

BID # RVC24-03

ADDENDUM NUMBER 01 REQUEST FOR BIDS FOR:

Woodbury Street Retaining Wall Repair
at River Valley Community College, 438 Washington St, Keene, NH, 03431
A component of the Community College System of New Hampshire
26 College Drive, Concord, NH 03301

March 28, 2024

TO: ALL CONTRACT BIDDERS OF RECORD

This Addendum forms a part of the Contract Documents and modifies the Request for Bids dated March 15, 2024 with amendments and additions noted below. This Addendum consists of a total of Three (3) pages, Plus a complete set of Revised Plans and a Revised Bid Proposal.

CLARIFICATIONS AND/OR REVISIONS TO THE REQUEST FOR PROPOSAL:

REVISION #1: Section 00110-1 Invitation to Bid, correct bid date, shall read April 9, 2024.

REVISION #2: Section 01100 SUMMARY

Remove 1.2.A.1 and 1.2.A.2 replace with:

 Description: This project generally involves the removal of existing sidewalks, pavements, and curbing; construction of guardrail, terminal end units, curbing and sidewalk; and the selective demolition and repair of an existing retaining wall adjacent to or within the Woodbury Street public right-of-way, as more accurately detailed on the project drawings.

Remove 1.2.B and replace with:

2. The Project will include but not be limited to the Disciplines of: Earthwork and Utility contractors, Portland cement concrete tradesman, and masons.

Correction and Clarification: The College has access to this site for this project however no longer owns or occupies the property. The Owners Representative will coordinate between the new owners and contractor access to the site.

REVISION #3: Section 00708-9 Part 4 ACCESS TO THE WORK. 4.1

If it's not clear with in the authority to observe and/or inspect by saying "government officials" the City also has the authority to observe and/or inspect as well.

REVISION #4: Section 00708-12 PART 10 PAYMENTS TO CONTRACTOR. 10.4 Retainage: Omit par B "Irrevocable Letter of Credit" is not an option.

REVISION #5: Section 00204-5.

10.2 and 10.3 and 10.4: The City shall also be listed as an Additional Insured by the Contractor



REVISION #6: Section 00708 PART 10, 10.8 RELEASE OF CLAIMS

10.8: The Contractor shall also release the City of all Claims.

REVISED BID PROPOSAL (Attached):

Substitute Section 00300 Bid Proposal Form – CCSNH in its entirety. Eight (8) pages

LIST OF PLAN REVISIONS (Complete Set of Plans Attached, Thirteen (13) pages)

- 1. Plans Entitled: 'Woodbury Street; Retaining Wall Repair; (RVC24-03)'; Dated: 03/15/2024; Last Revised: 03/19/2024
 - a. Sheet No C-1 'Site Plan'
 - i. Terminal End Units (TL-2; 25') were removed and replaced with guard rail end sections;
 - ii. Limits of Portland cement concrete sidewalk, sawcut bituminous asphalt pavement, granite curbing, and other features were adjusted due to the removal of the terminal end units;
 - iii. Callout stating 'Patch asphalt sidewalk as required to provide smooth transition between new concrete sidewalk and existing asphalt sidewalk', at the westerly extent of the project
 - iv. The asphalt sawcut distance was revised to 1'-0" from the granite curb, on the typical cross section;
 - v. A callout stating 'Apply bituminous tackifier to asphalt match', was added on the typical cross section.
 - b. Sheet No C-2 the limits for the removal of concrete sidewalk, removal of asphalt sidewalk, bituminous asphalt curb, and remove and salvage existing vertical curb were adjusted due to the removal of the terminal end units.
 - c. Sheet No C-4
 - i. 'Terminal Unit Delineation Detail' was modified to place the delineators with posts (Item 621.31 & 621.32) were placed behind the terminal head, per the City of Keene requirements;
 - ii. Guardrail end section detail was added to the plan.
 - d. Sheet No C-5 'TL-2 Parallel EAGRT Platform Detail' Sheet was removed and
 - e. Sheet No C-6 'Details' was renumbered to Sheet C-5
 - i. The pavement patch detail was removed, as it was not pertinent to this type of project.
 - ii. Chain Link Fence detail revised post height to 5'-2" and removed the requirement for privacy fabric/slats.
- 2. Request for Proposals; Section 0030 Bid Proposal Form CCSNH; 'Bid List'
 - a. Item No 202.6 'Curb Removal for Salvage'; Estimated quantity is 99 LF;
 - b. Item No 403.12 'Hot Bituminous Pavement Hand Method'; Estimated quantity is 19 T:
 - c. Item No 606.9999 'Beam Guardrail End Unit' was added; Estimated quantity of 2 U;



- d. Item No 607.340 'Chain Link Fence w/ Vinyl Coated Steel Fabric, 4' High'; Estimated quantity is 303 LF;
- e. Item No 608.36999 '6" Concrete Sidewalk [4,000 psi w/ Fiber Mesh]; Estimated quantity is 261 SY;
- f. Item No 609.01 'Straight Granite Curb'; Estimated quantity is 320 LF;
- g. Item No 628.2 'Sawed Bituminous Pavement'; Estimated quantity is 328 LF.

Acknowledge receipt of this Addendum with the Proposal Form. Failure to do so may disqualify the Bidder.

NOTE: IN THE EVENT THAT YOUR BID HAS BEEN SENT TO THIS OFFICE PRIOR TO RECEIVING THIS ADDENDUM, RETURN THE ADDENDUM WITHIN THE SPECIFIED TIME WITH ANY CHANGES YOU MAY WISH TO MAKE AND MARK ON THE REMITTANCE ENVELOPE BID INVITATION NUMBER AND OPENING DATE. RETURNED ADDENDA WILL SUPERSEDE PREVIOUSLY SUBMITTED BID.

Bidder	 	
By	Da	te
(This Document Must Be Signed)		
Name		
(Please Print or Type Name)		

Matthew Moore, P.E. Director of Capitol Planning & Development Community College System of New Hampshire

26 College Drive, Concord, N.H. 0330

SECTION 00300 - BID PROPOSAL FORM - CCSNH

PROPOSAL – STIPULATED BASE LUMP SUM GRAND TOTAL BID – GENERAL CONSTRUCTION

SEALED PROPOSAL TO BE: Received at this address no later than 2:00 PM, Tuesday, April 9, 2024.

Matthew Moore, PE

memoore@ccsnh.edu

Director of Capital Planning & Development

Community College System of New Hampshire

26 College Drive

Concord, New Hampshire 03301

SUBJECT: Project #: RVC 24-03

Project Name: Woodbury Street Retaining Wall Repair

1.	<u>CERTIFICATION</u> : The undersigned Prime Contractor
	Name of Firm:
	Address of Firm:
	Phone Number:
	Email:
	Signature:
	Name and Title:
	(Contractor's Name Printed Here)

FOR

WOODBURY STREET RETAINING WALL REPAIR IN KEENE, NEW HAMPSHIRE

CCSNH PROECT NO. RVC24-03

To the Community College System of New Hampshire (CCSNH), hereinafter called the "OWNER", requests bids for the furnishing of all labor, equipment, and materials required for the Woodbury Street Retaining Wall Repair project in accordance with the Plans and Specifications prepared by *The HL Turner Group, Inc.* of Concord, New Hampshire.

The undersigned, as bidder, declares that the only person or parties interested in this Proposal as principals are those named herein; that this Proposal is made without collusion with any other firm; that the undersigned has carefully examined the location of the proposed work, the

proposed Form of Contract and the Plans and Specifications therein referred to; and the undersigned proposes and agrees if this Proposal is accepted, he will contract with the awarding authority to provide all necessary labor, machinery, tools, apparatus, and other means of construction and to do all the work and furnish all the materials specified in the Contract in the manner and time therein described and according to the requirements of the ENGINEER therein set forth; and the undersigned will take in full payment, therefore, the following unit and total prices, to writ:

SCHEDULE OF PRICES: NOTE: THIS PROPOSAL SHALL BE PREPARED BY THE BIDDER, WITH THE UNIT PRICES SPECIFIED IN BOTH WORDS AND FIGURES, AND THE EXTENSIONS MADE BY THE BIDDER.

ITEM NUMBERS SHOWN ARE GENERALLY IN COMPLIANCE WITH THE NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION (NHDOT) MASTER ITEM LIST.

QUANTITIES SHOWN ARE FOR THE CONVENEINCE OF THE CONTRACTOR AND SHALL BE VERIFIED BY THE CONTRACTOR AND ARE NOT GURARANTEED QUANITY VALUES.

THIS IS NOT A UNIT BID CONTRACT, AND THE CONTRACT PAYMENT AND TERMS AND CONDITIONS SHALL BE GOVERNED BY THE CONTRACT GENERAL PROVISIONS.

UNIT BIDS ARE SOLELY FOR THE PURPOSE OF COMPARING BIDS AND MAKING PARTIALLY PAYMENTS TO CONTRACTORS.

UNIT PRICES AND TOTAL AMOUNT MUST BE EXPRESSED IN BOTH WRITTEN AND FIGURES.

IN THE EVENT OF DISCREPANCY, THE AMOUNT IN WORDS SHALL GOVERN.

1. AWARD OF CONTRACT

Bidders must show three recent years' experience with installations of a similar complexity and cost and prior experience with installations of the materials within 100 miles of the project site.

The successful bidder will be required to comply with State of New Hampshire RSA#21-1:81-a. The successful bidder will be required to furnish a 100% payment and 100% performance bond prior to execution of contract.

2. BASE BID (Stipulated sum)

The award will be based on the proposal that best meets the needs of the college. Factors included will be the cost, completeness of the proposal, quality of the technology provided, and experience of the contractor and installation team. The college reserves the right to waive any informality in or to reject any or all proposals.

		Item Descriptions and	Unit Prices		Amount	
Item No.	Quantity	Unit Prices Bid	Dollars	Cents	Dollars	Cents
201.1	0.1	CLEARING AND GRUBBING				
	A	at Dollars				
		and Cents				
		per Acre				

		Item Descriptions a	ınd	Unit Prices		Amount	
Item No. Quantit		Unit Prices Bid		Dollars	Cents	Dollars	Cents
202.6		CURB REMOVAL FOR SA	LVAGE				
	LF	at	Dollars				
		and	Cents				
		per Each					
202.8		REMOVAL OF FENCE					
	LF	at	Dollars				
		and	Cents				
		per Linear Foot					
203.1		COMMON EXCAVATION					
	CY	at	Dollars				
		and	Cents				
		per Cubic Yard					
203.6	30	EMBANKMENT-IN-PLAC	E (F)				
	CY	at	Dollars				
		and	Cents				
		per Cubic Yard					
304.3	40	CRUSHED GRAVEL (F)					
	CY	at	Dollars				
		and	Cents				
		per Cubic Yard					
403.12	19	HOT BITUMINOUS PAVE	MENT,				
	T	HAND METHOD					
		at	Dollars				
		and	Cents				
		per Ton					
403.16		PAVEMENT JOINT ADHE	SIVE				
	LF	at	Dollars				
		and	Cents				
		per Linear Foot					
604.72	1	GRATES & FRAMES, TYP	PE B				
	EA	at	Dollars				
		and	Cents				
1	L	I		1			

		Item Descriptions a	and	Unit Prices		Amount	
Item No.	Quantity			Dollars	Cents	Dollars	Cents
		per Each					
606.9999	2	BEAM GUARDRAIL END	UNIT				
	U	at	Dollars				
		and	Cents				
		per Unit					
606.28999	305	31" W-BEAM GUARDRAI	L WITH				
	LF	8" OFFSET BLOCK (STEE	L POST)				
		[W/ BACK W-BEAM RAII	W/O				
		OFFSET BLOCK]					
		at	Dollars				
		and	Cents				
		per Linear Foot					
607.340	303	CHAIN LINK FENCE W/ V					
	LF	COATED STEEL FABRIC, at					
		and					
		per Linear Foot	Comb				
608.36999	261	6" CONCRETE SIDEWAL	<u> </u>				
000.30777	SY	[4,000 PSI W/ FIBER MESI					
		at	Dollars				
		and	Cents				
		per Square Yard					
609.01	320	STRAIGHT GRANITE CU	RB				
	LF	at	Dollars				
		and	Cents				
		per Linear Foot					
618.7	400	FLAGGERS					
	HR	at	Dollars				
		and	Cents				
		per Hour					
619.1	1	MAINTENANCE OF TRAI	FFIC				
	U	[Includes Traffic Control Plant					
		at					
		and	Cents				

		Item Descriptions and	Unit Prices		Amount	
Item No.	Quantity	1	Dollars	Cents	Dollars	Cents
		per Unit				
621.31	1	SINGLE DELINEATOR WITH POST				
	EA	at Dollars				
		and Cents				
		per Each				
621.32	1	DOUBLE DELINEATOR WITH				
	EA	POST Dollars				
		at Dollars				
		and Cents				
		per Each				
628.1	5 LF	SAWED CONCRETE PAVEMENT				
		at Dollars				
		and Cents				
628.2	220	per Linear Foot				
628.2	328 LF	SAWED BITUMINOUS PAVEMENT				
		at Dollars				
		and Cents				
646.51	50	per Linear Foot TURF ESTABLISHMENT WITH				
0 10.01		MULCH, TACKIFIERS, AND LOAM				
		at Dollars				
		andCents				
		per Square Yard				
692	1	MOBILIZATION				
	U	at Dollars				
		and Cents				
		per Unit				
699.99		MISCEALLANEOUS TEMPORARY				
	U	EROSION AND SEDIMENT				
		CONTROL				
		at Dollars				
		and Cents				
		per Unit				
999.00	1	REPAIRS AND ALTERATIONS TO				
	U	EXISTING RETAINING WALL				

		Item Descriptions	and	Unit Prices		Amount	
Item No.	Quantity	Unit Prices Bio	l	Dollars	Cents	Dollars	Cents
		at	_ Dollars				
		and	_ Cents				
		per Unit					

TOTAL BASE BID LUMP SUM GRAND TOTAL BID:

(Words)			
	DOLLARS (\$)
		(Figures)	

It is agreed that the Grand Total Price calculated above represents the Contractor's Total Price for all the project work.

The undersigned as bidder understands and agrees that the quantities of work as given for each item (except lump sum items) in this proposal are only approximate and are assumed solely for the comparison of proposals. They are not guaranteed to be accurate statements of estimates of the quantities of work to be performed under this Contract, and any departure therefrom will not be accepted as valid grounds for any claim for loss of profits. In case of variation between unit prices and total prices stated by bidder, the unit prices will be considered to be his bid.

The undersigned further agrees to comply with the requirements as to conditions of employment, wage rates and hours of labor set forth in the Contract Documents.

The undersigned hereby agrees to reach final completion of all the work, shown or specified under this Contract and as shown on the Contract Drawings as follows:

1. Final completion by September 27, 2024

The undersigned agrees that, if he is selected as CONTRACTOR, he will, within five (5) days after the award, execute a Contract in the form attached hereto and furnish a performance bond and also a labor and materials or payment bond, each of a surety company qualified to do business under the laws of New Hampshire and satisfactory to the Awarding authority and each in the sum of one hundred percent (100%) of the Contract price, the premiums for which are to be paid by the CONTRACTOR and are included in the various unit prices bid.

The undersigned understands that the OWNER reserves the right to reject any or all bids and to waive any informalities in the bidding.

ADDENDUM RECEIPT

The undersigned Contractor acknowledges the receipt of the following Addenda to the Bidding and Contract Documents, but he agrees that he is bound by all Addenda, whether or not listed herein:

Addendum No	Dated:
Addendum No	Dated:
Addendum No	Dated:
DOCUMENT 001153 - RI	alification forms found in EQUEST FOR QUALIFICATIONS nitted with Bid forms.
	Contractor (Bidder) (Seal)
	(Signature and Title)
	Address
Being a (corporation incorporated) (under the laws of the) (State of) (Partnership) (Individual)	Composed of officers, partners, or owner, as follows:

STATEMENT OF NON-COLLUSION

By submission of this bid, each bidder and each person signing on behalf of any bidder certifies, and in the case of a joint bid each party thereto certifies as to its own organization, under penalty of perjury, that to the best of his knowledge and belief: (1) The prices in this bid have been arrived at independently without collusion, consultation, communications, or agreement, for the purpose of restricting competition as to any matter relating to such prices with any other bidder or with any competitor; (2) Unless required by law, the prices which have been quoted in this bid have not been knowingly disclosed by the bidder prior to opening, directly or indirectly, to any other bidder or to any other competitor, and (3) No attempt has been made or will be made by the bidder to induce any other person, partnership or corporation to submit or not to submit a bid for the purpose of restricting competition.

SIGNATURE:	
NAME:	
TITLE:	
DATE:	
PHONE:	
EMAIL:	
	Corporate Seal:

End of Document

WOODBURY STREET RETAINING WALL REPAIR

(RVC24-03)

438 WASHINGTON STREET KEENE, NEW HAMPSHIRE



LOCATION MAP

CITY OF KEENE COUNTY OF CHESHIRE STATE OF NEW HAMPSHIRE

	INDEX OF SHEETS				
SHEET NO	SHEET TITLE				
C0.1	COVER SHEET				
C0.2	LEGEND				
C0.3	GENERAL NOTES				
C0.4	STRUCTURAL TECHNICAL SPECIFICATIONS				
C-1	SITE PLAN				
C-2	SITE PREPERATION & DEMOLITION PLAN				
C-3	BEAM GUARDRAIL DETAIL				
C-4	TERMINAL UNIT DELINEATION DETAIL				
C-5	DETAILS				
S1.0	FOUNDATION AND SLAB DETAILS				
S2.0	EXISTING CONDITIONS PHOTOS				
S3.0	RETAINING WALL ELEVATION				
SV-1	EXISTING CONDITIONS PLAT				

OWNER:

(WOODBURY/WASHINGTON STREET RIGHT-OF-WAYS) CITY OF KEENE C/O DON LUSSIER , PE, CITY ENGINEER

3 WASHINGTON STREET
KEENE, NEW HAMPSHIRE 03431

(603) 352-6550 ALUSSIER@KEENE

OWNER:

(MAP 531 - LOT 54/438 WASHINGTON STREET)
COMMUNITY COLLEGE SYSTEM OF NEW HAMPSHIRE (CCSNH)
C/O MATTHEW MOORE, DIRECTOR OF PLANNING & DEVELOPMENT
26 COLLEGE DRIVE

CONCORD, NEW HAMPSHIRE 03301-7425 (603) 230-3565
MEMOORE@CCSNH.EDU

GU.

