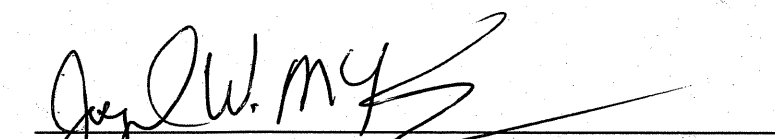
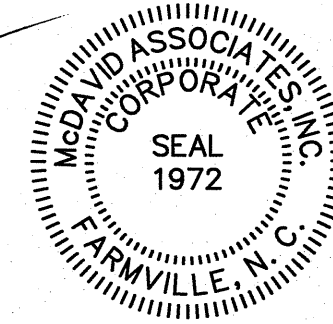
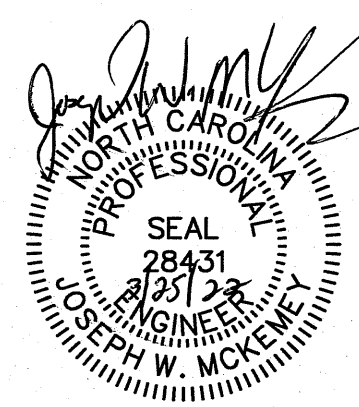


TOWN OF BAILEY
2020 SANITARY SEWER REPLACEMENT PROJECT
CONTRACT NO. 2 - SANITARY SEWER REPLACEMENT
CWSRF PROJECT NO. CS370696-03
NASH COUNTY, NORTH CAROLINA
MARCH 25, 2022

I CERTIFY THAT THESE PLANS WERE PREPARED UNDER MY SUPERVISION AND DIRECTION AND THAT THEY ARE CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.


 JOSEPH W. MCKEMEY, PE
 REGISTRATION NO. 28431



PLAN APPROVAL:

THOMAS RICHARDS
 MAYOR
 TOWN OF BAILEY

INDEX OF PLANS
CONTRACT NO. 2 – SANITARY SEWER REPLACEMENT

Page	Title
1	COVER SHEET
2	GENERAL CONSTRUCTION NOTES
3	GENERAL CONSTRUCTION NOTES
4	SEWER CONSTRUCTION NOTES
5	SANITARY SEWER LATERAL A
6	SANITARY SEWER LATERAL B
7	SANITARY SEWER LATERAL B
8	SANITARY SEWER LATERAL C
9	SANITARY SEWER CONSTRUCTION DETAILS
10	SANITARY SEWER CONSTRUCTION DETAILS
11	GENERAL CONSTRUCTION DETAILS
12	GENERAL CONSTRUCTION DETAILS
13	TRAFFIC CONTROL DETAILS
14	EROSION CONTROL DETAILS
15	EROSION CONTROL DETAILS

REVISIONS

MCDAVID ASSOCIATES, INC.
 Corporate License No. C-137
 BRANCH OFFICE
 Engineers & Planners
 109 East Walnut Street
 P. O. Box 1776
 Farmville, NC 27830
 Telephone: (819) 735-7630
 Facsimile: (819) 735-7351

CAD FILE DIRECTORY: W:\DBX\GEN\DBX4\ENG\0847_LD\2020-0307
 CAD FILE NAME: 1-COVER.DWG
 CAD PLOT FILE NAME: LAYOUT1
 MAP FILE REFERENCE: B-1906 GREEN
 PROJECT NO.: 1-20-0307-3402
 SURVEYED BY: JAS
 DRAWING NO.: 1
 COMPUTED BY: JMM
 SCALE: NTS
 DRAWN BY: MW
 DATE: MARCH 25, 2022
 APPROVED BY: JMM

COVER SHEET
 CONTRACT NO. 2 - SANITARY SEWER REPLACEMENT
 2020 SANITARY SEWER REPLACEMENT PROJECT
 TOWN OF BAILEY
 NORTH CAROLINA

BID SET NO. _____
DATE 1/17/2023

Drawing: W:\DBX\gen\DBX4\eng\0847_LD\2020-0307-3402 Bailey 20-CWSRF DR-San Sew Imp-TS - Planning and Design\DWG\1-Cover.dwg
 Layout: 1/17/2023
 Plotted: Monday, January 23, 2023, 6:56:46am

GENERAL CONSTRUCTION NOTES

- 1. CONTRACTOR shall be responsible for assigning a full-time competent resident superintendent or supervisor employed by the CONTRACTOR. Superintendent/Supervisor shall have the authority to act, direct the WORK, supervise all subcontractors, etc. on behalf of the respective CONTRACTOR. CONTRACTOR shall not replace resident superintendent without written acknowledgment to ENGINEER and approval from OWNER.
2. CONTRACTOR shall submit shop drawings and/or catalogue cuts on selected materials for approval prior to ordering materials.
3. All work shall be inspected by McDavid Associates, Inc. as work progresses. Contact McDavid Associates, Inc. at 252-753-2139 three (3) days prior to starting construction.
4. Legend of abbreviations used in plans:
A. SA with Solid Line = Proposed Sanitary Sewer.
B. SA with Dashed Line = Existing Sanitary Sewer.
C. FM with Dashed Line = Existing Sewer Force Main.
D. W with Dashed Line = Existing Water Line.
E. MH = Manhole.
F. ST inside box = Existing Septic Tank.
G. DI = Drop Inlet or Ductile Iron.
H. JB = Junction Box.
I. CO = Sewer Service Cleanout.
J. DIP = Ductile Iron Pipe.
K. BRJ = Boltless Restrained Joint.
L. PVC = Polyvinyl Chloride Pipe.
M. FO = Fiber Optic Cable Marker.
N. RCP = Reinforced Concrete Pipe.
O. CPP = Corrugated Plastic Pipe.
P. CMP = Corrugated Metal Pipe.
Q. EIP = Existing Iron Pipe.
R. R/W = Right-of-Way.
S. NIP = New Iron Pipe Set.
T. UE with Dashed Line = Existing Underground Electrical Conduit and Wire.
U. OE with Dashed Line = Existing Overhead Electrical.
V. X with Dashed Line = Existing Fence
W. Q = Existing Power Pole.
X. Δ = Existing Telephone Riser.
Y. □ = WM = Existing Water Meter.
Z. V = Existing Water Valve.
AA. ≡ = Proposed Water Valve.
BB. ⬆ = Proposed Fire Hydrant.
CC. ☉ = Existing Fire Hydrant.
DD. ○ = Existing Manhole.
EE. ● = Proposed Manhole.
FF. □ = Existing Catch Basin or Drop Inlet.
GG. Δ = Existing NCGS Monument.
HH. ⊕ = Centerline.
5. Contractor's Compaction Plan
A. CONTRACTOR shall provide a written Compaction Plan to the ENGINEER and OWNER that describes the CONTRACTOR'S efforts planned to achieve compliance with the compaction requirements in the specifications (Section 02222 - EXCAVATION, BACKFILL AND COMPACTION FOR SEWER LINES). The CONTRACTOR'S compaction plan shall include, but not limited to the following items:
1. Identify the source and characteristics of off-site material proposed to be used as BORROW backfill in cases where native excavated materials are unsuitable for backfill.
2. Identify equipment (model numbers, brand names, and specifications) planned to be used to achieve compaction along with a description of efforts to be employed to achieve compaction.
3. The Compaction Plan shall specify the first day of construction involving excavation/backfill/compaction to be witnessed by the Geotechnical Engineer approved by the OWNER and paid for through the ALLOWANCE provided in the bid form. Procedures and techniques necessary to achieve compliance with compaction requirements shall be established and defined the first day, approved by the ENGINEER, and subsequently be followed for the duration of the project unless a change in conditions occurs.
4. In the event BORROW material is required, the CONTRACTOR shall schedule/coordinate with the ENGINEER and OWNER a second event involving excavation/backfill/compaction by the CONTRACTOR witnessed by the Geotechnical Engineer to identify the procedures and techniques to achieve compliance with the compaction specifications. The procedures and techniques necessary to achieve compliance with the compaction requirements established and defined for BORROW shall be approved by the ENGINEER and subsequently be followed for the duration of the project involving BORROW unless a change in conditions occurs. If the CONTRACTOR changes the source of the BORROW or if the nature of the BORROW changes, the CONTRACTOR shall repeat the process utilizing the Geotechnical Engineer at the CONTRACTOR'S expense.
5. The Compaction Plan shall include provisions for modifications.
6. The CONTRACTOR shall obtain the ENGINEER'S approval of the Compaction Plan prior to beginning of any construction work.
6. CONTRACTOR shall minimize the widths of the water and sewer trenches such to minimize pavement removal and replacement activities. All pavement cuts will be sawed with sharp edges. Any cuts that subsequently have a loss of underlying material shall be re-cut such that the edge of the cut is supported by undisturbed material for the horizontal length of at least one foot from the excavated area. Pavement replacement at the cuts shall be uniform and on the same grade as the existing adjoining undisturbed pavements. The saw cut edges of the existing pavements shall be heavily tacked prior to installing new pavement.
7. Contractor shall allow thirty days between the completion of all pavement repairs and resurfacing activities. Any settlement or other defects shall be addressed/repared prior to resurfacing.
8. Each BIDDER is responsible for inspecting the site and for reading and being thoroughly familiar with the CONTRACT DOCUMENTS.
BIDDERS shall carefully examine and investigate the site of the WORK, including subsurfaces soil and groundwater conditions, the PLANS, and the CONTRACT DOCUMENTS. Submission of a BID shall be conclusive evidence that the BIDDER has investigated, knows, and is satisfied as to the conditions to be encountered; the quantities of pavements to be removed and replaced; the character, quality, and scope of WORK to be performed; the quantities of materials to be furnished; and the requirements of the PLANS and CONTRACT DOCUMENTS, and that the BIDDER has included all associated costs for the WORK within the prices shown in the BID.
The failure or omission of any BIDDER to do any of the foregoing shall in no way relieve any BIDDER from any obligation in respect to his BID.
9. The OWNER is responsible for obtaining the following PERMIT or approvals associated with this PROJECT:
A. A Division of Water Quality Sewer Permit
10. The CONTRACTOR shall be responsible for all expenses incurred associated with WORK required to comply with provisions of the above Permit or corrective actions necessary to achieve compliance with provisions of the above Permit to include CONTRACTOR'S expenses associated with any and all WORK stoppages required or directed by government agencies to obtain compliance with Permit conditions or provisions of the CONTRACT DOCUMENTS.
11. The CONTRACTOR shall be responsible for properly notifying permitting agency prior to start of construction. The CONTRACTOR shall be responsible for providing information to permitting agency in accordance with the permit.
12. The CONTRACTOR shall comply with all applicable federal, state and local laws and regulations and shall be responsible for obtaining any other federal, state or local permits as necessary to complete the WORK.
13. The Contractor shall post all required permits/posters/documents/certificates of approval on site accessible to employees and the public.
14. The Contractor shall erect project approved signage at Owner/Engineer pre-agreed locations prior to start of Construction. Upon completion of construction and approval of the Engineer, the CONTRACTOR shall remove and dispose of project related signage.
15. CONTRACTOR shall contact all utility companies prior to beginning work and shall fully coordinate and have all utilities flagged within the area of construction. Known utilities within the project area and their respective contacts are as follows:
A. Electrical
Duke Energy Progress
(800) 452-2777
B. Cable TV
Spectrum
(877) 794-2724 (Wilson)
C. Telephone & Fiber Optic
Spectrum
(877) 794-2724 (Wilson)
Century Link
(855) 908-5179 (Wilson)

- D. Water & Sewer
Town of Bailey
(252) 235-4977
E. Gas
Piedmont Natural Gas
(800) 752-7504
F. Locator Service
N. C. One Call Center
(800) 632-4949
16. CONTRACTOR shall contact the N.C. Department of Transportation (NCDOT).
A. Five (5) days prior to any WORK within NCDOT right-of-ways.
B. Upon completion of all WORK within NCDOT right-of-ways.
C. Prior to any lane closings.
D. The NCDOT Division Engineer for this PROJECT is:
Bobby Liverman, P.E.
N. C. Department of Transportation
Division of Highways
3013 US 64 A
Nashville, NC 27856
Telephone: (252) 462-2580
Facsimile: (252) 459-2401
17. All material and workmanship shall conform to the N.C. Department of Transportation "Standard Specifications For Roads and Structures", "Roadway Standard Drawings", and "Policies and Procedures for Accommodating Utilities in Highway Right of Way", latest edition.
18. Prior to construction within any area where road construction is in progress by a NCDOT contractor, the contractor shall coordinate the installation of the proposed facilities with the NCDOT contractor and the NCDOT inspector to insure that the facilities are installed in a manner to avoid conflicts with the NCDOT construction and to provide all specified bury depths and clearances.
19. Construction zones and approaches to construction zones shall be signed and marked in accordance with the following:
A. "Manual on Uniform Traffic Control Devices for Streets and Highways", latest revision by U.S. Department of Transportation, Federal Highway Administration.
B. "North Carolina Construction and Maintenance Operations Supplement to the Manual on Uniform Traffic Control Devices for Streets and Highways", latest revision by Division of Highways, N.C. Department of Transportation.
C. "North Carolina Highway Marking Manual and Supplement to the Manual on Uniform Traffic Control Devices for Streets and Highways", latest revision by Division of Highways, N.C. Department of Transportation.
D. NCDOT "Roadway Standard Drawings" latest revision by N.C. Department of Transportation.
E. NCDOT "Standard Specifications For Road and Structures" latest revision by N.C. Department of Transportation.
20. Any roadway signs or fences removed during construction shall be reinstalled immediately.
21. The CONTRACTOR shall adhere to all NCDOT safety standards, rules and regulations. A "Work Zone Traffic Control Supervisor" is a trained and qualified individual who is employed by the CONTRACTOR and is capable of identifying unsafe work zone conditions and improper traffic control. NCDOT qualified "Work Zone Flaggers" shall be used for all flagging operations.
22. The CONTRACTOR shall not perform any construction or cleanup activities unless appropriate traffic control devices and/or flagmen are in place and functional. Traffic control devices and/or flagmen shall remain in place and be maintained by the CONTRACTOR as long as necessary to prevent any unsafe conditions.
23. Any work requiring equipment or personnel within five (5) feet of the edge of any travel lane shall require a lane closure with appropriate traffic control devices.
24. Contractor shall verify the horizontal and vertical location and size of all existing utilities a minimum of one thousand (1,000) feet in advance of the pipe laying activities. Payment for locating facilities and utilities shall be included in the price for the WORK. CONTRACTOR shall notify the ENGINEER immediately if a potential conflict or problem is identified.
25. Trenches, bore pits and/or other excavations shall not be left open or unsafe overnight.
26. CONTRACTOR shall be responsible and liable for any damages to existing items caused by the CONTRACTOR or resulting from the CONTRACTOR'S work associated with accomplishing the PROJECT. PLANS do not show all items that exist in the PROJECT area. For those items shown on the PLANS, locations are approximate and shall be field verified by the CONTRACTOR prior to installation of new construction. The existence of these items will significantly impact the CONTRACTOR'S ability to install the proposed piping and accomplish the WORK required by the CONTRACT DOCUMENTS. The CONTRACTOR shall make his own pre-bid field determination and investigation regarding the existence and the exact location of all items within the PROJECT area. The CONTRACTOR shall be responsible for judging and determining how and to what extent existing items will impact the CONTRACTOR'S ability to accomplish the WORK. The CONTRACTOR shall contact the owner of the respective utilities within the PROJECT area and

- coordinate the protection of the existing utility. All or any fees charged by the owner of the existing utility related to the protection, holding or relocation of the existing utility shall be paid by the CONTRACTOR. The CONTRACTOR shall repair, provide new or replace items damaged or destroyed during construction whether said items are shown on the PLANS or not. Damage repair, new or replacement of those items shall be included within the UNIT PRICE of the pipe. The cost associated with accomplishing the proposed WORK in the immediate vicinity of existing items and the protection of these existing items shall be included in the UNIT PRICE of the pipe. There shall be no additional payment to the CONTRACTOR for costs associated with temporary or permanent locating and/or relocating existing items necessary to accomplish proposed construction activities; holding existing items out of the way of construction activities; measures required for the protection of existing items; or, temporary repair, removal, providing new and/or replacement of existing items damaged by the CONTRACTOR.
A. CONTRACTOR shall protect existing storm drainage pipe before, during and after removal and replacement. Existing undamaged storm drainage piping may be reused. Existing drainage piping damaged by the CONTRACTOR shall be replaced with new piping. Existing damaged drainage piping shall be replaced with new piping if CONTRACTOR disturbs the existing damaged piping. A storm drain pipe collar shall be installed around the joint of any pipe segment disturbed, installed or reinstalled during construction. Drainage structures shall not be blocked with excavation materials.
B. CONTRACTOR shall protect existing underground and above ground utilities within the PROJECT area. Existing underground and above ground utilities within the PROJECT area include but are not limited to: water lines, sewer lines, gas lines, telephone cables (including fiber optic cables), cable TV cables, and electric cables.
1. Existing utilities are numerous and alignments are irregular. Accurate depiction of the utilities on the PLANS is not possible or practical and therefore the PLANS do not typically attempt to illustrate all utilities and locations of all utilities.
2. CONTRACTOR shall coordinate with owner of existing overhead utilities to have utility line, pole, or guy wire, etc. held or temporarily relocated to accomplish installation of the proposed WORK.
3. CONTRACTOR shall replace all existing water service lines damaged or cut during construction of the PROJECT from the existing water line to the existing meter stop with new 200 psi service line with no joints or splices.
C. CONTRACTOR shall protect above ground items within the PROJECT area. Existing above ground items within the PROJECT area include but are not limited to: right of way monuments, adjacent property monuments, roadway signs, mail boxes, shrubbery, small ornamental trees, fences, headwalls, paved and unpaved driveways, pavements, roads, paths, walkways, drives to mail boxes, etc.
1. CONTRACTOR, prior to beginning construction shall identify all right of way monuments or adjacent property corner monuments to be disturbed by the WORK. Any monuments to be disturbed by the WORK, shall be referenced by a Registered Land Surveyor prior to the WORK and reset after construction by a Registered Land Surveyor.
2. Existing roadway signs disturbed, damaged or removed shall be replaced, restored and reinstalled by the CONTRACTOR as soon as possible. Existing roadway signs disturbed, damaged or removed shall be replaced, restored and reinstalled by the CONTRACTOR the same day disturbed, damaged or removed. Temporary signing shall be utilized until existing permanent signs are replaced, restored and reinstalled.
3. Existing mail boxes disturbed, damaged or removed shall be replaced, restored and reinstalled by the CONTRACTOR the same day disturbed, damaged or removed.
4. Other improvements disturbed, damaged or removed shall be replaced, restored and reinstalled by the CONTRACTOR.
5. Shrubby and small ornamental trees (three (3) inches diameter and smaller) disturbed, damaged or removed shall be replaced and/or reinstalled by the CONTRACTOR within thirty (30) calendar days from the day disturbed, damaged or removed. Shrubby and small ornamental trees to be reused may be replanted in a temporary protected area provided by the CONTRACTOR. All shrubby and ornamental trees that do not survive during the construction period and within the one year guarantee period shall be replaced by the CONTRACTOR within thirty (30) calendar days after notification by the ENGINEER. Trees shall be permanently replanted a minimum of fifteen (15) feet from the utility line.
6. Fences disturbed, damaged, or removed shall be replaced, restored and reinstalled by the CONTRACTOR the same day disturbed, damaged or removed.
7. Headwalls disturbed, damaged or removed shall be replaced by the CONTRACTOR within thirty (30) calendar days from the day disturbed, damaged or removed.
8. All paved (concrete and/or asphalt) driveways, curbing, gutters and sidewalks disturbed, damaged or removed during construction shall have the pavement replaced within thirty (30) calendar days of disturbance.

Table with columns: NO., DATE, DESCRIPTION, REVISIONS. Includes a signature and date 1/23/23.

McDAVID ASSOCIATES, INC. Corporate License No. C-737. BRANCH OFFICE: Engineers - Planners - Surveyors. 109 East Walnut Street, Goldsboro, NC 27533. Telephone: (919) 758-7650. Facsimile: (919) 758-7551.

Table with columns: CAD FILE DIRECTORY, CAD DWG FILE NAME, CAD PLOT FILE NAME, MAP FILE REFERENCE, PROJECT NO., DRAWING NO., SCALE, DATE. Includes project details like '2020 SANITARY SEWER REPLACEMENT PROJECT'.

GENERAL CONSTRUCTION NOTES. CONTRACT NO. 2 - SANITARY SEWER REPLACEMENT. 2020 SANITARY SEWER REPLACEMENT PROJECT. TOWN OF BAILEY. NORTH CAROLINA. NASH COUNTY. SHEET 2 OF 15. Includes professional seals for McDavid Associates, Inc. and North Carolina Professional Engineer Joseph W. McCreary.

W:\DBxx_gen\084x_eng\084x_eng\0847_LD\2020-0307-3402 Bailey 20-CWSRF DR-San Sew Imp-TS - Planning and Design\DWG\2-General Construction Notes.dwg
Layout!
Plotted: Monday, January 23, 2023, 4:55:36pm

GENERAL CONSTRUCTION NOTES

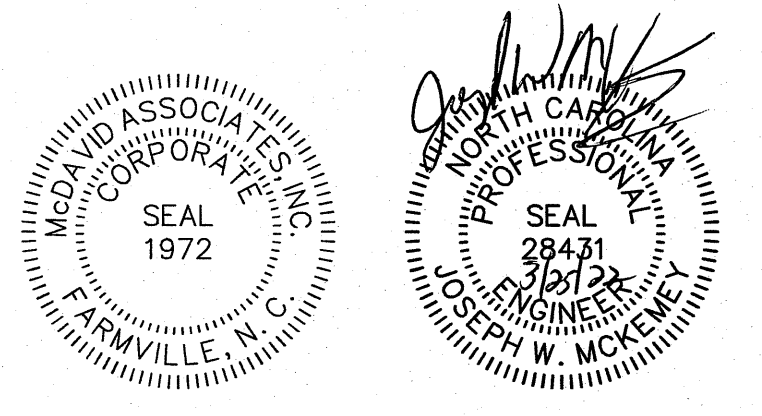
- 9. CONTRACTOR shall provide a minimum six (6) inches of INCIDENTAL STONE BASE to temporarily and satisfactorily restore all paved and unpaved driveways, roads, paths, walkways and drives to mail boxes within two (2) hours of disturbance.
27. CONTRACTOR shall obtain permission from respective property owners prior to encroaching on private properties for construction purposes including, but not limited to, bore pits for drybores.
28. Pavement repair design shall be as shown in construction details of PLANS.
A. For existing NCDOT pavements:
1. Open cuts 6 feet wide or less shall be patched back utilizing 24 inches of flowable fill and 2 inches of S9.5B or S9.5C asphalt surface course.
2. Open cuts greater than 6 feet wide shall be patched back utilizing 11 inches of asphalt base course B25.0B or B25.0C and 2 inches of asphalt surface course S9.5B or S9.5C.
3. Asphalt resurfacing with 1.25 inches of asphalt surface course S9.5B will be required for all open cuts across existing NCDOT asphalt pavements after patching is completed.
B. For Existing Non-NCDOT pavements:
1. Open cuts shall be patched back utilizing minimum 8 inches of compacted CABC and 2 inches of asphalt surface course S9.5A or S9.5B.
2. Asphalt resurfacing with 1 inch of asphalt surface course S9.5A will be required for all open cuts across existing Non-NCDOT asphalt pavements after patching is completed.
C. Curb and gutter shall be reconstructed utilizing minimum 8 inches of compacted CABC. CABC shall extend minimum 8" beyond back of curb and gutter.
29. All excavations inside the theoretical 1:1 slope from the existing edge of pavement to the bottom of the nearest excavation wall shall be made in accordance with the following:
A. Active excavation shoring, such as trench boxes or sheet piling shall be installed.
B. All trench excavation inside the limits of the theoretical 1:1 slope, shall be completely backfilled and compacted at the end of each construction day. No portion of the trench shall be left open overnight.
30. All soils encountered shall be considered Type "C" soil. All Sloping, Benching, Trenching, Shoring and Shielding systems shall follow OSHA guidelines for Type "C" soils.
A. Sloping and Benching
1. Maximum allowable slope is 1.5:1.
2. The actual slope shall be less steep than the maximum allowable slope, when there are signs of distress. If that situation occurs, the slope shall be cut back to an actual slope of 2:1.
3. When surcharge loads from stored material or equipment, operating equipment, or traffic are present, a "competent person" shall determine the degree to which the actual slope must be reduced below the maximum allowable slope, and shall assure that such reduction is achieved.
B. Trenching, Shoring and Shielding systems (trench boxes)
1. The CONTRACTOR shall keep a "competent person" on site at all times to monitor Trenching, and the utilization of Shoring and Shielding systems.
31. CONTRACTOR shall at its own expense, strictly adhere to all pertinent safety standards, rules and OSHA regulations required or recommended by governmental or quasi-governmental authorities having jurisdiction.
32. Daily Cleanup and Maintenance of Ingress and Egress
A. The PROJECT area includes residential, commercial and industrial neighborhoods which require continuous ingress and egress routes.
B. All excavation, pipelaying, and backfilling activities shall be completed not later than 5:00 p.m. each work day.
C. Maintenance of all disturbed areas shall be provided on a daily basis as required to provide drainage and convenient ingress and egress to all properties.
C. Failure by the CONTRACTOR to adequately implement the erosion and sedimentation control measures described in these PLANS and SPECIFICATIONS may result in the employment by the OWNER of an outside party to accomplish these activities.
1. The OWNER may employ an outside party at any time the CONTRACTOR is not on the PROJECT site and unsatisfactory conditions exist regarding erosion and sedimentation control.
2. Payment for all costs incurred by the OWNER relating to the employment of an outside party shall be reimbursed to the OWNER on a monthly basis by the CONTRACTOR.
3. Failure to reimburse the OWNER shall result in the OWNER deducting payment for these costs from payments to the CONTRACTOR.
D. Failure by the CONTRACTOR to comply with any part of the approved erosion and sedimentation control plan or with any Division of Land Resources Land Quality Section requirements may result in civil penalty of up to \$5,000 for the initial violation plus up to \$5,000 per day for each day the site is out of compliance.
E. Appropriate temporary and permanent measures shall be used to control erosion and sedimentation in accordance with all local, State and Federal regulations.
F. CONTRACTOR shall schedule land-disturbing activities to minimize the area of exposure, the time between the land disturbances and the providing of ground cover.
G. CONTRACTOR shall maintain a buffer zone, sufficient to restrain visible sedimentation between any land-disturbing activity and any adjacent property or watercourse.
H. The CONTRACTOR shall not begin construction until after all erosion control devices have been installed.
I. Temporary
1. Install silt fence around all proposed spoil piles.
2. Construct and maintain gravel construction entrances/exits for all sites.
3. All land disturbed areas shall be graded to minimize runoff.
4. Protect storm pipe inlets from sediment runoff generated by land disturbing activities with silt fences and gravel filter check dams.
5. Protect drop inlets and catch basins with block and gravel filters.
6. Install Class 1 rip rap protection around disturbed storm pipe outlets within seven (7) days.
7. Construct and maintain detention basins, silt traps, check dams and barriers.
8. Not more than three hundred (300) feet of trench shall be opened in advance of completed backfill.
9. Trenches shall not remain open after normal working hours.
10. All land disturbed areas on the banks and approaches to ditches, streams or creek crossings shall be graded not to exceed 2:1 ratio.
11. Mulching is to be applied at a minimum rate of 2 tons/acre to all seeded areas.
12. If other erosion control devices fail to stabilize and prevent erosion, CONTRACTOR shall install erosion control matting as necessary to prevent erosion.
13. Seeding will not be done in areas to receive pavement.
J. Ground Stabilization
1. Soil stabilization shall be achieved on any area of a site where land-disturbing activities have temporarily or permanently ceased according to the following schedule:
a. All perimeter dikes, swales, ditches, perimeter slopes and all slopes steeper than 3 horizontal to 1 vertical (3:1) shall be provided temporary or permanent stabilization with ground cover as soon as practicable but in any event within 7 calendar days from the last land-disturbing activity.
b. For portions of projects within the Sediment Control Commission-defined "High Quality Water Zone" (15A NCAC 04A. 0105), stabilization with ground cover shall be achieved as soon as practicable but in any event on all areas of the site within 7 calendar days from the last land-disturbing act.
c. All slopes 50' in length or greater shall apply the ground cover within 7 days except when the slope is flatter than 4:1.
d. Any sloped area flatter than 4:1 shall apply the ground cover within 14 calendar days from the last land-disturbing activity.
e. All other disturbed areas not mentioned above shall be provided temporary or permanent stabilization with ground cover as soon as practicable but in any event within 14 calendar days from the last land-disturbing activity.
K. Permanent
1. Final grading, soil preparation, fertilizing, liming, seeding and mulching of the PROJECT area shall be completed within time frame requirements for Ground Stabilization above.
2. Mulching is to be applied at a minimum rate of 2 tons/acre to all seeded areas.
3. If other erosion control devices fail to stabilize and prevent erosion, install erosion control matting as necessary to prevent erosion.
4. Permanent ground cover (grass, mulching, matting, etc.) shall be established and effectively restraining erosion within time frame requirements for Ground Stabilization above.
L. Erosion Control Construction Sequence
1. Clear PROJECT area only as necessary to install erosion control devices.
2. Begin construction.
3. Maintain erosion control devices as necessary during project construction.
4. As construction progresses, install additional erosion control devices as necessary to prevent erosion leaving the PROJECT area.
5. Temporarily seed and mulch disturbed area within prescribed time frames.
6. After disturbed areas are stabilized, permanently seed and mulch disturbed areas within prescribed time frames.
7. After the PROJECT area is stabilized, remove temporary erosion control devices, dress out area and seed and mulch any disturbed areas.

Table with 4 columns: NO., DATE, DESCRIPTION, REVISIONS. Contains revision history for the drawing.

McDAVID ASSOCIATES, INC. Corporate License No. C-137. Branch Office: Engineers - Planners - Environmental - Land Surveyors. P. O. Box 1776, Dobson, NC 27833. Telephone: (819) 234-7261. Fax: (819) 234-7261.

Table with 2 columns: CAD FILE DIRECTORY, CAD DWG FILE NAME, CAD PLOT FILE NAME, MAP FILE REFERENCE, PROJECT NO., DRAWING NO., SCALE, DATE. Contains project and drawing identification information.

