

YORKTOWN, INDIANA

TOWN STANDARDS

Town Standards Apply To Public Property & Private Property.

The Entire Set Of Full Size Town Standards Shall Be Attached To The Construction Drawings And Shall Be Considered Part Thereto.

DIRECTIONS FOR USE

- 1.) Details Prepared By Outside Sources Shall Not Be Included In The Construction Drawings When Said Details Cover Work Which Is Covered By Town Standards.
- 2.) Individual Town Standards That Do Not Apply May Be Crossed-Out By Design Engineer Through The Placement Of A Single Large X Over Detail. Minor Reference Notations May Be Placed Adjacent To Individual Standard Titles For Coordination However, The Standards Themselves Shall Not Be Modified In Any Way.
- 3.) Details Prepared By Outside Sources Covering Work Which Is Not Covered By Town Standards Are The Sole Responsibility Of The Design Engineer And Shall Be Placed On Sheets Other Than The Town Standards Sheets.
- 4.) Failure To Properly Execute The Above Directions For Use Will Not Effect The Applicability Nor The Enforcement Of The Town Standards.
- 5.) Town Of Yorktown Shall Be Contacted When Required By Calling 765-759-4002.

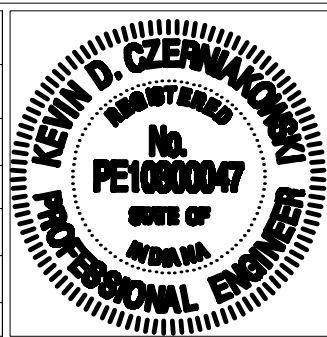
REVISION LOG

SHEET NO.	ISSUED	RE-ISSUED	RE-ISSUED	RE-ISSUED	RE-ISSUED	RE-ISSUED	RE-ISSUED
SHEET 1	4-19-04	8-11-05	3-14-07				
SHEET 2	4-19-04						
SHEET 3	4-19-04						
SHEET 4	4-19-04						
SHEET 5	4-19-04		3-14-07				
SHEET 6	4-19-04		3-14-07				
SHEET 7	4-19-04	8-11-05	3-14-07				
SHEET 8	4-19-04		3-14-07				
SHEET 9	4-19-04		3-14-07				
SHEET 10	4-19-04						

GENERAL NOTES

- 1.) Contractor Shall Verify The Exact Location Of All Existing Utilities At Least 24 Hours Prior To Any Construction Or Excavation. During Construction, All Utilities Shall Be Adequately Supported To Minimize Damage. The Contractor Shall Be Responsible For Repairing Or Replacing Damaged Utilities To The Satisfaction Of The Town Of Yorktown And The Owner Of The Affected Utility.
- 2.) Installation Of Or Provisions For The Installation Of All Underground Utilities (Including Service Laterals) To Be Placed Under Pavement Areas Shall Be Established Prior To The Construction Of The Pavements. The Town Reserves The Right To Require Trenchless Construction For Crossing Of Existing Streets.
- 3.) All Benchmarks And Elevations Shall Be U.S.C. & G.S. Datum.
- 4.) Wherever Proprietary Equipment Is Specified, All Proposals For Substitution Shall Be Submitted In Writing To The Yorktown And Shall Be Subject To The Findings Of The Yorktown.
- 5.) Approved Excavated Material May Be Used For Backfill Outside Of Limits Specified Herein And Under Proposed Sidewalks Provided Sidewalks Are Constructed 6 Months After Backfilling Of Trench. In Order For Excavated Material To Be Approved For Backfill It Shall Be Free Of Organic Material, Rocks Larger Than 6 Inches, Frozen Material, Debris, Excessive Water, Or Other Unsuitable Material As Determined By Town Of Yorktown.
- 6.) Whenever Granular Backfill Is Placed In A Trench, Contractor Shall Compact Material To A Minimum Of 95% Maximum Dry Density As Per ASHTO T99. The Contractor Shall Demonstrate That Compaction Is Achieved By Means Of In Place Density Tests Performed By An Independent Testing Firm. Testing Frequency Shall Be One Test Per Trench Or 1 Test Per 100 Linear Feet Of Trench, Whichever Is Greater.

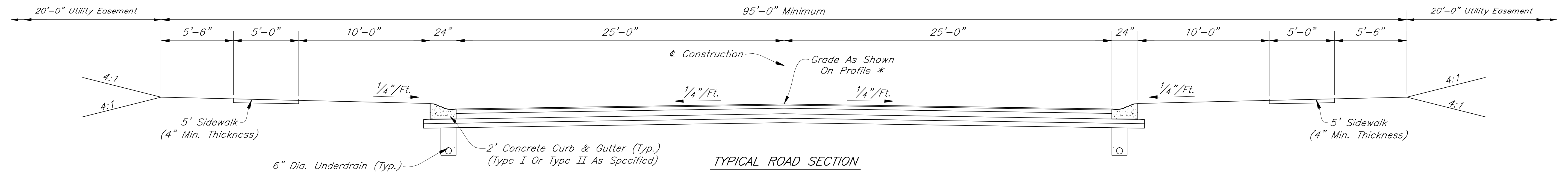
REVISIONS		
Rev. No.	Description	Date
1	Added Rev. Date for Sheets 1 & 7	8/11/2005
2	Added Revision Dates	3/14/2007



RECOMMENDED FOR APPROVAL	<i>Kevin D. Czerniak</i>	<i>4/19/04</i>
	DESIGN ENGINEER	DATE

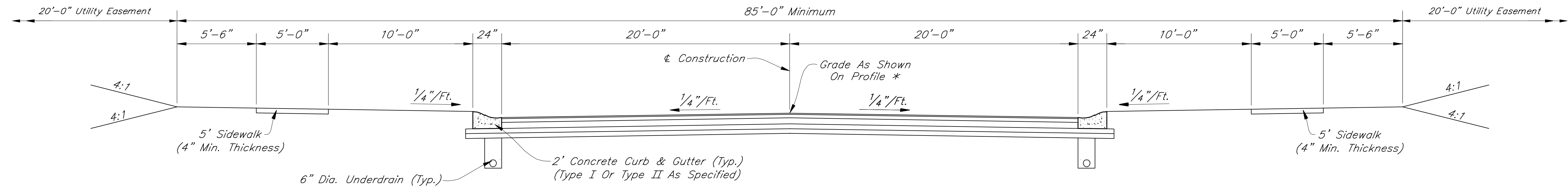
TOWN OF YORKTOWN
DIRECTIONS FOR USE, GENERAL NOTES, & REVISION LOG

SHEET
1
OF
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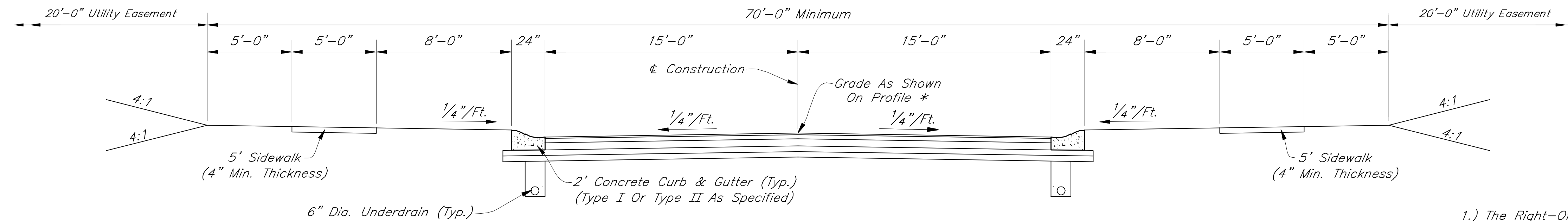
**TYPICAL ROAD SECTION
MAJOR ARTERIAL STREETS**

Scale: 1/4"=1'-0"



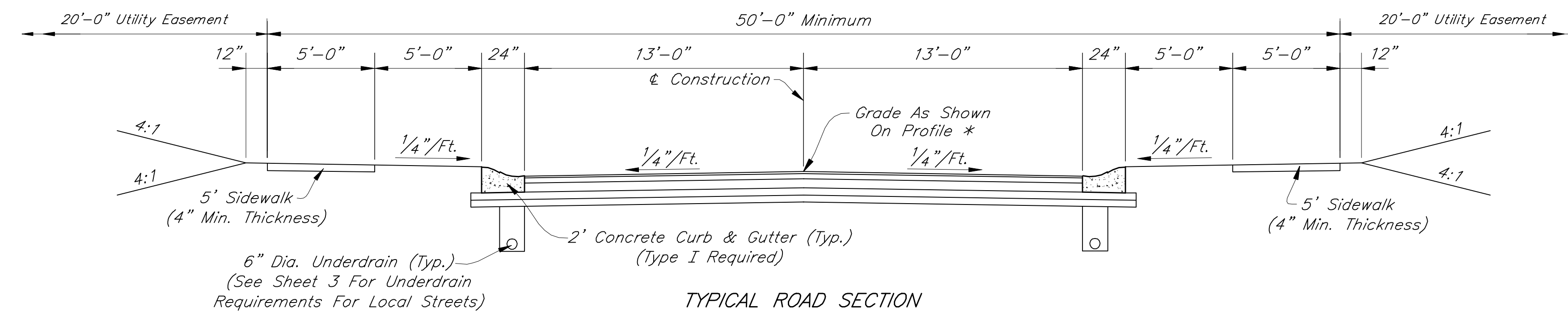
**TYPICAL ROAD SECTION
MINOR ARTERIAL STREETS**

Scale: 1/4"=1'-0"



**TYPICAL ROAD SECTION
COLLECTOR STREETS**

Scale: 1/4"=1'-0"



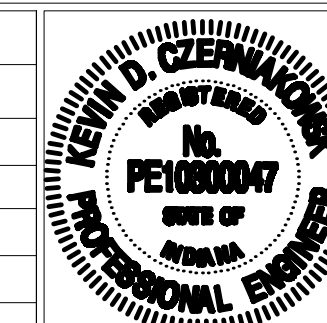
**TYPICAL ROAD SECTION
LOCAL STREETS**

Scale: 1/4"=1'-0"

GENERAL NOTES

- 1.) The Right-Of-Way Widths, Pavement Widths, And Easements Widths Indicated On This Sheet Are Minimum Distances Required By The Town Of Yorktown. Greater Widths May Be Provided. The Contractor Shall Review The Plat And The Plans To Confirm The Various Widths Indicated On This Sheet And Shall Report Any Discrepancy To The Town Prior To Proceeding With Construction.
- 2.) Wherever Proprietary Equipment Is Specified, All Proposals For Substitution Shall Be Submitted To The Town And Shall Be Subject To The Approval Of The Town.
- 3.) Whenever Trench Opening Encroaches Within 5' Of An Existing Or Proposed Street Or Sidewalk, "B"-Borrow Compacted In Lifts In Accordance With The Most Recent INDOT Standard Specifications Shall Be Required. Approved Backfill Material May Be Used Under Proposed Sidewalks Provided Sidewalks Are Constructed 6 Months After Backfilling Of Trench.
- 4.) Installation Of Or Provisions For The Installation Of All Underground Utilities (Including Service Laterals) To Be Placed Under Pavement Areas Shall Be Established Prior To The Construction Of The Pavements.
- 5.) The Location Of Proposed Utilities As Indicated Hereon Are Based Upon The Experience Of The Town Of Yorktown And Are So Indicated To Ensure The Orderly Development Of The Land. Strict Adherence To The Indicated Location Is Required. Requests To Change The Location Of The Proposed Utilities Shall Submitted In Writing To The Town. Utilities Not Meeting These Requirements Shall Be Removed And Replaced As Directed By The Town.

REVISIONS		
Rev. No.	Description	Date



RECOMMENDED FOR APPROVAL	<i>Karin D. Czerniak</i> DESIGN ENGINEER	4/19/04 DATE
APPROVED	<i>Maurice M. Hester</i> STREET SUPERINTENDENT	4/22/04 DATE

TOWN OF YORKTOWN
RIGHT-OF-WAY, UTILITY EASEMENT & UTILITY LOCATION GUIDELINES

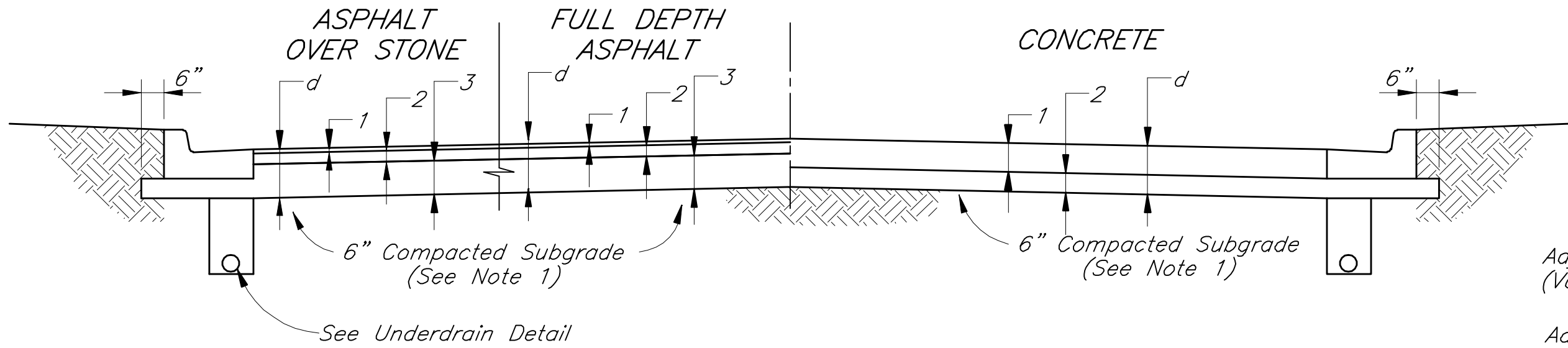
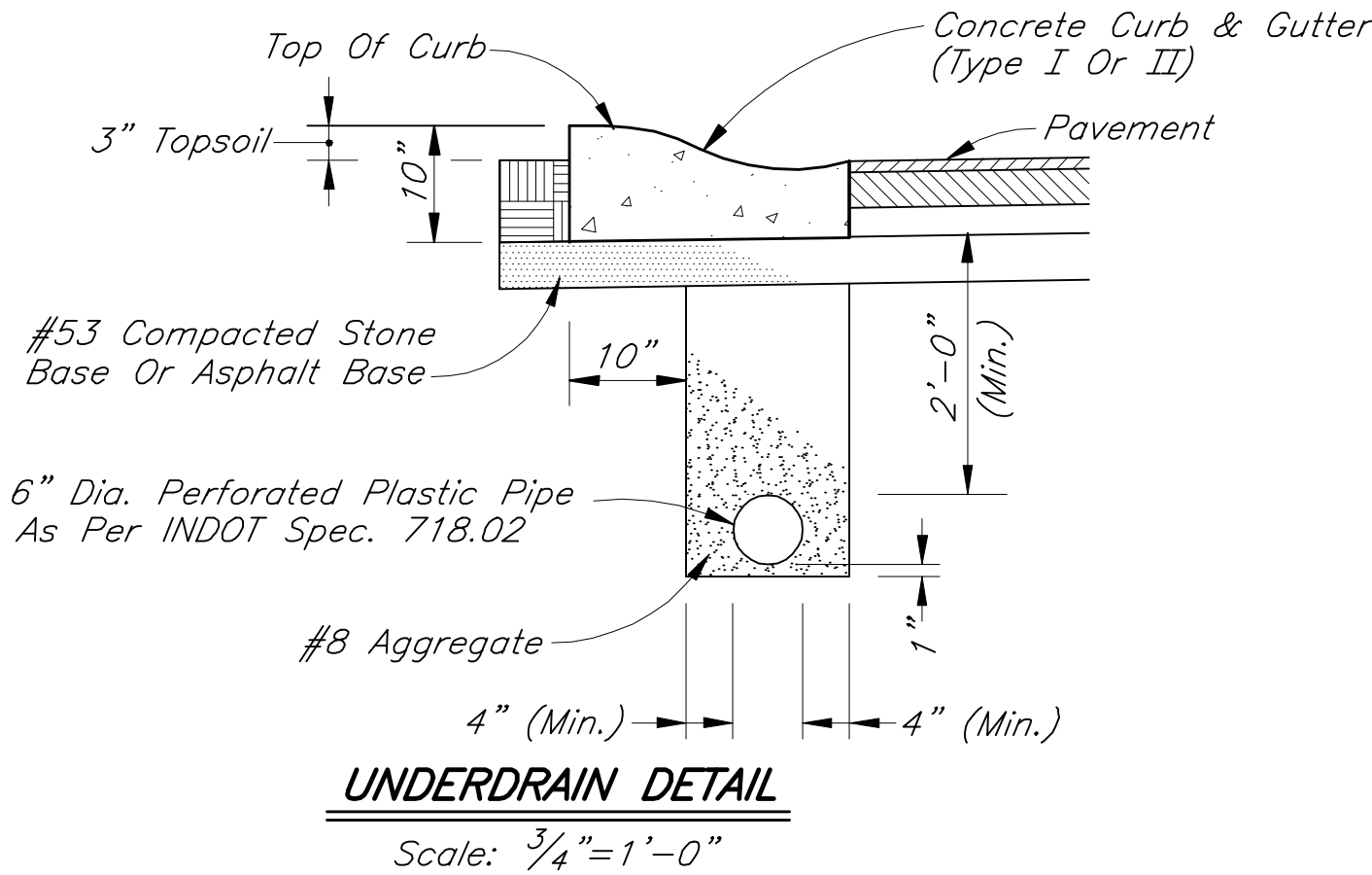
SHEET
2
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PAVEMENT CONSTRUCTION

- 1.) Subbase And Subgrade Shall Be Compacted To At Least 100 Percent Of The Maximum Dry Density In Accordance With A.A.S.H.T.O. 199. Compaction Test Shall Be At The Contractor's Expense And Shall Be Performed By An Independent Laboratory. Tests Results Shall Be Submitted To The Town Prior To Placing Any Material On The Subbase Subgrade. One-In Place Density Test Shall Be Completed For Each Lift For Every 400 Linear Feet Of Traffic Lane. At The Discretion Of The Street Commissioner, The Compaction Testing May Be Waived And The Adequacy Of Subbase And Subgrade Shall Be Determined By The Town Based On A Contractor Performed Proofroll With A Fully Loaded Single Axle Dump Truck.
- 2.) For Local Streets With Concrete Pavement The Four Inch Compacted Aggregate #53 Is Optional If Adequate Subgrade Is Present. Adequacy Of Subgrade Shall Be Determined Solely By The Town Based On A Contractor Performed Proofroll With A Fully Loaded Single Axle Dump Truck.
- 3.) Place Tack Coat In Accordance With The Most Recent INDOT Standard Specifications For Asphalt Pavement Sections.
- 4.) Wherever Rigid Pavement Is To Be Used, The Contractor Shall Submit A Detailed Paving Plan To The Town. The Paving Plan Shall Show The Location And Type Of Jointing To Be Used In The Construction. The Location And Type Of Jointing Shall Meet The Requirements Of The Most Recent INDOT Standard Details.

HANDICAP RAMP CONSTRUCTION

- 1.) All Handicap Ramps Shall Meet The Requirements Of The American Disabilities Act, The Most Recent INDOT Standard Specifications, And The Town Of Yorktown's Most Recent Standards. Curb Swipes Required For Handicap Ramps Shall Be Provided At Time Of Initial Construction.
- 2.) Minimum Width Of Curb Ramp Shall Be 5 Feet Not Including Flares. Maximum Slope Of Ramps Shall Be 12:1.
- 3.) Handicap Ramps Are To Be Located As Shown On The Plans Or As Directed By The Town.
- 4.) Type D Ramps Shall Be Provided Adjacent To Each Point Of Tangency At All Corners Of Every Street Intersection Where There Is An Existing Or Proposed Sidewalk And Curb. In Case Of "T"-Intersection, A Type C Ramp Shall Be Provided Adjacent To Each Corner Ramp. Type C Ramps Also Shall Be Provided At Walk Locations At Mid-block In Vicinity Of Hospitals, Medical Centers Or Athletic Stadiums. The Use Of Details Contrary To Those Shown Hereon Shall Require The Prior Written Approval Of The Town.
- 5.) Surface Texture Of The Ramp Shall Be That Obtained By A Coarse Brooming Transverse To The Slope Of The Ramp.
- 6.) Ramps Shall Be Provided Where The Driveway Curb Extends Across The Sidewalk.
- 7.) Care Shall Be Taken To Assure A Uniform Grade On All Ramps With No Breaks In Grade.
- 8.) Drainage Structures Shall Not Be Placed In Line With The Ramps Except Where Existing Drainage Structures Are Being Utilized In The New Construction. Location Of The Ramps Shall Take Precedence Over Location Of Drainage Structures.
- 9.) The Normal Gutter Line Profile Shall Be Maintained Through The Area Of The Ramp.
- 10.) Expansion Joint For The Ramp Shall Be A Maximum 1/2" Wide. The Top Of The Joint Filler For All Ramp Types Shall Be Flush With Adjacent Concrete.
- 11.) Crosswalk And Stop Line Marking, If Used, Shall Be So Located As To Stop Traffic Short Of Ramp Crossing.
- 12.) Slope Of Ramp May Be Warped When Field Conditions Warrant And When Approved By The Town.



