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FIELDSTONE FARMS

SECTIONS TWO & THREE

SINGLE FAMILY

SECTION 15, TOWN 3, RANGE 3
LIBERTY TOWNSHIP, BUTLER COUNTY, OHIO
JULY, 2020



GENERAL NOTES

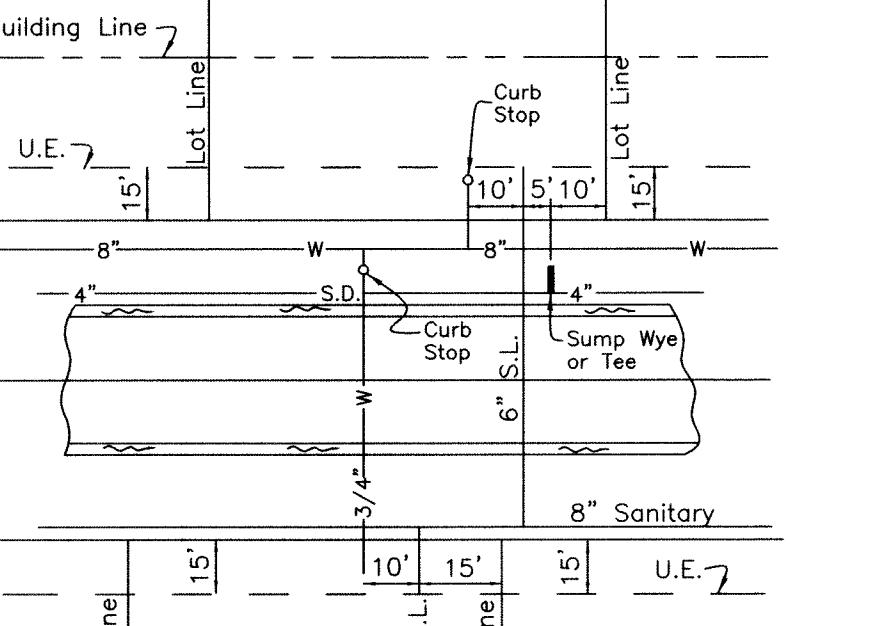
- Item numbers refer to the Ohio Department of Transportation construction and material specifications, and all construction work shall be done according to said specifications of Butler County requirements and standards for subdivisions. When in conflict, the County requirements shall prevail.
- Items that pertain to underground utilities such as watermain pipe, sanitary sewer pipe, water valves and manhole frames and covers, etc., will remain under specifications of the utility serving the area. Storm sewers shall be designed and constructed in accordance with the requirements of the Butler County Engineer.
- All trenches within the right-of-way and 10' utility easement shall be compacted and backfilled in accordance with item 203 and 603 in the state specifications.
- Surface course (item 448) and tack coat (item 407) are to be applied no sooner than nine (9) months after the leveling course, (item 448), and fifty (50) percent of the homes have not been completed. If after two (2) years fifty (50) percent of the homes have not been completed, then the top course may be applied.
- A minimum 10' utility easement shall be shown on the record plat, parallel and immediately adjacent to the right-of-way line allowing for installation, operation and maintenance of sewers, water, electric and telephone conduits and any other public or quasi public utility.
- Developer shall be responsible for the installation of conduits for the full width of the public right-of-way at a depth of 36" for use by the electric, telephone and cable services. The location of the lines shall be coordinated with utility companies by the developer.
- All electrical transformers shall be located so that they do not interfere with the existing manholes or water main appurtenances.
- Sump line conduits are to be SDR 35, Armaco 2000, or equivalent.
- WATER MAIN**
A. Water main materials, valves, fire hydrants, fittings and appurtenances and installation to be as per Butler County specifications, using class 53 Ductile Iron as per AWWA C-151 with minimum 4' cover.
B. All water main valves to have a minimum depth of 2.5' and a maximum depth of 4' from proposed grade to the top of the Valve Operating Nut.
C. Minimum 10' horizontal, 18" vertical separation between water main and sanitary and/or storm sewer.
D. If meter pits cannot be initially installed at the location shown on the typical section, a curb stop can be set up at this location.
- SANITARY SEWER**
A. Sanitary sewer materials and installation to be as per Butler County specifications, using Section 3110 for PVC SDR-35 & 26 pipe; Section 3140 for ABS or PVC composite pipe; Section 3410 for manholes.
B. Crossings Whenever a sanitary sewer and water main must cross, the sewer shall be at such an elevation that the crown of the sewer is at least 18 inches measured between the outside pipe walls, below the bottom of the water main. If it is absolutely impossible to maintain the 18 inch vertical separation, the water main shall be relocated or the sewer shall be constructed as follows:
1. A sewer passing over or under the water main shall be encased or constructed of materials that are equivalent to water main standards of construction for a minimum distance of 10 feet on each side of the water main.
2. The sewer crossing shall be constructed so that the sewer joints will be equidistant and as far as possible from the water main joints.
3. Where a water main passes under a sewer, adequate structural support shall be provided for the sewer to prevent damage to the water main.
C. Sanitary laterals shall be extended to at least ten (10) feet beyond the Property / Right-of-Way or to the edge of the easement, whichever is greater.
D. Sanitary sewer laterals, which shall include all pipe and appurtenances from the building to the public sewer main, and the connection to the public sewer main shall be considered private and the responsibility of the property owner to maintain. The connection to the sewer would be any piping that extends out from the main barrel of the sewer main.
E. All buildings to be served by the public sewer system shall be constructed so as to provide a minimum of four feet (4') of vertical separation between the public sanitary sewer at the point of connection, and the lowest building level served by a gravity sewer connection and shall not exceed a depth of 12 feet below finish grade at the end of the lateral at the right-of-way unless specifically authorized by the County. In addition, said building level shall be at least one (1) foot above the lowest point of free-overflow (non-sealed manhole cover) upstream of any treatment facility of wastewater pumping facility that receives the discharge from said building. Said minimum service levels shall be recorded on the "As-built" services for the development which will be kept on file in the office of the Butler County Department of Environmental Services.

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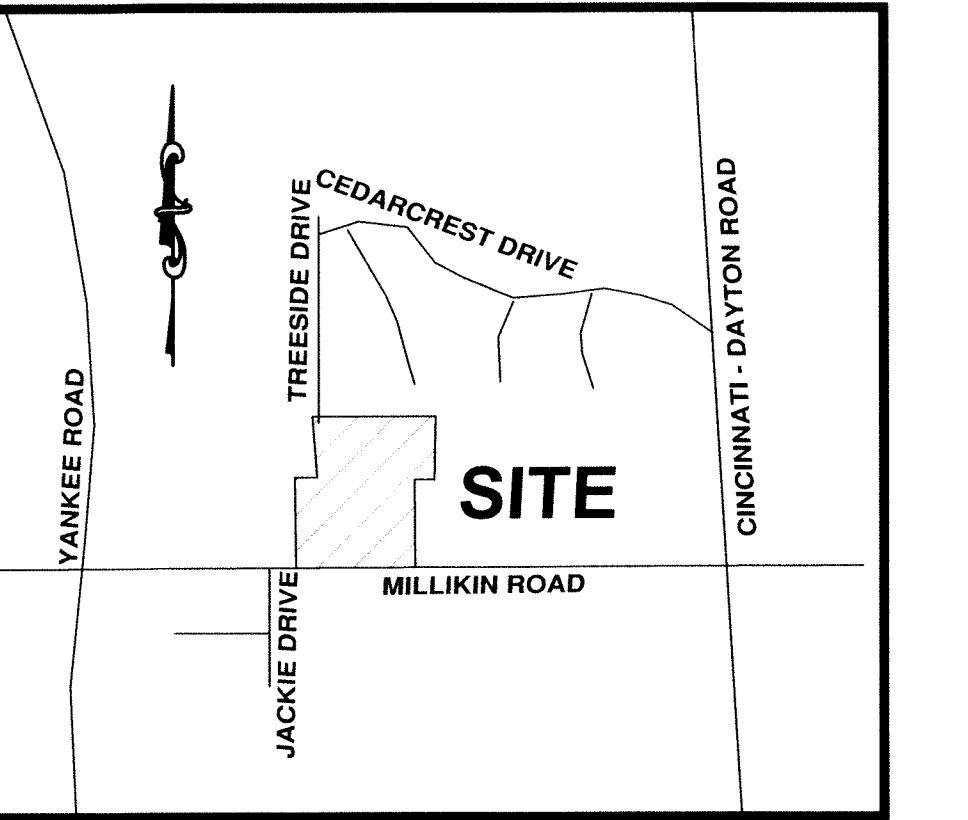
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LEGEND