TURNER GROUP

The H.L. Turner Group Inc

27 Locke Rd. Concord, New Hampshire 03301 t:603.228.1122 hlturner.com

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PROJECT TITLE / ADDRESS:

Community College

System of New Hampshire

Woodbury Street
Retaining Wall Repair
(RVC24-03)
438 Washington Street

FOR BIDDING 03/15/2024

Keene, NH 03431

PR	OJ. NO.:	5329	STAMP
SC	ALE:	AS NOTED	
DE	SN. BY:	DVB/PAW	
DR	AWN BY:	MR	
СН	KD BY:	DVB	
ISS	UE DATE:	03-15-2024	

1 03/26/2024 ADDENDUM No. 1

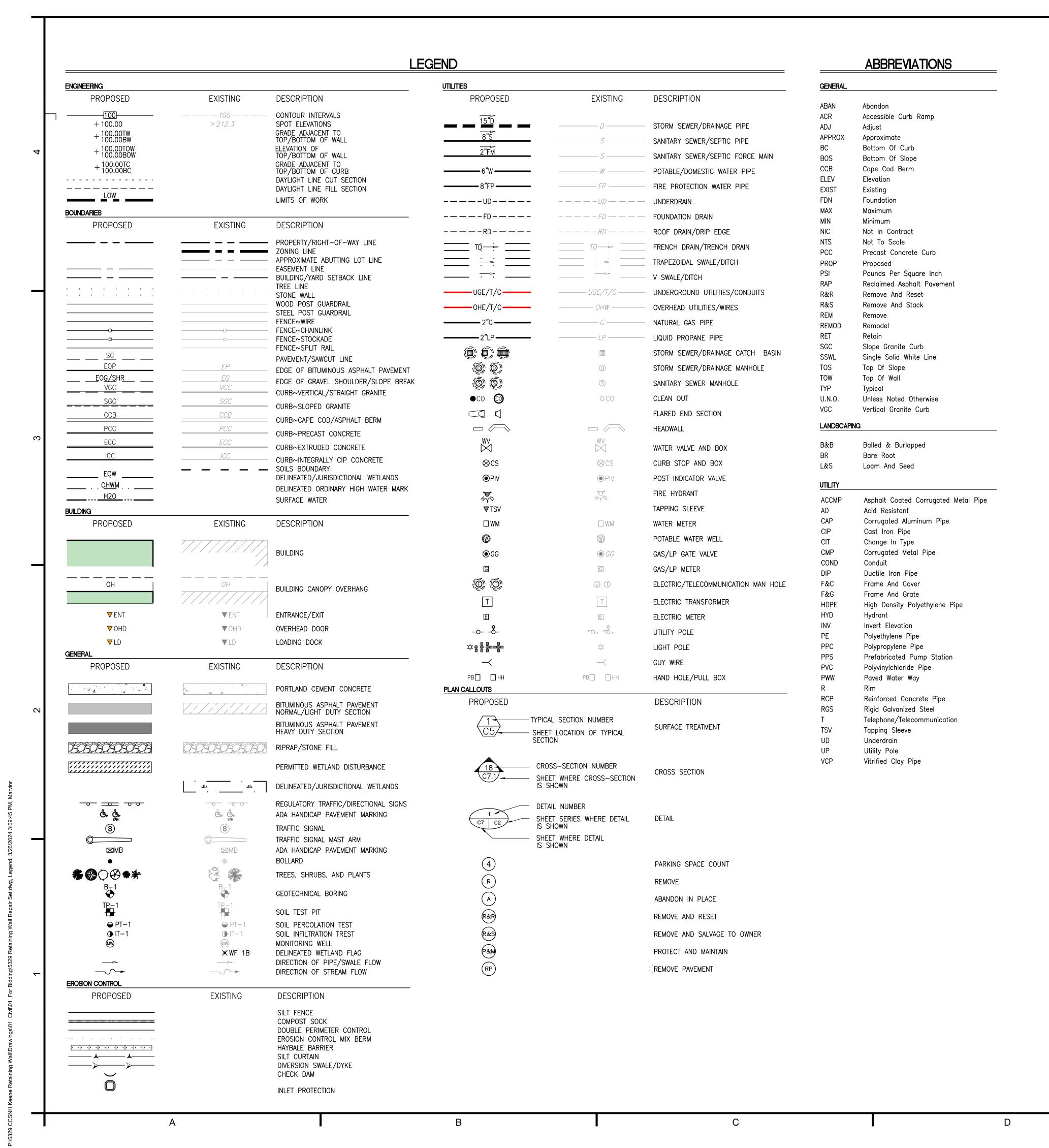
SHEET TITLE:

COVER SHEET

CO.1

P:\5329 CCSNH Keene Retaining Wall\Drawings\01_Civil\01_For Bidding\5329 Retaining Wall Repair Set.dwg, Cover, 3/26/7

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TURNER GROUP

The H.L. Turner Group Inc.

27 Locke Rd. Concord, New Hampshire 03301 t:603.228.1122 hlturner.com

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PROJECT TITLE / ADDRESS:

Community College

System of New Hampshire

Woodbury Street
Retaining Wall Repair
(RVC24-03)
438 Washington Street

FOR BIDDING

03/15/2024

REVISIONS

Keene, NH 03431

PROJ. NO.: 5329

SCALE: AS NOTED

DESN. BY: DVB/PAW

DRAWN BY: MR

CHKD BY: DVB

ISSUE DATE: 03-15-2024

1 03/26/2024 ADDENDUM No. 1

SHEET TITLE:

LEGEND

C_{0.2}

PURPOSE OF PLAN:

- TO SHOW IMPROVEMENTS TO THE SOUTHERLY SIDE OF WOODBURY STREET, WHICH GENERALLY INVOLVES THE FOLLOWING, AS MORE ACCURATELY DESCRIBED ON THE PROJECT DRAWINGS:
- REPAIR A RETAINING WALL:

EXISTING AND PROPOSED FACILITIES.

APPROPRIATE PERMITS.

b. REPLACE THE SIDEWALK ADJACENT TO THE RETAINING WALL; PROVIDE GUARD RAIL ADJACENT TO THE REPLACED SIDEWALK; d. ANCILLARY & SUBSIDIARY IMPROVEMENTS TO COMPLETE THE WORK.

THE CITY OF KEENE.

- ALL WORK SHALL CONFORM TO THE DESIGN STANDARDS AND SPECIFICATIONS AS SHOWN HEREON, THE CITY OF KEENE CONSTRUCTION STANDARDS, THE NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION (NHDOT) STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE
- PRIOR TO THE START OF WORK CONTRACTOR SHALL PREPARE A TRAFFIC CONTROL PLAN, WHICH SHALL BE REVIEWED AND APPROVED BY
- CONTRACTOR SHALL NOTIFY 'DIG-SAFE' (1-888-344-7233) A MINIMUM OF 72 HOURS PRIOR TO ANY WORK.
 - CONTRACTOR SHALL BE RESPONSIBLE FOR SITE SECURITY.
 - CONTRACTOR SHALL PERFORM ALL WORK IN ACCORDANCE WITH FEDERAL, STATE, AND LOCAL LABOR AND SAFETY REQUIREMENTS (IE OSHA, NIOSH, MHSA, NH DOL, ETC.). THE CONTRACTOR IS RESPONSIBLE FOR THE MEANS AND METHODS OF CONSTRUCTION AND FOR CONDITIONS AT THE SITE, THESE PLANS, PREPARED BY THE H.L. TURNER GROUP INC., DO NOT EXTEND TO OR INCLUDE SYSTEMS PERTAINING TO THE SAFETY OF THE CONSTRUCTION CONTRACTOR OR THEIR EMPLOYEES, AGENTS OR REPRESENTATIVES IN THE PERFORMANCE OF THE WORK. THE SEAL OF THE ARCHITECT OR ENGINEER HEREON DOES NOT EXTEND TO ANY SUCH SAFETY SYSTEMS THAT MAY NOW OR HEREAFTER BE INCORPORATED INTO THESE PLANS. THE CONTRACTOR SHALL PREPARE OR OBTAIN THE APPROPRIATE SAFETY SYSTEMS AS NECESSARY
 - AREAS DISTURBED DURING CONSTRUCTION AND NOT RESTORED WITH IMPERVIOUS SURFACES (IE BUILDINGS, PAVEMENTS, STONE, ETC.) SHALL RECEIVE A MINIMUM OF FOUR INCHES (4") OF LOAM AND SEED.
- UPON AWARD OF THE CONTRACT THE CONTRACTOR SHALL MAKE ALL NECESSARY CONSTRUCTION NOTIFICATIONS AND APPLY FOR AND OBTAIN NECESSARY PERMITS, PAY FEES, AND POST BONDS ASSOCIATED WITH THE WORK INDICATED ON THE DRAWINGS, SPECIFICATIONS,
- PRIOR TO THE START OF CONSTRUCTION, CONTRACTOR SHALL VERIFY EXISTING PAVEMENT ELEVATION AT INTERFACES WITH PROPOSED PAVEMENTS AND EXISTING GROUND ELEVATIONS ADJACENT TO PROPOSED DRAINAGE OUTLETS TO ASSURE PROPER TRANSITIONS BETWEEN
- THE CONTRACTOR SHALL NOT CLOSE OR OBSTRUCT ROADWAYS, SIDEWALKS, FIRE HYDRANTS, AND/OR RIGHT-OF-WAYS WITHOUT
-). TRAFFIC SIGNAGE AND PAVEMENT MARKINGS SHALL CONFORM TO THE LATEST EDITION OF THE MANUAL OF UNIFORM TRAFFIC CONTROL
- DEVICES (MUTCD) INCLUDING ALL REVISIONS AND ADDENDA. AREAS DISTURBED BY THE CONTRACTOR OUTSIDE OF THE LIMITS OF WORK SHALL BE RESTORED BY THE CONTRACTOR TO THEIR ORIGINAL
- CONDITION AT NO ADDITIONAL EXPENSE TO THE OWNER. 'ORIGINAL CONDITION' SHALL BE DETERMINED BY THE CITY OF MANCHESTER. . IN THE EVENT THAT SUSPECTED CONTAMINATED SOIL, GROUNDWATER, OR OTHER MEDIA ARE ENCOUNTERED DURING CONSTRUCTION ACTIVITIES BASED ON VISUAL, OLFACTORY, OR OTHER EVIDENCE, THE CONTRACTOR SHALL STOP ALL OPERATIONS IN THE VICINITY OF THE
- SUSPECTED CONTAMINATION AND CONTACT THE OWNER IMMEDIATELY. 13. CONTRACTOR SHALL PREVENT DUST, SEDIMENT, AND DEBRIS FROM EXITING THE SITE AND SHALL BE RESPONSIBLE FOR CLEANUP, REPAIRS,
- AND CORRECTIVE ACTION. 14. DAMAGE RESULTING FROM CONSTRUCTION LOADS SHALL BE REPAIRED BY THE CONTRACTOR AT NO ADDITIONAL EXPENSE TO THE OWNER.
- 15. CONTRACTOR SHALL CONTROL STORMWATER RUNOFF DURING CONSTRUCTION TO PREVENT ADVERSE EFFECTS TO OFF SITE AREAS, AND SHALL BE RESPONSIBLE FOR REPAIRING ANY DAMAGE AT NO ADDITIONAL EXPENSE TO THE OWNER.
- THE PROJECT DISTURBS LESS THAN ONE ACRE (1 AC) OF LAND AND DOES NOT MEET THE MINIMUM THRESHOLD NECESSARY TO OBTAIN A CONSTRUCTION GENERAL PERMIT (CGP) FROM THE ENVIRONMENTAL PROTECTION AGENCY (EPA) AS PART OF THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PHASE II STORMWATER ACT.
- 17. IN THE EVENT OF CONFLICTING STANDARDS, SPECIFICATIONS, REGULATIONS, ETC. THE HIGHER REQUIREMENT SHALL PREVAIL.
- 18. CONTRACTOR SHALL OBTAIN WRITTEN AUTHORIZATION FROM THE OWNER PRIOR TO PERFORMING ANY ADDITIONAL SERVICES OR WORK, NOT SHOWN ON THE PROJECT DRAWINGS OR CONTAINED IN THE PROJECT DOCUMENTS. FAILURE TO OBTAIN AUTHORIZATION PRIOR TO PERFORMING WORK, MAY INDEMNIFY THE OWNER FROM ADDITIONAL EXPENSES AND COSTS BORNE BY CONTRACTOR.
- 19. ACCESSIBLE CURB RAMPS (ACR), ACCESSIBLE RAMPS, HANDICAP PARKING, AND OTHER ACCESSIBLE WAYS SHALL BE CONSTRUCTED IN COMPLIANCE WITH THE AMERICAN'S WITH DISABILITIES ACT (ADA).

<u>LAYOUT AND MATERIALS:</u>

- DIMENSIONS ARE FROM FACE OF CURB, FACE OF BUILDING, FACE OF WALL, CENTER OF PIPE, AND CENTER OF PAVEMENT MARKING, UNLESS OTHERWISE INDICATED, AND AS FOLLOWS:
 - SIDEWALK WIDTHS ARE MEASURED FROM THE BACK FACE OF CURB TO THE OUTSIDE EDGE OF SIDEWALK; b. PIPE SEPARATION IS MEASURED FROM THE OUTSIDE DIAMETERS OF PIPE(S).
- 2. CURBING SHALL BE STRAIGHT VERTICAL GRANITE CURB (VGC) UNLESS OTHERWISE INDICATED.
- 3. EXISTING PROPERTY MONUMENTATION DISTURBED DURING CONSTRUCTION SHALL BE SET OR RESET BY A LICENSED LAND SURVEYOR (LLS).
- IN ORDER TO PROVIDE VISUAL CLARITY ON THE PLANS NOT ALL DEPICTED ITEMS ARE SHOWN ON EVERY PLAN SHEET. THE CONTRACTOR SHALL USE ENTIRE PLAN SETS AND NOT RELY ON INDIVIDUAL SHEETS DURING CONSTRUCTION.
- STATED DIMENSIONS TAKE PRECEDENCE OVER SCALED DIMENSIONS.
- SYMBOLS AND LEGENDS OF PROJECT FEATURES ARE GRAPHIC REPRESENTATIONS AND ARE NOT NECESSARILY SCALED TO THEIR ACTUAL DIMENSIONS OR LOCATIONS ON THE DRAWINGS. THE CONTRACTOR SHALL REFER TO THE DETAIL SHEET DIMENSIONS, MANUFACTURERS LITERATURE, SHOP DRAWINGS, AND FIELD MEASUREMENTS OF SUPPLIED PRODUCTS FOR LAYOUT OF THE PROJECT FEATURES.
- CONTRACTOR SHALL NOT RELY SOLELY ON ELECTRONIC VERSIONS OF PLANS, SPECIFICATIONS, AND DATA FILES THAT ARE OBTAINED FROM DESIGNERS. BUT SHALL VERIFY LOCATION OF PROJECT FEATURES IN ACCORDANCE WITH PAPER COPIES OF THE DRAWINGS AND SPECIFICATIONS THAT ARE SUPPLIED AS PART OF THE CONTRACT DOCUMENTS.

