TOWN OF TRUMBULL
REQUEST FOR PROPOSAL

STROBEL ROAD RECONSTRUCTION PROJECT
LOTCIP NO. L144-0002

RFP: #6333
DUE: March 29, 2019 @ 2:00 PM

Addendum #1 Dated March 21, 2019

Bidders are hereby informed that the Bidding Documents for the above-mentioned Project are modified, corrected, and/or supplemented as follows. Addendum No. 1 becomes part of the Bidding Documents and Contract Documents.

Acknowledge receipt of this addendum by inserting its number in the Bid Proposal form. Failure to acknowledge receipt of the Addendum may subject the Bidder to disqualification.

This addendum is issued for questions that have come forth.

Project Manual Changes

General Instructions	See Attached Revised Bid Form

Project Plan Changes

Sheet C5.2	See attached Revised Sheet C5.2

Bidding Period Questions & Responses

The following responses/clarifications are based on questions raised to date during the bidding period. Questions from bidders are shown in italics, responses are shown in **bold** text.

Question No. 1: Additional layout information is needed for the box culvert and wingwalls (working points, bearing, top of wall and parapet, wingwall layout/dimensions).

Response No. 1: Station and offset labels have been added at the end of the wing walls on the culvert layout plan (Sheet C5.2). The wall and culvert bearings have also been labeled on the plan. Dimension of the wingwalls and parapet have been corrected to match the detail Sheet C5.5.
The top of wingwall and parapet elevation varies and is 3'10" above the finished concrete sidewalk grade.

Question No. 2: Is it the intent that all wing walls AND retaining walls are to be per detail "Typical Wing Wall Detail" on C5.5?

Response No. 2: Sheet C5.5 shows the wingwall detail. The retaining wall detail is located on sheet C8.2.

Question No. 3: Item 0403871A: Handling of Reclaimed Asphalt

a. *Method of measurement: SY equal to area of Cold Reclaim*
b. *Bid quantity shows 10,000SY difference*

Please specify which quantity is meant to be bid.

Response No. 3: Not all reclaimed asphalt will need to be handled see Typical Section General Notes on Sheet C2.0. In areas of fill the reclaimed material will be left in place and compacted.

Question No. 4: 0921005: Concrete Sidewalk Ramp

a. *Specify unit of measure for item*
    i. *SY or SF*

Response No. 4: Item 0921005 - Concrete Sidewalk Ramp will be measured and for at SF (square feet). See revised Bid Form.

Question No. 5: 0943002: Water for Dust Control

a. *Bid Quantity shows 1,000 M. Gal.*
    ii. *Please verify quantity*

Response No. 5: Item 0943002 - Water for Dust Control, the quantity has been revised to 2,700. See revised Bid Form.

Question No. 6: Sheet C3.4 shows removal of 16LF of 15" RCP and Install 16LF of 15" RCP.

a. *How is the installation of the 15" RCP to be paid for?*

Response No. 6: Pay Item 0686000.15 – 15" RC Pipe 0-10' deep has been added to the revised Bid Form.

Question No. 7: Sheet C3.11 shows removal of 15" HDPE and install 15" HDPE

a. *How is the installation of the 15" HDPE to be paid for?*

Response No. 7: The 15" HDPE will be removed and is to be replaced with 15" PVC.

Question No. 8: Item 0922502: Heavy Duty Bituminous Concrete Driveway

a. *Does not show where this is to be installed on plans. Please specify what driveways are heavy and which are not.*

Response No. 8: Heavy Duty Bituminous Concrete Driveway is to be installed at the school entrance and exits.

Question No. 9: Item 0922502: Bituminous Concrete Driveway
Is there a difference between the driveways on Private Property and Town Right of Way in how they are to be built?

Response No. 9: There is no difference in the driveway construction, the markings show the portion in the ROW vs Private property. See Roadway Plan Notes #8 for explanation.

Question No. 10: Item 0219003: Sedimentation Control Fabric Fence System

a. *Nowhere on the plans does it specify the location of any silt fence to be placed. Please specify location.*

Response No. 10: Silt fence will be installed as directed by the Town and the Engineer initially and on an as needed basis.

Question No. 11: On all drawings, there is no limit shown as to where the Concrete Handicap Ramps end and where the Bituminous Concrete sidewalks begin. Please Clarify.

Response No. 11: Handicap ramps constructed to meet the ADA standards as detailed on DOT Sidewalk Ramp Sheet 1 through 4 in the drawing set (Sheet C8.12 to C8.15) will be measured for payment. Bituminous Concrete Sidewalk will be installed up to the handicap ramps.

Question No. 12: 0950001A: Reset Belgium Block Apron

a. *Please specify the correct unit of measure for this item.*
b. *Current and intended limits of Belgium Block not shown on plans. Please specify limits of Belgium block Aprons to be removed and placed*.

Response No. 12: The unit of measurement for Reset Belgium Apron is SF. The driveway Apron at House #287 has two rows of Belgium Block as called out on Sheet C3.15. Other areas of Belgium Block occur at mailboxes and will be reset as directed when the mailbox is reset.

Question No. 13: Is item 0922001: Bituminous Concrete Sidewalk based on SY or SF? If SY please adjust quantity. Current quantity shows 17,215 SY.

Response No. 13: ITEM 0922001 - Bituminous Concrete Sidewalk is to be measured and paid for at SY (square yard). The quantity has been revised to 2,000. See revised Bid Form.

Question No. 14: Specification no 0707009: Membrane Waterproofing; there is no bid item for this work. Is it to be included in another item?

Response No. 14: The technical specification 0707009 Membrane Waterproofing has been revised to indicate this is not a pay item but is to be included in the cost of the box culvert.

Questions No. 15: Bid item 0586002.1, Type 'C' Catch Basin w/4' Sumps. There are 18 catch basins over 10' deep, Should there be a separate bid item for the over 10' deep catch basins?

Response No. 15: ITEM 0586002.2 – Type "C" Catch Basin (4' sump) 0-20' deep has been added to the Bid Form. See revised Bid Form.

Question No. 16: Bid item 0605003A, Masonry Facing, estimated quantity = 3,500 'sy'. The special provisions states that this item is paid by the square foot. Please advise.

Response No. 16: See revised Special Provision 0605003A-Masonry Facing. This item is to be paid for at the square yard price.

Question No. 17: Is there a different detail for the retaining walls or are the dimensions on the cross sections incorrect? Also, if the 11'-10" dimension is correct, how that that affect the width of the temporary work easement?

Retaining Walls 1,2,3--per detail on C5.5 the width of the footings is 11'-10", however the cross sections from 42+50 to 46+00 and 66+0 to 67+50 show a footing width of 6'-10".

Response No.: 17: The detail on C5.5 is for the culvert crossing wingwalls at the Booth Hill Brook Crossing. The stone veneer retaining wall detail for Retaining Walls 1, 2, and 3 is located on Sheet C8.2.

