

FACILITY ENCROACHMENT AGREEMENT

THIS AGREEMENT, Made and effective as of January 28, 2022, by and between CSX TRANSPORTATION, INC., a Virginia corporation, whose mailing address is 500 Water Street, Jacksonville, Florida 32202, hereinafter called "Licensor," and METRO WATER SERVICES, a municipal corporation, political subdivision or state agency, under the laws of the State of Tennessee, whose mailing address is 1607 County Hospital Rd., Nashville, Tennessee 37218, hereinafter called "Licensee," WITNESSETH:

WHEREAS, Licensee desires to construct (unless previously constructed and designated as existing herein), use and maintain the below described facility(ies), hereinafter called "Facilities," over, under or across property owned or controlled by Licensor, at the below described location(s):

1. One (1) 19" x 30" RCP drain culvert, solely for the conveyance of stormwater, located at or near Nashville, Davidson County, Tennessee, Nashville Zone Division, Nashville Terminal Subdivision, beginning at Valuation Station 613+00, Milepost 000-193.5, Latitude N36:03:57.00, Longitude W86:46:08.50;

2. One (1) 5' x 2.5' box culvert, solely for the conveyance of stormwater, located at or near Nashville, Davidson County, Tennessee, Nashville Zone Division, Nashville Terminal Subdivision, beginning at Valuation Station 613+00, Milepost 000-193.5, Latitude N36:03:57.00, Longitude W86:46:08.50;

hereinafter, called the "Encroachment," as shown on print(s) labeled Exhibit "A," attached hereto and made a part hereof;

NOW, THEREFORE, in consideration of the mutual covenants, conditions, terms and agreements herein contained, the parties hereto agree and covenant as follows:

1. LICENSE:

1.1 Subject to Article 17, Licensor, insofar as it has the legal right, power and authority to do so, and its present title permits, and subject to:

(A) Licensor's present and future right to occupy, possess and use its property within the area of the Encroachment for any and all purposes, including but not limited to Licensor's track(s) structure(s), power lines, communication, signal or other wires, train control system, cellular or data towers, or electrical or electronic apparatus, or any appurtenances thereto ("Licensor's Facilities") and any other facilities as now exist or which may in the future be located in, upon, over, under or across the property;

(B) All encumbrances, conditions, covenants, easements, and limitations applicable to Licensor's title to or rights in the subject property; and

(C) Compliance by Licensee and its agent or contractor ("Licensee's Contractor") with the terms and conditions herein contained;

does hereby license and permit Licensee to construct, maintain, repair, renew, operate, use, alter or change the Facilities at the Encroachment above for the term herein stated, and to remove same upon termination.

1.2 The term Facilities, as used herein, shall include only those structures and ancillary facilities devoted exclusively to the transmission usage above within the Encroachment, and as shown on attached Exhibit A.

1.3 No additional structures or other facilities shall be placed, allowed, or maintained by Licensee in, upon or on the Encroachment except upon prior separate written consent of Licensor.

1.4 The term Licensor Facilities, as used herein shall include Licensor's track(s) structures(s), power lines, communication, signal or other wires, train control system, cellular or data towers, or electrical or electronic apparatus other property, or any appurtenances thereto and any other facilities as now exist or which may in the future be located in, upon, over, under or across the property.

2. ENCROACHMENT FEE; TERM:

2.1 Licensee shall pay Licensor a one-time nonrefundable Encroachment Fee of FIVE THOUSAND ONE HUNDRED AND 00/100 U.S. DOLLARS (\$5,100.00) upon execution of this Agreement. Licensee agrees that the Encroachment Fee applies only to the original Licensee under this Agreement. In the event of a successor (by merger, consolidation, reorganization and/or assignment) or if the original Licensee changes its name, then Licensee shall be subject to payment of Licensor's current administrative and document preparation fees for the cost incurred by Licensor in preparing and maintaining this Agreement on a current basis.

2.2 However, Licensee assumes sole responsibility for, and shall pay directly (or reimburse Licensor), any additional annual taxes and/or periodic assessments levied against Licensor or Licensor's property solely on account of said Facilities or Encroachment.

2.3 This Agreement shall terminate as herein provided, but shall also terminate upon: (a) Licensee's cessation of use of the Facilities or Encroachment for the purpose(s) above; (b) removal of the Facilities; (c) subsequent mutual consent; and/or (d) failure of Licensee to complete installation within five (5) years from the effective date of this Agreement.

2.4 In further consideration for the license or right hereby granted, Licensee hereby agrees that Licensor shall not be charged or assessed, directly or indirectly, with any part of the cost of the installation of said Facilities and appurtenances, and/or maintenance thereof, or for any public works project of which said Facilities is a part. Licensee agrees it shall not assess Licensor any stormwater fee associated with such Facilities. Furthermore, Licensee shall be

responsible for any stormwater fees assessed by any County or State agency managing such systems.

3. CONSTRUCTION, MAINTENANCE AND REPAIRS:

3.1 Licensee shall construct, maintain, relocate, repair, renew, alter, and/or remove the Facilities, in a prudent, workmanlike manner, using quality materials and complying with any applicable standard(s) or regulation(s) of Licensor (CSXT Specifications), or Licensee's particular industry, National Electrical Safety Code, or any governmental or regulatory body having jurisdiction over the Encroachment.

3.2 Location and construction of Facilities shall be made strictly in accordance with design(s) and specifications furnished to and approved by Licensor and of material(s) and size(s) appropriate for the purpose(s) above recited.

3.3 All of Licensee's work, and exercise of rights hereunder, shall be undertaken at time(s) satisfactory to Licensor, and so as to eliminate or minimize any impact on or interference with the safe use and operation of Licensor's property and appurtenances thereto.

3.4 In the installation, maintenance, repair and/or removal of said Facilities, Licensee shall not use explosives of any type or perform or cause any blasting without the separate express written consent of Licensor. As a condition to such consent, a representative will be assigned by Licensor to monitor blasting, and Licensee shall reimburse Licensor for the entire cost and/or expense of furnishing said monitor.

3.5 Any repairs or maintenance to the Facilities, whether resulting from acts of Licensee, or natural or weather events, which are necessary to protect or facilitate Licensor's use of its property, shall be made by Licensee promptly, but in no event later than thirty (30) days after Licensee has notice as to the need for such repairs or maintenance.

3.6 Licensor, in order to protect or safeguard its property, rail operations, equipment and/or employees from damage or injury, may request immediate repair or renewal of the Facilities, and if the same is not performed, may make or contract to make such repairs or renewals, at the sole risk, cost and expense of Licensee.

3.7 Neither the failure of Licensor to object to any work done, material used, or method of construction or maintenance of said Encroachment, nor any approval given or supervision exercised by Licensor, shall be construed as an admission of liability or responsibility by Licensor, or as a waiver by Licensor of any of the obligations, liability and/or responsibility of Licensee under this Agreement.

3.8 All work on the Encroachment shall be conducted in accordance with Licensor's safety rules and regulations.

3.9 Licensee hereby agrees to reimburse Licensor any loss, cost or expense (including losses resulting from train delays and/or inability to meet train schedules) arising from

any failure of Licensee to make repairs or conduct maintenance as required by Section 3.5 above or from improper or incomplete repairs or maintenance to the Facilities or Encroachment.

3.10 In the event it becomes necessary for the Licensee to deviate from the approved Exhibit, Licensee shall seek prior approval from Licensor, or when applicable, an official field representative of Licensor permitted to approve changes, authorizing the necessary field changes and Licensee shall provide Licensor with complete As-Built Drawings of the completed work. As-Built Drawings shall be submitted to Licensor in either electronic or hard copy form upon the substantial completion of the project and upon Licensor's request.

3.11 In the event of large scale maintenance/construction work to railroad bridges Licensee is required to protect power lines with insulated covers or comparable safety devices at their costs during construction/maintenance for safety of railroad employees.

4. PERMITS, LICENSES:

4.1 Before any work hereunder is performed, or before use of the Encroachment for the contracted purpose, Licensee, at its sole cost and expense, shall obtain all necessary permit(s) (including but not limited to zoning, building, construction, health, safety or environmental matters), letter(s) or certificate(s) of approval. Licensee expressly agrees and warrants that it shall conform and limit its activities to the terms of such permit(s), approval(s) and authorization(s), and shall comply with all applicable ordinances, rules, regulations, requirements and laws of any governmental authority (State, Federal or Local) having jurisdiction over Licensee's activities, including the location, contact, excavation and protection regulations of the Occupational Safety and Health Act (OSHA) (29 CFR 1926.651(b)), et al., and State "One Call" - "Call Before You Dig" requirements.

4.2 Licensee assumes sole responsibility for failure to obtain such permit(s) or approval(s), for any violations thereof, or for costs or expenses of compliance or remedy.

5. MARKING AND SUPPORT:

5.1 With respect to any subsurface installation or maintenance upon Licensor's property, Licensee, at its sole cost and expense, shall:

- (A) support track(s) and roadbed in a manner satisfactory to Licensor;
- (B) backfill with satisfactory material and thoroughly tamp all trenches to prevent settling of surface of land and roadbed of Licensor; and
- (C) either remove any surplus earth or material from Licensor's property or cause said surplus earth or material to be placed and distributed at location(s) and in such manner Licensor may approve.

5.2 After construction or maintenance of the Facilities, Licensee shall:

(A) Restore any track(s), roadbed and other disturbed property; and

(B) Erect, maintain and periodically verify the accuracy of aboveground markers, in a form approved by Licensor, indicating the location, depth and ownership of any underground Facilities or related facilities.

5.3 Licensee shall be solely responsible for any subsidence or failure of lateral or subjacent support in the Encroachment area for a period of three (3) years after completion of installation.

6. TRACK CHANGES:

6.1 In the event that rail operations and/or track maintenance result in changes in grade or alignment of, additions to, or relocation of track(s) or other facilities, or in the event future use of Licensor's rail corridor or property necessitate any change of location, height or depth in the Facilities or Encroachment, Licensee, at its sole cost and expense and within thirty (30) days after notice in writing from Licensor, shall make changes in the Facilities or Encroachment to accommodate such track(s) or operations.

6.2 If Licensee fails to do so, Licensor may make or contract to make such changes at Licensee's cost.

7. FACILITY CHANGES:

7.1 Licensee shall periodically monitor and verify the depth or height of the Facilities or Encroachment in relation to the existing tracks and facilities, and shall relocate the Facilities or change the Encroachment, at Licensee's expense, should such relocation or change be necessary to comply with the minimum clearance requirements of Licensor.

7.2 If Licensee undertakes to revise, renew, relocate or change in any manner whatsoever all or any part of the Facilities (including any change in voltage or gauge of wire or any change in circumference, diameter or radius of pipe or change in materials transmitted in and through said pipe), or is required by any public agency or court order to do so, plans therefor shall be submitted to Licensor for approval before such change. After approval, the terms and conditions of this Agreement shall apply thereto.

8. INTERFERENCE WITH RAIL FACILITIES:

8.1 Although the Facilities/Encroachment herein permitted may not presently interfere with Licensor's Facilities, in the event that the operation, existence or maintenance of said Facilities, in the sole judgment of Licensor, causes: (a) interference (including, but not limited to, physical or interference from an electromagnetic induction, or interference from stray or other currents) with Licensor's power lines, communication, signal or other wires, train control system, or electrical or electronic apparatus; or (b) interference in any manner, with the operation, maintenance or use of Licensor's Facilities; then and in either event, Licensee, upon receipt of written notice from Licensor of any such interference, and at Licensee's sole risk, cost

and expense, shall promptly make such changes in its Facilities or installation, as may be required in the reasonable judgment of the Licensor to eliminate all such interference. Upon Licensee's failure to remedy or change, Licensor may do so or contract to do so at Licensee's sole cost.

8.2 Without assuming any duty hereunder to inspect the Facilities, Licensor hereby reserves the right to inspect same and to require Licensee to undertake repairs, maintenance or adjustments to the Facilities, which Licensee hereby agrees to make promptly, at Licensee's sole cost and expense.

9. RISK, LIABILITY, INDEMNITY:

With respect to the relative risk and liabilities of the parties, it is hereby agreed that:

9.1 To the fullest extent permitted by State law (constitutional or statutory, as amended), Licensee hereby agrees to, defend, indemnify, and hold Licensor harmless from and against any and all liability, loss, claim, suit, damage, charge or expense which Licensor may suffer, sustain, incur or in any way be subjected to, on account of death of or injury to any person whomsoever (including officers, agents, employees or invitees of Licensor), and for damage to or loss of or destruction of any property whatsoever, arising out of, resulting from, or in any way connected with the construction, repair, maintenance, replacement, presence, existence, operations, use or removal of the Facilities or any structure in connection therewith, or restoration of premises of Licensor to good order or condition after removal, EXCEPT when proven to have been caused solely by the willful misconduct or gross negligence of Licensor. HOWEVER, to the fullest extent permitted by State law, during any period of actual construction, repair, maintenance, replacement or removal of the Facilities, wherein agents, equipment or personnel of Licensee are on the railroad rail corridor, Licensee's liability hereunder shall be absolute, irrespective of any joint, sole or contributory fault or negligence of Licensor.

9.2 Licensee's Contractor shall hereby agree to, defend, indemnify, and hold Licensor harmless from and against any and all liability, loss, claim, suit, damage, charge or expense which Licensor may suffer, sustain, incur or in any way be subjected to, on account of death of or injury to any person whomsoever (including officers, agents, employees or invitees of Licensor), and for damage to or loss of or destruction of any property whosoever, arising out of resulting from, or in any way connected with the construction, repair, maintenance, replacement, presence, existence, operations, use or removal of the Facilities or any structure in connection therewith, or restoration of premises of Licensor to good order or condition after removal, EXCEPT when proven to have been caused solely by the willful misconduct or gross negligence of Licensor. HOWEVER, to the fullest extent permitted by State law, during any period of actual construction, repair, maintenance, replacement or removal of the Facilities, wherein agents, equipment or personnel of Licensee are on the railroad rail corridor, Licensee's liability hereunder shall be absolute, irrespective of any joint, sole or contributory fault or negligence of Licensor.

9.3 Use of Licensor's rail corridor involves certain risks of loss or damage as a result of the rail operations. Notwithstanding Section 9.1, Licensee expressly assumes all risk of loss and damage to Licensee's Property or the Facilities in, on, over or under the Encroachment, including loss of or any interference with use or service thereof, regardless of cause, including electrical field creation, fire or derailment resulting from rail operations. For this Section, the term "Licensee's Property" shall include property of third parties situated or placed upon Licensor's rail corridor by Licensee or by such third parties at request of or for benefit of Licensee.

9.4 To the fullest extent permitted by State law, as above, Licensee assumes all responsibility for, and agrees to defend, indemnify and hold Licensor harmless from: (a) all claims, costs and expenses, including reasonable attorneys' fees, as a consequence of any sudden or nonsudden pollution of air, water, land and/or ground water on or off the Encroachment area, arising from or in connection with the use of this Encroachment or resulting from leaking, bursting, spilling, or any escape of the material transmitted in or through the Facilities; (b) any claim or liability arising under federal or state law dealing with either such sudden or nonsudden pollution of air, water, land and/or ground water arising therefrom or the remedy thereof; and (c) any subsidence or failure of lateral or subjacent support of the tracks arising from such Facilities leakage.

9.5 Notwithstanding Section 9.1, Licensee also expressly assumes all risk of loss which in any way may result from Licensee's failure to maintain either required clearances for any overhead Facilities or the required depth and encasement for any underground Facilities, whether or not such loss(es) result(s) in whole or part from Licensor's contributory negligence or joint fault.

9.6 Obligations of Licensee hereunder to release, indemnify and hold Licensor harmless shall also extend to companies and other legal entities that control, are controlled by, subsidiaries of, or are affiliated with Licensor, as well as any railroad that operates over the rail corridor on which the Encroachment is located, and the officers, employees and agents of each.

9.7 If a claim is made or action is brought against Licensor, and/or its operating lessee, for which Licensee may be responsible hereunder, in whole or in part, Licensee shall be notified to assume the handling or defense of such claim or action; but Licensor may participate in such handling or defense.

9.8 Notwithstanding anything contained in this Agreement, the limitation of liability contained in the state statutes, as amended from time to time, shall not limit Licensor's ability to collect under the insurance policies required to be maintained under this Agreement.

10. INSURANCE:

10.1 Prior to commencement of surveys, installation or occupation of premises pursuant to this Agreement, Licensee shall procure and shall maintain during the continuance of this Agreement, at its sole cost and expense, a policy of

- (i) Statutory Worker's Compensation and Employers Liability Insurance with available limits of not less than ONE MILLION AND 00/100 U.S. DOLLARS (\$1,000,000.00).
- (ii) Commercial General Liability coverage (inclusive of contractual liability) with available limits of not less than FIVE MILLION AND 00/100 U.S. DOLLARS (\$5,000,000.00) in combined single limits for bodily injury and property damage and covering the contractual liabilities assumed under this Agreement and naming Licensor, and/or its designee, as additional insured. The evidence of insurance coverage shall be endorsed to provide for thirty (30) days' notice to Licensor, or its designee, prior to cancellation or modification of any policy. Mail CGL certificate, along with agreement, to CSX Transportation, Inc., Speed Code J180, 500 Water Street, Jacksonville, FL 32202. On each successive year, send certificate to RenewalCOI@csx.com.
- (iii) Business automobile liability insurance with available limits of not less than ONE MILLION AND 00/100 U.S. DOLLARS (\$1,000,000.00) combined single limit for bodily injury and/or property damage per occurrence naming Licensor, and/or its designee, as additional insured.
- (iv) The insurance policies must contain a waiver of subrogation against CSXT and its Affiliates, except where prohibited by law. All insurance companies must be A. M. Best rated A- and Class VII or better.
- (v) Such other insurance as Licensor may reasonably require.
- (vi) Licensee shall require its contractors to meet minimum insurance requirements above when performing work in relation to this agreement. Licensee will procure and review contractor's insurance certificates to confirm requirements are met. Licensor may request a copy of the insurance certificate.

10.2 If Licensee's Contractor's existing CGL policy(ies) do(es) not automatically cover Licensee's contractual liability during periods of survey, installation, maintenance and continued occupation, a specific endorsement adding such coverage shall be purchased by Licensee's Contractor. If said CGL policy is written on a "claims made" basis instead of a "per occurrence" basis, Licensee shall arrange for adequate time for reporting losses. Failure to do so shall be at Licensee's sole risk.

10.3 Licensor, or its designee, may at any time request evidence of insurance purchased by Licensee to comply with this Agreement. Failure of Licensee to comply with Licensor's request shall be considered a default by Licensee.

10.4 To the extent permitted by law and without waiver of the sovereign immunity of Licensee, securing such insurance shall not limit Licensee's liability under this Agreement, but shall be security therefor.

10.5 (A) In the event Licensee finds it necessary to perform construction or demolition operations within fifty feet (50') of any operated railroad track(s) or affecting any railroad bridge, trestle, tunnel, track(s), roadbed, overpass or underpass, Licensee shall: (a) notify Licensor; and (b) require Licensee' Contractor(s) performing such operations to procure and maintain during the period of construction or demolition operations, at no cost to Licensor,

i) Railroad Protective Liability (RPL) Insurance, naming Licensor, and/or its designee, as Named Insured, written on the current ISO/RIMA Form (ISO Form No. CG 00 35 04 13) with limits of FIVE MILLION AND 00/100 U.S. DOLLARS (\$5,000,000.00) per occurrence for bodily injury and property damage, with at least TEN MILLION AND 00/100 U.S. DOLLARS (\$10,000,000.00) aggregate limit per annual policy period. The original of such RPL policy shall be sent to and approved by Licensor prior to commencement of such construction or demolition. Licensor reserves the right to demand higher limits.

OR

ii) The CGL policy shall include endorsement ISO CG 24 17 and the Auto Liability Policy shall include endorsement ISO CA 20 70 evidencing that coverage is provided for work within 50 feet of a railroad. If such endorsements are not included, RPL insurance must be provided.

(B) At Licensor's option, in lieu of purchasing RPL insurance or the 50 foot endorsements from an insurance company (but not CGL insurance), Licensee may pay Licensor, at Licensor's current rate at time of request, the cost of adding this Encroachment, or additional construction and/or demolition activities, to Licensor's Railroad Protective Liability (RPL) Policy for the period of actual construction. This coverage is offered at Licensor's discretion and may not be available under all circumstances.

10.6 Notwithstanding the provisions of Sections 10.1 and 10.2, Licensee, pursuant to State Statute(s), may self-insure or self-assume, in any amount(s), any contracted liability arising under this Agreement, under a funded program of self-insurance, which fund will respond to liability of Licensee imposed by and in accordance with the procedures established by law.

11. GRADE CROSSINGS; PROTECTION SERVICES:

11.1 Nothing herein contained shall be construed to permit Licensee or Licensee's contractor to move any vehicles or equipment over the track(s), except at public road crossing(s), without separate prior written approval of Licensor.

11.2 If Licensor deems it advisable, during any construction, maintenance, repair, renewal, alteration, change or removal of said Facilities, to place watchmen, flagmen, or field construction managers for protection of operations of Licensor or others on Licensor's rail corridor at the Encroachment, and to keep persons, equipment or materials away from the track(s), Licensor shall have the right to do so at the expense of Licensee, but Licensor shall not be liable for failure to do so.

12. LICENSOR'S COSTS:

12.1 Any additional or alternative costs or expenses incurred by Licensor to accommodate Licensee's continued use of Licensor's property as a result of track changes or changes to Licensor's Facilities shall also be paid by Licensee.

12.2 Licensor's expense for wages ("force account" charges) and materials for any work performed at the expense of Licensee pursuant hereto shall be paid by Licensee within thirty (30) days after receipt of Licensor's bill therefor. Licensor may, at its discretion, request an advance deposit for estimated Licensor costs and expenses.

12.3 Such expense shall include, but not be limited to, cost of railroad labor and supervision under "force account" rules, plus current applicable overhead percentages, the actual cost of materials, and insurance, freight and handling charges on all material used. Equipment rentals shall be in accordance with Licensor's applicable fixed rate. Licensor may, at its discretion, require advance deposits for estimated costs of such expenses and costs.

13. DEFAULT, BREACH, WAIVER:

13.1 The proper and complete performance of each covenant of this Agreement shall be deemed of the essence thereof, and in the event Licensee fails or refuses to fully and completely perform any of said covenants or remedy any breach within thirty (30) days after receiving written notice from Licensor to do so (or within forty-eight (48) hours in the event of notice of a railroad emergency), Licensor shall have the option of immediately revoking this Agreement and the privileges and powers hereby conferred, regardless of encroachment fee(s) having been paid in advance for any annual or other period. Upon such revocation, Licensee shall make removal in accordance with Article 14.

13.2 No waiver by Licensor of its rights as to any breach of covenant or condition herein contained shall be construed as a permanent waiver of such covenant or condition, or any subsequent breach thereof, unless such covenant or condition is permanently waived in writing by Licensor.

13.3 Neither the failure of Licensor to object to any work done, material used, or method of construction or maintenance of said Encroachment, nor any approval given or supervision exercised by Licensor, shall be construed as an admission of liability or responsibility by Licensor, or as a waiver by Licensor of any of the obligations, liability and/or responsibility of Licensee under this Agreement.

14. TERMINATION, REMOVAL:

14.1 All rights which Licensee may have hereunder shall cease upon the date of (a) termination, (b) revocation, or (c) subsequent agreement, or (d) Licensee's removal of the Facility from the Encroachment. However, neither termination nor revocation of this Agreement shall affect any claims and liabilities which have arisen or accrued hereunder, and which at the

time of termination or revocation have not been satisfied; neither party, however, waiving any third party defenses or actions.

