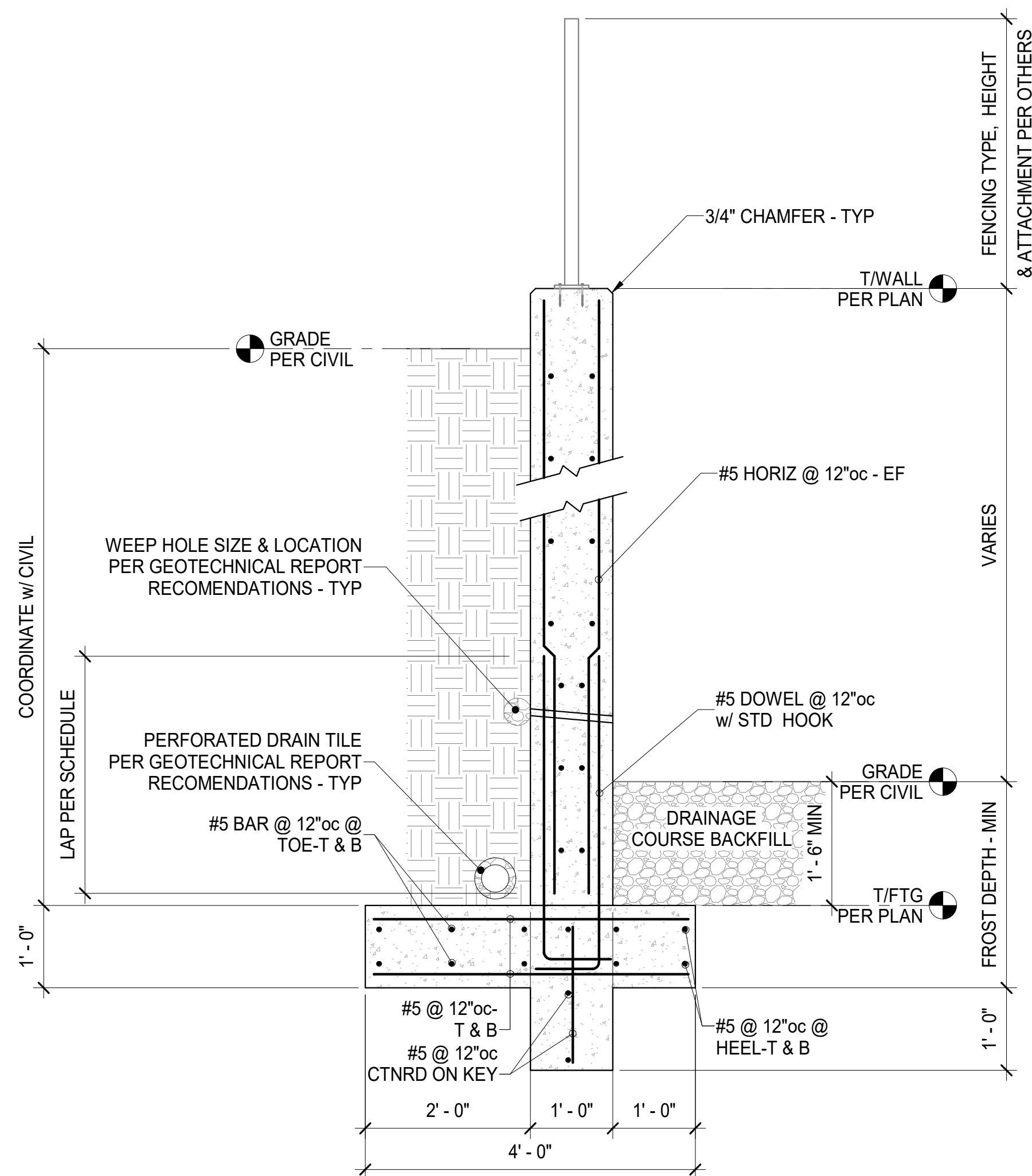
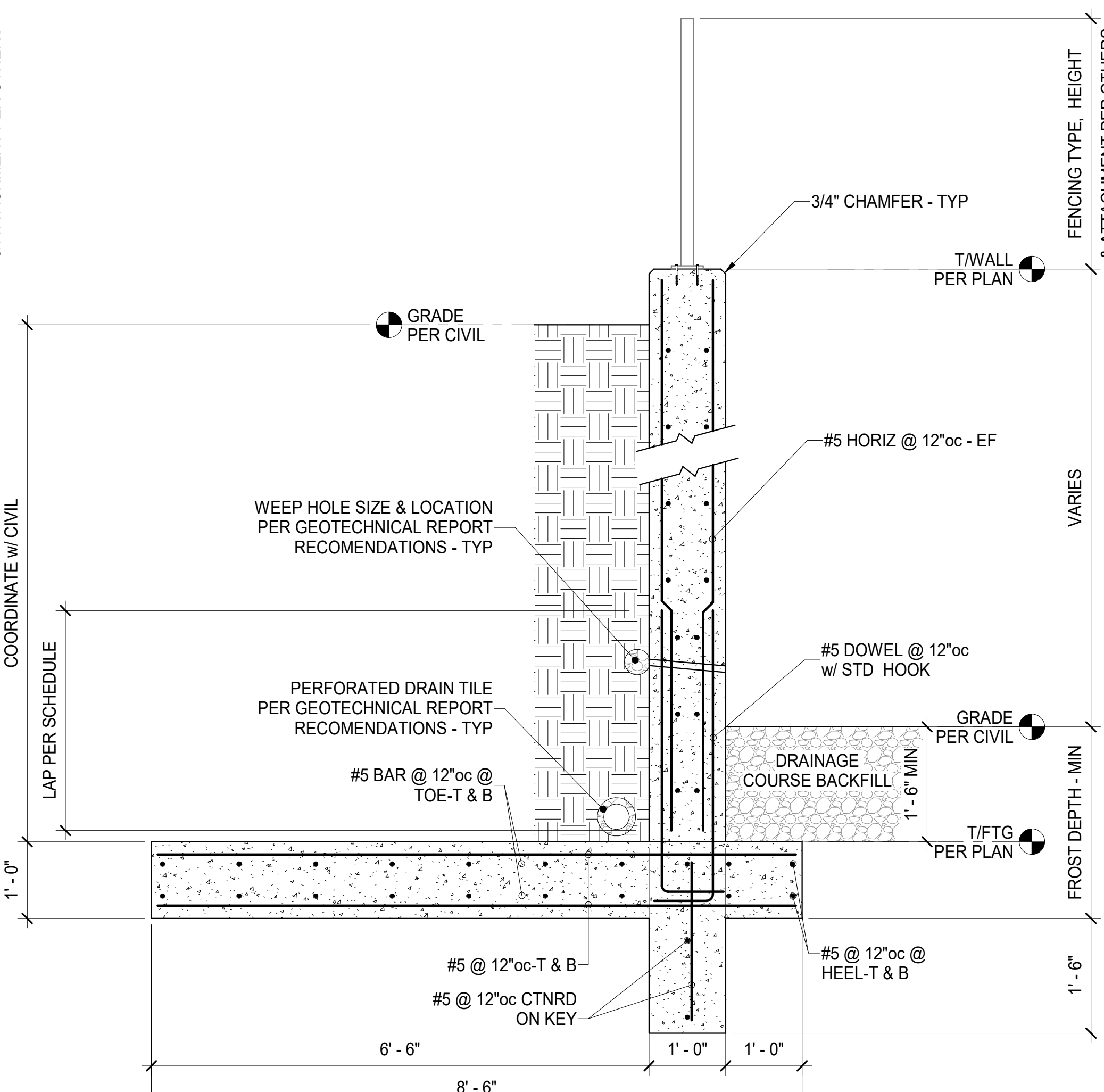
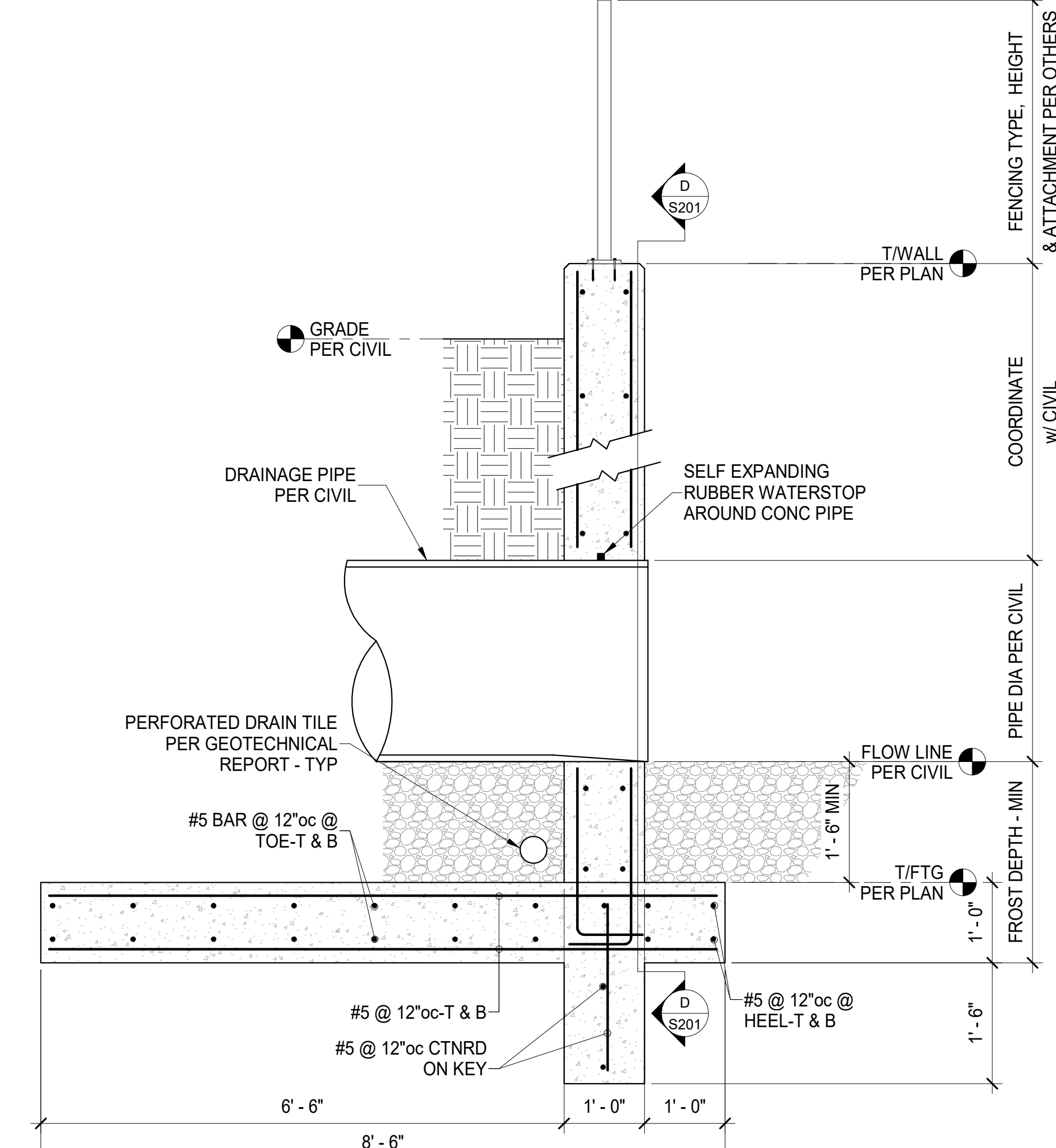




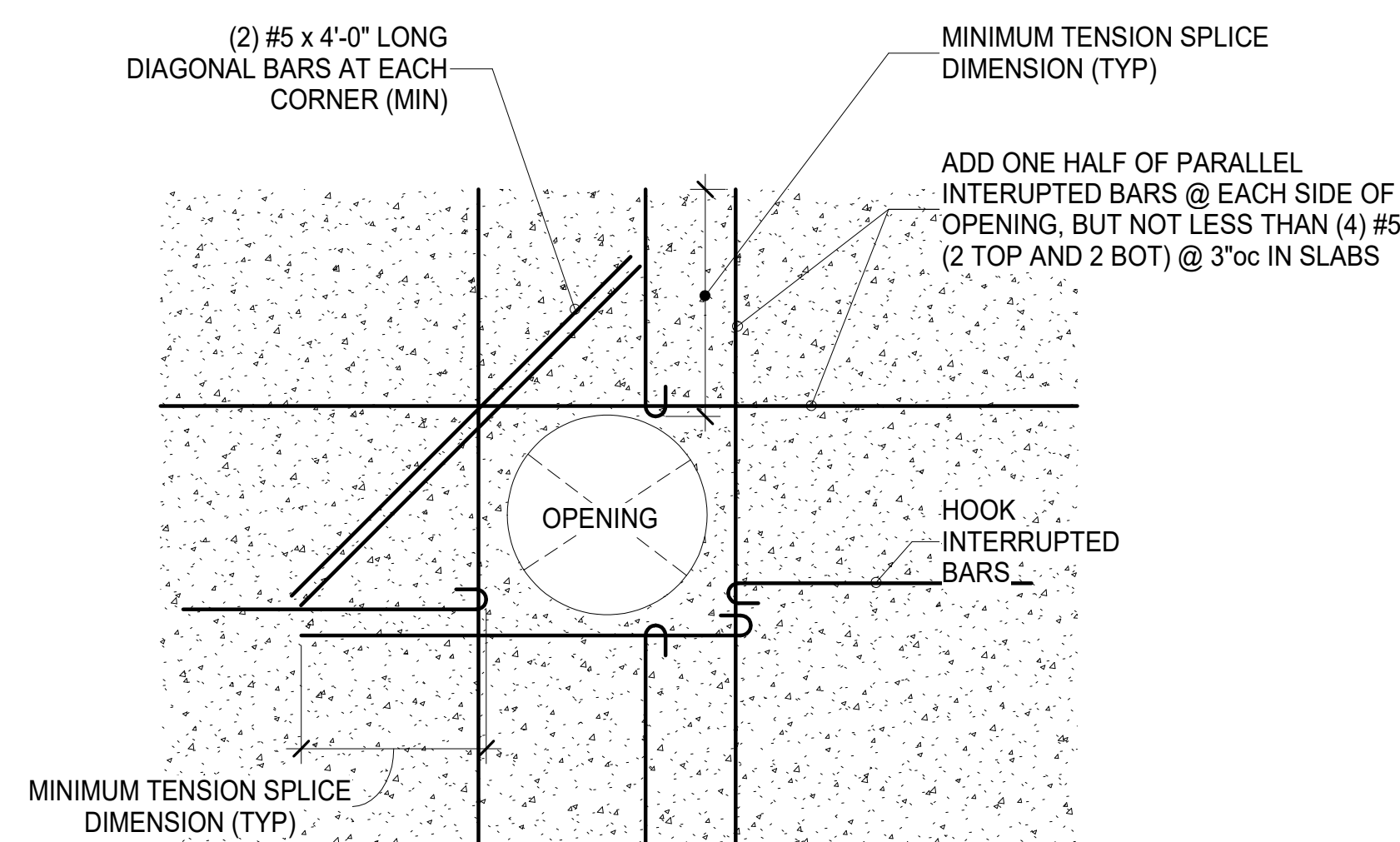
A SECTION
S201 3/4" = 1'-0"



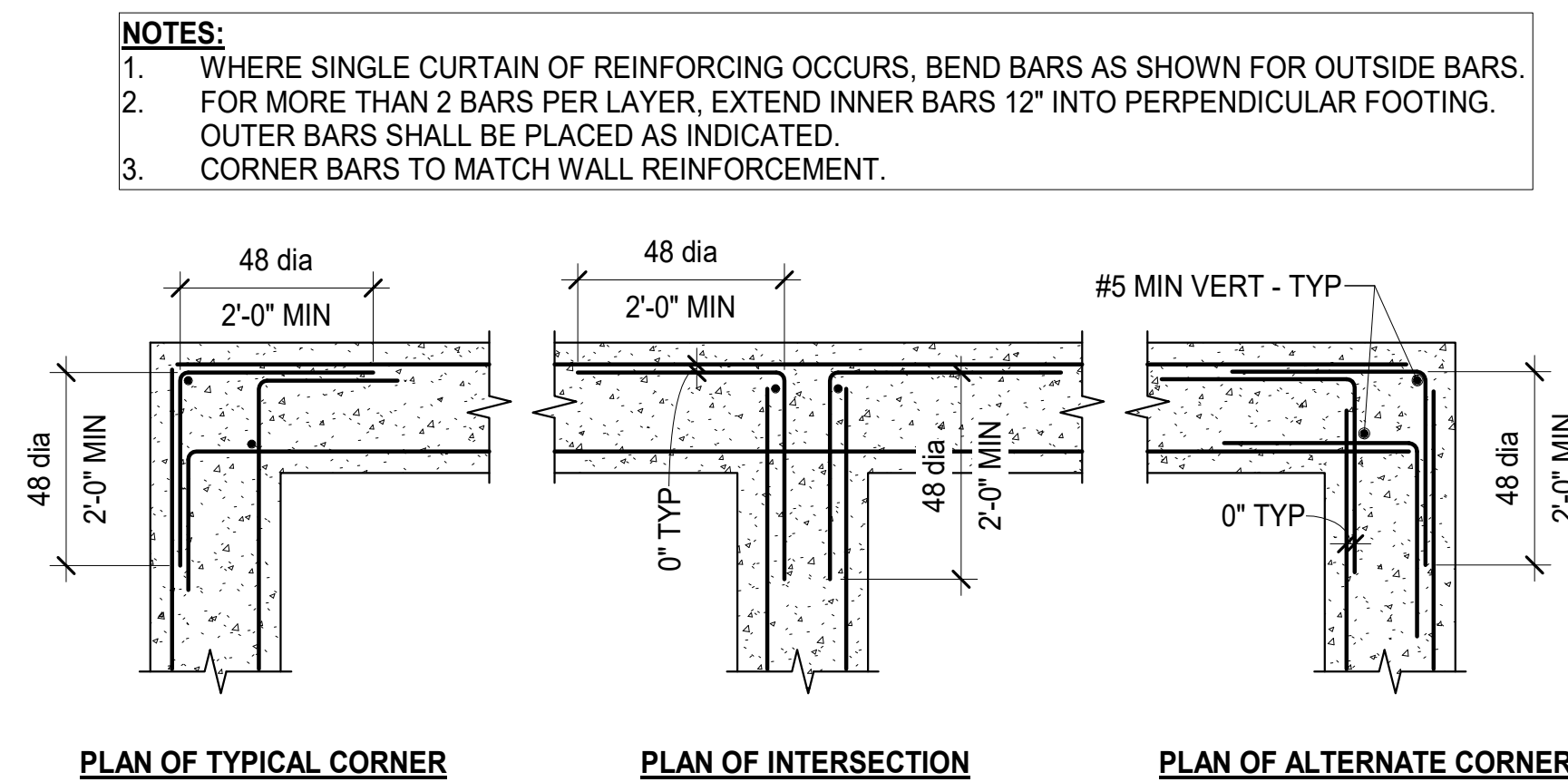
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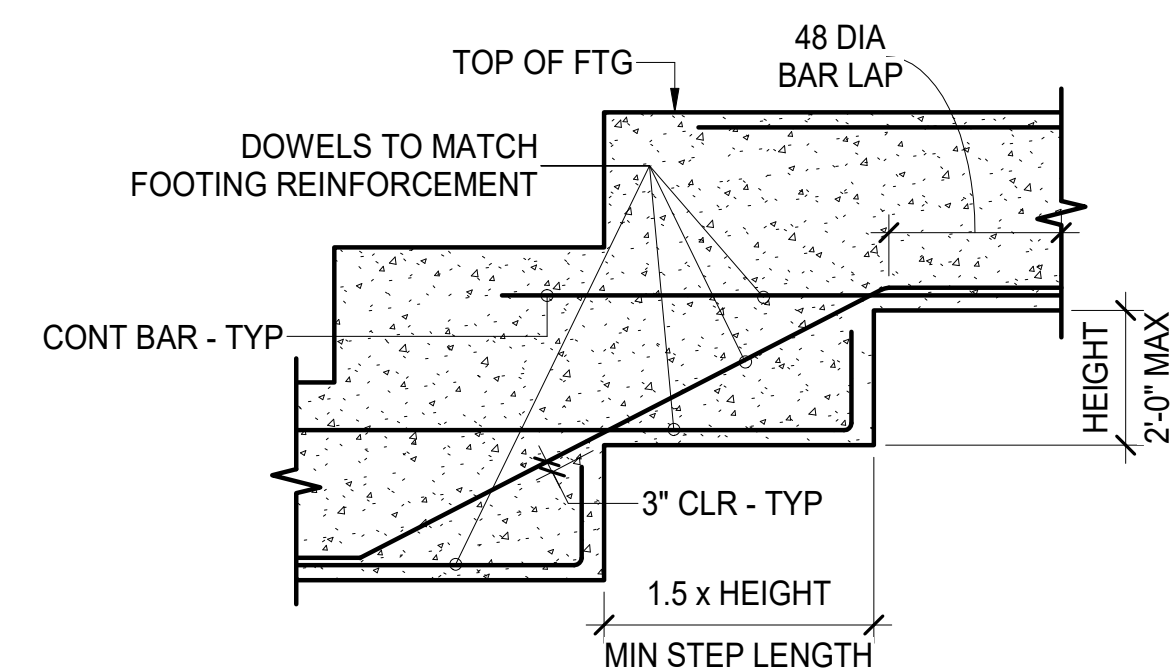
C SECTION
S201 3/4" = 1'-0"



D TYP REINF @ OPNG IN REINF CONC WALLS
S201 N.T.S.



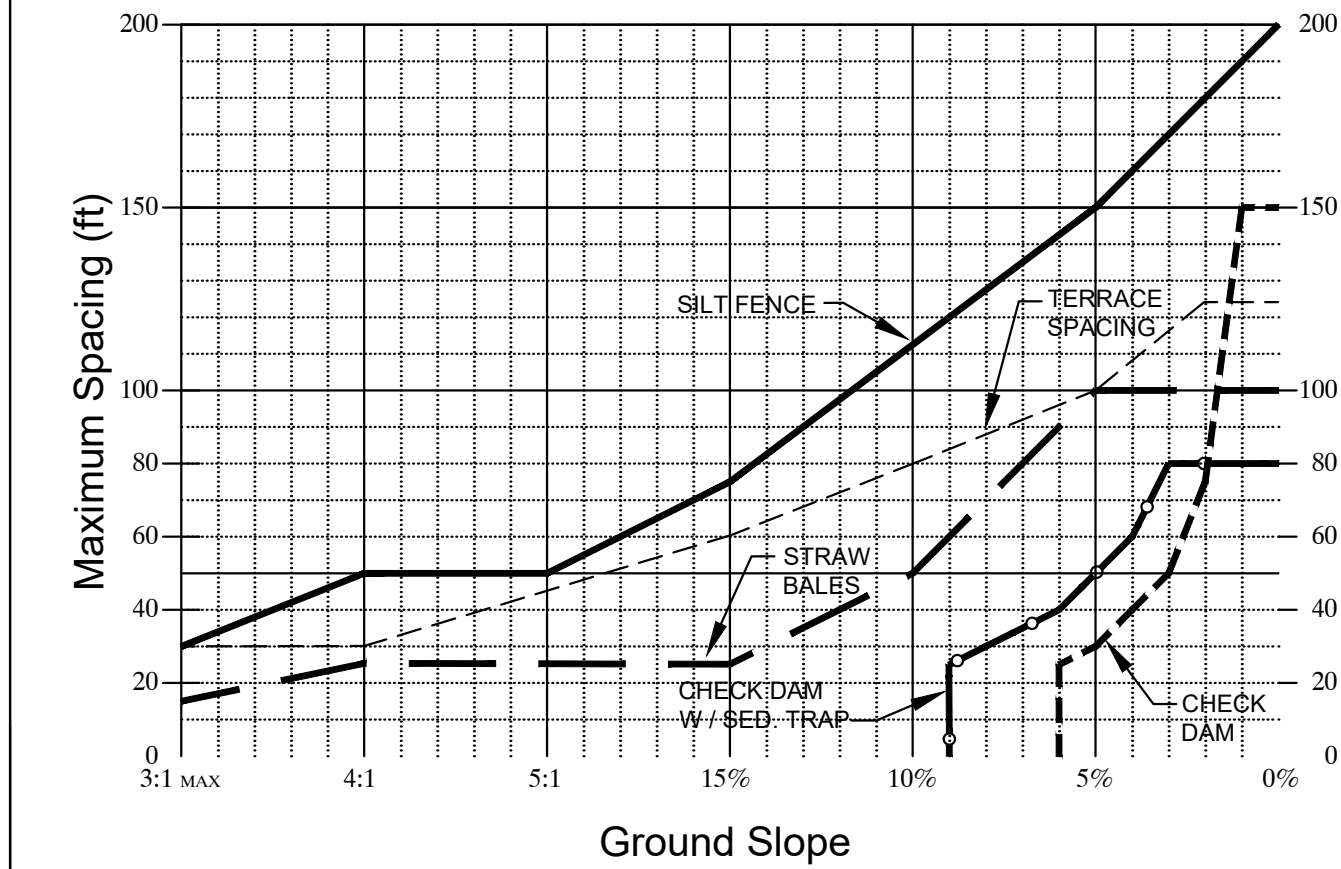
E TYP CONCRETE FOOTING, FOUNDATION, & WALL REINF
S201 N.T.S.



F TYP FOOTING STEP
S201 3/4" = 1'-0"

REVISIONS		
No.	Description	Date

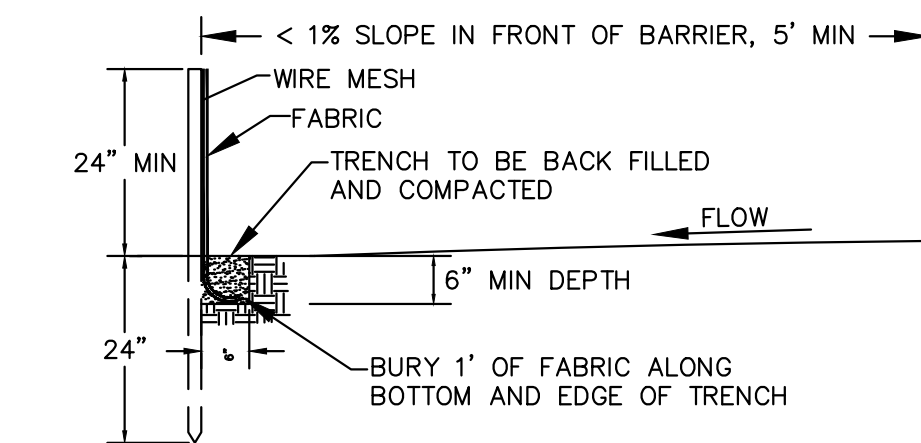
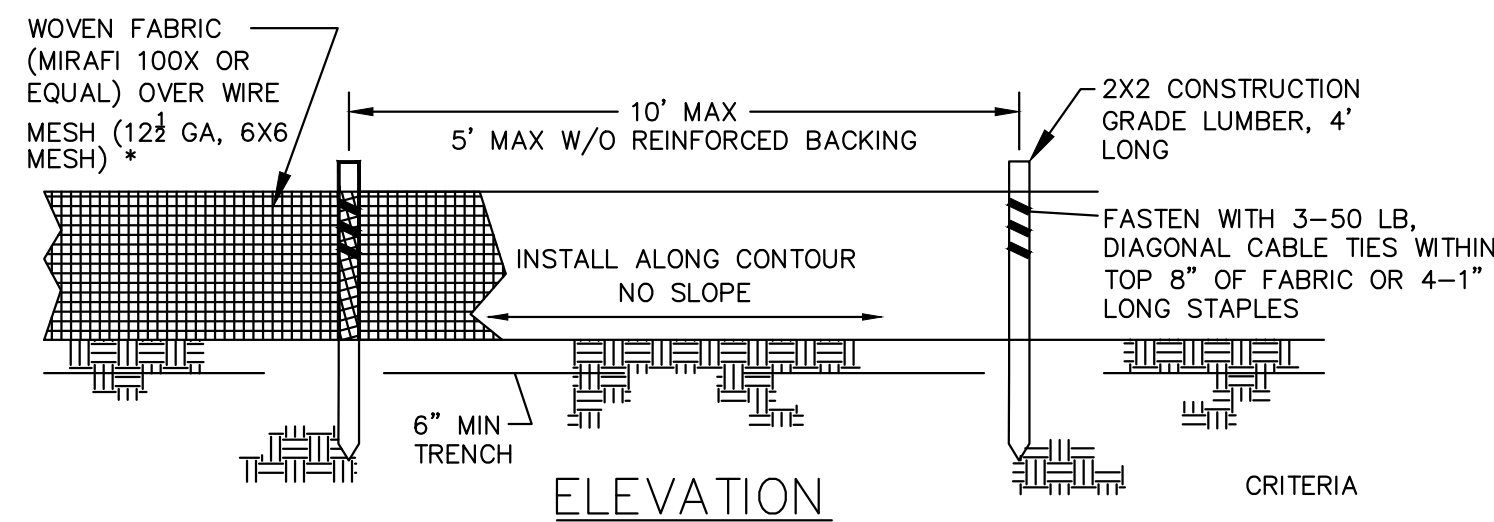
Drawing name: V:\000927 Highway N Assemblies\Drawings\Engineering\Improvements\927 IMP DETAILS.dwg Plotted on: Mar 16, 2026 - 3:49pm Plotted by: boardona



- DESIGN CRITERIA**
1. SILT FENCE FOR SHEET FLOW SHALL HAVE A MAXIMUM DRAINAGE AREA OF 1/4 ACRE PER 100 LF.
 2. STRAW BALE BARRIERS FOR SHEET FLOW SHALL HAVE A MAXIMUM DRAINAGE AREA OF 1/4 ACRE PER 100 LF.
 3. REFER TO INDIVIDUAL ESC FIGURE FOR INSTALLATION.
 4. TERRACING INCLUDES LOGS, WATTLES & FILTER SOCKS.

CITY OF O'FALLON
ENGINEERING DEPARTMENT
O'FALLON, MISSOURI

**SPACING CHART
FOR ESC DEVICES**



SECTION

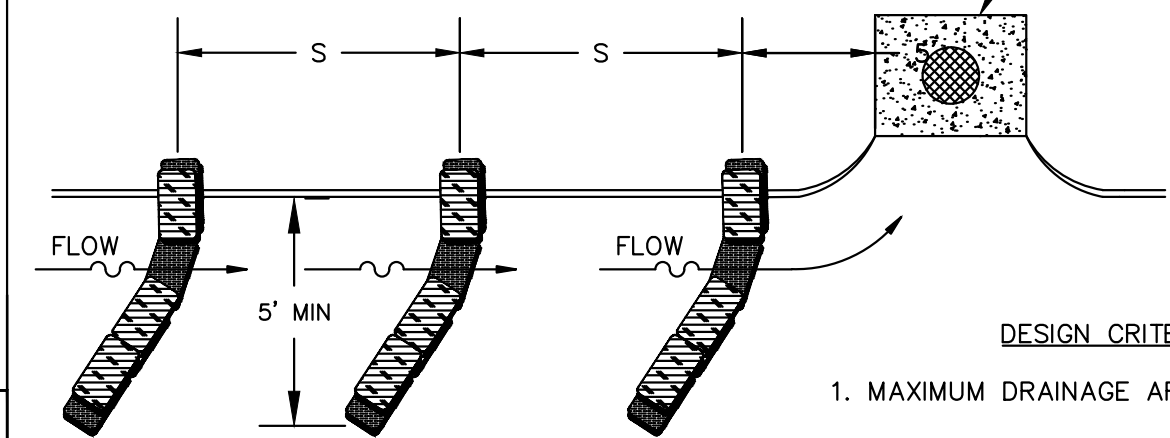
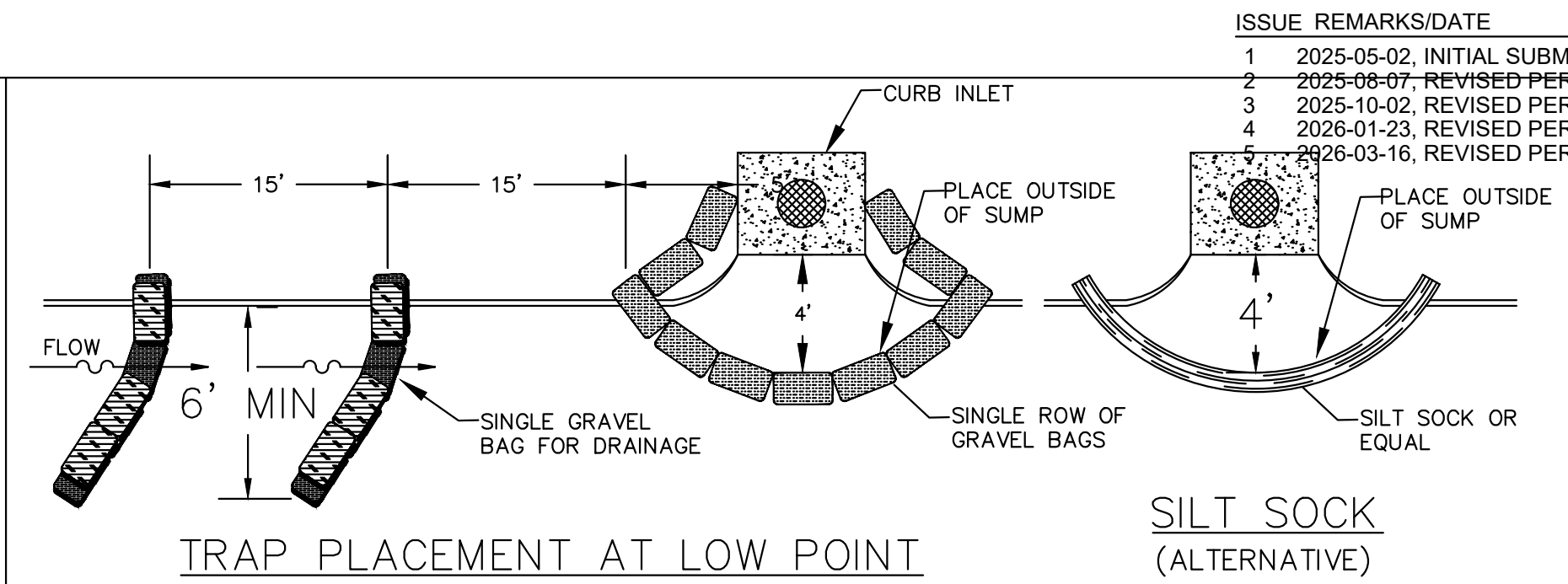
NOTE: IF FABRIC IS INSTALLED BY EQUIPMENT DESIGNED TO SLICE INTO THE GROUND, THE TRENCH IS NOT REQ'D.

**JOINING SECTIONS OF
SILT FENCE**

- CRITERIA**
1. SILT FENCE SHALL BE 24 INCHES HIGH.
 2. SILT FENCE SHALL NOT BE USED FOR CONCENTRATED FLOWS.
 3. GEOSYNTHETIC REINFORCED SILT FENCE BACKING MAY BE USED IN LIEU OF WIRE MESH.
 4. WIRE MESH WILL BE USED AT LOCATIONS SHOWN ON THE APPROVED SWPPP.

CITY OF O'FALLON
ENGINEERING DEPARTMENT
O'FALLON, MISSOURI

**SILT FENCE INSTALLATION
SHEET FLOW (ONLY)**



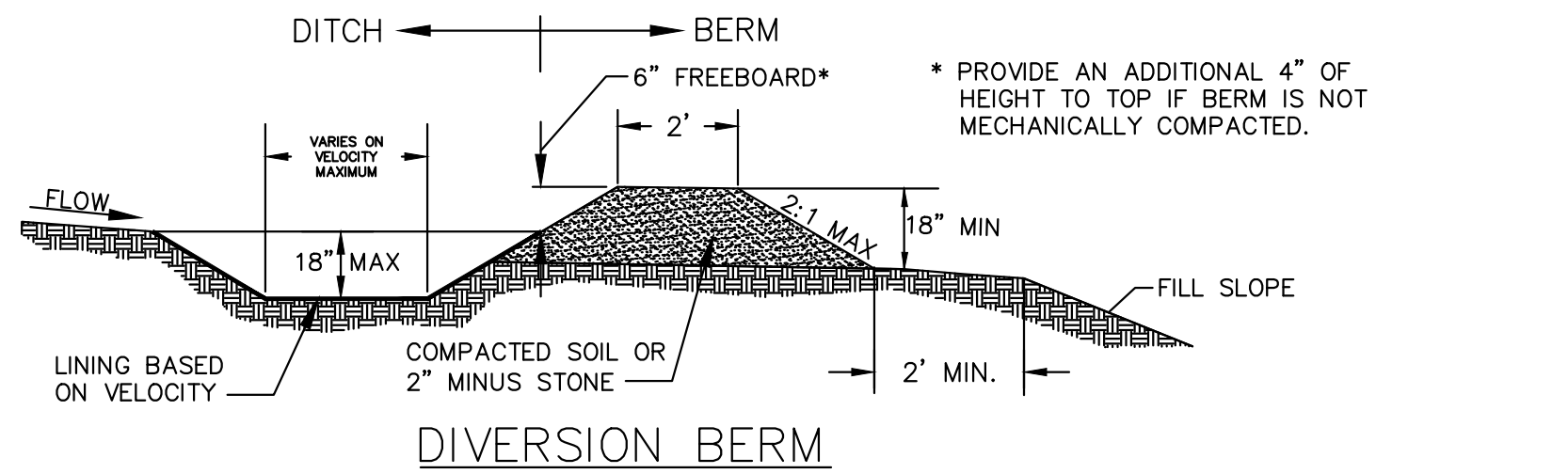
- DESIGN CRITERIA**
1. MAXIMUM DRAINAGE AREA - 1 ACRE.
 2. PEAK RUNOFF SHALL BE ≤ 2 CFS BASED ON THE 6-MONTH STORM.
 3. STACK GRAVEL BAGS DOUBLE HIGH. PROVIDE GAP FOR DRAINAGE.

SPACING OF TRAPS

GUTTER SLOPE	S
LOW PT	15'
1%	20'
2%	15'
3% MAX.	10'

CITY OF O'FALLON
ENGINEERING DEPARTMENT
O'FALLON, MISSOURI

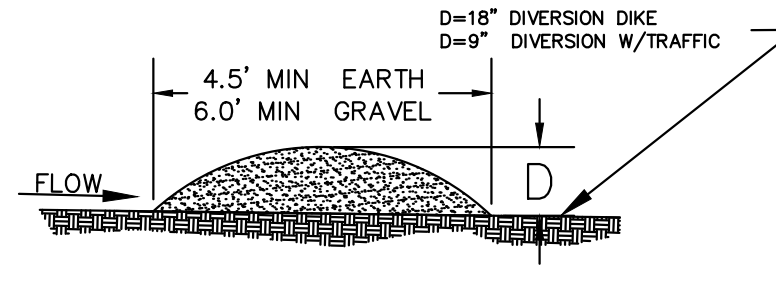
**CURB INLET
PROTECTION**



DESIGN CRITERIA

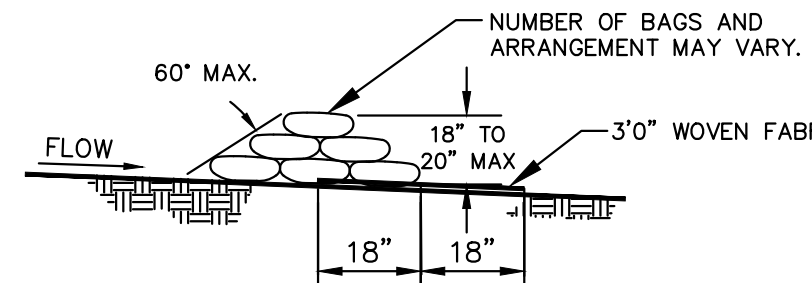
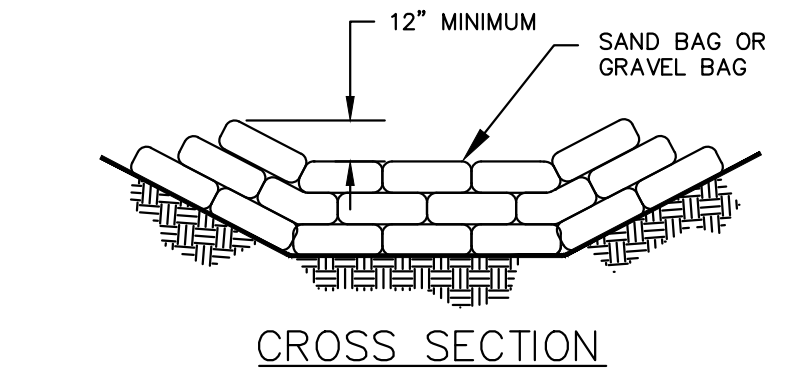
1. DIVERSIONS SHALL BE USED FOR DRAINAGE AREAS ≤ 3 ACRES.
2. DIVERSION CHANNELS SHALL BE DESIGNED TO CONVEY THE 6-MO STORM AT NON-EROSIVE VELOCITIES.
3. CRITICAL LOCATIONS SHALL BE DESIGNED FOR THE 15YR / 20Min. STORM.
4. MAXIMUM CHANNEL SLOPE OF 3% WITHOUT CHECK DAMS.
5. SWALE SEDIMENT TRAPS ARE TO BE USED IN HIGHLY EROSION AREAS.
6. CHANNELS SHALL BE PROTECTED USING APPROPRIATE CHANNEL LINERS.
7. CHANNEL OUTLETS MUST BE STABILIZED.
8. STORM SEWERS MAY BE USED IN LIEU OF OPEN CHANNELS.

DIVERSION DIKE

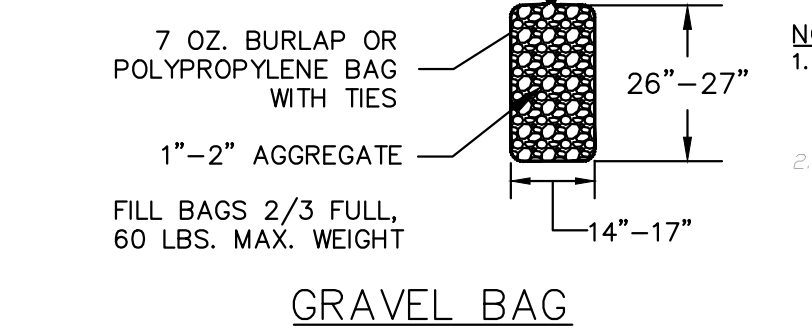


CITY OF O'FALLON
ENGINEERING DEPARTMENT
O'FALLON, MISSOURI

**DIVERSION BERMS
+ DIKES**



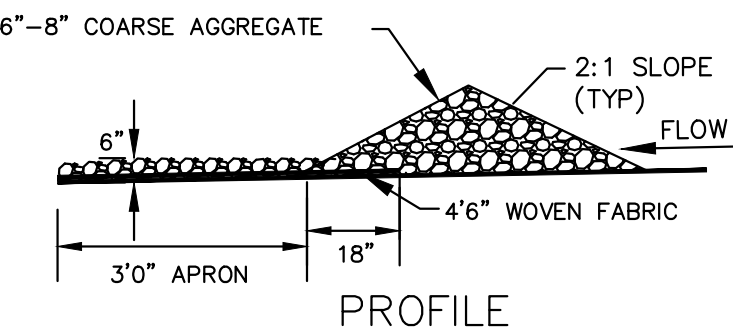
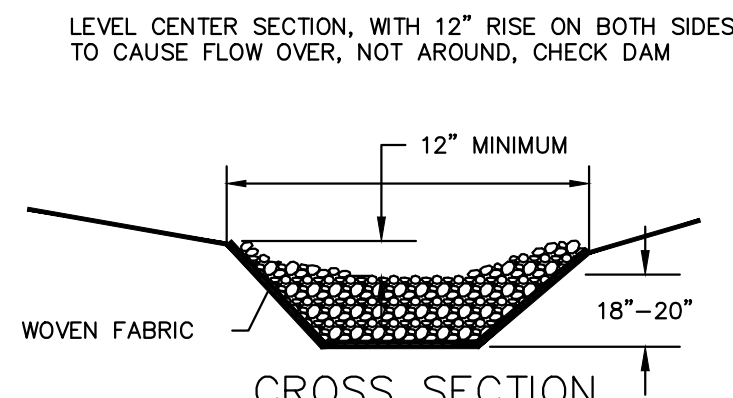
**PROFILE
SAND BAG OR GRAVEL BAG
CHECK DAM**



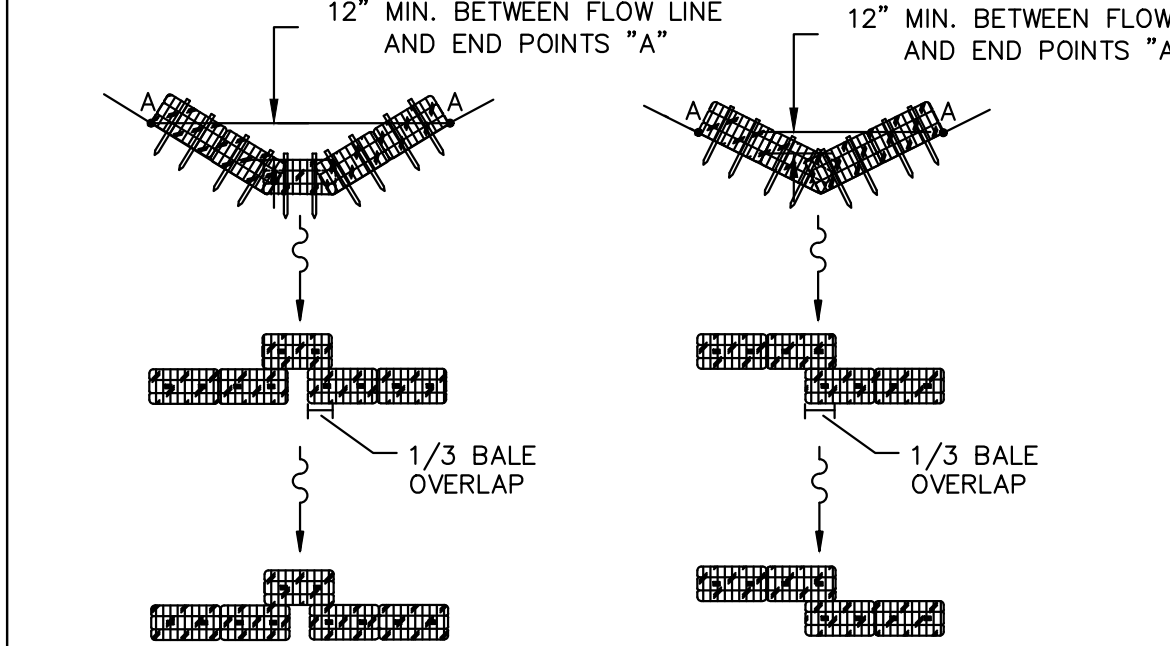
- NOTE:**
1. CHECK DAMS MAY BE CONSTRUCTED OF SEVERAL ESC CHECK DAM PRODUCTS.
 2. SEE TABLE 60-12 AND ESC 1 FOR CHECK DAM SPACING.

CITY OF O'FALLON
ENGINEERING DEPARTMENT
O'FALLON, MISSOURI

CHECK DAMS



**PROFILE
ROCK CHECK DAM**



TRAPEZOIDAL DITCH V-DITCH

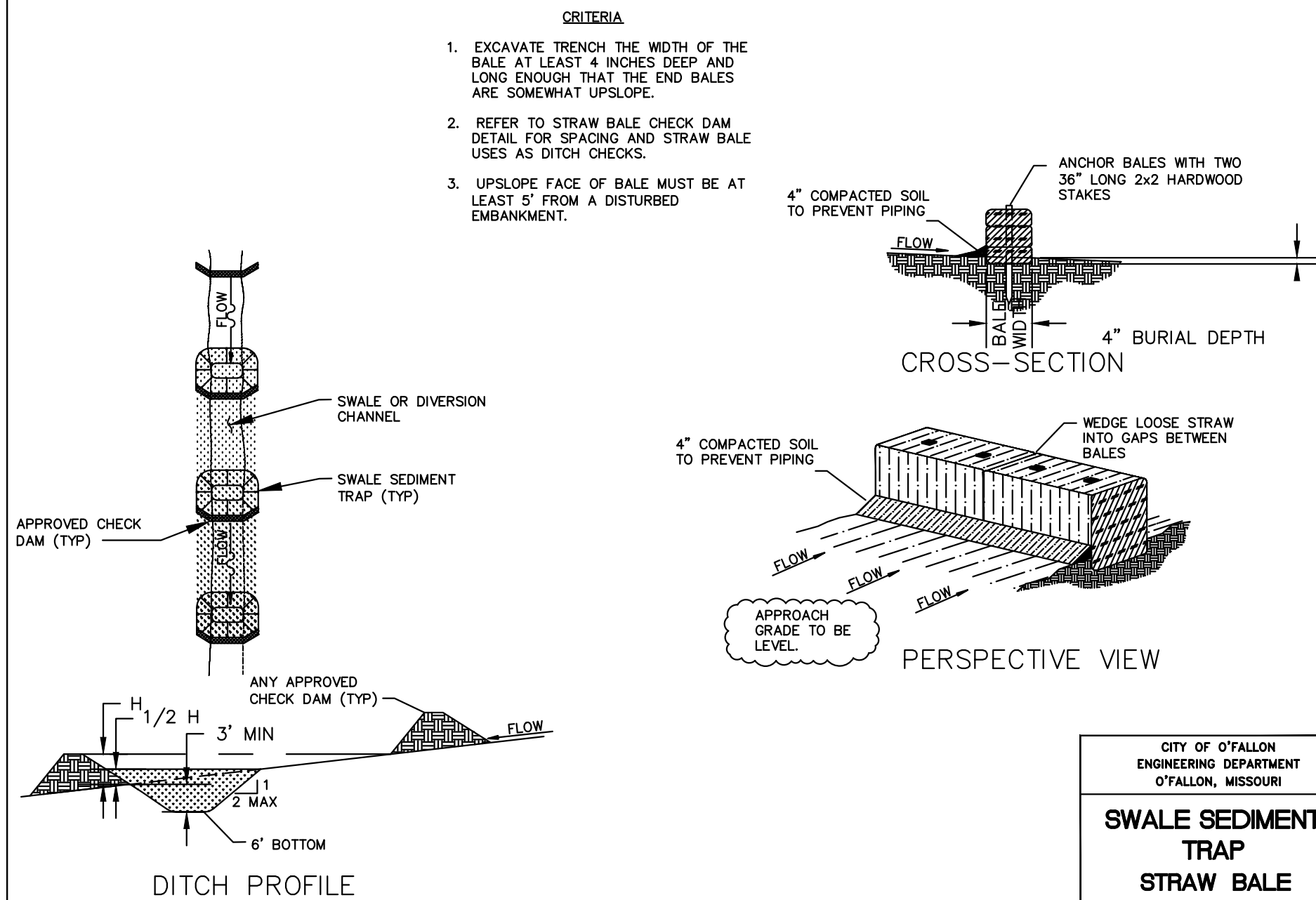
- CRITERIA FOR LOW CONCENTRATED FLOWS**
1. DRAINAGE AREAS SHALL BE LESS THAN 1 ACRE.
 2. INSTALL TWO STAKES PER BALE.
 3. BALES WILL BE TRENCHED 4" DEEP INTO EARTH.
 4. MAXIMUM CHANNEL SLOPE OF 3%.
 5. SEDIMENTATION TRAPS TO BE USED IN HIGHLY EROSION AREAS.

