAS NOT STARTED WITHIN ONE YEAR OF THE DATE OF APPROVAL, PLANS SHALL BE RESUBMITTED TO DEL-CO WATER COMPANY FOR APPROVAL.
3. WATER LINE CONSTRUCTION:
   a. WATER LINES SHALL BE NSF 61 APPROVED, AND COMPLIANT WITH ASTM D2241 & OHIO EPA ENG-08-002 STANDARDS.
   b. USE THE FOLLOWING TYPE AND CLASS OF PIPE UNLESS OTHERWISE INDICATED ON THE DRAWINGS:
      i. 2-INCH WATER LINE PIPE: CLASS 200 SDR 21 YELOMINE PVC (RESTRAINED JOINT).
      ii. 4-INCH WATER LINE PIPE: CLASS 200 SDR 21 PVC.
      iii. 6-INCH WATER LINE PIPE: CLASS 200 SDR 21 PVC.
      iv. 8-INCH TO 12-INCH WATER LINE PIPE: CLASS 160 SDR 26 PVC.
      v. 16-INCH AND LARGER WATER LINE PIPE: AWWA C151 CLASS 52 DIP.
      vi. 4-INCH PIPE AND LARGER USED FOR FIRE SERVICE: AWWA C900 DR 18 (150 PSI) PVC.
      vii. ALL SIZES OF DEL-CO-OWNED WATER LINES USED ON MASTER METER PROJECTS: CLASS 200 SDR 21 PVC.
   i. ALL FITTINGS SHALL BE MECHANICAL JOINT CONFORMING TO AWWA C153.
   j. ALL SIZES OF DUCTILE IRON PIPE SHALL BE INSTALLED WITH POLYETHYLENE ENCASEMENT.
   k. CROSSES SHALL NOT BE USED WITHOUT APPROVAL OF DEL-CO WATER COMPANY.
   l. ALL VALVES SHALL BE MECHANICAL JOINT CONFORMING TO AWWA WITH AISI 304 STAINLESS STEEL EXTERNAL HARDWARE. VALVES 12-INCH AND SMALLER SHALL BE RESILIENT-SEATED GATE VALVES PER AWWA C509 AND VALVES 16-INCH AND LARGER SHALL BE PRATT GROUNDHOG BUTTERFLY VALVES PER AWWA C504.
   m. PROVIDE HEAVY-DUTY VALVE BOXES ON ALL HOT-TAPS AND AT VALVES LOCATED UNDER GRAVEL OR PAVEMENT SURFACES.
   n. TOP OF VALVE BOX SHALL BE FLUSH WITH FINISHED GRADE IN PAVED AREAS, AND 4 INCHES ABOVE FINISHED GRADE IN NON-PAVED AREAS.
   o. MAINTAIN A MINIMUM 10-FOOT HORIZONTAL AND 1.5-FOOT VERTICAL SEPARATION BETWEEN WATER LINES AND SANITARY AND STORM SEWERS.
   p. ALL OTHER BURIED UTILITIES SHALL MAINTAIN A MINIMUM 5-FOOT HORIZONTAL SEPARATION, AND 2-FOOT VERTICAL SEPARATION FROM THE CENTERLINE OF WATER LINES AS FINALLY LAID AND CONSTRUCTED.
   q. PROVIDE CONCRETE THRUST BLOCKING FOR ALL FITTINGS, VALVES, ANCHOR TEES, AND HYDRANTS.
   r. BURY WATER LINES A MINIMUM DEPTH OF 48-INCHES TO THE TOP OF PIPE.
   s. ALL ENGINEERED FILL TO BE PLACED OVER OR UNDER DEL-CO WATER LINES SHALL BE IN PLACE PRIOR TO THE CONSTRUCTION OF THE WATER LINES.
   t. PLACE A 5-FOOT STEEL FENCE POST OR 4"X4" WOOD POST AT VALVES AND THE ENDS OF LINES. PAINT BLUE.
   u. TRACER WIRE:
      i. INSTALL COPPERHEAD® OR EQUAL 12-GAUGE HIGH STRENGTH 452LB BREAK STRENGTH 30 MIL HDPE JACKET, COPPER-CLAD, STEEL REINFORCED TRACER WIRE ON ALL WATER MAIN AND SERVICE LINES INSTALLED BY TRENCHING METHODS.
      ii. INSTALL COPPERHEAD® OR EQUAL 12-GAUGE EXTRA HIGH STRENGTH 1150LB BREAK STRENGTH 45 MIL HDPE JACKET, COPPER-CLAD, STEEL REINFORCED TRACER WIRE ON ALL WATER MAIN AND SERVICE LINES INSTALLED BY BORING METHODS.
      iii. FASTEN WIRE TO PIPE IN TWO PLACES PER PIPE SECTION. EXTEND TRACER WIRE TO GROUND SURFACE AT ALL VALVES AND HYDRANTS AS SHOWN IN THE DEL-CO STANDARD DETAIL. SPLICE WIRES USING BURNDY COPPER SPLIT BOLT KS-15. THOROUGHLY WRAP THE CONNECTOR AND BARE WIRES WITH 3M TEMFLEX 2155 RUBBER SPLICING TAPE, COVER ENTIRE CONNECTION WITH SCOTCH SUPER 88 HEAVY DUTY GRADE ELECTRICAL TAPE.
      iv. CONNECT ALL SERVICE LINE WIRES TO MAIN LINE WIRES USING BURNDY COPPER SPLIT BOLT KS-15. THOROUGHLY WRAP THE CONNECTOR AND BARE WIRES WITH 3M TEMFLEX 2155 RUBBER SPLICING TAPE, COVER ENTIRE CONNECTION WITH SCOTCH SUPER 88 HEAVY DUTY GRADE ELECTRICAL TAPE.

I:\20230988\Dwg\04Sheets\Street\20230988-ROAD-02-03.dwg, Last Saved By: kharmon, 5/21/2024 9:13 AM Last Printed By: Harmon, Kyle 5/21/2024 3:28 PM (No Xrefs)

REVISIONS

MARK	DATE	DESCRIPTION

M/I HOMES
mihomes.com

BERLIN TOWNSHIP, DELAWARE COUNTY, OHIO
STREET, STORM SEWER & WATER IMPROVEMENTS
FOR
BERLIN FARM WEST
SECTION 4 & ROLOSON-PIATT ROAD
GENERAL NOTES

EMH&T
Evans, Mechwart, Hambleton & Tilton, Inc.
Engineers • Surveyors • Planners • Scientists
5500 New Albany Road, Columbus, OH 43054
Phone: 614.775.4500 Toll Free: 888.775.3648
emht.com

DATE May, 2024

SCALE None

JOB NO. 20230988

SHEET 2/30

v. CONTRACTOR SHALL TEST THE CONTINUITY OF ALL WIRE USING A THIRD-PARTY TESTER.

1. CONTRACTOR SHALL CONTACT DEL-CO.'S INSPECTION DEPARTMENT A MINIMUM OF 24 HOURS PRIOR TO TEST.
2. TESTER SHALL SEND A SIGNED REPORT TO DEL-CO WATER INSPECTION DEPARTMENT AFFIRMING ALL WIRE HAS CONTINUITY.
3. CONTRACTOR SHALL REPAIR ALL DEFICIENCIES.

4. WATER SERVICE CONSTRUCTION (BETWEEN MAIN LINE AND METER PIT):

a. ALL WATER SERVICES SHALL BE CONSTRUCTED AND INSTALLED PER AWWA C800.

b. FOR METERS 1-INCH AND SMALLER, USE 1-INCH CLASS 200 SDR 7 IRON PIPE SIZE (IPS) POLYETHYLENE PIPE.

c. CONNECTIONS TO PVC PIPE SHALL BE MADE WITH APPROVED TAPPING SADDLE AND CORPORATION STOP PER DEL-CO SUBDIVISION CONSTRUCTION STANDARDS MANUAL.

d. CONNECTIONS TO DIP SHALL BE BY DIRECT TAP OR SADDLE AND APPROVED CORPORATION STOP PER DEL-CO SUBDIVISION CONSTRUCTION STANDARDS MANUAL.

e. PROVIDE A CURB STOP WITH 1-INCH FEMALE IRON PIPE THREADS ON THE CUSTOMER SIDE AT THE END OF SERVICE LINES. LOCATE AT ROW, BUT A MINIMUM OF FIVE FEET FROM EDGE OF SIDEWALK UNLESS OTHERWISE APPROVED OR DIRECTED BY DEL-CO.

f. ALL SERVICE LINE VALVES 1½-INCH AND LARGER SHALL BE MECHANICAL JOINT GATE VALVES, RESTRAINED WITH DUCT-LUGS AND GALVANIZED ALL THREAD ROD, OR ANCHOR TEES WHERE APPLICABLE.

g. MINIMUM DEPTH OF COVER SHALL BE 48 INCHES.

h. PLACE A 5-FOOT STEEL FENCE POST OR 4"X4" WOOD POST AT THE ENDS OF ALL SERVICE LINES, PAINT BLUE.

i. CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING SPECIAL BACKFILL MATERIAL FOR ALL LINES, INCLUDING THOSE INSTALLED BY DEL-CO WATER COMPANY, WHERE REQUIRED BY THE COUNTY OR CITY ENGINEER.

5. FIRE HYDRANTS:

a. FIRE HYDRANTS SHALL CONFORM TO AWWA C502 FOR DRY BARREL HYDRANTS.

b. MAIN VALVE: 5.25-INCH COMPRESSION.

c. NOZZLES:

i. THREADING: CONFORM TO NFPA NATIONAL STANDARD FIRE HOSE THREADS.

ii. 4.5-INCH STEAMER, EXCEPT IN THE FOLLOWING LOCATIONS PROVIDE AN INTEGRAL STORZ CONNECTION; HARRINGTON HIHS50 OR EQUAL: BERKSHIRE, BERLIN, CONCORD, GENOA, KINGSTON, LIBERTY, ORANGE, PORTER, TRENTON, AND SCIOTO TOWNSHIPS; THE CITIES OF POWELL AND SUNBURY; AND THE VILLAGE OF GALENA.

iii. TWO 2.5-INCH HOSE CONNECTIONS.

d. INLET CONNECTION: 6-INCH MECHANICAL JOINT.

e. OPERATING NUT: 1.5-INCH PENTAGON, TURN COUNTERCLOCKWISE TO OPEN.

f. PLACEMENT OF HYDRANT: 2 FEET FROM THE BACK OF CURB OR 8 FEET FROM THE EDGE OF PAVEMENT ON NON-CURBED STREETS.

g. EXTENSIONS AND PARTS: SHALL BE MANUFACTURED BY THE ORIGINAL EQUIPMENT MANUFACTURER.

h. APPROVED MANUFACTURERS: MUELLER SUPER CENTURION 200, AMERICAN FLOW CONTROL B-84-B, CLOW MEDALLION, M&H MODEL 129M, AVK NOSTALGIC 2780, OR KENNEDY GUARDIAN K81D.

i. PAINTING: REPAINT ALL HYDRANTS AFTER INSTALLATION PER DEL-CO SUBDIVISION CONSTRUCTION STANDARDS MANUAL SECTION 02731, PART 2.06.

i. LIBERTY TOWNSHIP, POWELL, AND SUNBURY: SAFETY RED.

ii. OTHER TOWNSHIPS: SAFETY YELLOW

iii. FIRE HYDRANTS LOCATED ON PRIVATE WATER LINES SHALL BE PAINTED INDUSTRIAL GREEN.

6. DISINFECT ALL WATER LINES IN ACCORDANCE WITH AWWA C651 AND DEL-CO SPECIFICATIONS.

7. ALL PIPE INSTALLATION AND PRESSURE TESTING SHALL BE IN ACCORDANCE WITH AWWA C600 FOR DUCTILE IRON PIPE AND C605 FOR PLASTIC PIPE, AND DEL-CO SPECIFICATIONS.

a. CONTRACTOR SHALL PROVIDE ALL EQUIPMENT NECESSARY TO PERFORM PRESSURE TEST.

b. SCHEDULE TEST BETWEEN 8:00 AM AND 2:00 PM WEEKDAYS. NOTIFY DEL-CO 24 HOURS PRIOR TO TEST.

8. OBTAIN WRITTEN APPROVAL OF MATERIAL AND MANUFACTURERS LIST FROM DEL-CO WATER PRIOR TO BEGINNING CONSTRUCTION.

9. PROVIDE CASING PIPE FOR ALL ROAD CROSSINGS UNLESS OTHERWISE APPROVED BY DEL-CO. CASING PIPE SHALL BE STEEL PIPE WITH 0.375-INCH WALL THICKNESS, OR PVC C900 FOR WATER LINES 12-INCH DIA. OR LESS. CASINGS FOR WATER LINES LARGER THAN 12-INCH DIA. MAY BE AWWA C905.

10. EASEMENTS SHALL BE PROVIDED TO DEL-CO WATER BEFORE PERMISSION WILL BE GIVEN TO MAKE NEW SERVICE LINE CONNECTIONS.

11. CONNECTIONS TO EXISTING WATER LINES WILL BE MADE BY DEL-CO WATER AT THE CONTRACTOR'S EXPENSE, OR PERFORMED BY CONTRACTORS WHO ARE APPROVED FOR MAKING CONNECTIONS. NOTIFY ALL PROPERTY OWNERS, AND DEL-CO WATER, IN WRITING 48 HOURS BEFORE STARTING CONSTRUCTION.

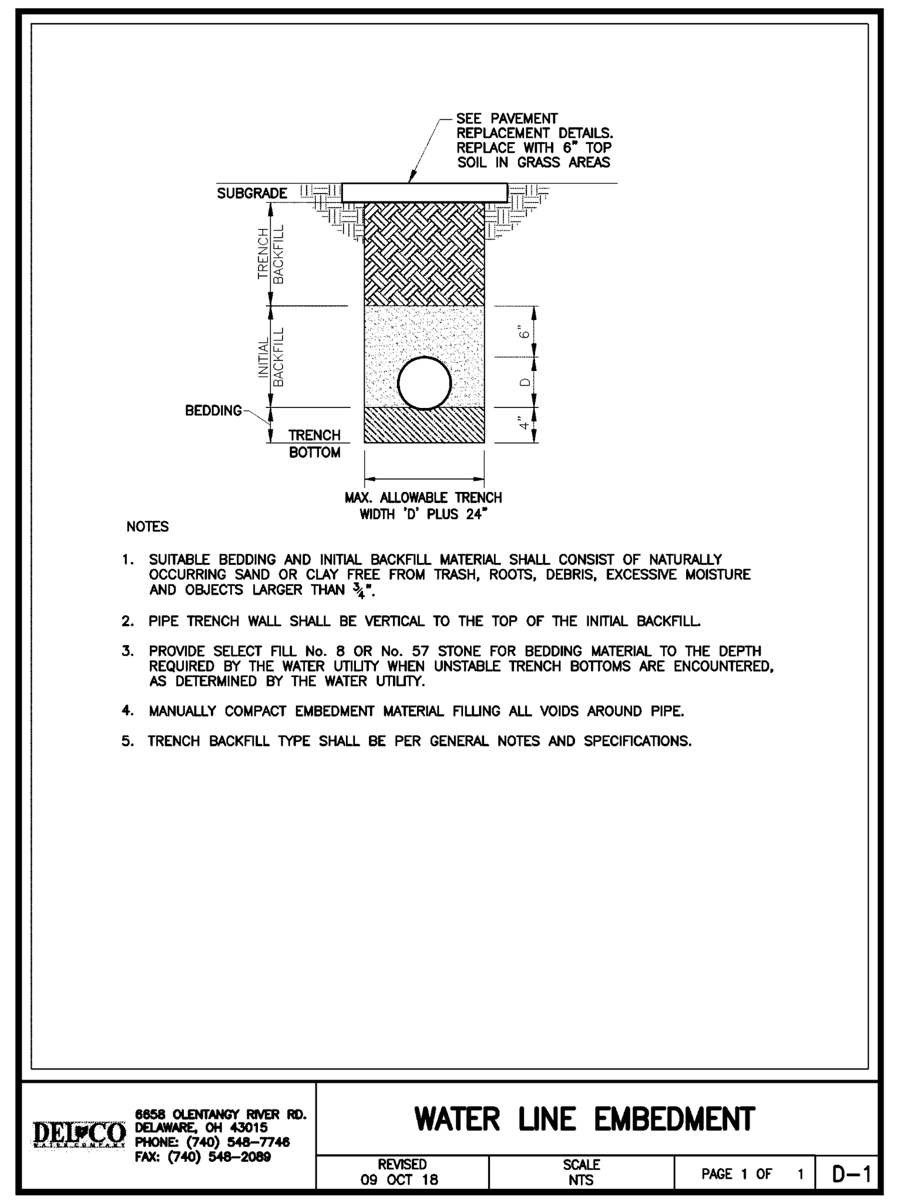
12. CONTRACTOR SHALL EXCAVATE TO DETERMINE THE LOCATION AND DEPTH OF EXISTING WATER LINES WHEREVER COVER OVER THE WATER LINES IS BEING REDUCED. IF THE FINAL DEPTH OF THE WATERLINE WILL BE BELOW DEL-CO WATER STANDARDS, CONTRACTOR SHALL SUBMIT A RELOCATION PLAN FOR APPROVAL BY DEL-CO WATER, AND RELOCATE THE WATER LINE AT THEIR EXPENSE.

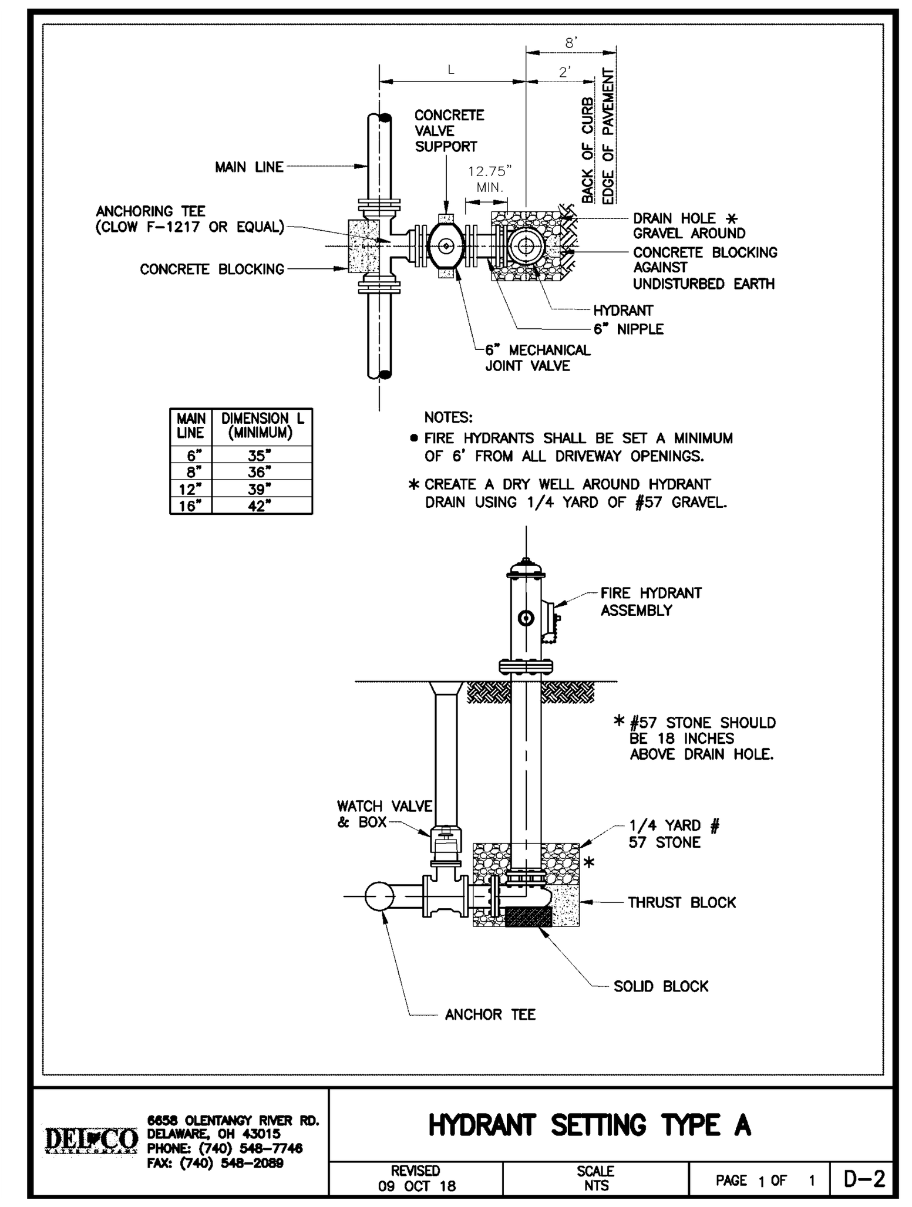
13. CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING AND PROTECTING THE WATER LINE PRIOR TO FINAL ACCEPTANCE BY DEL-CO WATER, AND REPAIRING ALL DAMAGES FROM CONSTRUCTION ACTIVITY.

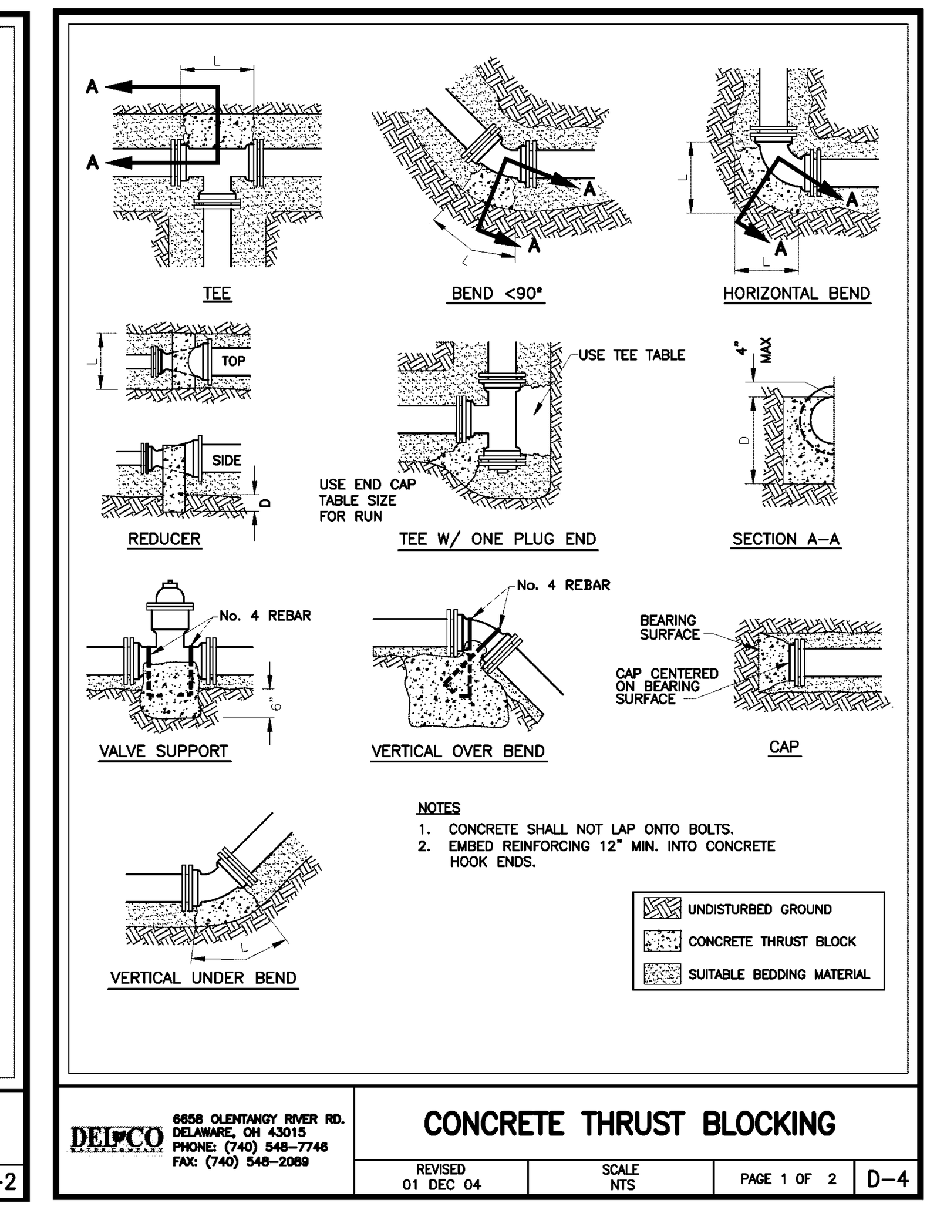
14. DO NOT FILL NEW WATER LINES UNTIL APPROVED BY DEL-CO WATER CO.

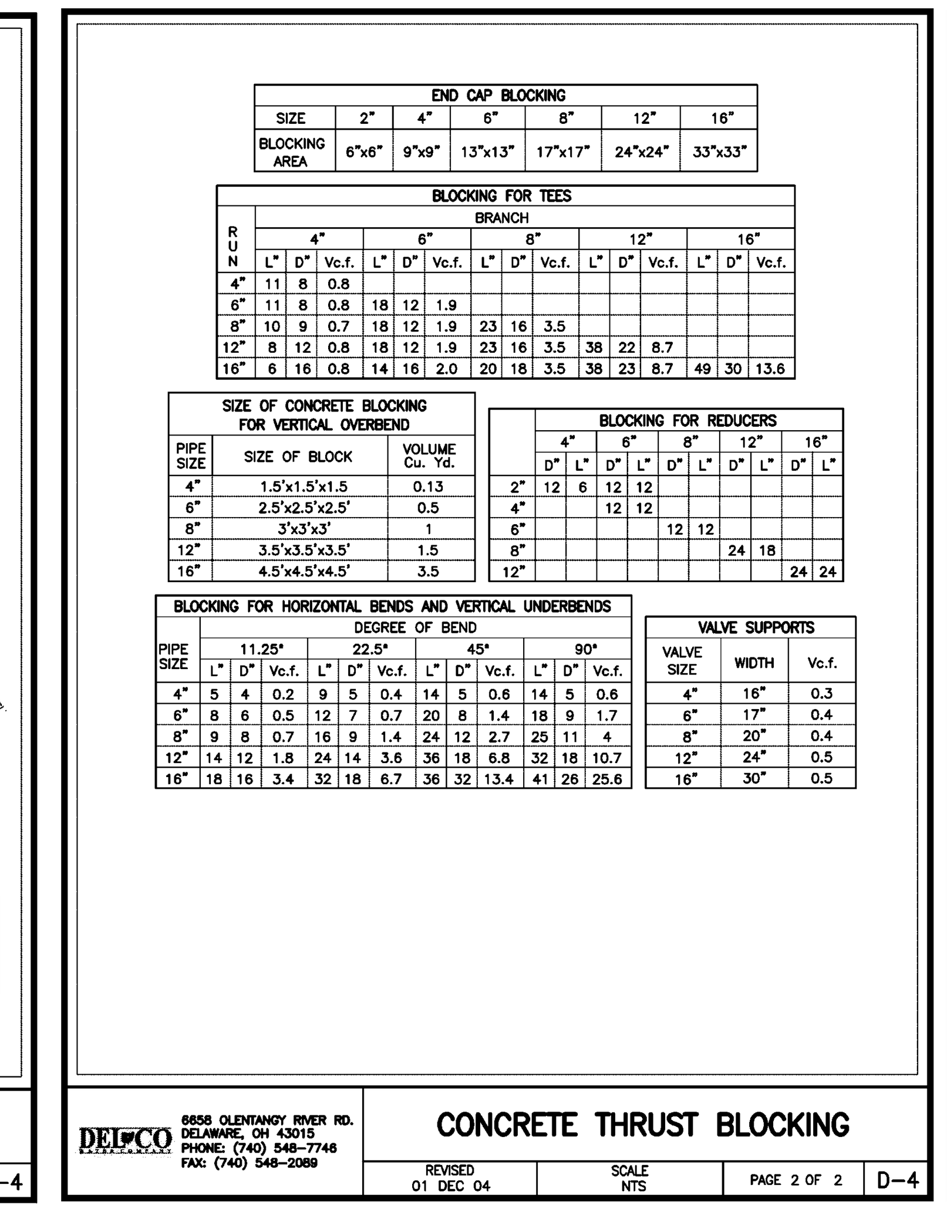
15. BOOSTER PUMPS ARE NOT ALLOWED ON INDIVIDUAL SERVICES.

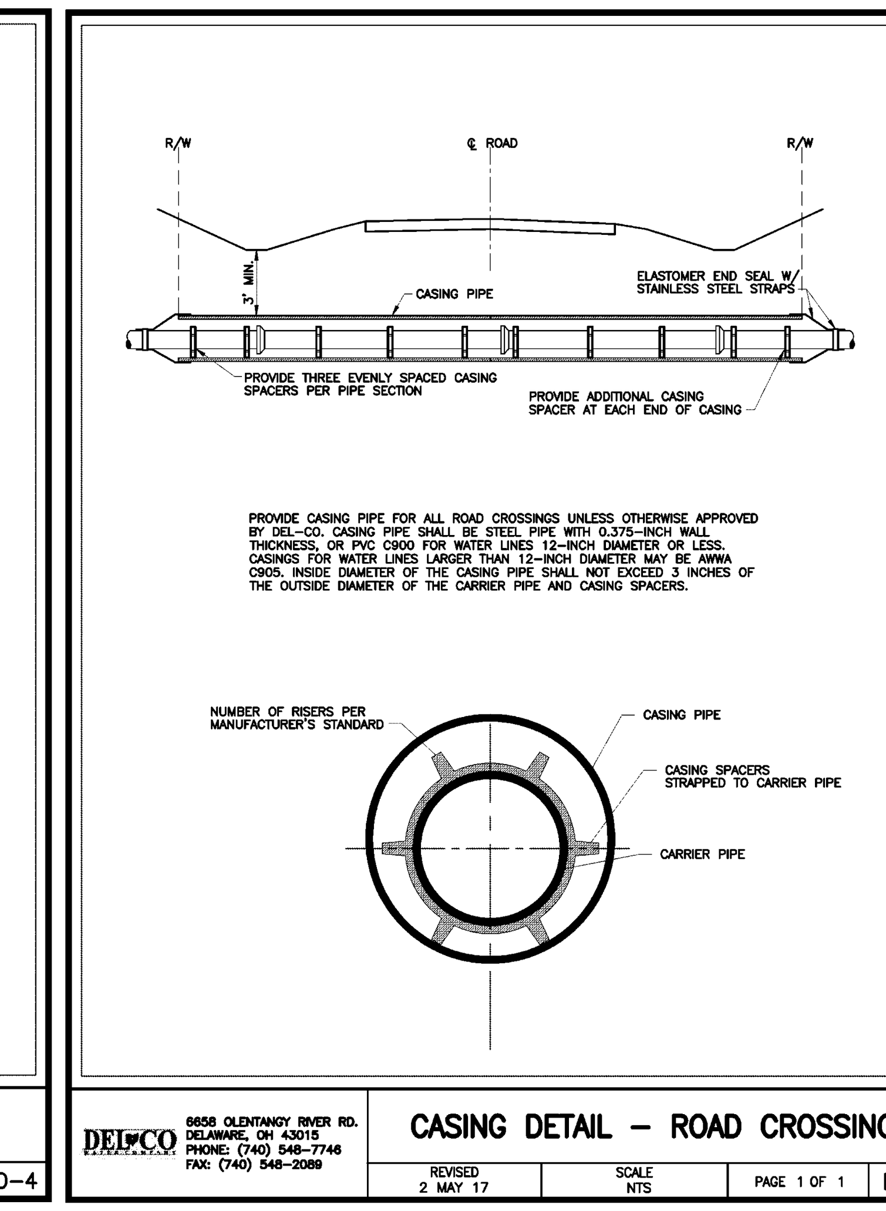
16. ALL WATER MAINS, INCLUDING THOSE NOT DESIGNED TO PROVIDE FIRE PROTECTION, SHALL BE SIZED FOLLOWING AN ANALYSIS BASED ON FLOW DEMANDS, AND PRESSURE REQUIREMENTS. THE SYSTEM SHALL BE DESIGNED TO MAINTAIN A MINIMUM PRESSURE OF 20 PSI AT GROUND LEVEL AT ALL POINTS IN THE DISTRIBUTION SYSTEM UNDER ALL DESIGNED FLOW CONDITIONS. NORMAL WORKING PRESSURE IN THE DISTRIBUTION SYSTEM SHALL NOT BE LESS THAN 35 PSI.