14.2 Within thirty (30) days after revocation or termination, Licensee, at its sole risk and expense, shall (a) remove the Facilities from the rail corridor of Licensor, unless the parties hereto agree otherwise, (b) restore the rail corridor of Licensor in a manner satisfactory to Licensor, and (c) reimburse Licensor any loss, cost or expense of Licensor resulting from such removal.

15. NOTICE:

15.1 Licensee shall give Licensor at least thirty (30) days written notice before doing any work on Licensor's rail corridor, except that in cases of emergency shorter notice may be given. Licensee shall provide proper notification as follows:

a. For non-emergencies, Licensee shall submit online via the CSX Property Portal from Licensor's web site, via web link:
https://propertyportal.csx.com/pub_ps_res/ps_res/jsf/public/index.faces

b. For emergencies, Licensee shall complete all of the steps outlined in Section 15.1 a. above, and shall also include detailed information of the emergency. Licensee shall also call and report details of the emergency to Licensor's Rail Operations Emergency Telephone Number: 1-800-232-0144. In the event Licensor needs to contact Licensee concerning an emergency involving Licensee's Facility(ies), the emergency phone number for Licensee is: 615-335-9811.

15.2 All other notices and communications concerning this Agreement shall be addressed to Licensee at the address above, and to Licensor at the address shown on Page 1, c/o CSXT Contract Management, J180; or at such other address as either party may designate in writing to the other.

15.3 Unless otherwise expressly stated herein, all such notices shall be in writing and sent via Certified or Registered Mail, Return Receipt Requested, or by courier, and shall be considered delivered upon: (a) actual receipt, or (b) date of refusal of such delivery.

16. ASSIGNMENT:

16.1 The rights herein conferred are the privileges of Licensee only, and Licensee shall obtain Licensor's prior written consent to any assignment of Licensee's interest herein; said consent shall not be unreasonably withheld.

16.2 Subject to Sections 2 and 16.1, this Agreement shall be binding upon and inure to the benefit of the parties hereto and their respective successors or assigns.

16.3 Licensee shall give Licensor written notice of any legal succession (by merger, consolidation, reorganization, etc.) or other change of legal existence or status of

Licensee, with a copy of all documents attesting to such change or legal succession, within thirty (30) days thereof.

16.4 Licenseor expressly reserves the right to assign this Agreement, in whole or in part, to any grantee, lessee, or vendee of Licenseor's underlying property interests in the Encroachment, upon written notice thereof to Licensee.

16.5 In the event of any unauthorized sale, transfer, assignment, sublicense or encumbrance of this Agreement, or any of the rights and privileges hereunder, Licenseor, at its option, may revoke this Agreement by giving Licensee or any such assignee written notice of such revocation; and Licensee shall reimburse Licenseor for any loss, cost or expense Licenseor may incur as a result of Licensee's failure to obtain said consent.

17. TITLE:

17.1 Licensee understands that Licenseor occupies, uses and possesses lands, rights-of-way and rail corridors under all forms and qualities of ownership rights or facts, from full fee simple absolute to bare occupation. Accordingly, nothing in this Agreement shall act as or be deemed to act as any warranty, guaranty or representation of the quality of Licenseor's title for any particular Encroachment or segment of Rail Corridor occupied, used or enjoyed in any manner by Licensee under any rights created in this Agreement. It is expressly understood that Licenseor does not warrant title to any Rail Corridor and Licensee will accept the grants and privileges contained herein, subject to all lawful outstanding existing liens, mortgages and superior rights in and to the Rail Corridor, and all leases, licenses and easements or other interests previously granted to others therein.

17.2 The term "license," as used herein, shall mean with regard to any portion of the Rail Corridor which is owned by Licenseor in fee simple absolute, or where the applicable law of the State where the Encroachment is located otherwise permits Licenseor to make such grants to Licensee, a "permission to use" the Rail Corridor, with dominion and control over such portion of the Rail Corridor remaining with Licenseor, and no interest in or exclusive right to possess being otherwise granted to Licensee. With regard to any other portion of Rail Corridor occupied, used or controlled by Licenseor under any other facts or rights, Licenseor merely waives its exclusive right to occupy the Rail Corridor and grants no other rights whatsoever under this Agreement, such waiver continuing only so long as Licenseor continues its own occupation, use or control. Licenseor does not warrant or guarantee that the license granted hereunder provides Licensee with all of the rights necessary to occupy any portion of the Rail Corridor. Licensee further acknowledges that it does not have the right to occupy any portion of the Rail Corridor held by Licenseor in less than fee simple absolute without also receiving the consent of the owner(s) of the fee simple absolute estate. Further, Licensee shall not obtain, exercise or claim any interest in the Rail Corridor that would impair Licenseor's existing rights therein.

17.3 Licensee agrees it shall not have nor shall it make, and hereby completely and absolutely waives its right to, any claim against Licenseor for damages on account of any deficiencies in title to the Rail Corridor in the event of failure or insufficiency of Licenseor's title to any portion thereof arising from Licensee's use or occupancy thereof.

17.4 Licensee agrees to fully and completely indemnify and defend all claims or litigation for slander of title, overburden of easement, or similar claims arising out of or based upon the Facilities placement, or the presence of the Facilities in, on or along any Encroachment(s), including claims for punitive or special damages.

17.5 Licensee shall not at any time own or claim any right, title or interest in or to Licensor's property occupied by the Encroachments, nor shall the exercise of this Agreement for any length of time give rise to any right, title or interest in Licensee to said property other than the license herein created.

17.6 Nothing in this Agreement shall be deemed to give, and Licensor hereby expressly waives, any claim of ownership in and to any part of the Facilities.

17.7 Licensee shall not create or permit any mortgage, pledge, security, interest, lien or encumbrances, including without limitation, tax liens and liens or encumbrances with respect to work performed or equipment furnished in connection with the construction, installation, repair, maintenance or operation of the Facilities in or on any portion of the Encroachment (collectively, "Liens or Encumbrances"), to be established or remain against the Encroachment or any portion thereof or any other Licensor property.

17.8 In the event that any property of Licensor becomes subject to such Liens or Encumbrances, Licensee agrees to pay, discharge or remove the same promptly upon Licensee's receipt of notice that such Liens or Encumbrances have been filed or docketed against the Encroachment or any other property of Licensor; however, Licensee reserves the right to challenge, at its sole expense, the validity and/or enforceability of any such Liens or Encumbrances.

18. GENERAL PROVISIONS:

18.1 This Agreement, and the attached specifications, contains the entire understanding between the parties hereto.

18.2 Neither this Agreement, any provision hereof, nor any agreement or provision included herein by reference, shall operate or be construed as being for the benefit of any third person.

18.3 Except as otherwise provided herein, or in any Rider attached hereto, neither the form of this Agreement, nor any language herein, shall be interpreted or construed in favor of or against either party hereto as the sole drafter thereof.

18.4 This Agreement is executed under current interpretation of applicable Federal, State, County, Municipal or other local statute, ordinance or law(s). However, each separate division (paragraph, clause, item, term, condition, covenant or agreement) herein shall have independent and severable status for the determination of legality, so that if any separate division is determined to be void or unenforceable for any reason, such determination shall have

no effect upon the validity or enforceability of each other separate division, or any combination thereof.

18.5 This Agreement shall be construed and governed by the laws of the state in which the Facilities and Encroachment are located.

18.6 If any amount due pursuant to the terms of this Agreement is not paid by the due date, it will be subject to Licensor's standard late charge and will also accrue interest at eighteen percent (18%) per annum, unless limited by local law, and then at the highest rate so permitted.

18.7 To the extent permitted by state law, Licensee agrees to reimburse Licensor for all reasonable costs (including attorney's fees) incurred by Licensor for collecting any amount due under the Agreement.

18.8 The provisions of this License are considered confidential and may not be disclosed to a third party without the consent of the other party(s), except: (a) as required by statute, regulation or court order, (b) to a parent, affiliate or subsidiary company, (c) to an auditing firm or legal counsel that are agreeable to the confidentiality provisions, or (d) to Lessees of Licensor's land and/or track who are affected by the terms and conditions of this Agreement and will maintain the confidentiality of this Agreement.

18.9 Within thirty (30) days of an overpayment in a cumulative total amount of One Hundred Dollars (\$100.00) or more by Licensee to Licensor, Licensee shall notify Licensor in writing with documentation evidencing such overpayment. Licensor shall refund the actual amount of Licensee's overpayment within 120 days of Licensor's verification of such overpayment.

18.10 This Agreement may be executed in any number of counterparts, and such counterparts may be exchanged by electronic transmission. Upon execution by the parties hereto, each counterpart shall be deemed an original and together shall constitute one and the same instrument. A fully executed copy of this Agreement by electronic transmission shall be deemed to have the same legal effect as delivery of an original executed copy of this Agreement for all purposes.

19. CONTRACTOR'S ACCEPTANCE:

19.1 Licensee shall observe and abide by, and shall require Licensee's Contractors to observe and abide by the terms, conditions and provisions set forth in this Agreement. Prior to any commencement of work under this Agreement by Licensee's Contractor, Licensee shall require Licensee's Contractor to execute and deliver to Licensor the Contractor Acceptance form attached hereto as Schedule A to acknowledge Licensee's Contractor's agreement to observe and abide by terms and conditions of the Agreement.

IN WITNESS WHEREOF, the parties hereto have executed this Agreement in duplicate (each of which shall constitute an original) as of the effective date of this Agreement.

Witness for Licensor:

CSX TRANSPORTATION, INC.

By: _____

Print/Type

Name: _____

Print/Type

Title: _____

Witness for Licensee:

METRO WATER SERVICES

By: DocuSigned by:
Scott Potter
994E7D0AE02B458...

Who, by the execution hereof, affirms that he/she has the authority to do so and to bind the Licensee to the terms and conditions of this Agreement.

Print/Type

Name: Scott Potter

Print/Type

Title: Director, water and Sewerage Services

Tax ID

No.: 2-620694743-014-4

Authority under Ordinance or

Resolution
No. _____,

Dated
_____.

Schedule "A"

CONTRACTOR'S ACCEPTANCE

This Amendment is and shall be a part of Agreement No. CSX916524, and is incorporated therein.

To and for the benefit of CSX TRANSPORTATION, Inc. (Licensor") and to induce Licensor to permit Contractor on or about Licensor's property for the purpose of performing work in accordance with the Agreement dated January 28, 2022, between Licensee and Licensor, Contractor hereby agrees to abide by and perform all applicable terms of the Agreement, including, but not limited to Sections 3, 9, 10 of the Agreement.

Witness for Licensor:

CSX TRANSPORTATION INC.

By: _____

Print/Type Name: _____

Print/Type Title: _____

Witness for Licensee's Contractor

LICENSEE'S CONTRACTOR

By: _____

Who, by the execution hereof, affirms that he/she has the authority to do so and to bind the Licensee has the authority to do so and

PS - FORM 1001-G
REVISED APRIL 29, 2008
AGREEMENT NO. CSX916524

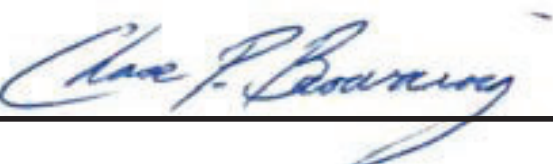
to bind the Licensee to the terms and
conditions of this Agreement

NAME: _____

TITLE: _____

DATE: _____

Nashville, Davidson Co., TN
Midwest Region - Nashville Zone - Nashville Terminal (NA) Subdivision
MP 000-193.5
(Adjacent to RR Over Public DOT # 350 214G, Hogan Rd.)
Entrance "E" to South Radnor Yard
Val. Sta. 613+00 (GIS Map No. 11851)
N36:03:57.00 / W86:46:08.50

CSX PROPERTY SERVICES REVIEW	
<input type="checkbox"/> No Exceptions	<input checked="" type="checkbox"/> Exceptions Noted
This review is for the general conformance with CSX utility design specifications only. Sole responsibility for all aspects of the overall design shall remain with the facility owner. This review does not constitute approval to proceed without meeting all of CSX's safety and contractual requirements.	
By:	 _____

CSXT GENERAL NOTES:

1. REFER TO THE CSXT PIPELINE DESIGN & CONSTRUCTION SPECIFICATIONS FOR ADDITIONAL INFORMATION.
2. TRENCH EXCAVATION SHALL BE OF SUCH DIMENSIONS AS TO PROVIDE AMPLE ROOM FOR CONSTRUCTION. TRENCH WIDTHS SHALL BE AT LEAST 12 INCHES WIDER THAN THE OUTSIDE DIAMETER OF THE PIPE (6-INCHES EITHER SIDE OF THE PIPE). THE BOTTOM OF THE TRENCH, IN SO FAR AS IS PRACTICAL, SHALL BE EXCAVATED TO PERMIT PROPER PLACEMENT OF THE PIPE. THE EXCAVATION FOR THE PIPELINE SHALL INCLUDE THE REMOVAL OF ANY OBSTRUCTIONS ENCOUNTERED. THE TRENCH SHALL BE EXCAVATED TO A DEPTH AT LEAST 3 INCHES BELOW THE OUTSIDE BOTTOM ELEVATION OF THE PLANNED PIPELINE. WHEN NECESSARY, ALL EXCAVATIONS SHOULD BE DEWATERED PRIOR TO AND DURING INSTALLATION AND BACKFILLING OF THE SYSTEM.
3. COMPACT ALL BACKFILL IN EXCAVATIONS AND TRENCHES TO 95% MAXIMUM DRY DENSITY AS DEFINED IN ASTM STANDARD D1557. USE CLEAN, SUITABLE BACKFILL MATERIAL, INSTALL IN SIX-INCH LIFTS AND COMPACT.
4. BEDDING MATERIAL SHALL BE GRANULAR BACKFILL IDENTICAL TO SUBBALLAST, OR A WELL GRADED CRUSHED STONE OR GRAVEL.
5. WHEN EXCAVATING WORK WILL BE WITHIN CSXT RIGHT-OF-WAY, SHORING PLANS AND OTHER REQUIRED MATERIAL MUST BE SUBMITTED TO CSXT DESIGNEE FOR APPROVAL PRIOR TO ANY CONSTRUCTION. ANY EXCAVATION/HOLE LESS THAN 15' FROM THE CENTERLINE OF NEAREST TRACK MUST BE FILLED OR PROPERLY SHORED PRIOR TO ANY TRAIN PASSING.
6. PIPELINE SHALL BE PROMINENTLY MARKED AT BOTH SIDES OF THE CSXT PROPERTY LINES BY DURABLE, WEATHERPROOF SIGNS LOCATED OVER THE CENTERLINE OF THE PIPE IN ACCORDANCE WITH CSXT SPECIFICATIONS.
7. ALL PRESSURE PIPELINES INSTALLED BY THE TRENCH METHOD, WITHOUT A CASING, SHALL HAVE A WARNING TAPE PLACED DIRECTLY ABOVE THE PIPELINE, 2 FEET BELOW THE GROUND SURFACE.
8. INSTALL HAND HOLES, SPLICE BOXES, AND MANHOLES PER THE REQUIREMENTS OF CSXT DESIGN & CONSTRUCTION SPECIFICATIONS. INSTALL THEM SO AS NOT TO CREATE A TRIPPING HAZARD OR TO INTERFERE WITH RAILROAD OPERATIONS.
9. NO CONSTRUCTION OR ENTRY UPON THE CSXT CORRIDOR IS PERMITTED UNTIL THE DOCUMENT TRANSACTION IS COMPLETED, YOU ARE IN RECEIPT OF A FULLY EXECUTED DOCUMENT, AND YOU HAVE OBTAINED AUTHORITY FROM THE LOCAL ROADMASTER.
10. IF REQUIRED, A DEWATERING PLAN IN ACCORDANCE WITH CSXT SPECIFICATIONS WILL BE SUBMITTED TO THE CSXT DESIGNEE FOR REVIEW AND APPROVAL PRIOR TO ANY DEWATERING OPERATIONS.
11. BLASTING IS NOT PERMITTED UNDER OR ON CSXT PROPERTY.
12. CSXT DOES NOT GRANT OR CONVEY AN EASEMENT FOR THIS INSTALLATION.
13. ALL PERSONNEL SHALL RECEIVE SAFETY BRIEFINGS BY A CSXT FLAGMAN OR DESIGNATED CSXT DESIGNEE EACH DAY BEFORE BEGINNING WORK ON THE RIGHT OF WAY. ADDITIONAL SAFETY BRIEFINGS MAY BE REQUIRED WHEN CONDITIONS AND/OR WORK SITES ARE CHANGED.
14. AGENCY OR ITS CONTRACTOR SHALL ARRANGE AND CONDUCT ITS WORK SO THAT THERE WILL BE NO INTERFERENCE WITH CSXT OPERATIONS, INCLUDING TRAIN, SIGNAL, TELEPHONE AND TELEGRAPHIC SERVICES, OR DAMAGES TO CSXT'S PROPERTY, OR TO POLES, WIRES, AND OTHER FACILITIES OF TENANTS OF CSXT'S PROPERTY OR RIGHT-OF-WAY.
15. CONTRACTOR ACCESS WILL BE LIMITED TO THE IMMEDIATE PROJECT AREA ONLY. THE CSXT RIGHT-OF-WAY OUTSIDE THE PROJECT AREA MAY NOT BE USED FOR CONTRACTOR ACCESS TO THE PROJECT SITE AND NO TEMPORARY AT-GRADE CROSSINGS WILL BE ALLOWED.
16. ALL MATERIAL AND EQUIPMENT WILL BE STAGED TO NOT BLOCK ANY CSXT ACCESS OR MAINTENANCE ROADS. NO HOISTING OR AUXILIARY EQUIPMENT NECESSARY FOR THE PROCEDURE SHALL BE PLACED ON CSXT TRACK STRUCTURE AND / OR BALLAST SECTION. CLEAR WORKING LOCATIONS FOR EQUIPMENT USED WILL BE LAID OUT AND APPROVED BY THE CSXT FLAGGER PRIOR TO EQUIPMENT SET-UP.
17. DURING CONSTRUCTION, THE CONTRACTOR SHALL PROTECT ALL ACTIVE RAILROAD FACILITIES, INCLUDING ELECTRICAL, WATER LINES, SEWER LINES, COMMUNICATION AND SIGNAL LINES AS WELL AS UNDERGROUND PIPING. THE CONTRACTOR SHALL BE REQUIRED TO KEEP ALL EQUIPMENT AND MATERIAL A MINIMUM OF SIX (6) FEET FROM AFOREMENTIONED ELEVATED COMMUNICATION AND SIGNAL FACILITIES.
18. CONTRACTOR MUST CONDUCT ALL OF ITS WORK IN A SAFE MANNER. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH RULES, REGULATIONS, PROCEDURES AND SAFE PRACTICES OF CSXT, OSHA, THE FRA AND ALL OTHER GOVERNMENT AGENCIES HAVING JURISDICTION OVER THE PROJECT.
19. OWNER SHALL REIMBURSE CSXT DIRECTLY FOR ALL COSTS OF FLAGGING AND INSPECTION SERVICE THAT ARE REQUIRED ON ACCOUNT OF CONSTRUCTION WITHIN CSXT PROPERTY SHOWN IN THE PLANS, OR COVERED BY AN APPROVED PLAN REVISION, SUPPLEMENTAL AGREEMENT OR CHANGE ORDER. INSPECTION SERVICE SHALL NOT RELIEVE CONTRACTOR FROM LIABILITY FOR ITS WORK.
20. OWNER OR CONTRACTOR SHALL GIVE A MINIMUM OF 30 DAYS' ADVANCE NOTICE TO CSXT DESIGNEE FOR ANTICIPATED NEED FOR FLAGGING AND INSPECTION SERVICE. NO WORK SHALL BE UNDERTAKEN UNTIL THE FLAG PERSON(S) AND INSPECTOR(S) IS/ARE AT THE JOB SITE. IF IT IS NECESSARY FOR CSXT TO ADVERTISE A FLAGGING JOB FOR BID, CSXT SHALL NOT BE LIABLE FOR THE COST OF DELAYS ATTRIBUTABLE TO OBTAINING SUCH SERVICE.
21. THE RIGHT OF WAY SHALL BE RESTORED TO A CONDITION EQUAL TO OR BETTER THAN THE CONDITION PRIOR TO BEGINNING THE PROJECT BEFORE FINAL ACCEPTANCE WILL BE PROVIDED. PUNCH LISTS SHALL BE RESPONDED TO PRIOR TO ISSUANCE OF AN ACCEPTANCE MEMORANDUM SIGNED BY THE CSXT DESIGNEE.
22. IDENTIFY HAZARDS AND PUT CONTROLS IN PLACE PRIOR TO START OF EXCAVATION. STAKE OR MARK PIT AS NEEDED FOR DIGGING. ESTABLISH A LAYDOWN AREA ABOVE THE FLOOD ZONE TO PLACE MOTORIZED EQUIPMENT. PLACE SNOW FENCE AROUND PIT 20' BEYOND THE LEADING EDGE OF EXCAVATION. ALL EROSION CONTROL METHODS SHALL BE INSTALLED AND MAINTAINED USING BEST MANAGEMENT PRACTICES AS REQUIRED. APPLY LAYER OF WASHED STONE TO BASE OF EXCAVATION TO ESTABLISH PROPER LINE AND GRADE (6" MIN.).
23. BACKFILL, COVER OR FENCE ALL EXCAVATIONS WHEN UNATTENDED. THE CSXT DESIGNEE WILL APPROVE THE PROTECTION METHOD AND THE TYPE OF FENCING MATERIAL. SET FENCING BACK AT LEAST 3 FEET (91 CENTIMETERS) FROM THE EDGES OF THE EXCAVATION. SET FENCE POSTS SECURELY IN THE GROUND AND INSURE THE FENCING IS SECURELY TIED TO POSTS WITH ZIP TIES OR SOME OTHER TIE WRAP PRODUCT.
24. IF THE EXCAVATION IS 5 FEET OR GREATER IN DEPTH, THE WALLS MAY BE SLOPED AT 1.5 HORIZONTAL TO 1 VERTICAL TO REDUCE THE RISK OF CAVE-INS OR SLIDES. A SAFE MANNER IN WHICH TO ENTER AND EXIT THE EXCAVATION MUST BE ESTABLISHED. THE TOE OF SLOPES IN EXCAVATION SHALL IN NO CASE BE UNDERCUT BY POWER SHOVELS, BULLDOZERS, GRADERS, BLASTING, OR IN ANY MANNER. EXCAVATION SHALL NOT BE MADE IN EXCESS OF THE AUTHORIZED CROSS-SECTION.
25. AVOID THE NEED FOR WORKERS TO BE IN TRENCHES WHENEVER POSSIBLE. FOR EXAMPLE, WHEN TRENCHING IN A CONDUIT SYSTEM, THE PIPE TO BE PLACED SHOULD BE ASSEMBLED ABOVE THE TRENCH AND LOWERED DOWN INTO THE TRENCH. WHEN WORKERS ARE REQUIRED TO GO INTO AN EXCAVATION, SHORING AND CONFINED SPACE REQUIREMENTS WILL GOVERN.
26. PROJECTS THAT GENERATE SOILS FROM CSXT PROPERTY MUST ADHERE TO CSXT'S SOIL MANAGEMENT POLICIES. CSXT REQUIRES SOILS GENERATED FROM ITS PROPERTY TO EITHER BE REUSED ON CSXT PROPERTY OR PROPERLY DISPOSED IN A CSXT APPROVED DISPOSAL FACILITY. THE MANAGEMENT OF SOILS GENERATED FROM CSXT PROPERTY SHOULD BE PLANNED FOR AND PROPERLY PERMITTED (IF APPLICABLE) PRIOR TO INITIATING ANY WORK ON CSXT PROPERTY.
27. CONTRACTOR ALSO HAS THE SOLE RESPONSIBILITY OF ASCERTAINING THAT ALL OTHER UTILITIES HAVE BEEN PROPERLY LOCATED BY COMPLYING WITH THE LOCAL "CALL BEFORE YOU DIG" REGULATION(S). CONTRACTOR SHALL SOLELY BE RESPONSIBLE FOR NOTIFYING OWNERS OF ADJACENT PROPERTIES AND OF UNDERGROUND FACILITIES AND UTILITY OWNERS WHEN PROSECUTION OF THE WORK MAY AFFECT THEM, AND SHALL COOPERATE WITH THEM IN THE PROTECTION, REMOVAL, RELOCATION AND REPLACEMENT OF THEIR PROPERTY.
28. CONTRACTOR SHALL CONDUCT "PRE-DIG" MEETING PRIOR TO CONSTRUCTION WORK, WITH ALL SUBCONTRACTORS AND WORKERS TO REVIEW THE LOCATION OF ALL UTILITIES AS MARKED OUT, EXCAVATION PROCEDURES, AND TO CONFIRM THE "ONE CALL" REQUEST. THIS PERMIT IS SUBJECT TO ANY EXISTING UTILITIES THAT MAY BE IN CONFLICT WITH THE DESIGN AND REQUIRES POTHOLING. ALL EXISTING UTILITIES ARE REQUIRED TO BE POTHOLED PRIOR TO COMMENCEMENT OF CONSTRUCTION AND SHALL BE PERFORMED IN ACCORDANCE WITH CSXT SPECIFICATIONS. HAND EXPOSE LINES TO A POINT OF NO CONFLICT (24 INCHES ON EITHER SIDE OF THE UNDERGROUND INSTALLATION). IF MARKED UTILITY CANNOT BE LOCATED, EXCAVATION MUST NOT PROCEED AND YOU MUST NOTIFY THE ONE CALL NUMBER OR UTILITY COMPANY TO PROVIDE ADDITIONAL INFORMATION TO DETERMINE THE EXACT LOCATION.
29. BEFORE EXCAVATING, ALL SIGNAL CABLES AND OTHER UTILITIES MUST BE LOCATED AND MARKED/FLAGGED. CONTRACTOR SHALL BE HELD LIABLE FOR ANY DAMAGES TO CSXT COMMUNICATION & SIGNAL FACILITIES.

