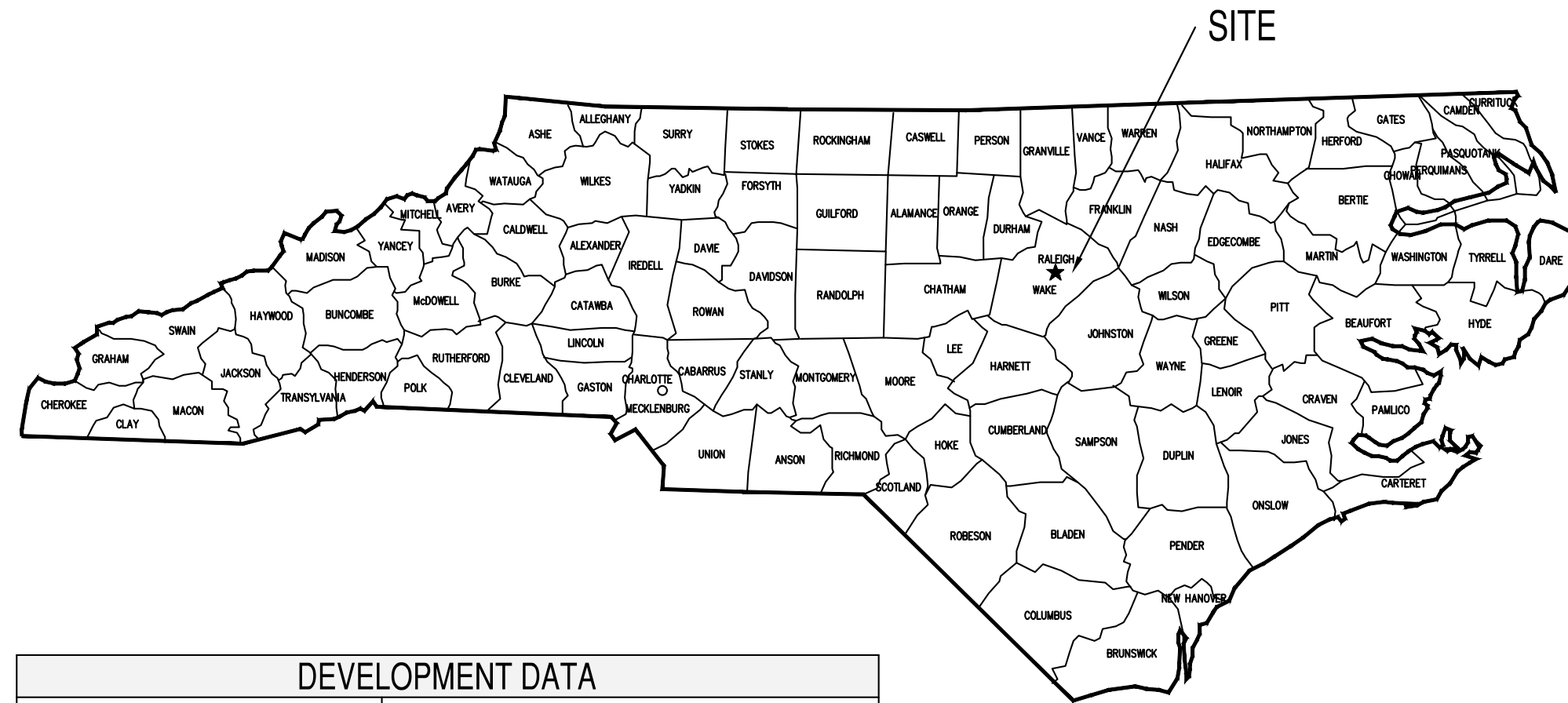


WAKE COUNTY NOTES

FINAL ZONING AND SITE IMPROVEMENT INSPECTION SHALL BE REQUIRED TO VERIFY SITE PLAN COMPLIANCE BE DONE BEFORE A CERTIFICATE OF COMPLIANCE IS ISSUED BY WAKE COUNTY BUILDING INSPECTIONS
 DETERIORATED OR DEAD SCREENING SHALL BE REPAIRED OR REPLACED WITHIN SIX MONTHS
 NO PERMANENT CONSTRUCTION CAN OCCUR WITHIN BUFFER YARDS
 SEPTIC TANKS, SEPTIC DRAIN LINES ARE PROHIBITED IN REQUIRED BUFFERYARDS
 STORMWATER RETENTION AND DETENTION FACILITIES, STORAGE TANKS FOR ANY PURPOSE, UTILITY SUBSTATIONS, AND BUILDINGS HOUSING UTILITY SUBSTATIONS AND BUILDINGS HOUSING UTILITY COMMODITIES OR EQUIPMENT ARE ALSO PROHIBITED IN REQUIRED BUFFERYARDS.



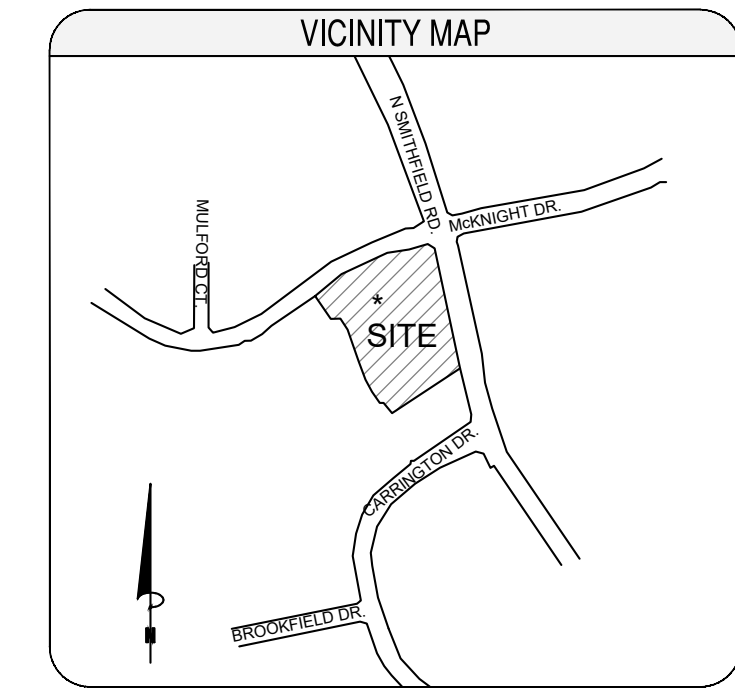
Construction Documents

Proposed

Kiddie Academy & Fresenius Kidney Center

ZCP-1-23/SEC-000012-2023

McKnight Drive and Smithfield Road
 Knightdale, North Carolina
 Wake County



Index of Drawings	
SHEET NUMBER	SHEET TITLE
C1.0	COVER SHEET
C1.1	GENERAL NOTES, ABBREVIATIONS, AND LEGEND
C2.0	DEMOLITION PLAN
C2.1	EROSION CONTROL NOTES
C2.2	EROSION CONTROL PLAN - INITIAL
C2.3	EROSION CONTROL PLAN - GRADING
C2.4	EROSION CONTROL PLAN - FINAL
C2.5	NC CONSTRUCTION GENERAL PERMIT (NCGO1)
C3.0	SITE PLAN
C4.0	GRADING & DRAINAGE PLAN
C5.0	UTILITY PLAN
C5.1	SANITARY SEWER PROFILE
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C6.2	EROSION CONTROL DETAILS
C6.3	CONSTRUCTION DETAILS
C6.4	CONSTRUCTION DETAILS
C6.5	CONSTRUCTION DETAILS
C6.6	UTILITY DETAILS
C6.7	STORM DRAINAGE DETAILS
C6.8	KA&FKC CONSTRUCTED WETLAND SCM 1
C7.0	LANDSCAPE PLAN
C7.1	TREE REPLACEMENT PLAN
C7.2	AMENITY DETAILS
L1	OVERALL LICENSING FLOOR PLAN
A.301	OVERALL ELEVATIONS
A.311	FACADE OVERLAY ELEVATIONS
A.321	OVERALL COLORED ELEVATIONS
A.401	BUILDING SECTIONS
G.401	3D PERSPECTIVE VIEWS
G.501	ARCHITECTURAL SITE PLAN
A3.0	SITE DETAILS
A4.0	EXTERIOR ELEVATIONS
1 OF 2	BUILDING SECTIONS
2 OF 2	SITE LIGHTING PLAN
1 OF 1	SITE LIGHTING PLAN
	BUILDING EXTERIOR LIGHTS EXHIBIT

DEVELOPMENT DATA	
DEVELOPMENT NAME:	KIDDIE ACADEMY & FRESENIUS KIDNEY CENTER
STREET ADDRESS:	509 MCKNIGHT DRIVE (KIDDIE ACADEMY) 505 MCKNIGHT DRIVE (FRESENIUS) KNIGHTDALE, NC
CURRENT PROPERTY OWNER:	HENRY H. KNIGHT 6020 WATKINS ROAD WENDELL, NC 27591
PROPERTY IDENTIFICATION #(PIN):	1754-24-1136
PROPERTY #:	0115678
DEED BOOK/PAGE:	006572 / 00379
EXISTING ZONING:	NMX - NEIGHBORHOOD MIXED-USE
ZONING OVERLAY DISTRICT:	NONE
LATITUDE & LONGITUDE	N35.794047, W-78.487291
TOTAL SITE ACRES:	164,867 SF (3.785 AC) LOT#1 = 60,630 SF (1.392 AC) LOT#2 = 30,060 SF (0.690 AC) LOT#3 = 74,176 SF (1.703 AC)
WATERSHED:	NEUSE RIVER
RECEIVING STREAM:	MINGO CREEK
STREAM CLASSIFICATION:	C:NSW
STREAM INDEX:	27-32
INSIDE TOWN LIMITS:	YES
EXISTING USE:	VACANT
PROPOSED BUILDING USE:	10,300SF DAY CARE FACILITY 9,324 SF MEDICAL OFFICE
FLOOD ZONE:	NONE
LIMITS OF DISTURBANCE:	3.47 AC
ZONING REQUIREMENTS	
MIN LOT AREA:	N/A
MIN LOT WIDTH:	80 FT
FRONT SETBACK:	0 FT MIN, 10 FT MAXIMUM
SIDE SETBACK:	10 FT MIN.
REAR SETBACK:	0 FT MIN.
MAX BUILDING HEIGHT:	56 FT (4 STORIES)

CHILD DAY CARE FACILITY (6 OR MORE):	MAX. PARKING=0.35 PER PERSON LICENSED CAPACITY
LICENSED CAPACITY = 200 (175 STUDENTS + 25 STAFF):	0.35 X 200 = 70 SPACES MAX.
MINIMUM PARKING = 1/2 MAXIMUM = 35 SPACES	
MEDICAL OFFICE BUILDING:	MAX. PARKING=5.5 PER 1,000SF GROSS FLOOR AREA
9,324 SF X 5.5 = 51 SPACES MAX.	
MINIMUM PARKING = 1/2 MAXIMUM = 26 SPACES	
TOTAL PROVIDED:	70
EV PARKING:	1 EV SPACE PER 40 MOTORIZED VEHICLE SPACES 70 SPACES X 1 PER 40 = 2 REQUIRED 3 SPACES PROVIDED
ACCESSIBLE SPACES PROVIDED:	7 SPACES
BICYCLE PARKING:	REQ. 1 BICYCLE SPACE PER 10 PARKING SPACES 70 SPACES / 10 = 7 REQ. BICYCLE SPACES 10 BICYCLE SPACES PROVIDED
PARKING SPACE DIMENSIONS	9' x 18' MIN
LANDSCAPE BUFFERS	10FT TYPE A BUFFER (ADJACENT TO UR12 ZONING) 30FT TYPE C BUFFER (ADJACENT TO GRB ZONING) 10FT TYPE A BUFFER (PARKING AT STREET R/W)
WATER PROVIDER:	PUBLIC - CITY OF RALEIGH
SANITARY SEWER PROVIDED:	PUBLIC - CITY OF RALEIGH
PROJECTED WATER/SEWER USAGE:	7,500 GPD MEDICAL OFFICE = 25 GPD PER PERSON PER SHIFT 2,500 GPD (25 GPD X 100 PEOPLE) DAY CARE = 25 GPD PER PERSON 5,000 GPD (25 GPD X 200 PEOPLE)
NUMBER OF NEW WATER CONNECTIONS	3
NUMBER OF NEW SEWER CONNECTIONS	6
WATER METER SIZE:	2"
SEWER CONNECTION SIZE:	6"
NEW PUBLIC SIDEWALK (LF):	410 LF
NEW PUBLIC GREENWAY (LF):	0 LF
NEW PUBLIC CURB & GUTTER (LF):	75 LF
NEW PUBLIC STREETS (LF):	0 LF
NEW PUBLIC STORM DRAINAGE (LF):	0 LF
STORMWATER MANAGEMENT:	(1) CONSTRUCTED WETLAND



Know what's below.
Call before you dig.

CHILD DAY CARE CENTER ADDITIONAL USE STANDARDS	
UDO Section 5.4.F. Child / Adult Day Care Center (6 or more people).	
1. In addition to meeting the requirements of Section 7.6, fencing enclosing any required recreation space shall be a minimum of four (4) feet in height and constructed with gates in such a manner that maximum safety to the person is ensured.	
2. Day care centers shall be located on lots that provide ample outdoor play area. A fenced recreation area of a minimum of two-thousand two-hundred fifty (2,250) square feet shall be provided in the rear or side yard. Required buffer yards may not be counted towards this requirement.	
3. Hours of operation shall be permitted only from 6:00 am until 9:00 pm.	

IMPERVIOUS SUMMARY TABLE			
ON-SITE AREA = 164,867 SF (3.785 AC)			
BUILDINGS	19,624 SF	0.45 ACRES	11.90% OF AREA
PAVEMENT	38,303 SF	0.88 ACRES	23.23% OF AREA
SIDEWALK	7,870 SF	0.18 ACRES	4.77% OF AREA
PLAYGROUND TURF	1,954 SF	0.04 ACRES	1.18% OF AREA
IMPERVIOUS AREA	67,751 SF	1.56 ACRES	41.09% OF AREA
FUTURE IMPERVIOUS AREA			
BUILDINGS	5,476 SF	0.12 ACRES	3.32% OF AREA
PAVEMENT	12,886 SF	0.30 ACRES	7.82% OF AREA
SIDEWALK	1,850 SF	0.04 ACRES	1.12% OF AREA
IMPERVIOUS AREA	20,212 SF	0.46 ACRES	12.26% OF AREA
TOTAL IMPERVIOUS AREA	87,963 SF	2.02 ACRES	53.35% OF AREA
GREEN/OPEN SPACE	76,904 SF	1.76 ACRES	46.65% OF AREA
EXISTING IMPERVIOUS AREA	0 SF	0 ACRES	0.0% OF AREA
INCREASE IN IMPERVIOUS AREA	87,963 SF	2.02 ACRES	

DEVELOPER
 Primax Properties, LLC
 Attn. Neal Bates
 1100 E. Morehead Street
 Charlotte, NC 28204
 704-954-7231
 nbates@primaxservices.com

Choice One Development, LLC
 Attn. Michael Milone
 919 Conestoga Road
 Building Three, Suite 211
 Bryn Mawr, PA 19010
 610-613-0272
 mmilone@choiceoneproperty.com

CIVIL ENGINEER
 Bowman North Carolina, Ltd.
 4006 Barrett Drive, Suite 104
 Raleigh, NC 27609
 (919) 553-6570
 mlowder@bowman.com
 FIRM# F-1445

CURRENT PROPERTY OWNER
 Henry H. Knight
 6020 Watkins Road
 Wendell, NC 27591

TRIP GENERATION NOTE							
USE	DAILY TRIPS	AM TRIPS	AM IN	AM OUT	PM TRIPS	PM IN	PM OUT
10,300 SF DAY CARE	698	102	66	59	96	60	67
9,324 SF MEDICAL OFFICE	337	22	18	5	33	9	24
TOTAL	1,035	124	84	64	129	69	91

WATER ALLOCATION COMPLIANCE	
POINTS REQUIRED	50
POINTS PROPOSED	
BASE POINTS	41
STORMWATER - CONSTRUCTED WETLAND	5
OUTDOOR ENHANCEMENT - PUBLIC ART	4
TOTAL PROPOSED POINTS	50

CITY OF RALEIGH - PLANS AUTHORIZED FOR CONSTRUCTION
 Electronic Approval: This approval is being issued electronically. This approval is valid only upon the signature of a City of Raleigh Review Officer below. The City will retain a copy of the approved plans. Any work authorized by this approval must proceed in accordance with the plans kept on file with the City. This electronic approval may not be edited once issued. Any modification to this approval once issued will invalidate this approval.
 City of Raleigh Development Approval _____
 Raleigh Water Review Officer

EROSION AND SEDIMENT CONTROL
 APPROVED PLAN
 DATE: 10/19/2023
 PERMIT NO. SEC-000012 - 2023
 Town of Knightdale Public Works
 Sedimentation & Erosion Control
 (919) 217-2250

BUILDING PERMIT NOTE
 NOTE: THE PLAYGROUND EQUIPMENT AND OTHER SITE FEATURES REQUIRING FOOTINGS WILL REQUIRE SEPARATE BUILDING FOOTPRINTS

TOWN OF KNIGHTDALE
 INSPECTIONS CONTACTS
 John Stover
 Manager, TK Public Works
 (919) 349-2521
 john.stover@knightdalenc.gov
 Domingo Orpila
 Inspector, Public Works
 (919) 217-2254
 domingo.orpila@knightdalenc.gov

ATTENTION CONTRACTORS
 The Construction Contractor responsible for the extension of water, sewer, and/or reuse, as approved in these plans, is responsible for contacting the Public Utilities Department at (919)996-4540 at least twenty four hours prior to beginning any of their construction.
 Failure to notify both City Departments in advance of beginning construction, will result in the issuance of monetary fines, and require reinstallation of any water or sewer facilities not inspected as a result of this notification failure.
 Failure to call for Inspection, Install a Downstream Plug, have Permitted Plans on the Jobsite or any other Violation of City of Raleigh Standards will result in a Fine and Possible Exclusion from future work in the City of Raleigh

PLAT NOTE
 A plot of all necessary right-of-way dedication and CORWLES must be submitted to CORPUD for review, comments, and approval prior to the issuance of building permits from the Town of Knightdale.
 Recombination plat will also be required for the project - all plats to be submitted to the Town of Knightdale to be reviewed and distributed to City of Raleigh and any other applicable departments.

Town Approved Standards Shall Control:
 In the event of conflict or inconsistency between these construction drawing and the Town of Knightdale's Approved Standards for this project, the Approved Standards shall control. Town of Knightdale Approved Standards shall mean all development documents necessary for approval for the property including, but not limited to, any special use permit, subdivision plan, site plan, subdivision plat(s), phasing schedule, schedule, Development Agreement, Utility Allocation Agreement, Annexation Agreement, the Town of Knightdale Standard Specification and Details Manual and applicable provisions of the North Carolina State Building Code.

Professional Design Engineer Certification:
 These improvements shall be constructed in accordance with the following drawings and with the Standard Specifications of the Town of Knightdale.
 I, Matthew Lowder, PE, certify that the Standard Specifications of the Town of Knightdale have been thoroughly checked and found to be applicable to this project. All exceptions to the applicable Town standards have been previously approved by the Town of Knightdale and said exceptions are shown on Sheet(s) _____ of these drawings.
 Seal: _____
 By: Matthew Lowder, PE
 Date: 10/30/23

Town Certification:
 This design has been reviewed by the Engineer for the Town of Knightdale, and to be the best of my knowledge and belief, it conforms to the requirements established in the Standard Specifications of the Town of Knightdale.
 By: _____ Date: _____
 Development Services Engineer
 These plans are approved by the Town of Knightdale and serve as construction plans for this project.
 By: _____ Date: _____
 Administrator



Bowman North Carolina Ltd.
 4006 BARRETT DR
 Suite 104
 RALEIGH, NC 27609
 Phone: (919)553-6570
 bowman.com

COVER SHEET
 Kiddie Academy & Fresenius Kidney Center
 Smithfield Road and McKnight Drive
 Knightdale, NC Wake County ZCP-1-23/SEC-000012-2023

Primax Properties, LLC
 Choice One Development, LLC



PLAN STATUS		
8/22/23	MASTER PLAN SUBMITTAL	
7/10/23	CONSTRUCTION DOCUMENTS	
8/25/23	PER TOWN CD REVIEW	
10/04/23	PER TOWN CD REVIEW	
10/30/23	SIGNATURE SET	
DATE	DESCRIPTION	
MEL DESIGN	MEL DRAWN	XXX CHKD
SCALE	H:	V:
JOB No.	220133-01-001	
DATE	March 14, 2023	
FILE No.	220133-01-001	
SHEET	C1.0	

EXISTING	LEGEND DESCRIPTION	PROPOSED
	PROPERTY LINE	
	ADJACENT PROPERTY LINE	
	LOT LINE	
	RIGHT OF WAY	
	CENTERLINE	
	FLOOD PLAIN	
	LIMITS OF CONSTRUCTION	
	LIMITS OF DISTURBANCE	
	SWALE / STREAM FLOWLINE	
	OVERFLOW RELIEF PATH	
	FENCE LINE	
	EASEMENT	
	EDGE OF PAVEMENT	
	VERTICAL CURB AND GUTTER	
	MOUNTABLE CURB AND GUTTER	
	CONCRETE SIDEWALK	
	ASPHALT SIDEWALK	
	HANDICAP PARKING	
	SIGHT TRIANGLE	
	SIGN(S)	
	PARKING COUNCIL INDICATOR	
	VEHICLES PER DAY INDICATOR	
	TEST PIT	
	MONITORING WELL	
	MAJOR CONTOUR	
	MINOR CONTOUR	
	GRADE BREAK	
	RIDGELINE	
	SPOT ELEVATION	
	RIP RAP	
	WATER LINE	
	WATER METER	
	WATER VALVE	
	WATER REDUCER	
	WATER FITTINGS	
	FIRE HYDRANT	
	SANITARY LINE	
	SANITARY MANHOLE	
	SANITARY CLEANOUT	
	STORM SEWER PIPE	
	STORM SEWER MANHOLE	
	STORM SEWER INLET	
	STORM SEWER FLARED END SECTION	
	STORM SEWER HEADWALL	
	OVERHEAD UTILITY	
	UNDERGROUND ELECTRIC	
	OVERHEAD ELECTRIC	
	UTILITY POLE	
	STREET LIGHT	
	CABLE TV SERVICE	
	TELECOM SERVICE	
	FIBER OPTIC SERVICE	
	NATURAL GAS SERVICE	
	TREE	
	TREE LINE	
	WETLANDS	

LEGEND NOTES

- THIS IS A STANDARD SHEET, THEREFORE SOME ABBREVIATIONS MAY APPEAR ON THIS SHEET AND NOT BE USED ON THE PROJECT.
- ADDITIONAL LEGENDS AND NOTES MAY BE FOUND ON OTHER SHEETS ASSOCIATED WITH THIS PLAN. THESE LEGENDS AND NOTES ARE TO BE REFERENCED IN ADDITION TO THIS STANDARD SHEET.

ABBREVIATIONS	DESCRIPTION	ABBREVIATIONS	DESCRIPTION
A	AREA OF ARLC	K	SIGHT DISTANCE COEFFICIENT OR
AASTHO	AMERICAN ASSOCIATION OF STATE HWY & TRANS. OFFICIALS	Ke	RAIET VERTICAL CURVATURE
AB	AS-BUILT		CURVE ENTRANCE LOSS COEFFICIENT
AC	ACRE	L	LENGTH
AD	ALGEBRAIC DIFFERENCE IN GRADE	LAT	LATERAL
AE	ACCESS EASEMENT	LCC	LIMITS OF CLEARING & GRADING
ADJ	ADJACENT	LF	LINEAR FEET
AGGR	AGGREGATE	LIP	LIP OF PAN
AHD	AHEAD	LL	LOWER LEVEL
ANSI	AMERICAN NATIONAL STANDARDS INSTITUTE	LOS	LINE OF SIGHT
APT	ANGLE POINT	LP	LOW POINT
APPROX	APPROXIMATE	LS	LOADING SPACE
ARCH	ARCHITECTURAL	LT	LEFT
ASPH	ASPHALT	M	MONUMENT FOUND
ASTM	AMERICAN SOCIETY FOR TESTING AND MATERIALS	MAX	MAXIMUM
AWWA	AMERICAN WATER WORKS ASSOCIATION	MECH	MATCH EXISTING MECHANICAL
B	BREADTH	MH	MANHOLE
BOC	BACK OF CURB	MI	MILE
BF	BASEMENT FLOOR	MIN	MINIMUM
BLDG	BUILDING	MISC	MISCELLANEOUS
BM	BENCHMARK	MPS	MILES PER HOUR
BMP	BEST MANAGEMENT PRACTICES (WATER QUALITY)	MS	MEDIAN STRIP
BOV	BLOW OFF VALVE	MSL	MEAN SEA LEVEL
BRG	BEARING	N	NORTHING/NORTH
BRL	BUILDING RESTRICTION LINE	N/A	NOT APPLICABLE
BVCE	BEGINNING VERTICAL CURVE ELEVATION	NBL	NORTH BOUND LANE
BVCS	BEGINNING VERTICAL CURVE STATION	N/O	NOT OR FORMERLY
BW	BOTTOM OF WALL	NFA	NET FLOOR AREA
c.e	CENTER CORRECTION ON VERTICAL CURVE	N#	NOT TO SCALE
C	CURVE COEFFICIENT	OC	ON CENTER
CATV	CABLE TELEVISION	OD	OBJECT
C&G	CURB AND GUTTER	OD	OUTSIDE DIAMETER
CB	CATCH BASIN	OH	OVERHANG
CBR	CALIFORNIA BEARING RATIO	O/H	OVERHEAD CABLE
CC	CENTER TO CENTER	OHE	OVERHEAD ELECTRIC
CF	CUBIC FEET	OHT	OVERHEAD TELEPHONE
CFS	CUBIC FEET PER SECOND	P	PERIMETER
CGR(R)	CURB AND GUTTER (REVERSE SLOPE)	P	PROPERTY LINE
CH	CHORD BEARING	P&P	PLAN AND PROFILE
CHRG	CAST IRON PIPE	PC	POINT OF CURVATURE
CP	CENTERLINE	PCC	POINT OF COMPOUND CURVATURE
CLR	CLEAR	PCR	POINT OF CURB RETURN
CM	CUBIC METERS	PCEP	POINT OF CURVE EDGE OF PAVEMENT
QMP	CORRUGATED METAL PIPE	PCTC	POINT OF CURVATURE TOP OF CURB
QMS	CUBIC METERS PER SECOND	PI	POINT OF INTERSECTION
ON	RUNOFF CURVE NUMBER	PGL	POINT OF GRADE LINE
CONT	CONTINUOUS	PRC	POINT OF REVERSE CURVATURE
CO	CONCRETE	PRELIM	PRELIMINARY
CONC	CORRUGATED PLASTIC PIPE	PROP	PROPOSED
OPP	CURB STOP	PT	POINT OF TANGENCY
CS	CURT	PUE	PUBLIC UTILITY EASEMENT
CT	CENTER	PVC	POLYVINYL CHLORIDE PIPE OR POINT OF VERTICAL CURVATURE
CTR	CENTER	PVI	POINT OF VERTICAL INTERSECTION
CTRL	CONTROL LINE	PVT	POINT OF VERTICAL TANGENCY
CT	CUBIC YARD	PWNT	PAVEMENT
D	DEPTH	PWRC	POINT OF VERTICAL REVERSE CURVE
DA	DRAINAGE AREA	Q (cfs)	AMOUNT OF RUNOFF (FLOW RATE)
DB	DEED BOOK	R	RADIUS
DB	DIVERSION DIKE	RCP	REINFORCED CONCRETE PIPE
DET	DETAIL	RCDR	REDUCER
DIA	DIAMETER	RD	ROAD OF ROOF DRAIN
DIP	DUCTILE IRON PIPE	REINFT	REINFORCED
DRP INLET	DROP INLET	RECO	REQUIRED
DIST	DISTANCE	RET	RETAINING
DL	DOMESTIC LINE	REV	REVISION
DM	DROP MANHOLE	RFP	RESOURCE MANAGEMENT PLAN
DOM	DOMESTIC	RMA	RESOURCE MANAGEMENT AREA
DR	DRIVE DRAIN	ROM	REMOTE OUTSIDE MONITOR
DRN	DRAINAGE	RPA	RESOURCE PROTECTION AREA
DRNG	DRAINAGE AREA	R/RAD	RAILROAD
DS	DOWN SPOUT	R/R	RIGHT
DW	DWELLING UNITS	RTE	ROUTE
DWG	DRAWING	R/W & ROW	RIGHT OF WAY
D/W	DRIVEWAY	S	SPEED OR SLOPE
DELTA	DELTA	SAN	SANITARY SEWER
E	EASTING/EAST	SANMH	SANITARY SEWER MANHOLE
EA	EACH	SBL	SOUTH BOUND LANE
EBL	EAST BOUND LANE	SCH	SCHEDULE
EC	EROSION CONTROL	SD	SIGHT DISTANCE
ECB	EROSION CONTROL BLANKET	SEC	SECTION
EG	EDGE OF GUTTER	SEW	SEWER
EGL	ENERGY GRADIENT LINE	SF	SQUARE FEET
ELEVATION	ELEVATION	SH	SHOULDER
ELEC	ELECTRIC	SP	SPACE OR SITE PLAN
ELEV	ELEVATION	SPEC	SPECIFICATIONS
ENGR	ENGINEER	STA	STATION
ENT	ENTRANCE	STD	STANDARD
EOA	EDGE OF ASPHALT	STK	STACK
EOC	EDGE OF CONCRETE	STM	STORM SEWER
EOP	EDGE OF PAVEMENT	STMH	STORM SEWER MANHOLE
EQUIP	EQUIPMENT	STR	STRUCTURE
ESMT	EASEMENT	SVC	SERVICE
ETD	EXISTING TO BE DEMOLISHED	S/W	SIDEWALK
ETR	EXISTING TO REMAIN	SWM	STORM WATER MANAGEMENT
ETRL	EXISTING TO BE RELOCATED	SY	CROSS SLOPE
ETRP	EXISTING TO BE REPLACED	SY	SQUARE YARD
EVC	ENDING VERTICAL CURVE ELEVATION	T	TANGENT
EVCS	ENDING VERTICAL CURVE STATION	TB	TOP OF BANK OR TEST BORING
EW	END WALL	TBR	TO BE REMOVED
EX	EXISTING	TOC	TOP OF CURB
EQC	ENVIRONMENTAL QUALITY CORRIDOR	TKC	TIME OF CONCENTRATION
F	FIRE LINE	TEL	TELEPHONE
FAR	FLOOR AREA RATIO	TEMP	TEMPORARY
FOC	FACE OF CURB	TH	TEST HOLE
FD	FLOOR DRAIN	TFP	TOP OF FOUNDATION
FES	FLARED END SECTION	TP	TEST PIT OR TREE PROTECTION
FF	FIRST FLOOR OR FINISH FLOOR	TW	TOP OF WALL OR TAILWATER
FG	FINISH GRADE	TYP	TYPICAL
FH	FIRE HYDRANT	UE	UTILITY EASEMENT
FL	FLOW LINE	UG	UNDERGROUND
FND	FOUNDATION	UGE	UNDERGROUND ELECTRIC
FOY	FOYER	UGT	UNDERGROUND TELEPHONE
FP	FLOOD PLAN	UGC	UNDERGROUND CABLE
FPS	FEET PER SECOND	UD	UNDERDRAIN
FS	FIRE SERVICE OR FACTOR OF SAFETY	UL	UTILITY LEVEL
FT	FOOT OR FEET	US	US GEOLOGICAL SURVEY
G	GAS	UTIL	UTILITY
GAR	GARAGE	V OR VOL	VOLUME
GB	GRADE BREAK	V OR VEL	VELOCITY
GFA	GROSS FLOOR AREA	VAN	HANDICAPPED VAN PARKING SPACE
GR	GUARD RAIL OR GRATE INLET	VB	VERTICAL BEND
GV	GATE VALVE	VC	VERTICAL CURVE
H	HEAD	VF	VERTICAL FOOT
HC	HANDICAP	W	WEIGHT OR WIDTH
HB	HORIZONTAL BEND	WBL	WEST BOUND LANE
HBP	HOT BITUMINOUS PAVEMENT	WL	WATER LINE
HCL	HYDRAULIC GRADE LINE	WM	WATER METER
HORZ	HORIZONTAL	W/M OR WM	WATER MAIN
HP	HIGH POINT	W/TB	WITH THURST BLOCK
HR	HAND RAIL	WSEL	WATER SURFACE ELEVATION
HT	HEIGHT	WV	WATER VALVE
HW	HEADWATER	XING	CROSSING
I	RAINFALL INTENSITY	XF	TRANSFORMER
ID	INSIDE DIAMETER OR IDENTIFICATION	YI	YARD INLET
IE	INVERT ELEVATION	YR	YEAR
IN	INCH		
INV	INVERT		
IP	IRON PIPE		
IPF	IRON PIPE FOUND		
IRS	IRON PIPE SET		
IRR	IRRIGATION		
JB	JUNCTION BOX		
JNT	JOINT		