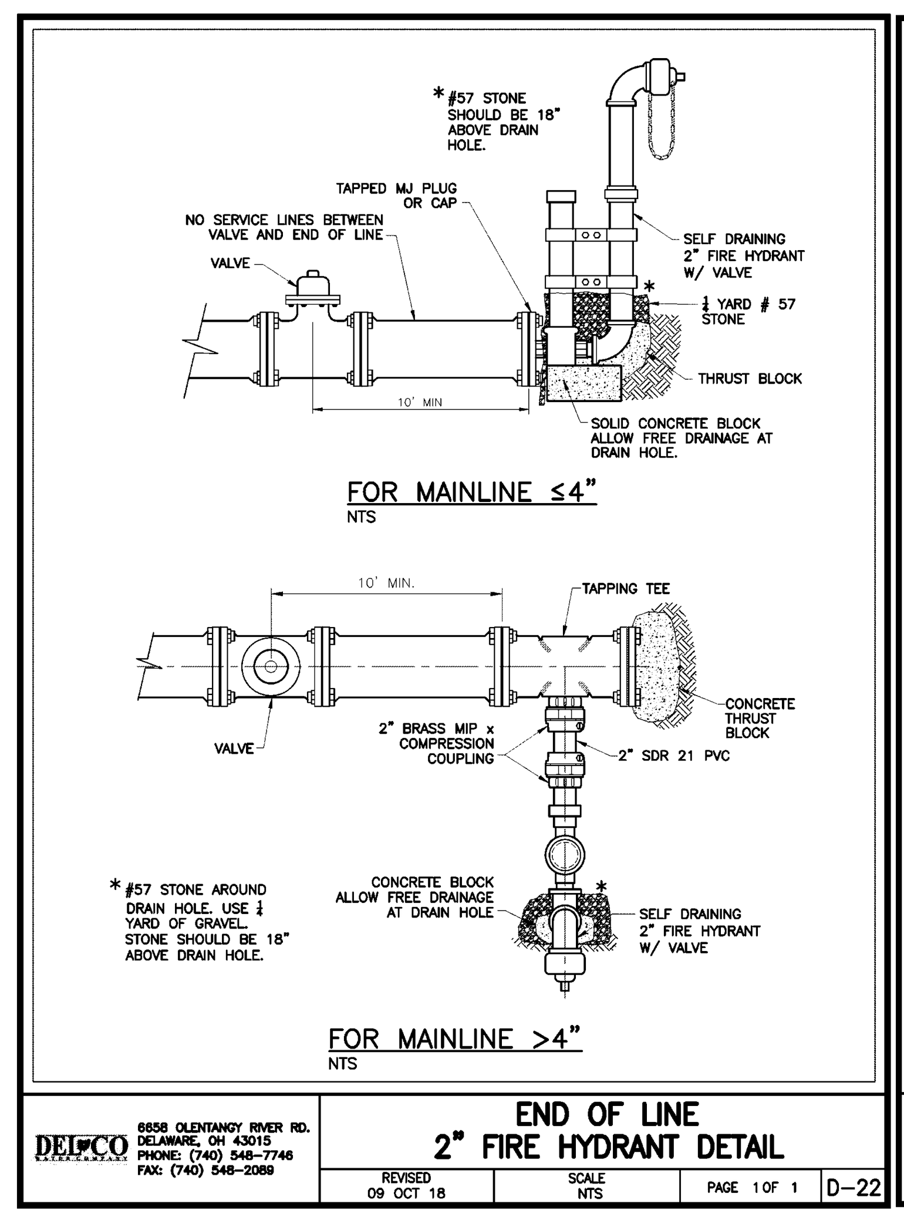


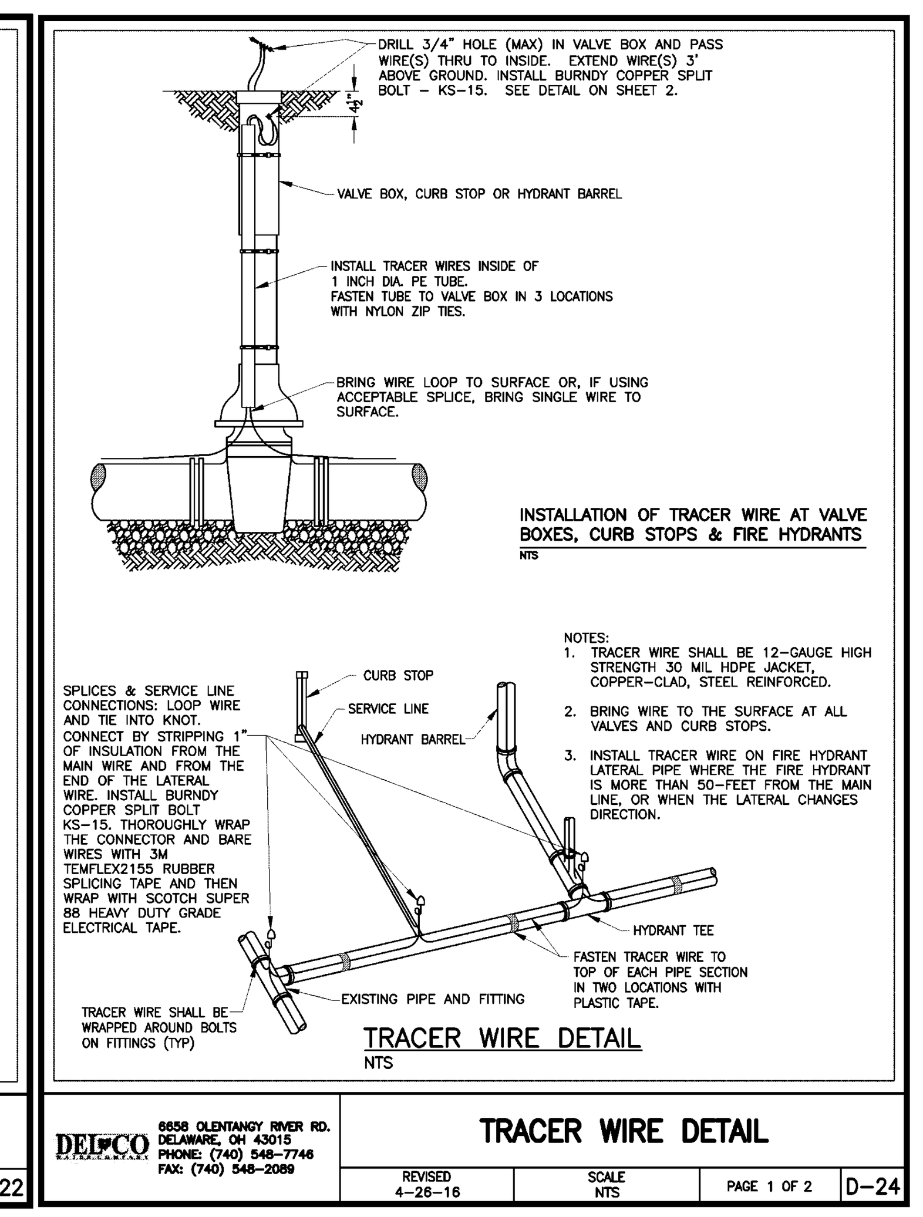


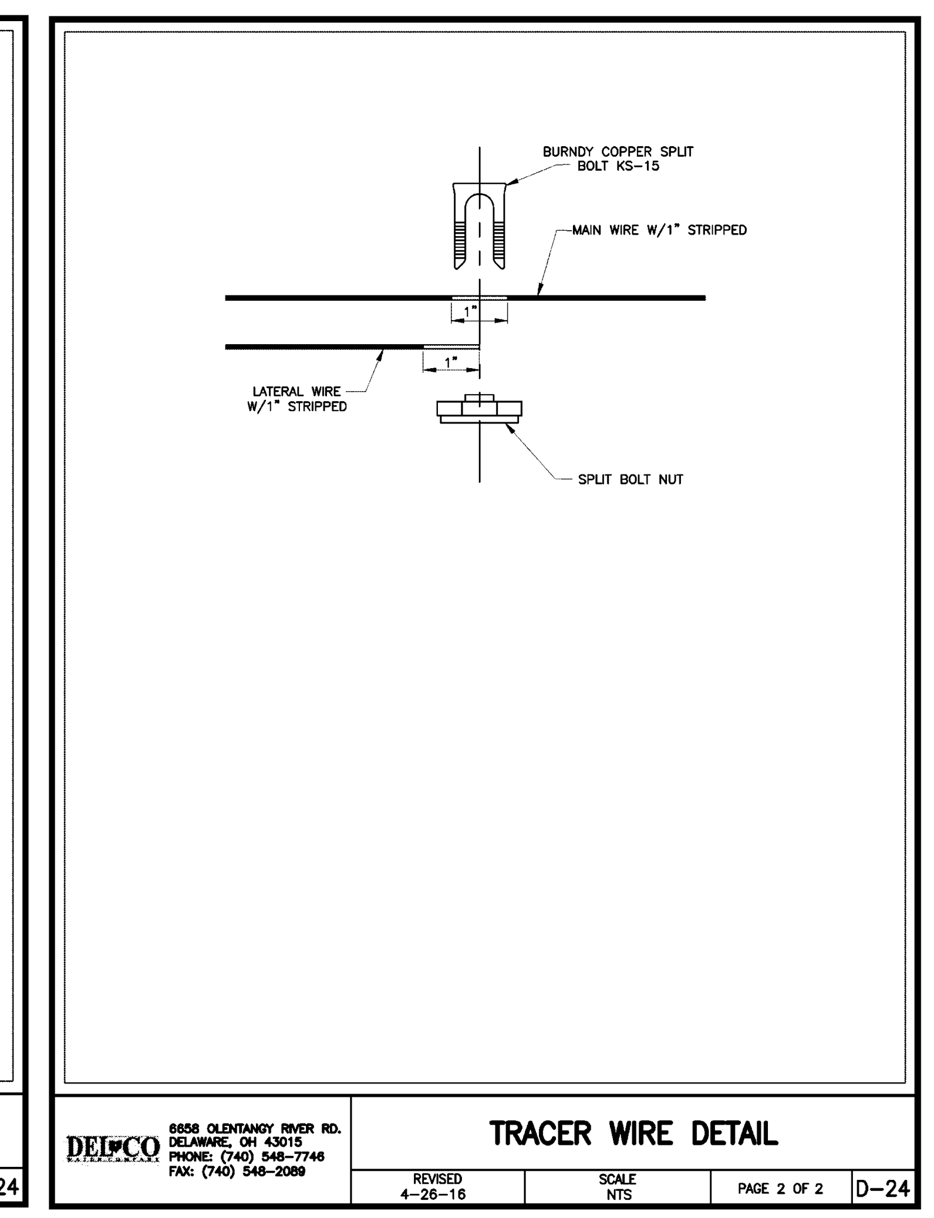


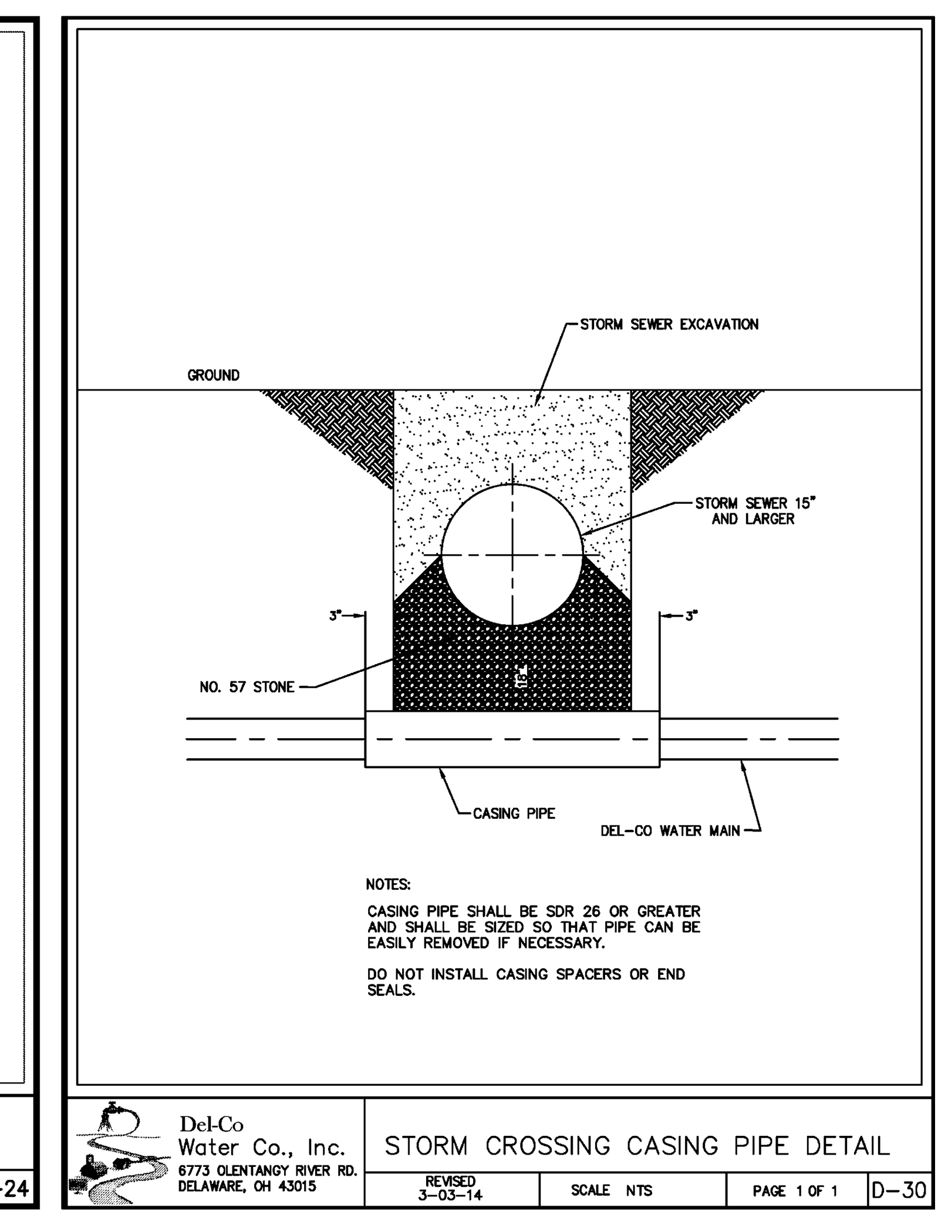


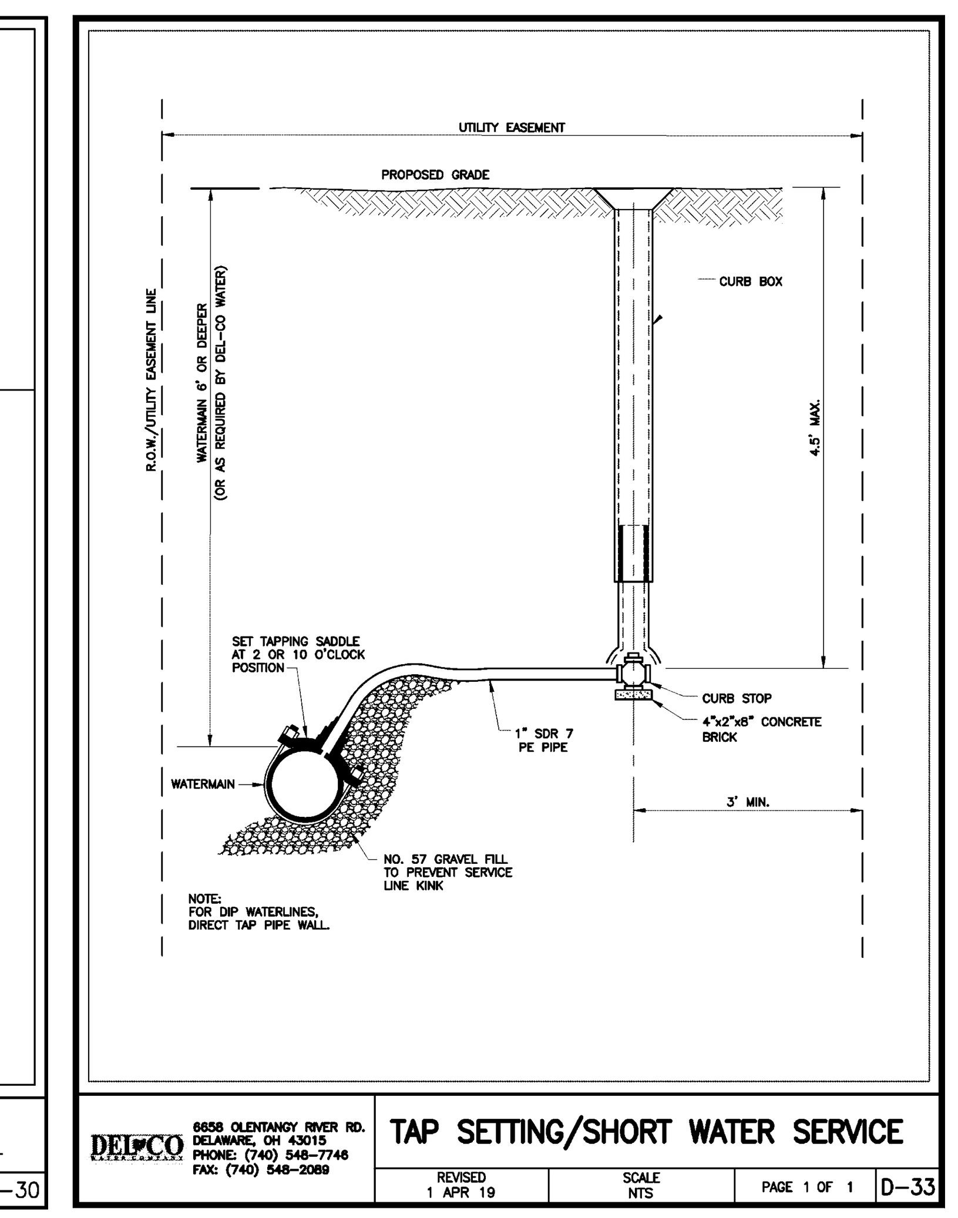


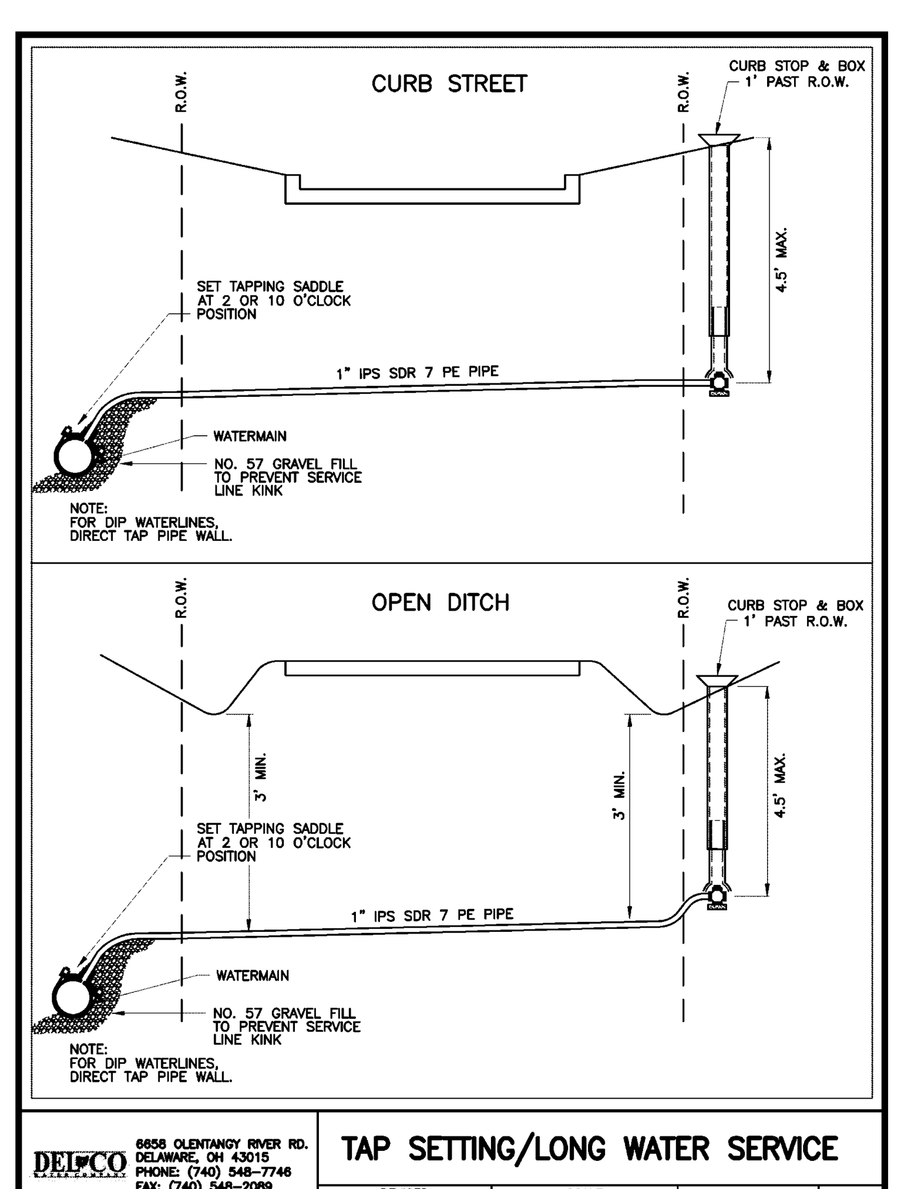


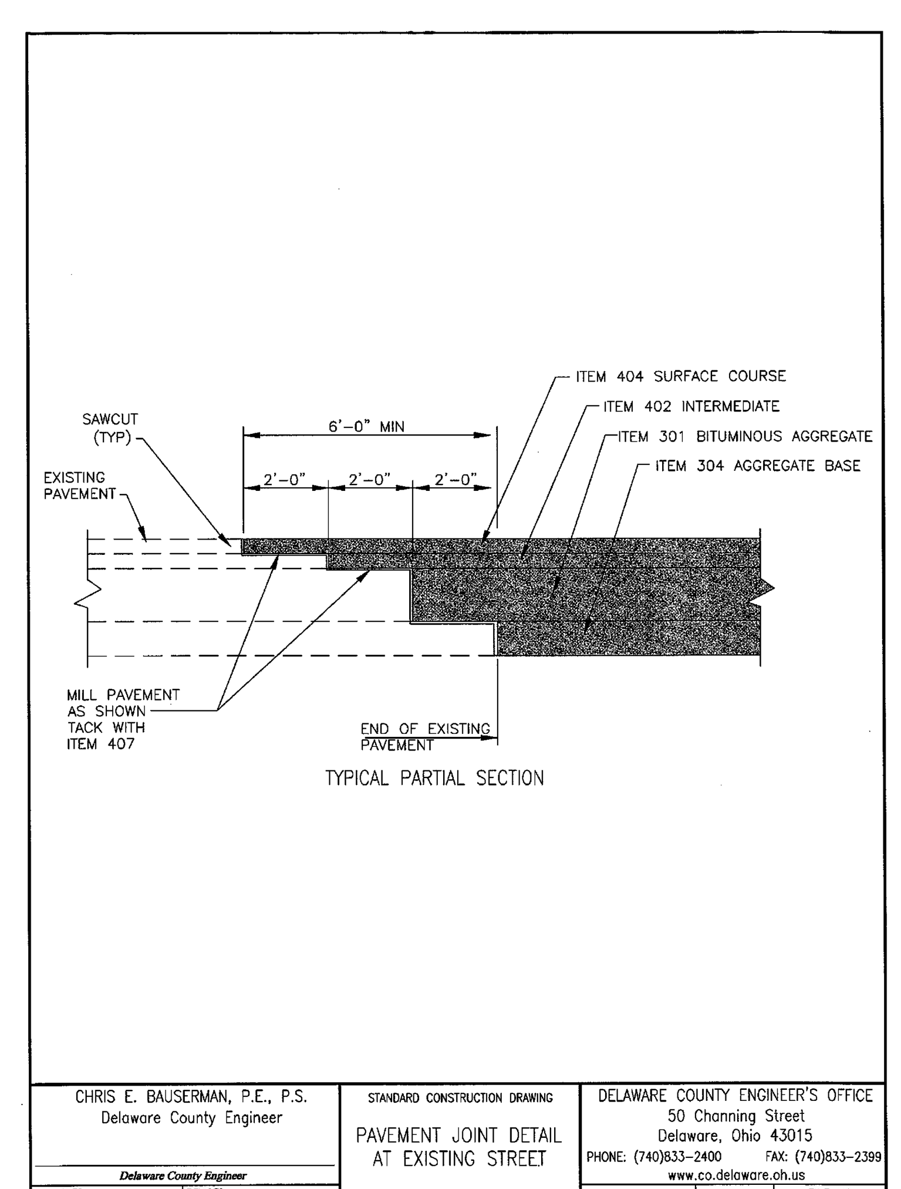


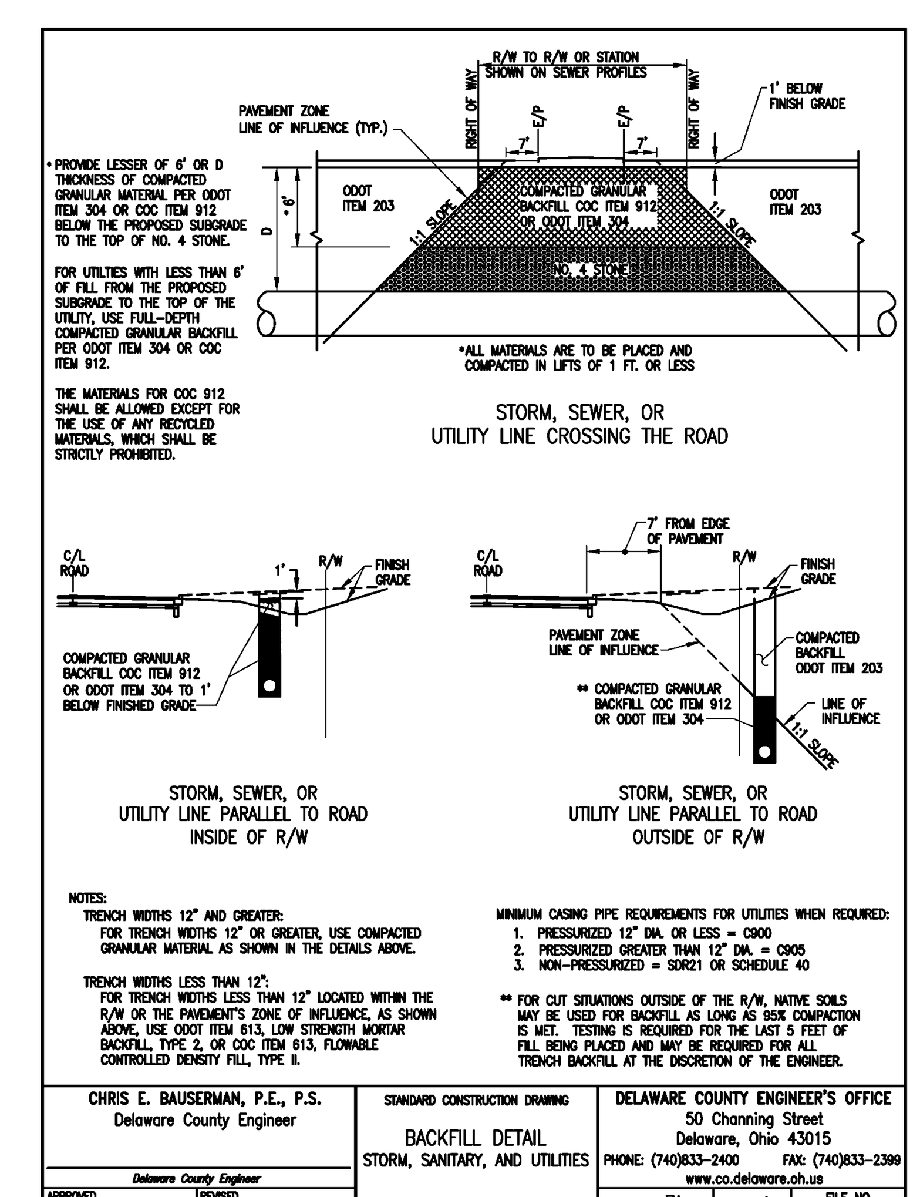


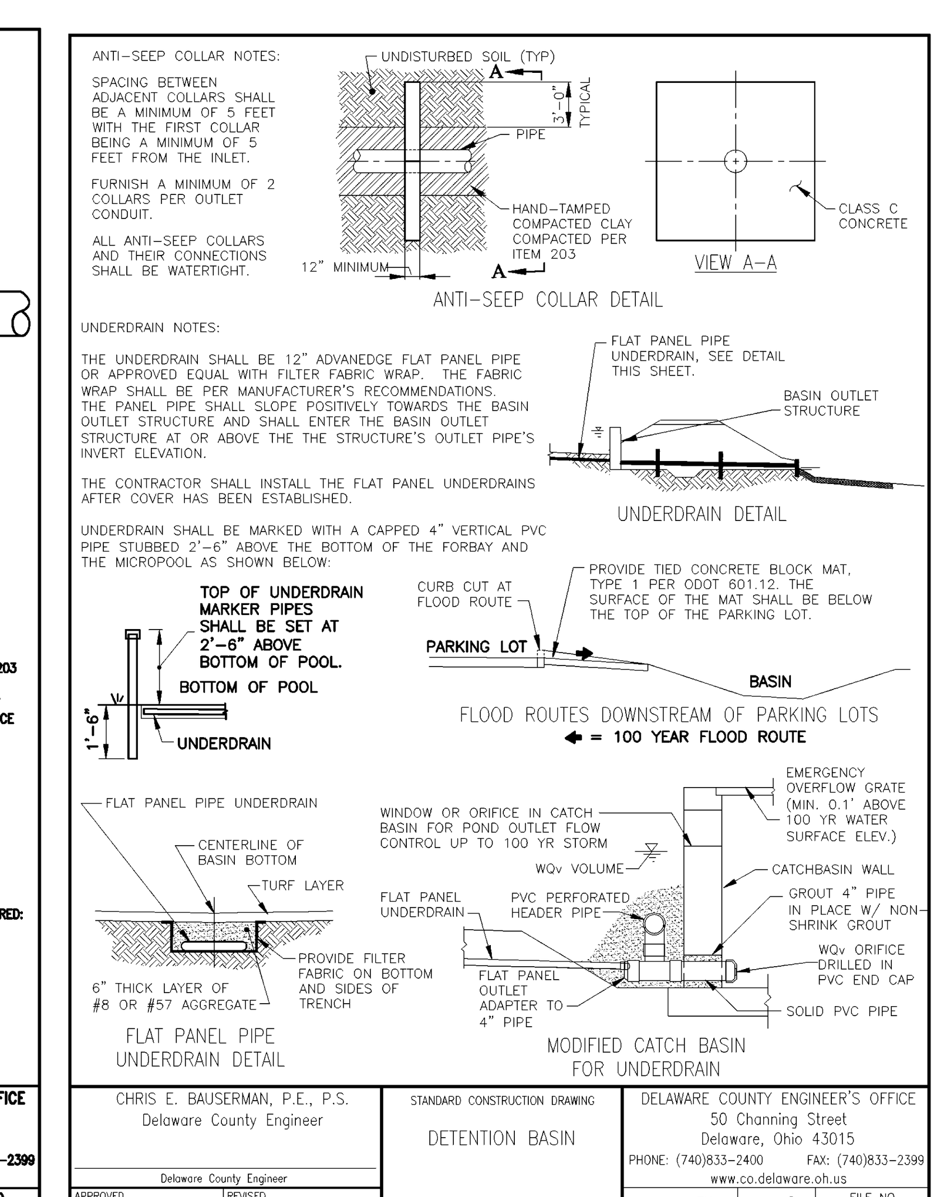


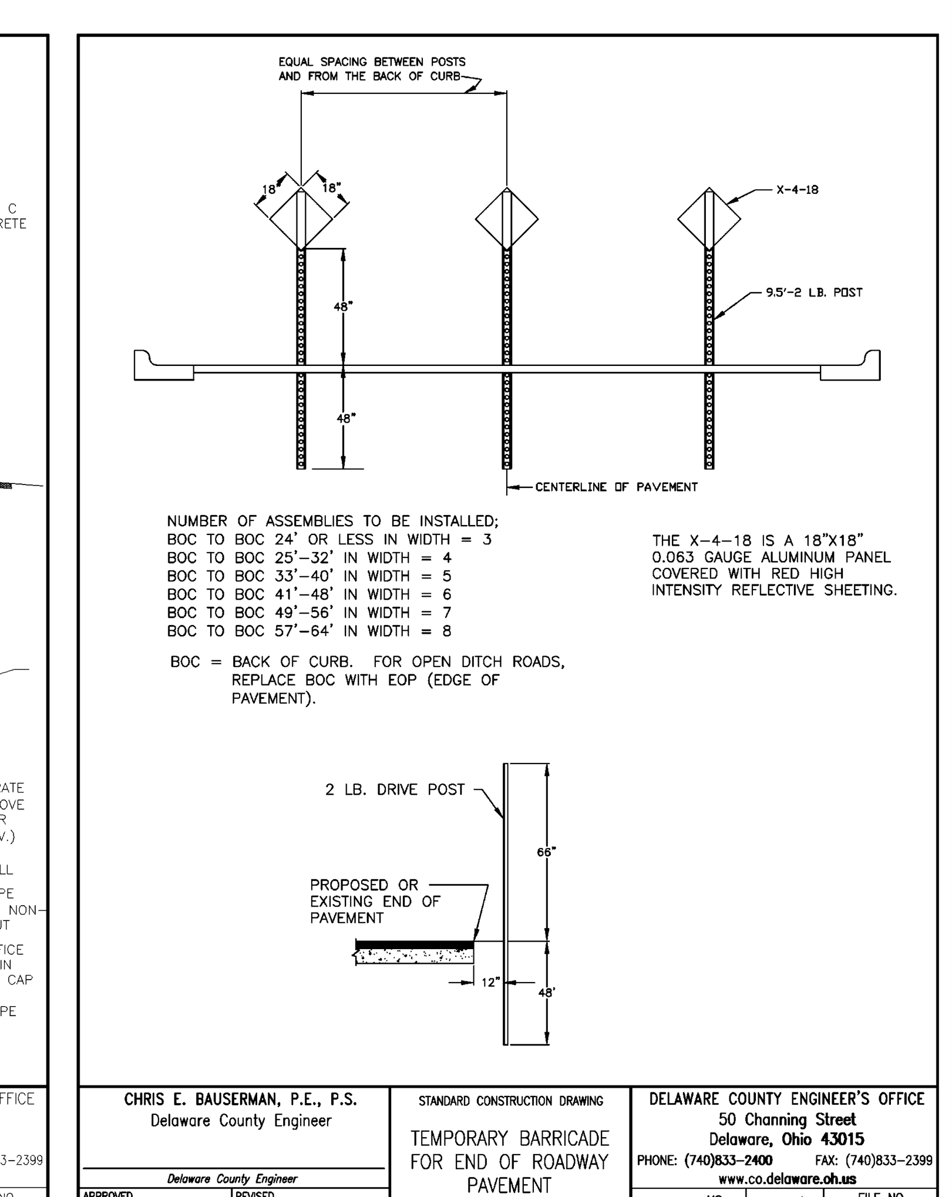












REVISIONS

MARK	DATE	DESCRIPTION

M/I HOMES
mihomes.com

BERLIN TOWNSHIP, DELAWARE COUNTY, OHIO
STREET, STORM SEWER & WATER IMPROVEMENTS
FOR
BERLIN FARM WEST
SECTION 4 & ROLOSON-PIATT ROAD
GENERAL NOTES & DETAILS

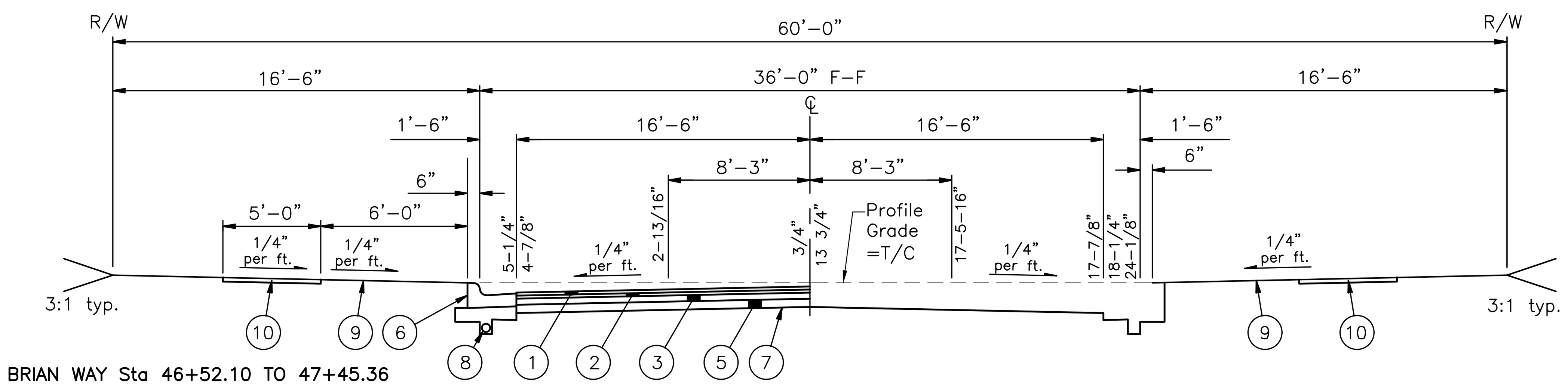
EMH&T
Evans, Mechwart, Hambleton & Tilton, Inc.
Engineers • Surveyors • Planners • Scientists
5500 New Albany Road, Columbus, OH 43054
Phone: 614.775.4500 Toll Free: 888.775.3648
emht.com

DATE May, 2024

SCALE None

JOB NO. 20230988

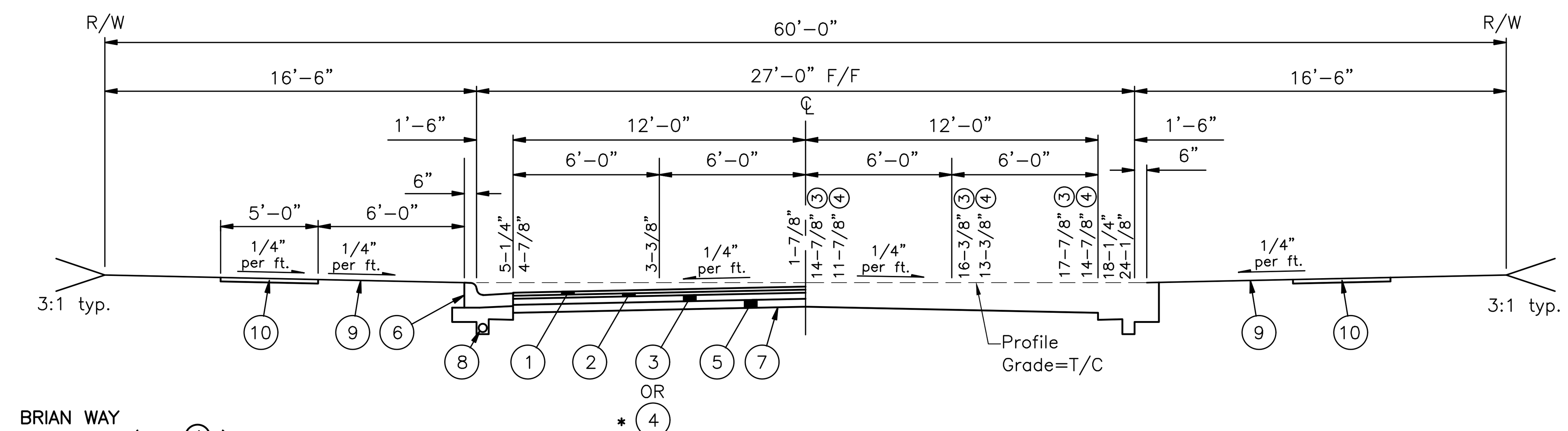
SHEET 3/30



BRIAN WAY Sta 46+52.10 TO 47+45.36

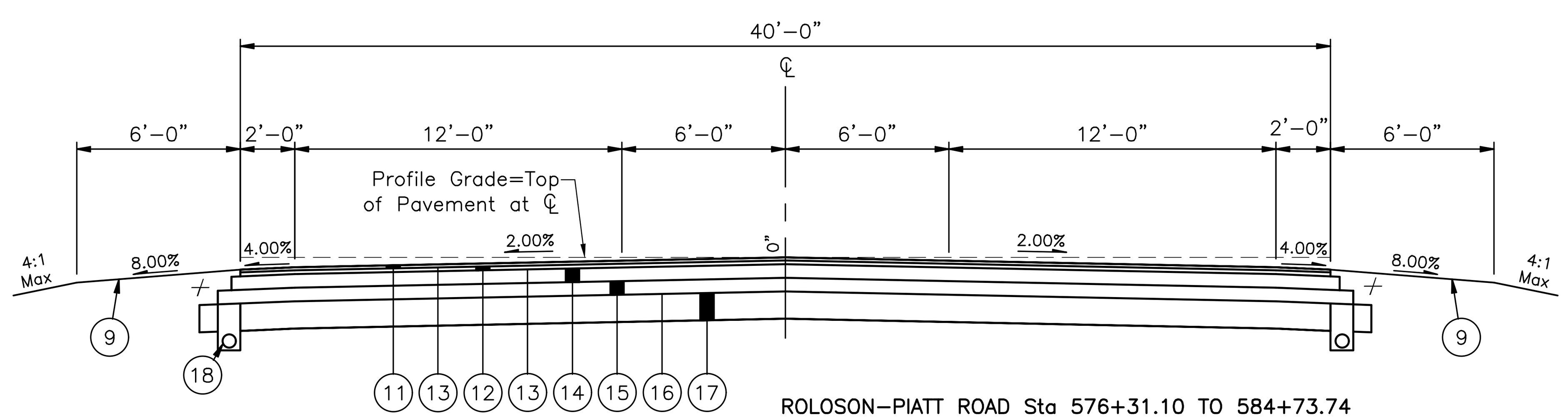
BRIAN WAY
Transition F/F from 27' to 36'
Sta 45+12.36 to 46+01.96 (South)
Sta 45+12.36 to 46+52.10 (North)
See Sheet 8 for Transition Detail

TYPICAL 36'-0" PAVEMENT SECTION (60' R/W) (SNc)
Not to Scale
DCED–R2135A and Article V, 601C
Street Classification: Local
CBR=2.9 (worst case)
SN_S=3.71



BRIAN WAY
* MARIE WAY (Use ④)
* PAUL EDWARD DRIVE (Use ④)
* MARSHALL LANE (Use ④)

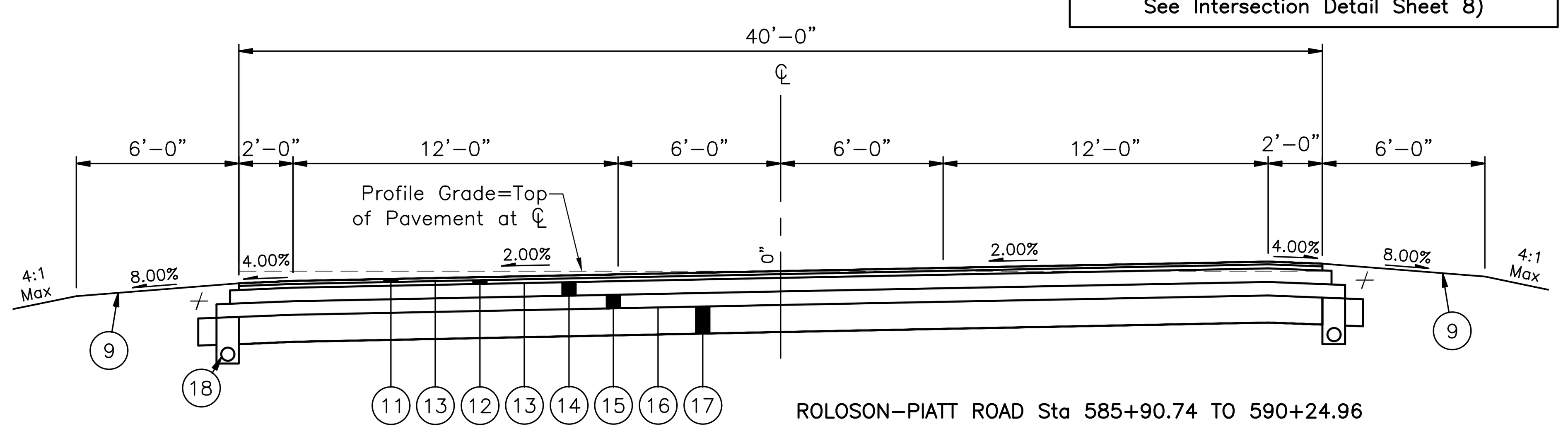
TYPICAL 27'-0" PAVEMENT SECTION (60' R/W) (SNc)
Not to Scale
DCED–R2135C
Street Classification: Local
CBR=2.9 (worst case)
SN_S=3.71



ROLOSON–PIATT ROAD Sta 576+31.10 TO 584+73.74

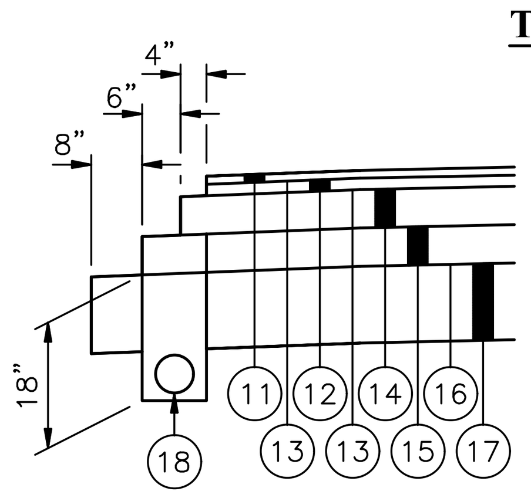
TYPICAL 40'-0" PAVEMENT SECTION
Not to Scale
Street Classification: Urban Local Road

Transition from Crowned Section to Superelevated Section Within Brian Way Intersection (Sta 584+73.74 to 585+90.74, See Intersection Detail Sheet 8)



ROLOSON–PIATT ROAD Sta 585+90.74 TO 590+24.96

TYPICAL 40'-0" SUPERELEVATED PAVEMENT SECTION
Not to Scale
Street Classification: Urban Local Road



+ TYPICAL ASPHALT EDGE COURSE DETAIL
Not to Scale

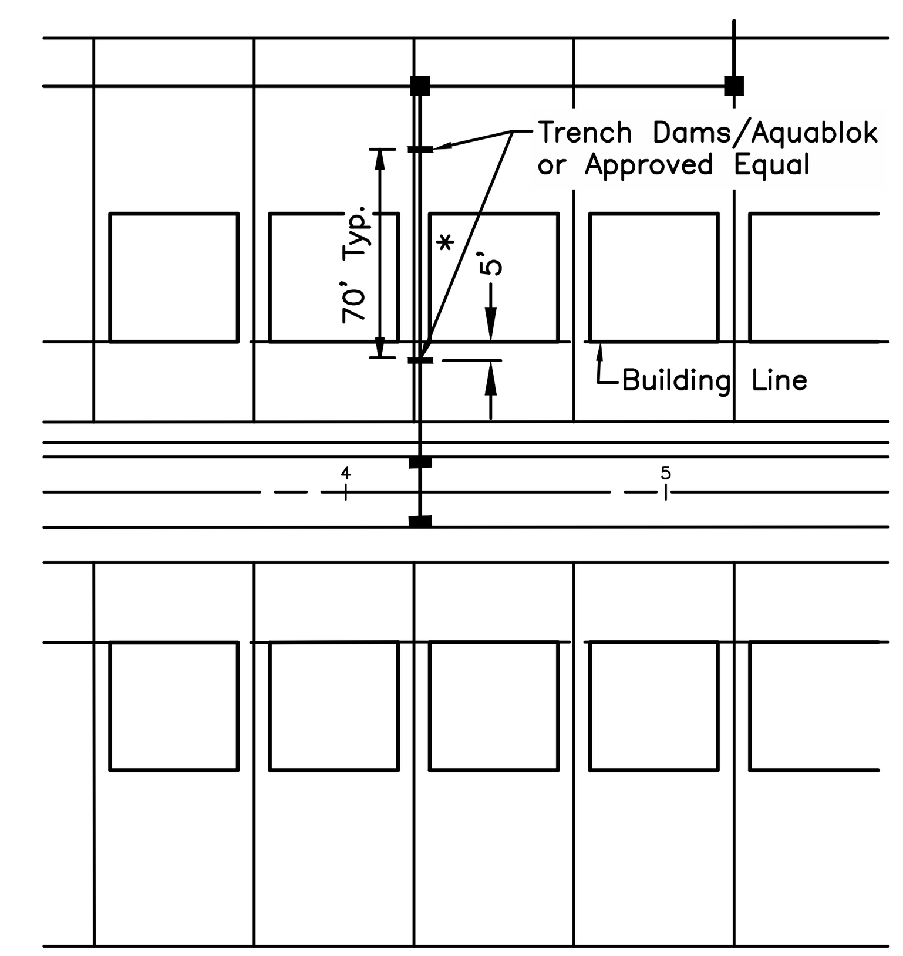
ROLOSON-PIATT ROAD DESIGN DESIGNATION
Design Year ADT (2040): 1562
Design Hourly Volume (2040): 350
Directional Distribution: N/A
Trucks (24 Hour B&C): 7.5%
Design Speed: 45 mph
Legal Speed: 45 mph

ADT & STREET LENGTH SUMMARY TABLE

Street Name	ADT	Width (F/F)	Station Begin	Station End	Length (Miles)	R/W Width
BRIAN WAY	1400	27'/36'	28+22.84	47+45.36	0.364	60'
MARIE WAY	130	27'	13+54.61	16+28.35	0.052	60'
PAUL EDWARD DRIVE	160	27'	14+57.86	16+82.44	0.043	60'
MARSHALL LANE (WEST)	160	27'	0+43.50	1+64.00	0.023	60'
MARSHALL LANE (EAST)	160	27'	13+97.13	14+88.46	0.017	60'
Terrain:	Level					
Design Speed:	30 mph					
Posted Speed:	25 mph					

PAVEMENT LEGEND
(Per Delaware County Standards)

1. Item 441, 1 1/2" Asphalt Concrete, Surface Course
2. Item 441, 1 1/2" Asphalt Concrete, Intermediate Course
3. Item 301, 6" Bituminous Aggregate Base
4. Item 301, 3" Bituminous Aggregate Base
5. Item 304, 4" Aggregate Base
6. 6" Concrete Combined Curb & Gutter Per DCED–R2010
7. Item 204, Compacted Subgrade
8. Item 605, 4" Pipe Underdrain w/No.8 or No.57 Stone
9. Item 659, Seeding & Mulching
10. Standard Sidewalk (4" Thick) per Dwg DCED–R2300
11. Item 441, 1 1/4" Asphalt Concrete, Surface Course, Type 1, (448), PG64–22
12. Item 441, 1 3/4" Asphalt Concrete, Intermediate Course, Type 2 (448)
13. Item 407, Tack Coat
14. Item 301, 6" Asphalt Concrete Base, PG64–22
15. Item 304, 6" Aggregate Base
16. Item 204, Proof Rolling
17. Item 206, Cement Stabilized Subgrade, 12" Deep
18. Item 605, 6" Base Pipe Underdrain



* Note: For all Storm Sewer Pipe along the Side Yard of a Lot, as denoted with a (+) in the storm profiles, Contractor shall use Reinforced Concrete Pipe (ASTM C–76) with "O"–Ring Rubber Gasket Joints (ASTM C–136) with no Aggregate Backfill or HP Storm Pipe with Gasketed Integral Bell & Spigot Joint (ASTM F2881) with Standard Bedding and Backfill.

TYPICAL SIDE YARD STORM SEWER DETAIL
Not to Scale

NOTES:

Tack coats may be required by the Delaware County Engineer's Office at the Contractor's expense depending on the length of time intermediate and 301 courses are exposed to elements and construction traffic.

Curb Contractor is to stamp the top of curb with a "W" to indicate location of water services

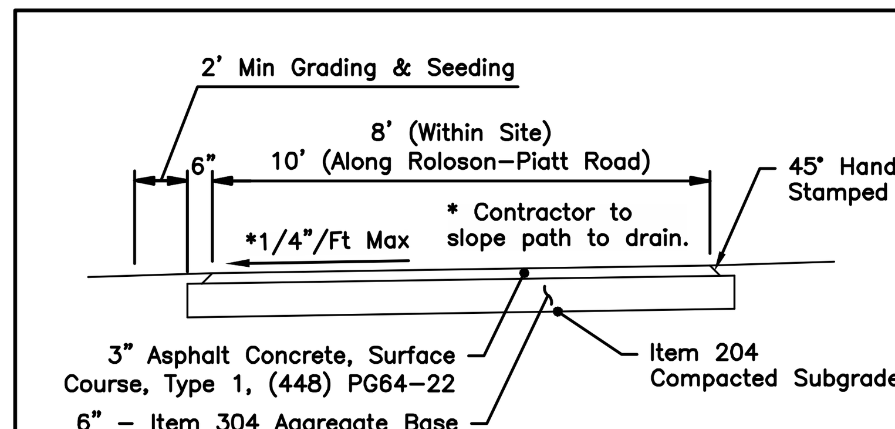
All curb ramps and sidewalks shall be constructed in full compliance with the requirements of the Americans with Disabilities Act (ADA) of 1990, including all supplements and in accordance with the "ADA Curb Ramps Design Guidelines". Sidewalks shall be constructed with a cross slope not to exceed 1/4" per foot.

Backfill Detail DCED–R100 located on Sheet 3.

PAVEMENT ALTERNATE NOTES:

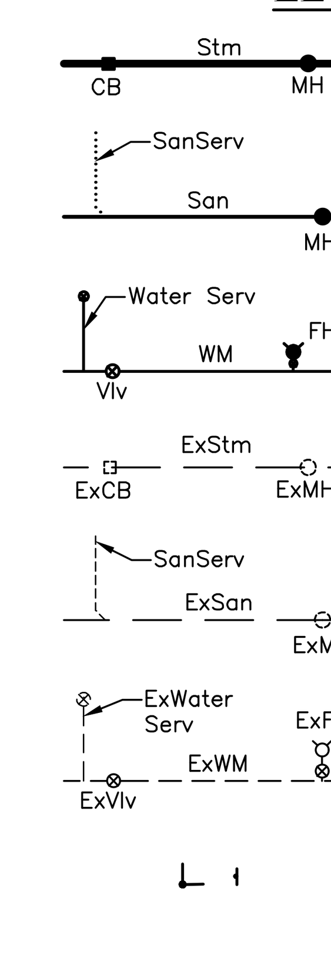
1. 6" Roller Compacted Concrete (RCC), per DCEO Supplemental Specification 1523, may replace Item 301 within pavement section, using thickness shown.
2. If alternate is selected, quantity of RCC is 7,965 SY.
3. If alternate selected, pavement relief joints per DCEO Std Dwg DCED–R2175 shall be provided at the PCs, PTs and at the interface with the existing pavement. The pavement relief joints shall be installed at the following Roadway Stations:

   Marie Way: 13+54.61, 15+67.14
   Brian Way: 30+06.94, 32+24.61, 37+16.02, 45+12.14
   Paul Edward Drive: 15+22.15, 16+51.58



ASPHALT PEDESTRIAN PATH DETAIL
Not to Scale

LEGEND



Proposed Storm Sewer
Proposed Sanitary Sewer
Proposed Watermain
Existing Storm Sewer
Existing Sanitary Sewer
Existing Watermain
Proposed Street Signs
Temporary Barricade (DCED R2190)

ESTIMATE OF QUANTITIES

Note: The quantities shown on this plan are the Engineers best determination of the work to be performed. The quantities are for use by the Municipality to estimate the necessary development fees. The Contractor should make his own determination and shall be solely responsible for determining the required bid quantities necessary for completion of the plan improvements.

