PLANNING COMMISSION AGENDA



Planning Commission Meeting 6:00 PM Tuesday, June 25, 2024

South Lebanon Municipal Building 10 N. High Street South Lebanon, Ohio 45065

	Agenda Item
1.	Call to Order
2.	Pledge of Allegiance
3.	Roll Call
4.	Review and Approval of Minutes
	A. Minutes of April 10, 2024
5.	Public Hearing – none
6.	Old Business
	A. None
7.	New Business
	A. Case 24-04P: Review of Final Development Plan for the Arbor's at Grandin Pond (aka Irwin PUD) submitted by Grandin Road Development LLC
8.	Communications
9.	Adjournment

Members of the public may address the Planning Commission during the Open Forum segment of the agenda and shall be limited to five minutes each. After the speaker concludes remarks, the Planning Commission may comment or ask questions at that time. The Chairperson may at his or her discretion restrict duplicate testimony on a particular subject.



City of South Lebanon 10 N. High St. South Lebanon, Ohio 45065 Ph:(513)494-2296 Fax:(513)494-1656

www.southlebanonohio.org

Planning Commission Meeting MEETING MINUTES Wednesday April 10, 2024 @ 6:00pm

Members Present:

Clyde Adkins Linda Allen Darrick Zucco **Members Absent:**

Mayor Burke Ms. Mason Staff:
Jerry Haddix
Administrator
Karen Woodward
Clerk

- 1. Call to Order by Mr. Zucco, at 6:00 p.m.
- 2. Pledge of Allegiance
- 3. Roll Call: Mayor Burke-Absent, Mr. Zucco-Present, Mr. Adkins-Present, Ms. Allen-Present, Ms. Mason-Absent.
- 4. Review and Approval of Minutes for March 14, 2024. Motion to approve by Ms. Allen, Seconded by Mr. Zucco. Votes were taken, all yeas.
- 5. Public Hearing-None
- 6. Old Business-None
- 7. New Business
 - A. Case -24-02P Review of Final Plat for the Highmeadow Section 1, Block "B" subdivision submitted by Abercrombie & Associates on behalf of the Drees Company.

Mr. Haddix stated that this is the 3rd section that Drees has come in for a plat. Sections 1 and 2 of the total development of 110 lots. The first was 33 lots, the second was 32, this is just 3 lots along Zoar Rd., 1.9 acres. There are still 30 some lots to go. The next phase Section One, Block "B".

The staff recommends the Commission adopt to approve the final plat. Motion to approve was made by Mr. Adkins, seconded by Ms. Allen. Vote was taken, all yeas.

B. Case 24-03P Review of replat of Lot 80A, Vista Pointe at Rivers Bend Section 6 submitted by McGill Smith Punshon on behalf of Patrick & Sara Lyman.

Mr. Haddix stated that this was 2 lots originally, in 2021 they were approved to combine the lots. They are now seeking to go back to the original plat. Mr. Haddix recommends approval of this.

They had gotten approval from the BZA last year to build a gymnasium type facility, but the HOA denied it. They have decided to split it back up and keep it or sell it. Motion to approve made by Ms. Allen, seconded by Mr. Adkins. Vote was taken, all yeas.

8.	Communications-None at this time	e.			
9.	Adjournment-Motion presented b	y Ms. Allen, seconded by Mr	. Adkins. V	Votes were taken, all	l yeas.
	Darrick Zucco – Chairman	_	Karen V	Woodward - Clerk	

CITY OF SOUTH LEBANON MEMORANDUM

TO: Planning Commission

FROM: Jerry Haddix, City Administrator

RE: Case 24-04P, Review of Final Development Plan for 36.14 acres of the Irwin PUD,

727 Grandin Road (The Arbors at Grandin Pond)

DATE: June 21, 2024

On the agenda for the June 25th meeting is the review of the final development plan (FDP) for Irwin PUD at 727 Grandin Road. The application was submitted by Grandin Road Development LLC. The current property owner is the Irwin Family Living Trust who also signed the application.

Background

Previously, the Planning Commission and then-Village Council approved the rezoning and preliminary development plan (PDP) for the Irwin Farm at 727 Grandin, consisting of 64.57 acres and 173 single family lots on the property.

Last year, the Applicant (then named Beaver Creek Site Management LLC) submitted a revision to the approved Preliminary Development Plan (PDP) for the property at 727 Grandin Road (Parcel# 16-05-100-001-1 & 16-05-100-001-2). The Applicant proposed to 1) increase the total number of lots from 173 to 182 lots; 2) increase the open space area from 12.9 ac. To 13.4 ac.; and 3) create a street connection directly to Striker Road and thereby eliminating the connection from Willow Pond to Grandin Road. The City Planning Commission determined that these modifications were not a major departure from the original preliminary development plan.

The Applicant has now submitted an application for a final development plan for 36.14 acres of the 64.57 acres PUD, including 63 lots in Phase 1 and 55 lots in Phase 2, totaling 118 lots. Access for these phases will be on Striker Road.

Code Analysis

Pursuant to Article 14, Planned Unit Development (PUD) Districts, the requirements for the Final Development Plan are outlined in Sec. 15.14.18 and 15.14.19.

Zoning Process

The Planning Commission shall approve, approve with conditions or disapprove the Final Development Plan (FDP) within sixty (60) days after the submission of the application and plan.

Staff Review

The Applicant has submitted a Final Development Plan for the Irwin PUDs development, being named "The Arbors at Grandin Pond" with the following comments:

- 1. All water and sanitary sewer services for this PUD will be provided by the Warren County Water & Sewer Department; and
- 2. An access permit for Striker Road will need to be obtained from the Warren County Engineer's Office; and
- 3. As part of an agreement with the Hamilton Township Trustees, the Applicant will be installing ballards on the Township side of Honeysuckle Lane, thereby eliminating this connection for the general public.

Recommendation

Staff recommends that the approval of the final development plan with the following PUD conditions:

- 1. Address the comments of the City Engineer to the satisfaction of the City Administrator;
- 2. Approval of a stormwater pollution prevention program (SWPPP) by the Warren County Soil & Water Conservation District;
- 3. Address any questions/comments of the Hamilton Township Fire Department; and
- 4. Obtain access permit from the Warren County Engineer's Office and make any improvements to Striker Road as required.

Attachments

Planning Commission Application 023

The Arbors at Grandin Pond Final Development Plan-Phases 1 & 2

CITY OF SOUTH LEBANON PLANNING COMMISSION APPLICATION

1. Application Type: (check the appropriate box) (all plans must be folded when submitted)

	Draft Plan-Discussion Only		Preliminary PUD
	Site Plan	1	Final PUD
	Landscape Plan		Rezoning
	Construction Drawings. (Please complete Fee Schedule form on Page 2)		Lot Split
	Preliminary Plat (Please compete Fee Schedule form on Page 2)		Conditional Use
	Final Plat or Replat		Special Meeting
	Right-of-Way Dedication Plat		Other:

(See Page 3 for complete Fee Schedule and Submittal Requirement Information)

2. Development Information:

Development/Business Name: THE ARBORS AT GRANDIN POND						
Type of Business/Project Description: SINGLE FAMILY SUBDIV	SION					
Location: STRIKER ROAD SOUTH OF GRANDIN	Size of Building: N/A					
Current Zoning: PUD	Rezone to:					
Total Acreage: 36.14	Acres to be Rezoned:					
Number of Employees: N/A	Number of Fleet Vehicles: N/A					
Current Owner of the Property	Project Contact (Architect, Engineer, Planner)					
Name: IRWIN FAMILY LIVING TRUST	Name: McGILL SMITH PUNSHON					
Address: PO BOX 109	Address: 3700 PARK 42 DRIVE SUITE 190B					
City: KANAB State: UT Zip: 84741	City: CINCINNATI State: OH Zip: 45241					
Telephone: Fax:	Telephone: 513-759-0004 Fax:					
Applicant(s): GRANDIN ROAD DEVELOPMENT, LL	C					
Address: 7861 E. KEMPER ROAD						
City: CINCINNATI State: OH	IO Zip: 45249					
Telephone: 513-702-9419 Fax:						
Please Print Applicant's Name Here: EDWIN FARRUGGIA						
* Applicant's Signature: Zd						
* Applicant is responsible for payment of all fees (See Fe	e Schedule and Footnotes on Pages 3 and 4 respectively.)					

TO BE COMPLETED BY THE CITY OF SOUTH LEBANON								
Application Number:		Date of Plannit	ng Commission Meeting:					
Fee Paid:	Drawn:	Check #:	Date:	Initial:				
Legal Notices Adverti	sed:							

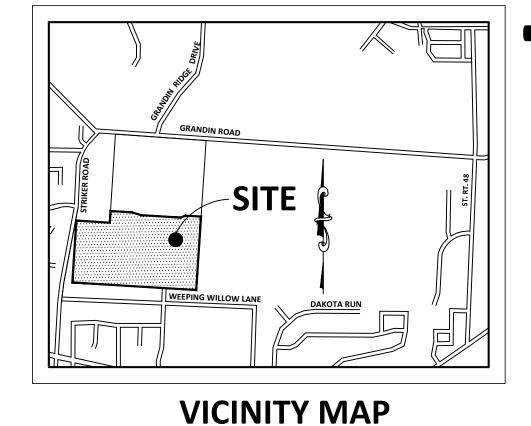
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Surrounding Property Owners: Please list the names and addresses of all Owners of Real Property within 300 feet of any part of the property as such names and addresses appear on the most recent tax duplicate on 2 sets of mailing labels. (See submittal requirements on page 3).

4. Signatures Required	
By signing this application, I attest under penalty of law that all knowledge.	the information given above is correct to the best of my
Please Print Applicant's Name: ED 414 FARRU 4614	"GRANDIN ROAD DEVELOPMENT, LIC"
Applicant's Signature:	Date: MAY 17, 2024
Property Owner's Signature: Teny L. Shwin, Truste Lea F. Shu	Din, Multer Date: MAY 17, 2024
5. Fee Determination for Construction Drawings and Pr	eliminary Plat Submittals
Please create a detailed breakdown of the estimated infrastructure break Construction Drawings complete Item 1 and for Preliminary Plats complete	
Total Infi	rastructure Cost \$ 1,608,903.04 (A)
1 - Construction Drawing Fee Breakdown	
1.25% of Total Infrastructure Cost* (Line A x 0.0125)	s 20, 111.30 (B)
1,50% of Total Infrastructure Cost** (Line A x 0.015)	+ \$ 24, 133.56 (C)
Application Fee	+ \$ <u>150.00</u> (D)
Total Construction Drawing Fee (Line B + C + D)	\$ 44,394.86 (E)
2 - Preliminary Plat Fee Breakdown:	•
0.25% of Total Infrastructure Cost* (Line A x 0.0025)	s 4,022.26 (F)
Application Fee	+ \$ 150.00 (G)
Total Preliminary Plat Fee (Line F + G)	s 4, 172.26 (H)
Total Paid with Application/Submittals (Line E+H)	s 48, 567.12
* Due upon submittal ** Due prior to construction	

6. Fee Schedule and Submittal Requirements

Article/Ord. Reference	Item	Fees ⁽³⁾⁽⁴⁾	Submittal Requirements
Article 20	Preliminary Plats	\$150 + 0.25% of estimated	12 Copies ⁽⁵⁾ + 1 Copy (Ledger Paper)
Article 14	Final PUDs	infrastructure construction costs ⁽¹⁾	
Article 20	Construction Drawings	\$150 + 2.75% of estimated	4 Copies ⁽⁵⁾
		infrastructure construction costs ⁽¹⁾ (Include estimate with	2 Drainage Calculations
		application)	2 Detailed Spreadsheet of the
		(1.25% due at time of submittal and	Estimated Infrastructure Costs
		1.5% due before construction begins) ⁽²⁾	
Article 20	Final / Dedication Plats	\$350	10 Copies(5) + 1 Copy (Lcdger Paper)
Article 20	Lot Split / Minor Subdivision /	\$75 per lot	3 Survey Plats ⁽⁵⁾ & Legal
	Replats		Descriptions
		100000000000000000000000000000000000000	1 New Deed + 1 Original Deed
Article 18	Site Plans	\$400 + \$5 per unit Multi-family	12 Copies ⁽⁵⁾ + 1 Copy (Ledger Paper)
		\$400 + \$20 per acre Commercial/ Office/Industrial/Institutional	
Article 17	Landscape Plans	\$150 + \$10 per acre	12 Copies(5) + 1 Copy (Ledger Paper)
Article 7	Zoning District Map Change	\$400 + \$10 per acre	20 Copics ⁽⁵⁾ + 1 Copy (Ledger Paper)
	Zoning Text Change		1 List of Surrounding Property Owners + 2 Sets of Mailing
			Labels
Article 5	Variances / Appeals	\$400	8 Copies + I Copy (Ledger Paper)
	PA CHILING AND		1 List of Surrounding Property Owners + 1 Set of Mailing
			Labels
Article 14	Preliminary PUD Plans	\$2,500 + \$20 per acre	12 Copies ⁽⁵⁾ + 1 Copy (Ledger Paper)
			1 List of Surrounding Property Owners + 2 Sets of Mailing
		1	Labels
Article 14	Final PUD Plans	Site Plan Review Fees Apply	Site Plan Review Submittal
	G 22: 171 /G: 77 77	\$250 \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	Requirements Apply 15 Copies + 1 Copy Ledger Paper ⁽⁵⁾
Article 6 Article 3	Conditional Use / Similar Use Zoning Permit	\$250 + applicable site plan fee \$250 + \$0.03 per square foot of	5 Copies
AI HOIC 3	Zoning i Chik	building area (City water tap and	J Copius
		inspection fee required if	
•		utilizing City Water [proof of payment of County tap fee if	
		utilizing County Water]; City	
		sewer tap and inspection fee also required)	
Article 3	Temporary Use Permit	\$50	5 Copies
Article 3	Certificate of Occupancy	\$50	3 Copies
Ord. No:	Flood Hazard Area Development	\$50	3 Copies of Permit Application w/ applicable submittal
2008-14; Permit App.	Permit		requirements (stated on
r ounte trhb.			Page 2 of 2 of Permit
			Application + Engineering "No
	Special Meeting	\$500 + Application Fee, if any ⁽⁶⁾	Rise" Certification (if applicable) Depends Upon Type of Application
	Dieciai Meeting		or Meeting Requested



DEVELOPER

BEAVER CREEK SITE MANAGEMENT, LLC 7861 E. KEMPER ROAD

CINCINNATI, OHIO 45249

AND INSPECTION OF THE OFFICE OF THE WARREN COUNTY SANITARY SEWER ENGINEER. ALL OTHER PLANS

BED AND BACKFILL STORM PIPE PER ODOT ITEM 611 TO 12" ABOVE TOP OF PIPE. BACKFILL REMAINDER OF

ROOF DRAINS, FOUNDATION DRAINS, STORM WATER CONNECTIONS AND OTHER CLEAN WATER

ALL STRUCTURES ARE TO BE WARREN COUNTY DESIGN STANDARDS UNLESS NOTED OTHERWISE

BEDDING TO BE ODOT SPECIFICATION 603.04, TYPE "2". BACKFILL TO BE ODOT SPECIFICATION 603.08.

