Addendum 2

October 4, 2024

W. Chatham Streetside Trail
Cary Project No.: ST4005

The following items shall be taken into consideration when preparing bids for this project and this addendum shall become a part of and take precedence over anything contrarily shown or described in the Contract Documents.

Addendum 2

Item 1 – Change to Flagger line item

Flagging for traffic control will be paid for as a lump sum item for the project. A revised bid proposal and special provision are attached.

Jeffrey W Meador, PE

SECTION 00300
BID PROPOSAL ("Proposal")

TO: THE TOWN OF CARY, NORTH CAROLINA ("Owner")

FROM: "BIDDER" _____

ADDRESS _____

_____

DATE OF BID _____, 20___

The Bidder hereby signifies that it is his/her/its intention and purpose to enter into a formal Contract with the Town of Cary, North Carolina, to furnish all labor, materials, tools, equipment, apparatus, supplies, and the like required, and to do all the work necessary, for and because of the construction, erection, and/or installation of the proposed "Project":

W. Chatham Street Streetside Trail, ST4005

for the Town of Cary, North Carolina in accordance with the Contract Documents, including Addenda thereto.** There is deposited, herewith, a certified check in the amount of: _____ _____ Dollars ($_____), or a Bid Bond in the amount of five percent (5%) of the total aggregate amount of the Bid, made payable to the Owner, the same to be refunded to the Bidder under the conditions of and in accordance with the terms of this Proposal, which are as follows:

THAT: The Bidder has carefully examined the Plans and Specifications and all other Contract Documents and fully understands them.

THAT: The Bidder has carefully examined the site of the Project and is familiar with the conditions under which the work, or any part thereof, is to be performed and the conditions which must be fulfilled in furnishing and/or installing, erecting or constructing any or all items of the Project.

THAT: The Bidder shall provide all necessary tools, machinery, equipment, apparatus, and all other means necessary to do all the work and shall furnish all labor, materials and all else required to complete such Contract as may be entered into, in the manner prescribed in and in accordance with the terms of the Specifications and the Contract and in accordance with the true intent and meaning thereof, and in accordance with the Plans and/or Drawings and the requirements of the Consulting Engineers under them, in a first class manner.

** Fill in appropriate Addenda number(s):_____

[Terms continued on the following page.]

THAT: The rights of the Owner and the recommendations of the Engineer shall not be questioned in the Award of the Contract.

THAT: It is the intention of the Owner to let contracts on the basis of the Bids received in accordance with G.S. 143-129 and in such manner as the Owner may deem to be for the best interests of the Owner.

THAT: The Owner reserves the right to reject any or all proposals.

THAT: The work under each Section will be awarded under one Contract and that the Owner shall have the right to include such item or items as the Owner may deem to be in the best interests of the Owner.

THAT: On being awarded the Contract, the Bidder shall execute a Performance Bond and a Payment Bond, on the forms included herein, each equal to one hundred percent (100%) of the Contract Price (Contract Sum), as security for the faithful performance of the Contract.

THAT: The Bidder shall submit, in the blank spaces provided, all data, guarantees and other information called for.

THAT: This Proposal shall be signed and submitted in the manner prescribed in the Instructions to Bidders.

THAT: Should this Proposal not be accepted by the Owner, the certified check, in the amount of: _____ Dollars ($_____) or the five percent (5%) Bid Bond, as applicable, deposited herewith shall be returned to the Bidder.

THAT: Should this Proposal be accepted by the Owner and the Bidder fail or neglect to execute the Contract and furnish the required Bonds within ten (10) business days after receiving notifications of the acceptance of the Proposal and/or receipt of the formal Contract and Bond forms, the certified check, in the amount of: _____ _____Dollars ($_____), or the Bid Bond, deposited herewith shall be retained by the Owner as liquidated damages, it being understood that the Owner reserves the right to extend the time allowed for executing the Contract and/or furnishing the Bond in its sole discretion.

THAT: The Bidder shall complete such Contract as may be entered into within the number of consecutive calendar days specified in the Contract from the date of the Notice to Proceed.

THAT: The Bidder proposes to enter into a Contract in accordance with this Proposal, the Plans and Specifications and the Contract Documents included herein, for the prices shown on the following pages.

THAT: The successful bidder shall be required to submit a complete detailed cost breakdown of the Lump Sum Bid Price amount (if project is a lump sum bid) for payment purposes, for approval by the Engineer, prior to the Award of the Contract.

[Terms continued on the following page.]

THAT: It is the intent of these Contract Documents to obtain a Contract based on a Lump Sum Price except where Unit Prices are specifically requested. Where a discrepancy exists between words and numbers in the Bid amount, the written words shall govern. Where a discrepancy exists between unit prices and mathematical computations in the Itemized Proposal, the unit prices and quantities in the Itemized Proposal shall govern.

THAT: The successful bidder shall have all proper Bidder licenses and other applicable licenses required under North Carolina state laws governing their respective trade(s).

THAT: The successful bidder and all subcontractors shall comply with the requirements of Article 2 of Chapter 64 of the North Carolina General Statutes, "Verification of Work Authorization," and shall provide documentation or sign affidavits or any other documents requested by the Town of Cary demonstrating such compliance.

THE FOLLOWING FORMS AND DOCUMENTATION SHALL BE COMPLETELY FILLED OUT AND SUBMITTED WITH THE BIDS:

1. Bid Bond (using forms provided on pages 00300-3 and 00300-10) or other allowable bid security;
2. Photocopy of Bidder's North Carolina Contractors License;
3. Enter Contractor's License Number where called for in proposal and on the outside of sealed envelope containing the proposal;
4. Statement of Compliance with requirement of the General Conditions that the Bidder will ensure that at least half of the Work is performed with the Bidder's employees (provide statement on bidder's letterhead);
5. Certified List of Major Subcontractors;
6. Certified List of Equipment/Material Manufacturers;
7. Bidder's Certificate as to Organization and Authority;
8. Equal Employment Opportunity Addendum;
9. Qualifications of Bidders;
10. Non-Collusive Affidavit;
11. Nondiscrimination Clause.

BID PROPOSAL

GENERAL CONSTRUCTION
FOR THE

W. Chatham Street Streetside Trail

ST4005
(the "Project")

ITEMIZED PROPOSAL

ITEM NO.	ITEM DESCRIPTION	SPECIFICATION REFERENCE	QUANTITY	UNIT	UNIT BID PRICE	AMOUNT BID
1	Mobilization (5%)	NCDOT 800	1	LS		
2	Construction Surveying	NCDOT 801	1	LS		
3	Clearing and Grubbing	NCDOT 200	0.3	Acre		
4	Comprehensive Grading	21000	1	LS		
5	Asphalt Conc. Surface Course, Type S9.5C	NCDOT 610/5000	75	Tons		
6	Asphalt Conc. Intermediate Course, Type I19.0C	NCDOT 610/5000	55	Tons		
7	Asphalt Conc. Base Course, Type B25.0C	NCDOT 610/5000	275	Tons		
8	Asphalt Plant Mix – Pavement Repair	NCDOT 54	160	Tons		
9	2'-6" Concrete Curb & Gutter	NCDOT 846	1,720	LF		
10	6" Header Curb	NCDOT 846	50	LF		
11	4" Concrete Street-Side Trail and Sidewalk	NCDOT 848	1,315	SY		
12	Concrete Curb Ramps	NCDOT 848	13	EA		
13	Brick Pavers	TOC 3100.09	5	SY		
14	6" Concrete Driveway	NCDOT 848	55	SY		
15	Guardrail	NCDOT 862	100	LF		
16	Guardrail End Unit - CAT-1	NCDOT 862	1	EA		
17	Guardrail End	NCDOT 862	1	EA		

	Unit - GREU TL-2					
18	Chain Link Fence, 48" Fabric	NCDOT 866	43	LF		
19	Metal Line Posts for 48" Chain Link Fence	NCDOT 866	4	EA		
20	Metal Terminal Posts for 48" Chain Link Fence	NCDOT 866	2	EA		
21	Standard Metal Safety Rail with Vertical Pickets	TOC 9400.01	160	LF		
22	Decorative Fence	SP	110	LF		
23	Work Zone Signs (Stationary)	NCDOT 1110	136	SF		
24	Work Zone Signs (Portable)	NCDOT 1110	176	SF		
25	Drums	NCDOT 1130	110	EA		
26	Flagger	NCDOT 1150	1	LS		
27	Temporary Crash Cushions	NCDOT 1160	2	EA		
28	Portable Concrete Barrier	NCDOT 1170	210	LF		
29	Paint Pavement Marking Lines (4")	NCDOT 1205	15,208	LF		
30	Paint Pavement Marking Symbol	NCDOT 1205	30	EA		
31	Removal of Pavement Marking Lines (4")	NCDOT 1205	4,274	LF		
32	Removal of Pavement Marking Symbols & Characters	NCDOT 1205	25	EA		
33	Removal of Pavement Marking Lines (24")	NCDOT 1205	330	LF		
34	Thermoplastic Pavement Marking Lines (24", 90 MILS)	NCDOT 1205	1,110	LF		
35	Conduit -	NCDOT 1715	900	LF		

	Unpaved Trenching (2,2")					
36	Conduit - Directional Drill (2,2")	NCDOT 1715	750	LF		
37	Junction Box (Over-Sized, Heavy Duty)	NCDOT 1716	10	EA		
38	Foundation Conditioning Material, Minor Structures	NCDOT 300	114	Tons		
39	Foundation Conditioning Geotextile	NCDOT 300	360	SY		
40	15" RCP-III	NCDOT 310	458	LF		
41	15" RCP-III – w/Watertight Joints	NCDOT 310	310	LF		
42	18" RCP-III – w/Watertight Joints	NCDOT 310	88	LF		
43	24" RCP-III	NCDOT 310	32	LF		
44	24" RCP-IV	NCDOT 310	192	LF		
45	Pipe Removal	NCDOT 340	195	LF		
46	Flowable Fill	NCDOT 840	7	CY		
47	Masonry Drainage Structures	NCDOT 840	23	EA		
48	Frame with Two Grates, STD 840.16	NCDOT 840	3	EA		
49	Frame with Grate & Hood, STD 840.03, Type E	NCDOT 840	1	EA		
50	Frame with Grate & Hood, STD 840.03, Type F	NCDOT 840	1	EA		
51	Frame with Grate & Hood, STD 840.03, Type G	NCDOT 840	14	EA		
52	Frame with Two Grates, 840.24	NCDOT 840	1	EA		
53	Frame with Two Grates, 840.29	NCDOT 840	1	EA		
54	Frame with Cover, 840.54	NCDOT 840	2	EA		
55	Adjustment of	NCDOT 858	2	EA		

	Catch Basins					
56	Rip Rap, Class I	NCDOT 876	18	Tons		
57	Geotextile for Drainage	NCDOT 876	220	SY		
58	Standard Silt Fence	16000	1,590	LF		
59	Standard Inlet Sediment Control Device	16000	30	EA		
60	Standard Check Dam	16000	1	EA		
61	Standard Wattle w/ Pam	16000	6	EA		
62	Standard Wattle	16000	2	EA		
63	Standard Rock Pipe Inlet Protection	16000	5	EA		
64	Concrete Washout	16000	1	EA		
65	Temporary Seeding and Mulching	16000	3,000	SY		
66	Permanent Lawn Seeding and Mulching	16000	7,300	SY		
67	Safety Fence	SP	14,600	LF		
68	Supports, 3-lb Steel U-Channel	NCDOT 903	200	LF		
69	Sign Erection, Type "E" (Ground Mounted)	NCDOT 904	1	EA		
70	Sign Erection, Relocate Type "E" (Ground Mounted)	NCDOT 904	13	EA		
71	Stockpile Sign Type "D," "E," or "F"	NCDOT 907	13	EA		
72	Sign Erection, Type E	NCDOT 904	9	SF		
73	Disposal Of Sign System, U-Channel	NCDOT 907	8	EA		
74	Disposal of Support, U-Channel	NCDOT 907	20	EA		
75	Sign Erection,	21000	1	EA		

	Relocate Sign Type "CAMPUS.3" - Downtown Cary (Ground Mounted)					
76	Sign Posts (Decorative Supports)	21000	1	EA		
77	LED Enhanced Sign System Double Sided	SP	6	EA		
78	Soldier Pile Retaining Wall (RWAL 1)	SP	150	SF		
79	Soldier Pile Retaining Wall (RWAL 2)	SP	750	SF		
80	Precast Concrete Boardwalk	SP	1	LS		
81	Class A Concrete	NCDOT 420	22	CY		
82	Reinforcing Steel	NCDOT 425	3,250	LB		
83	Pile Driving Equipment Setup for HP 12x53 Steel Piles	NCDOT 450	4	EA		
84	HP 12 x 53 Steel Piles	NCDOT 450	90	LF		
85	Steel Pile Points	NCDOT 450	4	EA		
86	Predrilling for Piles	NCDOT 450	20	LF		
87	Rip-Rap Class II, 2'-0" Thick	NCDOT 876	25	Tons		
88	Geotextile for Drainage	NCDOT 876	30	SY		
89	8" RJDI Pipe PC350	NCDOT 1510	329	LF		
90	Ductile Iron Water Pipe Fittings	NCDOT 1510	845	LB		
91	8" Valve	NCDOT 1515	1	EA		
92	Abandon 8" DI Pipe (Water)	NCDOT 1530	326	LF		
93	Concrete Cradle	SP	2	EA		
94	Adjustment of Manhole	NCDOT 859	1	EA		

TOTAL BID PRICE	

Bidder_____
(Print)

NOTE: PROPOSAL SIGNATURE REQUIRED ON PAGE 00300-13**.** ALL PROPOSALS MUST BE PROPERLY EXECUTED TO BE CONSIDERED A VALID BID.

