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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	



Know what's below.
Call before you dig.

SHANNON RIDGE

SECTION FOUR

SECTION 33, TOWN 3, RANGE 3

LIBERTY TOWNSHIP, BUTLER COUNTY, OHIO

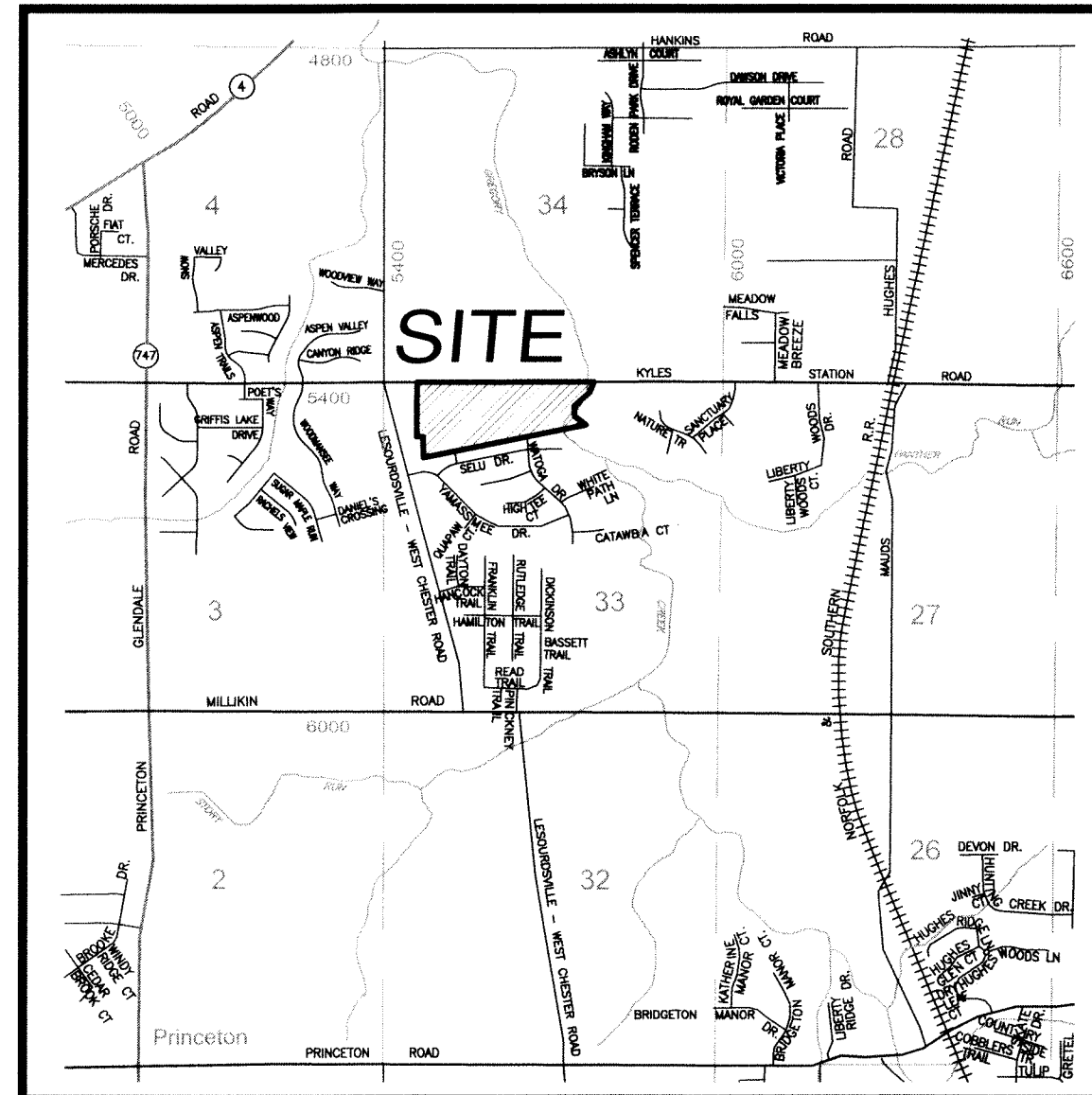
MARCH, 2018



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 are 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, Armo 2000, or equivalent.
- WATER MAIN**
 - 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.
 - 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.
 - Minimum 10' horizontal, 18" vertical separation between water main and sanitary and/or storm sewer.
 - 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**
 - 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.
 - 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:
 - 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.
 - The sewer crossing shall be constructed so that the sewer joints will be equidistant and as far as possible from the water main joints.
 - Where a water main passes under a sewer, adequate structural support shall be provided for the sewer to prevent damage to the water main.
 - 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.
 - 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.
 - 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" plans for the development which will be kept on file in the office of the Butler County Department of Environmental Services.
- Butler County Water and Sewer Department does not accept any responsibility for the relocation, repair, or replacement of any other utility installed within five (5) feet of the center line of any sanitary sewer main or water main.
- Private driveways, parking lots and other paved areas, earthen berms or structures should not be constructed over private water or sewer service lines within the public road right of way or within the easement areas for public utilities. Should this occur, the property owner shall be held responsible for the protection and repair and for providing access to any curb stops, meter pits, manholes, clean-outs, etc. installed in conjunction with these private service lines and for any damage or restoration of the paved surfaces or structures that may result from the future operation, maintenance, repair or replacement of said service lines and appurtenances.
- STORM SEWER**
 - Storm sewer pipe shall meet the requirements as follows:
 - PVC pipe as per ODOT Specification 707.42 for all diameters
 - HDPE pipe as per ODOT Specification 707.33
 - Corrugated steel pipe as per ODOT Specification 707.01 or 707.02 for all diameters
 - Reinforced concrete pipe as per ODOT Construction and Material Specification 706.02 for all diameters. Class shall be specified at the contractor's request. (Cincinnati Concrete Pipe, Durocrete or equal).
 - Bituminous coated corrugated steel pipe as per ODOT Specification 707.05 or 707.07

JOB LOG	
DATE	COMMENT
1-24-18	Submitted to Butler County Planning
2-6-18	Resubmitted to BCWS
3-9-18	Resubmitted to BCEO



VICINITY MAP
NOT TO SCALE

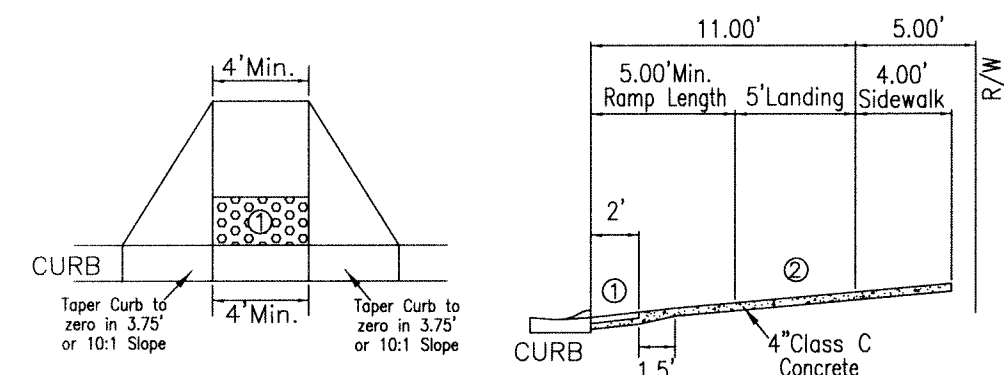
SUPPLEMENTAL PRINTS OF STANDARD CONSTRUCTION DRAWINGS	
C-1	
Std.MH-1A	
Std.HW-D	HW-1 (O.D.O.T.)
CB-3	
CB-3(Mod.)	
CB-3A	
CB-3A(Mod.)	CB-2-4(O.D.O.T.)
CB-2-2-A(O.D.O.T.)	CB-2-3(O.D.O.T.)
CB-2-2-B(O.D.O.T.)	CB-2-5(O.D.O.T.)
Std.R-1	

OWNER/DEVELOPER

Kyles Land Development LLC
4166 Tonya Trail
Hamilton, OH 45011
(513)- 813- 5595

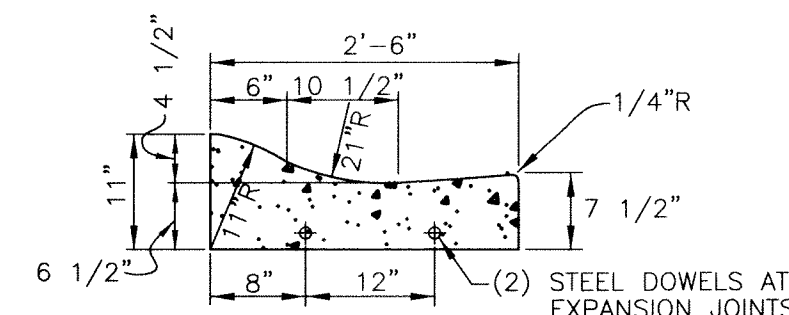
BENCHMARK

Found Magnail at the Northeast
Corner of the Property
Elevation = 650.09

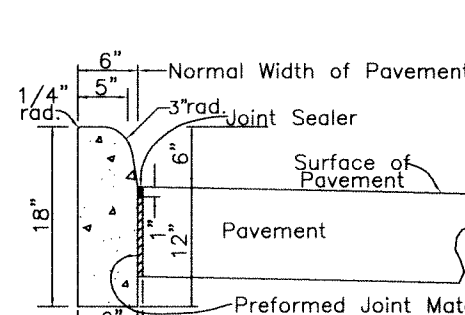


CURB RAMP DETAIL

- Detectable Warning (Truncated Domes) are to be installed in the location shown. Dimensions of the domes are 24" from the back of the curb by the width of the ramp.
- Minimum Landing is to be 4' but 5' is preferred. The slope of the ramp is preferred to be 12:1 or flatter related to the horizontal, but the minimum slope shall be 12:1 relative to the existing or proposed walk slope.
- Curb ramps shall be design A or design B per ODOT Drawing 7-12-02, sheets 1 thru 3. Truncated domes are to meet the specifications of ODOT drawing 7-12-02 sheet 3.

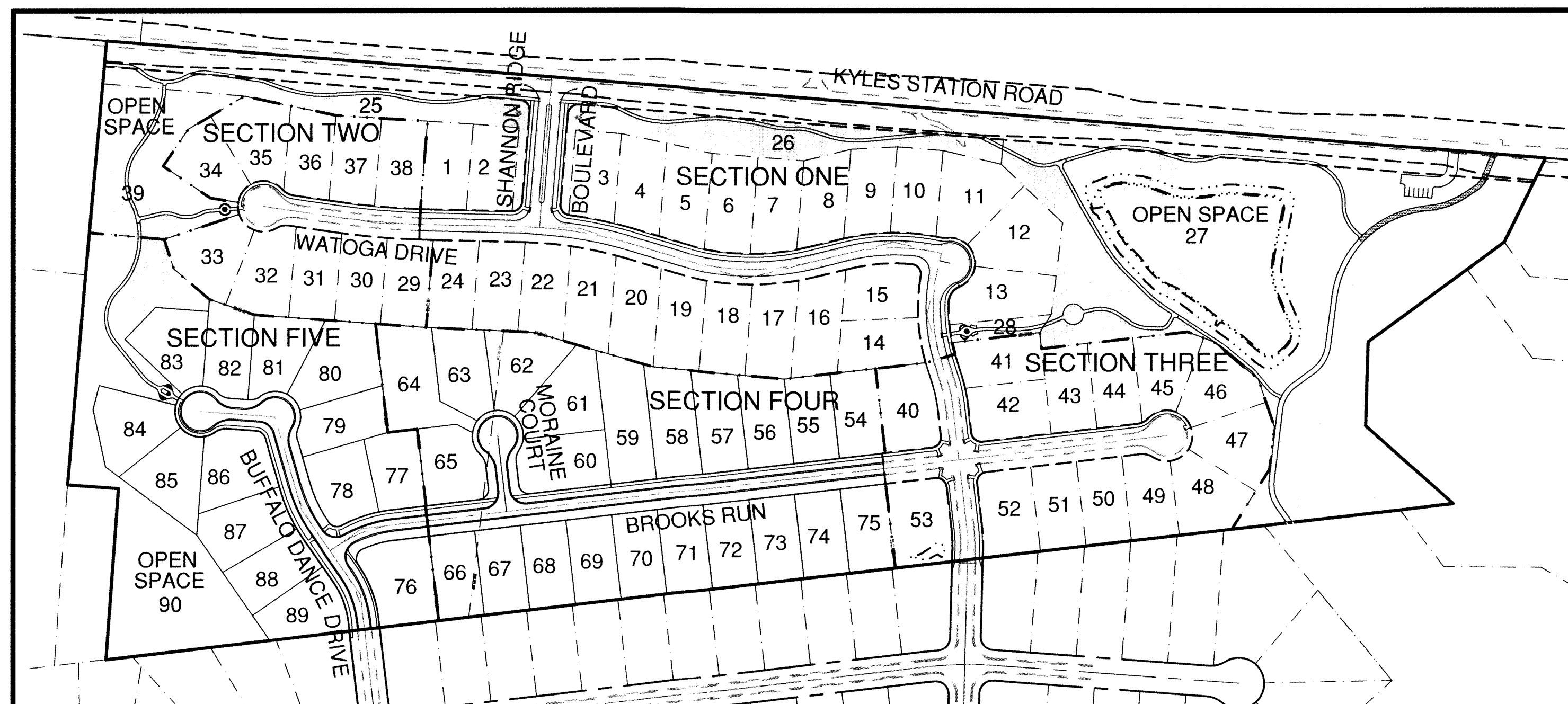


STANDARD ROLL TYPE CURB & GUTTER
C-1



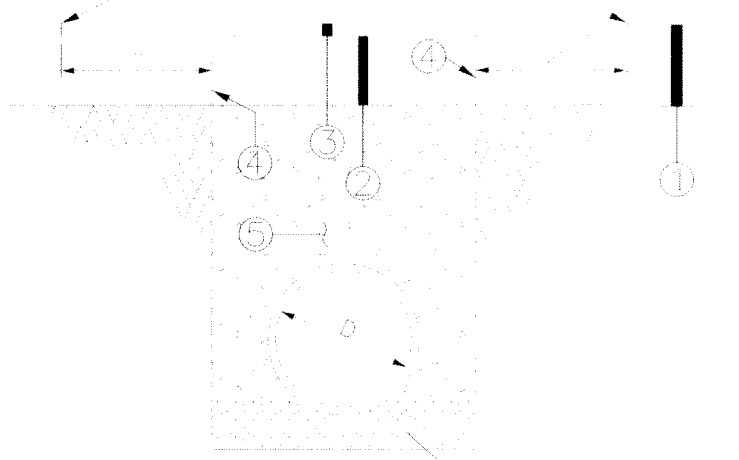
ODOT TYPE 6 CURB

CONSTRUCTION APPROVAL	
	Date
Butler Co. Water & Sewer Dept.	2-12-18
Butler Co. Engineer's Office	3-23-18
But Co. B. & Z. Flood Permit	3-14-18
These plans are not for construction until ALL approval dates have been filled in.	



BUTLER COUNTY ENGINEER'S OFFICE STANDARD DETAIL FOR ROADWAY PAVEMENT RESTORATION

HOT APPLIED JOINT SEALER
ODOT ITEM 705.04 OR
SURFACE JOINT
(TO BE BID WITH UNIT
PRICE FOR ITEM 448)



- EXISTING PAVEMENT
- 8" ITEM 30 BITUMINOUS AGGREGATE BASE IN TWO 4" LIFTS
- 2" ITEM 448 ASPHALT CONCRETE SURFACE COURSE MIN. 2" EACH SIDE OF CUT
- ITEM 407 TACK COAT APPLIED AT 0.10 GAL/SY
- LOW STRENGTH MORTAR BACKFILL MATERIAL CLASS LSM 50
- MIN. 6" GRANULAR PIPE BEDDING (OPTION - USE GRANULAR BEDDING EXTENDED TO ABOVE PIPE FOR FULL WIDTH OF TRENCH)

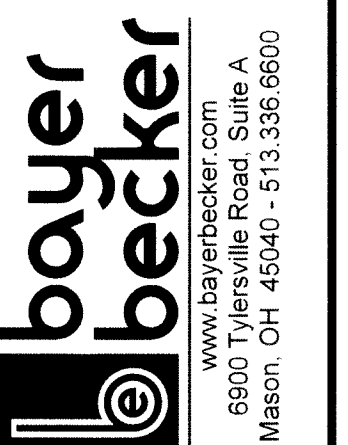
- Butler County Water and Sewer Department does not accept any responsibility for the relocation, repair, or replacement of any other utility installed within five (5) feet of the center line of any sanitary sewer main or water main.
- Private driveways, parking lots and other paved areas, earthen berms or structures should not be constructed over private water or sewer service lines within the public road right of way or within the easement areas for public utilities. Should this occur, the property owner shall be held responsible for the protection and repair and for providing access to any curb stops, meter pits, manholes, clean-outs, etc. installed in conjunction with these private service lines and for any damage or restoration of the paved surfaces or structures that may result from the future operation, maintenance, repair or replacement of said service lines and appurtenances.
- STORM SEWER**
 - Storm sewer pipe shall meet the requirements as follows:
 - PVC pipe as per ODOT Specification 707.42 for all diameters
 - HDPE pipe as per ODOT Specification 707.33
 - Corrugated steel pipe as per ODOT Specification 707.01 or 707.02 for all diameters
 - Reinforced concrete pipe as per ODOT Construction and Material Specification 706.02 for all diameters. Class shall be specified at the contractor's request. (Cincinnati Concrete Pipe, Durocrete or equal).
 - Bituminous coated corrugated steel pipe as per ODOT Specification 707.05 or 707.07
- Installation shall meet Butler County Specifications. All joints shall be soil seal joints unless specifically noted on the plans.
- Deflection Testing for Storm Sewers and Culverts 15% of all storm sewers shall be tested for deflection within thirty days after they are complete. Butler County Engineer or his designated representative will determine what 15% shall be tested. If any storm sewer in the original 15% is found out of compliance, deflection tests will be required on 100% of the remaining storm sewer. A vertical ring deflection greater than 5% will not be allowed. This deflection is defined as 5% reduction in the vertical base or average inside diameter. The method of testing shall be subject to the approval of the engineer. If rigid balls or mandrels are used to test pipe deflection, no mechanical pulling devices shall be used. The deflection test may be conducted with a nine prong mandrel, a ball or a cylinder or another manner acceptable to the Butler County Engineer or his designated representative. The testing will be accomplished from manhole to manhole or catchbasin to catchbasin, following the complete flushing of the line. The contractor shall furnish all equipment required to complete the deflection testing. The deflection test shall be witnessed by the County Engineer or his designated representative. Any section of pipe that fails to meet the aforementioned requirements shall be reworked by a procedure acceptable to the County or be excavated and either be relayed or replaced, and retested until the requirements are met.
- All catch basins and manholes with a depth greater than 4' shall be provided with steps. Steps shall meet the requirements of ODOT STD. 604 and shall conform to the details as shown on Butler County Standard Drawing MH-1A.
- Headwall: HW-4A to be used with Corrugated Metal pipe or HW-4B to be used with Concrete Pipe.
- Roof drains, foundation drains, and other clean water connections to the sanitary sewer system are prohibited.
- Any detention basin on site should be constructed prior to the clearing of topsoil and grading of the site. All trees and vegetation shall be removed from all proposed detention basins regardless of maintenance responsibility.
- SEDIMENTATION CONTROL**

The project has been designed to control erosion and prevent damage to other property. All stripping, earthwork, and grading shall be performed to minimize erosion. Natural vegetation shall be retained wherever possible. The proposed plan will allow almost all eroded material to be retained on site.

All areas disturbed by the construction of the roadways, ditches and sediment basins shall be seeded and strawed as soon as possible to limit the erosion and stabilize the soil. Payment will be by the number of square yards disturbed as per the grading plan. For additional sedimentation control details, see grading plan.
- Butler County will not be responsible for any pavement or storm sewer repairs resulting from water main and sanitary sewer repairs. Butler County also will not be responsible for adjusting manholes, valves, fire hydrants, meter pits, etc. as a result of grade changes. The grantor shall be responsible for proper adjustment of manholes, valves, fire hydrants, meter pits, etc. to the satisfaction of Butler County, due to grade changes, paving, repairing, etc. initiated by the grantor.
- A typical five (5) foot drainage easement is to be provided on both sides of every lot line.
- Any roadway settlement greater than one inch will be required to be repaired with Item 613 Low Strength Mortar Backfill (Type 1). See Detail on Sheet #12.
- Provide the Butler County Engineer's Office with a forty-eight (48) hour notice prior to the start of any construction, including sanitary installation. Phone 785-4145.
- Contractors to accept all Quantities as correct prior to beginning construction.
- Contractor shall include the cost of County inspection and extension fees in unit price bid.
- Existing Zoning: R-PUD

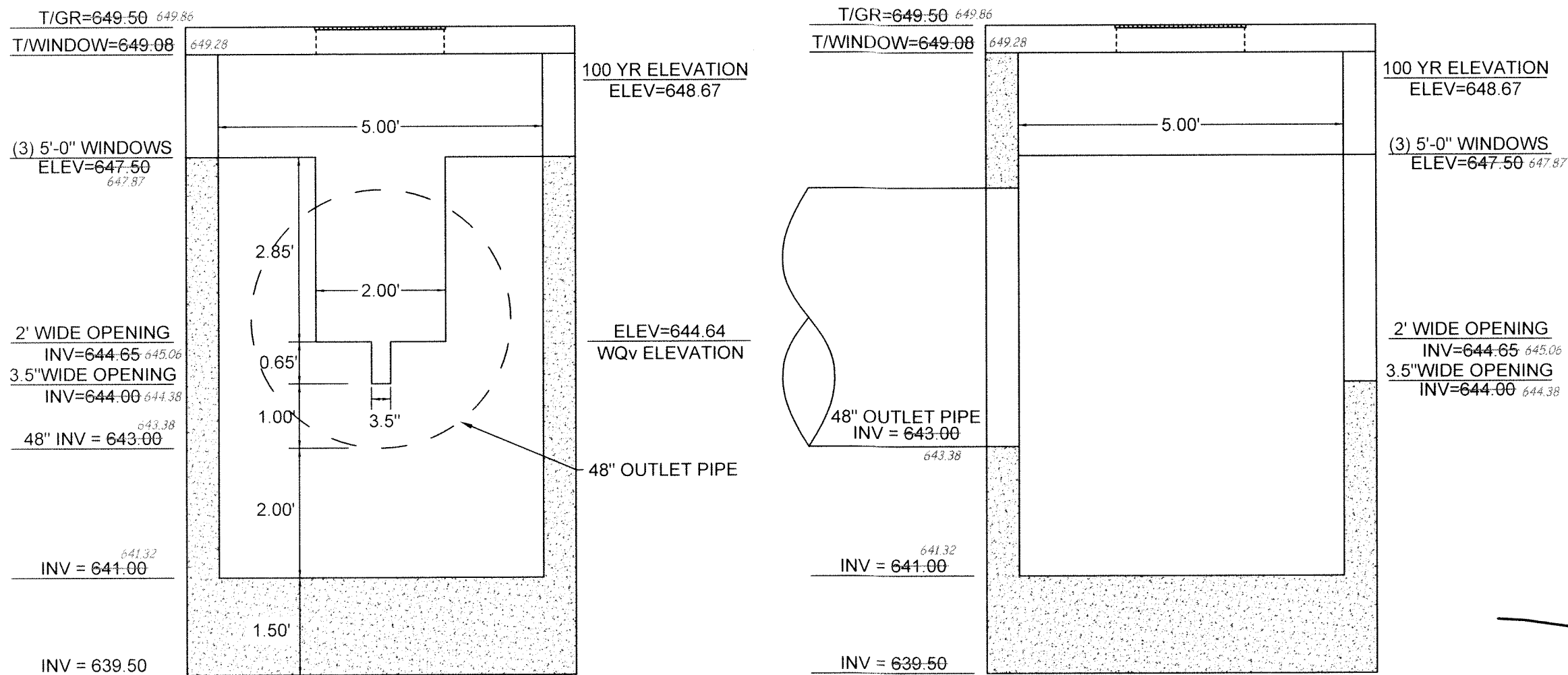
Frontage: 90'
Setbacks: Front = 30', unless otherwise noted on plan
Side = 8' Min., 20' Total
Rear = 40', unless otherwise noted on plan
- Total Acreage: 57.9175 Acres
- Total # Single Family Lots: 84

SHANNON RIDGE
SECTION FOUR
SECTION 33, TOWN 3, RANGE 3
LIBERTY TOWNSHIP, BUTLER COUNTY, OHIO
TITLE SHEET



Drawing	17-0120 CD4
Drawn by	TAC
Checked By	EMR
Issue Date	1-24-18
Sheet	

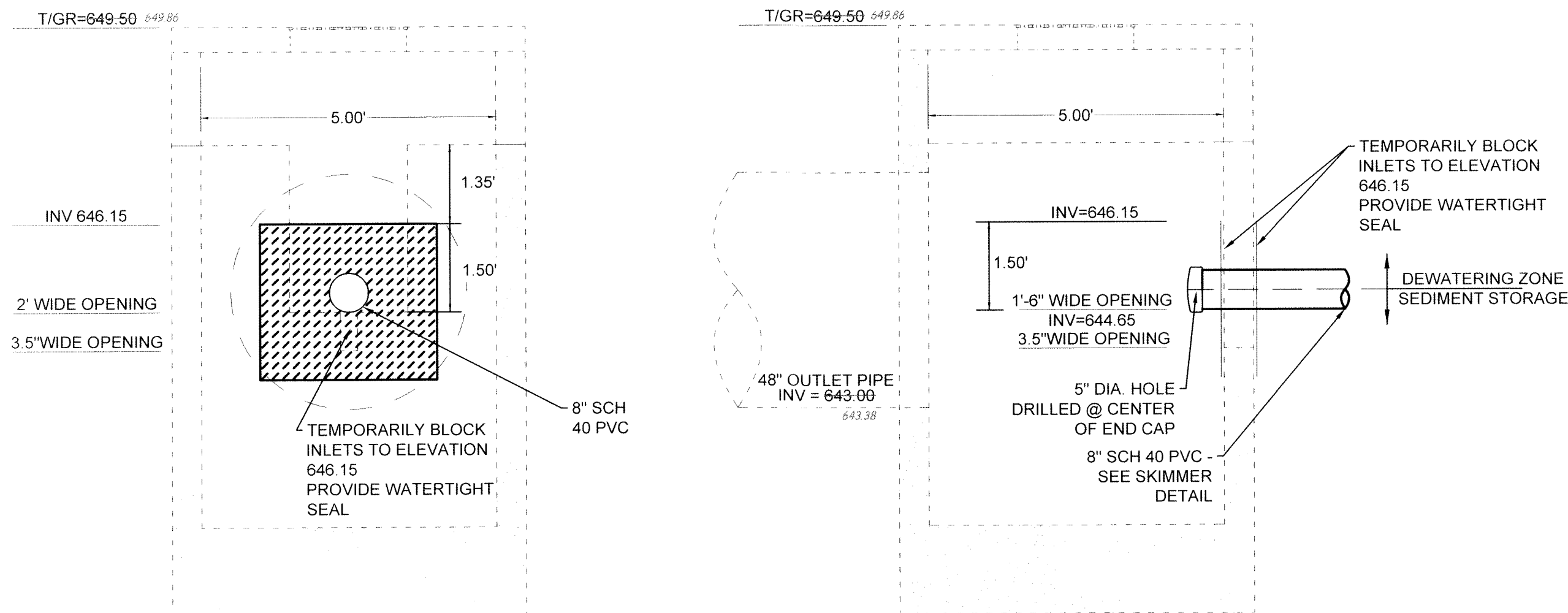
1/15



- NOTES:
1. CONCRETE BASE UPSIZED TO SERVE AS ANTI-FLOATION BLOCK.
 2. CATCH BASIN SECTIONS (INCLUDING LID SECTION) TO BE ANCHORED TO STRUCTURE BASE TO RESIST BUOYANCY FORCES. CONTRACTOR TO PROVIDE SHOP DRAWING FOR ENGINEER REVIEW PRIOR TO INSTALLATION.

DETENTION BASIN OUTLET STRUCTURE - ODOT CB2-5

NOT TO SCALE



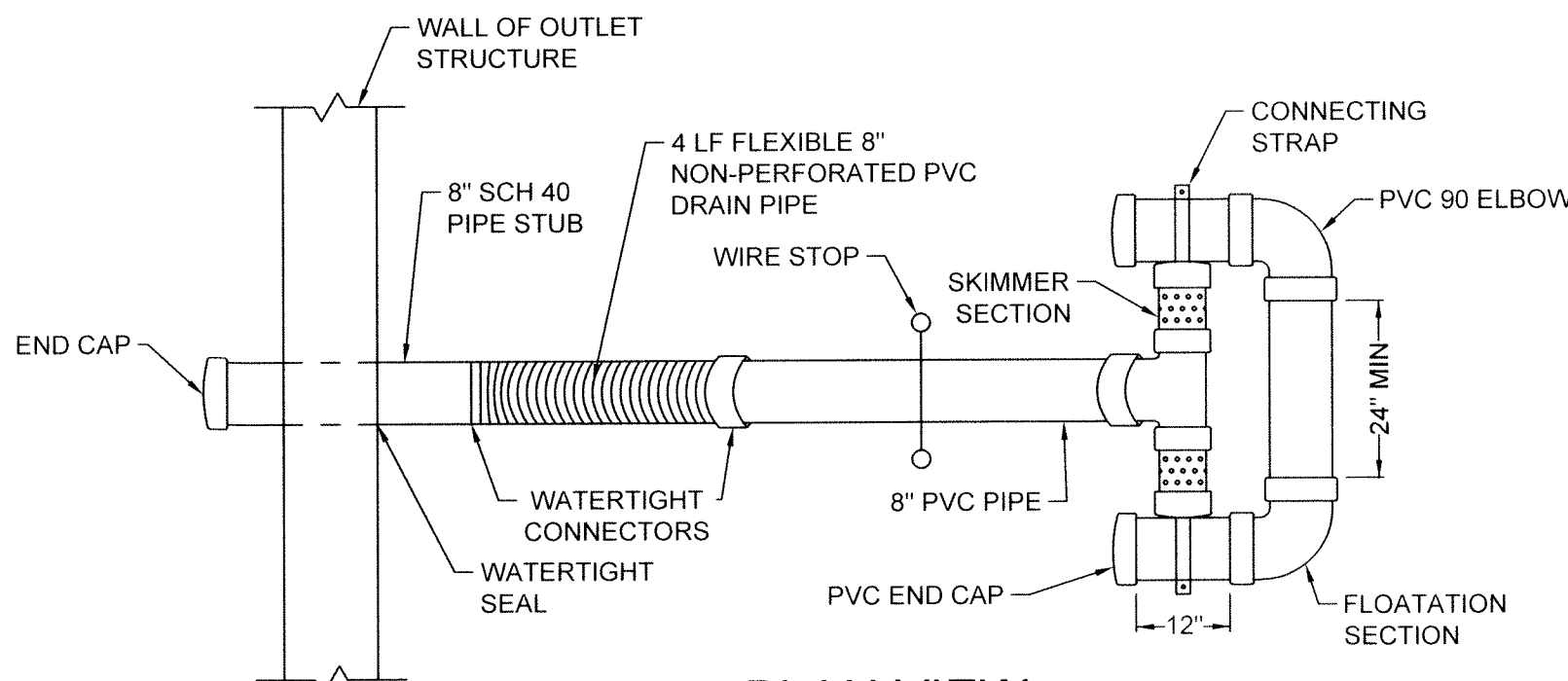
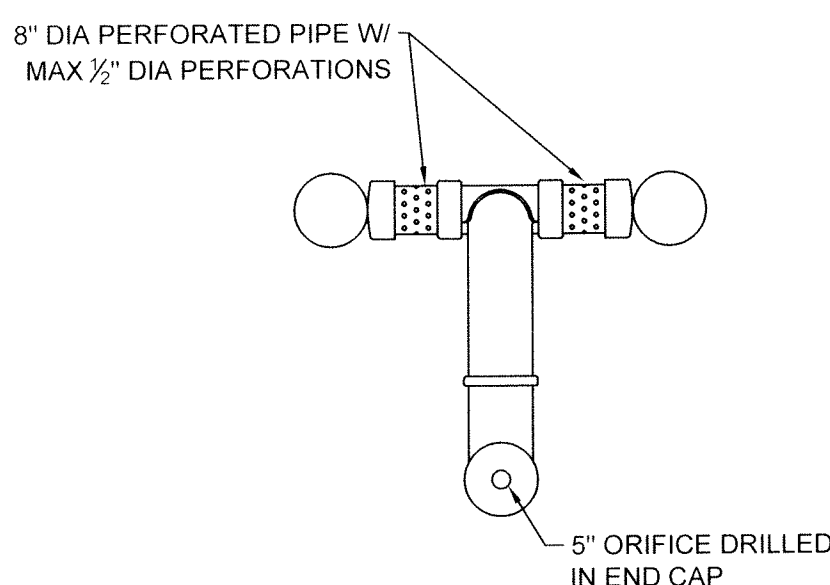
TEMPORARY SEDIMENTATION BASIN RETROFIT