GENERAL CONSTRUCTION NOTES CONTRACT NO. 2 - SANITARY SEWER REPLACEMENT 2020 SANITARY SEWER REPLACEMENT PROJECT TOWN OF BAILEY NORTH CAROLINA NASH COUNTY SHEET 3 OF 15



W:\DBxx_gen\084x_eng\0847_LD_2020-0307-3402 Bailey 20-CWSRF DR-Son Sew Imp-TS - Planning and Design\DWG\3-General Construction Notes.dwg
Layout: Monday, January 23, 2023, 4:55:48pm
Plotted: Monday, January 23, 2023, 4:55:48pm

SANITARY SEWER CONSTRUCTION NOTES

1. See General Construction Notes
2. All construction is on a UNIT PRICE basis.
3. The CONTRACTOR is responsible for all subsurface conditions and construction methods necessary to install the facility.
4. The CONTRACTOR shall include all clearing in the UNIT PRICE of the pipe or applicable construction item.
5. All stone bedding for SANITARY SEWER COLLECTION LINES shall be included in the UNIT PRICE of the pipe or applicable construction item.
6. Backfill material for gravity SANITARY SEWER COLLECTION LINES shall be as follows:
 - A. Under proposed pavement, asphalt or concrete driveways, curb and gutter, NCDOT roads, gravel or soil driveways or parking areas or inside theoretical 1:1 slope from the existing edge of pavement to the bottom of the nearest excavation wall.
 1. Suitable soil material excavated from the site may be used for backfill unless directed otherwise by the ENGINEER. Payment for backfilling shall be included within the UNIT PRICE of the pipe.
 2. BORROW shall be used if existing on-site material is not suitable. Payment for BORROW shall be at the CONTRACT UNIT PRICE per cubic yard as shown in the BID SCHEDULE under the payment category "BORROW".
 - B. NOT under proposed pavement, asphalt or concrete driveways, curb and gutter, NCDOT roads, gravel or soil driveways or parking areas or inside theoretical 1:1 slope from the existing edge of pavement to the bottom of the nearest excavation wall.
 1. Suitable soil material excavated from the site may be used for backfill unless directed otherwise by the ENGINEER. Payment for backfilling shall be included within the UNIT PRICE of the pipe.
7. Backfill compaction for all gravity SANITARY SEWER COLLECTION LINES shall be in accordance with SECTION 02222, EXCAVATION, BACKFILL, AND COMPACTION FOR SEWER LINES. This section shall supersede any less stringent compaction requirements found elsewhere in the PLANS and/or SPECIFICATIONS.
8. CONTRACTOR shall install all sewer collection lines, manholes, and appurtenances in the locations shown on the PLANS. CONTRACTOR shall notify the ENGINEER immediately if a conflict or problem is identified which warrants the installation in a location other than that shown on the PLANS.
9. When minimum cover in all directions is less than thirty-six (36) inches, the pipe shall be ductile iron pipe. CONTRACTOR shall notify the ENGINEER if the use of ductile iron pipe is required and not shown on the PLANS as ductile iron pipe, prior to installation.
10. Individual plan sheets depicting proposed construction and detailed plan sheets should be used together. In the event that discrepancies exist between individual plan sheets and detailed plan sheets, such discrepancies shall immediately be brought to the attention of the ENGINEER. The better quality or greater quantity involved in any such discrepancy shall govern unless otherwise directed by the ENGINEER. All items necessary or incidental for a complete and operational installation shall be provided and constructed although all such items may not be included in or shown on the PLANS.
11. If the CONTRACTOR installs the sewer facilities at any location other than the approved location as shown on the PLANS, the CONTRACTOR shall solely be responsible for all associated cost and shall obtain written approval of the OWNER, the ENGINEER and all permitting agencies. If the ENGINEER, OWNER or the permitting agencies do not approve the installation at the alternate location, the CONTRACTOR shall relocate the facilities in conformance with the PLANS at the CONTRACTOR'S expense.
12. Sewer collection lines that are to be installed under ditches, streams or creeks with less than four (4) feet of cover between the top of the pipe and the deepest portion of the ditch, stream or creek bed shall be ductile iron installed within steel casing.
13. Crossing Asphalt and Concrete Pavements:
 - A. All existing pavements crossed by gravity SANITARY SEWER COLLECTION LINES shall be open cut by sawing, breaking, removing, disposing and replacing unless PLANS specifically require a drybore. PLANS may not show all roads, driveways, aprons or pavements. Associated cost shall be paid as "BREAK, REMOVE, AND REPLACE EXISTING ASPHALT" and as "BREAK, REMOVE, AND REPLACE EXISTING CURB AND GUTTER" as shown in the BID SCHEDULE.
 - B. All existing pavements crossed by SANITARY SEWER SERVICES shall be by uncased drybore, no casing required. In cases where the existing conditions make it difficult or impossible to bore existing pavements, the CONTRACTOR, with permission of the ENGINEER shall be permitted to open cut by sawing, breaking, removing, disposing, and replacing existing pavement. Minimum patch width shall be two (2) feet. Associated cost for BREAKING, REMOVING, AND REPLACING EXISTING PAVEMENTS shall be included in the UNIT PRICE of the SEWER SERVICE.
14. With respect to installation of gravity SANITARY SEWER COLLECTION LINES under existing facilities i.e., storm drainage, gas mains, water lines, etc., sewer main joints shall not be installed within four (4) feet of the existing facility. Sewer main shall be centered on existing facility. Facilities that are damaged shall be repaired or replaced.
15. Where uncased bores are not possible or where during installation the bedding beneath the existing storm drain is disturbed, one of the following actions is required:
 - A. The existing storm drain shall be removed and #57 stone bedding shall be used between the proposed force main and the centerline of the storm drain.
 - B. The existing storm drain shall be supported in place and flowable fill (cement grout) shall be used as bedding between the force main and the centerline of the storm drain.

The cost of bedding, storm drain removal, replacement, #57 stone, flowable fill, etc. shall be included in the UNIT PRICE of the pipe.
16. Relation of sanitary sewer lines to storm sewer:
 - A. A minimum eighteen (18) inch vertical separation shall be provided between any sanitary sewer line and storm sewer.
 - B. If an eighteen (18) inch vertical separation can not be obtained between the sanitary sewer line and the storm sewer, then the sanitary sewer line shall be constructed of ferrous materials.
17. Relation of sanitary sewer lines to water mains:
 - A. Lateral separation of any sanitary sewer line and water mains.
 1. Sanitary sewer lines shall be laid at least ten (10) feet laterally from existing water mains, unless local conditions or barriers prevent a ten (10) foot lateral separation.
 - a. If a sanitary sewer line cannot be laid with a ten (10) foot lateral separation with respect to water mains, the sanitary sewer line shall be laid within a separate trench with the elevation of the top of the sanitary sewer line at least eighteen (18) inches below the bottom of the water main.
 - B. Crossing a sanitary sewer line under a water main.
 1. Whenever it is necessary for a sanitary sewer line to cross under a water main, the sanitary sewer line shall be laid at such an elevation that the top of the sanitary sewer line is at least eighteen (18) inches below the bottom of the water main, unless local conditions or barriers prevent an eighteen (18) inch vertical separation. If an eighteen (18) inch separation can not be achieved, both the water main and sanitary sewer line shall be constructed of ferrous materials and with joints that are equivalent to water main standards for a distance of ten (10) feet on each side of the point of crossing. A section of the conflicting sanitary sewer line shall be centered at the point of crossing.
 - C. Crossing of a sanitary sewer line over a water main.
 1. Whenever it is necessary for a sanitary sewer line to cross over a water main, both the sanitary sewer line and the water main shall be constructed of ferrous materials and with joints equivalent to water main standards for a distance of ten (10) feet on each side of the point of crossing. A section of the sanitary sewer line shall be centered at the point of crossing.
18. Relation of gravity sanitary sewer lines to private and public water supply wells.
 - A. A minimum distance of 100 feet shall be maintained between any private or public water supply well and any gravity sanitary sewer line.
 1. If the minimum 100 foot separation cannot be obtained, gravity sanitary sewer lines shall be constructed with joints equivalent to public water supply standards and tested to 150 PSI. Testing of gravity sanitary sewer lines which are in conflict with the 100 foot separation shall be in accordance with SECTION 02731 of SPECIFICATIONS.
 2. In addition to testing requirements, any portion of gravity sanitary sewer collection lines and/or gravity sanitary sewer service lines within 100 feet of the well shall be constructed of ferrous materials.
 3. The minimum separation shall however not be less than 25 feet from a private well or 50 feet from a public water supply well.
19. Tie-in of new sanitary sewer lines to existing sewer collection lines:
 - A. Existing lines are shown based upon the best known evidence with respect to their size, location, and type of material. CONTRACTOR shall predetermine and field verify the exact size, type, and location of existing sewer collection lines as applicable to insure minimum interruption of service.
 - B. All WORK necessary to sever, plug, and/or stop any sewerage leakage of the existing system shall be included in the UNIT PRICE of the WORK. Included in the UNIT PRICE of the pipe shall also be the removal and flushing of existing sewer collection lines due to the process.
20. Deactivation and detachment of existing sewer services:
 - A. The detachment of all existing lines being replaced by new sewer service lines, the break, removal and replacement of pavement caused by the detachment, and any fittings necessary to sever, plug, and/or stop any sewerage leakage of the existing system shall be included in the UNIT PRICE of the WORK included in the BID SCHEDULE. Included in the UNIT PRICE of the WORK shall also be the removal or abandonment and flushing of existing sewer collection/drain lines and any asphalt replacement necessary due to the process.
 - B. Existing sewer collection/treatment/drain lines and facilities shall remain active until replaced by the new sewer service facilities. Temporary measures, at CONTRACTOR'S expense, may be used to insure all existing sewer facilities remain active.
21. Interruption of service.
 - A. Detachments or tie-ins.
 1. CONTRACTOR shall notify OWNER, all affected users, and the ENGINEER prior to interruption of service.
 2. If interruption of service will last greater than two (2) hours, the CONTRACTOR shall preschedule the work with OWNER at a mutually agreeable time that would impose a minimum inconvenience on the affected users.
 - B. Service change over.
 1. CONTRACTOR shall notify the affected user prior to interruption of service.
 2. Maximum time a user should be out of service for tie-ins of new service shall be thirty (30) minutes.

NO.	DATE	DESCRIPTION	REVISIONS

McDAVID ASSOCIATES, INC.
Corporate License No. C-137

BRANCH OFFICE
Engineers / Planners
109 East Walnut Street
Caldwello, NC 27833
Telephone: (919) 756-7650
Facsimile: (919) 756-7501

CORPORATE OFFICE
Engineers / Planners / Land Surveyors
3714 North Main Street
Farmville, NC 27828
Telephone: (252) 755-2139
Facsimile: (252) 755-2720

DATE: 1/23/23
MAN REVIEW OFFICER: [Signature]
MAN REVIEW OFFICER

CAD FILE DIRECTORY: W:\DBXX_GEN\DB4X_LENG\DB47.LD\2020-0307
CAD DWG FILE NAME: 4-SEWER CONSTRUCTION NOTES.DWG
CAD PLOT FILE NAME: LAYOUT
MAP FILE REFERENCE: B-1906 GREEN
PROJECT NO.: 1-20-0307-3402
DRAWING NO.: 4
SCALE: NTS
DATE: MARCH 25, 2022
SURVEYED BY: JAS
COMPUTED BY: JWM
DRAWN BY: MTW
APPROVED BY: JWM

SEWER CONSTRUCTION NOTES

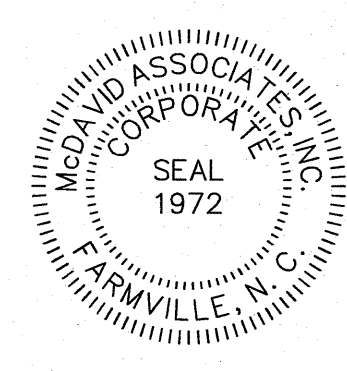
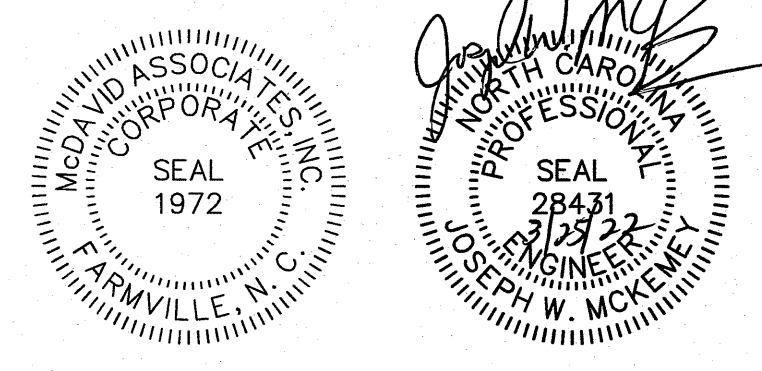
CONTRACT NO. 2 - SANITARY SEWER REPLACEMENT

2020 SANITARY SEWER REPLACEMENT PROJECT

TOWN OF BAILEY

NORTH CAROLINA

NASH COUNTY



Drawing: W:\DBXX_gen\DB4X_eng\DB47.LD\2020-0307-3402 Bailey 20-CWSRF DR-San Sew Imp-TS - Planning and Design\DWG\4-Sewer Construction Notes.dwg
 Layout: Monday, January 23, 2023, 4:56:00am
 Plotted: D:\88022\BAILEY-20-CWSRF-SEWER-CONST-NOTES-000.pld

NOTE:
PROPERTY BOUNDARY LINES AND
RIGHT OF WAY DATA TAKEN FROM
NASH COUNTY TAX OFFICE
AND NOT FROM FIELD SURVEY.

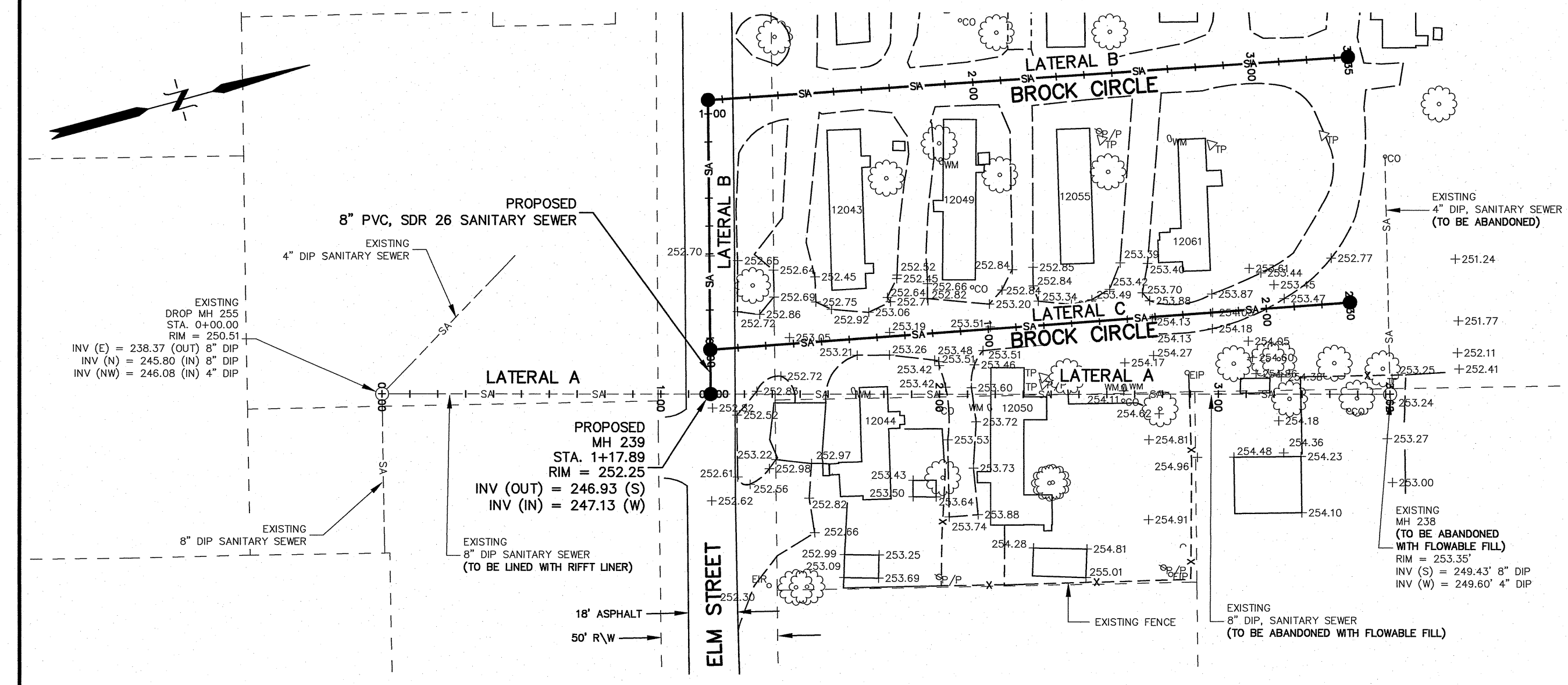
NOTE:
CONTRACTOR SHALL FIELD LOCATE ALL UTILITIES PRIOR TO THE
INSTALLATION OF GRAVITY SEWER LINES. PAYMENT FOR FIELD LOCATION
WORK SHALL BE INCLUDED IN THE PRICE OF THE WORK. CONTRACTOR
SHALL REPAIR DAMAGE TO EXISTING ACTIVE UTILITIES CAUSED BY
CONSTRUCTION. NO COMPENSATION WILL BE PROVIDED FOR REPAIR OF
DAMAGED UTILITIES CAUSED BY CONSTRUCTION WORK.

NOTE:
DEPTH OF ALL EXISTING WATER LINES ARE APPROXIMATE. CONTRACTOR
TO PROVIDE THE ENGINEER WITH THE DEPTH OF ANY WATER LINES THAT
CROSS THE PROPOSED SEWER REPLACEMENT OR ARE WITHIN A 10'
HORIZONTAL DISTANCE, PRIOR TO REPLACEMENT.

NOTE:
CONTRACTOR TO MAINTAIN A MINIMUM 18" VERTICAL SEPARATION
BETWEEN BOTTOM OF EXISTING WATER LINES AND TOP OF PROPOSED
SEWER LINE WHEN CROSSING AN EXISTING WATER LINE. IF 18" VERTICAL
SEPARATION CANNOT BE MAINTAINED THEN CONSTRUCTION MUST COMPLY
WITH PROVISIONS AS OUTLINED IN THE SANITARY SEWER CONSTRUCTION
NOTES.

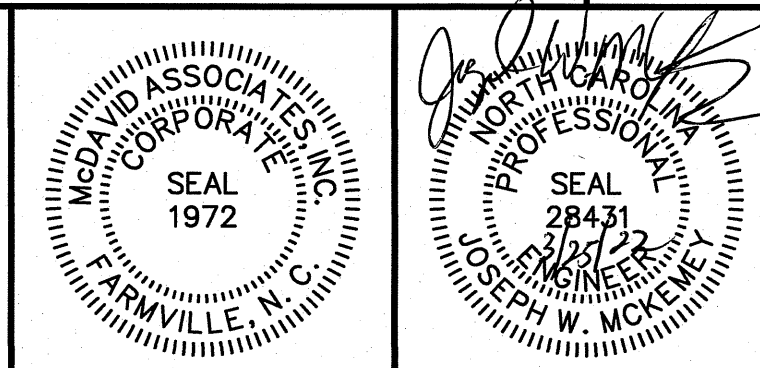
NOTE:
EXISTING MANHOLES THAT ARE TO BE ABANDONED WITH FLOWABLE
FILL SHALL HAVE THE RING AND COVER AND THE TOP 3 FEET OF
THE MANHOLE REMOVED PRIOR TO FILLING WITH FLOWABLE FILL.

NOTE:
REPLACE DISTURBED STONE OR STONE COVERED WITH SOIL WITH A
MINIMUM FOUR (4) INCHES OF CABC, AFTER GRAVITY SEWER
CONSTRUCTION IS COMPLETE. PAYMENT TO BE INCLUDED IN THE PRICE
FOR CABC AS SHOWN IN THE BID SCHEDULE.



270	-1+00	0+00	1+00	2+00	3+00	4+00	270
269							269
268				LATERAL A			268
267							267
266							266
265							265
264				PROPOSED MH 239 STA. 1+17.89 RIM = 252.25 INV (OUT) = 246.93 (S) INV (IN) = 247.13 (W) LATERAL B STA. = 0+00.00			264
263							263
262							262
261							261
260							260
259							259
258							258
257							257
256							256
255							255
254							254
253							253
252							252
251							251
250							250
249							249
248							248
247							247
246							246
245							245
244							244
243							243
242							242
241							241
240							240
239							239
238							238
237							237
236							236
235							235
234							234
233							233
232							232
231							231
230							230

Drawing: W:\DBxx_gen\084x_eng\0847_LD\2020-0307-3402 Bailey 20-CWSRF DR-San Sew Imp-TS - Planning and Design\DWG\5-Sanitary Sewer Lateral A.dwg
 Layout: Monday, January 23, 2023, 4:56:20am
 Plotted:



NO.	DATE	DESCRIPTION

MAI REVIEW OFFICER APPROVAL

1/23/23 *[Signature]*
DATE MAI REVIEW OFFICER

McDAVID ASSOCIATES, INC.
Corporate License No. C-131

CORPORATE OFFICE
Engineers - Planners - Land Surveyors
3714 North Main Street
P. O. Box 48
Farmville, NC 27828
Telephone: (252) 753-2139
Facsimile: (252) 753-7220

BRANCH OFFICE
Engineers - Planners
109 East Walnut Street
P. O. Box 1776
Goldsboro, NC 27533
Telephone: (919) 736-7630
Facsimile: (919) 736-7351

SANITARY SEWER LATERAL A
CONTRACT NO. 2 - SANITARY SEWER REPLACEMENT
2020 SANITARY SEWER REPLACEMENT PROJECT
TOWN OF BAILEY
NASH COUNTY NORTH CAROLINA

CAD FILE DIRECTORY:	W:\DBxx_GEN\084X_ENG\0847_LD\2020-0307
CAD DWG FILE NAME:	5-SANITARY SEWER LATERAL A.DWG
CAD PLOT FILE NAME:	LAYOUT1
MAP FILE REFERENCE:	B-1906 GREEN
PROJECT NO.:	1-20-0307-3402
DRAWING NO.:	5
SCALE:	H 1" = 40' V 1" = 4'
DATE:	MARCH 25, 2022
SURVEYED BY:	JAS
COMPUTED BY:	JWM
DRAWN BY:	MTW
APPROVED BY:	JWM

NOTE:
PROPERTY BOUNDARY LINES AND
RIGHT OF WAY DATA TAKEN FROM
NASH COUNTY TAX OFFICE
AND NOT FROM FIELD SURVEY.

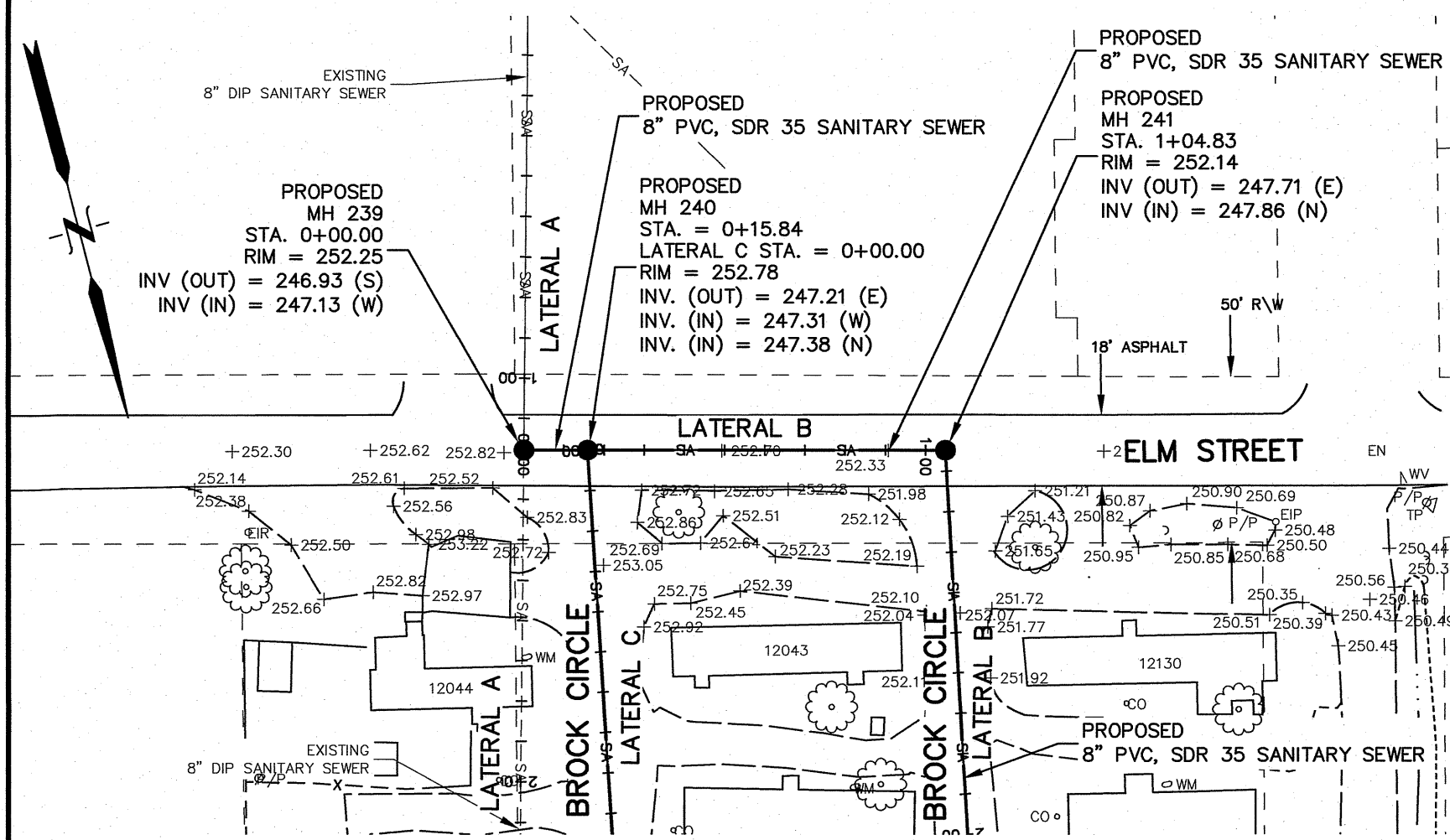
NOTE:
CONTRACTOR SHALL FIELD LOCATE ALL UTILITIES PRIOR TO THE
INSTALLATION OF GRAVITY SEWER LINES. PAYMENT FOR FIELD LOCATION
WORK SHALL BE INCLUDED IN THE PRICE OF THE WORK. CONTRACTOR
SHALL REPAIR DAMAGE TO EXISTING ACTIVE UTILITIES CAUSED BY
CONSTRUCTION. NO COMPENSATION WILL BE PROVIDED FOR REPAIR OF
DAMAGED UTILITIES CAUSED BY CONSTRUCTION WORK.

NOTE:
DEPTH OF ALL EXISTING WATER LINES ARE APPROXIMATE. CONTRACTOR
TO PROVIDE THE ENGINEER WITH THE DEPTH OF ANY WATER LINES THAT
CROSS THE PROPOSED SEWER REPLACEMENT OR ARE WITHIN A 10'
HORIZONTAL DISTANCE, PRIOR TO REPLACEMENT.

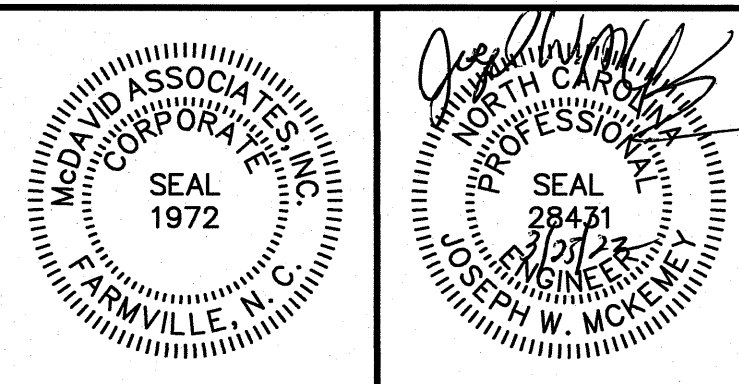
NOTE:
CONTRACTOR TO MAINTAIN A MINIMUM 18" VERTICAL SEPARATION
BETWEEN BOTTOM OF EXISTING WATER LINES AND TOP OF PROPOSED
SEWER LINE WHEN CROSSING AN EXISTING WATER LINE. IF 18" VERTICAL
SEPARATION CANNOT BE MAINTAINED THEN CONSTRUCTION MUST COMPLY
WITH PROVISIONS AS OUTLINED IN THE SANITARY SEWER CONSTRUCTION
NOTES.

NOTE:
EXISTING MANHOLES THAT ARE TO BE ABANDONED WITH FLOWABLE
FILL SHALL HAVE THE RING AND COVER AND THE TOP 3 FEET OF
THE MANHOLE REMOVED PRIOR TO FILLING WITH FLOWABLE FILL.

NOTE:
REPLACE DISTURBED STONE OR STONE COVERED WITH SOIL WITH A
MINIMUM FOUR (4) INCHES OF CABC. AFTER GRAVITY SEWER
CONSTRUCTION IS COMPLETE, PAYMENT TO BE INCLUDED IN THE PRICE
FOR CABC AS SHOWN IN THE BID SCHEDULE.



270	-1+00	0+00	1+00	2+00	270
269					269
268					268
267					267
266					266
265					265
264					264
263					263
262					262
261					261
260					260
259					259
258					258
257					257
256					256
255					255
254					254
253					253
252					252
251					251
250					250
249					249
248					248
247					247
246					246
245					245
244					244
243					243
242					242
241					241
240					240
239					239
238					238
237					237
236					236
235					235
234					234
233					233
232					232
231					231
230					230



NO.	DATE	DESCRIPTION

MAI REVIEW OFFICER APPROVAL

DATE: 1/23/24

McDAVID ASSOCIATES, INC.
Corporate License No. C-131

CORPORATE OFFICE
Engineers • Planners • Land Surveyors
3714 North Main Street
P. O. Drawer 49
Farmville, NC 27828
Telephone: (252) 753-2139
Facsimile: (252) 753-7220

BRANCH OFFICE
Engineers • Planners
109 East Walnut Street
P. O. Box 1776
Goldston, NC 27533
Telephone: (819) 736-7630
Facsimile: (819) 735-7351

SANITARY SEWER LATERAL B
CONTRACT NO. 2 - SANITARY SEWER REPLACEMENT
2020 SANITARY SEWER REPLACEMENT PROJECT
TOWN OF BAILEY

NASH COUNTY NORTH CAROLINA

CAD FILE DIRECTORY: W:\DBXX_GEN\084X_ENG\0847_LD\2020-0307	
CAD DWG FILE NAME: 6-SANITARY SEWER LATERAL B.DWG	
CAD PLOT FILE NAME: LAYOUT1	
MAP FILE REFERENCE: B-1906 GREEN	
PROJECT NO.: 1-20-0307-3402	SURVEYED BY: JAS
DRAWING NO.: 6	COMPUTED BY: JWM
SCALE: H 1" = 40' V 1" = 4'	DRAWN BY: MTW
DATE: MARCH 25, 2022	APPROVED BY: JWM

Drawing: W:\DBXX_gen\084x_eng\084x_eng\0847_LD\2020-0307-3402 Bailey 20-CWSRF DR-San Sew Imp-TS - Planning and Design\DWG\6-Sanitary Sewer Lateral B.dwg
 Layout: 1
 Plotted: Monday, January 23, 2023, 4:56:40am

NOTE:
PROPERTY BOUNDARY LINES AND
RIGHT OF WAY DATA TAKEN FROM
NASH COUNTY TAX OFFICE
AND NOT FROM FIELD SURVEY.

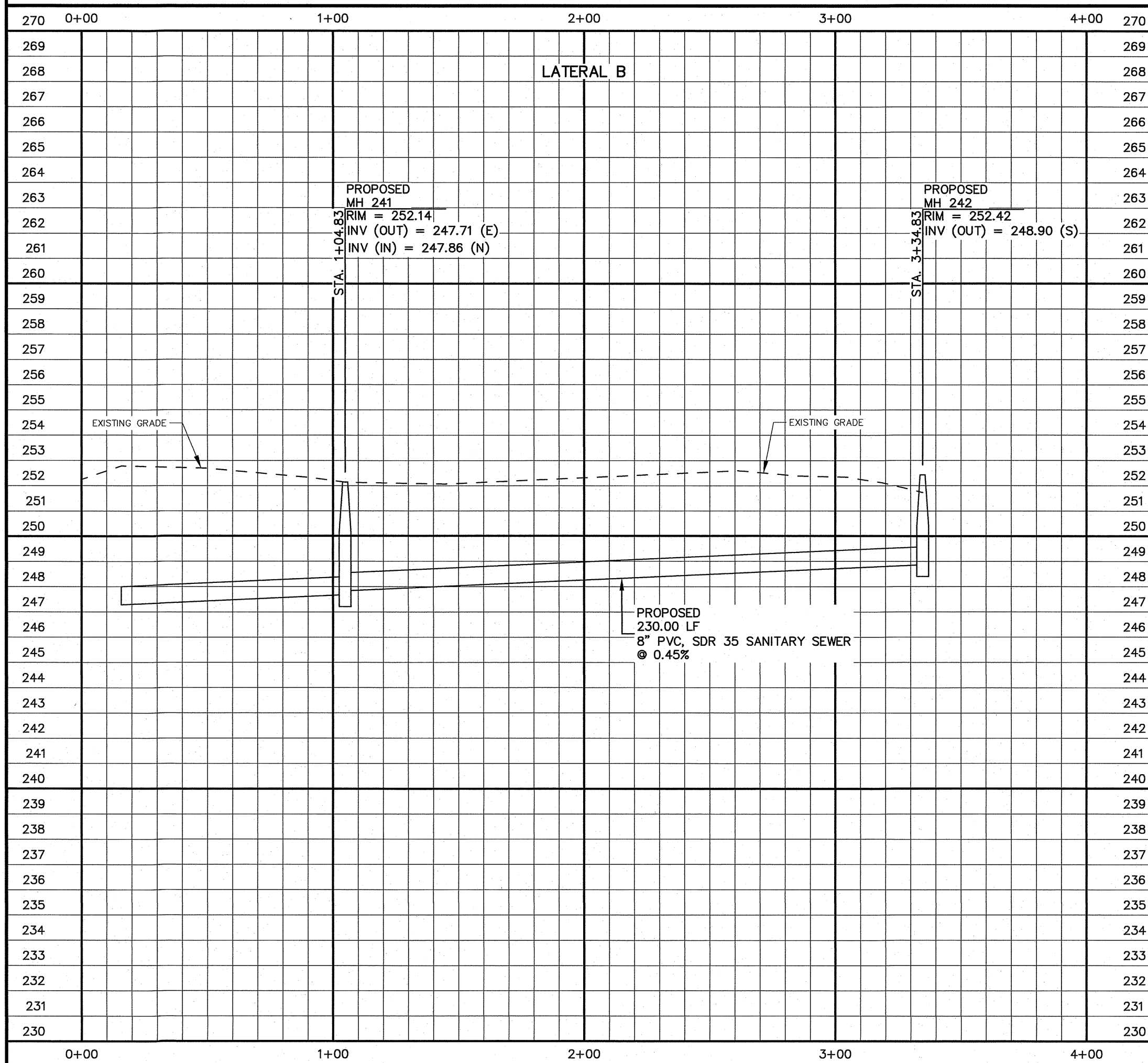
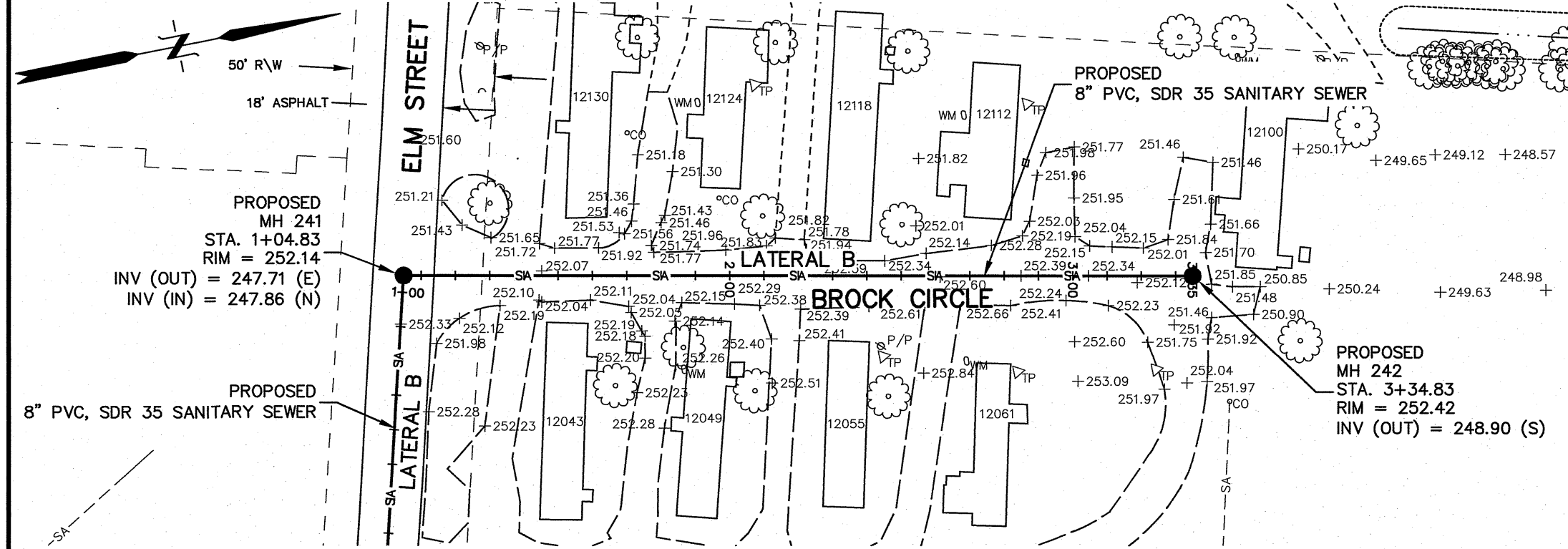
NOTE:
CONTRACTOR SHALL FIELD LOCATE ALL UTILITIES PRIOR TO THE
INSTALLATION OF GRAVITY SEWER LINES. PAYMENT FOR FIELD LOCATION
WORK SHALL BE INCLUDED IN THE PRICE OF THE WORK. CONTRACTOR
SHALL REPAIR DAMAGE TO EXISTING ACTIVE UTILITIES CAUSED BY
CONSTRUCTION. NO COMPENSATION WILL BE PROVIDED FOR REPAIR OF
DAMAGED UTILITIES CAUSED BY CONSTRUCTION WORK.