- LOCATIONS. SIZES AND TYPES OF EXISTING UTILITIES ARE SHOWN AS AN APPROXIMATE REPRESENTATION ONLY. THE OWNER OR ITS REPRESENTATIVE'S) HAVE NOT NECESSARILY INDEPENDENTLY VERIFIED THIS INFORMATION AS SHOWN ON THE DRAWINGS, AND AS FOLLOWS:
 - a. UTILITY INFORMATION SHOWN DOES NOT GUARANTEE THE ACTUAL EXISTENCE, SERVICEABILITY, OR OTHER DATA CONCERNING THE SERVICEABILITY OF UTILITIES;
 - b. Does not guarantee the possibility that additional utilities may be present. Which may not be shown on the
 - PRIOR TO ORDERING MATERIALS CONTRACTOR SHALL:

i. SHALL VERIFY AND DETERMINE EXACT LOCATIONS, SIZES, ELEVATIONS, AND MATERIAL TYPES OF EXISTING UTILITIES AT POINTS

- ii. SHALL CONFIRM THAT THERE ARE NOT INTERFERENCES WITH EXISTING UTILITIES AND PROPOSED ROUTES.
- WHERE EXISTING UTILITIES ARE FOUND TO CONFLICT WITH PROPOSED WORK, OR EXISTING CONDITIONS DIFFER FROM THOSE SHOWN ON
- THE DRAWINGS, SUCH THAT WORK CANNOT BE COMPLETED AS INTENDED ON THE DRAWINGS, THE CONTRACTOR SHALL:
 - a. CONTACT THE OWNER AND/OR DESIGNATED REPRESENTATIVE(S), WITHOUT DELAY, AND FURNISH THE FOLLOWING INFORMATION AS FOLLOWS:
 - IN WRITING: ACCURATE LOCATION, ELEVATION, SIZE, TYPE, AND MATERIAL OF THE UTILITY;
 - b. FAILURE OF THE CONTRACTOR TO NOTIFY THE OWNER, MAY INDEMNIFY THE OWNER OF ANY ADDITIONAL COSTS, CHANGE ORDERS. OR FEES BORNE BY THE CONTRACTOR AND AS FOLLOWS:
- IN A TIMELY FASHION OR PER THE CONTRACT DOCUMENTS FOR RESOLUTION OF A CONFLICT; PERFORMING ADDITIONAL WORK OR DIFFERENTIATION FROM THE CONTRACT DOCUMENTS, WITHOUT ATTAINING AUTHORIZATION
- LOCATION, SIZE, DEPTH AND CONSTRUCTION SPECIFICATIONS OF PROPOSED PRIVATE UTILITIES AND SERVICES SHALL BE INSTALLED ACCORDING TO THE REQUIREMENTS OF THE RESPECTIVE UTILITY COMPANY (GAS, TELEPHONE, ELECTRIC, CABLE, FIRE ALARM, SECURITY
- GRATES, COVERS, VALVE COVERS, GAS GATES, PULL BOX COVERS ELEVATIONS ARE APPROXIMATE AND FINAL ELEVATIONS SHALL BE SET AND/OR RESET AS FOLLOWS:
 - b. SURFACES WITHIN ACCESSIBLE ROUTES: FLUSH
 - c. LANDSCAPE, TURF, OR OTHER EARTH SURFACES: ONE INCH (1") ABOVE FINAL GRADE, WITH EARTH TAPERED UP TO THE FINAL COVER/RIM ELEVATION.
- CONTRACTOR SHALL BE RESPONSIBLE FOR ARRANGING WITH AND PAYING FEES ASSOCIATED FOR RELOCATING AND/OR ALTERATION TO UTILITY POLES AND ABOVE AND/OR UNDERGROUND UTILITIES (IE. GAS, TELEPHONE, ELECTRIC, CABLE, FIRE/SECURITY ALARM, ETC.), IRRESPECTIVE OF WHETHER THE WORK IS PERFORMED BY THE PRIVATE UTILITY.

DEMOLITION:

- 1. CONTRACTOR SHALL REMOVE AND DISPOSE OF EXISTING MANMADE SURFACE FEATURES WITHIN THE LIMITS OF WORK INCLUDING NOT LIMITED TO, BUILDINGS, STRUCTURES, PAVEMENTS, SLABS, CURBING, FENCING, SIGNS, UTILITIES AND APPURTENANCES, UNLESS OTHERWISE INDICATED AND AS FOLLOWS:
 - a. DO NOT REMOVE ACTIVE UTILITIES;

SITE, WHERE IT MEETS THE REQUIRED MATERIAL SPECIFICATIONS.

- b. SALVAGEABLE AND REUSABLE MATERIALS DETERMINED BY THE OWNER WHICH MAY INCLUDE BUT NOT BE LIMITED TO, CURBING, SIGNS, HYDRANTS, VALVES, STRUCTURES, ETC. SALVAGEABLE MATERIALS SHALL BE DETERMINED
- BY THE OWNER PRIOR TO THE START OF WORK. 2. CONTRACTOR AT HIS DISCRETION MAY OPT TO GRIND THE EXISTING PAVEMENT INTO THE EXISTING SUB BASE AND REUSE MATERIAL ON
- 3. CONTRACTOR SHALL BECOME THE OWNER OF AND DISPOSE OF ALL MATERIALS, DEBRIS, AND ITEMS IN ACCORDANCE WITH APPLICABLE LAW(S). BURNING OF WASTE MATERIALS WHETHER LEGALLY PERMITTED OR NOT SHALL BE PROHIBITED.

CONSTRUCTION SEQUENCE:

- 1. SURVEY AND MARK LIMITS OF WORK;
- 2. PRIOR TO THE START OF WORK:,
 - a. INSTALL/CONSTRUCT EROSION CONTROL MEASURES (IE SILTATION FENCE, CHECK DAMS, INLET/OUTLET PROTECTION, ETC.). EROSION CONTROL MEASURES SHALL BE MAINTAINED THROUGHOUT THE DURATION OR WORK;
 - b. INSTALL TRAFFIC/PEDESTRIAN CONTROL SIGNS, BARRIERS, AND APPURTENANCES AS NECESSARY CONSISTENT WITH THE MUTCD, NHDOT REQUIREMENTS, AND THE APPROVED TRAFFIC CONTROL PLAN(S).
 - c. CONTACT DIG-SAFE (1-888-DIGSAFE), A MINIMUM OF 72 HOURS, PRIOR TO ANY EARTH MOVING ACTIVITIES OR EXCAVATION
- REPAIR RETAINING WALL;
- 4. INSTALL TEMPORARY UTILITY SERVICES AS REQUIRED;

OPERATIONS:

- INSTALL PROPOSED UTILITIES AS REQUIRED;
- 6. REMOVE FEATURES AS NECESSARY AND WHEN APPROPRIATE;
- 7. PREPARE PAVEMENT AND SIDEWALK BASES;
- 8. ADJUST GRATES, COVERS, AND RIMS AS NECESSARY FOR PAVING;
- 9. INSTALL CURBING, ROADWAY AND SIDEWALK PAVEMENTS;
- 10. PERFORM ALL REMAINING WORK;
- 11. FINISH GRADE AND RESTORE AREAS OUTSIDE OF THE LIMITS OF WORK DISTURBED BY WORK, INCLUDING NOT LIMITED TOO, LAWNS, LANDSCAPE AREAS, WALKS, AND OTHER PRIVATE/PUBLIC FEATURES, DAMAGED BY WORK;
- 12. REMOVE TEMPORARY EROSION CONTROL MEASURERS, AFTER AREAS THEY ARE SERVICING HAVE BECOME STABILIZED;
- 13. CLEAN ALL STORM SEWER BASINS, STRUCTURES, PIPES, AND APPURTENANCES OF ANY SILT AND DEBRIS. OUTLET POINTS SHALL BE PROTECTED TO PREVENT AND ADVERSE DOWNSTREAM IMPACTS.
- 14. CONDUCT FINAL CLEANUP, ANY ANCILLARY WORK, AND DEMOBILIZATION EFFORTS AS REQUIRED.

EROSION AND SEDIMENTATION CONTROL NOTES:

- 1. THE PROJECT DISTURBS LESS THAN ONE ACRE (1 AC) OF LAND AND DOES NOT MEET THE MINIMUM THRESHOLD NECESSARY TO OBTAIN A CONSTRUCTION GENERAL PERMIT (CGP) FROM THE ENVIRONMENTAL PROTECTION AGENCY (EPA) AS PART OF THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PHASE II STORMWATER ACT.
- 2. PRIOR TO STARTING ANY OTHER WORK ON THE SITE, THE CONTRACTOR SHALL NOTIFY APPROPRIATE AGENCIES AND SHALL INSTALL EROSION CONTROL MEASURES AS SHOWN ON THE PLANS.
- 3. THE CONTRACTOR SHALL INSPECT AND MAINTAIN EROSION CONTROLS AND REMOVE SEDIMENT THEREFROM ON A WEEKLY BASIS AND WITHIN TWENTY-FOUR HOURS (24 HR) AFTER EACH STORM EVENT (0.25" OR GREATER) AND DISPOSE OF SEDIMENTS IN AN UPLAND AREA SUCH THAT THEY DO NOT ENCUMBER OTHER DRAINAGE WAYS AND PROTECTED RESOURCE AREAS.
- 4. THE CONTRACTOR SHALL BE RESPONSIBLE TO CONTROL CONSTRUCTION SUCH THAT SEDIMENTATION SHALL NOT AFFECT REGULATORY PROTECTED AREAS WHETHER SUCH SEDIMENTATION IS CAUSED BY WATER, WIND, OR DIRECT DEPOSIT.
- 5. THE CONTRACTOR SHALL PERFORM CONSTRUCTION SEQUENCING SUCH THAT EARTH MATERIALS ARE EXPOSED FOR A MINIMUM OF TIME BEFORE THEY ARE COVERED, SEEDED, OR OTHERWISE STABILIZED TO PREVENT EROSION.
- 6. UPON COMPLETION OF CONSTRUCTION AND ESTABLISHMENT OF PERMANENT GROUND COVER, THE CONTRACTOR SHALL REMOVE AND
- 7. AREAS REMAINING UNSTABILIZED FOR A PERIOD OF MORE THAN THIRTY DAYS (30 DAYS) SHALL BE TEMPORARY SEEDED AND MULCHED.
- HAY MULCH SHALL BE APPLIED AT A MINIMUM RATE OF ONE—AND ONE—HALF TONS PER ACRE (1-1/2 TON/AC).
- 8. PERMANENT SEEDING SHALL OCCUR BETWEEN APRIL 1 AND JUNE 1 AND/OR BETWEEN AUGUST 15 AND OCTOBER 15. ALL SEEDING SHALL BE HAY MULCHED.
- 9. DUST SHALL BE CONTROLLED THROUGH THE USE OF WATER OR OTHER INDUSTRY APPROVED STANDARD METHODS.

DISPOSE OF EROSION CONTROL MEASURES AND CLEAN DEBRIS AND SEDIMENT FROM THE DRAINAGE SYSTEM.

SHALL INSTALL SILT FENCE AND OR SILT SOCK ALONG THE DOWNHILL SIDE OF THE STOCKPILE. 11. THE CONTRACTOR SHALL PROVIDE TEMPORARY SEDIMENTATION BASINS AND TEMPORARY DIVERSION SWALES TO CONTROL SEDIMENTATION AND STORMWATER RUNOFF DURING THE CONSTRUCTION PERIOD, THAT MEET THE REQUIREMENTS OF THE NEW HAMPSHIRE DEPARTMENT OF

10. SOILS TO BE STOCKPILED FOR A PERIOD OF MORE THAN THIRTY DAYS SHALL BE TEMPORARILY SEEDED AND MULCHED. THE CONTRACTOR

- 12. THE CONTRACTOR SHALL PROVIDE NECESSARY EROSION CONTROLS TO ENSURE THAT SURFACE WATER RUNOFF FROM UNSTABILIZED AREAS
- DOES NOT CARRY SILT, SEDIMENT, AND OTHER DEBRIS OUTSIDE THE SITE WORK AREA. 13. AN AREA SHALL BE CONSIDERED STABILIZED IF ONE OF THE FOLLOWING HAS OCCURRED:
 - a. Base course gravels have been installed in areas to be paved and compacted to a minimum of ninety percent (90%) OF THE DRY UNIT WEIGHT;
 - b. A MINIMUM OF EIGHTY FIVE PERCENT (85%) VEGETATIVE GROWTH HAS BEEN ESTABLISHED;
 - c. A MINIMUM OF 3-IN OF NON-EROSIVE MATERIAL, SUCH AS STONE OR RIPRAP HAS BEEN INSTALLED;
 - d. EROSION CONTROL BLANKETS HAVE BEEN PROPERLY INSTALLED;
- e. THE AREA HAS BEEN PAVED WITH BITUMINOUS ASPHALT PAVEMENT, PORTLAND CEMENT CONCRETE, OR SIMILAR COVERS. 14. AT NO TIME SHALL THE TOTAL DISTURBED AREA BE GREATER THAN FIVE ACRES (5 AC).
- 15. ALL DITCHES, SWALES, STORMWATER BASINS, OR OTHER DRAINAGE FEATURES SHALL BE FULLY STABILIZED PRIOR TO DIRECTING STORMWATER TO THEM ALL DRIVEWAYS, ROADWAYS,
- 16. AND/OR PARKING LOTS SHALL BE STABILIZED WITHIN SEVENTY-TWO HOURS (72 HR) OF ACHIEVING FINISHED GRADE.
- 17. ALL CUT AND FILL SLOPES SHALL BE LOAMED AND SEEDED WITHIN SEVENTY-TWO HOURS (72 HR) OF ACHIEVING FINISHED GRADE.
- 18. EROSION CONTROL BLANKETS SHALL BE INSTALLED ON ALL SLOPES THAT ARE STEEPER THAN 3-FT HORIZONTAL TO 1-FT VERTICAL
- (3H:1V). EROSION CONTROL BLANKETS SHALL BE NORTH AMERICAN GREEN SC150BN OR APPROVED EQUAL.

REINFORCED CONCRETE NOTES:

ENVIRONMENTAL SERVICES (NHDES).

- 1. ALL CONCRETE WORK SHALL BE IN COMPLIANCE WITH THE 2018 INTERNATIONAL BUILDING CODE, CHAPTER 19, "CONCRETE" ACI 301 "SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDINGS" AND 318 "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE AND COMMENTARY" EXCEPT AS MODIFIED BY THESE NOTES.
- 2. CEMENT SHALL CONFORM TO ASTM C150, TYPE II.
- 3. READY-MIX CONCRETE SHALL BE MIXED AND DELIVERED IN ACCORDANCE WITH ASTM C94.
- 4. ALL CONCRETE SHALL HAVE A MINIMUM 28 DAY COMPRESSIVE STRENGTH AS FOLLOWS:
 - FOOTINGS & WALLS 3000psi SLAB—ON—GRADE
- 5. THE CONCRETE SHALL BE PLACED WITH A MAXIMUM 4" SLUMP AND SHALL BE VIBRATED IN A WORKMAN LIKE MANNER.
- 6. THE CONCRETE FOR THE WALL SHALL BE AIR ENTRAINED CONCRETE, CONTAINING 4% TO 8% ENTRAINED AIR.
- 7. ADMIXTURES MAY BE USED WITH PRIOR APPROVAL OF THE ENGINEER. ADMIXTURES SHALL COMPLY WITH ASTM C494.
- 8. THE CONCRETE SHALL BE MIXED, PLACED AND CURED WITHOUT THE USE OF CALCIUM CHLORIDE. THE PLACEMENT OF ALL CONCRETE SHALL COMPLY WITH THE LATEST AMERICAN CONCRETE INSTITUTE (ACI) CODES, INCLUDING ACI 305R-10/ACI 305.1-14 FOR HOT WEATHER

9. THE CONCRETE SHALL HAVE ATTAINED AT LEAST FIFTY PERCENT (50%) OF ITS 28 DAY COMPRESSIVE STRENGTH PRIOR TO THE REMOVAL

10. PROJECTING CORNERS OF SLABS, BEAMS, WALLS, COLUMNS, ETC. SHALL BE FORMED WITH A 3/4" CHAMFER.

REINFORCING STEEL:

- 1. ALL REINFORCING STEEL TO BE GRADE 60 AND SHALL CONFORM TO THE STANDARDS IN ASTM A615. ALL REINFORCING SHALL BE BENT
- 2. WELDED WIRE FABRIC (WWF) SHALL BE IN ACCORDANCE WITH ASTM A185 AND SHALL BE LAPPED 12" MINIMUM.
- 3. MINIMUM LAP SPLICES OF REINFORCING BARS SHALL BE AS FOLLOWS; CONCRETE CLASS B AS DEFINED IN ACI 318.
- 4. REINFORCING STEEL SHALL BE PROVIDED WITH THE FOLLOWING AMOUNTS OF COVER FOR CAST-IN-PLACE CONCRETE:

a. 3" WHERE THE CONCRETE IS DEPOSITED AGAINST THE GROUND WITHOUT THE USE OF A FORM

- b. 2" WHERE THE CONCRETE MAY BE EXPOSED TO THE WEATHER
- c. 1-1/2" IN THE WALLS, JOISTS, AND SLABS NOT EXPOSED TO THE WEATHER
- 5. ALL REINFORCING STEEL, WELDED WIRE FABRIC, ANCHOR BOLTS, DOWELS AND INSERTS SHALL BE WELL SECURED IN POSITION WITH WIRE POSITIONERS BEFORE PLACING CONCRETE AND GROUT.

FOUNDATION AND SLAB NOTES:

1. NO LOADING OTHER THAN FINISHING EQUIPMENT AND WALKING LOADS SHALL BE PLACED ON CONCRETE SLABS UNTIL THE CONCRETE HAS REACHED 75% OF ITS 28-DAY COMPRESSIVE STRENGTH. LOADS ON DEPRESSED OR THICKENED SLABS SHALL NOT BE PLACED UNTIL A MINIMUM OF 7 DAYS AFTER THE CONCRETE WAS PLACED.