ALL TRENCHES UNDER THE PAVEMENT. CURB AND GUTTERS SHALL BE BACKFILLED WITH EITHER COMPACTED NATIVE MATERIAL, COMPACTED GRANULAR MATERIAL, OR CONTROLLED DENSITY FILL. IF SETTLEMENT OCCURS, THE TRENCH SHALL BE EXCAVATED BACK TO THE CONDUIT'S BEDDING AND CONTROLLED DENSITY FILL USED TO

BACKFILL THE TRENCH. THE CONTROLLED DENSITY FILL SHALL BE APPLIED FROM BACK OF CURB TO BACK OF

EXISTING UTILITY LOCATIONS SHOWN ARE APPROXIMATE. THE CONTRACTOR SHALL DETERMINE THE EXACT

AS A RESULT OF THE CONTRACTOR'S OPERATIONS SHALL BE MADE AT THE CONTRACTOR'S EXPENSE

THE OWNER OF THE SANITARY SEWER SYSTEM UPON ACCEPTANCE WILL BE WARREN COUNTY.

LOCATION AND ELEVATIONS BY FIELD INVESTIGATION. ANY ADJUSTMENTS OR REPAIRS TO EXISTING UTILITIES

SEDIMENT CONTROL MEASURES, INCLUDING SILT FENCE, SEDIMENT BASIN AND STAND PIPE SHOULD BE PLACED

THE MAINTENANCE, REPAIR, AND REPLACEMENT OF ALL STORM SEWER/PIPING LOCATED BETWEEN THE CATCH BASIN T THE BACK OF THE STREET CURB AND THE R/W LINE, AS WELL AS THE STORM SEWER/PIPING LOCATED

WITHIN THE "PRIVATE STORM SEWER EASEMENTS", SHALL BE THE RESPONSIBILITY OF THE HOMEOWNERS' ASSOCIATION.

ALL STORM DRAINAGE PIPE UNDER STREETS SHALL BE ODOT SPECIFICATION 706.02 CONCRETE PIPE, 707.65 SANTITE

FOR 24" DIAMETER OR SMALLER OR 707.69 POLYPROPYLENE TRIPLE WALL PIPE FOR 30" DIAMETER OR LARGER. ALL

STORM DRAINAGE PIPE OUTSIDE OF STREET MAY BE ODOT SPECIFICATION 707.33 CORRUGATED POLYETHLYNE PIPE.

CONNECTIONS TO THE SANITARY SEWER SYSTEM ARE PROHIBITED

PUBLIC RIGHT OF WAY WIDTH IS FIFTY (50) FEET.

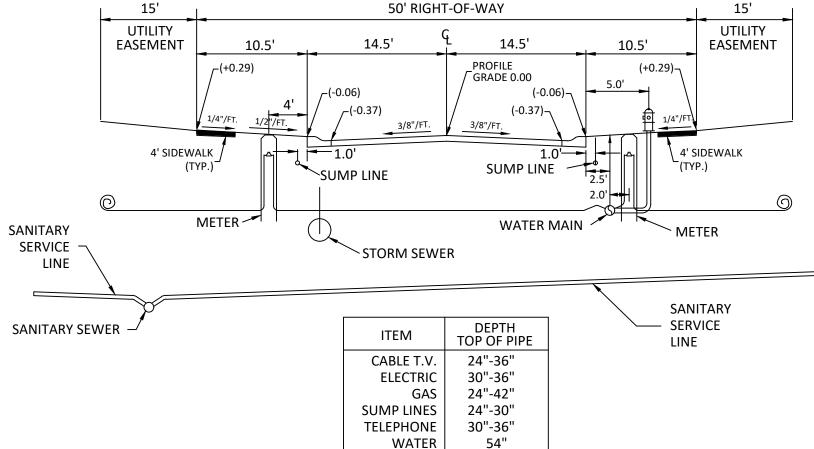
GENERAL NOTES:

THE ARBORS AT GRANDIN POND

PHASES 1 & 2

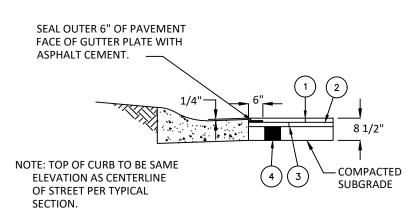
MILITARY SURVEY NO. 1547 & 1548 **CITY OF SOUTH LEBANON HAMILTON TOWNSHIP**





TYPICAL CROSS SECTION WARREN COUNTY

N.T.S.



- 1-1/2" THICKNESS OF ITEM 448 ASPHALT CONCRETE SURFACE
- TACK COAT MS-2, RS-1 OR RC 250
- (3) 2" THICKNESS OF ITEM 448 ASPHALT CONCRETE LEVELING COURSE, TYPE 1
- (4) 5" THICKNESS OF ITEM 301, BITUMINOUS BASE COURSE

ALL LETTER - NUMBER DESIGNATIONS REFER THE CURRENT EDITION OF THE OHIO DEPARTMENT OF TRANSPORTATION CONSTRUCTION AND MATERIAL SPECIFICATION.

STANDARD PAVEMENT COMPOSITION

NOT TO SCALE

WARREN COUNTY ENGINEER STANDARD DETAILS

PLATES 2,3,4,12,18,19,20,21,22,23,26,27,28,29,30,31,33,34,35,36

WARREN COUNTY WATER AND SEWER DEPARTMENT STANDARD DETAILS

PLATES WG-1A,WG-1B,WG-2,W-1,W-2,W-3,W-8,W-9,W-10A, PLATES W-11,W-12,W-18,W-19,W-20,SG-1,SG-2A,SG-2B, S-1,S-5,S-6,S-7,S-11,S-14,S-15A,S-15B,S-18

ENGINEER OF RECORD: _		
	JOSH REXHAUSEN, P.E. REG. No. 68164	DATE
APPROVED: _		
	WARREN COUNTY SANITARY ENGINEER	DATE
APPROVED: _		
	WARREN COUNTY ENGINEER	DATE



Drawn By

Issue/Revision

WCWS COMMENTS

WCEO COMMENTS

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REV PER OEPA

REV PER CITY

16448024-IMP-01

16448003-BAS-00

No. Date

06/04/24

06/04/24

06/06/24

Sheet Title

COVER SHEET 16448.01 **AS NOTED**

16448

Sheet Number

Project Number Drawing Scale

File Number

WARREN COUNTY, OHIO

OVERALL PROJECT MAP

INDEX OF SHEETS

DESCRIPTION COVER SHEET

IMPROVEMENT PLAN

SANITARY SEWER PLAN & PROFILE

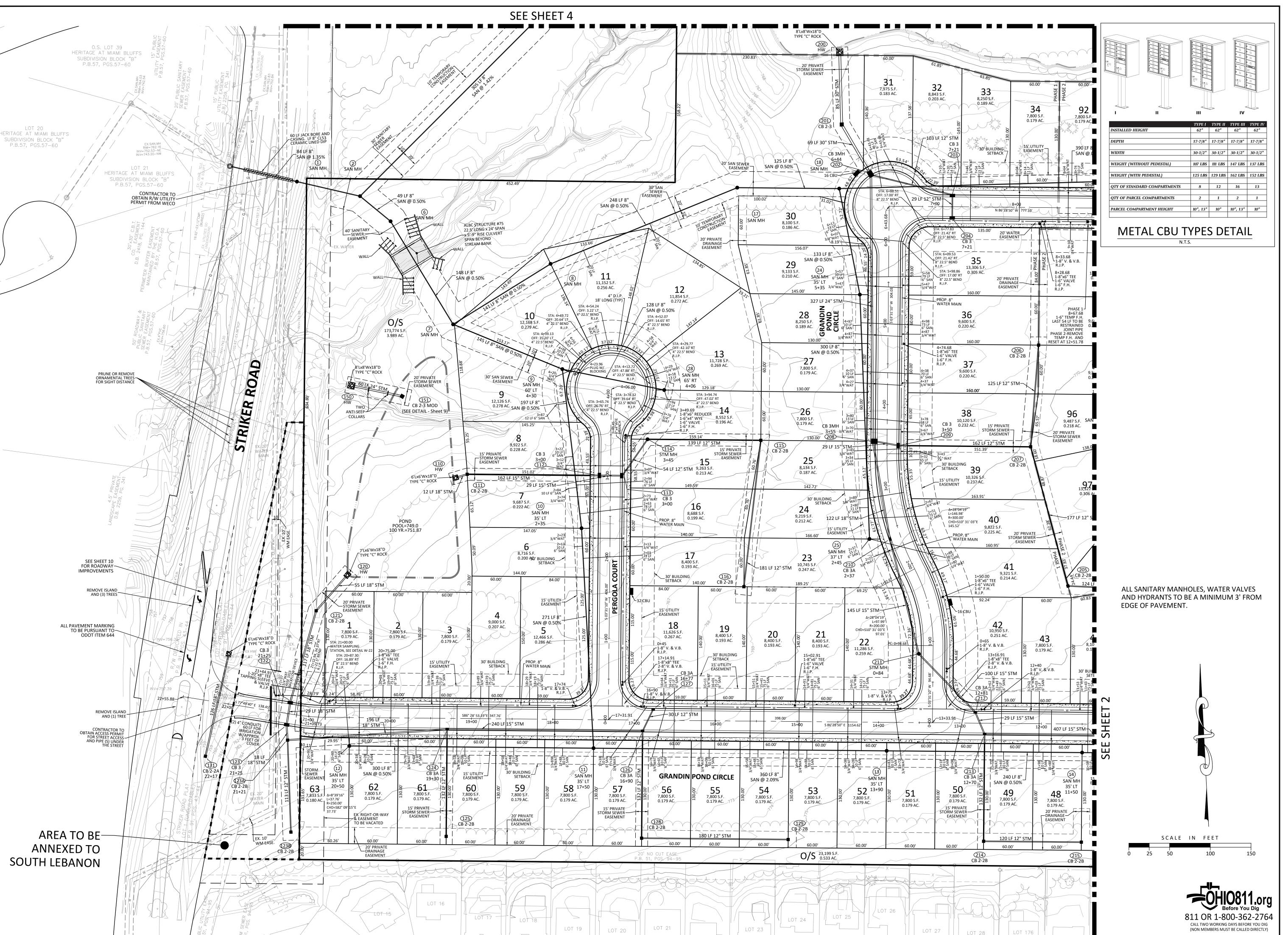
GRADING & SWP3

PROFILES & DETAILS

SANITARY SEWER NOTES & DETAILS

WATER SYSTEM NOTES & DETAILS

EROSION CONTROL NOTES & DETAILS





3700 Park 42 Drive ■ Architecture ■ Engineering Suite 190B ■ Landscape Architecture Cincinnati OH 45241 Phone 513.759.0004 ■ Planning ■ Surveying www.mspdesign.com

Project Manager Drawn By 16448024-IMP-01 16448003-BAS-00

Issue/Revision No. Date 04/29/24 UPDATES WCWS COMMENTS 05/03/24 WCEO COMMENTS 06/04/24 REV PER OEPA 06/04/24 06/06/24 REV PER CITY

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ARB

Sheet Title

IMPROVEMENT PLAN

16448.01 Project Number 1" = 50' Drawing Scale 2/13 **Sheet Number** 16448 File Number





Project Manager Drawn By 16448003-BAS-00

Issue/Revision No. Date 04/29/24 UPDATES WCWS COMMENTS 05/03/24 REV PER OEPA 06/04/24 **REV PER CITY** 06/06/24

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ARB

Sheet Title

IMPROVEMENT PLAN

16448.01 Project Number 1" = 50' Drawing Scale 3/13 Sheet Number 16448 File Number



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Project Manager Drawn By 16448024-IMP-01 16448003-BAS-00

