

FINAL DESIGN - NOT RELEASED FOR CONSTRUCTION

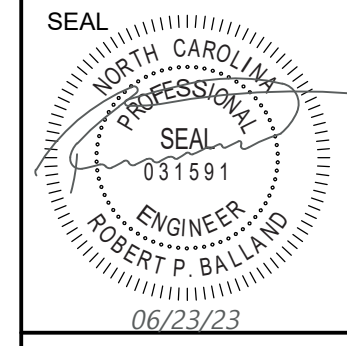
REVISIONS:


CLIENT INFORMATION:  
CIP CONSTRUCTION COMPANY  
201 NORTH ELM STREET, STE. 201  
GREENSBORO, NC 27401

**PARAMOUNT**  
ENGINEERING, INC.  
122 Cicema Drive  
Wilmington, North Carolina 28403  
(910) 791-6707 (O) (910) 791-6766 (F)  
NC License #: C-2846

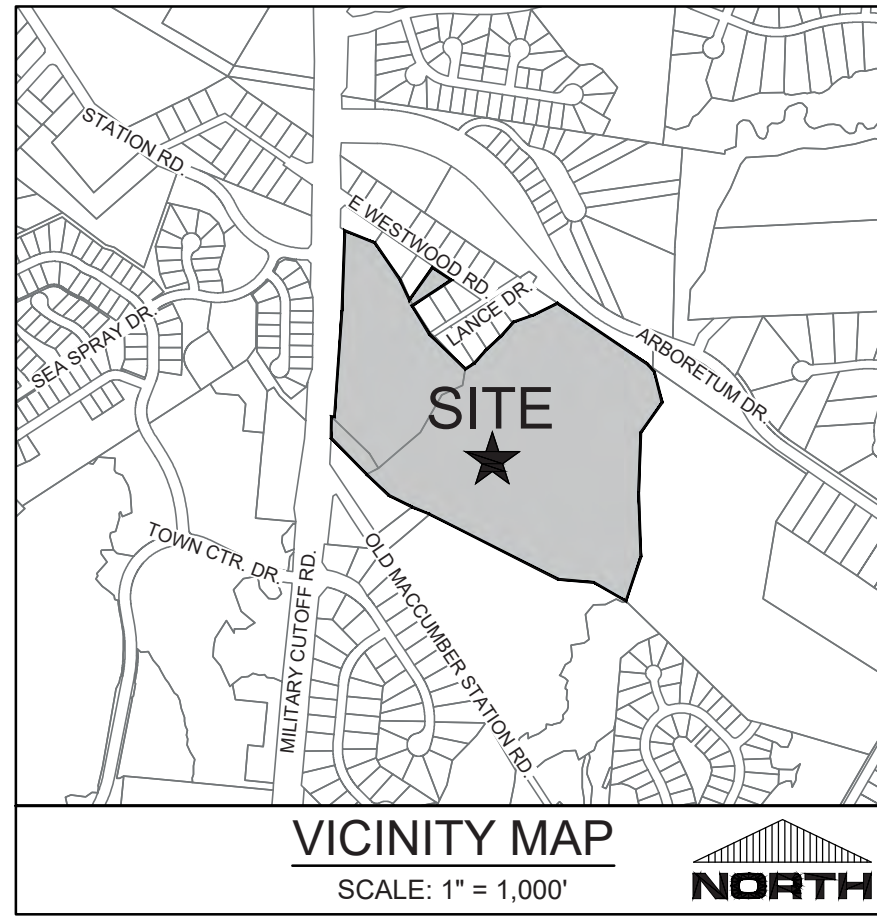
PRE-DEVELOPMENT  
DRAINAGE AREA MAP  
CARROLL AT THE AVENUE  
MILITARY CUTOFF RD.  
WILMINGTON, NC 28405

PROJECT STATUS	06/23/23
CONCEPT LAYOUT	
PRELIMINARY LAYOUT	
FINAL DESIGN	
RELEASED FOR CONST.	
DRAWING INFORMATION	
DATE	06/23/23
SCALE	1" = 100'
DESIGNED	ASR
DRAWN	RFB
CHECKED	

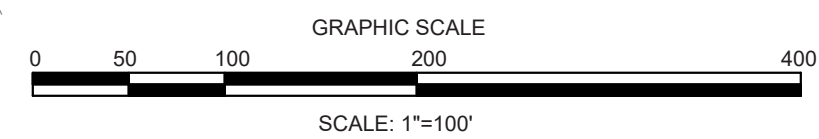


C-4.10  
PEI JOB#: 18473.PE





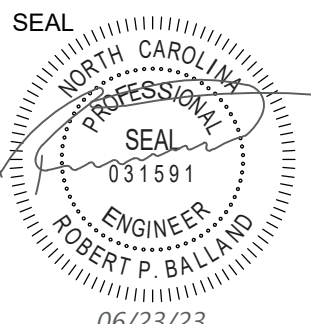
Inlet Drainage Areas		
UPSTREAM STRUCTURE	SUB DA (AC)	RUNOFF COEF.
DI-101-1	0.18	0.35
CI 103	0.31	0.63
CI 104	0.50	0.62
RD A	0.11	0.95
RD B	0.11	0.95
CI 107	0.26	0.90
RD C	0.26	0.95
CI 108	0.13	0.86
CI 115	0.12	0.89
CI 116	0.28	0.84
CI 150	0.26	0.83
CI 153	0.20	0.84
CI 157	0.09	0.76
CI 158	0.09	0.76
RD L	0.13	0.95
CI 159	0.04	0.95
CI 163	0.11	0.74
RD M	0.32	0.95
CI 164	0.39	0.76
CI 165	0.12	0.76
CI 161	0.05	0.76
CI 162	0.10	0.80
CI 156	0.18	0.75
CI 155	0.18	0.83
RD K	0.19	0.95
RD J	0.21	0.95
MH 152	0.32	0.95
YD 1520	0.14	0.75
CI 119	0.27	0.78
MH 1200	0.44	0.95
CI 122	0.04	0.82
CI 123	0.10	0.85
CI 124	0.18	0.80
CI 125	0.21	0.73
DI 126	0.20	0.85
CI 127	0.06	0.82
CI 128	0.18	0.75
CI 129	0.23	0.75
CI 130	0.11	0.75
CI 131	0.10	0.70
CI 132	0.10	0.70
RD H2	0.33	0.95
RD I	0.33	0.95
YD 110	0.03	0.50
RD 126	0.03	0.50
RD H5	0.42	0.95
RD G	0.33	0.95
YD G23	0.03	0.50
RD G22	0.03	0.50
RD F	0.14	0.95
YD 121	0.01	0.95
RD D	0.08	0.95
RD E	0.21	0.95
CI 110	0.13	0.88
CI 111	0.14	0.91
CI 112A	0.10	0.85
CI 112	0.09	0.85
CI 113	0.08	0.85
CI 113A	0.09	0.85
CI 114A	0.26	0.80
CI 201	0.30	0.65
CI 202	0.31	0.93
CI 203	0.03	0.69
DI 205	0.05	0.95
DI 206	0.09	0.65
DI 207	0.11	0.90
RD N	1.03	0.95
DI 207A	0.07	0.95
DI 209	0.07	0.95
DI 210	0.11	0.95
CI 208A	0.07	0.85
CI 209	2.29	0.80
CI 208B	0.10	0.80
CI 210	0.12	0.83
CI 212	0.10	0.82
CI 213	0.15	0.70
CI 215	0.08	0.83
CI 216	0.08	0.83
CI 217	0.24	0.75
CI 218	0.16	0.76
CI 219	0.08	0.81
CB 219A	0.10	0.50
CI 220	0.10	0.80
CI 221	0.14	0.70
DI-223	0.18	0.70
CI 224	0.17	0.75
CI 225	0.21	0.76
CI 226	0.07	0.72
CI 232	0.13	0.70
CI 233	0.04	0.76
CI 236	0.09	0.56
CI 234	0.17	0.74
CI 235	0.23	0.75
RD O	0.19	0.95
DI 237-1	0.08	0.50
CI 238	0.16	0.56
CI 239	0.08	0.60
CI 240	0.23	0.65
MH 237	1.20	0.71
CI 227	0.07	0.65
CI 228	0.06	0.65
CI 230	0.05	0.65
CI 231	0.10	0.65
RD P	0.56	0.95
CI 229	0.08	0.75
MH 231	0.65	0.52
DI-224-1	0.04	0.50
CI 211	0.16	0.90
RD O	0.23	0.95
CI 204	0.02	0.95
CI 301	0.06	0.65
CI 302	0.04	0.95
CI 303	0.04	0.95
CI 304	0.06	0.95
CI 305	0.06	0.95
CI 306	0.06	0.95



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INLET DRAINAGE AREAS  
CARROLL AT THE AVENUE  
MILITARY CUTOFF RD.  
WILMINGTON, NC 28405

PROJECT STATUS  
CONCEPT LAYOUT:  
FINAL LAYOUT:  
FINAL DESIGN:  
RELEASED FOR CONSTRUCTION:  
DRAWING INFORMATION  
DATE: 06/23/23  
SCALE: 1" = 100'  
RFB  
DRAWN: RFB  
CHECKED: RFB



C-4.12

PEI JOB#: 18473.PE

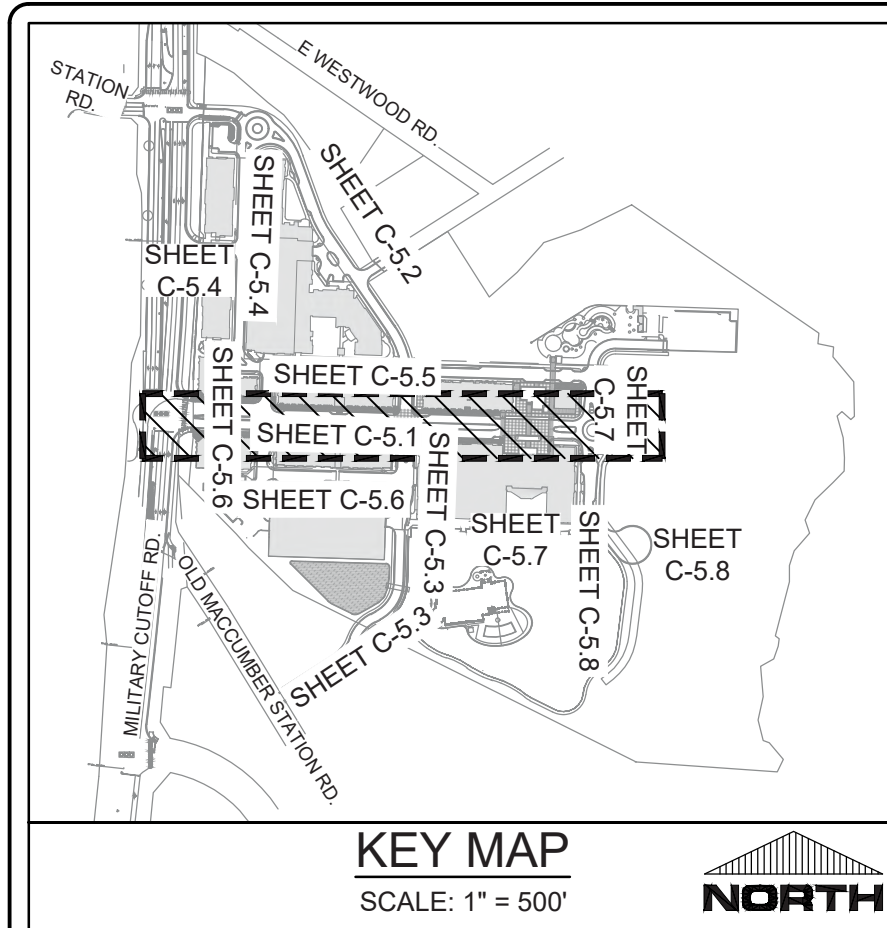
REVISIONS:

CLIENT INFORMATION:

**PARAMOUNT**  
ENGINEERING, INC.  
122 Cinema Drive  
Wilmington, North Carolina 28403  
(910) 791-6707 (O) (910) 791-6767 (F)  
N.C. License #: C-2846

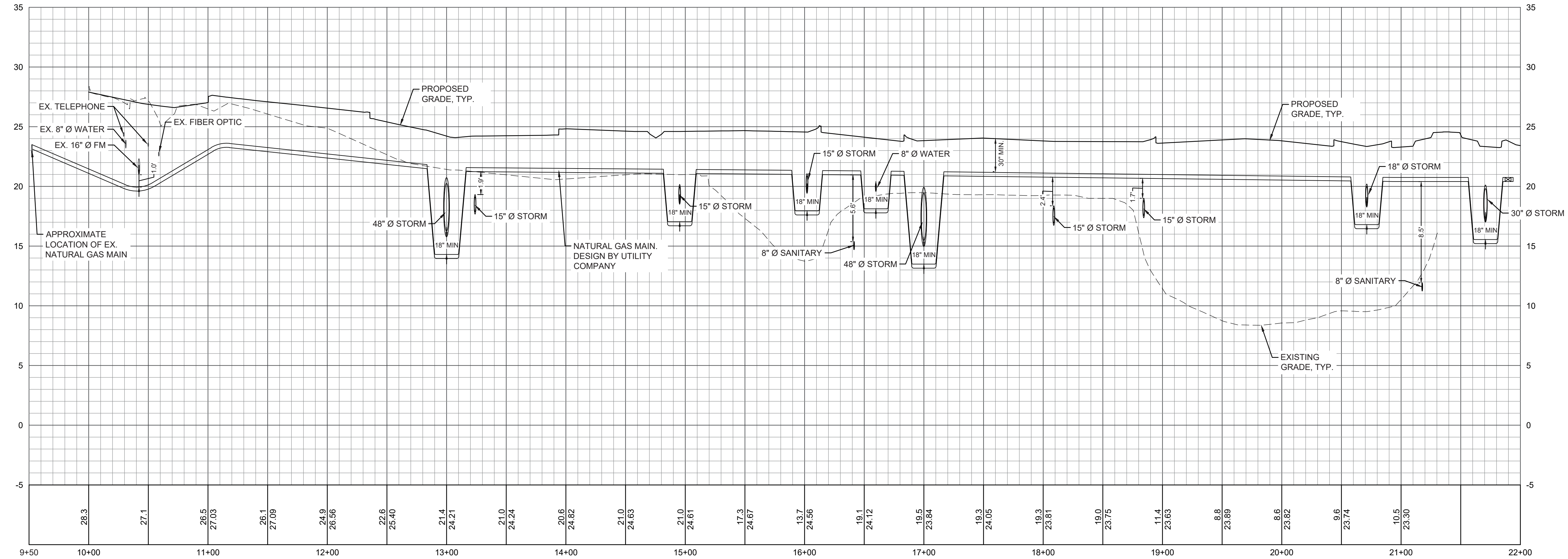
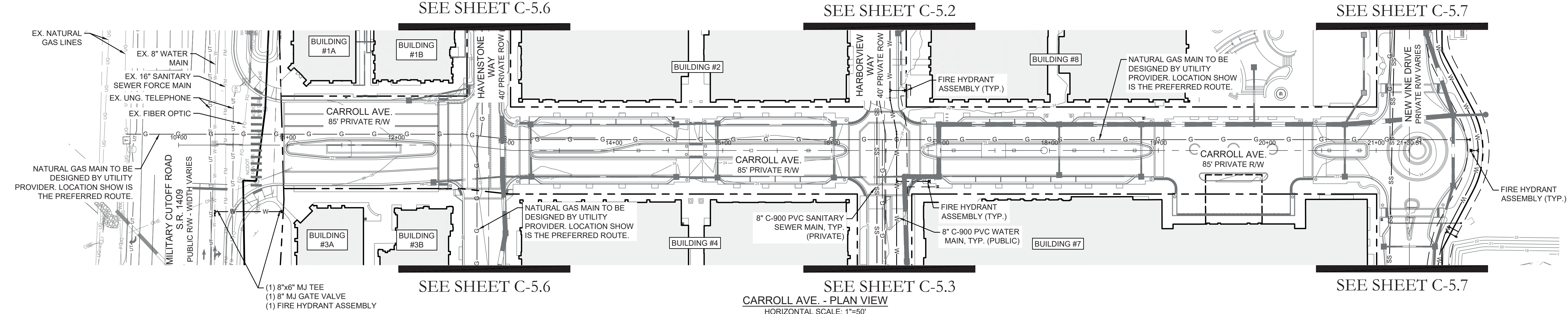
CIP CONSTRUCTION COMPANY  
201 NORTH ELM STREET, STE. 201  
GREENSBORO, NC 27401





**EX. SERVICES NOTE:**  
ANY EXISTING SERVICES NOT USED WILL NEED TO BE PROPERLY ABANDONED IN ACCORDANCE WITH CFPUA STANDARDS AND SPECIFICATIONS

**FIRE LINE NOTE:**  
SITE CONTRACTOR SHALL COORDINATE WITH FIRE SUPPRESSION DESIGN BUILD TO CONFIRM FIRE SERVICE SIZE PRIOR TO ORDERING ANY MATERIAL OR INSTALLATION. SITE CONTRACTOR SHALL INSTALL FIRE LINE INSIDE RISER ROOM AND TERMINATE 12" AFF.



FINAL DESIGN - NOT RELEASED FOR CONSTRUCTION

**REVISIONS:**

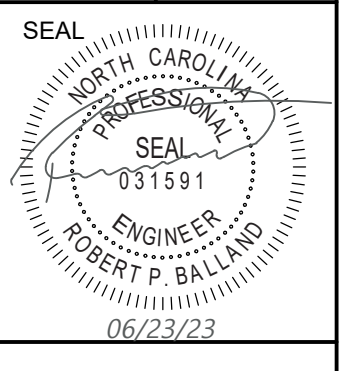
**CLIENT INFORMATION:**  
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GREENSBORO, NC 27401

**PARAMOUNT ENGINEERING, INC.**  
122 Cinema Drive  
Wilmington, North Carolina 28403  
(910) 791-6707 (O) (910) 791-6760 (F)  
N.C. License #: C-2846

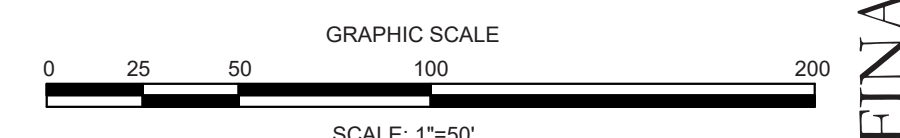
**UTILITY PLAN & PROFILE**  
CARROLL AVE.  
CARROLL AT THE AVENUE  
MILITARY CUTOFF RD.  
WILMINGTON, NC 28405

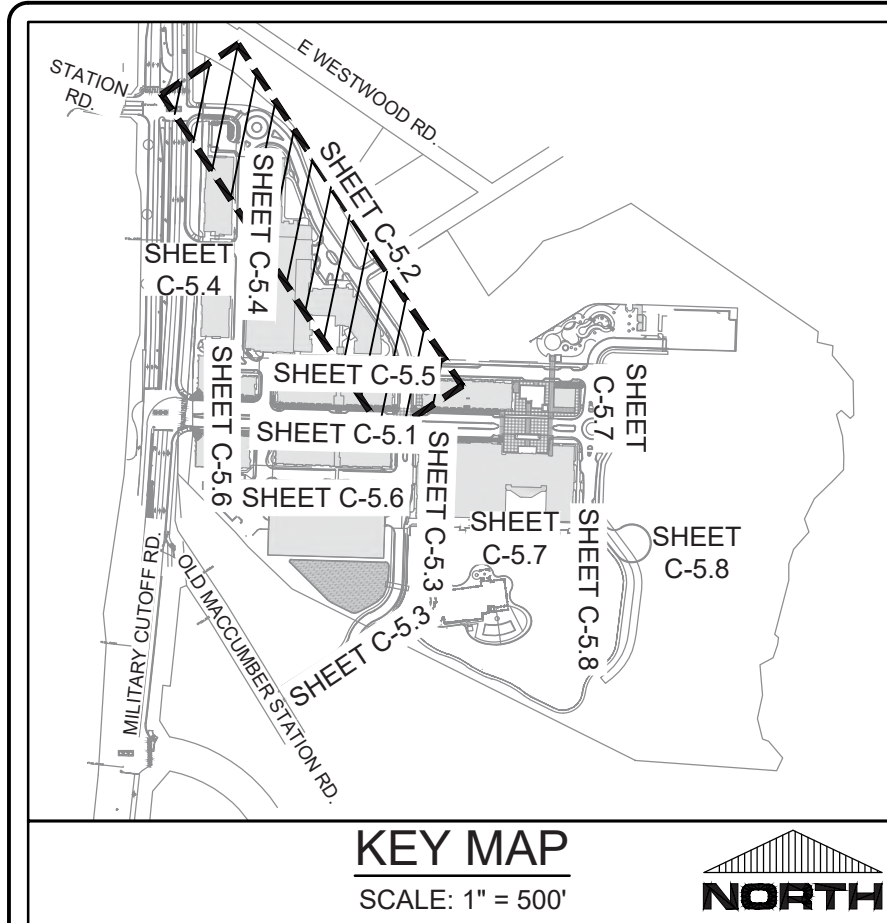
**PROJECT STATUS**  
CONCEPTUAL LAYOUT:  
FINAL DESIGN LAYOUT:  
RELEASED FOR CONSTRUCTION:

**DRAWING INFORMATION**  
DATE: 06/23/23  
SCALE: 1"=50'  
PREPARED BY: RPB  
DRAWN BY: RPB  
CHECKED BY: RPB



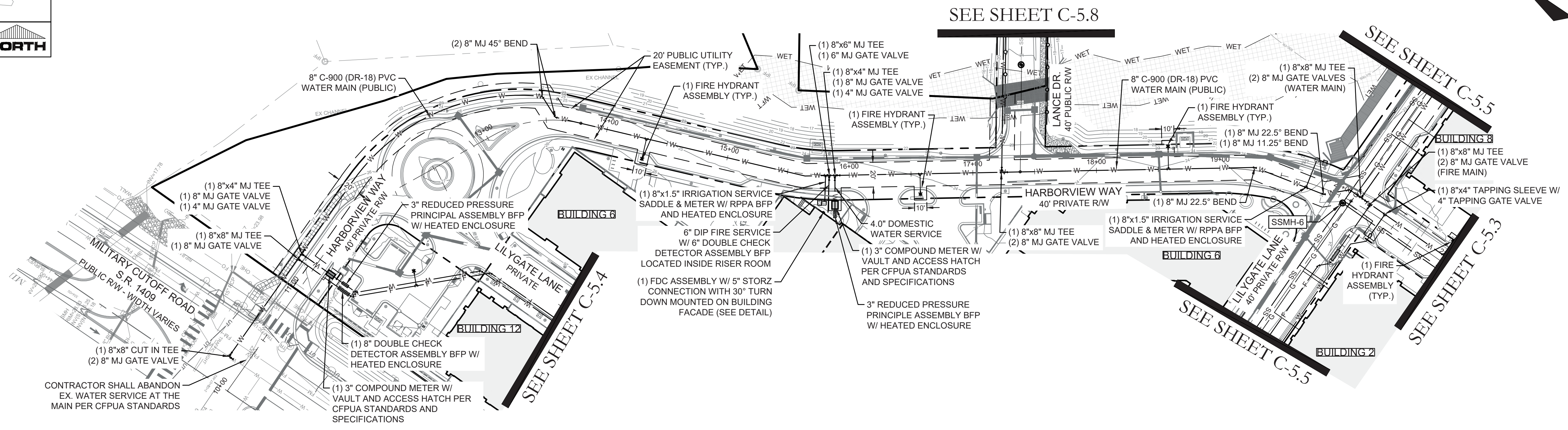
**C-5.1**  
PEI JOB#: 18473.PE



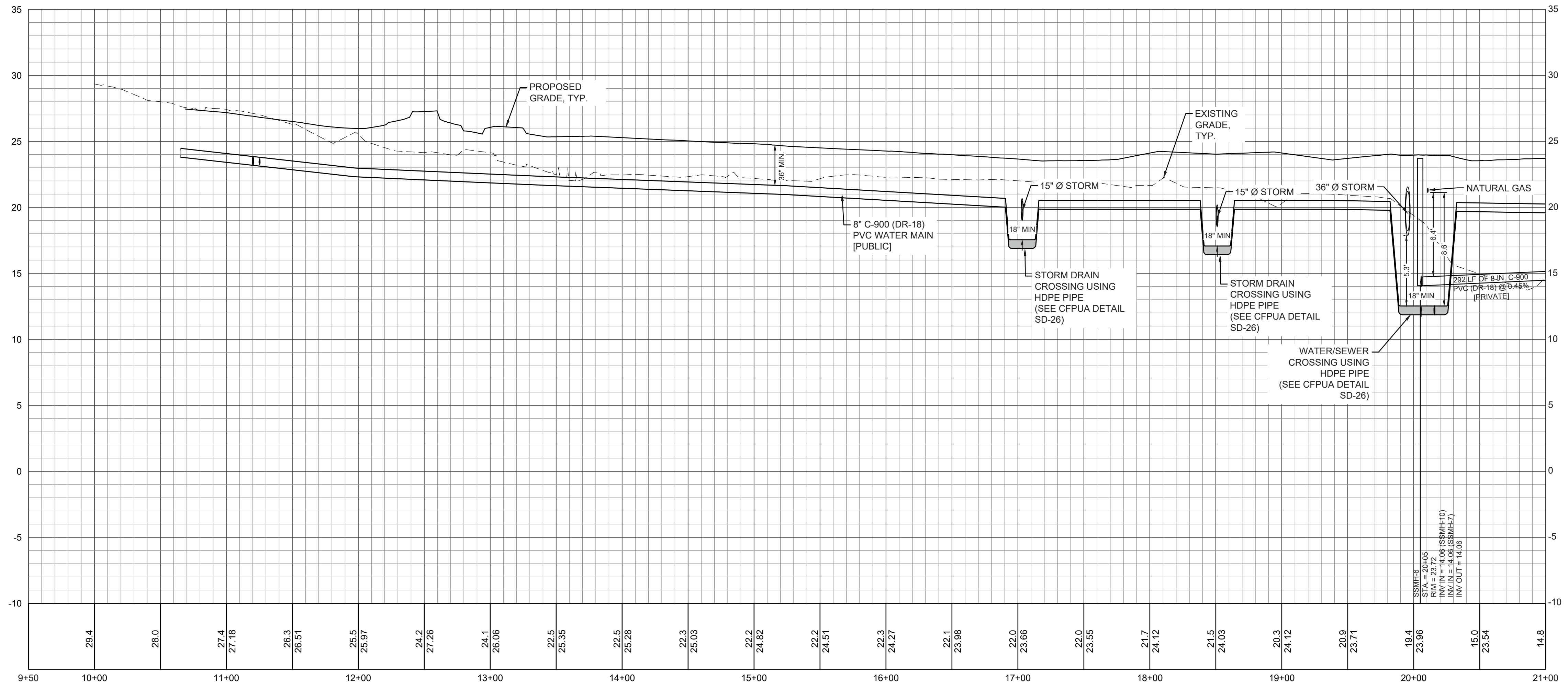


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**FIRE LINE NOTE:**  
 SITE CONTRACTOR SHALL COORDINATE WITH FIRE SUPPRESSION DESIGN BUILD TO CONFIRM FIRE SERVICE SIZE PRIOR TO ORDERING ANY MATERIAL OR INSTALLATION. SITE CONTRACTOR SHALL INSTALL FIRE LINE INSIDE RISER ROOM AND TERMINATE 12" AFF.



HARBORVIEW WAY - PLAN VIEW (STA. 10+00 - 21+00)  
 HORIZONTAL SCALE: 1"=50'



HARBORVIEW WAY - PROFILE VIEW (STA. 10+00 - 21+00)  
 HORIZONTAL SCALE: 1"=50' VERTICAL SCALE: 1"=5'

REVISIONS:

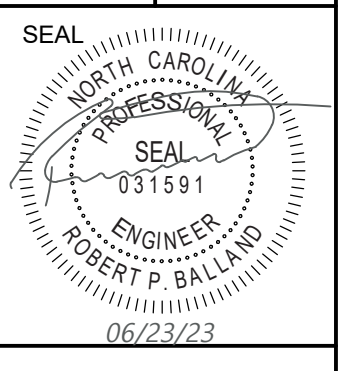
CLIENT INFORMATION:  
 CIP CONSTRUCTION COMPANY  
 201 NORTH ELM STREET, STE. 201  
 GREENSBORO, NC 27401

**PARAMOUNTE**  
 ENGINEERING  
 122 Cinema Drive  
 Wilmington, North Carolina 28403  
 (910) 791-6707 (O) (910) 791-6700 (F)  
 N.C. License #: C-2846

UTILITY PLAN & PROFILE  
 HARBORVIEW WAY  
 CARROLL AT THE AVENUE  
 MILITARY CUTOFF RD.  
 WILMINGTON, NC 28405

PROJECT STATUS  
 CONCEPTUAL LAYOUT:  
 FINAL DESIGN LAYOUT:  
 RELEASED FOR CONST:

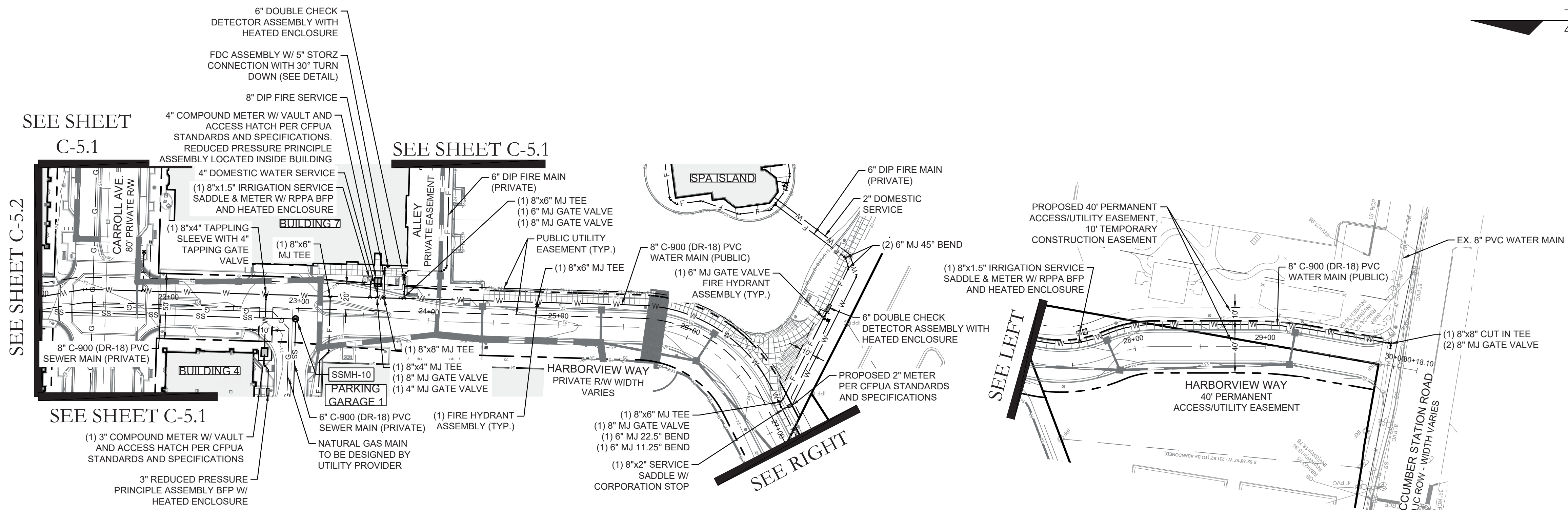
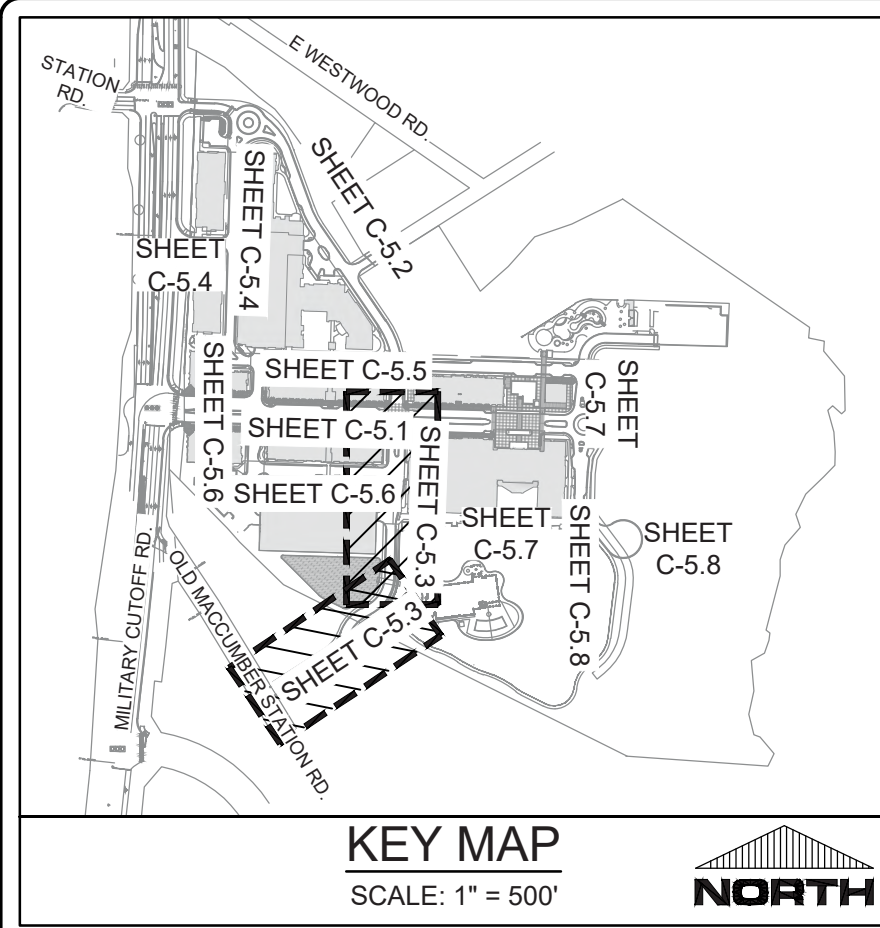
DRAWING INFORMATION  
 DATE: 06/23/23  
 SCALE: 1" = 50'  
 DRAWN: RPB/ASR  
 CHECKED: RPB



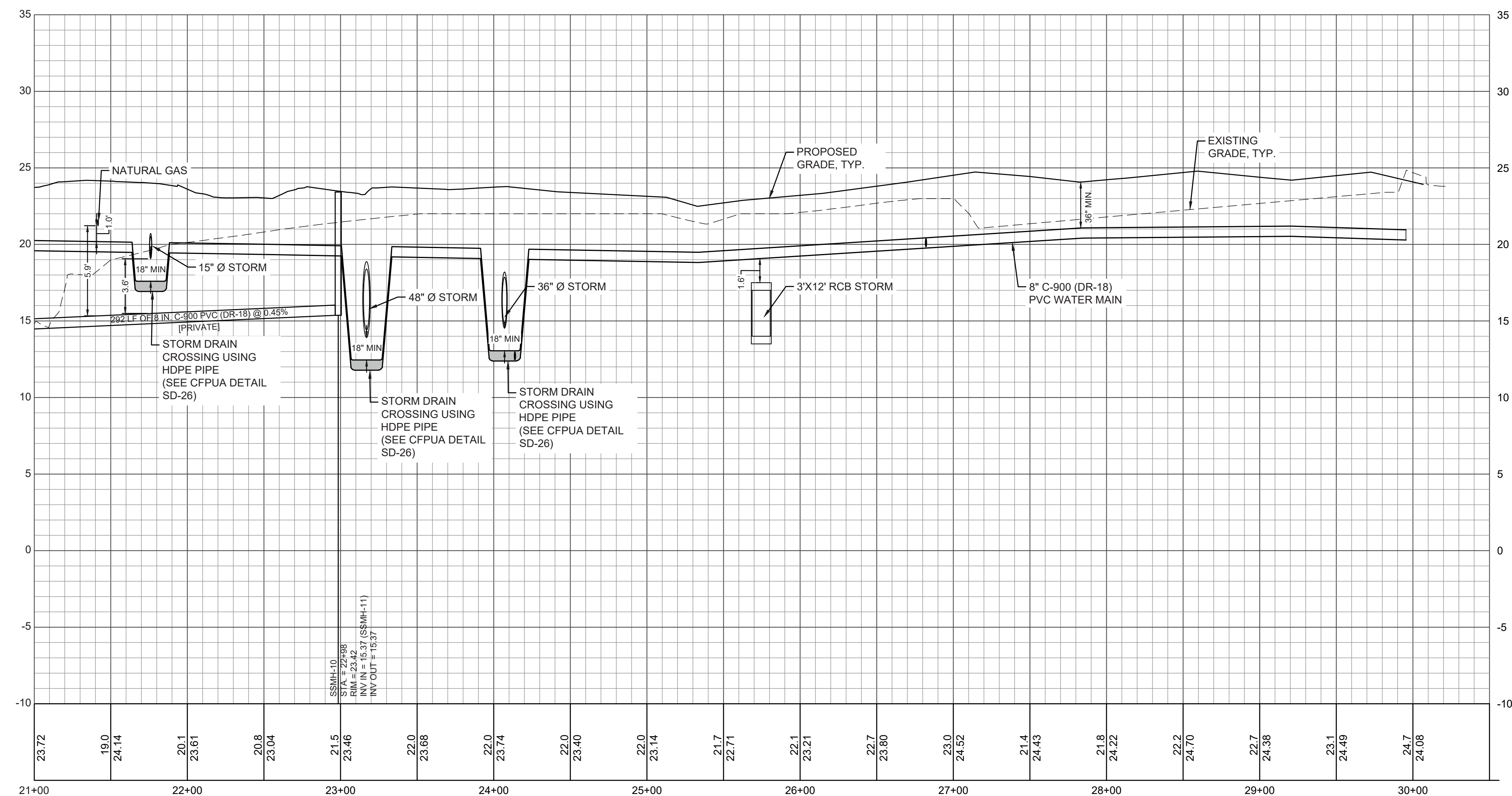
**C-5.2**

PEI JOB#: 18473.PE

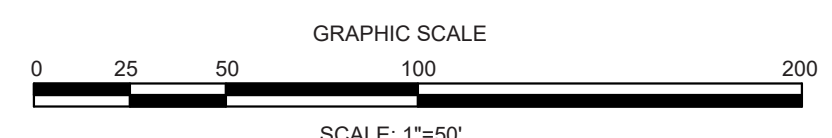
FINAL DESIGN - NOT RELEASED FOR CONSTRUCTION



HARBORVIEW WAY - PLAN VIEW  
(STA. 21+00 - END)  
HORIZONTAL SCALE: 1"=50'



HARBORVIEW WAY - PROFILE VIEW  
(STA. 21+00 - END)  
HORIZONTAL SCALE: 1"=50'  
VERTICAL SCALE: 1"=5'



FINAL DESIGN - NOT RELEASED FOR CONSTRUCTION

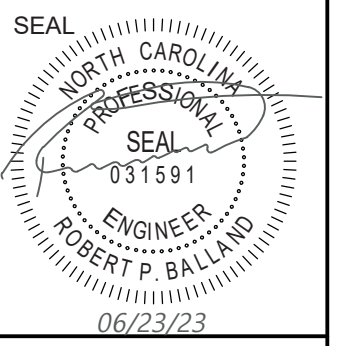
REVISIONS:
------------

CLIENT INFORMATION  
CIP CONSTRUCTION COMPANY  
201 NORTH ELM STREET, STE. 201  
GREENSBORO, NC 27401

**PARAMOUNT**  
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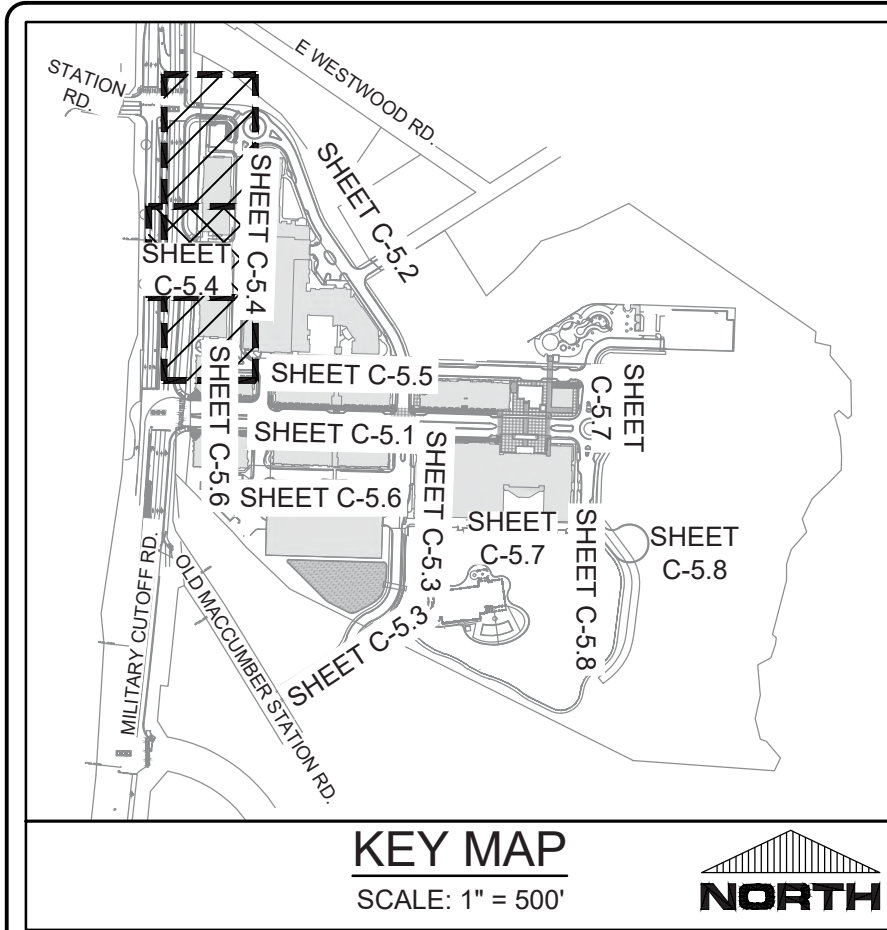
UTILITY PLAN & PROFILE  
HARBORVIEW WAY  
CARROLL AT THE AVENUE  
MILITARY CUTOFF RD.  
WILMINGTON, NC 28405

PROJECT STATUS	06/23/23
DATE	06/23/23
SCALE	1"=50'
DRAWN	RFB
CHECKED	RFB

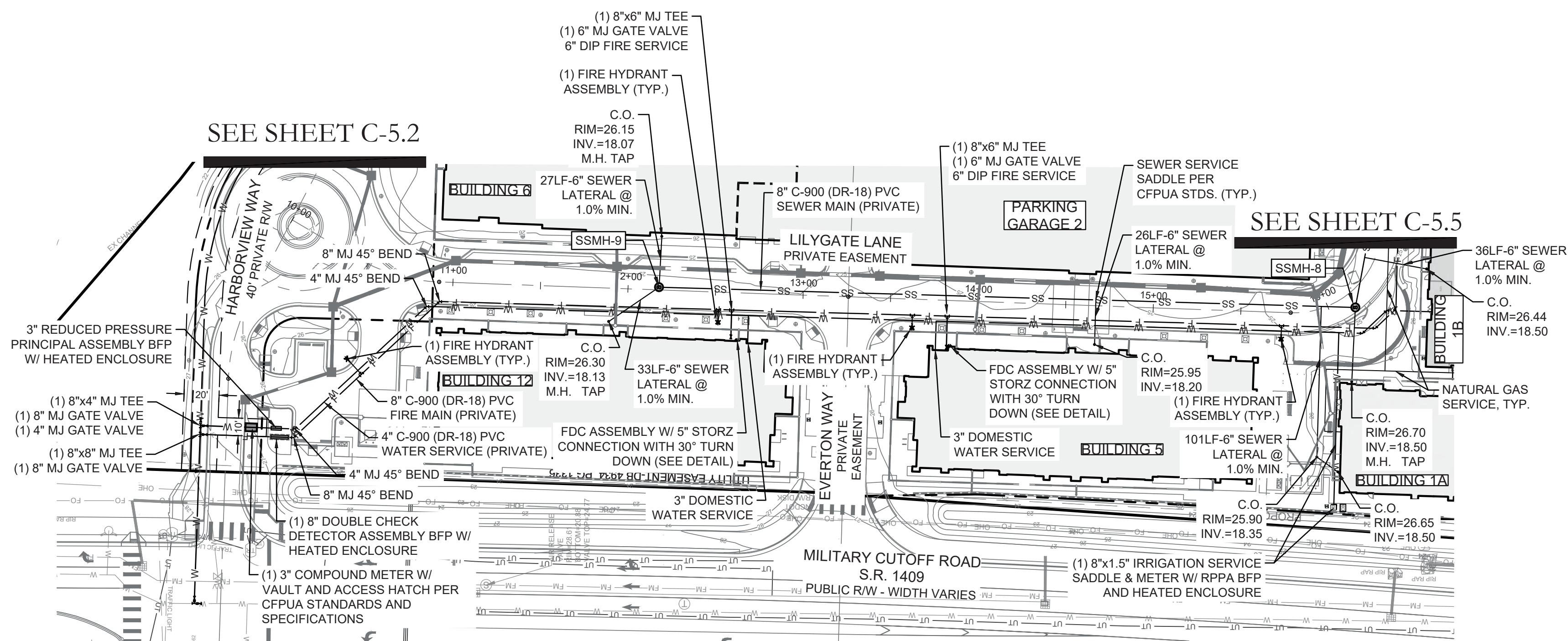


**C-5.3**

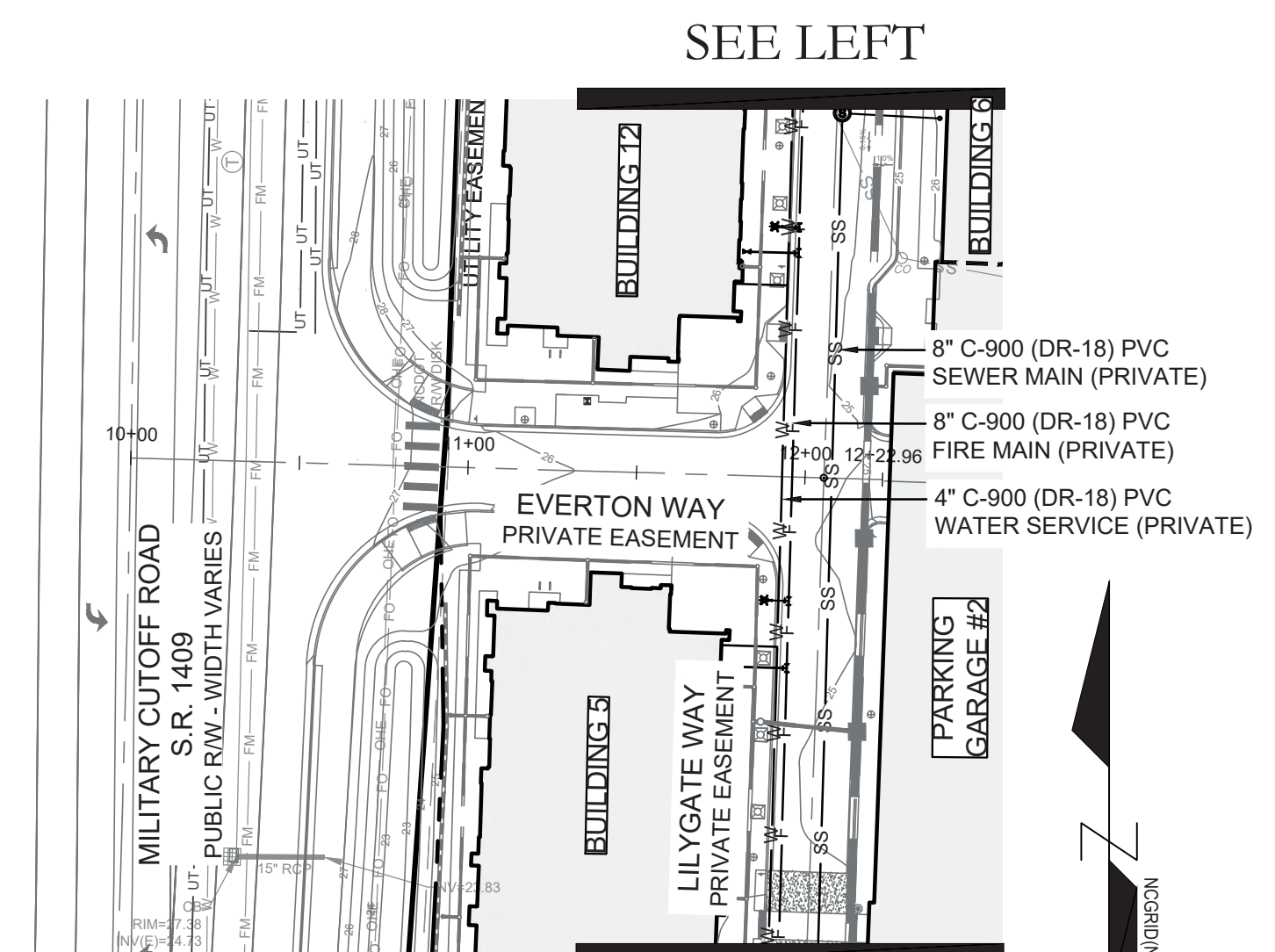
PEI JOB#: 18473.PE



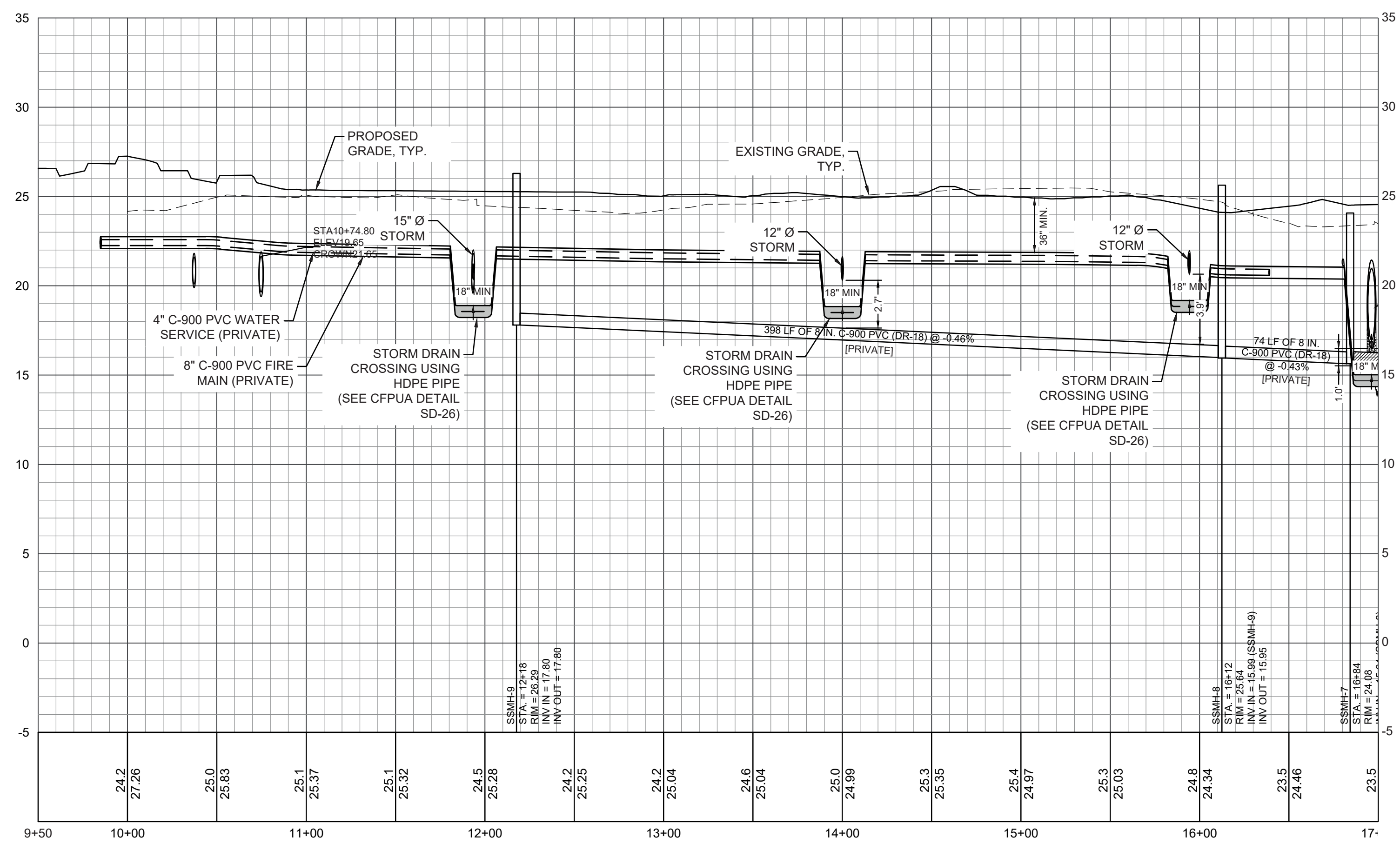
KEY MAP  
SCALE: 1" = 500'



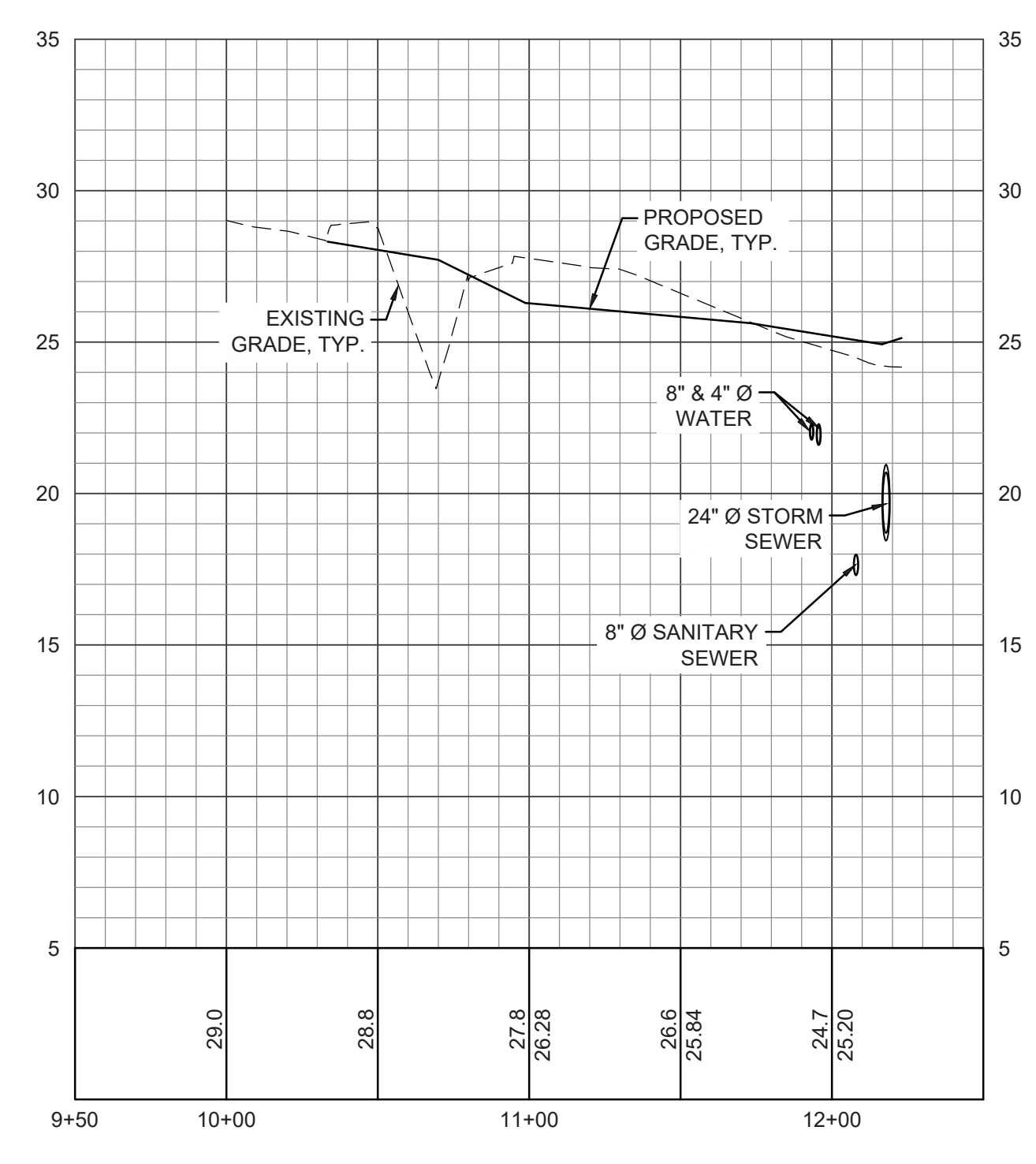
LILYGATE LANE - PLAN VIEW  
(STA. 10+00 - 16+50)  
HORIZONTAL SCALE: 1"=50'



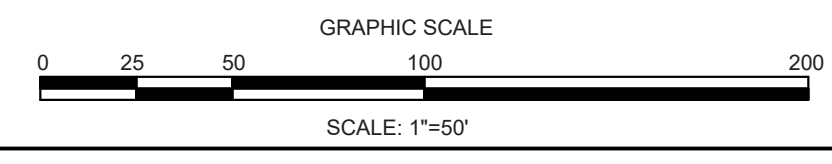
EVERTON WAY - PLAN VIEW  
(STA. 10+00 - END)  
HORIZONTAL SCALE: 1"=50'



LILYGATE LANE - PROFILE VIEW  
(STA. 10+00 - 16+50)  
HORIZONTAL SCALE: 1"=50'  
VERTICAL SCALE: 1"=5'



EVERTON WAY - PROFILE VIEW  
(STA. 10+00 - END)  
HORIZONTAL SCALE: 1"=50'  
VERTICAL SCALE: 1"=5'



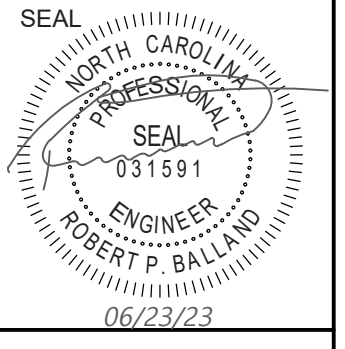
NO.	REVISIONS

CLIENT INFORMATION:  
CIP CONSTRUCTION COMPANY  
201 NORTH ELM STREET, STE. 201  
GREENSBORO, NC 27401

**PARAMOUNT ENGINEERING**  
122 Cinema Drive  
Wilmington, North Carolina 28403  
(910) 791-6707 (O) (910) 791-6700 (F)  
NC License #: C-2846

UTILITY PLAN & PROFILE  
LILYGATE LANE  
CARROLL AT THE AVENUE  
MILITARY CUTOFF RD.  
WILMINGTON, NC 28405

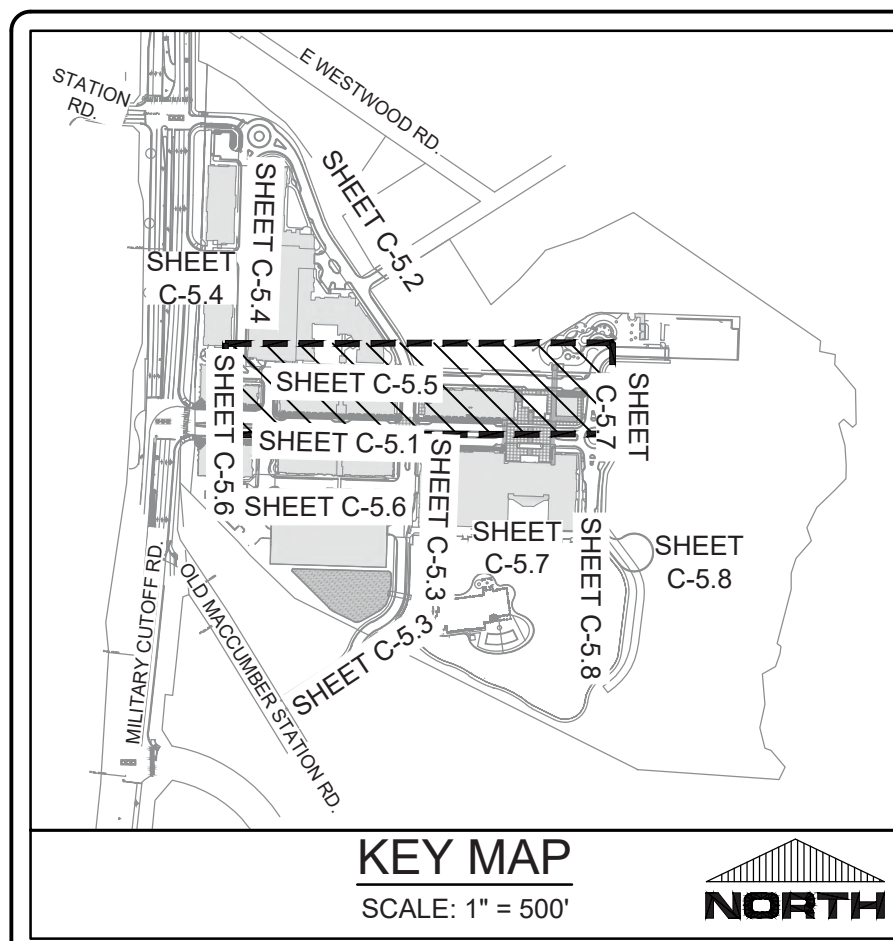
PROJECT STATUS:  
CONCEPT LAYOUT:  
FINAL DESIGN LAYOUT:  
RELEASED FOR CONST.  
DATE: 06/23/23  
SCALE: 1"=50'  
RFB/RSB  
DRAWN:  
CHECKED:



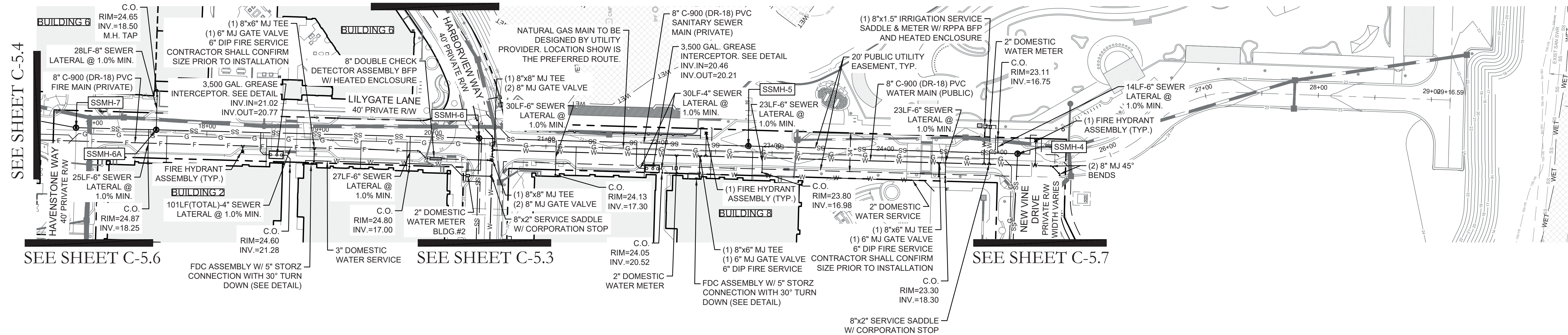
**C-5.4**  
PEI JOB#: 18473.PE

FINAL DESIGN - NOT RELEASED FOR CONSTRUCTION

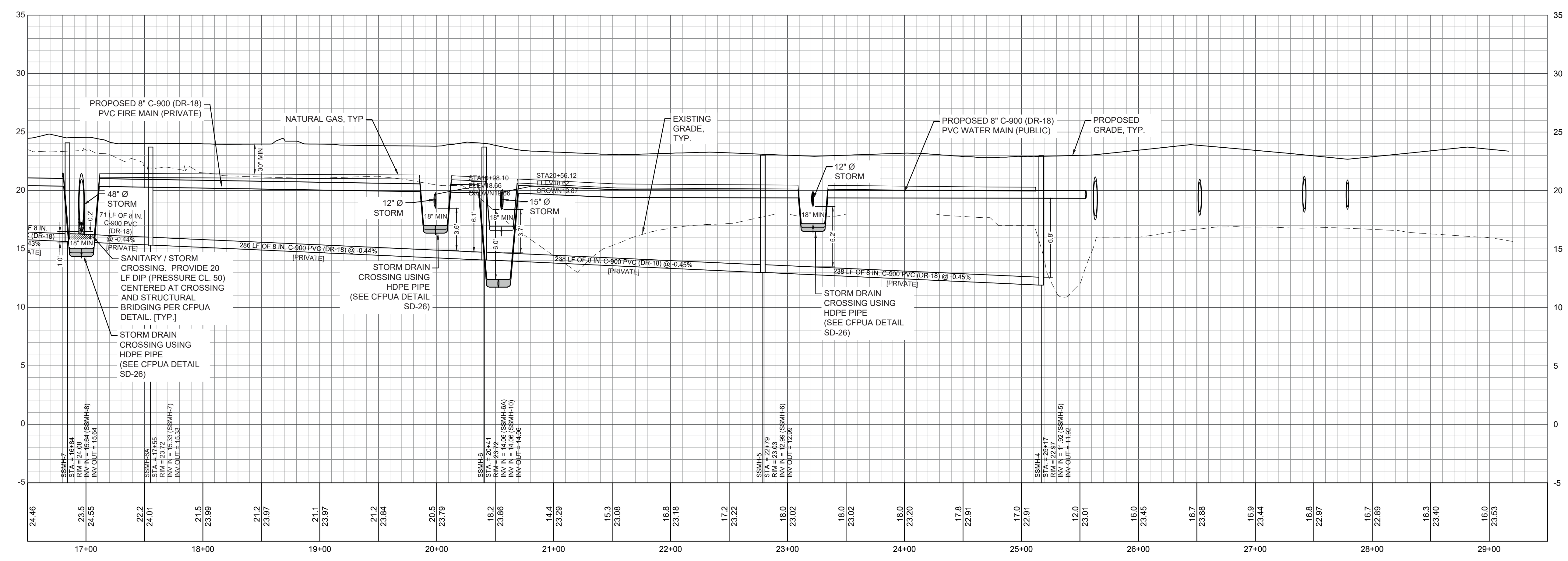




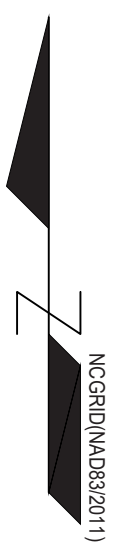
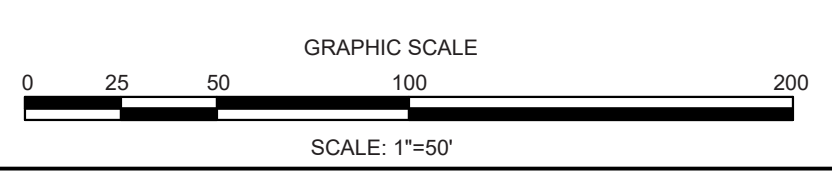
SEE SHEET C-5.2