NO.	AGENT	FIRM	CONTACT INFORMATION
1	SPECIAL INSDPECTOR	TBD	TBD
2	CM/CONTRACTOR/SUB	TBD	TBD
3	TESTING LABORATORY	TBD	TBD
4	STRUCTURAL ENGINEER	HL TURNER GROUP	pwilber@ttgae.com
5	OTHER	N/A	N/A

ITEM	AGENT NO.	SCOPE	FREQUENCY	IBC REFERENCE
SHALLOW FOUNDATIONS	N/A	N/A	N/A	N/A
CONTROLLED STRUCTURAL FILL	1	Test material for conformance to specifications or geotechnical report; Perform laboratory compaction tests in accordance with specifications to determin optimum water content and maximum dry density; Provide inspection of installation and perform field density test of the In-Place fill in accordance with specification; Field Density Testing for	separate wall > 10 lf.; Each 100 if. of wall (MAX.); Each 2000 sf. Of	1705.7
DEEP FOUNDATIONS	N/A	Compaction Method with Nuclear Densometer Gauge. N/A	N/A	N/A
OTHER	N/A	N/A	N/A	N/A

WALL CONCRETE					ISSUE DATE: 03-15-2024	
ITEM	AGENT NO.	SCOPE	FREQUENCY	IBC REFERENCE	REVISIONS	
MIX DESIGN	1&4	Review and comment on submittals of mix designs and histories.	Each type of concrete; Confirm at	N/A		
MATERIAL CERTIFICATION	1 & 2	Review for conformance to specifications.	plant upon request N/A	N/A		
REINFORCEMENT INSTALLATION	1, 2, & 4	Measurement of bar sizes, locations, spacing and clearances; Visual observation of details, tying procedures, chairs, bolsters, etc.	Each Concrete Placement (Pre- Installation)	1705.4.2		
POST-TENSIONING OPERATIONS	N/A	N/A	N/A	1705.4.5	1	
BATCHING PLANT	1&2	Review plant quality control procedures, batching, and mixing methods.	Each Plant Used (Pre- Installation)	1705.4.4		
FORMWORK GEOMETRY	1&2	Inspect workmenship; Inspect form sizes.	Each seperate wall > 10 lf.; Each 100 lf. Of wall (MAX.)	N/A	1 03/26/2024 ADDENDUM No	
CONCRETE PLACEMENT	1 & 2	Observe concrete placment operations; Verify conformance to specifications including hot weather placement procedures; Perform slump, density, and air test at point of discharge for compliance with specifications.	Each type of Concrete; Each Delivery Truck; Each 30 cy. (MAX.)	N/A	GENERAL NOTES	
CONCRETE PLACEMENT - TEST CYLINDERS	1	Test Cylinders (Min. 5)	5 Each day; 5 Total for very 50 cy. (MAX.)	N/A		
CONCRETE MATERIAL TESTING	1&3	Test and evaluate in accordance with the specifications (ie. Compressive Strength).	2 Cylinders @ 7 days; 2 Cylinders @ 28 days; Fifth cylinder break if either of above are questionable.	N/A		
CURING AND PROTECTION	1&2	Observe procedures for comformance to specifications.	N/A	N/A		
CONCRETE FINISH	1&2	Visual observation of Alignment, plumbness, level, surface texture and continuity.	Each wall; Each Slab Area	N/A		
OTHER	N/A	N/A	N/A	N/A		



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PROJECT TITLE / ADDRESS: Community College System of New Hampshire

Woodbury Street Retaining Wall Repair (RVC24-03) 438 Washington Street

FOR BIDDING

03/15/2024

Keene, NH 03431

5329 STAMP PROJ. NO.: SCALE: AS NOTED DVB/PAW DESN. BY: DRAWN BY CHKD BY:

REVISIONS 1 03/26/2024 ADDENDUM No. 1

CONCRETE WORK PART 1 GENERAL 1.1 WORK INCLUDED

A. FORMWORK, COMPLETE WITH REQUIRED SHORING, BRACING AND ANCHORAGE. COORDINATE WORK WITH ALL TRADES ALLOWING SUFFICIENT ACCESS AND TIME FOR THE INSTALLATION OF EMBEDDED ITEMS.

SECTION 03301

- B. CAST-IN-PLACE CONCRETE, INCLUDING MIX DESIGN SUBMITTALS IDENTIFIED HEREIN.
- C. CONCRETE REINFORCING STEEL, COMPLETE WITH REQUIRED SUPPORTS, SPACERS AND RELATED ACCESSORIES.
- D. CAST-IN-PLACE CONCRETE FOR ALL WORK IDENTIFIED ON THE DRAWINGS FOR THE LOWER GREAT FALLS, LEFT ABUTMENT REPAIRS AND STABILIZATION PROJECT.

1.2 REFERENCE STANDARDS

- A. PERFORM ALL CAST-IN-PLACE CONCRETE WORK IN ACCORDANCE WITH ACI-301 "SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDING" ACI 347 "RECOMMENDED PRACTICE FOR MEASURING, MIXING, TRANSPORTING AND PLACING CONCRETE" COMPLYING WITH APPLICABLE PROVISIONS EXCEPT AS OTHERWISE INDICATED.
- B. KEEP COPY OF ACI 301 IN FIELD OFFICE FOR DURATION OF PROJECT.
- 1.3 TESTING AGENCY
- A. CONTRACTOR WILL EMPLOY AND PAY FOR THE SERVICES OF AN INDEPENDENT TESTING LABORATORY TO PERFORM INSPECTION, SAMPLING, AND TESTING OF CAST-IN-PLACE CONCRETE. A TOTAL OF 5 CYLINDERS PER DAY WILL BE REQUIRED FOR EVERY CONCRETE PLACEMENT AND FOR EVERY 25 CUBIC YARDS THAT OCCURS ON THE PROJECT. CONTRACTOR TO COORDINATE ALL VISITS OF TESTING COMPANY WITH THE ENGINEER PRIOR TO SCHEDULING TESTING COMPANY.
- B. EMPLOYMENT OF THE LABORATORY SHALL IN NO WAY RELIEVE CONTRACTOR'S OBLIGATIONS TO PERFORM THE WORK OF THE CONTRACT.
- C. CONTRACTOR'S TESTING LABORATORY WILL PERFORM SAMPLING AND TESTING DURING CONCRETE PLACEMENT AS FOLLOWS:
- SAMPLING ASTM C172.
- 2. SLUMP ASTM C143, ONE TEST FOR EACH LOAD AT POINT OF DISCHARGE.
- 3. AIR CONTENT ASTM C31, ONE FOR EACH SET OF COMPRESSIVE STRENGTH SPECIMENS.
- D. PROVIDE FREE ACCESS TO WORK AND COOPERATE WITH APPOINTED FIRM.
- E. TESTS OF CEMENT AND AGGREGATES MAY BE PERFORMED TO ENSURE CONFORMANCE WITH REQUIREMENTS STATED HEREIN.
- F. FIVE (5) CONCRETE TEST CYLINDERS WILL BE TAKEN FOR EVERY 30 CY OR LESS, OR FOR EACH DAY'S PLACEMENT, WHICHEVER IS LESS.
- G. ONE ADDITIONAL TEST CYLINDER WILL BE TAKEN DURING COLD WEATHER CONCRETING, AND BE CURED ON JOB SITE UNDER SAME CONDITIONS AS CONCRETE IT REPRESENTS.

- A. SUBMIT ONE (1) ELECTRONIC COPY OF SHOP DRAWINGS FOR THE FOLLOWING:
- CONCRETE DESIGN MIX INCLUDING ADMIXTURES. 2. REINFORCING STEEL AND ACCESSORIES.
- FORMWORK AND ACCESSORIES.
- 4. CURING AND SEALING COMPOUNDS.
- JOINT FILLERS AND SEALANTS.
- 6. CONCRETE REPAIR PRODUCTS AND MATERIALS.
- B. SUBMIT ONE PRINT AND ONE REPRODUCIBLE OF ALL SHOP DRAWINGS OR ONE (1) ELECTRONIC COPY. ONE SCANNED ELECTRONIC COPY WITH COMMENTS (IF ANY) WILL BE RETURNED TO THE CONTRACTOR FOR DISTRIBUTION.
- C. DESIGN MIXES SHALL BE SUBMITTED WITH THE REQUIRED HISTORICAL DOCUMENTATION OR LAB TEST RESULTS.
- MIX PROPORTIONS AND DESIGN:
- PROPORTION MIXES BY EITHER LABORATORY TRIAL BATCH OR FIELD EXPERIENCE METHOD, COMPLYING WITH ACI 211.1.
- 1. SUBMIT WRITTEN REPORT TO ENGINEER FOR EACH PROPOSED CONCRETE MIX AT LEAST 30 DAYS PRIOR TO START OF WORK. DO NOT BEGIN CONCRETE PRODUCTION UNTIL MIXES HAVE BEEN REVIEWED AND ARE ACCEPTABLE TO ENGINEER
- 2. MIX DESIGNS MAY BE ADJUSTED WHEN MATERIAL CHARACTERISTICS, JOB CONDITIONS, WEATHER, TEST RESULTS OR OTHER
- CIRCUMSTANCES WARRANT. DO NOT USE REVISED CONCRETE MIXES UNTIL SUBMITTED TO AND ACCEPTED BY ENGINEER. 3. USE AIR ENTRAINING ADMIXTURE IN ALL CONCRETE, PROVIDING NOT LESS THAN 4% NOR MORE THAN 8% ENTRAINED AIR FOR CONCRETE EXPOSED TO FREEZING AND THAWING
- E. INDICATE BAR SIZES, SPACINGS, LOCATIONS AND QUANTITIES OF REINFORCING STEEL, BENDING AND CUTTING SCHEDULES, AND SUPPORTING AND SPACING DEVICES.
- F. INDICATE PERTINENT FORMWORK DIMENSIONING, METHODS OF CONSTRUCTION, MATERIAL, ARRANGEMENT OF JOINTS, TIES AND SHORES, LOCATION OF BRACING AND TEMPORARY SUPPORTS, SCHEDULE OF ERECTION AND STRIPPING.

PART 2 PRODUCTS 2.1 CEMENTS

- A. USE ONLY ONE BRAND AND TYPE OF CEMENT THROUGHOUT PROJECT UNLESS OTHERWISE SPECIFIED.
- B. CEMENT: PORTLAND TYPE, ASTM C150, TYPE II.
- 2.2 AGGREGATES
- A. AGGREGATES SHALL CONFORM TO REQUIREMENTS OF ASTM C33. B. PROVIDE AGGREGATES FROM ONE SOURCE OF SUPPLY ONLY.
- C. MAXIMUM AGGREGATE SIZE SHALL NOT BE LARGER THAN ONE-FIFTH OF THE NARROWEST DIMENSION BETWEEN SIDES OF FORMS, ONE-THIRD OF THE DEPTH OF SLABS, NOR THREE-FOURTHS OF THE MINIMUM CLEAR SPACING BETWEEN INDIVIDUAL REINFORCING BARS OR BUNDLES OF BARS.
- D. STOCKPILE THE AGGREGATES IN A MANNER TO PROTECT THEM FROM CONTAMINATION.
- A. WATER USED AS AN INGREDIENT IN CONCRETE SHALL BE CLEAN, POTABLE, AND FREE FROM INJURIOUS AMOUNTS OF FOREIGN MATTER.
- 2.4 ADMIXTURES
- A. ADD AIR ENTRAINING AGENT TO CONCRETE AS INDICATED IN AC1301, TABLE 3.4.1. COMPLY WITH ASTM C260.
- B. ADMIXTURES SHALL CONFORM TO ASTM C494.
- C. ADMIXTURES MAY BE USED ONLY WHEN INCLUDED IN THE ORIGINAL MIX DESIGN AND APPROVED BY THE ARCHITECT/ENGINEER.
- D. CALCIUM CHLORIDE SHALL NOT BE USED AT ANY TIME.

2.5 STRENGTH

- A. PROVIDE CONCRETE OF FOLLOWING STRENGTH EXCEPT WHERE INDICATED OTHERWISE.
- B. CONCRETE SHALL DEVELOP AN ULTIMATE COMPRESSIVE STRENGTH OF: 1. FORMED CONCRETE COMPRESSIVE STRENGTH (28 DAY): 3,000 PSI
- 2.6 DURABILITY
- A. ADD AIR ENTRAINING AGENT TO CONCRETE MIX FOR CONCRETE WORK EXPOSED TO EXTERIOR.
- 2.7 SLUMP
- A. MAXIMUM SLUMP WHEN CONSOLIDATION BY VIBRATION: 4 INCHES.

2.8 REINFORCING STEEL

- A. REINFORCING STEEL: 60 KSI YIELD GRADE; NEW DEFORMED BILLET STEEL BARS, CONFORMING TO ASTM A615.
- B. ALL REINFORCING STEEL ON THIS PROJECT TO HAVE AN EPOXY COATING CONFORMING TO ASTM A775. ALL TIES AND EMBEDDED ITEMS TO BE EPOXY COATED OR HAVE AN EQUAL OR BETTER CORROSION RESISTANCE

2.9 ACCESSORIES

1. CONTRACTOR TO DESIGN ALL FORMWORK AND FORMWORK ACCESSORIES TO WITHSTAND THE CONSTRUCTION AND HYDROSTATIC PRESSURE LOADS THAT THE FORMS WILL EXPERIENCE DURING CONSTRUCTION. THIS INCLUDES, BUT IS NOT LIMITED TO, SNAP TIES, STRUTS, WALERS, ANCHORS, ETC.

PART 3 EXECUTION

- 3.1 SELECTION OF PROPORTIONS
- A. SELECTION OF PROPORTIONS FOR NORMAL WEIGHT CONCRETE: METHOD 1, "TRIAL BATCH" OR METHOD 2 "FIELD TEST DATA" MAY BE USED.
- 3.2 FORMWORK
- A. CONFORM WITH ACI STANDARD 301 4.2, EXCEPT AS OTHERWISE SPECIFIED HEREIN.
- B. CONSTRUCT FORMS AND SCREEDS RIGID, PLUMB, TRUE TO LINE, SHAPE AND DIMENSIONS, AND IN PRECISE POSITION TO FORM LINES AND DESIGNS INDICATED AND REQUIRED. CONSTRUCT FORMS SO AS TO BE REMOVABLE WITHOUT PRYING AGAINST THE CONCRETE. MAKE FORMS AND SCREEDS TIGHT SO AS TO PREVENT LEAKAGE OF MORTAR AND FINE PARTICLES FROM CONCRETE.
- C. THE CONTRACTOR SHALL ASSUME FULL RESPONSIBILITY FOR PROPER ENGINEERING, CONSTRUCTION AND MAINTENANCE OF FORMS AND SCREEDS AND FOR BUILDING IN ALL NECESSARY ITEMS TO BE BUILT INTO OR INSERTED IN THE FORMWORK.

3.3 FORM SURFACES PREPARATION

A. APPLY FORM RELEASE AGENT ON FORMWORK IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS. APPLY PRIOR TO PLACING

3.4 REINFORCEMENT

REINFORCING STEEL, ANCHORING DEVICES AND EMBEDDED PARTS.

- A. POSITION, SUPPORT, AND SECURE REINFORCEMENT AGAINST DISPLACEMENT. LOCATE AND SUPPORT WITH METAL CHAIRS, RUNNERS, BOLSTERS, SPACERS AND HANGERS, AS REQUIRED. SET WIRE TIES SO ENDS ARE DIRECTED INTO CONCRETE, NOT TOWARD EXPOSED CONCRETE SURFACES.
- 3.5 BACKFILLING
- A. BACKFILL ONLY WHEN CONCRETE HAS ATTAINED 75 PERCENT OF REQUIRED 28-DAY COMPRESSIVE STRENGTH.

3.6 CONSTRUCTION JOINTS

- A. CONCRETE WALLS SHALL BE CONCRETED IN A REGULAR PATTERN WITH LENGTHS OF CONSTRUCTION JOINTS NOT EXCEEDING 35 FEET HORIZONTALLY WITH A HEIGHT NOT EXCEEDING 16 FEET WITHOUT APPROVAL OF THE ENGINEER. 9 INCHES SERRATED PVC WATERSTOP WILL BE UTILIZED AT ALL CONSTRUCTION JOINTS.
- B. AT LEAST THREE DAYS SHALL ELAPSE BEFORE CONCRETING ADJACENT SECTIONS. HORIZONTAL CONSTRUCTION JOINTS WILL NOT BE
- C. PROVIDE KEYWAYS AT LEAST 1-1/2" DEEP IN ALL CONSTRUCTION JOINTS, UNLESS OTHERWISE SHOWN ON THE DRAWINGS.
- D. PLACE CONSTRUCTION JOINTS PERPENDICULAR TO THE MAIN REINFORCEMENT. CONTINUE ALL REINFORCEMENT ACROSS CONSTRUCTION
- 3.7 REPAIR OF SURFACE DEFECTS
- A. ALLOW ENGINEER TO INSPECT CONCRETE SURFACES IMMEDIATELY UPON REMOVAL OF FORMS.
- B. MODIFY OR REPLACE CONCRETE NOT CONFORMING TO REQUIRED LINES, DETAIL AND ELEVATIONS. C. REPAIR OR REPLACE CONCRETE NOT PROPERLY PLACED RESULTING IN EXCESSIVE HONEYCOMBING AND OTHER DEFECTS. REPAIRS SHALL NOT

BE PERFORMED UNTIL ENGINEER HAS REVIEWED PROPOSED CONTRACTOR'S METHODS AND HAS BEEN APPROVED BY THE ENGINEER.

- 3.8 FINISHING FORMED SURFACES
- A. PROVIDE SMOOTH FORM FINISH AT CONCRETE WALL SURFACES EXPOSED TO PUBLIC VIEW. PROVIDE SMOOTH TROWELED FINISH ON ALL TOP CONCRETE SURFACES.
- 3.9 INSERTS, EMBEDDED PARTS, AND OPENINGS
- A. PROVIDE FORMED OPENINGS WHERE REQUIRED FOR PIPES, CONDUITS, SLEEVES AND OTHER WORK TO BE EMBEDDED IN AND PASSING
- B. COORDINATE WORK OF OTHER SECTIONS AND COOPERATE WITH TRADES INVOLVED IN FORMING AND SETTING OPENINGS, SLOTS, RECESSES, CHASES, SLEEVES, BOLTS, ANCHORS AND OTHER INSERTS.