Questions No. 18: Are there foundation/footing drains required for the retaining walls? Weep holes with bagged stone? Please advise.

Response No. 18: Yes, a Footing Drain is required. Stone veneer retaining wall detail on Sheet C8.2 shows a 6" Dia. perforated HDPE pipe.

Question No. 19: Bid item no. 0922001; Bituminous Concrete Sidewalks, est quantity = 17,215 sy
This item appears to be incorrect, it should be either 17,215 sf or 1,913 sy. Please advise.

Response No. 19: ITEM 0922001 - Bituminous Concrete Sidewalk is to be measured and paid for at SY (square yard). The quantity has been revised to 2,000. See revised Bid Form.

Question No. 20: The plans call for removal of existing storm drainage pipe and structures which are located outside the limits of the trench excavation for proposed drainage. How do we get paid for these removals?

Response No. 20: The removal of existing storm drainage pipe and structure outside the limits of the proposed drainage will be paid for under Item 0205003- Trench Excavation and Item 0205004-Rock in Trench Excavation. Any additional required backfill will be paid for under Item 0213100-Granular Fill. See revised Bid Form.

Question No. 21: Bid item no 0202001; Earth Excavation and 0403871A; Handling Cold Reclaimed Asphalt Pavement. In many areas the proposed subgrade is located several inches below the bottom of the reclaimed materials, example--'the thickness of the reclaimed material is 13" and the proposed subgrade elevation is 20" below the existing roadway elevation, thus requiring the removal of approx 7" of material'.
Question: Are we being paid under the Earth Excavation item for the excavation below the bottom of the reclaimed materials?

Response No. 21:Yes, excavation under the bottom of the reclaimed material will be paid for under Earth Excavation.

All technical inquiries regarding this request may be directed to Tighe & Bond, Consulting Engineers (203) 712-110 or William C. Maurer, Town of Trumbull, Engineering Department, (203) 452-5050 wmaurer@trumbull-ct.gov. All other questions shall be directed to Kevin Bova (203) 452-5042 Kbova@trumbull-ct.gov.

ITEM #0605003A - MASONRY FACING FOR RETAINING WALLS AND CULVERT WING WALLS

Work under this item shall conform to Section 6.05 - Masonry Facing and supplemented by the following:

6.5.2 - Materials: Supplement with the following:

The stones used for facing shall **"New England Fieldstone Wall"** as provided
O&G Industries Mason Store & Earth Products Showcase
325 Hancock Avenue
Bridgeport, CT 06605,

or approved equivalent by the Town Engineer.

The contractor shall provide samples of the stone facing to the Town Engineer for approval prior to ordering any material.

Mortar shall conform to the requirements of Article M.11.04. The proposed mortar mix including color and texture shall be approved by the Engineer prior to its use.

Stone anchors shall conform to ASTM A615 and galvanized in accordance with ASTM A767. Steel inserts shall conform to ASTM A569 or ASTM A366 and galvanized in accordance with ASTM A653 G60.

6.5.3 - Construction Methods: Supplement with the following:

The facing stone shall be set in the location and to the dimensions shown on the plans or as ordered by the Engineer. When required by the Engineer, the stone facing shall be supported by such bracing and framework as may be necessary to prevent movement.

All stones shall be set by competent and experienced masons.

Galvanized steel inserts and stone anchors of the type and spacing called on the plans or as ordered by the Engineer shall be installed during stone placement.

6.5.4 - Method of Measurement: Replace with the following:
The quantity of stone masonry facing shall be measured for payment by the actual number of square yards of face area of accepted masonry facing, completed within the neat lines as shown on the plans or as ordered by the Engineer. Galvanized steel inserts, stone anchors and mortar will not be measured for payment.

6.5.5 - Basis of Payment: Replace with the following:
This work will be paid at the contract unit price per square yard for "Masonry Facing", complete in place, which price shall include all materials including galvanized steel inserts, stone anchors and mortar, tools, equipment and labor incidental thereto.

Wall Stone • O&G Industries Earth Products Showcase

New England Fieldstone Wall

Category: Wall Stone
Tag:

TOWN OF TRUMBULL
REQUEST FOR PROPOSAL
STROBEL ROAD RECONSTRUCTION PROJECT
LOTCIP NO. L144-0002

RFP # 6333 DUE: March 29, 2019 at 2:00PM

PROPOSAL

Proposal of _____ (hereinafter called "Proposer, Bidder"), organized and existing under the laws of the State of Connecticut, doing business as to the Engineering Department, Town of Trumbull, Connecticut (hereinafter called the "Owner").

In compliance with your Advertisement for Proposals, Proposer hereby proposes for the STROBEL ROAD RECONSTRUCTION PROJECT, in the Town of Trumbull, Connecticut together with all related incidental and appurtenant work as described in the specifications or outlined and/or shown on the exhibits. The work is to be done in strict accordance with the Specifications, Drawings and all Contract Documents, within the time set forth therein, and at the prices stated on the Proposal Schedule.

By submission of this Proposal, each Proposer certifies, that this Proposal has been arrived at independently, without consultation, communication, or agreement as to any matter relating to this Proposal with any other Proposer or with any competitor.

Proposer hereby agrees to commence work under this contract on or before a date to be specified in the "Notice to Proceed", and to fully complete the Project within four hundred fifty-five (455) consecutive calendar days, excluding winter shutdown, thereafter.

Proposer further agrees to pay as liquidated damages, the sum of ($2,200.00) two thousand two hundred dollars for each consecutive calendar day thereafter till completion of the full contract as provided in the General Conditions. Proposer further agrees that he will provide and sustain the required Bonds and Insurance Policies as required.

Proposer understands that the Owner reserves the right to reject any or all proposals and to waive any informality in the bidding.

Proposer agrees that this proposal shall be good and may not be withdrawn for a period of one hundred (120) calendar days after the scheduled closing time for receiving proposals.

Upon receipt of written notice of the acceptance of this proposal, proposer shall execute the formal contract attached within five (5) days and deliver a Surety Bond or Bonds as required in the General Conditions. The Bid Security attached in the sum of_____Dollars ($_____) 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.

_____ Company Name	_____ By (Signature)
_____ Address	_____ Print Name
_____ City-Town-Zip	_____ Title
_____ Date	_____ Telephone/Fax

PROPOSAL – STROBEL ROAD RECONSTUCTION PROJECT (continued)

The undersigned hereby declares that in regard to all conditions affecting the work to be done and the labor and materials required, this proposal is based on his investigations and findings, and the Town of Trumbull and the Engineers and their officers, agents and employees shall not in any manner be held responsible for the accuracy of, or be bound by any estimates, borings, water or underground conditions relative to the proposed work, indicated in this or in the other contract documents; that no warranty or representation has been made by the Town of Trumbull or the Engineers or their officers, agents and employees as to subsurface soil or rock conditions, ground water, or other underground and similar conditions; nor has any representation or warranty been so made that the estimated quantities to be used for comparison of proposals will even approximate the actual quantities or materials and work which the Contractor may be required to furnish or perform.