NOT TO SCALE

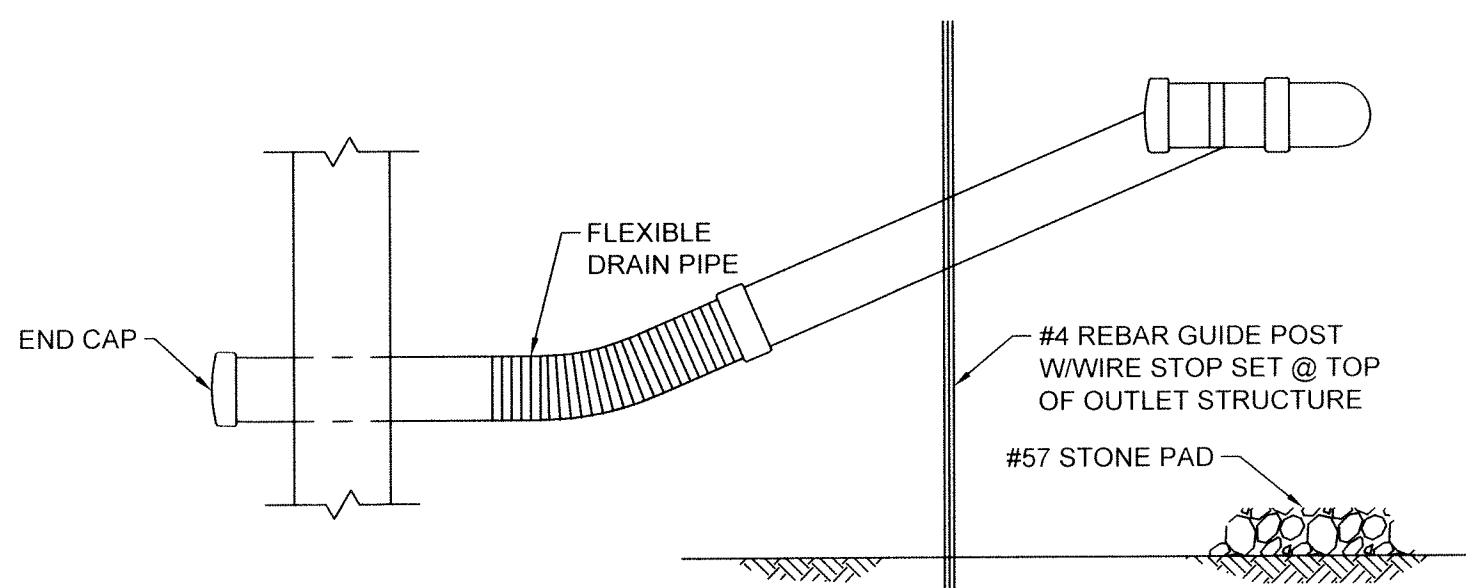
SKIMMER DEWATERING DEVICE

NOT TO SCALE

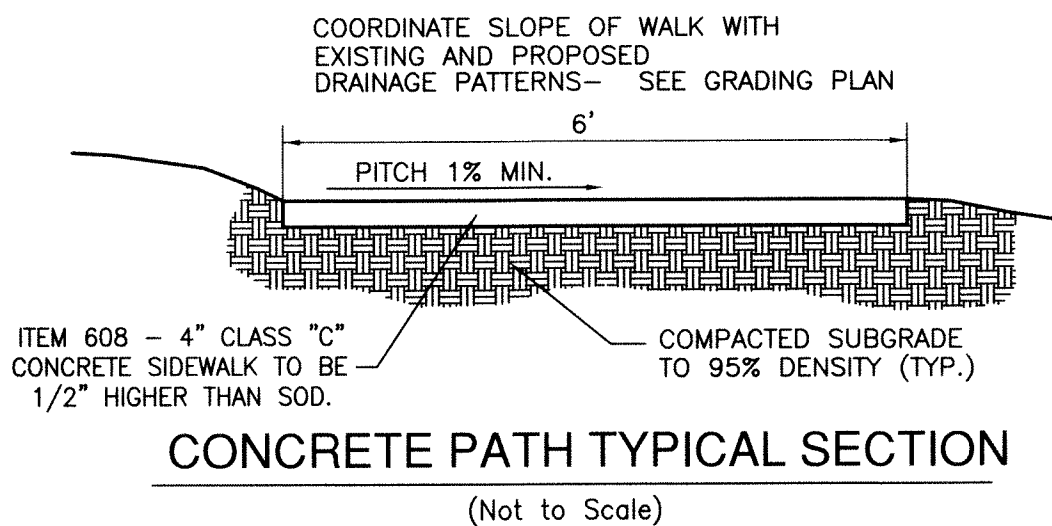
- NOTES:
1. ALL JOINTS OF THE FLOATATION SECTION SHALL BE GLUED TOGETHER AND WATERTIGHT. JOINTS OF THE SKIMMER SECTION NEED NOT BE WATERTIGHT.
 2. TO INSTALL DEWATERING PIPE STUB:
 - 2.1. FOR CORRUGATED METAL RISER, STUB SHALL BE SCH 40 STEEL PIPE TACK WELDED TO CREATE A WATERTIGHT SEAL.
 - 2.2. FOR CONCRETE RISER, STUB SHALL BE SCH 40 PVC PIPE GROUTED TO CREATE A WATERTIGHT SEAL.
 3. FLEXIBLE, NON-PERFORATED HDPE DRAIN PIPE SHALL BE ATTACHED TO OUTLET STRUCTURE DEWATERING STUB WITH WATER-TIGHT CONNECTIONS.
 4. ORIFICE HAS BEEN SIZED FOR A MINIMUM 48-HOUR DEWATERING TIME.



PLAN VIEW

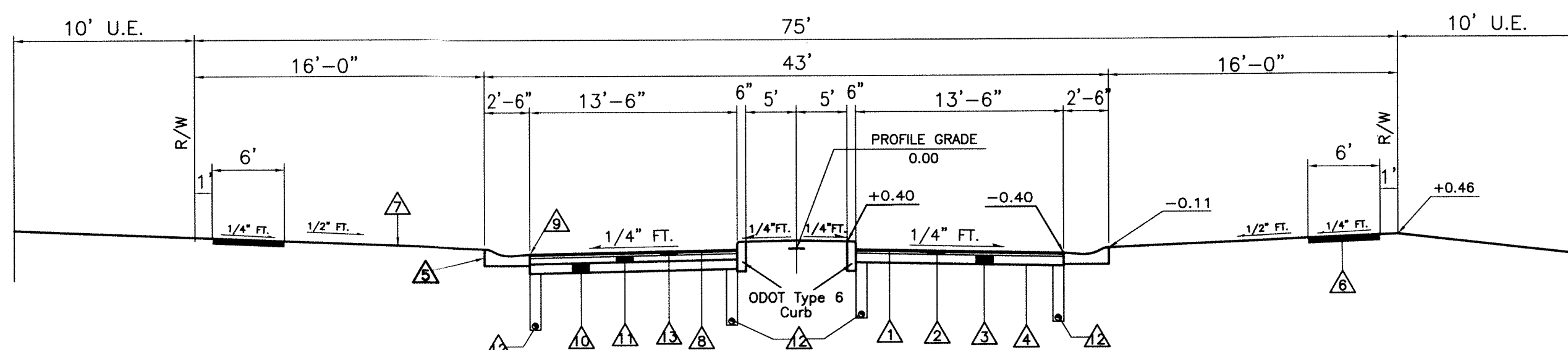


PROFILE VIEW

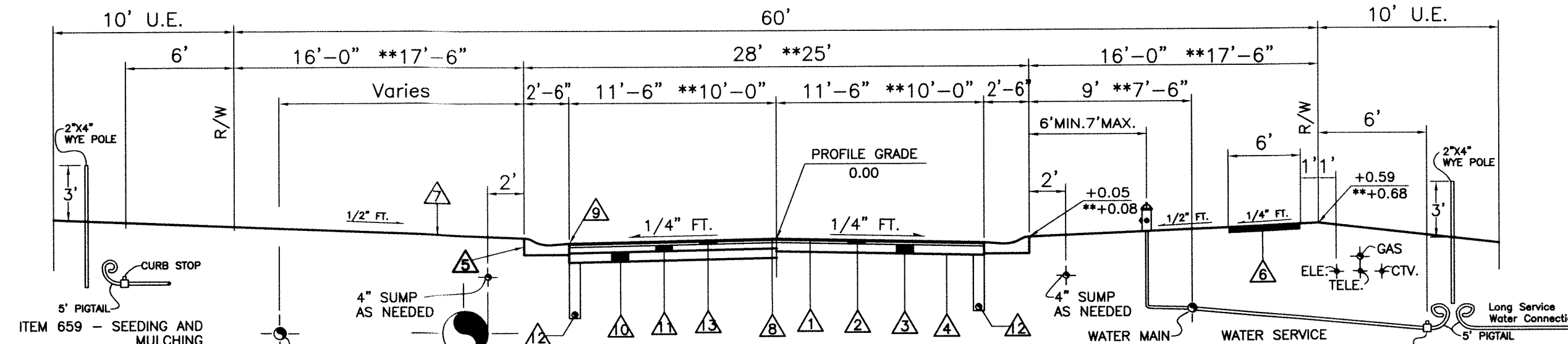


CONCRETE PATH TYPICAL SECTION

(Not to Scale)



SHANNON RIDGE BOULEVARD
TYPICAL SECTION

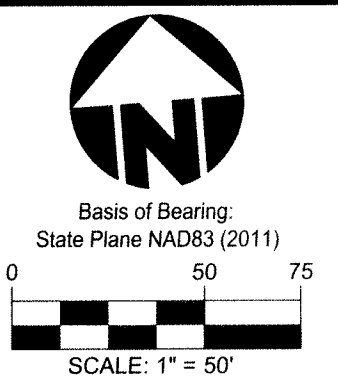
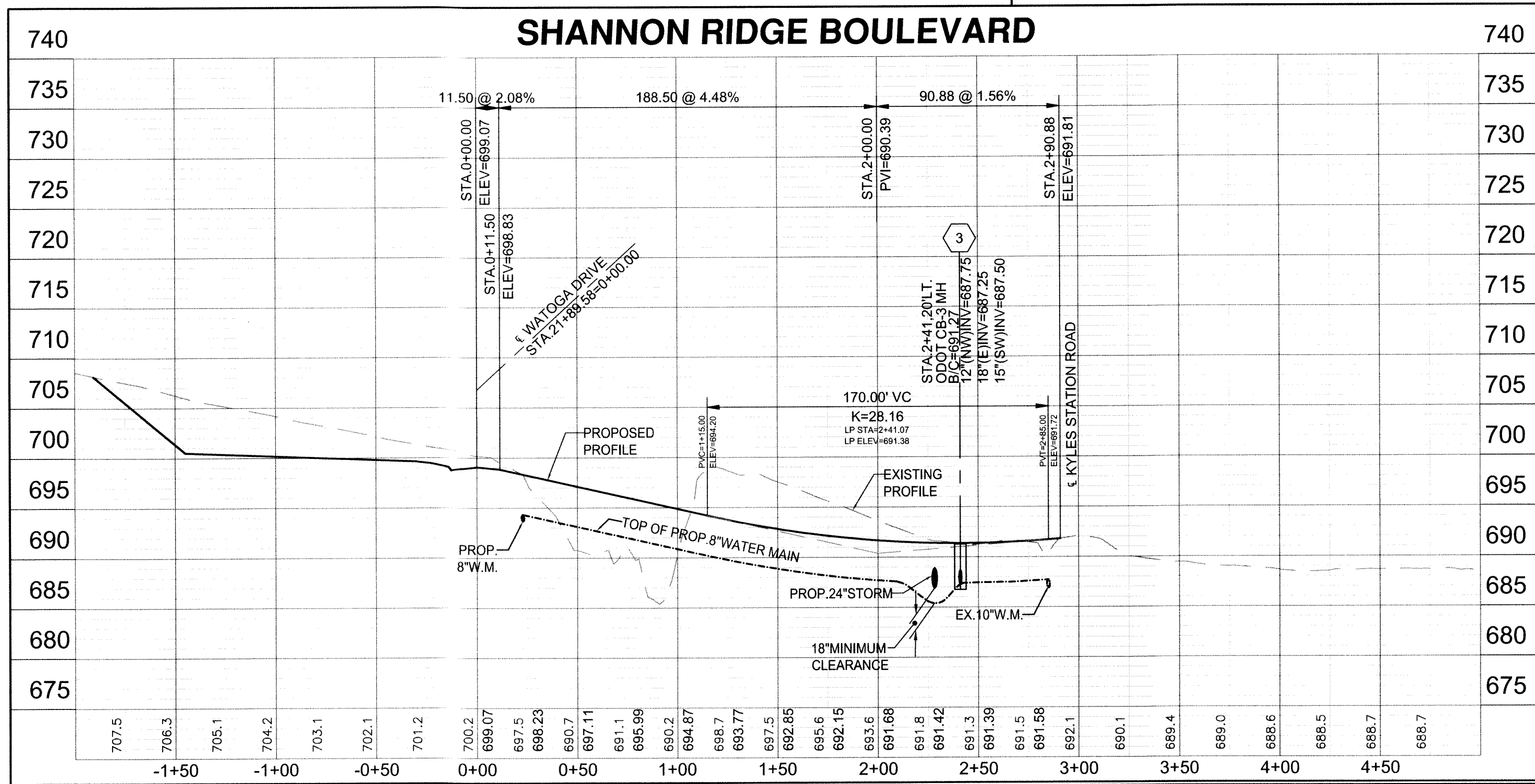
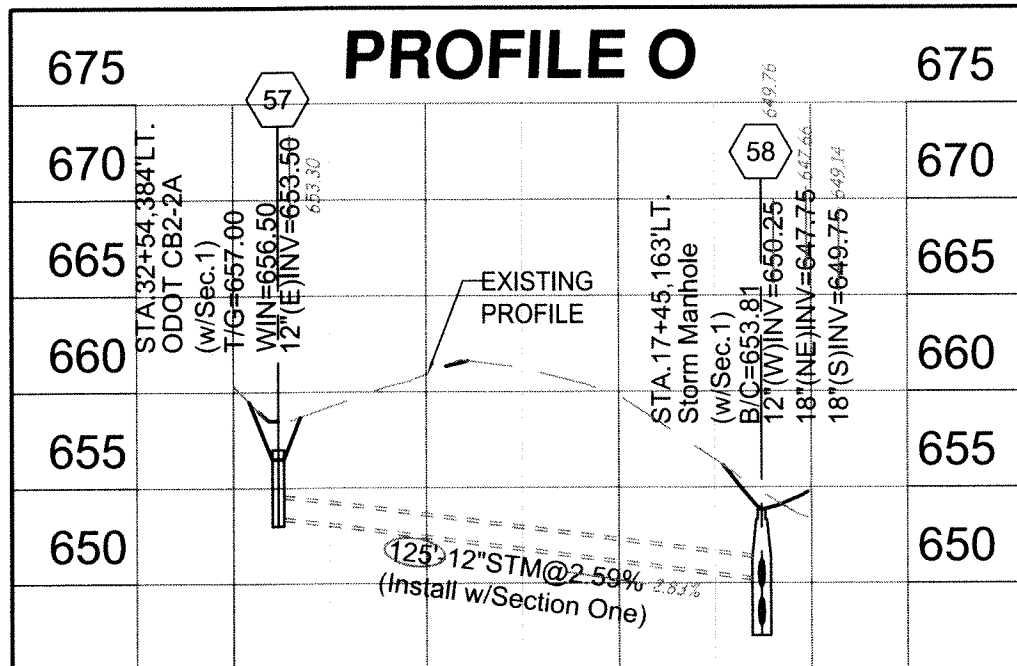


- NOTES:
1. 48 hours notice to be given to affected residents before construction begins.
 2. All Catch Basin B/C Elevations located within the curb are set to the Back of Curb Elevations.
 3. Lower 3/4\" Water Services as needed to avoid conflicts with Storm with Min. 4\" Cover.
 4. Location of existing utilities to be determined in the field prior to work beginning.
 5. All lots Sump to Sump Drain unless otherwise noted in plan.
 6. 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.
 7. 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 (for Tee Branch)
6"	18' both sides	18' both sides	36' both sides	72' Back	54' 6" 72' 90'
8"	18' both sides	18' both sides	36' both sides	90' Back	54' 6" 72' 90'
10"	36' both sides	36' both sides	54' both sides	117' Back	54' 6" 72' 90'
12"	36' both sides	36' 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.



SHANNON RIDGE
SECTION 33, TOWN 3, RANGE 3
LIBERTY TOWNSHIP
BUTLER COUNTY, OHIO
DETAILS, PLAN AND PROFILE



Drawing: 17-0120 CD4
Drawn by: TAC
Checked by: XXX
Issue Date: 1-24-18
Sheet: 2/15

OPEN SPACE

NOTES:

1. 48 hours notice to be given to affected residents before construction begins.

2. All Catch Basin B/C Elevations located within the curb are set to the Back of Curb Elevations.

3. Lower 3/4" Water Services as needed to avoid conflicts with Storm with Min. 4" Cover.

4. Location of existing utilities to be determined in the field prior to work beginning.

5. All lots Sump to Sump Drain unless otherwise noted in plan.

6. 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.

7. Contractors to accept all quantities as correct prior to beginning construction.

8. All abandoned utility poles on site are to be removed.

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 or Temporary)	Tees (for Tee Branch)
					6" 8" 10"
6"	18" both sides	18" both sides	36" both sides	72" Back	54' 72'
8"	18" both sides	36" both sides	36" both sides	90" Back	54' 72' 90'
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		

North Arrow

Basis of Bearing:
State Plane NAD83 (2011)

0 50 75

SCALE: 1" = 50'

Item

Date

Revision Description

1	2-6-18	TAC
2	3-9-18	TAC
3	3-9-18	TAC
4		
5		
6		
7		
8		
9		

SHANNON RIDGE

SECTION 33, TOWN 3, RANGE 3

LIBERTY TOWNSHIP

BUTLER COUNTY, OHIO

PLAN AND PROFILE

bayer

becker

www.bayerbecker.com

5600 Old National Road, Suite A

Mason, OH 45040 - 513.336.6600

Drawing

17-0120 CD4

Drawn by

TAC

Checked By

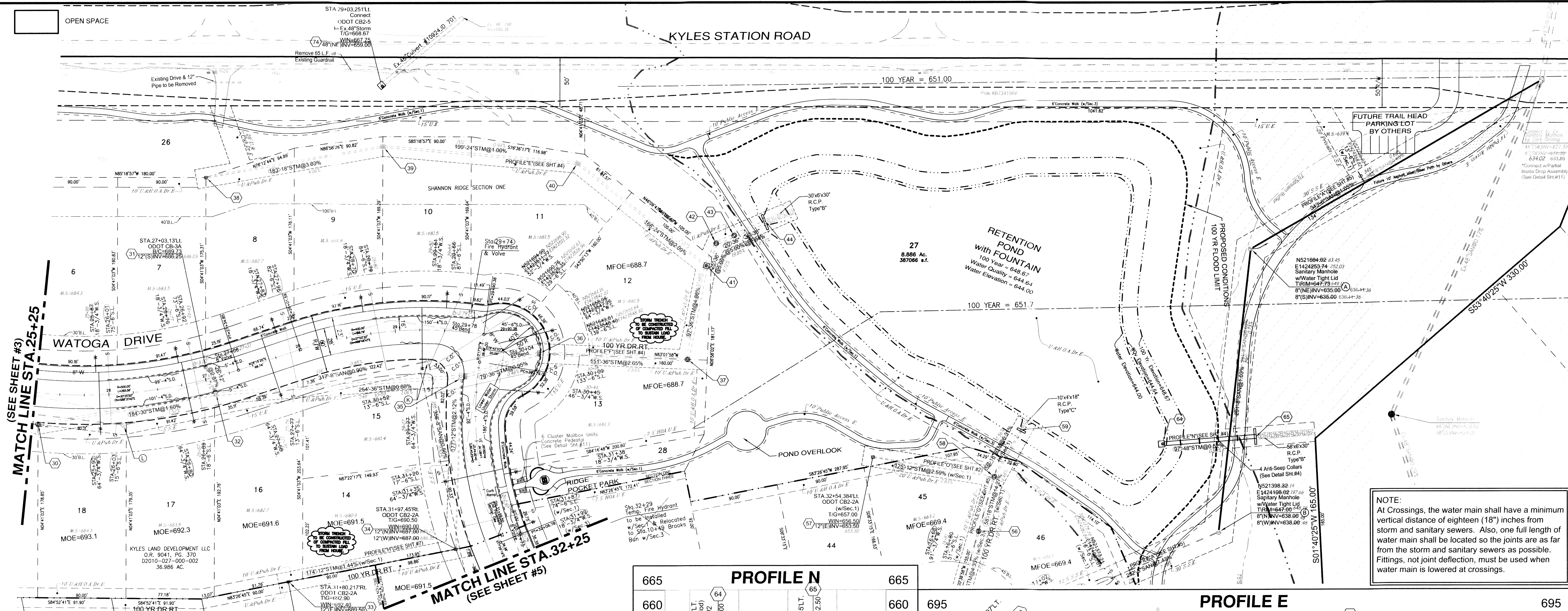
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Issue Date

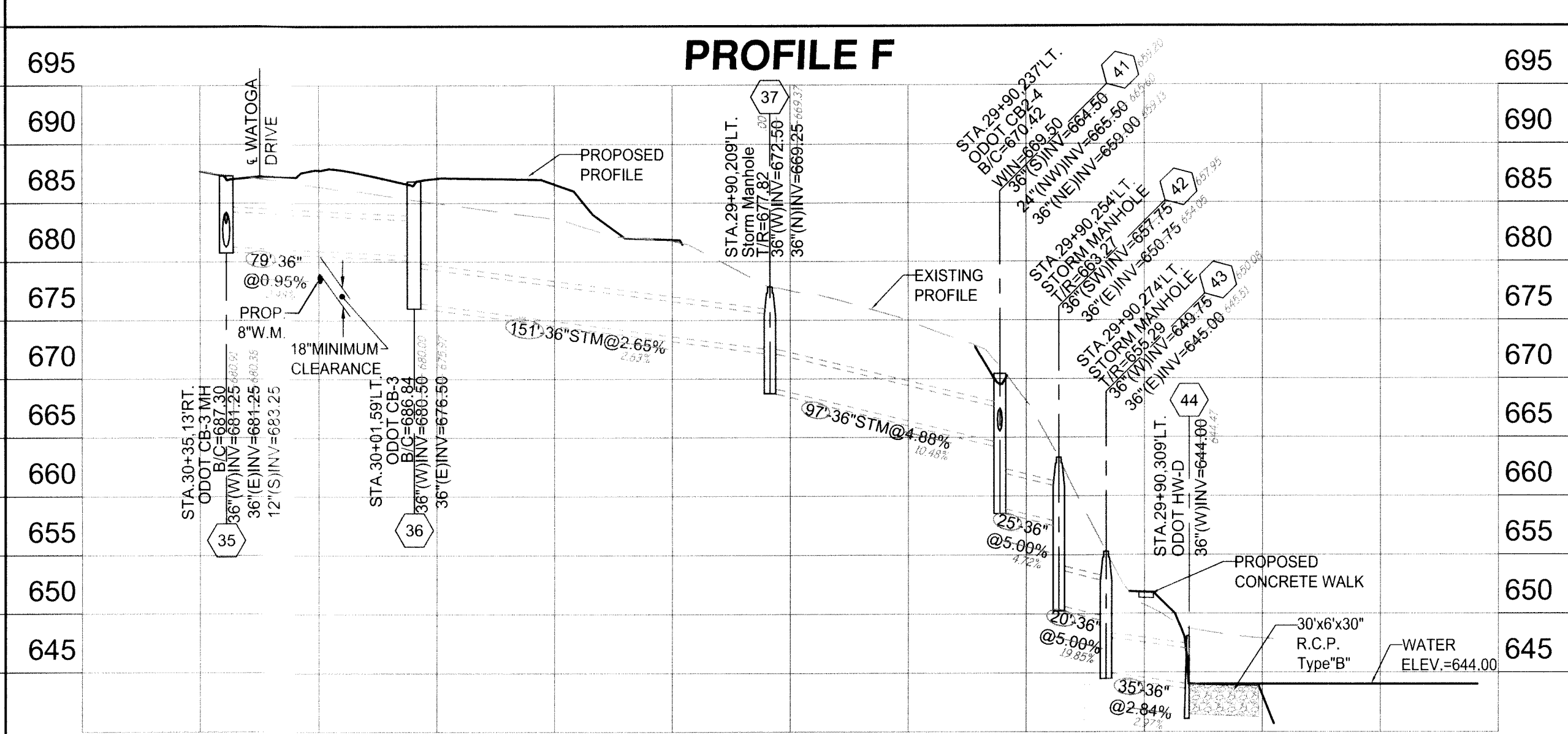
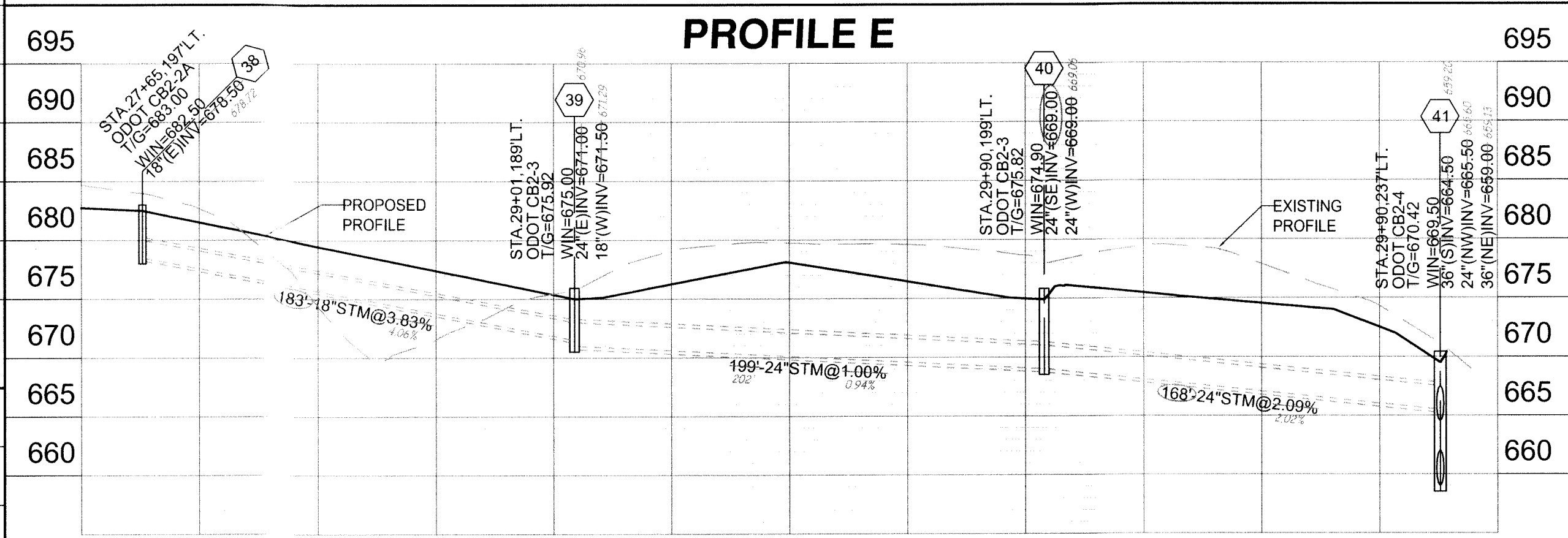
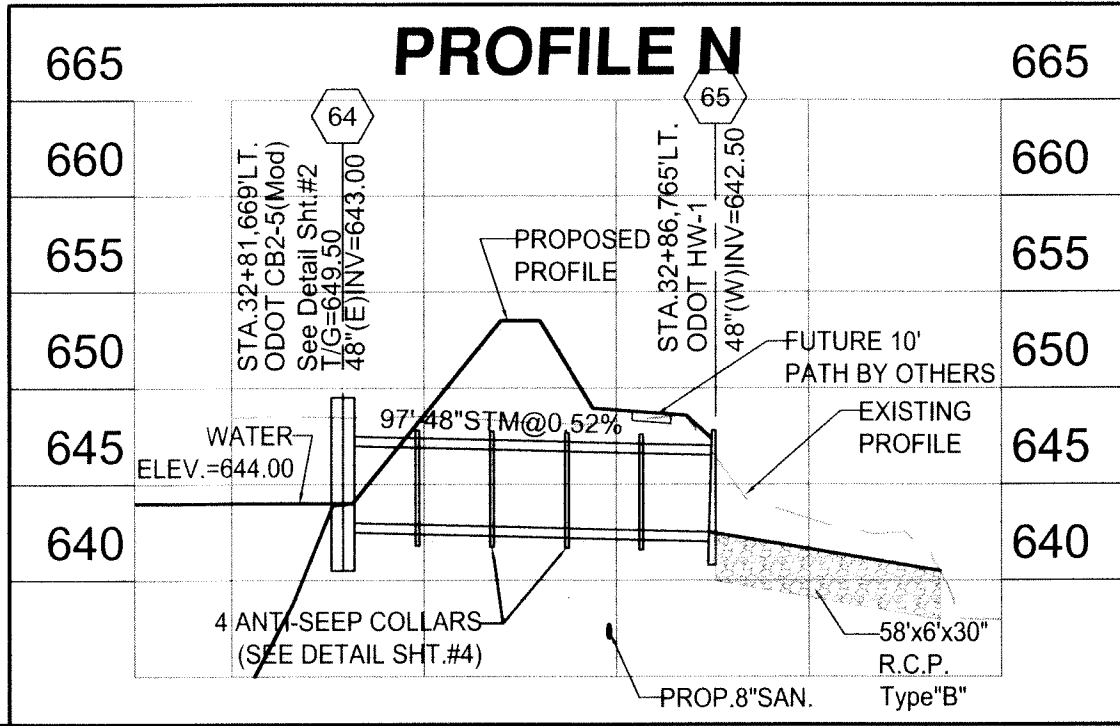
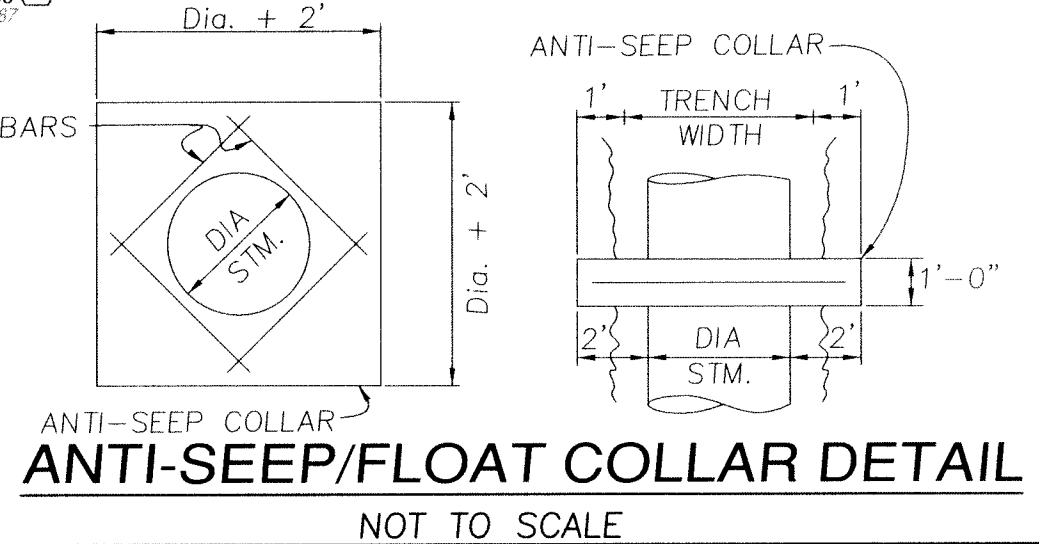
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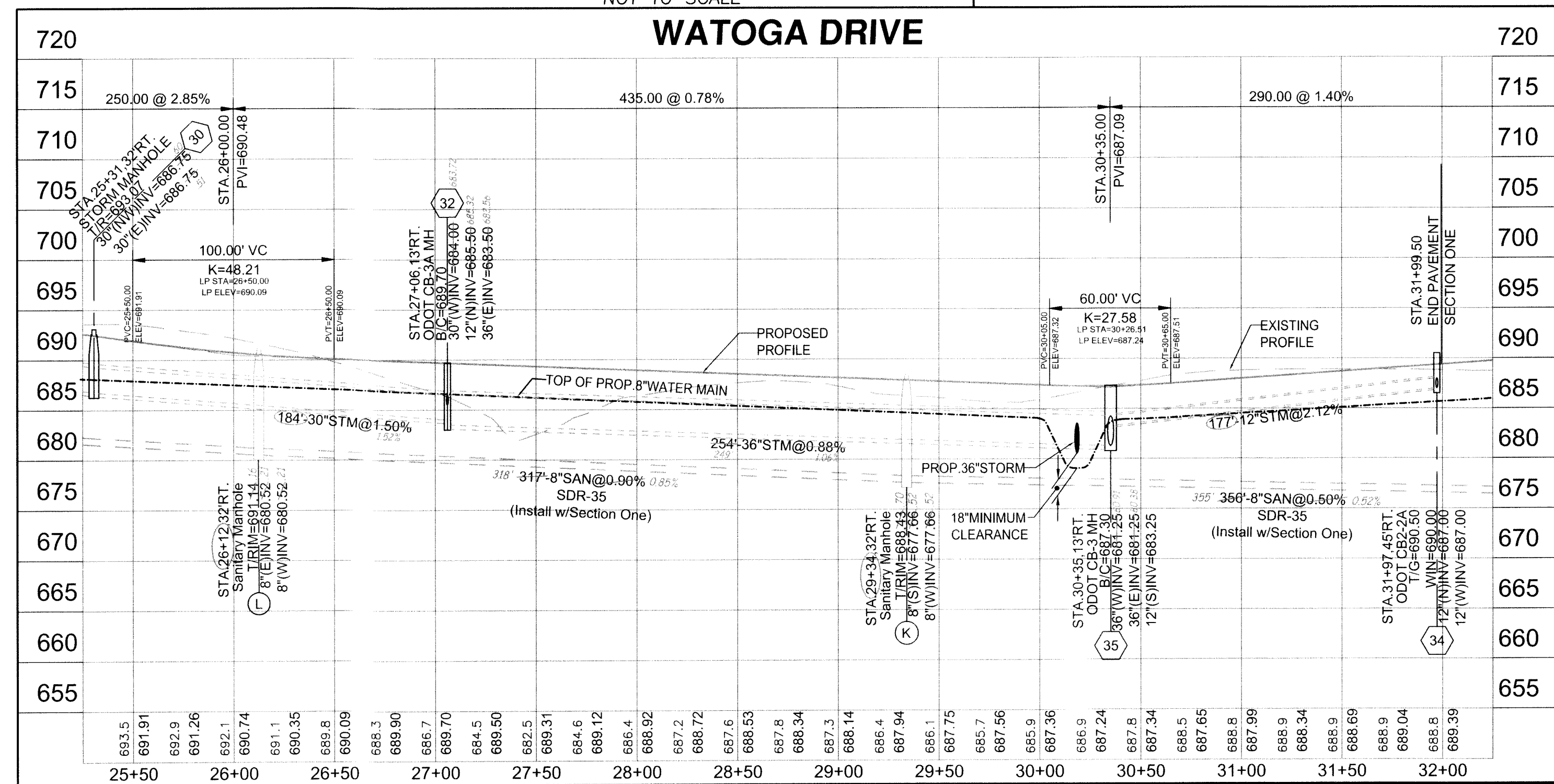
3/15