EXISTING CONTOURS	
PROPOSED CONTOURS	
CENTERLINE	
PROPERTY LINE	
EXISTING SANITARY SEWER & MANHOLE	
PROPOSED SANITARY SEWER & MANHOLE	
EXISTING WATER MAIN	
FIRE HYDRANT	
WATER VALVE	
PROPOSED WATER MAIN	
EXISTING GAS MAIN	
SUMP DRAIN LINE	
EXISTING STORM PIPE & CATCH BASIN	
STORM CATCH BASIN	
STORM MANHOLE	
PROPOSED STORM PIPE	
EXISTING TELEPHONE	
EXISTING CABLE	
DIRECTION OF DRAINAGE	
PROPOSED SWALE	
LOT SWALE	



STANDARD SERVICE DETAIL



VICINITY MAP

OWNER/DEVELOPER

Sunesis Properties, LLC
2610 Crescentville Road
West Chester, Ohio 45069
513-326-6000

BENCHMARK

Existing Sanitary Manhole Rim
near Fieldstone Farms Boulevard
N515371.46
E143777.20
Elevation = 836.57

STANDARD ROLL TYPE CURB & GUTTER C-1

(Not to Scale)

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NOTES:

- 48 hours notice to be given to affected residents before construction begins.
- All Catch Basin B/C Elevations located within the curb are set to the Back of Curb Elevations.
- Lower 3/4" Water Services as needed to avoid conflicts with Storm with Min. 4' Cover.
- Location of existing utilities to be determined in the field prior to work beginning.
- All lots Sump to Sump Drain unless otherwise noted in plan.
- Sump Lines to be installed as per Standard Service Detail. Wyes or Tees are to be placed ten feet past lot line, on the low side of specified lots, and marked with Wye poles.
- Contractors to accept all quantities as correct prior to beginning construction.

WATER MAIN RESTRAINT JOINT LOCATION CHART

Water Main Dia.	Horizontal 45°Bends	Vertical 45°Bends Up (Lower Water Under...)	Vertical 45°Bends Down (Lower Water Under...)	Dead Ends (Permanent & Temporary)	Tees 6" 8" 10"
6"	18' both sides	18' both sides	36' both sides	72' Back	54"
8"	18' both sides	36' both sides	36' both sides	90' Back	54" 72"
10"	36' both sides	36' both sides	54' both sides	117' Back	54" 72" 90"
12"	36' both sides	54' both sides	72' both sides	180' Back	36" 72" 90"
14"	54' both sides	54' both sides	90' both sides	198' Back	36" 72" 90"
16"	54' both sides	54' both sides	90' both sides	216' Back	36" 54" 90"

NOTE:
At Crossings, the water main shall have a minimum vertical distance of eighteen (18") inches from storm and sanitary sewers. Also, one full length of water main shall be located so the joints are as far from the storm and sanitary sewers as possible. Fittings, not joint deflection, must be used when water main is lowered at crossings.

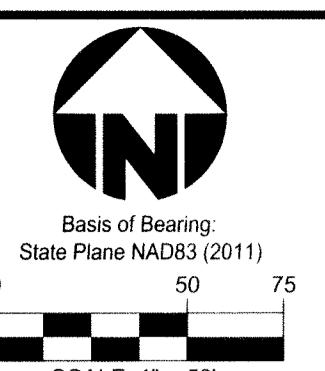
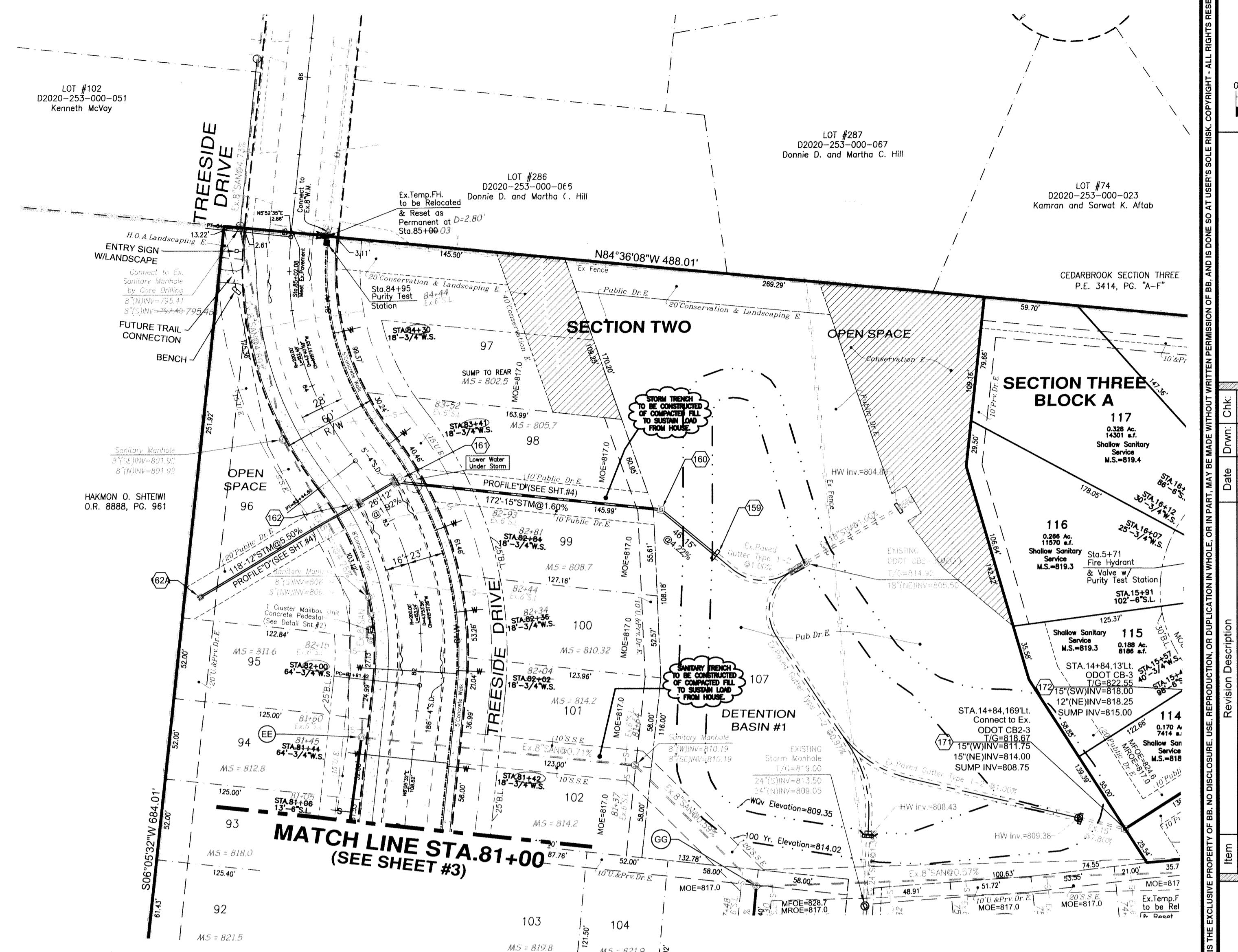
REGULATED WATERWAY OF UNITED STATES
CONSERVATION EASEMENT (SEE VERBAGE ON SHEET #4)

CONSERVATION EASEMENTS:

The area in the conservation easement contains a stream that has been identified as a jurisdictional waterway of the united states and is protected under the federal clean water act. the conservation easement shown hereon restricts disturbance and use of the area. Natural water courses and adjacent riparian buffers may not be dredged, straightened, filled, channelized, impeded, diverted or otherwise altered in the conservation area, other than as part of activities that are authorized by the nationwide permit program regulated by the army corps of engineers. There shall be no clearing, disturbance of existing vegetation or placement of manmade modifications such as buildings, structures and fences within conservation area except as approved by the army corps of engineers.