GENERAL NOTES

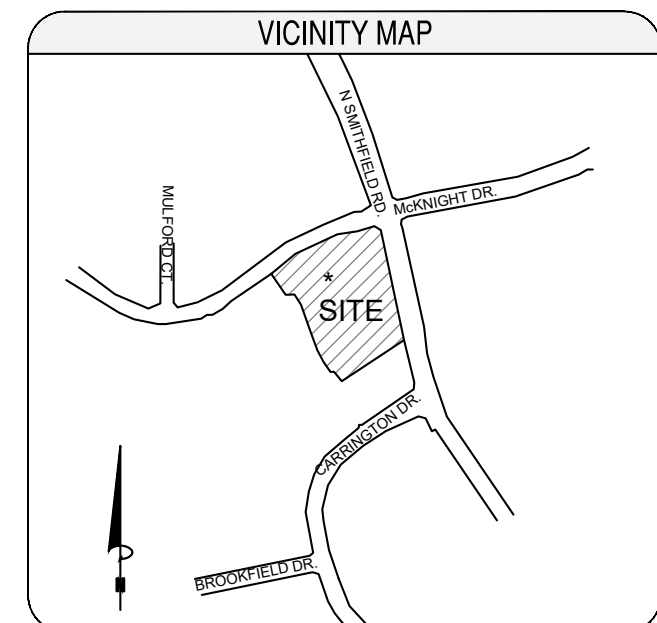
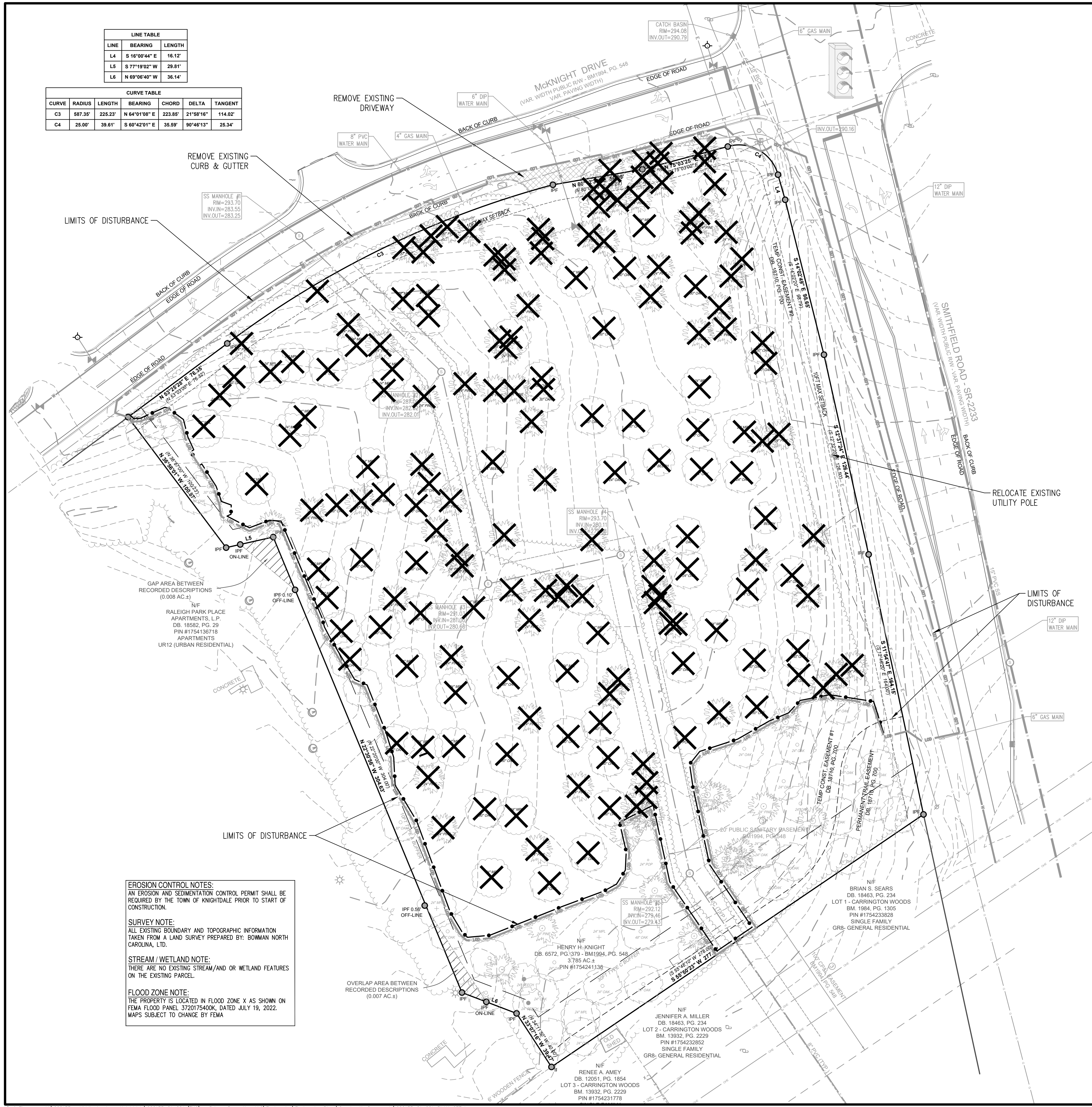
- UTILITY CONFLICTS: ALL EXISTING UTILITIES SHOWN WERE COMPILED USING THE BEST AVAILABLE INFORMATION AND FIELD OBSERVATION. BOWMAN NORTH CAROLINA LTD DOES NOT GUARANTEE THE LOCATION OF UNDERGROUND UTILITIES SHOWN HEREON. CONTRACTOR TO BE RESPONSIBLE FOR FIELD VERIFYING THE LOCATION OF AND PROTECTING ALL EXISTING UTILITIES, INCLUDING THOSE NOT SHOWN OR SHOWN INCORRECTLY ON THE PLANS. ANY DAMAGE TO EXISTING UTILITIES SHALL BE REPAIRED IN A TIMELY FASHION TO THE SATISFACTION OF THE APPROPRIATE GOVERNING AGENCY AND THE OWNER OF THE IMPACTED UTILITY AT THE CONTRACTOR'S EXPENSE.
- ALL MATERIALS AND WORKMANSHIP SHALL BE IN CONFORMANCE WITH THE LATEST STANDARDS AND SPECIFICATIONS FOR THE APPROPRIATE GOVERNING AGENCY. THE CONTRACTOR SHALL HAVE IN HIS POSSESSION AT THE JOB SITE AT ALL TIMES THE APPROPRIATE GOVERNING AGENCY'S PUBLIC WORKS MANUAL, ALL APPROVED EASEMENT AGREEMENTS, AND ONE (1) SIGNED COPY OF THE PLANS AS APPROVED BY THE APPROPRIATE GOVERNING AGENCY. THE CONTRACTOR SHALL OBTAIN WRITTEN APPROVAL FROM THE APPROPRIATE GOVERNING AGENCY FOR ANY VARIANCE TO THE ABOVE DOCUMENTS.
- CONTRACTOR SHALL OBTAIN, AT HIS OWN EXPENSE, ALL APPLICABLE CODES, LICENSES, STANDARDS, SPECIFICATIONS, PERMITS, BONDS, ETC., WHICH ARE NECESSARY TO PERFORM THE PROPOSED WORK.
- THE CONTRACTOR SHALL BE SOLELY AND COMPLETELY RESPONSIBLE FOR CONDITIONS AT AND ADJACENT TO THE JOB SITE INCLUDING THE SAFETY OF ALL PERSONS AND PROPERTY DURING PERFORMANCE OF THE WORK. THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS AND MUST COMPLY WITH OSHA REGULATIONS.
- IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO NOTIFY THE OWNER/DEVELOPER AND ENGINEER OF ANY PROBLEM CONFORMING TO THE APPROVED PLANS FOR ANY ELEMENT OF THE PROPOSED IMPROVEMENTS PRIOR TO ITS CONSTRUCTION.
- THE CONTRACTOR SHALL REPAIR ANY EXCAVATIONS OR PAVEMENT FAILURES CAUSED BY HIS/HER CONSTRUCTION.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REMOVAL AND REPLACEMENT OF ALL MATERIALS WITHIN DEDICATED RIGHT-OF-WAY AND ALL MATERIALS AND WORKMANSHIP SHALL MEET THE ROADWAY DESIGN AND CONSTRUCTION STANDARDS OF THE APPROPRIATE GOVERNING AGENCY.
- THE CONTRACTOR SHALL NOTIFY THE LOCAL JURISDICTION AT LEAST 24 HOURS PRIOR TO THE START OF CONSTRUCTION. THE APPROPRIATE FIRE DEPARTMENT SHALL BE NOTIFIED AT LEAST 48 HOURS IN ADVANCE OF ANY STREET CLOSURES AND IN THE EVENT THAT ANY FIRE HYDRANTS ARE TO BE TEMPORARILY REMOVED FROM SERVICE. THE CONTRACTOR SHALL ALSO BE RESPONSIBLE FOR PROVIDING AT LEAST 48 HOURS ADVANCED NOTICE OF ANY NEED TO SHUT DOWN ANY PORTION OF THE EXISTING WATER SYSTEM AND FOR OBSERVATIONS AND/OR INSPECTIONS REQUIRED.
- THE CONTRACTOR SHALL PROVIDE ALL SIGNS, BARRICADES, FLAGMEN, LIGHTS OR OTHER DEVICES NECESSARY FOR SAFE TRAFFIC CONTROL IN ACCORDANCE WITH THE CURRENT EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES AND AS MODIFIED BY THE NORTH CAROLINA SUPPLEMENT TO THE MUTCD. A TRAFFIC CONTROL PLAN SHALL BE SUBMITTED TO AND APPROVED BY THE APPROPRIATE GOVERNING AGENCY PRIOR TO THE ISSUANCE OF ANY CONSTRUCTION PERMIT FOR WORK WITHIN THE RIGHT-OF-WAY.
- THE CONTRACTOR SHALL CONTACT THE UTILITY NOTIFICATION CENTER OF NORTH CAROLINA AT 1-800-632-4949 AT LEAST 2 BUSINESS DAYS PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL COORDINATE ALL CONSTRUCTION ACTIVITIES WITH ANY AFFECTED UTILITY COMPANY.
- THE CONTRACTOR SHALL OBTAIN COPIES OF THE "SOILS AND INVESTIGATION" REPORT FROM GEOTECHNICAL ENGINEER ALONG WITH THE "PAVEMENT THICKNESS DESIGN REPORT". THE CONTRACTOR MUST HAVE COPIES OF SAME ON THE SITE AT ALL TIMES.
- THE CONTRACTOR IS REQUIRED TO PROVIDE AS-CONSTRUCTED HORIZONTAL AND VERTICAL CONSTRUCTION INFORMATION, INCLUDING THE LOCATIONS OF ALL SANITARY LINES AND SERVICES, WATER LINES AND SERVICES, AND OTHER UTILITY LINES AND SERVICES TO THE ENGINEER FOR PREPARATION OF AS-BUILT DOCUMENTS.
- LIMITS OF CONSTRUCTION EASEMENTS AND RIGHTS-OF-WAY SHALL BE DELINEATED WITH TEMPORARY STAKING BY THE CONTRACTOR. SAFETY FENCING SHALL BE PER APPROPRIATE GOVERNING AGENCY.
- WHERE EXCAVATION IS REQUIRED UNDER EXISTING ASPHALT OR CONCRETE PAVEMENT, THE EXISTING PAVEMENT SHALL BE SAW CUT IN A MANNER TO EFFECT A SMOOTH, STRAIGHT-CUT EDGE. ASPHALT PATCH SHALL BE PER APPROPRIATE GOVERNING AGENCY STANDARDS.
- REFER TO FINAL RECORDED PLAT FOR ACTUAL LOT, TRACT, PARCEL, AND EASEMENT LOCATIONS AND DESIGNATIONS.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REMOVAL AND REPLACEMENT OF ALL MATERIALS WITHIN DEDICATED RIGHT-OF-WAYS AND ALL MATERIALS AND WORKMANSHIP SHALL MEET THE ROADWAY DESIGN AND CONSTRUCTION STANDARDS OF THE APPROPRIATE GOVERNING AGENCY.
- THE CONTRACTOR SHALL PROTECT ALL ADJACENT PROPERTY TO THE PROJECT WORK SITE (SEE THE EROSION CONTROL PLAN). THE CONTRACTOR SHALL OBTAIN ALL PERMITS NECESSARY (IF APPLICABLE) TO COMPLETE THE CONSTRUCTION AND SHALL COMPLY WITH ALL LOCAL, STATE AND FEDERAL REGULATIONS.
- WATER WILL BE PROVIDED BY THE CONTRACTOR TO KEEP WIND EROSION IN CHECK. USE OF WATER AS A DUST PREVENTATIVE SHALL NOT BE PAID FOR SEPARATELY, BUT INCLUDED IN THE COST OF THE WORK.
- ANY SETTLEMENT OR SOIL ACCUMULATIONS BEYOND THE PROPERTY LIMITS DUE TO GRADING OR EROSION SHALL BE REPAIRED IMMEDIATELY BY THE CONTRACTOR.
- ANY CONSTRUCTION DEBRIS OR MUD TRACKING IN THE PUBLIC RIGHT-OF-WAY RESULTING FROM THIS DEVELOPMENT SHALL BE REMOVED IMMEDIATELY BY THE CONTRACTOR. THE CONTRACTOR SHALL IMMEDIATELY FIX ANY EXCAVATIONS OR PAVEMENT FAILURES CAUSED BY THE DEVELOPMENT AND SHALL PROPERLY BARRICADE THE SITE UNTIL CLEAN UP OR REPAIR IS COMPLETE.
- IT WILL BE THE CONTRACTOR'S RESPONSIBILITY TO GRADE STREET CORES, RIGHT-OF-WAY TEMPLATES, AND LOTS ACCORDING TO GRADING INSTRUCTIONS SHOWN ON PLANS.
- STREET CONTOURS SHOWN AT PROPOSED STREET LOCATIONS REPRESENT FINISHED GRADE ELEVATION TO TOP OF ASPHALT.
- COMPACTION FILL MATERIAL SHALL BE COMPACTED ACCORDING TO THE APPROPRIATE GOVERNING AGENCY REGULATIONS AND THE RECOMMENDATIONS OF THE GEOTECHNICAL ENGINEER.
- TOLERANCE ROUGH GRADING: TOLERANCE SHALL BE +/- 0.1 FEET.
- IT IS THE CONTRACTOR'S RESPONSIBILITY TO MAKE SURE ALL APPROPRIATE PERMITS FOR STORM WATER DISCHARGES ASSOCIATED WITH CONSTRUCTION ACTIVITY HAVE BEEN OBTAINED PRIOR TO GRADING. CONTRACTOR SHALL BE RESPONSIBLE FOR THE INSTALLATION OF ALL TEMPORARY WATER DIVERSION/CONTROL DEVICES AND EROSION CONTROL DEVICES NECESSARY TO PROTECT ADJACENT PROPERTIES, WATERWAYS AND PUBLIC RIGHT-OF-WAY. CONTRACTOR IS RESPONSIBLE FOR THE MAINTENANCE OF SAID DEVICES THROUGHOUT CONSTRUCTION AND UNTIL THE PERMANENT PROTECTION NECESSARY HAS BEEN COMPLETED.
- IT IS THE CONTRACTOR'S RESPONSIBILITY TO OBTAIN THE MOST CURRENT APPROVED ARCHITECTURAL/ MECHANICAL/ELECTRICAL/PLUMBING/STRUCTURAL PLANS AND COORDINATE SAME WITH THE SITE PLAN, PRIOR TO BEGINNING CONSTRUCTION OPERATIONS.
- WHEN DURING THE COURSE OF CONSTRUCTION, ANY OBJECT OF AN UNUSUAL NATURE IS ENCOUNTERED, THE CONTRACTOR SHALL CEASE WORK IN THAT AREA AND IMMEDIATELY NOTIFY THE OWNER, APPROPRIATE GOVERNING AGENCY, AND/OR THE ARCHITECT/ENGINEER.
- THE EXISTING UNDERGROUND UTILITIES SHOWN HEREON ARE BASED UPON AVAILABLE INFORMATION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING THE EXACT LOCATION OF ALL UTILITIES BEFORE COMMENCING WORK AND FOR ANY DAMAGES WHICH OCCUR BY HIS FAILURE TO LOCATE OR PRESERVE THESE UNDERGROUND UTILITIES. IF DURING CONSTRUCTION OPERATIONS THE CONTRACTOR SHOULD ENCOUNTER UTILITIES OTHER THAN THOSE SHOWN ON THE PLANS, HE SHALL IMMEDIATELY NOTIFY THE ENGINEER AND TAKE NECESSARY AND PROPER STEPS TO PROTECT THE FACILITY AND ASSURE THE CONTINUANCE OF SERVICE.
- ALL STEPS WITH THREE OR MORE RISERS SHALL HAVE HAND RAILS, PER LOCAL CODE.
- A SMOOTH GRADE SHALL BE MAINTAINED FROM THE CENTERLINE OF EXISTING ROAD TO PROPOSED CURB AND GUTTER AND/OR PROPOSED EDGE OF PAVEMENT TO PRECLUDE THE FORMING OF FALSE CUTTERS AND/OR THE PONDING OF ANY WATER IN THE ROADWAY. REMOVE AND RECONSTRUCT EXISTING PAVEMENT AND/OR CURB AS DICTATED BY FIELD CONDITIONS TO PROVIDE POSITIVE DRAINAGE AT TIE-IN-POINTS.
- OVERLAY OF EXISTING PAVEMENT SHALL BE MINIMUM OF 1 1/2 INCH DEPTH; ANY COST ASSOCIATED WITH PAVEMENT OVERLAY, OR THE MILLING OF EXISTING PAVEMENT TO OBTAIN REQUIRED DEPTH, SHALL BE ASSUMED BY THE CONTRACTOR.
- ALL RIGHT-OF-WAY DEDICATED FOR PUBLIC USE SHALL BE CLEAR AND UNENCUMBERED.
- AN AIR QUALITY PERMIT SHALL BE OBTAINED IF REQUIRED.
- ANY LIGHTING SHOWN HEREON IS AS SPECIFIED BY THE CLIENT AND IS INCLUDED FOR INFORMATION PURPOSES ONLY, AS DIRECTED BY THE OWNER AND/OR PUBLIC AGENCY REQUIREMENTS. BOWMAN CONSULTING GROUP, LTD. HAS NOT PERFORMED THE LIGHTING DESIGN, AND THEREFORE DOES NOT WARRANT AND IS NOT RESPONSIBLE FOR THE DEGREE AND/OR ADEQUACY OF ILLUMINATION ON THIS PROJECT.
- THE CONTRACTOR WILL BE REQUIRED TO NOTIFY ALL RESIDENCES WITHIN 100 YARDS OF THE PROPERTY BOUNDARY TEN (10) DAYS PRIOR TO ANY BLASTING IN ACCORDANCE WITH THE APPROPRIATE GOVERNING AGENCY REQUIREMENTS.
- NO BLASTING SHALL BE PERMITTED WITHIN 25' OF EXISTING UTILITY LINES OR STRUCTURES. BLASTING TO BE EXTENDED 25' BEYOND PROPOSED STRUCTURES IF CONDITIONS WARRANT FUTURE EXTENSIONS.
- ALL RETAINING WALLS 4' IN HEIGHT AND OVER (MEASURED FROM BOTTOM OF FOOTER TO TOP OF WALL) REQUIRE A SEPARATE BUILDING PERMIT.
- THE APPROVAL OF THIS PLAN DOES NOT CONSTITUTE THE APPROVAL OF FUTURE WORK.
- ALL HANDICAPPED SPACES SHALL HAVE AN ABOVE GRADE IDENTIFICATION SIGN MEETING APPROPRIATE GOVERNING AGENCY STANDARDS.
- WHERE A PROPOSED PIPE CROSSES OR PARALLELS A STREET OR DRIVE AISLE, THE ASPHALT SHALL BE NEATLY SAWCUT TO FULL DEPTH. AFTER INSTALLATION OF THE PIPE, THE ROADWAY SHALL BE PATCHED IN ACCORDANCE WITH THE APPROPRIATE GOVERNING AGENCY STANDARDS.
- REFER TO THE TOWN OF KNIGHTDALE STREET STANDARDS AND SPECIFICATIONS MANUAL FOR APPLICABLE CONSTRUCTION REQUIREMENTS WITHIN THE TOWN OF KNIGHTDALE.

GENERAL NOTES (CONT.)

- THE CONTRACTOR SHALL CAREFULLY EXAMINE THE SITE AND MAKE ALL INSPECTIONS NECESSARY IN ORDER TO DETERMINE THE FULL EXTENT OF THE WORK REQUIRED TO MAKE THE PROPOSED WORK CONFORM TO THE DRAWINGS AND SPECIFICATIONS. THE CONTRACTOR SHALL SATISFY HIMSELF AS TO THE NATURE AND LOCATION OF THE WORK, CONDITIONS, AND CONFIRMATION AND CONDITION OF EXISTING GROUND SURFACE AND THE CHARACTER OF THE EQUIPMENT AND FACILITIES NEEDED PRIOR TO AND DURING EXECUTION OF THE WORK. THE CONTRACTOR SHALL SATISFY HIMSELF AS TO THE CHARACTER, QUANTITY AND QUALITY OF SURFACE AND SUBSURFACE MATERIALS OR OBSTACLES TO BE ENCOUNTERED. ANY INACCURACIES OR DISCREPANCIES BETWEEN THE DRAWINGS AND SPECIFICATIONS MUST BE BOUGHT TO THE OWNER'S ATTENTION IN ORDER TO CLARIFY THE EXACT NATURE OF THE WORK TO BE PERFORMED PRIOR TO THE COMMENCEMENT OF ANY WORK.
- THE CONTRACTOR WILL BE RESPONSIBLE FOR ANY DAMAGE TO THE EXISTING ROADS AND UTILITIES WHICH OCCURS AS A RESULT OF THE PROJECT CONSTRUCTION WITHIN OR CONTIGUOUS TO THE EXISTING RIGHT-OF-WAY.
- ALL STREET CUT AND PATCH WORK IN PUBLIC RIGHT-OF-WAY REQUIRED FOR UTILITIES INSTALLATION SHALL BE PERFORMED IN STRICT ACCORDANCE WITH CITY, COUNTY, AND/OR APPROPRIATE GOVERNING AGENCY STANDARDS AND SPECIFICATIONS. REFER TO THE TOWN OF KNIGHTDALE STANDARDS AND SPECIFICATIONS MANUAL.
- THE APPROVAL OF THIS PLAN SHALL IN NO WAY GRANT PERMISSION FOR THE CONTRACTOR TO TRESPASS ON OFF-SITE PROPERTIES.
- THE APPROVAL OF THESE PLANS SHALL IN NO WAY RELIEVE THE CONTRACTOR OF COMPLYING WITH OTHER APPLICABLE LOCAL, STATE, AND FEDERAL REQUIREMENTS.
- THESE PLANS MAKE NO REPRESENTATION AS TO THE SUBSURFACE CONDITIONS AND THE PRESENCE OF SUBSURFACE WATER OR THE NEED FOR SUBSURFACE DRAINAGE FACILITIES.
- THE CONTRACTOR IS RESPONSIBLE FOR ARRANGING ALL NECESSARY INSPECTIONS.
- EMERGENCY VEHICLE ACCESS SHALL BE MAINTAINED DURING ALL PHASES OF CONSTRUCTION.
- ALL FINISHED GRADING, SEEDING, SODDING OR PAVING SHALL BE DONE IN SUCH A MANNER TO PRECLUDE THE PONDING OF WATER.
- THE ENGINEER SHALL NOT HAVE CONTROL OVER OR CHARGE OF AND SHALL NOT BE RESPONSIBLE FOR CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES OR PROCEDURES OR FOR SAFETY PRECAUTIONS AND PROGRAMS IN CONNECTION WITH THE WORK SHOWN ON THESE PLANS. THE ENGINEER SHALL NOT BE RESPONSIBLE FOR THE CONTRACTOR'S SCHEDULES OR FAILURE TO CARRY OUT THE WORK. THE ENGINEER IS NOT RESPONSIBLE FOR ACTS OR OMISSIONS OF THE CONTRACTOR, SUBCONTRACTORS, OR THEIR AGENTS OR EMPLOYEES, OR OF ANY OTHER PERSONS PERFORMING PORTIONS OF THE WORK.
- CONTRACTOR SHALL BE RESPONSIBLE FOR THE DIGGING OF TEST HOLES PRIOR TO BEGINNING OF ANY CONSTRUCTION ON THE PROJECT. IF CONFLICTS ARE DISCOVERED AS A RESULT OF TEST HOLE FINDINGS, NOTIFY OWNER'S REPRESENTATIVE IMMEDIATELY.
- EXCAVATION SUPPORT SYSTEMS SHALL CONFORM TO THE PROVISIONS OF OSHA CONSTRUCTION STANDARD 29 CFR PART 1926 SUBPART P, OR CURRENT EDITION.
- AT LOCATIONS WHERE THE FINAL SURFACE COURSE OF ASPHALT PAVEMENT IS TO BE FEATHERED INTO THE EXISTING SURFACE COURSE, THE EXISTING SURFACE COURSE IS TO BE SCABLED TO A MINIMUM DEPTH OF 1" AND A TACK COAT APPLIED PRIOR TO FINAL PAVING TO INSURE A SMOOTH, WELL BONDED JOINT.
- ANY NEW PAVEMENT OPENED TO TRAFFIC SHALL RECEIVE A TACK COAT PRIOR TO PLACEMENT OF ANY OVERLYING ASPHALT COURSE.
- ALL SIDEWALKS TO BE 4" THICK CONCRETE UNLESS OTHERWISE SHOWN ON THE PLAN. SIDEWALKS SHALL BE 6" THICK AT DRIVEWAY ENTRANCE LOCATIONS.
- ALL DEMOLITION SHALL BE PERFORMED IN STRICT COMPLIANCE WITH THE APPROPRIATE

LINE TABLE			
LINE	BEARING	LENGTH	
L4	S 16°00'44" E	16.12'	
L5	S 77°19'02" W	29.81'	
L6	N 69°06'40" W	36.14'	

CURVE TABLE					
CURVE	RADIUS	LENGTH	BEARING	CHORD	DELTA
C3	587.35'	228.23'	N 64°01'08" E	223.85'	21°58'16"
C4	26.00'	39.61'	S 60°42'01" E	35.69'	90°46'13"



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- TREE PROTECTION NOTES**
1. THE CONTRACTOR SHALL PROTECT ALL TREES AND SHRUBS OUTSIDE OF CUT/FILL LINES, IN ADDITION TO THOSE THAT RECEIVE TREE/SHRUB PROTECTION BARRIERS. THE CONTRACTOR IS ALSO REQUESTED TO SAVE ALL OTHER EXISTING TREES AND SHRUBS WHERE POSSIBLE.
 2. WHEN ROOT PRUNING IS NECESSARY, CUT ROOTS CLEANLY USING A DISC TRENCHER AND IMMEDIATELY COVER ALL ROOT CUT SURFACES LARGER THAN TWO INCHES IN DIAMETER WITH TREE WOUND DRESSING. USE PLYWOOD FORMS WHEN TREE ROOTS ARE ADJACENT TO PROPOSED CURB & GUTTER OR SIDEWALK.
 3. NO SOIL DISTURBANCE OR COMPACTION, CONSTRUCTION MATERIALS, TRAFFIC, BURIAL PITS, TRENCHING OR OTHER LAND DISTURBING ACTIVITY ALLOWED IN THE TREE PROTECTION ZONE. TREE BARRICADES MUST BE INSTALLED BEFORE ANY DEMOLITION, GRADING OR CONSTRUCTION BEGINS, AND NOT REMOVED UNTIL FINAL INSPECTION.
 4. NO GRUBBING WITHIN TREE PROTECTION ZONE. LEAVE SOIL AND LEAF LITTER UNDISTURBED. SUPPLEMENT WITH 1-2 INCHES OF MULCH. RE-SEED WITH GRASS ONLY IN DISTURBED/GRADED AREAS.
 5. TREE BARRICADES MUST BE INSTALLED BEFORE ANY DEMOLITION, CLEARING, GRADING OR CONSTRUCTION BEGINS AND IS NOT TO BE REMOVED UNTIL AFTER CONSTRUCTION.
 6. TREE PROTECTION FENCE IS TO BE LOCATED 1 FOOT PER TREE DIAMETER INCH AWAY FROM THE TREE.

- DEMOLITION NOTES:**
1. THE CONTRACTOR SHALL FIELD VERIFY AND LOCATE ALL EXISTING UTILITIES ON SITE PRIOR TO DEMOLITION.
 2. THE CONTRACTOR SHALL PERFORM DEMOLITION ACTIVITIES AS NOTED AND SHOWN ON THESE PLANS AND AS DIRECTED BY THE OWNER.
 3. IT WILL BE THE CONTRACTOR'S RESPONSIBILITY TO OBTAIN ANY PERMITS AND PAY FEES REQUIRED FOR DEMOLITION AND HAUL-OFF FROM THE APPROPRIATE AUTHORITIES.
 4. THE CONTRACTOR SHALL PREPARE ALL DOCUMENTS AND ACQUIRE APPROPRIATE PERMITS AS REQUIRED PRIOR TO THE COMMENCEMENT OF DEMOLITION.
 5. THE DEMOLITION PLAN IS INTENDED TO DEPICT GENERAL DEMOLITION AND UTILITY WORK. IT IS NOT INTENDED TO IDENTIFY EACH ELEMENT OF DEMOLITION OR RELOCATION. CONTRACTOR SHALL COORDINATE WITH THE OWNER AND APPROPRIATE UTILITY COMPANY PRIOR TO WORK.
 6. CONTRACTOR TO COMPLETELY DEMOLISH AND DISPOSE OF OFFSITE IN A LAWFUL MANNER EXISTING BUILDINGS, INCLUDING FOUNDATIONS AND ALL APPURTENANCES LOCATED ON AND AROUND THE PROPERTY INCLUDING BUT NOT LIMITED TO BOLLARDS, GAS METERS, AIR CONDITIONING UNITS, SIGNS, CURBS, SIDEWALKS, ELECTRIC METERS, FENCING, ETC.
 7. REMOVE AND DISPOSE OF ANY SIDEWALK, FENCES, STAIRS, WALLS, FOUNDATIONS, CONDUITS, LIGHT POLE BASES, DEBRIS AND RUBBISH REQUIRING REMOVAL FROM THE WORK AREA IN AN APPROVED LANDFILL.
 8. REMOVE AND/OR PLUG EXISTING UTILITIES SUCH AS SANITARY SEWER, WATER, GAS, ELECTRIC, AND TELEPHONE AS SHOWN. THE CONTRACTOR IS RESPONSIBLE FOR CONTACTING EACH UTILITY COMPANY TO COORDINATE REMOVAL OF ALL UTILITIES AND FOR DETERMINING HORIZONTAL AND VERTICAL LOCATIONS OF UTILITIES PRIOR TO COMMENCING WORK.
 9. THE CONTRACTOR SHALL CUT AND PLUG, OR ARRANGE FOR THE APPROPRIATE UTILITY COMPANY TO CUT AND PLUG ALL SERVICE PIPING AT THE STREET LINE OR MAIN, AS REQUIRED, OR AS OTHERWISE NOTED. ALL SERVICES MAY NOT BE SHOWN ON THIS PLAN. THE CONTRACTOR SHALL INVESTIGATE THE SITE PRIOR TO BIDDING TO DETERMINE THE EXTENT OF SERVICE PIPING TO BE REMOVED, CUT OR PLUGGED.
 10. THE CONTRACTOR SHALL ARRANGE FOR RESETTING OF CURB BOXES, VALVE BOXES AND REMOVAL AND/OR RELOCATION OF OVERHEAD UTILITIES AND POLES WITH THE APPROPRIATE UTILITY COMPANY.
 11. INSTALL ALL EROSION AND SEDIMENT CONTROL DEVICES AND TREE PROTECTION PRIOR TO BEGINNING DEMOLITION WORK.
 12. THE CONTRACTOR IS RESPONSIBLE FOR THE PROTECTION OF ALL UTILITIES TO REMAIN IN PLACE.
 13. THE CONTRACTOR SHALL TAKE ALL PRECAUTIONS TO AVOID UNNECESSARY DAMAGE TO EXISTING ROAD SURFACE. FINISH SURFACE TO BE REMOVED OR DEMOLISHED SHALL BE CUT ALONG LINES OF JOINTS WHICH WILL PERMIT A NEAT SURFACE WHEN RESTORED.
 14. SAWCUT AT INTERFACE OF PAVEMENT OR CURB TO REMAIN. SAWCUT EXISTING PAVEMENT.
 15. ALL EXISTING ITEMS TO REMAIN WHICH ARE DAMAGED DURING CONSTRUCTION SHALL BE RESTORED TO ITS ORIGINAL CONDITION AT THE SOLE EXPENSE OF THE CONTRACTOR.
 16. DO NOT INTERRUPT EXISTING UTILITIES SERVING FACILITIES OCCUPIED AND USED BY THE OWNER OR OTHERS DURING OCCUPIED HOURS EXCEPT WHEN SUCH INTERRUPTIONS HAVE BEEN AUTHORIZED IN WRITING BY THE OWNER AND THE LOCAL MUNICIPALITIES. INTERRUPTIONS SHALL ONLY OCCUR AFTER ACCEPTABLE TEMPORARY SERVICE HAS BEEN PROVIDED.
 17. SHOULD ANY UNCHARTED OR INCORRECTLY CHARTED EXISTING PIPING OR OTHER UTILITY BE UNCOVERED DURING EXCAVATION, CONSULT THE ENGINEER IMMEDIATELY FOR DIRECTIONS BEFORE PROCEEDING FURTHER WITH WORK IN THIS AREA.
 18. ASBESTOS OR HAZARDOUS MATERIAL, IF FOUND ON SITE, SHALL BE REMOVED BY A LICENSED HAZARDOUS MATERIAL CONTRACTOR.
 19. THE PROPERTY SELLER SHALL PUMP OUT BUILDING FUEL, GREASE TRAPS, AND WASTE OIL TANKS (IF ANY ARE ENCOUNTERED) AND REMOVE FUEL TO AN APPROVED DISPOSAL AREA BY AN APPROPRIATELY LICENSED WASTE OIL HANDLING CONTRACTOR IN STRICT ACCORDANCE WITH FEDERAL AND STATE REQUIREMENTS BEFORE CONSTRUCTION BEGINS.
 20. THE CONTRACTOR SHALL PROPERLY AND LEGALLY DISPOSE OF ALL DEMOLITION DEBRIS OFF OF THE SITE.

ENVIRONMENTAL SURVEY

THE LOCATIONS OF EXISTING TREES IS BASED ON A FIELD SURVEY OF THE PROPERTY AS SHOWN ON THE DEMOLITION PLAN. THERE ARE 79 OAK TREES, 107 PINE TREES, 3 POPLAR TREES, 35 MAPLE TREES AND 5 BEECH TREES IDENTIFIED ON THE SITE THAT ARE 24" DBH AND LARGER (229 TOTAL TREES). 49 OF THE OAK TREES, 91 PINE TREES, 30 MAPLE TREES AND 2 POPLAR TREES ARE NOTED TO BE REMOVED AND THE REMAINING 54 TREES ARE SHOWN TO REMAIN. EXISTING TREES BEING REMOVED MUST BE REPLACED IN ACCORDANCE WITH TABLE IN UDD SECTION 8.5A - SEE CHART THIS SHEET. THE EXISTING WOODED AREAS HAVE A MIXTURE OF DECIDUOUS AND EVERGREEN TREES. THE LIMITS OF GRADING WILL BE LIMITED TO THE EXTENT PRACTICAL TO PRESERVE THE EXISTING WOODED AREAS ON THE SITE. NO ENDANGERED SPECIES ARE LOCATED ON THE SITE. NO HISTORIC STRUCTURES ARE LOCATED ON THE SITE. THERE ARE NO STREAM AND/OR WETLAND FEATURES ON THE PROPERTY AND THE PROPERTY IS OUTSIDE ANY FEMA FLOOD ZONES.

TREE REPLACEMENT CALCULATION

PER SECTION 7.4.H.1 OF THE TOWN OF KNIGHTDALE UDD:

TOTAL NUMBER OF EXISTING TREES ≥ 24" DBH =	229
# OF EXISTING TREES ≥ 24" DBH TO REMAIN =	54
# OF EXISTING TREES ≥ 24" DBH TO BE REMOVED =	175
REPLACED AT 1 TREE PER 12" DBH =	175

EXISTING TREE NOTE

ALL EXISTING TREES THAT ARE NOTED TO REMAIN SHALL BE MONITORED AFTER CONSTRUCTION BEGINS TO ENSURE THAT THE TREE'S HEALTH HAS NOT BEEN COMPROMISED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVING AND REPLACING ANY TREES THAT FAIL TO MAINTAIN GOOD HEALTH AFTER CONSTRUCTION BEGINS.

EXISTING WELL OR SEPTIC NOTE

ANY EXISTING WELLS OR SEPTIC SYSTEMS ENCOUNTERED ON THE PROJECT PARCEL ARE TO BE REMOVED PER WAKE COUNTY STANDARD PROCEDURES. THERE ARE NO KNOWN WELLS OR SEPTIC SYSTEMS LOCATED ON THE PROJECT PARCEL.

DEMOLITION NOTE

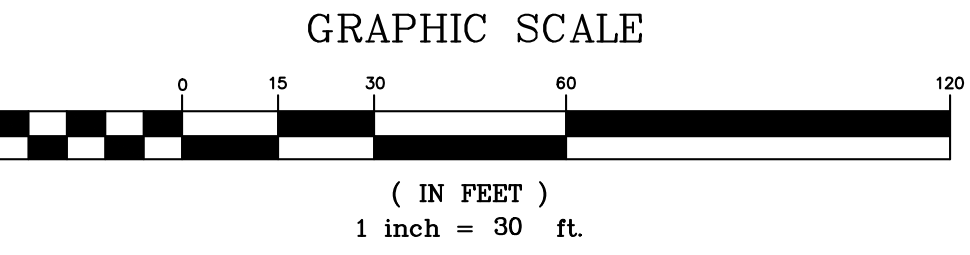
SIDEWALKS TO REMAIN SHALL BE REPAIRED IF DAMAGED DURING CONSTRUCTION

UTILITY STATEMENT

THE UNDERGROUND UTILITIES SHOWN HAVE BEEN LOCATED FROM FIELD SURVEY INFORMATION AND EXISTING DRAWINGS. THE SURVEYOR MAKES NO GUARANTEES THAT THE UNDERGROUND UTILITIES COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN-SERVICE OR ABANDONED. THE SURVEYOR FURTHER DOES NOT WARRANT THAT THE UNDERGROUND UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED ALTHOUGH THE SURVEYOR DOES CERTIFY THAT THEY ARE LOCATED AS ACCURATELY AS POSSIBLE FROM INFORMATION AVAILABLE. THE SURVEYOR HAS NOT PHYSICALLY LOCATED THE UNDERGROUND UTILITIES.

CAUTIONARY NOTE

THE LOCATIONS OF ALL EXISTING UNDERGROUND UTILITIES SHOWN ON THIS DRAWING ARE BASED ON ABOVE GROUND EVIDENCE OR INFORMATION GATHERED DURING THE FIELD SURVEY PORTION OF THIS PROJECT. AS SUCH, THIS INFORMATION IS SPECULATIVE IN NATURE ONLY AND SHOULD NOT BE CONSTRUED AS FACT. THERE MAY ALSO BE OTHER EXISTING UNDERGROUND UTILITIES FOR WHICH NO ABOVE GROUND EVIDENCE WAS OBSERVED. THE EXACT LOCATIONS OF THE UNDERGROUND UTILITIES SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO THE START OF ANY AND ALL CONSTRUCTION.



Town Certification:

This design has been reviewed by the Engineer for the Town of Knightdale, and to be the best of my knowledge and belief, it conforms to the requirements established in the Standard Specifications of the Town of Knightdale.

By: _____ Date: _____
Development Services Engineer

These plans are approved by the Town of Knightdale and serve as construction plans for this project.

By: _____ Date: _____
Administrator

DEMOLITION LEGEND

	BUILDINGS TO BE REMOVED
	PAVEMENT TO BE REMOVED
	UTILITIES TO BE REMOVED
	TREES TO BE REMOVED - REFER TO ENVIRONMENTAL SURVEY NOTE & TREE REPLACEMENT NOTE THIS SHEET

EROSION CONTROL NOTES:
AN EROSION AND SEDIMENTATION CONTROL PERMIT SHALL BE REQUIRED BY THE TOWN OF KNIGHTDALE PRIOR TO START OF CONSTRUCTION.

SURVEY NOTE:
ALL EXISTING BOUNDARY AND TOPOGRAPHIC INFORMATION TAKEN FROM A LAND SURVEY PREPARED BY: BOWMAN NORTH CAROLINA, LTD.

STREAM / WETLAND NOTE:
THERE ARE NO EXISTING STREAM/AND OR WETLAND FEATURES ON THE EXISTING PARCEL.

FLOOD ZONE NOTE:
THE PROPERTY IS LOCATED IN FLOOD ZONE X AS SHOWN ON FEMA FLOOD PANEL 3720175400K, DATED JULY 19, 2022. MAPS SUBJECT TO CHANGE BY FEMA

Bowman

Bowman North Carolina Ltd.
4006 BARRHETT DR
Suite 104
RALEIGH, NC 27609
Phone: (919) 559-6570
bowman.com

DEMOLITION PLAN

Kiddie Academy & Fresenius Kidney Center
Smithfield Road and McKnight Drive
Knightdale, NC Wake County ZCP-1-23/SEC-000012-2023

Primax Properties, LLC
Choice One Development, LLC



PLAN STATUS

5/22/23	MASTER PLAN SUBMITTAL	
7/10/23	CONSTRUCTION DOCUMENTS	
8/25/23	PER TOWN CD REVIEW	
10/04/23	PER TOWN CD REVIEW	
10/30/23	SIGNATURE SET	
DATE	DESCRIPTION	
MEL DESIGN	MEL DRAWN	XXX CHKD
SCALE	H: V:	
JOB No.	220133-01-001	
DATE	March 14, 2023	
FILE No.	220133-01-001	
SHEET	C2.0	

EROSION CONTROL NOTES:

REFER TO GENERAL NOTES SHEET FOR ADDITIONAL CONTROL REQUIREMENTS.

REFER TO DETAIL SHEETS FOR CONSTRUCTION DETAILS OF THE PROPOSED EROSION CONTROL MEASURES TO BE USED IN THE DEVELOPMENT OF THIS SITE.

REFER TO DETAIL SHEETS FOR TEMPORARY AND PERMANENT SEEDING SCHEDULES FOR PROVIDING GRASS COVER THE FOR THE DEVELOPMENT.

BASIN NOTES:

SKIMMER BASIN DESIGN BASED ON 3 DAYS TO DRAIN.

BASIN AND DIVERSIONS SHALL BE SEEDED, MULCHED AND ANCHORED/LINED AND PINNED UPON INSTALLATION OF MEASURES.