WATER MAIN RESTRAINT JOINT LOCATION CHART									
Water Main Dia.	Horizontal 45°Bends		Vertical 45°Bends (Low Water Under...)		Vertical 45°Bends (Low Water Under...)		Dead Ends (Permanent & Temporary)	Tees (for Tee Branch)	
	6"	8"	18'	both sides	36'	both sides	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' 90'
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'

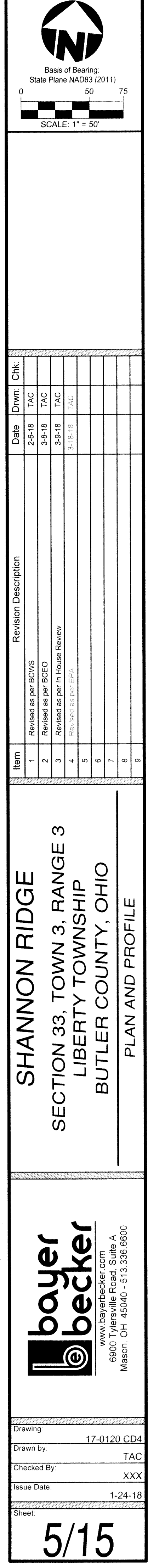
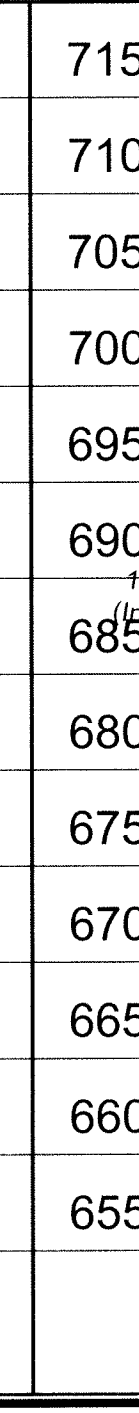
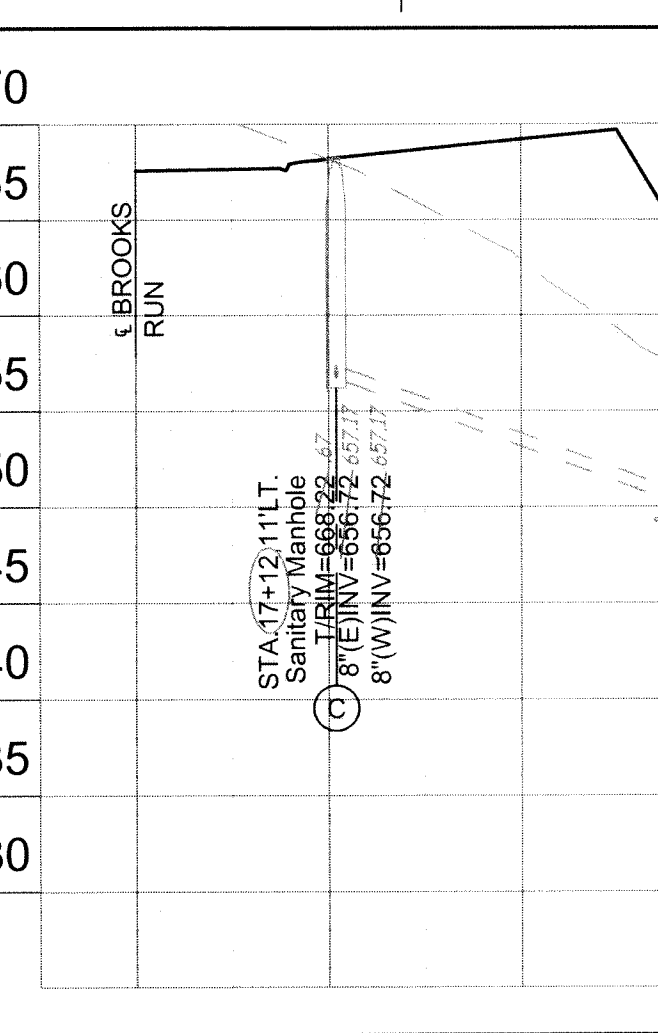
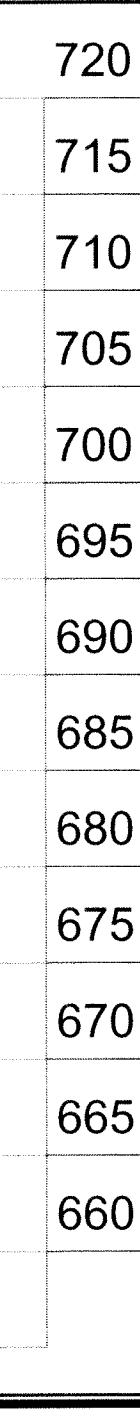
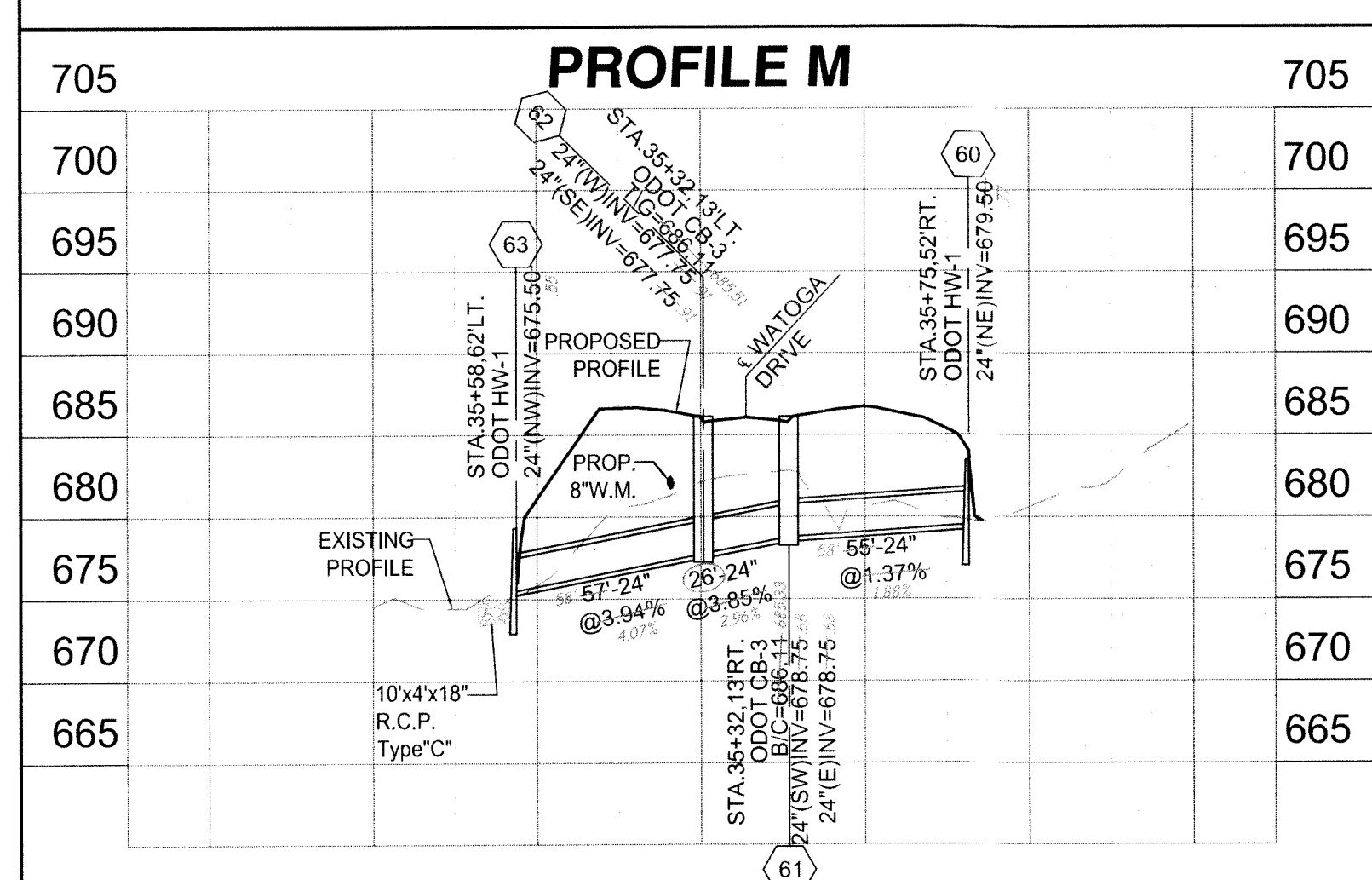


- ## NOTES
1. 48 hours notice to be given to affected residents before construction begins.
 2. All Catch Basin B/C Elevations located within the curb are set to the Back of Curb Elevations.
 3. Lower 3/4" Water Services as needed to avoid conflicts with Storm with Min. 4' Cover.
 4. Location of existing utilities to be determined in the field prior to work beginning.
 5. All lots Sump to Sump Drain unless otherwise noted in plan.
 6. 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.
 7. Contractors to accept all quantities as correct prior to beginning construction.
 8. All abandoned utility poles on site are to be removed.



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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.

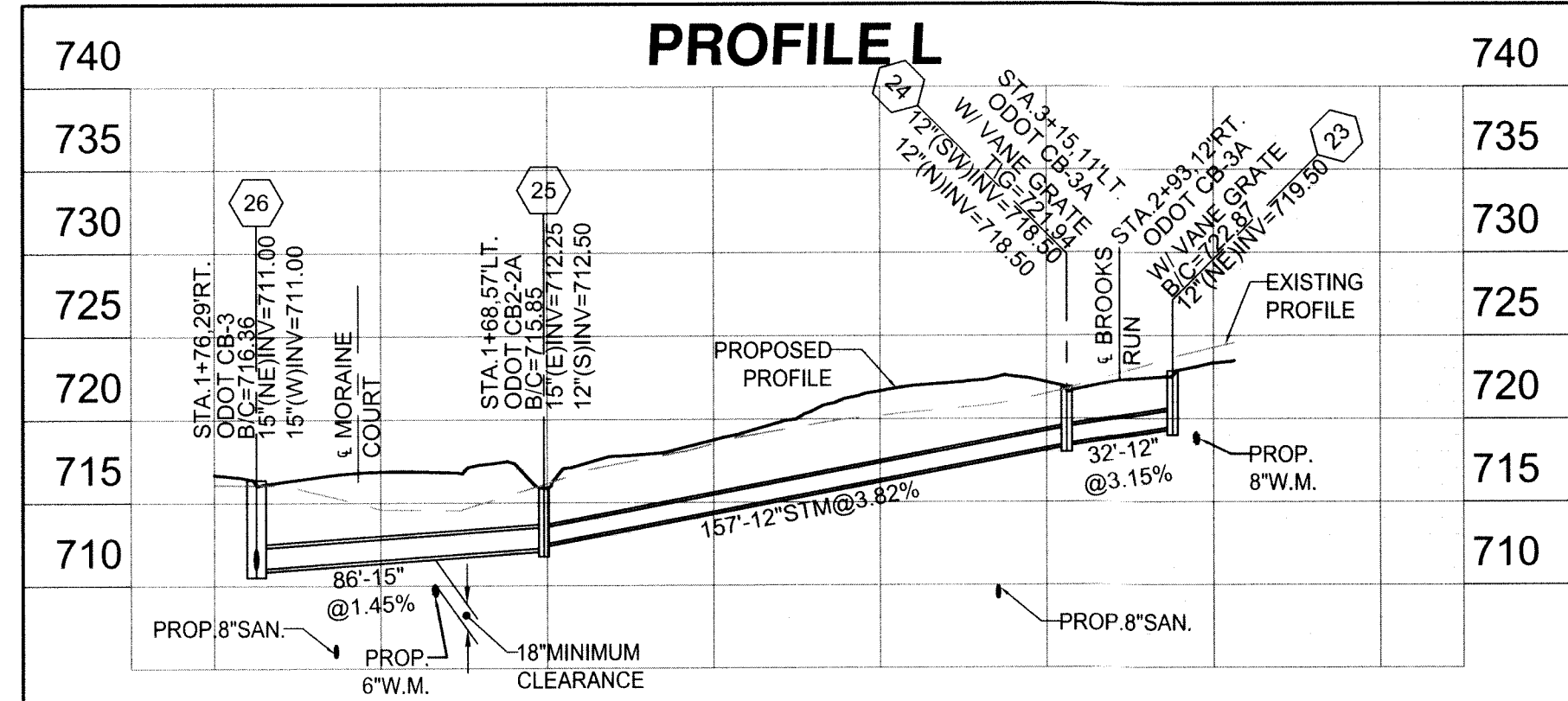


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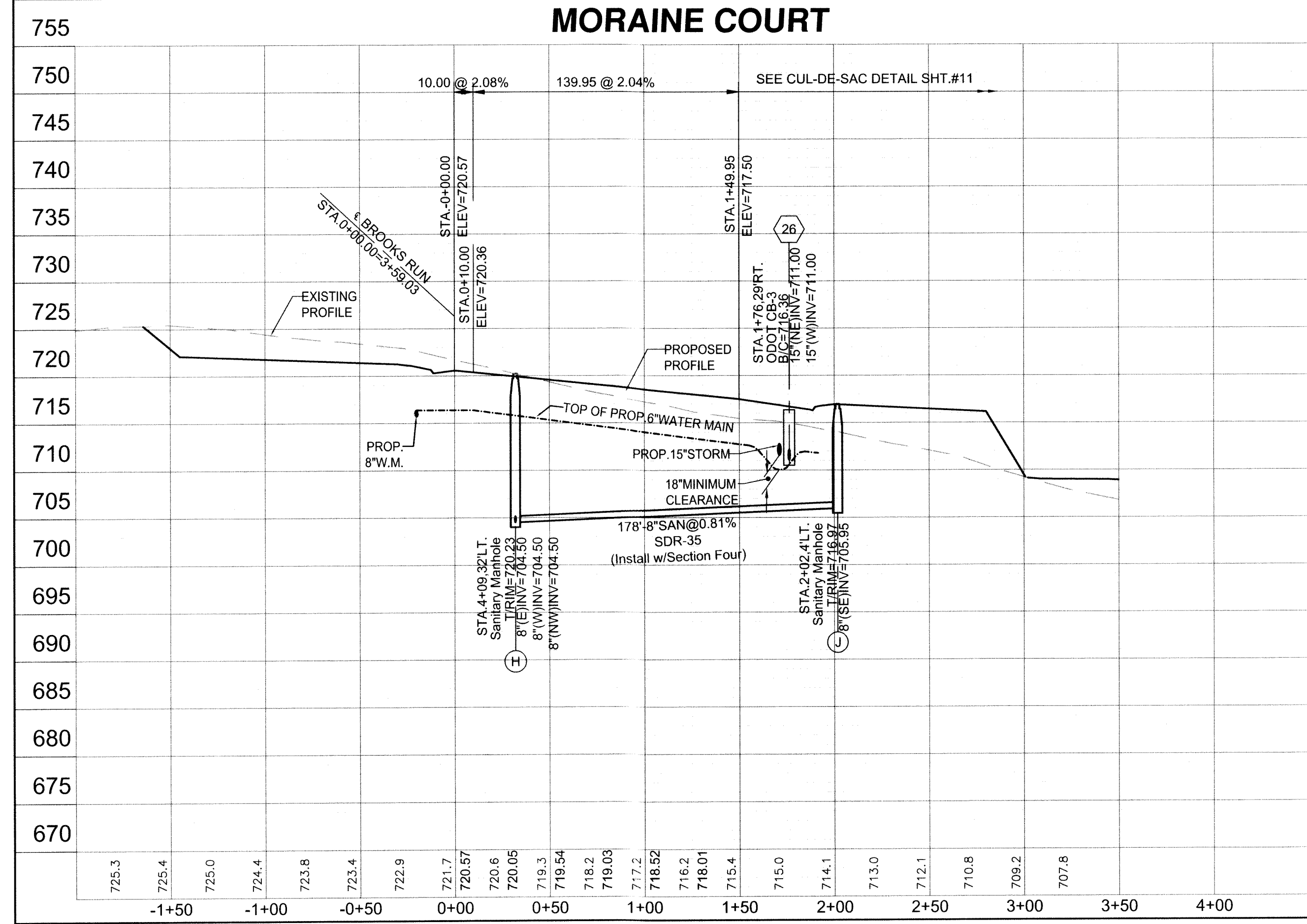
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WATER MAIN RESTRAINT JOINT LOCATION CHART

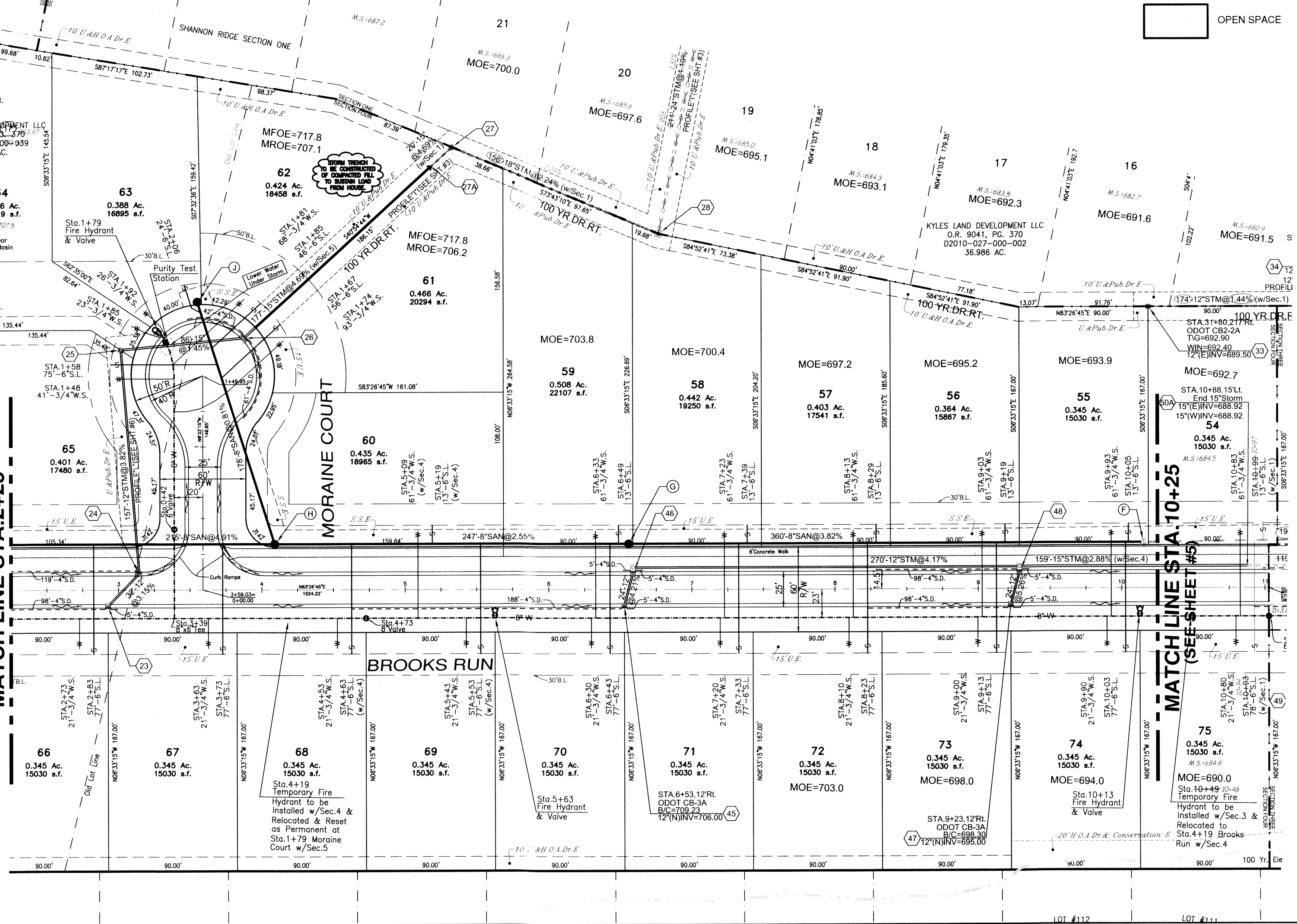
Water Main Dia.	Horizontal 45° Bends	Vertical 45° Bends Up (Lower Water Under...)	Vertical 45° Bends Down (Lower Water Under...)	Dead Ends (Permanent & Temporary)	Tees (for Tee Branch)
6"	18" both sides	18" both sides	36" both sides	72" Back	54" 6" 8" 10"
8"	18" both sides	36" both sides	36" both sides	90" Back	54" 72" 90"
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"



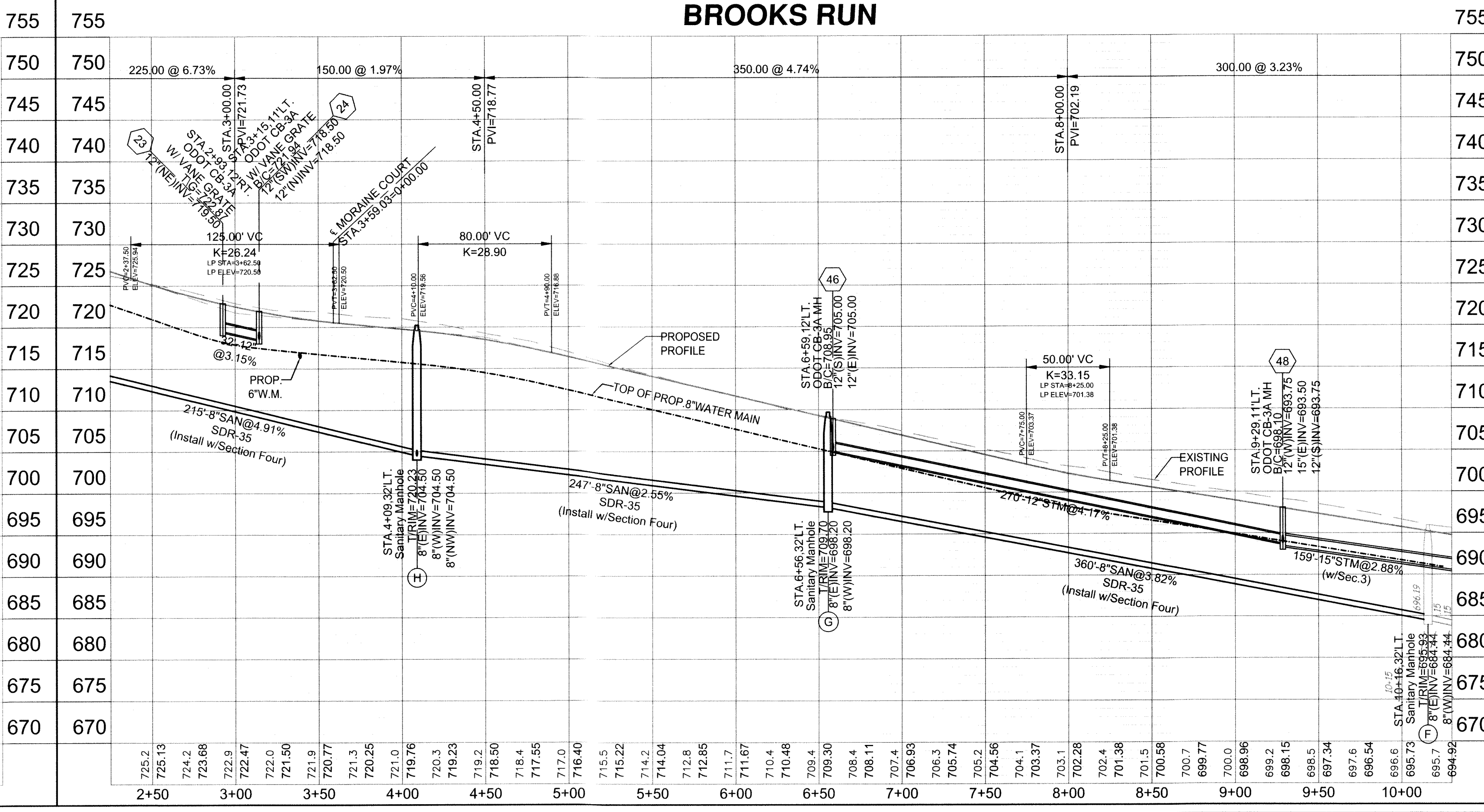
MORaine COURT



(SEE SHEET #7)
MATCH LINE STA. 2+25



BROOKS RUN



Shannon Ridge

Section 33, Town 3, Range 3

Liberty Township

Butler County, Ohio

Plan and Profile

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6800 Wier Road, Suite A
Mason, OH 45040 • 513.335.6600

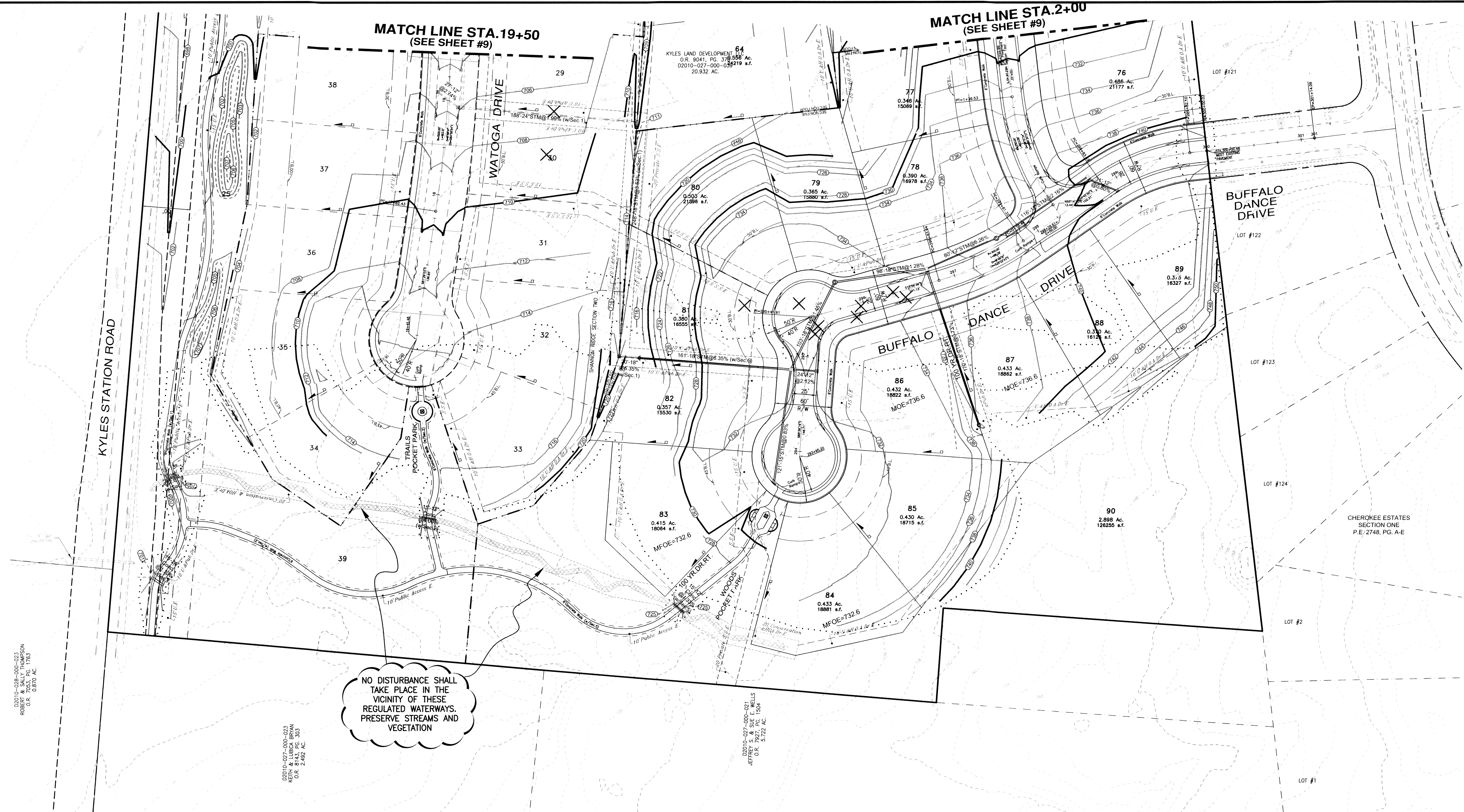
Drawing: 17-0120 CD4

Drawn by: TAC

Checked by: XXX

Issue Date: 1-24-18

6/15



- 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 twenty-one (21) 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.

NOTE:
All existing paved areas, walls, buildings, golf course appurtenances, etc. to be removed. Location of on site bury pits to be disclosed to site engineer for notation on final plat.

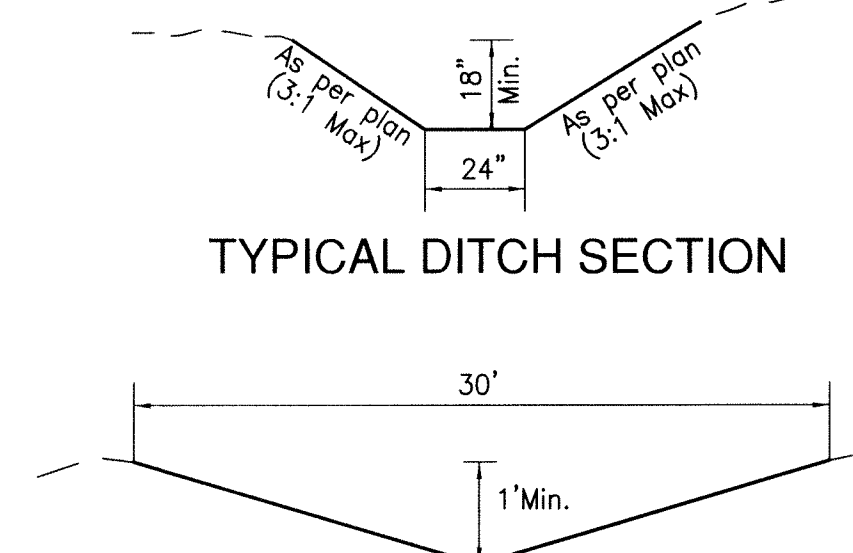
NOTE:
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NOTE:
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- CLEARING LIMITS
- SILT FENCE OR MULCH BERM
- 14" TOPSOIL CAP
- WASTE FILL: DO NOT STRIP
- OPEN SPACE
- REGULATED WATERWAY OF UNITED STATES
- RIPARIAN AREA: NO DISTURBANCE PERMITTED

Note: All ditches constructed by the Developer shall be sodded or hydra-seeded.



