

City of Guthrie
Novelis Natural Gas Extension

ADDENDUM No. 1

January 23, 2019

This ADDENDUM to plans, specifications and bidding documents for the subject project modifies the referenced items to the extent described herein. Items not modified by this ADDENDUM remain unchanged and in full effect. Bidders are required to acknowledge receipt of this ADDENDUM on the Bid Form.

1. Documents: Bid Form: **Replace** the entire Bid Form with the revised version attached. (Attachments: 5 pages). Per the Owner's request, a bid item for radiograph testing has been added to the bid schedule plus other updates made to prior bid items.
2. Technical Specifications: Section 2 "Regulator & Meter Facility No. 2" (Attachments: none):

Modify Sections 2.03, 2.04 and 2.05 to read as follows:

2.03 VALVES (BELOW GROUND)

Valves shall be full port, floating ball valves. The valves shall have weld-ends which are produced from ASTM A106 grade B, seamless carbon steel. Valves shall be ANSI **150**. Valves shall be equipped with 2-inch square operating nut and gear operations to accommodate the operating nut.

End Preparation: Butt Weld ends shall conform to the requirements of ANSI B16.25 (1979 Edition) and B31.8 (1989 Edition).

Welding: Valve shall require no special welding precautions. It is recommended that valve be fully closed when welding it in-line.

Testing: All valves shall be 100% seat leak tested and tested at no less than 150% of maximum rated pressure.

2.04 BALL VALVES (ABOVE GROUND)

Valves shall incorporate metal-to-metal backseating for fire safety and blowout protection selective dual seating with thrust washer for higher pressure and o-ring for lower pressure, multi-seal seats, quarter turn and bolted body construction. Valves shall be constructed of cast carbon steel, flanges to be cast with body and not welded on. Valves shall be **CL150** and carry the API 6D stamp and all valves shall be pressure tested prior to shipment. Valves shall be manufactured by Balon or equal.

2.05 REGULATOR

Regulator shall be Fisher Type EZR or equal 2-inch port meeting the following specifications:

2-inch body
ANSI **150** Steel
Main valve material 17E97 nitrile
60 percent cage
Main valve o-ring material: nitrile
Main valve green (up to 500 psig inlet)
Pilot diaphragm material: nitrile
Pilot o-ring material: nitrile
Pilot valve plug material: nitrile

Pilot mounting: standard
Pilot type and outlet pressure range: provide PRX 116 – 210 psig to Owner.

Relief valve shall be Fisher Type EZR or equal 3-inch meeting the following specifications:

3-inch body
ANSI **150** Steel
Main valve material 17E97 nitrile
100 percent cage
Main valve o-ring material: nitrile
Main valve green (up to 500 psig inlet)
Pilot diaphragm material: nitrile
Pilot o-ring material: nitrile
Pilot valve plug material: nitrile
Pilot mounting: standard
Pilot type and outlet pressure range: 6358 B (180 to 350 psig)

3. Technical Specifications: Section 3 “Gas Lines” (Attachments: none):

Modify Section 3.24 to read as follows:

3.24 TESTING

Gas lines and appurtenances shall be tested at 450 PSIG **for 6-inch line and 750 psi for 4-inch line**. The Contractor shall furnish to Owner a written outline of procedure to be used for testing. All charts, graphs and records of testing shall be turned over to Owner. The minimum duration of the pressure test shall be 24 hours and test medium shall be nitrogen.

4. Technical Specifications: Section 4 “CSX Railroad Crossing” (Attachments: none):

Modify Section 4.01 shall be revised to read as follows:

4.01 CSX RAILROAD CROSSING:

The CSX Railroad crossing is to include **10-inch** casing pipe, 6-inch steel carrier pipe, vents and all labor and material to perform the bore including carrier pipe. For the CSX crossing, the application, permit fees and RPL surcharge have been submitted and paid for by the Owner. The Contractor will be required to coordinate payment with the Owner and/or CSX for all applicable flagging and inspection fees, billed during construction. **The Contractor will not be required to provide a separate Railroad Protective Liability policy on the project.** For CSX questions, contact Eric Horton at (904) 279-3806.

5. Documents: Appendix Section: **Add** Appendix 1 – ‘CSX Railroad Crossing Permit’

Copy of the executed CSX Railroad Crossing permit, with Exhibits, is provided for review to insure compliance during installation. (Attachment: 18 pages).

6. Documents: Appendix Section: **Add** Appendix 2 – ‘Novelis Guthrie Construction Safety Plan’

For work activities on Novelis property, the Contractor will be required to coordinate work activities with Novelis personnel and adhere, as applicable, to the “Novelis Guthrie Construction Safety Plan”, which is attached. (Attachment: 48 pages).

7. Drawings: Plan Sheets: **Replace** the entire Plan Set with updated drawings, illustrating a new site for the meter/regulator and re-stationing of the pipeline. (Attachments: 10 pages).

8. Drawings: Plan Sheet 9, Item 28: **Replace** with: *Roots Dresser 23M175 / W2-PTZ B3 4" FLG Int Pressure 0-180.* (Attachments: none)

END OF ADDENDUM NO. 1 TEXT

This ADDENDUM consists of a total of 84 pages.

Bid for Unit Price Contracts

Place Guthrie City Hall

Date _____

Project No. _____

Proposal of _____ (hereinafter called "Bidder")* a corporation organized and existing under the laws of state of _____* a partnership, or an individual doing business as _____ to the City of Guthrie (hereinafter called "Owner")

Gentlemen:

The Bidder, in compliance with your invitation for bids for the construction of Novelis Natural Gas Extension project.

Having examined the plans and specifications with related documents and the site of the proposed work, and being familiar with all of the conditions surrounding the construction of the proposal project including the availability of materials and labor, hereby processes to furnish all labor, materials, and supplies, and to construct the project in accordance with the contract documents, within the time set forth therein, and at the prices stated below. These prices are to cover all expenses incurred in performing the work required under the contract documents of which this proposal is a part.

Bidder hereby agrees to commence work under this contract on or before a date to be specified in written "Notice to Proceed" of the Owner and to fully complete the project within 200 consecutive calendar day thereafter as stipulated in the specifications. Bidder further agrees to pay as liquidated damages, the sum of \$200 for each consecutive calendar day thereafter as hereinafter provided in Paragraph 19 of the General Conditions.

Bidder acknowledges receipt of the following addendum (insert corporation, partnership or individual as applicable):

Bidder agrees to perform all the construction work described in the specifications and shown on the plans, for the following unit prices:

Item No.	Description & Unit Price in Words	Estimated Quantity	Extended Unit Price	Bid Amount
1.	Connect to existing 4-inch steel line (hot tap with stopple) _____ _____ _____ Dollars _____ Cents Per each	1 EA	\$ _____	\$ _____
2.	Regulation and Metering Facility #1 (includes access road) _____ _____ _____ Dollars _____ Cents Per lump sum	1 LS	\$ _____	\$ _____
3.	Regulation and Metering Facility #2 _____ _____ Dollars _____ Cents Per lump sum	1 LS	\$ _____	\$ _____
4.	4-inch steel gas line, open cut for _____ _____ Dollars _____ Cents Per linear foot	1,800 LF	\$ _____	\$ _____
5.	4-inch steel gas line, horizontal bored under paved for _____ _____ _____ Dollars _____ Cents Per linear foot	50 LF	\$ _____	\$ _____
6.	4-inch steel valve for _____ _____ _____ Dollars _____ Cents Per each	2 EA	\$ _____	\$ _____
7.	6-inch steel gas line, open cut for _____ _____ Dollars _____ Cents Per linear foot	11,000 LF	\$ _____	\$ _____

Item No.	Description & Unit Price in Words	Estimated Quantity	Extended Unit Price	Bid Amount
8.	6-inch steel gas line, horizontal bored under paved for _____ _____ Dollars _____ Cents Per linear foot	500 LF	\$ _____	\$ _____
9.	6-inch steel valve for _____ _____ Dollars _____ Cents Per each	3 EA	\$ _____	\$ _____
10.	Gravel driveway replacement for _____ _____ Dollars _____ Cents Per linear foot	500 LF	\$ _____	\$ _____
11.	10-inch casing and vent piping for CSX railroad crossing for _____ _____ Dollars _____ Cents Per lump sum	1 LS	\$ _____	\$ _____
12.	Silt fencing, for _____ _____ Dollars _____ Cents Per square foot	3,000 SF	\$ _____	\$ _____
13.	Erosion control matting, for _____ _____ Dollars _____ Cents Per yard ³	1,000 YD ³	\$ _____	\$ _____
14.	Pipeline markers, for _____ _____ Dollars _____ Cents Per each	20 EA	\$ _____	\$ _____
15.	Test stations, for _____ _____ Dollars _____ Cents Per each	4 EA	\$ _____	\$ _____

Item No.	Description & Unit Price in Words	Estimated Quantity	Extended Unit Price	Bid Amount
16.	Pipe bedding, for _____ _____ Dollars _____ Cents Per ton	500 TONS	\$ _____	\$ _____
17.	Three anodes per location, two locations _____ _____ Dollars _____ Cents Per lump sum	2 EA	\$ _____	\$ _____
18.	Insulators, for _____ _____ Dollars _____ Cents Per each	1 EA	\$ _____	\$ _____
19.	Field regulators, for _____ _____ Dollars _____ Cents Per each	10 EA	\$ _____	\$ _____
20.	Testing and purging, for _____ _____ Dollars _____ Cents Per lump sum	1 LS	\$ _____	\$ _____
21.	Construction surveying allowance TEN THOUSAND & No/100 Dollars Per lump sum	1 LS	\$ 10,000.00	\$ 10,000.00
22.	Clarksville & Guthrie metering & telemetry allowance SIXTEEN THOUSAND & No /00 Dollars Per lump sum	1 LS	\$ 16,000.00	\$ 16,000.00
23.	Radiograph testing allowance TEN THOUSAND & No/100 Dollars Per lump sum	1 LS	\$ 10,000.00	\$ 10,000.00
TOTAL AMOUNT BID; ITEMS 1-23 INCLUSIVE			\$ _____	

(Amounts are to be shown in both words and figures. In case of discrepancy, the amount shown in words will govern.)

The above unit prices shall include all labor, materials, bailing, shoring, removal, overhead, profit, insurance, etc., to cover the finished work of the several kinds called for.

Bidder understands that the Owner reserves the right to reject any or all bids and to waive any informalities in the bidding.

The bidder agrees that this bid shall be good and may not be withdrawn for a period of 30 calendar days after the scheduled closing time for receiving bids.

Upon receipt of written notice of the acceptance of this bid, bidder will execute the formal contract attached within 10 days and deliver a Surety Bond or Bonds as required by Paragraph 29 of the General Conditions. The bid security attached in the sum of _____ (\$ _____) is to become the property of the Owner in the event the contract and bond are not executed within the time above set forth, as liquidated damages for the delay and additional expense to the Owner caused thereby.

Respectfully submitted:

By: _____
(Title)

(SEAL – if bid is by a corporation)

(Business Address and Zip Code)

FACILITY ENCROACHMENT AGREEMENT

THIS AGREEMENT, made and effective as of September 18, 2018, by and between CSX TRANSPORTATION, INC., a Virginia corporation, whose mailing address is 500 Water Street, Jacksonville, Florida 32202, hereinafter called "Licensor," and CITY OF GUTHRIE KENTUCKY, a municipal corporation, political subdivision or state agency, under the laws of the Commonwealth of Kentucky, whose mailing address is 110 Kendall Street, Guthrie, Kentucky 42234, 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) six inch (6") diameter sub-grade pipeline crossing, solely for the conveyance of natural gas, located at or near Guthrie, Todd County, Kentucky, Nashville Zone Division, Henderson Subdivision, Valuation Station 2150+96, Milepost 00H-216.64, Latitude N36:39:29.00, Longitude W87:10:31.00;

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;

(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 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.

2. ENCROACHMENT FEE; TERM:

2.1 Licensee shall pay Licensor a one-time nonrefundable Encroachment Fee of TEN THOUSAND TWO HUNDRED AND 00/100 U.S. DOLLARS (\$10,200.00) 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.

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 railroad or 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 the rail corridor, track(s), structures, pole line(s), devices, other property, or any appurtenances thereto; 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 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.

9.3 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.

9.4 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.

9.5 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.

9.6 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.

9.7 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 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. 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 its 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 wire changes 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: 931-561-1893.

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 Licensors 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 Licensors 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 Licensors expressly reserves the right to assign this Agreement, in whole or in part, to any grantee, lessee, or vendee of Licensors 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, Licensors, at its option, may revoke this Agreement by giving Licensee or any such assignee written notice of such revocation; and Licensee shall reimburse Licensors for any loss, cost or expense Licensors may incur as a result of Licensee's failure to obtain said consent.

17. TITLE:

17.1 Licensee understands that Licensors 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 Licensors 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 Licensors 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 Licensors in fee simple absolute, or where the applicable law of the State where the Encroachment is located otherwise permits Licensors 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 Licensors, 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 Licensor under any other facts or rights, Licensor 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 Licensor continues its own occupation, use or control. Licensor 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 Licensor 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 Licensor'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 Licensor for damages on account of any deficiencies in title to the Rail Corridor in the event of failure or insufficiency of Licensor'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 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.

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:

CITY OF GUTHRIE KENTUCKY

By: _____

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: _____

Print/Type Title: _____

Tax ID No.: _____

Authority under Ordinance or

Resolution No. _____,

Dated _____.

CSX-871036 EXHIBIT A


Guthrie, Todd Co., KY
Southwest Region / Nashville Zone / Henderson (HE) Subdivision
Milepost 00H-216.64
Adjacent to RR Under Public DOT #345230F, US 79
Val. Sta. 2150+96 (GIS Map No. 20135)
N36:39:29.00 / W87:10:31.00

CSX PROPERTY SERVICES REVIEW

☐ No Exceptions

☒ Exceptions Noted

This review is for the general conformance with CSX safety design specifications only. Sole responsibility for all aspects of the project shall remain with the contractor. This review does not constitute approval to proceed without meeting all of CSX's safety and contractual requirements.

By: 

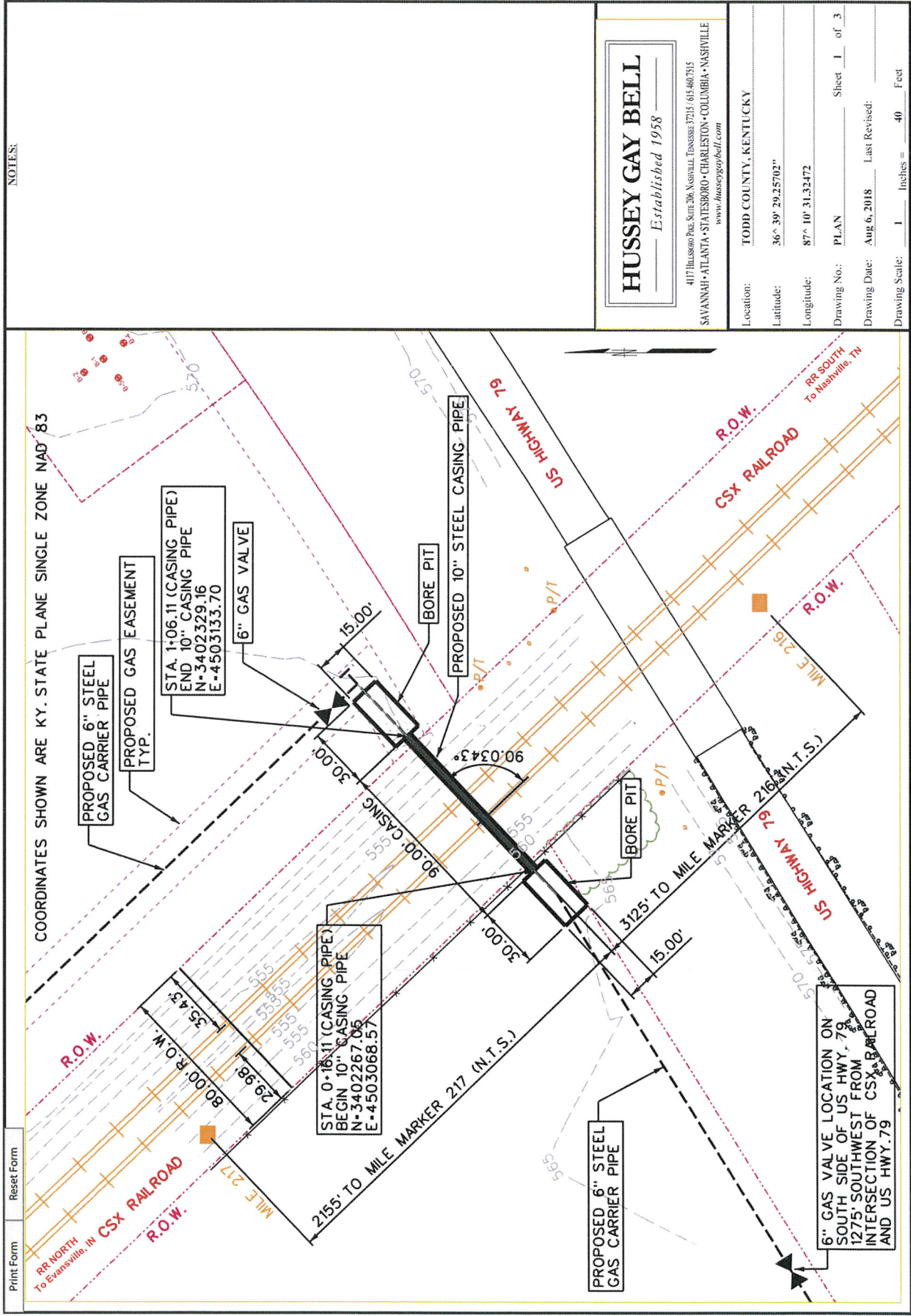
CSX GENERAL NOTES:

1. REFER TO THE CSX PIPELINE DESIGN & CONSTRUCTION SPECIFICATIONS FOR ADDITIONAL INFORMATION.
2. THE FRONT OF THE PIPE SHALL BE PROVIDED WITH MECHANICAL ARRANGEMENTS OR DEVICES THAT WILL POSITIVELY PREVENT THE AUGER FROM LEADING THE PIPE SO THAT NO UNSUPPORTED EXCAVATION IS AHEAD OF THE PIPE.
3. THE OPERATION SHALL BE PROGRESSED ON A 24-HOUR BASIS WITHOUT STOPPAGE (EXCEPT FOR ADDING LENGTHS OF PIPE) UNTIL THE LEADING EDGE OF THE PIPE HAS REACHED THE RECEIVING PIT.
4. THE AUGER AND CUTTING HEAD ARRANGEMENT SHALL BE REMOVABLE FROM WITHIN THE PIPE IN THE EVENT AN OBSTRUCTION IS ENCOUNTERED.
5. PIPELINE SHALL BE PROMINENTLY MARKED AT BOTH SIDES OF THE CSX PROPERTY LINES BY DURABLE, WEATHERPROOF SIGNS LOCATED OVER THE CENTERLINE OF THE PIPE IN ACCORDANCE WITH CSX SPECIFICATIONS.
6. NO CONSTRUCTION OR ENTRY UPON THE CSX 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.
7. IF REQUIRED, A DEWATERING PLAN IN ACCORDANCE WITH CSX SPECIFICATIONS WILL BE SUBMITTED TO THE CSX REPRESENTATIVE FOR REVIEW AND APPROVAL PRIOR TO ANY DEWATERING OPERATIONS.
8. BLASTING IS NOT PERMITTED UNDER OR ON CSX PROPERTY.
9. CSX DOES NOT GRANT OR CONVEY AN EASEMENT FOR THIS INSTALLATION.
10. ALL PERSONNEL SHALL RECEIVE SAFETY BRIEFINGS BY A CSX FLAGMAN OR DESIGNATED CSXT REPRESENTATIVE EACH DAY BEFORE BEGINNING WORK ON THE RIGHT OF WAY. ADDITIONAL SAFETY BRIEFINGS MAY BE REQUIRED WHEN CONDITIONS AND/OR WORK SITES ARE CHANGED.
11. 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.
12. 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.
13. 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.
14. OWNER OR CONTRACTOR SHALL GIVE A MINIMUM OF 30 DAYS' ADVANCE NOTICE TO CSXT REPRESENTATIVE 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 ADVISE A FLAGGING JOB FOR BID, CSXT SHALL NOT BE LIABLE FOR THE COST OF DELAYS ATTRIBUTABLE TO OBTAINING SUCH SERVICE.
15. 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 REPRESENTATIVE.
16. 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.

EXCEPTIONS NOTED:

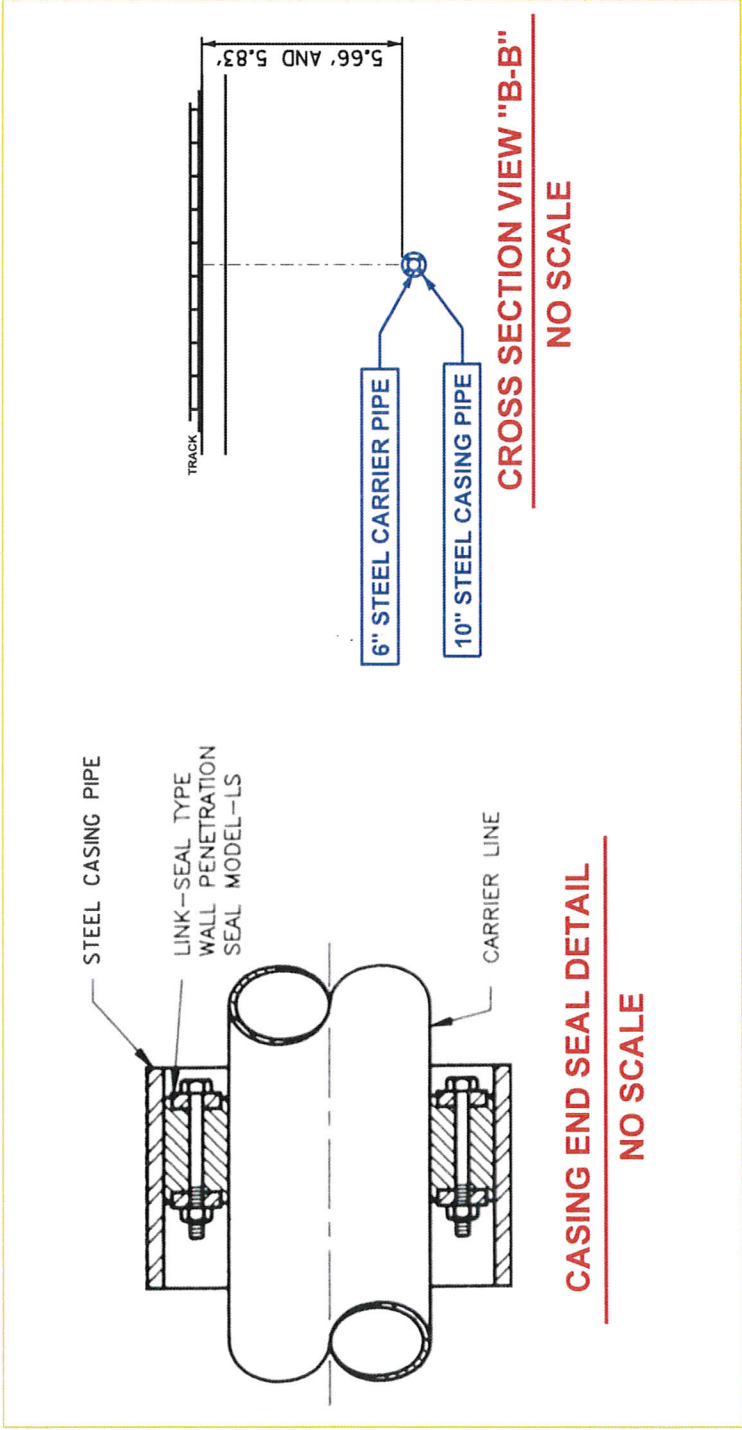
1. SUITABLE ACCESS ROADS AS NECESSARY SHALL BE PROVIDED AT THE EXPENSE OF THE CONTRACTOR TO PROVIDE INGRESS AND EGRESS TO THE SITE OF THE WORK. THE CONTRACTOR SHALL ALSO PROVIDE AND/OR MAINTAIN ANY PUBLIC OR PRIVATE ROADS HE MAY USE IN THE PROCESS OF THE WORK. ANY CONTRACTOR CAUSED DAMAGE THAT MAY OCCUR TO THESE ROADS IS THE RESPONSIBILITY OF THE CONTRACTOR TO REPAIR AT CONTRACTOR'S EXPENSE. SHOULD DETOUR OR OTHER SIGNS BE REQUIRED, THESE SHALL BE PROVIDED BY THE CONTRACTOR.
2. JACKING PIT: CONTRACTOR SHALL IDENTIFY HAZARDS AND PUT CONTROLS IN PLACE PRIOR TO START OF EXCAVATION. STAKE OR MARK PIT AS NEEDED FOR DIGGING. ESTABLISH A LAYDOWN AREA TO PLACE EQUIPMENT AND MATERIAL. PLACE SNOW FENCE AROUND PIT 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.).
3. EXCAVATION: IF THE EXCAVATION IS 5 FEET OR GREATER IN DEPTH, THE WALLS SHALL 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. IF PROPER SLOPING IS NOT PRACTICAL OR POSSIBLE, THEN SHORING SUCH AS SHEET PILES MAY BE USED (REQUIRED IF EXCAVATION WILL EXCEED 20 FEET IN DEPTH). MONITOR ALL EXCAVATIONS FOR WATER ENTRUSION / SEEPAGE AND ENSURE THERE IS ADEQUATE VENTILATION.

Print Form Reset Form



Print Form Reset Form

NOTES:



THE FRONT OF THE CASING PIPE SHALL BE PROVIDED WITH MECHANICAL ARRANGEMENTS OR DEVICES THAT WILL POSITIVELY PREVENT THE AUGER FROM LEADING THE PIPE SO THAT NO UNSUPPORTED EXCAVATION IS AHEAD OF THE PIPE."