LILYGATE LANE - PLAN VIEW  
(STA. 16+50 - END)  
HORIZONTAL SCALE: 1"=50'



LILYGATE LANE - PROFILE VIEW  
(STA. 16+50 - END)  
HORIZONTAL SCALE: 1"=50'  
VERTICAL SCALE: 1"=5'



REVISIONS:

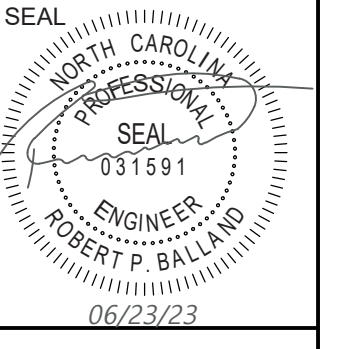

CLIENT INFORMATION:  
CIP CONSTRUCTION COMPANY  
201 NORTH ELM STREET, STE. 201  
GREENSBORO, NC 27401

**PARAMOUNT ENGINEERING INC.**  
122 Cinema Drive  
Wilmington, North Carolina 28403  
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NC License #: C-2846

UTILITY PLAN & PROFILE  
LILYGATE LANE  
CARROLL AT THE AVENUE  
MILITARY CUTOFF RD.  
WILMINGTON, NC 28405

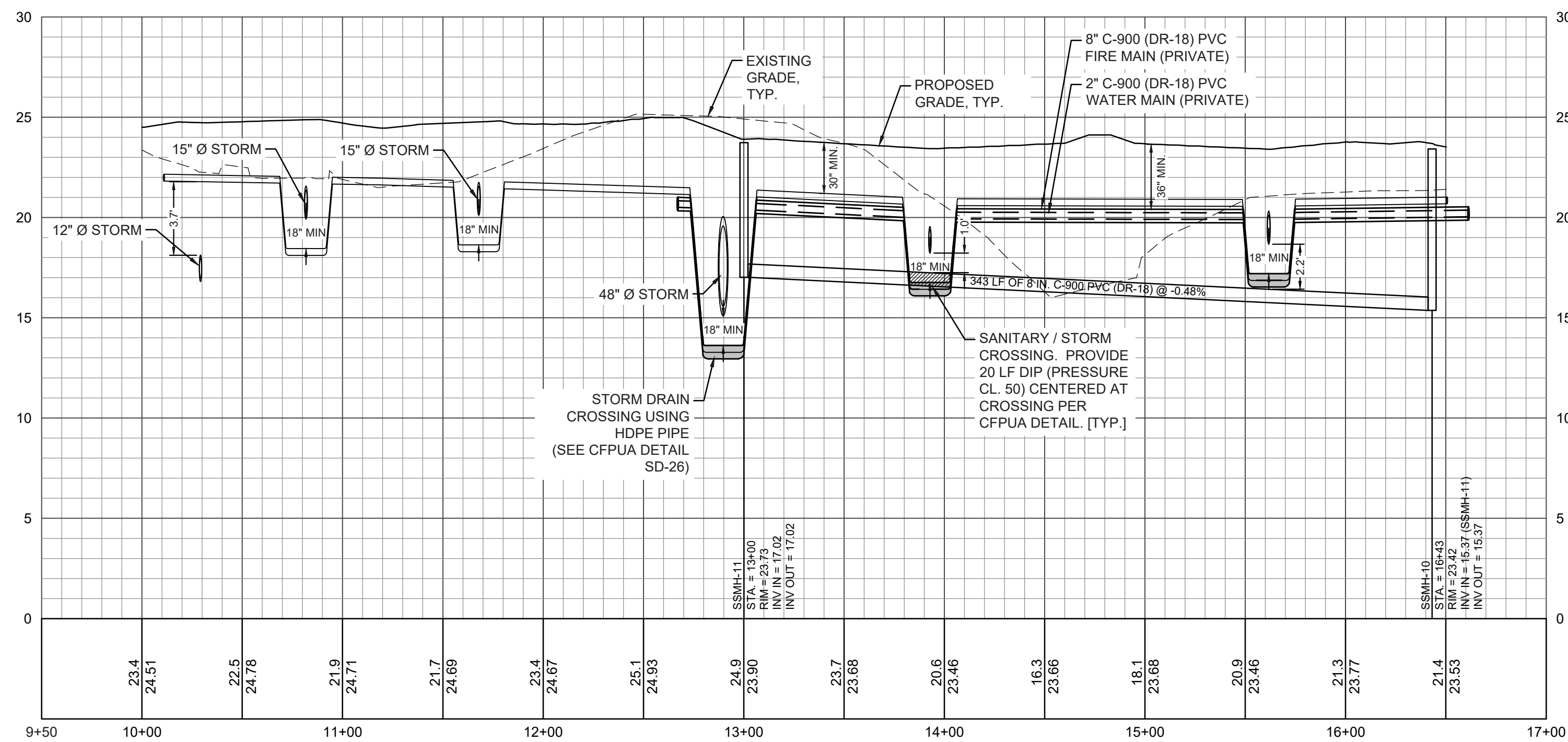
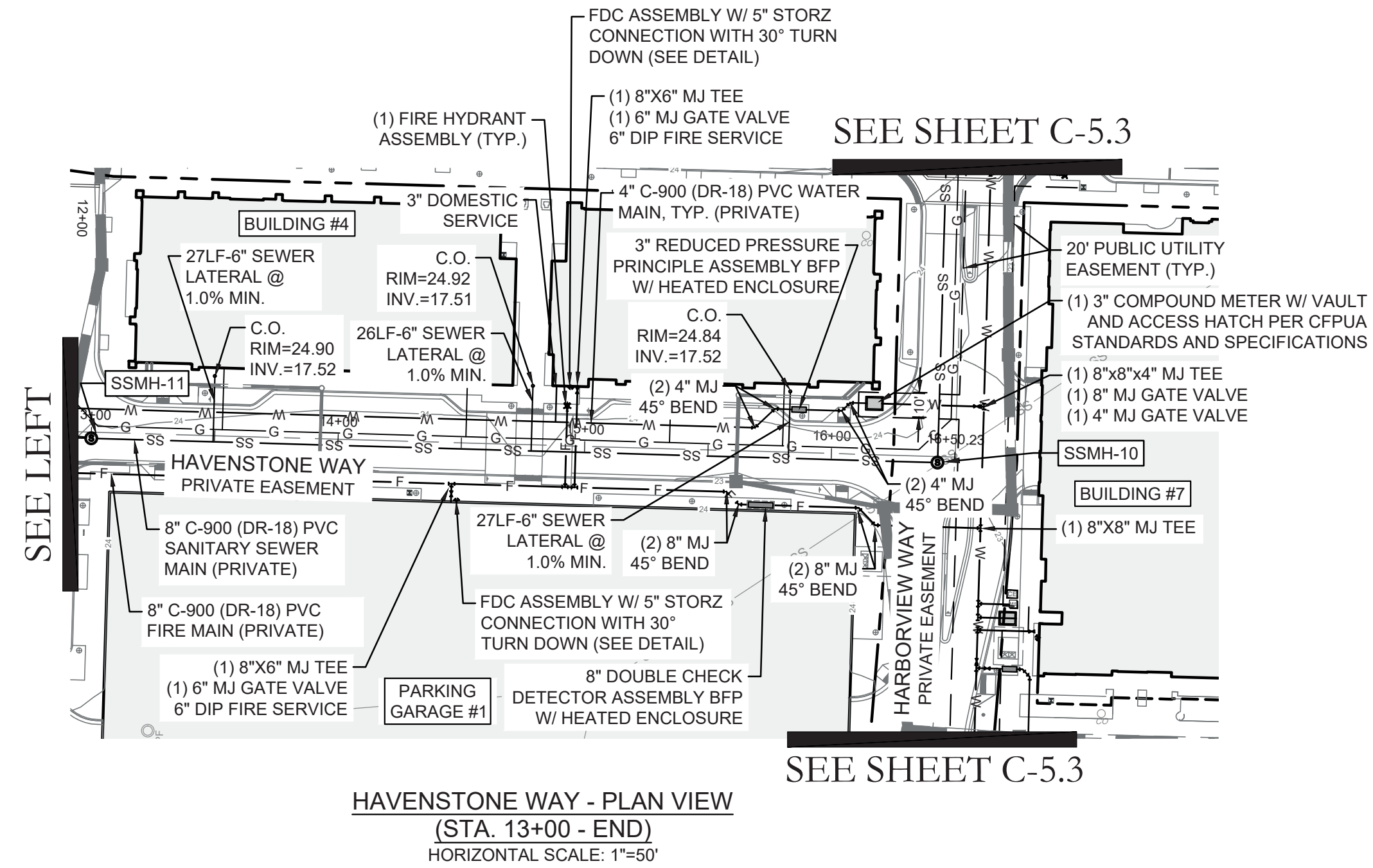
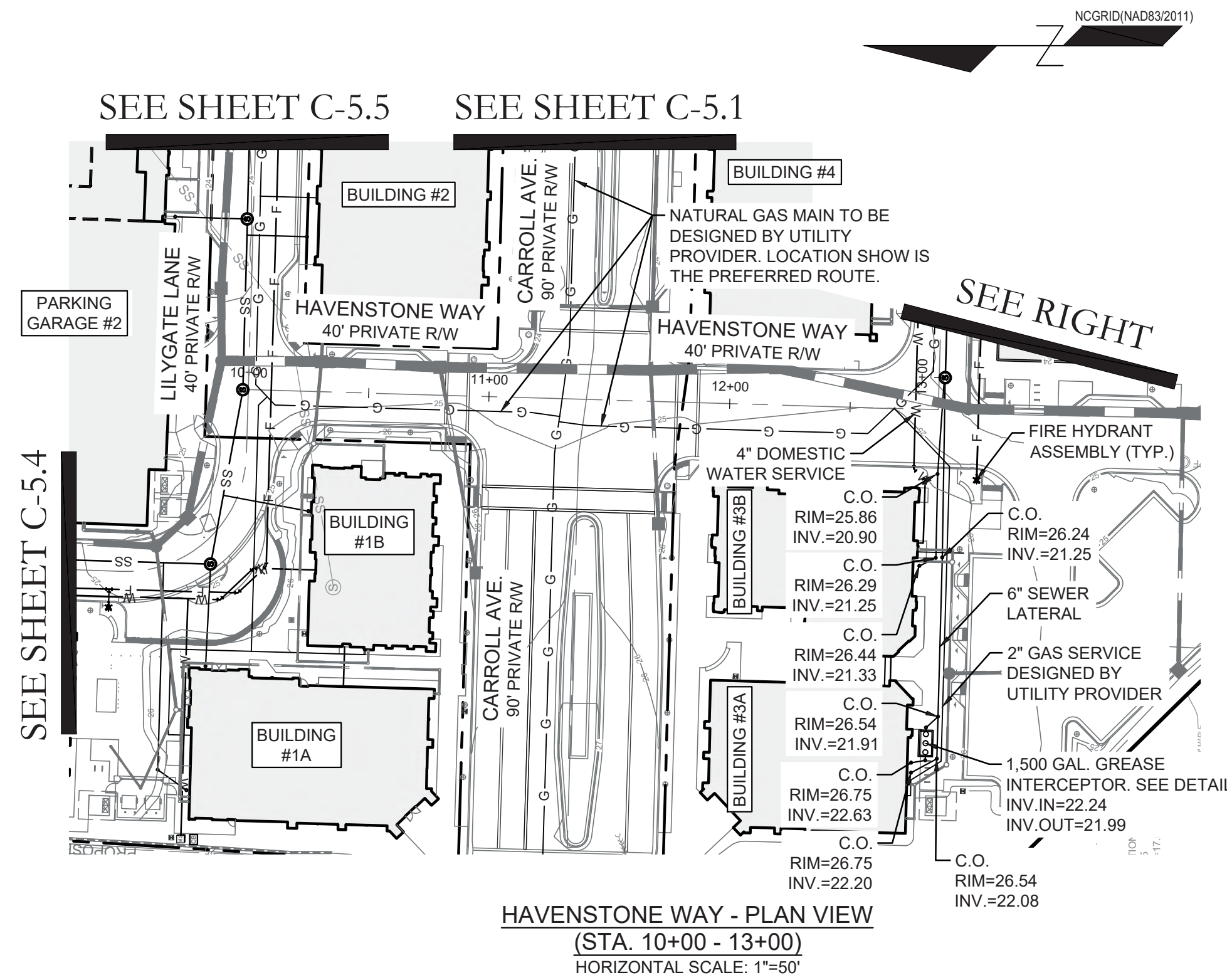
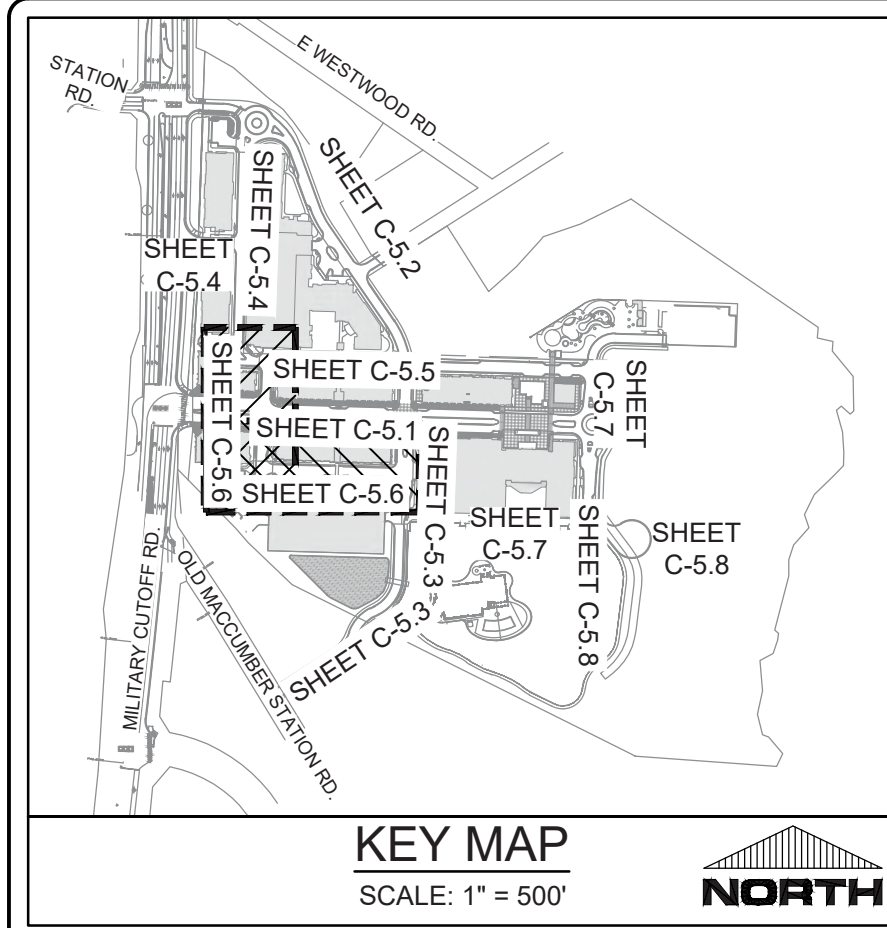
PROJECT STATUS:  
CONCEPTUAL LAYOUT:  
PRELIMINARY LAYOUT:  
RELEASED FOR CONST.

DRAWING INFORMATION:  
DATE: 06/23/23  
DESIGNED: [Signature]  
DRAWN: [Signature]  
CHECKED: [Signature]



**C-5.5**  
PEI JOB#: 18473.PE

FINAL DESIGN - NOT RELEASED FOR CONSTRUCTION



HAVENSTONE WAY - PROFILE VIEW  
(STA. 10+00 - 15+43)  
HORIZONTAL SCALE: 1"=50'  
VERTICAL SCALE: 1"=5'

FINAL DESIGN - NOT RELEASED FOR CONSTRUCTION

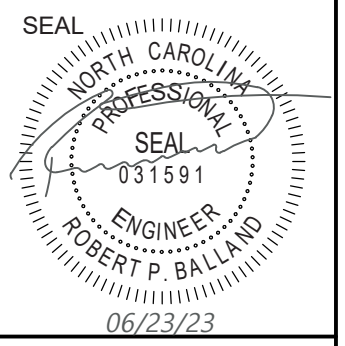
NO.	DATE	REVISIONS

CLIENT INFORMATION  
CIP CONSTRUCTION COMPANY  
201 NORTH ELM STREET, STE. 201  
GREENSBORO, NC 27401

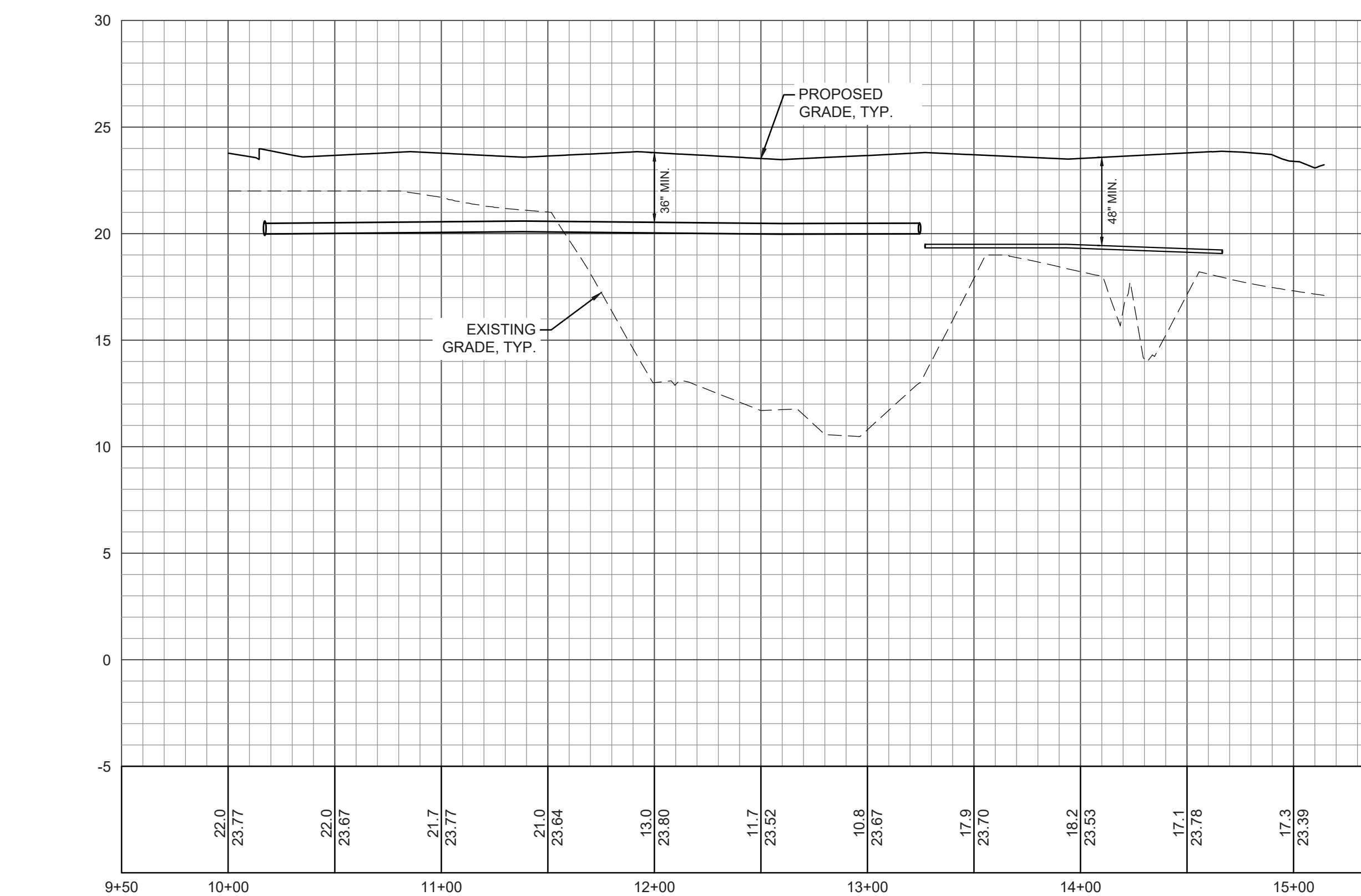
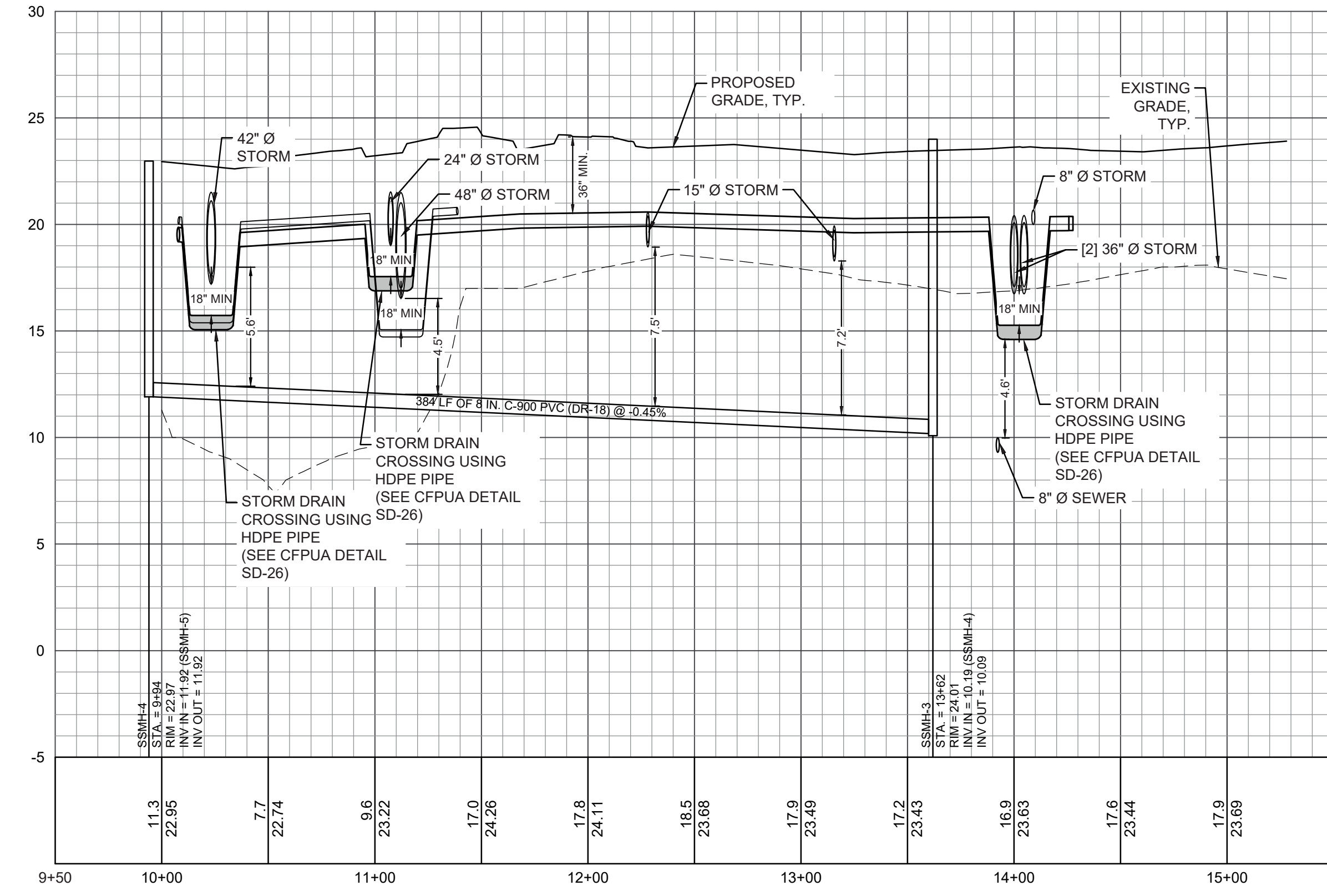
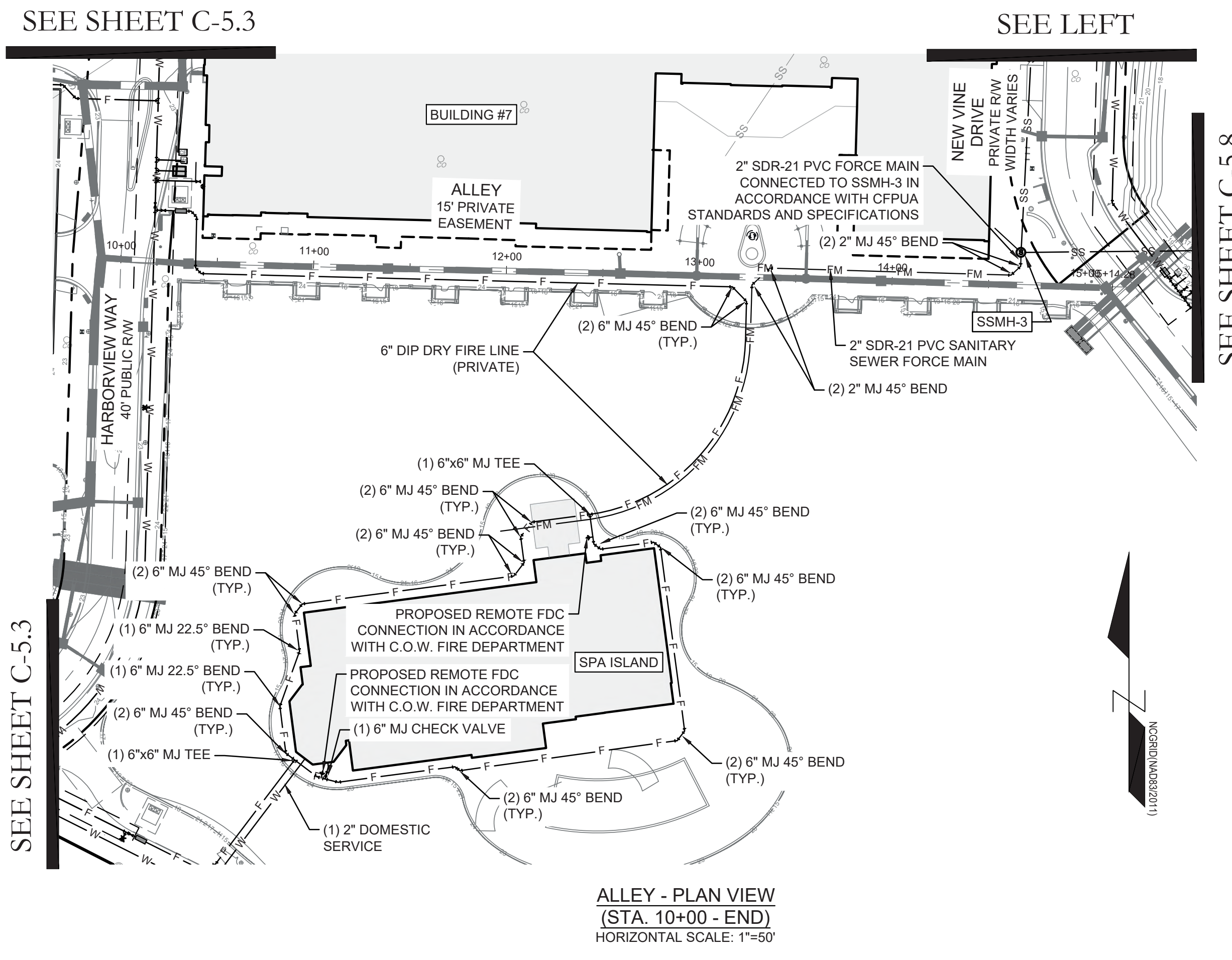
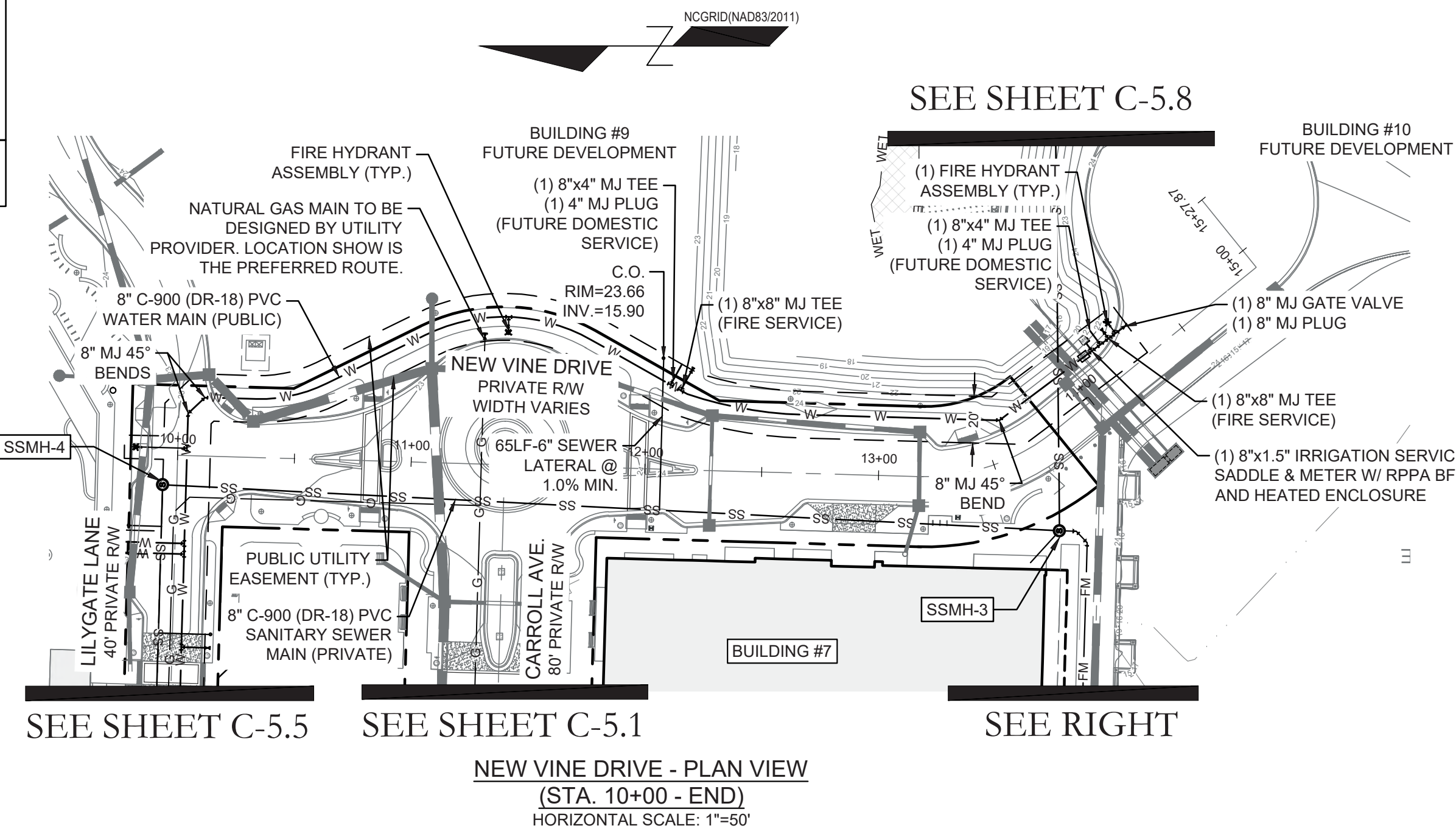
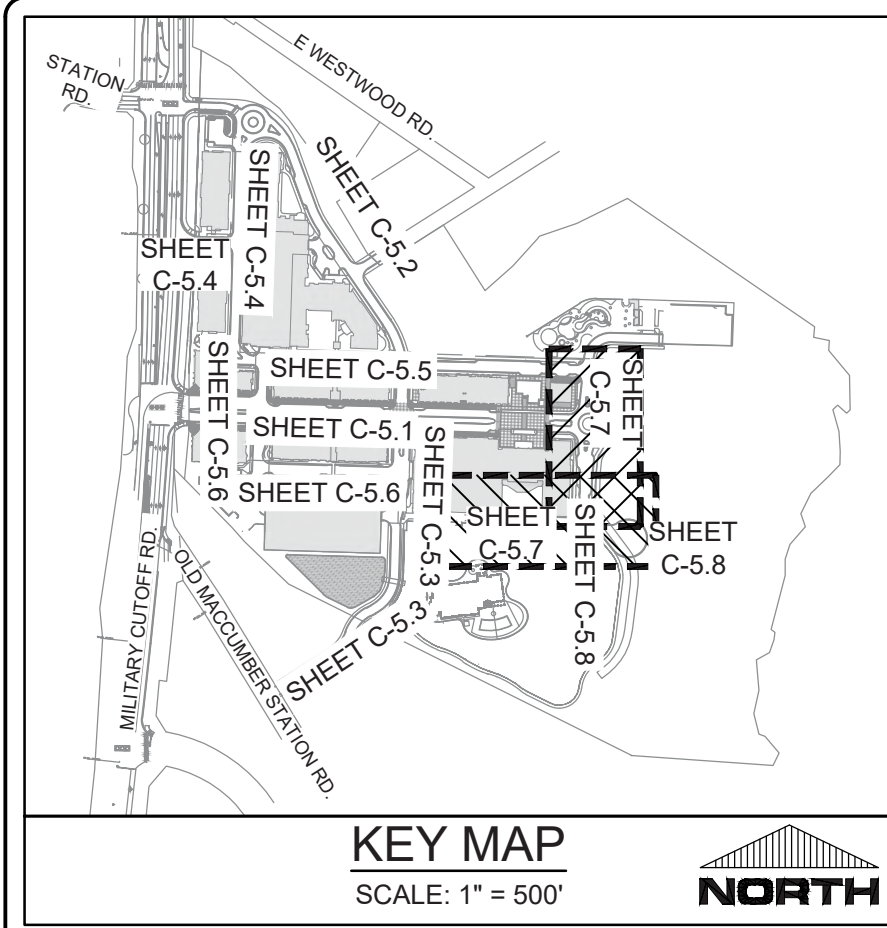
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(910) 791-6707 (O) (910) 791-6700 (F)  
NC License #: C-2846

UTILITY PLAN & PROFILE  
HAVENSTONE WAY  
CARROLL AT THE AVENUE  
MILITARY CUTOFF RD.  
WILMINGTON, NC 28405

PROJECT STATUS	DRAWING INFORMATION
CONCEPTUAL LAYOUT: [ ] FINAL DESIGN: [ ] RELEASED FOR CONSTRUCTION: [ ]	DATE: 06/23/23 SCALE: 1"=50' DRAWN BY: [ ] CHECKED BY: [ ]



C-5.6  
PEI JOB#: 18473.PE



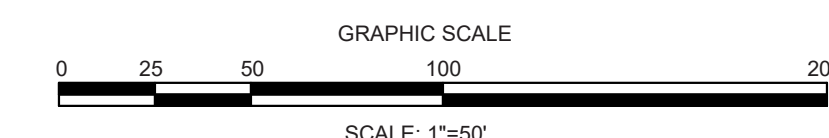
KEY MAP  
SCALE: 1" = 500'

NEW VINE DRIVE - PLAN VIEW  
(STA. 10+00 - END)  
HORIZONTAL SCALE: 1"=50'

ALLEY - PLAN VIEW  
(STA. 10+00 - END)  
HORIZONTAL SCALE: 1"=50'

NEW VINE DRIVE - PROFILE VIEW  
(STA. 10+00 - END)  
HORIZONTAL SCALE: 1"=50'  
VERTICAL SCALE: 1"=5'

ALLEY - PROFILE VIEW  
(STA. 10+00 - END)  
HORIZONTAL SCALE: 1"=50'  
VERTICAL SCALE: 1"=5'

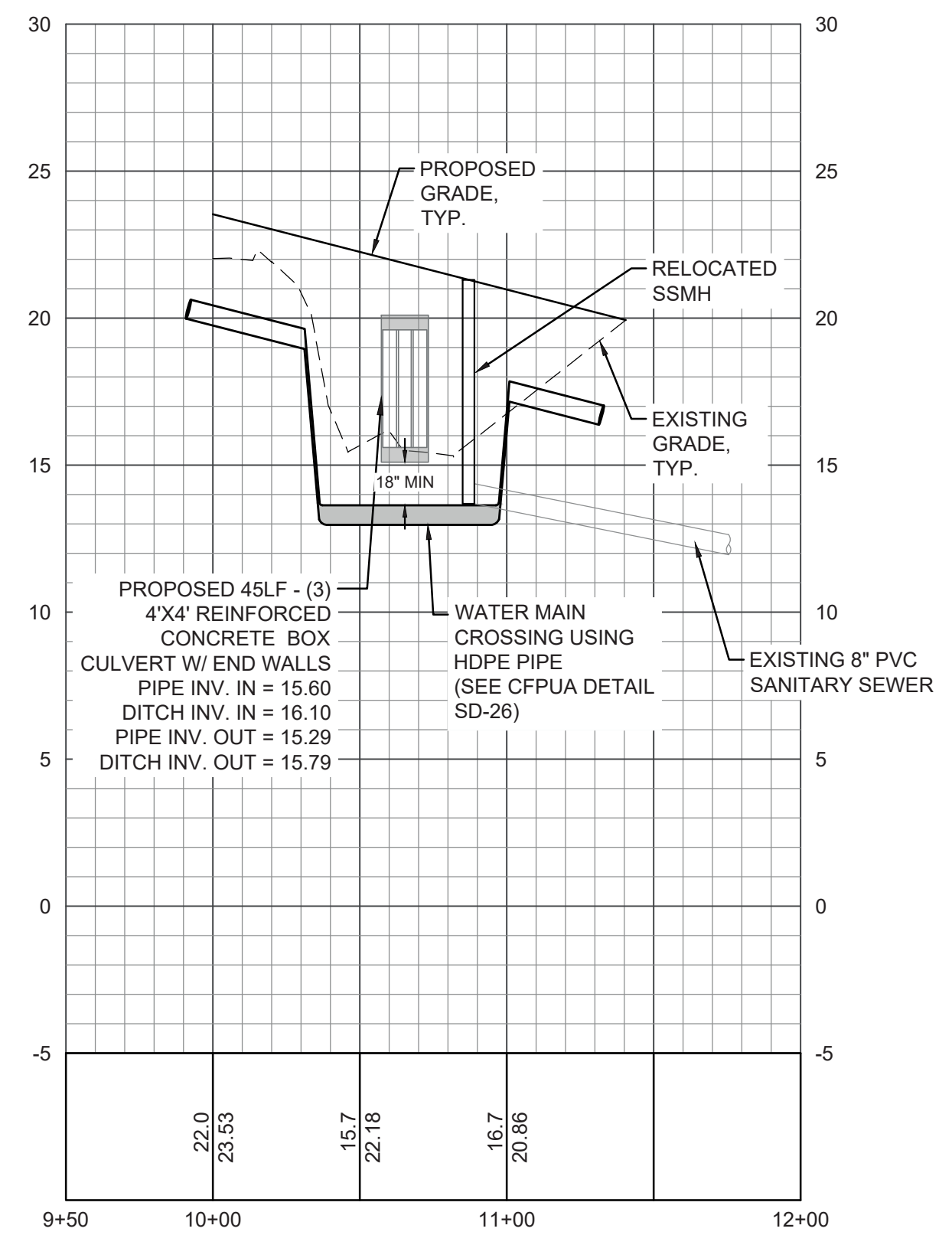
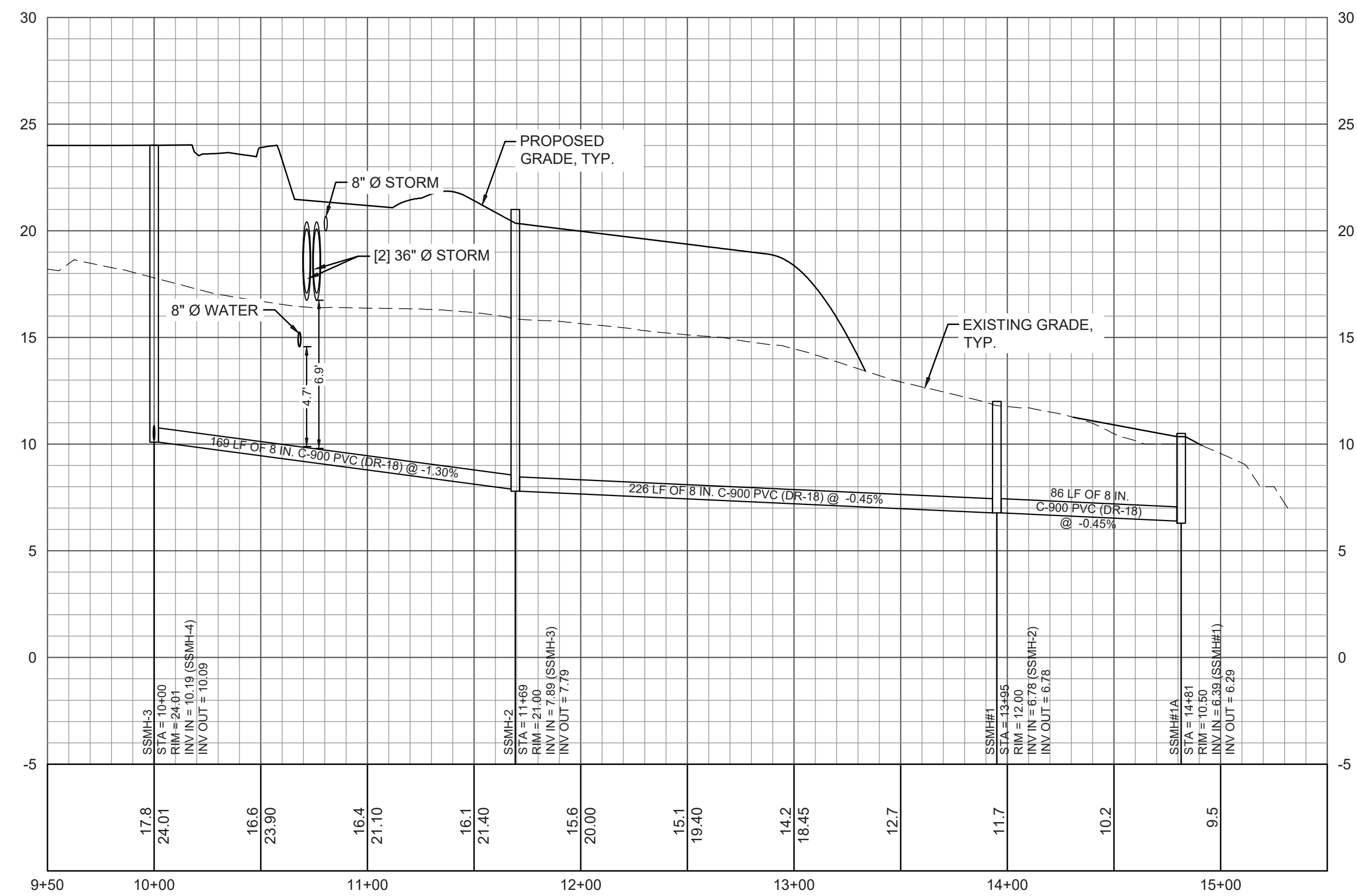
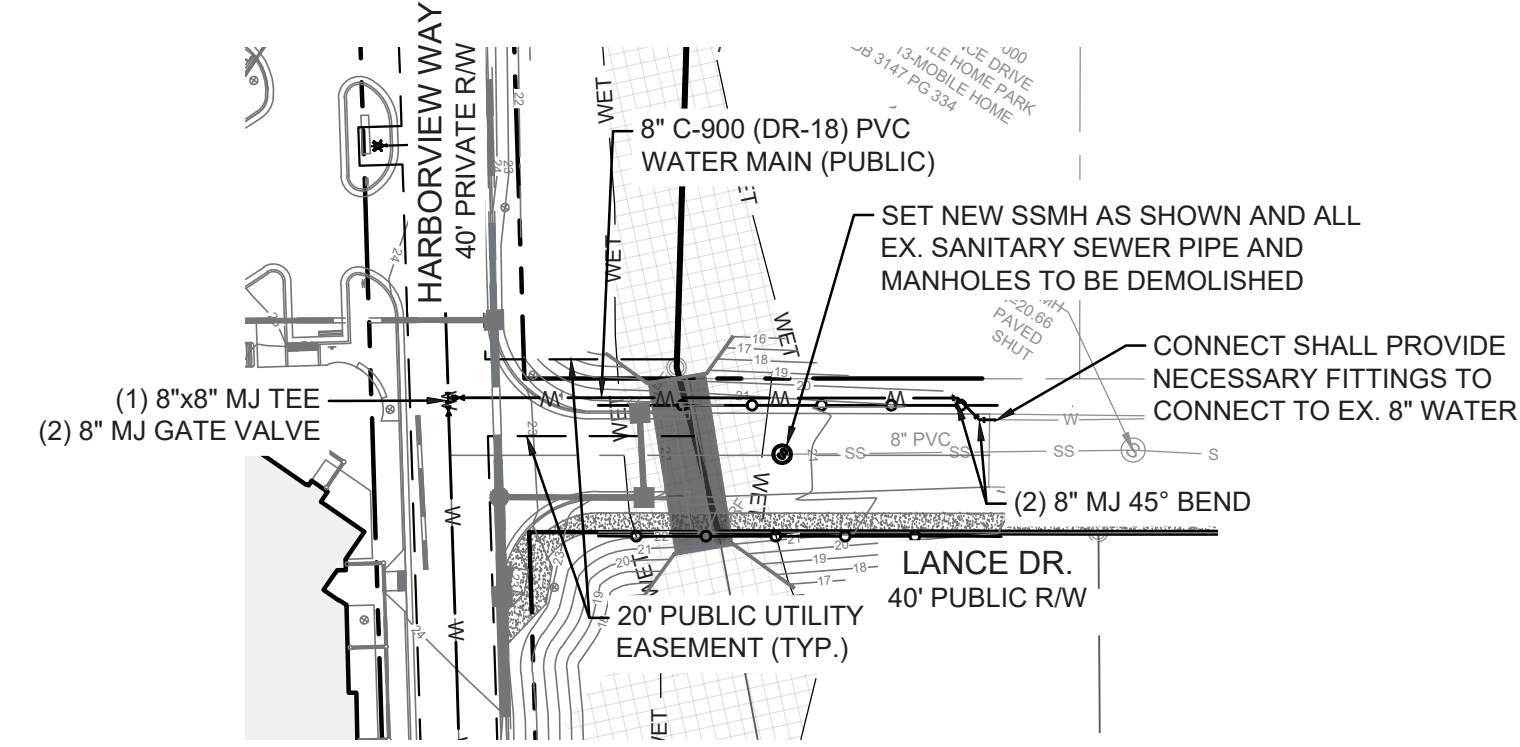
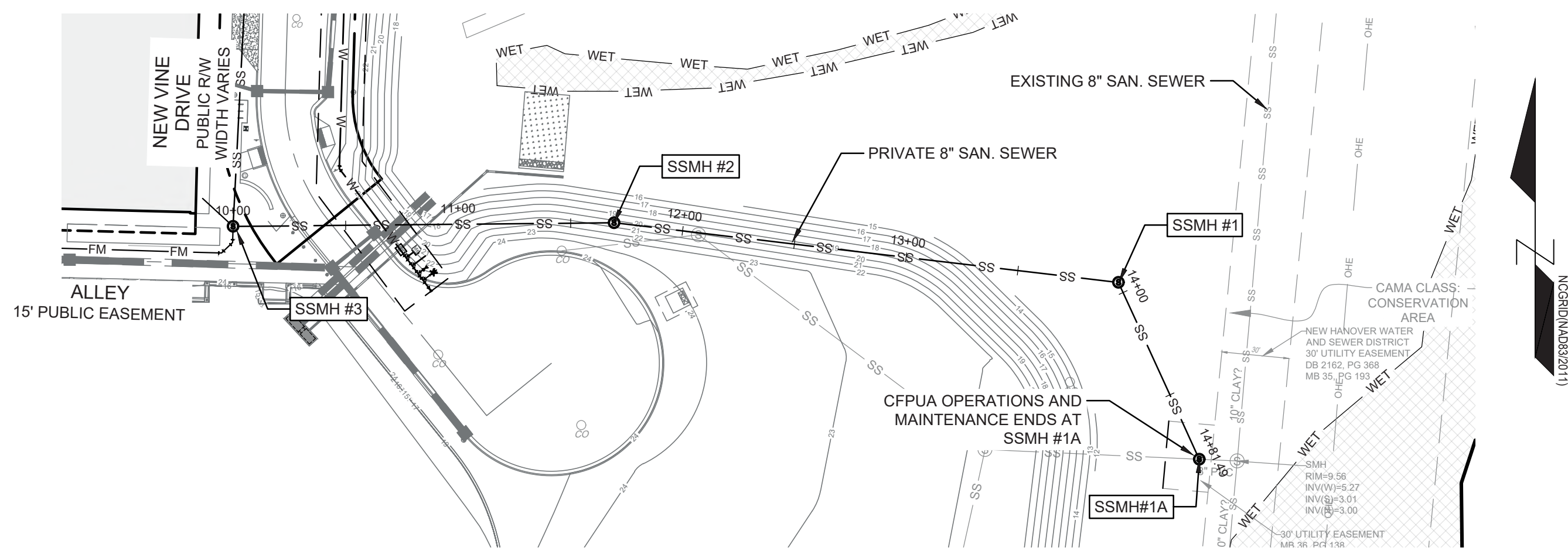
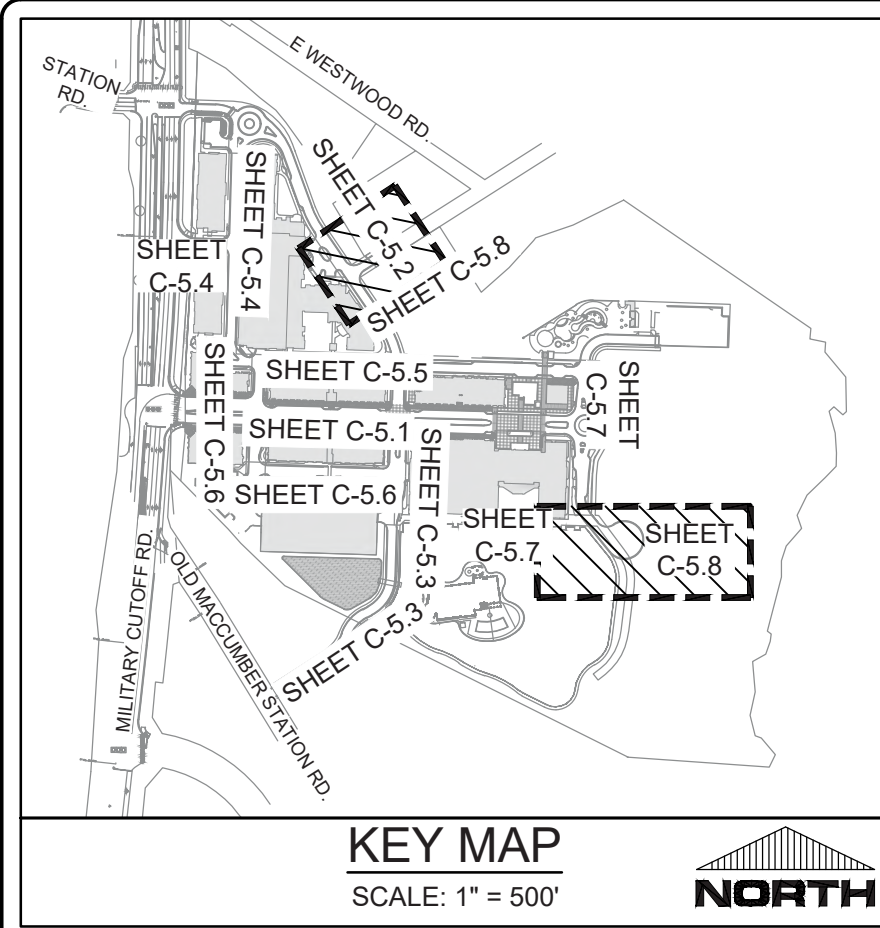


FINAL DESIGN - NOT RELEASED FOR CONSTRUCTION

<p>REVISIONS:</p>	
<p>CLIENT INFORMATION:</p>	<p>CIP CONSTRUCTION COMPANY 201 NORTH ELM STREET, STE. 201 GREENSBORO, NC 27401</p>
<p>PARAMOUNT ENGINEERING, INC.</p>	<p>122 Cinema Drive Wilmington, North Carolina 28403 (910) 791-6707 (O) (910) 791-6700 (F) NC License #: C-2846</p>
<p>PROJECT STATUS:</p>	<p>CONCEPTUAL LAYOUT: [ ] PRELIMINARY LAYOUT: [ ] RELEASED FOR CONSTRUCTION: [ ]</p>
<p>DRAWING INFORMATION:</p>	<p>DATE: 06/23/23 DESIGNED: [ ] DRAWN: [ ] CHECKED: [ ] CREATED: [ ]</p>
<p>SEAL</p>	
<p>PEI JOB#:</p>	<p>18473.PE</p>

UTILITY PLAN & PROFILE  
NEW VINE DRIVE & ALLEY  
CARROLL AT THE AVENUE  
MILITARY CUTOFF RD.  
WILMINGTON, NC 28405

C-5.7

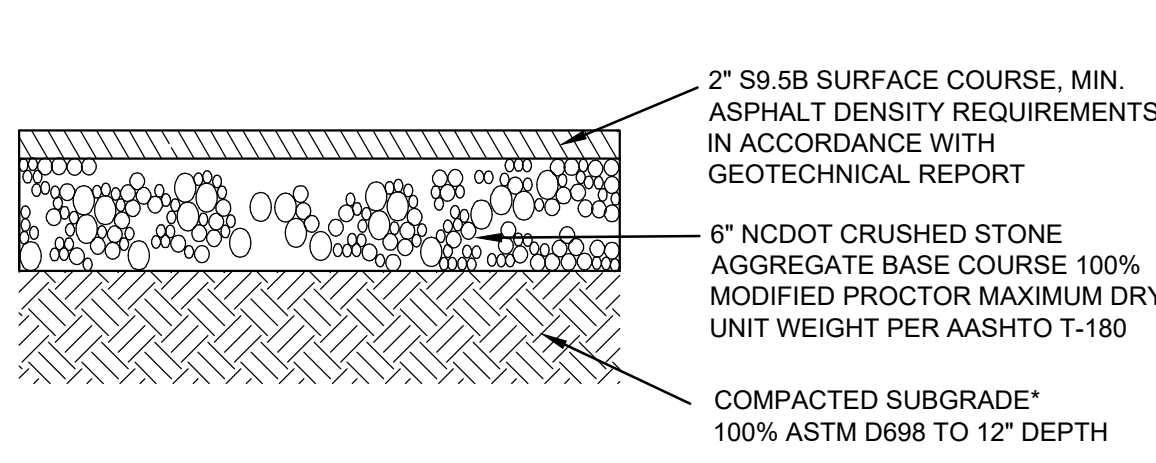


**811**  
Know what's below.  
Call before you dig.

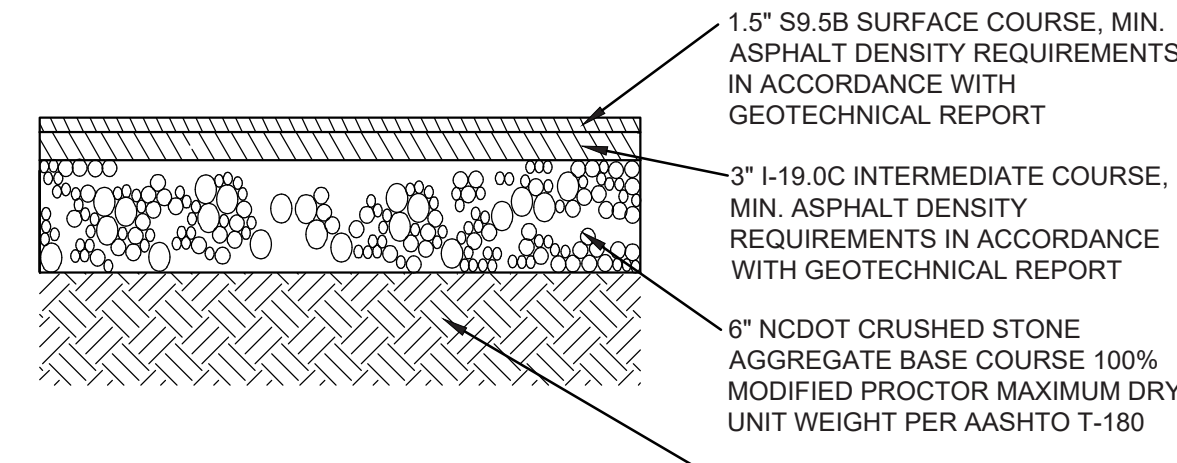
GRAPHIC SCALE  
SCALE: 1"=50'

FINAL DESIGN - NOT RELEASED FOR CONSTRUCTION

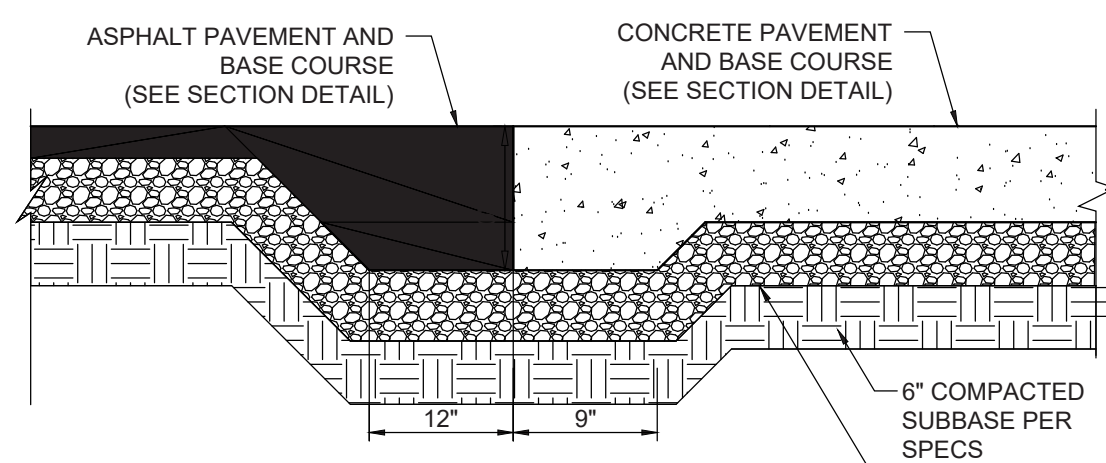
<p><b>REVISIONS:</b></p>	
<p><b>CLIENT INFORMATION:</b> CIP CONSTRUCTION COMPANY 201 NORTH ELM STREET, STE. 201 GREENSBORO, NC 27401</p>	
<p><b>PARAMOUNT ENGINEERING, INC.</b> 122 Cinema Drive Wilmington, North Carolina 28403 (910) 791-6707 (O) / (910) 791-6760 (F) NC License #: C-2846</p>	
<p><b>UTILITY PLAN &amp; PROFILE</b> LANCE DRIVE CARROLL AT THE AVENUE MILITARY CUTOFF RD. WILMINGTON, NC 28405</p>	
<p><b>PROJECT STATUS:</b> DATE: 06/23/23 SCALE: 1"=50' DESIGN: PRELIMINARY LAYOUT RELEASED FOR CONSTRUCTION</p>	<p><b>DRAWING INFORMATION:</b> DATE: 06/23/23 SCALE: 1"=50' DRAWN: RPB CHECKED: RPB</p>
<p><b>SEAL:</b> NORTH CAROLINA PROFESSIONAL ENGINEER ROBERT F. SALLA 031591 06/23/23</p>	
<p><b>C-5.8</b></p>	
<p>PEI JOB#: 18473.PE</p>	



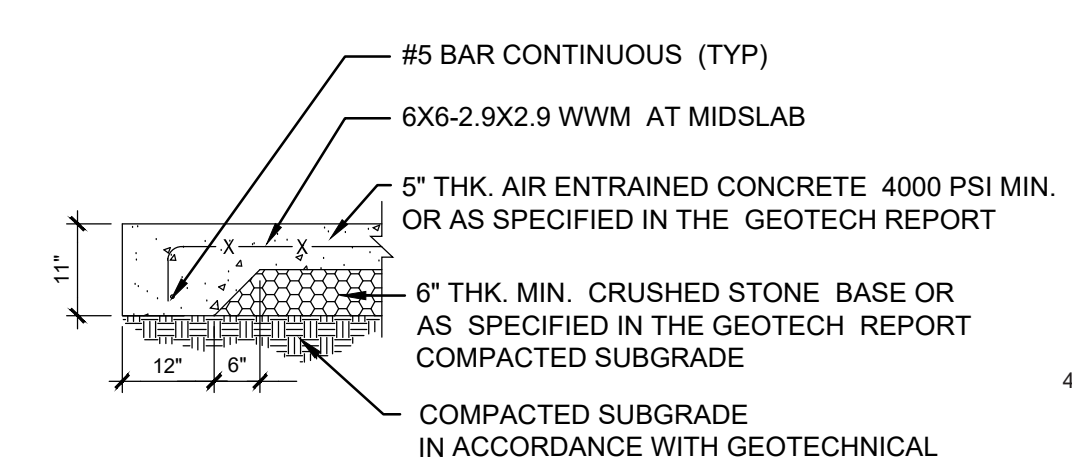
**LIGHT DUTY ASPHALT PAVEMENT SECTION**  
NOT TO SCALE



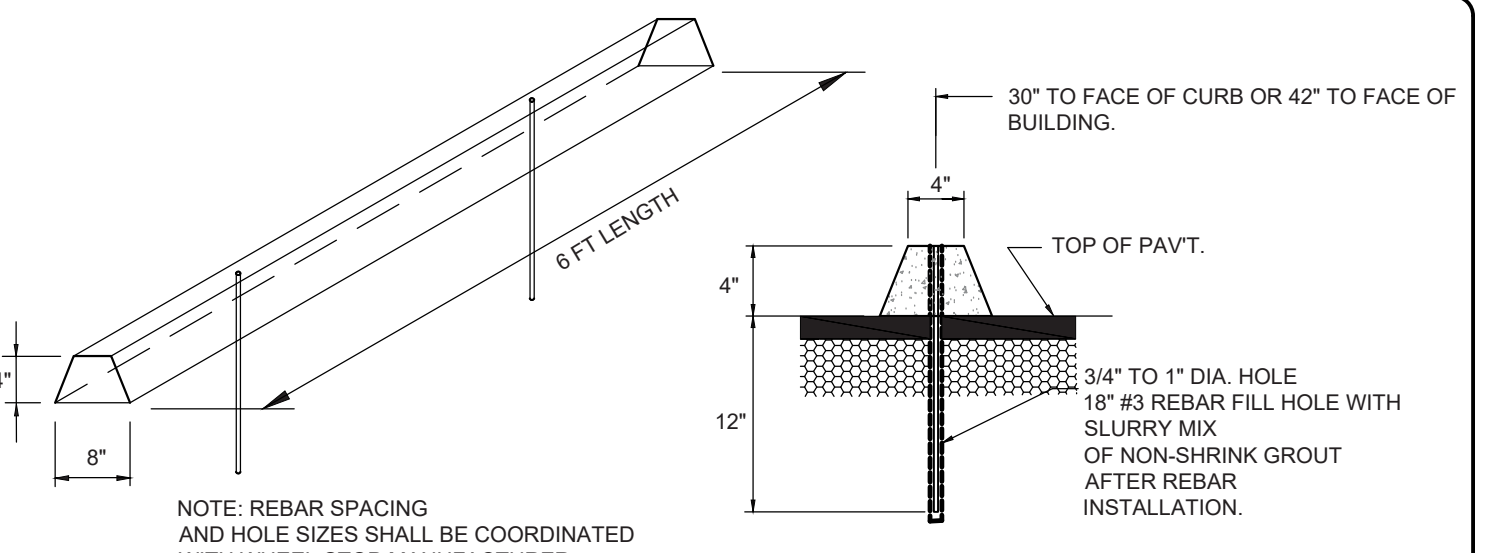
**HEAVY DUTY ASPHALT PAVEMENT SECTION**  
NOT TO SCALE



**ASPHALT TO CONCRETE TRANSITION (TYPICAL)**

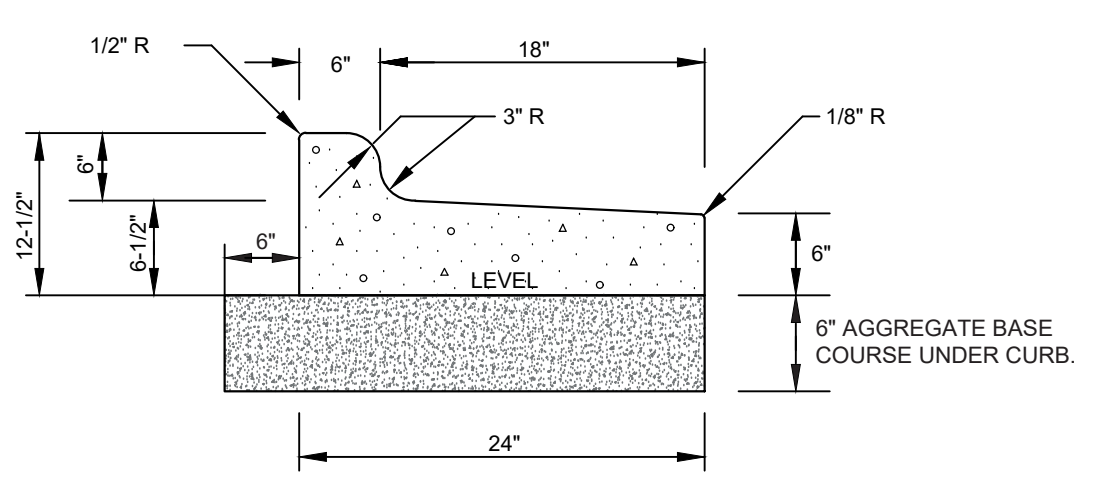


**CONCRETE PAVING SECTION**  
NOT TO SCALE



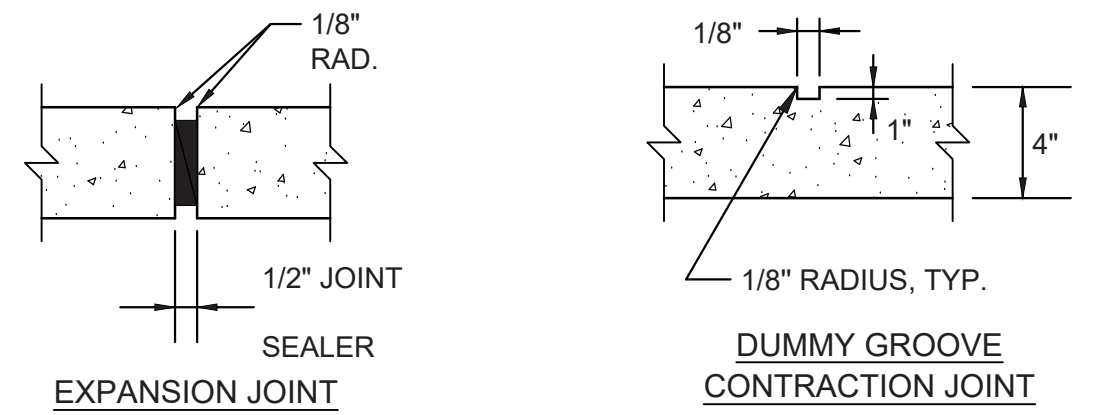
**CONCRETE WHEEL STOP DETAIL**  
NOT TO SCALE

STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N. C.	ENGLISH STANDARD DRAWINGS FOR PAVEMENT MARKINGS LINE TYPES AND OFFSETS			STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N. C.
	CONTINUOUS LINES	10'-30'/SP SKIP LINE	2'-6'/SP MINI-SKIP LINE	
	<b>EDGE LINE</b> YELLOW OR WHITE 4" / 6"			ENGLISH STANDARD DRAWINGS FOR PAVEMENT MARKINGS LINE TYPES AND OFFSETS SHEET 1 OF 3 <b>1205.01</b>
	<b>LANE LINE</b> WHITE 4" / 6"			
	<b>CENTER LINE</b> YELLOW 4" / 6"			
	<b>GORE LINE</b> WHITE 8" / 12"			
	<b>DIAGONAL LINE</b> YELLOW OR WHITE 12" 45 MPH OR HIGHER 8" LESS THAN 45 MPH			
	<b>CROSSWALK LINE</b> WHITE 6" TRANSVERSE 24" LONGITUDINAL			
	<b>RxR LINE</b> WHITE 18"			
	<b>STOP OR TRANSVERSE BAR</b> WHITE 24"			
		<b>3'-3'/SP MINI-SKIP LINE</b> UNLESS OTHERWISE SHOWN, USE 3'-3'/SP MINI-SKIP FOR THE WHITE EDGE LINE EXTENSIONS AT ROUNDABOUTS.	<b>3'-9'/SP MINI-SKIP LINE</b> UNLESS OTHERWISE SHOWN, USE 3'-9'/SP MINI-SKIP FOR MINI-SKIP LANE LINES AND LINE EXTENSIONS THROUGH TAPERS.	
	<b>GENERAL NOTES:</b> 1- USE 6" LANE, EDGE, AND CENTER LINES ON ALL FULL CONTROL, ACCESS FACILITIES AND OTHER ROUTES AS DIRECTED BY THE ENGINEER. 2- LANE LINES INDICATED AS "WIDE" ON THE ROADWAY STANDARD DRAWINGS SHALL BE AT LEAST TWICE THE WIDTH OF THE NORMAL LINE. 3- GORE LINES SHALL BE TWICE THE WIDTH OF THE NORMAL LINE.			