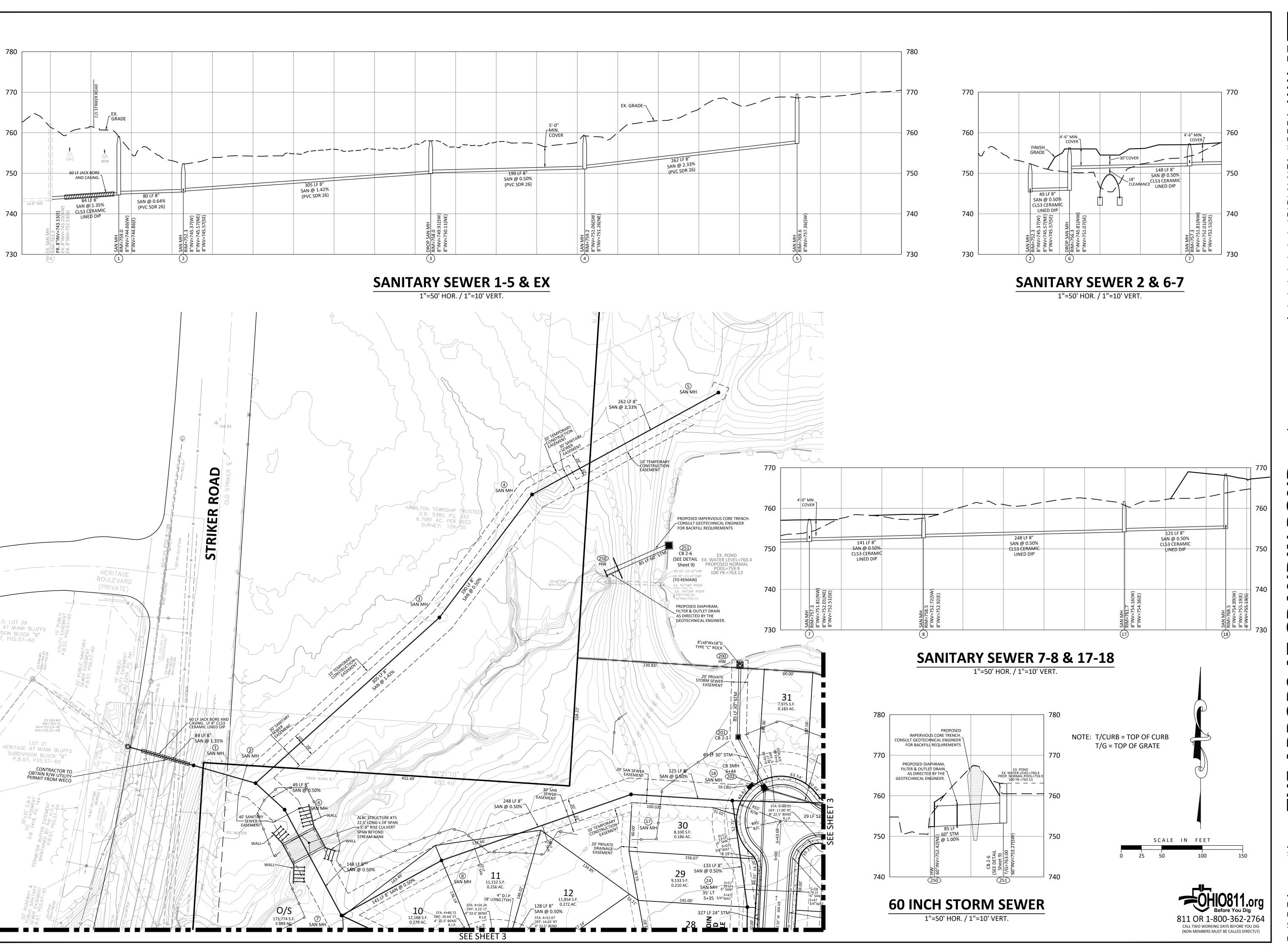
Issue/Revision No. Date 04/29/24 UPDATES 05/03/24 WCWS COMMENTS 06/04/24 **REV PER OEPA** 06/06/24 **REV PER CITY**

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Sheet Title

IMPROVEMENT PLAN

16448.01 Project Number 1" = 50' Drawing Scale 3A/13 **Sheet Number** 16448 File Number





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■ Landscape Architecture
■ Planning Phone 513.759.000
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Project Manager RA
Drawn By NAK
DWG 16448024-IMP-01

16448003-BAS-00

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ARBORS AT GRANDIN PONIPHASE 1

MILITARY SURVEY NC CITY OF SOUTH HAMILTON TO

Sheet Title

SANITARY SEWER
PLAN & PROFILE

Project Number 16448.01
Drawing Scale 1" = 50'
Sheet Number 4/13
File Number 16448

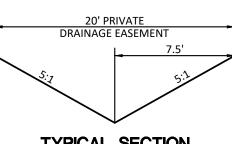


■ Landscape Architecture Phone 513.759.0004

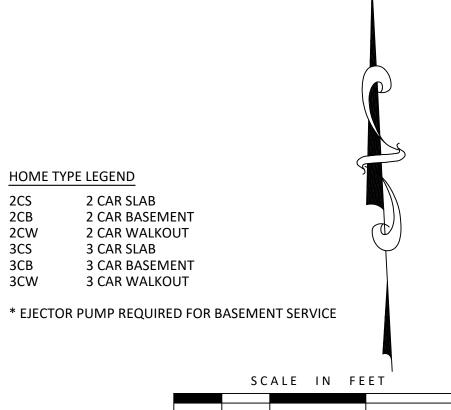
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A DETAILED MAINTENANCE PLAN THAT DESCRIBES PROCEDURES (E.G. INSPECTIONS SEE NEEDED TO ENSURE THE CONTINUED PERFORMANCE OF CONTROL PRACTICES SHALL BE LOCATED AT THE ENTRANCE OF THE DEVELOPMENT AREA OR AT THE JOB TRAILER IN A WELL-MARKED CONTAINER ACCESSIBLE AT ALL TIMES. SUCH PLANS MUST ENSURE THAT POLLUTANTS COLLECTED WITHIN STRUCTURAL POST-CONSTRUCTION PRACTICES, BE



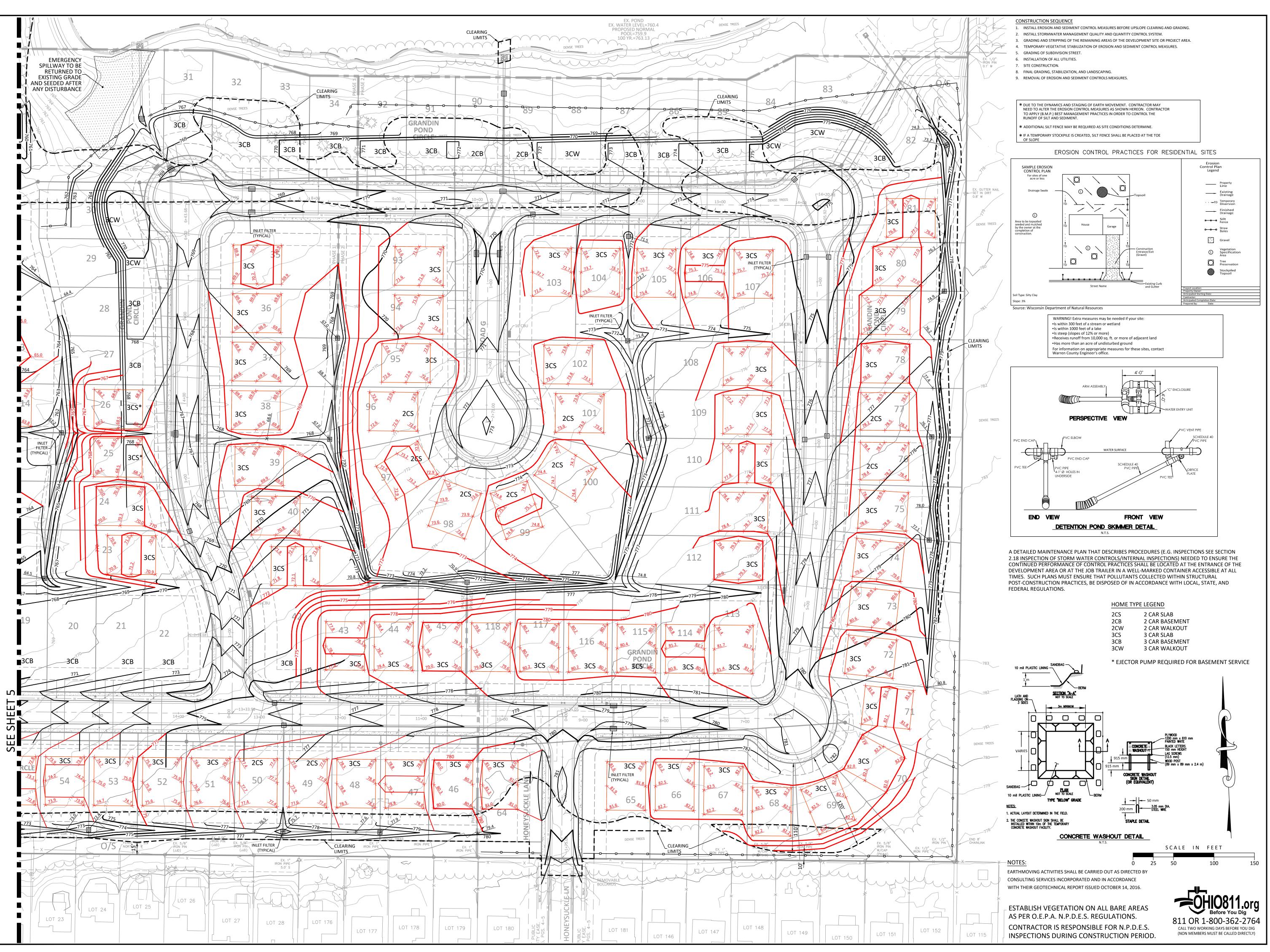
ESTABLISH VEGETATION ON ALL BARE AREAS AS PER O.E.P.A. N.P.D.E.S. REGULATIONS. CONTRACTOR IS RESPONSIBLE FOR N.P.D.E.S. INSPECTIONS DURING CONSTRUCTION PERIOD.



Sheet Title

GRADING & SWP3 PLAN

16448.01 Project Number 1" = 50' Drawing Scale 5/13 Sheet Number 16448





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■ Engineering Suite 1908
■ Landscape Architecture Planning Phone 513.759.0004
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Project Manager RA
Drawn By NAK
DWG 16448024-IMP-01
X-Ref(s) 16448003-BAS-00

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REV PER OEPA 06/04/24
REV PER CITY 06/06/24

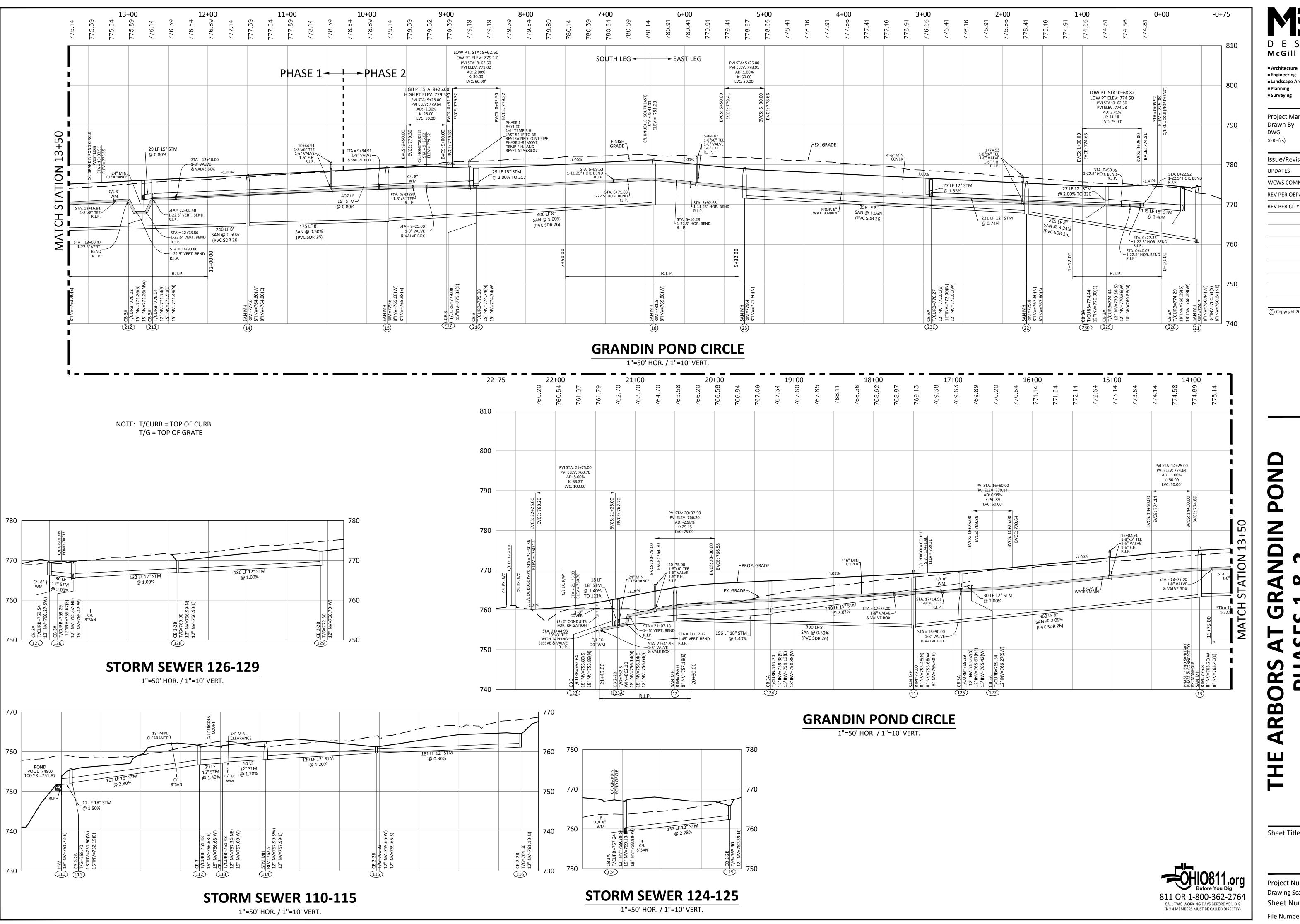
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E ARBORS AT GRANDIN POND PHASES 1 & 2

Sheet Title

GRADING & SWP3 PLAN

Project Number 16448.01
Drawing Scale 1" = 50'
Sheet Number 6/13File Number 16448