CHECK DAM SPACING

Ditch Slope	Maximum Spacing
3%	50'
2%	75'

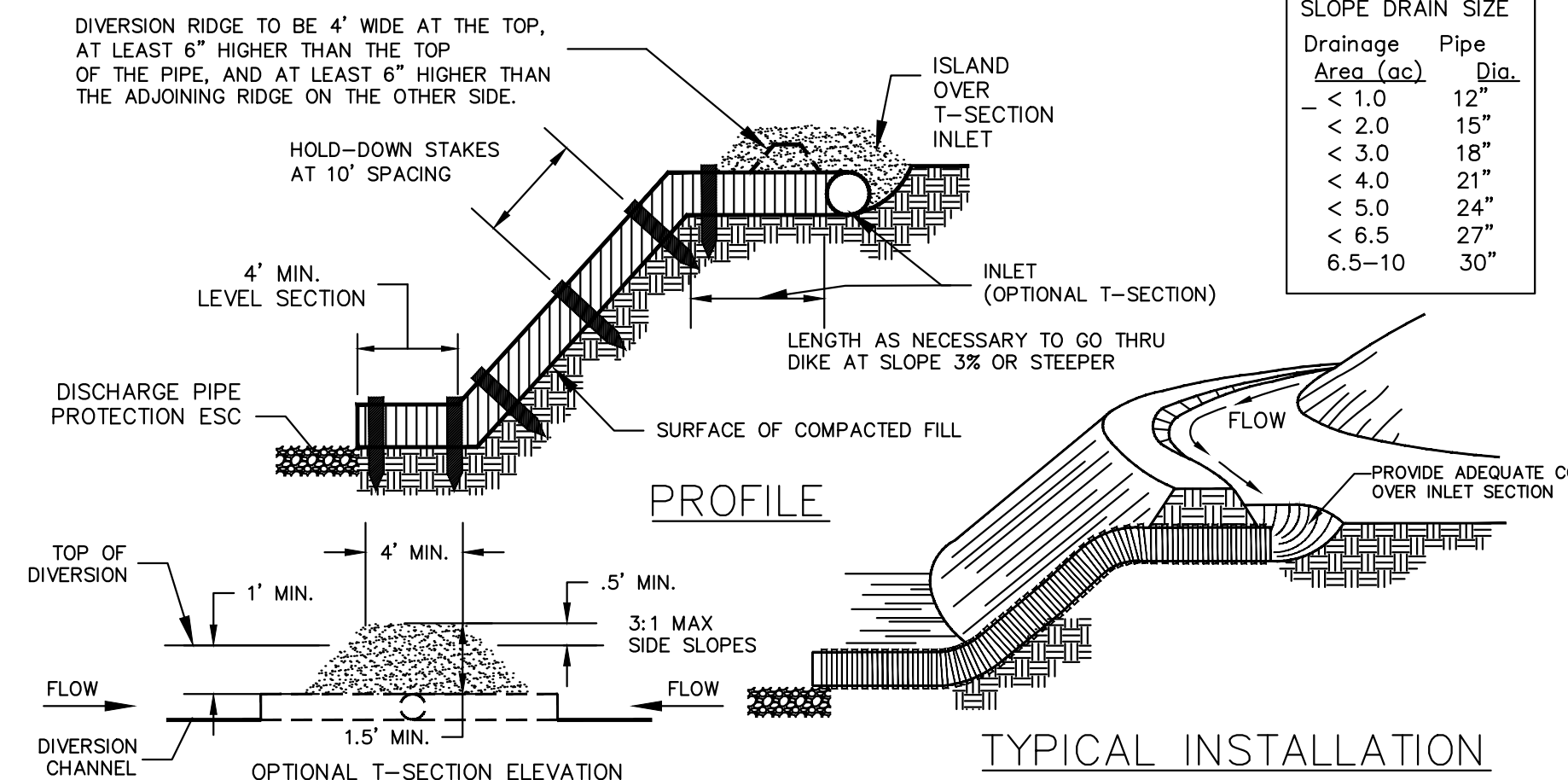
CITY OF O'FALLON
ENGINEERING DEPARTMENT
O'FALLON, MISSOURI

**STRAW BALE
CHECK DAM**



CITY OF O'FALLON
ENGINEERING DEPARTMENT
O'FALLON, MISSOURI

**SWALE SEDIMENT
TRAP
STRAW BALE
BARRIER INSTALLATION**



PROFILE

TYPICAL INSTALLATION

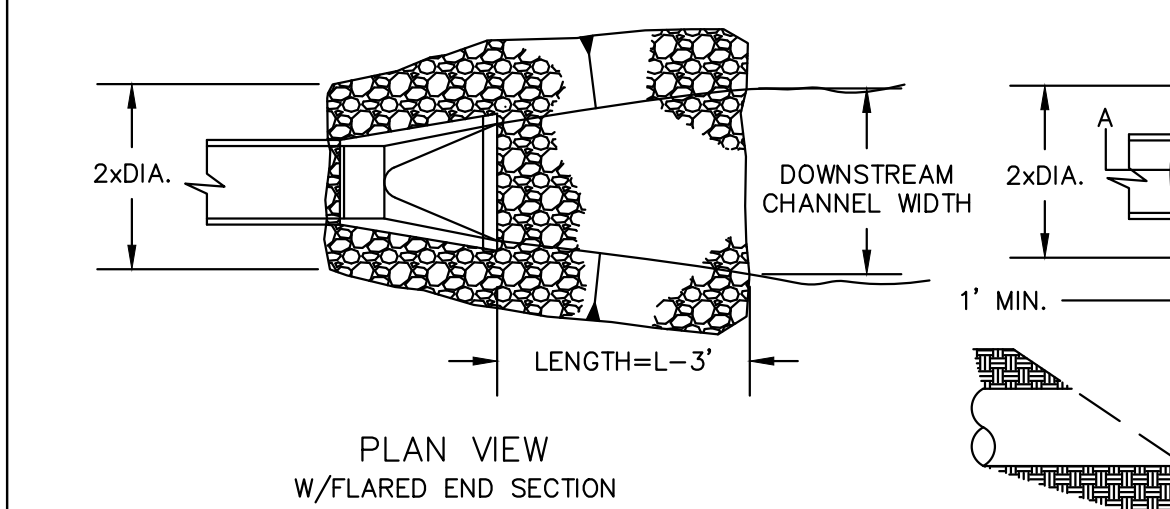
- NOTE:**
1. PIPE CAN BE CMP, PVC, FLEXIBLE TUBING, OR SIMILAR.
 2. THIS METHOD MUST BE USED IN CONJUNCTION WITH OTHER ESC DEVICES. THIS IS NOT A STAND ALONE CONTROL DEVICE.

CITY OF O'FALLON
ENGINEERING DEPARTMENT
O'FALLON, MISSOURI

**TEMPORARY
SLOPE DRAIN**

SLOPE DRAIN SIZE

Drainage Area (ac)	Pipe Dia.
< 1.0	12"
< 2.0	15"
< 3.0	18"
< 4.0	21"
< 5.0	24"
< 6.5	27"
6.5-10	30"



**PLAN VIEW
W/FLARED END SECTION**

RIPRAP SIZE & APRON DIMENSION				VELOCITY < 5 FPS				VELOCITY < 10 FPS			
PIPE SIZE	d ₅₀	d _{max}	T	L	d ₅₀	d _{max}	T	L	d ₅₀	d _{max}	T
(inch)	(inch)	(inch)	(inch)	(ft)	(inch)	(inch)	(inch)	(ft)	(inch)	(inch)	(inch)
12	5	9	15	12	5	9	15	16	5	9	15
15	5	9	15	14	5	9	15	18	5	9	15
18-24	5	9	15	16	9	14	24	20	5	9	15
27-30	5	9	15	18	9	14	24	22	5	9	15
36-42	9	14	24	22	12	18	27	26	5	9	15
48-54	9	14	24	26	12	18	27	30	5	9	15
60-66	12	18	27	34	15	24	30	38	5	9	15
72-84	15	24	30	42	15	24	30	46	5	9	15
96	18	27	30	50	18	27	30	54	5	9	15

- DESIGN CRITERIA**
1. FROUDE NUMBER MUST BE ≤ 2.50.
 2. USE 3 TIMES PIPE DIAMETER FOR DOWNSTREAM CHANNEL WIDTH IF THERE IS NO DEFINED CHANNEL.
 3. BANK PROTECTION HEIGHT TO BE 2/3 TIMES PIPE DIAMETER.
 4. ROCK SLOPES SHALL BE NO STEEPER THAN 3:1.

CITY OF O'FALLON
ENGINEERING DEPARTMENT
O'FALLON, MISSOURI

**TEMPORARY OUTLET
PIPE DISCHARGE
PROTECTION**

PROJECT TITLE

THE STERLING CO.
ENGINEERS & SURVEYORS
5055 New Baumgartner Road
St. Louis, Missouri 63129
Ph 314-487-0440 Fax 314-487-8944
www.sterling-eng-sur.com
Corporate Certificate of Authority #001348

Date: 03-16-2026
Michael G. Boerding
License No. MO E-28643
Professional Engineer

HARVEST HOPEWELL, LLC
5091 New Baumgartner Road
St. Louis, Missouri 63129

EROSION CONTROL DETAILS

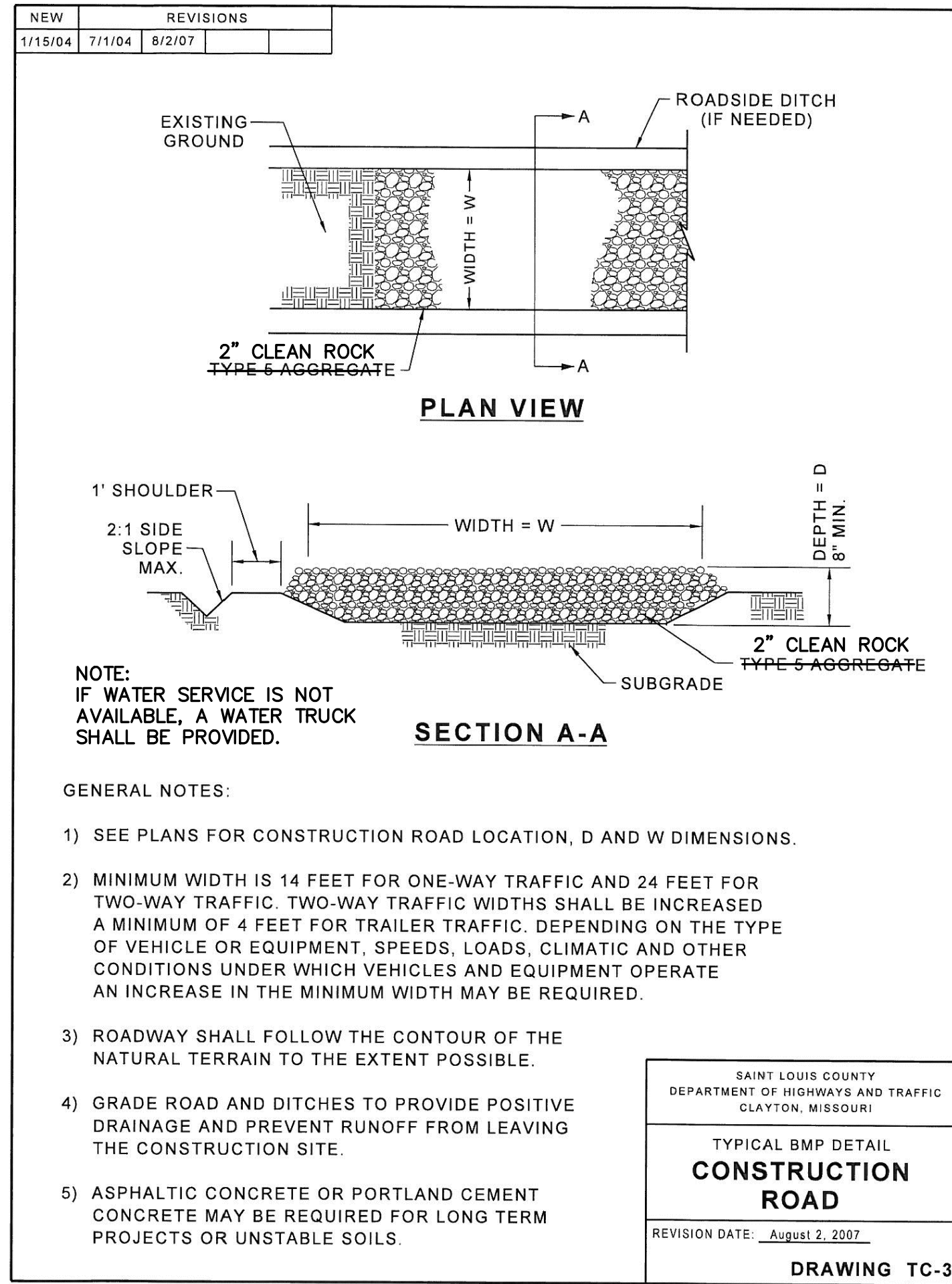
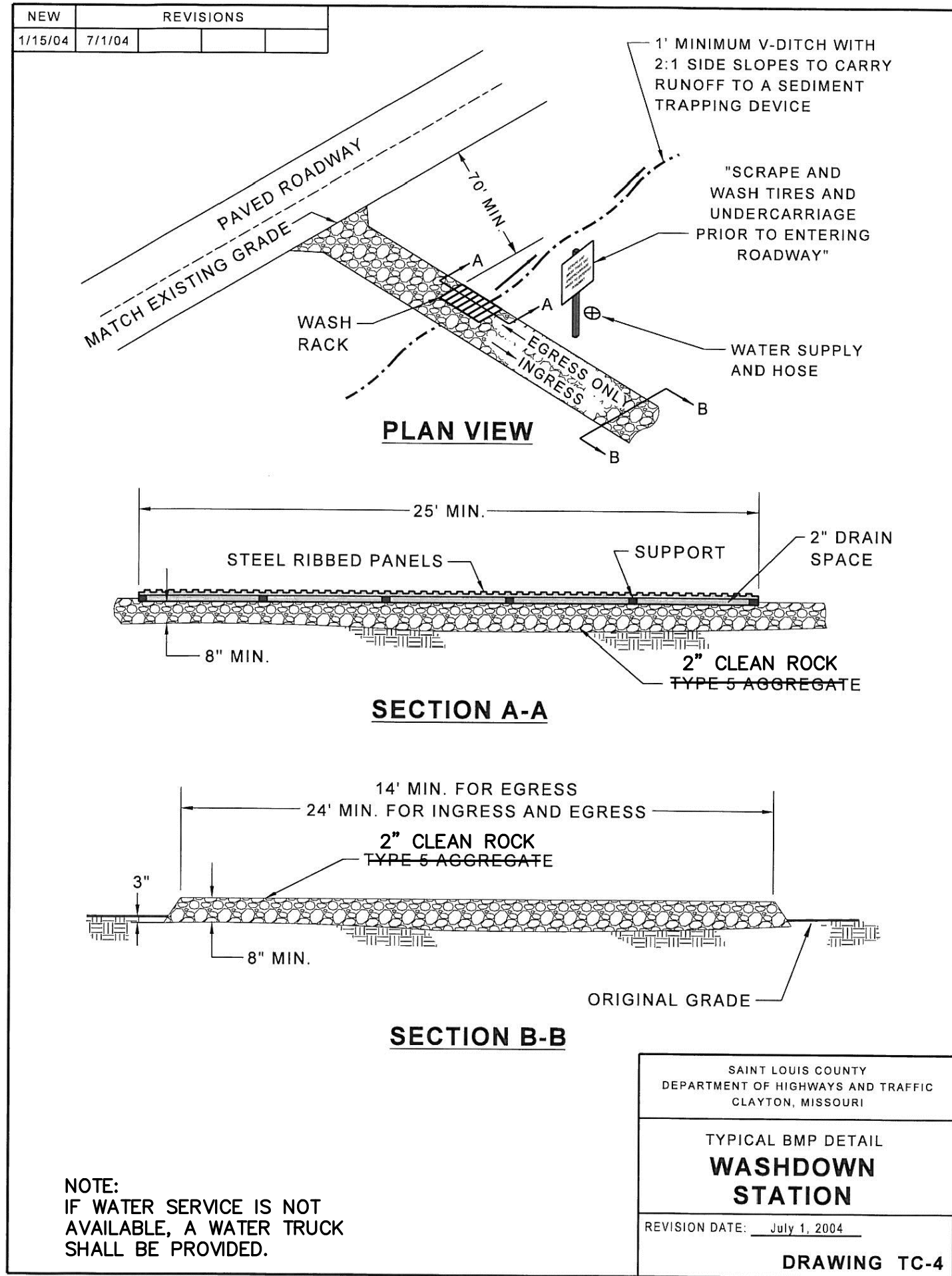
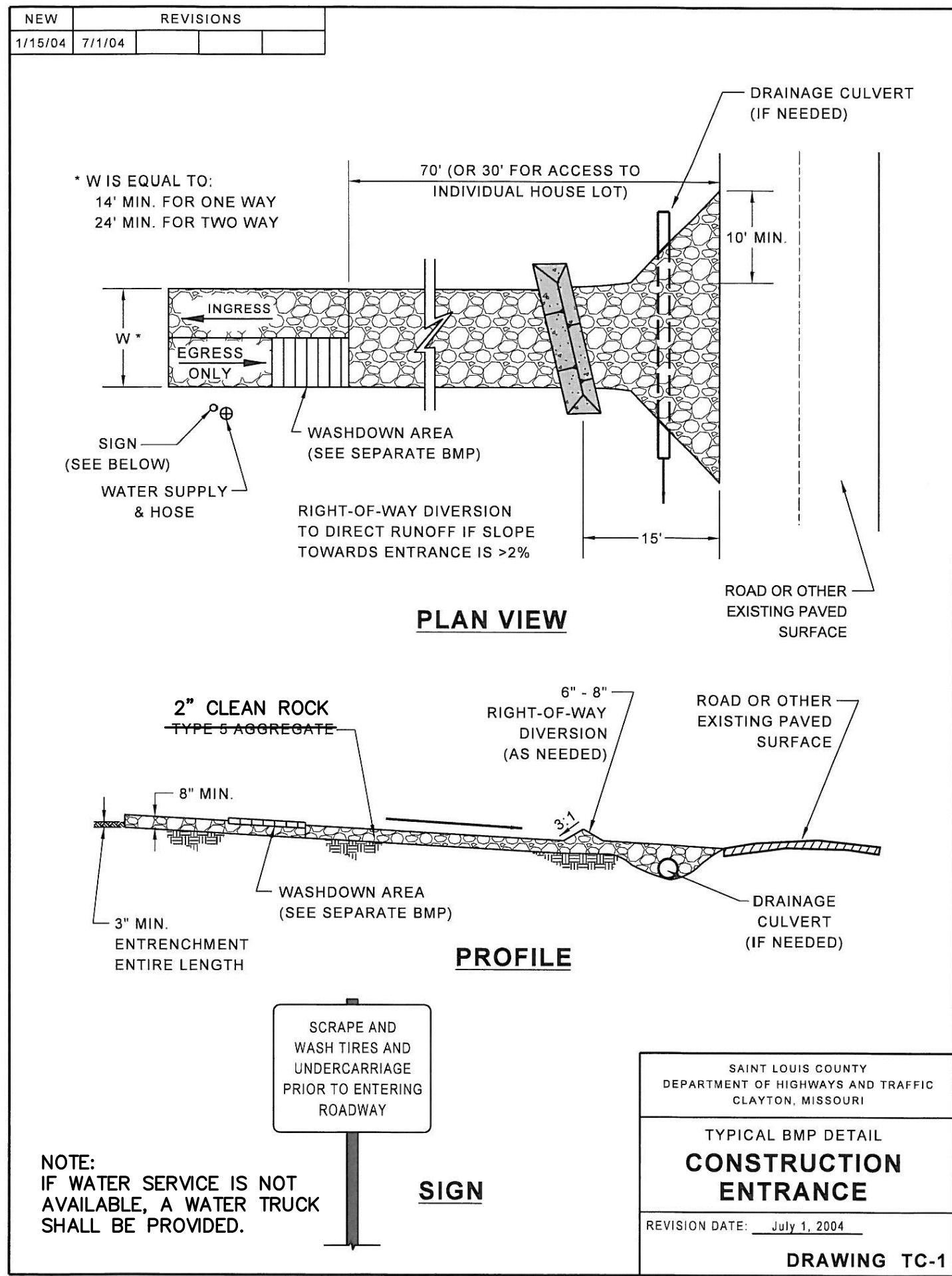
P+Z No. 21-004994
City No. 21-011444
Date: 03-16-2026
Job No. 20-09-327

Page No.

DTL-1

IMP

Drawing Name: V:\2008\227 Highway N Assembly\Drawings\Engineering\Improvements\9227 IMP DETAILS.dwg Plotted on: Mar 16, 2026 - 3:48pm Plotted by: bcardosa



ISSUE		REMARKS/DATE
1	2025-05-02	INITIAL SUBMITTAL CITY PH.3
2	2025-08-07	REVISED PER CITY COMMENTS
3	2025-10-02	REVISED PER CITY COMMENTS
4	2026-01-23	REVISED PER CITY COMMENTS
5	2026-03-16	REVISED PER CITY COMMENTS

SEEDING REQUIREMENTS												
Dates for Seeding												
Permanent Seeding	Jan	Feb	March	April	May	June	July	Aug	Sep	Oct	Nov	Dec
Tall Fescue			O	O	O			O	O			
Smooth Brome			O	O	O			O	O			
Fescue & Brome			O	O	O	O		O	O			
Fescue, Rye & Bluegrass	A	A	O	O	O	P	P	O	O	P	P	A
Temporary Seeding	Jan	Feb	March	April	May	June	July	Aug	Sep	Oct	Nov	Dec
Rye or Sudan	A	A	O	O	O	O	O	O	O	O	A	A
Oats		A	O	O		O	O		O			

O = Optimum seeding dates
A = Acceptable seeding dates
P = Permitted seeding dates with reseeding 2 months later. Initially use 50% of seed and 75% of fertilizer. Reseed with additional 75% seed and remaining fertilizer.

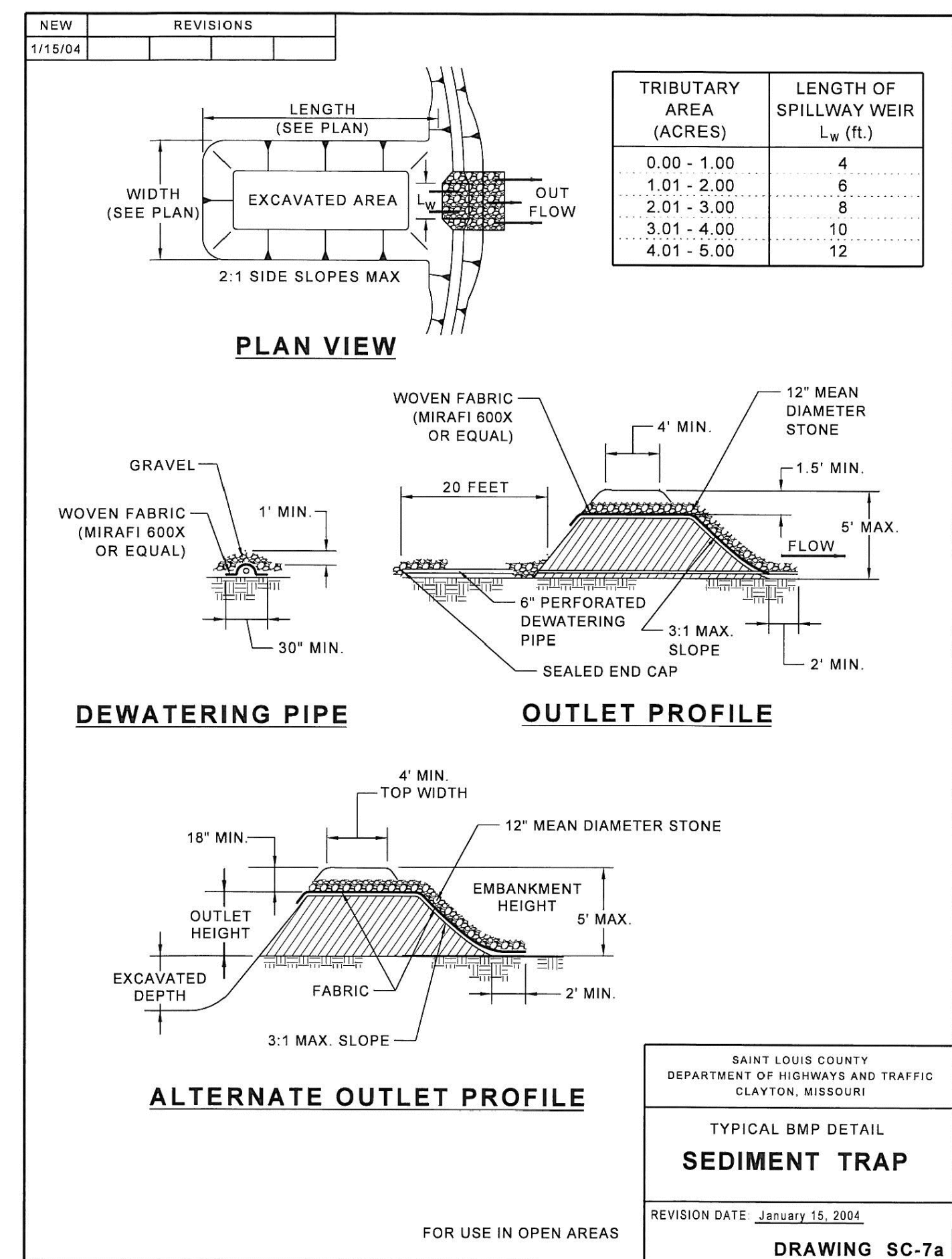
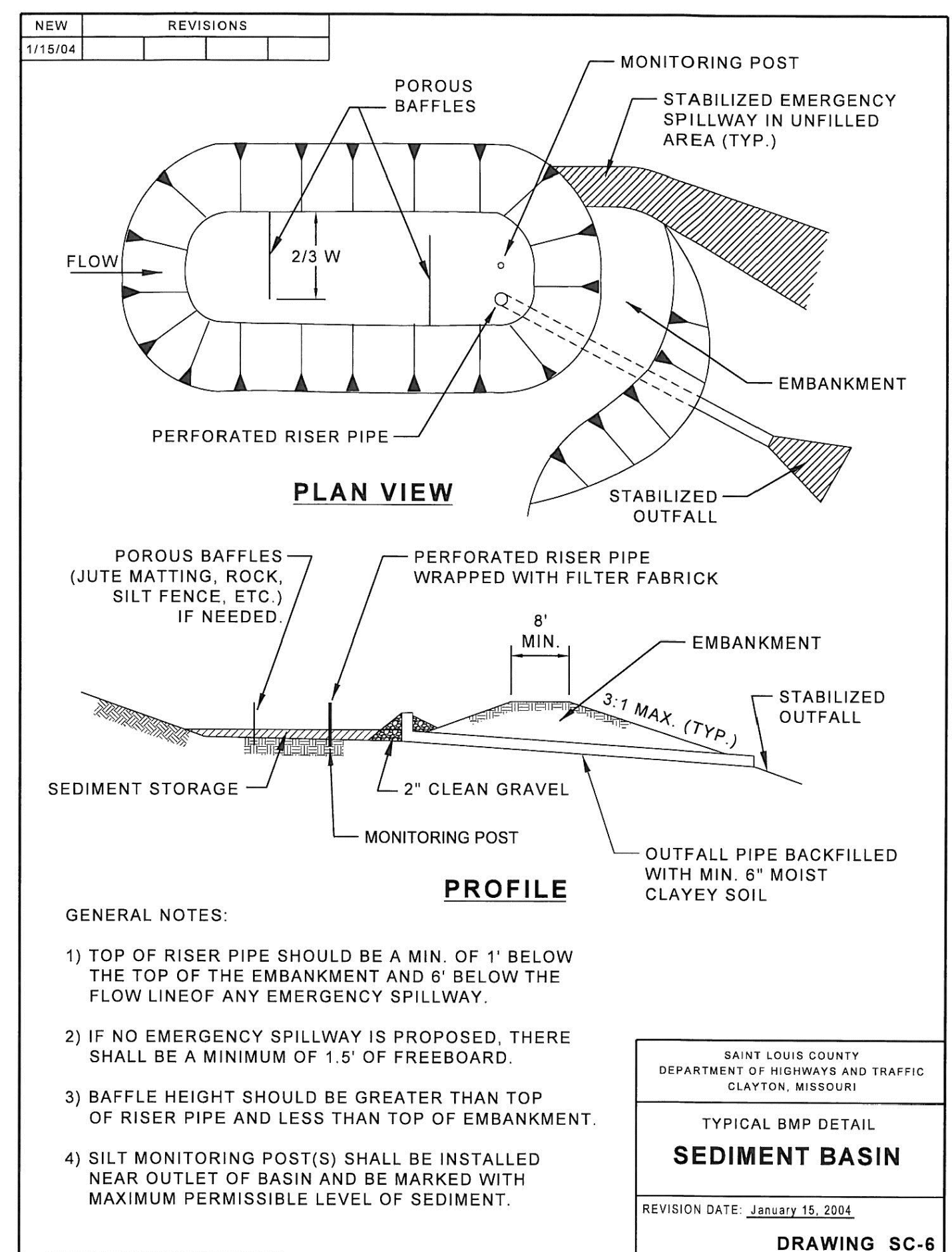
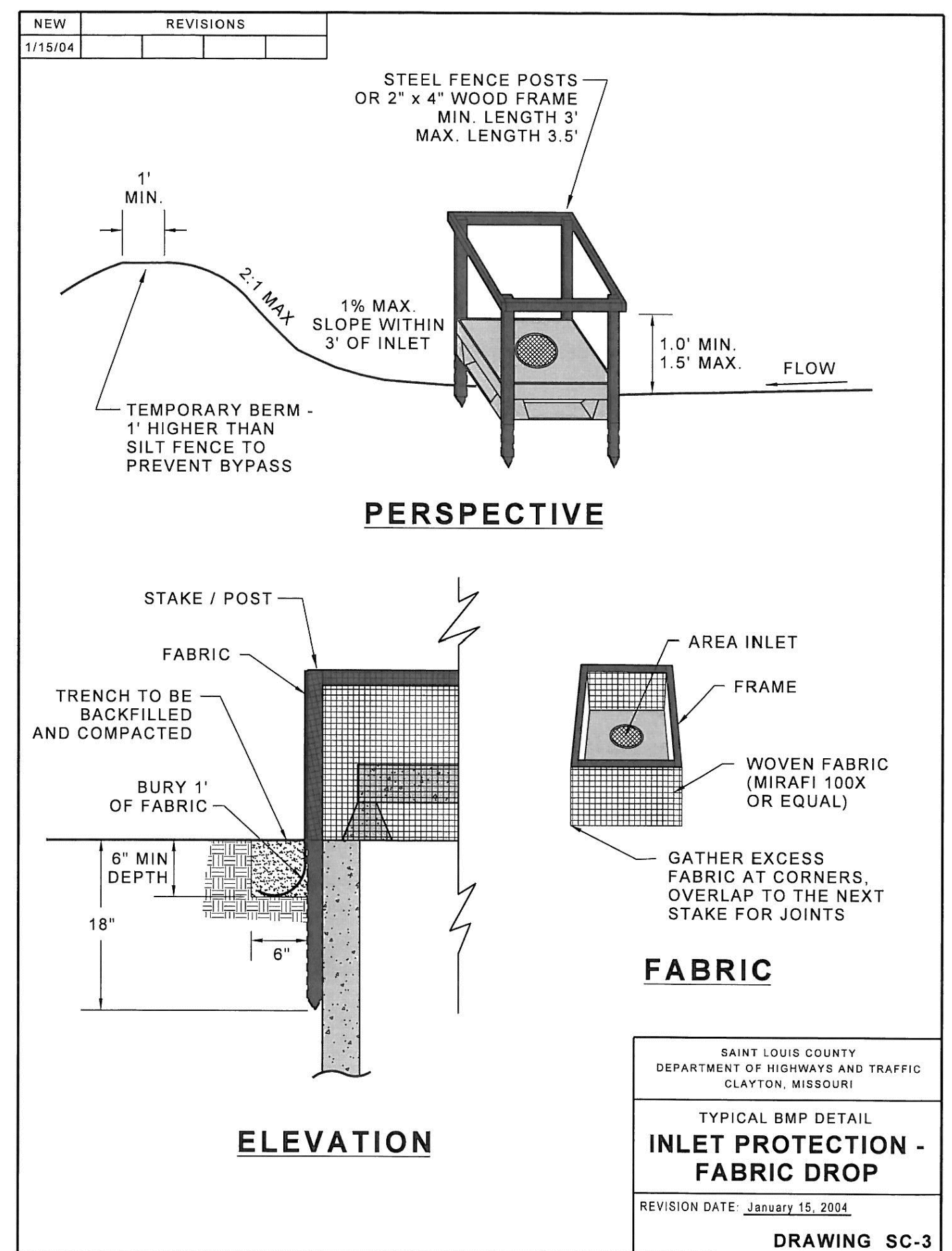
Minimum Fertilizer and Seeding Rates		
Permanent Seeding*	Pounds per acre	Pounds Per 1000 sq ft.
Tall Fescue	300	70
Smooth Brome	200	48
Mixture # 1	250	57
Mixture # 2	210	48

Mixture # 1 = Tall Fescue @150 pounds per acre and Brome @100 pounds per acre.
Mixture # 2 = Tall Fescue @100 pounds per acre, Perennial Rye grass @100 pounds per acre and Kentucky Blue grass @10 pounds per acre.
* = Seeding rate for slopes in excess of 20%(5:1), shall be 10 pounds per 1000 sq ft.

Temporary Seeding	Pounds per acre	Pounds Per 1000 sq ft.
Rye or Sudan	150	3.5
Oats	200	2.5

Fertilizer	Permanent Seeding (pounds per acre)	Temporary Seeding (pounds per acre)
Nitrogen	45	30
Phosphate	65	30
Potassium	65	30
Lime - ENM	600	600

ENM = Effective neutralizing material per State evaluation of quarried rock.



PROJECT TITLE

**HARVEST
AT HOPEWELL**

O'Fallon, Missouri

O'FALLON PHASE 3

THE **STERLING** CO.
ENGINEERS & SURVEYORS

5055 New Baumgartner Road
St. Louis, Missouri 63129
Ph 314-487-0440 Fax 314-487-8944
www.sterling-eng-survey.com
Corporate Certificate of Authority #001348

Date: 03-16-2026
Michael G. Boerding
License No. MO E-28643
Professional Engineer

HARVEST HOPEWELL, LLC
5091 New Baumgartner Road
St. Louis, Missouri 63129

EROSION CONTROL DETAILS

P+Z No. 21-004994
City No. 21-011444
Date: 03-16-2026
Job No. 20-09-327

Page No.

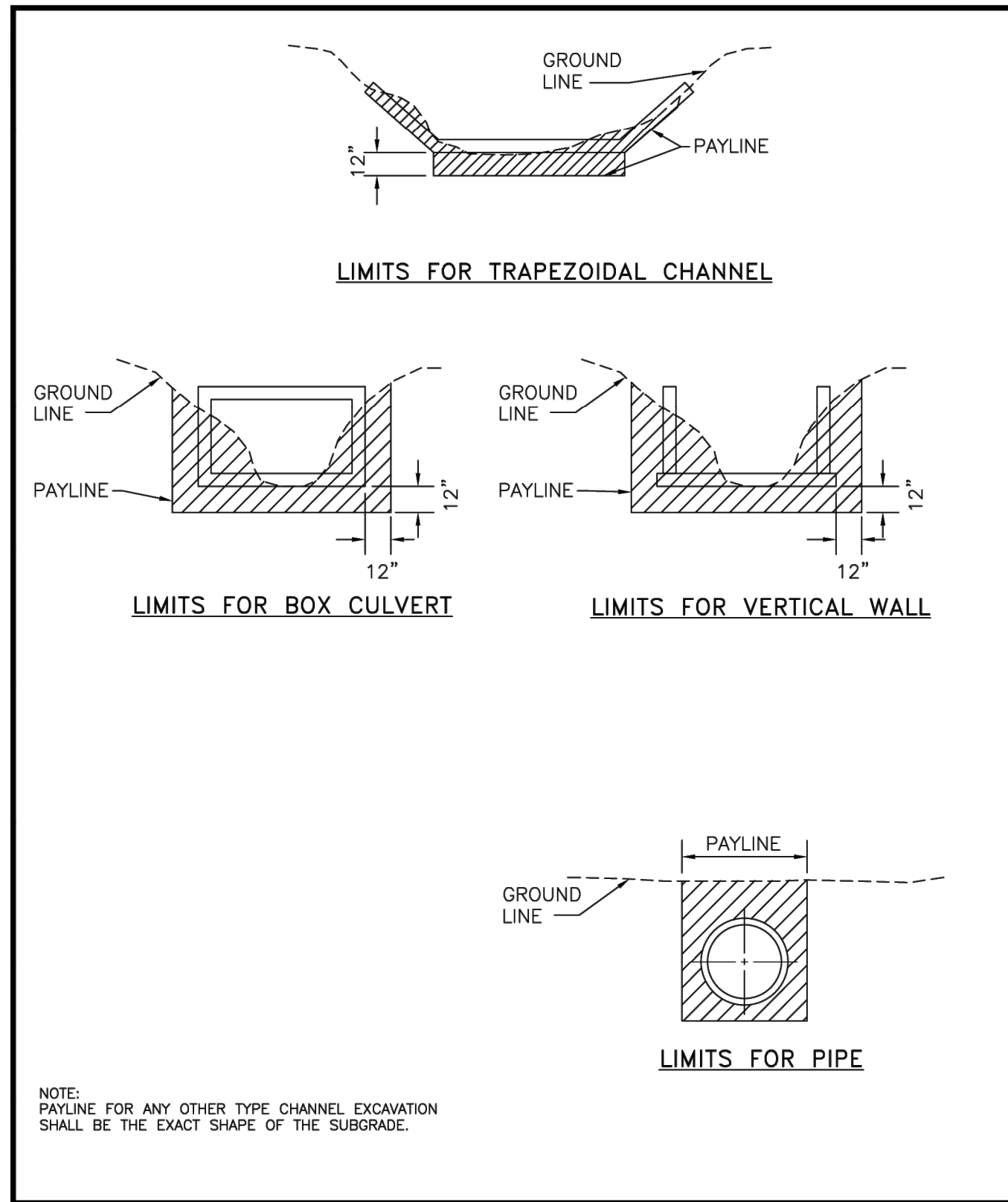
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IMP

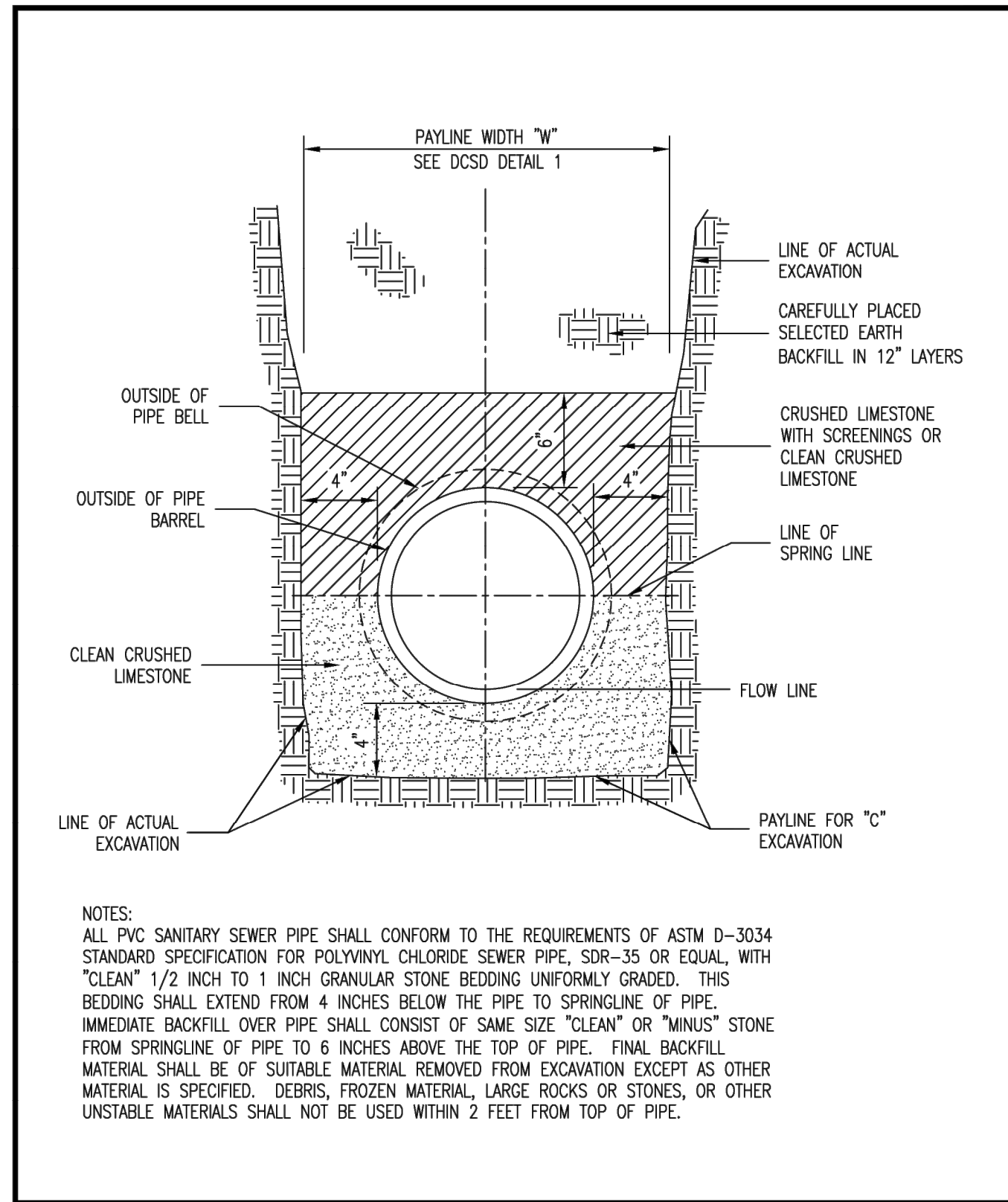
Drawing name: V:\2025\27 Highway N Assest\HighwayImprovements\927 IMP DETAILS.dwg Plotted on: Mar 16, 2026 - 3:49pm Plotted by: boardona

ROUND PIPE				HORIZONTAL ELLIPTICAL PIPE			
INSIDE DIAMETER OF PIPE (INCHES)	"W" PAYLINE WIDTH OF TRENCH (INCHES)	"W" PAYLINE WIDTH OF TRENCH (FEET)	PAY-VOLUMES CU. FT. PER FT. CONCRETE ENCASUREMENT	INSIDE DIAMETER OF PIPE (INCHES)	"W" PAYLINE WIDTH OF TRENCH (INCHES)	"W" PAYLINE WIDTH OF TRENCH (FEET)	PAY-VOLUMES CU. FT. PER FT. CONCRETE ENCASUREMENT
4	30	2.50	3.28				
6	30	2.50	3.59				
8	30	2.50	3.87				
10	30	2.50	4.09				
12	30	2.50	4.25				
15	36	3.00	5.55				
18	36	3.00	5.77				
21	39	3.25	6.61				
24	42	3.50	7.39				
27	45	3.75	8.18				
30	49	4.08	9.30				
33	53	4.42	10.53				
36	56	4.67	11.43	14 x 23	41	3.42	5.94
39	DISCONTINUED			19 x 30	49	4.08	7.68
42	63	5.25	13.38	22 x 34	53	4.42	8.61
48	70	5.83	15.67	24 x 38	58	4.83	9.70
54	77	6.42	18.15	27 x 42	62	5.17	10.71
60	84	7.00	20.73	29 x 45	66	5.50	11.72
66	91	7.58	23.45	32 x 49	71	5.92	13.14
72	98	8.17	26.37	34 x 53	75	6.25	14.05
78	105	8.75	29.39	38 x 60	83	6.92	16.18
84	112	9.33	32.57	43 x 68	92	7.67	18.81
90	119	9.92	35.90	48 x 76	101	8.42	21.59
96	126	10.50	39.37	53 x 83	109	9.08	24.35
102	133	11.08	42.99	58 x 91	118	9.83	27.45
108	140	11.67	46.75	63 x 98	126	10.50	30.50
114	147	12.25	50.66	68 x 106	135	11.25	33.91
120	154	12.83	54.72	72 x 113	143	11.92	36.99
126	161	13.42	58.92	77 x 121	152	12.67	40.69
132	168	14.00	63.27	82 x 128	160	13.33	44.45
144	182	15.17	72.40	87 x 136	168	14.00	47.79
				92 x 143	176	14.67	51.70
				97 x 151	185	15.42	56.01
				106 x 166	202	16.83	64.48
				116 x 180	218	18.17	73.59