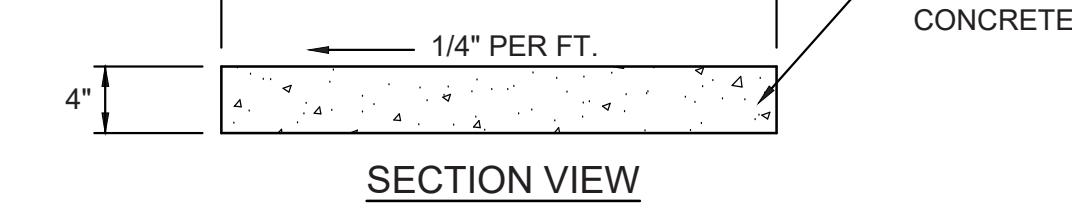


**24" CURB AND GUTTER (REVERSE SLOPE)**  
NOT TO SCALE

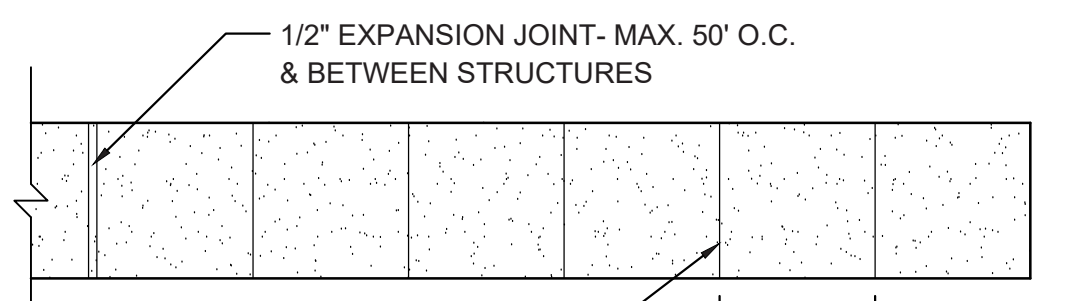
**GENERAL NOTES:**  
CONTRACTION JOINTS SHALL BE SPACED AT MAX. 10' INTERVALS, EXCEPT THAT A 15 FOOT SPACING MAY BE USED WHEN A MACHINE IS USED OR WHEN SATISFACTORY SUPPORT FOR THE FACE FORM CAN BE OBTAINED WITHOUT THE USE OF TEMPLATES AT 10 FOOT INTERVALS. JOINT SPACING MAY BE ALTERED BY THE ENGINEER TO PREVENT UNCONTROLLED CRACKING. CONTRACTION JOINTS MAY BE INSTALLED BY THE USE OF TEMPLATES OR FORMED BY OTHER APPROVED METHODS, WHERE SUCH JOINTS ARE NOT FORMED BY TEMPLATES, A MINIMUM DEPTH OF 1-1/2" SHALL BE OBTAINED. ALL CONTRACTION JOINTS EXCEPT IN 8' X 6' MEDIAN CURB SHALL BE FILLED WITH JOINT SEALER. EXPANSION JOINTS SHALL BE SPACED AT 90' INTERVALS AND ADJACENT TO ALL RIGID OBJECTS.



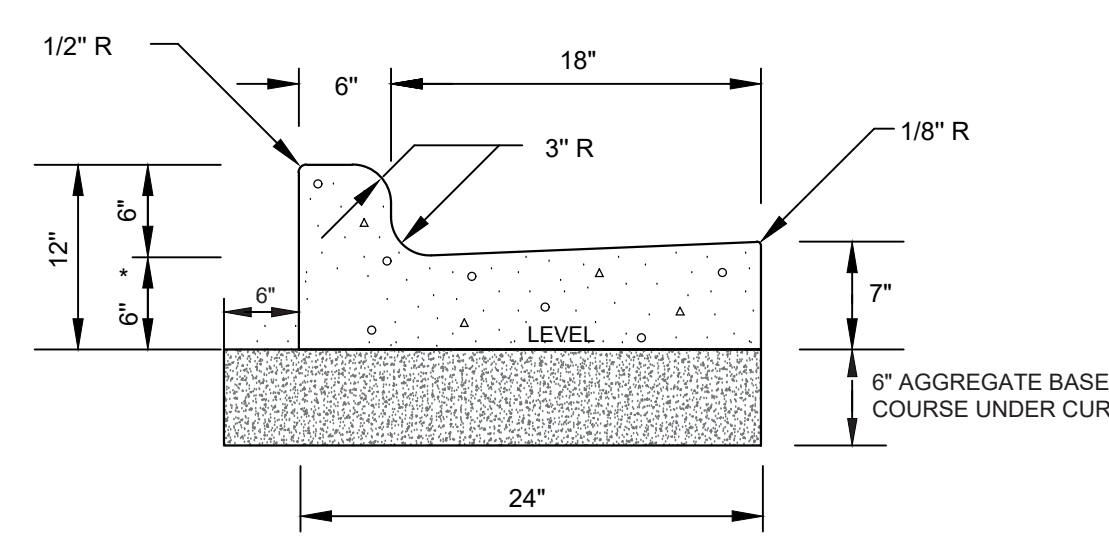
**EXPANSION JOINT** and **CONTRACTION JOINT**



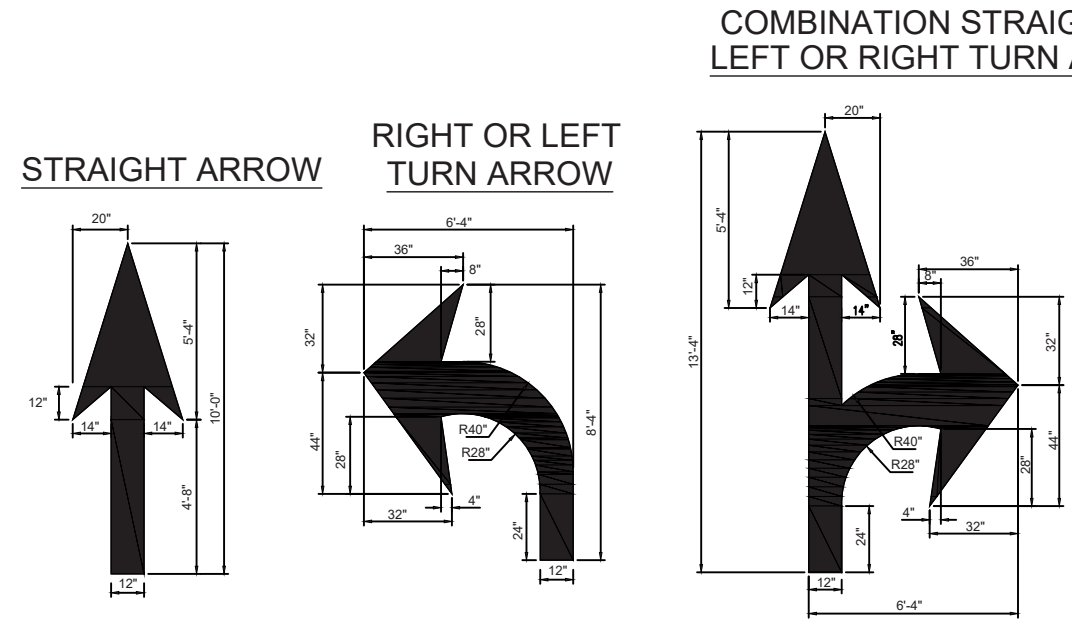
**SECTION VIEW**



**ON-SITE SIDEWALK DETAIL**  
NOT TO SCALE

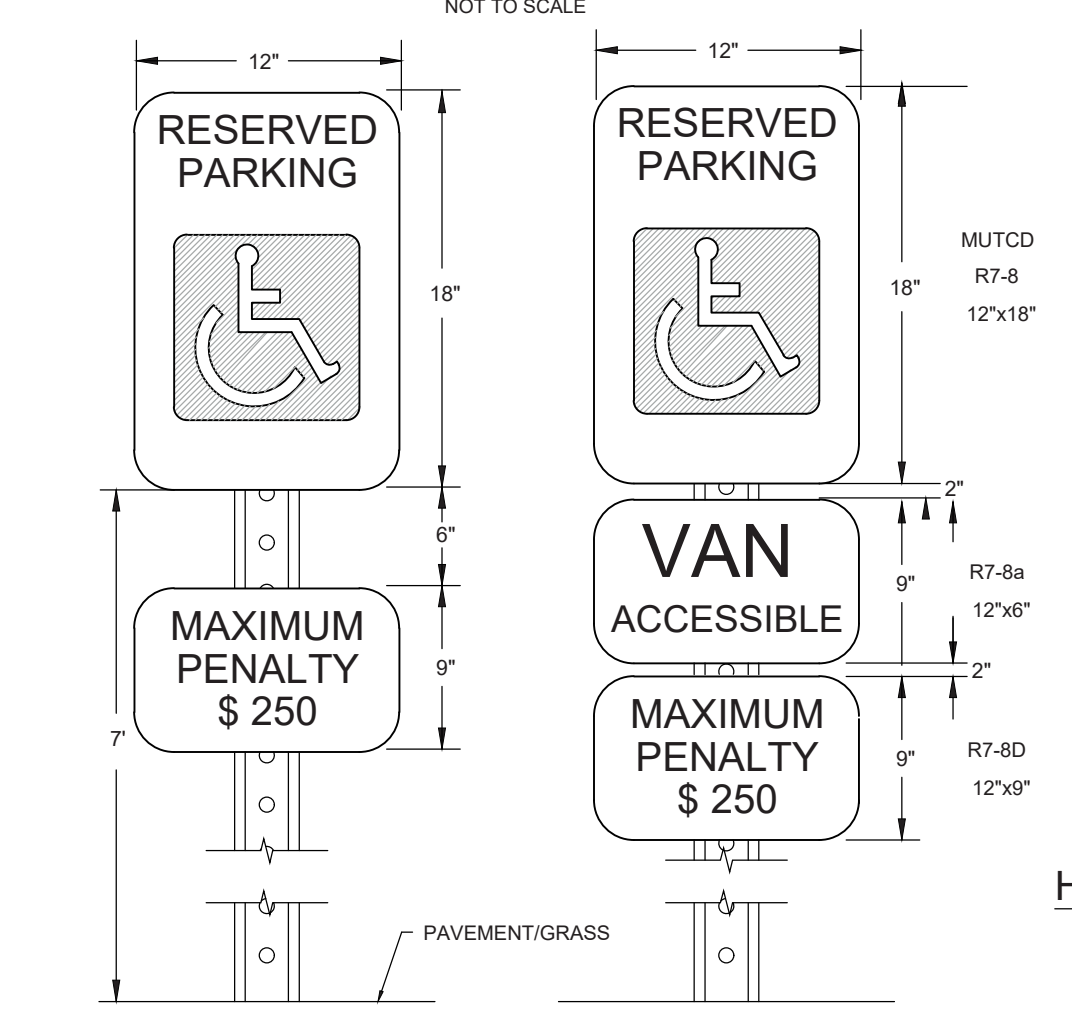


**24" CURB AND GUTTER**  
NOT TO SCALE



**PAVEMENT MARKINGS ARROW SYMBOLS**  
NOT TO SCALE

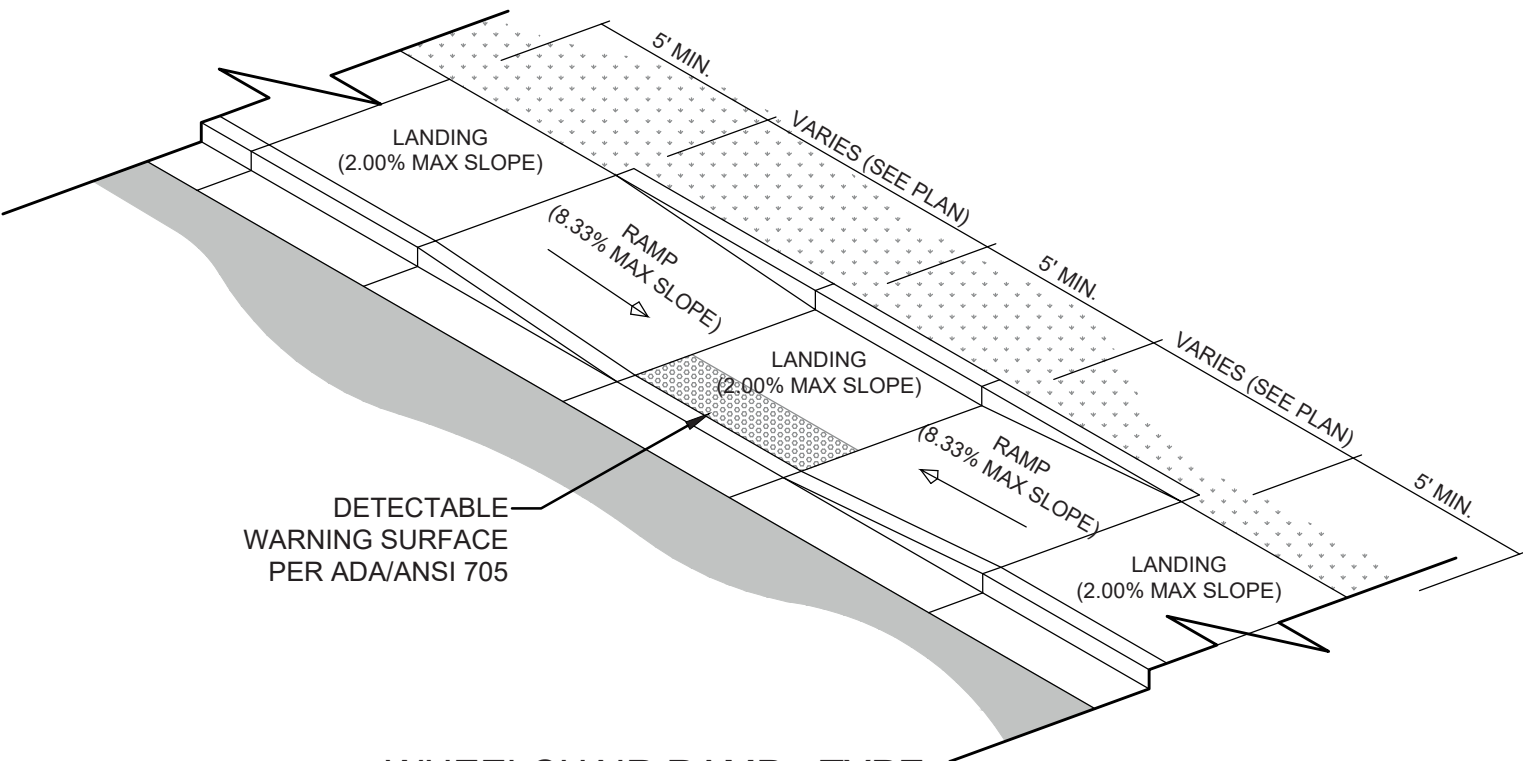
**GENERAL NOTES:**  
-ALL PAVEMENT MARKING SYMBOLS SHALL BE WHITE IN COLOR  
-PAVEMENT MARKING SYMBOLS SHALL NOT BE LOCATED AS TO ENCRUSCH INTO INTERSECTION AREAS  
-ON PORTLAND CEMENT CONCRETE PAVEMENTS, PAVEMENT MARKING SYMBOLS SHALL NOT BE PLACED ACROSS TRANSVERSE EXPANSION JOINTS UNLESS APPROVED BY THE ENGINEER.



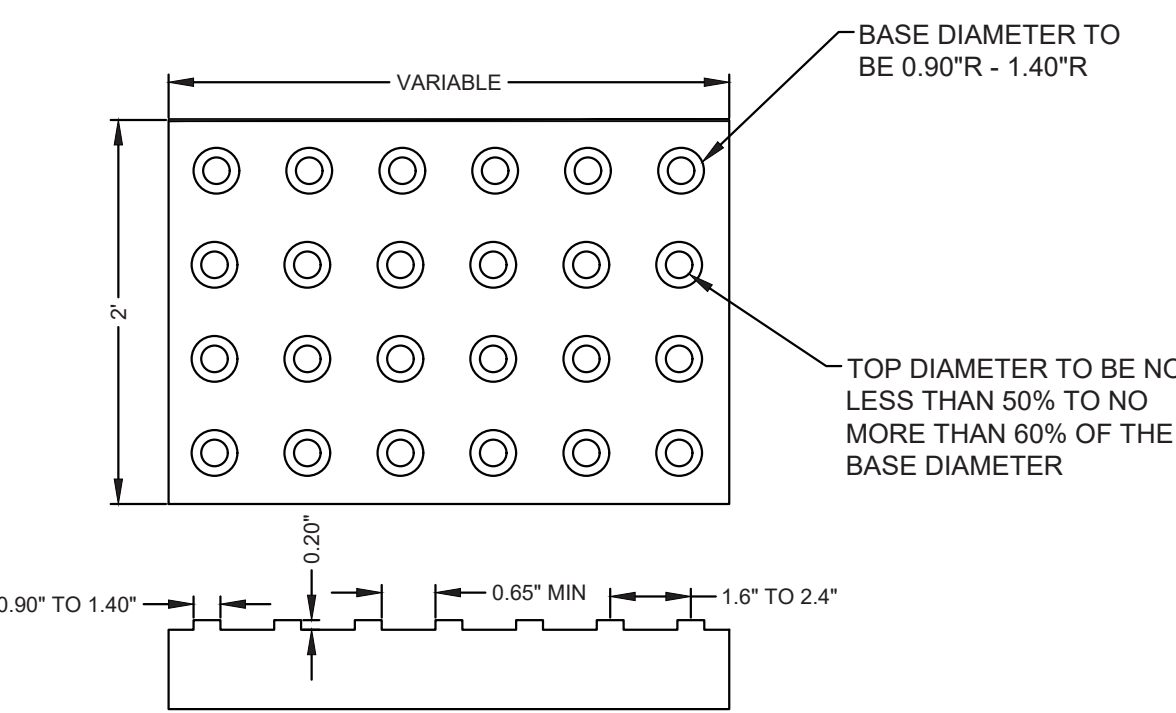
**HANDICAPPED PARKING SYMBOL**  
NOT TO SCALE

- NOTES:**
- METAL POST AND ALL HARDWARE SHALL BE GALVANIZED STEEL, ASTM A307-90.
  - POST HOLES SHALL BE FILLED WITH GRANULAR BACKFILL IN 3-INCH TO 4-INCH LIFTS. THOROUGHLY HAND TAMP EACH LIFT AND CROWN BACKFILL AT TOP TO SHED WATER. CONCRETE FOR FOOTING SHALL BE PORTLAND CEMENT AND HAVE A MINIMUM COMPRESSIVE STRENGTH OF 3000 PSI.
  - SIGNS SHALL BE CONSTRUCTED OF ALUMINUM, TYPE 6061-T6 AND IN CONFORMANCE WITH ASTM STD B-209. THICKNESS SHALL BE 0.80 INCHES.
  - TOP EDGE TREATMENT FILM SHALL BE 3" WIDE, CLEAR AND TRANSPARENT WITH A SUB-RESISTANT PRESSURE SENSITIVE NON-YELLOWING ADHESIVE, "SKOTCHCAL" TRANSPARENT FILE #639.
  - REFLECTIVE FACING MATERIAL SHALL BE SCOTCHLITE HIGH INTENSITY, MANUFACTURED BY 3M COMPANY.
  - SIGN LETTERING SHALL BE NPS MODIFIED CLARENDON TYPEFACE. UPPERCASE LETTERS SHALL BE 3.75" HEIGHT AND LOWERCASE LETTERS SHALL BE 2.5" HEIGHT WITH 3.75" SPACING BETWEEN LINES.
  - CORNER RADIUS OF SIGNS SHALL BE 2.5". ARROWS SHALL BE 5.625" LONG BY 3.75" HIGH.
  - MOUNT ON BUILDING OR METAL POST AS DIRECTED.

**HANDICAP SIGN DETAIL**  
NOT TO SCALE



**WHEELCHAIR RAMP - TYPE 1**  
NOT TO SCALE



**DETECTABLE WARNING MAT**  
NOT TO SCALE

FINAL DESIGN - NOT RELEASED FOR CONSTRUCTION

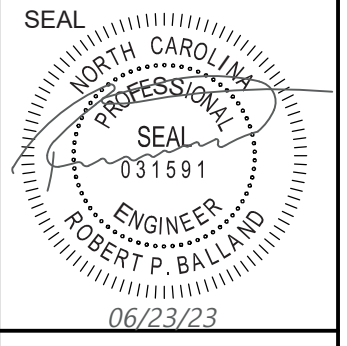
REVISIONS:	3/10/2022
APPROVED ADMINISTRATIVE MODIFICATION	

CLIENT INFORMATION:  
**CIP CONSTRUCTION COMPANY**  
201 NORTH ELM STREET, STE. 201  
GREENSBORO, NC 27401

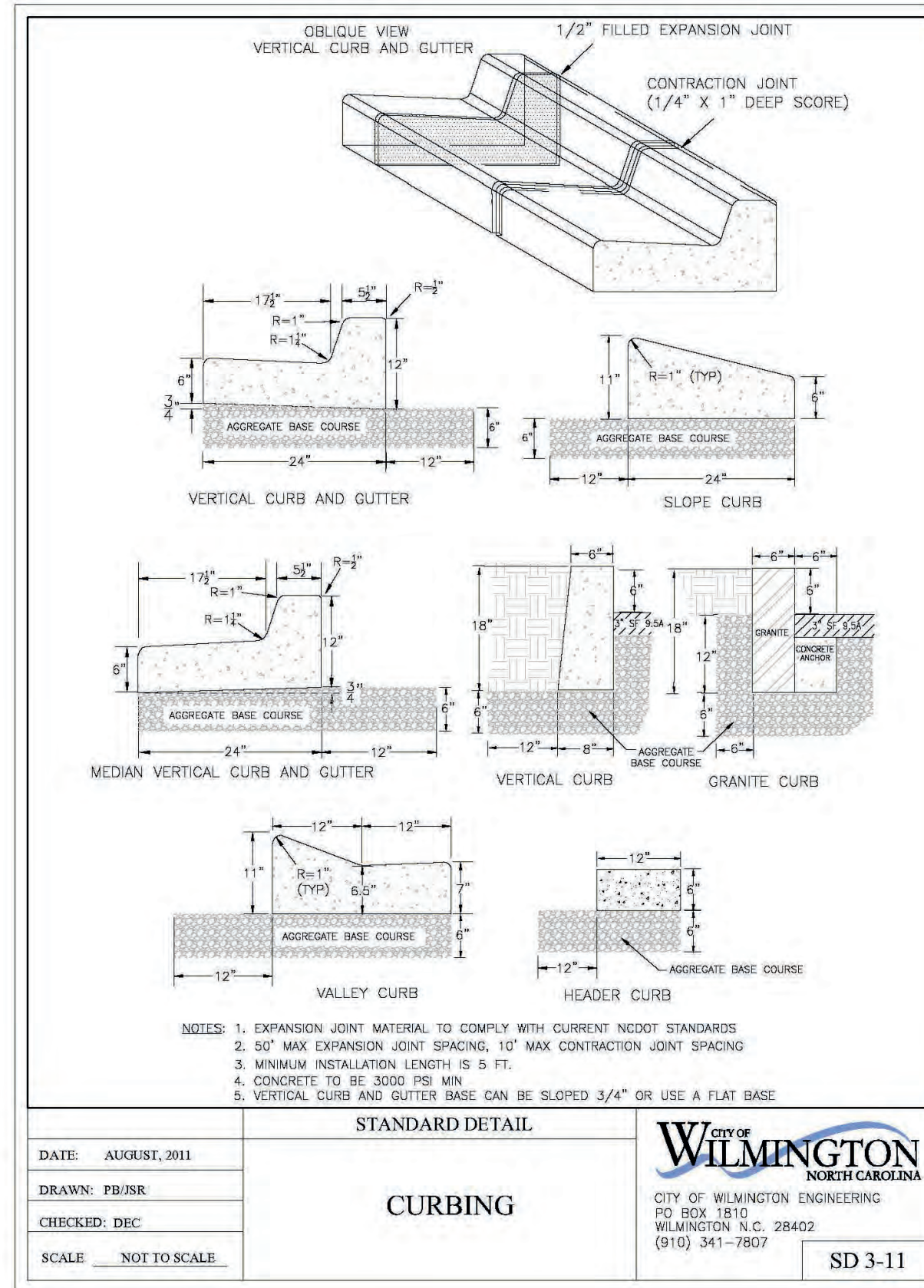
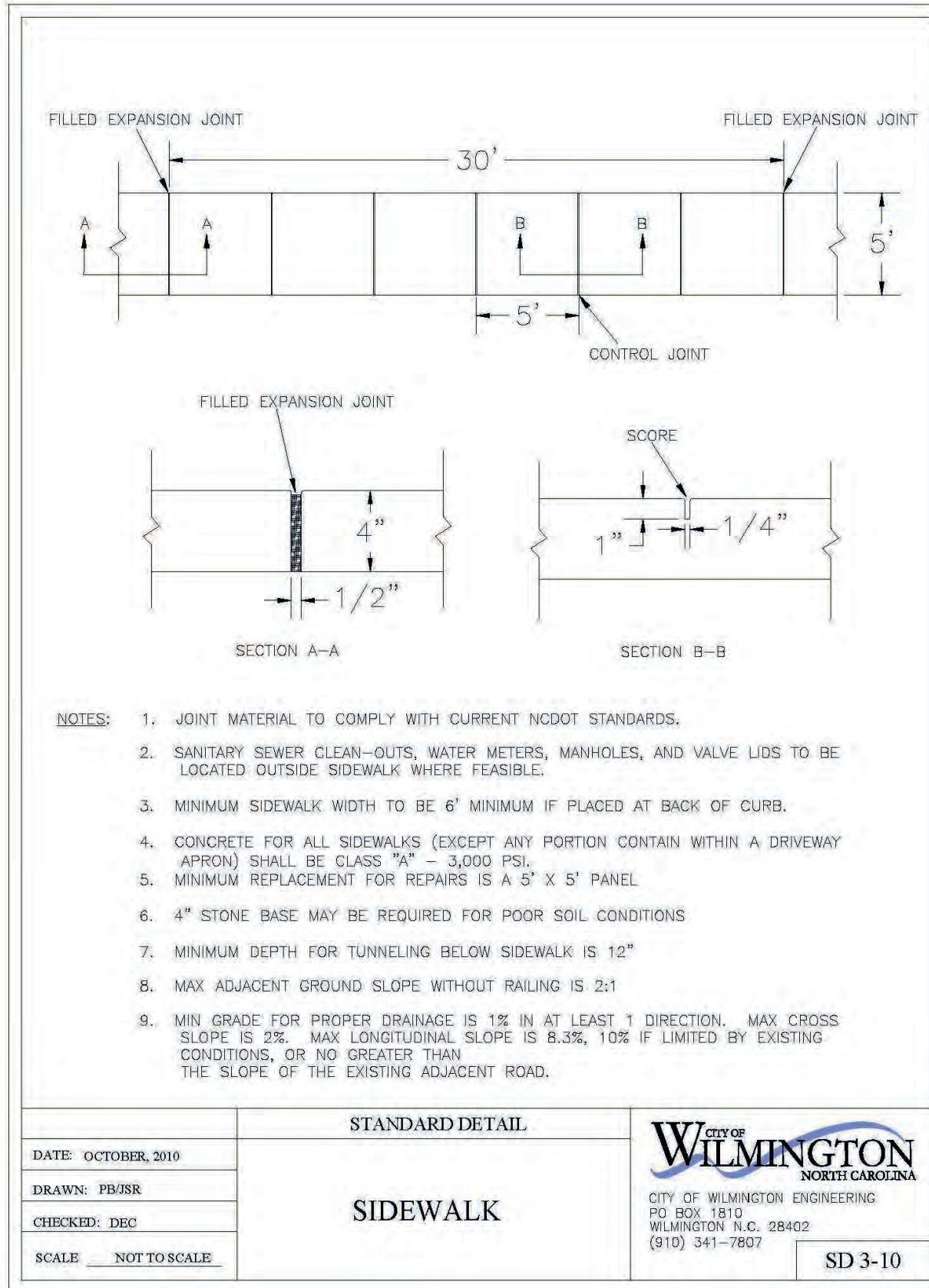
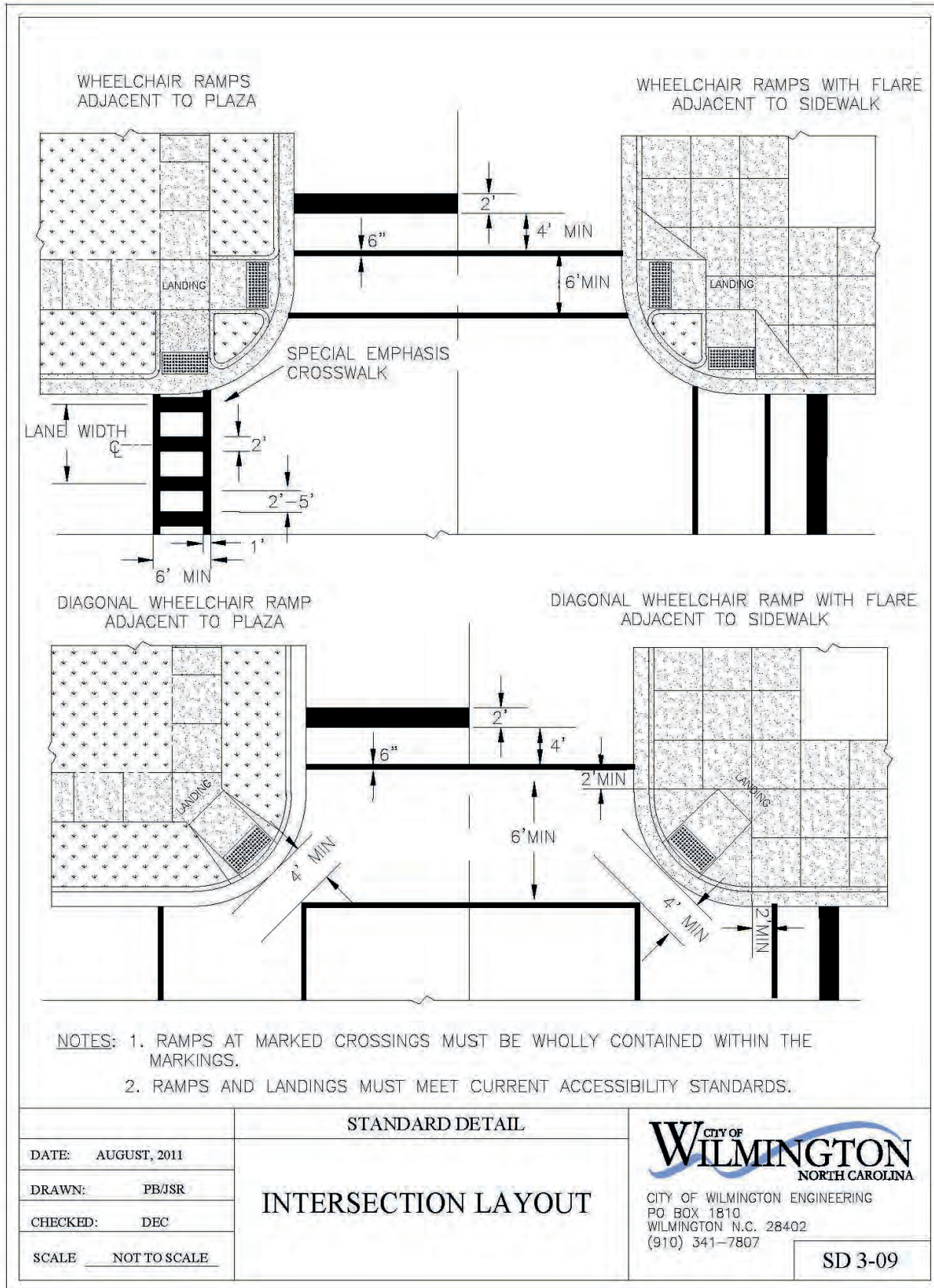
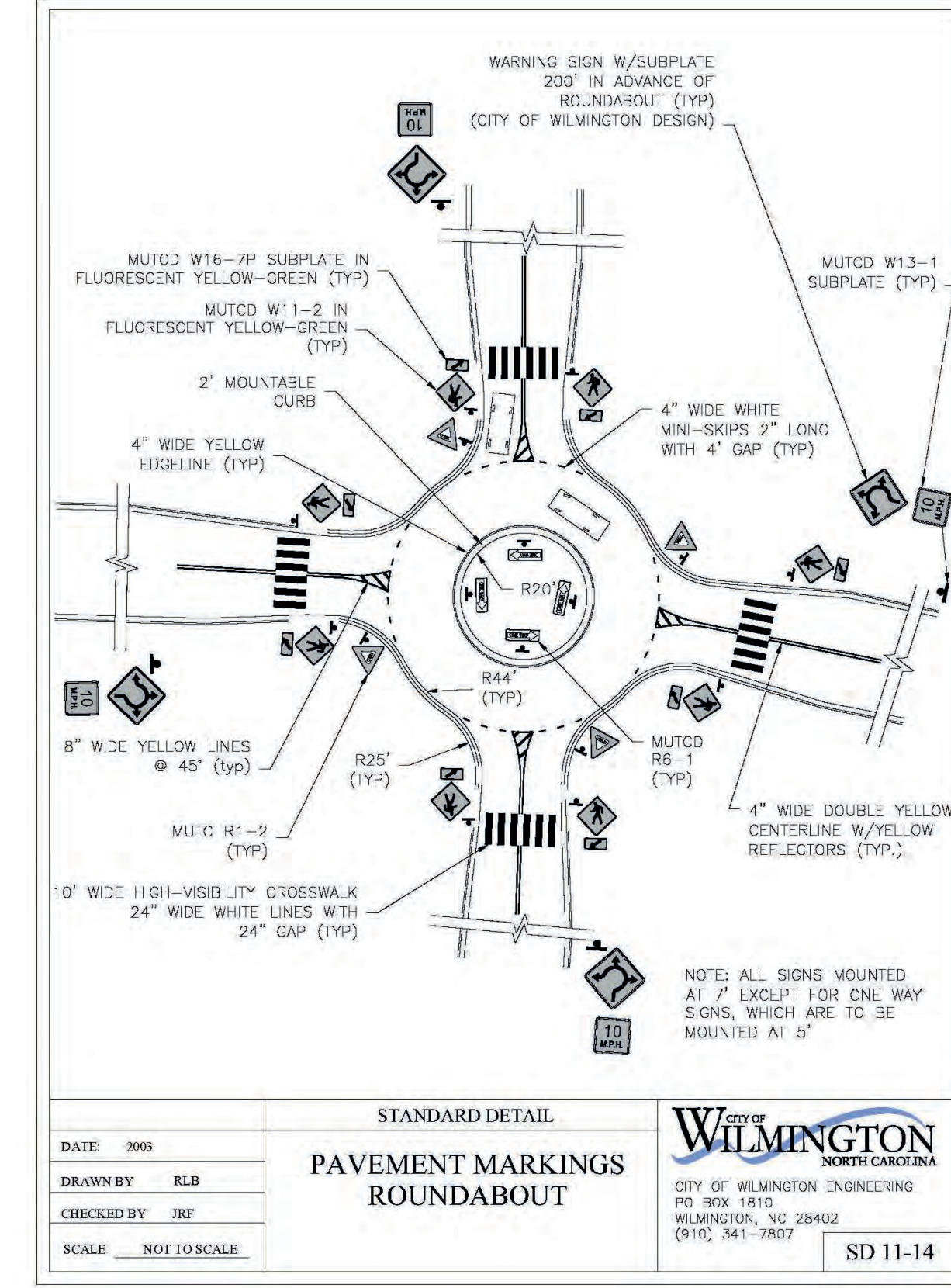
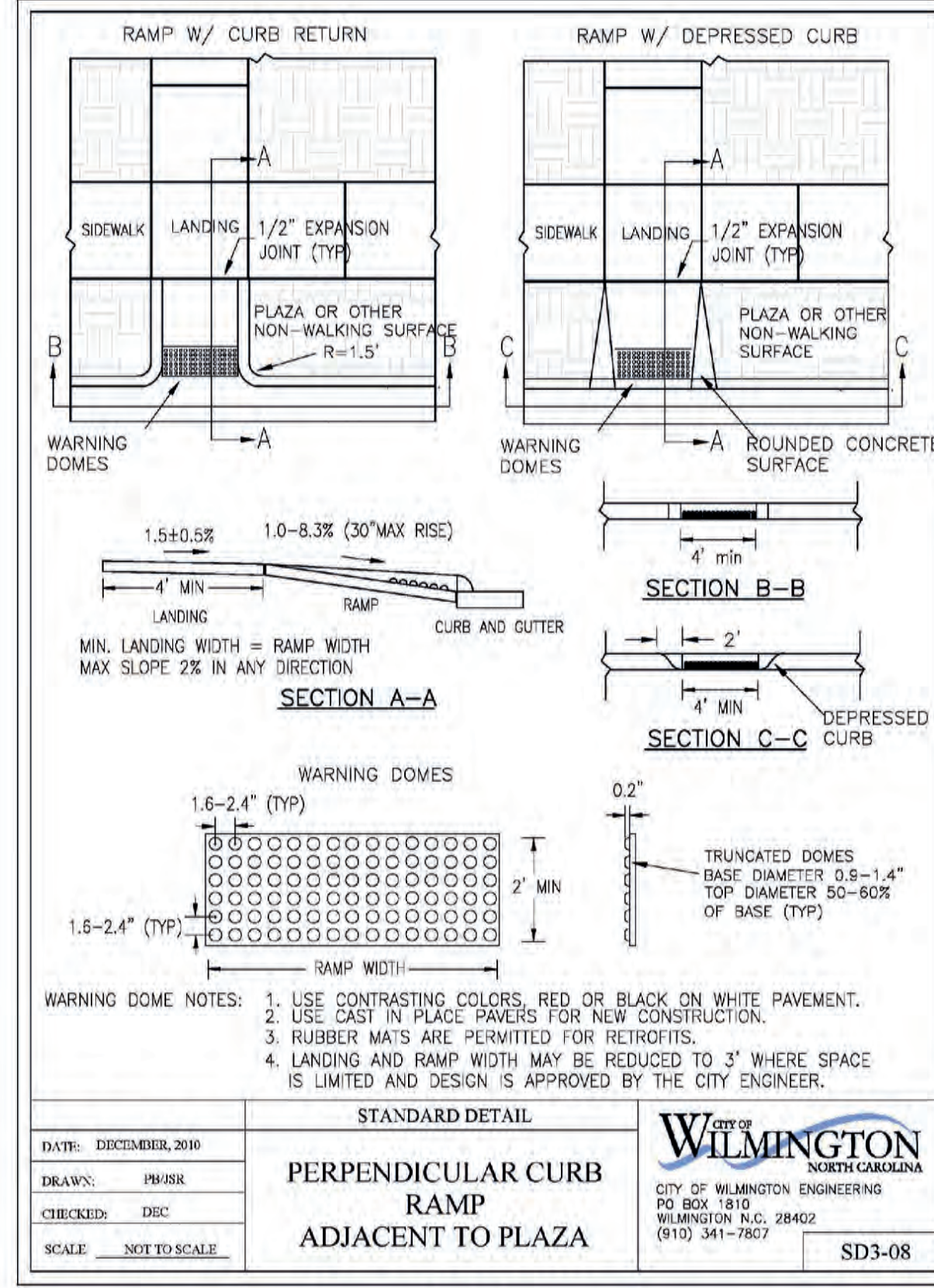
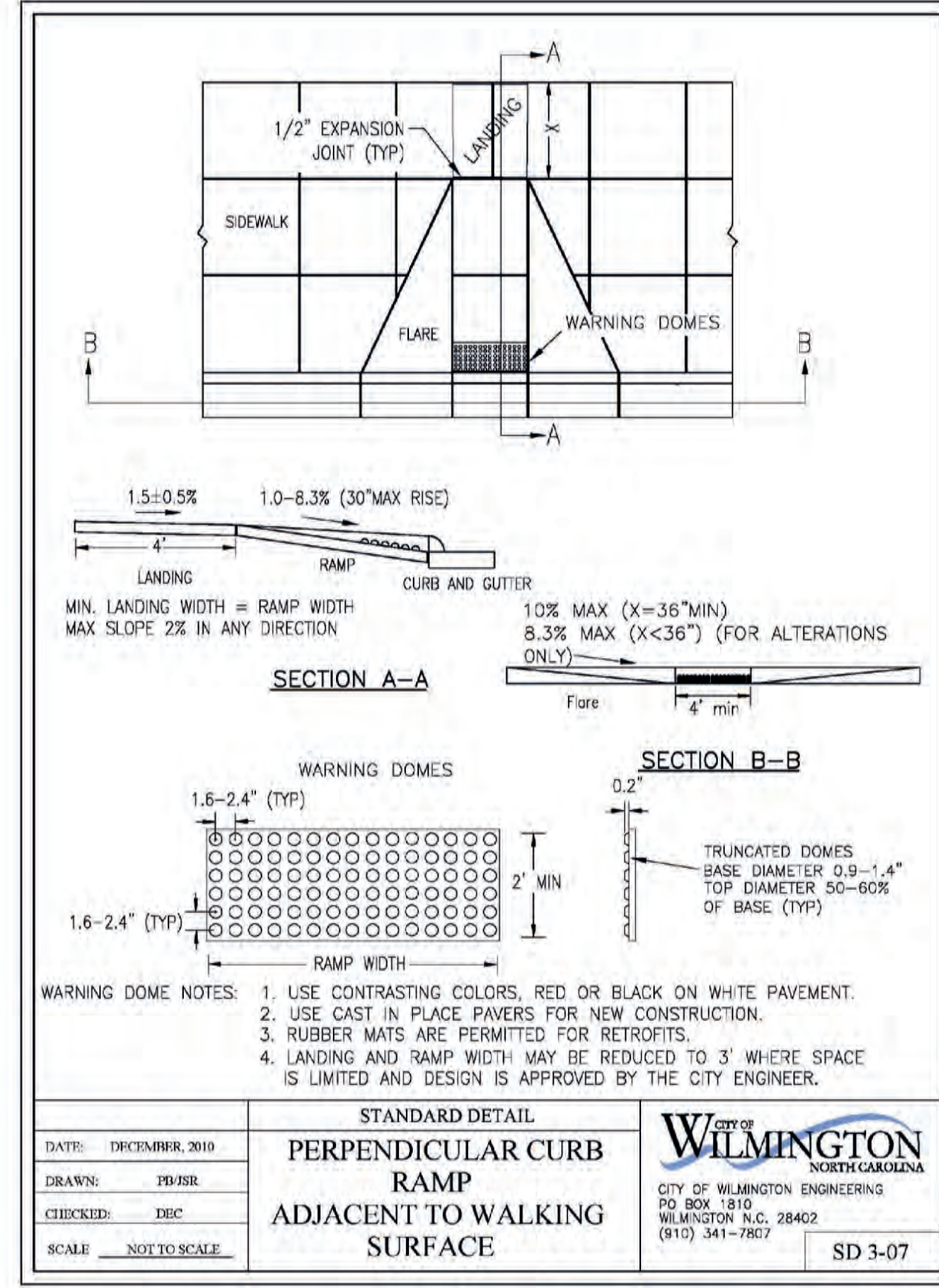
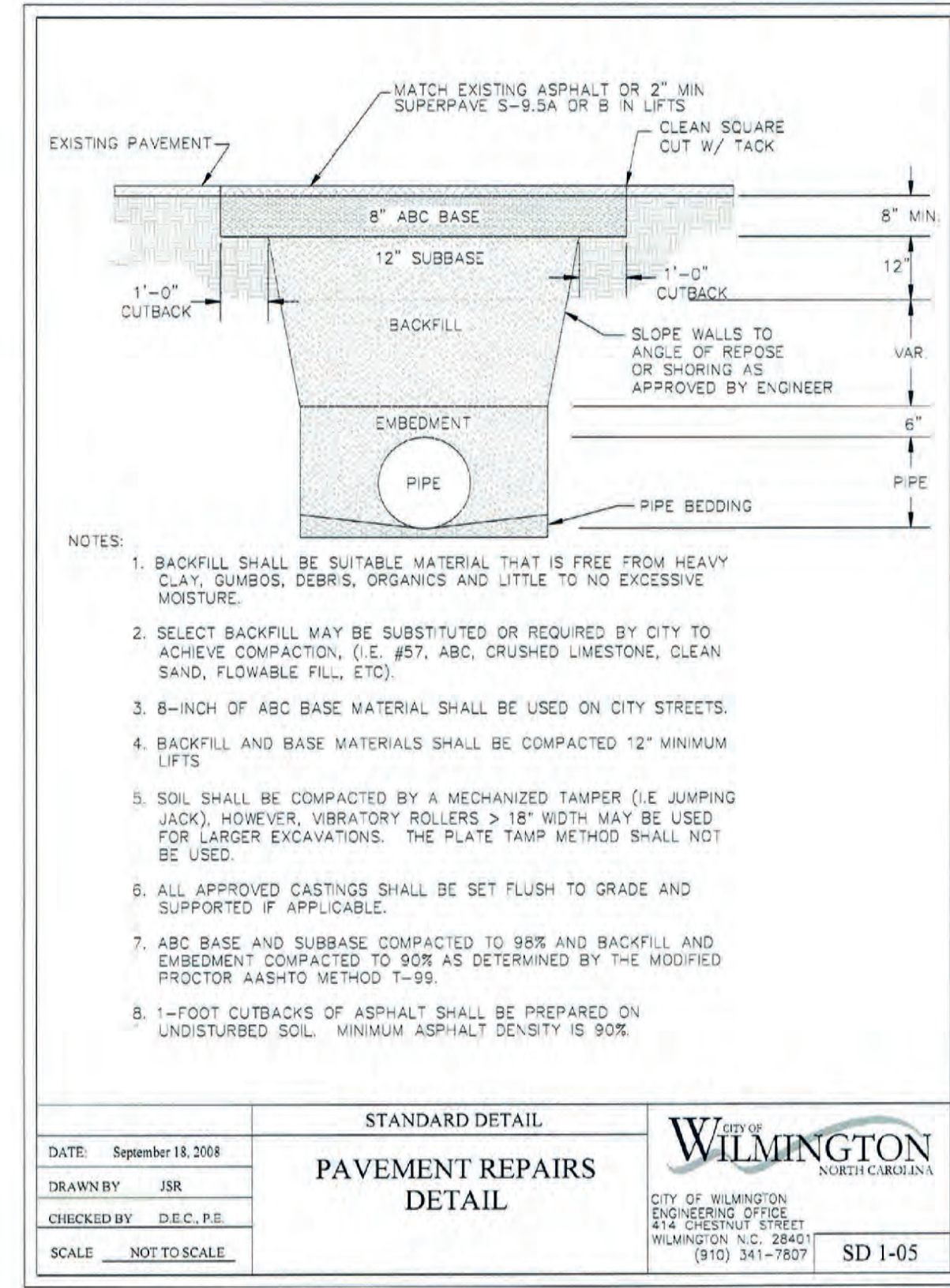
**PARAMOUNT ENGINEERING, INC.**  
122 Cinema Drive  
Wilmington, North Carolina 28403  
(910) 791-6707 (O) (910) 791-6760 (F)  
NC License #: C-2846

**DETAILS**  
CARROLL AT THE AVENUE  
MILITARY CUTOFF RD.  
WILMINGTON, NC 28405

PROJECT STATUS:	08/23/23
ORIGINAL LAYOUT:	N.T.S.
FINAL DESIGN LAYOUT:	AS R
DATE:	08/23/23
SCALE:	N.T.S.
DRAWING INFORMATION:	AS R
DRAWN BY:	AS R
CHECKED:	AS R



**C-6.0A**  
PEI JOB#: 18473.PE



FINAL DESIGN - NOT RELEASED FOR CONSTRUCTION

<p>REVISIONS:</p> <p>APPROVED ADMINISTRATIVE MODIFICATION</p> <p>3/10/2022</p>	<p>CLIENT INFORMATION:</p> <p>CIP CONSTRUCTION COMPANY 201 NORTH ELM STREET, STE. 201 GREENSBORO, NC 27401</p>
<p>PARAMOUNT ENGINEERING, INC.</p> <p>122 Cinema Drive Wilmington, North Carolina 28403 (910) 791-6707 (O) (910) 791-6760 (F) N.C. License #: C-2846</p>	<p>DETAILS</p> <p>CARROLL AT THE AVENUE MILITARY CUTOFF RD. WILMINGTON, NC 28405</p>
<p>PROJECT STATUS</p> <p>ORIGINAL LAYOUT: _____</p> <p>FINAL DESIGN: _____</p> <p>RELEASED FOR CONSTRUCTION: _____</p>	<p>DRAWING INFORMATION</p> <p>DATE: 06/23/23</p> <p>SCALE: N.T.S.</p> <p>DRAWN BY: ASR</p> <p>CHECKED: RPE</p>
<p>SEAL</p> <p>CITY OF WILMINGTON NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 031591 ROBERT S. SKILLMAN 06/23/23</p>	<p>C-6.0B</p> <p>PEI JOB#: 18473.PE</p>

**SEDIMENT BASIN #1 CALCULATIONS**

Drainage Area (100 Ac. Max.) = 13.20 Ac.  $I_{25} = 8.15$   
 $Q_{25yr} (10-CFH) = 37.7 cfs$  [C=0.35,  $I_{25} = 8.15$ , tc=10]

**Requirements:**  
 Min. Surface Area (435 sf/cfs) = 16,379 sf  
 Min. Volume (1,800 cf/Ac.) = 23,760 cf

**Provided:**  
 Basin Volume:

Contour	Contour Area (SF)	Incremental Volume (CF)	Cumulative Volume (CF)
14.00	5,438	0	0
15.00	9,175	7,307	7,307
16.00	15,501	12,338	19,645
16.30	16,400	4,785	24,430
17.00	22,238	13,523	37,953
18.00	32,501	27,370	65,323
19.00	45,036	38,769	104,091

Skimmer Elevation (16.30)  
 Emergency Spillway Elev. (18.0)

**Spillway Info:**  
 Emergency Spillway = 18.00

Proposed Sediment Storage EL. = 16.30  
 Volume at Proposed EL. = 24,430 cf  
 Surface Area at Proposed EL. = 16,400 sf

**Pond Dimensions: (@ Principal Spillway El.)**

Length = 207 ft  
 Width = 70 ft  
 L to W Ratio = 3:1

**Skimmer Design:**  
 Volume = 40,893 cf  
 Days to Drain = 3 days  
 Skimmer Size (Faircloth Guidelines): 4.0 inches  
 Orifice Size: 3.3 inches

**SEDIMENT BASIN #4 CALCULATIONS**

Drainage Area (100 Ac. Max.) = 1.19 Ac.  $I_{25} = 8.15$   
 $Q_{25yr} (10-CFH) = 3.4 cfs$  [C=0.35,  $I_{25} = 8.15$ , tc=10]

**Requirements:**  
 Min. Surface Area (435 sf/cfs) = 1,477 sf  
 Min. Volume (1,800 cf/Ac.) = 2,142 cf

**Provided:**  
 Basin Volume:

Contour	Contour Area (SF)	Incremental Volume (CF)	Cumulative Volume (CF)
13.00	759	0	0
14.00	1,143	951	951
15.00	1,600	1,372	2,323
16.00	2,128	1,864	4,187
17.00	2,728	2,428	6,615
18.00	3,400	3,064	9,679

Skimmer Elevation (15.0)  
 Emergency Spillway Elev. (17.0)

**Spillway Info:**  
 Emergency Spillway = 17.00

Proposed Sediment Storage EL. = 15.00  
 Volume at Proposed EL. = 2,323 cf  
 Surface Area at Proposed EL. = 1,600 sf

**Pond Dimensions: (@ Principal Spillway El.)**

Length = 70 ft  
 Width = 50 ft  
 L to W Ratio = 1:1

**Skimmer Design:**  
 Volume = 4,292 cf  
 Days to Drain = 3 days  
 Skimmer Size (Faircloth Guidelines): 1.5 inches  
 Orifice Size: 1.4 inches

**SEDIMENT BASIN #2 CALCULATIONS**

Drainage Area (100 Ac. Max.) = 5.60 Ac.  $I_{25} = 8.15$   
 $Q_{25yr} (10-CFH) = 16.0 cfs$  [C=0.35,  $I_{25} = 8.15$ , tc=10]

**Requirements:**  
 Min. Surface Area (435 sf/cfs) = 6,949 sf  
 Min. Volume (1,800 cf/Ac.) = 10,800 cf

**Provided:**  
 Basin Volume:

Contour	Contour Area (SF)	Incremental Volume (CF)	Cumulative Volume (CF)
11.00	4,579	0	0
12.00	5,412	4,996	4,996
13.00	6,313	5,863	10,859
13.75	7,027	5,003	15,861
14.00	7,272	1,787	17,648
15.00	8,288	7,780	25,428
15.25	8,551	2,105	27,533
16.00	9,361	8,825	34,252

Skimmer Elevation (13.75)  
 Emergency Spillway Elev. (15.25)

**Spillway Info:**  
 Emergency Spillway = 15.25

Proposed Sediment Storage EL. = 13.75  
 Volume at Proposed EL. = 15,861 cf  
 Surface Area at Proposed EL. = 7,027 sf

**Pond Dimensions: (@ Principal Spillway El.)**

Length = 88 ft  
 Width = 80 ft  
 L to W Ratio = 1:1

**Skimmer Design:**  
 Volume = 11,672 cf  
 Days to Drain = 3 days  
 Skimmer Size (Faircloth Guidelines): 2.5 inches  
 Orifice Size: 2.0 inches

**SEDIMENT BASIN #5 CALCULATIONS**

Drainage Area (100 Ac. Max.) = 2.82 Ac.  $I_{25} = 8.15$   
 $Q_{25yr} (10-CFH) = 8.0 cfs$  [C=0.35,  $I_{25} = 8.15$ , tc=10]

**Requirements:**  
 Min. Surface Area (435 sf/cfs) = 3,499 sf  
 Min. Volume (1,800 cf/Ac.) = 5,076 cf

**Provided:**  
 Basin Volume:

Contour	Contour Area (SF)	Incremental Volume (CF)	Cumulative Volume (CF)
10.00	2,340	0	0
11.00	3,025	2,683	2,683
12.00	3,782	3,404	6,086
13.00	4,611	4,197	10,283
14.00	5,512	5,062	15,344
15.00	6,486	5,999	21,343

Skimmer Elevation (12.0)  
 Emergency Spillway Elev. (14.0)

**Spillway Info:**  
 Emergency Spillway = 14.00

Proposed Sediment Storage EL. = 12.00  
 Volume at Proposed EL. = 6,086 cf  
 Surface Area at Proposed EL. = 3,782 sf

**Pond Dimensions: (@ Principal Spillway El.)**

Length = 108 ft  
 Width = 60 ft  
 L to W Ratio = 2:1

**Skimmer Design:**  
 Volume = 9,258 cf  
 Days to Drain = 3 days  
 Skimmer Size (Faircloth Guidelines): 2.0 inches  
 Orifice Size: 1.9 inches

**SEDIMENT BASIN #3 CALCULATIONS**

Drainage Area (100 Ac. Max.) = 1.80 Ac.  $I_{25} = 8.15$   
 $Q_{25yr} (10-CFH) = 5.1 cfs$  [C=0.35,  $I_{25} = 8.15$ , tc=10]

**Requirements:**  
 Min. Surface Area (435 sf/cfs) = 2,234 sf  
 Min. Volume (1,800 cf/Ac.) = 3,240 cf

**Provided:**  
 Basin Volume:

Contour	Contour Area (SF)	Incremental Volume (CF)	Cumulative Volume (CF)
11.00	1,723	0	0
12.00	2,275	1,998	1,998
13.00	2,899	2,587	4,585
14.00	3,595	3,247	7,833
15.00	4,364	3,980	11,813
16.00	5,204	4,784	16,597

Skimmer Elevation (13.75)  
 Emergency Spillway Elev. (15.00)

**Spillway Info:**  
 Emergency Spillway = 15.00

Proposed Sediment Storage EL. = 13.00  
 Volume at Proposed EL. = 4,586 cf  
 Surface Area at Proposed EL. = 2,899 sf

**Pond Dimensions: (@ Principal Spillway El.)**

Length = 80 ft  
 Width = 55 ft  
 L to W Ratio = 1:1

**Skimmer Design:**  
 Volume = 7,227 cf  
 Days to Drain = 3 days  
 Skimmer Size (Faircloth Guidelines): 2.0 inches  
 Orifice Size: 1.7 inches

**SEDIMENT BASIN #6 CALCULATIONS - WET POND #1**

Drainage Area (100 Ac. Max.) = 30.12 Ac.  $I_{25} = 8.15$   
 $Q_{25yr} (10-CFH) = 85.9 cfs$  [C=0.35,  $I_{25} = 8.15$ , tc=10]

**Requirements:**  
 Min. Surface Area (435 sf/cfs) = 37,374 sf  
 Min. Volume (1,800 cf/Ac.) = 54,216 cf

**Provided:**  
 Basin Volume:

Contour	Contour Area (SF)	Incremental Volume (CF)	Cumulative Volume (CF)
20.00	193,986	0	0
21.00	193,986	193,986	193,986
22.00	193,986	193,986	387,972
22.50	193,986	96,993	484,965
23.00	193,986	96,993	581,958
24.00	193,986	193,986	775,944

Skimmer Elevation (20.00)  
 Riser Elev. (22.50)

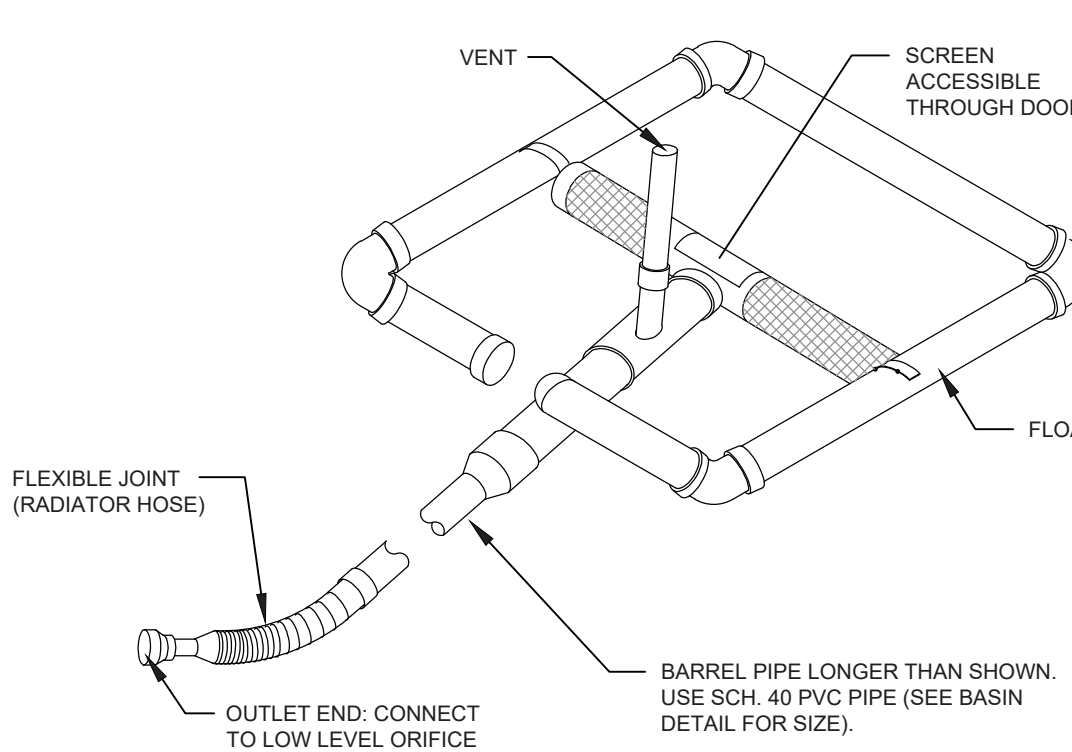
**Spillway Info:**  
 Emergency Spillway = 22.50

Proposed Sediment Storage EL. = 21.00  
 Volume at Proposed EL. = 193,986 cf  
 Surface Area at Proposed EL. = 193,986 sf

**Pond Dimensions: (@ Principal Spillway El.)**

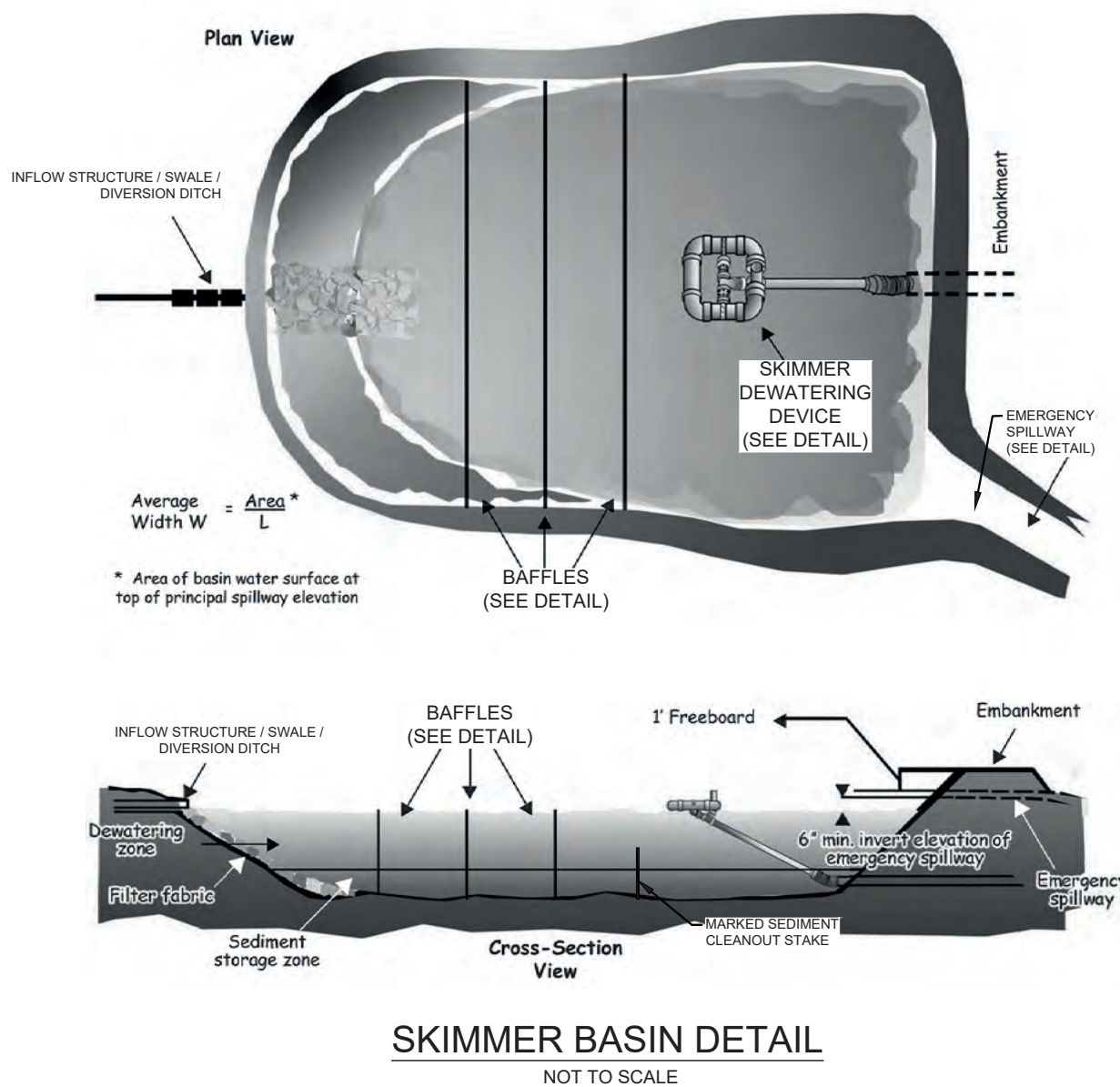
Length = 108 ft  
 Width = 60 ft  
 L to W Ratio = 2:1