CSXT ADDITIONAL NOTES (EXCEPTIONS NOTED):

- 1. CONTRACTOR SHALL COORDINATE WORK AND STAGING AREAS WITH CSXT CONSTRUCTION MANAGER SO AS TO MAINTAIN ADEQUATE USE OF EXISTING ACCESS ROAD.**
- 2. CONTRACTOR SHALL BE GOVERNED BY CSXT SR 1300-01 EXCAVATION AND TRENCHING GUIDELINES, DATED FEBRUARY 1, 2017.**
- 3. CONTRACTOR SHALL BE GOVERNED BY CSXT DESIGN & CONSTRUCTION SPECIFICATION 020255 RIP-RAP PLACEMENT.**
- 4. CONTRACTOR SHALL BE GOVERNED BY CSXT DESIGN & CONSTRUCTION SPECIFICATION 020265 FILTER FABRIC.**

METROPOLITAN GOVERNMENT OF NASHVILLE AND DAVIDSON COUNTY, TENNESSEE DEPARTMENT OF WATER AND SEWERAGE SERVICES

100% DESIGN PLANS

STORMWATER SYSTEM IMPROVEMENTS FOR HOGAN ROAD COUNCIL DISTRICT 26

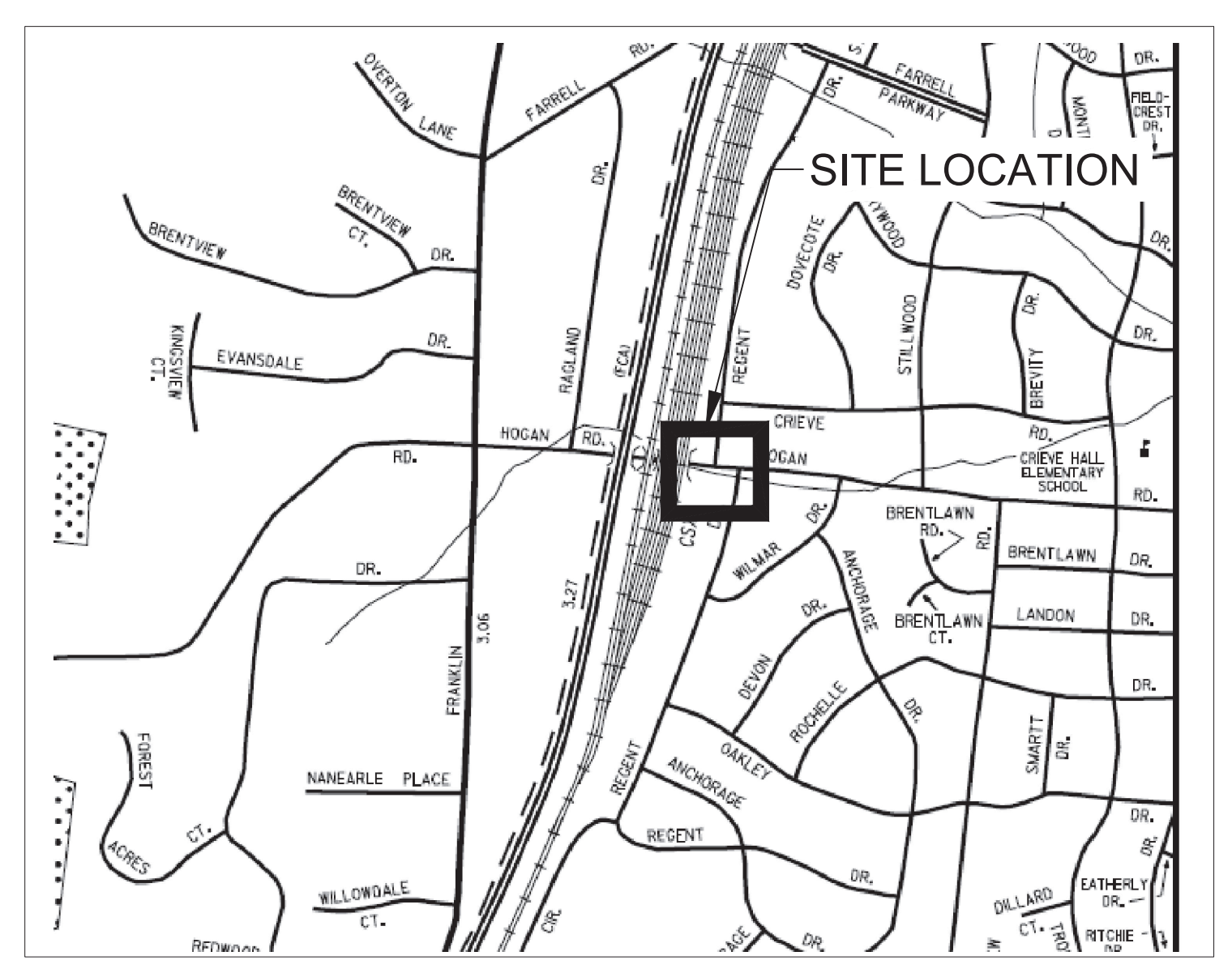
INDEX OF DRAWINGS

SHEET NO.	DESCRIPTION
C0.0	COVER SHEET
C1.0	GENERAL NOTES
C2.0	PRESENT LAYOUT AND DEMOLITION PLAN
C3.0	PROPOSED GRADING AND DRAINAGE PLAN
C4.0	METRO UTILITIES PLAN
C4.1	METRO UTILITIES DETAILS 1
C4.2	METRO UTILITIES DETAILS 2
C5.0	DETAILS 1
C5.1	DETAILS 2 - STANDARD METRO AND TDOT BOX BRIDGE DETAILS
C5.2	DETAILS 3 - TDOT BOX BRIDGE AND SLAB BRIDGE DETAILS
C5.3	DETAILS 4 - TDOT BOX BRIDGE AND SLAB BRIDGE DETAILS
C5.4	DETAILS 5 - TDOT WINGWALL AND BOX BRIDGE END TREATMENT DETAILS
C5.5	DETAILS 6 - TDOT BOX BRIDGE AND GUARDRAIL DETAILS
C5.6	DETAILS 7 - TDOT GUARDRAIL DETAILS
S1.0	STRUCTURAL DETAILS
S2.0	STRUCTURAL DETAILS

METRO PROJECT NO. 20-SWC-297

BCA PROJECT NO. 2773-01.170

NOTE:
UNLESS OTHERWISE NOTED, ALL CONSTRUCTION SHALL CONFORM TO THE CURRENT REQUIREMENTS OF TENNESSEE DEPARTMENT OF TRANSPORTATION (TDOT) STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, TDOT DESIGN STANDARDS AND STANDARD DRAWINGS, METROPOLITAN DEPARTMENT OF PUBLIC WORKS DETAILS AND SPECIFICATIONS, AND METROPOLITAN DEPARTMENT OF WATER SERVICES DETAILS AND SPECIFICATIONS.



VICINITY MAP
N.T.S.

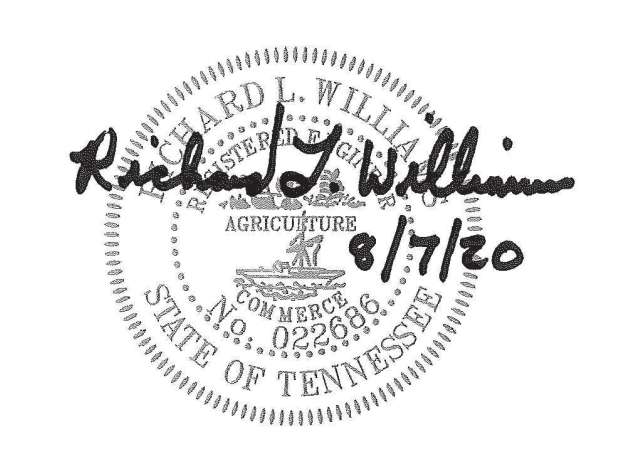
JOHN COOPER
METROPOLITAN MAYOR



SCOTT A. POTTER
DIRECTOR OF WATER & SEWERAGE SERVICES

ENGINEERING BY - METROPOLITAN DEPARTMENT OF
WATER AND SEWERAGE SERVICES
STORMWATER DIVISION

1600 SECOND AVENUE NORTH
NASHVILLE, TN 37208



PREPARED BY:

Barge Cauthen & Associates
Civil Engineers
6606 CHARLOTTE PIKE, STE 210
NASHVILLE, TENNESSEE 37209
815.356.9911 PHONE
615.352.6737 F A X

BARGE CAUTHEN & ASSOCIATES, INC.
6606 CHARLOTTE PIKE - SUITE 210
NASHVILLE, TENNESSEE 37209
PHONE: (615) 356-9911 FAX: (615) 352-6737

MWS WATER PROJ. NO: 20WC0085
MWS SEWER PROJ. NO: 20SC0123

GENERAL NOTES:

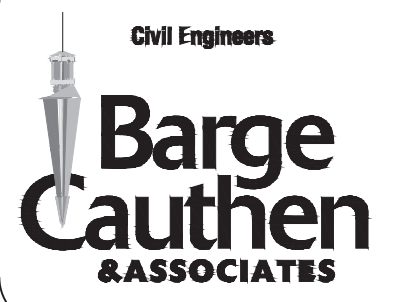
- UNLESS OTHERWISE NOTED, ALL CONSTRUCTION SHALL CONFORM TO THE CURRENT REQUIREMENTS OF TENNESSEE DEPARTMENT OF TRANSPORTATION (TDOT) STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION LATEST EDITION, METROPOLITAN DEPARTMENT OF WATER AND SEWERAGE SERVICES STORMWATER MANAGEMENT MANUAL, METROPOLITAN DEPARTMENT OF PUBLIC WORKS SPECIFICATIONS AND DETAILS, AND METRO WATER SERVICES SPECIFICATIONS AND DETAILS FOR WATER AND SEWER CONSTRUCTION.
- WATER LINE LOCATIONS WERE ESTIMATED FROM VALVE BOXES AND WATER METERS LOCATED BY SURVEYORS AND FROM BASE MAPPING PROVIDED BY METRO WATER SERVICES. WATER LINES MAY BE LOCATED BY TENNESSEE ONE CALL PRIOR TO THE SURVEY IN SOME CASES. WATER LINES THAT WERE LOCATED BY TENNESSEE ONE CALL WILL BE NOTED ON THE EXISTING SITE PLAN(S). POTENTIAL CONFLICTS WITH MAIN SEWER LINES WERE ESTIMATED BY ASSUMING A CONSTANT SLOPE FROM THE UPSTREAM MANHOLE TO THE DOWNSTREAM MANHOLE. THE LOCATION OF SANITARY SERVICE LINES WERE ESTIMATED FROM AS-BUILT DRAWINGS PROVIDED BY METRO WATER SERVICES AND CLEANOUTS LOCATED BY THE SURVEYORS, IF PRESENT. USE APPROXIMATE LOCATION OF SEWER SERVICE LINES AS GUIDANCE ONLY. LOCATION MAY OR MAY NOT BE ACCURATE. ADDITIONAL SERVICE LINES MAY BE PRESENT. THE CONTRACTOR IS RESPONSIBLE FOR LOCATING ALL UTILITIES AND PROTECTING UTILITIES PROPOSED TO REMAIN. BARGE CAUTHEN & ASSOCIATES, INC. ASSUMES NO RESPONSIBILITY FOR ACCURACY OR COMPLETENESS OF THIS INFORMATION. REPAIRS AND/OR REPLACEMENTS TO ANY UTILITIES DAMAGED BY CONSTRUCTION SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. NO ADDITIONAL PAYMENT WILL BE MADE.
- THE CONTRACTOR SHALL USE TRAFFIC CONTROL METHODS AS APPROVED BY THE TENNESSEE DEPARTMENT OF TRANSPORTATION, METRO PUBLIC WORKS, AND THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (M.U.T.C.D.).
- THE CONTRACTOR SHALL COORDINATE, KNOW, AND HAVE WORK SCHEDULED FOR ALL APPLICABLE UTILITY RELOCATIONS PRIOR TO PROJECT WORK BEGINNING. THE CONTRACTOR SHALL NOTIFY THE CONSTRUCTION MANAGER OF SCHEDULE.
- THE CONTRACTOR SHALL VERIFY EXISTING CONDITIONS PRIOR TO CONSTRUCTION AND NOTIFY OWNER'S REPRESENTATIVE OF DIFFERING CONDITIONS PRIOR TO PROCEEDING WITH WORK.
- THE CONTRACTOR SHALL REPAIR ALL DAMAGE TO STREETS, YARDS, MAILBOXES, FENCES, SIGNS, DRIVEWAYS, TREES, LANDSCAPING, IRRIGATION SYSTEMS, ETC. AT NO ADDITIONAL COST TO OWNER.
- ALL DRIVEWAY REPAIRS SHALL MATCH EXISTING DRIVEWAYS IN WIDTH, DEPTH, AND MATERIAL UNLESS OTHERWISE SPECIFIED.
- ALL PROPOSED ASPHALT TO GRADE TO NEW INLET(S).
- EROSION AND SEDIMENT (E&S) CONTROL MEASURES TO BE INSTALLED PER METROPOLITAN GOVERNMENT OF NASHVILLE AND DAVIDSON COUNTY BEST MANAGEMENT PRACTICES (BMP), LATEST EDITION.
- ONCE WORK HAS STARTED, THE CONTRACTOR SHALL PURSUE WORK DILIGENTLY UNTIL COMPLETE.
- AREAS DESIGNATED FOR MILLING (COLD PLANING) SHALL BE SAW CUT TO A DEPTH OF TWO INCHES (2"). ALL OTHER JOINTS SHALL BE SAW CUT TO FULL DEPTH (ASPHALT AND CONCRETE) UNLESS OTHERWISE SHOWN ON THE PLANS OR CONTRACT DOCUMENTS.
- THE UNIT PRICE BID FOR EACH ITEM SHALL INCLUDE ALL LABOR, EQUIPMENT, MATERIALS, AND ALL APPURTENANCES NECESSARY FOR A COMPLETE INSTALLATION OF THE ITEMS SHOWN ON THE PLANS, IN THE DETAILS AND TYPICAL SECTIONS, AND AS CALLED OUT IN THE STANDARDS AND SPECIFICATIONS.
- ALL PIPE SHALL BE BACKFILLED WITH #57 OR #67 CRUSHED STONE WHEN UNDER ANY PAVED OR RIGID SURFACE, PER METRO STANDARD DETAIL DR-180, ST-270a/b, ST-271a/b, AND/OR ST-272 AS APPLICABLE. WHEN NOT UNDER PAVEMENT ALL PIPE SHALL BE BACKFILLED WITH #57 OR #67 CRUSHED STONE TO AT LEAST SIX INCHES (6") ABOVE THE PIPE, PER METRO STANDARD DETAIL DR-180.
- THE CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR ANY ARRANGEMENTS MADE WITH PROPERTY OWNERS THAT ARE ADJACENT TO ANY PROPOSED WORK. THIS INCLUDES ARRANGEMENTS FOR UTILIZING PRIVATE PROPERTY FOR STORAGE (EQUIPMENT OR EXCAVATED MATERIALS), PARKING AREA, OR ACCESS. ALL COSTS ASSOCIATED WITH THIS WORK WILL NOT BE PAID FOR.
- THE CONTRACTOR SHALL BE REQUIRED TO MAINTAIN ACCESS TO RESIDENCES AND BUSINESSES, AND SHALL BE REQUIRED TO KEEP ONE (1) LANE OF TRAFFIC OPEN AT ALL TIMES FOR THRU TRAFFIC AND EMERGENCY VEHICLES/EQUIPMENT.
- THE CONTRACTOR SHALL ASSURE THAT ALL SERVICES THROUGH THIS CONTRACT SHALL BE COMPLETED IN FULL COMPLIANCE WITH AMERICANS WITH DISABILITIES ACT (ADA) STANDARDS FOR ACCESSIBLE DESIGN, LATEST EDITION, AS HAS BEEN ADOPTED BY METRO.
- METRO WATER SERVICES WILL RETAIN OWNERSHIP OF ALL EXISTING DRAINAGE STRUCTURE GRATES THAT ARE NOT BEING UTILIZED FOR THE PROPOSED CONSTRUCTION. THE CONTRACTOR SHALL DELIVER THE GRATES TO MWS STORMWATER MAINTENANCE YARD, 1067 COUNTY HOSPITAL ROAD. CONTACT JOE FEDUN AT 615-862-4164 FOR ACCESS AND SCHEDULING DELIVERY.
- THE CONTRACTOR SHALL OBTAIN ALL APPLICABLE PERMITS NEEDED FOR WORK, EXCAVATION, ROAD CLOSURE, ETC., FROM METRO PUBLIC WORKS. THE CONTRACTOR WILL BE REIMBURSED FOR MPW PERMIT FEES. ALL WORK SHALL CONFORM TO THE MOST CURRENT PUBLIC WORKY REQUIREMENTS AND SPECIFICATIONS FOR PAVEMENT REPLACEMENT/PATCHING. REFER TO METROPOLITAN GOVERNMENT OF NASHVILLE AND DAVIDSON COUNTY STANDARD DETAILS ST-270a/b AND/OR ST-271a/b. ALL DRIVEWAY RAMPS, SIDEWALKS, SIDEWALK RAMPS, AND ROADWAY PAVEMENT REPLACEMENT WILL BE INSPECTED BY PUBLIC WORKS REPRESENTATIVE DURING AND AFTER CONSTRUCTION. IF THE PUBLIC WORKS INSPECTOR DETERMINES THAT CONSTRUCTION DOES NOT MEET CURRENT PUBLIC WORKS SPECIFICATIONS, THE CONTRACTOR SHALL DEMOLISH AND REPLACE ALL NON-COMPLIANT CONSTRUCTION AT NO ADDITIONAL COST TO METRO WATER SERVICES.
- WHERE APPLICABLE, CONSTRUCTION SHALL CONFORM TO TDEC AQUATIC RESOURCE ALTERATION PERMIT PROGRAM REQUIREMENTS.
- THE CONTRACTOR SHALL NOTIFY METRO WATER SERVICES CONSTRUCTION MANAGER OF ALL WATER LINE AND SANITARY SEWER RELOCATIONS. THE CONSTRUCTION MANAGER WILL COORDINATE PRE-CONSTRUCTION MEETINGS, ETC. AS NEEDED.
- PLACEMENT OF SEED, MULCH, SOD, MATTING, AND TOPSOIL OUTSIDE THE LIMITS OF THE RIGHT-OF-WAY AND EASEMENTS, ON PRIVATE PROPERTY, WILL NOT BE PAID FOR SEPARATELY. ALL COSTS ASSOCIATED WITH PLACEMENT OF THESE ITEMS ON PRIVATE PROPERTY, FOR ACCESS OF WORK AREA OR MATERIAL STORAGE, SHALL BE BORNE BY THE CONTRACTOR.
- FOR BIDDING PURPOSES, THE CULVERT LENGTHS SHOWN ON THE PLANS ARE FROM CENTER TO CENTER OF STORM STRUCTURES, AND TO THE INLET OR OUTLET END OF PIPES WITH HEADWALLS. ACTUAL LENGTHS MAY BE SHORTER THAN DEPICTED ON THE PLANS. THE CONTRACTOR SHALL VERIFY REQUIRED LENGTHS WITH CONSTRUCTION MANAGER PRIOR TO PIPE INSTALLATION. PAYMENT WILL BE MADE FOR THE LINEAR FOOT OF CULVERT INSTALLED AND ACCEPTED. THE GROUTING OF THE ANNULUS AROUND ALL PIPE PENETRATIONS SHALL BE AN INCIDENTAL COST.
- THE CONTRACTOR SHALL HAVE PROPERTY LINES AND EASEMENTS (EXISTING AND PROPOSED) LOCATED AND STAKED BY A LICENSED SURVEYOR PRIOR TO BEGINNING CONSTRUCTION. THE CONTRACTOR IS RESPONSIBLE FOR HAVING A LICENSED SURVEYOR LAY OUT PROPOSED STRUCTURES, RETAINING WALLS, AND DITCH LINES; LAY OUT GRADE OR ALIGNMENT SENSITIVE CONSTRUCTION ITEMS; RELOCATE ANY PROPERTY BOUNDARY IRON PINS OR MONUMENTS THAT ARE DISTURBED DURING CONSTRUCTION; GENERATE STAMPED AS-BUILT DRAWING(S); REPLACEMENT OF DISTURBED IRON PINS AND/OR MONUMENTS; AND SUBMISSION OF STAMPED AS-BUILT DRAWING(S) BEFORE FINAL PAYMENT TO THE CONTRACTOR IS ISSUED. THE CONTRACTOR SHALL SUBMIT AS-BUILT DRAWINGS, SEALED BY A LICENSED SURVEYOR IN ADOBE (PDF) FORMAT AND A DRAWING FILE IN AUTOCAD (DWG), VERSION 2016 (OR EARLIER) FORMAT. ALL WORK PERFORMED BY THE LICENSED SURVEYOR SHALL BE PAID FOR AT THE CONTRACT UNIT PRICE FOR CONSTRUCTION STAKE, LINE, AND GRADE.
- ALL CONSTRUCTION SHALL BE IN COMPLIANCE WITH 29 CFR PART 1926, SUBPART P - EXCAVATIONS (LATEST EDITION).
- ALL DRAINAGE STRUCTURES, BOX BRIDGES, BOX CULVERTS, RETAINING WALLS, AND OTHER MAJOR STRUCTURES SHALL BE DONE BY THE CAST-IN-PLACE METHOD. SHOULD THE CONTRACTOR ELECT TO USE PRE-CAST METHOD, THE CONTRACTOR SHALL BEAR ALL MODIFICATION/ADJUSTMENT/RELOCATION COSTS INCURRED FOR A COMPLETE INSTALLATION. THE GROUTING OF THE ANNULUS AROUND ALL PIPE PENETRATIONS SHALL BE AN INCIDENTAL COST.
- ALL COSTS (INCLUDING LABOR, MATERIAL, EXCAVATION, INCIDENTALS, AND EQUIPMENT) NECESSARY TO PERFORM THE WORK AS SHOWN AND DESCRIBED IN THE DRAWINGS, STANDARD DETAILS, AND SPECIFICATION FOR WHICH A SEPARATE PAY ITEM IS NOT INCLUDED SHALL BE MERGED INTO PAY ITEMS SHOWN.
- ALL MAJOR DRAINAGE STRUCTURES WILL REQUIRE QUALITY ASSURANCE AND QUALITY CONTROL (QA/QC) IN ACCORDANCE WITH TDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION (CURRENT EDITION), PART 6, SECTION 604. A MAJOR DRAINAGE STRUCTURE, FOR THIS PURPOSE, WILL BE DEFINED AS ANY STRUCTURE REQUIRING REINFORCING STEEL. THIS WILL INCLUDE ALL BOX CULVERTS, SLAB BRIDGES, RETAINING WALLS, VERTICAL WALLED CHANNELS, INLETS, JUNCTION BOXES, AND HEADWALLS/ENDWALLS (FOR PIPE DIAMETERS ≥ FORTY-EIGHT INCHES (48")). CONSTRUCTION ITEMS REQUIRING WELDED WIRE FABRIC, SUCH AS SIDEWALKS AND SWALES, WILL NOT REQUIRE QUALITY CONTROL FIELD TESTING. THE CONTRACTOR WILL BE FULLY RESPONSIBLE FOR RETAINING AN APPROVED INDEPENDENT TESTING LABORATORY TO PERFORM ALL REQUIRED CONCRETE STRENGTH AND FIELD TESTING AND FOR SUBMITTING THE RESULTS OF SUCH TESTING TO THE CONSTRUCTION MANAGER.
- ALL PRECAST DRAINAGE STRUCTURES SHALL BE IN ACCORDANCE WITH THE CURRENT TDOT SOP 5-3, *MANUFACTURE AND ACCEPTANCE OF PRE-CAST DRAINAGE STRUCTURES, NOISE WALL PANELS, AND EARTH RETAINING WALL PRODUCTS* FOR QUALITY AND ASSURANCE PURPOSES ONLY. NOTE THAT ALL PRE-CAST DRAINAGE STRUCTURES SHALL HAVE A "QC" STAMP OR ETCHING ON PRODUCT. ALL PRODUCTS USED SHALL BE ON THE CURRENT *TDOT QUALIFIED PRODUCT LIST (QPL)* LOCATED AT <http://www.tn.gov/dot/topic/qualified-products>. THE PRODUCERS AND/OR SUPPLIERS SHALL BE ON THE CURRENT *TDOT PRODUCER/SUPPLIER REPORT* LOCATED AT <https://www.tdot.tn.gov/applications/producersupplier>.
- TREE REMOVALS FOR LINEAR STORMWATER PROJECTS SHALL BE AT A TWO TO ONE REPLACEMENT RATIO. THIS POLICY WILL NOT APPLY TO THE REMOVAL OF TREES THAT ARE DEAD, DISEASED, INVASIVE, POTENTIALLY HAZARDOUS, BRADFORD PEAR (PYRUS CALLERYANA) OR ASH (FRAXINUS) SPECIES. TREES THAT CANNOT BE PLANTED NEAR THE REMOVAL SITE CAN EITHER BE PLANTED AT AN ALTERNATE LOCATION APPROVED BY MWS. HACKBERRIES WILL BE REPLACED ON A ONE FOR ONE BASIS. REPLACEMENT TREES SHALL BE AT LEAST ONE INCH DIAMETER AT BREST HEIGHT (DBH) AND SIX FEET IN HEIGHT FOR CANOPY SPECIES. DOWNWARD ADJUSTMENTS CAN BE MADE FOR UNDERSTORY AND ORNAMENTAL TREES. SUCH TREES SHOULD BE CHOSEN FROM THE URBAN FORESTRY RECOMMENDED LIST <https://www.nashville.gov/Codes-Administration/Land-Use-and-Zoning-Information/Urban-Forestry/Tree-and-Shrub-List.aspx> AND SHALL BE OF A FORM AND QUALITY SET OUT IN THE AMERICAN STANDARD FOR NURSERY STOCK (ANSI Z60.1, LATEST EDITION).