NOTE:
DEPTH OF ALL EXISTING WATER LINES ARE APPROXIMATE. CONTRACTOR
TO PROVIDE THE ENGINEER WITH THE DEPTH OF ANY WATER LINES THAT
CROSS THE PROPOSED SEWER REPLACEMENT OR ARE WITHIN A 10'
HORIZONTAL DISTANCE, PRIOR TO REPLACEMENT.

NOTE:
CONTRACTOR TO MAINTAIN A MINIMUM 18" VERTICAL SEPARATION
BETWEEN BOTTOM OF EXISTING WATER LINES AND TOP OF PROPOSED
SEWER LINE WHEN CROSSING AN EXISTING WATER LINE. IF 18" VERTICAL
SEPARATION CANNOT BE MAINTAINED THEN CONSTRUCTION MUST COMPLY
WITH PROVISIONS AS OUTLINED IN THE SANITARY SEWER CONSTRUCTION
NOTES.

NOTE:
EXISTING MANHOLES THAT ARE TO BE ABANDONED WITH FLOWABLE
FILL SHALL HAVE THE RING AND COVER AND THE TOP 3 FEET OF
THE MANHOLE REMOVED PRIOR TO FILLING WITH FLOWABLE FILL.

NOTE:
REPLACE DISTURBED STONE OR STONE COVERED WITH SOIL WITH A
MINIMUM FOUR (4) INCHES OF CABG, AFTER GRAVITY SEWER
CONSTRUCTION IS COMPLETE. PAYMENT TO BE INCLUDED IN THE PRICE
FOR CABG AS SHOWN IN THE BID SCHEDULE.



REVISIONS		
NO.	DATE	DESCRIPTION

MAI REVIEW OFFICER APPROVAL

1/25/22 [Signature]
DATE MAI REVIEW OFFICER

McDAVID ASSOCIATES, INC.
Corporate License No. C-131

CORPORATE OFFICE
Engineers - Planners - Land Surveyors
3714 North Main Street
P. O. Drawer 49
Farmville, NC 27828
Telephone: (252) 753-2139
Facsimile: (252) 753-7220

BRANCH OFFICE
Engineers - Planners
109 East Walnut Street
P. O. Box 1776
Goldston, NC 27533
Telephone: (919) 736-7630
Facsimile: (919) 735-7351

SANITARY SEWER LATERAL B
CONTRACT NO. 2 - SANITARY SEWER REPLACEMENT
2020 SANITARY SEWER REPLACEMENT PROJECT
TOWN OF BAILEY

NASH COUNTY NORTH CAROLINA

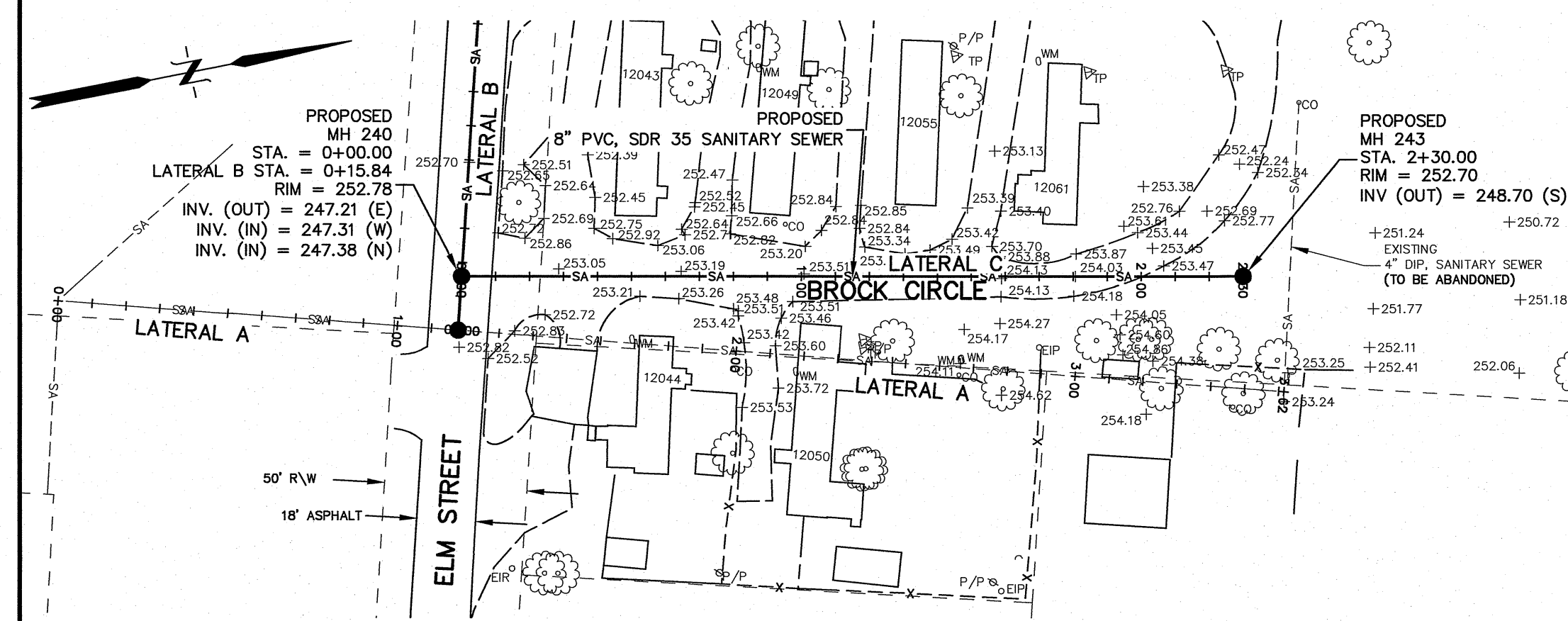
CAD FILE DIRECTORY: W:\DBXX_GEN\0847_ENC\0847_LD\2020-0307	
CAD DWG FILE NAME: 7-SANITARY SEWER LATERAL B.DWG	
CAD PLOT FILE NAME: LAYOUT1	
MAP FILE REFERENCE: B-1906 GREEN	
PROJECT NO.: 1-20-0307-3402	SURVEYED BY: JAS
DRAWING NO.: 7	COMPUTED BY: JWM
SCALE: H 1" = 40' V 1" = 4'	DRAWN BY: MTW
DATE: MARCH 25, 2022	APPROVED BY: JWM

Drawing: W:\DBXX_gen\0847_eng\0847_enc\0847_ld\2020-0307-3402 Bailey 20-CWSRF DR-San Sew Imp-TS - Planning and Design\DWG\7-Sanitary Sewer Lateral B.dwg
 Layout: Monday, January 23, 2023, 4:56:59am
 Plotted:

McDAVID ASSOCIATES, INC.
CORPORATE SEAL
1972

SEAL
28431
[Signature]
JOSEPH W. MCNEELY
REGISTERED PROFESSIONAL ENGINEER
NORTH CAROLINA

Drawing: W:\DBxx_gen\DB4x_eng\DB47_ID\2020-0307-3402 Bailey 20-CWSRF DR-San Sew Imp-TS - Planning and Design\DWG\B-Sanitary Sewer Lateral C.dwg
 Layout: 1
 Plotted: Monday, January 23, 2023, 4:57:19am



NOTE:
PROPERTY BOUNDARY LINES AND
RIGHT OF WAY DATA TAKEN FROM
NASH COUNTY TAX OFFICE
AND NOT FROM FIELD SURVEY.

NOTE:
CONTRACTOR SHALL FIELD LOCATE ALL UTILITIES PRIOR TO THE
INSTALLATION OF GRAVITY SEWER LINES. PAYMENT FOR FIELD LOCATION
WORK SHALL BE INCLUDED IN THE PRICE OF THE WORK. CONTRACTOR
SHALL REPAIR DAMAGE TO EXISTING ACTIVE UTILITIES CAUSED BY
CONSTRUCTION. NO COMPENSATION WILL BE PROVIDED FOR REPAIR OF
DAMAGED UTILITIES CAUSED BY CONSTRUCTION WORK.

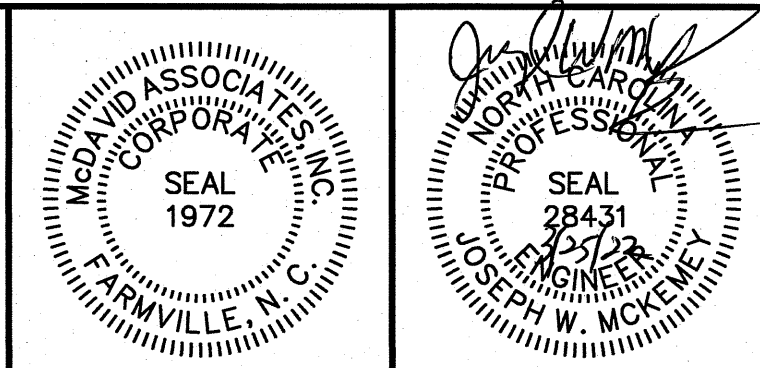
NOTE:
DEPTH OF ALL EXISTING WATER LINES ARE APPROXIMATE. CONTRACTOR
TO PROVIDE THE ENGINEER WITH THE DEPTH OF ANY WATER LINES THAT
CROSS THE PROPOSED SEWER REPLACEMENT OR ARE WITHIN A 10'
HORIZONTAL DISTANCE, PRIOR TO REPLACEMENT.

NOTE:
CONTRACTOR TO MAINTAIN A MINIMUM 18\"/>

NOTE:
EXISTING MANHOLES THAT ARE TO BE ABANDONED WITH FLOWABLE
FILL SHALL HAVE THE RING AND COVER AND THE TOP 3 FEET OF
THE MANHOLE REMOVED PRIOR TO FILLING WITH FLOWABLE FILL.

NOTE:
REPLACE DISTURBED STONE OR STONE COVERED WITH SOIL WITH A
MINIMUM FOUR (4) INCHES OF C&G. AFTER GRAVITY SEWER
CONSTRUCTION IS COMPLETE. PAYMENT TO BE INCLUDED IN THE PRICE
FOR C&G AS SHOWN IN THE BID SCHEDULE.

Station	270	-1+00	0+00	1+00	2+00	3+00	270
269							269
268				LATERAL C			268
267							267
266							266
265							265
264			PROPOSED MH 240 RIM = 252.78 INV (OUT) = 247.21 (E) INV (N) = 247.31 (W) INV (IN) = 247.38 (N) LATERAL B STA. = 0+15.84			PROPOSED MH 243 RIM = 252.70 INV (OUT) = 248.70 (S)	264
263							263
262							262
261							261
260							260
259							259
258							258
257							257
256							256
255							255
254							254
253							253
252							252
251							251
250							250
249							249
248							248
247							247
246							246
245				PROPOSED 230.00 LF 8\"/>			245
244							244
243							243
242							242
241							241
240							240
239							239
238							238
237							237
236							236
235							235
234							234
233							233
232							232
231							231
230							230



REVISIONS		
NO.	DATE	DESCRIPTION
1/23/23		

MAI REVIEW OFFICER APPROVAL

DATE: 1/23/23 MAI REVIEW OFFICER: [Signature]

McDAVID ASSOCIATES, INC.
Corporate License No. C-131

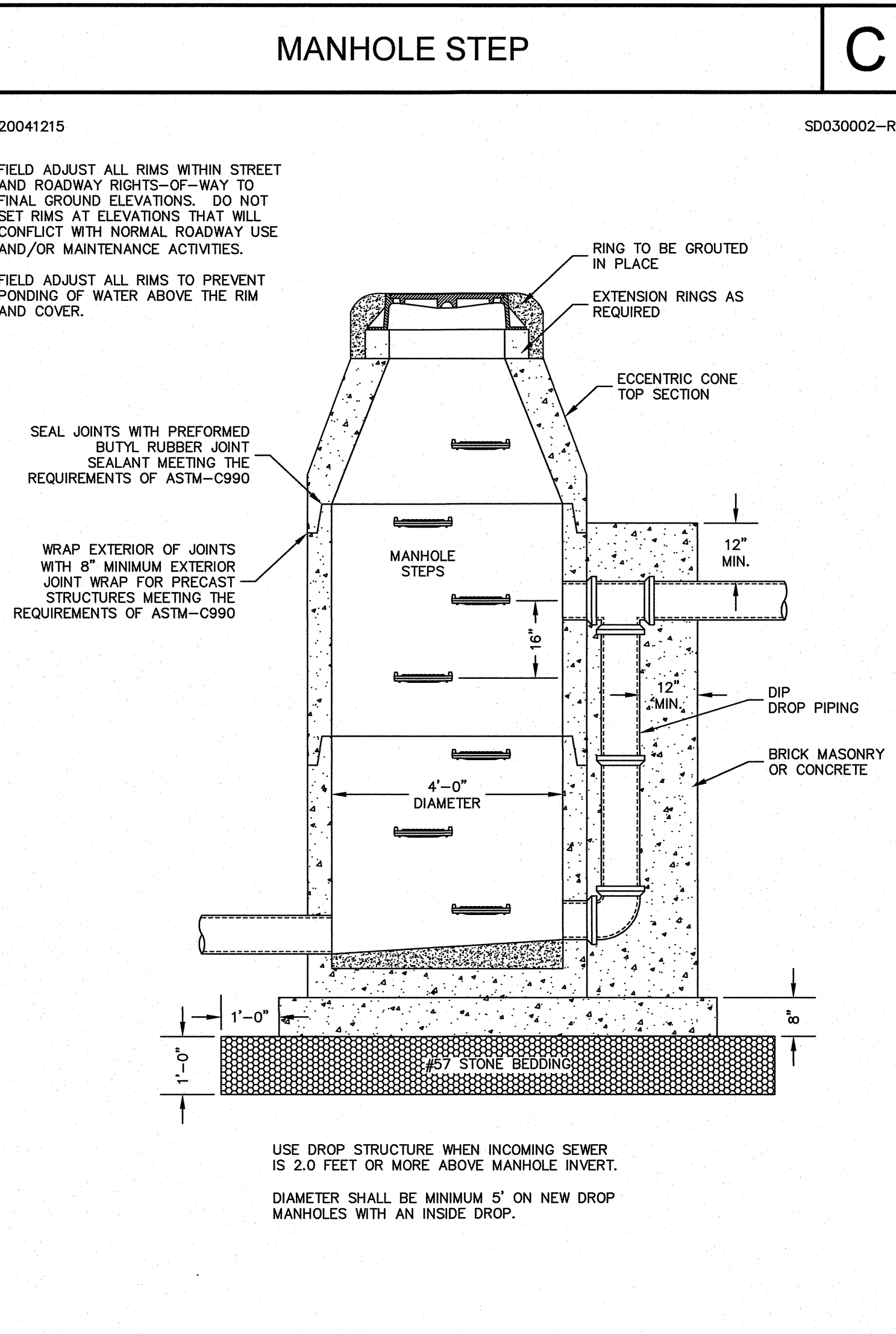
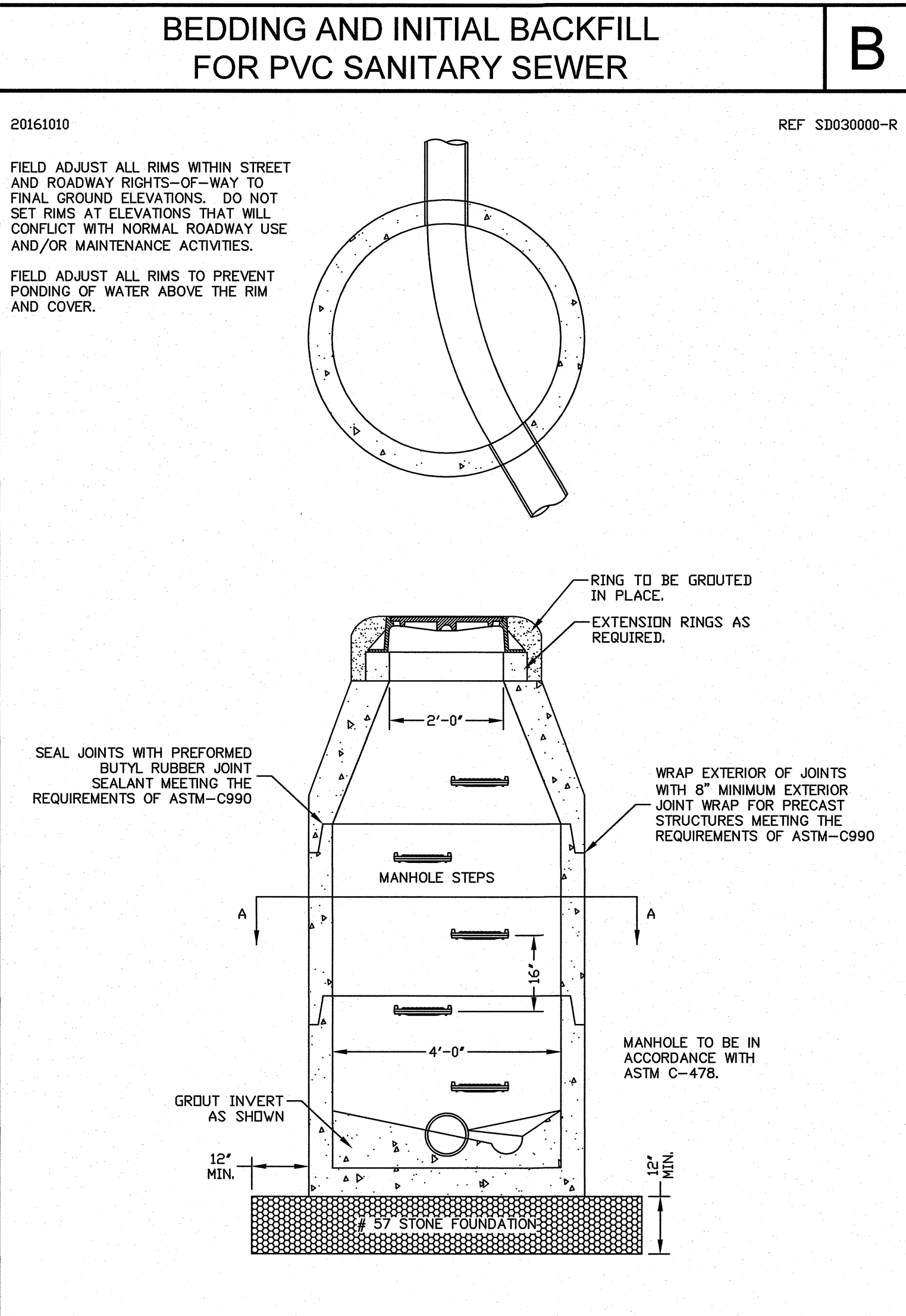
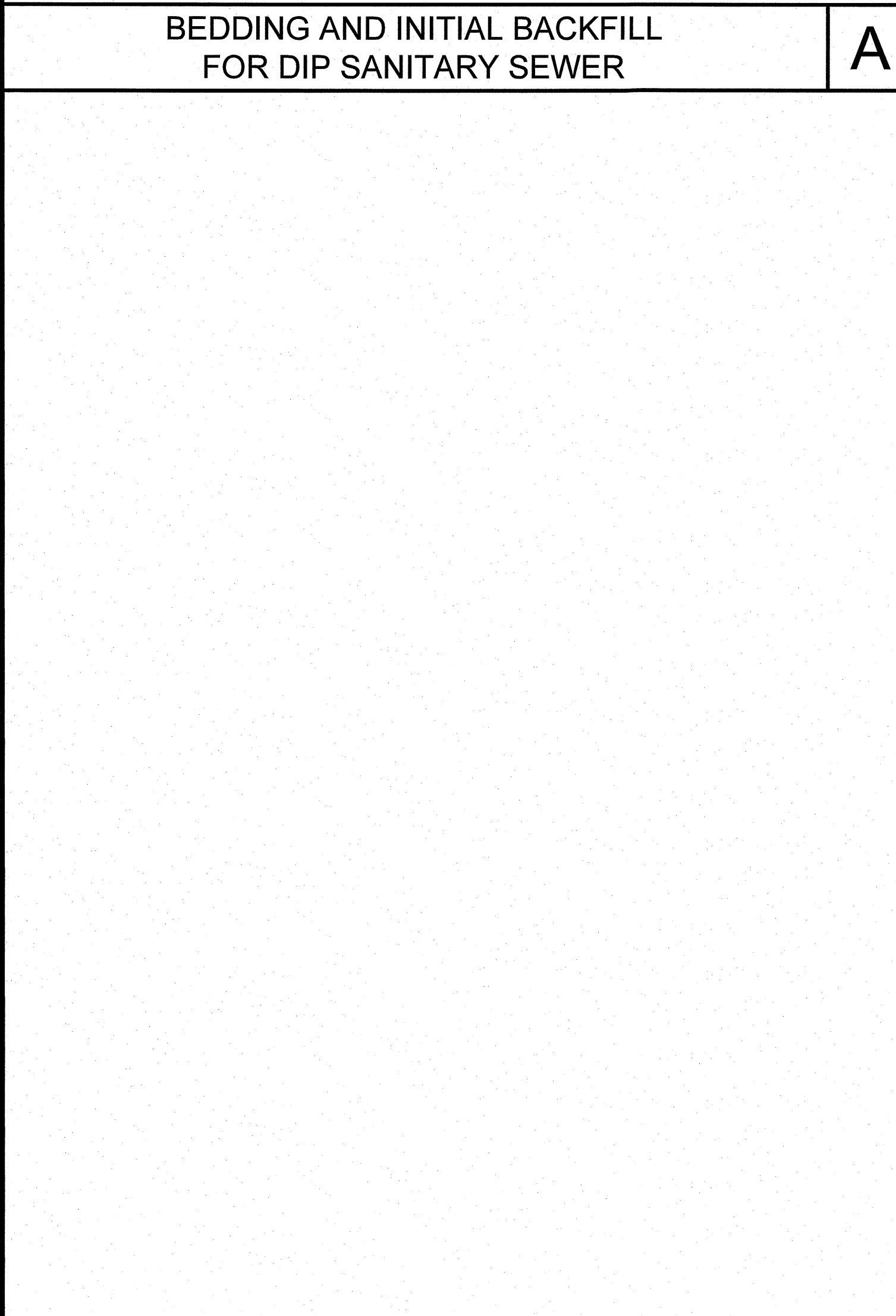
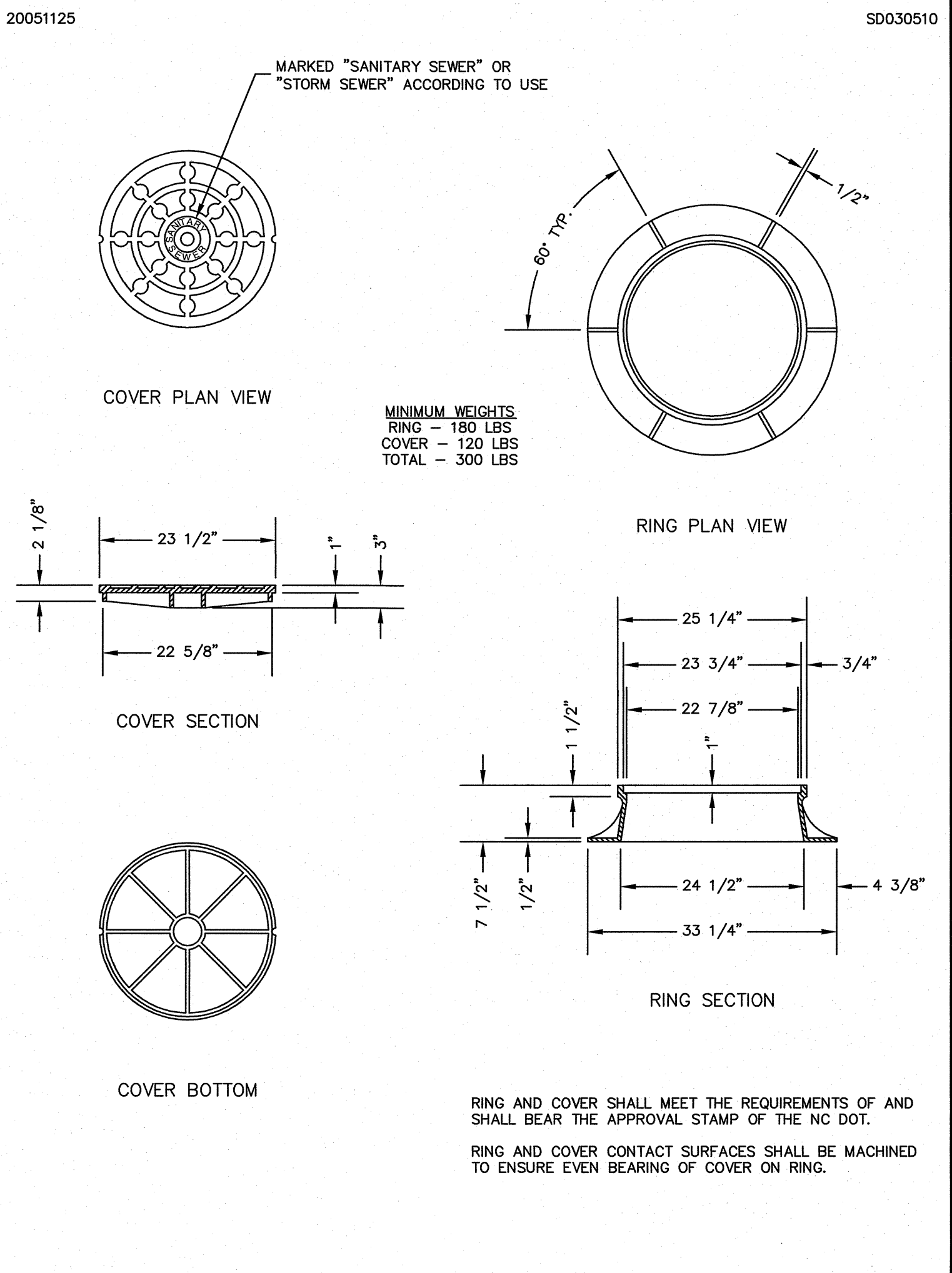
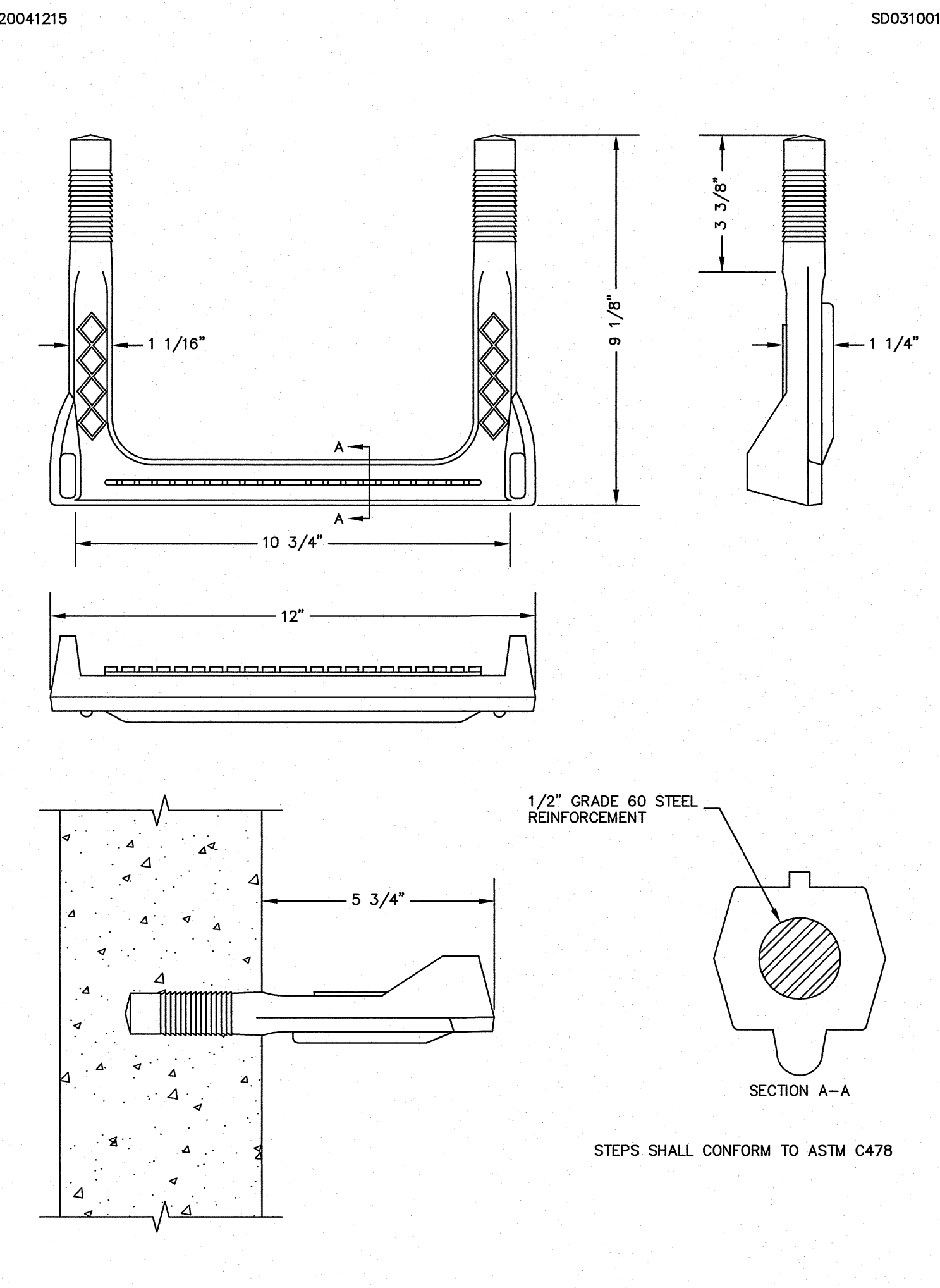
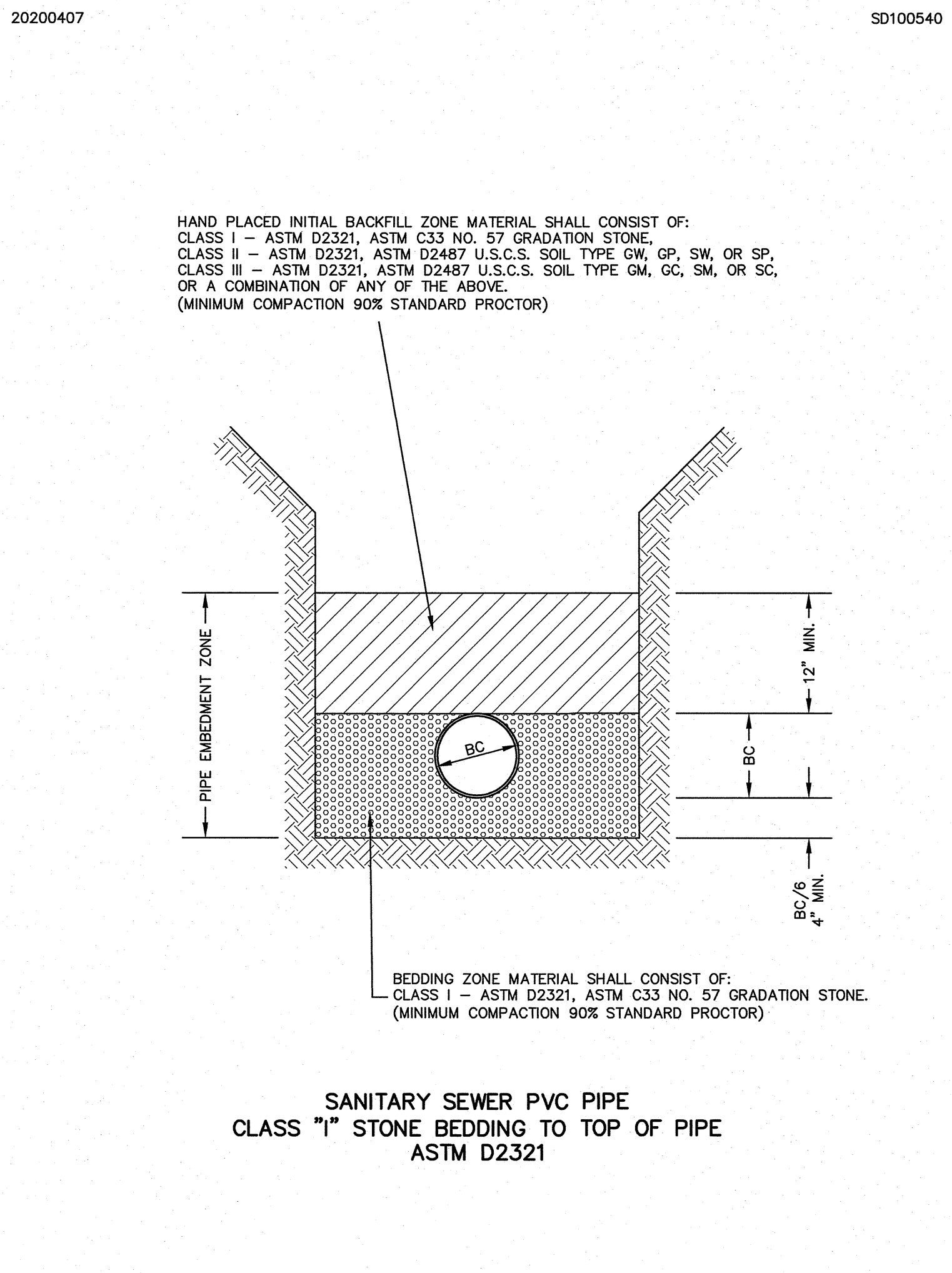
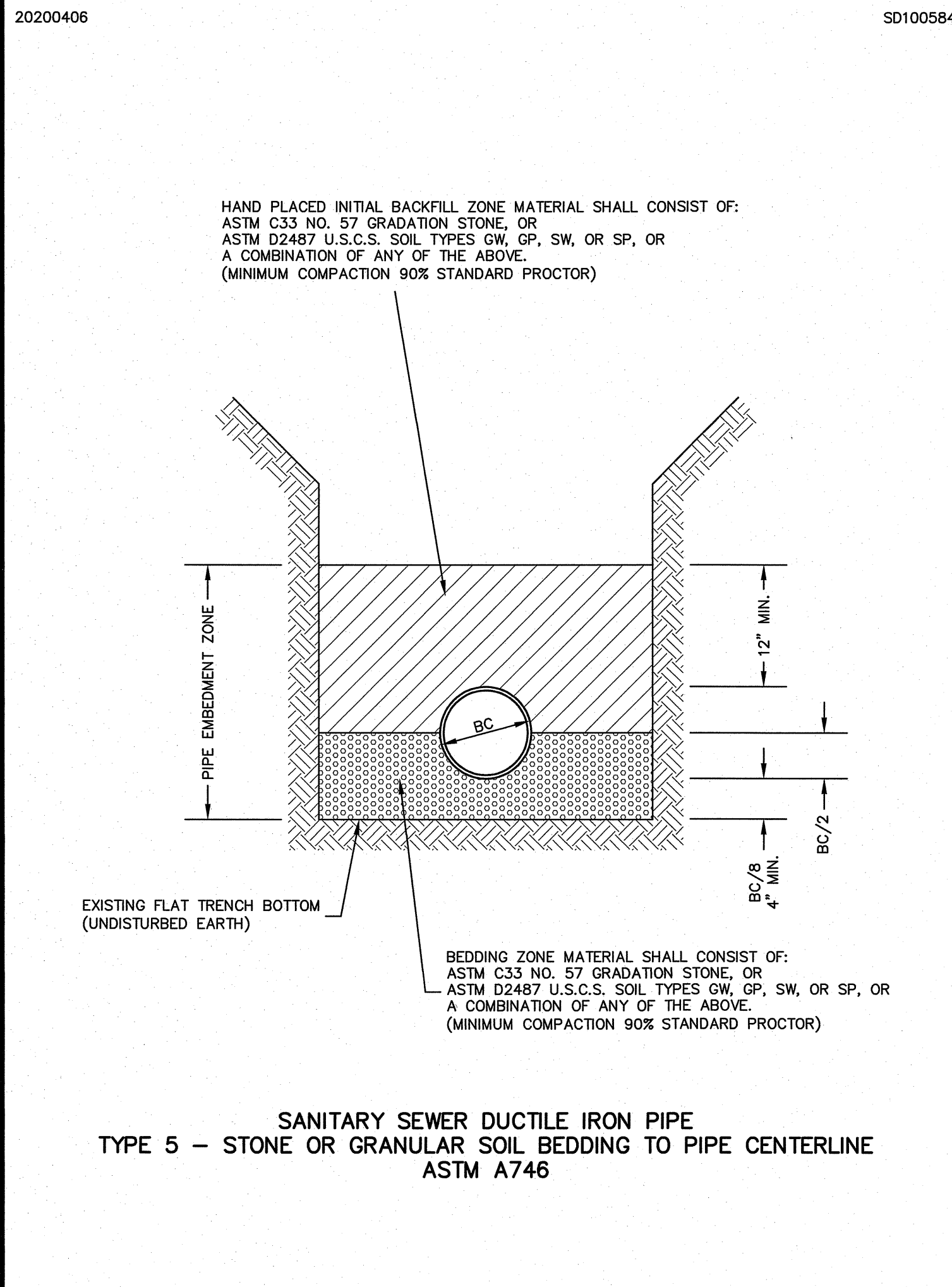
CORPORATE OFFICE
Engineers • Planners • Land Surveyors
3714 North Main Street
P. O. Drawer 49
Farmville, NC 27828
Telephone: (252) 753-2139
Facsimile: (252) 753-7220