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 #15)

Basis of Bearing:
State Plane NAD83 (2011)
0 50 75
SCALE: 1" = 50'

Item	Revision Description	Date	Drawn	Chk
1	Revised Section 4 Boundary & Lot numbers	6-23-20	TAC	

SHANNON RIDGE
SECTION 33, TOWN 3, RANGE 3
LIBERTY TOWNSHIP
BUTLER COUNTY, OHIO

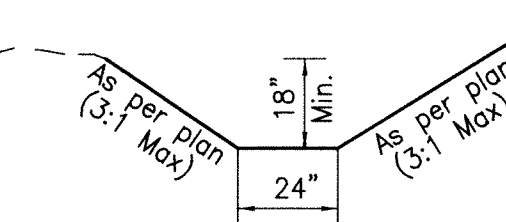
GRADING PLAN

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6600 Chalmers Road, Suite A
Mason, OH 45040 • 513.336.6600

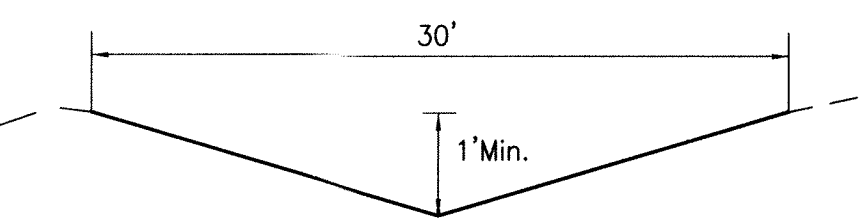
Drawing: 17-0120 CD4
Drawn by: TAC
Checked by: XXX
Issue Date: 1-24-18
Sheet

8/15

Note: All ditches constructed by the Developer shall be sodded or hydra-seeded.



TYPICAL DITCH SECTION



TYPICAL DRAINAGE ROUTE SECTION

MATCH LINE STA.29+00
(SEE SHEET #10)

MATCH LINE STA.11+25
(SEE SHEET #10)

MATCH LINE STA.19+50
(SEE SHEET #8)

MATCH LINE STA.2+00
(SEE SHEET #8)

- CLEARING LIMITS
- SILT FENCE OR MULCH BERM
- 14" TOPSOIL CAP
- WASTE FILL: DO NOT STRIP
- OPEN SPACE
- THIS FILL REQUIRES COMPACTION TESTING FULL WIDTH OF RIGHT-OF-WAY
- REGULATED WATERWAY OF UNITED STATES
- RIPARIAN AREA: NO DISTURBANCE PERMITTED

EROSION CONTROL NOTES

- SEEDING AND MULCHING
- SODDING
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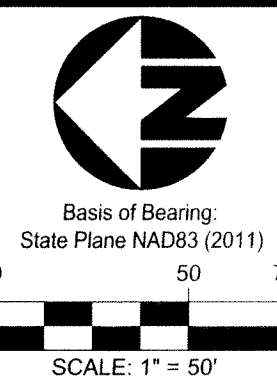
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NOTE:
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SHANNON RIDGE
SECTION 33, TOWN 3, RANGE 3
LIBERTY TOWNSHIP
BUTLER COUNTY, OHIO
GRADING PLAN



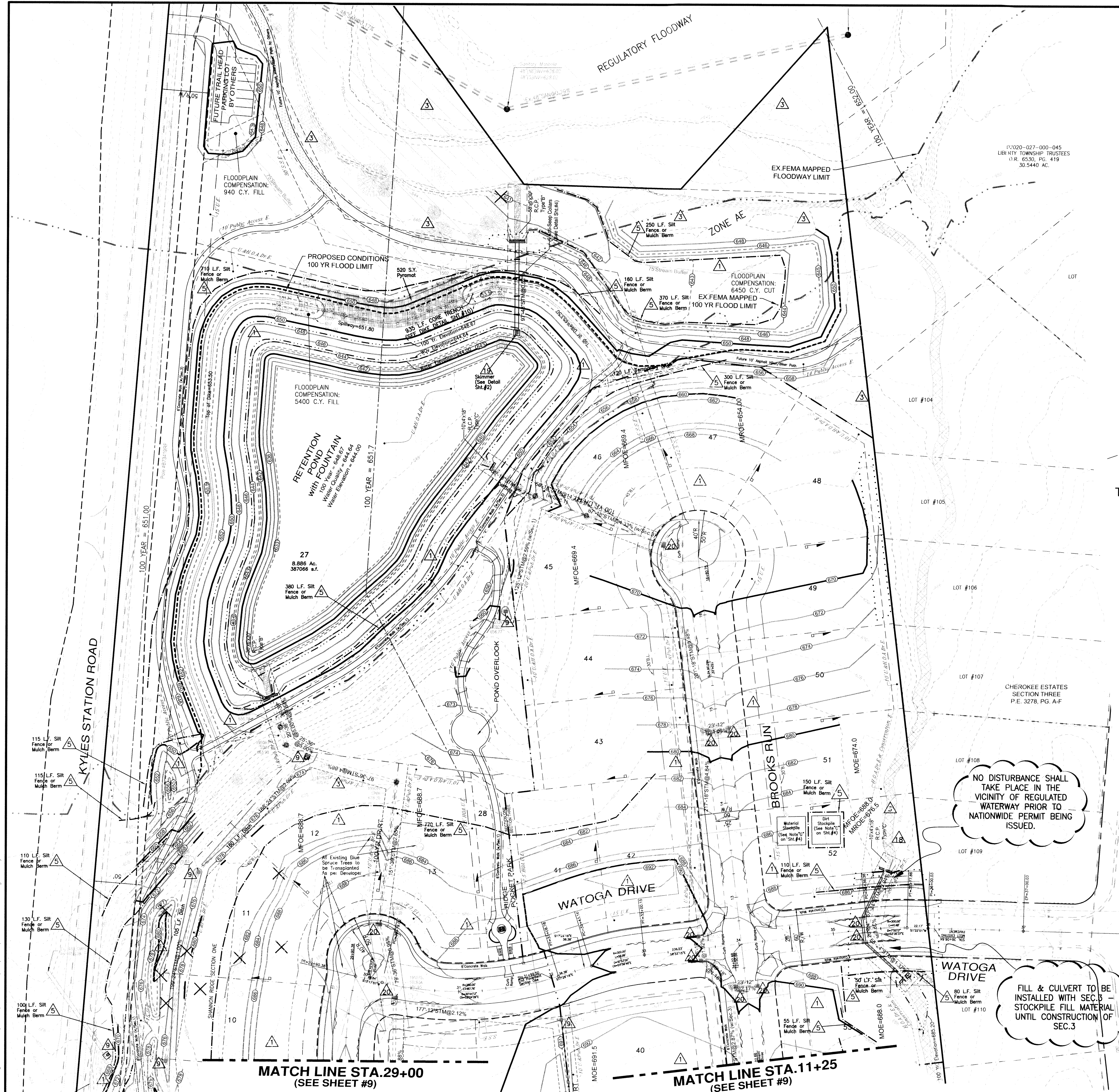
Drawing: 17-0120 CD4

Drawn by: TAC

Checked by: XXX

Issue Date: 1-24-18

Sheet: 9/15



NOTE:
Geotechnical Engineer to be on site during construction of Retention Basin.

RETENTION POND DAM TYPICAL SECTION (Not to Scale)

RETENTION BASIN SPILLWAY DETAIL (Not to Scale)

TYPICAL DITCH SECTION

TYPICAL DRAINAGE ROUTE SECTION

EROSION CONTROL NOTES

NOTE:
All existing paved areas, walls, buildings, golf course appearances, etc. to be removed. Location of on site bury pits to be disclosed to site engineer for notation on final plot.

NOTE:
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NOTES:

STREAM CROSSING DETAILS

NOTE:
The Ohio E.P.A. has concerns about any sanitary sewer which crosses or runs parallel to any flowing streams. For streams which drain one square mile or greater, communities are required to implement control practices in these areas as much as possible. For streams with less than one square mile of drainage, communities must implement control practices as much as practical. The area of concern includes 2.5 times the full bank width of the stream on both sides of the stream (riparian area). For these stream crossings or other areas where the sewers are in this riparian area, the entity should specify the means for mitigating any impacts on these streams which could result from this activity. These factors would include the following:

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SHANNON RIDGE
SECTION 33, TOWN 3, RANGE 3
LIBERTY TOWNSHIP
BUTLER COUNTY, OHIO
GRADING PLAN

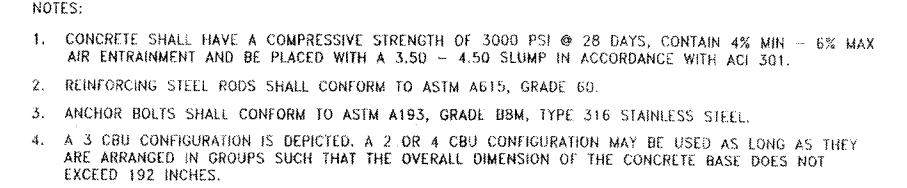
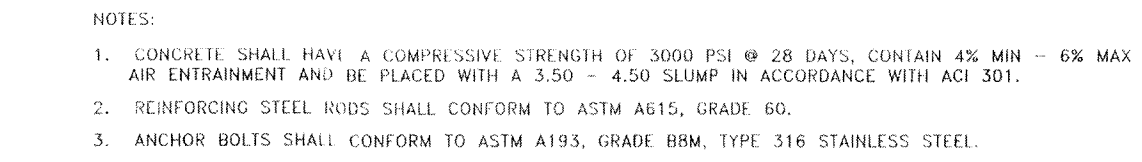
bayer becker
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Mason, OH 45040 - 513.339.6900

10/15

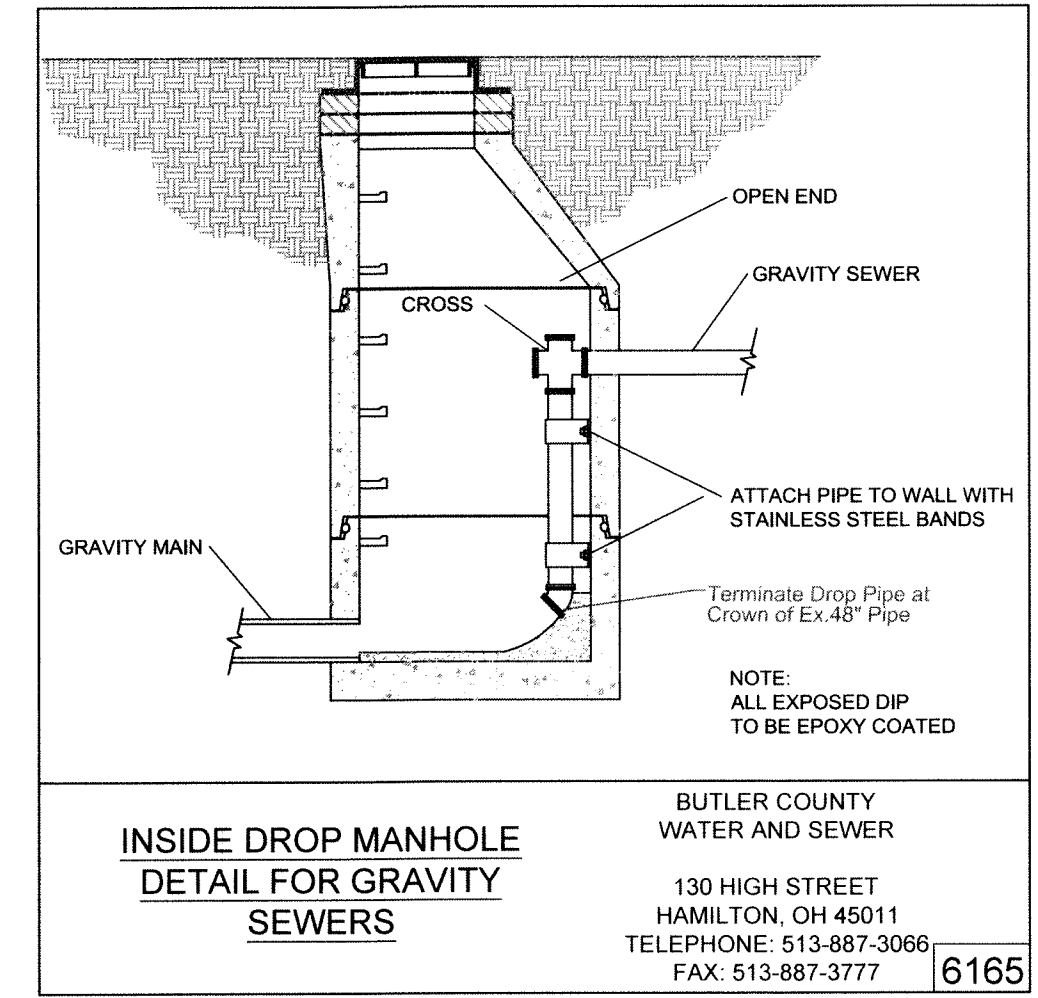
Plot time: Jun 23, 2020 - 11:23am

(All measurements are in inches)

USPS APPROVED SPECIFICATIONS – CONCRETE PAD (MULTIPLE UNIT)



CLUSTER MAILBOX CONCRETE PAD DETAIL



SHANNON RIDGE

SECTION 33, TOWN 3, RANGE 3

LIBERTY TOWNSHIP

BUTLER COUNTY, OHIO

INTERSECTION DETAILS

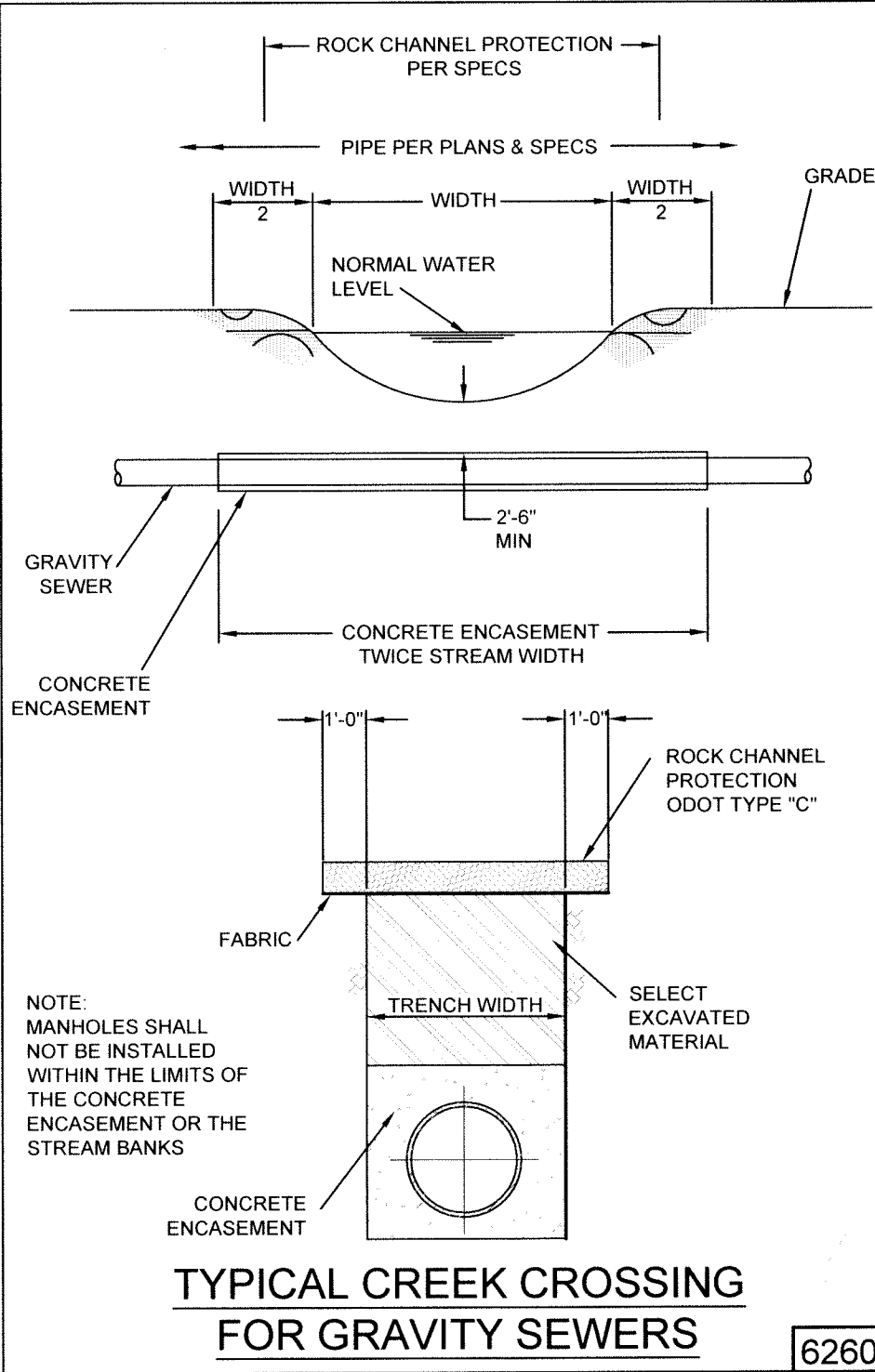
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Mason, OH 45040 • 513.336.6600

Drawing:	17-0120 CD4
Drawn by:	TAC
Checked By:	XXX
Issue Date:	1-24-18
Sheet:	

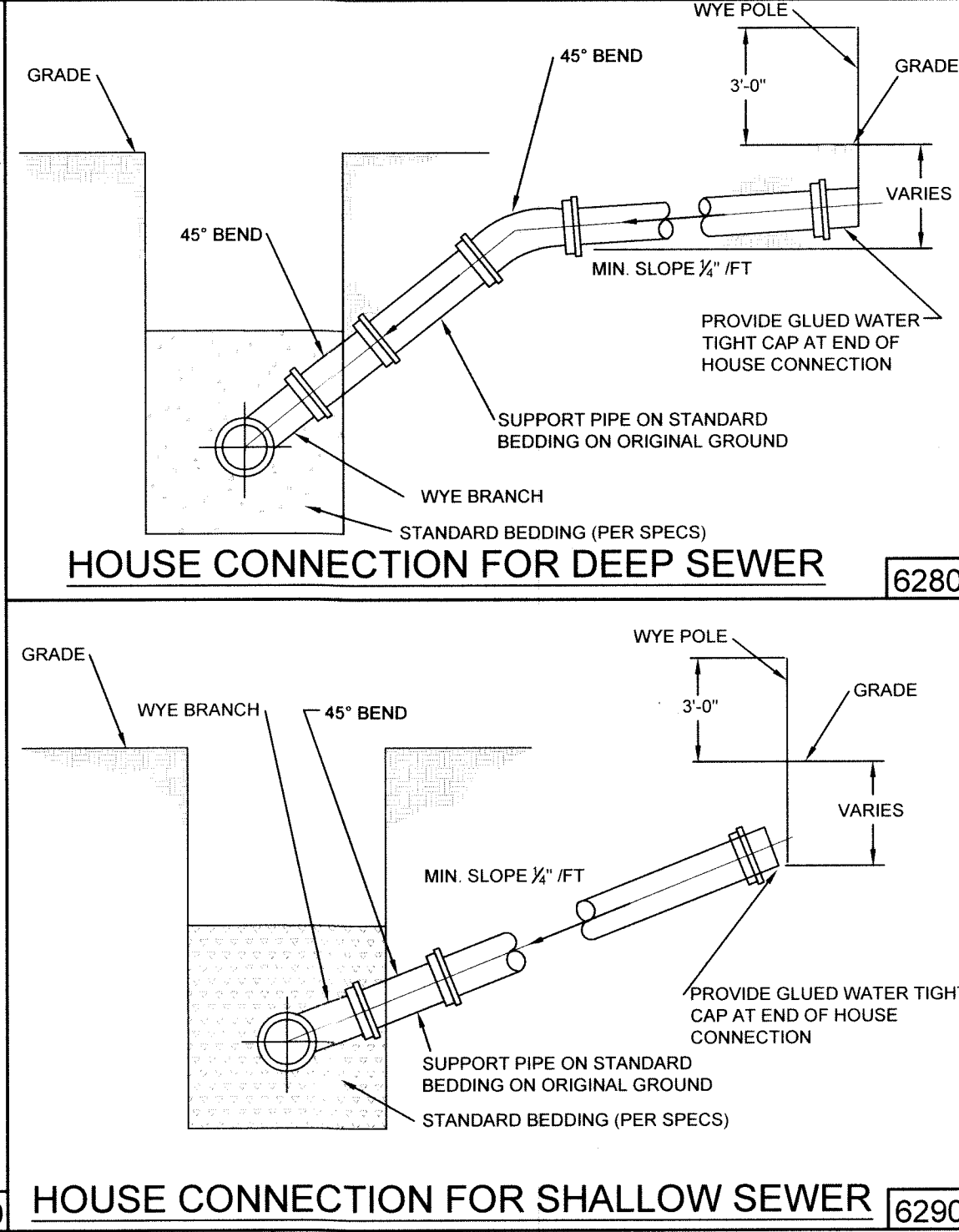
11/15

DETAIL SCALE: 1"=30'



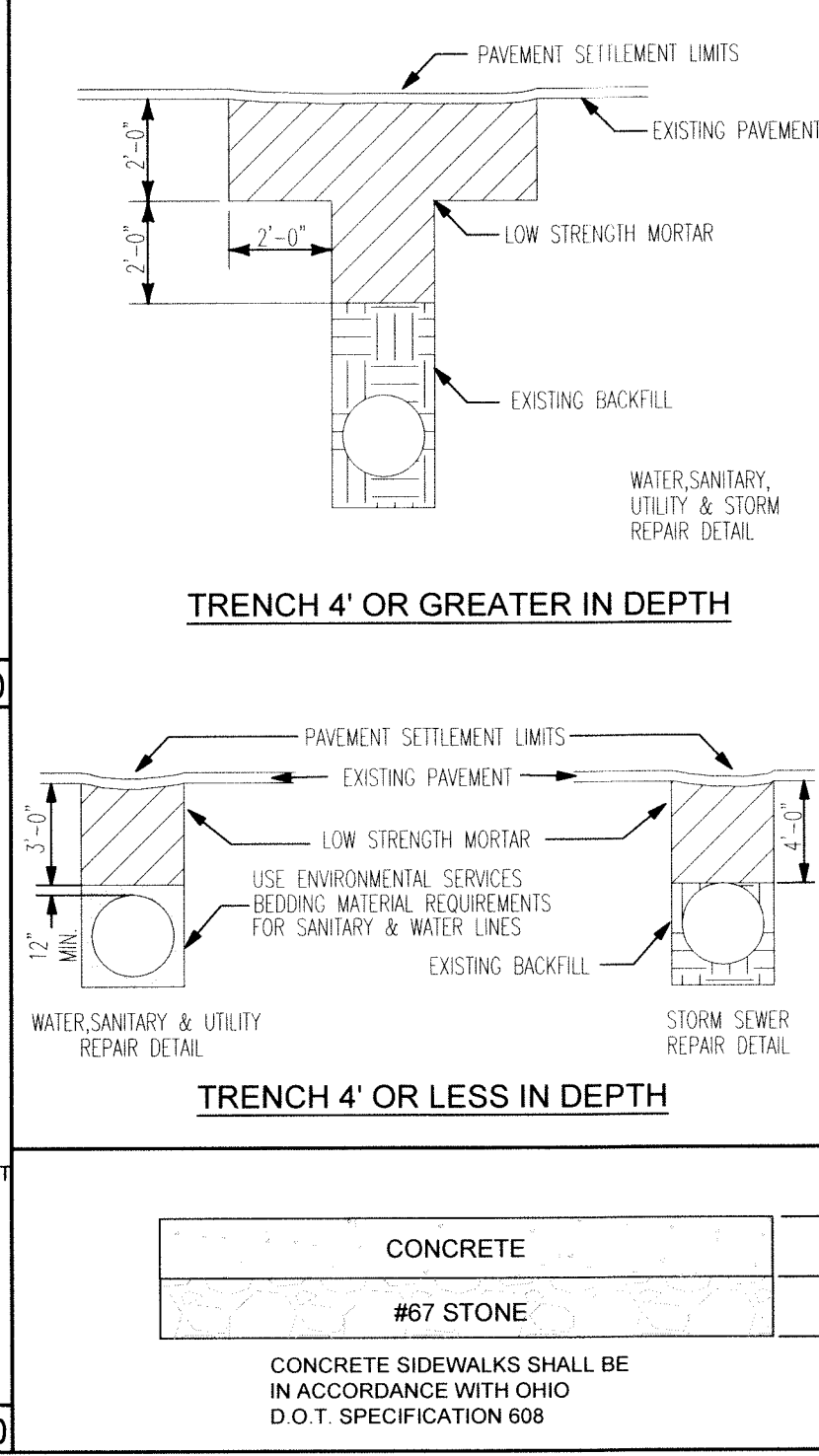
TYPICAL CREEK CROSSING
FOR GRAVITY SEWERS

6260



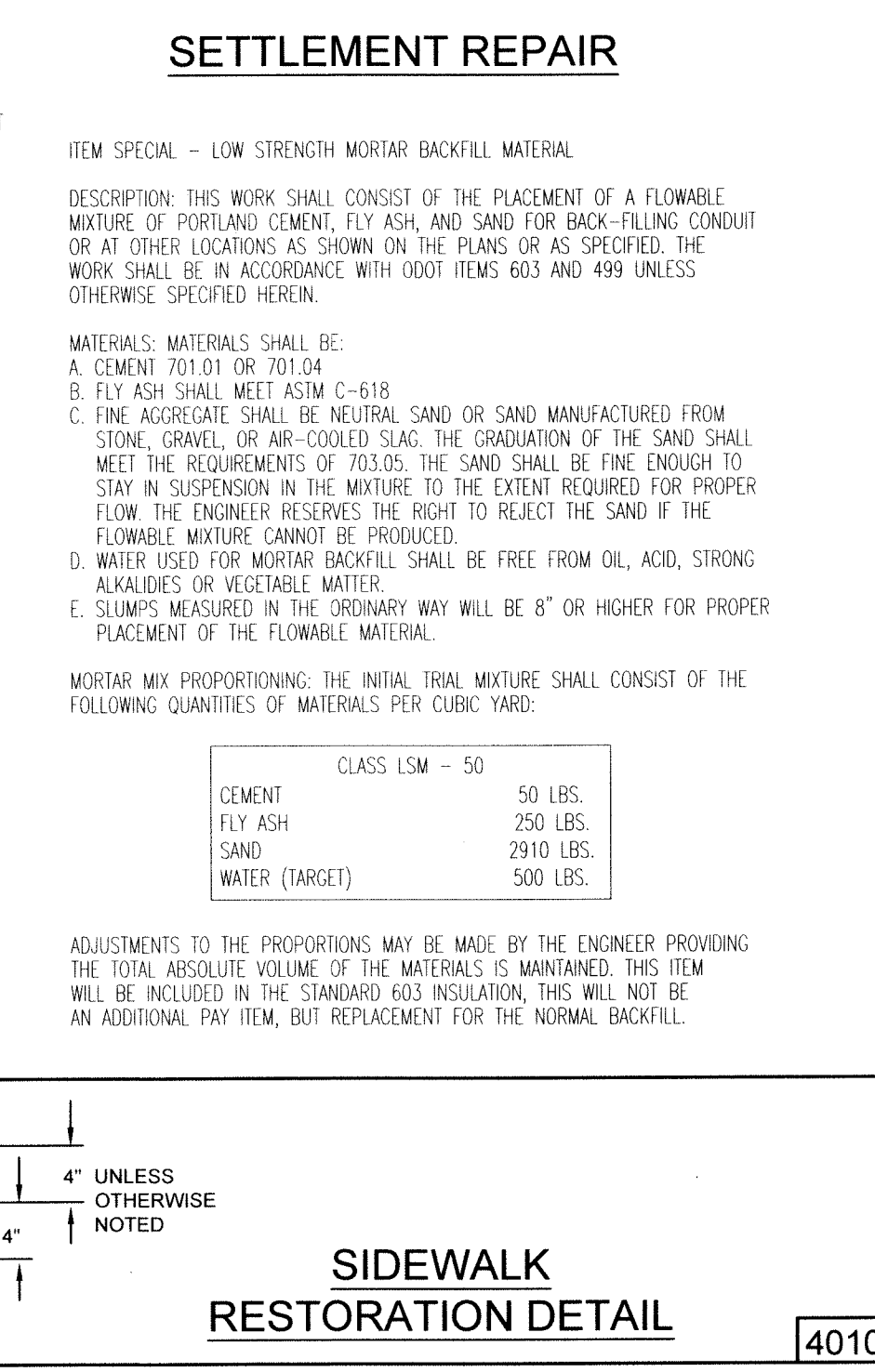
HOUSE CONNECTION FOR DEEP SEWER

6280



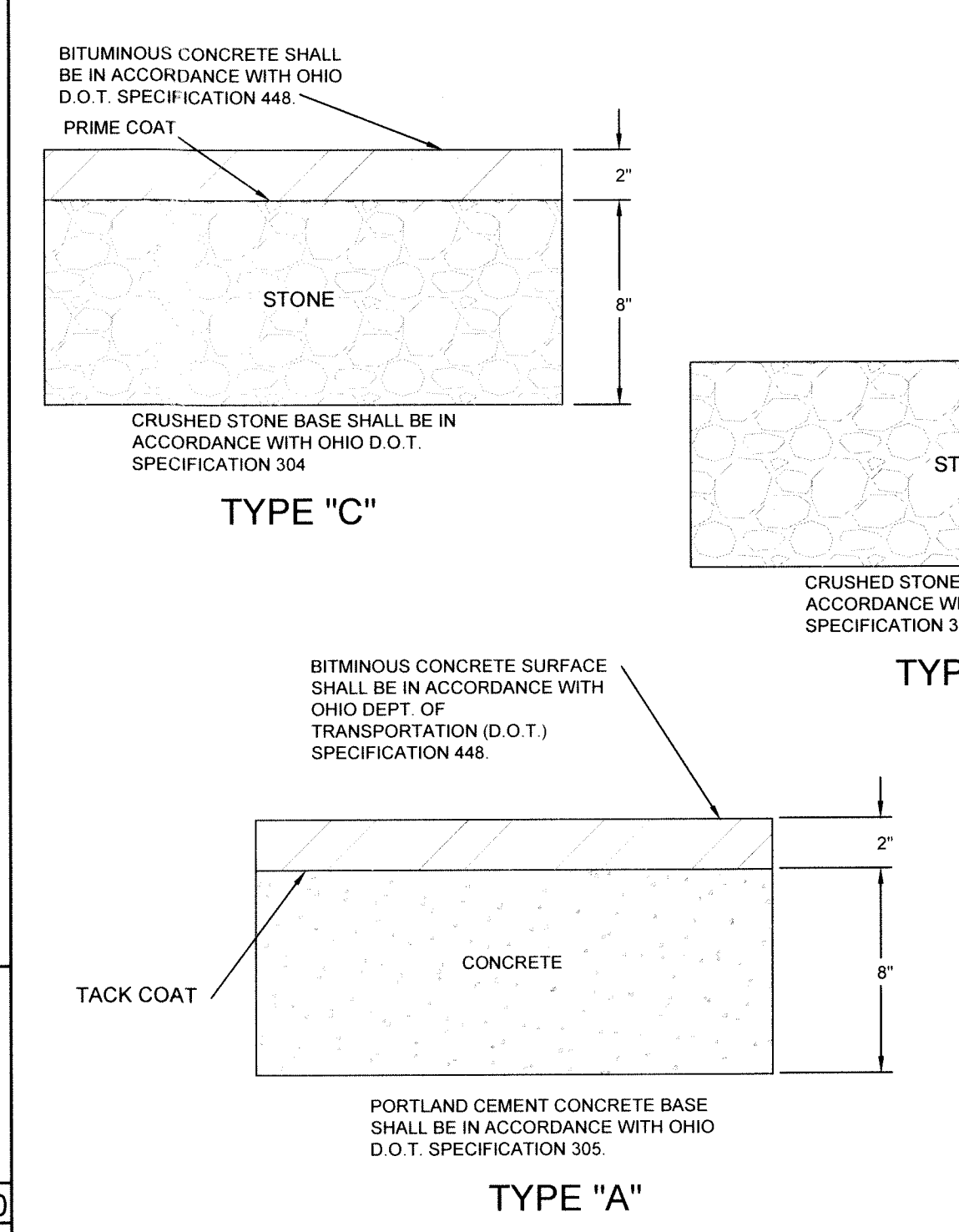
HOUSE CONNECTION FOR SHALLOW SEWER

6290



SIDEWALK
RESTORATION DETAIL

4010



TYPE "C"