ITEM	QUANTITY	UNIT	DESCRIPTION
			ROADWAY
201	Lump	Sum	Clearing & Grubbing
203	4305	CY	Excavation Including Embankment Construction
203	35926	CY	Basin Excavation
203	1	Mgal	Water
204	9256	SY	Compacted Subgrade
204	4	Hours	Proof Rolling
301	1174	CY	Bituminous Aggregate Base
304	887	CY	Aggregate Base
441	333	CY	1-1/2" Asphalt Concrete Surface Course, Type 1, (448), PG64-22
441	333	CY	1-1/2" Asphalt Concrete Intermediate Course, Type 2, (448)
605	5358	LF	4" Pipe Underdrain
608	30	Each	Curb Ramps w/Detectable Warnings
608	10360	SF	4" Concrete Sidewalk per DCED-R2300
608	766	SF	8" Concrete Approach, Class "C"
609	5358	LF	6" Concrete Curb & Gutter
609	90	LF	Straight 18" Concrete Curb
623	Lump	Sum	Construction Layout Stakes
624	Lump	Sum	Mobilization
659	6999	SY	Seeding & Mulching (R/W)
659	Lump	Sum	Seeding & Mulching (Reserves & Basins)
659	1	Ton	Commercial Fertilizer
659	38	Mgal	Water
SPEC	5	Each	Temporary Barricade
			PRIVATE PARKING LOT
204	2066	SY	Compacted Subgrade
304	344	CY	Aggregate Base
441	86	CY	1-1/2" Asphalt Concrete Surface Course, Type 1, (448), PG64-22
441	86	CY	1-1/2" Asphalt Concrete Intermediate Course, Type 2, (448)
608	1248	SF	4" Concrete Sidewalk (8' Wide)
			ASPHALT PEDESTRIAN PATH
204	4044	SY	Compacted Subgrade
304	674	CY	Aggregate Base
441	304	CY	3" Asphalt Concrete Surface Course, Type 1, (448), PG64-22
			STORM SEWER
601	16	CY	Rock Channel Protection Type "C" w/Filter Fabric
604	1	Each	Headwall for 12" Pipe (DCED-S168) Modified w/Ledge for Stone Facing
604	1	Each	Headwall for 24" Pipe (DCED-S168) Modified w/Ledge for Stone Facing
604	1	Each	Headwall for 30" Pipe (DCED-S168) Modified w/Ledge for Stone Facing
604	1	Each	Endwall for 36" Pipe (DCED-S169)
604	1	Each	Manhole Type C w/48" Base (DCED-S102)
604	4	Each	Curb and Gutter Inlet (DCED-S125)
604	12	Each	Double Curb and Gutter Inlet (DCED-S125)
604	2	Each	Catch Basin 2x2 (DCED-S133A)
604	1	Each	Catch Basin 2x2 w/Side Inlet (DCED-S133B)
604	3	Each	Catch Basin 3x3 (DCED-S133C)
604	12	Each	Catch Basin 3x3 w/Side Inlet (DCED-S133C)
604	7	Each	Catch Basin 4x4 (DCED-S133D)
604	7	Each	Catch Basin 4x4 w/Side Inlet (DCED-S133D)
604	1	Each	Catch Basin 4x4 (DCED-S133D Modified with Neenah R-3405 Frame & Grate)
901	48	LF	12" Conduit, Type B
901	480	LF	12" Conduit, Type C
901	52	LF	12" Conduit, Type B w/Concrete Encasement
901	399	LF	15" Conduit, Type B
901	478	LF	15" Conduit, Type C
901	185	LF	18" Conduit, Type B
901	315	LF	18" Conduit, Type C
901	173	LF	18" Conduit, Type B-RCP or HP Storm w/Watertight Joints, See Detail This Sheet
901	26	LF	14"x23" Elliptical Conduit, Type B w/Concrete Encasement
901	754	LF	24" Conduit, Type B
901	713	LF	24" Conduit, Type C
901	87	LF	24" Conduit, Type B w/Concrete Encasement
901	190	LF	24" Conduit, Type B-RCP or HP Storm w/Watertight Joints, See Detail This Sheet
901	247	LF	30" Conduit, Type B
901	1430	LF	30" Conduit, Type C
901	26	LF	30" Conduit, Type B w/Concrete Encasement
901	355	LF	30" Conduit, Type B-RCP or HP Storm w/Watertight Joints, See Detail This Sheet
901	336	LF	36" Conduit, Type B
901	141	LF	36" Conduit, Type C
901	26	LF	29"x45" Elliptical Conduit, Type B w/Concrete Encasement
912	75	CY	Compacted Granular Backfill (Within R/W Influence & Under Pavement)
			WATERLINE
801	160	LF	6" Water Pipe & Appurtenances (Including FH Leads)
801	2055	LF	8" Water Pipe & Appurtenances
801	865	LF	12" Water Pipe & Appurtenances
801	1013	LF	16" Water Pipe & Appurtenances (Ductile Iron Pipe)
802	10	Each	6" Valve w/Box (Including Hydrants)
802	6	Each	8" Valve w/Box
802	2	Each	12" Valve w/Box
802	1	Each	16" Valve w/Box
805	2	Each	1" Water Service-Short (Complete), See Del-Co Water Detail D-33, Sheet 3
805	15	Each	1" Water Service-Long (Complete), See Del-Co Water Detail D-34, Sheet 3
809	10	Each	Fire Hydrant, Type A
809	6	Each	2" End of Line Fire Hydrant
SPEC	Lump	Sum	Survey Coordinates
SPEC	140	LF	Casing Pipe (For 8" Water Pipe)
SPEC	140	LF	Casing Pipe (For 12" Water Pipe)
SPEC	67	LF	Casing Pipe (For 16" Water Pipe)

ESTIMATE OF QUANTITIES (CONTINUED)

			SEDIMENT CONTROL
207	2229	LF	Perimeter Filter Fabric Fence and/or 12" Filter Sock
207	33	Each	Filter Fabric Inlet Protection
207	28	Each	Inlet Protection (Dandy Curb Bag)
207	222	SY	Stabilized Construction Entrance
616	1	Mgal	Water
616	1	Ton	Calcium Chloride
SPEC	1	Each	Portable Concrete Washout Container or Area, See Detail Sheet 23
			TRAFFIC CONTROL
630	10	Each	Street Name Sign
630	52	LF	Street Name Sign Support, As Per Plan
630	243	LF	Ground Mounted Support, No. 3 Post
630	54	SF	Sign, Flat Sheet (Stop Sign, Speed Limit Sign, No Parking Sign)
647	95	LF	Channelizing Line, 6" White
647	387	LF	Center Line, 5" Solid Double Yellow
647	747	LF	12" Crosswalk
647	73	LF	24" Stop Bar

SEE SHEET 11 FOR ROLOSON-PIATT ROAD EXTENSION QUANTITIES

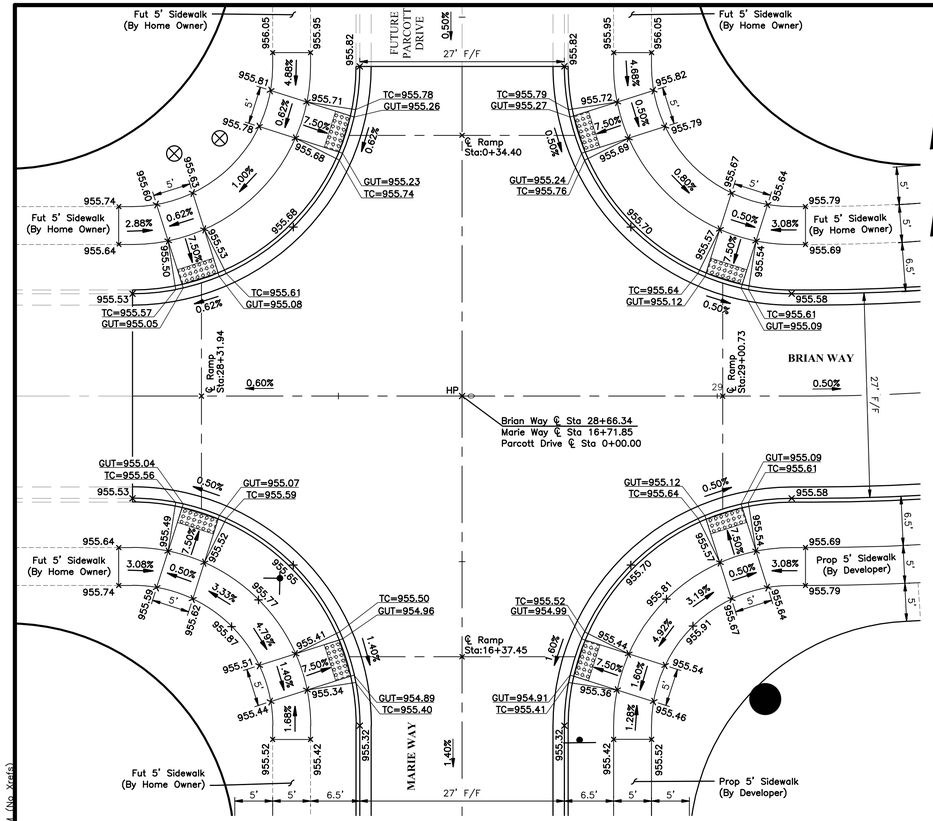
REVISIONS
MARK | DATE | DESCRIPTION

M/I HOMES
mihomes.com

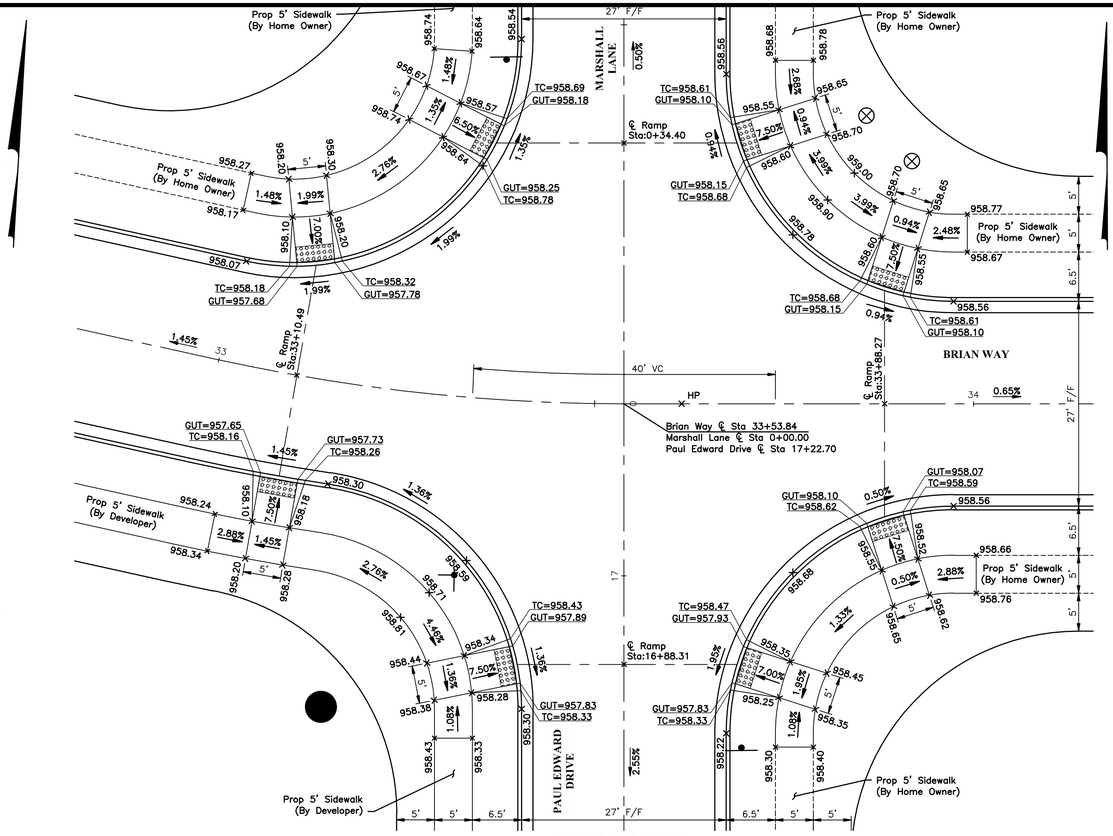
BERLIN TOWNSHIP, DELAWARE COUNTY, OHIO
STREET, STORM SEWER & WATER IMPROVEMENTS
FOR
BERLIN FARM WEST
SECTION 4 & ROLOSON-PIATT ROAD
TYPICAL SECTIONS & QUANTITIES

EMHT
Evans, Mechwart, Hambleton & Tilton, Inc.
Engineers • Surveyors • Planners • Scientists
5500 New Albany Road, Columbus, OH 43054
Phone: 614.775.4500 Toll Free: 888.775.3648
emht.com

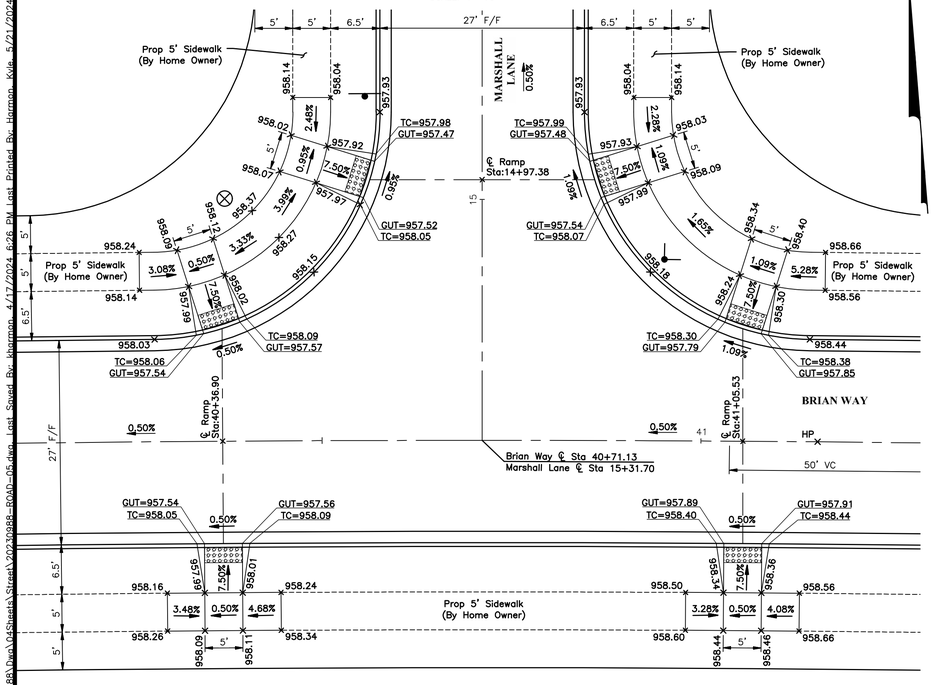
DATE: May, 2024
SCALE: None
JOB NO. 20230988
SHEET 4/30



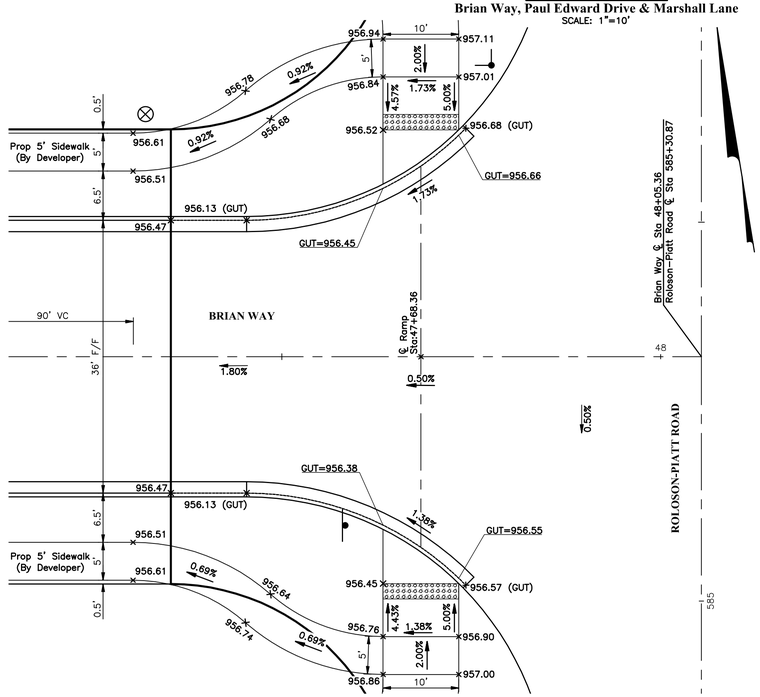
CURB RAMP DETAIL:
Brian Way, Marie Way & Parcott Drive
SCALE: 1"=10'



CURB RAMP DETAIL:
Brian Way, Paul Edward Drive & Marshall Lane
SCALE: 1"=10'



CURB RAMP DETAIL:
Brian Way & Marshall Lane
SCALE: 1"=10'



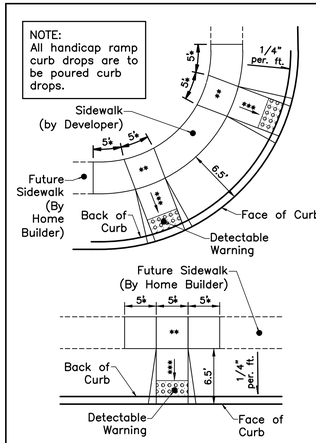
CURB RAMP DETAIL:
Brian Way & Roloson-Piatt Road
SCALE: 1"=10'

GRAPHIC SCALE
0 5 10 20
1 inch = 10 feet

LEGEND

- Detectable Warning
- Prop Sidewalk (By Home Owner)
- Prop Sidewalk (By Developer)
- TC — Top of Curb
- GUT — Gutter

NOTE:
All handicap ramp curb drops are to be poured curb drops.



* Unless otherwise specified.
** Top landing slope shall not exceed 2.00%.
*** Ramp slope (5.0% min. – 8.33% max.) is designed @ 7.5% unless otherwise noted.

TYPICAL CURB RAMP

NOTES:
1. Curb, Wheel Chair Ramp, Landing and Transitions shall be formed and placed separately. Contractor is responsible for meeting all tolerances. Cross slopes for Sidewalks, Ramps, Landings and Transitions shall not exceed 2.00%.
2. Contractor shall grind down asphalt roadway at edge of pavement so that no lip exists at gutter.
3. Curb ramps shall be constructed to the latest A.D.A. Standards, meeting all requirements as to shape, materials and finish.
4. Detectable warnings shall be provided wherever a curb ramp crosses a vehicular way.
5. Detectable warnings shall be provided 24" in the direction of travel and extend the full width of the curb ramp or flush surface. The detectable warning shall be located adjacent to the curb line.
6. All detectable warnings shall be ADA Solutions Tactile Warning Surface Mats – Replaceable Wet–Set Composite Tactile with a dome spacing of 2.35 inches, manufacturer part number 2448REP. Brick red color shall be used in most locations unless otherwise noted. The cost of this work will be paid at the unit price bid per each, and shall be in addition to any overlapping payments per square foot for sidewalk or pedestrian path.
7. Detectable warnings shall be placed 0" to 2" behind the back of curb and behind the curb joint.
8. Cast in place or any non–surface applied detectable warning shall have a minimum of 3" of concrete on each side of the warning.

REVISIONS

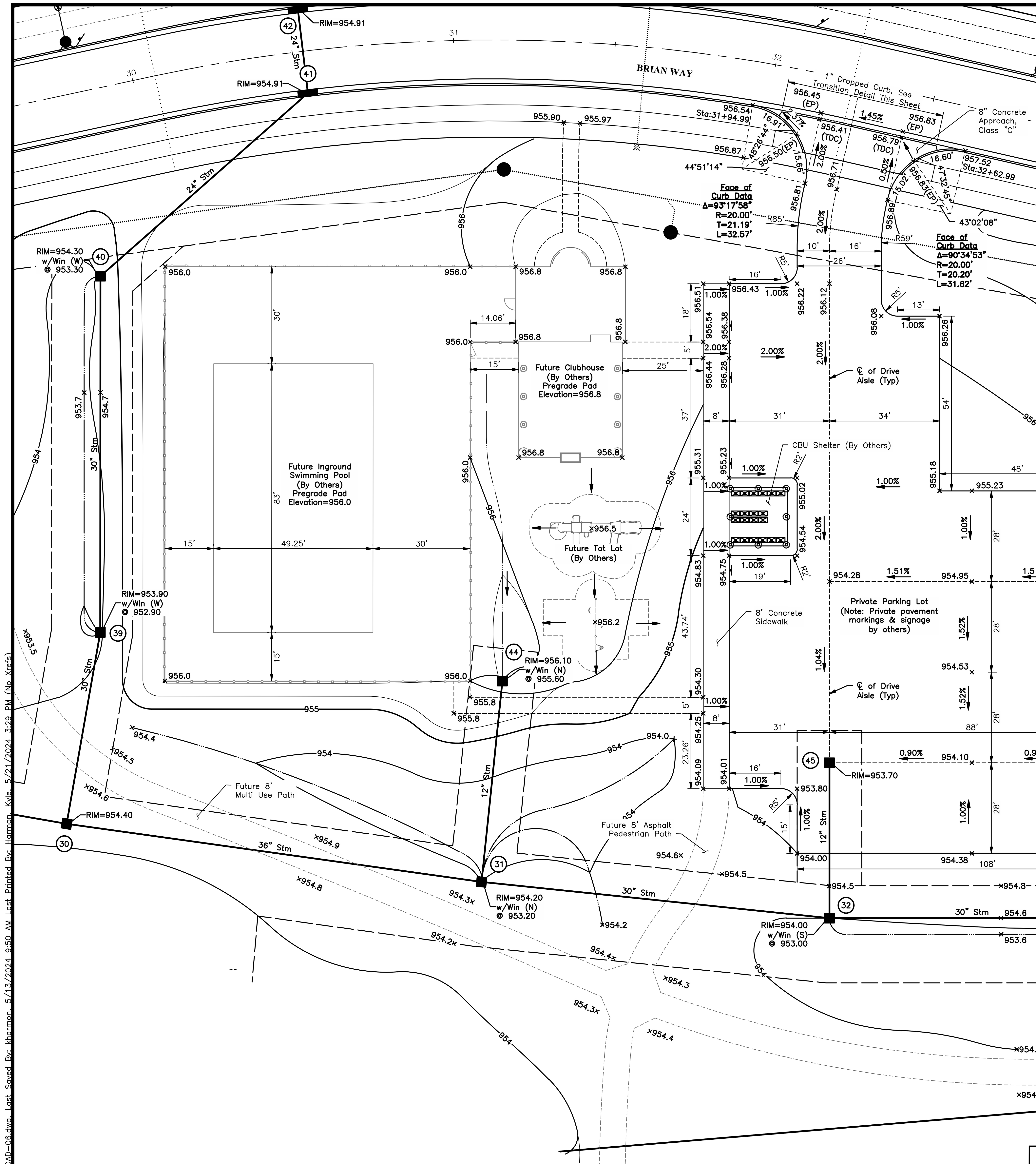
MARK	DATE	DESCRIPTION

M/I HOMES
mihomes.com

BERLIN TOWNSHIP, DELAWARE COUNTY, OHIO
STREET, STORM SEWER & WATER IMPROVEMENTS
FOR
BERLIN FARM WEST
SECTION 4 & ROLOSON-PIATT ROAD
CURB RAMP DETAILS

EMHT
Evans, Mechwart, Hambleton & Tilton, Inc.
5500 New Albany Road, Columbus, OH 43054
Phone: 614.775.4500 Toll Free: 888.775.3648
emht.com

DATE: May, 2024
SCALE: 1" = 10'
JOB NO.: 20230988
SHEET: 5/30



GRAPHIC SCALE

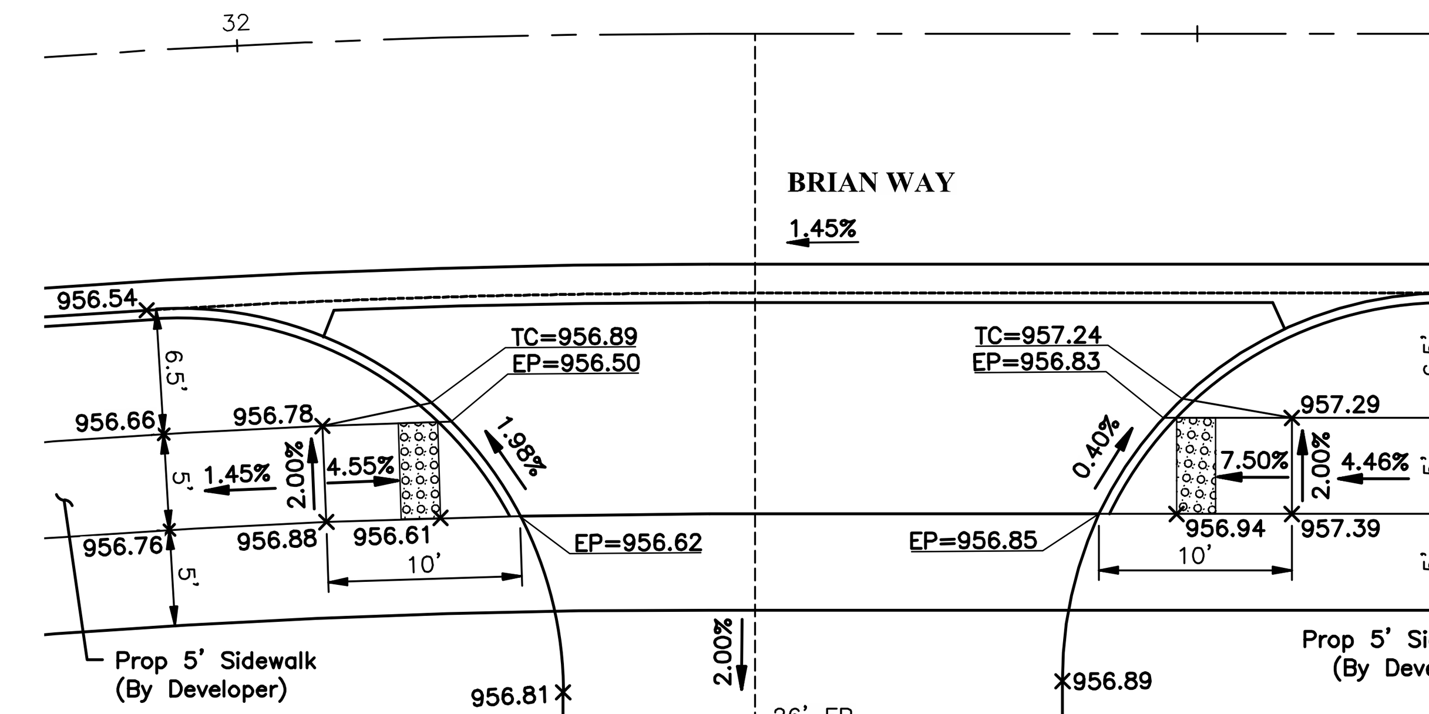
0 10 20 40

1 inch = 20 feet

CLUBHOUSE & PARKING LOT DETAIL

SCALE: 1"=20'

Note: All elevations shown represent top of pavement unless otherwise noted.



PARKING LOT CURB RAMP DETAIL:
Brian Way
SCALE: 1"=10'

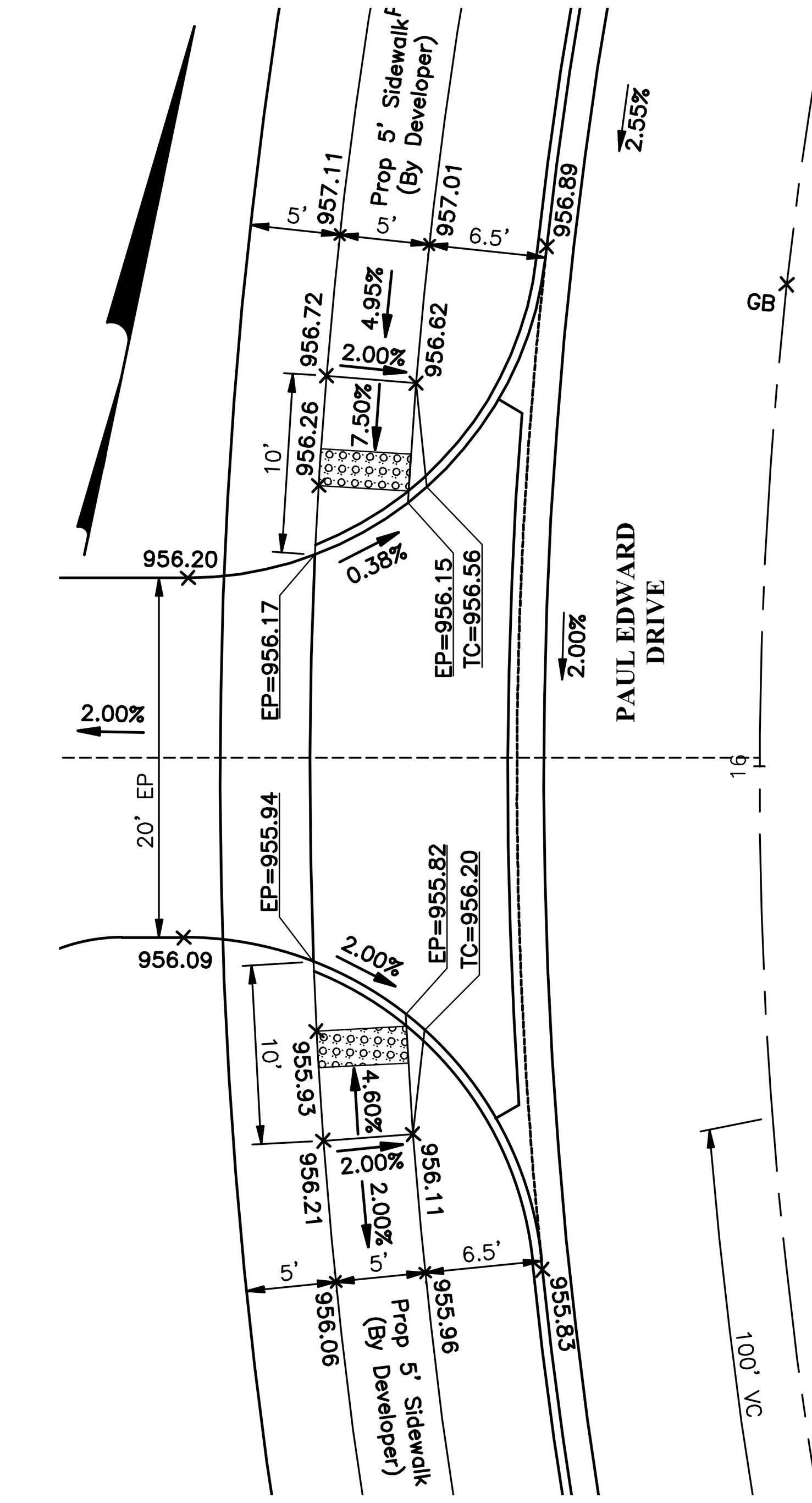
GRAPHIC SCALE

0 5 10 20

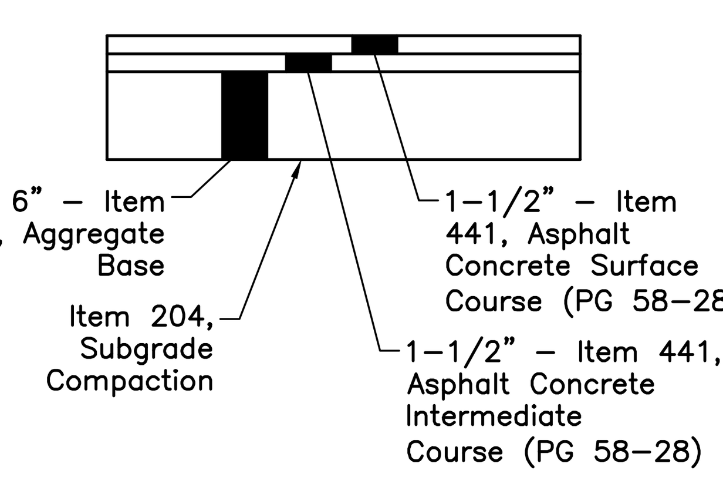
1 inch = 10 feet

LEGEND

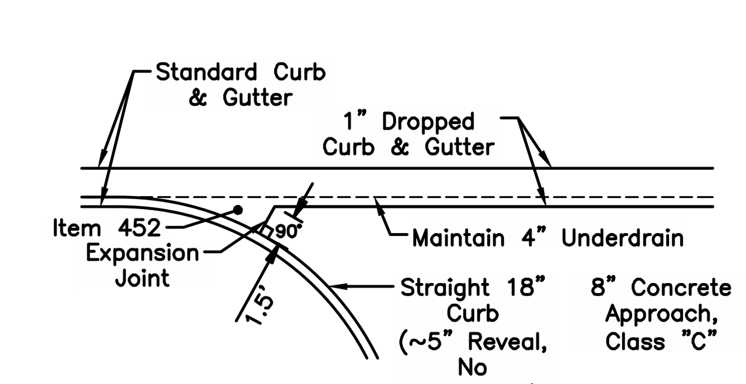
(hatched)	Detectable Warning
(dashed box)	Prop Sidewalk (By Home Owner)
(solid box)	Prop Sidewalk (By Developer)
TC	Top of Curb
GUT	Gutter
EP	Edge of Pavement
TDC	Top of Dropped Curb



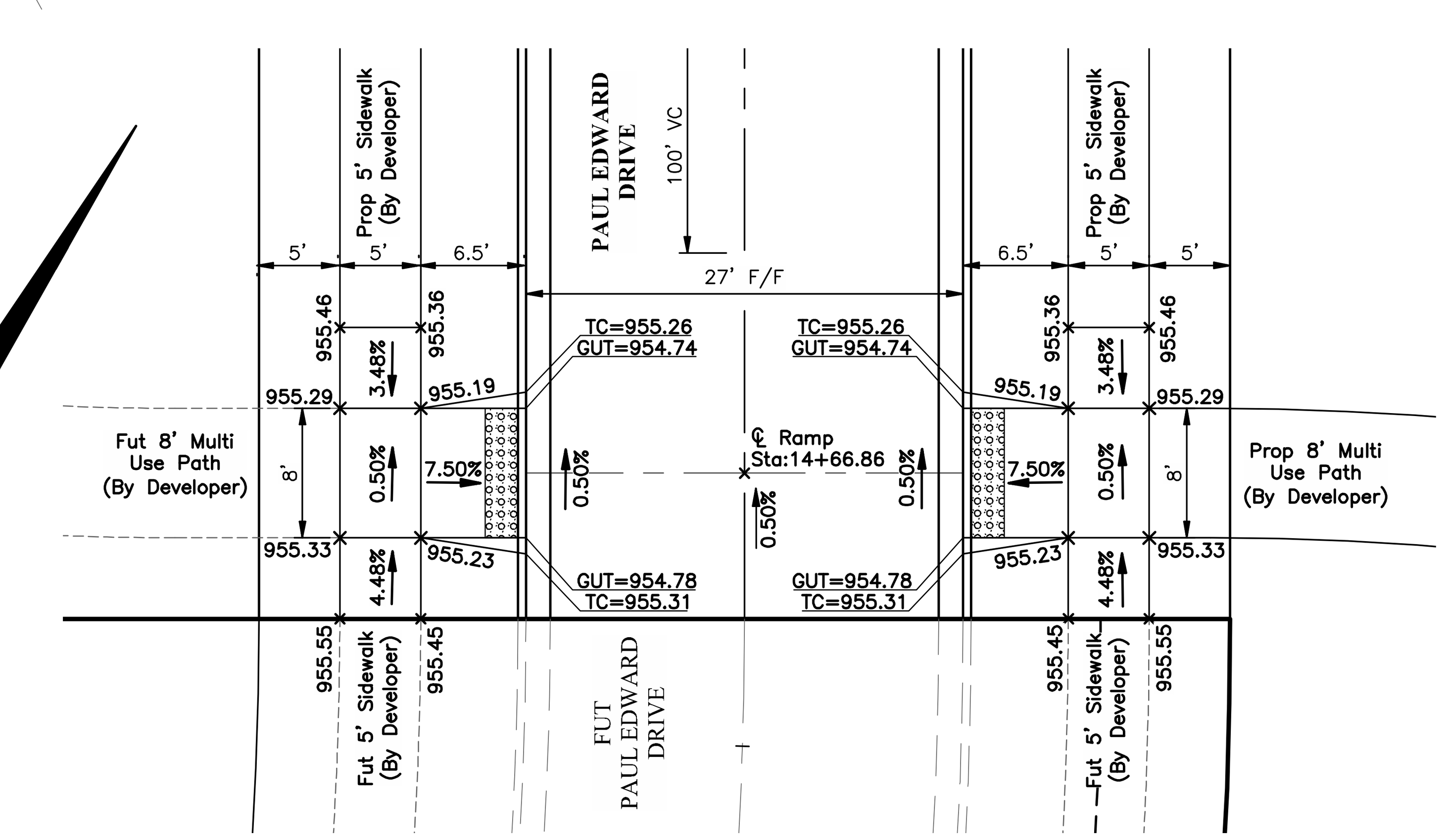
PARKING LOT CURB RAMP DETAIL:
Paul Edward Drive
SCALE: 1"=10'



PRIVATE PARKING LOT PAVEMENT SECTION
Not to Scale



DROPPED CURB TRANSITION DETAIL
Not to Scale



CURB RAMP DETAIL:
Paul Edward Drive
SCALE: 1"=10'

MARK	DATE	DESCRIPTION

REVISIONS

M/I HOMES
mihomes.com

BERLIN TOWNSHIP, DELAWARE COUNTY, OHIO
STREET, STORM SEWER & WATER IMPROVEMENTS
FOR
BERLIN FARM WEST
SECTION 4 & ROLOSON-PIATT ROAD
CLUBHOUSE & PARKING LOT DETAIL

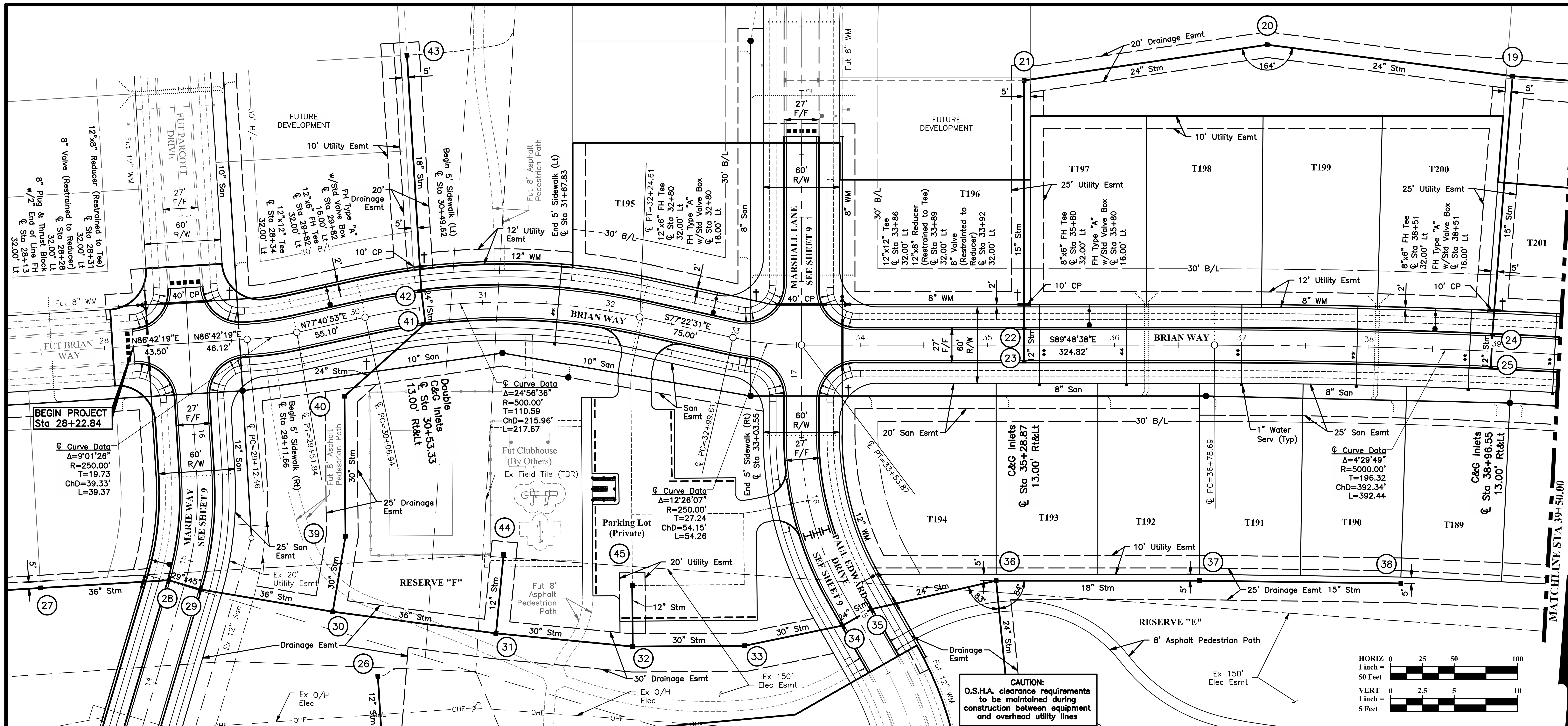
EMH&T
Evans, Mechwart, Hambleton & Tilton, Inc.
Engineers • Surveyors • Planners • Scientists
5500 New Albany Road, Columbus, OH 43054
Phone: 614.775.4500 Toll Free: 888.775.3648
emht.com

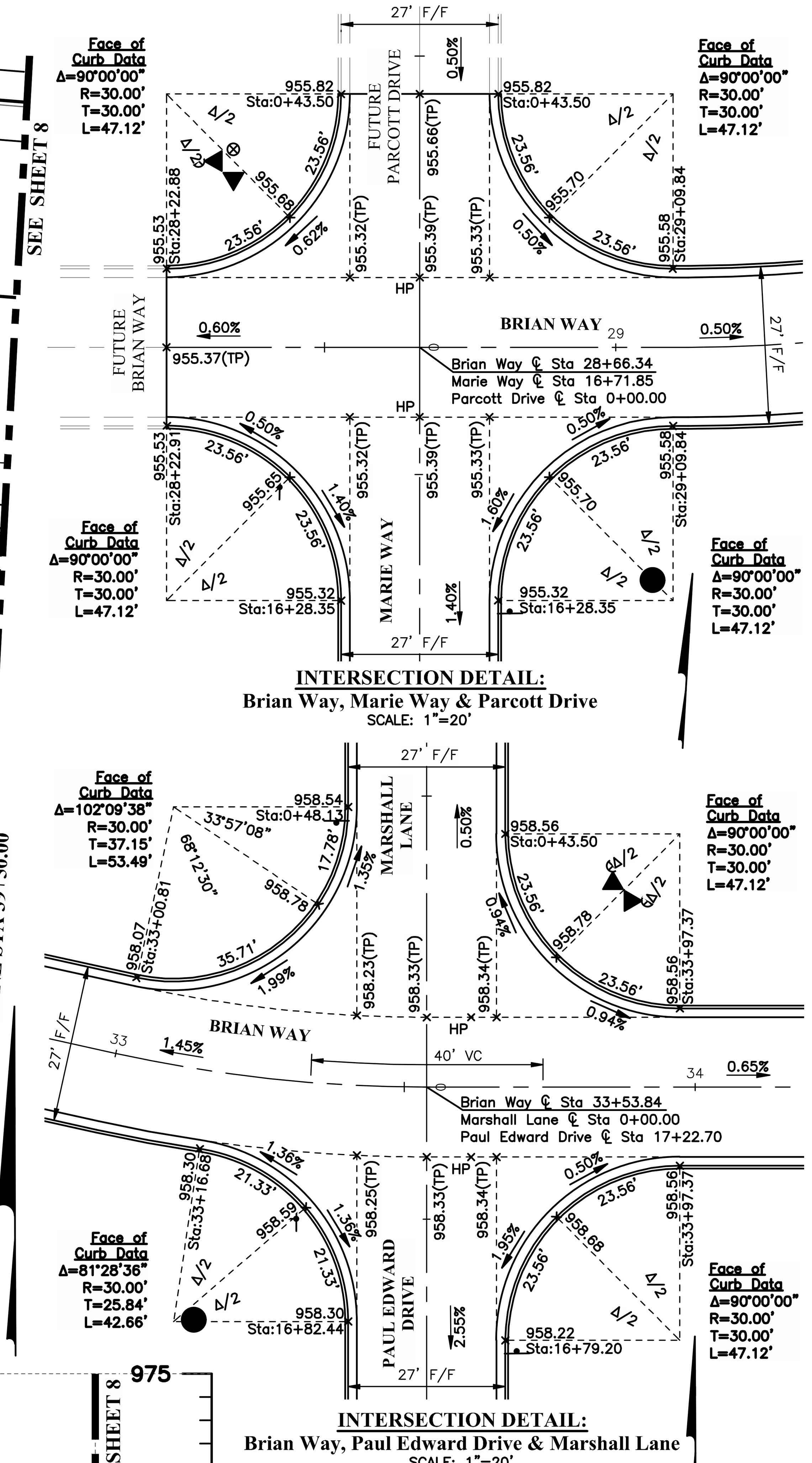
DATE: May, 2024

SCALE: As Noted

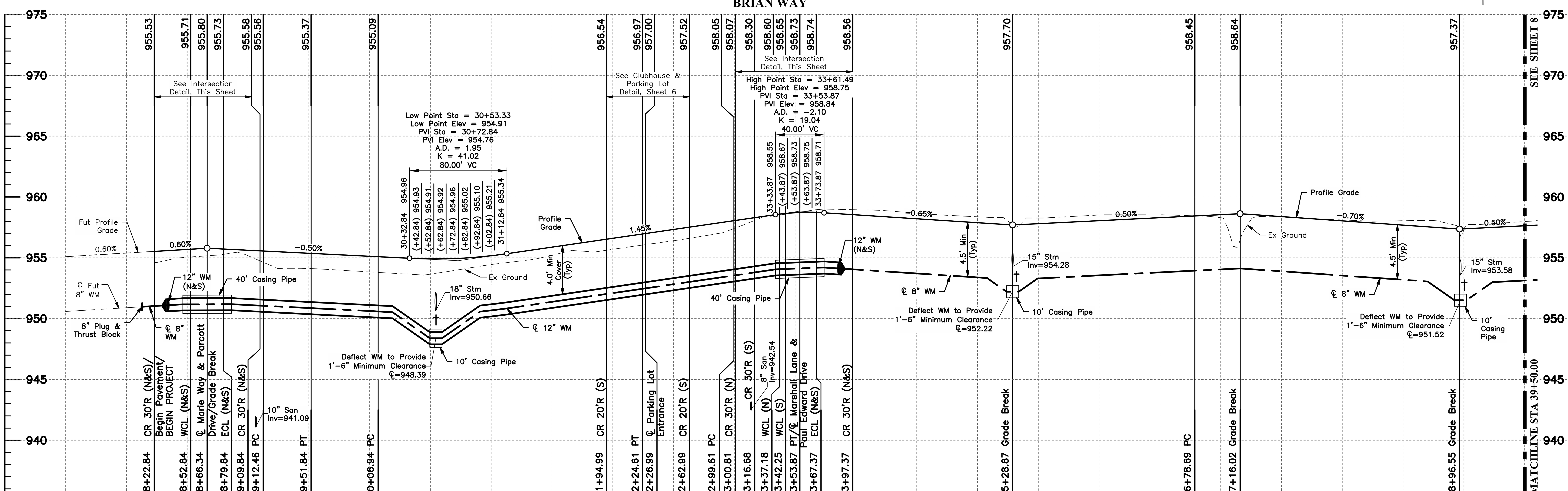
JOB NO. 20230988

SHEET 6/30





BRIAN WAY



STATION	28		29		30		31		32		33		34		35		36		37		38		39	
PROP GRADE		955.70		955.63		955.38		955.13		954.91		955.18		955.88		956.61		957.33		958.06		958.72		958.54
EX GROUND		955.05		955.18		954.13		953.84		953.67		954.45		955.22		955.71		956.41		957.42		958.71		958.95

(continued)

STATION		35		36		37		38		39	
PROP GRADE	958.22		957.89		957.81		958.06		958.31		958.56
EX GROUND	958.68		958.38		958.26		958.52		958.54		958.30

STATION		38		39	
PROP GRADE	958.40		958.05	957.70 / 957.39	957.64
EX GROUND	958.35		958.12	958.05 / 957.31	957.99

NOTES:

4" Underdrain shall tie into storm sewer structures at all low points.

All Engineered fill shall be completed prior to water lines being constructed.

Walks on individual lots (Except in area of curb ramps and open spaces) shall be by the homeowner.

† Contractor shall maintain a 1.5' minimum clearance from outside of pipe to outside of pipe for all utility crossings unless otherwise noted.

** Compacted Granular Backfill, DCED–R100

All Spot Elevations shown are Top of Curb/Profile Grade, unless otherwise noted.