BRANCH OFFICE
Engineers • Planners
109 East Walnut Street
P. O. Box 1776
Goldsboro, NC 27533
Telephone: (919) 736-7630
Facsimile: (919) 735-7351

SANITARY SEWER LATERAL C
CONTRACT NO. 2 - SANITARY SEWER REPLACEMENT
2020 SANITARY SEWER REPLACEMENT PROJECT
TOWN OF BAILEY

NASH COUNTY NORTH CAROLINA

CAD FILE DIRECTORY: W:\DBxx_gen\DB4x_eng\DB47_ID\2020-0307	
CAD DWG FILE NAME: B-SANITARY SEWER LATERAL C.DWG	
CAD PLOT FILE NAME: LAYOUT1	
MAP FILE REFERENCE: B-1906 GREEN	
PROJECT NO.: 1-20-0307-3402	SURVEYED BY: JAS
DRAWING NO.: 8	COMPUTED BY: JWM
SCALE: H 1" = 40' V 1" = 4'	DRAWN BY: MTW
DATE: MARCH 25, 2022	APPROVED BY: JWM



E PRECAST CONCRETE MANHOLE

F DROP MANHOLE

G DROP MANHOLE

H MANHOLE RING & COVER

NO.	DATE	DESCRIPTION	REVISIONS

DATE: 1/23/23
 MAJ REVIEW OFFICER APPROVAL: [Signature]
 MAJ REVIEW OFFICER: [Signature]

CAD FILE DIRECTORY: W:\DBXX_GEN\B4X-ENG\B47_LD\2020-0307
CAD DWG FILE NAME: 9-SANITARY SEWER CONSTRUCTION DETAILS.DWG
CAD PLOT FILE NAME: LAYOUT1
MAP FILE REFERENCE: B-906 GREEN
PROJECT NO.: 1-20-0307-3402
DRAWING NO.: 9
SCALE: NTS
DATE: MARCH 25, 2022
SURVEYED BY: JAS
COMPUTED BY: JMM
DRAWN BY: MTW
APPROVED BY: JMM

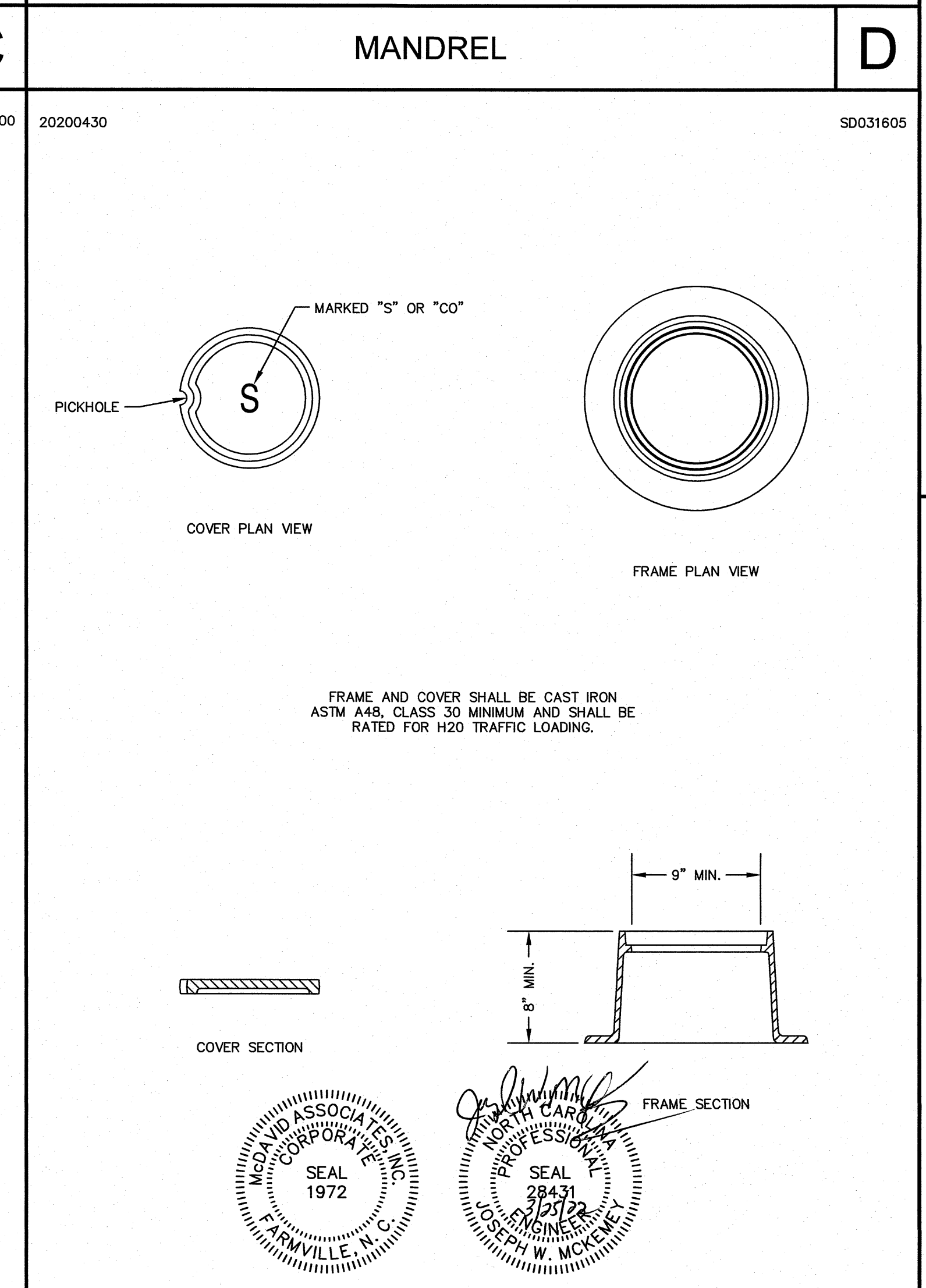
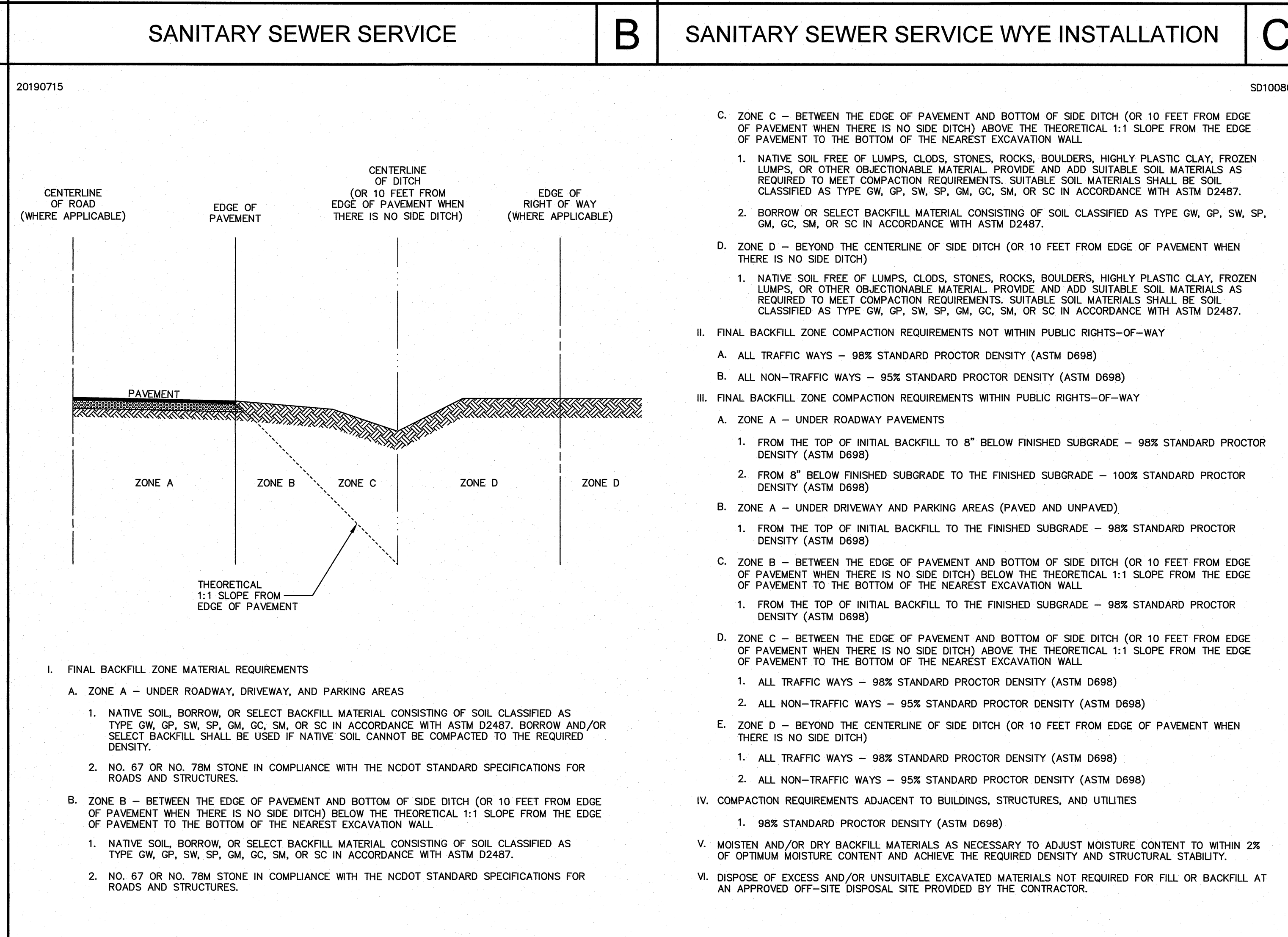
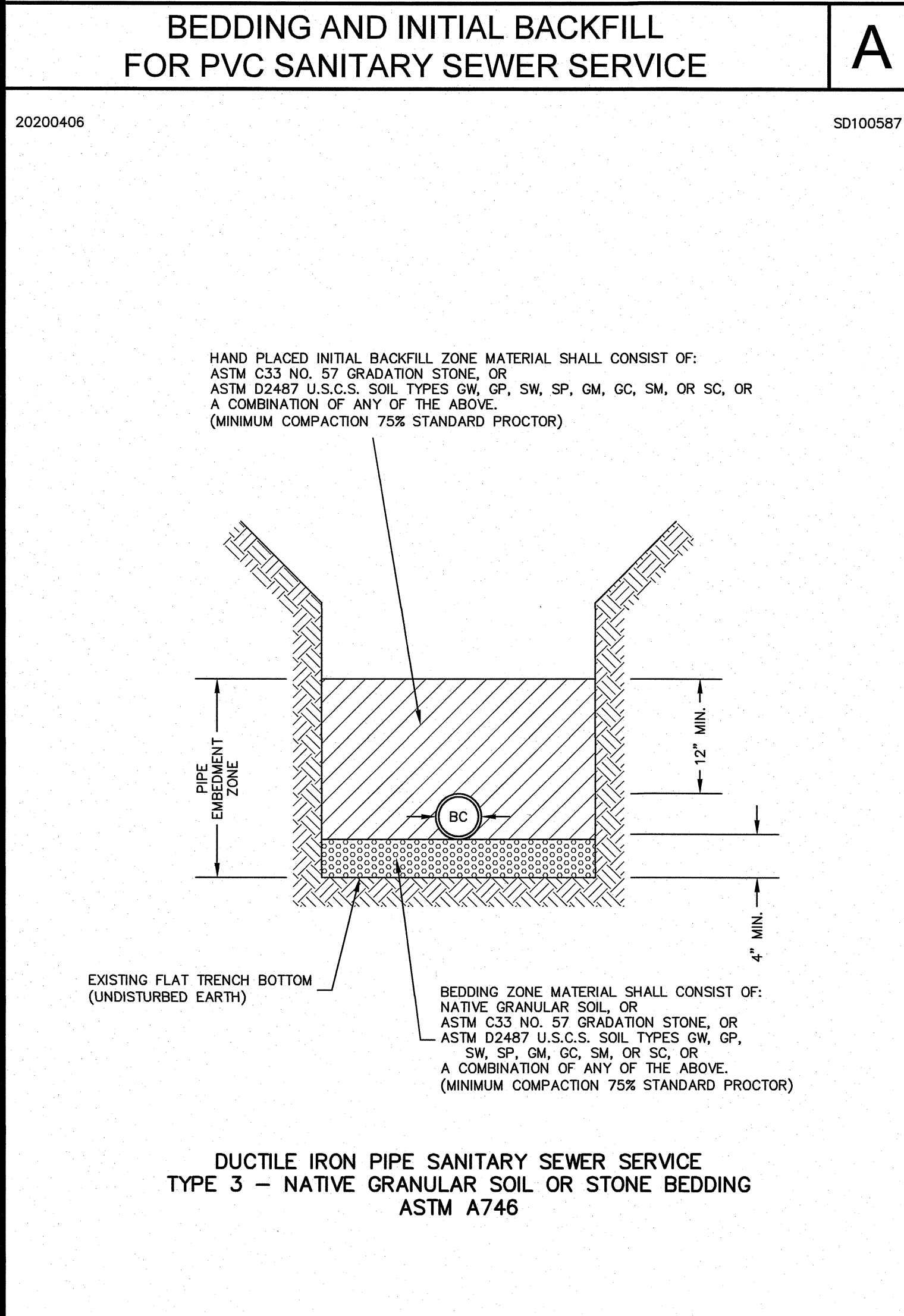
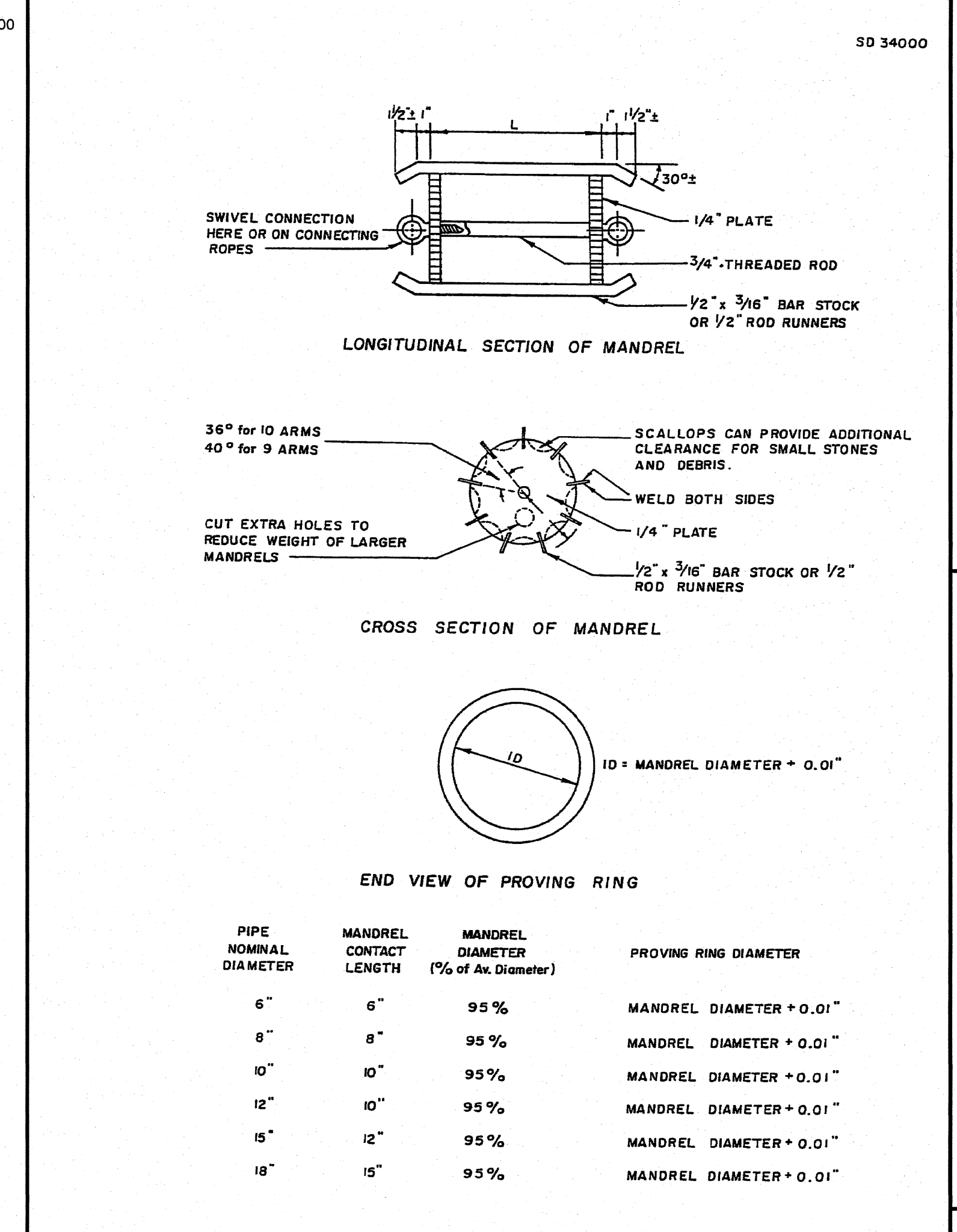
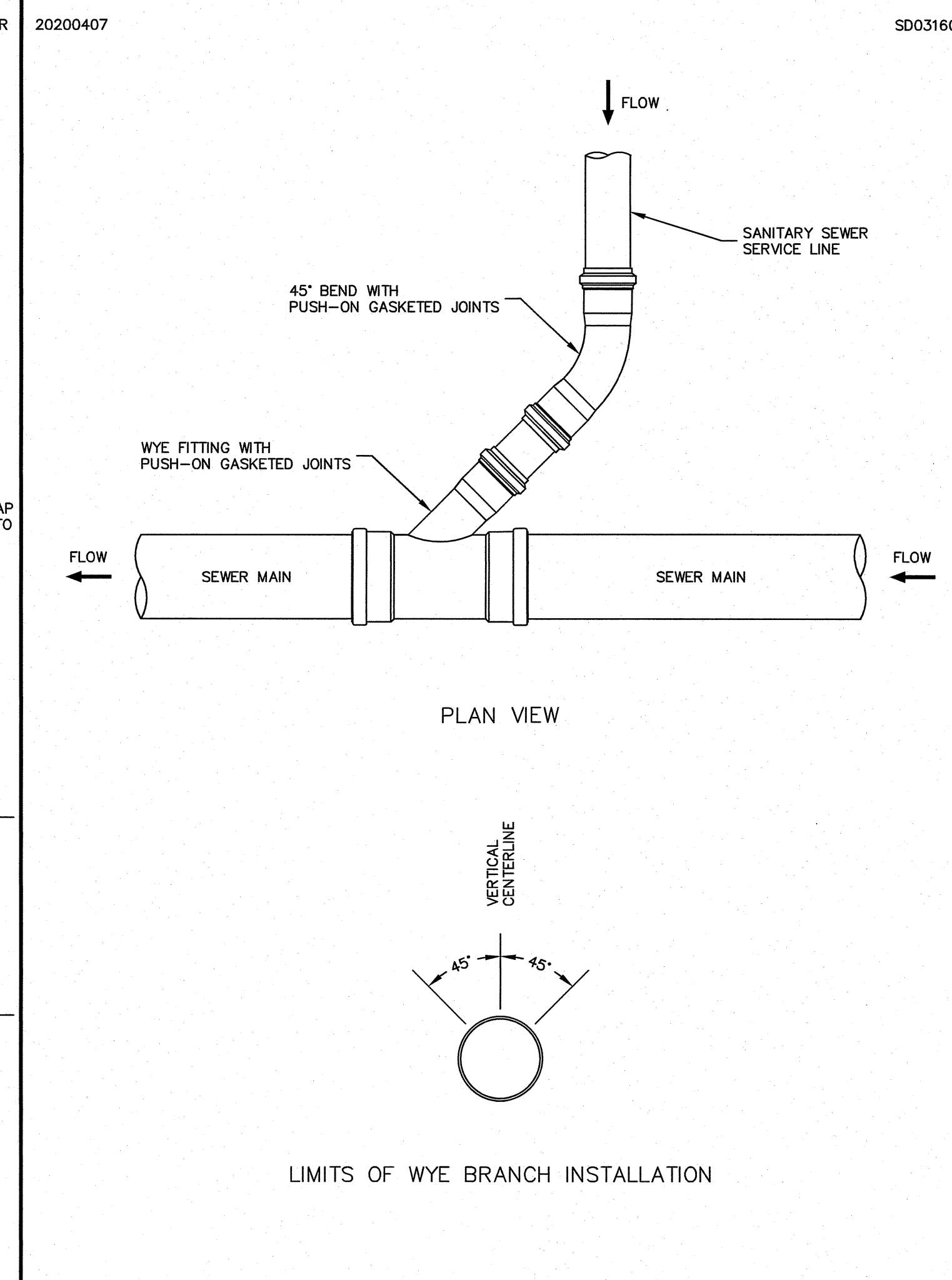
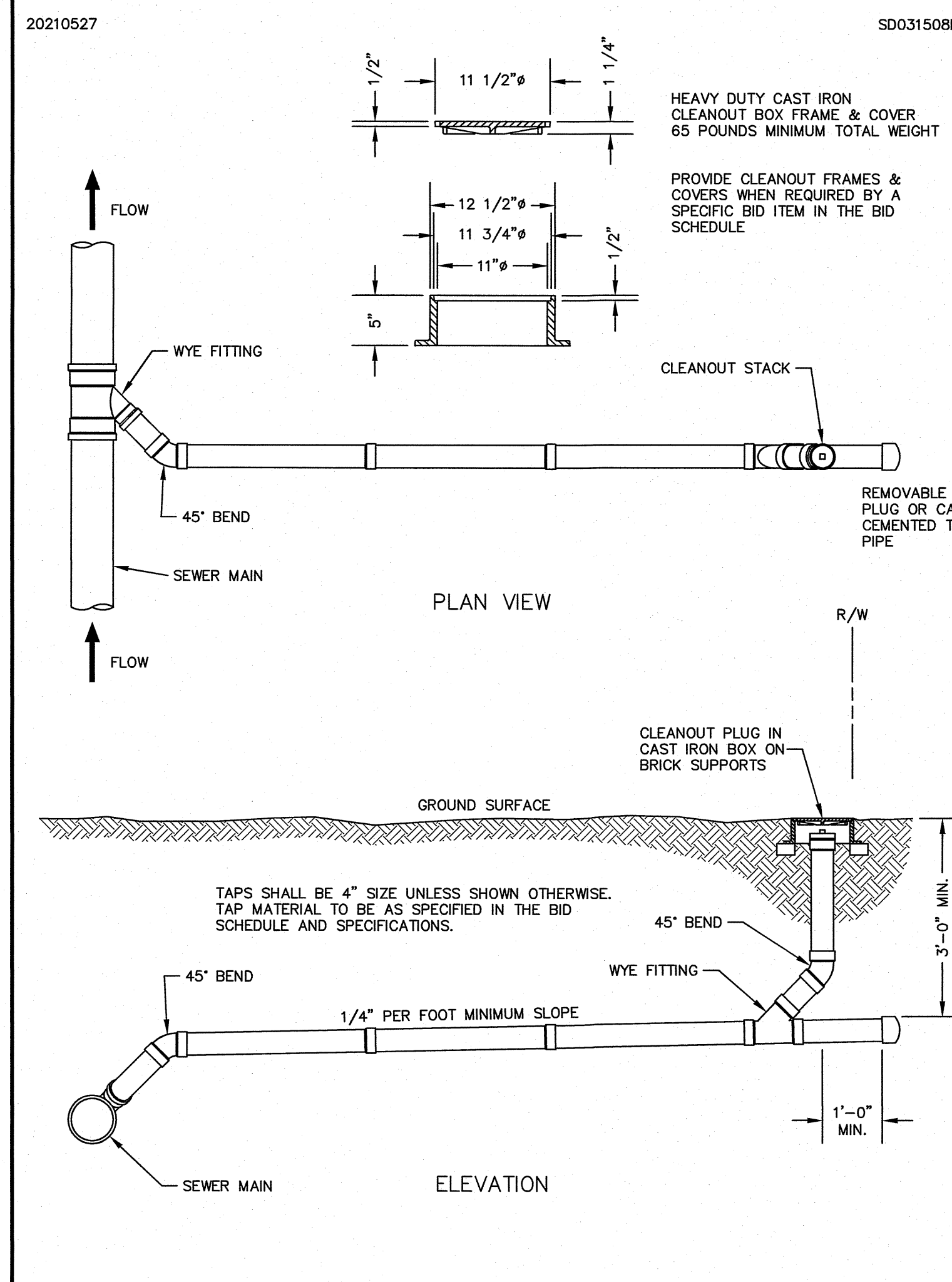
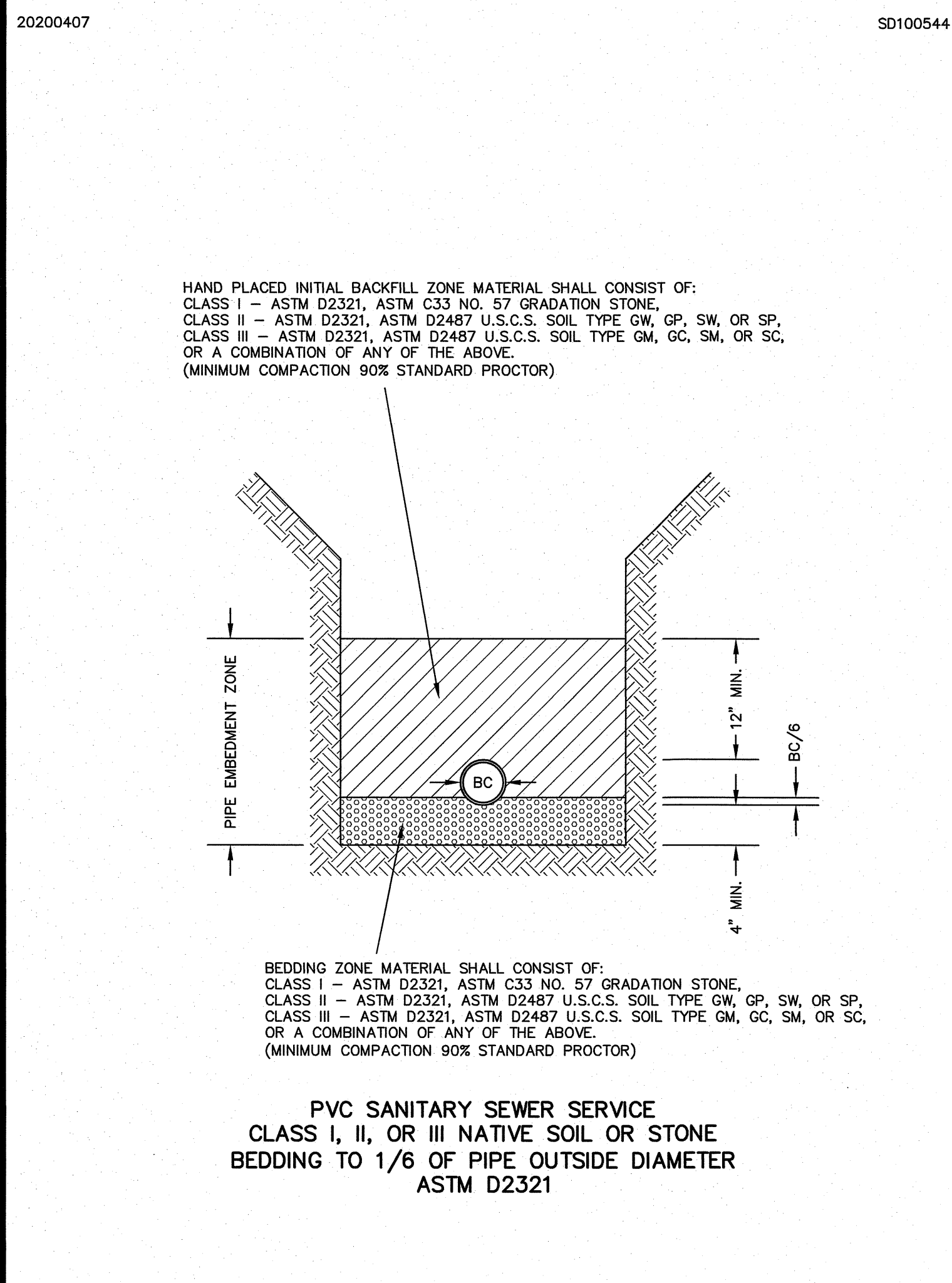
SANITARY SEWER CONSTRUCTION DETAILS
 CONTRACT NO. 2 - SANITARY SEWER REPLACEMENT
 2020 SANITARY SEWER REPLACEMENT PROJECT
 TOWN OF BAILEY
 NORTH CAROLINA
 NASH COUNTY

McDAVID ASSOCIATES, INC.
 Corporate License No. C-137
 BRANCH OFFICE
 Engineers • Planners • Surveyors
 109 East Walnut Street
 Goldsboro, NC 27533
 Telephone: (919) 735-7630
 Facsimile: (919) 735-7351

Corporate License No. C-137
 Engineers • Planners • Land Surveyors
 3714 North Main Street
 Farmville, NC 27828
 Telephone: (252) 752-1139
 Facsimile: (252) 752-7220

SEAL 1972
 28431
 JOSEPH W. MCKENNA
 PROFESSIONAL ENGINEER
 FARMVILLE, N.C.