BID FORM - Bidder will complete the Work in accordance with the Contract Documents for the following price(s):

Strobel Road Reconstruction Project – LOTCIP Funds Participating Pay Items				
Item Number	**Item Name and Unit Bid Prices Written in Words and Figures**	**Units**	**Estimated Quantity**	**Total Amount of Item (in figures)**
0201001	Clearing and Grubbing, per LS, the price of: _____ ($)	LS	1	$_____
0202001	Earth Excavation, per CY, the price of: _____ ($)	CY	4,567	$_____
0202100	Rock Excavation, per CY, the price of: _____ ($)	CY	225	$_____
0202216A	Excavation and Reuse of Existing Channel Bottom Material, per CY, the price of: _____ ($)	CY	75	$_____
0202217A	Supplemental Streambed Channel Material, per CY, the price of: Two Thousand Five Hundred and 00/100 ($2,500.00)	Est.	1	$2,500.00
0202451A	Test Pit Excavation, per CY, the price of: _____ ($)	CY	100	$_____
0202529	Cut Bituminous Concrete Pavement, per LF, the price of: _____ ($)	LF	2,000	$_____
0203001A	Structure Excavation Earth (Complete) – For Culvert, per CY, the price of: _____ ($)	CY	600	$_____

02031001A	Structure Excavation Rock (Complete) – For Culvert, per CY, the price of: _____ ($)	CY	50	$_____
0204401	Handling Water, per Lump Sum, the price of: _____ ($)	LS	1	$_____
0205003	Trench Excavation (0-10'), per CY, the price of: _____ ($)	CY	300	$_____
0205004	Rock In Trench (0-10'), per CY, the price of: _____ ($)	CY	100	$_____
0209001	Formation of Subgrade, per SY, the price of: _____ ($)	SY	37,800	$_____
0210820	Water Pollution Control, per Est., the price of: Twenty Thousand and 00/100 ($20,000.00)	Est.	1	$20,000.00
0216000	Pervious Structure Backfill, per CY, the price of: _____ ($)	CY	250	$_____
0213100	Granular Fill, per CY, the price of: _____ ($)	CY	400	$_____

0219011	Sediment Control System at Catch Basin, per Each, the price of: _____ ($)	Each	83	$_____
0219002	Sedimentation Control Haybale System, per LF, the price of: _____ ($)	LF	300	$_____
0219003	Sedimentation Control Filter Fabric Fence System, per LF, the price of: _____ ($)	LF	22,000	$_____
0286001.1	Rock-In-Trench, per CY, the price of: _____ ($)	CY	200	$_____
0403869A	Cold Reclaimed Asphalt Pavement, per SY, the price of: _____ ($)	SY	34,476	$_____
0403871A	Handling Cold Reclaimed Asphalt Pavement, per SY, the price of: _____ ($)	SY	24,766	$_____
0406000	Temporary Pavement, per SY, the price of: _____ ($)	SY	2,000	$_____
0406236	Material for Tack Coat, per Gal, the price of: _____ ($)	Gal	1,735	$_____

0406170	HMA S 1.0" (3"), per Ton, the price of: _____ ($)	Ton	6,450	$_____
0406712	HMA S 0.375" (2"), per Ton, the price of: _____ ($)	Ton	4,000	$_____
0406606	Material Transfer Vehicle, per Ton, the price of: _____ ($)	Ton	4,000	$_____
0406999A	Asphalt Adjustment Cost, per Est., the price of: Thirty-Three Thousand and 00/100 ($ 33,000.00)	Est.	1	$33,000.00
0586002.1	Type "C" Catch Basin (4' sump) 0-10' deep, per Each, the price of: _____ ($)	Each	34	$_____
0586002.2	Type "C" Catch Basin (4' sump) 0-20' deep, per Each, the price of: _____ ($)	Each	18	$_____
0586005.1	Type "C" Catch Basin Double Grate Type 2 (4' sump) 0-10' deep, per Each, the price of: _____ ($)	Each	2	$_____
0586041.1	Type "C-L" Catch Basin (4' sump) 0-10' deep, per Each, the price of: _____ ($)	Each	3	$_____

0586500.1	Manhole 0-10' deep, per Each, the price of: _____ ($)	Each	1	$_____
0586600	Reset Catch Basin, per Each, the price of: _____ ($)	Each	77	$_____
0586650	Reset Manhole (Sanitary), per Each, the price of: _____ ($)	Each	92	$_____
0586651	Reset Manhole (Storm), per Each, the price of: _____ ($)	Each	20	$_____
0586703	Convert Catch Basin to Manhole, per Each, the price of: _____ ($)	Each	1	$_____
0586750	Type "C" Catch Basin Top, per Each, the price of: _____ ($)	Each	14	$_____
0586752	Type "C" Catch Basin Top Double Grate Type 2, per Each, the price of: _____ ($)	Each	1	$_____
0586760	Type "C-L" Catch Basin Top, per Each, the price of: _____ ($)	Each	1	$_____

0601109A	Class "A" Concrete for Retaining Walls, per CY, the price of: _____ ($)	CY	825	$_____
0601082A	7' x 7' Pre-cast Concrete Box Culvert, per LF, the price of: _____ ($)	LF	120	$_____
0605391A	Structural Steel – Watermain Brackets, per Each, the price of: _____ ($)	Each	8	$_____
0605003A	Masonry Facing for Retaining Walls and Culvert Wing Walls, per SY, the price of: _____ ($)	SY	3,500	$_____
0607001	Reset Masonry Wall, per CY, the price of: _____ ($)	CY	80	$_____
0612994	Concrete Cylinder Curing Box, per Each, the price of: _____ ($)	Each	1	$_____
0653001	Clean Existing Catch Basin, per Each, the price of: _____ ($)	Each	20	$_____
0653100	Clean Existing Culvert (12"-42" Diameter), per LF, the price of: _____ ($)	LF	300	$_____

0686000.15	15" R.C. Pipe – 0-10'deep, per LF, the price of: _____ ($)	LF	16	$_____
0686200.3	30" R.C. Pipe (Class V) – 0-10'deep, per LF, the price of: _____ ($)	LF	10	$_____
0686200.60	6" Perforated Polyvinyl Chloride Pipe, per LF, the price of: _____ ($)	LF	850	$_____
0686200.12	12" Polyvinyl Chloride Pipe, per LF, the price of: _____ ($)	LF	1,100	$_____
0686200.15	15" Polyvinyl Chloride Pipe, per LF, the price of: _____ ($)	LF	1,500	$_____
0686200.18	18" Polyvinyl Chloride Pipe, per LF, the price of: _____ ($)	LF	600	$_____
0815001	Bituminous Concrete Lip Curb, per LF, the price of: _____ ($)	LF	19,800	$_____
0822001	Temporary Pre-cast Concrete Barrier Curb, per LF, the price of: _____ ($)	LF	225	$_____

