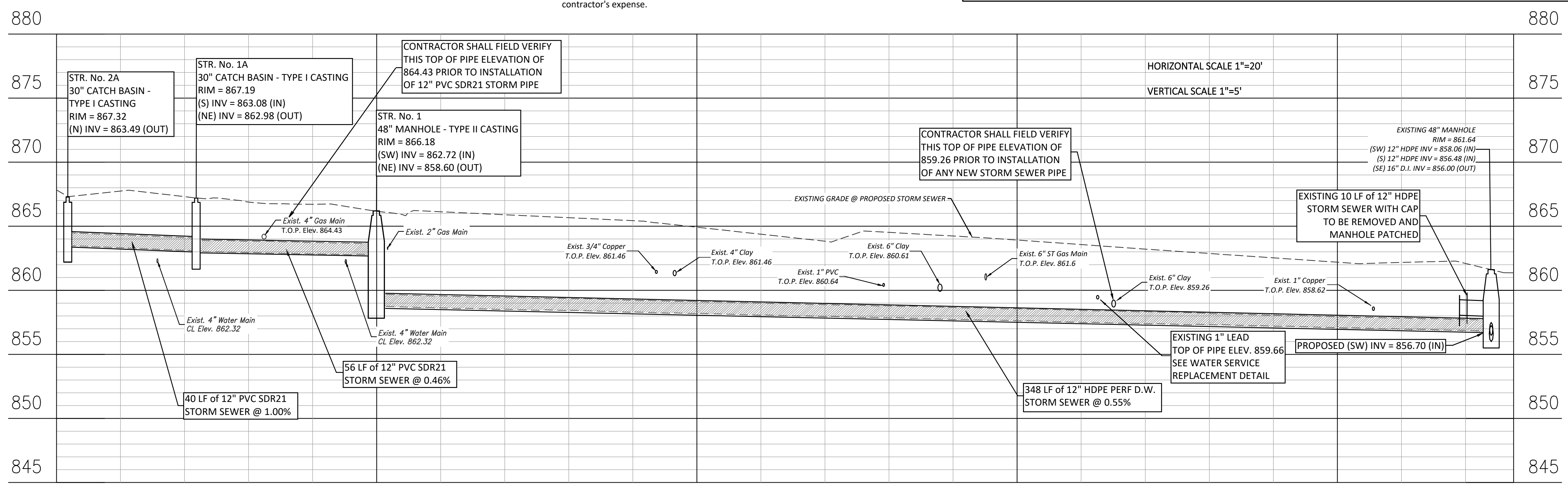


NOTES:

- The contractor shall be responsible for contacting 811 Indiana Underground Plant Protection Services (includes the City of Auburn Utilities) for existing underground utility lines location 48 hours prior to any trench excavation. The contractor is also responsible for all exploratory excavations required to locate and verify existing underground utilities physical location and elevation prior to any construction. Material, installation and site restoration shall comply with requirements of the City of Auburn Engineering (260-925-8264) and W.P.C. Sewer (260-925-1714) Departments. City of Auburn W.P.C. Sewer Department inspection required on installation of all storm sewers.
- Contractor shall repair and reconnect any existing field tiles, sewer taps and all other pipes encountered and damaged during construction, with SDR 35 or SDR 26 PVC pipe and Fernco rubber fitting at each end.
- Contractor shall repair and reconnect any existing water service taps encountered and damaged during construction, with necessary material and procedure approved by Water Department.
- Contractor must allow continuous vehicle access to all residential properties within the construction area for emergency vehicles, residents and/or related business. Contractor shall give minimum seventy-two (72) hour notice to owners or tenants of private property who will be affected by construction, including informing each resident when they can and cannot use their driveway entrance.
- Contractor shall perform any de-watering necessary within the construction area.
- Contractor shall protect all trees within the construction area.
- The contractor shall be responsible for the preservation of all lot corners and survey control monuments. Any disturbed monuments shall be replaced by an Indiana Registered Land Surveyor approved by the Auburn City Engineer, at the contractor's expense.

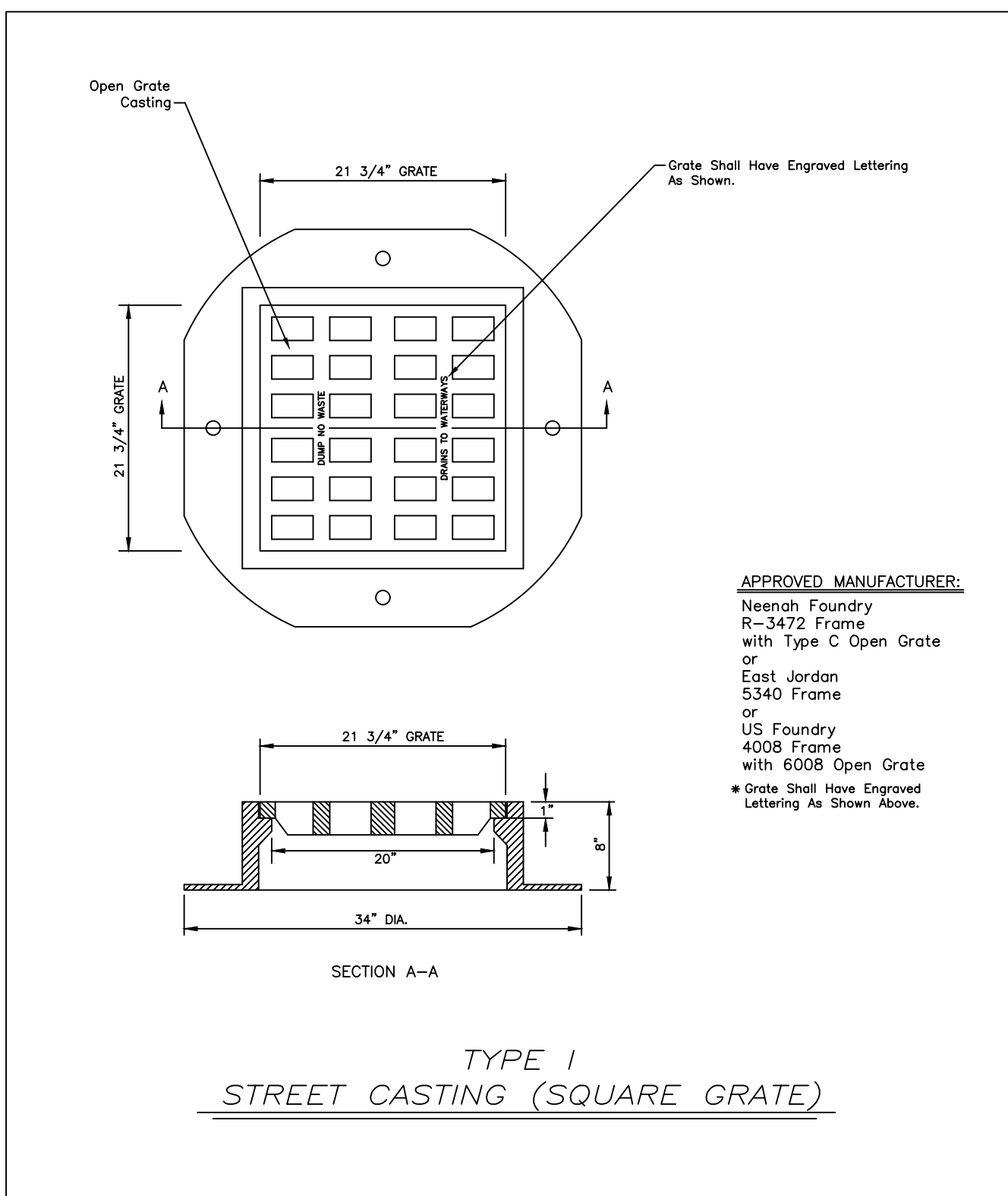
LEGEND	
[SR]	STRUCTURE REMOVAL
[BH]	BULKHEAD PIPE
[U]	4" PERF. FLEX UNDERDRAIN
[WS-1]	WATER SERVICE REPLACEMENT
[W]	WATER TAPS PER ACTUAL DIG LOCATION BY SEWER DEPT. VACTOR TRUCK
[S]	SANITARY TAPS PER ACTUAL DIG LOCATION BY SEWER DEPT. VACTOR TRUCK
[SW]	SIDEWALK REPLACEMENT
[C1]	ROLLED CURB REPLACEMENT
[C2]	SQUARE CURB REPLACEMENT
[P1]	CONCRETE APPROACH REPLACEMENT 6" HIGH EARLY STRENGTH CONCRETE 6" #73 LESTONE
[P2]	ASPHALT PAVEMENT REPLACEMENT 1" SURFACE ASPHALT 3" BINDER ASPHALT 3" #53 or #73 LESTONE 7" #1 or #2 LESTONE



ENSLEY-SPROTT STORM SEWER PROJECT

File Name	Ensley/Sprott Storm	Rev. #		Description		Date	
Drawn By	Sam Graves						
Checked By	Steve Klein						
Date	April 2, 2019						
Sheet #	1 of 3						