CSXT PIPELINE SPECS, PAGE 23, A), ii) (c)

CASING PIPE ENDS WILL BE SEALED IN ACCORDANCE WITH CSXT SPECS, CSXT PIPELINE SPECS, PAGE 19, E)

HUSSEY GAY BELL

Established 1958

4177 Peachtree Dunwoody Ave. Suite 200, Atlanta, Georgia 30341, USA 404.759.5459
SAVANNAH • ATLANTA • CHARLESTON • COLUMBIA • NASHVILLE
www.husseygaybell.com

WIRE/CABLE DETAILS		CSXT Pipeline Spec. Reference	CASING PIPE DETAILS				Location:
Type:	<input type="checkbox"/> Electric <input type="checkbox"/> Communications <input type="checkbox"/> Cable TV <input type="checkbox"/> Other - Describe:	Page 13, C), & 17, D)	Pipe Material:	STEEL	Latitude:	36° 39' 29.25702"	TODD COUNTY, KENTUCKY
Conductor:	<input type="checkbox"/> Aluminum/Copper <input type="checkbox"/> Fiber Optic <input type="checkbox"/> Other - Describe:	Page 13, C), & 17, D)	Material Specifications & Grade:	GRADE B	Longitude:	87° 10' 31.32472"	
Material(s):		Page 13, C), & 17, D)	Specified Minimum Yield Strength:	N/A	Drawing No.:	DETAILS	Sheet 3 of 3
Fiber Cable Count:	Wire/Cable 1 Wire/Cable 2 Wire/Cable 3	Page 14, ii), (d)	Nominal Size Outer Diameter (Inches):	10.625	Drawing Date:	Aug 6, 2018	Last Revised:
Wire Size/Pair:		Page 13, C), & 17, D)	Wall Thickness (Inches):	0.25	Drawing Scale:	V N/A H N/A	Feet
Voltage:		Page 13, C), & 17, D)	Type of Seam:	SEAMLESS	Drawing Scale:	V N/A H N/A	Feet
If options above not applicable, describe:		Page 13, C), & 17, D)	Type of Joints:	WELDED	Drawing Scale:	V N/A H N/A	Feet
Number of Phases (Electric Only):		Page 16, v)	Tunnel Liner Plates Required:	<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes	Drawing Scale:	V N/A H N/A	Feet
			Temp. Track Support or Rip-Rap Req.:	<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes - Must Describe & Show on Drawing			

Novelis Guthrie
Construction Safety Plan
8535 Russellville Road
Guthrie, KY 42234

MARCH 19, 2018

Approved By:

Jerry McManus

Novelis Representative

3/20/18

Date

Revisions

Revisions Made By:

Date:

Revisions to Plan:

Revisions Approved By:

Date:

CONSTRUCTION SAFETY PLAN

This Construction Safety Plan (CSP) will be kept on the site during field activities and will be reviewed as necessary. The plan will be amended or revised as project activities or conditions change or when supplemental information becomes available. All Service Provider personnel, Subcontractors, and lower tier Project Contractors must sign Attachment 1.

Project Information and Description

PROJECT NAME: Project Cardinal

SITE ADDRESS: 8535 Russellville Road, Guthrie, KY 42234

DATE CONSTRUCTION SAFETY PLAN PREPARED: March 19, 2018

DATE(S) OF SITE WORK: April 2018

1.0 Tasks to be performed

1.1 Description of Tasks

Refer to project documents (i.e., Work Plan) for detailed task information. Each Project Contractor's activity risk analysis shall be performed for each task and appended to Subcontractor's plan specifying the task-specific hazard controls and requirements for monitoring and protection. Tasks other than those listed below (Table 1.2) require an approved amendment or revision to this plan before tasks begin.

1.2 Recordkeeping

Each contractor shall maintain or be able to provide the following documentation upon request while working at the G Site:

- OSHA 300 Log
- OSHA Notice Posting
- Written Health, Safety and Environment Program(s)
- Written Hazard Communication Program, including Material Safety Data Sheets for all chemicals brought onsite by the contractor.
- Any other written program as specified in OSHA Standards.

1.3 Site Security

All Contractor vehicles and employees shall be subject to unannounced vehicle and package searches by Novelis Security Guards. Persons discovered trying to remove or removing material without authorization may be barred from the premises and will be subject to prosecution.

Contractor shall be responsible for notifying their employees of this requirement, in advance, and ensuring cooperation of their employees.

1.4 Union Business

- Union business shall not be permitted on the premises unless there is an escort provided to and from the place of business by a Contractor representative or a union shop steward.
- Contractors shall be responsible for informing union business agents of this requirement and ensuring that they do not enter areas of the plant other than the one in which outside work is being performed.

- Novelis' Personnel Manager shall be notified of all union business agent visits.

1.5 Jewelry

Neckties and jewelry (watches, bracelets, necklaces, rings, earrings, etc.) are not recommended in any plant production, maintenance or construction area. If worn must be concealed and protected with PPE.

Table 1.2 Hazard Analysis

(Refer to Section 2.0 for hazard controls)

POTENTIALHAZARDS	Project Activities (To Be Developed by Individual Subcontractors)									
Safety Absolutes (zero tolerance)	2.1.1									
Control of Hazardous Energy - Lockout /Tagout	2.1.2									
Machine Guarding	2.1.3									
Mobile Equipment and Pedestrian Safety	2.1.4									
Confined Space Entry	2.1.5									
Cranes and Lifting Equipment	2.1.6									
Molten Metal Explosion Prevention	2.1.7									
Fall Protection & Prevention	2.1.8									
Pre Task Plan (PTP)	2.1.9									
Personal Protective Equipment	2.1.10									
Hazard Communications	2.1.11									
Hot Work (Welding and Cutting)	2.1.12									
Compressed Gas Cylinders & Hoses	2.1.13									
Fire Prevention	2.1.14									
Electrical Safety	2.1.15									
Energized Electrical Work	2.1.16									
Hand & Power Tools	2.1.17									
Steel Erection	2.1.18									
Ladders & Stairs	2.1.19									

Scaffolding	2.1.20									
Excavations	2.1.21									
Heavy Equipment	2.1.22									
Haul Trucks	2.1.23									
Concrete & Masonry Work	2.1.24									
Aerial Lifts	2.1.25									
Vehicle Traffic	2.1.26									
Demolition	2.1.27									
Asbestos Hazard	2.1.28									
Railroad Track Safety	2.1.29									
Hexavalent Chromium from welding	2.1.30									
Lead Hazard	2.1.31									
PCBs/Light Ballasts	2.1.32									
Noise	2.1.33									
Pressurized Lines/Equipment	2.1.34									
Visible Lighting	2.1.35									
Manual Lifting	2.1.36									
Waste Handling	2.1.37									
Spill Prevention	2.1.38									
Water Discharges	2.1.39									

2.0 Hazard Controls

This section provides general safe work practices and control measures used to reduce or eliminate potential hazards. These practices and controls are to be implemented by the party in control of either the site or the particular hazard. OWNER'S CONSTRUCTION MANAGEMENT CONTRACTOR employees and Novelis Subcontractors must remain aware of the hazards affecting them regardless of who is responsible for controlling the hazards. OWNER'S CONSTRUCTION MANAGEMENT CONTRACTOR employees and Subcontractors who do not understand any of these provisions should contact the OWNER'S CONSTRUCTION MANAGEMENT CONTRACTOR Site Safety Manager (SSM) for clarification.

Certain health and safety hazards posed by field activities have been identified for each project activity and are listed in the Hazard Analysis Table (Table 1.2). Hazard control measures for project-specific and general health and safety hazards are located in section 2.1 and 2.2 of this document.

2.1 Project-Specific Hazards

Safety Absolutes (Zero Tolerance Programs)

Novelis is committed to providing safe working conditions for all of our employees, contractors and visitors. As part of this commitment, critical procedures (or absolutes) for the protection of life safety have been developed. These Safety Absolutes are taken directly from various Novelis EHS Performance Standards. Employees that fail to adhere to these Safety Absolutes will be subject to progressive disciplinary action, up to and including termination. Contractors and visitors failing to adhere to these rules may be subject to immediate removal from the premises. Employees, contractors and visitors are expected to stop work and request assistance from supervisory or management personnel in questionable situations.

Employees shall not put themselves, or others, at-risk for injury by failing to follow the following Safety Absolutes:

- Control of Hazardous Energy (Lockout Tagout) - refer to section 2.1.2
- Machine Guarding - refer to section 2.1.3
- Mobile Equipment & Pedestrian Safety - refer to section 2.1.4
- Confined Space Entry - refer to section 2.1.5
- Cranes and Lifting Equipment - refer to section 2.1.6
- Fall Prevention & Protection - refer to section 2.1.8.

Zero Tolerance – Code of Conduct

- No fighting, threatening or abusive language
- No presence and/or use of drugs and/or alcohol
- No presence and/or use of a fire arm.

Control of Hazardous Energy - Lockout/Tagout Activities

A zero-energy state must be achieved before performing maintenance or working on equipment that is subject to the requirements of the Novelis Control of Hazardous Energy Performance Standard. Employees must achieve a zero energy state by doing the following.

- Identify all energy sources (electric, hydraulic, pneumatic, water, steam, gas, chemical, molten metal, etc.).
- Isolate the equipment from those energy sources at the source of energy; e.g. turning off the power that drives the motor.
- Block or pin equipment to prevent equipment movement where such devices are provided.

- Relieve all stored energy; e.g. bleed off residual hydraulic pressure).
- Secure the energy isolation devices with a personal lock (every employee must have a lock on each energy isolation device or group lockout box if used).
- Test the system to verify that the equipment is in a zero-energy state before beginning work; e.g. try to operate the equipment.
- At the conclusion of the work, the equipment shall be re-energized in a safe manner; e.g. ensuring that all employees are in a safe position and in accordance to the task specific procedure.
- Only qualified personnel may work on energized equipment that has not been de-energized by lockout/tagout procedures.
- Subcontractors affected by the unexpected operation of equipment shall develop a written lockout/tagout program, provide training on lockout/tagout procedures and coordinate its program with other affected Subcontractors. This will include compliance with the Novelis lockout/tagout program.
- Standard lockout/tagout procedures include the following six steps: 1) notify all personnel in the affected area of the lockout/tagout, 2) shut down the equipment using normal operating controls, 3) isolate all energy sources, 4) apply individually keyed lock and tag to each energy isolating device, 5) relieve or restrain all potentially hazardous stored or residual energy, and 6) verify that isolation and verify zero-energy of the equipment has been accomplished. Once verified that the equipment is at the zero energy state, work may begin.
- All safe guards must be put back in place, all affected personnel notified that lockout has been removed and controls positioned in the safe mode prior to lockout removal. Only the individual who applied the lock and tag may remove them.
- Formal lock removal procedure shall be followed if a worker leaves his/her lock or tag on a energy isolation point and the machine is ready to be re-energized.

Machine Guarding

The following requirements shall be met:

- Equipment with inoperable or defective machine safeguarding shall not be operated.
- Machine safeguarding devices or systems shall not be removed, defeated and/or bypassed.
- Employee shall not place their hands or any other body part into a known pinch points, in-running nip points and/or machine entrapment area when equipment is energized and operational.

Ensure that all machine guards are in place to prevent contact with drive lines, belts, chains, pinch points or any other sources of mechanical injury.

Unplugging jammed equipment will only be performed when equipment has been shut down, all sources of energy have been isolated and equipment has been locked / tagged and tested.

Maintenance and repair of equipment that results in the removal of guards or would otherwise put anyone at risk requires lockout of that equipment prior to work.

Mobile Equipment & Pedestrian Safety

The following requirements shall be met.

- Only trained, certified and/or licensed employees may operate mobile equipment.
- Mobile equipment shall not be operated if any safety features are inoperable; e.g. lights, audible/visual warning devices, brakes, parking brakes, steering, etc.
- Mobile equipment operators shall not operate mobile equipment if the load obstructs the view of the intended direction of travel. They must drive with the load trailing, or be guided by a spotter(s).
- Mobile equipment operators shall not dismount mobile equipment for any reason without putting the equipment in neutral, lowering the load (fork trucks, lull), setting the parking brake and turning off the engine.

- Pedestrians shall not walk through areas designated as “no pedestrians due to mobile equipment operations”.
- Pedestrians shall not approach an operating piece of mobile equipment without first getting permission from the operator to do so.
- Mobile equipment operators shall not grant pedestrians to approach their mobile equipment without first putting the equipment in neutral, lowering the load (fork trucks, lull), setting the parking brake and turning off the engine.
- Fork truck operators shall yield the right of way to cranes and shall not drive into and/or raise loads/mast into the path of oncoming cranes and/or suspended loads.

The following rules apply whenever a mobile equipment is used on the project:

- The driver must complete a formal/documented inspection on the equipment once a shift and document this inspection.
- A rated lifting capacity must be posted in a location readily visible to the operator.
- Equipment must not be used to elevate employees unless specific approved provisions have been made to allow so.
- Persons operating the equipment must post and enforce a set of operating rules for equipment.
- Drivers will wear seatbelts.
- Drivers will use headlights when driving forklifts.
- Stunt driving and horseplay are prohibited.
- For lifting devices persons must not ride on the forks.
- For lifting devices persons must never be permitted under the forks (unless forks are blocked).
- The operator must look in the direction of travel and must not move the vehicle until all persons are clear of the vehicle.
- Forks must be carried as low as possible.
- Trucks must have wheels chocked and have brakes set when forklifts are driven onto their beds.
- Equipment must have operable brakes capable of safely stopping it when fully loaded.
- Equipment must have parking brakes and an operable horn and operable back-up alarm/indicator.
- When the operator is exposed to possible falling objects, industrial trucks must be equipped with overhead protection (canopy).
- Equipment shall be shut-off and NO Smoking during refueling.

Mobile Equipment Pedestrian Safety

- Never approach operating equipment from the rear. Always make positive contact with the operator, and confirm that the operator has stopped the motion of the equipment.
- **25-Foot Rule** - Pedestrians shall never approach mobile equipment within 25-feet without making eye contact with the operator and the operator acknowledges the presence of the pedestrian and/or the operator signals the pedestrian to proceed.
- **90-Degree Rule** - Pedestrian's are to remain within designated, established walkways where they exist. Unless clearly indicated otherwise, any open area must be assumed to be a mobile equipment, non-pedestrian traffic area. Crossing or entering these areas must be done at a 90-degree to the pedestrian aisle.
- Mobile equipment has the Right-of-Way. Never assume the mobile equipment operator can see you and will allow you to pass when entering their work area.
- Never approach the side of operating equipment; remain outside of the swing and turning radius.
- Because heavy equipment may not be equipped with properly functioning reverse signal alarms, never turn your back on any operating equipment.
- Never climb onto operating equipment or operate Subcontractor equipment.

- Never ride Subcontractor equipment unless it is designed to accommodate passengers; equipped with firmly attached passenger seat.
- Never work or walk under a suspended load.
- Never use equipment as a personnel lift; do not ride excavator buckets or crane hooks.

Confined Space Entry Activities

Entry into a permit required confined space shall not be made unless all the following conditions are met.

- Atmospheric testing of the confined space has been conducted with a direct reading instrument for oxygen deficiency and flammable vapor concentrations.
- The instrument shall also test for other potential harmful atmospheric contaminants; e.g. hydrogen sulfide, etc.
- Safe entry procedures shall be developed if potentially hazardous condition exists.
- Safe entry conditions and rescue procedures are defined on an entry permit.

The following requirements must be met prior to permit-required confined space entry:

- Subcontractor employee Confined Space Entry training has been provided to their confined space entrant, attendant, and entry supervisor.
- Use their own atmospheric monitoring equipment and complete their own Confined Space Entry Permit and post it near the space entrance point for review.
- Attend a pre-entry briefing conducted by the entry supervisor if entering or attending permit-required confined spaces.
- Verify that the entry supervisor has authorized entry and that all permit requirements have been satisfied.
- Only enter the space if listed on an Authorization/Attendant Accountability Log.
- Verify that atmospheric monitoring has been conducted at the frequency specified on the permit, monitoring results are documented, and results are within acceptable safe levels.

The following requirements must be met during permit-required confined space entry:

- Maintain communication between the attendant and entrants to enable the attendant to monitor entrant status.
- Use equipment specified on the permit or certificate accordingly.
- Follow all permit or certificate requirements.
- Evacuate the space upon orders of the attendant or entry supervisor, when an alarm is sounded, or when a prohibited condition or dangerous situation is recognized.
- Inform the entry supervisor of any hazards confronted or created in the space or any problems encountered during entry.

Personnel entering confined spaces requiring respiratory protection must have completed respiratory protection training, received a respirator fit test, and completed respirator wearer medical surveillance.

Cranes and Lifting Equipment

- All cranes shall have a third party inspection prior to arrival on site and a copy of the report provided to Owner's Construction Management Contractor. The crane must have a current annual inspection to include load test certification (within the last 12 months) that meets all state and federal safety standards. Documentation of this inspection must be available for review.
- A competent person shall complete a formal documented pre-use inspection on the crane daily to confirm it is in safe operating condition.
- Cranes shall be operated by a certified crane operator.
- The crane's operations manual and load chart specifically designed for the crane shall be on the crane at all times.

- All rigging equipment must be inspected by a competent person prior to use for signs of excessive wear; equipment found to be damaged will be tagged and removed from service.
- A pre-lift meeting shall be conducted to include all parties involved in that days crane operation.
- Only one person shall signal the crane operator. This person shall be thoroughly familiar with all of the cranes operation and be able to communicate with the crane operator with the appropriate hand signals.
- No personnel shall be permitted under the load at any time.
- Tag lines shall be attached to every load being made by the crane.
- The swing radius of the rear rotating superstructure (counterweight) of the crane shall be barricaded and no entrance allowed.
- No part of the crane will come within 20 feet of overhead electrical power lines rated 50 kV or less. For lines over 50 kV, increase clearance distance by 5 feet for every 150 kV over 50kV.

Fall Protection and Prevention

- Fall protection systems must be used to eliminate fall hazards of 6 feet or greater.
- All components of the personal fall arrest system must be inspected for proper working condition prior to each use.
- The Pre Task Plan form for the project requires the crew to assess and answer several questions related to fall arrest and fall prevent to ensure the crew is planning the task accordingly to prevent a fall from occurring.
- Personal fall arrest system anchorages must be capable of supporting 5000 pounds per individual.
- You must be tied-off while working from any aerial lift (boom or scissors type).
- Never secure your lanyard back to itself unless you have a lanyard designated for that purpose.

Fall Prevention:

- Warning lines shall be erected around all sides of roof work areas:
- The warning line shall be erected in from all edges of the roof the following distance (low sloped roofs only):
- Six (6') for all roof work
- Ten (10') if mechanical equipment is used for roofing work
- Fifteen (15') for all other work.
- Line shall be flagged at six (6') intervals with a high visibility material.
- Line shall hold between 34" – 39" high with sag.
- Temporary handrail/guardrail systems and components shall be designed and erected to include the following:
- Support a lateral or downward force of 200 pounds
- Top rail at 42" (plus or minus 3 inches) above walking/working level
- Mid-rail midway between top rail and walking/working level
- 4" Toe boards

Fall prevention on open sided trailers and flatbed truck beds

- In situations where it is necessary to be on the back of an open trailer or flatbed of a truck, the use of fabricated rail systems are to be used to prevent falls from the edge of the elevated surface.
 - **Stand clear of truck and/or trailer while material is being unloaded or loaded.**
No personnel shall be allowed in the cab or on the trailer while material is being unloaded or loaded by a crane or industrial lift truck.

Pre Task Plans (PTP)

Before the start of each day's activities, the crew supervisor/foreman shall complete the PTP, example provided in Attachment 7 with input from the work crew. The day's tasks, personnel, tools and equipment that will be used to perform these tasks are listed, along with the hazards posed and required health & safety procedures. The use of PTPs promotes engagement and worker participation in the hazard recognition and control process, while reinforcing the task-specific hazard and required health & safety procedures with the crew each day. The use of PTPs is a common safety practice in the construction industry.

The organization of task steps in an easily understood sequence that eliminates hazards to both personnel & equipment by application of adequate control measures

- Pre-task planning is a process that has many names and slight variations in form
- We have named the form that supports our process the Pre-Task Plan or PTP
- A PTP is completed by foreman and crew for each task performed
- The PTP is reviewed and signed by each crew member and posted in the work area
- The foreman's job is to provide an environment that supports the crew accepting ownership of the safety effort.
- The PTP form is used to assist foremen & crew in discussing hazards & hazard control measures for every task

Steps in completing a Pre Task Plan Form (PTP) (reference Attachment 8 PTP Form)

- Scope out the job
- Date, company, description of activity, supervisor's name, and location of task
- Checklist & Memory log
- Complete the evaluate your work area, potential hazard checklist, & PPE sections
- Describe the work to be performed by work step
- List the hazards associated with each step
- List the actions that will be taken to eliminate or control each identified hazard
- Sign the completed PTP verifying that you have read it and are in agreement that all hazards have been identified and addressed appropriately
- Post the PTP in the immediate work area

Hazard Communication

In compliance with OSHA Regulation 1910.1200 (e) (111), Contractor shall provide Material Safety Data Sheets (MSDS) for all chemicals brought onto the Site prior to beginning Work.

Contractor shall comply with the requirements of OSHA Regulation 1910.1200, Hazard Communication, with respect to Contractor's employees, its subcontractors and suppliers and any Contractor-related personnel prior to their entry on Site. A copy of the written program shall be made available to Novelis upon request.

Personal Protective Equipment

- Minimum requirements for PPE include the following items:
 - Hard hat (worn brim forward)
 - Safety glasses/with side shields – ANSI Z.87.1 approved.
 - Safety-toed footwear (over the ankle) Z-41 No Tennis shoe/ low cut safety footwear permitted.
 - Hi-visibility work vest with reflective stripes.
 - Gloves for the appropriate task (e.g., leather welding glove for hot work tasks and a general work glove for general tasks).

- Exceptions: Gloves may present a hazard when performing certain tasks. Any exceptions must be identified on the Pre-Task Plan (PTP).
- The minimum laceration prevention PPE required when using a utility knife or when handling aluminum sheet, scrap, metal banding is Kevlar gloves with Kevlar arm guards.

Safety Glasses

- Safety glasses shall have an ANSI Z87.1 stamp.
- Prescription glasses shall be ANSI Z87.1 with side shields.
- Safety glasses with shaded lenses are not to be worn when working inside of buildings.
- Additional eye protection is required for tasks including welding, cutting, chipping, grinding, and working with hazardous materials that present a splash hazard
- Face shields and welding hoods shall be attached to hard hats
- Safety glasses are required under welding hoods and face shields

Hearing Protection

- High noise producing operations can result in permanent hearing loss unless hearing protection is worn consistently.
- Wear hearing protection in all work areas where signage (Hearing Protection Required in this Area) is posted.
- Evaluate the need for hearing protection when you develop the PTP for each task.
- “Rule of Thumb” - Hearing protection is probably required if you have trouble communicating without shouting at 3 feet.

Respiratory Protection

- You may need to wear respiratory protection from airborne hazards. If so the contracted company shall have a formal Respiratory Protection program compliant with OSHA 29 CFR 1926.103.
- Evaluate the need for respiratory protection when you develop the PTP for the task to be performed.
- Use only the respirator provided for the task to be performed.
- Keep it properly cleaned and maintained.
- Training, fit testing, and medical clearance is required.

Hand Protection

- Gloves are required for any operation where hand injury is possible.
- Use the right gloves for the task you are performing.
- Do not wear gloves when operating moving machinery or rotating equipment.
- Consult your Pre Task Plan (PTP) for proper direction.
- Task exposures to cuts, punctures, heat, and abrasion will determine what glove type is the right one for you.

Clothing

- Short sleeve shirts are permitted within the construction project. If the construction task presents a risk of an arm injury, the exposed skin shall be covered/protected by long sleeves, welding leathers, etc; this requirement should also be included in the Pre Task Plan.
- Proper work clothing consists of a shirt with minimum 4 inch sleeves. Tank tops, low cut shirts, sleeveless shirts, etc... are not permitted
- Long pants free of holes that expose skin to possible injury are required.
- Hi-visibility work vest or garment with reflective stripes are required.
- Hooded parkas and sweatshirts are permitted on the construction job site. However, they shall not be up covering the head if the employee is operating mobile equipment (e.g., cranes, fork truck, pay-loader, etc.).

Hot Work (welding/cutting with compressed gas cylinders)

- A hot work permit is required for all hot work, open flames welding and cutting etc.

- OWNER'S CONSTRUCTION MANAGEMENT CONTRACTOR or Novelis will manage the writing and issuance of the Hot Work permits.
- Hot work permit fire watch must be established. Fire watch must be present for duration of the task and continue on for 1-hour after the task is complete.
- Hot work permits shall be properly filled out indicating the start of the work (time) and the designated fire watch.
- Welding screens shall be used to shield others from welding flash.
- Welding lead shall be free of exposed conductors and must be free of repair or splice within ten (10') of the stinger.
- Piping containing gases or flammable liquids shall not be used as ground return.
- Flash back arrestors shall be attached to the regulator/gauges.
- The contractor must provide fire extinguishers and fire watch for each separate job.
- All overhead cutting or welding requires two-fire watch with four fire extinguishers
- Wear appropriate personal protective equipment.
- Remove or combustible materials in the immediate hot work area.
- Station fire watch with fire extinguisher.
- Cylinder valves must be closed when cylinders are not being used and when cylinders are being moved.
- Cylinders must be positioned to avoid being struck or knock over; coming in contact with electrical circuits or extreme heat sources; and shielded from welding and cutting operations.
- Completed Hot Work Permits shall be returned to the SSM for record retention.

Compressed Gas Cylinders and hoses (e.g., oxygen, acetylene, etc)

- Compressed gas and oxygen must be stored at least 20 feet apart or be separated by a 5 foot barrier with a 1/2 hour fire protection rating
- Flash back arrestors shall be attached to the gauges
- Valve caps must be in place when cylinders are not in use, transported, moved, or stored.
- Cylinder valves must be closed when cylinders are not being used and when cylinders are being moved.
- Cylinders must be secured in an upright position at all times.
- Cylinders must be shielded from welding and cutting operations and positioned to avoid being struck or knocked over; contacting electrical circuits; or exposed to extreme heat sources.
- Cylinders must be secured on a cradle, basket, or pallet when hoisted; they may not be hoisted by choker slings.
- Hoses shall be inspected at the beginning of each shift.
- Storage racks and cabinets shall be labeled with the contractor company name.

Fire Prevention

- Fire extinguishers shall be provided so that the travel distance from any work area to the nearest extinguisher is less than 100 feet. When 5 gallons or more of a flammable or combustible liquid is being used, an extinguisher must be within 50 feet. Extinguishers must:
 - Be 20-lb. ABC dry chemical type fire extinguishers.
 - Be maintained in a fully charged and operable condition,
 - Be visually inspected each month, and
 - Undergo a maintenance check each year.
- Combustible materials stored outside should be at least 10 feet from any building.
- Solvent waste and oily rags must be labeled and kept in a fire resistant, covered container until removed from the site.
- Flammable/combustible liquids must be labeled and kept in approved containers, and must be stored in an approved storage cabinet.
- When welding is completed, check to ensure you have a good/proper ground next to your immediate work area to prevent damage to electrical equipment & systems.