Drawing: W:\DBXX_gen\B4x_eng\B47_LD\2020-0307-3402 Bailey 20-CWSRF DR-San Sew Imp-TS - Planning and Design\DWG_9-Sanitary Sewer Construction Details.dwg
 Layout: Monday, January 23, 2023, 4:57:26am
 Plotted:



BEDDING AND INITIAL BACKFILL FOR DIP SANITARY SEWER SERVICE

FINAL BACKFILL ZONE MATERIALS AND COMPACTION REQUIREMENTS FOR PIPELINES AND OTHER UTILITIES

CAST IRON CLEANOUT BOX

SD 34000

REVISIONS

NO. DATE DESCRIPTION

DATE: 1/23/23

MAILED OFFICER APPROVAL

MAILED OFFICER

McDAVID ASSOCIATES, INC.
 Corporate License No. C-137
BRANCH OFFICE
 Engineers - Planners
 1000 West Street
 P.O. Box 1778
 Goldsboro, NC 27533
 Telephone: (919) 756-7930
 Facsimile: (919) 756-7501

INCORPORATE OFFICE
 Engineers - Planners - Land Surveyors
 300 West Street
 P.O. Box 48
 Farmville, NC 27828
 Telephone: (252) 752-2139
 Facsimile: (252) 752-2120

CAD FILE DIRECTORY: W:\DBX\GEN\BAX-ENG\0847_LD\2020-0307
 CAD DWG FILE NAME: 10-SANITARY SEWER CONSTRUCTION DETAILS.DWG
 CAD PLOT FILE NAME: LAYOUT
 MAP FILE REFERENCE: B-1908 GREEN
 PROJECT NO.: 1-20-0307-3402
 DRAWING NO.: 10
 SCALE: NTS
 DATE: MARCH 25, 2022

SURVEYED BY: JAM
 COMPUTED BY: JAM
 DRAWN BY: MTH
 APPROVED BY: JAM

SANITARY SEWER CONSTRUCTION DETAILS
CONTRACT NO. 2 - SANITARY SEWER REPLACEMENT
2020 SANITARY SEWER REPLACEMENT PROJECT
TOWN OF BAILEY
 NORTH CAROLINA
 NASH COUNTY

SEAL 1972

SEAL 28431

SEAL 28432

SEAL 28433

SEAL 28434

SEAL 28435

SEAL 28436

SEAL 28437

SEAL 28438

SEAL 28439

SEAL 28440

SEAL 28441

SEAL 28442

SEAL 28443

SEAL 28444

SEAL 28445

SEAL 28446

SEAL 28447

SEAL 28448

SEAL 28449

SEAL 28450

SEAL 28451

SEAL 28452

SEAL 28453

SEAL 28454

SEAL 28455

SEAL 28456

SEAL 28457

SEAL 28458

SEAL 28459

SEAL 28460

SEAL 28461

SEAL 28462

SEAL 28463

SEAL 28464

SEAL 28465

SEAL 28466

SEAL 28467

SEAL 28468

SEAL 28469

SEAL 28470

SEAL 28471

SEAL 28472

SEAL 28473

SEAL 28474

SEAL 28475

SEAL 28476

SEAL 28477

SEAL 28478

SEAL 28479

SEAL 28480

SEAL 28481

SEAL 28482

SEAL 28483

SEAL 28484

SEAL 28485

SEAL 28486

SEAL 28487

SEAL 28488

SEAL 28489

SEAL 28490

SEAL 28491

SEAL 28492

SEAL 28493

SEAL 28494

SEAL 28495

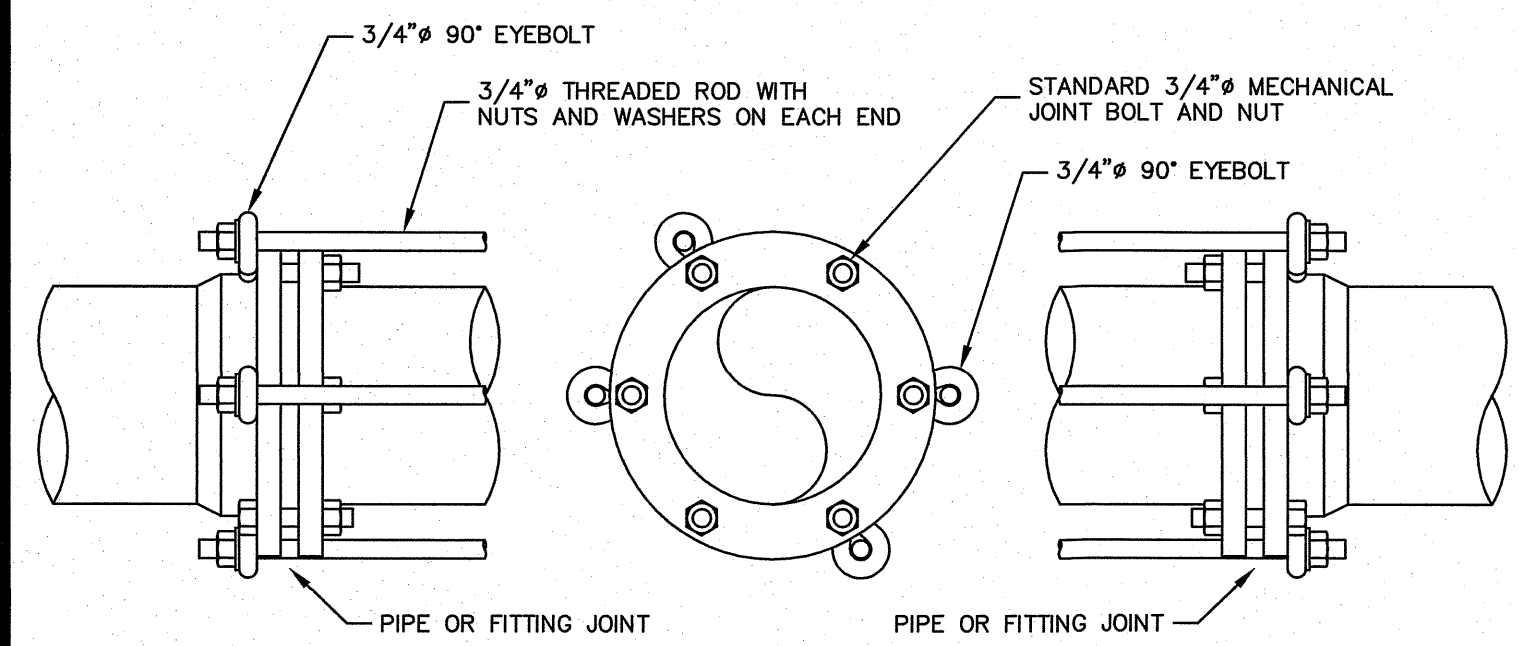
SEAL 28496

SEAL 28497

SEAL 28498

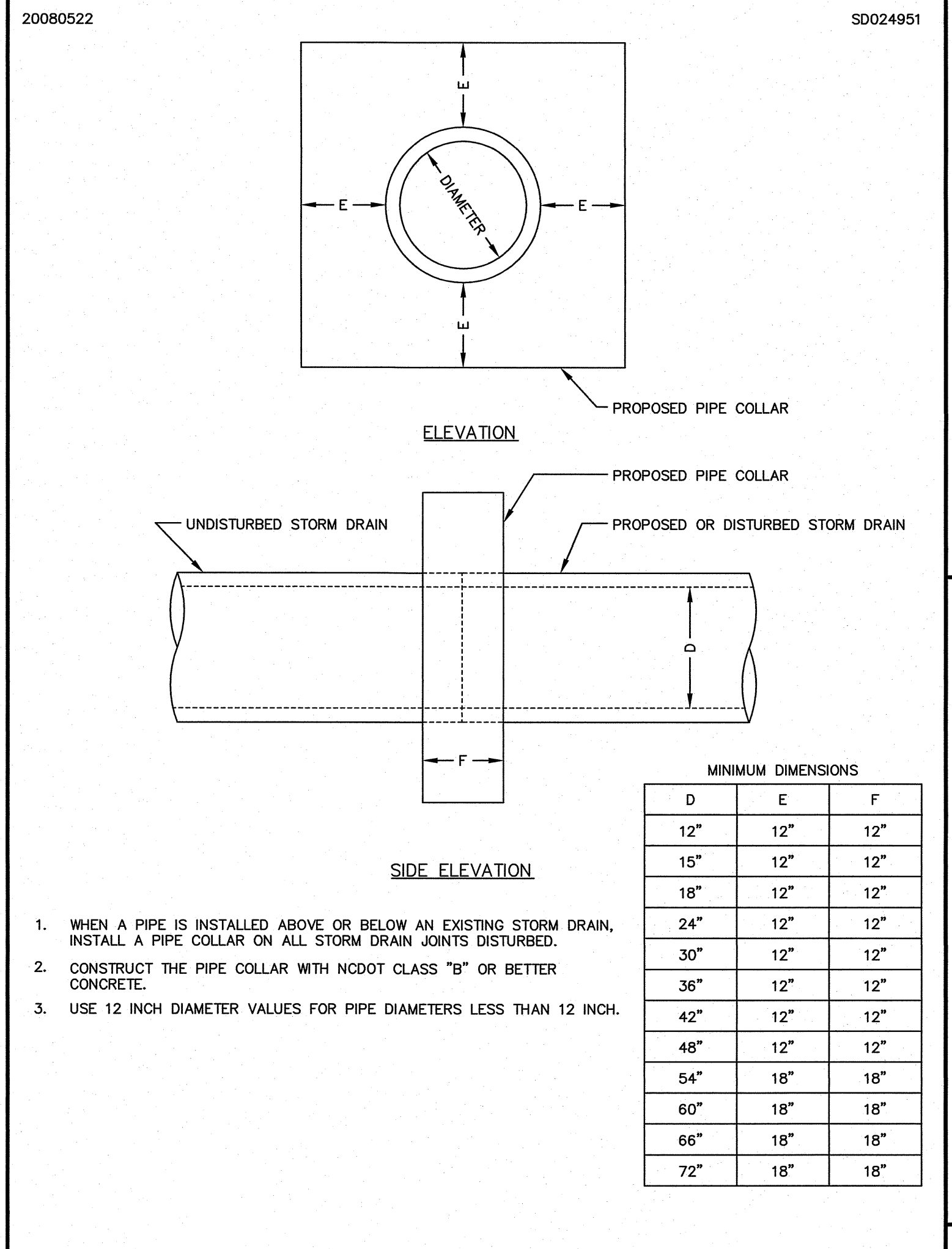
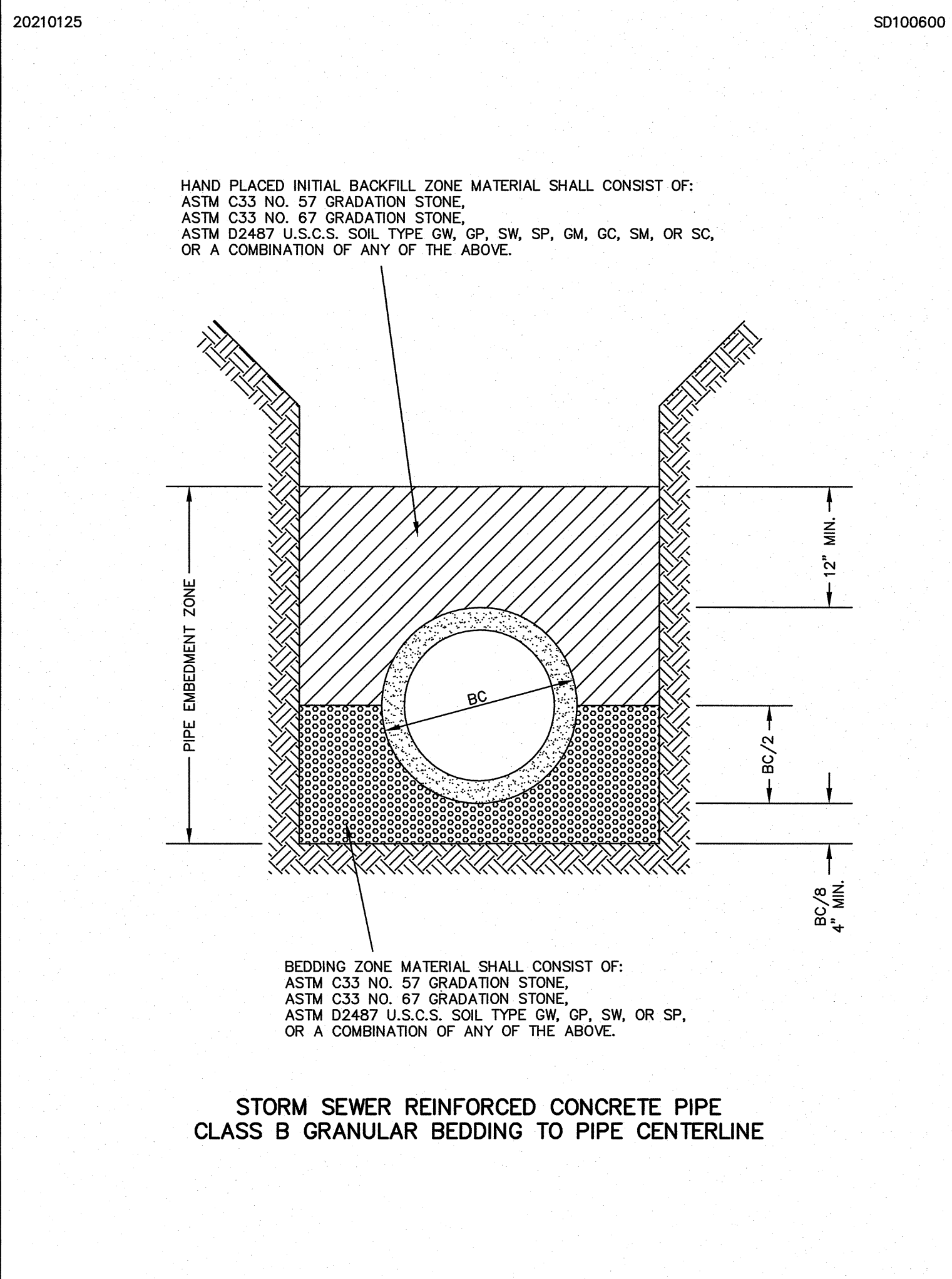
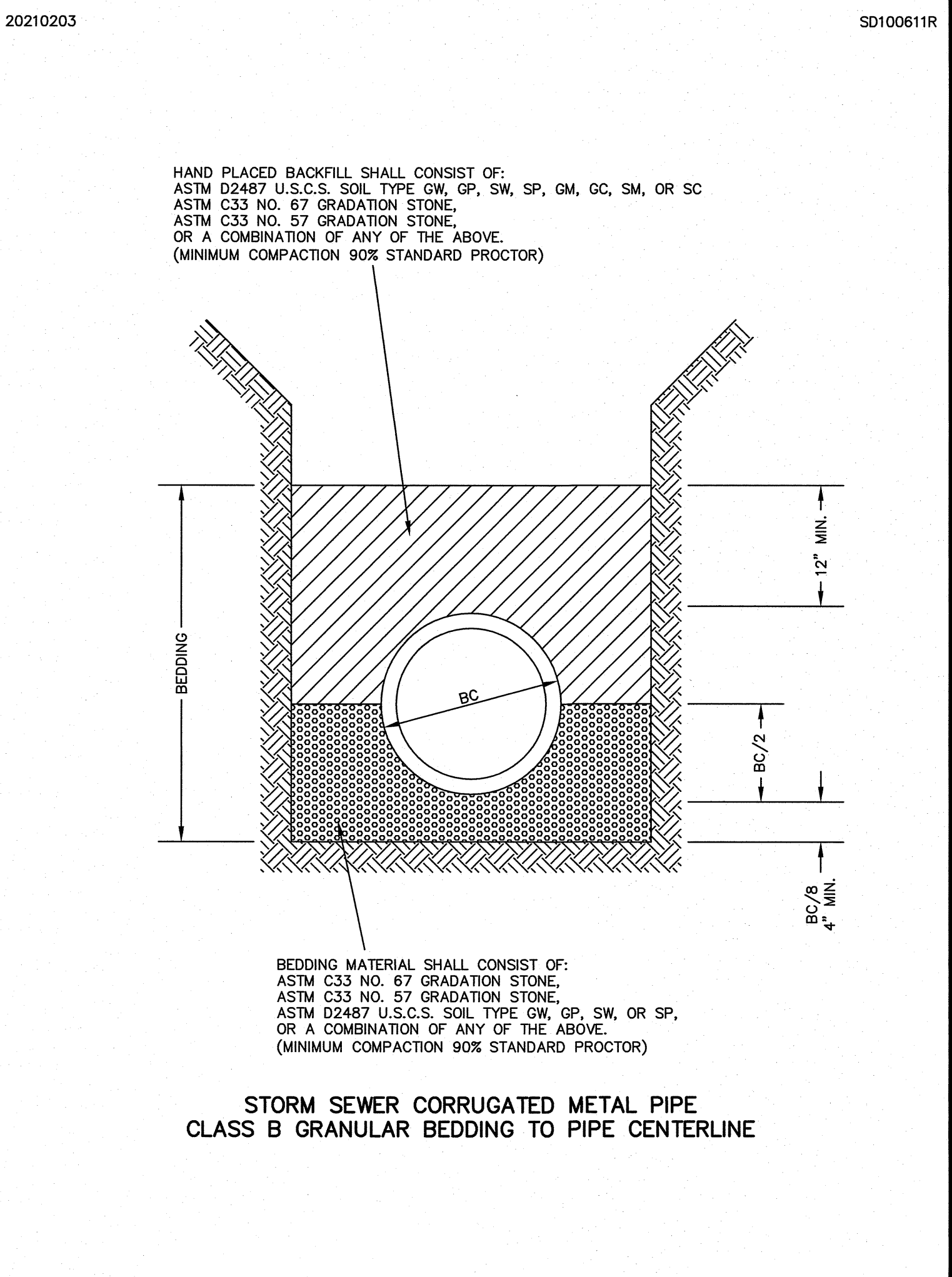
SEAL 28499

SEAL 28500



1. PROVIDE THRUST RODDING IN ACCORDANCE WITH SECTION 02668 OF THE SPECIFICATIONS.
2. PROVIDE THRUST RODDING WITH 90° EYE BOLTS, RODDING LUGS, AND THREADED RODS IN ACCORDANCE WITH THE TABLE TO THE LEFT.
3. EVENLY SPACE THE REQUIRED NUMBER OF THRUST RODS AROUND THE PIPE JOINT
4. INSTALL EYE BOLTS IN LIEU OF STANDARD MECHANICAL JOINT BOLTS IN ROUND HOLES. INSTALL RODDING LUGS USING STANDARD MECHANICAL JOINT BOLTS IN SLOTTED HOLES. DO NOT USE EYE BOLTS IN SLOTTED HOLES.
5. COMPLETELY TIGHTEN ALL MECHANICAL JOINT BOLTS BEFORE INSTALLING THREADED RODS.
6. WHERE THRUST RODDING IS REQUIRED AT THE ENDS OF STEEL CASING, WELD EYE BOLTS TO THE OUTSIDE OF THE CASING WITH 1/4" BY 3" LONG WELDS ON EACH SIDE OF EYE BOLTS. SPACE EYE BOLTS AROUND CASING AT ANGULAR LOCATIONS CORRESPONDING TO THE ANGULAR LOCATIONS OF EYE BOLTS AND/OR RODDING LUGS ON THE FITTING OR VALVE.
7. INSTALL THREADED RODS THROUGH EYE BOLTS AND RODDING LUGS. INSTALL NUT AND WASHER ON EACH END OF THREADED ROD AND TIGHTEN SNUG. DO NOT OVERTIGHTEN.

NOMINAL PIPE SIZE (inches)	NUMBER OF THRUST RODS REQUIRED
4	2
6	2
8	2
10	4
12	4
14	6
16	8
18	8
20	10
24	14



1. WHEN A PIPE IS INSTALLED ABOVE OR BELOW AN EXISTING STORM DRAIN, INSTALL A PIPE COLLAR ON ALL STORM DRAIN JOINTS DISTURBED.
2. CONSTRUCT THE PIPE COLLAR WITH NCDOT CLASS "B" OR BETTER CONCRETE.
3. USE 12 INCH DIAMETER VALUES FOR PIPE DIAMETERS LESS THAN 12 INCH.

MECHANICAL JOINT THRUST RODDING FOR WATER LINES

CORRUGATED STEEL STORM SEWER BEDDING

RCP STORM SEWER BEDDING

STORM DRAIN PIPE COLLAR

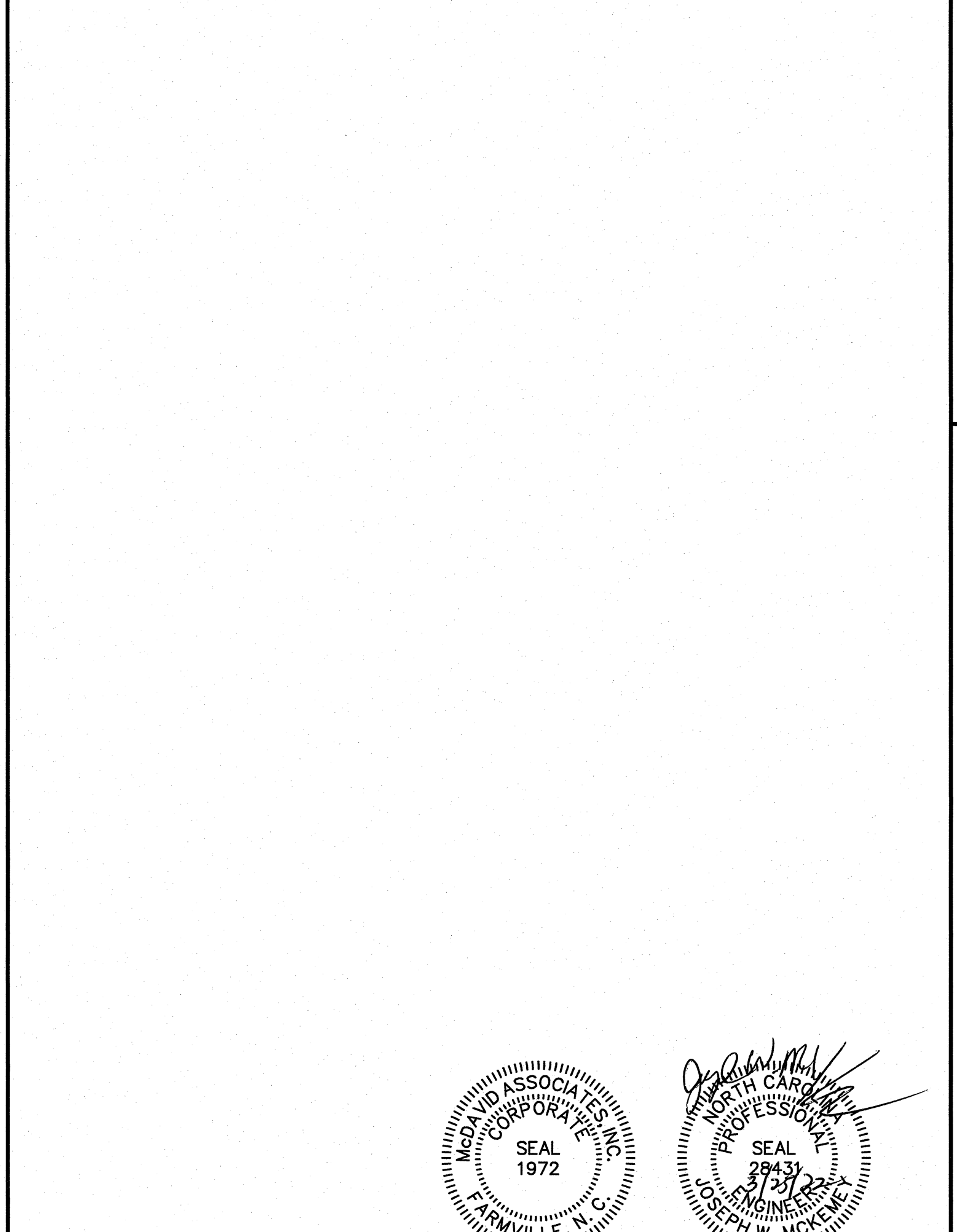
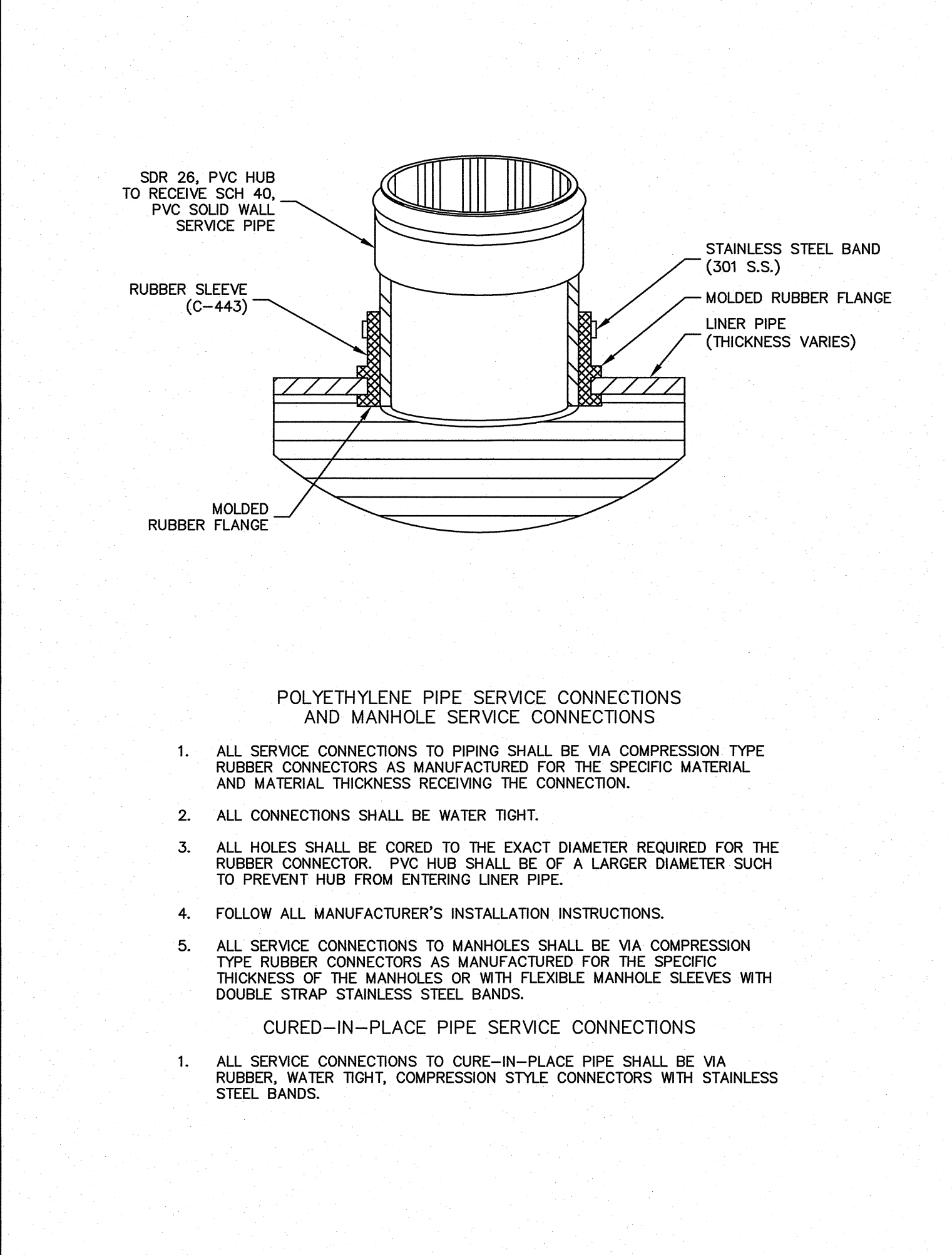
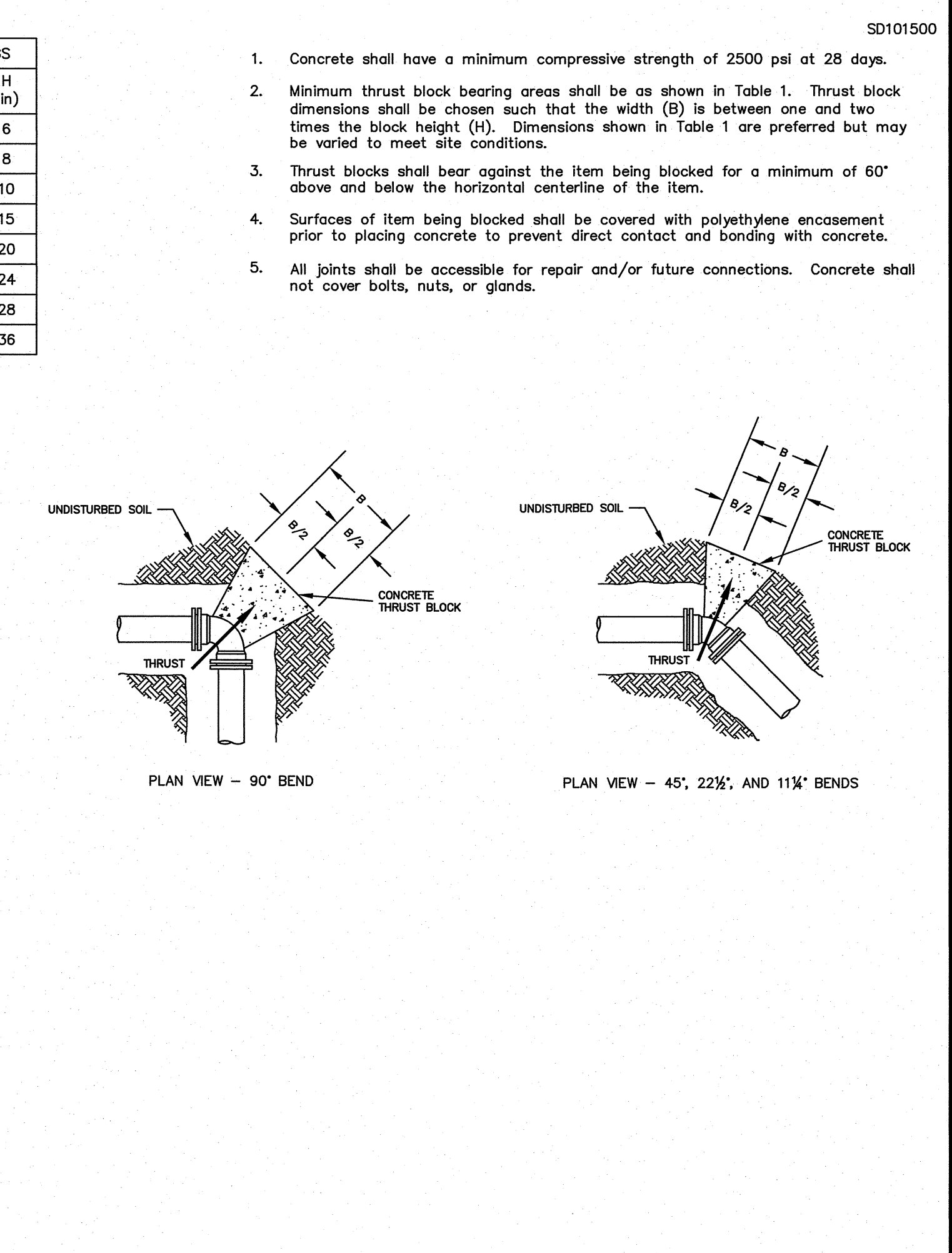
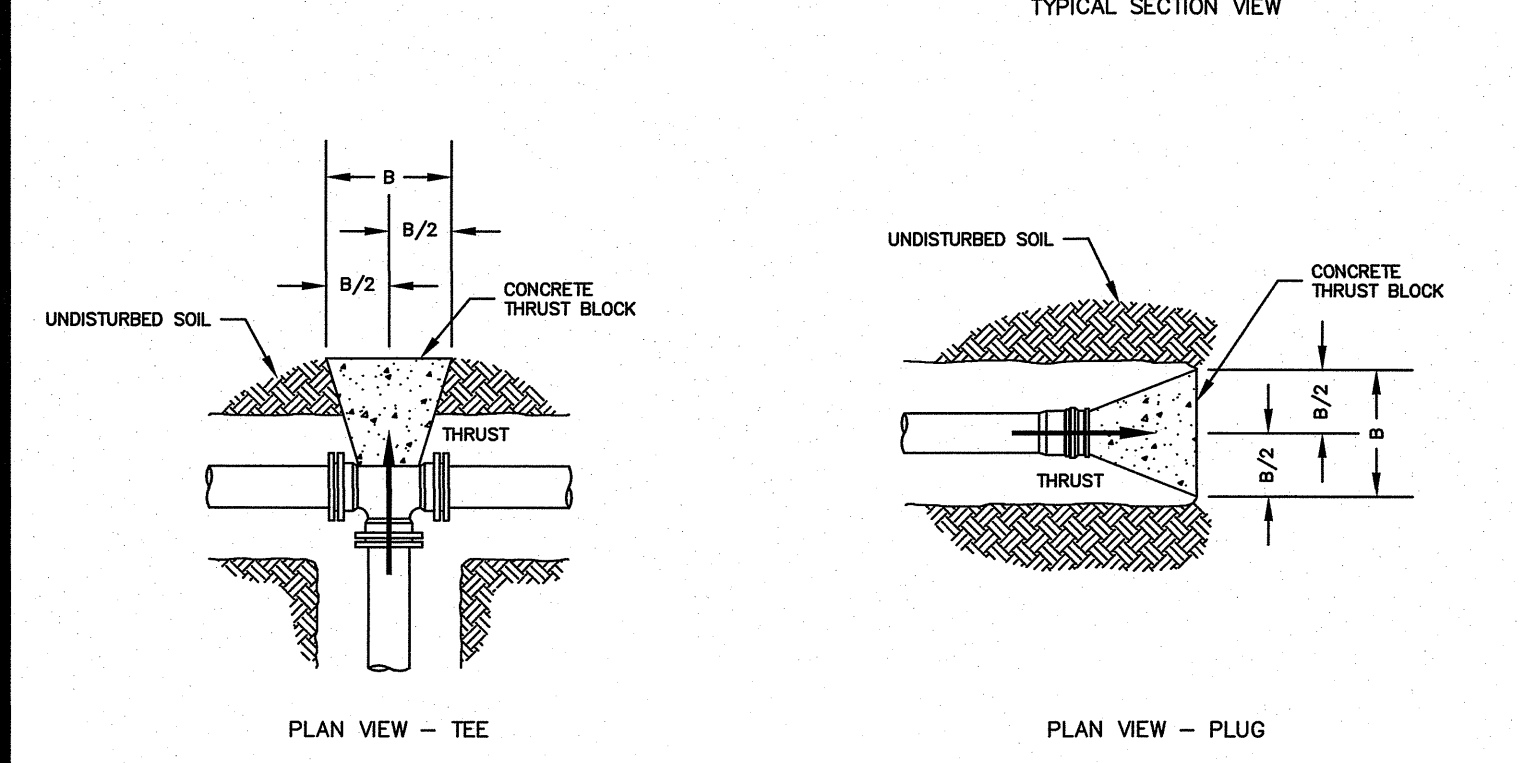
20000616 TABLE 1 - MINIMUM THRUST BLOCK AREAS AND DIMENSIONS