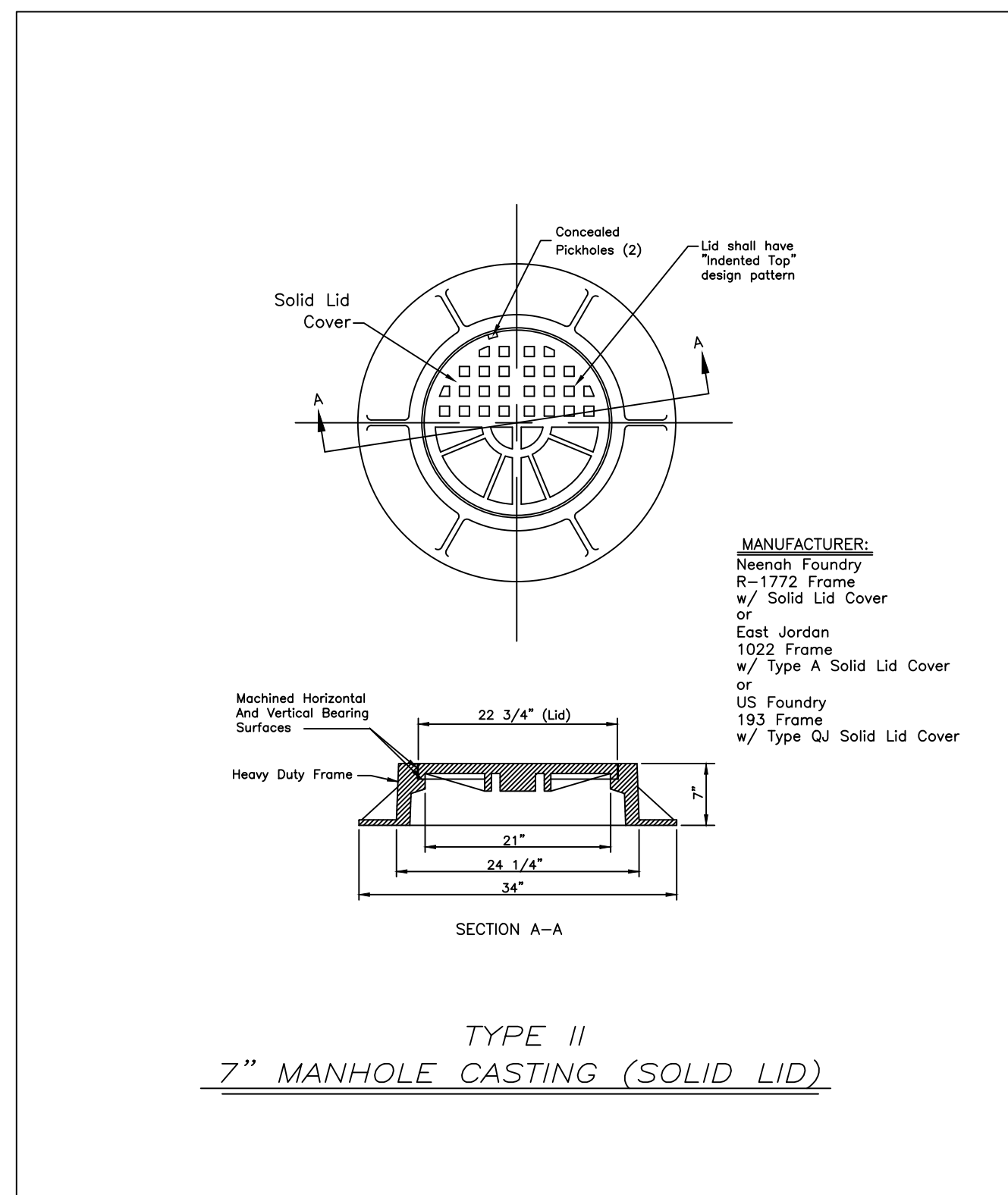
ENGINEERING DEPARTMENT
 CITY OF AUBURN
 ENGINEERING DEPARTMENT
 P.O. Box 506
 Auburn, IN 46708
 260.925.8264 Phone
 260.920.3344 Fax



APPROVED MANUFACTURER:
 Neenah Foundry
 R-3472 Frame
 with Type C Open Grate
 or
 East Jordan
 5340 Frame
 or
 US Foundry
 4008 Frame
 with 6008 Open Grate
 # Grate Shall Have Engraved
 Lettering As Shown Above.

**TYPE I
 STREET CASTING (SQUARE GRATE)**

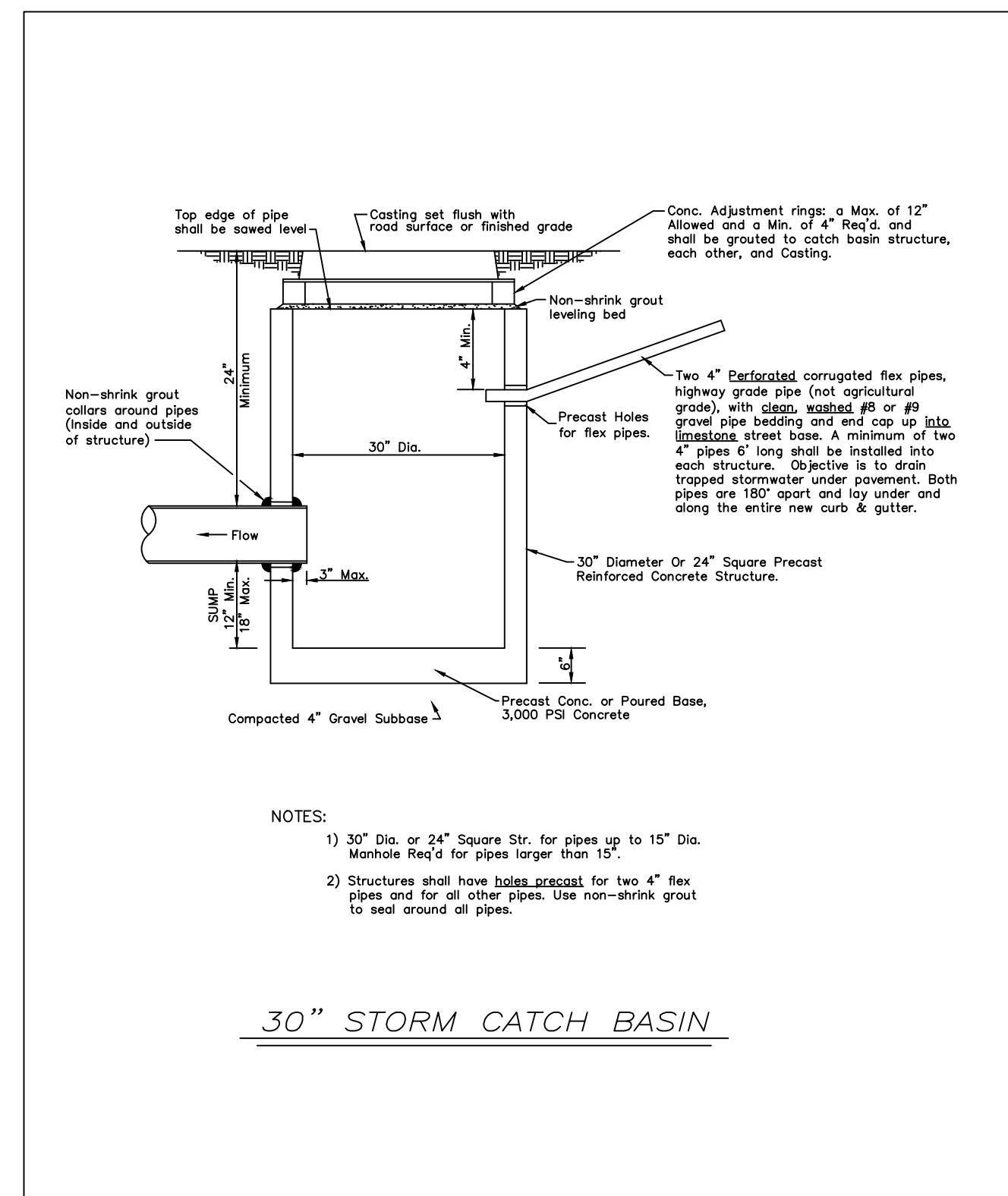
City of AUBURN INDIANA "Home of the Classics"	AUBURN SEWER DEPT.	NOT TO SCALE
TYPICAL SEWER DETAIL		DATE: MAR 14, 2019
STREET CASTING (SQUARE GRATE)		DRAWING SW 4-5A



MANUFACTURER:
 Neenah Foundry
 R-1772 Frame
 w/ Solid Lid Cover
 or
 East Jordan
 1022 Frame
 w/ Type A Solid Lid Cover
 or
 US Foundry
 193 Frame
 w/ Type QJ Solid Lid Cover