McGill Smith Punshon

3700 Park 42 Drive Suite 190B ■ Landscape Architecture Cincinnati OH 45241 Phone 513.759.0004 www.mspdesign.com

Project Manager 16448024-IMP-01 16448003-BAS-00

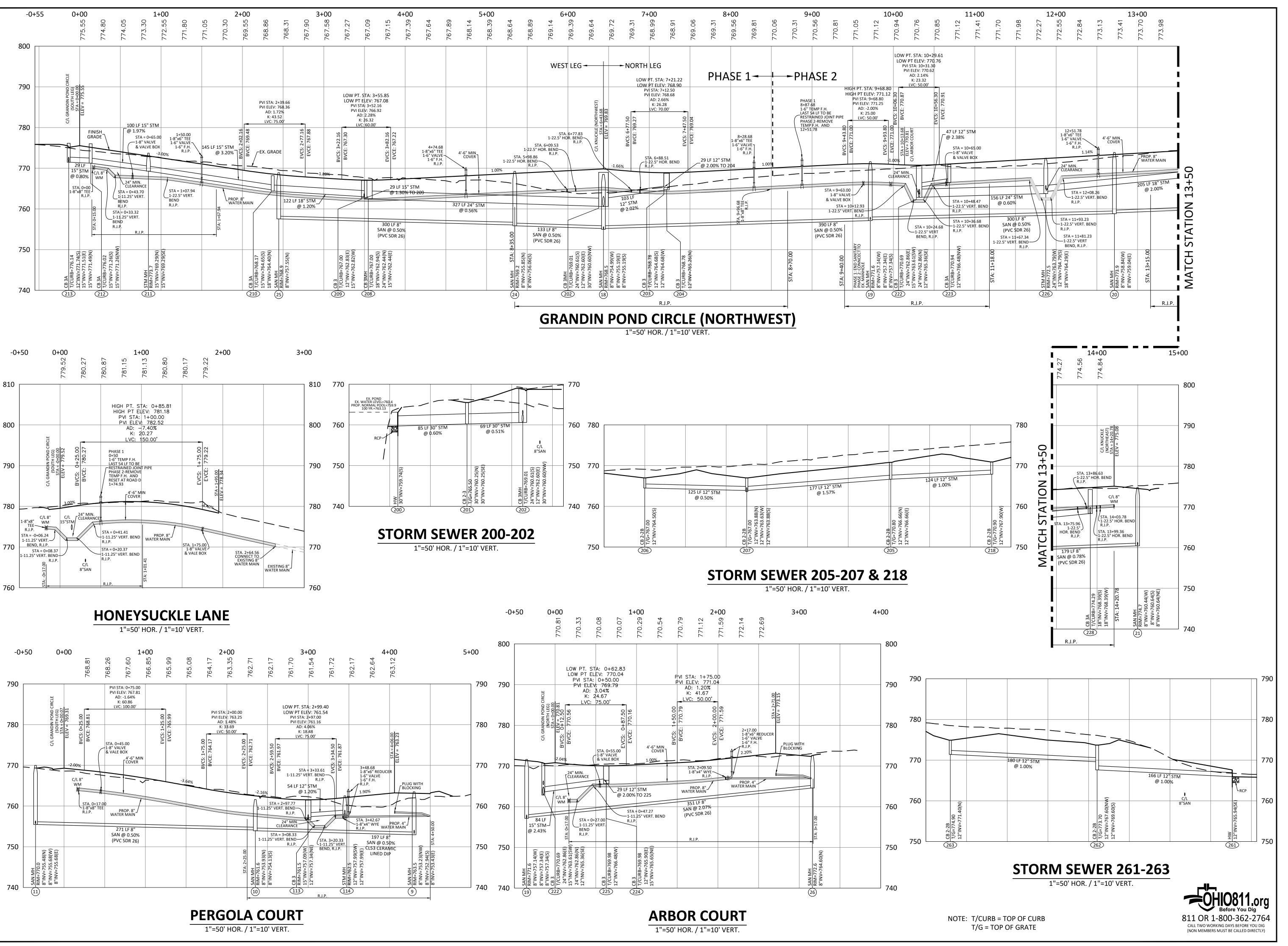
Issue/Revision No. Date 04/29/24 UPDATES 05/03/24 WCWS COMMENTS 06/04/24 **REV PER OEPA** 06/06/24 **REV PER CITY**

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Sheet Title

PROFILES

16448.01 **Project Number AS NOTED Drawing Scale** 7/13 **Sheet Number** 16448





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Project Manager Drawn By 16448024-IMP-01 16448003-BAS-00

Issue/Revision No. Date 04/29/24 UPDATES 05/03/24 WCWS COMMENTS 06/04/24 **REV PER OEPA** 06/06/24 **REV PER CITY**

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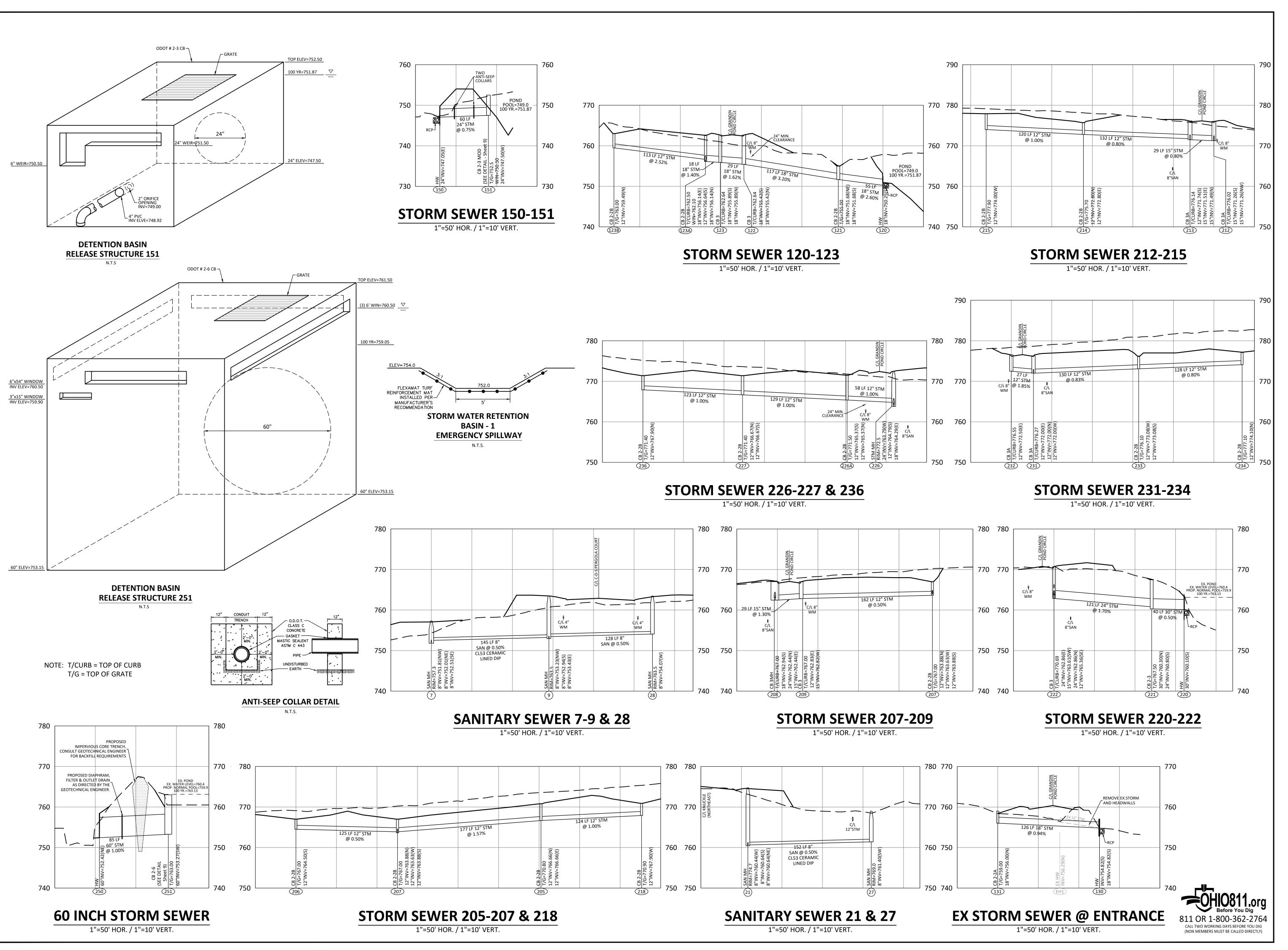
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Sheet Title

File Number

PROFILES 16448.01 **Project Number AS NOTED Drawing Scale**

8/13 **Sheet Number** 16448





McGill Smith Punshon

Architecture 3700 Park 42 Drive
Engineering Suite 1908
Landscape Architecture Planning Cincinnati OH 45241
Phone 513.759.0004

■ Planning Phone 513.759.000

■ Surveying www.mspdesign.com

Project Manager RA

Drawn By NA

X-Ref(s)

16448003-BAS-00

ISSUE/Revision No. Date

UPDATES 04/29/24

REV PER CITY 06/06/24

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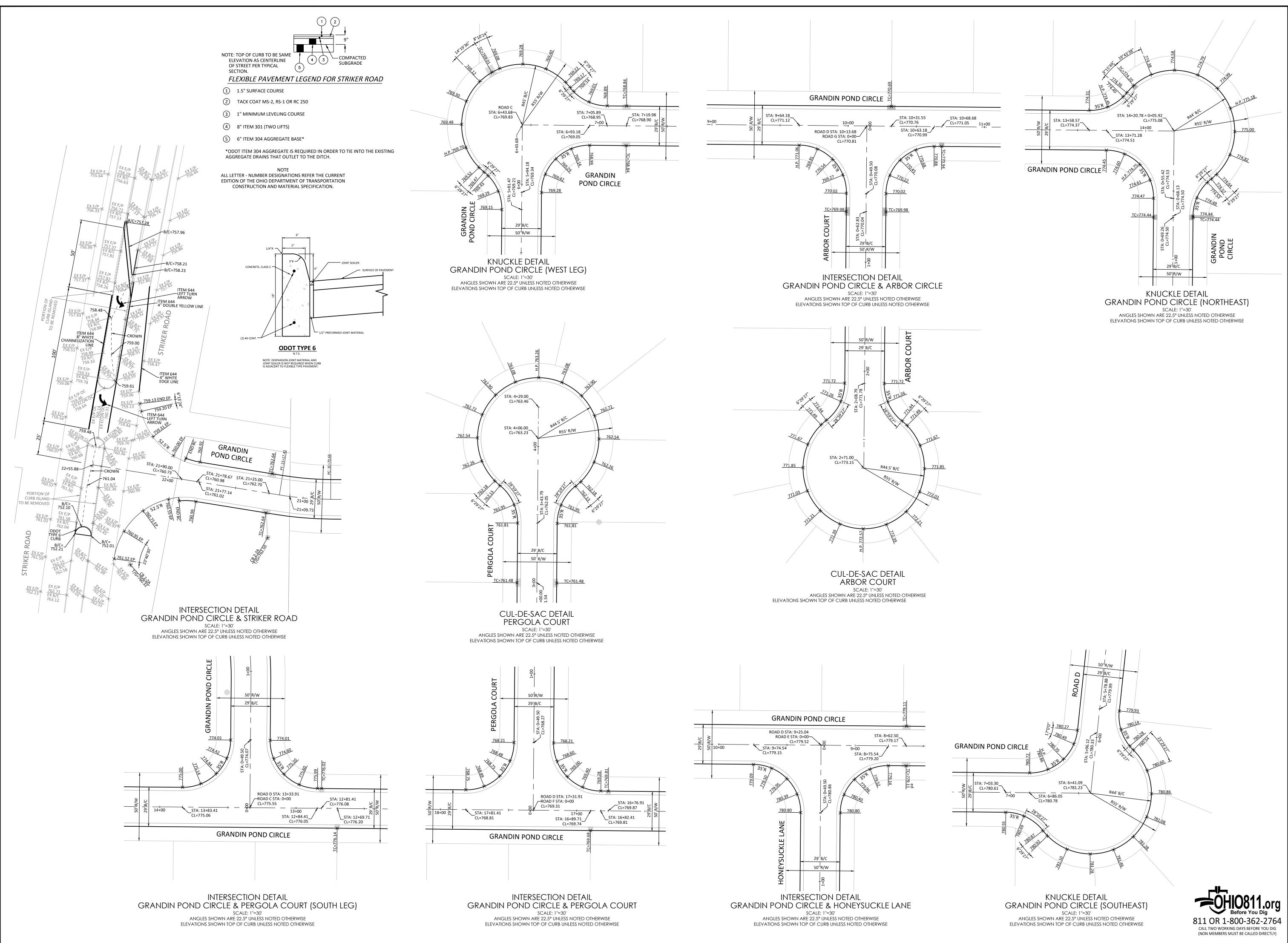
ARBORS AT GRANDIN POND PHASES 1 & 2

Sheet Title

PROFILES

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cale AS NOTED

Project Number 16448.01
Drawing Scale AS NOTED
Sheet Number 9/13
File Number 16448



McGill Smith Punshon

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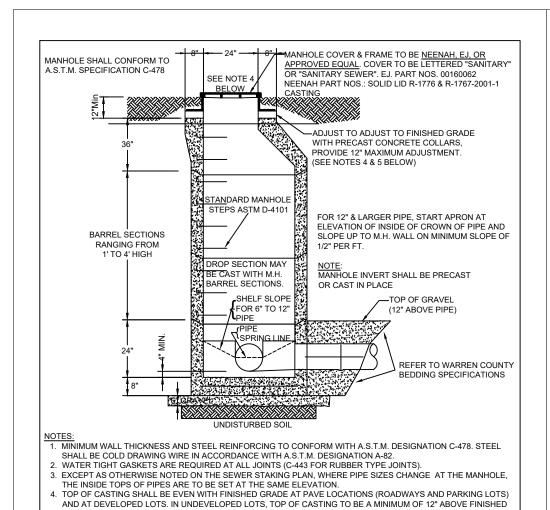
Issue/Revision No. Date 06/04/24 WCEO COMMENTS **REV PER CITY** 06/06/24

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Sheet Title

CUL-DE-SAC & **INTERSECTION DETAILS**

16448.01 **Project Number AS NOTED** Drawing Scale 10/13 Sheet Number 16448



GRADE OR AS OTHERWISE SHOWN ON PLAN.