LOCAL STREETS

- d=13"
- ① 1" Surface #11 LV
- ② 3" Binder #8
- ③ 9" Compacted Aggregate Base #53 (2 Lifts)
- d=8"
- ① 1" Surface #11 LV
- ② 3" Binder #8
- ③ 4" Base #5D
- d=10"
- ① 6" Concrete
- ② 4" Compacted Aggregate Base #53 (See Pavement Construction Note 2)

RESIDENTIAL COLLECTOR STREETS

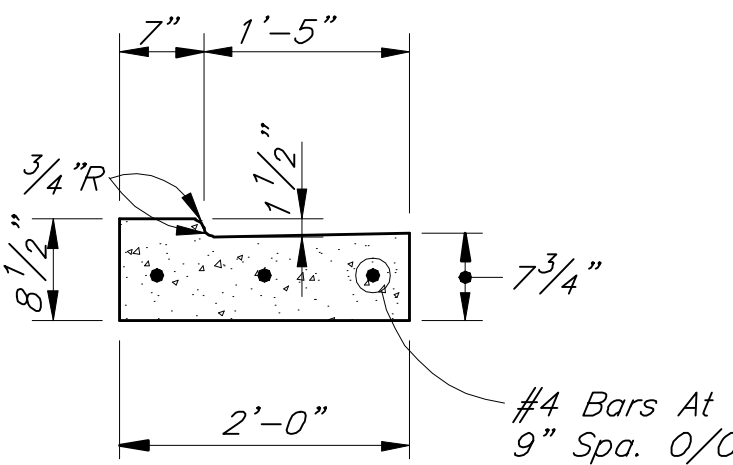
- d=14"
- ① 1" Surface #11 MV
- ② 2" Binder #8 Over 4" Base #5D
- ③ 7" Compacted Aggregate Base #53 (2 Lifts)
- d=10"
- ① 1" Surface #11 MV
- ② 3" Binder #8
- ③ 3" Base #5 Over 3" Base #5D
- d=11"
- ① 7" Concrete
- ② 4" Compacted Aggregate Base #53

NON-RESIDENTIAL COLLECTOR AND ARTERIAL STREETS

- d=15"
- ① 1" Surface #11 MV Or HV
- ② 2" Binder #8 Over 4" Base #5D
- ③ 8" Compacted Aggregate Base #53 (2 Lifts)
- d=12"
- ① 1" Surface #11 MV Or HV
- ② 3" Binder #8
- ③ 4" Base #5 Over 4" Base #5D
- d=11 1/2"
- ① 7 1/2" Concrete
- ② 4" Compacted Aggregate Base #53

PAVEMENT CONSTRUCTION

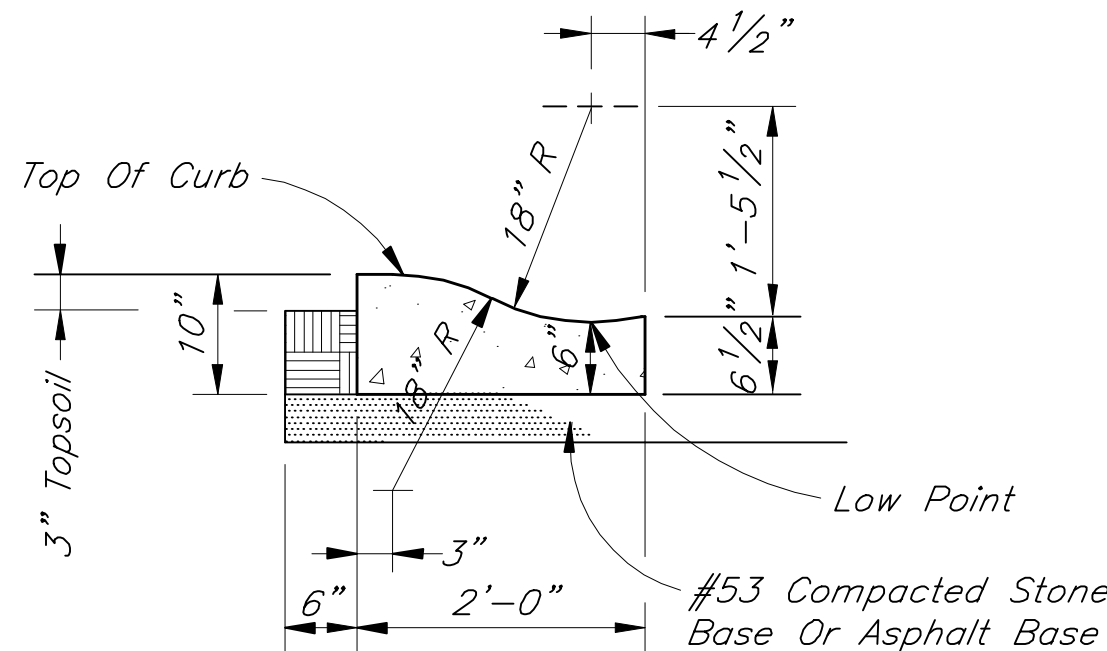
Scale: None



NOTE:
Reinforced Concrete Gutter Is Req'd. At All Private Drives That Intersect A Public Road With Type II 2' Combined Concrete Curb And Gutter Or Similar.

REINFORCED CONCRETE GUTTER

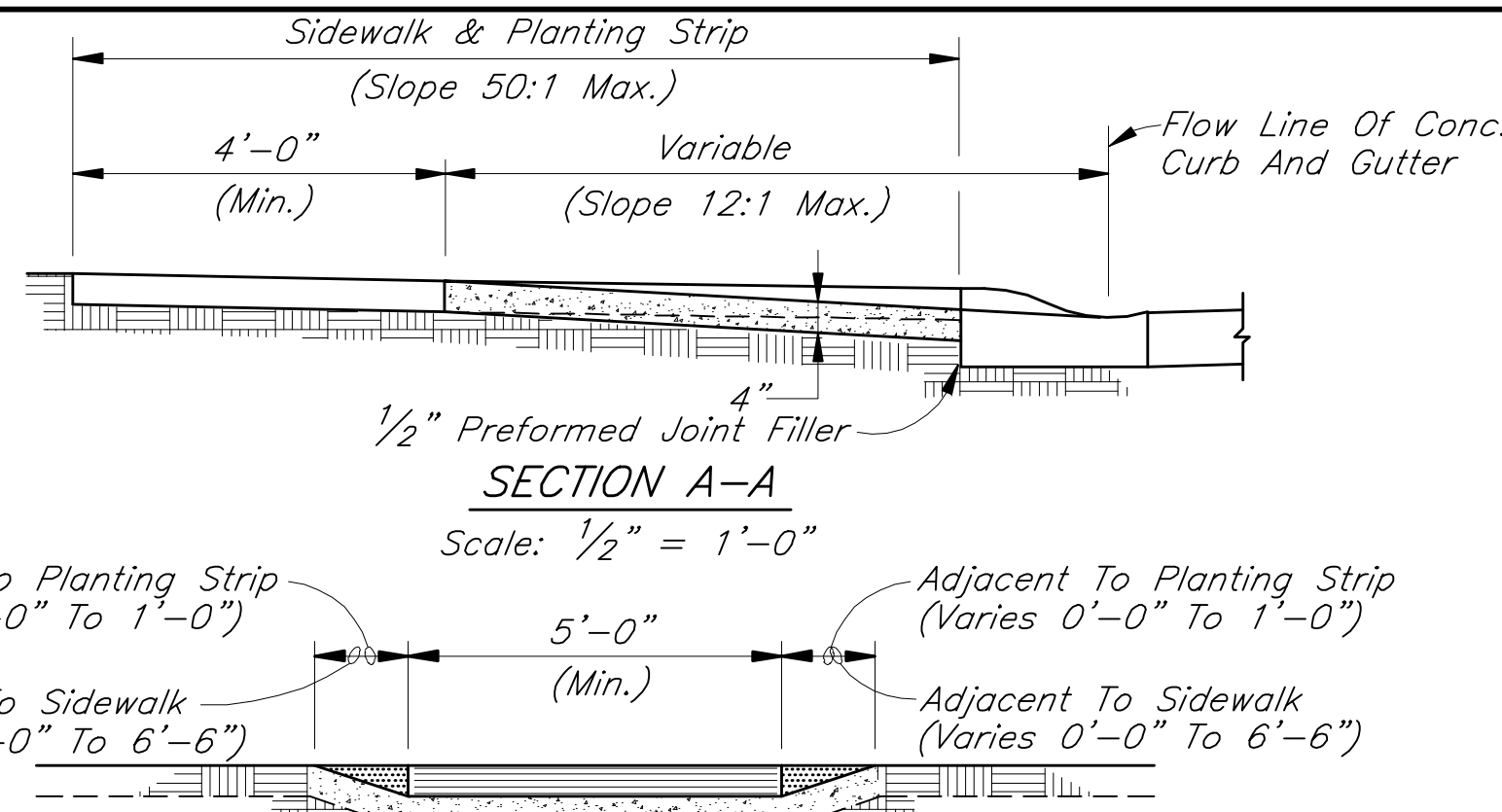
Scale: 3/4"=1'-0"



TYPE I

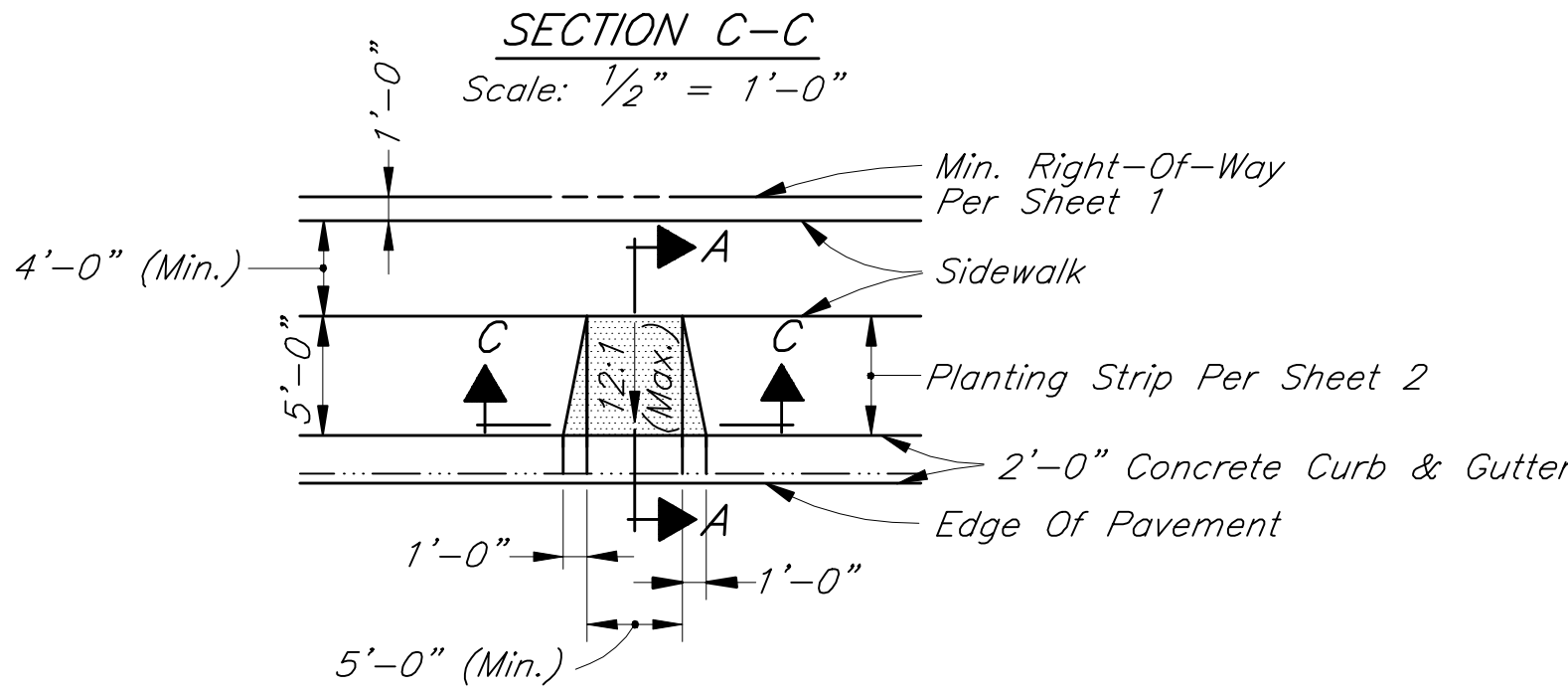
2' CONCRETE ROLL CURB & GUTTER

Scale: 3/4"=1'-0"



SECTION A-A

Scale: 1/2" = 1'-0"

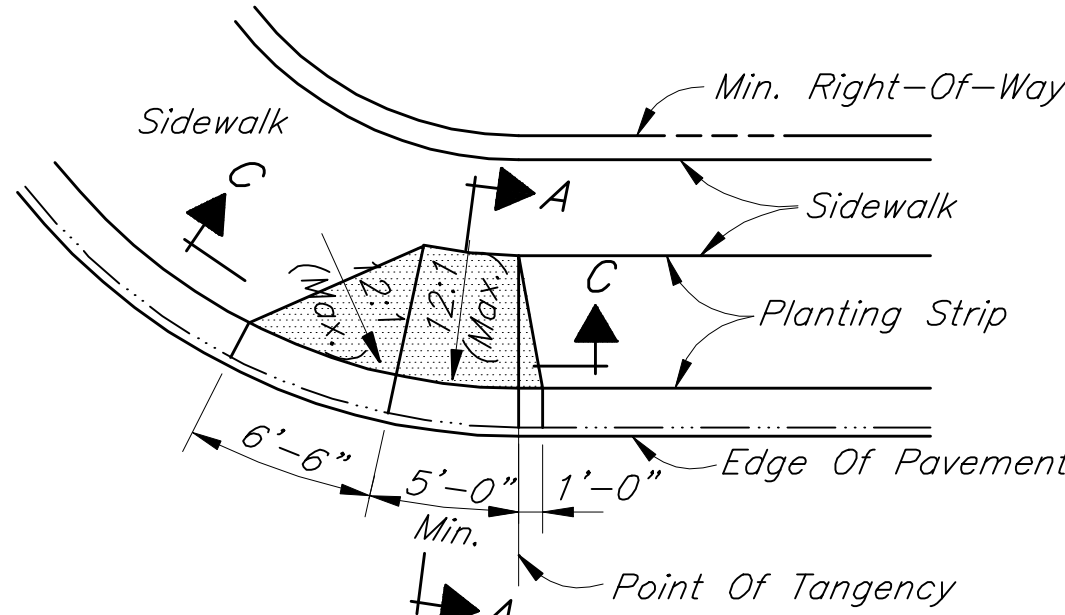


SECTION C-C

Scale: 1/2" = 1'-0"

CURB RAMP, TYPE C

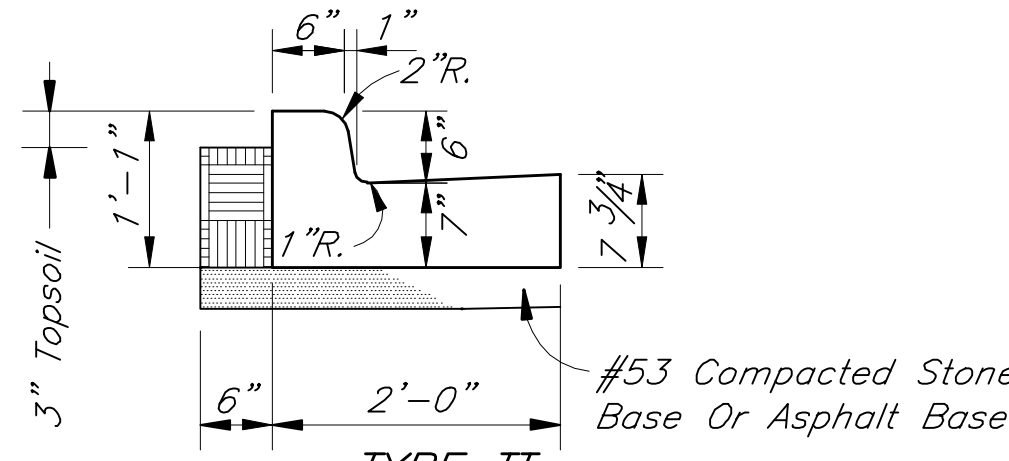
Scale: 1/8" = 1'-0"



CURB RAMP, TYPE D

Scale: 1/8" = 1'-0"

HANDICAP RAMP CONSTRUCTION

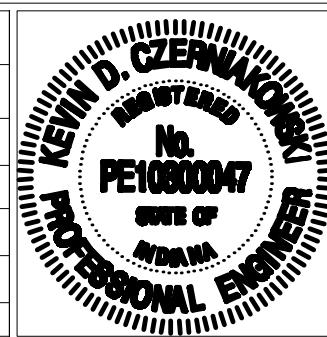


TYPE II

2' COMBINED CONCRETE CURB & GUTTER

Scale: 3/4"=1'-0"

REVISIONS		
Rev. No.	Description	Date



RECOMMENDED FOR APPROVAL	<i>Karin D. Czerniak</i> DESIGN ENGINEER	4/19/04 DATE
APPROVED	<i>Maurice Masters</i> STREET SUPERINTENDENT	4/22/04 DATE

TOWN OF YORKTOWN
PAVEMENT, CURB AND SIDEWALK DETAILS AND NOTES

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REINFORCED CONCRETE PIPE

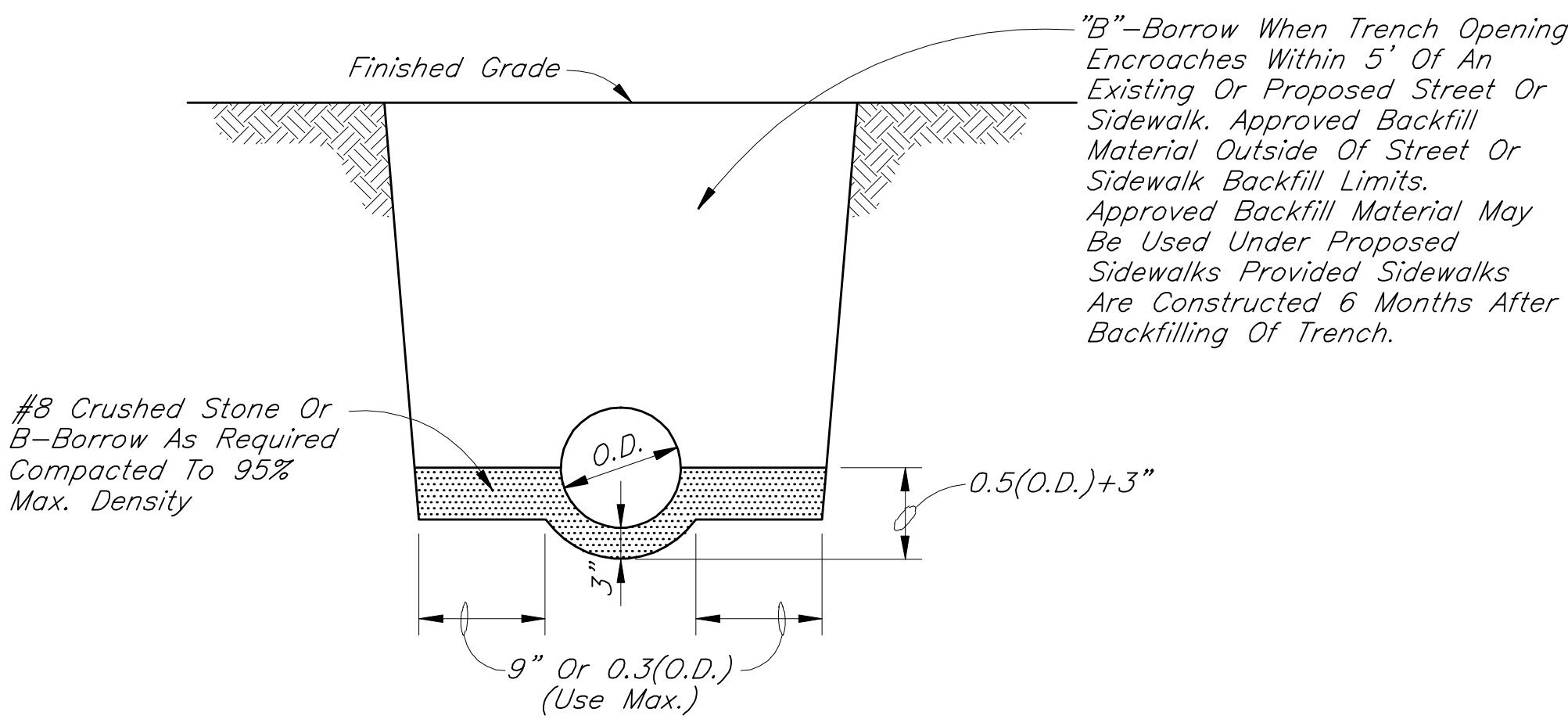
- 1.) Reinforced Concrete Pipe Shall Be Class III, IV, Or V As Specified In ASTM C-76.
- 2.) Reinforced Elliptical Concrete Pipe Shall Be Class HE-III Or HE-IV As Specified In ASTM C-507.
- 3.) Lift Holes Are Not Allowed For Pipe Less Than 24 Inches In Diameter. A Maximum Of Two Lift Holes Are Allowed For Pipe 24 Inches In Diameter Or Larger. Lift Holes Shall Be Repaired According To Most Recent INDOT Standard Specifications.
- 4.) Fittings And Specialties Shall Be In Accordance With The Specifications For The Type Of Pipe Being Used.
- 5.) Each Pipe Section Shall Be Marked With Date Of Manufacturer, Size And Class Of Pipe, Specification Designation, Manufacturer And Plant Identification.
- 6.) Pipe Shall Be Furnished With A Bell Or Groove On One End Of A Unit Of Pipe And A Spigot Or Tongue On The Adjacent End Of The Adjoining Pipe. All Joints Shall Have A Groove On The Spigot For Placement Of A Rubber "O"-Ring Or Profile Gasket In Accordance With ASTM C-443. The Gasket Shall Be A Continuous Ring Which Fits Snugly Into The Annular Space Between The Over Lapping Surfaces Of The Assembled Pipe Joint.

POLYVINYL CHLORIDE (P.V.C.) PIPE

- 1.) Pipe Diameters Of 10 Inches Through 15 Inches Shall Meet Or Exceed All The Requirements Of ASTM D-3034, And Shall Have A Minimum Cell Classification Of 12454-C. Reference Should Be Made To ASTM D-1784 For A Summarization Of Cell Class Properties. Pipe Diameters Greater Than 15 Inches Shall Meet Or Exceed All Requirements Of ASTM F-679, And Shall Have A Minimum Cell Classification Of 12454-C. P.V.C. Ribbed Sewer Pipe Shall Meet Or Exceed All Requirements Of ASTM F-794, And Shall Have A Minimum Cell Classification Of 12454.
- 2.) The Minimum Wall Thickness Of 10 Inches Through 15 Inches In Diameter Pipe Shall Conform To SDR-35, Type PSM, As Specified In ASTM D-3034. The Minimum Wall Thickness For Pipe Diameters Greater Than 15 Inches Shall Conform To T-1 As Specified In ASTM F-679. P.V.C. Pipe Shall Have A Minimum Pipe Stiffness Of 46 Pounds Per Square Inch For Each Diameter When Measured At Five Percent Deflection And Tested In Accordance With ASTM D-2412.
- 3.) Pipe Joints Shall Have A Bell Wall, Gasket Groove And Spigot Which Is Integral With The Pipe. The Assembly Of Joints Shall Be In Accordance With Pipe Manufacturers' Recommendations And ASTM D-3212. No Solvent Cement Joints Shall Be Allowed. Gasket Material Shall Be Constructed Of Styrene Butadiene Or Butyl Rubber And Meet The Requirements Of ASTM F-477.
- 4.) Each Pipe Section Shall Be Marked With Name Of Manufacturer, Trademark Or Tradename, Nominal Pipe Size, Production/Extrusion Code, Material And Cell Class Designation, And ASTM Number.
- 5.) Installation Shall Be In Accordance With ASTM Recommended Practice D-2321.