NOTE TO CONTRACTOR:

EROSION CONTROL MEASURES TO BE INSTALLED PRIOR TO THE BEGINNING OF DEMOLITION & TREE REMOVAL

NOTE TO CONTRACTOR:

THE CONTRACTOR SHALL NOTIFY THE PROJECT ENGINEER AND THE EROSION CONTROL INSPECTOR OF THE LOCATION OF ANY OFF-SITE BORROW SOURCE OR OFF-SITE WASTE MATERIAL DISPOSAL SITE. OFF-SITE DISTURBANCES COUNT TOWARDS THE OVERALL PROJECT DISTURBED AREA AND MUST BE COVERED BY THE PERMIT FOR THIS PROJECT AND/OR THE PERMIT FROM ANOTHER ACTIVE TOWN OF KNIGHTDALE, WAKE COUNTY OR NCDEQ PERMITTED SITE THAT IS APPROPRIATE FOR THE INTENDED USE (I.E. APPLICABLE MINING REQUIREMENTS). NO OFF-SITE ACTIVITIES SHALL OCCUR UNTIL THE PERMIT FOR THIS PROJECT HAS BEEN MODIFIED TO INCLUDE THE AFFECTED AREAS OR IT HAS BEEN VERIFIED WITH THE EROSION CONTROL INSPECTOR THAT THE OFF-SITE AREAS ARE COVERED UNDER ACTIVE APPLICABLE TOWN OF KNIGHTDALE, WAKE COUNTY OR NCDEQ PERMITS.

EROSION CONTROL NOTES:

- 1. TOTAL AREA DISTURBED = 3.47 ACRES
TOTAL SITE AREA = 3.79 ACRES
SOIL TYPE = WEDGECRE AND URBAN LAND
2. UNLESS OTHERWISE INDICATED, ALL VEGETATIVE AND STRUCTURAL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE CONSTRUCTED AND MAINTAINED IN ACCORDANCE WITH THE MINIMUM STANDARDS AND SPECIFICATIONS OF THE NCDEQ EROSION AND SEDIMENT CONTROL HANDBOOK, TOWN OF KNIGHTDALE & WAKE COUNTY REQUIREMENTS.
3. THE CONTRACTOR SHALL INSTALL AND MAINTAIN THROUGHOUT THE PROJECT CONSTRUCTION ALL EROSION CONTROL MEASURES SHOWN WITHIN THESE PLANS IN ACCORDANCE WITH APPLICABLE NORTH CAROLINA EROSION AND SEDIMENT CONTROL REGULATIONS.
4. CONSTRUCTION WORK SHALL BE IN COMPLIANCE WITH REGULATIONS OF THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) STORM WATER GENERAL PERMIT.
5. EROSION AND SEDIMENT CONTROL MEASURES ARE TO BE PLACED PRIOR TO CLEARING AND/OR LAND DISTURBANCE.
6. A COPY OF THE APPROVED EROSION AND SEDIMENT CONTROL PLAN AND PERMIT SHALL BE MAINTAINED ON THE SITE AT ALL TIMES.
7. THE CONTRACTOR SHALL DILIGENTLY AND CONTINUOUSLY MAINTAIN ALL EROSION CONTROL DEVICES AND STRUCTURES TO MINIMIZE EROSION. THE CONTRACTOR SHALL MAINTAIN CLOSE CONTACT WITH THE TOWN EROSION CONTROL INSPECTOR SO THAT PERIODIC INSPECTIONS CAN BE PERFORMED AT APPROPRIATE STAGES OF CONSTRUCTION.
8. APPROVAL OF THIS PLAN IS NOT AN AUTHORIZATION TO GRADE ADJACENT PROPERTIES. WHEN FIELD CONDITIONS WARRANT OFF-SITE GRADING, PERMISSION MUST BE OBTAINED FROM THE AFFECTED PROPERTY OWNERS. A REVISED PLAN SHOWING OFF-SITE IMPACTS SHOULD BE SUBMITTED AND APPROVED PRIOR TO ANY OFF-SITE GRADING. CONTACT PROJECT ENGINEER AND PROJECT EROSION CONTROL INSPECTOR TO ENSURE ADDITIONAL EROSION CONTROL MEASURES ARE INSTALLED PRIOR TO OFF-SITE GRADING.
9. PRIOR TO COMMENCING LAND DISTURBING ACTIVITIES IN AREAS OTHER THAN INDICATED ON THESE PLANS (INCLUDING, BUT NOT LIMITED TO OFF-SITE BORROW OR WASTE AREAS, STAGING OR STORAGE AREAS), THE CONTRACTOR SHALL PREPARE AND SUBMIT A SUPPLEMENTARY EROSION CONTROL PLAN TO THE OWNER FOR REVIEW AND TO TOWN OF KNIGHTDALE FOR APPROVAL. CONTRACTOR SHALL PAY ALL FEES REQUIRED AND SHALL INSTALL NECESSARY MEASURES AT NO SEPARATE PAYMENT. THE CONTRACTOR SHALL PROVIDE THE OWNER AND THE ENGINEER A COPY OF THE AMENDED PERMIT.
10. EROSION AND SEDIMENT CONTROL MEASURES SHALL BE MAINTAINED CONTINUOUSLY, RELOCATED WHEN AND AS NECESSARY, AND SHALL BE CHECKED AFTER EVERY RAINFALL. SEEDED AREAS SHALL BE CHECKED REGULARLY AND SHALL BE WATERED, FERTILIZED, RE-EDED AND MULCHED AS NECESSARY TO OBTAIN A DENSE STAND OF GRASS.
11. STABILIZATION IS THE BEST FORM OF EROSION CONTROL. ALL DISTURBED AREAS WHICH ARE NOT OTHERWISE STABILIZED SHALL BE TOP SOILED AND SEEDED, TEMPORARILY OR PERMANENTLY IN ACCORDANCE WITH THE NCDEQ SEDIMENT CONTROL REGULATIONS. PERMANENT SEEDING AND GRASS ESTABLISHMENT IS REQUIRED PRIOR TO PROJECT COMPLETION AND ACCEPTANCE.
12. WHEN A CRUSHED STONE CONSTRUCTION ENTRANCE HAS BEEN COVERED WITH SOIL OR HAS BEEN PUSHED INTO THE SOIL BY CONSTRUCTION TRAFFIC, IT SHALL BE REPLACED WITH A DEPTH OF STONE EQUAL TO THAT OF THE ORIGINAL APPLICATION.
13. TEMPORARY GRAVEL CONSTRUCTION ENTRANCE SHALL BE REQUIRED AT ALL CONSTRUCTION STAGING AREA ENTRANCES AND ALL CONSTRUCTION ACCESS LOCATIONS INTO NON-PAVED AREA. SIX INCHES OF STONE SHALL BE USED FOR THE TEMPORARY GRAVEL CONSTRUCTION ENTRANCE.
14. ALL DRAINAGE INLETS SHALL BE PROTECTED FROM SILTATION. INEFFECTIVE PROTECTION DEVICES SHALL BE IMMEDIATELY REPLACED AND THE INLET CLEANED. FLUSHING IS NOT AN ACCEPTABLE METHOD OF CLEANING.
15. SEDIMENT BASINS AND TRAPS, PERIMETER DIKES, SEDIMENT BARRIERS AND OTHER MEASURES INTENDED TO TRAP SEDIMENT SHALL BE CONSTRUCTED AS A FIRST STEP IN ANY LAND-DISTURBING ACTIVITY AND SHALL BE MADE FUNCTIONAL BEFORE UP-SLOPE LAND DISTURBANCE TAKES PLACE.
16. ALL DISTURBED AREAS ARE TO DRAIN TO APPROVED SEDIMENT CONTROL MEASURES AT ALL TIMES DURING LAND DISTURBING ACTIVITIES AND DURING SITE DEVELOPMENT UNTIL FINAL STABILIZATION IS COMPLETED.
17. DURING DE-WATERING OPERATIONS, WATER SHALL BE PUMPED INTO AN APPROVED FILTERING DEVICE PRIOR TO DISCHARGE TO RECEIVING OUTLET.
18. THE CONTRACTOR SHALL INSPECT ALL EROSION CONTROL MEASURES PERIODICALLY AND AFTER EACH RUNOFF-PRODUCING EVENT. ANY NECESSARY REPAIRS OR CLEANUP TO MAINTAIN THE EFFECTIVENESS OF THE EROSION CONTROL DEVICES SHALL BE MADE IMMEDIATELY.

STOCKPILE DESIGN CRITERIA:

- 1. A 25-FOOT TEMPORARY MAINTENANCE AND ACCESS EASEMENT SHALL BE SHOWN AROUND ALL PROPOSED STOCKPILES (EROSION CONTROL MEASURES SURROUNDING THE STOCKPILE SHALL BE SHOWN AT THE OUTER LIMIT OF THIS EASEMENT).
2. STOCKPILE FOOTPRINTS SHALL BE SETBACK A MINIMUM OF 25' FROM ADJACENT PROPERTY LINES.
3. STOCKPILE HEIGHT SHALL NOT EXCEED 35-FEET.
4. STOCKPILE SLOPES SHALL BE 2:1 OR FLATTER.
5. APPROVED BMP'S SHALL BE SHOWN ON A PLAN TO CONTROL ANY POTENTIAL SEDIMENT LOSS FROM A STOCKPILE.
6. STOCKPILING MATERIALS ADJACENT TO A DITCH, DRAINAGEWAY, WATERCOURSE, WETLAND, STREAM BUFFER, OR OTHER BODY OF WATER SHALL BE AVOIDED UNLESS AN ALTERNATIVE LOCATION IS DEMONSTRATED TO BE UNAVAILABLE.
7. ANY CONCENTRATED FLOW LIKELY TO AFFECT THE STOCKPILE SHALL BE DIVERTED TO AN APPROVED BMP.
8. OFF-SITE SPOIL OR BORROW AREAS MUST BE IN COMPLIANCE WITH TOWN OF KNIGHTDALE, WAKE COUNTY UDO AND STATE REGULATIONS. ALL SPOIL AREAS OVER AN ACRE ARE REQUIRED TO HAVE AN APPROVED SEDIMENT CONTROL PLAN. DEVELOPER/CONTRACTOR SHALL NOTIFY TOWN OF KNIGHTDALE OF ANY OFFSITE DISPOSAL OF SOIL, PRIOR TO DISPOSAL, FILL OF FEMA FLOODWAYS AND NON-ENCROACHMENT AREAS ARE PROHIBITED EXCEPT AS OTHERWISE PROVIDED BY SUBSECTION 14-10-2 OF THE WAKE COUNTY UNIFIED DEVELOPMENT ORDINANCE (CERTIFICATIONS AND PERMITS REQUIRED).

EROSION CONTROL NARRATIVE:

KIDDIE ACADEMY & FRESenius KIDNEY CENTER, TOWN OF KNIGHTDALE, WAKE COUNTY, NC

CONTRACTOR WILL FIRST INSTALL THE CONSTRUCTION ENTRANCE. THE CONTRACTOR SHALL THEN MOBILIZE ON SITE AND INSTALL THE TEMPORARY EROSION CONTROL DEVICES INCLUDING SILT FENCE, INLET PROTECTION, SKIMMER BASINS, AND OTHER DEVICES IN ACCORDANCE WITH THE PLANS (CLEARING ONLY AS NECESSARY TO INSTALL THESE ITEMS). BEGIN DEMOLITION, CLEARING AND SITE GRADING OPERATIONS. STABILIZATION OF EARTHEN STRUCTURES IS REQUIRED IMMEDIATELY AFTER INSTALLATION. THE ON-SITE STORM SEWER SYSTEM AND THE LEVEL-SPREADER FILTER STRIP CAN NOW BE INSTALLED. IMMEDIATELY AFTER AN INLET IS INSTALLED, INLET PROTECTION SHALL BE PROPERLY INSTALLED ON THE STRUCTURE. ONCE THE SITE IS READY TO BRING UP TO GRADE, REMOVE SKIMMER BASIN #2. THE ON-SITE SANITARY SEWER AND WATER SYSTEMS MAY ALSO BE INSTALLED ONCE THE SITE IS BROUGHT UP TO GRADE. THE SITE PAD WILL BE PREPARED FOR THE PROPOSED BUILDING. THE ROUGH GRADE WILL THEN BE ESTABLISHED FOR THE SITE. INSTALLATION OF CURB AND GUTTER WILL THEN BE PERFORMED. BASE STONE WILL THEN BE PLACED AND FINE GRADED. ALL DISTURBED AREAS WILL BE DRESSED AND SEEDDED. REMOVE ALL INLET PROTECTION FROM STORM STRUCTURES WHEN PAVING IS TO BEGIN. PAVING AND STRIPING WILL THEN BE COMPLETED. FINALIZE STORMWATER POND STRUCTURE AND DISCHARGE PIPES ONCE UPSTREAM AREAS HAVE BEEN STABILIZED (REMOVE ACCUMULATED SEDIMENT). ALL LANDSCAPING WILL BE COMPLETED. THE ON-SITE STORM SEWER SYSTEM SHALL BE CLEANED OF ANY ACCUMULATED SEDIMENT WHICH SHALL BE DISPOSED OF IN A LAWFUL MANNER. ALL ACCUMULATED SEDIMENT BEHIND SILT FENCE AND OTHER SEDIMENT DEVICES SHALL BE REMOVED AND DISPOSED OF IN A LAWFUL MANNER. ACCORDING TO THE GROUND STABILIZATION REQUIREMENTS ON THIS SHEET, REMOVE ALL REMAINING SEDIMENT CONTROL MEASURES FROM THE SITE. CONTRACTOR SHALL MINIMIZE THE LENGTH OF TIME BETWEEN INITIAL LAND DISTURBANCE AND FINAL VEGETATION STABILIZATION OF THE SITE.

THE PROPOSED EROSION AND SEDIMENT CONTROL MEASURES ARE INTENDED TO TRAP ANY STORMWATER RUNOFF FROM THE CONSTRUCTION SITE AND DETAIN IT LONG ENOUGH FOR SEDIMENT AND POLLUTANTS TO SETTLE OUT OF THE STORMWATER BEFORE DISCHARGE. VARIOUS EROSION CONTROL MEASURES ARE USED TO PREVENT POLLUTANT-LADEN STORMWATER RUNOFF FROM FLOWING ONTO ADJACENT PROPERTIES.

GENERAL NOTES:

- 1. THE CONTRACTOR SHALL OBTAIN AND PAY FOR ALL INSPECTIONS, CERTIFICATIONS, EQUIPMENT, ETC. THAT MAY BE REQUIRED.
2. THE CONTRACTOR SHALL NOTE THAT THE DRAWINGS ARE SCHEMATIC IN NATURE AND DO NOT SHOW EVERY OFFSET, TRANSITION, FITTING, ETC. THAT MAY BE REQUIRED FOR A COMPLETE AND WORKING SYSTEM.
3. THE ENGINEER AND/OR OWNER DISCLAIM ANY ROLE IN THE CONSTRUCTION MEANS AND METHODS ASSOCIATED WITH THE PROJECT AS SET FORTH IN THESE PLANS.
4. CONTRACTOR SHALL MAINTAIN AN "AS BUILT" SET OF DRAWINGS TO RECORD THE EXACT LOCATION OF ALL PIPING PRIOR TO CONCEALMENT. DRAWINGS SHALL BE GIVEN TO THE ENGINEER UPON COMPLETION OF THE PROJECT WITH A COPY OF THE TRANSMITTAL LETTER TO THE OWNER.
5. IF DEPARTURES FROM THE SPECIFICATIONS OR DRAWINGS ARE DEEMED NECESSARY BY THE CONTRACTOR, DETAILS OF SUCH DEPARTURES AND REASONS THEREOF SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW. NO DEPARTURES FROM THE CONTRACT DOCUMENTS SHALL BE MADE WITHOUT THE WRITTEN PERMISSION OF THE OWNER.
6. THE CONTRACTOR MUST, AT ALL TIMES, KEEP THE PREMISES FREE FROM ACCUMULATIONS OF WASTE MATERIALS OR RUBBISH CAUSED BY HIM, HIS EMPLOYEES OR HIS WORK. ALL DEBRIS SHALL BE REMOVED FROM THE PROJECT SITE ON A DAILY BASIS.
7. SCHEDULE AN INITIAL PRE-CONSTRUCTION CONFERENCE WITH THE TOWN OF KNIGHTDALE. OBTAIN A LAND-DISTURBANCE PERMIT.
8. INSTALL ALL PERIMETER CONTROLS AS SHOWN ON THE APPROVED PLANS, CLEAR ONLY AS NECESSARY TO INSTALL THESE DEVICES. CLEARING SHOULD BE LIMITED TO A MAXIMUM 35' "RIBBON" AROUND PERIMETER TO INSTALL CONTROLS. NO GRADING OR EXCAVATION SHOULD OCCUR.
9. SCHEDULE AN ONSITE PRE-CONSTRUCTION MEETING WITH THE TOWN OF KNIGHTDALE TO INSPECT THE INSTALLED PERIMETER CONTROLS.
10. IF APPROVED, PROCEED WITH INSTALLING GRAVEL CONSTRUCTION PAD, TEMPORARY DIVERSIONS, SILT FENCE, SEDIMENT BASINS OR OTHER MEASURES AS SHOWN ON THE APPROVED PLANS. CLEAR ONLY AS NECESSARY TO INSTALL THESE DEVICES. SEED TEMPORARY DIVERSIONS, BERMS, AND BASINS IMMEDIATELY AFTER CONSTRUCTION.
11. CALL TOWN OF KNIGHTDALE EROSION CONTROL INSPECTOR TO SCHEDULE AN ONSITE INSPECTION AND OBTAIN A CERTIFICATE OF COMPLIANCE.
12. BEGIN CLEARING AND GRUBBING. MAINTAIN DEVICES AS NEEDED. ROUGH GRADE SITE.
13. INSTALL STORM SEWER, IF SHOWN, AND PROTECT INLETS WITH BLOCK AND GRAVEL CONTROLS, SEDIMENT TRAPS OR OTHER APPROVED MEASURES AS SHOWN IN THE APPROVED PLAN. BEING CONSTRUCTION, BUILDING, ETC.
14. STABILIZE SITE AS AREAS ARE BROUGHT UP TO FINISH GRADE WITH VEGETATION, PAVING, DITCH LININGS, ETC. SEED AND MULCH DENuded AREAS PER GROUND STABILIZATION TIME FRAMES.
15. WHEN CONSTRUCTION IS COMPLETE AND ALL AREAS ARE STABILIZED COMPLETELY, CALL EROSION CONTROL INSPECTOR FOR AN INSPECTION.
16. IF SITE IS APPROVED, REMOVE TEMPORARY DIVERSIONS, SILT FENCE, SEDIMENT BASINS, ETC., AND SEED OUT OR STABILIZE ANY RESULTING BARE AREAS. ALL REMAINING PERIMETER EROSION CONTROL DEVICES, SUCH AS VELOCITY DISSIPATORS, SHOULD NOW BE INSTALLED.
17. WHEN VEGETATION HAS BECOME ESTABLISHED (90% COVERAGE), CALL FOR A FINAL INSPECTION BY THE EROSION CONTROL INSPECTOR. OBTAIN A CERTIFICATE OF COMPLETION.

BASIN REMOVAL SEQUENCE:

- 1. SCHEDULE A SITE MEETING WITH THE TOWN OF KNIGHTDALE EROSION CONTROL INSPECTOR TO DETERMINE IF A BASIN CAN BE REMOVED. INSTALL SILT FENCING OR OTHER TEMPORARY EROSION CONTROL MEASURES AS NEEDED PRIOR TO REMOVAL OF THE BASIN.
2. CONTACT NCDEQ -RALEIGH REGIONAL OFFICE (919) 791-4200 TO DETERMINE THE DIVISION OF ENERGY, MINERAL AND LAND RESOURCES CONTACT PERSON TO RECEIVE DEWATERING NOTIFICATIONS. AT LEAST 10 DAYS PRIOR TO BEGINNING DEWATERING ACTIVITY, SEND EMAIL TO NCDEQ-DEMLR CONTACT PERSON AND COPY ENVIRONMENTAL CONSULTANT THAT MET YOU ONSITE. THE EMAIL SHOULD INCLUDE E&S CONTACT INFORMATION: TOWN OF KNIGHTDALE, TOK PROJECT: NAME, NUMBER, AND LOCATION (CITY/TOWN), ENVIRONMENTAL CONSULTANT NAME, AND ADDRESS THE FOLLOWING: A) REASON FOR CONVERSION, B) BASIN #, C) DEWATERING METHOD, AND D) ALL OTHER NECESSARY INFO FROM PART II, SECTION G, ITEM 4 OF THE NCGO1. (KEEP EMAIL FOR YOUR NPDES MONITORING DOCUMENTATION.
3. AFTER RECEIVING POSITIVE CONFIRMATION FROM NCDEQ-DEMLR THAT YOU MAY REMOVE THE BASIN OR ON > DAY 11, WHICHEVER IS SOONER. REMOVE BASIN(S) AND ASSOCIATED TEMPORARY DIVERSION DITCHES, IF PIPES NEED TO BE EXTENDED, PERFORM THIS OPERATION AT THIS TIME. FINE GRADE AREA IN PREPARATION FOR SEEDING.
4. PERFORM SEEDBED PREPARATION, SEED, MULCH AND ANCHOR ANY RESULTING BARE AREAS IMMEDIATELY USING NON-CLUMPING TURF GRASS (CENTIPEDE / HYBRID BERMUDA) .
5. INSTALL VELOCITY DISSIPATORS AND/OR LEVEL SPREADERS AS REQUIRED ON THE EROSION CONTROL PLAN.
6. WHEN SITE IS FULLY STABILIZED, CALL EROSION CONTROL INSPECTOR FOR APPROVAL OF REMOVING REMAINING TEMPORARY EROSION CONTROL MEASURES AND ADVISE ON WHEN SITE CAN BE ISSUED A CERTIFICATE OF COMPLETION. NOTE: A MEETING SHOULD ALSO BE SCHEDULED WITH THE EROSION CONTROL INSPECTOR AND STORMWATER TECHNICIAN TO DETERMINE WHEN A BASIN MAY BE CONVERTED FOR STORMWATER USE.

STOCKPILE MAINTENANCE REQUIREMENTS:

- 1. SEEDING OR COVERING STOCKPILES WITH TARPS OR MULCH IS REQUIRED AND WILL REDUCE EROSION PROBLEMS. TARPS SHOULD BE KEPT IN AT THE TOP OF THE SLOPE TO KEEP WATER FROM RUNNING UNDERNEATH THE PLASTIC.
2. IF A STOCKPILE IS TO REMAIN FOR FUTURE USE AFTER THE PROJECT IS COMPLETE (BUILDERS, ETC.), THE FINANCIAL RESPONSIBLE PARTY MUST NOTIFY TOWN OF KNIGHTDALE OF A NEW RESPONSIBLE PARTY FOR THAT STOCKPILE.
3. THE APPROVED PLAN SHALL PROVIDE FOR THE USE OF STAGED SEEDING AND MULCHING ON A CONTINUAL BASIS WHILE THE STOCKPILE IS IN USE.
4. ESTABLISH AND MAINTAIN A VEGETATIVE BUFFER AT THE TOE OF THE SLOPE (WHERE PRACTICAL).

SEDIMENT & EROSION CONTROL NOTES:

- 1. THE EROSION AND SEDIMENTATION CONTROL MEASURES (BMPs) WERE DESIGNED USING TOWN OF KNIGHTDALE, WAKE COUNTY AND THE NORTH CAROLINA NCDEQ REQUIREMENTS AND SHALL BE INSTALLED ACCORDINGLY. CONTRACTOR SHALL PERFORM ALL ACTIVITIES IN STRICT COMPLIANCE WITH THE NORTH CAROLINA NPDES GENERAL PERMIT FOR STORM WATER DISCHARGES FROM LARGE AND SMALL CONSTRUCTION ACTIVITIES (GENERAL PERMIT).
2. REFER TO THE EROSION AND SEDIMENT CONTROL DETAIL SHEETS FOR EROSION CONTROL DETAILS AND DESIGN TABLES FOR SEDIMENT BASINS, DIVERSION DITCHES, AND CULVERTS, SLOPE DRAINS, RIP-RAP APRONS AND OTHER EROSION CONTROL MEASURES.
3. EXISTING BOUNDARIES, TOPOGRAPHY, 100-YR FLOODPLAIN, UTILITY AND ROAD INFORMATION TAKEN FROM AN EXISTING CONDITIONS SURVEY. ALL EXISTING INFORMATION IS TO BE FIELD VERIFIED BY THE CONTRACTOR.
4. SEE THE LANDSCAPE PLAN FOR LOCATIONS OF PROPOSED PLANTINGS AND FINAL STABILIZATION.
5. TEMPORARY DIVERSION DITCHES AND BERMS SHALL BE MAINTAINED AS THE SITE IS BROUGHT TO GRADE.
6. DILIGENTLY AND CONTINUOUSLY MAINTAIN ALL EROSION CONTROL DEVICES AND STRUCTURES TO MINIMIZE EROSION. THE CONTRACTOR SHALL MAINTAIN CLOSE CONTACT WITH THE EROSION CONTROL INSPECTORS SO THAT PERIODIC INSPECTIONS CAN BE PERFORMED AT APPROPRIATE STAGES OF CONSTRUCTION.
7. SEE THE GENERAL NOTES SHEET AND THE GRADING AND DRAINAGE PLAN FOR OTHER NOTES REGARDING GRADING ACTIVITIES.
8. SEE SITE PLAN, GRADING AND DRAINAGE PLAN, UTILITY PLAN, PLANTING PLAN AND OTHER PLAN SHEETS FOR DETAILED DESIGN INFORMATION OF PERMANENT SITE APPURTENANCES SHOWN ON THIS SHEET.
9. WHERE THE LIMITS OF DISTURBANCE AND TEMPORARY FENCE (SF, SF-PF, OR PF) LIMITS ARE ADJACENT, THE TEMPORARY FENCE LINE IS THE LIMITS OF DISTURBANCE. THE LINE TYPES ARE SHOWN SEPARATED FOR ILLUSTRATIVE PURPOSES ONLY.
10. CONTRACTOR SHALL NOT DISTURB ANY EXISTING VEGETATED GROUND COVER OR TREES OUTSIDE OF THE LIMITS OF DISTURBANCE OR WITHIN ANY REQUIRED BUFFER LIMITS UNLESS OTHERWISE NOTED OR ILLUSTRATED.
11. PROVIDE CONTROLS OF POLLUTANTS, INCLUDING, BUT NOT LIMITED TO DUST CONTROL, DE-WATERING, SOLID WASTE DISPOSAL, AND HAZARDOUS MATERIALS.
12. CLEAR ONLY AS REQUIRED TO INSTALL EROSION AND SEDIMENTATION CONTROL MEASURES. MASS CLEARING AND GRUBBING CAN BEGNN ONLY AFTER ALL DOWNSTREAM MEASURES HAVE BEEN INSTALLED.
13. USE ROCK OR WASHED STONE TO BRING CONSTRUCTION EXIT TO GRADE. IMPLEMENT WHEEL WASHES AS NECESSARY THROUGHOUT ALL PHASES OF CONSTRUCTION.
14. DIVERT STORM WATER RUNOFF OFF THE FACE OF THE SEDIMENT BASIN SLOPES USING DIVERSION DITCHES AND SLOPE DRAINS. CONTRACTOR SHALL MAINTAIN AND RELOCATE DIVERSION DITCHES AND SLOPES DRAINS TO ENSURE STORM WATER RUNOFF DOES NOT ERODE THE FACE OF FINAL SLOPES.
15. MAINTAIN POSITIVE FLOW TO THE SEDIMENT BASINS THROUGHOUT ALL PHASES OF CONSTRUCTION. PLACE EXCAVATED SOILS ALONG DOWNSTREAM EDGE OF THE DIVERSION DITCHES TO PROVIDE ADDITIONAL CAPACITY.
16. REFER TO THE GRADING AND DRAINAGE PLAN FOR FINAL SITE AND PAVEMENT GRADES AND ELEVATIONS OF THE PROPOSED STORM SEWER SYSTEMS.
17. LAND DISTURBING ACTIVITIES SHALL NOT COMMENCE UNTIL APPROVAL TO DO SO HAS BEEN RECEIVED BY GOVERNING AUTHORITIES. THE GENERAL CONTRACTOR SHALL STRICTLY ADHERE TO THE APPROVED EROSION AND SEDIMENT CONTROL DRAWINGS DURING CONSTRUCTION OPERATIONS.
18. GENERAL CONTRACTOR SHALL COMPLY WITH ALL STATE AND LOCAL ORDINANCES THAT APPLY.
19. ALL WORK SHALL BE CONFINED TO PERMIT LIMITS SHOWN ON PLANS. UNLESS OTHERWISE NOTED, THE SITE PLAN PROPERTY LIMITS SHALL BE CONSIDERED THE PERMIT LIMITS.
20. SUFFICIENT EROSION CONTROL PRACTICES MUST BE INSTALLED AND MAINTAINED TO RETAIN SEDIMENT WITHIN THE BOUNDARIES OF THE SITE.
21. ADDITIONAL EROSION CONTROL MEASURES OR SILT BARRIERS TO BE PLACED AS SHOWN AND/OR DIRECTED BY THE PROJECT ENGINEER AND/OR LOCAL JURISDICTIONAL INSPECTOR.
22. FOR ALL CONSTRUCTION ALONG AND/OR ACROSS WATERWAYS, BANK PROTECTION AND STABILIZATION SHALL BE REQUIRED AS PER LOCAL JURISDICTIONAL EROSION CONTROL LAWS.
23. ALL TREE PROTECTION AND EROSION CONTROL MEASURES SHALL BE IN PLACE PRIOR TO COMMENCING CONSTRUCTION AND SHALL BE MAINTAINED IN PROPER WORKING ORDER UNTIL ALL DISTURBED AREAS ARE STABILIZED AND GROUND COVER IS ESTABLISHED. CONSTRUCTION ENTRANCE PADS SHALL BE INSTALLED BY THE CONTRACTOR AT CONSTRUCTION ACCESS POINTS PRIOR TO LAND DISTURBANCE.
24. ALL EASEMENTS DISTURBED MUST BE DRESSED AND GRASSED TO CONTROL EROSION IN ACCORDANCE WITH EASEMENT PLATS PRIOR TO ACCEPTANCE.
25. CONSTRUCTION LIMITS SHALL NOT BE EXCEEDED WITHOUT THE APPROVAL OF TOWN OF KNIGHTDALE, NCDEQ OR WAKE COUNTY.

Table with 3 columns: SITE AREA DESCRIPTION, STABILIZATION, TIMEFRAME EXCEPTIONS. Rows include Basin & Temporary Diversion Ditches, Perimeter Dikes, Swales, Ditches and Slopes, High Quality Water (H2O) Zones, Slopes Steeper Than 3:1, Slopes 3:1 or Flatter, and All Other Areas with Slopes Flatter Than 3:1.

GROUND COVER REQUIREMENTS:

THE ANGLE FOR GRADED SLOPES AND FILLS SHALL BE NO GREATER THAN THE ANGLE THAT CAN BE RETAINED BY VEGETATIVE COVER OR OTHER ADEQUATE EROSION-CONTROL DEVICES OR STRUCTURES. IN ANY EVENT, SLOPES LEFT EXPOSED WILL, ACCORDING TO THE FOLLOWING CHART, BE PLANTED OR OTHERWISE PROVIDED WITH TEMPORARY OR PERMANENT GROUND COVER, DEVICES, OR STRUCTURES SUFFICIENT TO RESTRAIN EROSION. PROVISIONS FOR PERMANENT GROUNDCOVER SUFFICIENT TO RETAIN EROSION MUST BE ACCOMPLISHED FOR ALL DISTURBED AREAS ACCORDING TO THE FOLLOWING CHART FOLLOWING COMPLETION OF CONSTRUCTION OR DEVELOPMENT.

NORTH CAROLINA CONSTRUCTION GENERAL PERMIT NOTE:

As of April 1, 2019, all new construction activities are required to complete and submit an electronic Notice of Intent (NOI) form requesting a Certificate of Coverage (COC) under the NCGO1000 Construction Stormwater General Permit. This form MUST be submitted prior to the commencement of any land disturbing activity on the above named project. The NOI form may be accessed at deq.nc.gov/NCGO1. Please direct questions about the NOI form to Annette Lucas at Annette.lucas@ncdenr.gov or Paul Clark at Paul.clark@ncdenr.gov.

After you submit a complete and correct NOI Form, a COC will be emailed to you within three business days. Initially, DEMLR will not charge a fee for coverage under the NCGO1 permit. However, on or after May 1, 2019, a \$100 fee will be charged annually. This fee is to be sent to the DEMLR Stormwater Control Office staff in Raleigh.

- Title 15A NCAC 04B .0118(a) and the NCGO1 permit require that the following documentation be kept on file at the job site:
1. The approved E&S plan as well as any approved deviation.
2. The NCGO1 permit and the COC, once it is received.
3. Records of inspections made during the previous 30 days.
4. The Certificate of Approval

NOTIFICATION OF COMBINED SELF-MONITORING AND SELF-INSPECTION FORM:

THE SEDIMENTATION POLLUTION CONTROL ACT WAS AMENDED IN 2006 TO REQUIRE THAT PERSONS RESPONSIBLE FOR LAND-DISTURBING ACTIVITIES INSPECT A PROJECT AFTER EACH PHASE OF THE PROJECT TO MAKE SURE THAT THE APPROVED EROSION AND SEDIMENTATION CONTROL PLAN IS BEING FOLLOWED. RULES DETAILING THE DOCUMENTATION OF THESE INSPECTIONS TOOK EFFECT OCTOBER 1, 2010.

TO SIMPLIFY DOCUMENTATION OF SELF-INSPECTION REPORTS AND NPDES SELF-MONITORING REPORTS, DMO AND DEMLR DEVELOPED A COMBINED FORM. THE SELF-INSPECTION PROGRAM IS SEPARATE FROM THE WEEKLY SELF-MONITORING PROGRAM OF THE NPDES STORMWATER PERMIT FOR CONSTRUCTION ACTIVITIES. THE FOCUS OF THE SELF-INSPECTION REPORT IS THE INSTALLATION AND MAINTENANCE OF EROSION AND SEDIMENTATION CONTROL MEASURES ACCORDING TO THE APPROVED PLAN. THE INSPECTIONS SHOULD BE CONDUCTED AFTER EACH PHASE OF THE PROJECT, AND CONTINUED UNTIL PERMANENT GROUND COVER IS ESTABLISHED. THE FORM CAN BE ACCESSED AT: HTTP://PORTAL.NCDENR.ORG/WEB/AR/EROSION

IF YOU HAVE QUESTIONS OR CANNOT ACCESS THE FORM, PLEASE CALL THE APPLICABLE NCDENR REGIONAL OFFICE: (RALEIGH: 919-791-4200) (FAYEVILLE: 910-433-3300) (WILMINGTON: 910-796-7215) (WASHINGTON: 252-946-6481) (WINSTON-SALEM: 336-771-5000) (MOOREVILLE: 704-663-1699) (ASHEVILLE: 828-296-4500).

TREE PROTECTION NOTES:

- 1. THE CONTRACTOR SHALL PROTECT ALL TREES AND SHRUBS OUTSIDE OF CUT/FILL LINES, IN ADDITION TO THOSE THAT RECEIVE TREE/SHRUB PROTECTION BARRIERS. THE CONTRACTOR IS ALSO REQUESTED TO SAVE ALL OTHER EXISTING TREES AND SHRUBS WHERE POSSIBLE.
2. WHEN ROOT PRUNING IS NECESSARY, CUT ROOTS CLEANLY USING A DISC TRENCHER AND IMMEDIATELY COVER ALL ROOT CUT SURFACES LARGER THAN TWO INCHES IN DIAMETER WITH TREE WOUND DRESSING. USE PLYWOOD FORMS WHEN TREE ROOTS ARE ADJACENT TO PROPOSED CURB & GUTTER OR SIDEWALK.
3. NO SOIL DISTURBANCE OR COMPACTION, CONSTRUCTION MATERIALS, TRAFFIC, BURIAL PITS, TRENCHING OR OTHER LAND DISTURBING ACTIVITY ALLOWED IN THE TREE PROTECTION ZONE. TREE BARRICADES MUST BE INSTALLED BEFORE ANY DEMOLITION, GRADING OR CONSTRUCTION BEGINS, AND NOT REMOVED UNTIL FINAL INSPECTION.
4. NO GRUBBING WITHIN TREE PROTECTION ZONE. LEAVE SOIL AND LEAF LITTER UNDISTURBED. SURROUND WITH 1-2 INCHES OF MULCH. RE-SEED WITH GRASS ONLY IN DISTURBED/GRADED AREAS.
5. TREE BARRICADES MUST BE INSTALLED BEFORE ANY DEMOLITION, CLEARING, GRADING OR CONSTRUCTION BEGINS AND IS NOT TO BE REMOVED UNTIL AFTER CONSTRUCTION.
6. TREE PROTECTION FENCE IS TO BE LOCATED 1 FOOT PER TREE DIAMETER INCH AWAY FROM THE TREE.

INSPECTION NOTES:

- 1. REQUIRED SCM INSPECTIONS SEQUENCE - SCM INSTALLATION
1.1. WHEN SCHEDULING INSPECTIONS, PLEASE CALL PUBLIC WORKS ADMINISTRATIVE ASSISTANT AT (919) 217-2250.
1.2. PLEASE NOTE: THE FOLLOWING PERSONNEL MUST BE PRESENT AT ALL INSPECTIONS:
1.2.1. SITE SUPERVISOR
1.2.2. GEOTECH
1.2.3. AS-BUILT CERTIFYING ENGINEER OR SOMEONE UNDER THEIR SUPERVISION
2. THE FOLLOWING ITEMS MUST BE INSPECTED BY TOK STAFF DURING THE INSTALLATION OF ANY SCM WITH DAM:
2.1. KEY TRENCH EXCAVATION
2.2. PRINCIPAL SPILLWAY PIPE AND ASSOCIATED COMPONENTS:
2.2.1. CONCRETE CRADLE
2.2.2. ANTI-SEEP COLLAR
2.2.3. SEEPAGE DIAPHRAGM
2.3. OUTLET STRUCTURE
2.4. ANTI-FLOUTATION BALLAST
2.5. ANY SITE-CONSTRUCTED REINFORCED CONCRETE STRUCTURES
3. THE FOLLOWING ITEMS MUST BE INSPECTED BY TOK STAFF DURING THE INSTALLATION OF ANY SAND FILTERS OR BIORETENTION DEVICES
3.1. SUBGRADE OR CONSTRUCTED FOUNDATION
3.2. OUTLET OR RISER IN COMBINATION WITH CONNECTING UNDERDRAINS
3.3. FILTER MEDIA
3.4. DAM ITEMS ON PREVIOUS LIST IF APPLICABLE

GEOTECHNICAL TESTING AND CERTIFICATION NOTES:

ALL REPORTS ARE TO BE SUBMITTED WITHIN 30-DAYS OF DAM COMPLETION

REQUIRED GEOTECHNICAL RECORDS INCLUDE:
1. DAM EMBANKMENT MATERIAL COMPOSITION AND DENSITY TESTING
2. MAP THAT LABELS ALL POINTS WHERE THE DAM AND DAM FOUNDATION AREAS WERE TESTED
3. DIGITAL PHOTOS SHOWING THE DAM FOUNDATION AREAS, THE RISER, THE PRINCIPLE SPILLWAY PIPE, THE CONCRETE CRADLE, THE SEEPAGE DIAPHRAGM, RELIEF DRAINS, ETC., BEING INSTALLED.