**Skimmer Design:**  
 Volume = 484,965 cf  
 Days to Drain = 3 days  
 Skimmer Size (Faircloth Guidelines): 8.0 inches  
 Orifice Size: 6.4 inches

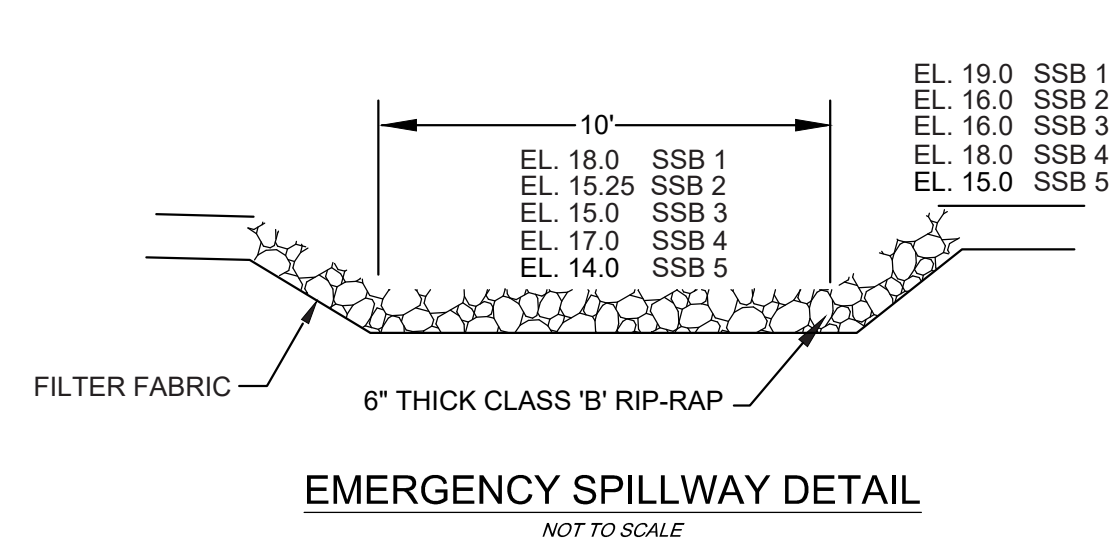


BASIN #	SKIMMER SIZE (IN.)	SKIMMER ORIFICE (IN.)
SSB 1	4.0	3.3
SSB 2	2.5	3.0
SSB 3	2.0	1.7
SSB 4	1.5	1.4
SSB 5	2.0	1.9
SSB 6	8.0	6.4

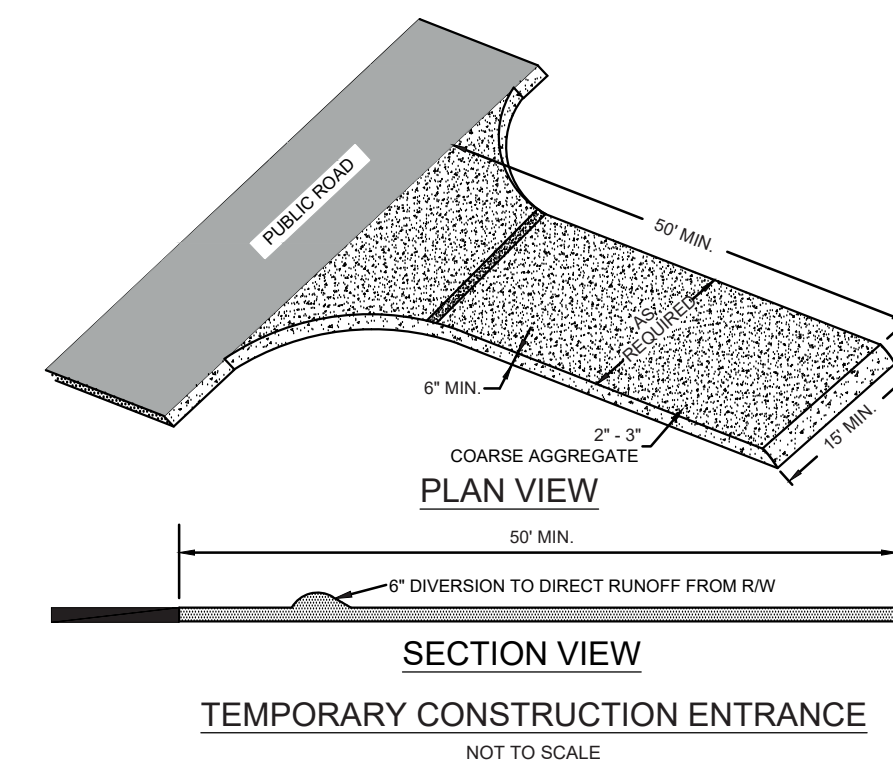
**FAIRCLOTH SKIMMER DETAIL**  
 NOT TO SCALE



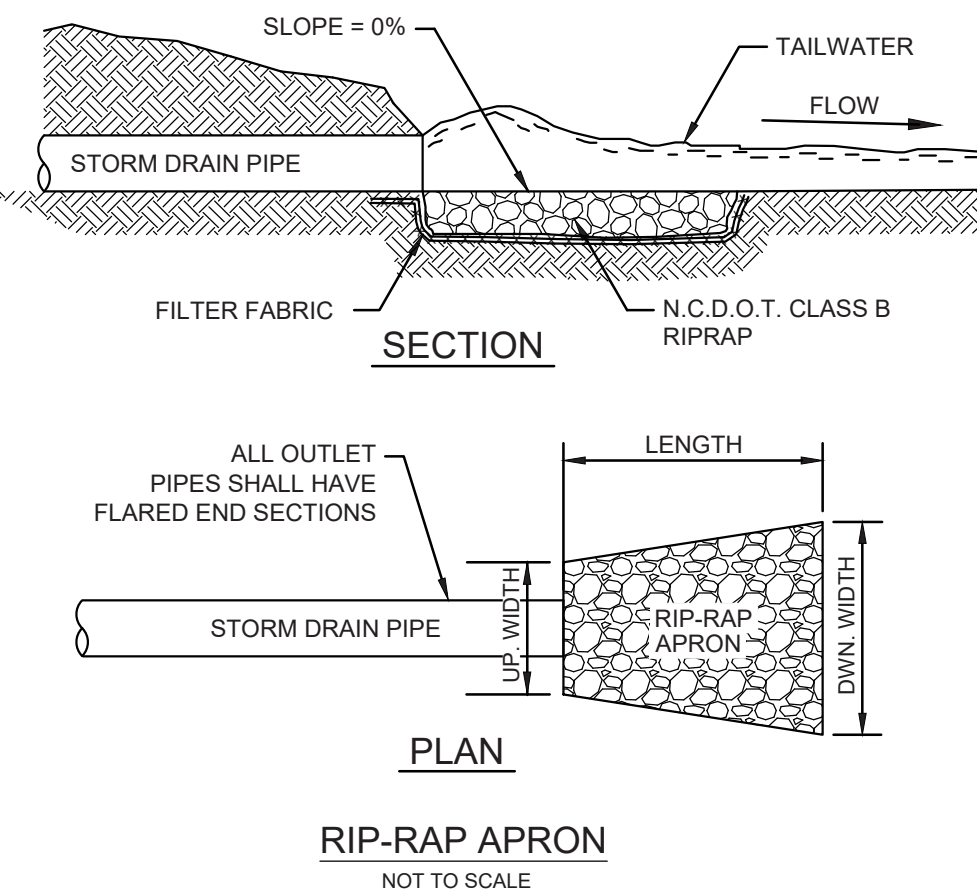
**SKIMMER BASIN DETAIL**  
 NOT TO SCALE



**EMERGENCY SPILLWAY DETAIL**  
 NOT TO SCALE



**TEMPORARY CONSTRUCTION ENTRANCE**  
 NOT TO SCALE



**RIP-RAP APRON**  
 NOT TO SCALE

APRON #	PIPE DIA. (IN.)	RIP-RAP SCHEDULE			
		LENGTH (FT.)	UP-WIDTH (FT.)	DWN WIDTH (FT.)	THICKNESS (IN.)
SSB 1	24	22	6	24	18
SSB 2	18	14	4.5	15.5	18
SSB 3	18	9	4.5	10.5	18
SSB 4	18	9	4.5	10.5	18
SSB 5	18	9	4.5	10.5	18
WET POND	(2) 36	26	12	30	18
FES-100	60	20	15	13	18
FES-200	60	20	15	13	18
EC PIPE	12	6	3	7	18
DITCH	8'X3'	51	24	59	18

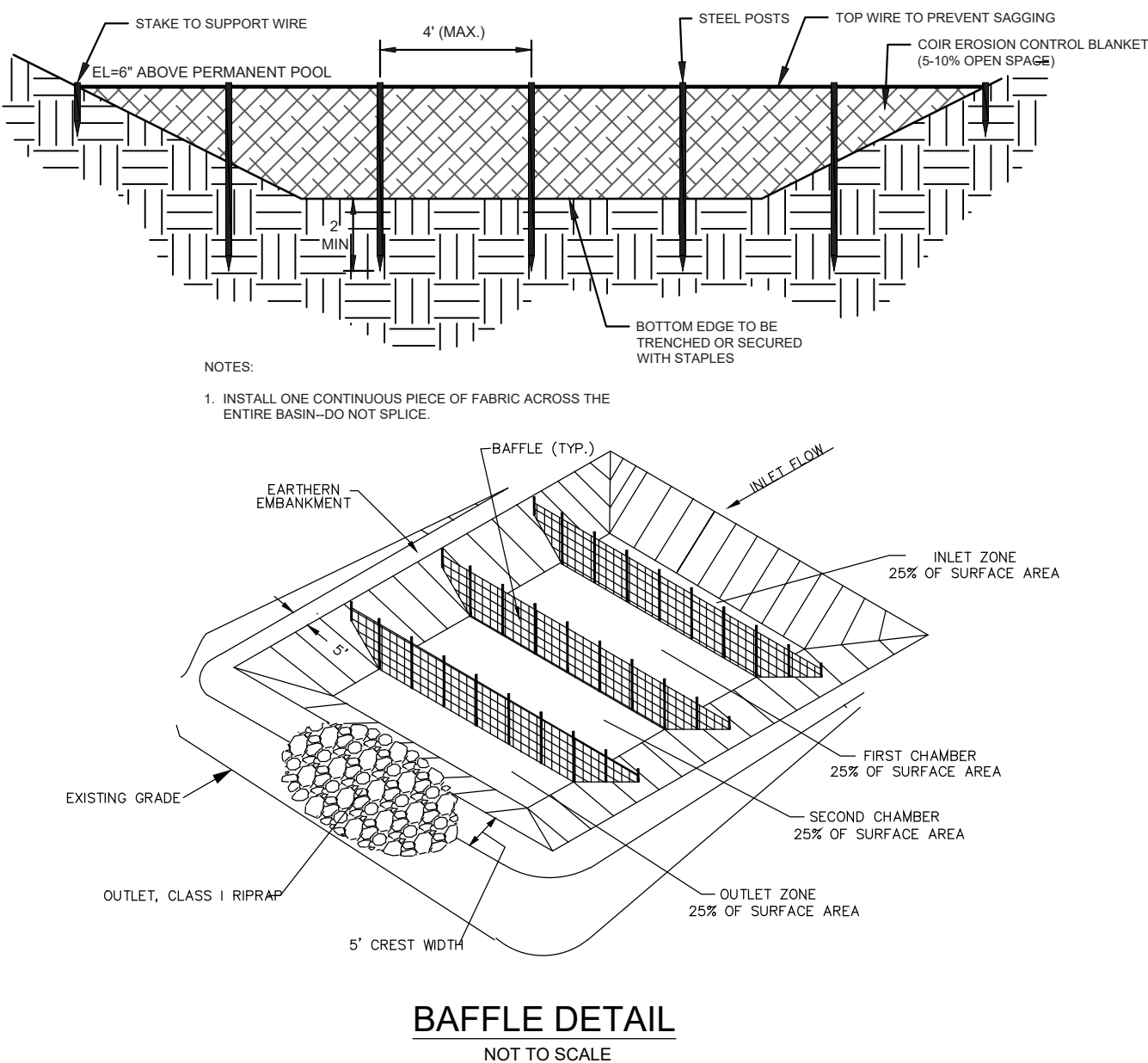
**BAFFLES**  
 CONSTRUCTION SPECIFICATION

- Grade the basin so that the bottom is level front to back and side to side.
- Install posts or saw horses across the width of the sediment trap (Practice 6.62, *Sediment Fence*).
- Steel posts should be driven to a depth of 24 inches, spaced a maximum of 4 feet apart, and installed up the side of the basin as well. The top of the basin as well. The top of the basin as well. The top of the basin as well.
- Install at least three rows of baffles between the inlet and outlet discharge point. Basins less than 20 feet in length may use 2 baffles.
- When using posts, add a support wire or rope across the top of the measure to prevent sagging.
- Wrap jute, backed by coir material, over a sawhorse or the top wire. Hammer rebar into the sawhorse legs for anchoring. The fabric should have five to ten percent openings in the weave. Attach fabric to a rope and a support structure with zip ties, wire or staples.
- The bottom and sides of the fabric should be anchored in a trench or pinned with 8-inch erosion control matting staples.
- Do not splice the fabric, but use a continuous piece across the basin.

**MAINTENANCE**  
 Inspect baffles at least once a week and after each rainfall. Make any required repairs immediately.  
 Be sure to maintain access to the baffles. Should the fabric of a baffle collapse, tear, decompose, or become ineffective, replace it promptly.  
 Remove sediment deposits when it reaches half full to provide adequate storage volume for the next rain and to reduce pressure on the baffles. Take care to avoid damaging the baffles during cleanout. Sediment depth should never exceed half the designed storage depth.  
 After the contributing drainage area has been properly stabilized, remove all baffle materials and unstable sediment deposits, bring the area to grade, and stabilize it.

**NOTE:**

Porous baffles shall be installed inside all temporary sediment traps, rock dams, skimmer basin or sediment basins to reduce the velocity and turbulence of the water flowing through the measure, and facilitate the settling of sediment from the water before discharge.



**BAFFLE DETAIL**  
 NOT TO SCALE

- NOTES:**
- WIRE FENCE SHALL BE USED ON ALL ON-SITE SILT FENCE AND SHALL BE MINIMUM 14 GAUGE WITH A MAXIMUM MESH OPENING OF 6-INCHES.
  - SYNTHETIC FILTER FABRIC OF AT LEAST 95% BY WEIGHT OF POLYOLEFIN'S OR POLYESTER, WHICH IS CERTIFIED BY THE MANUFACTURER OR SUPPLIER AS CONFORMING TO THE REQUIREMENTS IN ASTM D 6461 AND ALSO SHOULD CONTAIN ULTRAVIOLET RAY INHIBITORS AND STABILIZERS ACCORDING TO ASTM D 4355.
  - SEE THE NC EROSION CONTROL MANUAL FOR SPECIFICATIONS INSTALLING SEDIMENT FENCE USING THE SLICING METHOD MACHINERY.

**THE AVENUE**  
**Temporary Sediment Fence**  
 Requirement = 100 ft per 0.25 acres disturbed

DA #	Disturbed		Silt Fence	
	area (ac)	Total drainage area (ac)	Required (ft)	Provided (ft)
1	0.18 ac	0.18 ac	72	275
2	0.13 ac	0.13 ac	52	148
3	0.23 ac	0.23 ac	92	407
4	0.37 ac	0.37 ac	148	596

**TEMPORARY SILT FENCE**  
 NOT TO SCALE

REVISIONS:  
 APPROVED ADMINISTRATIVE MODIFICATION  
 3/10/2022

CLIENT INFORMATION:  
 CIP CONSTRUCTION COMPANY  
 201 NORTH ELM STREET, STE. 201  
 GREENSBORO, NC 27401

**PARAMOUNT**  
 ENGINEERING, INC.  
 122 Cinema Drive  
 Wilmington, North Carolina 28403  
 (910) 791-6707 (O) (910) 791-6700 (F)  
 N.C. License #: C-2846

**DETAILS**  
 CARROLL AT THE AVENUE  
 MILITARY CUTOFF RD.  
 WILMINGTON, NC 28405

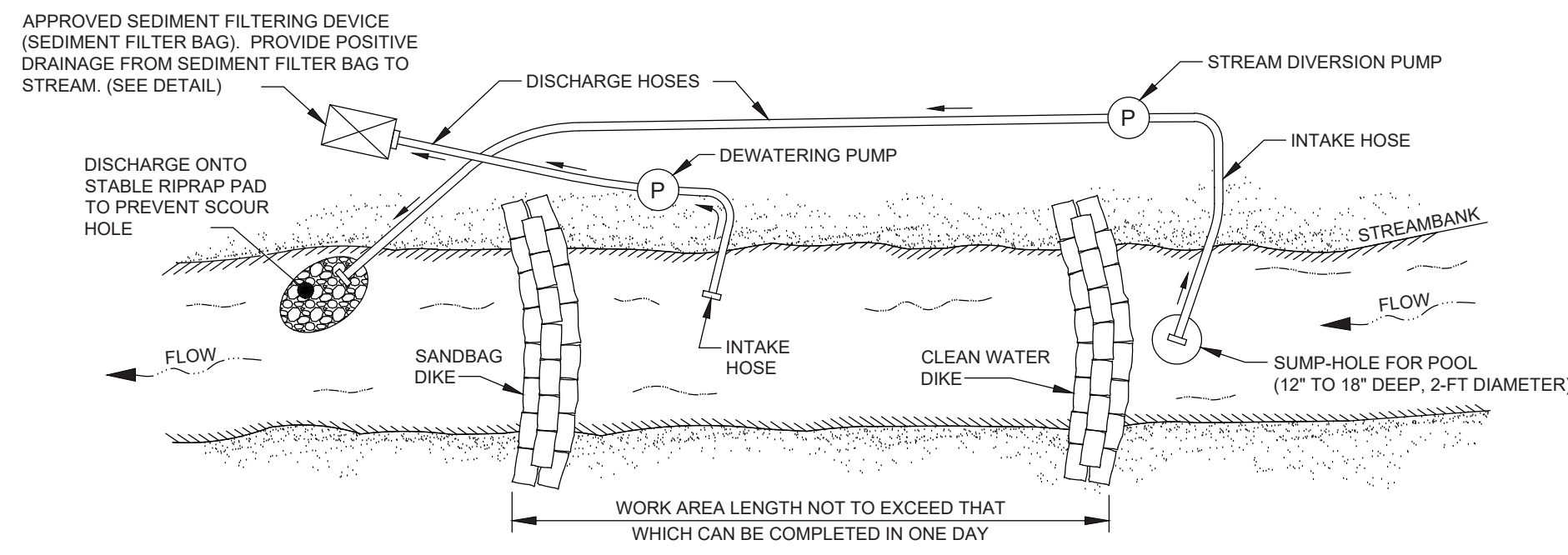
PROJECT STATUS:  
 ORIGINAL LAYOUT:  
 FINAL DESIGN (100%):  
 RELEASED FOR CONSTRUCTION:  
 DRAWING INFORMATION:  
 DATE: 06/23/23  
 SCALE: N.T.S.  
 DRAWING: ASR  
 CHECKED: RBE

SEAL:  
 NORTH CAROLINA PROFESSIONAL ENGINEER  
 SEAL # 031591  
 ENGINEER  
 RICHARD SKILLMAN  
 06/23/23

**C-6.1**

PEI JOB#: 18473.PE

FINAL DESIGN - NOT RELEASED FOR CONSTRUCTION



- TEMPORARY PUMP AROUND SEQUENCE**
1. SET UP PUMP WITH SUCTION AND DISCHARGE HOSE.
  2. INSTALL UP-STREAM SANDBAG DAM.
  3. INSTALL DOWN-STREAM SANDBAG DAM.
  4. THE PUMP MUST RUN CONTINUOUSLY WHILE WORKING IN THE STREAM.
  5. STREAMBANKS MUST BE STABILIZED AT THE END OF EACH DAY.

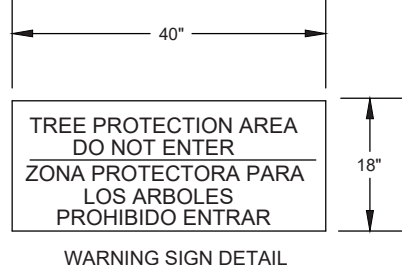
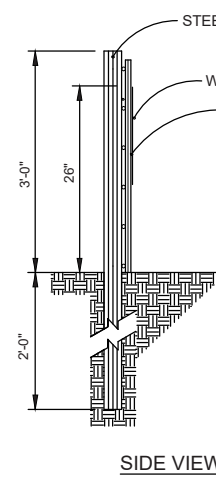
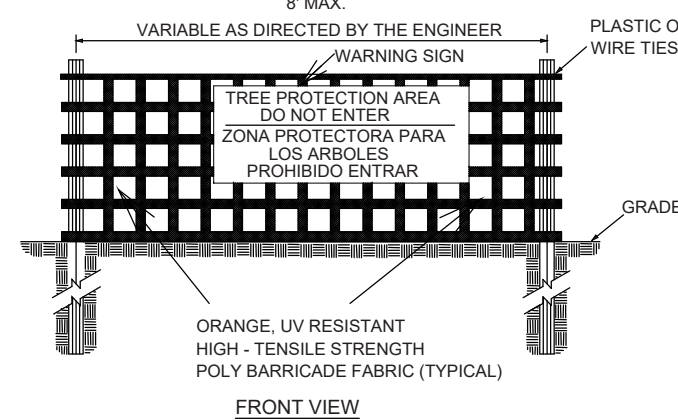
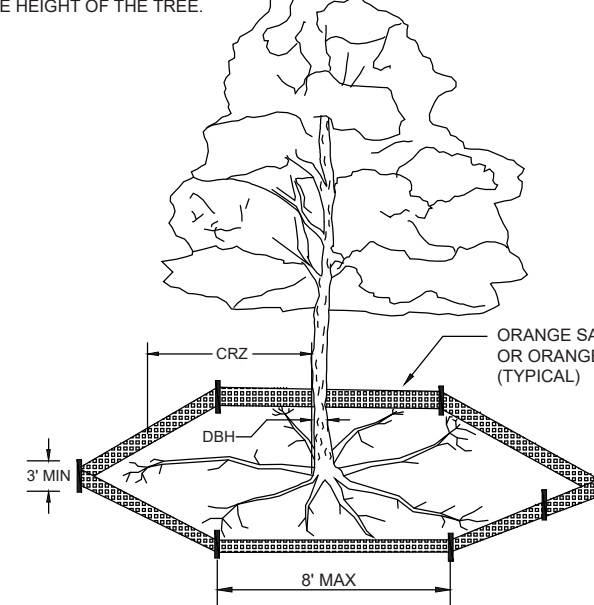
**NOTES:**

1. SANDBAG DIKES SHALL BE SITUATED AT THE UPSTREAM AND DOWNSTREAM ENDS OF THE WORK AREA. AND STREAM FLOW SHALL BE PUMPED AROUND THE WORK AREA. THE PUMP SHOULD DISCHARGE ONTO A STABLE VELOCITY DISSIPATER CONSTRUCTED OF RIPRAP OR SANDBAGS.
2. WATER FROM THE WORK AREA SHALL BE PUMPED TO A SEDIMENT FILTERING MEASURE SUCH AS A SEDIMENT BAG OR OTHER APPROVED DEVICE. THE MEASURE SHALL BE LOCATED SUCH THAT THE WATER DRAINS BACK INTO THE CHANNEL BELOW THE DOWNSTREAM SANDBAG DIKE WITHOUT CAUSING FURTHER EROSION BETWEEN THE SEDIMENT FILTER BAG AND THE STREAMBANK.

**TEMPORARY STREAM PUMP AROUND DETAILS**  
NOT TO SCALE

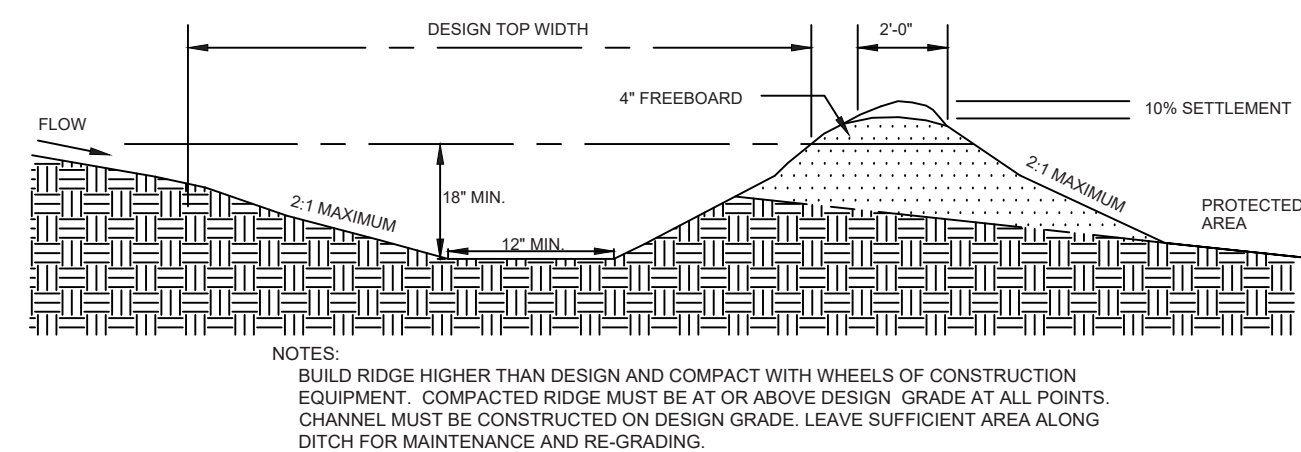
NOTE: THE CRITICAL ROOT ZONE (CRZ) OF A TREE IS WHERE THE MAJORITY OF A TREE'S ROOTS LAY. 85% OF MOST TREE ROOTS ARE FOUND IN THE TOP 24" OF THE SOIL AND SUPPLY THE MAJORITY OF NUTRIENTS AND WATER. GENERALLY, ROOTS SPREAD OUT 2X THE HEIGHT OF THE TREE.

NOTE: CROWN OF THE TREE IS NEEDED FOR LEAF GROWTH TO PRODUCE OXYGEN, FILTER THE AIR, REDUCE WIND AND SOFTEN NOISE. DO NOT DISFIGURE CROWN WITH INTENSIVE PRUNING.



- NOTES:**
1. PROTECT CRITICAL ROOT ZONE (CRZ) OF TREES PRIOR TO CONSTRUCTION. CLEARLY MARK THE TREES AND ERECT A PROTECTIVE BARRIER AT THE CRZ. BARRIER SHALL BE MAINTAINED UNTIL CONSTRUCTION IS COMPLETE.
  2. CRZ RADIUS IS 1 FT PER INCH OF TREE DIAMETER AT BREAST HEIGHT (DBH).
  3. IF CONSTRUCTION OCCURS WITHIN THE CRZ, AT LEAST 12" OF MULCH AND/OR LOGGING MATS SHALL BE PLACED WHERE MACHINERY MANEUVERS TO REDUCE SOIL COMPACTION IN THIS ZONE.
  4. WHERE SIDEWALKS AND PATHWAYS PASS WITHIN CRZ, EXTRA CARE SHALL BE TAKEN TO AVOID DAMAGE TO THE ROOTS. ALTERNATE CONSTRUCTION METHODS, SUCH AS A REINFORCED SIDEWALK SHALL BE IMPLEMENTED AS NECESSARY.
  5. FOR ALL TREES, CUTTING OF LARGE STRUCTURAL ROOTS LOCATED NEAR THE BASE OF THE TRUNK IS PROHIBITED. DO NOT COMPACT SOIL BENEATH TREES. NO VEHICLE SHALL BE ALLOWED TO PARK UNDER TREES. NO MATERIALS OR EQUIPMENT SHALL BE STORED BENEATH TREES. DAMAGING THE BARK WITH LAWNMOWERS, CONSTRUCTION EQUIPMENT, OR ANYTHING ELSE IS PROHIBITED. CONTRACTOR SHALL REPAIR DAMAGE TO TREES.
  6. FAILING TO INSTALL OR MAINTAIN PROTECTION MEASURES SHALL RESULT IN A STOP WORK ORDER AND FINE OF \$500/DAY. DISTURBANCE OTHER THAN THAT ALLOWED ON THE APPROVED PLAN WILL REQUIRE OWNER TO POST A LETTER OF CREDIT FOR 3 YRS FOR TREE MITIGATION.

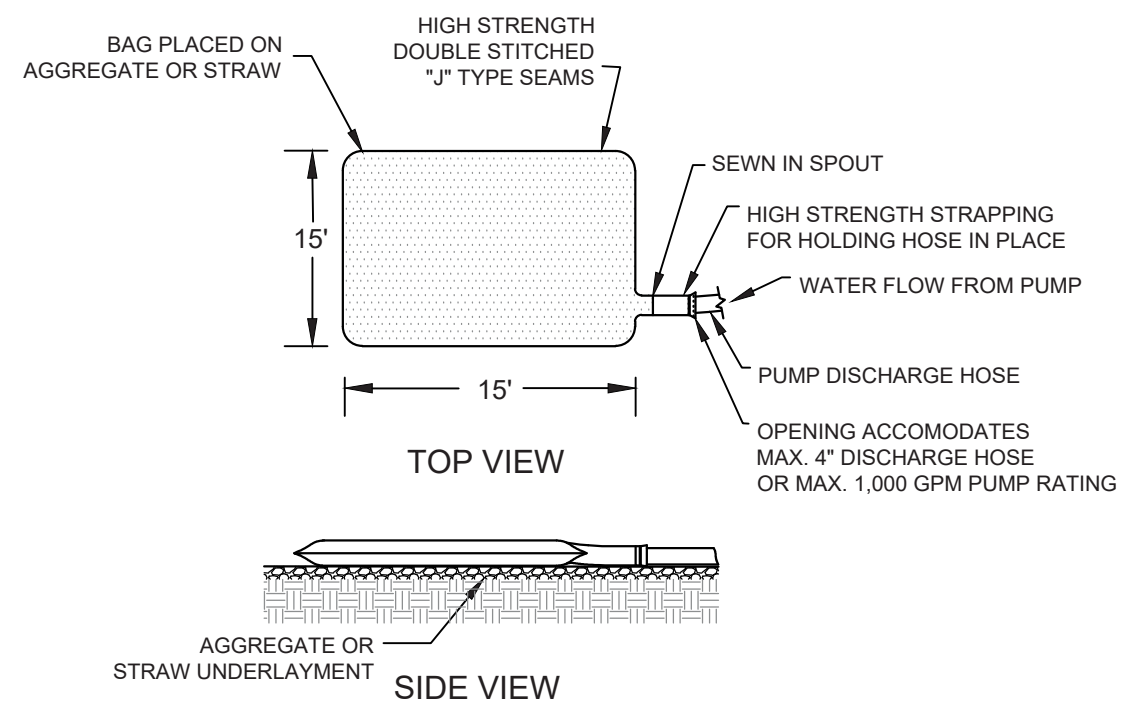
**TREE PROTECTION FENCE DETAILS**



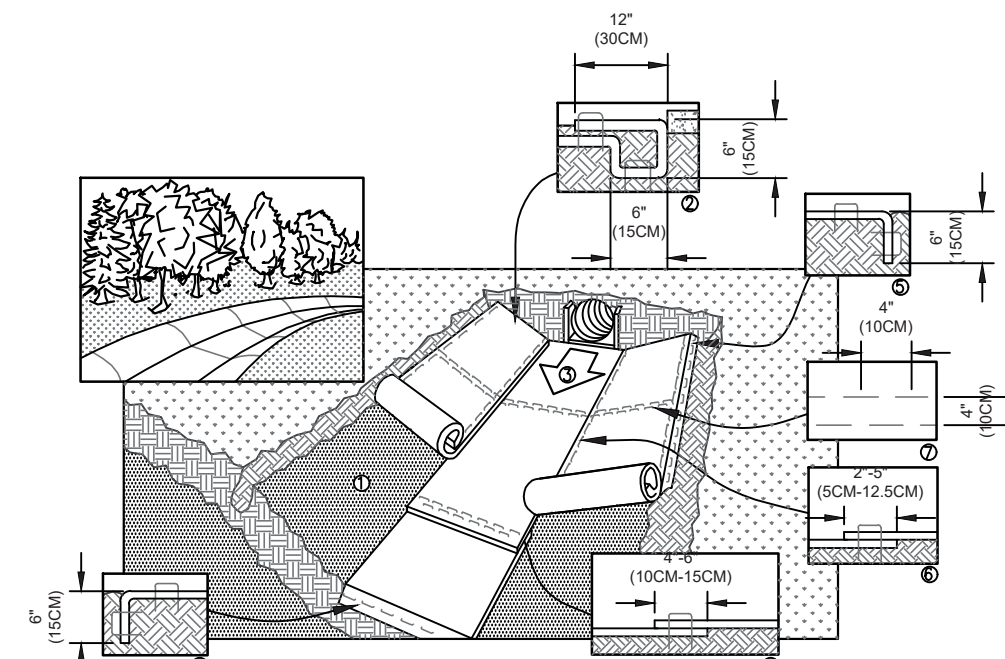
NOTES:  
BUILD RIDGE HIGHER THAN DESIGN AND COMPACT WITH WHEELS OF CONSTRUCTION EQUIPMENT. COMPACTED RIDGE MUST BE AT OR ABOVE DESIGN GRADE AT ALL POINTS. CHANNEL MUST BE CONSTRUCTED ON DESIGN GRADE. LEAVE SETTLEMENT AREA ALONG DITCH FOR MAINTENANCE AND RE-GRADING.

TEMPORARY DIVERSION DITCH CALCULATIONS:																
TDD #	RUNOFF			CHANNEL												
	A <sub>d</sub> (acres)	C	Q <sub>Design</sub> (cfs)	Length (ft)	Inv In (ft)	Inv Out (ft)	S	d (ft)	A <sub>c</sub> (sq ft)	P (ft)	R (ft)	V <sub>Actual</sub> (fps)	Q <sub>Actual</sub> (cfs)	Adequate Capacity? (Y/N)	Lining Required? (Y/N)	No. Check Dams?
1A	3.17	0.35	9.04	494	21.00	21.00	0.0061	0.75	2.63	5.35	0.49	3.61	9.47	Y	Y	1.5
1B	1.96	0.35	5.59	109	21.00	20.00	0.0092	0.55	1.71	4.46	0.38	3.76	8.41	Y	Y	0.0
2A	2.58	0.35	7.36	303	18.00	13.00	0.0099	0.60	1.92	4.68	0.41	4.09	7.85	Y	Y	1.5
2B	3.02	0.35	8.61	285	15.00	13.00	0.0070	0.70	2.38	5.13	0.46	3.74	8.90	Y	Y	1.0
3A	0.95	0.35	2.71	351	15.00	13.00	0.0057	0.40	1.12	3.79	0.30	2.49	2.79	Y	N	1.0
3B	0.85	0.35	2.42	355	17.00	13.00	0.0113	0.31	0.81	3.39	0.24	3.05	2.48	Y	Y	2.0
4A	0.91	0.35	2.60	135	16.00	15.00	0.0074	0.36	0.98	3.61	0.27	2.69	2.63	Y	Y	0.0
4B	0.28	0.35	0.80	156	18.00	15.00	0.0192	0.15	0.35	2.67	0.13	2.64	0.91	Y	Y	1.5
5A	0.57	0.35	1.63	169	15.00	12.00	0.0178	0.22	0.54	2.98	0.18	3.16	1.70	Y	Y	1.5
5B	2.25	0.35	6.42	657	20.00	12.00	0.0122	0.52	1.58	4.33	0.37	4.20	6.64	Y	Y	4.0

**TEMPORARY DIVERSION DITCH**  
NOT TO SCALE

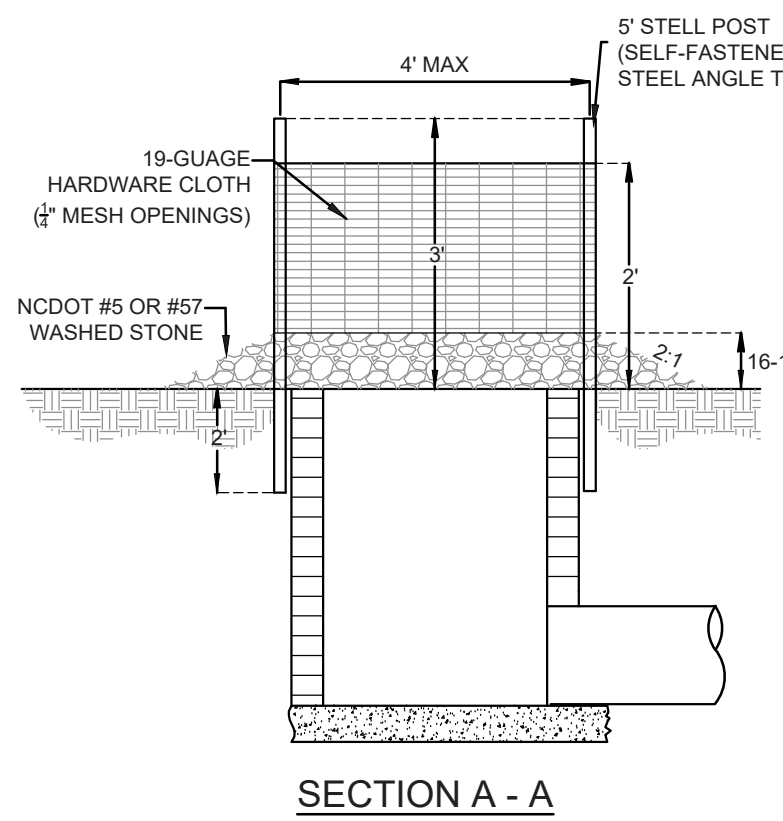
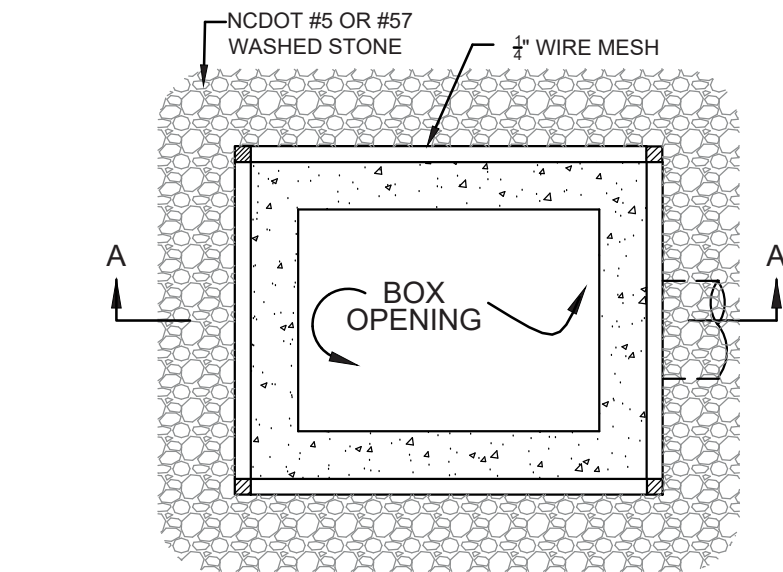


**SEDIMENT FILTER BAG DETAIL**  
NOT TO SCALE



- NOTES:**
1. INSTALLATION TO BE COMPLETED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.
  2. DO NOT SCALE DRAWINGS.

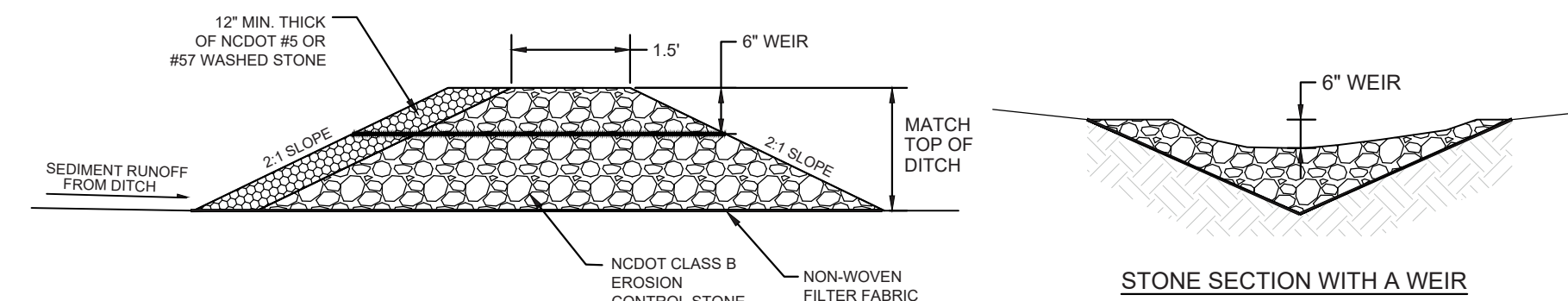
**ROLLED EROSION CONTROL LINING**  
NOT TO SCALE



**SECTION A - A**

NOTE:  
FOR CURB INLETS AND DROP INLETS

**INLET PROTECTION**  
NOT TO SCALE

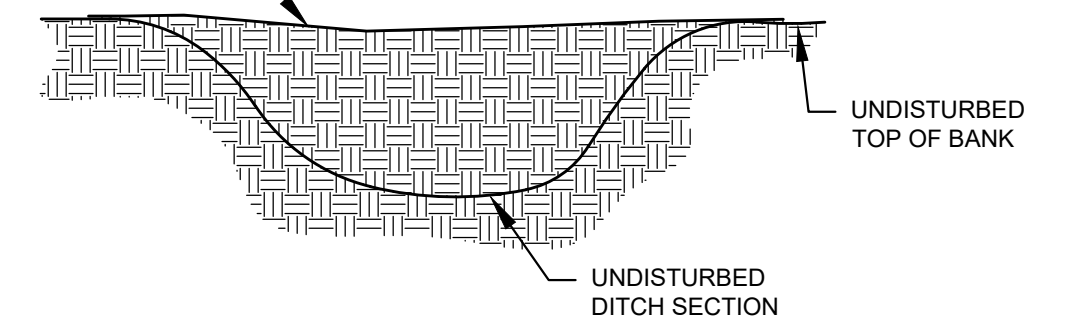


**TEMPORARY CHECK DAM DETAIL**  
NOT TO SCALE

**NOTE:**

1. SANDBAG DIKES SHOULD BE SITUATED AT THE ENDS OF THE WORK AREA AS SHOWN ON THE PLANS, AND PONDED WATER SHOULD BE DE-WATERED AROUND THE WORK AREA.
2. WATER FROM THE WORK AREA SHOULD BE PUMPED TO A SEDIMENT FILTERING MEASURE SUCH AS A SEDIMENT-STORAGE BAG, OR OTHER ENGINEER-APPROVED MEASURE. THE MEASURE SHOULD BE LOCATED SUCH THAT THE WATER DRAINS DOWNSTREAM OF THE AREA.
3. SEDIMENT BAG SHALL CONFORM TO SPECIFICATIONS. PUMP SHALL BE RATED TO A MAX. 1,000 GPM, WITH A FILTER ON THE SUCTION END OF THE HOSE.
4. PAMS / FLOCCULANTS SHALL BE USED PRIOR TO FLOW ENTERING SEDIMENT BAG. PAMS SHALL FOLLOW THE NCDWR APPROVED LIST.

COMPACT TO 85% M.D.D. OR AS SPECIFIED PER GEOTECHNICAL REPORT



**SECTION**

**PERMANENT DITCH PLUG**

**NOTES:**

1. ALL BACKFILL MUST BE IMMEDIATELY POURED PRIOR TO ANY RAIN EVENT
2. REMOVE ALL BRANCHES AND DEBRIS FROM LOCATION OF DITCH PLUG.
3. DO NOT EXCAVATE THE EXISTING CHANNEL OR BANKS.
4. BACKFILL ON TOP OF THE BOTTOM IN 8-INCH LIFTS.
5. INSPECT PLUG DURING CONSTRUCTION FOR DAMAGE OR BREACH.
6. REPLANT PLUG PER STREAMBANK STABILIZATION DETAILS.

Date: \_\_\_\_\_ Page: \_\_\_\_\_

**UNTRENCHED INSTALLATION**

**ENTRENCHED INSTALLATION\***  
\*THIS APPLICATION MAY NOT BE USED WITH COMPOST SOCKS SMALLER THAN 12".

Compost Sock Design Diameter	COMPOST SOCK INITIAL FLOW RATES				
	8 Inch (200 mm)	12 Inch (300 mm)	18 Inch (450 mm)	24 Inch (600 mm)	32 Inch (750 mm)
Maximum Slope Length (<2%)	600 Feet (183 m)	750 Feet (229 m)	1,000 Feet (305 m)	1,300 Feet (396 m)	1,650 Feet (500 m)
Hydraulic Flow Through Rate	7.5 gpm/ft (94 l/m/m)	11.3 gpm/ft (141 l/m/m)	15.0 gpm/ft (188 l/m/m)	22.5 gpm/ft (281 l/m/m)	30.0 gpm/ft (374 l/m/m)

**MAINTENANCE:**

1. Inspect Silt sock/wattle weekly and after each rain of 1 inch or greater. Remove accumulated sediment and any debris as needed to allow for adequate flow.
2. If ponding becomes excessive, the silt sock/wattle may need to be replaced with a larger diameter or a different measure.
3. Reinstall if damaged or dislodged.
4. Silt socks/Wattles shall be inspected until land disturbance is complete and the area above the measure has been permanently stabilized.

**OTHER MATERIALS PROVIDING EQUIVALENT PROTECTION AGAINST EROSION VELOCITIES MAY BE SUBSTITUTED FOR USE IN SILT SOCKS OR WATTLES.**

1. Fill silt sock/wattle netting uniformly to the desired length such that logs do not deform.

2. Silt sock/Wattle should be installed parallel to and a minimum of 10 feet beyond the toe of a graded slope. Silt sock/Wattles located below flat areas should be located at the edge of the land disturbance. The ends of the silt sock/wattles should be turned slightly upslope to prevent runoff from going around the ends of the silt sock/wattles.

3. Oak or other durable hardwood stakes with a 2 inch x 2 inch cross section should be driven vertically plumb, through the center of the silt sock/wattle. Stakes should be placed at a maximum interval of 4 feet or a maximum interval of 8 feet if the silt sock/wattle is placed in a 4 inch trench.

4. In the event staking is not possible (ie. when silt socks/wattles are used on pavement) heavy concrete blocks shall be used behind the silt sock/wattle to hold it in place during runoff events.

**NORTH CAROLINA Environmental Quality**  
EFFECTIVE DATE: 11/12/2020

**SILT SOCK / WATTLE FOR PERIMETER AND INLET PROTECTION**  
NOT TO SCALE

FINAL DESIGN - NOT RELEASED FOR CONSTRUCTION

**REVISIONS:**  
APPROVED ADMINISTRATIVE MODIFICATION 3/10/2022

**CLIENT INFORMATION:**  
CIP CONSTRUCTION COMPANY  
201 NORTH ELM STREET, STE. 201  
GREENSBORO, NC 27401

**PARAMOUNT ENGINEERING, INC.**  
122 Cinema Drive  
Wilmington, North Carolina 28403  
(910) 791-6707 (O) (910) 791-6760 (F)  
N.C. License #: C-2846

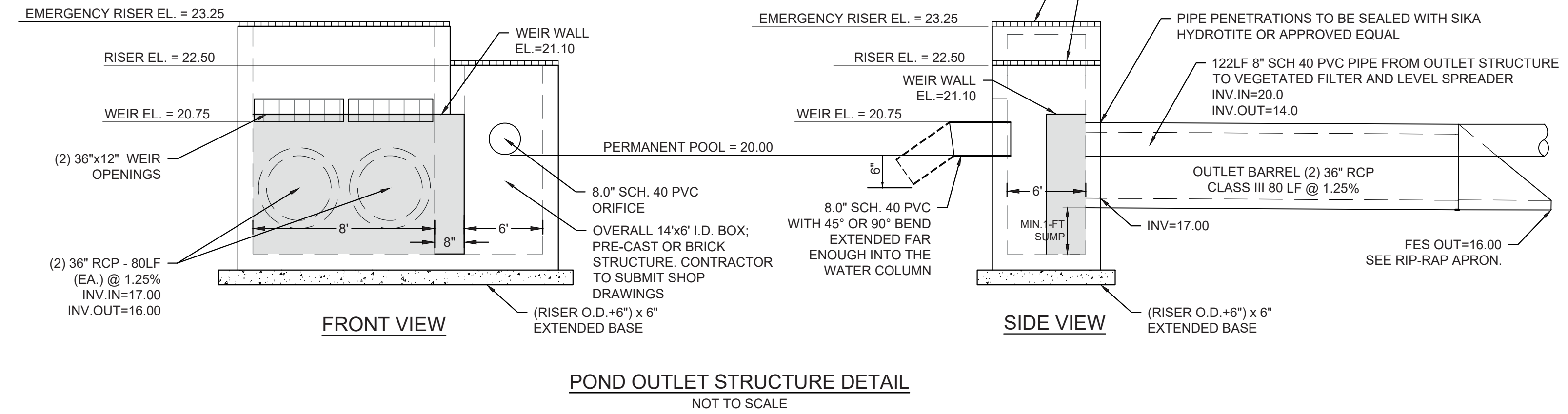
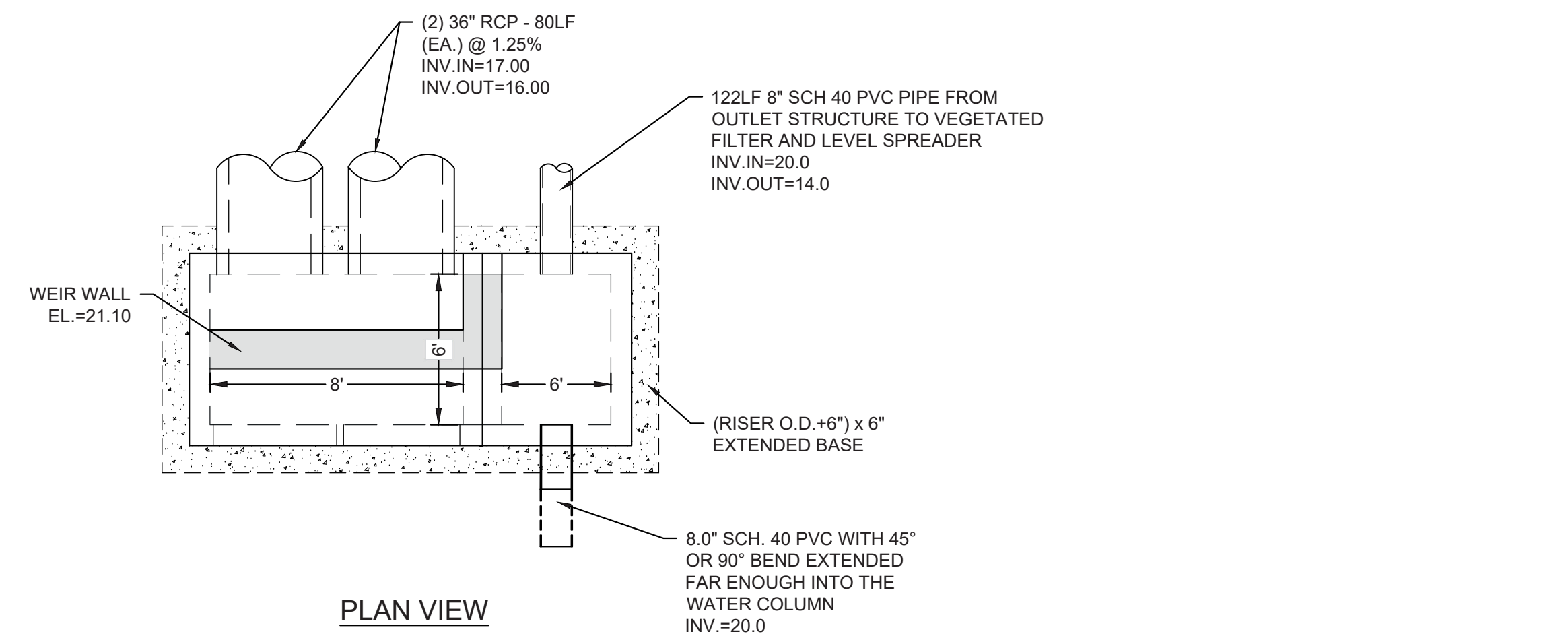
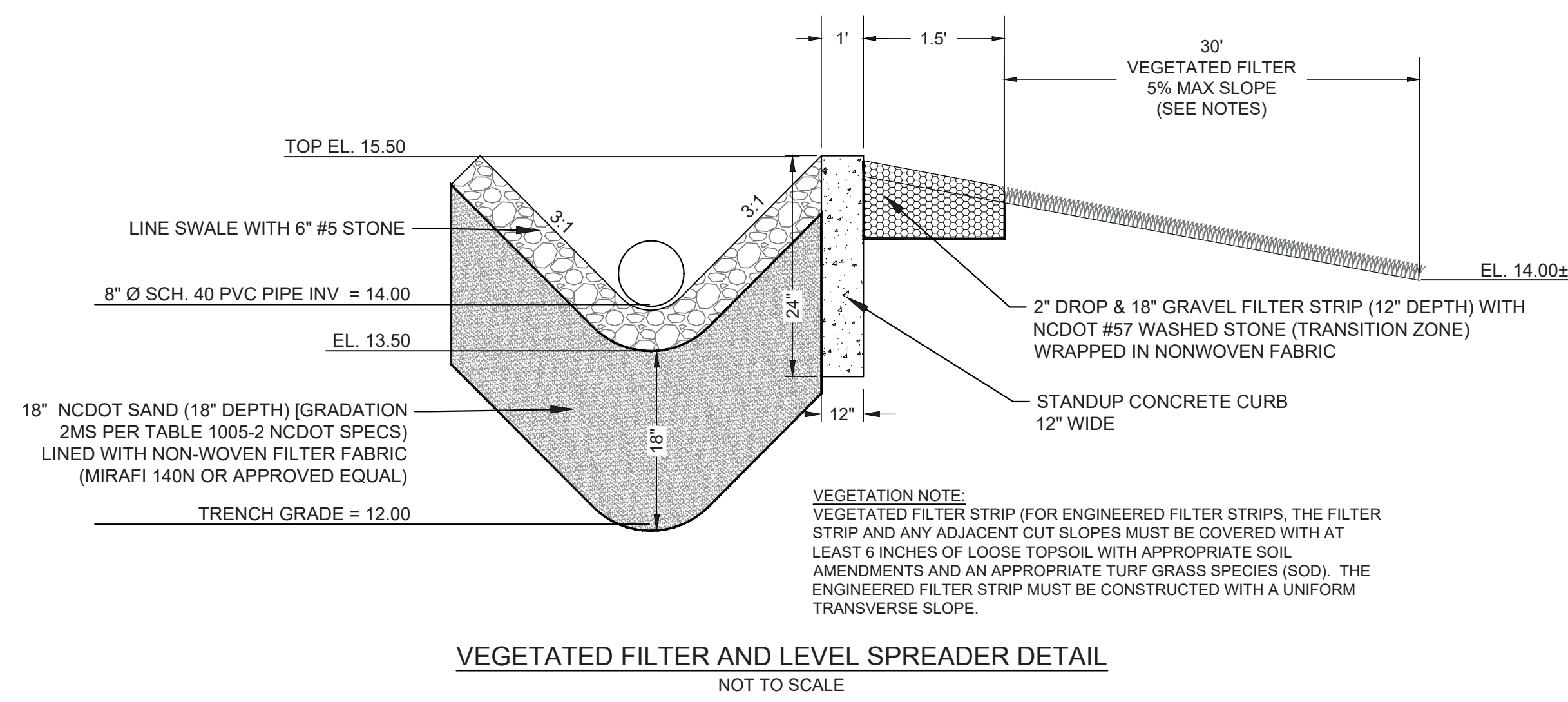
**PROJECT STATUS:**  
ORIGINAL LAYOUT: \_\_\_\_\_  
FINAL DESIGN LAYOUT: \_\_\_\_\_  
RELEASED FOR CONSTRUCTION: \_\_\_\_\_

**DRAWING INFORMATION:**  
DATE: 06/23/23  
SCALE: N.T.S.  
DRAWING: ASB  
CHECKED: RPE

**SEAL:**  
NORTH CAROLINA PROFESSIONAL ENGINEER  
SEAL # 031591  
RICHARD B. SULLIVAN  
06/23/23

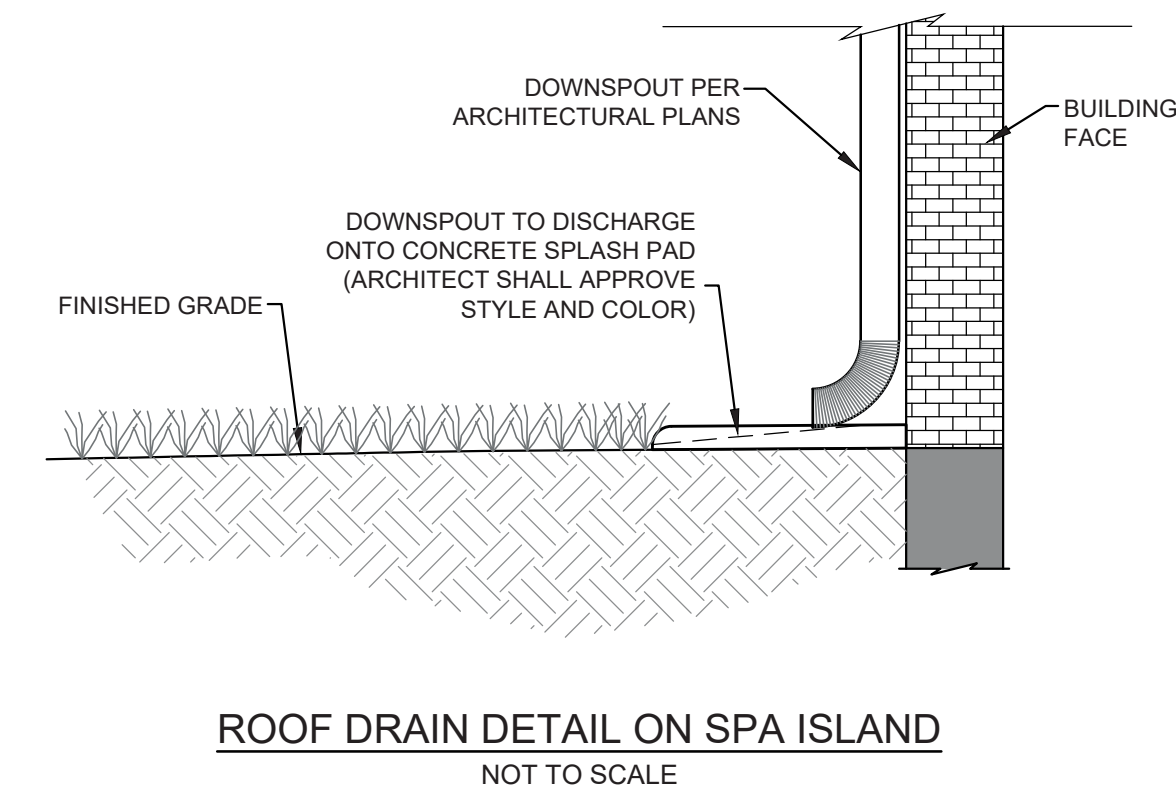
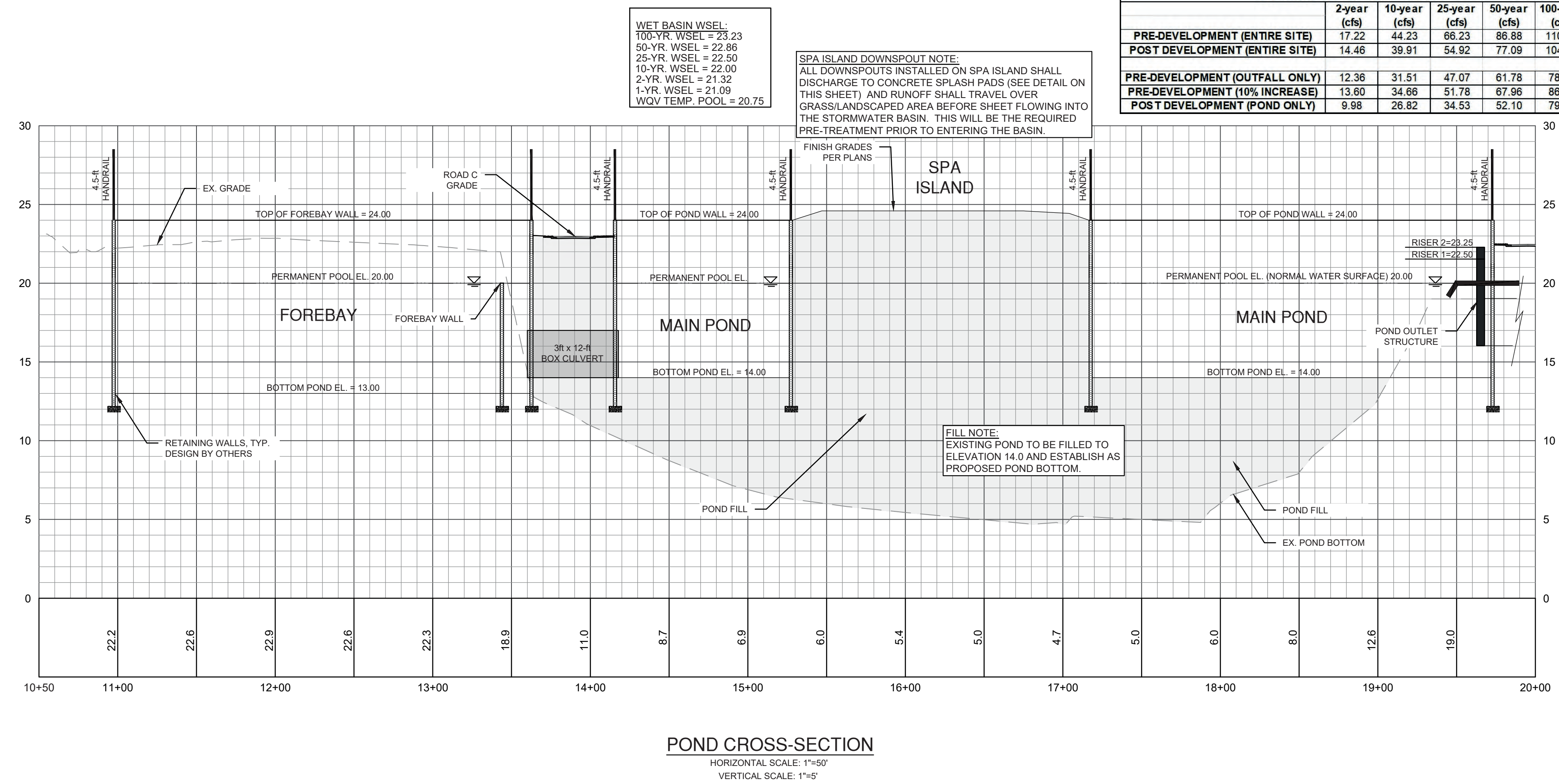
**C-6.2**  
PEI JOB#: 18473.PE





**PRE-POST ATTENUATION SUMMARY**

	2-year (cfs)	10-year (cfs)	25-year (cfs)	50-year (cfs)	100-year (cfs)
PRE-DEVELOPMENT (ENTIRE SITE)	17.22	44.23	66.23	86.88	110.86
POST DEVELOPMENT (ENTIRE SITE)	14.46	39.91	54.92	77.09	104.54
PRE-DEVELOPMENT (OUTFALL ONLY)	12.36	31.51	47.07	61.78	78.73
PRE-DEVELOPMENT (10% INCREASE)	13.60	34.66	51.78	67.96	86.60
POST DEVELOPMENT (POND ONLY)	9.98	26.82	34.53	52.10	78.67



**REVISIONS:**  
3/10/2022  
APPROVED ADMINISTRATIVE MODIFICATION

**CLIENT INFORMATION:**  
CIP CONSTRUCTION COMPANY  
201 NORTH ELM STREET, STE. 201  
GREENSBORO, NC 27401

**PARAMOUNT ENGINEERING, INC.**  
122 Cinema Drive  
Wilmington, North Carolina 28403  
(910) 791-6707 (O) (910) 791-6760 (F)  
N.C. License #: C-2846

**DETAILS**  
CARROLL AT THE AVENUE  
MILITARY CUTOFF RD.  
WILMINGTON, NC 28405

**PROJECT STATUS:**  
ORIGINAL LAYOUT:  
FINAL DESIGN LAYOUT:  
RELEASED FOR CONCT:

**DRAWING INFORMATION:**  
DATE: 06/23/23  
SCALE: N.T.S.  
DRAWN: ASB  
CHECKED: RPE

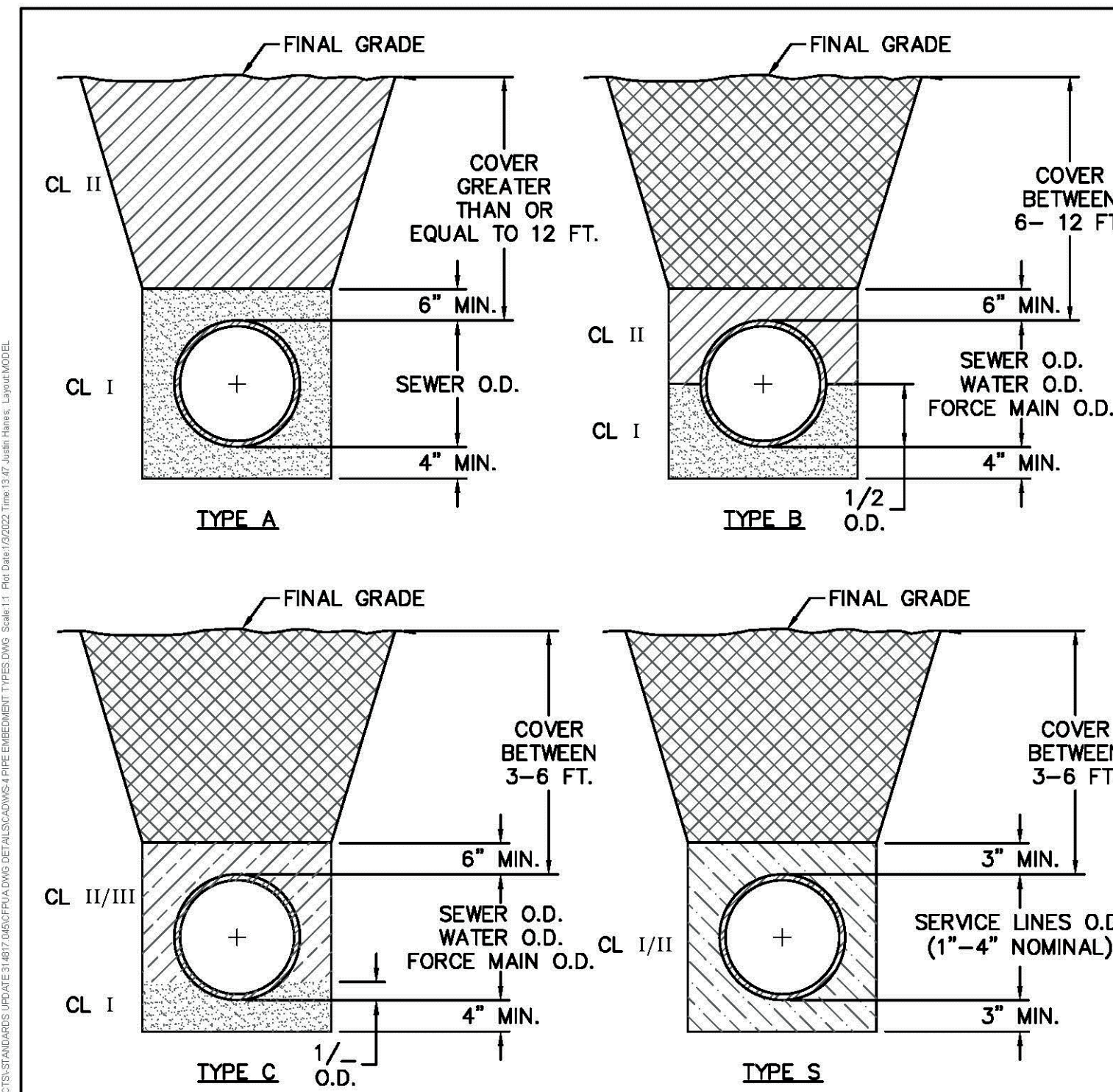
**SEAL:**  
NORTH CAROLINA PROFESSIONAL ENGINEER  
SEAL  
031591  
ROBERT S. SKILLAND  
06/23/23