**TYPE II
 7" MANHOLE CASTING (SOLID LID)**

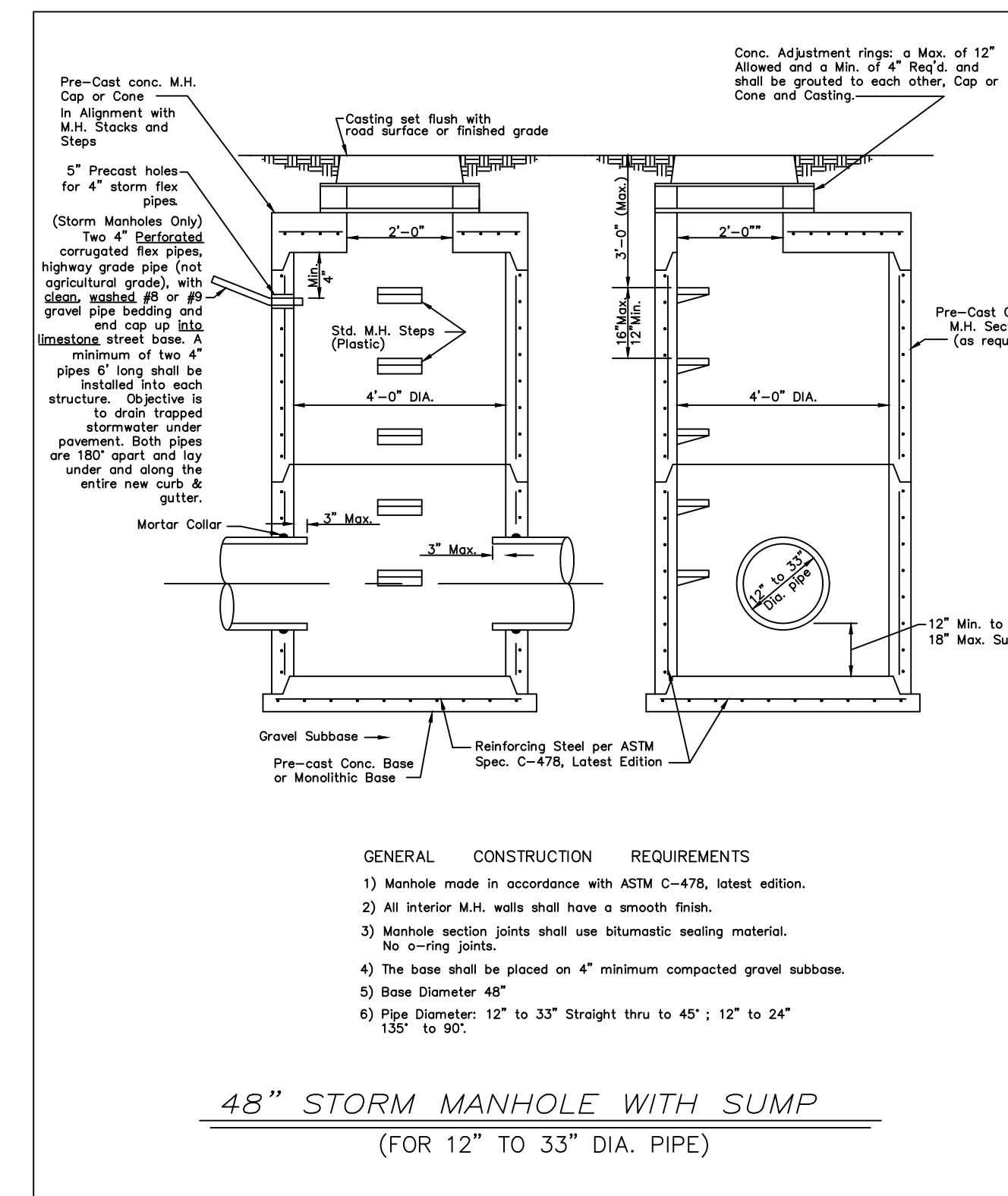
City of AUBURN INDIANA "Home of the Classics"	AUBURN SEWER DEPT.	NOT TO SCALE
TYPICAL SEWER DETAIL		DATE: FEB 22, 2018
7" MANHOLE CASTING (SOLID LID)		DRAWING SW 4-1



NOTES:
 1) 30" Dia. or 24" Square Str. for pipes up to 15" Dia. Manhole Req'd for pipes larger than 15".
 2) Structures shall have holes precast for two 4" flex pipes and for all other pipes. Use non-shrink grout to seal around all pipes.

30" STORM CATCH BASIN

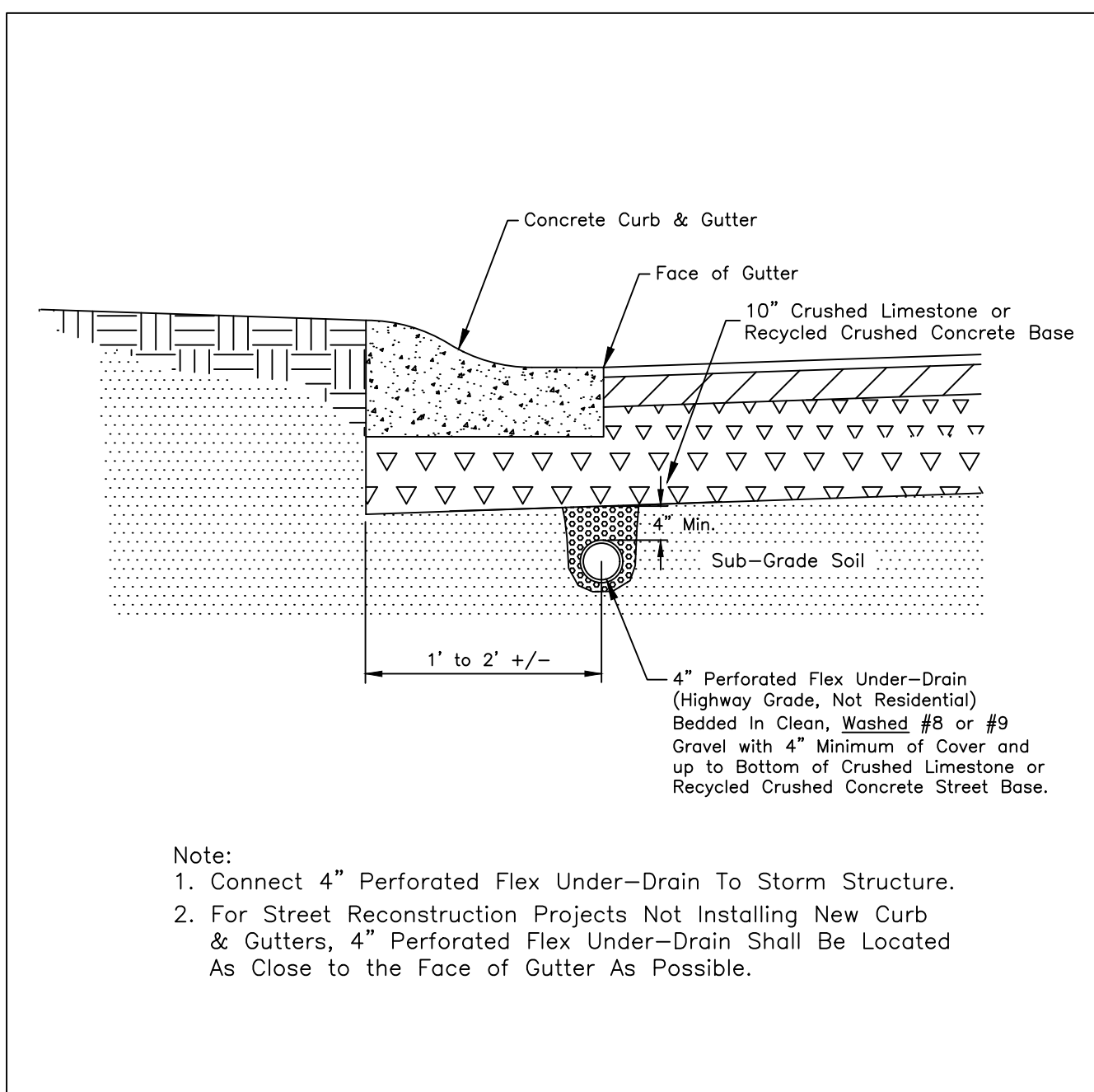
City of AUBURN INDIANA "Home of the Classics"	AUBURN SEWER DEPT.	NOT TO SCALE
TYPICAL SEWER DETAIL		DATE: DEC 8, 2017
30" STORM CATCH BASIN		DRAWING SW 3-1



GENERAL CONSTRUCTION REQUIREMENTS
 1) Manhole made in accordance with ASTM C-478, latest edition.
 2) All interior M.H. walls shall have a smooth finish.
 3) Manhole section joints shall use bituminous sealing material. No Irving joints.
 4) The base shall be placed on 4" minimum compacted gravel subbase.
 5) Base Diameter 48"
 6) Pipe Diameter: 12" to 33" Straight thru to 45'; 12" to 24" 135° to 90°.