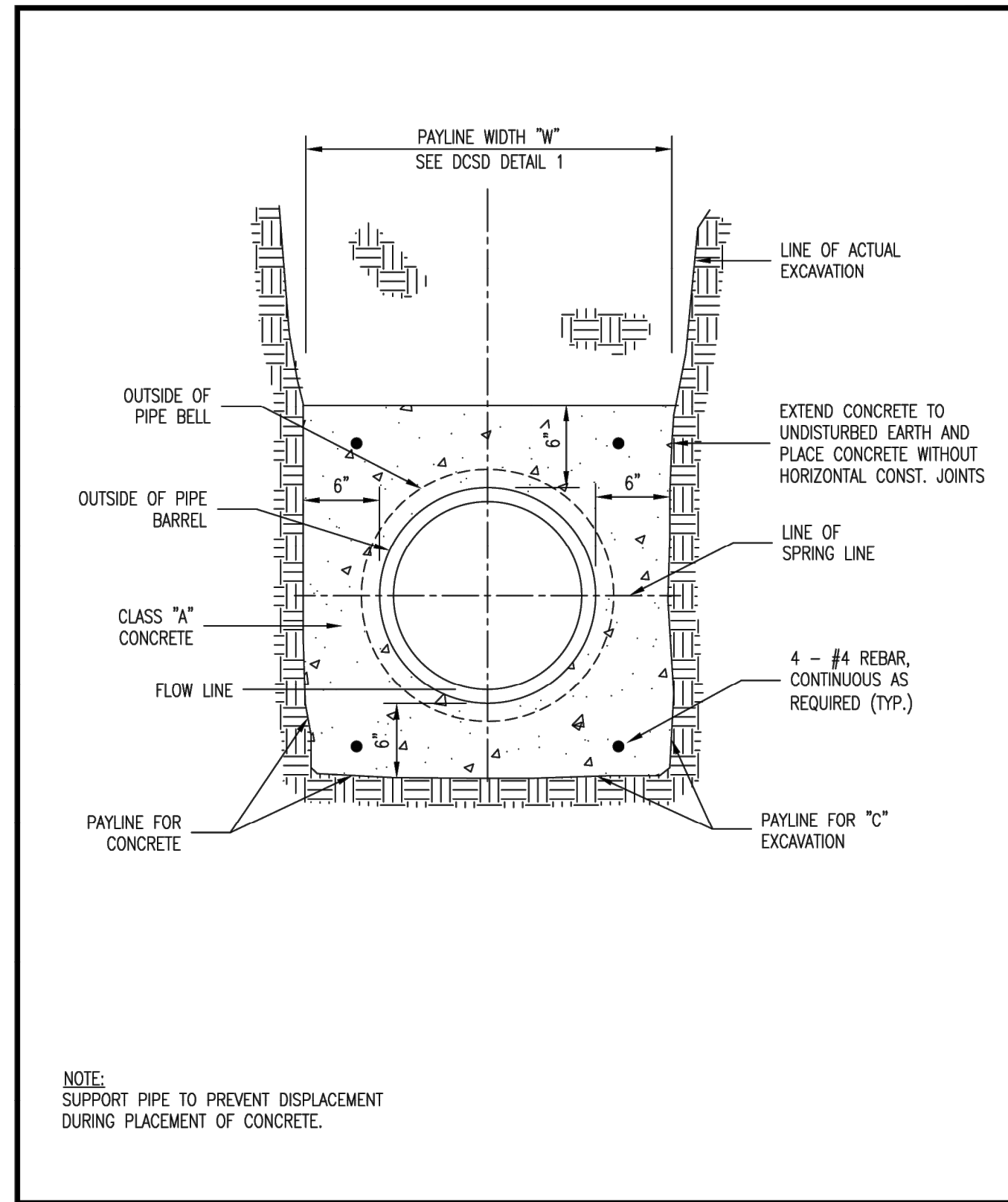
	Duckett Creek Sanitary District	PAYLINE WIDTHS OF TRENCH AND PAY-QUANTITIES OF CONCRETE	Own By: BSM App By: KLA Ckd By: MDOB Date: DEC. 2015	Detail No. 1
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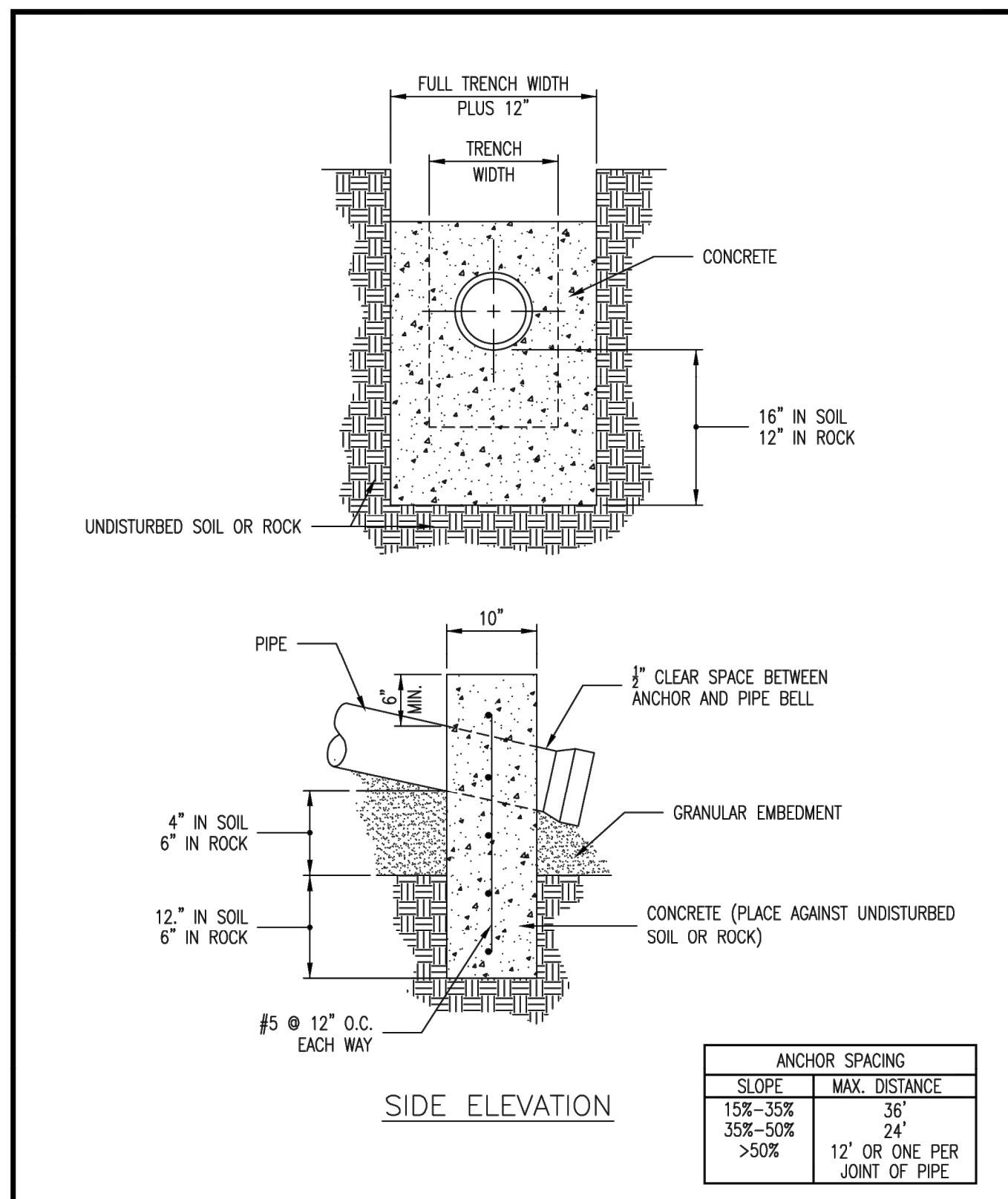
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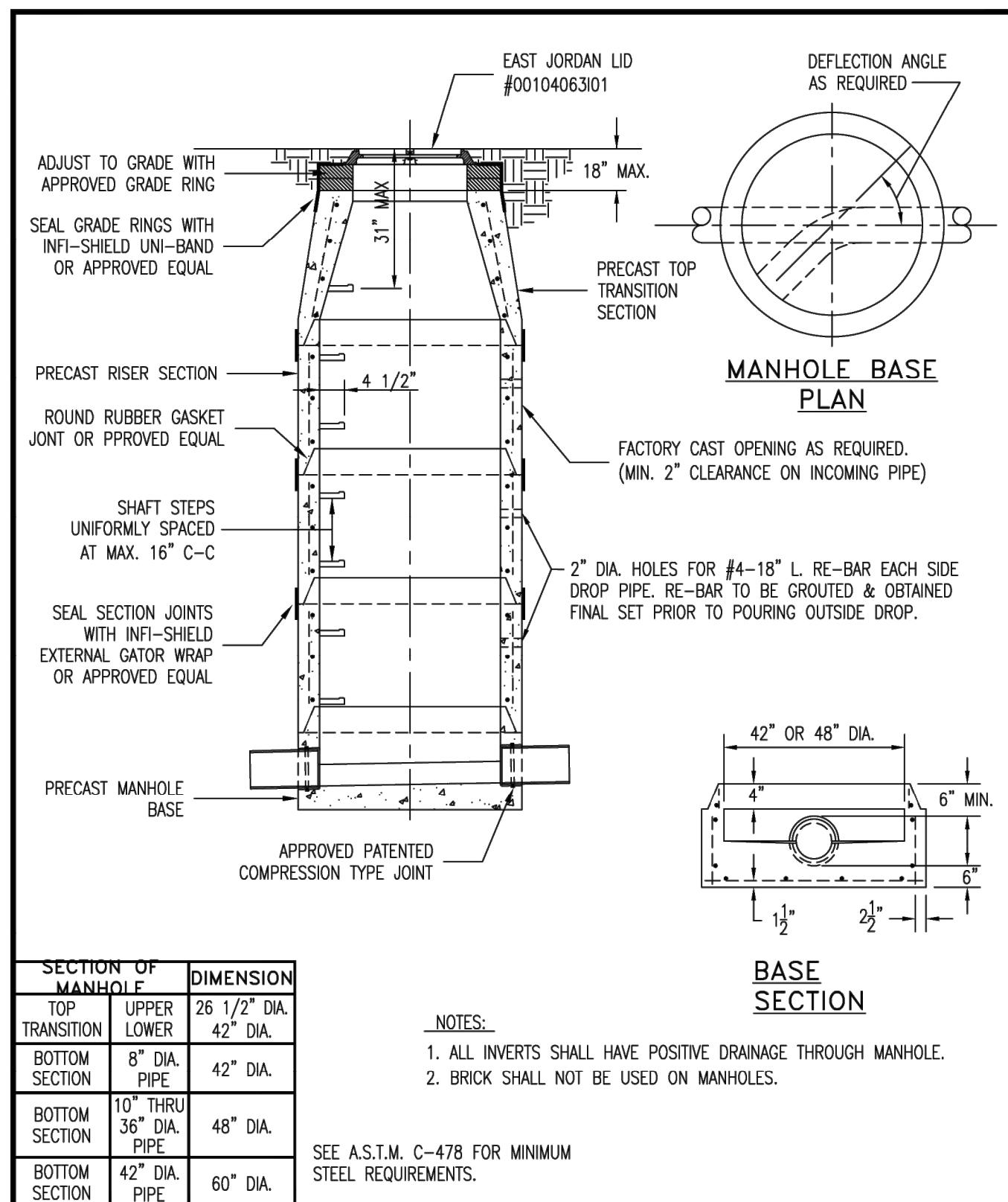
	Duckett Creek Sanitary District	PIPE BEDDING CLASS "C" (FOR ALL EXCEPT REINFORCED CONCRETE PIPE)	Own By: BSM App By: KA Ckd By: MDOB Date: JULY 2016	Detail No. 3
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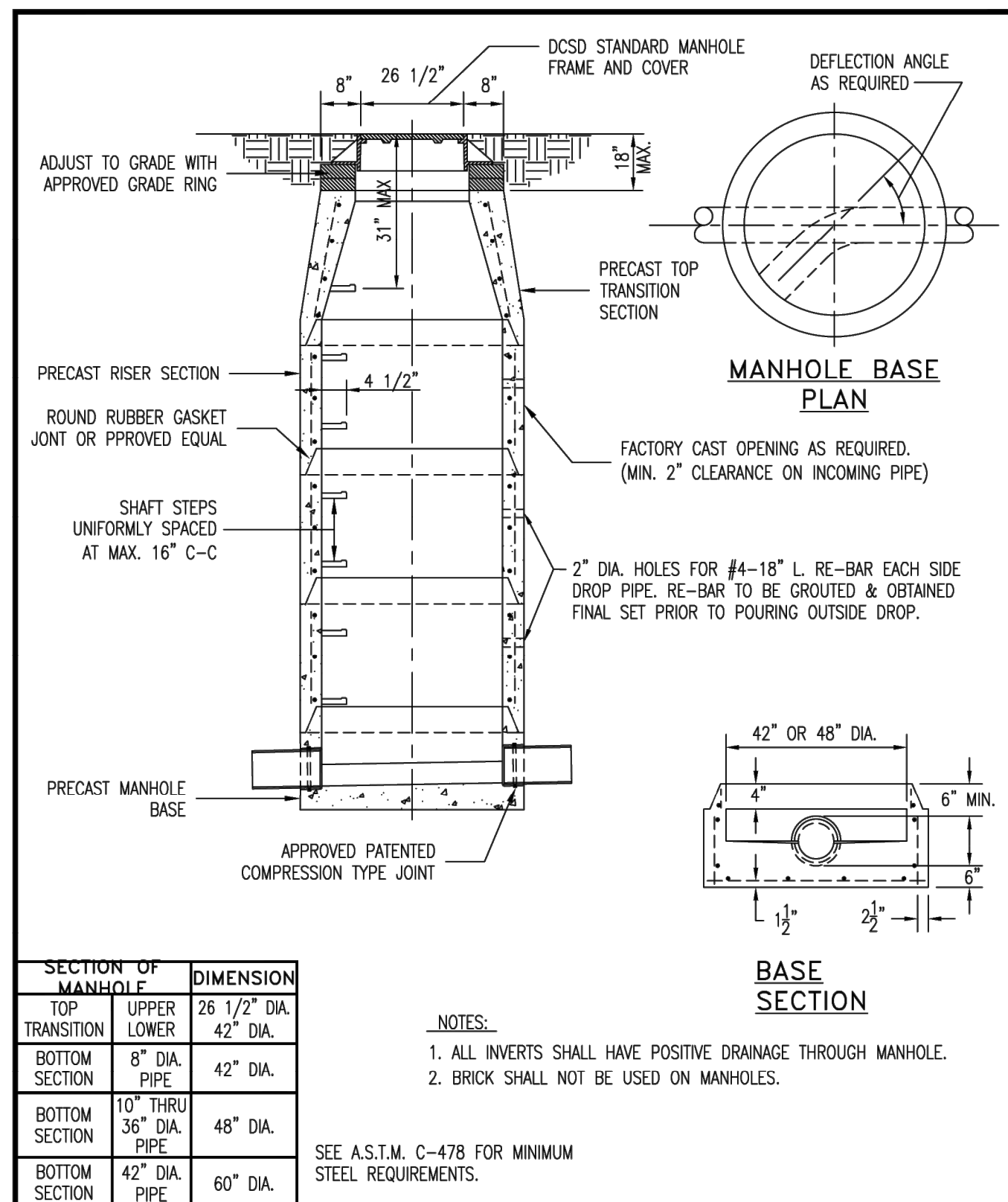
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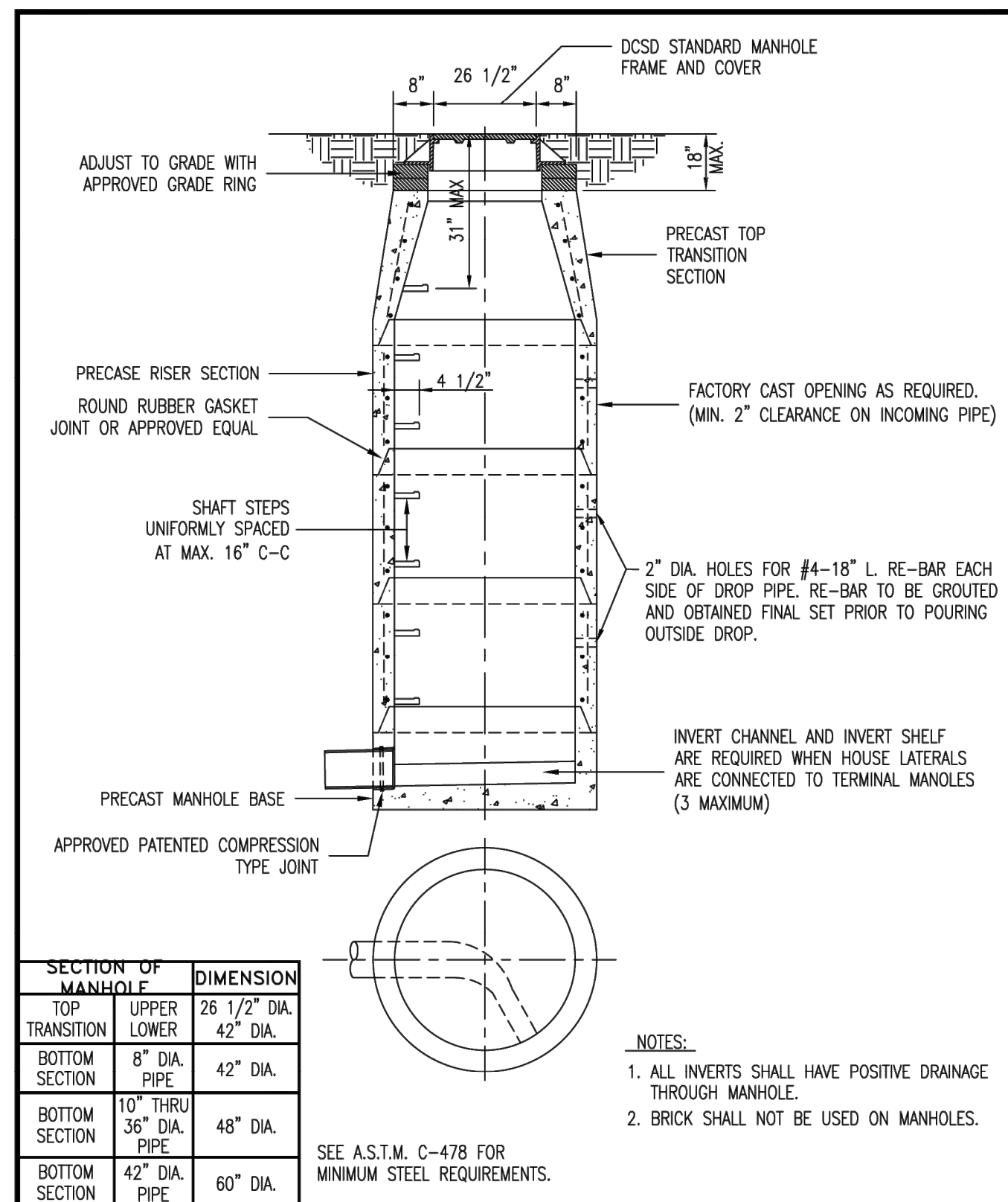
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	Duckett Creek Sanitary District	PRECAST CONCRETE MANHOLE FOR SEWERS 8" THROUGH 18" IN FLOODWAY AREAS	Own By: MSM App By: KLA Ckd By: MDOB Date: DEC. 2015	Detail No. 6
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	Duckett Creek Sanitary District	PRECAST CONCRETE MANHOLE FOR SEWERS 8" THROUGH 18" BSM	Own By: BSM App By: KLA Ckd By: MDOB Date: DEC. 2015	Detail No. 7
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	Duckett Creek Sanitary District	TERMINAL MANHOLE FOR SEWERS 8" THROUGH 18"	Own By: BSM App By: KLA Ckd By: MDOB Date: DEC. 2015	Detail No. 8
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PROJECT TITLE

HARVEST
AT HOPEWELL

O'Fallon, Missouri

O'FALLON PHASE 3

THE
STERLING
CO.
ENGINEERS & SURVEYORS

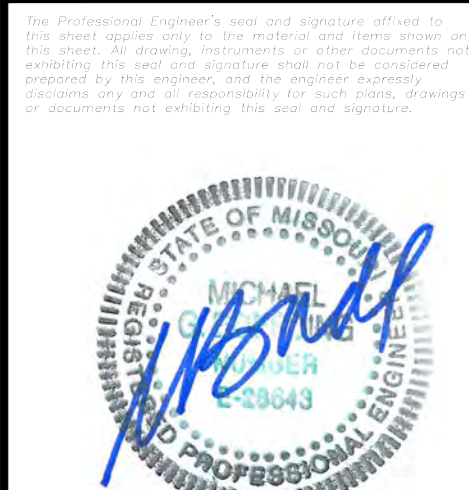
5055 New Baumgartner Road

St. Louis, Missouri 63129

Ph 314-487-0440 Fax 314-487-8944

www.sterling-eng-survey.com

Corporate Certificate of Authority #001348



Date: 03-16-2026
Michael G. Boerding
License No. MO E-28643
Professional Engineer

HARVEST HOPEWELL, LLC
5091 New Baumgartner Road
St. Louis, Missouri 63129

DCSD SANITARY DETAILS

P+Z No. 21-004994
City No. 21-011444
Date: 03-16-2026
Job No. 20-09-327

Page No.

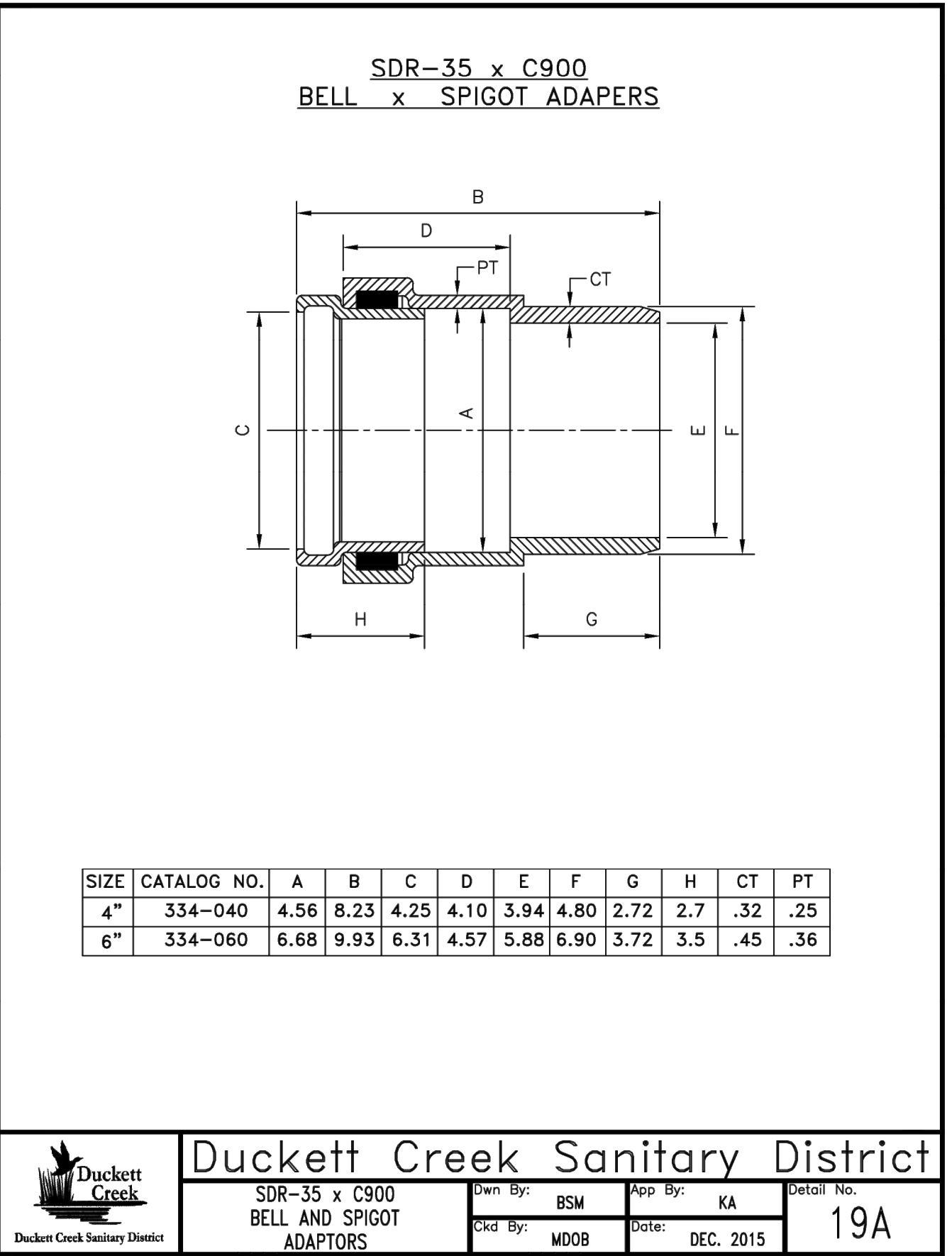
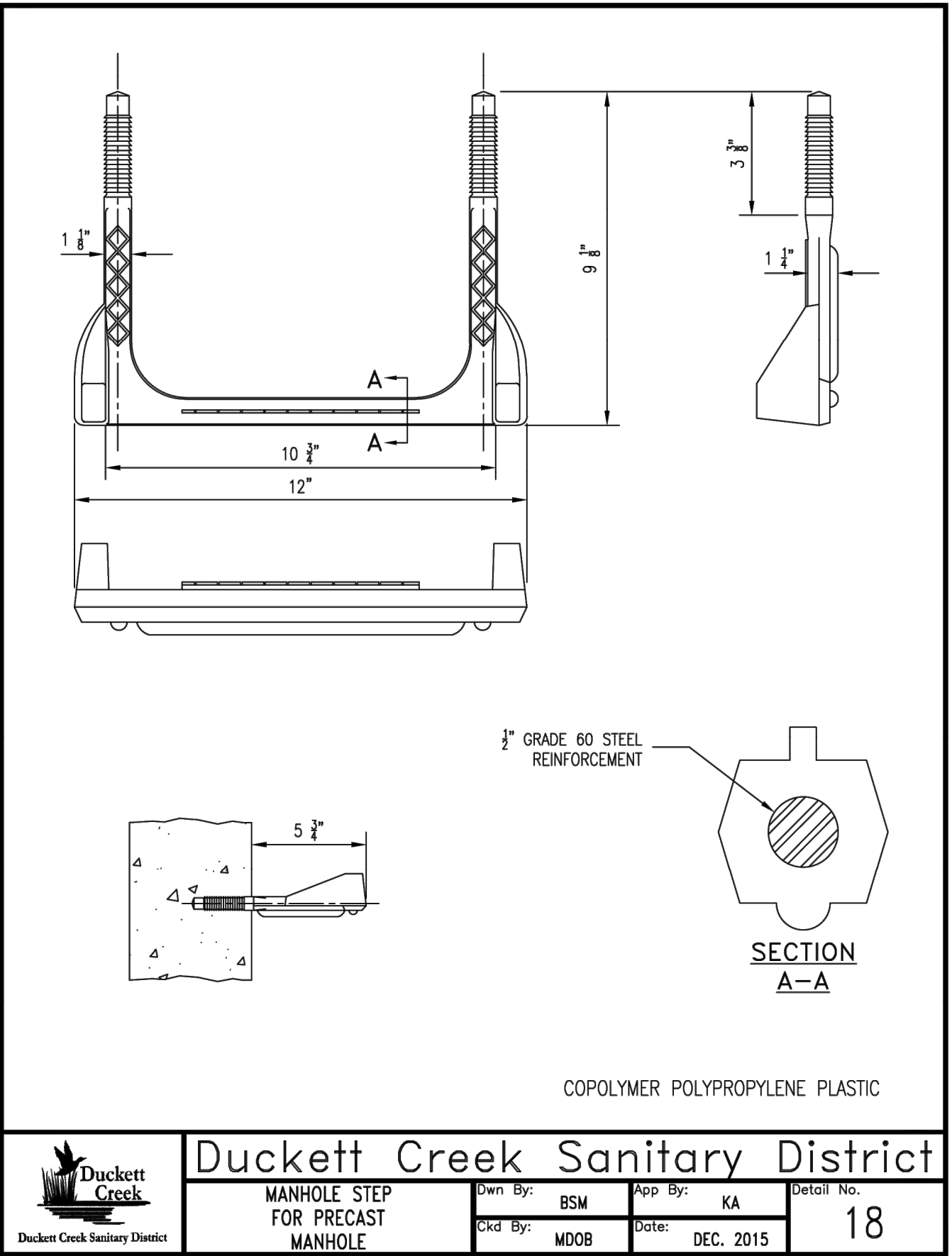
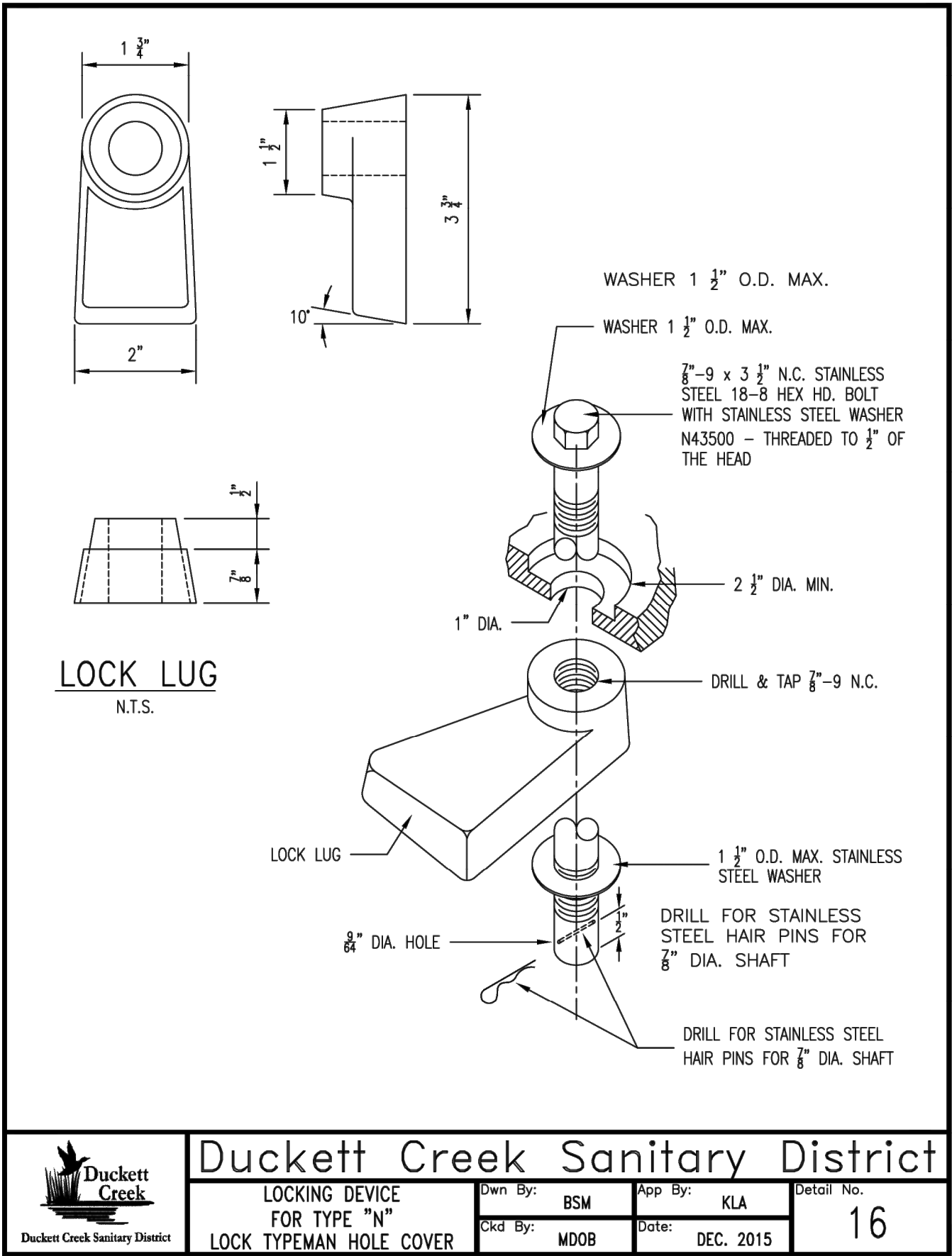
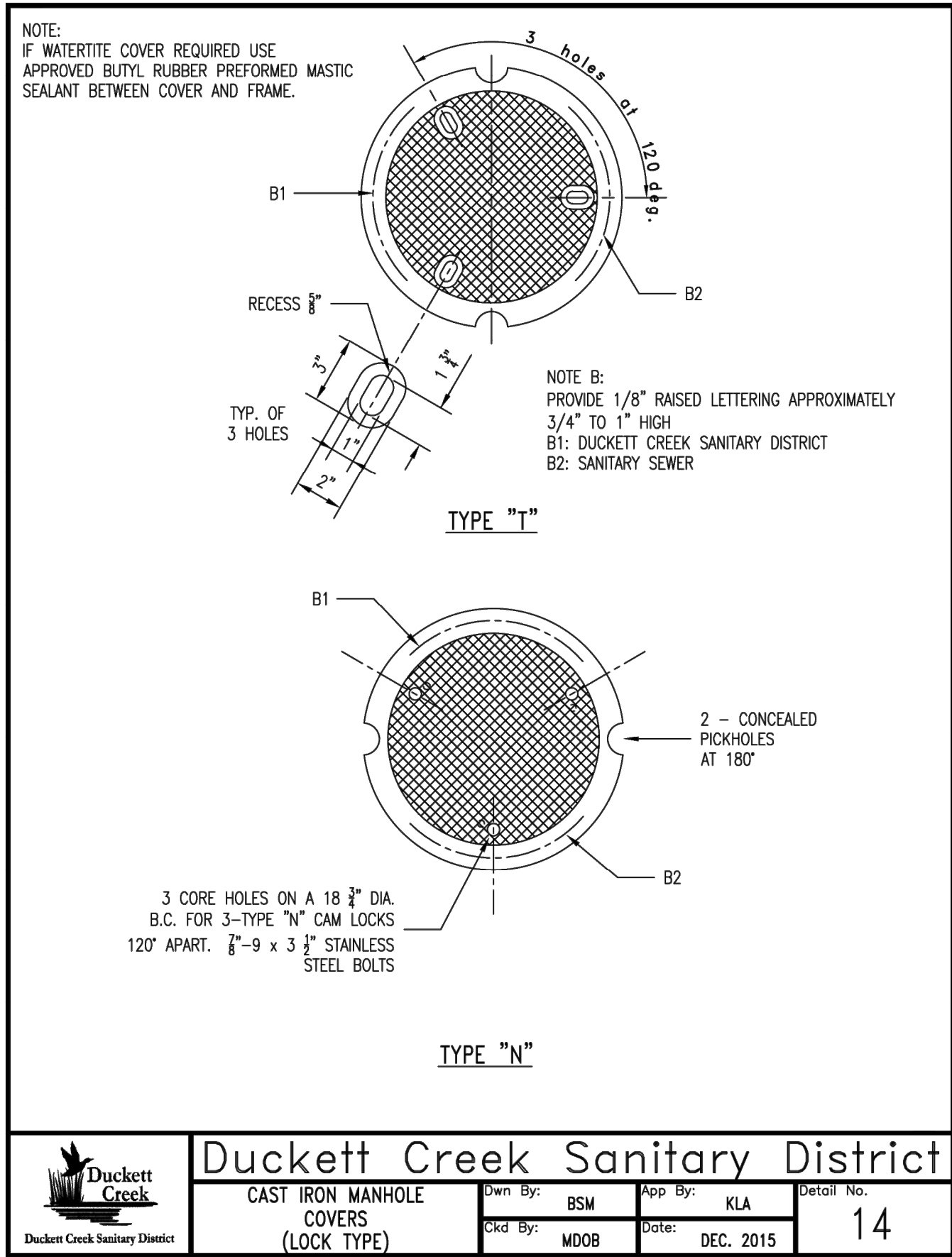
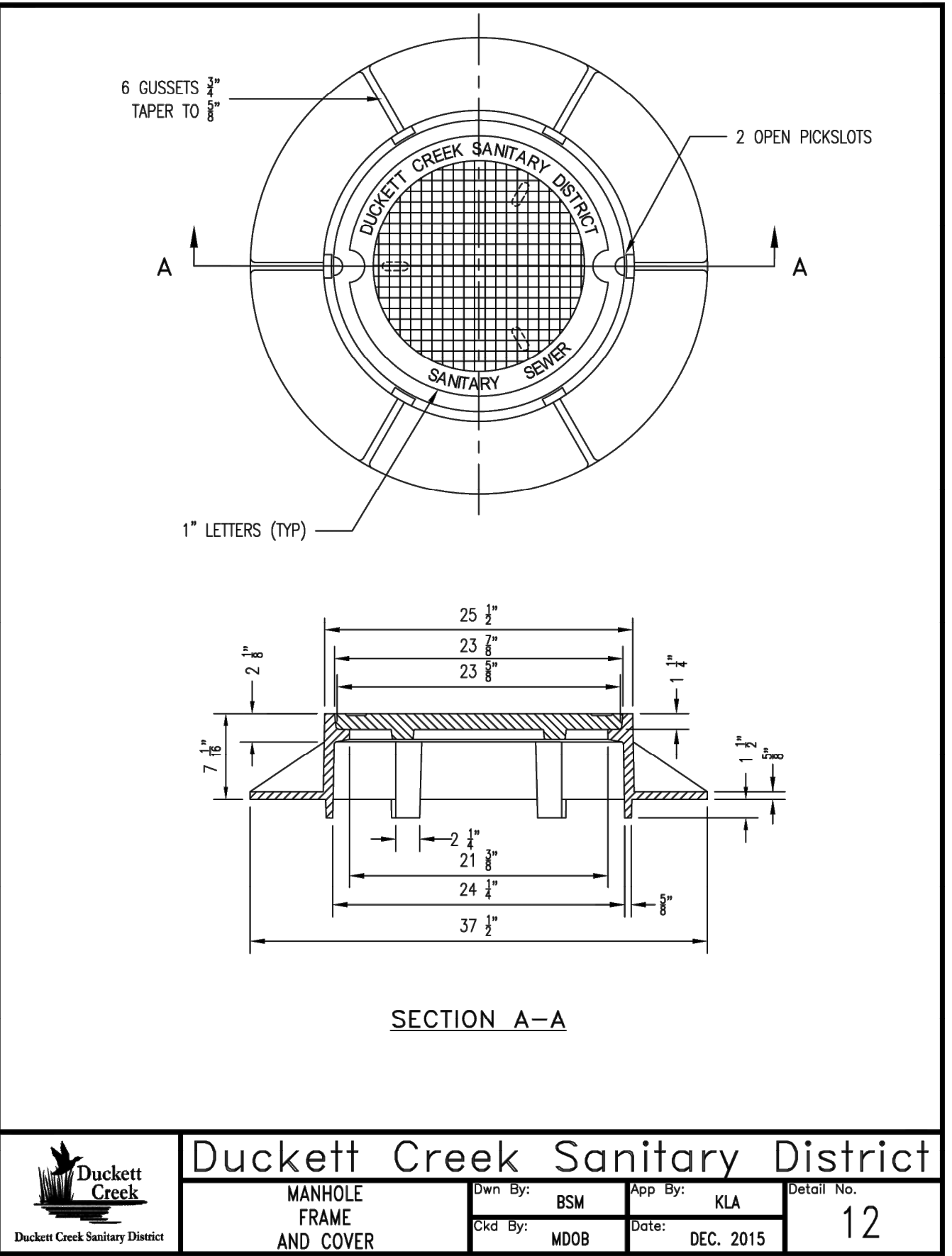
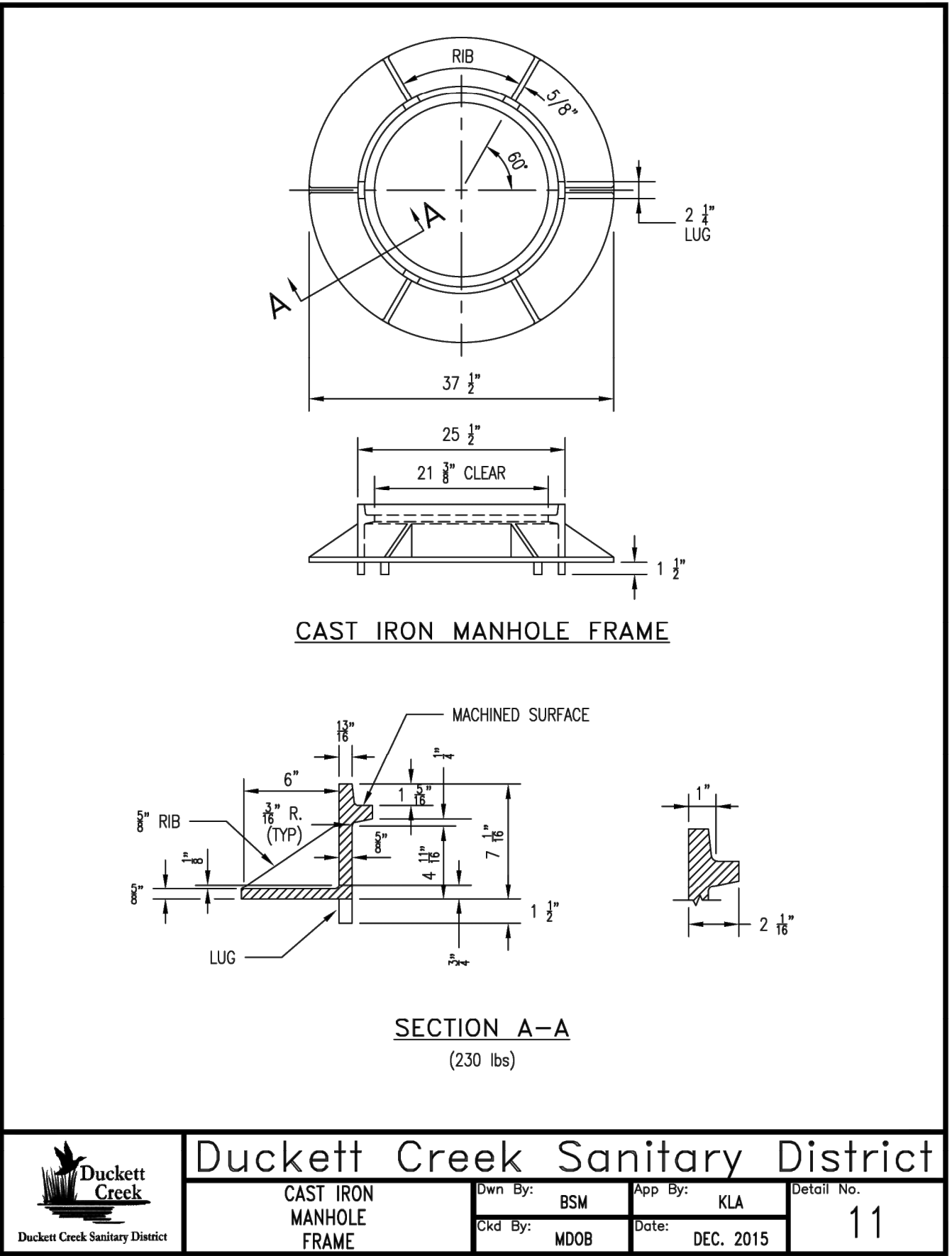
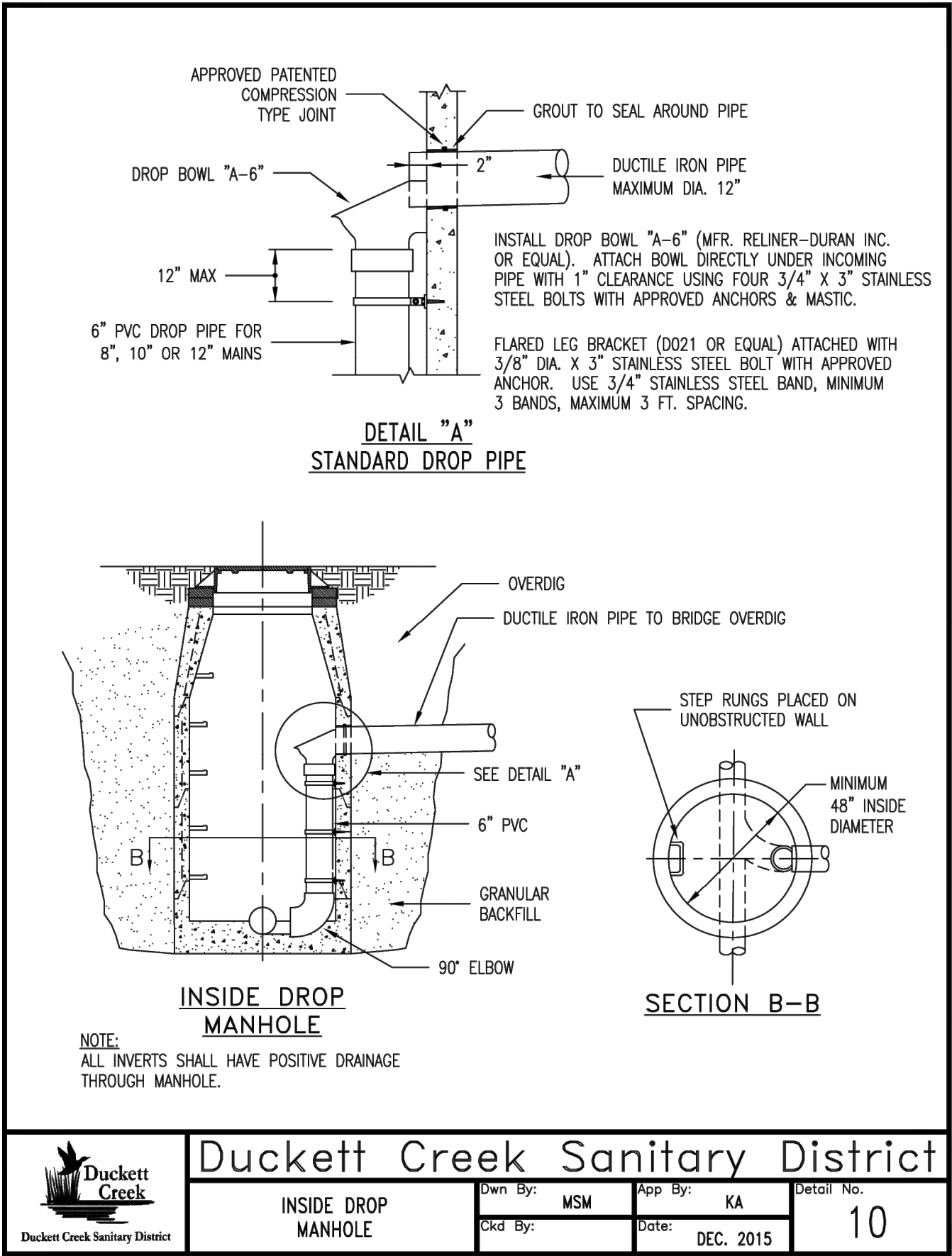
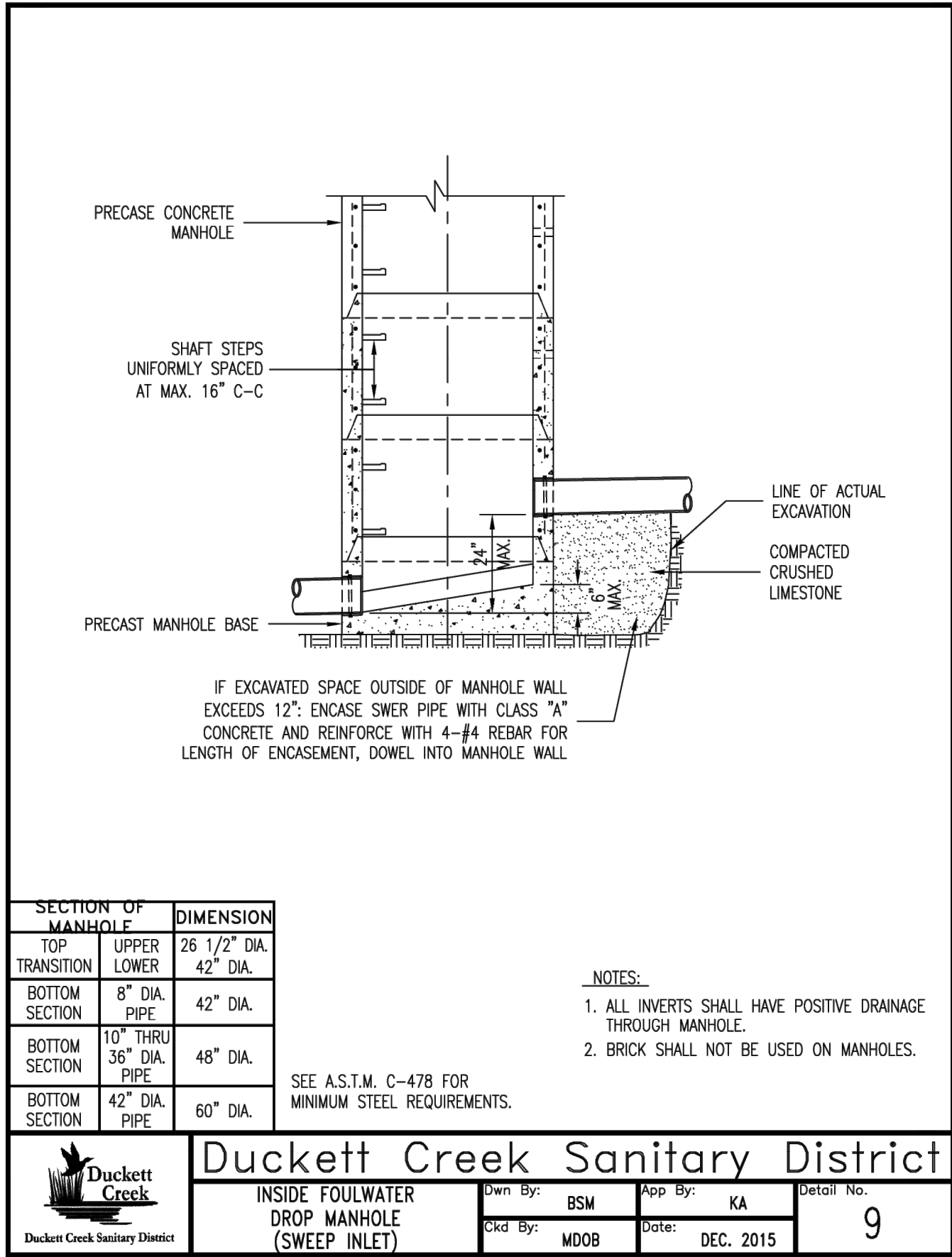
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IMP

"FINAL PLAN" Approval Date: Dec. 16, 2021

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ISSUE	REMARKS/DATE
1	2025-05-02, INITIAL SUBMITTAL CITY PH.3
2	2025-08-07, REVISED PER CITY COMMENTS
3	2025-10-02, REVISED PER CITY COMMENTS
4	2026-04-28, REVISED PER CITY COMMENTS
5	2026-03-16, REVISED PER CITY COMMENTS



PROJECT TITLE

HARVEST AT HOPEWELL

O'Fallon, Missouri

O'FALLON PHASE 3

THE **STERLING** CO.
ENGINEERS & SURVEYORS
5055 New Baumgartner Road
St. Louis, Missouri 63129
Ph 314-487-0440 Fax 314-487-8944
www.sterling-eng-survey.com
Corporate Certificate of Authority #001348



Date: 03-16-2026
Michael G. Boerding
License No. MO E-28643
Professional Engineer

HARVEST HOPEWELL, LLC
5091 New Baumgartner Road
St. Louis, Missouri 63129

DCSD SANITARY DETAILS

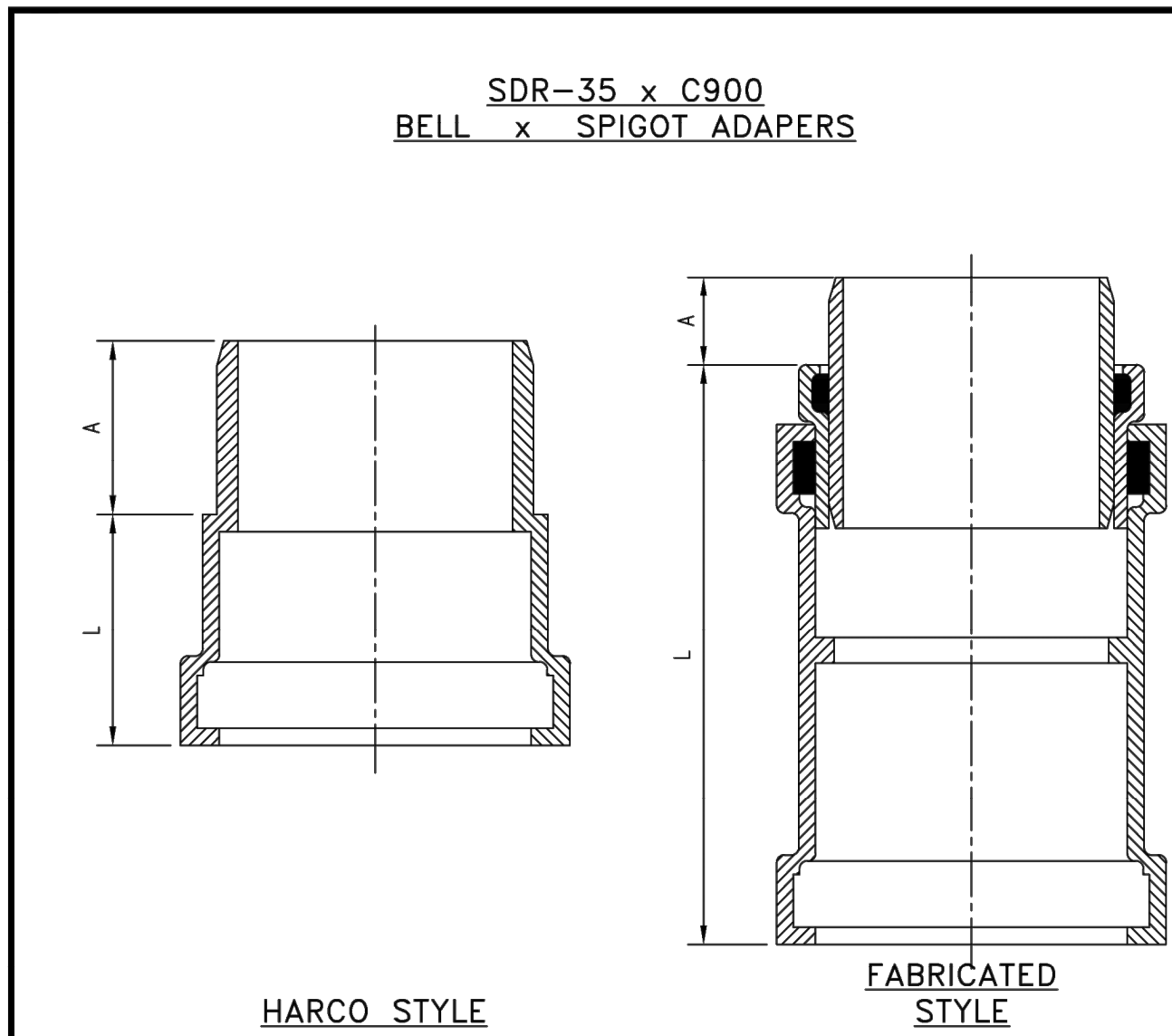
P+Z No. 21-004994
City No. 21-011444
Date: 03-16-2026
Job No. 20-09-327

Page No.