CONSERVATION AND LANDSCAPING EASEMENTS:

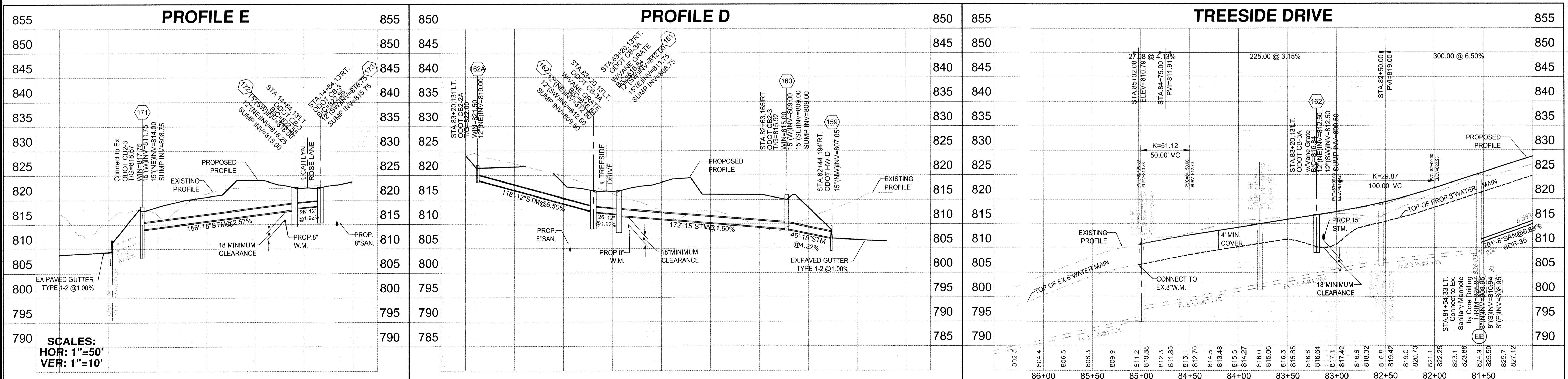
The conservation and landscaping easement shown hereon restricts disturbance and use of this area. "Conservation" shall mean there is to be no clearing, grading, construction, filling or disturbance of existing vegetation for the purpose of retaining wooded areas, predominately and as nearly as practical, in their natural, scenic and undeveloped condition except as approved by the Liberty Township Zoning Department. "Landscape" shall mean the general care and upkeep of the easement area shall be the responsibility of the individual property owner which permits the removal of dead trees and vegetation. Construction activity by the developer may take place within the easement area, but no existing trees are to be removed. Any area disturbed within the easement during the construction process will be re-established and re-vegetated by the contractor on site.

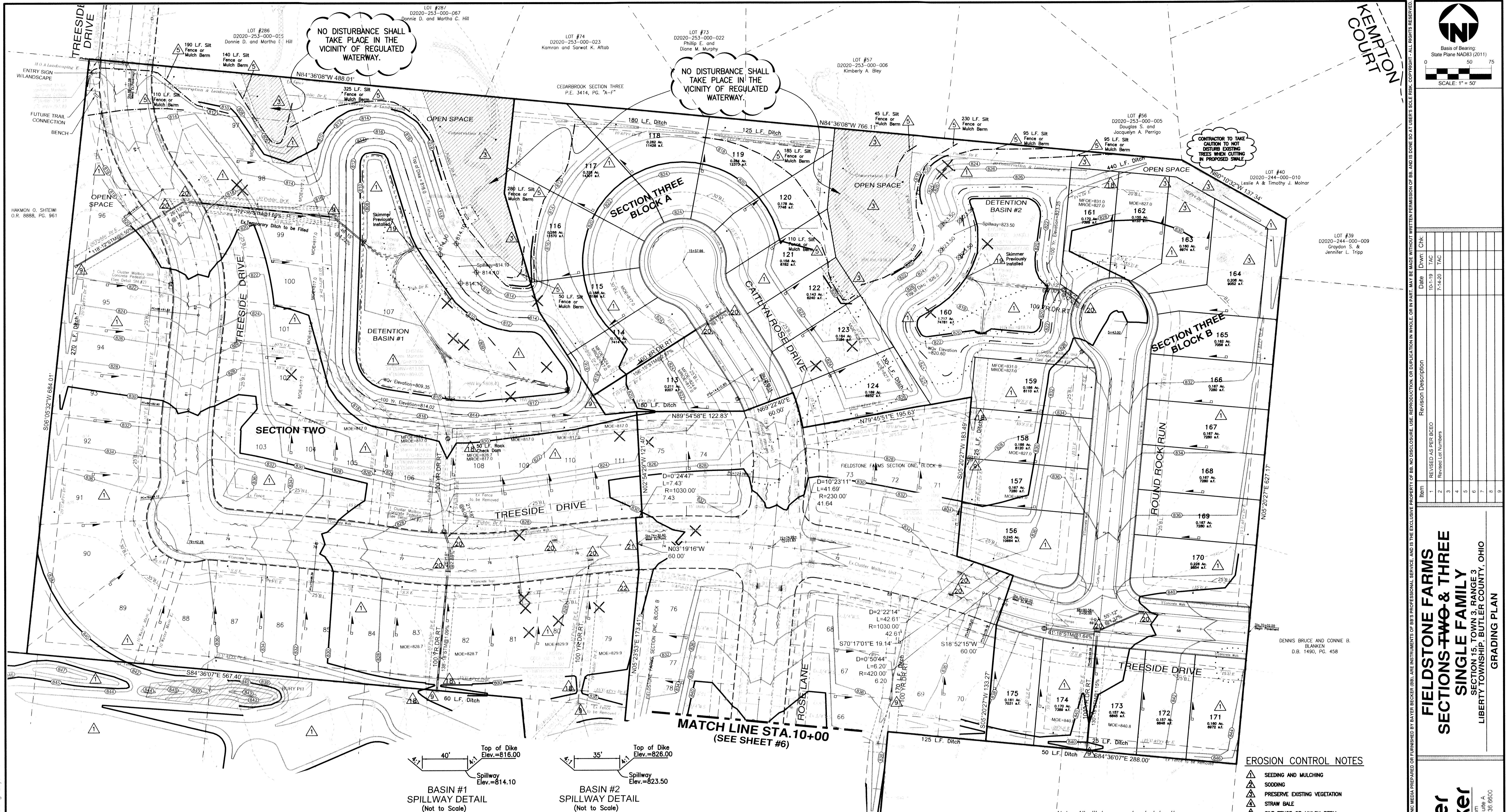


FIELDSTONE FARMS SECTIONS TWO & THREE SINGLE FAMILY

SECTION 15, TOWN 3, RANGE 3
LIBERTY TOWNSHIP, BUTLER COUNTY, OHIO

PLAN & PROFILE





NOTES:

1. Regular inspection and maintenance will be provided for all erosion and sediment control practices. Permanent records of maintenance and inspections must be kept throughout the construction period. Inspections must be made a minimum of once every seven (7) days and immediately after storm events greater than 0.5 inches of rain in a 24 hour period. Provided will be name of inspector, major observations, date of inspection and corrective measures taken.
2. All erosion and sediment control practices must conform to the specifications of Rainwater and Land Development, Ohio's standards for storm water management, land development and urban stream protection.
3. Perimeter Sedimentation control and basins/traps shall be implemented as the first step of grading and within seven (7) days of initial grubbing or grading and shall continue to function until upland areas are stabilized.
4. Disturbed areas which will remain unworked for a period of fourteen (14) days or more, shall be stabilized with seeding and mulching or other approved means within seven (7) days. All disturbed areas within fifty (50) feet of an intermittent or solid blue line stream shall be stabilized within two (2) days. All areas of a site which are at final grade shall be stabilized with seeding and mulching or other approved means within seven (7) days.
5. Quantities for Erosion Control may vary between detailed plans and field conditions during construction. Plan quantities are a minimum; more erosion control may be necessary due to environmental conditions.
6. Sedimentation control and ditch swales are subject to change upon completion of entire set of construction drawings.
7. No solid or liquid waste shall be discharged into storm water runoff.
8. Home builders are responsible for erosion control on each individual lot.

BASIN #1
SPILLWAY DETAIL
(Not to Scale)

BASIN #2
SPILLWAY DETAIL
(Not to Scale)

NOTE:
All Existing Structures, pavement, fencing and utilities are to be removed from site.