REQUIRED SCM SEQUENCE - PLANTING NOTES:

- 1. THE DAM STRUCTURE, INCLUDING FRONT AND BACK EMBANKMENT SLOPES, OF THE POND SHALL BE VEGETATED WITH NON-CLUMPING TURF GRASS OR SOD. (CENTIPEDE/HYBRID-BERMUDA) 90% GERMINATION OF NON-CLUMPING TURF WILL BE REQUIRED PRIOR TO FINAL CERTIFICATION FROM THE TOWN.
2. THE VEGETATED SHELF SHALL BE PLANTED WITH A MINIMUM OF THREE DIVERSE SPECIES OF HERBACEOUS, NATIVE VEGETATION AT A MINIMUM DENSITY OF 50 PLANTS PER 200 FEET OF SHELF AREA.
3. CONTRACTOR TO WORK WITH SOILS SCIENTIST TO ENSURE SOILS ARE ADEQUATE TO SUPPORT PROPER ESTABLISHMENT AND GROWTH OF THE AQUATIC PLANTINGS. CONTRACTOR TO AMEND SOILS AND INSTALL SOILS IN PLANT, SHRUB, AND TREE AREAS PER DETAILS, SOIL SPECIFICATIONS, NCDENR SPECIFICATION, AND SOIL SCIENTIST RECOMMENDATIONS.
4. ALL AQUATIC PLANTINGS ARE TO BE INSTALLED DURING THE APPROPRIATE TIME OF YEAR TO ENSURE SURVIVABILITY (LAST SPRING FROST AND THE FIRST FALL FROST)
5. ALL DISTURBED AREAS AROUND THE OUTSIDE OF THE DEVICE SHALL BE SEEDDED WITH A LAWN AREA SEED MIX (PER SEEDING SPECIFICATIONS) NATIVE GRASSES, LEGUMES, CLOVERS, AND WILDFLOWERS
6. IF THE DEVICE WAS USED DURING CONSTRUCTION AS A SEDIMENT BASIN OR TRAP, THE BASIN MUST BE CLEANED OUT, GRADED, APPROPRIATE AREAS COVERED WITH 4" OF TOPSOIL AS SPECIFIED IN NOTE #2 ABOVE, AND VEGETATED WITHIN 14 DAYS OF THE COMPLETION OF CONSTRUCTION.
7. CONTRACTOR SHALL WATER ALL VEGETATION AND GRASS ON A WEEKLY BASIS AS NEEDED TO ENSURE GRASS AND PLANT SURVIVAL UNTIL AFTER THE SOIL IS CERTIFIED AND ACCEPTED BY THE TOWN.

PERMITTING AND ENVIRONMENTAL REGULATIONS NOTES:

ECS PERMITTING AND INSPECTIONS:

ONCE THE EROSION AND SEDIMENT CONTROL (ESC) PLAN HAS BEEN REVIEWED AND ACCEPTED BY THE TOWN OF KNIGHTDALE (TOK), A FORMAL PLAN APPROVAL LETTER WILL BE ISSUED TO THE FRP AND APPLICANTS. NOTE: AN ESC APPROVAL LETTER DOES NOT INDICATE PERMIT ISSUANCE.

AN NCGO1 CERTIFICATE OF COVERAGE MUST BE OBTAINED FROM THE NORTH CAROLINA DEPARTMENT OF ENVIRONMENTAL QUALITY (NCDEQ). THE MAINTENANCE PERMIT CAN BE OBTAINED BY FILING OUT THE ELECTRONIC NOTICE OF INTENT (E-NOI) FORM AT DEQ.NC.GOV/NCGO1. PLEASE NOTE, THE E-NOI FORM MAY ONLY BE COMPLETED ONCE ESC PLANS HAVE BEEN APPROVED (A).

THE TOWN OF KNIGHTDALE STORMWATER DEPARTMENT REQUIRES AN ON-SITE PRECONSTRUCTION (PRECON) MEETING PRIOR TO ISSUING A DEVELOPMENT PERMIT. THIS MEETING IS AN OPPORTUNITY TO GO OVER SITE MANAGEMENT EXPECTATIONS AND DISCUSS ANY PROJECT CONCERNS.

ONCE THE PRECON MEETING HAS BEEN HELD AND ALL FEES PAID, THE LAND DEVELOPMENT PERMIT (LDP) WILL BE ISSUED FOR THE PROJECT.

FOLLOWING SITE MOBILIZATION, ROUTINE 'CONSTRUCTION SITE INSPECTIONS' BY TOK STAFF WILL OCCUR AS OUTLINED IN THE TOK EROSION AND SEDIMENT CONTROL ENFORCEMENT TREE. TO NOTE, 'COMPLIANT/SATISFACTORY' INSPECTIONS WILL NEED TO OCCUR FOLLOWING:

INSTALLATION OF INITIAL ESC PERIMETER CONTROLS (SF, SF/PF, SF/OS) ONLY CLEARING THE PERIMETER RIBBON (25' MAX) - PERIMETER CONTROL INSPECTION'

INSTALLATION OF ALL PHASE 1 ESC MEASURES INCLUDING ENGINEERED STRUCTURES - 'CERTIFICATE OF COMPLIANCE INSPECTION'

IT IS THE RESPONSIBILITY OF THE SITE MANAGER TO FORMALLY REQUEST THESE TYPES OF INSPECTIONS BY CONTACTING TOK PUBLIC WORKS. CLEARING/GRUBBING OUTSIDE OF THE LIMITED AREAS REQUIRED TO COMPLETE THE ABOVE ITEMS WILL RESULT IN ENFORCEMENT ACTION BY THE TOK.

FOLLOWING THE COMPLETION OF THE ITEMS ABOVE - THE SITE CAN BE CLEARED AND DEVELOPED IN ACCORDANCE WITH THE APPROVED PLAN.

PERMITS BOX CONTENTS - A COPY OF THE TOK LAND DEVELOPMENT PERMIT, THE NCGO1 CERTIFICATE OF COVERAGE (COC) AND REGULAR NPDES INSPECTIONS, A COPY OF THE APPROVED/REVISED ESC PLAN, AND (WHEN OBTAINED) THE TOK CERTIFICATE OF COMPLIANCE - MUST BE KEPT ON SITE, PREFERABLY IN A PERMITS BOX, AND ACCESSIBLE DURING INSPECTION. LOCATE A RAIN GAUGE ON SITE FOR FACILITATION OF INSPECTIONS AND RECORD KEEPING.

401/404 PERMITS - APPROVAL OF THIS EROSION AND SEDIMENTATION CONTROL PLAN DOES NOT AUTHORIZE IMPACTS TO WETLANDS, COASTAL MARSH, STREAMS, OR OTHER WATERS OF THE STATE OR UNITED STATES OR SUPERSEDE ANY OTHER PERMITTING REQUIREMENT OF ANY FEDERAL, STATE OR LOCAL AGENCY.

IF APPLICABLE, PROVIDE A COPY OF THE USAGE 404 PERMIT AND DWR 401 CERTIFICATIONS. PROVIDE A COPY OF THE DWR BUFFER AUTHORIZATION.

SUBMIT DOCUMENTATION WITH MAPS SHOWING LOCATION AND EXTENT OF IMPACTS TO STREAMS AND WETLANDS WITH ANY SPECIAL CONDITIONS PERTAINING TO EROSION AND SEDIMENT CONTROL AND RESTORATION OF AFFECTED AREAS.

IDENTIFY THE STREAMS, WETLANDS, AND BUFFERS ON THE PLAN SHEETS. INCLUDE ANY ADDITIONAL MEASURES, CONSTRUCTION SPECIFICATIONS, MAINTENANCE REQUIREMENTS AND CONSTRUCTION SEQUENCING AS REQUIRED BY THE 404/401/BUFFER DETERMINATION AND BUFFER AUTHORIZATION ON THE PLAN SHEETS.

FOLLOW ALL CONDITIONS OUTLINED IN THE CERTIFICATIONS, SPECIFICALLY REPORTING ANY DISCHARGES OUTSIDE OF THE PERMITTED SCOPE OF WORK.

AREAS OF ENVIRONMENTAL CONCERN AND CULTURAL RESOURCES -BEFORE ANY SITE WORK OCCURS, ADEQUATELY IDENTIFY KEY ENVIRONMENTAL AND/OR CULTURAL RESOURCES BY USING APPROPRIATE IDENTIFIERS IN THE FIELD (TREE PROTECTION FENCING, FLAGGING, ETC.).

FILL/BORROW - ANY OFF-SITE BORROW AND/OR FILL REQUIRED FOR THIS PROJECT MUST COME FROM A SITE WITH AN APPROVED EROSION CONTROL PLAN. A SITE REGULATED UNDER THE MINING ACT OF 1971, OR A LANDFILL REGULATED BY THE NC DIVISION OF SOLID WASTE MANAGEMENT. TRASH/DEBRIS FROM DEMOLITION ACTIVITIES OR GENERATED BY ANY ACTIVITIES ON SITE MUST BE DISPOSED OF AT A FACILITY REGULATED BY THE NC DIVISION OF SOLID WASTE MANAGEMENT, OR PER NC DIVISION OF SOLID WASTE MANAGEMENT OR NC DIVISION OF WATER RESOURCES RULES AND REGULATIONS.

BASIN CONVERSION NOTES (SKIMMER BASIN #1):

NOTE: TOWN OF KNIGHTDALE APPROVAL MUST BE RECEIVED BEFORE PROCEEDING WITH CONVERSION OF THE SKIMMER BASIN TO THE POST CONSTRUCTION SCM (SEE BASIN REMOVAL SEQUENCE THIS SHEET).

- 1. DEWATER BASIN AS NECESSARY
2. REMOVE OUD BARRILES
3. REMOVE SEDIMENT ACCUMULATION TO ORIGINAL LEVEL AND DISPOSE OF IN A LAWFUL MANNER
4. REMOVE DEWATERING STRUCTURES
5. SURVEY AND CHECK BASIN DIMENSIONS, DAMS AND SPILLWAYS
6. RESHAPE AND RE-EXCAVATE THE SCM AREA TO MEET STORM WATER CONTROL REQUIREMENTS
7. INSTALL PEAK FLOW CONTROLS (RISER STRUCTURE, PIPES, RIP-RAP DISSIPATORS, ETC)
8. REPAIR ANY DAMAGED AREAS
9. INSPECT AND CLEAN OUT STORM SEWER SYSTEM
10. REMOVE TEMPORARY DIVERSION DITCHES AND ENSURE ALL RAINFALL EVENTS ROUTE TO THE SCM FOREBAY
11. INSTALL POND PLANTINGS
12. SEED WITH APPROPRIATE MIX AND STABILIZE EMBANKMENTS WITH STRAW/NET BLANKET OR HYDRO-MULCH

Town Certification:

This design has been reviewed by the Engineer for the Town of Knightdale, and to be the best of my knowledge and belief, it conforms to the requirements established in the Standard Specifications of the Town of Knightdale.

By: [Signature] Date: [Blank]
Development Services Engineer
These plans are approved by the Town of Knightdale and serve as construction plans for this project.
By: [Signature] Date: [Blank]
Administrator



Bowman North Carolina Ltd.
4006 BARRETT DR
Suite 104
RALEIGH, NC 27609
Phone: (919)559-6570
bowman.com

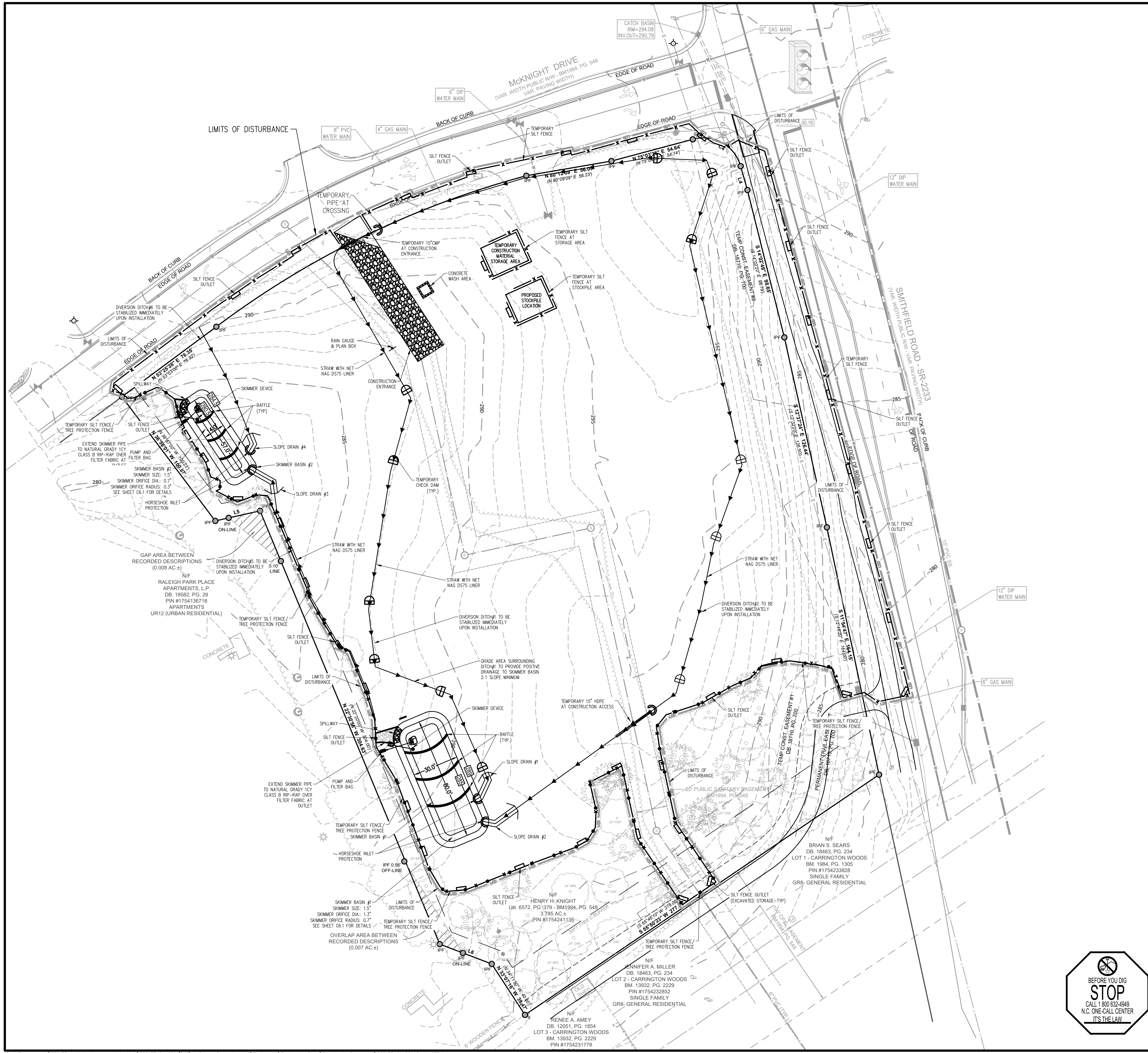
EROSION CONTROL NOTES
Kiddie Academy & Fresenius Kidney Center
Smithfield Road and McKnight Drive
Knightdale, NC Wake County ZCP-1-23/SEC-000012-2023

Primax Properties, LLC
Choice One Development, LLC



Table with 2 columns: DATE, DESCRIPTION. Rows include Master Plan Submittal, Construction Documents, Town CD Review, Per Town CD Review, Signature Set.

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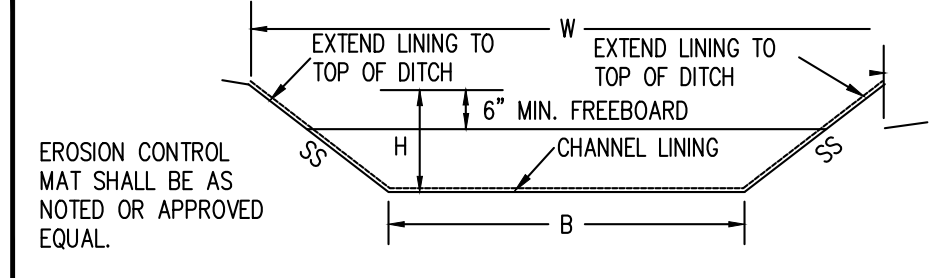
DITCH	FLOW Q(25)	DRAINAGE AREA	PIPE DIAMETER
SLOPE DRAIN #1	5.2 CFS	1.29 AC	18 IN
SLOPE DRAIN #2	3.1 CFS	0.80 AC	18 IN
SLOPE DRAIN #3	1.2 CFS	0.30 AC	12 IN
SLOPE DRAIN #4	0.8 CFS	0.20 AC	12 IN

Maximum Drainage Area per Pipe (acres)	Pipe Diameter (inches)
0.50	12
0.75	15
1.00	18
>1.00*	as designed

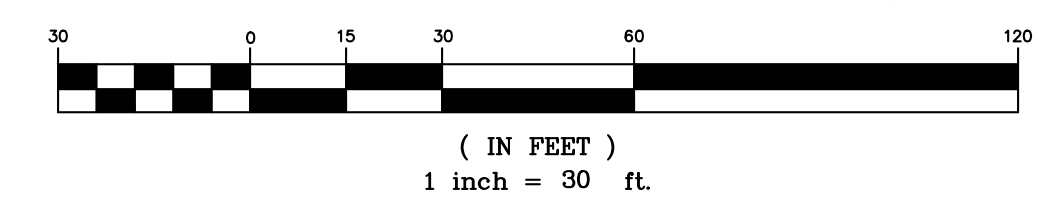
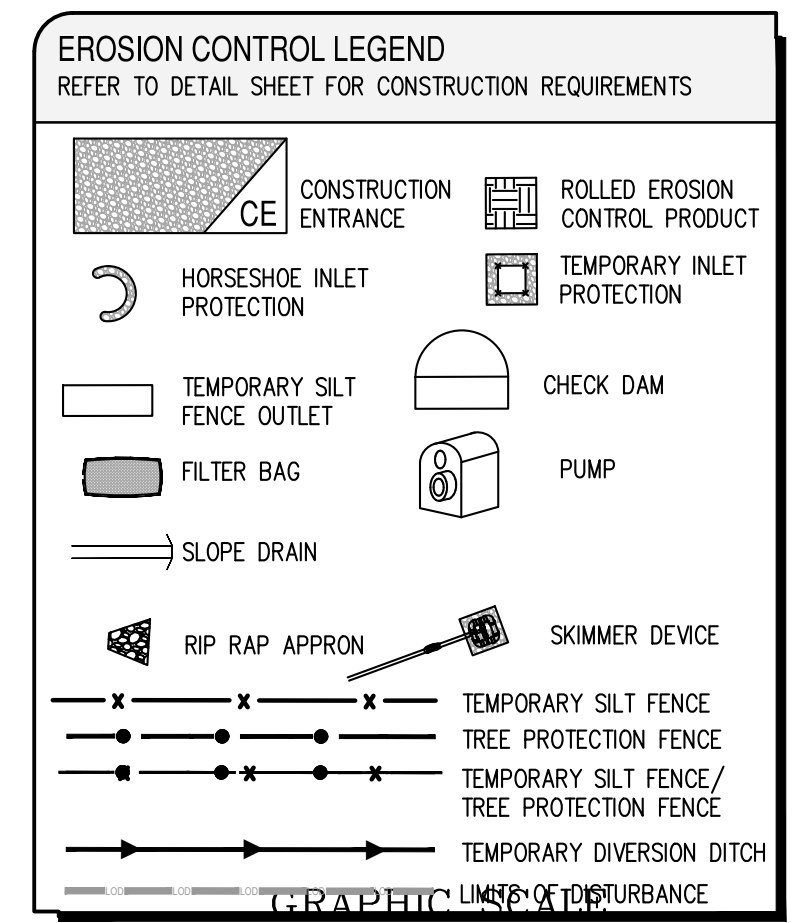
*Inlet design becomes more complex beyond this size.

4 SLOPE DRAIN DATA BLOCK
REFER TO DETAIL SHEET FOR SLOPE DRAIN DETAIL

DITCH	FLOW Q(25)	LONG. SLOPE (%)	DRAINAGE AREA	FLOW VELO.	L	H	B	W	SS	CHANNEL LINING
TEMPORARY DITCH #1	6.0 CFS	0.8%	1.50 AC	2.34 FT/S	617.9'	1.5'	1.0'	7.0'	2:1	STRAW WITH NET NAG DS75
TEMPORARY DITCH #2	3.1 CFS	0.9%	0.77 AC	2.04 FT/S	541.4'	1.25'	1.0'	6.0'	2:1	STRAW WITH NET NAG DS75
TEMPORARY DITCH #3	0.9 CFS	1.9%	0.23 AC	1.94 FT/S	575.3'	1.0'	1.0'	5.0'	2:1	STRAW WITH NET NAG DS75
TEMPORARY DITCH #4	1.3 CFS	0.9%	0.32 AC	1.57 FT/S	105.7'	1.0'	1.0'	5.0'	2:1	STRAW WITH NET NAG DS75
TEMPORARY DITCH #5	1.2 CFS	3.2%	0.30 AC	2.66 FT/S	238.0'	1.0'	1.0'	5.0'	2:1	STRAW WITH NET NAG DS75
TEMPORARY DITCH #6	0.8 CFS	4.9%	0.20 AC	2.79 FT/S	192.2'	1.0'	1.0'	5.0'	2:1	STRAW WITH NET NAG DS75



3 TEMPORARY DIVERSION DITCH DATA BLOCK
REFER TO DETAIL SHEET FOR TEMPORARY DITCH DETAIL



Town Certification:
This design has been reviewed by the Engineer for the Town of Knightdale, and to be the best of my knowledge and belief, it conforms to the requirements established in the Standard Specifications of the Town of Knightdale.

By: _____ Date: _____
Development Services Engineer

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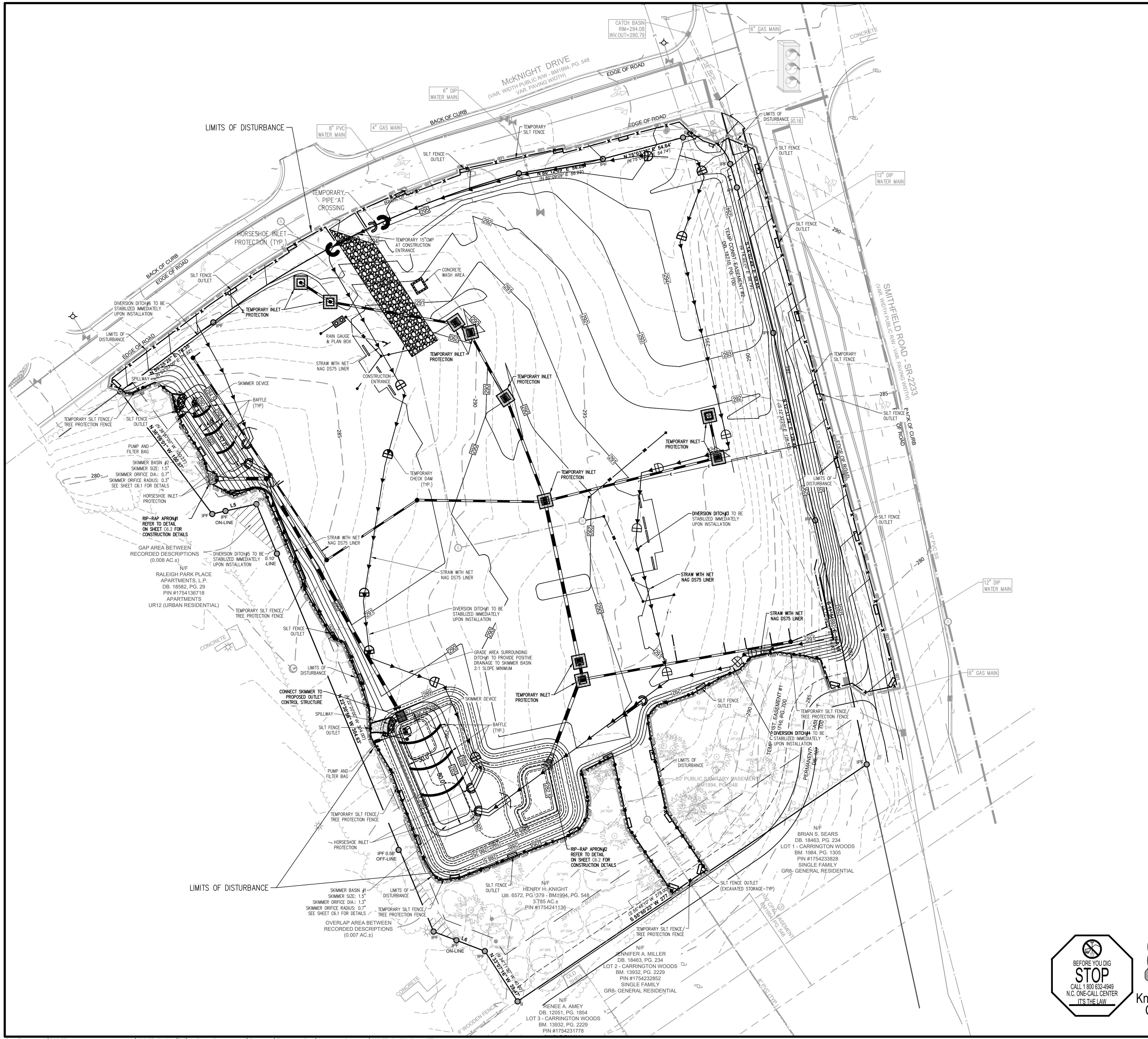
Primax Properties, LLC
Choice One Development, LLC



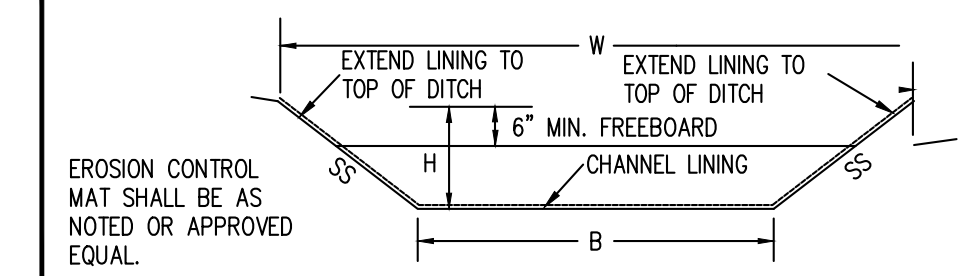
PLAN STATUS		
5/22/23	MASTER PLAN SUBMITTAL	
7/10/23	CONSTRUCTION DOCUMENTS	
8/25/23	PER TOWN CD REVIEW	
10/04/23	PER TOWN CD REVIEW	
10/30/23	SIGNATURE SET	
DATE	DESCRIPTION	
MEL DESIGN	MEL DRAWN	XXX CHKD
SCALE	H:	V:
JOB No.	220133-01-001	
DATE	March 14, 2023	
FILE No.	220133-01-001	
SHEET	C2.2	



PLAN STATUS		
5/22/23	MASTER PLAN SUBMITTAL	
7/10/23	CONSTRUCTION DOCUMENTS	
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JOB No.	220133-01-001	
DATE	March 14, 2023	
FILE No.	220133-01-001	
SHEET	C2.3	



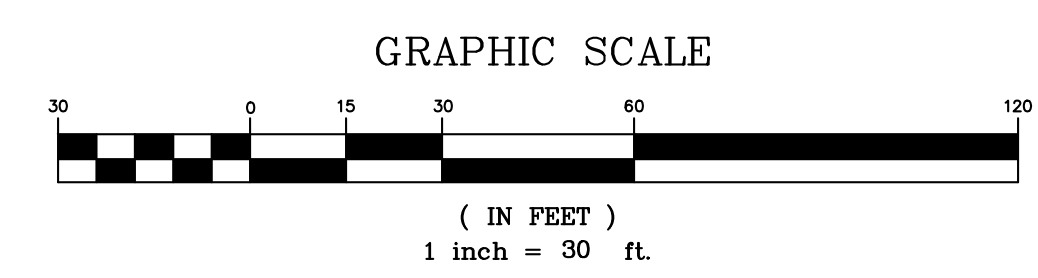
DITCH	FLOW Q(25)	LONG SLOPE (%)	DRAINAGE AREA	FLOW VELO.	L	H	B	W	SS	CHANNEL LINING
TEMPORARY DITCH #1	6.0 CFS	0.8%	1.50 AC	2.34 FT/S	617.9'	1.5'	1.0'	7.0'	2:1	STRAW WITH NET NAG DS75
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3 TEMPORARY DIVERSION DITCH DATA BLOCK
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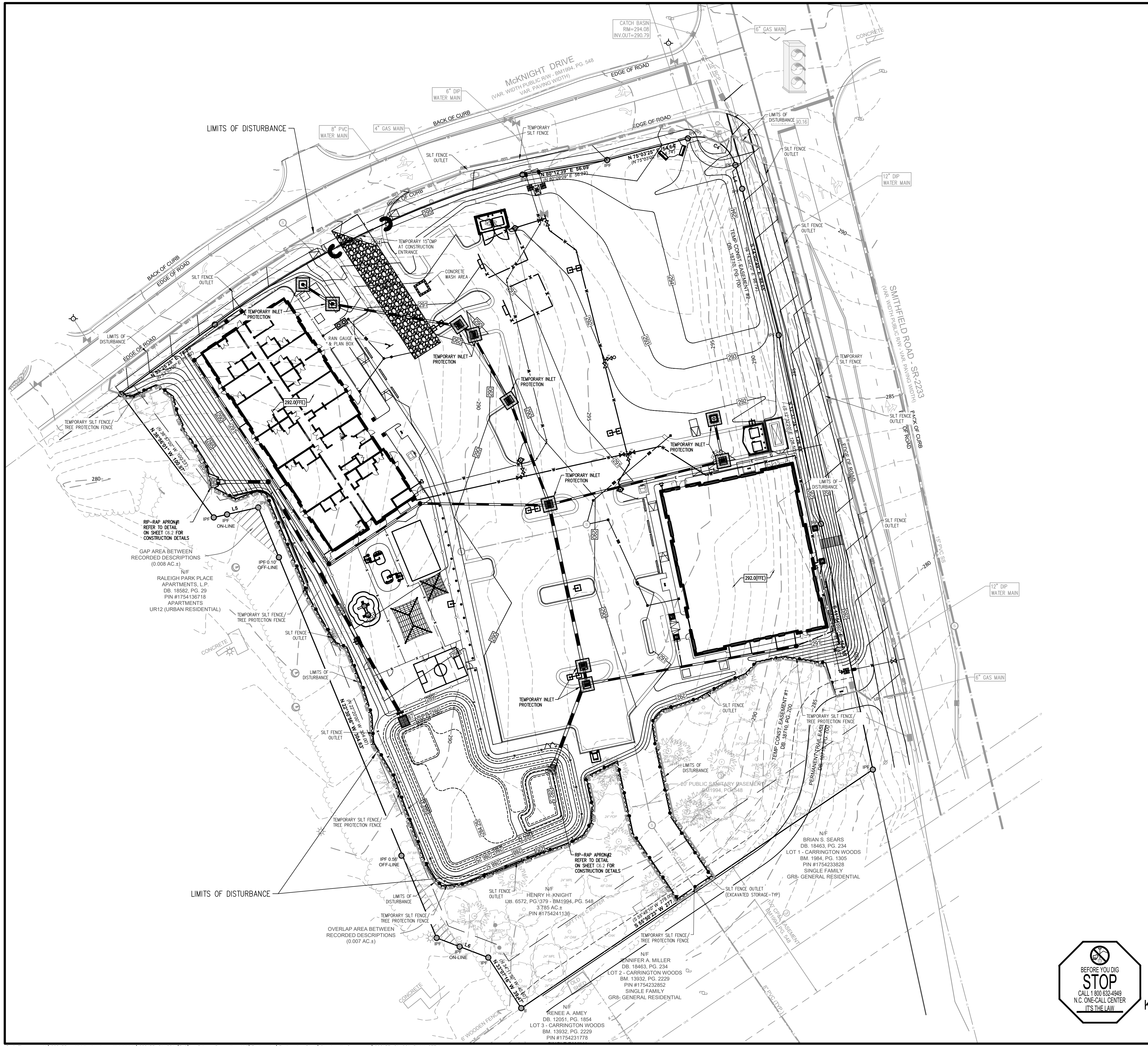
EROSION CONTROL LEGEND
REFER TO DETAIL SHEET FOR CONSTRUCTION REQUIREMENTS

- CE CONSTRUCTION ENTRANCE
- HORSESHOE INLET PROTECTION
- TEMPORARY SILT FENCE OUTLET
- FILTER BAG
- SLOPE DRAIN
- RIP RAP APRON
- TEMPORARY SILT FENCE
- TEMPORARY SILT FENCE/TREE PROTECTION FENCE
- TEMPORARY DIVERSION DITCH
- LIMITS OF DISTURBANCE
- ROLLED EROSION CONTROL PRODUCT
- TEMPORARY INLET PROTECTION
- CHECK DAM
- PUMP
- SKIMMER DEVICE

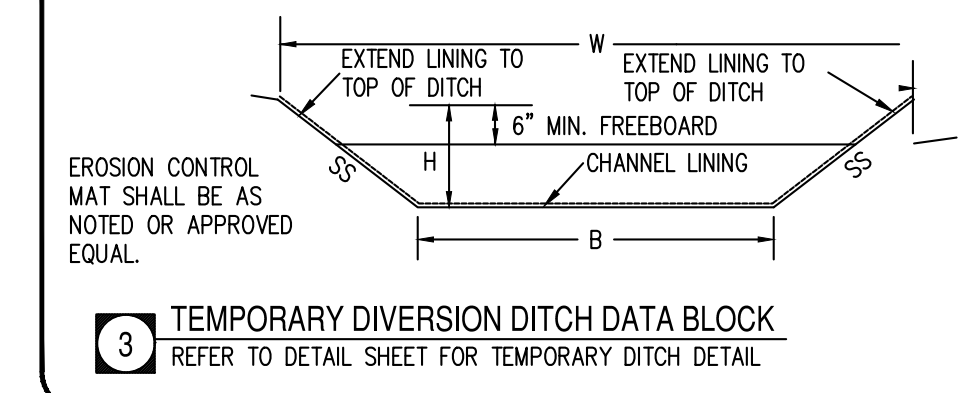


811
Know what's below.
Call before you dig.

Town Certification:
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By: _____ Date: _____
Development Services Engineer
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Administrator

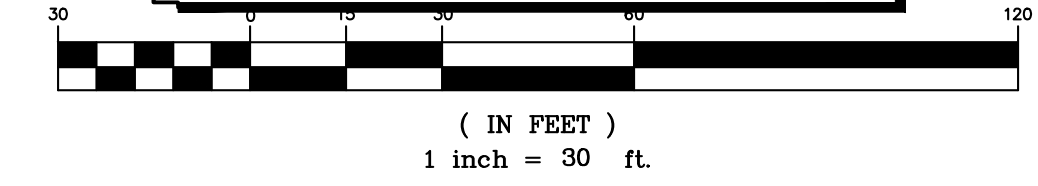


DITCH	FLOW Q(25)	LONG. SLOPE (%)	DRAINAGE AREA	FLOW VELO.	L	H	B	W	SS	CHANNEL LINING
TEMPORARY DITCH #1	6.0 CFS	0.8%	1.50 AC	2.34 FT/S	617.9'	1.5'	1.0'	7.0'	2:1	STRAW WITH NET NAG DS75
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EROSION CONTROL LEGEND
REFER TO DETAIL SHEET FOR CONSTRUCTION REQUIREMENTS

- CE CONSTRUCTION ENTRANCE
- HORSESHOE INLET PROTECTION
- TEMPORARY SILT FENCE OUTLET
- FILTER BAG
- SLOPE DRAIN
- RIP RAP APRON
- ROLLED EROSION CONTROL PRODUCT
- TEMPORARY INLET PROTECTION
- CHECK DAM
- PUMP
- SKIMMER DEVICE
- TEMPORARY SILT FENCE
- TREE PROTECTION FENCE
- TEMPORARY SILT FENCE/TREE PROTECTION FENCE
- TEMPORARY DIVERSION DITCH
- LIMITS OF DISTURBANCE



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Bowman North Carolina Ltd.

EROSION CONTROL PLAN - FINAL
Kiddie Academy & Fresenius Kidney Center
Smithfield Road and McKnight Drive
Knightdale, NC Wake County ZCP-1-23/SEC-000012-2023

Primax Properties, LLC
Choice One Development, LLC



PLAN STATUS		
6/22/23	MASTER PLAN SUBMITTAL	
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SCALE	H:	V:
JOB No.	220133-01-001	
DATE	March 14, 2023	
FILE No.	220133-01-001	
SHEET	C2.4	

GROUND STABILIZATION AND MATERIALS HANDLING PRACTICES FOR COMPLIANCE WITH THE NCGO1 CONSTRUCTION GENERAL PERMIT
Implementing the details and specifications on this plan sheet will result in the construction activity being considered compliant with the Ground Stabilization and Materials Handling sections of the NCGO1 Construction General Permit (Sections C and F, respectively). The permittee shall comply with the Erosion and Sediment Control plan approved by the delegated authority having jurisdiction. All details and specifications shown on this sheet may not apply depending on site conditions and the delegated authority having jurisdiction.