DTL-4

IMP

Drawing name: V:\2008237 Highway N Assembly\Drawings\Engineering\Improvements\9237 IMP DETAILS.dwg Plotted on: Mar 16, 2026 - 3:49pm Plotted by: barndora



SIZE	CATALOG NO.	A	L	STYLE
4"	335-040	3.2	10.0	FABRICATED
6"	335-060	2.9	3.5	HARCO
8"	335-080	4.0	12.5	FABRICATED

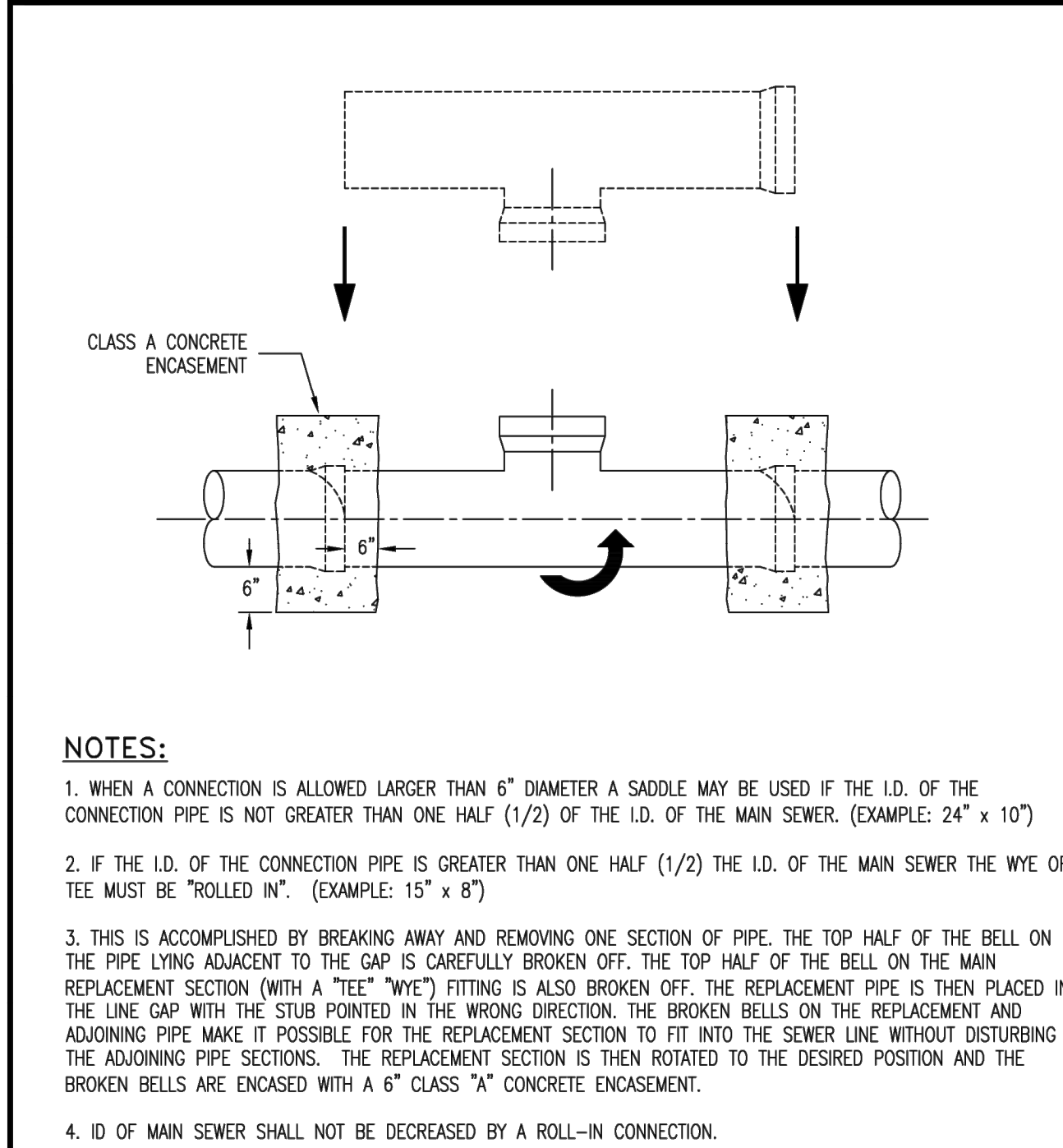


Duckett Creek Sanitary District

SDR-35 x C900
BELL AND SPIGOT
SPECIAL 4", 6" 8" ADAPTORS

Own By: BSM
App By: KA
Ckd By: MDOB
Date: DEC. 2015

Detail No. 19B



- NOTES:
1. WHEN A CONNECTION IS ALLOWED LARGER THAN 6" DIAMETER A SADDLE MAY BE USED IF THE I.D. OF THE CONNECTION PIPE IS NOT GREATER THAN ONE HALF (1/2) OF THE I.D. OF THE MAIN SEWER. (EXAMPLE: 24" x 10")
 2. IF THE I.D. OF THE CONNECTION PIPE IS GREATER THAN ONE HALF (1/2) THE I.D. OF THE MAIN SEWER THE WYE OR TEE MUST BE "ROLLED IN". (EXAMPLE: 15" x 8")
 3. THIS IS ACCOMPLISHED BY BREAKING AWAY AND REMOVING ONE SECTION OF PIPE. THE TOP HALF OF THE BELL ON THE PIPE LYING ADJACENT TO THE GAP IS CAREFULLY BROKEN OFF. THE TOP HALF OF THE BELL ON THE MAIN REPLACEMENT SECTION (WITH A "TEE" WYE) FITTING IS ALSO BROKEN OFF. THE REPLACEMENT PIPE IS THEN PLACED IN THE LINE GAP WITH THE STUB POINTED IN THE WRONG DIRECTION. THE BROKEN BELLS ON THE REPLACEMENT AND ADJOINING PIPE MAKE IT POSSIBLE FOR THE REPLACEMENT SECTION TO FIT INTO THE SEWER LINE WITHOUT DISTURBING THE ADJOINING PIPE SECTIONS. THE REPLACEMENT SECTION IS THEN ROTATED TO THE DESIRED POSITION AND THE BROKEN BELLS ARE ENCASED WITH A 6" CLASS "A" CONCRETE ENCASUREMENT.
 4. I.D. OF MAIN SEWER SHALL NOT BE DECREASED BY A ROLL-IN CONNECTION.

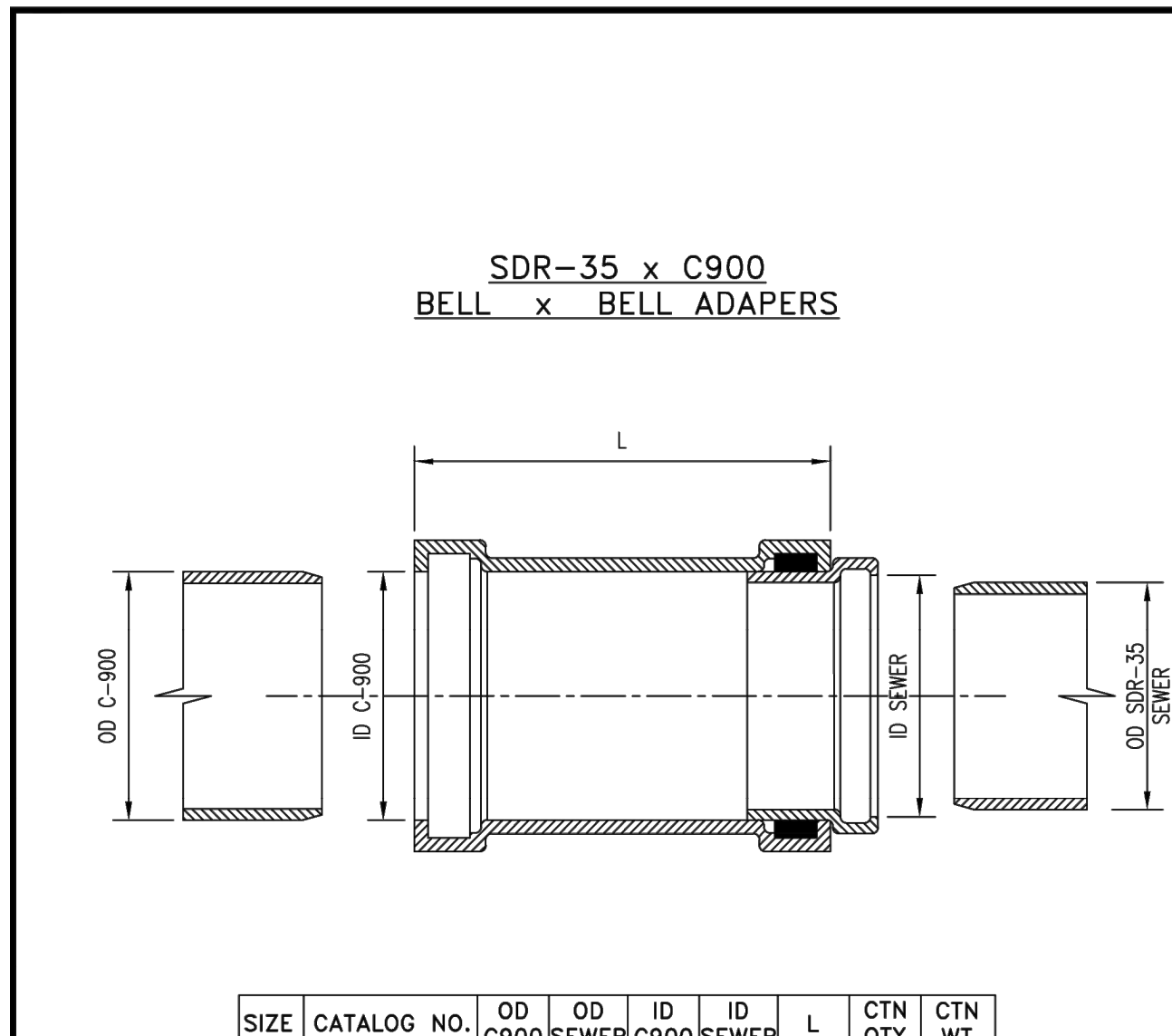


Duckett Creek Sanitary District

ROLL-IN
(FOR EXISTING CLAY
OR CONCRETE PIPE)

Own By: BSM
App By: KA
Ckd By: MDOB
Date: DEC. 2015

Detail No. 21



SIZE	CATALOG NO.	OD C900 SEWER	ID C900 SEWER	L	CTN QTY	CTN WT
4x4	337-040	4.80	4.215	4.86	4.25	10.0
6x6	337-060	6.90	6.275	6.96	6.32	11.13
8x8	337-080	9.05	8.400	9.13	8.45	12.50

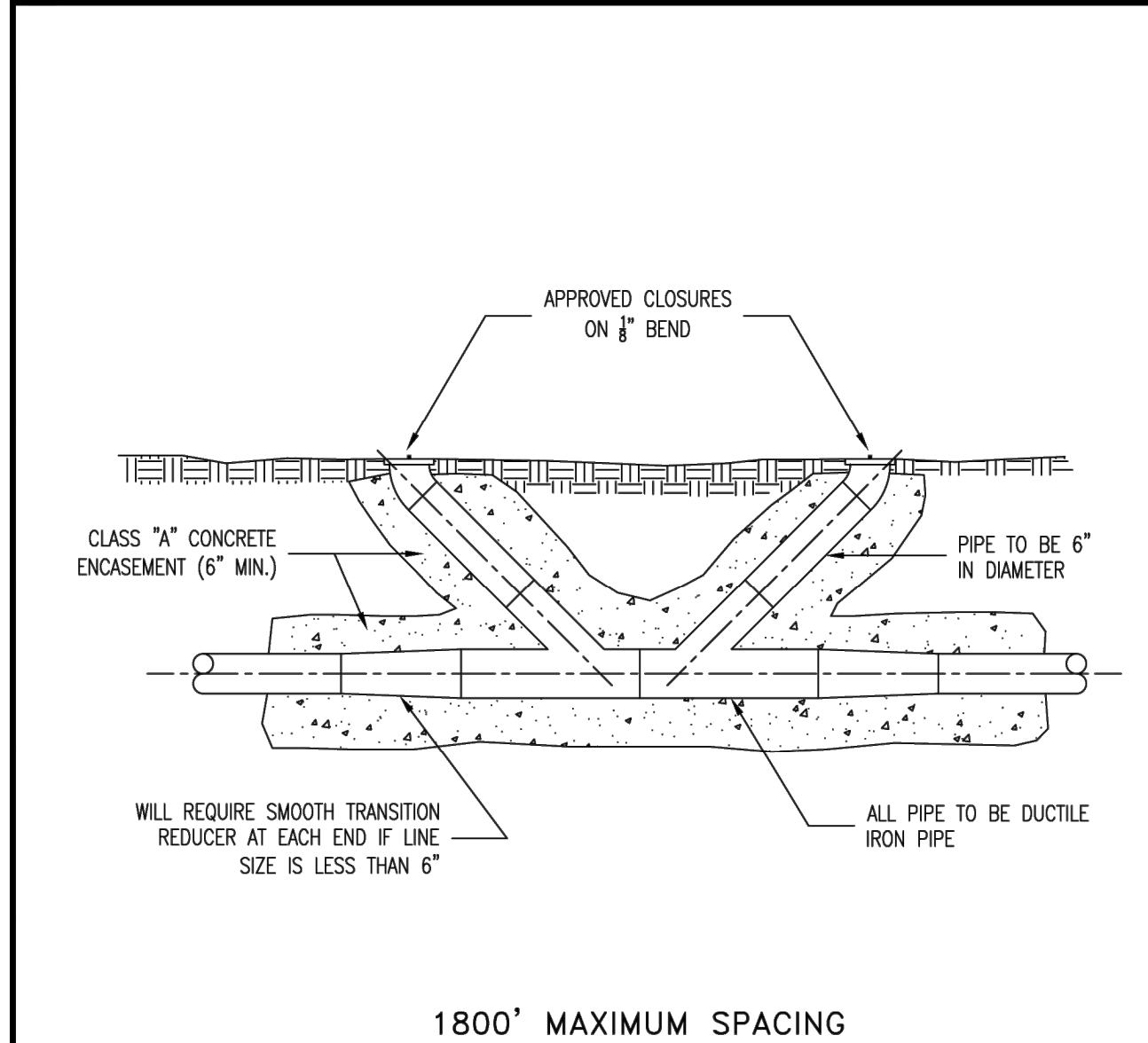


Duckett Creek Sanitary District

SDR-35 x C900
BELL AND BELL
4", 6" & 8" ADAPTORS

Own By: BSM
App By: KA
Ckd By: MDOB
Date: DEC. 2015

Detail No. 19C



1800' MAXIMUM SPACING

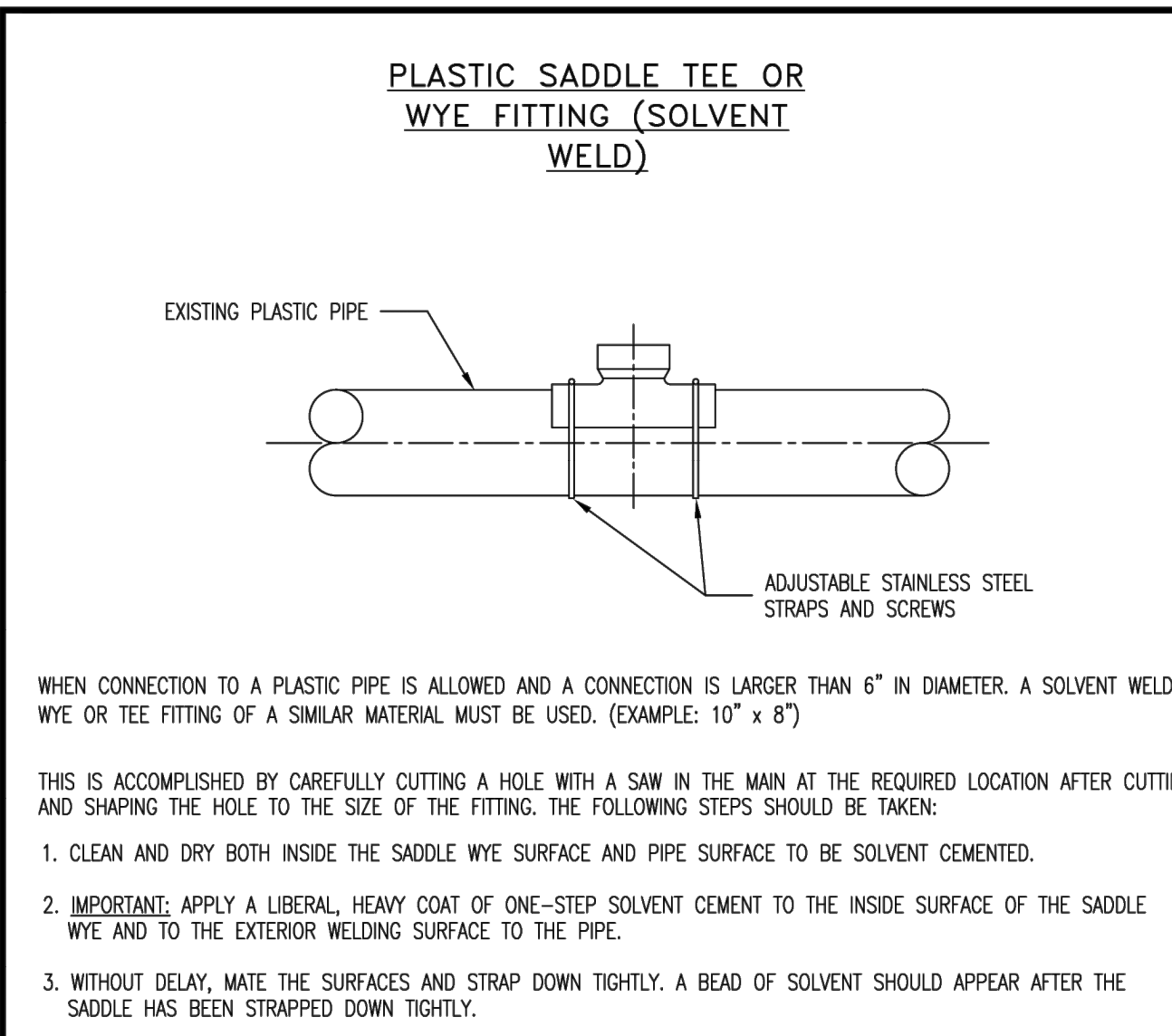


Duckett Creek Sanitary District

FORCE MAIN
CLEANOUT
6" DIAMETER & SMALLER)

Own By: BSM
App By: KA
Ckd By: MDOB
Date: DEC. 2015

Detail No. 22



- WHEN CONNECTION TO A PLASTIC PIPE IS ALLOWED AND A CONNECTION IS LARGER THAN 6" IN DIAMETER, A SOLVENT WELD WYE OR TEE FITTING OF A SIMILAR MATERIAL MUST BE USED. (EXAMPLE: 10" x 8")
- THIS IS ACCOMPLISHED BY CAREFULLY CUTTING A HOLE WITH A SAW IN THE MAIN AT THE REQUIRED LOCATION AFTER CUTTING AND SHAPING THE HOLE TO THE SIZE OF THE FITTING. THE FOLLOWING STEPS SHOULD BE TAKEN:
1. CLEAN AND DRY BOTH INSIDE THE SADDLE WYE SURFACE AND PIPE SURFACE TO BE SOLVENT CEMENTED.
 2. IMPORTANT: APPLY A LIBERAL, HEAVY COAT OF ONE-STEP SOLVENT CEMENT TO THE INSIDE SURFACE OF THE SADDLE WYE AND TO THE EXTERIOR WELDING SURFACE TO THE PIPE.
 3. WITHOUT DELAY, MATE THE SURFACES AND STRAP DOWN TIGHTLY. A BEAD OF SOLVENT SHOULD APPEAR AFTER THE SADDLE HAS BEEN STRAPPED DOWN TIGHTLY.
 4. USING A RAG OR PAPER TOWEL, WIPE BEAD AND ANY EXCESS SOLVENT CEMENT OFF PIPE AND SADDLE.
 5. ALLOW 30-60 MINUTES FOR SET-UP TIME BEFORE BACKFILLING. CURE TIME DEPENDS ON SIZE FIT OF MATERIALS BEING INSTALLED AND VARIOUS COLD DAMP CONDITIONS.
 6. DISCARD OLD SOLVENT IF IT BECOMES JELLED OR LUMPY.
 7. A CLEAN, DRY BEDDING MATERIAL IS REQUIRED AROUND THE COMPLETED CONNECTION BEFORE BACKFILLING. THE BEDDING MATERIAL SHOULD BE ONE OF THE FOLLOWING:
A. 1 TO 3 CEMENT TO SAND MIX
B. "PRE-MIX" CONCRETE.
C. DCSD APPROVED BEDDING FOR SANITARY SEWERS.

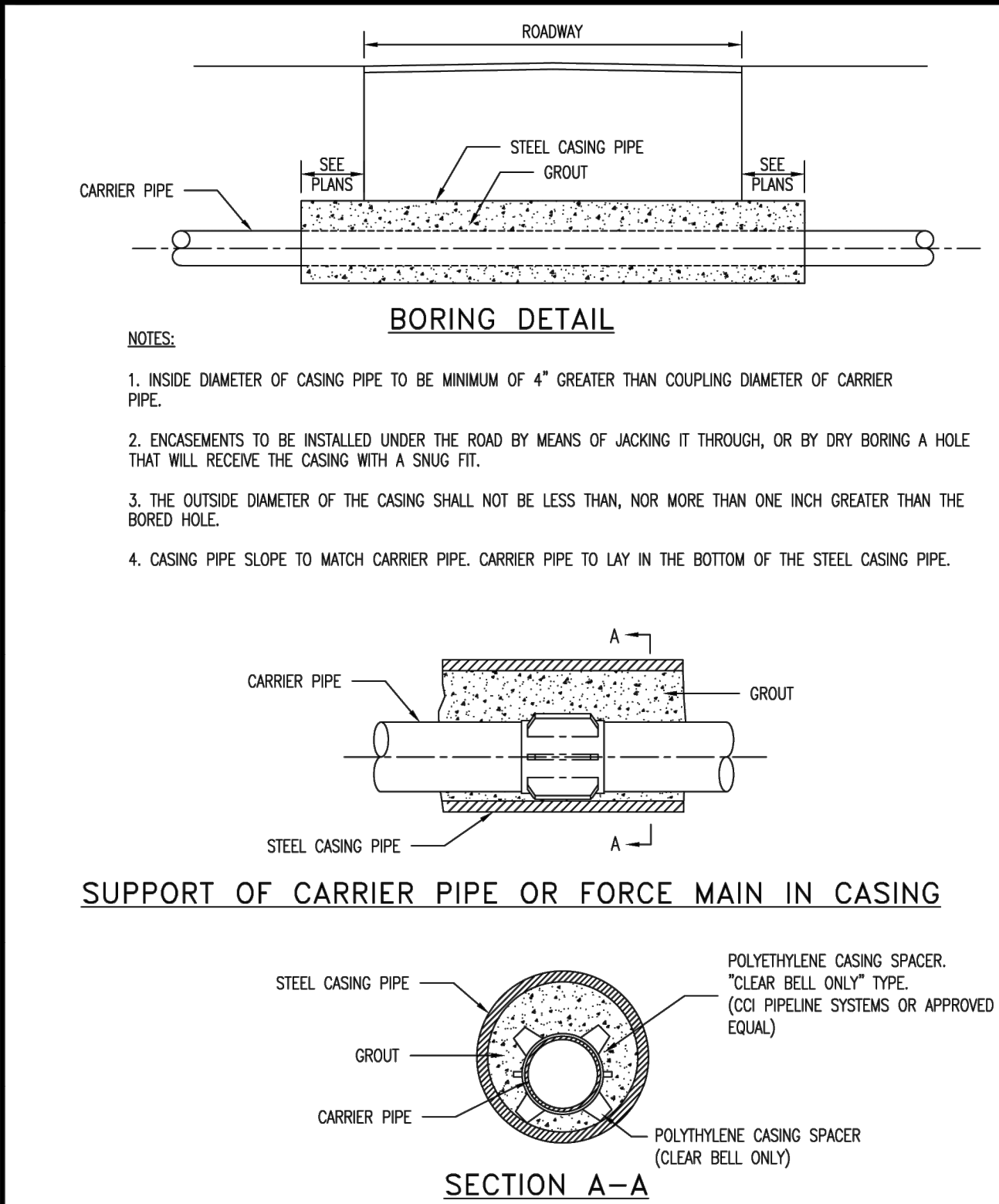


Duckett Creek Sanitary District

8" AND LARGER
CONNECTION TO
PLASTIC MAIN

Own By: BSM
App By: KA
Ckd By: MDOB
Date: DEC. 2015

Detail No. 20A



- NOTES:
1. INSIDE DIAMETER OF CASING PIPE TO BE MINIMUM OF 4" GREATER THAN COUPLING DIAMETER OF CARRIER PIPE.
 2. ENCASMENTS TO BE INSTALLED UNDER THE ROAD BY MEANS OF JACKING IT THROUGH, OR BY DRY BORING A HOLE THAT WILL RECEIVE THE CASING WITH A SNUG FIT.
 3. THE OUTSIDE DIAMETER OF THE CASING SHALL NOT BE LESS THAN, NOR MORE THAN ONE INCH GREATER THAN THE BORED HOLE.
 4. CASING PIPE SLOPE TO MATCH CARRIER PIPE. CARRIER PIPE TO LAY IN THE BOTTOM OF THE STEEL CASING PIPE.

SUPPORT OF CARRIER PIPE OR FORCE MAIN IN CASING

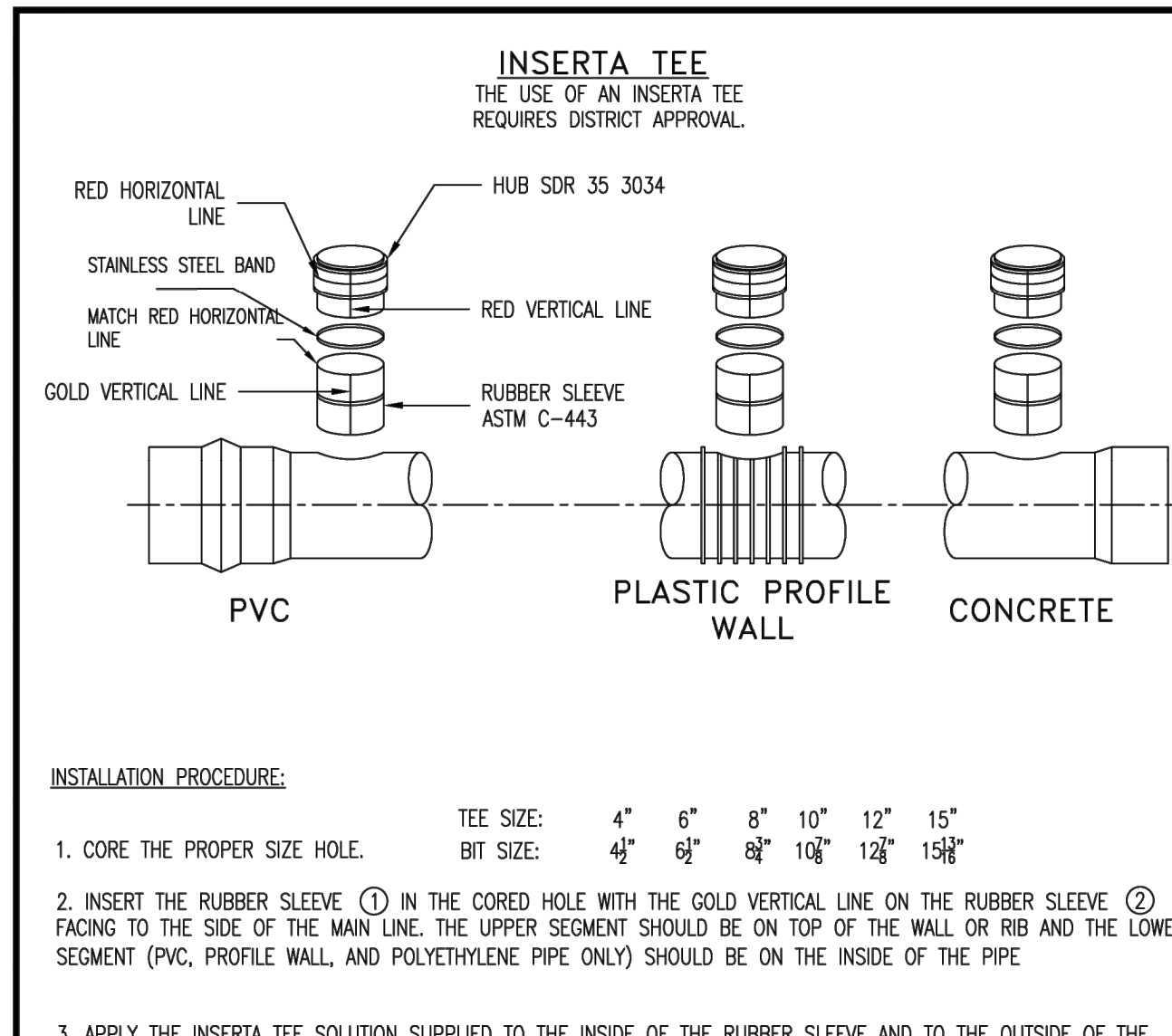


Duckett Creek Sanitary District

ROADWAY BORING DETAIL

Own By: MSM
App By: KA
Ckd By: MDOB
Date: DEC. 2015

Detail No. 23



- INSTALLATION PROCEDURE:
- TEE SIZE: 4" 6" 8" 10" 12" 15"
BIT SIZE: 4 1/2" 6 1/2" 8 1/2" 10 1/2" 12 1/2" 15 1/2"
1. CORE THE PROPER SIZE HOLE.
 2. INSERT THE RUBBER SLEEVE ① IN THE CORED HOLE WITH THE GOLD VERTICAL LINE ON THE RUBBER SLEEVE ② FACING TO THE SIDE OF THE MAIN LINE. THE UPPER SEGMENT SHOULD BE ON TOP OF THE WALL OR RIB AND THE LOWER SEGMENT (PVC, PROFILE WALL, AND POLYETHYLENE PIPE ONLY) SHOULD BE ON THE INSIDE OF THE PIPE
 3. APPLY THE INSERTA TEE SOLUTION SUPPLIED TO THE INSIDE OF THE RUBBER SLEEVE AND TO THE OUTSIDE OF THE PVC HUB ADAPTER. CAUTION - DO NOT USE AN OIL BASED LUBRICANT.
 4. PLACE THE PVC HUB ADAPTER ③ INTO THE RUBBER SLEEVE. MAKE SURE THAT THE RED VERTICAL LINE ④ ON THE PVC HUB ADAPTER IS IN LINE WITH THE GOLD VERTICAL LINE ② ON THE RUBBER SLEEVE.
 5. PLACE THE 2x4 BOARD ONTO THE TOP OF THE PVC HUB ADAPTER.
 6. THE RED HORIZONTAL LINE ⑤ AT THE TOP OF THE HUB ADAPTER IS A DEPTH MARK. THIS TELLS THE INSTALLER HOW FAR TO DRIVE THE ADAPTER INTO THE RUBBER SLEEVE. DRIVE THE PVC HUB ADAPTER INTO THE RUBBER SLEEVE TO WHERE THE HORIZONTAL RED LINE ⑤ ON THE PVC HUB ADAPTER ③ MEETS THE TOP OF THE RUBBER SLEEVE ⑥.
 7. PLACE THE STAILESS STEEL BAND ⑦ AROUND THE TOP OF THE RUBBER SLEEVE AND TIGHTEN DOWN.
 8. INSTALL PIPE IN NORMAL MANNER.

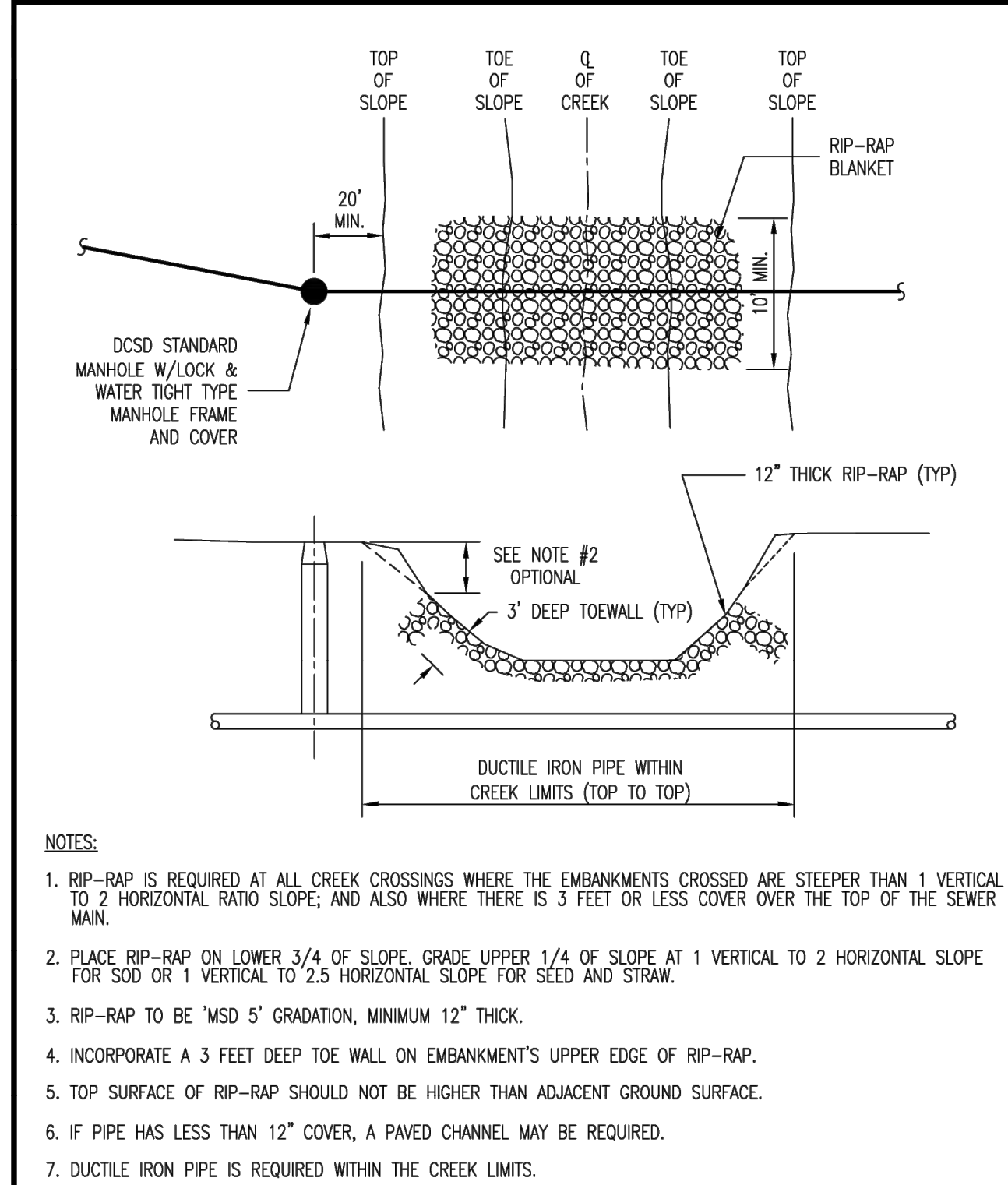


Duckett Creek Sanitary District

INSERTA TEE
DETAILS AND
SPECIFICATIONS

Own By: BSM
App By: KA
Ckd By: MDOB
Date: DEC. 2015

Detail No. 20B



- NOTES:
1. RIP-RAP IS REQUIRED AT ALL CREEK CROSSINGS WHERE THE EMBANKMENT'S CROSSED ARE STEEPER THAN 1 VERTICAL TO 2 HORIZONTAL RATIO SLOPE; AND ALSO WHERE THERE IS 3 FEET OR LESS COVER OVER THE TOP OF THE SEWER MAIN.
 2. PLACE RIP-RAP ON LOWER 3/4 OF SLOPE. GRADE UPPER 1/4 OF SLOPE AT 1 VERTICAL TO 2 HORIZONTAL SLOPE FOR SOD OR 1 VERTICAL TO 2.5 HORIZONTAL SLOPE FOR SEED AND STRAW.
 3. RIP-RAP TO BE "MSD 5" GRADATION, MINIMUM 12" THICK.
 4. INCORPORATE A 3 FEET DEEP TOE WALL ON EMBANKMENT'S UPPER EDGE OF RIP-RAP.
 5. TOP SURFACE OF RIP-RAP SHOULD NOT BE HIGHER THAN ADJACENT GROUND SURFACE.
 6. IF PIPE HAS LESS THAN 12" COVER, A PAVED CHANNEL MAY BE REQUIRED.
 7. DUCTILE IRON PIPE IS REQUIRED WITHIN THE CREEK LIMITS.



Duckett Creek Sanitary District

TYPICAL CREEK CROSSING

Own By: BSM
App By: KA
Ckd By: MDOB
Date: DEC. 2015

Detail No. 24

PROJECT TITLE

HARVEST
AT HOPEWELL

O'FALLON PHASE 3

THE
STERLING
CO.
ENGINEERS & SURVEYORS

5055 New Baumgartner Road
St. Louis, Missouri 63129
Ph 314-487-0440 Fax 314-487-8944
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Corporate Certificate of Authority #001348



Date: 03-16-2026
Michael G. Boerding
License No. MO E-28643
Professional Engineer

HARVEST HOPEWELL, LLC
5091 New Baumgartner Road
St. Louis, Missouri 63129

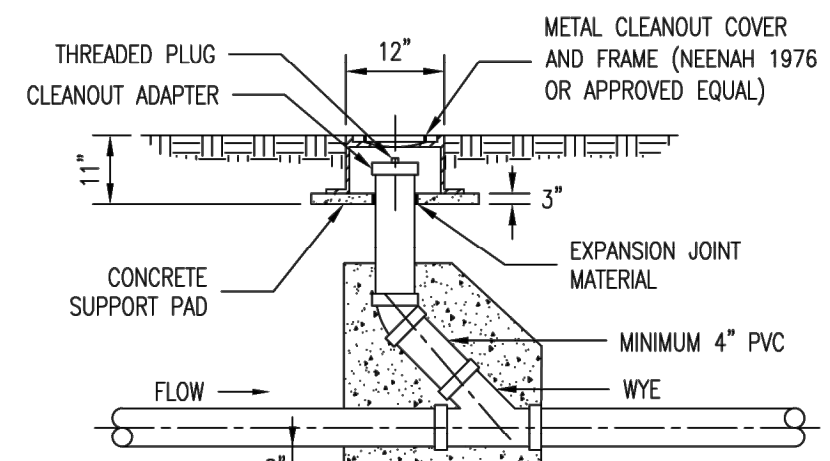
DCSD SANITARY DETAILS

P+Z No. 21-004994
City No. 21-011444
Date: 03-16-2026
Job No. 20-09-327

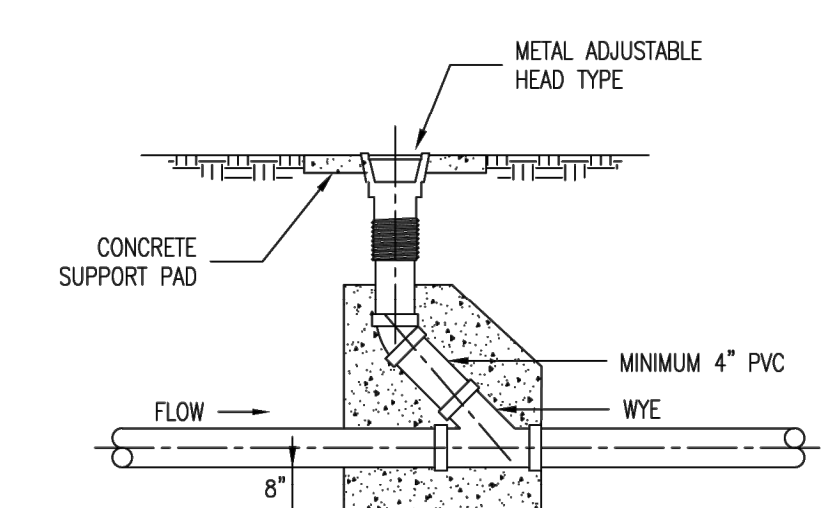
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DTL-5

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METAL FRAME AND COVER TYPE CLEANOUT