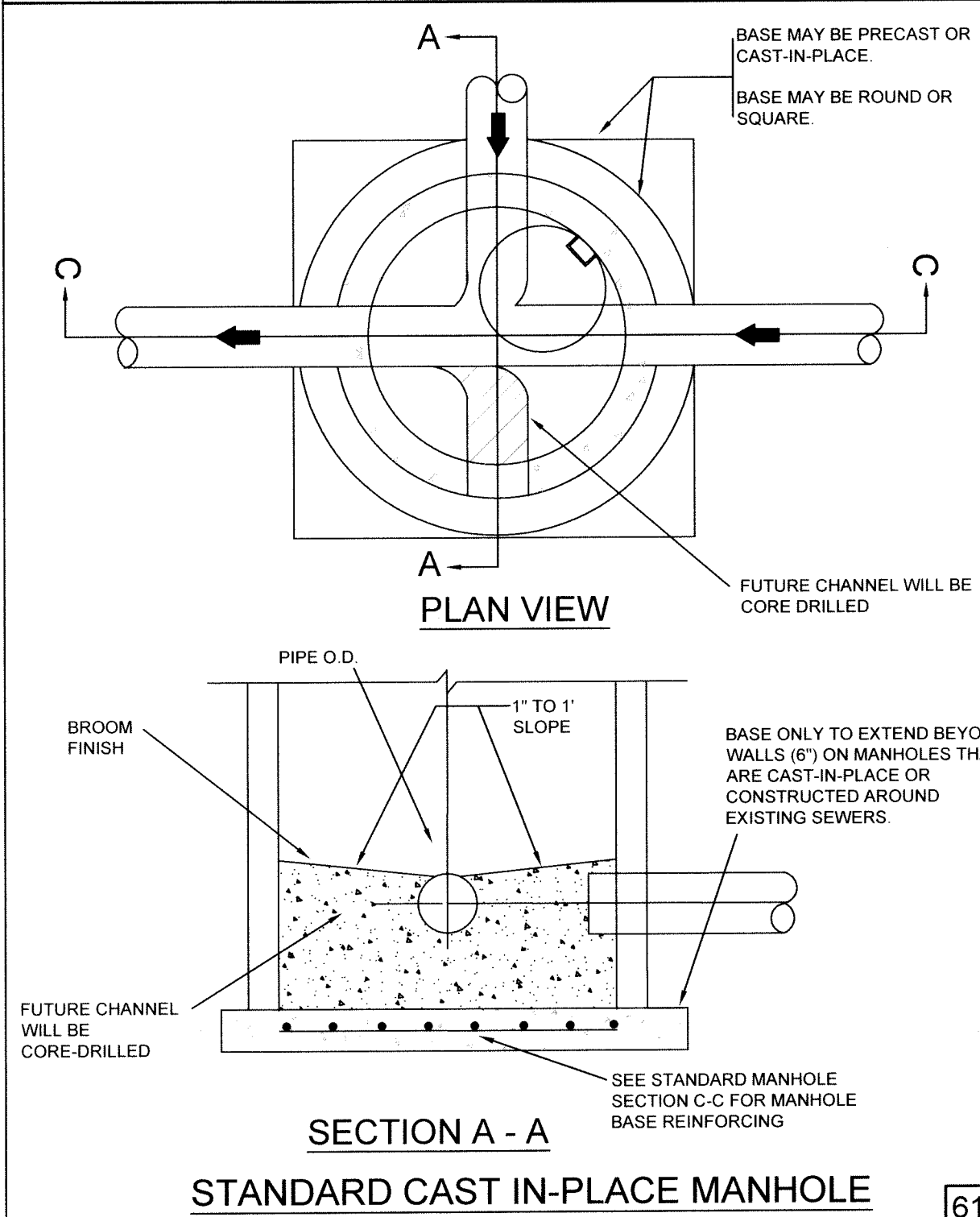
TYPE "D"

TYPE "E"

TYPE "B"

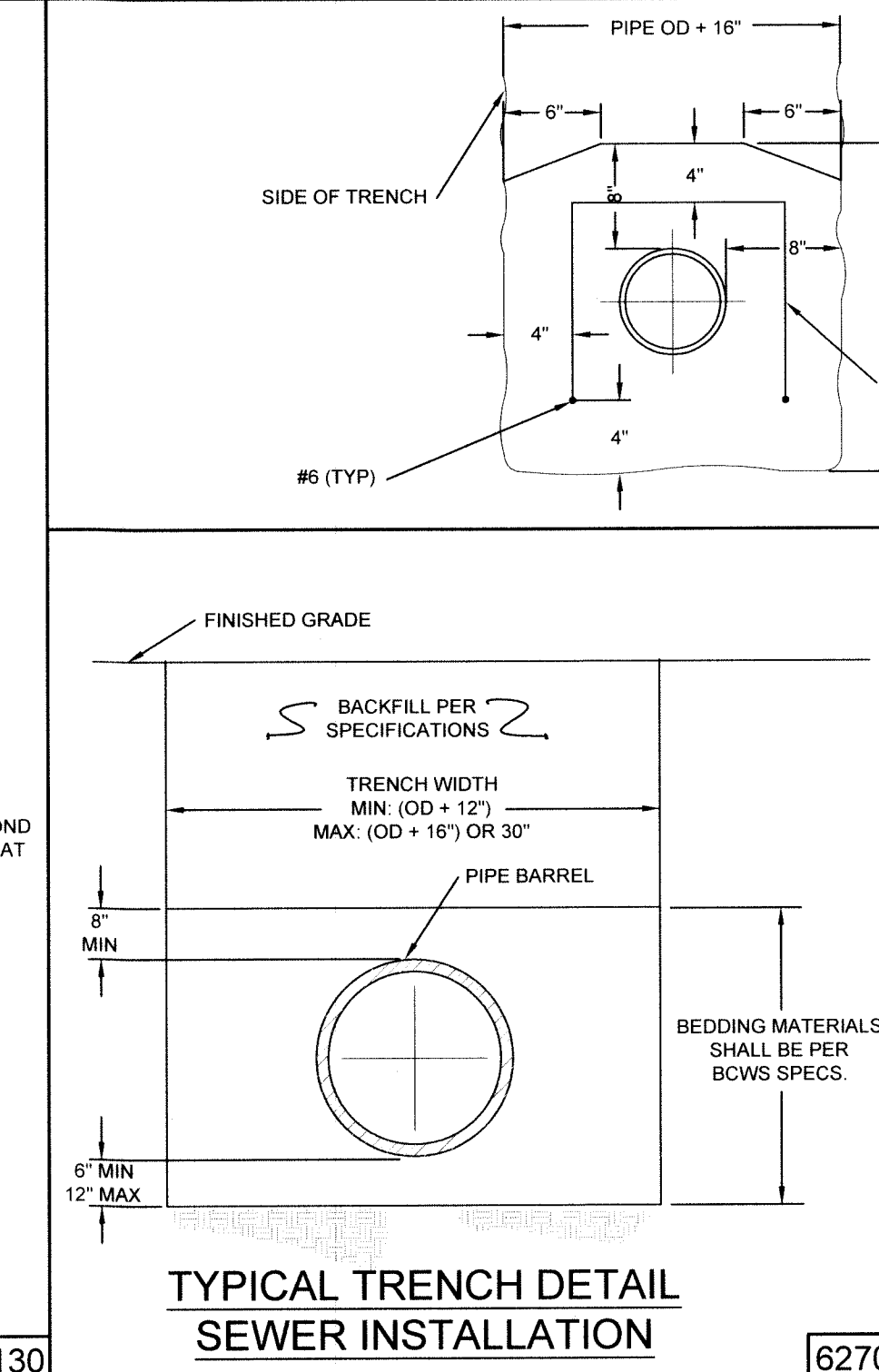
PAVEMENT REPLACEMENT DETAILS

4120



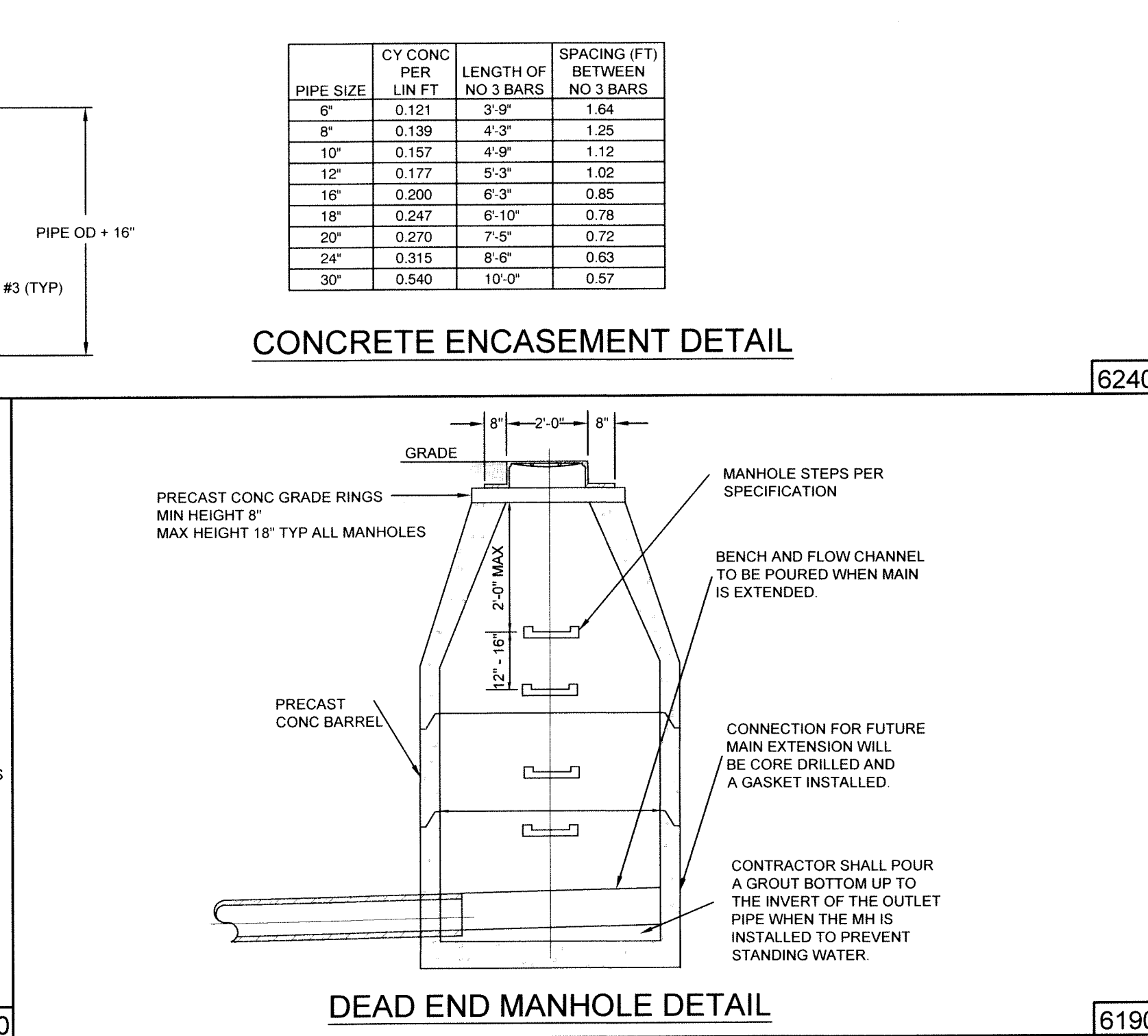
SECTION A - A
STANDARD CAST IN-PLACE MANHOLE

6130



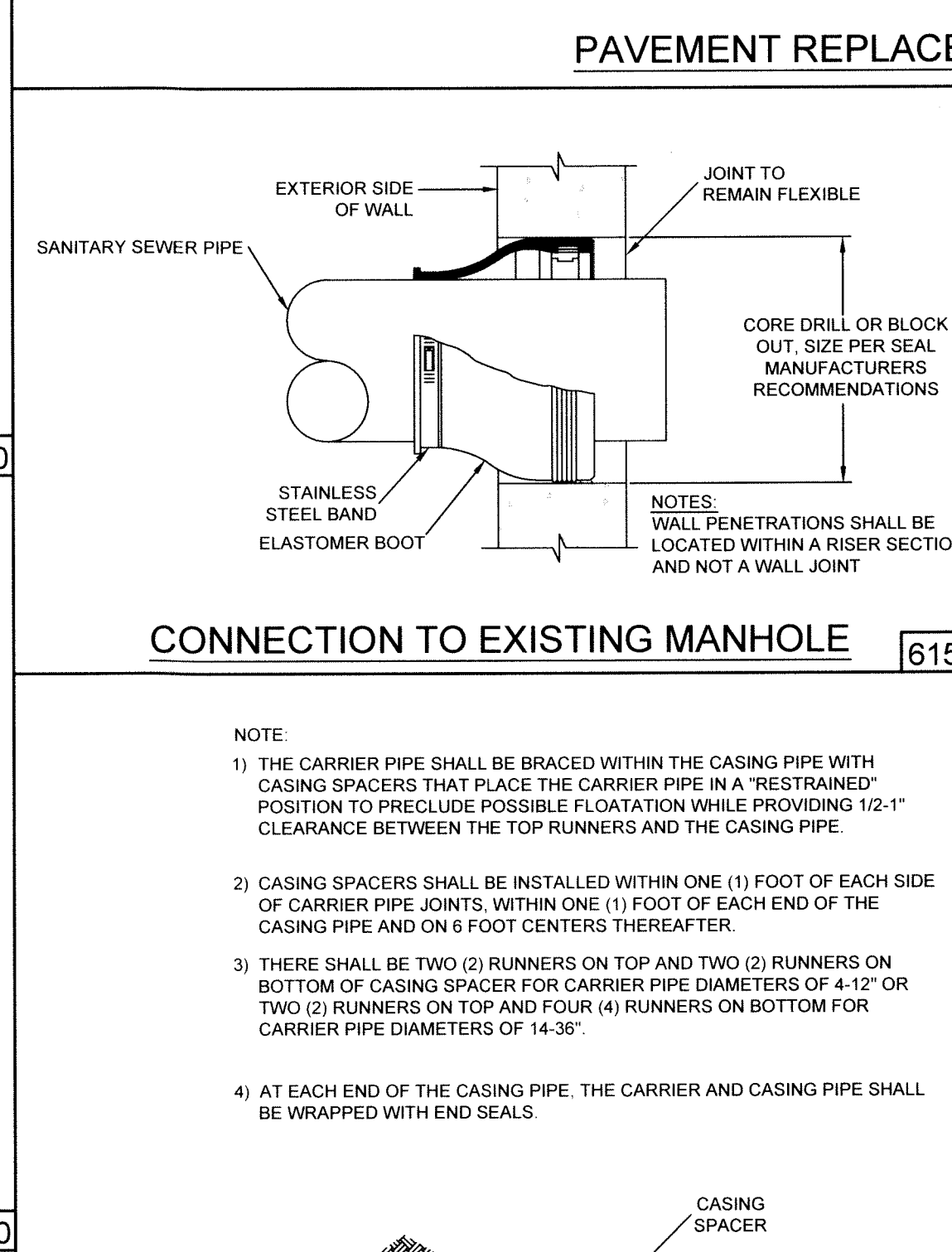
TYPICAL TRENCH DETAIL
SEWER INSTALLATION

6270



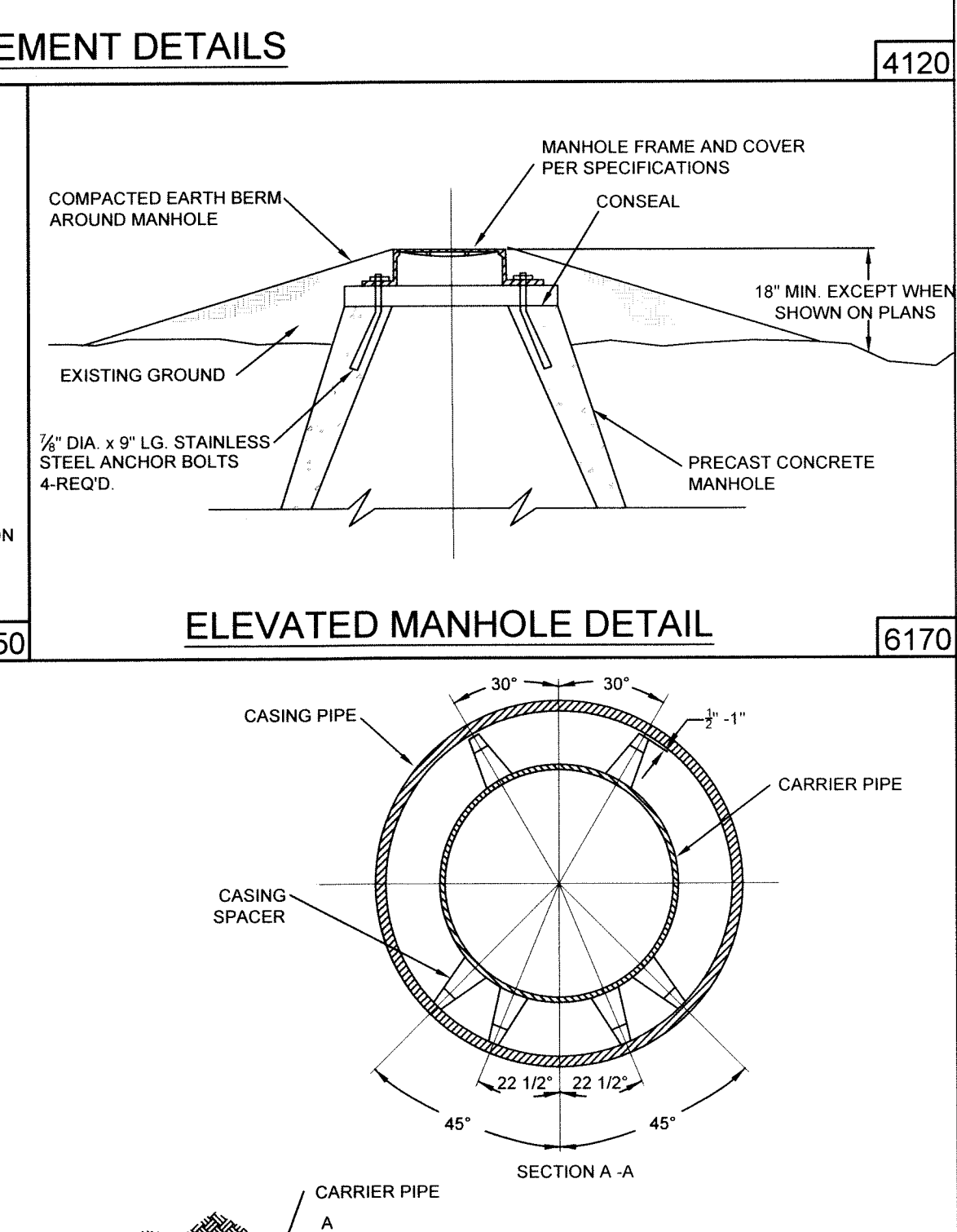
CONCRETE ENCASEMENT DETAIL

6240



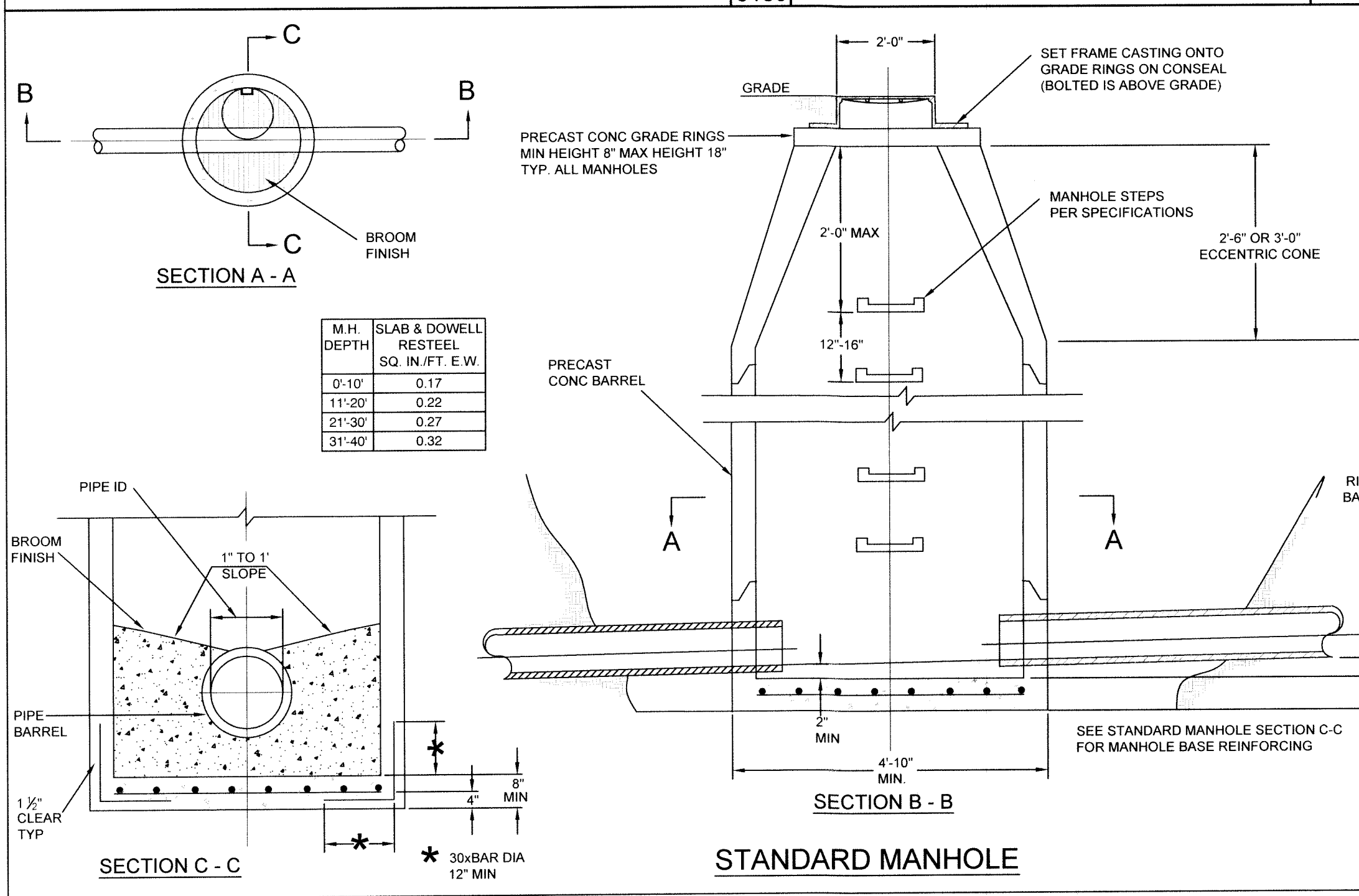
CONNECTION TO EXISTING MANHOLE

6150



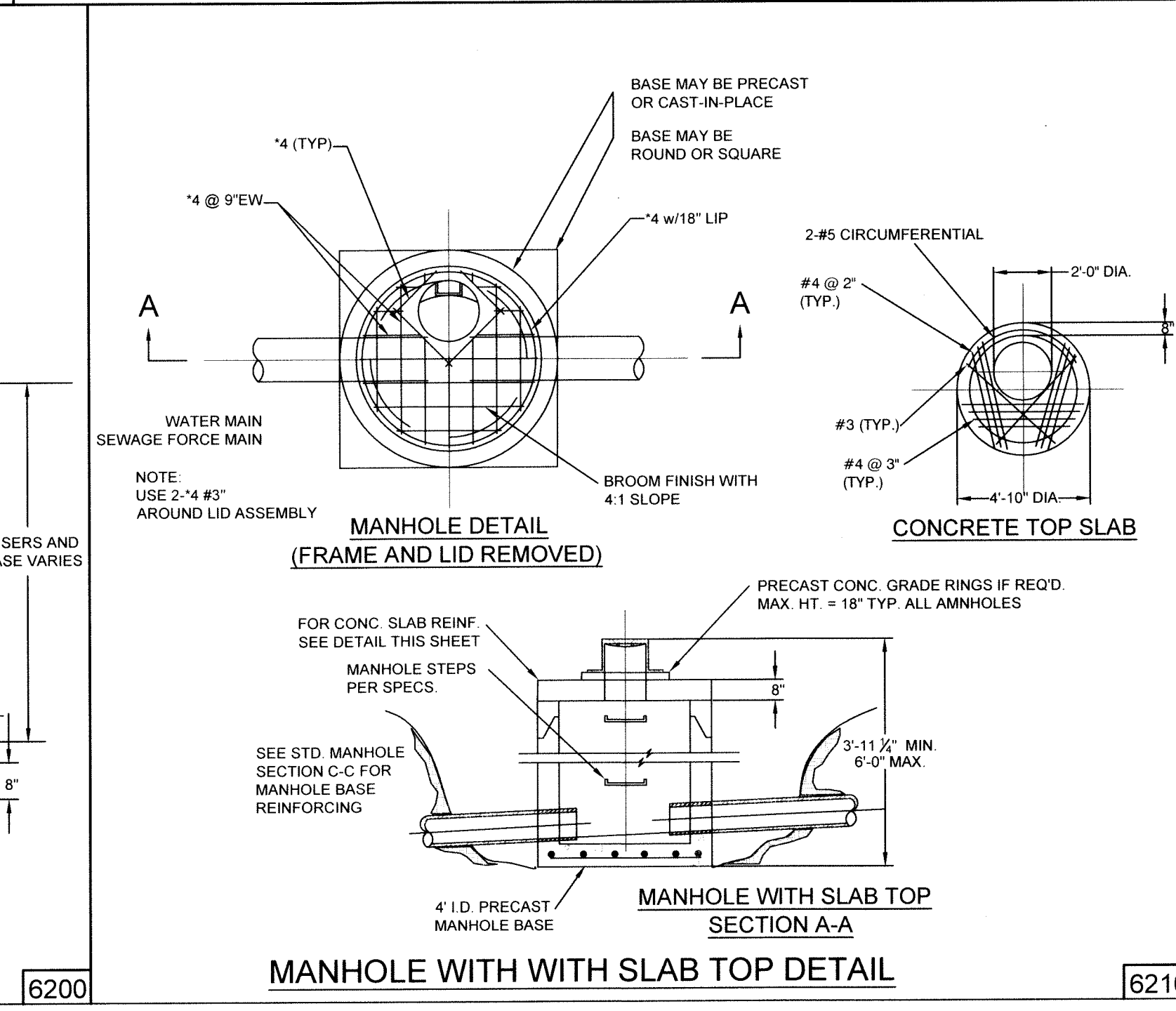
ELEVATED MANHOLE DETAIL

6170



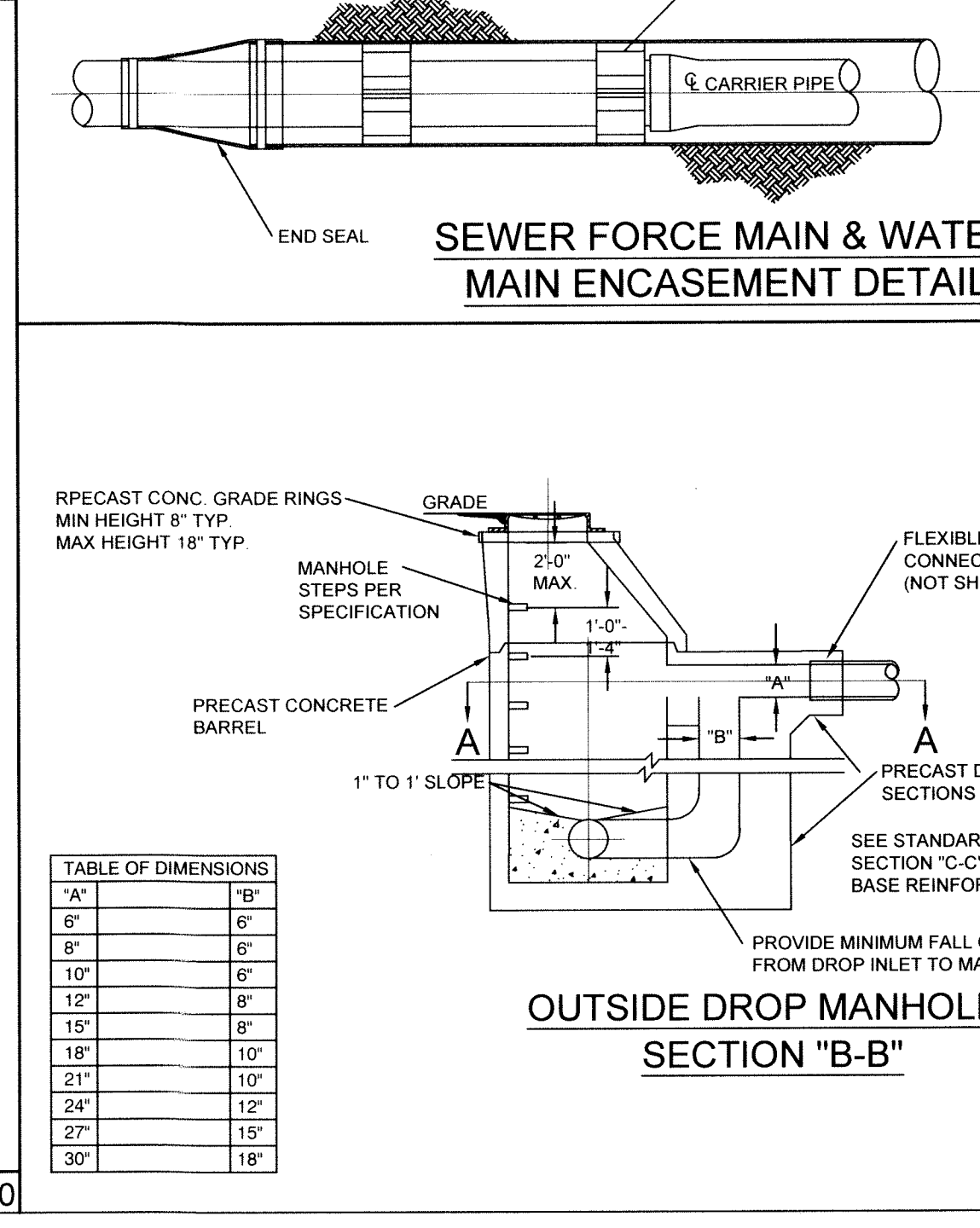
STANDARD MANHOLE

6200



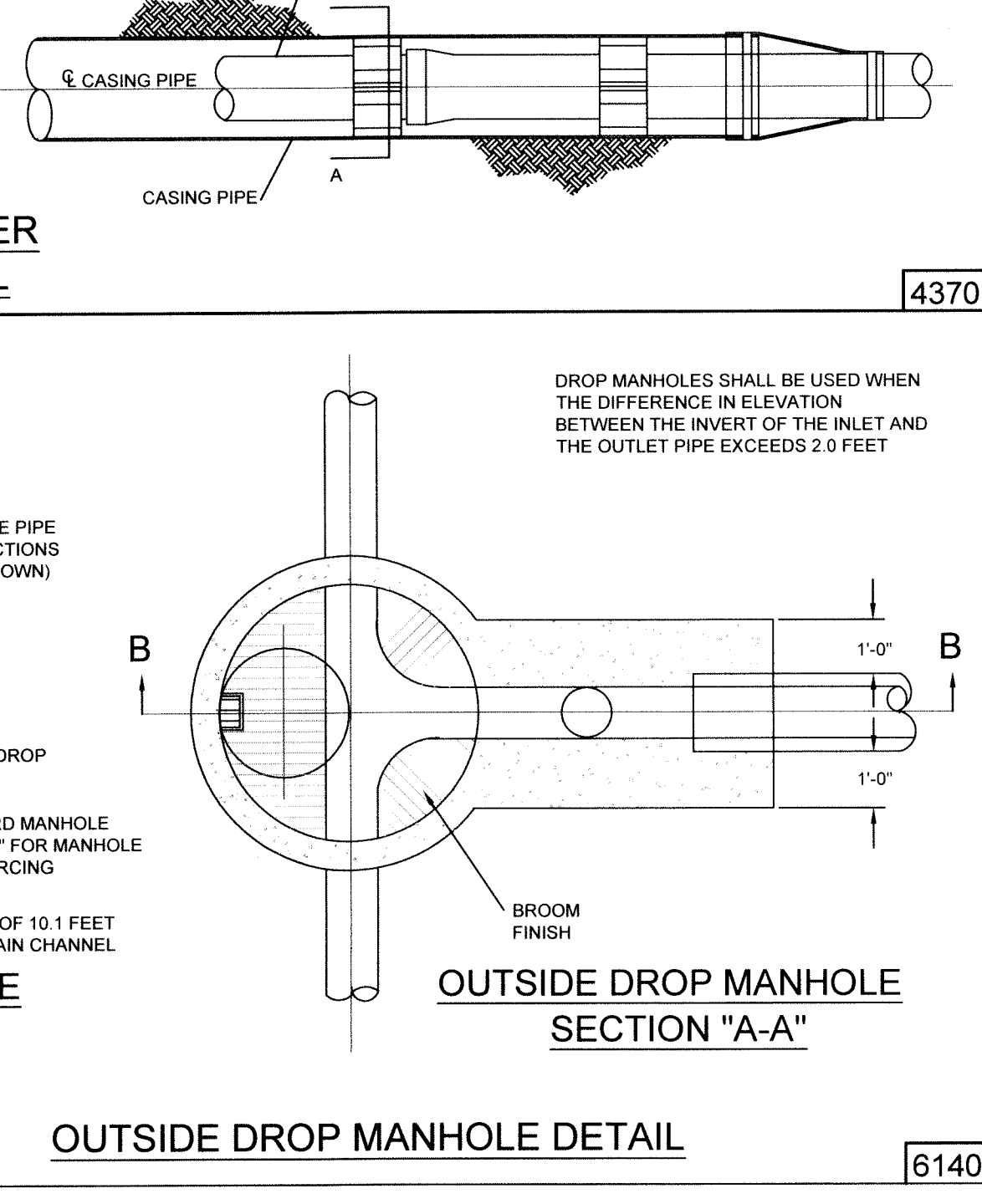
MANHOLE WITH WITH SLAB TOP DETAIL

6210



SEWER FORCE MAIN & WATER
MAIN ENCASEMENT DETAIL

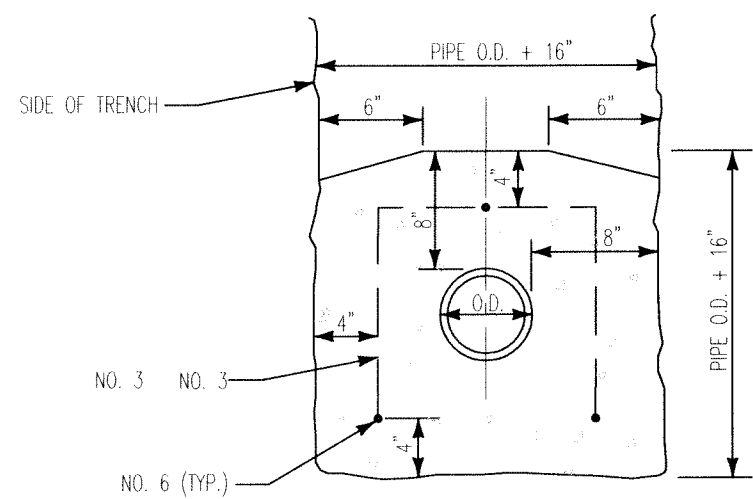
4370



OUTSIDE DROP MANHOLE
SECTION "B-B"