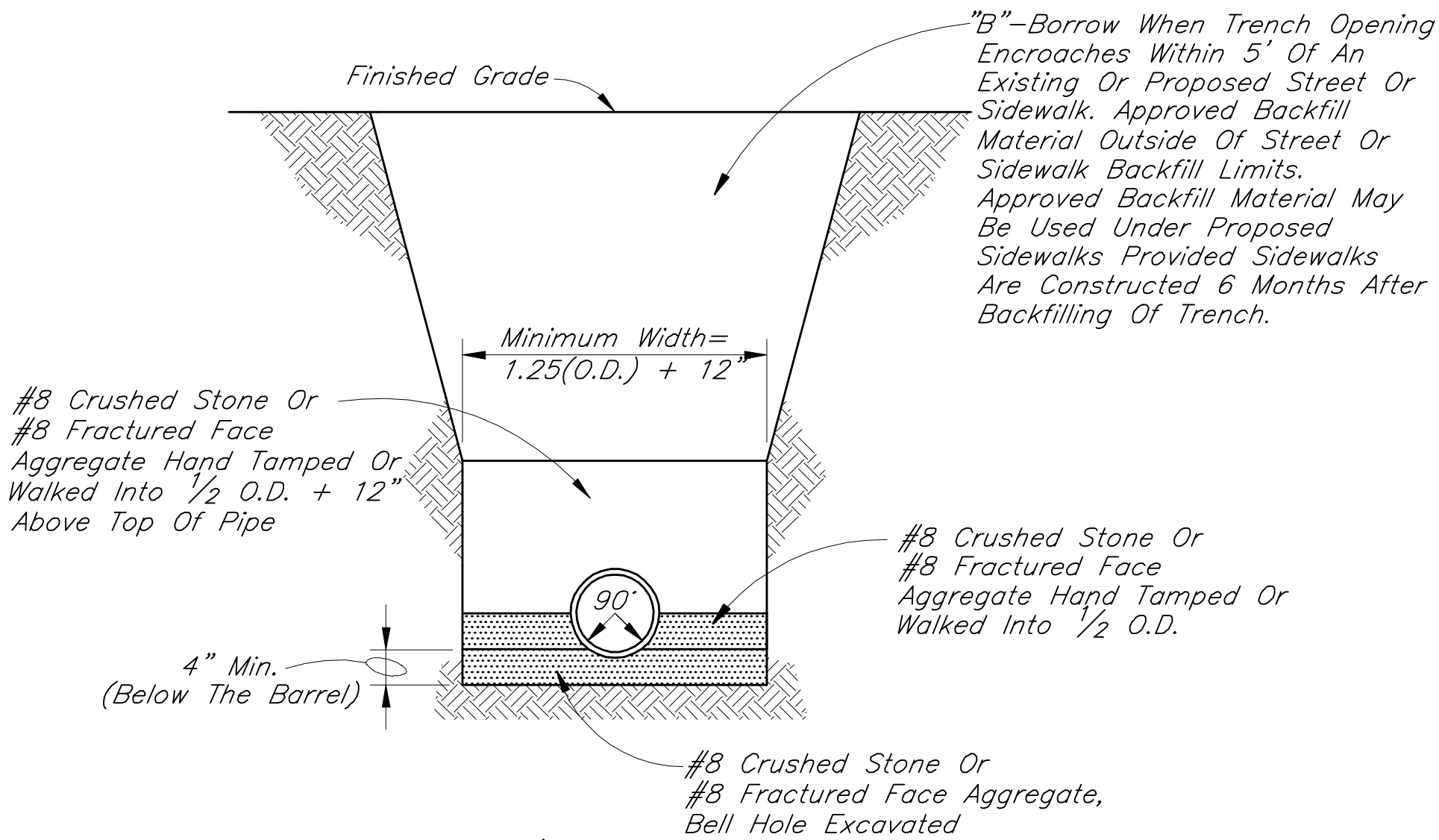
HIGH DENSITY POLYETHYLENE (H.D.P.E.) CORRUGATED PIPE

- 1.) Requirements For Test Methods, Dimensions And Markings Are Those Found In A.A.S.H.T.O. Specifications M-252 And M-294.
- 2.) Pipe And Fittings Shall Be Made Of Polyethylene Compounds Which Meet Or Exceed The Requirements Of Type III, Category 4 Or 5, Grade P33 Or P34, Class C Per ASTM D-1248.
- 3.) The H.D.P.E. Corrugated Pipe Shall Have An Integrally Formed Smooth Interior.
- 4.) Male And Female Pipe Ends Which Allow The Construction Of Overlapping, Gasket Joints, Shall Be Made In Conformance With ASTM D-3212. Neoprene Gaskets Shall Meet ASTM F-477.
- 5.) Installation Shall Be In Accordance With ASTM Recommended Practice D-2321.
- 6.) H.D.P.E. Pipe Greater Than 36 Inches In Diameter Shall Not Be Allowed For Use In The Town Of Yorktown.
- 7.) H.D.P.E. Pipe 10 Inches Through 18 Inches In Diameter May Be Used Within The Public Right-Of-Way Subject To The Bedding Requirements For Flexible Pipe. H.D.P.E. Pipe Greater Than 18 Inches In Diameter Shall Not Be Allowed For Use Within The Public Right-Of-Way In The Town Of Yorktown.
- 8.) Pipe Stiffness Valves Shall Be In Accordance With A.A.S.H.T.O. Specification M-294.



RCP PIPE BEDDING DETAIL

Scale: None



FLEXIBLE (PVC OR HDPE) PIPE BEDDING DETAIL

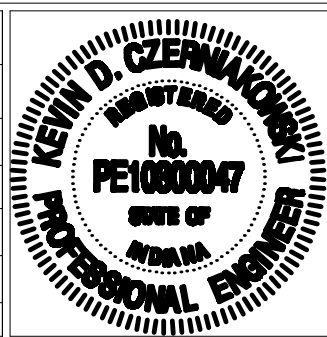
Scale: None

*Refer To HDPE Pipe Note 6 And Note 7 For Approved Locations And Sizes Of HDPE Pipe

GENERAL NOTES

- 1.) The Town Of Yorktown Shall Be Given 24 Hour Written Notice Of The Required Deflection Testing Procedure To Be Performed By The Contractor. An In-Place Deflection Test Shall Be Performed On All Flexible Pipe Installed Within The Town Of Yorktown For The Purposes Of Conveying Storm Drainage. An Allowable Deflection Of 5 Percent Internal Pipe Diameter Will Be Acceptable After All Backfilling Has Been In Place For 30 Days. A Nine-Point, "Go-No-Go" Mandrel Shall Be Used For The Deflection Test And A Proving Ring Shall Be Provided For Each Mandrel. All Pipe Exceeding The Allowable Deflection Shall Be Replaced Or Rerounded. The Replaced Or Rerounded Section Shall Be Retested 30 Days After Replacement Or Rerounding. The Contractor Shall Bear All Costs For Testing And Testing Equipment. The "Go-No-Go" Mandrel Shall Be Manually Pulled Without The Use Of Any Winching Or Other Mechanical Device.
- 2.) Storm Sewer Pipe Of Other Material Or Material Not Meeting These Specifications Shall Require The Prior Written Approval Of The Town.
- 3.) The Contractor Shall Submit Information To The Town Showing Conformance With These Specifications Upon Request.
- 4.) As-Built Drawings Shall Be Submitted To The Town Of Yorktown.

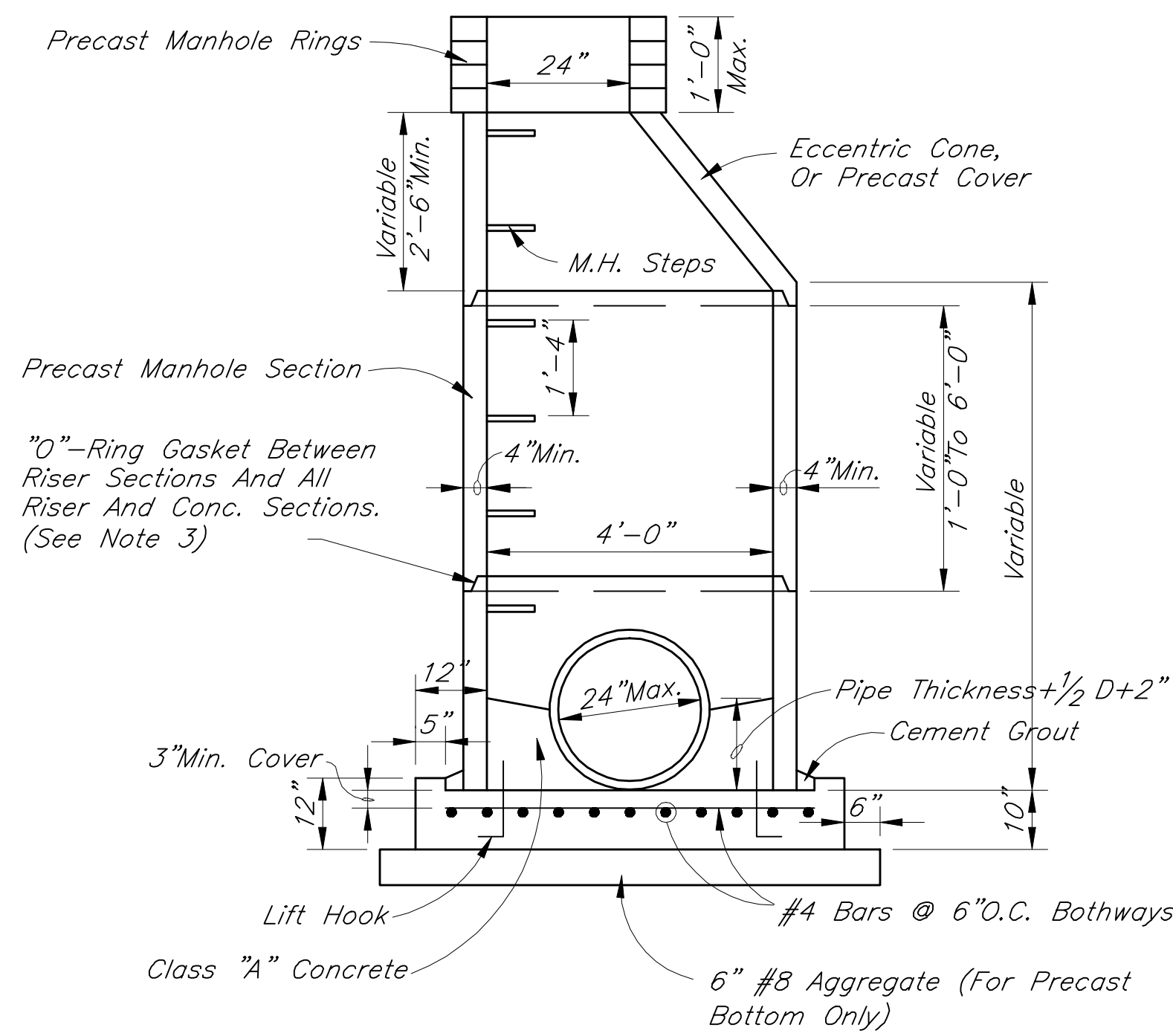
REVISIONS		
Rev. No.	Description	Date



RECOMMENDED FOR APPROVAL	<i>Kevin D. Lysinski</i> DESIGN ENGINEER	<i>4/19/04</i> DATE
APPROVED	<i>Marvyn J. Masters</i> STREET SUPERINTENDENT	<i>4/22/04</i> DATE

TOWN OF YORKTOWN
STORM SEWER BEDDING DETAILS AND NOTES

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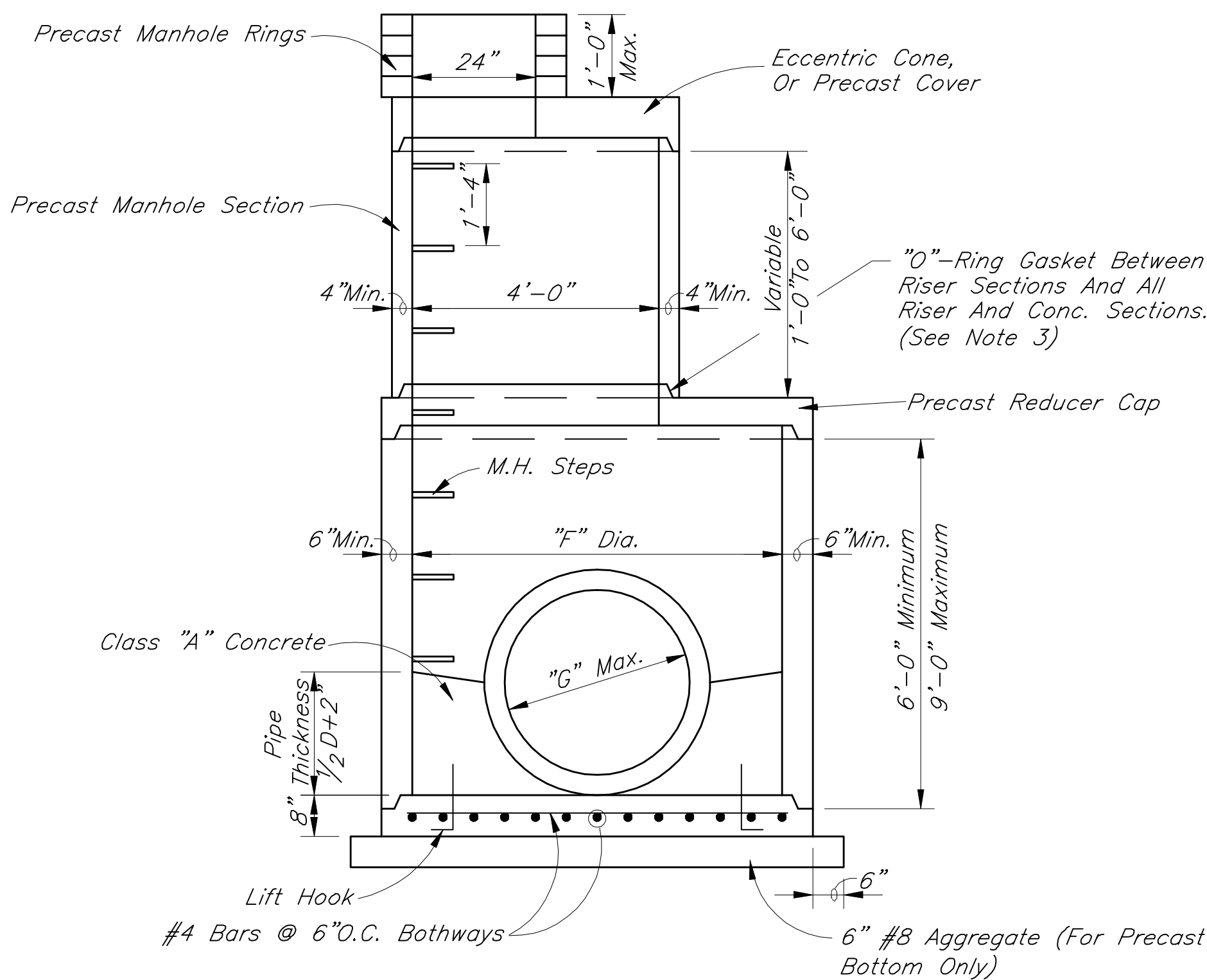
MAXIMUM PIPE SIZE	
Pipe Entering / Pipe Exiting At 0'-45' Bend	Pipe Entering / Pipe Exiting At 45'-90' Bend
24"	21"

MANHOLE TYPE C

Scale: 1/2" = 1'-0"

GENERAL NOTES

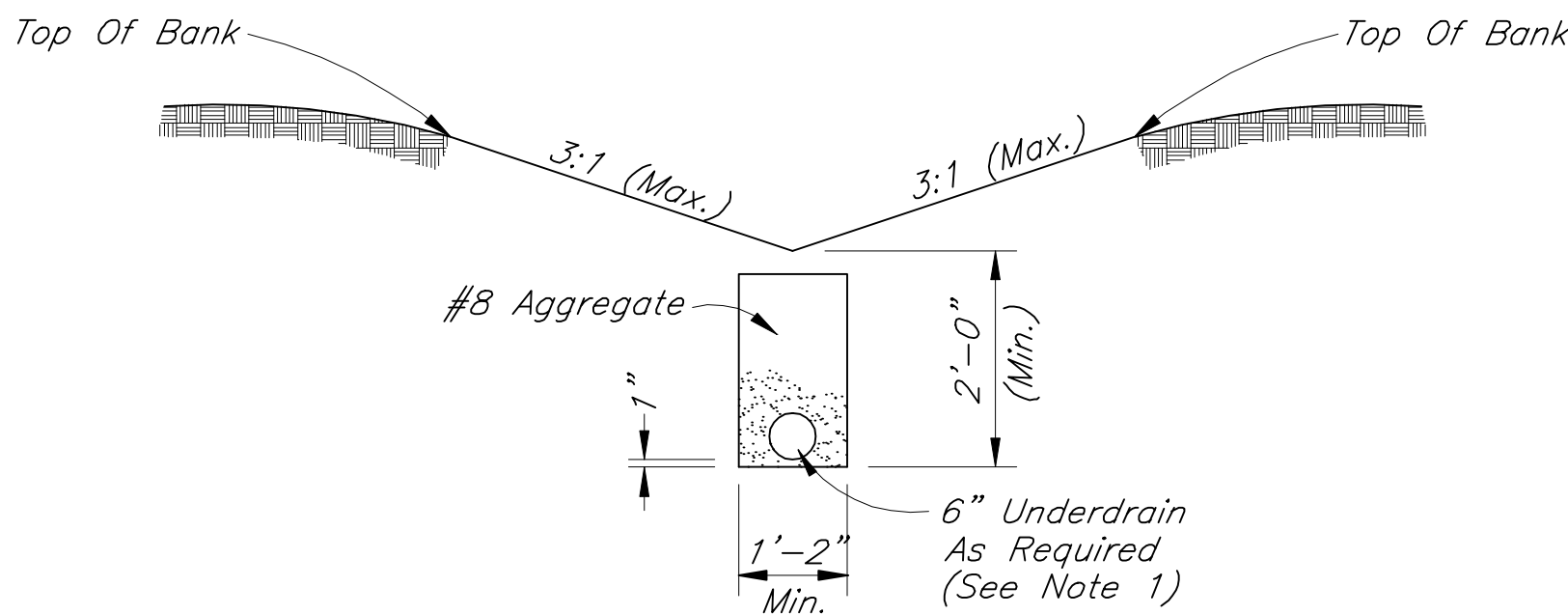
- Swales Shall Be Constructed With A Minimum 0.3 Percent Profile Grade Provided That A 6 Inch Diameter Underdrain Is Provided For Swales With Less Than A 1.0 Percent Profile Grade, See Detail Shown On This Sheet.
- Type J, K, L, M And N Manholes As Detailed Hereon Require A Certain Minimum Depth. In Cases Where The Depth Of The Storm Sewer Is Not Sufficient To Meet The Minimum Depth As Required By The Detail, "F" Diameter Manhole Section May Be Used Throughout The Depth Of The Manhole.
- Manholes Shall Conform To ASTM C-478. Joints Shall Conform To ASTM C-443. The Use Of Cast-In-Place Concrete Structures Shall Require The Prior Written Approval Of The Town. Regardless Of The Type Of Casting Used, The Casting Shall Be Centered Over The Manhole Steps.
- Manhole Steps Shall Be Neenah R-1981-J, East Jordan No. 8512, M.A. Industries PS 1-PF, Or As Approved By The Town.
- Castings Which Drain Combined Curb And Gutter, Type II Curbing Shall Be Neenah R-3287-10V With Trout Symbol And Words "DUMP NO WASTE" And "DRAINS TO RIVER" In 1/2" Raised Letters Cast On Top Or As Approved By The Town. Inlet, Type B Required. Manholes Shall NOT Be Used To Drain Combined Curb And Gutter, Type II Curbing.
- Castings Which Drain Roll Curb And Gutter, Type I Curbing Shall Be Neenah R-3501-TR Or R-3501-TL With Words "DUMP NO WASTE" And "DRAINS TO RIVER" In 1/2" Raised Letters Cast On Top Or As Approved By The Town. Inlet, Type A Required. Manholes Shall NOT Be Used To Drain Roll Curb And Gutter, Type I Curbing.
- Castings For Inlets Which Drain Open Pavement Areas Without Curbing Shall Be Neenah R-3402-E With Words "DUMP NO WASTE" And "DRAINS TO RIVER" In 1/2" Raised Letters Cast On Top Or As Approved By The Town.
- Castings For Manholes Which Drain Open Pavement Areas Without Curbing Shall Be Neenah R-2501 With Words "DUMP NO WASTE" And "DRAINS TO RIVER" In 1/2" Raised Letters Cast On Top Or As Approved By The Town.
- Castings For Use On Inlets Or Manholes Which Drain Swales Or Dry Bottom Detention Basins Shall Be Neenah R-4342 With Words "DUMP NO WASTE" And "DRAINS TO RIVER" In 1/2" Raised Letters Cast On Top Or As Approved By The Town.
- Castings For Manholes Which Do Not Collect Surface Water Shall Be Neenah R-1642 Or As Approved By The Town.
- A 2' Sump Below Downstream Pipe Is Required On Any Inlet, Type A Or B Which Drains Directly To A Mainline Pipe. Connection Of Inlet Pipe To Mainline Pipe Shall Occur At A Manhole.



Manhole Type	Manhole Diameter "F"	MAXIMUM PIPE SIZE "G"	
		Pipe Entering / Pipe Exiting At 0'-45' Bend	Pipe Entering / Pipe Exiting At 45'-90' Bend
J	60"	36"	33"
K	72"	48"	36"
L	96"	54"	48"
M	102"	72"	66"
N	108"	84"	72"

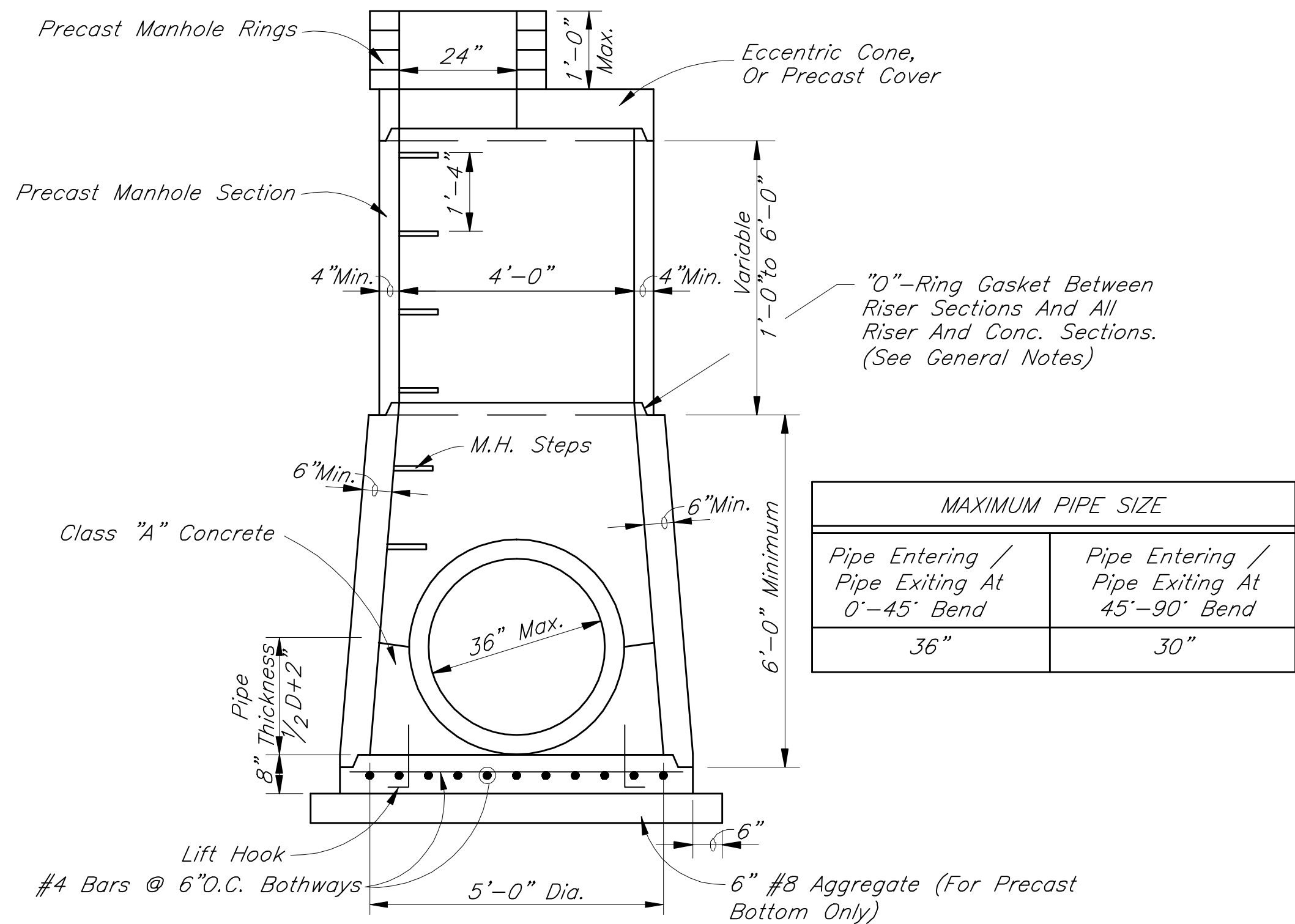
MANHOLES- TYPE J, K, L, M & N

Scale: 1/2" = 1'-0"