EROSION & SEDIMENT CONTROL (ESC) NOTES:

- THE USE AND PLACEMENT OF EROSION CONTROL DEVICES SHALL BE IN ACCORDANCE WITH METRO WATER SERVICES BEST MANAGEMENT PRACTICES, LATEST EDITION AND/OR APPLICABLE TDEC ARAP, USACE NWP AND/OR TDOT STANDARDS. THE MOST STRINGENT PRACTICE SHALL GOVERN.
- NO WORK WILL BE INITIATED ON THE PROJECT UNTIL THE EROSION/SILTATION MEASURE SHOWN ON THE PLANS AND DETAILS ARE PROPERLY IN PLACE.
- IF, AT ANY TIME DURING THE CONSTRUCTION PHASE OF THIS PROJECT, METRO REPRESENTATIVE DEEMS THAT THE EROSION/SILTATION MEASURES INSTALLED FAIL TO FUNCTION PROPERLY, NEED MAINTENANCE OR REPAIR, OR NEED NEW REPLACEMENT IN KIND, THE CONTRACTOR WILL EFFECT SUCH ACTIONS AS ARE NEEDED TO CORRECT THE SITUATION AT NO ADDITIONAL COST TO THE OWNER. NECESSARY REPAIRS OR REPLACEMENT OF EPSC MEASURES SHALL BE ACCOMPLISHED PROMPTLY. WHEN NOTIFIED OF DEFICIENT EPSC MEASURES, THE CONTRACTOR HAS 48 HOURS OR BEFORE THE NEXT RAIN EVENT TO REGAIN COMPLIANCE OR OTHERWISE RUN THE RISK OF THE JOB BEING SHUTDOWN. NO ADDITIONAL CONTRACT DAYS WILL BE GIVEN IN THIS INSTANCE.
- AREAS AND TIME OF EXPOSURE OF UNPROTECTED SOILS SHALL BE KEPT TO A MAXIMUM OF 15 DAYS.
- USE TEMPORARY VEGETATION AND/OR MULCH TO PROTECT BARE AREAS FROM EROSION DURING CONSTRUCTION.
- KEEP DUST WITHIN TOLERABLE LIMITS BY SPRINKLING OR OTHER ACCEPTABLE METHODS.
- DISTURBED AREAS ARE TO BE GRADED TO DRAIN TO SEDIMENT BARRIERS, AS INDICATED ON PLAN, DURING AND UPON COMPLETION OF CONSTRUCTION.
- UPON STABILIZATION OF THE PROJECT SITE WITH A GOOD (ACCEPTABLE) STAND OF GRASS AND/OR GROUND COVER, THE EROSION/SILTATION INSTALLATIONS WILL BE REMOVED AND THE AREA DISTURBED WILL BE SEEDED AND MULCHED WITH THE SAME TREATMENT AS OTHER NEW GRASSED AREAS OF THE PROJECT. INCLUDE COSTS OF REMOVAL OF ESC MEASURES IN OTHER ITEMS.
- ALL ESC MEASURES SHALL BE CHECKED BEFORE AND AFTER ALL RAIN EVENTS, AND DAILY DURING PROLONGED RAINFALL, TO ENSURE MEASURES ARE WORKING PROPERLY.
- SEDIMENT DEPOSITS SHALL BE REMOVED WHEN THE LEVEL OF DEPOSITION REACHES APPROXIMATELY ONE-HALF THE HEIGHT OF THE BARRIER.
- AS NECESSARY, PROVIDE TEMPORARY CONSTRUCTION ACCESS(ES) AT THE POINT(S) WHERE CONSTRUCTION VEHICLES EXIT THE CONSTRUCTION AREA. MAINTAIN PUBLIC ROADWAYS FREE OF TRACKED MUD AND DIRT.
- STRIP TOPSOIL FROM ALL CUT AND FILL AREAS AND STOCKPILE. UPON COMPLETION OF GENERAL GRADING COVER ALL DISTURBED AREAS WITH TOPSOIL TO A MINIMUM DEPTH OF 4". CONTRACTOR SHALL SUPPLY ADDITIONAL TOPSOIL IF INSUFFICIENT QUANTITIES EXIST ON SITE. ADDITIONAL TOPSOIL SHALL BE PAID FOR UNDER ITEM 203-08.01 "FURNISHING AND SPREADING TOPSOIL (4" THICK) IN SQUARE YARDS.
- ALL ESC MEASURES SHALL BE MAINTAINED UNTIL DISTURBED AREAS ARE STABILIZED.
- STOCKPILED TOPSOIL OR FILL MATERIAL IS TO BE TREATED SO THE SEDIMENT RUN-OFF WILL NOT CONTAMINATE SURROUNDING AREAS OR ENTER NEARBY STREAMS.

UTILITY CONTACTS:

METRO WATER SERVICES (STORMWATER)	ricky.swift@nashville.gov	RICKY SWIFT(615-862-4784)
METRO WATER SERVICES	michael.morris@nashville.gov	MICHAEL MORRIS(615-862-4570)
AT&T	kim.bean@att.com	KIM BEAN (615-214-7318)
METRO PUBLIC WORKS	rory.rowan@nashville.gov	RORY ROWAN (615-862-8782)
COMCAST	larry_winburn@cable.comcast.com	LARRY WINBURN
NASHVILLE ELECTRIC SERVICES(NES)	mnelson@nespower.com	MIKE NELSON (615) 747-3562
XO COMMUNICATIONS		DOUG MORGAN(615-244-7531)
PIEDMONT GAS	kathryn.bowlby@duke-energy.com	KATEY BOWLBY(615-872-2351)
GOOGLE FIBER	gfiber-bna-relocations@google.com	TODD ONEY (629-888-2240)




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METROPOLITAN GOVERNMENT OF NASHVILLE & DAVIDSON COUNTY
DEPARTMENT OF WATER & SEWERAGE SERVICES
STORMWATER DIVISION

HOGAN ROAD

GENERAL NOTES

DR.	CK.	ORIGINAL DRAFT DATE
RLW	DB	8/7/2020

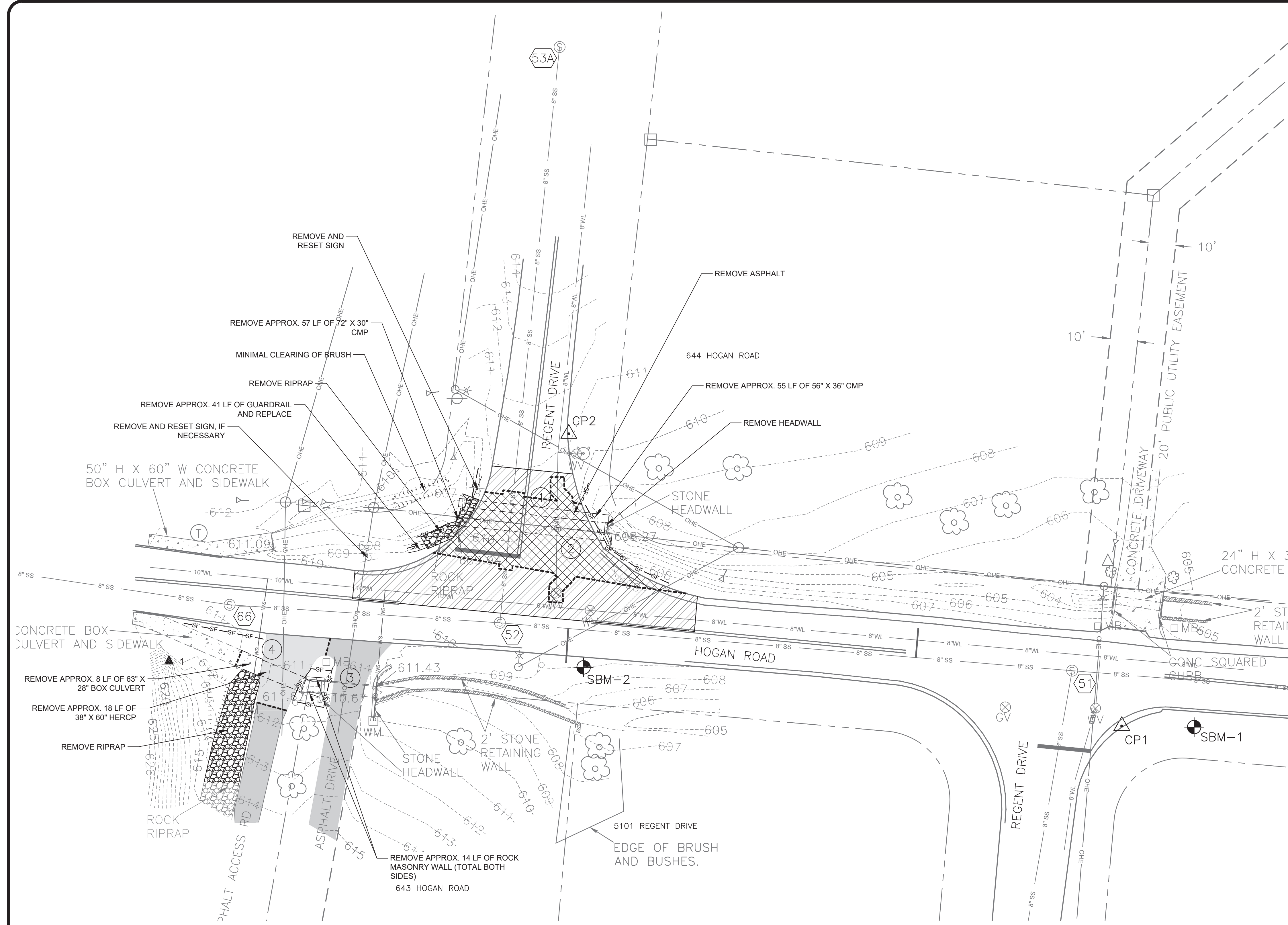


Richard L. Williams
8/7/20

BCA PROJ. NO. 2773-01.170



PROJECT NO. 20-SWC-297	SHEET NO. C1.0
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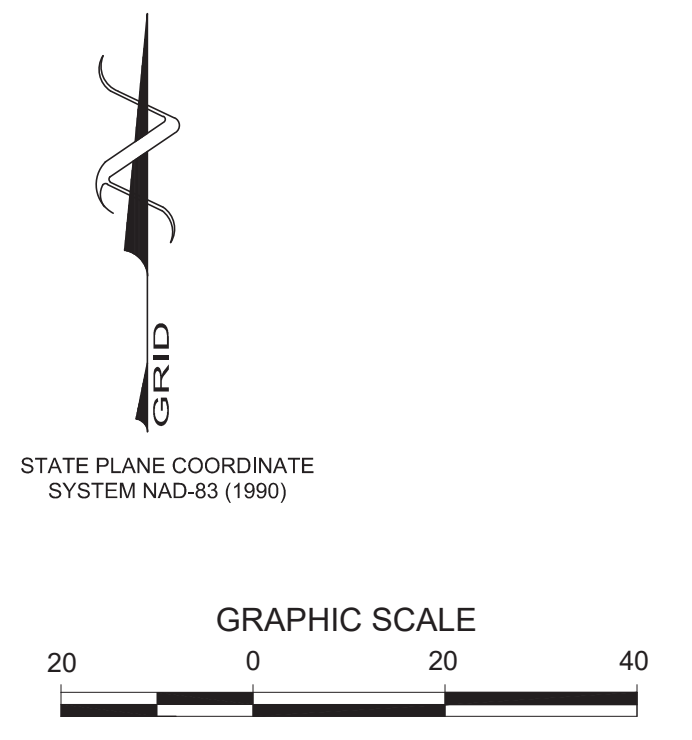


SURVEYOR'S LEGEND

- △ CONTROL POINT
- △ REBAR FOUND
- MONUMENT FOUND
- BENCHMARK
- C.O. SANITARY SEWER CLEAN OUT
- ⊙ SANITARY SEWER MANHOLE
- ⊙ WATER METER
- ⊙ WATER VALVE
- ⊙ WATER SPIGOT
- ⊙ FIRE HYDRANT
- ⊙ NATURAL GAS METER
- ⊙ NATURAL GAS VALVE
- ⊙ UTILITY POLE
- ⊙ LIGHT POLE
- ⊙ GUY ANCHOR
- ⊙ ELECTRIC METER
- ⊙ ELECTRIC BOX
- ⊙ TELEPHONE PEDESTAL
- ⊙ SATELITE
- ⊙ TELEPHONE MANHOLE
- ⊙ STORM INLET
- ⊙ STORM JUNCTION BOX SOLID COVER
- ⊙ MAILBOX
- ⊙ BRICK MAILBOX
- ⊙ SIGN
- ⊙ TREE
- ⊙ SHRUB
- ⊙ LANDSCAPING
- ⊙ WALL

SERVICE REQUEST TABLE

LOCATION ID	SERVICE REQUEST NUMBER	ADDRESS	TYPE
1	1171944	REGENT DR. AT HOGAN RD.	REMEDIAL



- PROPERTY LINE
- EASEMENT
- EDGE OF GRAVEL CURB
- FENCE
- OVERHEAD ELECTRIC
- WATER LINE
- WATER SERVICE LINE
- SANITARY SEWER MAIN LINE
- SANITARY SEWER SERVICE LINE
- NATURAL GAS LINE
- CULVERT/STORM PIPE
- CONTOUR LINE
- TREE LINE
- CONCRETE DRIVEWAY
- GRAVEL DRIVEWAY
- ASPHALT DRIVEWAY

- DEMOLITION/EROSION CONTROL LEGEND**
- ASPHALT OR RIGID PAVEMENT TO BE REMOVED
 - COLD PLACING 2" OF ASPHALT PAVEMENT
 - SAW CUT
 - PROPOSED TEMPORARY SILT FENCE
 - PROPOSED LIMITS OF CLEARING AND GRUBBING
 - APPROXIMATE LOCATION OF SANITARY SEWER SERVICE LINE TAKEN FROM METRO WATER SERVICES AS-BUILT DRAWINGS. (USE APPROX. LOCATION AS GUIDANCE ONLY. THIS INFORMATION MAY OR MAY NOT BE ACCURATE. ADDITIONAL SERVICE LINES MAY BE PRESENT.)



SURVEYOR
L.I. SMITH & ASSOCIATES, INC.
475 METROPLEX DR., STE 212
NASHVILLE, TN 37211

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Barge Cauthen & ASSOCIATES
6606 CHARLOTTE PIKE, STE 210
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METROPOLITAN GOVERNMENT OF NASHVILLE & DAVIDSON COUNTY
DEPARTMENT OF WATER & SEWERAGE SERVICES
STORMWATER DIVISION

HOGAN ROAD

PRESENT LAYOUT AND DEMOLITION PLAN

DR.	CK.	ORIGINAL DRAFT DATE
RLW	DB	8/7/2020



BCA PROJ. NO. 2773-01.170



PROJECT NO. 20-SWC-297 SHEET NO. C2.0

STORM DRAINAGE STRUCTURE

ID	GRATE SIZE	GRATE ELEV.	INV. ELEV.
1	-	000.00'	000.00'

CONTROL TABLE

POINT ID	NORTHING	EASTING	ELEV.	DESCRIPTION
1	631516.49	1741519.79	606.60'	MAG NAIL IN EOP
2	631622.68	1741318.83	611.11'	MAG NAIL IN EOP

SITE BENCHMARK TABLE

BM ID	NORTHING	EASTING	ELEV.	DESCRIPTION
SBM-1	631516.08	1741546.10	605.62'	REBAR SET
SBM-2	631537.79	1741324.21	609.48'	REBAR SET

STORM PIPE TABLE

PIPE ID	SIZE	MATERIAL	PIPE IN	PIPE OUT
1	56"x36"	CMP	NW 605.60'	SE 605.06'
2	72"x30"	CMP	NW 605.58'	SE 605.25'
3	42"x66"	CMP	SE 607.02'	NW 606.78'
4	38"x60"	RCP	NW -	SE 607.02'

CONTROL TABLE

NG	EASTING	ELEV.	DESCRIPTION
0.43	1741519.79	606.60'	MAG NAIL IN EOP
2.66	1741318.83	611.11'	MAG NAIL IN EOP

CONTROL TABLE

NG	EASTING	ELEV.	DESCRIPTION
.49	1741546.10	605.62'	REBAR SET
.68	1741324.21	609.48'	REBAR SET

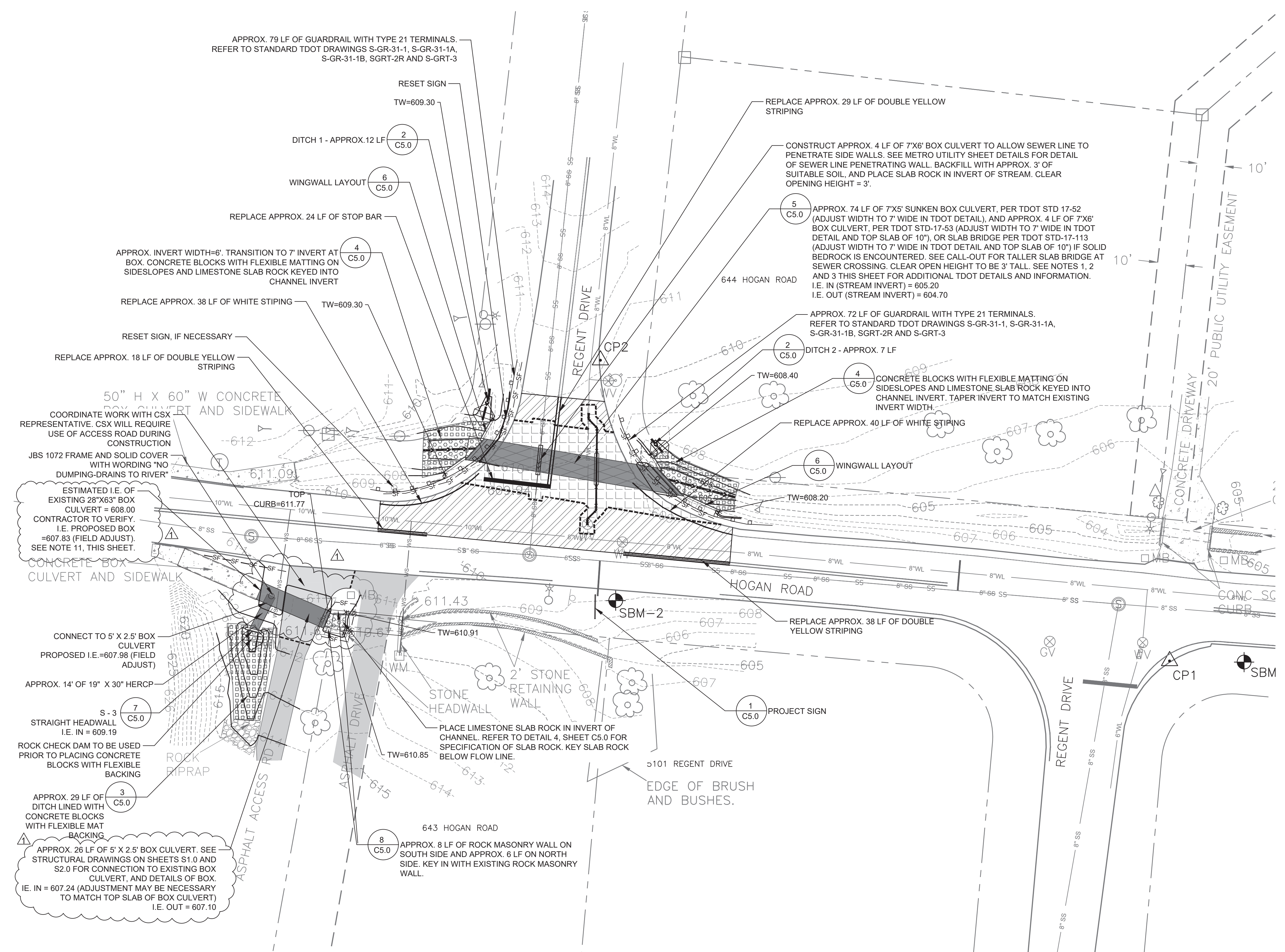
SITE BENCHMARK TABLE

NG	EASTING	ELEV.	DESCRIPTION
.08	1741546.10	605.62'	REBAR SET
.79	1741324.21	609.48'	REBAR SET

- SITE DATA AND SURVEY NOTES**
- THIS PROJECT DOES NOT CONSTITUTE A PROPERTY SURVEY. PROPERTY INFORMATION SHOWN HEREON IS FOR REFERENCE ONLY AND BASED SOLELY ON THE DOCUMENTS OF RECORD IN THE REGISTER OF DEED OFFICE OF DAVIDSON CO., TN AS FOLLOWS:
SECTION 1 REVISED, DRIVE HALL ESTATES OF RECORD IN PLAT BOOK 1835 - PAGE 122
SECTION 2, HALEWOOD ESTATES, SECTION 1 OF RECORD IN PLAT BOOK 2330 - PAGE 57
 - FIELD WORK COMPLETED MARCH 04, 2020.
 - LOCATION OF UNDERGROUND UTILITIES ARE APPROXIMATE. NO MARKING RESULTED FROM THE 111 TICKET 20064330 SUBMITTED ON FEBRUARY 23, 2020. LOCATIONS SHOWN ON SURVEY ARE BASED UPON VISIBLE EVIDENCE AND UTILITY MAPS PROVIDED BY THE APPROPRIATE UTILITY COMPANIES. ALL UTILITIES SHOULD BE VERIFIED PRIOR TO CONSTRUCTION.
 - GAS LINE LOCATIONS WERE NOT LOCATED AT THE TIME OF SURVEY. MAPS WERE NOT PROVIDED BY PREDMONT NATURAL GAS AT THE TIME OF THE SURVEY.
 - SANITARY SEWER LOCATIONS WERE NOT LOCATED AT THE TIME OF SURVEY. POSITIONS ARE BASED ON SURVEYED LOCATION OF MANHOLES AND MAPS PROVIDED BY METRO WATER SERVICES.
 - WATER LINE LOCATIONS WERE NOT LOCATED AT THE TIME OF SURVEY. LOCATIONS ARE BASED UPON MAPS PROVIDED BY METRO WATER SERVICES AND ABOVE GROUND EVIDENCE.
 - SURVEY COMPLETED USING TRIMBLE SS TOTAL STATION EQUIPMENT.
 - STATE PLANE COORDINATES AND ELEVATIONS WERE ESTABLISHED ON-SITE USING GNSS NETWORK-RTK METHOD, WITH BASE CORRECTION PROVIDED THROUGH THE TDOY VRS NETWORK. TRIMBLE R-10 GNSS RECEIVER USED AS RTK ROVER.
 - TENNESSEE STATE PLANE COORDINATE SYSTEM NAD 1983
VERTICAL DATUM - NAVD 1988
 - 1 FOOT CONTOUR INTERVAL SHOWN.