**48" STORM MANHOLE WITH SUMP
 (FOR 12" TO 33" DIA. PIPE)**

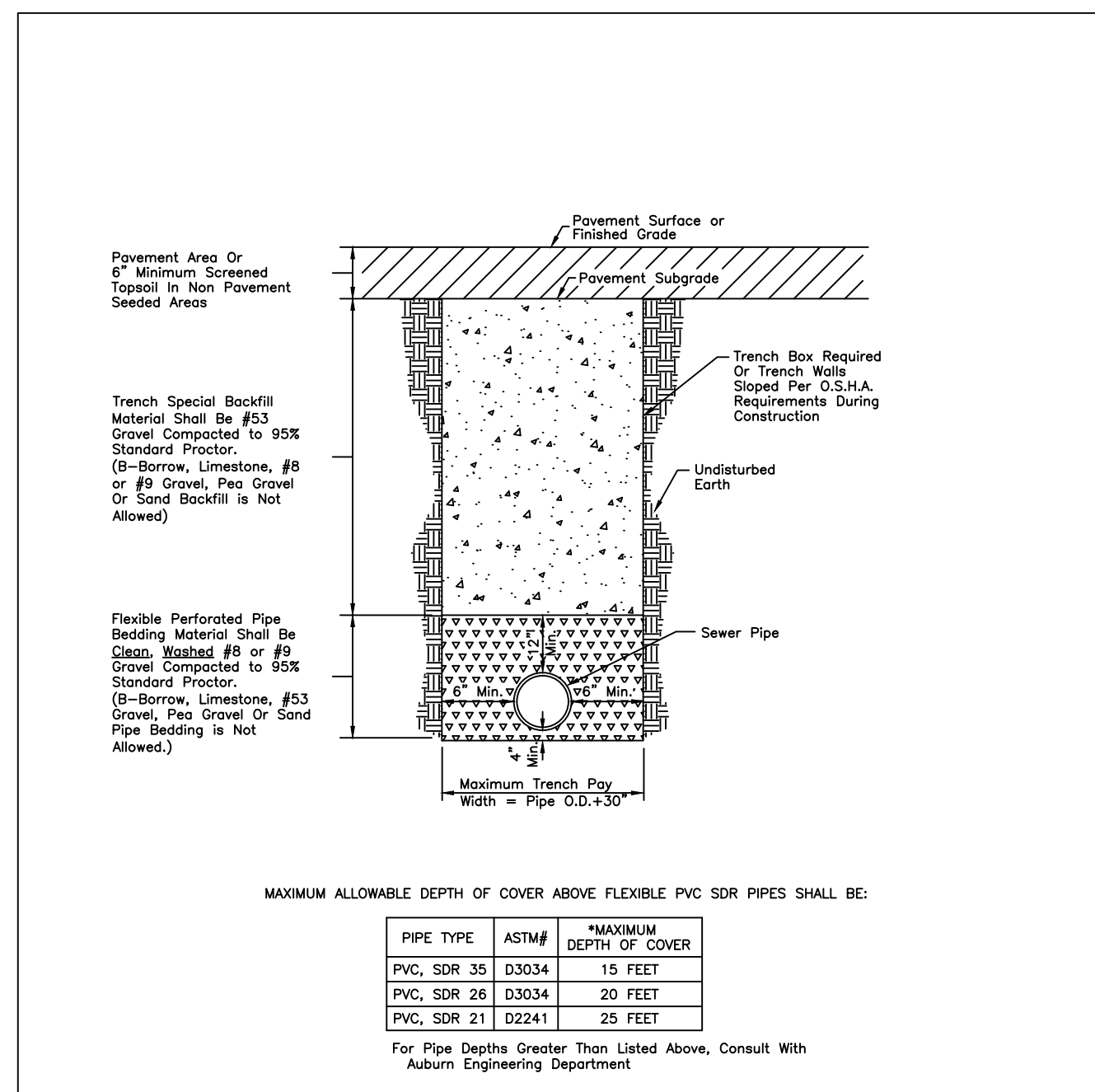
City of AUBURN INDIANA "Home of the Classics"	AUBURN SEWER DEPT.	NOT TO SCALE
TYPICAL SEWER DETAIL		DATE: FEB 20, 2018
48" STORM MANHOLE WITH SUMP		DRAWING SW 2-10



Note:
 1. Connect 4" Perforated Flex Under-Drain To Storm Structure.
 2. For Street Reconstruction Projects Not Installing New Curb & Gutters, 4" Perforated Flex Under-Drain Shall Be Located As Close to the Face of Gutter As Possible.

**PERFORATED FLEX UNDER-DRAIN
 (PARALLEL WITH CURB)**

City of AUBURN INDIANA "Home of the Classics"	AUBURN SEWER DEPT.	NOT TO SCALE
TYPICAL SEWER DETAIL		DATE: OCT 9, 2018
PERFORATED FLEX UNDER-DRAIN (PARALLEL WITH CURB)		DRAWING SW 5-6



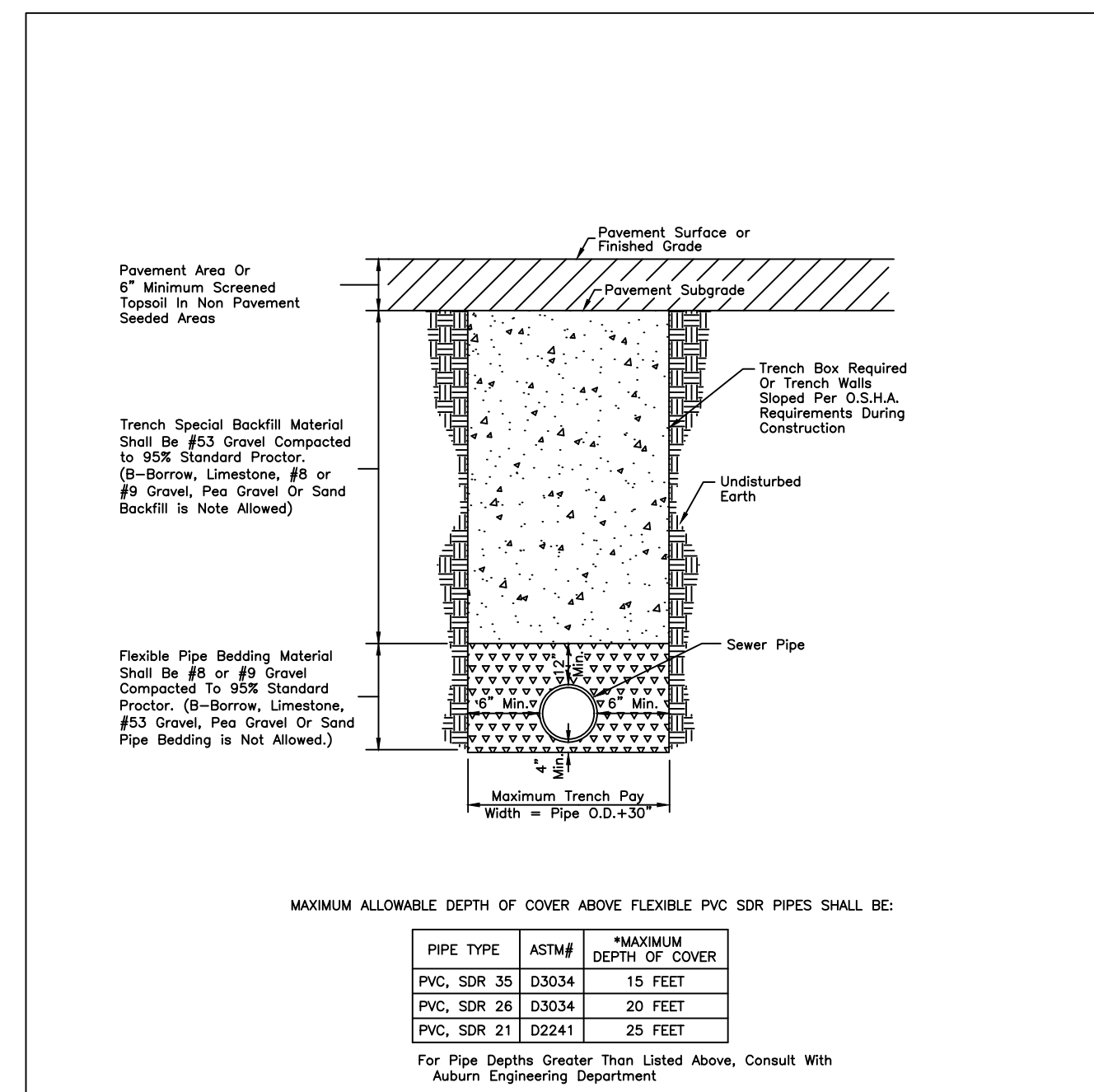
MAXIMUM ALLOWABLE DEPTH OF COVER ABOVE FLEXIBLE PVC PERFORATED PIPES SHALL BE:

PIPE TYPE	ASTM#	MAXIMUM DEPTH OF COVER
PVC, SDR 35	D3034	15 FEET
PVC, SDR 26	D3034	20 FEET
PVC, SDR 21	D2241	25 FEET

For Pipe Depths Greater Than Listed Above, Consult With Auburn Engineering Department

SEWER PIPE TRENCH DETAIL (PERFORATED PIPE)

City of AUBURN INDIANA "Home of the Classics"	AUBURN SEWER DEPT.	NOT TO SCALE
TYPICAL SEWER DETAIL		DATE: AUG 29, 2017
SEWER PIPE TRENCH DETAIL (PERFORATED PIPE)		DRAWING SW 5-2



MAXIMUM ALLOWABLE DEPTH OF COVER ABOVE FLEXIBLE PVC SDR PIPES SHALL BE:

PIPE TYPE	ASTM#	MAXIMUM DEPTH OF COVER
PVC, SDR 35	D3034	15 FEET
PVC, SDR 26	D3034	20 FEET
PVC, SDR 21	D2241	25 FEET

For Pipe Depths Greater Than Listed Above, Consult With Auburn Engineering Department

SEWER PIPE TRENCH DETAIL (NON-PERFORATED PIPE)

City of AUBURN INDIANA "Home of the Classics"	AUBURN SEWER DEPT.	NOT TO SCALE
TYPICAL SEWER DETAIL		DATE: AUG 29, 2017
SEWER PIPE TRENCH DETAIL (NON-PERFORATED PIPE)		DRAWING SW 5-1