Electrical Safety

General Electrical Safety

- Only qualified personnel are permitted to work on unprotected energized electrical systems.
- Only authorized personnel are permitted to enter high-voltage areas.
- Do not touch electrical wiring and equipment unless qualified to do so. All electrical wiring and equipment must be considered energized until lockout/tagout procedures are implemented.
- Inspect electrical equipment, power tools, and extension cords for damage prior to use. Do not use defective electrical equipment, remove from service.
- Documented inspections monthly for all cord sets. Must include appropriate color-coded tape for the month (See Attachment 5).
- All temporary wiring, including extension cords and electrical power tools, must have ground fault circuit interrupters (GFCIs) installed.
- Extension cords must be:
 - Equipped with third-wire grounding.
 - Covered, elevated, or protected from damage when passing through work areas.
 - Protected from pinching if routed through doorways.
 - Not fastened with staples, hung from nails, or suspended with wire.
- Electrical power tools and equipment must be effectively grounded or double-insulated UL approved.
- Operate and maintain electric power tools and equipment according to manufacturers' instructions.
- Maintain safe clearance distances between overhead power lines and any electrical conducting material unless the power lines have been de-energized and grounded, or where insulating barriers have been installed to prevent physical contact. Maintain at least 10 feet from overhead power lines for voltages of 50 kV or less, and 10 feet plus ½ inch for every 1 kV over 50 kV.
- Temporary lights shall not be suspended by their electric cord unless designed for suspension. Lights shall be protected from accidental contact or breakage.
- Protect all electrical equipment, tools, switches, and outlets from environmental elements.
- Electrical cords and welding leads shall be suspended 7 feet in the air with non conductive material.
- Electrical cords shall be rated for hard construction use.
- Damaged cords shall be taken out of service immediately.

Portable Generator Hazards

Portable generators are useful when temporary or remote electric power is needed, but they also can be hazardous. The primary hazards to avoid when using a generator are carbon monoxide (CO) poisoning from the toxic engine exhaust, electric shock or electrocution, and fire.

Carbon Monoxide (CO) Hazards

NEVER use a generator in enclosed or partially-enclosed spaces. Generators can produce high levels of CO very quickly. When you use a portable generator, remember that you cannot smell or see CO. Even if you can't smell exhaust fumes, you may still be exposed to CO.

If you start to feel sick, dizzy, or weak while using a generator, get to fresh air **RIGHT AWAY. DO NOT DELAY.** The CO from generators can rapidly lead to full incapacitation and death.

If you experience serious symptoms, get medical attention immediately. Inform project staff that CO poisoning is suspected. If you experienced symptoms while indoors, have someone call the fire department to determine when it is safe to re-enter the building.

- **NEVER** use a generator indoors

- Follow the instructions that come with your generator. Locate the unit outdoors and away from doors, windows, and vents that could allow CO to come indoors.

Electrical Hazards

- Keep the generator dry and do not use in exposed rain or wet conditions. To protect from moisture, operate it on a dry surface under an open, canopy-like structure. Dry your hands if wet before touching the generator.
- Plug appliances directly into the generator. Or, use a heavy duty, outdoor-rated extension cord that is rated (in watts or amps) at least equal to the sum of the connected appliance loads. Check that the entire cord is free of cuts or tears and that the plug has all three prongs, especially a grounding pin.
- Most generators come with Ground Fault Circuit Interrupters (GFCI). Test the GFCIs daily to determine whether they are working
- If the generator is not equipped with GFCI protected circuits, plug a portable GFCI into the generator and plug appliances, tools and lights into the portable GFCI.

Electrical Fire Hazards

- Never store fuel near the generator or near any sources of ignition.
- Before refueling the generator, turn it off and let it cool down. Gasoline spilled on hot engine parts could ignite.

Energized Electrical Work

- Subcontractors are responsible for complying with all applicable HS&E training requirements and for providing the training necessary to complete their tasks safely. Subcontractor training shall be verified by the Subcontractor to OWNER'S CONSTRUCTION MANAGEMENT CONTRACTOR prior to the start of field operations.
- Electrical wiring and equipment shall be de-energized prior to conducting work unless it can be demonstrated that de-energizing introduces additional or increased hazards or is unfeasible due to equipment design or operational limitations.
- All electrical systems shall be considered energized until lockout/tagout procedures are implemented.
- Only qualified personnel donning a garment compliant with NFPA 70E are permitted to work on unprotected energized electrical systems. An Energized Electrical competent person shall be present and shall complete an Energized Electrical Work Permit.
- An Energized Electrical Work Permit is required to be completed by the energized electrical qualified persons who enter a Limited Approach Boundary or the Flash Protection Boundary to work on electric circuit parts or equipment that have not been properly de-energized, locked out, and tagged.
- An Electrical Hazard Analysis must be performed to identify energized electrical safe work practices before any person approaches exposed live parts within a Limited Approach Boundary (as determined by the shock hazard analysis), by performing both shock hazard analysis and flash hazard analysis, which comprise the electrical analysis.
- The Energized Electrical Work Permit shall be completed prior to energized electrical work and shall be specific to the electrical equipment or system. It shall be approved by the competent person, all involved qualified personnel, and the OWNER'S CONSTRUCTION MANAGEMENT CONTRACTOR SSM.

Hand and Power Tools

- Tools shall be inspected prior to use and damaged tools will be tagged and removed from service.
- Hand tools will be used for their intended use and operated in accordance with manufacturer's instructions and design limitations;
- Maintain all hand and power tools in a safe condition.

- Use PPE (such as gloves, safety glasses, earplugs, and face shields) when exposed to a hazard from a tool.
- Do not carry or lower a power tool by its cord or hose.
- Portable power tools will be plugged into GFCI protected outlets; and
- Portable power tools will be Underwriters Laboratories (UL) listed and have a three-wire grounded plug or be double insulated.
- Disconnect tools from energy sources when they are not in use, before servicing and cleaning them, and when changing accessories (such as blades, bits, and cutters).
- Safety guards on tools must remain installed while the tool is in use and must be promptly replaced after repair or maintenance has been performed.
- Store tools properly in a place where they will not be damaged or come in contact with hazardous materials.
- If a cordless tool is connected to its recharge unit, both pieces of equipment must conform strictly with electrical standards and manufacturer's specifications.
- Tools used in an explosive environment must be rated for work in that environment (that is, intrinsically safe, spark-proof, etc.).
- When using a knife or blade tool, stroke or cut away from the body with a smooth motion. Be careful not to use excessive force that could damage the tool, the material being cut, or unprotected hands. Novelis requires cut resistant Kevlar gloves and Kevlar arm-guards to be worn when using a utility knife. Recommend the use of auto retractable safety blade knives (No pocket knives permitted).

Steel Erection

- Written site specific erection plan shall be provided to SSM (Site Safety Manager) and address the criteria outlined in 29 CFR 1926.752 Appendix A.
- Protruding reinforcing steel (rebar), onto which personnel could fall, must be guarded to eliminate the hazard of impalement
- Structural steel loads shall not be released from the hoisting line until the members are secured with at least two bolts, or the equivalent at each connection and drawn up wrench tight
- Tag lines shall be used for controlling loads
- Containers shall be provided for storing or carrying rivets, bolts, and drift pins, and secured against accidental displacement when aloft
- Air line hose sections shall be secured together, except when quick disconnect couplers are used to join sections
- Impact wrenches used for bolting shall be provided with a locking device for retaining the socket
- Turnbuckles shall be secured to prevent unwinding while under stress
- Plumbing-up guys shall be removed only under the supervision of a competent person.
- Metal decking of sufficient strength shall be laid tight and secured to prevent movement
- Provisions shall be made to secure temporary flooring against displacement. Planks shall overlap the bearing on each end by a minimum of 12 inches. Wire mesh, exterior plywood, or equivalent, shall be used around columns where planks do not fit tightly.
- All unused openings in floors, temporary or permanent, shall be completely planked over or guarded

Ladders and Stairways

- Stairway or ladder is generally required when a break in elevation of 19 inches or greater exists.
- Personnel should avoid using both hands to carry objects while on stairways; if unavoidable, use extra precautions.
- Personnel must not use pan and skeleton metal stairs until permanent or temporary treads and landings are provided the full width and depth of each step and landing.

- Ladders must be inspected by a competent person for visible defects prior to each day's use. Defective ladders must be tagged and removed from service.
- Ladders must be used only for the purpose for which they were designed and shall not be loaded beyond their rated capacity.
- Only one person at a time shall climb on or work from an individual ladder.
- User must face the ladder when climbing; keep belt buckle between side rails
- Ladders shall not be moved, shifted, or extended while in use.
- User must use both hands to climb; use rope to raise and lower equipment and materials
- Straight and extension ladders must be tied off to prevent displacement
- Ladders that may be displaced by work activities or traffic must be secured or barricaded
- Portable ladders must extend at least 3 feet above landing surface
- Straight and extension ladders must be positioned at such an angle that the ladder base to the wall is one-fourth of the working length of the ladder
- Stepladders are to be used in the fully opened and locked position
- Users are not to stand on the top two steps of a stepladder; nor are users to sit on top or straddle a stepladder
- Fall protection should be considered when working from extension, straight, or fixed ladders greater than four (4') feet from lower levels and both hands are needed to perform the work, or when reaching or working outside of the plane of ladder side rails.

Scaffolds

- All scaffolding is to be erected under the supervision of a competent person.
- All craftspeople working on scaffolding must be trained to recognize possible hazards.
- All scaffolding shall be tagged
- A **red tag** indicates a scaffold is not complete and therefore shall not be used
- A **yellow tag** indicates the scaffold is complete but requires certain precautions; precautions shall be written on the tag, e.g. fall protection required
- A **green tag** indicates the scaffold is good to go...no other fall protection is required.
- Scaffold tags shall be placed at all access points
- Do not access scaffolds until the competent person has completed the work shift inspection and has authorized access.
- Follow all requirements established by the competent person or as identified on the scaffold tag.
- Do not access scaffolds that are damaged or unstable at any time and for any reason.
- Only access scaffolds by means of a ladder, stair tower, ladder stand, ramp, integral prefabricated scaffold access, or other equivalent safe means of access. Scaffold cross bracing shall not be used to access scaffold platforms.
- Remain within the scaffold guardrail system when provided. Leaning over or stepping across a guardrail system is not permitted.
- Use personal fall arrest systems when required by the competent person and when working from suspension scaffolds or boatswains' chairs.
- Do not stand on objects (boxes, buckets, bricks, blocks, etc.) or ladders on top of scaffold platforms to increase working height unless the platform covers the entire floor area of the room.
- Do not work on scaffolds covered with snow, ice, or other slippery material or work on scaffolds during storms or high winds unless personal fall arrest systems or wind screens are provided and the competent person determines it is safe to remain on the scaffold.
- The contractor must have a "competent person" on site for all scaffolding work as required by OSHA. The dedicated safety personnel will not be allowed to oversee these activities as the "competent person" but may assist in the implementation of the plan.

Excavation Activities

Excavation Entry

Do not enter the excavations unless completely necessary, and only after the excavation competent person has completed their daily inspection and has authorized entry. An inspection shall be conducted by the competent person prior to the start of work, as needed throughout the shift, after every rainstorm, and after any hazard increasing occurrence. Documentation of the inspection must be maintained onsite at all times by the contractor.

Follow all excavation entry requirements established by the excavation competent person and any excavation permit being used.

Sloping, benching, shoring, shielding, or other protective systems are required to protect personnel from cave-ins except when the excavation is made entirely in stable rock or is less than 5 feet deep and there is no indication of possible cave-in, as determined by the excavation competent person. Protective systems for excavations deeper than 20 feet must be designed or approved by a registered professional engineer.

Trenches greater than 4 feet deep shall be provided with a ladder, stairway, or ramp positioned so that the maximum lateral travel distance is no more than 25 feet.

Review section 2.2.5 for locating underground utilities.

Excavations shall not be entered when:

- Protective systems are damaged or unstable.
- Objects or structures above the work location may become unstable and fall into the excavation.
- The potential for a hazardous atmosphere exists, unless the air has been tested and found to be at safe levels.
- Accumulated water exists in the excavation, unless precautions have been taken to prevent excavation cave-in.
- The contractor must have a “competent person” on site for excavation work as required by OSHA. The dedicated safety personnel will not be allowed to oversee these activities as the “competent person” but may assist in the implementation of the plan.

Heavy Equipment (earthmoving/excavating machinery)

- Only trained personnel shall operate heavy equipment.
- Equipment must be checked at the beginning of each shift to ensure the equipment is in safe operating condition and free of apparent damage. The check should include: head lights (front and back), service brakes, parking brakes, emergency brakes, tires, horn, back-up alarm, steering mechanism, coupling devices, seat belts and operating controls. All defects shall be corrected before the equipment is placed in service. Documentation of the daily inspection shall be kept on the equipment during the day that it was completed. Contractor shall store completed pre-use inspections in their job trailer.
- Equipment must be on a stable foundation such as solid ground or cribbing; outriggers are to be fully extended.
- Operator(s) shall climb into and out of the equipment only using steps or rungs provided on the machine. Do not jump from the cab.
- Equipment must not be used to lift personnel; loads must not be lifted over the heads of personnel.
- Equipment, or parts thereof, which are suspended must be substantially blocked or cribbed to prevent shifting before personnel are permitted to work under or between them. All controls shall be in a neutral position, with the motors stopped and brakes set.
- Equipment which is operating in reverse must have a back-up indicator alarm distinguishable from the surrounding noise or a signal person when the operators view is obstructed.

- Use of cell phones, head phones or similar devices is prohibited. Cell phone use shall not be a distraction. If there is a need to use a cell phone, stop, park and shut off the equipment. Exit the equipment and proceed to a safe location away from the immediate work area.
- When equipment is used near energized powerlines, the closest part of the equipment must be at least 15' from the power lines < 50 kV. Provide an additional 5 feet for every 150 kV over 50 kV. A person must be designated to observe clearances and give timely warning for all operations where it is difficult for the operator to maintain the desired clearance by visual means. All overhead power lines must be considered to be an energized until the electrical utility authorities indicate that it is not an energized line and it has been visibly grounded.
- Underground utility lines must be located before excavation begins; refer to Section 2.2.5 "Procedures for locating buried utilities".
- Operators loading/unloading from vehicles are responsible for seeing that vehicle drivers are in the vehicle cab or in a safe area.
- The parking brake shall be set whenever equipment is parked; wheels must be chocked when parked on inclines.
- When not in operation, the blade/bucket must be blocked or grounded; the master clutch must be disengaged when the operator leaves the cab. When equipment is unattended, power must be shut off, brakes set, blades/buckets landed and shift lever in neutral.

Haul Trucks

- Haul truck operators should be familiar with their equipment and inspect all equipment before use.
- Haul truck operators should ensure all persons are clear before operating truck or equipment. Before moving operators should sound horn or alarm, all equipment should be equipped with head-lights and back up alarm. Head-lights are to be turned on when the truck is in operation.
- Haul trucks or equipment with restricted visibility should be equipped with devices that eliminate blind spots.
- Employees should stay off haul roads. When approaching a haul area, employees should make eye contact and communicate their intentions directly with the equipment operator.
- Haul roads should be well lit, sufficiently wide (at least 50% of the width of the equipment on both sides of road) and equipped with reflectors to indicate access points.
- Haul roads should have adequate right-of-way signs indicating haul directions.

Concrete and Masonry Construction Activities

- Protruding reinforcing steel (rebar), onto which personnel could fall, must be guarded to eliminate the hazard of impalement
- Personnel shall maintain a distance from formwork and shoring being removed from concrete structures to avoid being struck by debris.
- Personnel shall not enter limited access zones during masonry wall construction.

Aerial Lifts

- Formal/documented pre-use inspection is required before operating the equipment to ensure the equipment is in safe operating condition.
- Only trained and authorized personnel are permitted to operate aerial lifts.
- Personnel shall wear a full body harness and attach their lanyard to the boom or basket; never attach to an adjacent structure.
- Personnel shall remain in the basket at all times and shall not climb on the lift to gain access to elevated work location.
- Personnel shall always stand on the floor of the basket and not on the guardrails, planks, ladders or other devices to extend reach.
- Aerial lifts shall be positioned on level surfaces when possible and the brakes shall be set. If outriggers are provided, they shall be positioned on solid surfaces or cribbing. Wheel chocks shall be installed before using lifts on inclines.

- Lifts shall be provided with upper and lower controls and these controls shall be tested for proper function before each days use. The lower controls shall not be operated unless permission has been obtained from personnel in the lift, except in the case of emergency.
- Boom and basket load limits, as specified by the manufacturer, shall be known and shall not be exceeded.
- Aerial lifts shall be prohibited from moving with workers in the basket, unless specifically designed for this type of operation.
- Personnel shall not work on elevated platforms when winds exceed twenty (20) miles per hour.
- Lifts shall be lowered before moving horizontally.
- An aerial lift shall not be used as a material hoist.
- Aerial platforms shall not be used within 15 feet of open energized overhead electric lines.
- Operator(s) shall survey the area before rolling over it and verify load capacity of covers, gratings, floor plates and plywood (is it cribbed-up).
- Tying off to an adjacent pole, structure, or equipment while working from an aerial lift shall NOT be permitted.

Vehicles and Traffic

- Vehicular traffic on or within the plant premises shall only be authorized for delivery and pickup of contractor material or equipment
- All vehicles shall have the engine turned off while unloading materials (the only exception to this requirement shall be concrete trucks)
- Vehicles shall not be parked or left unattended, except in designated parking areas
- All vehicles brought on site, including scooters, welding machines, cranes, aerial platforms, forklifts, backhoes etc..... must be identified with company name or unique number or letter
- Site speed limit is 20 MPH
- Seat belts must be worn when driving on site
- Many different types of mechanized equipment are utilized which when used properly, makes your job easier and allows you to perform your work task in a better and more efficient manner. There are dangers involved with each piece of equipment and it is only as safe as the person operating it. Most of the equipments either have a travel alarm or a back-up alarm system.
- Only those persons qualified / certified by training or experience shall be authorized to operate any piece of equipment whether the equipment is a pick-up truck, forklift, crane, JLG, Scissors lift, backhoe, front loader, etc.

Demolition

The demolition Subcontractor working on this project will provide OWNER'S CONSTRUCTION MANAGEMENT CONTRACTOR with a demolition safety plan prior to the start of work.

OWNER'S CONSTRUCTION MANAGEMENT CONTRACTOR will use this plan to verify that the Subcontractor is implementing its safety precautions during this activity. In addition, the following safety precautions shall be implemented by all personnel.

- Remain a distance from the demolition zone to reduce exposure to fragmentation of glass, steel, masonry, and other debris during demolition operations.
- Do not enter the demolition zone unless completely necessary, and only after the competent person has assessed the condition of the structure and has authorized entry.
- Follow all requirements established by the competent person. The competent person shall inform personnel of the areas that are safe to enter and the areas where entry is prohibited. When possible, the competent person should escort OWNER'S CONSTRUCTION MANAGEMENT CONTRACTOR personnel while in the demolition zone.

- All demolition activities that may affect the integrity of the structure or safety of personnel must cease until personnel have exited the demolition zone.
- Stay as clear as possible of all hoisting operations. Loads shall not be hoisted overhead of personnel

Railroad track safety

- Obey all signs and always look both ways before crossing railroad tracks when walking and driving – the railroad has the right-of way.
- Do not go under, over, on or in a locomotive or railcar.
- When parking or staging material next to railroad tracks, allow for at least eight (8') from the centerline of the track.
- Do not stand or walk parallel between rails of the tracks.
- Lockout out rail switch or install rail stops with warning flags and lights approximately 200' ahead of the work area if equipment or materials are staged on the railroad tracks or within eight (8") of the center of the tracks.

Hexavalent Chromium (Cr VI) Exposure

The OSHA permissible exposure limit (PEL) and ACGIH Threshold Limit Value (TLV) for Chromium VI is 5 ug/m³ (insoluble) and 1 ug/m³ (soluble) with an action level (AL) of 2.5 ug/m³ for insoluble and 0.5 ug/ m³ for soluble. Hexavalent Chromium is considered a Human Carcinogen.

The precautions listed below shall be followed when exposed to Cr VI:

- Exposure assessments must be performed for workers who may be exposed to Cr VI above the AL.
- Avoid exposure by inhalation, skin and eye contact with fume, liquid and/or particulate Cr VI.
- Respiratory protection and other exposure controls selection shall be based on the most recent exposure monitoring results obtained from the competent person.
- Do not enter regulated work areas unless training, medical monitoring, and PPE requirements established by the competent person have been met.
- Do not eat, drink, smoke, chew tobacco or gum, or apply cosmetics in regulated areas.

(Controlling) Lead Exposure during Demolition Operations

Subcontractor specified Activity Hazard Analysis lead-exposure-control procedures will be implemented during demolition operations involving potential exposure to lead including:

- Site personnel lead-awareness training.
- Site personnel hand-washing facilities.

The selection of respiratory protection and other exposure controls will be based on the most recent exposure monitoring results obtained from the lead-exposure-competent person.

PCB/Ballast Handling

Fluorescent lighting used in many older buildings use ballast resistors that contain PCB oil. PCB is colorless to light-colored, viscous liquid with a mild, hydrocarbon odor.

When work requires the handling or removal of fluorescent ballast resistors, extra care and attention needs to be taken. While ballasts are usually well sealed, it is not uncommon to find a ballast resistor that has leaked.

- A survey must be made to determine whether ballast resistors contain PCB fill.
- Leaking resistors must be identified and handled with appropriated PPE.
- Exposure Routes are inhalation, skin absorption, ingestion, skin and/or eye contact
- Prevent skin contact by using chemical resistant gloves, wear eye protection, and thoroughly wash hands before eating or smoking.
- Ensure eyewash is available.

- In the event of exposure, follow the following First Aid procedures:
Eyes: Irrigate immediately
Skin: Soap wash immediately
Ingestion: Seek medical attention immediately

Dispose of PCB ballast resistors in accordance with Federal, State and Local environmental regulations.

Noise

Each worker is responsible for:

- Wearing hearing protection when in work environments exceeding 85 dBA.

Pressure Line/Vessel Systems

- Operate and maintain pressure vessels, pumps and hosing in accordance with the manufacturer's recommendations.
- Do not exceed the rated pressure of the vessels and hosing of the system.
- The system must be provided with a pressure relief valve/controller that safely reduces the system pressure to within the system rated pressure.
- The pressure relief valve must be rated at no more than 110% the rated pressure of the system and must be tested at regular intervals.
- Each vessel must be equipped with a functioning pressure gauge to monitor pressure.

Visible Lighting

- While work is in progress outside construction areas shall have at least 33 lux.
- Construction work conducted inside buildings should be provided with at least 55 lux light.
- The means of egress shall be illuminated with emergency and non-emergency lighting to provide a minimum 11 lx measured at the floor. Egress illumination shall be arranged so that the failure of any single lighting unit, including the burning out of an electric bulb will not leave any area in total darkness.

Manual Lifting

Proper lifting techniques must be used when lifting any object.

- Plan storage and staging to minimize lifting or carrying distances.
- Split heavy loads into smaller loads.
- Use mechanical lifting aids whenever possible.
- Have someone assist with the lift -- especially for heavy or awkward loads.
- Make sure the path of travel is clear prior to the lift.

Waste Handling

Novelis Wastes are defined as wastes that exist onsite prior to the performance of the Work. Disposition of Novelis wastes will be performed as prescribed in site procedures and be managed only by Novelis authorized waste facilities. In the absence of specific procedures, disposition will be coordinated with the Novelis Environmental Department.

Contractor Wastes are defined as wastes that are generated as a result of the performance of the Work. Disposition of Contractor Wastes are the responsibility of the Contractor, including permitting, waste characterization and the use of approved shipping containers. Novelis reserves the right to disapprove disposal facilities or technologies. Use of Novelis disposal facilities for Contractor Wastes is prohibited unless approved by the NPM.

All waste will be placed in authorized waste containers acceptable for offsite disposition. Use of containers other than those approved for the storage of the waste generated is prohibited.

Contractor shall identify any waste that is required to be drummed prior to the performance of the Work. Contractor shall notify the NPM and make arrangements to obtain labels from Novelis. Drums shall be labeled with the date, Contractor name, P.O., source of waste, and contents to facilitate characterization (if required) and disposition.

Hazardous wastes, including PCB wastes shall be promptly identified and managed in full compliance with all applicable regulations.

Scrap steel generated by the performance of the Work is the property of Novelis and will be segregated in accordance with the Novelis Scrap Metal procedure.

Universal Wastes (e.g., bulbs, batteries, mercury-containing devices) generated during the performance of the Work must be managed in accordance with all applicable legal requirements, including labeling and storage.

Disposition of waste oil generated onsite will be coordinated with the Novelis Coolant House. Offsite disposition is prohibited unless specifically authorized by the Novelis Environmental Department.

Disposition of fill materials must be coordinated through the Novelis Environmental Department.

Clean out of concrete trucks is permitted in designated areas only and does not include dumping of excess quantities of concrete. Contact the Novelis Project Manager prior to concrete delivery to define an acceptable clean out location.

Spill Prevention

Secondary containment is required for all Contractor fuel storage tanks used onsite. All tanks and storage containers must be properly labeled with the working capacity, tank contents, and include warning information. Contractor shall furnish a Material Safety Data Sheet (MSDS) for all chemicals brought onsite and a 24-hour emergency contact number.

Contractor shall notify the Novelis Environmental Department prior to mobilizing a storage tank exceeding fifty-five (55) gallons capacity to the site. Contractor shall be required to submit a spill prevention plan for Novelis approval and demonstrate that adequate spill response capabilities are available in the event of an accidental release.

Contractor shall immediately report any spill or release to the Novelis Environmental Department. The Contractor is solely responsible for responding to a spill resulting from negligence or Contractor equipment malfunction. The Contractor is solely responsible for remediation and restoration of the Site to prerelease conditions.

Water Discharges

The Novelis Environmental Department shall be notified prior to the discharge of water from any operation. The Novelis Environmental Department will work with the contractor to define the acceptable water quality of the discharge and the appropriate routing.

Contractor is responsible for maintaining the job site to prevent materials that could negatively impact water quality (e.g., solids, oils, chemicals) from reaching storm water conveyance systems. This also includes all piles of materials stored outside.

Contractor shall provide sediment and erosion controls for any Work that results in the disturbance of exterior surfaces.

Contractor shall coordinate with the Novelis Environmental Department if the size of the disturbance requires an environmental permit prior to construction.

2.2 General Hazards

General Practices and Housekeeping

- Good housekeeping must be maintained at all times in all project work areas.
- Common paths of travel should be established and kept free from the accumulation of materials.
- Keep access to aisles, exits, ladders, stairways, scaffolding, and emergency equipment free from obstructions.
- Specific areas should be designated for the proper storage of materials.
- Tools, equipment, materials, and supplies shall be stored in an orderly manner.
- As work progresses, scrap and unessential materials must be neatly stored or removed from the work area.
- Containers should be provided for collecting trash and other debris and shall be removed at regular intervals.
- All spills shall be quickly cleaned up. Oil and grease shall be cleaned from walking and working surfaces.

Hazard Communication / Global Harmonized System (GHS)

- The Site Safety Manager (SSM) will confirm that an inventory of chemicals brought on site by Novelis Subcontractors is available.