SANITARY SEWER TABLE

MANHOLE ID	T.O.C.	PIPE IN	PIPE OUT
50	604.24'	NW 8" - PVC 594.72'	SE 8" - PVC 593.79'
51	607.12'	NW 8" - PVC 598.27'	SE 8" - PVC 596.62'
		SW 8" - PVC 596.67'	
52	609.75'	NW 8" - PVC 602.02'	SE 8" - PVC 601.12'
		NE 8" - PVC 601.21'	
53A	620.43'	NE 8" - PVC 613.13'	SW 8" - PVC 612.28'
53B	622.56'	SW-TOP 8" - PVC 615.64'	NE 8" - PVC 611.69'
		SW-BOT 8" - PVC 612.51'	
57	622.16'	NW 8" - PVC 617.69'	SE 8" - PVC 617.41'
66	610.93'	NW 8" - PVC 606.11'	SE 8" - PVC 605.88'



PROPOSED LEGEND

- PROPOSED DITCH CENTERLINE
- PROPOSED SAW CUT
- PROPOSED CONTOUR
- PROPOSED STORM PIPE
- PROPOSED TEMPORARY SILT FENCE
- PROPOSED TEMPORARY ROCK CHECK DAM
- PAVED DRIVEWAY TO BE REPLACED, IN KIND
- PERPENDICULAR TRENCH PATCH REPAIR REPLACEMENT PER METRO STANDARD DETAIL ST-270, INCLUDING COLD PLANING OF TOP 2" OF BINDER, AND 2" OF WEARING SURFACE.
- BINDER AND WEARING SURFACE OVER BOX CULVERT.
- COLD PLANING 2 INCHES OF ASPHALTIC CONCRETE PAVEMENT AND REPLACE WITH 2 INCHES OF 411-D ASPHALT.
- PROPOSED CONCRETE DITCH
- APPROX. LIMITS OF LIMESTONE SLAB ROCK
- APPROX. LIMITS OF CONCRETE BLOCKS WITH FLEXIBLE FABRIC
- TOP OF WALL SPOT ELEVATION
- DETAIL NUMBER
- DETAIL CALLOUT BUBBLE
- SHEET WHERE DETAIL IS SHOWN

GRID

STATE PLANE COORDINATE SYSTEM NAD-83 (1990)

GRAPHIC SCALE



Civil Engineers

Barge Cauthen & ASSOCIATES

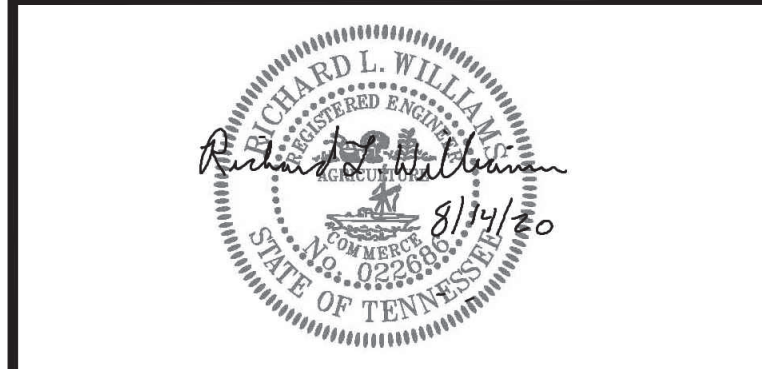
6606 CHARLOTTE PIKE, STE 210
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METROPOLITAN GOVERNMENT OF NASHVILLE & DAVIDSON COUNTY
DEPARTMENT OF WATER & SEWERAGE SERVICES
STORMWATER DIVISION

HOGAN ROAD

PROPOSED GRADING AND DRAINAGE PLAN

DR.	CK.	ORIGINAL DRAFT DATE
RLW	DB	8/7/2020
RLW	-	A 8/14/20 - CHANGED THE LENGTH OF THE PROPOSED CULVERT UNDER THE CSX ACCESS RD. FROM 24' TO 26'. REVISED THE 611 AND 612 CONTOUR NEAR THE CSX ACCESS RD. REVISED THE I.E. OF THE EXISTING BOX CULVERT UNDER THE CSX ACCESS ROAD.



BCA PROJ. NO. 2773-01.170



PROJECT NO. 20-SWC-297 SHEET NO. C3.0

NOTES:

- 1) REFER TO THE FOLLOWING TDOT STANDARD DETAILS FOR THE BOX CULVERT AND SLAB BRIDGE UNDER REGENT DR.: STD-17-2, STD-17-3, STD-17-4, STD-17-5, STD-17-6, STD-17-7, STD-17-8, STD-17-9, STD-17-17 AND STD-17-18.
- 2) REFER TO THE FOLLOWING TDOT STANDARD DETAILS FOR WINGWALLS FOR THE BOX CULVERT AND SLAB BRIDGE UNDER REGENT DR.: STD-17-10, STD-17-15, STD-17-16, STD-17-17 AND STD-17-18.
- 3) REBAR FOR BOTTOM SLAB OF 7'X5' BOX TO EXTEND INTO WALL AND SLAB OF 7'X6' BOX CULVERT.
- 4) THE SURVEYOR COULD NOT ACCESS THE BOX CULVERT ORIGINATING FROM THE CSX RAILROAD ON THE SOUTH SIDE OF HOGAN RD. THE PIPE WAS TELEVIEWED TO DETERMINE THE CONDITION AND AN APPROXIMATE SIZE. THE VIDEO SERVICE ESTIMATED THE HEIGHT TO BE 28" AND THE WIDTH TO BE 63". THE 28" HEIGHT AND 9" TOP SLAB WERE USED TO ESTIMATE THE INVERT ELEVATION. THIS INVERT ELEVATION WILL MOST LIKELY NOT BE ACCURATE.
- 5) REMOVE AND RESET FENCES AS NECESSARY. CONTACT THE PROPERTY OWNER PRIOR TO REMOVING ANY FENCING. IF TEMPORARY FENCING IS REQUIRED FOR PETS, CHILDREN OR LIVESTOCK, THE COST FOR TEMPORARY FENCING WILL BE INCLUDED IN ITEM 707-06.20. COORDINATE LOCATION OF TEMPORARY FENCING WITH THE PROPERTY OWNER AND METRO CONSTRUCTION MANAGER. IF TEMPORARY FENCING IS REQUIRED, INSTALL TEMPORARY FENCING PRIOR TO REMOVING EXISTING FENCE.
- 6) ALL DRIVEWAYS SHALL BE REPAIRED IN AREAS AFFECTED BY CONSTRUCTION.
- 7) CONTRACTOR SHALL REMOVE AND REPLACE MAILBOXES AS NECESSARY.
- 8) IF GRASS AND/OR DEBRIS RESTRICTS RUNOFF FROM ENTERING ROAD-SIDE DITCHES, WITHIN THE PROJECT AREA, CLIP THE SHOULDER TO PROMOTE POSITIVE DRAINAGE TO THE DITCH AND PLACE 4" OF COMPACTED TDOT TYPE A, GRADING D AGGREGATE ALONG THE SHOULDER.
- 9) IF THE ROAD SHOULDER IS DAMAGED BY CONSTRUCTION, REPAIR THE SHOULDER WITH 4" OF COMPACTED TDOT TYPE A, GRADING D AGGREGATE.
- 10) PLACE NORTH AMERICAN GREEN'S S75B, STAPLE PATTERN B, OR APPROVED EQUAL, ON ALL SLOPES STEEPER THAN 4 H TO 1 V OUTSIDE OF DITCH LIMITS. EXTEND EROSION MATTING FOR DITCHES TO THE TOP OF SLOPE. SEE DITCH DETAILS FOR EROSION MATTING SPECIFICATION IN DITCHES. PLACE SEED UNDER EROSION CONTROL MATTING.
- 11) SEAL THE SIDE OF THE JOINT BETWEEN THE EXISTING BOX CULVERT, AND PROPOSED BOX CULVERT WITH BUTYL MASTIC TAPE, OR JOINT CRACK FILLER TO CREATE A WATERTIGHT SEAL. SEAL THE BOTTOM JOINT WITH NON-SHRINK GROUT, OR EPOXY. SEAL THE TOP JOINT WITH WHITE EPOXY.

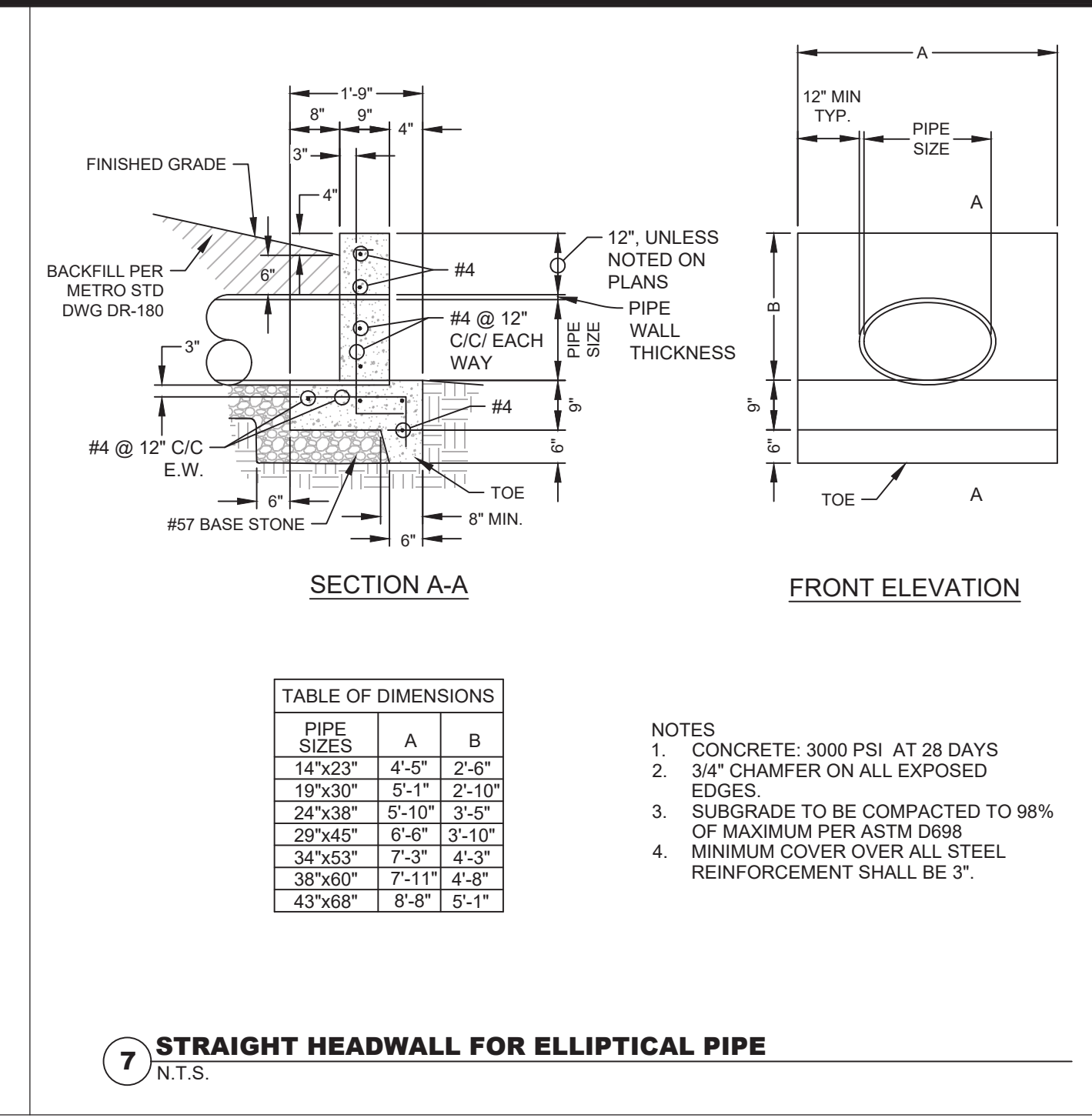
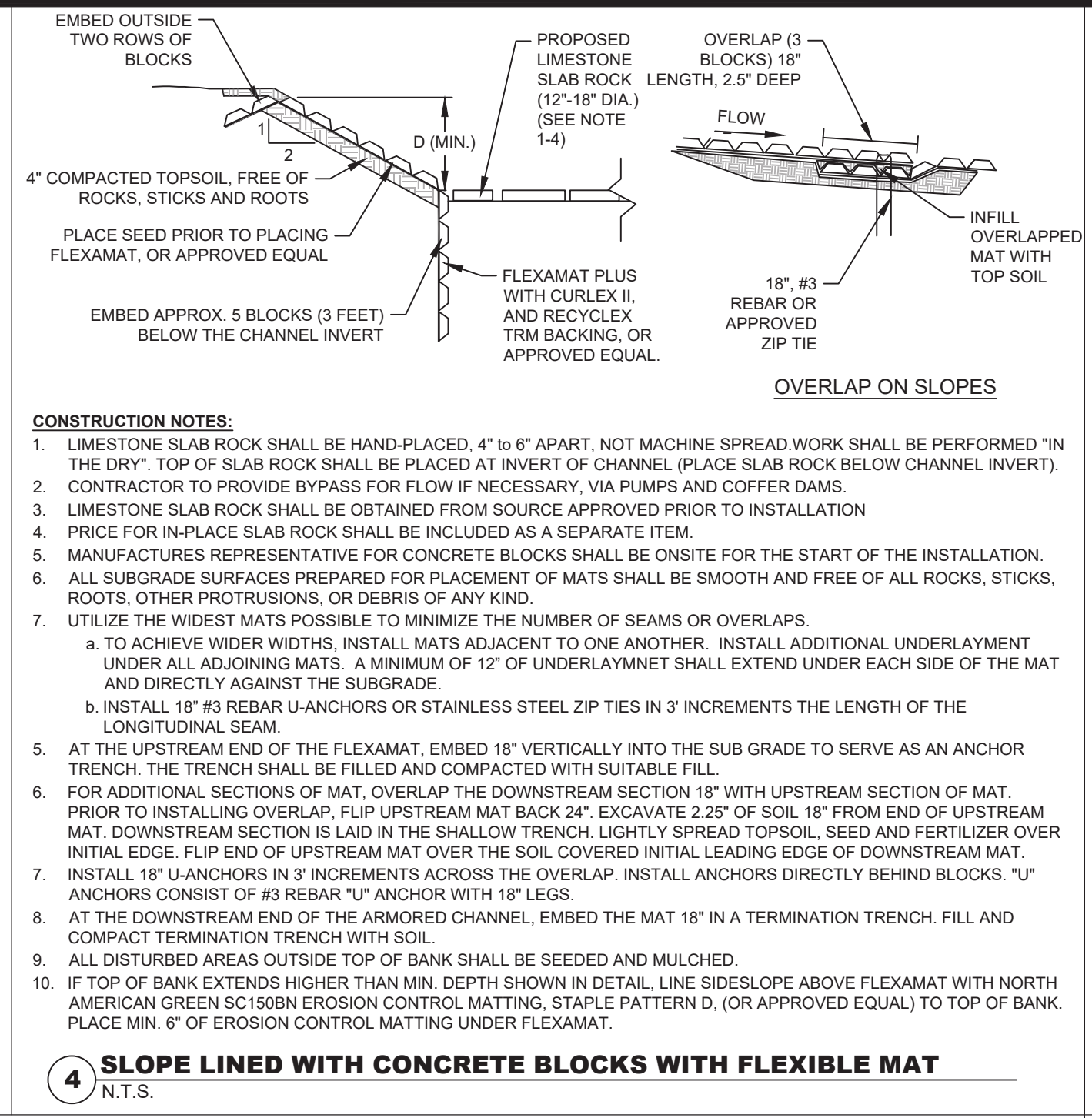


TABLE OF DIMENSIONS

PIPE SIZES	A	B
14"x23"	4'-5"	2'-6"
19"x30"	5'-1"	2'-10"
24"x36"	5'-10"	3'-5"
29"x45"	6'-6"	3'-10"
34"x53"	7'-3"	4'-3"
38"x60"	7'-11"	4'-8"
43"x68"	8'-8"	5'-1"

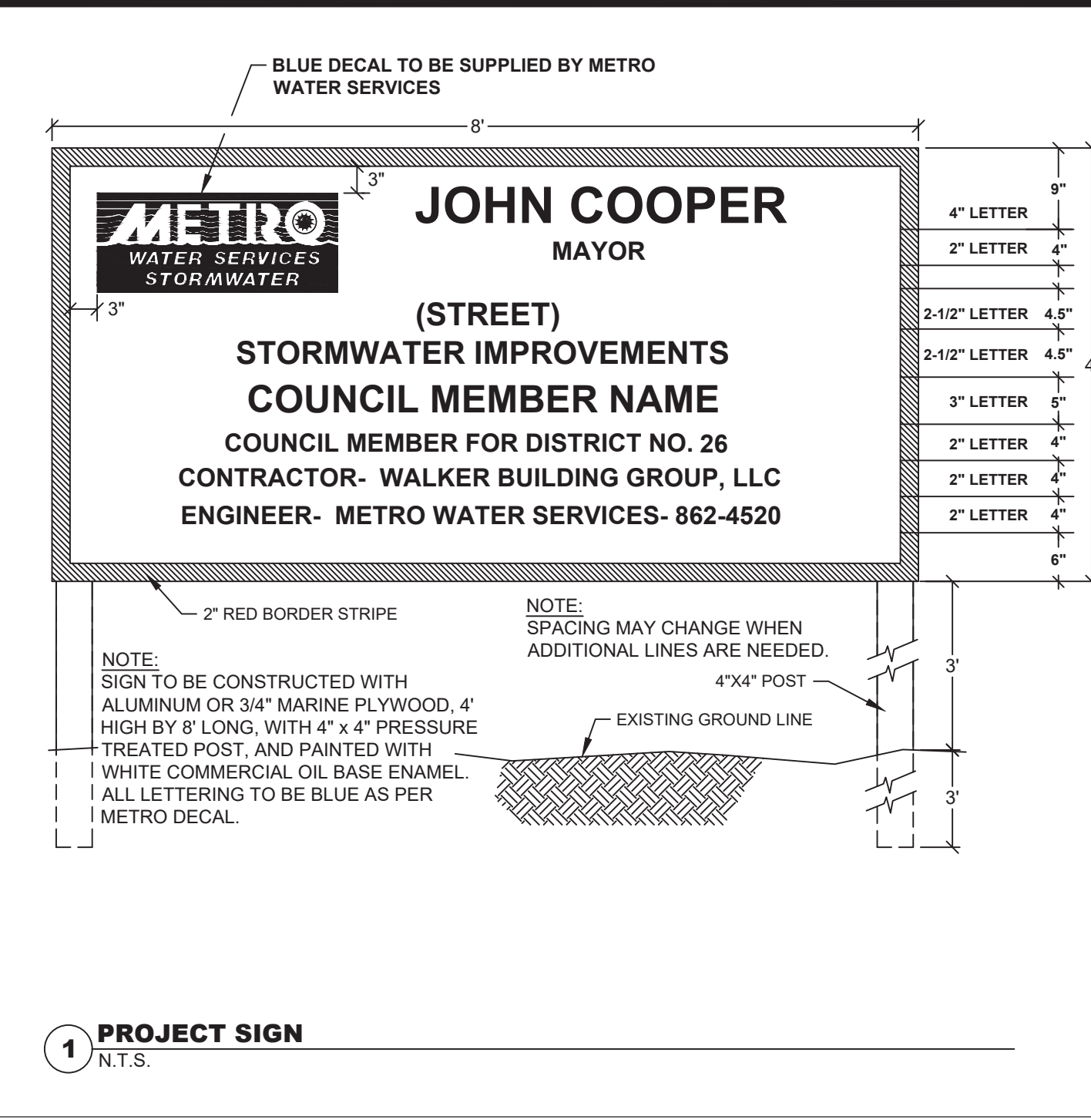
- NOTES**
1. CONCRETE: 3000 PSI AT 28 DAYS
 2. 3/4" CHAMFER ON ALL EXPOSED EDGES.
 3. SUBGRADE TO BE COMPACTED TO 98% OF MAXIMUM PER ASTM D698
 4. MINIMUM COVER OVER ALL STEEL REINFORCEMENT SHALL BE 3".