ADJUSTABLE HEAD TYPE CLEANOUT

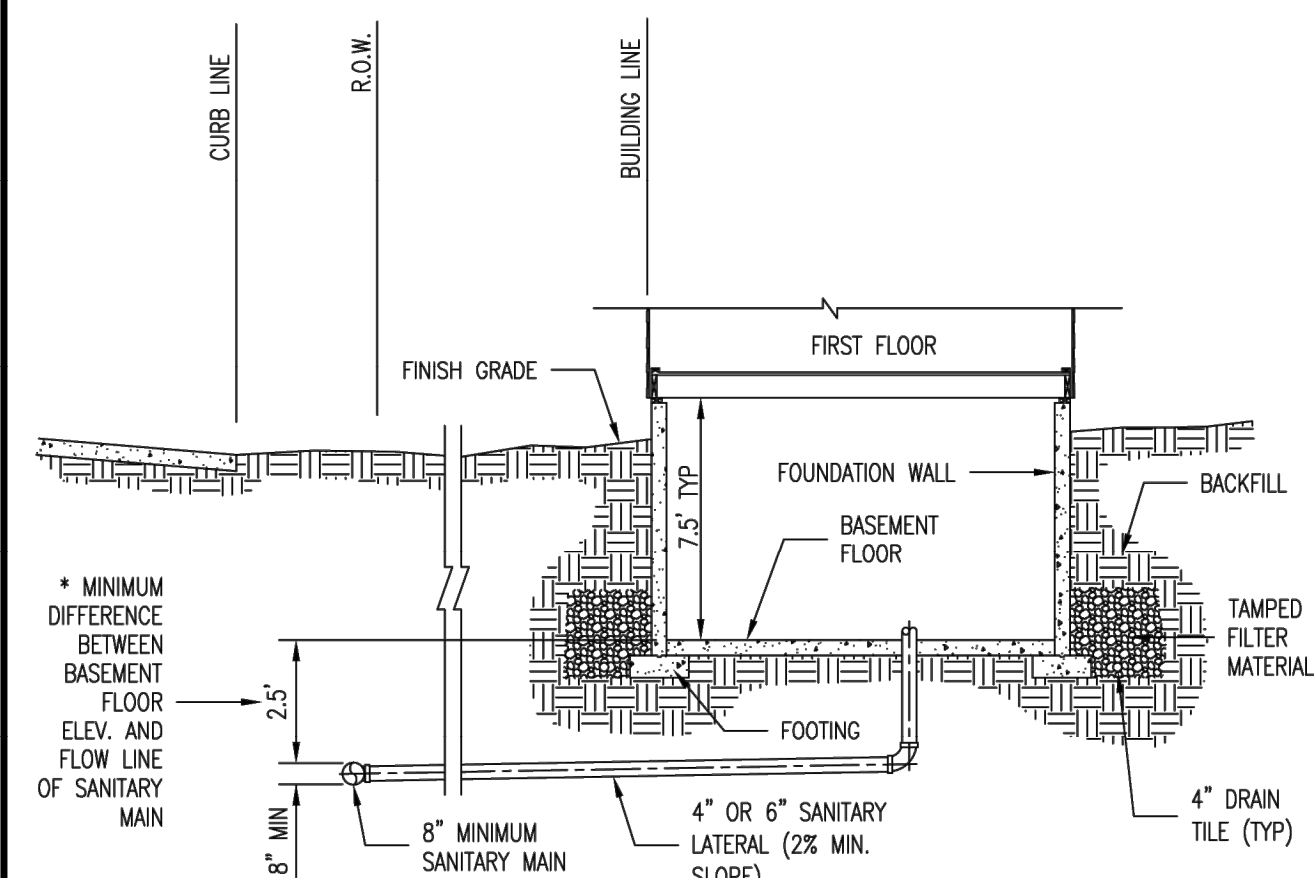
Duckett Creek Sanitary District

TYPICAL SEWER LATERAL CLEANOUT DETAIL

Dwn By:BSMApp By:KLA

Ckd By:MD08Date:DEC. 2015

Detail No.25



*NOTE:
DIFFERENCE IN DEPTH INCREASES WITH PIPE SIZE

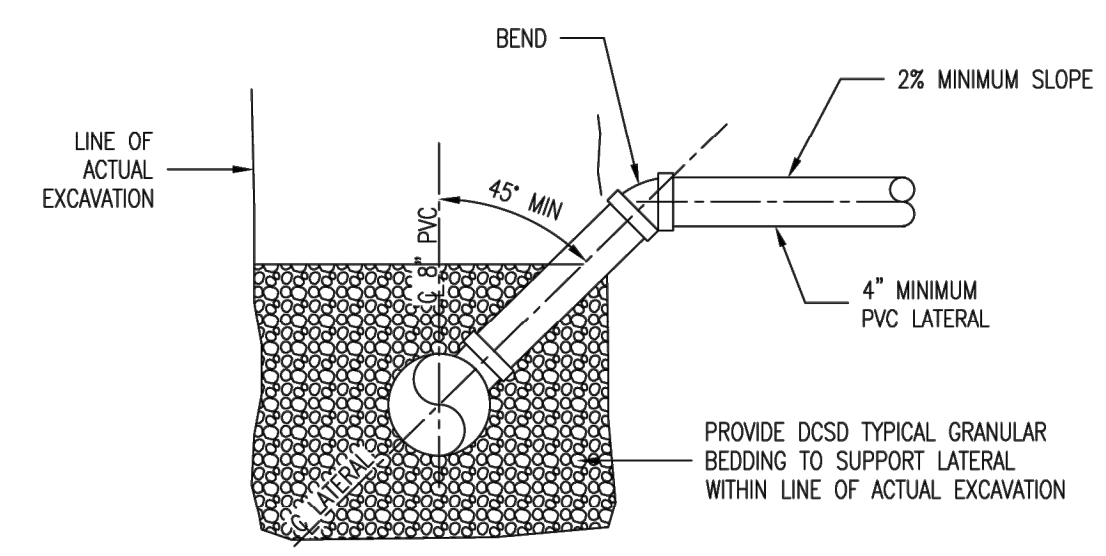
Duckett Creek Sanitary District

TYPICAL SANITARY SEWER LATERAL PROFILE

Dwn By:BSMApp By:KLA

Ckd By:MD08Date:DEC. 2015

Detail No.26



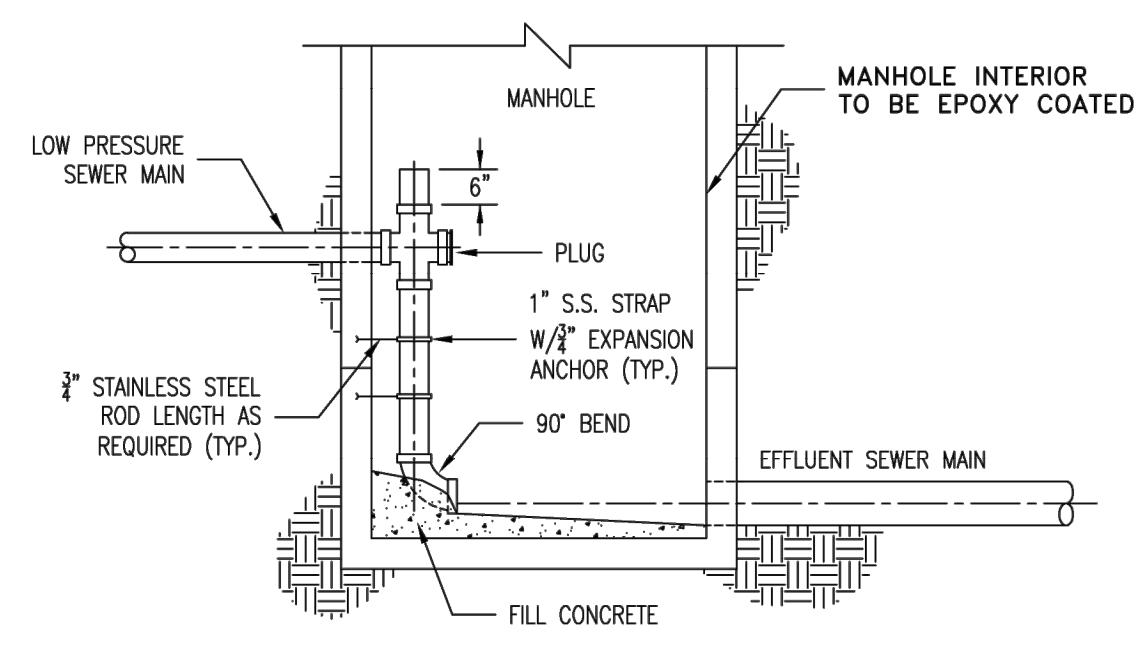
Duckett Creek Sanitary District

SANITARY SEWER LATERAL RISER DETAIL

Dwn By:BSMApp By:KA

Ckd By:MD08Date:DEC. 2015

Detail No.27



NOTE:
INVERT-BOTTOM SHALL BE WORKED TO PROVIDE POSITIVE DRAINAGE THROUGH MANHOLE

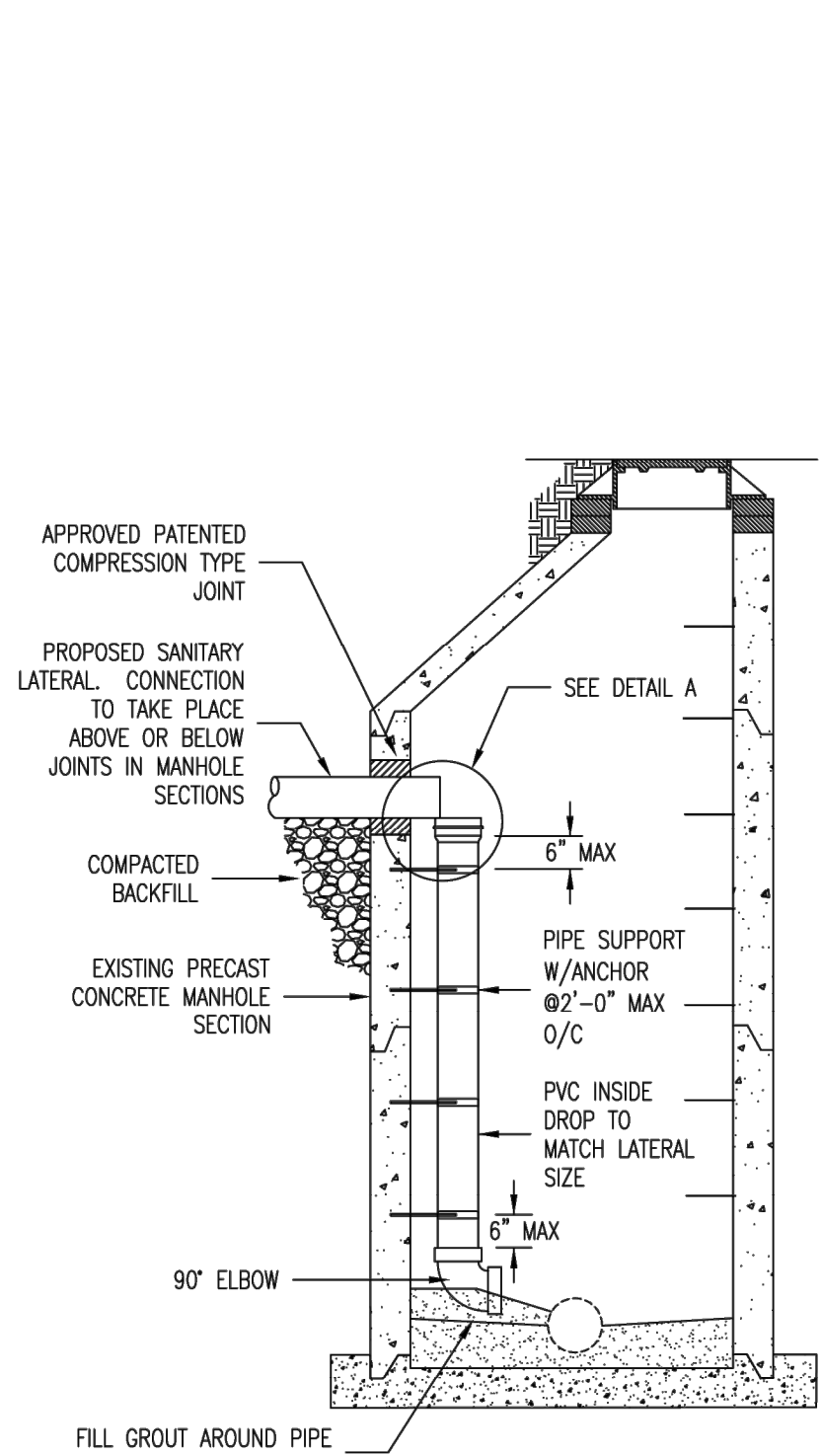
Duckett Creek Sanitary District

LOW PRESSURE SEWER MAIN CONNECTION AT MANHOLE

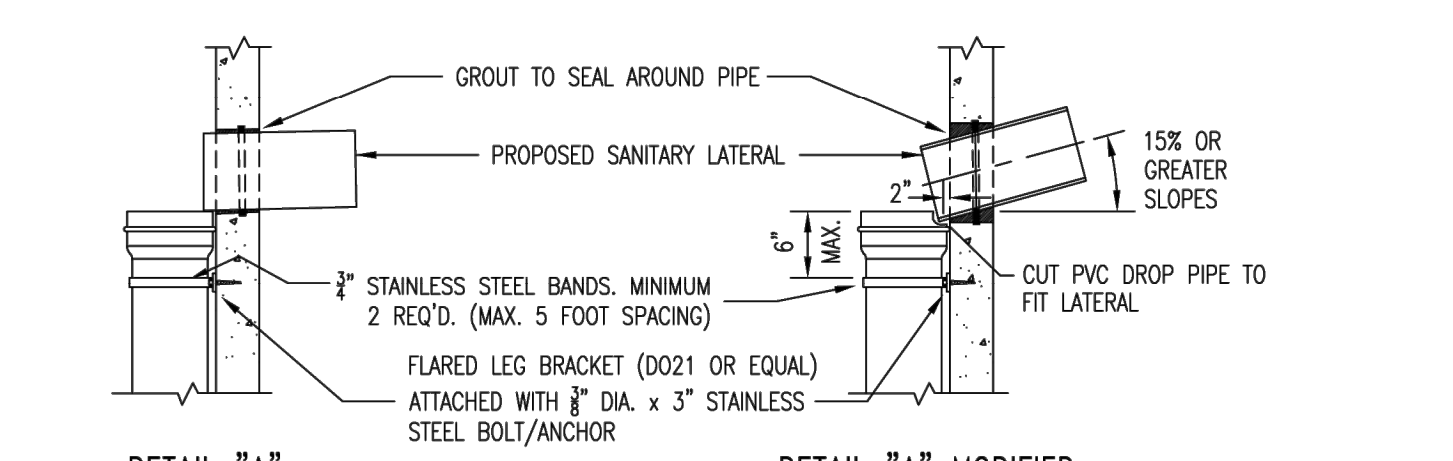
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Ckd By:MD08Date:DEC. 2015

Detail No.28

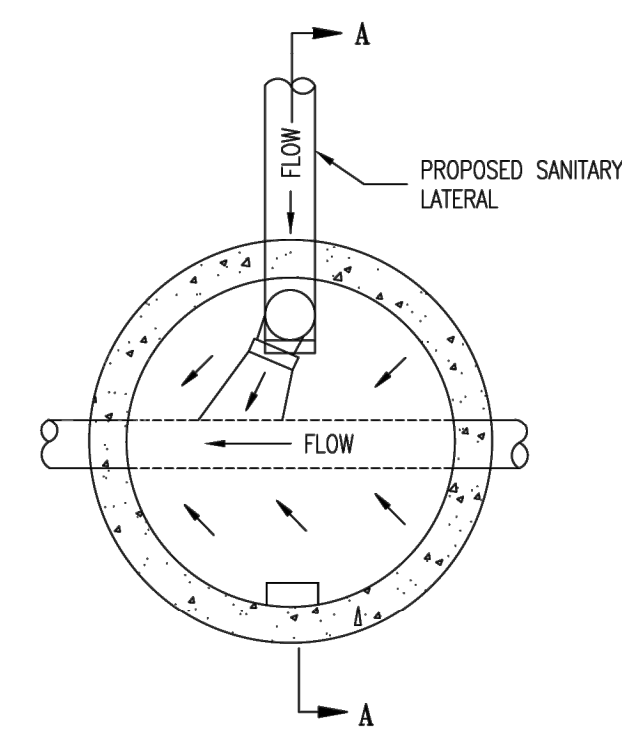


SECTION A-A



DETAIL "A" STANDARD DROP PIPE

DETAIL "A" MODIFIED DROP PIPE (FOR STEEP INFLUENT GRADES)



TOP VIEW

- NOTES:
- IF EXCAVATED SPACE OUTSIDE OF MANHOLE WALL EXCEEDS 1 FOOT, PROVIDE 6 INCHES OF CLASS "A" CONCRETE ENCASEMENT ON INCOMING LINE FROM WALL OF MANHOLE TO A MINIMUM OF 2 FEET INTO UNDISTURBED EARTH WITH A MINIMUM OF 4 INCHES REBAR FOR LENGTH OF ENCASEMENT OR INSTALL ON LENGTH OF D.I.P. FROM MANHOLE INTO UNDISTURBED EARTH.
 - STAINLESS STEEL STRAPS SHALL BE 3/4 X 2 STAINLESS STEEL.
 - STAINLESS STEEL STRAP CONNECTORS SHALL BE FLARED LEG BRACKET (D021 OR EQUAL) ATTACHED WITH 3/4 DIA. X 3" STAINLESS STEEL BOLT/ANCHOR OR APPROVED EQUAL.
 - ALL SEWER CONNECTIONS SHALL CONFORM TO THE STANDARD SPECIFICATIONS FOR DUCKETT CREEK SANITARY DISTRICT.
 - LONG INSIDE DROPS WILL REQUIRE STAINLESS STEEL BANDS TO BE 2-0" MAX BETWEEN BANDS.

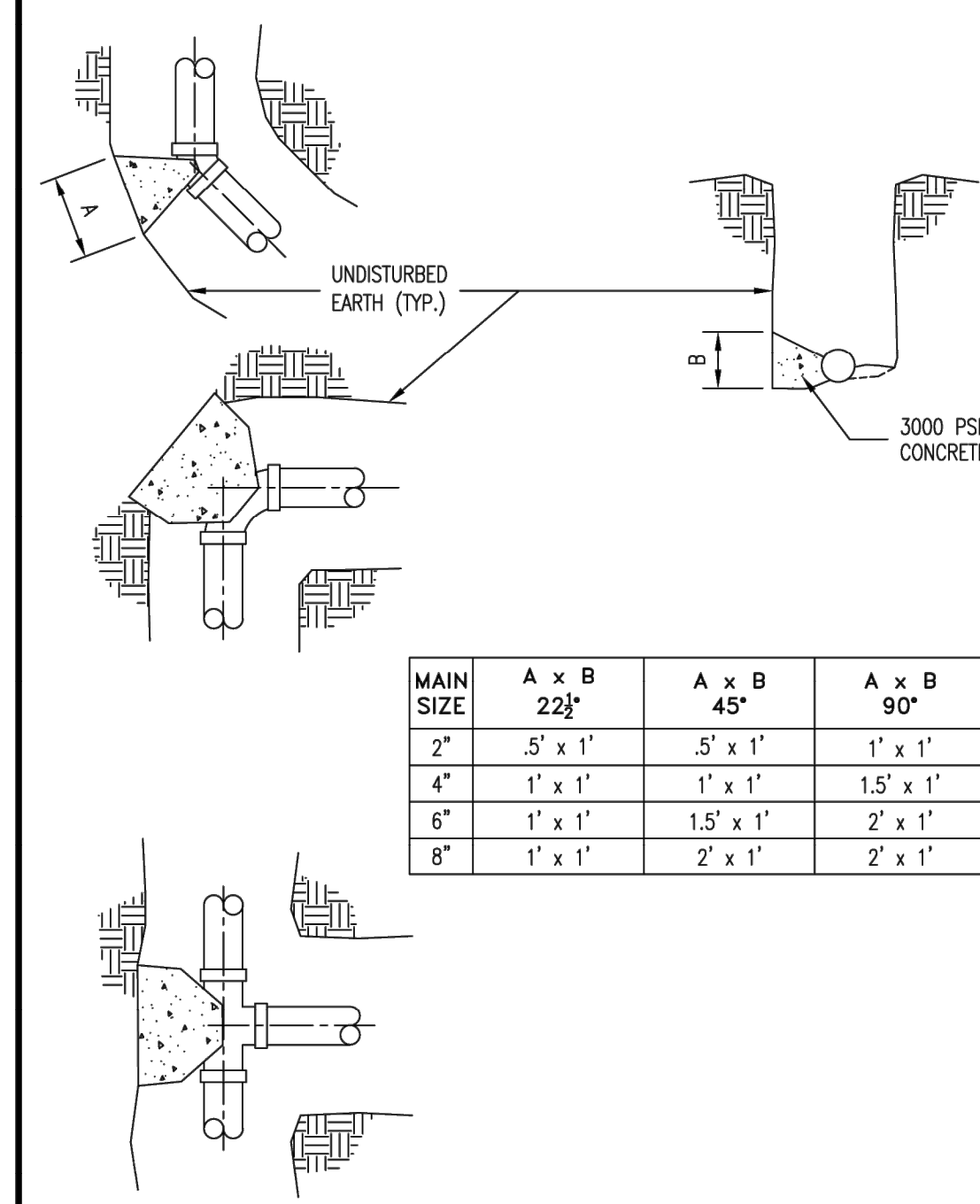
Duckett Creek Sanitary District

INSIDE DROP GRAVITY LATERAL CONNECTION DETAIL

Dwn By:MSMApp By:KA

Ckd By:MD08Date:JUNE 2015

Detail No.28A



MAIN SIZE	A x B 22 1/2"	A x B 45"	A x B 90"	A x B TEE
2"	.5' x 1'	.5' x 1'	1' x 1'	1' x 1'
4"	1' x 1'	1' x 1'	1.5' x 1'	1' x 1'
6"	1' x 1'	1.5' x 1'	2' x 1'	1.5' x 1'
8"	1' x 1'	2' x 1'	2' x 1'	2' x 1'

Duckett Creek Sanitary District

THRUST BLOCK DETAIL AND SIZE SCHEDULE

Dwn By:BSMApp By:KA

Ckd By:MD08Date:DEC. 2015

Detail No.29

LINK-SEAL® MODULAR SEALS INSTALLATION INSTRUCTIONS

- Center the pipe, cable or conduit in wall opening or casing. Make sure the pipe will be adequately supported on both ends. LINK-SEAL® modular seals are not intended to support the weight of the pipe.
- Loosen rear pressure plate with nut just enough so links move freely. Connect both ends of belt around the pipe.
- Check to be sure all bolt heads are facing the installer. Extra slack or sag is normal. Do not remove links if extra slack exists.
NOTE: On smaller diameter pipe, links may need to be stretched.
- Slide belt assembly into annular space. For larger size belts, start inserting LINK-SEAL® modular seal assembly at the 6 o'clock position and work both sides up toward the 12 o'clock position in the annular space.
- LS-200 through LS-315 Using a hand socket allen head or off-set wrench ONLY start at 12 o'clock. Do not tighten any bolt more than 4 turns at a time. Continue in a clockwise manner until links have been uniformly compressed. (Approx. 2 or 3 rotations)
- LS-325 through LS-650 Using a hand socket or off-set wrench ONLY start at 12 o'clock. Do not tighten any bolt more than 4 turns at a time. Continue in a clockwise manner until links have been uniformly compressed. (Approx. 2 or 3 rotations)
- Make 2 or 3 more passes at 4 turns per bolt. MAXIMUM tightening all bolts clockwise until all sealing elements "bulge" around all pressure plates. On type 316 stainless steel bolts, hand tighten ONLY without power tool.
- If the seal doesn't appear to be correct using the instructions provided, call GPT at 1-800-423-2410.

Installation Notes: The LINK-SEAL® modular seal bolt heads are usually recessed below the wall opening or the edge of casing pipe and therefore a socket or off-set wrench must be used.

- LINK-SEAL® Modular Seal - Do's**
- Make sure pipe is centered.
 - Install the belt with the pressure plates evenly spaced.
 - Install the exact number of links indicated in sizing charts.
 - Check to make sure pipe is supported properly during backfill operations. NOTE: LINK-SEAL® modular seals are not intended to support the weight of the pipe.
 - Make sure seal assembly and pipe surfaces are free from dirt.
 - For tight fits, use non-polluting liquid detergent to assist installation.
- LINK-SEAL® Modular Seal - Don'ts**
- Don't install the belt with the pressure plates aimed in irregular directions. (Staggered)
 - Don't install LINK-SEAL® modular seals where weld-beds or other irregular surfaces exist without consideration of the sealing requirements.
 - Don't torque each bolt completely before moving on to the next.
 - Don't use high speed power tools (450 rpm or more).
 - Do not use power tools on LINK-SEAL® modular seal 316 stainless steel bolts.
 - Don't use grease installing LINK-SEAL® modular seals.

CORRECT **INCORRECT**

Hand Tools: Review provided chart below. (Tools not provided.) Tools can be purchased from hardware store, auto parts store, or home improvement store.

LINK-SEAL® Model	Tool Size/Type Req.	Bolt Head Type
LS-200, LS-275	4mm, Allen	
LS-300, LS-315	6mm, Allen	
LS-325, LS-340, LS-360	13mm, Hex	
LS-400, LS-410, LS-425, LS-475	17mm, Hex	
LS-500, LS-525, LS-575	19mm, Hex	
LS-615	30mm, Hex	
LS-650	19mm, Hex	

PROJECT TITLE
HARVEST AT HOPEWELL
O'Fallon, Missouri
O'FALLON PHASE 3

THE **STERLING** CO.
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5091 New Baumgartner Road
St. Louis, Missouri 63129
Ph 314-487-0440 Fax 314-487-8944
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Corporate Certificate of Authority #001348

Date: 03-16-2026
Michael G. Boerding
License No. MO E-28643
Professional Engineer

HARVEST HOPEWELL, LLC
5091 New Baumgartner Road
St. Louis, Missouri 63129

DCSD SANITARY DETAILS

P+Z No. 21-004994
City No. 21-011444
Date: 03-16-2026
Job No. 20-09-327

Page No.

DTL-6

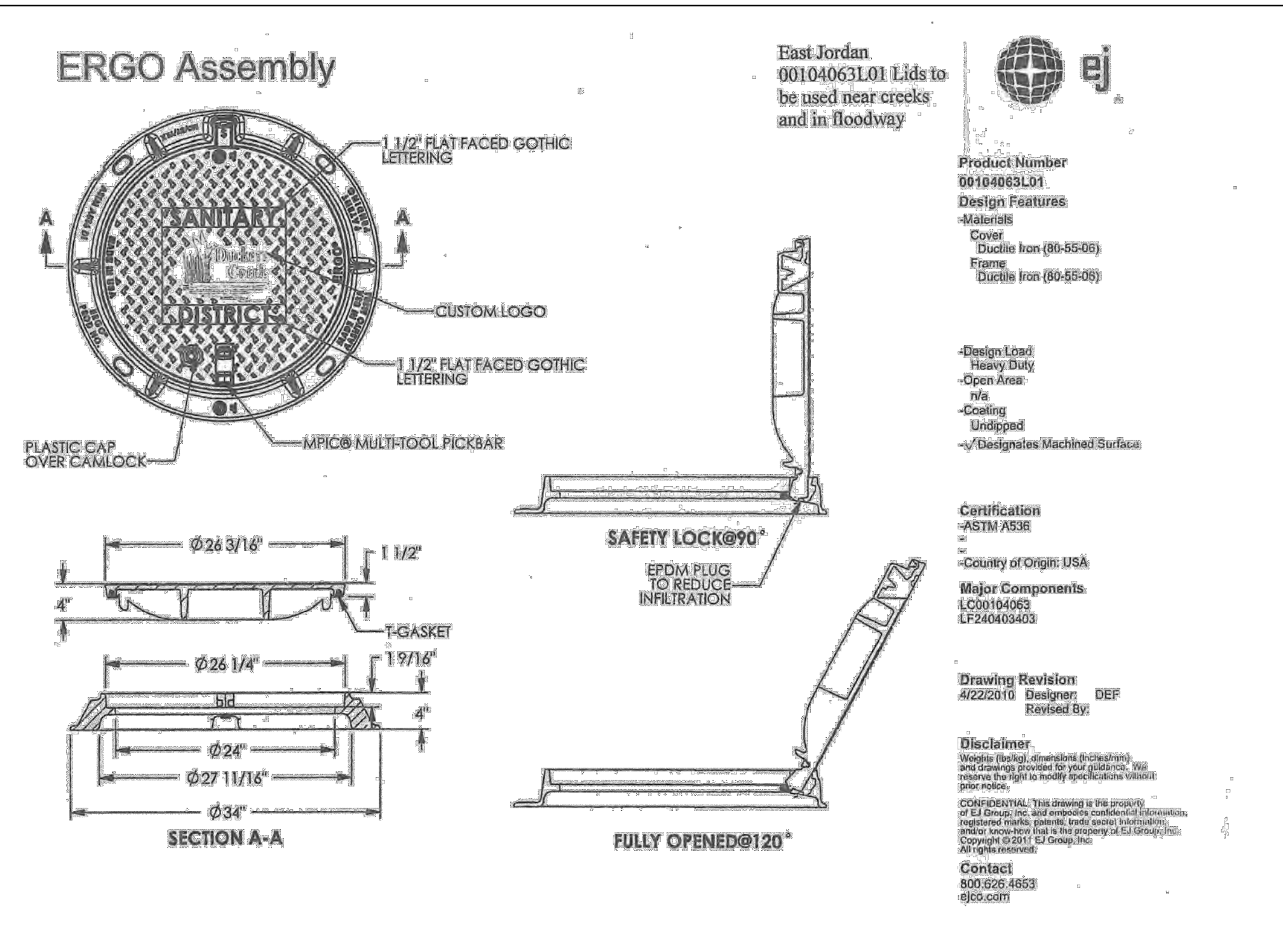
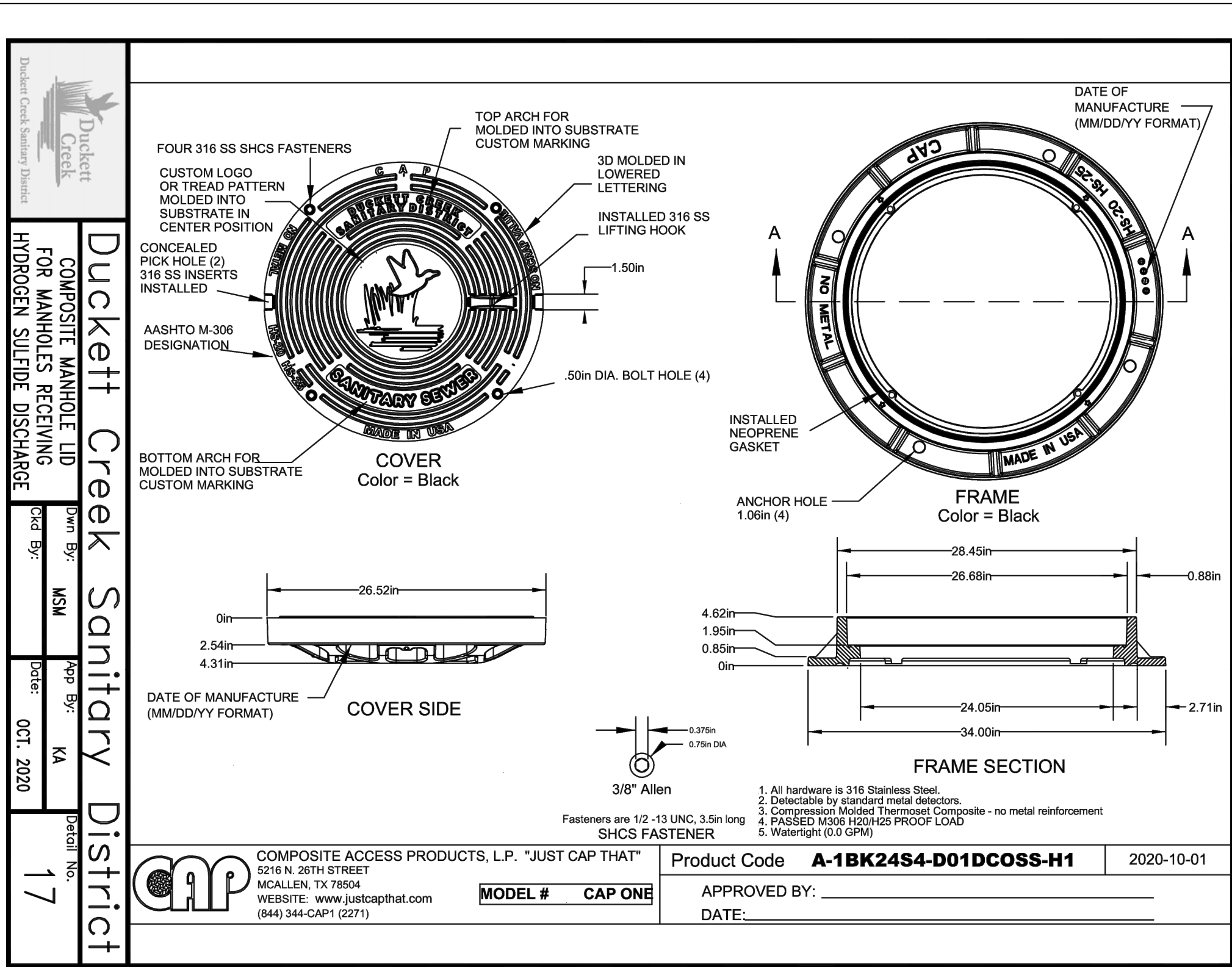
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4.2 FORCE MAIN REQUIREMENTS

The following elements shall be included in the force main system design:

- A. Air Relief / Vacuum Valves (ARV)
Automatic combination vacuum/air relief valves shall be placed at high points in the force main as required. Refer to the District's Detail FM-2 for additional information.
1. **Acceptable Manufacturer:** ARI Model D-025 NS (minimum standard).
 2. On valves other than A.R.I. model D-025, the body of the ARV shall be supported to the wall of the structure by a 1-1/4" x 1-1/4" x 1/4" stainless steel angle bracket (or as approved by DCSD).
- B. Connection to Gravity System
Force mains shall discharge to the gravity sewer system at a manhole. The point of connection shall be no more than one foot above the flow line of the receiving manhole.
- C. Existing Gravity Manhole Rehabilitation
The sides and bottom of the force main discharge manhole and a minimum of five (5) downstream manholes from the point of connection shall be lined with a solventless, 100% solids, corrosion resistant epoxy coating or a lining having multiple, structural fiberglass layers with a non-porous diaphragm bonded between layers of fiberglass and molded to the existing structure. See acceptable manufacturers below.
- D. New Manhole Construction
When a new manhole is to be constructed at the point of connection to the gravity system, the new manhole shall be treated with the epoxy coating specified above.
- Acceptable Manufacturer:** Raven Lining Systems AquataPoxy A-6, Terre Hill Composites Multiplex Liner THC-610-SL-68, Ameron Protective Lining Division, Amer-Plat T-Lock, or approved equal.
- E. Mechanically Restrained Joints
The force main shall be fitted at all angle points with mechanically restrained joints designed to withstand the thrust developed under the test pressure plus 50 psi. The required number of mechanically restrained joints from the angle point shall be determined by the design engineer and shown in plan and profile (see Section One).
- F. Tracer Wire
On all force mains there shall be installed a tracer wire which shall be a single insulated No. 12 AWG copper wire. The insulated wire shall be furnished in rolls of not less than 500 feet. Where splices are required, splices shall be made with 3M splice kits or approved equal. The Contractor shall furnish all materials. The No. 12 wire shall be placed along the top of the force main and taped in place with duct tape or electrical tape at a maximum of 6 feet intervals. Permanent access points shall be provided through manholes, access vaults, valve boxes or other approved means at the ends of the tracer wire. The wire shall be extended into the access points a minimum of 5feet from each direction. The wire shall be neatly rolled and placed so that it does not interfere with normal operation. The two wires shall be spliced inside the access point with a standard plastic or rubberized wire connector. After testing for continuity, the splices inside the access point shall be made with a 3M splice kit or approved equal. Where splices become necessary outside of access points, the splices shall be made with a 3m splice kit or approved equal. All tracer wire shall be tested for continuity as called for in Section 4.2.1 below.
- G. Utility Marking Tape
A detectable underground utility marking tape shall be installed the entire length of the force main as per the District's Detail FM-1. The material to be installed for this purpose shall consist of three (3) inch wide tape made of bonded layer plastic with a metallic foil core. Tape splices shall be knotted to prevent tensile pressure on the splice. The metallic tape shall be colored green and shall bear an imprint identifying the line below as, "Caution Buried Sewer Main Below". The Contractor shall furnish all materials. The three (3) inch wide tape shall be installed 12" below finished grade. The tape material shall be installed in accordance with the manufacturer's recommendations. The tape is to be placed in a manner such that trench backfill settlement will not cause an excessive stress on the material.
- H. Testing
Testing of force mains shall include:
1. Force mains shall be pressure tested at the highest point in the project. The Contractor shall fill and pressure test the force main. The minimum required test pressure shall be the force main test pressure for a period of 2 hours with a maximum of not more than 2 PSI drop in pressure.
 2. The tracer wire on all force mains shall be tested by the Contractor for continuity in the presence of a DCSD Construction Inspector. If the test is satisfactory, all splices shall be made permanent by means of 3M splice kits or approved equal. If test fails in a section, the Contractor shall find and repair any failure in the locator wires.



PROJECT TITLE

HARVEST
AT HOPEWELL

O'Fallon, Missouri

O'FALLON PHASE 3

THE
STERLING
CO.

ENGINEERS & SURVEYORS

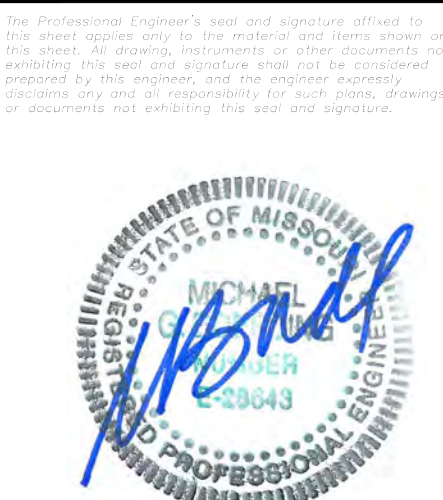
5055 New Baumgartner Road

St. Louis, Missouri 63129

Ph 314-487-0440 Fax 314-487-8944

www.sterling-eng-sur.com

Corporate Certificate of Authority #001348



Date: 03-16-2026
Michael G. Boerding
License No. MO E-28643
Professional Engineer

HARVEST HOPEWELL, LLC
5091 New Baumgartner Road
St. Louis, Missouri 63129

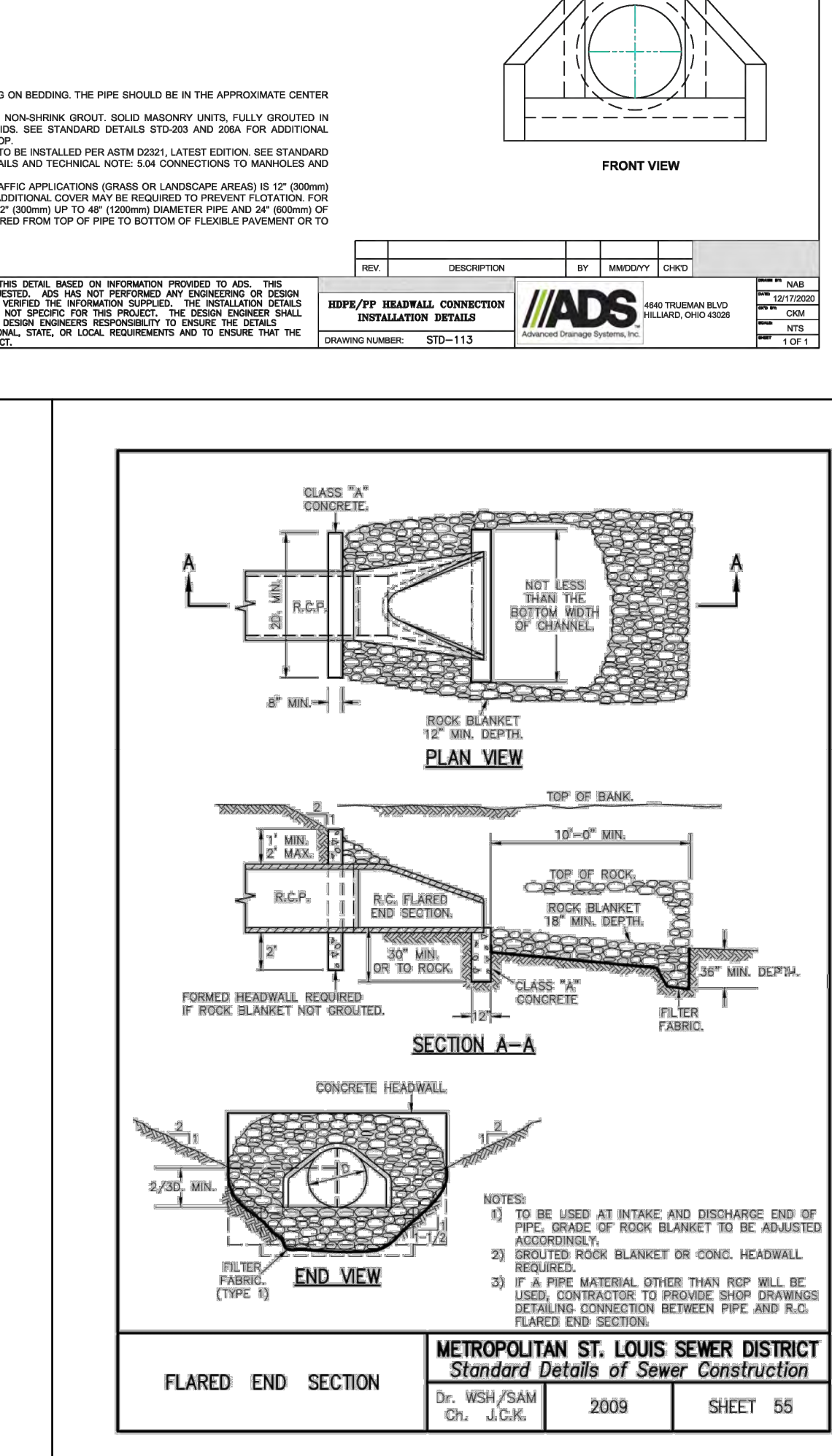
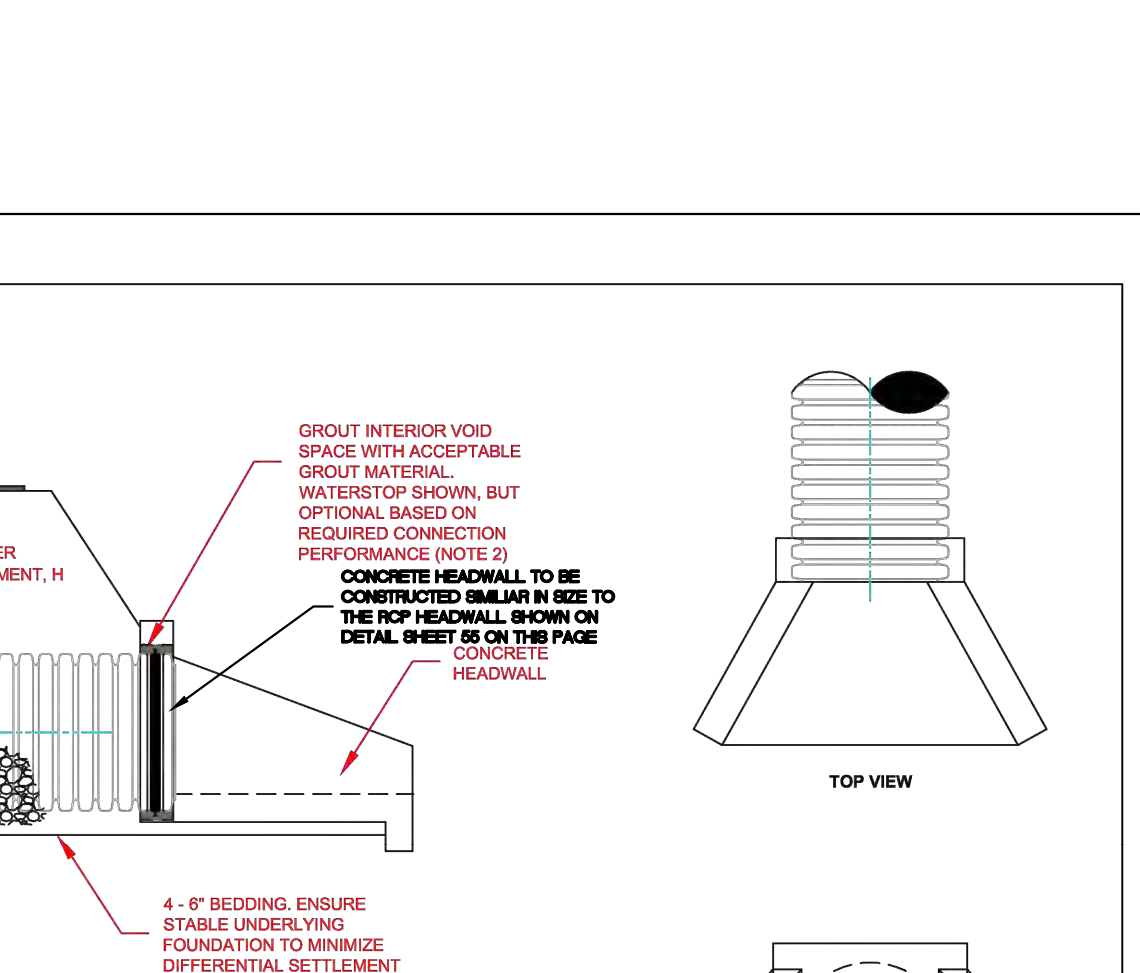
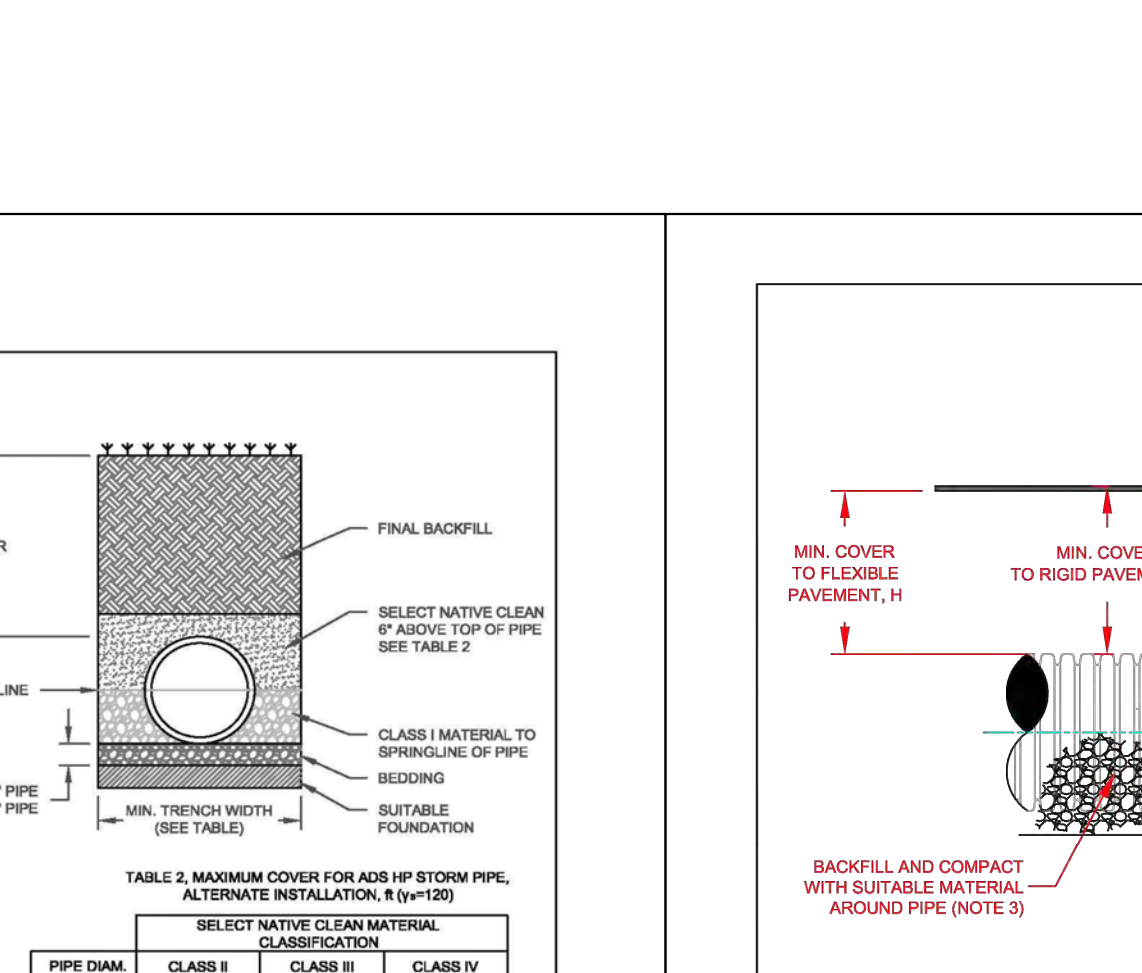
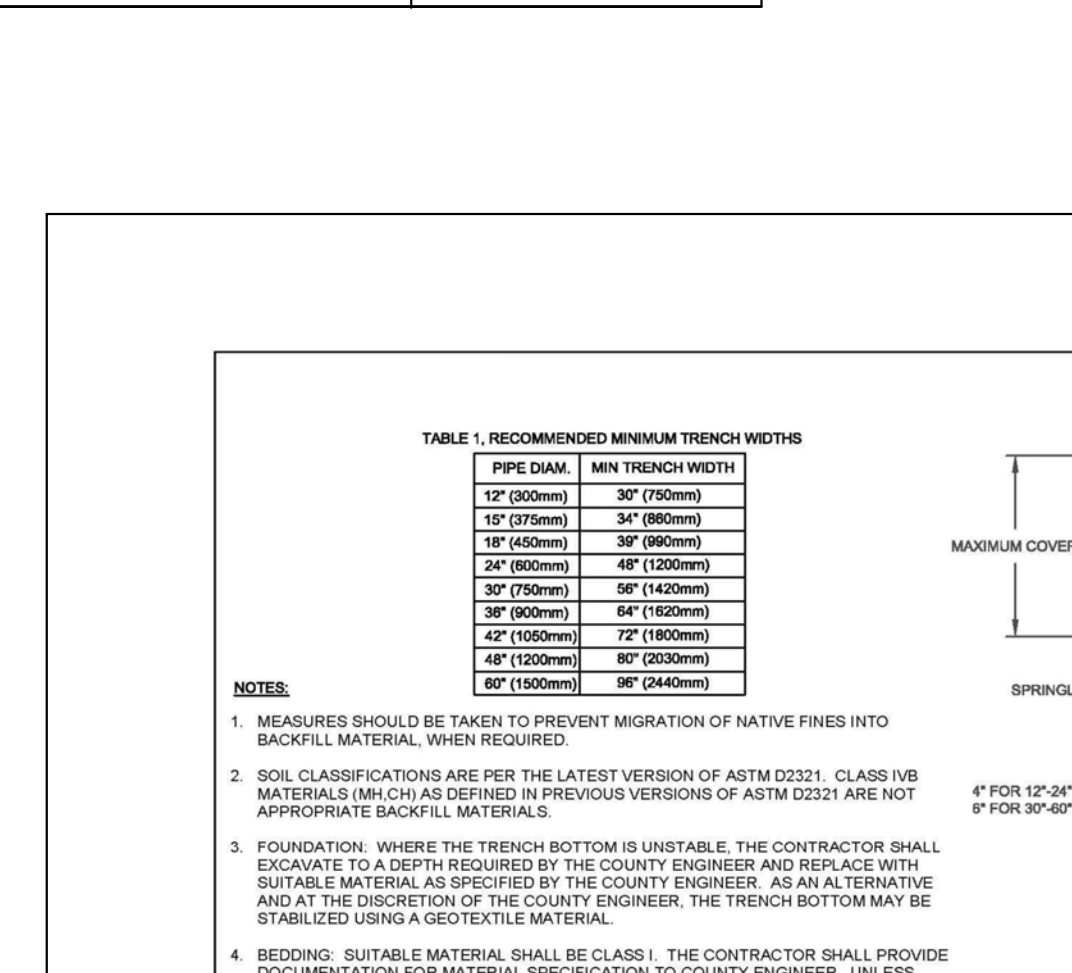
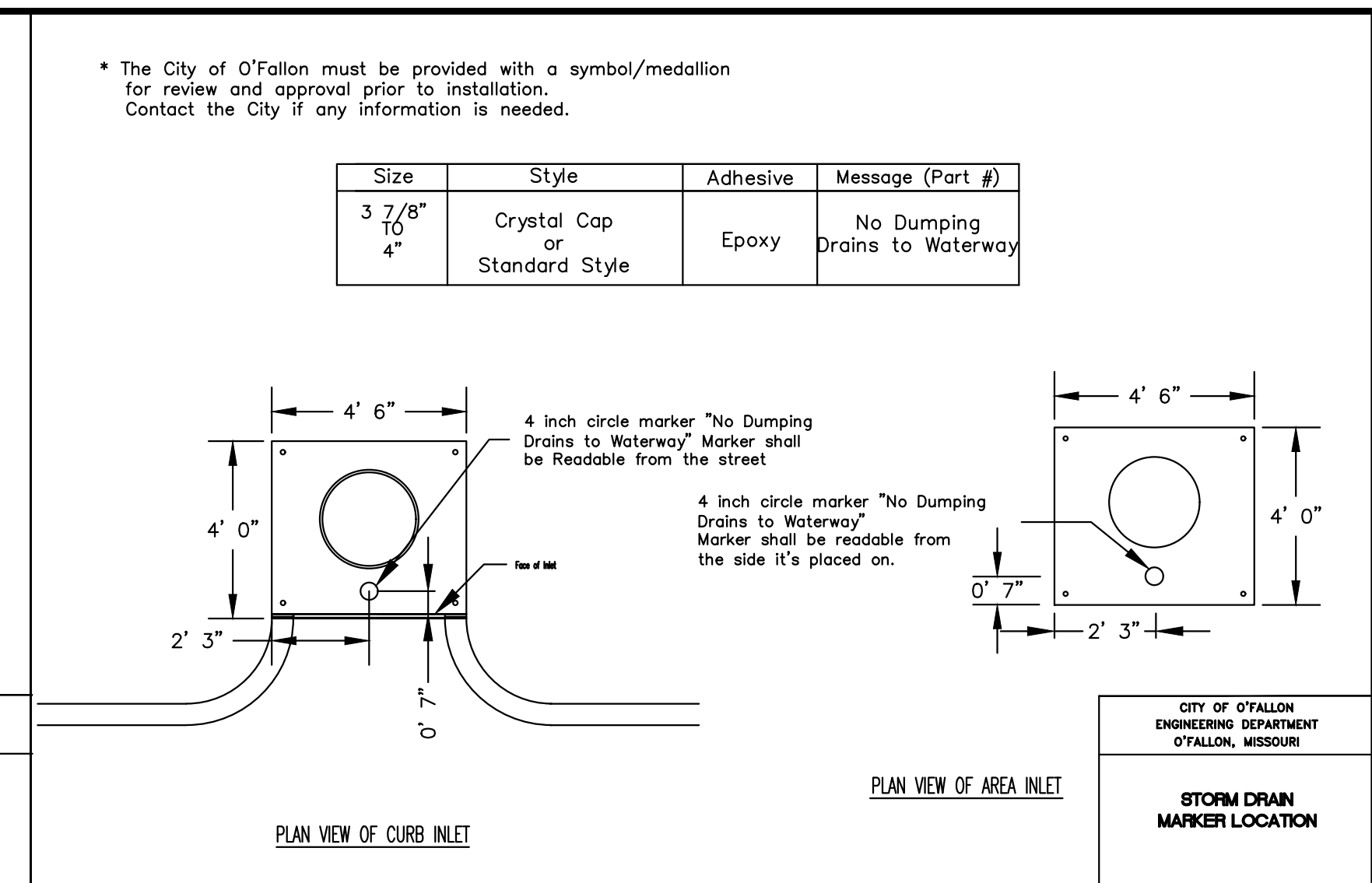
DCSD SANITARY DETAILS

P+Z No. 21-004994
City No. 21-011444
Date: 03-16-2026
Job No. 20-09-327

Page No.