CERTIFIED LIST OF MAJOR SUBCONTRACTORS

The Bidder, as part of the procedure for the submission of Bids on the Project, submits the following list of Major Subcontractors to be used in the performance of work to be done on said Project. Changes to this list after the Bid opening shall only be as approved by the Owner upon request by the Bidder or as required by the Owner based upon review of Bidder's submittals:

SUBCONTRACTOR	SUBCONTRACTOR'S NAME AND ADDRESS
Asphalt:	_____
Concrete:	_____
Traffic Control:	_____
Erosion Control:	_____
Pavement Markings:	_____

It is understood and agreed that, if awarded a Contract, the Bidder shall not make any additions, deletions or substitutions to this certified list without the consent of the Owner.

CERTIFICATION AFFIDAVIT

THE ABOVE INFORMATION IS TRUE AND COMPLETE TO THE BEST OF MY KNOWLEDGE AND BELIEF. I FURTHER UNDERSTAND AND AGREE THAT, IF AWARDED A CONTRACT, THIS CERTIFICATION SHALL BE ATTACHED THERETO AND BECOME A PART THEREOF.

_____
[If Bidder is not an individual, enter entity name here]

By: _____
(Signature)

NAME OF SIGNER: _____
(Please Print or Type)

TITLE OF SIGNER:_____
(Please Print or Type)

DATE: _____

CERTIFIED LIST OF EQUIPMENT/MATERIAL MANUFACTURERS

The Bidder, as part of the procedure for the submission of Bids on the Project, submits the following list of Equipment/Materials Manufacturers to be used in the performance of work to be done on said Project. The list of Manufacturers and all equipment/materials furnished shall be based on requirements of the Contract Documents. Changes to this list after the Bid opening shall only be as approved by the Owner upon request by the Bidder or as required by the Owner based upon review of Bidder's submittals:

EQUIPMENT/MATERIALS	MANUFACTURER

It is understood and agreed that, if awarded a Contract, the Bidder shall not make any additions, deletions or substitutions to this certified list without the consent of the Owner. Failure to identify a manufacturer for any or all of the items listed shall constitute an entry of one of the manufacturers listed in its respective technical specification.

CERTIFICATION AFFIDAVIT

THE ABOVE INFORMATION IS TRUE AND COMPLETE TO THE BEST OF MY KNOWLEDGE AND BELIEF. I FURTHER UNDERSTAND AND AGREE THAT, IF AWARDED A CONTRACT, THIS CERTIFICATION SHALL BE ATTACHED THERETO AND BECOME A PART THEREOF.

_____
[If Bidder is not an individual, enter entity name here]

By: _____
(Signature)

NAME OF SIGNER: _____
(Please Print or Type)

TITLE OF SIGNER:_____
(Please Print or Type)

DATE: _____

BID SECURITY:

Accompanying this Proposal is a (1)_____ in the amount of (2)_____ Dollars ($_____).

NOTE: (1) Insert the words “bank draft,” “certified check,” “bid bond”, or “cashiers check”, as the case may be.

(2) Amount must be equal to at least five percent (5%) of the total Bid.

BIDDER’S LICENSE:

The Bidder certifies that (he/she/it) is licensed as a Bidder under the specific North Carolina state law regulating his/her/its particular trade and that the number of the license under which he/she/it now operates is_____.

BIDDER’S CERTIFICATION AS TO ORGANIZATION AND AUTHORITY:

The Bidder certifies that the Affidavit of Organization and Authority, like the other documents attached hereto, form an integral part of the Proposal, and the Bidder acknowledges that the Owner will rely on the information provided therein in reviewing the Proposal and awarding a Contract.

LIQUIDATED DAMAGES:

The Bidder agrees, further, that the Owner may retain those amounts indicated in the Contract from the amount of compensation due the Bidder, under the terms of the Contract, for each and every day that the work remains incomplete and/or unsatisfactory beyond the completion date(s) specified in the Notice to Proceed. This amount is agreed upon as the proper measure of liquidated damages the Owner will sustain, per day, by the failure of the Bidder to complete the work within the stipulated time, and it is not to be construed in any sense as a penalty.

The Bidder shall not have or bring a claim against the Owner, or raise as a defense against the imposition of liquidated damages, other construction purportedly impeding Bidder’s progress or timely project completion.

(SIGNATURE PAGE)

Dated _____, 20___.

_____ (SEAL)
Bidder—Legal Entity

By: _____ (SEAL)
(SIGN HERE)

SEAL-if corporation

_____
Printed Name

_____

_____
Address

(___) _____
Telephone No.

Subscribed and sworn to before me this ___ day of _____, 20___

_____
Notary Public

My Commission Expires:

_____

BID BOND

This is a Bid Bond that is subject to the provisions of Chapter 143, Article 8, Section 129(b) of the North Carolina General Statutes.

This Bid Bond is executed on _____, 20__.

The name of the PRINCIPAL is _____ (1)

_____ (2)

The name of the SURETY is _____

_____

The TOWN OF CARY, NORTH CAROLINA is the OWNER.

The amount of the Bond is _____

_____ (Dollars) ($_____)

KNOW BY ALL MEN BY THESE PRESENTS, the Principal and Surety above named are hereby held and firmly bound unto the above named OWNER hereinafter called the OWNER in the penal sum of the amount stated above in lawful money of the United States, for the payment of which, well and truly to be made, we hereby jointly and severally bind ourselves, our heirs, executors, administrators, successors and assigns.

The condition of the above obligation is such that whereas the Principal has submitted to the OWNER a certain Bid Proposal, attached hereto and hereby made a part hereof to enter into a Contract in writing, for the construction of:

_____

_____

NOW, THEREFORE

(a) If said Bid Proposal shall be rejected; or in the alternate,

(b) If said Bid Proposal shall be accepted and the Principal shall execute and deliver a Contract in the form of Contract attached hereto (properly completed in accordance with said Bid Proposal) and shall furnish a bond for his faithful performance of said Contract, and for the payment of all persons performing labor or furnishing materials in connection therewith, and shall in all other respects perform the agreement created by the acceptance of said Bid Proposal, then this obligation shall be void, otherwise the same shall remain in force and effect; it being expressly understood and agreed that the liability of the Surety for any and all claims hereunder shall, in no event, exceed the penal amount of this obligation as herein stated.

The Surety, for value received, hereby stipulates and agrees that the obligations of said Surety and its Bid Bond shall be in no way impaired or affected by any extension of the time within which the Owner may accept such Bid Proposal; and said Surety does hereby waive notice of any such extension.

IN WITNESS WHEREOF, the Principal and the Surety have hereunto set their hands and seals, and such of them as are corporations have caused their corporate seals to be hereto affixed and these presents to be signed by their proper officers, the day and year first set forth above.

ATTEST:

_____
(Principal) Secretary
(SEAL)

_____
Principal

BY: _____ (3)

_____
(Address)

_____
Witness as to Principal

_____
(Address)

ATTEST:

_____
Surety

_____
N. C. Resident Agent
(SEAL)

By: _____

_____(4)
(Name)

_____
(Address)

_____
(Phone Number)

_____
Witness as to Surety

_____
(Address)

(1) Insert the correct name of Principal.
(2) Insert whether the Principal is a corporation, a partnership, a limited liability company or an individual.
(3) If Principal is a partnership, all partners should execute the Bid Bond. If Bidder is a limited liability company, all managers (or all members, if the company is member-managed) should execute the Bond.
(4) Provide contact name, address and phone number for bid bond surety.

POWER OF ATTORNEY
(Attach)

BIDDER'S CERTIFICATES
AFFIDAVIT OF ORGANIZATION AND AUTHORITY
SWORN STATEMENT

STATE OF _____)

COUNTY OF _____)

_____ being first duly sworn on oath deposes and says that the Bidder on the attached Bid Proposal is organized as indicated below and that all statements herein made are made on behalf of such Bidder and that this deponent is authorized to make them.

(Fill Out Applicable Paragraph)

CORPORATION:

The Bidder is a corporation organized and existing under the laws of the State of _____, it operates under the legal name of _____, and the full names of its officers are as follows:

President _____
Secretary _____
Treasurer _____

and it does _____ have a corporate seal. The _____ is/are authorized to sign construction proposals and contracts for the company by action of its Board of Directors taken _____, a certified copy of which is hereto attached. (Strike out this last phrase if not applicable.)

PARTNERSHIP:

The Bidder is a [limited/general] partnership consisting of individual/corporate partners as follows:

General Partners	Limited Partners

The partnership does business under the name of :_____

LIMITED LIABILITY COMPANY:

The bidder is a [member-managed/manager-managed] limited liability company consisting of the following individual/corporate members/managers:

Managers	Members

INDIVIDUAL:

The Bidder is an individual whose full name is:

_____

and if operating under a trade name, said trade name is as follows:

_____

The business address of the Bidder is: _____

_____

_____

Its phone number is: _____

The contact person for this Proposal is: _____

_____

Bidder

By: _____

Subscribed and sworn to before me this _____ day of _____, 20__.

_____ _____

Notary Public County

My Commission Expires:

_____

EQUAL EMPLOYMENT OPPORTUNITY ADDENDUM ("ADDENDUM")

During the performance of the Contract the Bidder agrees as follows:

a. The Bidder shall not discriminate against any employee or applicant because of race, color, religion, sex, or national origin. The Bidder shall take affirmative action to ensure that applicants are employed, and that employees are treated during employment, without regard to race, color, religion, sex, or national origin. Such action shall include but not be limited to the following: employment, upgrading, demotion, or transfer, recruitment or recruitment advertising, layoff or termination, rates of pay or other forms of compensation, and selection for training, including apprenticeship. The Bidder agrees to post in conspicuous places, available to employees and applicants for employment, notices setting forth the provisions of the nondiscrimination clause.

b. The Bidder shall, in all solicitations or advertisements for employees placed by or on behalf of the Bidder, state that all qualified applicants will receive consideration for employment without regard to race, color, religion, sex, or national origin.

c. The Bidder shall send to each labor union or representative of workers with which he has a collective bargaining agreement or other contract understanding, a notice, to be provided, advising the labor union or worker's representative of the Bidder's commitments under the Equal Employment Opportunity Section of the Contract, and shall post copies of the notice in conspicuous places available to employees and applicants for employment.

d. In the event of the Bidder's noncompliance with the nondiscrimination clauses of the Contract or with any of such rules, regulations, or orders, the Contract may be canceled, terminated, or suspended in whole or in part and the Bidder may be declared ineligible for further OWNER contracts.

e. The Bidder will include the provisions of this Addendum in every subcontract or purchase order unless exempted by rules, regulations, or orders of the OWNER so that such provisions will be binding upon each Subcontractor or vendor.

(Use the following form for execution by a CORPORATION):

_____
Corporate Name

ATTEST:

_____ BY:_____
(Assistant) Secretary (Vice) President

(CORPORATE SEAL)

(Use the following form for execution by a PARTNERSHIP):

_____(SEAL)
Partnership Name

BY: _____(SEAL)
General Partner

(Use the following form for execution by a LIMITED LIABILITY COMPANY):

_____(SEAL)
Company Name

BY:_____(SEAL)
Manager/Member

(Use the following form for execution by an INDIVIDUAL):

BY:_____(SEAL)

WITNESS:

_____

Subscribed and sworn to before me this _____ day of _____, 20__.

_____ _____
Notary Public County

My Commission Expires:

_____

QUALIFICATIONS OF BIDDERS

In order to assist the Owner in determining whether the Bidder is qualified to perform the Work, as set forth in the Contract Documents, the Bidder shall furnish the following information.

1. List of references who are qualified to judge as to his financial responsibility and his experience in work of similar nature to that bid upon:

2. List of previous contracting experience, including dollar values of contracts:

3. List of facilities or equipment that is available for use:

4. Name, residence, and title of the individual who will give personal attention to the work:

5. Financial Statement:

ASSETS

CURRENT ASSETS:

Cash	$_____	
Notes and Accounts Receivable	_____	
Inventories	_____	
PLANT ASSETS:		
Real Estate	$_____	
Machinery	_____	
Good Will, Patents, etc.	_____	$ _____ Total Assets

LIABILITIES:

Notes Payable	$_____	
Accounts Payable	_____	
Accrued Wages	_____	
Other Liabilities	_____	$ _____ Total Liabilities
	EXCESS OF ASSETS OR NET WORTH	$ _____

6. List all Claims, prior and pending, against the Bidder by the Town of Cary, including the resolution of such Claims, if any:

Claim	Date of Claim	Resolution, if any

The existence of unresolved claims against Bidder may disqualify the Bidder from making a Bid Proposal and entering into a Contract with the Town of Cary.