095007	Reset Stone Wall, per LF, the price of: _____ ($)	LF	565	$_____
0910310	Metal Beam Rail R-B MASH, per LF, the price of: _____ ($)	LF	1,050	$_____
0911001	Metal Beam Rail Anchor Type II, per Each, the price of: _____ ($)	Each	14	$_____
0910007	Metal Beam Rail Attachment Assembly, per Each, the price of: _____ ($)	Each	4	$_____
0912510	Remove Existing Guide Railing, per LF, the price of: _____ ($)	LF	480	$_____
0912001	Chain Link Fence (42” high), per LF, the price of: _____ ($)	LF	750	$_____
0921005	Concrete Sidewalk Ramp, per SF, the price of: _____ ($)	SF	1,087	$_____
0921039	Detectable Warning Strip, per Each, the price of: _____ ($)	Each	16	$_____

0922001	Bituminous Concrete Sidewalk, per SY, the price of: _____ ($)	SY	2,000	$_____
0922501	Bituminous Concrete Driveway, per SY, the price of: _____ ($)	SY	2,585	$_____
0922502	Heavy Duty Bituminous Concrete Driveway, per SY, the price of: _____ ($)	SY	100	$_____
0942001	Calcium Chloride for Dust Control, per TON, the price of: _____ ($)	Ton	30	$_____
0943002	Water for Dust Control, per M.Gal, the price of: _____ ($)	M. Gal	2,700	$_____
0950001A	Reset Belgium Block Apron, per SF, the price of: _____ ($)	SF	100	$_____
0950005A	Reset Stone Curb, per LF, the price of: _____ ($)	LF	50	$_____
0944001	Furnishing and Placing Topsoil, per SY, the price of: _____ ($)	SY	8,500	$_____

0950019A	Turf Establishment, per SY, the price of: _____ ($)	SY	8,500	$_____
0950039	Erosion Control Matting Type D, per SY, the price of: _____ ($)	SY	260	$_____
09690060A	Construction Field Office, Small, per Month, the price of: _____ ($)	Month	20	$_____
0970006A	Traffic Person (Municipal Police Officer), per Est., the price of: Five Hundred Thousand and 00/100 ($ $500,000.00)	Est.	1	$500,000.00
0970060A	Traffic Person (Uniformed Flagger), per Hour, the price of: _____ ($)	SY	260	$_____
0971001	Maintenance and Protection of Traffic, per LS, the price of: _____ ($)	LS	1	$_____
0975004	Mobilization and Project Closeout, per LS, the price of: _____ ($)	LS	1	$_____
0976002	Barricade Warning Lights – High Intensity, per day, the price of: _____ ($)	Day	1,000	$_____

0977001	Traffic Cone, per Each, the price of: _____ ($)	Each	100	$_____
0978002	Traffic Drum, per Each, the price of: _____ ($)	Each	50	$_____
0979003	Construction Barricade Type-III, per Each, the price of: _____ ($)	Each	4	$_____
0980001A	Construction Staking, per LS, the price of: _____ ($)	LS	1	$_____
1001001	Trenching and Backfilling, per LF, the price of: _____ ($)	LF	790	$_____
1001004	Rock In Trench (0-4' deep), per CY, the price of: _____ ($)	CY	10	$_____
1002015	Rock In Foundation Excavation, per VF, the price of: _____ ($)	VF	10	$_____
1002202	Traffic Control Foundation – Mast Arm, per Each, the price of: _____ ($)	Each	2	$_____

1002203	Traffic Control Foundation – Pedestal Type 1, per Each, the price of: _____ ($)	Each	3	$_____
1002208	Traffic Control Foundation – Controller Type IV, per Each, the price of: _____ ($)	Each	1	$_____
1008015	2” Rigid Metal Conduit - Surface, per LF, the price of: _____ ($)	LF	40	$_____
1008115	2” Rigid Metal Conduit - In Trench, per LF, the price of: _____ ($)	LF	410	$_____
1008215	2” Rigid Metal Conduit – Under Roadway, per LF, the price of: _____ ($)	LF	380	$_____
1010021	Concrete Handhole, per Each, the price of: _____ ($)	Each	1	$_____
1010001	Concrete Handhole – Type II, per Each, the price of: _____ ($)	Each	5	$_____

1010054	Cast Iron Handhole Cover Type II, per Each, the price of: _____ ($)	Each	1	$_____
1017032A	Service (metered), per Lump Sum, the price of: _____ ($)	LS	1	$_____
1102002A	8' Aluminum Pedestal, per Each, the price of: _____ ($)	Each	3	$_____
1104033A	40' Steel Mast Arm Assembly, per Each, the price of: _____ ($)	Each	1	$_____
1105037A	45' Steel Mast Arm Assembly, per Each, the price of: _____ ($)	Each	1	$_____
1105105	1 Way, 5 Section Mast Arm Traffic Signal, per Each, the price of: _____ ($)	Each	2	$_____
1105103A	1 Way, 3 Section Mast Arm Traffic Signal, per Each, the price of: _____ ($)	Each	3	$_____
1106003A	1 Way Pedestrian Signal Pedestal Mount, per Each, the price of: _____ ($)	Each	2	$_____

1106004A	2 Way Pedestrian Signal Pedestal Mount, per Each, the price of: _____ ($)	Each	1	$_____
1107011A	Accessible Pedestrian Signal, per Each, the price of: _____ ($)	Each	3	$_____
1108115A	Full Actuated Controller 8 Phase, per Each, the price of: _____ ($)	Each	1	$_____
1112288A	IP Video Detection Camera Assembly, per Each, the price of: _____ ($)	Each	2	$_____
1113014	3 Conductor No. 8 AWG Type SE Style THW, per LF, the price of: _____ ($)	LF	100	$_____
1113102	5 Conductor No. 14 Cable, per LF, the price of: _____ ($)	LF	700	$_____
1113103	7 Conductor No. 14 Cable, per LF, the price of: _____ ($)	LF	650	$_____
1113104	9 Conductor No. 14 Cable, per LF, the price of: _____ ($)	LF	400	$_____