DTL-6A

IMP



ISSUE	REMARKS/DATE
1	2025-05-02, INITIAL SUBMITTAL CITY PH.3
2	2025-08-07, REVISED PER CITY COMMENTS
3	2025-10-02, REVISED PER CITY COMMENTS
4	2026-01-23, REVISED PER CITY COMMENTS
5	2026-03-16, REVISED PER CITY COMMENTS

PROJECT TITLE

*HARVEST
AT HOPEWELL*

O'Fallon, Missouri

O'FALLON PHASE 3

THE STERLING CO.
ENGINEERS & SURVEYORS
5055 New Baugartner Road
St. Louis, Missouri 63129
PH 314-487-0440 Fax 314-487-8944
www.sterling-eng-srv.com
Corporate Certificate of Authority #001348



Date: 03-16-2026
Michael G. Boerding
License No. MO E-28643
Professional Engineer

HARVEST HOPEWELL, LLC
5091 New Baumgartner Road
St. Louis, Missouri 63129

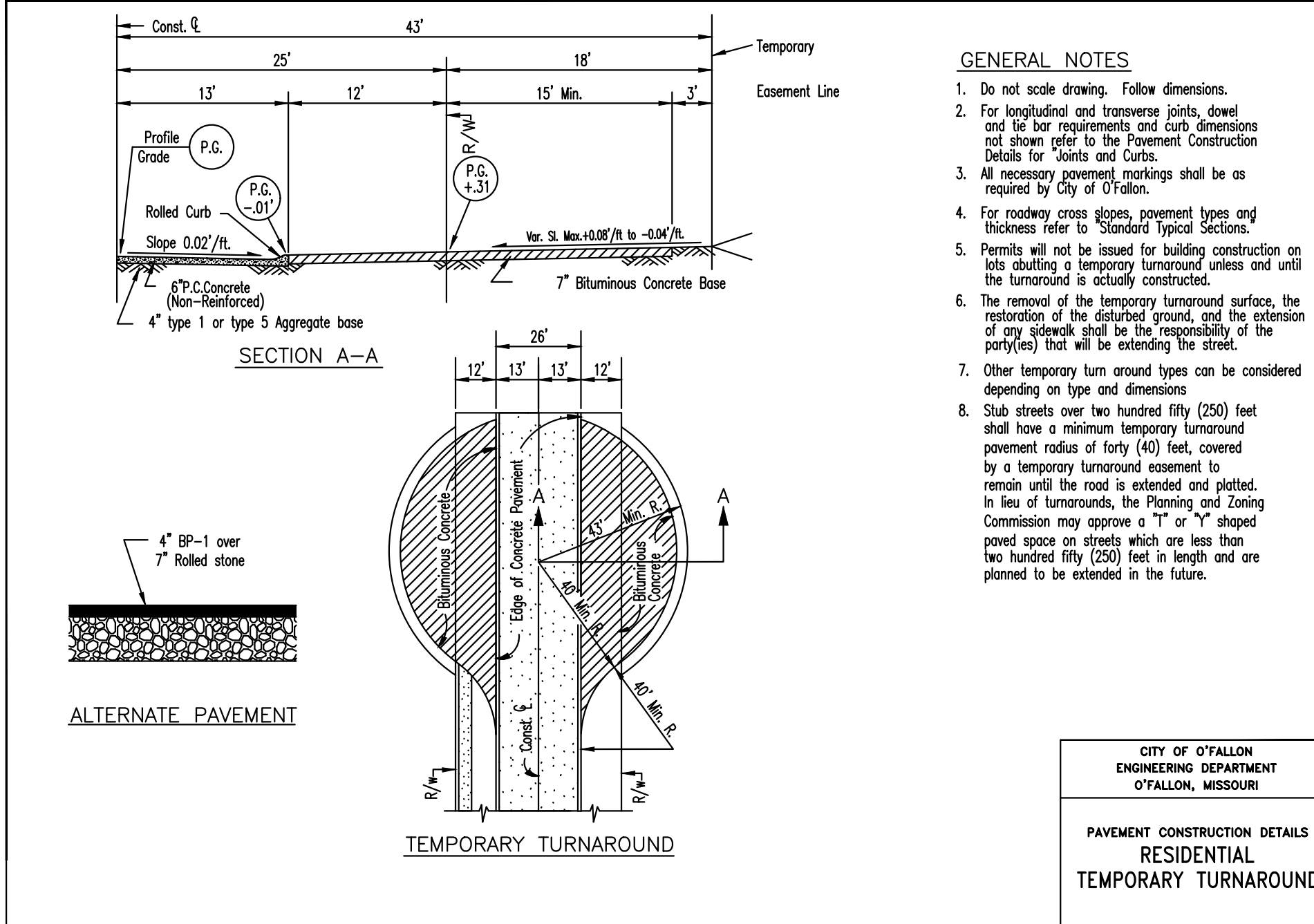
STORM SEWER DETAILS

P+Z No.	21-004994
City No.	21-011444
Date:	03-16-2026
Job No.	20-09-327

DTL-7

IMF

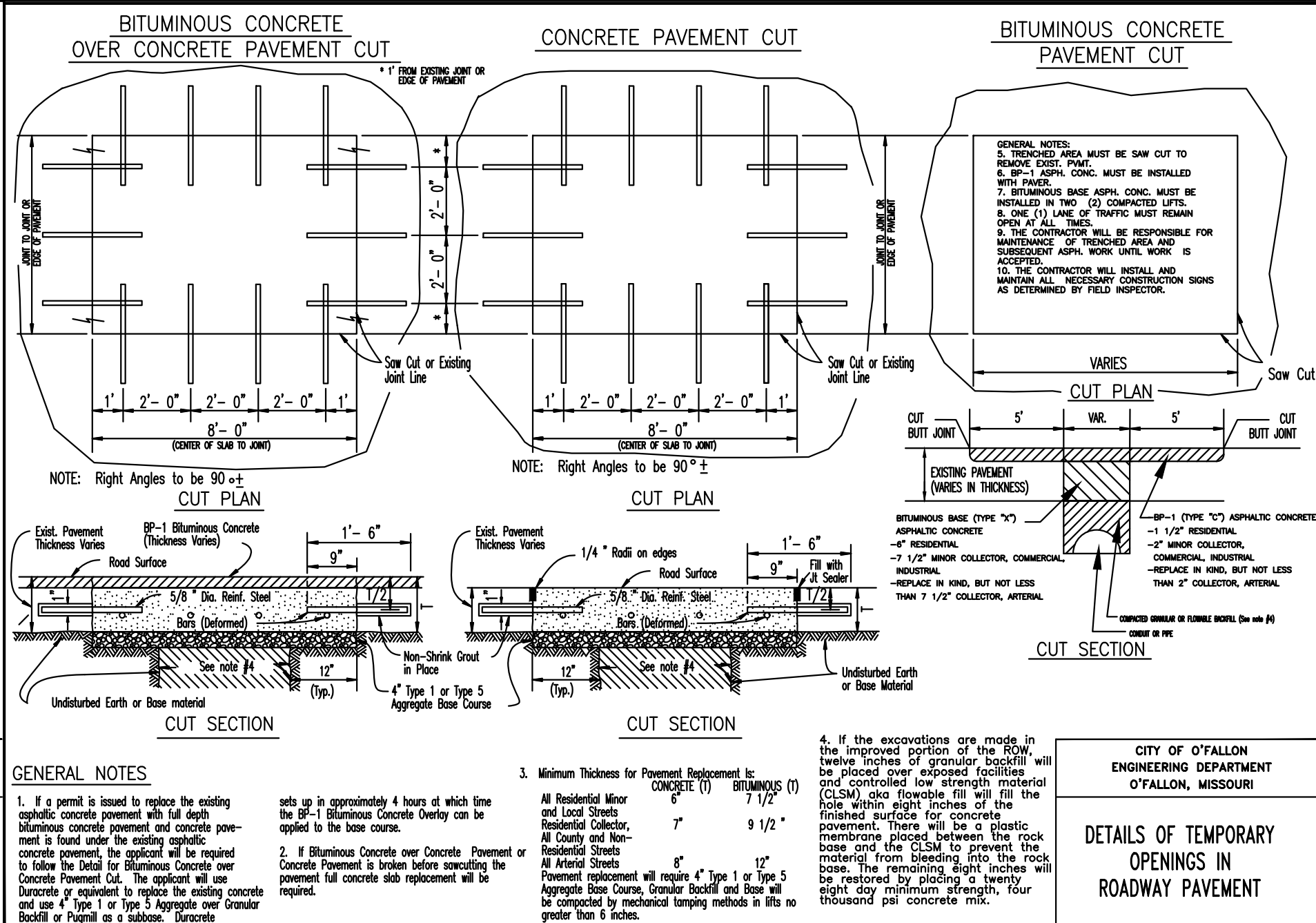
Drawing name: V:\000927 Highway N Assembly\Drawings\Engineering\Improvements\927 MP DETAILS.dwg, Plotter on: Mar 16, 2026 - 3:49pm, Plotted by: boardman



- GENERAL NOTES**
1. Do not scale drawing. Follow dimensions.
 2. For longitudinal and transverse joints, dowel and tie bar requirements and curb dimensions not shown refer to the Pavement Construction Details for Joints and Curb.
 3. All necessary pavement markings shall be as required by City of O'Fallon.
 4. For roadway cross slopes, pavement types and thickness refer to Standard Typical Sections.
 5. Permits will not be issued for building construction on lots abutting a temporary turnaround unless and until the turnaround is actually constructed.
 6. The removal of the temporary turnaround surface, the restoration of the disturbed ground, and the extension of any sidewalk shall be the responsibility of the party(ies) that will be extending the street.
 7. Other temporary turn around types can be considered depending on type and dimensions.
 8. Stub streets over two hundred fifty (250) feet shall have a minimum temporary turnaround pavement radius of forty (40) feet, covered by a temporary turnaround easement to remain until the road is extended and platted. In lieu of turnarounds, the Planning and Zoning Commission may approve a "Y" or "Y" shaped paved spaces on streets which are less than two hundred fifty (250) feet in length and are planned to be extended in the future.

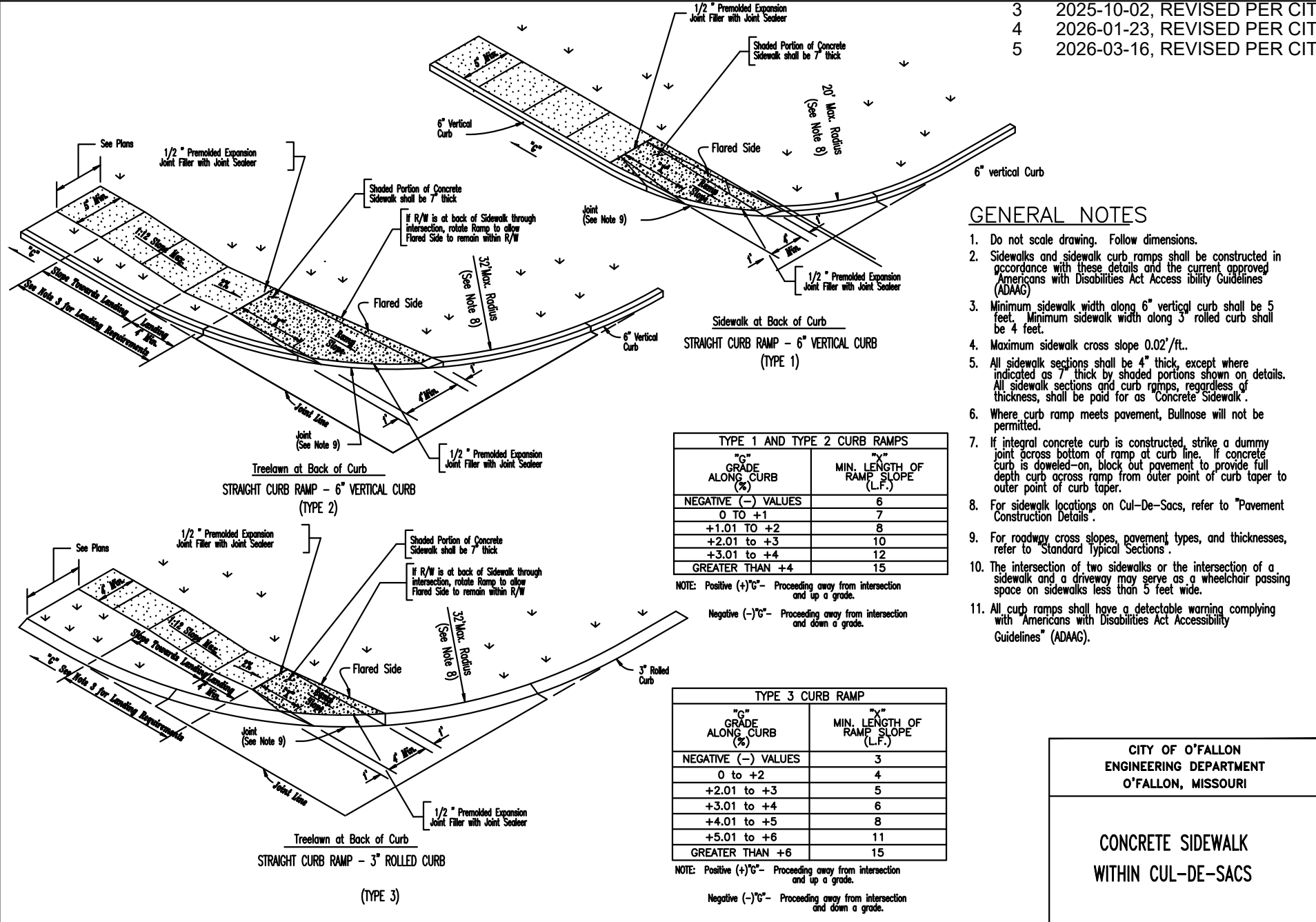
CITY OF O'FALLON
ENGINEERING DEPARTMENT
O'FALLON, MISSOURI

PAVEMENT CONSTRUCTION DETAILS
RESIDENTIAL
TEMPORARY TURNAROUND



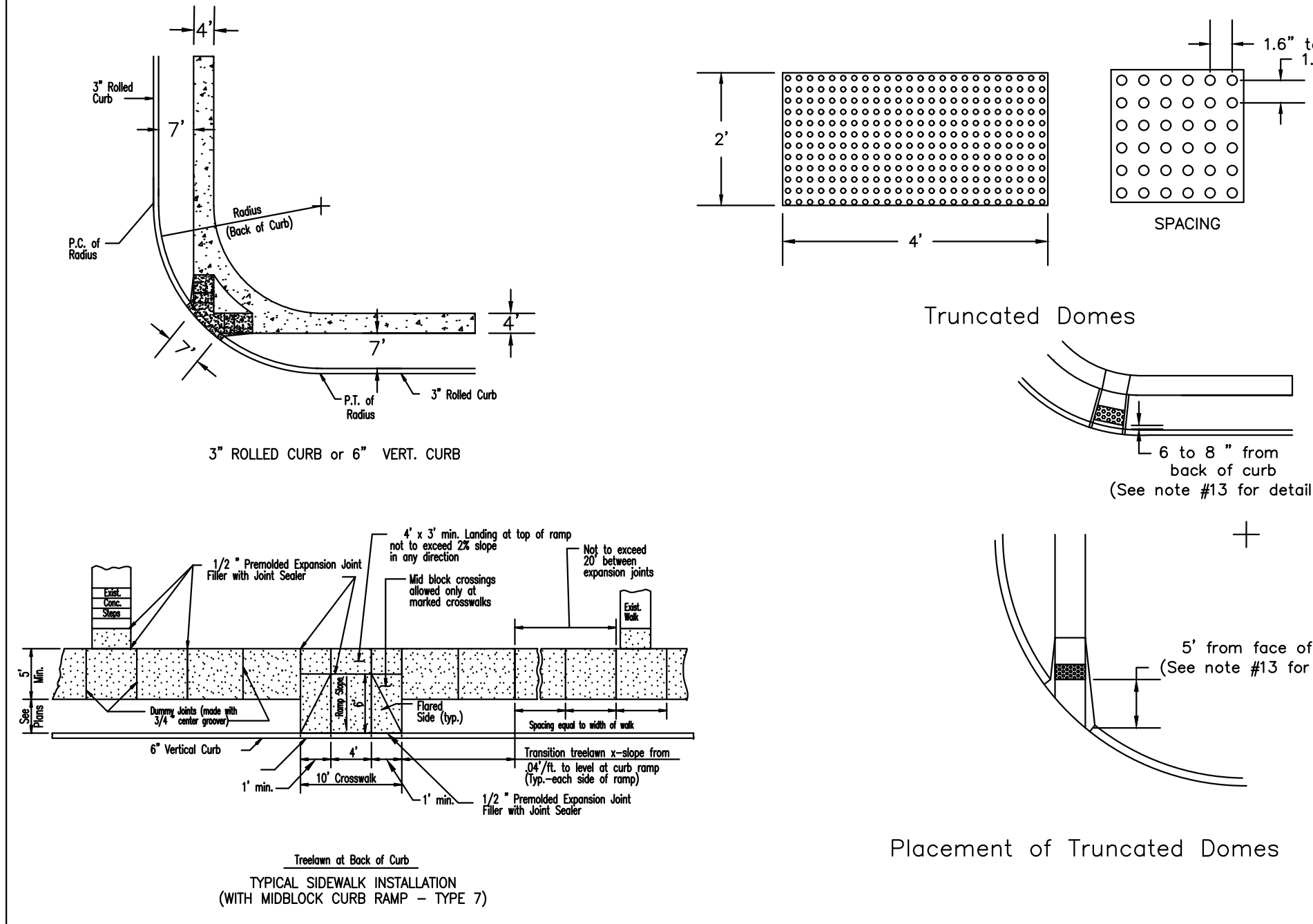
CITY OF O'FALLON
ENGINEERING DEPARTMENT
O'FALLON, MISSOURI

DETAILS OF TEMPORARY
OPENINGS IN
ROADWAY PAVEMENT



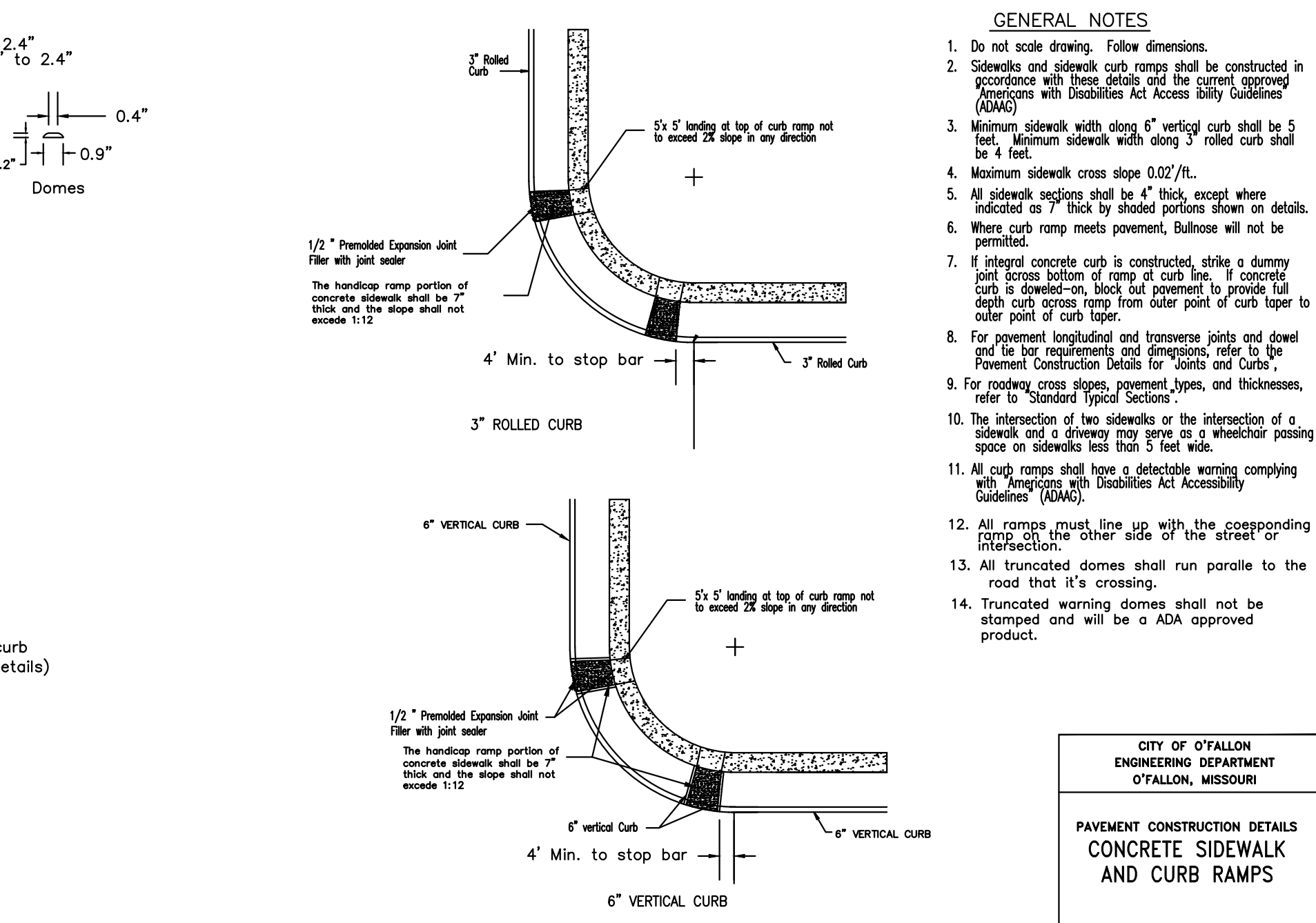
CITY OF O'FALLON
ENGINEERING DEPARTMENT
O'FALLON, MISSOURI

CONCRETE SIDEWALK
WITHIN CUL-DE-SACS



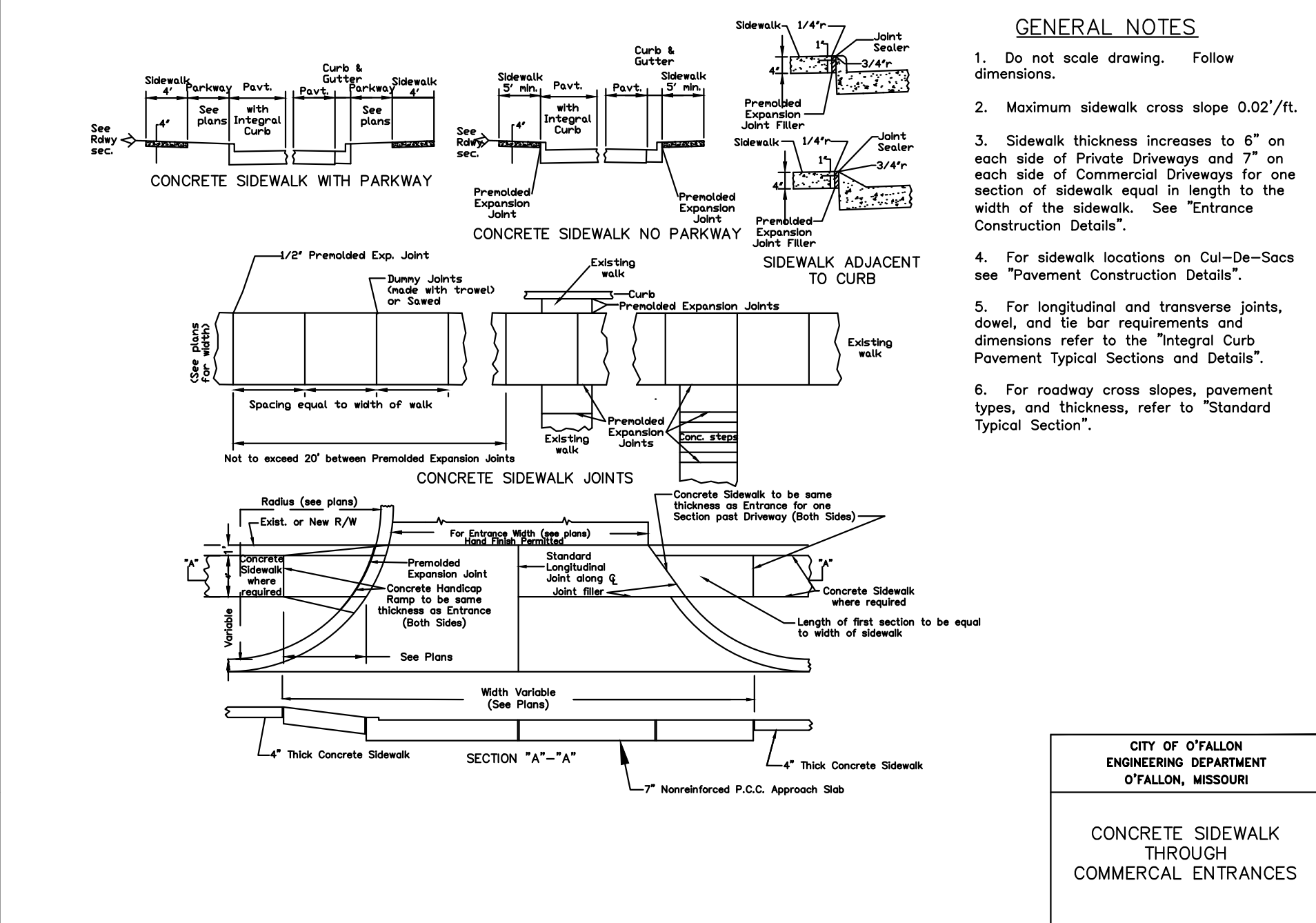
CITY OF O'FALLON
ENGINEERING DEPARTMENT
O'FALLON, MISSOURI

CONCRETE SIDEWALK
THROUGH
COMMERCIAL ENTRANCES



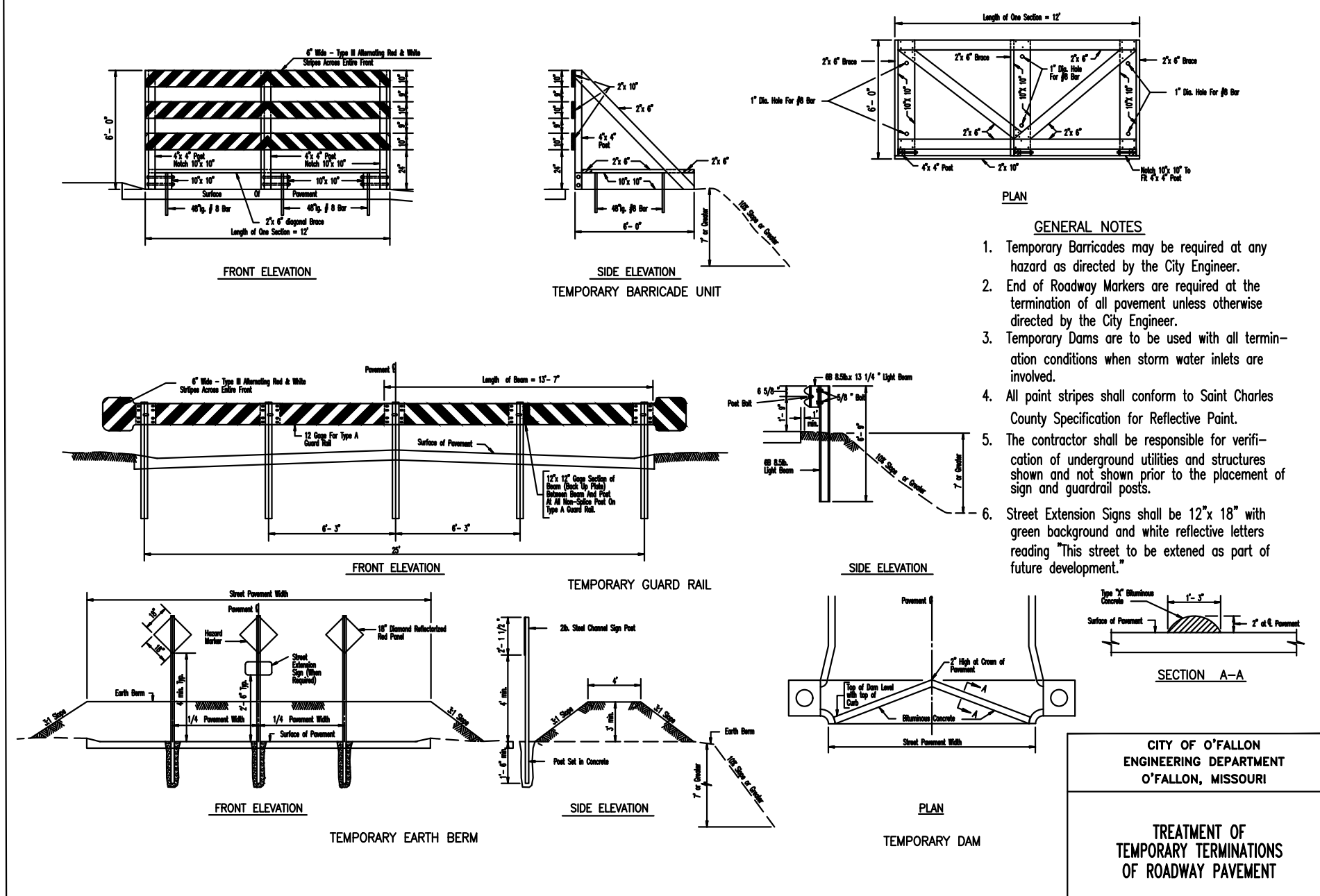
CITY OF O'FALLON
ENGINEERING DEPARTMENT
O'FALLON, MISSOURI

PAVEMENT CONSTRUCTION DETAILS
CONCRETE SIDEWALK
AND CURB RAMPS



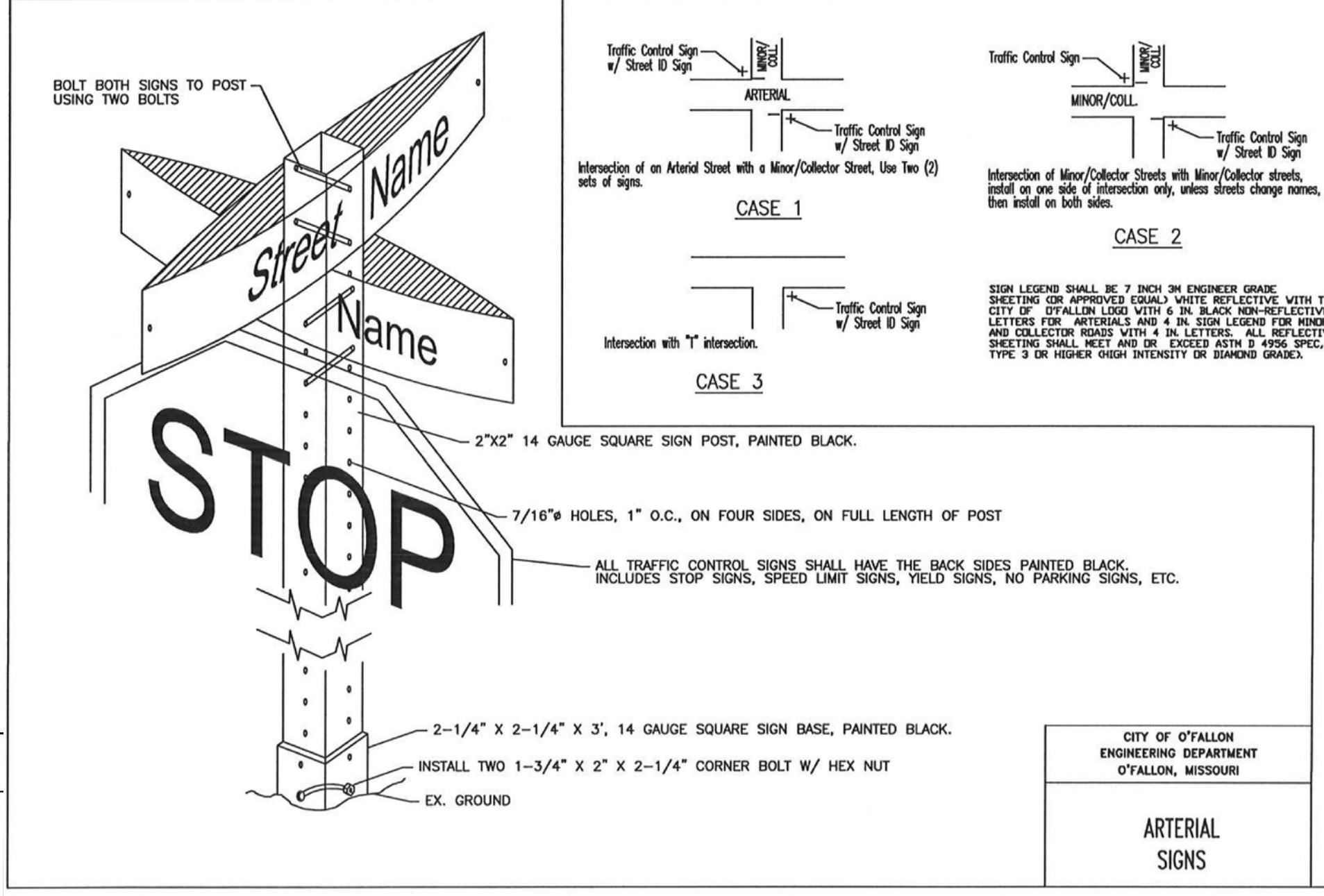
CITY OF O'FALLON
ENGINEERING DEPARTMENT
O'FALLON, MISSOURI

CONCRETE SIDEWALK
THROUGH
COMMERCIAL ENTRANCES



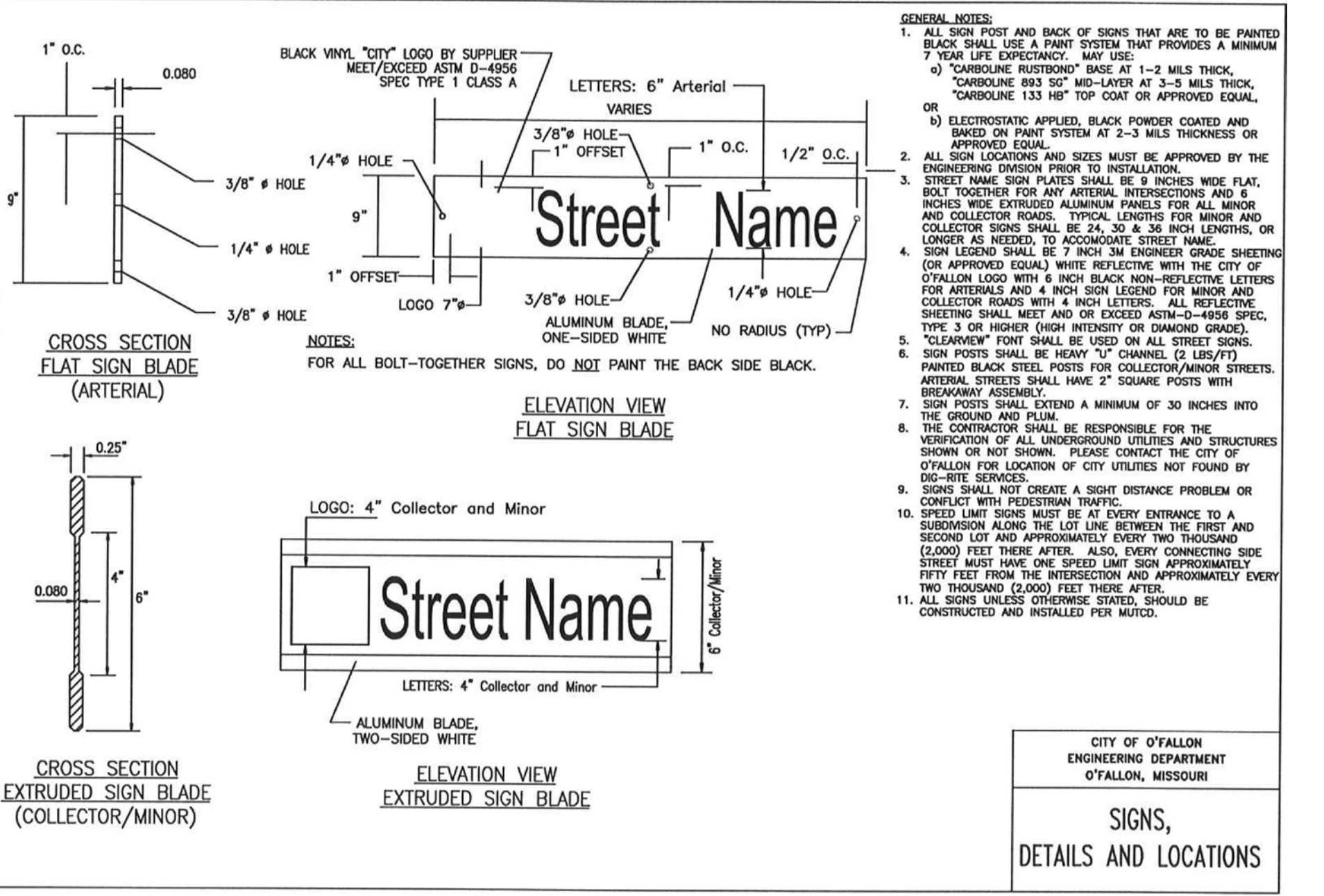
CITY OF O'FALLON
ENGINEERING DEPARTMENT
O'FALLON, MISSOURI

TREATMENT OF
TEMPORARY TERMINATIONS
OF ROADWAY PAVEMENT



CITY OF O'FALLON
ENGINEERING DEPARTMENT
O'FALLON, MISSOURI

ARTERIAL
SIGNS



CITY OF O'FALLON
ENGINEERING DEPARTMENT
O'FALLON, MISSOURI

SIGNS,
DETAILS AND LOCATIONS

CONCRETE NOTE:
ALL NON-REINFORCED CONCRETE SHALL BE 4,000 PSI AT 28 DAYS

PROJECT TITLE

**HARVEST
AT HOPEWELL**
O'Fallon, Missouri

O'FALLON PHASE 3

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Date: 03-16-2026
Michael G. Boeringer
License No. MO E-28643
Professional Engineer

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5091 New Baumgartner Road
St. Louis, Missouri 63129

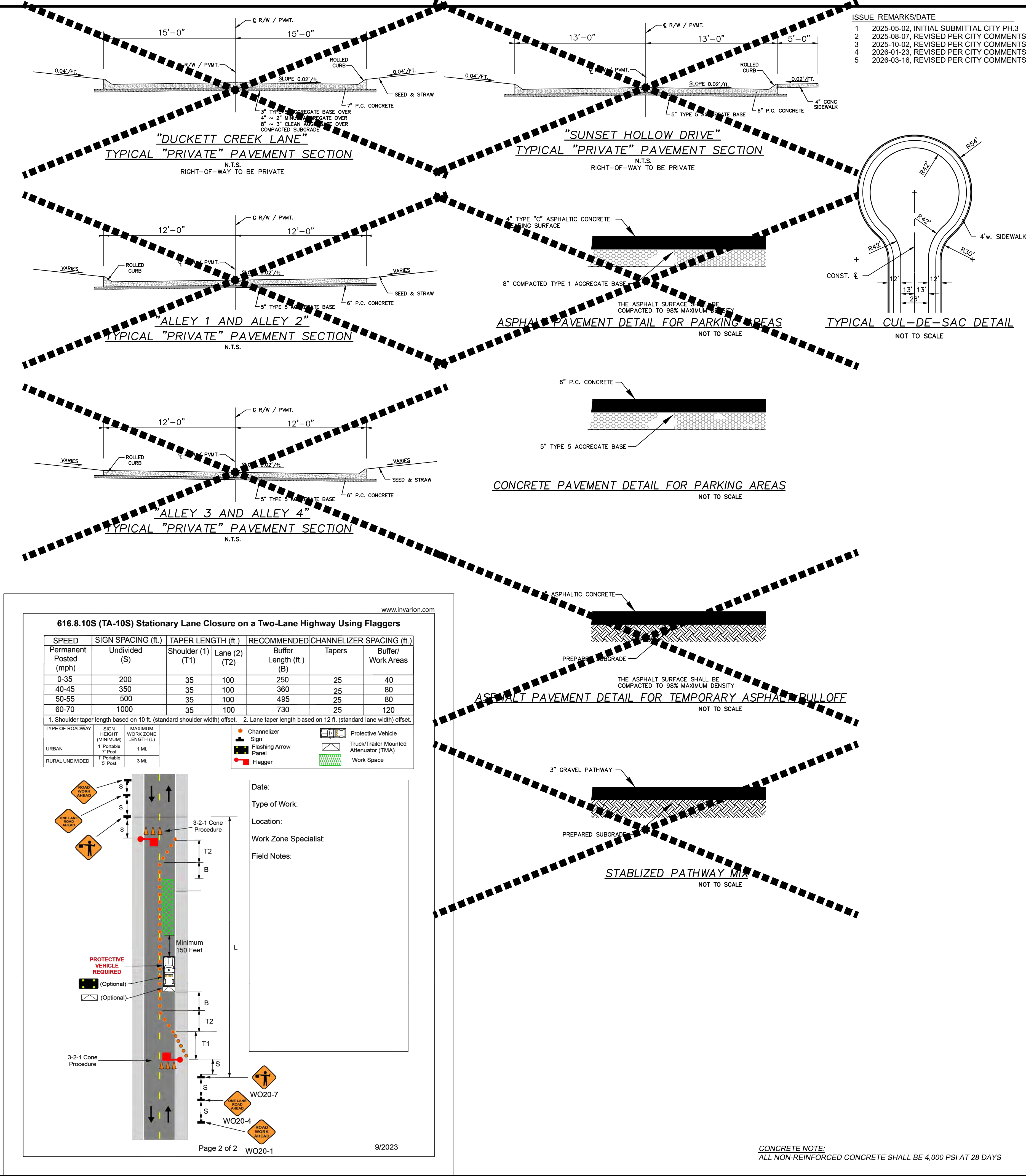
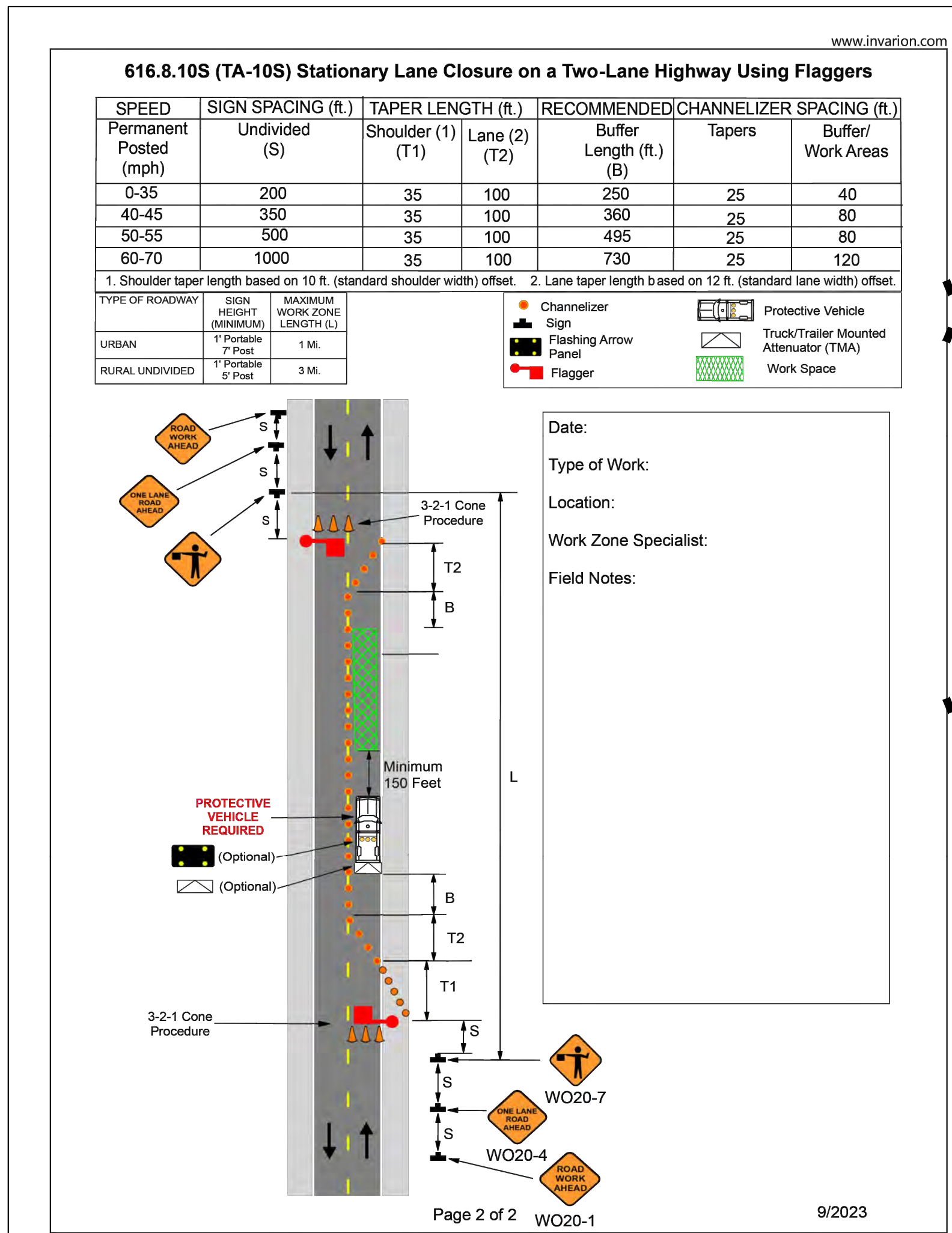
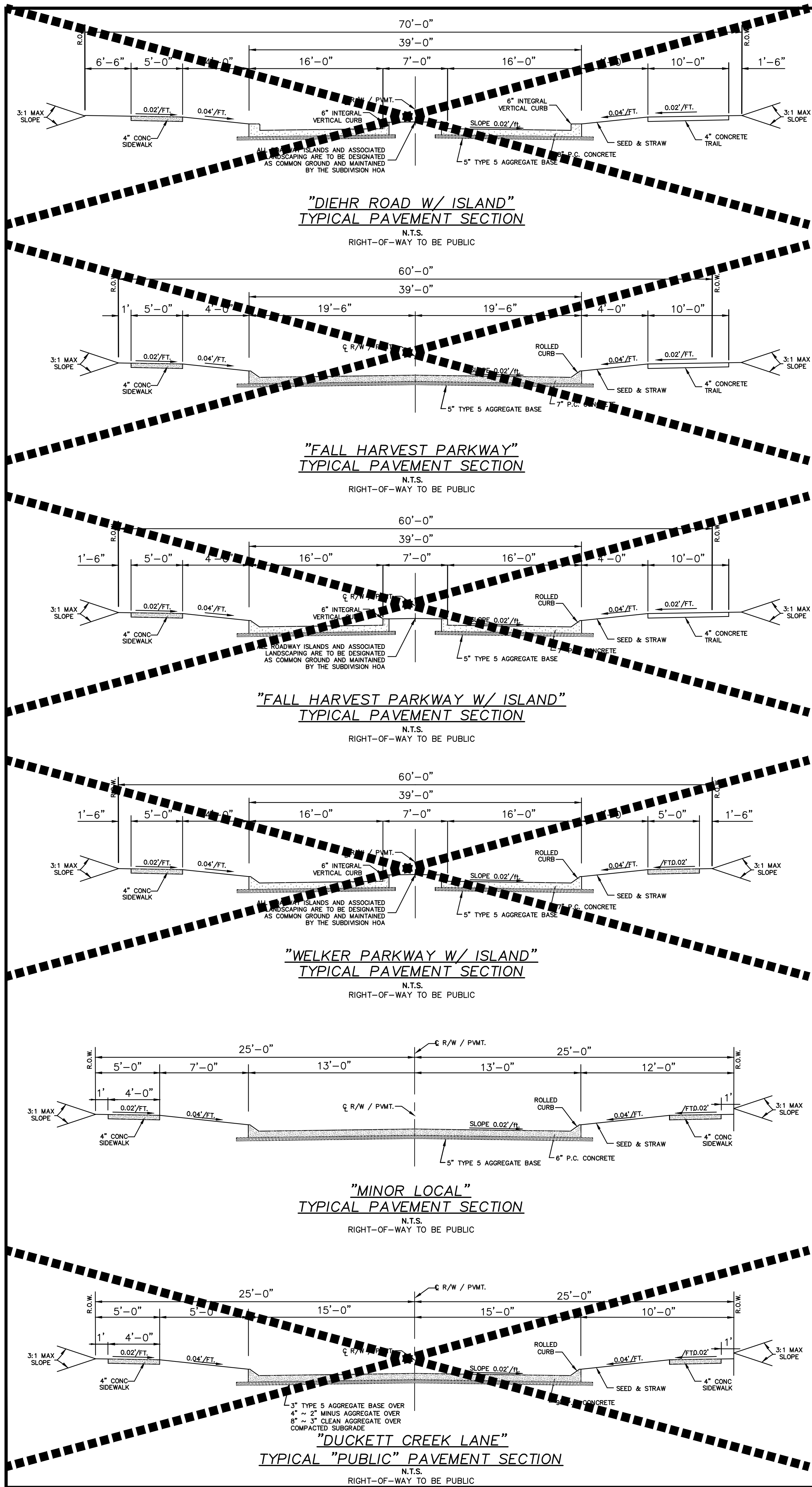
PAVEMENT DETAILS

P+Z No. 21-004994
City No. 21-011444
Date: 03-16-2026
Job No. 20-09-327
Page No.

DTL-10

IMP

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ISSUE	REMARKS/DATE
1	2025-05-02, INITIAL SUBMITTAL CITY PH.3
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PROJECT TITLE

HARVEST
AT HOPEWELL

O'FALLON PHASE 3

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Date: 03-16-2026
Michael G. Boarding
License No. MO E-28643
Professional Engineer

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5091 New Baumgartner Road
St. Louis, Missouri 63129

PAVEMENT DETAILS

P+Z No. 21-004994
City No. 21-011444
Date: 03-16-2026
Job No. 20-09-327

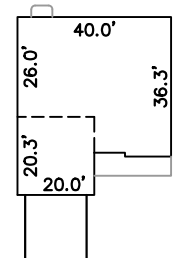
Page No.