7 STRAIGHT HEADWALL FOR ELLIPTICAL PIPE
N.T.S.

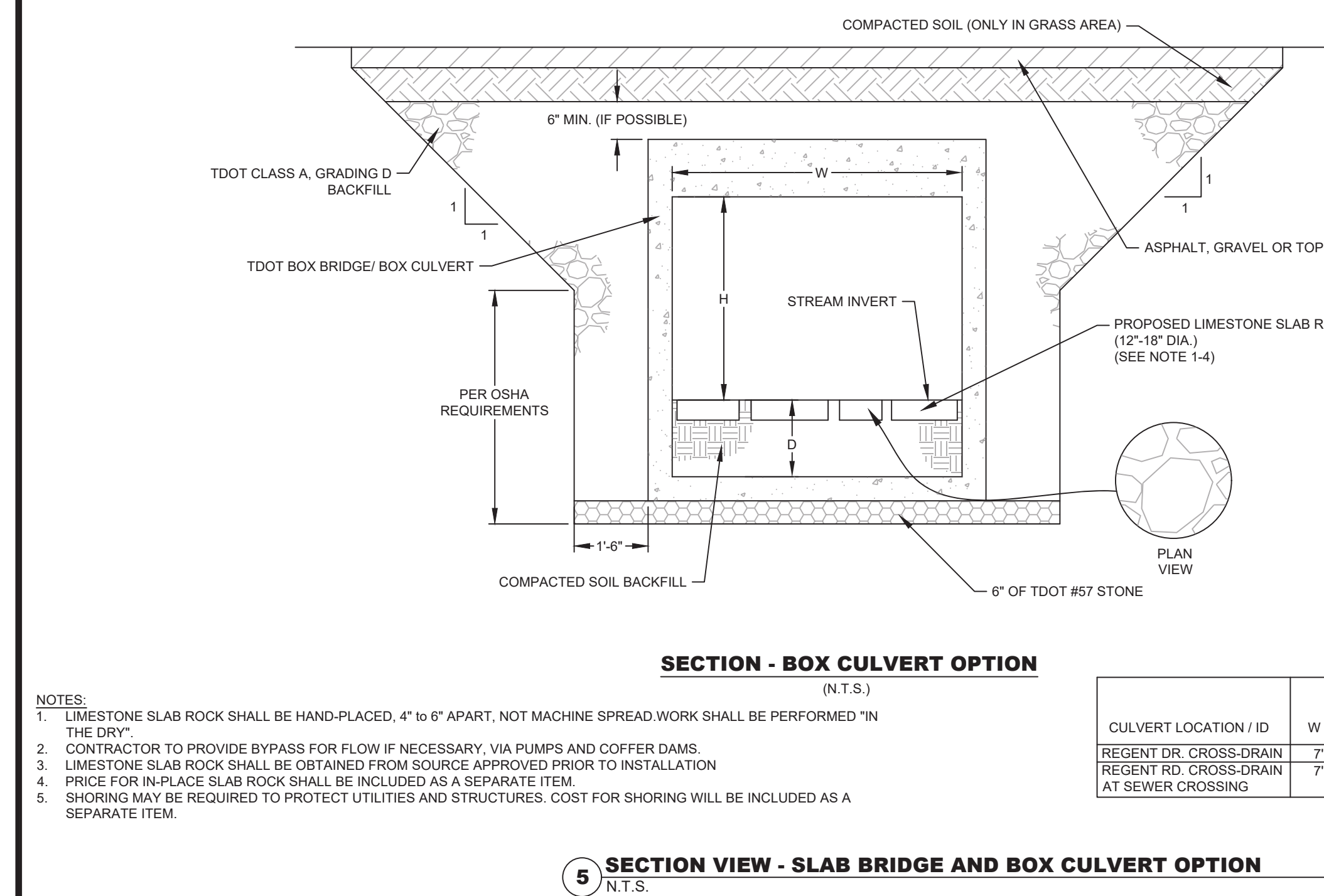


- CONSTRUCTION NOTES:**
1. LIMESTONE SLAB ROCK SHALL BE HAND-PLACED, 4" TO 6" APART, NOT MACHINE SPREAD WORK SHALL BE PERFORMED "IN THE DRY". TOP OF SLAB ROCK SHALL BE PLACED AT INVERT OF CHANNEL (PLACE SLAB ROCK BELOW CHANNEL INVERT).
 2. CONTRACTOR TO PROVIDE BYPASS FOR FLOW IF NECESSARY, VIA PUMPS AND COFFER DAMS.
 3. LIMESTONE SLAB ROCK SHALL BE OBTAINED FROM SOURCE APPROVED PRIOR TO INSTALLATION
 4. PRICE FOR IN-PLACE SLAB ROCK SHALL BE INCLUDED AS A SEPARATE ITEM.
 5. MANUFACTURES REPRESENTATIVE FOR CONCRETE BLOCKS SHALL BE ONSITE FOR THE START OF THE INSTALLATION.
 6. ALL SUBGRADE SURFACES PREPARED FOR PLACEMENT OF MATS SHALL BE SMOOTH AND FREE OF ALL ROCKS, STICKS, ROOTS, OTHER PROTRUSIONS, OR DEBRIS OF ANY KIND.
 7. UTILIZE THE WIDEST MATS POSSIBLE TO MINIMIZE THE NUMBER OF SEAMS OR OVERLAPS.
 - a. TO ACHIEVE WIDER WIDTHS, INSTALL MATS ADJACENT TO ONE ANOTHER. INSTALL ADDITIONAL UNDERLAYMENT UNDER ALL ADJOINING MATS. A MINIMUM OF 12" OF UNDERLAYMENT SHALL EXTEND UNDER EACH SIDE OF THE MAT AND DIRECTLY AGAINST THE SUBGRADE.
 - b. INSTALL 18" #3 REBAR U-ANCHORS OR STAINLESS STEEL ZIP TIES IN 3' INCREMENTS THE LENGTH OF THE LONGITUDINAL SEAM.
 8. AT THE UPSTREAM END OF THE FLEXAMAT, EMBED 18" VERTICALLY INTO THE SUB GRADE TO SERVE AS AN ANCHOR TRENCH. THE TRENCH SHALL BE FILLED AND COMPACTED WITH SUITABLE FILL.
 9. FOR ADDITIONAL SECTIONS OF MAT, OVERLAP THE DOWNSTREAM SECTION 18" WITH UPSTREAM SECTION OF MAT. PRIOR TO INSTALLING OVERLAP, FLIP UPSTREAM MAT BACK 24" EXCAVATE 2.25" OF SOIL 18" FROM END OF UPSTREAM MAT. DOWNSTREAM SECTION IS LAID IN THE SHALLOW TRENCH, LIGHTLY SPREAD TOPSOIL, SEED AND FERTILIZER OVER INITIAL EDGE. FLIP END OF UPSTREAM MAT OVER THE SOIL COVERED INITIAL LEADING EDGE OF DOWNSTREAM MAT.
 10. INSTALL 18" U-ANCHORS IN 3' INCREMENTS ACROSS THE OVERLAP. INSTALL ANCHORS DIRECTLY BEHIND BLOCKS. "U" ANCHORS CONSIST OF #3 REBAR "U" ANCHOR WITH 18" LEGS.
 11. AT THE DOWNSTREAM END OF THE ARMORED CHANNEL, EMBED THE MAT 18" IN A TERMINATION TRENCH. FILL AND COMPACT TERMINATION TRENCH WITH SOIL.
 12. ALL DISTURBED AREAS OUTSIDE TOP OF BANK SHALL BE SEEDED AND MULCHED.
 13. IF TOP OF BANK EXTENDS HIGHER THAN MIN. DEPTH SHOWN IN DETAIL, LINE SIDESLOPE ABOVE FLEXAMAT WITH NORTH AMERICAN GREEN SC150BN EROSION CONTROL MATTING, STAPLE PATTERN D, (OR APPROVED EQUAL) TO TOP OF BANK. PLACE MIN. 6" OF EROSION CONTROL MATTING UNDER FLEXAMAT.

4 SLOPE LINED WITH CONCRETE BLOCKS WITH FLEXIBLE MAT
N.T.S.



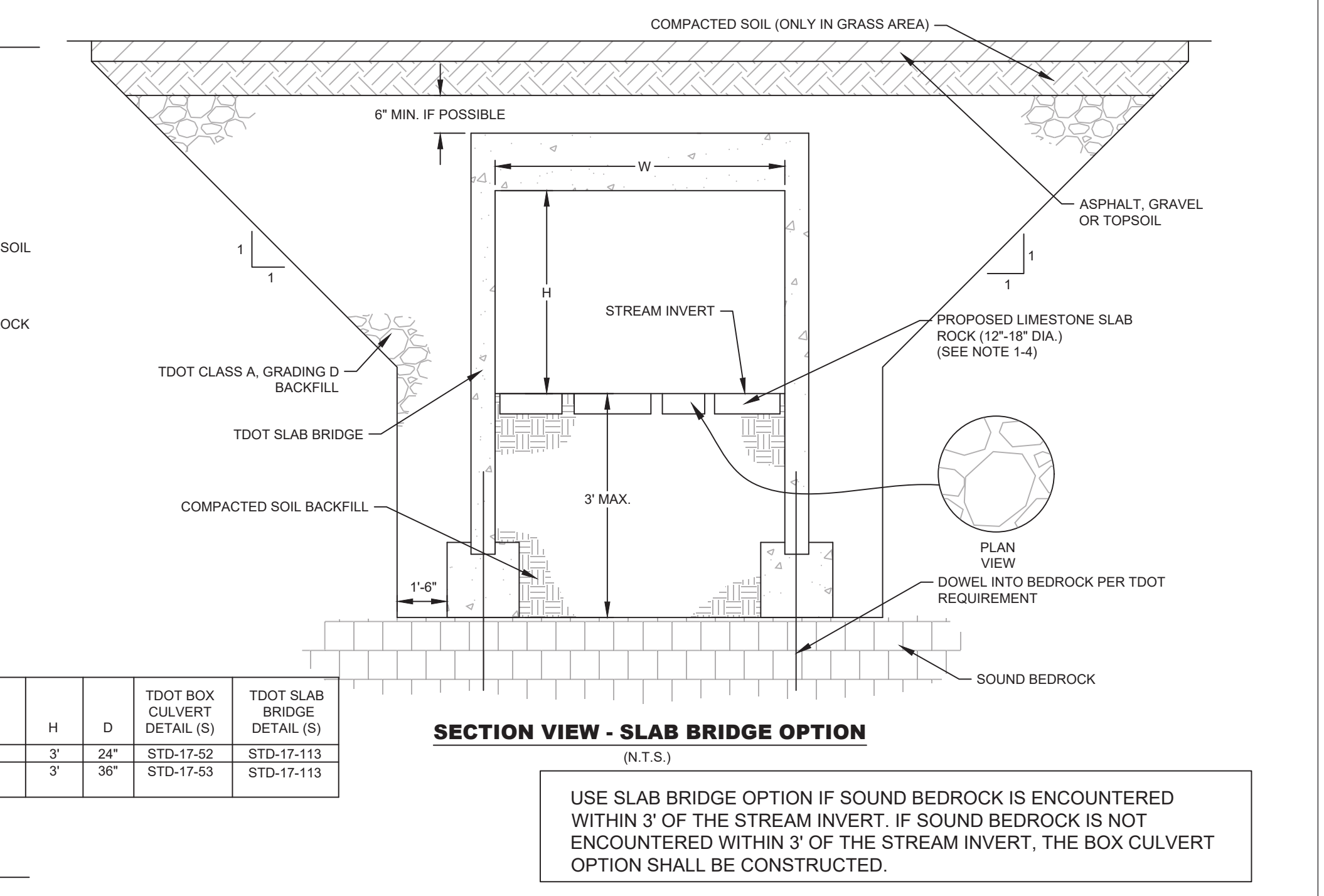
1 PROJECT SIGN
N.T.S.



SECTION - BOX CULVERT OPTION
(N.T.S.)

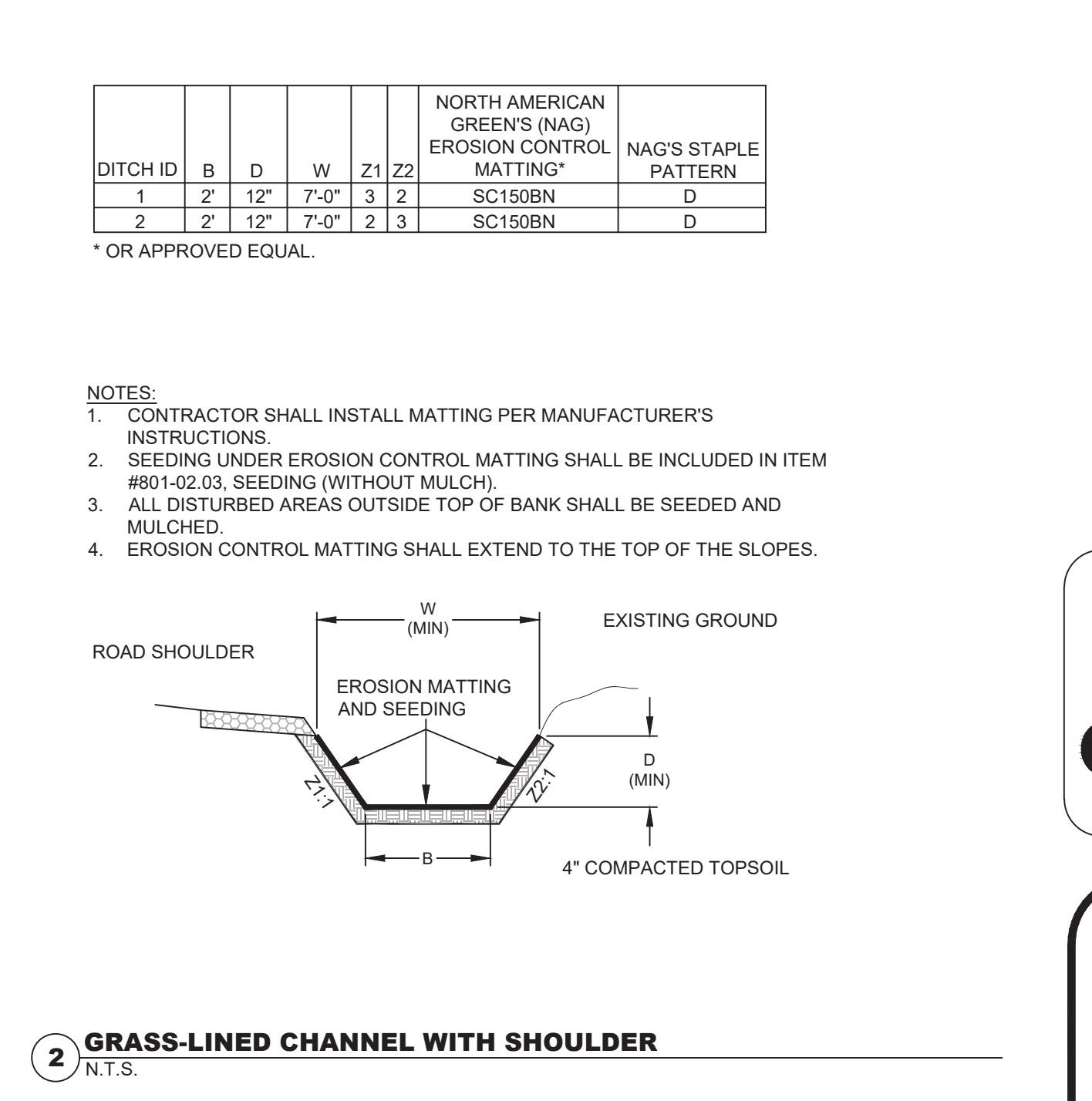
- NOTES:**
1. LIMESTONE SLAB ROCK SHALL BE HAND-PLACED, 4" TO 6" APART, NOT MACHINE SPREAD WORK SHALL BE PERFORMED "IN THE DRY".
 2. CONTRACTOR TO PROVIDE BYPASS FOR FLOW IF NECESSARY, VIA PUMPS AND COFFER DAMS.
 3. LIMESTONE SLAB ROCK SHALL BE OBTAINED FROM SOURCE APPROVED PRIOR TO INSTALLATION
 4. PRICE FOR IN-PLACE SLAB ROCK SHALL BE INCLUDED AS A SEPARATE ITEM.
 5. SHORING MAY BE REQUIRED TO PROTECT UTILITIES AND STRUCTURES. COST FOR SHORING WILL BE INCLUDED AS A SEPARATE ITEM.

5 SECTION VIEW - SLAB BRIDGE AND BOX CULVERT OPTION
N.T.S.



SECTION VIEW - SLAB BRIDGE OPTION
(N.T.S.)

USE SLAB BRIDGE OPTION IF SOUND BEDROCK IS ENCOUNTERED WITHIN 3' OF THE STREAM INVERT. IF SOUND BEDROCK IS NOT ENCOUNTERED WITHIN 3' OF THE STREAM INVERT, THE BOX CULVERT OPTION SHALL BE CONSTRUCTED.

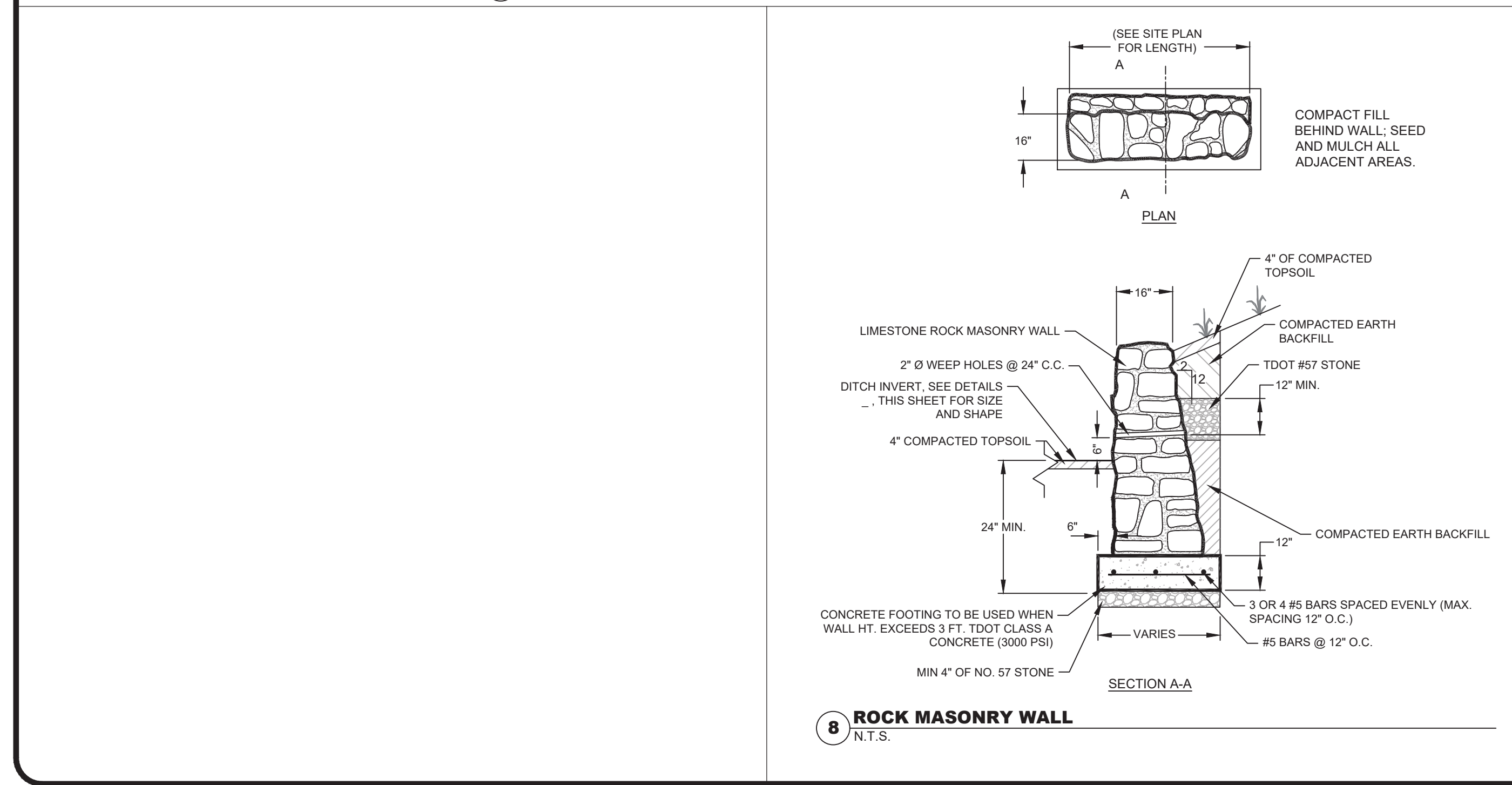


DITCH ID	B	D	W	Z1	Z2	NORTH AMERICAN GREEN'S (NAG) EROSION CONTROL MATTING*	NAG'S STAPLE PATTERN
1	2'	12"	7'-0"	3	2	SC150BN	D
2	2'	12"	7'-0"	2	3	SC150BN	D

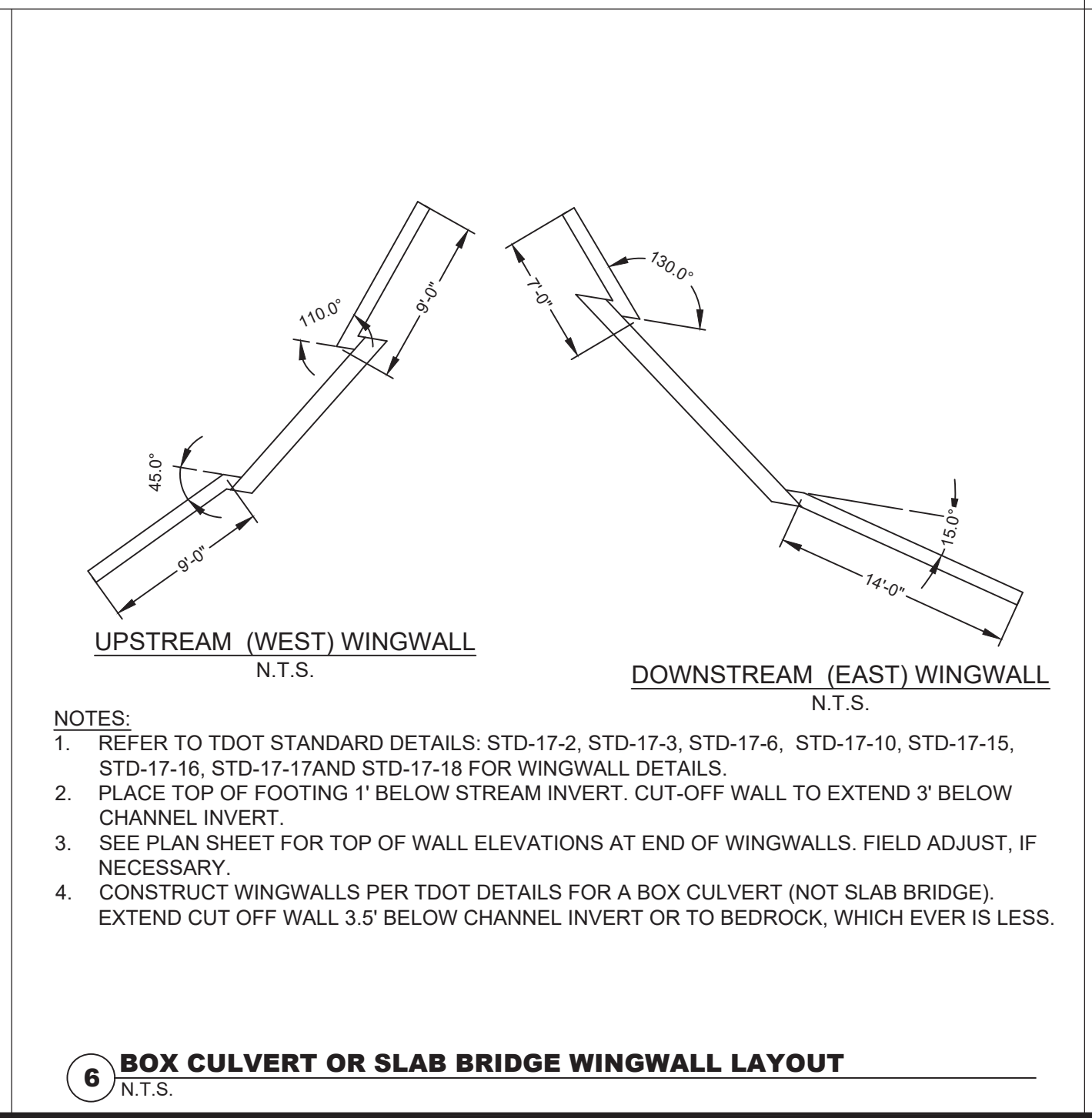
* OR APPROVED EQUAL.