The Novelis Subcontractors will:

- Label chemical primary and secondary containers with the identity of the chemical and with hazard warnings.
- Give employee's required chemical-specific HAZCOM/GHS training using Attachment 3.
- Store all materials properly, giving consideration to compatibility, quantity limits, secondary containment, fire prevention, and environmental conditions.
- Chemicals being brought on the premises require approval prior to being used. Submission of materials should be provided.

Heat Stress

- Provide adequate shelter/shade to protect personnel against radiant heat (sun, flames, hot metal).
- Observe one another for signs of heat stress. Persons who experience signs of heat syncope, heat rash, or heat cramps should consult their supervisor to avoid progression of heat-related illness.

SYMPTOMS AND TREATMENT OF HEAT STRESS					
	Heat Syncope	Heat Rash	Heat Cramps	Heat Exhaustion	Heat Stroke
Signs and Symptoms	Sluggishness or fainting while standing erect or immobile in heat.	Profuse tiny raised red blister-like vesicles on affected areas, along with prickling sensations during heat exposure.	Painful spasms in muscles used during work (arms, legs, or abdomen); onset during or after work hours.	Fatigue, nausea, headache, giddiness; skin clammy and moist; complexion pale, muddy, or flushed; may faint on standing; rapid thready pulse and low blood pressure; oral temperature normal or low	Red, hot, dry skin; dizziness; confusion; rapid breathing and pulse; high oral temperature.
Treatment	Remove to cooler	Use mild drying	Remove to	Remove to cooler area.	Cool rapidly by

SYMPTOMS AND TREATMENT OF HEAT STRESS					
	area. Rest lying down. Increase fluid intake. Recovery usually is prompt and complete.	lotions and powders, and keep skin clean for drying skin and preventing infection.	cooler area. Rest lying down. Increase fluid intake.	Rest lying down, with head in low position. Administer fluids by mouth. Seek medical attention.	soaking in cool—but not cold—water. Call ambulance, and get medical attention immediately!

Monitoring Heat Stress

These procedures should be considered when the ambient air temperature exceeds 70°F, the relative humidity is high (>50 percent), or when workers exhibit symptoms of heat stress.

The heart rate (HR) should be measured by the radial pulse for 30 seconds, as early as possible in the resting period. The HR at the beginning of the rest period should not exceed 100 beats/minute, or 20 beats/minute above resting pulse. If the HR is higher, the next work period should be shortened by 33 percent, while the length of the rest period stays the same. If the pulse rate still exceeds 100 beats/minute at the beginning of the next rest period, the work cycle should be further shortened by 33 percent. The procedure is continued until the rate is maintained below 100 beats/minute, or 20 beats/minute above resting pulse.

Cold Stress

- Be aware of the symptoms of cold-related disorders, and wear proper, layered clothing for the anticipated fieldwork. Appropriate rain gear is a must in cool weather.
- Wind-Chill Index is used to estimate the combined effect of wind and low air temperatures on exposed skin. The wind-chill index does not take into account the body part that is exposed, the level of activity, or the amount or type of clothing worn. For those reasons, it should only be used as a guideline to warn workers when they are in a situation that can cause cold-related illnesses.
- Observe one another for initial signs of cold-related disorders.

SYMPTOMS AND TREATMENT OF COLD STRESS			
	Immersion (Trench) Foot	Frostbite	Hypothermia
Signs and Symptoms	Feet discolored and painful; infection and swelling present.	Blanched, white, waxy skin, but tissue resilient; tissue cold and pale.	Shivering, apathy, sleepiness; rapid drop in body temperature; glassy stare; slow pulse; slow respiration.
Treatment	Seek medical treatment immediately.	Remove victim to a warm place. Re-warm area quickly in warm—but not hot—water. Have victim drink warm fluids, but not coffee or alcohol. Do not break blisters. Elevate the injured area, and get medical attention.	Remove victim to a warm place. Have victim drink warm fluids, but not coffee or alcohol. Get medical attention.

Procedures for Locating Buried Utilities

Do not begin subsurface construction activities (e.g., trenching, excavation, drilling, etc.) until a check for underground utilities and similar obstructions has been conducted. The use of as-built drawings and utility company searches must be supplemented with a geophysical or other survey by a qualified, independent survey Subcontractor to identify additional and undiscovered buried utilities.

Procedure

The following procedures shall be used to identify and mark underground utilities during subsurface construction activities on the project:

- The survey Subcontractor shall determine the most appropriate geophysical technique or combinations of techniques to identify the buried utilities on the project, based on the survey Subcontractor's experience and expertise, types of utilities anticipated to be present and specific site conditions.
- The survey Subcontractor shall employ the same geophysical techniques used on the project to identify the buried utilities, to survey the proposed path of subsurface construction work to confirm no buried utilities are present.
- Identify customer specific permit and/or procedural requirements for excavation and drilling activities. For military installations contact the Base Civil Engineer and obtain the appropriate form to begin the clearance process.
- Contact a specialty contractor in this profession or utility companies or the state/regional utility protection service at least two (2) working days prior to excavation activities to advise of the proposed work, and ask them to establish the location of the utility underground installations prior to the start of actual excavation. The National One Call Stakeout Requests: 1-800-962-7962 or 811 is the starting point for this step.
- Schedule the independent survey.
- Obtain utility clearances for subsurface work on both public and private property.
- Clearances are to be in writing, signed by the party conducting the clearance.
- Underground utility locations must be physically verified by hand digging using wood or fiberglass-handled tools when any adjacent subsurface construction activity (e.g. mechanical drilling, excavating) work is expected to come within 5 feet of the marked underground system. If subsurface construction activity is within 5 feet and parallel to a marked existing utility, the utility location must be exposed and verified by hand digging every 100 feet.
- Protect and preserve the markings of approximate locations of facilities until the markings are no longer required for safe and proper excavations. If the markings of utility locations are destroyed or removed before excavation commences or is completed, the Project Manager must notify the utility company or utility protection service to inform them that the markings have been destroyed.
- Conduct a site briefing for employees regarding the hazards associated with working near the utilities and the means by which the operation will maintain a safe working environment. Detail the method used to isolate the utility and the hazards presented by breaching the isolation..
- Monitor for signs of utilities during advancement of intrusive work (e.g., sudden change in advancement of auger or split spoon during drilling or change in color, texture or density during excavation that could indicate the ground has been previously disturbed).

2.2.7 Crane Airspace / Overhead Work Policy

This procedure applies to all employees and contractors performing any work more than ten (10) feet above floor level, any work conducted from Aerial Lift Platforms and/or any work conducted on or above any crane rails. This includes any work between the inside columns of the crane rail support steel at or above an elevation of ten feet below the crane rail.

Crane Airspace Overhead Work is defined as the performance of any work on or above crane rails, or between the inside columns of the crane rail support steel, at or above an elevation of 10 feet below the crane rail. Note that Crane Airspace Overhead Work is usually also Overhead Work, requiring compliance to the requirements of both.

Particular attention must be given to overhead work performed on or around cranes. The following procedures will be adhered to prior to and during Crane Airspace Overhead Work (the

performance of any work on or above crane rails, or between the inside columns of the crane rail support steel, at or above an elevation of 10 feet below the crane rail). The Crew Leader directing the work, or designated person, shall ensure that each of the following steps occurs:

- Notify the area Novelis Operations Leader or the Operations Coordinator and/or Area Crew Leader prior to entering the work area and inform them of the work being undertaken.
- Personally contact the area overhead crane operator(s) to advise them when, where and the duration of said work will be performed.
- Place a caution tag at the crane operator's control of each crane in the bay to serve as a reminder.
 - The caution tag will give location of work, probable duration and show signature of person performing the work, date and time of placement. The caution tag will be removed upon completion of work, or at end of crew leader's shift, whichever comes first, and repeated as necessary.
- For all cranes in the bay physically isolate them from the work area by electrical lockout, crane stops or equivalent.

OR

- The department performing the work will arrange for a stand-by person who will be in direct radio contact with all of the crane operators for cranes in the bay and permanently stationed in direct view of the work crew.
 - At no time while the crew is conducting elevated work shall the designated stand-by person leave his post.
 - Three-way communication must be established and maintained among spotter, crane operator(s) and person(s) performing the work".

2.2.8 Procedures for Overhead Power Lines

Proximity to Power Lines

No work is to be conducted within 50 feet of overhead power lines without first contacting the utility company or Plant/Project Electrical Engineer to determine the voltage of the system. No aspect of any piece of equipment is to be operated within 50 feet of overhead power lines without first making this determination.

Operations adjacent to overhead power lines are PROHIBITED unless one of the following conditions is satisfied:

- Power has been shut off, positive means (such as lockout) have been taken to prevent the lines from being energized, lines have been tested to confirm the outage, and the utility company has provided a signed certification of the outage.
- The minimum clearance from energized overhead lines is as shown in the table below, or the equipment will be repositioned and blocked to ensure that no part, including cables, can come within the minimum clearances shown in the table.

MINIMUM DISTANCES FROM POWERLINES

Powerlines Nominal System Kv	Minimum Required Distance, Feet
0-50	10
50-200	15
200-350	20
350-500	25
500-750	35

750-1000	45
>1000	Specified by utility owner / operator or qualified PE

(These distances have been determined to eliminate the potential for arcing based on the line voltage.)

- The power line(s) has been isolated through the use of insulating blankets which have been properly placed by the utility. If insulating blankets are used, the utility will determine the minimum safe operating distance; get this determination in writing with the utility representative's signature.

All inquiries regarding electric utilities must be made in writing and a written confirmation of the outage/isolation must be received by the OWNER'S CONSTRUCTION MANAGEMENT CONTRACTOR Construction Manager prior to the start of work.

2.3 Biological Hazards and Controls

Bloodborne Pathogens

Exposure to blood borne pathogens may occur when rendering first aid or CPR, or when coming into contact with landfill waste or waste streams containing potentially infectious material. Exposure controls and personal protective equipment (PPE) are required. Hepatitis B vaccination must be offered before the person participates in a task where exposure is a possibility.

2.4 Drugs and Alcohol

The use, possession, sale, or exchange on Company premises, at any time, of intoxicants such as alcohol beverages, stimulants, or drugs of any kind, will not be tolerated. Violators will be banned from working on the premises and may be subject to prosecution.

Subcontractor's Policy Statement

A Subcontractor's policy statement is required to be submitted to OWNER'S CONSTRUCTION MANAGEMENT CONTRACTOR and should detail prohibited conduct and ramifications, and:

- Prohibit drug, alcohol, and/or controlled substances use or abuse
- Prohibit involvement in the manufacture, distribution, dispensation, possession, sale, or use of illegal drugs in the workplace
- Describe disciplinary actions
- Stipulate that Subcontractor shall pay for all testing

3.0 Project Organization and Personnel

3.1 Field Team Chain of Command and Communication Procedures

Novelis Project Contacts

Novelis Project Manager: Todd Gertz

- Cell Phone: 812-249-8992

Novelis Engineering Leader: Jerry McManus

- Cell Phone 315-529-0344

Novelis Project Safety Leader: TBD

- Cell Phone TBD

OWNER'S CONSTRUCTION MANAGEMENT CONTRACTOR

Project/Engineering Manager: TBD

- Cell phone: TBD

Construction Manager: TBD

- Cell phone: TBD

Site Safety Manager: OWNER'S CONSTRUCTION MANAGEMENT CONTRACTOR TBD

The OWNER'S CONSTRUCTION MANAGEMENT CONTRACTOR project manager (PM) is responsible for providing adequate resources for project-specific oversight of the safety management process. The PM has overall management responsibility for the tasks listed below. The PM may explicitly delegate specific tasks to other staff, as described in sections that follow, but retains ultimate responsibility for completion of the following:

- Provide oversight of Novelis Subcontractor HS&E practices per the Construction Safety Plan
- Ensure that the overall, project HS&E goals are fully and continuously pursued

Site Safety Staffing

- If the contractor's work force is less than 25 employees, the Company's Safety Representative must visit the site no less than twice per month.
- If the contractor's work force (including subcontractors) is greater than 25 employees, then a dedicated competent Safety person must be on the site full time. In addition, the Company's Safety Representative must visit the site no less than once per month.
- If the contractor's work force (including subcontractors) is greater than 50 employees, then a dedicated competent Safety person must be on the site full time. In addition, the Company's Safety Representative must visit the site no less than twice per month.
- The contractor must have a "competent person" on site for all scaffolding or excavation work as required by OSHA. The dedicated safety personnel will not be allowed to oversee these activities as the "competent person" but may assist in the implementation of the plan.

The OWNER'S CONSTRUCTION MANAGEMENT CONTRACTOR HS&E Director is responsible for:

- The contractors must submit one hard copy and three electronic copies of the contractor's site specific safety plan. This must be submitted two weeks prior to the start of work.
- Review and accept or reject Novelis Subcontractor pre-qualification questionnaires.
- Support the SSM's oversight of Subcontractor (and lower-tier Subcontractors) HS&E practices and interfaces with on-site 3rd parties per the Construction Safety Plan (CSP)

The SSM is responsible for verifying that the project is conducted in a safe manner including the following specific obligations:

- Review and accept or reject Project Contractor's training records and site-specific safety procedures prior to start of Subcontractor's field operations
- Verify this Construction Safety Plan (CSP) is current and amended when project activities or conditions change.
- Verify OWNER'S CONSTRUCTION MANAGEMENT CONTRACTOR site personnel and Project Contractor personnel read this CSP and sign Attachment 1 Subcontractor Sign-Off Form prior to commencing field activities.
- Craft workers and employees must have a minimum of OSHA 10-hour training.

- Foreman must have completed the OSHA 30-hour training.
- Verify OWNER'S CONSTRUCTION MANAGEMENT CONTRACTOR site personnel and Subcontractor personnel have completed any required specialty training (e.g., fall protection, confined space entry).
- Audit and verify compliance with the requirements of this CSP and applicable Subcontractor health and safety plan(s).
- Act as the project "Hazard Communication Coordinator" and perform the responsibilities outlined in Section 2.2.2
- Act as the project "Emergency Response Coordinator" and perform the responsibilities outlined in Section 5.
- Post OSHA job-site poster; the poster is required at sites where project field offices, trailers, or equipment-storage boxes are established. (Posters can be obtained by calling 800/548-4776 or 800/999-9111).
- Verify that safety meetings are conducted and documented in the project file initially and as needed throughout the course of the project (e.g., as tasks or hazards change)
- Verify that project H&S forms and permits, found in Attachment 5 are being used as outlined in Section 2.
- Manage the site and interfacing with 3rd parties in a manner consistent with our contract agreements.
- Coordinate with the HSE Director regarding OWNER'S CONSTRUCTION MANAGEMENT CONTRACTOR and Subcontractor operational performance, and 3rd party interfaces.
- Obtain monthly man-hours worked and maintain a man-hour and injury performance log.
- This will also include the creation of a monthly EHS Performance report.
- Provide Project Contractors with a competency based project EHS orientation to all project contractors and Novelis personnel working on the project and issue unique colored and numbered hard hat stickers to identify who has completed the orientation. Orientations are typically provided on Mondays and Wednesdays at 7 am and also for special occasions.
 - SSM will take a digital photo of each individual completing the orientation program. The digital photo(s) will then be saved and labeled with the trainees name and company name. The labeled photos are then emailed to Novelis Security and they will create the photo ID badges for future project security gate entry and exit.
- This will also include the maintenance of a Project Orientation training log.
- Ensure that the overall, job-specific, HS&E goals are fully and continuously pursued.
- Provide assistance with accident investigation and ensure a draft of the accident is formally submitted within 24-hours of the event.
- In the event of an incident, the SSM is responsible for contacting the Project Manager. In general, the Project Manager will contact Novelis Project Team Manager and Novelis Project EHS Coordinator.

SSM Record Retention Requirements

- Maintain a Master Index/Inventory of the Project Contractors material safety data sheets for the duration of the project.
- Collect and retain completed Hot Work Permits and Pre Task Safety Plans for 1-year.
- Complete and retain any required environmental erosion control and secondary containment inspection records for 1-year.

The training required for the SSM is as follows:

- Safety Coordinator-Initial and Safety Coordinator-Construction
- OSHA 10 hour course for Construction
- First Aid and CPR
- Relevant Competent Person Courses (excavation, confined space, scaffold, fall protection, etc.).

4.0 Personal Protective Equipment (PPE)

Note that PPE is required when exposed to the general hazards listed below. Because certain tasks (e.g., welding, energized work, etc.) require specialized PPE, refer to Section 2 for task-specific PPE requirements.

PPE Specifications ^a

Hazard	PPE
General entry to active construction site.	ANSI approved Safety-toe leather work boots, safety glasses with sideshields, and hardhat.
Working in or near traffic –or–working in or near heavy equipment work zones.	High visibility, reflective vest.
Working around heavy equipment or other noisy machinery, or if you must raise your voice to be heard while communicating with persons near you, hearing protection is required.	ANSI approved ear plugs or earmuffs.
Severe cuts or lacerations, severe abrasions, punctures, chemical burns, thermal burns and harmful temperature extremes.	Kevlar leather palmed gloves and arm guards are required for using utility knives, handling metal banding, and aluminum scrap/sheet.
Potential for head injury from impact, falling or flying objects.	ANSI approved hardhat.
Flying particles, molten metal, liquid chemicals, acids or caustic liquids, chemical gases or vapors, or potentially injurious light radiation and when cutting metal banding.	ANSI approved safety glasses with side shields, safety goggles, face shield, or welding glasses. Face shield may be used only in conjunction with the use of other protective eyewear.

5.0 Emergency Response Plan

5.1 Pre-Emergency Planning

- The SSM will complete the applicable pre-emergency planning tasks before starting field activities then coordinate emergency response with onsite parties, the facility, and local emergency-service providers as appropriate.
- Review the facility emergency and contingency plans.
- Determine what onsite communication equipment is available (e.g., two-way radio).
- Confirm and post emergency telephone numbers, evacuation routes, assembly areas, and route to hospital; communicate the information to onsite personnel.
- Review changed site conditions, onsite operations, and personnel availability in relation to emergency response procedures.
- Where appropriate and acceptable to Novelis, inform emergency room and ambulance and emergency response teams of anticipated types of site emergencies.
- Communicate emergency procedures for personnel injury, exposures, fires, explosions, and releases through the project orientation program.
- Rehearse the emergency response plan before site activities begin, including driving route to hospital.

The SSM will evaluate emergency response actions and initiate appropriate follow-up actions.

5.2 Emergency Equipment and Supplies

Subcontractors will determine and provide an appropriate level and distribution of supplies and equipment as necessary for activities.

Sample Emergency Equipment and Supplies	Location
-----------------------------------------	----------

10 lb. class A,B,C fire extinguisher
First aid kit
Eye Wash bottle(s)
Potable water
Bloodborne-pathogen kit
Additional equipment (specify):

Field Office and field
Field Office
Field Office
Field Office
Field Office

5.3 Incident Response

In fires, explosions, or chemical releases, actions to be taken include the following:

- Shut down operations and evacuate the immediate work area.
- If working on the East side of the plant near Remelt, check wind direction and go up-wind if there is a chlorine leak.
- Notify appropriate response personnel (reference Attachment 4).
- Account for personnel at the designated assembly area(s).
- Assess the need for site evacuation, and evacuate the site as warranted.

5.4 Emergency Medical Treatment

The procedures listed below may also be applied to non-emergency incidents. Injuries and illnesses must be reported to OWNER'S CONSTRUCTION MANAGEMENT CONTRACTOR and Novelis representatives as listed in Attachment 4

- Notify appropriate emergency response authorities listed in Attachment 4 (e.g., 911).
- The SCM and or Subcontractor Safety representative will assume charge during a medical emergency until Emergency Medical Services Team arrives.
- Prevent further injury.
- Initiate first aid and CPR where feasible.
- Make certain that the injured person is accompanied to the medical facility by an immediate employer representative.
- In the event of an incident, project contractors shall contact the SSM and provide them initial notification of the event who was injured, extent of injury, what and where it happened and any other pertinent information) The SSM is responsible for contacting the Project Manager. In general, the Project Manager will contact Novelis Project Team Manager and Novelis Project EHS Coordinator and provide them a preliminary description of the event.
- A formal incident shall be provided to Novelis within 24-hours after the accident.

5.5 Evacuation

- Evacuation map displaying the routes and assembly areas (and alternative routes and assembly areas) are to be specified on a site map.
- Evacuation route(s) and assembly area(s) will be designated by the SSC before work begins.
- Personnel will assemble at the assembly area(s) upon hearing the emergency signal for evacuation.
- The SSC will remain on the site after the site has been evacuated (if safe) to assist Novelis Emergency Team Incident Commander and advise them of the nature and location of the incident.
- The SSC will account for all personnel in the onsite assembly area.
- A designated person will account for personnel at alternate assembly area(s).
- The SSC and Subcontractor Safety representative will document the incident as soon as possible after it occurs and submit a report to the PM who will forward to Novelis.

5.6 Incident Notification and Reporting

Investigations for injury cases, near miss accidents, serious fires, property damage and environmental spills (e.g., hydraulic oil, antifreeze, chemicals, etc.) regardless of quantity spilled, shall be performed.

- In the event of an incident, project contractors shall contact the PM and SSM immediately and provide them with an event description: who was involved, what happened, extent of the spill, damage or injury and when it happened and any other pertinent information. The PM will contact Novelis Project Team Manager and Novelis Project EHS Coordinator and provide them a preliminary description of the event.
- A formal incident shall be provided to Novelis Project safety Coordinator within 24-hours after the accident.
- Gather all relevant facts, focusing on fact-finding, not fault-finding, while answering the who, what, when, where and how questions (take measurements, pictures, obtain equipment models and unique equipment numbers, obtain weights if it applies, etc.).

6.0 Attachments

Attachment 1: **Subcontractor Signoff Form**

Attachment 2: **Project-Specific Chemical Product Hazard Communication Form**

Attachment 3: **Chemical-Specific Training Form**

Attachment 4: **Emergency Contacts**

Attachment 5: **Hot Work Permit and Pre Task Safety Plan Form**

Attachment 6: **Monthly Power Cord Inspection Color Code Chart**

Attachment 7: **Pre Task Plan (PTP)**

ATTACHMENT 1

SUBCONTRACTOR SIGNOFF FORM

Health and Safety Plan

The OWNER'S CONSTRUCTION MANAGEMENT CONTRACTOR project employees and Novelis Subcontractors and Project Service/Equipment suppliers listed below have been provided with a copy of this CSP, have read and understood it, and agree to abide by its provisions.

Project Name: Site Infrastructure Improvements

Project Number:

[illegible]

[illegible]

ATTACHMENT 3- CHEMICAL-SPECIFIC TRAINING FORM-

Location:

Project # :

HCC:

Trainer:

TRAINING PARTICIPANTS:

NAME	SIGNATURE	NAME	SIGNATURE

REGULATED PRODUCTS/TASKS COVERED BY THIS TRAINING:

The Hazard Communication Coordinator (HCC) shall use the product MSDS to provide the following information concerning each of the products listed above.

- ☐ Physical and health hazards
- ☐ Control measures that can be used to provide protection (including appropriate work practices, emergency procedures, and personal protective equipment to be used)
- ☐ Methods and observations used to detect the presence or release of the regulated product in the workplace (including periodic monitoring, continuous monitoring devices, visual appearance or odor of regulated product when being released, etc.)

Training participants shall have the opportunity to ask questions concerning these products and, upon completion of this training, will understand the product hazards and appropriate control measures available for their protection.

Copies of MSDSs, chemical inventories, and Subcontractor's written hazard communication program shall be made available for employee review in the facility/project hazard communication file.

Attachment 4

Emergency Contacts

Medical Emergency – 911

Facility Medical Response #:

Local Ambulance #:

Local Hospital

TBD

HSE Director

Name: OWNER'S CONSTRUCTION
MANAGEMENT CONTRACTOR TBD

Site Safety Manager (SSM)

Name: OWNER'S CONSTRUCTION
MANAGEMENT CONTRACTOR TBD
Phone:

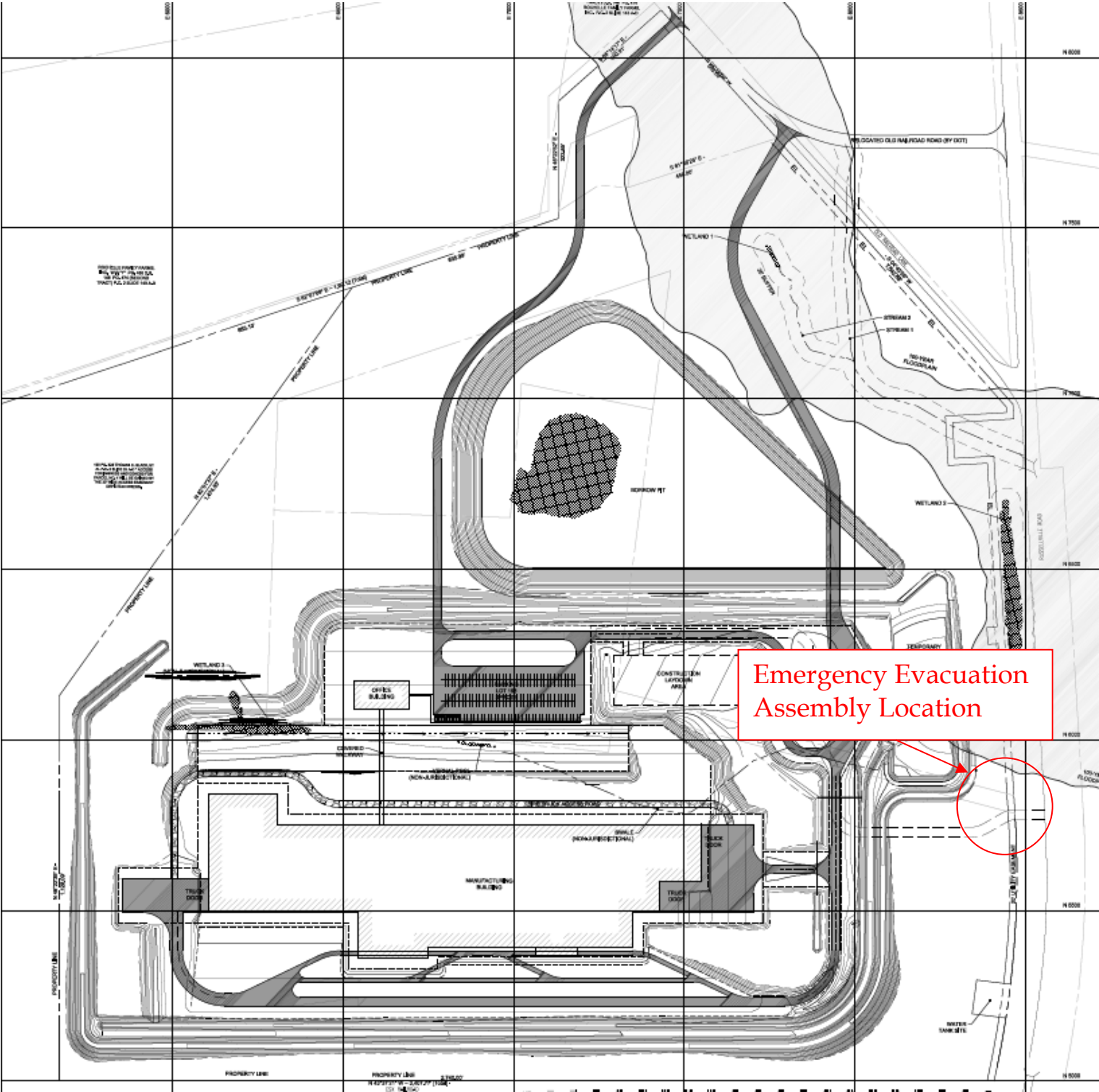
Novelis Project Safety Coordinator

Name: TBD
Cell Phone: TBD
Office: TBD

Evacuation Assembly Area(s): US Route 79
Entrance to the Site

Facility/Site Evacuation Route(s): TBD

Emergency Evacuation Assembly Location



Attachment 5 - Hot Work Permit

Hot Work Permit

BEFORE INITIATING HOT WORK, CAN THIS JOB BE AVOIDED? IS THERE A SAFER WAY?