Notes:

A. The above is a suggested form for the Financial Statement, but the Bidder is not required to follow the form explicitly. The Financial Statement submitted must clearly show to the satisfaction of the Owner the Bidder's current financial condition. The Owner reserves the privilege of requiring additional information as to financial responsibility of the Bidder prior to awarding Contract.

B. Bidder shall attach additional pages, if necessary, in order to complete the required information.

C. The Bidder shall submit detailed information required for above Items 1 through 4 with his Bid Proposal package. The information required under Items 5 and 6 may be furnished after Bid Proposals are received if required by the Owner and Engineer to evaluate the qualifications of a prospective Bidder.

NON-COLLUSIVE AFFIDAVIT

State of _____)
) ss.
County of _____)

_____being first duly sworn, deposes and says that:

(1) He/she is the _____
(Owner, Partner, Officer, Representative or Agent)
of _____, the BIDDER that has submitted the attached BID PROPOSAL;

(2) He is fully informed respecting the preparation and contents of the attached BID PROPOSAL and of all pertinent circumstances respecting such BID PROPOSAL;

(3) Such BID PROPOSAL is genuine and is not a collusive or sham BID PROPOSAL;

(4) Neither the said BIDDER nor any of its officers, partners, owners, agents, representatives, employees or parties in interest, including this affiant, have in any way colluded, conspired, connived or agreed, directly or indirectly, with any other BIDDER, firm, or person to submit a collusive or sham BID PROPOSAL in connection with the Contract for which the attached BID PROPOSAL has been submitted; or to refrain from bidding in connection with such Contract; or have in any manner, directly or indirectly, sought by agreement or collusion, or communication, or conference with any BIDDER, firm, or person to fix the price or prices in the attached BID PROPOSAL or of any other BIDDER, or to fix any overhead, profit, or cost elements of the BID PROPOSAL price or the BID PROPOSAL price of any other BIDDER, or to secure through any collusion, conspiracy, connivance, or unlawful agreement any advantage against The Town of Cary, or any person interested in the proposed Contract;

(5) The price or prices quoted in the attached BID are fair and proper and are not tainted by any collusion, conspiracy, connivance, or unlawful agreement on the part of the BIDDER or any other of its agents, representatives, owners, employees or parties in interest, including this affidavit.

_____
BIDDER

BY _____

ITS _____
(Title)

Subscribed and sworn to before me this _____ day of _____, 20__.

_____ _____
Notary Public County

My commission expires _____

END OF AFFIDAVIT

NONDISCRIMINATION CLAUSE

It is specifically agreed as part of the consideration of the signing of this Bid Proposal, and the resulting execution of a Contract, that, to the extent permitted by law, the parties hereto, their agents, officials, employees, contractors, agents, successors, or permitted assigns shall not discriminate against any member of a protected class as defined by federal, state, or local law, including Wake County Code of Ordinances Section 34.01.

This provision shall be binding on the successors and assigns of the parties hereto with reference to the subject matter of the Contract.

(Use the following form for signatures by a CORPORATION):

_____
Corporate Name

ATTEST:

_____ BY: _____
(Assistant) Secretary (Vice) President

_____ _____
(Printed Name) (Printed Name)

(Corporate Seal)

(Use the following form for signatures by a PARTNERSHIP):

_____ _____(SEAL)
WITNESS Partnership Name

_____ BY: _____(SEAL)
(Printed Name) General Partner

(Use the following form for signatures by a LIMITED LIABILITY COMPANY):

_____	_____(SEAL)
WITNESS	Company Name
_____	BY:_____(SEAL)
(Printed Name)	Manager/Member

(Use the following form for signatures by an INDIVIDUAL):

_____(SEAL)

_____
(Printed Name)

_____
WITNESS

_____
(Printed Name)

Subscribed and sworn to before me this _____ day of _____, 20__.

_____	_____
Notary Public	County

My Commission Expires:

_____

NOTICE OF AWARD

TO: CONTRACTOR/BIDDER: _____

ADDRESS: _____

_____

FROM: _____
_____
_____

OWNER: Town of Cary
Cary, North Carolina

PROJECT: _____
_____

You are hereby notified that the Owner has considered the Bid Proposal submitted by you for the above-described project in response to its Notice to Bidders dated _____.

It appears that it is to the best interest of said Owner to accept your Bid Proposal in the amount of: _____ Dollars ($_____). You are therefore hereby notified that your Bid Proposal has been accepted .

The Bidder is required by as a condition of its Award of the Contract to execute and deliver the formal Contract with the Owner and to furnish the required Bidder's Performance and Payment Bonds within ten (10) business days from the date of the delivery of this Notice to you.

If you fail to execute said Contract and to furnish said Bonds within ten (10) business days from the date of delivery of this Notice, said Owner will be entitled to consider all your rights arising out of the Owner's acceptance of your Bid Proposal as abandoned and to award the work covered by your Bid Proposal to another bidder, or to readvertise the work or otherwise dispose thereof as the Owner may see fit.

Dated this _____day of _____, 20____.

Town of Cary, North Carolina

By: _____

Title: _____

ACCEPTANCE OF NOTICE

Receipt of the above Notice of Award is hereby acknowledged this _____day of _____, 20_____.

_____
Bidder

By: _____

Title: _____

- END OF SECTION -

SECTION 21000
SPECIAL CONSTRUCTION
(05-03-2024)

The following items in Section 21000 are project specific and shall supersede any other conflicting portion of these Contract Documents. If a conflict arises between Town of Cary Specifications, NDOT Standard Specifications, and the Contract Documents, the hierarchy shall be as specified in Article 3.03B of the EJCDC C-700 Standard General Conditions of the Contract Documents.

GENERAL/SITE PREPARATION:

(12-11-23) SP (Town of Cary)

A. The Contractor shall verify any tree or landscaping item to be preserved with the Engineer prior to performing the work. Contractor shall provide notice to the Engineer for any of these items that cannot be preserved as noted on the construction drawings prior to removal.

B. The contractor shall accept the actual conditions at the site and perform the work specified without additional compensation for possible variation from grades and conditions shown whether surface or subsurface, except as provided for by the Contract Documents. If existing conditions are at variance with the drawings, the Engineer shall be notified before proceeding with the work, and adjustments shall be made only as directed by the Engineer.

C. All construction shall conform to the most recently adopted edition of the Town of Cary Standard Specifications and Details, the NCDOT Standard Specifications, NCDOT Roadway Standard Drawings, Plan Details and the specifications contained in this entire project manual. The most recent Town of Cary Standard Specifications and Detail Drawings are effective July 1, 2023. The 2024 NCDOT Standard Specifications and Roadway Standard Drawings shall be used for this project.

D. Subsurface information is not available for all areas on this project. The Contractor shall make his own interpretations of all subsurface conditions.

E. Prior to construction of all concrete wheelchair ramps, as shown on the construction plans, the Contractor shall coordinate with Town of Cary to hold an on-site field meeting with all personnel to review proposed wheelchair ramp details and methods.

F. Traffic control for bicyclists, pedestrians and motorists shall be provided on each street by the Contractor in strict conformance with NCDOT Supplement to the MUTCD, the MUTCD or as directed by the Engineer. No work shall begin on any street without the proper traffic control measures in place.

G. No adjustment in compensation shall be made due to any variations in the price for any “fuel” or any other additives during the life of the project.

H. Contractor is responsible for coordinating all utility relocation work whether shown in the plans or not with the appropriate utility company. This requirement includes all traffic signalized areas affected by construction. There will be no direct payment for this work as it will be considered incidental to the various bid items indicated in the Itemized Proposal.

I. Contractor shall be responsible for coordinating any private utility adjustments needed for widening, sidewalk, multi-use trails, milling and resurfacing. There will be no separate payment for private utility coordination efforts.

J. Prior to performing work, the Contractor shall contact the One Call Center locating service at (800) 632-4949 and/or the affected local utility for immediate location of all underground utilities in the vicinity of each work location.

K. At each work location, Contractor shall identify excavation locations by means of pre-marking with white paint, flags, or stakes or provide the One Call Center a specific written description of the location in the locate request. Contractor shall differentiate on locate requests active work areas. There will be no direct payment for this work as it will be considered incidental to the various bid items indicated in the Itemized Proposal.

L. The Contractor's attention is called to the existence of underground utilities and structures.

M. The Contractor is advised to perform a field check of all physical conditions prior to submitting his cost proposal and to exercise extreme caution during construction. Neither the Town of Cary nor the State of North Carolina will assume any responsibility or honor any claims due to costs incurred to the Contractor as a result of damage to existing facilities.

N. The Town of Cary will under no circumstances be responsible for any damages incurred or experienced by one Contractor or Utility Owner as a result of the presence and operations of other contractors or Utility Owners working within or adjacent to the limits of the same project

O. The Contractor shall notify Town of Cary Public Works at (919) 469-4090 before adjusting or relocating any of the utilities including sewer manhole. Contractor shall also coordinate all work herein with the Project Inspector.

P. Contractor shall maintain pedestrian access and all devices related to providing an accessible route at all times as stated and/or shown in the Transportation Management Plans. There will be no direct payment for this work as it will be considered incidental to the line item “Temporary Traffic Control.”

ASPHALT:

(12-11-23) SP (Town of Cary)

A. No adjustment in compensation shall be made due to any variation in the price for any “Asphalt Binder for Plant Mix” or any other additives during the life of the project. There shall be no separate payment of “Asphalt Binder for Plant Mix” as it is incidental to the project.

B. Plans make reference to areas where removal and replacement of existing asphalt may be needed to do construction of new curb and gutter adjacent to existing asphalt. Engineer and Contractor will review the side after completion of curb and gutter to determine if this work is needed.

CONCRETE:

(12-11-23) SP (Town of Cary)

A. The Contractor shall install “truncated dome warning materials” or “detectable warning strips” flush with the proposed sidewalk grade as shown on the plans. All warning dome materials shall be black in color and shall contrast to the ramp surface according to the most recently adopted version of the NCDOT Roadway Standard Drawings. There will be no direct payment for this work as it will be considered incidental to the various contract items in the bid proposal.

B. Use material for detectable warning (Detectable Warning Domes) systems as shown in the construction plans and various details. Material specifications must be stated in the Manufacturers Type 3 Certification and all Detectable Warning systems must be on the NCDOT Approved Products List. Prior to ordering materials, provide Engineer this information via submittal in accordance with Section 02000 and Article 106-3 of the NCDOT “Standard Specifications for Roads and Structures”.

C. Only one material type and manufacturer for detectable warnings (truncated domes) will be permitted on this project.

D. The Contractor shall provide detectable warning dome materials free of gaps along radii as shown on the plans.

E. All concrete form work and sidewalk alignment shall be approved by the Town Project Inspector prior to placement of concrete.

F. All final grading work shall be approved by the Engineer prior to placement of groundcover work. Contractor shall coordinate this requirement herein with the Engineer.

G. Contractor shall seal all contraction and expansion joints, for all concrete curb and gutter, driveways, sidewalks, islands, curb, driveway, transitional sections at islands, monolithic islands, concrete covers, slope protection, bus stop pads, concrete multi-use paths, aprons and wheelchair ramps on all streets on this project (Both Town and NCDOT Maintained) shall be sealed according to the January 2024 NCDOT “Standard Specifications for Roads and Structures” Sections 825-10 and 846-3. Joint sealer materials shall meet the minimum requirements of Article 1028 of the latest edition of the NCDOT “Standard Specifications for Roads and Structures”.

MATERIAL SAMPLING AND TESTING

The Town will select an independent company for materials sampling and testing with a recognized and approved testing laboratory. The expense of such tests shall be borne by the Town, unless otherwise specified. No direct payment will be made for coordination of these tests as such costs will be considered incidental to other work being paid for by the various items in the contract.

The Contractor shall schedule and coordinate each test. The Town shall have the option to reject request for testing due to the Contractor's inadequate preparation of material or other reasonable causes determined by the Town as necessary for the delay of testing. The Contractor shall notify the Town 48 hours ahead of time of the scheduled test and shall supply all material tests to the Town. Any cost resulting from the Town requiring re-compaction or retesting of a previously compacted and tested fill shall be borne by the Contractor.

REQUEST FOR INFORMATION (RFI) PROCEDURES

All requests for information need to be sent to the Town or duly authorized agent in writing.

PRE-CONSTRUCTION CONFERENCE

A pre-construction conference will be scheduled as soon as practical after award of the Contract. The Contractor shall attend the pre-construction conference with the prospective project superintendent, any anticipated major subcontractors and major suppliers. The utility representatives should also be invited to the pre-construction conference. A proposed progress schedule as noted in the “Submittals Specification” and a statement of the anticipated monthly progress payments showing the percent of progress each month shall be submitted by the Contractor to the Town. The Contractor shall also provide at least two (2) local telephone numbers that may be used to contact the Contractor or the Contractor’s authorized representative in the event of an emergency after normal business hours.