3.10 CONCRETE PLACEMENT

- A. COMPLY WITH ACI 304, PLACING CONCRETE IN A CONTINUOUS OPERATION WITHIN PLANNED JOINTS OR SECTIONS. DO NOT BEGIN PLACEMENT UNTIL WORK OF OTHER TRADES AFFECTING CONCRETE IS COMPLETED.
- B. CONSOLIDATE PLACED CONCRETE USING MECHANICAL VIBRATING EQUIPMENT WITH MINIMAL HAND RODDING AND TAMPING, SO THAT CONCRETE IS WORKED AROUND REINFORCEMENT AND OTHER EMBEDDED ITEMS AND INTO ALL PART OF FORMS.
- C. PROTECT CONCRETE FROM PHYSICAL DAMAGE OR REDUCED STRENGTH DUE TO WEATHER EXTREMES DURING MIXING PLACEMENT AND CURING.
- A. ALL CONCRETE SHALL BE CURED IN ACCORDANCE WITH REQUIREMENTS OF THE ACI STANDARD 301.
- B. CONCRETE FLATWORK SHALL BE CURED USING CURING AND SEALING COMPOUNDS. C. TEMPERATURE OF CONCRETE DURING CURING:
- 1. WHEN THE ATMOSPHERIC TEMPERATURE IS 40 DEGREES F. AND BELOW, MAINTAIN THE CONCRETE TEMPERATURE BETWEEN 50 AND 70 DEGREES F. CONTINUOUSLY THROUGHOUT THE CURING PERIOD. WHEN NECESSARY, MAKE ARRANGEMENTS BEFORE CONCRETE PLACING FOR HEATING, COVERING, INSULATION OR HOUSING AS REQUIRED TO MAINTAIN THE SPECIFIED TEMPERATURE AND MOISTURE CONDITIONS CONTINUOUSLY FOR THE CONCRETE CURING PERIOD. PROVIDE COLD WEATHER PROTECTIONS COMPLYING WITH THE REQUIREMENTS OF ACI
- 2. WHEN THE ATMOSPHERIC TEMPERATURE IS 80 DEGREES F., AND ABOVE, OR DURING OTHER CLIMATIC CONDITIONS WHICH WILL CAUSE TOO RAPID DRYING OF THE CONCRETE, MAKE ARRANGEMENTS BEFORE THE START OF CONCRETE PLACING FOR THE INSTALLATION OF WIND BREAKS OR SHADING, AND FOR FOG SPRAYING, WET SPRINKLING, OR MOISTURE RETAINING COVERING. PROTECT THE CONCRETE CONTINUOUSLY FOR THE CONCRETE CURING PERIOD. PROVIDE HOT WEATHER PROTECTIONS COMPLYING WITH THE REQUIREMENTS OF ACI
- 3. MAINTAIN CONCRETE TEMPERATURE AS UNIFORMLY AS POSSIBLE, AND PROTECT FROM RAPID ATMOSPHERIC TEMPERATURE CHANGES. AVOID TEMPERATURE CHANGES IN CONCRETE WHICH EXCEED 5 DEGREES F. IN ANY ONE HOUR AND 50 DEGREES F. IN ANY 24 HOUR PERIOD.

3.12 PROTECTION

- A. PROTECT EXPOSED FLATWORK AND CEMENT FINISH WITH SUCH PROTECTION AS IS NECESSARY TO PREVENT DAMAGE. PROTECT WORK OF OTHERS FROM DAMAGE BY THE WORK OF THIS SECTION, AND PROVIDE PROTECTION OF EXPOSED SLABS. MAINTAIN PROTECTION IN EFFECTIVE CONDITION AS LONG AS NEEDED.
- 3.13 MISCELLANEOUS CONCRETE ITEMS
- A. FILLING IN:
- 1. FILL IN HOLES AND OPENINGS LEFT IN CONCRETE STRUCTURES FOR THE PASSING OF WORK OF OTHER TRADES, UNLESS OTHERWISE DIRECTED, AFTER THE WORK OF OTHER TRADES IS IN PLACE. MIX, PLACE AND CURE CONCRETE AS HEREIN SPECIFIED, TO BLEND WITH IN-PLACE CONSTRUCTION. PROVIDE ALL OTHER MISCELLANEOUS CONCRETE FILLING TO COMPLETE THE WORK.

3.14 REMEDIAL WORK

- A. GENERAL:
- 1. REINFORCE OR REPLACE DEFICIENT WORK AS DIRECTED BY THE ENGINEER AND AT NO ADDITIONAL COST TO THE OWNER.

B. PATCHING:

1. REPAIR DEFECTIVE AREAS AND FILL FORM TIE HOLES AND SIMILAR DEFECTS IN ACCORDANCE WITH CHAPTER 9 OF ACI 301. WHERE, IN THE OPINION OF THE ARCHITECT, SURFACE DEFECTS SUCH AS HONEYCOMB OCCUR, REPAIR THE DEFECTIVE AREAS AS DIRECTED BY THE

3.15 ACCESSORIES

- A. NON-SHRINK GROUT: 1. MIX NON-SHRINK GROUT IN STRICT ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS. STORE AND PROTECT PRODUCT IN A MANNER THAT WILL NOT IMPAIR FUTURE USE.
- B. ELASTOMERIC SEALANT:
- 1. PROVIDE CLEAN, SOUND, DRY SURFACES PRIOR TO INSTALLATION. FOLLOW MANUFACTURER'S RECOMMENDATION FOR INSTALLATION PROCEDURES.

3.16 CONCRETE RESTORATION

A. SURFACE PREPARATION:

- 1. PROPERLY PREPARE ALL EXISTING GRANITE SURFACES THAT ARE TO RECEIVE NEW CONCRETE BY THE APPLICATION OF A HIGH PRESSURE WATER BLAST (4,000 PSI MIN) IN ORDER TO REMOVE ALL DIRT, DEBRIS AND LOOSE AND DETERIORATED CONCRETE.
- 2. CHECK EFFECTIVENESS OF HIGH PRESSURE BLAST CLEANING BY STRIKING SURFACE SHARPLY WITH A 5 POUND HAMMER. IF LOOSE AND DETERIORATED CONCRETE REMAINS, INCREASE THE WATER PRESSURE UNTIL ALL THE DETERIORATED CONCRETE IS REMOVED.
- B. APPLICATION OF PRE-PACKAGED REPAIR MATERIALS:
- 1. ONCE SURFACE PREPARATION IS COMPLETE AS DESCRIBED ABOVE, APPLY CLEAN WATER TO ACHIEVE A SATURATED SURFACE DRY CONDITION (SSD). APPLY ARMATEC 110 BONDING AGENT TO THE SURFACES TO BE REPAIRED FOLLOWED BY A PROPERLY APPLIED CEMENTITIOUS TOPPING OF SIKATOP 122 PLUS.

2. APPLY SIKATOP 122 PLUS IN STRICT ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS. REFER TO THE INSTRUCTION IN ORDER TO

- DETERMINE THE MAXIMUM THICKNESS ALLOWED AND THE REQUIREMENTS FOR ADDITIONAL APPLICATIONS OF THE PRODUCT IF A THICK APPLICATION IS REQUIRED.
- C. MANUFACTURER'S INSTRUCTIONS: 1. THE APPLICATION OF ALL CONCRETE RESTORATION MATERIALS SHALL BE PERFORMED IN STRICT ADHERENCE TO THE MANUFACTURER'S
- 2. THE CONTRACTOR SHALL MAKE THEMSELVES FAMILIAR WITH ALL THE REQUIREMENTS OF THE PRODUCTS INCLUDING THE NEED FOR PROPER SURFACE PREPARATION. THIS MAY INCLUDE CONTACTING THE TECHNICAL SERVICE DEPARTMENT OF THE MANUFACTURER OF THE CONCRETE RESTORATION MATERIALS.

END OF SECTION

SECTION 04001 STONE MASONRY JOINT PATCHING

PART 1 GENERAL

- 1.1 WORK INCLUDED
- A. SURFACE PREPARATION OF EXISTING STONE MASONRY AREAS NEEDING TO RECEIVE CEMENTITIOUS, ANTI-WASHOUT POINTING MATERIALS. B. PURCHASING, ON-SITE STORAGE, MIXING, UNDERWATER AND ABOVE WATER TRANSPORTING AND HAND APPLICATION OF PRE-PACKAGED,
- ANTI-WASHOUT MORTAR MATERIALS TO BE USED FOR BOTH BELOW AND ABOVE WATER. C. PROVIDING ALL EQUIPMENT, LABOR AND MATERIALS IN ORDER TO SUCCESSFULLY COMPLETE THE PROJECT IN A CONTINUOUS MANNER.
- D. COMPLY WITH ALL LOCAL, STATE, AND FEDERAL CODES, RULES, ORDINANCES AND REQUIREMENTS DURING THE ENTIRE IMPLEMENTATION OF
- E. COMPLY WITH ALL OWNER REQUIREMENTS FOR SAFETY (INCLUDING OSHA), PROJECT MANAGEMENT AND PROCUREMENT.
- F. COORDINATE ALL WORK ACTIVITIES WITH THE OWNER AND THE ENGINEER DURING ALL PHASES OF CONSTRUCTION.
- REFERENCE STANDARDS
- A. PERFORM ALL STONE MASONRY WORK IN ACCORDANCE WITH ACI 301 "SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDING", AND ACI

546.2R-98 "GUIDE TO UNDERWATER REPAIR OF CONCRETE" COMPLYING WITH APPLICABLE PROVISIONS EXCEPT AS OTHERWISE INDICATED.

B. KEEP COPY OF ACI 546.2R-98 IN FIELD OFFICE FOR DURATION OF PROJECT. IF THE CONTRACTOR DOES NOT HAVE ONE READILY AVAILABLE, A COPY WILL BE PROVIDED TO THE CONTRACTOR BY THE ENGINEER.

1.3 TESTING AGENCY

- A. CONTRACTOR WILL EMPLOY AND PAY FOR THE SERVICES OF A QUALIFIED, INDEPENDENT TESTING LABORATORY TO PERFORM INSPECTION, SAMPLING AND TESTING OF THE PRE-PACKAGED, ANTI-WASHOUT, CEMENTITIOUS MORTAR MATERIALS. TWO (2) SITE VISITS WILL BE REQUIRED BY THE TESTING AGENCY. CONTRACTOR TO COORDINATE ALL VISITS OF TESTING COMPANY AND IS TO INFORM THE OWNER AND THE ENGINEER
- PRIOR TO SCHEDULING TESTING COMPANY B. EMPLOYMENT OF THE LABORATORY SHALL IN NO WAY RELIEVE CONTRACTOR'S OBLIGATIONS TO PERFORM THE WORK OF THE CONTRACT.
- C. CONTRACTOR'S TESTING LABORATORY WILL PERFORM SAMPLING AND TESTING DURING CONCRETE PLACEMENT AS FOLLOWS:

2. SLUMP _ ASTM C143 OR PER MANUFACTURER'S REQUIREMENTS FOR CONSISTENCY, ONE FOR THE FIRST BATCH OF PRE-PACKAGED

- CEMENTITIOUS MATERIAL MIXED BY THE CONTRACTOR. COMPLY WITH MATERIAL MANUFACTURER'S REQUIREMENTS FOR REQUIRED
- 3. AIR CONTENT _ ASTM C31, ONE FOR THE FIRST BATCH OF PRE-PACKAGED CEMENTITIOUS MATERIAL MIXED BY THE CONTRACTOR. 4. GROUT CUBES - ASTM C1107, FIVE (5) FROM THE FIRST DAY PLACEMENT OF PATCHING MATERIAL AND THE NEXT AT APPROXIMATELY 50%
- D. PROVIDE FREE ACCESS TO WORK AND COOPERATE WITH APPOINTED FIRM.
- E. TESTS OF CEMENT AND OTHER COMPONENTS MAY BE PERFORMED AT THE DISCRETION OF THE ENGINEER.
- A. SUBMIT ONE (1) ELECTRONIC COPY OF SHOP DRAWING FOR THE FOLLOWING: 1. PRE-PACKAGED, CEMENTITIOUS, ANTI-WASHOUT MATERIAL.
- A. THE CONTRACTOR IS TO KEEP ONE SET OF CONSTRUCTION AS-BUILT DRAWINGS FOR THE DURATION OF THE PROJECT. THE AS-BUILT DRAWINGS ARE TO BE KEPT ON SITE AND UPDATED DAILY. THE DRAWINGS ARE TO SHOW THE LOCATION, SIZE (AVERAGE LENGTH, WIDTH AND THICKNESS)
- AND DATE OF ALL MORTAR JOINT POINTING OPERATIONS THAT WERE PERFORMED. B. AT THE END OF THE PROJECT, THE CONTRACTOR IS TO SUBMIT ONE FINAL, CLEAN, HARD COPY PRINT OF THE AS-BUILT DRAWINGS SUITABLE FOR ARCHIVING ON THE PROJECT. THE AS-BUILT DRAWINGS ARE TO BE TRANSMITTED TO THE ENGINEER WHO WILL SCAN THE AS-BUILT DRAWINGS AND SUBMIT BOTH A HARD COPY AS WELL AS AN ELECTRONIC COPY TO BOTH THE OWNER AND THE CONTRACTOR.

- 2.1 CEMENTITIOUS, ANTI-WASHOUT, PATCHING MATERIAL
- A. THE CONCRETE PATCHING MATERIAL SHALL BE A PRE-PACKAGED, CEMENT BASED, HIGH EARLY STRENGTH MORTAR SUITABLE FOR HAND PLACEMENT UNDERWATER REQUIRING ONLY THE ADDITION OF POTABLE WATER. THE MATERIAL SHALL NOT CONTAIN ANY CHLORIDES OR LIME BE SUITABLE FOR VERTICAL, OVERHEAD AND HORIZONTAL APPLICATION, BE ABLE TO BE PLACED WITHOUT THE USE OF FORMS AND SHALL BE "NON-SMOKING" (I.E. ANTI-WASHOUT) WHEN APPLIED UNDERWATER. SUITABLE PRODUCTS INCLUDE:
- 1. "SPEED CRETE BLUE LINE" BY THE EUCLID COMPANY (1-800/321-7628) AVAILABLE FROM BARKER STEEL, LLC SCARBOROUGH, MAINE
- 2. "STRUCTURAL CONCRETE * UNDERWATER HP" BY FIVE STAR PRODUCTS, INC., FAIRFIELD, CT 1-800-243-2206 OR 203/336-7900.
- 3. "FX 225" BY FOX INDUSTRIES, INC. (1-888-760-0369 OR 410-243-8856).
- 4. "WET OR DRY 700" EPOXY MORTAR BY PROGRESSIVE POLYMERS, INC. (952-233-5780). OR EQUAL APPROVED BY THE ENGINEER.
- B. USE ONLY ONE BRAND AND TYPE OF CEMENT THROUGHOUT PROJECT.
- C. STORE, MIX AND INSTALL IN STRICT ACCORDANCE WITH THE REQUIREMENTS OF THE MANUFACTURER. D. NO WASHING OF TOOLS, FORMS, ETC. SHALL OCCUR IN OR ADJACENT TO THE WATER BODY OR ANY WETLAND AND NO WASH WATER SHALL BE DISCHARGED TO THE WATER BODY OR ANY WETLAND.
- E. THE LOCATION FOR USE ON THIS PROJECT WILL MEET THE MINIMUM DILUTION OF 15 GALLONS OF WATER PER SQUARE FOOT OF NEW CEMENTITIOUS PATCHING MATERIAL TO MEET THE MIN. DILUTION PH OF 8.5 OR LESS.
- 2.2 AGGREGATES
- A. AGGREGATES SHALL CONFORM TO REQUIREMENTS OF ASTM C33.
- A. WATER USED FOR MIXING SHALL BE CLEAN AND POTABLE. DO NOT USE RIVER WATER.
- A. ADMIXTURES SHALL CONFORM TO ASTM C494. USE AIR ENTRAINING AGENT AND ANTI-WASHOUT ADMIXTURES WITH ALL CEMENTITIOUS
- B. CALCIUM CHLORIDE SHALL NOT BE USED AT ANY TIME.
- 2.5 STRENGTH
- COMPRESSIVE STRENGTH:

A. PROVIDE MATERIAL OF THE FOLLOWING MECHANICAL PROPERTIES:

- 2.6 DURABILITY A. AIR ENTRAINING AGENT MUST BE INCLUDED IN THE PATCHING MATERIAL

2.7 SLUMP / CONSISTENCY A. PER THE REQUIREMENTS OF THE MANUFACTURER.

3.1 CONCRETE SURFACE PREPARATION

- A. SURFACE PREPARATION: 1. PROPERLY PREPARE THE SURFACES OF ALL STONE MASONRY JOINTS TO BE POINTED BY MECHANICAL MEANS IN ORDER TO REMOVE ALL DIRT, DEBRIS AND LOOSE AND DETERIORATED MORTAR IN THE EXISTING JOINTS. THIS IS TO BE FOLLOWED BY PRESSURE WASHING AT 1,500
- PSI MIN TO 2,000 PSI AT THE NOZZLE.
- B. APPLICATION OF PRE-PACKAGED PATCHING MATERIALS: 1. THE APPLICATION OF ALL STONE MASONRY JOINTING MATERIALS SHALL BE PERFORMED IN STRICT ADHERENCE TO THE MANUFACTURER'S INSTRUCTIONS.
- 2. THE CONTRACTOR SHALL MAKE THEMSELVES FAMILIAR WITH ALL THE REQUIREMENTS OF THE PRODUCTS INCLUDING THE NEED FOR PROPER SURFACE PREPARATION. THIS MAY INCLUDE CONTACTING THE TECHNICAL SERVICE DEPARTMENT OF THE MANUFACTURER OF THE MORTAR JOINTING MATERIALS.
- C. REMOVAL OF DEMOLISHED CEMENTITIOUS MATERIALS FROM WATERCOURSE:
- 1. THE DIVER/UNDERWATER CONTRACTOR IS TO REMOVE FROM THE WATER ALL DETERIORATED CONCRETE DEBRIS LOOSENED BY THE PRESSURE WASHING AND REMOVED BY MECHANICAL MEANS AS WELL AS REMOVE ANY NEW MORTAR MATERIALS THAT MAY EXIT THE APPLICATION LOCATION (FORMED OR HAND-PATCHING). THE SUGGESTED MEANS IS BY VACUUMING THE UNDERWATER DEBRIS OR CEMENTITIOUS MATERIALS OR BY A METHOD APPROVED BY THE ENGINEER AND OWNER. ALL VACUUMED/REMOVED DEBRIS AND CEMENTITIOUS MATERIALS MUST BE PROPERLY STORED, REMOVED FROM SITE AND TRANSPORTED TO A RECYCLING FACILITY LICENSED BY THE MAINE DEPARTMENT OF ENVIRONMENTAL PROTECTION. A MANIFEST OF THE MATERIALS MUST BE SUBMITTED TO THE ENGINEER AND OWNER FOR THE PROJECT RECORD.