TP = Top of Pavement

CP = Casing Pipe

REVISIONS

MARK	DATE	DESCRIPTION

M/I HOMES
mihomes.com

BERLIN TOWNSHIP, DELAWARE COUNTY, OHIO
STREET, STORM SEWER & WATER IMPROVEMENTS
FOR
BERLIN FARM WEST
SECTION 4 & ROLOSON-PIATT ROAD
PLAN & PROFILE

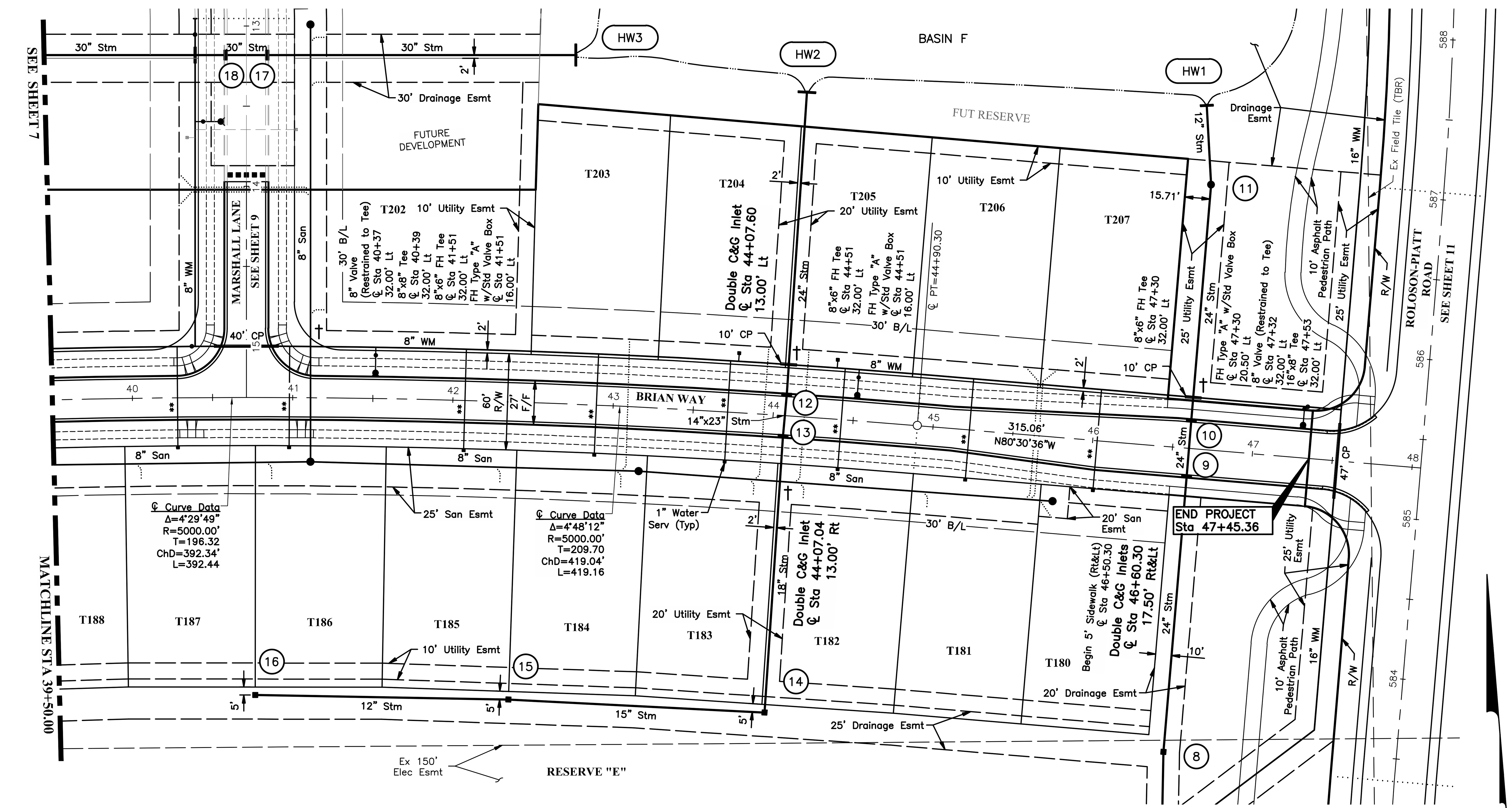
EMH&T
Evans, Mechwart, Hambleton & Tilton, Inc.
Engineers • Surveyors • Planners • Scientists
5500 New Albany Road, Columbus, OH 43054
Phone: 614.775.4500 Toll Free: 888.775.3648
emht.com

DATE: May, 2024

SCALE: As Noted

JOB NO.: 20230988

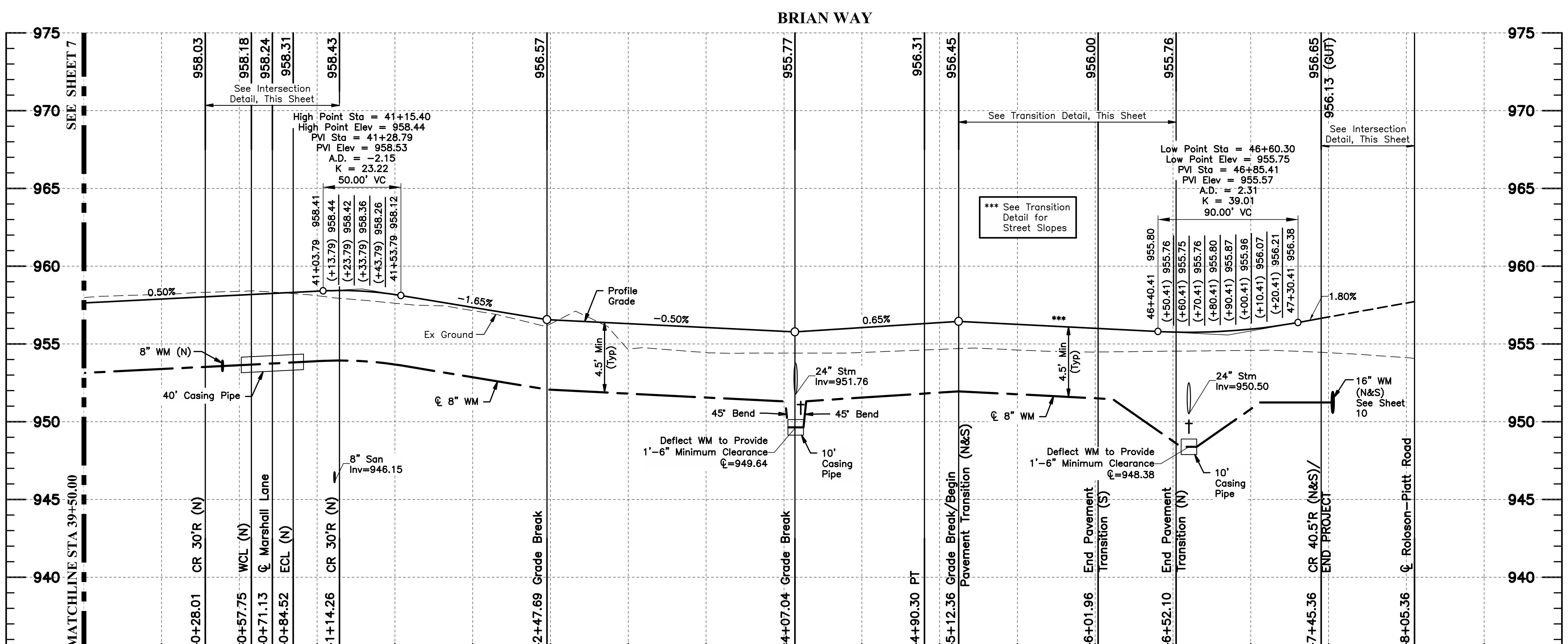
SHEET: 7/30



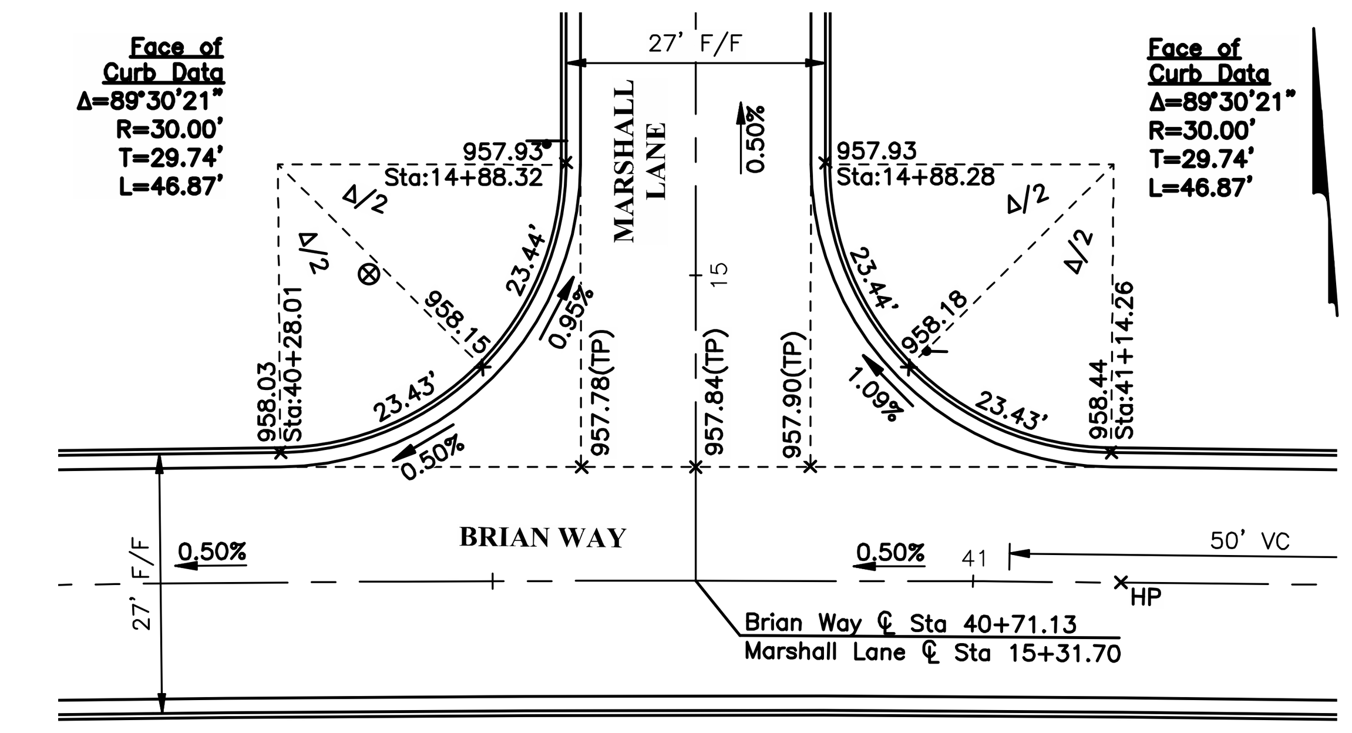
CAUTION:
O.S.H.A. clearance requirements to be maintained during construction between equipment and overhead utility lines

HORIZ 1 inch = 50 Feet (0, 25, 50, 100)
VERT 1 inch = 5 Feet (0, 2.5, 5, 10)

BRIAN WAY



STATION	40		41		42		43		44		45		46		47		48
PROP GRADE	957.89	958.14	958.39	958.18	957.36	956.56	956.31	956.06	955.81	956.05	956.37	956.26	956.01	955.76	955.95		
EX GROUND	958.19	958.38	958.10	957.62	957.14	956.29	954.66	954.44	954.41	954.45	954.65	954.61	954.48	954.54	954.59	954.44	954.12



INTERSECTION DETAIL:
Brian Way & Marshall Lane
SCALE: 1"=20'

NOTES:

4" Underdrain shall tie into storm sewer structures at all low points.

All Engineered fill shall be completed prior to water lines being constructed.

Walks on individual lots (Except in area of curb ramps and open spaces) shall be by the homeowner.

† Contractor shall maintain a 1.5' minimum clearance from outside of pipe to outside of pipe for all utility crossings unless otherwise noted.

** Compacted Granular Backfill, DCED–R100

All Spot Elevations shown are Top of Curb/Profile Grade, unless otherwise noted.

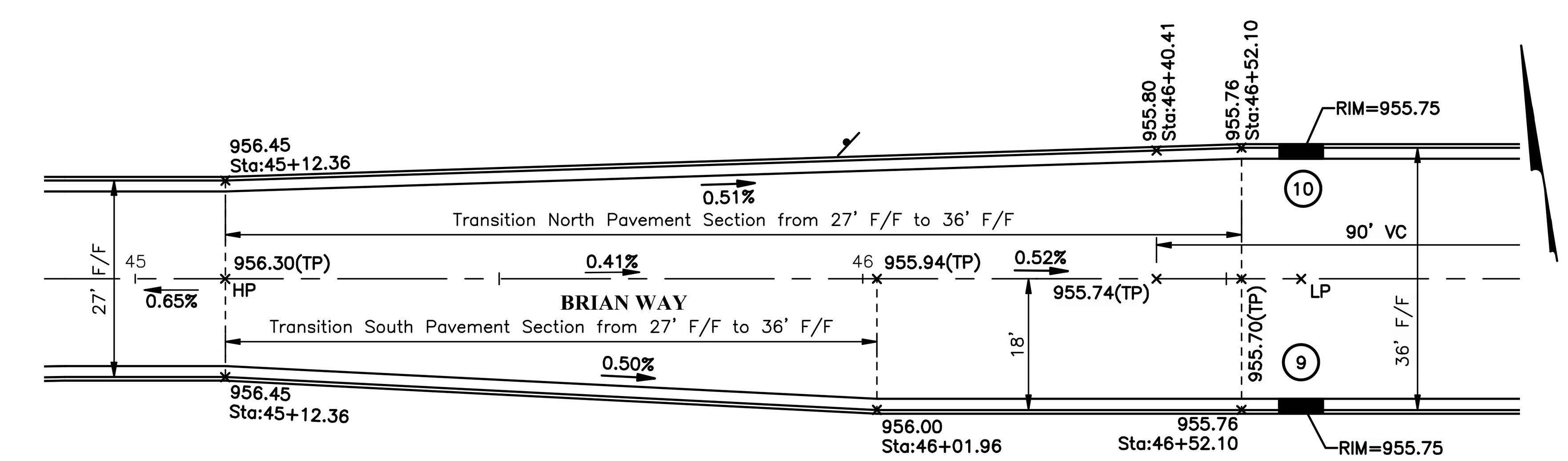
TP = Top of Pavement

EP = Edge of Pavement

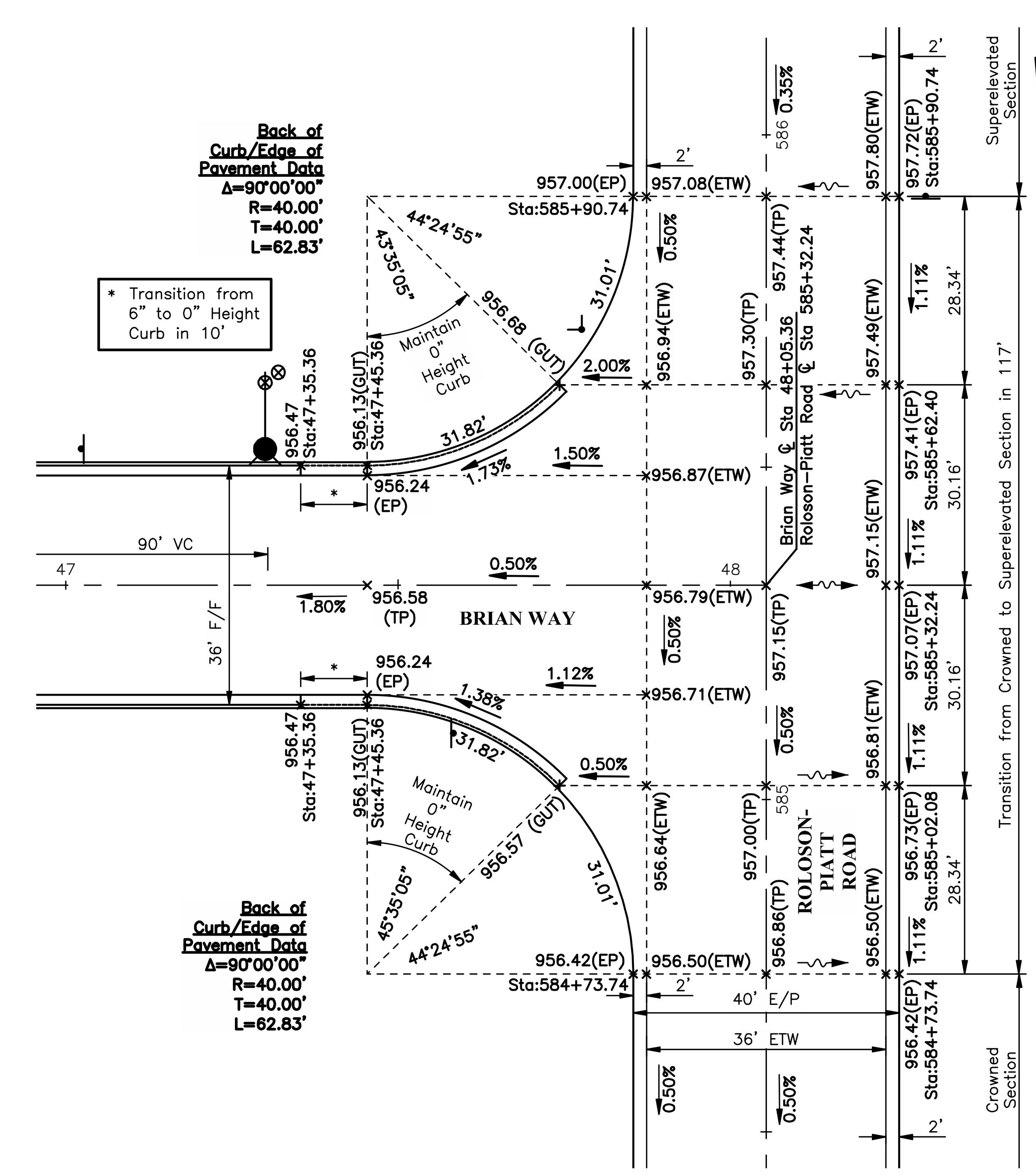
GUT = Gutter

ETW = Edge of Traveled Way

CP = Casing Pipe



TRANSITION DETAIL:
Brian Way
SCALE: 1"=20'



INTERSECTION DETAIL:
Brian Way & Roloson-Piatt Road
SCALE: 1"=20'

MARK	DATE	DESCRIPTION

REVISIONS

M/I HOMES
mihomes.com

BERLIN TOWNSHIP, DELAWARE COUNTY, OHIO
STREET, STORM SEWER & WATER IMPROVEMENTS
FOR
BERLIN FARM WEST
SECTION 4 & ROLOSON-PIATT ROAD
PLAN & PROFILE

EMH&T
Evans, Mechwart, Hambleton & Tilton, Inc.
Engineers • Surveyors • Planners • Scientists
5500 New Albany Road, Columbus, OH 43054
emht.com

DATE: May, 2024

SCALE: As Noted

JOB NO. 20230988

SHEET 8/30

J:\20230988\Dwg\04Sheets\Street\20230988-ROAD-07-08.dwg, Last Saved By: kharmon, 5/9/2024 9:20 AM, Last Printed By: Harmon, Kyle, 5/21/2024 3:30 PM
Xrefs: 20230988-ROAD-TTLB, 20230988-CS-ROAD-N, 20230987-CS-REFR-F, 20230988-CS-REFR-E, 20230988-CS-INTR-N, 20230988-CS-REFR-N---For Intersection

CAUTION:
O.S.H.A. clearance requirements to be maintained during construction between equipment and overhead utility lines

CAUTION:
O.S.H.A. clearance requirements to be maintained during construction between equipment and overhead utility lines

HORIZ 1 inch = 50 Feet (0, 25, 50, 100)
VERT 1 inch = 5 Feet (0, 2.5, 5, 10)

NOTES:

4" Underdrain shall tie into storm sewer structures at all low points.

All Engineered fill shall be completed prior to water lines being constructed.

Walks on individual lots (Except in area of curb ramps and open spaces) shall be by the homeowner.

† Contractor shall maintain a 1.5' minimum clearance from outside of pipe to outside of pipe for all utility crossings unless otherwise noted.

** Compacted Granular Backfill, DCED–R100

NOTES:

§ Contractor to verify invert and location of existing utility before construction. If there is a discrepancy between the contractor's information and the plan information shown, the contractor is to contact the engineer of record prior to the start of construction.

All Spot Elevations shown are Top of Curb/Profile Grade, unless otherwise noted.

TBR To Be Removed

MARIE WAY | PAUL EDWARD DRVE | MARSHALL LANE (WEST) | MARSHALL LANE (EAST)

MARIE WAY
STATION: 13, 14, 15, 16, 17
PROP GRADE: 953.63, 953.88, 954.13, 954.38, 954.92
EX GROUND: 953.22, 952.94, 952.87, 953.01, 953.23, 954.40, 955.59

PAUL EDWARD DRVE / MARSHALL LANE (WEST)
STATION: 14, 15, 16, 17, 0, 1, 2
PROP GRADE: 955.16, 955.47, 956.35, 957.48, 958.53, 958.28, 958.03
EX GROUND: 955.40, 954.58, 954.05, 953.77, 954.16, 954.92, 958.51, 958.77, 958.86, 958.68, 958.55

MARSHALL LANE (EAST)
STATION: 15, 14, 13
PROP GRADE: 957.73, 957.48
EX GROUND: 958.24, 958.00, 957.87, 957.42

REVISIONS
MARK | DATE | DESCRIPTION

M/I HOMES
mihomes.com

BERLIN TOWNSHIP, DELAWARE COUNTY, OHIO
STREET, STORM SEWER & WATER IMPROVEMENTS
FOR
BERLIN FARM WEST
SECTION 4 & ROLOSON-PIATT ROAD
PLAN & PROFILE

EMH&T
Evans, Mechwart, Hambleton & Tilton, Inc.
Engineers • Surveyors • Planners • Scientists
5500 New Albany Road, Columbus, OH 43054
emht.com

DATE: May, 2024

SCALE: Horiz: 1" = 50' Vert: 1" = 5'

JOB NO. 20230988

SHEET 9/30

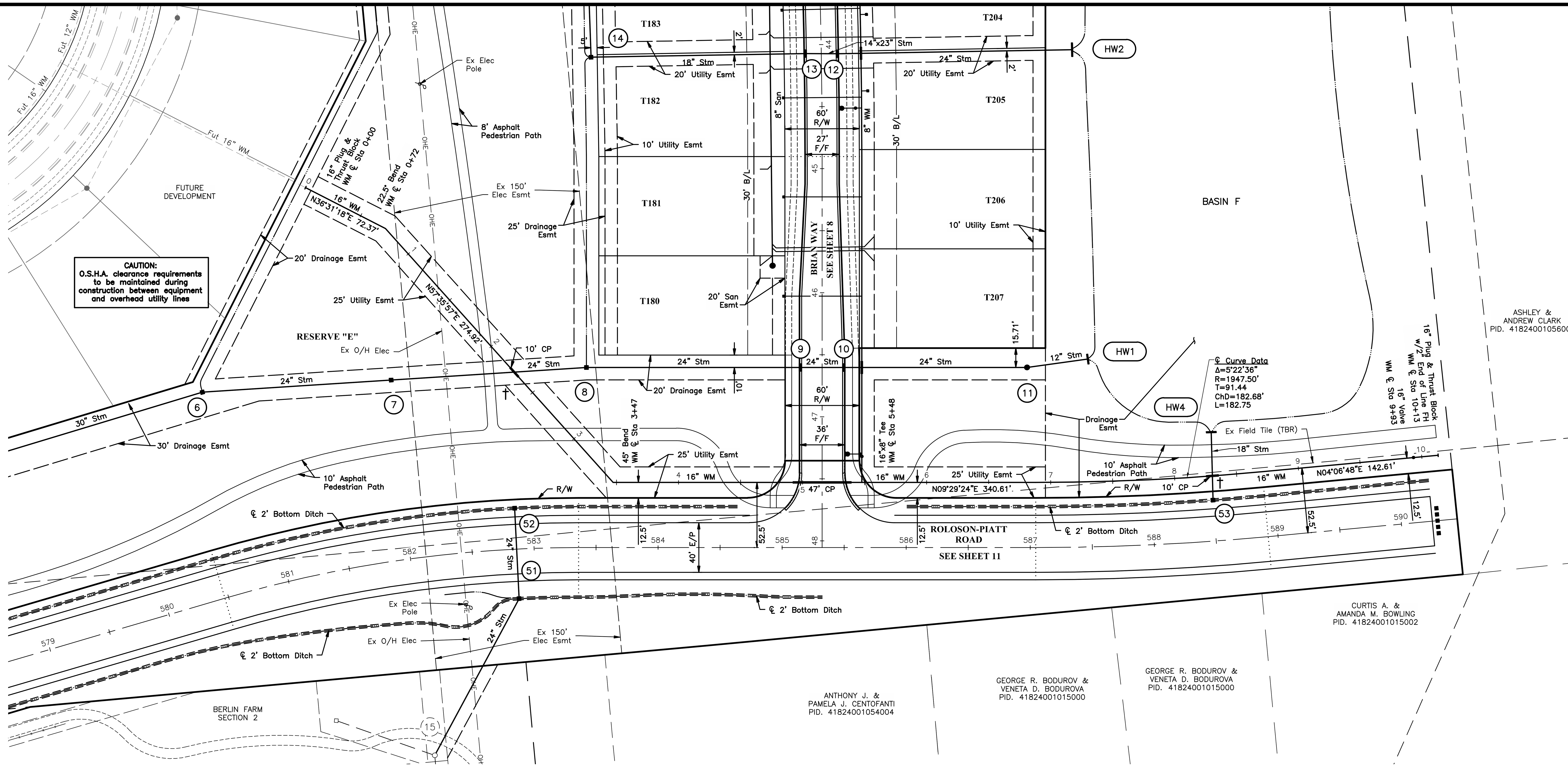
NOTES:

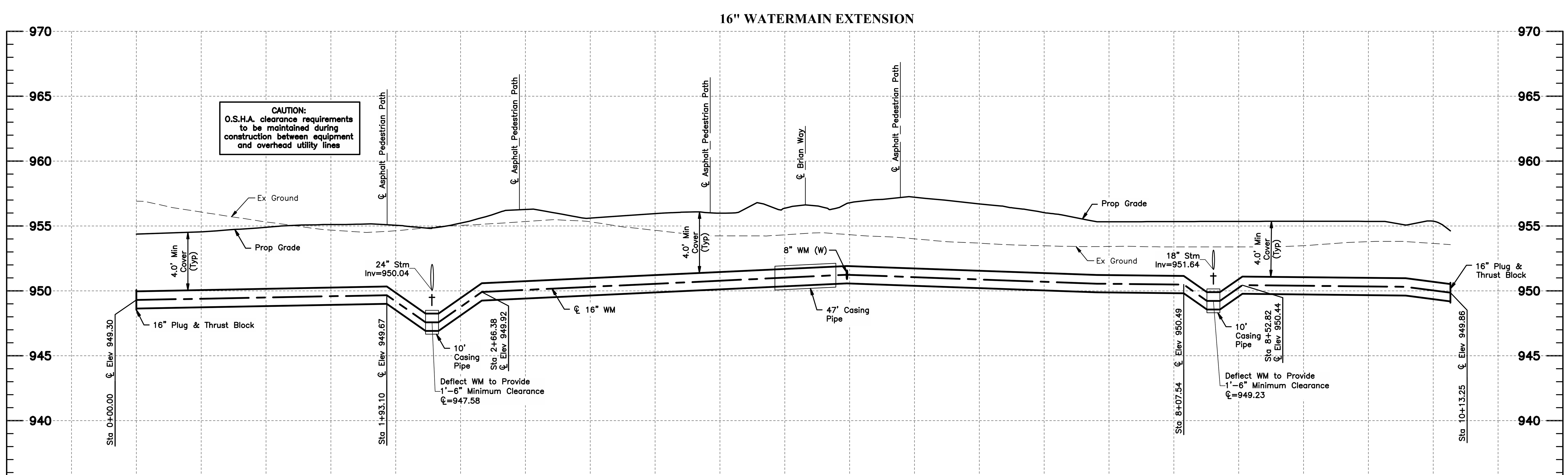
All Engineered fill shall be completed prior to water lines being constructed.

† Contractor shall maintain a 1.5' minimum clearance from outside of pipe to outside of pipe for all utility crossings unless otherwise noted.

All Spot Elevations shown are Top of Curb/Profile Grade, unless otherwise noted.

CP = Casing Pipe





STATION	0	1	2	3	4	5	6	7	8	9	10
PROP GRADE	954.38	954.90	955.06	956.27	955.96	956.37	957.22	956.03	955.34	955.36	955.37
EX GROUND	956.91	955.31	954.64	955.34	954.67	954.32	954.01	953.47	953.39	953.48	953.66

REVISIONS

MARK	DATE	DESCRIPTION

M/I HOMES
mihomes.com

BERLIN TOWNSHIP, DELAWARE COUNTY, OHIO
STREET, STORM SEWER & WATER IMPROVEMENTS
FOR
BERLIN FARM WEST
SECTION 4 & ROLOSON-PIATT ROAD
WATER MAIN PLAN & PROFILE

EMHT
Evans, Mechwart, Hambleton & Tilton, Inc.
Engineers • Surveyors • Planners • Scientists
5500 New Albany Road, Columbus, OH 43054
Phone: 614.775.4500 Toll Free: 888.775.3648
emht.com

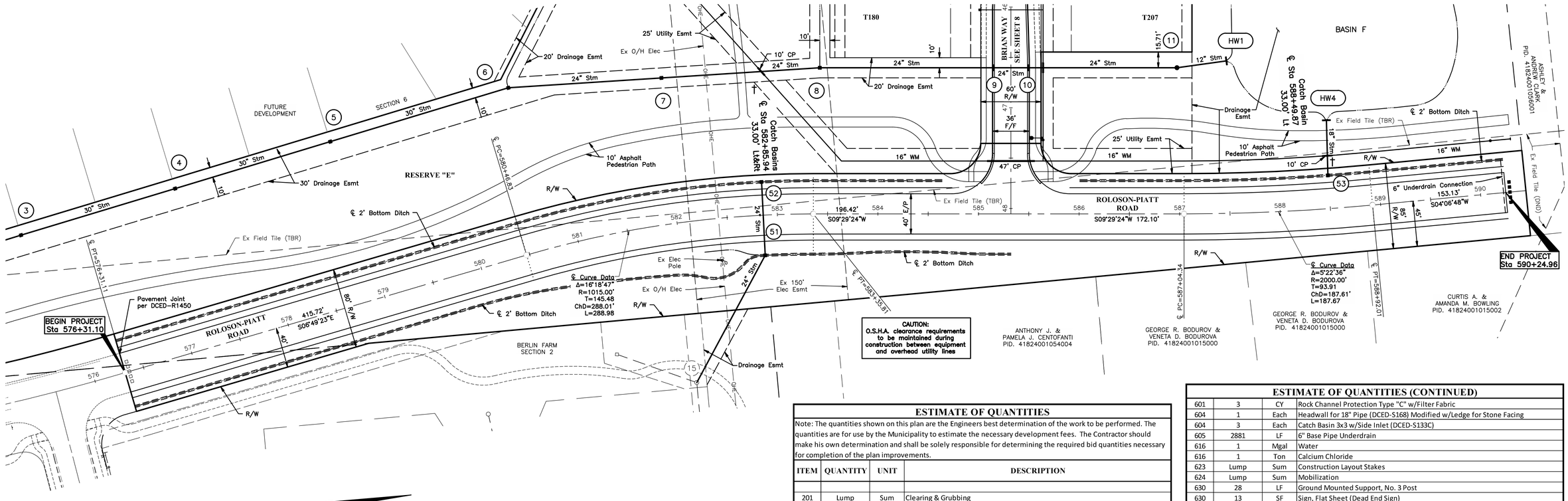
DATE: May, 2024

SCALE: Horiz: 1" = 50' Vert: 1" = 5'

JOB NO. 20230988

SHEET 10/30

J:\20230988\Dwg\04Sheets\Street\20230988-ROAD-10.dwg, Last Saved By: kharmon, 5/9/2024 9:40 AM Last Printed By: Harmon, Kyle, 5/21/2024 3:31 PM



NOTES:

4" Underdrain shall tie into storm sewer structures at all low points.

† Contractor shall maintain a 1.5' minimum clearance from outside of pipe to outside of pipe for all utility crossings unless otherwise noted.

CP = Casing Pipe

HORIZ 1 inch = 50 Feet: 0, 25, 50, 100

VERT 1 inch = 5 Feet: 0, 2.5, 5, 10

ESTIMATE OF QUANTITIES

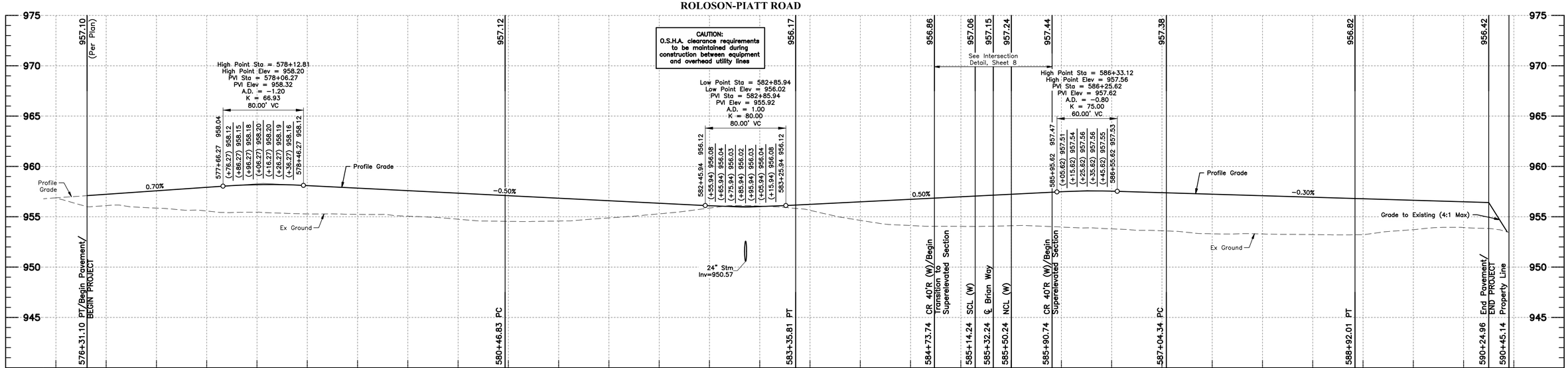
Note: The quantities shown on this plan are the Engineers best determination of the work to be performed. The quantities are for use by the Municipality to estimate the necessary development fees. The Contractor should make his own determination and shall be solely responsible for determining the required bid quantities necessary for completion of the plan improvements.

ITEM	QUANTITY	UNIT	DESCRIPTION
201	Lump	Sum	Clearing & Grubbing
203	4217	CY	Excavation Including Embankment Construction
204	3	Hours	Proof Rolling
206	6751	SY	Cement Stabilized Subgrade, 12" Deep
207	622	LF	Perimeter Filter Fabric Fence and/or 12" Filter Sock
207	3	Each	Filter Fabric Inlet Protection
301	1065	CY	6" Asphalt Concrete Base, PG64-22
304	1090	CY	6" Aggregate Base
407	629	Gal	Tack Coat (0.05 Gal/SY)
441	218	CY	1-1/4" Asphalt Concrete Surface Course, Type 1, (448), PG64-22
441	306	CY	1-3/4" Asphalt Concrete Intermediate Course, Type 2, (448)

ESTIMATE OF QUANTITIES (CONTINUED)

601	3	CY	Rock Channel Protection Type "C" w/Filter Fabric
604	1	Each	Headwall for 18" Pipe (DCED-S168) Modified w/Ledge for Stone Facing
604	3	Each	Catch Basin 3x3 w/Side Inlet (DCED-S133C)
605	2881	LF	6" Base Pipe Underdrain
616	1	Mgal	Water
616	1	Ton	Calcium Chloride
623	Lump	Sum	Construction Layout Stakes
624	Lump	Sum	Mobilization
630	28	LF	Ground Mounted Support, No. 3 Post
630	13	SF	Sign, Flat Sheet (Dead End Sign)
647	0.51	MI	Edge Line, 5" White
647	0.49	MI	Center Line, 5" Dashed/Solid Yellow
647	8	Each	Lane Arrow, White
659	9646	SY	Seeding & Mulching (R/W)
659	2	Ton	Commercial Fertilizer
659	53	Mgal	Water
901	55	LF	18" Conduit, Type B
901	216	LF	24" Conduit, Type B
912	12	CY	Compacted Granular Backfill (Within R/W Influence & Under Pavement)
SPEC	1	Each	Temporary Barricade

ROLOSON-PIATT ROAD



STATION	576	577	578	579	580	581	582	583	584	585	586	587	588	589	590
PROP GRADE	957.23	957.58	957.93	958.19	958.10	957.85	957.60	957.35	957.10	956.85	956.60	956.35	956.10	956.03	956.24	956.49	956.74	956.99	957.24	957.49	957.54	957.39	957.24	957.09	956.94	956.79	956.64	956.49
EX GROUND	956.11	955.86	955.57	955.46	955.28	955.24	955.06	954.76	954.55	954.58	954.89	955.29	955.86	956.06	955.64	954.65	954.13	954.05	954.11	953.98	953.80	953.61	953.31	953.29	953.23	953.23	953.72	953.93

REVISIONS

MARK	DATE	DESCRIPTION

M/I HOMES
mihomes.com

BERLIN TOWNSHIP, DELAWARE COUNTY, OHIO
STREET, STORM SEWER & WATER IMPROVEMENTS
FOR
BERLIN FARM WEST
SECTION 4 & ROLOSON-PIATT ROAD
ROLOSON-PIATT ROAD PLAN & PROFILE

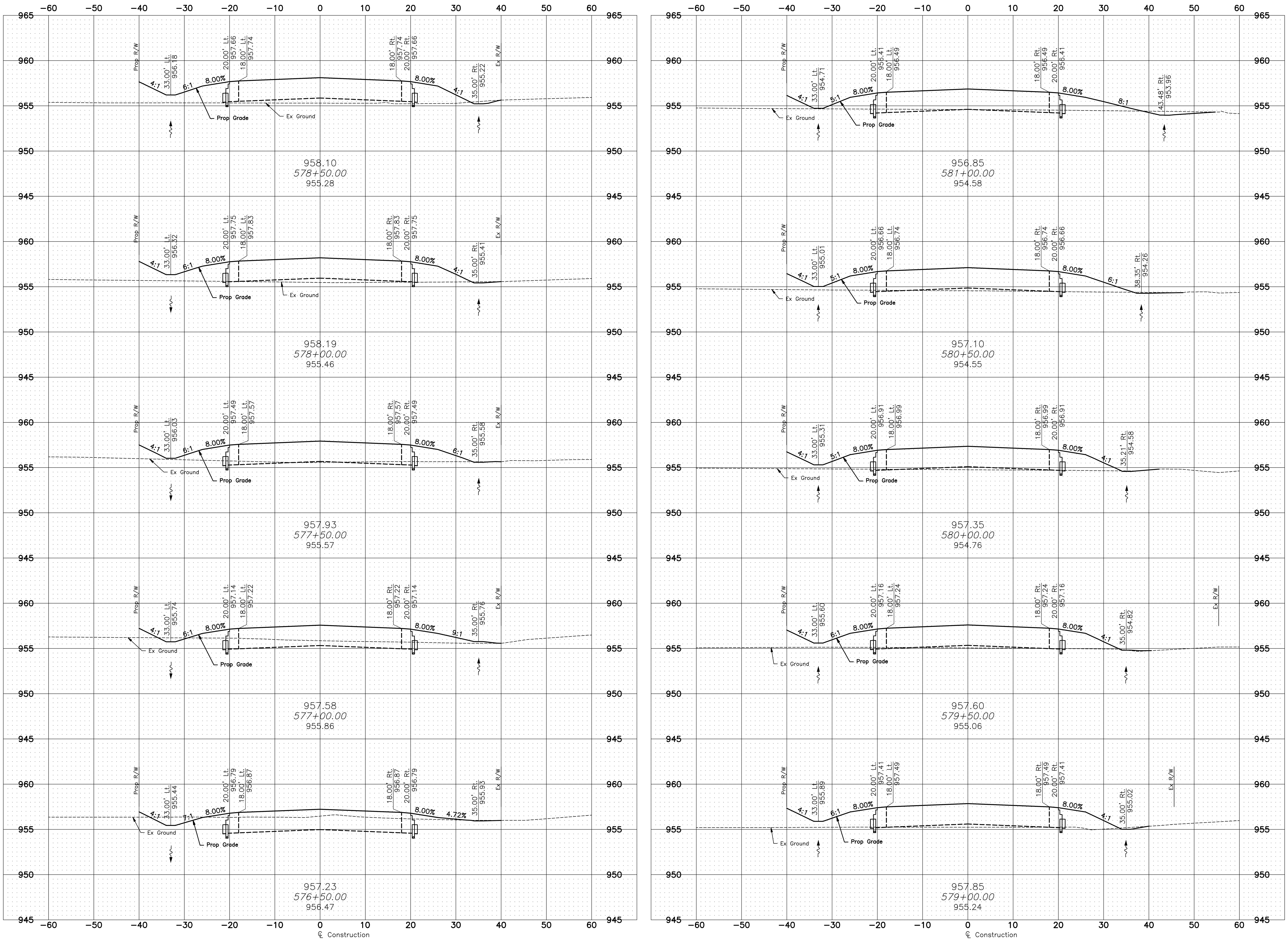
EMH&T
Evans, Mechwart, Hambleton & Tilton, Inc.
Engineers • Surveyors • Planners • Scientists
5500 New Albany Road, Columbus, OH 43054
Phone: 614.775.4500 Toll Free: 888.775.3448
emht.com

DATE
May, 2024

SCALE
Horiz: 1" = 50'
Vert: 1" = 5'

JOB NO.
20230988

SHEET
11/30



HORIZ 1 inch = 10 Feet

VERT 1 inch = 5 Feet

MARK	DATE	DESCRIPTION

REVISIONS

M/I HOMES
mihomes.com

BERLIN TOWNSHIP, DELAWARE COUNTY, OHIO
STREET, STORM SEWER & WATER IMPROVEMENTS
FOR
BERLIN FARM WEST
SECTION 4 & ROLOSON-PIATT ROAD
ROLOSON-PIATT ROAD CROSS SECTIONS

EMHT
Evans, Mechwart, Hambleton & Tilton, Inc.
Engineers • Surveyors • Planners • Scientists
5500 New Albany Road, Columbus, OH 43054
Phone: 614.775.4500 Toll Free: 888.775.3648
emht.com

DATE: May, 2024

SCALE: Horiz: 1" = 10' Vert: 1" = 5'

JOB NO. 20230988

SHEET 12/30

REVISIONS

MARK	DATE	DESCRIPTION

M/I HOMES
mihomes.com

BERLIN TOWNSHIP, DELAWARE COUNTY, OHIO
STREET, STORM SEWER & WATER IMPROVEMENTS
FOR

BERLIN FARM WEST
SECTION 4 & ROLOSON-PIATT ROAD
ROLOSON-PIATT ROAD CROSS SECTIONS

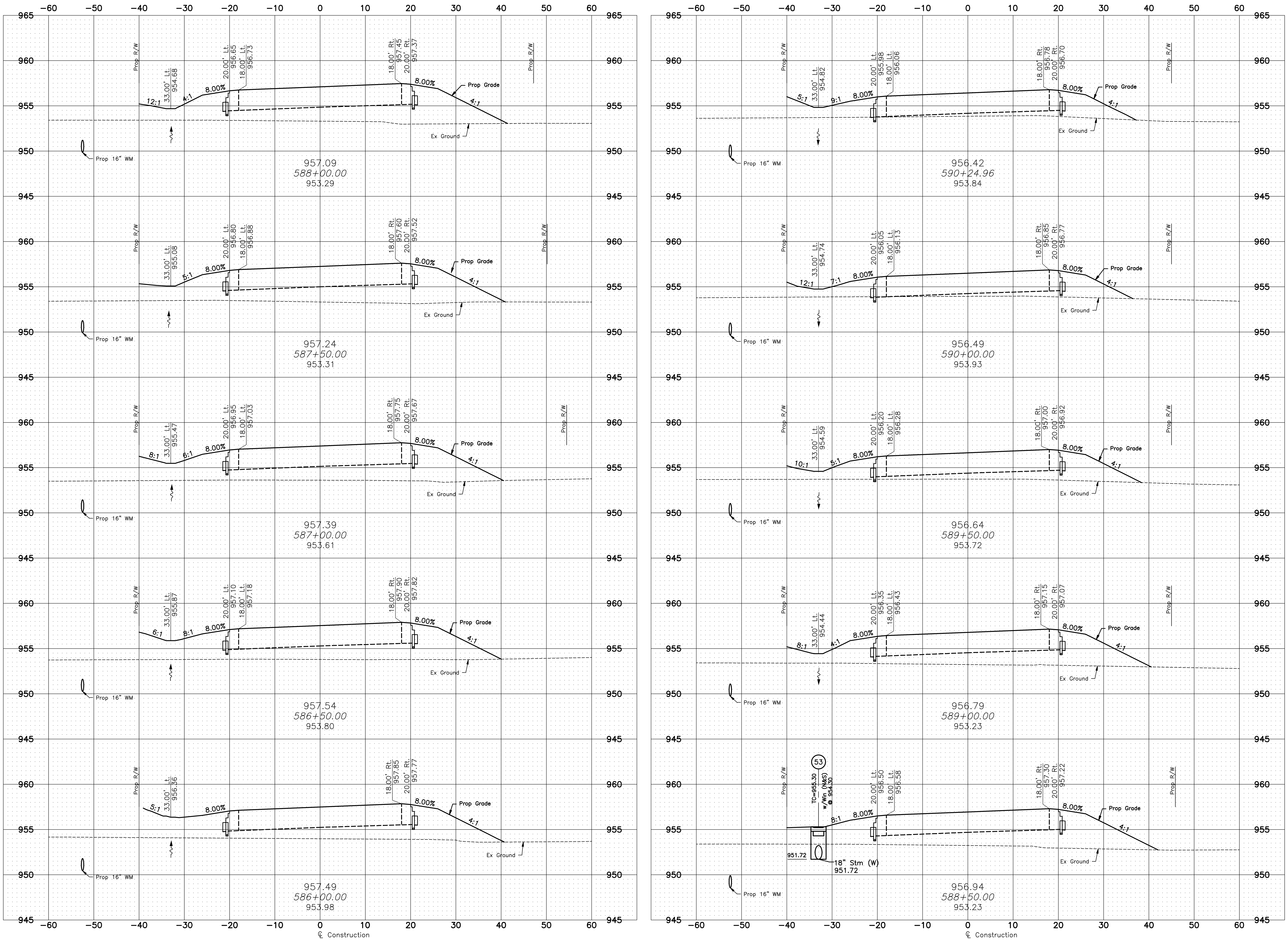
EMH&T
Evans, Mechwart, Hambleton & Tilton, Inc.
Engineers • Surveyors • Planners • Scientists
5500 New Albany Road, Columbus, OH 43054
emht.com

DATE
May, 2024

SCALE
Horiz: 1" = 10'
Vert: 1" = 5'

JOB NO.
20230988

SHEET
13/30



HORIZ 1 inch = 10 Feet

VERT 1 inch = 5 Feet

REVISIONS

MARK	DATE	DESCRIPTION

M/I HOMES
mihomes.com

BERLIN TOWNSHIP, DELAWARE COUNTY, OHIO
STREET, STORM SEWER & WATER IMPROVEMENTS
FOR

BERLIN FARM WEST
SECTION 4 & ROLOSON-PIATT ROAD
ROLOSON-PIATT ROAD CROSS SECTIONS

EMHT
Evans, Mechwart, Hambleton & Tilton, Inc.
Engineers • Surveyors • Planners • Scientists
5500 New Albany Road, Columbus, OH 43054
Phone: 614.775.4500 Toll Free: 888.775.3648
emht.com

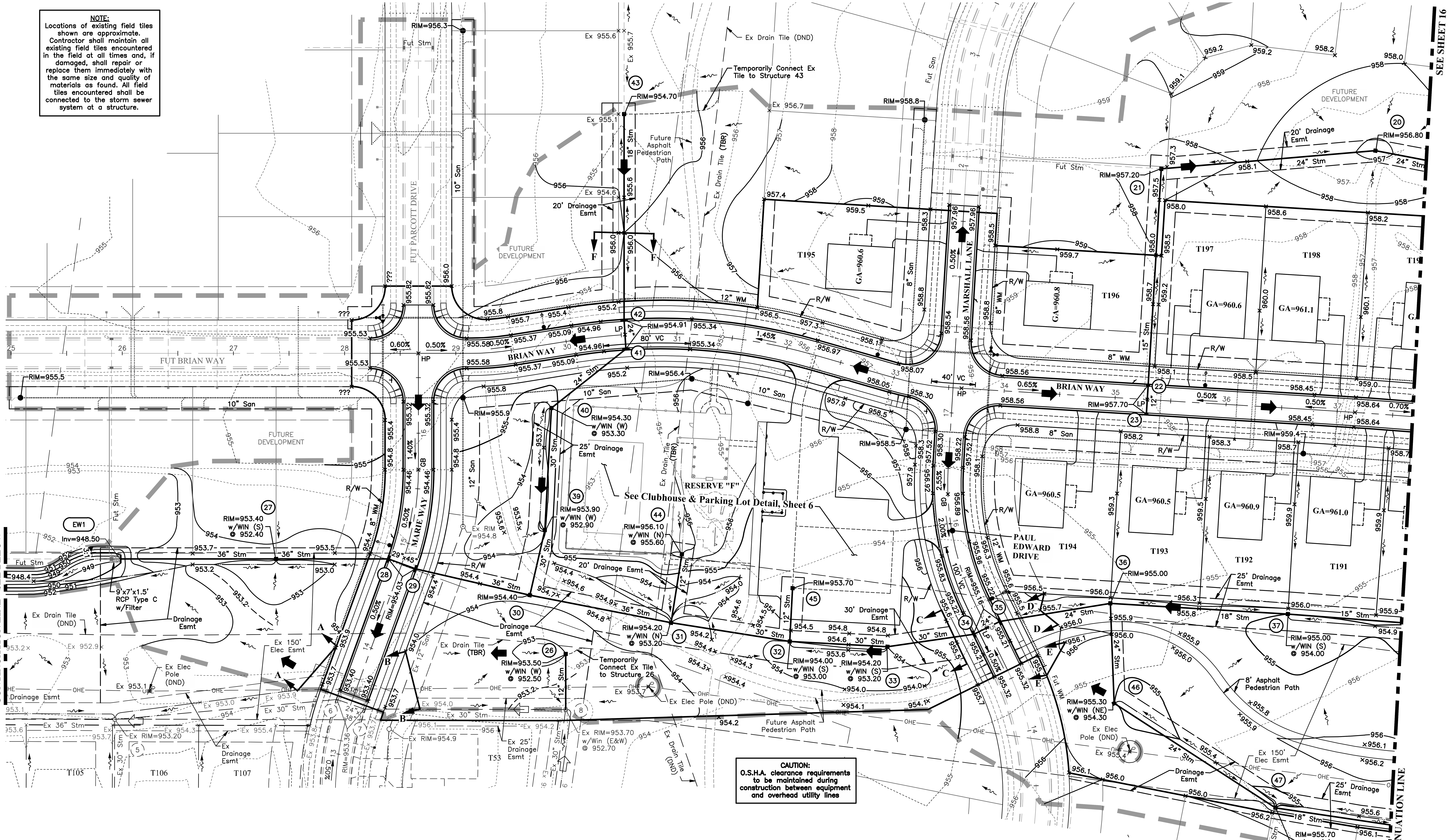
DATE
May, 2024

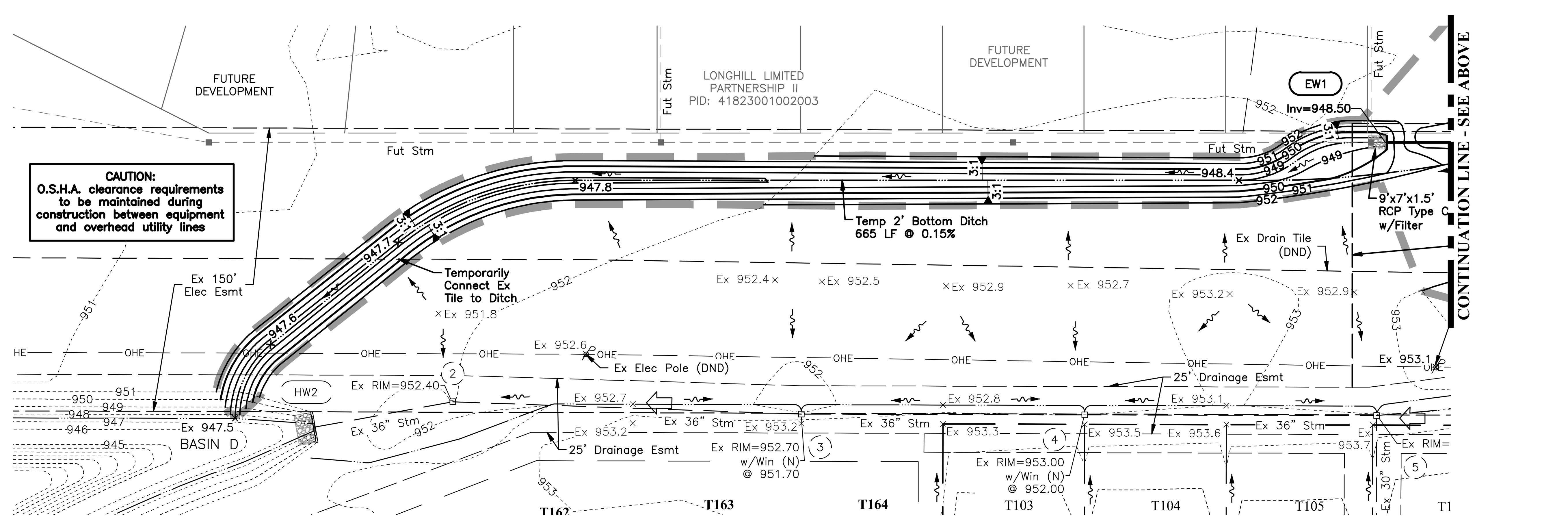
SCALE
Horiz: 1" = 10'
Vert: 1" = 5'

JOB NO.
20230988

SHEET
14/30

NOTE:
Locations of existing field tiles shown are approximate. Contractor shall maintain all existing field tiles encountered in the field at all times and, if damaged, shall repair or replace them immediately with the same size and quality of materials as found. All field tiles encountered shall be connected to the storm sewer system at a structure.