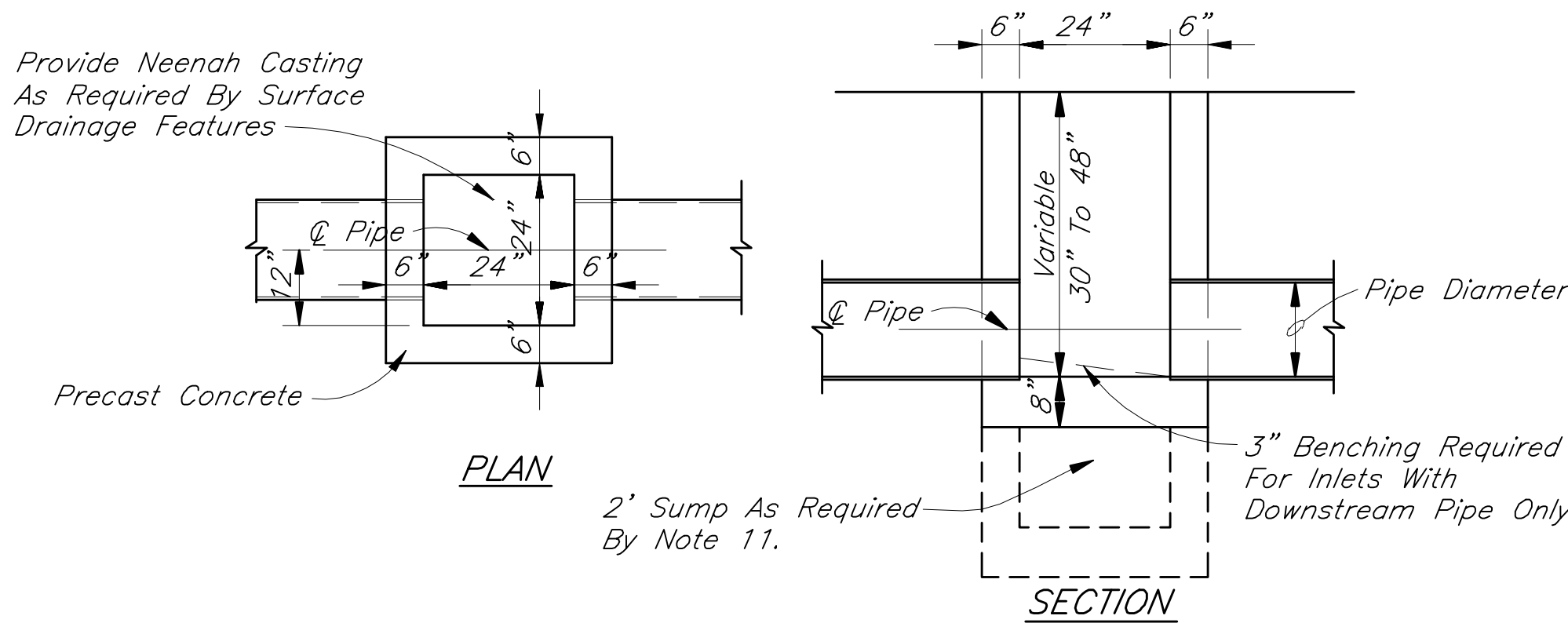
SWALE UNDERDRAIN DETAIL

Scale: 1/2" = 1'-0"



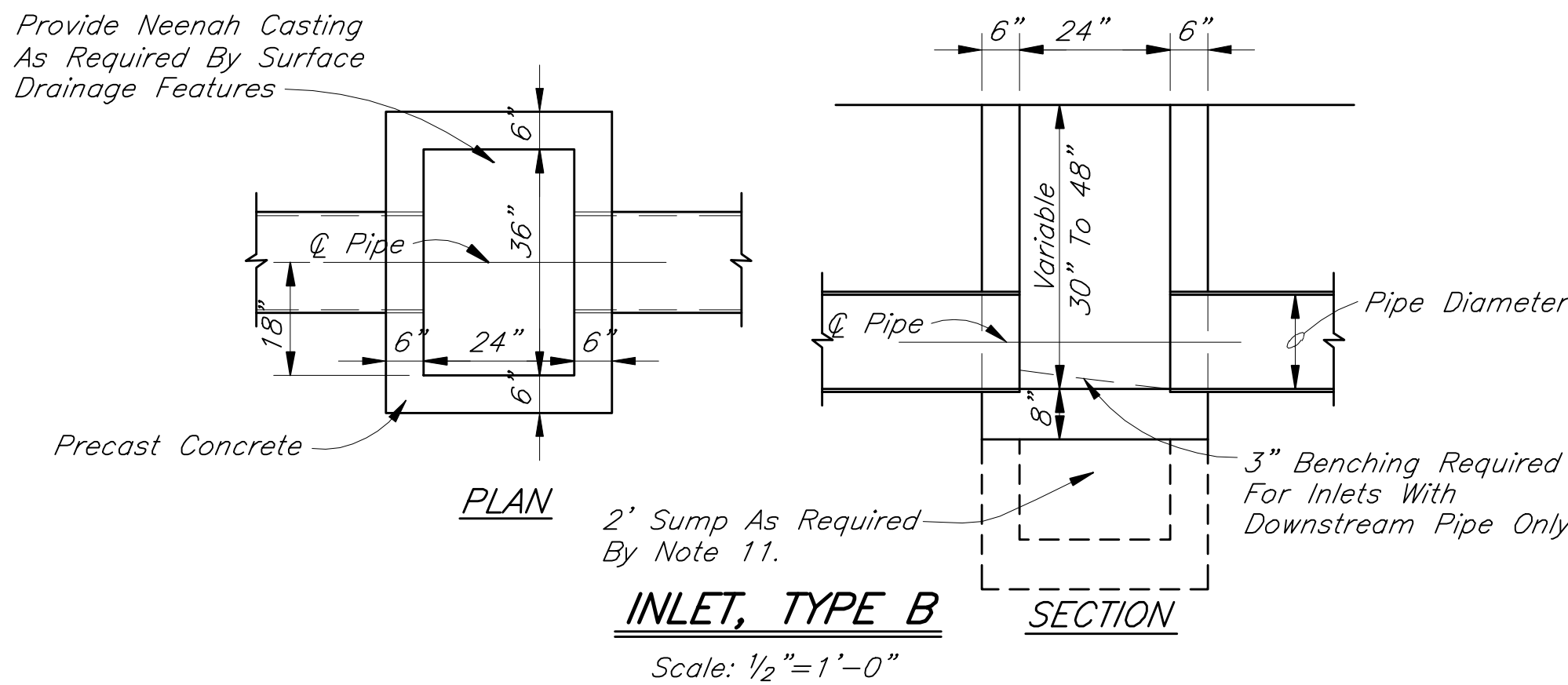
MANHOLE TYPE H

Scale: 1/2" = 1'-0"



INLET, TYPE A

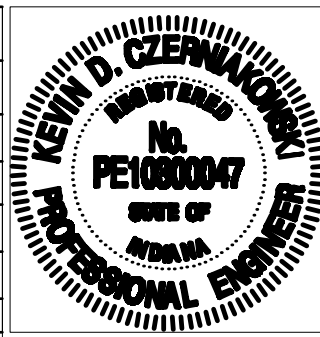
Scale: 1/2" = 1'-0"



INLET, TYPE B

Scale: 1/2" = 1'-0"

REVISIONS		
Rev. No.	Description	Date
1	Revised Manhole Details	3/14/2007



RECOMMENDED FOR APPROVAL	<i>Karin D. Linscheid</i>	<i>4/19/04</i>
	DESIGN ENGINEER	DATE
APPROVED	<i>Maurice Masten</i>	<i>4/22/04</i>
	STREET SUPERINTENDENT	DATE

TOWN OF YORKTOWN	SHEET 5 OF 10
STORM SEWER DETAILS & NOTES	

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WATER MAIN MATERIALS

- Ductile Iron Pipe For Water Mains Shall Be Centrifugally Cast And Shall Conform To The Latest Revision Of ANSI Specification A21.5 And AWWA C151. Ductile Iron Pipe With Push-On Or Mechanical Joints, 12 Inch Diameter And Smaller, Shall Be Pressure Class 350. The Pipe Shall Be Provided With A Minimum Laying Length Of 18 Feet.
- Polyvinyl Chloride (P.V.C.) Pipe For Water Mains Shall Conform To The Latest Revision Of ANSI/AWWA C900, ASTM Specification D-1784, "Rigid Polyvinyl Chloride And Chlorinated Polyvinyl Chloride Compounds," And ASTM Specifications D-2241, "Standard Specifications For Polyvinyl Chloride (P.V.C.) Pressure-rated (SDR Series)." The Appropriate ASTM Cell Classification Shall Be Either 12454-A Or 12454-B. Polyvinyl Chloride Pipe Shall Be Furnished In Standard Laying Lengths Of 20 Feet. P.V.C. Pipe Shall Be Pressure Class 150, DR 18.
- Ductile Iron Fittings, 3 Inches Through 48 Inches, Shall Conform To The Latest Revision Of ANSI Specification A21.10 And AWWA C110. Ductile Iron Compact Fittings, 3 Inches Through 16 Inches Shall Conform To The Latest Revision Of ANSI Specification A21.53 And AWWA C153. Fittings In And Within 2 Feet Of Structures Shall Be Flanged. All Other Fittings Shall Be Mechanical Joint Type.
- Ductile Iron Pipe Coatings Shall Conform To The Latest Revision Of ANSI A21.51, AWWA C-151, And ANSI A21.4, AWWA C-104. Interior Pipe Lining Shall Be Cement-Mortar With Asphaltic Seal Coat. Exterior Pipe Coating Shall Be Standard Asphaltic Coating, Except Exposed Piping Within Structures, Shall Receive Shop Priming Compatible With Finish Painting.
- Mechanical Joints And Accessories Shall Conform To The Latest Revision Of ANSI Specification A21.10 And AWWA C110. Rubber Gaskets Shall Be Vulcanized Synthetic Rubber And Shall Conform To The Latest Revision Of ANSI Specifications A21.11 And AWWA C111.
- Flanged Ductile Iron Pipe Shall Conform To The Latest Revision Of ANSI Specification A21.15 And AWWA C-115. Rubber Gaskets Shall Be Either Ring Or Full Face And Shall Be 1/8 Inch Thick. Bolts And Nuts Shall Conform To ANSI B18.2.1 And ANSI B18.2.2.
- Push-on Joints Shall Conform To The Latest Revision Of ANSI Specification A21.11 And AWWA C111. Rubber Gaskets Shall Be Vulcanized Synthetic Rubber And Shall Conform To The Latest Revision Of ANSI Specifications A21.11 And AWWA C111.
- Service Pipe Shall Be 3/4 Inch, Or 1 Inch, Copper Water Tube, Type K, Soft Temper, For Underground Service, Conforming To ASTM B-88 And B-251, And In Accordance With AWWA C-800 Or CPVC Copper Tube Size (CTS) Pipe Rated At 200 psi In Accordance With ASTM D2846 With Tracer Wire. The Pipe Shall Be Marked With The Manufacturer's Name Or Trademark And Mark Indicative Of The Type Of Pipe. The Outside Diameter Of The Pipe And Minimum Weight Per Foot Of The Pipe Shall Not Be Less Than That Listed In ASTM B-251, Table II.
- All Ductile Iron Water Main Material Shall Be Installed In Accordance With AWWA C600. All P.V.C. Water Main Material Shall Be Installed In Accordance With AWWA C605.
- For PVC Water Main And Service Pipe, The Contractor Shall Install Insulated #10 Solid Copper Wire. The #10 Solid Copper Wire Shall Be Laid Directly Over The Main And Shall Be Attached To The Pipe At Regular Intervals To Ensure It Remains In Place During Backfilling. All Connections On The Wire Are To Be Made With A Connector As Required By The Town. Connections Shall Be Taped With Electrical Moisture Sealant Patches. At Each Valve And Hydrant The Wire Shall Be Brought To Ground Level. At Hydrants The Wire Shall Be Connected To The Loop Ring Below The Steamer Cap And The Wire Shall Be Taped To The Barrel As It Is Brought To Ground Level. At Valves, The Wire Shall Be Placed In 1/2 Inch Diameter Plastic Pipe. The Plastic Pipe Shall Be Brought To One (1) Foot Below Finished Grade On The Outside Of The Valve Box. The Wire Shall Be Buried 12 Inches Below Grade And Shall Have A Minimum Of 24 Inches Of Looped Wire. Refer To The Typical Valve Installation Detail On Sheet 6 For Additional Details.

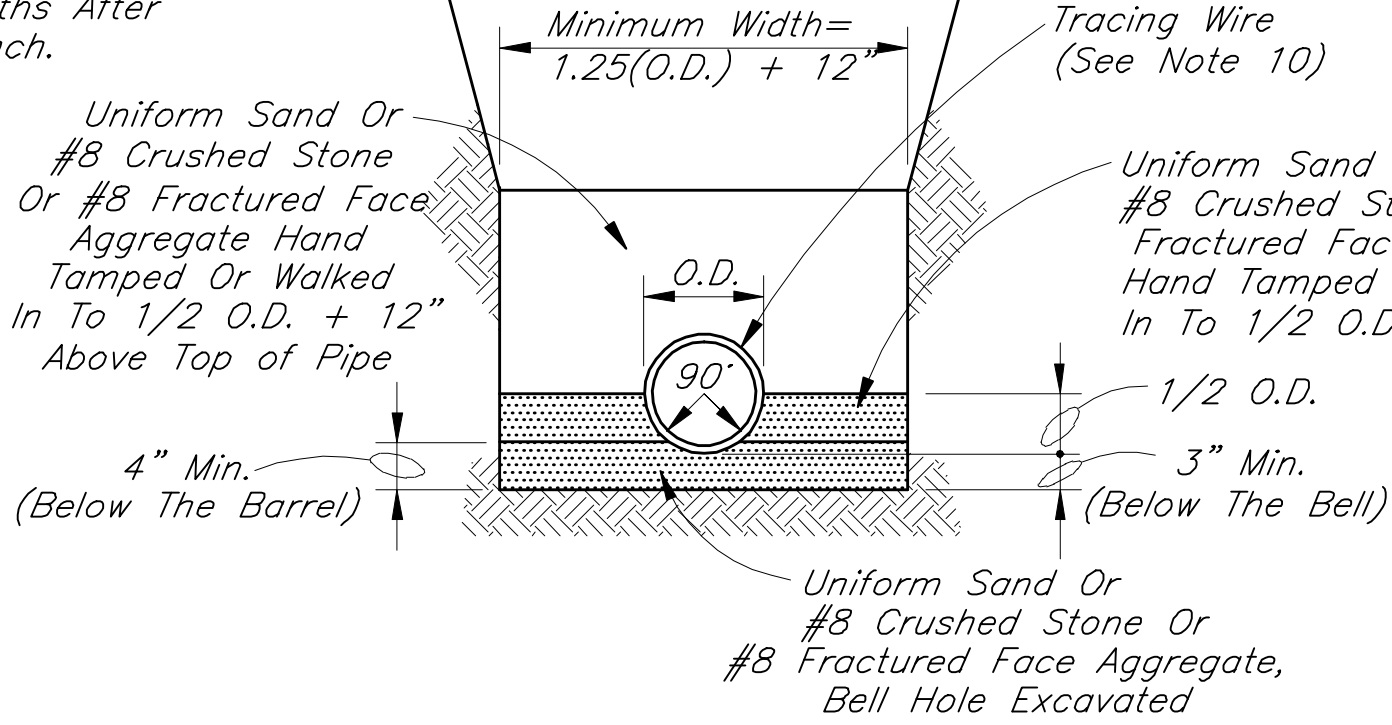
WATER MAIN PRESSURE AND LEAKAGE TESTING

- The Town Of Yorktown Shall Be Given 24 Hour Written Notice Of The Required Pressure And Leakage Test. The Pressure And Leakage Testing Shall Be Performed By The Contractor. The Pressure And Leakage Test Shall Be Performed In Accordance With The Basic Provisions Of AWWA C600 And AWWA C605. The Testing Procedure Shall Assume A 80 PSIG Working Pressure. The Test Pressure Shall Not Be Less Than 1.25 Times The Working Pressure At The Highest Point Along The Test Section Or Not Less Than 1.5 Times The Working Pressure At The Point Of Testing. Test Pressure Shall Not Exceed Pipe Or Thrust-restraint Design Pressures Or Rated Pressures Of The Valves. The Test Pressure Of 125 PSIG Shall Not Vary By More Than +5 Pounds Per Square Inch For The 2 Hour Duration Of The Test.
- Valves Shall Not Be Operated In Either Direction At Differential Pressures Exceeding The Rated Valve Working Pressure.
- It Is Good Practice To Allow The System To Stabilize At The Test Pressure Before Conducting The Minimum 2 Hour Duration Leakage Test. During The Leakage Test The Contractor Shall Measure And Record The Quantity Of Water Pumped Into The Test Section To Maintain The Test Pressure At 125 PSIG. The Test Section Will Be Considered Satisfactory If It Meets Following Specification:

Pipe Size (Inches)	Allowable Leakage (Gal./Hr./1000 Ft.)
6	0.50
8	0.67
10	0.84
12	1.01
14	1.18
16	1.34

- If The Leakage From A Test Section Is Greater Than The Allowable Leakage, The Contractor Shall Locate And Repair The Defective Joints, Mains, And Appurtenances. The Pressure And Leakage Test Shall Then Be Repeated Until Satisfactory Results Are Obtained.

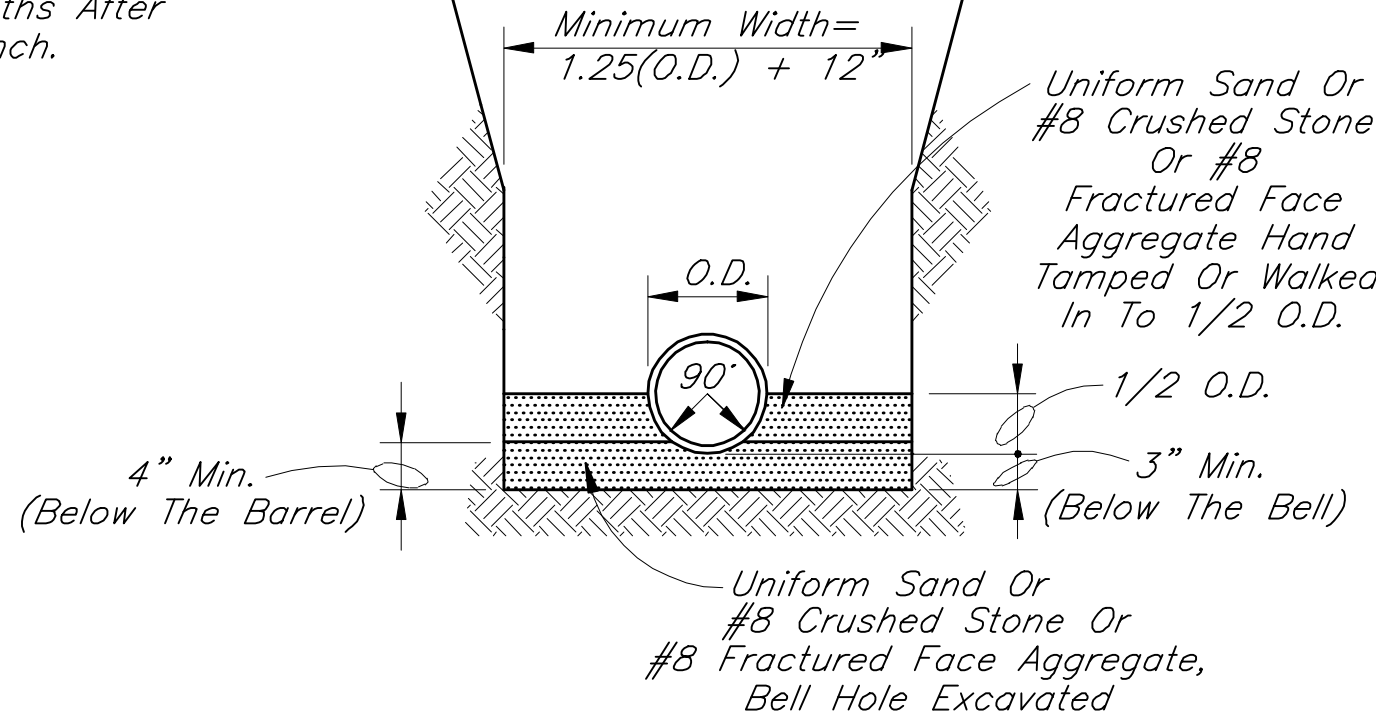
"B"—Borrow When Trench Opening Encroaches Within 5' Of An Existing Or Proposed Street Or Sidewalk. Approved Backfill Material Outside Of Street Or Sidewalk Backfill Limits. Approved Backfill Material May Be Used Under Proposed Sidewalks Provided Sidewalks Are Constructed 6 Months After Backfilling Of Trench.



PVC PIPE BEDDING DETAIL

Scale: None

"B"—Borrow When Trench Opening Encroaches Within 5' Of An Existing Or Proposed Street Or Sidewalk. Approved Backfill Material Outside Of Street Or Sidewalk Backfill Limits. Approved Backfill Material May Be Used Under Proposed Sidewalks Provided Sidewalks Are Constructed 6 Months After Backfilling Of Trench.



DI PIPE BEDDING DETAIL

Scale: None

Pipe Size	8" TO 14"	16" And Over
Bedding Below The Pipe Barrel	O.D./4 Min.=4"	O.D./4 Max.=8"

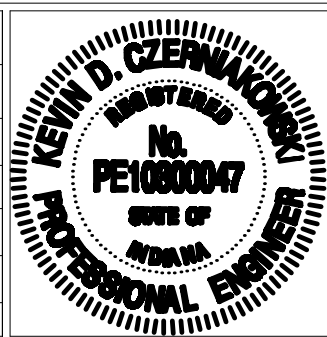
WATER MAIN DISINFECTION AND BACTERIOLOGICAL TESTING

- The Town Of Yorktown Shall Be Given 24 Hour Written Notice Of The Required Disinfection. All Flushing And Disinfection Testing Procedures Are To Be Performed By The Town. All Newly Installed Water Mains Shall Be Disinfected In Accordance With ANSI/AWWA C-651. Liquid Chlorine, High-test Calcium Hypochlorite (70 Percent Chlorine), Or High-Test Sodium Hypochlorite (14.7 Percent Chlorine) May Be Used To Provide An Initial Minimum Concentration Of 25 MG/L Of Free Chlorine In All Newly Installed Mains.
- A Minimum Concentration Of 10 MG/L Of Free Chlorine Shall Be Maintained In All Parts Of The Newly Installed Mains For 24 Hours Of Contact Time.
- Following The Initial 24 Hour Contact Time But Prior To 48 Hours Of Contact Time, All Treated Water Shall Be Thoroughly Flushed From The Newly Laid Pipe At Its Extremity Until The Replacement Water Has A Chlorine Residual Of Less Than 2 MG/L.
- After Flushing, Water Samples Collected By The Town On Two Successive Days From The Treated Piping System Shall Show Satisfactory Bacteriological Results.
- The Taking Of Samples And The Bacteriological Testing Shall Be Carried Out By The Town Of Yorktown At The Developer's Expense.

AS-BUILT DRAWINGS

- As-Built Drawings Shall Be Submitted To The Town Of Yorktown Prior To Release Of Water For Distribution. As-Built To Be Submitted In A Digital Format Able To Be Incorporated Into Delaware County GIS System.
- Contractor Is Responsible For All Leaks, Faulty Hydrants, Broken Mains, Etc. For One Year After The Date Of Acceptance By The Town.