- NOTES:**
1. CONTRACTOR SHALL INSTALL MATTING PER MANUFACTURER'S INSTRUCTIONS.
 2. SEEDING UNDER EROSION CONTROL MATTING SHALL BE INCLUDED IN ITEM #801-02.03, SEEDING (WITHOUT MULCH).
 3. ALL DISTURBED AREAS OUTSIDE TOP OF BANK SHALL BE SEEDED AND MULCHED.
 4. EROSION CONTROL MATTING SHALL EXTEND TO THE TOP OF THE SLOPES.

2 GRASS-LINED CHANNEL WITH SHOULDER
N.T.S.

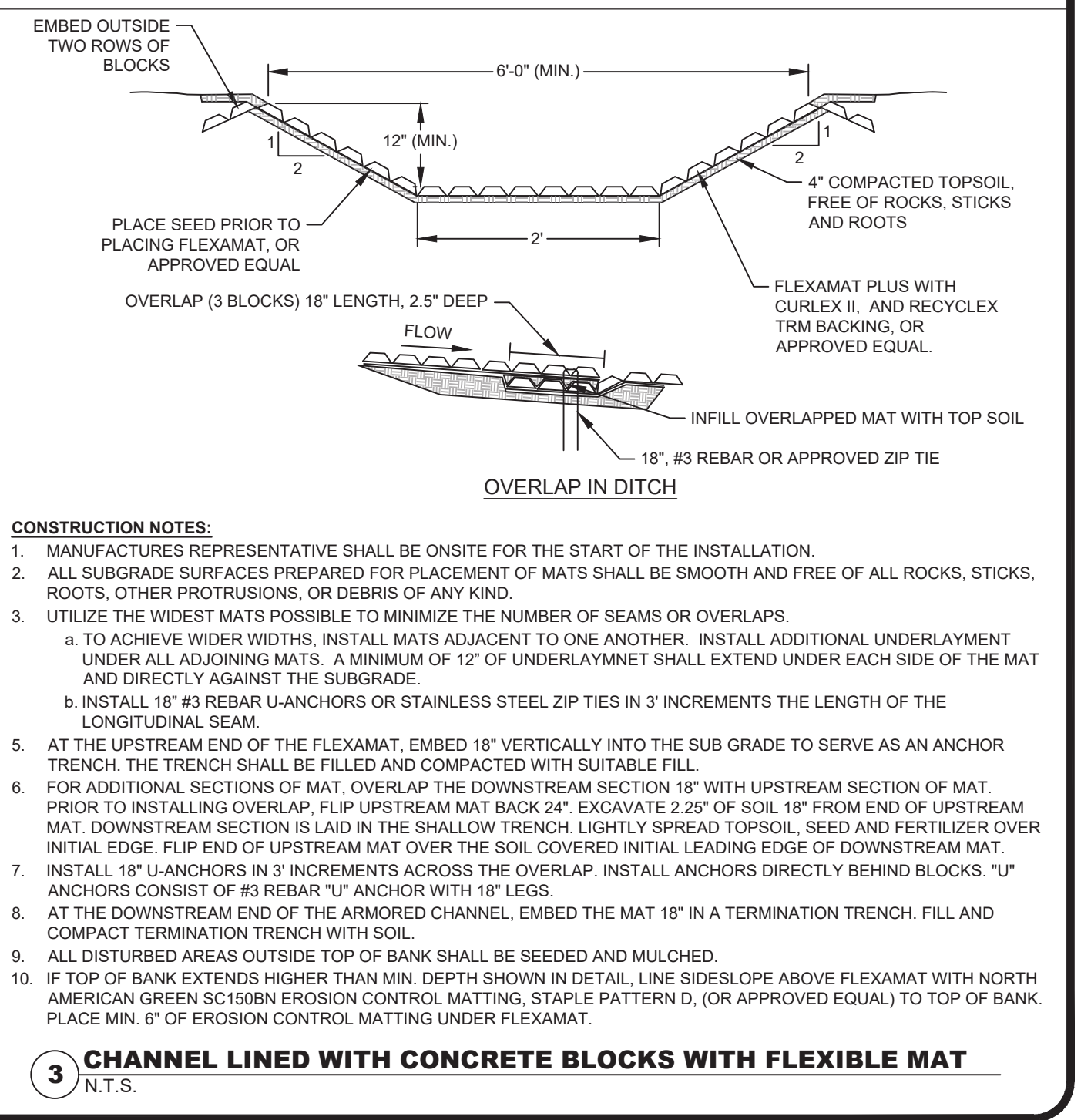


8 ROCK MASONRY WALL
N.T.S.



- NOTES:**
1. REFER TO TDOT STANDARD DETAILS: STD-17-2, STD-17-3, STD-17-6, STD-17-10, STD-17-15, STD-17-16, STD-17-17 AND STD-17-18 FOR WINGWALL DETAILS.
 2. PLACE TOP OF FOOTING 1' BELOW STREAM INVERT. CUT-OFF WALL TO EXTEND 3' BELOW CHANNEL INVERT.
 3. SEE PLAN SHEET FOR TOP OF WALL ELEVATIONS AT END OF WINGWALLS. FIELD ADJUST, IF NECESSARY.
 4. CONSTRUCT WINGWALLS PER TDOT DETAILS FOR A BOX CULVERT (NOT SLAB BRIDGE). EXTEND CUT OFF WALL 3.5' BELOW CHANNEL INVERT OR TO BEDROCK, WHICH EVER IS LESS.

6 BOX CULVERT OR SLAB BRIDGE WINGWALL LAYOUT
N.T.S.



- CONSTRUCTION NOTES:**
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3 CHANNEL LINED WITH CONCRETE BLOCKS WITH FLEXIBLE MAT
N.T.S.

Civil Engineers

Barge Cauthen & ASSOCIATES

6606 CHARLOTTE PIKE, STE 210
NASHVILLE, TENNESSEE 37209
615.356.9911 PHONE
615.352.6737 F A X

METROPOLITAN GOVERNMENT OF NASHVILLE & DAVIDSON COUNTY
DEPARTMENT OF WATER & SEWERAGE SERVICES
STORMWATER DIVISION

HOGAN ROAD

DETAILS 1

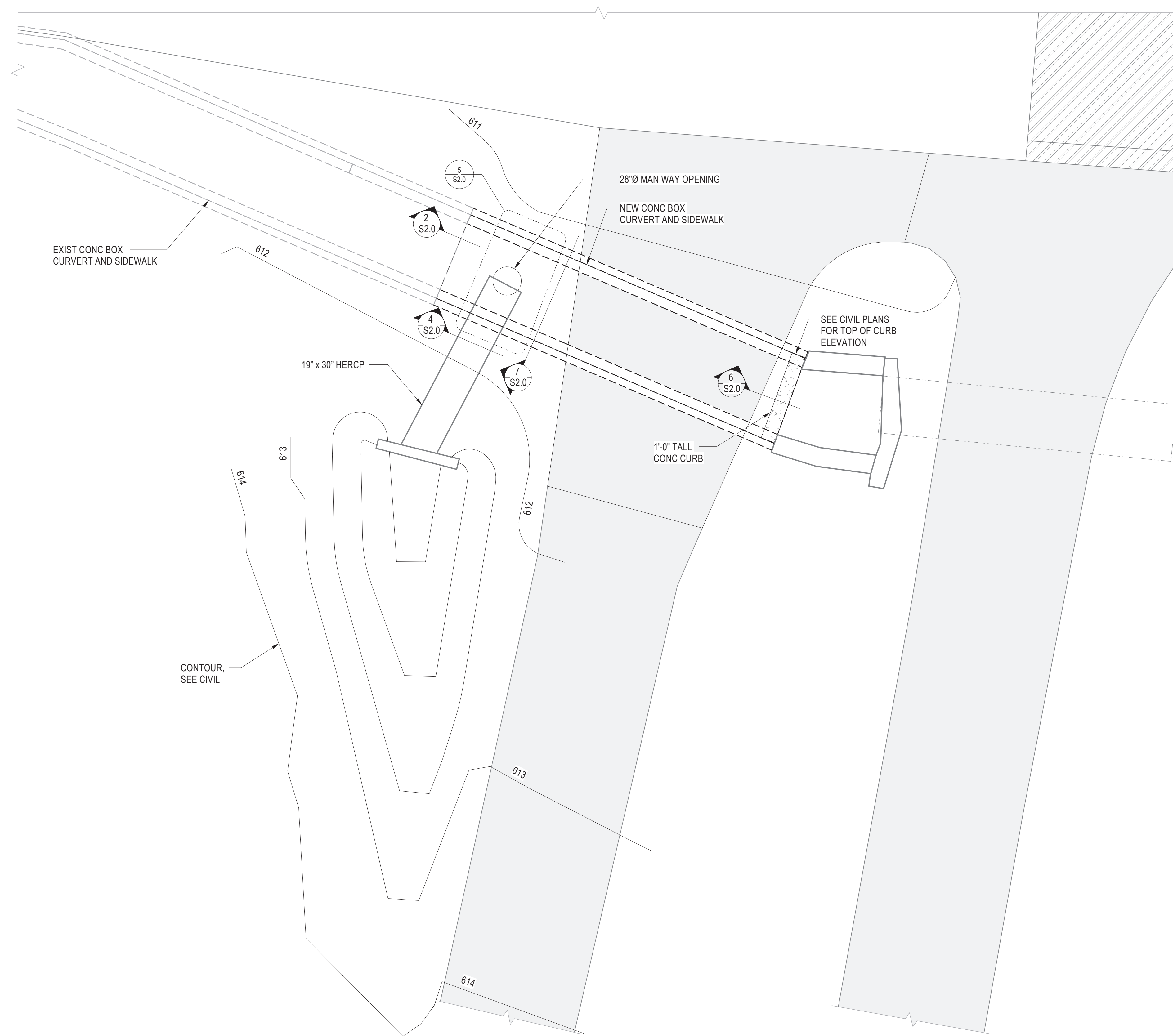
DR.	CK.	ORIGINAL DRAFT DATE
RLW	DB	8/7/2020

Richard J. Williams
AGRICULTURE
8/7/20
STATE OF TENNESSEE

BCA PROJ. NO. 2773-01.170

METRO WATER SERVICES STORMWATER

PROJECT NO. 20-SWC-297	SHEET NO. C5.0
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STRUCTURAL GENERAL NOTES

1. **GENERAL DESIGN CRITERIA AND CODE INFORMATION:**
 - A. THE CONSTRUCTION OF THIS STRUCTURE SHALL CONFORM TO THE IBC 2012.
 - B. THE DESIGN OF ERECTION BRACING, SHORING, TEMPORARY SUPPORTS, ETC. IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR. THE STRUCTURE IS STABLE ONLY IN ITS COMPLETED FORM. THE TEMPORARY BRACING FOR THE STRUCTURE SHALL REMAIN IN PLACE UNTIL THE PERMANENT BRACING IS IN PLACE.
 - C. CONTRACTOR RESPONSIBILITIES INCLUDE BUT NOT LIMITED TO THE FOLLOWING:
 - a. COORDINATE THE STRUCTURAL DOCUMENTS WITH CIVIL DOCUMENTS. NOTIFY ENGINEER OF ANY DISCREPANCY OR OMISSION.
 - b. VERIFY EXISTING DIMENSIONS AND SITE CONDITIONS BEFORE STARTING WORK. NOTIFY ENGINEER OF ANY DISCREPANCY OR OMISSION.
 - c. CONTRACTOR IS SOLELY RESPONSIBLE FOR THE MEANS, METHODS, TECHNIQUES, SEQUENCES, AND PROCEDURES OF CONSTRUCTION.
 - d. CONTRACTOR HAS SOLE RESPONSIBILITY TO COMPLY WITH OSHA REGULATIONS.
2. **DESIGN LOADS:**
 - A. LIVE LOAD = 350 PSF.
3. **FOUNDATION DESIGN INFORMATION:**
 - A. ASSUMED SAFE SUBGRADE BEARING CAPACITIES LISTED BELOW SHALL BE CONFIRMED IN THE FIELD BY FIELD GEOTECHNICAL ENGINEER. CONTINUOUS FOOTINGS = 2,500 P.S.F.
 - B. WHERE UNACCEPTABLE MATERIAL OCCURS, EXCAVATE AND REPLACE WITH ENGINEERED FILL. REFER TO THE GEOTECHNICAL ENGINEER FOR ALL SUB-GRADE OPERATIONS.
4. **REINFORCED CONCRETE:**
 - A. ALL CONCRETE WORK SHALL CONFORM TO ACI318 "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE", ACI 315 "MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES", AND CRSI "MANUAL OF STANDARD PRACTICE" LATEST EDITION.
 - B. THE 28-DAY STRENGTH OF CAST-IN-PLACE CONCRETE SHALL BE AS FOLLOWS:
 - a. WALLS AND TOP SLAB 4000 P.S.I
 - b. FOOTING 4000 P.S.I
 - C. CONCRETE SHALL HAVE A MAXIMUM WATER-CEMENT RATIO OF 0.45. CONCRETE MIX DESIGNS SHALL BE SUBMITTED AND APPROVED PRIOR TO CASTING OF ANY CONCRETE.
 - D. ALL CONCRETE PLACED SHALL BE CONSOLIDATED BY MECHANICAL VIBRATORS.
 - E. REINFORCING BARS SHALL CONFORM TO ASTM-A615, "STANDARD SPECIFICATION FOR DEFORMED AND PLAIN BILLET-STEEL BARS FOR CONCRETE REINFORCEMENT." THE MINIMUM YIELD STRESS OF REINFORCING BARS SHALL BE 60,000 P.S.I.
 - F. LAP SPLICES FOR REINFORCING STEEL SHALL BE IN ACCORDANCE WITH ACI 318. SPLICES NOT SPECIFICALLY SHOWN SHALL BE CLASS B SPLICES UNLESS APPROVED BY THE INSPECTOR.
 - G. REINFORCING OF ALL CONCRETE MEMBERS SHALL HAVE THE FOLLOWING CLEAR CONCRETE COVER:
 - a. CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH 3"
 - b. CONCRETE EXPOSED TO EARTH OR WEATHER:
 - 6 THROUGH 18 BARS 2"
 - 5 BAR, W31 OR D31 WIRE, AND SMALLER 1 1/2"
 - H. THE CONTRACTOR SHALL PROVIDE CHAIRS AND 4'-0" CENTER-TO-CENTER TO SUPPORT WIRE MESH WHILE CASTING SLAB. PULL FABRIC UP BETWEEN SUPPORTS TO PROVIDE 2" CLEARANCE TO TOP OF SLAB. MINIMUM SIDE AND END LAP ON FABRIC SHALL BE ON WIRE SPACE.
 - I. CONCRETE WALLS SHALL BE REINFORCED AROUND ALL OPENINGS WITH 2 - #6 BARS ALL SIDES AND EXTENDED 2'-6" BEYOND OPENING UNLESS NOTED OTHERWISE.
 - J. NO BACKFILLING SHALL BE PERFORMED UNTIL THE CONCRETE IN THE WALL AND SLAB HAS REACHED 100% OF THE DESIGN STRENGTH.

Consulting Engineers
 630 Southgate Avenue - Suite C
 Nashville, Tennessee 37203
 (615) 726-2902 Phone
 www.loganpatriengineering.com
LPE Job No.: 20035

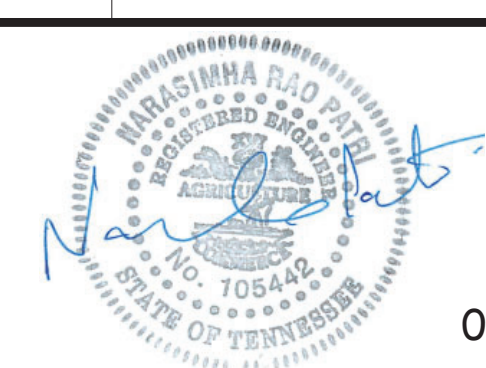
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METROPOLITAN GOVERNMENT OF NASHVILLE & DAVIDSON COUNTY
 DEPARTMENT OF WATER & SEWERAGE SERVICES
 STORMWATER DIVISION