1113725A	T23 AWG 4 Twisted Pair Category 6 Cable, per LF, the price of: _____ ($)	LF	600	$_____
1118051A	Temporary Signalization Site No. 1, per Each, the price of: _____ ($)	Each	1	$_____
1111201A	Temporary Detection Site No. 1, per Each, the price of: _____ ($)	Each	1	$_____
1111407A	Camera Video Detection System, per Each, the price of: _____ ($)	Each	1	$_____
1111600A	Extension Bracket, per Each, the price of: _____ ($)	Each	2	$_____
1206023A	Removal and Relocation of Existing Signs, per Lump Sum, the price of: _____ ($)	LS	1	$_____
1208931A	Sign Face – sheet Aluminum (Type IX Retroreflective Sheeting), per SF, the price of: _____ ($)	SF	75	$_____

1208932A	Sign Face – sheet Aluminum (Type IV Retroreflective Sheeting), per SF, the price of: _____ ($)	SF	300	$_____
1209005	Temporary 4" White Painted Pavement Markings, per LF, the price of: _____ ($)	LF	8,000	$_____
1210101	4" White Epoxy Resin Pavement Marking, per LF, the price of: _____ ($)	LF	15,000	$_____
1210102	4" Yellow Epoxy Resin Pavement Marking, per LF, the price of: _____ ($)	LF	19,200	$_____
1210105	Epoxy Resin Legend, Arrows and Markings, per SF, the price of: _____ ($)	SF	1,500	$_____
1220027	Construction Signs, per SF, the price of: _____ ($)	SF	400	$_____
1302050	Reset Valve Boxes, per Each, the price of: _____ ($)	Each	31	$_____
1801002	Repair of Impact Attenuation System Type A Module 700 lb., per Each, the price of: _____ ($)	Each	1	$_____

1801003	Repair of Impact Attenuation System Type A Module 1,400 lb., per Each, the price of: _____ ($)	Each	1	$_____
1801004	Repair of Impact Attenuation System Type A Module 2,100 lb., per Each, the price of: _____ ($)	Each	1	$_____
1807012	Temporary Impact Attenuation System Type A Module 700 lb., per Each, the price of: _____ ($)	Each	4	$_____
1807013	Temporary Impact Attenuation System Type A Module 1400 lb., per Each, the price of: _____ ($)	Each	20	$_____
1807014	Temporary Impact Attenuation System Type A Module 2100 lb., per Each, the price of: _____ ($)	Each	8	$_____
1807101A	Relocation of Temporary Impact Attenuation System Type A, per Each, the price of: _____ ($)	Each	8	$_____

TOTAL AMOUNT OF BID – LOTCIP Funds Participating

_____ dollars (words)

($ _____) (figures)

Strobel Road Reconstruction Project – Non-Participating Pay Items				
Item Number	**Item Name and Unit Bid Prices Written in Words and Figures**	**Units**	**Estimated Quantity**	**Total Amount of Item (in figures)**
0949000	Furnishing and Placing Wood Chip Mulch, per SY, the price of: _____ ($)	SY	200	$_____
0949148	Furnishing and Placing CORNUS RUTGERS PINK, STELLAR PINK DOGWOOD, 10-15' HT. B.B., per Each, the price of: _____ ($)	Each	12	$_____
0949881	Furnishing and Placing LIQUIDAMBAR STYRACIFUA AMERICAN SWEETGUM. 3 ½"-4" CAL. B.B. per Each, the price of: _____ ($)	Each	7	$_____
0949609	Furnishing and Placing PICEA ABIES, NORWAY SPRUCE, 6- - 8' HT. B.Bl, per Each, the price of: _____ ($)	Each	27	$_____
0944001	Furnishing and Placing PICEA OMORIKA, SERBIAN SPRUCE, 6- - 8' HT. B.B., per Each, the price of: _____ ($)	Each	11	$_____

TOTAL AMOUNT OF BID – Non-Participating

_____ dollars (words)

($ _____) (figures)

TOTAL AMOUNT OF BID – Participating and Non-Participating

_____ dollars (words)

($ _____) (figures)

THE QUANTITIES IN THIS BID FORM ARE FOR PURPOSES OF ILLUSTRATION ONLY. THE FINAL QUANITIES WILL BE DETERMINED BY THE ACTUAL WORK COMPLETED.

PROPOSAL (continued)

Respectfully submitted,

_____	_____
Company Name	By (Signature)
_____	_____
Address	Print Name
_____	_____
Address	Title

(SEAL-if proposal is by a corporation)

Note: Insert Proposer's name. If a corporation, give the State of Incorporation using the phrase, "A corporation organized under the laws of

_____, composed of officers as follows:

_____	_____
President	Secretary
_____	_____
Vice President	Treasurer

If a partnership, give names of partners, using also the phrase, "co-partners trading and doing business under the firm name and style of_____, composed of partners as follows:

_____EMAIL

END OF GENERAL BID:

ITEM #0707009A- MEMBRANE WATERPROOFING (COLD LIQUID ELASTOMERIC)

Description: Work under this item consists of furnishing and installing a seamless elastomeric waterproofing membrane system applied to a concrete or steel surface as shown on the plans, in accordance with this specification and as directed by the Engineer. Work shall also include conditioning of the surface to be coated and all quality-control testing noted herein.

The completed membrane system shall be comprised of a primer coat followed by the membrane coating which is applied in one or two layers for a minimum total thickness of 80 mil (2 mm). This work shall also include an additional 40 mil (1mm) membrane layer with aggregate broadcast into the material while still wet.

Materials: The membrane waterproofing system shall be one of the following:

1. Eliminator
   Manufacturer: Stirling Lloyd Products, Inc.
   152 Rockwell Road, Building A
   Newington, CT 06111
   860-666-5008

2. Bridge Deck Membrane System
   Manufacturer: Bridge Preservation, LLC
   87 Shawnee Ave.
   Kansas City, Kansas 66105
   913-321-9006

The membrane system shall meet the following requirements:

1. Primer: The primer shall be a 100% reactive, acrylic based, two component, spray applied resin capable of full cure in 40 minutes at 68°F (20°C).

2. Membrane: The membrane shall be 100% solvent free reactive, acrylic based, two component, spray applied material.

3. Aggregate: The aggregate shall be a nonfriable, durable #8 aggregate stone.

The membrane shall meet or exceed the following performance requirements:

PERFORMANCE REQUIREMENT	TEST METHOD	UNITS
Water Vapor Transmission	ASTME96	0.3 Perms or less
Adhesion (Concrete)	ASTMD4541	150 psi (1.0 MPa) or failure in concrete
Adhesion (Steel)	ASTMD4541	300 psi (2.1 MPa)
Minimum Tensile Strength	ASTM D638, Method A, Die C	940 psi (6.4 MPa)
Minimum Elongation at Break	ASTM D638, Method A, Die C	80%
Crack Bridging	ASTM 1305	Pass @ 10 cycles, 0.125 inch (3.2mm) -l 5°F (-26°C)
Resistance to Heat Aging	ASTM C1522	Pass

Test Reports: The Contractor shall submit to the Engineer Notarized Test Reports showing conformance with the identified Performance Requirements listed in this specification in tests done no longer than 5 years prior to the anticipated installation date.