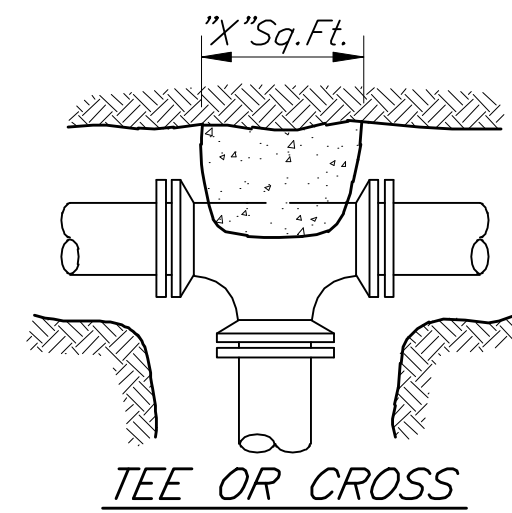
REVISIONS		
Rev. No.	Description	Date
1	Revised Water Main Materials Notes	3/14/2007



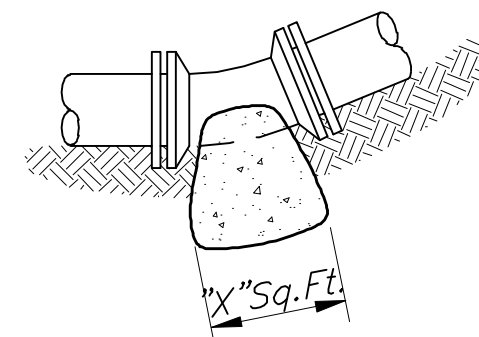
RECOMMENDED FOR APPROVAL	Kevin D. Geminiani DESIGN ENGINEER	4/19/04 DATE
APPROVED	Wayne Sandstrom WATER SUPERINTENDENT	4-22-04 DATE

TOWN OF YORKTOWN
WATER MAIN BEDDING DETAILS AND NOTES

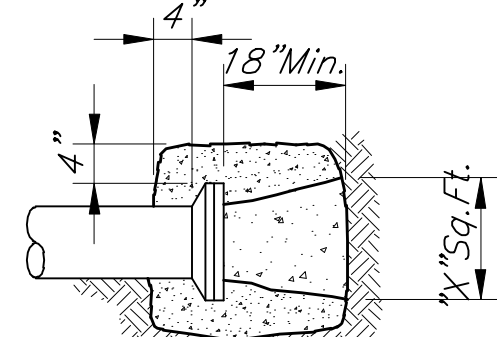
SHEET
6
OF
10



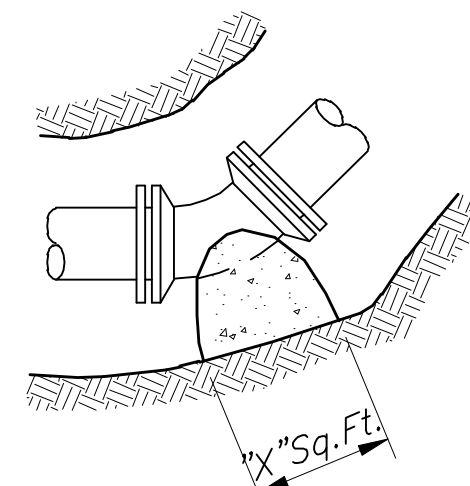
TEE OR CROSS



VERTICAL BEND UP



(USE ALSO ON PLUGGED CROSS)
END PLUG



HORIZONTAL BEND

SIZE OF THRUST BLOCKS IN SQUARE FEET

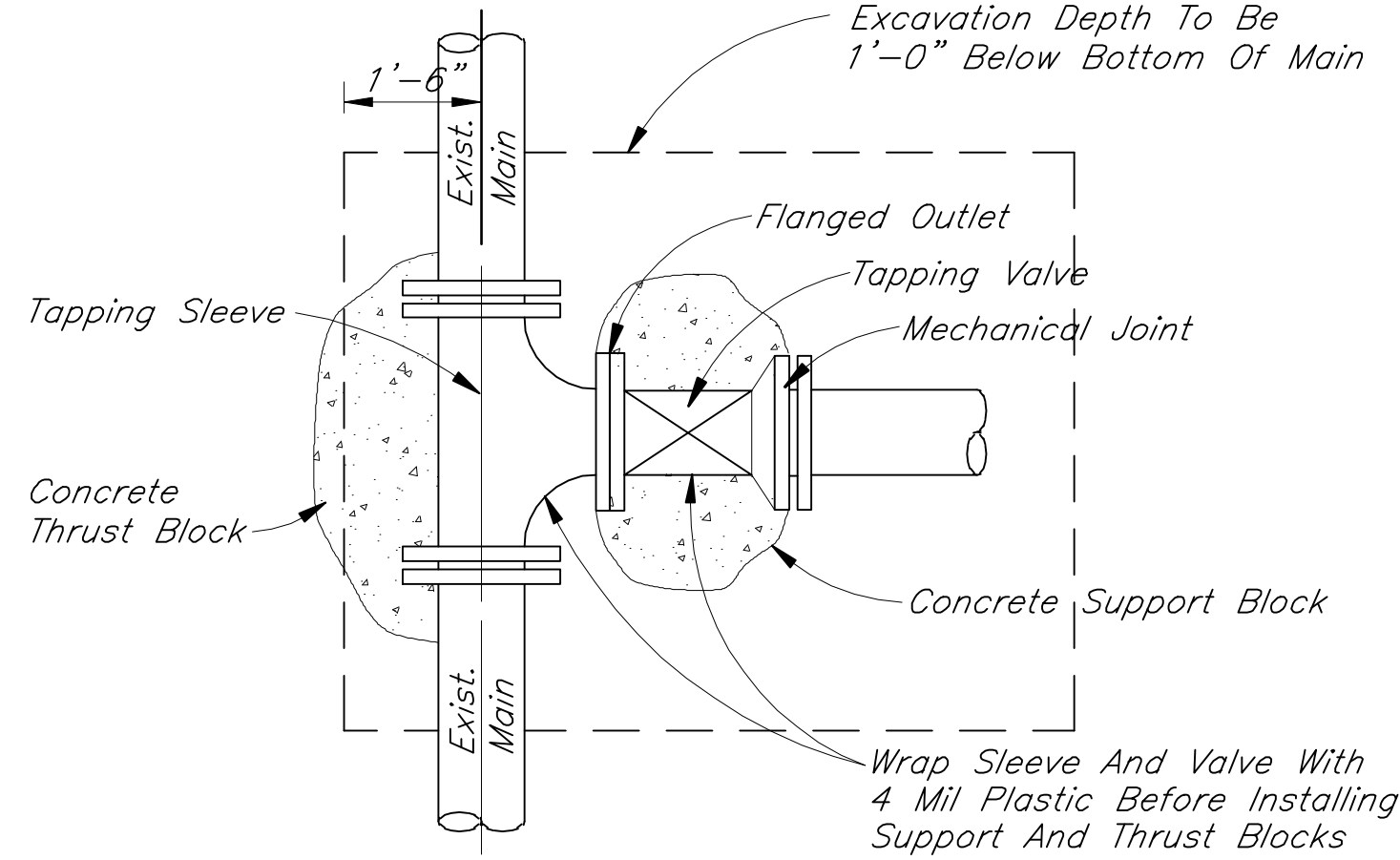
TYPE OF SOIL	1 1/4" BEND				22 1/2" BEND				45° BEND				90° BEND				TEE, CROSS & END PLUG			
	6"	8"	10"	12"	16"	6"	8"	10"	12"	16"	6"	8"	10"	12"	16"	6"	8"	10"	12"	16"
Loose Sand & Gravel, Soft Clay	2	3	5	7	12	4	6	9	13	23	6	10	16	24	42	4	8	12	17	30
Compacted Sand & Gravel, Dense Silt, Firm Till & Stiff Clay	1	1	2	3	4	1	2	3	5	8	2	4	6	8	14	2	3	4	6	10
Very Stiff Clay, Dense Till, Shale Or Rock	1	1	1	2	2	1	1	2	3	4	1	2	3	4	7	1	1	2	3	5

NOTES:

- (1) Wrap All Water Main Surfaces With Plastic Prior To Placement Of Concrete.
- (2) Blocks Designed For 150 PSI Pressure, For Higher Pressures Areas Should Be Pro-Rated Upwards.
- (3) Vertical Bends Downwards Should Be Individually Designed Using Clamps Or Stirrups With Concrete Deadman.
- (4) Concrete For Thrust Blocks To Be 4,000 PSI Laid To Undisturbed Ground.
- (5) Mechanical Restraining Devices Such As Megalug, As Manufactured By EBAA Iron Inc., May Be Used In Lieu Of Concrete Thrust Blocks.