SECTION E: GROUND STABILIZATION
Required Ground Stabilization Timeframes

Site Area Description	Stabilize within this many calendar days after ceasing land disturbance	Timeframe variations
(a) Perimeter dikes, swales, ditches, and perimeter slopes	7	None
(b) High Quality Water (HQW) Zones	7	None
(c) Slopes steeper than 3:1	7	
(d) Slopes 3:1 to 4:1	14	-7 days for slopes greater than 5:1 in length and with slopes steeper than 4:1 -7 days for perimeter dikes, swales, ditches, perimeter slopes and HQW Zones -10 days for Falls Lake Watershed
(e) Areas with slopes flatter than 4:1	14	-7 days for perimeter dikes, swales, ditches, perimeter slopes and HQW Zones -10 days for Falls Lake Watershed unless there is zero slope

Note: After the permanent cessation of construction activities, any areas with temporary ground stabilization shall be converted to permanent ground stabilization as soon as practicable but in no case longer than 90 calendar days after the last land disturbing activity. Temporary ground stabilization shall be maintained in a manner to render the surface stable against accelerated erosion until permanent ground stabilization is achieved.

GROUND STABILIZATION SPECIFICATION
Stabilize the ground sufficiently so that rain will not dislodge the soil. Use one of the techniques in the table below:

Temporary Stabilization	Permanent Stabilization
<ul style="list-style-type: none"> Temporary grass seed covered with straw or other mulches and tackifiers Hydroseeding Roll-on erosion control products with or without temporary grass seed Appropriately applied straw or other mulch Plastic sheeting 	<ul style="list-style-type: none"> Permanent grass seed covered with straw or other mulches and tackifiers Geotextile fabric/s such as permanent soil reinforcement matting Hydroseeding Shrubs or other permanent plantings covered with mulch Uniform and evenly distributed ground cover sufficient to restrain erosion Structural methods such as concrete, asphalt or retaining walls Roll-on erosion control products with grass seed

- POLYACRYLAMIDES (PAMS) AND FLOCCULANTS**
- Select flocculants that are appropriate for the soils being exposed during construction, selecting from the NC DWR List of Approved PAMS/Flocculants.
 - Apply flocculants at or before the inlets to Erosion and Sediment Control Measures.
 - Apply flocculants at the concentrations specified in the NC DWR List of Approved PAMS/Flocculants and in accordance with the manufacturer's instructions.
 - Provide ponding area for containment of treated stormwater before discharging offsite.
 - Store flocculants in leak-proof containers that are kept under storm-resistant cover and surrounded by secondary containment structures.

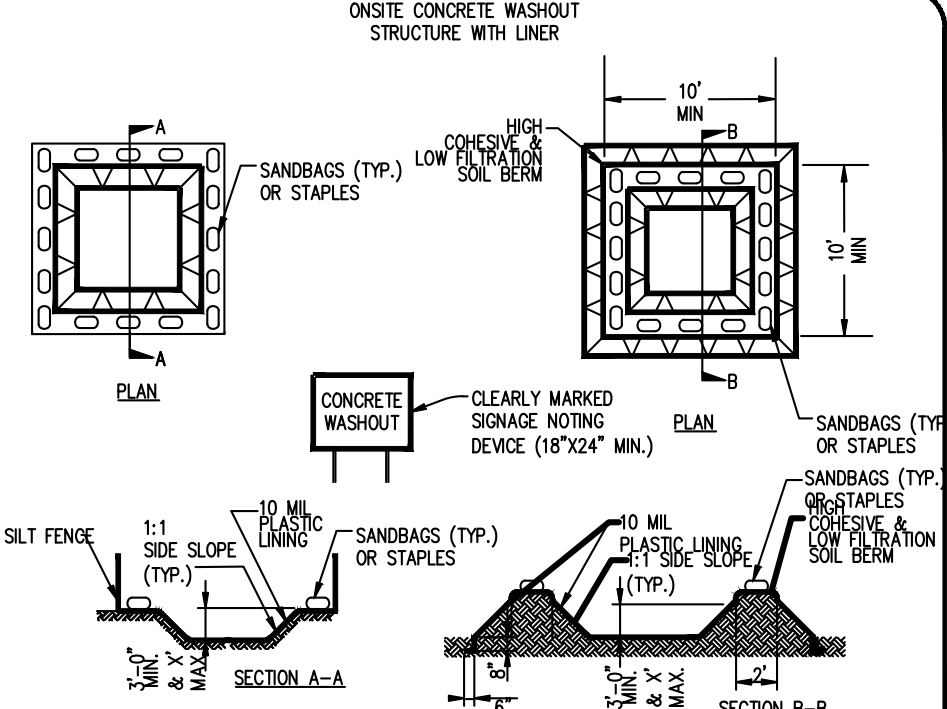
- EQUIPMENT AND VEHICLE MAINTENANCE**
- Maintain vehicles and equipment to prevent discharge of fluids.
 - Provide drip pans under any stored equipment.
 - Identify leaks and repair as soon as feasible, or remove leaking equipment from the project.
 - Collect all spent fluids, store in separate containers and properly dispose on hazardous waste (recycle when possible).
 - Remove leaking vehicles and construction equipment from service until the problem has been corrected.
 - Bring used fuels, lubricants, coolants, hydraulic fluids and other petroleum products to a recycling or disposal center that handles these materials.

- LITTER, BUILDING MATERIAL AND LAND CLEARING WASTE**
- Never bury or burn waste. Place litter and debris in approved waste containers.
 - Provide a sufficient number and size of waste containers (e.g. dumpster, trash receptacle) on site to contain construction and domestic waste.
 - Locate waste containers at least 50 feet away from storm drain inlets and surface waters unless no other alternatives are reasonably available.
 - Locate waste containers on areas that do not receive substantial amounts of runoff from upland areas and does not drain directly to a storm drain, stream or wetland.
 - Cover waste containers at the end of each workday and before storm events or provide secondary containment. Repair or replace damaged waste containers.
 - Anchor all lightweight items in waste containers during times of high winds.
 - Empty waste containers as needed to prevent overflow. Clean up immediately if containers overflow.
 - Dispose waste off-site at an approved disposal facility.
 - On business days, clean up and dispose of waste in designated waste containers.

- PAINT AND OTHER LIQUID WASTE**
- Do not dump paint and other liquid waste into storm drains, streams or wetlands.
 - Locate paint washouts at least 50 feet away from storm drain inlets and surface waters unless no other alternatives are reasonably available.
 - Contain liquid wastes in a controlled area.
 - Containment must be labeled, sized and placed appropriately for the needs of site.
 - Prevent the discharge of soaps, solvents, detergents and other liquid wastes from construction sites.

- PORTABLE TOILETS**
- Install portable toilets on level ground, at least 50 feet away from storm drains, streams or wetlands unless there is no alternative reasonably available. If 50 foot offset is not attainable, provide retention of portable toilet behind silt fence or place on a gravel pad and surround with sand bags.
 - Provide staking or anchoring of portable toilets during periods of high winds or in high foot traffic areas.
 - Monitor portable toilets for leaking and properly dispose of any leaked material. Utilize a licensed sanitary waste hauler to remove leaking portable toilets and replace with properly operating unit.

- EARTHEN STOCKPILE MANAGEMENT**
- Show stockpile locations on plans. Locate earthen-material stockpile areas at least 50 feet away from storm drain inlets, sediment basins, perimeter sediment controls and surface waters unless it can be shown no other alternatives are reasonably available.
 - Protect stockpile with silt fence installed along toe of slope with a minimum offset of five feet from the toe of stockpile.
 - Provide stable stone access point when feasible.
 - Stabilize stockpile within the timeframes provided on this sheet and in accordance with the approved plan and any additional requirements. Soil stabilization is defined as vegetative, physical or chemical coverage techniques that will restrain accelerated erosion on disturbed soils for temporary or permanent control needs.



NOTES:

- ACTUAL LOCATION DETERMINED IN FIELD
- THE CONCRETE WASHOUT STRUCTURES SHALL BE MAINTAINED WHEN THE LIQUID AND/OR SOLID REACHES 75% OF THE STRUCTURES CAPACITY. ADEQUATE HOLDING CAPACITY TO PROVIDE 12 INCHES OF FREEBOARD.
- CONCRETE WASHOUT STRUCTURE NEEDS TO BE CLEARLY MARKED WITH SIGNAGE NOTING DEVICE.

- CONCRETE WASHOUTS**
- Do not discharge concrete or cement slurry from the site.
 - Dispose of, or recycle, settled, hardened concrete residue in accordance with local and state solid waste regulations and at an approved facility.
 - Manage washout from mortar mixers in accordance with the above item and in addition place the mixer and associated materials on impervious barrier and within 10' perimeter silt fence.
 - Install temporary concrete washouts per local requirements, where applicable. If an alternate method or product is to be used, contact your approved authority for review and approval. If local standard details are not available, use one of the two types of temporary concrete washouts provided on this detail.
 - Do not use concrete washouts for dewatering or storing defective curb or sidewalk sections. Stormwater accumulated within the washout may not be pumped into or discharged to the storm drain system or receiving surface waters. Liquid waste must be pumped out and removed from project.
 - Locate washouts at least 50 feet from storm drain inlets and surface waters unless it can be shown that no other alternatives are reasonably available. At a minimum, install protection of storm drain inlet(s) closest to the washout which could receive spills or overflow.
 - Locate washouts in an easily accessible area, on level ground and install a stone entrance pad in front of the washout. Additional controls may be required by the approving authority.
 - Install at least one sign directing concrete trucks to the washout within the project limits. Post signage on the washout itself to identify the location.
 - Remove leavings from the washout when at approximately 75% capacity to limit overflow events. Replace the tarp, sand bags or other temporary structural components when no longer functional. When utilizing alternative or proprietary products, follow manufacturer's instructions.
 - At the completion of the concrete work, remove remaining leavings and dispose of in an approved disposal facility. Fill pit, if applicable, and stabilize any disturbance caused by removal of washout.

- HERBICIDES, PESTICIDES AND RODENTICIDES**
- Store and apply herbicides, pesticides and rodenticides in accordance with label restrictions.
 - Store herbicides, pesticides and rodenticides in their original containers with the label, which lists directions for use, ingredients and first aid steps in case of accidental poisoning.
 - Do not store herbicides, pesticides and rodenticides in areas where flooding is possible or where they may spill or leak into wells, stormwater drains, ground water or surface water. If a spill occurs, clean area immediately.
 - Do not store these materials onsite.

- HAZARDOUS AND TOXIC WASTE**
- Create designated hazardous waste collection areas on-site.
 - Place hazardous waste containers under cover or in secondary containment.
 - Do not store hazardous chemicals, drums or bagged materials directly on the ground.

NCGO1 GROUND STABILIZATION AND MATERIALS HANDLING

EFFECTIVE: 04/01/19

PART III SELF-INSPECTION, RECORDKEEPING AND REPORTING

SECTION A: SELF-INSPECTION
Self-inspections are required during normal business hours in accordance with the table below. When adverse weather or site conditions would cause the safety of the inspection personnel to be in jeopardy, the inspection may be delayed until the next business day on which it is safe to perform the inspection. In addition, when a storm event of equal to or greater than 1.0 inch occurs outside of normal business hours, the self-inspection shall be performed upon the commencement of the next business day. Any time when inspections are delayed shall be noted in the Inspection Record.

Inspect	Frequency (during normal business hours)	Inspection records must include:
(1) Rain gauge maintained in good working order	Daily	Daily rainfall amounts; If no daily rain gauge observations are made during weekend or holiday periods, and no individual daily rainfall information is available, record the cumulative rain measurement for those unattended days (and this will determine if a site inspection is needed). Days on which no rainfall occurred shall be recorded as "zero." The permittee may use another rain-measuring device approved by the Division.
(2) EESC Measures	At least once per 7 calendar days and within 24 hours of a rain event > 1.0 inch in 24 hours	1. Identification of the measures inspected, 2. Date and time of the inspection, 3. Name of the person performing the inspection, 4. Indication of whether the measures were operating properly, 5. Description of maintenance needs for the measures, 6. Description, evidence, and date of corrective actions taken.
(3) Stormwater discharge outfalls (SDOs)	At least once per 7 calendar days and within 24 hours of a rain event > 1.0 inch in 24 hours	1. Identification of the discharge outfalls inspected, 2. Date and time of the inspection, 3. Name of the person performing the inspection, 4. Evidence of indicators of stormwater pollution such as oil sheen, floating or suspended solids or discoloration, 5. Indication of visible sediment leaving the site, 6. Description, evidence, and date of corrective actions taken.
(4) Perimeter of site	At least once per 7 calendar days and within 24 hours of a rain event > 1.0 inch in 24 hours	If visible sediment is found outside site limits, then a record of the following shall be made: 1. Actions taken to clean up or stabilize the sediment that has left the site limits, 2. Description, evidence, and date of corrective actions taken, and 3. An explanation as to the actions taken to control future releases.
(5) Streams or wetlands onsite and within 24 hours (where accessible)	At least once per 7 calendar days and within 24 hours of a rain event > 1.0 inch in 24 hours	If the stream or wetland has increased visible sedimentation or a stream has visible increased turbidity from the construction activity, then a record of the following shall be made: 1. Description, evidence and date of corrective actions taken, and 2. Regional Office per Part III, Section C, Item (2)(d) of this permit of this permit.
(6) Ground stabilization measures	After each phase of grading	1. The phase of grading (installation of perimeter EESC measures, clearing and grubbing, installation of storm drainage facilities, completion of all land-disturbing activity, construction or reforestation, permanent ground cover), 2. Documentation that the required ground stabilization measures have been provided within the required timeframe or an assurance that they will be provided as soon as possible.

NOTE: The rain inspection resets the required 7 calendar day inspection requirement.

PART III SELF-INSPECTION, RECORDKEEPING AND REPORTING

SECTION B: RECORDKEEPING
1. EESC Plan Documentation
The approved EESC plan as well as any approved deviation shall be kept on the site. The approved EESC plan must be kept up-to-date throughout the coverage under this permit. The following items pertaining to the EESC plan shall be kept on site and available for inspection at all times during normal business hours.

Item to Document	Documentation Requirements
(a) Each EESC Measure has been installed and does not significantly deviate from the locations, dimensions and relative elevations shown on the approved EESC Plan.	Initial and date each EESC Measure on a copy of the approved EESC Plan or complete, date and sign an inspection report that lists each EESC Measure shown on the approved EESC Plan. This documentation is required upon the initial installation of the EESC Measures or if the EESC Measures are modified after initial installation.
(b) A phase of grading has been completed.	Initial and date a copy of the approved EESC Plan or complete, date and sign an inspection report to indicate completion of the construction phase.
(c) Ground cover is located and installed in accordance with the approved EESC Plan.	Initial and date a copy of the approved EESC Plan or complete, date and sign an inspection report to indicate compliance with approved ground cover specifications.
(d) The maintenance and repair requirements for all EESC Measures have been performed.	Complete, date and sign an inspection report.
(e) Corrective actions have been taken to EESC Measures.	Initial and date a copy of the approved EESC Plan or complete, date and sign an inspection report to indicate the completion of the corrective action.

2. Additional Documentation to be Kept on Site
In addition to the EESC plan documents above, the following items shall be kept on the site and available for inspectors at all times during normal business hours, unless the Division provides a site-specific exemption based on unique site conditions that make this requirement not practical:

- This General Permit as well as the Certificate of Coverage, after it is received.
- Records of inspections made during the previous twelve months. The permittee shall record the required observations on the Inspection Record Form provided by the Division or a similar inspection form that includes all the required elements. Use of electronically-stored records in lieu of the required paper copies will be allowed if shown to provide equal access and utility as the hard-copy records.

3. Documentation to be Retained for Three Years
All data used to complete the NOI and all inspection records shall be maintained for a period of three years after project completion and made available upon request. (40 CFR 122.41)

PART III SELF-INSPECTION, RECORDKEEPING AND REPORTING

SECTION C: REPORTING

1. Occurrences that Must be Reported
Permittees shall report the following occurrences:

- Visible sediment deposition in a stream or wetland.
- Oil spills if:
 - They are 25 gallons or more,
 - They are less than 25 gallons but cannot be cleaned up within 24 hours,
 - They cause sheen on surface waters (regardless of volume), or
 - They are within 100 feet of surface waters (regardless of volume).
- Releases of hazardous substances in excess of reportable quantities under Section 311 of the Clean Water Act (40 CFR 110.3 and 40 CFR 117.3) or Section 102 of CERCLA (40 CFR 302.4) or 61, 143-215.85.
- Anticipated bypasses and unanticipated bypasses.

(a) Noncompliance with the conditions of this permit that may endanger health or the environment.

2. Reporting Timeframes and Other Requirements
After a permittee becomes aware of an occurrence that must be reported, he shall contact the appropriate Division regional office within the timeframes and in accordance with the other requirements listed below. Occurrences outside normal business hours may also be reported to the Department's Environmental Emergency Center personnel at (800) 858-0368.

Occurrence	Reporting Timeframes (After Discovery) and Other Requirements
(a) Visible sediment deposition in a stream or wetland	<ul style="list-style-type: none"> Within 24 hours, an oral or electronic notification. Within 7 calendar days, a report that contains a description of the sediment and actions taken to address the cause of the deposition. Division staff may waive the requirement for a written report on a case-by-case basis. If the stream is named on the NC 303(d) list as impaired for sediment-related causes, the permittee may be required to perform additional monitoring, inspections or apply more stringent practices if staff determine that additional requirements are needed to assure compliance with the federal or state impaired-waters conditions.
(b) Oil spills and release of hazardous substances per item (b)(2)(c) above	<ul style="list-style-type: none"> Within 24 hours, an oral or electronic notification. The notification shall include information about the date, time, nature, volume and location of the spill or release. A report at least ten days before the date of the bypass, if possible. The report shall include an evaluation of the anticipated quality and effect of the bypass.
(c) Anticipated bypasses (40 CFR 122.41(a)(6)(E))	<ul style="list-style-type: none"> Within 24 hours, a report that includes an evaluation of the quality and effect of the bypass.
(d) Unanticipated bypasses (40 CFR 122.41(a)(6)(E))	<ul style="list-style-type: none"> Within 24 hours, an oral or electronic notification. Within 7 calendar days, a report that contains a description of the non-compliance, and its causes; the period of non-compliance, including exact dates and times, and if the non-compliance has not been corrected, the anticipated time non-compliance is expected to continue; and steps taken or planned to reduce, eliminate, and prevent recurrence of the non-compliance. (40 CFR 122.41(a)(6)). Division staff may waive the requirement for a written report on a case-by-case basis.
(e) Noncompliance with the conditions of this permit that may endanger health or the environment (40 CFR 122.41(a)(7))	<ul style="list-style-type: none"> Within 24 hours, an oral or electronic notification. Within 7 calendar days, a report that contains a description of the non-compliance, and its causes; the period of non-compliance, including exact dates and times, and if the non-compliance has not been corrected, the anticipated time non-compliance is expected to continue; and steps taken or planned to reduce, eliminate, and prevent recurrence of the non-compliance. (40 CFR 122.41(a)(6)). Division staff may waive the requirement for a written report on a case-by-case basis.

PART II, SECTION G, ITEM (4) DRAW DOWN OF SEDIMENT BASINS FOR MAINTENANCE OR CLOSE OUT

Sediment basins and traps that receive runoff from drainage areas of one acre or more shall use outlet structures that withdraw water from the surface when these devices need to be drawn down for maintenance or close out unless this is infeasible. The circumstances in which it is not feasible to withdraw water from the surface shall be rare (for example, times with extended cold weather). Non-surface withdrawals from sediment basins shall be allowed only when all of the following criteria have been met:

- The EESC plan authority has been provided with documentation of the non-surface withdrawal and the specific time periods or conditions in which it will occur. The non-surface withdrawal shall not commence until the EESC plan authority has approved these items.
- The non-surface withdrawal has been reported as an anticipated bypass in accordance with Part III, Section C, Item (2)(c) and (d) of this permit.
- Dewatering discharges are treated with controls to minimize discharges of pollutants from stormwater that is removed from the sediment basin. Examples of appropriate controls include properly sized, designed and maintained dewatering tanks, weir tanks, and filtration systems.
- Vegetated, upland areas of the site or a properly designed stone pad is used to the extent feasible at the outlet of the dewatering treatment devices described in item (c) above.
- Velocity dispersion devices such as check dams, sediment traps, and traps are provided at the discharge points of all dewatering devices, and
- Sediment removed from the dewatering treatment devices described in item (c) above is disposed of in a manner that does not cause deposition of sediment into waters of the United States.

NCGO1 SELF-INSPECTION, RECORDKEEPING AND REPORTING

EFFECTIVE: 04/01/19

NORTH CAROLINA CONSTRUCTION GENERAL PERMIT NOTE

As of April 1, 2019, all new construction activities are required to complete and submit an electronic Notice of Intent (NOI) form requesting a Certificate of Coverage (COC) under the NCGO10000 Construction Stormwater General Permit. This form MUST be submitted prior to the commencement of any land disturbing activity on the above named project. The NOI form may be accessed at dep.nc.gov/NCGO1. Please direct questions about the NOI form to Annette Lucas at Annette.lucas@ncden.gov or Paul Clark at Paul.clark@ncden.gov.

After you submit a complete and correct NOI Form, a COC will be emailed to you within three business days. Initially, DEMLR will not charge a fee for coverage under the NCGO1 permit. However, on or after May 1, 2019, a \$100 fee will be charged annually. This fee is to be sent to the DEMLR Stormwater Central Office staff in Raleigh.

Title 15A NCAC 4B .0118(a) and the NCGO1 permit require that the following documentation be kept on file at the job site:

- The approved EESC plan as well as any approved deviation.
- The NCGO1 permit and the COC, once it is received.
- Records of inspections made during the previous 30 days.
- The Certificate of Approval

NOTICE OF COMBINED SELF-MONITORING AND SELF-INSPECTION FORM:

THE SEDIMENTATION POLLUTION CONTROL ACT WAS AMENDED IN 2006 TO REQUIRE THAT PERSONS RESPONSIBLE FOR LAND-DISTURBING ACTIVITIES INSPECT A PROJECT AFTER EACH PHASE OF THE PROJECT TO MAKE SURE THAT THE APPROVED EROSION AND SEDIMENTATION CONTROL PLAN IS BEING FOLLOWED. RULES DETAILING THE DOCUMENTATION OF THESE INSPECTIONS TOOK EFFECT OCTOBER 1, 2010.

TO SIMPLIFY DOCUMENTATION OF SELF-INSPECTION REPORTS AND NPDES SELF-MONITORING REPORTS, DWD AND DEMLR DEVELOPED A COMBINED FORM. THE SELF-INSPECTION PROGRAM IS SEPARATE FROM THE WEEKLY SELF-MONITORING PROGRAM OF THE NPDES STORMWATER PERMIT FOR CONSTRUCTION ACTIVITIES. THE FOCUS OF THE SELF-INSPECTION REPORT IS THE INSTALLATION AND MAINTENANCE OF EROSION AND SEDIMENTATION CONTROL MEASURES ACCORDING TO THE APPROVED PLAN. THE INSPECTIONS SHOULD BE CONDUCTED AFTER EACH PHASE OF THE PROJECT, AND CONTINUED UNTIL PERMANENT GROUND COVER IS ESTABLISHED. THE FORM CAN BE ACCESSED AT: [HTTP://PORTAL.NC DENR.ORG/NEP/LR/EROSION](http://portal.ncdenr.org/NEP/LR/EROSION)

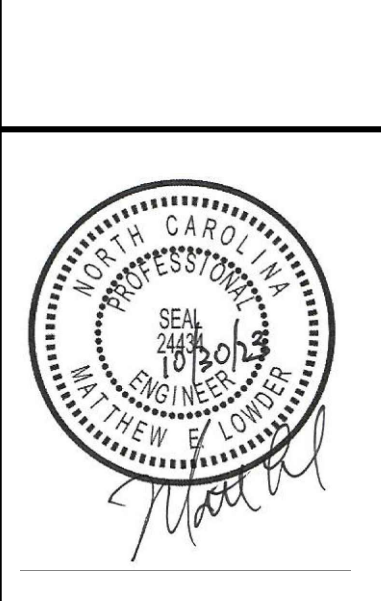
IF YOU HAVE QUESTIONS OR CANNOT ACCESS THE FORM, PLEASE CALL THE APPLICABLE NC DENR REGIONAL OFFICE: (RALEIGH: 919-791-4200) (FAYETTEVILLE: 910-433-3300) (WILMINGTON: 910-796-7215) (WASHINGTON: 252-946-6481) (WINSTON-SALEM: 336-771-5000) (MOORESVILLE: 704-663-1699) (ASHEVILLE: 828-296-4500).



Bowman North Carolina Ltd.
4006 BARRETT DR
Suite 104
RALEIGH, NC 27609
Phone: (919) 955-6570
bowman.com

NC CONSTRUCTION GENERAL PERMIT (NCGO1)
Kiddie Academy & Fresenius Kidney Center
Smithfield Road and McKnight Drive
Knightdale, NC Wake County ZCP-1-23/SEC-000012-2023

Primax Properties, LLC
Choice One Development, LLC



PLAN STATUS

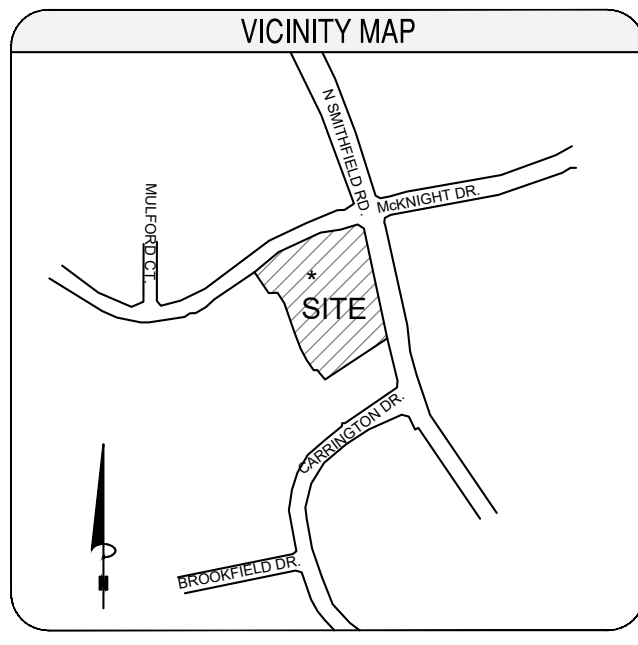
5/22/23	MASTER PLAN SUBMITTAL	
7/10/23	CONSTRUCTION DOCUMENTS	
8/25/23	PER TOWN CD REVIEW	
10/04/23	PER TOWN CD REVIEW	
10/30/23	SIGNATURE SET	
DATE	DESCRIPTION	
MEL DESIGN	MEL DRAWN	XXX CHKD
SCALE	H:	V:
JOB No.	220133-01-001	
DATE	March 14, 2023	
FILE No.	220133-01-001	
SHEET	C2.5	

Town Certification:
This design has been reviewed by the Engineer for the Town of Knightdale, and to be the best of my knowledge and belief, it conforms to the requirements established in the Standard Specifications of the Town of Knightdale.

By: _____ Date: _____
Development Services Engineer

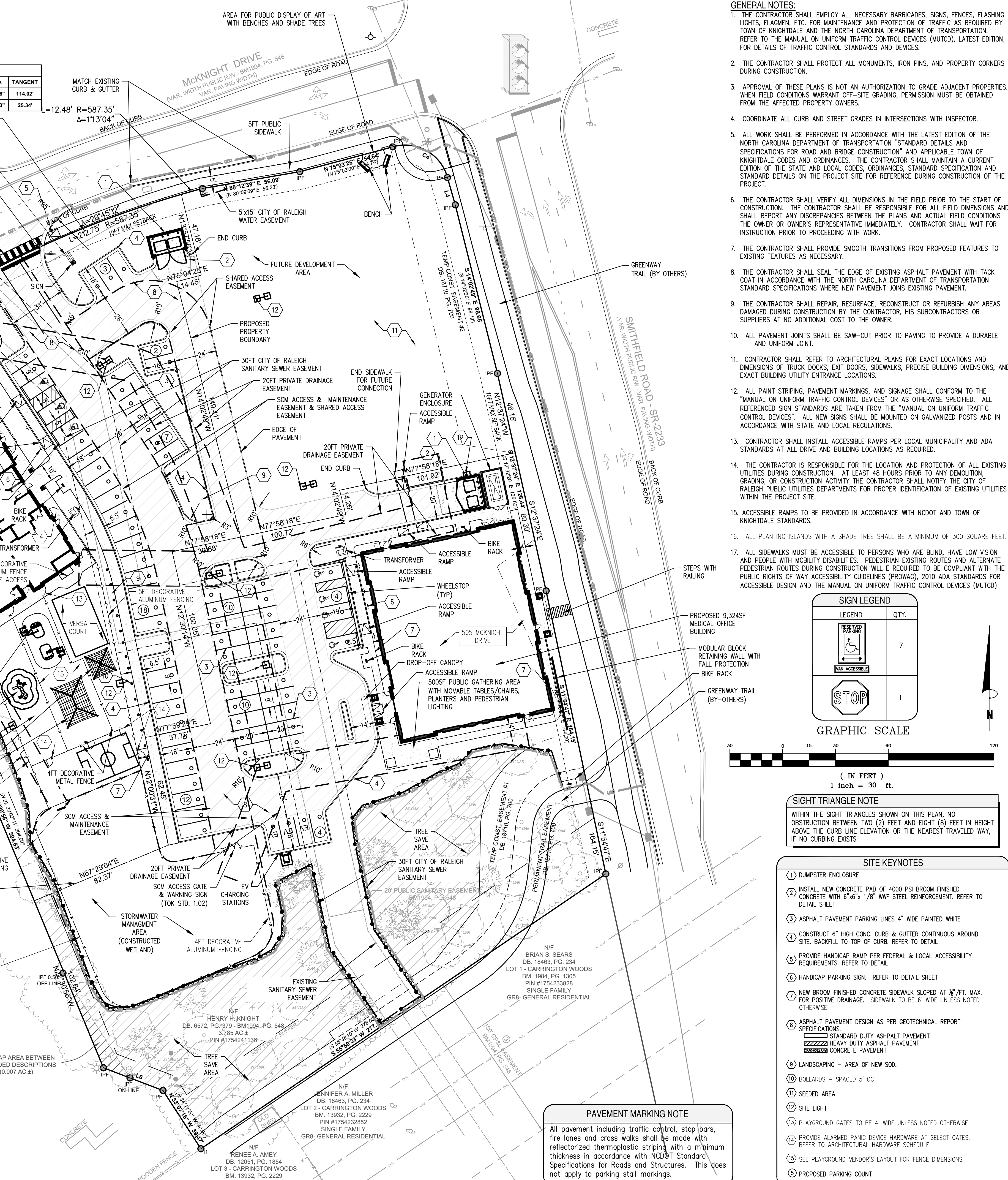
These plans are approved by the Town of Knightdale and serve as construction plans for this project.

By: _____ Date: _____
Administrator



LINE	BEARING	LENGTH
L4	S 16°00'44" E	16.12'
L5	S 77°19'02" W	29.81'
L6	N 69°06'40" W	36.14'

CURVE	RADIUS	LENGTH	BEARING	CHORD	DELTA	TANGENT
C3	587.30'	226.23'	N 64°01'08" E	223.85'	21°58'16"	114.02'
C4	25.00'	39.61'	S 60°42'01" E	35.99'	90°46'13"	25.34'



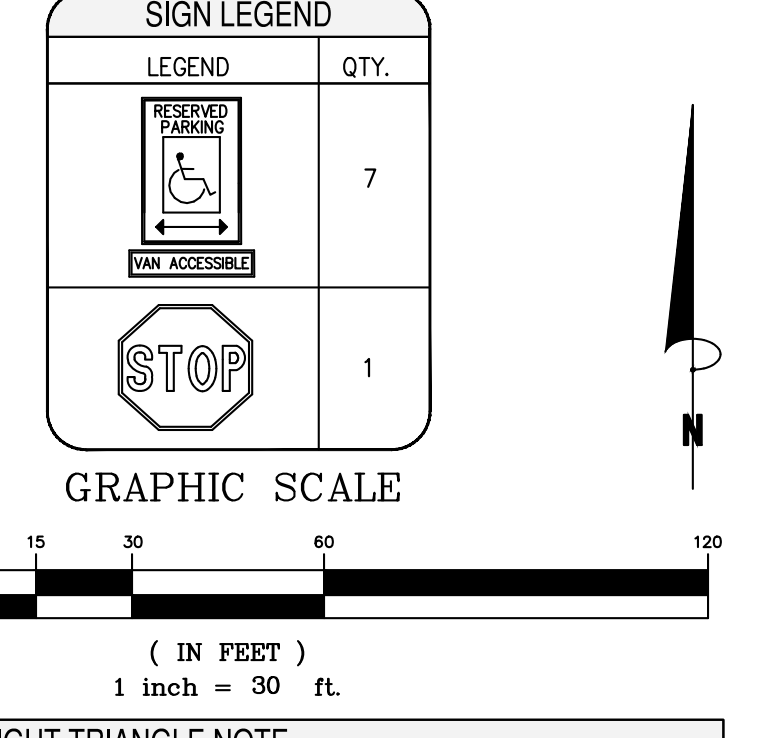
GENERAL NOTES:

- THE CONTRACTOR SHALL EMPLOY ALL NECESSARY BARRICADES, SIGNS, FENCES, FLASHING LIGHTS, FLAGMEN, ETC. FOR MAINTENANCE AND PROTECTION OF TRAFFIC AS REQUIRED BY TOWN OF KNIGHTDALE AND THE NORTH CAROLINA DEPARTMENT OF TRANSPORTATION. REFER TO THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD), LATEST EDITION, FOR DETAILS OF TRAFFIC CONTROL STANDARDS AND DEVICES.
- THE CONTRACTOR SHALL PROTECT ALL MONUMENTS, IRON PINS, AND PROPERTY CORNERS DURING CONSTRUCTION.
- APPROVAL OF THESE PLANS IS NOT AN AUTHORIZATION TO GRADE ADJACENT PROPERTIES. WHEN FIELD CONDITIONS WARRANT OFF-SITE GRADING, PERMISSION MUST BE OBTAINED FROM THE AFFECTED PROPERTY OWNERS.
- COORDINATE ALL CURB AND STREET GRADES IN INTERSECTIONS WITH INSPECTOR.
- ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE LATEST EDITION OF THE NORTH CAROLINA DEPARTMENT OF TRANSPORTATION "STANDARD DETAILS AND SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION" AND APPLICABLE TOWN OF KNIGHTDALE CODES AND ORDINANCES. THE CONTRACTOR SHALL MAINTAIN A CURRENT EDITION OF THE STATE AND LOCAL CODES, ORDINANCES, STANDARD SPECIFICATION AND STANDARD DETAILS ON THE PROJECT SITE FOR REFERENCE DURING CONSTRUCTION OF THE PROJECT.
- THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS IN THE FIELD PRIOR TO THE START OF CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL FIELD DIMENSIONS AND SHALL REPORT ANY DISCREPANCIES BETWEEN THE PLANS AND ACTUAL FIELD CONDITIONS TO THE OWNER OR OWNER'S REPRESENTATIVE IMMEDIATELY. CONTRACTOR SHALL WAIT FOR INSTRUCTION PRIOR TO PROCEEDING WITH WORK.
- THE CONTRACTOR SHALL PROVIDE SMOOTH TRANSITIONS FROM PROPOSED FEATURES TO EXISTING FEATURES AS NECESSARY.
- THE CONTRACTOR SHALL SEAL THE EDGE OF EXISTING ASPHALT PAVEMENT WITH TACK COAT IN ACCORDANCE WITH THE NORTH CAROLINA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS WHERE NEW PAVEMENT JOINS EXISTING PAVEMENT.
- THE CONTRACTOR SHALL REPAIR, RESURFACE, RECONSTRUCT OR REFURBISH ANY AREAS DAMAGED DURING CONSTRUCTION BY THE CONTRACTOR, HIS SUBCONTRACTORS OR SUPPLIERS AT NO ADDITIONAL COST TO THE OWNER.
- ALL PAVEMENT JOINTS SHALL BE SAW-CUT PRIOR TO PAVING TO PROVIDE A DURABLE AND UNIFORM JOINT.
- THE CONTRACTOR SHALL REFER TO ARCHITECTURAL PLANS FOR EXACT LOCATIONS AND DIMENSIONS OF TRUCK DOCKS, EXIT DOORS, SIDEWALKS, PRECISE BUILDING DIMENSIONS, AND EXACT BUILDING UTILITY ENTRANCE LOCATIONS.
- ALL PAINT STRIPING, PAVEMENT MARKINGS, AND SIGNAGE SHALL CONFORM TO THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" OR AS OTHERWISE SPECIFIED. ALL REFERENCED SIGN STANDARDS ARE TAKEN FROM THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES". ALL NEW SIGNS SHALL BE MOUNTED ON GALVANIZED POSTS AND IN ACCORDANCE WITH STATE AND LOCAL REGULATIONS.
- THE CONTRACTOR SHALL INSTALL ACCESSIBLE RAMPS PER LOCAL MUNICIPALITY AND ADA STANDARDS AT ALL DRIVE AND BUILDING LOCATIONS AS REQUIRED.
- THE CONTRACTOR IS RESPONSIBLE FOR THE LOCATION AND PROTECTION OF ALL EXISTING UTILITIES DURING CONSTRUCTION. AT LEAST 48 HOURS PRIOR TO ANY DEMOLITION, GRADING, OR CONSTRUCTION ACTIVITY THE CONTRACTOR SHALL NOTIFY THE CITY OF RALEIGH PUBLIC UTILITIES DEPARTMENTS FOR PROPER IDENTIFICATION OF EXISTING UTILITIES WITHIN THE PROJECT SITE.
- ACCESSIBLE RAMPS TO BE PROVIDED IN ACCORDANCE WITH NCDOT AND TOWN OF KNIGHTDALE STANDARDS.
- ALL PLANTING ISLANDS WITH A SHADE TREE SHALL BE A MINIMUM OF 300 SQUARE FEET.
- ALL SIDEWALKS MUST BE ACCESSIBLE TO PERSONS WHO ARE BLIND, HAVE LOW VISION AND PEOPLE WITH MOBILITY DISABILITIES. PEDESTRIAN EXISTING ROUTES AND ALTERNATE PEDESTRIAN ROUTES DURING CONSTRUCTION WILL BE COMPLIANT WITH THE PUBLIC RIGHTS OF WAY ACCESSIBILITY GUIDELINES (PROWAG), 2010 ADA STANDARDS FOR ACCESSIBLE DESIGN AND THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD)