**C-6.3**  
PEI JOB#: 18473.PE

FINAL DESIGN - NOT RELEASED FOR CONSTRUCTION

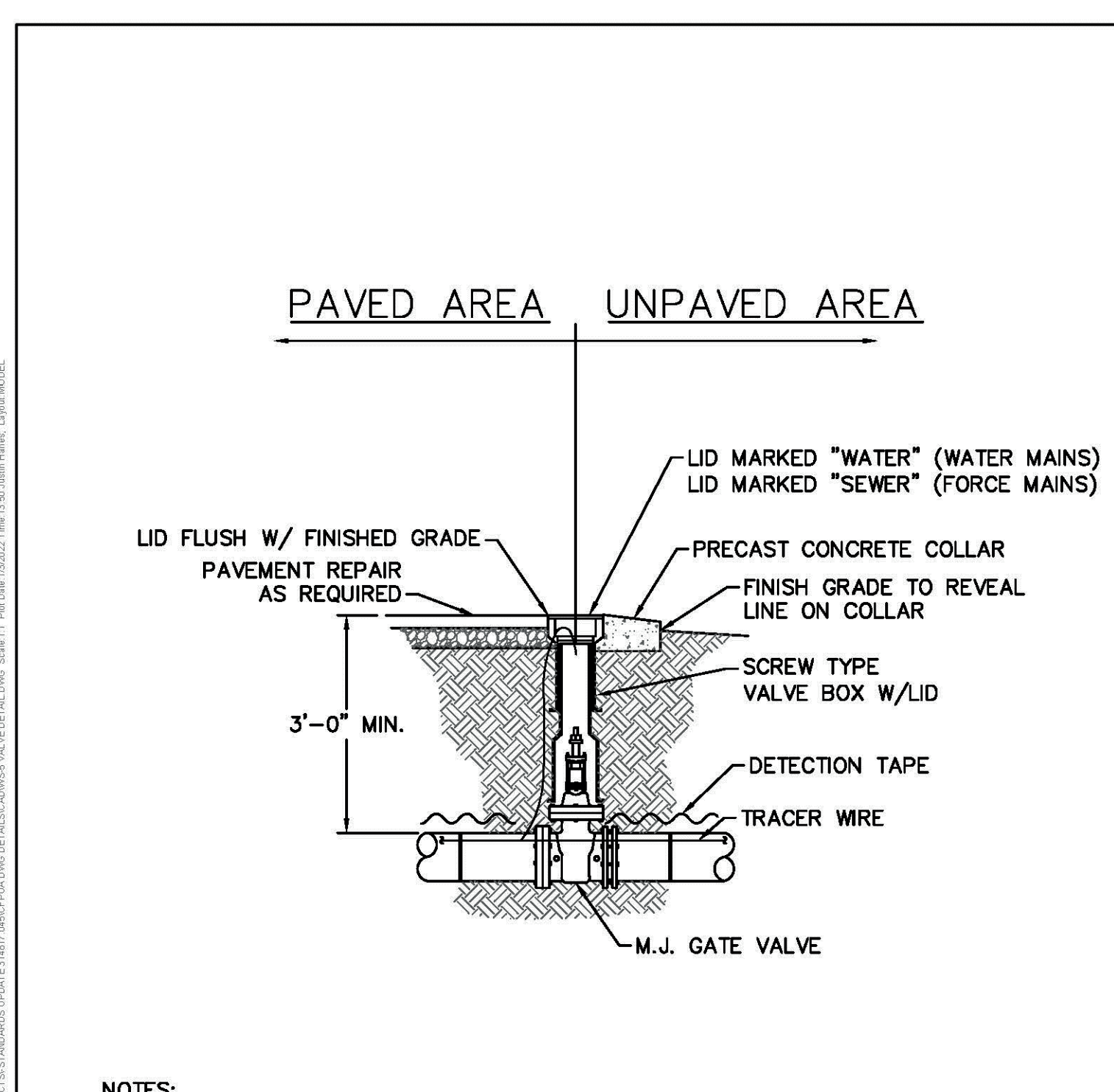






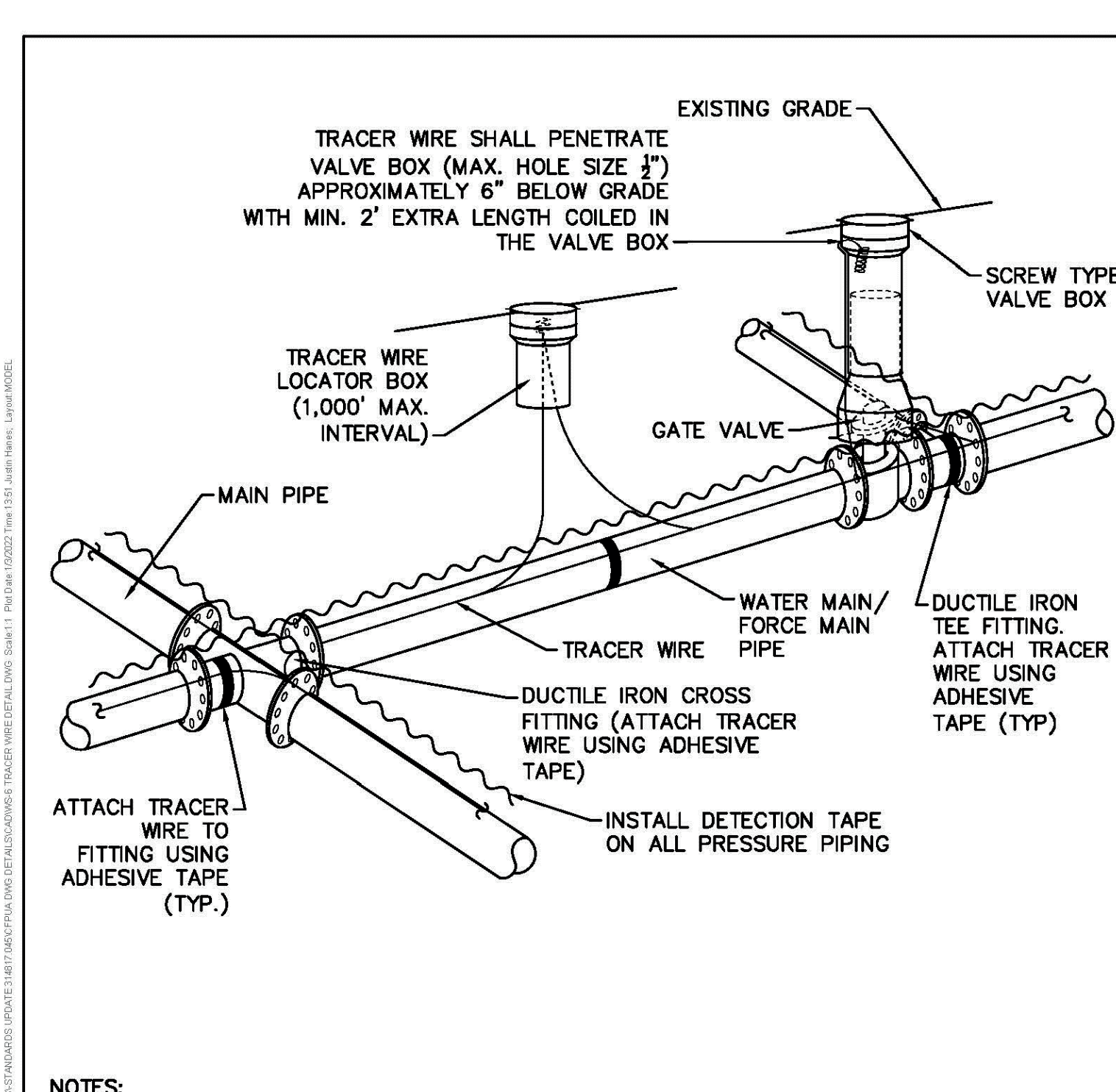
- COMPACTION NOTES:**
1. ALL ZONES: 95% STD EFFORT PER ASTM D698, EXCEPT AS STATED IN COMPACTION NOTE 2.
  2. 12" SUBGRADE UNDER PAVEMENT: 98% STD EFFORT PER ASTM D698.
  3. BEDDING REQUIREMENTS FOR SEWER FORCE MAINS AND WATER MAINS WITHIN TYPE A THROUGH TYPE S CONDITIONS, SHALL BE FOLLOWED IF IT HAS BEEN DETERMINED THAT UNSUITABLE SOILS EXIST WITHIN THE EXCAVATED TRENCH. OTHERWISE BEDDING FOR SEWER FORCE MAINS AND WATER MAINS MAY BE CLASS I OR CLASS II.

DETAIL: PIPE EMBEDMENT TYPES	CAPE FEAR PUBLIC UTILITY AUTHORITY 235 GOVERNMENT CENTER DRIVE WILMINGTON, NC 28403 OFFICE: (910)332-6560	DETAIL NO: <b>WS-4</b>
SCALE: NOT TO SCALE	CFPUA DETAIL DATE: 01/01/2022	SHEET NO: -



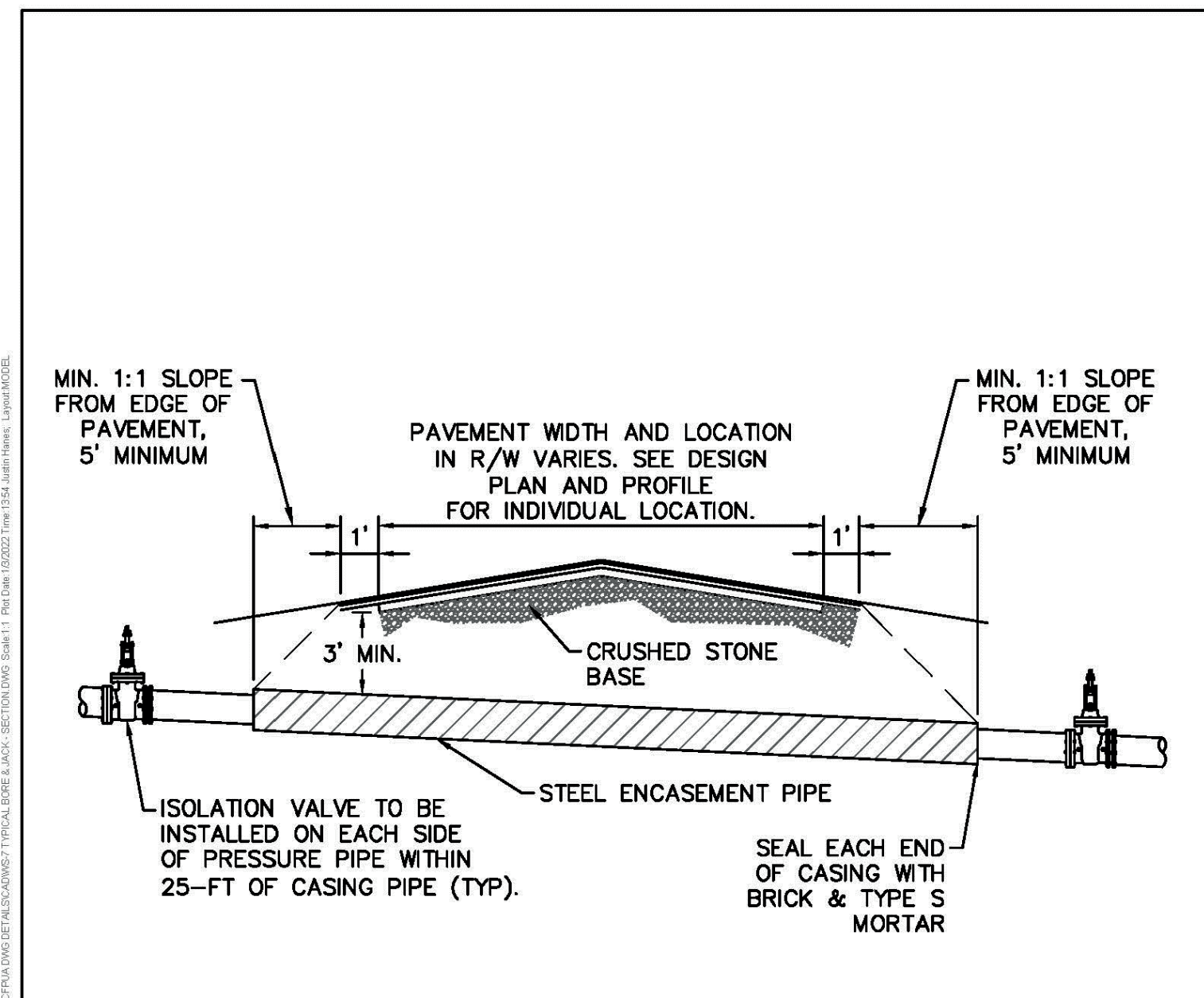
- NOTES:**
1. TRACER WIRE SHALL PENETRATE VALVE BOX THROUGH DRILLED HOLE APPROX. 6" BELOW GRADE WITH MINIMUM 2'-FEET EXTRA LENGTH COILED IN THE VALVE BOX. SEE WS-6.

DETAIL: VALVE DETAIL	CAPE FEAR PUBLIC UTILITY AUTHORITY 235 GOVERNMENT CENTER DRIVE WILMINGTON, NC 28403 OFFICE: (910)332-6560	DETAIL NO: <b>WS-5</b>
SCALE: NOT TO SCALE	CFPUA DETAIL DATE: 01/01/2022	SHEET NO: -



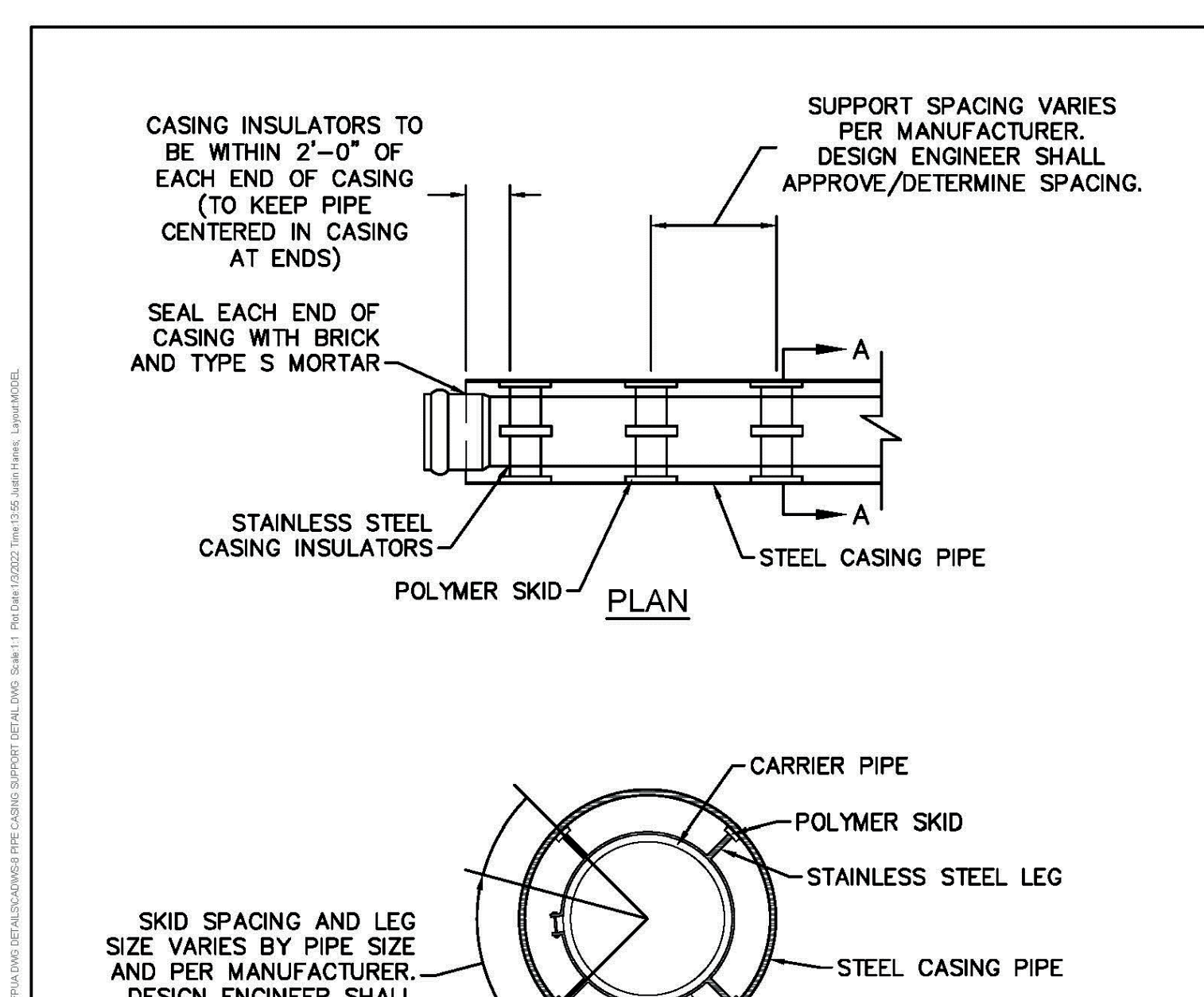
- NOTES:**
1. TRACER WIRE SHALL BE INSTALLED PER THE CFPWA MSM.
  2. WIRE SHALL BE STRAPPED TO ALL PVC PIPING WITH ADHESIVE TAPE AT 12 FOOT INTERVALS.
  3. SECURE WIRE TO ALL TEE AND CROSS FITTINGS WITH ADHESIVE TAPE.
  4. ALL SPLICES IN THE WIRE SHALL BE MADE WITH 3M DBR DIRECT BURY SPLICE KITS.

DETAIL: TRACER WIRE DETAIL	CAPE FEAR PUBLIC UTILITY AUTHORITY 235 GOVERNMENT CENTER DRIVE WILMINGTON, NC 28403 OFFICE: (910)332-6560	DETAIL NO: <b>WS-6</b>
SCALE: NOT TO SCALE	CFPUA DETAIL DATE: 01/01/2022	SHEET NO: -



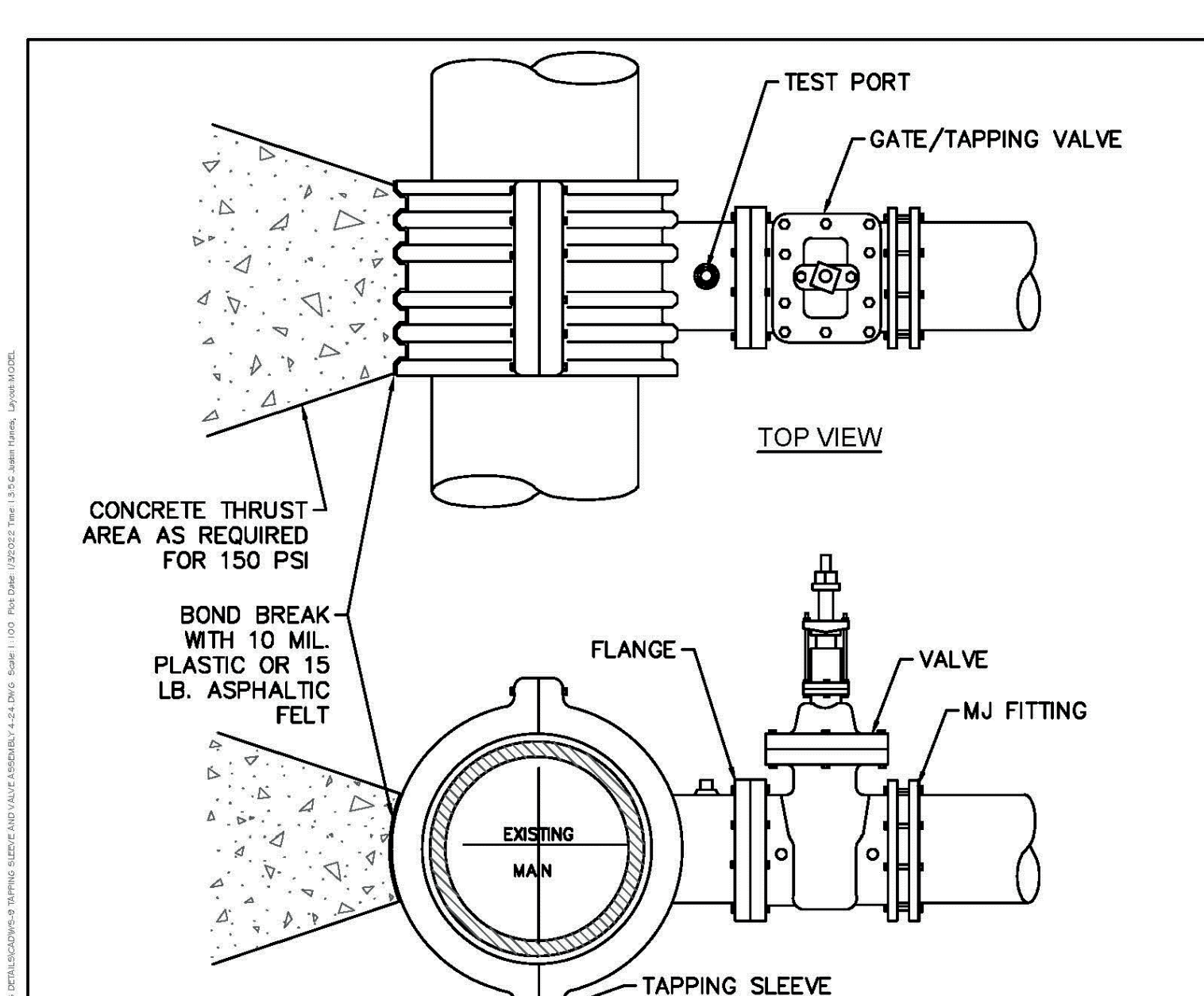
- NOTES:**
1. CASING WILL BE INSTALLED AT LINE AND GRADE SHOWN ON INDIVIDUAL PROFILE FOR EACH CROSSING. BORING/JACKING TO LINE AND GRADE IS REQUIRED.
  2. TRACER WIRE SHALL BE TAPED AT 12' INTERVALS THROUGHOUT THE CASING.
  3. PRESSURE AND NON-PRESSURE PIPING THROUGH CASING SHALL BE RESTRAINED JOINT.
  4. SEE DETAIL WS-8 FOR PIPE CASING SUPPORT DETAILS.

DETAIL: TYPICAL BORING & JACKING DETAIL	CAPE FEAR PUBLIC UTILITY AUTHORITY 235 GOVERNMENT CENTER DRIVE WILMINGTON, NC 28403 OFFICE: (910)332-6560	DETAIL NO: <b>WS-7</b>
SCALE: NOT TO SCALE	CFPUA DETAIL DATE: 01/01/2022	SHEET NO: -



- NOTES:**
1. PIPE SUPPORTS TO BE PLACED TO PROVIDE PROPER SPACING, ALIGNMENT, AND GRADE AS SPECIFIED. OIL, GREASE, OR PETROLEUM PRODUCT MAY NOT BE USED AS LUBRICANT.

DETAIL: PIPE CASING SUPPORT DETAIL	CAPE FEAR PUBLIC UTILITY AUTHORITY 235 GOVERNMENT CENTER DRIVE WILMINGTON, NC 28403 OFFICE: (910)332-6560	DETAIL NO: <b>WS-8</b>
SCALE: NOT TO SCALE	CFPUA DETAIL DATE: 01/01/2022	SHEET NO: -

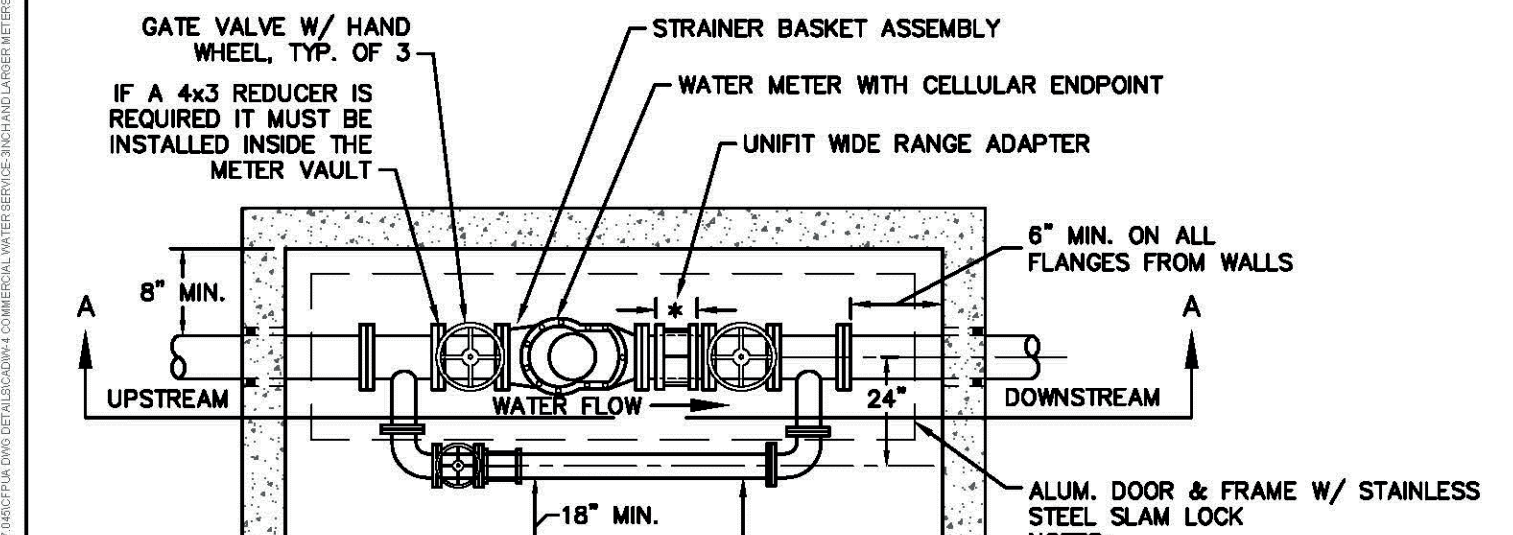
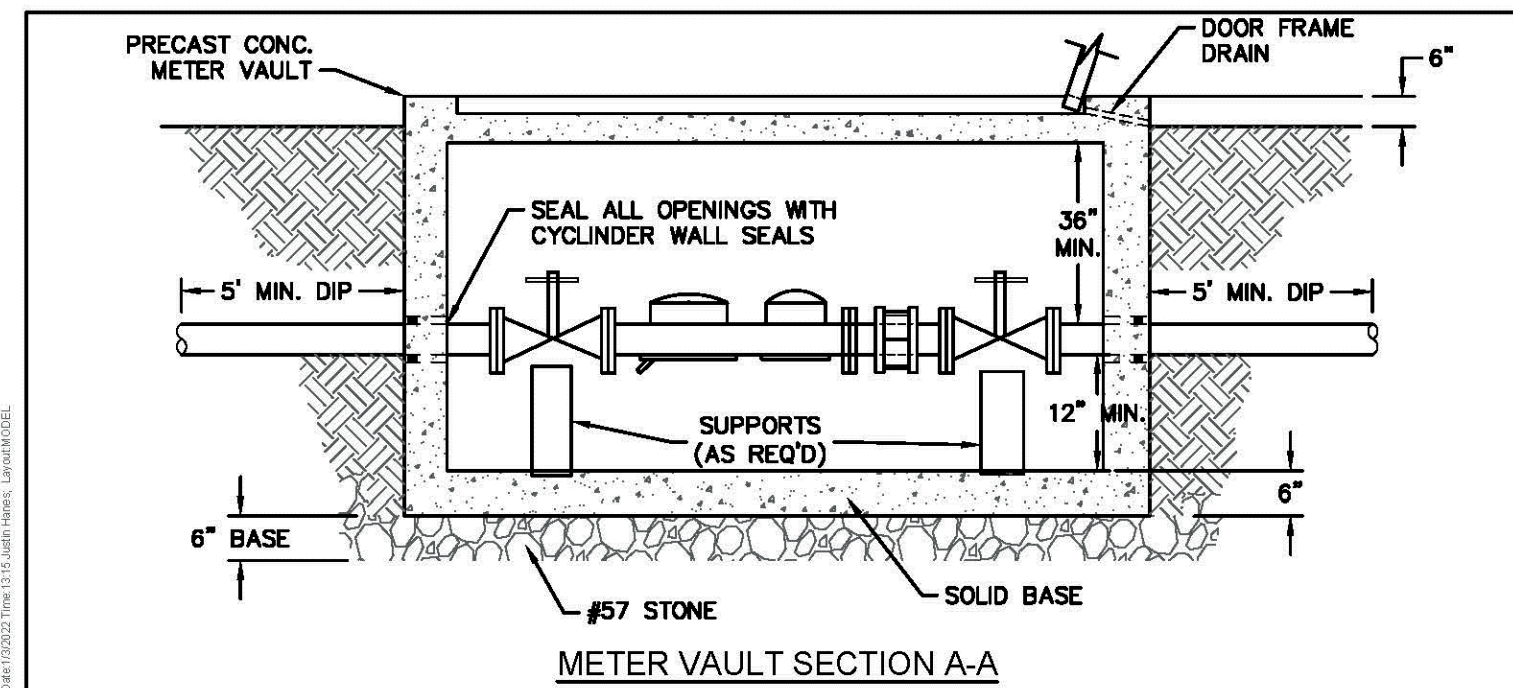


- NOTES:**
1. CONCRETE SHALL NOT CONTACT BOLTS OR ENDS OF MECHANICAL JOINT FITTINGS. PIPE & FITTING TO BE WRAPPED IN 10 MIL. PLASTIC OR 15 LB. ASPHALTIC FELT PRIOR TO THRUST BLOCK BEING POURED.
  2. TEST PRESSURE SHALL NOT BE APPLIED FOR A MINIMUM OF 7 DAYS AFTER THRUST BLOCK PLACEMENT.
  3. BRANCH SHALL NOT EQUAL RUN DIAMETER UNLESS APPROVED BY CFPWA ENGINEERING.

DETAIL: TAPPING SLEEVE AND VALVE ASSEMBLY (4"-24")	CAPE FEAR PUBLIC UTILITY AUTHORITY 235 GOVERNMENT CENTER DRIVE WILMINGTON, NC 28403 OFFICE: (910)332-6560	DETAIL NO: <b>WS-9</b>
SCALE: NOT TO SCALE	CFPUA DETAIL DATE: 01/01/2022	SHEET NO: -

FINAL DESIGN - NOT RELEASED FOR CONSTRUCTION

REVISIONS: APPROVED ADMINISTRATIVE MODIFICATION	CLIENT INFORMATION: CIP CONSTRUCTION COMPANY 201 NORTH ELM STREET, STE. 201 GREENSBORO, NC 27401
PROJECT STATUS: ORIGINAL LAYOUT: FINAL DESIGN: RELEASED FOR CONSTRUCTION	DETAILS CARROLL AT THE AVENUE MILITARY CUTOFF RD. WILMINGTON, NC 28405
DRAWING INFORMATION: DATE: 06/23/23 SCALE: N.T.S. DRAWN BY: ASR CHECKED: RBE	PROFESSIONAL SEAL: NORTH CAROLINA REGISTERED PROFESSIONAL ENGINEER 031591 06/23/23
PEI JOB#: 18473.PE	C-6.6

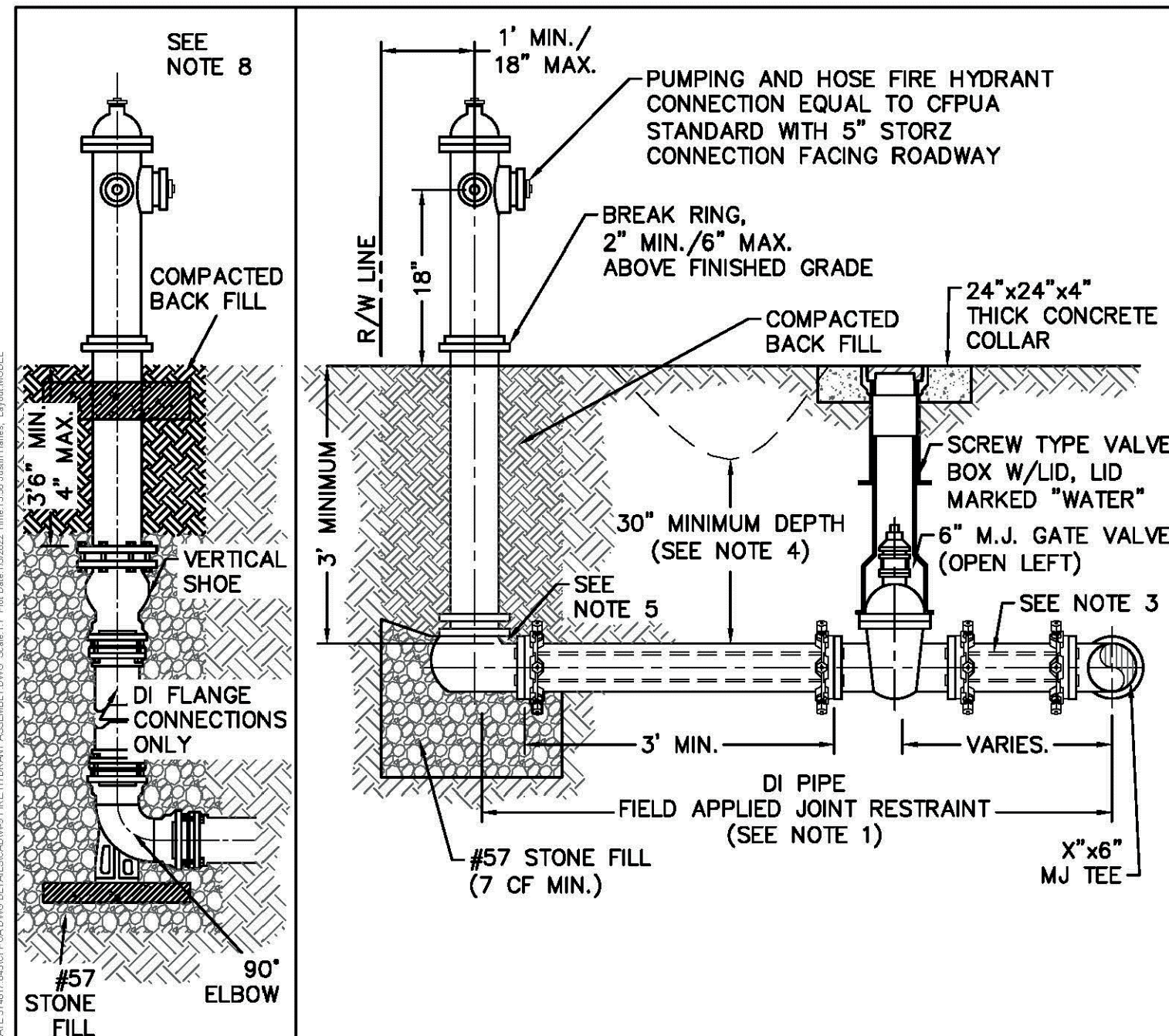


REFER TO MSM FOR SPECIFICATIONS RELATED TO WATER METER, STRAINER AND CELLULAR ENDPOINT

\* UNI-FIT WIDE RANGE ADAPTER IS BOLTED DIRECTLY TO METER, ONLY ONE PERFLG PIECE THAT IS 3 TIMES THE PIPE DIAMETER.

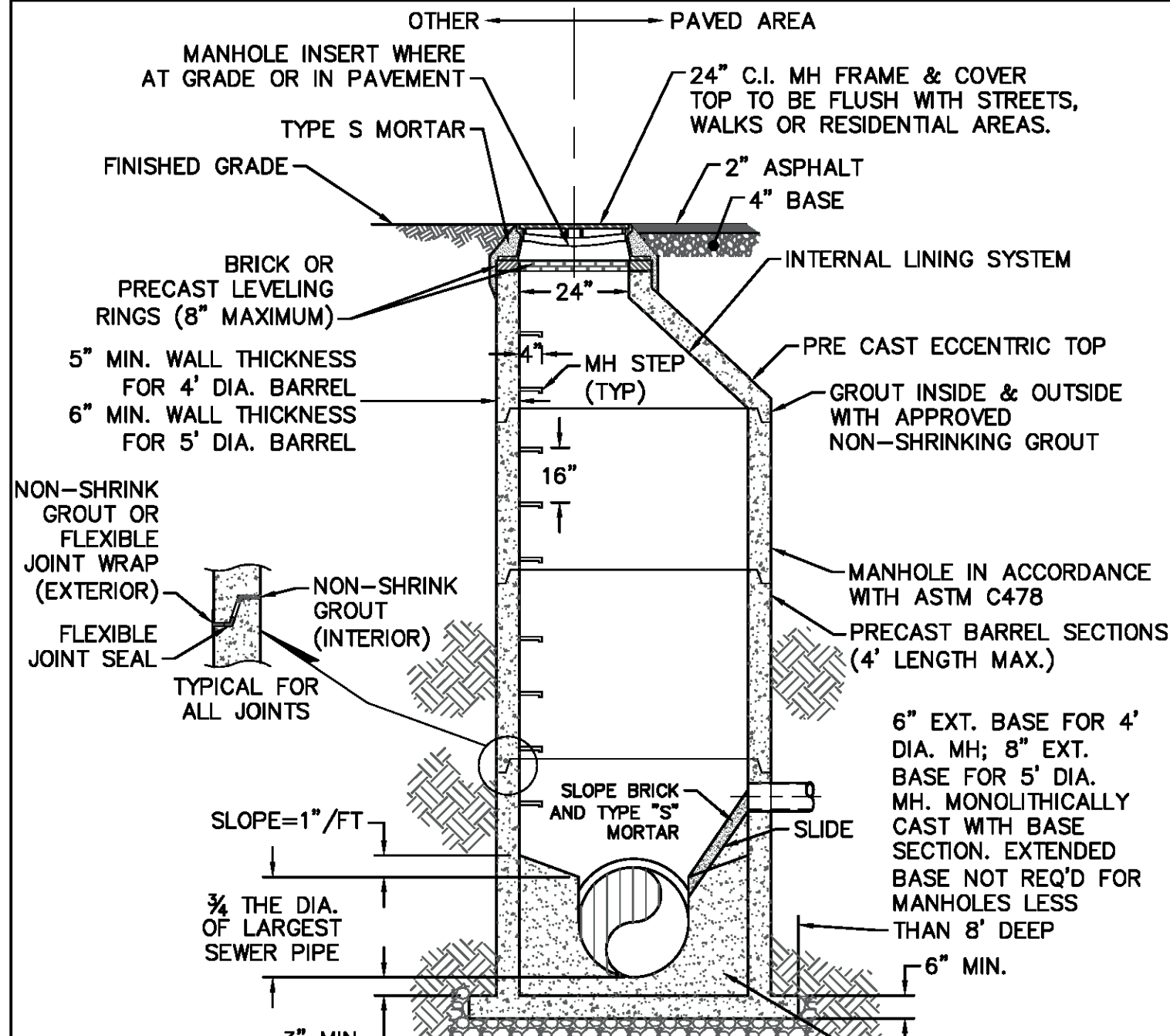
Meter Size	By-Pass Size
3"	4"
4"	4"
6"	4"
8"	4"
10"	6"
12"	8"

DETAIL: <b>COMMERCIAL WATER SERVICE - 3-INCH AND LARGER METERS</b> SCALE: NOT TO SCALE CFP/UA DETAIL DATE: 01/01/2022	CAPE FEAR PUBLIC UTILITY AUTHORITY 235 GOVERNMENT CENTER DRIVE WILMINGTON, NC 28403 OFFICE: (910)332-6560 Stewardship, Sustainability, Service.	DETAIL NO: <b>W-4</b> SHEET NO: -
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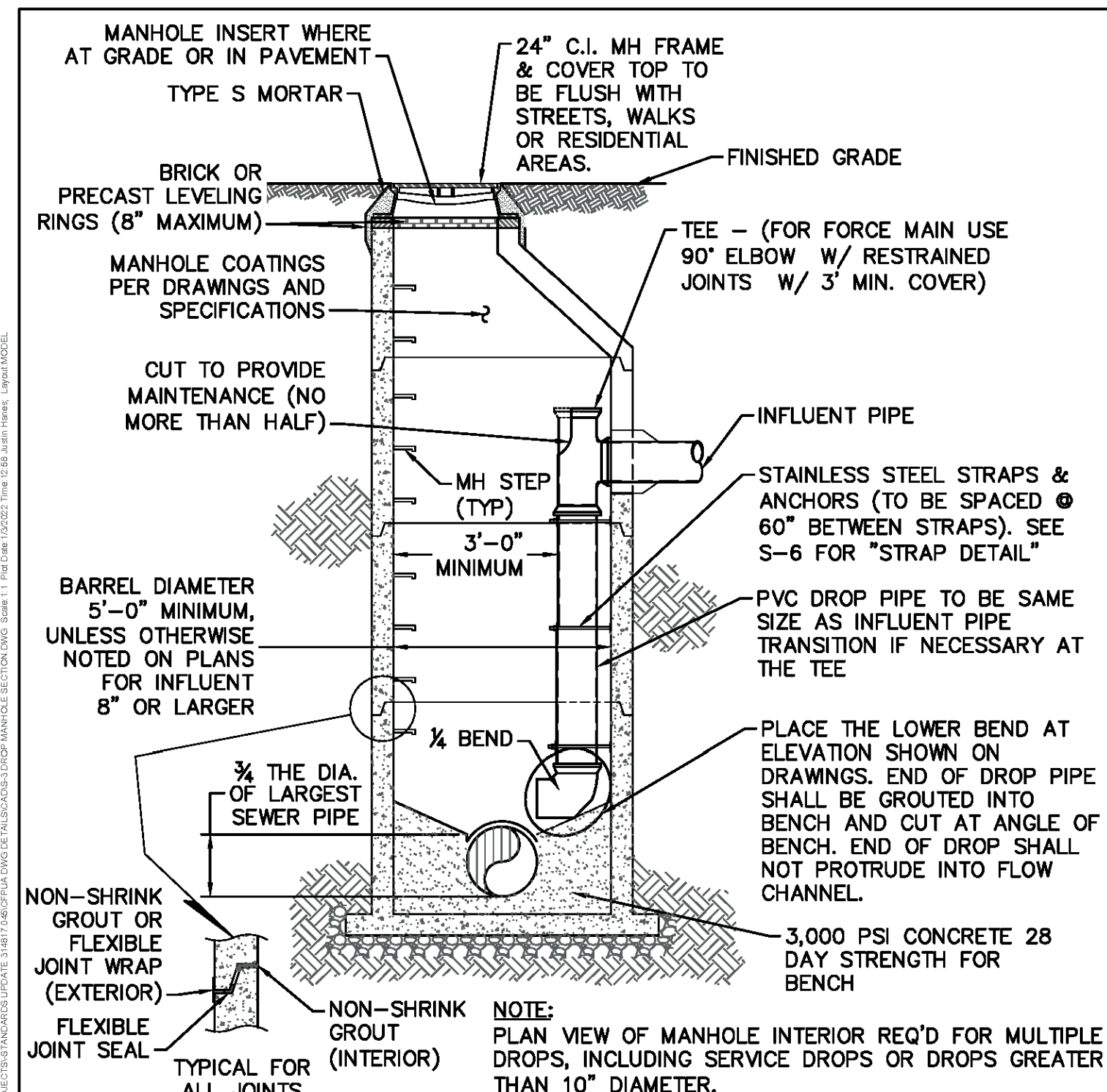
- NOTES**
1. JOINT RESTRAINT SYSTEMS SHALL BE WEDGE ACTION STYLE FOR DI.
  2. WHEN HYDRANT LEGS REQUIRE FULL LENGTH PIPE SECTIONS, OVER BELL RESTRAINT SYSTEM SHALL HAVE 316 STAINLESS STEEL HARNESS AND FASTENERS.
  3. CONTINUOUS 316 STAINLESS STEEL RODS (TEE TO VALVE AND VALVE TO HYDRANT) MAY BE USED WITH COR-BLUE MJ T-BOLT AND GASKET KITS, AS AN ALTERNATIVE.
  4. HYDRANT AND VALVE SHALL BE PLACED OUTSIDE DITCH LIMITS.
  5. WEEP HOLES OPEN AND UNBLOCKED TO DRAIN.
  6. MJ TEE SHALL BE RESTRAINED ON EACH SIDE OF MAIN PLUS MAIN VALVES, FITTING, OR JOINTS WITHIN 10- FEET OF MJ TEE.
  7. TRACING WIRE SHALL EXTEND ALONG HYDRANT LATERAL AND UP TO FINISHED GRADE WITH 2- FEET EXTENDED ABOVE THE BREAK RING OF HYDRANT.
  8. HYDRANT TO UTILIZE A VERTICAL SHOE WHEN INSTALLED 5' IN DEPTH OR GREATER.

DETAIL: <b>FIRE HYDRANT ASSEMBLY</b> SCALE: NOT TO SCALE CFP/UA DETAIL DATE: 01/01/2022	CAPE FEAR PUBLIC UTILITY AUTHORITY 235 GOVERNMENT CENTER DRIVE WILMINGTON, NC 28403 OFFICE: (910)332-6560 Stewardship, Sustainability, Service.	DETAIL NO: <b>W-9</b> SHEET NO: -
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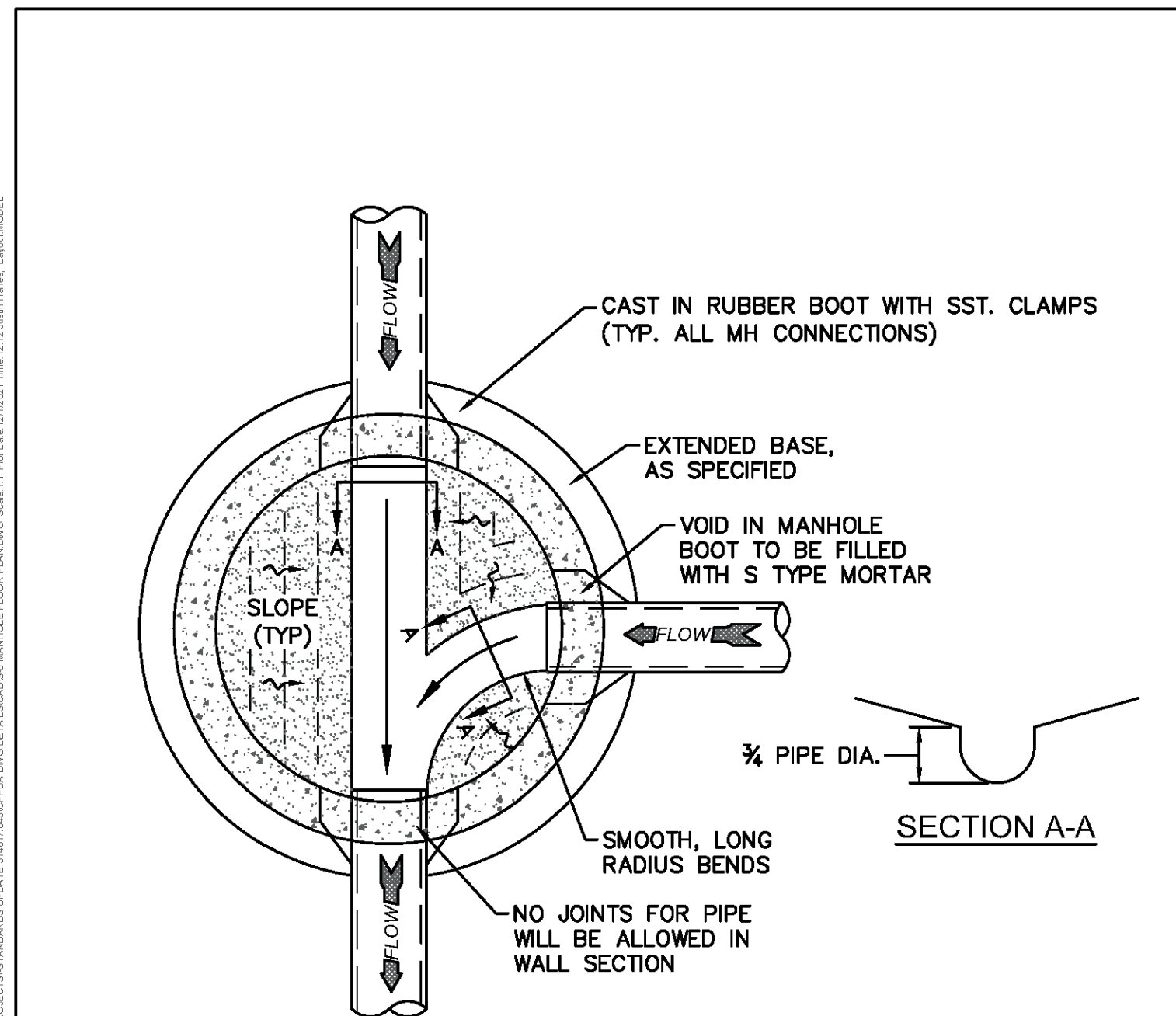
- NOTES**
1. FOR MANHOLES UP TO 12 FEET IN DEPTH MINIMUM BARREL DIAMETER SHALL BE 4 FEET. MANHOLES GREATER THAN 12 FEET IN DEPTH SHALL BE A MINIMUM OF 5 FEET IN DIAMETER.
  2. PROVIDE A MINIMUM DISTANCE OF SIX (6) INCHES BETWEEN EDGE OF MANHOLE CORE HOLES AND MANHOLE BARREL JOINTS. PROVIDE A MINIMUM OF SIX (6) INCHES BETWEEN EDGES OF CORE HOLES. CORING THE MANHOLE CONE IS NOT ALLOWED.
  3. ALL MANHOLE MAIN LINE AND SERVICE PIPING TO BE INSTALLED AT A MINIMUM OF CROWN TO CROWN OF THE LARGEST DIAMETER PIPE.
- FOR LESS THAN 30" INSIDE DROP

DETAIL: <b>PRECAST CONCRETE MANHOLE SECTION - ECCENTRIC CONE</b> SCALE: NOT TO SCALE CFP/UA DETAIL DATE: 01/01/2022	CAPE FEAR PUBLIC UTILITY AUTHORITY 235 GOVERNMENT CENTER DRIVE WILMINGTON, NC 28403 OFFICE: (910)332-6560 Stewardship, Sustainability, Service.	DETAIL NO: <b>S-1</b> SHEET NO: -
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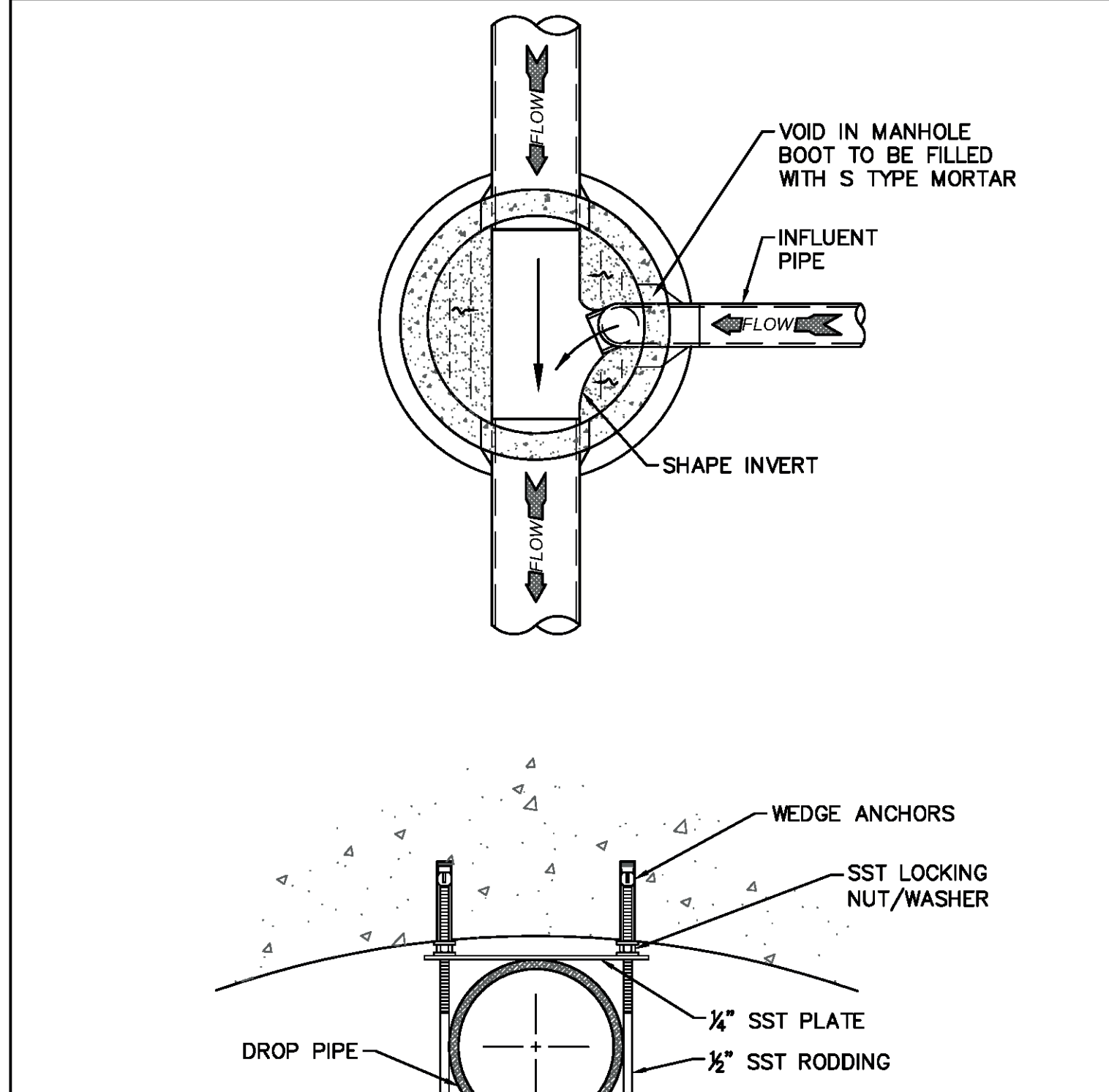
- NOTES**
1. PROVIDE A MINIMUM DISTANCE OF SIX (6) INCHES BETWEEN EDGE OF MANHOLE CORE HOLES AND MANHOLE BARREL JOINTS. PROVIDE A MINIMUM OF SIX (6) INCHES BETWEEN EDGES OF CORE HOLES. CORING THE MANHOLE CONE IS NOT ALLOWED.
  2. ALL MANHOLE MAIN LINE AND SERVICE PIPING TO BE INSTALLED AT A MINIMUM OF CROWN TO CROWN OF THE LARGEST DIAMETER PIPE.
- FOR MORE THAN 30" INSIDE DROP

DETAIL: <b>DROP MANHOLE SECTION</b> SCALE: NOT TO SCALE CFP/UA DETAIL DATE: 01/01/2022	CAPE FEAR PUBLIC UTILITY AUTHORITY 235 GOVERNMENT CENTER DRIVE WILMINGTON, NC 28403 OFFICE: (910)332-6560 Stewardship, Sustainability, Service.	DETAIL NO: <b>S-3</b> SHEET NO: -
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- NOTES**
1. PROVIDE A MINIMUM DISTANCE OF SIX (6) INCHES BETWEEN EDGE OF MANHOLE CORE HOLES AND MANHOLE BARREL JOINTS. PROVIDE A MINIMUM OF SIX (6) INCHES BETWEEN EDGES OF CORE HOLES. CORING THE MANHOLE CONE IS NOT ALLOWED.
  2. ALL MANHOLE MAIN LINE AND SERVICE PIPING TO BE INSTALLED AT A MINIMUM OF CROWN TO CROWN OF THE LARGEST DIAMETER PIPE.

DETAIL: <b>MANHOLE FLOOR PLAN</b> SCALE: NOT TO SCALE CFP/UA DETAIL DATE: 01/01/2022	CAPE FEAR PUBLIC UTILITY AUTHORITY 235 GOVERNMENT CENTER DRIVE WILMINGTON, NC 28403 OFFICE: (910)332-6560 Stewardship, Sustainability, Service.	DETAIL NO: <b>S-5</b> SHEET NO: -
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- NOTES**
1. PROVIDE A MINIMUM DISTANCE OF SIX (6) INCHES BETWEEN EDGE OF MANHOLE CORE HOLES AND MANHOLE BARREL JOINTS. PROVIDE A MINIMUM OF SIX (6) INCHES BETWEEN EDGES OF CORE HOLES. CORING THE MANHOLE CONE IS NOT ALLOWED.
  2. ALL MANHOLE MAIN LINE AND SERVICE PIPING TO BE INSTALLED AT A MINIMUM OF CROWN TO CROWN OF THE LARGEST DIAMETER PIPE.

DETAIL: <b>DROP MANHOLE FLOOR PLAN AND STRAP DETAIL</b> SCALE: NOT TO SCALE CFP/UA DETAIL DATE: 01/01/2022	CAPE FEAR PUBLIC UTILITY AUTHORITY 235 GOVERNMENT CENTER DRIVE WILMINGTON, NC 28403 OFFICE: (910)332-6560 Stewardship, Sustainability, Service.	DETAIL NO: <b>S-6</b> SHEET NO: -
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FINAL DESIGN - NOT RELEASED FOR CONSTRUCTION

REVISIONS:  
APPROVED ADMINISTRATIVE MODIFICATION

CLIENT INFORMATION:  
CIP CONSTRUCTION COMPANY  
201 NORTH ELM STREET, STE. 201  
GREENSBORO, NC 27401

PARAMOUNT ENGINEERING, INC.  
122 Cinema Drive  
Wilmington, North Carolina 28403  
(910) 791-6707 (O) (910) 791-6700 (F)  
NC License #: C-2846

DETAILS  
CARROLL AT THE AVENUE  
MILITARY CUTOFF RD.  
WILMINGTON, NC 28405

PROJECT STATUS  
CONCEPTUAL LAYOUT:  
FINAL DESIGN:  
RELEASED FOR CONSTRUCTION:  
DATE: 06/23/23  
SCALE: N.T.S.  
DRAWING INFORMATION  
DRAWING NO: 031591  
CHECKED: ASB

PEI JOB#: 18473.PE

**18" MIN. 10" & SMALLER PIPE**  
SECTION X-X  
BENDS & TEES

EXISTING GROUND  
PLAN BENDS  
PLAN TEES

SIZE	90 BENDS		45 BENDS		22-1/2 BENDS		TEES/PLUGS		45 VERT. BENDS
	A	B	A	B	A	B	A	B	
3"	8"	6"	5"	6"	3"	7"	6"	8"	27"
4"	8"	9"	5"	8"	3"	11"	6"	9"	28"
6"	14"	11"	9"	9"	8"	8"	12"	9"	36"
8"	16"	16"	12"	12"	10"	13"	14"	13"	42"
10"	18"	22"	15"	14"	14"	16"	18"	15"	50"
12"	20"	28"	18"	17"	16"	16"	22"	18"	62"
14"	26"	29"	21"	19"	18"	18"	26"	20"	72"
16"	33"	29"	25"	21"	20"	21"	32"	21"	83"
18"	40"	30"	28"	24"	22"	23"	36"	24"	88"

**NOTES:**  
1. THRUST BLOCKING IS NOT PERMITTED EXCEPT IN SPECIAL INSTALLATIONS WHERE DESIGNED BY ENGINEER AND APPROVED BY CFPUA.  
2. ALLOW 7-DAY MINIMUM CONCRETE CURE TIME BEFORE PLACING LOAD ON THRUST BLOCK  
3. BASED ON 150 PSI TEST PRESSURE AND 2,000 PSF SOIL BEARING CAPACITY.  
4. ALL BEARING SURFACES TO BE CARRIED TO UNDISTURBED GROUND.  
5. PIPE & FITTINGS TO BE WRAPPED IN 10 MIL PLASTIC PRIOR TO THRUST BLOCK BEING POURED.

DETAIL: THRUST BLOCK  
SCALE: NOT TO SCALE  
CFPUA DETAIL DATE: 01/01/2022

CAPE FEAR PUBLIC UTILITY AUTHORITY  
235 GOVERNMENT CENTER DRIVE  
WILMINGTON, NC 28403  
OFFICE: (910) 332-6560  
Stewardship, Sustainability, Service.

DETAIL NO: **WS-13**  
SHEET NO: -

**CAPE FEAR PUBLIC UTILITY AUTHORITY STANDARD NOTES:**

- ALL PROPOSED ADDITIONS TO THE CAPE FEAR PUBLIC UTILITY AUTHORITY (CFPUA) WATER DISTRIBUTION AND SANITARY SEWER COLLECTION SYSTEMS, AS SHOWN AND SPECIFIED HEREIN, SHALL BE DESIGNED AND CONSTRUCTED TO CONFORM TO STATE RULES AND THE CFPUA'S MINIMUM TECHNICAL STANDARDS. THE CFPUA MINIMUM TECHNICAL STANDARDS ARE CONTAINED IN THE CURRENT DESIGN GUIDANCE MANUAL, MATERIAL SPECIFICATION MANUAL, TECHNICAL SPECIFICATIONS FOR CONSTRUCTION, AND STANDARD DRAWING DETAILS.
- SEWER MANHOLE INSERTS REQUIRED AT ALL MANHOLES. STAINLESS STEEL MANHOLE INSERTS REQUIRED AT MANHOLES LOCATED IN TRAFFIC AREAS.
- WATER AND SEWER SERVICES SHALL BE PERPENDICULAR TO MAIN AND TERMINATE 18" INSIDE RIGHT-OF-WAY LINE. SEWER SERVICES IN CUL-DE-SACS ARE REQUIRED TO BE PERPENDICULAR, OR MUST ORIGINATE IN END OF LINE MANHOLE AND TERMINATE 18" INSIDE RIGHT-OF-WAY LINE.
- ALL SEWER SERVICES CONNECTING INTO DUCTILE IRON MAINS SHALL ALSO BE CONSTRUCTED OF DIP.
- MINIMUM 10' UTILITIES EASEMENT PROVIDED ALONG THE FRONTAGE OF ALL LOTS AND AS SHOWN FOR NEW DEVELOPMENTS.
- NO FLEXIBLE COUPLINGS SHALL BE USED.
- ALL STAINLESS STEEL FASTENERS SHALL BE TYPE 316.
- CLEANOUTS SHALL BE LOCATED A MINIMUM OF 6 FEET FROM ALL PROPERTY CORNERS.
- WATER METER BOXES ARE TO BE A MINIMUM OF 5 FEET FROM THE PROPERTY CORNER.
- UNUSED SERVICES SHALL BE ABANDONED. ABANDONED WATER SERVICES SHALL BE DISCONNECTED FROM MAIN.
- A MINIMUM OF 10' OF MAIN LINE, 5' UPSTREAM AND 5' DOWNSTREAM SHALL BE REPLACED FOR NEW SEWER SERVICE CONNECTIONS TO EXISTING CLAY GRAVITY SEWER MAINS.
- A MINIMUM OF 20' OF MAIN LINE, 10' UPSTREAM AND 10' DOWNSTREAM SHALL BE REPLACED FOR NEW CUT IN MANHOLES ON EXISTING CLAY GRAVITY SEWER MAINS.
- PROVIDE A MINIMUM DISTANCE OF SIX (6) INCHES BETWEEN EDGE OF MANHOLE CORE HOLES AND MANHOLE BARREL JOINTS. PROVIDE A MINIMUM DISTANCE OF SIX (6) INCHES BETWEEN EDGES OF CORE HOLES. CORING THE MANHOLE CONE IS NOT PERMITTED.
- WATER MAIN AND FORCE MAIN PIPE INSTALLED BY OPEN CUT SHALL BE BURIED AT A MINIMUM OF THREE (3) FEET AND A MAXIMUM OF FIVE (5) FEET BELOW FINISHED GRADE. DEPTHS GREATER THAN FIVE (5) FEET MUST BE APPROVED BY CFPUA.
- ALL MANHOLE MAIN LINE AND SERVICE PIPING TO BE INSTALLED AT A MINIMUM OF CROWN TO CROWN OF THE LARGEST DIAMETER PIPE.

DETAIL: STANDARD NOTES  
SCALE: NOT TO SCALE  
CFPUA DETAIL DATE: 01/01/2022

CAPE FEAR PUBLIC UTILITY AUTHORITY  
235 GOVERNMENT CENTER DRIVE  
WILMINGTON, NC 28403  
OFFICE: (910) 332-6560  
Stewardship, Sustainability, Service.

DETAIL NO: **WS-14**  
SHEET NO: -

FLOW  
SEWER MAIN  
WYE  
BEDDING (SEE WS-4)  
LATERAL  
TRENCH WIDTH  
PLAN

1'-6" MIN. SOLVENT WELD IF FIELD CUT OR (X") X 45 DEGREE SCH DWV SCH. 40 IPS PVC FITTING UTILIZING A 6" NIPPLE

4" OR 6" DIA. X 1/8" BEND MAXIMUM LONG SWEEP

VARIABLE SLOPE 1/4" PER FT. MIN.

SEE DETAIL S-10 FOR SERVICE CONNECTION

6" MIN.