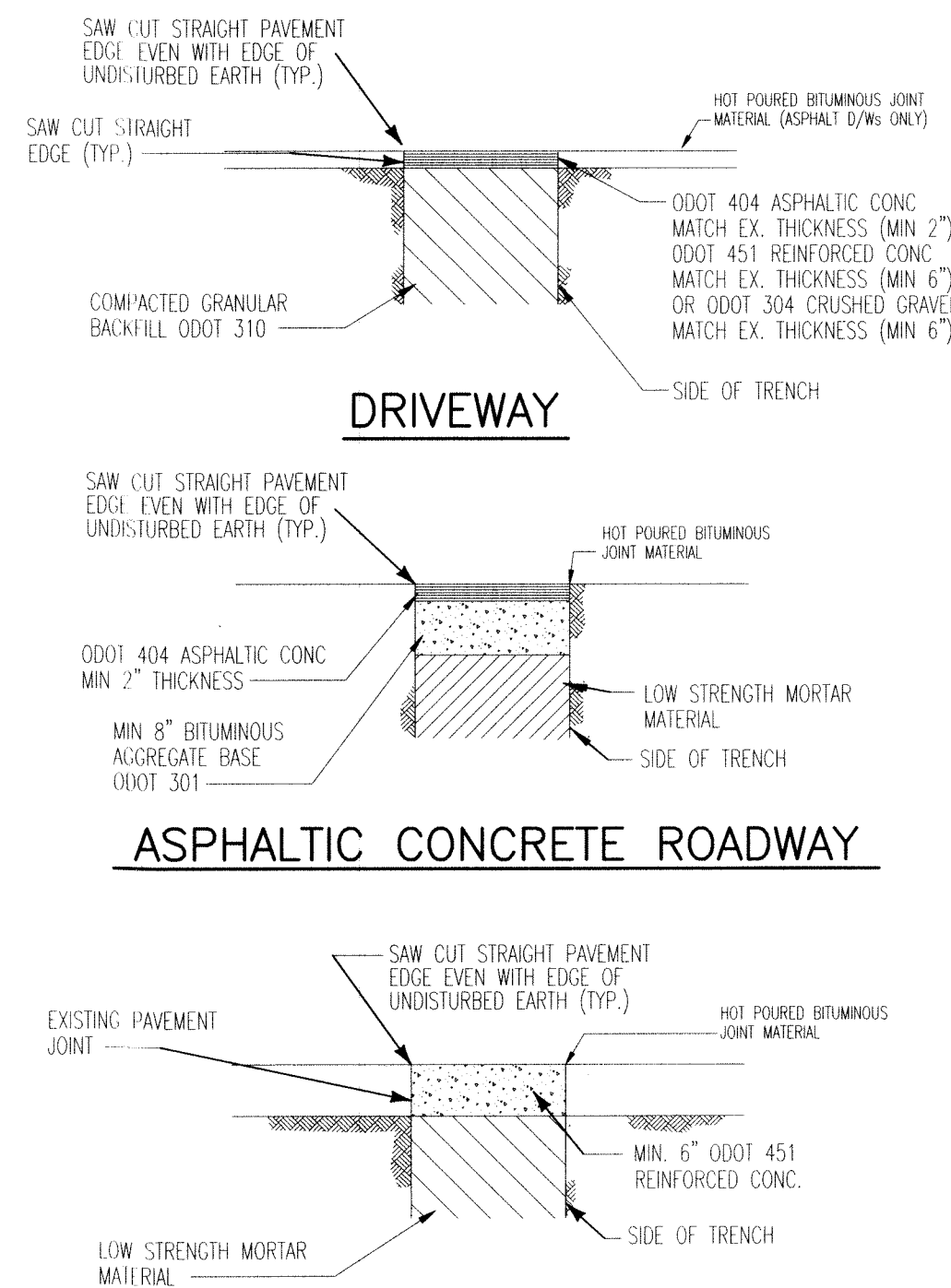
OUTSIDE DROP MANHOLE
SECTION "A-A"

6140

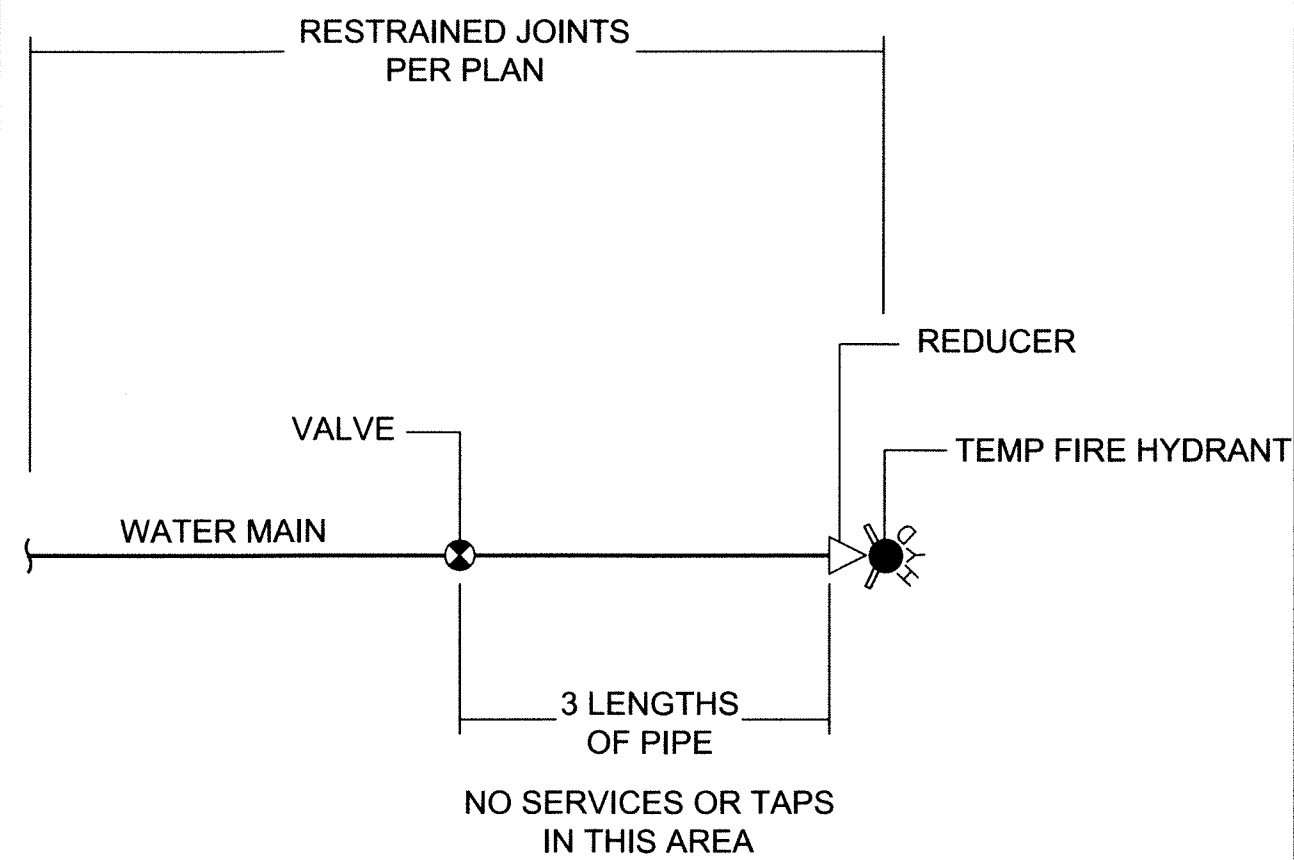


PIPE SIZE	C.Y. CONC. PER LIN. FT.	LENGTH OF NO. 3 BARS	SPACING (FT) BETWEEN NO. 3 BARS
6"	0.121	3'-9"	1.64
8"	0.139	4'-3"	1.25
10"	0.157	4'-9"	1.12
12"	0.177	5'-3"	1.02
16"	0.200	6'-3"	0.85
18"	0.247	6'-10"	0.78
20"	0.270	7'-5"	0.72
24"	0.315	8'-5"	0.63
30"	0.540	10'-0"	0.57

CONCRETE ENCASEMENT

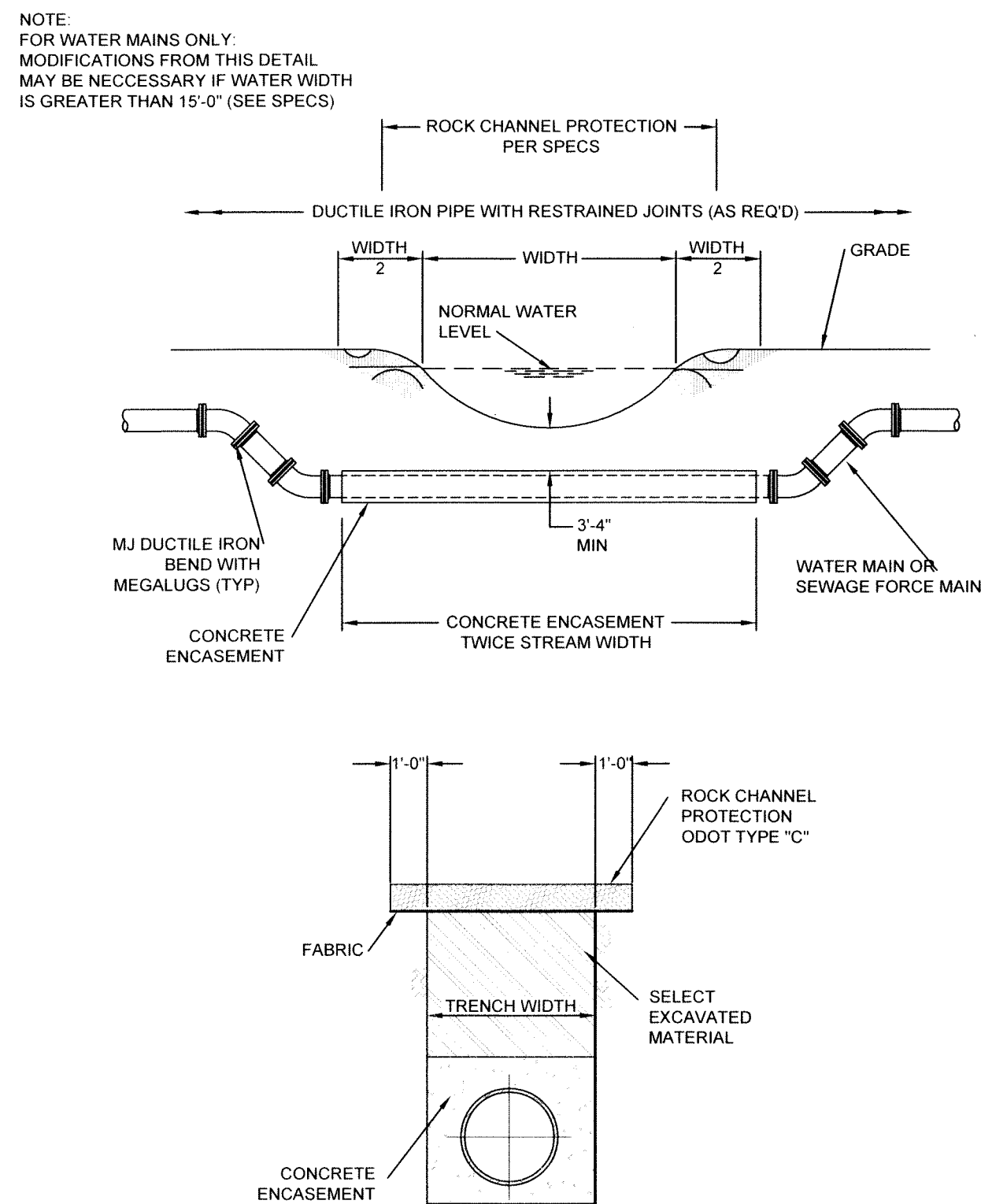


PAVEMENT REPLACEMENT DETAILS



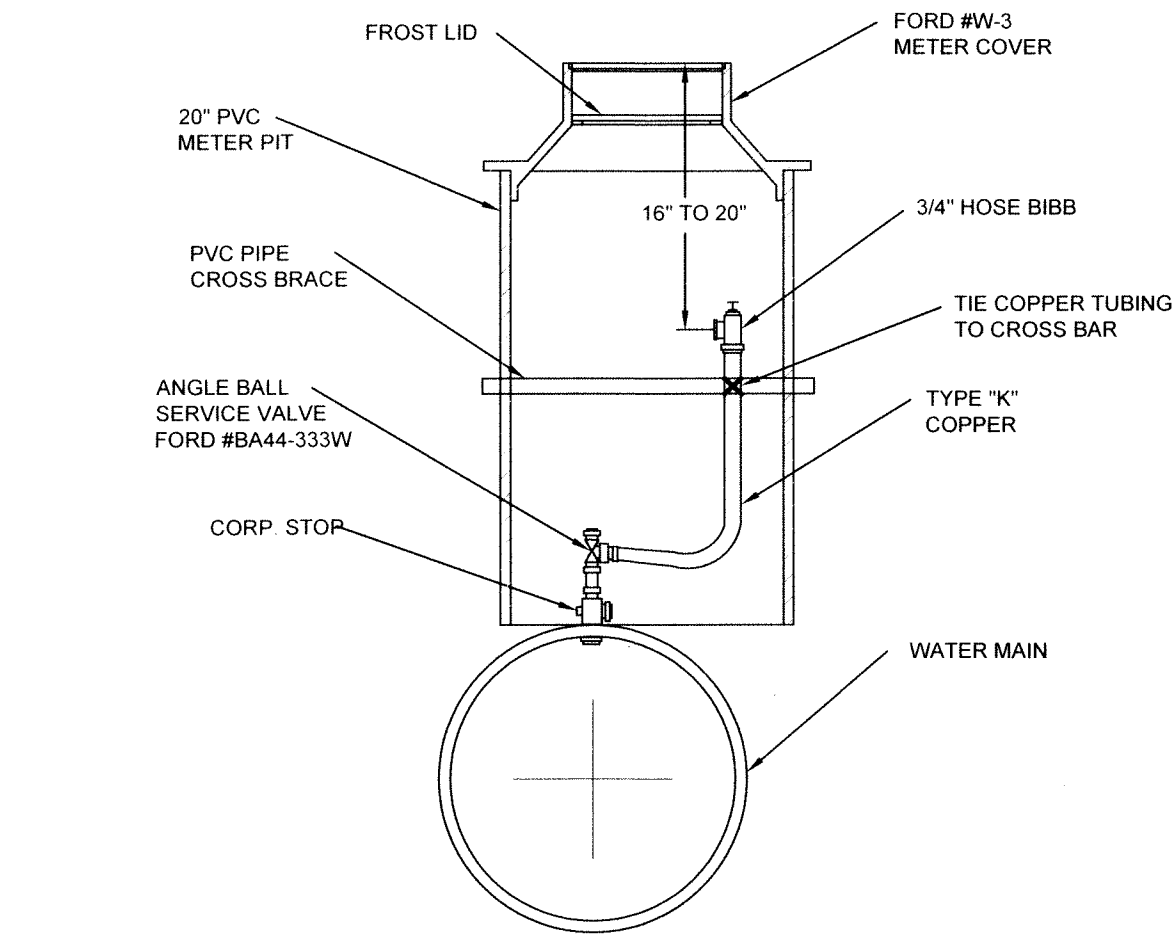
DEAD END DETAIL
WITH TEMPORARY FIRE HYDRANT

5140



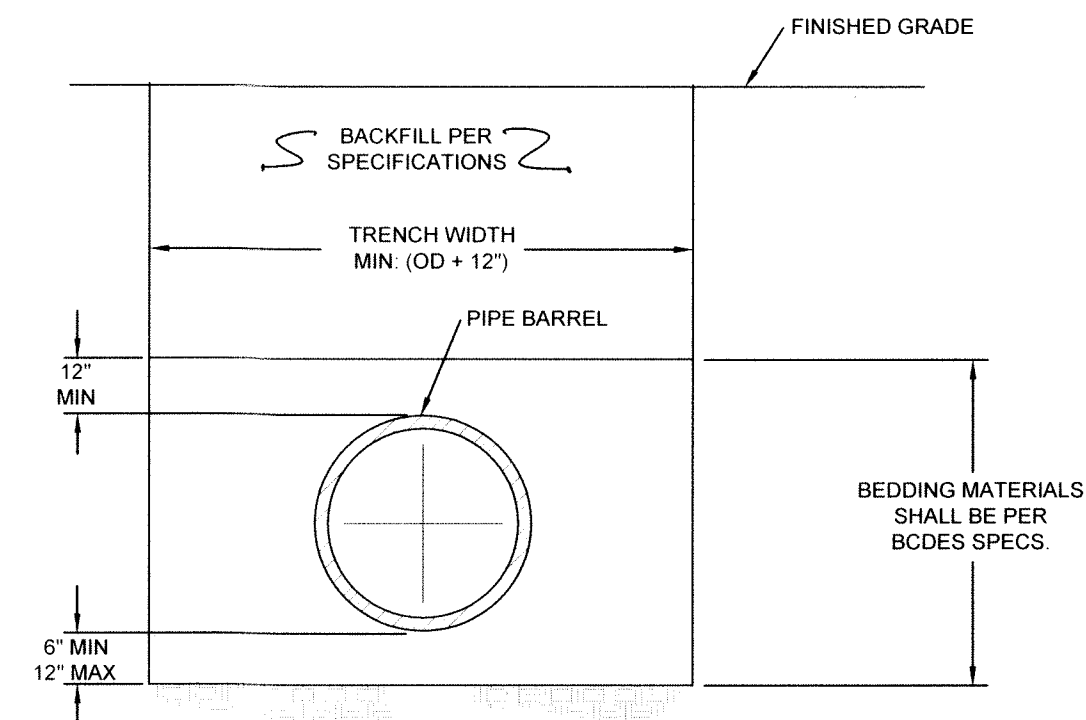
TYPICAL CREEK CROSSING &
TRENCH DETAIL FOR WATER &
SEWER FORCE MAINS

4170



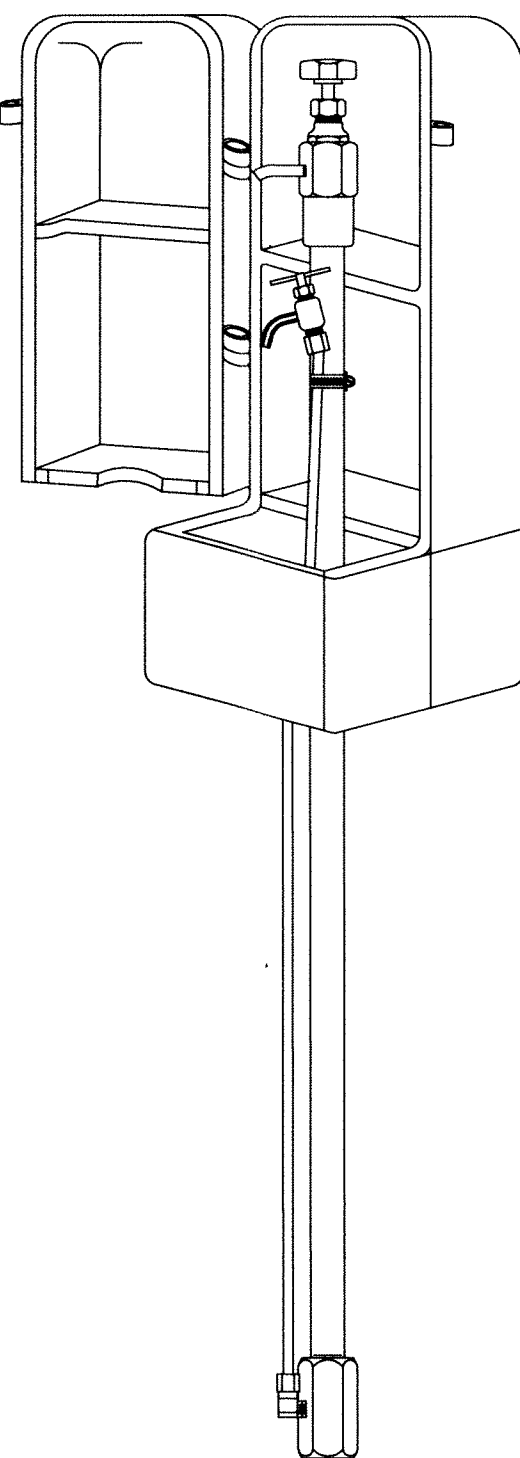
AIR RELEASE VALVE DETAIL

5290



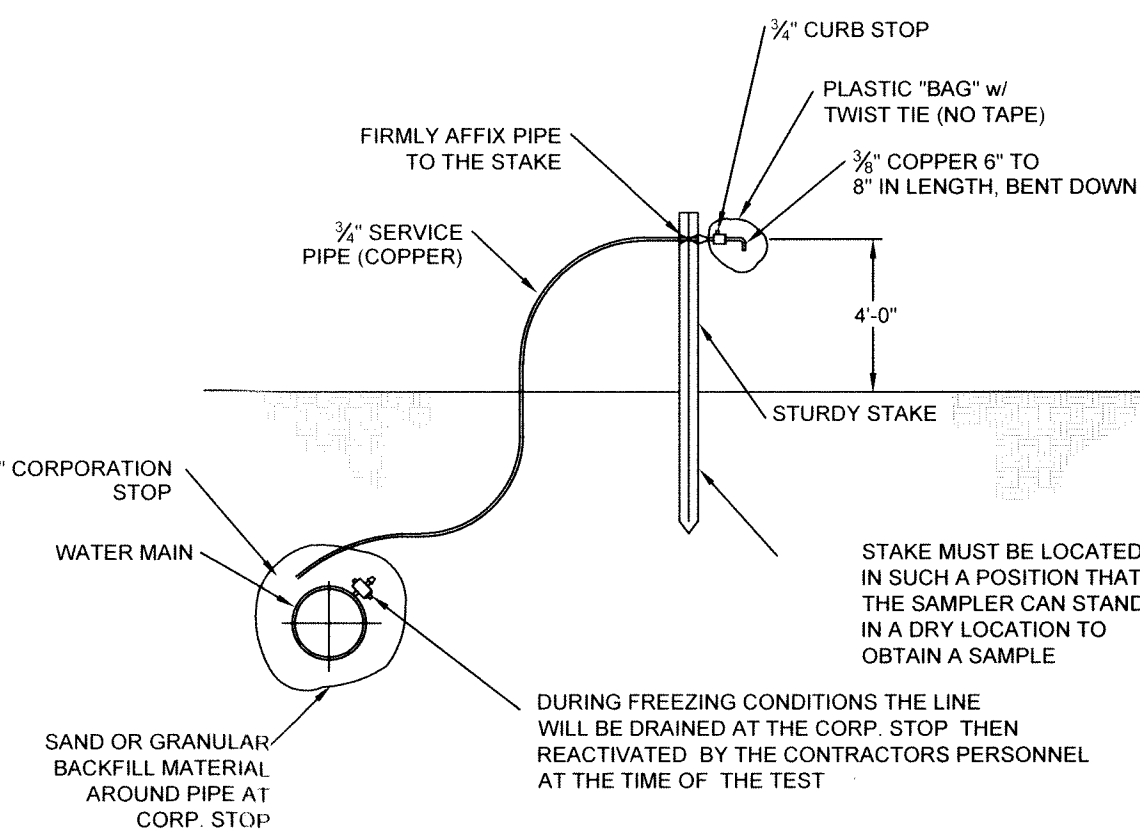
TYPICAL TRENCH DETAIL
WATER MAIN INSTALLATION

5280



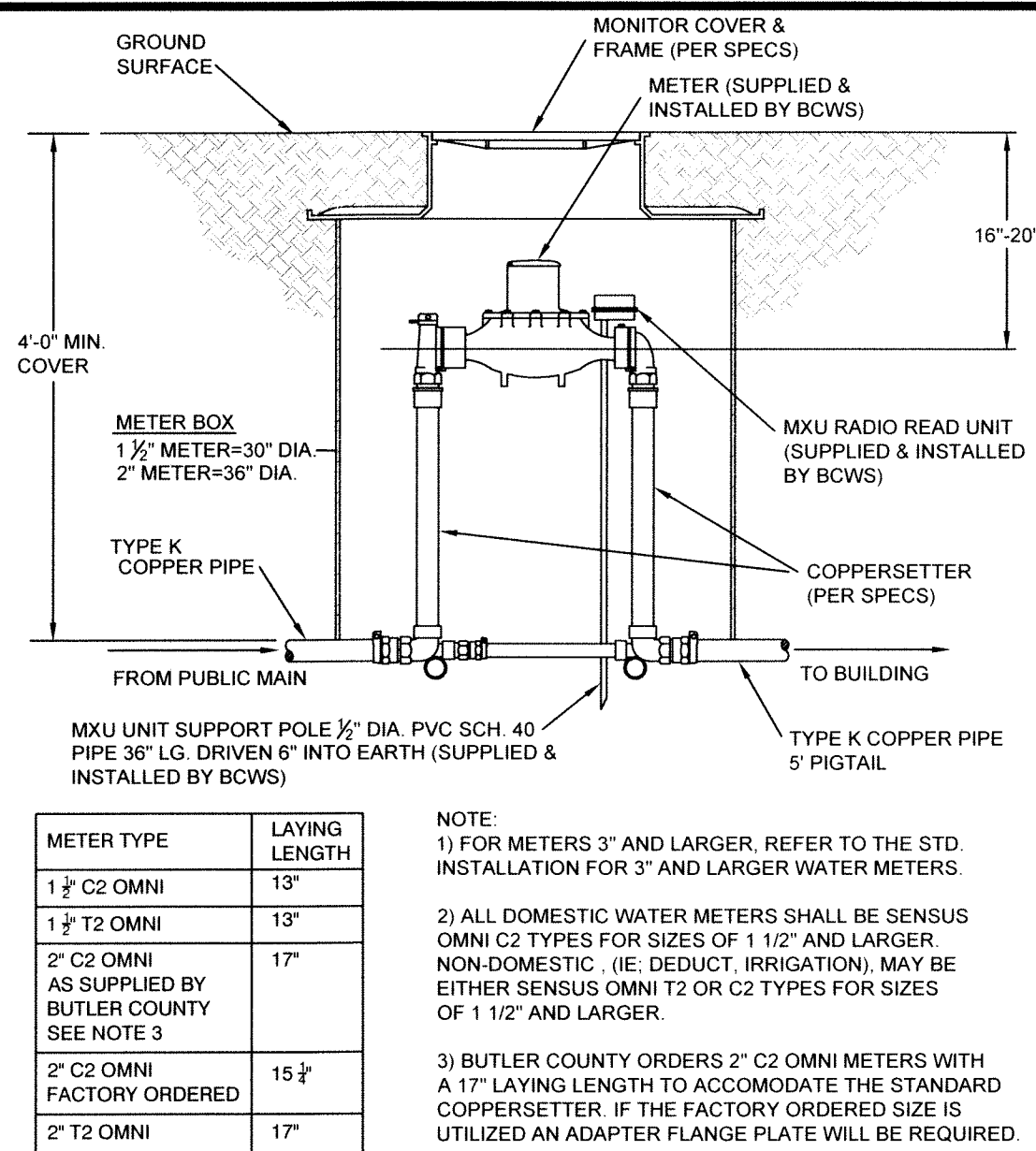
PERMANENT LAB SAMPLING STATION

5270



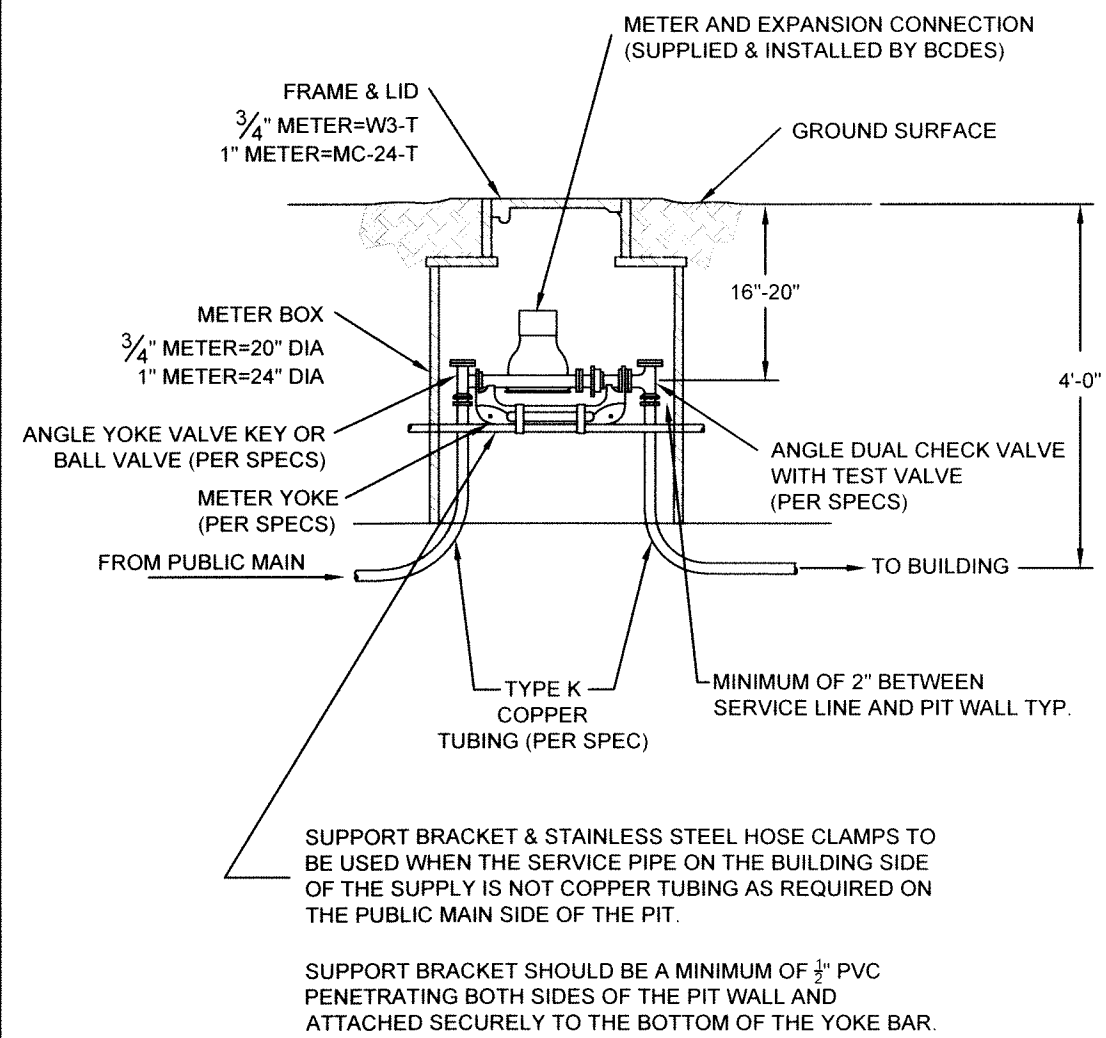
TEMPORARY PURITY TEST STATION

5260



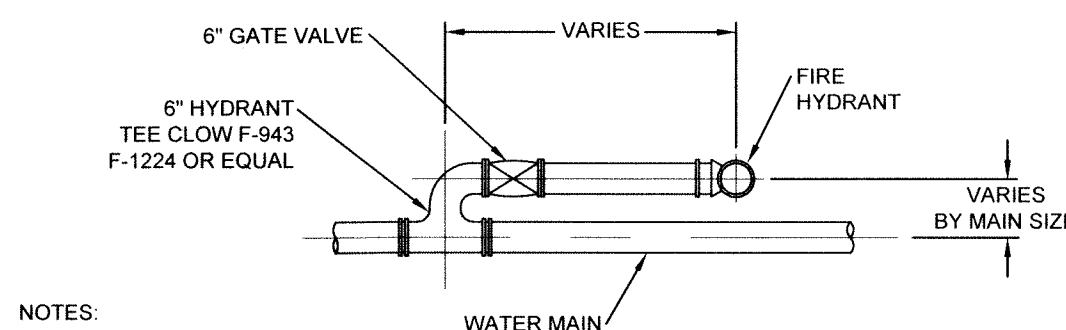
STANDARD INSTALLATION FOR
1-1/2" & 2" WATER METER SETTINGS