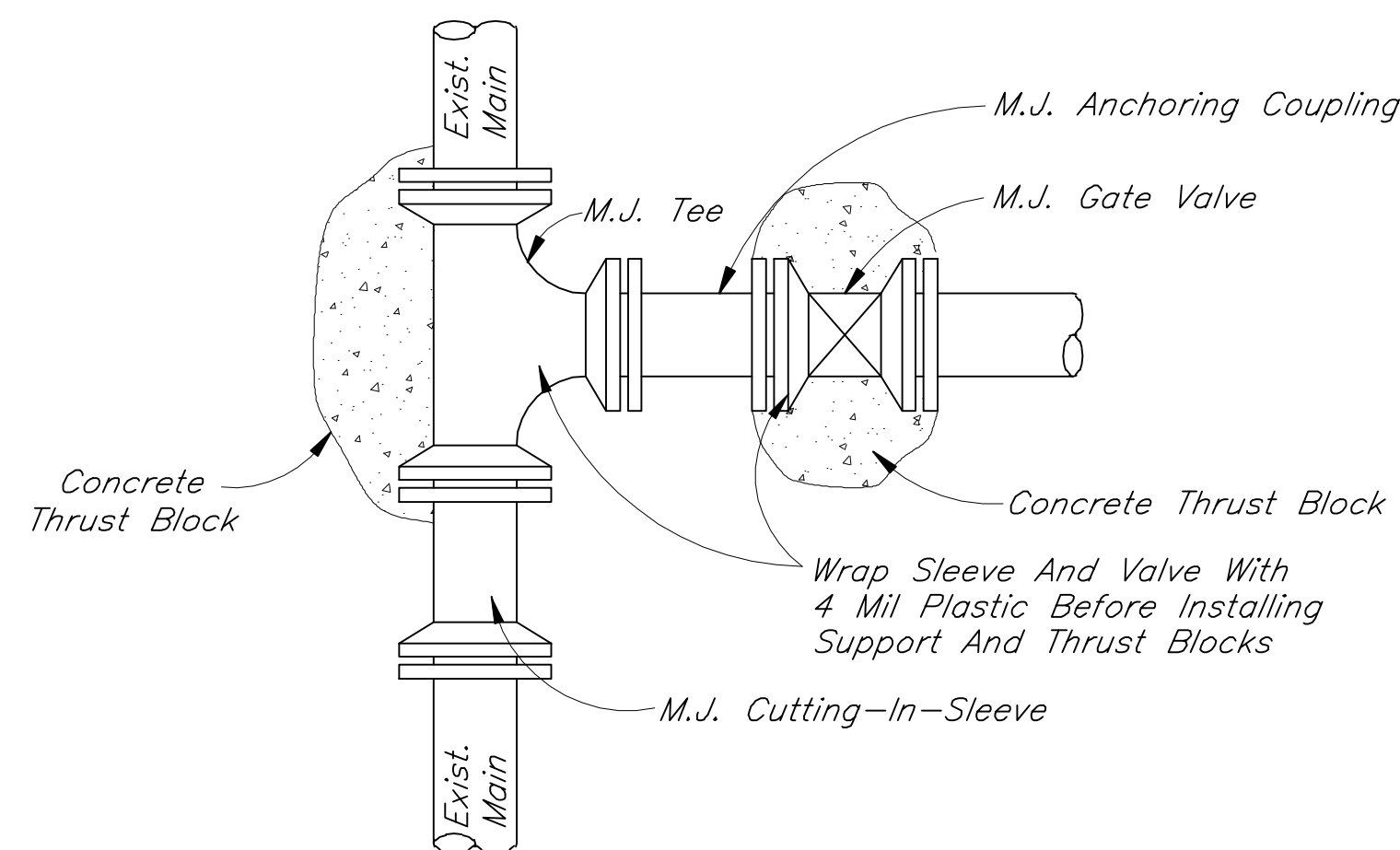
STANDARD THRUST BLOCKS FOR DUCTILE IRON

Scale: None



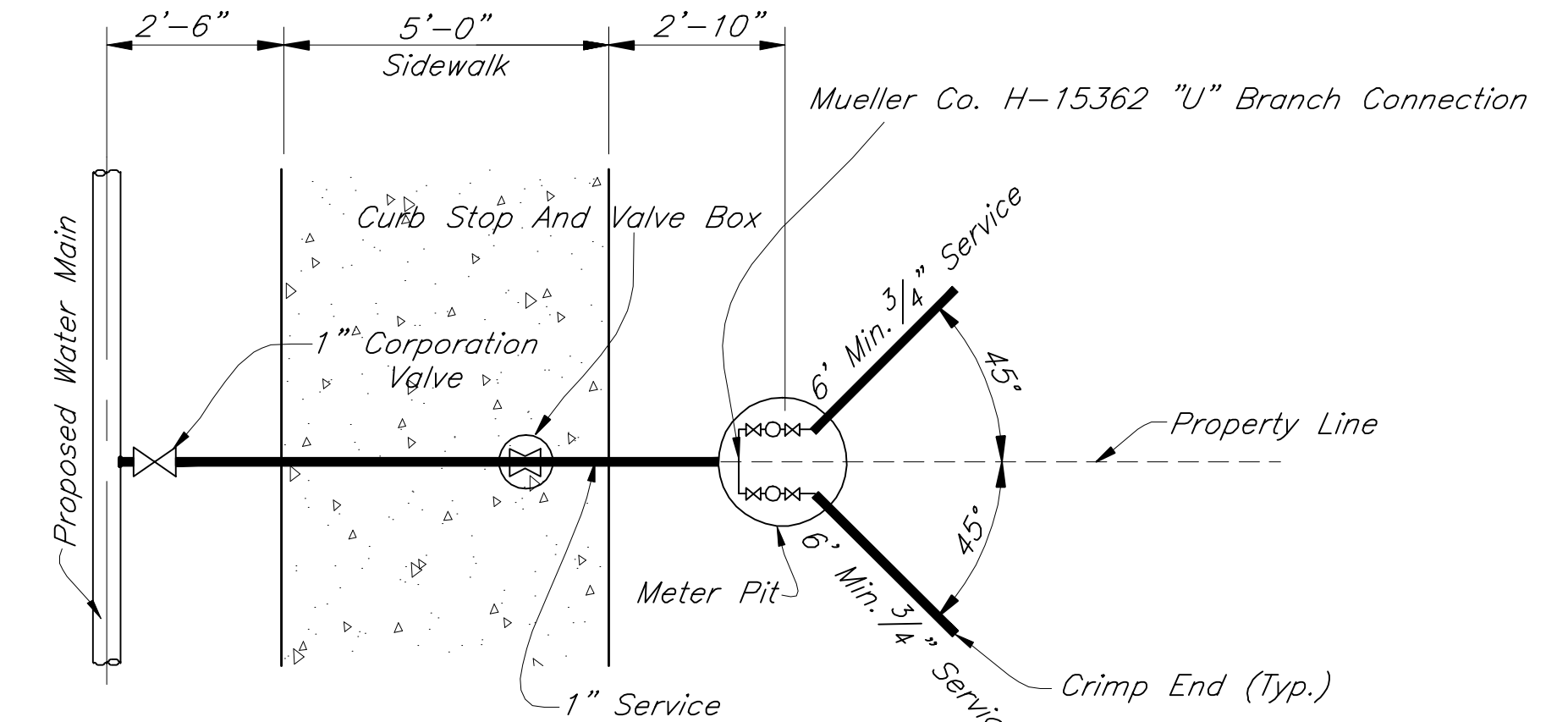
TAPPING SLEEVE AND VALVE CONNECTION

Scale: None



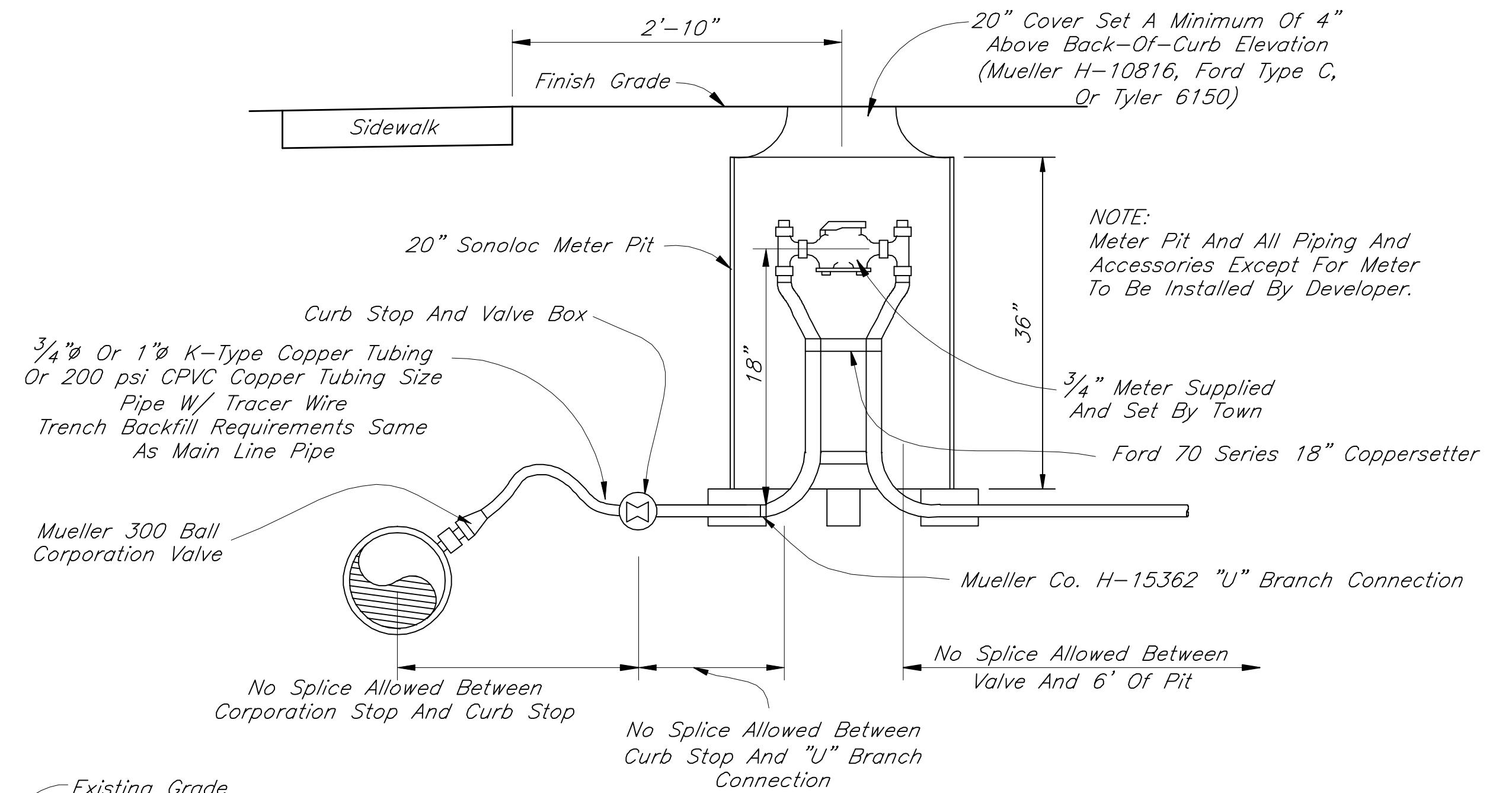
CUTTING-IN-SLEEVE AND TEE CONNECTION

Scale: None



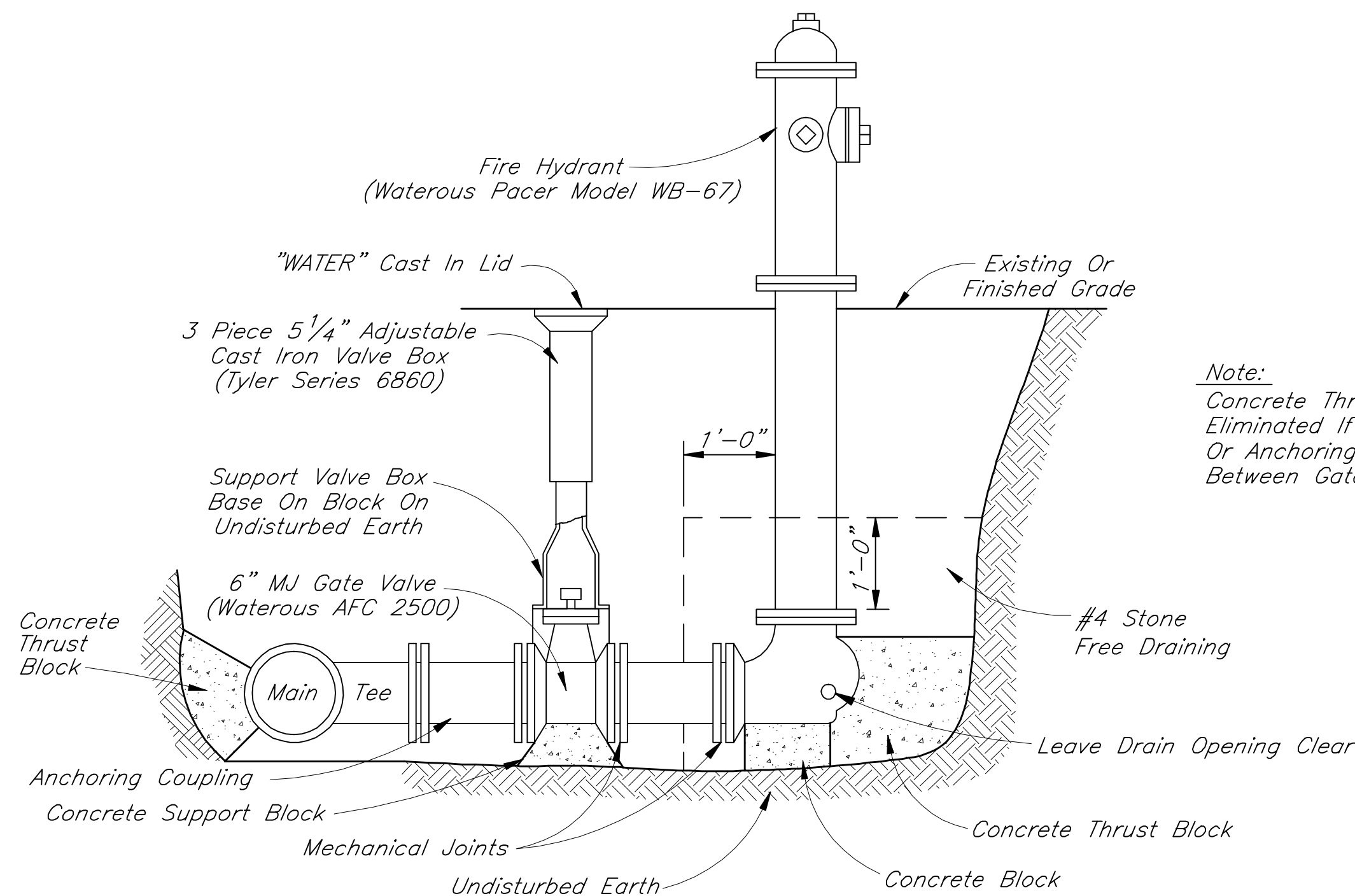
TYPICAL DUAL METER SETTING PLAN

Scale: None



TYPICAL METER SETTING DETAIL

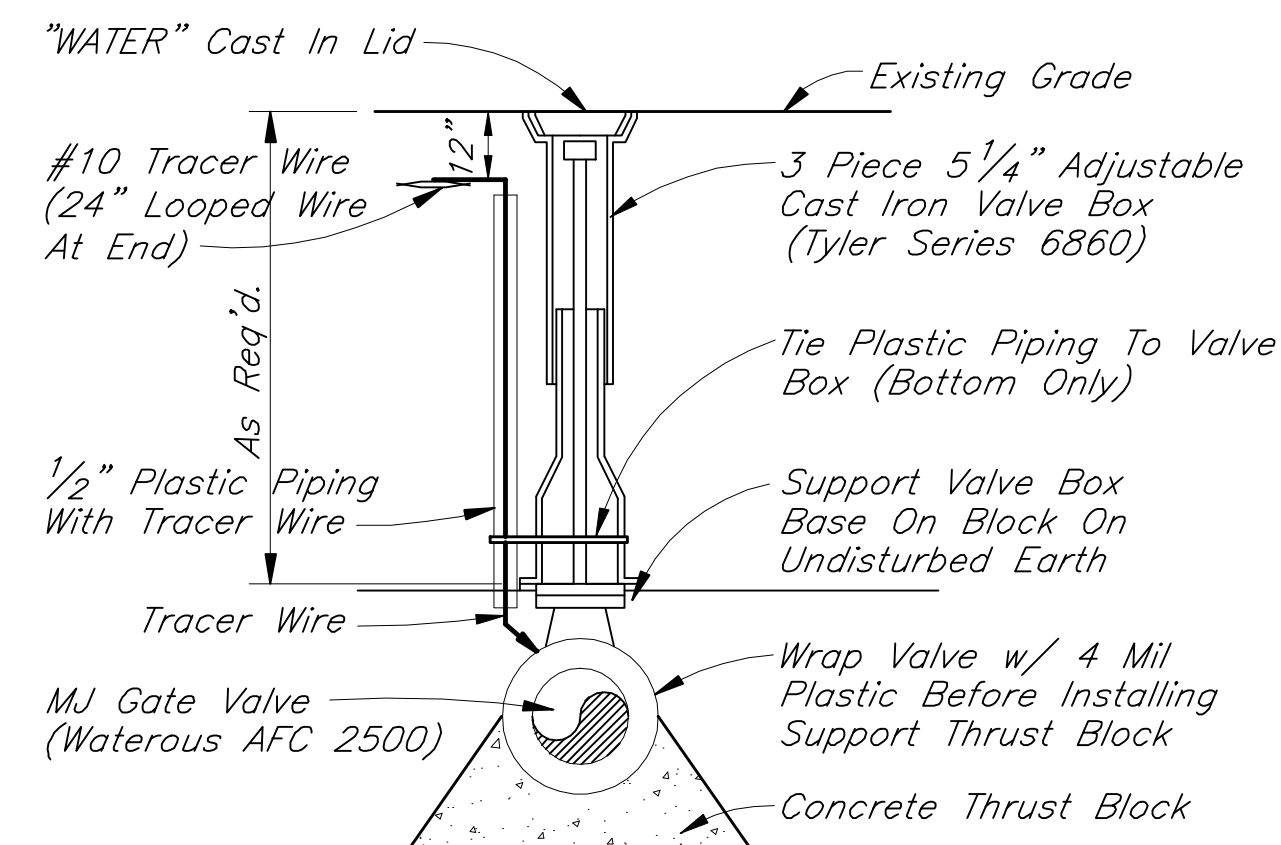
Scale: None



TYPICAL HYDRANT INSTALLATION DETAIL

Scale: None

Note:
Concrete Thrust Block May Be Eliminated If Anchoring Pipe Or Anchoring Coupling Is Used Between Gate Valve And Hydrant.

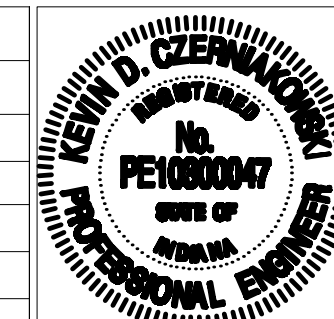


Note:
For Valves With Bury Depth 8' Or Greater, A Ductile Iron Or PVC Pipe May Be Used Between Valve Box Riser And Base.

TYPICAL VALVE INSTALLATION DETAIL

Scale: None

REVISIONS		
Rev. No.	Description	Date
1	Revised Meter Setting Details	8/11/2005
2	Revised Meter Setting Detail	3/14/2007



RECOMMENDED FOR APPROVAL	Kevin D. Cymisinski DESIGN ENGINEER	4/19/04 DATE
APPROVED	Wayne Sanderson WATER SUPERINTENDENT	4-22-04 DATE

TOWN OF YORKTOWN		SHEET 7 OF 10
<i>WATER MAIN DETAILS & NOTES</i>		

SANITARY SEWER REINFORCED CONCRETE PIPE

- 1.) Reinforced Concrete Pipe For Use As Sanitary Sewers Shall Be Class III, IV, Or V, As Specified In ASTM C-76. Lift Holes Shall Not Be Permitted.
- 2.) Each Section Of Reinforced Concrete Pipe Shall Be Vacuum Tested By The Manufacturer Prior To Delivery To The Job Site. Only Pipe Sections Passing This Test Shall Be Marked As "Vacuum Tested". Vacuum Test Requirements Are As Follows:
- a. Each Section Of Pipe Shall Be Tested By Bringing The Internal Pressure Within The Pipe To 3.5 PSIG Below Atmospheric Pressure And The Pressure Must Not Drop To Less Than 2.5 PSIG Below Atmospheric Pressure Within The Time Limitation As Determined By The Following:
- $$T = \frac{0.22D^2L}{2}$$
 Where T=Time In Seconds
D=Diameter Of Pipe In Inches
L=Length Of Pipe In Feet
- b. Any Pipe Failing To Meet This Test Shall Not Be Permitted For Use As Sanitary Sewers In The Town Of Yorktown.
- 3.) Lateral Connections Shall Be Made With KOR-N-TEE Connector Or Town Approved Equal.
- 4.) Each Pipe Section Shall Be Marked With The Date Of Manufacture, Size And Class Of Pipe, Specification Designation, Manufacturer And Plant Identification.
- 5.) Pipe Shall Be Furnished With A Bell Or Groove On One End Of A Unit Of Pipe And A Spigot Or Tongue On The Adjacent End Of The Adjoining Pipe. All Joints Shall Have A Groove On The Spigot For Placement Of A Rubber "O"-Ring Gasket In Accordance With ASTM C-443. The Gasket Shall Be A Continuous Ring Which Fits Snugly Into The Annular Space Between The Overlapping Surfaces Of The Assembled Pipe Joint To Form A Flexible Watertight Joint Under All Conditions Of Service And Adequate For Hydrostatic Pressures Up To 13 psi Without Leakage.

SANITARY SEWER POLYVINYL CHLORIDE (P.V.C.) PIPE

- 1.) PVC Pipe Diameters Of 4 Inches Through 15 Inches Shall Meet Or Exceed All The Requirements Of ASTM D-3034, And Shall Have A Minimum Cell Classification Of 12454-C. Reference Should Be Made To ASTM D-1784 For A Summarization Of Cell Class Properties. PVC Pipe Diameters Greater Than 15 Inches Shall Meet Or Exceed All Requirements Of ASTM F-679, And Shall Have A Minimum Cell Classification Of 12454-C.
- 2.) The Minimum Wall Thickness Of PVC Pipe 4 Inches Through 15 Inches In Diameter Shall Conform To SDR-35, Type PSM, As Specified In ASTM D-3034. The Minimum Wall Thickness For Pipe Diameters Greater Than 15 Inches Shall Conform To T-1 As Specified In ASTM F-679. P.V.C. Pipe Shall Have A Minimum Pipe Stiffness Of 46 Pounds Per Square Inch For Each Diameter When Measured At Five Percent Deflection And Tested In Accordance With ASTM D-2412.
- 3.) PVC Open Profile Or Closed Profile Sewer Pipe Shall Meet Or Exceed All Requirements Of ASTM F-794 Or ASTM F-949 And Shall Have A Minimum Cell Classification Of 12454-C. Minimum Uniform Pipe Stiffness Shall Be 50 Pounds Per Square Inch For Each Diameter When Measured At Five Percent Deflection And Tested In Accordance With ASTM D-2412.
- 4.) Pipe Joints Shall Have A Bell Wall, Gasket Groove And Spigot Which Is Integral With The Pipe. The Assembly Of Joints Shall Be In Accordance With Pipe Manufacturers' Recommendations And ASTM D-3212. No Solvent Cement Joints Shall Be Allowed.
- 5.) Pipe Fittings Shall Be Manufactured Fittings Made Of P.V.C. Plastic Having A Cell Classification Of 12454-B Or 12454-C As Defined In ASTM D-1784. Saddle Connections Shall Not Be Allowed For New Construction.
- 6.) Each Pipe Section Shall Be Marked With The Name Of Manufacturer, Trademark Or Tradename, Nominal Pipe Size, Production/Extrusion Code, Material And Cell Class Designation, And ASTM Number.
- 7.) Installation Shall Be In Accordance With ASTM Recommended Practice D-2321.

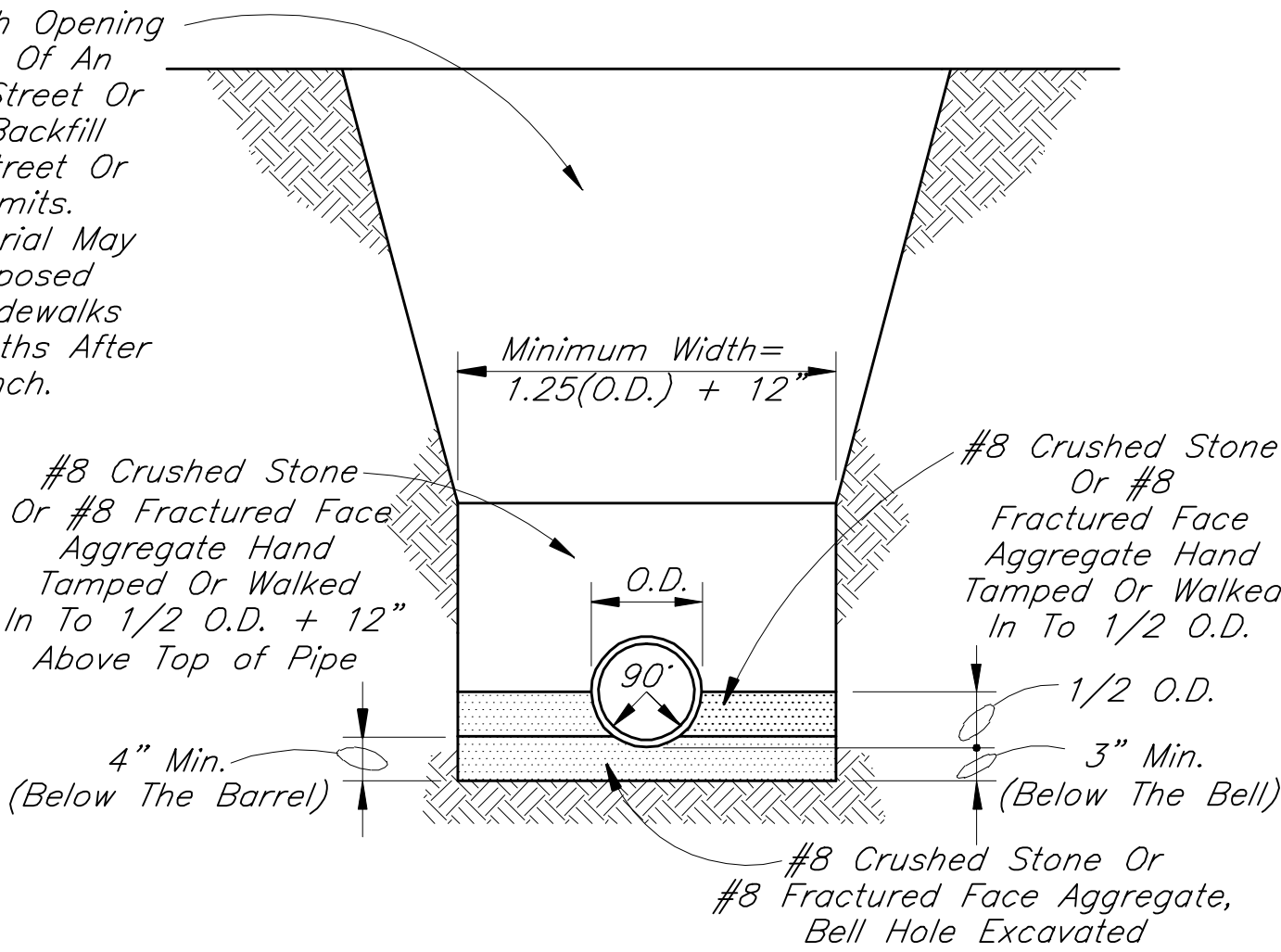
SANITARY SEWER LEAKAGE TESTING

- 1.) The Town Of Yorktown Shall Be Given 24 Hour Written Notice Of The Required Leakage Testing Procedure To Be Performed By The Contractor. Low Pressure Air Shall Be Slowly Introduced Into The Sealed Line Until The Internal Air Pressure Reaches 4 PSIG Plus The Groundwater Head Divided By 2.31 (Maximum Test Pressure Is 9 PSIG).
- 2.) At A Stable Internal Air Pressure Within 0.5 PSIG Of The Initial Internal Air Pressure, Timing Shall Commence With A Stopwatch Or Similar Device Of 99.8 Percent Accuracy. Timing Shall End When The Internal Air Pressure Drops 1 PSIG Below The Stable Internal Air Pressure.
- 3.) The Line Shall Be Accepted If The Time Shown In Table 1 For The Designated Pipe Size And Length Elapses Before The Air Pressure Drops 1 PSIG Below The Stable Internal Air Pressure At Which Time The Test Can Be Discontinued For The Accepted Line.

SANITARY SEWER DEFLECTION TESTING

- 1.) The Town Of Yorktown Shall Be Given 24 Hour Written Notice Of The Required Deflection Testing Procedure To Be Performed By The Contractor. An In-Place Deflection Test Shall Be Performed On All Flexible Pipe Installed Within The Town Of Yorktown For The Purposes Of Conveying Sanitary Sewage. An Allowable Deflection Of 5 Percent Internal Pipe Diameter Will Be Acceptable After All Backfilling Has Been In Place For 30 Days. A Nine-Point, "Go-No-Go" Mandrel Shall Be Used For The Deflection Test And A Proving Ring Shall Be Provided For Each Mandrel.
- 2.) All Pipe Exceeding The Allowable Deflection Shall Be Replaced Or Rerounded. The Replaced Or Rerounded Section Shall Be Retested 30 Days After Replacement Or Rerounding. The Contractor Shall Bear All Costs For Testing And Testing Equipment. The "Go-No-Go" Mandrel Shall Be Manually Pulled Without The Use Of Any Winching Or Other Mechanical Device.

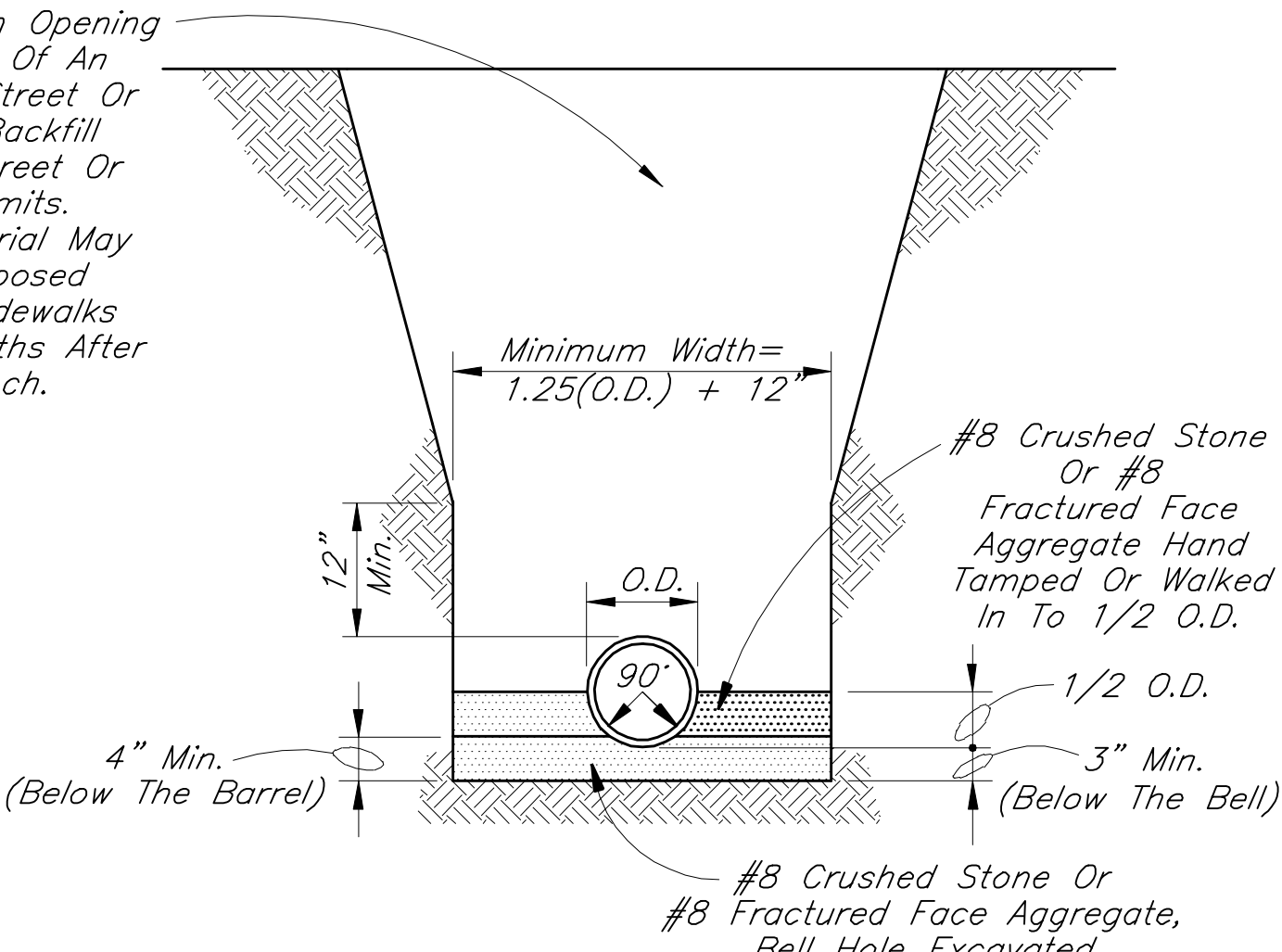
"B"-Borrow When Trench Opening Encroaches Within 5' Of An Existing Or Proposed Street Or Sidewalk. Approved Backfill Material Outside Of Street Or Sidewalk Backfill Limits. Approved Backfill Material May Be Used Under Proposed Sidewalks Provided Sidewalks Are Constructed 6 Months After Backfilling Of Trench.



PVC PIPE BEDDING DETAIL

Scale: None

"B"-Borrow When Trench Opening Encroaches Within 5' Of An Existing Or Proposed Street Or Sidewalk. Approved Backfill Material Outside Of Street Or Sidewalk Backfill Limits. Approved Backfill Material May Be Used Under Proposed Sidewalks Provided Sidewalks Are Constructed 6 Months After Backfilling Of Trench.



RCP BEDDING DETAIL

Scale: None

Pipe Size	8" TO 15"	18" And Over
Bedding Below The Pipe Barrel	O.D./4 Min.=4"	O.D./4 Max.=8"

SANITARY SEWER TELEVISION AND AS-BUILT DRAWINGS

- 1.) The Town Of Yorktown Shall Be Given 24 Hour Written Notice Of The Required Televisioning Procedure To Be Performed By The Contractor. A Camera Equipped With Remote Control Devices To Adjust The Light Intensity And 1,000 Linear Feet Of Sewer Cable Shall Be Provided. The Camera Shall Transmit A Continuous Image To The Television Monitor As It Is Being Pulled Through The Pipe. The Image Shall Be Clear Enough To Enable The Town Of Yorktown Representative And Others Viewing The Monitor To Easily Evaluate The Interior Condition Of The Pipe. The Camera Shall Stamp The Video Tape With Linear Footage And Project Number. An Audio Voice-over Shall Be Made During The Inspection Identifying Any Problems.
- 2.) The Pipe Shall Be Thoroughly Cleaned Before The Camera Is Installed And Televisioning Is Commenced.
- 3.) If Any Pipe And/Or Joint Is Found To Be Leaking, The Contractor Shall Repair That Portion Of The Work To The Satisfaction And Approval Of The Town Of Yorktown.
- 4.) The VHS Tape Of The Entire Sewer Line, Reproduction Map Indicating The Pipe Segment Numbers Of All The Pipe That Has Been Televised, And As-Built Drawings Shall Be Submitted To The Town Of Yorktown For Their Records.
- 5.) No Sanitary Flow Or Connections Shall Be Allowed Until Leakage Testing, Deflection Testing And Sewer Televisioning Are Completed And Submitted To The Town.

TABLE 1

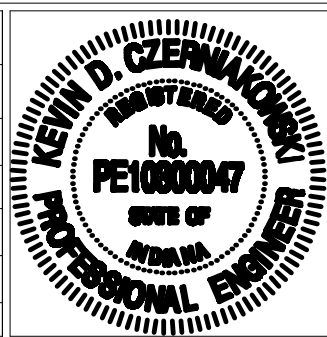
SPECIFICATION TIME REQUIRED FOR A 1.0 PSIG PRESSURE DROP FOR SIZE AND LENGTH OF PIPE INDICATED FOR Q=0.0015

1 Pipe Diameter (In.)	2 Minimum Time (Min:Sec)	3 Length For Minimum Time (Ft.)	4 Time For Longer Length (Sec.)	Specification Time For Length (L) Shown (Min.:Sec.)							
				100 Ft.	150 Ft.	200 Ft.	250 Ft.	300 Ft.	350 Ft.	400 Ft.	450 Ft.
4	3:46	597	.380L	3:46	3:46	3:46	3:46	3:46	3:46	3:46	3:46
6	5:40	398	.854L	5:40	5:40	5:40	5:40	5:40	5:40	5:42	6:24
8	7:34	298	1.520L	7:34	7:34	7:34	7:34	7:36	8:52	10:08	11:24
10	9:26	239	2.374L	9:26	9:26	9:26	9:26	9:53	11:52	13:51	15:49
12	11:20	199	3.418L	11:20	11:20	11:24	14:15	17:05	19:56	22:47	25:38
15	14:10	159	5.342L	14:10	14:10	17:48	22:15	26:42	31:09	35:36	40:04
18	17:00	133	7.692L	17:00	19:13	25:38	32:03	38:27	44:52	51:16	57:41
21	19:50	114	10.470L	19:50	26:10	34:54	43:37	52:21	61:00	69:48	78:31
24	22:40	99	13.674L	22:47	34:11	45:34	56:58	68:22	79:46	91:10	102:33
27	25:30	88	17.306L	28:51	43:16	57:41	72:07	86:32	100:57	115:22	129:48
30	28:20	80	21.366L	35:37	53:25	71:13	89:02	106:50	124:38	142:26	160:15
33	31:10	72	25.852L	43:05	64:38	86:10	107:43	129:16	150:43	172:21	193:53
36	34:00	66	30.768L	51:17	76:55	102:34	128:12	153:50	179:29	205:07	230:46

NOTE:

For More Efficient Testing Of Long Test Sections And/Or Sections Of Larger Diameter Pipes, A Timed Pressure Drop Of 0.5 PSIG May Be Used In Lieu Of The 1.0 PSIG Timed Pressure Drop. If A 0.5 PSIG Pressure Drop Is Used, The Required Test Time Shall Be Exactly Half As Long As Those Shown Above.