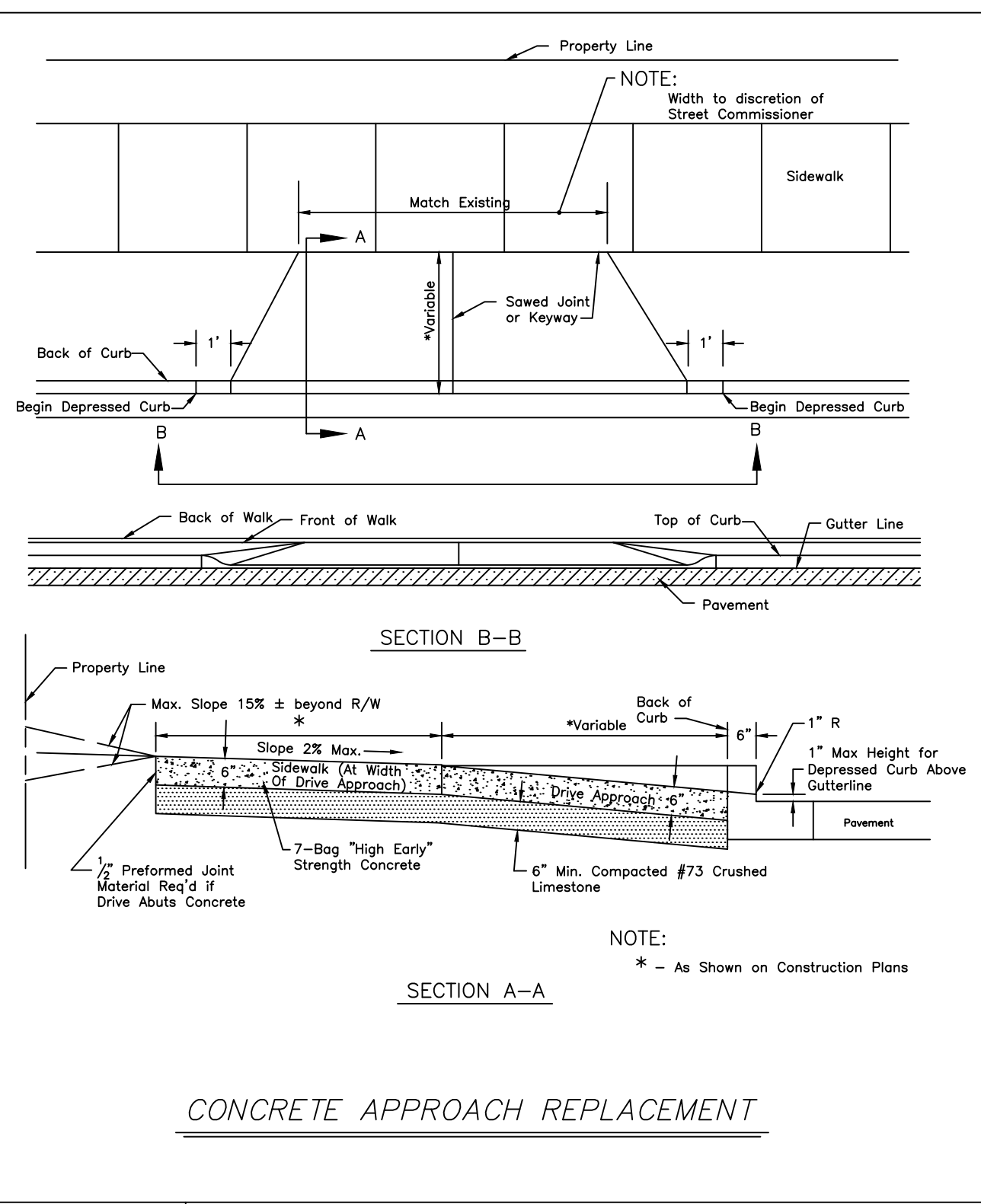
- Material, installation and site restoration shall comply with requirements of the City of Auburn Engineering (260-925-8264) and W.P.C. Sewer (260-925-1714) Departments.
- All concrete pipe shall be manufactured in accordance with ASTM C14, AASHTO M86, and Federal SS-P-371 for non-reinforced concrete pipe; ASTM C76, AASHTO M170 and Federal S-P-375 for reinforced concrete pipe and ASTM C361 for reinforced low head concrete pipe, all with #53 gravel pipe bedding. Materials for storm lines may also be PVC SDR 35 pipe per ASTM D-3034 or ASTM F678, with #53 gravel pipe bedding, or high density polyethylene (HDPE) corrugated exterior/smooth interior dual wall pipe conforming to AASHTO M294-97 Type S specification for Corrugated Polyethylene Pipe 12 to 48 inch diameter and ASTM D3350 Standard Specification for Polyethylene Plastic Pipe and Fitting Materials or PVC corrugated A-2000 (Not D-2000) per ASTM F949. Installation of HDPE pipe shall be in accordance with ASTM D2321 Standard Practice for Underground Installation of Flexible Thermoplastic Sewer Pipe using #53 gravel pipe bedding. Pipe bedding shall be #8 or #9 gravel for HDPE perforated pipes. Pipe Manufacturers Advanced Drainage Systems, Inc.; Contech Construction Products, Inc.; Haviland Drainage; and Hancor HI-Q for dual wall HDPE pipe, up to and including 48 inch diameter, are approved for installation by the City of Auburn Engineering Department. Dual wall HDPE pipe larger than 48 inch diameter or dual wall HDPE pipe from any other manufacturer will require approval from the City of Auburn Engineering Department prior to any installation. If any type of plastic pipe is installed for storm line, then mandrel tests shall be performed after 30 days from installation by contractor (except for A-2000 pipes) and witnessed by Auburn W.P.C. Sewer (260-925-1714) Department. All #53 gravel pipe bedding shall be compacted at 95% standard proctor. Pea Gravel, #8 or #9 Stone, B-Borrow or sand for pipe bedding is not allowed. Cost per linear foot of pipe shall include all material items, trench dewatering and site restoration necessary for complete and useable final products.
- All manholes shall be precast concrete manhole sections per details and ASTM C-478.
- City of Auburn W.P.C. Sewer Department inspection required on installation of all storm sewers. Consult with W.P.C. Sewer Department (260-925-1714) 48 hours prior to any installation.
- A minimum distance of 10 feet (measured from edge to edge of pipes) shall be maintained horizontally between all water and sewer utility pipes. At any water and sewer utility pipe crossings, one full length of sewer pipe shall be centered so both pipe joints will be out from the waterline as possible. Also at any crossing, the sewer pipe shall be installed below the water pipe with a minimum of 18 inch separation between the two utility pipes.
- All permits, including street and road cut permits, necessary for the construction of storm sewers shall be secured and paid for by the contractor from the Auburn Building Department (260-925-6449), and a copy furnished to the City of Auburn Engineering Department P.O. Box 506, Auburn, IN. 46706, before any construction starts.
- Contractor shall furnish sets of "Record As-Built Drawings" to Auburn City Engineering Department for review showing location of main lines and taps and elevations, and field file locations within 60 days after completed construction and prior to Auburn City Engineering Department acceptance of utility. Contact Engineering Department (260-925-8264) for submittal requirements. All items of construction shall be completed (including all "punch list" items) prior to submission and review of the Record As-Built Drawings.
- Contractor shall be required to clean entire storm sewer system per requirements of City Engineer and W.P.C. Sewer Departments prior to acceptance.
- All material and workmanship shall be guaranteed to the City of Auburn for three years by Contractor providing a maintenance bond in the amount of ten percent (10%) of the final construction contract price. Warranty period shall begin when all punch list items are completed and maintenance bond shall be submitted with final pay application.
- Contractor shall repair and reconnect all existing field tiles cut during construction, with SDR 35 or SDR 26 PVC pipe and Fernco rubber fitting at each end. Show size and location of all encountered field tiles on "Record As-Built Drawings".
- The contractor shall be responsible for contacting Indiana Underground Plant Protection Services (includes the City of Auburn Utilities) at 1-800-382-5544 for existing underground utility lines location 48 hours prior to any trench excavation. The contractor is also responsible for all exploratory excavations required to locate and verify existing underground utilities physical location and elevation prior to any construction.
- The contractor shall be responsible for the preservation of all lot corners and survey control monuments. Any disturbed monuments shall be replaced by an Indiana Registered Land Surveyor approved by the Auburn City Engineer, at the contractor's expense.