IMPERVIOUS SUMMARY TABLE			
ON-SITE AREA = 164,867 SF (3.785 AC)			
BUILDINGS	19,624 SF	0.45 ACRES	11.90% OF AREA
PAVEMENT	38,303 SF	0.88 ACRES	23.23% OF AREA
SIDEWALK	7,870 SF	0.18 ACRES	4.77% OF AREA
PLAYGROUND TURF	1,954 SF	0.04 ACRES	1.18% OF AREA
IMPERVIOUS AREA	67,751 SF	1.56 ACRES	41.09% OF AREA
FUTURE IMPERVIOUS AREA			
BUILDINGS	5,476 SF	0.12 ACRES	3.32% OF AREA
PAVEMENT	12,886 SF	0.30 ACRES	7.82% OF AREA
SIDEWALK	1,850 SF	0.04 ACRES	1.12% OF AREA
IMPERVIOUS AREA	20,212 SF	0.46 ACRES	12.26% OF AREA
TOTAL IMPERVIOUS AREA	87,963 SF	2.02 ACRES	53.35% OF AREA
GREEN/OPEN SPACE	76,904 SF	1.76 ACRES	46.65% OF AREA
EXISTING IMPERVIOUS AREA	0 SF	0 ACRES	0.0% OF AREA
INCREASE IN IMPERVIOUS AREA	87,963 SF	2.02 ACRES	

DEVELOPMENT DATA	
DEVELOPMENT NAME:	KIDDIE ACADEMY & FRESENIUS KIDNEY CENTER
STREET ADDRESS:	509 MCKNIGHT DRIVE (KIDDIE ACADEMY) 505 MCKNIGHT DRIVE (FRESENIUS) KNIGHTDALE, NC
CURRENT PROPERTY OWNER:	HENRY H. KNIGHT 6020 WATKINS ROAD WENDELL, NC 27591
PROPERTY IDENTIFICATION # (PIN):	1754-24-1136
PROPERTY #:	1015678
DEED BOOK/PAGE:	006572 / 00379
EXISTING ZONING:	NMX - NEIGHBORHOOD MIXED-USE
ZONING OVERLAY DISTRICT:	NONE
LATITUDE & LONGITUDE	N35.794047, W-78.487291
TOTAL SITE ACRES:	164,867 SF (3.785 AC) LOT#1 = 60,630 SF (1.392 AC) LOT#2 = 30,060 SF (0.690 AC) LOT#3 = 74,176 SF (1.703 AC)
WATERSHED	NEVO RIVER
RECEIVING STREAM	MINCO CREEK
STREAM CLASSIFICATION	C:NSW
STREAM INDEX	27-32
INSIDE TOWN LIMITS:	YES
EXISTING USE:	VACANT
PROPOSED BUILDING USE:	10,300SF DAY CARE FACILITY 9,324 SF MEDICAL OFFICE
FLOOD ZONE:	NONE
LIMITS OF DISTURBANCE:	3.47 AC

ZONING REQUIREMENTS	
MIN LOT AREA:	N/A
MIN LOT WIDTH:	80 FT
FRONT SETBACK:	0 FT MIN, 10 FT MAXIMUM
SIDE SETBACK:	10 FT MIN.
REAR SETBACK:	0 FT MIN.
MAX BUILDING HEIGHT:	56 FT (4 STORIES)
PARKING REQUIREMENTS:	
CHILD DAY CARE FACILITY (6 OR MORE):	MAX. PARKING=0.35 PER PERSON LICENSED CAPACITY
LICENSED CAPACITY = 200 (175 STUDENTS + 25 STAFF):	0.35 X 200 = 70 SPACES MAX.
MINIMUM PARKING = 1/3 MAXIMUM = 35 SPACES	
MEDICAL OFFICE BUILDING:	MAX. PARKING=5 PER 1,000SF GROSS FLOOR AREA
9,324 SF X 5.5 = 51 SPACES MAX.	
MINIMUM PARKING = 1/3 MAXIMUM = 26 SPACES	
TOTAL PROVIDED:	70
EV PARKING:	1 EV SPACE PER 40 MOTORIZED VEHICLE SPACES 70 SPACES X 1 PER 40 = 2 REQUIRED 3 SPACES PROVIDED
ACCESSIBLE SPACES PROVIDED:	7 SPACES
BICYCLE PARKING:	1 BICYCLE SPACE PER 10 PARKING SPACES 70 SPACES / 10 = 7 BICYCLE SPACES 10 BICYCLE SPACES PROVIDED
PARKING SPACE DIMENSIONS	9' x 18' MIN
LANDSCAPE BUFFERS	10FT TYPE A BUFFER (ADJACENT TO UR12 ZONING) 30FT TYPE C BUFFER (ADJACENT TO GRB ZONING) 10FT TYPE A BUFFER (PARKING AT STREET R/W)
WATER PROVIDER:	PUBLIC - CITY OF RALEIGH
SANITARY SEWER PROVIDED:	PUBLIC - CITY OF RALEIGH
PROJECTED WATER/SEWER USAGE:	7,500 GPD MEDICAL OFFICE = 25 GPD PER PERSON PER SHIFT 2,500 GPD (25 GPD X 100 PEOPLE) DAY CARE = 25 GPD PER PERSON 5,000 GPD (25 GPD X 200 PEOPLE)
NUMBER OF NEW WATER CONNECTIONS	3
NUMBER OF NEW SEWER CONNECTIONS	6
WATER METER SIZE:	2"
SEWER CONNECTION SIZE:	6"
NEW PUBLIC SIDEWALK (LF):	410 LF
NEW PUBLIC GREENWAY (LF):	0 LF
NEW PUBLIC CURB & GUTTER (LF):	75 LF
NEW PUBLIC STREETS (LF):	0 LF
NEW PUBLIC STORM DRAINAGE (LF):	0 LF
STORMWATER MANAGEMENT:	(1) CONSTRUCTED WETLAND



SIGHT TRIANGLE NOTE

WITHIN THE SIGHT TRIANGLES SHOWN ON THIS PLAN, NO OBSTRUCTION BETWEEN TWO (2) FEET AND EIGHT (8) FEET IN HEIGHT ABOVE THE CURB LINE ELEVATION OR THE NEAREST TRAVELED WAY, IF NO CURBING EXISTS.

- SITE KEYNOTES**
- DUMPSTER ENCLOSURE
 - INSTALL NEW CONCRETE PAD OF 4000 PSI BROOM FINISHED CONCRETE WITH 6"x6"x 1/8" W/F STEEL REINFORCEMENT. REFER TO DETAIL SHEET
 - ASPHALT PAVEMENT PARKING LINES 4" WIDE PAINTED WHITE
 - CONSTRUCT 6" HIGH CONC. CURB & GUTTER CONTINUOUS AROUND SITE. BACKFILL TO TOP OF CURB. REFER TO DETAIL
 - PROVIDE HANDICAP RAMP PER FEDERAL & LOCAL ACCESSIBILITY REQUIREMENTS. REFER TO DETAIL
 - HANDICAP PARKING SIGN. REFER TO DETAIL SHEET
 - NEW BROOM FINISHED CONCRETE SIDEWALK SLOPED AT 1/8" FT. MAX. FOR POSITIVE DRAINAGE. SIDEWALK TO BE 6" WIDE UNLESS NOTED OTHERWISE
 - ASPHALT PAVEMENT DESIGN AS PER GEOTECHNICAL REPORT SPECIFICATIONS
STANDARD DUTY ASPHALT PAVEMENT
HEAVY DUTY ASPHALT PAVEMENT
CONCRETE PAVEMENT
 - LANDSCAPING - AREA OF NEW SOD.
 - BOLLARDS - SPACED 5' OC
 - SEEDED AREA
 - SITE LIGHT
 - PLAYGROUND GATES TO BE 4' WIDE UNLESS NOTED OTHERWISE
 - PROVIDE ALARMED PANIC DEVICE HARDWARE AT SELECT GATES. REFER TO ARCHITECTURAL HARDWARE SCHEDULE
 - SEE PLAYGROUND VENDOR'S LAYOUT FOR FENCE DIMENSIONS
 - PROPOSED PARKING COUNT

PAVEMENT MARKING NOTE

All pavement including traffic control, stop bars, fire lanes and cross walks shall be made with reflectorized thermoplastic striping with a minimum thickness in accordance with NCDOT Standard Specifications for Roads and Structures. This does not apply to parking stall markings.

TRAFFIC CONTROL NOTES:

THE DISTRICT OFFICE OF THE NORTH CAROLINA DEPARTMENT OF TRANSPORTATION (NCDOT) MUST BE NOTIFIED AT LEAST 24 HOURS PRIOR TO CONSTRUCTION.

TRAFFIC MUST BE MAINTAINED AT ALL TIMES AND TRAFFIC CONTROL MUST COMPLY WITH THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) AND WITH THE CURRENT EDITION OF THE NCDOT STANDARDS AND SPECIFICATIONS.

ALL LANES OF TRAFFIC ARE TO BE OPEN DURING THE HOURS OF 6:00 AM TO 9:00 AM AND FROM 4:00 PM TO 6:00 PM. A MINIMUM OF ONE 12-FOOT LANE SHALL BE MAINTAINED AT ALL TIMES.

ALL ROADWAY SIGNS WHICH ARE TO BE REMOVED DURING CONSTRUCTION ARE TO BE REINSTALLED AS SOON AS POSSIBLE.

DURING NON-WORKING HOURS, EQUIPMENT IS TO BE PARKED AS CLOSE TO THE RIGHT OF WAY LINE AS POSSIBLE AND BE PROPERLY BARRICADED IN ORDER TO PREVENT ANY EQUIPMENT OBSTRUCTION WITHIN THE TRAVEL LANE.

ALL CONTRACTORS DOING WORK WITHIN STATE RIGHT OF WAY ARE TO HAVE A COPY OF THESE PLANS ON THE JOB SITE.

WHEN PERSONNEL AND/OR EQUIPMENT ARE WITHIN 5' OF AN OPEN TRAVEL LANE, THE CONTRACTOR SHALL CLOSE THE OPEN TRAVEL LANE ADJACENT TO THE WORK AREA USING APPROPRIATE TRAFFIC CONTROL MEANS AND METHODS UNLESS WORK IN THAT AREA IS PROTECTED BY BARRIER OR GUARDRAIL.

THE CONTRACTOR SHALL NOT WORK SIMULTANEOUSLY ON BOTH SIDES OF AN OPEN TRAVEL WAY WITHIN THE SAME LOCATION ON A TWO-LANE, TWO-WAY ROAD.

THE MAXIMUM LENGTH OF A LANE CLOSURE ON THE PROJECT SHALL BE ONE MILE, MEASURED FROM THE BEGINNING OF THE MERGE TAPER TO THE END OF THE LANE CLOSURE.

THE CONTRACTOR SHALL BACKFILL AT 6:1 SLOPE UP TO THE EDGE AND ELEVATION OF EXISTING PAVEMENT IN AREAS ADJACENT TO AN OPENED TRAVEL LANE THAT HAS A DROP-OFF OF MORE THAN 3".

WHEN BACKFILL IS REQUIRED, IT SHALL BE AT NO EXPENSE TO THE OWNER.

THE MAXIMUM DIFFERENCE IN ELEVATION BETWEEN OPEN LANES OF TRAFFIC SHALL BE 2".

WHEN LANE CLOSURES ARE NOT IN EFFECT, CHANNELIZING DEVICES IN WORK AREAS SHALL BE SPACED NO GREATER THAN TWICE THE POSTED SPEED LIMIT, EXCEPT 10' ON-CENTER IN RADII, AND SHALL BE SET 3' OFF THE EDGE OF AN OPEN TRAVEL WAY.

DURING INSTALLATION, PROPER TRAFFIC CONTROL DEVICES, SIGNS, ETC. BE INSTALLED TO ENSURE PUBLIC SAFETY IN ACCORDANCE WITH THE NORTH CAROLINA DEPARTMENT OF TRANSPORTATION'S STANDARDS AND SPECIFICATIONS

ALL DISTURBED AREAS ARE TO BE FULLY RESTORED TO NCDOT MINIMUM ROADWAY STANDARDS.

MATERIALS AND WORKMANSHIP SHALL CONFORM TO THE NCDOT ROADWAY STANDARDS AND SPECIFICATIONS (LATEST EDITION).

Bowman

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RALEIGH, NC 27609
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bowman.com

SITE PLAN

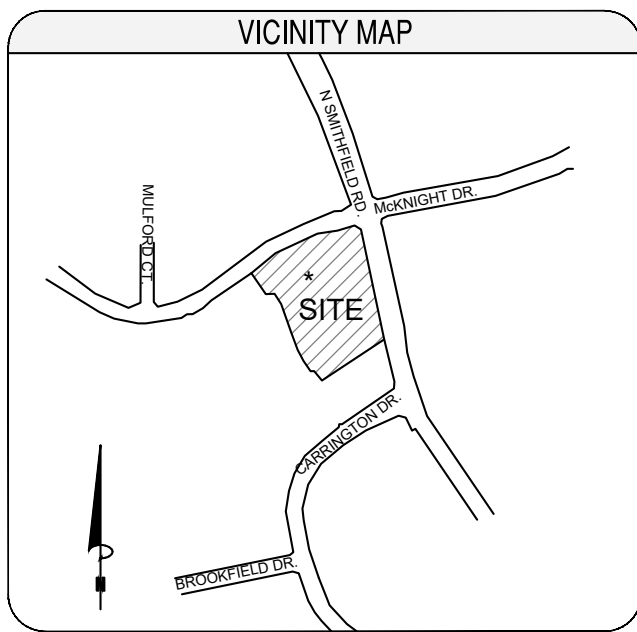
Kiddie Academy & Fresenius Kidney Center
Smithfield Road and McKnight Drive
Knightdale, NC Wake County ZCP-1-23/SEC-000012-2023

Primax Properties, LLC
Choice One Development, LLC



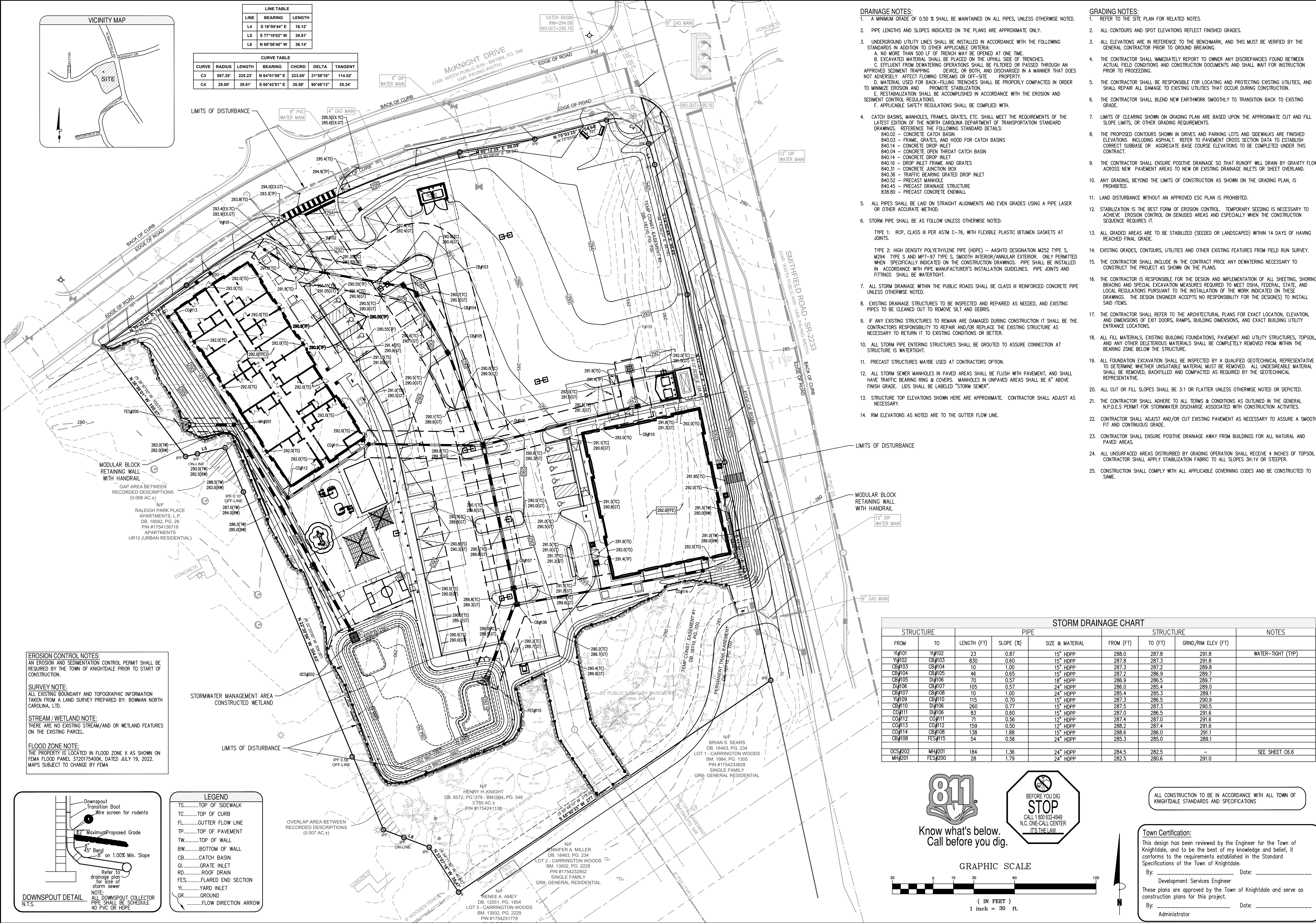
PLAN STATUS		
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10/04/23	PER TOWN CD REVIEW	
10/30/23	SIGNATURE SET	
	DATE	DESCRIPTION
MEL	MEL	XXX
DESIGN	DRAWN	CHKD
SCALE	H:	V:
JOB No.	220133-01-001	
DATE	March 14, 2023	
FILE No.	220133-01-001	

SHEET **C3.0**



LINE TABLE		
LINE	BEARING	LENGTH
L4	S 16°00'44" E	16.12'
L5	S 77°19'02" W	29.81'
L6	N 69°06'40" W	36.14'

CURVE TABLE					
CURVE	RADIUS	LENGTH	BEARING	CHORD	TANGENT
C3	587.35'	225.23'	N 64°01'08" E	223.85'	21°58'16"
C4	25.00'	39.61'	S 60°42'01" E	35.59'	90°46'13"



- DRAINAGE NOTES:**
- A MINIMUM GRADE OF 0.50 % SHALL BE MAINTAINED ON ALL PIPES, UNLESS OTHERWISE NOTED.
 - PIPE LENGTHS AND SLOPES INDICATED ON THE PLANS ARE APPROXIMATE ONLY.
 - UNDERGROUND UTILITY LINES SHALL BE INSTALLED IN ACCORDANCE WITH THE FOLLOWING STANDARDS IN ADDITION TO OTHER APPLICABLE CRITERIA:
 - NO MORE THAN 500 LF OF TRENCH MAY BE OPENED AT ONE TIME.
 - EXCAVATED MATERIAL SHALL BE PLACED ON THE UPHILL SIDE OF TRENCHES.
 - EFFLUENT FROM Dewatering OPERATIONS SHALL BE FILTERED OR PASSED THROUGH AN APPROVED SEDIMENT TRAPPING DEVICE OR BOTH, AND DISCHARGED IN A MANNER THAT DOES NOT ADVERSELY AFFECT FLOWING STREAMS OR OFF-SITE PROPERTY.
 - MATERIAL USED FOR BACK-FILLING TRENCHES SHALL BE PROPERLY COMPACTED IN ORDER TO MINIMIZE EROSION AND PROMOTE STABILIZATION.
 - RESTABILIZATION SHALL BE ACCOMPLISHED IN ACCORDANCE WITH THE EROSION AND SEDIMENT CONTROL REGULATIONS.
 - APPLICABLE SAFETY REGULATIONS SHALL BE COMPLIED WITH.
 - CATCH BASINS, MANHOLES, FRAMES, GRATES, ETC. SHALL MEET THE REQUIREMENTS OF THE LATEST EDITION OF THE NORTH CAROLINA DEPARTMENT OF TRANSPORTATION STANDARD DRAWINGS. REFERENCE THE FOLLOWING STANDARD DETAILS:
 - 840.02 - CONCRETE CATCH BASIN
 - 840.03 - FRAME, GRATES, AND HOOD FOR CATCH BASINS
 - 840.14 - CONCRETE DROP INLET
 - 840.04 - CONCRETE OPEN THROAT CATCH BASIN
 - 840.14 - CONCRETE DROP INLET
 - 840.15 - DROP INLET FRAME AND GRATES
 - 840.31 - CONCRETE JUNCTION BOX
 - 840.36 - TRAFFIC BEARING GRATED DROP INLET
 - 840.52 - PRECAST MANHOLE
 - 840.45 - PRECAST DRAINAGE STRUCTURE
 - 838.80 - PRECAST CONCRETE ENDWALL
 - ALL PIPES SHALL BE LAID ON STRAIGHT ALIGNMENTS AND EVEN GRADES USING A PIPE LASER OR OTHER ACCURATE METHOD.
 - STORM PIPE SHALL BE AS FOLLOWS UNLESS OTHERWISE NOTED:
 - TYPE 1: RCP, CLASS III PER ASTM C-76, WITH FLEXIBLE PLASTIC BITUMEN GASKETS AT JOINTS.
 - TYPE 2: HIGH DENSITY POLYETHYLENE PIPE (HDPE) - AASHTO DESIGNATION M252 TYPE S, M294 TYPE S AND MP7-97 TYPE S, SMOOTH INTERIOR/ANNULAR EXTERIOR. ONLY PERMITTED WHEN SPECIALLY INDICATED ON THE CONSTRUCTION DRAWINGS. PIPE SHALL BE INSTALLED IN ACCORDANCE WITH PIPE MANUFACTURER'S INSTALLATION GUIDELINES. PIPE JOINTS AND FITTINGS SHALL BE WATER TIGHT.
 - ALL STORM DRAINAGE WITHIN THE PUBLIC ROADS SHALL BE CLASS III REINFORCED CONCRETE PIPE UNLESS OTHERWISE NOTED.
 - EXISTING DRAINAGE STRUCTURES TO BE INSPECTED AND REPAIRED AS NEEDED, AND EXISTING PIPES TO BE CLEANED OUT TO REMOVE SILT AND DEBRIS.
 - IF ANY EXISTING STRUCTURES TO REMAIN ARE DAMAGED DURING CONSTRUCTION IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO REPAIR AND/OR REPLACE THE EXISTING STRUCTURE AS NECESSARY TO RETURN IT TO EXISTING CONDITIONS OR BETTER.
 - ALL STORM PIPE ENTERING STRUCTURES SHALL BE GROUTED TO ASSURE CONNECTION AT STRUCTURE IS WATER TIGHT.
 - PRECAST STRUCTURES MAYBE USED AT CONTRACTOR'S OPTION.
 - ALL STORM SEWER MANHOLES IN PAVED AREAS SHALL BE FLUSH WITH PAVEMENT, AND SHALL HAVE TRAFFIC BEARING RING & COVERS. MANHOLES IN UNPAVED AREAS SHALL BE 6" ABOVE FINISH GRADE. LIDS SHALL BE LABELED "STORM SEWER".
 - STRUCTURE TOP ELEVATIONS SHOWN HERE ARE APPROXIMATE. CONTRACTOR SHALL ADJUST AS NECESSARY.
 - RIM ELEVATIONS AS NOTED ARE TO THE GUTTER FLOW LINE.

- GRADING NOTES:**
- REFER TO THE SITE PLAN FOR RELATED NOTES.
 - ALL CONTOURS AND SPOT ELEVATIONS REFLECT FINISHED GRADES.
 - ALL ELEVATIONS ARE IN REFERENCE TO THE BENCHMARK, AND THIS MUST BE VERIFIED BY THE GENERAL CONTRACTOR PRIOR TO GROUND BREAKING.
 - THE CONTRACTOR SHALL IMMEDIATELY REPORT TO OWNER ANY DISCREPANCIES FOUND BETWEEN ACTUAL FIELD CONDITIONS AND CONSTRUCTION DOCUMENTS AND SHALL WAIT FOR INSTRUCTION PRIOR TO PROCEEDING.
 - THE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING AND PROTECTING EXISTING UTILITIES, AND SHALL REPAIR ALL DAMAGE TO EXISTING UTILITIES THAT OCCUR DURING CONSTRUCTION.
 - THE CONTRACTOR SHALL BLEND NEW EARTHWORK SMOOTHLY TO TRANSITION BACK TO EXISTING GRADE.
 - LIMITS OF CLEARING SHOWN ON GRADING PLAN ARE BASED UPON THE APPROXIMATE CUT AND FILL SLOPE LIMITS, OR OTHER GRADING REQUIREMENTS.
 - THE PROPOSED CONTOURS SHOWN IN DRIVES AND PARKING LOTS AND SIDEWALKS ARE FINISHED ELEVATIONS INCLUDING ASPHALT. REFER TO PAVEMENT CROSS SECTION DATA TO ESTABLISH CORRECT SUBBASE OR AGGREGATE BASE COURSE ELEVATIONS TO BE COMPLETED UNDER THIS CONTRACT.
 - THE CONTRACTOR SHALL ENSURE POSITIVE DRAINAGE SO THAT RUNOFF WILL DRAIN BY GRAVITY FLOW ACROSS NEW PAVEMENT AREAS TO NEW OR EXISTING DRAINAGE INLETS OR SHEET OVERLAND.
 - ANY GRADING, BEYOND THE LIMITS OF CONSTRUCTION AS SHOWN ON THE GRADING PLAN, IS PROHIBITED.
 - LAND DISTURBANCE WITHOUT AN APPROVED ESC PLAN IS PROHIBITED.
 - STABILIZATION IS THE BEST FORM OF EROSION CONTROL. TEMPORARY SEEDING IS NECESSARY TO ACHIEVE EROSION CONTROL ON DENUDATED AREAS AND ESPECIALLY WHEN THE CONSTRUCTION SEQUENCE REQUIRES IT.
 - ALL GRADED AREAS ARE TO BE STABILIZED (SEEDED OR LANDSCAPED) WITHIN 14 DAYS OF HAVING REACHED FINAL GRADE.
 - EXISTING GRASSES, CONTOURS, UTILITIES AND OTHER EXISTING FEATURES FROM FIELD RUN SURVEY.
 - THE CONTRACTOR SHALL INCLUDE IN THE CONTRACT PRICE ANY Dewatering NECESSARY TO CONSTRUCT THE PROJECT AS SHOWN ON THE PLANS.
 - THE CONTRACTOR IS RESPONSIBLE FOR THE DESIGN AND IMPLEMENTATION OF ALL SHEETING, SHORING, BRACING AND SPECIAL EXCAVATION MEASURES REQUIRED TO MEET OSHA, FEDERAL, STATE, AND LOCAL REGULATIONS PURSUANT TO THE INSTALLATION OF THE WORK INDICATED ON THESE DRAWINGS. THE DESIGN ENGINEER ACCEPTS NO RESPONSIBILITY FOR THE DESIGN(S) TO INSTALL SAID ITEMS.
 - THE CONTRACTOR SHALL REFER TO THE ARCHITECTURAL PLANS FOR EXACT LOCATION, ELEVATION, AND DIMENSIONS OF EXIT DOORS, RAMPS, BUILDING DIMENSIONS, AND EXACT BUILDING UTILITY ENTRANCE LOCATIONS.
 - ALL FILL MATERIALS, EXISTING BUILDING FOUNDATIONS, PAVEMENT AND UTILITY STRUCTURES, TOPSOIL, AND ANY OTHER DELETERIOUS MATERIALS SHALL BE COMPLETELY REMOVED FROM WITHIN THE BEARING ZONE BELOW THE STRUCTURE.
 - ALL FOUNDATION EXCAVATION SHALL BE INSPECTED BY A QUALIFIED GEOTECHNICAL REPRESENTATIVE TO DETERMINE WHETHER UNSUITABLE MATERIAL MUST BE REMOVED. ALL UNDESIRABLE MATERIAL REPRESENTATIVE.
 - ALL CUT OR FILL SLOPES SHALL BE 3:1 OR FLATTER UNLESS OTHERWISE NOTED OR DEPICTED.
 - THE CONTRACTOR SHALL ADHERE TO ALL TERMS & CONDITIONS AS OUTLINED IN THE GENERAL N.P.D.E.S PERMIT FOR STORMWATER DISCHARGE ASSOCIATED WITH CONSTRUCTION ACTIVITIES.
 - CONTRACTOR SHALL ADJUST AND/OR CUT EXISTING PAVEMENT AS NECESSARY TO ASSURE A SMOOTH FIT AND CONTINUOUS DRIVE.
 - CONTRACTOR SHALL ENSURE POSITIVE DRAINAGE AWAY FROM BUILDINGS FOR ALL NATURAL AND PAVED AREAS.
 - UNPAVED AREAS DISTURBED BY GRADING OPERATION SHALL RECEIVE 4 INCHES OF TOPSOIL. CONTRACTOR SHALL APPLY STABILIZATION FABRIC TO ALL SLOPES 3:1V OR STEEPER.
 - CONSTRUCTION SHALL COMPLY WITH ALL APPLICABLE GOVERNING CODES AND BE CONSTRUCTED TO SAME.

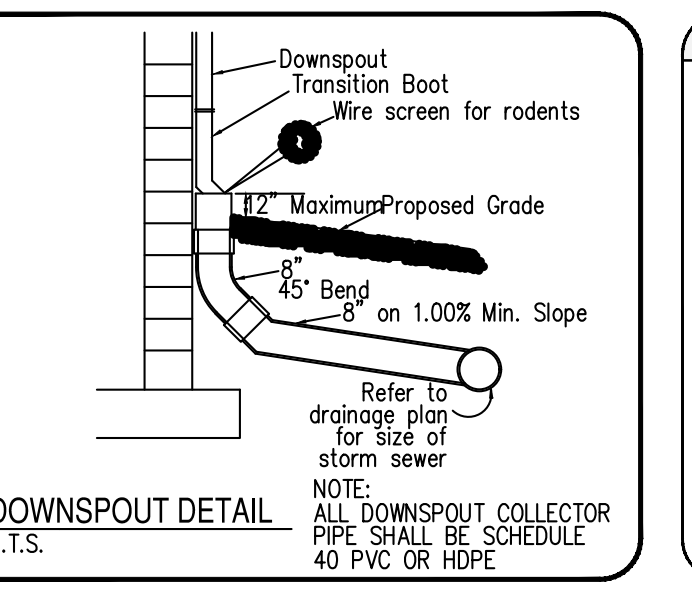
EROSION CONTROL NOTES:
 AN EROSION AND SEDIMENTATION CONTROL PERMIT SHALL BE REQUIRED BY THE TOWN OF KNIGHTDALE PRIOR TO START OF CONSTRUCTION.

SURVEY NOTE:
 ALL EXISTING BOUNDARY AND TOPOGRAPHIC INFORMATION TAKEN FROM A LAND SURVEY PREPARED BY: BOWMAN NORTH CAROLINA, LTD.

STREAM / WETLAND NOTE:
 THERE ARE NO EXISTING STREAM/AND/OR WETLAND FEATURES ON THE EXISTING PARCEL.

FLOOD ZONE NOTE:
 THE PROPERTY IS LOCATED IN FLOOD ZONE X AS SHOWN ON FEMA FLOOD PANEL 3720175400K, DATED JULY 19, 2022. MAPS SUBJECT TO CHANGE BY FEMA.

STRUCTURE		PIPE		STRUCTURE		NOTES	
FROM	TO	LENGTH (FT)	SLOPE (%)	SIZE & MATERIAL	FROM (FT)		
Y#101	Y#102	23	0.87	15" HDPP	288.0	287.8 291.8	WATER-TIGHT (TYP)
Y#102	CB#103	830	0.60	15" HDPP	287.8	287.3 291.8	
CB#103	CB#104	10	1.00	15" HDPP	287.3	287.2 289.8	
CB#104	CB#105	46	0.65	15" HDPP	287.2	286.9 289.7	
CB#105	D#106	70	0.57	18" HDPP	286.9	286.5 289.7	
D#106	CB#107	105	0.57	24" HDPP	286.0	285.4 289.0	
CB#107	CB#108	10	1.00	24" HDPP	285.4	285.3 289.1	
Y#109	CB#110	115	0.70	15" HDPP	287.3	286.5 290.9	
CB#110	D#106	260	0.77	15" HDPP	287.5	287.2 290.5	
CO#111	D#106	83	0.60	15" HDPP	287.0	286.5 291.6	
CO#112	CO#111	71	0.56	12" HDPP	287.4	287.0 291.6	
CO#113	CO#112	159	0.50	12" HDPP	288.2	287.4 291.6	
CO#114	CB#108	138	1.88	15" HDPP	288.6	286.0 291.1	
CB#108	FES#115	54	0.56	24" HDPP	285.3	285.0 289.1	
OCS#202	MH#201	184	1.36	24" HDPP	284.5	282.5 -	SEE SHEET C6.6
MH#201	FES#200	28	1.79	24" HDPP	282.5	280.6 291.0	



LEGEND

- TS.....TOP OF SIDEWALK
- TC.....TOP OF CURB
- FL.....GUTTER FLOW LINE
- TP.....TOP OF PAVEMENT
- TW.....TOP OF WALL
- BW.....BOTTOM OF WALL
- CB.....CATCH BASIN
- GI.....GRATE INLET
- RD.....ROOF DRAIN
- FES.....FLARED END SECTION
- YI.....YARD INLET
- GR.....GROUND
-FLOW DIRECTION ARROW

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

BEFORE YOU DIG
STOP
 CALL 1 800 832-4949
 N.C. ONE-CALL CENTER
 IT'S THE LAW

GRAPHIC SCALE
 0 15 30 60 120
 (IN FEET)
 1 inch = 30 ft.

ALL CONSTRUCTION TO BE IN ACCORDANCE WITH ALL TOWN OF KNIGHTDALE STANDARDS AND SPECIFICATIONS

Town Certification:
 This design has been reviewed by the Engineer for the Town of Knightdale, and to be the best of my knowledge and belief, it conforms to the requirements established in the Standard Specifications of the Town of Knightdale.

By: _____ Date: _____
 Development Services Engineer

These plans are approved by the Town of Knightdale and serve as construction plans for this project.

By: _____ Date: _____
 Administrator

Bowman

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 4006 BARRRETT DR
 Suite 104
 RALEIGH, NC 27609
 Phone: (919) 553-6570
 bowman.com

GRADING & DRAINAGE PLAN
Kiddle Academy & Fresenius Kidney Center
 Smithfield Road and McKnight Drive
 Knightdale, NC Wake County ZCP-1-23/SEC-000012-2023

Primax Properties, LLC
 Choice One Development, LLC

PLAN STATUS

DATE	DESCRIPTION	
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DATE	DESCRIPTION	
MEL DESIGN	MEL DRAWN	XXX CHKD
SCALE	H:	V:
JOB No.	220133-01-001	
DATE	March 14, 2023	
FILE No.	220133-01-001	

SHEET **C4.0**

- APPROVED RPDA ASSEMBLIES:**
APPROVED 6" RPDA REDUCED PRESSURE DETECTOR ASSEMBLY BACKFLOW PREVENTERS:
AMES: 5000 FEBCO: 826Y0,909RPDA
APOLLO/CORNER.CO: 4070C3 WILKINS: 375ADA
- APPROVED RPZ ASSEMBLIES:**
APPROVED 2" RPZ BACKFLOW PREVENTERS:
AMES: 4000B FEBCO 825 Y & YA
WATTS 009M20T
- APPROVED RPZ ASSEMBLIES:**
APPROVED 1" RPZ BACKFLOW PREVENTERS:
AMES: 4000B FEBCO 825 Y & YA
WATTS 009M20T
- APPROVED RPZ ASSEMBLIES:**
APPROVED 2" RPZ BACKFLOW PREVENTERS:
AMES: 400B, U400B WATTS 009M0T, 0090T
APOLLO 4020B02, RP40 FEBCO 860, 825YAR
WILKINS 375, 375B

ALL CONSTRUCTION TO BE IN ACCORDANCE WITH ALL TOWN OF KNIGHTDALE AND CITY OF RALEIGH STANDARDS AND SPECIFICATIONS

FIRE PROTECTION NOTE
THE PROPOSED BUILDINGS WILL HAVE A FIRE SPRINKLER SYSTEM

UTILITY NOTE
THE ESTIMATED WATER USAGE FOR THIS SITE IS _____ GPD BASED ON _____

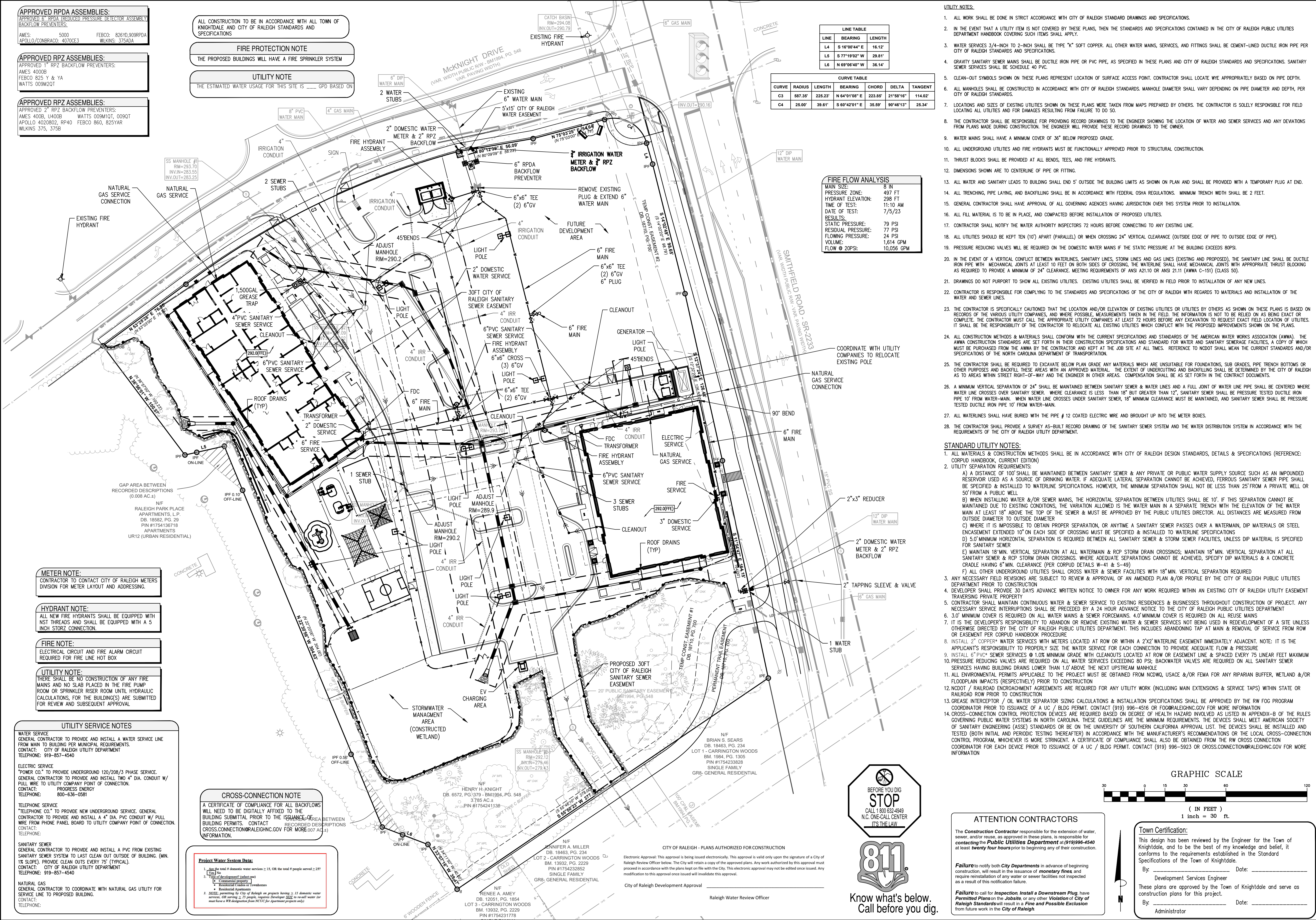
- METER NOTE:**
CONTRACTOR TO CONTACT CITY OF RALEIGH METERS DIVISION FOR METER LAYOUT AND ADDRESSING.
- HYDRANT NOTE:**
ALL NEW FIRE HYDRANTS SHALL BE EQUIPPED WITH NST THREADS AND SHALL BE EQUIPPED WITH A 5 INCH STORZ CONNECTION.
- FIRE NOTE:**
ELECTRICAL CIRCUIT AND FIRE ALARM CIRCUIT REQUIRED FOR FIRE LINE HOT BOX.
- UTILITY NOTE:**
THERE SHALL BE NO CONSTRUCTION OF ANY FIRE MAINS AND NO SLAB PLACED IN THE FIRE PUMP ROOM OR SPRINKLER RISER ROOM UNTIL HYDRAULIC CALCULATIONS, FOR THE BUILDING(S) ARE SUBMITTED FOR REVIEW AND SUBSEQUENT APPROVAL.