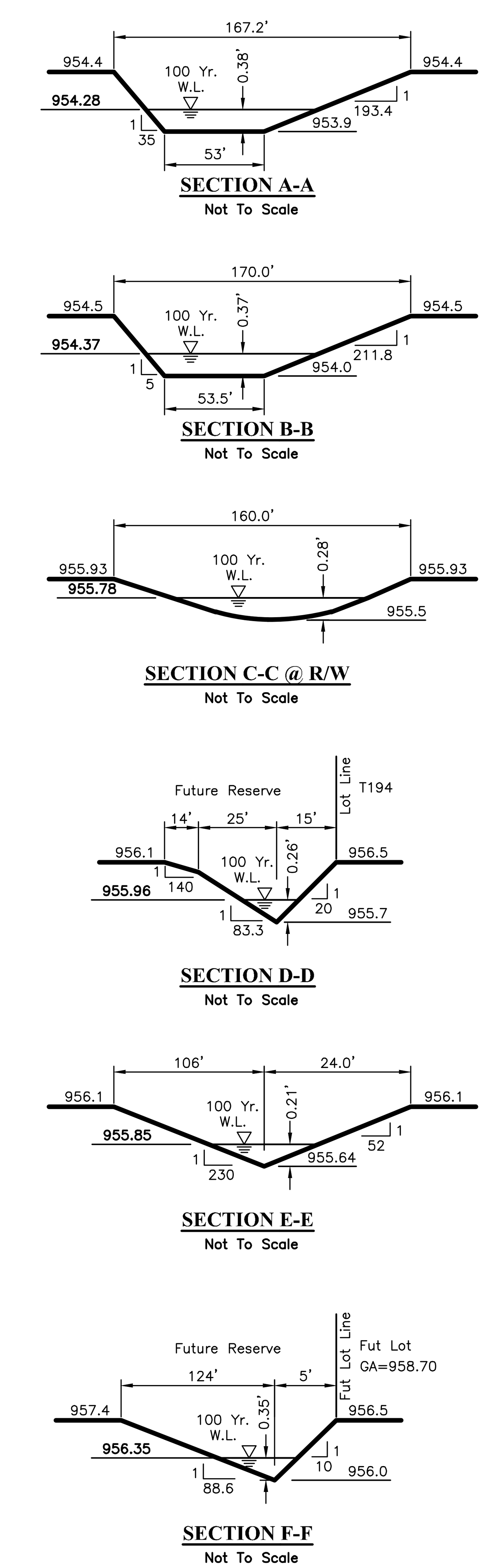


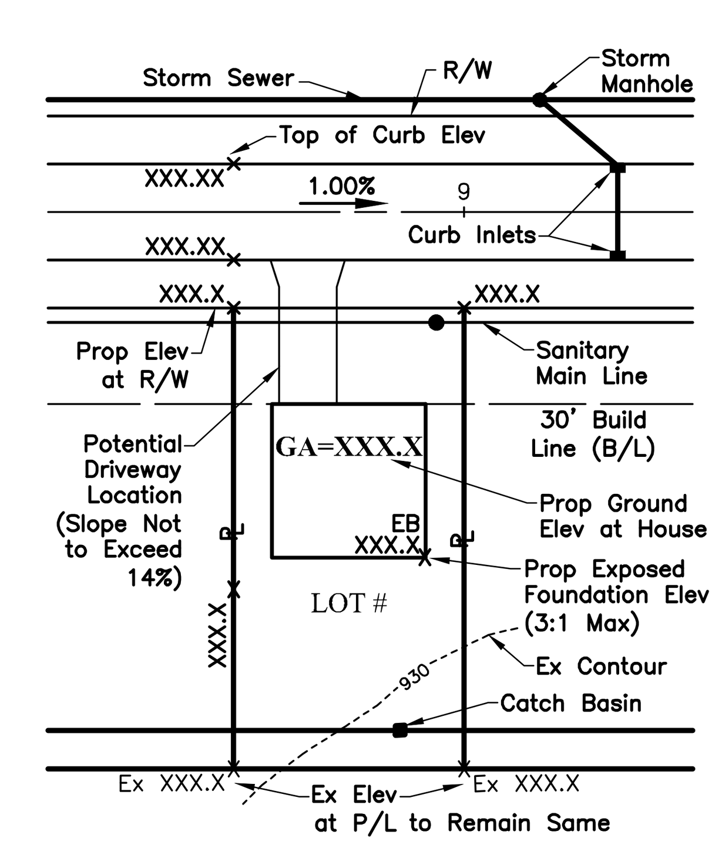


CAUTION:
O.S.H.A. clearance requirements to be maintained during construction between equipment and overhead utility lines

LEGEND

- Flood Routing Arrow
- Emergency Spillover Weir Arrow
- Existing Flood Routing Arrow
- Flow Arrow
- Proposed Contours
- Existing Contours
- Limits of Disturbance





TYPICAL LAYOUT
Not To Scale

GRAPHIC SCALE
0 25 50 100
1 inch = 50 feet

REVISIONS

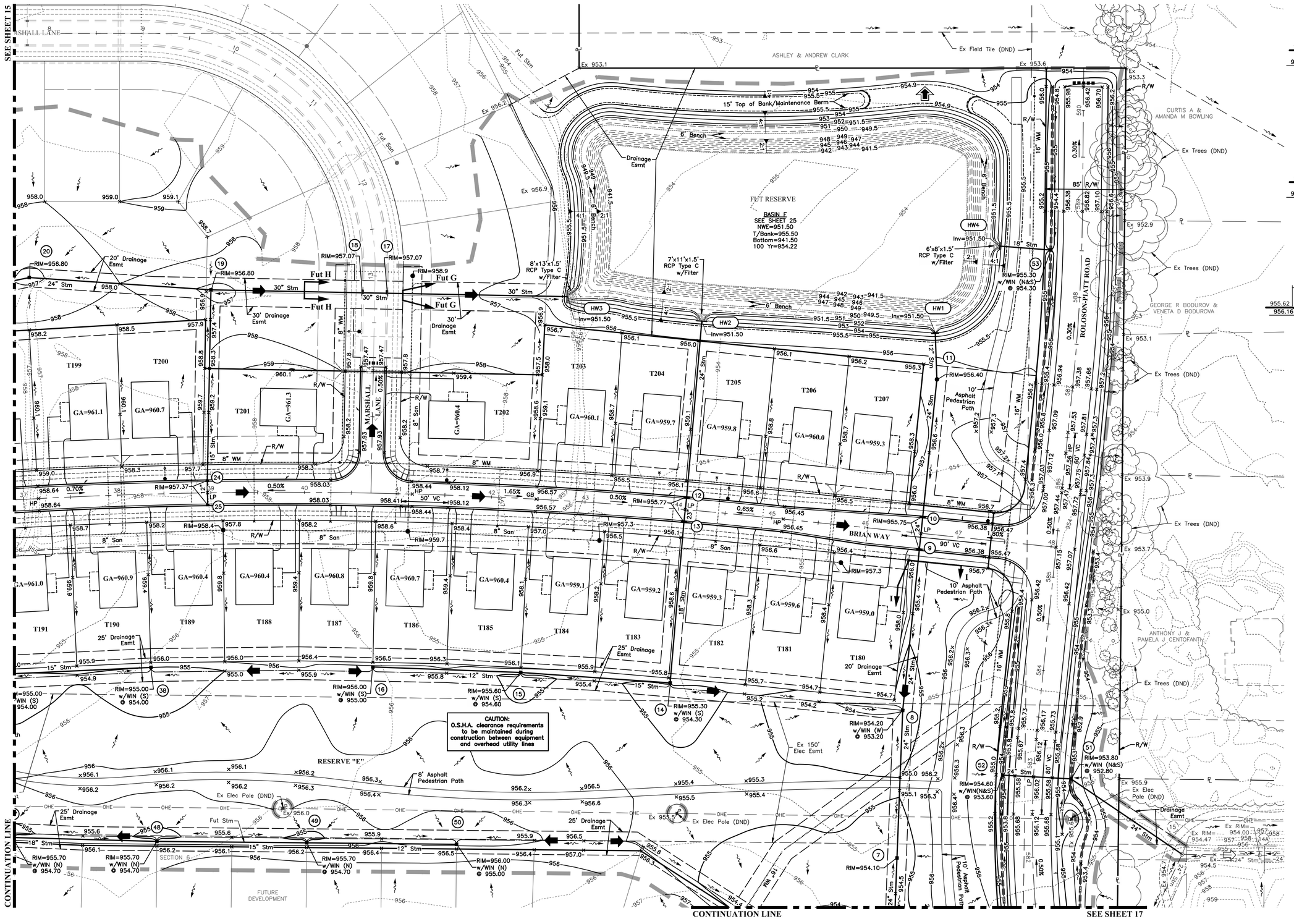
MARK	DATE	DESCRIPTION

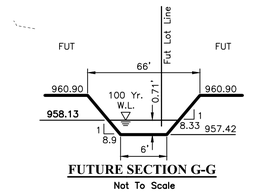
M/I HOMES
mihomes.com

BERLIN TOWNSHIP, DELAWARE COUNTY, OHIO
STREET, STORM SEWER & WATER IMPROVEMENTS
FOR
BERLIN FARM WEST
SECTION 4 & ROLOSON-PIATT ROAD
MASTER GRADING PLAN

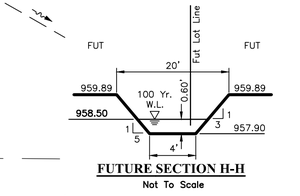
EMH&T
Evans, Mechwart, Hambleton & Tilton, Inc.
Engineers • Surveyors • Planners • Scientists
5500 New Albany Road, Columbus, OH 43054
Phone: 614.775.4500 Toll Free: 888.775.3648
emht.com

DATE: May, 2024
SCALE: 1" = 50'
JOB NO.: 20230988
SHEET: 15/30

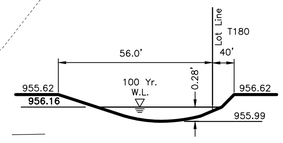




FUTURE SECTION G-G
Not To Scale



FUTURE SECTION H-H
Not To Scale



SECTION I-I @ R/W
Not To Scale

NOTE:
Locations of existing field tiles shown are approximate. Contractor shall maintain all existing field tiles encountered in the field at all times and, if damaged, shall repair or replace them immediately with the same size and quality of materials as found. All field tiles encountered shall be connected to the storm sewer system at a structure.

GRAPHIC SCALE
0 25 50 100
1 inch = 50 feet

REVISIONS

MARK	DATE	DESCRIPTION

M/I HOMES
mihomes.com

BERLIN TOWNSHIP, DELAWARE COUNTY, OHIO
STREET, STORM SEWER & WATER IMPROVEMENTS
FOR
BERLIN FARM WEST
SECTION 4 & ROLOSON-PIATT ROAD
MASTER GRADING PLAN

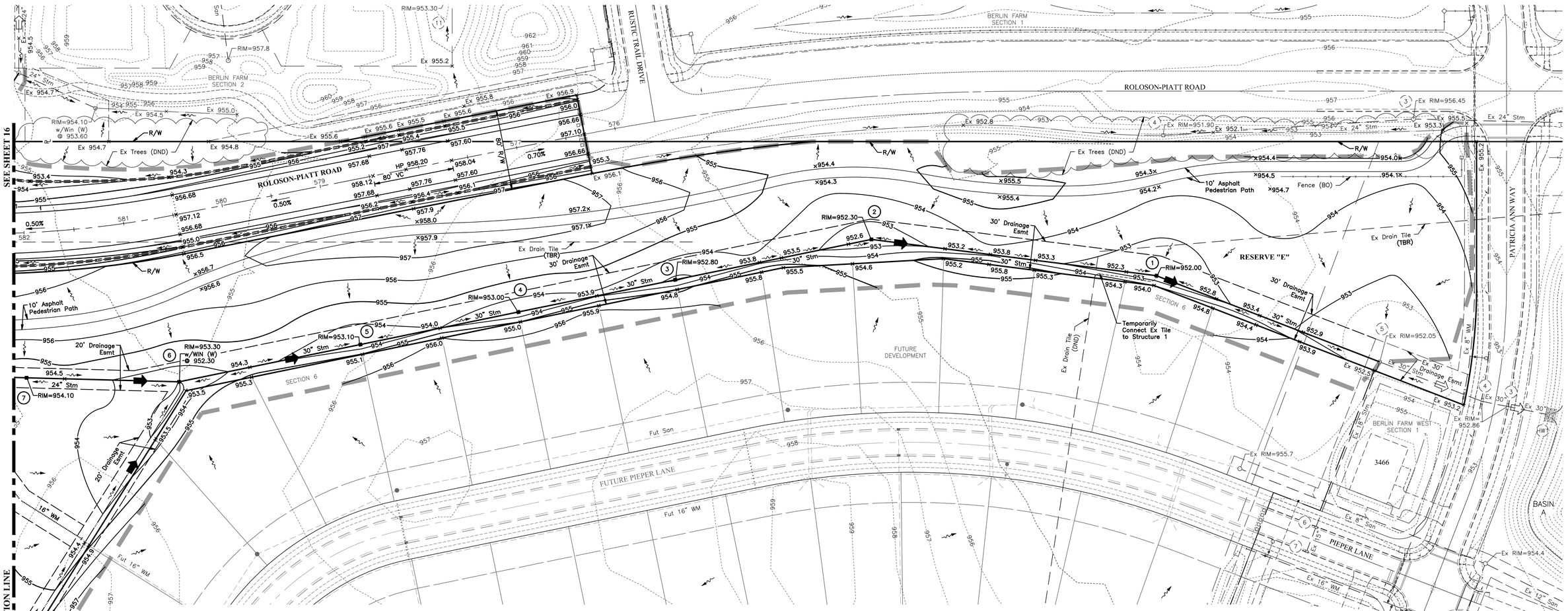
EMH&T
Evans, Mechwart, Hambleton & Tilton, Inc.
5500 New Albany Road, Columbus, OH 43054
Phone: 614.775.4500 Toll Free: 888.775.3648
emht.com

DATE
May, 2024

SCALE
1" = 50'

JOB NO.
20230988

SHEET
16/30



NOTE:
Locations of existing field tiles shown are approximate. Contractor shall maintain all existing field tiles encountered in the field at all times and, if damaged, shall repair or replace them immediately with the same size and quality of materials as found. All field tiles encountered shall be connected to the storm sewer system at a structure.

STRUCTURE COORDINATES

STRUCTURE #	NORTHING - PLAN	EASTING - PLAN	NORTHING - AS BUILT	EASTING - AS BUILT
1	216098.2513	1828280.5768		
2	216379.5270	1828338.0954		
3	216577.9580	1828312.6163		
4	216736.6551	1828292.2391		
5	216896.3969	1828271.7278		
6	217079.9279	1828248.1619		
7	217231.6176	1828263.6159		
8	217388.5619	1828279.6052		
9	217558.7012	1828308.0458		
10	217593.2223	1828313.8164		
11	217738.8207	1828338.1547		
12	217629.8049	1828063.5173		
13	217604.1761	1828059.1042		
14	217433.4039	1828033.5429		
15	217454.5479	1827874.9426		
16	217470.2193	1827717.7176		
17	217867.5666	1827757.8317		
18	217869.6910	1827731.9187		
19	217882.9272	1827570.4603		
20	217908.2615	1827377.5933		
21	217880.8833	1827186.3022		
22	217685.8844	1827185.6572		
23	217659.8845	1827185.5712		
24	217679.9086	1827553.8169		
25	217653.9371	1827552.5985		
26	217414.2956	1826676.6753		
27	217484.6753	1826411.6506		
28	217490.4790	1826512.4668		
29	217483.0906	1826537.3950		
30	217465.3046	1826641.3515		
31	217447.8551	1826769.5904		

STRUCTURE COORDINATES

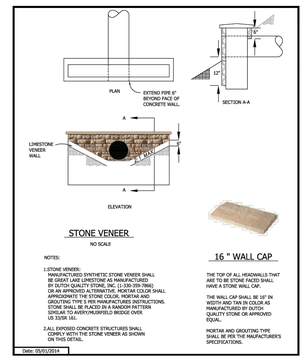
STRUCTURE #	NORTHING - PLAN	EASTING - PLAN	NORTHING - AS BUILT	EASTING - AS BUILT
32	217437.1055	1826877.1409		
33	217437.4520	1826965.1405		
34	217453.1243	1827042.1447		
35	217465.9164	1827064.7801		
36	217487.9583	1827163.0023		
37	217487.4291	1827322.9663		
38	217484.6795	1827481.2311		
39	217524.5219	1826651.4830		
40	217634.5164	1826651.0959		
41	217691.3514	1826714.9636		
42	217717.1604	1826711.7853		
43	217902.2807	1826701.1286		
44	217509.9557	1826775.7985		
45	217485.1012	1826876.9503		
46	217398.3656	1827171.5675		
47	217312.7815	1827321.8948		
48	217298.8983	1827475.8703		
49	217287.3099	1827635.4501		
50	217275.7216	1827795.0299		
51	217304.2845	1828454.3432		
52	217312.7691	1828381.8380		
53	217869.1304	1828468.2801		
EW1	217476.6006	1826271.3828		
Ex5			215882.2394	1828177.9970
Ex8			217364.3757	1826679.5048
Ex15			217216.4359	1828567.7543
HW1	217788.8028	1828339.5133		
HW2	217817.3993	1828091.6184		
HW3	217851.7975	1827950.1864		
HW4	217876.8016	1828413.4801		

STORM SEWER TABLE

LINE	BEARING	LENGTH	SIZE
Ex5–1	N25°24'08"E	239.13'	30"
1–2	N11°33'26"E	287.10'	30"
2–3	N07°19'01"W	200.06'	30"
3–4	N07°19'01"W	160.00'	30"
4–5	N07°19'01"W	161.05'	30"
5–6	N07°19'01"W	185.04'	30"
6–7	N05°49'02"E	152.47'	24"
7–8	N05°49'02"E	157.76'	24"
8–9	N09°29'24"E	172.50'	24"
9–10	N09°29'24"E	35.00'	24"
10–11	N09°29'24"E	147.62'	24"
11–HW1	N01°33'25"E	50.00'	12"
HW2–12	S08°31'10"W	189.69'	24"
12–13	S09°46'12"W	26.01'	14x23"
13–14	S08°30'46"W	172.67'	18"
14–15	N82°24'23"W	160.00'	15"
15–16	N84°18'28"W	158.00'	12"
HW3–17	N85°18'48"W	193.00'	30"
17–18	N85°18'48"W	26.00'	30"
18–19	N85°18'48"W	162.00'	30"
19–20	N82°31'00"W	194.52'	24"
20–21	S81°51'18"W	193.24'	24"
21–22	S00°11'22"W	195.00'	15"
22–23	S00°11'22"W	26.00'	12"
19–24	S04°41'12"W	203.70'	15"
24–25	S02°41'10"W	26.00'	12"
Ex8–26	N03°14'39"W	50.00'	12"

STORM SEWER TABLE

LINE	BEARING	LENGTH	SIZE
EW1–27	N86°42'19"E	140.50'	36"
27–28	N86°42'19"E	100.98'	36"
28–29	S73°29'27"E	26.00'	29x45"
29–30	S80°17'28"E	105.47'	36"
30–31	S82°15'05"E	129.42'	36"
31–32	S84°17'26"E	108.09'	30"
32–33	N89°46'20"E	88.00'	30"
33–34	N78°29'46"E	78.58'	30"
34–35	N60°31'39"E	26.00'	24"
35–36	N77°21'07"E	100.67'	24"
36–37	S89°48'38"E	159.96'	18"
37–38	S89°00'17"E	158.29'	15"
30–39	N09°42'32"E	60.08'	30"
39–40	N00°12'06"W	110.00'	30"
40–41	N48°20'04"E	85.49'	24"
41–42	N07°01'13"W	26.00'	24"
42–43	N03°17'41"W	185.43'	18"
31–44	N05°42'32"E	62.41'	12"
32–45	N00°13'40"W	48.00'	12"
36–46	S05°27'39"E	90.00'	24"
46–47	S60°20'47"E	172.98'	24"
47–48	S84°50'52"E	154.60'	18"
48–49	S85°50'48"E	160.00'	15"
49–50	S85°50'48"E	160.00'	12"
Ex15–51	N52°14'19"W	143.46'	24"
51–52	N83°19'32"W	73.00'	24"
HW4–53	S82°01'53"E	55.33'	18"



STONE FACING DETAIL
Not to Scale

GRAPHIC SCALE
0 25 50 100
1 inch = 50 feet

REVISIONS

MARK	DATE	DESCRIPTION

M/I HOMES
mihomes.com

BERLIN TOWNSHIP, DELAWARE COUNTY, OHIO
STREET, STORM SEWER & WATER IMPROVEMENTS
FOR
BERLIN FARM WEST
SECTION 4 & ROLOSON-PIATT ROAD
MASTER GRADING PLAN

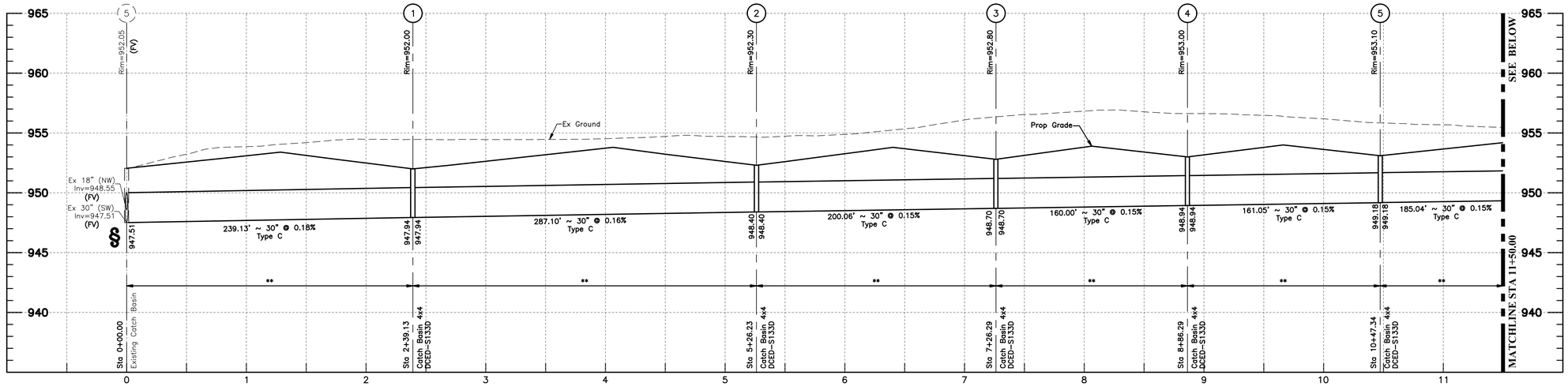
EMHT
Evans, Mechwart, Hambleton & Tilton, Inc.
5500 New Albany Road, Columbus, OH 43054
Phone: 614.775.4500 Toll free: 888.775.3648
emht.com

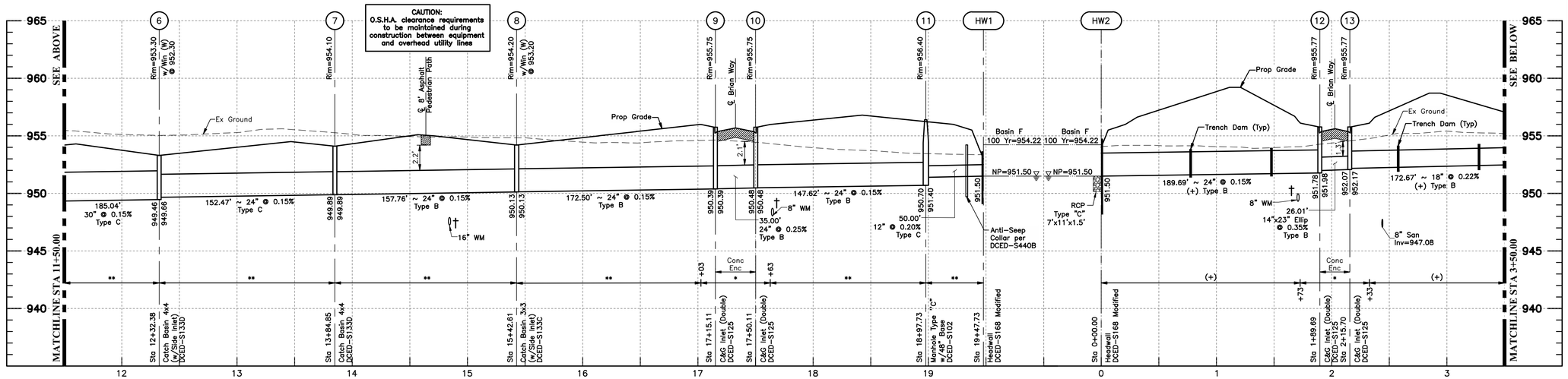
DATE
May, 2024

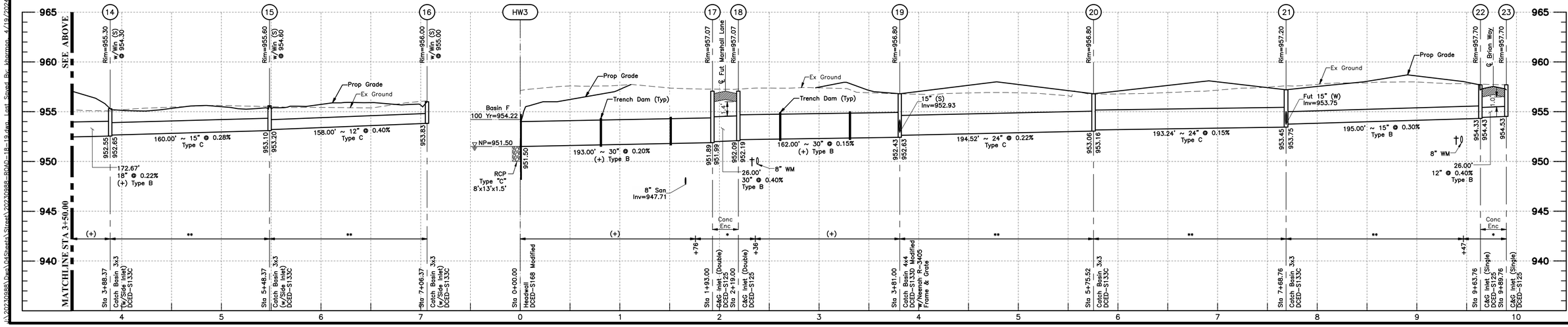
SCALE
1" = 50'

JOB NO.
20230988

SHEET
17/30







NOTES:

† Must Maintain a Minimum of 18" Vertical Separation, Measured out-to-out Between the Watermain and Sanitary Sewer and or Storm Sewer.

* Compacted Granular Backfill, per DCED-R100

** Compacted Backfill, per DCED-R100

(+) Reinforced Concrete Pipe with O-Ring Rubber Gasket Joints with no Aggregate Bedding or Backfill, or HP Storm Pipe with Gasketed Integral Bell & Spigot Joint with Standard Bedding & Backfill (See Detail Sheet 4)

All fills are to be placed, per 901.04, a minimum of 2.5' above the proposed storm sewer prior to the start of sewer construction.

Denoted thus:

See Sheet 17 for Stone Facing Detail

Allowable Storm pipe materials per COC CMS are as follows:

TYPE B Reinforced Concrete Pipe [RCP] per 706.02, or 706.04;
Polyvinyl Chloride [PVC] Pipe per 720.10; or
Polypropylene [HDPP] Pipe per 720.13, 720.14.

TYPE C Reinforced Concrete Pipe [RCP] (706.02, 706.03, 706.04);
Polypropylene [HDPP] Pipe (720.13, 720.14);
or for 30" & smaller pipes:
Polyvinyl Chloride [PVC] Pipe per 720.08, 720.09, 720.10 720.11, or
Polyethylene Pipe (HDPE) per 720.12.

§ Contractor to verify invert and location of existing utility before construction. If there is a discrepancy between the contractor's information and the plan information shown, the contractor is to contact the engineer of record prior to the start of construction.

HORIZ 0 25 50 100
1 inch = 50 feet

VERT 0 2.5 5 10
1 inch = 5 feet

REVISIONS		
MARK	DATE	DESCRIPTION

M/I HOMES
mihomes.com

BERLIN TOWNSHIP, DELAWARE COUNTY, OHIO
STREET, STORM SEWER & WATER IMPROVEMENTS
FOR
BERLIN FARM WEST
SECTION 4 & ROLOSON-PIATT ROAD
STORM SEWER PROFILES

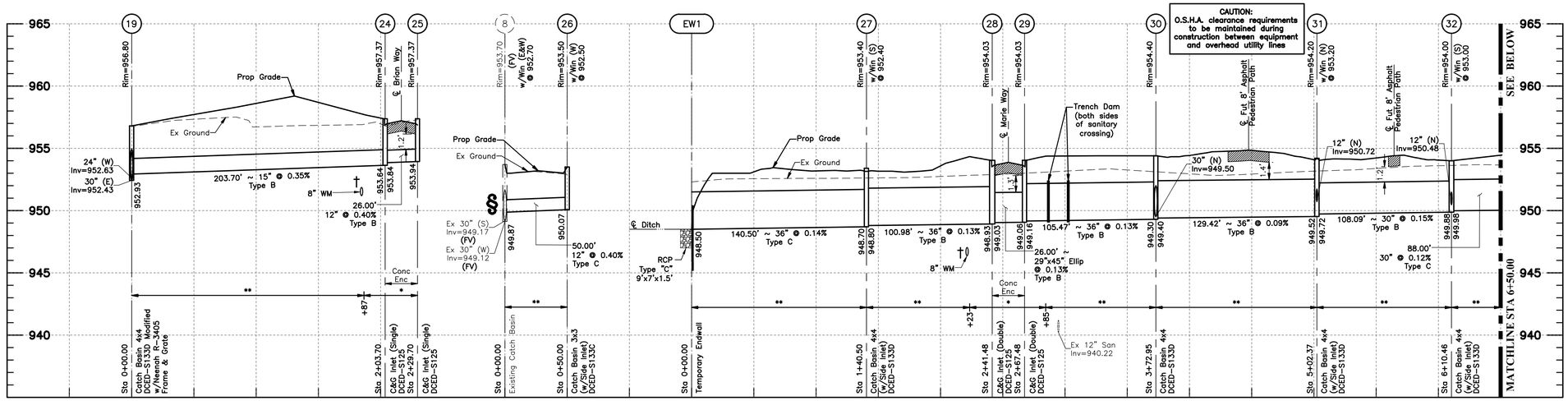
EMHT
Evans, Mechwart, Hambleton & Tilton, Inc.
5500 New Albany Road, Columbus, OH 43054
Phone: 614.775.4500 Toll Free: 888.775.3648
emht.com

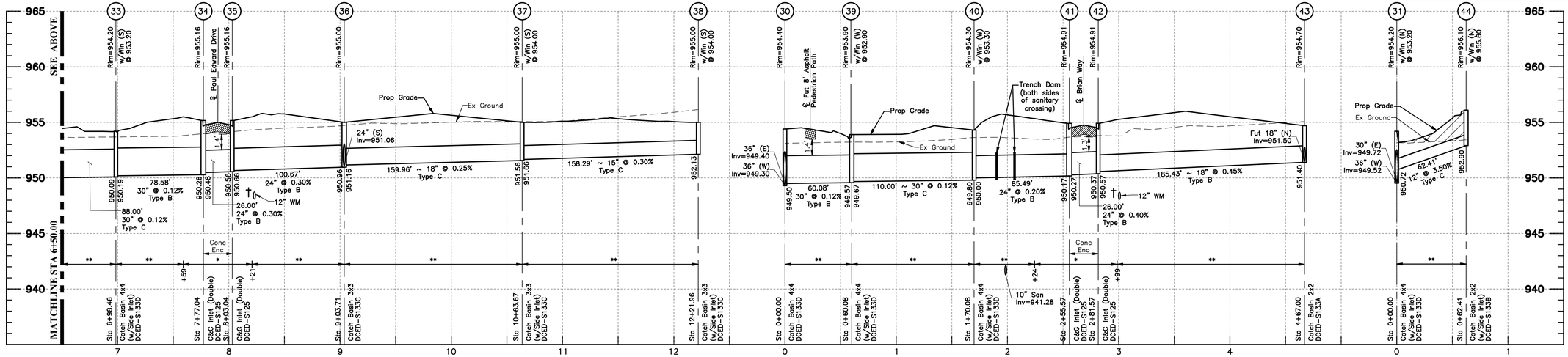
DATE
May, 2024

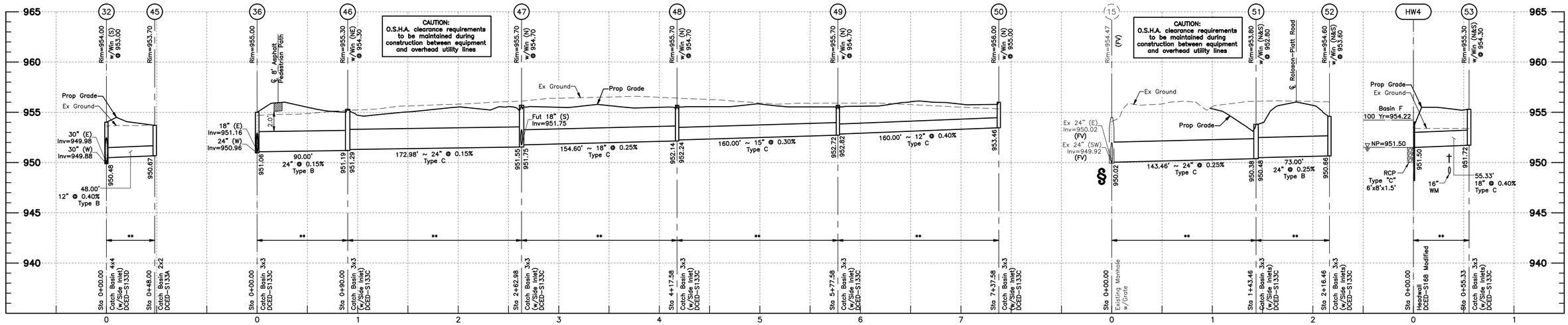
SCALE
Horiz: 1" = 50'
Vert: 1" = 5'

JOB NO.
20230988

SHEET
18/30







NOTES:

† Must Maintain a Minimum of 18" Vertical Separation, Measured out-to-out Between the Watermain and Sanitary Sewer and or Storm Sewer.

* Compacted Granular Backfill, per DCED-R100

** Compacted Backfill, per DCED-R100

(+) Reinforced Concrete Pipe with O-Ring Rubber Gasket Joints with no Aggregate Bedding or Backfill, or HP Storm Pipe with Gasketed Integral Bell & Spigot Joint with Standard Bedding & Backfill (See Detail Sheet 4)

All fills are to be placed, per 901.04, a minimum of 2.5' above the proposed storm sewer prior to the start of sewer construction.

Denoted thus:

See Sheet 17 for Stone Facing Detail

Allowable Storm pipe materials per COC CMS are as follows:

TYPE B Reinforced Concrete Pipe [RCP] per 706.02, or 706.04; Polyvinyl Chloride [PVC] Pipe per 720.10; or Polypropylene [HDPP] Pipe per 720.13, 720.14.

TYPE C Reinforced Concrete Pipe [RCP] (706.02, 706.03, 706.04); Polypropylene [HDPP] Pipe (720.13, 720.14); or for 30" & smaller pipes: Polyvinyl Chloride [PVC] Pipe per 720.08, 720.09, 720.10 720.11, or Polyethylene Pipe (HDPE) per 720.12.

§ Contractor to verify invert and location of existing utility before construction. If there is a discrepancy between the contractor's information and the plan information shown, the contractor is to contact the engineer of record prior to the start of construction.