Materials Certificate: The Contractor shall submit to the Engineer a Materials Certificate for the primer and membrane in accordance with the requirements of Article 1.06.07 .

Construction Methods: At least ten days prior to installation of the membrane system, the Contractor shall submit to the Engineer, the manufacturer' s recommended procedure for preparing the deck surface, pre-treatment or preparing at cracks and gaps, treatment at curbs, vertical surfaces or discontinuities, applying the primer and membrane, and placing of aggregated coat. Procedures shall also include recommended repairs of system non-compliant issues identified during application. The system shall be applied to the prepared area(s) as defined in the plans strictly in accordance with the Manufacturer's recommendations.

A technical representative, in the direct employ of the manufacturer, shall be present on-site immediately prior to and during application of the membrane. The representative shall inspect and approve the surface prior to priming, and provide guidance on the handling, mixing and addition of components and observe application of the primer and membrane. The representative shall perform all required quality-control testing and remain on the Project site until the membrane has fully cured.

All quality-control testing, including verbal direction or observations on the day of the installation, shall be recorded and submitted to the Engineer for inclusion in the Project' s records. A submittal of the quality-control testing data shall be received by project personnel prior to any paving over the finished membrane or within 24 hours following completion of any staged portion of the work.

1. Applicator Approval: The Contractor's membrane Applicator shall be fully trained and licensed by the membrane manufacturer and shall have successfully completed at least three spray membrane projects in the past five years. The Contractor shall furnish references from those projects, including names of contact persons and the names, addresses and phone numbers of persons who supervised the projects. This information shall be submitted to the Engineer prior to the start of construction. The Engineer shall have sole authority to determine the adequacy and compliance of the submitted information. Inadequate proof of ability to perform the work will be grounds to reject proposed applicators.

2. Job Conditions:

   (a) Environmental Requirements: Air and substrate temperatures shall be between 32°F (0°C) and 104°F (40°C) providing the substrate is above the dew point. Outside of this range, the Manufacturer shall be consulted.

   The Applicator shall be provided with adequate disposal facilities for non hazardous waste generated during installation of the membrane system. The applicator shall follow safety instructions regarding respirators and safety equipment.

   (b) Safety Requirements: All open flames and spark producing equipment shall be removed from the work area prior to commencement of application.

   "No Smoking" signs shall be visibly posted at the job site during application of the membrane waterproofing.

   Personnel not involved in membrane application shall be kept out of the work area.

3. Delivery, Storage and Handling:

   (a) Packaging and Shipping: All components of the membrane system shall be delivered to the site in the Manufacturer's packaging , clearly identified with the products type and batch number.

   (b) Storage and Protection: The Applicator shall be provided with a storage area for all components. The area shall be cool, dry and out of direct sunlight and shall be in accordance with the Manu facturer ' s recommendations and relevant health and safety regulations.

Copies of Material Safety Data Sheets (MSDS) for all components shall be kept on site for review by the Engineer or other personnel.

(c) Shelf Life - Membrane Components: Packaging of all membrane components shall include a shelf life date sealed by the Manufacturer. No membrane components whose shelf life has expired shall be used.

4. Surface Preparation:

(a) Protection: The Applicator shall be responsible for the protection of equipment and adjacent areas from over spray or other contamination. Parapets and bridge joints shall be masked prior to application of the materials.

(b) Surface Preparation: Sharp peaks and discontinuities shall be ground smooth. The surface profile of the prepared substrate is not to exceed 1/4 inch (6 mm) (peak to valley) and areas of minor surface deterioration of l/2 inch (13 mm) and greater in depth shall also be repaired. The extent and location of the surface patches require the approval of the Engineer before the membrane system is applied.

Surfaces shall be free of oil, grease, curing compounds, loose particles, moss, algae, growth, laitance, friable matter, dirt, bituminous products, and previous waterproofing materials. If required, degreasing shall be done by detergent washing in accordance with ASTM D4258.

The surface shall be abrasively cleaned, in accordance with ASTM D4259, to provide a sound substrate free from laitance.

Voids, honeycombed areas, and blow holes on vertical surfaces shall be repaired in the same manner.

All steel components to receive membrane waterproofing shall be blast cleaned in accordance with SSPC SP6 and coated with the membrane waterproofing system within the same work shift.

5. Inspection and Testing: Prior to priming of the surface, the Engineer, Applicator and Manufacturer's technical representative shall inspect and approve the prepared substrate.

(a) Random tests for deck moisture content shall be conducted on the substrate by the Applicator at the job site using a "Sovereign Portable Electronic Moisture Master Meter," a "Tramex CMEXpertII Concrete Moisture Meter" or approved equal. The minimum frequency shall be one test per 1000 s.f. (100 sq.m) but not less than three tests per day per bridge. Additional tests may be required if atmospheric conditions change and retest of the substrate moisture content is warranted.

The membrane system shall not be installed on substrate with a moisture content greater than that recommended by the system' s manufacturer, but shall not be greater than 6%, whichever is less.

(b) Random tests for adequate tensile bond strength shall be conducted on the substrate using an adhesion tester in accordance with the requirements of ASTM D454 l . The minimum frequency shall be one test per 5,000 s.f. (500 sq.m) but not less than three adhesion tests per bridge.

Adequate surface preparation will be indicated by tensile bond strengths of primer to the substrate greater than or equal to 150 psi (1.0 MPa) or failure in a concrete surface and greater than or equal to 300 psi (2.1 MPa) for steel surfaces.

If the tensile bond strength is lower than the minimum specified, the Engineer may request additional substrate preparation. Any primer not adequately applied shall be removed and a new primer applied at the Contractor's expense, as directed by Engineer.

(c) Cracks and grouted joints shall be treated in accordance with the Manu facturer ' s recommendations, as approved or directed by the Engineer.

6. Application:

(a) The System shall be applied in four distinct steps as follows:
1) Substrate preparation and gap/joint bridging preparation
2) Priming
3) Membrane application
4) Membrane with aggregate

(b) Immediately prior to the application of any components of the System, the surface shall be dry (see Section 5a of this specification) and any remaining dust or loose particles shall be removed using clean, dry oil-free compressed air or industrial vacuum.

(c) Where the area to be treated is bound by a vertical surface (e.g. curb or wall), the membrane system may be continued up the vertical, as shown on the plans or as directed by the Engineer.

(d) The handling, mixing and addition of components shall be performed in a safe manner to achieve the desired results, in accordance with the Manufacturer's recommendations or as approved or directed by the Engineer.

(e) A neat finish with well defined boundaries and straight edges shall be provided by the Applicator.

(f) Primer: The primer shall consist of one coat with an overall coverage rate of 125 to 175 s.f./gal (3.0 to 4.3sq.m/ l) unless otherwise recommended in the manufacturer's written instructions.