REVISIONS		
Rev. No.	Description	Date
1	Added Sanitary Sewer Lateral Notes	3/14/2007

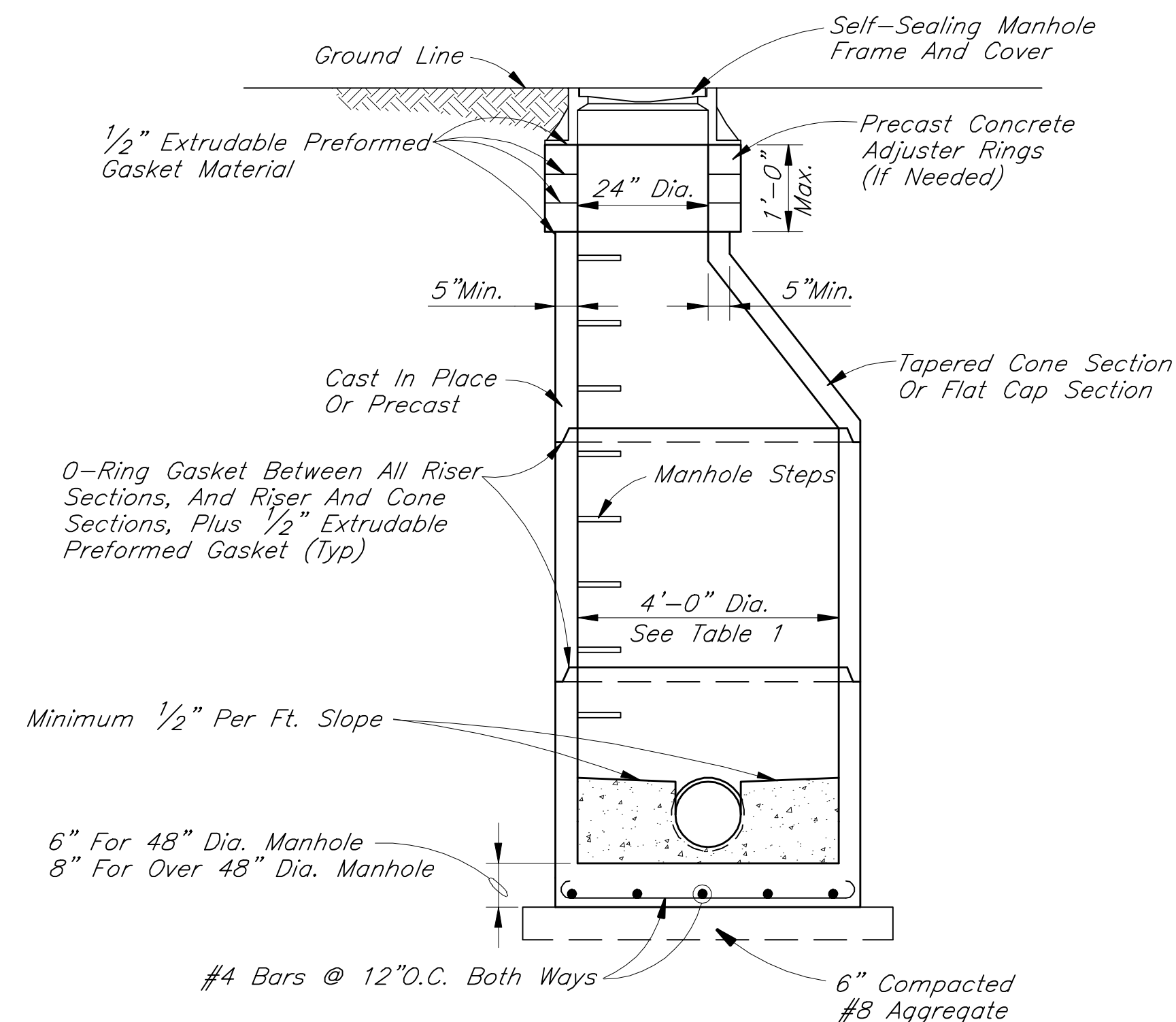


RECOMMENDED FOR APPROVAL	Kevin D. Geminiani DESIGN ENGINEER	4/19/04 DATE
APPROVED	Alan E. Huff WASTEWATER TREATMENT PLANT SUPERINTENDENT	4/22/04 DATE

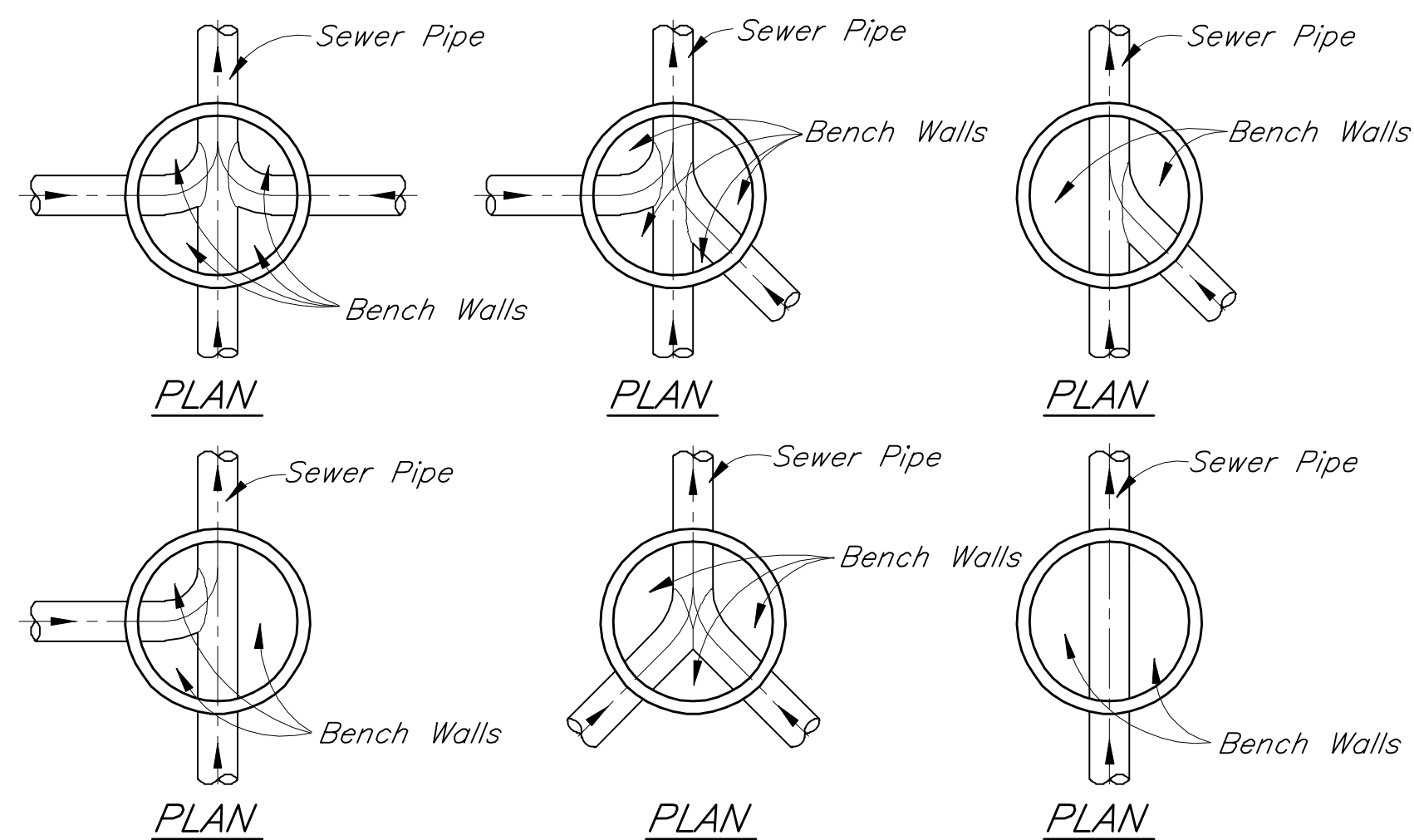
TOWN OF YORKTOWN	SHEET 8 OF 10
SANITARY SEWER BEDDING DETAILS AND NOTES	

MANHOLES

- 1.) Precast Concrete Manholes Shall Conform To ASTM C-478, With Rubber Type Gaskets Equal To ASTM C-443. Monolithic Cast-in-place Manholes Shall Only Be Used With The Prior Written Approval Of The Town. The Base And First Riser Section Of The Precast Concrete Manhole Shall Integrally Cast As One Complete Unit. Precast Concrete Cones Shall Be Of The Eccentric Cone Type. No "See Through" Lift Holes Shall Be Allowed On Precast Concrete Manholes 48 Inches In Diameter Or Less. In Addition To The Rubber Type Gaskets All Joints Shall Receive A 1/2 Inch Diameter Nonasphaltic Mastic (Kent-Seal Or Town Approved Equal) Conforming To AASHTO M-198 And Federal Specifications SS-S-210A.
- 2.) Where One Solid Riser Or Barrel Section Cannot Be Used, Final Adjustment In Elevation Of The Frame And Cover Shall Be Accomplished By The Use Of A 4 Inch Minimum Thickness Adjusting Ring As Detailed Herein To A Maximum Combined Thickness Of 12 Inches. Brick Or Block Shall NOT Be Used In The Construction Of A Manhole Or To Adjust The Elevation Of The Frame And Cover.
- 3.) Manhole Ladder Rungs Shall Be Neenah No. R-1981-J, East Jordan Iron Works No. 8512, M. A. Industries No. PS 1-PF Or Town Approved Equal.
- 4.) Manhole Frame And Cover Shall Be Neenah R-1642 Or Town Approved Equal. When Watertight Frame And Cover Is Required By The Town Or Developer, Neenah R-1916-F1 Or Town Approved Equal Shall Be Provided. All Covers Shall Be Stamped "SANITARY SEWER" With 2 Inch Raised Letters.
- 5.) All Sanitary Manholes Shall Be Vacuum Tested With Castings Per ASTM C1244 Following Full Installation. All Sanitary Manhole Sections Shall Be Vacuum Tested In The Shop Prior To Shipment.



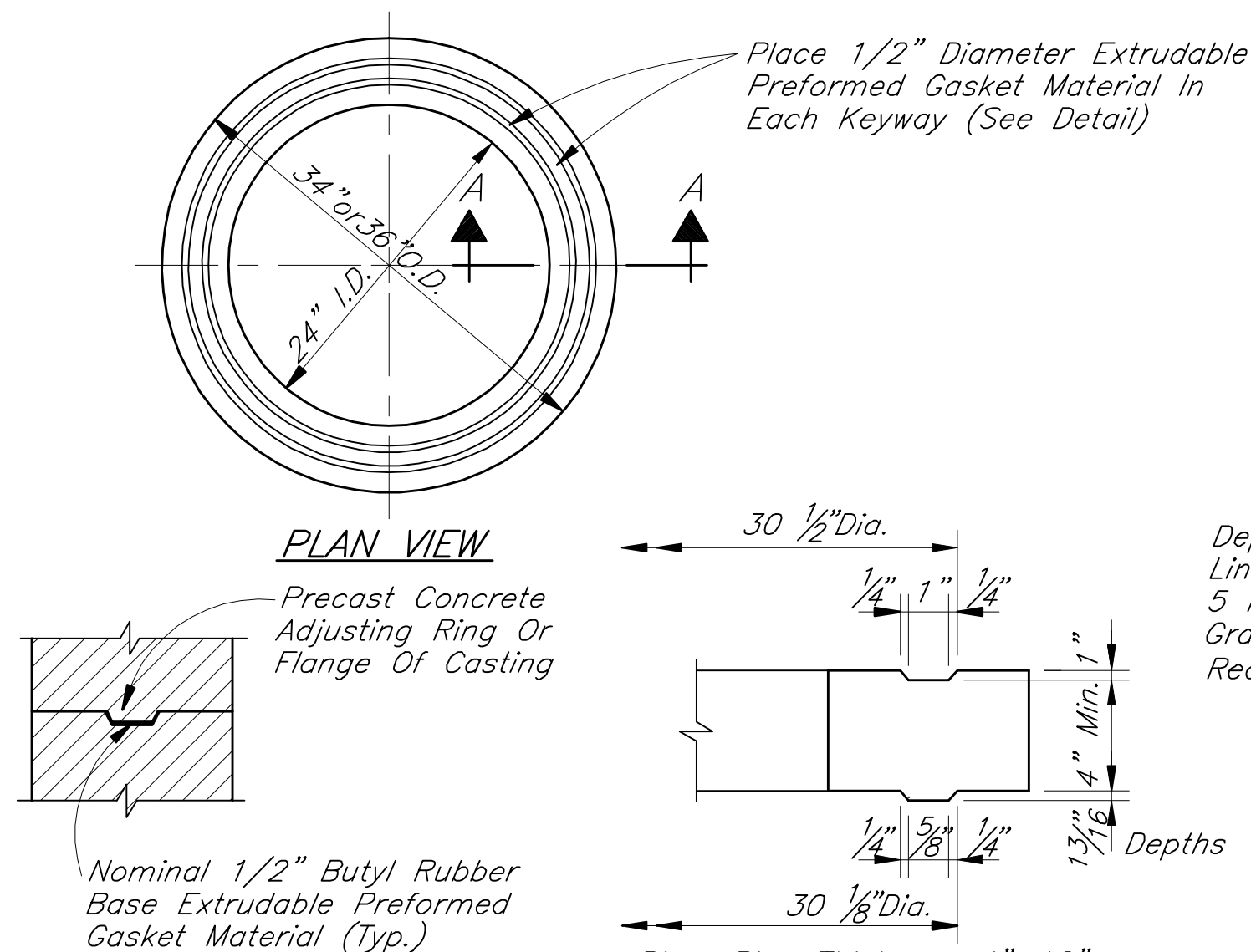
TYPICAL MANHOLE TYPE A
Scale: $\frac{1}{2}" = 1'-0"$



Note: All Bench Walls To Be Sloped @ 1/2"/Ft.

BENCH WALL DETAILS

Not To Scale:

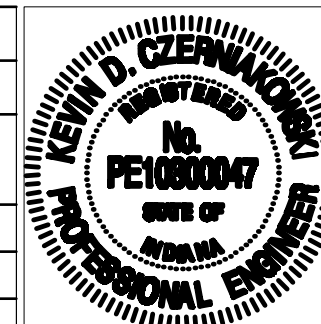


GASKET DETAIL

PRECAST ADJUSTING RING

Not To Scale:

REVISIONS		
Rev. No.	Description	Date
1	Revised Manhole Notes And Connection Detail	3/14/2007



RECOMMENDED
FOR APPROVAL

APPROVED

RECOMMENDED
FOR APPROVAL

Karin D. Geminchak

DESIGN ENGINEER

4/19/04

DATE

APPROVED

Alan E. Huff

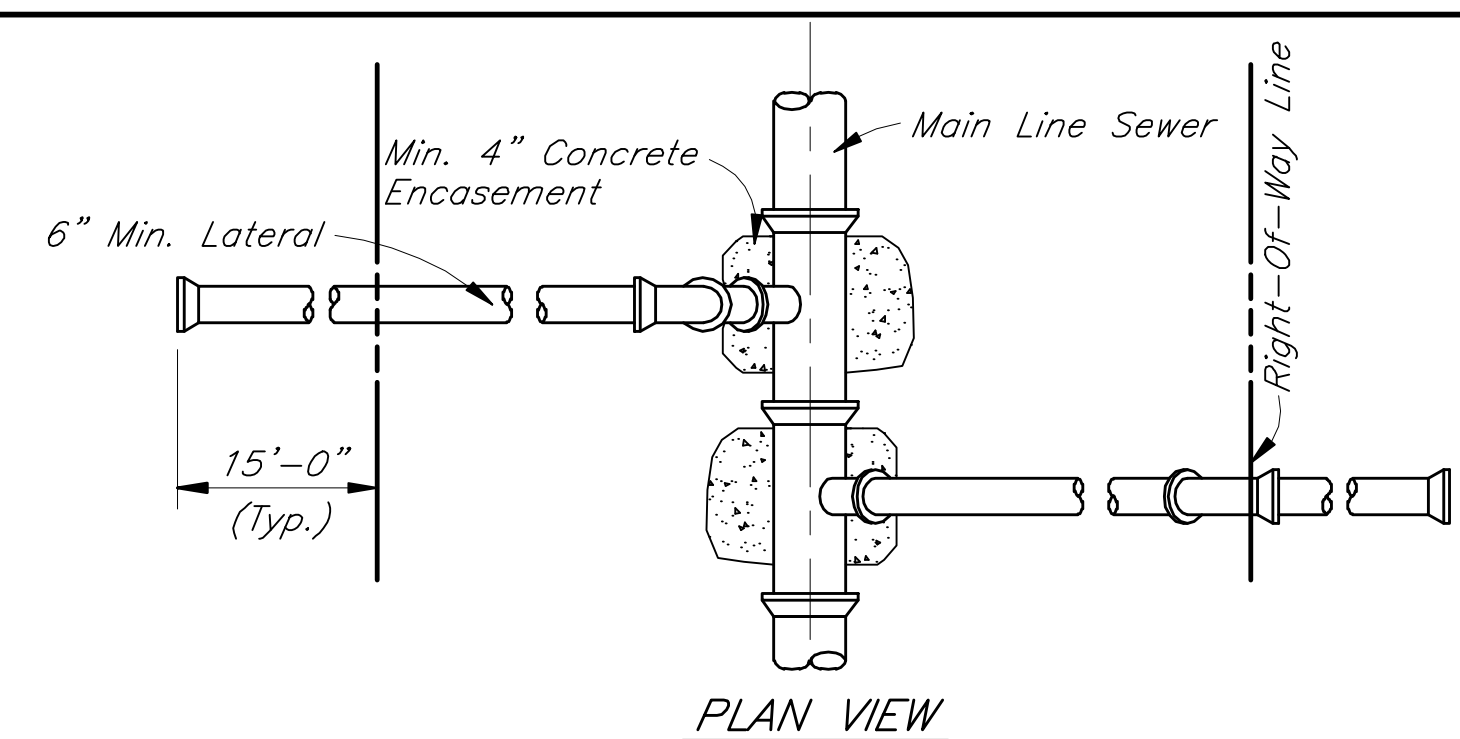
WASTEWATER TREATMENT PLANT SUPERINTENDENT