UNDISTURBED EARTH - SHAPE TO PROVIDE UNIFORM BEARING FOR 1/4 OF BARREL CIRCUMFERENCE

4" OR 6" DIA. SCH. 40, SOLVENT WELD

MAX. SLOPE TO BE LESS THAN 1:2 WHEN NECESSARY TO SECURE BEDDING IN UNDISTURBED EARTH MIN. SLOPE 1/4" PER FT.

COMBINATION WYE MATERIAL TO BE SAME AS THE MAIN (C-900 OR DIP)

BARREL SIZE TO BE CALLED FOR ON THE DRAWINGS, OR AS OTHERWISE SPECIFIED

SECTION

**NOTES:**  
1. FOR PRIVATE 8" SERVICES, MANHOLES ARE REQUIRED FOR CONNECTION TO SYSTEM AND AT THE PROPERTY LINE, WITH REQUIRED EASEMENT.  
2. ALL SERVICES CONNECTING INTO DUCTILE IRON MAINS SHALL BE CONSTRUCTED OF DIP, WITH PROTECTIVE LINING.

DETAIL: SEWER SERVICE CONNECTION - MAIN TO LATERAL (LESS THAN 8' DEEP)  
SCALE: NOT TO SCALE  
CFPUA DETAIL DATE: 01/01/2022

CAPE FEAR PUBLIC UTILITY AUTHORITY  
235 GOVERNMENT CENTER DRIVE  
WILMINGTON, NC 28403  
OFFICE: (910) 332-6560  
Stewardship, Sustainability, Service.

DETAIL NO: **S-11**  
SHEET NO: -

FLOW  
SEWER MAIN  
45° ELBOW  
COMBINATION WYE  
BEDDING (SEE WS-4)  
LATERAL  
TRENCH WIDTH  
PLAN

MIN. 4" DEEP

MIN. SLOPE 1/4" PER FT. SEE DETAIL S-10

1'-6" MINIMUM, 4" OR 6" DIA. SCH. 40 SOLVENT WELD

4" OR 6" DIA. x 45° BENDS LONG SWEEP (2X)

4" OR 6" DIA. SCH. 40, SOLVENT WELD

4" OR 6" DIA. x 1/8" BEND MAXIMUM LONG SWEEP

4" OR 6" DIA. PIPE OF SUFFICIENT LENGTH TO PERMIT PLACEMENT OF RISER IN UNDISTURBED SOIL AND TO PROVIDE CONVENIENT LOCATION OF CLEAN OUT

6" MIN.

CRUSHED STONE BEDDING, 2" EACH SIDE OF LATERAL

COMB. WYE MATERIAL TO BE SAME AS THE MAIN (C-900 OR DIP)

BARREL SIZE TO BE CALLED FOR ON PLANS, OR AS OTHERWISE SPECIFIED

SECTION

**NOTES:**  
1. SPECIAL CARE SHALL BE TAKEN DURING BACKFILL OPERATIONS. THE RISER SHALL BE PLUMB AND TRUE AT ALL TIMES, AND REST ON FIRM, STABLE FOUNDATION.  
2. FOR PRIVATE 8" SERVICES, MANHOLES ARE REQUIRED FOR CONNECTION TO SYSTEM AND AT THE PROPERTY LINE, WITH REQUIRED EASEMENT.  
3. ALL SERVICES CONNECTING INTO DUCTILE IRON MAINS SHALL BE CONSTRUCTED OF DIP, WITH PROTECTIVE LINING.  
4. 1'-6" MINIMUM NIPPLE SPACING BETWEEN FITTINGS.

DETAIL: SEWER SERVICE CONNECTION - MAIN TO LATERAL (GREATER THAN 8' DEEP)  
SCALE: NOT TO SCALE  
CFPUA DETAIL DATE: 01/01/2022

CAPE FEAR PUBLIC UTILITY AUTHORITY  
235 GOVERNMENT CENTER DRIVE  
WILMINGTON, NC 28403  
OFFICE: (910) 332-6560  
Stewardship, Sustainability, Service.

DETAIL NO: **S-12**  
SHEET NO: -

AT THE R/W OR INSIDE EASEMENT w/ CFPUA APPROVAL

"C/O" SHOWN ON LID

THREADED PLUG W/ 2" SQUARE NUT ON CAP

GRADE

18"

2'-0" MIN.

LANDSCAPE TIMBER TO MARK CONNECTION

4'-0" MINIMUM DESIGN ENGINEER TO VERIFY IF SUFFICIENT FOR LESS THAN 4'-0" DEEP SPECIAL PRIOR APPROVAL BY CFPUA IS REQ'D.

8" AIR GAP

CLEAN OUT BOX W/ LID

FEMALE ADAPTER

ONE PIECE 4X4 OR 6X6X4 COMBINATION

4" STACK

VARIABLE SLOPE 1/4" PER FT. MIN.

18" LG. NIPPLE & GLUED CAP

PIPE MATERIAL: SCH. 40, SOLVENT WELD PVC 1120 ASTM D-1785

**NOTES:**  
1. FOR PRIVATE 8" SERVICES, MANHOLES ARE REQUIRED FOR CONNECTION TO SYSTEM AND AT THE PROPERTY LINE, WITH REQUIRED EASEMENT.  
2. CLEANOUTS SHALL BE LOCATED A MINIMUM OF 6 FEET FROM ALL PROPERTY CORNERS.

DETAIL: SEWER SERVICE CONNECTION - TYPICAL CLEAN-OUT  
SCALE: NOT TO SCALE  
CFPUA DETAIL DATE: 01/01/2022

CAPE FEAR PUBLIC UTILITY AUTHORITY  
235 GOVERNMENT CENTER DRIVE  
WILMINGTON, NC 28403  
OFFICE: (910) 332-6560  
Stewardship, Sustainability, Service.

DETAIL NO: **S-13**  
SHEET NO: -

ASSE 1060 STANDARD PROTECTIVE ENCLOSURE

R/W

PRIVATE

PUBLIC

PROVIDE DRAIN PORT SIZED FOR MAX. RPZ DISCHARGE

12" MIN. 60" MAX. SLOPE

**NOTES:**  
1. MUST BE MIN. 36" AWAY FROM ANY ELECTRICAL PANEL.  
2. VALVE REQUIRED DOWNSTREAM OF BACKFLOW ASSEMBLY.  
3. VERTICAL INSTALLATION SHALL BE DESIGNED AND SUBMITTED TO CFPUA EMD FOR APPROVAL.  
4. LOCATE AS NEAR TO RIGHT-OF-WAY AS POSSIBLE.  
5. MUST COMPLETE CFPUA'S BACKFLOW INSTALLATION FORM. CONTACT COMMUNITY COMPLIANCE AT 910-332-6558 OR VISIT WWW.CFPUA.ORG/COMMUNITYCOMPLIANCE AND COMPLETE THE ONLINE FORM.  
6. ONLY IN-LINE TESTABLE ASSEMBLIES APPROVED BY THE USC FOUNDATION FOR CROSS CONNECTION CONTROL OR ASSE SHALL BE ACCEPTED.

OUTDOOR HORIZONTAL INSTALLATION

DETAIL: REDUCED PRESSURE PRINCIPLE ASSEMBLY  
SCALE: NOT TO SCALE  
CFPUA DETAIL DATE: 01/01/2022

CAPE FEAR PUBLIC UTILITY AUTHORITY  
235 GOVERNMENT CENTER DRIVE  
WILMINGTON, NC 28403  
OFFICE: (910) 332-6560  
Stewardship, Sustainability, Service.

DETAIL NO: **EM-1**  
SHEET NO: -

FINAL DESIGN - NOT RELEASED FOR CONSTRUCTION

REVISIONS:  
APPROVED ADMINISTRATIVE MODIFICATION

CLIENT INFORMATION:  
CIP CONSTRUCTION COMPANY  
201 NORTH ELM STREET, STE. 201  
GREENSBORO, NC 27401

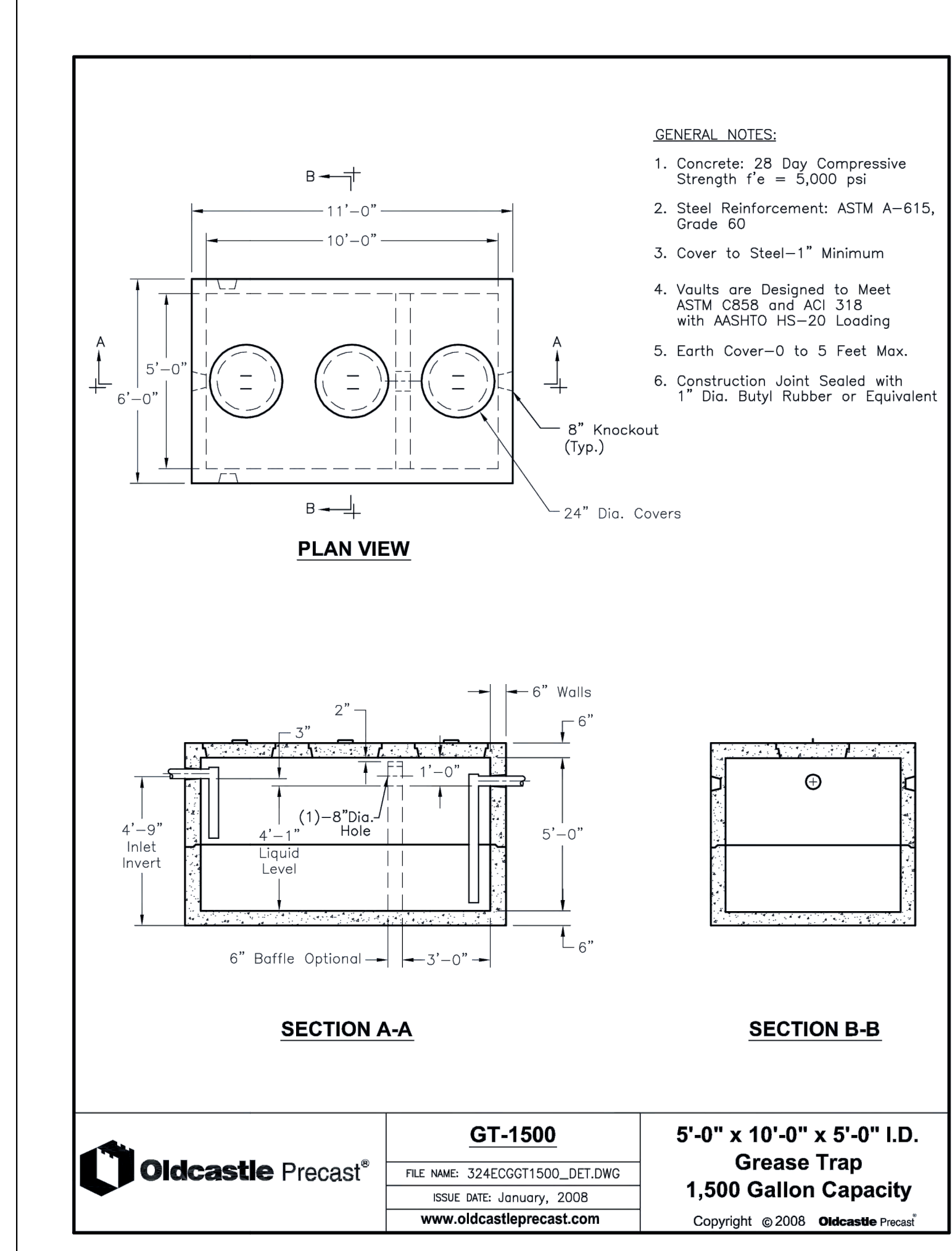
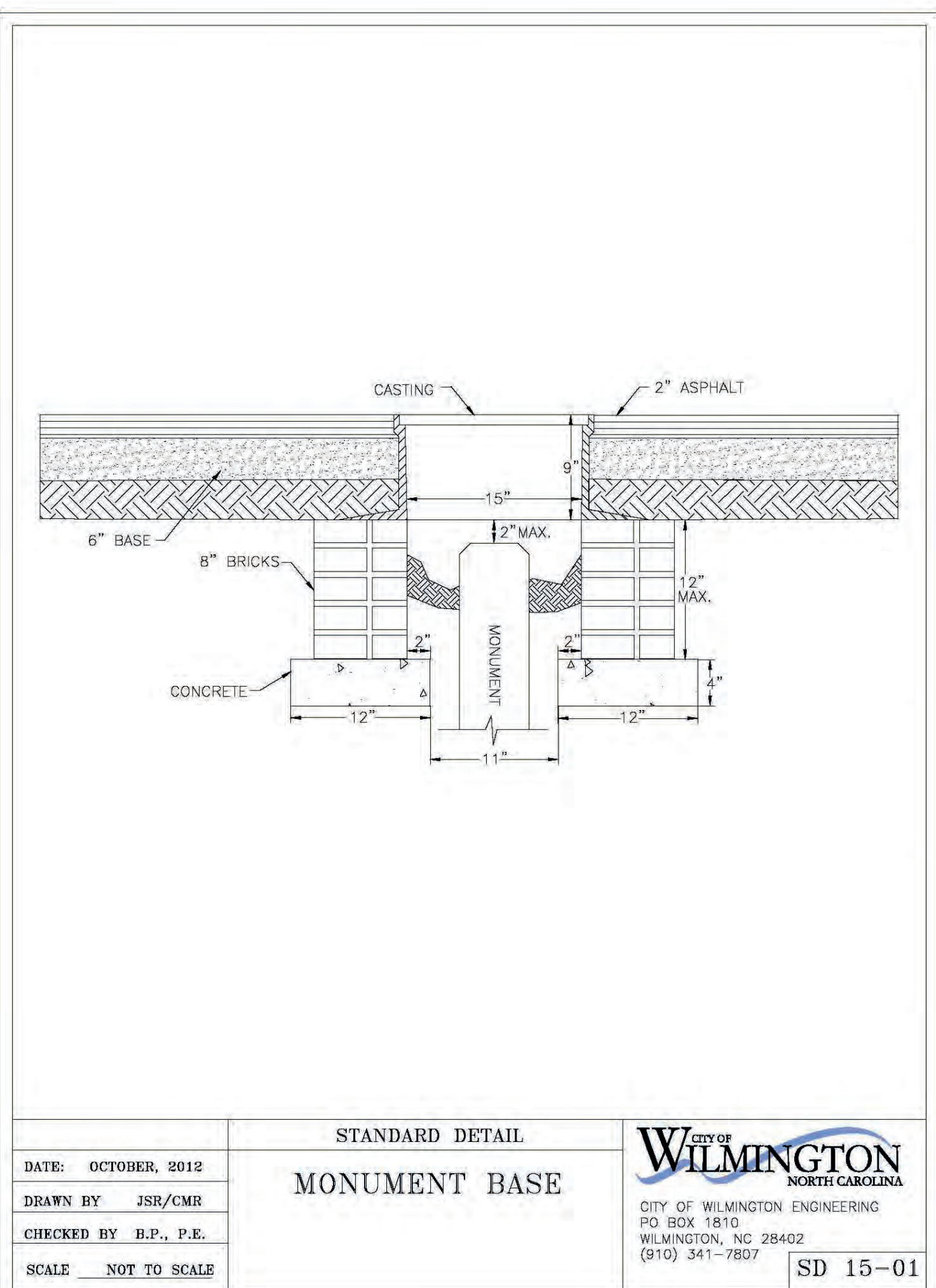
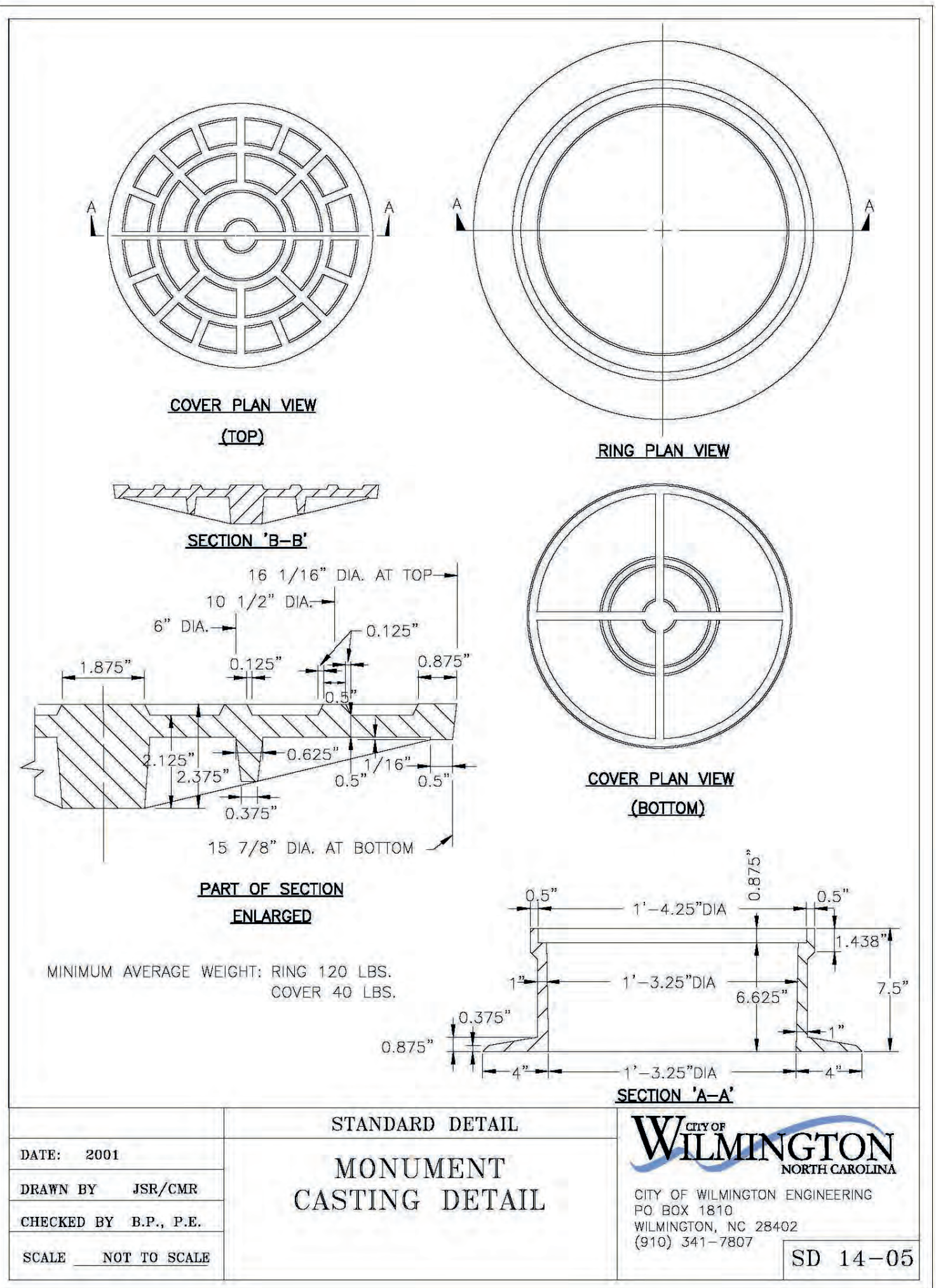
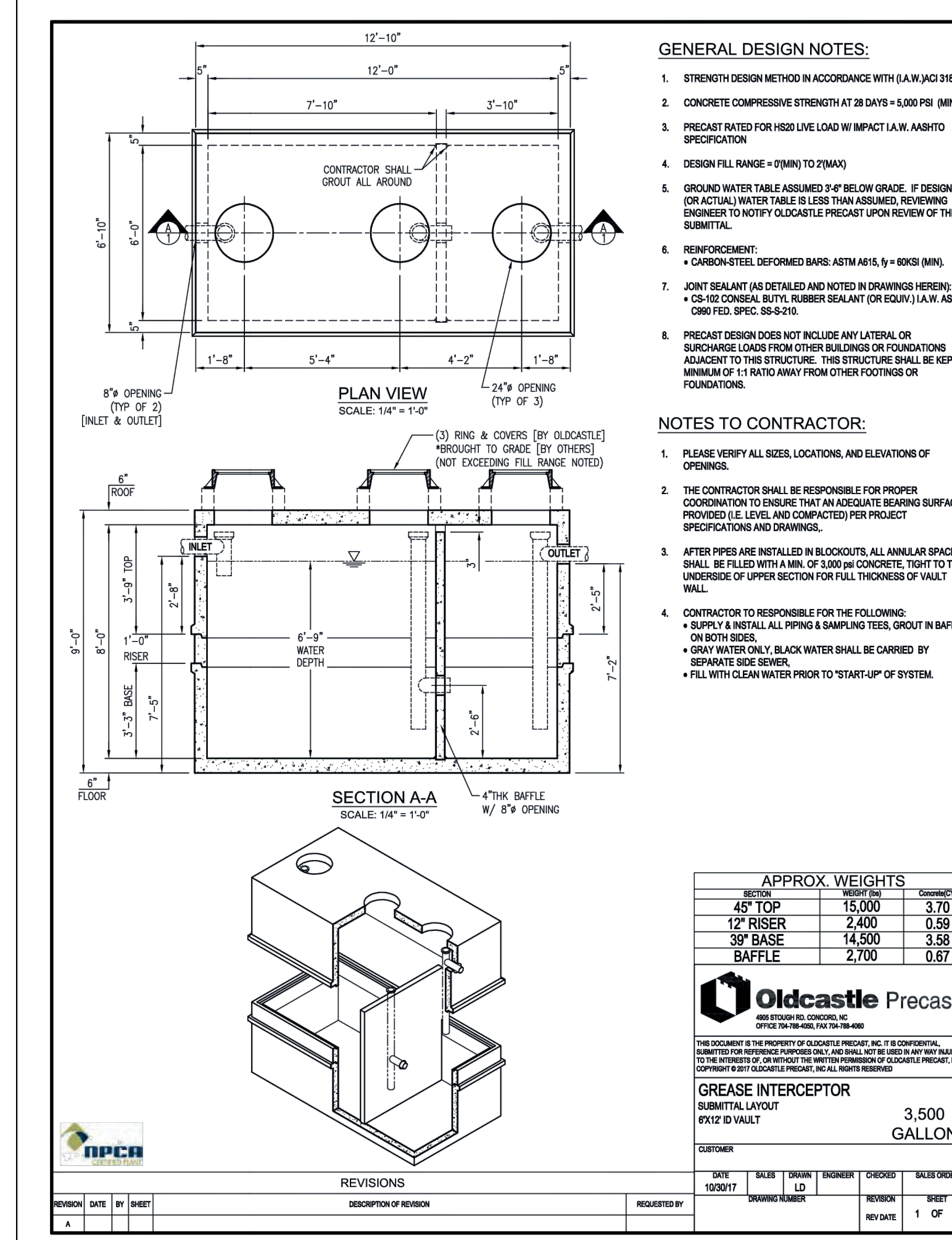
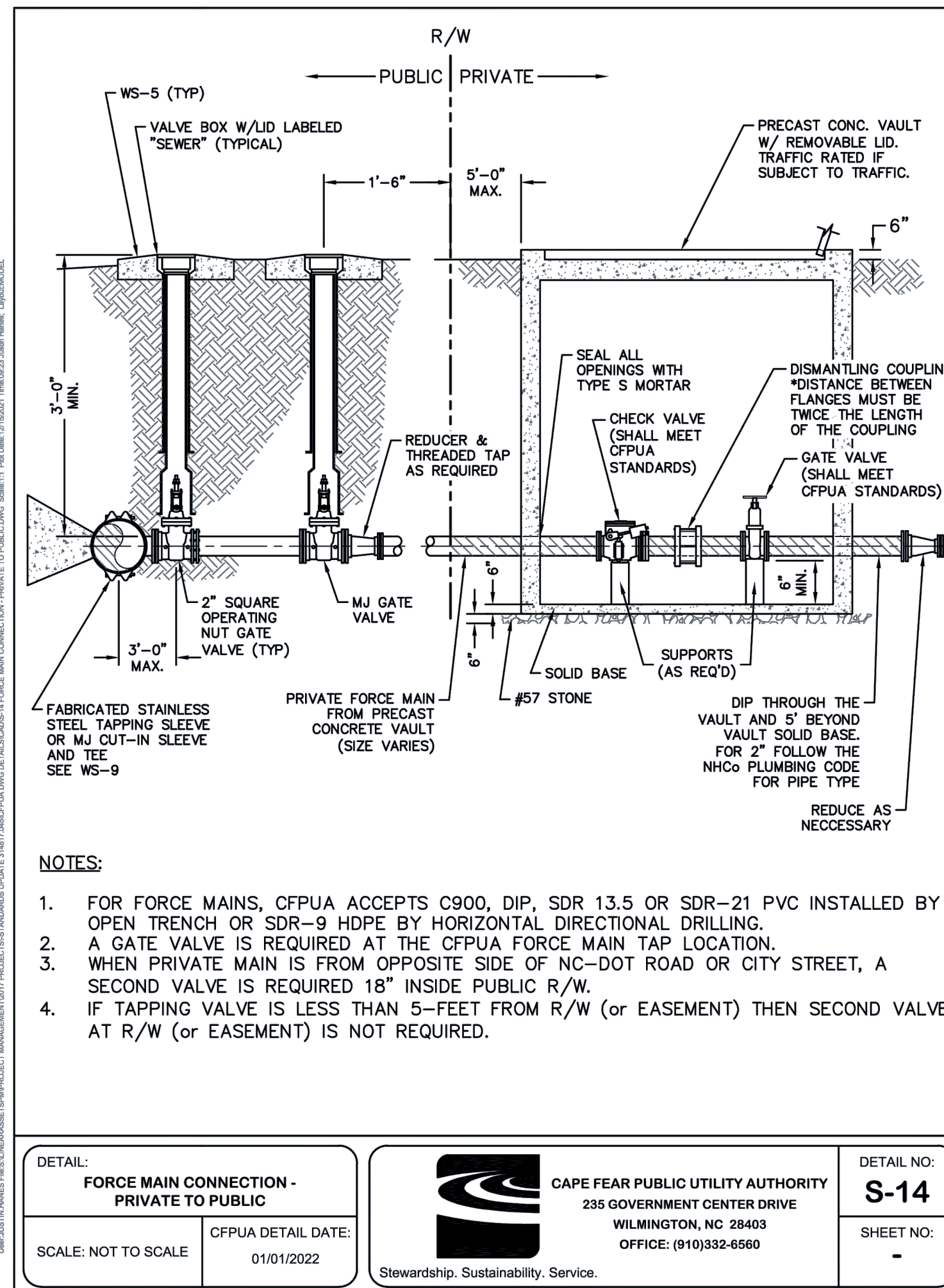
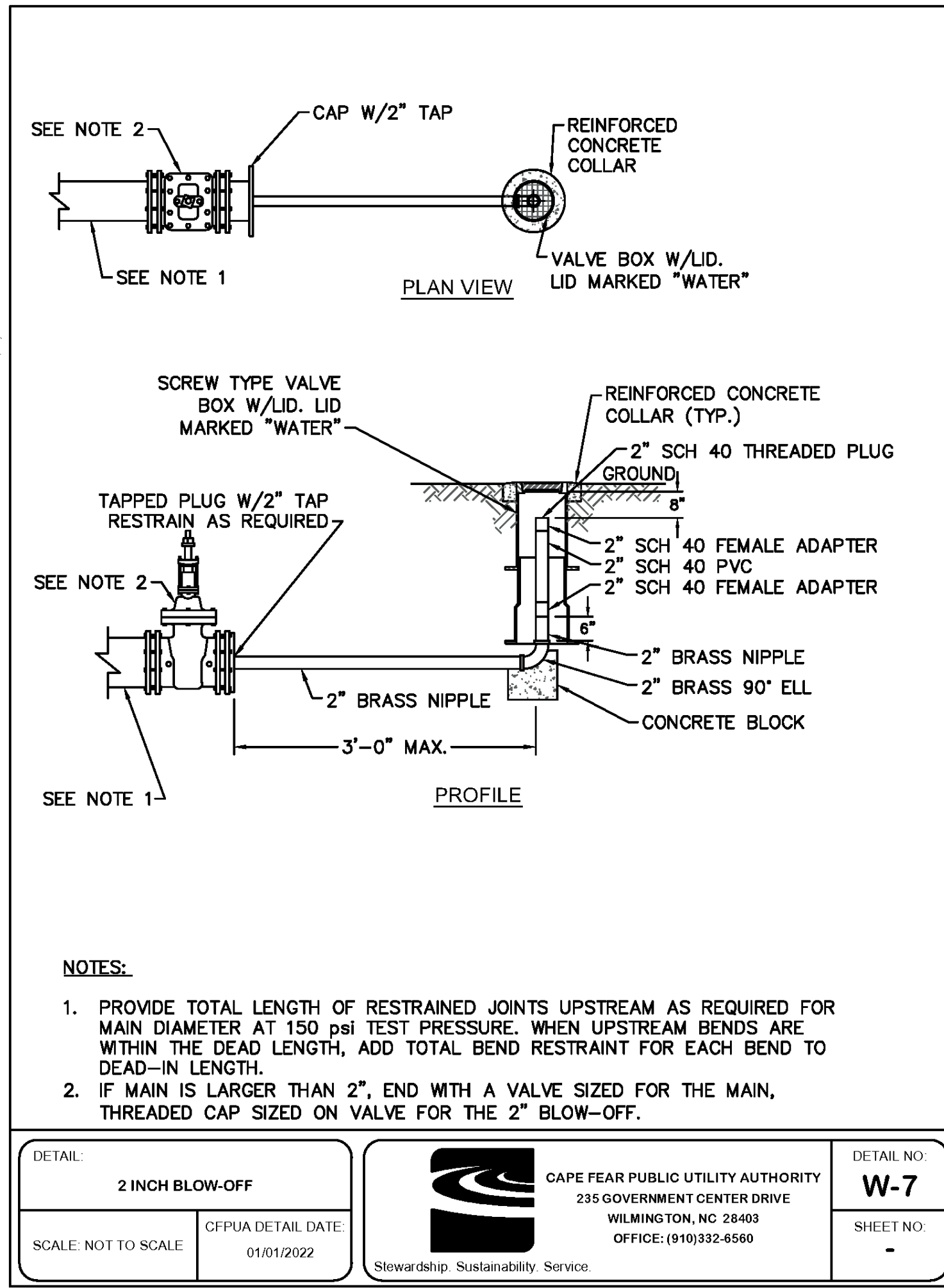
PARAMOUNT ENGINEERING, INC.  
122 Cinema Drive  
Wilmington, North Carolina 28403  
(910) 791-6707 (O) (910) 791-6760 (F)  
NC License #: C-2846

DETAILS  
CARROLL AT THE AVENUE  
MILITARY CUTOFF RD.  
WILMINGTON, NC 28405

PROJECT STATUS  
ORIGINAL LAYOUT:  
FINAL DESIGN LAYOUT:  
RELEASED FOR CONSTRUCTION:  
DATE: 06/23/23  
SCALE: N.T.S.  
DRAWING: ASR  
CHECKED: RPE

SEAL  
WILMINGTON, NORTH CAROLINA  
REGISTERED PROFESSIONAL ENGINEER  
NO. 031591  
06/23/23

C-6.8  
PEI JOB#: 18473.PE



**REVISIONS:**  
3/10/2022  
APPROVED ADMINISTRATIVE MODIFICATION

**CLIENT INFORMATION:**  
CIP CONSTRUCTION COMPANY  
201 NORTH ELM STREET, STE. 201  
GREENSBORO, NC 27401

**PARAMOUNT ENGINEERING, INC.**  
122 Cinema Drive  
Wilmington, North Carolina 28403  
(910) 791-6707 (O) (910) 791-6760 (F)  
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**DETAILS**  
CARROLL AT THE AVENUE  
MILITARY CUTOFF RD.  
WILMINGTON, NC 28405

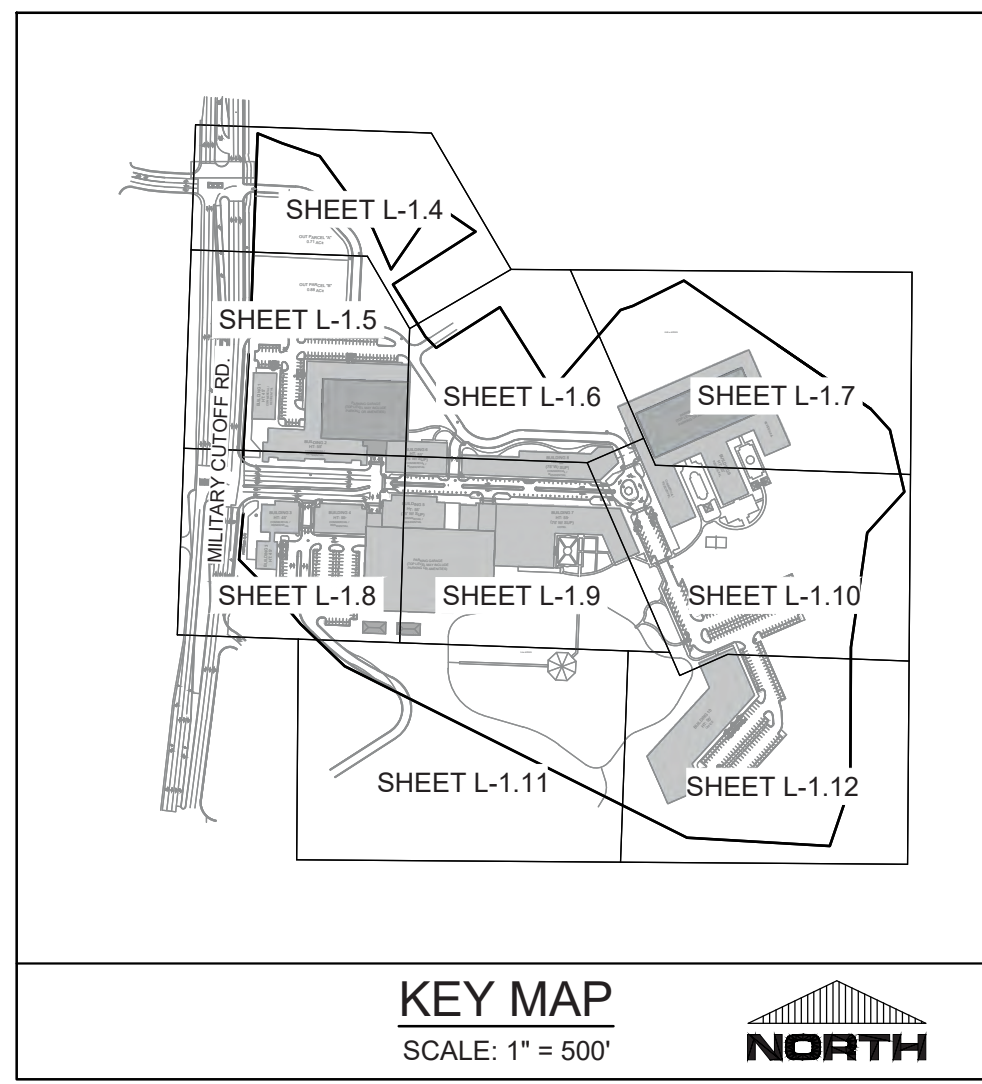
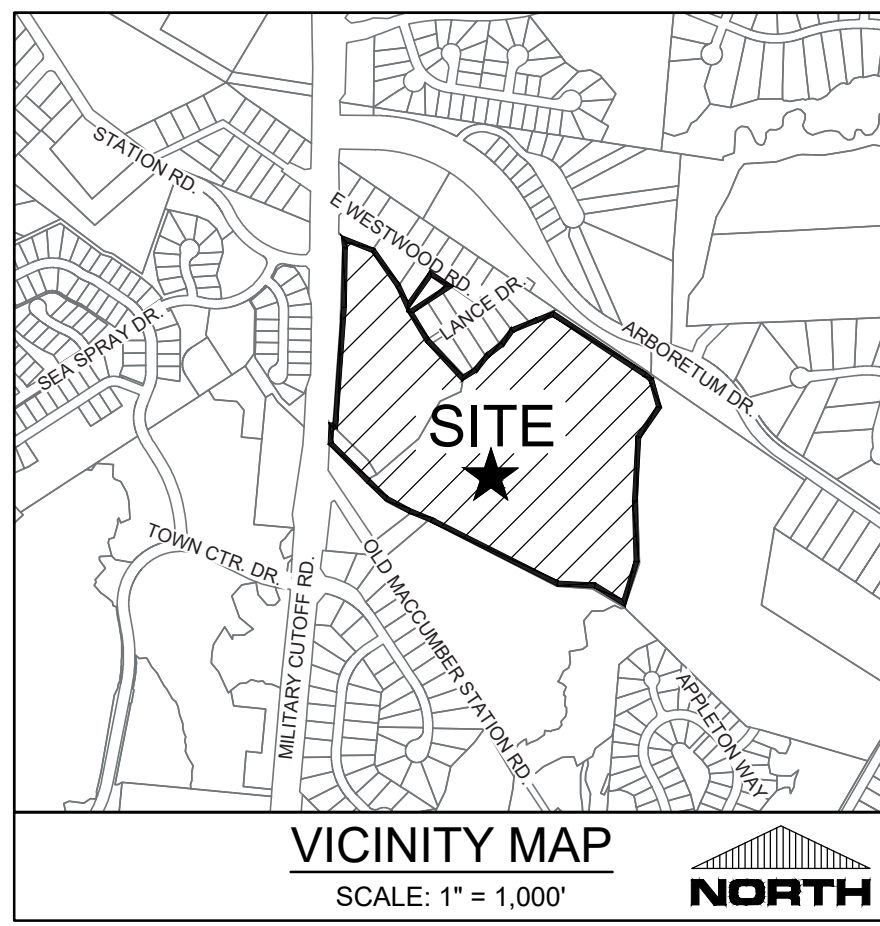
**PROJECT STATUS:**  
ORIGINAL LAYOUT:  
FINAL DESIGN LAYOUT:  
RELEASED FOR CONSTRUCTION

**DRAWING INFORMATION:**  
DATE: 06/23/23  
SCALE: N.T.S.  
DRAWN BY: JSR  
CHECKED BY: B.P.

**SEAL:**  
NORTH CAROLINA PROFESSIONAL ENGINEER  
SEAL NO. 031591  
JERRY B. PETERSON  
06/23/23

**C-6.9**  
PEI JOB#: 18473.PE

FINAL DESIGN - NOT RELEASED FOR CONSTRUCTION



**LEGEND**

- EXISTING TREE TO REMAIN
- EXISTING TREE TO BE REMOVED
- TREE NUMBER - SEE EXISTING TREE LEGEND FOR DETAILED INFORMATION
- LANDSCAPE BUFFER (NO TREES TO BE REMOVED)
- APPROXIMATE LIMITS OF DISTURBANCE (SEE GRADING PLAN)
- TREE PROTECTION FENCING (SEE DETAIL AND NOTES, SHTS. L-1.1 AND C-0.2)
- PROPOSED BUILDING NUMBER

**SITE DATA TABULATION**

**APPLICANT:** DENNIS H. BURTON, PE  
CIP CONSTRUCTION COMPANY  
201 NORTH ELM STREET, SUITE 201  
GREENSBORO, NC 27401

**PROJECT ADDRESS:** 347 MILITARY CUTOFF RD.  
349 MILITARY CUTOFF RD.  
565 MILITARY CUTOFF RD.  
302 LANCE DRIVE  
306 LANCE DRIVE  
128. E. WESTWOOD DR.  
WILMINGTON, NC 28405

**TAX PARCEL ID #:** R05105-001-023-000  
R05105-002-008-000  
R05105-001-024-000  
R05105-001-015-000  
R05105-001-015-001  
R05105-001-019-000

**DEED REFERENCE:** DB 1335 PG 019, DB 5619 PG 1573, DB 1220 PG 1622, DB 5949 PG 965, DB 2587 PG 146, DB 9901 PG 501

**TOTAL SITE AREA:** 44.5 +/- ACRES (1,938,420 SF)

**CURRENT ZONING:** UMX (CD)  
THE SITE IS A DESIGNATED AREA OF HIGH INTENSITY FROM THE COMP PLAN

**CAMA LAND USE CLASSIFICATION:** WATERSHED RESOURCE PROTECTION AREA / CONSERVATION AREA

**TREE REMOVAL NOTES:**

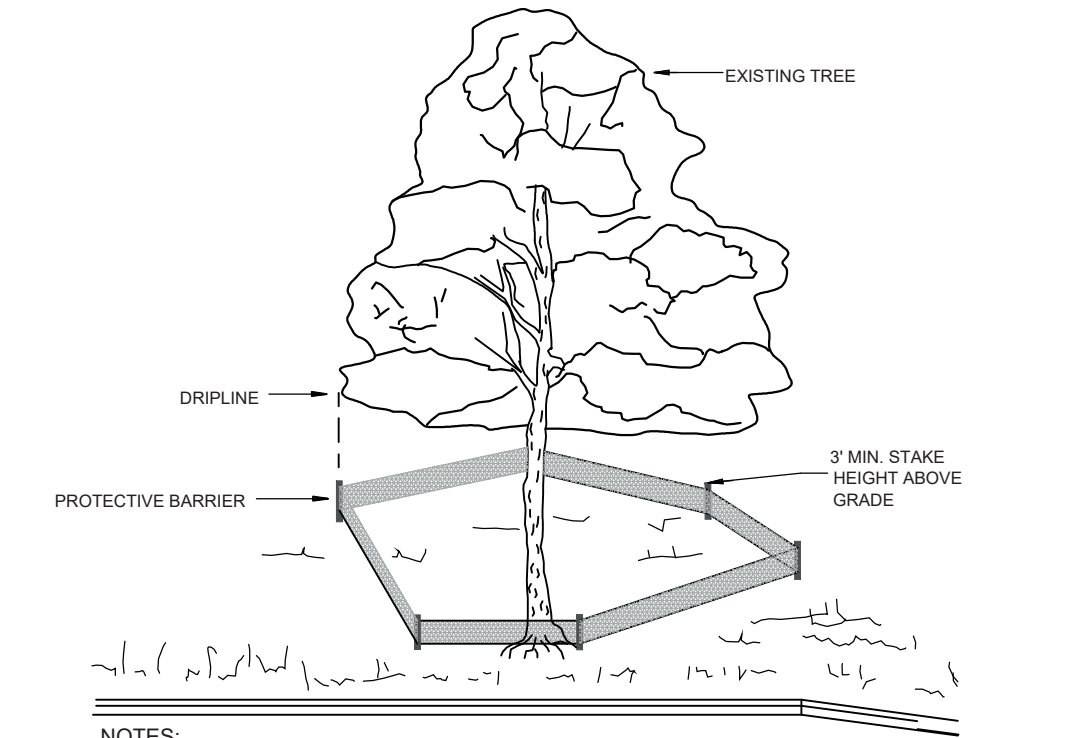
- PRIOR TO ANY CLEARING, GRADING, OR CONSTRUCTION ACTIVITY, TREE PROTECTION FENCING WILL BE INSTALLED AROUND PROTECTED TREES OR GROVES OF TREES. NO CONSTRUCTION WORKERS, TOOLS, MATERIALS OR VEHICLES ARE PERMITTED WITHIN TREE PROTECTION FENCING.

**PLAN NOTES:**

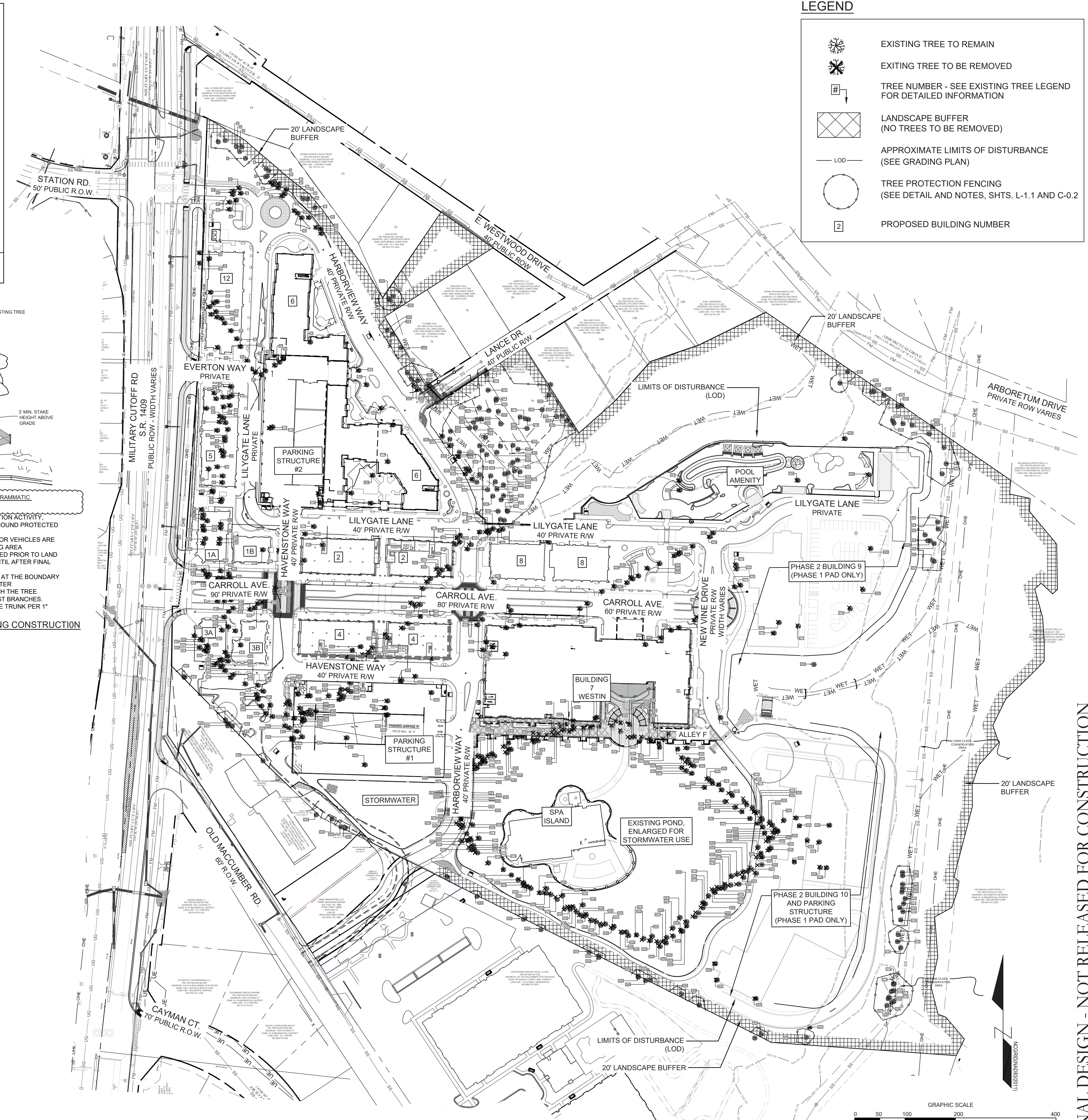
- REFER TO SHEETS L-1.2 AND L-1.3 FOR EXISTING TREE INVENTORY AND TREE REMOVAL LEGEND.
- REFER TO SHEETS L-1.4 THRU L-1.12 FOR DETAIL PLANS FOR EXISTING TREE INVENTORY AND TREE REMOVALS AT 1" = 30', OVERLAY ON PROPOSED SITE PLAN IMPROVEMENTS

**TREE SPECIES NOTES:**

- FOR THE PURPOSES OF MITIGATION, WHERE REQUIRED, ASSUME ALL "OAK" TREES ARE LIVE OAK SPECIES AND WILL BE MITIGATED AT THE QUANTITY / RATE COMMENSURATE AS REQUIRED.
- "LONG LEAF PINE" IS DIFFERENTIATED IN IT REQUIRED MITIGATION AND IS IDENTIFIED AS A SPECIFIC SPECIES IN THE TREE LEGEND. ALL OTHER PINES ARE CONSIDERED DIFFERENTLY BY THE ORDINANCE AND ARE CONSIDERED "PINE" AS A WHOLE AND SEPARATED FROM "LONG LEAF" VARIETY.
- THIS PLAN SHALL BE REVIEWED UNDER THE OLD CITY ORDINANCE, FROM THE DATE OF PLAN APPROVAL. THE PLAN WAS APPROVED IN JUNE 2018.



**A METHOD OF TREE PROTECTION DURING CONSTRUCTION**



**REVISIONS:** 3/10/2022 APPROVED ADMINISTRATIVE MODIFICATION

**CLIENT INFORMATION:** CIP CONSTRUCTION COMPANY  
201 NORTH ELM STREET, STE. 201  
GREENSBORO, NC 27401

**PARAMOUNT ENGINEERING, INC.**  
122 Cinema Drive  
Wilmington, North Carolina 28403  
(910) 791-6707 (O) (910) 791-6760 (F)  
N.C. License #: C-2846

**TREE INVENTORY & REMOVALS OVERALL PLAN**  
CARROLL AT THE AVENUE  
MILITARY CUTOFF RD.  
WILMINGTON, NC 28405

**PROJECT STATUS:** ORIGINAL LAYOUT: 06/23/23  
FINAL DESIGN LAYOUT: 06/23/23  
RELEASED FOR CONSTRUCTION: 06/23/23

**DRAWING INFORMATION:** DATE: 06/23/23  
SCALE: 1" = 100'  
DRAWING: 18473.PE  
CHECKED: [Signature]

**SEAL:** NORTH CAROLINA PROFESSIONAL ENGINEER  
1980  
06/23/23  
MICHAEL E. NICHOLS

**L-1.1**

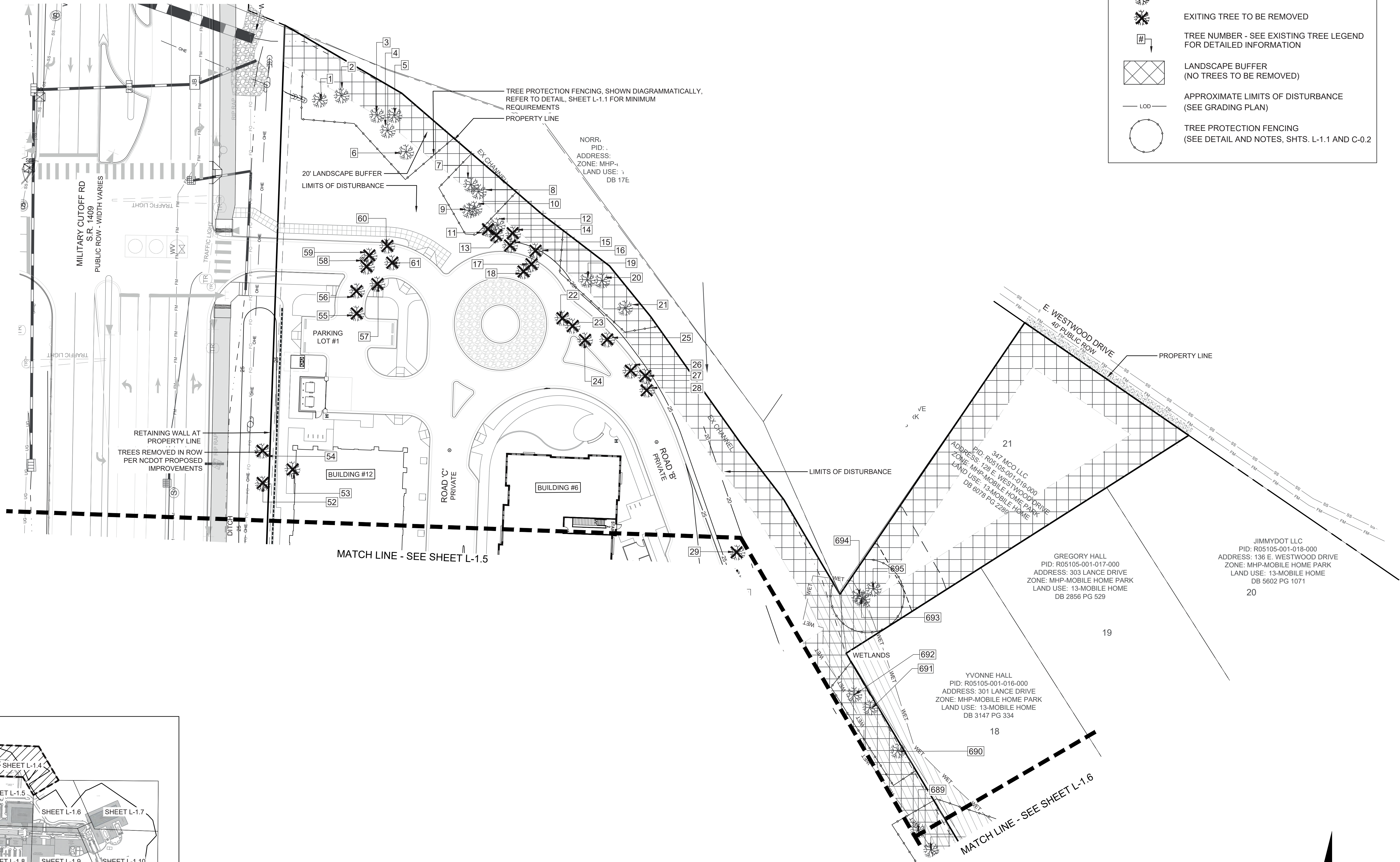
PEI JOB#: 18473.PE

FINAL DESIGN - NOT RELEASED FOR CONSTRUCTION



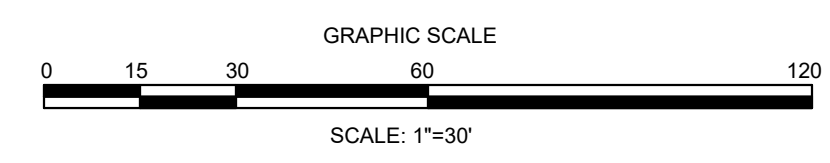
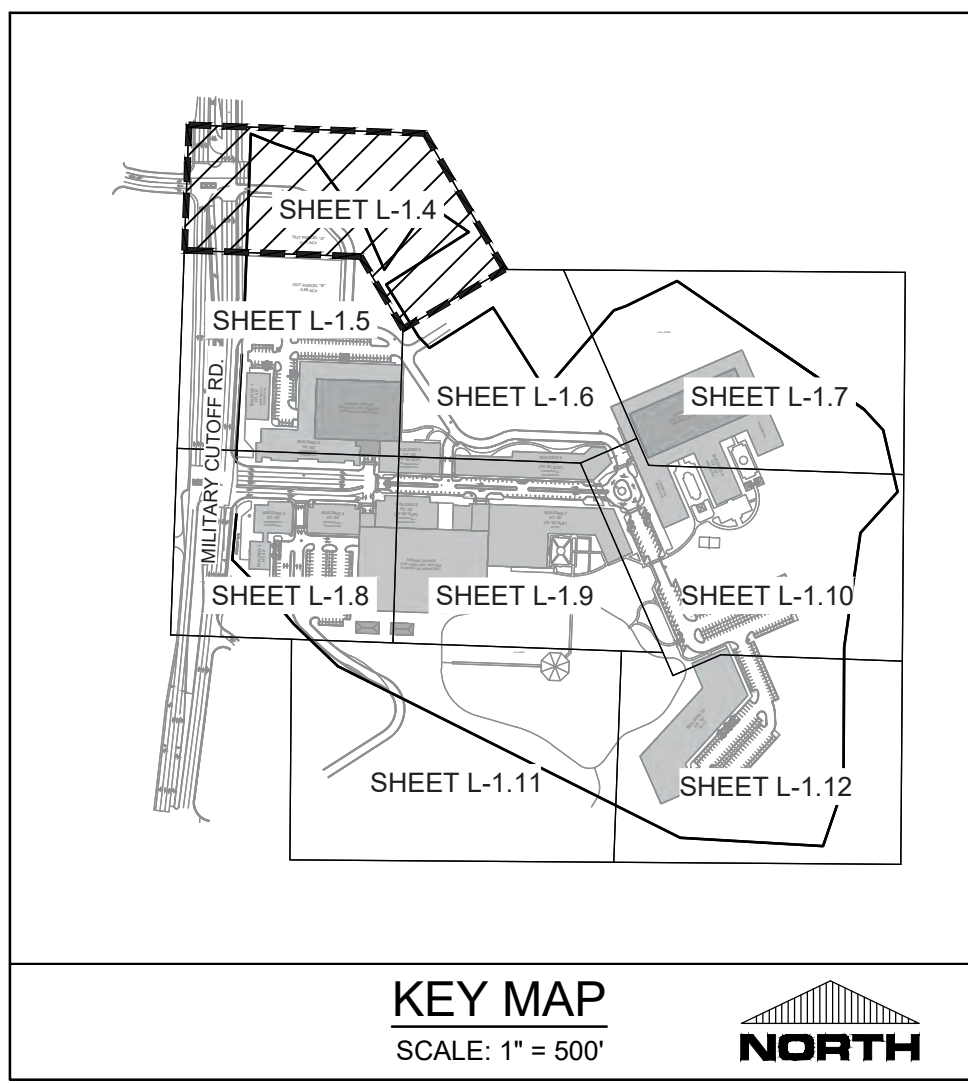
TREE NUMBER ON PLAN	TREE SIZE (D.B.H.) INCHES	TREE COMMON NAME	REMOVE TREE	SIGNIFICANT TREE	REMOVED FOR AN ESSENTIAL SITE IMPROVEMENT	LOCATION OF TREE TO BE REMOVED FOR ESSENTIAL SITE IMPROVEMENT	TREE TYPE	TREE CATEGORY	% TREE MITIGATION MULTIPLIER (X2)	MITIGATION REQUIRED (REMOVALS)	PRESERVED TREE CREDIT (SAVES)
1	18	DAK	NO	NO	NO		HARDWOOD	1			
2	15	PINE	NO	NO	NO		CONIFER	3			
3	3	NO	NO	NO	NO		CONIFER	3			
4	16	LONGLEAF PINE	NO	NO	NO		CONIFER	1			
5	14	LONGLEAF PINE	NO	NO	NO		CONIFER	1			
6	19	PINE	NO	NO	NO		CONIFER	3			
7	13	LONGLEAF PINE	NO	NO	NO		CONIFER	1			
8	15	LONGLEAF PINE	NO	NO	NO		CONIFER	1			
9	6	MIMOSA	NO	NO	NO		FLOWERING	4			
10	16	PINE	NO	NO	NO		CONIFER	3			
11	13	PINE	NO	NO	YES	ROADWAY	CONIFER	3			
12	13	PINE	NO	NO	NO		CONIFER	3			
13	12	PINE	NO	NO	YES	ROADWAY	CONIFER	3			
14	12	PINE	NO	NO	YES	ROADWAY	CONIFER	3			
15	15	PINE	NO	NO	YES	ROADWAY	CONIFER	3			
16	13	PINE	NO	NO	YES	ROADWAY	CONIFER	3			
17	15	PINE	NO	NO	YES	ROADWAY	CONIFER	3			
18	18	PINE	NO	NO	YES	ROADWAY	CONIFER	3			
19	15	PINE	NO	NO	NO		CONIFER	3			
20	13	PINE	NO	NO	NO		CONIFER	3			
21	20	PINE MULTI (14, 18)	YES	YES	YES		HARDWOOD	1			
22	15	PINE	NO	NO	YES	ROADWAY	CONIFER	3			
23	14	PINE	NO	NO	YES	ROADWAY	CONIFER	3			
24	13	PINE	NO	NO	YES	ROADWAY	CONIFER	3			
25	12	PINE	NO	NO	YES	ROADWAY	CONIFER	3			
26	12	PINE	NO	NO	YES	ROADWAY	CONIFER	3			
27	12	PINE	NO	NO	YES	ROADWAY	CONIFER	3			
28	12	PINE	NO	NO	YES	ROADWAY	CONIFER	3			
29	10	DAK	NO	NO	YES	GRADING / ROAD	HARDWOOD	1			
30	18	PINE	NO	NO	YES	GRADING / ROAD	CONIFER	3			
31	16	HOLLY MULTI (5,5,6)	YES	YES	YES	BUILDING FOOTPRINT	FLOWERING	3	NONE		
32	18	PINE	NO	NO	YES	BUILDING FOOTPRINT	CONIFER	3			
33	19	PINE	NO	NO	YES	BUILDING FOOTPRINT	CONIFER	3			
34	13	PINE	NO	NO	YES	BUILDING FOOTPRINT	CONIFER	3			
35	18	PINE	NO	NO	YES	BUILDING FOOTPRINT	CONIFER	3			
36	13	PINE	NO	NO	YES	ROADWAY	CONIFER	3			
37	13	PINE	NO	NO	YES	ROADWAY	CONIFER	3			
38	12	PINE	NO	NO	YES	ROADWAY	CONIFER	3			
39	14	PINE	NO	NO	YES	ROADWAY	CONIFER	3			
40	10	HOLLY	YES	YES	YES	BUILDING FOOTPRINT	FLOWERING	1	NONE		
41	10	HOLLY	YES	YES	YES	BUILDING FOOTPRINT	FLOWERING	1	NONE		
42	10	HOLLY	YES	YES	YES	BUILDING FOOTPRINT	FLOWERING	1	NONE		
43	10	HOLLY	YES	YES	YES	BUILDING FOOTPRINT	FLOWERING	1	NONE		
44	6	HOLLY	YES	NO	YES	BUILDING FOOTPRINT	FLOWERING	1	NONE		
45	14	PINE	NO	NO	YES	BUILDING FOOTPRINT	CONIFER	3			
46	18	LONGLEAF PINE	NO	NO	YES	BUILDING FOOTPRINT	CONIFER	1			
47	14	PINE	NO	NO	YES	BUILDING FOOTPRINT	CONIFER	3			
48	12	PINE	NO	NO	YES	BUILDING FOOTPRINT	CONIFER	3			
49	14	PINE	NO	NO	YES	BUILDING FOOTPRINT	CONIFER	3			
50	13	PINE	NO	NO	YES	BUILDING FOOTPRINT	CONIFER	3			
51	11	DAK	NO	NO	YES	BUILDING FOOTPRINT	HARDWOOD	1			
52	14	LONGLEAF PINE	NO	NO	YES	HC DOT PROJECT	CONIFER	1			
53	8	CRAPE MYRTLE	YES	YES	YES	BUILDING FOOTPRINT	FLOWERING	3	NONE		
54	8	DAK	NO	NO	YES	HC DOT PROJECT	HARDWOOD	1			
55	8	DAK	NO	NO	YES	PARKING	HARDWOOD	1			
56	12	LONGLEAF PINE	NO	NO	YES	GRADING / ROAD	CONIFER	1			
57	18	PINE	NO	NO	YES	GRADING / ROAD	CONIFER	3			
58	12	PINE	NO	NO	YES	ROADWAY	CONIFER	3			
59	12	PINE	NO	NO	YES	ROADWAY	CONIFER	3			
60	4	HOLLY	YES	YES	YES	ROADWAY	FLOWERING	1	200	5.3	
61	7	HOLLY	YES	YES	YES	ROADWAY	FLOWERING	1	200	6.7	
62	14	PINE	NO	NO	YES	ROADWAY	CONIFER	3			
63	12	PINE	NO	NO	YES	ROADWAY	CONIFER	3			
64	10	PINE	NO	NO	YES	ROADWAY	CONIFER	3			
65	12	PINE	NO	NO	YES	ROADWAY	CONIFER	3			
66	12	PINE	NO	NO	YES	ROADWAY	CONIFER	3			
67	12	PINE	NO	NO	YES	ROADWAY	CONIFER	3			
68	14	LONGLEAF PINE	NO	NO	YES	BUILDING FOOTPRINT	CONIFER	1			
69	13	PINE	NO	NO	YES	BUILDING FOOTPRINT	CONIFER	3			
70	10	DAK	NO	NO	YES	BUILDING FOOTPRINT	HARDWOOD	1			
71	13	LONGLEAF PINE	NO	NO	YES	BUILDING FOOTPRINT	CONIFER	1			
72	13	LONGLEAF PINE	NO	NO	YES	BUILDING FOOTPRINT	CONIFER	1			
73	19	LONGLEAF PINE	NO	NO	YES	BUILDING FOOTPRINT	CONIFER	1			
74	13	LONGLEAF PINE	NO	NO	YES	BUILDING FOOTPRINT	CONIFER	1			
75	8	DAK	NO	NO	YES	BUILDING FOOTPRINT	HARDWOOD	1			
76	20	PINE	NO	NO	YES	BUILDING FOOTPRINT	CONIFER	3			
77	14	LONGLEAF PINE	NO	NO	YES	BUILDING FOOTPRINT	CONIFER	1			
78	13	PINE	NO	NO	YES	BUILDING FOOTPRINT	CONIFER	3			
79	14	LONGLEAF PINE	NO	NO	YES	BUILDING FOOTPRINT	CONIFER	1			
80	12	PINE	NO	NO	YES	BUILDING FOOTPRINT	CONIFER	3			
81	12	PINE	NO	NO	YES	BUILDING FOOTPRINT	CONIFER	3			
82	13	PINE	NO	NO	YES	BUILDING FOOTPRINT	CONIFER	3			
83	14	PINE	NO	NO	YES	BUILDING FOOTPRINT	CONIFER	3			
84	15	PINE	NO	NO	YES	BUILDING FOOTPRINT	CONIFER	3			
85	12	PINE	NO	NO	YES	BUILDING FOOTPRINT	CONIFER	3			
86	13	PINE	NO	NO	YES	BUILDING FOOTPRINT	CONIFER	3			
87	14	PINE	NO	NO	YES	BUILDING FOOTPRINT	CONIFER	3			
88	14	PINE	NO	NO	YES	BUILDING FOOTPRINT	CONIFER	3			
89	16	PINE	NO	NO	YES	BUILDING FOOTPRINT	CONIFER	3			
90	13	PINE	NO	NO	YES	BUILDING FOOTPRINT	CONIFER	3			
91	13	PINE	NO	NO	YES	BUILDING FOOTPRINT	CONIFER	3			
92	13	PINE	NO	NO	YES	BUILDING FOOTPRINT	CONIFER	3			
93	14	LONGLEAF PINE	NO	NO	YES	BUILDING FOOTPRINT	CONIFER	1			
94	14	PINE	NO	NO	YES	SERVICE DRIVEWAY	CONIFER	3			
95	14	LONGLEAF PINE	NO	NO	YES	PEDESTRIAN AREA	CONIFER	1			
96	12	LONGLEAF PINE	NO	NO	YES	PEDESTRIAN AREA	CONIFER	1			
97	12	DAK	NO	NO	YES	PEDESTRIAN AREA	HARDWOOD	1			
98	13	PINE	NO	NO	YES	BUILDING FOOTPRINT	CONIFER	3			
99	13	PINE	NO	NO	YES	BUILDING FOOTPRINT	CONIFER	3			
100	13	PINE	NO	NO	YES	BUILDING FOOTPRINT	CONIFER	3			
101	8	DAK	NO	NO	YES	BUILDING FOOTPRINT	HARDWOOD	1			
102	6	CHERRY	NO	NO	YES	BUILDING FOOTPRINT	FLOWERING	3			
103	16	PINE	NO	NO	YES	BUILDING FOOTPRINT	CONIFER	3			
104	12	LONGLEAF PINE	NO	NO	YES	BUILDING FOOTPRINT	CONIFER	1			
105	16	PINE	NO	NO	YES	BUILDING FOOTPRINT	CONIFER	3			
106	8	DAK	NO	NO	YES	BUILDING FOOTPRINT	HARDWOOD	1			
107	6	HOLLY	NO	NO	YES	BUILDING FOOTPRINT	FLOWERING	1			
108	6	HOLLY	NO	NO	YES	ROADWAY	FLOWERING	1			
109	6	HOLLY	NO	NO	YES	PARKING	FLOWERING	1			
110	6	HOLLY	NO	NO	YES	BUILDING FOOTPRINT	FLOWERING	1			
111	16	LONGLEAF PINE	NO	NO	YES	BUILDING FOOTPRINT	CONIFER	1			
112	12	DAK	NO	NO	YES	BUILDING FOOTPRINT	HARDWOOD	1			
113	8	HOLLY	YES	YES	YES	BUILDING FOOTPRINT	FLOWERING	1	NONE		
114	20	DAK MULTI (6,6,8)	YES	NO	YES	BUILDING FOOTPRINT	HARDWOOD	1			
115	8	HOLLY	YES	NO	YES	BUILDING FOOTPRINT	FLOWERING	1	NONE		
116	15	PINE	NO	NO	YES	BUILDING FOOTPRINT	CONIFER	3			
117	6	HOLLY	NO	NO	YES	BUILDING FOOTPRINT	FLOWERING	1			
118	7	HOLLY	NO	NO	YES	BUILDING FOOTPRINT	FLOWERING	1			
119	20	DAK	NO	NO	YES	BUILDING FOOTPRINT	HARDWOOD	1			
120	16	HOLLY MULTI (8,8)	YES	YES	YES	BUILDING FOOTPRINT	FLOWERING	1	NONE		
121	8	HOLLY	YES	YES	YES	GRADING / ROAD	FLOWERING	1	200	5.3	
122	16	PINE	NO	NO	YES	ROADWAY	CONIFER	3			
123	14	PINE	NO	NO	YES	ROADWAY	CONIFER	3			
124	13	PINE	NO	NO	YES	ROADWAY	CONIFER	3			
125	8	DAK	NO	NO	YES	ROADWAY	HARDWOOD	1			
126	18	MAGNOLIA	NO	NO	YES	ROADWAY	FLOWERING	1			
127	18	DAK	NO	NO	YES	ROADWAY	HARDWOOD	1			
128	16	PINE	NO	NO	YES	ROADWAY	CONIFER	3			
129	12	PINE	NO	NO	YES	ROADWAY	CONIFER	3			
130	12	PINE	NO	NO	YES	ROADWAY	CONIFER	3			
131	11	GUM	NO	NO	YES	ROADWAY	HARDWOOD	2			
132	12	DAK	NO	NO	YES	ROADWAY	HARDWOOD	1			
133	12	DAK	NO	NO	YES	ROADWAY	HARDWOOD	1			
134	12	PINE	NO	NO	YES	ROADWAY	CONIFER	3			
135	12	PINE	NO	NO	YES	ROADWAY	CONIFER	3			
136	18	PINE	NO	NO	YES	ROADWAY	CONIFER	3			
137	8	DAK	NO	NO	YES	ROADWAY	HARDWOOD	1			
138	16	LONGLEAF PINE	NO	NO	YES	ROADWAY	CONIFER	1			
139	12	LONGLEAF PINE	NO	NO	YES	ROADWAY	CONIFER	1			
140	18	LONGLEAF PINE	NO	NO	YES	ROADWAY	CONIFER	1			
141	16	LONGLEAF PINE	NO	NO	YES	ROADWAY	CONIFER	1			
142	18	LONGLEAF PINE	NO	NO	YES	ROADWAY	CONIFER	1			
143	8	DAK	NO	NO	YES	BUILDING FOOTPRINT	HARDWOOD	1			
144	12	LONGLEAF PINE	NO	NO	YES	BUILDING FOOTPRINT	CONIFER	1			
145	12	LONGLEAF PINE	NO	NO	YES	BUILDING FOOTPRINT	CONIFER	1			
146	15	PINE	NO	NO	YES	ROADWAY	CONIFER	3			
147	13	PINE	NO	NO	YES	ROADWAY	CONIFER	3			
148	13	PINE	NO	NO	YES	ROADWAY	CONIFER	3			
149	13	PINE	NO	NO	YES	ROADWAY	CONIFER	3			
150	14	PINE	NO	NO	YES	ROADWAY	CONIFER	3			
151	12	PINE	NO	NO	YES	ROADWAY	CONIFER	3			
152	12	PINE	NO	NO	YES	ROADWAY	CONIFER	3			
153	14	PINE	NO	NO	YES	ROADWAY	CONIFER	3			
154	15	DAK	NO	NO	YES	BUILDING FOOTPRINT	HARDWOOD	1			
155	18	PINE	NO	NO	YES	BUILDING FOOTPRINT	CONIFER	3			
156	22	PINE	NO	NO	YES	BUILDING FOOTPRINT	CONIFER	3			