- 3.2 FINISHING SURFACES
- A. PROVIDE SMOOTH HAND RUBBED FINISH AT WALL SURFACES EXPOSED TO THE WATER WAY. QUICKLY REMOVE ANY EXCESS FROM ADJACENT

3.3 PATCHING MATERIAL PLACEMENT

- A. COMPLY WITH THE REQUIREMENTS OF THE MANUFACTURER WITH RESPECT TO THE SURFACE PREPARATION, MIXING AND HAND PLACING OR POURED IN PLACE AND THE THICKNESS REQUIREMENTS TO BRING THE JOINTS FLUSH WITH THE SURROUNDING STONE MASONRY AREAS.
- B. CONSOLIDATE PLACED MORTAR MATERIAL USING HAND APPLIED METHODS THAT WILL NOT ALLOW VOIDS TO OCCUR.
- C. PROTECT FRESH MATERIAL FROM PHYSICAL DAMAGE OR REDUCED STRENGTH DUE TO WEATHER EXTREMES DURING MIXING PLACEMENT AND

3.4 CURING

A. ALL CONCRETE SHALL BE CURED IN ACCORDANCE WITH REQUIREMENTS OF THE ACI STANDARD 301 AND PER THE REQUIREMENTS OF THE

END OF SECTION

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Community College System of New Hampshire

Woodbury Street Retaining Wall Repair (RVC24-03) 438 Washington Street

FOR BIDDING 03/15/2024

AS NOTED

Keene, NH 03431

DESN. BY: DVB/PAW DRAWN BY:

ISSUE DATE: 03-15-2024

CHKD BY:

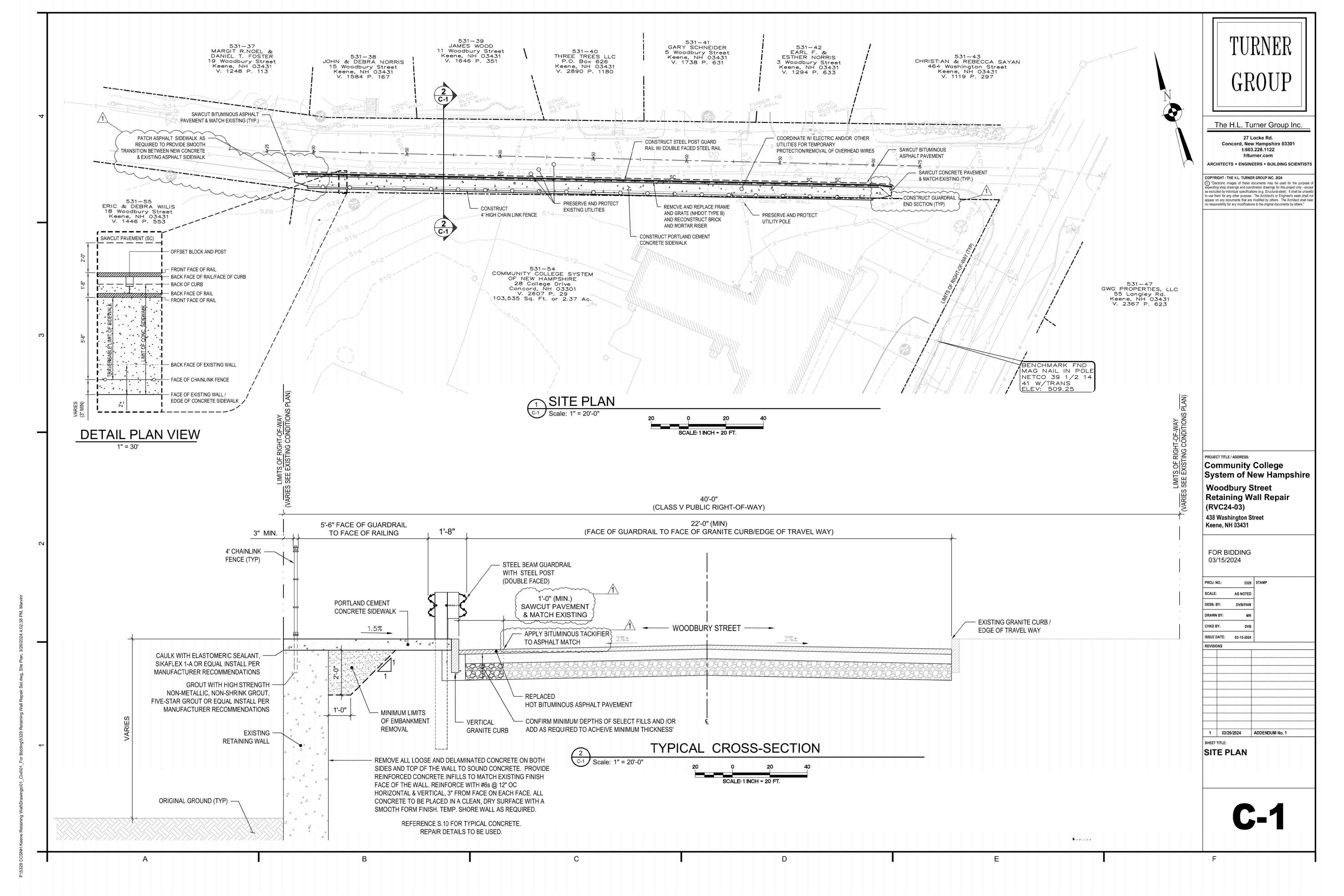
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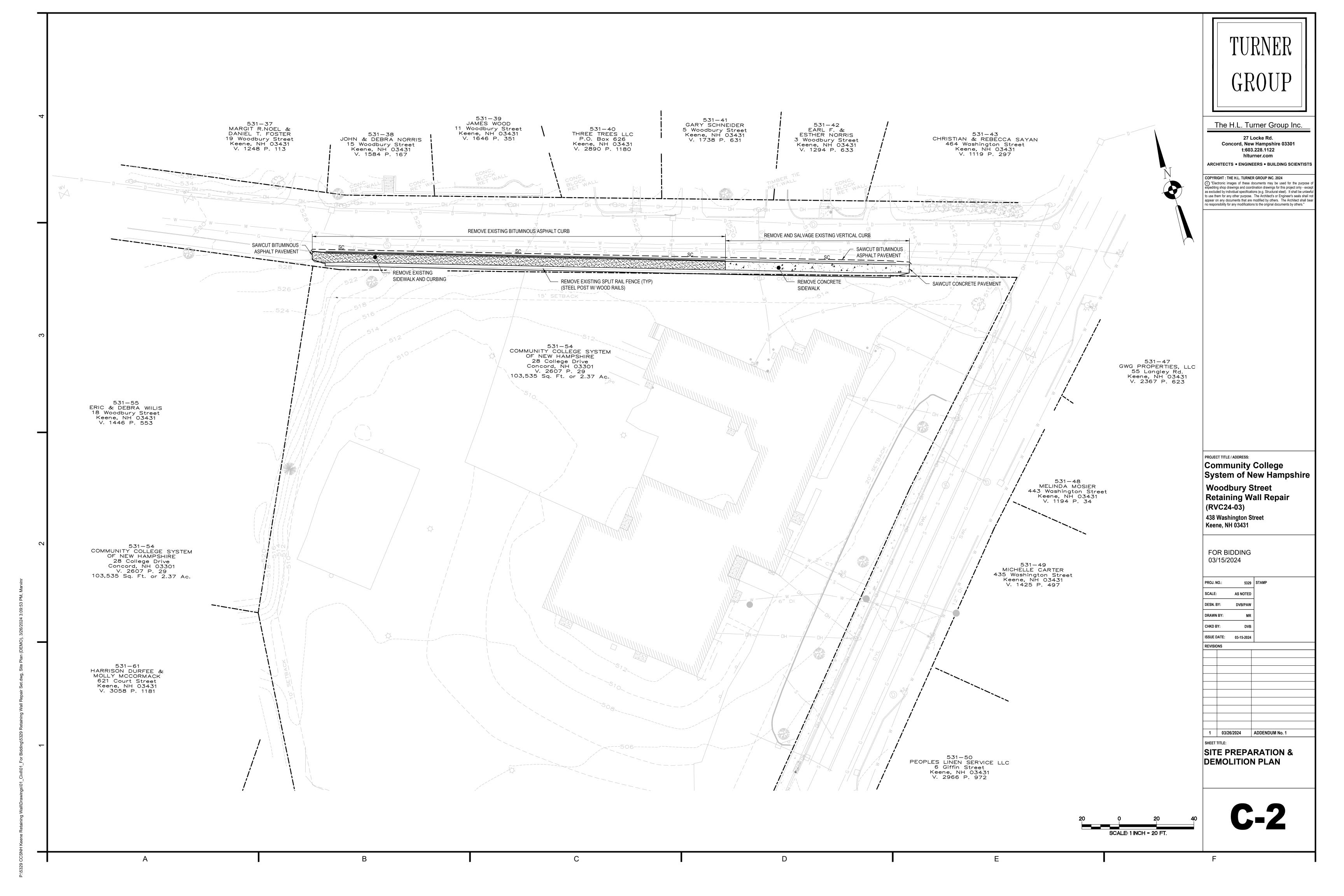
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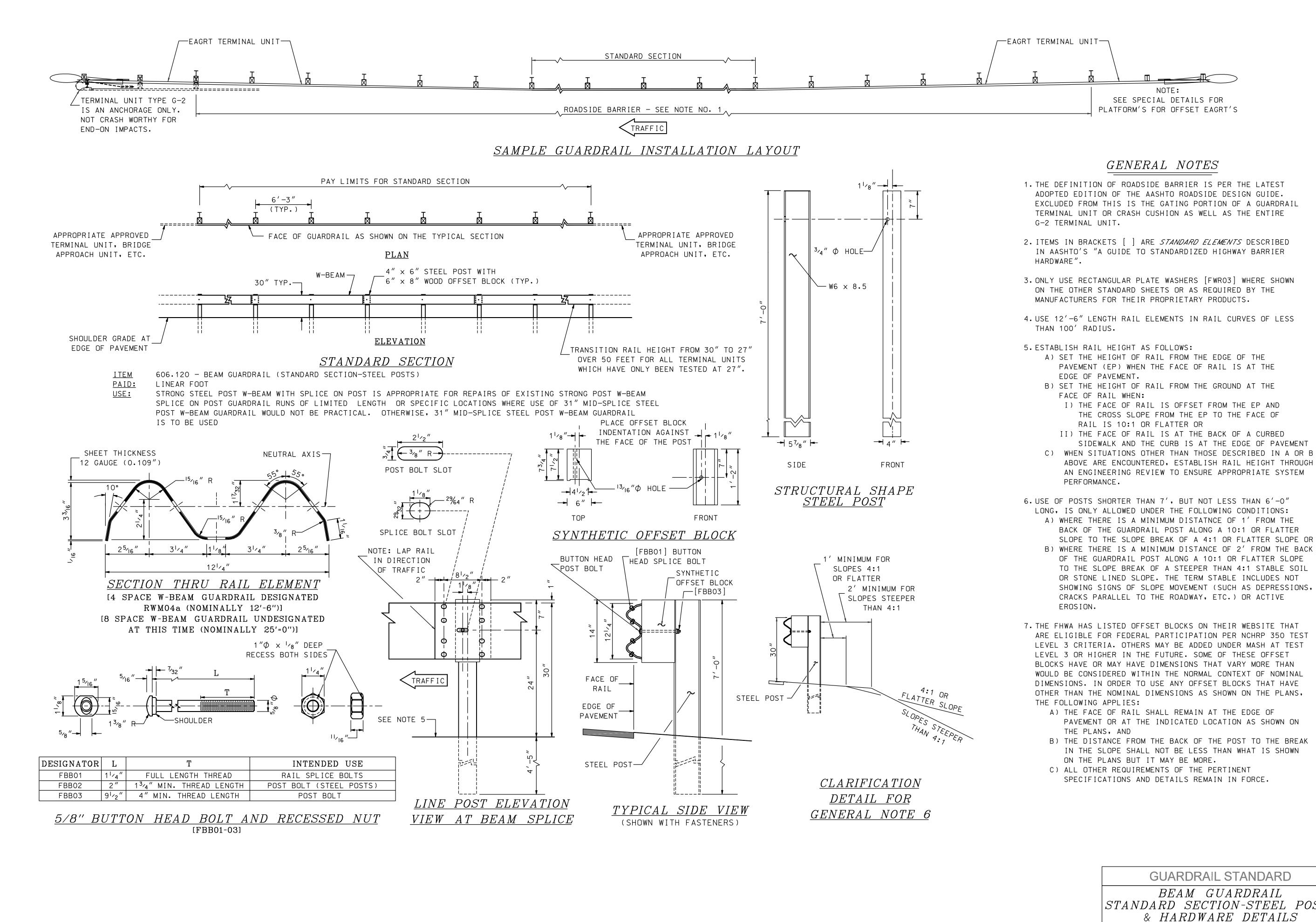
STRUCTURAL TECHNICAL

SPECIFICATIONS

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PROJECT TITLE / ADDRESS: Community College System of New Hampshire **Woodbury Street**

Retaining Wall Repair (RVC24-03)

438 Washington Street Keene, NH 03431

FOR BIDDING 03/15/2024

PROJ. NO.:

SCALE: AS NOTED DESN. BY: DVB/PAW DRAWN BY: CHKD BY: ISSUE DATE: 03-15-2024 REVISIONS

5329 STAMP

03/26/2024 ADDENDUM No. 1

BEAM GUARDRAIL DETAIL

GUARDRAIL STANDARD

BEAM GUARDRAIL |STANDARD| $SECTION ext{-}STEEL|$ POSTS|& HARDWARE DETAILS

NOTE:

SEE SPECIAL DETAILS FOR

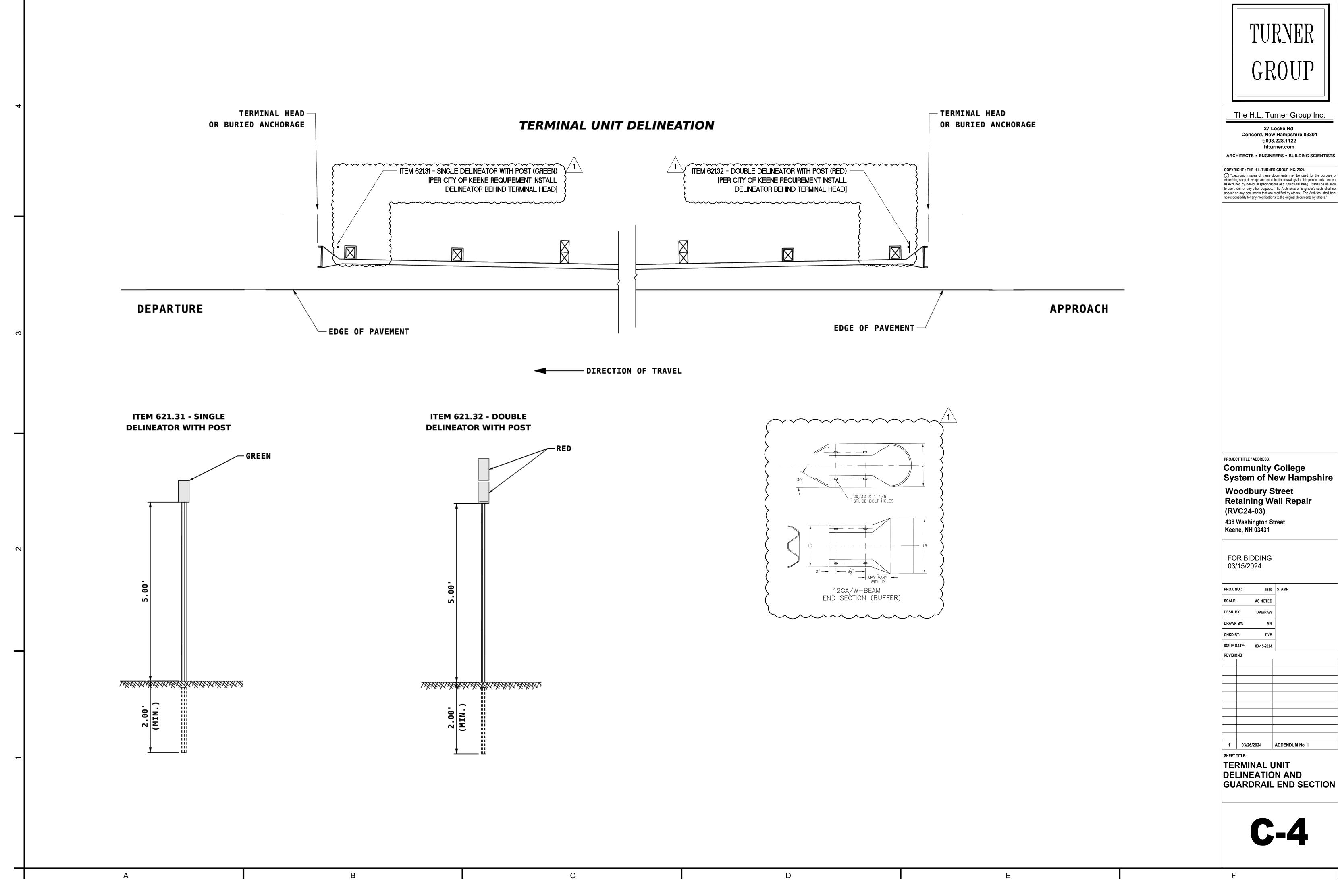
PLATFORM'S FOR OFFSET EAGRT'S

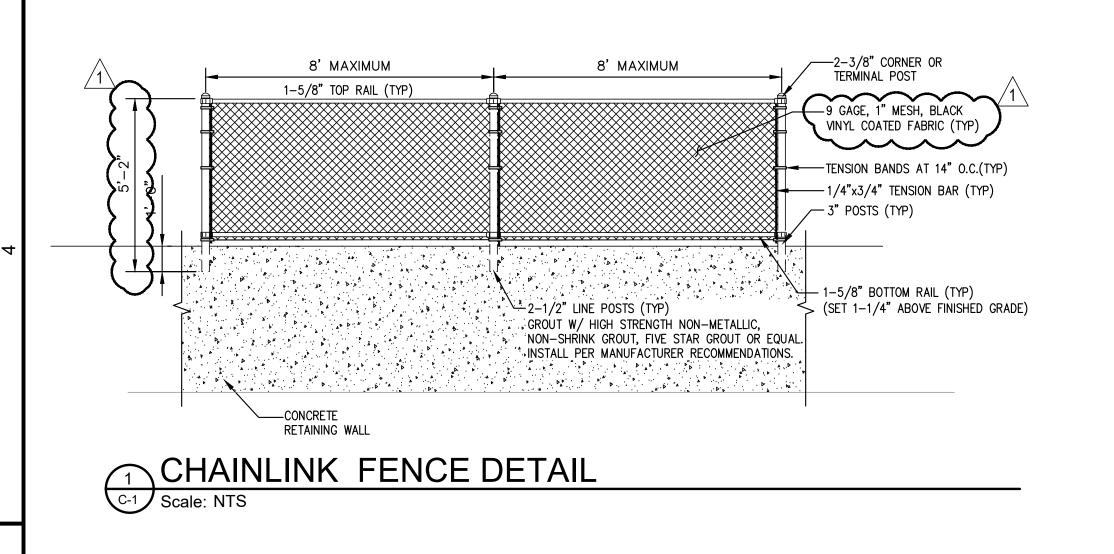
GENERAL NOTES

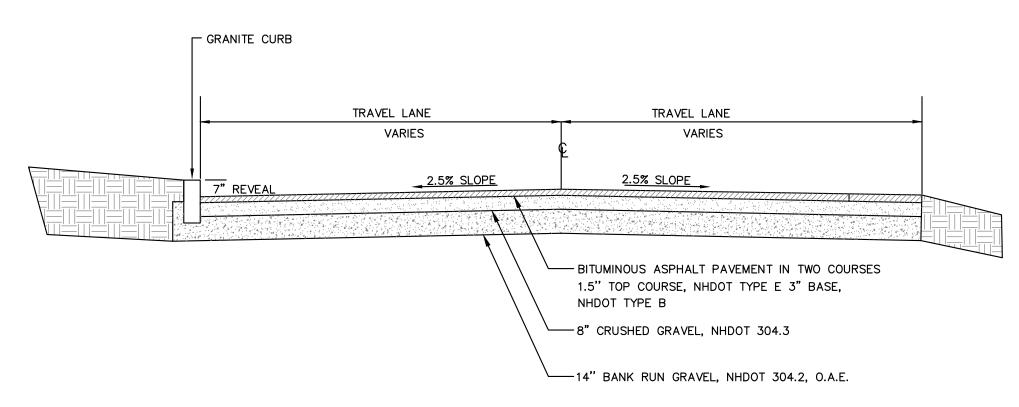
THE CROSS SLOPE FROM THE EP TO THE FACE OF

SIDEWALK AND THE CURB IS AT THE EDGE OF PAVEMENT

RAIL IS 10:1 OR FLATTER OR







TYP. ROAD SECTION BOXED OUT AREA DETAIL

Scale: NTS

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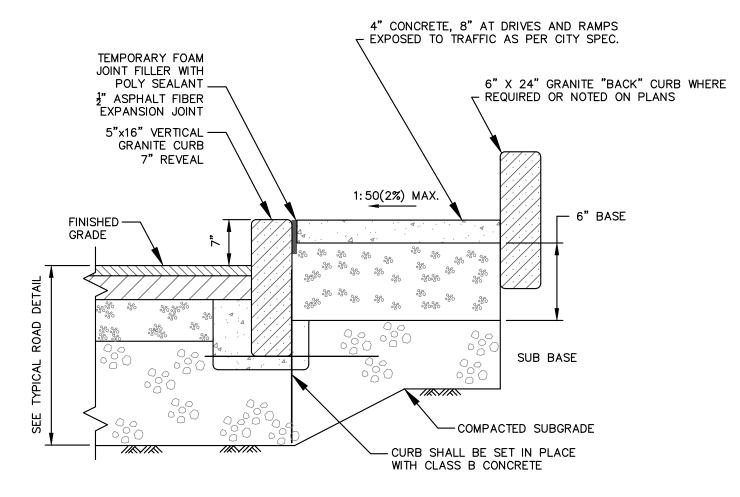
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ALL SIDEWALKS SHALL COMPLY WITH KEENE SIDEWALK CONSTRUCTION SPECIFICATIONS.

SIDEWALK NOTES:

- 1. CONCRETE SIDEWALKS SHALL BE A MINIMUM OF 5 FEET WIDE, 6 FEET WIDE IN COMMERCIAL AREAS
- 2. CONCRETE SIDEWALKS SHALL BE A MINIMUM OF 4" THICK. 8" THICK WHERE EXPOSED TO TRAFFIC
- 3. SUB BASE SHALL BE A MINIMUM THICKNESS OF 12" OF CLEAN GRANULAR MATERIAL OR SUITABLE NATIVE/EXISTING MATERIAL COMPACTED TO 95%.
- PACE CHALL DE A MINIMUM THOUNESS OF C" OF OPHICHED OPANEL COMPACTED TO CEM
- 4. BASE SHALL BE A MINIMUM THICKNESS OF 6" OF CRUSHED GRAVEL COMPACTED TO 95%.
- 5. SIDEWALKS SHALL BE GRADED TO DRAIN, CROSS SLOPE NOT TO EXCEED 2%6. MAXIMUM LONGITUDINAL GRADE SHALL BE 8.3%
- 7. MINIMUM LONGITUDINAL GRADE SHALL BE 0.5%.
- 8. CONCRETE SHALL BE 4000 PSI CLASS AA CONCRETE WITH 1.5 LBS OF SYNTHETIC FIBER REINFORCEMENT PER CUBIC YARD,
- 9. CONCRETE SHALL HAVE 5-9% AIR ENTRAINMENT.
- 10. SLUMP SHALL BE BETWEEN 3" AND 5".
- 11. 4 TEST CYLINDERS PER LOAD OF CONCRETE, BY CERTIFIED CONCRETE TESTER.
- 12. MAXIMUM SPACING OF EXPANSION JOINTS SHALL BE 30 FEET, AT CURB RAMPS, AND EXTEND FULL WIDTH OF SIDEWALK.
- 13. CONTROL JOINTS SHALL BE A UNIFORM DISTANCE APART, TYPICALLY SPACED FIVE FEET, AND 3/4" DEEP.
- 15. ALL EDGES AND JOINTS SHALL BE FINISHED WITH A HAND EDGING TOOL.
- 16. THE SURFACE OF THE SIDEWALK SHALL BE MAG-FLOATED AND TROWELED, AND GIVEN A FINE GRAINED BROOM FINISH.
- 17. AS SOON AS THE CONCRETE HAS ATTAINED ITS INITIAL SET, IT SHALL BE COVERED WITH PLASTIC, BURLAP, OR OTHER APPROVED MATERIAL AND KEPT MOIST FOR A MINIMUM OF 7 DAYS TO CURE, AND SHALL NOT BE ALLOWED TO FREEZE. NO TRAFFIC SHALL BE ALLOWED ON THE SIDEWALK DURING THE CURING PERIOD.
- 18. CONCRETE SHALL BE SEALED WITHTHE FOLLOWING METHOD, OR AS APPROVED BY THE ENGINEER:
- A. WATER REPELLANT TREATMENT OF SILANE-SILOXANE APPLIED IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.

3 SIDEWALK DETAIL

30" CLEAR OPENING - FRAME & GRATE TYPE B FRAME TO BE SET IN BED OF -MORTAR & FINISHED SMOOTH. ADJUST TO GRADE WITH BRICK OR PRECAST CONCRETE RINGS MAXIMUM 12" ADJUSTMENT. BRICK OR CONCRETE RINGS SHALL BE INSTALLED WITH NO OVERHANG. - ECCENTRIC CONE ORIENTATE AS REQUIRED BITUMASTIC -SEALANT (TYP) - DOUBLE ROW OF OVERLAPPING ELASTOMERIC SEALANT -5" REINFORCED CONCRETE (TYP) 48" MIN. OR AS SHOWN ALL GASKETS AND SEALANTS SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURERS' WRITTEN INSTRUCTIONS `_RUBBER-LIKE FLEXIBLE SLEEVE └ 6" MIN. BEDDING

DRAIN STRUCTURE DETAIL

Scale: NTS

PROJECT TITLE / ADDRESS:

Community College
System of New Hampshire

Woodbury Street Retaining Wall Repair (RVC24-03) 438 Washington Street Keene, NH 03431

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FOR BIDDING 03/15/2024

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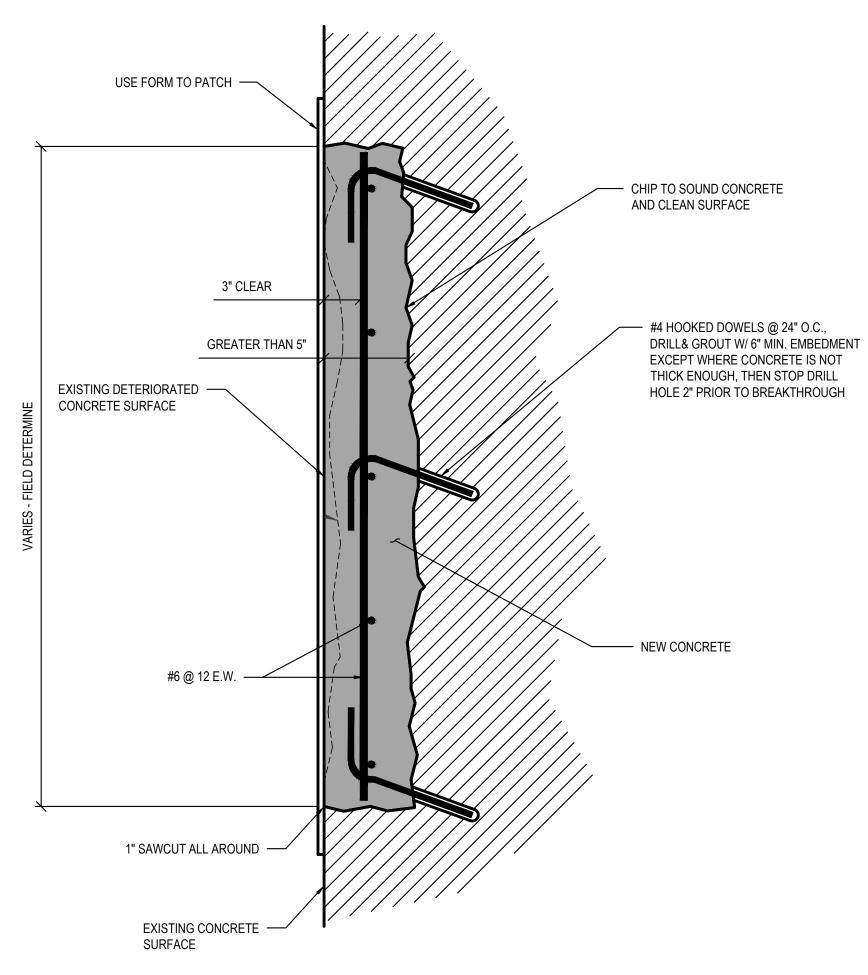
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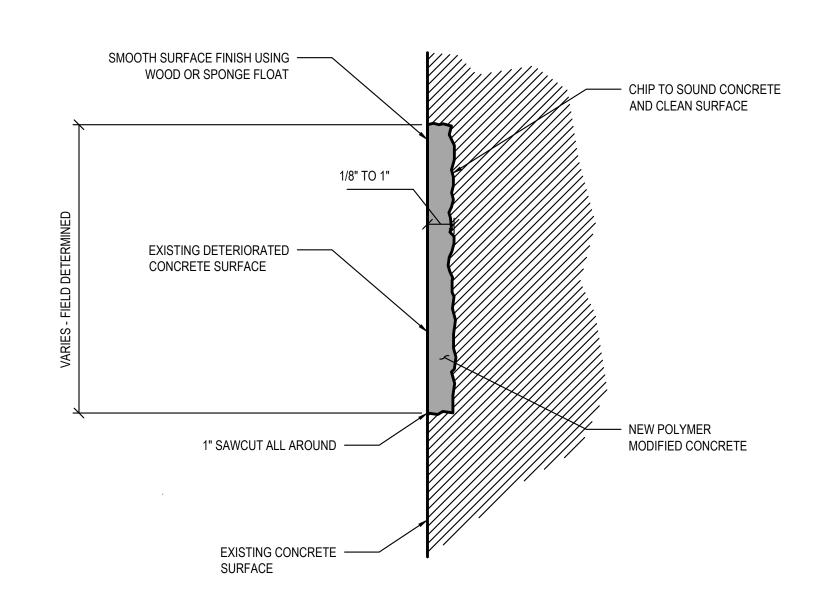
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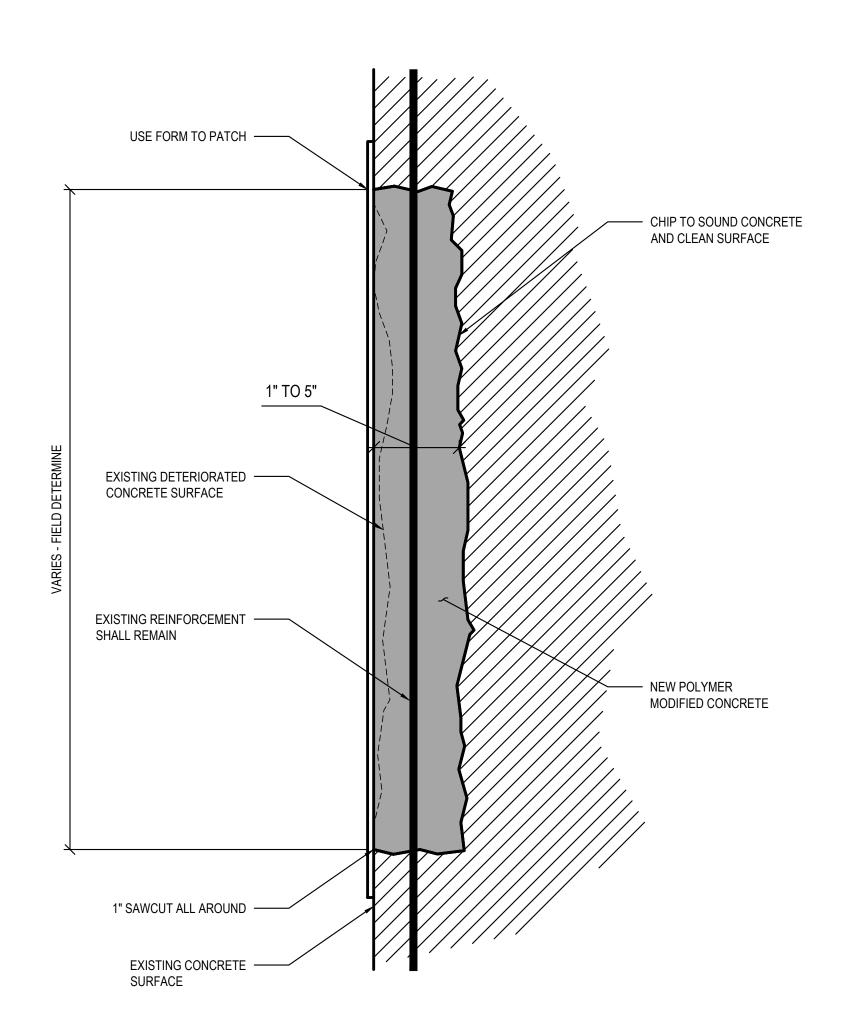


CONCRETE REPAIR DETAIL 5" - 12" DEEP S3.1 Scale: 1-1/2" = 1'-0"