NOTE:
Contractors to accept all quantities as correct prior to beginning construction.

NOTE:
Quantities for Erosion Control may vary between detailed plans and field conditions during construction. Plan quantities are a minimum; more erosion control may be necessary due to environmental conditions.

NOTE:
Sedimentation control and ditch swales are subject to change upon completion of entire set of construction drawings.

PROJECT DATA		
Total Area	20.90 Ac.	
Disturbed Tributary Area	16.30 Ac.	
Drainage Area	29.7 Ac.	
Required Dewatering Storage	42,869 c.f.	
Pre-Developed Runoff Coefficient	0.36	
Post-Developed Runoff Coefficient	0.50	
Estimated Proposed Impervious Area	6.40 Ac. (25.9%)	
Immediate Receiving Waters	Unnamed Tributary to Gregory Creek	
Subsequent Receiving Waters	Gregory Creek	
SOIL TYPES		
Symbol	Name	Type
RwB	Russell-Miamion silt loam, bedrock substratum	B
WyB2	Wynn silt loam 6 to 12 percent slopes, moderately eroded	B

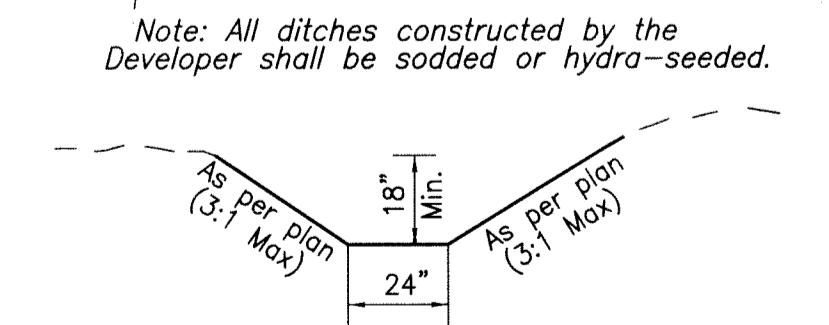
CLEARING LIMITS

SILT FENCE OR
MULCH BERM

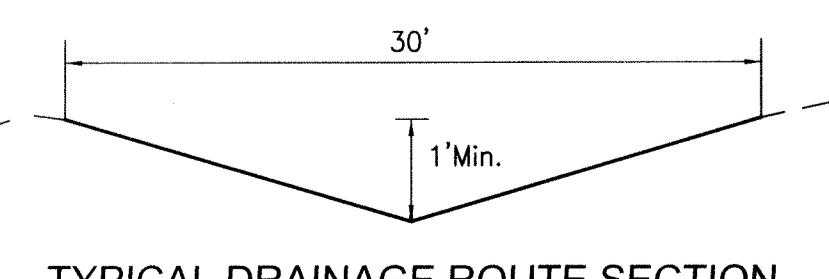
REGULATED WATERWAY
OF UNITED STATES

RIPARIAN AREA: NO
DISTURBANCE PERMITTED

CONSERVATION EASEMENT
(SEE VERBIAGE ON SHEET #4)



TYPICAL DITCH SECTION



TYPICAL DRAINAGE ROUTE SECTION

EROSION CONTROL NOTES

- △ SEEDING AND MULCHING
- △ SODDING
- △ PRESERVE EXISTING VEGETATION
- △ STRAW BALE
- △ SILT FENCE OR MULCH BERM
- △ SOIL PILES
- △ TEMPORARY STREAM CROSSING
- △ GRAVEL CURB INLET SEDIMENT FILTER
- △ GEOTEXTILE INLET SEDIMENT FILTER
- △ GABIONS
- △ STRAW BALE DROP INLET SEDIMENT FILTER
- △ SOD DROP INLET SEDIMENT FILTER
- △ GRAVEL & WIRE MESH DROP INLET SEDIMENT FILTER
- △ BLOCK & GRAVEL CURB INLET SEDIMENT FILTER
- △ TEMPORARY SEDIMENT TRAPS & DAMS
- △ DIKES & SLOPE PROTECTION
- △ ROLLED GRAVEL CURB INLET SEDIMENT FILTER
- △ CHECK DAM
- △ TEMPORARY DETENTION SEDIMENT FILTER/BASIN
- △ DANDY BAG/BEAVER DAM® OR EQUAL
- △ CONSTRUCTION ENTRANCE
- △ CONCRETE WASHOUT AREA

SEE SOIL EROSION & SEDIMENTATION CONTROL DETAIL SHEET
(Page #11)

FIELDSTONE FARMS
SECTIONS TWO & THREE
SINGLE FAMILY
SECTION 15, TOWNSHIP 3, RANGE 3
LIBERTY TOWNSHIP, BUTLER COUNTY, OHIO
GRADING PLAN

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Item	Revision Description	Date	Drawn Chk.
1	REVISED AS PER BB CO	10-19	TAC
2	Revised Lot Numbers	7-14-20	TAC
3			
4			
5			
6			
7			
8			

Drawing: 16-0294 S CD3
Drawn by: TAC
Checked by:
Issue Date: 9-20-19
Sheet:

Plot time: Sep 20, 2019 - 4:05pm
Drawing name: K:\QD\K\Mapcon\155\BLOCKS\DETAIL\S\B1\T1\EP\DC\SAN.dwg
Layout Tab: SAN

ROCK CHANNEL PROTECTION PER SPECS

PIPE PER PLANS & SPECS

WIDTH 2

WIDTH

WIDTH 2

NORMAL WATER LEVEL

GRAVITY SEWER

CONCRETE ENCASEMENT

CONCRETE ENCASEMENT TWICE STREAM WIDTH

2'-6" MIN

1'-0"

1'-0"

ROCK CHANNEL PROTECTION ODOT TYPE "C"

FABRIC

NOTE: MANHOLES SHALL NOT BE INSTALLED WITHIN THE LIMITS OF THE CONCRETE ENCASEMENT OR THE STREAM BANKS

TRENCH WIDTH

SELECT EXCAVATED MATERIAL

CONCRETE ENCASEMENT

**TYPICAL CREEK CROSSING
FOR GRAVITY SEWERS**

GRADE

45° BEND

WYE BRANCH

WYE POLE

3'-0"

VARIES

MIN. SLOPE $\frac{1}{4}$ " /FT

GRADE

VARIES

SUPPORT PIPE ON STANDARD BEDDING ON ORIGINAL GROUND

STANDARD BEDDING (PER SPECS)

PROVIDE GLUED WATER TIGHT CAP AT END OF HOUSE CONNECTION

HOUSE CONNECTION FOR DEEP SEWER

628

GRADE

WYE BRANCH

45° BEND

WYE POLE

3'-0"

VARIES

MIN. SLOPE $\frac{1}{4}$ " /FT

GRADE

VARIES

SUPPORT PIPE ON STANDARD BEDDING ON ORIGINAL GROUND

STANDARD BEDDING (PER SPECS)

PROVIDE GLUED WATER TIGHT CAP AT END OF HOUSE CONNECTION

HOUSE CONNECTION FOR SHALLOW SEWER

6260

629

PAVEMENT SETTLEMENT LIMITS

EXISTING PAVE

LOW STRENGTH MORTAR

EXISTING BACKFILL

WATER, SANITARY, UTILITY & STORM REPAIR DETAIL

TRENCH 4' OR GREATER IN DEPTH

PAVEMENT SETTLEMENT LIMITS

EXISTING PAVEMENT

LOW STRENGTH MORTAR

USE ENVIRONMENTAL SERVICES BEDDING MATERIAL REQUIREMENTS FOR SANITARY & WATER LINES

EXISTING BACKFILL

12" MIN.

3'-0"

WATER, SANITARY & UTILITY REPAIR DETAIL

STORM SEWE REPAIR DETA

TRENCH 4' OR LESS IN DEPTH

CONCRETE

#67 STONE

CONCRETE SIDEWALKS SHALL BE IN ACCORDANCE WITH OHIO D.O.T. SPECIFICATION 608

SETTLEMENT REPAIR

ITEM SPECIAL - LOW STRENGTH MORTAR BACKFILL MATERIAL

DESCRIPTION: THIS WORK SHALL CONSIST OF THE PLACEMENT OF A FLOWABLE MIXTURE OF PORTLAND CEMENT, FLY ASH, AND SAND FOR BACK-FILLING CONDUIT OR AT OTHER LOCATIONS AS SHOWN ON THE PLANS OR AS SPECIFIED. THE WORK SHALL BE IN ACCORDANCE WITH ODOT ITEMS 603 AND 499 UNLESS OTHERWISE SPECIFIED HEREIN.