This Hot Work Permit is required for any temporary operation involving open flames or producing heat and/or sparks. This includes, but is not limited to: Brazing, Cutting, Grinding, Soldering, Thawing Pipe, Torch Applied Roofing and Welding

INSTRUCTIONS

1) Permit Writer:

- A) Inspect the jobsite.
- B) Identify all necessary precautions on this form.
- C) Verify the precautions have been taken.
- D) Compete, sign and retain PART 1.
- E) Issue PART 2 to person doing work.

2) Person doing Hot Work Signs the Permit, agreeing to abide by the precautions.

3) Fire Watch:

- A) Maintain Log of Fire Watch on reverse
- B) Sign Log at completion of work
- C) Ensure Monitoring Requirements are met

Hot Work Being Done By (include person's name):

- ☐ Employee _____
- ☐ Contractor _____

Date	Time	Job NO.
Location/Building and Floor		
Nature of Job		

I VERIFY THE ABOVE LOCATION HAS BEEN EXAMINED, THE PRECAUTIONS CHECKED ON THE REQUIRED PRECAUTIONS CHECKLIST HAVE BEEN TAKEN TO PREVENT FIRE, UNNECESSARY PRECAUTIONS HAVE BEEN MARKED "NA", AND PERMISSION IS AUTHORIZED FOR THIS WORK

Signed: (Permit Writer)

EMERGENCY NOTIFICATION PROCEDURES EMERGENCY PHONE # IS TBD

- _____ Fire watch knows where phone is.
- _____ Fire watch knows where nearest fire alarm pull box is.

GUTHRIE MANDATORY REQUIREMENTS

**No Hot Work on Recirculation System Cooling Tower
No combustible clothing (white suits, etc.) worn by persons performing Hot Work**

REQUIRED PRECAUTIONS CHECKLIST

Permit Writer Checks all when in compliance, or writes NA in blank.

- ☐ Available sprinklers, hose streams, and/or extinguishers are in-service/operable.
- ☐ Hot Work equipment (tanks, gauges, hoses, welders, leads) in good repair.
- ☐ _____ Flammable, Combustible and/or Toxic coatings on hot work surfaces have been removed.

Requirements within 35 ft. (11m) of work

- ☐ _____ Flammable liquids, dust, lint and oily deposits removed.
- ☐ _____ Explosive atmosphere in area eliminated.
- ☐ _____ Floors swept clean
- ☐ _____ Combustible floors wet down, covered with damp sand or fire-resistive sheets.
- ☐ _____ Remove other combustibles where possible. Otherwise protect with fire-resistive tarpaulins or metal shields.
- ☐ _____ All wall and floor openings covered.
- ☐ _____ Fire-resistive tarpaulins suspended beneath work
- ☐ _____ If Fire/smoke detection system is in use, ensure work will not cause system to trip. If disabling is necessary, contact onsite supervision.
- ☐ _____ Protect or shut down ducts and conveyors that might carry sparks to distant combustibles.

Work on walls or ceilings

- ☐ _____ Construction is noncombustible and without combustible covering or insulation.
- ☐ _____ Combustibles on other side of walls moved away.

Work on enclosed equipment

- ☐ _____ Enclosed equipment cleaned of all combustibles.
- ☐ _____ Containers purged of flammable liquids/vapors.

Fire watch/Hot Work area monitoring

- ☐ Fire watch will be provided during and for 60 minutes after work, including any coffee or lunch breaks.
- ☐ Fire watch is supplied with 2 suitable extinguishers and/or charged small hoses. Extinguisher Type Required: _____
- ☐ Fire watch is trained in use of this equipment.
- ☐ _____ Fire watch is required for adjoining areas, above, and below.
- ☐ Monitor Hot Work area for 4 hours after fire watch is completed. See Permit Writers notes and describe Monitoring on back of this form.

Department Specific Precautions Taken

Not Applicable

Other Precautions Taken

- ☐ _____
- _____
- _____

Permit Expires:	Date	Time	AM PM
-----------------	------	------	-------

I AGREE TO ABIDE BY THE CONDITIONS OF THIS PERMIT.

Signed: (Person doing Hot Work)

Audit of Hot Work Site

Audit Conducted By: _____
Date/Time: _____
Issues: _____

If problems exist, revoke permit, notify permit writer and do incident report documenting problems.

Fire Watch Log – Mandatory

Name	Start Time	Stop Time
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

Fire Watch Signoff:
Work area & all adjacent areas to which sparks and heat might have spread were inspected during the watch period and were found fire safe.

Signed: _____ Time Hot Work Completed: _____

Post Job Monitoring – Permit Writer’s Notes and Permittee Plans

Describe Who, How, When.

Final Checkup:
Work area was monitored for 4 hours following Hot Work and found fire safe.

Signed: _____

FIRE/EMERGENCY – DIAL 911

Contact On-site supervision.

Attachment 6 - Monthly Power Cord Inspection Color Codes

Color scheme recommended by the National Electric Contractors Association

- January White
- February White & Yellow
- March White & Blue

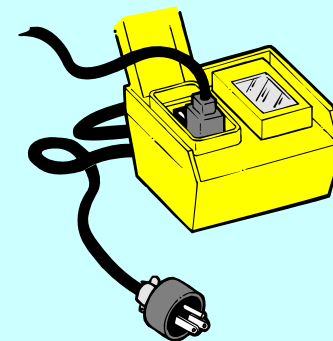
Equipment to be repaired
should be tagged in **brown**

- April Green
- May Green & Yellow
- June Green & Blue

Wrap the appropriate
color tape on the end of
of the cable after testing

- July Red
- August Red & Yellow
- September Red & Blue

- October Orange
- November Orange & Yellow
- December Orange & Blue



ATTACHMENT 7- Pre Task Plan (PTP)



New Construction Pre Task Plan (PTP)



Date:	Lead/Foreman:
Task Description:	
Task Location/Section:	

Evaluating your work Area (Circle YES or NO)						
Have you walked the area?	YES	NO		Do you have the required PPE?	YES	NO
Are you working on live energized equipment?	YES	NO		Are the required material and tools provided?	YES	NO
Does this task require special training (e.g., respiratory protection, NFPA 70E)	YES	NO		Have tools , equipment and rigging equipment been inspected before each use?	YES	NO
Is air monitoring required?	YES	NO		Should the Safety Department be involved in the planning?	YES	NO
Is a work permit required for this task (e.g. hot work, confined space, etc.)?	YES	NO		Is there a safety issue that has not been addressed? If YES, Contact your company foreman or safety representative.	YES	NO
Have communications been made with other crafts and machine operators working in the immediate area?	YES	NO		Are controls in place to prevent a fall from an elevation of 4' or greater (elevated platforms, wall opening, hole(s), etc)?	YES	NO
Have you discussed a "rescue plan" if a coworker falls while wearing fall arrest equipment?	YES	NO		While donning fall arrest equipment, have you considered the risk of a swing hazard?	YES	NO
Have you identified the potential fall path(s) & distance from work area to floor or lower level or obstruction?	YES	NO		While donning fall arrest equipment, have you identified other moving equipment, high heat exposures, chemicals, slippery walking working surfaces?	YES	NO
Are fall protection anchor points available that support 5,000 lb per user?	YES	NO		Have you identified how 100% tie-off will be maintained to eliminate the risk of falls while ascending/descending the work area?	YES	NO

Potential Hazard Checklist (place a checkmark if applicable)										
Pinch points			Inadequate Access		Hazardous chemicals		Falls from elevation		List PPE Required for Task	
Thermal Burns			High noise levels		Heat exhaustion		Confined spaces			
Particles on eye(s)			Falling objects		Cold Stress		Slips, trips, falls			
Elevated Work			Manual lifting		Sharp objects/tools		Inhalation hazards			
Poor Housekeeping			Chemical spills		Radiation		Hot Work			
Electrical shock			Metal Sheet		Ergonomics		Line of Fire			
Chemical burns			Moving equipment		Lockout Tagout		Excavation/trenching			
Fire/explosion			Mobile equipment		Ladders & Scaffolds		Other: (list)			
Slippery work surface			Laceration hazards		Cranes					

"ADDENDUM #1"

2018

NATURAL GAS SYSTEM IMPROVEMENTS

NOVELIS NATURAL GAS LINE EXTENSION

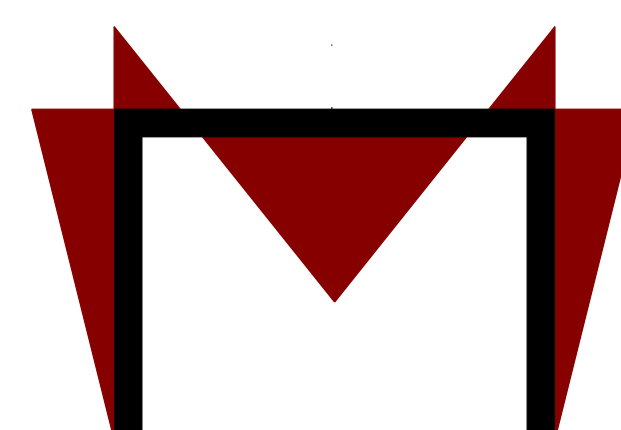
GUTHRIE, KENTUCKY

FOR

THE CITY OF GUTHRIE, KENTUCKY

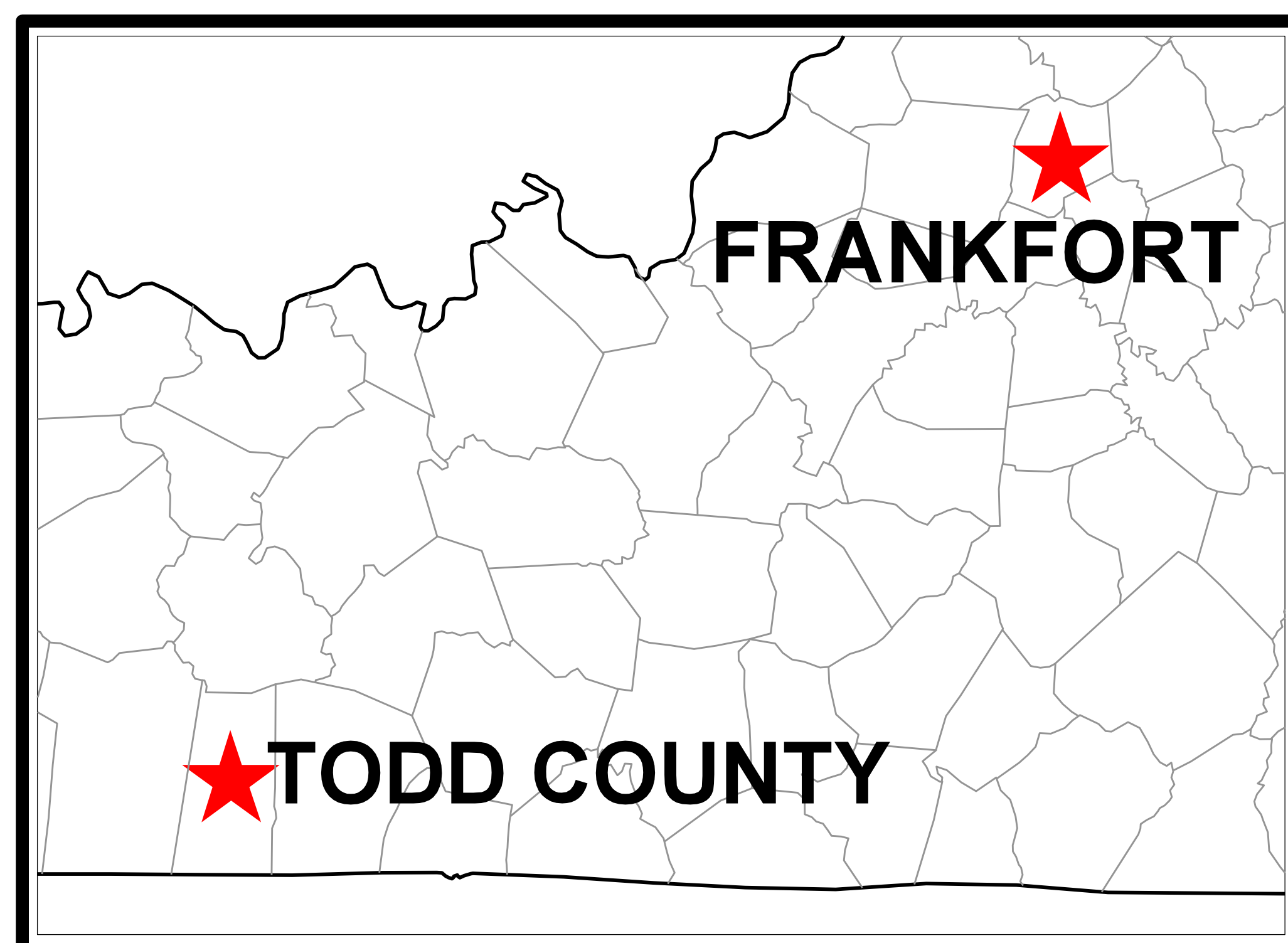
110 KENDALL STREET
GUTHRIE, KENTUCKY 42234

AUGUST 2018



McGHEE
ENGINEERING

HUSSEY GAY BELL
— *Established 1958* —

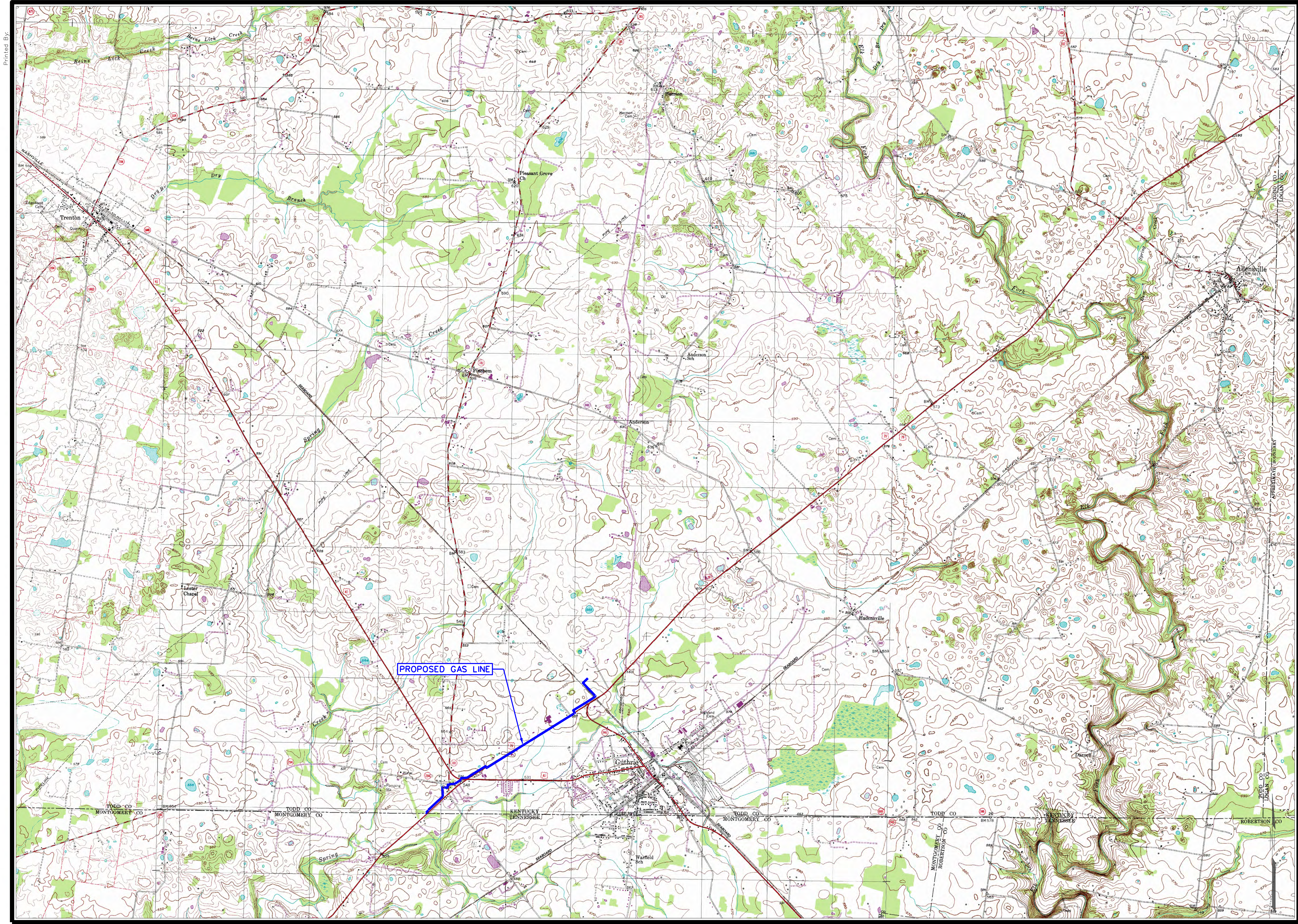


VICINITY MAP

[illegible]

SCHEDULE OF DRAWINGS

4117 HILLSBORO PIKE, SUITE 206, NASHVILLE, TENNESSEE 37215 / 615.460.7515
SAVANNAH • ATLANTA • STATESBORO • CHARLESTON • COLUMBIA • NASHVILLE
www.husseygaybell.com



HUSSEY GAY BELL

— Established 1958 —

4117 HILLSBORO PIKE, SUITE 206, NASHVILLE, TN 37215 / 615-460-7515

DESIGNED	DRAWN	CHECKED
RDS	RLP	RDS

DATE: AUGUST 2018

JOB NO. 915102300

SCALE: 1" = 2000'

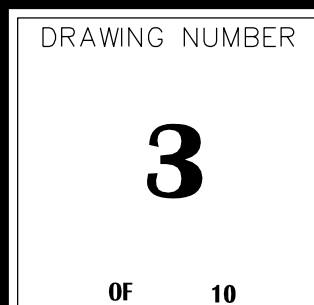
NOVELIS NATURAL GAS LINE EXTENSION
2018 NATURAL GAS SYSTEM IMPROVEMENTS
FOR
THE CITY OF GUTHRIE, KENTUCKY

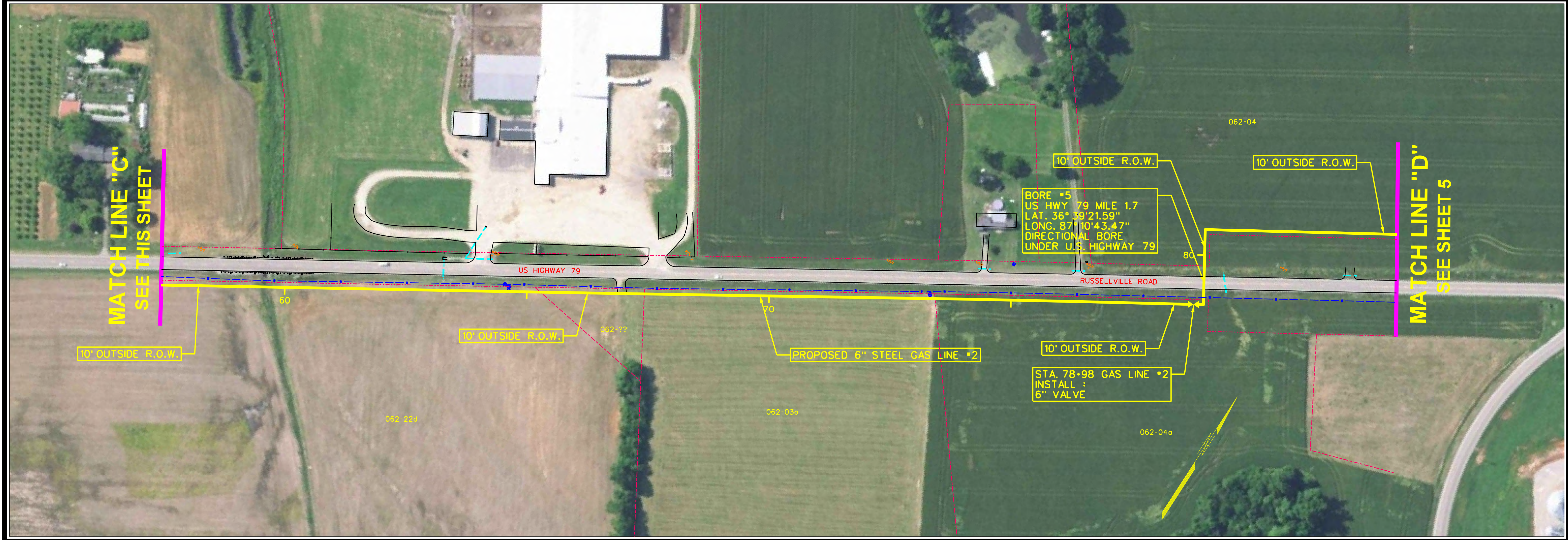
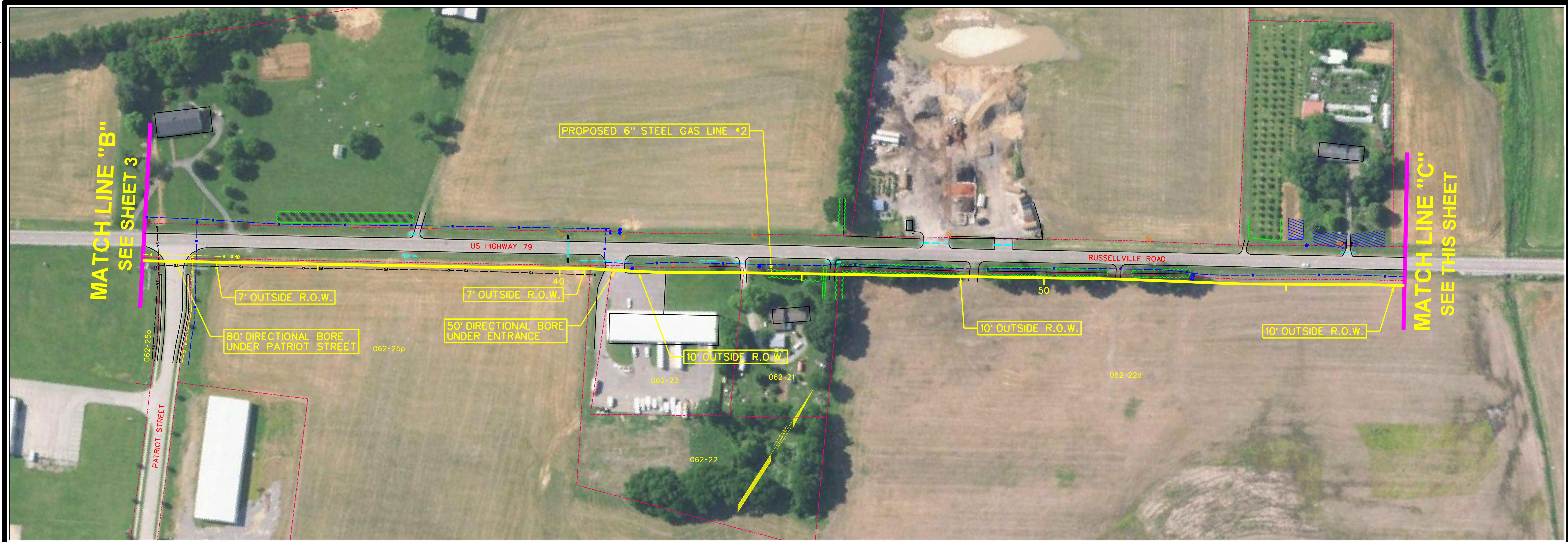
LOCATION MAP

DRAWING NUMBER

2

OF 10





STATE OF KENTUCKY
ROBERT D. STIGALL
Professional Engineer
1-21-17

McGHEE
ENGINEERING

HUSSEY GAY BELL
— *Established 1958* —
4117 HILLSBORO PIKE, SUITE 206, NASHVILLE, TN 37215 / 615-460-7515

REVISIONS:
ADDENDUM #1 - JANUARY 22, 2019

DESIGNED
RDS

DRAWN
RLP

CHECKED
RDS

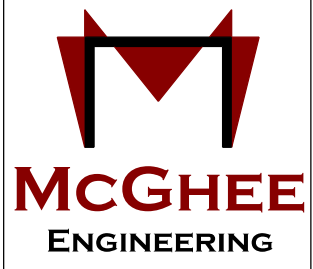
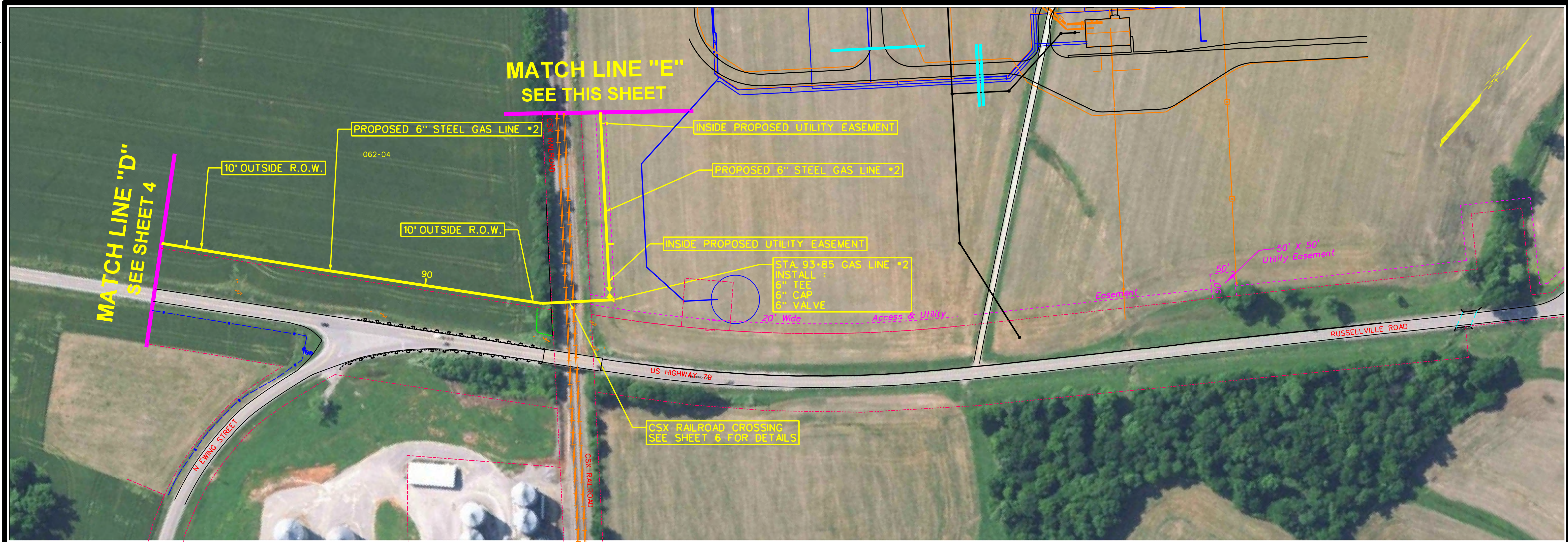
DATE: AUGUST 2018