5170



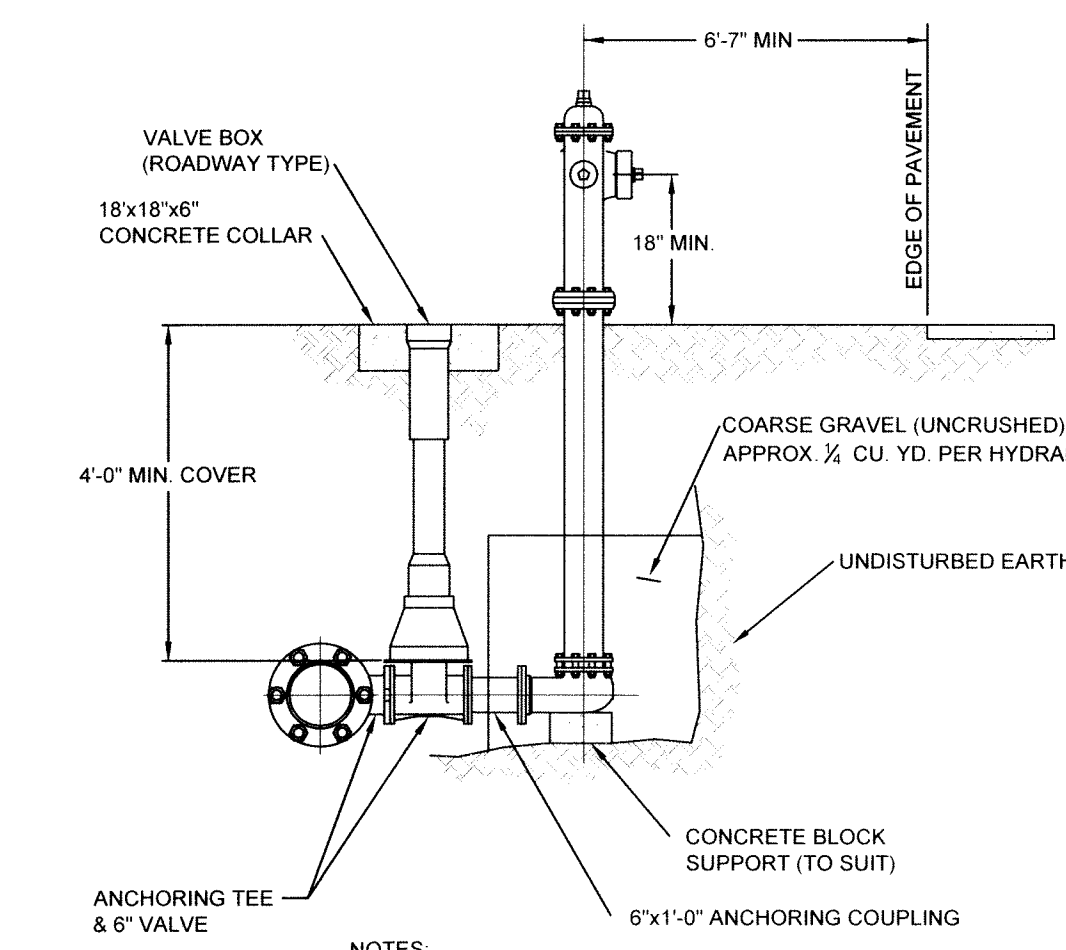
STANDARD INSTALLATION FOR
3/4" AND 1" WATER METER SETTINGS

5150



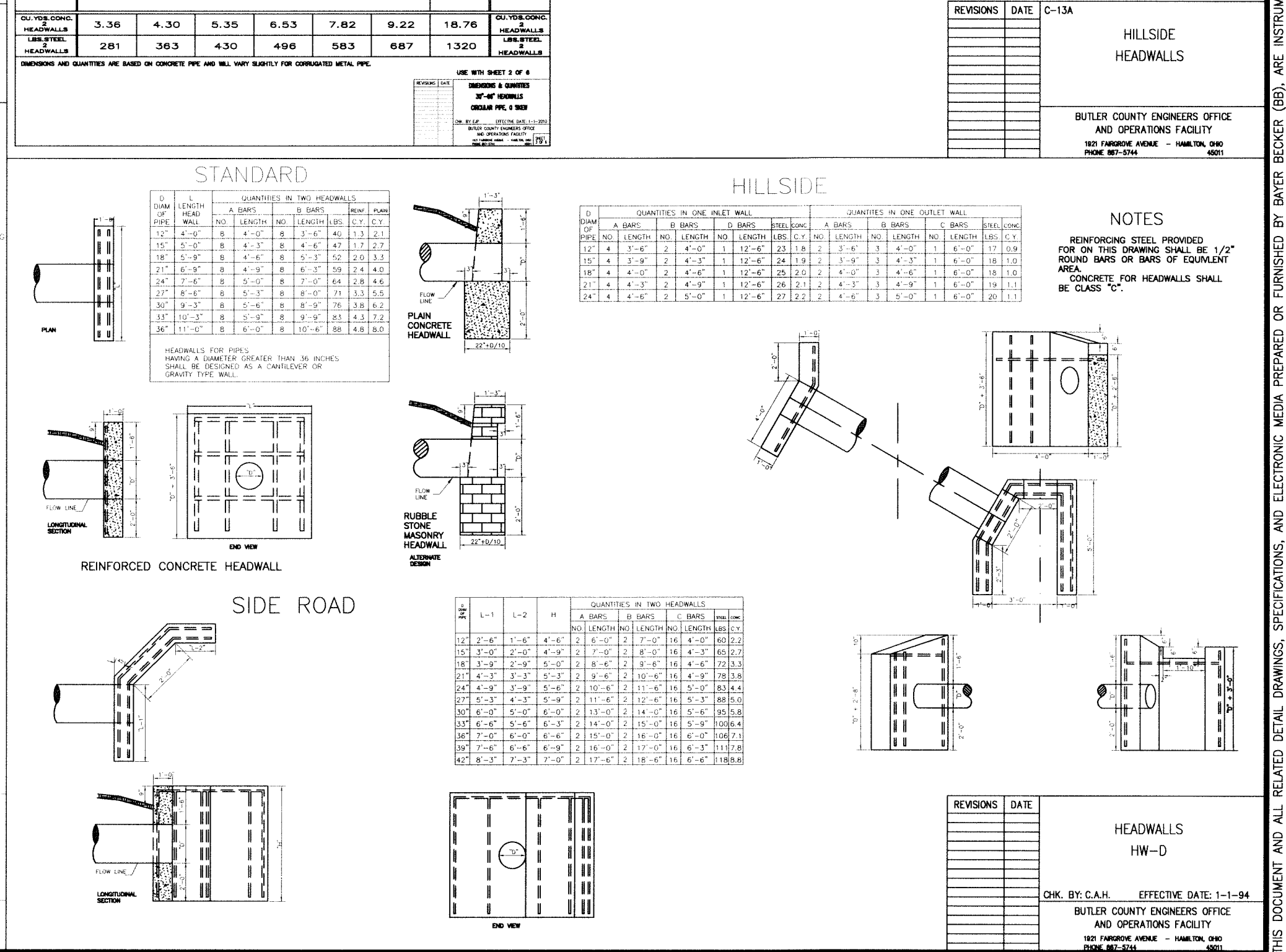
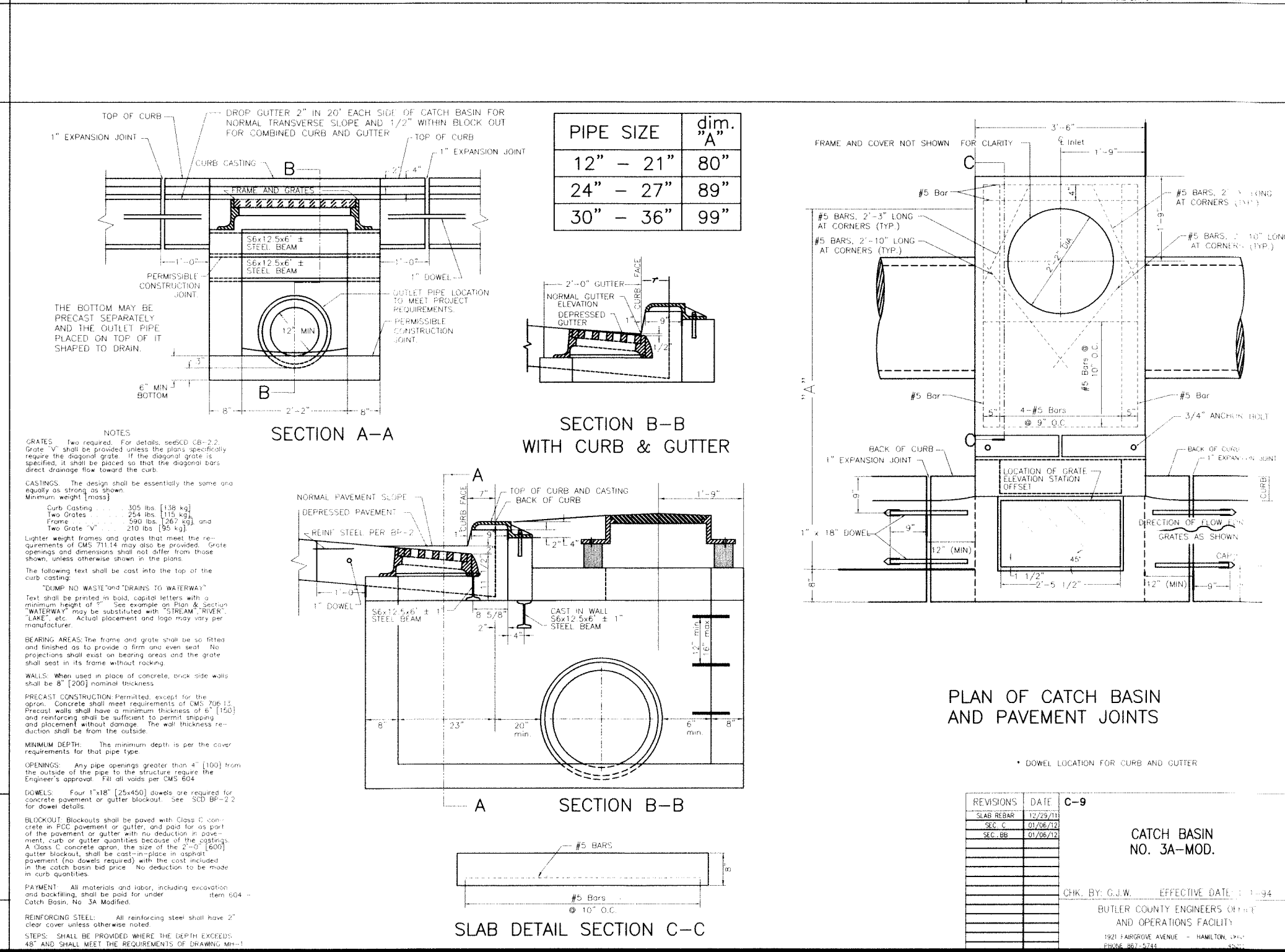
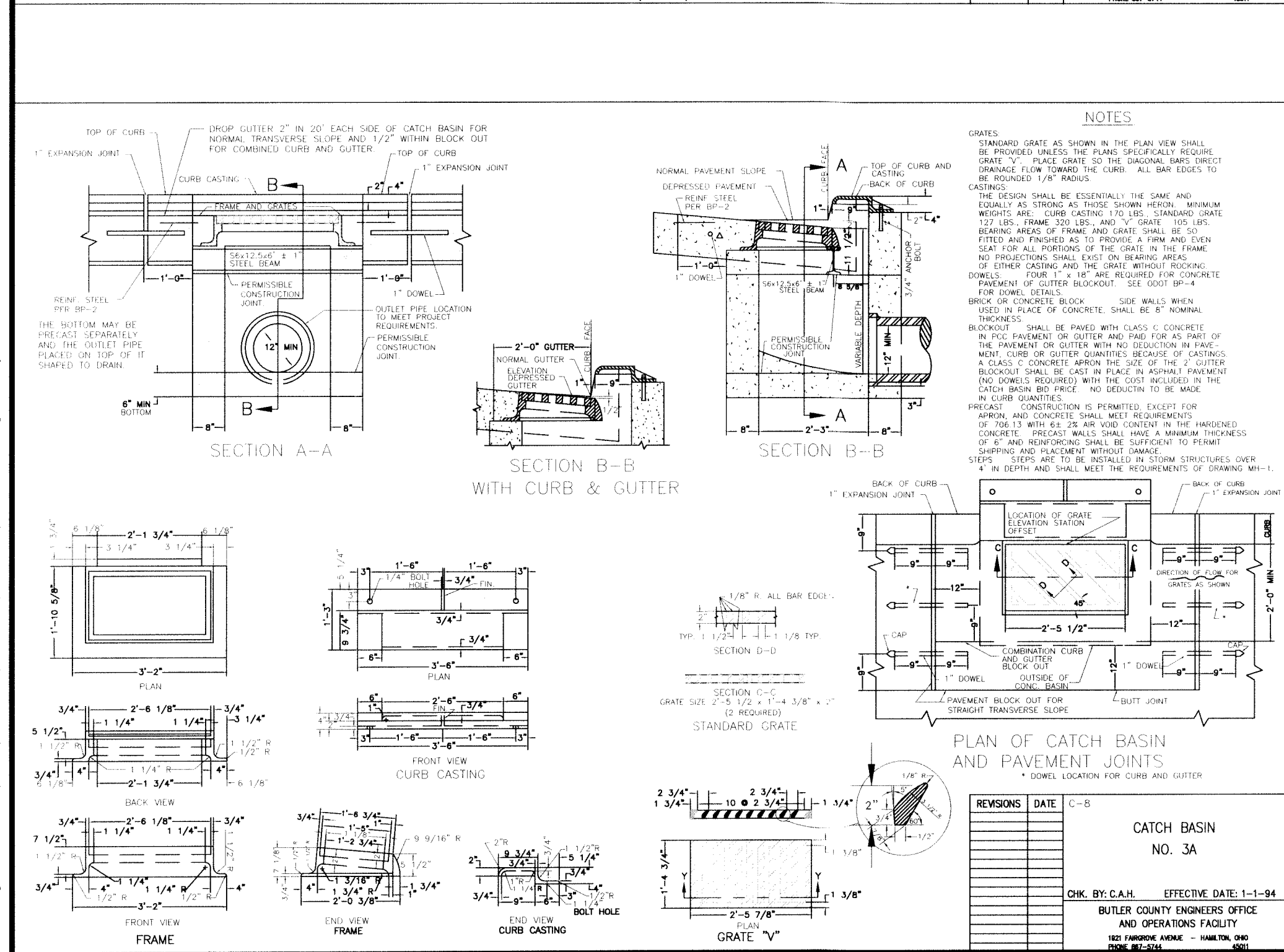
SETTING FOR HYDRANT
ADJACENT TO MAIN

5120



TYPICAL FIRE
HYDRANT INSTALLATION

5110



GENERAL NOTES

EROSION AND SEDIMENT CONTROLS

Vegetative Practices
Such practices may include: temporary seeding, permanent seeding, mulching, matting, soil stabilization, vegetative buffer strips, phasing and protection of trees. The contractor shall initiate appropriate vegetative practices on all disturbed areas within seven (7) days if they are to remain dormant (undisturbed) for more than fourteen (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.

Timing
Sediment control structures shall be functional throughout earth disturbing activity. Sediment ponds and perimeter sediment 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 upslope 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 direct 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 Seeding
1. Seedlings 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, time and fertilizer, 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.

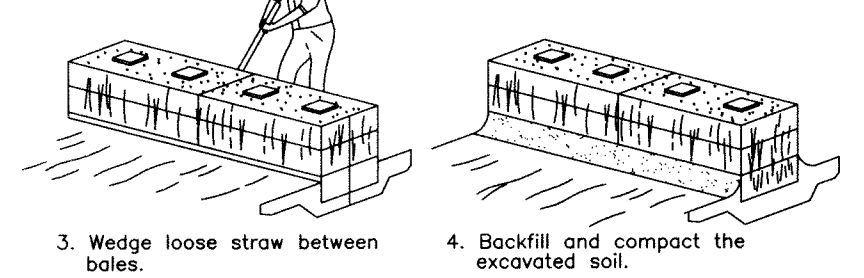
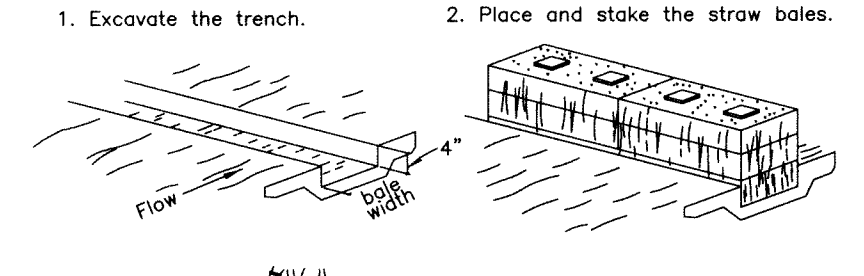
Where feasible, except when a cultipacker type seeder is used, the seedbed should be firmed following seeding operations with a cultipacker, roller, or light drag. On sloping land, seeding operations should be on the contour where feasible.

REVEGETATION
Seed, sod or mulch bare soil as soon as possible.

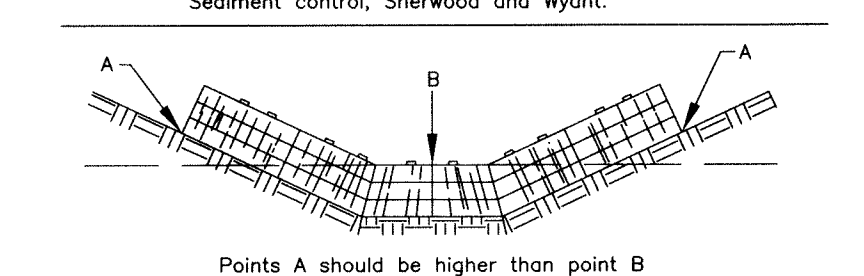
SEEDING AND MULCHING
Spread 4 to 6 inches of topsoil. Fertilize according to soil test (or apply 10 lb./1000 sq. ft. of 20-10-10 or 10-10-10 fertilizer.) Seed with an appropriate mix for the site (see table). Rake lightly to cover seed with 1/4" of soil. Roll lightly. Mulch with straw (70-90 lb. or one bale/1000 sq. ft.) Anchor mulch by punching 2 inches into the soil with a dull, weighted disk or by using netting or other measures on 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.) Lightly water the soil. Lay sod. Temp. or roll lightly. 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.

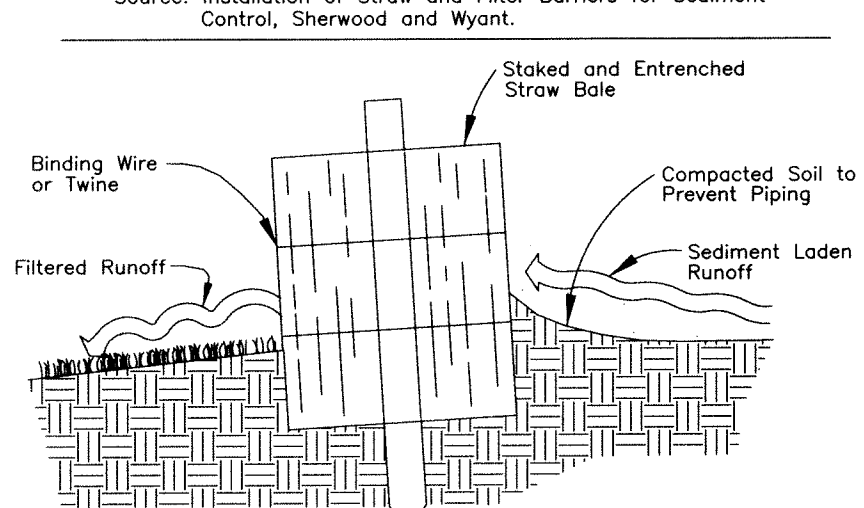
4. STRAW BALE DETAILS



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

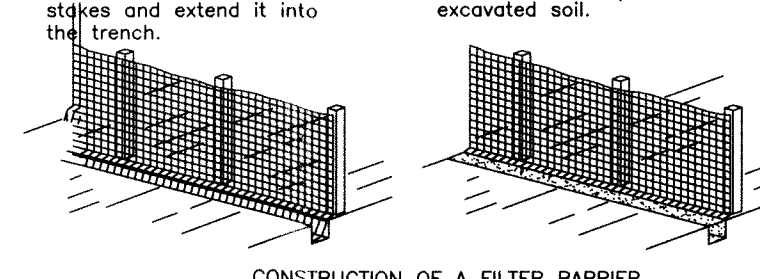
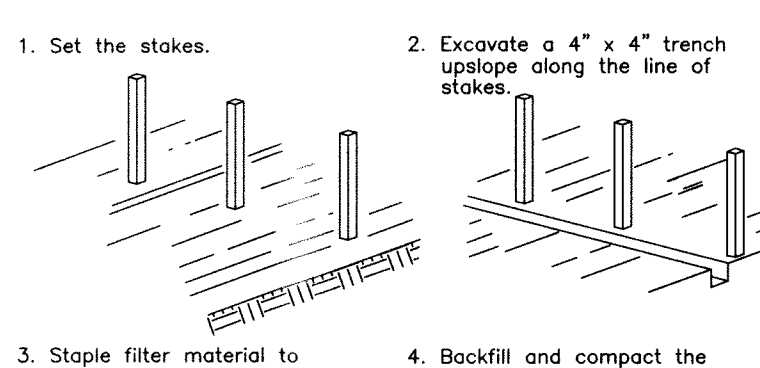


Source: Installation of Straw and Filter Barriers for Sediment Control, Sherwood and Wyant.

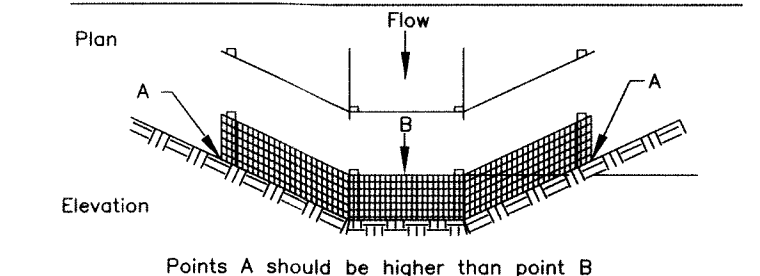


Source: Michigan Soil Erosion and Sediment Control Guidebook, 1975

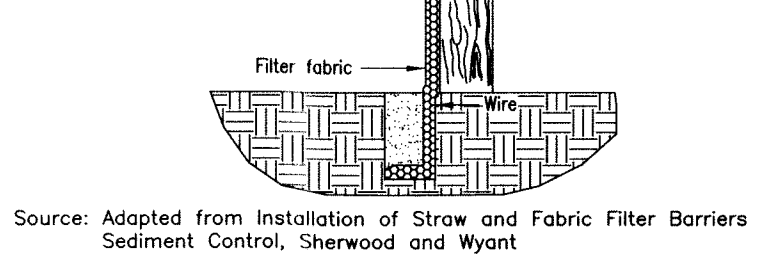
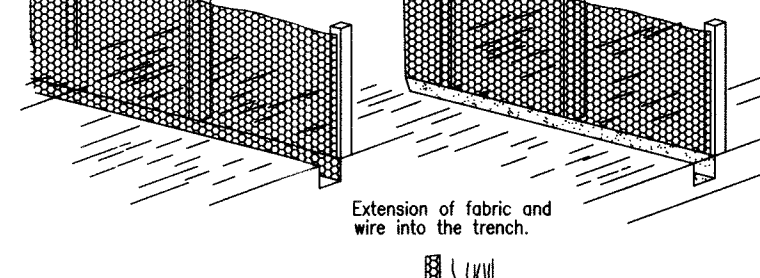
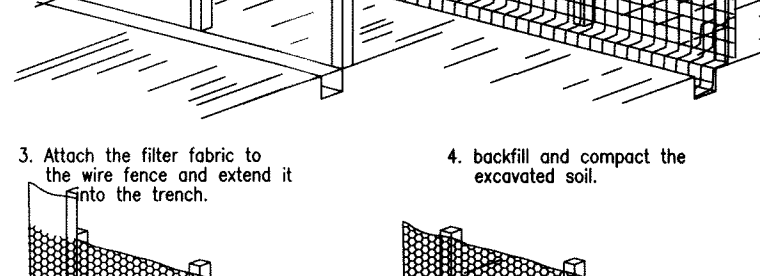
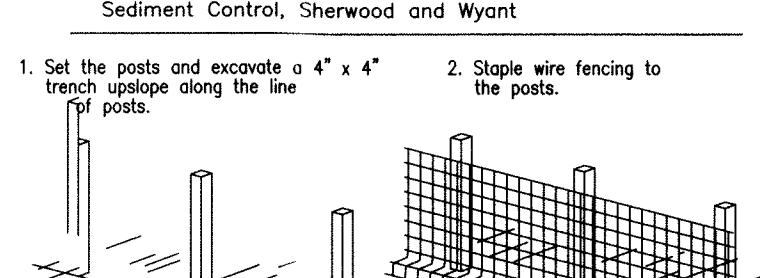
5. SILT FENCE OR MULCH BERM DETAILS



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



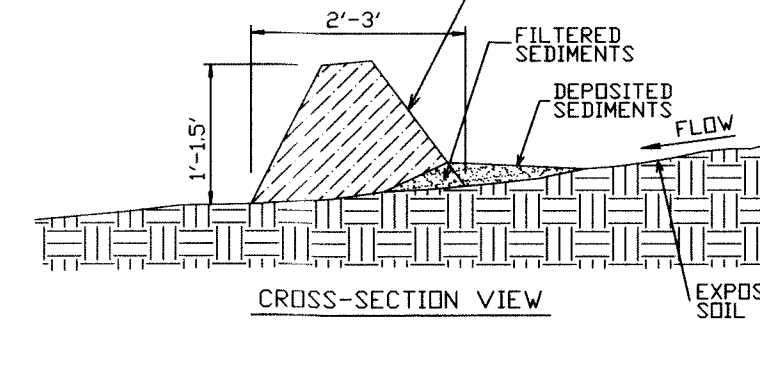
Source: Adapted from Installation of Straw and Fabric Filter Barriers for Sediment Control, Sherwood and Wyant



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

INSTALLATION NOTES AND SPECIFICATIONS FOR MULCH BERM:

1. Mulch berm should be placed along a level contour so that it will not channel runoff and create concentrated flows.
2. Upland drainage limitations (sheet flow)
3. Design Criteria:
 - particle sizes (95% passing 1 inch sieve etc.)
 - moisture content
 - no less than 70% organics
4. Planning considerations: most effective when combined with vegetated buffer.



3. PRESERVING EXISTING VEGETATION

1. Wherever possible, preserve existing trees, shrubs, and other vegetation. To prevent root damage, do not grade, place soil piles, or park vehicles near trees marked for preservation. Place plastic mesh or snow fence barriers around trees to protect the area below their branches.

4. STRAW BALE, SILT FENCE OR MULCH BERM

4. Put up before any other work is done. Install on downslope side(s) of site with ends extended up upslope a short distance. Place parallel to the contour of the land to allow water to pond behind fence. Entrench 4 inches deep (see back page.) Stake (2 stakes per bale OR 1 stake every 3 feet for silt fence.) Leave no gaps between bales or sections of silt fence. 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.

6. SOIL PILES

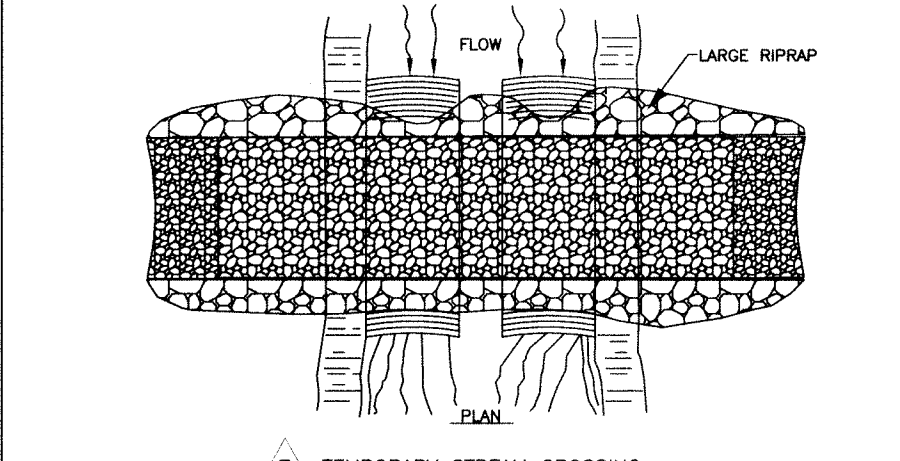
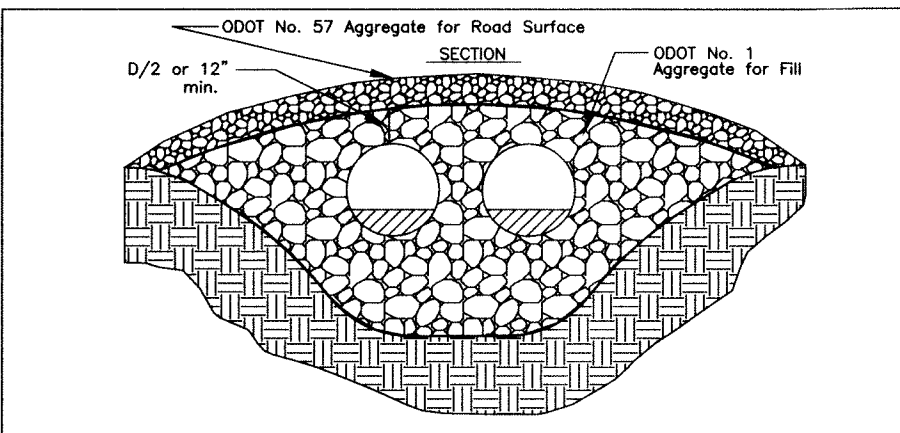
6. Located away from any downslope street, driveway, stream, lake, wetland, ditch or drainage way. Temporary seed such as annual rye is recommended for topsoil piles. Surround with straw bales or silt fence.

GRAVEL DRIVE

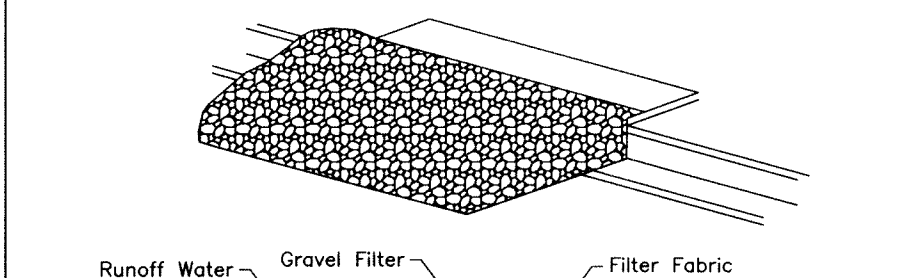
- Install a single access drive using 3 to 5 inch aggregate over a geotextile material. Lay gravel 6 inches deep and 10 feet wide from the foundation to the street. Use to prevent tracking dirt onto the road by all vehicles. Maintain throughout construction until driveway is paved. All construction vehicles on the street and off the site.

SEDIMENT CLEANUP

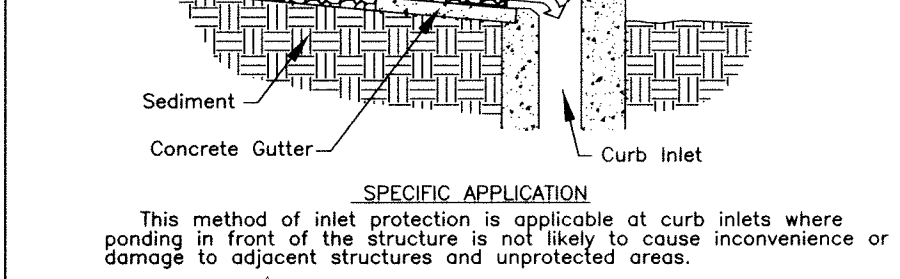
- By the end of each work day, sweep or scrape up soil tracked onto the road. By the end of the next work day after a storm, clean up soil washed off-site, and check straw bales and silt fence for damage or sediment buildup. DOWNSLOPE EXTENDERS Not required, but highly recommended. Install as soon as gutters and downspouts are completed. Route water to a graded or paved area. Maintain until a lawn is established.