NOTIFICATION OF ADJACENT PROPERTY OWNERS

Prior to construction, the Contractor shall notify, in writing, business, residents and property owners adjacent to the proposed construction of impending work at least two (2) weeks in advance of beginning construction in the vicinity of their property. Construction limits shall be staked prior to this notice. A draft of the notice should be submitted to the Town at the pre-construction meeting. This notification will permit property owners to remove any vegetation from the construction area they wish to keep.

No separate payment will be made for this work, and all associated costs will be considered incidental to other items in the contract.

SURVEYING AND LAYOUT

Surveying and Layout for the construction of this project shall be the responsibility of the Contractor and shall be in accordance with NCDOT Manual for Construction Layout and Section 801 of the 2024 Standard Specifications.

POST-CONSTRUCTION AS-BUILT SURVEYING

The Contractor shall submit to Cary an electronic (as well as PDF copy) CADD drawing files(s) of the NCPLS certified post-construction survey once the work in each area has reached substantial completion.

All structures and appurtenances requiring coordinate submission as per the "Record Drawing Checklist" (See Section 22000 - Appendix) shall be submitted in the format of P, N, N, E, Z, D (Point, Number, Northing, Easting, Elevation, Description). The descriptions used shall be common industry abbreviated terms (WM, WV, FH, etc.). The as-built survey file(s) must be submitted to the Town of Cary and approved prior to issuance of final payment.

No additional compensation will be provided for As-Built Surveys as these costs associated with this work will be considered incidental to "Construction Surveying" at the established line item unit price per lump sum identified in the itemized proposal.

STORAGE OF MATERIALS

In addition to Section 106-5 of the January 2024 *North Carolina Department of Transportation Standards and Specifications for Roadways and Structures* the following shall also apply:

Private property shall not be used for storage purposes without written permission of the Owner or lessee of such property. This does not apply to excavated and/or waste material from the project that shall be regulated by reclamation plans development and approval.

The Contractor shall make all arrangements and bear all expenses for the storage of materials on private property. Upon request, the Contractor shall furnish the Town a copy of the property owner's permission.

The Contractor shall be responsible for locating and providing any additional storage areas (not shown on the plans) for construction materials and equipment. The material and equipment storage shall comply with all local and state ordinances throughout the construction period. The Contractor shall restore the storage area to its original condition upon completion of the Project or upon such time as directed by the Engineer. Such restoration shall be at no additional cost to the Town.

The Contractor shall be responsible for the safeguarding of materials and equipment against fire, theft and vandalism and shall not hold the Town responsible in any way for the occurrences of same. The Contractor shall furnish and erect, at no additional

cost, whatever works may be necessary for the protection of the public, including but not limited to barricades, fences, etc. Prior to final payment being made, the Contractor shall obtain a release from the property owner of the storage area utilized for the Project.

USE OF PREMISES

The Contractor shall confine his equipment, storage of materials, and construction operations to the contract limits as shown on the Drawings or if no contract limits are shown, to the right-of-way shown and as prescribed by ordinances or permits or as may be directed by the Town and shall not unreasonably encumber the site or public rights of way with his materials and construction equipment. Contractor shall coordinate and provide at least 48 hours advance notice to private property owners that they will be working within the easement areas.

The Contractor shall comply with all reasonable instructions of Cary and the ordinances and codes of Cary, regarding signs, advertising, traffic, fires, explosives, danger signals, and barricades.

CLEARING AND GRUBBING - METHOD II:

(9-17-02) (Rev.8-18-15) 200 SP2 R02A

Perform clearing on this project to the limits established by Method “II” shown on Standard Drawing No. 200.02 of the *2024 Roadway Standard Drawings*. Conventional clearing methods may be used except where permit drawings or conditions have been included in the proposal which require certain areas to be cleared by hand methods.

Contractor shall stake the proposed clearing limits. Onsite meeting is required with Contractor, Engineer, and Inspector to review clearing limits before any clearing may begin.

BURNING RESTRICTIONS:

(7-1-95) 200, 210, 215 SP2 R05

Open burning is not permitted on any portion of the right-of-way limits established for this project. Do not burn the clearing, grubbing or demolition debris designated for disposal and generated from the project at locations within the project limits, off the project limits or at any waste or borrow sites in this county. Dispose of the clearing, grubbing and demolition debris by means other than burning, according to state or local rules and regulations.

COMPREHENSIVE GRADING:

SP (Town of Cary)

"Comprehensive Grading" shall be made under the contract unit price bid per Lump Sum designated on the Itemized Proposal and shall be in accordance with these Contract Documents, the construction drawings and the Town of Cary Standard Specifications and Details. Unit price and payments shall be full compensation for all work in accordance within this Section 21000 and the requirements of Section 4000 for Unclassified Excavation, Embankment, Undercut Excavation and Borrow Excavation.

"Comprehensive Grading" shall also include but not be limited to the removal and disposal of drainage structures, pipe end walls, pipe headwalls, flared end sections, pipe collars, storm drainage pipe, sub drain pipe, under drains, abandoned utility lines, plugging abandoned utility lines, sign foundations, abandoned utility lines, concrete steps, abandoned duct banks for utilities, concrete covers, removal of rock for construction, concrete sidewalk, concrete curb, concrete curb and gutter, concrete traffic islands, concrete foundations, concrete slope protection, rip-rap slope protection, traffic signal CCTV/ITSS foundations, traffic signal cabinet foundations, masonry and concrete structures, retaining walls, removal and disposal of existing driveway materials, removal and disposal of asphalt trails and asphalt pavement, fine grading for all components of the project, excavation, undercut, stockpiling and replacing topsoil, removal and disposal of masonry and foundations, furnishing waste sites, furnishing borrow sources, providing borrow, providing shoulder borrow, grading shoulders, shoulder reconstruction, drainage ditch excavation, grading for positive drainage in existing ditch lines, site restoration of waste or staging areas, grading berms, compaction, equipment, labor, trucking, hauling, landfill fees, permits and/or any certifications to satisfactorily complete the work.

SAFETY FENCE AND JURISDICTIONAL FLAGGING:

Description

Safety Fence shall consist of furnishing materials, installing and maintaining polyethylene or polypropylene fence along the outside riparian buffer, wetland, or water boundary, or other boundaries located within the construction corridor to mark the areas that have been approved to infringe within the buffer, wetland, endangered vegetation, culturally sensitive areas or water. The fence shall be installed prior to any land disturbing activities.

Interior boundaries for jurisdictional areas noted above shall be delineated by stakes and highly visible flagging.

Jurisdictional boundaries at staging areas, waste sites, or borrow pits, whether considered outside or interior boundaries shall be delineated by stakes and highly visible flagging.

Materials

(A) Safety Fencing

Polyethylene or polypropylene fence shall be a highly visible preconstructed safety fence approved by the Engineer. The fence material shall have an ultraviolet coating.

Either wood posts or steel posts may be used. Wood posts shall be hardwood with a wedge or pencil tip at one end, and shall be at least 5 ft. in length with a minimum nominal 2" x 2" cross section. Steel posts shall be at least 5 ft. in length, and have a minimum weight of 0.85 lb/ft of length.

(B) Boundary Flagging

Wooden stakes shall be 4 feet in length with a minimum nominal 3/4" x 1-3/4" cross section. The flagging shall be at least 1" in width. The flagging material shall be vinyl and shall be orange in color and highly visible.

Construction Methods

No additional clearing and grubbing is anticipated for the installation of this fence. The fence shall be erected to conform to the general contour of the ground.

(A) Safety Fencing

Posts shall be set at a maximum spacing of 10 ft., maintained in a vertical position and hand set or set with a post driver. Posts shall be installed a minimum of 2 ft. into the ground. If hand set, all backfill material shall be thoroughly tamped. Wood posts may be sharpened to a dull point if power driven. Posts damaged by power driving shall be removed and replaced prior to final acceptance. The tops of all wood posts shall be cut at a 30-degree angle. The wood posts may, at the option of the Contractor, be cut at this angle either before or after the posts are erected.

The fence geotextile shall be attached to the wood posts with one 2" galvanized wire staple across each cable or to the steel posts with wire or other acceptable means.

Place construction stakes to establish the location of the safety fence in accordance with Article 105-9 or Article 801-1 of the Standard Specifications. No direct pay will be made for the staking of the safety fence. All stakeouts for safety fence shall be considered incidental to the work being paid for as "Construction Surveying", except that where there is no pay item for construction surveying, all safety fence stakeout will be performed by state forces.

The Contractor shall be required to maintain the safety fence in a satisfactory condition for the duration of the project as determined by the Engineer.

(B) Boundary Flagging

Boundary flagging delineation of interior boundaries shall consist of wooden stakes on 25 feet maximum intervals with highly visible orange flagging attached. Stakes shall be installed a minimum of 6" into the ground. Interior boundaries may be staked on a tangent that runs parallel to buffer but must not encroach on the buffer at any location. Interior boundaries of hand clearing shall be identified with a different colored flagging to distinguish it from mechanized clearing.

Boundary flagging delineation of interior boundaries will be placed in accordance with Article 105-9 or Article 801-1 of the Standard Specifications. No direct pay will be made for delineation of the interior boundaries. This delineation will be considered incidental to the work being paid for as Construction Surveying, except that where there is no pay item or construction surveying the cost of boundary flagging delineation shall be included in the unit prices bid for the various items in the contract. Installation for delineation of all jurisdictional boundaries at staging areas, waste sites, or borrow pits shall consist of wooden stakes on 25 feet maximum intervals with highly visible orange flagging attached. Stakes shall be installed a minimum of 6" into the ground. Additional flagging may be placed on overhanging vegetation to enhance visibility but does not substitute for installation of stakes.

Installation of boundary flagging for delineation of all jurisdictional boundaries at staging areas, waste sites, or borrow pits shall be performed in accordance with Subarticle 230-4(B)(5) or Subarticle 802-2(F) of the Standard Specifications. No direct pay will be made for this delineation, as the cost of same shall be included in the unit prices bid for the various items in the contract.

The Contractor shall be required to maintain alternative stakes and highly visible flagging in a satisfactory condition for the duration of the project as determined by the Engineer.

Measurement and Payment

Safety Fence will be measured and paid as the actual number of linear feet of polyethylene or polypropylene fence installed in place and accepted. Such payment will be full compensation including but not limited to furnishing and installing fence geotextile with necessary posts and post bracing, staples, tie wires, tools, equipment and incidentals necessary to complete this work.

Payment will be made under:

Pay Item	**Pay Unit**
Safety Fence	Linear Foot

LED-ENHANCED SIGN SYSTEM DOUBLE SIDED:

The Light Emitting Diode (LED) Enhanced Sign System Double Sided shall consist of LEDs integrated into the sign to provide enhanced visual notice. They will be push button activated for pedestrian crossings and include an Audible Information Device (AID). The system shall be post-mounted on square posts at locations indicated on the plans.

A. All system components shall comply with the Manual on Uniform Traffic Control Devices (MUTCD), including sign composition, LED orientation and flash pattern.

B. Light Emitting Diode (LED) units shall be located in the border of signs unless specified otherwise on the plans.

C. LED-enhanced signs will operate using accessible push button activation that includes an Audible Information Device (AID). The AID shall incorporate a locator tone. When activated, the AID shall activate a speech message that indicates the status of the sign in lieu of an audible walk indication.

D. The R10-25 sign and push button shall be mounted using a 2-inch square post, anchor-set in concrete, in accordance with Cary standard detail 3600.08. The push button shall be located no greater than 5 feet from the side of a curb ramp. The push button shall be located between 1.5 and 10 feet from the edge of the curb. The face of the push button shall be parallel to its associated crosswalk.

E. LED-enhanced signs shall be one of the following:

- Carmanah – MX Series
- ELTEC – IoTraffic Series
- JSF Technologies – AB-5800 Series
- LaneLight Traffic Technologies
- TAPCO – BlinkerSign

F. Regular, standard & customized LED signs systems shall be powered by solar (to be specified by the manufacturer), unless specified otherwise. They shall be pedestrian activated, operating 24/7/365 days. They shall be mounted using a universal mounting bracket.

G. In installations where signs are present on both sides of the roadway, both signs shall activate with the push of a single push button and communicate wirelessly, unless specified otherwise.

H. LED signs are standard W11-2, W11-15, and S1-1 signs with dimensions as shown per plan. The LED signs will be colored fluorescent yellow green. The LEDs will operate in a ‘pulsed flash’ dynamic.

* A fluorescent yellow-green background color may be used for this sign or plaque.

I. LEDs will vary in measure depending on the manufacturer but shall have a maximum diameter of ¼ inch according to the MUTCD. The total number of LEDs will depend on the sign shape. The brightness will measure 48 lm per LED.

J. Payment for "LED Enhanced Sign System Double Sided" shall be quantified and paid for as each installation. The installation will include two of the 2-inch square posts, four LED enhanced signs, the controller(s), the solar power supplies, the audible push button, R10-25 push button signs, W16-7P signs, all labor required, and all miscellaneous hardware or materials necessary to complete the installation and make the system fully operational.