JOB NO. 918102300

SCALE: 1" = 100'

NOVELIS NATURAL GAS LINE EXTENSION
2018 NATURAL GAS SYSTEM IMPROVEMENTS
FOR
THE CITY OF GUTHRIE, KENTUCKY
GAS LINE EXTENSION

DRAWING NUMBER
4
OF 10

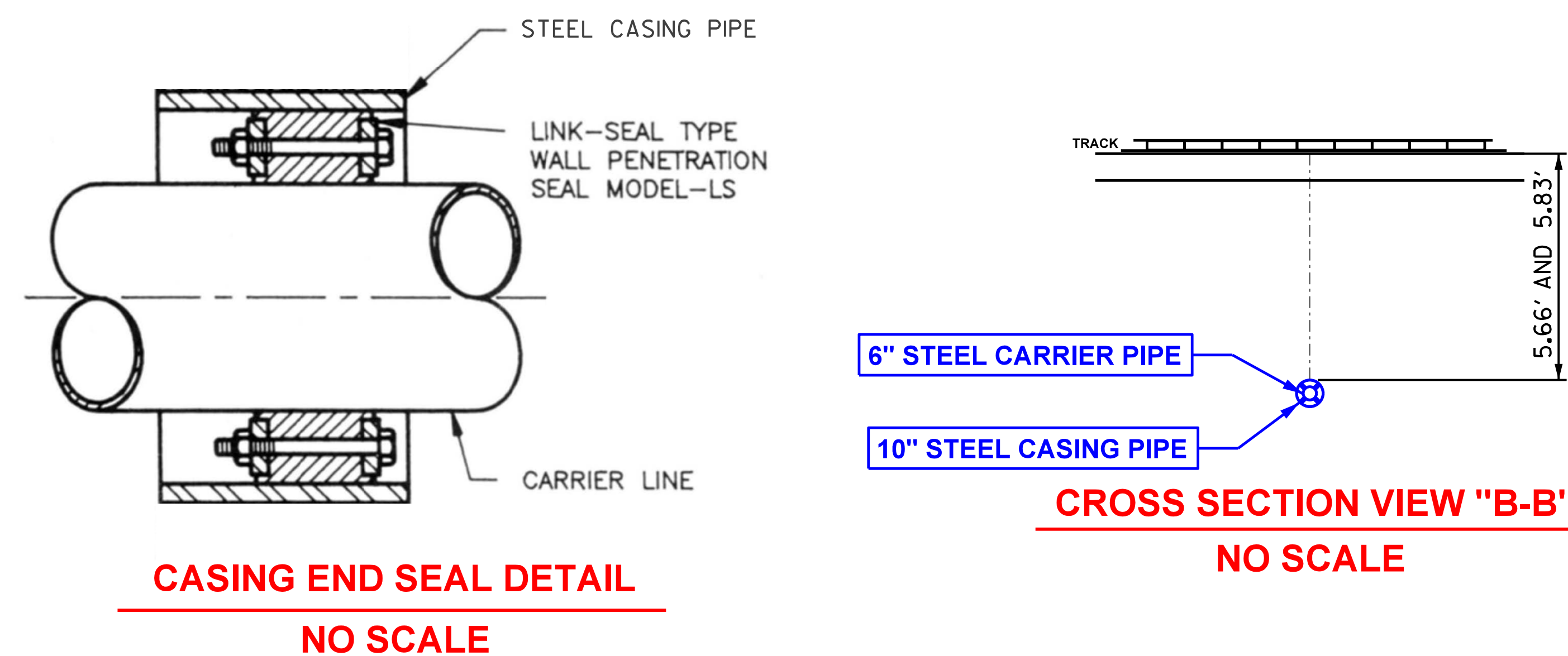
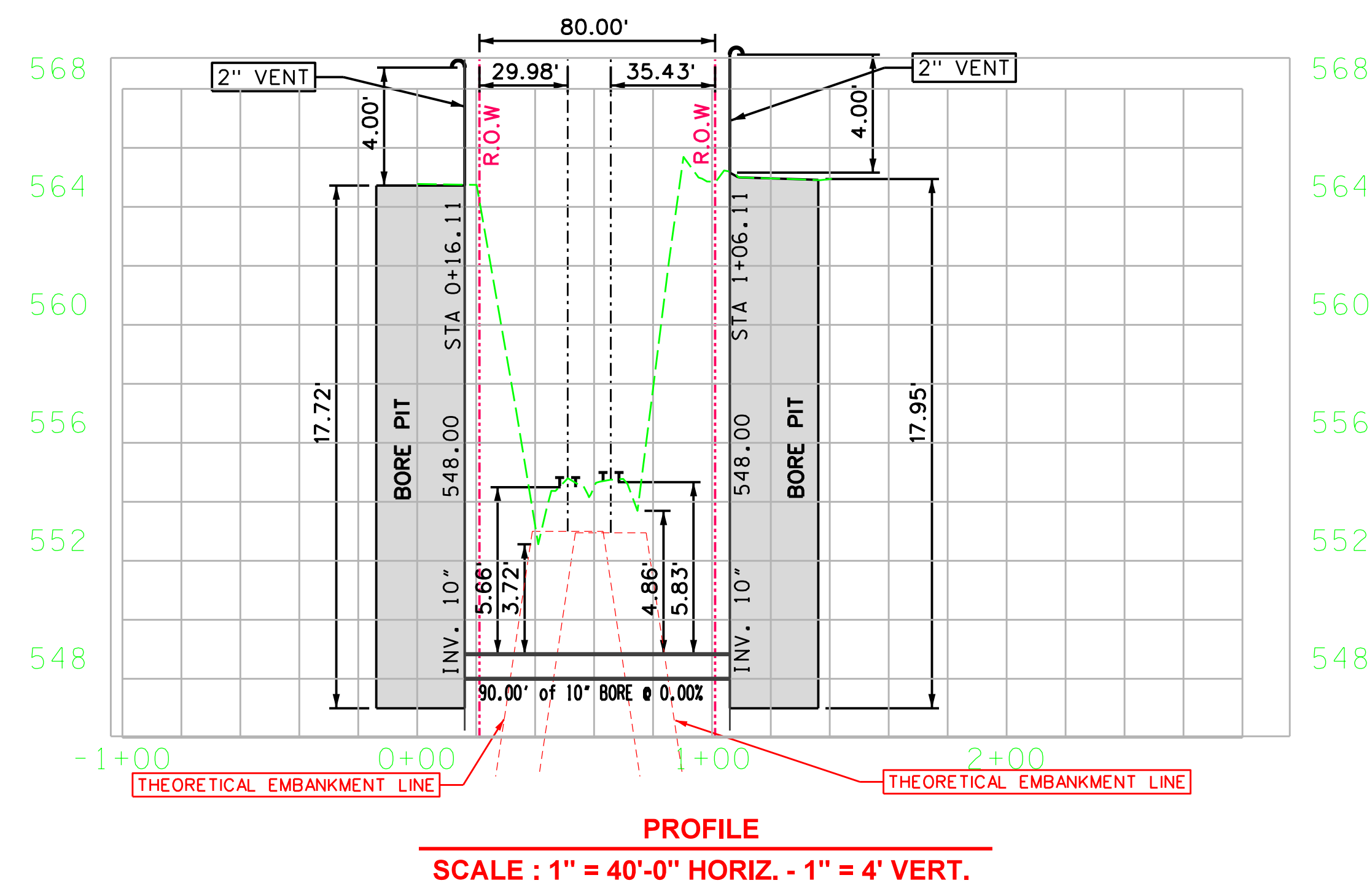


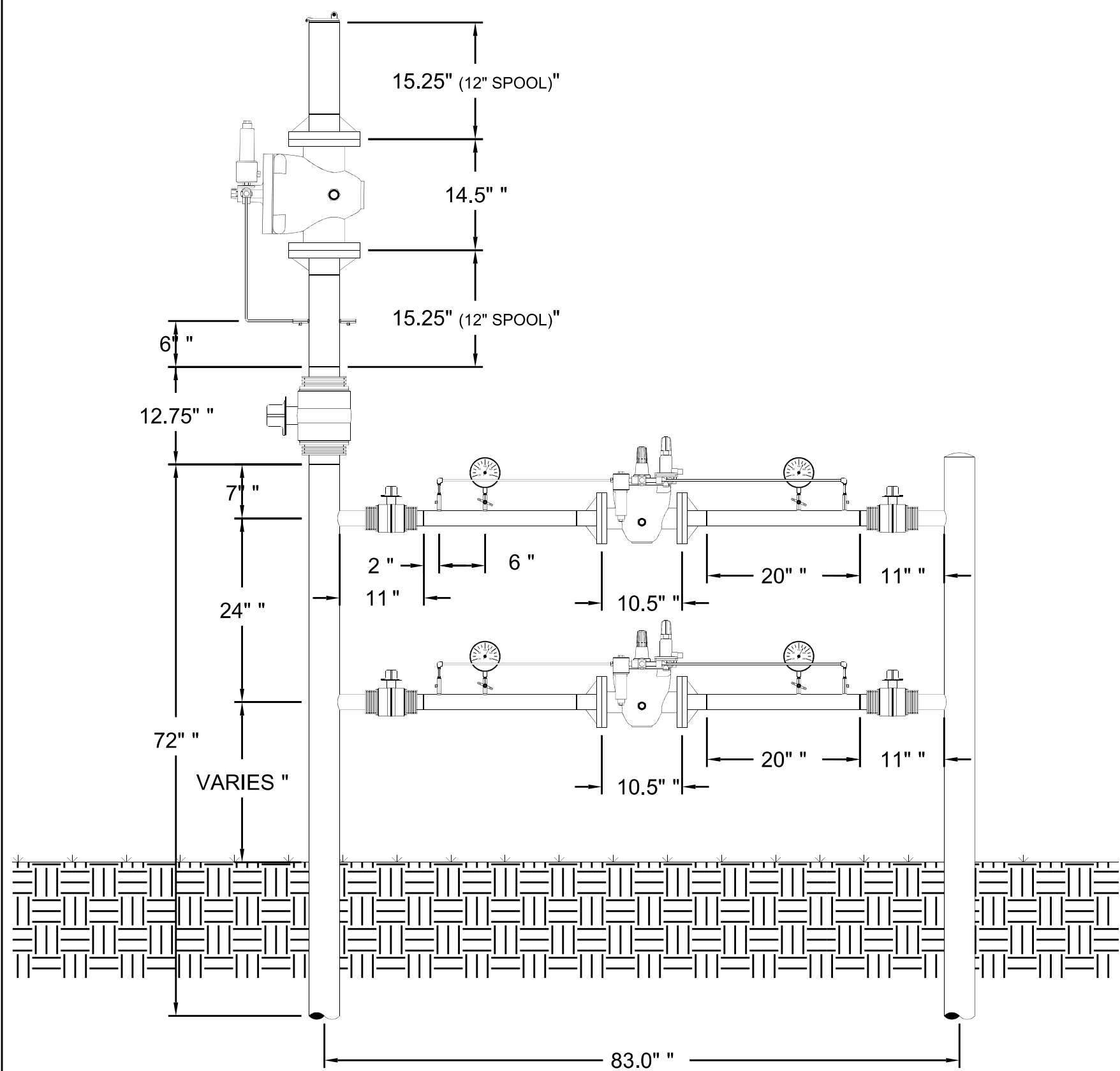
HUSSEY GAY BELL
— Established 1958 —
4117 HILLSBORO PIKE, SUITE 206, NASHVILLE, TN 37215 / 615-460-7515

DESIGNED	DRAWN	CHECKED
RDS	RLP	RDS
DATE: AUGUST 2018		
JOB NO. 918102300		
SCALE: 1" = 100'		

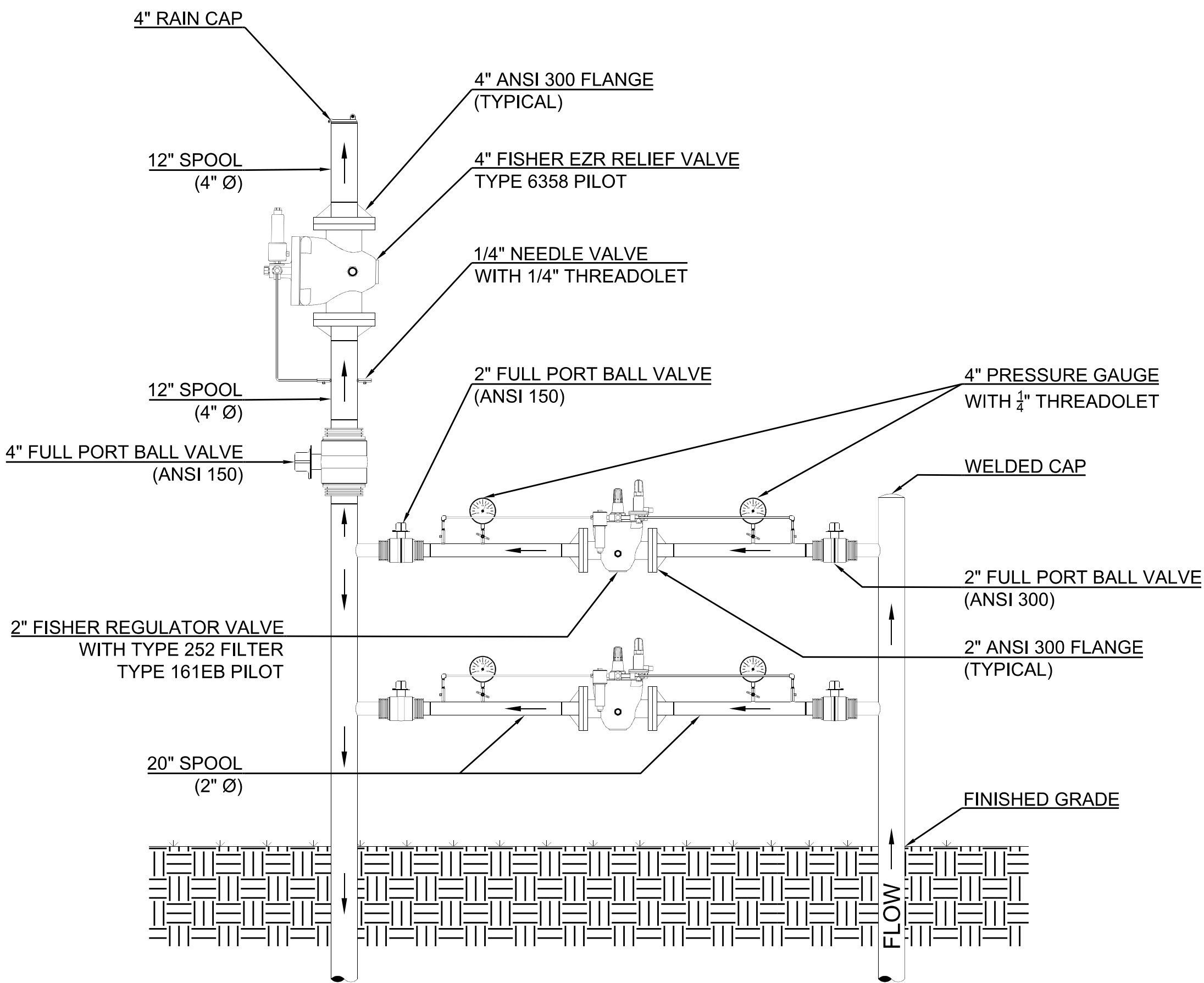
NOVELIS NATURAL GAS LINE EXTENSION
2018 NATURAL GAS SYSTEM IMPROVEMENTS
GUTHRIE, KENTUCKY
FOR
THE CITY OF GUTHRIE, KENTUCKY
GAS LINE EXTENSION

DRAWING NUMBER
5
OF 10

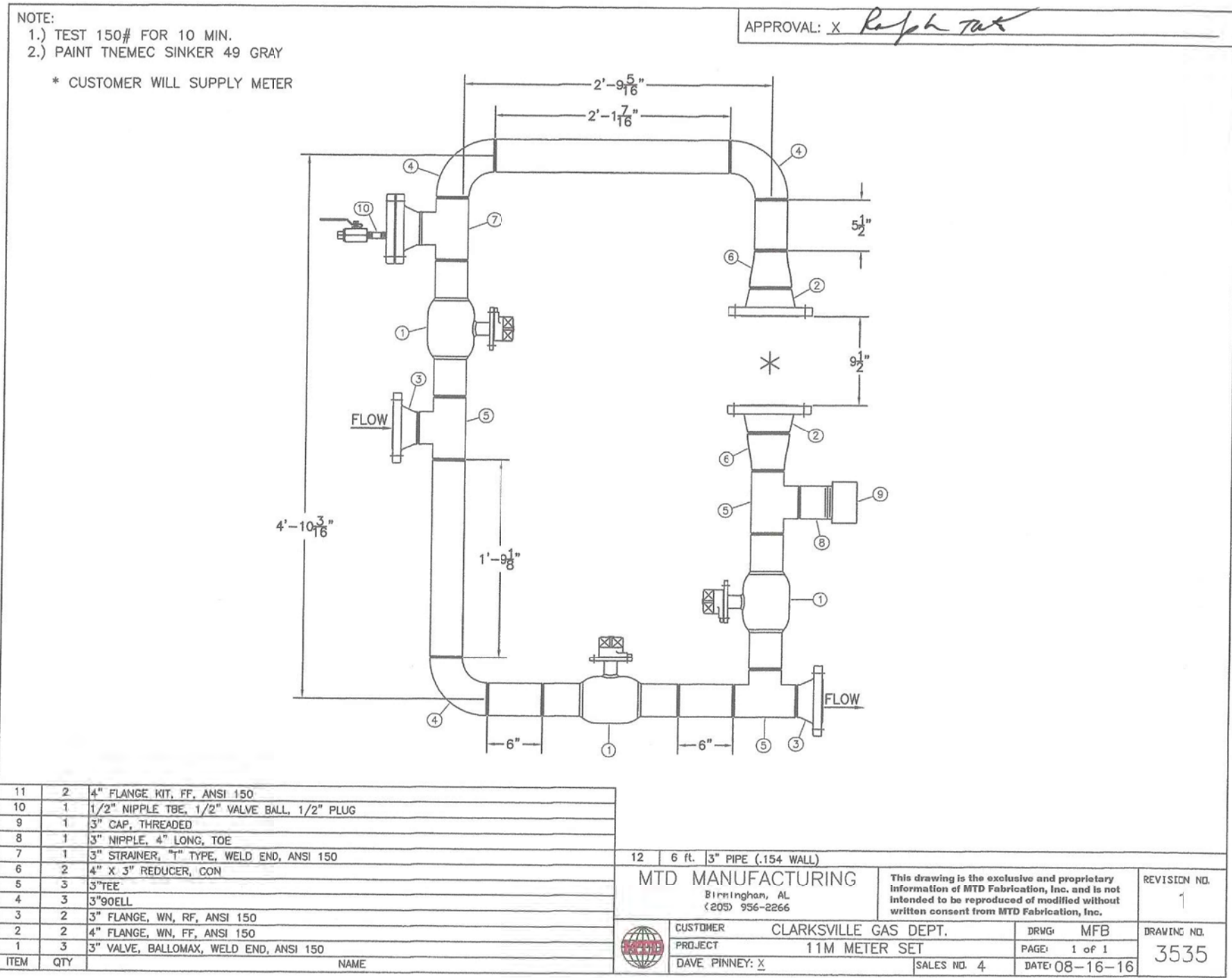
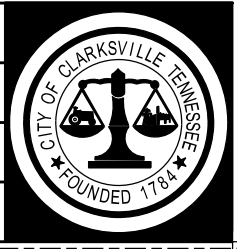




MATERIAL LIST		
QUANTITY	SIZE	DESCRIPTION
14 FEET	4 INCH	PIPE
7 FEET	2 INCH	PIPE
2	2 INCH	FULL PORT BALL VALVE (ANSI 300)
2	2 INCH	FULL PORT BALL VALVE (ANSI 150)
1	4 INCH	FULL PORT BALL VALVE (ANSI 150)
4	2 INCH	WELD FLANGE (ANSI 300)
2	4 INCH	WELD FLANGE (ANSI 300)
10	1/4 INCH	WELD O LET
10	1/4 INCH	PLUG
1	4 INCH	RAIN CAP
1	4 INCH	WELD CAP



Detail No. SK-01	GAS REGULATOR STATION - SERIES ONE	2215 MADISON ST.	
Date: MARCH 2018		P.O. BOX 387	
Revision: 1		CLARKSVILLE, TN 37040	
		931-645-7418 FAX: 931-648-5983	

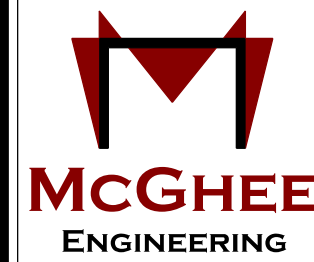
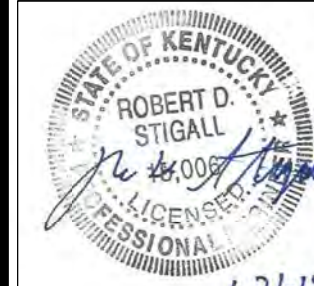


GAS METER RUN DETAIL
NO SCALE

PIPING NOTES

ALL GAS PIPING, VALVES, FITTINGS, IN PROJECT TO MEET REQUIREMENTS OF ANSI 600
4" STEEL LINE SHALL BE 4.500" O.D. x 0.337" W.T.
3" STEEL LINE SHALL BE 0.350" O.D. x 0.300" W.T.
2" STEEL LINE SHALL BE 2.375" O.D. x 0.218" W.T.
THREAD-O-LETS SIZES AND LOCATIONS AS REQUIRED FOR REGULATOR SENSING LINES

ALL PIPING SHALL BE
SEAMLESS API 5L X42,
SCHEDULE 80



HUSSEY GAY BELL
Established 1958
4117 HILLSBORO PIKE, SUITE 206, NASHVILLE, TN 37215 / 615-460-7515

DESIGNED RDS	DRAWN RLP	CHECKED RDS
DATE: AUGUST 2018		
JOB NO. 918102300		
SCALE: AS SHOWN		

NOVELIS NATURAL GAS LINE EXTENSION
2018 NATURAL GAS SYSTEM IMPROVEMENTS
GUTHRIE, KENTUCKY
FOR
THE CITY OF GUTHRIE, KENTUCKY
GAS METERING/REGULATOR FACILITY NO.1