5. WITHIN A NEW SUBDIVISION, TEMPORARY ADJUSTING COLLAR MUST BE PROVIDED 1 FOOT ABOVE

. NO MANHOLE, OR ANY PORTION OF MANHOLE, SHALL BE LOCATED UNDER A SIDEWALK OR DRIVEWAY MANHOLES SHALL ONLY BE ALLOWED IN ROADWAY PAVEMENT UPON PERMISSION BY THE COUNTY SANITARY

7. A MINIMUM DROP OF 0.20' MUST BE MAINTAINED BETWEEN INLET AND OUTLET INVERTS IN MANHOLES.

GRADE WHEN SUBDIVISION IMPROVEMENTS ARE COMPLETED AND THE LOTS IS BUILT ON.

APPROVED/REVISED

MAY, 2023

ROUGH/FINISHED GRADE RISERS (12" MAXIMUM) ARE PERMITTED MANHOLES SHALL BE LOWERED TO FINISHED

PRECAST MANHOLE

STANDARD NUMBER

S-²

WARREN COUNTY STANDARD DETAILS

DEPARTMENT OF WATER & SEWER

MANHOLE OPENING AND STEPS MUST BE ALIGNED AND OPPOSITE OF THE INSIDE DROP MANHOLE SHALL CONFORM TO A.S.T.M. ADJUST TO FINISHED GRADE WITH -PRECAST CONCRETE COLLARS, PROVIDE 12" MAXIMUM ADJUSTMENT KOR N SEAL BOOT MANHOLE STEPS OP OF CONCRETE -WATER TIGHT GASKETS ARE RANGING FROM 1' TO 4' HIGH 4 (A.S.T.M. C-443 FOR RUBBER CARRY CONCRETE FROM :_POINT OF PIPE. THE WIDTH O PROPOSED SUPPORT SHALL B A MINIMUM OF 4" FROM OUTSIDE -SLOPE OF **EXCAVATION** THE SEWER STAKING PLAN, WHERE PIPE SIZES CHANGE AT THE MH. THE WITHIN A NEW SUBDIVISION, TEMPORA T THE SAME ELEVATION. ADJUSTING COLLAR MUST BE PROVIDED NO MANHOLE OR ANY PORTION OF A MINIMUM WALL THICKNESS AND 1 FOOT ABOVE ROUGH/FINISHED GRAI STEEL REINFORCING TO CONFORM WITH ASTM DESIGNATION C-478. STEEL SHALL BE COLD DRAWN WIRE MANHOLE, SHALL BE LOCATED UNDER A SIDEWALK OR DRIVEWAY. MANHOLE SHALL ONLY BE ALLOWED IN ROADWAY RISERS (12" MAXIMUM) ARE PERMITTE MANHOLES SHALL BE LOWERED TO FINISHED GRADE WHEN SUBDIVISION IN ACCORDANCE WITH ASTM PAVEMENT UPON PERMISSION BY THE IMPROVEMENTS ARE COMPLETED AND THE LOT IS BUILT ON . COUNTY SANITARY ENGINEER.

PRECAST MANHOLE INSIDE DROP CONNECTION

WARREN COUNTY STANDARD DETAILS

DEPARTMENT OF WATER & SEWER

FF ELEV = FIRST FLOOR ELEVATION) -PAINT WITH GREEN PAINT

R/W OR ESMT LINE

LENGTH OF REINFORCING ROL

—MANHOLE COVER & FRAME TO BE <u>NEENAH, EJ, OR</u>

<u>APPROVED EQUAL</u>. COVER TO BE <u>LETTERED</u> "SANITARY
OR "SANITARY SEWER". EJ. PART NOS. 00160062

NEENAH PART NOS.: SOLID LID R-1776 & R-1767-2001-1

5-2

MARK CURB "S" OVER LATERL

WITH GRADE _____

NOTE: TOP OF CASTING SHALL BE AT FINISHED GRADE AT PAVED LOCATIONS (ROADWAYS AND

PARKING LOTS) AND AT DEVELOPED LOTS IN

UNDEVELOPED LOTS, TOP OF CASTING TO BE A

MINIMUM OF 12" ABOVE FINISHED GRADE OR AS

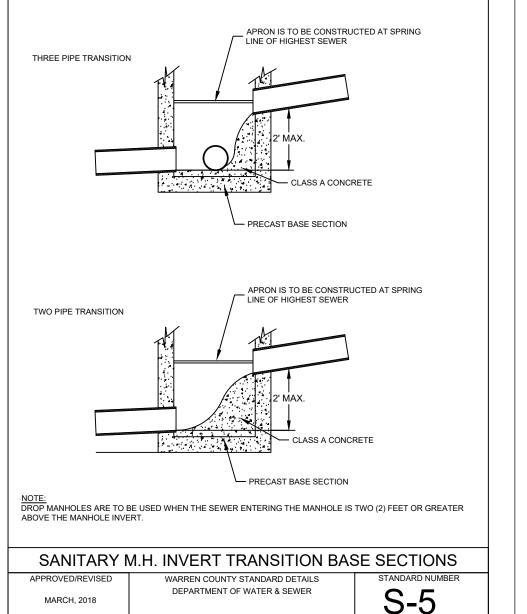
MAY, 2023

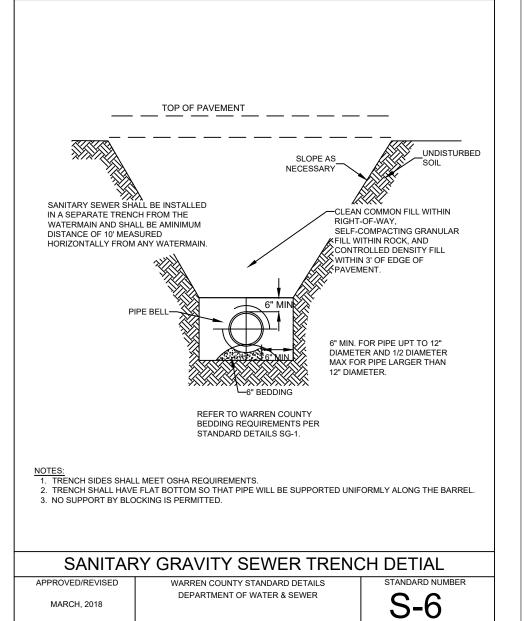
TYPE "A"

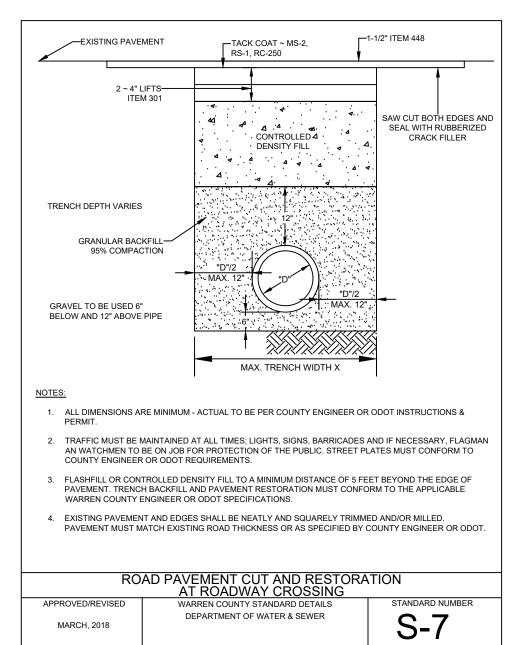
FF ELEV

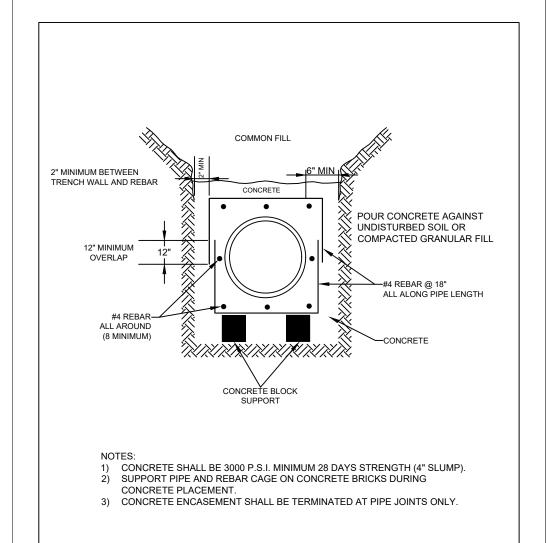
#6 REBAR-

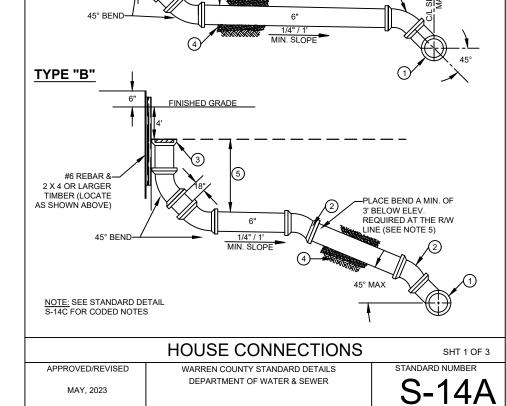
RGER TIMBER

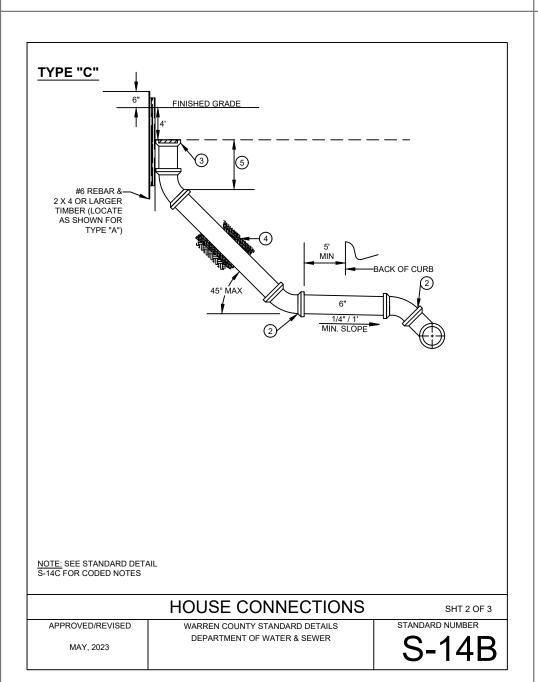


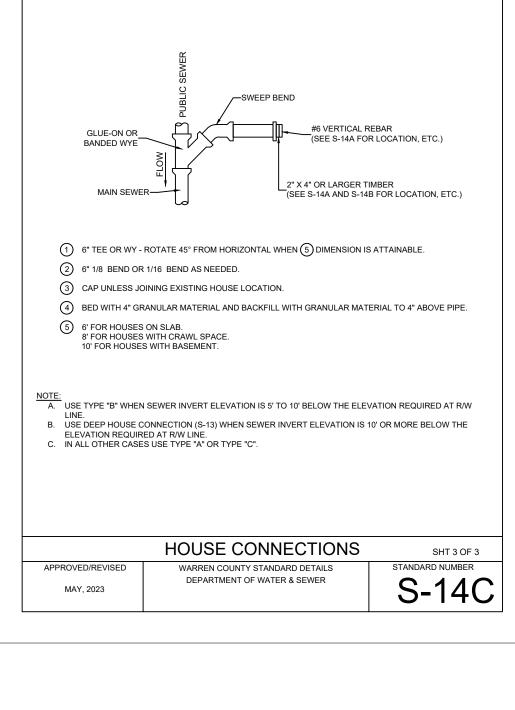


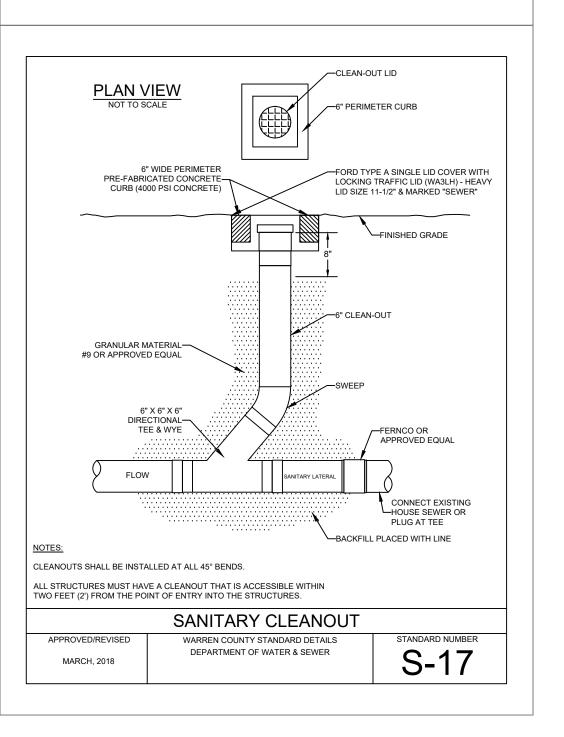














FULL CONCRETE ENCASEMENT

WARREN COUNTY STANDARD DETAILS

DEPARTMENT OF WATER & SEWER

- PROCEDURES FOR MAKING SEWER LATERAL CONNECTIONS TO EXISTING SEWER: A. IF ABS COMPOSITE 1. EXCAVATE TO POINT OF LATERAL ON MAIN.
- 3. ALIGN SADDLE TO PROPER POSITION AND MARK AREA TO BE CUT.