SOLDIER PILE RETAINING WALLS:

Description

Construct soldier pile retaining walls consisting of driven or drilled-in steel H-piles with either precast concrete panels in between piles or a CIP reinforced concrete face attached to front of piles unless required otherwise in the plans. Timber lagging is typically used for temporary support of excavations during construction. Provide CIP reinforced concrete coping as required. Design and construct soldier pile retaining walls based on actual elevations and wall dimensions in accordance with the contract and accepted submittals. Use a prequalified Cantilever Wall Contractor to construct soldier pile retaining walls. Define "soldier pile wall" as a soldier pile retaining wall. Define "panel" as a precast concrete panel and "concrete facing" as a CIP reinforced concrete face. Define "pile" as a steel H-pile and "coping" as CIP concrete coping.

Materials

Refer to the NCDOT Standard Specifications.

Item	Section
Asphalt Concrete Base Course, Type B25.0C	620
Flowable Fill, Excavatable	1000-7
Geosynthetics	1056
Grout, Type 1	1003
Joint Materials	1028
Masonry	1040
Portland Cement Concrete	1000
Reinforcing Steel	1070

Retaining Wall Panels	1077
Select Materials	1016
Shoulder Drain Materials	816-2
Steel H-Piles	1084-1
Untreated Timber	1082-2
Welded Stud Shear Connectors	1072-6

Provide Type 2 geotextile for separation geotextiles and Class VI select material (standard size No. 57 stone) for leveling pads and backfilling. Use Class A concrete for concrete facing and coping and Class A concrete that meets Article 450-2 of the NCDOT Standard Specifications or grout for drilled-in piles. Use untreated timber with a thickness of at least 3" and a bending stress of at least 1,000 psi for timber lagging. Unless required otherwise in the contract, produce panels with a smooth flat final finish that meets Article 1077-11 of the NCDOT Standard Specifications. When noted in the plans, produce panels with an exposed aggregate finish that meets Article 1077-12 of the NCDOT Standard Specifications. Produce panels within 1/4" of the panel dimensions shown in the accepted submittals. Damaged panels with excessive discoloration, chips or cracks as determined by the Engineer will be rejected.

For soldier pile walls with panels, galvanize piles in accordance with Section 1076 of the NCDOT Standard Specifications. When noted in the plans, paint galvanized piles in accordance with Article 442-13 of the NCDOT Standard Specifications. Apply the following system to paint galvanized piles gray with waterborne paints that meet Article 1080-9 of the NCDOT Standard Specifications. For painting galvanized piles other colors, contact the Materials and Tests (M&T) Unit for an appropriate paint system.

GRAY PAINT SYSTEM FOR GALVANIZED PILES			
Coat	**Color**	**Dry/Wet Film Thickness (Mils)**	
		Min.	**Max.**
Intermediate	Brown	3.0 DFT	5.0 DFT
Stripe	White	4.0 WFT	7.0 WFT
Topcoat	Gray	2.0 DFT	4.0 DFT
Total		**5.0 DFT**	**9.0 DFT**

Store steel materials on blocking at least 12" above the ground and protect it at all times from damage; and when placing in the work make sure it is free from dirt, dust, loose mill scale, loose rust, paint, oil or other foreign materials. Load, transport, unload and store soldier pile wall materials so materials are kept clean and free of damage. Bent, damaged or defective materials will be rejected.

PRECONSTRUCTION REQUIREMENTS

A. Soldier Pile Wall Surveys

The Retaining Wall Plans show a plan view, typical sections, details, notes and an elevation or profile view (wall envelope) for each soldier pile wall. Before beginning

soldier pile wall design, survey existing ground elevations shown in the plans and other elevations in the vicinity of soldier pile wall locations as needed. For proposed slopes above or below soldier pile walls, survey existing ground elevations to at least 10 ft beyond slope stake points. Based on these elevations, finished grades and actual soldier pile wall dimensions and details, submit revised wall envelopes for acceptance. Use accepted wall envelopes for design.

B. Soldier Pile Wall Designs

For soldier pile wall designs, submit PDF files of working drawings and design calculations at least 30 days before the preconstruction meeting. Do not begin soldier pile wall construction until a design submittal is accepted.
Use a prequalified Cantilever Wall Design Consultant to design soldier pile walls. Provide designs sealed by a Design Engineer approved as a Geotechnical Engineer (key person) for the Cantilever Wall Design Consultant.

Design soldier pile walls in accordance with the plans and Article 11.8 of the AASHTO LRFD Bridge Design Specifications unless otherwise required. Design soldier pile walls for a maximum deflection of 2" or 1.5% of H, whichever is less, with H as shown in the plans.

When noted in the plans, design soldier pile walls for a live load (traffic) surcharge of 250 psf in accordance with Article 11.5.6 of the AASHTO LRFD specifications. For steel beam guardrail with 8 ft posts above soldier pile walls, analyze walls for a nominal horizontal load (PH1) of 300 lb/ft of wall in accordance with Figure 3.11.6.3-2(a) of the AASHTO LRFD specifications. For concrete barrier rail above soldier pile walls, analyze walls for a nominal PH1 of 500 lb/ft of wall in accordance with Figure 3.11.6.3-2(a).

When a rock mass shear strength (Sm) is noted in the plans, analyze piles using the equation shown in Figure 3.11.5.6-2 of the AASHTO LRFD specifications to calculate the passive resistance of the rock ($\overline{(\llbracket P \rrbracket_p)}$). Use a maximum H-pile spacing of 10 ft. At the Contractor's option, use driven or drilled-in piles for soldier pile walls with concrete facing unless otherwise required. For soldier pile walls with panels, use drilled-in piles unless noted otherwise in the plans. Use concrete or grout for embedded portions of drilled-in piles. Install drilled-in piles by excavating holes with diameters that will result in at least 3" of clearance all around piles.

Provide temporary support of excavations for excavations more than 4 ft deep and timber lagging in accordance with the AASHTO Guide Design Specifications for Bridge Temporary Works. At the Contractor's option and when noted in the plans, provide temporary slopes instead of temporary support of excavations. Do not extend temporary slopes outside right-of-way or easement limits. Except for fill sections or when using temporary slopes, backfill voids behind panels, lagging and piles with No. 57 stone. Separation geotextiles are required between No. 57 stone and overlying fill sections. When placing pavement sections directly on No. 57 stone, cap stone with 4" of asphalt concrete base course.

At the Contractor's option, use panels or concrete facing unless required otherwise in the plans. Design panels and concrete facing in accordance with the plans and Section 5 of the AASHTO LRFD Bridge Design Specifications. Provide reinforcing steel of sufficient density to satisfy Article 5.7.3.4 of the AASHTO LRFD specifications. Use panels or concrete facing with the dimensions shown in the plans and attach facing to front of H-piles with welded stud shear connectors.

Use No. 57 stone for aggregate leveling pads. Use 6" thick leveling pads beneath panels and concrete facing. Unless required otherwise in the plans, embed top of leveling pads at least 12" below bottom of walls shown in the plans.

Provide wall drainage systems consisting of geocomposite sheet drains, an aggregate shoulder drain and outlet components. Place sheet drains with a horizontal spacing of no more than 10 ft and center drains between adjacent piles. Attach sheet drains to front of timber lagging or back of panels or concrete facing and connect drains to aggregate leveling pads. Locate a continuous aggregate shoulder drain along the base of panels or concrete facing in front of piles and leveling pads. Provide aggregate shoulder drains and outlet components in accordance with Roadway Standard Drawing No. 816.02.

Unless required otherwise in the plans, use CIP reinforced concrete coping at top of soldier pile walls with panels. Use coping dimensions shown in the plans and at the Contractor's option, connect coping to panels with dowels or extend coping down back of panels. When concrete barrier rail is required above soldier pile walls, use concrete barrier rail with moment slab as shown in the plans.

Submit working drawings and design calculations for acceptance in accordance with Article 105-2 of the NCDOT Standard Specifications. Submit working drawings showing plan views, wall profiles with pile locations, typical sections and details of piles, drainage, temporary support, leveling pads, panels and concrete facing. If necessary, include details on working drawings for coping, concrete barrier rail with moment slab and obstructions extending through walls or interfering with piles, barriers or moment slabs. Submit design calculations including deflection calculations for each wall section with different surcharge loads, geometry or material parameters. Include analysis of temporary conditions in design calculations. When designing soldier pile walls with computer software, a hand calculation is required for the tallest wall section.

C. Soldier Pile Wall Construction Plan

Submit a PDF file of a soldier pile wall construction plan at least 30 days before the preconstruction meeting. Do not begin soldier pile wall construction until the construction plan submittal is accepted. Provide project specific information in the soldier pile wall construction plan including a detailed construction sequence. For driven piles, submit proposed pile driving methods and equipment in accordance with Subarticle 450-3(D)(2) of the NCDOT Standard Specifications. For drilled-in piles, submit installation details including drilling equipment and methods for stabilizing and filling holes. Provide details in the construction plan of excavations including

temporary support and any other information shown in the plans or requested by the Engineer.

If alternate construction procedures are proposed or necessary, a revised soldier pile wall construction plan submittal may be required. If the work deviates from the accepted submittal without prior approval, the Engineer may suspend soldier pile wall construction until a revised plan is accepted.

D. Preconstruction Meeting

Before starting soldier pile wall construction, hold a preconstruction meeting to discuss the construction and inspection of the soldier pile walls. If this meeting occurs before all soldier pile wall submittals have been accepted, additional preconstruction meetings may be required before beginning construction of soldier pile walls without accepted submittals. The Resident or Bridge Maintenance Engineer, Area Construction Engineer, Geotechnical Operations Engineer, Contractor and Cantilever Wall Contractor Superintendent will attend preconstruction meetings.

Construction Methods

Control drainage during construction in the vicinity of soldier pile walls. Direct run off away from soldier pile walls and areas above and behind walls. Contain and maintain No. 57 stone and backfill and protect material from erosion.

Notify the Engineer before blasting in the vicinity of soldier pile walls. Perform blasting in accordance with the contract. Unless required otherwise in the plans, install foundations located behind soldier pile walls before beginning wall construction if the horizontal distance to the closest foundation is less than the height of the tallest wall section.

Install soldier pile walls in accordance with the accepted submittals and as directed. Do not excavate behind soldier pile walls unless a temporary slope is shown in the accepted submittals. If overexcavation occurs and is not approved, repair walls with an approved method and a revised soldier pile wall design or construction plan may be required.

A. Piles

If a temporary slope is shown in the accepted submittals, excavate the slope before installing piles. Otherwise, install piles before excavating for soldier pile walls. Weld stud shear connectors to piles in accordance with Article 1072-6 of the NCDOT Standard Specifications.

Install piles within 1" of horizontal and vertical alignment shown in the accepted submittals and with no negative batter (piles leaning forward). Minimize alignment variations between piles for soldier pile walls with concrete facing since variations can result in thicker concrete facing in some locations in order to provide the minimum required facing thickness elsewhere. Locate piles so the minimum

required concrete facing thickness, if applicable, and roadway clearances are maintained for variable pile alignments.

Install piles to the required elevations in accordance with Subarticles 450-3(D) and 450-3(E) of the NCDOT Standard Specifications. Piles may be installed with a vibratory hammer as approved by the Engineer. Do not splice piles. If necessary, cut off piles at elevations shown in the accepted submittals along a plane normal to the pile axis.

Use pile excavation to install drilled-in piles. If overexcavation occurs, fill to required elevations with No. 57 stone before setting piles. After filling holes with concrete or grout to the elevations shown in the accepted submittals, remove any fluids and fill remaining portions of holes with flowable fill. Cure concrete or grout at least 7 days before excavating.

Notify the Engineer if refusal is reached before pile excavation or driven piles attain the required penetration. When this occurs, a revised soldier pile wall design or construction plan submittal may be required. When a minimum pile penetration into rock is noted in the plans, rock is as determined by the Engineer.

B. Excavation

If a temporary slope is shown in the accepted submittals, excavate the slope as shown. Otherwise, excavate in front of piles from the top down in accordance with the accepted submittals. Excavate in staged horizontal lifts with a maximum height of 5 ft. Use timber lagging or an alternate approved method for temporary support of excavations in accordance with the accepted submittals.

Install temporary support within 24 hours of excavating each lift unless otherwise approved. The installation may be delayed if it can be demonstrated that delays will not adversely affect excavation stability. If excavation faces will be exposed for more than 24 hours, use polyethylene sheets anchored at top and bottom of lifts to protect excavation faces from changes in moisture content.

If an excavation becomes unstable at any time, suspend soldier pile wall construction and temporarily stabilize the excavation by immediately placing an earth berm up against the unstable excavation face. When this occurs, repair walls with an approved method and a revised soldier pile wall design or construction plan may be required.

Remove flowable fill and material in between piles as necessary to install timber lagging. Position lagging with at least 3" of contact in the horizontal direction between the lagging and pile flanges. Do not excavate the next lift until temporary support for the current lift is accepted.

C. Wall Drainage Systems

Install wall drainage systems as shown in the accepted submittals and in accordance with Section 816 of the NCDOT Standard Specifications. Place geocomposite sheet drains with the geotextile side facing away from wall faces. Secure sheet drains so drains are in continuous contact with surfaces to which they are attached and allow for full flow the entire height of soldier pile walls. Discontinuous sheet drains are not allowed. If splices are needed, overlap sheet drains at least 12" so flow is not impeded. Connect sheet drains to aggregate leveling pads by embedding drain ends at least 4" into No. 57 stone.