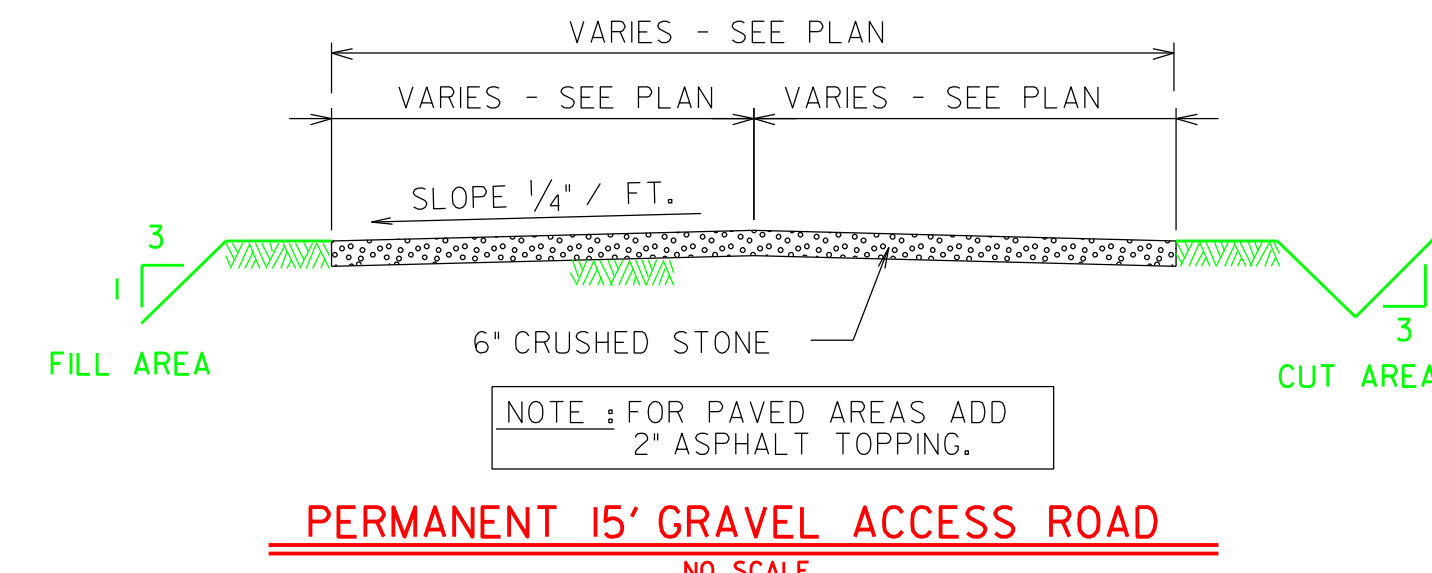
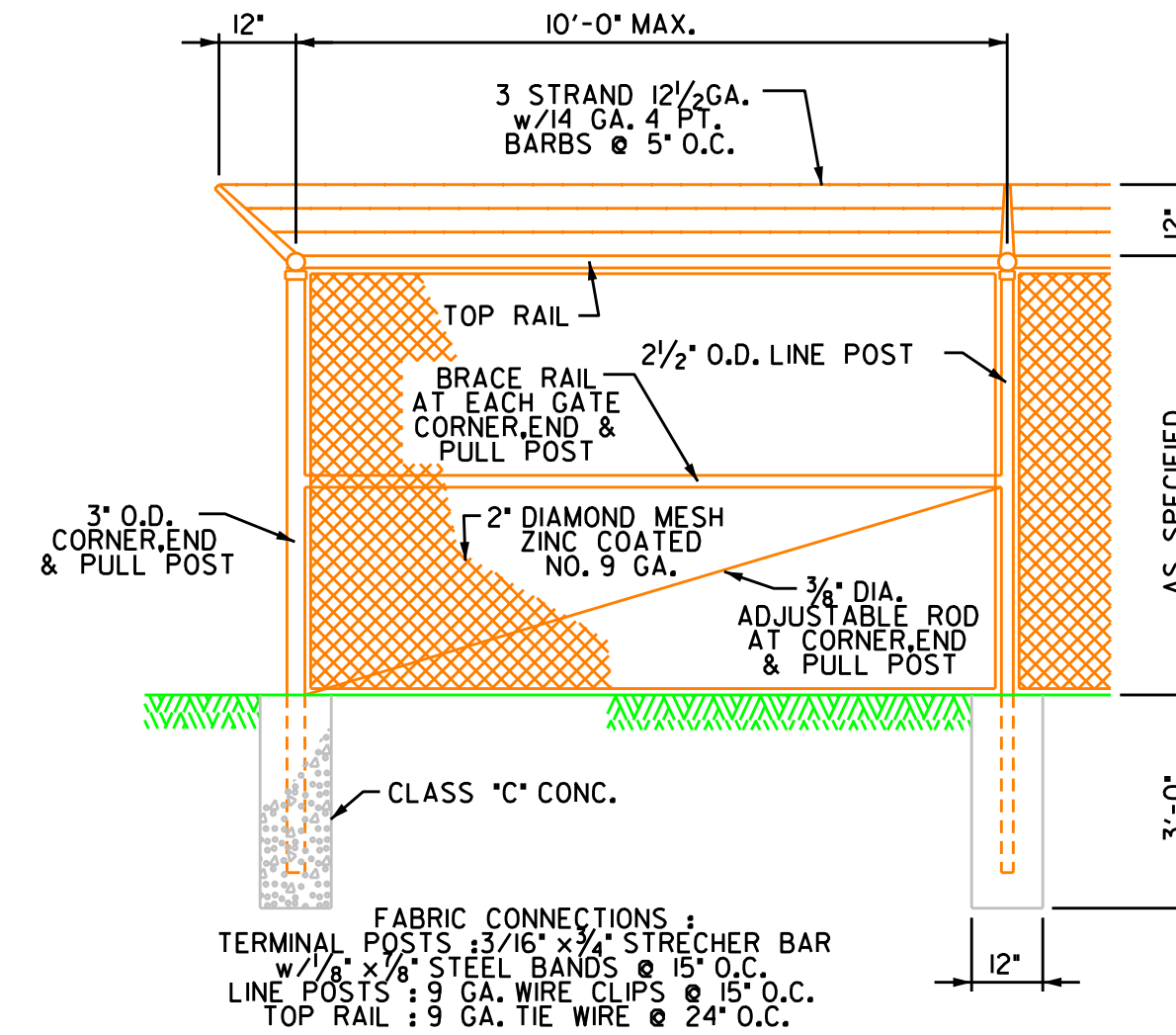
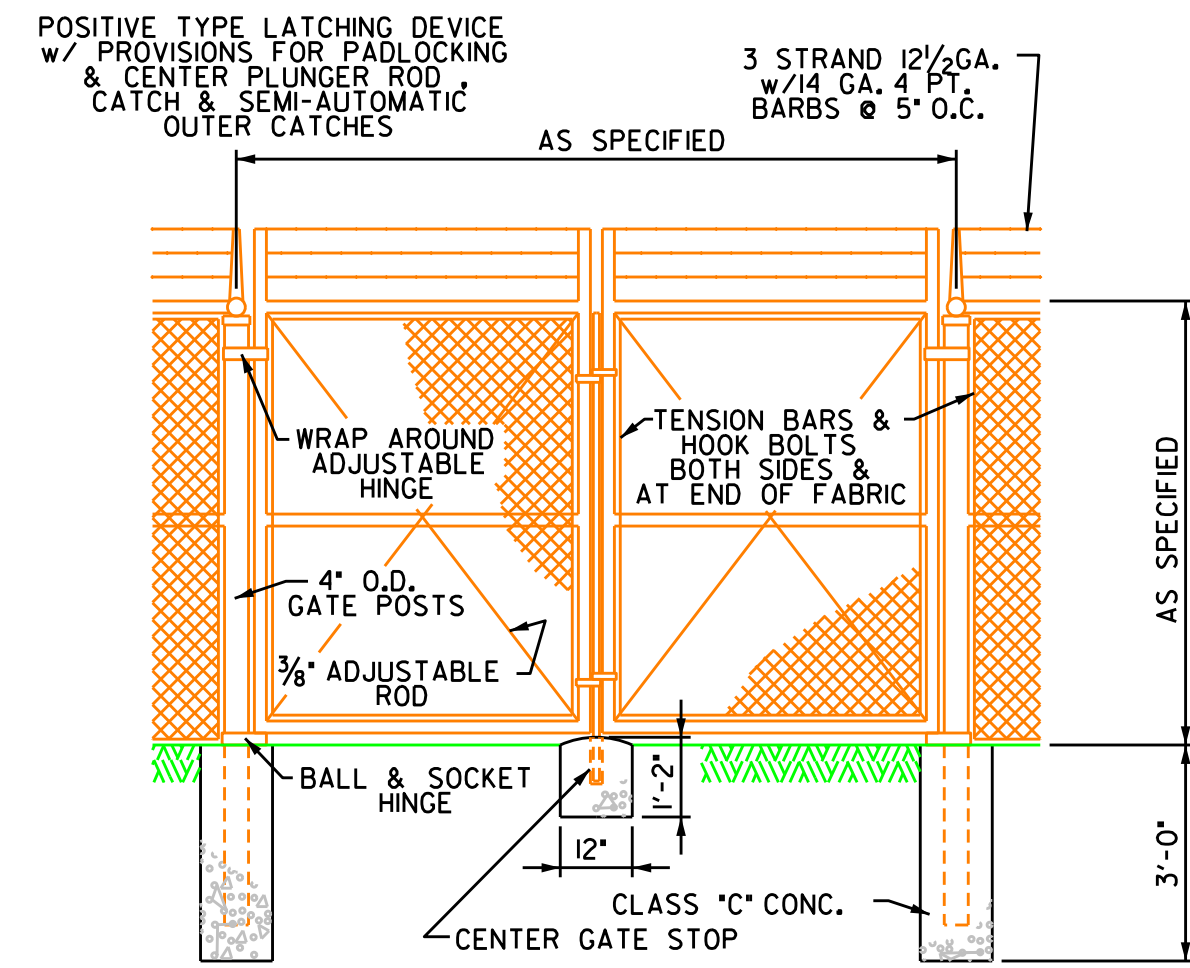
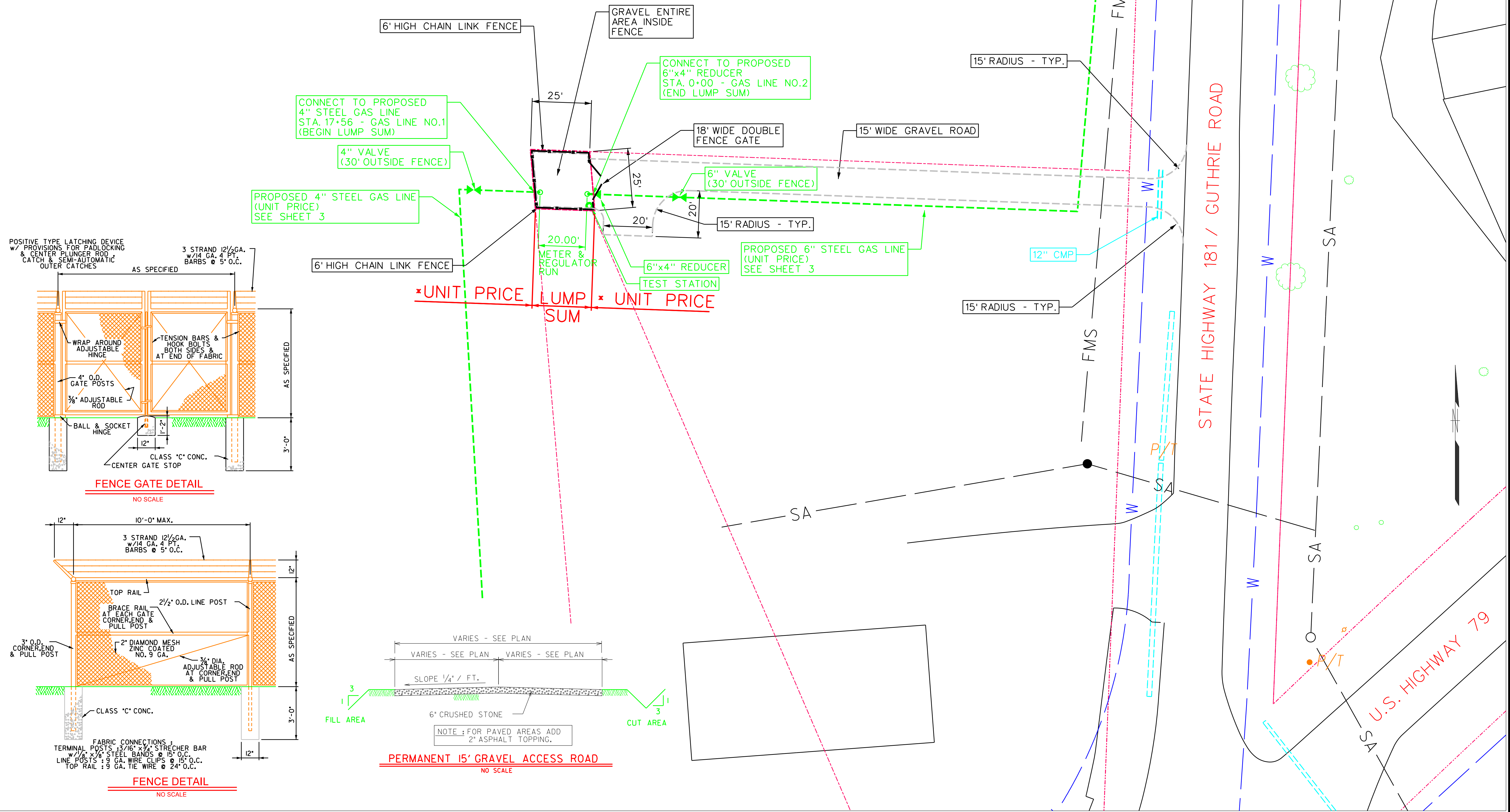
DRAWING NUMBER
7
OF 10

* UNIT PRICE:

INCLUDES PIPING AND VALVES OUTSIDE FENCE

LUMP SUM :

INCLUDES PIPING INSIDE FENCE AND ACCESS ROAD, FENCING AND CULVERT



STATE OF KENTUCKY
ROBERT D. STIGALL
124007
MECHANICAL
1-21-19

DESIGNED: RDS
DRAWN: RLP
CHECKED: RDS

DATE: DECEMBER 2018

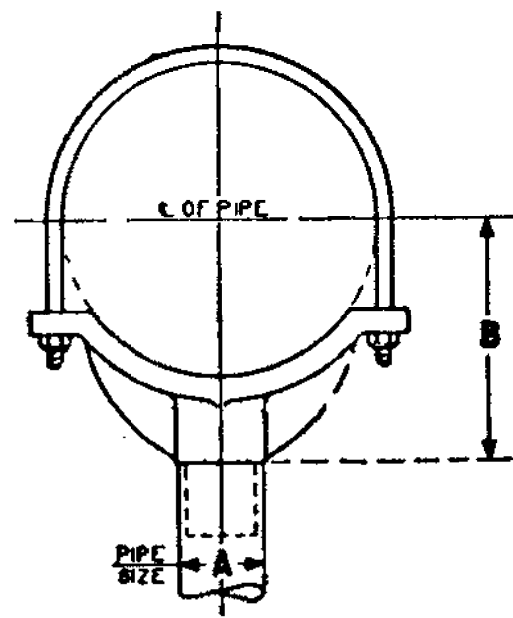
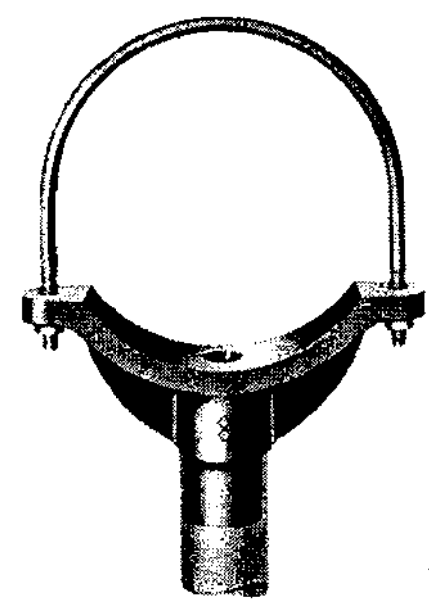
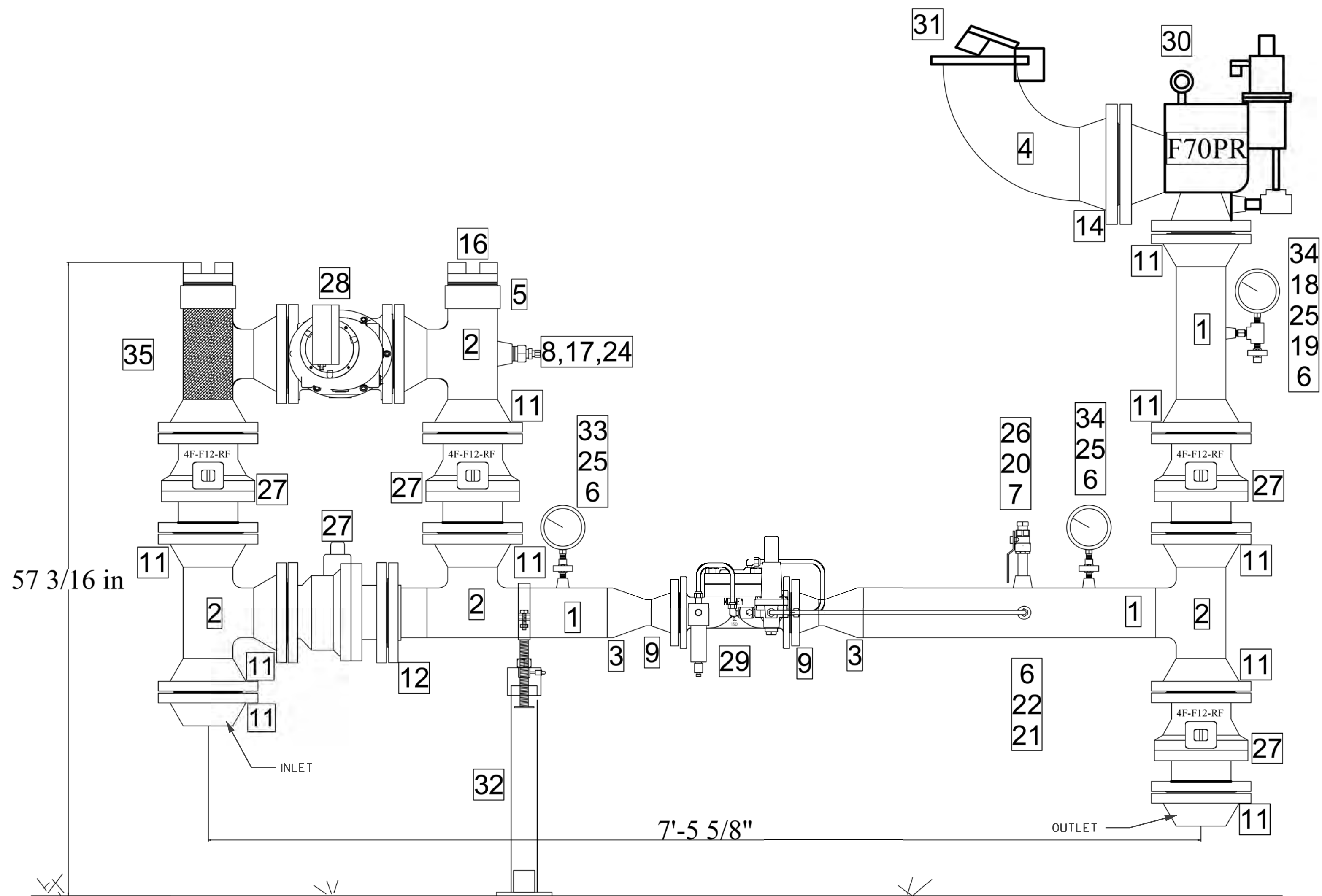
JOB NO. 915102300

SCALE: 1" = 20'

NOVELIS NATURAL GAS LINE EXTENSION
2015 NATURAL GAS SYSTEM IMPROVEMENTS
GUTHRIE, KENTUCKY
FOR
THE CITY OF GUTHRIE, KENTUCKY
MAIN GAS METERING/REGULATOR SITE LAYOUT

DRAWING NUMBER
8
OF 10

HUSSEY GAY BELL
Established 1958
4117 HILLSBORO PIKE, SUITE 206, NASHVILLE, TN 37215 / 615-460-7515

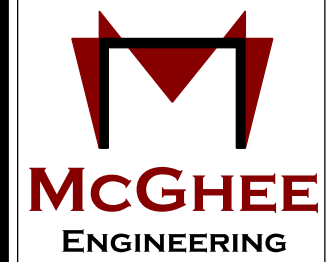
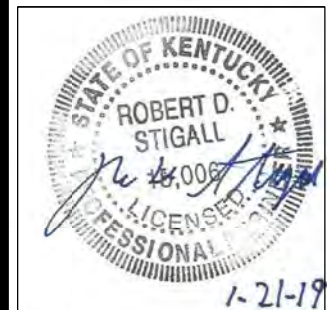


REGULATOR & METER
(FACILITY NO. 2 BID SCHEDULE)
NO SCALE

pipe size	wgt (approx) lbs each	A	B
4	10.8	3	4 ³ / ₁₆
5	12.1	3	4 ¹³ / ₁₆
6	12.7	3	5 ⁷ / ₁₆
8	21.3	3	6 ¹⁵ / ₁₆
10	25.7	3	8 ⁷ / ₁₆
12	31.2	3	9 ¹⁵ / ₁₆

PIPE SUPPORT
NO SCALE

Item	Description
1	PIPE 4" SCH-40 PER FOOT 0.237 WT
2	TEE 4" STD SCD 40 WELD END
3	CONCENTRIC REDUCER 4 X 2" WELD END STD
4	ELBOW 6" 90° WELD STD
5	HALF COUPLING 4" FNPT XH
6	THREAD O LET 1/4" 3000# FNPT
7	THREAD O LET 1/2" 3000# FNPT
8	THREAD O LET 3/4" 3000# FNPT
9	FLANGE 2" 150 ANSI WELD NECK RF STD BORE
10	BOLT FLANGE PACK 2" 150 ANSI W/GASKET
11	FLANGE 4" 150 ANSI WELD NECK STD BORE
12	FLANGE 4" 150 ANSI SLIP-ON
13	BOLT FLANGE PACK 4" 150 ANSI W/ GASKET
14	FLANGE 6" 150 ANSI WELD NECK STD BORE
15	BOLT FLANGE PACK 6" 150 ANSI W/GASKET
16	PLUG 4" STD
17	THERMOWELD 4" PIPE 3/4" MNPT X 1/2" FNPT SS MODEL THRMOWLD-4-7-5
18	TEE 1/4" XHEAVY FNPT
19	NIPPLE 1/4" X 3" SS SCH-80
20	NIPPLE 1/2" X 4" SS SCH-40
21	TUBING 3/8in SS PER FOOT
22	PARKER 3/8TBE X 1/4NPT STRAIGHT SS 6-4-FBZ-SS
23	PARKER 3/8TBE X 1/4NPT ELBOW SS 6-4-CBZ-SS
24	PARKER 1/4TBE X 1/2NPT THERMO FITTING BRASS TEFLON FERRULE PART # 4-8-FH4BZ-B-TF
25	BELL GAS NEEDLE VALVE MINI 1/4" 316SS MALE X FEMALE 6000# MODEL MHS-MFG-14
26	BALON BALL VALVE 1/2" FNPT 2000# SS MODEL LS-05561
27	BALON BALL VALVE 4" FP 150 ANSI FLANGE CS
28	ROOTS DRESSER 16M175 IMC/W2-PTZ B3 4" FLG INT PRESS CIR 0-180 MODEL 057483-101
29	MOONEY REGULATOR FG-29-75 PILOT MODEL 20 10-40 PSI SET 15. 24S RESTRICTOR,30AD PILOT FILTER W/DRAIN,MTG-C SIDE MOUNTING SS
30	FLOW SAFE RELIEF MODEL F70PR 4" X 6" 5-285# 150 ANSI FLANGE W/ FILTER & TEST CONNECTIONS
31	E-G WEATHER CAP 6"
32	TRI- PIPE STAND 4" CLAMP 19-36"HEIGHT (31") MODEL PS-4-M
33	NOSHOK GAUGE 4" 0-300 PSI LF 1/4" NPT
34	NOSHOK GAUGE 4" 0-30 PSI LF 1/4" NPT
35	TRI-STATE METER TEST STRAINER SL-4 4" 150 ANSI FLANGED
	Welding precedure API 1104

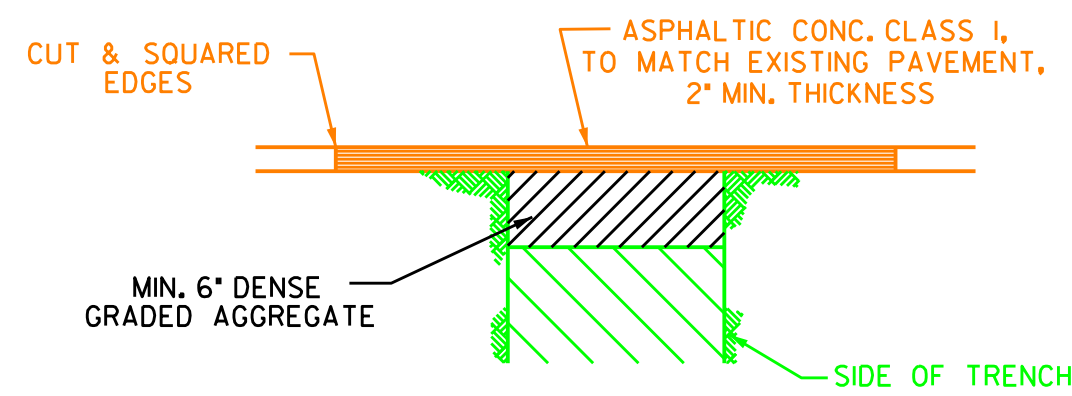


HUSSEY GAY BELL
Established 1958
4117 HILLSBORO PIKE, SUITE 206, NASHVILLE, TN 37215 / 615-460-7515

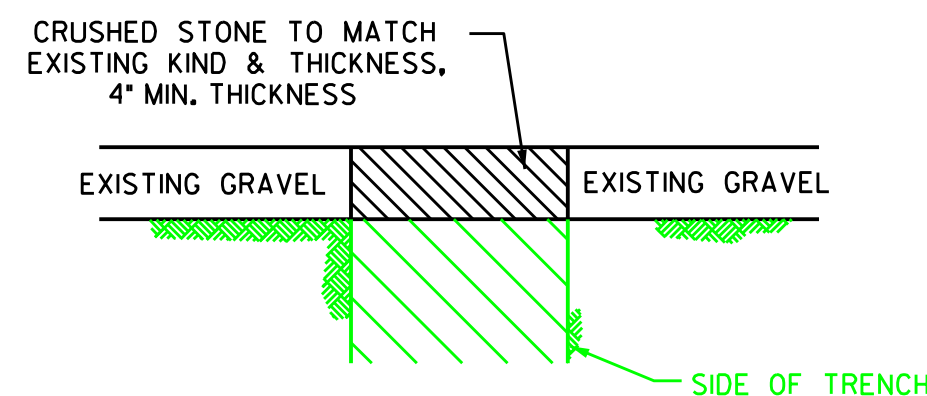
DESIGNED RDS	DRAWN RLP	CHECKED RDS
DATE: AUGUST 2018		
JOB NO. 918102300		
SCALE: AS SHOWN		

DESIGNED RDS	DRAWN RLP	CHECKED RDS
DATE: AUGUST 2018		
JOB NO. 918102300		
SCALE: AS SHOWN		

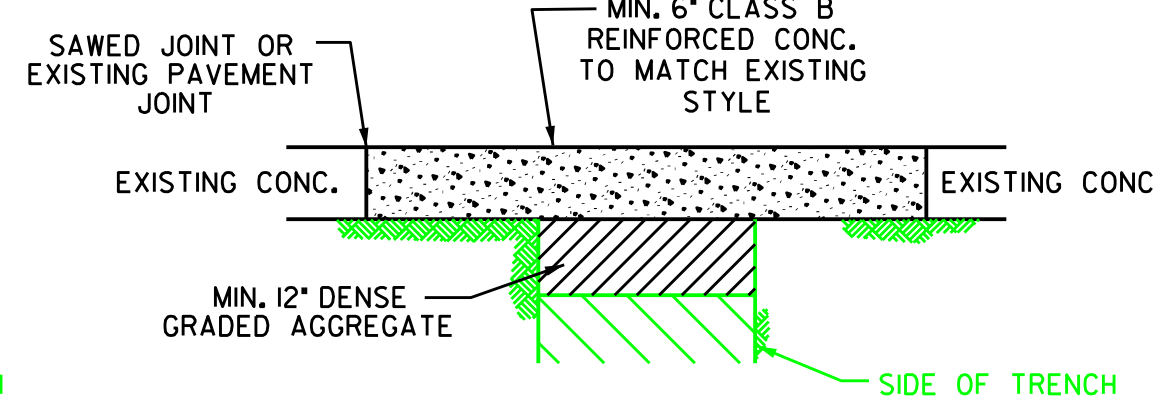
NOVELIS NATURAL GAS LINE EXTENSION
2018 NATURAL GAS SYSTEM IMPROVEMENTS
GUTHRIE, KENTUCKY
FOR
THE CITY OF GUTHRIE, KENTUCKY
GAS REGULATOR FACILITY NO. 2