TREE NUMBER ON PLAN	SIZE (D.B.H.) INCHES	TREE COMMON NAME	REMOVE TREE	SIGNIFICANT TREE	TREE TO BE REMOVED FOR AN ESSENTIAL SITE IMPROVEMENT	LOCATION OF TREE TO BE REMOVED FOR ESSENTIAL SITE IMPROVEMENT	TYPE OF TREE	TREE CATEGORY	% TREE MITIGATION REQUIRED (REMOVALS)	MITIGATION REQUIRED (REMOVALS)	PRESERVED TREE CREDIT (SAVES)
472	8	MAGNOLIA	YES	YES	YES	STORMWATER	FLOWERING	1	200	5.3	
480	10	OAK	YES	NO	YES	STORMWATER	HARDWOOD	1			
481	10	OAK	YES	NO	YES	STORMWATER	HARDWOOD	1			
482	15	PINE	YES	NO	YES	STORMWATER	CONIFER	3			
483	15	PINE	YES	NO	YES	STORMWATER	CONIFER	3			
484	24	OAK	YES	YES	YES	STORMWATER	HARDWOOD	1	200	16.0	
485	12	PINE	YES	NO	YES	STORMWATER	CONIFER	3			
486	12	PINE	YES	NO	YES	STORMWATER	CONIFER	3			
487	15	PINE	YES	NO	YES	STORMWATER	CONIFER	3			
488	20	OAK	YES	NO	YES	ROADWAY	HARDWOOD	1			
489	10	OAK	YES	NO	YES	ROADWAY	HARDWOOD	1			
490	15	PINE	YES	NO	YES	ROADWAY	CONIFER	3			
491	18	PINE	YES	NO	YES	ROADWAY	CONIFER	3			
492	12	PINE	YES	NO	YES	ROADWAY	CONIFER	3			
493	10	OAK	YES	YES	YES	ROADWAY	HARDWOOD	1	200	20.0	
494	15	PINE	YES	NO	YES	ROADWAY	CONIFER	3			
495	12	PINE	YES	NO	YES	ROADWAY	CONIFER	3			
496	14	OAK	YES	NO	YES	ROADWAY	HARDWOOD	1			
497	18	PINE	YES	NO	YES	ROADWAY	CONIFER	3			
498	12	PINE	YES	NO	YES	ROADWAY	CONIFER	3			
499	15	PINE	YES	NO	YES	ROADWAY	CONIFER	3			
500	12	PINE	YES	NO	YES	ROADWAY	CONIFER	3			
501	10	MAGNOLIA	YES	YES	YES	ROADWAY	FLOWERING	1	200	6.7	
502	15	PINE	YES	NO	YES	ROADWAY	CONIFER	3			
503	10	CRAPE MYRTLE (MT 2, 2, 2, 2)	YES	YES	YES	ROADWAY	FLOWERING	1	200	6.7	
504	15	PINE	YES	NO	YES	ROADWAY	CONIFER	3			
505	18	PINE	YES	NO	YES	ROADWAY	CONIFER	3			
506	15	PINE	YES	NO	YES	ROADWAY	CONIFER	3			
507	15	PINE	YES	NO	YES	ROADWAY	CONIFER	3			
508	15	PINE	YES	NO	YES	ROADWAY	CONIFER	3			
509	12	PINE	YES	NO	YES	STORMWATER	CONIFER	3			
510	15	PINE	YES	NO	YES	ROADWAY	CONIFER	3			
511	12	PINE	YES	NO	YES	ROADWAY	CONIFER	3			
512	12	PINE	YES	NO	YES	ROADWAY	CONIFER	3			
513	18	PINE	YES	NO	YES	STORMWATER	CONIFER	3			
514	12	PINE	YES	NO	YES	STORMWATER	CONIFER	3			
515	18	PINE	YES	NO	YES	STORMWATER	CONIFER	3			
516	12	PINE	YES	NO	YES	STORMWATER	CONIFER	3			
517	12	PINE	YES	NO	YES	STORMWATER	CONIFER	3			
518	18	PINE	YES	NO	YES	STORMWATER	CONIFER	3			
519	12	PINE	YES	NO	YES	STORMWATER	CONIFER	3			
520	15	PINE	YES	NO	YES	STORMWATER	CONIFER	3			
521	15	PINE	YES	NO	YES	STORMWATER	CONIFER	3			
522	15	PINE	YES	NO	YES	STORMWATER	CONIFER	3			
523	18	PINE	YES	NO	YES	STORMWATER	CONIFER	3			
524	12	PINE	YES	NO	YES	STORMWATER	CONIFER	3			
525	15	PINE	YES	NO	YES	STORMWATER	CONIFER	3			
526	12	PINE	YES	NO	YES	STORMWATER	CONIFER	3			
527	20	OAK	YES	NO	YES	STORMWATER	CONIFER	3			
528	15	PINE	YES	NO	YES	STORMWATER	CONIFER	3			
529	12	PINE	YES	NO	YES	STORMWATER	CONIFER	3			
530	10	GLUM	YES	NO	YES	STORMWATER	HARDWOOD	2			
531	10	GLUM	YES	NO	YES	STORMWATER	HARDWOOD	2			
532	15	PINE	YES	NO	YES	STORMWATER	CONIFER	3			
533	12	PINE	YES	NO	YES	STORMWATER	CONIFER	3			
534	18	PINE	YES	NO	YES	STORMWATER	CONIFER	3			
535	8	OAK	YES	NO	YES	STORMWATER	HARDWOOD	1			
536	8	GLUM	YES	NO	YES	ROADWAY	HARDWOOD	2			
537	18	PINE	YES	NO	YES	STORMWATER	CONIFER	3			
538	12	PINE	YES	NO	YES	STORMWATER	CONIFER	3			
539	15	PINE	YES	NO	YES	STORMWATER	CONIFER	3			
540	18	PINE	YES	NO	YES	ROADWAY	CONIFER	3			
541	15	PINE	YES	NO	YES	STORMWATER	CONIFER	3			
542	18	PINE	YES	NO	YES	ROADWAY	CONIFER	3			
543	18	PINE	YES	NO	YES	ROADWAY	CONIFER	3			
544	15	PINE	YES	NO	YES	ROADWAY	CONIFER	3			
545	36	PINE	YES	YES	YES	ROADWAY	CONIFER	3	100	12.0	
546	18	PINE	YES	NO	YES	ROADWAY	CONIFER	3			
547	18	PINE	YES	NO	YES	STORMWATER	CONIFER	3			
548	18	PINE	YES	NO	YES	STORMWATER	CONIFER	3			
549	11	OAK	YES	NO	YES	BUILDING FOOTPRINT	HARDWOOD	1			
550	13	OAK	YES	NO	YES	BUILDING FOOTPRINT	HARDWOOD	1			
551	10	OAK	YES	NO	YES	BUILDING FOOTPRINT	HARDWOOD	1			
552	10	OAK	YES	NO	YES	BUILDING FOOTPRINT	HARDWOOD	1			
553	4	MAGNOLIA	YES	NO	YES	BUILDING FOOTPRINT	FLOWERING	1			
554	10	OAK	YES	NO	YES	BUILDING FOOTPRINT	HARDWOOD	1			
555	10	OAK	YES	NO	YES	BUILDING FOOTPRINT	HARDWOOD	1			
556	15	OAK	YES	NO	YES	BUILDING FOOTPRINT	HARDWOOD	1			
557	6	MAGNOLIA	YES	NO	YES	BUILDING FOOTPRINT	FLOWERING	1			
558	18	MAPLE	YES	NO	YES	BUILDING FOOTPRINT	HARDWOOD	1			
559	16	OAK	YES	NO	YES	BUILDING FOOTPRINT	HARDWOOD	1			
560	13	PINE	YES	NO	YES	PEDESTRIAN AREA	CONIFER	3			
561	13	PINE	YES	NO	YES	PEDESTRIAN AREA	CONIFER	3			
562	12	PINE	YES	NO	YES	PEDESTRIAN AREA	CONIFER	3			
563	12	PINE	YES	NO	YES	BUILDING FOOTPRINT	CONIFER	3			
564	4	DOGWOOD	YES	NO	YES	BUILDING FOOTPRINT	FLOWERING	1			
565	22	PINE	YES	NO	YES	BUILDING FOOTPRINT	CONIFER	3			
566	8	OAK	YES	NO	YES	BUILDING FOOTPRINT	HARDWOOD	1			
567	18	MAPLE	YES	NO	YES	BUILDING FOOTPRINT	HARDWOOD	1			
568	9	MAPLE	YES	NO	YES	BUILDING FOOTPRINT	HARDWOOD	1			
569	9	OAK	YES	NO	YES	BUILDING FOOTPRINT	HARDWOOD	1			
570	13	OAK	YES	NO	YES	BUILDING FOOTPRINT	HARDWOOD	1			
571	11	OAK	YES	NO	YES	BUILDING FOOTPRINT	HARDWOOD	1			
572	12	OAK	YES	NO	YES	BUILDING FOOTPRINT	HARDWOOD	1			
573	15	MAPLE	YES	NO	YES	BUILDING FOOTPRINT	HARDWOOD	1			
574	8	MAPLE	YES	NO	YES	BUILDING FOOTPRINT	HARDWOOD	1			
575	24	PINE	YES	YES	YES	PEDESTRIAN AREA	CONIFER	3	100	8.0	
576	8	OAK	YES	NO	YES	ROADWAY	HARDWOOD	1			
577	12	PINE	YES	NO	YES	ROADWAY	CONIFER	3	100	8.0	
578	13	MAPLE	YES	NO	YES	ROADWAY	HARDWOOD	1			
579	13	MAPLE	YES	NO	YES	ROADWAY	HARDWOOD	1			
580	8	MAPLE	YES	NO	YES	ROADWAY	HARDWOOD	1			
581	10	OAK	YES	NO	YES	ROADWAY	HARDWOOD	1			
582	26	PINE	YES	YES	YES	ROADWAY	CONIFER	3	100	8.7	
583	8	MAPLE	YES	NO	YES	BUILDING FOOTPRINT	HARDWOOD	1			
584	11	MAPLE	YES	NO	YES	ROADWAY	HARDWOOD	1			
585	21	PINE	YES	NO	YES	ROADWAY	CONIFER	3			
586	14	PINE	YES	NO	YES	ROADWAY	CONIFER	3			
587	4	DOGWOOD	YES	NO	YES	ROADWAY	FLOWERING	1			
588	6	MAGNOLIA	YES	NO	YES	BUILDING FOOTPRINT	FLOWERING	1			
589	15	PINE	YES	NO	YES	BUILDING FOOTPRINT	CONIFER	3			
590	14	MAPLE	YES	NO	YES	BUILDING FOOTPRINT	HARDWOOD	1			
591	14	PINE	YES	NO	YES	BUILDING FOOTPRINT	CONIFER	3			
592	14	MAPLE	YES	NO	YES	BUILDING FOOTPRINT	HARDWOOD	1			
593	14	MAPLE	YES	NO	YES	BUILDING FOOTPRINT	HARDWOOD	1			
594	14	PINE	YES	NO	YES	BUILDING FOOTPRINT	CONIFER	3			
595	13	PINE	YES	NO	YES	BUILDING FOOTPRINT	CONIFER	3			
596	19	PINE	YES	NO	YES	BUILDING FOOTPRINT	CONIFER	3			
597	10	MAPLE	YES	NO	YES	ROADWAY	HARDWOOD	1			
598	15	MAPLE	YES	NO	YES	ROADWAY	HARDWOOD	1			
599	16	MAPLE	YES	NO	YES	ROADWAY	HARDWOOD	1			
600	14	PINE	YES	NO	YES	ROADWAY	CONIFER	3			
601	15	OAK	YES	NO	YES	ROADWAY	HARDWOOD	1			
602	14	OAK	YES	NO	YES	ROADWAY	HARDWOOD	1			
603	13	PINE	YES	NO	YES	ROADWAY	CONIFER	3			
604	14	PINE	YES	NO	YES	ROADWAY	CONIFER	3			
605	13	PINE	YES	NO	YES	BUILDING FOOTPRINT	CONIFER	3			
606	13	PINE	YES	NO	YES	BUILDING FOOTPRINT	CONIFER	3			
607	12	MAPLE	YES	NO	YES	BUILDING FOOTPRINT	HARDWOOD	1			
608	13	MAPLE	YES	NO	YES	BUILDING FOOTPRINT	HARDWOOD	1			
609	10	OAK	YES	NO	YES	BUILDING FOOTPRINT	HARDWOOD	1			
610	15	POPLAR	YES	NO	YES	BUILDING FOOTPRINT	HARDWOOD	4			
611	13	GLUM	YES	NO	YES	ROADWAY	HARDWOOD	2			
612	14	POPLAR	YES	NO	YES	ROADWAY	HARDWOOD	4			
613	10	GLUM	YES	NO	YES	ROADWAY	HARDWOOD	2			
614	14	MAPLE	YES	NO	YES	ROADWAY	HARDWOOD	1			
615	15	MAPLE	YES	NO	YES	ROADWAY	HARDWOOD	1			
616	15	MAPLE	YES	NO	YES	ROADWAY	HARDWOOD	1			
617	12	MAPLE	YES	NO	YES	ROADWAY	HARDWOOD	1			
618	19	MAPLE	YES	YES	YES	ROADWAY	HARDWOOD	1	200	12.7	
619	11	MAPLE	YES	NO	YES	ROADWAY	HARDWOOD	1			
620	16	MAPLE	YES	NO	YES	ROADWAY	HARDWOOD	1			
621	12	OAK	NO	NO	NO	HARDWOOD	1				
622	12	OAK	NO	NO	NO	HARDWOOD	1				
624	24	POPLAR	NO	YES	YES	HARDWOOD	4				
625	16	OAK	NO	NO	NO	HARDWOOD	1				
626	16	OAK	NO	NO	NO	HARDWOOD	1				
627	14	POPLAR	NO	NO	NO	HARDWOOD	4				
628	22	POPLAR	NO	NO	NO	HARDWOOD	4				
629	12	GLUM	NO	NO	NO	HARDWOOD	2				
630	12	GLUM	NO	NO	NO	HARDWOOD	2				
631	16	MAPLE	NO	NO	NO	HARDWOOD	1				
632	18	MAPLE	NO	NO	NO	HARDWOOD	1				
633	30	MAPLE	NO	YES	YES	HARDWOOD	1				
634	18	MAPLE	NO	NO	NO	HARDWOOD	1				
635	12	GLUM	NO	NO	NO						



**LEGEND**

- EXISTING TREE TO REMAIN
- EXISTING TREE TO BE REMOVED
- TREE NUMBER - SEE EXISTING TREE LEGEND FOR DETAILED INFORMATION
- LANDSCAPE BUFFER (NO TREES TO BE REMOVED)
- APPROXIMATE LIMITS OF DISTURBANCE (SEE GRADING PLAN)
- TREE PROTECTION FENCING (SEE DETAIL AND NOTES, SHTS. L-1.1 AND C-0.2)



REVISIONS:

3/10/2022	APPROVED ADMINISTRATIVE MODIFICATION
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CLIENT INFORMATION:  
**CIP CONSTRUCTION COMPANY**  
 201 NORTH ELM STREET, STE. 201  
 GREENSBORO, NC 27401

**PARAMOUNT ENGINEERING, INC.**  
 122 Cinema Drive  
 Wilmington, North Carolina 28403  
 (910) 791-6707 (O) (910) 791-6760 (F)  
 NC License #: C-2846

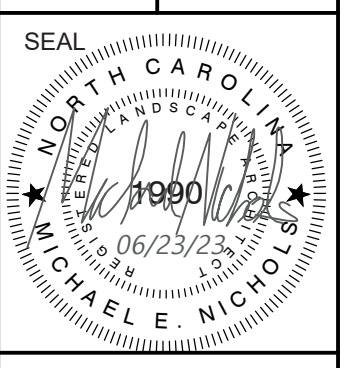
**TREE INVENTORY & REMOVALS  
 DETAIL PLAN**  
**CARROLL AT THE AVENUE**  
**MILITARY CUTOFF RD.**  
**WILMINGTON, NC 28405**

PROJECT STATUS

ORIGINAL LAYOUT:	08/22/2020
FINAL DESIGN:	06/23/23
RELEASED FOR CONSTRUCTION:	06/23/23

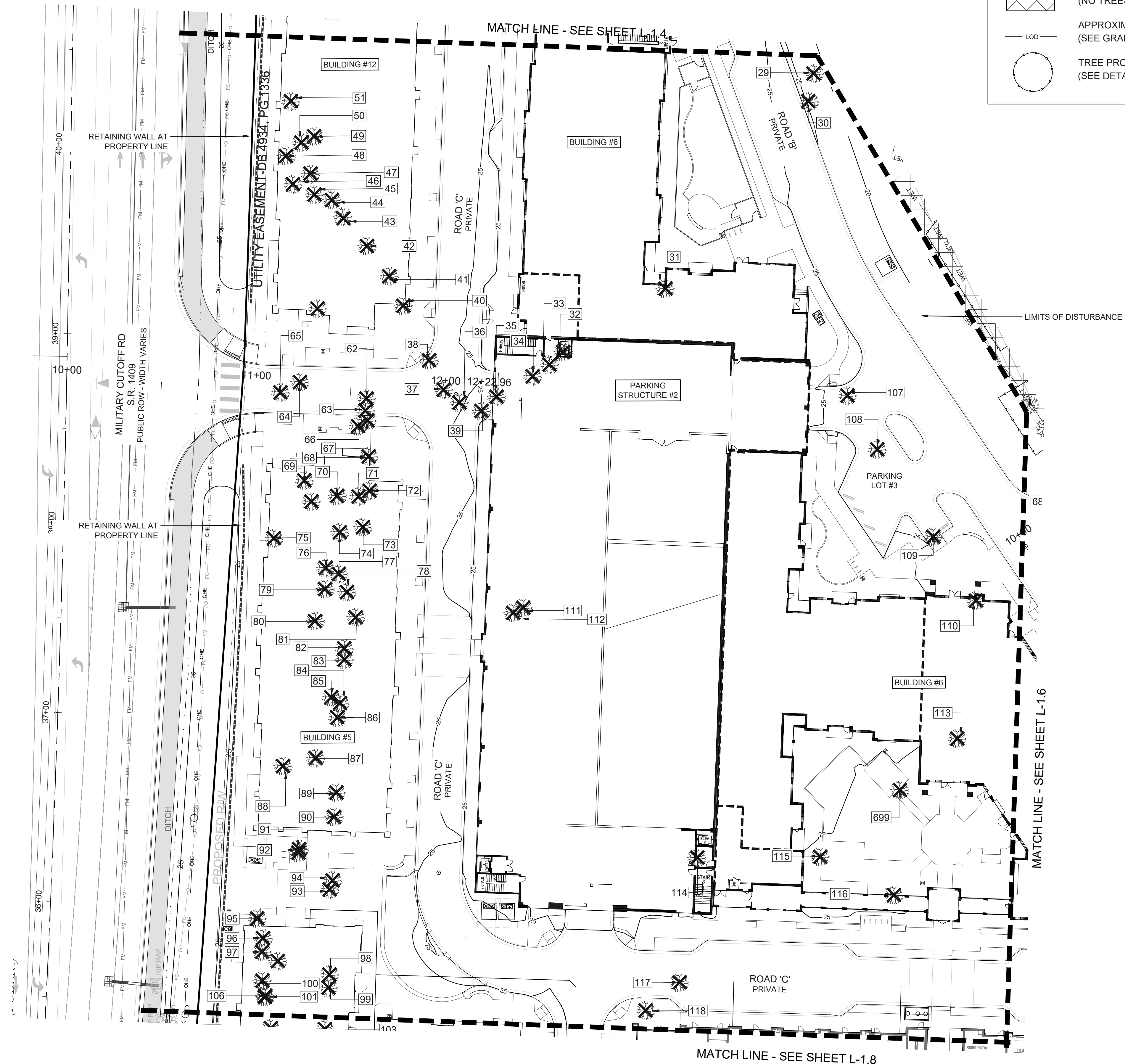
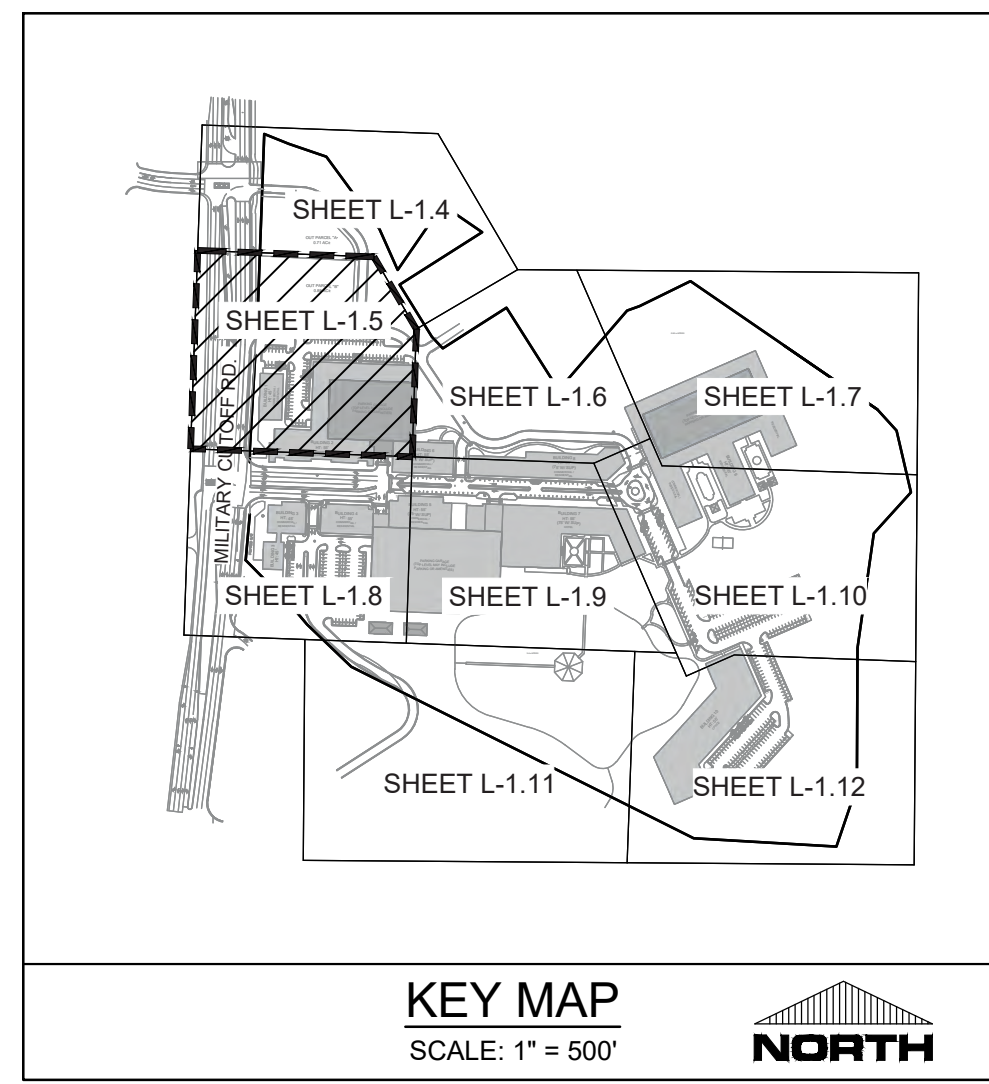
DRAWING INFORMATION

DATE:	06/23/23
SCALE:	1" = 30'
DRAWN BY:	MM
CHECKED BY:	REB



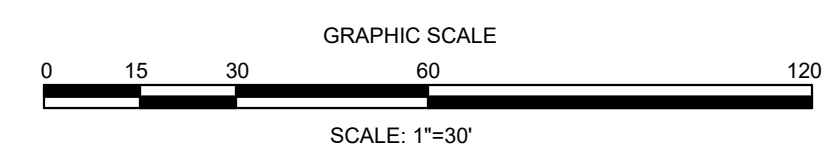
**L-1.4**  
 PEI JOB#: 18473.PE

FINAL DESIGN - NOT RELEASED FOR CONSTRUCTION



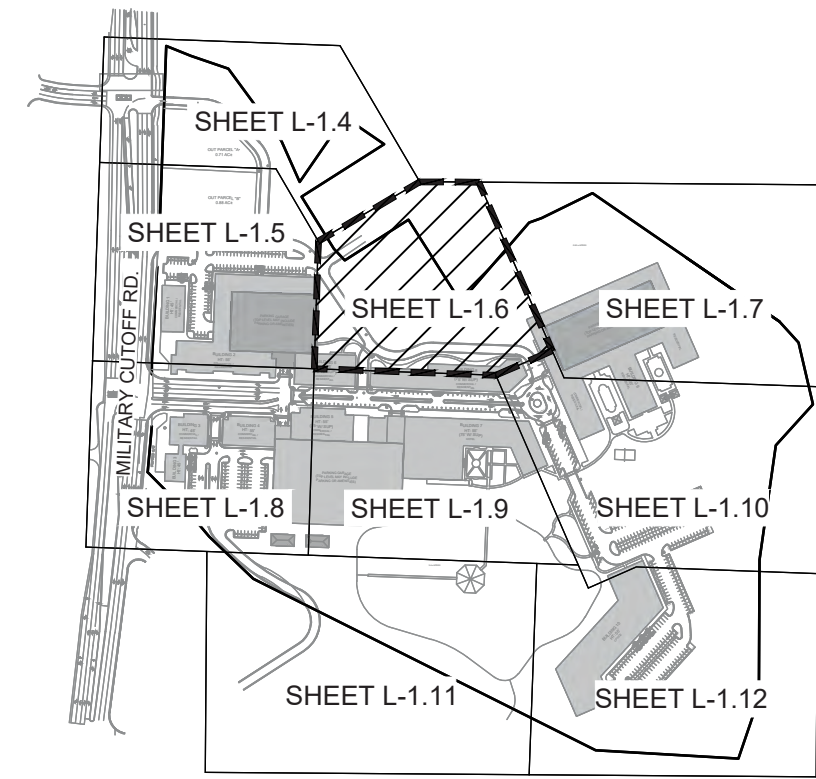
**LEGEND**

- EXISTING TREE TO REMAIN
- EXISTING TREE TO BE REMOVED
- TREE NUMBER - SEE EXISTING TREE LEGEND FOR DETAILED INFORMATION
- LANDSCAPE BUFFER (NO TREES TO BE REMOVED)
- APPROXIMATE LIMITS OF DISTURBANCE (SEE GRADING PLAN)
- TREE PROTECTION FENCING (SEE DETAIL AND NOTES, SHTS. L-1.1 AND C-0.2)

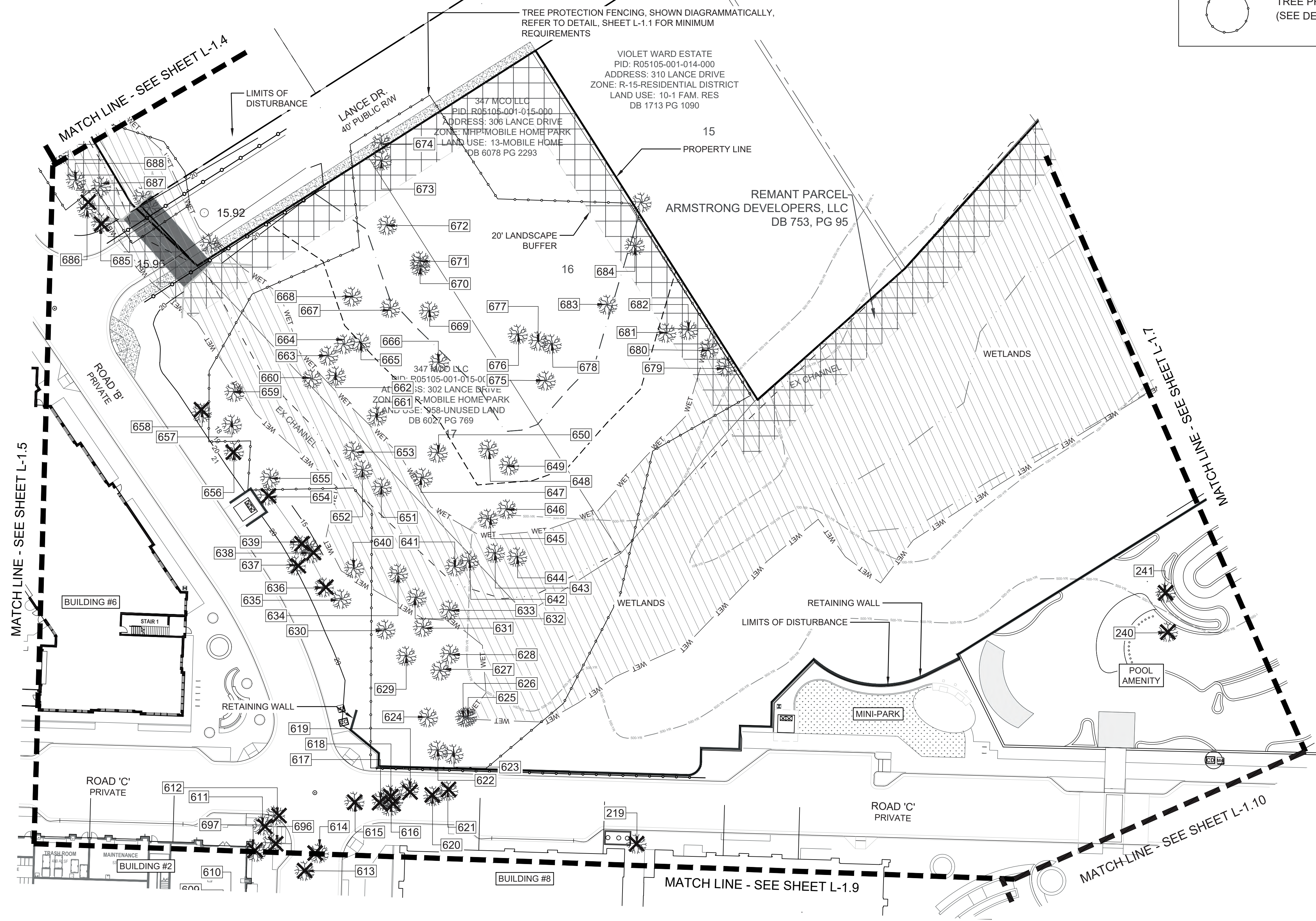


FINAL DESIGN - NOT RELEASED FOR CONSTRUCTION

<p><b>PROJECT STATUS</b>          ORIGINAL LAYOUT:          FINAL DESIGN:          RELEASED FOR CONSTRUCTION:          DATE: 08/23/2023          SCALE: 1" = 30'          DRAWN BY: [Signature]          CHECKED: [Signature]</p>	<p><b>DRAWING INFORMATION</b>          DATE: 08/23/2023          SCALE: 1" = 30'          DRAWN BY: [Signature]          CHECKED: [Signature]</p>	<p><b>CLIENT INFORMATION:</b>          CIP CONSTRUCTION COMPANY          201 NORTH ELM STREET, STE. 201          GREENSBORO, NC 27401</p>	<p><b>REVISIONS:</b>          # APPROVED ADMINISTRATIVE MODIFICATION          3/10/2022</p>
<p><b>TREE INVENTORY &amp; REMOVALS          DETAIL PLAN</b></p> <p>CARROLL AT THE AVENUE          MILITARY CUTOFF RD          WILMINGTON, NC 28405</p>		<p><b>PARAMOUNT ENGINEERING, INC.</b>          122 Cinema Drive          Wilmington, North Carolina 28403          (910) 791-6707 (O) (910) 791-6760 (F)          N.C. License #: C-2846</p>	
<p><b>L-1.5</b></p>		<p>PEI JOB#: 18473.PE</p>	



**KEY MAP**  
SCALE: 1" = 500'



**LEGEND**

- EXISTING TREE TO REMAIN
- EXISTING TREE TO BE REMOVED
- TREE NUMBER - SEE EXISTING TREE LEGEND FOR DETAILED INFORMATION
- LANDSCAPE BUFFER (NO TREES TO BE REMOVED)
- APPROXIMATE LIMITS OF DISTURBANCE (SEE GRADING PLAN)
- TREE PROTECTION FENCING (SEE DETAIL AND NOTES, SHTS. L-1.1 AND C-0.2)

**REVISIONS:**

3/10/2022	APPROVED ADMINISTRATIVE MODIFICATION
-----------	--------------------------------------

**CLIENT INFORMATION:**  
CIP CONSTRUCTION COMPANY  
201 NORTH ELM STREET, STE. 201  
GREENSBORO, NC 27401

**PARAMOUNT ENGINEERING, INC.**  
122 Cinema Drive  
Wilmington, North Carolina 28403  
(910) 791-6707 (O) (910) 791-6760 (F)  
N.C. License #: C-2846

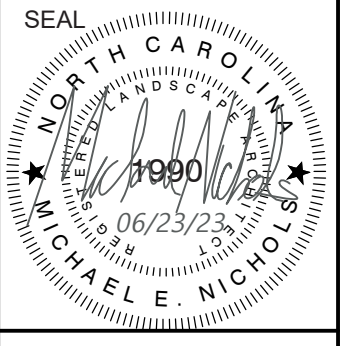
**TREE INVENTORY & REMOVALS  
DETAIL PLAN**  
CARROLL AT THE AVENUE  
MILITARY CUTOFF RD.  
WILMINGTON, NC 28405

**PROJECT STATUS**

ORIGINAL LAYOUT:	08/22/2020
FINAL DESIGN:	11/19/2020
RELEASED FOR CONSTRUCTION:	06/23/2023

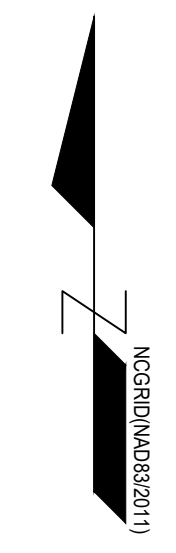
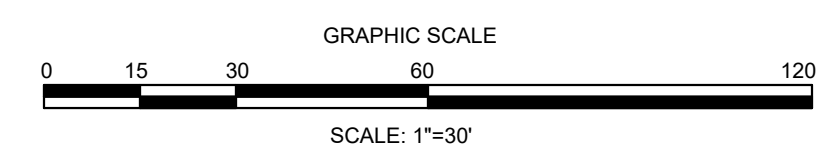
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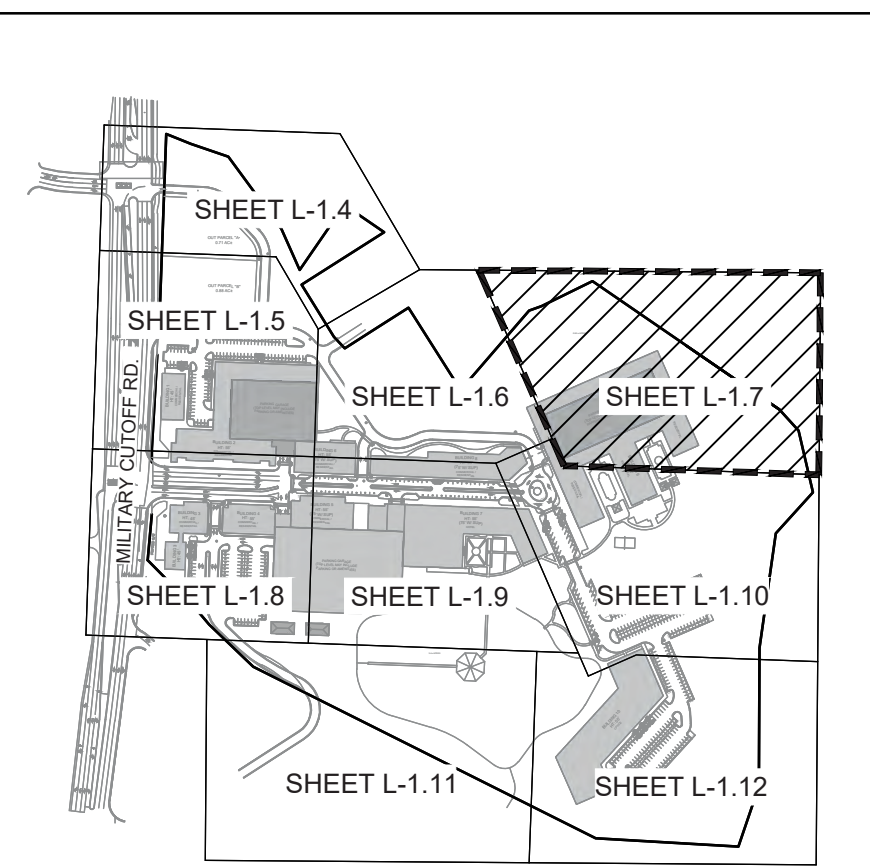
DATE:	06/23/2023
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DRAWN BY:	MM
CHECKED:	REB



**L-1.6**  
PEI JOB#: 18473.PE

FINAL DESIGN - NOT RELEASED FOR CONSTRUCTION



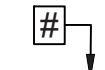


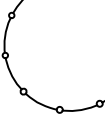


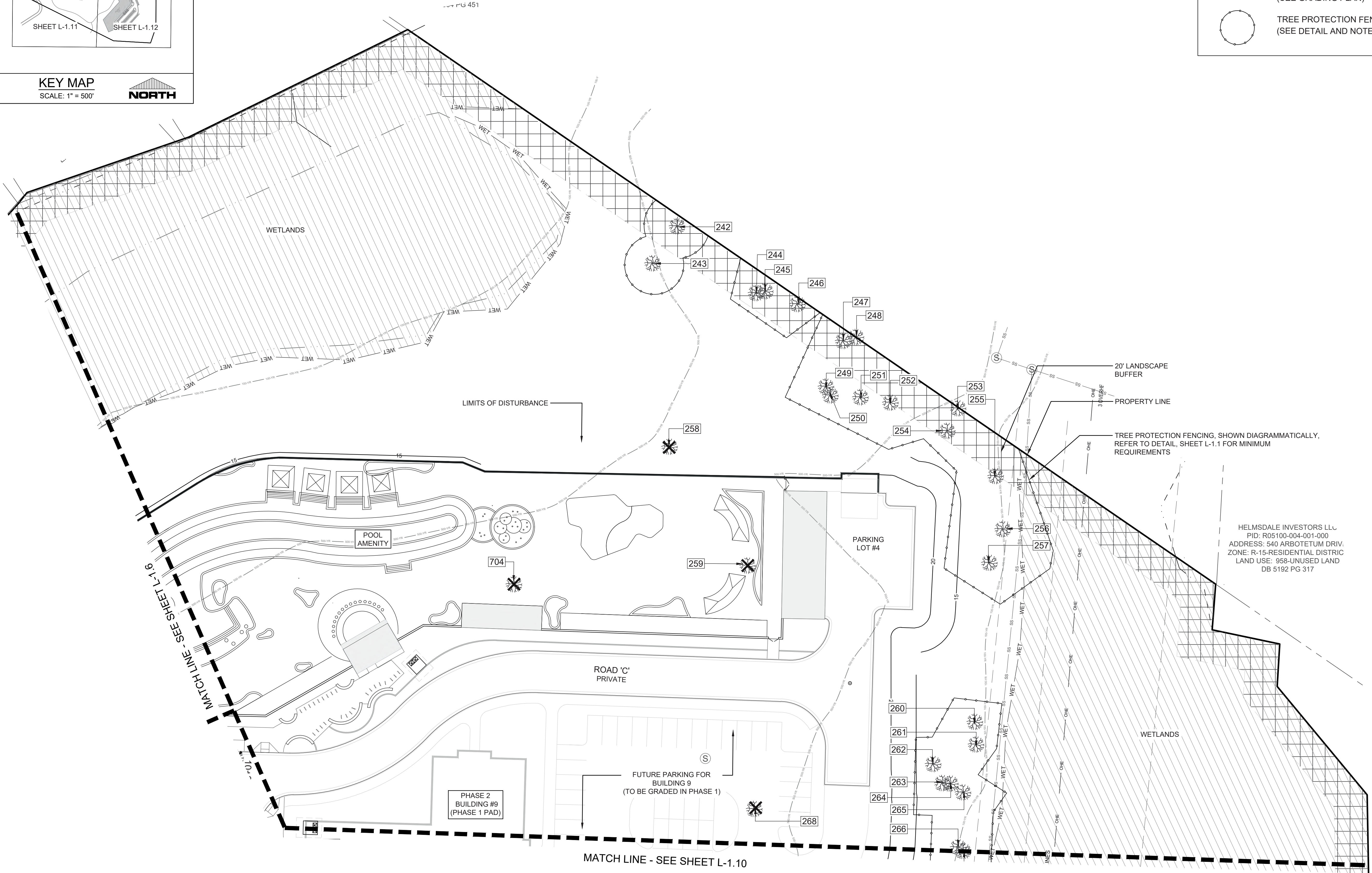


KEY MAP  
SCALE: 1" = 500'



LEGEND

-  EXISTING TREE TO REMAIN
-  EXISTING TREE TO BE REMOVED
-  TREE NUMBER - SEE EXISTING TREE LEGEND FOR DETAILED INFORMATION
-  LANDSCAPE BUFFER (NO TREES TO BE REMOVED)
-  APPROXIMATE LIMITS OF DISTURBANCE (SEE GRADING PLAN)
-  TREE PROTECTION FENCING (SEE DETAIL AND NOTES, SHTS. L-1.1 AND C-0.2)



HELMSDALE INVESTORS LLL  
PID: R05100-004-001-000  
ADDRESS: 540 ARBOTETUM DRIV.  
ZONE: R-15-RESIDENTIAL DISTRICT  
LAND USE: 958-UNUSED LAND  
DB 5192 PG 317

REVISIONS:

NO.	DATE	DESCRIPTION
1	06/23/23	APPROVED ADMINISTRATIVE MODIFICATION

CLIENT INFORMATION:  
**CIP CONSTRUCTION COMPANY**  
201 NORTH ELM STREET, STE. 201  
GREENSBORO, NC 27401

**PARAMOUNT ENGINEERING, INC.**  
122 Cinema Drive  
Wilmington, North Carolina 28403  
(910) 791-6707 (O) (910) 791-6700 (F)  
N.C. License #: C-2846

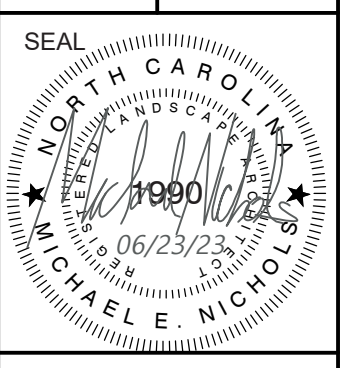
**TREE INVENTORY & REMOVAL  
DETAIL PLAN**  
CARROLL AT THE AVENUE  
MILITARY CUTOFF RD.  
WILMINGTON, NC 28405

PROJECT STATUS

ORIGINAL LAYOUT:	06/23/23
FINAL DESIGN:	06/23/23
RELEASED FOR CONSTRUCTION:	06/23/23

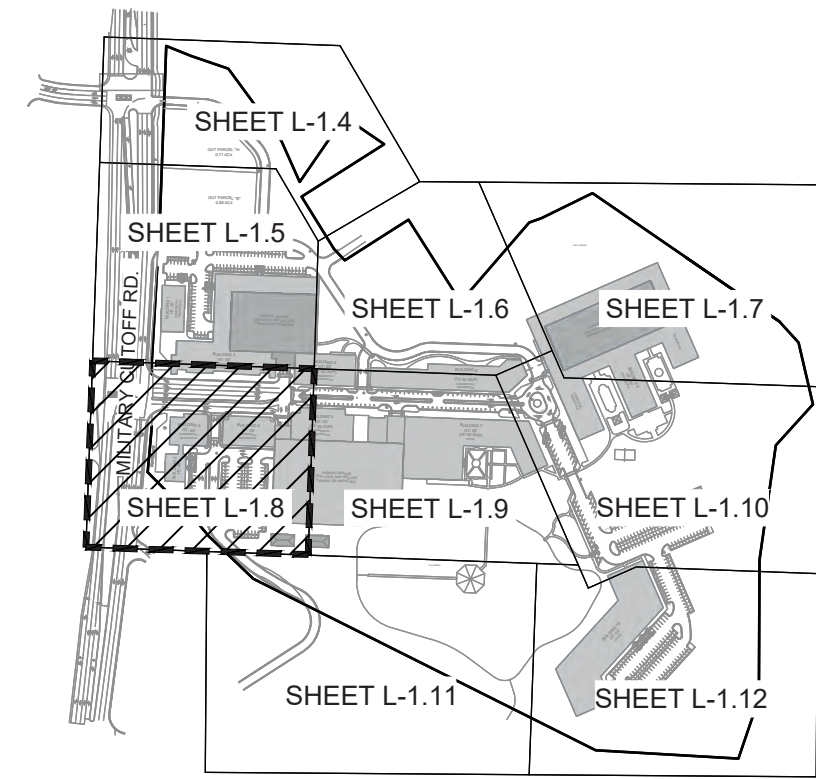
DRAWING INFORMATION

DATE:	06/23/23
SCALE:	1" = 30'
DRAWN BY:	MM
CHECKED:	MM



**L-1.7**  
PEI JOB#: 18473.PE

FINAL DESIGN - NOT RELEASED FOR CONSTRUCTION



KEY MAP  
SCALE: 1" = 500'

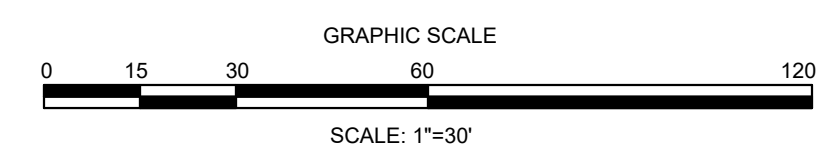


LEGEND

- EXISTING TREE TO REMAIN
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- LANDSCAPE BUFFER (NO TREES TO BE REMOVED)
- APPROXIMATE LIMITS OF DISTURBANCE (SEE GRADING PLAN)
- TREE PROTECTION FENCING (SEE DETAIL AND NOTES, SHTS. L-1.1 AND C-0.2)

CHIMNEY STATION OF  
PARADISE RD TO PA...  
SHEET L-1.1 FOR MINIMUM REQUIREMENTS

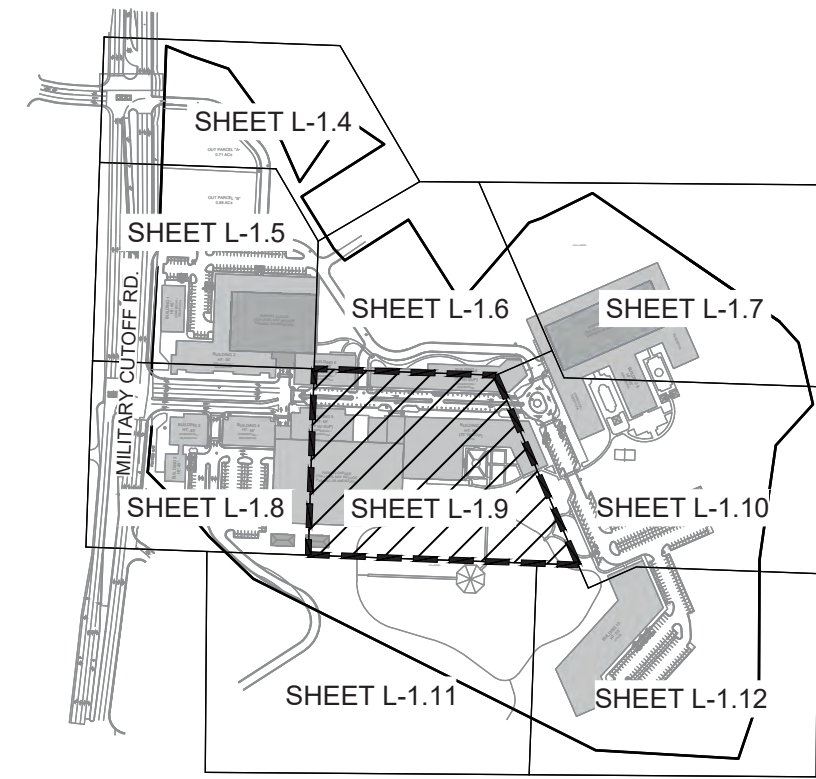
47 MCO LLC  
PID: F05100-002-008-000  
ADDRESS: 565 MILITARY CUTOFF RD  
ZONE: MHP-MOBILE HOME PARK  
LAND USE: 14-MOBILE HOME PARK  
DB 6014 PG 993



FINAL DESIGN - NOT RELEASED FOR CONSTRUCTION

<p>PROJECT STATUS ORIGINAL LAYOUT: 08/23/2023 FINAL DESIGN: 06/23/23 RELEASED FOR CONSTRUCTION: 06/23/23</p>	<p>DRAWING INFORMATION DATE: 06/23/23 SCALE: 1" = 30' DRAWN BY: [Signature] CHECKED: [Signature]</p>	<p>REVISIONS: # APPROVED ADMINISTRATIVE MODIFICATION 3/10/2022</p>
<p>CLIENT INFORMATION: <b>PARAMOUNT ENGINEERING, INC.</b> 122 Cinema Drive Wilmington, North Carolina 28403 (910) 791-6707 (O) (910) 791-6760 (F) NC License #: C-2846</p>		
<p>TREE INVENTORY &amp; REMOVAL DETAIL PLAN CARROLL AT THE AVENUE MILITARY CUTOFF RD WILMINGTON, NC 28405</p>		
<p>PEI JOB#: 18473.PE</p>		

L-1.8

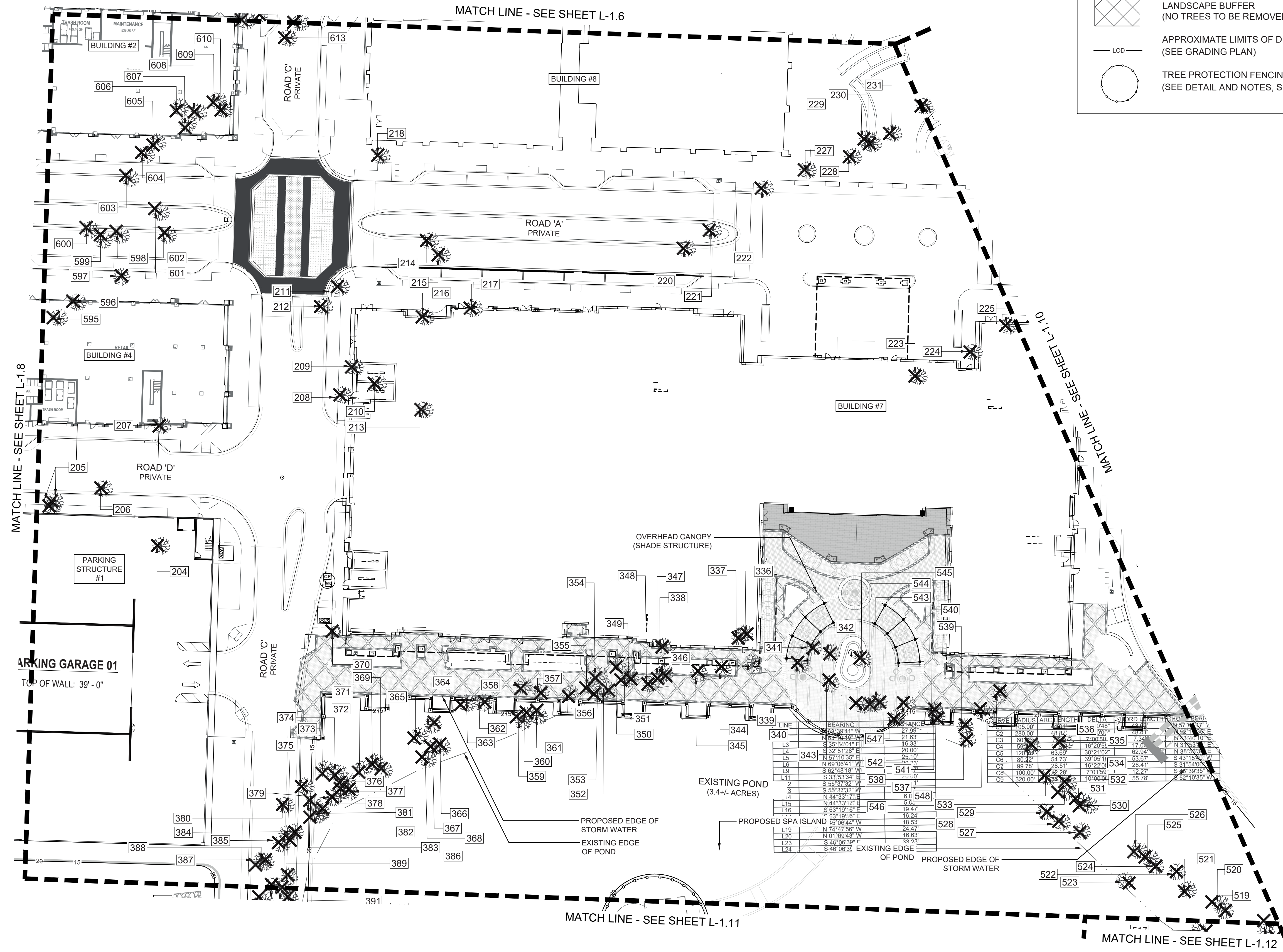


KEY MAP  
SCALE: 1" = 500'

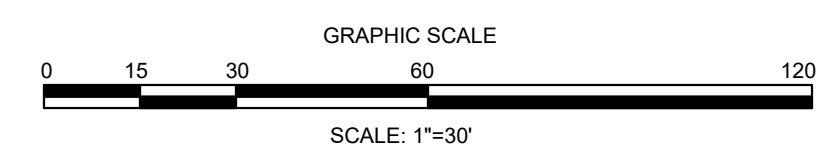


LEGEND

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- EXISTING TREE TO BE REMOVED
- TREE NUMBER - SEE EXISTING TREE LEGEND FOR DETAILED INFORMATION
- LANDSCAPE BUFFER (NO TREES TO BE REMOVED)
- APPROXIMATE LIMITS OF DISTURBANCE (SEE GRADING PLAN)
- TREE PROTECTION FENCING (SEE DETAIL AND NOTES, SHTS. L-1.1 AND C-0.2)



LINE	BEARING	DISTANCE	DELTA	ORDINATE	STATION
L30	S 35° 54' 01" W	18.33	17.82	7487.12	57.77
L31	S 89° 51' 28" E	10.00	8.43	7495.55	67.77
L32	N 57° 10' 35" E	20.10	16.20	7511.75	87.87
L33	N 69° 05' 41" W	25.10	18.10	7526.85	107.97
L34	S 62° 48' 18" W	22.00	16.50	7548.85	127.97
L35	S 33° 53' 34" E	22.00	17.50	7570.85	147.97
L36	S 55° 37' 32" W	19.47	17.50	7592.85	167.97
L37	S 59° 31' 02" W	19.47	17.50	7614.85	187.97
L38	N 44° 33' 17" E	6.00	5.00	7636.85	207.97
L39	N 44° 33' 17" E	19.47	16.24	7658.85	227.97
L40	N 44° 33' 17" E	18.58	15.24	7680.85	247.97
L41	N 73° 47' 56" W	24.47	18.58	7702.85	267.97
L42	N 01° 09' 43" W	16.63	16.63	7724.85	287.97
L43	S 48° 05' 35" E	19.47	15.24	7746.85	307.97
L44	S 48° 05' 35" E	19.47	15.24	7768.85	327.97



FINAL DESIGN - NOT RELEASED FOR CONSTRUCTION

REVISIONS: 3/10/2022 APPROVED ADMINISTRATIVE MODIFICATION

CLIENT INFORMATION: CIP CONSTRUCTION COMPANY 201 NORTH ELM STREET, STE. 201 GREENSBORO, NC 27401

PARAMOUNT ENGINEERING, INC. 122 Cinema Drive Wilmington, North Carolina 28403 (910) 791-6707 (O) (910) 791-6760 (F) N.C. License #: C-2846

TREE INVENTORY & REMOVALS DETAIL PLAN CARROLL AT THE AVENUE MILITARY CUTOFF RD. WILMINGTON, NC 28405

PROJECT STATUS: ORIGINAL LAYOUT: 06/23/2020 FINAL DESIGN: 06/23/2020 RELEASED FOR CONSTRUCTION: 06/23/2020

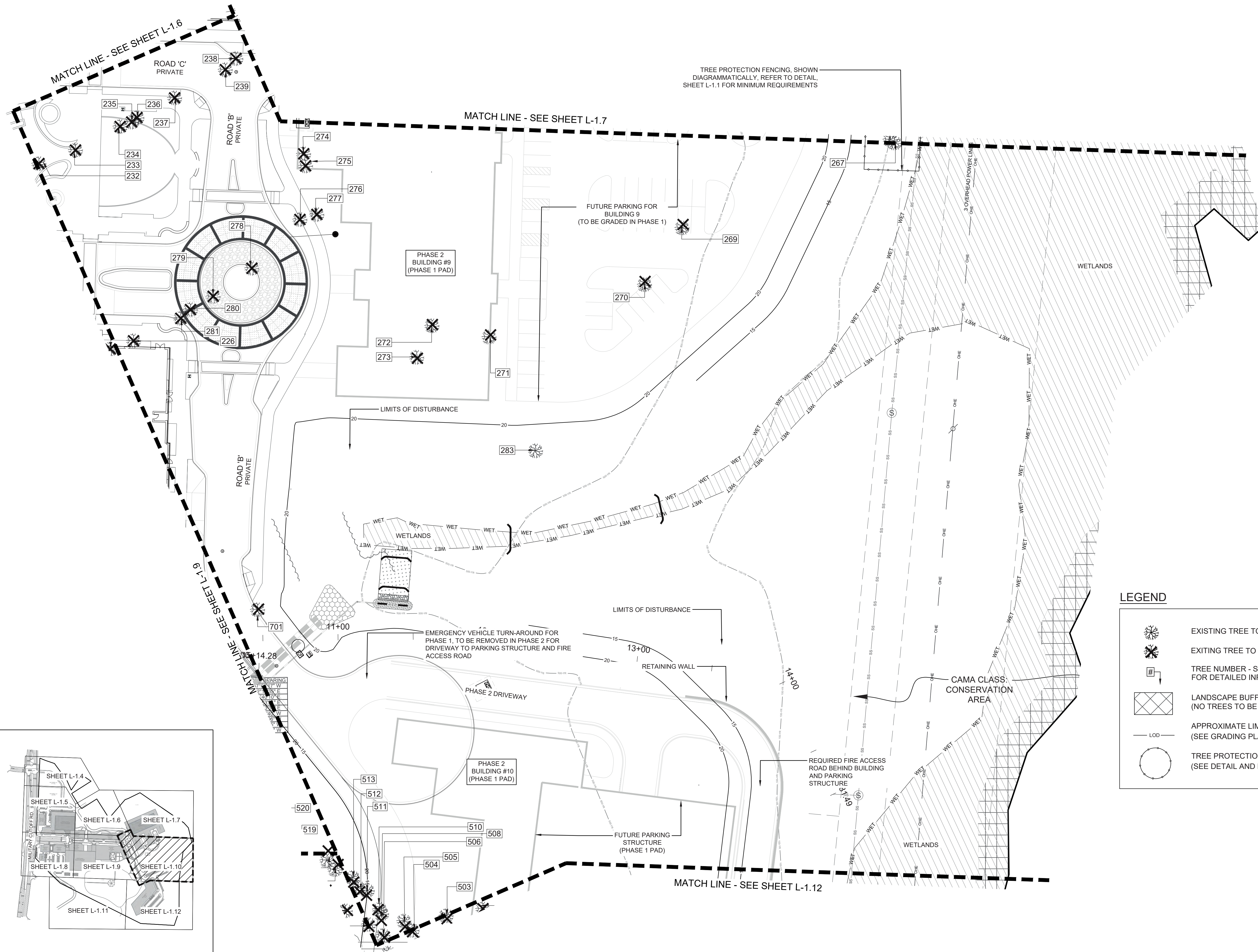
DRAWING INFORMATION: DATE: 06/23/2020 SCALE: 1" = 30' DRAWN BY: MICHAEL E. NICHOLS CHECKED BY: [Signature]

SEAL: MICHAEL E. NICHOLS, P.E., 1980, 06/23/2020

L-1.9

PEI JOB#: 18473.PE





TREE PROTECTION FENCING, SHOWN  
DIAGRAMMATICALLY, REFER TO DETAIL,  
SHEET L-1.1 FOR MINIMUM REQUIREMENTS

FUTURE PARKING FOR  
BUILDING 9  
(TO BE GRADED IN PHASE 1)

PHASE 2  
BUILDING #9  
(PHASE 1 PAD)

LIMITS OF DISTURBANCE

LIMITS OF DISTURBANCE

EMERGENCY VEHICLE TURN-AROUND FOR  
PHASE 1, TO BE REMOVED IN PHASE 2 FOR  
DRIVEWAY TO PARKING STRUCTURE AND FIRE  
ACCESS ROAD

RETAINING WALL

PHASE 2 DRIVEWAY

CAMA CLASS  
CONSERVATION  
AREA

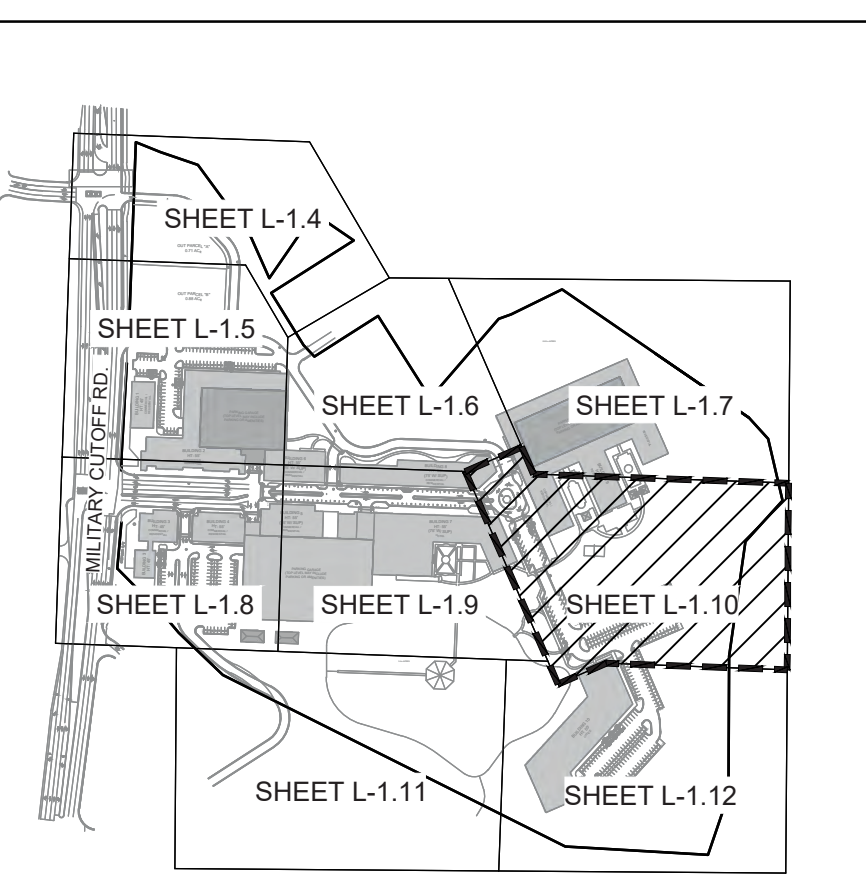
REQUIRED FIRE ACCESS  
ROAD BEHIND BUILDING  
AND PARKING  
STRUCTURE

FUTURE PARKING  
STRUCTURE  
(PHASE 1 PAD)

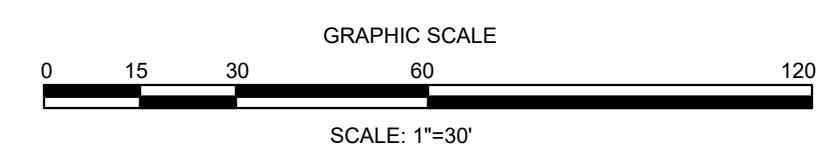
MATCH LINE - SEE SHEET L-1.12

**LEGEND**

- EXISTING TREE TO REMAIN
- EXISTING TREE TO BE REMOVED
- TREE NUMBER - SEE EXISTING TREE LEGEND FOR DETAILED INFORMATION
- LANDSCAPE BUFFER (NO TREES TO BE REMOVED)
- APPROXIMATE LIMITS OF DISTURBANCE (SEE GRADING PLAN)
- TREE PROTECTION FENCING (SEE DETAIL AND NOTES, SHTS. L-1.1 AND C-0.2)



**KEY MAP**  
SCALE: 1" = 500'



REVISIONS:

3/10/2022	APPROVED ADMINISTRATIVE MODIFICATION
-----------	--------------------------------------

CLIENT INFORMATION:  
**CIP CONSTRUCTION COMPANY**  
201 NORTH ELM STREET, STE. 201  
GREENSBORO, NC 27401

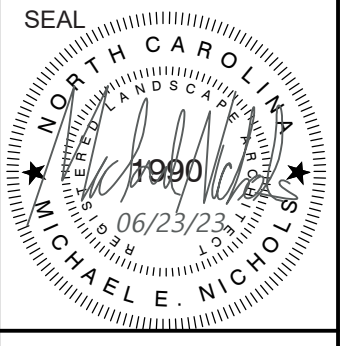
**PARAMOUNT**  
ENGINEERING, INC.  
122 Cinema Drive  
Wilmington, North Carolina 28403  
(910) 791-6707 (O) (910) 791-6760 (F)  
NC License #: C-2846

**TREE INVENTORY & REMOVALS  
DETAIL PLAN**  
CARROLL AT THE AVENUE  
MILITARY CUTOFF RD.  
WILMINGTON, NC 28405

PROJECT STATUS

ORIGINAL LAYOUT:	08/22/2020
FINAL DESIGN:	06/23/23
RELEASED FOR CONSTRUCTION:	06/23/23

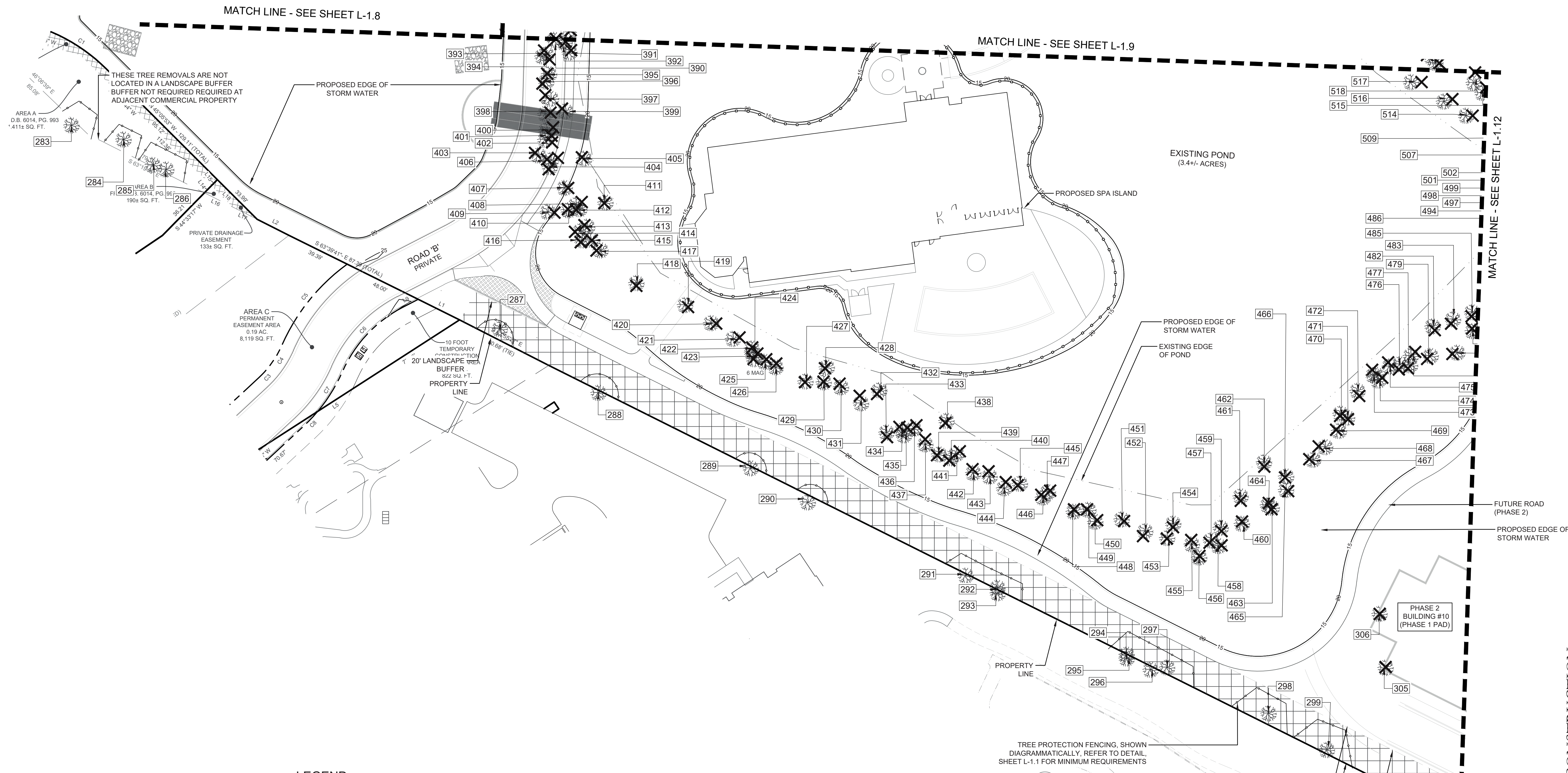
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DATE: 06/23/23  
SCALE: 1" = 30'  
DRAWN BY: [Name]  
CHECKED: [Name]



**L-1.10**

PEI JOB#: 18473.PE

FINAL DESIGN - NOT RELEASED FOR CONSTRUCTION



THESE TREE REMOVALS ARE NOT LOCATED IN A LANDSCAPE BUFFER BUFFER NOT REQUIRED AT ADJACENT COMMERCIAL PROPERTY

AREA A  
O.B. 6014, PG. 993  
411± SQ. FT.