D. Leveling Pads, Panels, Coping and Concrete Facing

Construct aggregate leveling pads at elevations and with dimensions shown in the accepted submittals. Compact leveling pads with a vibratory compactor to the satisfaction of the Engineer.

Set panels against pile flanges as shown in the accepted submittals. Position panels with at least 2" of contact in the horizontal direction between the panels and pile flanges. If contact cannot be maintained, remove panels, fill gaps with joint filler and reset panels. Securely support panels until enough No. 57 stone or backfill is placed to hold panels in place.

Construct coping as shown in the accepted submittals and Subarticle 452-4(B) of the NCDOT Standard Specifications. When single faced precast concrete barrier is required in front of and against soldier pile walls, stop coping just above barrier so coping does not interfere with placing barrier up against wall faces. If the gap between a single faced barrier and wall face is wider than 2", fill gap with Class V select material (standard size No. 78M stone). Otherwise, fill gap with backer rod and seal joint between barrier and soldier pile wall with silicone sealant.

Construct concrete facing in accordance with the accepted submittals and Section 420 of the NCDOT Standard Specifications. Do not remove forms until concrete attains a compressive strength of at least 2,400 psi. Unless required otherwise in the plans, provide a Class 2 surface finish for concrete facing that meets Subarticle 420-17(F) of the NCDOT Standard Specifications. Construct concrete facing joints at a spacing of 10 ft to 12 ft unless required otherwise in the plans. Make 1/2" thick expansion joints that meet Article 420-10 of the NCDOT Standard Specifications for every third joint and 1/2" deep grooved contraction or sawed joints that meet Subarticle 825-10(B) or 825-10(E) respectively for the remaining joints. Stop reinforcing steel for concrete facing 2" on either side of expansion joints.

If a brick veneer is required, construct brick masonry in accordance with Section 830 of the NCDOT Standard Specifications. Anchor brick veneers to soldier pile walls in accordance with Subarticle 453-4 of the NCDOT Standard Specifications. Seal joints above and behind soldier pile walls between coping or concrete facing and concrete slope protection with silicone sealant.

D. Backfill

For fill sections or if a temporary slope is shown in the accepted submittals, backfill behind piles, panels and concrete facing in accordance with Article 410-8 of the NCDOT Standard Specifications. Backfill voids behind panels, lagging and piles with No. 57 stone as shown in the accepted submittals. Ensure all voids between panels and lagging and between piles, lagging and excavation faces are filled with No. 57 stone. Compact stone to the satisfaction of the Engineer. When separation geotextiles are required, overlap adjacent geotextiles at least 18" and hold separation geotextiles in place with wire staples or anchor pins as needed.

F. Pile Coatings

For soldier pile walls with panels, clean exposed galvanized or painted surfaces of piles with a 2,500 psi pressure washer after wall construction is complete. Repair galvanized surfaces that are exposed and damaged in accordance with Article 1076-7 of the NCDOT Standard Specifications. Repair painted surfaces that are exposed and damaged by applying 4.0 to 7.0 mils wet film thickness of a topcoat to damaged areas with brushes or rollers. Use the same paint for damaged areas that was used for the topcoat when painting piles initially. Feather or taper topcoats in damaged areas to be level with surrounding areas.

Measurement and Payment

Soldier Pile Retaining Walls will be measured and paid in square feet. Soldier pile walls will be measured as the square feet of wall face area with the pay height equal to the difference between top of wall and top of leveling pad elevations. Define "top of wall" as top of coping or top of panels or concrete facing for soldier pile walls without coping.

The contract unit price for Soldier Pile Retaining Walls will be full compensation for providing designs, submittals, labor, tools, equipment and soldier pile wall materials, installing piles, excavating, hauling and removing excavated materials, placing and compacting No. 57 stone and backfill material and supplying temporary support of excavations, wall drainage systems, leveling pads, panels, concrete facing, No. 57 stone, geotextiles, aggregate concrete base course and any incidentals necessary to construct soldier pile walls. The contract unit price for Soldier Pile Retaining Walls will also be full compensation for coping, pile coatings, backer rod and silicone sealant, No. 78M stone and brick veneers, if required. No additional payment will be made and no extension of completion date or time will be allowed for repairing overexcavations or unstable excavations or thicker concrete facing.

The contract unit price for Soldier Pile Retaining Walls does not include the cost for ditches, fences, handrails, barrier or guardrail associated with soldier pile walls as these items will be paid for elsewhere in the contract.

Where it is necessary to provide backfill material behind soldier pile walls from sources other than excavated areas or borrow sources used in connection with other work in the contract, payment for furnishing and hauling such backfill material will be paid as extra

work in accordance with Article 104-7 of the NCDOT Standard Specifications. Placing and compacting such backfill material is not considered extra work but is incidental to the work being performed.

Payment will be made under:

Pay Item	**Pay Unit**
Soldier Pile Retaining Walls	Square Foot

PRECAST CONCRETE BOARDWALK SYSTEM:

Description

These specifications are for a precast concrete boardwalk and shall be regarded as minimum standards for this project. These specifications are based upon products designed and supplied by:

PermaTrak North America LLC
Ph: 864-354-4870
www.permatrak.com
Contact: Mr. John Pyle
jpyle@permatrak.com

This item shall also include the design, specification, and construction of a railing and foundation system that is attached to the proposed boardwalk system.

Materials

PRECAST CONCRETE: shall conform to the following:

a. The minimum compressive strength of the concrete shall be 4000 psi measured at 28 days.
b. All precast concrete shall contain fiber reinforcing as well as structural steel reinforcement as designed by the Engineer of record.
c. All precast concrete components shall be air entrained composed of Portland cement, fine and course aggregates, admixtures and water. The air-entraining feature may be obtained by the use of either an air entraining Portland cement or an air entraining admixture. The entrained air-content shall be not less than four percent or more than seven percent.

Minimum Standards

The selected boardwalk shall have the following minimum characteristics:

A. The precast system shall be designed as a modular flexible system allowing a prescribed settlement at pier locations. Joints shall be designed for such movement to occur without damage to the structural integrity of the system.

B. Boardwalk system (beams, treads, and curbs if applicable) must be reinforced precast concrete. A material change, including cast-in-place concrete, is not considered an equal to the design shown on the bid documents.

C. Walking surface (treads) shall be made of reinforced precast concrete, and supported by reinforced precast concrete beams. Where applicable, edges of treads will receive precast concrete curbs.

D. Walking surface (finish) of top surface of treads shall have a formliner finish with one of PermaTrak's standard textures (PermaGrip, PermaPlank, Beachwood or Beachsand). Texture must be integral with the concrete and shall not be an applied post pour wearing surface.

E. Precast concrete treads shall be structural load bearing elements and shall interlock with one another via a "tongue and groove" connection.

F. All precast shall consist of integrally colored concrete in a color selected by the owner from one of PermaTrak's "standard colors". All color pigment shall meet ASTM C979 Standard Specification for Pigments for Integrally Colored Concrete.

G. DESIGN LOADS: Designed for the following live loads:
   1. Pedestrian live load of 90 psf.
   2. H10 Design Truck – 20,000 lbs. (Applicable for boardwalk clearance exceeding 10 ft.)

H. Treads shall maintain a "boardwalk appearance", specifically meaning each tread shall have a width: length ratio ranging from a minimum of 3:1 to a maximum of 14:1. Width is defined as the tread dimension perpendicular to the normal direction of travel. Length is defined as the tread dimension measured in the direction of travel.

I. Tread width shall be as noted on the contract drawings. Alignment should follow the horizontal and vertical alignment shown on the contract plans.

J. Connectors for curbs (if applicable) to treads shall not be visible to boardwalk users while viewed from the top of the walkway.

K. All tread-to-beam connectors shall be non-corrosive and hidden from view. Metallic tread-to-beam connectors are not acceptable for this project.

L. Boardwalk supplier shall provide a field representative on site for a minimum of 2 days. Field representative shall be knowledgeable in the installation of precast concrete boardwalks.

Quality Assurance

A. The contractor performing the installation of the pile foundations shall have installed piles of size and length similar to those shown on the plans for a minimum of three (3) years prior to the bid date for this project. The contractor shall submit a list containing at least three (3) projects completed in the last three (3) years on which the contractor has installed piles of a size and length similar to those shown on the plans. The list of projects shall contain names and phone numbers of owner's representatives who can verify the Contractor's participation on those projects.

B. Manufacturer Qualifications: Not less than 10 years experience in the actual production of precast products as described below.

1. Components shall be factory fabricated and engineered by single entity. This entity shall be registered to do business in the State of North Carolina.
2. Boardwalk supplier (Precaster) for the boardwalk shall have in-house color mixing facilities for color pigmentation.
3. Boardwalk supplier (Precaster) shall have either a minimum experience of 5 years or 50 boardwalk projects in design, production, and field consultation.
4. Boardwalk supplier (Precaster) must be certified by PCI or NPCA.
5. Precast components must be manufactured with the use of hot rolled steel skin in reinforced steel forms. Temporary (i.e., Timber) and/or single use forms are unacceptable unless approved in writing by the Boardwalk Engineer.

C. Acceptability Criteria for Treads and Curbs (if applicable): The finished visible (in the final installed position) surface shall have no obvious imperfections other than minimal color or texture variations from the approved samples or evidence of repairs when viewed in good typical daylight illumination with the unaided naked eye at a 20 ft. viewing distance. Appearance of the surface shall not be evaluated when light is illuminating the surface from an extreme angle as it tends to accentuate the minor surface irregularities. The following is a list of finish defects that shall be properly repaired, if obvious when viewed at a 20 ft. distance. Patching (by a trained skilled concrete repair person) is an acceptable repair method.

1. Ragged or irregular surfaces.
2. Excessive air voids (commonly called bug holes) larger than ¼ in. evident on the top surface of the tread or curbs (if applicable).
3. Adjacent flat and return surfaces with greater texture and/or color differences than the approved samples or mockups.
4. Casting and/or aggregate segregation lines evident from different concrete placement lifts and consolidation.
5. Visible mold joints or irregular surfaces.
6. Rust stains on exposed surfaces.
7. Units with excessive variation in texture and/or color from the approved samples, within the unit or compared with adjacent units.
8. Blocking stains evident on exposed surfaces.
9. Areas of backup concrete bleeding through the facing concrete.
10. Foreign material embedded in the surface.
11. Visible repairs at a 20 ft. viewing distance.
12. Reinforcement shadow lines.
13. Cracks visible at a 20 ft. viewing distance.

D. Installer Qualifications: Firm with 3 years experience in installation of systems similar in complexity to those required for this Project.

E. Mock-Up: Provide, if required by Architect/ Engineer, a mock-up for evaluation of the boardwalk showing the surface preparation techniques and application workmanship.

1. Finish areas designated by Architect / Engineer.
2. Do not proceed with remaining work until mock-up is accepted by Architect / Engineer.
3. Refinish mock-up area as required to produce acceptable work.

Design

A. For applications requiring minimum disturbance due to tree roots or other existing objects specified by the Owner to be avoided during construction, the Boardwalk Manufacturer requires the Contractor or Engineer/Architect to provide a survey of the proposed boardwalk location identifying items of interest including tree roots that cannot be disturbed per the Owner.

B. The designer of the boardwalk, foundation and railing system shall be a qualified registered Professional Engineer licensed in the State of North Carolina and having a minimum of 20 years of experience in the design of concrete structures, foundation and railing systems.

C. The foundation design shown on the boardwalk drawings are based recommendations found in the geotechnical report referenced on PT01.

D. DESIGN CRITERIA: The design of the boardwalk and railing system shall comply with the following guidelines:

1. AASHTO LRFD Guide Specifications for The Design of Pedestrian Bridges, 2nd Edition with 2015 Interim Revisions.
2. The Latest Version of AASHTO LRFD Bridge Design Specifications for Highway Bridges.
3. The Latest Version of American Concrete Institute Building Code and Commentary.
4. In addition to the dead loads of the system, the structure shall be designed for the live loads defined in Section 1.2 G above.

Submittals

Prior to the start of fabrication or construction, the Contractor shall submit to the Engineer a design package, which shall include, but is not limited to, the following:

A. PRELIMINARY SUBMISSIONS: Prior to the start of fabrication or construction, the Contractor shall submit to the Engineer a design package, which shall include but not limited to the following:

1. DETAILED PLANS:

   a. REGISTRATION / SEAL: Sealed by a licensed Professional Engineer (North Carolina).
   b. PLAN VIEW: Full plan view of the boardwalk, foundation and railing system drawn to scale. The plan view must reflect the proposed horizontal alignment as shown on the design plans.
   c. ELEVATION VIEW: Full elevation view of the boardwalk, railing and foundation system drawn to scale which reflect the actual vertical alignment. Elevation views shall indicate the elevation at the top and bottom of the boardwalk and foundation system components, horizontal and vertical break points, and location of the finished grade.
   d. DETAILS: Details of all boardwalk and railing system components and their connections such as the length, size and where changes occur; connections; etc.
   e. CODE REFERENCE: Design parameters used along with AASHTO references.