APPROVED/REVISED

- 4. CUT HOLE IN PIPE AS REQUIRED MAKING SURE THE CUT OUT DOESN'T ENTER THE MAIN.
 5. ATTACH AND SEAL SADDLE WITH STAINLESS STEEL STRAPS AND MASTIC SEALER BETWEEN SADDLE
- AND PIPE. INSERTA TEES ARE NOT PERMITTED. B. IF CLAY OR CONCRETE
- EXCAVATE TO POINT OF LATERAL ON MAIN.
 PLUG OUTLET PIPE AT UPSTREAM MANHOLE PUMP TO DOWNSTREAM MANHOLE IF NECESSARY.REMOVE CLOSEST LENGTH OF PIPE AND REPLACE WITH TEE LATERAL SECTION OF PIPE
- PROCEDURE FOR MAKING SEWER EXTENSIONS FROM EXISTING MANHOLES: A. CONSTRUCT LINE TO WITHIN ONE JOINT OF EXISTING MANHOLE.
- B. AFTER LINE PASSES LEAKAGE TEST AND WARREN COUNTY SANITARY ENGINEER GIVES GO AHEAD -
- C. PLUG OUTLET PIPE AT UPSTREAM MANHOLE PUMP TO DOWNSTREAM MANHOLE IF NECESSARY.
- D. A HOLE IS CUT AT THE PROPOSED INLET POINT AND THE LAST JOINT IS LAID.

 E. EXISTING BENCH AND CHANNEL OF MANHOLE IS REBUILT AND SHAPED AS REQUIRED. F. NEW CONNECTION IS TO BE SEALED AS REQUIRED.
- PROCEDURE FOR MAKING NEW MANHOLES ON EXISTING SEWER MAINS:
- A. EXCAVATE AND EXPOSE EXISTING SEWER AT POINT OF NEW MANHOLE.

 B. BUILD MANHOLE OVER EXISTING LINE WILL NOT DISTURBING EXISTING LINE.
- C. BUILD NEW LINE(S) FROM NEW MANHOLE.
 D. AFTER NEW LINE(S) PASS(ES) LEAKAGE TEST AND WARREN COUNTY SANITARY ENGINEER GIVE GO AHEAD - PLUG OUTLET PIPE AT EXISTING UPSTREAM MANHOLE (PUMP TO EXISTING DOWNSTREAM MANHOLE IF
- E. BREAKOUT TOP OF EXISTING SEWER AS REQUIRED AND FORM A BENCH AND CHANNEL AS REQUIRED.
- STORM WATER AND EXTRANEOUS FLOWS: A. STORM WATER AND EXTRANEOUS FLOWS ARE PROHIBITED FROM ENTERING THE EXISTING SYSTEM
- B. NO OPEN CUT TRENCHES WILL BE ALLOWED TO REMAIN OPEN OVERNIGHT.
 C. STORM DRAINS, DIVERSION DITCHES, PUMPS, ETC., SHALL BE USED AS REQUIRED TO MAINTAIN THE INTEGRITY OF THE SYSTEM AT ALL TIMES.
- A. ALL SANITARY SEWER PIPE MUST BE BEDDED WITH NUMBER 57 STONE EXTENDING FROM A POINT NOT LESS THAN 6" BELOW THE BOTTOM OF THE PIPE TO THE SPRINGLINE OF THE PIPE.
- B. BACKFILL WITH NUMBER 9 GRITS FROM THE SPRINGLINE TO A POINT NOT LESS THAN 12" ABOVE THE CROWN OF THE PIPE.

 C. BEDDING SHALL PROVIDE A UNIFORM SUPPORT ALONG THE ENTIRE PIPE BARREL, WITHOUT LOAD
- CONCENTRATION AT JOINT COLLARS OR BELLS.

 D. BEDDING DISTURBED BY PIPE MOVEMENT OR BY REMOVAL OF SHORING OR MOVEMENT OF THE TRENCH
- SHIELD OR BOXY SHALL BE RECONSOLIDATED PRIOR TO BACKFILL.

APPROVED/REVISED MAY, 2023

WARREN COUNTY STANDARD DETAILS DEPARTMENT OF WATER & SEWER

STANDARD NUMBER SG-1

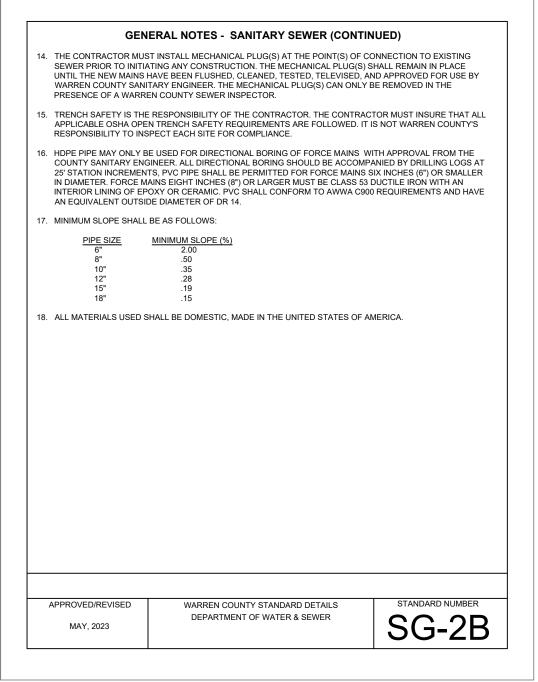
S-10

GENERAL NOTES - SANITARY SEWER ALL SANITARY PIPE SHALL CONFORM TO THE FOLLOWING:

- A. ASTM D-2680 FOR ABS/PVC GASKETED COMPOSITE PIPE (TRUSS) B. ASTM D-3034 FOR SDR 26 GASKETED 4" - 15" DIAMETER C. ASTM F-679 FOR SDR 26 GASKETED 18" - 30" DIAMETER
- D. PIPE LARGER THAN 15" SHALL CONFORM TO ASTM F-9494 (A2000) OR ASTM F-1803.
- CERAMIC COATED CLASS 53 DUCTILE IRON PIPE OR EQUAL MUST BE USED WHERE SPECIFIED BY THE COUNTY SANITARY ENGINEER.
- JOINTS FOR PVC GRAVITY SEWER SHALL BE PUSH-ON TYPES WITH RUBBER GASKETS. PIPE ENDS SHALL NOT BE BEVELED. PIPE ENDS MUST BE SEALED.
- ROOF DRAINS, FOUNDATION DRAINS, AND OTHER STORM WATER CONNECTIONS TO THE SANITARY SYSTEM ARE PROHIBITED.
- NO MANHOLE OR ANY PORTION OF THE MANHOLE, SHALL BE LOCATED UNDER A SIDEWALK OR DRIVEWAY.
- SANITARY SEWER LATERALS SHALL BE CONSTRUCTED OF THE FOLLOWING MATERIALS.
- A. ABS PIPE ASTM d-2751 WITH SDR 23.5 (6" GLUE JOINT) B. PVC PIPE ASTM D-3034 WITH 23.5 (6" GLUE OR GASKET JOINT) ASTM D-2665 SCHEDULE 40 ASTM D-3034 WITH SDR 35 (6" ONLY)
- C. DUCTILE IRON CLASS 53 (6")
- A. SEWER LATERALS MUST BE EXTENDED TO THE HOUSE SIDE OF UTILITY EASEMENTS. B. SEWER LATERALS SHALL BE MARKED BY TWO INCHES BY FOUR INCHES (2" X 4") OR LARGER POSTS. POSTS SHALL BE PAINTED GREEN.
- C. A SIX FOOT (6') LENGTH OF #6 REINFORCED BAR SHALL BE INSTALLED AGAINST THE POST. D. END OF SEWER LATERAL SHALL NOT EXCEED 4' IN DEPTH UNLESS APPROVED BY THE COUNTY SANITARY E. SEE DETAILS S-14A , S-14B, AND S-14C.
- ONLY SANITARY WYES WITH 45° BENDS SHALL BE USED FOR SANITARY LATERAL INSTALLATION. ALL WYES TO BE GLUE JOINTS ON TRUSS AND COMPOSITE PIPE. ALL SANITARY LATERALS MUST BE SIX INCHES (6") IN DIAMETER WITHIN THE RIGHT-OF-WAY. NO CONNECTION SHALL BE MADE TO THE CROWN OF THE SEWER
- ALL LATERALS TO BE NOT LESS THAN SIX INCHES (6") INSIDE DIAMETER.
- 0. THE LOCATION OF SEWER LATERALS MUST BE STAMPED IN THE CURB AT THE TIME THE CURB IS PLACED TO PERMANENTLY INDICATE THE LOCATION OF SAID LATERALS.
- 1. THE LOCATION OF ALL SEWER LATERALS MUST BE PROVIDED ON THE AS-BUILT PLANS.
- 2. MANHOLE LATERALS SHALL HAVE AN INVERT TWO INCHES (2") ABOVE MAIN-LINE INVERTS.

13.	SECTION ALREAD	N ADDED. Y AN EXIS	IF THE HE TING ADJ	IGHT OF I JSTMENT	D BE RAISE NECESSAR RING BEIN E TAKEN T	Y ADJUS IG USED,	TMENT IS , THE COI	OVER O	NE FOOT (R IS TO U	1') OR THE SE A NEW	RE IS BARREL
	CLOTICI	101121.2		.2.10.10.1		0 110011	L/(I (O)	LICAND			1211 001111

APPROVED/REVISE STANDARD NUMBER WARREN COUNTY STANDARD DETAILS DEPARTMENT OF WATER & SEWER SG-2A MAY, 2023





McGill Smith Punshon ■ Architecture 3700 Park 42 Drive ■ Engineering Suite 190B ■ Landscape Architecture Cincinnati OH 45241 Phone 513.759.0004 ■ Planning www.mspdesign.com Surveying

Project Manager

16448024-IMP-01

16448003-BAS-00 X-Ref(s) Issue/Revision No. Date **REV PER OEPA** 06/04/24

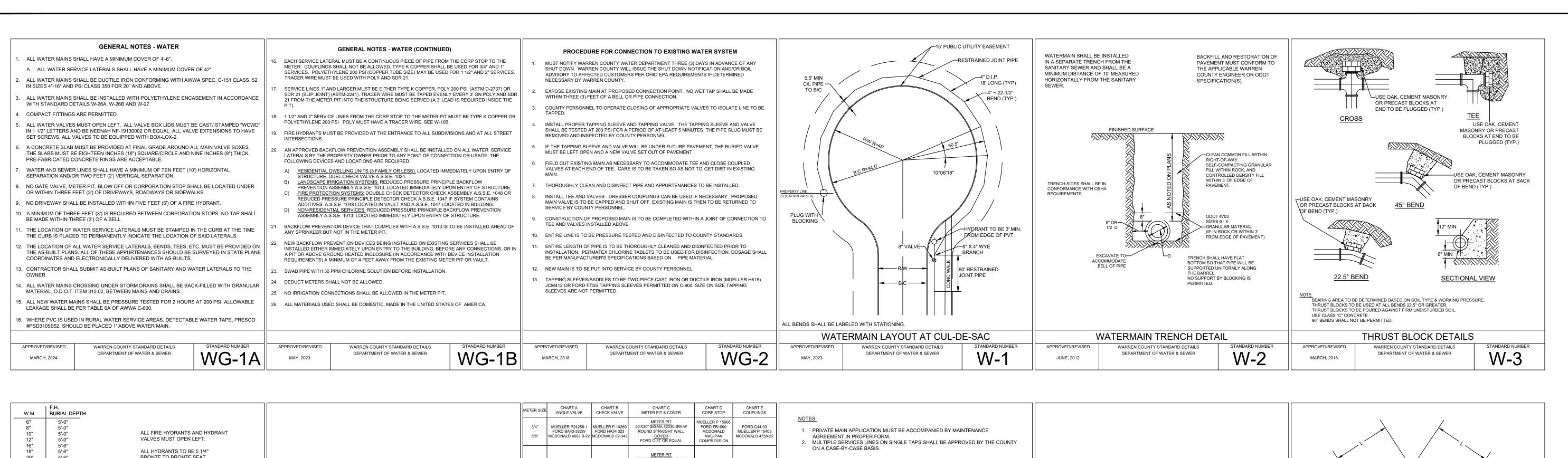
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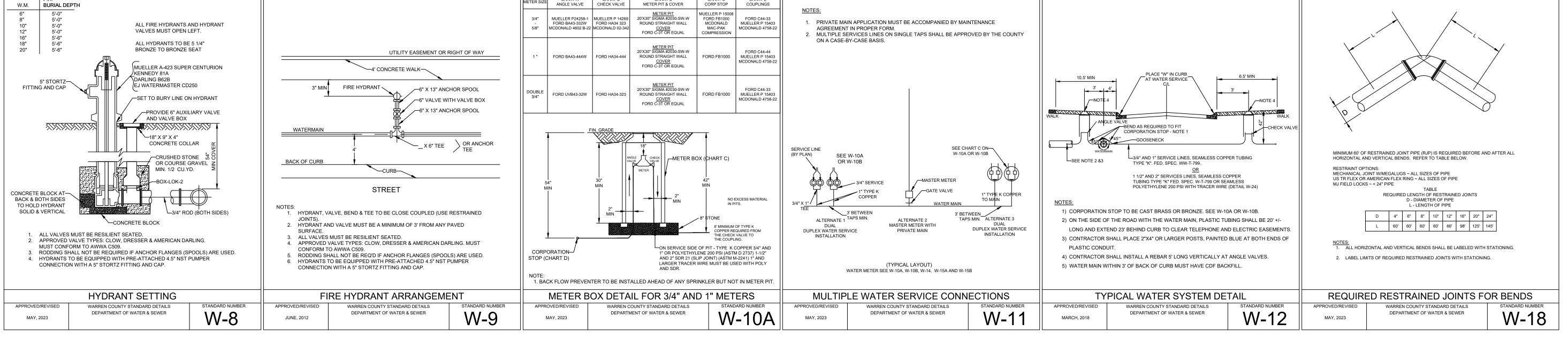
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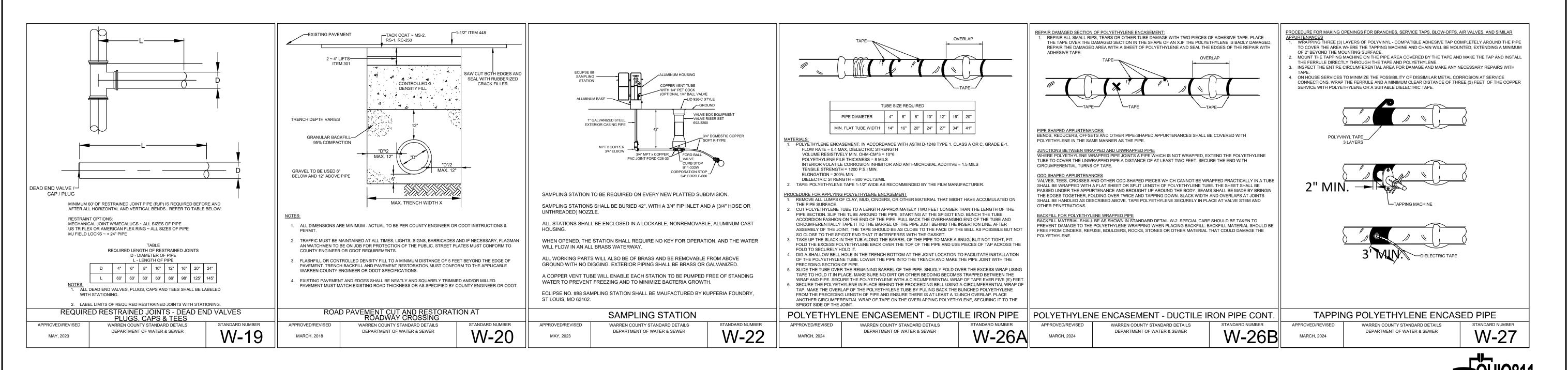
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SANITARY SEWER NOTES & DETAILS