City of AUBURN INDIANA "Home of the Classics"	AUBURN SEWER DEPT.	NOT TO SCALE
TYPICAL SEWER DETAIL		DATE: JAN 8, 2019
STORM SEWER GENERAL NOTES		DRAWING SW 1-2

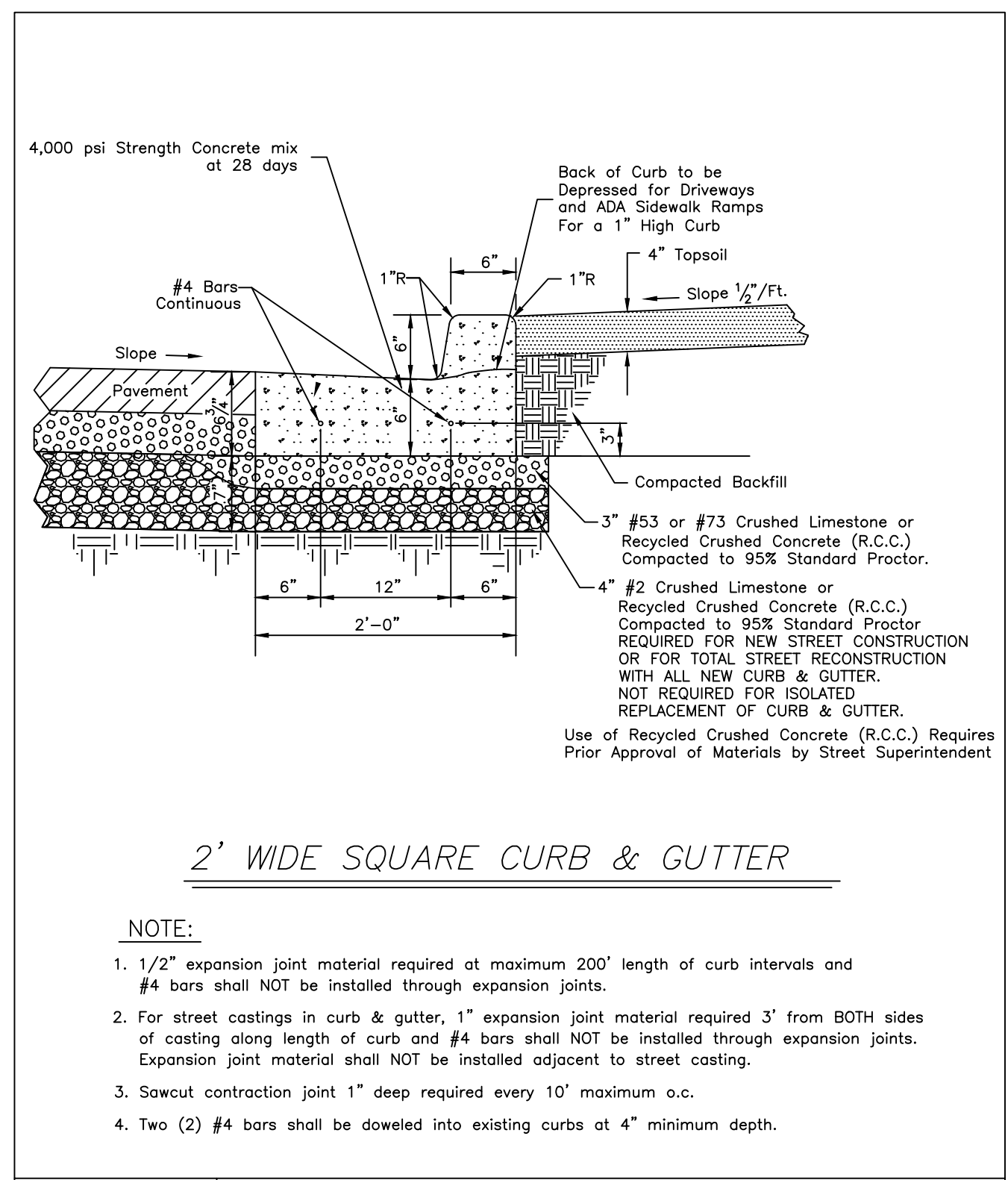
ENSLEY-SPROTT STORM SEWER PROJECT

File Name	Rev. #	Description	Date
Ensley/Sprott Storm			
Drawn By	Sam Graves		
Checked By	Steve Klein		
Date	April 2, 2019		
Sheet #	2 of 3		