2. DESIGN COMPUTATIONS: computations shall:

   a. Be stamped by a licensed Professional Engineer in the State of North Carolina.
   b. Clearly refer to the applicable AASHTO provisions.
   c. Include documentation of computer programs including all design parameters.
   d. Clearly show that all reinforced precast treads and beams meet AASHTO requirements for the loading per Section 1.2.G.
   e. Include sketches of reinforcement in treads and beams, shear and moment diagrams, and all equations used shall be referenced to applicable code.

3. CONSTRUCTION SPECIFICATIONS:

   a. Construction methods specific to the boardwalk vendor chosen. Submittal requirements such as certification, quality and acceptance/rejection criteria shall be included. Details on connection of boardwalk units and foundation system such that assurance of uniform load transfer shall be checked.

B. FINAL SUBMISSION: Once a boardwalk, foundation and railing system design has been reviewed and accepted by the Owner, the Contractor shall submit the final plans. The designer of the boardwalk, foundation and railing system is responsible for the review of any drawings prepared for fabrication. One set of all approved shop drawings shall be submitted to the Engineer's permanent records.

C. SUBMITTALS: Product Data: Submit Manufacturer's technical product data for railing components and accessories.

Manufacturer to supply submittal drawings for approval to include the following:

1. Section-thru details.
2. Mounting methods.
3. Typical Elevations.
4. Key plan layout.

D. SHOP DRAWINGS: Shop drawings shall:

a. Be stamped by a licensed Professional Engineer in the State of Carolina.
b. Show actual field conditions and true elevation and location supplied after field verification.
c. Clearly detail reinforcement in beams, treads and curbs including clear dimension from concrete edge, size and amount of rebar.
d. Clearly state concrete reinforcement strength and epoxy coating where required as well as component weight and lifting locations.

Delivery, Storage and Handling

A. Store products in manufacturer's unopened packaging until ready for installation.

B. Field Measurements: Where handrails and railings are indicated to fit to other construction, check actual dimensions of other construction by accurate field measurements before fabrication; show recorded measurements on final shop drawings:

1. Where field measurements cannot be made without delaying the railing fabrication and delivery, obtain guaranteed dimensions in writing by the Contractor and proceed with fabrication of products so as not to delay fabrication, delivery and installation.

B. Coordinate fabrication and delivery schedule of handrails with construction progress and sequence to avoid delay of railing installation.

Warranty

A. Contractor will be responsible for installation defects associated with the boardwalk and abutment components, foundation system, and railings for a period of 12 calendar months from the date of final acceptance by the Owner.

B. Boardwalk manufacturer shall warranty all precast concrete components against defects in material and workmanship for a period of 10 years.

C. Railing manufacturer shall warranty the railing against defects in materials and workmanship for a period of 12 months.

Execution

Installation of the precast concrete boardwalk system and railings, if applicable, shall be performed in accordance to the approved plans and manufacturers installation instructions. Boardwalk manufacturer shall provide a field representative to review installation instructions with the Contractor and Engineer and to certify that the installation has been performed according to the approved drawings and manufacturer's instructions.

Measurement and Payment

Precast concrete boardwalk and railings shall be paid for at the contract lump sum price as listed in the bid proposal for "Precast Concrete Boardwalk". This price shall include all materials, equipment, labor and work necessary for and incidental to the design, construction, delivery, unloading, assembly, and placement of the boardwalk as shown in the contract plans including all railings on the superstructure.

Payment will be made under:

Pay Item	**Pay Unit**
Precast Concrete Boardwalk	Lump Sum

FALSEWORK AND FORMWORK:

Description

Use this Special Provision as a guide to develop temporary works submittals required by the Standard Specifications or other provisions; no additional submittals are required herein. Such temporary works include, but are not limited to, falsework and formwork.

Falsework is any temporary construction used to support the permanent structure until it becomes self-supporting. Formwork is the temporary structure or mold used to retain plastic or fluid concrete in its designated shape until it hardens. Access scaffolding is a temporary structure that functions as a work platform that supports construction personnel, materials, and tools, but is not intended to support the structure. Scaffolding systems that are used to temporarily support permanent structures (as opposed to functioning as work platforms) are considered to be falsework under the definitions given. Shoring is a component of falsework such as horizontal, vertical, or inclined support members. Where the term “temporary works” is used, it includes all of the temporary facilities used in bridge construction that do not become part of the permanent structure.

Design and construct safe and adequate temporary works that will support all loads imposed and provide the necessary rigidity to achieve the lines and grades shown on the plans in the final structure.

Materials

Select materials suitable for temporary works; however, select materials that also ensure the safety and quality required by the design assumptions. The Engineer has authority to reject material on the basis of its condition, inappropriate use, safety, or nonconformance with the plans. Clearly identify allowable loads or stresses for all materials or manufactured devices on the plans. Revise the plan and notify the Engineer if any change to materials or material strengths is required.

Design Requirements

(A) Working Drawings

Provide working drawings for items as specified in the contract, or as required by the Engineer, with design calculations and supporting data in sufficient detail to permit a structural and safety review of the proposed design of the temporary work.

On the drawings, show all information necessary to allow the design of any component to be checked independently as determined by the Engineer.

When concrete placement is involved, include data such as the drawings of proposed sequence, rate of placement, direction of placement, and location of all construction joints.

When required, have the drawings and calculations prepared under the guidance of, and sealed by, a North Carolina Registered Professional Engineer who is knowledgeable in temporary works design.

If requested by the Engineer, submit with the working drawings manufacturer's catalog data listing the weight of all construction equipment that will be supported on the temporary work. Show anticipated total settlements and/or deflections of falsework and forms on the working drawings. Include falsework footing settlements, joint take-up, and deflection of beams or girders.

As an option for the Contractor, overhang falsework hangers may be uniformly spaced, at a maximum of 36 inches, provided the following conditions are met:

Member Type (PCG)	Member Depth, (inches)	Max. Overhang Width, (inches)	Max. Slab Edge Thickness, (inches)	Max. Screed Wheel Weight, (lbs.)	Bracket Min. Vertical Leg Extension, (inches)
II	36	39	14	2000	26
III	45	42	14	2000	35
IV	54	45	14	2000	44
MBT	63	51	12	2000	50
MBT	72	55	12	1700	48

Overhang width is measured from the centerline of the girder to the edge of the deck slab. For Type II, III & IV prestressed concrete girders (PCG), 45-degree cast-in-place half hangers and rods must have a minimum safe working load of 6,000 lbs.

For MBT prestressed concrete girders, 45-degree angle holes for falsework hanger rods shall be cast through the girder top flange and located, measuring along the top of the member, 1'-2 ½" from the edge of the top flange. Hanger hardware and rods must have a minimum safe working load of 6,000 lbs.

For link slabs, the top of girders directly beneath the link slab shall be free of overhang falsework attachments or other hardware. Submit calculations and working drawings for overhang falsework in the link slab region.

The overhang bracket provided for the diagonal leg shall have a minimum safe working load of 3,750 lbs. The vertical leg of the bracket shall extend to the point that the heel bears on the girder bottom flange, no closer than 4 inches from the bottom of the member. However, for 72-inch members, the heel of the bracket shall bear on the web, near the bottom flange transition.

Provide adequate overhang falsework and determine the appropriate adjustments for deck geometry, equipment, casting procedures and casting conditions.

If the optional overhang falsework spacing is used, indicate this on the falsework submittal and advise the girder producer of the proposed details. Failure to notify the Engineer of hanger type and hanger spacing on prestressed concrete girder casting drawings may delay the approval of those drawings.

Falsework hangers that support concentrated loads and are installed at the edge of thin top flange concrete girders (such as bulb tee girders) shall be spaced so as not to exceed 75% of the manufacturer's stated safe working load. Use of dual leg hangers (such as Meadow Burke HF-42 and HF-43) are not allowed on concrete girders with thin top flanges. Design the falsework and forms supporting deck slabs and overhangs on girder bridges so that there will be no differential settlement between the girders and the deck forms during placement of deck concrete.

When staged construction of the bridge deck is required, detail falsework and forms for screed and fluid concrete loads to be independent of any previous deck pour components when the mid-span girder deflection due to deck weight is greater than ¾".

Note on the working drawings any anchorages, connectors, inserts, steel sleeves or other such devices used as part of the falsework or formwork that remains in the permanent structure. If the plan notes indicate that the structure contains the necessary corrosion protection required for a Corrosive Site, epoxy coat, galvanize or metalize these devices. Electroplating will not be allowed. Any coating required by the Engineer will be considered incidental to the various pay items requiring temporary works.

Design falsework and formwork requiring submittals in accordance with the current edition of AASHTO Guide Design Specifications for Bridge Temporary Works except as noted herein.

(1) Wind Loads

Table 2.2 of Article 2.2.5.1 is modified to include wind velocities up to 110 mph. In addition, Table 2.2A is included to provide the maximum wind speeds by county in North Carolina.

Table 2.2 - Wind Pressure Values

Height Zone	Pressure, lb/ft^2 for Indicated Wind Velocity, mph				
feet above ground	70	80	90	100	110
0 to 30	15	20	25	30	35
30 to 50	20	25	30	35	40
50 to 100	25	30	35	40	45
over 100	30	35	40	45	50

(2) Time of Removal

The following requirements replace those of Article 3.4.8.2.

Do not remove forms until the concrete has attained strengths required in Article 420-16 of the Standard Specifications and these Special Provisions.
Do not remove forms until the concrete has sufficient strength to prevent surface damage.

The Table 2.2A Steady State Maximum Wind Speeds by Counties in North Carolina for Wake County is 70 miles per hour.

(B) Review and Approval

The Engineer is responsible for the review and approval of temporary works' drawings.

Submit the working drawings sufficiently in advance of proposed use to allow for their review, revision (if needed), and approval without delay to the work.

The time period for review of the working drawings does not begin until complete drawings and design calculations, when required, are received by the Engineer.

Do not start construction of any temporary work for which working drawings are required until the drawings have been approved. Such approval does not relieve the Contractor of the responsibility for the accuracy and adequacy of the working drawings.

Construction Requirements

All requirements of Section 420 of the Standard Specifications apply.

Construct temporary works in conformance with the approved working drawings. Ensure that the quality of materials and workmanship employed is consistent with that assumed in the design of the temporary works. Do not weld falsework members to any portion of the permanent structure unless approved. Show any welding to the permanent structure on the approved construction drawings.

Provide tell-tales attached to the forms and extending to the ground, or other means, for accurate measurement of falsework settlement. Make sure that the anticipated compressive settlement and/or deflection of falsework does not exceed 1 inch. For cast in place concrete structures, make sure that the calculated deflection of falsework flexural members does not exceed 1/240 of their span regardless of whether or not the deflection is compensated by camber strips.

(A) Maintenance and Inspection

Inspect and maintain the temporary work in an acceptable condition throughout the period of its use. Certify that the manufactured devices have been maintained in a condition to allow them to safely carry their rated loads. Clearly mark each piece so that its capacity can be readily determined at the job site.

Perform an in-depth inspection of an applicable portion(s) of the temporary works, in the presence of the Engineer, not more than 24 hours prior to the beginning of each concrete placement. Inspect other temporary works at least once a month to ensure that they are functioning properly. Have a North Carolina Registered Professional Engineer inspect the cofferdams, shoring, sheathing, support of excavation structures, and support systems for load tests prior to loading.

(B) Foundations

Determine the safe bearing capacity of the foundation material on which the supports for temporary works rest. If required by the Engineer, conduct load tests to verify proposed bearing capacity values that are marginal or in other high-risk situations.

The use of the foundation support values shown on the contract plans of the permanent structure is permitted if the foundations are on the same level and on the same soil as those of the permanent structure.

Allow for adequate site drainage or soil protection to prevent soil saturation and washout of the soil supporting the temporary works supports.

If piles are used, the estimation of capacities and later confirmation during construction using standard procedures based on the driving characteristics of the pile is permitted. If preferred, use load tests to confirm the estimated capacities; or, if required by the Engineer conduct load tests to verify bearing capacity values that are marginal or in other high risk situations.

The Engineer reviews and approves the proposed pile and soil bearing capacities.

Removal

Unless otherwise permitted, remove and keep all temporary works upon completion of the work. Do not disturb or otherwise damage the finished work.
Remove temporary works in conformance with the contract documents. Remove them in such a manner as to permit the structure to uniformly and gradually take the stresses due to its own weight.

Measurement and Payment

Unless otherwise specified, Falsework and Formwork will not be directly measured or paid for.

Payment at the contract unit prices for the various pay items requiring temporary works will be full compensation for the above falsework and formwork.

CRANE SAFETY:

Description

Comply with the manufacturer specifications and limitations applicable to the operation of any and all cranes and derricks. Prime contractors, sub-contractors, and fully operated rental companies shall comply with the current Occupational Safety and Health Administration (OSHA) regulations.

Submit all items listed below to the Engineer prior to beginning crane operations. Changes in personnel or equipment must be reported to the Engineer and all applicable items listed below must be updated and submitted prior to continuing with crane operations.