AREA B  
O.B. 6014, PG. 995  
190± SQ. FT.

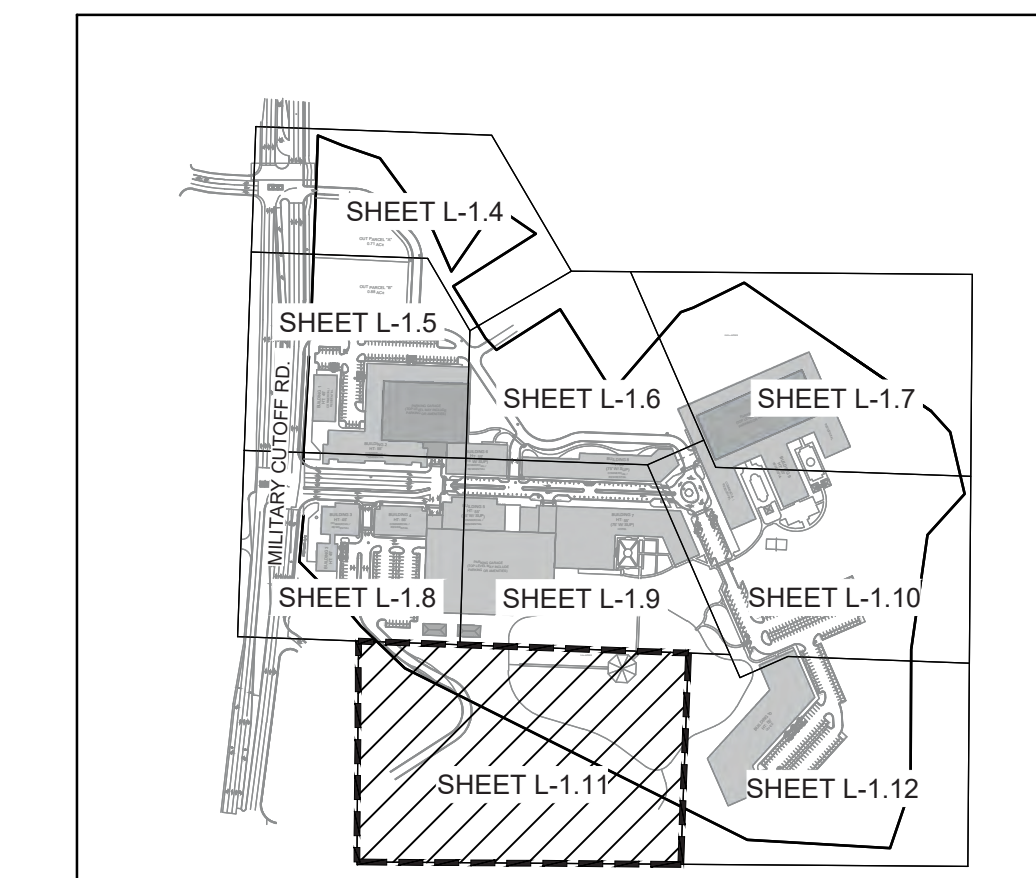
PRIVATE DRAINAGE-EASEMENT  
133± SQ. FT.

AREA C  
PERMANENT EASEMENT AREA  
0.19 AC.  
8,119 SQ. FT.

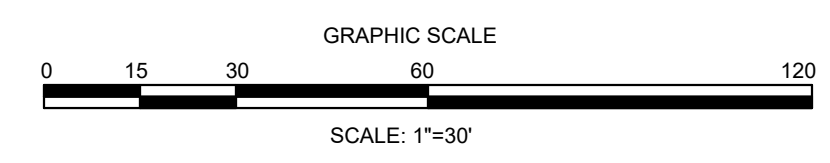
10 FOOT TEMPORARY CONSTRUCTION BUFFER  
20' LANDSCAPE BUFFER  
822 SQ. FT.  
PROPERTY LINE

**LEGEND**

	EXISTING TREE TO REMAIN
	EXISTING TREE TO BE REMOVED
	TREE NUMBER - SEE EXISTING TREE LEGEND FOR DETAILED INFORMATION
	LANDSCAPE BUFFER (NO TREES TO BE REMOVED)
	APPROXIMATE LIMITS OF DISTURBANCE (SEE GRADING PLAN)
	TREE PROTECTION FENCING (SEE DETAIL AND NOTES, SHTS. L-1.1 AND C-0.2)

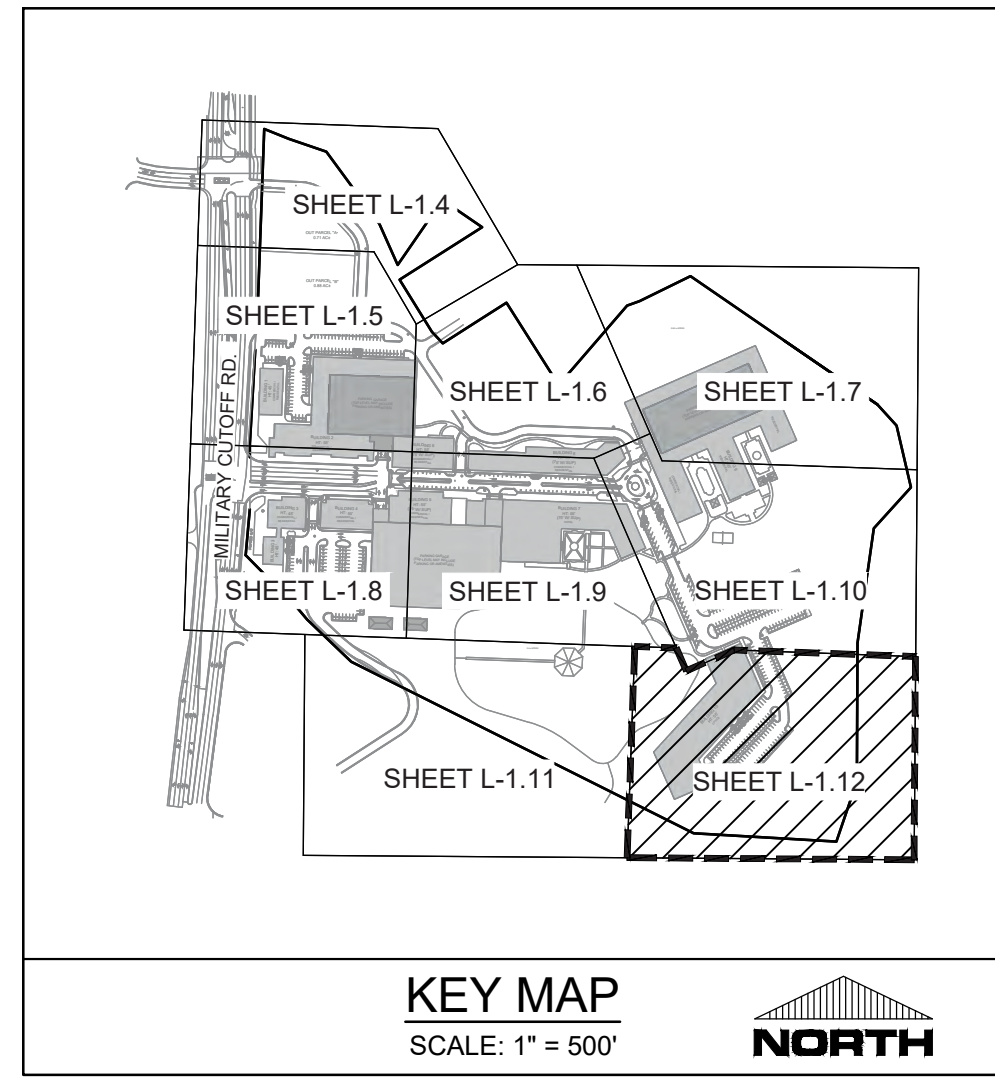


TREE PROTECTION FENCING, SHOWN DIAGRAMMATICALLY. REFER TO DETAIL, SHEET L-1.1 FOR MINIMUM REQUIREMENTS



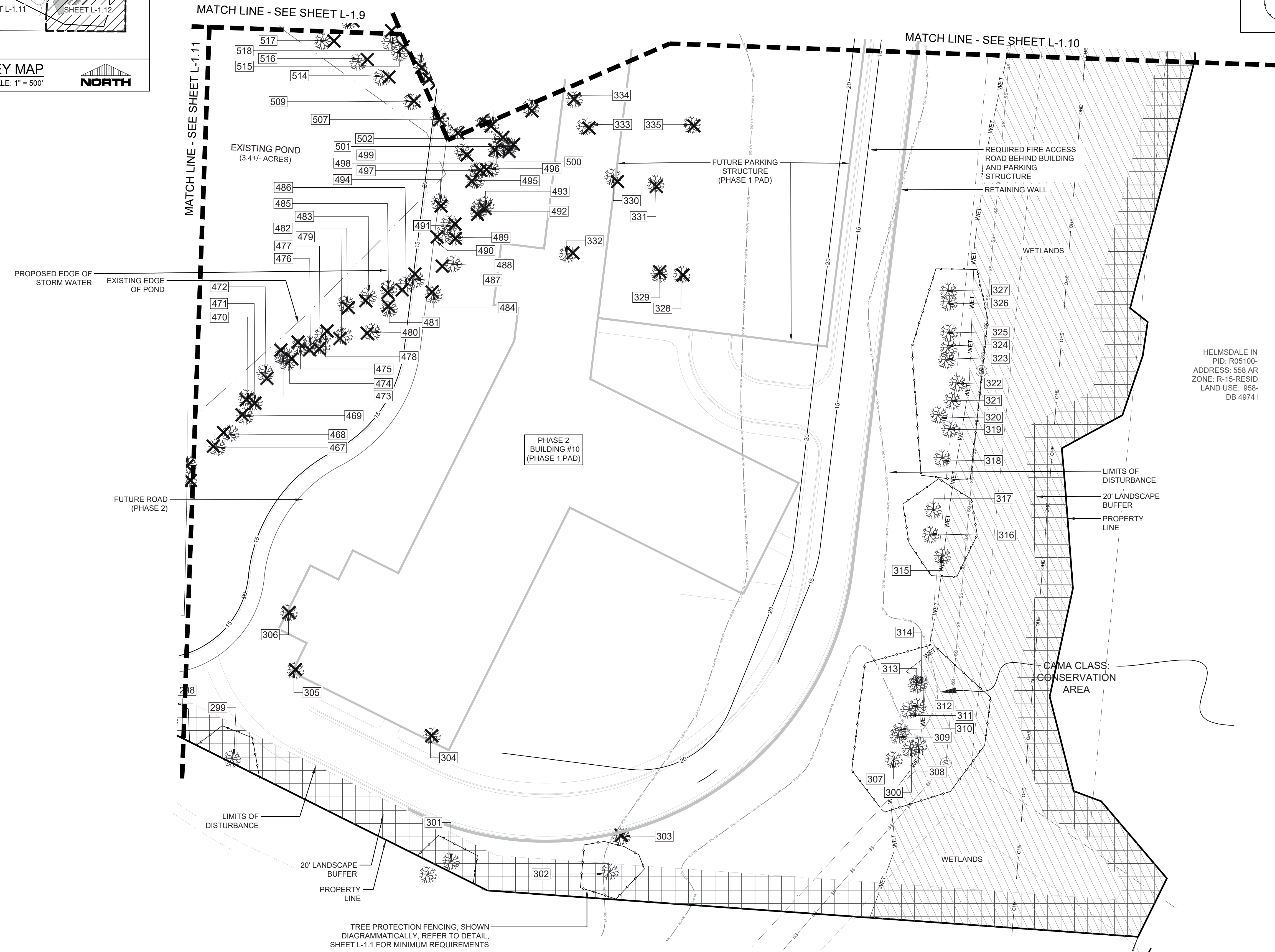
FINAL DESIGN - NOT RELEASED FOR CONSTRUCTION

<p>REVISIONS:</p> <p>APPROVED ADMINISTRATIVE MODIFICATION</p> <p>3/10/2022</p>	
<p>CLIENT INFORMATION:</p> <p><b>PARAMOUNT ENGINEERING, INC.</b> 122 Cinema Drive Wilmington, North Carolina 28403 (910) 791-6707 (O) (910) 791-6760 (F) N.C. License #: C-2846</p>	
<p><b>TREE INVENTORY &amp; REMOVALS DETAIL PLAN</b> CARROLL AT THE AVENUE MILITARY CUTOFF RD. WILMINGTON, NC 28405</p>	
<p>PROJECT STATUS</p> <p>ORIGINAL LAYOUT: 08/22/2020 FINAL DESIGN: 06/23/23 RELEASED FOR CONSTRUCTION: 06/23/23</p>	<p>DRAWING INFORMATION</p> <p>DATE: 06/23/23 SCALE: 1" = 30' DRAWN BY: [Signature] CHECKED: [Signature]</p>
<p>SEAL</p> <p>18473</p> <p>06/23/23</p> <p>WILMINGTON, NORTH CAROLINA</p>	
<p><b>L-1.11</b></p> <p>PEI JOB#: 18473.PE</p>	

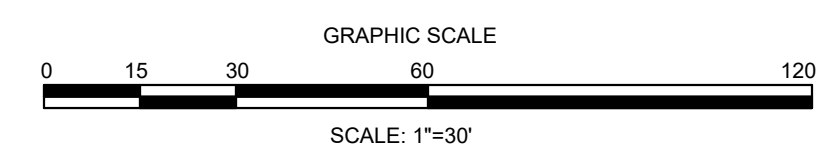


**LEGEND**

- EXISTING TREE TO REMAIN
- EXISTING TREE TO BE REMOVED
- TREE NUMBER - SEE EXISTING TREE LEGEND FOR DETAILED INFORMATION
- LANDSCAPE BUFFER (NO TREES TO BE REMOVED)
- APPROXIMATE LIMITS OF DISTURBANCE (SEE GRADING PLAN)
- TREE PROTECTION FENCING (SEE DETAIL AND NOTES, SHTS. L-1.1 AND C-0.2)

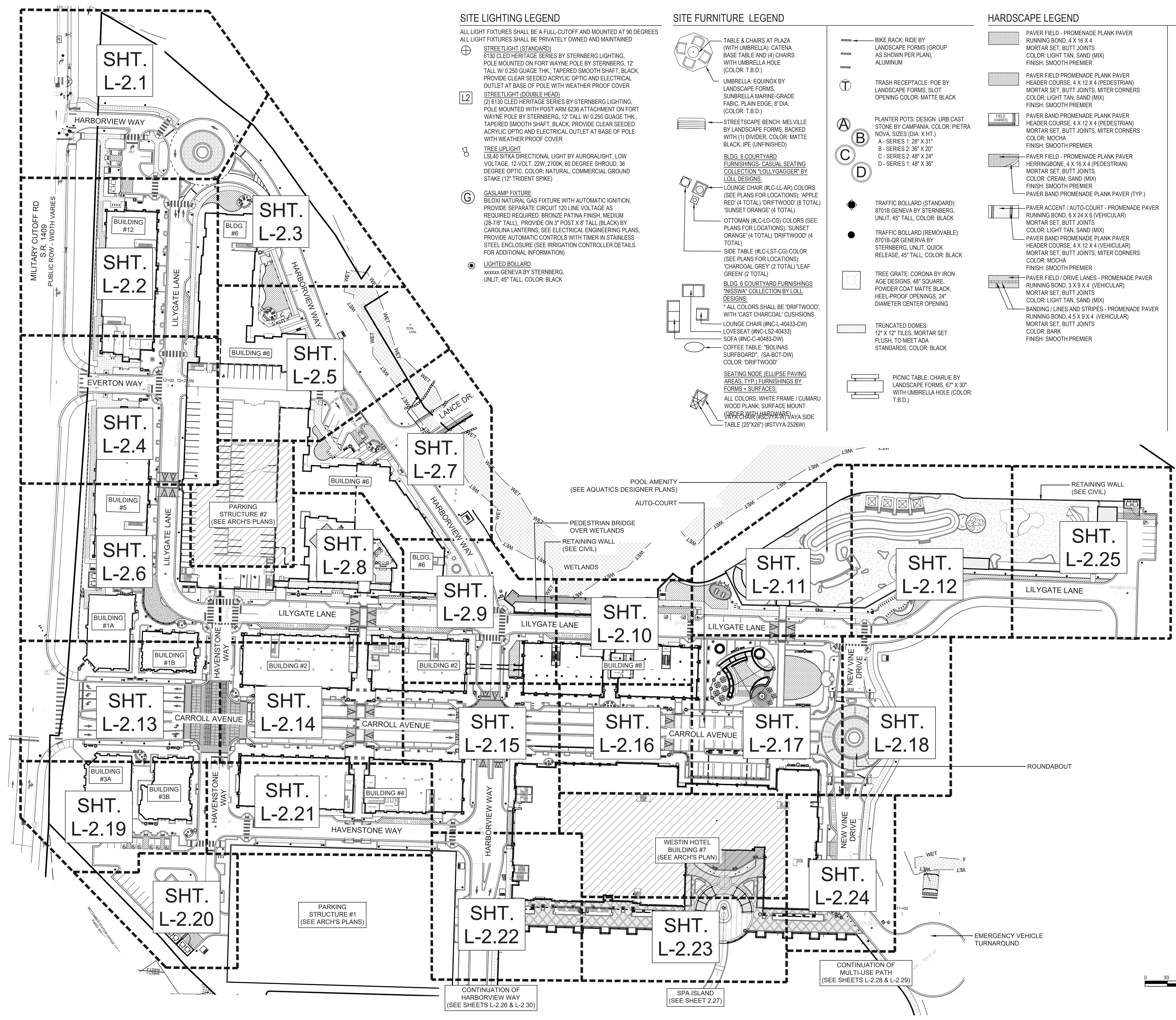


HELMSDALE IN  
 PID: R05100-  
 ADDRESS: 558 AR  
 ZONE: R-15-RESID  
 LAND USE: 958-  
 DB 4974



FINAL DESIGN - NOT RELEASED FOR CONSTRUCTION

<p><b>PROJECT STATUS</b>          ORIGINAL LAYOUT:          FINAL DESIGN:          RELEASED FOR CONSTRUCTION:          DATE: 08/23/2023          SCALE: 1" = 30'          DRAWN BY: [Signature]          CHECKED: [Signature]</p>	<p><b>DRAWING INFORMATION</b>          DATE: 08/23/2023          SCALE: 1" = 30'          DRAWN BY: [Signature]          CHECKED: [Signature]</p>	<p><b>CLIENT INFORMATION:</b>          CIP CONSTRUCTION COMPANY          201 NORTH ELM STREET, STE. 201          GREENSBORO, NC 27401</p>	<p><b>REVISIONS:</b>          APPROVED ADMINISTRATIVE MODIFICATION          3/10/2022</p>
<p><b>TREE INVENTORY &amp; REMOVALS          DETAIL PLAN</b></p> <p><b>CARROLL AT THE AVENUE          MILITARY CUTOFF RD.          WILMINGTON, NC 28405</b></p>		<p><b>PARAMOUNT ENGINEERING, INC.</b>          122 Cinema Drive          Wilmington, North Carolina 28403          (910) 791-6707 (O) (910) 791-6700 (F)          N.C. License #: C-2846</p>	
<p>SEAL            MICHAEL NICHOLS</p>		<p><b>L-1.12</b></p> <p>PEI JOB#: 18473.PE</p>	



**SITE LIGHTING LEGEND**

- ALL LIGHT FIXTURES SHALL BE A FULL-CUTOFF AND MOUNTED AT 90 DEGREES  
ALL LIGHT FIXTURES SHALL BE PRIVATELY OWNED AND MAINTAINED
- ⊕ STREETLIGHT (STANDARD)  
6130 CLED HERITAGE SERIES BY STERNBERG LIGHTING,  
POLE MOUNTED ON FORT WAYNE POLE BY STERNBERG, 12'  
TALL W/ 0.250 GAUGE THK., TAPERED SMOOTH SHAFT, BLACK,  
PROVIDE CLEAR SEEDED ACRYLIC OPTIC AND ELECTRICAL  
OUTLET AT BASE OF POLE WITH WEATHER PROOF COVER
  - L2 STREETLIGHT (DOUBLE HEAD)  
2) 6130 CLED HERITAGE SERIES BY STERNBERG LIGHTING,  
POLE MOUNTED WITH POST ARM 6236 ATTACHMENT ON FORT  
WAYNE POLE BY STERNBERG, 12' TALL W/ 0.250 GAUGE THK.,  
TAPERED SMOOTH SHAFT, BLACK, PROVIDE CLEAR SEEDED  
ACRYLIC OPTIC AND ELECTRICAL OUTLET AT BASE OF POLE  
WITH WEATHER PROOF COVER
  - ⊗ TREE UPLIGHT  
LSL40 SITKA DIRECTIONAL LIGHT BY AURORALIGHT, LOW  
VOLTAGE, 12-VOLT, 22W, 2700K, 60 DEGREE SHROUD, 36  
DEGREE OPTIC, COLOR: NATURAL, COMMERCIAL GROUND  
STAKE (12" TRIDENT SPIKE)
  - ⊙ GASLAMP FIXTURE  
BILOXI NATURAL GAS FIXTURE WITH AUTOMATIC IGNITION,  
PROVIDE SEPARATE CIRCUIT 120 LINE VOLTAGE AS  
REQUIRED REQUIRED, BRONZE PATINA FINISH, MEDIUM  
(28-78" TALL), PROVIDE ON 3" POST X 8" TALL (BLACK) BY  
CAROLINA LANTERNS; SEE ELECTRICAL ENGINEERING PLANS,  
PROVIDE AUTOMATIC CONTROLS WITH TIMER IN STAINLESS  
STEEL ENCLOSURE (SEE IRRIGATION CONTROLLER DETAILS  
FOR ADDITIONAL INFORMATION)
  - LIGHTED BOLLARD  
XXXXXX GENEVA BY STERNBERG,  
UNLIT, 45" TALL, COLOR: BLACK

**SITE FURNITURE LEGEND**

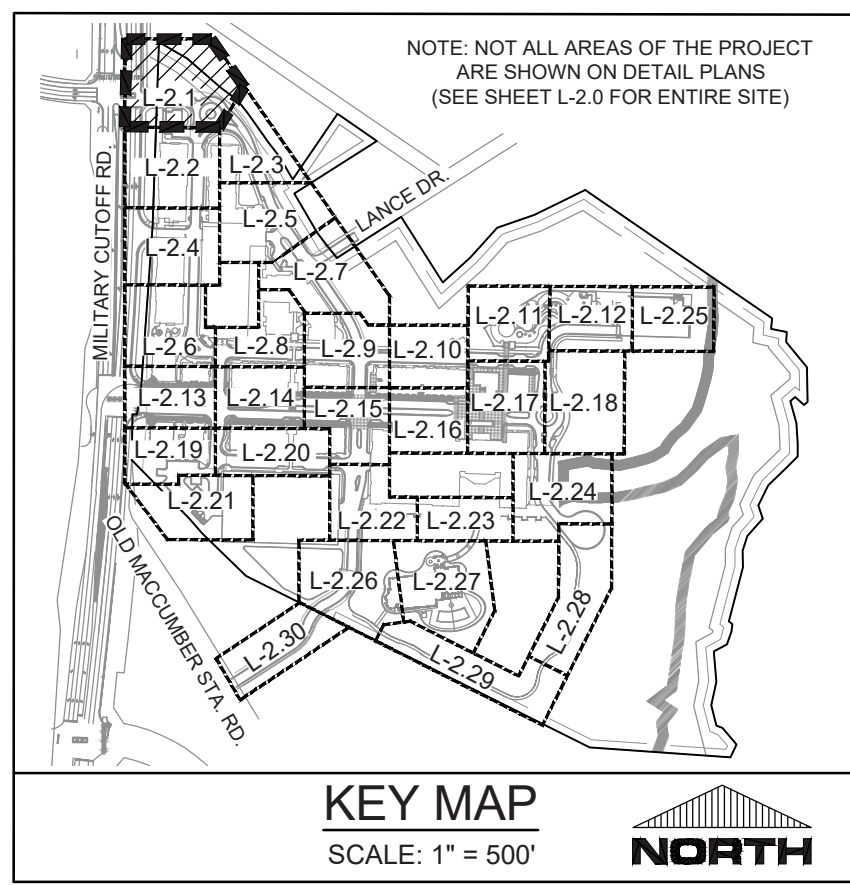
- ⊕ TABLE & CHAIRS AT PLAZA  
(WITH UMBRELLA): CATENA  
BASE TABLE AND (4) CHAIRS  
WITH UMBRELLA HOLE  
(COLOR: T.B.D.)
- ⊕ UMBRELLA: EQUINOX BY  
LANDSCAPE FORMS,  
SUNBRELLA MARINE-GRADE  
FABRIC, PLAIN EDGE, 8' DIA.  
(COLOR: T.B.D.)
- ⊕ STREETSCAPE BENCH: MELVILLE  
BY LANDSCAPE FORMS, BACKED  
WITH (1) DIVIDER, COLOR: MATTE  
BLACK, IPE (UNFINISHED)
- ⊕ BLDG. 6 COURTYARD  
FURNISHINGS: CASUAL SEATING  
COLLECTION "LOLLYGAGGER" BY  
LOLL DESIGNS:
- ⊕ LOUNGE CHAIR (#LC-LL-AR) COLORS  
(SEE PLANS FOR LOCATIONS): 'APPLE  
RED' (4 TOTAL) 'DRIFTWOOD' (8 TOTAL)  
'SUNSET ORANGE' (4 TOTAL)
- ⊕ OTTOMAN (#LC-LO-CG) COLORS (SEE  
PLANS FOR LOCATIONS): 'SUNSET  
ORANGE' (4 TOTAL) 'DRIFTWOOD' (4  
TOTAL)
- ⊕ SIDE TABLE (#LC-1ST-CG) COLOR  
(SEE PLANS FOR LOCATIONS):  
'CHARCOAL GREY' (2 TOTAL) 'LEAF  
GREEN' (2 TOTAL)
- ⊕ BLDG. 6 COURTYARD FURNISHINGS  
'NISSWA' COLLECTION BY LOLL  
DESIGNS:  
\* ALL COLORS SHALL BE 'DRIFTWOOD',  
WITH 'CAST CHARCOAL' CUSHIONS
- ⊕ LOUNGE CHAIR (#NC-L-40433-CW)  
LOVESEAT (#NC-L-40433-DW)  
SOFA (#NC-C-40483-DW)
- ⊕ COFFEE TABLE: "BOLINAS  
SURFBOARD", (SA-BCT-DW)  
COLOR: 'DRIFTWOOD'
- ⊕ SEATING NODE (ELLIPSE PAVING  
AREAS, TYP.) FURNISHINGS BY  
FORMS - SURFACES:  
ALL COLORS: WHITE FRAME / CUMARU  
WOOD PLANK; SURFACE MOUNT  
(SEE ARCHITECTURAL DRAWING) PAVY SIDE  
TABLE (25"X26") (#STVYA-2526W)

**HARDSCAPE LEGEND**

- ⊕ BIKE RACK: RIDE BY  
LANDSCAPE FORMS (GROUP  
AS SHOWN PER PLAN),  
ALUMINUM
- ⊕ TRASH RECEPTACLE: POE BY  
LANDSCAPE FORMS, SLOT  
OPENING COLOR: MATTE BLACK
- ⊕ PLANTER POTS: DESIGN: URB CAST  
STONE BY CAMPANIA, COLOR: PIETRA  
NOVA, SIZES (DIA. X HT.)  
A - SERIES 1: 28" X 31"  
B - SERIES 2: 36" X 20"  
C - SERIES 2: 48" X 24"  
D - SERIES 1: 48" X 36"
- ⊕ TRAFFIC BOLLARD (STANDARD):  
8701B GENEVA BY STERNBERG,  
UNLIT, 45" TALL, COLOR: BLACK
- ⊕ TRAFFIC BOLLARD (REMOVABLE):  
8701B-OR GENEVA BY  
STERNBERG, UNLIT, QUICK  
RELEASE, 45" TALL, COLOR: BLACK
- ⊕ TREE GRATE: CORONA BY IRON  
AGE DESIGNS, 48" SQUARE,  
POWDER COAT MATTE BLACK,  
HEEL-PROOF OPENINGS, 24"  
DIAMETER CENTER OPENING
- ⊕ TRUNCATED DOMES:  
12" X 12" TILES, MORTAR SET  
FLUSH, TO MEET ADA  
STANDARDS, COLOR: BLACK
- ⊕ PICNIC TABLE: CHARLIE BY  
LANDSCAPE FORMS, 67" X 30"  
WITH UMBRELLA HOLE (COLOR:  
T.B.D.)
- ⊕ PAVER FIELD - PROMENADE PLANK PAVER  
RUNNING BOND, 4 X 16 X 4  
MORTAR SET, BUTT JOINTS  
COLOR: LIGHT TAN, SAND (MIX)  
FINISH: SMOOTH PREMIER
- ⊕ PAVER FIELD PROMENADE PLANK PAVER  
HEADER COURSE, 4 X 12 X 4 (PEDESTRIAN)  
MORTAR SET, BUTT JOINTS, MITER CORNERS  
COLOR: LIGHT TAN, SAND (MIX)  
FINISH: SMOOTH PREMIER
- ⊕ PAVER BAND PROMENADE PLANK PAVER  
HERRINGBONE, 4 X 16 X 4 (PEDESTRIAN)  
MORTAR SET, BUTT JOINTS  
COLOR: CREAM, SAND (MIX)  
FINISH: SMOOTH PREMIER
- ⊕ PAVER FIELD - PROMENADE PLANK PAVER  
RUNNING BOND, 4 X 16 X 4 (PEDESTRIAN)  
MORTAR SET, BUTT JOINTS  
COLOR: MOCHA  
FINISH: SMOOTH PREMIER
- ⊕ PAVER BAND PROMENADE PLANK PAVER  
HEADER COURSE, 4 X 12 X 4 (PEDESTRIAN)  
MORTAR SET, BUTT JOINTS, MITER CORNERS  
COLOR: LIGHT TAN, SAND (MIX)  
FINISH: SMOOTH PREMIER
- ⊕ PAVER FIELD / DRIVE LANES - PROMENADE PAVER  
RUNNING BOND, 3 X 9 X 4 (VEHICULAR)  
MORTAR SET, BUTT JOINTS  
COLOR: LIGHT TAN, SAND (MIX)  
FINISH: SMOOTH PREMIER
- ⊕ BANDING / LINES AND STRIPES - PROMENADE PAVER  
RUNNING BOND, 4.5 X 9 X 4 (VEHICULAR)  
MORTAR SET, BUTT JOINTS  
COLOR: BARK  
FINISH: SMOOTH PREMIER
- ⊕ PAVER FIELD / DRIVE LANES - PROMENADE PAVER  
RUNNING BOND, 3 X 9 X 4 (VEHICULAR)  
MORTAR SET, BUTT JOINTS  
COLOR: LIGHT TAN, SAND (MIX)  
FINISH: SMOOTH PREMIER
- ⊕ PAVER BAND PROMENADE PLANK PAVER  
HEADER COURSE, 4 X 12 X 4 (PEDESTRIAN)  
MORTAR SET, BUTT JOINTS, MITER CORNERS  
COLOR: MOCHA  
FINISH: SMOOTH PREMIER
- ⊕ PAVER FIELD / DRIVE LANES - PROMENADE PAVER  
RUNNING BOND, 3 X 9 X 4 (VEHICULAR)  
MORTAR SET, BUTT JOINTS  
COLOR: LIGHT TAN, SAND (MIX)  
FINISH: SMOOTH PREMIER
- ⊕ BANDING / LINES AND STRIPES - PROMENADE PAVER  
RUNNING BOND, 4.5 X 9 X 4 (VEHICULAR)  
MORTAR SET, BUTT JOINTS  
COLOR: BARK  
FINISH: SMOOTH PREMIER
- ⊕ PAVER FIELD / DRIVE LANES - PROMENADE PAVER  
RUNNING BOND, 3 X 9 X 4 (VEHICULAR)  
MORTAR SET, BUTT JOINTS  
COLOR: LIGHT TAN, SAND (MIX)  
FINISH: SMOOTH PREMIER
- ⊕ PAVER BAND PROMENADE PLANK PAVER  
HEADER COURSE, 4 X 12 X 4 (PEDESTRIAN)  
MORTAR SET, BUTT JOINTS  
COLOR: LIGHT TAN, SAND (MIX)  
FINISH: SMOOTH PREMIER
- ⊕ PAVER FIELD - PROMENADE PLANK PAVER  
RUNNING BOND, 4 X 16 X 4 (PEDESTRIAN)  
MORTAR SET, BUTT JOINTS  
COLOR: LIGHT TAN, SAND (MIX)  
FINISH: SMOOTH PREMIER
- ⊕ PAVER BAND PROMENADE PLANK PAVER  
HEADER COURSE, 4 X 12 X 4 (PEDESTRIAN)  
MORTAR SET, BUTT JOINTS  
COLOR: LIGHT TAN, SAND (MIX)  
FINISH: SMOOTH PREMIER
- ⊕ CONCRETE PAVING  
4" THK. (MIN) PEDESTRIAN (SEE DETAILS)  
SAW-CUT SCORELINES  
COLOR: "PALOMINO" BY SOLOMON (INTEGRAL)  
FINISH: "SAND" (SEE SPECS.)
- ⊕ COBBLE BAND  
4" - 6" RIVER ROCK, MORTAR SET BY HAND OVER  
CONCRETE (SEE DETAIL)  
SAW-CUT SCORELINES  
COLOR: "NEW ENGLAND RIVER ROCK"  
FINISH: ROUNDED, SMOOTH, NO BROKEN STONES

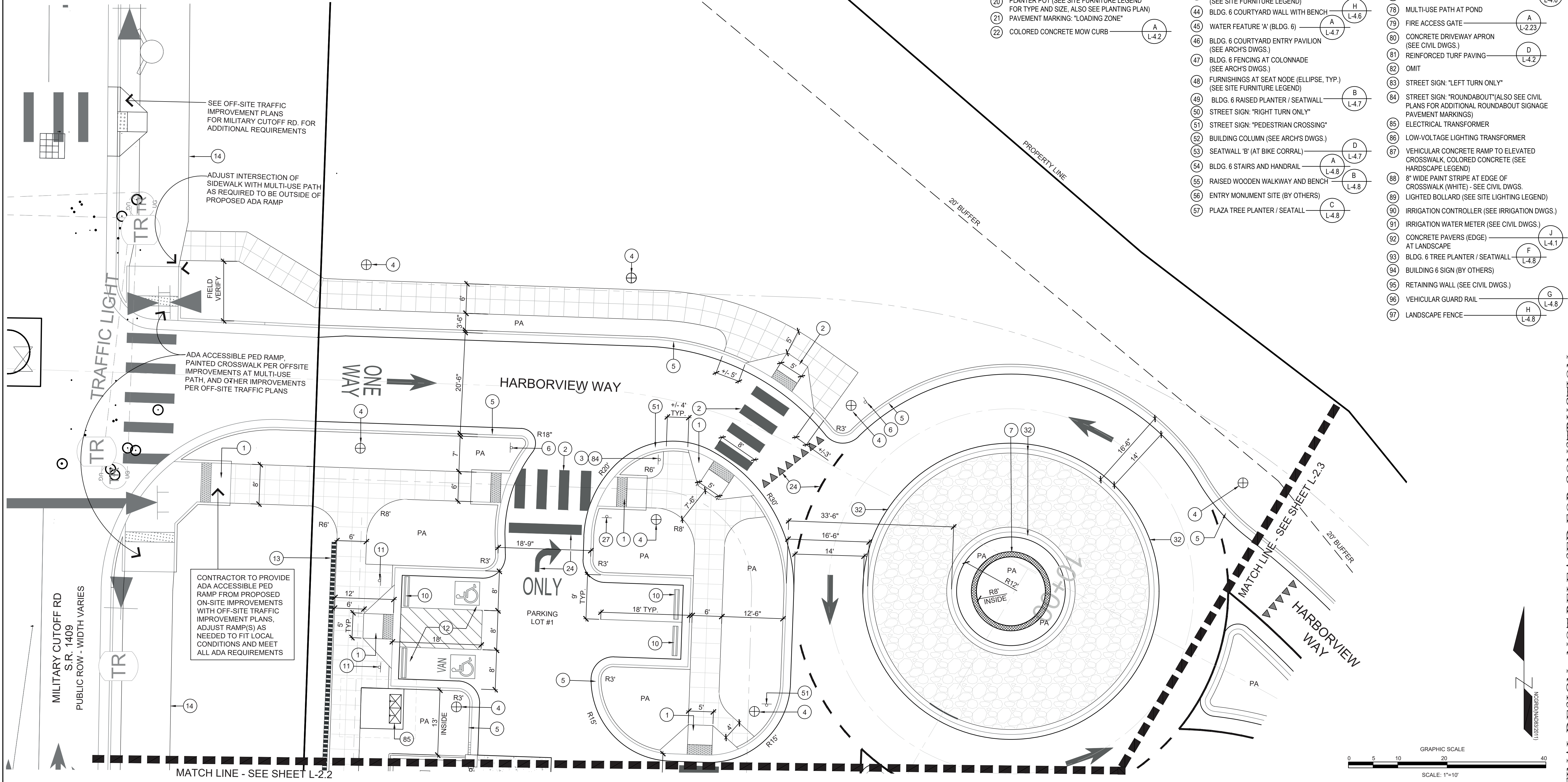
FINAL DESIGN - NOT RELEASED FOR CONSTRUCTION

<p>REVISIONS:</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 5%;">NO.</td> <td style="width: 85%;">DESCRIPTION</td> <td style="width: 10%;">DATE</td> </tr> <tr> <td> </td> <td> </td> <td> </td> </tr> </table>	NO.	DESCRIPTION	DATE				<p>CLIENT INFORMATION:</p> <p><b>CIP CONSTRUCTION COMPANY</b> 201 NORTH ELM STREET, STE. 201 GREENSBORO, NC 27401</p> <hr/> <p><b>PARAMOUNT ENGINEERING, INC.</b> 122 Cinema Drive Wilmington, North Carolina 28403 (910) 791-6707 (O) (910) 791-6760 (F) N.C. License #: C-2846</p>
NO.	DESCRIPTION	DATE					
<p>LANDSCAPE CONSTRUCTION PARTIAL SITE PLAN CARROLL AT THE AVENUE MILITARY CUTOFF RD. WILMINGTON, NC 28405</p>							
<p>PROJECT STATUS: ORIGINAL LAYOUT: 08/22/2023 FINAL DESIGN: 06/23/23 RELEASED FOR CONSTRUCTION: 06/23/23</p>							
<p>DRAWING INFORMATION: DATE: 06/23/23 SCALE: 1" = 60' DRAWN BY: [Signature] CHECKED BY: [Signature]</p>							
<p><b>L-2.0</b></p> <p>PEI JOB#: 18473.PE</p>							



**KEY NOTES**

- 1 ADA ACCESSIBLE RAMP (SEE CIVIL DETAILS)
- 2 PAINTED CROSSWALK (SEE CIVIL DETAILS)
- 3 STREET SIGN: "DO NOT ENTER"
- 4 LIGHT STANDARD (SEE ELECTRICAL DWGS.)
- 5 CURB AND GUTTER, COLORED CONCRETE TYPICAL ALL LOCATIONS UNLESS OTHERWISE NOTED PER PLAN (SEE HARDSCAPE LEGEND) REFER TO CIVIL FOR TYPE
- 6 STREET SIGN: "NO RIGHT TURN"
- 7 ROUNDABOUT SIGN WALL
- 8 TRENCH DRAIN WITH DECORATIVE GRATE (SEE CIVIL DWGS.)
- 9 PAVEMENT MARKING: "SERVICE"
- 10 WHEEL STOP (TYP.)
- 11 ADA ACCESSIBLE PARKING SIGN (SEE CIVIL DETAILS)
- 12 ADA ACCESSIBLE PARKING SPACE AND PAVEMENT MARKINGS (SEE CIVIL DETAILS)
- 13 RETAINING WALL AT NCDOT RIGHT-OF-WAY (SEE CIVIL AND TRAFFIC DWGS.)
- 14 MULTI-USE PATH AT NCDOT RIGHT-OF-WAY (SEE CIVIL AND TRAFFIC DWGS.)
- 15 TRASH ENCLOSURE
- 16 BIKE RACK (SEE SITE FURNITURE LEGEND)
- 17 BENCH (SEE SITE FURNITURE LEGEND)
- 18 TRASH RECEPTACLE (SEE SITE FURNITURE LEGEND)
- 19 TREE GRATE (SEE SITE FURNITURE LEGEND)
- 20 PLANTER POT (SEE SITE FURNITURE LEGEND FOR TYPE AND SIZE, ALSO SEE PLANTING PLAN)
- 21 PAVEMENT MARKING: "LOADING ZONE"
- 22 COLORED CONCRETE MOW CURB
- 23 SEATWALL 'A' (ELLIPSE PAVING, TYP.)
- 24 PAVEMENT MARKING (SEE CIVIL DWGS.)
- 25 6" X 8" CURB AT TREE/PALM PLANTER
- 26 FENCE AND GATE AT BLDG. 6, DOG PARK AND BLDG. 8 MINI-PARK
- 27 STREET SIGN: "STOP"
- 28 ENTRY SIGN FOR LEASING OFFICE / BLDG. 6 (BY OTHERS)
- 29 SEATWALL AND PERGOLA AT DOG PARK
- 30 STREET SIGN: "VISITOR PARKING"
- 31 STREET SIGN: "PASSENGER DROP-OFF"
- 32 VALLEY / MOUNTABLE CURB, COLORED CONCRETE (SEE CIVIL DETAILS)
- 33 REMOVABLE BOLLARD (SEE SITE FURNITURE LEGEND)
- 34 TRUNCATED DOMES (SEE SITE FURNITURE LEGEND)
- 35 ENTRY SIGN FOR VALET / PASSENGER DROP OFF AREA (BY OTHERS)
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- 37 VALET STATION (BY OWNER)
- 38 FIRE PIT
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- 62 PLAZA STAIR 'B'
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- 64 CHEEK WALL PLANTER AT RAMP
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- 66 CAFE TABLE AND CHAIRS AT PLAZA (SEE SITE FURNITURE LEGEND)
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- 96 VEHICULAR GUARD RAIL
- 97 LANDSCAPE FENCE



REVISIONS:  
APPROVED ADMINISTRATIVE MODIFICATION

CLIENT INFORMATION:  
CIP CONSTRUCTION COMPANY  
201 NORTH ELM STREET, STE. 201  
GREENSBORO, NC 27401

PARAMOUNT ENGINEERING, INC.  
122 Cinema Drive  
Wilmington, North Carolina 28403  
(910) 791-6707 (O) (910) 791-6760 (F)  
NC License #: C-2846

LANDSCAPE CONSTRUCTION  
DETAIL PLAN  
CARROLL AT THE AVENUE  
MILITARY CUTOFF RD.  
WILMINGTON, NC 28405

PROJECT STATUS  
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FINAL DESIGN:  
RELEASED FOR CONSTRUCTION

DRAWING INFORMATION  
DATE: 06/23/23  
SCALE: 1" = 10'

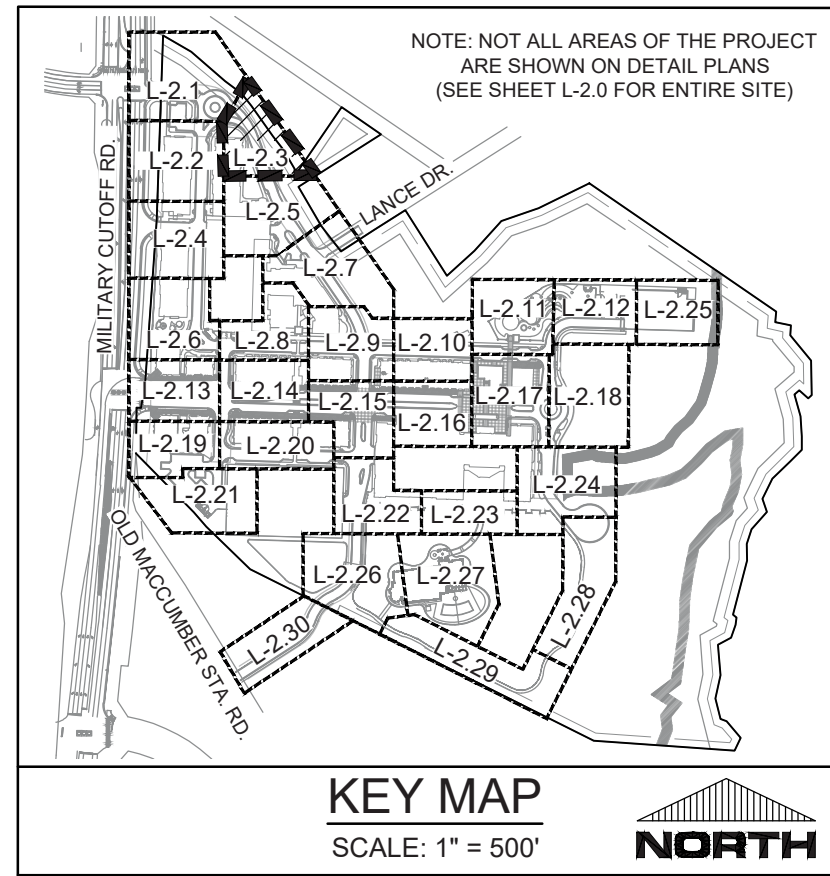
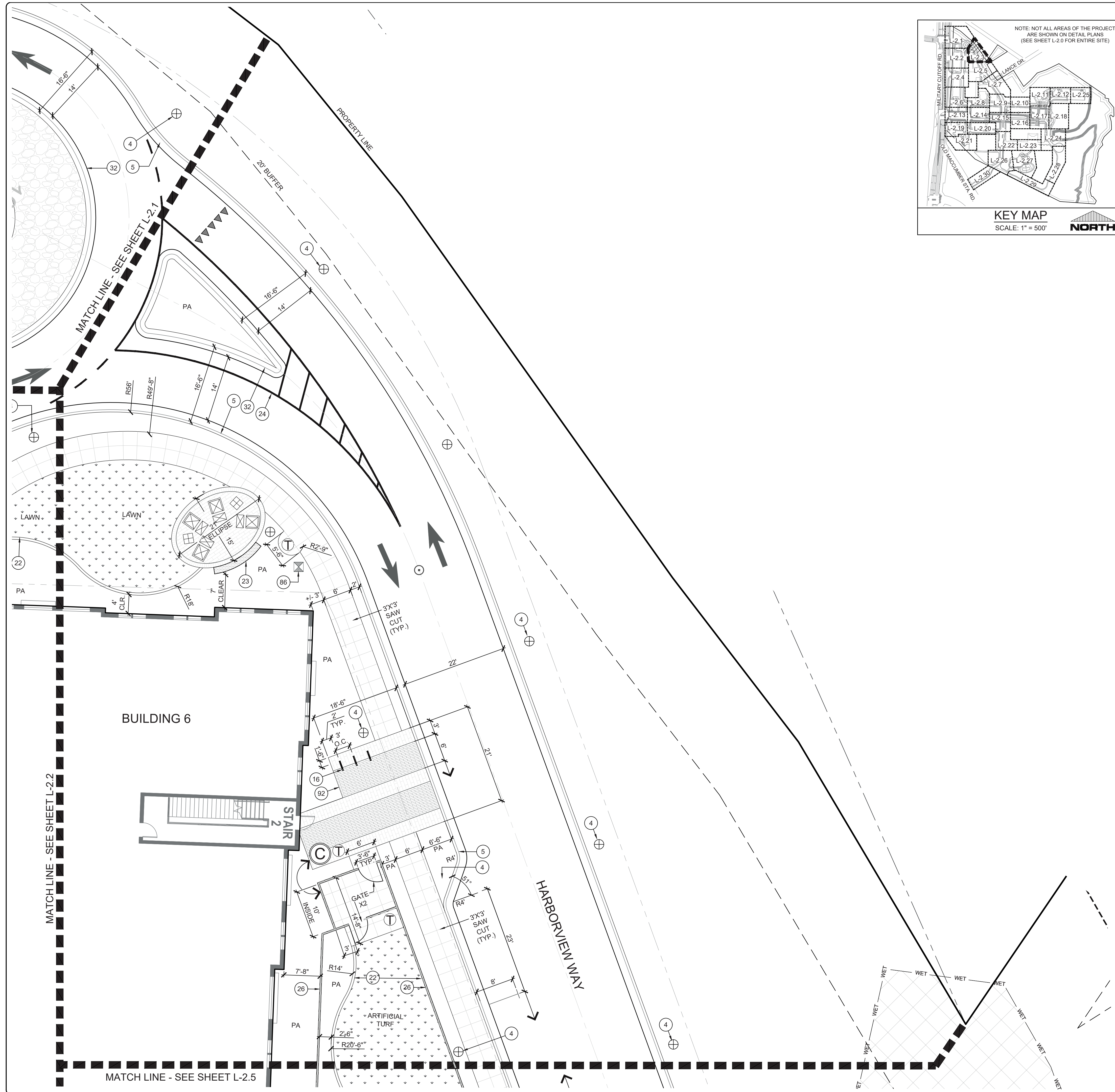
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1980  
06/23/23  
W. CHASE E. NICHOLS

L-2.1

PEI JOB#: 18473.PE

FINAL DESIGN - NOT RELEASED FOR CONSTRUCTION





**KEY NOTES**

- ADA ACCESSIBLE RAMP (SEE CIVIL DETAILS)
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- STREET SIGN: "DO NOT ENTER"
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- PAVEMENT MARKING: "SERVICE"
- WHEEL STOP (TYP.)
- ADA ACCESSIBLE PARKING SIGN (SEE CIVIL DETAILS)
- ADA ACCESSIBLE PARKING SPACE AND PAVEMENT MARKINGS (SEE CIVIL DETAILS)
- RETAINING WALL AT NCDOT RIGHT-OF-WAY (SEE CIVIL AND TRAFFIC DWGS.)
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- BIKE RACK (SEE SITE FURNITURE LEGEND)
- BENCH (SEE SITE FURNITURE LEGEND)
- TRASH RECEPTACLE (SEE SITE FURNITURE LEGEND)
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- VEHICULAR GUARD RAIL
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**REVISIONS:**

3/10/2022	APPROVED ADMINISTRATIVE MODIFICATION
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**CLIENT INFORMATION:**

**PARAMOUNT ENGINEERING, INC.**  
 122 Cinema Drive  
 Wilmington, North Carolina 28403  
 (910) 791-6707 (O) (910) 791-6760 (F)  
 N.C. License #: C-2846

**LANDSCAPE CONSTRUCTION DETAIL PLAN**  
**CARROLL AT THE AVENUE**  
**MILITARY CUTOFF RD.**  
**WILMINGTON, NC 28405**

**PROJECT STATUS:**  
 ORIGINAL LAYOUT:  
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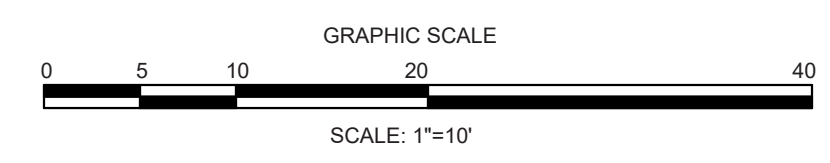
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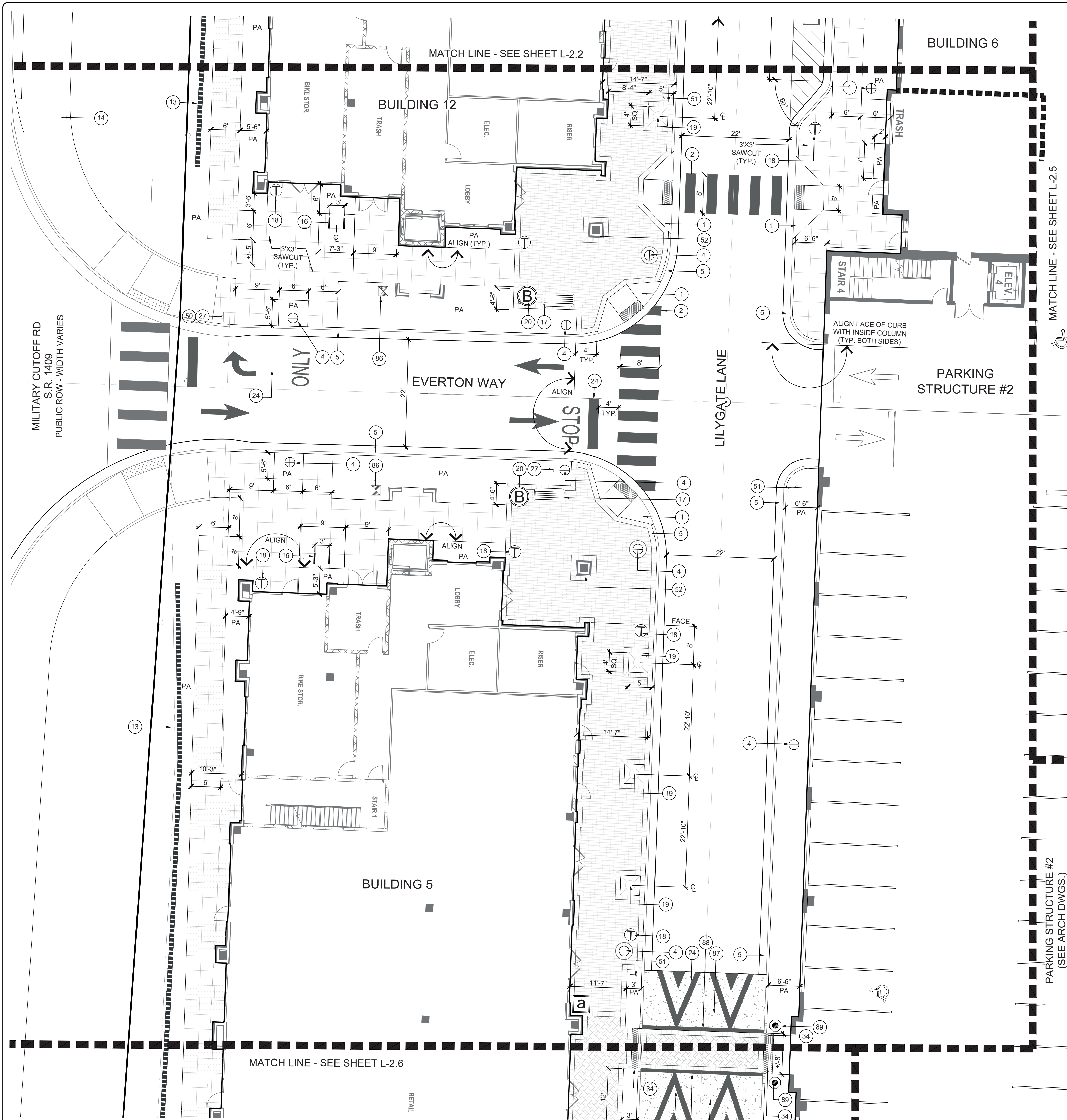
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 NORTH CAROLINA REGISTERED PROFESSIONAL ENGINEER  
 06/23/2022  
 MICHAEL E. NICHOLS

**L-2.3**

PEI JOB#: 18473.PE

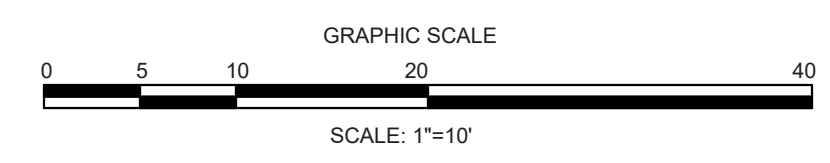
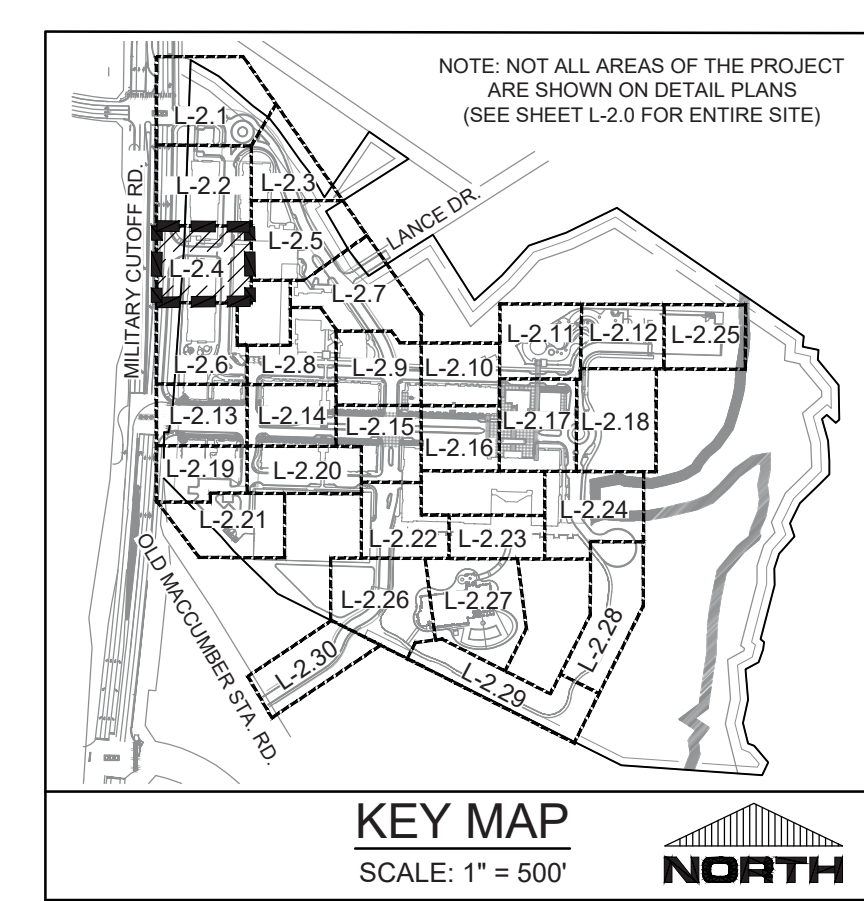
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<p><b>REVISIONS:</b></p> <table border="1"> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> </table>																<p><b>CLIENT INFORMATION:</b></p> <p><b>PARAMOUNT ENGINEERING, INC.</b>          122 Cinema Drive          Wilmington, North Carolina 28403          (910) 791-6707 (O) (910) 791-6760 (F)          N.C. License #: C-2846</p>	<p><b>3/10/2022</b></p> <p><b>APPROVED ADMINISTRATIVE MODIFICATION</b></p>
<p><b>LANDSCAPE CONSTRUCTION DETAIL PLAN</b></p> <p><b>CIP CONSTRUCTION COMPANY</b>          201 NORTH ELM STREET, STE. 201          GREENSBORO, NC 27401</p>																	
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<p><b>SEAL</b></p>																	
<p><b>L-2.4</b></p> <p>PEI JOB#: 18473.PE</p>																	