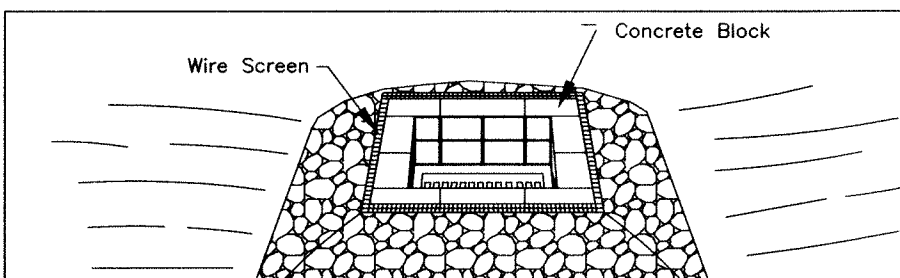
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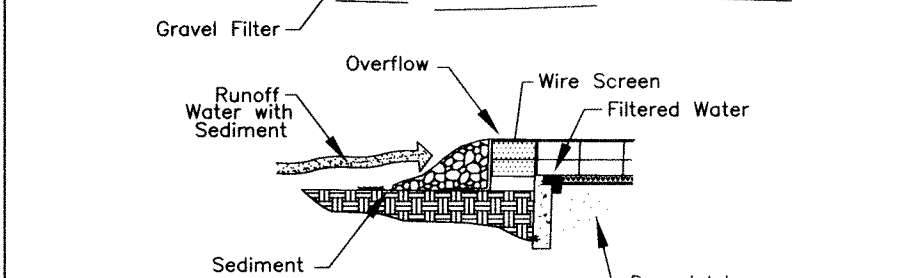
SPECIFIC APPLICATION
This method of inlet protection is applicable at curb inlets where ponding in front of the structure is not likely to cause inconvenience or damage to adjacent structures and unprotected areas.



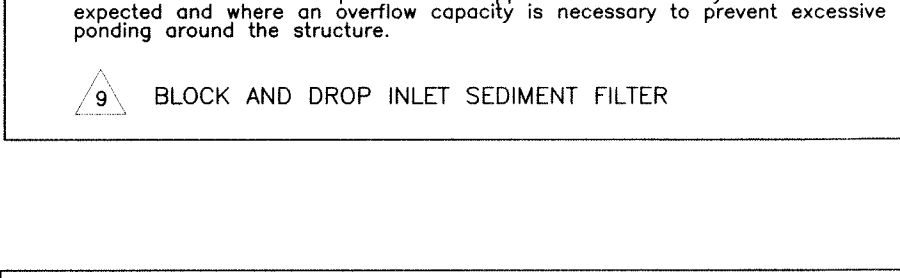
SPECIFIC APPLICATION
This method of inlet protection is applicable where the inlet drains a relatively flat area (slope no greater than 5 percent) where sheet or overland flows not exceeding 0.5 cfs are typical.



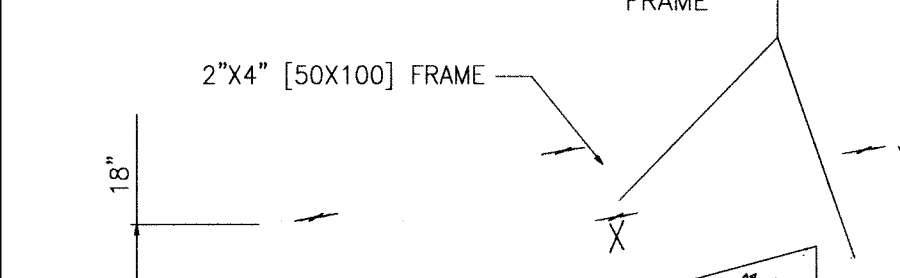
SPECIFIC APPLICATION
This method of inlet protection is applicable where heavy flows are expected and where an overflow capacity is necessary to prevent excessive ponding around the structure.



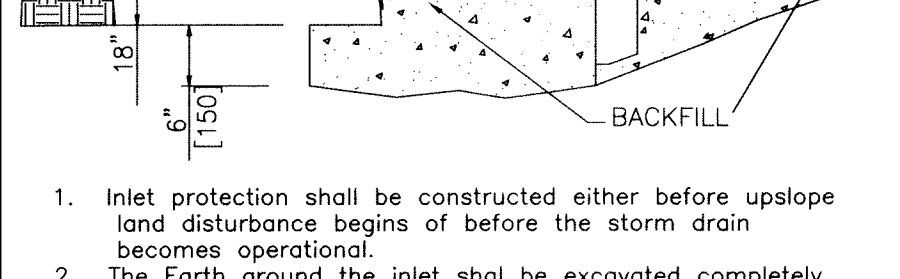
SPECIFIC APPLICATION
This method of inlet protection is applicable only at the time of permanent seeding, to protect the inlet from sediment and mulch materials until permanent vegetation has become established.



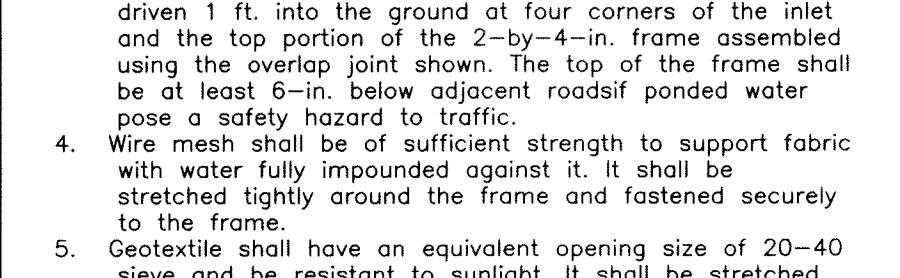
SPECIFIC APPLICATION
This method of inlet protection is applicable where heavy concentrated flows are expected, but not where ponding around the structure might cause excessive inconvenience or damage to adjacent structures and unprotected areas.



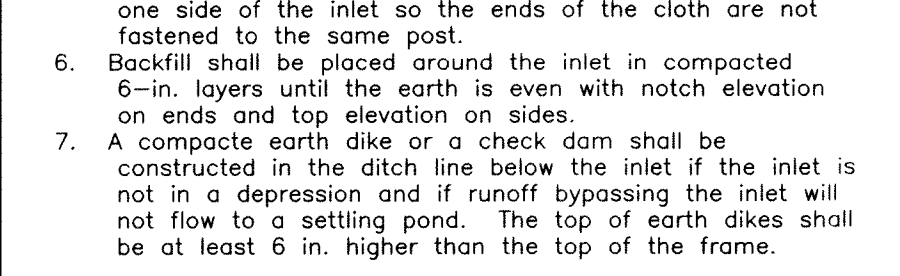
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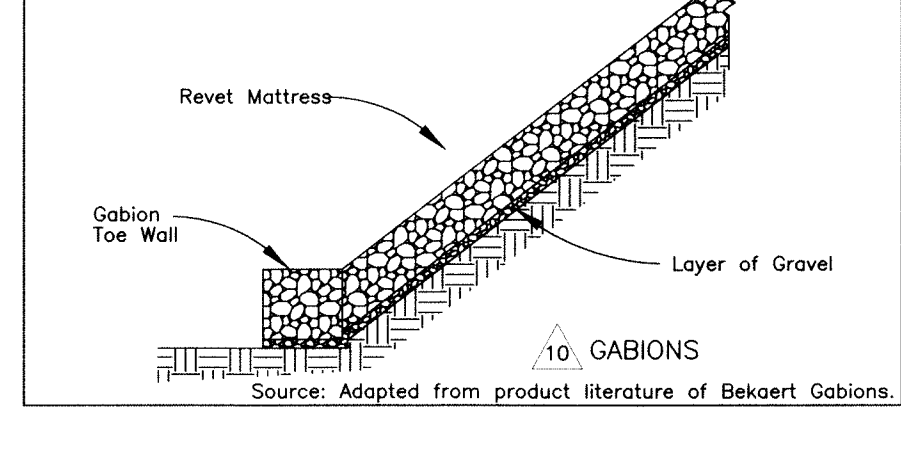
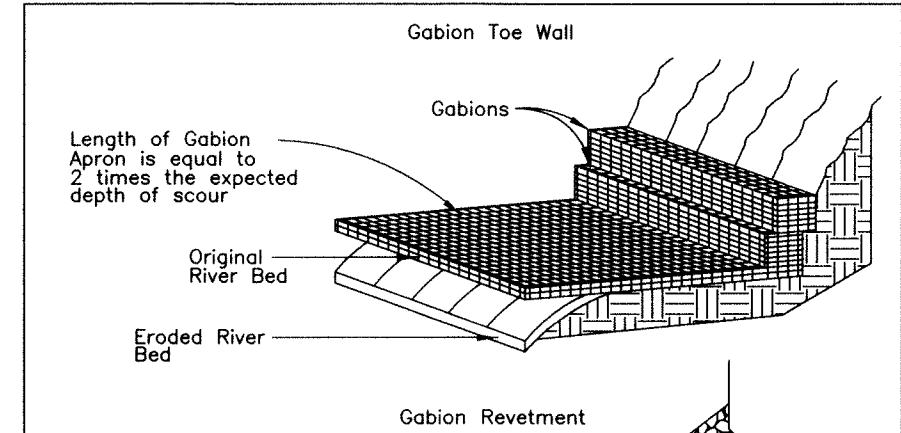
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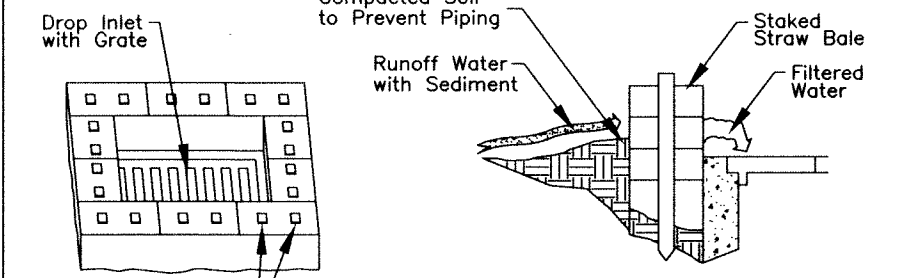
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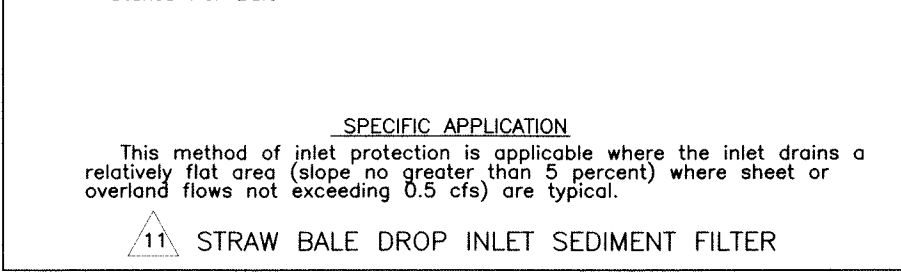
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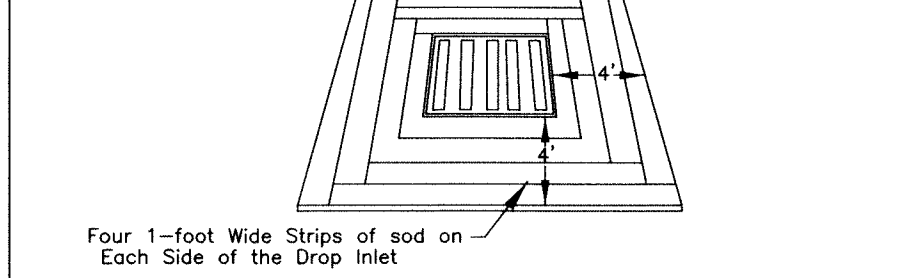
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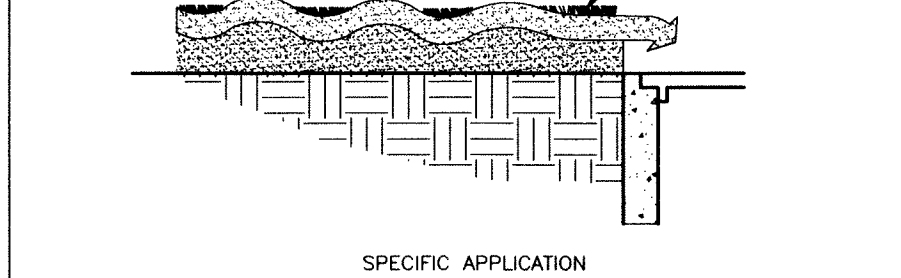
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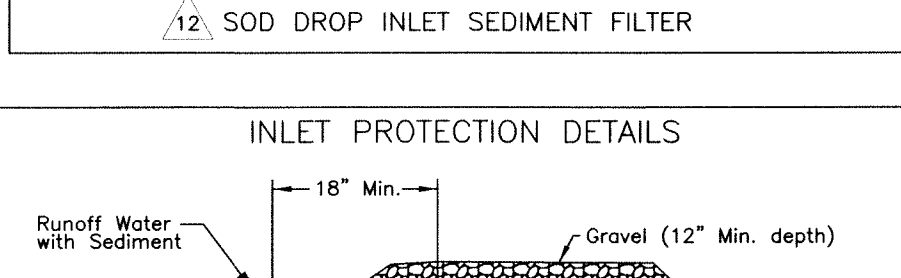
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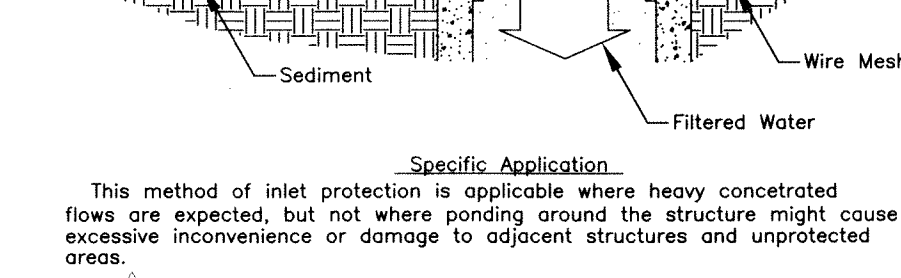
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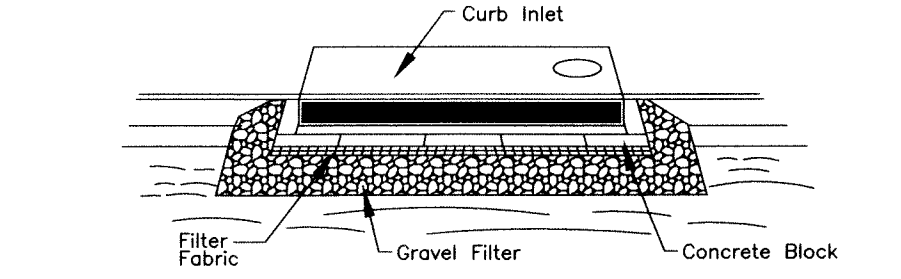
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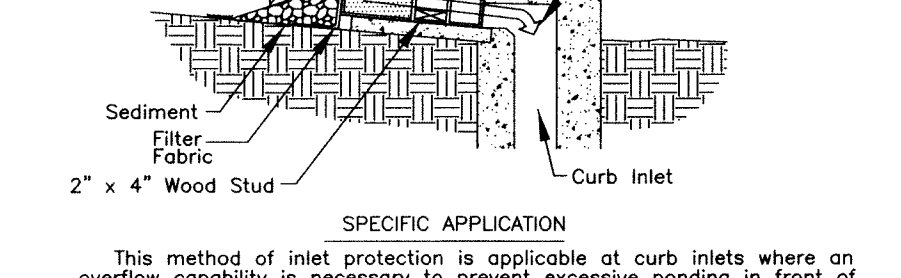
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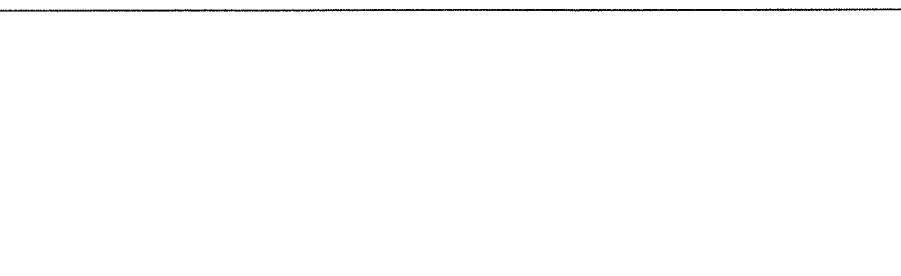
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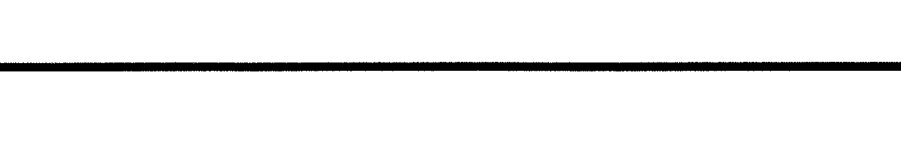
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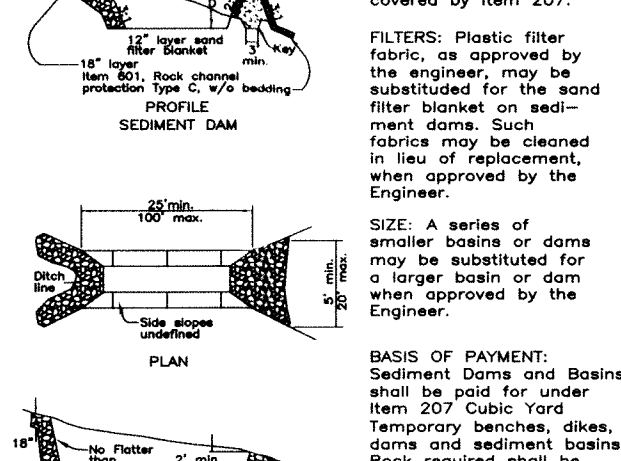
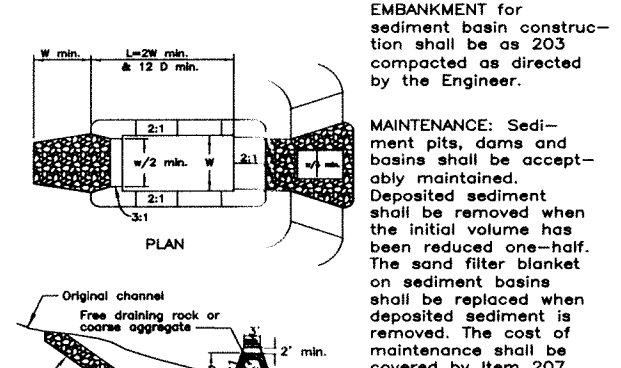


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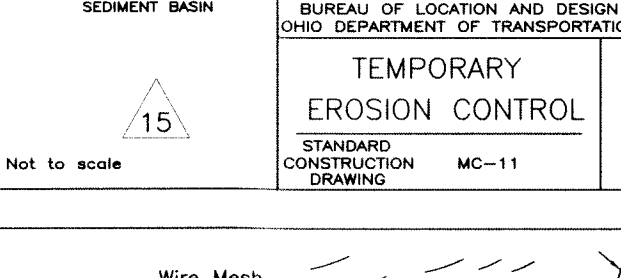


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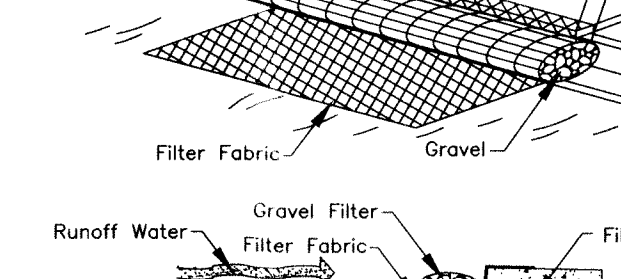
SEDIMENT TRAPS & DAMS



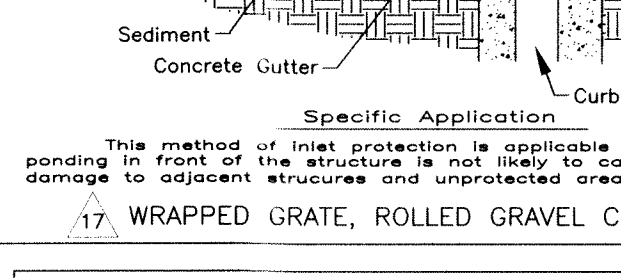
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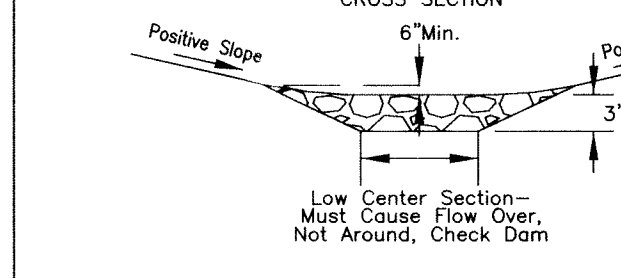
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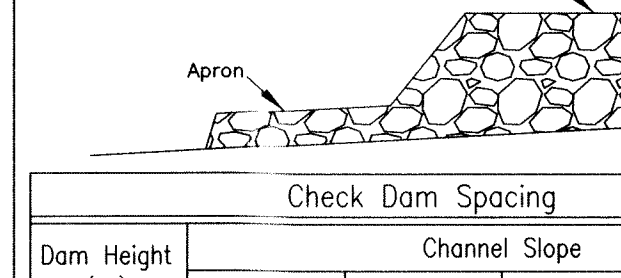
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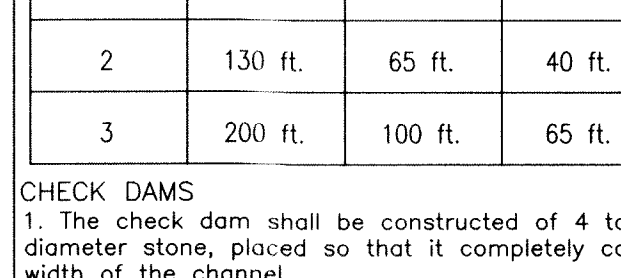
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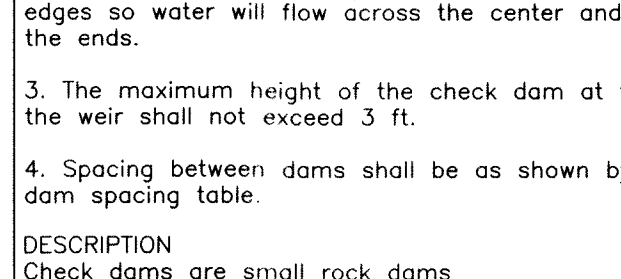
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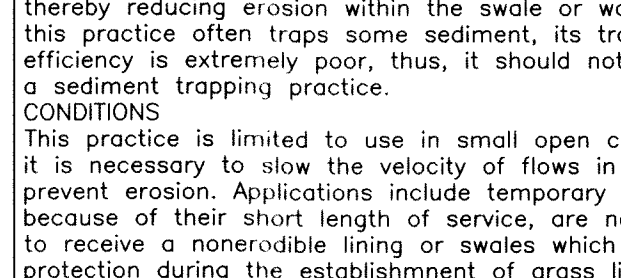
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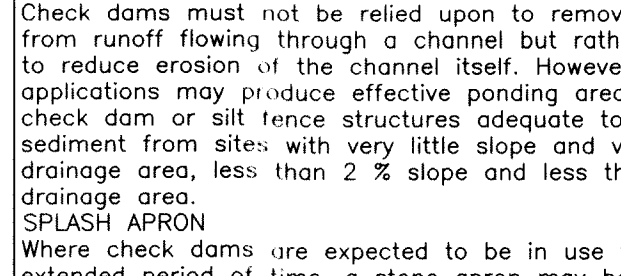
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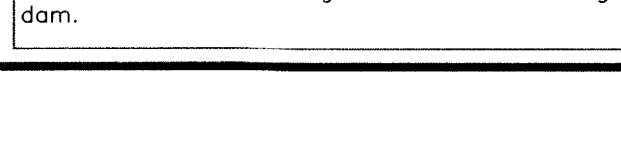
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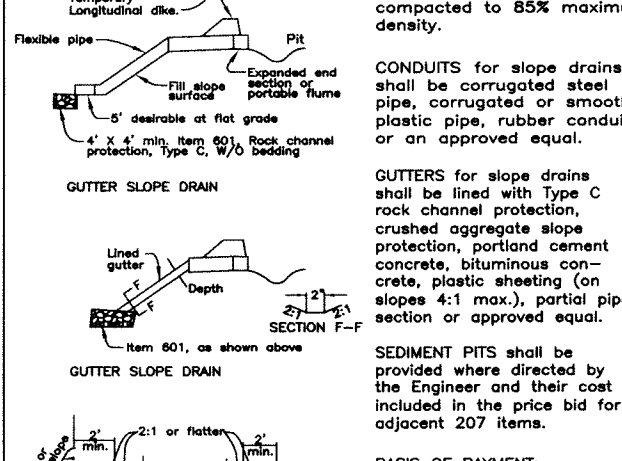
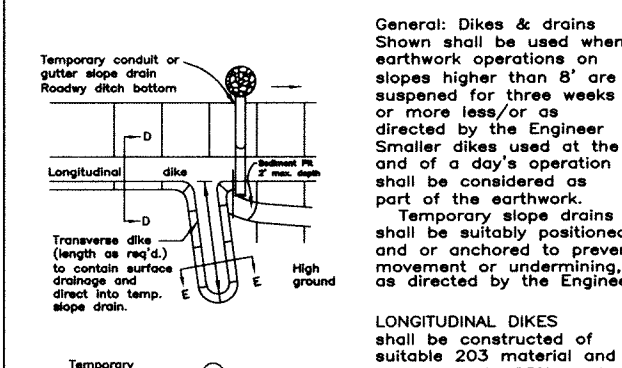


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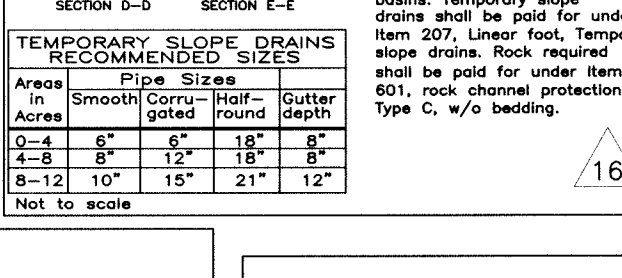


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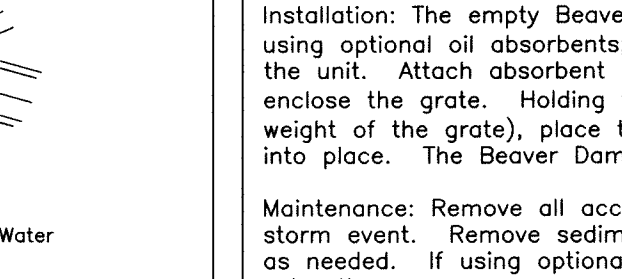
DIKES AND SLOPE PROTECTION



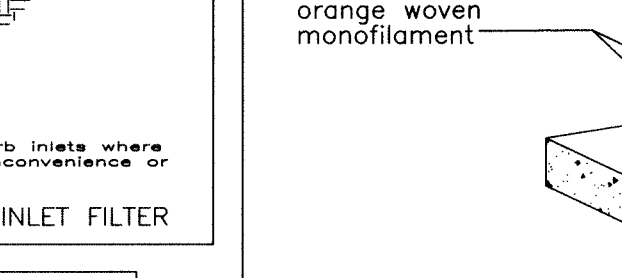
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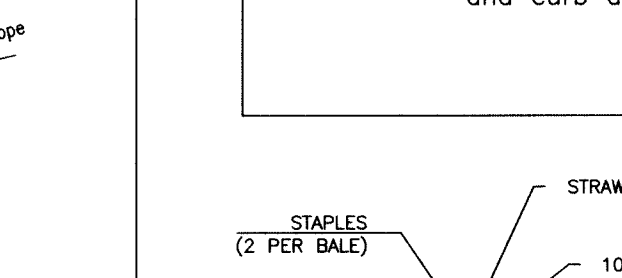
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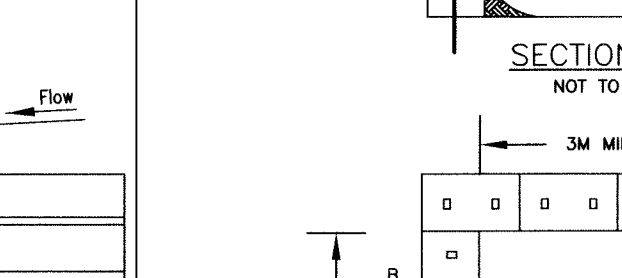
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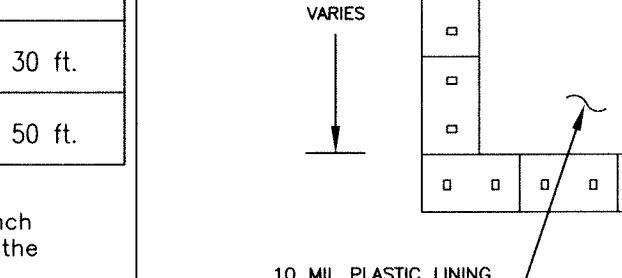
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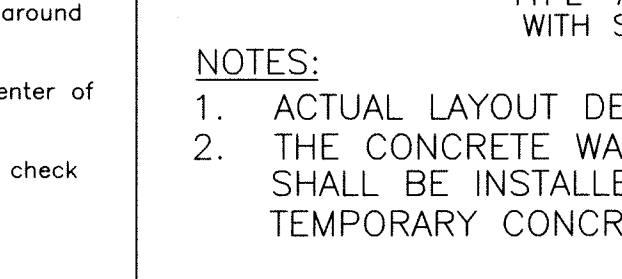
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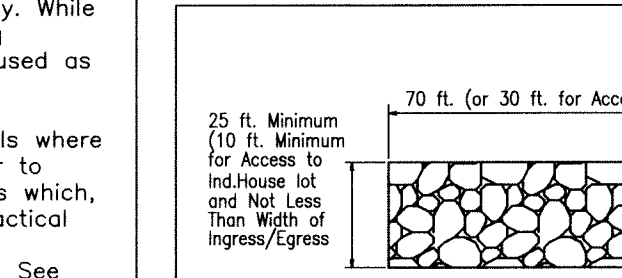
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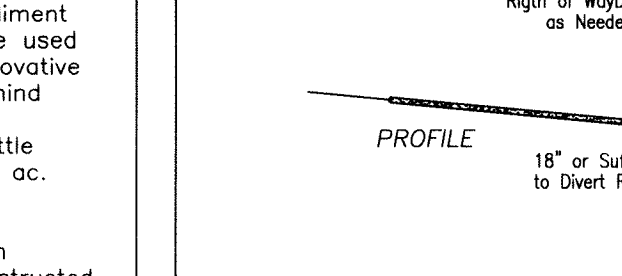
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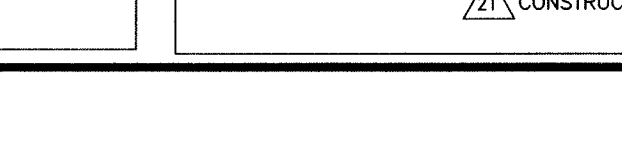
Source: Adapted from product literature of Bekaert Gabions



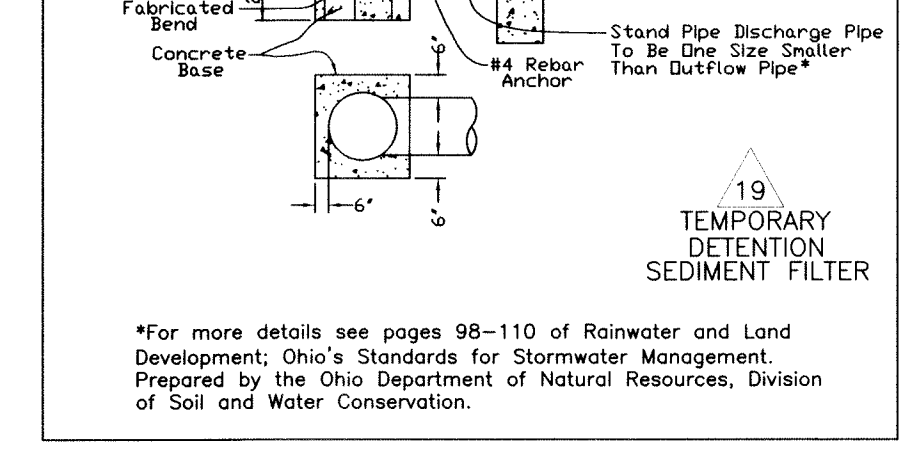
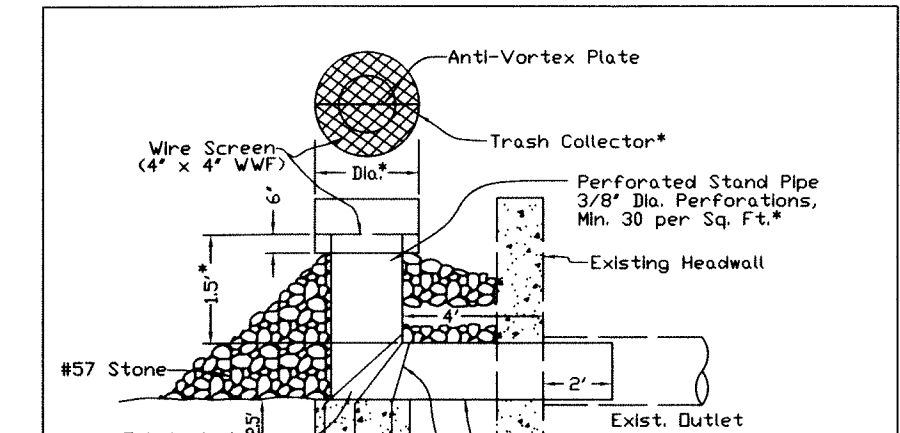
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