HOGAN ROAD

STRUCTURAL DETAILS

DR:	CK	ORIGINAL DRAFT DATE
JE	RP	06.24.20
REV		DATE

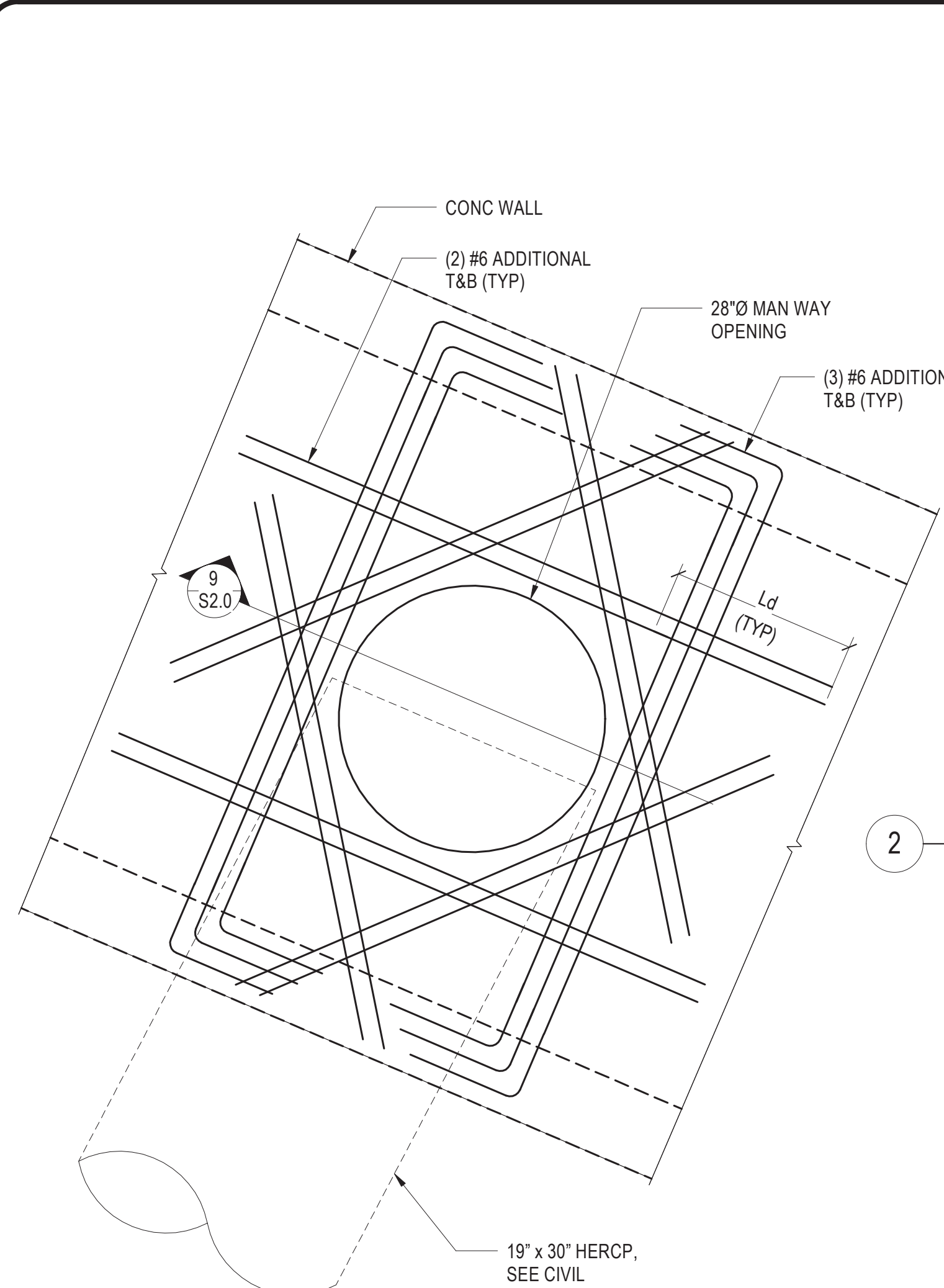
 06.24.2020

BCA PROJ. NO. 2773-01.170

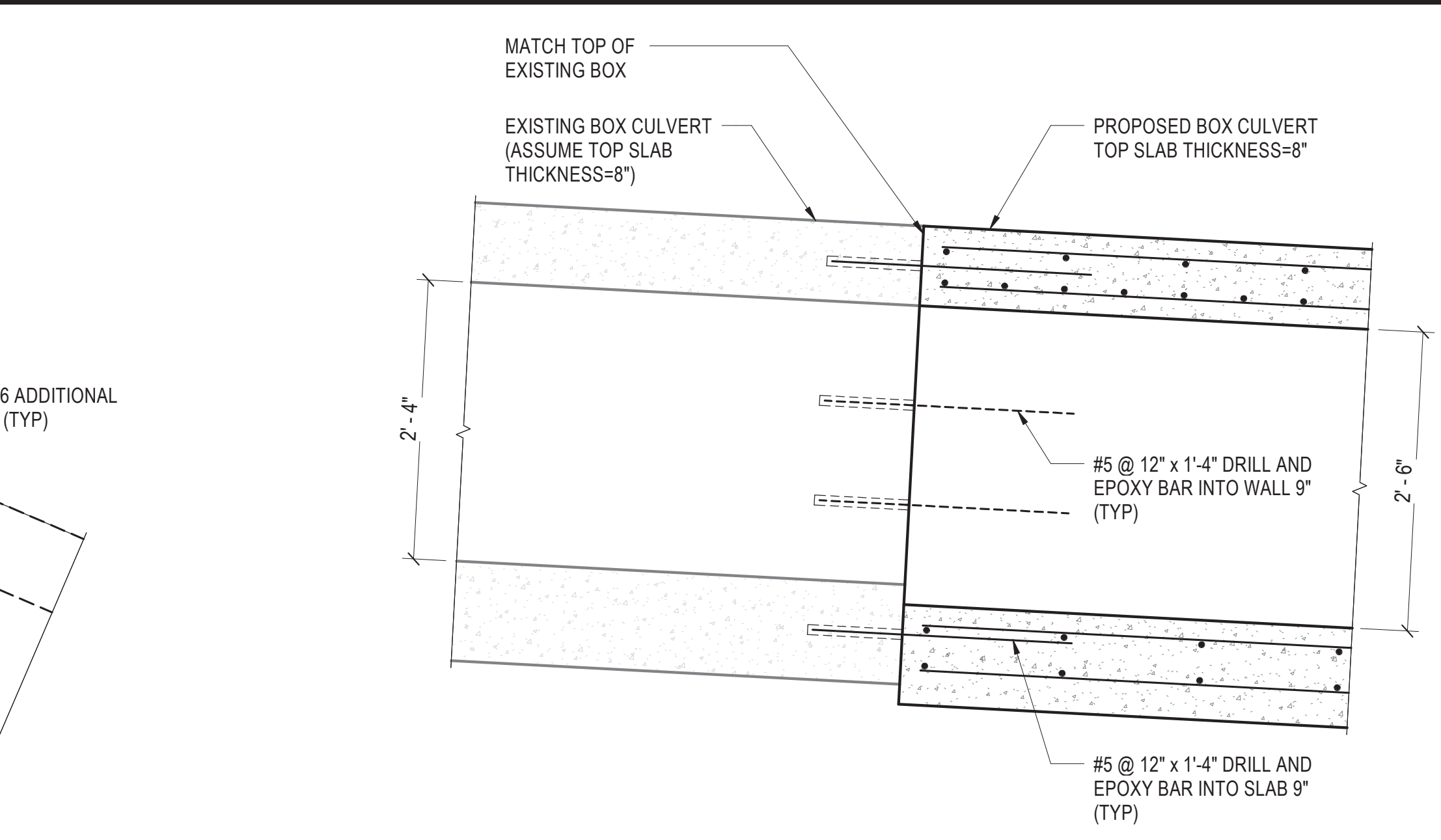
METRO WATER SERVICES STORMWATER

PROJECT NO. 20-SWC-297	SHEET NO. 51.0
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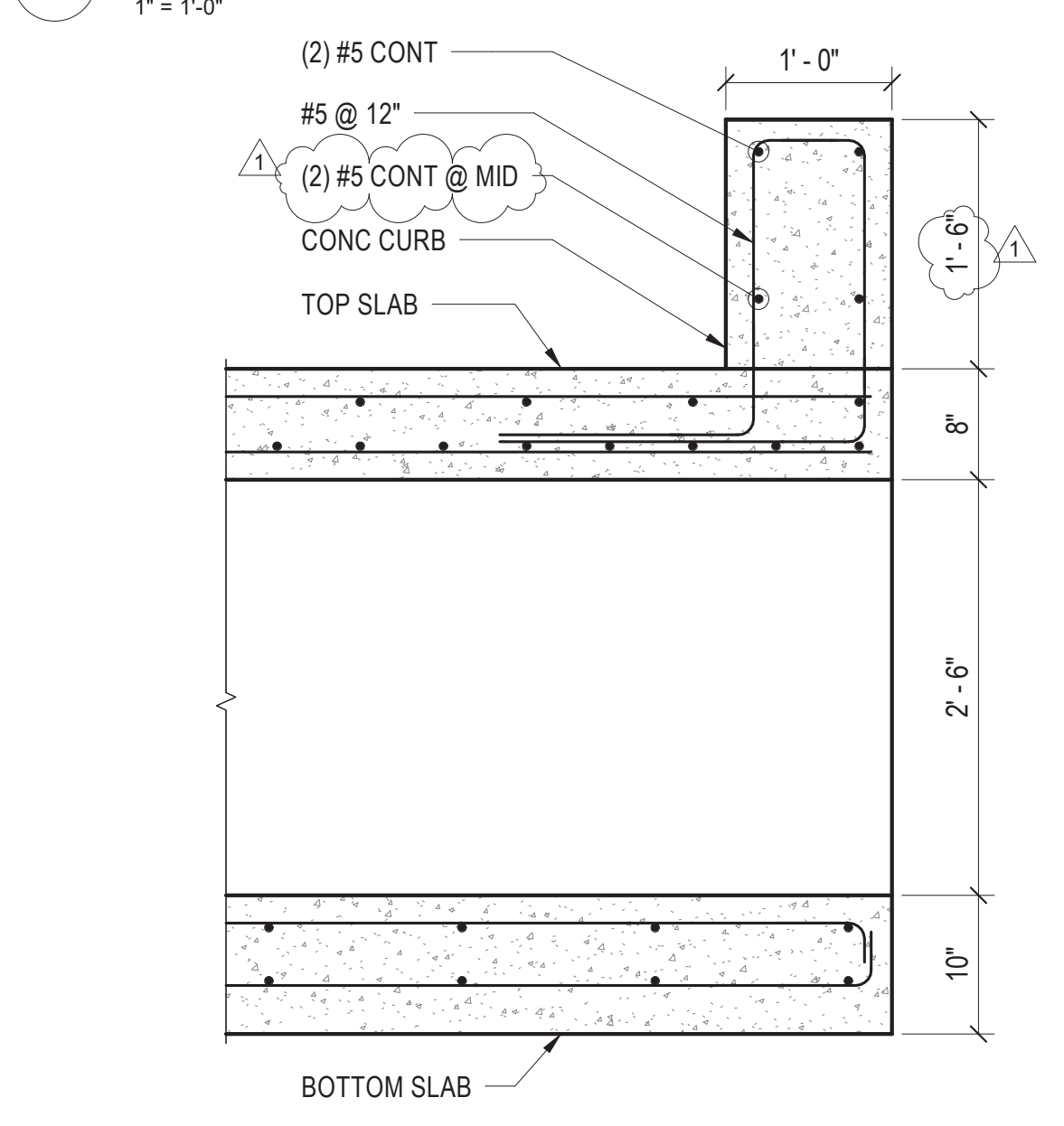
1 PROPOSED PLAN
 1/4" = 1'-0"



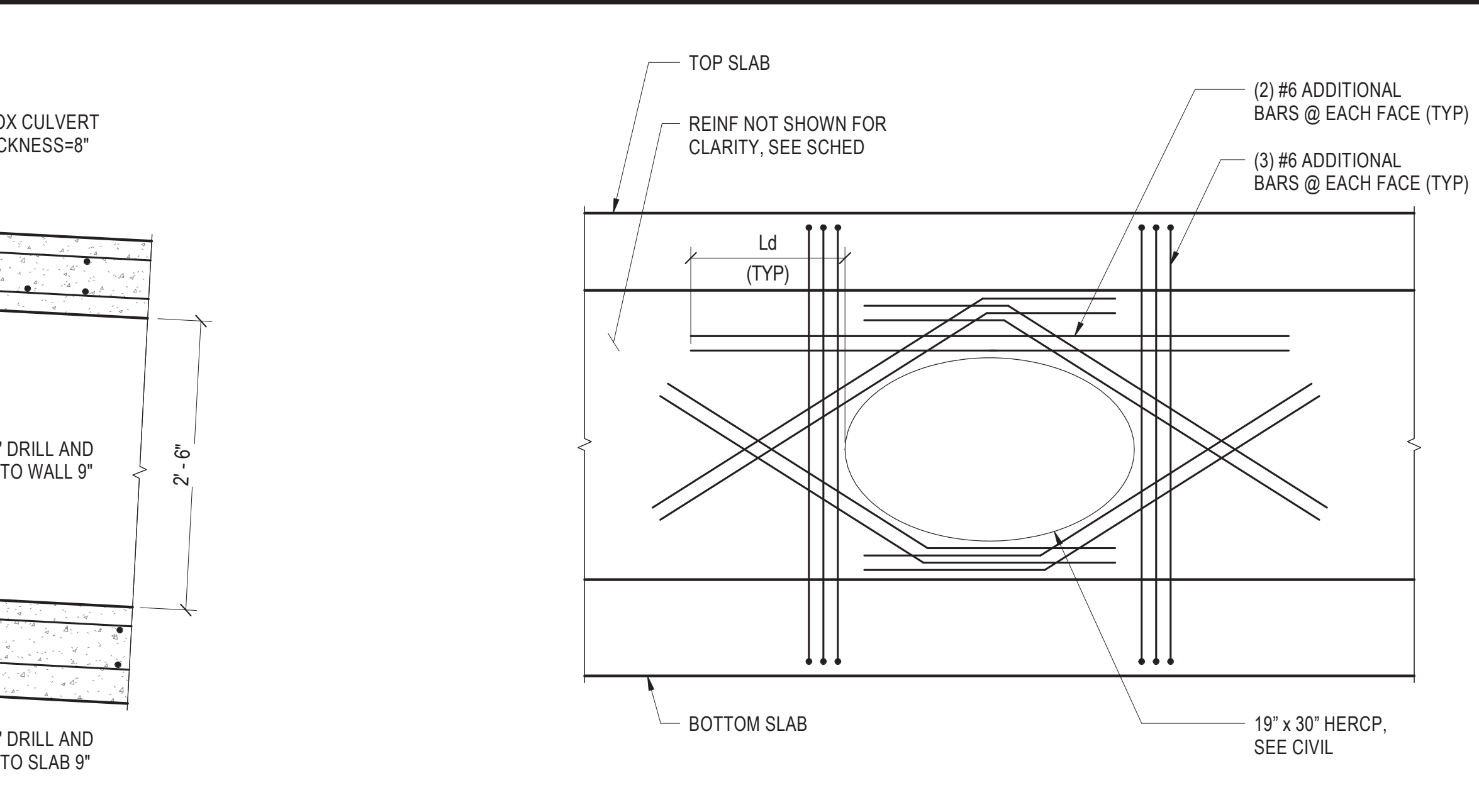
5 PLAN DETAIL
1" = 1'-0"



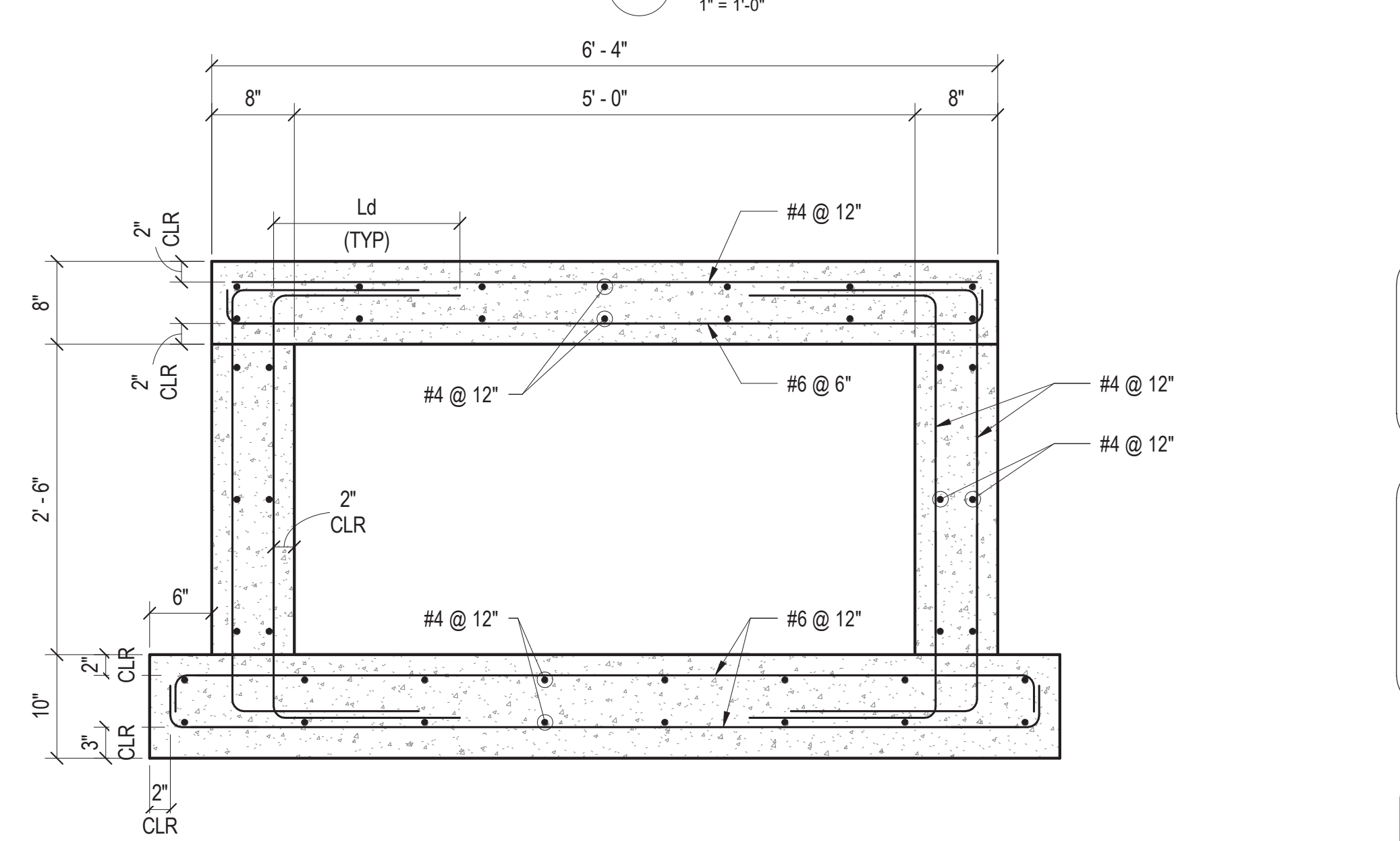
2 BOX CONNECTION DETAIL
1" = 1'-0"



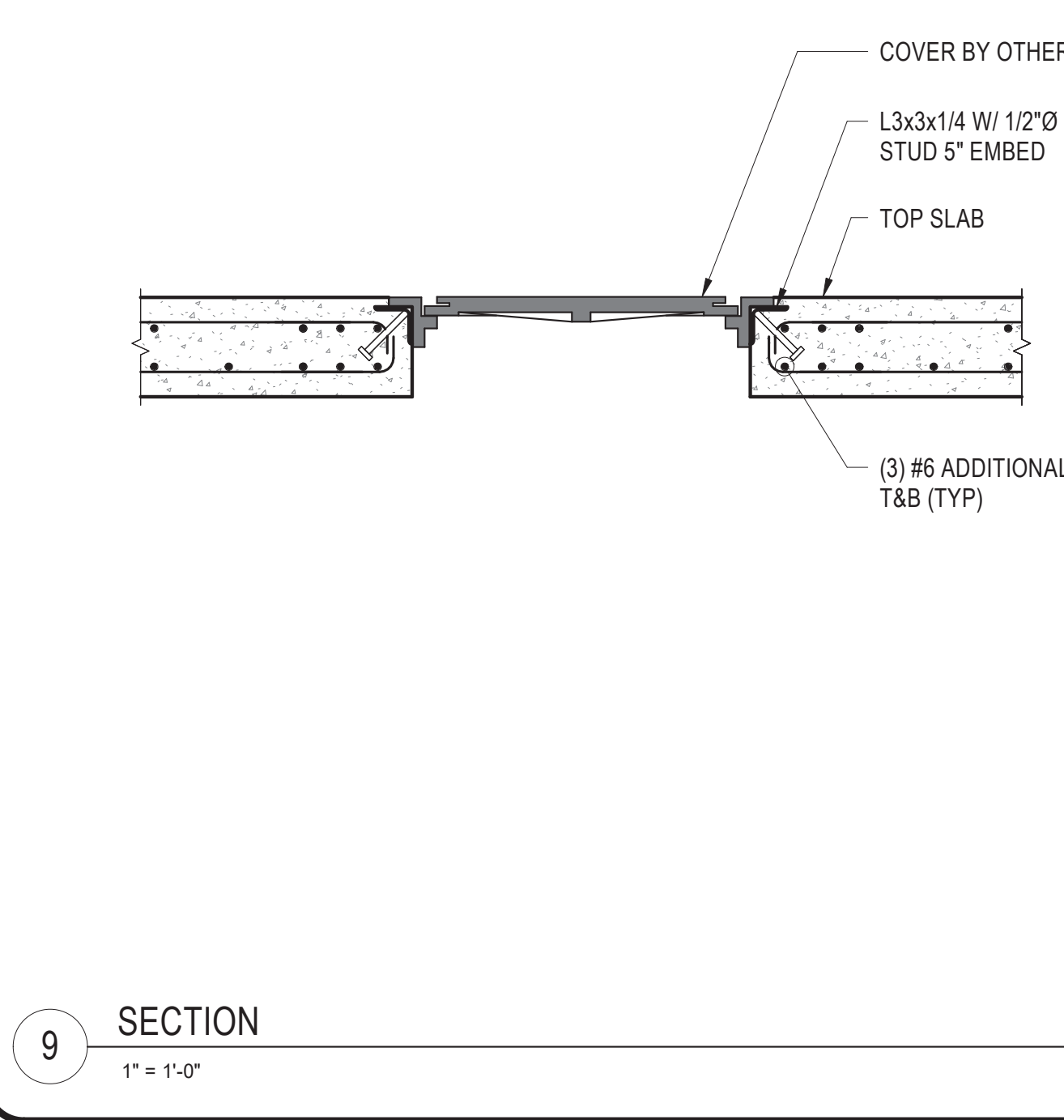
6 SECTION
1" = 1'-0"



4 PIPE ELEVATION
1" = 1'-0"



7 SECTION
1" = 1'-0"



9 SECTION
1" = 1'-0"

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METROPOLITAN GOVERNMENT OF
NASHVILLE & DAVIDSON COUNTY
DEPARTMENT OF WATER & SEWERAGE SERVICES
STORMWATER DIVISION

HOGAN ROAD

STRUCTURAL DETAILS

DR	CK	ORIGINAL DRAFT DATE
JE	RP	06.24.20
REV		DATE
1		08.03.20

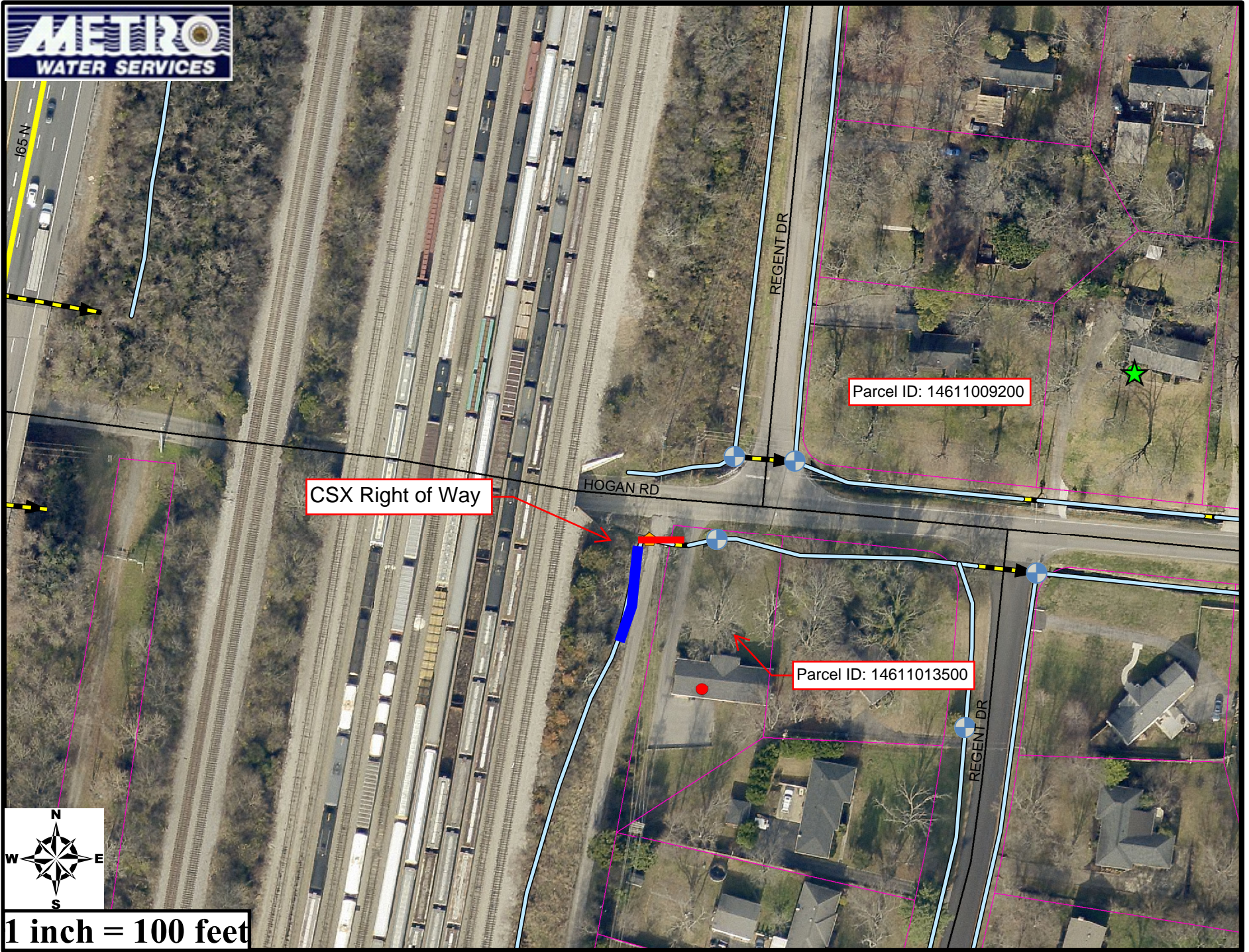
06.24.2020

BCA PROJ. NO. 2773-01.170

METRO
WATER SERVICES
STORMWATER

PROJECT NO. 20-SWC-297	SHEET NO. 52.0
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Hogan Road



1 inch = 100 feet



IN WITNESS WHEREOF, the parties hereto have executed this contract.

**THE METROPOLITAN GOVERNMENT OF
NASHVILLE AND DAVIDSON COUNTY
DEPARTMENT OF WATER AND SEWERAGE
SERVICES**

RECOMMENDED BY:

Scott Potter

Scott A. Potter, Director
Water and Sewerage Services

3/9/2022

DATE: _____

APPROVED AS TO THE
AVAILABILITY OF FUNDS:

Kelly Flannery/mjw

Kelly Flannery, Director
Department of Finance

3/21/2022

DATE: _____

APPROVED AS TO FORM AND
LEGALITY:

Tara Ladd

Assistant Metropolitan Attorney

3/21/2022

DATE: _____

THE METROPOLITAN GOVERNMENT OF
NASHVILLE AND DAVIDSON COUNTY:

John Cooper, Mayor

DATE: _____

ATTEST:

Metropolitan Clerk
Austin Kyle

DATE: _____



**METROPOLITAN GOVERNMENT
OF NASHVILLE AND DAVIDSON COUNTY**

Planning Department
Metro Office Building
800 Second Avenue South
Nashville, Tennessee 37201

March 1, 2022

To: Peggy Deaner, Metro Water Services

**Re: Hogan Road CSX Agreement
Planning Commission Mandatory Referral #2022M-010AG-001**

On behalf of the Metropolitan Planning Commission, the following item, referred to the Commission as required by the Metro Charter, has been recommended for *approval* to the Metropolitan Council:

A request for a resolution authorizing The Metropolitan Government of Nashville and Davidson County, acting by and through Metro Water Services, to enter into a Facility Encroachment Agreement with CSX Transportation, Inc. to construct, use and maintain culverts in the railroad right-of-way at Hogan Road and Regent Drive (Proposal No. 2022M-010AG-001)

The relevant Metro agencies (Metro Parks, Metro Public Works, Metro Water Services, Metro Emergency Communications, the Nashville Electric Service, Metro Finance – Public Property and the Metro Historical Commission) have reviewed the proposal and concur in the recommendation for approval. This request must be approved by the Metro Council to become effective. A sketch showing the location of the request is attached to this letter.

Conditions that apply to this approval: None.

This recommendation for approval is given as set forth in the Metropolitan Planning Commission Rules and Procedures. If you have any questions about this matter, please contact Michelle Hollingsworth at michelle.hollingsworth@nashville.gov or 615-862-7197.

Sincerely,

A handwritten signature in black ink that reads 'Robert Leeman'.

Robert Leeman
Deputy Director
Metro Planning Department
cc: *Metro Clerk*

**Re: Hogan Road CSX Agreement
Planning Commission Mandatory Referral #2022M-010AG-001**

A request for a resolution authorizing The Metropolitan Government of Nashville and Davidson County, acting by and through Metro Water Services, to enter into a Facility Encroachment Agreement with CSX Transportation, Inc. to construct, use and maintain culverts in the railroad right-of-way at Hogan Road and Regent Drive (Proposal No. 2022M-010AG-001)

Hogan Road