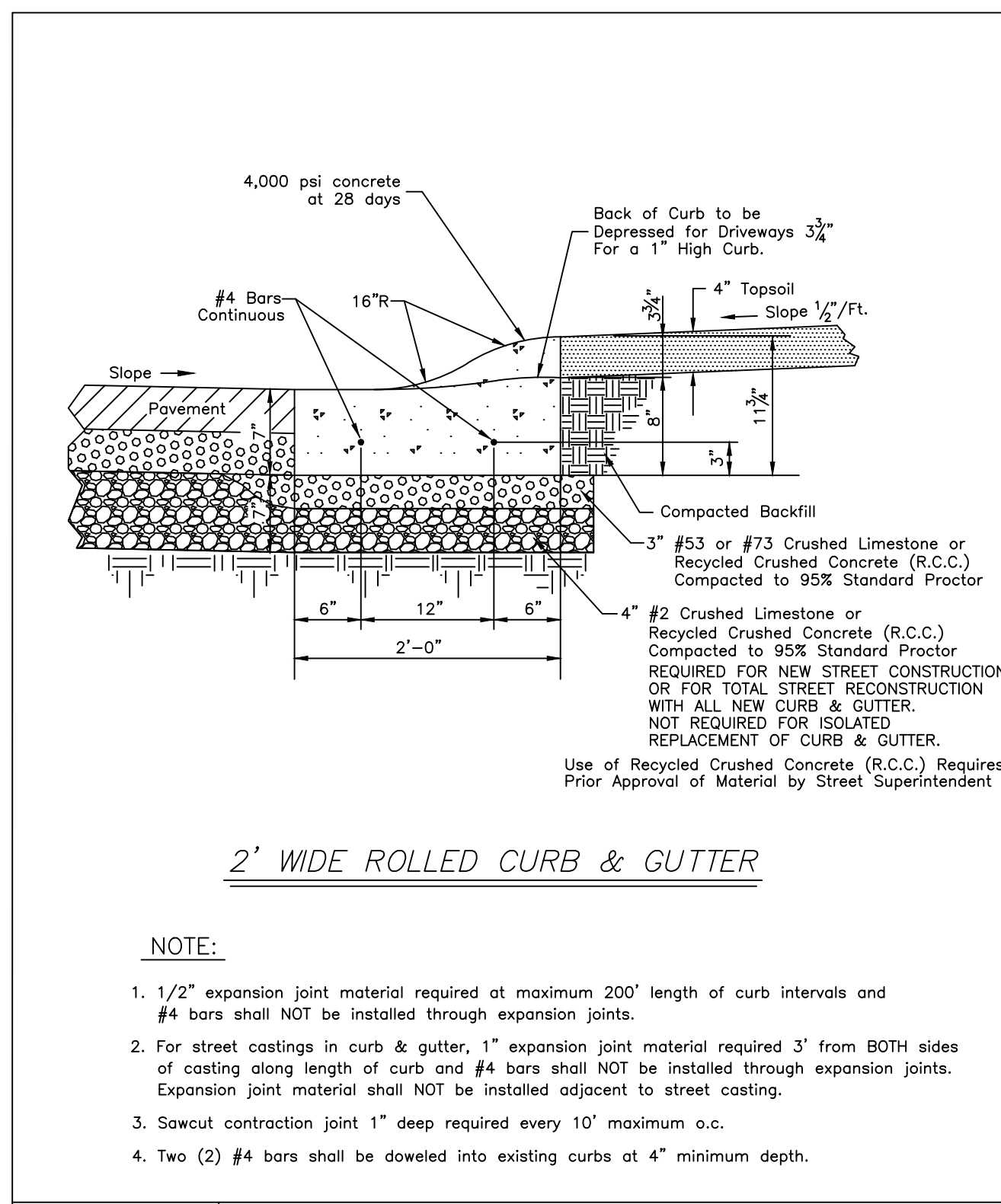




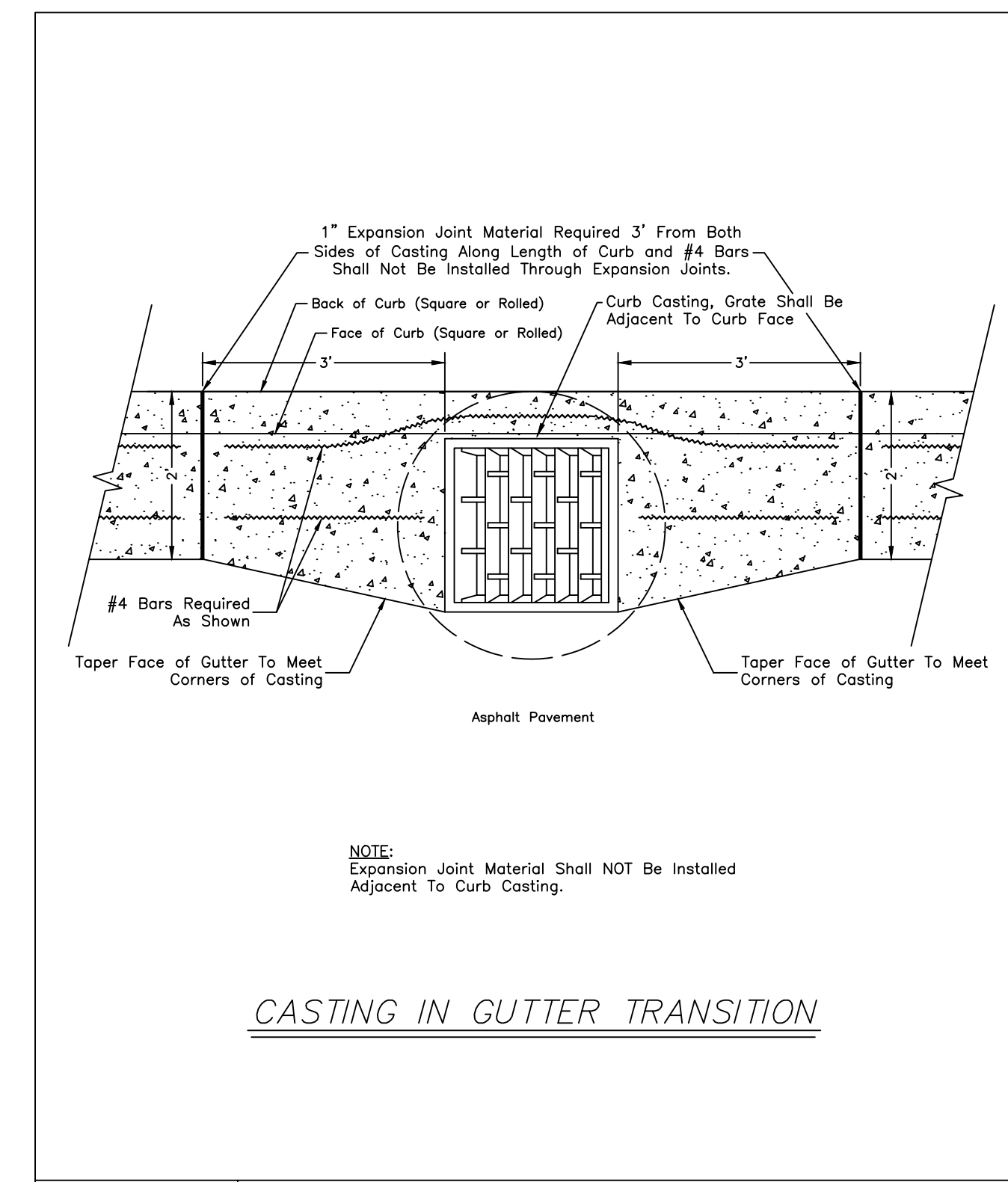
CONCRETE APPROACH REPLACEMENT



2' WIDE SQUARE CURB & GUTTER



2' WIDE ROLLED CURB & GUTTER



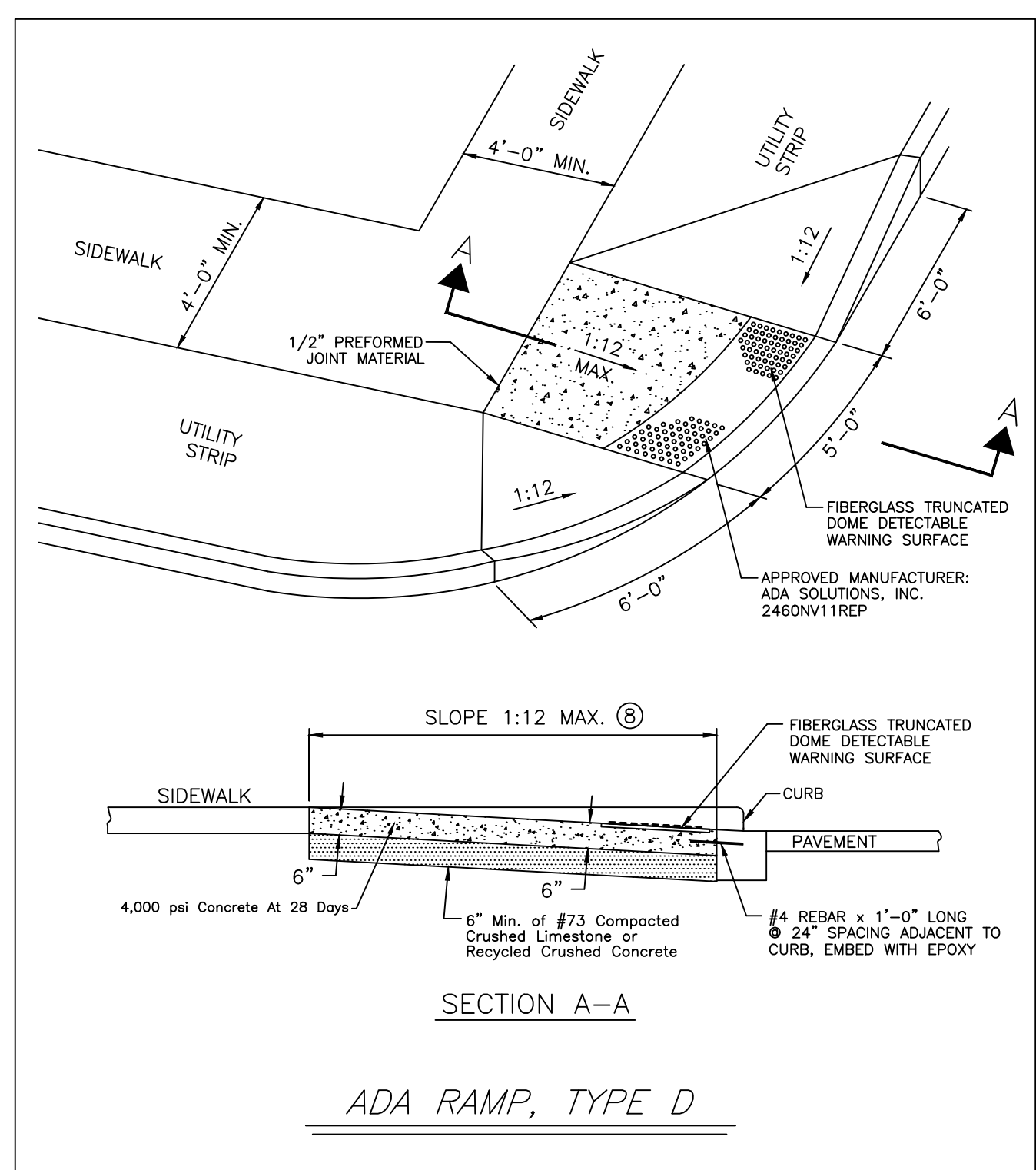
CASTING IN GUTTER TRANSITION

City of **AUBURN STREET DEPT.**
 TYPICAL STREET DETAIL NOT TO SCALE
 DATE: APR 25, 2017
 CONCRETE APPROACH REPLACEMENT DRAWING ST17

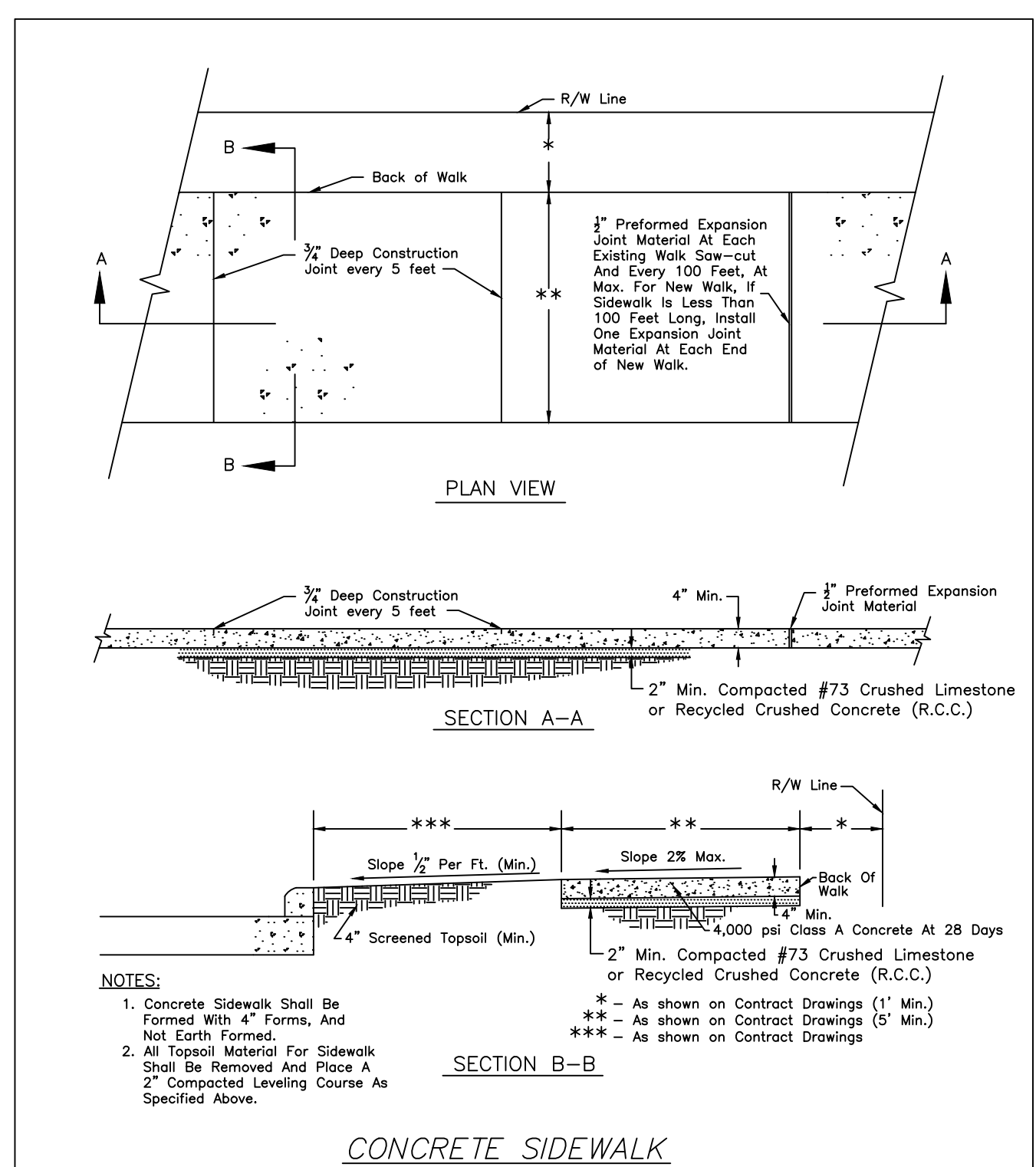
City of **AUBURN STREET DEPT.**
 TYPICAL STREET DETAIL NOT TO SCALE
 DATE: NOV 29, 2018
 SQUARE CURB & GUTTER DRAWING ST20