16448.01 **Project Number** AS NOTED Drawing Scale 11/13 Sheet Number 16448 File Number







■ Architecture

■ Engineering

■ Planning

Surveying

Drawn By

X-Ref(s)

■ Landscape Architecture

Project Manager

Issue/Revision

WCWS COMMENTS

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16448024-IMP-01

16448003-BAS-00

No. Date

05/03/24

Suite 190B

Sheet Title

811 OR 1-800-362-276

CALL TWO WORKING DAYS BEFORE YOU DIG (NON MEMBERS MUST BE CALLED DIRECTLY)

WATER SYSTEM NOTES & DETAILS

16448.01 Project Number **AS NOTED** Drawing Scale 12/13 Sheet Number 16448

2. The site shall be graded as needed to permit the use of conventional equipment for seedbed preparation and seeding.

preparation should be limited to what

is necessary for establishing

3. Resoil shall be applied where needed to establish vegetation SEEDBED PREPARATION 1. Lime-Agricultural ground limestone shall be applied to acid soil as recommended by a soil test. In lieu of a soil test, lime shall be applied at the rate of 100 lbs./1,000 sq. ft.

2. Fertilizer-Fertilizer shall be applied as recommended by a soil test. In lieu of a soil test, fertilizer shall be applied at a rate of 12 lb./1,000 sq. ft. or 500 lb./ac/ of 10-10-10 or 12-12-12 analysis.

or 2 tons/ac.

3. The lime and fertilizer shall be worked into the soil with a disk harrow, spring-tooth harrow, or other suitable field implement to a depth of 3 in. On sloping land the soil shall be worked on the contour

SEEDING DATES AND SOIL CONDITIONS Seeding should be done March 1 to May 31 or Aug. 1 to September 30. These seeding dates are ideal but with the use of additional mulch and irrigation, seedings may be made any time throughout the growing season Tillage/ seedbed preparation should be done when the soil is dry enough to crumble and not form ribbons when compressed by hand. For winter seeding, see the following section on dormant seeding.

DORMANT SEEDINGS 1. Seedings shall not be planted from October 1 through November 20. During this period the seeds are likely to germinate, but probably will not be

2. The following methods may be used for "Dormant Seeding":

able to survive the winter.

* From October 1 through November 20, prepare the seedbed, and the required amounts of lime and fertilizer, then mulch and anchor. After November 20, and before March 15, broadcast the selected seed mixture, mulch and anchor. Increase the seeding rates by 50 % for this type of seeding.

* From November 20 through March 15, when soil conditions permit, prepare the seedbed, lime and fertilize, apply the selected seed mixture, mulch and anchor. Increase the seeding rates by 50 % for this type of seeding.

* Apply seed uniformly with a cyclone seeder, drill, cultipacker seeder, or hydro-seeder (slurry may include seed and fertilizer) on a firm, moist

* Where feasible, except when a cultipacker type seeder is used, the seedbed should be firmed following seeding operations with a cultipacker roller or light drag. On sloping land, seeding operations should be on the contour where feasible.

Note: Other approved seed species may be substituted

1. Mulch material shall be applied immediately after seeding. Seedings made during optimum seeding dates and with favorable soil conditions and on very flat areas may not need mulch to achieve adequate stabilization. Dormant seeding shall be mulched

* Straw-If straw is used it shall be unrotted small-grain straw applied at the rate of 2 tons/ac. or 90 lb./1.000 sq. ft. (two to three bales) The mulch shall be spread uniformly by hand or mechanically so the soil surface is covered. For uniform distribution of hand-spread mulch divide area into approximately 1.000-sq.-ft, sections and spread two 45-lb. bales of straw in each

* Hydroseeders-If wood cellulose fiber is used, it shall be used at 2,000 lb./ac/ or 46 lb./1,000 sq. ft.

* Other-Other acceptable mulches include mulch mattings applied according to manufacturer's recommendations or wood chips applied at 6 tons/ac.

3. Straw Mulch Anchoring Methods Straw mulch shall be anchored immediately to minimize loss by wind

* 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, generally, be left longer than 6 in.

* Mulch Nettings-Netting shall be used according to the manufacturer's recommendations. Netting may be necessary to hold mulch in place in areas of concentrated runoff and on critical slopes.

* Asphalt Emulsion-Asphalt shall be applied as recommended by the manufacturer or at the rate of 160

* Synthetic Binders-Synthetic binders such as Acrylic DLR (Agri-Tac), DCA-70, Petroset, Terra Tack or equivalent may be used at rates recommended by manufacturer

* Wood Cellulose Fiber-Wood cellulose fiber binder shall be applied at a net dry weight of 750 lb./ac. The wood cellulose fiber shall be mixed with water and the mixture shall contain a maximum of 50 lbs./100 gal.

1. Permanent seeding shall include irrigation to establish vegetation during dry or hot weather or on adverse site conditions as needed for adequate moisture for seed germination and plant growth.

2. Excessive irrigation rates shall be

avoided and irrigation monitored to prevent erosion and damage from

IRRIGATION

	Per	manent Seeding				
	Seeding Rate					
Seed Mix	lb./ac.	lb./1.000 ft. ²	Notes:			
	•	General Use				
Creeping Red Fescue Domestic Ryegrass Kentucky Bluegrass	20-40 10-20 10-20	1/2-1 1/4-1/2 1/4-1/2				
Tall Fescue	40	1				
Dwarf Fescue	40	1				
	Steep	Banks or Cut Slope	25			
Tall Fescue	40	1				
Crown Vetch Tall Fescue	10 20	1/4 1/2	Do not seed later than Augus			
Flat Pea Tall Fescue	20 20	1/2 1/2	Do not seed later than Augus			
	Road	Ditches and Swale	S			
Tall Fescue	40	1				
Dwarf Fescue Kentucky Bluegrass	90 5	2 1/4				
		Lawns				
Kentucky Bluegrass Perennial Ryegrass	60 60	1 1/2 1 1/2				
Kentucky Bluegrass Creeping Red Fescue	60 60	1 1/2 1 1/2	For shaded areas			

Permanent Seeding

Specifications

2. Maintenance fertilization rates shall be established by soil test

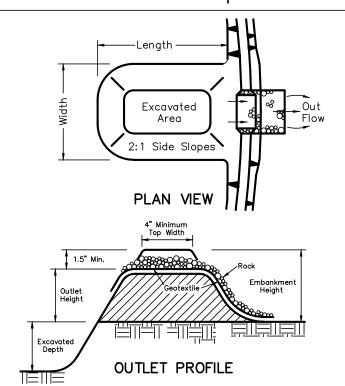
1. Permanent seeding shall not be considered established for at least 1 full year from the time of planting recommendations or by using the rates shown in the following table. Seeded areas shall be inspected for failure and reestablished as needed. Depending on site conditions, it may be necessary to irrigate, fertilize, overseed, or reestablish plantings in order to provide permanent vegetatior for adequate erosion control.

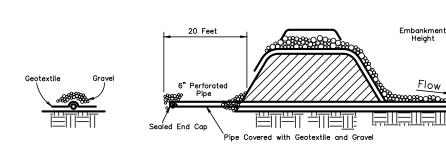
Maintenance for Permanent Seedings Fertilization and Mowing Mixture Formula lb./ac. lb./1.000 ft. Time Mowing Creeping Red Fescue 10-10-10 Ryegrass than 3" Kentucky Bluegrass Not Tall Fescue 10-10-10 500 closer vearly or as than 4" Not 10-10-10 500 12 **Dwarf Fescue** than 2" Do not 0-20-20 400 establish ment and every 4-7 Do not 0-20-20 400 mow thereafter.

Specifications

Note: Following soil test recommendations is preferred to fertilizer rates shown above

Sediment Traps





DEWATERING PIPE SECTION

1. Sediment traps shall be constructed and operational before upslope land disturbance begins. 2. The area under the embankment shall be cleared, grubbed, and

stripped of any vegetation and root

mat. The pool area shall be cleared as needed to facilitate sediment cleanout. 3. Fill material used for the embankment shall be free of roots or other woody vegetation as well as oversized stones, rocks, organic material or other objectionable material. The embankment shall be compacted by traversing with equipment while it is being

constructed. Maximum height of the embankment shall be 5 ft. as measured from the surrounding ground. 4. Cut-and-fill slopes shall be 2:1 or flatter.

5. Dikes directing water to the trap shall be higher than the height of the embankment.

6. Temporary seeding shall be established on all nonsubmerged areas of the sediment trap. 7. The storage volume shall be achieved to the dimensions shown

in the plans to achieve 67 cv. of

the outlet for every acre of

contributing drainage area.

storage volume below the crest of

OUTLET PROFILE 8. The outlet spillway shall be constructed to the dimensions

> shown on the plans. 9. Geotextile shall be placed over the bottom and slopes of the outlet spillway. Geotextile shall continue downstream of the embankment to form an apron the surrounding ground. To prevent runoff from flowing under the geotextile, the sections placed nearest the front shall overlan following sections. Sections of geotextile shall overlap at least 2 ft.

10. Rock used in the outlet spillway shall be placed 1 ft. thick on the geotextile. The rock shall be between Type C and Type D rock where D 50 is about 8 in.

11 Sediment shall be removed and the sediment trap restored to its original dimensions when the sediment has filled one-half the pond's original depth. Removed sediment shall be spread in a suitable area and stabilized so it will not erode.

12. The structure and accumulated sediment shall be permanently stabilized when the drainage area has been stabilized.

PROFILE

3. The maximum height of the

weir shall not exceed 3 ft.

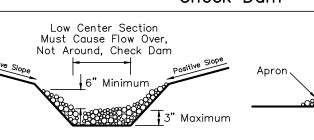
following table:

check dam at the center of the

4. Spacing between dams shall be

as shown in the plans or by the

Specifications Check Dam



CROSS SECTION

1. The check dam shall be stone, placed so that it completely covers the width of the channel.

2. The top of the check dam shall be constructed so that the center is approximately 6 in. lower than the outer edges, so water will flow across the center and not around

Check Dam Spacing Channel Slope Dam Height (ft.) < 5% 5 - 10% 10 - 15 % 15 - 20% 65 ft. 30 ft. 20 ft. 15 ft. 30 ft. 130 ft. 65 ft. 40 ft. 200 ft. 100 ft. 65 ft. 50 ft.

Mulching

Specifications

1. Mulch and/or other appropriate vegetative practices shall be applied to disturbed areas within 7 days of GRADING if the area is to remain dormant (undisturbed) for more than 45 days or on areas and portions of the site which can be brought to final grade.

2. Mulch shall consist of one of the following: * Straw-Straw shall be unrotted

small-grain straw applied at the rate of 2 tons/ac, or 90 lbs./1.000 sg. ft. (two to three bales). The mulch shall be spread uniformly by hand or mechanically so the soil surface is covered. For uniform distribution of hand-spread mulch divide area into approximately 1.000 sq. ft. sections and spread two 45 lb. bales of straw in each section.

* Hvdroseeders-Wood cellulose fiber should be used at 2,000 lb./ac. or 46 lbs./1.000 sa. ft. * Other-Other acceptable mulches

include mulch matting applied according to manufacturer's recommendations or wood chips applied at 10-20 tons/ac. 3. Mulch Anchoring-Mulch shall be anchored immediately to minimize loss by wind or runoff. The

following are accepted methods for

* Mechanical-Use a disk, crimper or similar type tool set straight to punch or anchor the mulch materia into the soil. Straw mechanically anchored shall not be finely chopped but generally be left longer

than 6 in. * Mulch Nettings-Use according to the manufacturer's recommendations, following al placement and anchoring suggestions. Use in areas of water concentration and steep slopes to hold mulch in place.