All components shall be measured and mixed in accordance with the Manufacturer's recommendations.

The primer shall be spray applied using a single component spray system approved for use by the Manufacturer. If required by site conditions and allowed by the manufacturer, brush or roller application will be allowed.

The primer shall be allowed to cure tack-free for a minimum of 30 minutes or as required by the Manufacturer's instructions, whichever time is greater, prior to application of the first lift of waterproofing membrane.

Porous concrete (brick) may require a second coat of primer should the first coat be absorbed.

(g) Membrane: The waterproofing membrane shall consist of one or two coats for a total dry film thickness of 80 mils (2 mm). If applied in two coats, the second coat shall be of a contrasting color to aid in quality assurance and inspection.

The membrane shall be comprised of Components A and B and a hardener powder which is to be added to Component B in accordance with the Manufacturer' s recommendations.

The substrate shall be coated in a methodical manner.

Thickness checks: For each layer, checks for wet film thickness using a gauge pin or standard comb-type thickness gauge shall be carried out typically once every 100 s.f. (9 sq.m). Where rapid set time of the membrane does not allow for wet film thickness checks, ultrasonic testing (steel surfaces only), calibrated point-penetrating (destructive) testing, in-situ sampling (cutout of small sections for measuring thicknesses), or other methods approved by the Engineer shall be employed for determination of dry film thickness. The measured thickness of each and every individual test of the membrane shall be greater than or equal to the required thickness.

Bond Strength: Random tests for adequate tensile bond strength shall be conducted on the membrane in accordance with the requirements of ASTM 0 4541. The minimum test frequency shall be one test per 5,000 s.f. (500 sq.m) but no less than three adhesion tests per bridge. Adequate adhesion will be indicated by tensile bond strengths of the membrane to the substrate of greater than or equal to 150 psi (0.7 MPa) or failure in a concrete surface and greater than or equal to 300 psi (2.1 MPa) for steel surfaces.

Spark Testing: Following application of the membrane, test for pin holes in the cured membrane system over the entire application area in accordance with ASTM D4787-" Continuity Verification of Liquid or Sheet Linings Applied to Concrete Substrates." Conduct the test at voltages recommended by the manufacturer to prevent damage to the membrane.

Repair the membrane system following destructive testing and correct any deficiencies in the membrane system or substrate noted during quality-control testing in accordance with the manufacturer's recommendations to the satisfaction of the Engineer at no additional cost to the State.

(h) Repairs: If an area is left untreated or the membrane becomes damaged, a patch repair shall be carried out to restore the integrity of the system. The damaged areas shall be cut back to sound materials and wiped with solvent (e.g. acetone) up to a width of at least four inches (100 mm) on the periphery, removing any contaminants unless otherwise recommended by the manufacturer. The substrate shall be primed as necessary, followed by the membrane. A continuous layer shall be obtained over the substrate with a four inches (100 mm) overlap onto existing membrane.

Where the membrane is to be joined to existing cured material, the new application shall overlap the existing by at least four inches (100 mm). Cleaning and surface preparation on areas to be lapped shall be as recommended in the manufacturer's written instructions.

(i) Aggregated Finish:

1) Apply an additional 40 mil (1 mm) thick layer of the membrane material immediately followed by an aggregate coating, before the membrane cures, at a rate to fully cover the exposed area. The membrane and aggregate shall be fully integrated after the aggregate has been applied and the membrane cured.
2) Localized areas not fully coated shall be touched-up with additional membrane and aggregate as needed.
3) Remove loose and excess aggregate from the surface to the satisfaction of the Engineer and dispose of properly after application prior to allowing traffic onto finished surface or application of tack coat.

(j) Tack Coat:

Prior to application of a bituminous concrete overlay, the aggregated finish shall be coated with tack coat in accordance with Section 4.06.

7. Final Review: The Engineer and the Applicator shall jointly review the area(s) over which the completed System has been installed. Any irregularities or other items that do not meet the requirements of the Engineer shall be addressed at this time.

Method of Measurement and Basis of Payment: This item shall not be measured for payment.

There will be no direct payment for "Membrane Waterproofing (Cold Liquid Elastomeric)", but the cost thereof shall be included in the item 0601082A 7x7 Precast Concrete Box Culvert.

ITEM #0950001A – RESET BELGIUM BLOCK APRON

Description: This work shall consist of removing and resetting or adjusting the existing Belgium block apron, reusing existing block and bed material, so as to fit neatly and firmly, constructed in such shape and such place as indicated on the plan or as directed by the Engineer and in accordance with these specifications.

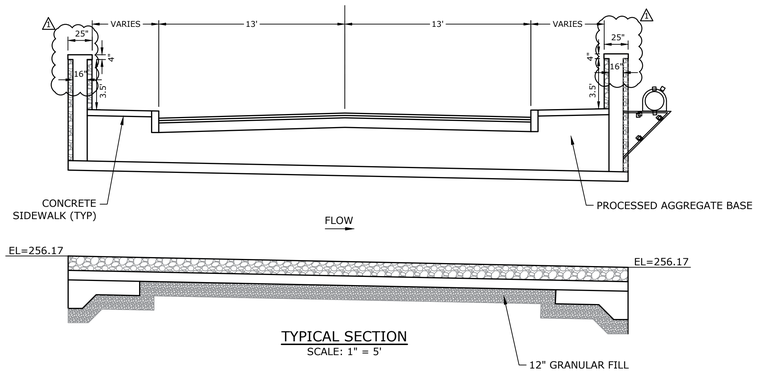
Materials: The Contractor shall re-use existing blocks from the existing block paving. Mortar material, if required, shall conform to the requirements of Article M.11.04. The Contractor shall provide any additional blocks (if required) that resemble as close as possible the existing blocks.

Construction Methods: The Contractor shall take photographs and field measurements of the existing Belgium blocks to be used for reconstruction prior to removing the existing blocks. The existing blocks shall be carefully removed, cleaned and stored. The blocks shall be reset using the existing materials removed. Prior to resetting the existing blocks, the foundation shall be prepared as directed by the Engineer. Any foundation soil found to be unsuitable shall be removed and replaced.

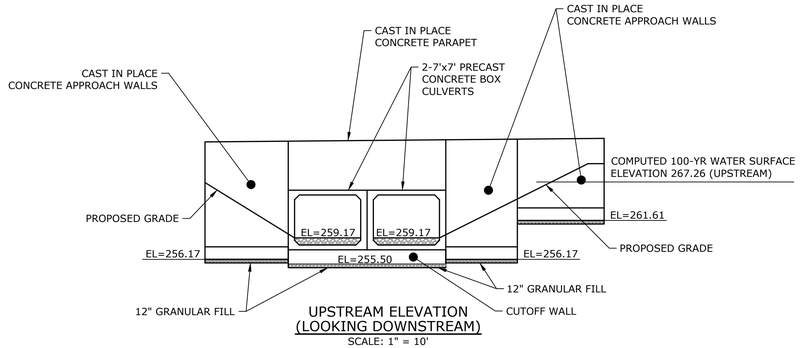
Method of Measurement: This work will be measured for payment for the actual number of Square feet of Belgium Blocks Apron completed and accepted.