NOMINAL PIPE SIZE	90° BEND			45° BEND			22 1/2° BEND			11 1/4° BEND			TEES AND PLUGS		
	AREA (sf)	B (in)	H (in)	AREA (sf)	B (in)	H (in)	AREA (sf)	B (in)	H (in)	AREA (sf)	B (in)	H (in)	AREA (sf)	B (in)	H (in)
2"	0.4	10	6	0.2	8	4	0.1	6	3	0.1	6	3	0.3	8	6
3"	0.8	13	9	0.4	10	6	0.2	6	5	0.1	6	4	0.6	11	8
4"	1.5	18	12	0.8	13	9	0.4	10	6	0.2	6	6	1.0	15	10
6"	3.0	24	18	1.6	20	12	0.8	13	9	0.4	8	8	2.1	21	15
8"	5.2	32	24	2.8	24	17	1.4	17	12	0.7	11	11	3.6	26	20
10"	7.7	40	28	4.2	30	20	2.1	22	14	1.1	13	13	5.5	33	24
12"	10.9	50	32	5.9	36	24	3.0	24	18	1.5	15	15	7.7	40	28
16"	18.9	65	42	10.2	46	32	5.3	32	24	2.6	24	16	13.4	54	36

Bearing areas in Table 1 above are based on bearing against sand. For other soil conditions, the areas and dimensions in Table 1 above shall be multiplied by the appropriate multiplier from Table 2 below.

TABLE 2 - SOIL MULTIPLIERS

SOIL TYPE	SOIL BEARING STRENGTH (psf)	AREA MULTIPLIER	DIMENSION MULTIPLIER
Soft Clay	1,000	4.00	2.00
Silt	1,500	2.67	1.64
Sandy Silt	3,000	1.33	1.16
Sand	4,000	1.00	1.00
Sandy Clay	5,000	0.80	0.90
Hard Clay	9,000	0.45	0.67



CONCRETE THRUST BLOCKING FOR WATER LINES

SERVICE CONNECTION TO LINER PIPING

SERVICE CONNECTION TO LINER PIPING

CONCRETE THRUST BLOCKING FOR WATER LINES

REVISIONS

NO.	DATE	DESCRIPTION

DATE: 1/23/23

MAIL REVIEW OFFICER APPROVAL: [Signature]

MAIL REVIEW OFFICER: [Signature]

McDAVID ASSOCIATES, INC.
Corporate License No. C-137
Engineers - Planners
1000 West 10th Street
P.O. Box 1776
Goldstone, NC 27533
Telephone: (919) 755-7530
Facsimile: (919) 755-7531

McDAVID ASSOCIATES, INC.
CORPORATE OFFICE
Engineers - Planners - Land Surveyors
3100 West 10th Street
P.O. Box 48
Farmville, NC 27828
Telephone: (252) 752-2139
Facsimile: (252) 752-2120

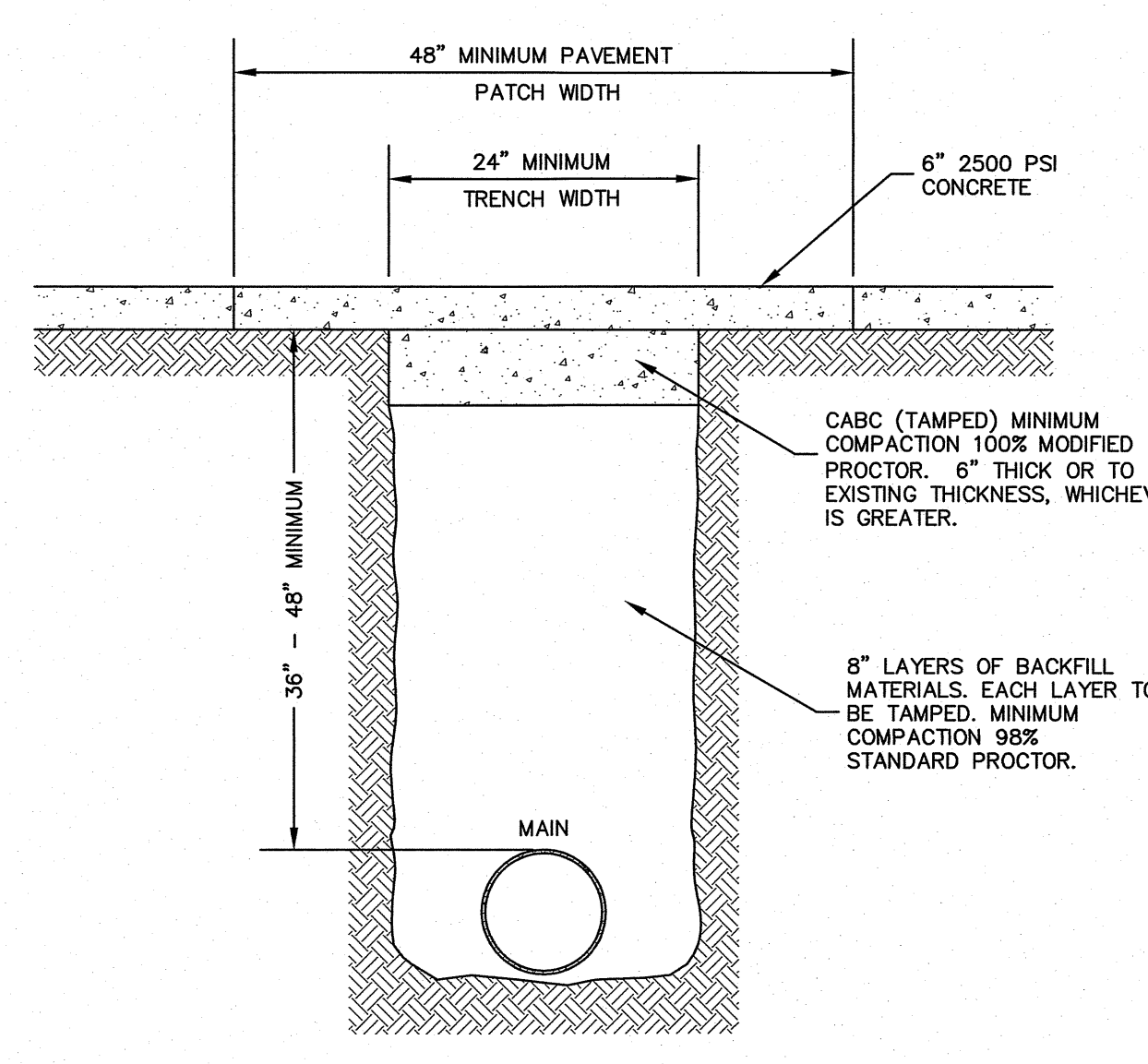
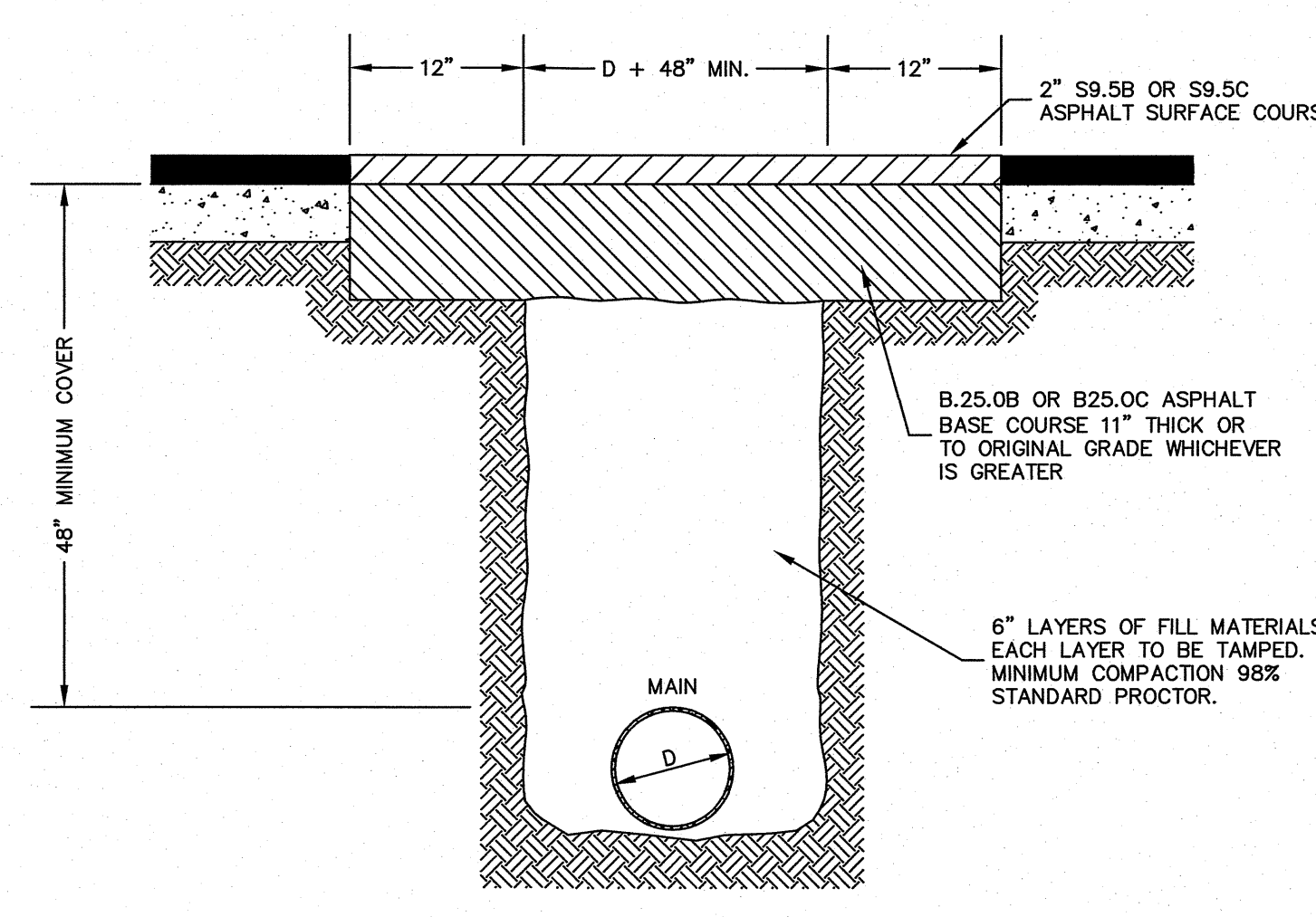
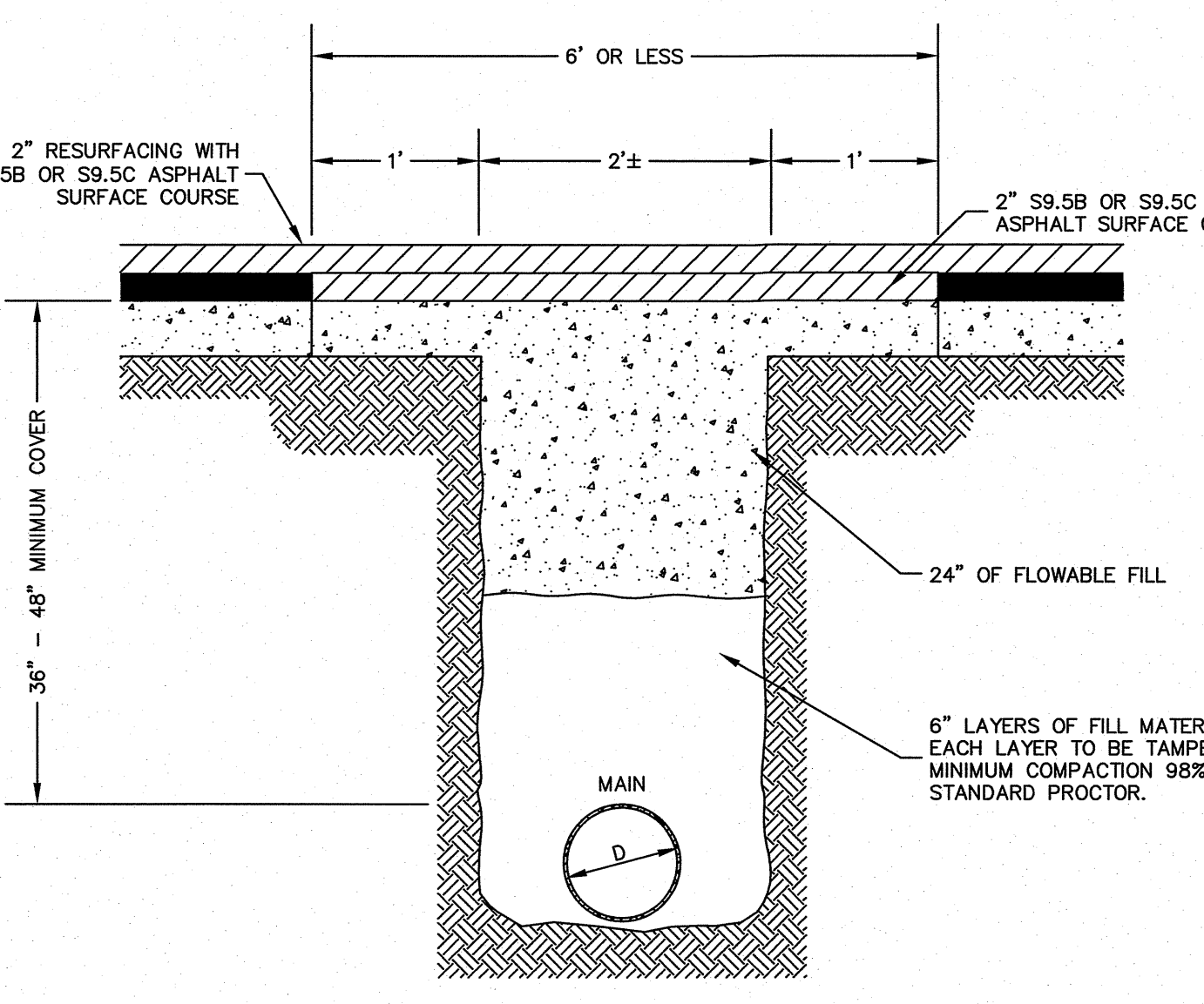
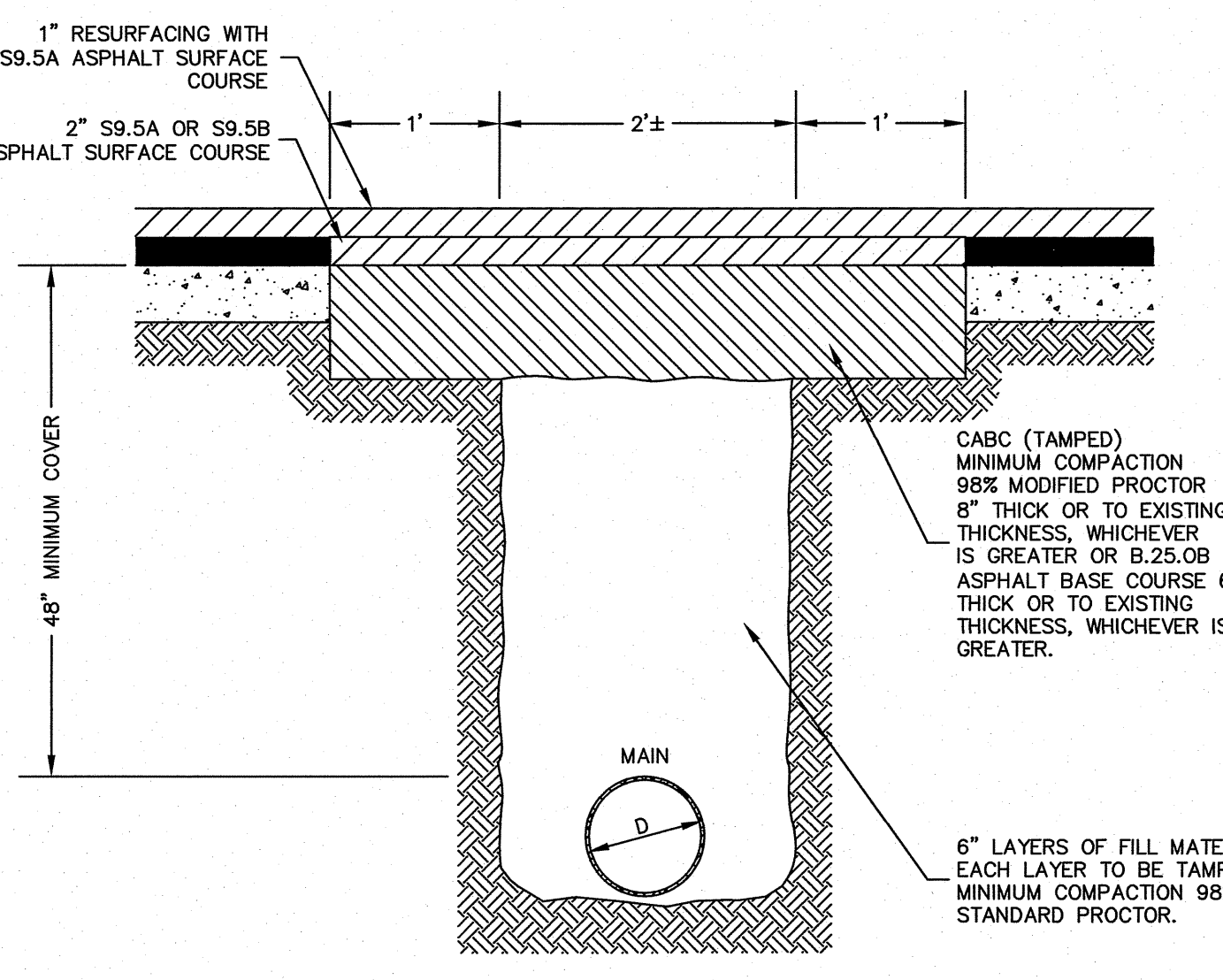
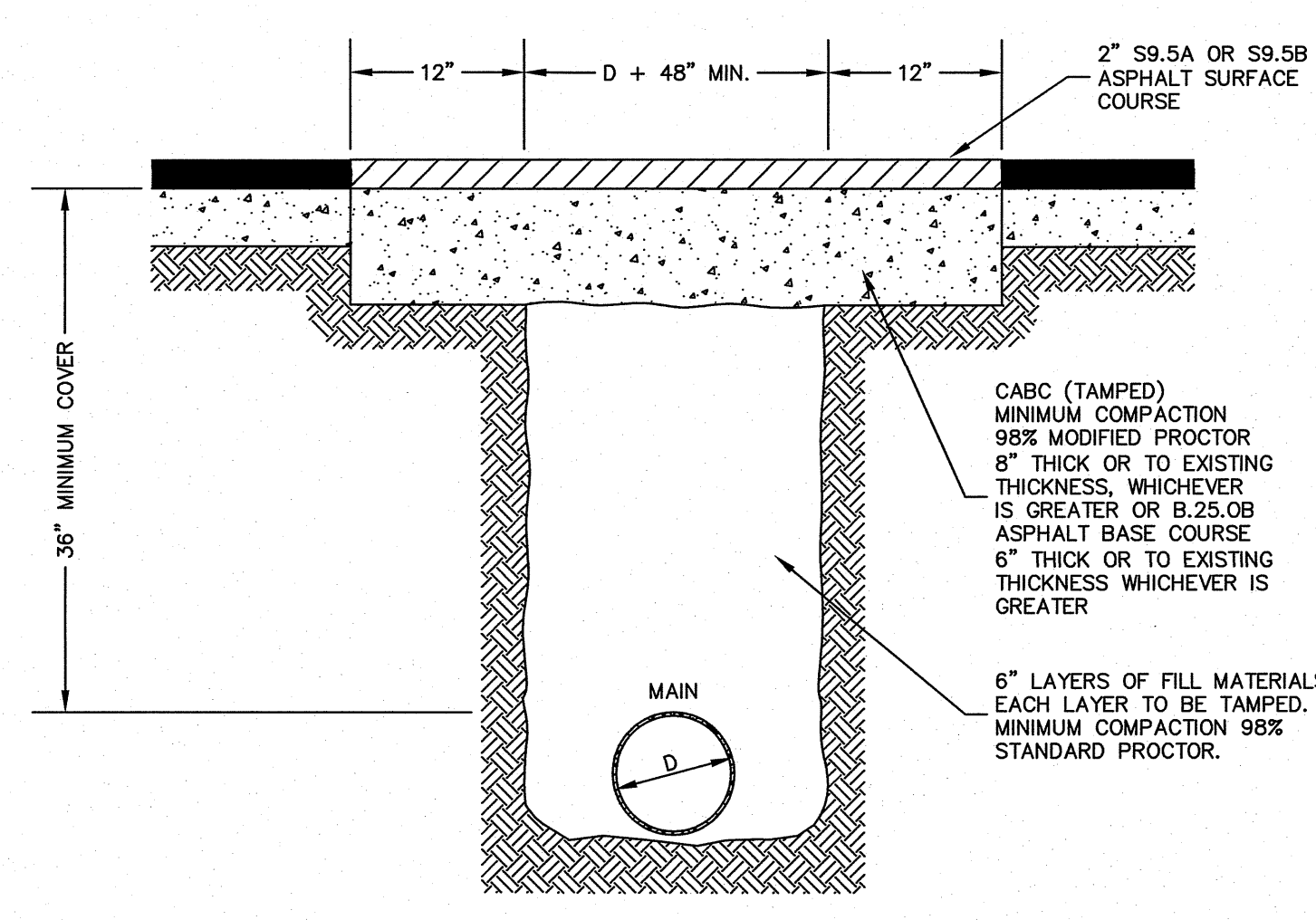
CAD FILE DIRECTORY: W:\DRWX_GEN\DRWX_ENG\0847_LD\2020-0307
CAD DWG FILE NAME: 11-GENERAL CONSTRUCTION DETAILS.DWG
CAD PLOT FILE NAME: LAYOUT
MAP FILE REFERENCE: B-1908 GREEN
PROJECT NO.: 1-20-0307-3402 SURVEYED BY: JAS
DRAWING NO.: 11 COMPUTED BY: JMW
SCALE: NTS DRAWN BY: MTH
DATE: MARCH 25, 2022 APPROVED BY: JMW

GENERAL CONSTRUCTION DETAILS
CONTRACT NO. 2 - SANITARY SEWER REPLACEMENT
2020 SANITARY SEWER REPLACEMENT PROJECT
TOWN OF BAILEY
NORTH CAROLINA
NASH COUNTY

SEAL 1972
SEAL 29431
JOSEPH W. MCKEE
REGISTERED PROFESSIONAL ENGINEER
NORTH CAROLINA

Drawing: W:\DRWX_gen\DRWX_eng\0847_LD\2020-0307-3402 Bailey 20-CWSRF DR-San Sew Imp-TS - Planning and Design\DWG\11-General Construction Details.dwg
Layout: LAYOUT11
Plotted: Monday, January 23, 2023, 4:57:38am

W:\DBxx\gen\DB4x_eng\DB47_LD_2020-0307-3402 Bailey 20-CWSRF DR-San Sew Imp-TS - Planning and Design\DWG\12-General Construction Details.dwg
 Drawing: Layout1
 Plotted: Monday, January 23, 2023, 4:57:49pm

		<p>20041216 SD100009</p>  <p>48" MINIMUM PAVEMENT PATCH WIDTH 24" MINIMUM TRENCH WIDTH 6" 2500 PSI CONCRETE CABC (TAMPED) MINIMUM COMPACTION 100% MODIFIED PROCTOR, 6" THICK OR TO EXISTING THICKNESS, WHICHEVER IS GREATER. 8" LAYERS OF BACKFILL MATERIALS, EACH LAYER TO BE TAMPED, MINIMUM COMPACTION 98% STANDARD PROCTOR. 36" - 48" MINIMUM COVER</p> <p>IN THE EVENT THE PROPOSED PAVEMENT PATCH IS WITHIN THREE (3) FEET OF AN EXISTING PAVEMENT JOINT THEN THE PROPOSED PATCH WIDTH SHALL BE INCREASED TO EXTEND TO THE EXISTING JOINT.</p>	<p>20041216 SD100006R</p>  <p>12" D + 48" MIN. 12" 2" S9.5B OR S9.5C ASPHALT SURFACE COURSE B.25.0B OR B.25.0C ASPHALT BASE COURSE 11" THICK OR TO ORIGINAL GRADE WHICHEVER IS GREATER 6" LAYERS OF FILL MATERIALS, EACH LAYER TO BE TAMPED, MINIMUM COMPACTION 98% STANDARD PROCTOR. 48" MINIMUM COVER</p> <p>DRIVEWAY CROSSINGS MINIMUM WIDTH OF ASPHALT PAVEMENT PATCH SHALL BE FOUR (4) FEET. IF THE PROPOSED PATCH COMES WITHIN FOUR (4) FEET OF AN EXISTING CONCRETE PAVEMENT JOINT, THEN THE CONTRACTOR SHALL BE REQUIRED TO EXTEND PAVEMENT REMOVAL AND REPLACEMENT TO THE JOINT. PLANS DO NOT SHOW ALL DRIVEWAYS. ASSOCIATED COSTS FOR BREAK, REMOVE, AND REPLACE EXISTING PAVEMENTS, CURBS, AND GUTTERS SHALL BE AS SHOWN IN THE BID SCHEDULE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING THE QUANTITY OF PAVEMENTS TO BE OPEN CUT BY A PREBID FIELD INVESTIGATION.</p>
A	B	C	D
E	<p>20041216 SD100005R</p>  <p>2" RESURFACING WITH S9.5B OR S9.5C ASPHALT SURFACE COURSE 6" OR LESS 2" S9.5B OR S9.5C ASPHALT SURFACE COURSE 24" OF FLOWABLE FILL 6" LAYERS OF FILL MATERIALS, EACH LAYER TO BE TAMPED, MINIMUM COMPACTION 98% STANDARD PROCTOR. 36" - 48" MINIMUM COVER</p> <p>DRIVEWAY CROSSINGS MINIMUM WIDTH OF ASPHALT PAVEMENT PATCH SHALL BE FOUR (4) FEET. IF THE PROPOSED PATCH COMES WITHIN FOUR (4) FEET OF AN EXISTING CONCRETE PAVEMENT JOINT, THEN THE CONTRACTOR SHALL BE REQUIRED TO EXTEND PAVEMENT REMOVAL AND REPLACEMENT TO THE JOINT. PLANS DO NOT SHOW ALL DRIVEWAYS. ASSOCIATED COSTS FOR BREAK, REMOVE, AND REPLACE EXISTING PAVEMENTS, CURBS, AND GUTTERS SHALL BE AS SHOWN IN THE BID SCHEDULE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING THE QUANTITY OF PAVEMENTS TO BE OPEN CUT BY A PREBID FIELD INVESTIGATION.</p>	<p>20041216 SD100005R</p>  <p>1" RESURFACING WITH S9.5A ASPHALT SURFACE COURSE 2" S9.5A OR S9.5B ASPHALT SURFACE COURSE CABC (TAMPED) MINIMUM COMPACTION 98% MODIFIED PROCTOR 6" THICK OR TO EXISTING THICKNESS, WHICHEVER IS GREATER OR B.25.0B ASPHALT BASE COURSE 6" THICK OR TO EXISTING THICKNESS, WHICHEVER IS GREATER. 6" LAYERS OF FILL MATERIALS, EACH LAYER TO BE TAMPED, MINIMUM COMPACTION 98% STANDARD PROCTOR. 48" MINIMUM COVER</p> <p>DRIVEWAY CROSSINGS MINIMUM WIDTH OF ASPHALT PAVEMENT PATCH SHALL BE FOUR (4) FEET. IF THE PROPOSED PATCH COMES WITHIN FOUR (4) FEET OF AN EXISTING CONCRETE PAVEMENT JOINT, THEN THE CONTRACTOR SHALL BE REQUIRED TO EXTEND PAVEMENT REMOVAL AND REPLACEMENT TO THE JOINT. PLANS DO NOT SHOW ALL DRIVEWAYS. ASSOCIATED COSTS FOR BREAK, REMOVE, AND REPLACE EXISTING PAVEMENTS, CURBS, AND GUTTERS SHALL BE AS SHOWN IN THE BID SCHEDULE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING THE QUANTITY OF PAVEMENTS TO BE OPEN CUT BY A PREBID FIELD INVESTIGATION.</p>	<p>20041216 SD100005R</p>  <p>12" D + 48" MIN. 12" 2" S9.5A OR S9.5B ASPHALT SURFACE COURSE CABC (TAMPED) MINIMUM COMPACTION 98% MODIFIED PROCTOR 6" THICK OR TO EXISTING THICKNESS, WHICHEVER IS GREATER OR B.25.0B ASPHALT BASE COURSE 6" THICK OR TO EXISTING THICKNESS, WHICHEVER IS GREATER 6" LAYERS OF FILL MATERIALS, EACH LAYER TO BE TAMPED, MINIMUM COMPACTION 98% STANDARD PROCTOR. 36" MINIMUM COVER</p> <p>DRIVEWAY CROSSINGS MINIMUM WIDTH OF ASPHALT PAVEMENT PATCH SHALL BE FOUR (4) FEET. IF THE PROPOSED PATCH COMES WITHIN FOUR (4) FEET OF AN EXISTING CONCRETE PAVEMENT JOINT, THEN THE CONTRACTOR SHALL BE REQUIRED TO EXTEND PAVEMENT REMOVAL AND REPLACEMENT TO THE JOINT. PLANS DO NOT SHOW ALL DRIVEWAYS. ASSOCIATED COSTS FOR BREAK, REMOVE, AND REPLACE EXISTING PAVEMENTS, CURBS, AND GUTTERS SHALL BE AS SHOWN IN THE BID SCHEDULE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING THE QUANTITY OF PAVEMENTS TO BE OPEN CUT BY A PREBID FIELD INVESTIGATION.</p>
E	F	G	H
CONCRETE PAVEMENT REPLACEMENT		ASPHALT REPLACEMENT TYPE I (D.O.T. ROADS)	
ASPHALT REPLACEMENT & RESURFACING TYPE II (D.O.T. ROADS)		ASPHALT REPLACEMENT (NON D.O.T. ROADS)	