City of **AUBURN STREET DEPT.**
 TYPICAL STREET DETAIL NOT TO SCALE
 DATE: DEC 5, 2018
 ROLLED CURB & GUTTER DRAWING ST21

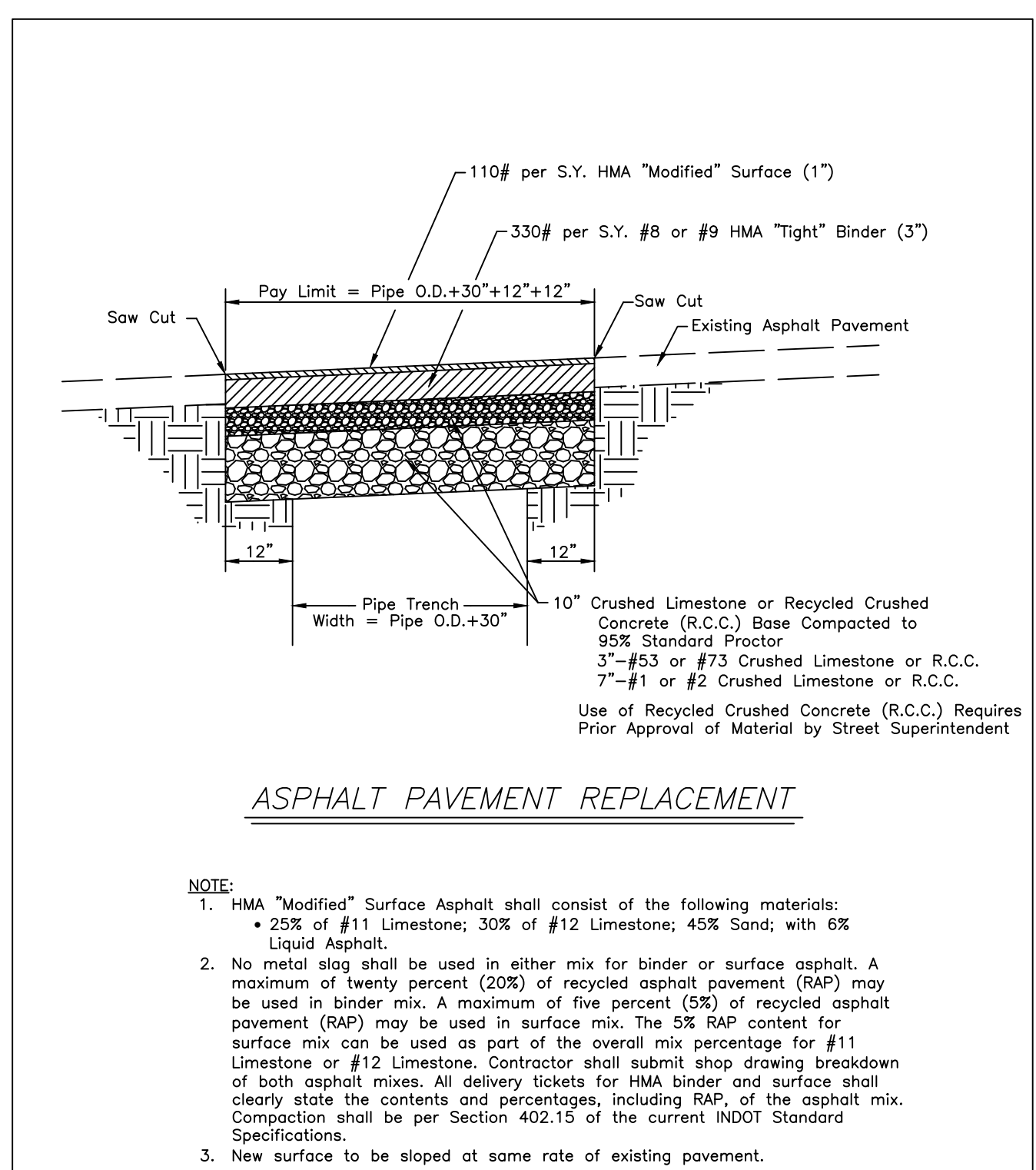
City of **AUBURN STREET DEPT.**
 TYPICAL STREET DETAIL NOT TO SCALE
 DATE: MAR 15, 2019
 CASTING IN GUTTER TRANSITION DRAWING ST21B



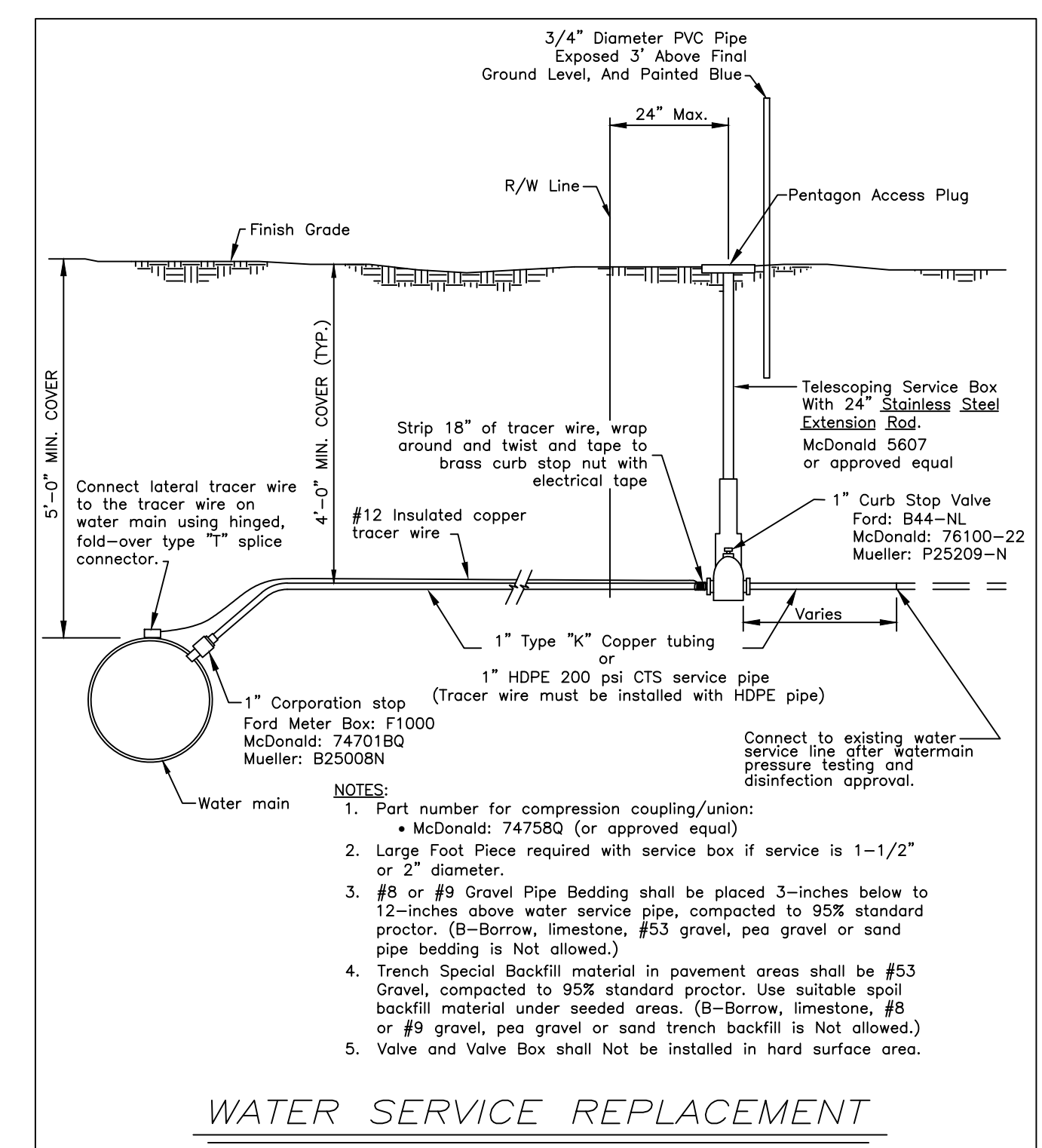
ADA RAMP, TYPE D



CONCRETE SIDEWALK



ASPHALT PAVEMENT REPLACEMENT



WATER SERVICE REPLACEMENT

City of **AUBURN STREET DEPT.**
 TYPICAL STREET DETAIL NOT TO SCALE
 DATE: MAR 26, 2019
 ADA RAMP TYPE "D" DRAWING ST29

City of **AUBURN STREET DEPT.**
 TYPICAL STREET DETAIL NOT TO SCALE
 DATE: OCT 17, 2018
 CONCRETE SIDEWALK DRAWING ST23

City of **AUBURN STREET DEPT.**
 TYPICAL STREET DETAIL NOT TO SCALE
 DATE: APRIL 1, 2019
 ASPHALT PAVEMENT REPLACEMENT DRAWING ST2

City of **AUBURN WATER DEPT.**
 TYPICAL WATER DETAIL NOT TO SCALE
 DATE: MAR 13, 2019
 WATER SERVICE REPLACEMENT DRAWING W12

ENSLEY-SPROTT STORM SEWER PROJECT

File Name	Rev. #	Description	Date
Ensley/Sprott Storm			
Drawn By	Sam Graves		
Checked By	Steve Klein		
Date	April 2, 2019		
Sheet #	3 of 3		