* Asphalt Emulsion-For straw mulch, apply at the rate of 160 gal /ac. (0.1 gal. /sv) into the mulch as it is being applied or as recommended by the manufacture

* Synthetic Binders-For straw mulch, synthetic binders such as Acrylic DLR (Agri-Tac), DCA-70. Petroset, Terra Tack or equivalent may be used at rates recommended by manufacturer. * Wood Cellulose Fiber-Wood

cellulose fiber may be used for anchoring straw. The fiber binder shall be applied at a net dry weight of 750 lb./acre. The wood cellulose fiber shall be mixed with water and the mixture shall contain a maximum of 50 lbs./100 gal.

7. Water Bar-A water bar shall be

construction entrance if needed to

prevent surface runoff from flowing

constructed as part of the

the length of the construction

entrance and out onto paved

8. 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

accomplished by scraping or sweeping.

9 Construction entrances shall not

he relied upon to remove mud from vehicles and prevent off-site tracking

onstruction site shall be restricte

Vehicles that enter and leave the

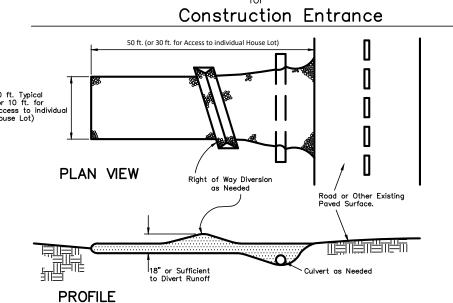
from muddy areas.

immediately. Removal shall be

controls, shall be removed

surfaces.

1. Silt fence shall be constructed Specifications before upslope land disturbance



1. Stone Size-Two-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 50 ft. (except on single residence lot where a 30-ft, minimum length apples).

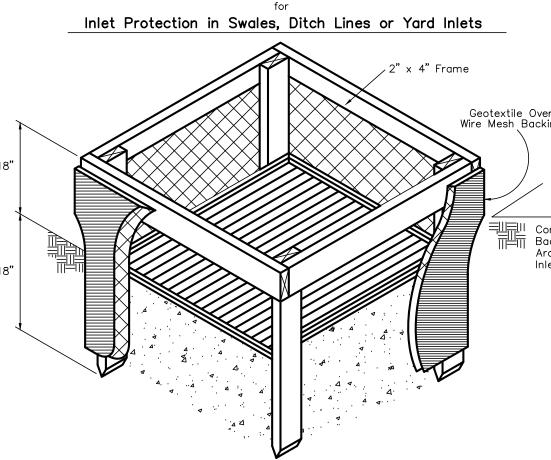
3. Thickness-The stone layer shall be at least 6 in. thick. 4. Width-The entrance shall be at least 10 ft. wide, but not less than the full width at points where ingress or egress occurs.

5. Bedding-A geotextile shall be placed over the entire area prior to placing stone. It shall have a Grab Tensile Strength of at least 200 lb and a Mullen Burst Strength of at least 190 lbs.

6. Culvert-A pipe or culvert shall be constructed under the entrance if needed to prevent surface water flowing across the entrance from being directed out onto paved

surfaces.

Specifications



1. Inlet protection shall be constructed either before upslope land disturbance begins or before the storm drain becomes operational. 2. The earth around the inlet shall

be excavated completely to a depth

of at least 18 in.

3. The wooden frame shall be constructed of 2-by-4 in. construction grade lumber. The 2-by-4 in. posts shall be driven 1 ft. into the ground at four corners of the inlet and the top portion of 2-by-4 in. frame assembled using the overlap joint shown. The top of the frame shall be at least 6 in. below adjacent roads if ponded water would pose a safety hazard to

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 5. Geotextile shall have an equivalent opening size of 20-40 sieve and be resistant to sunlight. It shall be stretched tightly around the frame and fastened securely. If shall extend from the top of the frame to 18 in, below the inlet notch elevation. The geotextile shal 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-in. layers until the earth is even with notch elevation on ends and top elevation on sides. 7. A compacted earth dike or a check dam shall be constructed in

the ditch line below the inlet if the inlet is not in a depression and if runoff bypassing the inlet will not flow to a settling pond. The top of the earth dikes shall be at least 6 in. higher than the top of the

1. Material-Excelsior matting shall be 48 in. wide and weigh an average of 0.75 lb./sq. yd. or greater. Jute matting shall be 48 in, wide and weigh and average of 1.2 lb./yd. or greater. Matting made of other the edges. material and providing equal or greater stabilization than the above

Overlap
Where two
or More
Matting Maths
are Required

Specifications

Silt Fence

Level Contou

ELEVATION

9. Seams between section of silt

together before driving into the

fence shall be overlapped with the

end stakes of each section wrapped

10. Maintenance-Silt fence shall allow

runoff to pass only as diffuse flow

overtops the silt fence, flows under

or around ends, or in any other way

the following shall be performed, as

appropriate: 1) The layout of the

silt fence shall be changed, 2)

be installed.

Accumulated sediment shall be

Criteria for Silt Fence Materials

becomes a concentrated flow, on of

removed, or 3) Other practices shall

1. Fence Posts-The length shall be a

will be 2-by-2 in. of hardwood of

2. Silt Fence Fabric shall be ODOT

Type C Geotextile Fabric or as

described by the chart below:

um Elongation at 60 lbs

raviolet Exposure Strength Retention 70 %

Mimimum Tensile Strength

num Tear Strength ..

parent Opening Size

inimum Puncture Strength

num Burst Strength

Specifications

Matting

Erosion Stop Across

Entire Width of Channel

between posts shall be 10 ft.

minimum of 32 in. long. Wood posts

sound quality. The maximum spacing

Fabric Properties

through the geotextile. If runoff

16" Minimum

16" Minimum

SECTION

2. All silt fences 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

carry small concentrated flows to the

swales or depressions, which may

silt fence, are dissipated along its

3. To prevent water ponded by the

ends, each end shall be constructed

upslope so that the ends are at a

4. Where possible, silt fence shall be

placed on the flattest area available.

preserved for 5 ft. (or as much as

6. The height of the silt fence shall

be a minimum of 16 in. above the

7. The silt fence shall be placed in a

trench cut a minimum of 6 in. deep.

The trench shall be cut with a

trencher, cable laying machine, or

other suitable device that will ensure

an adequately uniform trench depth.

8. The silt fence shall be placed with

the stakes on the downslone side of

cloth are below the ground surface.

the geotextile and so that 8-in, of

Excess material shall lie on the

compacted.

bottom of the 6-in, deep trench.

The trench shall be backfilled and

Positive Slope to 、

Edge of Mattina

Staple Outside Edge

Prevent Flow Alona

installation of the silt fence.

original ground surface.

5. Where possible, vegetation shall be

oossible) upslope from the silt fence.

If vegetation is removed, it shall be

reestablished within 7 days from the

higher elevation.

silt fence from flowing around the

No Slope

may be substituted. 2. Site Preparation-After the site has been shaped and graded, a seedbed shall be prepared that is relatively free of foreign material, clods or rocks that are greater than 1.5 in. in diameter. The site shall be prepared to ensure that the matting has good soil contact and the matting will not "bridge" or "tent" over obstructions.

3. Matting shall be held in place as roll and secure it the same as the recommended by the manufacturer as top roll. Overlap the end of the adequate for the site conditions or previous roll 18-in. over the new roll. with sod staples. Sod staples are Continue to staple as described U-shaped wire staples used for fastening sod, jute or excelsior matting and other erosion-contro * When using excelsior matting, the materials to the soil surface. Sod plastic netting shall be on top of the staples shall be No. 11 gauge or heavier and be 6-10 in. in length.

In loose or sandy soils, longer staples shall be used. 4. Planting-Lime and fertilizer shall be used according to the recommendation of a soil test or the seeding plan. Seed according to the manufacturer's recommendations: or for excelsior matting, seed area to be protected before installation; or when using jute matting, apply half the seed before and half the seed

appropriate for the site conditions o

the following procedure may be used:

after installation. 5. Matting shall be installed as specified by the manufacturer as * After the site is prepared and 6. Erosion stops shall be used where erosion stops are installed, start recommended by the matting laying the mat from the top of the manufacturer and on areas specified slope or channel and unroll the where high-erosion potential may matting allowing 4 in. overlaps at cause undermining and gullies to form beneath the matting.

* Secure the matting by burying the * Erosion stops shall be made of top ends in a trench 6 in. deep and strips of matting placed in narrow staple the folded ends to the bottom trenches 6-12 in. deep that cover of the trench. Backfill and tamp the full cross section of the channel firmly to the established grade. They shall be spaced according to the manufacturer's recommendations * Staple matting every 12-in. across or by the following: the width beginning at the edges and * 3 ft. down the channel from each every 2 ft. in rows the entire length point of entry of concentrated flow, of the matting. Every other row of * at points where change in gradient staples running the length of the or direction of channel occurs, and matting should be staggered. * on long slopes at spacing from * To join two rolls together, cut a 20-100 ft. depending on the trench to anchor the end of the new erodibility of the soil, velocity and volume of flow.

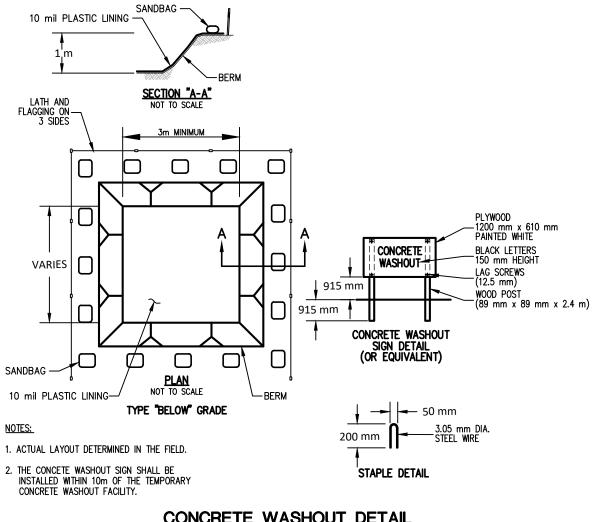
> * Erosion stops shall extend beyond the channel liner to the full design width of the channel. This will check any rills that might form outside or along the edge of the channel lining. * Erosion stops shall be constructed

with a 6 in. deep trench, backfilled

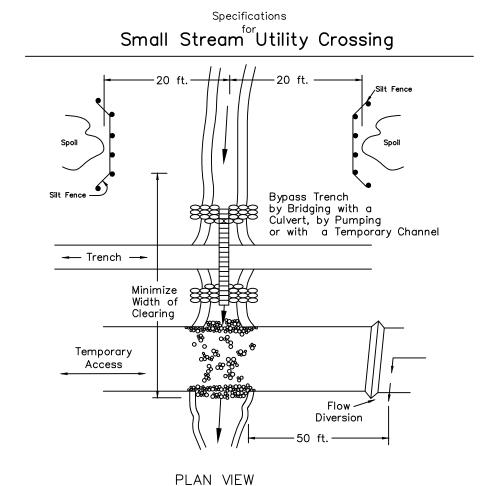
and tamped firmly to conform to the

* If seeding has been done prior to installation of erosion stops, reseed disturbed areas prior to placement of channel liner.

cross section of the channel.



CONCRETE WASHOUT DETAIL



Specifications

Small Stream Utility Crossing

1. When site conditions allow, one of the following shall be used to divert stream flow or otherwise keep the flow away from construction activity.

* Drill or bore the utility lines under the stream channel. * Construct a cofferdam or barricade of sheet pilings, sandbags or a turbidity curtain to keep the stream from continually lowing through the disturbed areas. Turbidity curtains shall be a pre-assembled system and used only parallel to flow.

* Stage construction by confining first one-half the channel until work there is completed and stabilized, them move to the other side to complete the crossing.

* Route the stream flow around the work area by bridging the trench with a rigid culvert, pumping, or constructing a temporary channel. Temporary channels shall be stabilized by rock or a geotextile completely lining the channel bottoms and side

2. Crossing Width-The width of clearing shall be minimized through the riparian area. The limits of disturbance shall be as narrow as possible including not only construction operations within the channel itself, but also clearing done through the vegetation growing on the stream banks.

3. Clearing shall be done by cutting, NOT grubbing. The roots and stumps shall be left in place to help stabilize the banks and accelerate revegetation.

4. Material excavated from the trench shall be placed at least 20 ft. from the stream banks. 5. To the extent other constraints allow, the stream shall be crossed

6. Duration of Construction-The time between initial disturbance of the stream and final stabilization shall be kept to a minimum. Construction shall not begin on the crossing until the utility line is in place to within 10 ft. of the stream bank.

during periods of low flow.

7. Fill Placed within the Channel-The only fill permitted in the channel should be clean aggregate, stone or rock. No soil or other fine erodible material shall be placed in the channel. This restriction includes all fill for temporary crossings, diversions, and trench backfill when placed in flowing water. If the stream flow is diverted away from construction activity the material originally excavated from the trench may be

used to backfill the trench. 8. Stream Bank Restorations-Stream banks shall be restored to their original line and grade and stabilized with riprap or vegetative bank stabilization.

9. Runoff Control Along the Right-of-Way-To prevent sediment-laden runoff from flowing to the stream, runoff shall be diverted with water bar or swales to a sediment trapping practice a minimum of 50 ft. from the

10. Dewatering or pumping water containing sediment shall not be discharged directly to a stream. The flow shall be routed through a settling pond, dewatering sump or a flat, well-vegetated area adequate for removing sediment before the pumped water reaches the stream.

11. Dewatering operations shall not cause significant reductions in stream temperatures. If groundwater is to be discharged in high volumes during summer months, it shall first be routed through a settling pond or overland through a flat well-vegetated area.

12. Permits-In addition to these specifications, stream crossings shall conform to the rules and regulations of the U.S. Army Corps of Engineers for in-stream modifications (404 permits) and Ohio Environmental Protection Agency's State Water Quality Certification (401 permits).

> 811 OR 1-800-362-2764 CALL TWO WORKING DAYS BEFORE YOU DIG (NON MEMBERS MUST BE CALLED DIRECTLY)

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EROSION CONTROL NOTES & DETAILS

Project Number 16448.01 **AS NOTED** Drawing Scale 13/13 Sheet Number 16448