- UTILITY SERVICE NOTES**
- WATER SERVICE**
GENERAL CONTRACTOR TO PROVIDE AND INSTALL A WATER SERVICE LINE FROM MAIN TO BUILDING PER MUNICIPAL REQUIREMENTS.
CONTACT: CITY OF RALEIGH UTILITY DEPARTMENT
TELEPHONE: 919-857-4540
- ELECTRIC SERVICE**
"POWER CO." TO PROVIDE UNDERGROUND 120/208/3 PHASE SERVICE.
GENERAL CONTRACTOR TO PROVIDE AND INSTALL TWO 4" DIA. CONDUIT W/ PULL WIRE TO UTILITY COMPANY POINT OF CONNECTION.
CONTACT: PROGRESS ENERGY
TELEPHONE: 800-636-0581
- TELEPHONE SERVICE**
"TELEPHONE CO." TO PROVIDE NEW UNDERGROUND SERVICE. GENERAL CONTRACTOR TO PROVIDE AND INSTALL A 4" DIA. PVC CONDUIT W/ PULL WIRE FROM PHONE PANEL BOARD TO UTILITY COMPANY POINT OF CONNECTION.
CONTACT: PROGRESS ENERGY
TELEPHONE: 800-636-0581
- SANITARY SEWER**
GENERAL CONTRACTOR TO PROVIDE AND INSTALL A PVC FROM EXISTING SANITARY SEWER SYSTEM TO LAST CLEAN OUT OUTSIDE OF BUILDING. (MIN. 1% SLOPE). PROVIDE CLEAN OUTS EVERY 75' (TYPICAL).
CONTACT: CITY OF RALEIGH UTILITY DEPARTMENT
TELEPHONE: 919-857-4540
- NATURAL GAS**
GENERAL CONTRACTOR TO COORDINATE WITH NATURAL GAS UTILITY FOR SERVICE LINE TO PROPOSED BUILDING.
CONTACT: PROGRESS ENERGY
TELEPHONE: 800-636-0581

CROSS-CONNECTION NOTE
A CERTIFICATE OF COMPLIANCE FOR ALL BACKFLOWS WILL NEED TO BE DIGITALLY AFFIXED TO THE BUILDING SUBMITTAL PRIOR TO THE ISSUANCE OF AREA BUILDING PERMITS. CONTACT RECORDED DESIGNS & PLANS FOR MORE INFORMATION.

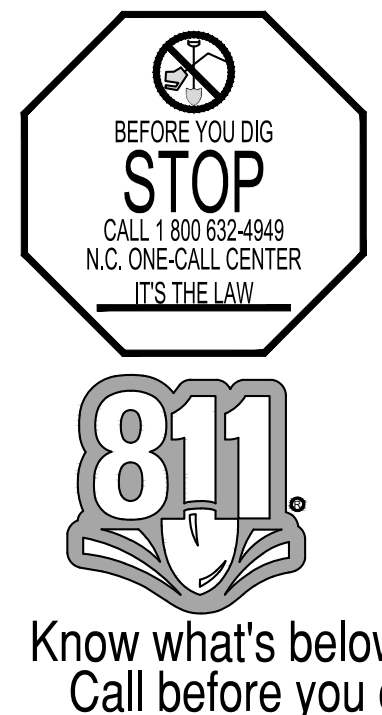
Project Water System Data:

- Are the total # domestic water services > 15. OR the total # people served > 25?
- Is the development (select one):
 - Commercial property
 - Residential development
 - Residential Apartments
- NOTE: according to City of Raleigh on projects having > 15 domestic water services, OR serving > 25 people, progress Developer shall be required to have a WR designation from NCEC for apartment projects only.



- UTILITY NOTES:**
- ALL WORK SHALL BE DONE IN STRICT ACCORDANCE WITH CITY OF RALEIGH STANDARD DRAWINGS AND SPECIFICATIONS.
 - IN THE EVENT THAT A UTILITY ITEM IS NOT COVERED BY THESE PLANS, THEN THE STANDARDS AND SPECIFICATIONS CONTAINED IN THE CITY OF RALEIGH PUBLIC UTILITIES DEPARTMENT HANDBOOK COVERING SUCH ITEMS SHALL APPLY.
 - WATER SERVICES 3/4"-1" TO 2"-1" SHALL BE TYPE "K" SOFT COPPER. ALL OTHER WATER MAINS, SERVICES, AND FITTINGS SHALL BE CEMENT-LINED DUCTILE IRON PIPE PER CITY OF RALEIGH STANDARDS AND SPECIFICATIONS.
 - GRAVITY SANITARY SEWER MAINS SHALL BE DUCTILE IRON PIPE OR PVC PIPE, AS SPECIFIED IN THESE PLANS AND CITY OF RALEIGH STANDARDS AND SPECIFICATIONS. SANITARY SEWER SERVICES SHALL BE SCHEDULE 40 PVC.
 - CLEAN-OUT SYMBOLS SHOWN ON THESE PLANS REPRESENT LOCATION OF SURFACE ACCESS POINT. CONTRACTOR SHALL LOCATE WYE APPROPRIATELY BASED ON PIPE DEPTH.
 - ALL MANHOLES SHALL BE CONSTRUCTED IN ACCORDANCE WITH CITY OF RALEIGH STANDARDS. MANHOLE DIAMETER SHALL VARY DEPENDING ON PIPE DIAMETER AND DEPTH, PER CITY OF RALEIGH STANDARDS.
 - LOCATIONS AND SIZES OF EXISTING UTILITIES SHOWN ON THESE PLANS WERE TAKEN FROM MAPS PREPARED BY OTHERS. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR FIELD LOCATING ALL UTILITIES AND FOR DAMAGES RESULTING FROM FAILURE TO DO SO.
 - THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING RECORD DRAWINGS TO THE ENGINEER SHOWING THE LOCATION OF WATER AND SEWER SERVICES AND ANY DEVIATIONS FROM PLANS MADE DURING CONSTRUCTION. THE ENGINEER WILL PROVIDE THESE RECORD DRAWINGS TO THE OWNER.
 - WATER MAINS SHALL HAVE A MINIMUM COVER OF 36" BELOW PROPOSED GRADE.
 - ALL UNDERGROUND UTILITIES AND FIRE HYDRANTS MUST BE FUNCTIONALLY APPROVED PRIOR TO STRUCTURAL CONSTRUCTION.
 - THRUST BLOCKS SHALL BE PROVIDED AT ALL BENDS, TEES, AND FIRE HYDRANTS.
 - DIMENSIONS SHOWN ARE TO CENTERLINE OF PIPE OR FITTING.
 - ALL WATER AND SANITARY LEADS TO BUILDING SHALL END 5' OUTSIDE THE BUILDING LIMITS AS SHOWN ON PLAN AND SHALL BE PROVIDED WITH A TEMPORARY PLUG AT END.
 - ALL TRENCHING, PIPE LAYING, AND BACKFILLING SHALL BE IN ACCORDANCE WITH FEDERAL OSHA REGULATIONS. MINIMUM TRENCH WIDTH SHALL BE 2 FEET.
 - GENERAL CONTRACTOR SHALL HAVE APPROVAL OF ALL GOVERNING AGENCIES HAVING JURISDICTION OVER THIS SYSTEM PRIOR TO INSTALLATION.
 - ALL FILL MATERIAL IS TO BE IN PLACE, AND COMPACTED BEFORE INSTALLATION OF PROPOSED UTILITIES.
 - CONTRACTOR SHALL NOTIFY THE WATER AUTHORITY INSPECTORS 72 HOURS BEFORE CONNECTING TO ANY EXISTING LINE.
 - ALL UTILITIES SHOULD BE KEPT TEN (10') APART (PARALLEL) OR WHEN CROSSING 24" VERTICAL CLEARANCE (OUTSIDE EDGE OF PIPE TO OUTSIDE EDGE OF PIPE).
 - PRESSURE REDUCING VALVES WILL BE REQUIRED ON THE DOMESTIC WATER MAINS IF THE STATIC PRESSURE AT THE BUILDING EXCEEDS 80PSI.
 - IN THE EVENT OF A VERTICAL CONFLICT BETWEEN WATERLINES, SANITARY LINES, STORM LINES AND GAS LINES (EXISTING AND PROPOSED), THE SANITARY LINE SHALL BE DUCTILE IRON PIPE WITH MECHANICAL JOINTS AT LEAST 10 FEET ON BOTH SIDES OF CROSSING, THE WATERLINE SHALL HAVE MECHANICAL JOINTS WITH APPROPRIATE THRUST BLOCKING AS REQUIRED TO PROVIDE A MINIMUM OF 24" CLEARANCE. MEETING REQUIREMENTS OF ANS A21.10 OR ANS 21.11 (AWWA C-151) (CLASS 50).
 - DRAWINGS DO NOT PURPORT TO SHOW ALL EXISTING UTILITIES. EXISTING UTILITIES SHALL BE VERIFIED IN FIELD PRIOR TO INSTALLATION OF ANY NEW LINES.
 - CONTRACTOR IS RESPONSIBLE FOR COMPLYING TO THE STANDARDS AND SPECIFICATIONS OF THE CITY OF RALEIGH WITH REGARDS TO MATERIALS AND INSTALLATION OF THE WATER AND SEWER LINES.
 - THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF UTILITIES OR UTILITIES BY OTHERS AS SHOWN ON THESE PLANS IS BASED ON RECORDS OF THE VARIOUS UTILITY COMPANIES, AND WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THE INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE CONTRACTOR MUST CALL THE APPROPRIATE UTILITY COMPANIES AT LEAST 72 HOURS BEFORE ANY EXCAVATION TO REQUEST EXACT FIELD LOCATION OF UTILITIES. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS.
 - ALL CONSTRUCTION METHODS & MATERIALS SHALL CONFORM WITH THE CURRENT SPECIFICATIONS AND STANDARDS OF THE AMERICAN WATER WORKS ASSOCIATION (AWWA). THE AWWA CONSTRUCTION STANDARDS ARE SET FORTH IN THEIR CONSTRUCTION SPECIFICATIONS AND STANDARD FOR WATER AND SANITARY SEWERAGE FACILITIES, A COPY OF WHICH MUST BE PURCHASED FROM THE AWWA BY THE CONTRACTOR AND KEPT AT THE JOB SITE AT ALL TIMES. REFERENCE TO NCDDT SHALL MEAN THE CURRENT STANDARDS AND/OR SPECIFICATIONS OF THE NORTH CAROLINA DEPARTMENT OF TRANSPORTATION.
 - THE CONTRACTOR SHALL BE REQUIRED TO EXCAVATE BELOW PLAN GRADE ANY MATERIALS WHICH ARE UNSUITABLE FOR FOUNDATIONS, SUB GRADES, PIPE TRENCH BOTTOMS OR OTHER PURPOSES AND BACKFILL THESE AREAS WITH AN APPROVED MATERIAL. THE EXTENT OF UNDERCUTTING AND BACKFILLING SHALL BE DETERMINED BY THE CITY OF RALEIGH AS TO AREAS WITHIN STREET RIGHT-OF-WAY AND THE ENGINEER IN OTHER AREAS. COMPENSATION SHALL BE AS SET FORTH IN THE CONTRACT DOCUMENTS.
 - A MINIMUM VERTICAL SEPARATION OF 24" SHALL BE MAINTAINED BETWEEN SANITARY SEWER & WATER LINES AND A FULL JOINT OF WATER LINE PIPE SHALL BE CENTERED WHERE WATER LINE CROSSES OVER SANITARY SEWER. WHERE CLEARANCE IS LESS THAN 18" BUT GREATER THAN 12", SANITARY SEWER SHALL BE PRESSURE TESTED DUCTILE IRON PIPE 10' FROM WATER MAIN. WHEN WATER LINE CROSSES UNDER SANITARY SEWER, 18" MINIMUM CLEARANCE MUST BE MAINTAINED, AND SANITARY SEWER SHALL BE PRESSURE TESTED DUCTILE IRON PIPE 10' FROM WATER MAIN.
 - ALL WATERLINES SHALL HAVE BURED WITH THE PIPE # 12 COATED ELECTRIC WIRE AND BROUGHT UP INTO THE METER BOXES.
 - THE CONTRACTOR SHALL BUILD A SURVEY AS-BUILT RECORD DRAWING OF THE SANITARY SEWER SYSTEM AND THE WATER DISTRIBUTION SYSTEM IN ACCORDANCE WITH THE REQUIREMENTS OF THE CITY OF RALEIGH UTILITY DEPARTMENT.

- STANDARD UTILITY NOTES:**
- ALL MATERIALS & CONSTRUCTION METHODS SHALL BE IN ACCORDANCE WITH CITY OF RALEIGH DESIGN STANDARDS, DETAILS & SPECIFICATIONS (REFERENCE: CORPUS HANDBOOK, CURRENT EDITION)
 - UTILITY SEPARATION REQUIREMENTS:
 - A DISTANCE OF 100" SHALL BE MAINTAINED BETWEEN SANITARY SEWER & ANY PRIVATE OR PUBLIC WATER SUPPLY SOURCE SUCH AS AN IMPOUNDED RESERVOIR USED AS A SOURCE OF DRINKING WATER. IF ADEQUATE LATERAL SEPARATION CANNOT BE ACHIEVED, FERROUS SANITARY SEWER PIPE SHALL BE SPECIFIED & INSTALLED TO WATERLINE SPECIFICATIONS. HOWEVER, THE MINIMUM SEPARATION SHALL NOT BE LESS THAN 25' FROM A PRIVATE WELL OR 50' FROM A PUBLIC WELL
 - WHEN INSTALLING WATER &/OR SEWER MAINS, THE HORIZONTAL SEPARATION BETWEEN UTILITIES SHALL BE 10'. IF THIS SEPARATION CANNOT BE MAINTAINED DUE TO EXISTING CONDITIONS, THE VARIATION ALLOWED IS THE WATER MAIN IN A SEPARATE TRENCH WITH THE ELEVATION OF THE WATER MAIN AT LEAST 18" ABOVE THE TOP OF THE SEWER & MUST BE APPROVED BY THE PUBLIC UTILITIES DIRECTOR. ALL DISTANCES ARE MEASURED FROM OUTSIDE DIAMETER TO OUTSIDE DIAMETER
 - WHERE IT IS IMPOSSIBLE TO OBTAIN PROPER SEPARATION, OR ANYTIME A SANITARY SEWER PASSES OVER A WATERMAIN, DIP MATERIALS OR STEEL ENCASUREMENT EXTENDED 10" ON EACH SIDE OF CROSSING MUST BE SPECIFIED & INSTALLED TO WATERLINE SPECIFICATIONS
 - 5.0' MINIMUM HORIZONTAL SEPARATION IS REQUIRED BETWEEN ALL SANITARY SEWER & STORM SEWER FACILITIES, UNLESS DIP MATERIAL IS SPECIFIED FOR SANITARY SEWER
 - MAINTAIN 18" MIN. VERTICAL SEPARATION AT ALL WATERMAIN & RCP STORM DRAIN CROSSINGS; MAINTAIN 18" MIN. VERTICAL SEPARATION AT ALL SANITARY SEWER & RCP STORM DRAIN CROSSINGS, WHERE ADEQUATE SEPARATIONS CANNOT BE ACHIEVED, SPECIFY DIP MATERIALS & A CONCRETE CRADLE HAVING 6" MIN. CLEARANCE (PER CORPUS DETAILS W-41 & S-49)
 - ALL OTHER UNDERGROUND UTILITIES SHALL CROSS WATER & SEWER FACILITIES WITH 18" MIN. VERTICAL SEPARATION REQUIRED
 - ANY NECESSARY FIELD REVISIONS ARE SUBJECT TO REVIEW & APPROVAL OF AN AMENDED PLAN &/OR PROFILE BY THE CITY OF RALEIGH PUBLIC UTILITIES DEPARTMENT PRIOR TO CONSTRUCTION
 - DEVELOPER SHALL PROVIDE 30 DAYS ADVANCE WRITTEN NOTICE TO OWNER FOR ANY WORK REQUIRED WITHIN AN EXISTING CITY OF RALEIGH UTILITY EASEMENT TRAVERSING PRIVATE PROPERTY
 - CONTRACTOR SHALL MAINTAIN CONTINUOUS WATER & SEWER SERVICE TO EXISTING RESIDENCES & BUSINESSES THROUGHOUT CONSTRUCTION OF PROJECT. ANY NECESSARY SERVICE INTERRUPTIONS SHALL BE PRECEDED BY A 24 HOUR ADVANCE NOTICE TO THE CITY OF RALEIGH PUBLIC UTILITIES DEPARTMENT
 - 3.0' MINIMUM COVER IS REQUIRED ON ALL WATER MAINS & SEWER FORCE MAINS. 4.0' MINIMUM COVER IS REQUIRED ON ALL REUSE MAINS
 - IT IS THE DEVELOPER'S RESPONSIBILITY TO ABANDON OR REMOVE EXISTING WATER & SEWER SERVICES NOT BEING USED IN REDEVELOPMENT OF A SITE UNLESS OTHERWISE DIRECTED BY THE CITY OF RALEIGH PUBLIC UTILITIES DEPARTMENT. THIS INCLUDES ABANDONING TAP AT MAIN & REMOVAL OF SERVICE FROM ROW OR EASEMENT PER CORPUS HANDBOOK PROCEDURE
 - INSTALL 2" COPPER WATER SERVICES WITH METERS LOCATED AT ROW OR WITHIN A 2'X2' WATERLINE EASEMENT IMMEDIATELY ADJACENT. NOTE: IT IS THE APPLICANT'S RESPONSIBILITY TO PROPERLY SIZE THE WATER SERVICE FOR EACH CONNECTION TO PROVIDE ADEQUATE FLOW & PRESSURE
 - INSTALL 6" PVC SEWER SERVICES @ 1.0% MINIMUM GRADE WITH CLEANOUTS LOCATED AT ROW OR EASEMENT LINE & SPACED EVERY 75 FEET MAXIMUM
 - PRESSURE REDUCING VALVES ARE REQUIRED ON ALL WATER SERVICES EXCEEDING 80 PSI; BACKWATER VALVES ARE REQUIRED ON ALL SANITARY SEWER SERVICES HAVING BUILDING DRAINS LOWER THAN 1.0' ABOVE THE NEXT UPSTREAM MANHOLE
 - ALL ENVIRONMENTAL PERMITS APPLICABLE TO THE PROJECT MUST BE OBTAINED FROM NCDOW, USACE &/OR FEMA FOR ANY RIPARIAN BUFFER, WETLAND &/OR FLOODPLAIN IMPACTS (RESPECTIVELY) PRIOR TO CONSTRUCTION
 - NCDDOT / RAILROAD ENCROACHMENT AGREEMENTS ARE REQUIRED FOR ANY UTILITY WORK (INCLUDING MAIN EXTENSIONS & SERVICE TAPS) WITHIN STATE OR RAILROAD ROW PRIOR TO CONSTRUCTION
 - GREASE INTERCEPTOR / OIL WATER SEPARATOR SIZING CALCULATIONS & INSTALLATION SPECIFICATIONS SHALL BE APPROVED BY THE RW FOG PROGRAM COORDINATOR PRIOR TO ISSUANCE OF A UC / BLDG PERMIT. CONTACT (919) 996-4516 OR FOG@RALEIGHNC.GOV FOR MORE INFORMATION
 - CROSS-CONNECTION CONTROL PROTECTION DEVICES ARE REQUIRED BASED ON DEGREE OF HEALTH HAZARD INVOLVED AS LISTED IN APPENDIX-B OF THE RULES GOVERNING PUBLIC WATER SYSTEMS IN NORTH CAROLINA. THESE GUIDELINES ARE THE MINIMUM REQUIREMENTS. THE DEVICES SHALL MEET AMERICAN SOCIETY OF SANITARY ENGINEERS (ASSE) STANDARDS OR BE ON THE UNIVERSITY OF SOUTHERN CALIFORNIA APPROVAL LIST. THE DEVICES SHALL BE INSTALLED AND TESTED (BOTH INITIAL AND PERIODIC TESTING THEREAFTER) IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS OR THE LOCAL CROSS-CONNECTION CONTROL PROGRAM, WHICHEVER IS MORE STRINGENT. A CERTIFICATE OF COMPLIANCE SHALL ALSO BE OBTAINED FROM THE RW CROSS CONNECTION COORDINATOR FOR EACH DEVICE PRIOR TO ISSUANCE OF A UC / BLDG PERMIT. CONTACT (919) 996-5923 OR CROSS.CONNECTION@RALEIGHNC.GOV FOR MORE INFORMATION



ATTENTION CONTRACTORS

The **Construction Contractor** responsible for the extension of water, sewer, and/or reuse, as approved in these plans, is responsible for **contacting the Public Utilities Department at (919) 996-4540** at least **twenty four hours** prior to beginning any of their construction.

Failure to notify both **City Departments** in advance of beginning construction will result in the issuance of **mandatory fines**, and require reinstallation of any water or sewer facilities not inspected as a result of this notification failure.

Failure to call for **Inspection, Install a Downstream Plug**, have **Permitted Plans on the Jobsite**, or any other **Violation of City of Raleigh Standards** will result in a **Fine and Possible Exclusion** from future work in the **City of Raleigh**.

GRAPHIC SCALE

0 15 30 60 90 120
 (IN FEET)
 1 inch = 30 ft.

Town Certification:
 This design has been reviewed by the Engineer for the Town of Knightdale, and to be the best of my knowledge and belief, it conforms to the requirements established in the Standard Specifications of the Town of Knightdale.

By: _____ Date: _____
 Development Services Engineer

These plans are approved by the Town of Knightdale and serve as construction plans for this project.

By: _____ Date: _____
 Administrator

Bowman

Bowman North Carolina Ltd.
 4006 BARRRETT DR
 Suite 104
 RALEIGH, NC 27609
 Phone: (919) 959-6570
 bowman.com

UTILITY PLAN

Kiddie Academy & Fresenius Kidney Center
 Smithfield Road and McKnight Drive
 Knightdale, NC Wake County ZCP-1-23/SEC-000012-2023

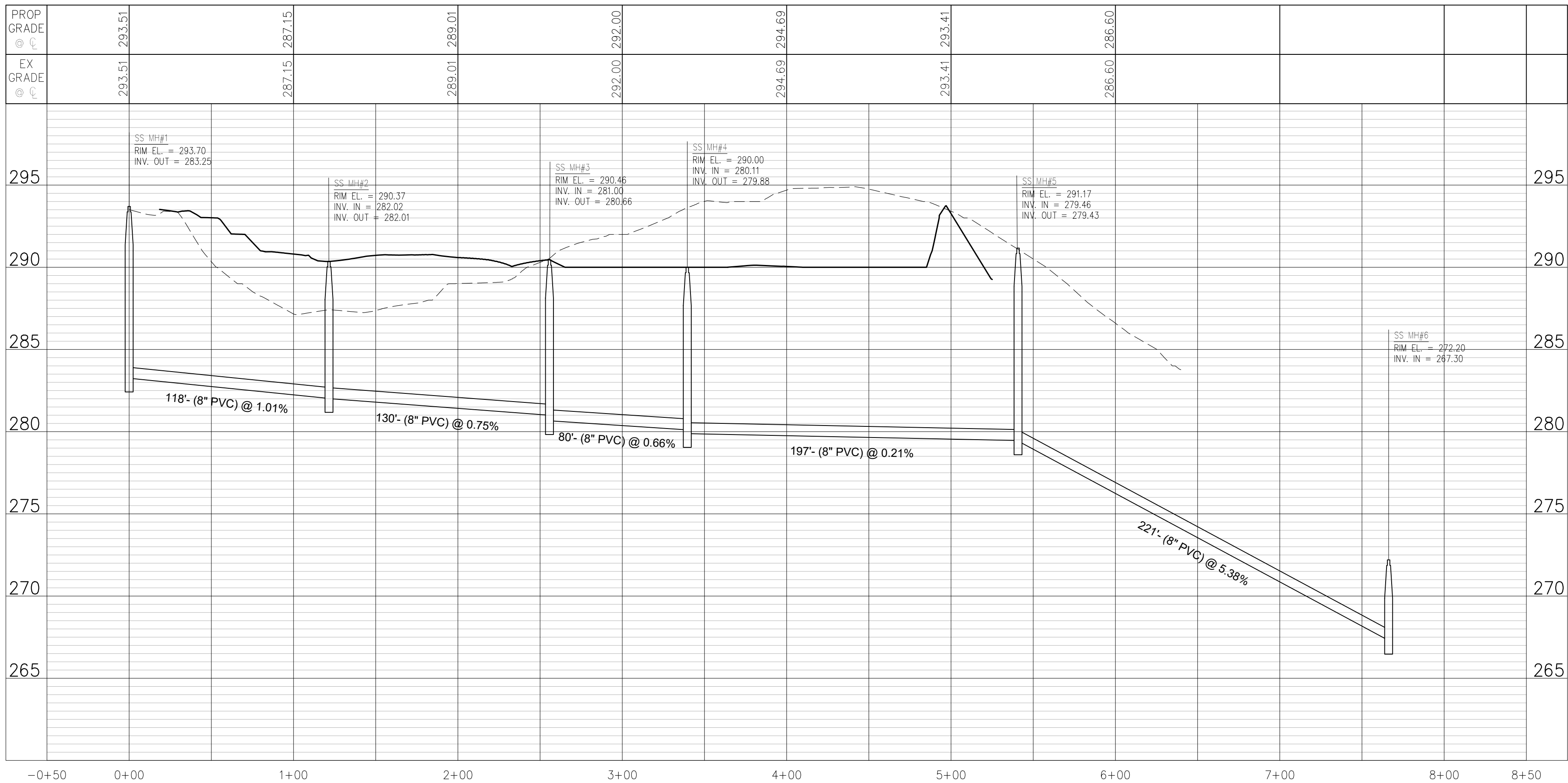
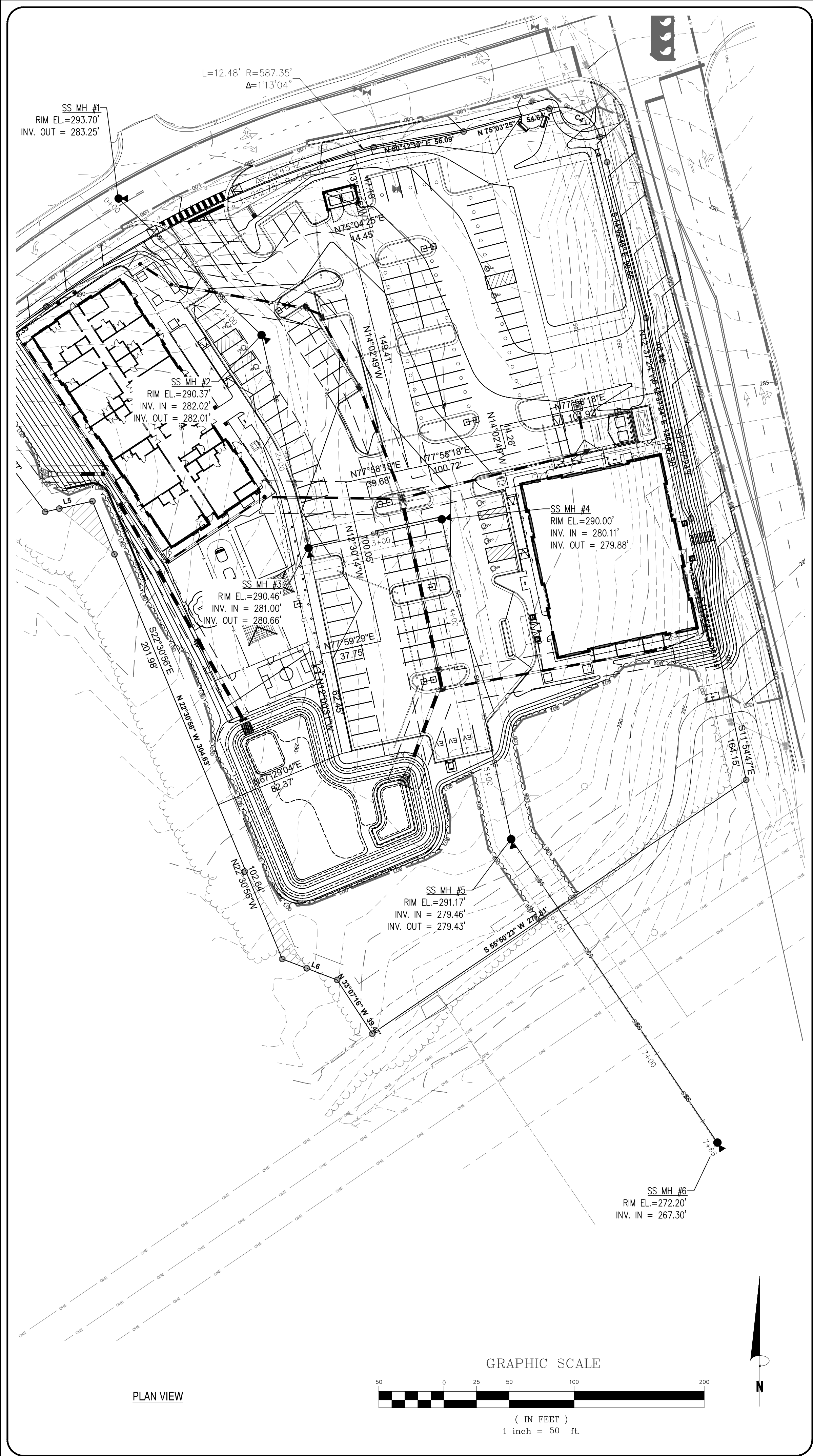
Primax Properties, LLC
 Choice One Development, LLC

PLAN STATUS

5/22/23	MASTER PLAN SUBMITTAL
7/10/23	CONSTRUCTION DOCUMENTS
8/25/23	PER TOWN CD REVIEW
10/04/23	PER TOWN CD REVIEW
10/30/23	SIGNATURE SET
DATE	DESCRIPTION

MEL DESIGN MEL DRAWN XXX CHKD
 SCALE: H: V:
 JOB No. 220133-01-001
 DATE March 14, 2023
 FILE No. 220133-01-001

SHEET **C5.0**



SANITARY SEWER PROFILE VIEW
HORIZONTAL SCALE: 1"=50'
VERTICAL SCALE: 1"=5'

CITY OF RALEIGH - PLANS AUTHORIZED FOR CONSTRUCTION

Electronic Approval: This approval is being issued electronically. This approval is valid only upon the signature of a City of Raleigh Review Officer below. The City will retain a copy of the approved plans. Any work authorized by this approval must proceed in accordance with the plans kept on file with the City. This electronic approval may not be edited once issued. Any modification to this approval once issued will invalidate this approval.

City of Raleigh Development Approval _____
Raleigh Water Review Officer

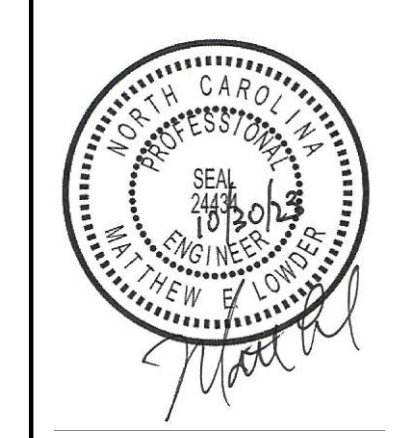
Town Certification:
This design has been reviewed by the Engineer for the Town of Knightdale, and to be the best of my knowledge and belief, it conforms to the requirements established in the Standard Specifications of the Town of Knightdale.
By: _____ Date: _____
Development Services Engineer
These plans are approved by the Town of Knightdale and serve as construction plans for this project.
By: _____ Date: _____
Administrator



Bowman North Carolina Ltd.
4006 BARRETT DR
Suite 104
RALEIGH, NC 27609
Phone: (919)559-6570
bowman.com
Bowman North Carolina Ltd.