ASPHALT



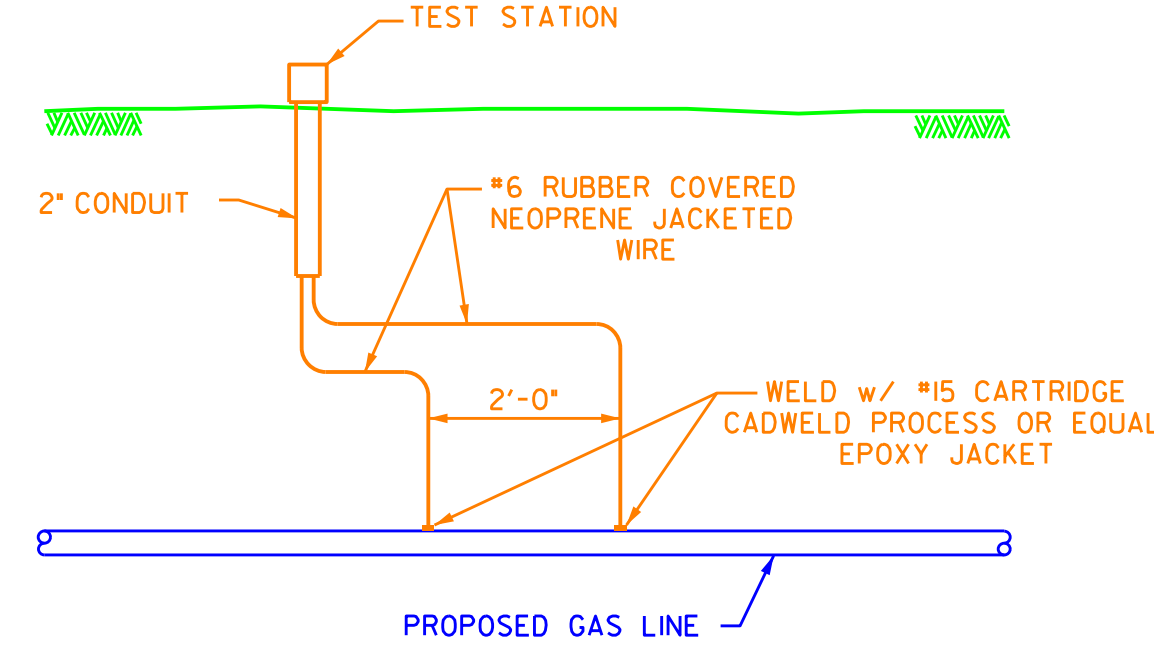
GRAVEL



CONCRETE

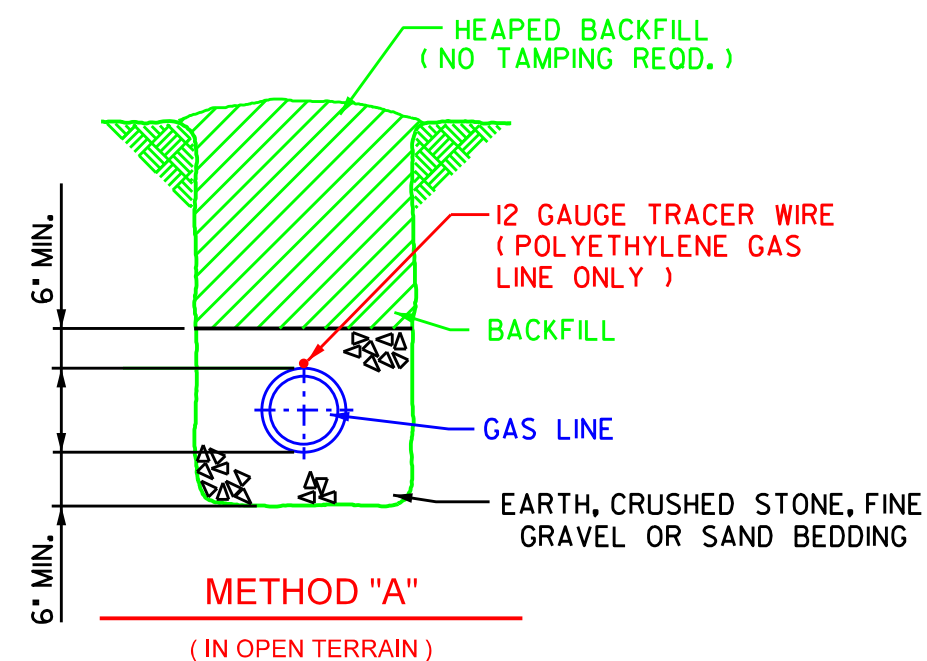
PAVEMENT REPLACEMENT DETAILS

NO SCALE



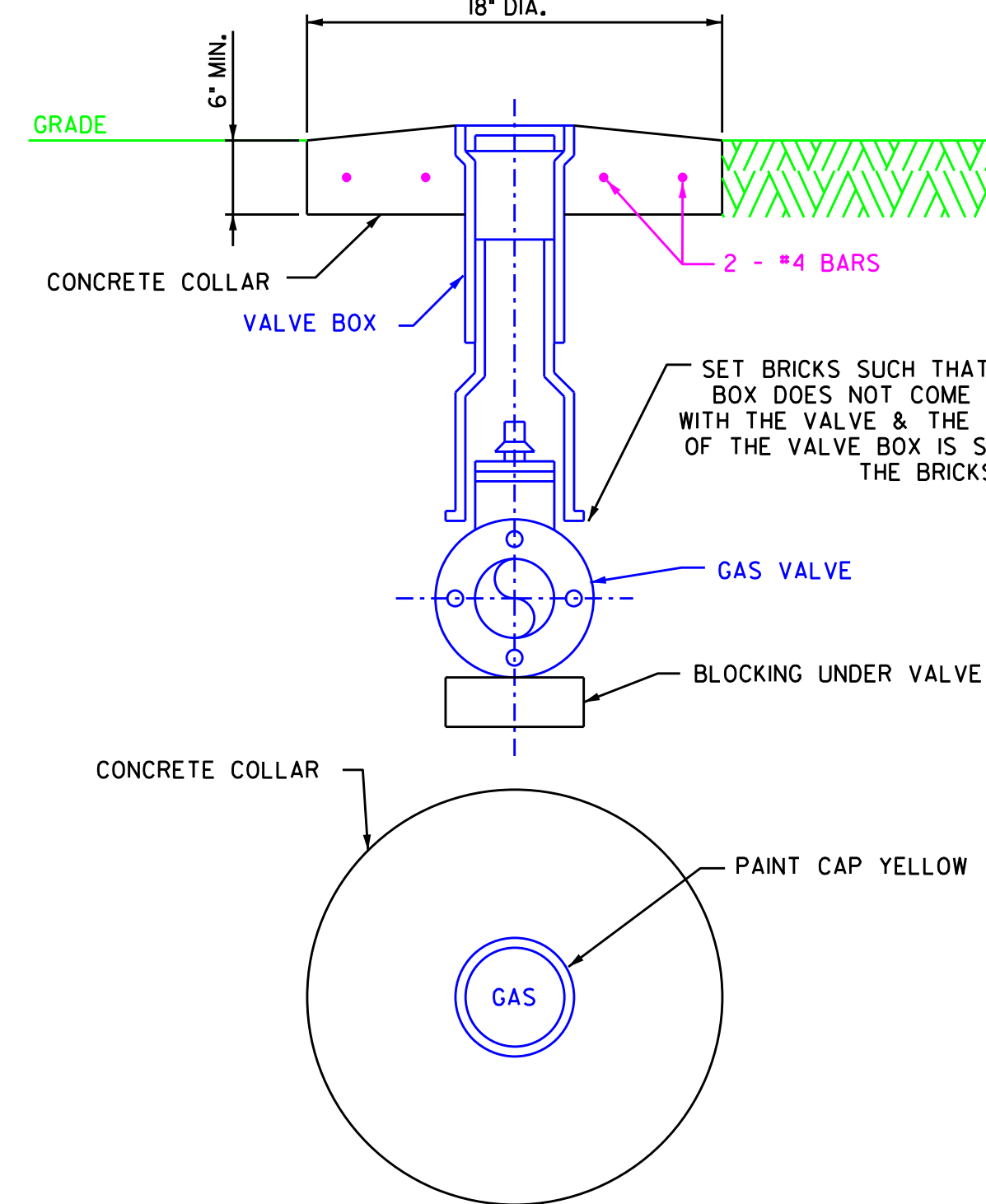
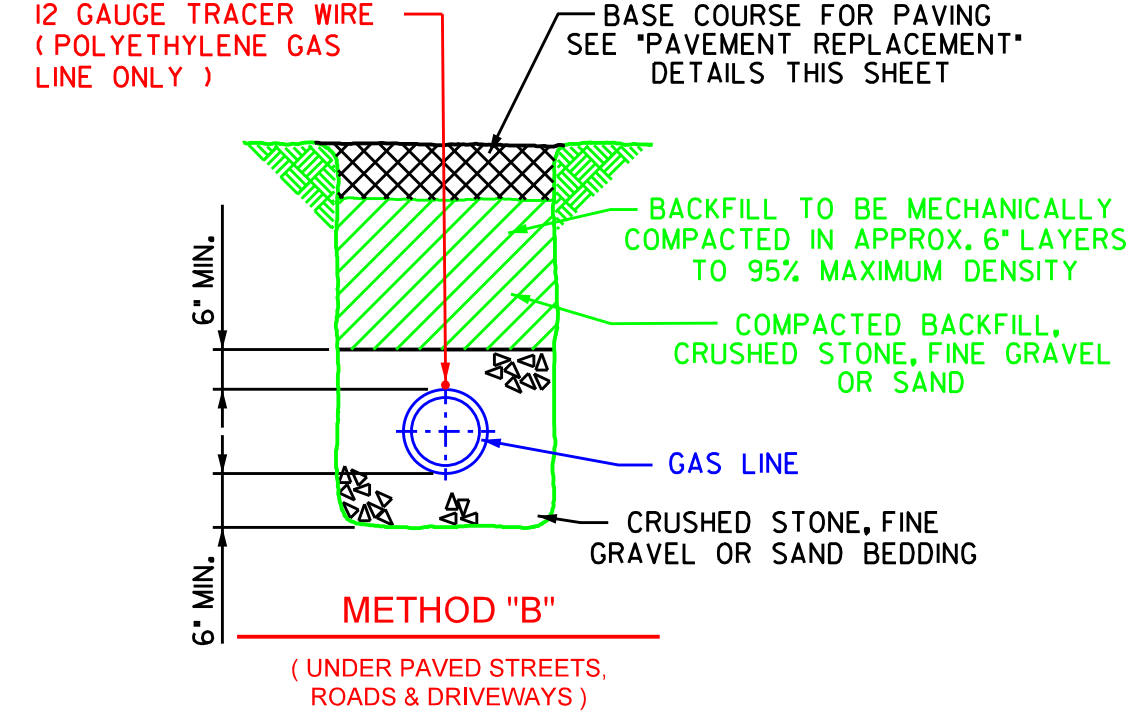
TEST STATION DETAIL

NO SCALE



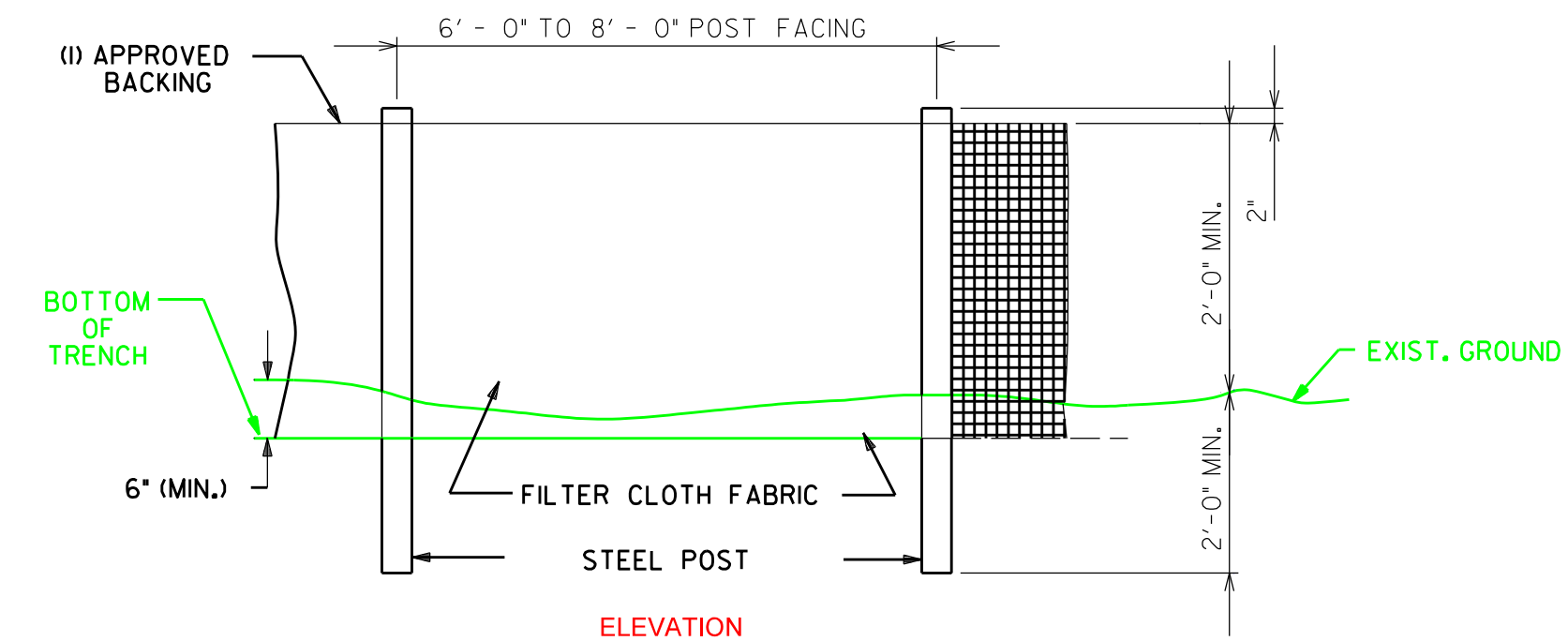
PIPE BEDDING & BACKFILLING DETAILS

NO SCALE

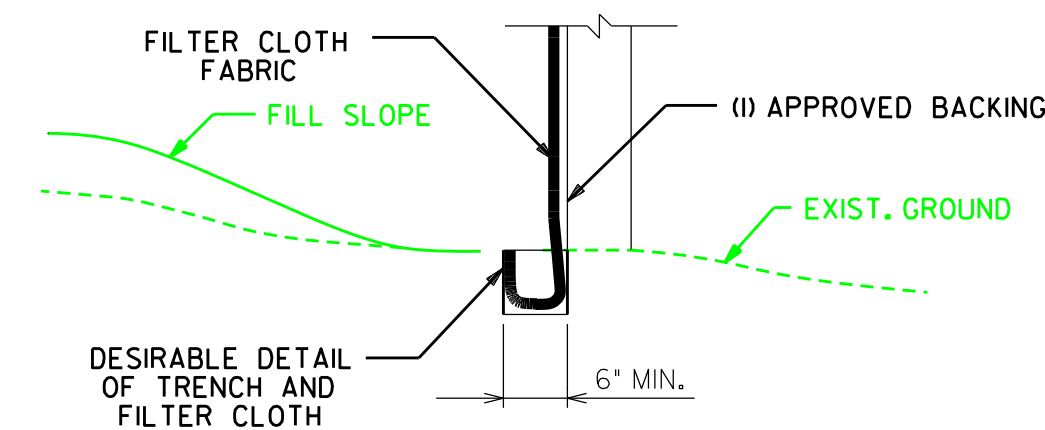


TYPICAL VALVE BOX SETTING DETAIL

NO SCALE



ELEVATION

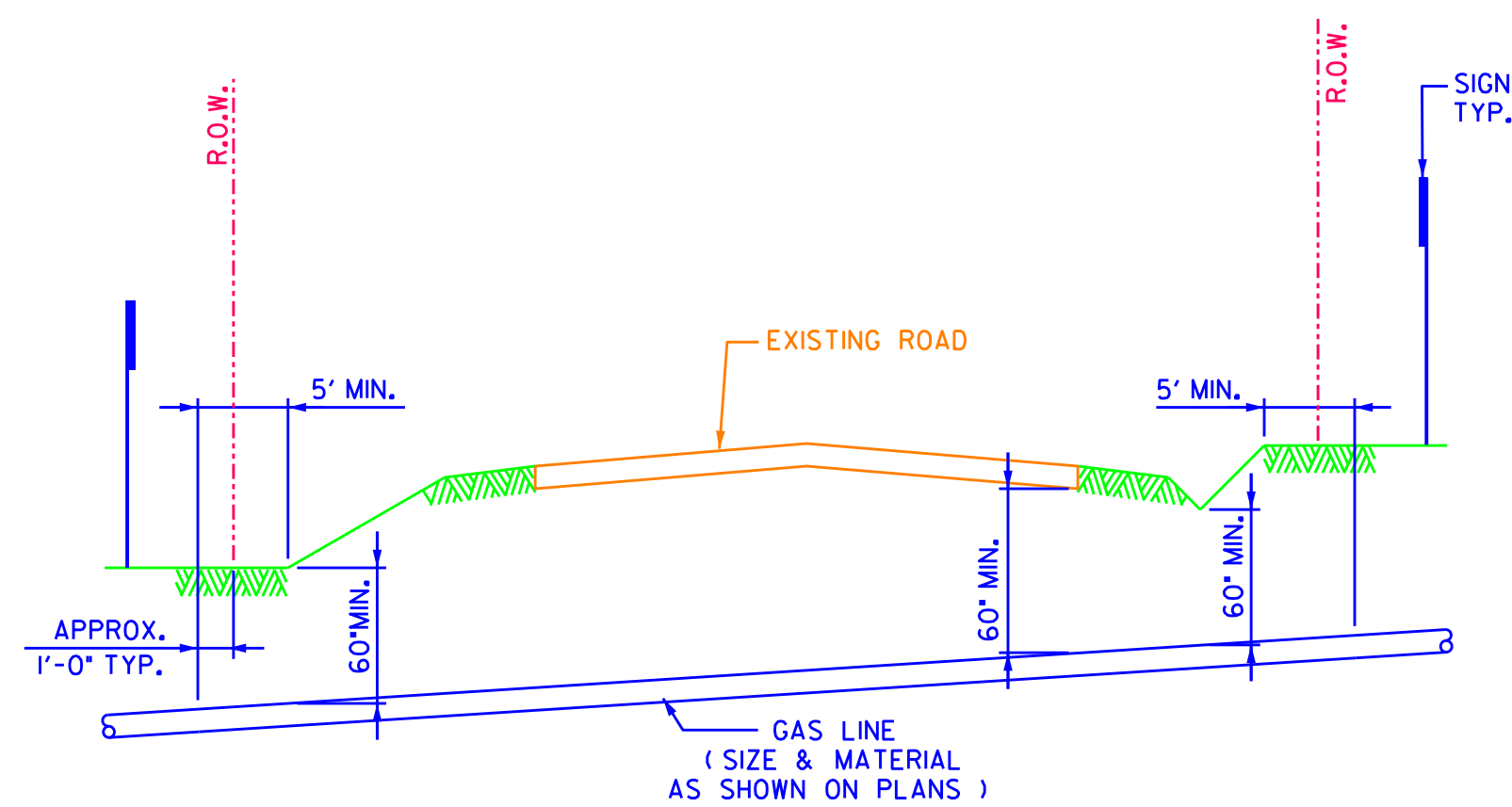


SECTION

- NOTE:
- 1) FILTER CLOTH SHALL MEET THE REQUIREMENTS OF SECTION 209 OF THE STANDARD SPECIFICATIONS, (TDOT)
 - 2) A PREASSEMBLED SILT FENCE MEETING THE REQUIREMENTS OF THIS DRAWING IS ACCEPTABLE IN LIEU OF A FIELD CONSTRUCTED SILT FENCE.

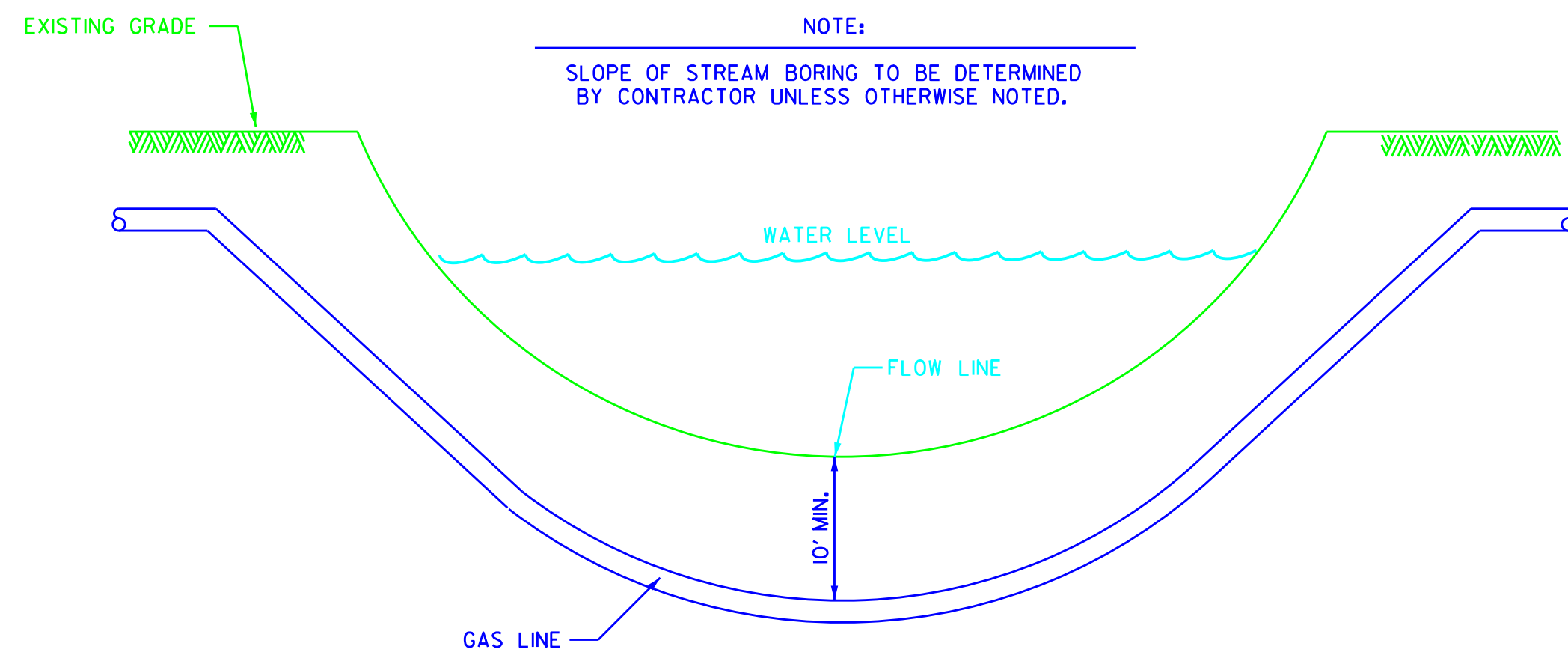
SILT FENCE DETAIL

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



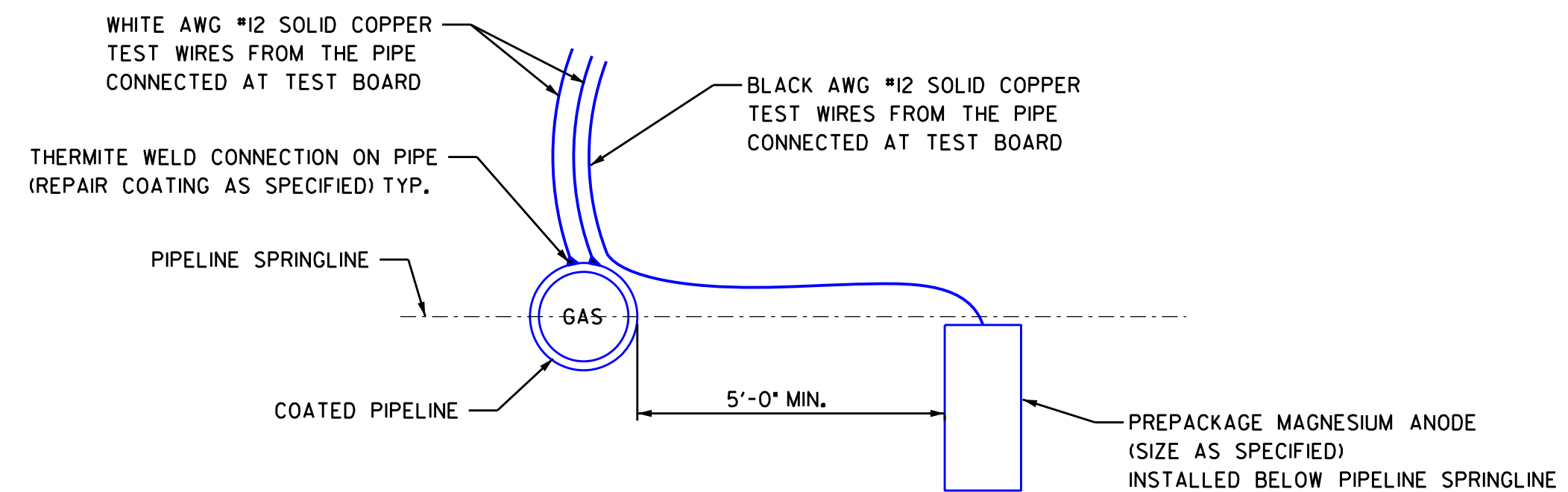
TYPICAL STATE HIGHWAY BORE DETAIL

NO SCALE



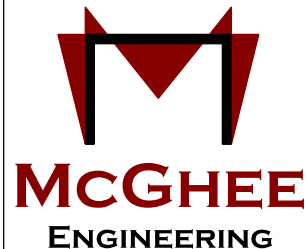
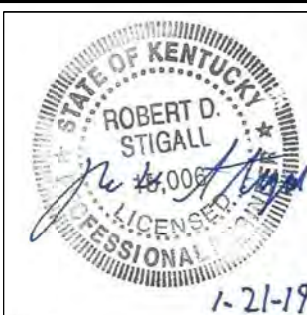
TYPICAL DIRECTIONAL BORE DETAIL

NO SCALE



ANODE DETAIL

NO SCALE



HUSSEY GAY BELL
Established 1958
4117 HILLSBORO PIKE, SUITE 206, NASHVILLE, TN 37215 / 615-460-7515

DESIGNED	DRAWN	CHECKED
RDS	RLP	RDS
DATE: AUGUST 2018		
JOB NO. 918102300		
SCALE: AS SHOWN		

NOVELIS NATURAL GAS LINE EXTENSION
2018 NATURAL GAS SYSTEM IMPROVEMENTS
FOR
THE CITY OF GUTHRIE, KENTUCKY
GAS DETAILS

NOVELIS NATURAL GAS LINE EXTENSION
2018 NATURAL GAS SYSTEM IMPROVEMENTS
FOR
THE CITY OF GUTHRIE, KENTUCKY
GAS DETAILS