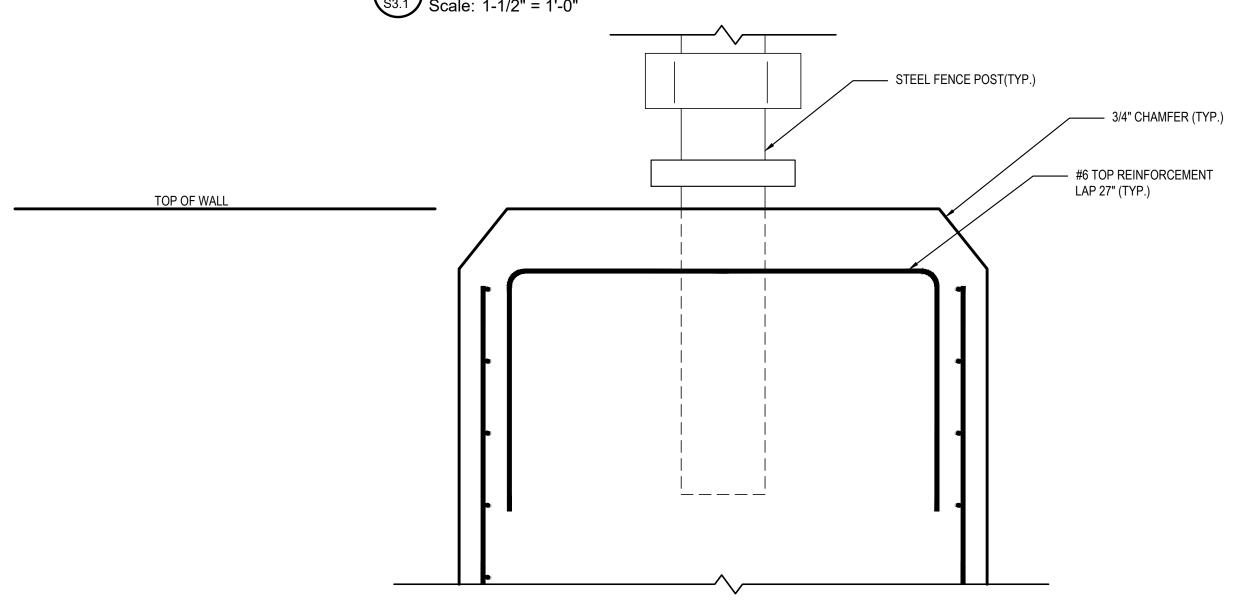


CONCRETE RESTORATION DETAIL 1/8" - 1" DEEP

S3.1 Scale: 1-1/2" = 1'-0"



CONCRETE REPAIR DETAIL 1" - 5" DEEP



TYPICAL RETAINING WALL CAP REPAIR

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

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PROJECT TITLE / ADDRESS: Community College
System of New Hampshire Woodbury Street Retaining Wall Repair

(RVC24-03) 438 Washington Street Keene, NH 03431

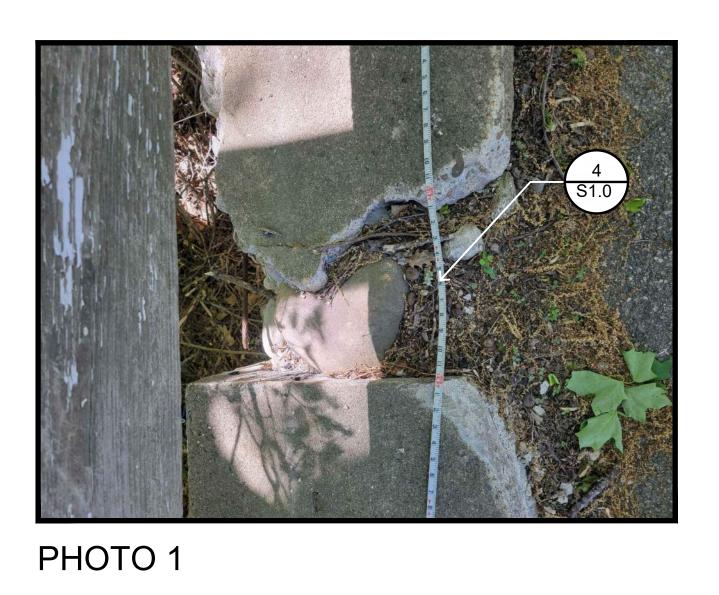
FOR BIDDING 03/15/2024

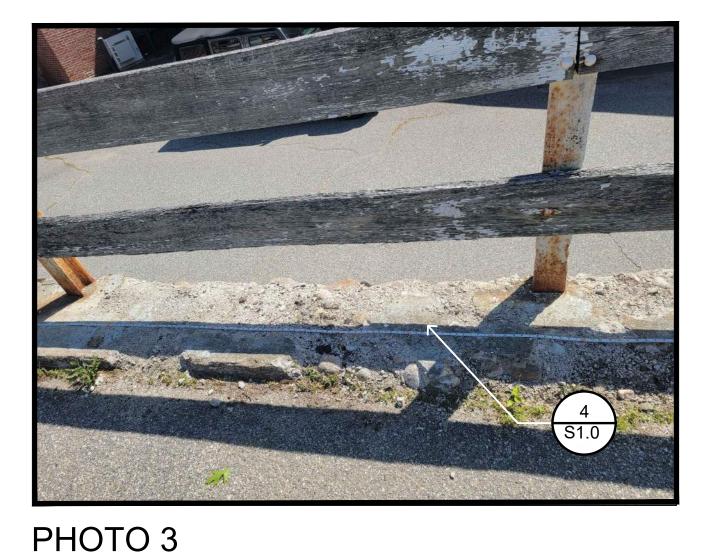
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DESN. BY:	DVB/PAW	
DRAWN BY:	MR	
CHKD BY:	DVB	
ISSUE DATE:	03-15-2024	

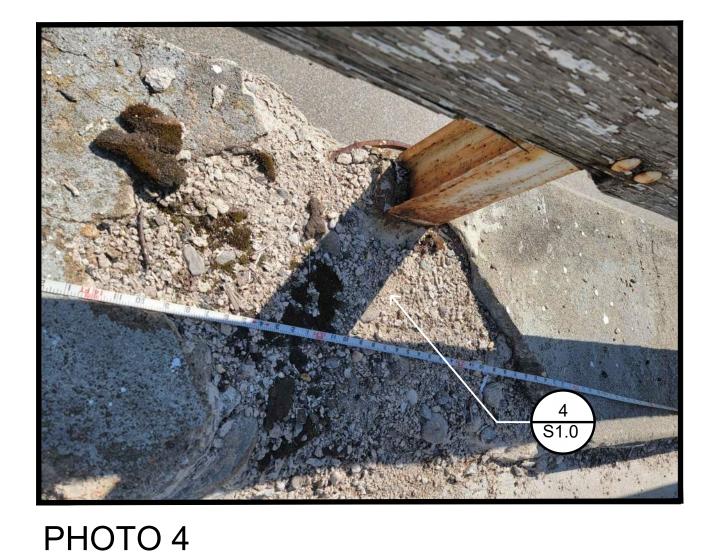
03/26/2024 ADDENDUM No. 1

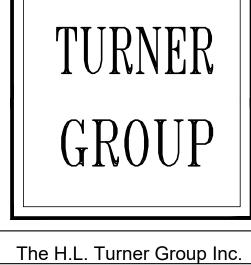
FOUNDATION AND SLAB **DETAILS**

S1.0







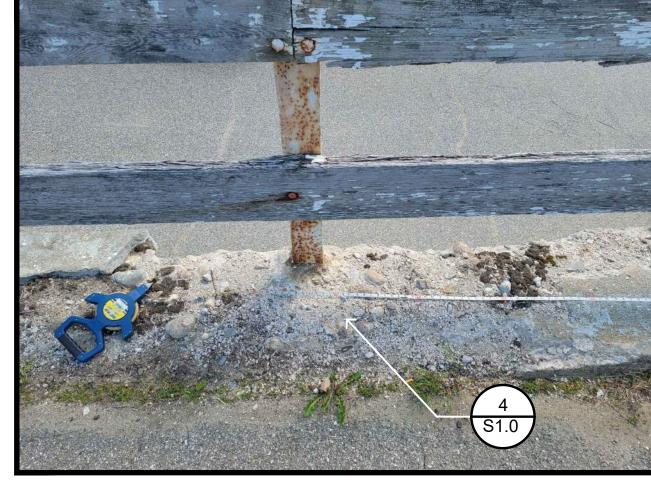


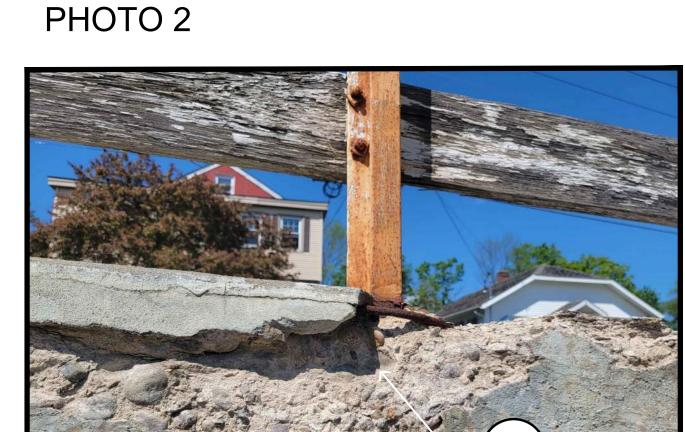
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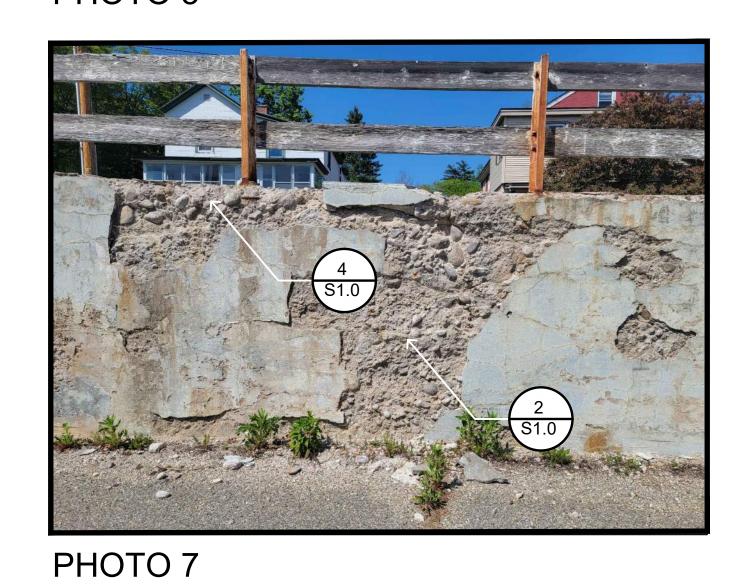
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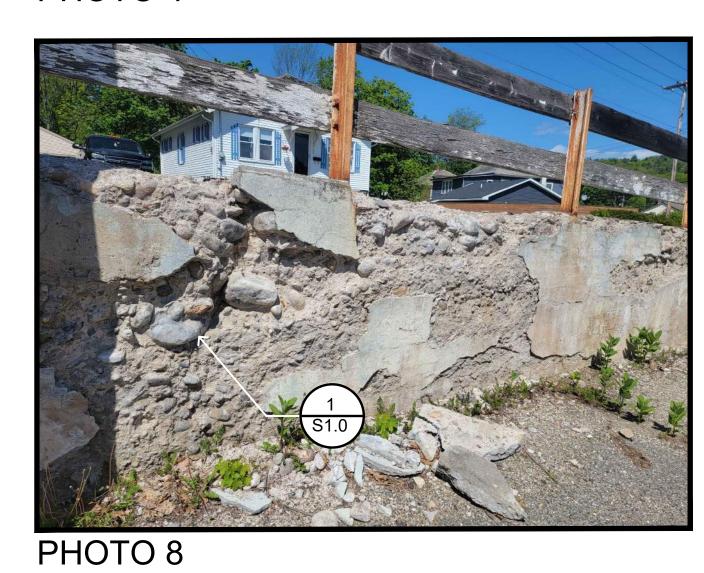
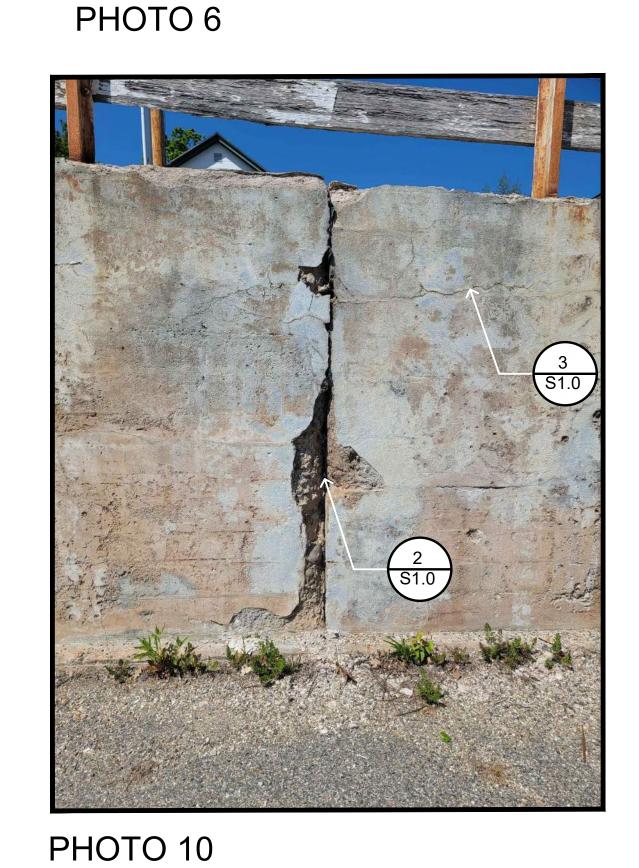
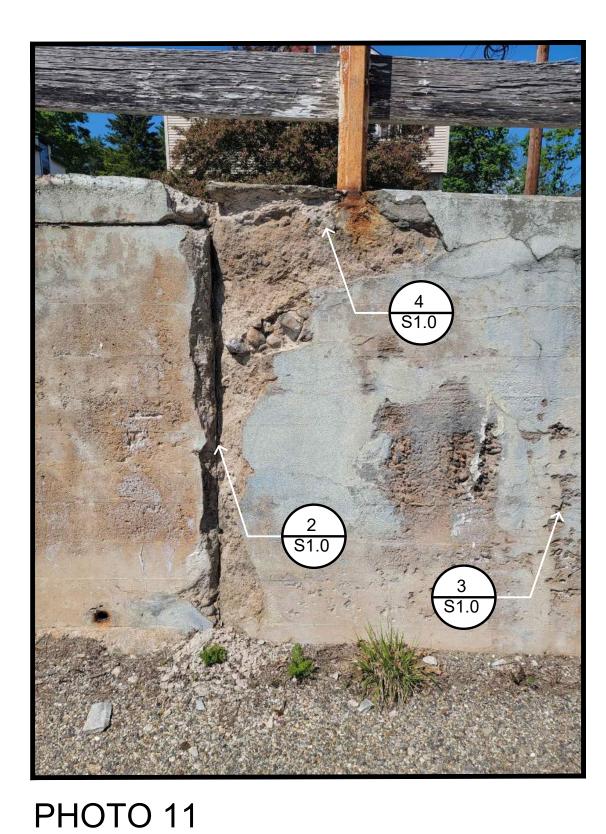
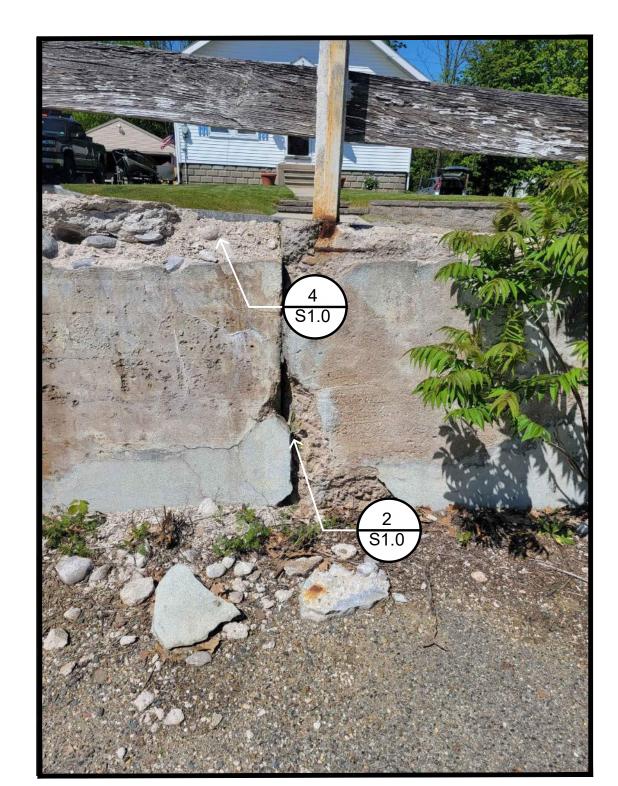


PHOTO 5







PROJECT TITLE / ADDRESS: Community College
System of New Hampshire Woodbury Street Retaining Wall Repair (RVC24-03) 438 Washington Street Keene, NH 03431

FOR BIDDING 03/15/2024

PROJ. NO.:	5329	STAMP
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DRAWN BY:	MR	
CHKD BY:	DVB	
ISSUE DATE:	03-15-2024	

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REVISION	ONS	
1	03/26/2024	ADDENDUM No. 1
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EXISTING CONDITIONS PHOTOS

PHOTO 12 GENERAL NOTES:

- 1. PHOTOS & REPAIR CALLOUTS ARE TO PROVIDE AN EXAMPLE OF REQUIRED REPAIRS AND ARE NOT SHOWING ALL LOCATIONS REPAIRS WILL BE REQUIRED.
- 2. CONTRACTOR TO FIELD VERIFY SOUNDNESS OF CONCRETE & DETERMINE REPAIR DETAIL TO USE.
- 3. CONTACT ENGINEER OF RECORD WITH ANY QUESTIONS OR CLARIFICATIONS NEEDED.

PHOTO 9