HORIZ 1 inch = 50 feet (0, 25, 50, 100)
VERT 1 inch = 5 feet (0, 2.5, 5, 10)

REVISIONS		
MARK	DATE	DESCRIPTION

M/I HOMES
mihomes.com

BERLIN TOWNSHIP, DELAWARE COUNTY, OHIO
STREET, STORM SEWER & WATER IMPROVEMENTS
FOR
BERLIN FARM WEST
SECTION 4 & ROLOSON-PIATT ROAD
STORM SEWER PROFILES

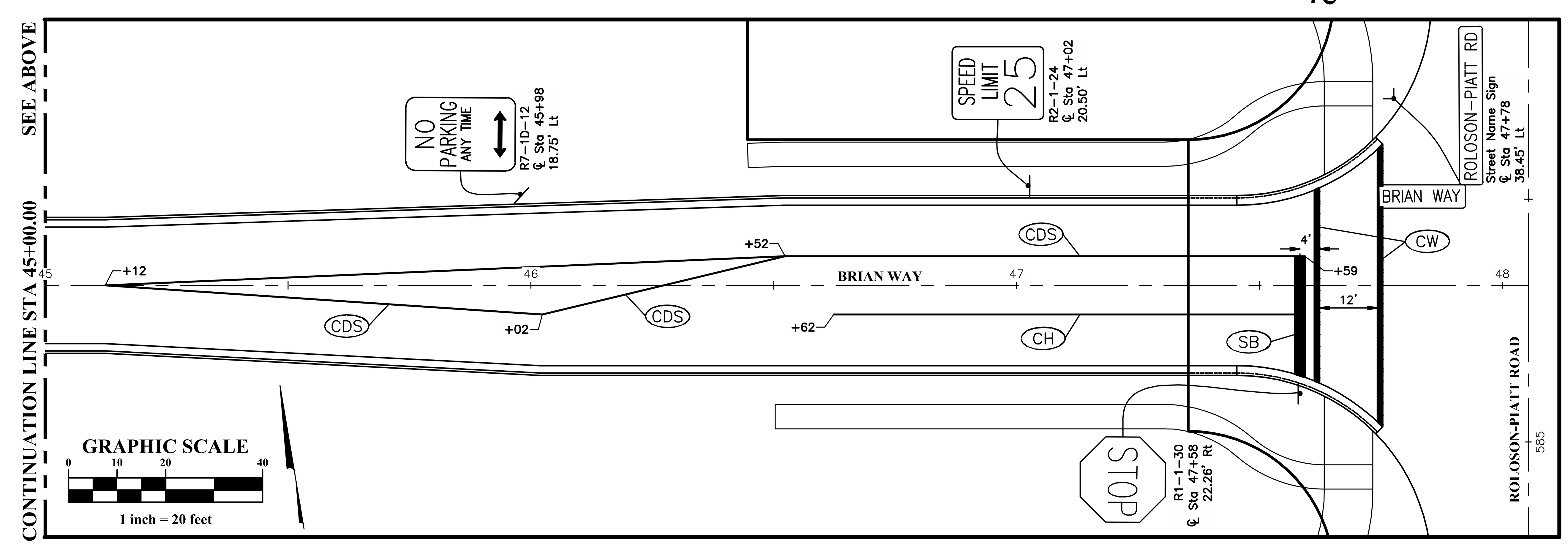
EMHT
Evans, Mechwart, Hambleton & Tilton, Inc.
5500 New Albany Road, Columbus, OH 43054
Phone: 614.775.4500 Toll Free: 888.775.3648
emht.com

DATE: May, 2024

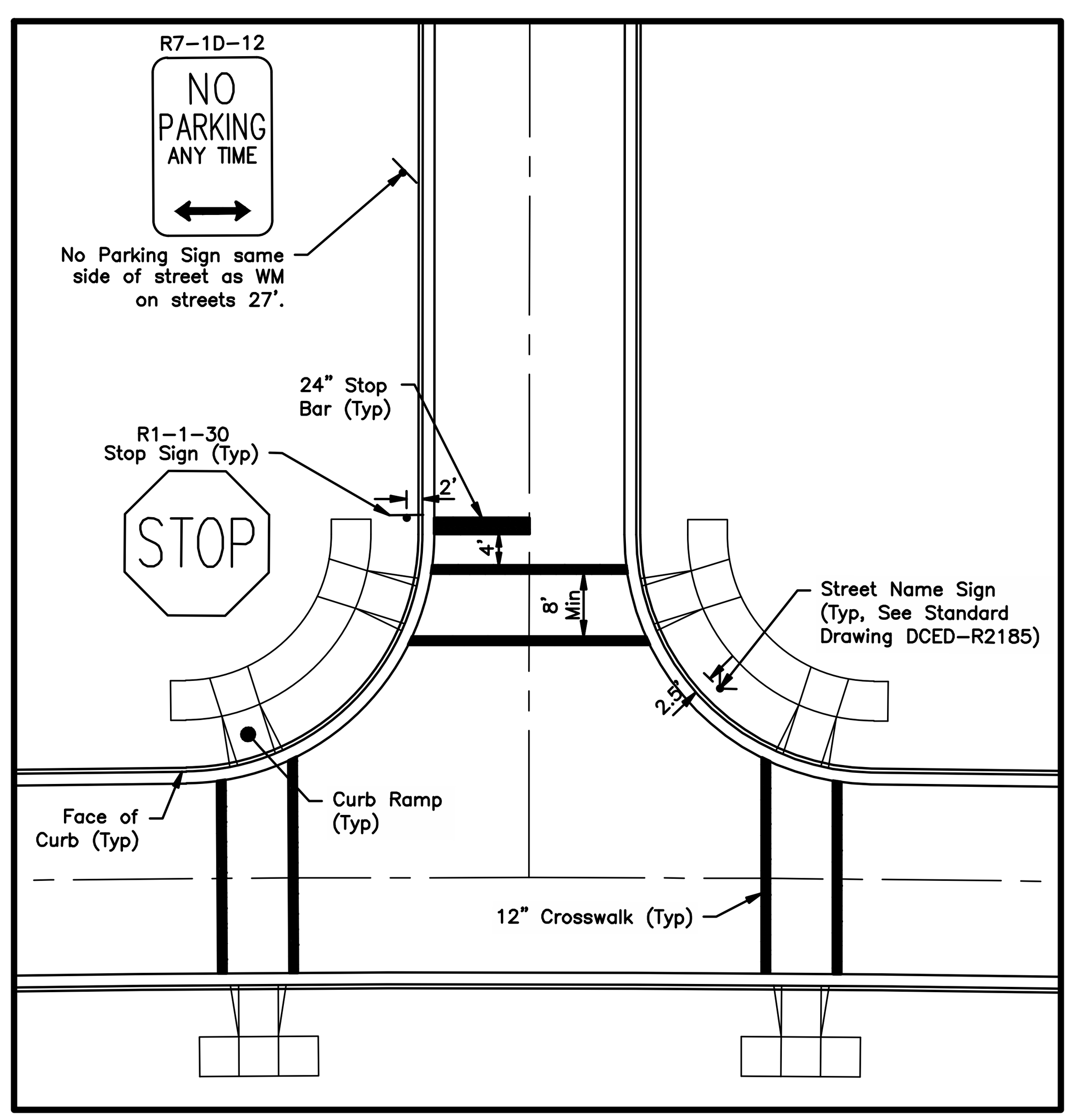
SCALE: Horiz: 1" = 50' Vert: 1" = 5'

JOB NO.: 20230988

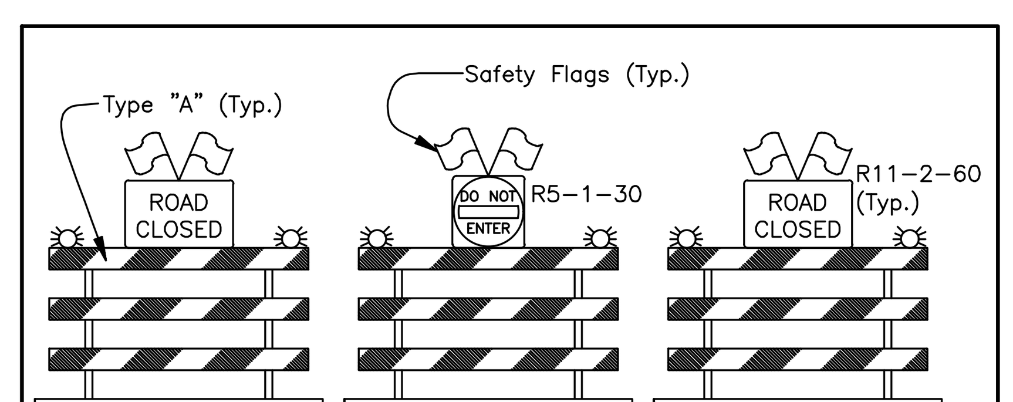
SHEET: 19/30



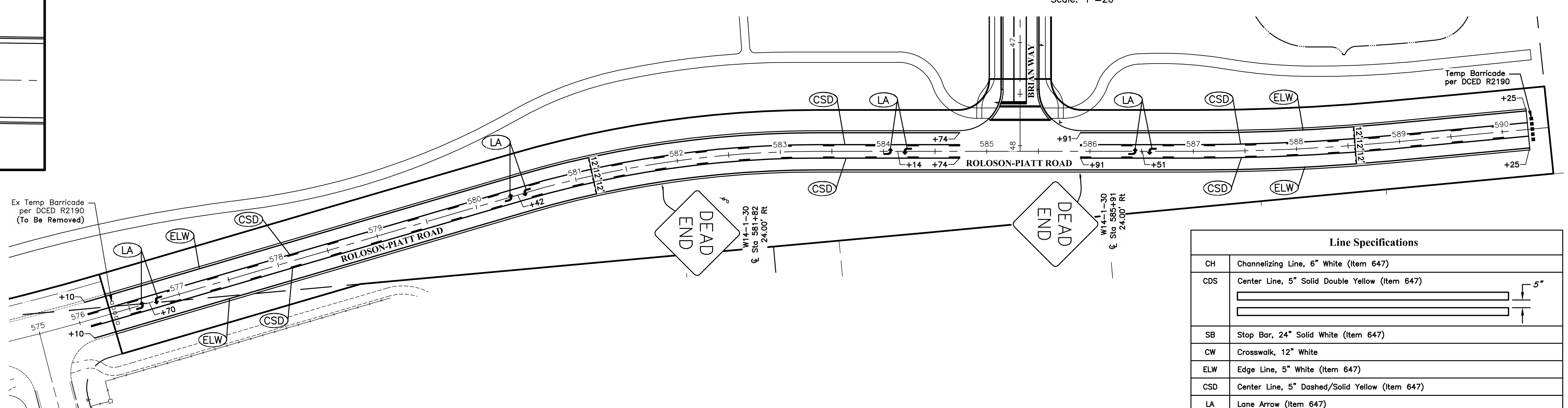
ENTRANCE DETAIL
Scale: 1"=20'



TYPICAL INTERSECTION LAYOUT
Scale: 1"=20'



Solid Across Road
6' Type III Barricade
Not To Scale



NOTES:

Stop Signs shall be located 2.5' behind the face of curb and mounted on a 14.5' long #3 Post.

Street Signs shall be located 2' behind the face of curb and mounted on a 13' long #3 Post.

All Signage per Delaware County Standard Construction Drawings.

All Striping per Item 647.

See Standard Drawing DCED-R2185 for Street Sign Lettering Requirements.

All signs and sign supports shall conform to the latest edition of the OMUTCD, ODOT Standard Construction Drawings, and the 2019 ODOT CMS. In addition, all signs located at a County/Township intersection shall conform to Standard Drawing DCED-R2185. Any deviation from the above requirements for signs and/or supports within the subdivisions shall require written approval from the Township.

Line Specifications

CH	Channelizing Line, 6" White (Item 647)
CDS	Center Line, 5" Solid Double Yellow (Item 647)
SB	Stop Bar, 24" Solid White (Item 647)
CW	Crosswalk, 12" White
ELW	Edge Line, 5" White (Item 647)
CSD	Center Line, 5" Dashed/Solid Yellow (Item 647)
LA	Lane Arrow (Item 647)

(XX) Denotes Proposed Pavement Marking

J:\20230988\Dwg\04Sheets\Street\20230988-ROAD-20.dwg, Last Saved By: kharmon, 5/1/2024 2:32 PM Last Printed By: Harmon, Kyle, 5/21/2024 3:34 PM

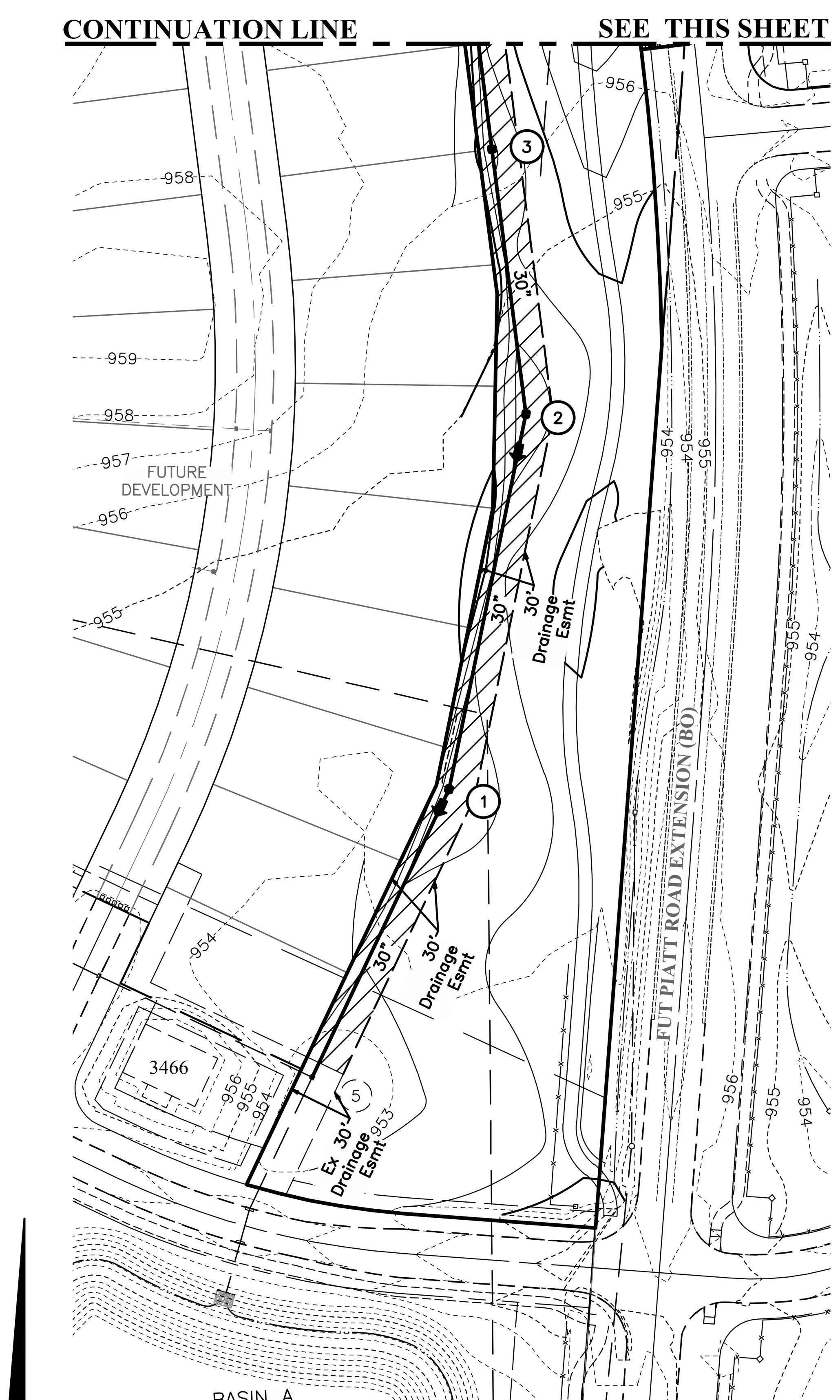
MARK	DATE	DESCRIPTION
REVISIONS		

M/I HOMES
mihomes.com

BERLIN TOWNSHIP, DELAWARE COUNTY, OHIO
STREET, STORM SEWER & WATER IMPROVEMENTS
FOR
BERLIN FARM WEST
SECTION 4 & ROLOSON-PIATT ROAD
SIGNAGE & STRIPING PLAN

EMH&T
Evans, Mechwart, Hambleton & Tilton, Inc.
Engineers • Surveyors • Planners • Scientists
5500 New Albany Road, Columbus, OH 43054
emht.com

DATE: May, 2024
SCALE: As Noted
JOB NO.: 20230988
SHEET: 20/30



LEGEND

Storm Sewer Facilities To Be Included In Maintenance Petition

Major Flood Routing Arrow

NOTE:

County has access to all easemented shaded areas for the purpose of maintaining drainage and controlling erosion under the guidelines of Ditch Maintenance.

All dead or diseased trees located within drainage easements or areas shown hereon as being placed on Drainage Maintenance shall be removed from the site unless they are located within a delineated wetland or buffer, as directed by the County Engineer.

STORM SEWER FACILITIES IN MAINTENANCE PETITION

Pipes: Ex5–1–2–3–4–5–6–7–8–9, 10–11–HW1, HW2–12, 13–14–15–16, HW3–17, 18–19–20–21–22, 19–24, Ex8–26, EW1–27–28, 29–30–31–32–33–34, 35–36–37–38, 30–39–40–41, 42–43, 31–44, 32–45, 36–46–47–48–49–50, Ex15–51, HW4–53

Structures: EW1, HW1, HW2, HW3, HW4, 1, 2, 3, 4, 5, 6, 7, 8, 11, 14, 15, 16, 19, 20, 21, 26, 27, 30, 31, 32, 33, 36, 37, 38, 39, 40, 43, 44, 45, 46, 47, 48, 49, 50

GRAPHIC SCALE

0 50 100 200

1 inch = 100 feet

MARK	DATE	DESCRIPTION

REVISIONS

M/I HOMES
mihomes.com

BERLIN TOWNSHIP, DELAWARE COUNTY, OHIO
STREET, STORM SEWER & WATER IMPROVEMENTS
FOR

BERLIN FARM WEST
SECTION 4 & ROLOSON-PIATT ROAD
DRAINAGE MAINTENANCE EXHIBIT

EMH&T
Evans, Mechwart, Hambleton & Tilton, Inc.
Engineers • Surveyors • Planners • Scientists
5500 New Albany Road, Columbus, OH 43054
Phone: 614.775.4500 Toll Free: 888.775.3648
emht.com

DATE: May, 2024

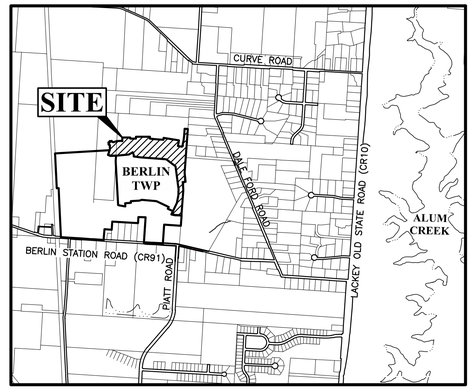
SCALE: 1" = 100'

JOB NO. 20230988

SHEET 21/30

FARM LOT 13 & 15, TOWNSHIP 4, RANGE 18
UNITED STATES MILITARY DISTRICT
BERLIN TOWNSHIP, DELAWARE COUNTY, OHIO
STREET, STORM SEWER & WATER IMPROVEMENTS
FOR
BERLIN FARM WEST
SECTION 4 & ROLOSON-PIATT ROAD
2024

RPC #33-19



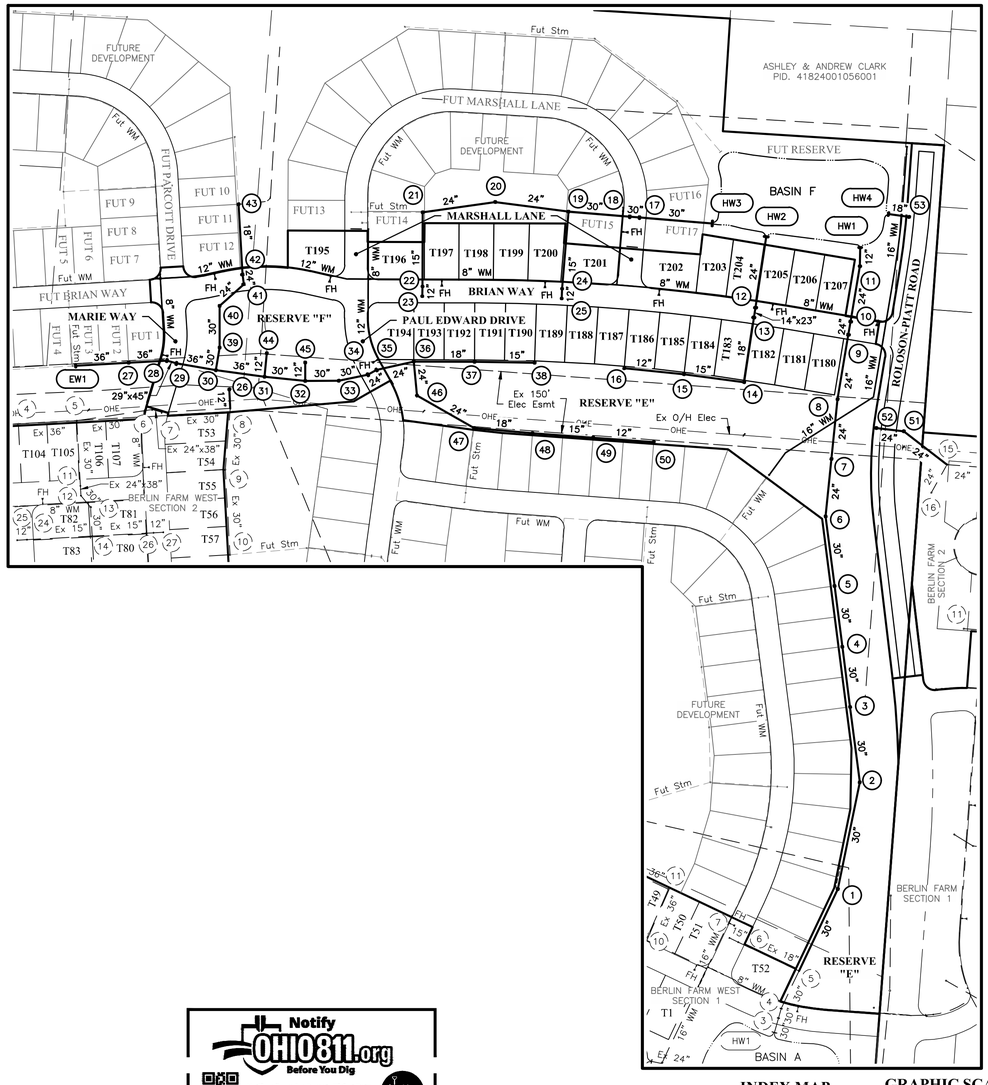
LOCATION MAP
Not to Scale

STORMWATER POLLUTION PREVENTION PLAN SHEET INDEX

EMH&T (the Consultant) confirms to M/I Homes that the Consultant has prepares these plans in accordance with the National Pollution Discharge Elimination System, Delaware County and the Ohio EPA.

FLOODPLAIN

All of Berlin Farm is in the Flood Hazard Zone X (areas determined to be outside of the 0.2% annual chance floodplain). as shown on the Federal Emergency Management Agency Flood Insurance Rate Map Numbers 39041C0150K, effective date April 16, 2009 and 39041C0120K, effective date April 16, 2009.



INDEX MAP
Scale: 1" = 200'

GRAPHIC SCALE
0 100 200 400
1 inch = 200 feet

CHANGE ORDER SCHEDULE

CHANGE	PREPARED	DATE OF CHANGE	DESCRIPTION OF CHANGE	SHEET NO.	APPROVED	DATE OF APPROVAL

Notify OHIO811.org Before You Dig
Notify online using Remote Ticket Entry
To call dial 8-1-1 or 800-362-2764
ijdig

REVISIONS

MARK	DATE	DESCRIPTION

M/I HOMES
mihomes.com

BERLIN TOWNSHIP, DELAWARE COUNTY, OHIO
STREET, STORM SEWER & WATER IMPROVEMENTS
FOR
BERLIN FARM WEST
SECTION 4 & ROLOSON-PIATT ROAD
SWPPP TITLE SHEET

EMH&T
Evans, Mechwart, Hambleton & Tilton, Inc.
Engineers • Surveyors • Planners • Scientists
5500 New Albany Road, Columbus, OH 43054
Phone: 614.775.4500 Toll Free: 888.775.3648
emht.com

DATE
May, 2024

SCALE
As Noted

JOB NO.
20230988

SHEET
22/30

SITE DESCRIPTION

PROJECT NAME AND LOCATION: BERLIN FARM WEST, SECTION 4
DELAWARE COUNTY, BERLIN TWP, OHIO
NORTH OF BERLIN STATION ROAD, SOUTH OF CURVE ROAD & WEST OF DALE FORD ROAD

OWNER NAME AND ADDRESS: M/I HOMES
4131 WORTH AVENUE, SUITE 310
COLUMBUS, OHIO 43219

EXISTING CONDITIONS: THE SITE IS COMPRISED OF OPEN AGRICULTURAL LAND. RUNOFF IN THE EXISTING CONDITION NATURALLY DRAINS TO VARIOUS CHANNELS THAT FLOW WEST TO AN UNNAMED TRIBUTARY OF OLENTANGY RIVER.

DESCRIPTION: THIS PROJECT CONSISTS OF SOIL DISTURBING ACTIVITIES INCLUDING: CLEARING AND GRUBBING; PERIMETER AND OTHER EROSION AND SEDIMENT CONTROLS; GRADING; EXCAVATION AND EMBANKMENT, STORM SEWER, UTILITIES, PAVING AND FINAL PLANTING AND SEEDING.

RUNOFF COEFFICIENT: PRE-DEVELOPMENT: 77, POST-DEVELOPMENT: 83

SITE AREA: THE SITE IS APPROXIMATELY 29.69 ACRES WITH 42.06 ACRES THAT MAY BE DISTURBED BY CONSTRUCTION ACTIVITIES.

SITE DESCRIPTION: (CHECK ONE)

SUBDIVISION _X_ COMMERCIAL ____
INDUSTRIAL ____ P.U.D. ____
OTHER ____ (SOME EXISTING DEVELOPMENT)

SOIL TYPES: BLOUNT SILT LOAM, GLYNWOOD SILT LOAM, PEWAMO SILTY CLAY LOAM

SEQUENCE OF MAJOR ACTIVITIES:
EPA PHASE 1:
1. ON-SITE MEETING WITH DESC PROGRAM REPRESENTATIVE REQUIRED PRIOR TO SCHEDULING THE PRE-CONSTRUCTION MEETING FOR SANITARY, STREET/STORM.
2. ENSURE A COPY OF THE NOI, SWPPP, AND OHIO EPA APPROVAL LETTER IS ON-SITE AND AVAILABLE.
3. ESTABLISH A TEMPORARY STABILIZED CONSTRUCTION ENTRANCE, CONCRETE WASHOUT AREA AND STABALIZED CONTRACTOR STAGING AREA.
4. ENSURE WINDOWS IN BASINS A & D OUTLET CONTROL STRUCTURES ARE FUNCTIONAL AND CLEAR OF ANY TEMPORARY BLOCKING OR OTHER OBSTRUCTIONS. ENSURE TEMPORARY SKIMMERS ARE INSTALLED IN BASINS A & D.
5. INSTALL SEDIMENT FENCE/COMPOST FILTER SOCK.
6. ESTABLISH TEMPORARY DIVERSION CHANNELS TO ROUTE RUNOFF TO SEDIMENT BASIN PRIOR TO INSTALLATION OF STORM SEWERS.
7. STRIP, CLEAR AND GRUB SITE AND COMMENCE WITH ROUGH GRADING ACTIVITIES BY CONSTRUCTING REMAINDER OF SEDIMENT BASIN.

EPA PHASE 2:
8. INSTALL PROPOSED UTILITIES AND STORM SEWER INLET PROTECTION. PUMP MUDDY WATER FROM UTILITY TRENCH INTO SEDIMENT BASIN OR DEWATERING FILTER BAG.
9. CONSTRUCT PROPOSED STREETS AND GRADE BUILDING PADS.
10. PERMANENT SEED AND MULCH ALL DENUDED AREAS PRIOR TO RELEASE OF INDIVIDUAL DESC PERMITS. THIS APPLIES TO ALL AREAS NOT JUST RIGHT-OF-WAY AREAS.
11. INSTALL ADDITIONAL PERIMETER CONTROLS.
12. CONSTRUCT HOUSES AND INSTALL INDIVIDUAL LOT CONTROLS.
13. ONCE PERMANENT VEGETATION IS ESTABLISHED, REMOVE TEMPORARY SEDIMENT CONTROLS.
14. THE TEMPORARY SKIMMERS IN BASINS A & D ARE TO REMAIN INSTALLED FOR FUTURE TRIBUTARY DEVELOPMENT.

NAME OF RECEIVING WATERS: UNNAMED TRIBUTARY OF OLENTANGY RIVER

GENERAL NOTES

ALL CONSTRUCTION ACTIVITIES MUST COMPLY WITH ALL LOCAL EROSION/SEDIMENT CONTROL, WASTE DISPOSAL, SANITARY AND HEALTH REGULATIONS.

ALL EROSION AND SEDIMENT CONTROL PRACTICES MUST MEET THE STANDARDS AND SPECIFICATIONS OF THE OHIO RAINWATER AND LAND DEVELOPMENT HANDBOOK (2006).

OTHER EROSION CONTROL ITEMS MAY BE NECESSARY DUE TO ENVIRONMENTAL CONDITIONS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLATION AND IMPLEMENTATION OF ADDITIONAL EROSION CONTROL ITEMS, AT THE ENGINEER'S DISCRETION.

REGULAR INSPECTION AND MAINTENANCE WILL BE PROVIDED FOR ALL EROSION AND SEDIMENT CONTROL PRACTICES.

THE CONTRACTOR SHALL USE EROSION CONTROL MEASURES AS NECESSARY TO PREVENT SEDIMENT MOVEMENT INTO AREAS DESIGNATED AS WETLANDS.

NO SOLID OR LIQUID WASTE SHALL BE DISCHARGED INTO STORM WATER RUNOFF.

ADDITIONAL EROSION AND SEDIMENT CONTROL BMP'S MAY BE REQUIRED AS IDENTIFIED BY THE DESC INSPECTOR.

DESC INSPECTOR: KURT SIMMONS
DELAWARE COUNTY ENGINEER'S OFFICE
(740) 833-2434

EROSION AND SEDIMENTATION CONTROLS

TEMPORARY STABILIZATION – TOP SOIL STOCK PILES AND DISTURBED PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITY TEMPORARILY CEASES FOR AT LEAST 14 DAYS WILL BE STABILIZED WITH TEMPORARY SEED AND MULCH NO LATER THAN 7 DAYS FROM THE LAST CONSTRUCTION ACTIVITY IN THAT AREA. THE TEMPORARY SEED SHALL BE APPLIED AS PER THE TEMPORARY SEEDING SPECIFICATIONS. AREAS OF THE SITE WHICH ARE TO BE PAVED WILL BE TEMPORARILY STABILIZED BY APPLYING GEOTEXTILE AND STONE SUB-BASE UNTIL ASPHALT PAVEMENT CAN BE APPLIED.

PERMANENT STABILIZATION – DISTURBED PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITIES PERMANENTLY CEASES SHALL BE STABILIZED WITH PERMANENT SEED NO LATER THAN 7 DAYS AFTER THE LAST CONSTRUCTION ACTIVITY OR WITHIN 2 DAYS FOR AREAS WITHIN 50 FEET OF A STREAM. REFER TO LANDSCAPE PLAN FOR DETAILS.

STABILIZATION TYPE	J	F	M	A	M	J	J	A	S	O	N	D
PERMANENT SEEDING			●	●	●	*	*	*	●	●		
DORMANT SEEDING	●	●	●							●	●	●
TEMPORARY SEEDING			●	●	●	*	*	*	●	●		
SODDING			**	**	**	**	**	**	**			
MULCHING	●	●	●	●	●	●	●	●	●	●	●	●

* – IRRIGATION NEEDED
** – IRRIGATION NEEDED FOR 2-3 WEEKS AFTER SOD IS APPLIED

STORMWATER MANAGEMENT

STORMWATER RUNOFF FROM THE SITE WILL BE COLLECTED BY THE ONSITE STORM SEWER SYSTEM AND ROUTED TO THE PROPOSED & EXISTING STORMWATER MANAGEMENT BASINS. THE BASINS HAVE BEEN DESIGNED TO PROVIDE DETENTION AND TREATMENT OF THE POST-CONSTRUCTION WATER QUALITY VOLUME (WQV).

WQV	REQUIRED	PROPOSED
EX BASIN A	3.535 Ac/Ft	3.558 Ac/Ft

OTHER CONTROLS

WASTE DISPOSAL:
ALL WASTE MATERIALS WILL BE COLLECTED AND STORED IN A SECURELY LIDDED METAL DUMPSTER RENTED FROM A LICENSED SOLID WASTE MANAGEMENT COMPANY. THE DUMPSTER WILL MEET ALL LOCAL, CITY AND STATE SOLID WASTE MANAGEMENT REGULATIONS. ALL TRASH AND CONSTRUCTION DEBRIS FROM THE SITE WILL BE DEPOSITED IN THE DUMPSTER. THE DUMPSTER WILL BE EMPTIED A MINIMUM OF TWICE PER WEEK OR MORE OFTEN IF NECESSARY, AND THE TRASH WILL BE HAULED OFF-SITE. NO CONSTRUCTION WASTE MATERIALS WILL BE BURIED ONSITE. ALL PERSONNEL WILL BE INSTRUCTED REGARDING THE CORRECT PROCEDURE FOR WASTE DISPOSAL. NOTICES STATING THESE PRACTICES WILL BE POSTED IN THE OFFICE TRAILER. THE INDIVIDUAL WHO MANAGES THE DAY-TO-DAY SITE OPERATIONS WILL BE RESPONSIBLE FOR SEEING THAT THESE PROCEDURES ARE FOLLOWED. ALL CONSTRUCTION AND DEMOLITION DEBRIS (C&DD) WASTE WILL BE DISPOSED OF IN AN OHIO EPA APPROVED C&DD LANDFILL AS REQUIRED BY ORC 3714

HAZARDOUS WASTE:
ALL HAZARDOUS WASTE MATERIALS WILL BE DISPOSED OF IN THE MANNER SPECIFIED BY LOCAL OR STATE REGULATION OR BY THE MANUFACTURER. SITE PERSONNEL WILL BE INSTRUCTED IN THESE PRACTICES. THE INDIVIDUAL WHO MANAGES DAY-TO-DAY SITE OPERATIONS WILL BE RESPONSIBLE FOR SEEING THAT THESE PRACTICES ARE FOLLOWED.

SANITARY WASTE:
ALL SANITARY WASTE WILL BE COLLECTED FROM THE PORTABLE UNITS A MINIMUM OF THREE TIMES PER WEEK BY A LICENSED SANITARY WASTE MANAGEMENT CONTRACTOR, AS REQUIRED BY LOCAL REGULATION.

OFF-SITE VEHICLE TRACKING:
OFF-SITE TRACKING OF SEDIMENTS SHALL BE MINIMIZED. A STABILIZED CONSTRUCTION ENTRANCE WILL BE PROVIDED TO HELP REDUCE VEHICLE TRACKING OF SEDIMENTS. ALL PAVED STREETS ADJACENT TO THE SITE WILL BE SWEPT DAILY TO REMOVE ANY EXCESS MUD, DIRT OR ROCK TRACKED FROM THE SITE. DUMP TRUCKS HAULING MATERIAL FROM THE CONSTRUCTION SITE WILL BE COVERED WITH A TARPAULIN.

DEWATERING ACTIVITIES:
THERE SHALL BE NO TURBID DISCHARGES TO SURFACE WATERS, RESULTING FROM DEWATERING ACTIVITIES. SEDIMENT-LADEN WATER MUST PASS THROUGH A SETTLING POND, FILTER BAG, OR OTHER COMPARABLE PRACTICE, PRIOR TO DISCHARGE.

PROCESS WASTEWATER:
ALL PROCESS WASTEWATER (EQUIPMENT WASHING, LEACHATE FROM ON-SITE WASTE DISPOSAL, ETC.) SHALL BE COLLECTED AND DISPOSED OF AT A PUBLICLY OWNED TREATMENT WORKS.

TIMING OF CONTROLS/MEASURES

AS INDICATED IN THE SEQUENCE OF MAJOR ACTIVITIES, CONSTRUCTION ENTRANCE(S) AND SILT FENCE WILL BE CONSTRUCTED PRIOR TO CLEARING OR GRADING OF ANY OTHER PORTIONS OF THE SITE. SEDIMENT CONTROL DEVICES SHALL BE IMPLEMENTED FOR ALL AREAS REMAINING DISTURBED LONGER THAN 14 DAYS AND/OR WITHIN 7 DAYS OF ANY GRUBBING ACTIVITIES. AREAS WHERE CONSTRUCTION ACTIVITY TEMPORARILY CEASES FOR MORE THAN 14 DAYS WILL BE STABILIZED WITH A TEMPORARY SEED AND MULCH WITHIN 2 DAYS OF THE LAST DISTURBANCE IF THE AREA IS WITHIN 50 FEET OF A STREAM, AND WITHIN 7 DAYS OF THE LAST DISTURBANCE IF THE AREA IS MORE THAN 50 FEET AWAY FROM A STREAM. ONCE CONSTRUCTION ACTIVITY CEASES PERMANENTLY IN AN AREA, THAT AREA WILL BE STABILIZED WITH PERMANENT SEED AND MULCH. AFTER THE ENTIRE SITE IS STABILIZED, THE ACCUMULATED SEDIMENT WILL BE REMOVED FROM THE BASIN.

SPILL PREVENTION

MATERIAL MANAGEMENT PRACTICES:
THE FOLLOWING ARE THE MATERIAL MANAGEMENT PRACTICES THAT WILL BE USED TO REDUCE THE RISK OF SPILLS OR OTHER ACCIDENTAL EXPOSURE OF MATERIALS AND SUBSTANCES TO STORMWATER RUNOFF.

GOOD HOUSEKEEPING: THE FOLLOWING GOOD HOUSEKEEPING PRACTICES WILL BE FOLLOWED ONSITE DURING THE CONSTRUCTION PROJECT.

1. AN EFFORT WILL BE MADE TO STORE ONLY ENOUGH PRODUCT REQUIRED TO DO THE JOB.
2. ALL MATERIALS STORED ONSITE WILL BE STORED IN A NEAT, ORDERLY MANNER IN THEIR APPROPRIATE CONTAINERS AND, IF POSSIBLE, UNDER A ROOF OR OTHER ENCLOSURE.
3. PRODUCTS WILL BE KEPT IN THEIR ORIGINAL CONTAINERS WITH THE ORIGINAL MANUFACTURER'S LABEL.
4. SUBSTANCES WILL NOT BE MIXED WITH ONE ANOTHER UNLESS RECOMMENDED BY THE MANUFACTURER.
5. WHENEVER POSSIBLE, ALL OF A PRODUCT WILL BE USED UP BEFORE DISPOSING OF THE CONTAINER.
6. MANUFACTURERS' RECOMMENDATIONS FOR PROPER USE AND DISPOSAL WILL BE FOLLOWED.
7. THE SITE SUPERINTENDENT WILL INSPECT DAILY TO ENSURE PROPER USE AND DISPOSAL OF MATERIALS ONSITE.

HAZARDOUS PRODUCTS: THESE PRACTICES ARE USED TO REDUCE THE RISKS ASSOCIATED WITH HAZARDOUS MATERIALS.

1. PRODUCTS WILL BE KEPT IN ORIGINAL CONTAINERS UNLESS THEY ARE NOT RESEALABLE.
2. ORIGINAL LABELS AND MATERIAL SAFETY DATA WILL BE RETAINED; THEY CONTAIN IMPORTANT PRODUCT INFORMATION.
3. IF SURPLUS PRODUCT MUST BE DISPOSED OF, MANUFACTURERS' OR LOCAL AND STATE RECOMMENDED METHODS FOR PROPER DISPOSAL WILL BE FOLLOWED.

PRODUCT SPECIFIC PRACTICES

THE FOLLOWING PRODUCT SPECIFIC PRACTICES WILL BE FOLLOWED ONSITE:

PETROLEUM PRODUCTS – ALL ONSITE VEHICLES WILL BE MONITORED FOR LEAKS AND RECEIVE REGULAR PREVENTIVE MAINTENANCE TO REDUCE THE CHANCE OF LEAKAGE. PETROLEUM PRODUCTS WILL BE STORED IN TIGHTLY SEALED CONTAINERS WHICH ARE CLEARLY LABELED. ANY ASPHALT SUBSTANCES USED ONSITE WILL BE APPLIED ACCORDING TO THE MANUFACTURER'S RECOMMENDATIONS.

FUEL STORAGE TANKS SHALL BE LOCATED AWAY FROM SURFACE WATERS AND STORM SEWER SYSTEM INLETS. FUEL TANKS SHALL BE STORED IN A DIKED AREA CAPABLE OF HOLDING 150% OF THE TANK CAPACITY.

FERTILIZERS – FERTILIZERS USED WILL BE APPLIED ONLY IN THE MINIMUM AMOUNTS RECOMMENDED BY THE MANUFACTURER. ONCE APPLIED, FERTILIZER WILL BE WORKED INTO THE SOIL TO LIMIT EXPOSURE TO STORMWATER. STORAGE WILL BE IN A COVERED SHED. THE CONTENTS OF ANY PARTIALLY USED BAGS OF FERTILIZER WILL BE TRANSFERRED TO A SEALABLE PLASTIC BIN TO AVOID SPILLS.

PAINTS – ALL CONTAINERS WILL BE TIGHTLY SEALED AND STORED WHEN NOT REQUIRED FOR USE. EXCESS PAINT WILL NOT BE DISCHARGED TO THE STORM SEWER SYSTEM BUT WILL BE PROPERLY DISPOSED OF ACCORDING TO MANUFACTURERS' INSTRUCTIONS OR STATE AND LOCAL REGULATIONS.

CONCRETE TRUCKS – CONCRETE TRUCKS WILL NOT BE ALLOWED TO WASH OUT OR DISCHARGE SURPLUS CONCRETE OR DRUM WASH WATER ON THE SITE.

SPILL CONTROL PRACTICES

IN ADDITION TO THE GOOD HOUSEKEEPING AND MATERIAL MANAGEMENT PRACTICES DISCUSSED IN THE PREVIOUS SECTIONS OF THIS PLAN, THE FOLLOWING PRACTICES WILL BE FOLLOWED FOR SPILL PREVENTION AND CLEANUP:

1. ALL SPILLS SHALL BE CLEANED UP IMMEDIATELY AFTER DISCOVERY. MANUFACTURERS' RECOMMENDED METHODS FOR SPILL CLEANUP POSTED AND SITE PERSONNEL WILL BE MADE AWARE OF THE PROCEDURES AND THE LOCATION OF THE INFORMATION AND CLEANUP SUPPLIES.
2. MATERIALS AND EQUIPMENT NECESSARY FOR SPILL CLEANUP WILL BE KEPT IN THE MATERIAL STORAGE AREA ONSITE. EQUIPMENT AND MATERIALS WILL INCLUDE BUT NOT BE LIMITED TO BROOMS, DUST PANS, MOPS, RAGS, GLOVES, GOGGLES, KITTY LITTER, SAND, SAWDUST, AND PLASTIC AND METAL TRASH CONTAINERS SPECIFICALLY FOR THIS PURPOSE.
3. THE SPILL AREA WILL BE KEPT WELL VENTILATED AND PERSONNEL WILL WEAR APPROPRIATE PROTECTIVE CLOTHING TO PREVENT INJURY FROM CONTACT WITH A HAZARDOUS SUBSTANCE.
4. SPILLS OF TOXIC OR HAZARDOUS MATERIAL WILL BE REPORTED TO THE APPROPRIATE STATE OR LOCAL GOVERNMENT AGENCY, REGARDLESS OF THE SIZE. SPILLS OF 25 OR MORE GALLONS OF PETROLEUM WASTE MUST BE REPORTED TO OHIO EPA (1-800-282-9378), THE LOCAL FIRE DEPARTMENT, AND THE LOCAL EMERGENCY PLANNING COMMITTEE WITHIN 30 MINUTES OF THE SPILL.
5. SOILS CONTAMINATED BY PETROLEUM OR OTHER CHEMICAL SPILLS MUST BE TREATED/DISPOSED AT AN OHIO EPA APPROVED SOLID WASTE MANAGEMENT FACILITY OR HAZARDOUS WASTE TREATMENT, STORAGE OR DISPOSAL FACILITY (TSDF).
6. THE SPILL PREVENTION PLAN WILL BE ADJUSTED TO INCLUDE MEASURES TO PREVENT THIS TYPE OF SPILL FROM REOCCURRING AND HOW TO CLEAN UP THE SPILL IF THERE IS ANOTHER ONE. A DESCRIPTION OF THE SPILL, WHAT CAUSED IT, AND THE CLEANUP MEASURES WILL ALSO BE INCLUDED.
7. THE SITE SUPERINTENDENT RESPONSIBLE FOR THE DAY-TO-DAY SITE OPERATIONS, WILL BE THE SPILL PREVENTION AND CLEANUP COORDINATOR. HE WILL DESIGNATE SITE PERSONNEL WHO WILL RECEIVE SPILL PREVENTION AND CLEANUP TRAINING. THESE INDIVIDUALS WILL EACH BECOME RESPONSIBLE FOR A PARTICULAR PHASE OF PREVENTION AND CLEANUP. THE NAMES OF RESPONSIBLE SPILL PERSONNEL WILL BE POSTED IN THE MATERIAL STORAGE AREA AND IN THE OFFICE TRAILER ONSITE.

DUST CONTROL

DUST CONTROL INVOLVES PREVENTING OR REDUCING DUST FROM EXPOSED SOILS OR OTHER SOURCES DURING LAND DISTURBING, DEMOLITION AND CONSTRUCTION ACTIVITIES TO REDUCE THE PRESENCE OF AIRBORNE SUBSTANCES WHICH MAY PRESENT HEALTH HAZARDS, TRAFFIC SAFETY PROBLEMS OR HARM ANIMAL OR PLANT LIFE.

THE FOLLOWING SPECIFICATIONS FOR DUST CONTROL SHALL BE FOLLOWED ONSITE:
1. VEGETATIVE COVER AND/MULCH – APPLY TEMPORARY OR PERMANENT SEEDING AND MULCH TO AREAS THAT WILL REMAIN IDLE FOR OVER 21 DAYS. SAVING EXISTING TREES AND LARGE SHRUBS WILL ALSO REDUCE SOIL AND AIR MOVEMENT ACROSS DISTURBED AREAS. SEE TEMPORARY SEEDING; PERMANENT SEEDING; MULCHING PRACTICES; AND TREE AND NATURAL AREA PROTECTION PRACTICES.
2. WATERING – SPRAY SITE WITH WATER UNTIL THE SURFACE IS WET BEFORE AND DURING GRADING AND REPEAT AS NEEDED, ESPECIALLY ON HAUL ROADS AND OTHER HEAVY TRAFFIC ROUTES. WATERING SHALL BE DONE AT A RATE THAT PREVENTS DUST BUT DOES NOT CAUSE SOIL EROSION. WETTING AGENTS SHALL BE UTILIZED ACCORDING TO MANUFACTURERS INSTRUCTIONS.
3. SPRAY-ON ADHESIVES – APPLY ADHESIVE ACCORDING TO THE FOLLOWING TABLE OR MANUFACTURERS' INSTRUCTIONS.

ADHESIVE	WATER DILUTION (ADHESIVE: WATER)	NOZZLE TYPE	APPLICATION RATE GAL./AC.
LATEX EMULSION	12.5:1	FINE	235
RESIN IN WATER ACRYLIC EMULSION (NO-TRAFFIC)	4:1	FINE	300
ACRYLIC EMULSION (NO-TRAFFIC)	7:1	COARSE	450
ACRYLIC EMULSION (TRAFFIC)	3.5:1	COARSE	350

4. STONE – GRADED ROADWAYS AND OTHER SUITABLE AREAS WILL BE STABILIZED USING CRUSHED STONE OR COARSE GRAVEL AS SOON AS PRACTICABLE AFTER REACHING AN INTERIM OR FINAL GRADE. CRUSHED STONE OR COARSE GRAVEL CAN BE USED AS A PERMANENT COVER TO PROVIDE CONTROL OF SOIL EMISSIONS.
5. BARRIERS – EXISTING WINDBREAK VEGETATION SHALL BE MARKED AND PRESERVED. SNOW FENCING OR OTHER SUITABLE BARRIER MAY BE PLACED PERPENDICULAR TO PREVAILING AIR CURRENTS AT INTERVALS OF ABOUT 15 TIMES THE BARRIER HEIGHT TO CONTROL AIR CURRENTS AND BLOWING SOIL.
6. CALCIUM CHLORIDE – THIS CHEMICAL MAY BE APPLIED BY MECHANICAL SPREADER AS LOOSE, DRY GRANULES OR FLAKES AT A RATE THAT KEEPS THE SURFACE MOIST BUT NOT SO HIGH AS TO CAUSE WATER POLLUTION OR PLANT DAMAGE. APPLICATION RATES SHOULD BE STRICTLY IN ACCORDANCE WITH SUPPLIERS' SPECIFIED RATES.
7. OPERATION AND MAINTENANCE – WHEN TEMPORARY DUST CONTROL MEASURES ARE USED; REPETITIVE TREATMENT SHOULD BE APPLIED AS NEEDED TO ACCOMPLISH CONTROL.
8. STREET CLEANING – PAVED AREAS THAT HAVE ACCUMULATED SEDIMENT FROM CONSTRUCTION SHOULD BE CLEANED DAILY, OR AS NEEDED, UTILIZING A STREET SWEEPER OR BUCKET – TYPE ENDLOADER OR SCRAPER.