MATERIALS: MATERIALS SHALL BE:

- A. CEMENT 701.01 OR 701.04
- B. FLY ASH SHALL MEET ASTM C-618
- C. FINE AGGREGATE SHALL BE NEUTRAL SAND OR SAND MANUFACTURED FROM STONE, GRAVEL, OR AIR-COOLED SLAG. THE GRADUATION OF THE SAND SHALL MEET THE REQUIREMENTS OF 703.05. THE SAND SHALL BE FINE ENOUGH TO STAY IN SUSPENSION IN THE MIXTURE TO THE EXTENT REQUIRED FOR PROPER FLOW. THE ENGINEER RESERVES THE RIGHT TO REJECT THE SAND IF THE FLOWABLE MIXTURE CANNOT BE PRODUCED.
- D. WATER USED FOR MORTAR BACKFILL SHALL BE FREE FROM OIL, ACID, STRONG ALKALIDES OR VEGETABLE MATTER.
- E. SLUMPS MEASURED IN THE ORDINARY WAY WILL BE 8" OR HIGHER FOR PROPER PLACEMENT OF THE FLOWABLE MATERIAL.

MORTAR MIX PROPORTIONING: THE INITIAL TRIAL MIXTURE SHALL CONSIST OF THE FOLLOWING QUANTITIES OF MATERIALS PER CUBIC YARD:

CLASS LSM - 50	
CEMENT	50 LBS.
FLY ASH	250 LBS.
SAND	2910 LBS.
WATER (TARGET)	500 LBS.

ADJUSTMENTS TO THE PROPORTIONS MAY BE MADE BY THE ENGINEER PROVIDING THE TOTAL ABSOLUTE VOLUME OF THE MATERIALS IS MAINTAINED. THIS ITEM WILL BE INCLUDED IN THE STANDARD 603 INSULATION, THIS WILL NOT BE AN ADDITIONAL PAY ITEM, BUT REPLACEMENT FOR THE NORMAL BACKFILL.

4"
4"
4"
4"

4" UNLESS
OTHERWISE
NOTED

**SIDEWALK
RESTORATION DETAIL**

401

BITUMINOUS CONCRETE SHALL
BE IN ACCORDANCE WITH OHIO
D.O.T. SPECIFICATION 448.

PRIME COAT

STONE

CRUSHED STONE BASE SHALL BE IN
ACCORDANCE WITH OHIO D.O.T.
SPECIFICATION 304

TYPE "C"

CRUSHED STONE ACCORDING TO OHIO D.O.T. SPECIFICATION 304

BITMINOUS CONCRETE SURFACE
SHALL BE IN ACCORDANCE WITH
OHIO DEPT. OF
TRANSPORTATION (D.O.T.)
SPECIFICATION 448.

TACK COAT

CONCRETE

PORLTAND CEMENT CONCRETE BASE
SHALL BE IN ACCORDANCE WITH OHIO
D.O.T. SPECIFICATION 305.

TYPE "A"

TYPE "D"
LAND STONE BASE SHALL BE IN
DANCE WITH OHIO D.O.T.
CATION 304

TYPE "E"
BITUMINOUS CONCRETE SURFACE
SHALL BE IN ACCORDANCE WITH OHIO
D.O.T. SPECIFICATION 448.

TYPE "B"
PORTLAND CEMENT CONCRETE BASE
SHALL BE IN ACCORDANCE WITH OHIO
D.O.T. SPECIFICATION 452.

The drawing consists of two parts: a **PLAN VIEW** and a **SECTION A - A**.

PLAN VIEW: This view shows a circular manhole structure within a square base. The base is divided into four quadrants by a central vertical and horizontal axis. Arrows indicate the direction of forces: a vertical downward arrow at the top center, a horizontal leftward arrow along the top edge, and a horizontal rightward arrow along the bottom edge. Labels include "A" at the top center, "C" at the top left, and "FUTURE CHANNEL CORE DRILLED" with an arrow pointing to the bottom right quadrant.

SECTION A - A: This view shows a cross-section of the manhole. The top horizontal line is labeled "PIPE O.D.". The base is a thick-walled structure. Labels include "BROOM FINISH" with an arrow to the left wall, "FUTURE CHANNEL WILL BE CORE-DRILLED" with an arrow to the bottom left, "1" TO 1' SLOPE" with an arrow to the right wall, and "SEE STANDARD MANHOLE SECTION C-C FOR MANHOLE BASE REINFORCING" with an arrow to the bottom right. A note on the right side states: "BASE ONLY TO EXISTING SEWER WALLS (6") ON MANHOLE ARE CAST-IN-PLACE CONSTRUCTED AROUND EXISTING SEWER".

FINISHED GRADE

BACKFILL PER SPECIFICATIONS

TRENCH WIDTH
MIN: (OD + 12")
MAX: (OD + 16") OR 30"

PIPE BARREL

8" MIN

6" MIN
12" MAX

BEDDING M. SHALL E. BCWS S.

TYPICAL TRENCH DETAIL
SEWER INSTALLATION

6"

8"

PIPE OD + 16"

#3 (TYP)

PIPE SIZE	CY CONC PER LIN FT	LENGTH OF NO 3 BARS	SPACING (FT) BETWEEN NO 3 BARS
6"	0.121	3'-9"	1.64
8"	0.139	4'-3"	1.25
10"	0.157	4'-9"	1.12
12"	0.177	5'-3"	1.02
16"	0.200	6'-3"	0.85
18"	0.247	6'-10"	0.78
20"	0.270	7'-5"	0.72
24"	0.315	8'-6"	0.63
30"	0.540	10'-0"	0.57

CONCRETE ENCASEMENT DETAIL

624

GRADE

PRECAST CONC GRADE RINGS
MIN HEIGHT 8"
MAX HEIGHT 18" TYP ALL MANHOLES

MANHOLE STEPS PER SPECIFICATION

BENCH AND FLOW CHANNEL TO BE POURED WHEN MAIN IS EXTENDED.

PRECAST CONC BARREL

2'-0" MAX

12" - 16"

CONNECTION FOR FUTURE MAIN EXTENSION WILL BE CORE DRILLED AND A GASKET INSTALLED.

CONTRACTOR SHALL POUR A GROUT BOTTOM UP TO THE INVERT OF THE OUTLET PIPE WHEN THE MH IS INSTALLED TO PREVENT STANDING WATER.

MATERIALS
BE PER
SPECS.

DEAD END MANHOLE DETAIL

6270

619

PAVEMENT REPLACEMENT DETAILS

41

CONNECTION TO EXISTING MANHOLE

6150

ELEVATED MANHOLE DETAIL

61

NOTE:

- 1) THE CARRIER PIPE SHALL BE BRACED WITHIN THE CASING PIPE WITH CASING SPACERS THAT PLACE THE CARRIER PIPE IN A "RESTRAINED" POSITION TO PRECLUDE POSSIBLE FLOATATION WHILE PROVIDING 1/2-1" CLEARANCE BETWEEN THE TOP RUNNERS AND THE CASING PIPE.
- 2) CASING SPACERS SHALL BE INSTALLED WITHIN ONE (1) FOOT OF EACH SIDE OF CARRIER PIPE JOINTS, WITHIN ONE (1) FOOT OF EACH END OF THE CASING PIPE AND ON 6 FOOT CENTERS THEREAFTER.
- 3) THERE SHALL BE TWO (2) RUNNERS ON TOP AND TWO (2) RUNNERS ON BOTTOM OF CASING SPACER FOR CARRIER PIPE DIAMETERS OF 4-12" OR TWO (2) RUNNERS ON TOP AND FOUR (4) RUNNERS ON BOTTOM FOR CARRIER PIPE DIAMETERS OF 14-36".
- 4) AT EACH END OF THE CASING PIPE, THE CARRIER AND CASING PIPE SHALL BE WRAPPED WITH END SEALS.