DTL-11

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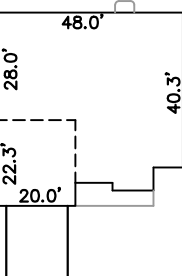
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TYPICAL LOT DETAILS



VILLAGE D	
LOTS INCLUDED	531-542, 612-624, 639-724
GROSS AREA	12.82 AC.
MINIMUM LOT SIZE	6,018 S.F.
AVERAGE LOT SIZE	6,729 S.F.
AVERAGE IMPERVIOUS	35%

TYPICAL HOUSE "D" LOT



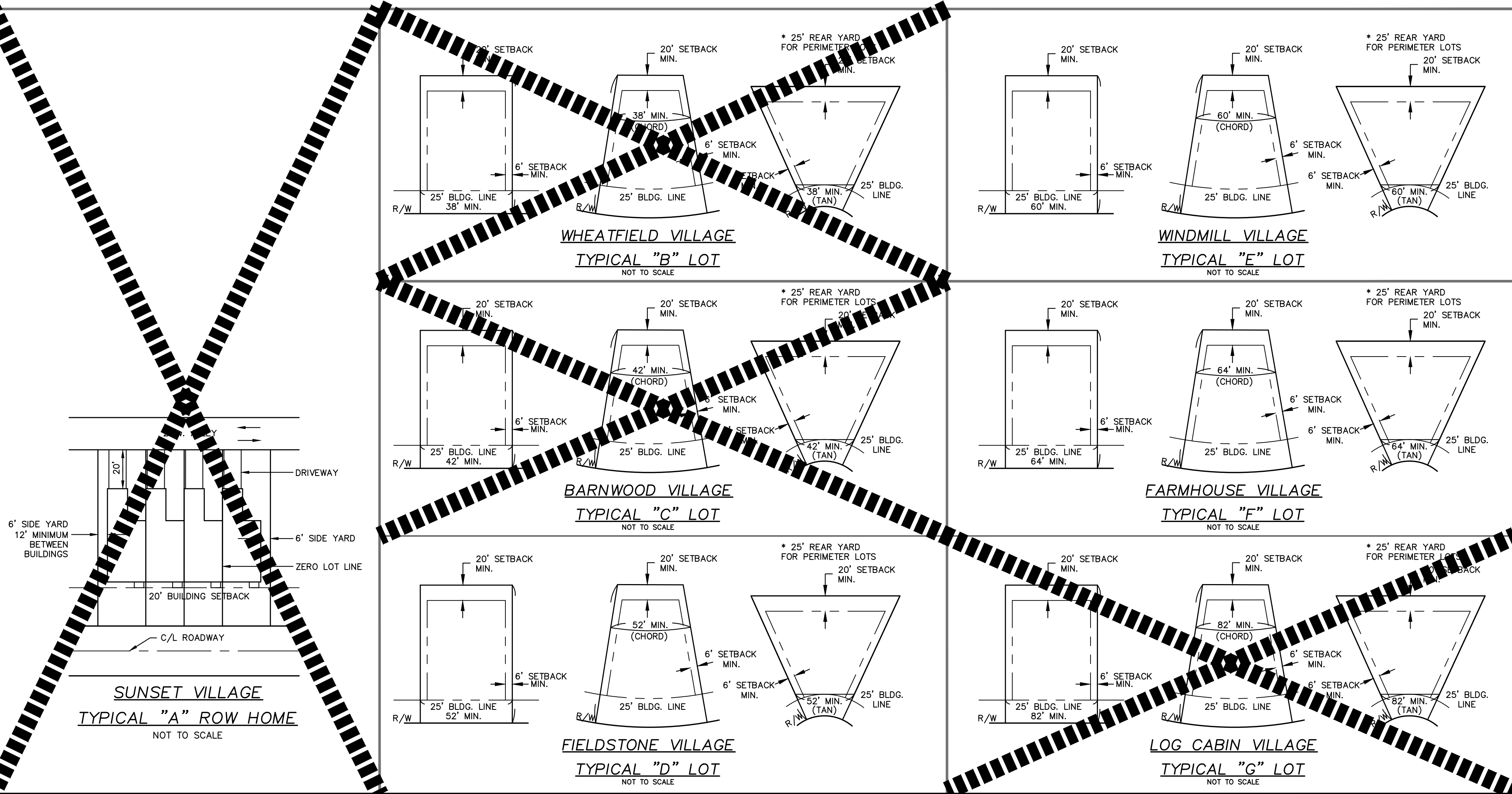
VILLAGE E	
LOTS INCLUDED	601-611, 625-638
GROSS AREA	4.22 AC.
MINIMUM LOT SIZE	6,887 S.F.
AVERAGE LOT SIZE	7,363 S.F.
AVERAGE IMPERVIOUS	37%

TYPICAL HOUSE "E" LOT

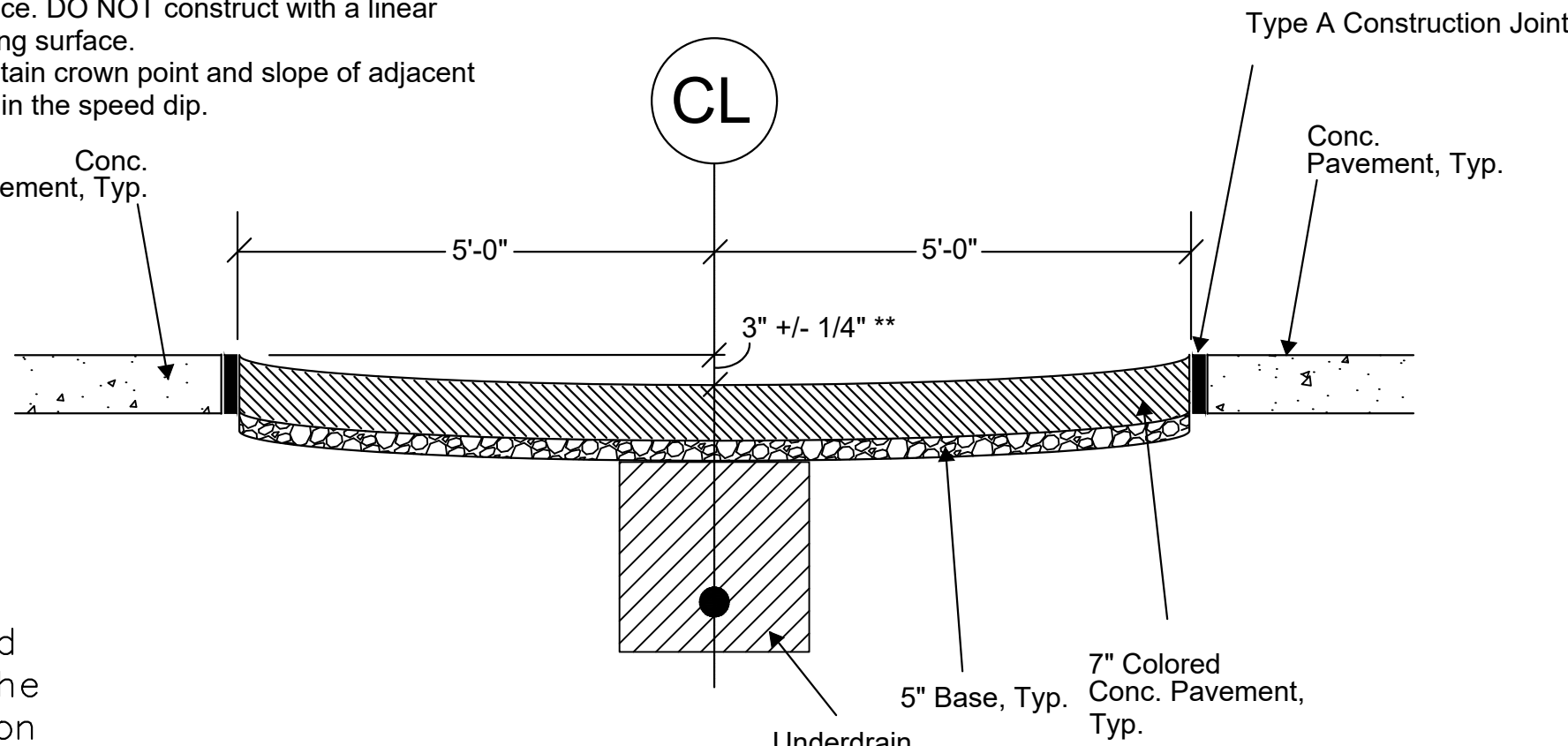


VILLAGE F	
LOTS INCLUDED	543-600
GROSS AREA	11.04 AC.
MINIMUM LOT SIZE	7,476 S.F.
AVERAGE LOT SIZE	8,298 S.F.
AVERAGE IMPERVIOUS	45%

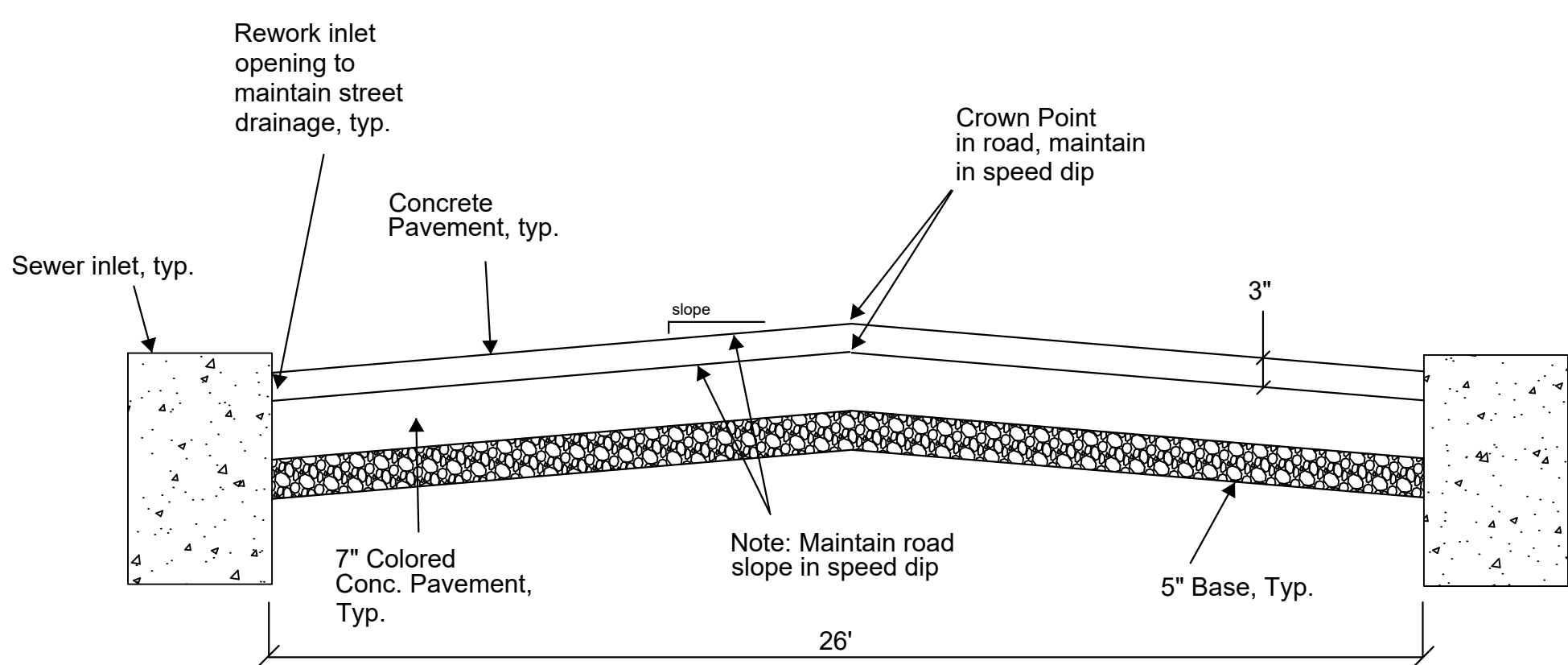
TYPICAL HOUSE "F" LOT



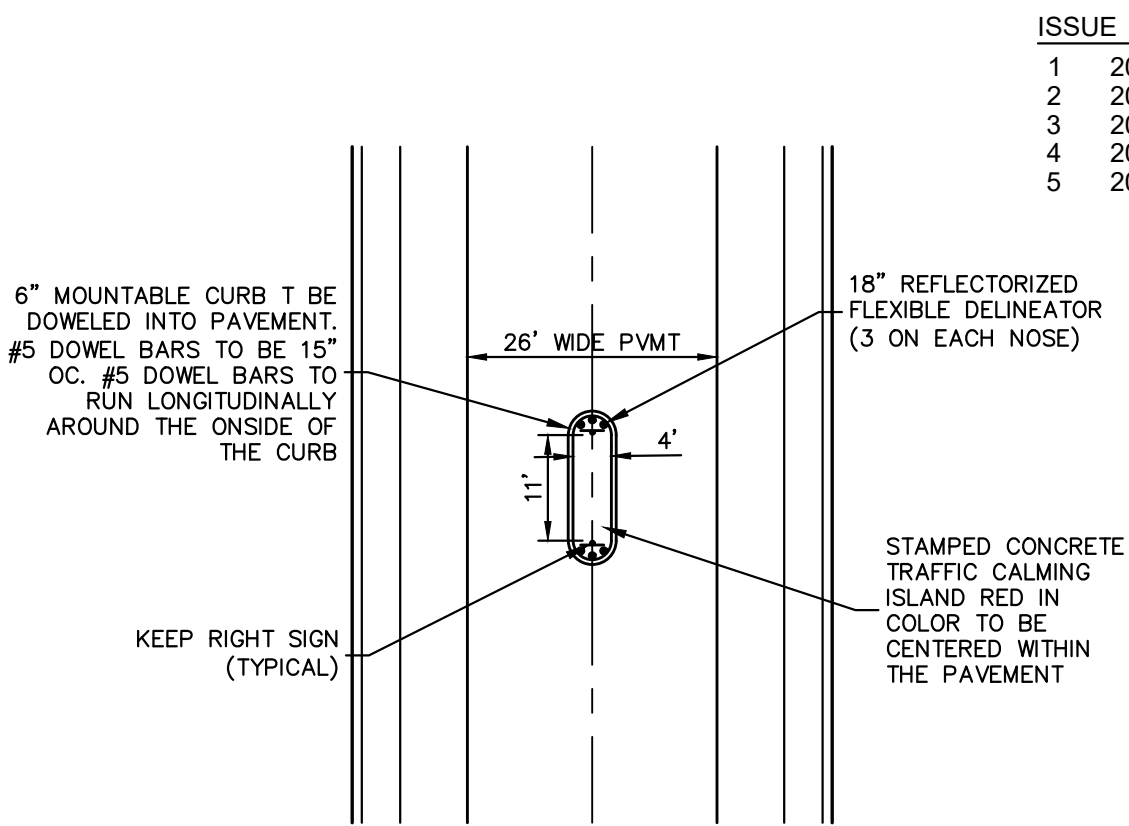
** NOTE ** - 3" depression in concrete is a concave surface. DO NOT construct with a linear sloping surface.
- Maintain crown point and slope of adjacent road in the speed dip.



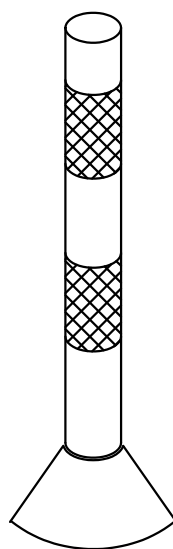
TRAFFIC CALMING 'DIP' - PROFILE VIEW



TRAFFIC CALMING 'DIP' - FRONT VIEW



TRAFFIC CALMING ISLAND DETAIL
NOT TO SCALE



18" REFLECTORIZED FLEXIBLE
DELINEATOR POST (R.F.D.P.) DETAIL
NOT TO SCALE

ISSUE	REMARKS/DATE
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PROJECT TITLE

HARVEST
AT HOPEWELL

O'Fallon, Missouri

O'FALLON PHASE 3

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Corporate Certificate of Authority #001348



Date: 03-16-2026
Michael G. Boarding
License No. MO E-28643
Professional Engineer

HARVEST HOPEWELL, LLC
5091 New Baumgartner Road
St. Louis, Missouri 63129

PAVEMENT DETAILS

P+Z No. 21-004994
City No. 21-011444
Date: 03-16-2026
Job No. 20-09-327

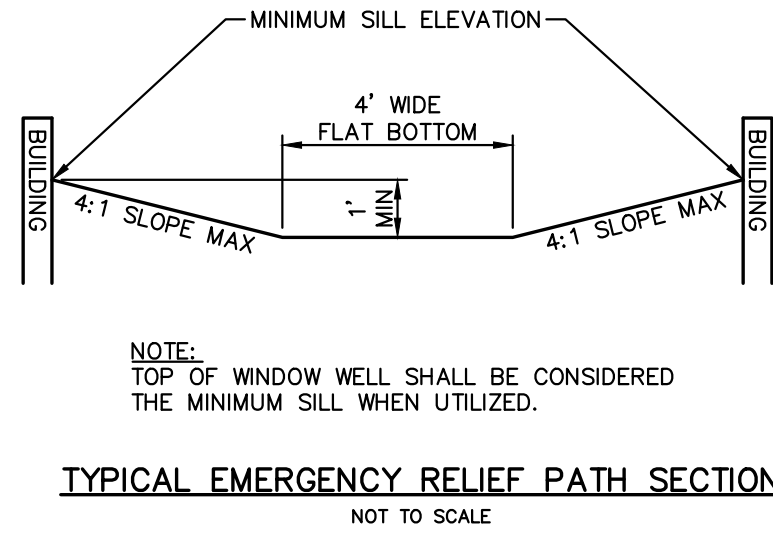
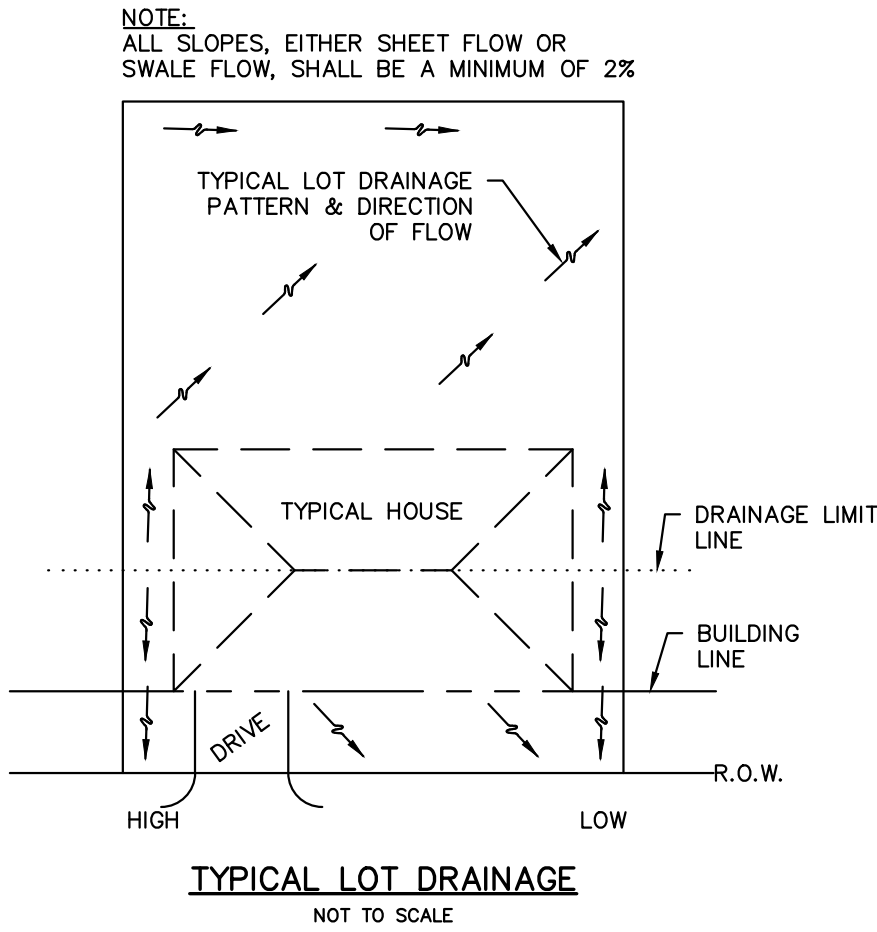
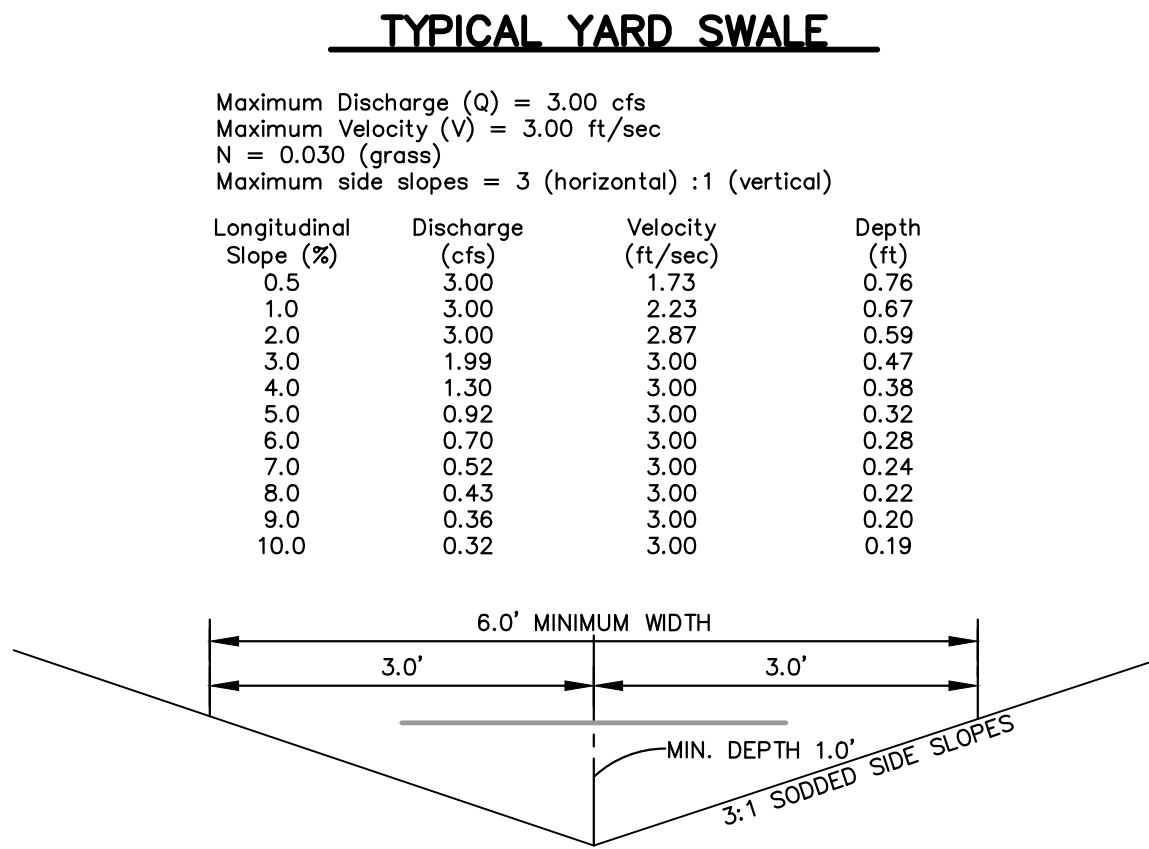
Page No.

DTL-11.1

IMP

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Drawing name: V:\20080927 Highway N Assemblies\Drawings\Engineering\Improvements\8327 IMP DETAILS.dwg, Plotted on: Mar 16, 2026 - 3:48pm, Plotted by: bcardona

DEVELOPER SHALL PROVIDE TEMPORARY SIGNS AT THE RIGHT-OF-WAY DESIGNATING THE LOCATION OF THE EMERGENCY RELIEF SWALES. THESE SIGNS SHALL BE POSTED PRIOR TO CONSTRUCTION OF THE HOUSES (SIMILAR TO LOT NUMBER SIGNS) AND REMAIN IN PLACE UNTIL THE HOUSE AND EMERGENCY SWALE IS BUILT.



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PROJECT TITLE

**HARVEST
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The Professional Engineer's seal and signature shall be on the sheet. All drawings, documents or other documents not containing the seal and signature shall not be considered part of the project. The Professional Engineer shall be responsible for and accept responsibility for work done. Drawing is approved and sealed this date and signature.



Date: 03-16-2026
Michael G. Boerding
License No. MO E-28643
Professional Engineer

HARVEST HOPEWELL, LLC
5091 New Baumgartner Road
St. Louis, Missouri 63129

EMERGENCY RELIEF PATH DETAILS

P+Z No. 21-004994
City No. 21-011444
Date: 03-16-2026
Job No. 20-09-327

Page No.

DTL-12

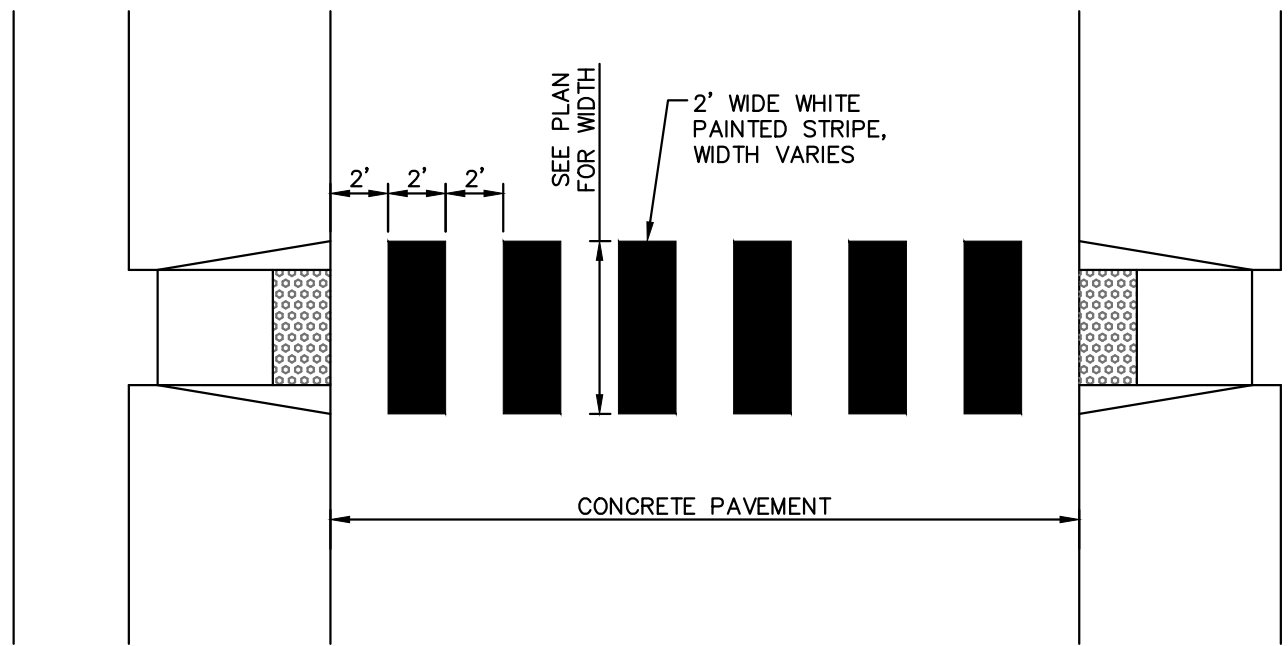
IMP

HARVEST AT HOPEWELL - PHASE THREE
EMERGENCY RELIEF PATH CALCULATIONS

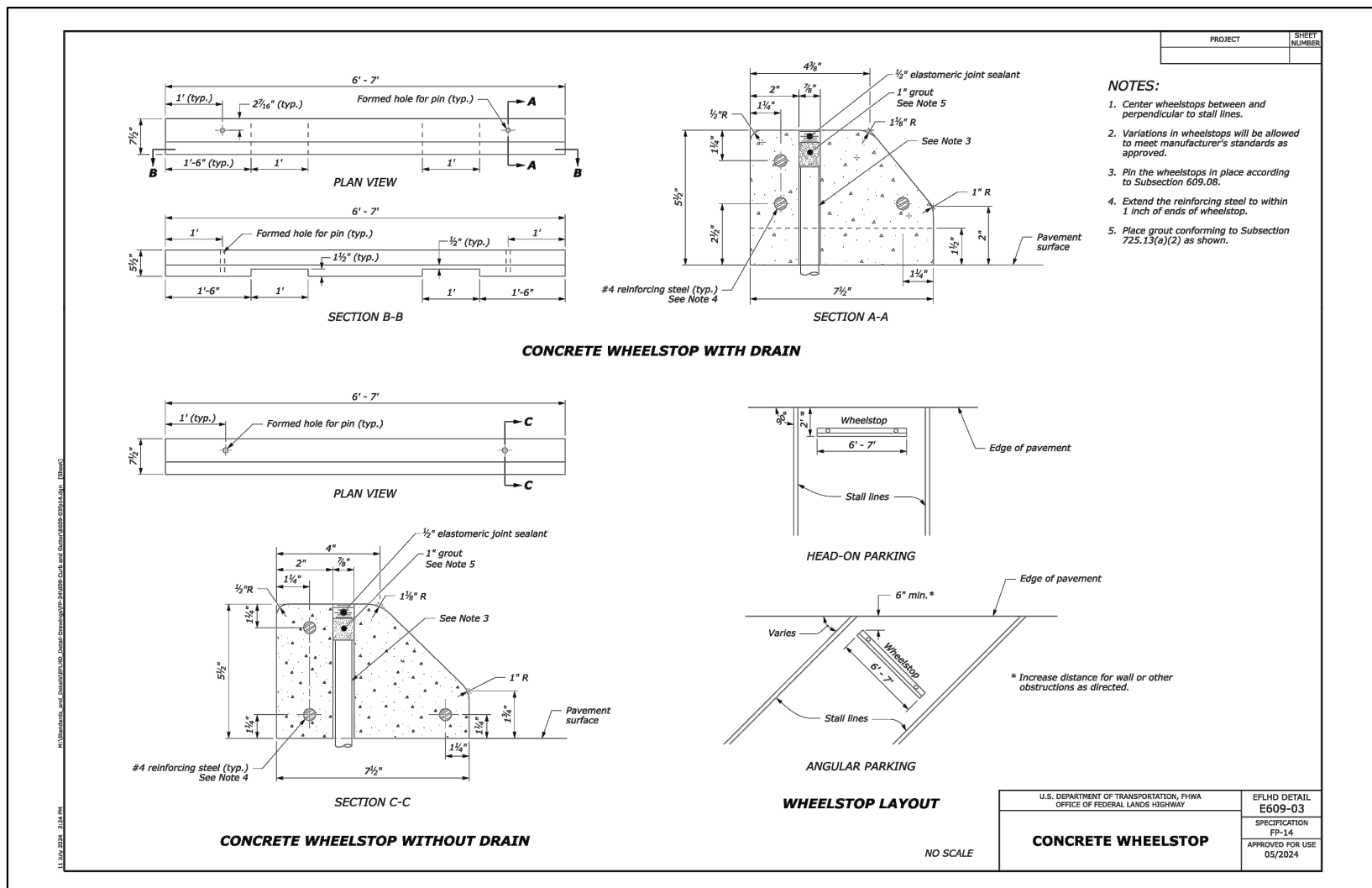
E.R.P.	Structure	Swale Type	Bottom Width	Drainage Areas	Total 15 YR Q	ERP FL	15 YR Water Depth	Total 100 YR Q	100 YR Water Depth	100 YR Water Elev.	MLS Elevation	Window Wells Required	100YR,20MIN HGL Stays within System	Notes
Lot 542D	AI S37	Side Yard	4	288, 300	4.07	577.8	0.30	5.49	0.35	578.15	Lot 542D 579.2	YES	YES	
Lot 551F	AI S26	Rear Yard	4	328, 334	2.55	562.8	0.23	3.44	0.27	563.07	Lot 551F 564.1	NO	YES	
Lot 552F/Lot 553F	CI S23	Street Inlet	4	307, 335, 330, 331	5.53	563.4	0.35	7.47	0.42	563.82	Min. Gar. 564.9	n/a	YES	
Lot 552F/Lot 553F	AI S24	Rear Yard	4	307, 328, 335, 329, 330, 331, 334	8.85	560.8	0.45	11.95	0.53	561.33	Lot 552F 562.4 / Lot 553F 562.4	NO	YES	
Grindstone Dr - Sta 38+49	DCI S4	Street Inlet	4	332, 333, 336, 337, 338, 339, 340, 341, 342, 343, 344, 345, 346	25.38	555.5	0.52	34.26	0.62	556.12	Lot 567F Min. Gar. 557.6 42" Storm Main	n.a	YES	Swale 10' at ROW, Sidewalk should be set at 550.5 for 10'
Lot 567F/Lot 668F	AI S7	Side Yard	6	332, 333, 336, 337, 338, 339, 340, 341, 342, 343, 344	18.53	556.3	0.56	25.02	0.62	556.92	Lot 567F 558.0 / Lot 568F 558.0 42" Storm Main	YES	YES	
Lot 575F	AI S21		4	332	0.87	562.7	0.13	1.17	0.15	562.85	Lot 575F 563.9 / Lot 576F 563.9	NO	YES	
Lot 584F/Lot 585F	CI S9	Street Inlet	4	336, 337, 338, 339, 340, 341, 342	13.79	558.4	0.57	18.62	0.67	559.07	Lot 584F, 585F, 590F, 591F Min. Gar. 560.3 42" Storm Main	n/a	YES	
Lot 590F/Lot 591F	AI S11	Side Yard	4	337, 338, 339, 340	5.68	558.9	0.36	7.67	0.42	559.32	Lot 590F 560.8 / Lot 591F 560.8 36" Storm Main	YES	YES	
Lot 619D/Lot 620D	CI R8	Rear Yard	4	286, 287, 290, 322, 323, 317, 318,	11.73	557.9	0.44	15.84	0.52	558.42	Lot 619D, 620D, 621D, 622D Min. Gar. 559.5	n/a	YES	
Lot 621D/Lot 622D	AI R11	Rear Yard	4	321	0.57	557.2	0.10	0.77	0.12	557.32	See ERP for AI R22	NO	YES	
Lot 611E	AI R34	Side Yard	4	304	0.69	559.9	0.11	0.93	0.13	560.03	Lot 611E 561.2	NO	YES	
Lot 613D/Lot 614D	CI R19	Street Inlet	10	301, 302, 303, 304, 305, 306, 308, 309, 310, 311, 312, 313, 314, 315, 316, 321	22.07	557.5	0.48	29.79	0.57	558.07	Lot 614D, 623D, 624D Min. Gar. 559.3	n/a	YES	Swale 10' wide at ROW reduced to 4' wide at Building Line
Lot 623D/Lot 624D	AI R22	Side Yard	4	311, 312, 313, 314, 321	8.05	557.5	0.43	10.87	0.51	558.01	Lot 623D 559.0 / Lot 624D 559.0 Lot 621D 559.0 / Lot 622D 559.0	n/a	YES	
Lot 695D	AI Q10	Side Yard	4	291, 292, 293, 294, 295	8.40	559.8	0.44	11.34	0.52	560.32	Lot 694D 561.3 / Lot 695D 561.3 36" Storm Main	YES	YES	
Lot 704D/Lot 705D	DCI Q7	Street Inlet	10	275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 285, 291, 292, 293, 294, 295, 296, 297	25.06	559.15	0.52	33.83	0.62	559.77	Lot 695D, 704D, 705D Min. Gar. 561.1 42" Storm Main	n/a	YES	Swale 10' wide at ROW reduced to 4' wide at Building Line, Sidewalk should be set at 559.15 for 10'
Lot 713D	AI Q23	Side Yard	4	279, 280, 281, 282, 283	3.38	565.1	0.27	4.56	0.32	565.42	Lot 713D 566.4	NO	YES	
Lot 714D	AI Q25	Side Yard	4	279, 280, 281	2.43	565.5	0.23	3.28	0.27	565.77	Lot 714D 566.8	n/a	YES	

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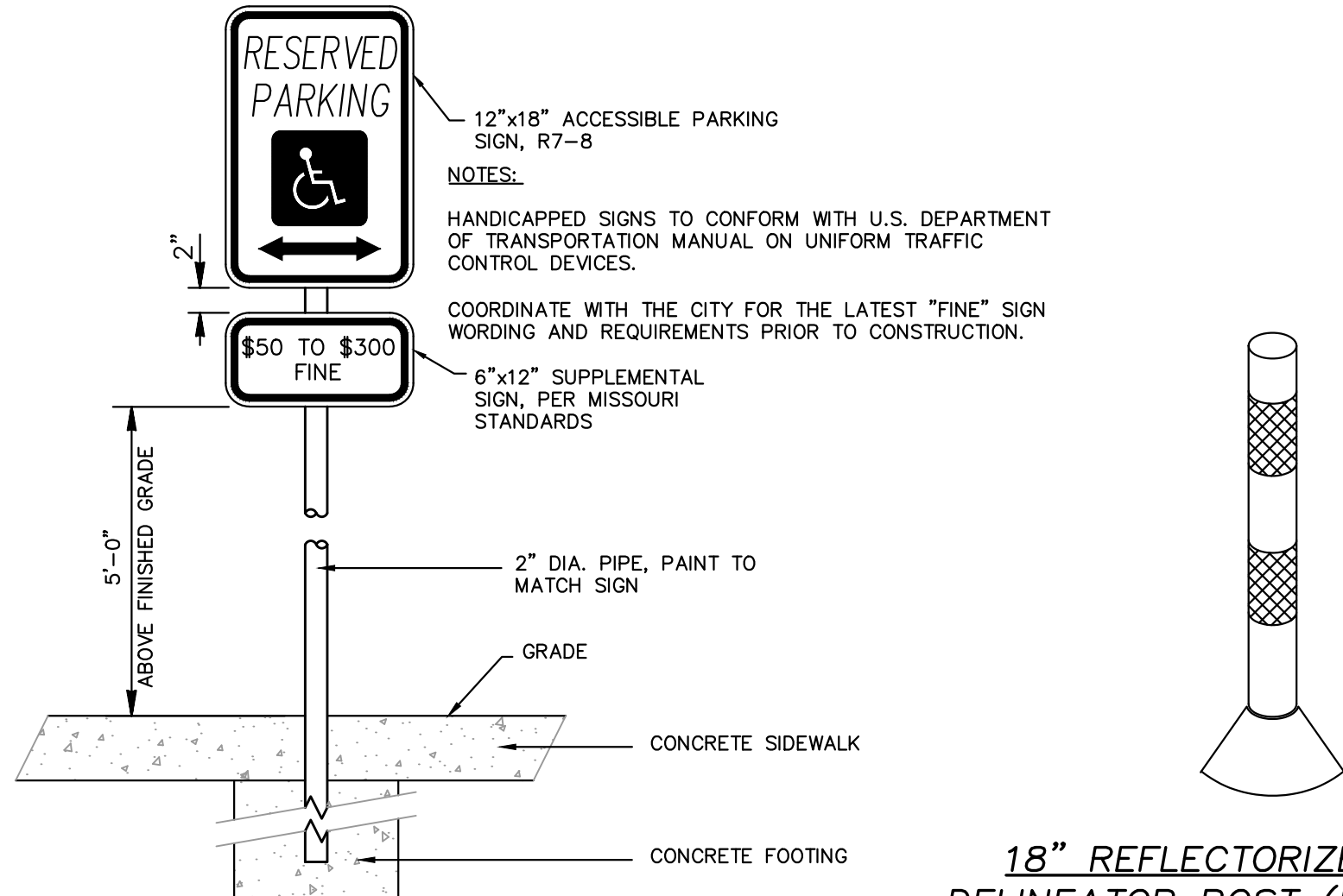
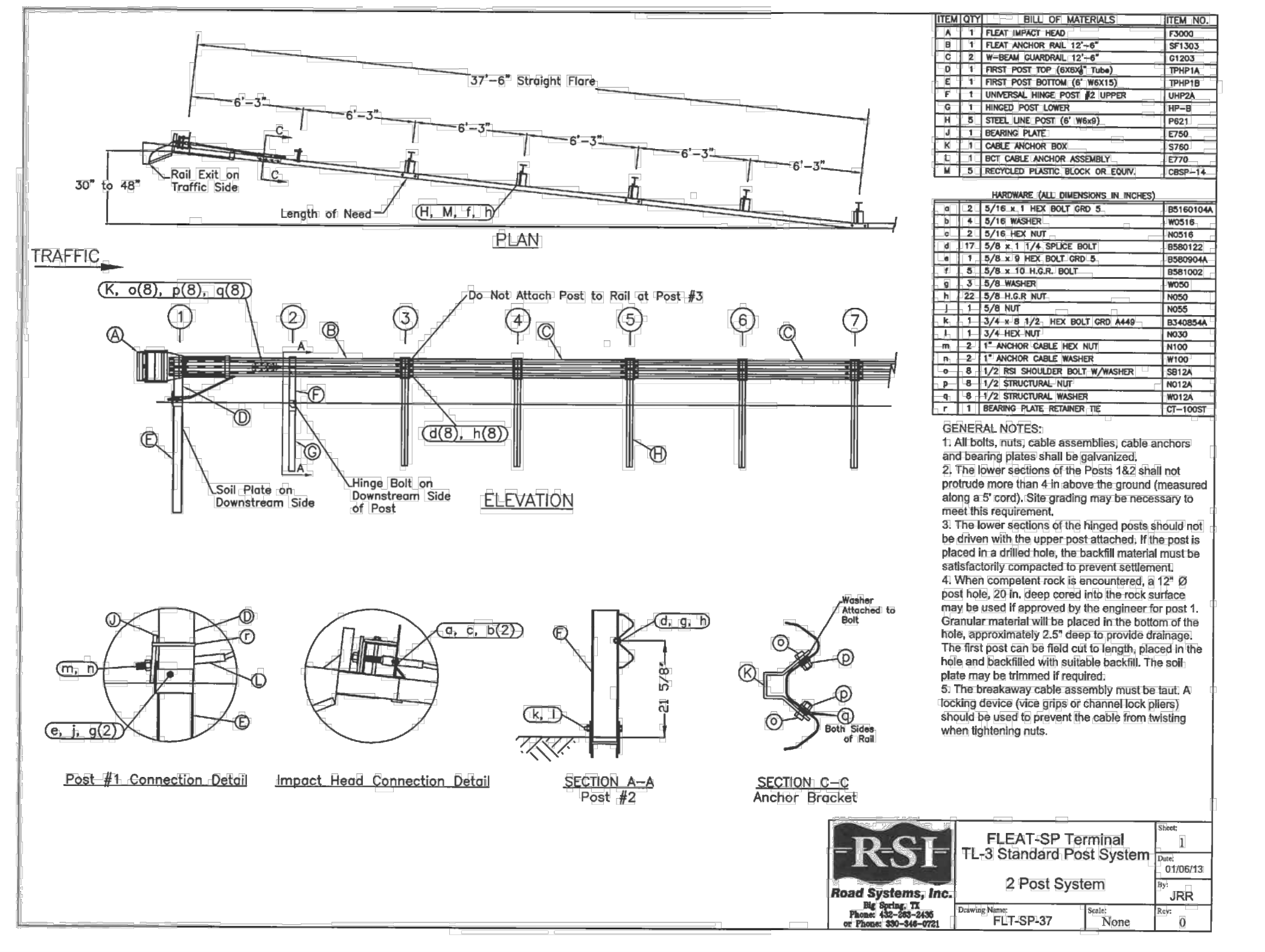
NOTE:
STRIPING SHALL BE HIGH VISIBILITY
CONSISTENT WITH AASHTO AND
NACTO STANDARDS.



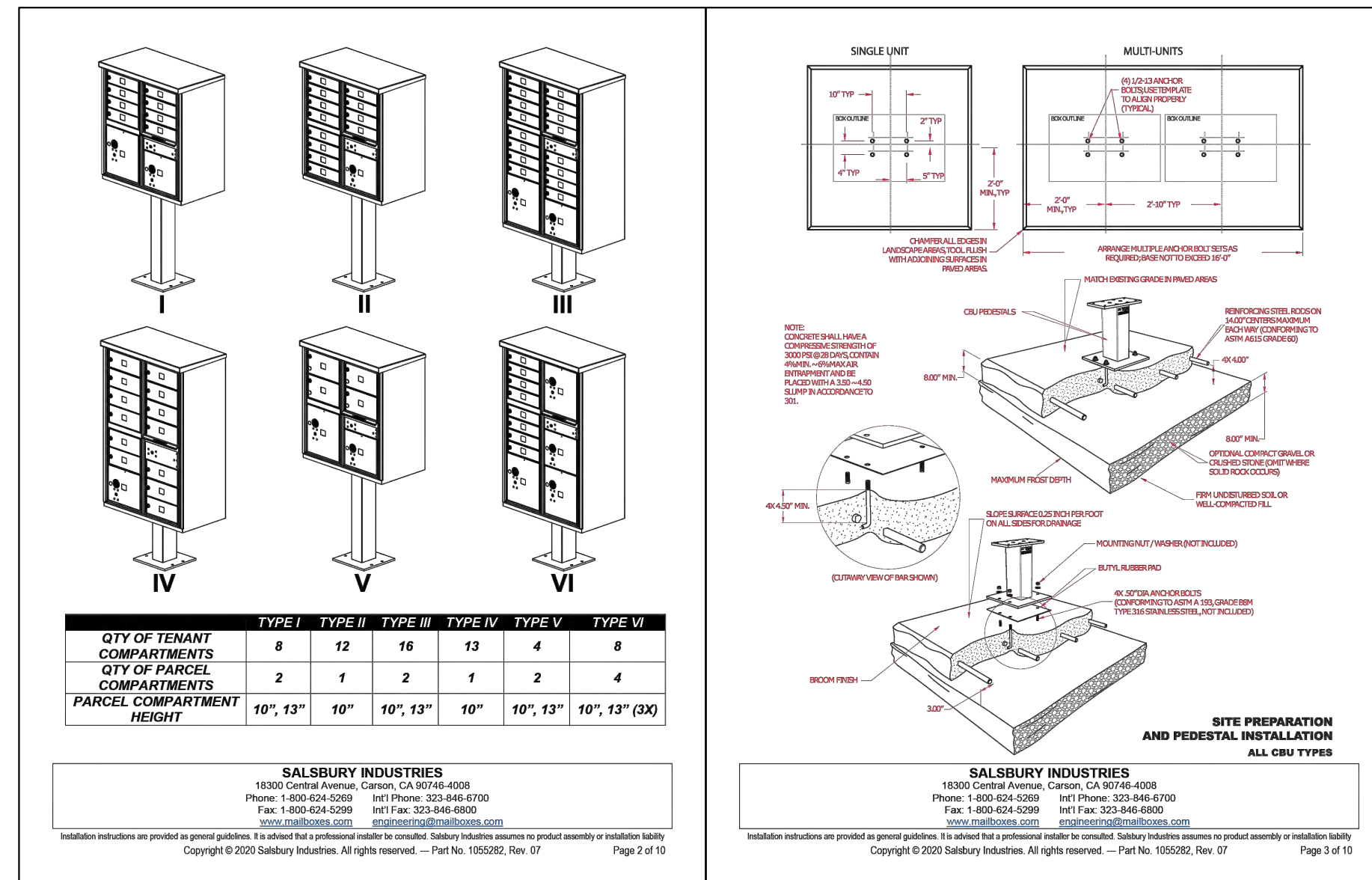
TYPICAL CROSSWALK DETAIL
NOT TO SCALE



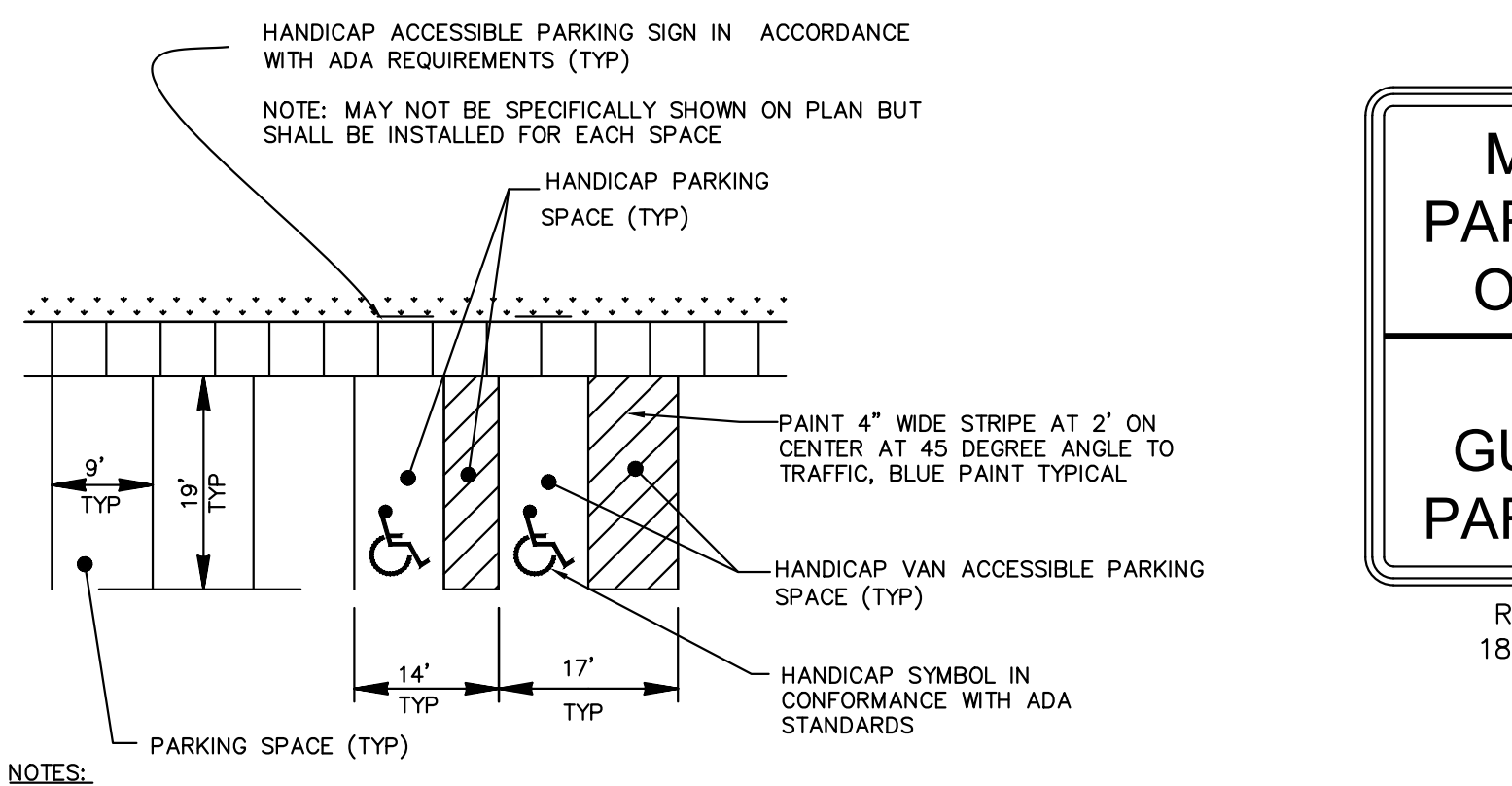
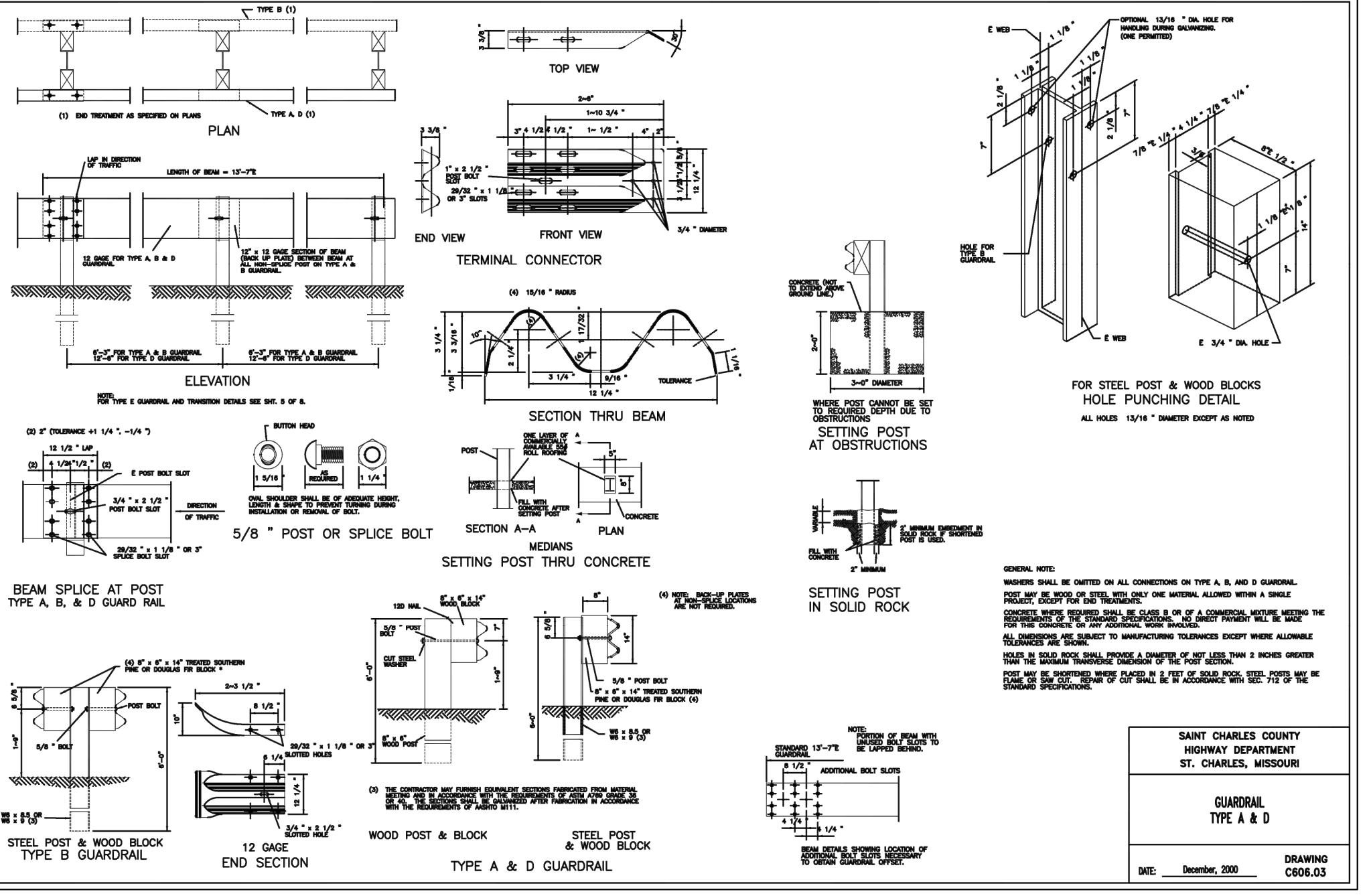
WHEEL STOP DETAIL



ACCESSIBLE PARKING SIGN
N.T.S.