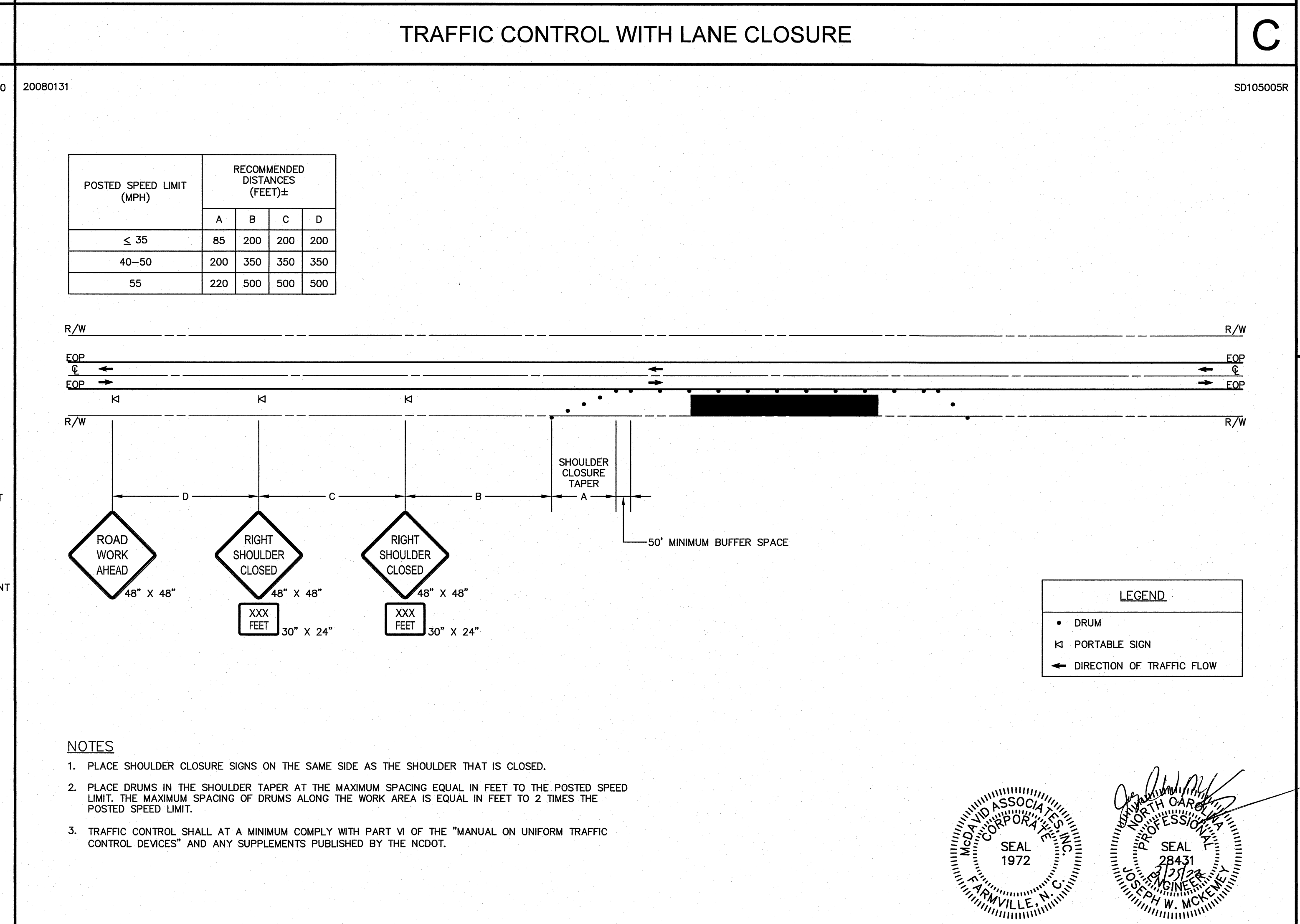
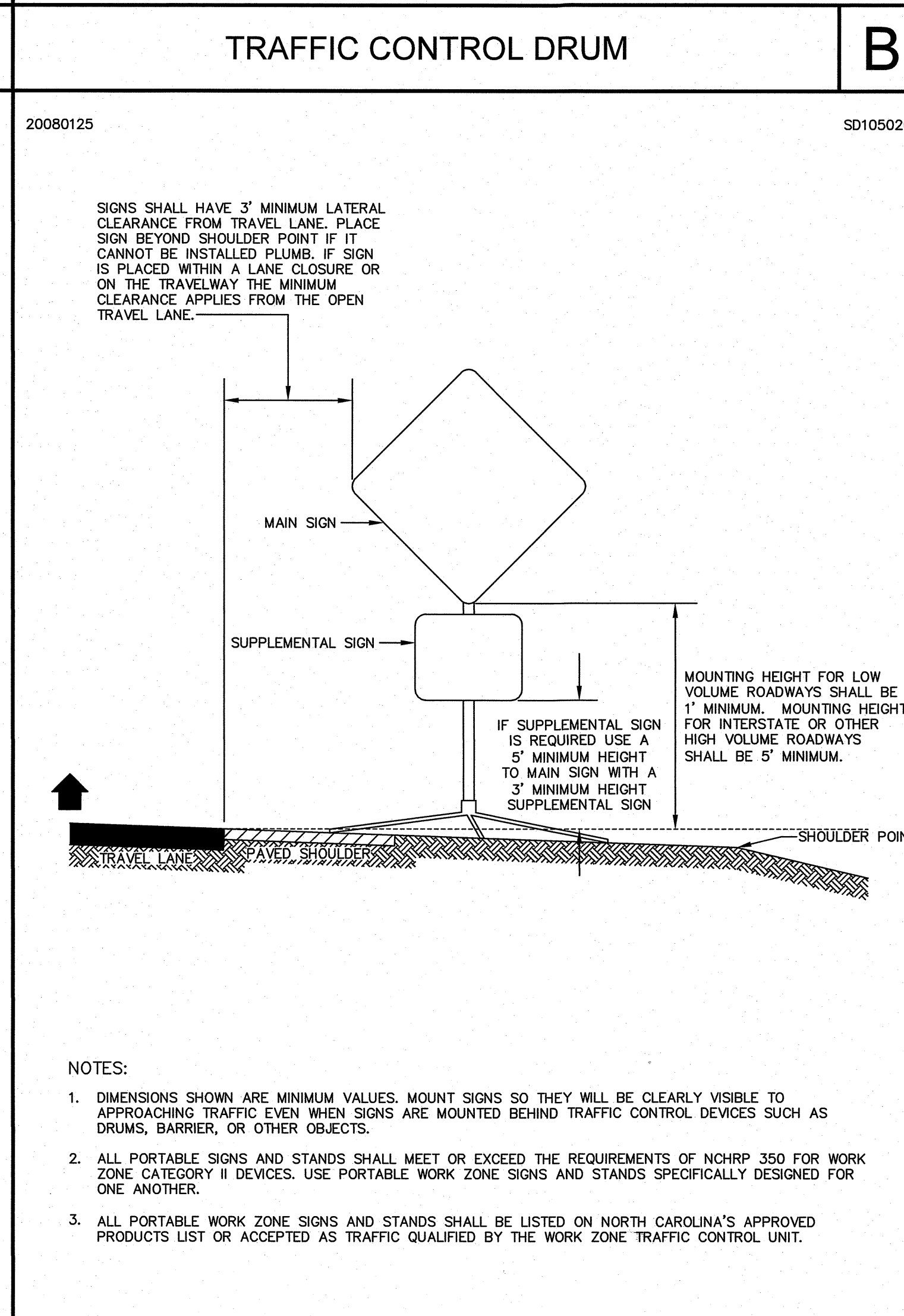
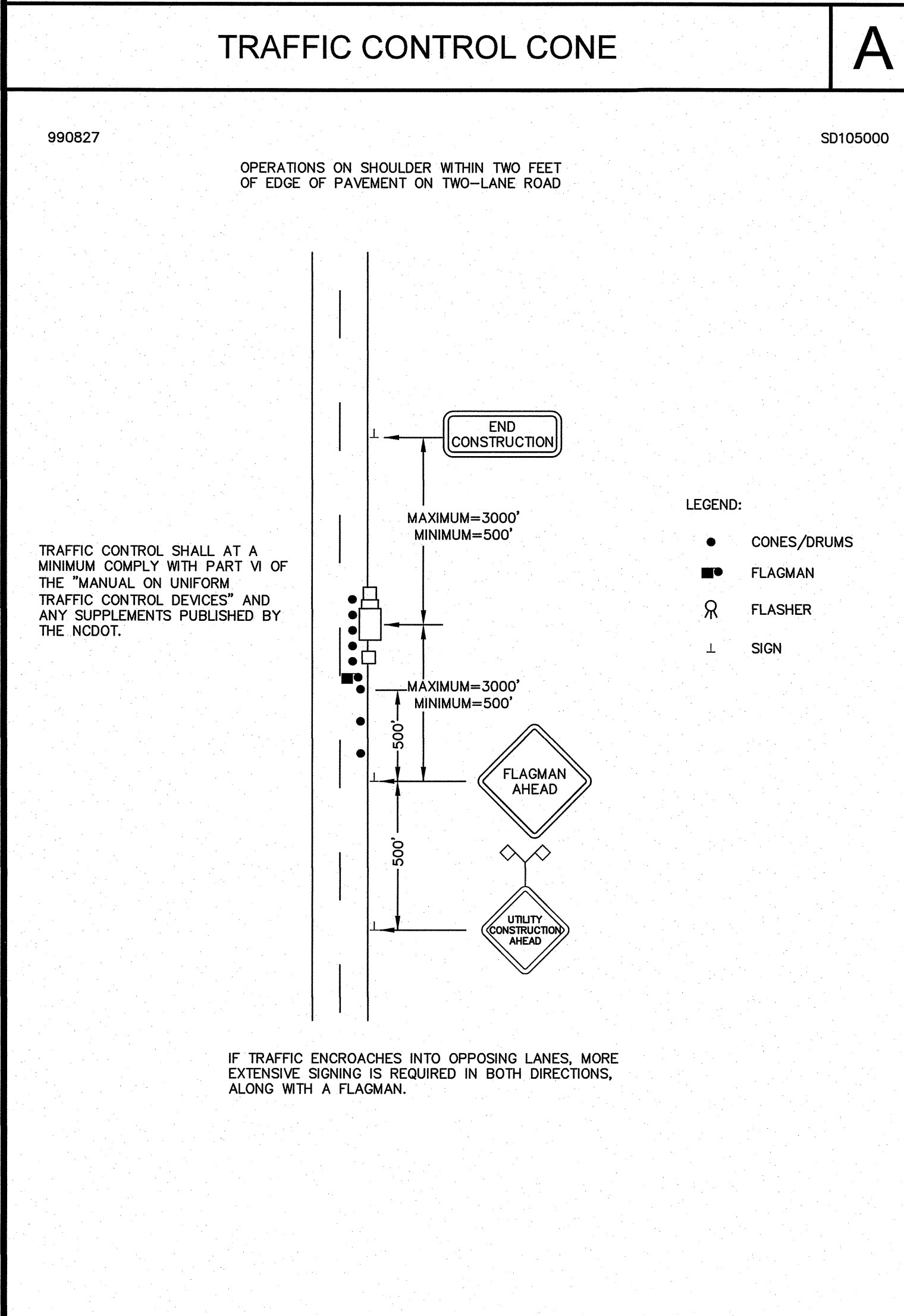
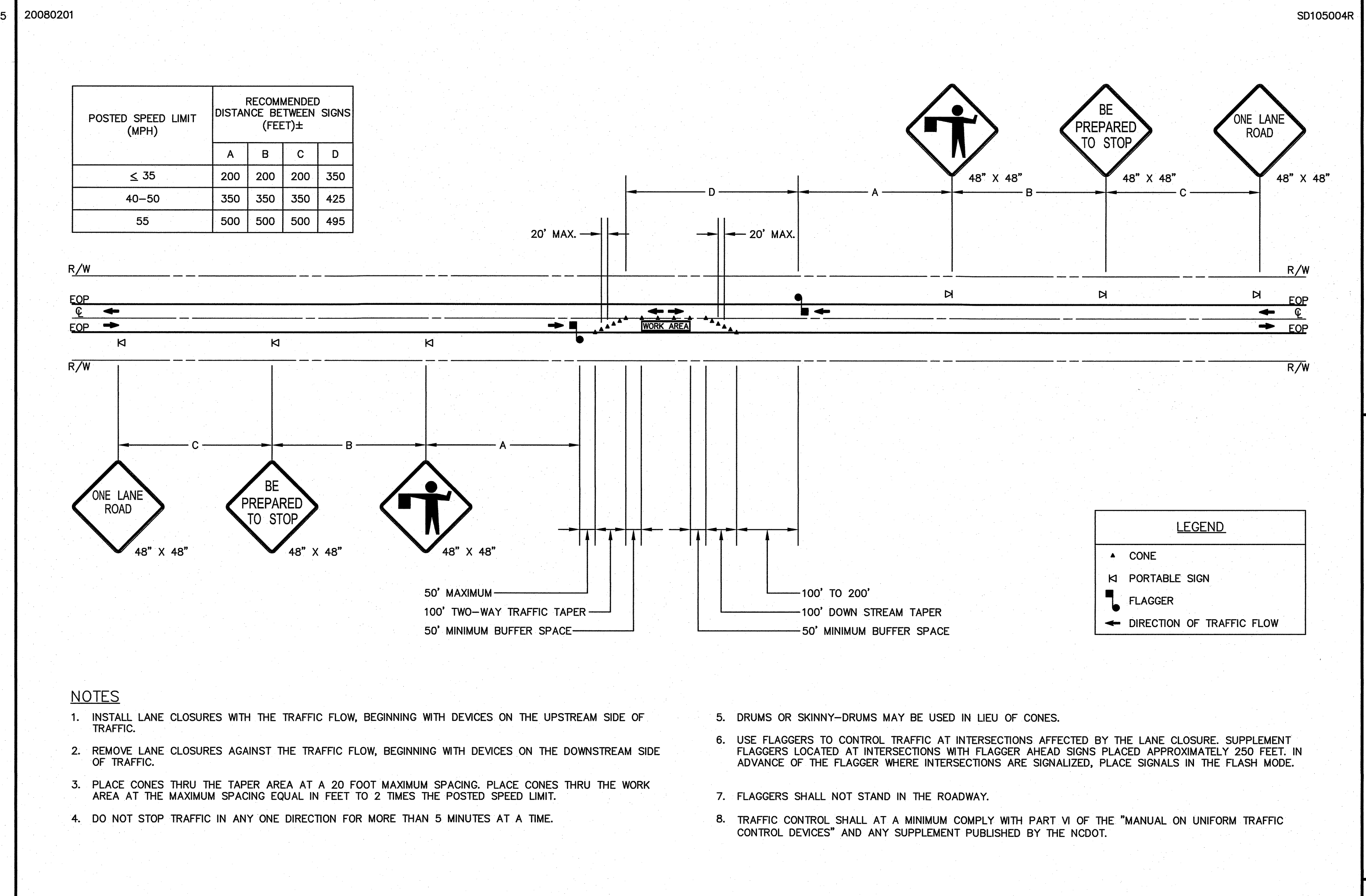
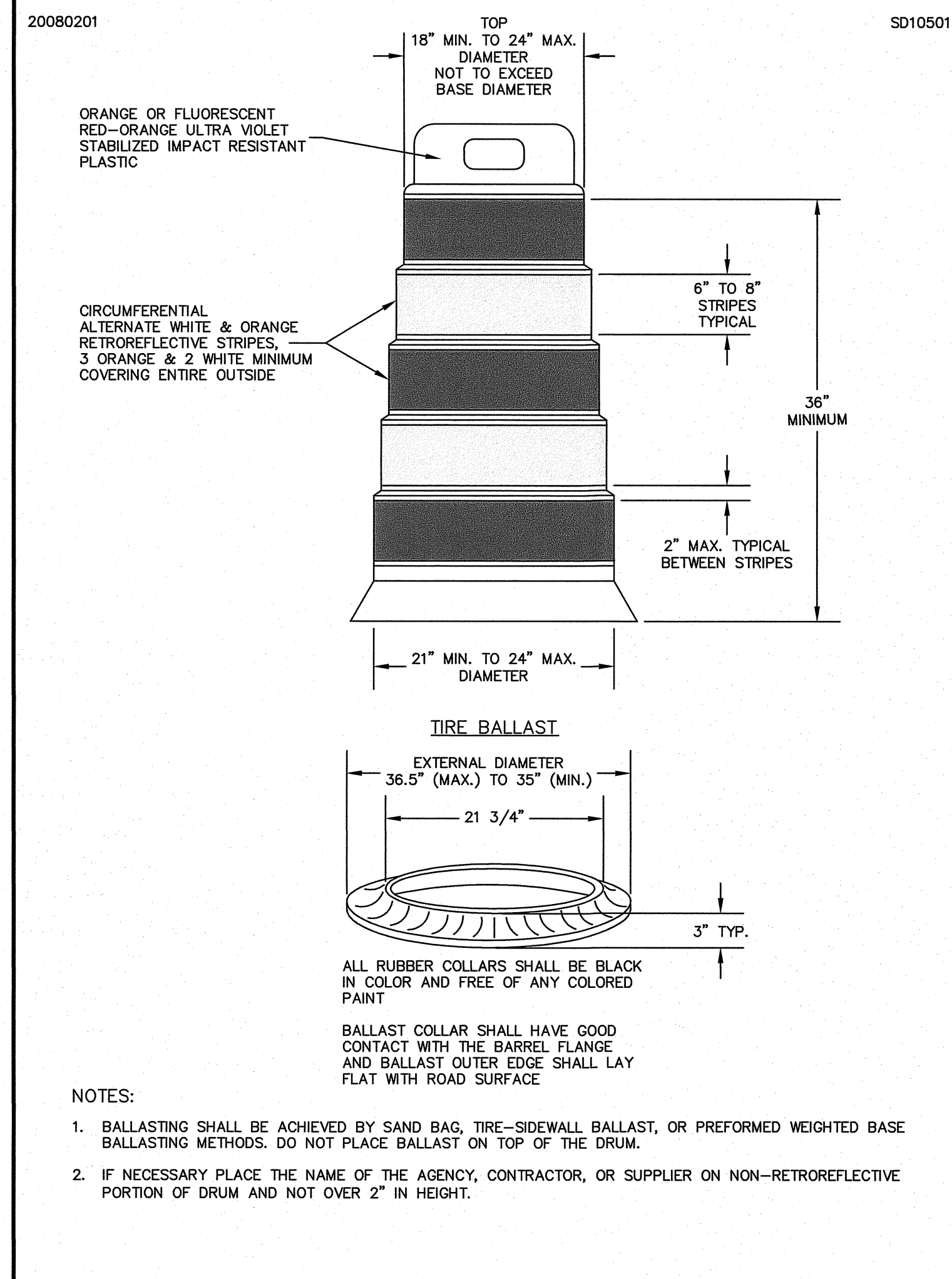
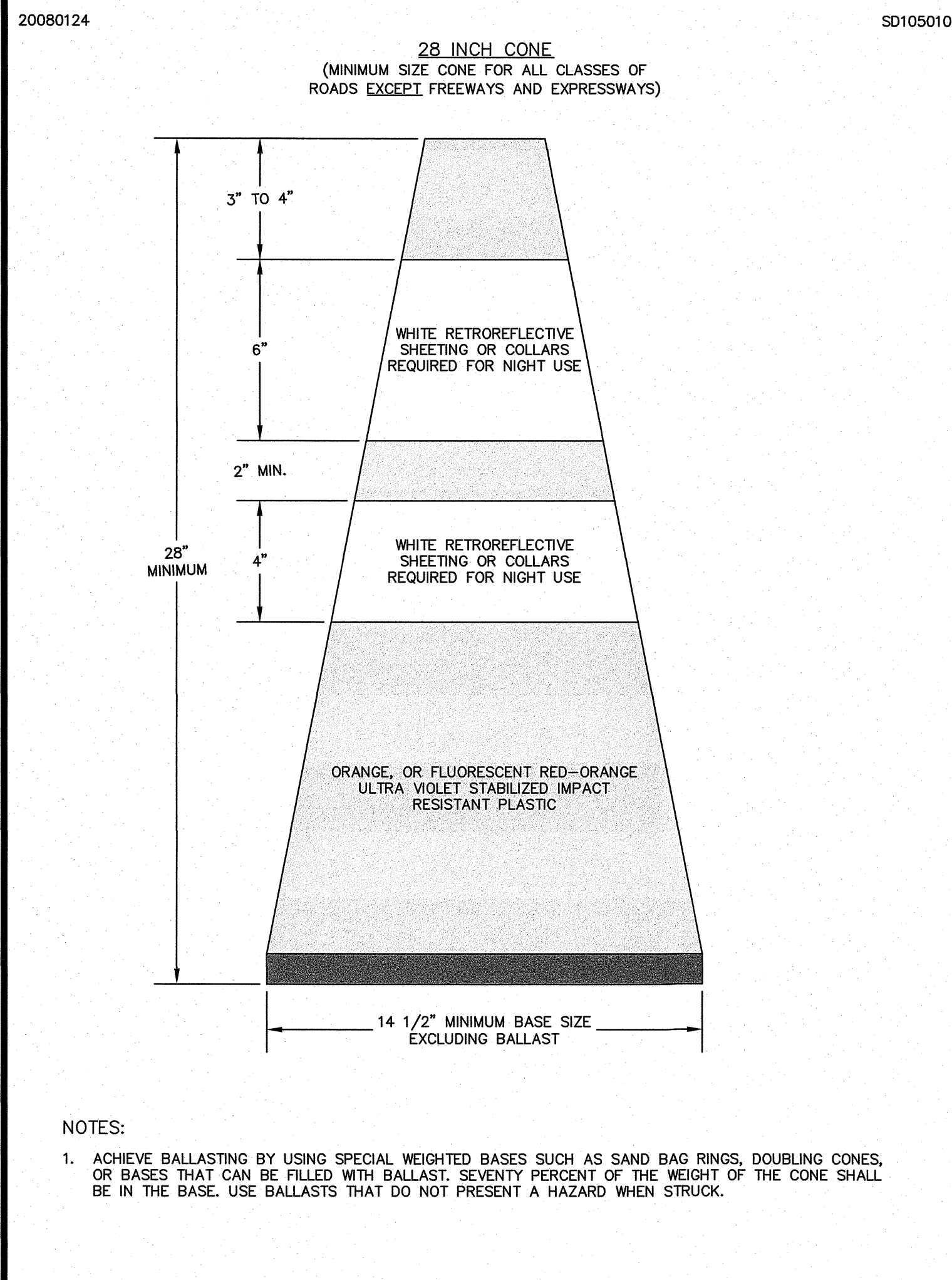
NO.	DATE	DESCRIPTION

McDAVID ASSOCIATES, INC.
 Corporate License No. C-137
BRANCH OFFICE
 Engineers - Planners
 3711 P. O. Box 1776
 Goldsboro, NC 27533
 Telephone: (919) 235-7250
 Facsimile: (919) 235-7251
CORPORATE OFFICE
 Engineers - Planners - Land Surveyors
 3711 P. O. Box 1776
 Farmville, NC 27828
 Telephone: (252) 752-7220
 Facsimile: (252) 752-7220

CAD FILE DIRECTORY: W:\DBxx\gen\DB4x_eng\DB47_LD_2020-0307
CAD DWG FILE NAME: 12-GENERAL CONSTRUCTION DETAILS.DWG
CAD PLOT FILE NAME: LAYOUT1
MAP FILE REFERENCE: B-1906 GREEN
PROJECT NO.: 1-20-0307-3402
DRAWING NO.: 12
SCALE: NTS
DATE: MARCH 25, 2022
SURVEYED BY: JAS
COMPUTED BY: JWM
DRAWN BY: MTW
APPROVED BY: JWM

GENERAL CONSTRUCTION DETAILS
CONTRACT NO. 2 - SANITARY SEWER REPLACEMENT
2020 SANITARY SEWER REPLACEMENT PROJECT
TOWN OF BAILEY
 NORTH CAROLINA
 NASH COUNTY
 SHEET 12 OF 15

W: D:\xxx-gen\084x_eng\0847_LID\2020-0307-3402 Bailey 20-CWSRF DR--San Sew Imp--IS - Planning and Design\DWG\13--Traffic Control Details.dwg
 Layout: Monday, January 23, 2023, 4:57:56am
 Plotted:



TRAFFIC CONTROL CONE **A**

TRAFFIC CONTROL DRUM **B**

TRAFFIC CONTROL WITH LANE CLOSURE **C**

TRAFFIC CONTROL **D**

TRAFFIC CONTROL SIGN **E**

TRAFFIC CONTROL WITH SHOULDER CLOSURE **F**

REVISIONS

NO.	DATE	DESCRIPTION

DATE: 1/23/23

MAI REVIEW OFFICER APPROVAL: [Signature]

MAI REVIEW OFFICER: [Signature]

McDAVID ASSOCIATES, INC.
Corporate License No. C-137
BRANCH OFFICE
Engineers - Planners
10000 W. Hargett Street
P.O. Box 1776
Goldstone, NC 27533
Telephone: (919) 755-7330
Facsimile: (919) 755-7501

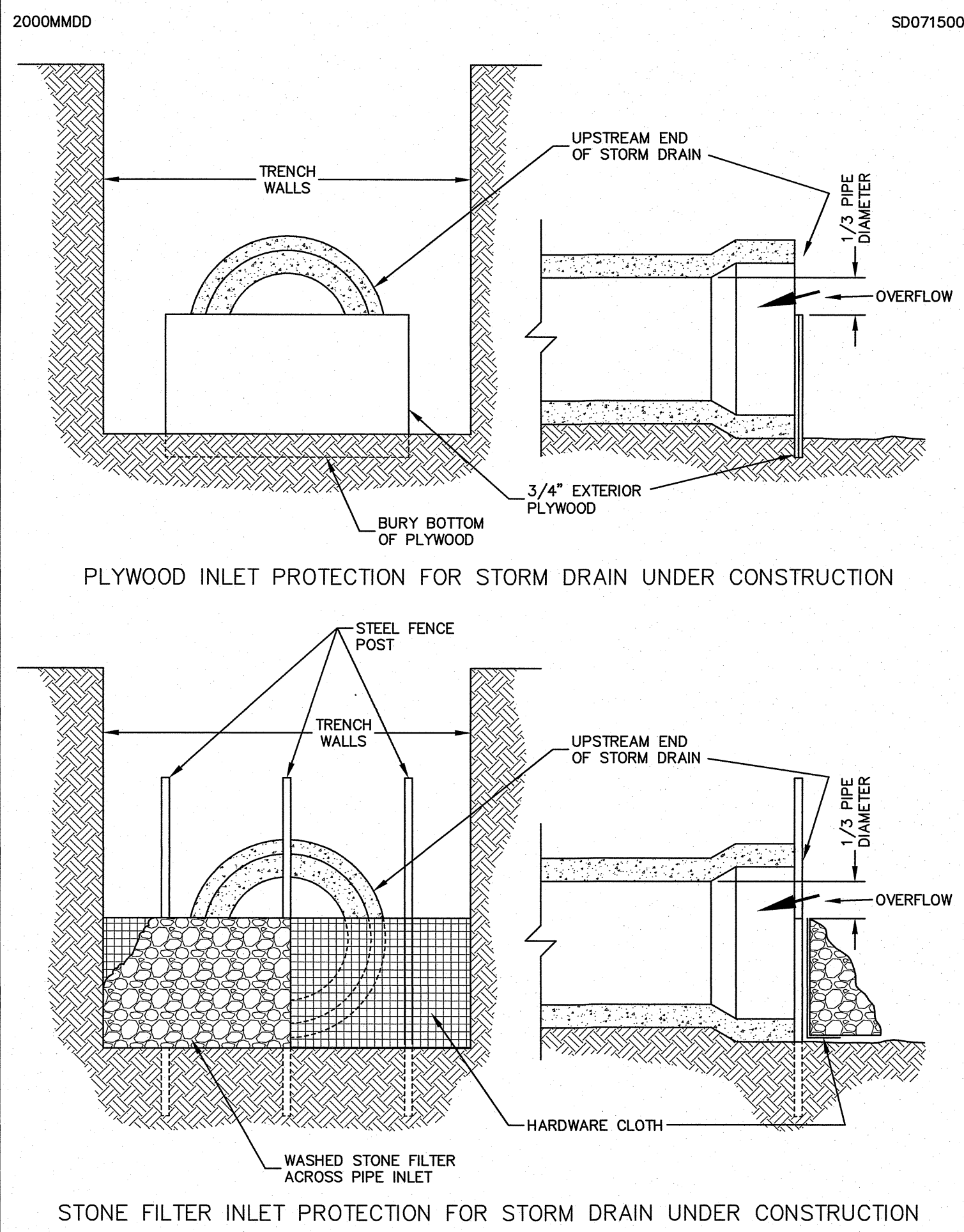
McDAVID ASSOCIATES, INC.
CORPORATE OFFICE
Engineers - Planners - Land Surveyors
3000 W. Hargett Street
P.O. Box 48
Fayetteville, NC 27325
Telephone: (252) 752-2139
Facsimile: (252) 752-2220

TRAFFIC CONTROL DETAILS
CONTRACT NO. 2 - SANITARY SEWER REPLACEMENT
2020 SANITARY SEWER REPLACEMENT PROJECT
TOWN OF BAILEY
NORTH CAROLINA
MARCH 25, 2022