CASING SPACER

SECTION A - A

SECTION B - B

SECTION C - C

STANDARD MANHOLE

PRECAST CONC GRADE RINGS
MIN HEIGHT 8" MAX HEIGHT 18"
TYP. ALL MANHOLES

PRECAST CONC BARREL

PIPE ID

BROOM FINISH

PIPE BARREL

1 1/2" CLEAR TYP

1" TO 1" SLOPE

8" MIN

4" MIN

2" MIN

4'-10" MIN.

2'-0" MAX

12"-16"

4' MIN.

2'-6" OR 3'-0" ECCENTRIC CO

GRADE

SET FRAME CASTING ONTO GRADE RINGS ON CONSEAL (BOLTED IS ABOVE GRADE)

MANHOLE STEPS PER SPECIFICATIONS

SEE STANDARD MANHOLE SECTION FOR MANHOLE BASE REINFORCING

30xBAR DIA 12" MIN

M.H. DEPTH **SLAB & DOWELL RESTEEL SQ. IN./FT. E.W.**

0'-10'	0.17
11'-20'	0.22
21'-30'	0.27
31'-40'	0.32

SEWER FORCE MAIN & WATER MAIN ENCASEMENT DETAIL

43

OUTSIDE DROP MANHOLE SECTION "B-B"

TABLE OF DIMENSIONS

"A"	"B"
6"	6"
8"	6"
10"	6"
12"	8"
15"	8"
18"	10"
21"	10"
24"	12"
27"	15"
30"	18"

RPCAST CONC. GRADE RINGS
MIN HEIGHT 8" TYP.
MAX HEIGHT 18" TYP.

GRADE
MANHOLE STEPS PER SPECIFICATION
PRECAST CONCRETE BARREL
1" TO 1' SLOPE

2'-0" MAX.
1'-0"
1'-4"
"A"
"B"
PRECAST DROP SECTIONS
SEE STANDARD MANHOLE SECTION "C-C" FOR MANHOLE BASE REINFORCING
PROVIDE MINIMUM FALL OF 10.1 FEET FROM DROP INLET TO MAIN CHANNEL

OUTSIDE DROP MANHOLE SECTION "A-A"

DROP MANHOLES SHALL BE USED WHEN THE DIFFERENCE IN ELEVATION BETWEEN THE INVERT OF THE INLET AND THE OUTLET PIPE EXCEEDS 2.0 FEET

1'-0"
1'-0"
B
A
CASING PIPE
CARRIER PIPE
END SEAL
0
61

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<p>Drawing: BC SA</p> <p>Drawn by:</p> <p>Checked By:</p> <p>Issue Date: 12-28-1</p> <p>Sheet: 8/11</p>	
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EROSION & SEDIMENT CONTROLS

boyer becker

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Mason, OH 45040-1515 339-8800

GENERAL NOTES

EROSION & SEDIMENT CONTROLS

Vegetative practices
Such practices may include: temporary seeding, permanent seeding, mulching, matting, sod stabilization, vegetative buffer strips, phasing and protection of trees. The contractor shall initiate appropriate vegetative practices on all disturbed areas within seven (7) days of work that are to remain dormant (not more than four days) (14 days). Permanent or temporary soil stabilization shall be applied to disturbed areas within seven (7) days after final grade is reached on any portion of the site.

Structural Practices

Structural practices shall be used to control erosion and trap sediment from all sites remaining disturbed for more than fourteen (14) days.

Sediment control structures shall be functional throughout earth disturbing activity. Sediment ponds and perimeter barriers shall be implemented as the first step of grading and within seven days from the start of grubbing. They shall continue to function until the upsite development area is restabilized.

Sediment Barriers

Sheet flow runoff from denuded areas shall be intercepted by sediment barriers. Sediment barriers, such as sediment fences or diversions direction runoff to settling facilities, shall protect adjacent properties and water resources from sediment transported by sheet flow.

Erosion and sediment control practices used to satisfy the conditions of this plan shall meet the standards and specifications in the current edition of Water Management and Sediment Control in Urbanized Areas (Soil Conservation Service).

Waste Disposal
No solid or liquid waste, including building materials, shall be discharged in storm water runoff. Off-site vehicle tracking of sediments shall be minimized. The plan shall ensure and demonstrate compliance and applicable State of local waste disposal, sanitary sewer or septic system regulations.

Maintenance

All temporary and permanent control practices shall be maintained and repaired as needed to assure continued performance of their intended function.

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 able to survive the winter.

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

From October 1 through November 20, prepare the seedbed, add the required amounts of lime and fertilizer, then mulch and anchor. After November 20 and before March 15, broadcast the selected seed mixture. 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 seedbed.

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.

REVEGETATION
1. Seed, sod or mulch bare soil as soon as possible
SEEDING AND MULCHING
Spread 4 to 6 inches of topsoil. Fertilize according to soil test (or apply 10 lb./1000 sq. ft. of 20-10-10 or 10-10-10 fertilizer). Seed with an appropriate mix for the site (see table). Rake lightly to cover seed with 1/4" of soil. Roll lightly. Mulch with straw (70-90 lb. or one bale per 1000 sq. ft.) Anchor mulch by pinching 2 inches into the soil with a dull, weighted disk or by using stakes or other measures to steep slopes, or windy areas. Water gently every day or two to keep soil moist. Less watering is needed once grass is 2 inches tall.

SODDING
Spread 4 to 6 inches of topsoil. Fertilize according to soil test (or apply 10 lb./1000 sq. ft. of 20-10-10 or 10-10-10 fertilizer). On slopes, lay sod starting at the bottom and work toward the top. Peg each piece down in several places. Initial watering should wet soil 6 inches deep (or until water stands 1 inch deep in a straight-sided container.) Then water lightly every day or two for 2 weeks. If construction is completed after October 31, seeding or sodding may be delayed. Applying mulch or temporary seed (such as rye or winter wheat) is recommended if weather permits. Straw bale or silt fence must be maintained until final seeding or sodding is completed in spring March 15– May 31.

4. STRAW BALE DETAILS

1. Excavate the trench. 2. Place and stake the straw bales.

3. Wedge loose straw between the bales. 4. Backfill and compact the excavated soil.

CONSTRUCTION OF A STRAW BALE BARRIER

Source: Adapted from Installation of Straw and Filter Barriers for Sediment Control, Sherwood and Wyant.

4. Put up before any other work is done. Install on or down slope side(s) of site with ends extended up 5' sideslopes a short distance. Place parallel to the contour of the land to allow water to pond behind fence.

5. Stake 4 inches deep (see back page) Stake (2 stakes per bale OR 1 stake every 3 feet for silt fence.) Stake or tie together every 3' of straw bales.

6. Inspect and repair once a week and after every 1/2 inch rain. Remove sediment if deposits reach half the fence or straw bale height. Maintain until a lawn is established.

5. SILT FENCE OR MULCH BERM DETAILS

1. Set the stakes. 2. Excavate a 4" x 4" trench upstream along the line of stakes.

3. Staple filter material to stakes and extend it into the trench. 4. Backfill and compact the excavated soil.

CONSTRUCTION OF A FILTER BARRIER

Source: Installation of Straw and Fabric Filter Barriers for Sediment Control, Sherwood and Wyant.

1. Points A should be higher than point B

PROPER PLACEMENT OF A STRAW BALE BARRIER IN DRAINAGE WAY

Source: Installation of Straw and Filter Barriers for Sediment Control, Sherwood and Wyant.

1. Excavate each work day, sweep or scrape up soil onto a temporary berm at the end of the next work day after a storm, clean up soil washed off-site, and check straw bales and silt fence for damage or sediment buildup. DOWNSPOUT EXTENDERS

Not required, but highly recommended. Install as soon as gutters and downspouts are completed. Route water to a grassed or paved area. Maintain until a lawn is established.