U.S.P.S. MAIL KIOSK DETAILS



TYPICAL PARKING STRIPING
N.T.S.



MAIL PARKING SIGN DETAIL
NOT TO SCALE



TYPICAL CREC STREET LIGHTING
NOT TO SCALE

ISSUE	REMARKS/DATE
1	2025-05-02, INITIAL SUBMITTAL CITY PH.3
2	2025-08-07, REVISED PER CITY COMMENTS
3	2025-10-02, REVISED PER CITY COMMENTS
4	2026-01-23, REVISED PER CITY COMMENTS
5	2026-03-16, REVISED PER CITY COMMENTS

PROJECT TITLE
**HARVEST
AT HOPEWELL**
O'Fallon, Missouri
O'FALLON PHASE 3

THE **STERLING** CO.
ENGINEERS & SURVEYORS
5055 New Baumgartner Road
St. Louis, Missouri 63129
Ph 314-487-0440 Fax 314-487-8944
www.sterling-eng-survey.com
Corporate Certificate of Authority #001348

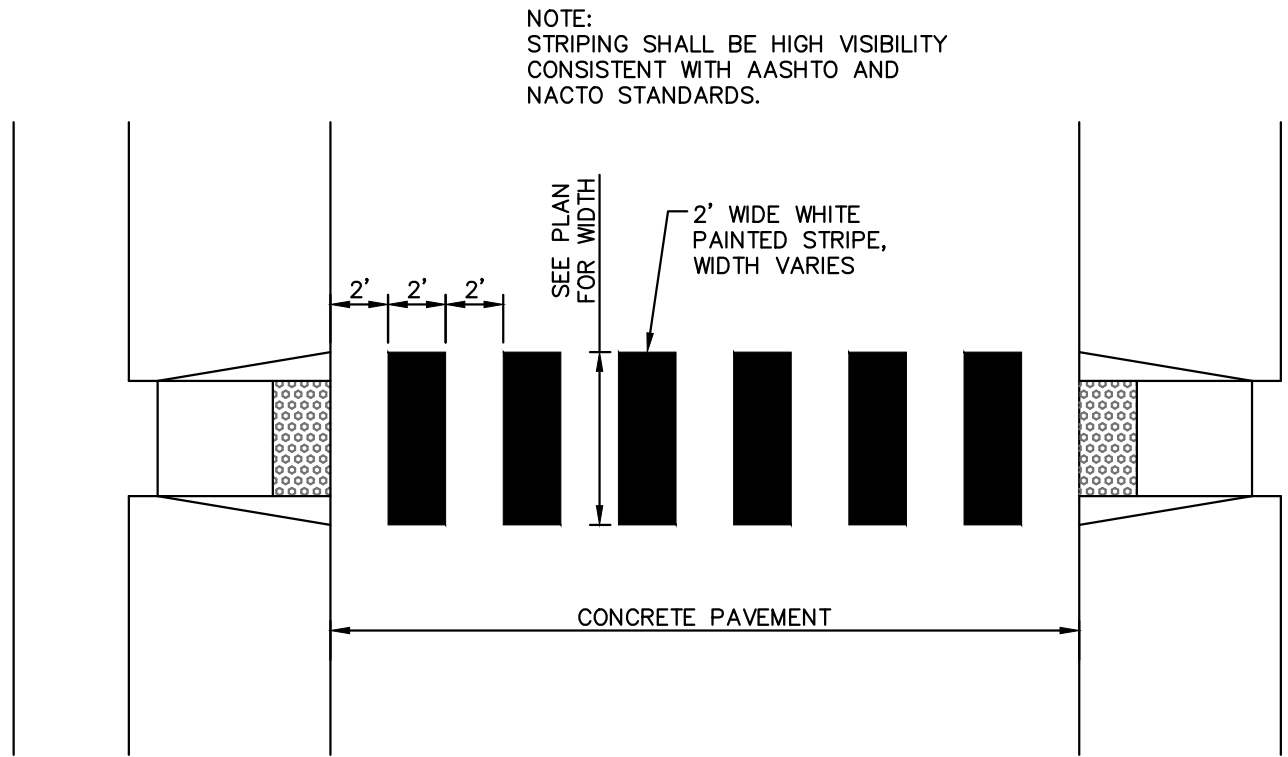
Date: 03-16-2026
Michael G. Boerding
License No. MO E-28643
Professional Engineer

HARVEST HOPEWELL, LLC
5091 New Baumgartner Road
St. Louis, Missouri 63129

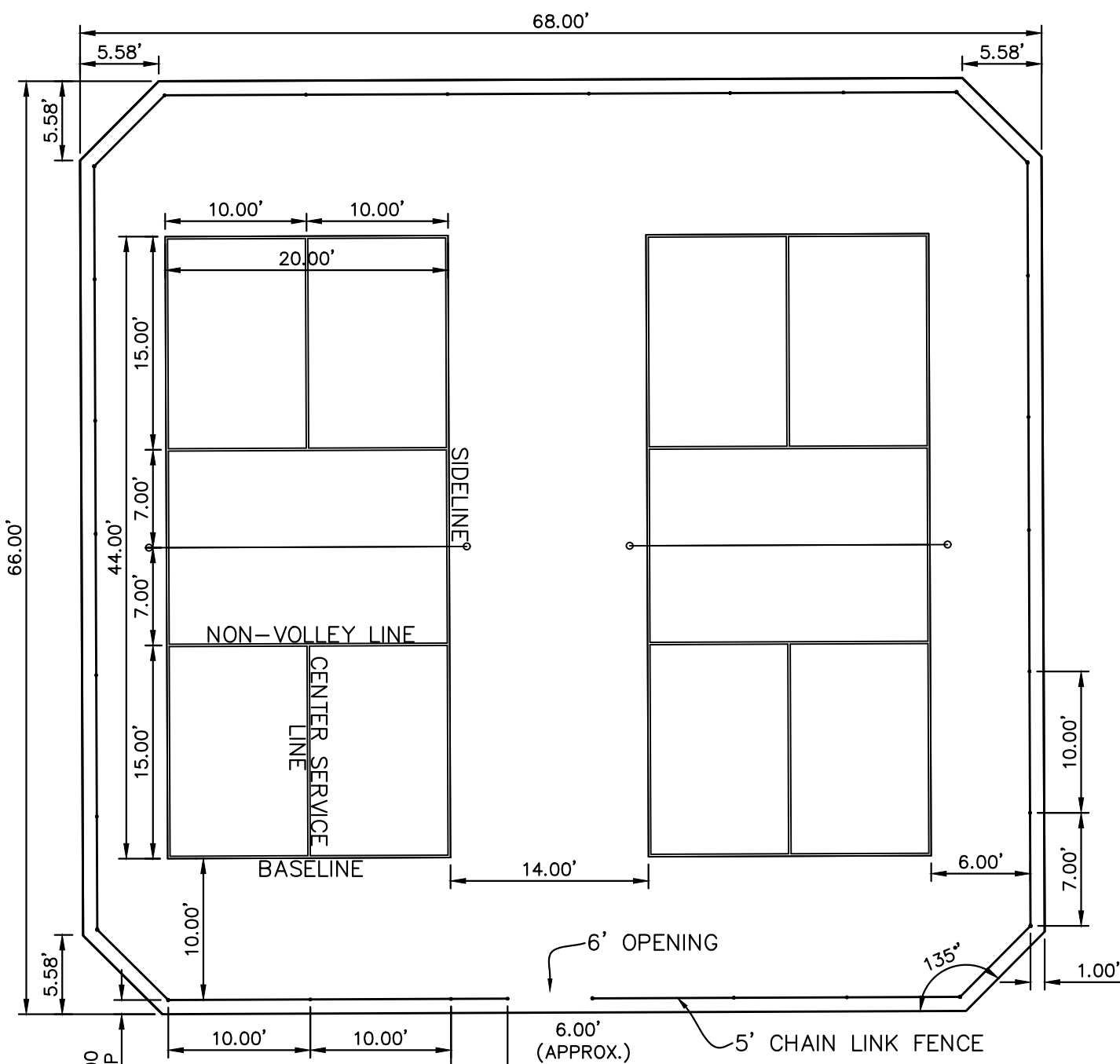
P+Z No. 21-004994
City No. 21-011444
Date: 03-16-2026
Job No. 20-09-327

Page No.
DTL-13
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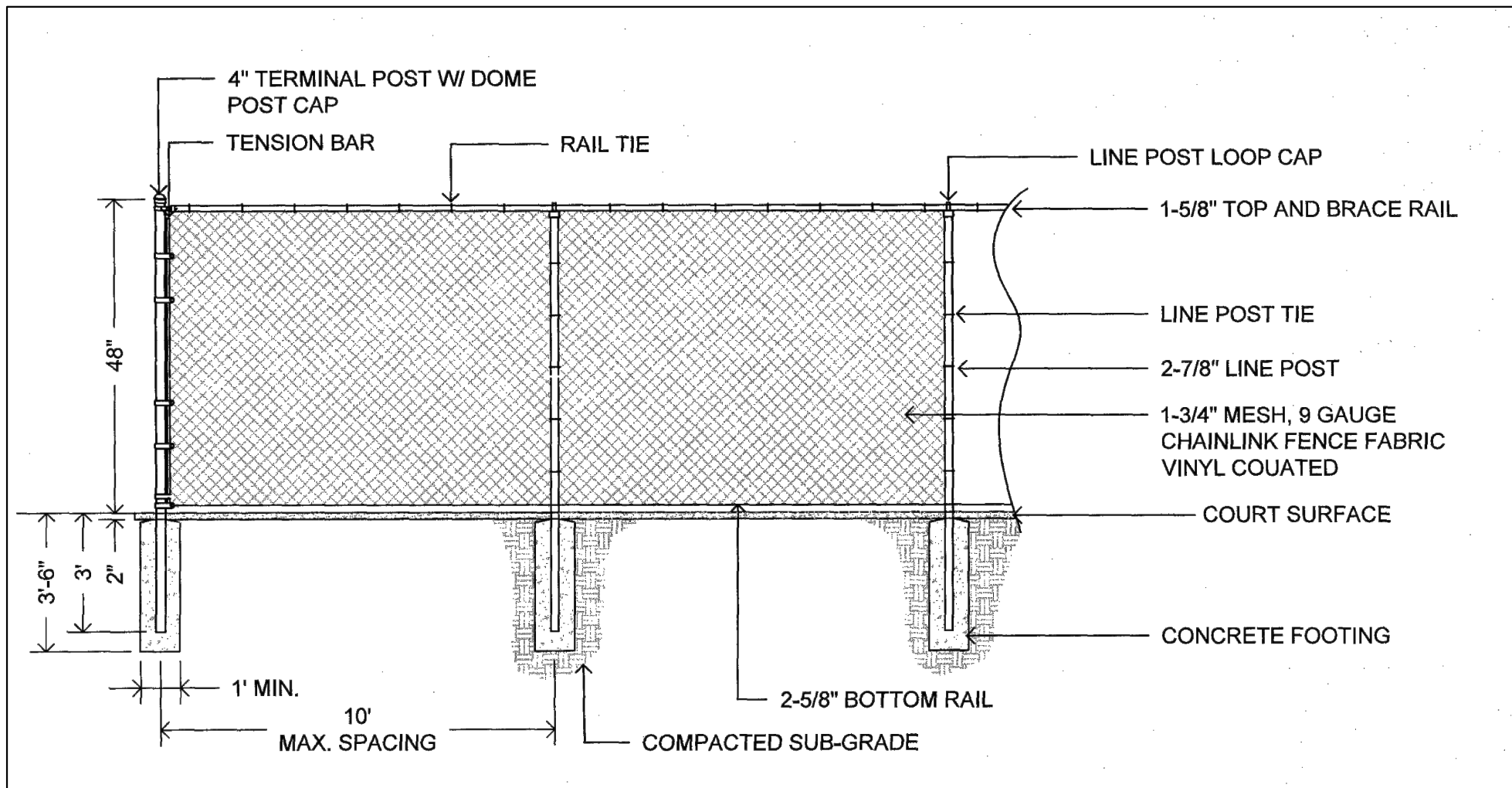


TYPICAL CROSSWALK DETAIL
NOT TO SCALE

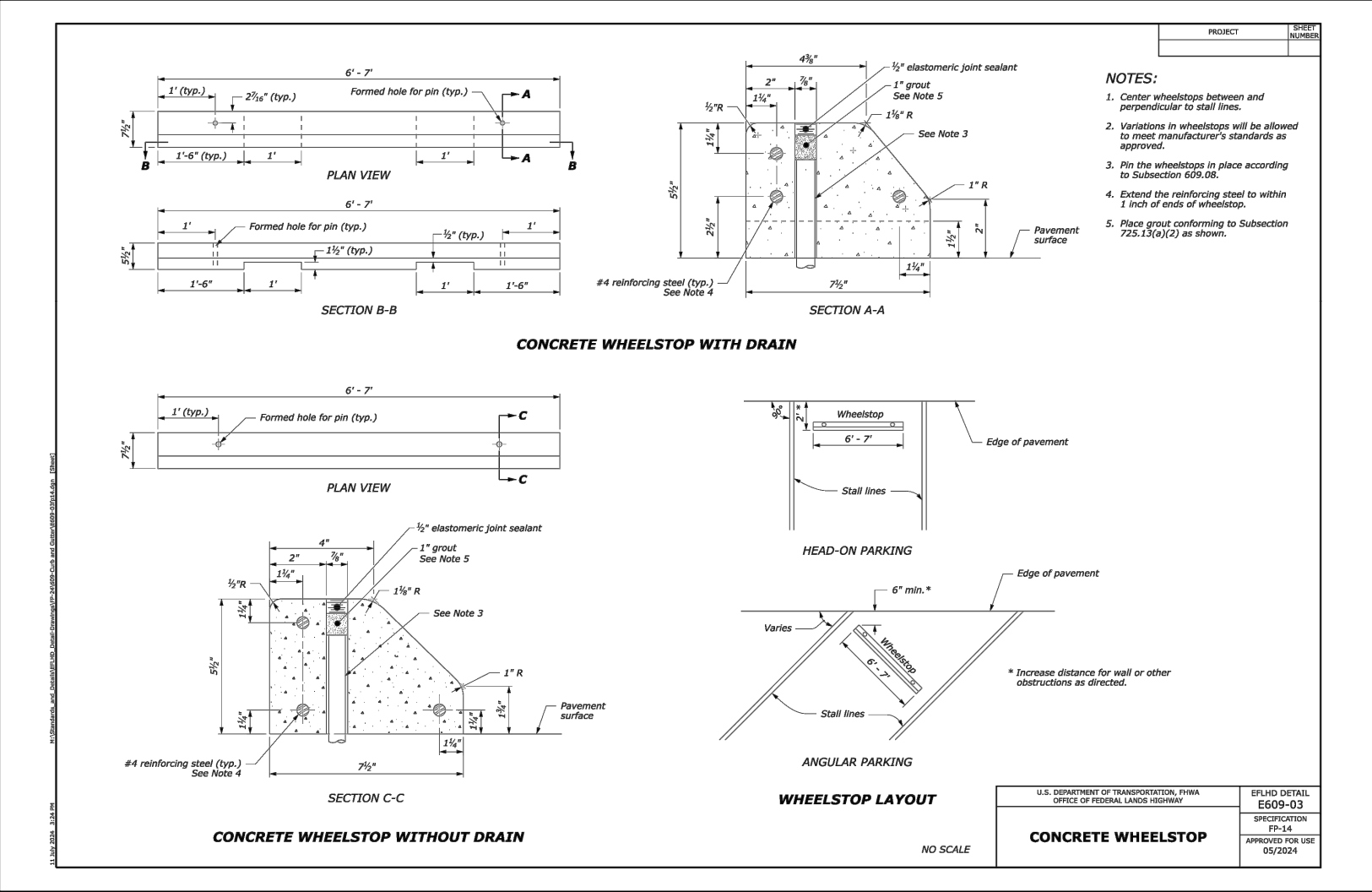


PICKLEBALL COURT
N.T.S.

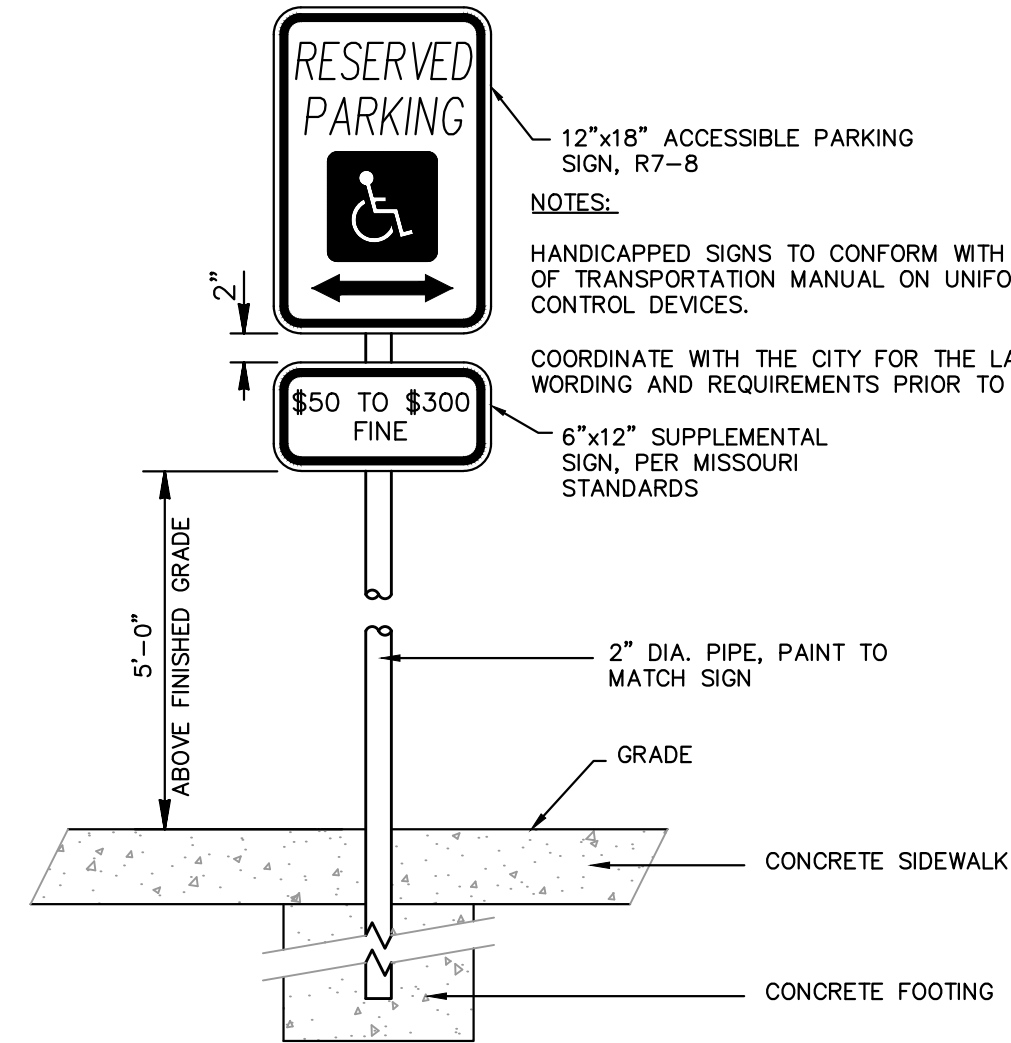
- NOTES:
- PICKLEBALL COURT COLORS:
 - a. LINES: WHITE
 - b. PAINT: GREEN
 - c. COURT: BLUE
 - ALL DIMENSIONS ARE TO THE OUTSIDE OF LINES.
 - ALL LINES SHALL BE 2 INCHES WIDE.
 - NET: USAPA APPROVED NET POST 22' INSIDE POST TO INSIDE POST, 36" NET HEIGHT AT POST, 34" NET HEIGHT AT CENTER.
 - STRAP BAND SHALL HAVE A MAXIMUM WIDTH OF 2".
 - MAXIMUM DIAMETER OF METAL CORD OR METAL CABLE SHALL BE 3"



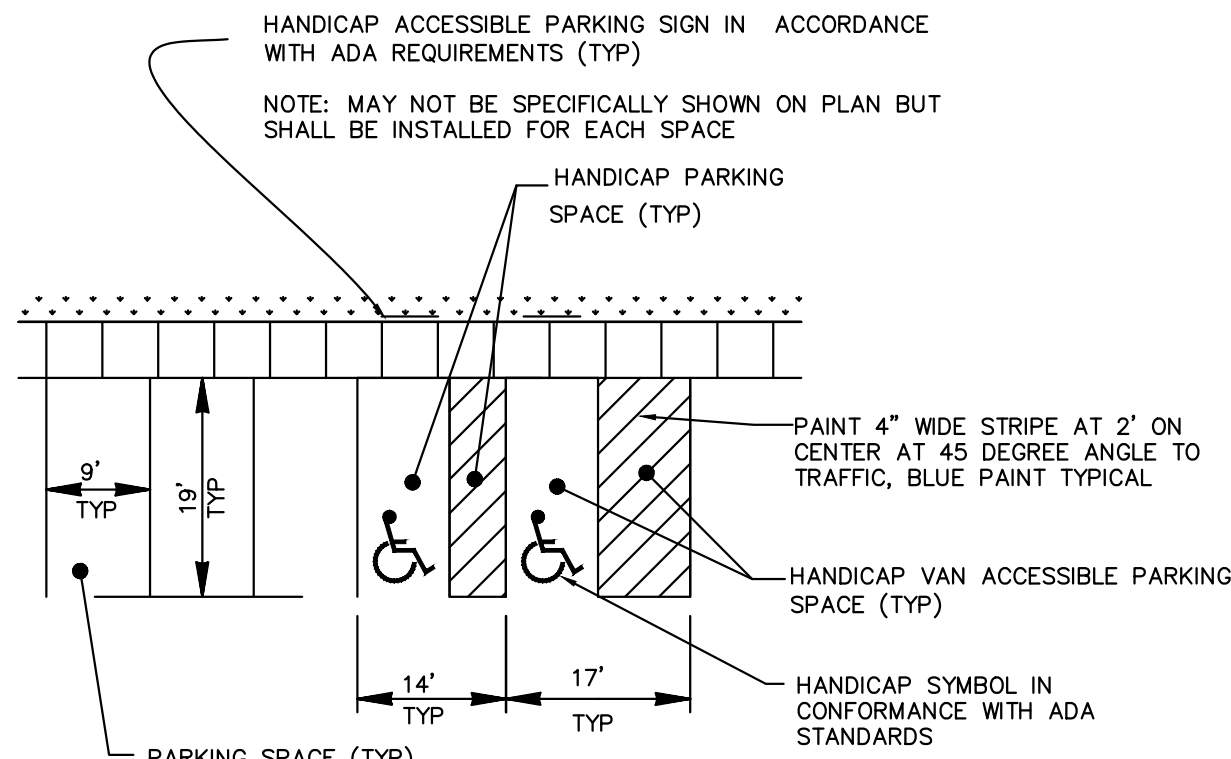
CHAIN LINK FENCE DETAIL (BLACK VINYL)
N.T.S.



WHEEL STOP DETAIL



ACCESSIBLE PARKING SIGN
N.T.S.



TYPICAL PARKING STRIPING
N.T.S.

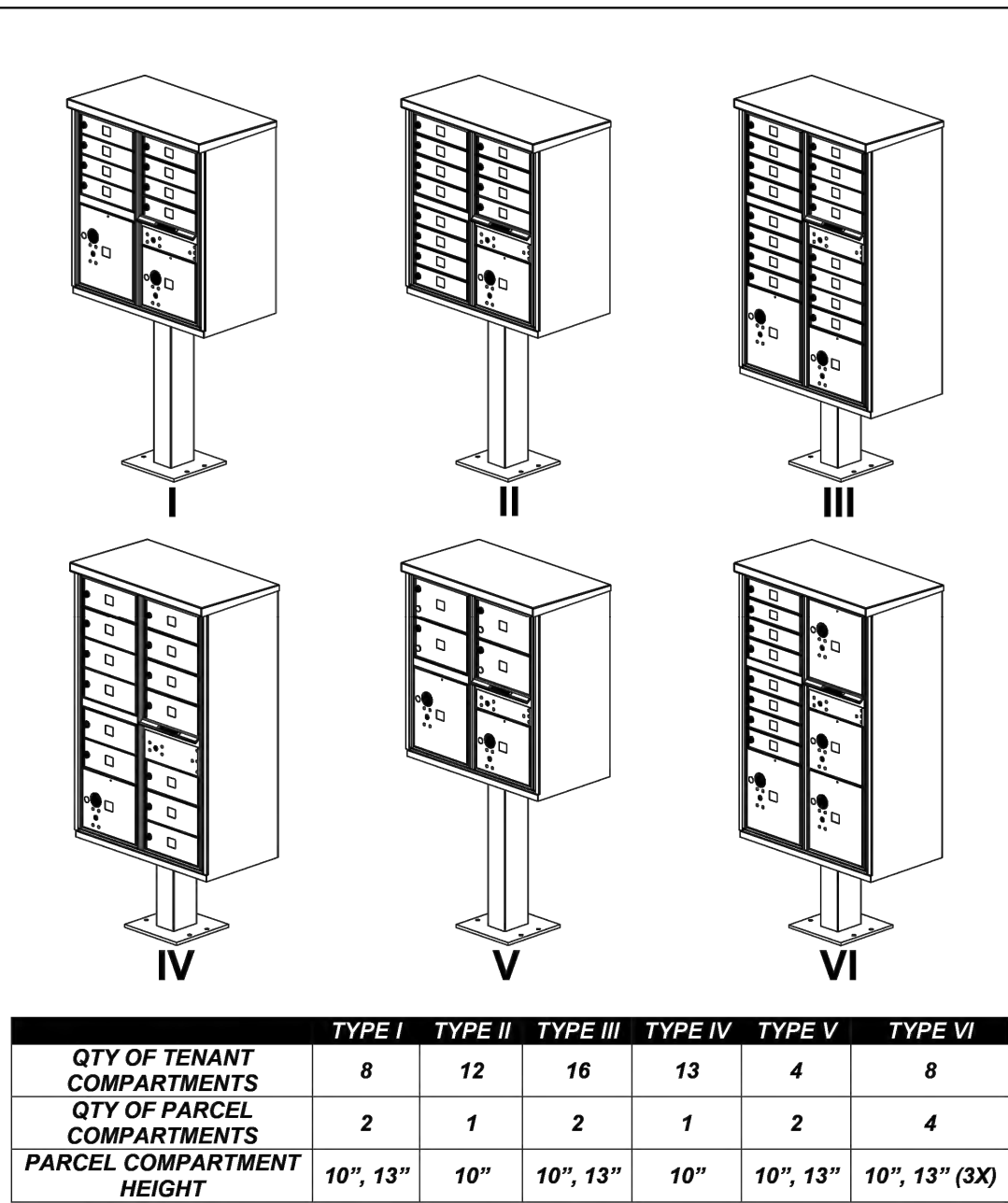


MAIL PARKING
SIGN DETAIL
NOT TO SCALE



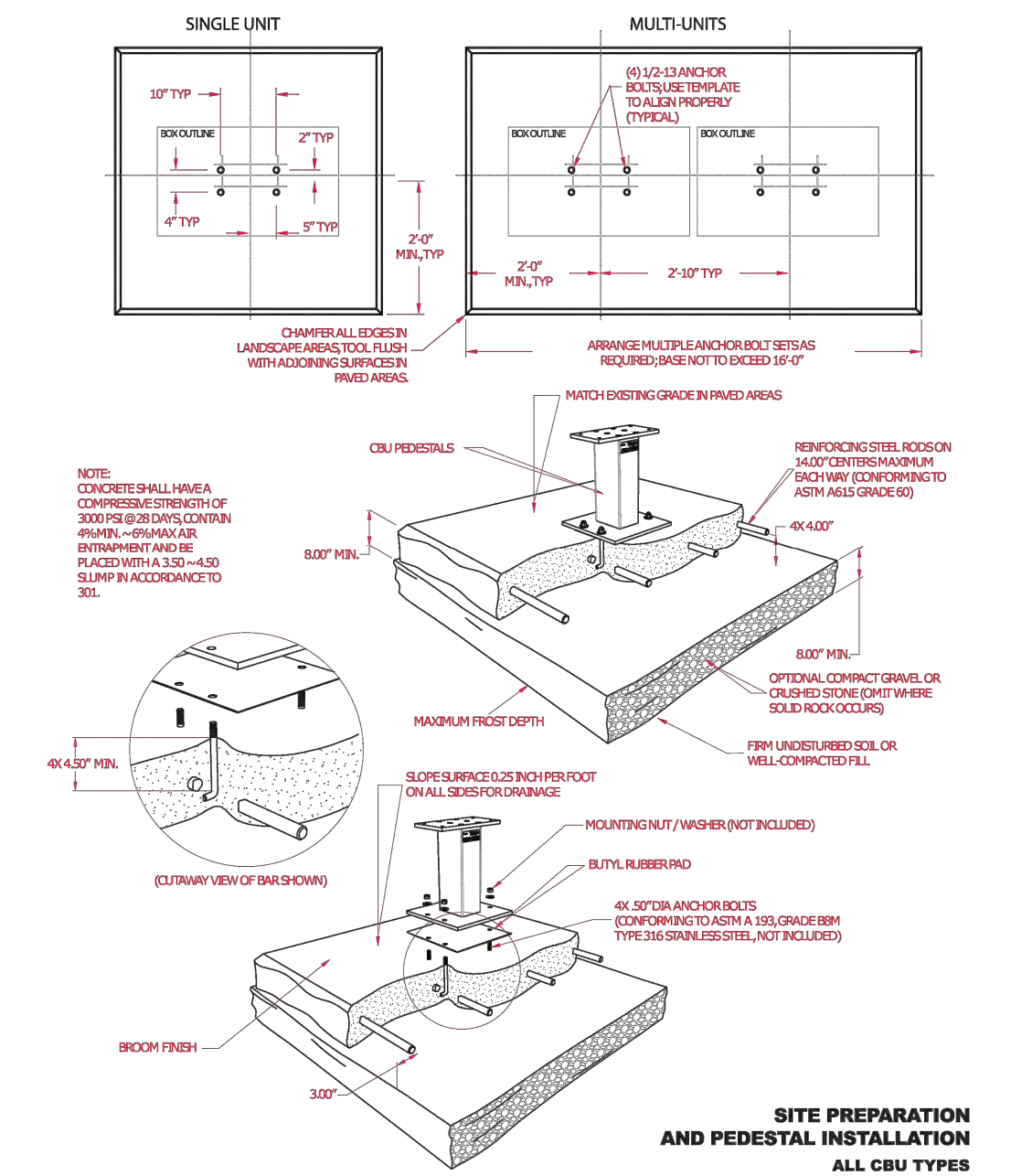
Cuivre River Electric
A Touchstone Energy Cooperative

TYPICAL CREC STREET LIGHTING
NOT TO SCALE



	TYPE I	TYPE II	TYPE III	TYPE IV	TYPE V	TYPE VI
QTY OF TENANT COMPARTMENTS	8	12	16	13	4	8
QTY OF PARCEL COMPARTMENTS	2	1	2	1	2	4
PARCEL COMPARTMENT HEIGHT	10", 13"	10"	10", 13"	10"	10", 13"	10", 13" (3X)

U.S.P.S. MAIL KIOSK DETAILS



	TYPE I	TYPE II	TYPE III	TYPE IV	TYPE V	TYPE VI
QTY OF TENANT COMPARTMENTS	8	12	16	13	4	8
QTY OF PARCEL COMPARTMENTS	2	1	2	1	2	4
PARCEL COMPARTMENT HEIGHT	10", 13"	10"	10", 13"	10"	10", 13"	10", 13" (3X)

ISSUE	REMARKS/DATE
1	2025-05-02, INITIAL SUBMITTAL CITY PH.3
2	2025-08-07, REVISED PER CITY COMMENTS
3	2025-10-02, REVISED PER CITY COMMENTS
4	2026-01-23, REVISED PER CITY COMMENTS
5	2026-03-16, REVISED PER CITY COMMENTS

PROJECT TITLE

HARVEST
AT HOPEWELL
O'Fallon, Missouri
O'FALLON PHASE 3

THE **STERLING** CO.
ENGINEERS & SURVEYORS
5055 New Baumgartner Road
St. Louis, Missouri 63129
Ph 314-487-0440 Fax 314-487-8944
www.sterling-eng.com
Corporate Certificate of Authority #001348



Date: 03-16-2026
Michael G. Boerding
License No. MO E-28643
Professional Engineer

CONSTRUCTION DETAILS

HARVEST HOPEWELL, LLC
5091 New Baumgartner Road
St. Louis, Missouri 63129

P+Z No. 21-004994
City No. 21-011444
Date: 03-16-2026
Job No. 20-09-327

Page No.

DTL-14

IMP

"FINAL PLAN" Approval Date: Dec. 16, 2021

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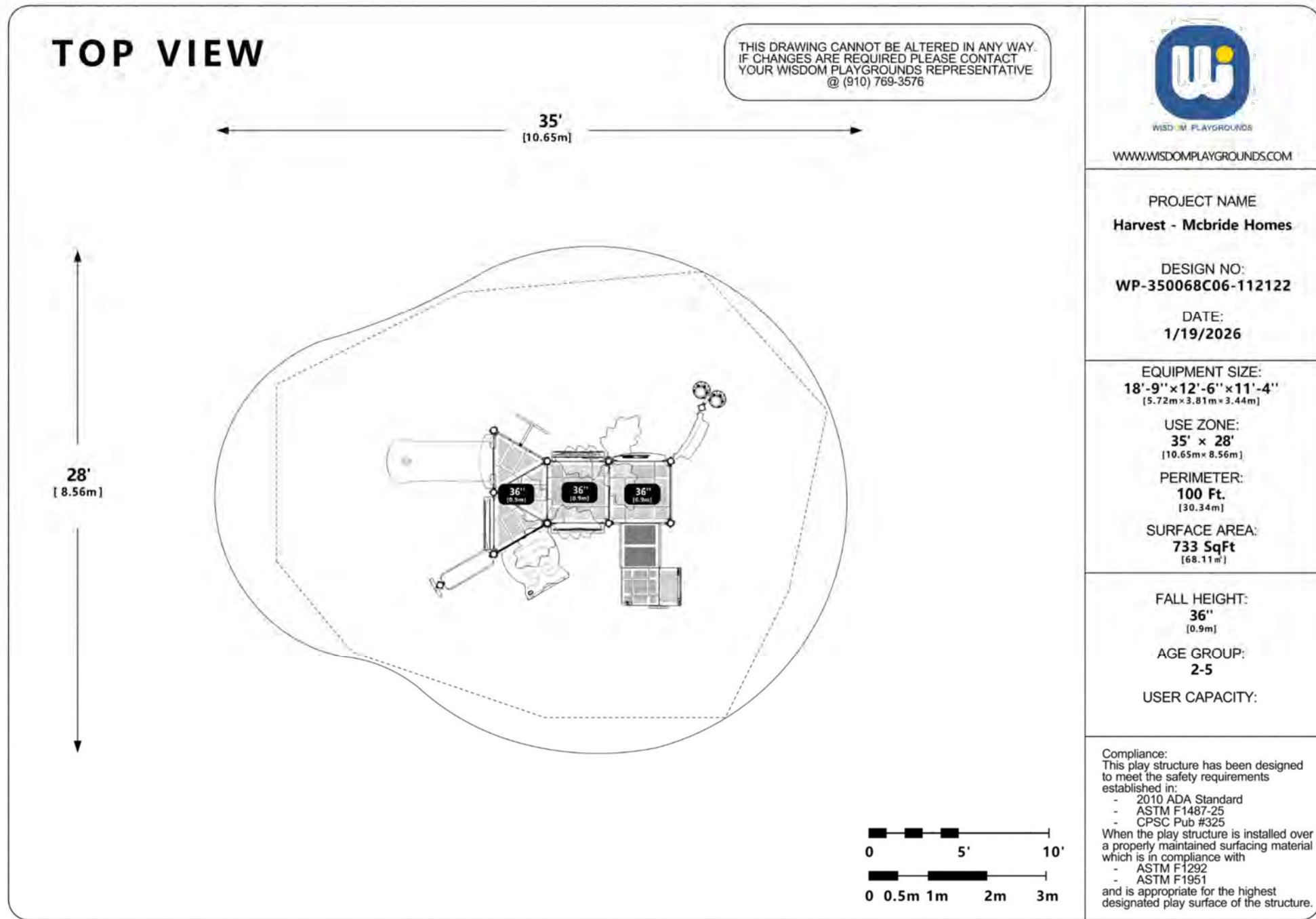
WP-350068C06-112122
DESIGN-18
1/19/2026 8:26 PM

1335 Cedar Hill Rd. Unit 8, Navassa, NC 28451 | www.wisdomplaygrounds.com | 910.769.3576



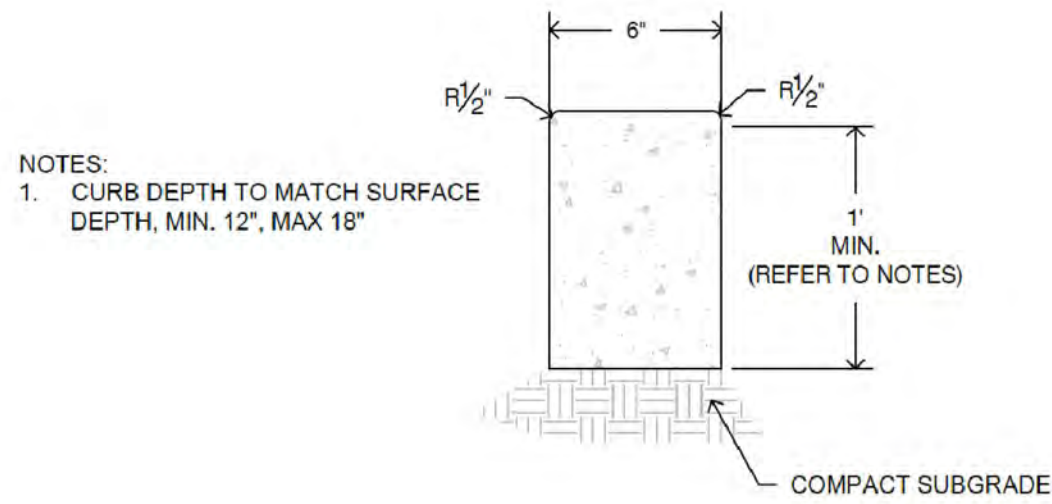
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1/19/2026 8:27 PM

1335 Cedar Hill Rd. Unit 8, Navassa, NC 28451 | www.wisdomplaygrounds.com | 910.769.3576

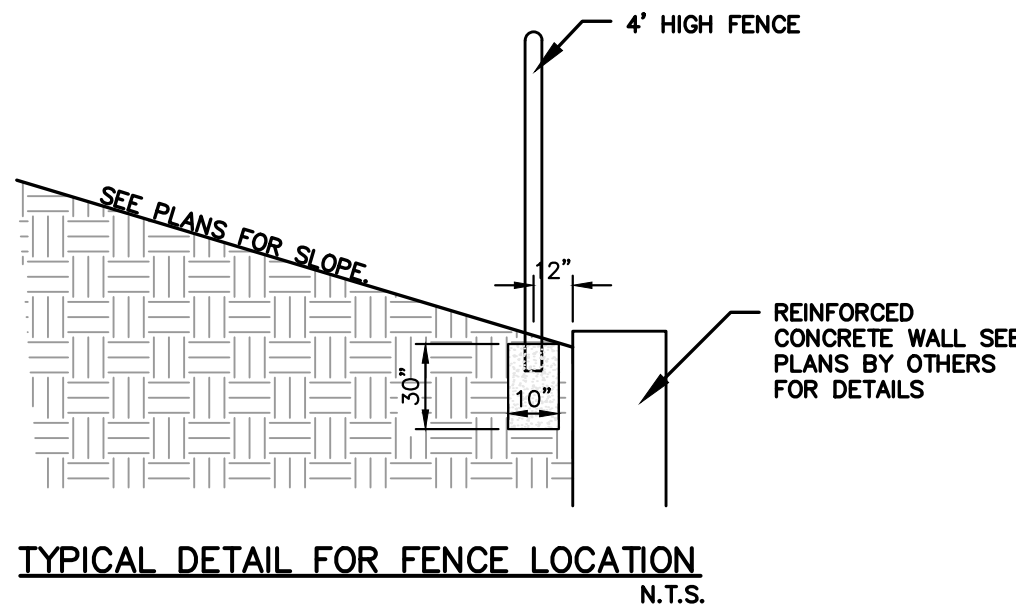
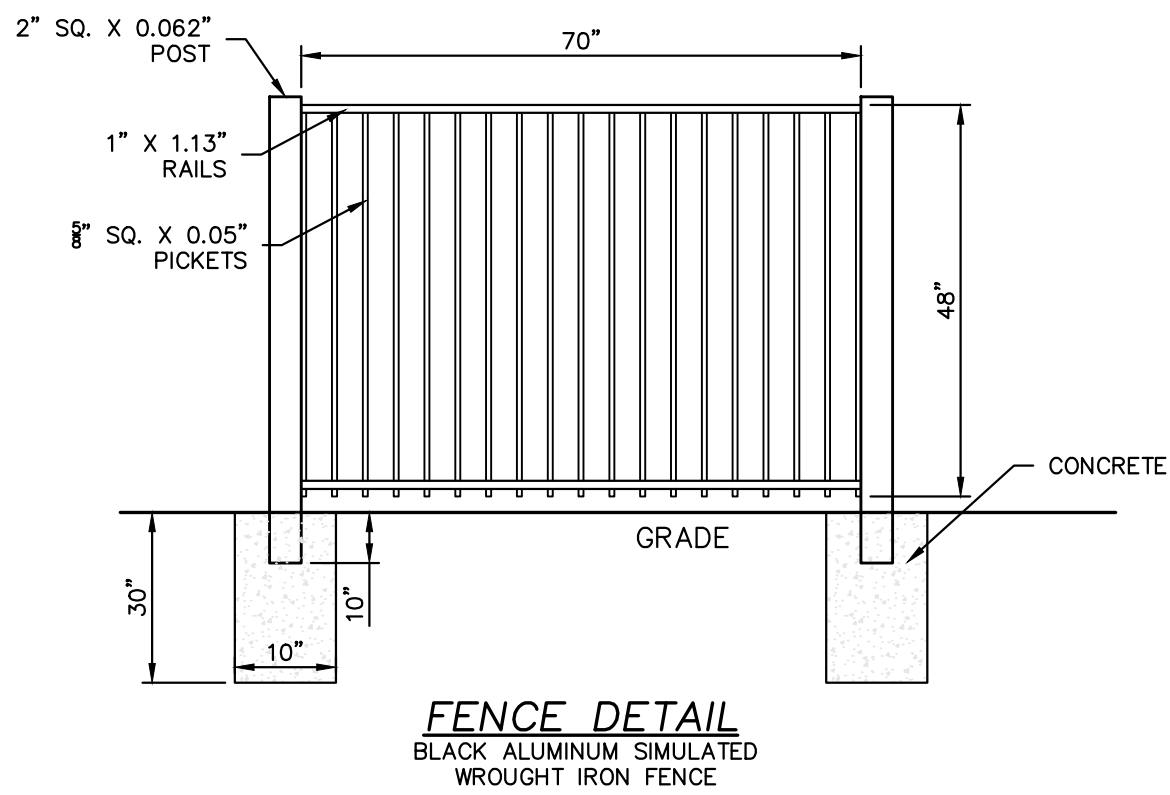


NOTES:

1. FINAL COLOR OF THIS PLAYGROUND EQUIPMENT WILL BE DETERMINED AT TIME OF PURCHASE AND MAY VARY FROM THE PICTURE SHOWN.



5 CONCRETE CURB - FLAT
NTS



ISSUE	REMARKS/DATE
1	2025-05-02, INITIAL SUBMITTAL CITY PH.3
2	2025-08-07, REVISED PER CITY COMMENTS
3	2025-10-02, REVISED PER CITY COMMENTS
4	2026-01-23, REVISED PER CITY COMMENTS
5	2026-03-16, REVISED PER CITY COMMENTS

PROJECT TITLE

**HARVEST
AT HOPEWELL**

O'Fallon, Missouri
O'FALLON PHASE 3

THE STERLING CO.
ENGINEERS & SURVEYORS

5055 New Baumgartner Road
St. Louis, Missouri 63129
Ph 314-487-0440 Fax 314-487-8944
www.sterling-eng-sur.com
Corporate Certificate of Authority #001348



Date: 03-16-2026
Michael G. Boerding
License No. MO E-28643
Professional Engineer

HARVEST HOPEWELL, LLC
5091 New Baumgartner Road
St. Louis, Missouri 63129

PHASE THREE TOT LOT DETAILS

P+Z No. 21-004994
City No. 21-011444
Date: 03-16-2026
Job No. 20-09-327

Page No.

DTL-15

IMP