CONCRETE WASHOUT

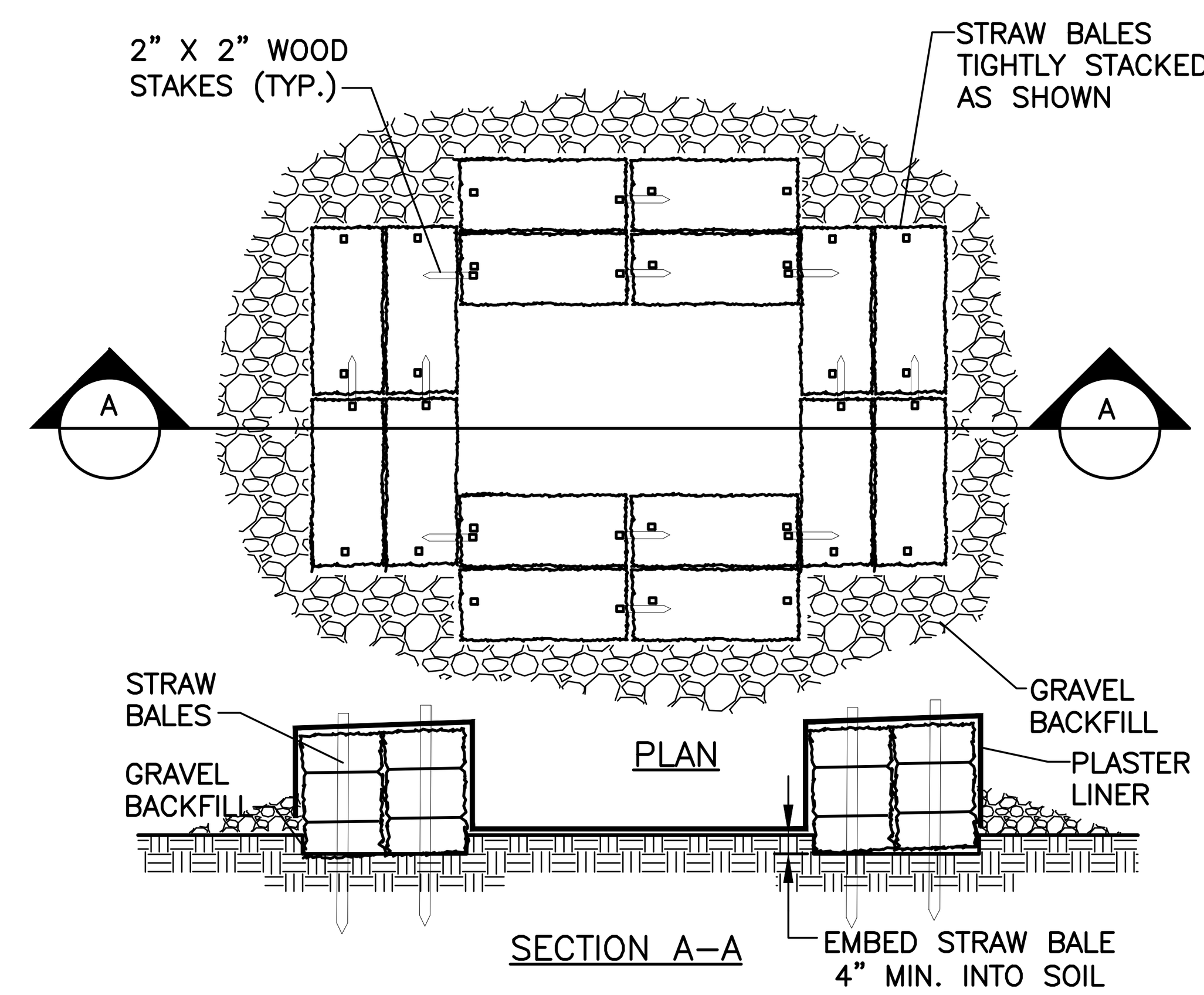
1. THE RESIDUE OR CONTENTS OF ALL CONCRETE MIXERS, DUMP TRUCKS, OTHER CONVEYANCE EQUIPMENT AND FINISHING TOOLS SHALL BE WASHED INTO CONCRETE CLEAN-OUT STRUCTURES CONSISTING OF A STRAW BALE BARRIER WITH GRAVEL BACKFILL. THE LENGTH AND WIDTH OF THESE STRUCTURES SHALL BE AS DETERMINED BY THE CONTRACTOR TO FACILITATE THE PARTICULAR EQUIPMENT USED. THESE STRUCTURES SHALL BE CONSTRUCTED ON LEVEL GROUND AT LEAST 100' FROM THE NEAREST WATERCOURSE, DRAINAGE SWALE OR INLET. AT NO TIME SHALL THE STRUCTURE BE ALLOWED TO BE MORE THAN 50% FULL. THE CONTRACTOR SHALL MAINTAIN THESE PONDS UNTIL ALL CONCRETE PLACEMENT IS COMPLETE FOR THE PROJECT.

2. EMBED THE STRAW BALES 4" INTO THE SOIL. PROVIDE TWO ROWS OF BALES, AS SHOWN ON THE DETAIL, WITH ENDS AND CORNERS TIGHTLY ABUTING. ORIENT THE STRAW BALES LENGTHWISE WITH BINDINGS AROUND THE SIDES OF THE BALES SO THE WIRE DOES NOT CONTACT THE SOIL. DRIVE 2"X2" WOOD STAKES THROUGH EACH BALE, TO SECURELY ANCHOR THE BALE AND CONNECT ADJACENT BALES. GRAVEL BACKFILL SHALL BE PROVIDED AND TAMPED AROUND THE OUTSIDE PERIMETER OF THE BALES TO PREVENT EROSION AND FLOW AROUND THE BALES.

3. THE INTENT OF THESE STRUCTURES IS TO COLLECT ALL CONCRETE WASH OUT WATER AND ALLOW IT TO DRY TO A SOLID MATERIAL. AFTER DRYING, THE SOLID MATERIAL CAN BE REMOVED WITH A LOADER OR EXCAVATOR FOR PROPER DISPOSAL. WASH OUT WILL NOT BE PERMITTED IN ANY OTHER AREAS.

4. USE THE MINIMUM AMOUNT OF WATER TO WASH THE VEHICLES AND EQUIPMENT. NEVER DISPOSE OF WASH OUT INTO THE STREET, STORM INLET, DRAINAGE SWALE OR WATERCOURSE. DISPOSE OF SMALL AMOUNTS OF EXCESS DRY CONCRETE, GROUT AND MORTAR IN THE TRASH. ANY SOAPS THAT ARE UTILIZED SHALL BE PHOSPHATE-FREE AND BIODEGRADABLE.

5. ADDITIONAL CONCRETE CLEAN-OUT STRUCTURES SHALL BE CONSTRUCTED WITHIN THE SPECIFIED AREA AS NEEDED BASED UPON THE VOLUME OF WASH OUT GENERATED DAILY.



CONCRETE WASHOUT
No Scale

SILT FENCE

DESCRIPTION: A SILT FENCE IS A SEDIMENT-TRAPPING PRACTICE UTILIZING A GEOTEXTILE FENCE, TOPOGRAPHY AND SOMETIMES VEGETATION TO CAUSE SEDIMENT DEPOSITION. SILT FENCE REDUCES RUNOFF'S ABILITY TO TRANSPORT SEDIMENT BY PONDING RUNOFF AND DISSIPATING SMALL RILLS OF CONCENTRATED FLOW INTO UNIFORM SHEET FLOW. SILT FENCE IS USED TO PREVENT SEDIMENT-LADEN SHEET RUNOFF FROM ENTERING INTO DOWNSTREAM CREEKS AND SEWER SYSTEMS.

SPECIFICATIONS FOR SILT FENCE
1. SILT FENCE SHALL BE CONSTRUCTED BEFORE UPSLOPE LAND DISTURBANCE BEGINS.

2. 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.

3. ENDS OF THE SILT FENCES SHALL BE BROUGHT UPSLOPE SLIGHTLY SO THAT WATER PONDED BY THE SILT FENCE WILL BE PREVENTED FROM FLOWING AROUND THE ENDS.

4. SILT FENCE SHALL BE PLACED ON THE FLATTEST AREA AVAILABLE.

5. WHERE POSSIBLE, VEGETATION SHALL BE PRESERVED FOR 5 FEET (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.

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

7. THE SILT FENCE SHALL BE PLACED IN AN EXCAVATED OR SLICED TRENCH CUT A MINIMUM OF 6 INCHES DEEP. THE TRENCH SHALL BE MADE WITH A TRENCHER, CABLE LAYING MACHINE, SLICING MACHINE, OR OTHER SUITABLE DEVICE THAT WILL ENSURE AN ADEQUATELY UNIFORM TRENCH DEPTH.

8. THE SILT FENCE SHALL BE PLACED WITH THE STAKES ON THE DOWNSLOPE SIDE OF THE GEOTEXTILE AND SO THAT 8 INCHES OF GEOTEXTILE MUST BE BELOW THE GROUND SURFACE. EXCESS MATERIAL SHALL LAY ON THE BOTTOM OF THE 6 INCH DEEP TRENCH. THE TRENCH SHALL BE BACKFILLED AND COMPACTED ON BOTH SIDES OF THE FABRIC.

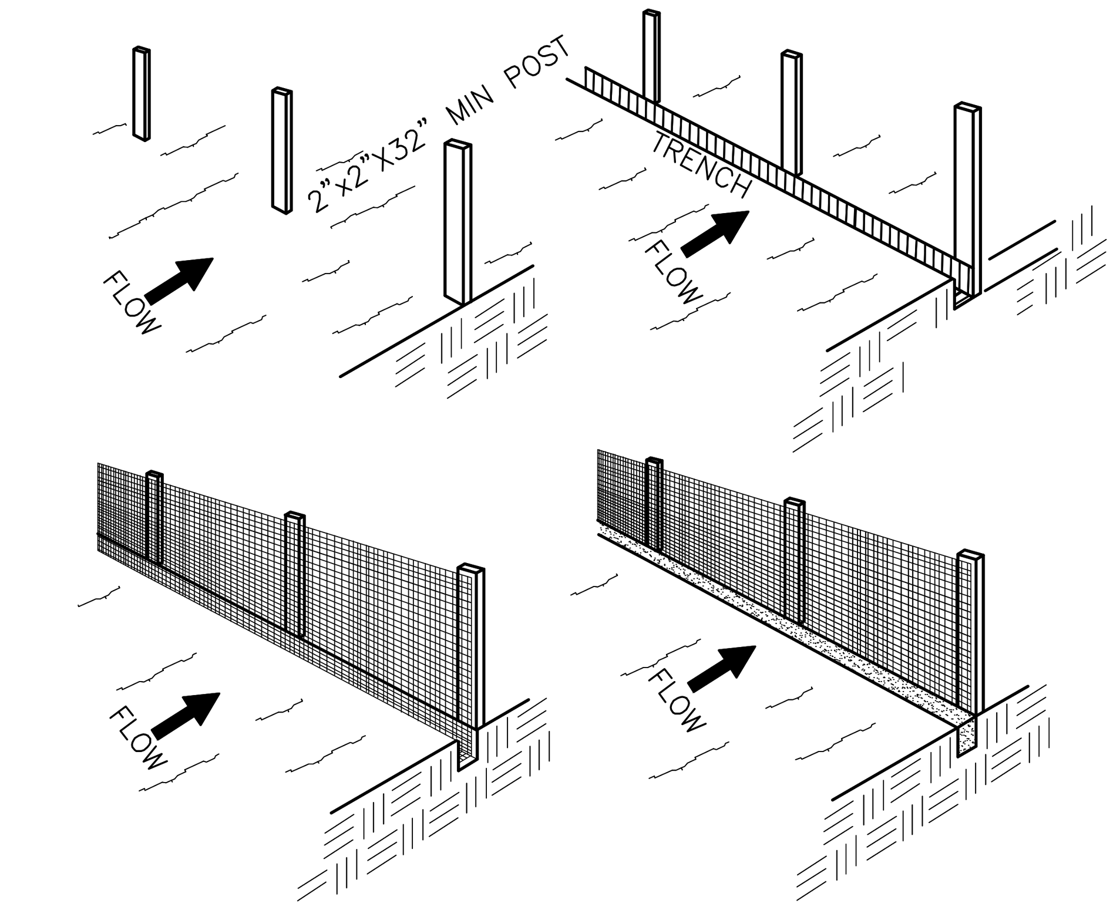
9. SEAMS BETWEEN SECTION OF SILT FENCE SHALL BE SPLICED TOGETHER ONLY AT A SUPPORT POST WITH AA MINIMUM 6 INCHES OVERLAP PRIOR TO DRIVING INTO THE GROUND. (SEE DETAILS)

10. 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 DISCHARGE, 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.
SILT FENCE SHALL BE INSPECTED AFTER EACH RAINFALL AND AT LEAST DAILY DURING A PROLONGED RAINFALL. THE LOCATION OF EXISTING SILT FENCE SHALL BE REVIEWED DAILY TO ENSURE ITS PROPER LOCATION AND EFFECTIVENESS. IF DAMAGED, THE SILT FENCE SHALL BE REPAIRED IMMEDIATELY.

CRITERIA FOR SILT FENCE MATERIALS:
1. FENCE POSTS – THE LENGTH SHALL BE A MINIMUM OF 32 INCHES LONG. WOOD POSTS WILL BE 2-BY-2 INCH NOMINAL DIMENSIONED HARDWOOD OF SOUND QUALITY. THEY SHALL BE FREE OF KNOTS, SPLITS AND OTHER VISIBLE IMPERFECTIONS, THAT WILL WEAKEN THE POSTS. THE MAXIMUM SPACING BETWEEN POSTS SHALL BE 10 FT. POSTS SHALL BE DRIVEN A MINIMUM 16 INCHES INTO THE GROUND, WHERE POSSIBLE. IF NOT POSSIBLE, THE POSTS SHALL BE ADEQUATELY SECURED TO PREVENT OVERTURNING OF THE FENCE DUE TO SEDIMENT/WATER LOADING.

2. SILT FENCE FABRIC (SEE CHART BELOW):

FABRIC PROPERTIES	VALUES	TEST METHOD
MIN. TENSILE STRENGTH	120 LBS. (535 N)	ASTM D 4632
MAX. ELONGATION AT 60 LBS	50%	ASTM D 4632
MIN. PUNCTURE STRENGTH	50 LBS (220 N)	ASTM D 4833
MIN. TEAR STRENGTH	40 LBS (180 N)	ASTM D 4533
APPARENT OPENING SIZE	< OR = 0.84 MM	ASTM D4751 ASTM
MIN. PERMITTIVITY UV	1X10-2 SEC. -1	D 4491 ASTM G
EXPOSURE STRENGTH RETENTION	70%	4355



SILT (SEDIMENT) FENCE
SCALE: NONE

COMPOST FILTER SOCK

1. MATERIALS - COMPOST USED FOR FILTER SOCKS SHALL BE WEED, PATHOGEN AND INSECT FREE AND FREE OF ANY REFUSE, CONTAMINANTS OR OTHER MATERIALS TOXIC TO PLANT GROWTH. THEY SHALL BE DERIVED FROM A WELL-DECOMPOSED SOURCE OF ORGANIC MATTER AND CONSIST OF A PARTICLES RANGING FROM 3/8" TO 2".

2. FILTER SOCKS SHALL BE 3 OR 5 MIL CONTINUOUS, TUBULAR, HDPE 3/8" KNITTED MESH NETTING MATERIAL, FILLED WITH COMPOST PASSING THE ABOVE SPECIFICATIONS FOR COMPOST PRODUCTS.

INSTALLATION:
1. FILTER SOCKS WILL BE PLACED ON A LEVEL LINE ACROSS SLOPES, GENERALLY PARALLEL TO THE BASE OF THE SLOPE OR OTHER AFFECTED AREA. ON SLOPES APPROACHING 2:1, ADDITIONAL SOCKS SHALL BE PROVIDED AT THE TOP AND AS NEEDED MIDSLOPE.

2. UPON INSTALLATION OF THE FILTER SOCK, ADDITIONAL FILTER MEDIA (MATCHING THE MEDIA INSIDE OF THE SOCK) SHALL BE PLACED ON THE UPLAND SIDE OF THE FILTER SOCK. FILTER MEDIA SHALL EXTEND HALFWAY UP THE SOCK AND SLOPE AT A MAXIMUM OF 45 DEGREES TO EXISTING GROUND ELEVATION.

3. FILTER SOCKS INTENDED TO BE LEFT AS A PERMANENT FILTER OR PART OF THE NATURAL LANDSCAPE, SHALL BE SEEDED AT THE TIME OF INSTALLATION FOR ESTABLISHMENT OF PERMANENT VEGETATION.

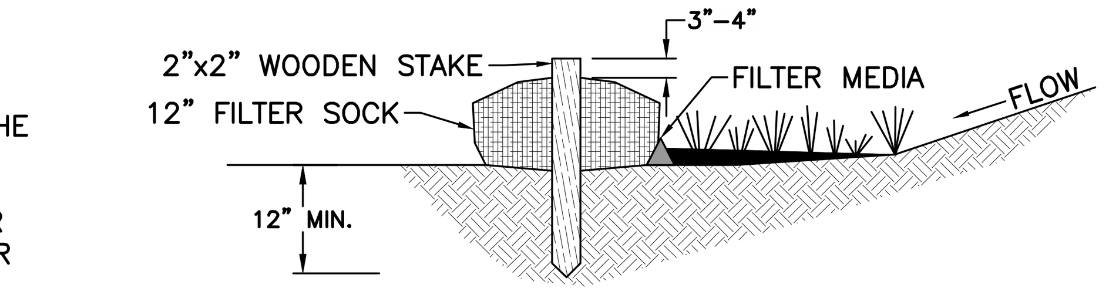
4. FILTER SOCKS ARE NOT TO BE USED IN CONCENTRATED FLOW SITUATIONS OR IN RUNOFF CHANNELS.

MAINTENANCE:
1. ROUTINELY INSPECT FILTER SOCKS AFTER EACH SIGNIFICANT RAIN, MAINTAINING FILTER SOCKS IN A FUNCTIONAL CONDITION AT ALL TIMES.

2. REMOVE SEDIMENTS COLLECTED AT THE BASE OF THE FILTER SOCKS WHEN THEY REACH 1/3 OF THE EXPOSED HEIGHT OF THE PRACTICE.

3. WHERE THE FILTER SOCK DETERIORATES OR FAILS, IT WILL BE REPAIRED OR REPLACED WITH A MORE EFFECTIVE ALTERNATIVE.

4. REMOVAL - FILTER SOCKS WILL BE DISPERSED ON SITE WHEN NO LONGER REQUIRED IN SUCH AS WAY AS TO FACILITATE AND NOT OBSTRUCT SEEDINGS.



COMPOST FILTER SOCK
NOT TO SCALE

REVISIONS

MARK	DATE	DESCRIPTION

M/I HOMES
mihomes.com

BERLIN TOWNSHIP, DELAWARE COUNTY, OHIO
STREET, STORM SEWER & WATER IMPROVEMENTS
FOR
BERLIN FARM WEST
SECTION 4 & ROLOSON-PIATT ROAD
SWPPP GENERAL NOTES & DETAILS

EMH&T
Evans, Mechwart, Hambleton & Tilton, Inc.
Engineers • Surveyors • Planners • Scientists
5500 New Albany Road, Columbus, OH 43054
Phone: 614.775.4500 Toll Free: 888.775.3648
emht.com

DATE
May, 2024

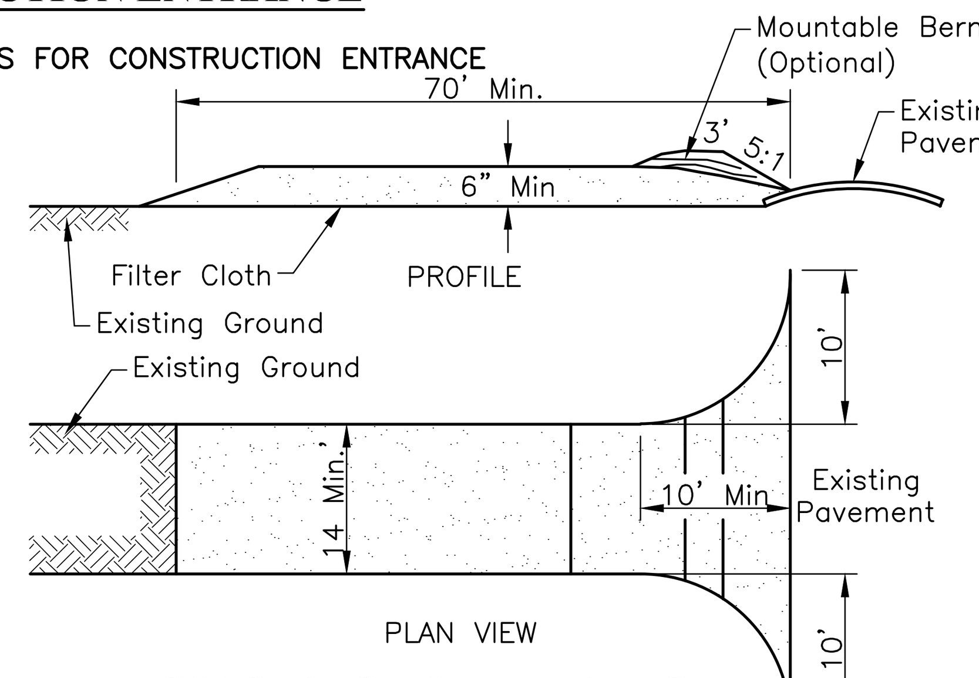
SCALE
None

JOB NO.
20230988

SHEET
23/30

CONSTRUCTION ENTRANCE

SPECIFICATIONS FOR CONSTRUCTION ENTRANCE



CONSTRUCTION ENTRANCE
Not to Scale

1. STONE SIZE – ODOT #2 (1.5–2.5 INCH) STONE SHALL BE USED, OR RECYCLED CONCRETE EQUIVALENT.
2. LENGTH – THE CONSTRUCTION ENTRANCE SHALL BE AS LONG AS REQUIRED TO STABILIZE HIGH TRAFFIC AREAS BUT NOT LESS THAN 70 FT. (EXCEPTION: APPLY 30 FT. MINIMUM TO SINGLE RESIDENCE LOTS).
3. THICKNESS – THE STONE LAYER SHALL BE AT LEAST 6 INCHES THICK FOR LIGHT DUTY ENTRANCES OR AT LEAST 10 INCHES FOR HEAVY DUTY USE.
4. WIDTH – THE ENTRANCE SHALL BE AT LEAST 14 FEET WIDE, BUT NOT LESS THAN THE FULL WIDTH AT POINTS WHERE INGRESS OR EGRESS OCCURS.
5. GEOTEXTILE – A GEOTEXTILE SHALL BE LAID OVER THE ENTIRE AREA, PRIOR TO PLACING STONE. IT SHALL BE COMPOSED OF STRONG ROT-PROOF POLYMERIC FIBERS AND MEET THE FOLLOWING SPECIFICATIONS:

FIGURE 7.4.1

GEOTEXTILE SPECIFICATION FOR CONSTRUCTION ENTRANCE	
MINIMUM TENSILE STRENGTH	200 LBS.
MINIMUM PUNCTURE STRENGTH	80 PSI.
MINIMUM TEAR STRENGTH	50 LBS.
MINIMUM BURST STRENGTH	320 PSI.
MINIMUM ELONGATION	20%
EQUIVALENT OPENING SIZE	EOS < 0.6 MM.
PERMITTIVITY	1X10–3 CM/SEC.

6. TIMING – THE CONSTRUCTION ENTRANCE SHALL BE INSTALLED AS SOON AS IS PRACTICABLE BEFORE MAJOR GRADING ACTIVITIES.
7. CULVERT – A PIPE OR CULVERT SHALL BE CONSTRUCTED UNDER THE ENTRANCE IF NEEDED TO PREVENT SURFACE WATER FROM FLOWING ACROSS THE ENTRANCE OR TO PREVENT RUNOFF FROM BEING DIRECTED OUT ONTO PAVED SURFACES.
8. WATER BAR – A WATER BAR SHALL BE CONSTRUCTED AS PART OF THE CONSTRUCTION ENTRANCE IF NEEDED TO PREVENT SURFACE RUNOFF FROM FLOWING THE LENGTH OF THE CONSTRUCTION ENTRANCE AND OUT ONTO PAVED SURFACES.
9. MAINTENANCE – TOP DRESSING OF ADDITIONAL STONE SHALL BE APPLIED AS CONDITIONS DEMAND. MUD SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC ROADS, OR ANY SURFACE WHERE RUNOFF IS NOT CHECKED BY SEDIMENT CONTROLS, SHALL BE REMOVED IMMEDIATELY. REMOVAL SHALL BE ACCOMPLISHED BY SCRAPING OR SWEEPING.
10. CONSTRUCTION ENTRANCES SHALL NOT BE RELIED UPON TO REMOVE MUD FROM VEHICLES AND PREVENT OFF-SITE TRACKING. VEHICLES THAT ENTER AND LEAVE THE CONSTRUCTION-SITE SHALL BE RESTRICTED FROM MUDDY AREAS.
11. REMOVAL – THE ENTRANCE SHALL REMAIN IN PLACE UNTIL THE DISTURBED AREA IS STABILIZED OR REPLACED WITH A PERMANENT ROADWAY OR ENTRANCE.

INLET PROTECTION

DESCRIPTION

STORM DRAIN INLET PROTECTION DEVICES REMOVE SEDIMENT FROM STORM WATER BEFORE IT ENTERS STORM SEWERS AND DOWNSTREAM AREAS. INLET PROTECTION DEVICES ARE SEDIMENT BARRIERS THAT MAY BE CONSTRUCTED OF WASHED GRAVEL OR CRUSHED STONE, GEOTEXTILE FABRICS AND OTHER MATERIALS THAT ARE SUPPORTED AROUND OR ACROSS STORM DRAIN INLETS.

INLET PROTECTION IS INSTALLED TO CAPTURE SOME SEDIMENT AND REDUCE THE MAINTENANCE OF STORM SEWERS AND OTHER UNDERGROUND PIPING SYSTEMS PRIOR TO THE SITE BEING STABILIZED. DUE TO THEIR POORER EFFECTIVENESS, INLET PROTECTION IS CONSIDERED A SECONDARY SEDIMENT CONTROL TO BE USED IN CONJUNCTION WITH OTHER MORE EFFECTIVE CONTROLS.

SPECIFICATIONS FOR GEOTEXTILE INLET PROTECTION

1. INLET PROTECTION SHALL BE CONSTRUCTED EITHER BEFORE UPSLOPE LAND DISTURBANCE BEGINS OR BEFORE THE INLET BECOMES FUNCTIONAL.

2. THE EARTH AROUND THE INLET SHALL BE EXCAVATED COMPLETELY TO A DEPTH AT LEAST 18 INCHES.

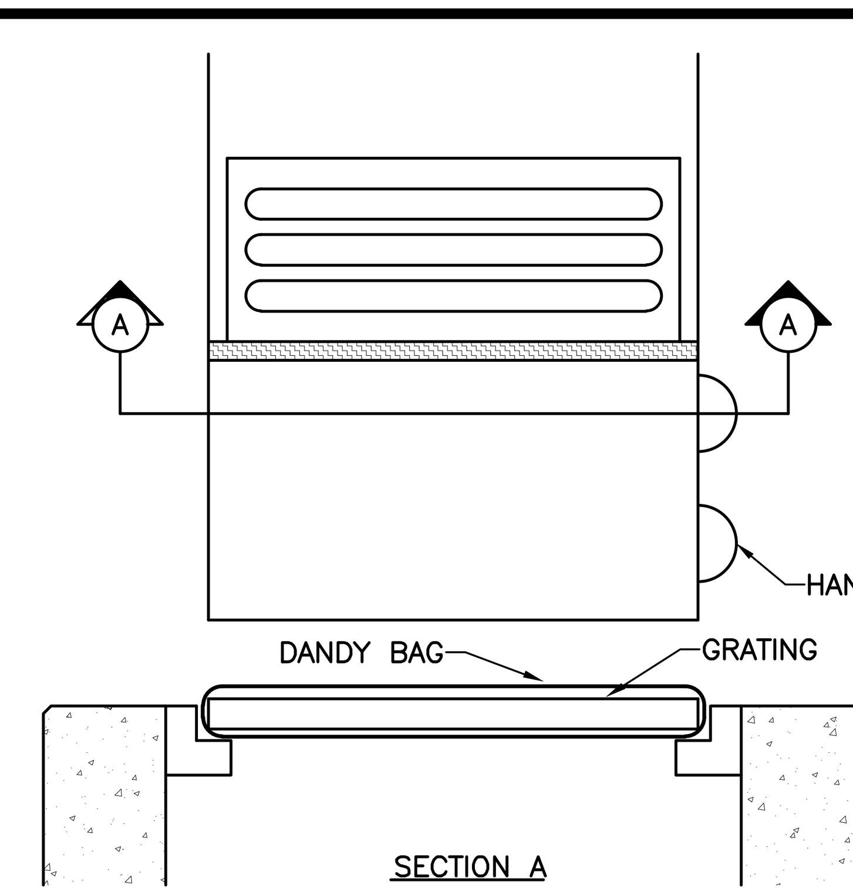
3. THE WOODEN FRAME SHALL BE CONSTRUCTED OF 2 INCHES BY 4 INCHES CONSTRUCTION GRADE LUMBER. THE 2 INCHES BY 4 INCHES POSTS SHALL BE DRIVEN ONE (1) FT. INTO THE GROUND AT FOUR CORNERS OF THE INLET AND THE TOP PORTION OF 2 INCHES BY 4 INCHES FRAME ASSEMBLED USING THE OVERLAP JOINT SHOWN. THE TOP OF THE FRAME SHALL BE AT LEAST 6 INCHES BELOW ADJACENT ROADS OF PONDED WATER WILL POSE A SAFETY HAZARD TO TRAFFIC.

4. WIRE MESH SHALL BE OF 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.

5. GEOTEXTILE MATERIAL 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.

6. BACKFILL SHALL BE PLACED AROUND THE INLET IN COMPACTED 6 INCHES LAYERS UNTIL THE EARTH IS EVEN WITH NOTCH ELEVATION ON ENDS AND TOP ELEVATION ON SIDES.

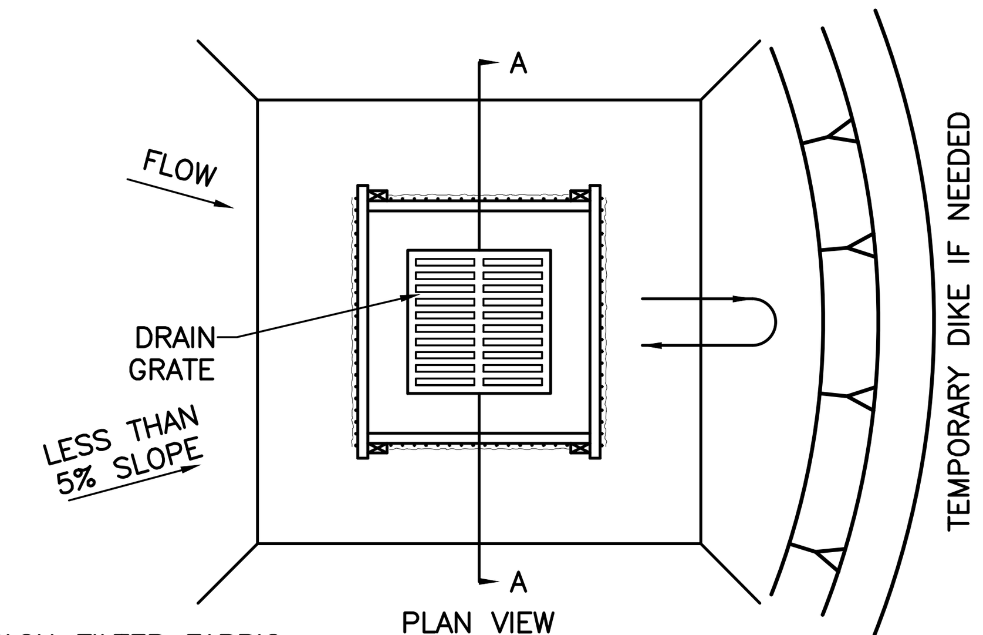
7. A COMPACTED EARTH DIKE OR CHECK DAM SHALL BE CONSTRUCTED IN THE DITCH LINE BELOW THE INLET IF THE INLET IS NOT IN A DEPRESSION. THE TOP OF THE DIKE SHALL BE AT LEAST 6 INCHES HIGHER THAN THE TOP OF THE FRAME.

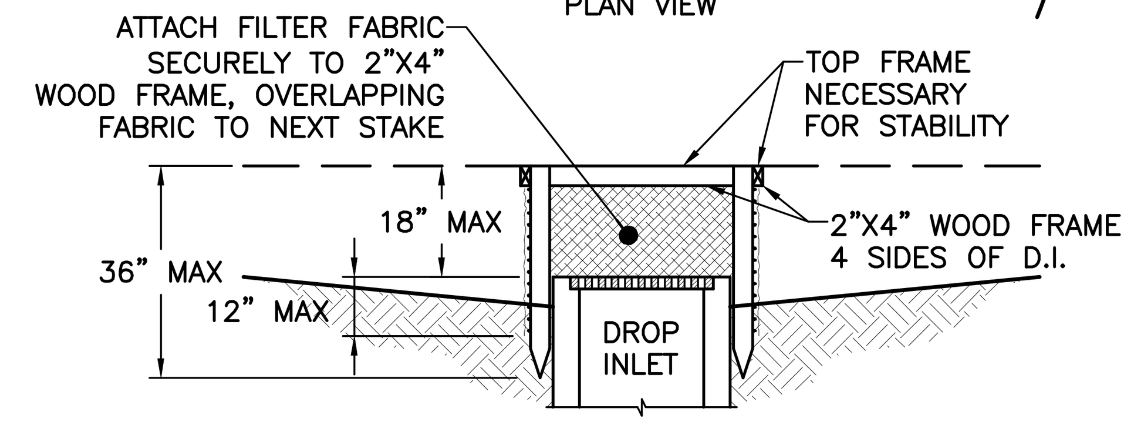


INSTALLATION: STAND GRATE ON END. PLACE DANDY BAG OVER GRATE. FLIP GRATE OVER SO THAT OPEN END IS UP. PULL UP SLACK. TUCK FLAP IN. BE SURE END OF GRATE IS COMPLETELY COVERED BY FLAP OR DANDY BAG WILL NOT FIT PROPERLY. HOLDING HANDLES, CAREFULLY PLACE DANDY BAG WITH GRATE INSERTED INTO CATCH BASIN FRAME SO THAT RED DOT ON THE TOP OF THE DANDY BAG IS VISIBLE.

MAINTENANCE: WITH A STIFF BRISTLE BROOM OR SQUARE POINT SHOVEL REMOVE SILT & OTHER DEBRIS OFF SURFACE AFTER EACH EVENT.

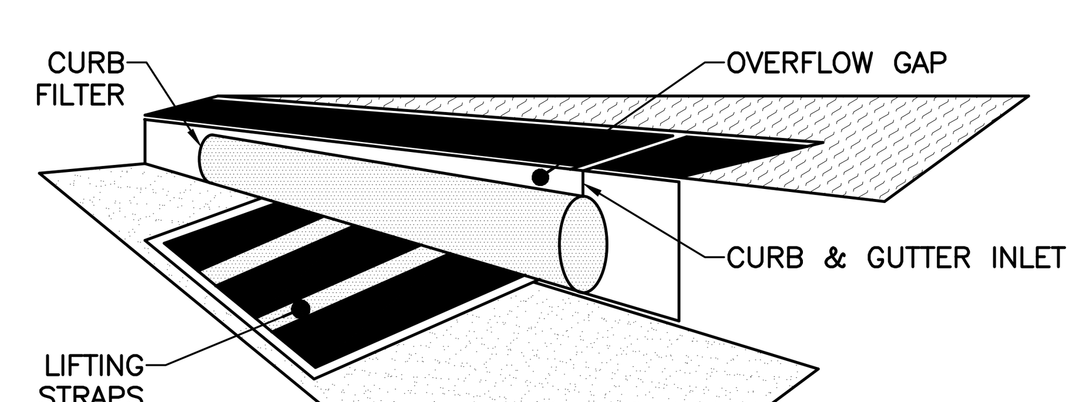
DANDY BAG
SCALE: NONE





NOTES:
1. DROP INLET SEDIMENT BARRIERS ARE TO BE USED FOR SMALL, NEARLY LEVEL DRAINAGE AREAS. (LESS THAN 5%)
2. USE 2"X4" WOOD OR EQUIVALENT METAL STAKES, 3' MINIMUM LENGTH.
3. INSTALL 2"X4" WOOD TOP FRAME TO INSURE STABILITY.
4. THE TOP OF THE FRAME (PONDING HEIGHT) MUST BE WELL BELOW THE GROUND ELEVATION DOWNSLOPE TO PREVENT RUNOFF FROM BYPASSING THE INLET. A TEMPORARY DIKE MAY BE NECESSARY ON THE DOWNSLOPE SIDE OF THE STRUCTURE.

FILTER FABRIC INLET PROTECTION
SCALE: NONE



INSTALLATION:
STAND GRATE ON END. SLIDE THE DANDY CURB BAG ON W/CURB FILTER ON TOP OF THE GRATE. PULL EXCESS DOWN. LAY UNIT ON ITS SIDE. CAREFULLY TUCK FLAP IN. PRESS VELCRO STRIPS TOGETHER. INSTALL THE UNIT MAKING SURE FRONT EDGE OF GRATE IS INSERTED IN FRAME FIRST THEN LOWER BACK INTO PLACE. PRESS VELCRO DOTS TOGETHER THAT ARE LOCATED UNDER LIFTING STRAPS. THIS ENSURES STRAPS REMAIN FLUSH WITH GUTTER.

MAINTENANCE:
WITH A STIFF BRISTLE BROOM OR SQUARE POINT SHOVEL REMOVE SILT & OTHER DEBRIS OFF SURFACE AFTER EACH EVENT.

DANDY CURB BAG
SCALE: NONE

TEMPORARY SEEDING

DESCRIPTION

TEMPORARY SEEDINGS ESTABLISH TEMPORARY COVER ON DISTURBED AREAS BY PLANTING APPROPRIATE RAPIDLY GROWING ANNUAL GRASSES OR SMALL GRAINS. TEMPORARY SEEDING PROVIDES EROSION CONTROL ON AREAS IN BETWEEN CONSTRUCTION OPERATIONS. GRASSES WHICH ARE QUICK GROWING ARE SEEDED AND USUALLY MULCHED TO PROVIDE PROMPT, TEMPORARY SOIL STABILIZATION. IT EFFECTIVELY MINIMIZES THE AREA OF A CONSTRUCTION SITE PRONE TO EROSION AND SHOULD BE USED EVERYWHERE THE SEQUENCE OF CONSTRUCTION OPERATIONS ALLOWS VEGETATION TO BE ESTABLISHED.

SPECIFICATIONS FOR TEMPORARY SEEDING

TEMPORARY SEEDING SPECIES SELECTION			
SEEDING DATES	SPECIES	LB./1,000 FT.^{2}	LB. PER AC.
MARCH 1 TO AUGUST 15	OATS TALL FESCUE ANNUAL RYEGRASS	3 1 1	128 LB.(4 BUSHEL) 40 LB. 40 LB.
	PERENNIAL RYEGRASS TALL FESCUE ANNUAL RYEGRASS	1 1 1	40 LB. 40 LB. 40 LB.
	ANNUAL RYEGRASS PERENNIAL RYEGRASS CREEPING RED FESCUE KENTUCKY BLUEGRASS	1.25 3.25 0.4 0.4	55 LB. 142 LB. 17 LB. 17 LB.
	OATS TALL FESCUE ANNUAL RYEGRASS	3 1 1	128 LB.(3 BUSHEL) 40 LB. 40 LB.
AUGUST 16 TO NOVEMBER 1	RYE TALL FESCUE ANNUAL RYEGRASS	3 1 1	112 LB.(2 BUSHEL) 40 LB. 40 LB.
	WHEAT TALL FESCUE ANNUAL RYEGRASS	3 1 1	120 LB.(2 BUSHEL) 40 LB. 40 LB.
	PERENNIAL RYE TALL FESCUE ANNUAL RYEGRASS	1 1 1	40 LB. 40 LB. 40 LB.
	ANNUAL RYEGRASS PERENNIAL RYEGRASS CREEPING RED FESCUE KENTUCKY BLUEGRASS	1.25 3.25 0.4 0.4	40 LB. 40 LB. 40 LB.
NOV. 1 TO SPRING SEEDING	USE MULCH ONLY, SODDING PRACTICES OR DORMANT SEEDING.		
NOTE: OTHER APPROVED SEED SPECIES MAY BE SUBSTITUTED.			

1. STRUCTURAL EROSION AND SEDIMENT-CONTROL PRACTICES SUCH AS DIVERSIONS AND SEDIMENT TRAPS SHALL BE INSTALLED AND STABILIZED WITH TEMPORARY SEEDING PRIOR TO GRADING THE REST OF THE CONSTRUCTION SITE.

2. TEMPORARY SEED SHALL BE APPLIED BETWEEN CONSTRUCTION OPERATIONS ON SOIL THAT WILL NOT BE GRADED OR REWORKED FOR 14 DAYS OR GREATER. THESE IDLE AREAS SHALL BE SEEDED WITHIN 7 DAYS AFTER GRADING.

3. THE SEEDBED SHOULD BE PULVERIZED AND LOOSE TO ENSURE THE SUCCESS OF ESTABLISHING VEGETATION. TEMPORARY SEEDING SHALL NOT BE POSTPONED IF IDEAL SEEDBED PREPARATION IS NOT POSSIBLE.

4. SOIL AMENDMENTS--TEMPORARY VEGETATION SEEDING RATE SHALL ESTABLISH ADEQUATE STANDS OF VEGETATION WHICH MAY REQUIRE THE USE OF SOIL AMENDMENTS. BASE RATE FOR LIME AND FERTILIZER SHALL BE USED.

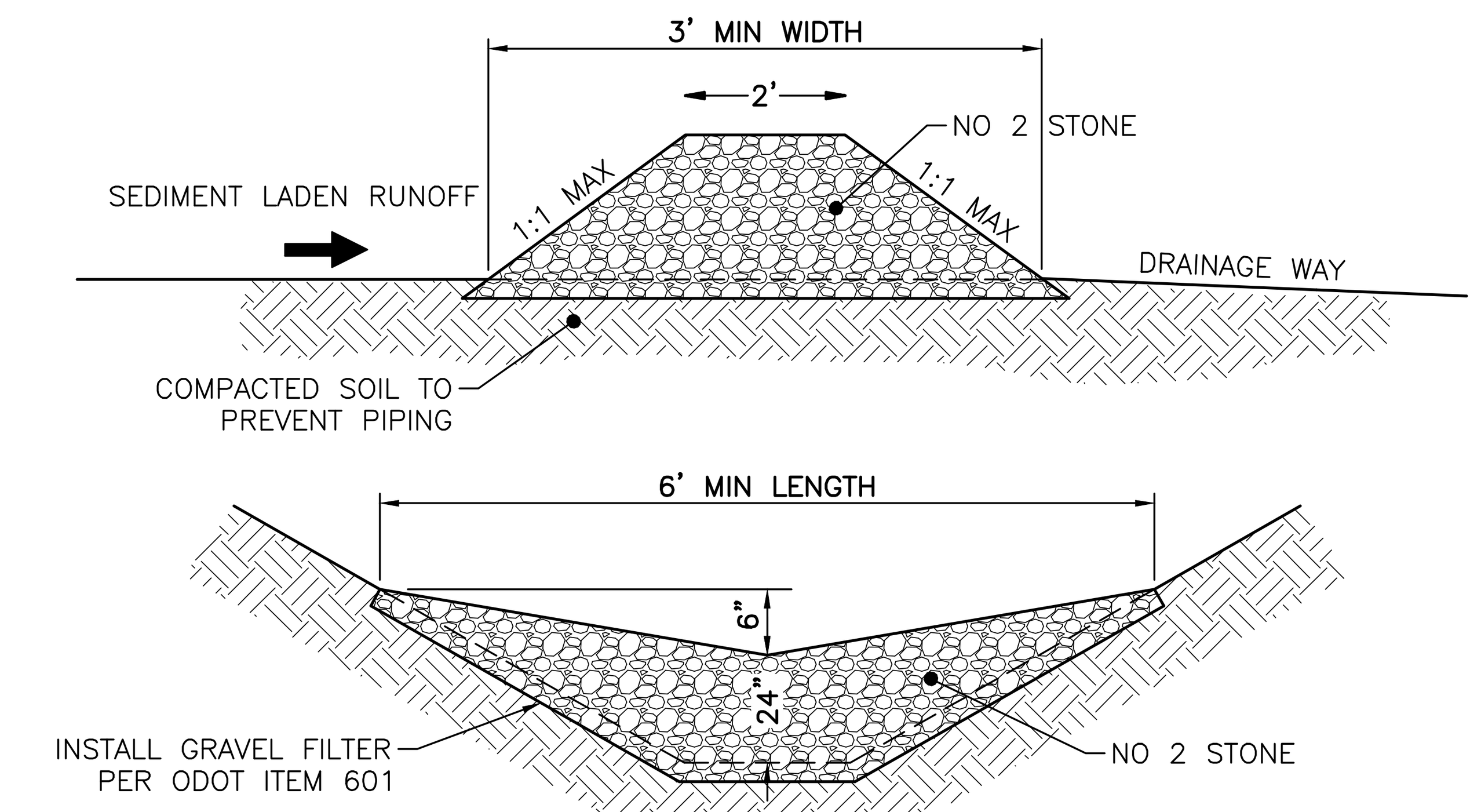
5. SEEDING METHOD--SEED SHALL BE APPLIED UNIFORMLY WITH A CYCLONE SPREADER, DRILL, CULTIPACKER SEEDER, OR HYDROSEEDER. WHEN FEASIBLE, SEED THAT HAS BEEN BROADCAST SHALL BE COVERED BY RAKING OR DRAGGING AND THEN LIGHTLY TAMPED INTO PLACE USING A ROLLER OR CULTIPACKER. IF HYDROSEEDING IS USED, THE SEED AND FERTILIZER WILL BE MIXED ON SITE, AND THE SEEDING SHALL BE DONE IMMEDIATELY AND WITHOUT INTERRUPTION.

MULCHING TEMPORARY SEEDING

1. APPLICATIONS OF TEMPORARY SEEDING SHALL INCLUDE MULCH WHICH SHALL BE APPLIED DURING OR IMMEDIATELY AFTER SEEDING. SEEDINGS MADE DURING OPTIMUM SEEDING DATES ON FAVORABLE VERY FLAT SOIL CONDITIONS MAY NOT NEED MULCH TO ACHIEVE ADEQUATE STABILIZATION.