4/22/04

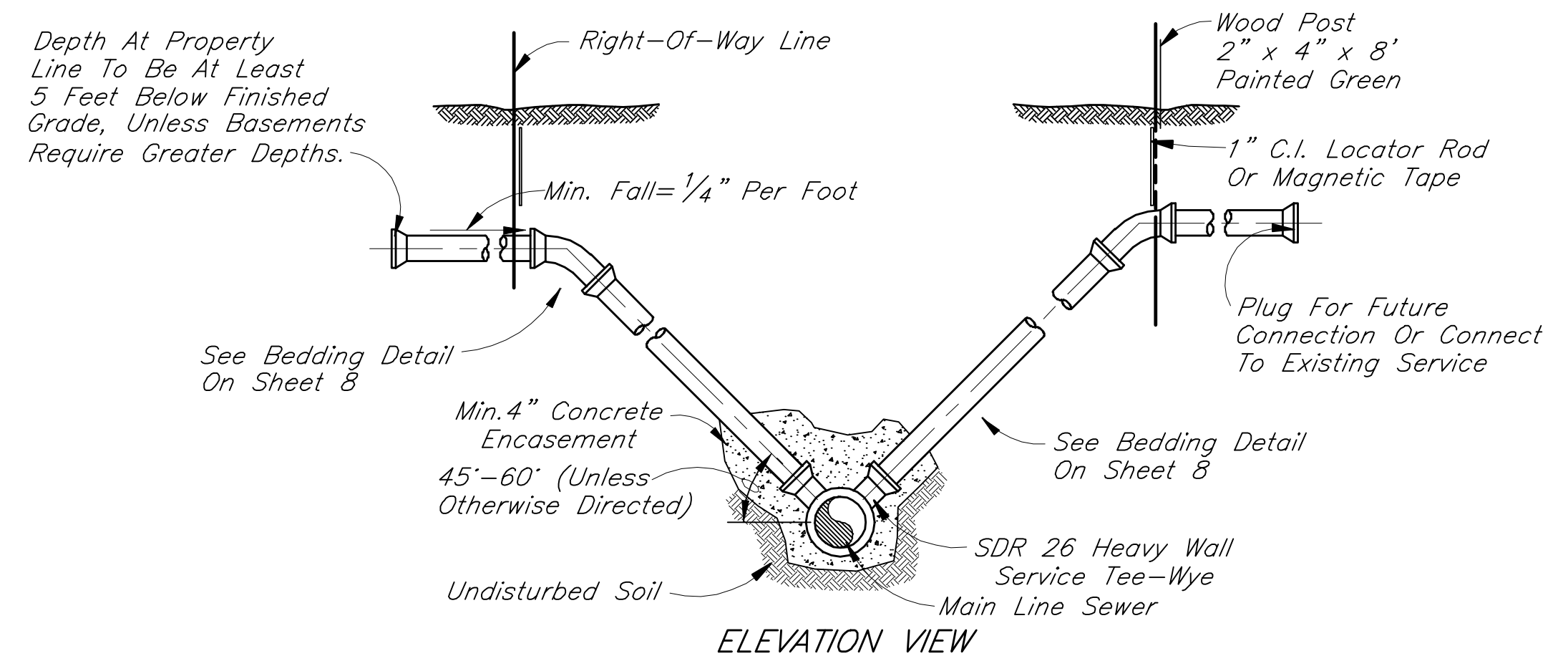
DATE

TOWN OF YORKTOWN
<i>SANITARY SEWER DETAILS AND NOTES</i>

SHEET
9
OF
10

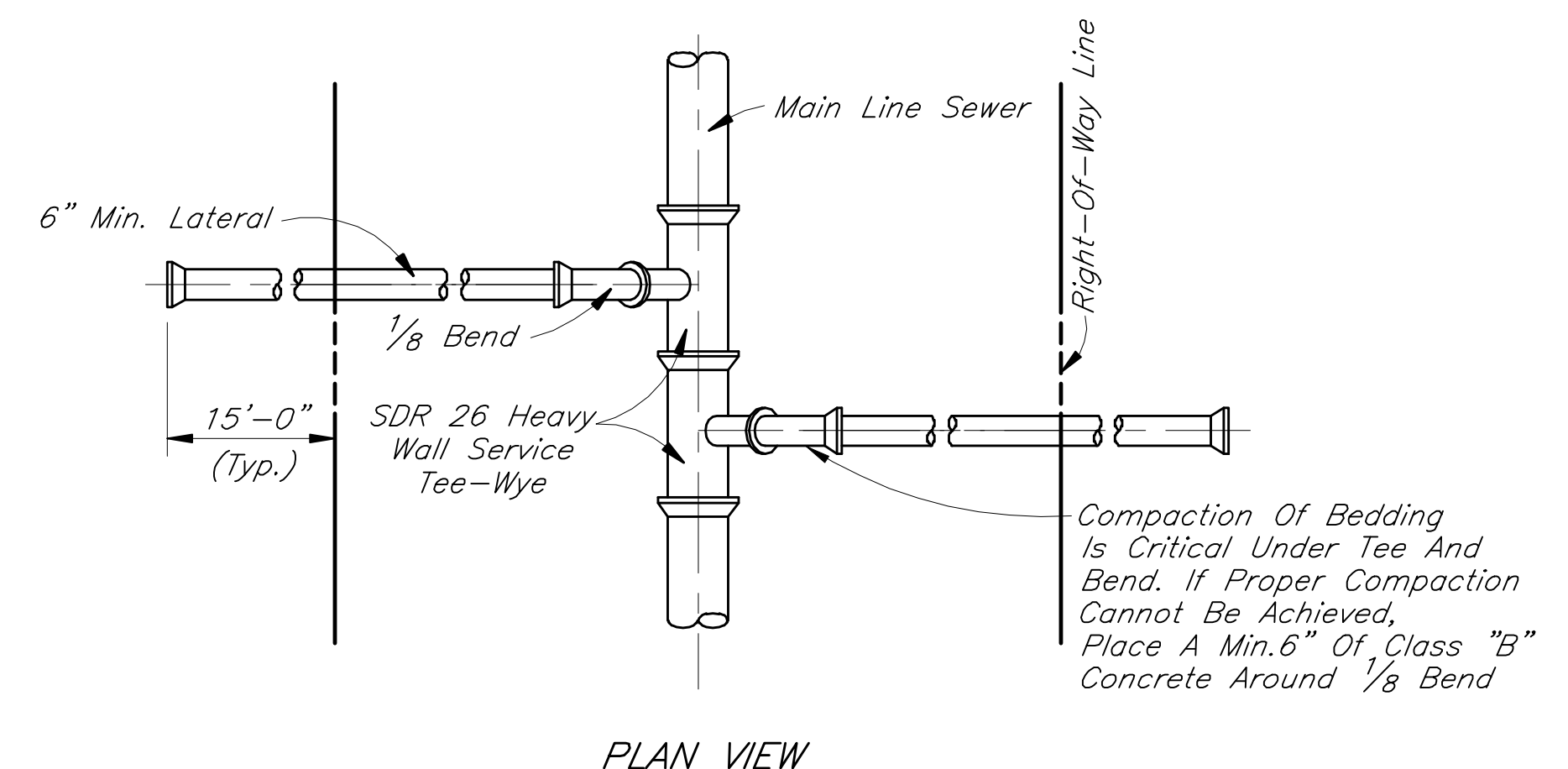


PLAN VIEW

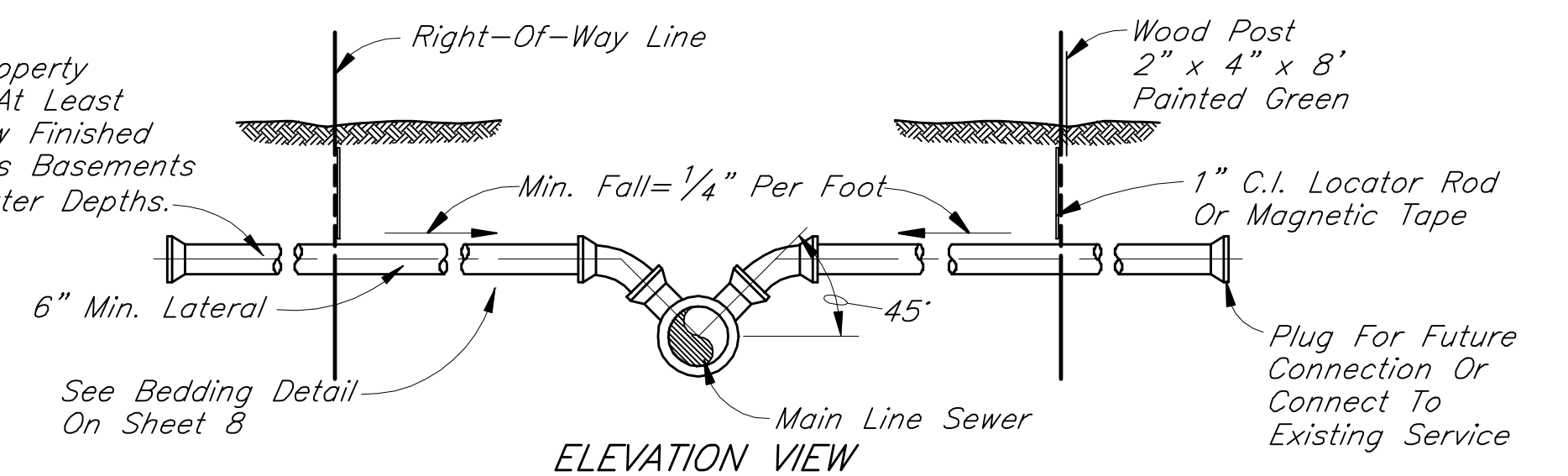


SERVICE CONNECTION FOR DEEP SEWERS
(15' DEEP AND OVER)

Not To Scale:



PLAN VIEW



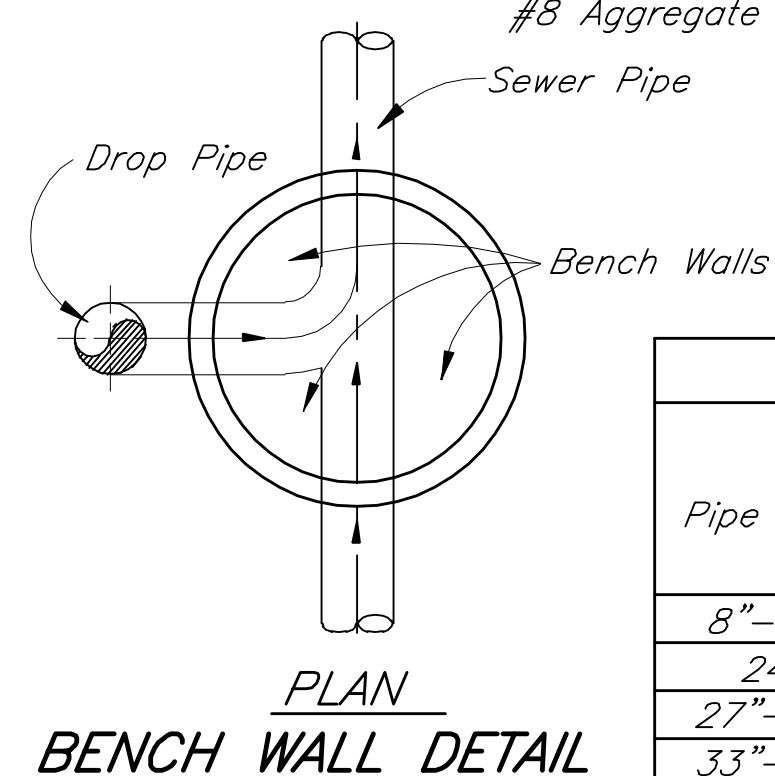
ELEVATION VIEW

SERVICE CONNECTION FOR SHALLOW SEWERS
(LESS THAN 15' DEPTH)

Not To Scale:

<i>Pipe Size</i>	<i>Minimum Manhole Diameter</i>	
	<i>Pipe Entering/ Pipe Exiting At 0° To 45° Bend</i>	<i>Pipe Entering/ Pipe Exiting At 45° To 90° Bend</i>
<i>8"–21"</i>	<i>48"</i>	<i>48"</i>
<i>24"</i>	<i>48"</i>	<i>60"</i>
<i>27"–30"</i>	<i>60"</i>	<i>60"</i>
<i>33"–36"</i>	<i>60"*</i>	<i>72"</i>

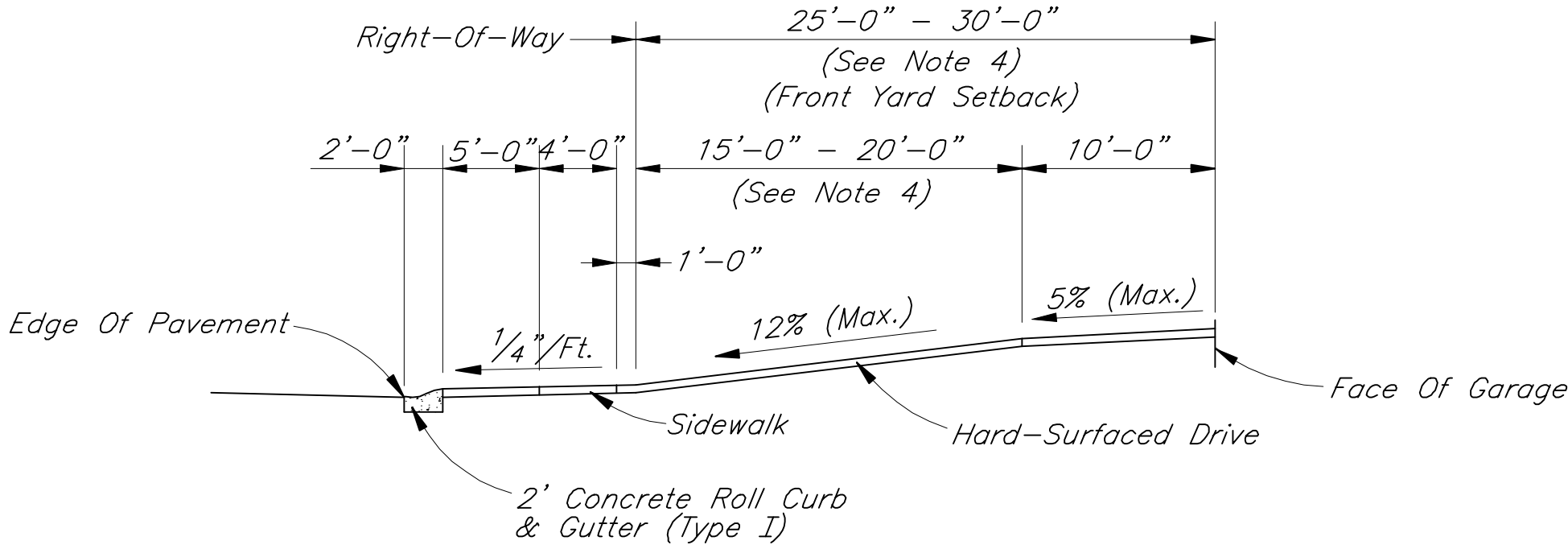
* 72" With A-Lock Connector



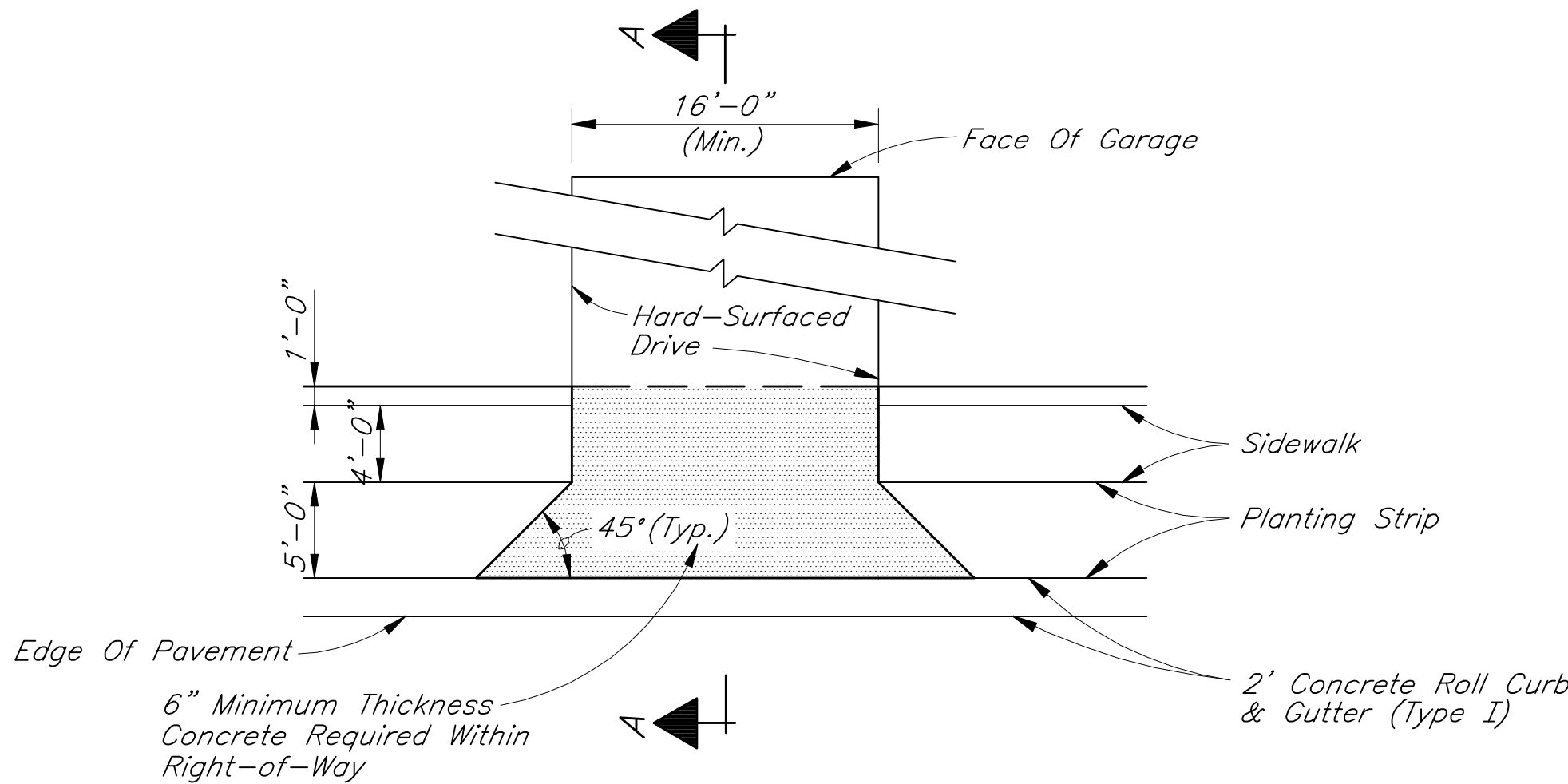
BENCH WALL DETAIL

RESIDENTIAL DRIVES

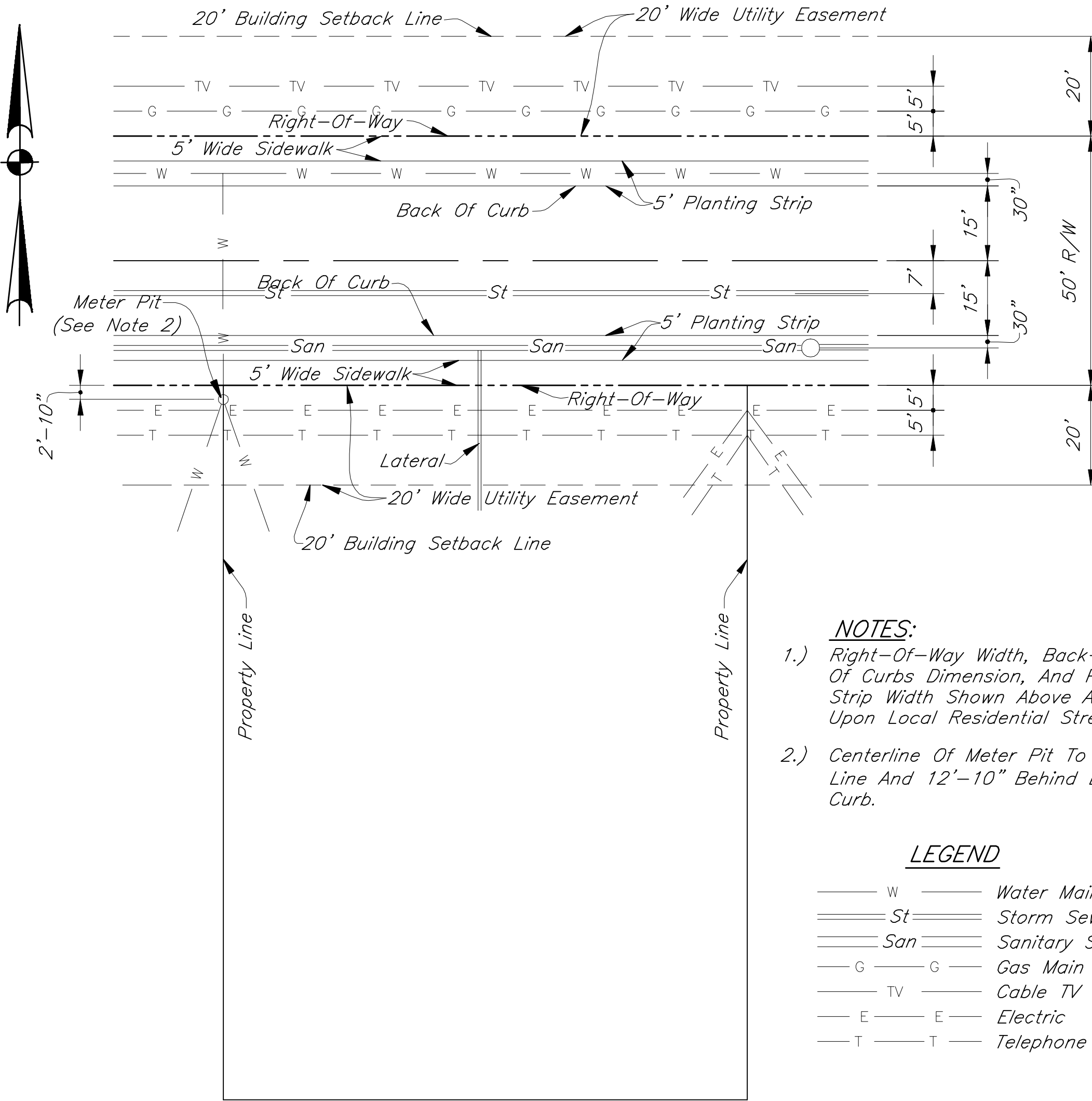
- 1.) The Maximum Algebraic Difference In Grades For Any 10 Foot Interval Shall Not Exceed 8 % For Crest Vertical Curves, Nor 10 % For Sag Vertical Curves.
- 2.) All Lots Shall Drain To Adjacent Streets Except With The Prior Approval Of Town.
- 3.) Concrete Drives Require Control Joints At A Maximum Of Every 10 Feet Each Way.
- 4.) Use Actual Setback As Shown On Plat And As Provided By The Town Of Yorktown Zoning Ordinance.



SECTION A-A



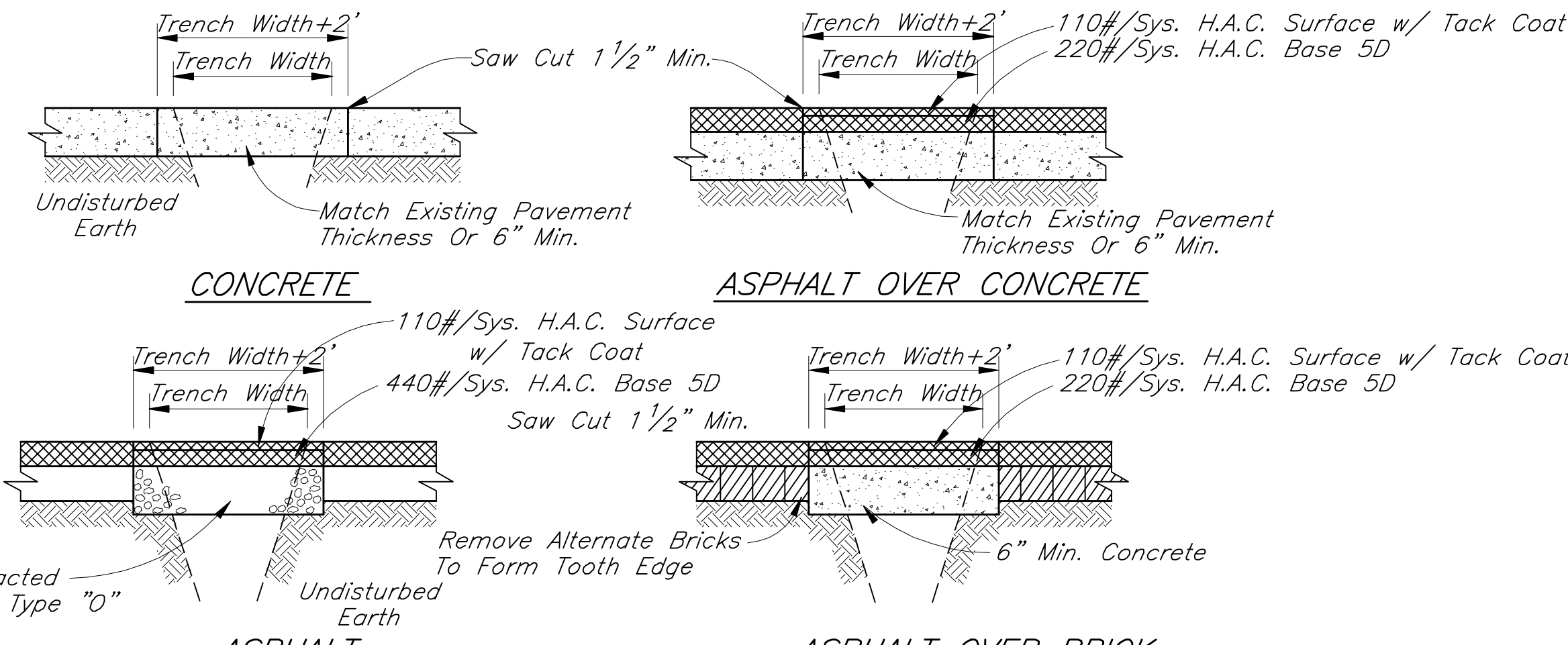
PLAN
RESIDENTIAL DRIVE
Scale: 1/8"=1'-0"



- NOTES:**
- 1.) Right-Of-Way Width, Back-To-Back Of Curbs Dimension, And Planting Strip Width Shown Above Are Based Upon Local Residential Street.
- 2.) Centerline Of Meter Pit To Be At Lot Line And 12'-10" Behind Back Of Curb.

- LEGEND**
- W Water Main
St Storm Sewer
San Sanitary Sewer
G Gas Main
TV Cable TV
E Electric
T Telephone

TYPICAL LOT DETAIL
Scale: 1"=20'

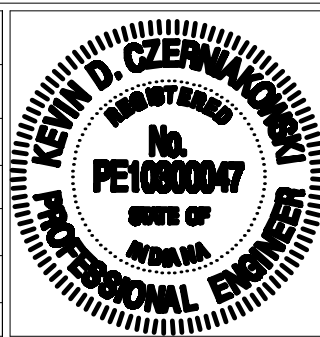


- Note:**
- 1.) All Concrete Shall Be Air Entrained, 6 Bag Per Cubic Yard With 4,000 lb./in. Minimum 28 Day Strength. Concrete Surface Shall Be Broom Finished Perpendicular To Traffic Flow.

PAVEMENT RECONSTRUCTION DETAILS

Scale: None

REVISIONS		
Rev. No.	Description	Date



RECOMMENDED FOR APPROVAL	Kevin D. Czerniak DESIGN ENGINEER	4/19/04 DATE
APPROVED	Maurice Masters STREET SUPERINTENDENT	4/22/04 DATE

TOWN OF YORKTOWN	SHEET
MISCELLANEOUS DETAILS AND NOTES	10
	OF
	10