Basis of Payment: This work will be paid for at the contract price per square foot for "Reset Belgium Block Apron", complete and accepted, which price shall include all work, equipment, materials, additional approved blocks, mortar, crushed stones, tools and labor incidental thereto.

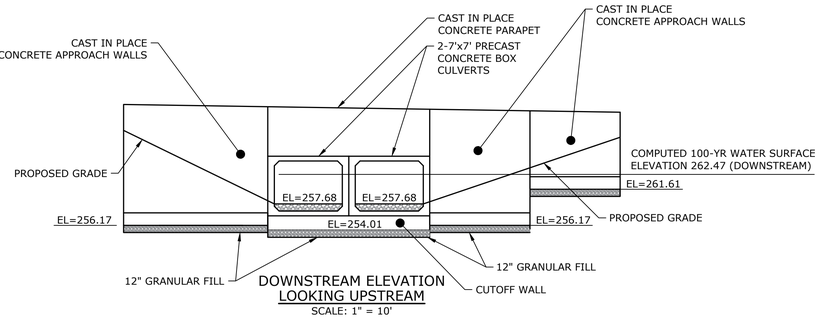
Pay Item	Pay Unit
Reset Belgium Block Apron	S.F.



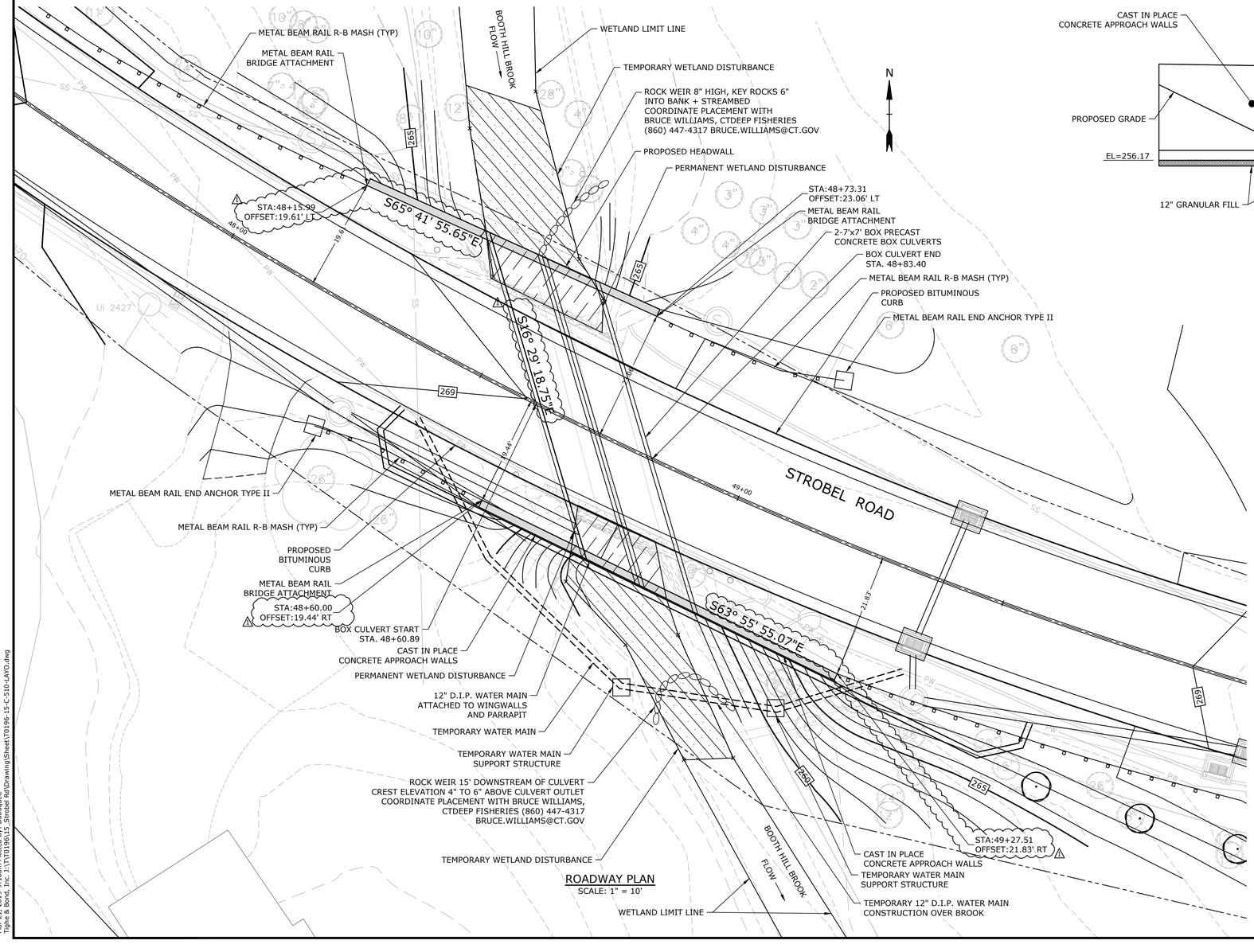
TYPICAL SECTION
SCALE: 1" = 5'



UPSTREAM ELEVATION
(LOOKING DOWNSTREAM)
SCALE: 1" = 10'



DOWNSTREAM ELEVATION
LOOKING UPSTREAM
SCALE: 1" = 10'



ROADWAY PLAN
SCALE: 1" = 10'

- TEMPORARY WETLAND DISTURBANCE AREA = 743 sf

- PERMANENT WETLAND DISTURBANCE AREA = 298 sf

SCALE IN FEET
0 10' 20'
GRAPHIC SCALE

Tighe&Bond
www.tighebond.com
1000 Bridgeport Avenue
Suite 320
Shelton, CT 06484
(203) 712-1100

Strobel Road

Culvert Rehabilitation Project

Trumbull, Connecticut

March, 2016

VERIFY SCALE
BAR IS 1 INCH ON ORIGINAL DRAWING
0 1 INCH
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

MARK	DATE	DESCRIPTION
1	3/21/19	ADDENDUM #1

PROJECT NO:	T0196
FILE:	T0196-15-C-510-LAYO.dwg
DRAWN BY:	MDS
CHECKED:	CRD
APPROVED:	AJM

CULVERT LAYOUT AND ELEVATION PLAN

SCALE: AS NOTED

C5.2

03/21/2019