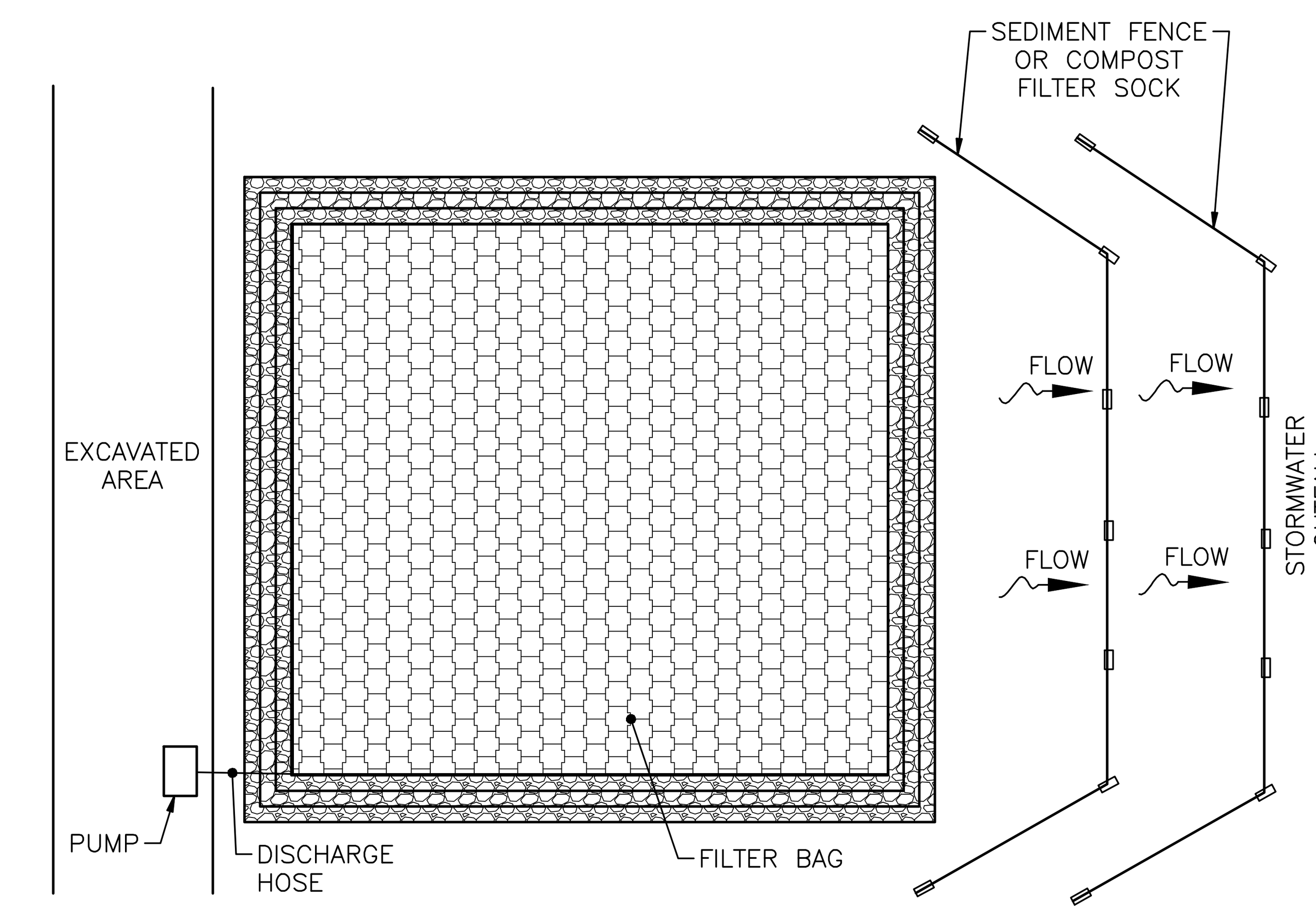
2. MATERIALS:
- STRAW--IF STRAW IS USED, IT SHALL BE UNROTTED SMALL-GRAIN STRAW APPLIED AT THE RATE OF 2 TONS PER ACRE OR 90 LB. PER 1,000 SQUARE FEET (TWO TO THREE BALES).
- HYDROSEEDERS--IF WOOD-CELLULOSE FIBER IS USED, IT SHALL BE USED AT 2,000 LB. PER ACRE OR 46 LB. PER 1,000 SQUARE FEET.
- OTHER--OTHER ACCEPTABLE MULCHES INCLUDE MULCH MATTINGS APPLIED ACCORDING TO MANUFACTURER'S RECOMMENDATIONS OR WOOD CHIPS APPLIED AT 6 TONS PER ACRE.

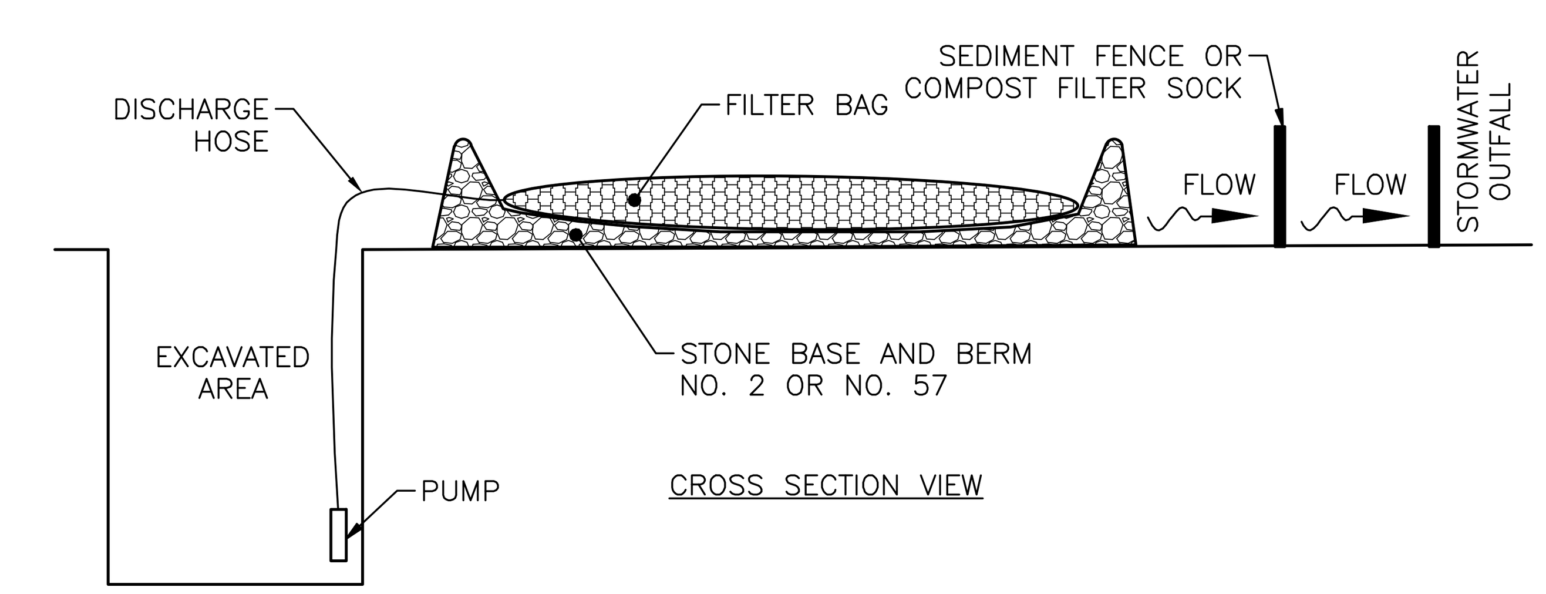
3. STRAW MULCH SHALL BE ANCHORED IMMEDIATELY TO MINIMIZE LOSS BY WIND OR WATER. ANCHORING METHODS:
- MECHANICAL--A DISK, CRIMPER, OR SIMILAR TYPE TOOL SHALL BE SET STRAIGHT TO PUNCH OR ANCHOR THE MULCH MATERIAL INTO THE SOIL. STRAW MECHANICALLY ANCHORED SHALL NOT BE FINELY CHOPPED BUT, LEFT TO A LENGTH OF APPROXIMATELY 6 INCHES.
- MULCH NETTINGS--NETTINGS SHALL BE USED ACCORDING TO THE MANUFACTURER'S RECOMMENDATIONS. NETTING MAY BE NECESSARY TO HOLD MULCH IN PLACE IN AREAS OF CONCENTRATION RUNOFF AND ON CRITICAL SLOPES.
- SYNTHETIC BINDERS--SYNTHETIC BINDERS SUCH AS ACRYLIC DLR (AGRI-TAC), DCA-70, PETROSET, TERRA TACK OR EQUAL MAY BE USED AT RATES RECOMMENDED BY THE MANUFACTURER.
- WOOD-CELLULOSE FIBER--WOOD-CELLULOSE FIBER BINDER SHALL BE APPLIED AT A NET DRY WEIGHT OF 750 LB. PER ACRE. THE WOOD-CELLULOSE FIBER SHALL BE MIXED WITH WATER, AND THE MIXTURE SHALL CONTAIN A MAXIMUM OF 50 LB. PER 100 GALLONS.



MAINTENANCE:
1. ROCK CHECK DAMS SHALL BE INSPECTED IMMEDIATELY AFTER EACH RAINFALL AND AT LEAST DAILY DURING PROLONGED RAINFALL.
2. CLOSE ATTENTION SHALL BE PAID TO THE REPAIR OF DAMAGED CHECK DAMS, END RUNS AND UNDERCUTTING BENEATH DAMS. NECESSARY REPAIRS TO CHECK DAMS SHALL BE ACCOMPLISHED PROMPTLY.
3. SEDIMENT DEPOSITS SHOULD BE REMOVED AFTER EACH RAINFALL. THEY MUST BE REMOVED WHEN THE LEVEL OF DEPOSITION REACHES APPROXIMATELY ONE-HALF THE HEIGHT OF THE BARRIER.
4. ANY SEDIMENT DEPOSITS REMAINING IN PLACE AFTER THE AGGREGATE IS NO LONGER REQUIRED SHALL BE DRESSED TO CONFORM TO THE EXISTING GRADE, PREPARED AND SEEDED.

ROCK CHECK DAM
SCALE: NONE





INSTALLATION:
1. THE CONTRACTOR SHALL PUMP MUDDY WATER ENCOUNTERED WITHIN THE EXCAVATED AREAS INTO A FILTER FABRIC BAG. THE BAG SHALL BE PLACED WITHIN A LEVEL UNDISTURBED AREA AS FAR AWAY FROM THE STORMWATER OUTFALL AS POSSIBLE. THE BAG SHALL BE PLACED ON TOP OF A AGGREGATE PAD. ADDITIONALLY, A PERIMETER AGGREGATE BERM SHALL BE CONSTRUCTED AROUND THE BAG. PERIMETER CONTROLS SUCH AS COMPOST FILTER SOCK OR SEDIMENT FENCE SHALL BE UTILIZED ALONG THE DOWNSTREAM SIDE OF THE BAG. THE PERIMETER CONTROLS SHALL BE INSTALLED TO ENSURE THAT THE WATER FLOWING OUT OF THE BAG DOES NOT FLOW AROUND THE ENDS OF THE CONTROLS. UPON COMPLETION, THE BAG SHALL BE REMOVED TO AN AREA AWAY FROM THE STORMWATER OUTFALL AND OPENED. THE ACCUMULATED SEDIMENT SHALL BE SPREAD OUT TO ALLOW TO DRY AND STABILIZED WITH VEGETATION. FILTERBAG SHALL BE JMD ENVIRO-PROTECTION FILTER BAG, OR APPROVED EQUAL, SIZE IS BASED ON APPROXIMATE PUMPING RATE.

MAINTENANCE:
1. THE FILTER BAG SHALL BE REPLACED WHEN THE BAG IS HALF FILLED WITH SEDIMENT.
2. THE CONTRACTOR SHALL CONTACT THE PROJECT INSPECTOR/ENGINEER FOR CONSULTATIVE SERVICES IF DEWATERING ACTIVITIES OVERWHELM THE FILTER BAG AND PERIMETER CONTROLS.

DEWATERING FILTER BAG
SCALE: NONE

REVISIONS

MARK	DATE	DESCRIPTION

M/I HOMES
mihomes.com

BERLIN TOWNSHIP, DELAWARE COUNTY, OHIO
STREET, STORM SEWER & WATER IMPROVEMENTS
FOR
BERLIN FARM WEST
SECTION 4 & ROLOSON-PIATT ROAD
SWPPP GENERAL NOTES & DETAILS

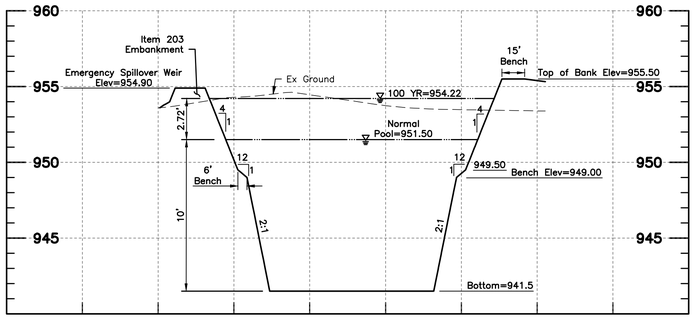
EMHT
Evans, Mechwart, Hambleton & Tilton, Inc.
Engineers • Surveyors • Planners • Scientists
5500 New Albany Road, Columbus, OH 43054
Phone: 614.775.4500 Toll Free: 888.775.3648
emht.com

DATE
May, 2024

SCALE
None

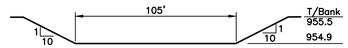
JOB NO.
20230988

SHEET
24/30



BASIN F SECTION A-A

Scale: Horiz: 1"=50'
Vert: 1"=5'



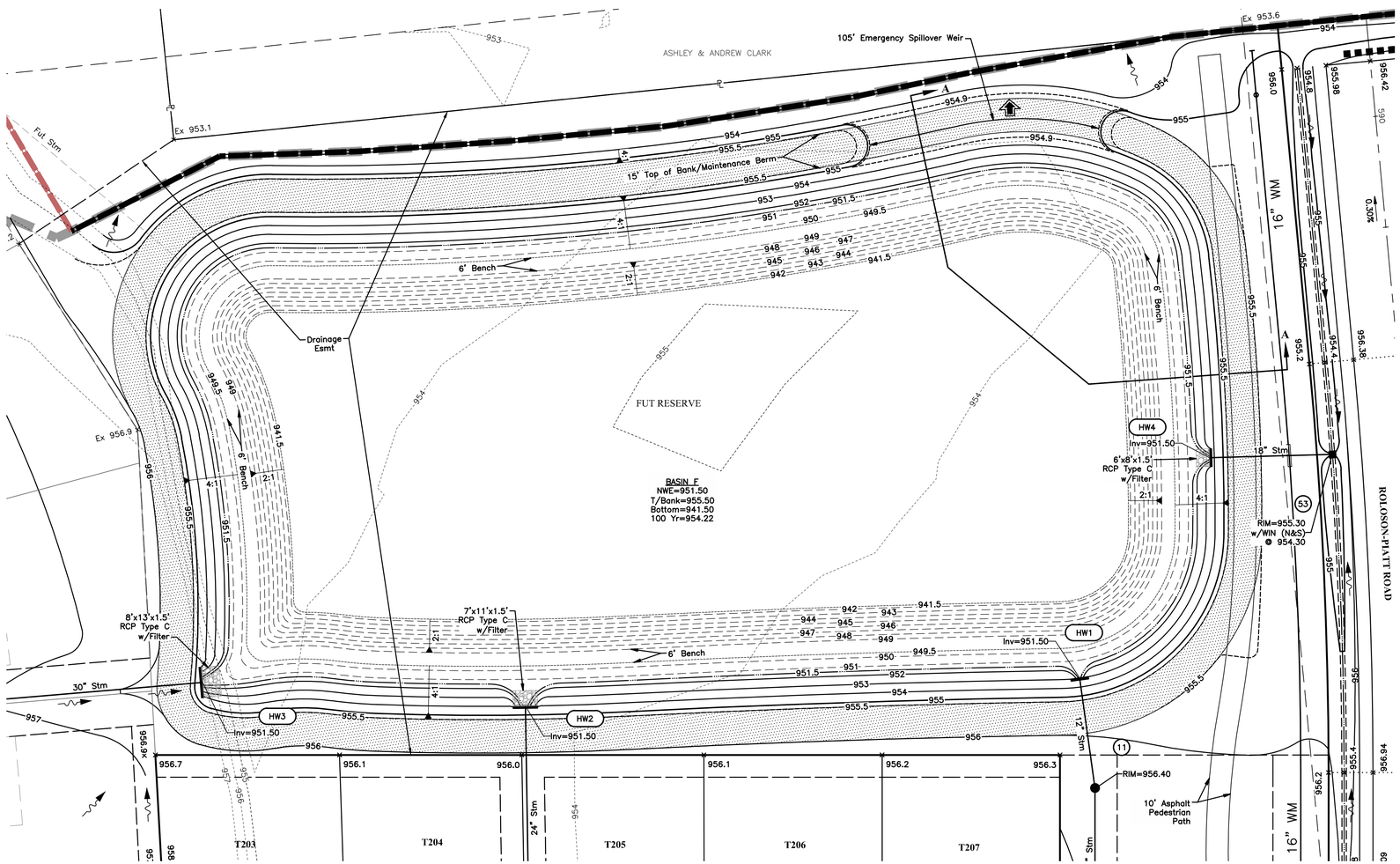
BASIN F
EMERGENCY SPILLOVER WEIR DETAIL

Not To Scale

LEGEND

- Prop Manhole / Ex Manhole — Proposed Storm Sewer / Existing Storm Sewer
- Prop Manhole / Ex Manhole — Proposed Sanitary Sewer / Existing Sanitary Sewer
- Existing/Proposed Water Main
- 921 — Proposed 1' Int. Contour
- 920 — Proposed 5' Int. Contour
- 921 — Existing 1' Int. Contour
- 920 — Existing 5' Int. Contour
- Proposed Headwall
- Proposed Catch Basin
- Proposed Curb & Gutter Inlet
- Proposed Storm Inlet Protection (See Detail, Sheet 24)
- Proposed Sediment Fence (See Detail, Sheet 23)
- Ex Sediment Fence (To Be Maintainted)
- Limits of Disturbance
- Flood Routing Arrow
- Emergency Spillover Weir Arrow
- (DND) Do Not Disturb
- Maintenance Berm

CAUTION:
O.S.H.A. clearance requirements to be maintained during construction between equipment and overhead utility lines



GRAPHIC SCALE

0 15 30 60

1 inch = 30 feet

BASIN F PROPOSED RELEASE RATES

STORM EVENT (yr)	PRE-DEVELOPED SOUTHEAST PEAK FLOW RATE (cfs)	TOTAL ALLOWABLE RELEASE RATES (cfs)	PROPOSED RELEASE RATES (cfs)	BASIN F MAXIMUM W.S.E., T.O.B. = 955.5 (feet)	BASIN F STORAGE VOLUME UTILIZED (ac-ft)	BASIN F AS-BUILT STORAGE VOLUME (ac-ft)
1	N/A	N/A	1.18	952.26	1.603	
2	N/A	N/A	1.79	952.49	2.089	
5	N/A	N/A	2.41	952.84	2.864	
10	N/A	N/A	3.06	953.12	3.491	
25	N/A	N/A	3.82	953.53	4.412	
50	N/A	N/A	4.36	953.87	5.196	
100	N/A	N/A	4.85	954.22	6.022	

Note: Basin F drains to Basin A. See Section 1 Street Plan for Basin A pre-developed peak flow rates and total allowable release rates.

REVISIONS

MARK	DATE	DESCRIPTION

M/I HOMES
mihomes.com

BERLIN TOWNSHIP, DELAWARE COUNTY, OHIO
STREET, STORM SEWER & WATER IMPROVEMENTS
FOR
BERLIN FARM WEST
SECTION 4 & ROLOSON-PIATT ROAD
BASIN F PLAN & DETAILS

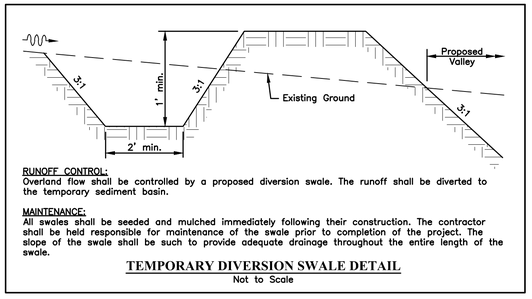
EMHT
Evans, Mechwart, Hambleton & Tilton, Inc.
Engineers • Surveyors • Planners • Scientists
5500 New Albany Road, Columbus, Ohio 43054
Phone: 614.775.4500 Toll Free: 888.775.3648
emht.com

DATE
May, 2024

SCALE
1" = 30'

JOB NO.
20230988

SHEET
25/30



RUNOFF CONTROL:
Overland flow shall be controlled by a proposed diversion swale. The runoff shall be diverted to the temporary sediment basin.

MAINTENANCE:
All swales shall be seeded and mulched immediately following their construction. The contractor shall be held responsible for maintenance of the swale prior to completion of the project. The slope of the swale shall be such to provide adequate drainage throughout the entire length of the swale.

TEMPORARY DIVERSION SWALE DETAIL
Not to Scale

LEGEND

- Limits of Disturbance
- 940 — Existing Contours
- 940 — Proposed Contours
- STM — Existing Storm
- Proposed Storm
- Temp Diversion Channel
- Flow Arrow
- Rock Check Dam (See Detail, Sheet 24)
- Sediment Fence or Compost Filter Sock installation should be at edge of disturbance. Do not remove trees to facilitate installation. Actual placement should be determined by Construction Manager in the field.
- Ex Sediment Fence/Compost Filter Sock (To Be Maintained)
- Ex Sediment Fence/Compost Filter Sock (To Be Removed)
- Stabilized Construction Entrance (See Detail, Sheet 24)
- CWA — Concrete Washout Area (See Detail, Sheet 23)
- SWPPP Mailbox. Mailbox must contain current SWPPP and SWPPP Inspection Reports.

GRAPHIC SCALE
0 50 100 200
1 inch = 100 feet

REVISIONS

MARK	DATE	DESCRIPTION

M/I HOMES
mihomes.com

BERLIN TOWNSHIP, DELAWARE COUNTY, OHIO
STREET, STORM SEWER & WATER IMPROVEMENTS
FOR
BERLIN FARM WEST
SECTION 4 & ROLOSON-PIATT ROAD
SWPPP PHASE 1 PLAN

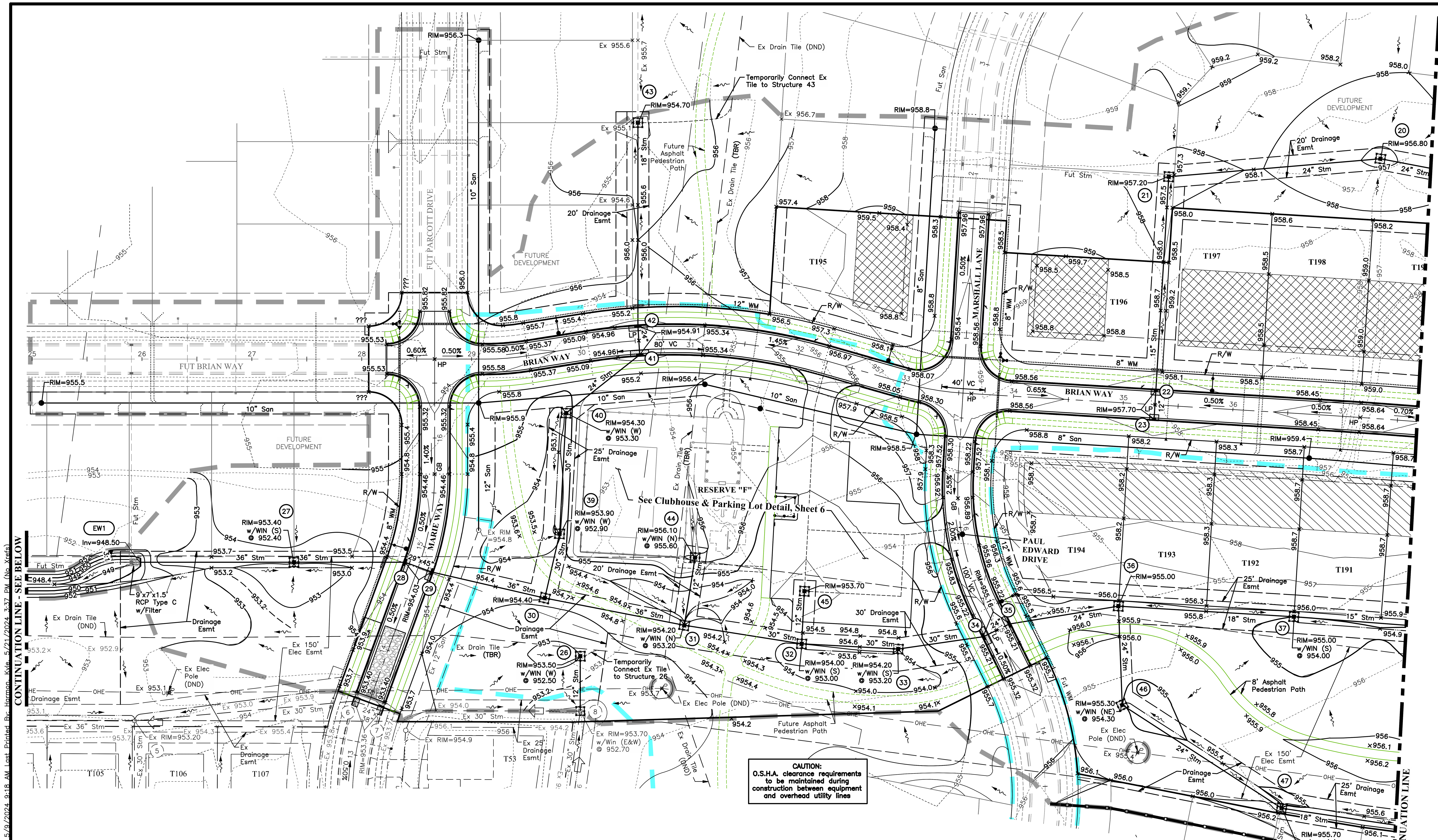
EMHT
Evans, Mechwart, Hambleton & Tilton, Inc.
Engineers • Surveyors • Planners • Scientists
5500 New Albany Road, Columbus, OH 43054
Phone: 614.775.4500 Toll free: 888.775.3648
emht.com

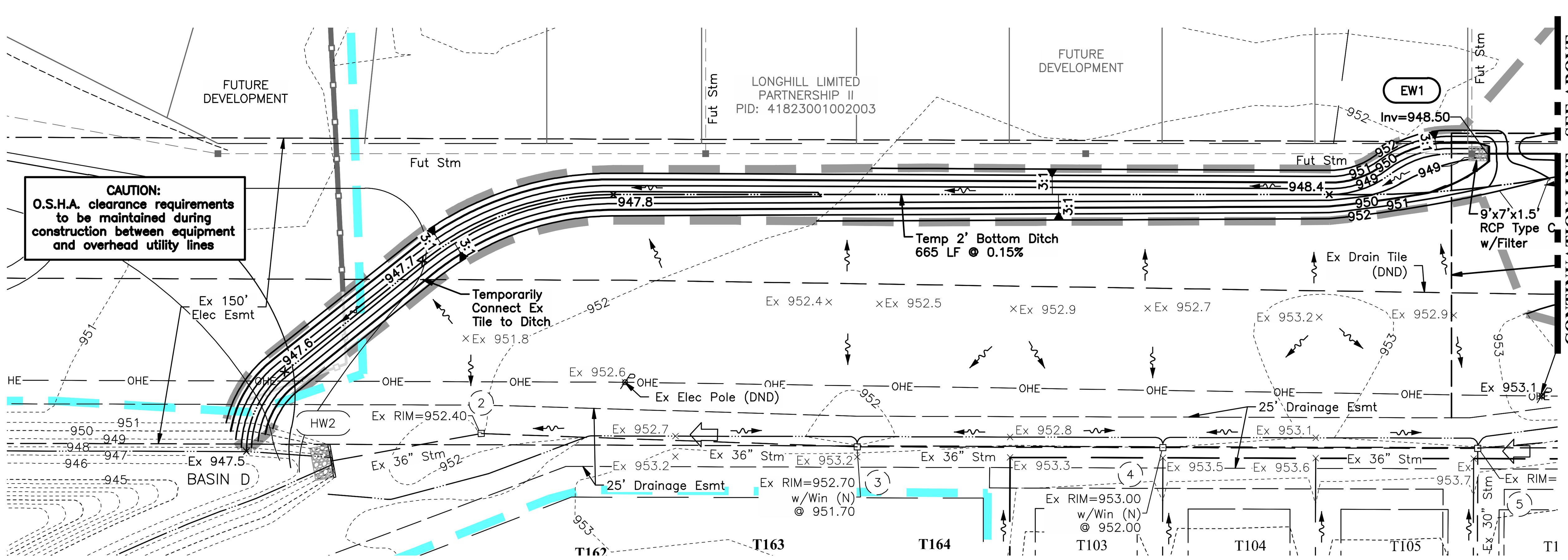
DATE
May, 2024

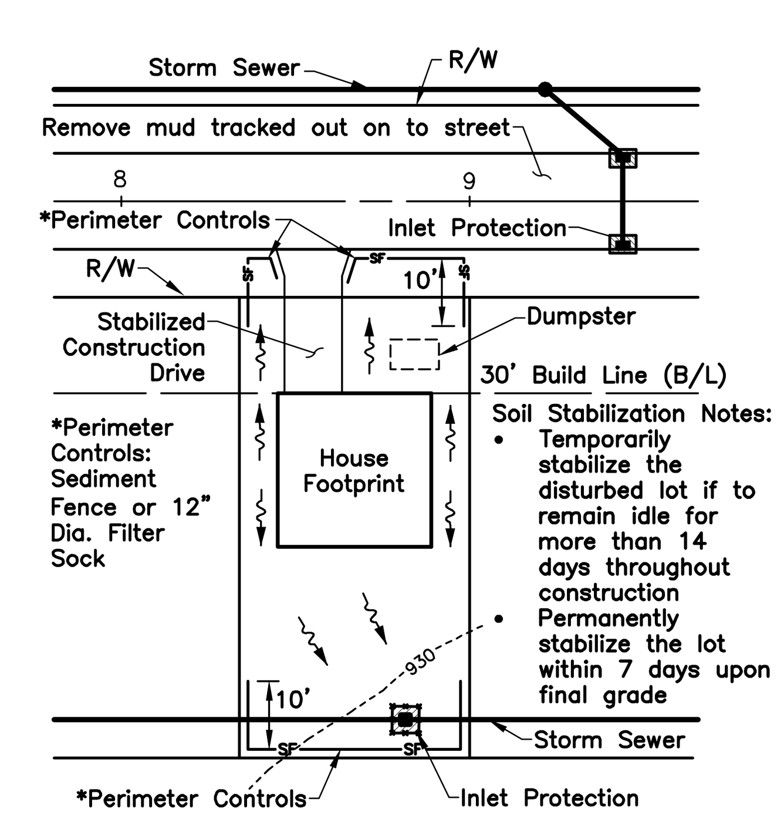
SCALE
1" = 100'

JOB NO.
20230988

SHEET
26/30







TYPICAL INDIVIDUAL LOT EROSION & SEDIMENT CONTROL

Not To Scale

LEGEND

Symbol	Description
	Flood Routing Arrow
	Emergency Spillover Weir Arrow
	Existing Flood Routing Arrow
	Flow Arrow
	Proposed Contours
	Existing Contours
	Temporary Diversion Swale
	Limits of Disturbance
	Previous Section 1&2 Limits of Mass Grading
	Silt Fence/Compost Filter Sock (See Details, Sheet 23)
	Ex Silt Fence/Compost Filter Sock (To Be Maintained)
	Ex Silt Fence/Compost Filter Sock (To Be Removed)
	Stabilized Construction Entrance (See Detail, Sheet 24)
CWA	Concrete Washout Area (See Detail, Sheet 23)
	Dandy Curb Bag (See Detail, Sheet 24)
	Filter Fabric Inlet Protection (See Detail, Sheet 24)

Notes:
Proposed contours reflect excavation of pavement and curb to subgrade

Compaction required within R/W and Structural Fill areas is 1.15

Topsoil Stripping is 8" within R/W, Basin and Structural Fill areas

All elevations shown within the pavement area are Profile Grade unless otherwise noted

Existing Ground Based on Field Data obtained February, 2023

For Individual Lot Erosion & Sediment Control measures, see detail this sheet.

STRUCTURAL FILL STRIP 8-INCHES, COMPACTION REQUIRED (F.F.=1.15)

MASS EX STRUCTURAL FILL PREVIOUSLY STRIPPED 7-INCHES & COMPACTED (F.F.=1.15) CONTRACTOR TO VERIFY AREAS ARE FREE OF TOPSOIL AND PROPERLY COMPACTED

Paths, walks & other amenities as shown shall have topsoil stripped and any fills within these areas shall be compacted clay only. No topsoil fills or borrow pits are permitted within 5' of these areas.

Earthwork contractor to grade path areas to final grade; path contractor to excavate/box out paths prior to installation.

GRAPHIC SCALE

0 25 50 100

1 inch = 50 feet

CAUTION: O.S.H.A. clearance requirements to be maintained during construction between equipment and overhead utility lines

REVISIONS

MARK	DATE	DESCRIPTION

M/I HOMES
mihomes.com

BERLIN TOWNSHIP, DELAWARE COUNTY, OHIO
STREET, STORM SEWER & WATER IMPROVEMENTS
FOR
BERLIN FARM WEST
SECTION 4 & ROLOSON-PIATT ROAD
SWPPP PHASE 2 & PREGRADE PLAN

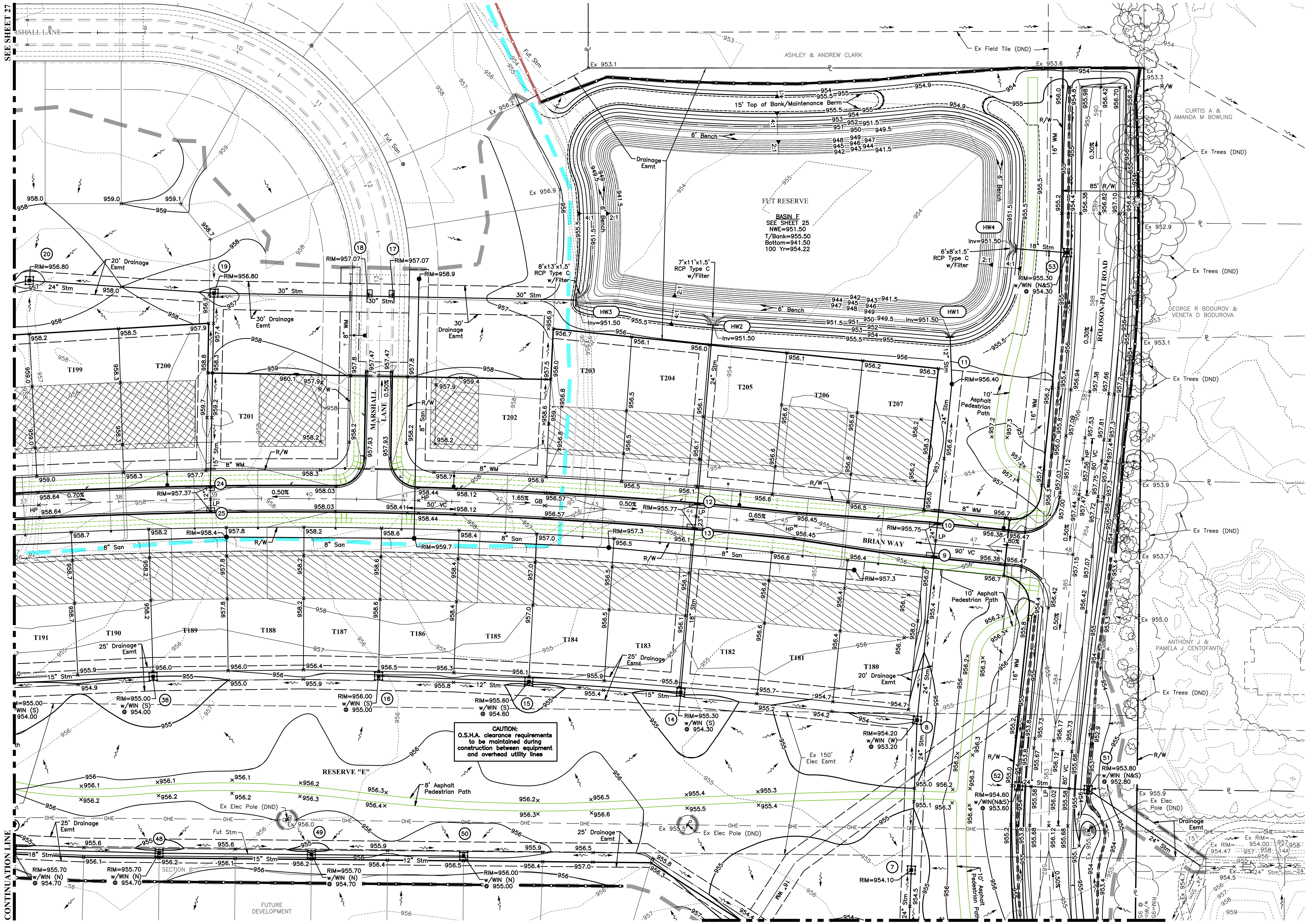
EMHT
Evans, Mechwart, Hambleton & Tilton, Inc.
Engineers • Surveyors • Planners • Scientists
5500 New Albany Road, Columbus, OH 43054
Phone: 614.775.4500 Toll Free: 888.775.3648
emht.com

DATE
May, 2024

SCALE
1" = 50'

JOB NO.
20230988

SHEET
27/30



GRAPHIC SCALE

0 25 50 100

1 inch = 50 feet

REVISIONS

MARK	DATE	DESCRIPTION

M/I HOMES
mihomes.com

BERLIN TOWNSHIP, DELAWARE COUNTY, OHIO
STREET, STORM SEWER & WATER IMPROVEMENTS
FOR

BERLIN FARM WEST
SECTION 4 & ROLOSON-PIATT ROAD
SWPPP PHASE 2 & PREGRADE PLAN

EMHT
Evans, Mechwart, Hambleton & Tilton, Inc.
Engineers • Surveyors • Planners • Scientists
5500 New Albany Road, Columbus, OH 43054
Phone: 614.775.4500 Toll Free: 888.775.3648
emht.com

DATE
May, 2024

SCALE
1" = 50'

JOB NO.
20230988

SHEET
28/30

SEE SHEET 28

CONTINUATION LINE

WITTINGHILL COURT

RUSTIC TRAIL DRIVE

ROLOSON-PIATT ROAD

BERLIN FARM SECTION 2

BERLIN FARM SECTION 1

BERLIN FARM WEST SECTION 1

RESERVE "E"

FUTURE DEVELOPMENT

FUTURE PIEPER LANE

PATRICIA ANN WAY

SECTION 6

3322

3466

3467

BASIN A

GRAPHIC SCALE

0 25 50 100

1 inch = 50 feet

REVISIONS			
MARK	DATE	DESCRIPTION	

M/I HOMES
mihomes.com

BERLIN TOWNSHIP, DELAWARE COUNTY, OHIO
STREET, STORM SEWER & WATER IMPROVEMENTS
FOR

BERLIN FARM WEST
SECTION 4 & ROLOSON-PIATT ROAD
SWPPP PHASE 2 & PREGRADE PLAN

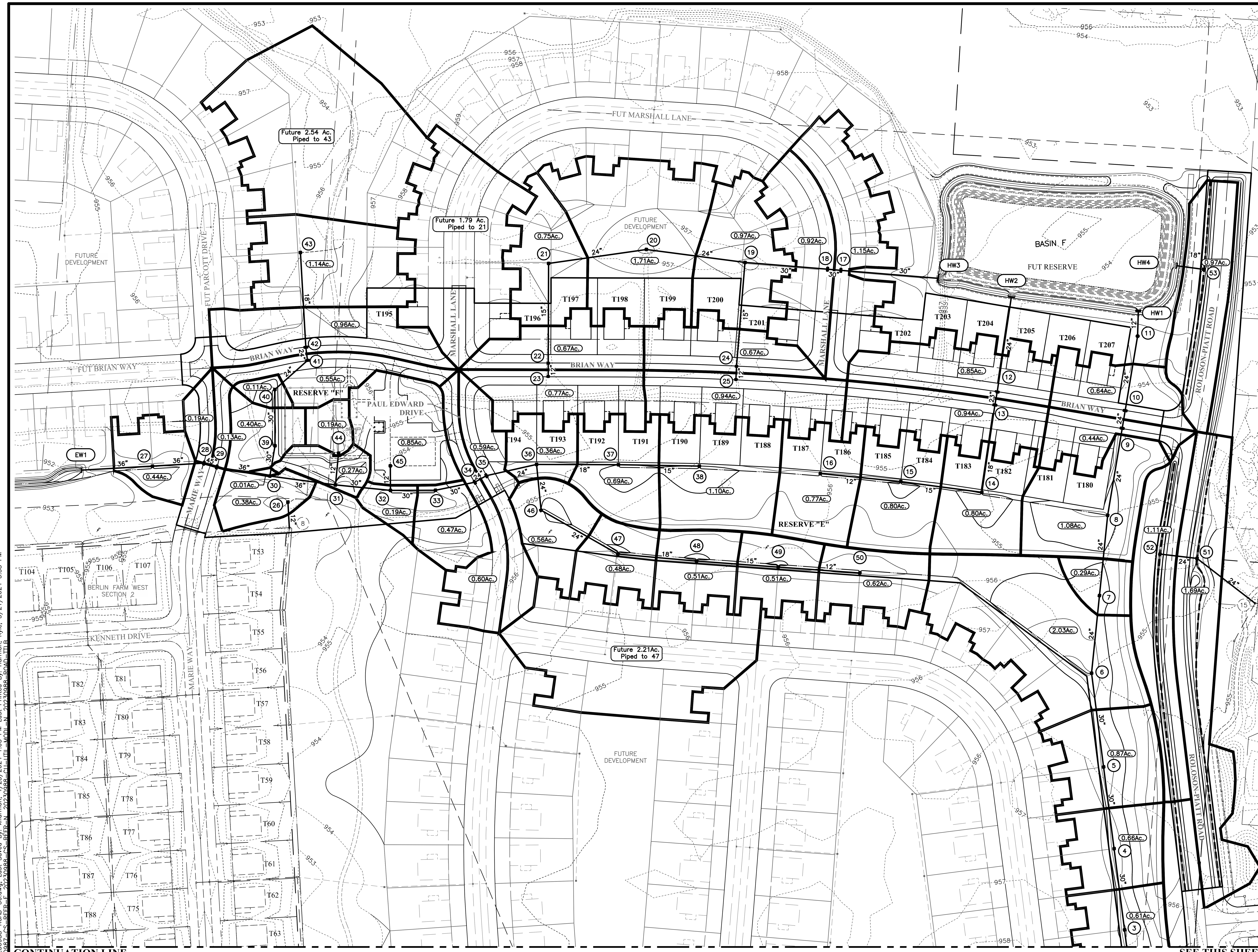
EMH&T
Evans, Mechwart, Hambleton & Tilton, Inc.
5500 New Albany Road, Columbus, OH 43054
Phone: 614.775.4500 Toll Free: 888.775.3648
emht.com

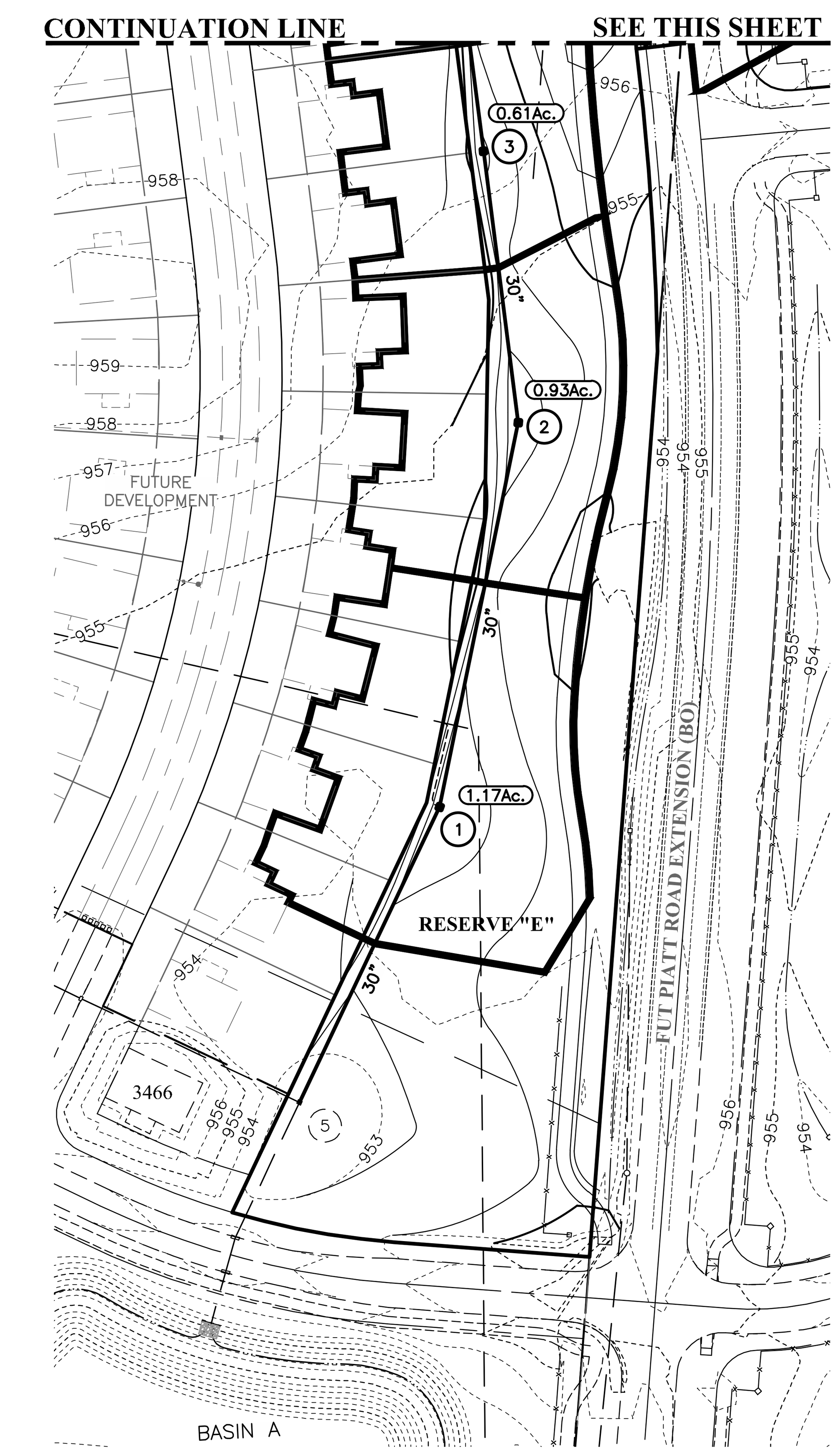
DATE
May, 2024

SCALE
1" = 50'

JOB NO.
20230988

SHEET
29/30





GRAPHIC SCALE

0 50 100 200

1 inch = 100 feet

REVISIONS

MARK	DATE	DESCRIPTION

M/I HOMES

mihomes.com

BERLIN TOWNSHIP, DELAWARE COUNTY, OHIO
STREET, STORM SEWER & WATER IMPROVEMENTS
FOR

BERLIN FARM WEST
SECTION 4 & ROLOSON-PIATT ROAD
STORM TRIBUTARY MAP

EMHT

Evans, Mechwart, Hambleton & Tilton, Inc.
Engineers • Surveyors • Planners • Scientists
5500 New Albany Road, Columbus, OH 43054
Phone: 614.775.4500 Toll Free: 888.775.3648
emht.com

DATE: May, 2024

SCALE: 1" = 100'

JOB NO.: 20230988

SHEET: 30/30