6. GEOTEXTILE INLET PROTECTION IN SWALES, DITCH LINES OR YARD INLETS

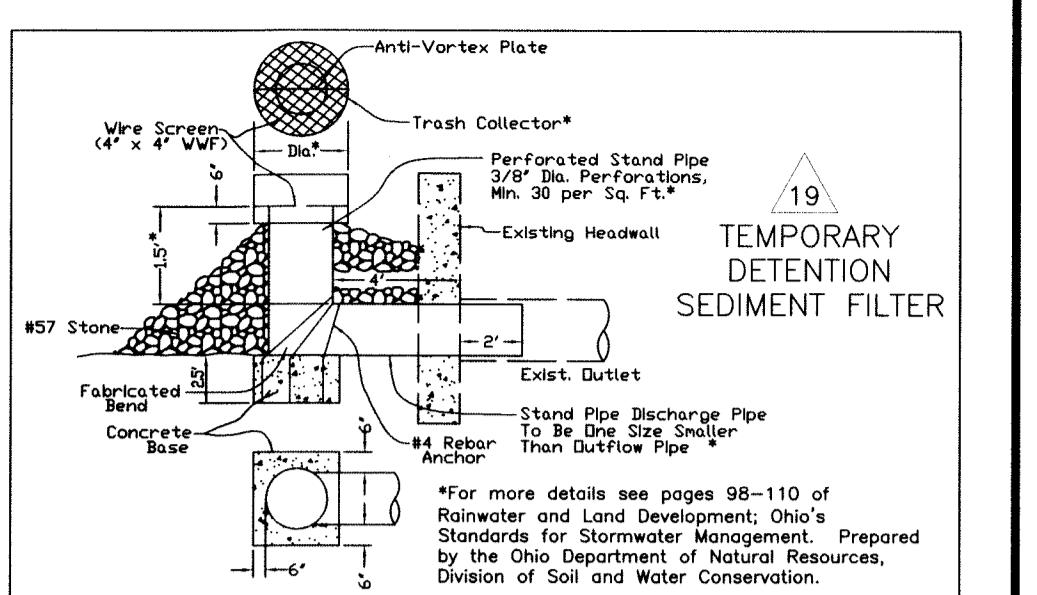
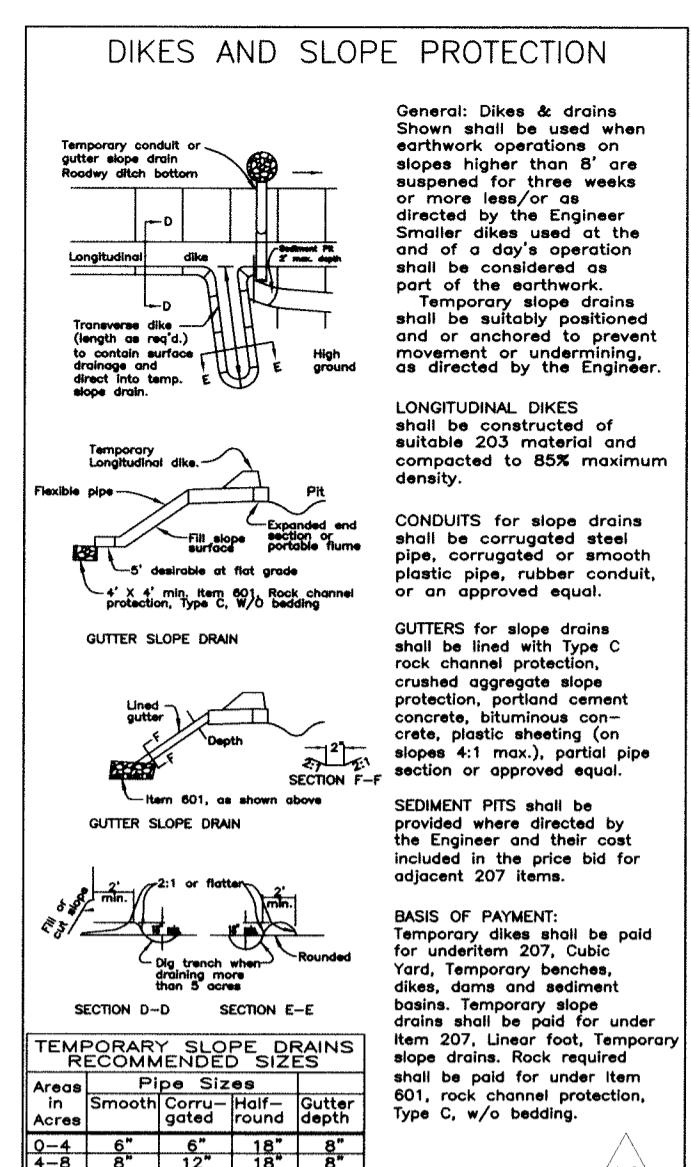
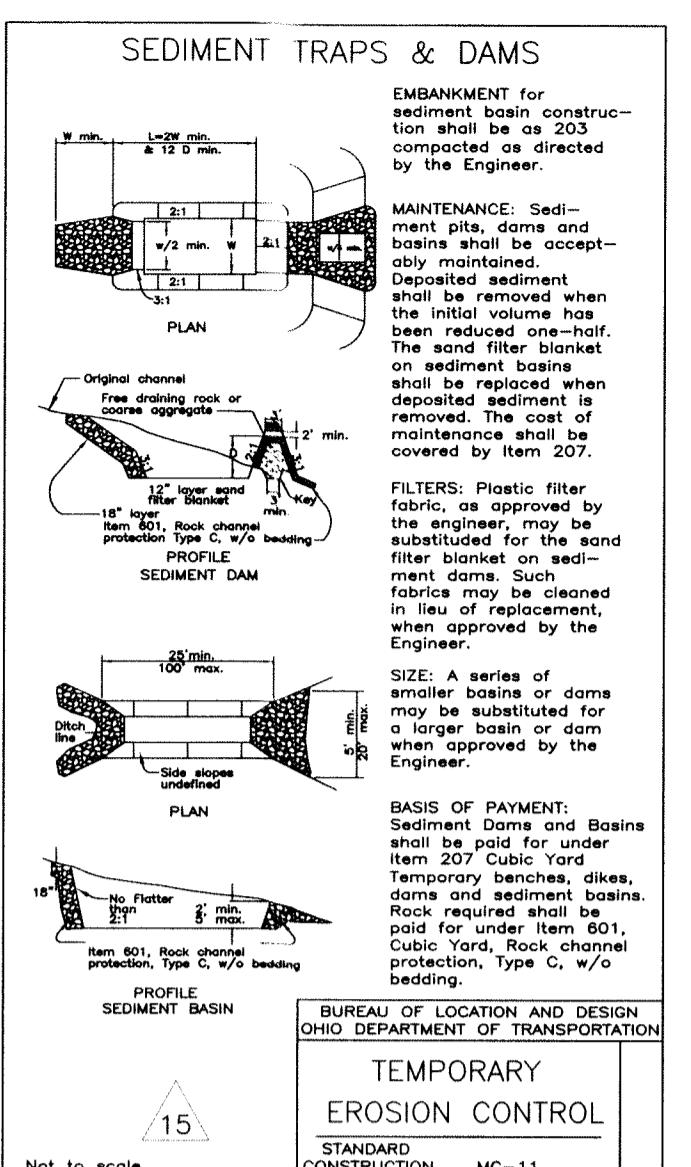
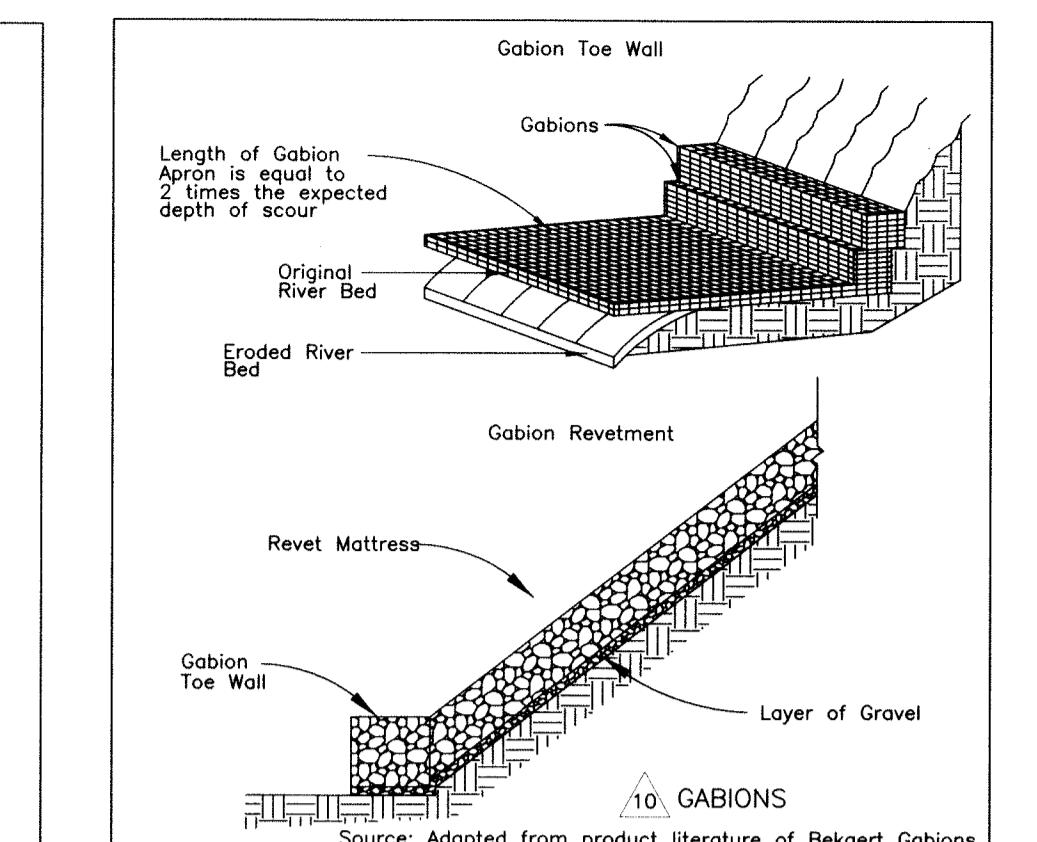
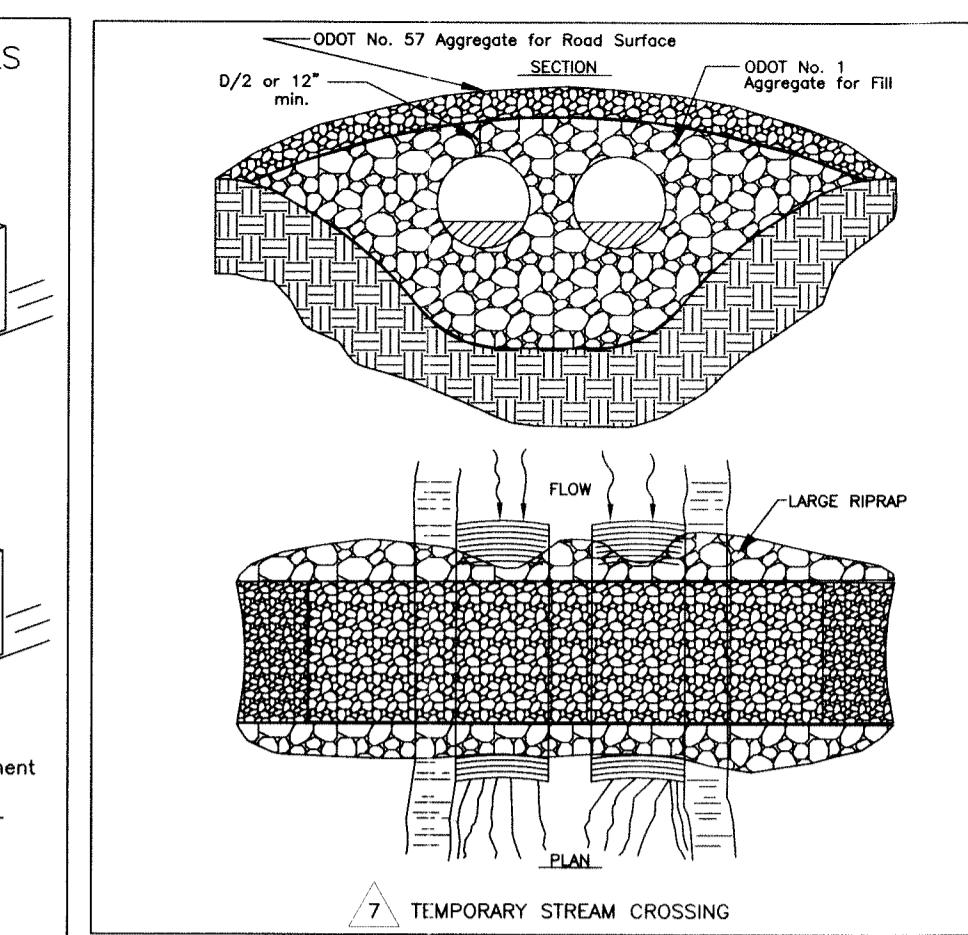
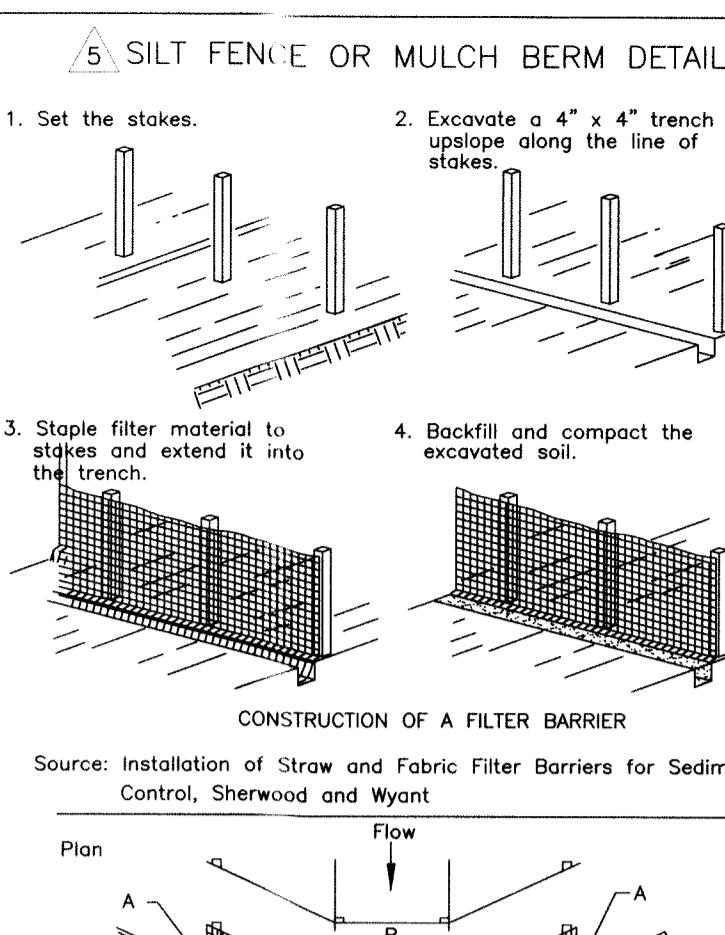
By the end of each work day, sweep or scrape up soil onto a temporary berm at the end of the next work day after a storm, clean up soil washed off-site, and check straw bales and silt fence for damage or sediment buildup.

GEOTEXTILE

Not required, but highly recommended. Install as soon as gutters and downspouts are completed. Route water to a grassed or paved area. Maintain until a lawn is established.

CROSS SECTION OF A PROPERLY INSTALLED STRAW BALE

Source: Michigan Soil Erosion and Sediment Control Guidebook, 1975



TEMPORARY DETENTION SEDIMENT FILTER

20. DANDY BAG®/BEAVER DAM

Installation and Maintenance Guidelines

Installation: The empty Beaver Dam should be placed over the groyne as shown on end. If using optional end caps, attach to the end caps. Attach absorbent pillow to tailings. Tuck end enclosure flap inside to completely enclose the groyne. Holding the lifting device (do not rely on lifting devices to support the entire weight of the Beaver Dam) lift the Beaver Dam into place. The Beaver Dam should be partially blocking the curb foot when installed properly.

Maintenance: Remove all accumulated sediment and debris from surface and vicinity of unit after each storm event. Remove sediment that has accumulated within the containment area of the Beaver Dam if used. If using optional oil absorbents, remove and replace absorbent pillow when near saturation.

BEAVER DAM

Design conforms to all shapes of concrete curbs

Item

Date

Drain. Chk.

Revision Description

Item

Date

Drain. Chk.

<p