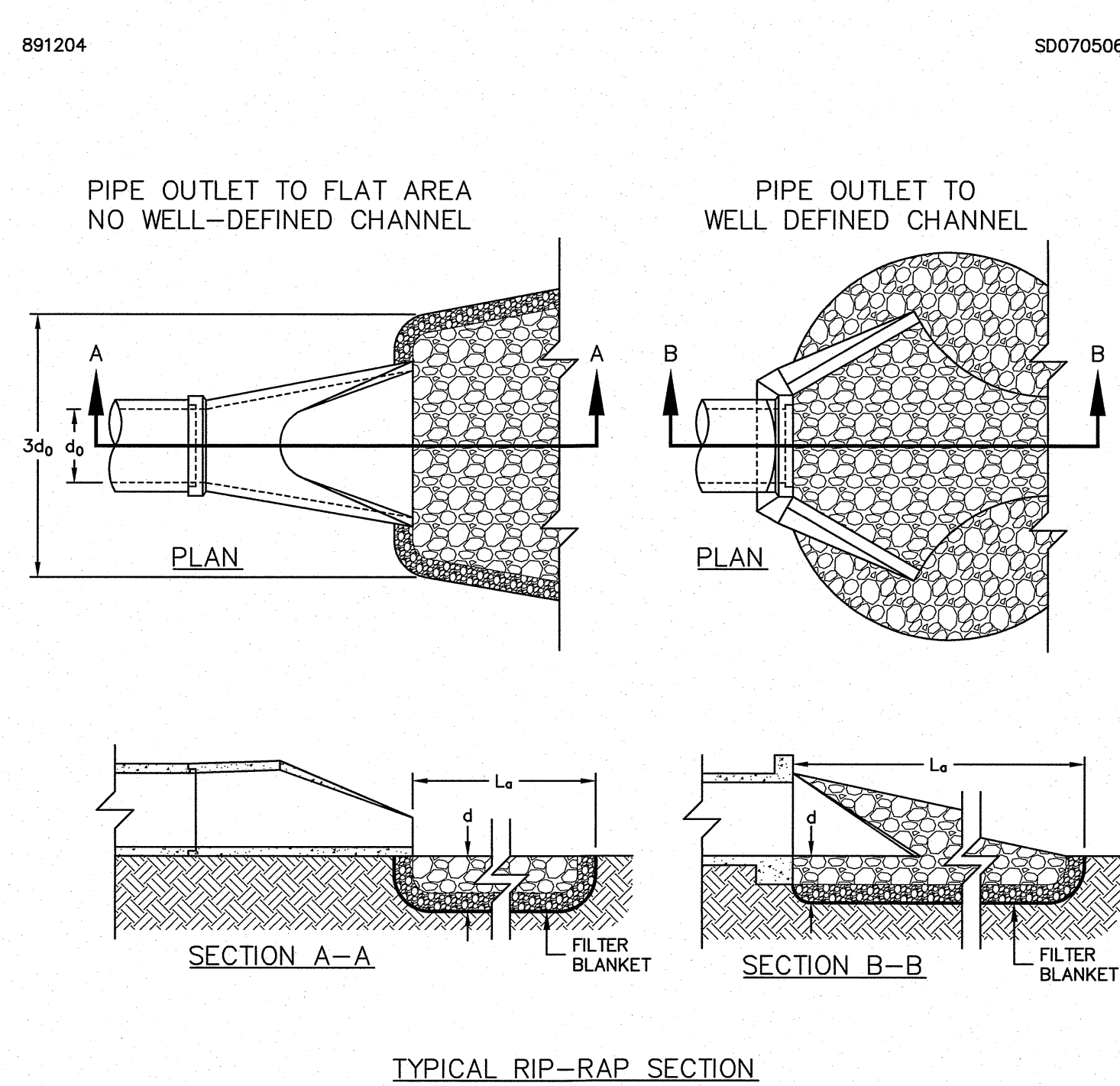
SCALE: NTS
DRAWN BY: MTW
SURVEYED BY: JAS
COMPUTED BY: JMW
APPROVED BY: JMW

SEAL 1972
SEAL 28431
JAMES W. MCQUEEN
PROFESSIONAL ENGINEER
NORTH CAROLINA

SHEET 13 OF 15

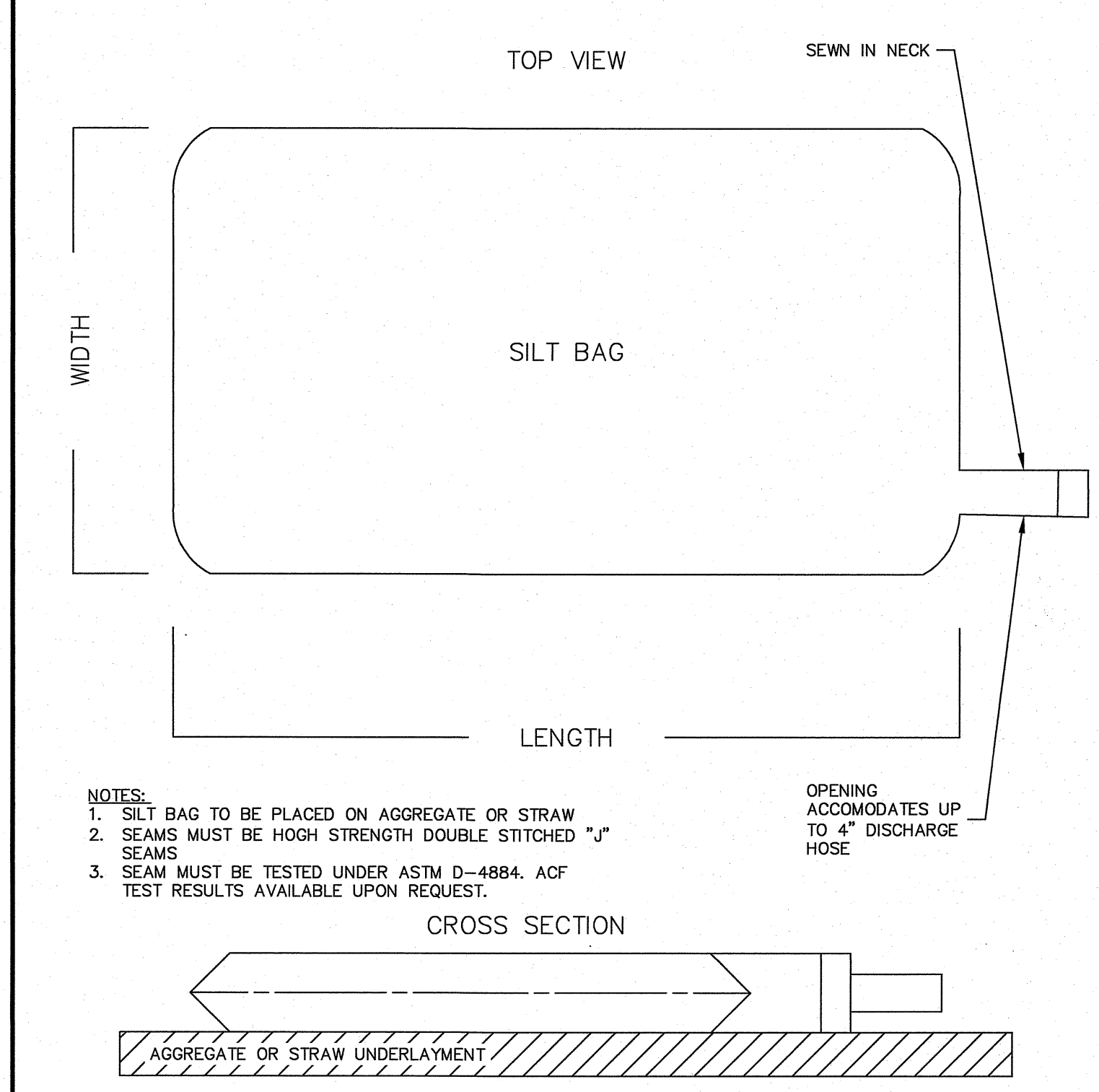


A INLET PROTECTION FOR STORM DRAIN UNDER CONSTRUCTION



L_p IS THE LENGTH OF THE RIP-RAP APRON.
 $d = 1.5$ TIMES THE MAXIMUM STONE DIAMETER BUT NOT LESS THAN 6".
 IN A WELL-DEFINED CHANNEL EXTEND THE APRON UP THE CHANNEL BANKS TO AN ELEVATION OF 6" ABOVE THE MAXIMUM TAILWATER DEPTH OR TO THE TOP OF THE BANK, WHICHEVER IS LESS.
 A FILTER BLANKET OR FILTER FABRIC SHOULD BE INSTALLED BETWEEN THE RIP-RAP AND SOIL FOUNDATION.
 DEPTH OF RIP-RAP IS APPROXIMATELY 2.25 TIMES THE MEDIAN STONE DIAMETER BUT NOT LESS THAN 6 INCHES.

B PERMANENT RIP-RAP OUTLET PROTECTION

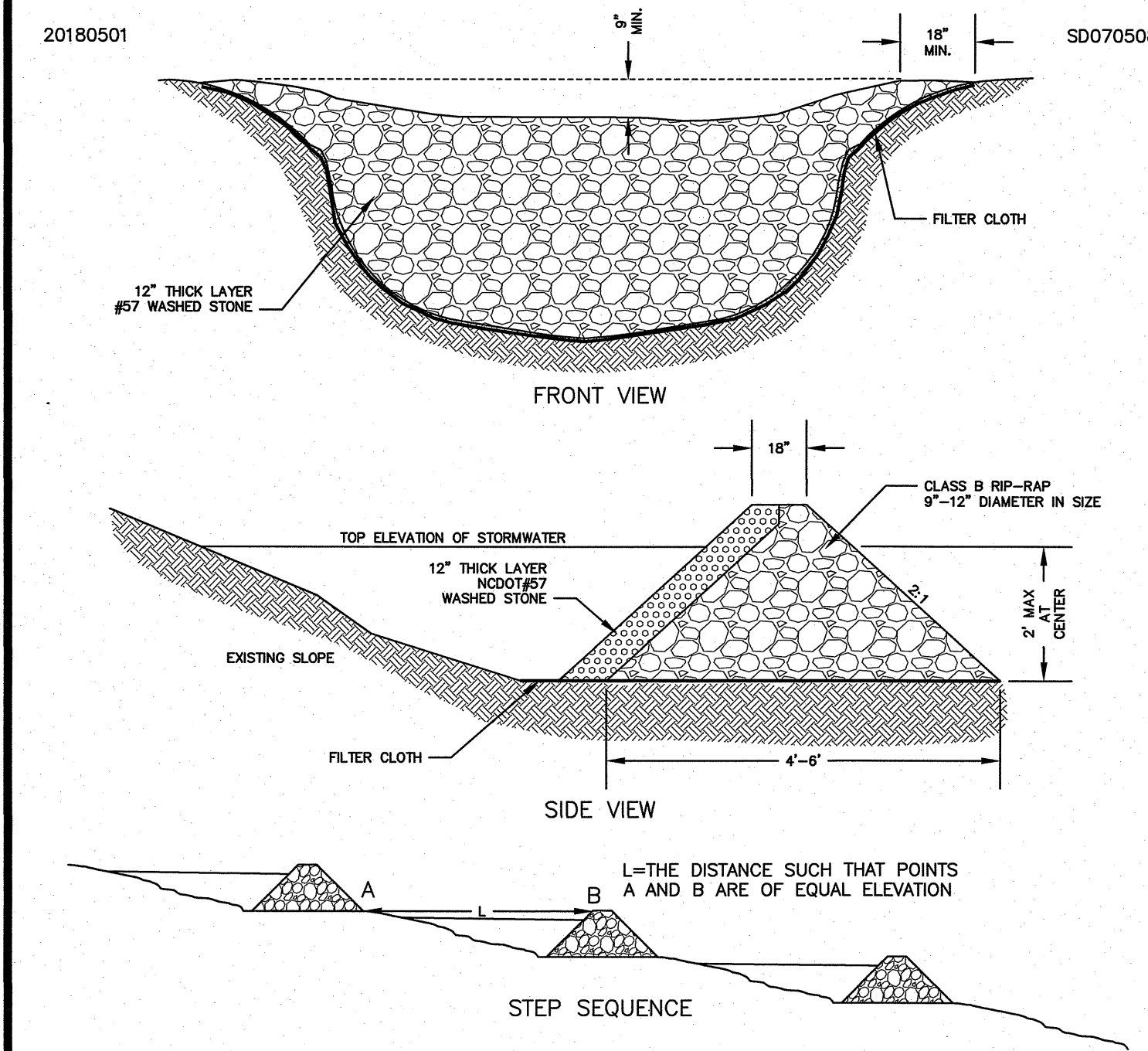


NOTES:
 1. SILT BAG TO BE PLACED ON AGGREGATE OR STRAW
 2. SEAMS MUST BE HIGH STRENGTH DOUBLE STITCHED "J" SEAMS
 3. SEAM MUST BE TESTED UNDER ASTM D-4884. ACF TEST RESULTS AVAILABLE UPON REQUEST.

OPENING ACCOMMODATES UP TO 4" DISCHARGE HOSE

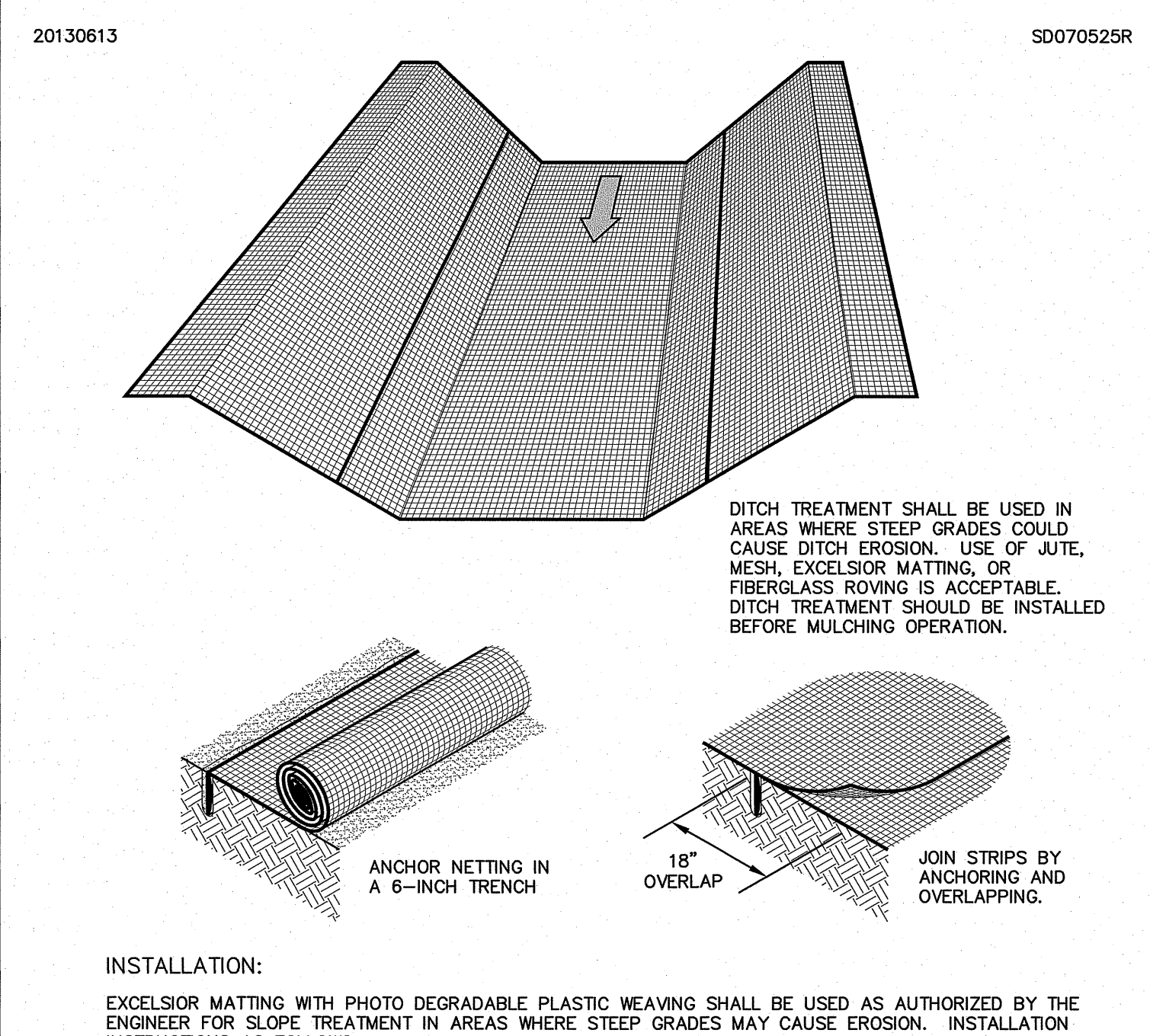
DB55 FABRIC PROPERTIES		
PROPERTY	TEST METHOD	MARV
TENSILE STRENGTH	ASTM D-4632	205 LBS
ELONGATION	ASTM D-4632	50%
CBR PUNCTURE	ASTM D-6241	525 LBS
UV RESISTANCE	ASTM D-4355	70%
AOS	ASTM D4751	80 US SIEVE
PERMITTIVITY	ASTM D-4491	1.4 SEC-1
FLOW RATE	ASTM D-4491	90 GPM/SF

C SILT BAG



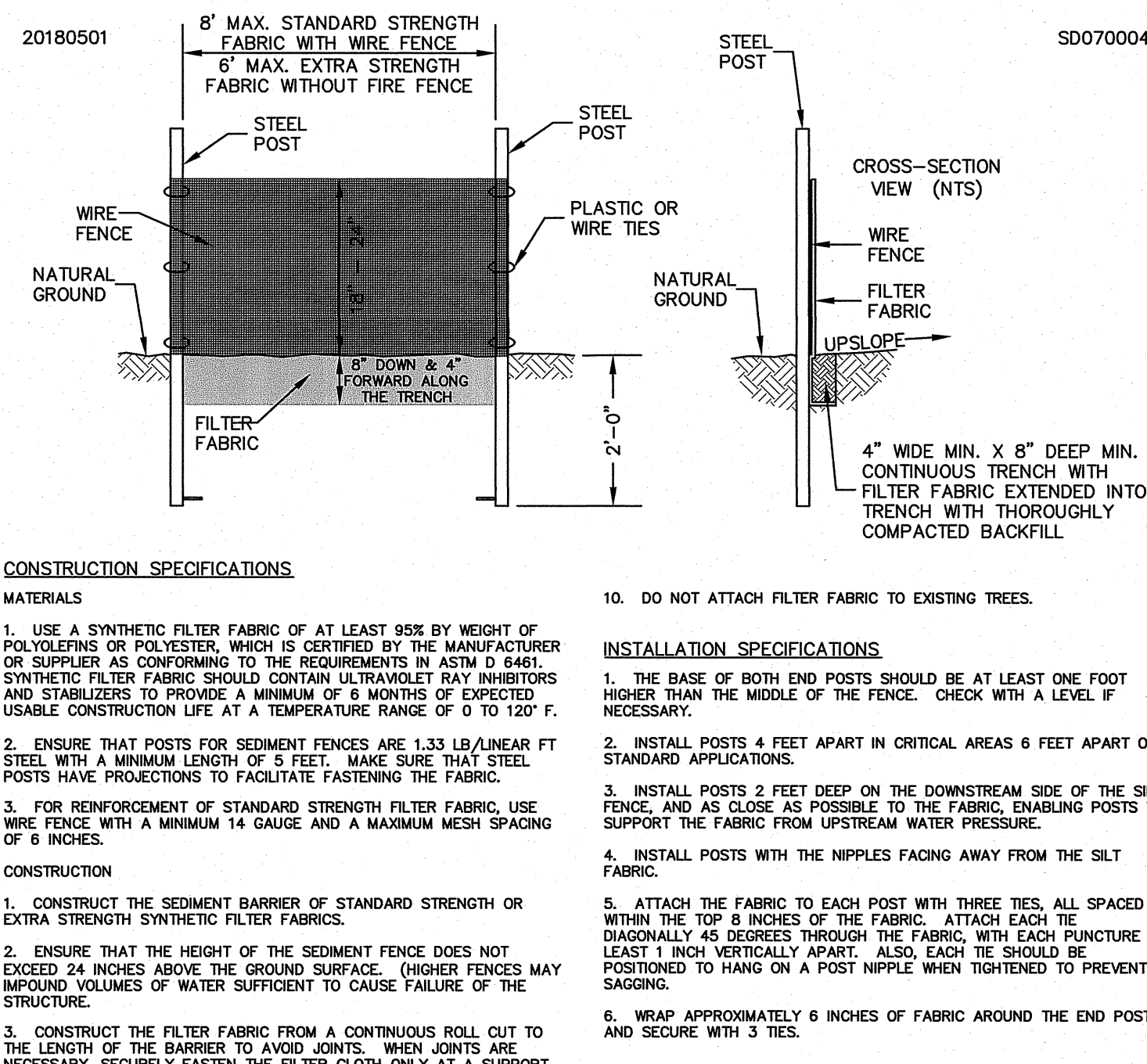
- CONSTRUCTION NOTES:**
- PLACE STRUCTURAL STONE (CLASS B) ON A FILTER FABRIC FOUNDATION. THE CREST WIDTH OF THE DAM SHOULD BE A MINIMUM OF 2 FEET.
 - CONSTRUCT SPILLWAY A MINIMUM OF 12 INCHES BELOW LOWEST BANK.
 - PLACE SEDIMENT CONTROL STONE (#57) ON THE UPSTREAM SIDE OF THE DAM A MINIMUM 1 FOOT THICK.
 - PROVIDE AN APRON 3 TIMES THE HEIGHT OF THE DAM. THE APRON WIDTH SHALL BE AT LEAST 4 FEET LONG. UNDERCUT THE APRON SO THAT THE TOP OF THE APRON IS FLUSH WITH THE SURROUNDING GRADE.
 - EXTEND THE STONE AT LEAST 1.5 FEET BEYOND THE DITCH BANK TO KEEP WATER FROM CUTTING AROUND THE ENDS OF THE CHECK DAM.
 - EXCAVATE SEDIMENT STORAGE AREA.
- MAINTENANCE NOTES:**
- INSPECT AT LEAST WEEKLY AND AFTER EACH SIGNIFICANT RAINFALL EVENT AND REPAIR IMMEDIATELY. CLEAN OUT SEDIMENT, STRAW, LIMBS, OR OTHER DEBRIS THAT COULD CLOG THE CHANNEL WHEN NEEDED.
 - ANTICIPATE SUBMERGENCE AND DEPOSITION ABOVE THE CHECK DAM AND EROSION FROM HIGH FLOWS AROUND THE EDGES OF THE DAM. CORRECT ALL DAMAGE IMMEDIATELY.
 - REMOVE SEDIMENT ACCUMULATED BEHIND THE DAMS AS NEEDED TO PREVENT DAMAGE TO CHANNEL VEGETATION, ALLOW THE CHANNEL TO DRAIN THROUGH THE STONE CHECK DAM, AND PREVENT LARGE FLOWS FROM CARRYING SEDIMENT OVER THE DAM. ADD STONES TO DAMS AS NEEDED TO MAINTAIN DESIGN HEIGHT AND CROSS SECTION.

E RIP-RAP GRAVEL FILTER CHECK DAM



- INSTALLATION:**
 EXCELSIOR MATTING WITH PHOTO DEGRADABLE PLASTIC WEAVING SHALL BE USED AS AUTHORIZED BY THE ENGINEER FOR SLOPE TREATMENT IN AREAS WHERE STEEP GRADES MAY CAUSE EROSION. INSTALLATION INSTRUCTIONS AS FOLLOWS:
- APPLY LIME, FERTILIZER AND SEED BEFORE LAYING THE MAT.
 - START LAYING THE MAT FROM TOP OF THE SLOPE AND UNROLL IT DOWN THE GRADE. ALLOW MATTING TO LAY LOOSELY ON THE SOIL OR MULCH WITHOUT WRINKLES, DO NOT STRETCH.
 - TO SECURE THE NET, BURY THE UPSLOPE END IN A SLOT OR TRENCH NO LESS THAN 6 INCHES DEEP. COVER WITH SOIL, AND TAMP FIRMLY AS SHOWN. STAPLE THE MAT EVERY 12 INCHES ACROSS THE TOP END AND EVERY 3 FT AROUND THE EDGES AND BOTTOM. WHERE 2 STRIPS OF NET ARE LAID SIDE BY SIDE, THE ADJACENT EDGES SHOULD BE OVERLAPPED 3 INCHES AND STAPLED TOGETHER. EACH STRIP OF NETTING SHOULD ALSO BE STAPLED DOWN THE CENTER, EVERY 3 FT. DO NOT STRETCH THE NET WHEN APPLYING STAPLES.
 - TO JOIN TWO STRIPS, CUT A TRENCH TO ANCHOR THE END OF THE NEW NET. OVERLAP THE END OF THE PREVIOUS ROLL 18 INCHES, AS SHOWN, AND STAPLE EVERY 12 INCHES JUST BELOW THE ANCHOR SLOT.
- MAINTENANCE:**
 INSPECT ALL MATTING PERIODICALLY, AND AFTER RAINSTORMS TO CHECK FOR RILL EROSION, DISLOCATION OR FAILURE. WHERE EROSION IS OBSERVED, APPLY ADDITIONAL MATTING. IF WASHOUT OCCURS, REPAIR THE SLOPE GRADE, RESEED, AND REINSTALL MATTING. CONTINUE INSPECTIONS UNTIL VEGETATION IS FIRMLY ESTABLISHED.

F EXCELSIOR MATTING



- CONSTRUCTION SPECIFICATIONS:**
- USE A SYNTHETIC FILTER FABRIC OF AT LEAST 90% BY WEIGHT OF POLYPROPYLENE OR POLYESTER, WHICH IS CERTIFIED BY THE MANUFACTURER OR SUPPLIER AS CONFORMING TO THE REQUIREMENTS IN ASTM D 6481. SYNTHETIC FILTER FABRIC SHOULD CONTAIN ULTRAVIOLET RAY INHIBITORS AND STABILIZERS TO PROVIDE A MINIMUM OF 8 MONTHS OF EXPECTED USABLE CONSTRUCTION LIFE AT A TEMPERATURE RANGE OF 0 TO 120° F.
 - ENSURE THAT POSTS FOR SEDIMENT FENCES ARE 1.33 LB/LINEAR FT STEEL WITH A MINIMUM LENGTH OF 5 FEET. MAKE SURE THAT STEEL POSTS HAVE PROJECTIONS TO FACILITATE FASTENING THE FABRIC.
 - FOR REINFORCEMENT OF STANDARD STRENGTH FILTER FABRIC, USE WIRE FENCE WITH A MINIMUM 14 GAUGE AND A MAXIMUM MESH SPACING OF 8 INCHES.
 - CONSTRUCTION
 - CONSTRUCT THE SEDIMENT BARRIER OF STANDARD STRENGTH OR EXTRA STRENGTH SYNTHETIC FILTER FABRICS.
 - ENSURE THAT THE HEIGHT OF THE SEDIMENT FENCE DOES NOT EXCEED 24 INCHES ABOVE THE GROUND SURFACE. (HIGHER FENCES MAY IMPOUND VOLUMES OF WATER SUFFICIENT TO CAUSE FAILURE OF THE STRUCTURE.)
 - CONSTRUCT THE FILTER FABRIC FROM A CONTINUOUS ROLL CUT TO THE LENGTH OF THE BARRIER TO AVOID JOINTS. WHEN JOINTS ARE NECESSARY, SECURELY FASTEN THE FILTER FABRIC ONLY AT A SUPPORT POST WITH A 4\"/>
- INSTALLATION SPECIFICATIONS:**
- DO NOT ATTACH FILTER FABRIC TO EXISTING TREES.
 - THE BASE OF BOTH END POSTS SHOULD BE AT LEAST ONE FOOT HIGHER THAN THE MIDDLE OF THE FENCE. CHECK WITH A LEVEL IF NECESSARY.
 - INSTALL POSTS 4 FEET APART IN CRITICAL AREAS 6 FEET APART ON STANDARD APPLICATIONS.
 - INSTALL POSTS 2 FEET DEEP ON THE DOWNSTREAM SIDE OF THE SILT FENCE, AND AS CLOSE AS POSSIBLE TO THE FABRIC, ENABLING POSTS TO SUPPORT THE FABRIC FROM UPSTREAM WATER PRESSURE.
 - INSTALL POSTS WITH THE NIPPLES FACING AWAY FROM THE SILT FABRIC.
 - ATTACH THE FABRIC TO EACH POST WITH THREE TIES, ALL SPACED WITHIN THE TOP 8 INCHES OF THE FABRIC. ATTACH EACH TIE DIAGONALLY 45 DEGREES THROUGH THE FABRIC WITH EACH PUNCTURE AT LEAST 1 INCH VERTICALLY APART. ALSO, EACH TIE SHOULD BE POSITIONED TO HANG ON A POST NIPPLE WHEN TIGHTENED TO PREVENT SAGGING.
 - WRAP APPROXIMATELY 6 INCHES OF FABRIC AROUND THE END POSTS AND SECURE WITH 3 TIES.
 - NO MORE THAN 24 INCHES OF A 36 INCH FABRIC IS ALLOWED ABOVE GROUND LEVEL.
 - THE INSTALLATION SHOULD BE CHECKED AND CORRECTED FOR ANY DEVIATIONS BEFORE COMPACTION.
 - COMPACTION IS VITALLY IMPORTANT FOR EFFECTIVE RESULTS. COMPACT THE SOIL IMMEDIATELY NEXT TO THE SILT FENCE FABRIC WITH THE FRONT WHEEL OF THE TRACTOR, SHOULDER OR ROLLER EXERTING AT LEAST 60 POUNDS PER SQUARE INCH. COMPACT THE UPSLOPE SIDE FIRST, AND THEN EACH SIDE TWICE FOR A TOTAL OF 4 TRIPS.
- MAINTENANCE:**
- INSPECT SEDIMENT FENCES AT LEAST ONCE A WEEK AND AFTER EACH RAINFALL. MAKE ANY REQUIRED REPAIRS IMMEDIATELY.
 - SHOULD THE FABRIC OF A SEDIMENT FENCE COLLAPSE, TEAR, DECOMPOSE OR BECOME INEFFECTIVE, REPLACE IT PROMPTLY.
 - REMOVE SEDIMENT DEPOSITS AS NECESSARY TO PROVIDE ADEQUATE STORAGE VOLUME FOR THE NEXT RAIN AND TO REDUCE PRESSURE ON THE FENCE. TAKE CARE TO AVOID UNDERMINING THE FENCE DURING CLEANOUT.
 - REMOVE ALL FENCING MATERIALS AND UNSTABLE SEDIMENT DEPOSITS AND BRING THE AREA TO GRADE AND STABILIZE IT AFTER THE CONTRIBUTING DRAINAGE AREA HAS BEEN PROPERLY STABILIZED.

G TEMPORARY SILT FENCE

MAINTENANCE FOR DETAIL B:

- INSPECT AT LEAST WEEKLY AND AFTER EACH SIGNIFICANT RAINFALL EVENT AND REPAIR IMMEDIATELY. CLEAN OUT SEDIMENT, STRAW, LIMBS, OR OTHER DEBRIS THAT COULD CLOG THE CHANNEL WHEN NEEDED.
- ANTICIPATE SUBMERGENCE AND DEPOSITION ABOVE THE INLET PROTECTION AND EROSION FROM HIGH FLOWS AROUND THE EDGES OF THE TRENCH. CORRECT ALL DAMAGE IMMEDIATELY.

MAINTENANCE FOR DETAIL C:

- INSPECT PERMANENT RIP-RAP OUTLET PROTECTION AT LEAST ONCE A WEEK AND AFTER EACH RAINFALL MAKE ANY REQUIRED REPAIRS IMMEDIATELY.

MAINTENANCE FOR DETAIL D:

- INSPECT SILT BAG DURING AND AFTER USE FOR ANY TEARS OR CUTS ON THE SILT BAG.
- REMOVE SEDIMENT ACCUMULATED IN THE SILT BAG AND CLEAR ANY DEBRIS IN THE BAG AS WELL.

H EROSION CONTROL DEVICE MAINTENANCE NOTES

McDAVID ASSOCIATES, INC. Corporate License No. C-137
 ENGINEERS - PLANNERS
 100 East Walnut Street
 Goldsboro, NC 27533
 Telephone: (919) 736-7830
 Facsimile: (919) 736-7501

CONTRACT NO. 2 - SANITARY SEWER REPLACEMENT
 2020 SANITARY SEWER REPLACEMENT PROJECT
 TOWN OF BAILEY
 NORTH CAROLINA

SEAL 1972
 SEAL 28431
 SEAL 212172

REVISIONS
 NO. DATE DESCRIPTION
 1/23/23
 MA REVIEW OFFICER APPROVAL
 MA REVIEW OFFICER
 DATE

2020-0307
 W. DBKX - GEN DBKX - ENG DBK47 - LD 2020-0307
 CAD DWG FILE NAME: LAYOUT1
 MAP FILE REFERENCE: B-906 GREEN
 PROJECT NO.: 1-20-0307-3402
 SURVEYED BY: JAS
 DRAWING NO.: 14
 COMPUTED BY: JMW
 SCALE: NTS
 DRAWN BY: MTW
 DATE: MARCH 25, 2022
 APPROVED BY: JMW

EROSION CONTROL DETAILS
 CONTRACT NO. 2 - SANITARY SEWER REPLACEMENT
 2020 SANITARY SEWER REPLACEMENT PROJECT
 TOWN OF BAILEY
 NORTH CAROLINA