Crane Safety Submittal List

(A) Competent Person

Provide the name and qualifications of the "Competent Person" responsible for crane safety and lifting operations. The named competent person will have the responsibility and authority to stop any work activity due to safety concerns.

(B) Riggers

Provide the qualifications and experience of the persons responsible for rigging operations. Qualifications and experience should include, but not be limited to, weight calculations, center of gravity determinations, selection and inspection of sling and rigging equipment, and safe rigging practices.

(C) Crane Inspections

Inspection records for all cranes shall be current and readily accessible for review upon request.

(D) Certifications

Crane operators shall be certified by the National Commission for the Certification of Crane Operators (NCCCO) or the National Center for Construction Education and Research (NCCER). Other approved nationally accredited programs will be considered upon request. In addition, crane operators shall have a current CDL medical card. Submit a list of crane operator(s) and include current certification for each type of crane operated (small hydraulic, large hydraulic, small lattice, large lattice) and medical evaluations for each operator.

Measurement and Payment

No direct payment will be made for Crane Safety. All costs shall be considered incidental to items for which direct payment is made.

GROUT FOR STRUCTURES:

General

This Special Provision addresses grout for use in pile blockouts, grout pockets, shear keys, dowel holes and recesses for structures. This Special Provision does not apply to grout placed in post-tensioning ducts for bridge beams, girders, decks, end bent caps, or bent caps. Mix and place grout in accordance with the manufacturer's recommendations, the applicable sections of the Standard Specifications and this Special Provision.

Materials

Unless otherwise noted on the plans, use a Type 3 Grout in accordance with Section 1003 of the Standard Specifications.

Initial setting time shall not be less than 10 minutes when tested in accordance with ASTM C266.

Construction loading and traffic loading shall not be allowed until the 3-day compressive strength is achieved.

Sampling and Placement

Place and maintain components in final position until grout placement is complete and accepted. Concrete surfaces to receive grout shall be free of defective concrete, laitance, oil, grease, and other foreign matter. Saturate concrete surfaces with clean water and remove excess water prior to placing grout.

Measurement and Payment

No separate payment will be made for Grout for Structures. The cost of the material, equipment, labor, placement, and any incidentals necessary to complete the work shall be considered incidental to the structure item requiring grout.

STRUCTURE SUBMITTALS:

Description

Submit working drawings in accordance with Article 105-2 of the Standard Specifications and this Special Provision. For this Special Provision, "submittals" refers to only those listed in this Special Provision. The list of submittals contained herein does not represent a list of required submittals for the project. Submittals are only necessary for those items

as required by the contract. Make submittals that are not specifically noted in this provision directly to the Engineer.

If a submittal contains variations from plan details or specifications or significantly affects project cost, field construction or operations, discuss the submittal with and submit all copies to the Engineer. State the reason for the proposed variation in the submittal. To minimize review time, make sure all submittals are complete when initially submitted. Provide a contact name and information with each submittal. Direct any questions regarding submittal requirements to the Engineer.

Provide the name, address and telephone number of the facility where fabrication will actually be done if different than shown on the title block of the submitted working drawings. This includes, but is not limited to, precast concrete items, prestressed concrete items and fabricated steel or aluminum items.

Submittal Copies

Furnish one complete copy of each submittal, including all attachments, to the Engineer. Provide additional copies of any submittal as directed.

(A) Structure Submittals

Structure Submittals	
Submittal	**Contract Reference Requiring Submittal[1]**
Arch Culvert Falsework	Plan Note, SN Sheet & "Falsework and Formwork"
Box Culvert Falsework [7]	Plan Note, SN Sheet & "Falsework and Formwork"
Cofferdams	Article 410-4
Foam Joint Seals [6]	"Foam Joint Seals"
Expansion Joint Seals (hold down plate type with base angle)	"Expansion Joint Seals"
Expansion Joint Seals (modular)	"Modular Expansion Joint Seals"
Expansion Joint Seals (strip seals)	"Strip Seal Expansion Joints"
Falsework & Forms [2] (substructure)	Article 420-3 & "Falsework and Formwork"
Falsework & Forms (superstructure)	Article 420-3 & "Falsework and Formwork"
Girder Erection over Railroad	Railroad Provisions
Maintenance and Protection of Traffic Beneath Proposed Structure	"Maintenance and Protection of Traffic Beneath Proposed Structure at Station ___"
Metal Bridge Railing	Plan Note
Metal Stay-in-Place Forms	Article 420-3
Metalwork for Elastomeric Bearings [4,5]	Article 1072-8
Miscellaneous Metalwork [4,5]	Article 1072-8
Disc Bearings [4]	"Disc Bearings"
Overhead and Digital Message Signs (DMS) (metalwork and foundations)	Applicable Provisions
Placement of Equipment on Structures (cranes, etc.)	Article 420-20
Prestressed Concrete Box Beam (detensioning sequences) 3	Article 1078-11
Precast Concrete Box Culverts	"Optional Precast Reinforced Concrete Box Culvert at Station ___"
Prestressed Concrete Cored Slab (detensioning sequences) 3	Article 1078-11
Prestressed Concrete Deck Panels	Article 420-3
Prestressed Concrete Girder (strand elongation and detensioning sequences)	Articles 1078-8 and 1078-11
Removal of Existing Structure over Railroad	Railroad Provisions
Revised Bridge Deck Plans (adaptation to prestressed deck panels)	Article 420-3
Revised Bridge Deck Plans (adaptation to modular expansion joint seals)	"Modular Expansion Joint Seals"
Sound Barrier Wall (precast items)	Article 1077-2 & "Sound Barrier Wall"
Sound Barrier Wall Steel Fabrication Plans [5]	Article 1072-8 & "Sound Barrier Wall"
Structural Steel [4]	Article 1072-8
Temporary Detour Structures	Article 400-3 & "Construction, Maintenance and Removal of Temporary Structure at Station ____"
TFE Expansion Bearings [4]	Article 1072-8

Footnotes

1. References are provided to help locate the part of the contract where the submittals are required. References in quotes refer to the provision by that name. Articles refer to the Standard Specifications.
2. Submittals for these items are necessary only when required by a note on plans.
3. Submittals for these items may not be required. A list of pre-approved sequences is available from the producer.
4. The fabricator may submit these items directly to the Engineer.
5. The two sets of preliminary submittals required by Article 1072-8 of the Standard Specifications are not required for these items.
6. Submittals for Fabrication Drawings are not required. Submittals for Catalogue Cuts of Proposed Material are required. See Section 5.A of the referenced provision.
7. Submittals are necessary only when the top slab thickness is 18" or greater.

(B) Geotechnical Submittals

Geotechnical Submittals	
Submittal	**Contract Reference Requiring Submittal[1]**
Drilled Pier Construction Plans [2]	Subarticle 411-3(A)
Crosshole Sonic Logging (CSL) Reports [2]	Subarticle 411-5(A)(2)
Pile Driving Equipment Data Forms [2,3]	Subarticle 450-3(D)(2)
Pile Driving Analyzer (PDA) Reports [2]	Subarticle 450-3(F)(3)
Retaining Walls [4]	Applicable Provisions
Temporary Shoring [4]	"Temporary Shoring" & "Temporary Soil Nail Walls"

Footnotes

1. References are provided to help locate the part of the contract where the submittals are required. References in quotes refer to the provision by that name. Subarticles refer to the Standard Specifications.
2. Submit one hard copy or electronic copy of submittal to the Engineer. Electronic submission is preferred.
3. The Pile Driving Equipment Data Form is available from: https://connect.ncdot.gov/projects/construction/ConstManRefDocs/PILE%20DRIVING%20EQUIPMENT%20DATA%20FORM.pdf
   See second page of form for submittal instructions.
4. Electronic copy of submittal is required. See referenced provision.

Measurement and Payment

No direct payment will be made for submittals. All costs shall be considered incidental to items for which direct payment is made.

DECORATIVE FENCE

Description

Decorative Fence will be constructed at locations shown in the plans and in accordance with details in the plans, and as directed by the Engineer.

Portion of the decorative fence will have a metal panel, fabricated by an artist, that will need to be attached. The artist will be attaching the metal paneling after the decorative fence is installed, but Contractor will need to coordinate the metal paneling install with the artist. There will be no direct payment for this coordination.

Submittals

The Contractor shall submit a shop drawing of the fence to the Engineer in accordance with Section 02000-Submittals.

The sample must be reviewed and approved by the Engineer and artist to ensure the fence is compatible with metal panels There will be no direct payment for this work.

Measurement and Payment

Decorative Fence will be measured and paid in linear feet, measured in place from center of end post to center of end post that has been completed and accepted.

Such price includes, but is not limited to, clearing and grading, furnishing, and installing decorative fence, excavation, concrete, fittings, backfill, and any incidentals to satisfactorily install the fence.

Payment will be made under:

Pay Item	Pay Unit
Decorative Fence	Linear Foot

UTLITIES BY OTHERS

Description

The following utility companies have facilities that will be in conflict with the construction of this project:

Water/Sewer – **Town of Cary**

The Town of Cary will have its water/sewer lines relocated during construction by the contractor.

Amir Nezarati (919)-380-4235 / amir.nezarati@carync.gov

Gas – **Dominion Energy - NG**

Dominion Energy's relocation work will be completed during construction. Standby crews will relocate the gas line out of conflict on an as needed basis.

Nakima Bogan (919) 367-2720 / nakima.bogan@dominionenergy.com

Power – **Duke Energy - Distribution**

Duke Energy's Distribution relocation work will be completed by the construction NTP date.

Jocelyn Robertson (919) 573-6753 / jjrobertson@pike.com

Telecommunications – **AT&T Telephone/FO**

AT&T's Telephone/FO relocation work will be completed by the construction NTP date.

Zaim Aissa / za188w@att.com

The conflicting facilities of these concerns will be adjusted prior to the construction NTP date, unless otherwise noted, and are therefore listed in these special provisions for the benefit of the Contractor. All utility work listed herein, unless otherwise indicated, will be done by the utility owners. All utilities are shown on the plans from the best available information.

The Contractor's attention is directed to Article 105-8 of the 2024 Standard Specifications.

DRIVEWAYS

The contractor shall provide residents access to their driveways throughout construction. When new driveway aprons are required the contractor is required to use high early strength portland cement concrete for the driveway apron. To produce high early strength concrete refer to NCDOT Standard 1000-5 High Early Strength Portland Cement Concrete. For all classes of concrete, high early strength concrete may be produced by using Type III Portland cement. To produce high early strength concrete with regular cement, use a higher class of concrete as follows: Class A and Class B use Class AA with a cement content of at least 677 lb/cy. For Class B slip form, use Class AA slip from with a cement content of at least 677 lb/cy. Payment for high early strength concrete will be considered incidental to "Concrete Curb and Gutter" and "Concrete Driveway Aprons." No additional payment will be made for high early strength concrete.

CONCRETE CRADLE

General

The contractor shall construct concrete cradles for water line protection in accordance with the details shown in the plans and at the locations shown in the plans. The contractor is directed to Section 1520 of the NCDOT Standard Specifications for Roads and Structures for installation.

Measurement and Payment

Payment for installation of Concrete Cradle shall be per each and paid for under the contract price for "Concrete Cradle". Such price and payments will be full compensation for all labor, materials, excavation, shoring, backfilling, and any incidentals necessary to complete the work. The installation of the Concrete Cradle will be measured and paid for under the contract item "Concrete Cradle".

Payment will be made under:

Pay Item	Pay Unit
Concrete Cradle	Each

DELAY IN RIGHT OF ENTRY

The contractor will not be allowed right of entry to the following parcels prior to the listed dates unless otherwise permitted by the Engineer.

Parcel	Owner	Date
1	CC SOP1 LLC	Spring 2025
2	Charles Smith, and wife Teresa Smith	Spring 2025
3	Susan M. Tricas, and husband John F. Tricas	Spring 2025
4	Mary S. Hilderbrand	Spring 2025
5	Mary Kent	Spring 2025
6	Stephen Craig Ward, and wife Susan Ward	Spring 2025
7	Patricia Langrell Frazer, and husband Evan Clayton Frazer	Spring 2025
8	Bobbie Jean Price	Spring 2025

FLAGGING

Flagging for traffic control will be performed in accordance with Section 20000 of these specifications CONSTRUCTION TRAFFIC CONTROL and Section 1150 FLAGGERS of the NCDOT Standard Specificatios for Roads and Structures, 2024 Edition. Payment will for flaggers will be made on a lump sum basis following the payment schedule below:

Payment for “Flagger,” shall be made as follows:

a) Fifty percent (50%) of the lump sum amount in the Itemized Proposal on the first partial payment estimate after which said item(s) have been placed into operation.

b) Twenty-five percent (25%) of the total lump sum amount for Flagger on the Itemized Proposal on the first partial payment estimate made after the project is 50% complete.

c) Twenty-five percent (25%) of the total lump sum amount for Flagger on the Itemized Proposal on the first partial payment after the project is one hundred percent (100%) complete.

Payment will be made under:

Pay Item	Pay Unit
Flagger	Lump Sum