SANITARY SEWER PROFILE
Kiddie Academy & Fresenius Kidney Center
Smithfield Road and McKnight Drive
Knightdale, NC Wake County ZCP-1-23/SEC-000012-2023

Primax Properties, LLC
Choice One Development, LLC



PLAN STATUS	
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MEL	MEL
DESIGN	DRAWN
SCALE	CHKD
JOB No.	220133-01-001
DATE	March 14, 2023
FILE No.	220133-01-001
SHEET	C5.1

SEEDING SCHEDULE		
SEEDING PERIOD	SEEDING TYPE	APPLICATION RATE (LBS/ACRE)
AUGUST 15 - NOVEMBER 01	TALL FESCUE AND ABRILZU RYE	300
NOVEMBER 01 - MARCH 01	TALL FESCUE AND ABRILZU RYE	25
MARCH 01 - APRIL 15	TALL FESCUE	300
APRIL 15 - JUNE 30	HULLED COMMON BERMAIDGRASS	25
JULY 01 - AUGUST 15	TALL FESCUE AND HIRONTOP MILLET OR SORGHUM-SUDAN HYBRIDS	30
MARCH 01 - JUNE 01	SENECA LESPEDEZA (SCARIFIED) AND TALL FESCUE OR WEEDING LOVEGRASS OR HULLED COMMON BERMAIDGRASS	50
MARCH 01 - APRIL 15	TALL FESCUE OR WEEDING LOVEGRASS OR HULLED COMMON BERMAIDGRASS	120
MARCH 01 - JUNE 30	TALL FESCUE AND HIRONTOP MILLET OR SORGHUM-SUDAN HYBRIDS	120
JUNE 01 - SEPTEMBER 01	HIRONTOP MILLET OR SORGHUM-SUDAN HYBRIDS	35
SEPTEMBER 01 - MARCH 01	SENECA LESPEDEZA (UNHULLED, UNSCARIFIED) AND TALL FESCUE OR ABRILZU RYE	70
NOVEMBER 01 - MARCH 01	TALL FESCUE OR ABRILZU RYE	120

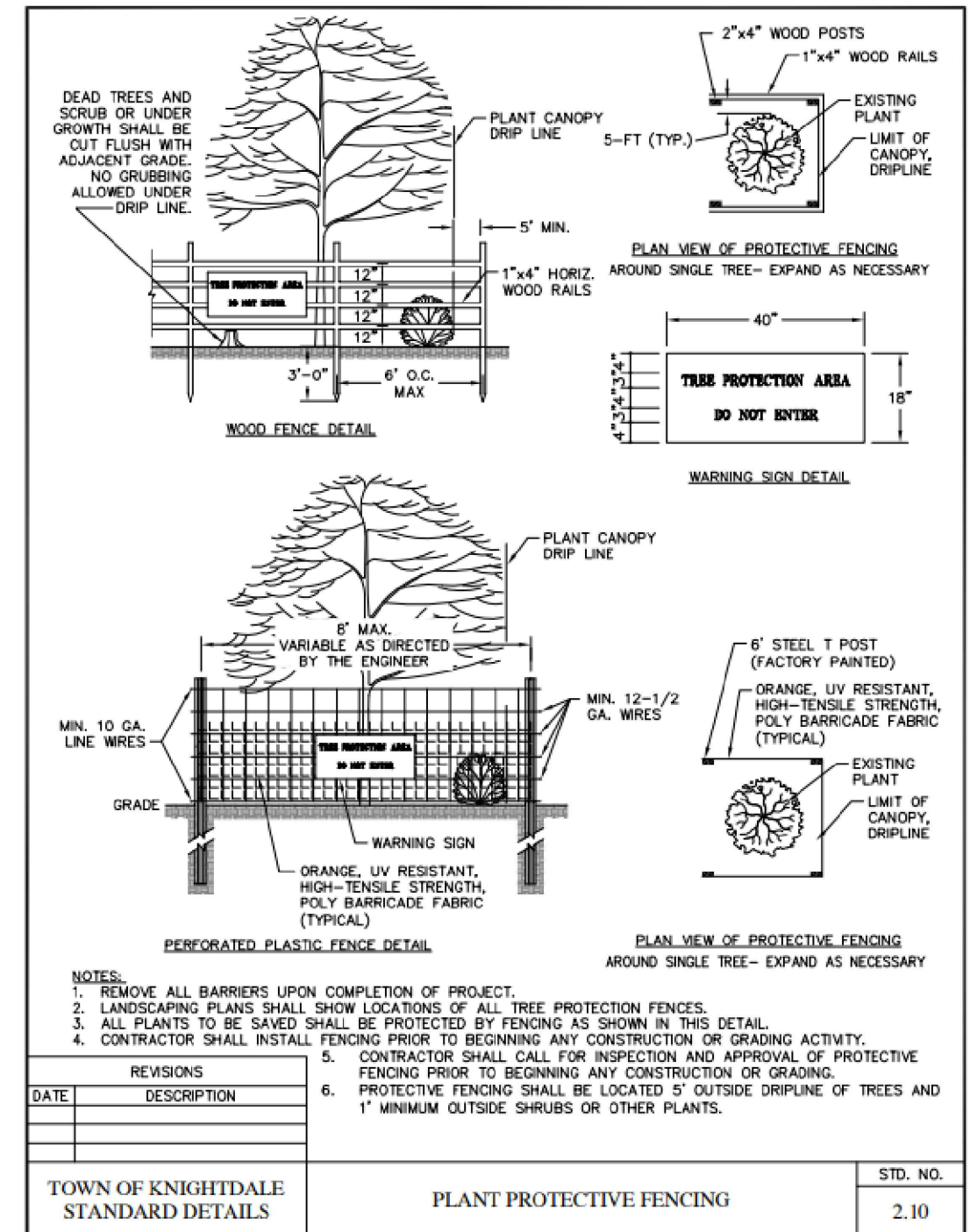
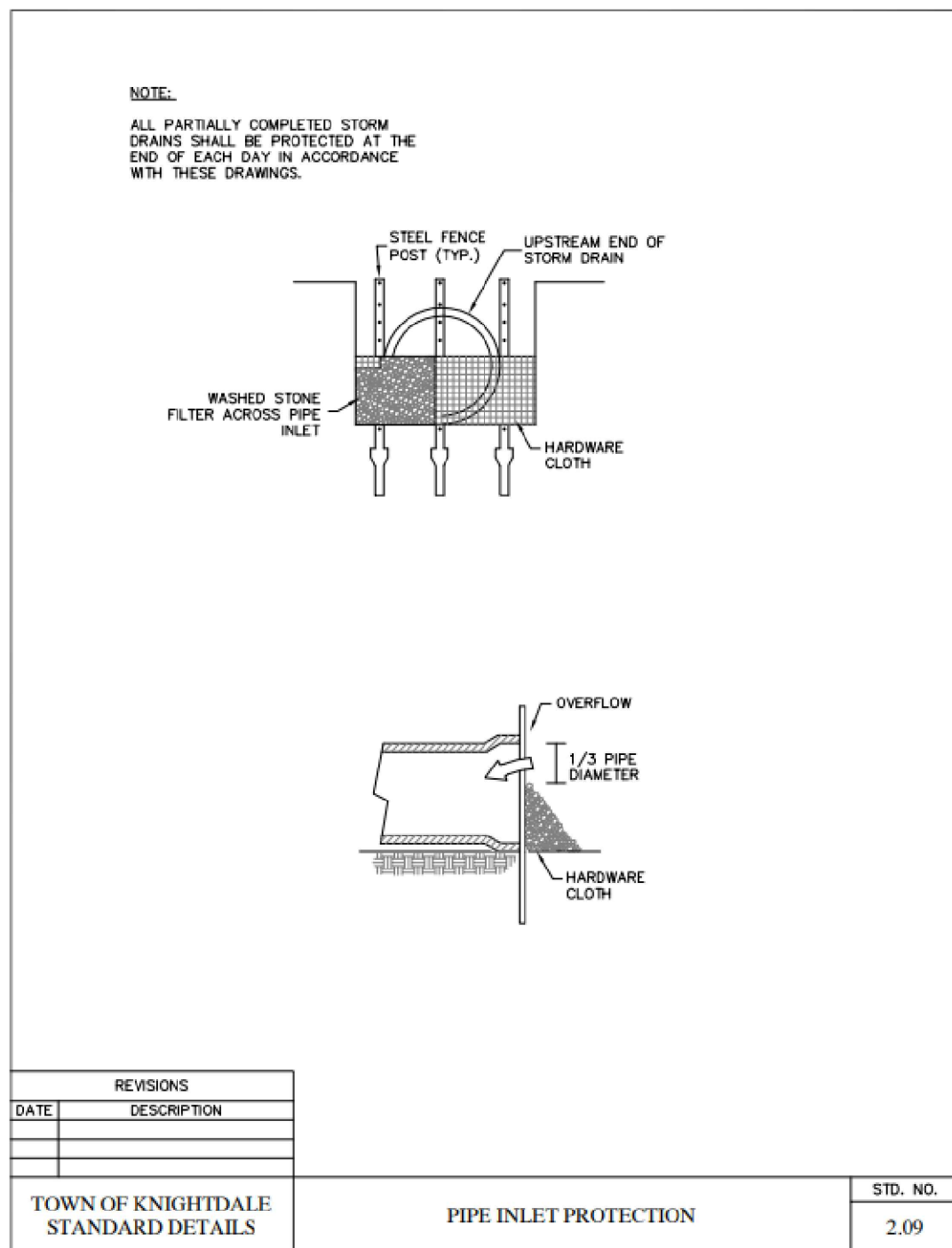
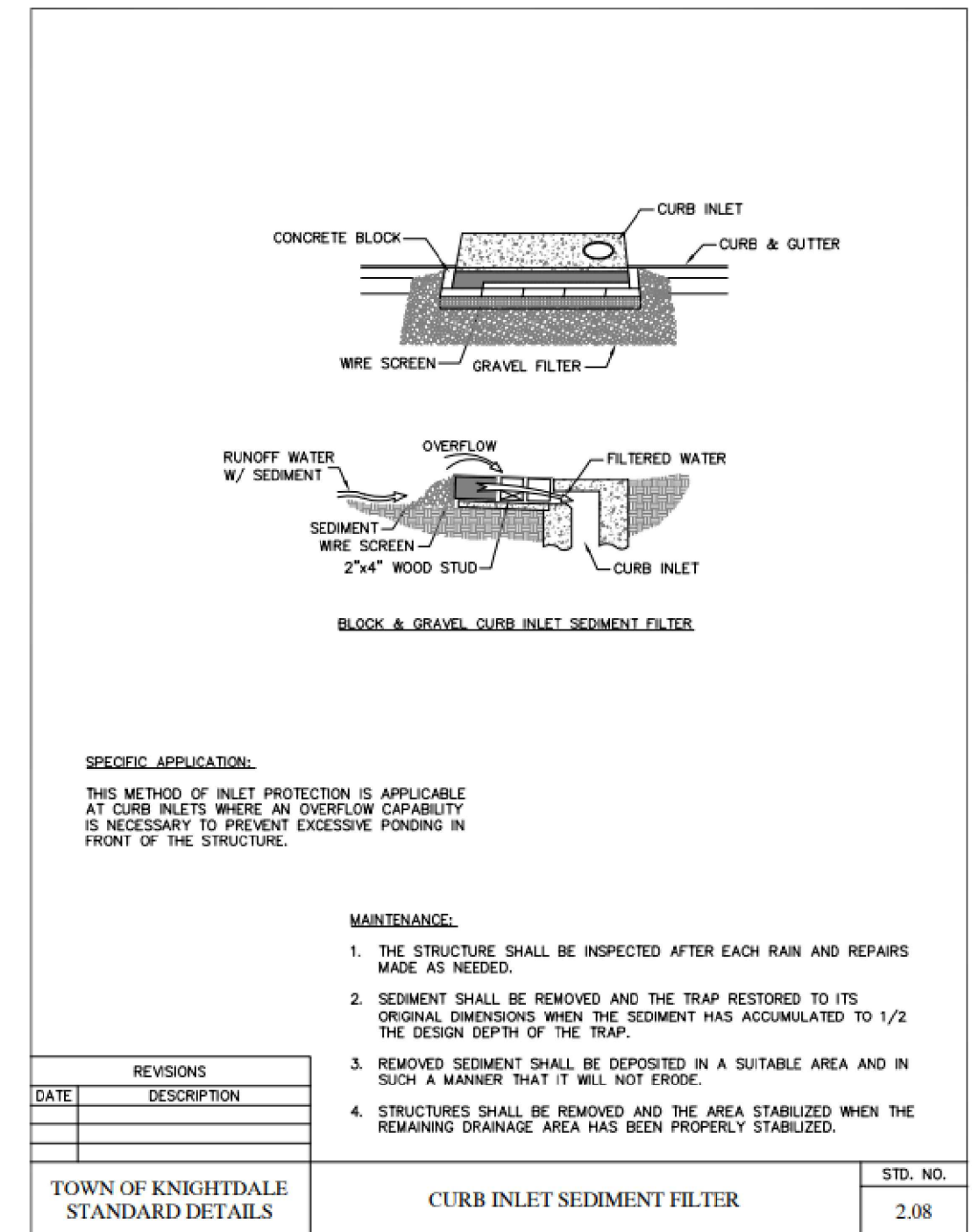
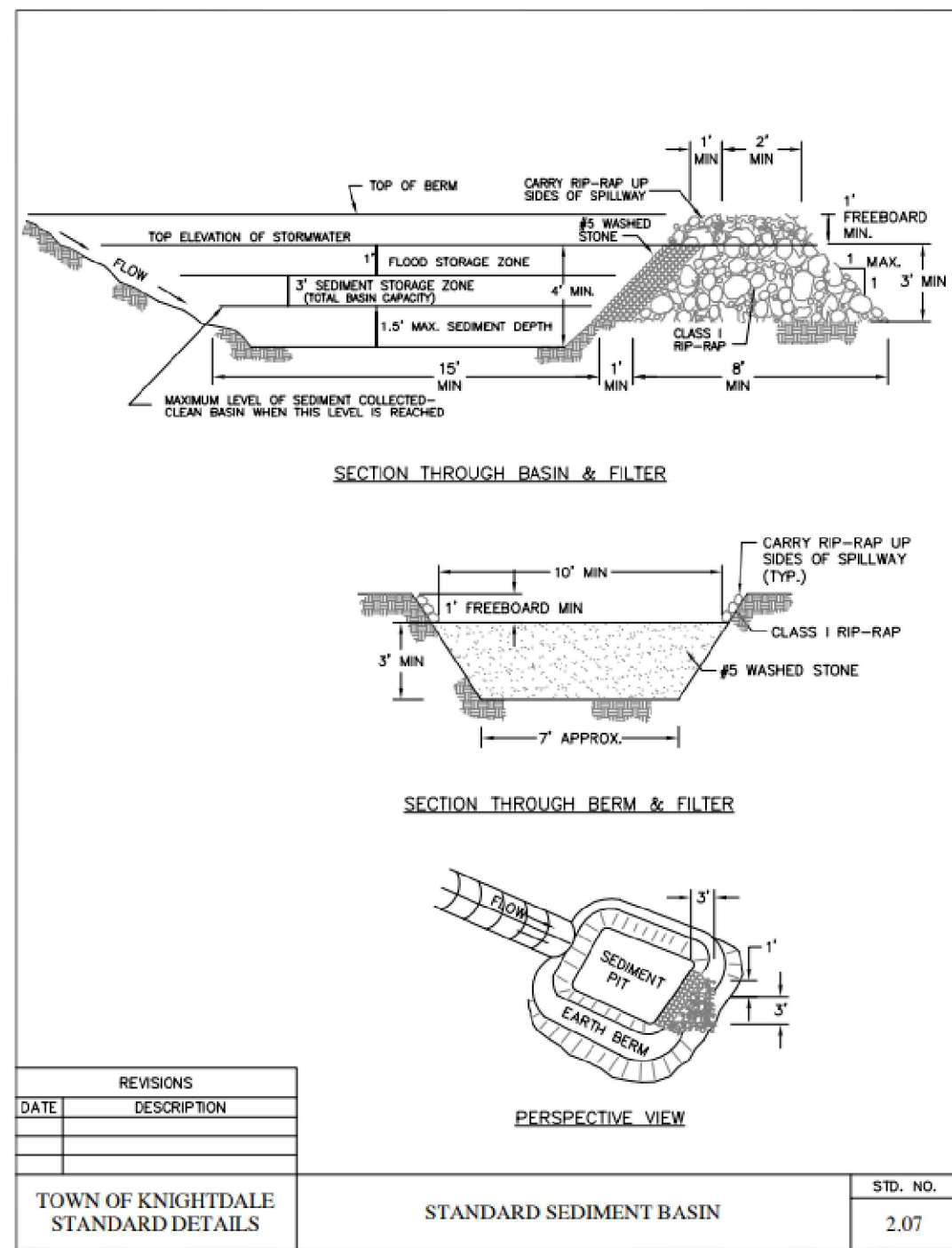
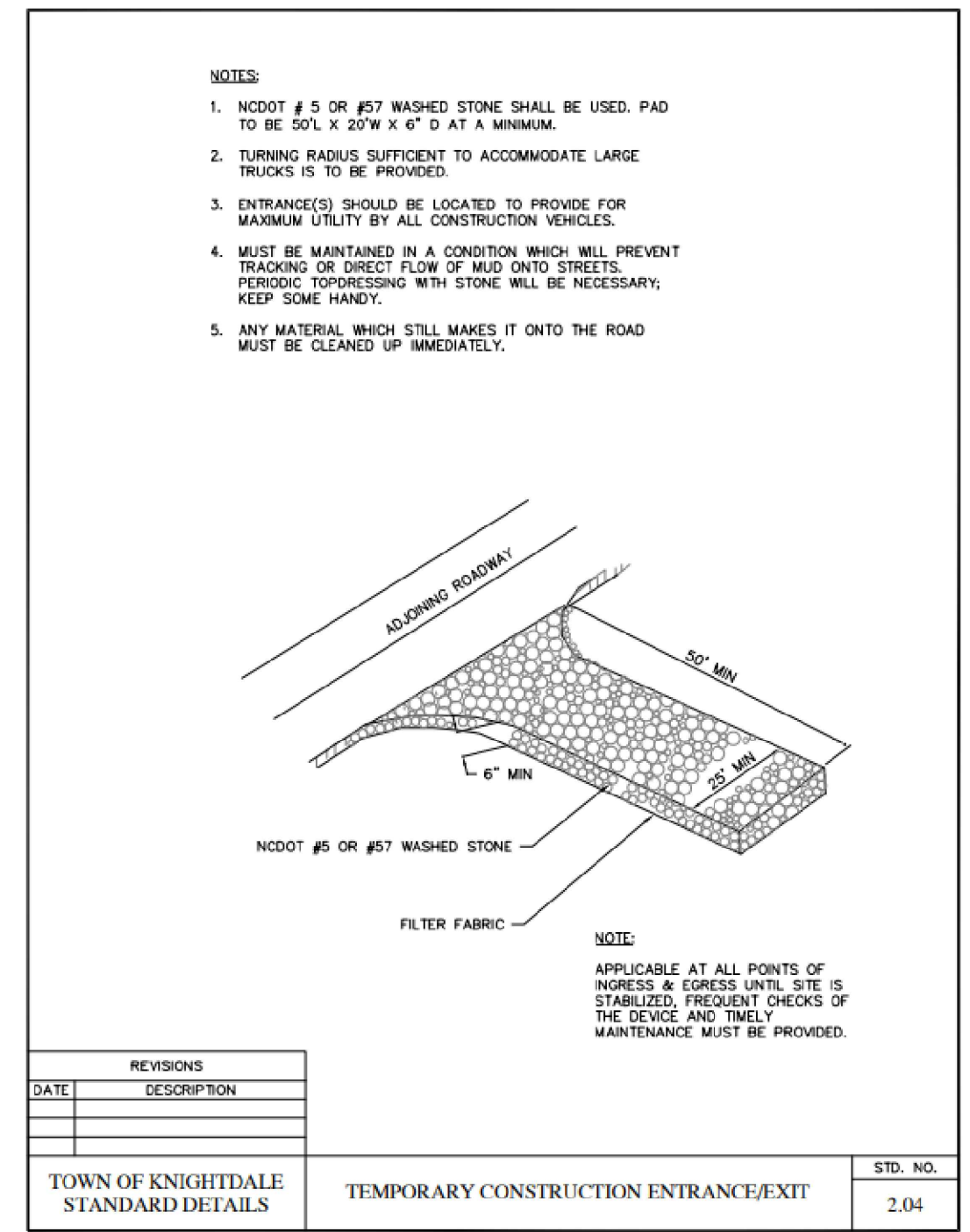
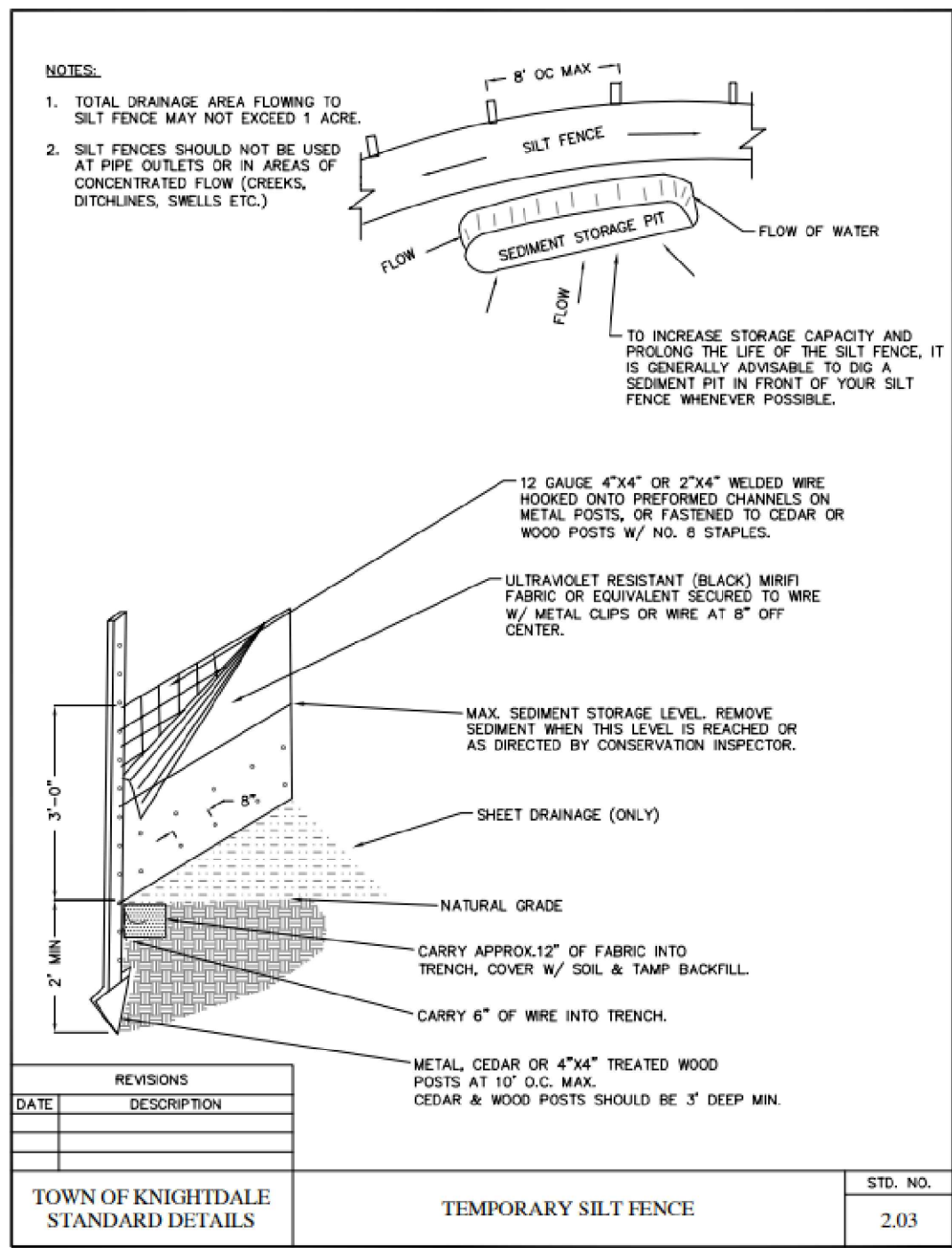
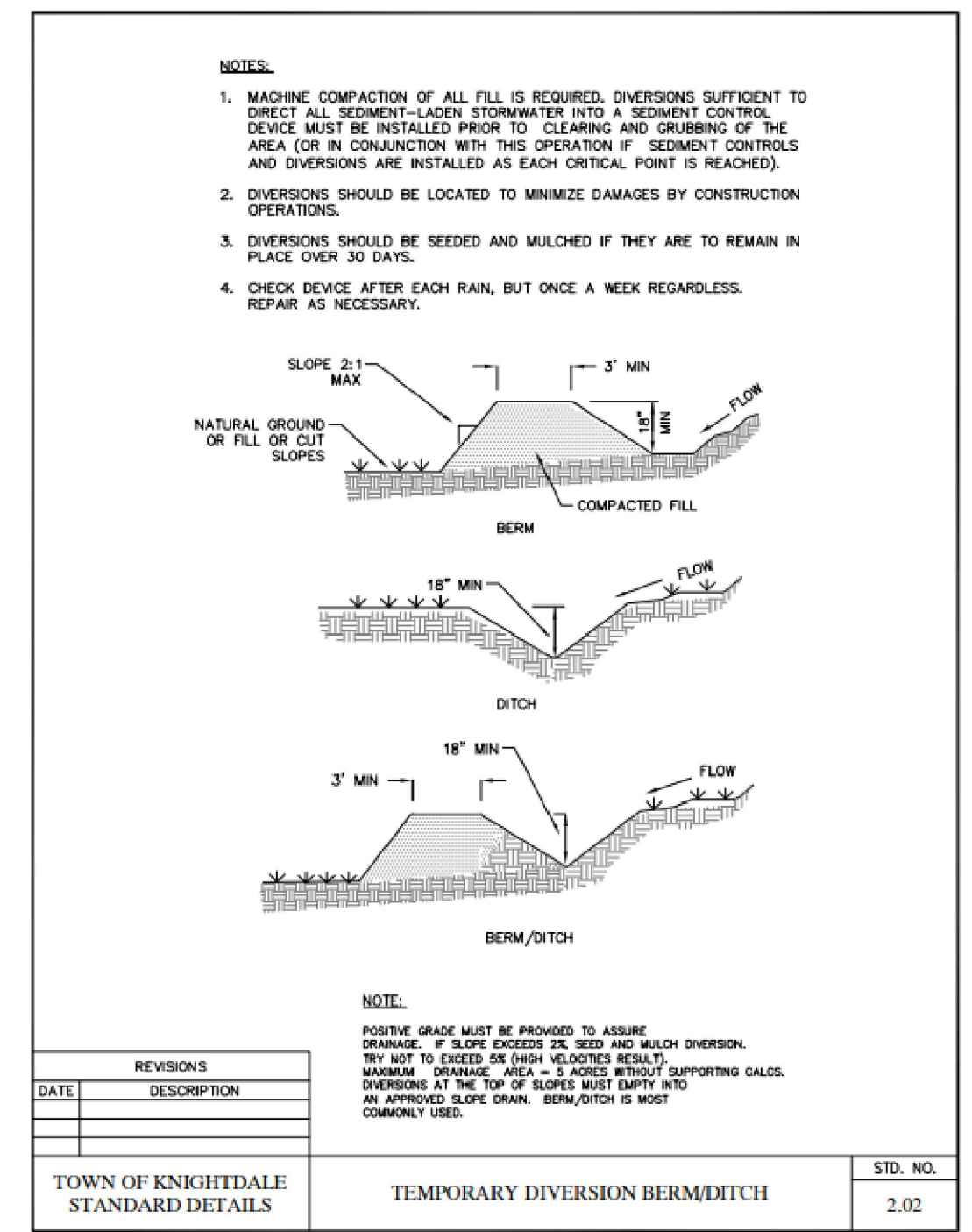
TEMPORARY - RESEED ACCORDING TO OPTIMUM SEASON FOR DESIRED PERMANENT VEGETATION. DO NOT ALLOW TEMPORARY COVER TO GROW OVER 12" IN HEIGHT BEFORE MOWING. OTHERWISE FESCUE MAY BE SHADY OUT. CONSULT CONSERVATION ENGINEER OR SOIL CONSERVATION SERVICE FOR ADDITIONAL INFORMATION CONCERNING OTHER ALTERNATIVES FOR VEGETATION OF DENuded AREAS. THE ABOVE VEGETATION RATES ARE THOSE WHICH DO WELL UNDER LOCAL CONDITIONS; OTHER SEEDING RATE COMBINATIONS ARE POSSIBLE.

GROUND COVER - WHENEVER LAND DISTURBING ACTIVITY IS UNDERTAKEN ON A TRACT COMPRISING MORE THAN ONE (1) ACRE, A GROUND COVER SUFFICIENT TO RESTRAIN EROSION MUST BE PLANTED OR PROVIDED WITHIN 15 WORKING DAYS OR 90 CALENDAR DAYS.

GRADED SLOPES AND FILLS - WITHIN 15 WORKING DAYS OR 30 CALENDAR DAYS, OR COMPLETION OF ANY PHASE OF GRADING, WHICHEVER PERIOD IS SHORTER, SLOPES SHALL BE PLANTED OR OTHERWISE PROVIDED WITH GROUND COVER, DEVICES, OR STRUCTURES SUFFICIENT TO RESTRAIN EROSION.

REVISIONS	DATE	DESCRIPTION

TOWN OF KNIGHTDALE STANDARD DETAILS SEEDING SCHEDULE STD. NO. 2.01



TOWN OF KNIGHTDALE
EROSION CONTROL MAINTENANCE STANDARDS

- Provide a plan detail, construction specifications, and specific maintenance requirements for all proposed sediment and erosion control structures included on the plan. Recommend placing maintenance requirements with the associated construction detail.
- Maintenance and/or cleaning is necessary anytime the device is at 50% capacity. All sediment storage measures will remain on site and functional until all grading and final landscaping of the project is complete.
- As designated by NCGO1 (NCGO1) permitting, self-inspections for erosion and sedimentation control measures are to be performed at least once every seven calendar days and within 24 hours of every rain event of 1 inch or greater. Any needed repairs shall be made immediately to maintain measures as designed.
- Provide the minimum maintenance standards as specified below.

SURVEYOR FLAGS/TAPE/STAKES:
Replace identifiers if damaged or knocked down during development.
Ensure key environmental and/or cultural resources maintain identification.
Colors should adhere to the APWA Uniform Color Code. Use accepted survey symbols and ensure operators understand designations. Utility line owners/operators shall identify the designating firm.

PERMITS/NCGO1 INSPECTIONS BOX:
Confirm box is securely fastened to a post or wall in a visible location in proximity to the construction entrance.
Maintain relevant identification on the exterior of the box.
Ensure paper documents remain dry / legible (lamination, ticket holders, binders, etc.)
Replace any missing documents immediately. Consider placing ties or fasteners if necessary.

RAIN GAUGE:
Check and remove any items from the rain funnel and the debris filter (e.g., dust, bugs and other debris).
Open the rain gauge and remove any foreign objects.
Perform routine maintenance as specified by the manufacturer.
Check that the gauge is not being obstructed from rain capture and is level before and after assembly.

TREE PROTECTION FENCE:
Prune any damaged trees. If damage to protected trees occurs, repair any damage to the crown, trunk, or root system immediately.
Repair roots by cutting off the damaged areas and pointing them with tree paint. Spread peat moss or moist topsoil over exposed roots.
Repair damage to bark by trimming around the damaged area, taper the cut to provide drainage and point with tree paint.
Cut off all damaged tree limbs above the tree collar at the trunk or main branch. Use three separate cuts to avoid peeling bark from healthy areas of the tree.

SILT FENCE:
Should the fabric of a sediment fence collapse, tear, decompose, or become ineffective, replace it promptly.
Remove sediment deposits as necessary to provide adequate storage volume for the next rain and reduce pressure on the fence. Take care to avoid undermining the fence during cleanouts.
Remove all fencing materials and unstable sediment deposits and bring the area to grade and stabilize it after the contributing drainage area has been properly stabilized.

SILT FENCE OUTLET:
Freshen stone when sediment accumulation exceeds 6 inches.
Keep mesh free of debris to provide adequate flow and replace stone as needed to facilitate de-watering.

CONSTRUCTION ENTRANCE:
Maintain the gravel pad in a condition to prevent mud or sediment from leaving the construction site. This may require periodic topdressing with 2-inch stone.
Immediately remove all objectionable materials spilled, washed, or tracked onto public roadways.

SKIMMER:
Confirm skimmer is functional, installed in the correct orientation and has mobility to float on top of the water column.
Ensure rock pad stabilization is present under the skimmer.
Repair any structural deficiencies (e.g., orifice disk, flex hose connection, vent functioning, cracked PVC)

SEDIMENT BASIN:
Basin requires maintenance when the inlet zone (1st quadrant) has been filled with sediment.
Baffle material shall be maintained in good condition for the life of the pond until removal or conversion.
SEDIMENT BASIN / ROLLED EROSION CONTROL PRODUCT:
Inspect initial channel anchoring has been installed correctly, confirm segments are rolled in correct orientation.
Any areas that are damaged or not in close contact with the ground shall be repaired and stapled.
Monitor and repair the RECP as necessary until ground cover is established.

BASIN CONVEYANCES / SLOPE DRAIN / RIP-RAP LINED CHANNEL:
Any erosion of the slope, berm or outlet should be repaired immediately to prevent head cutting back into the slope.
Conveyance should be refreshed if pore space has been compromised. Clogged drains should be flushed out or replaced.
Additional performance measures may be required at conveyance entrance to slow water entering the basin.

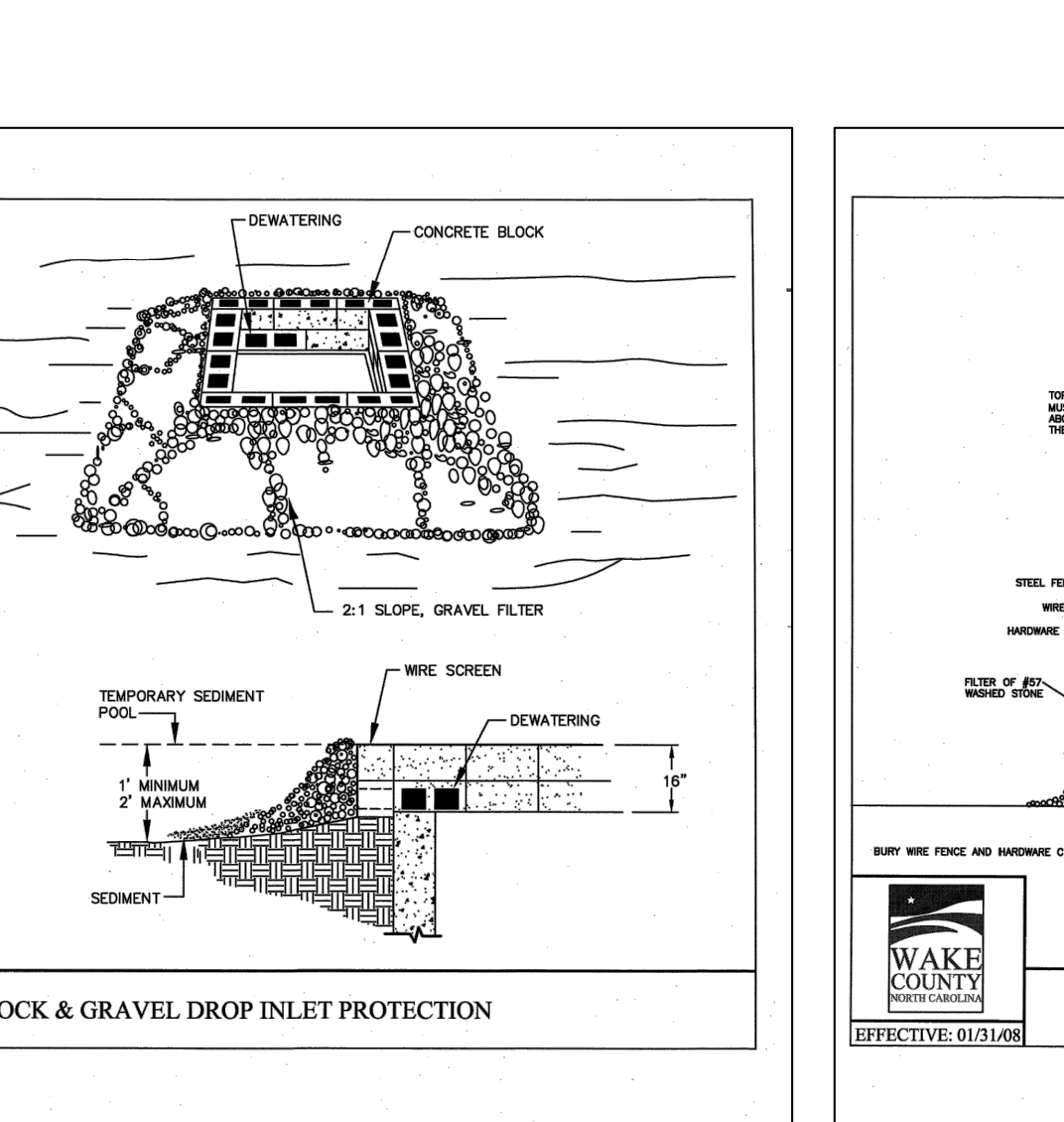
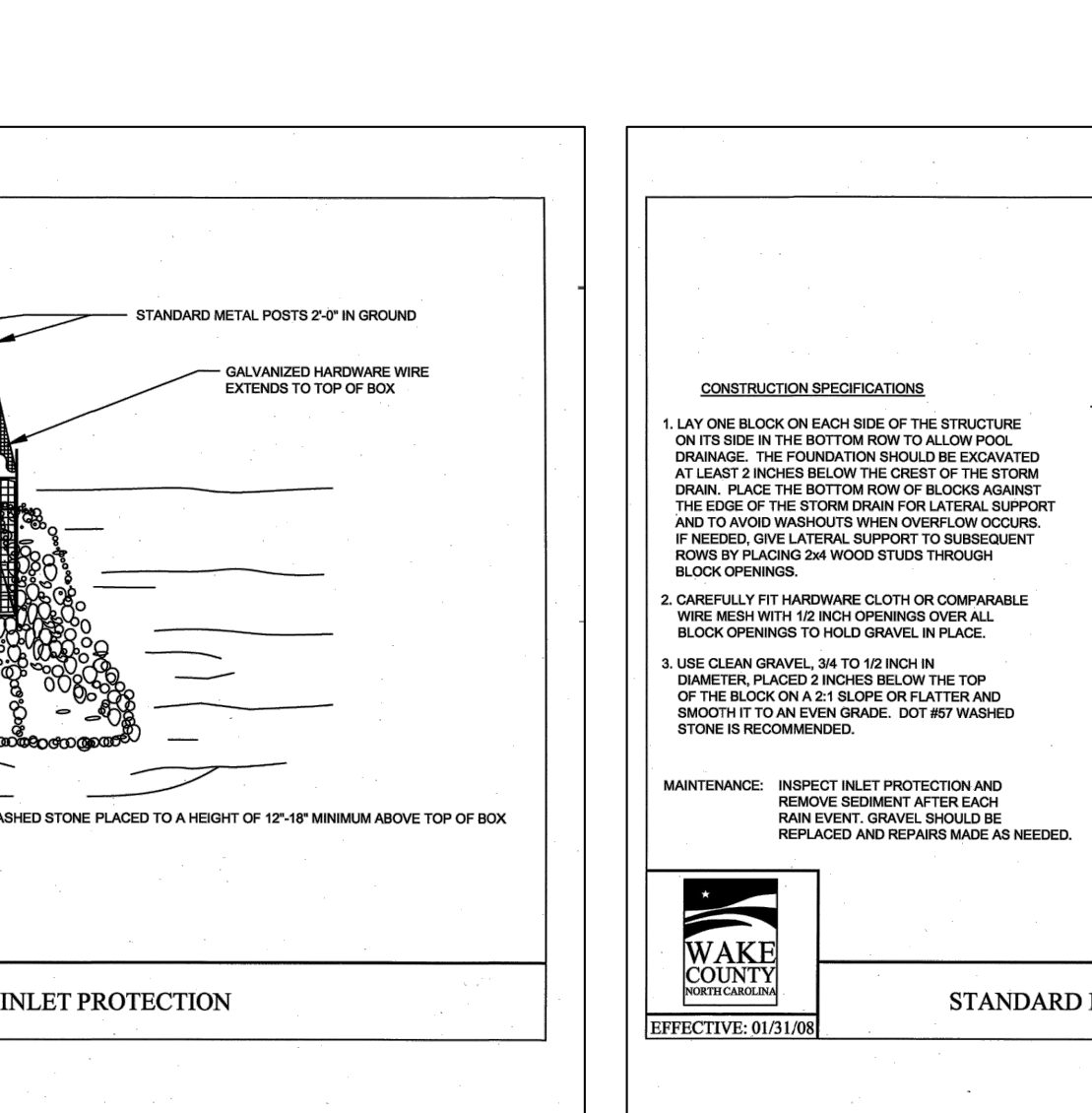
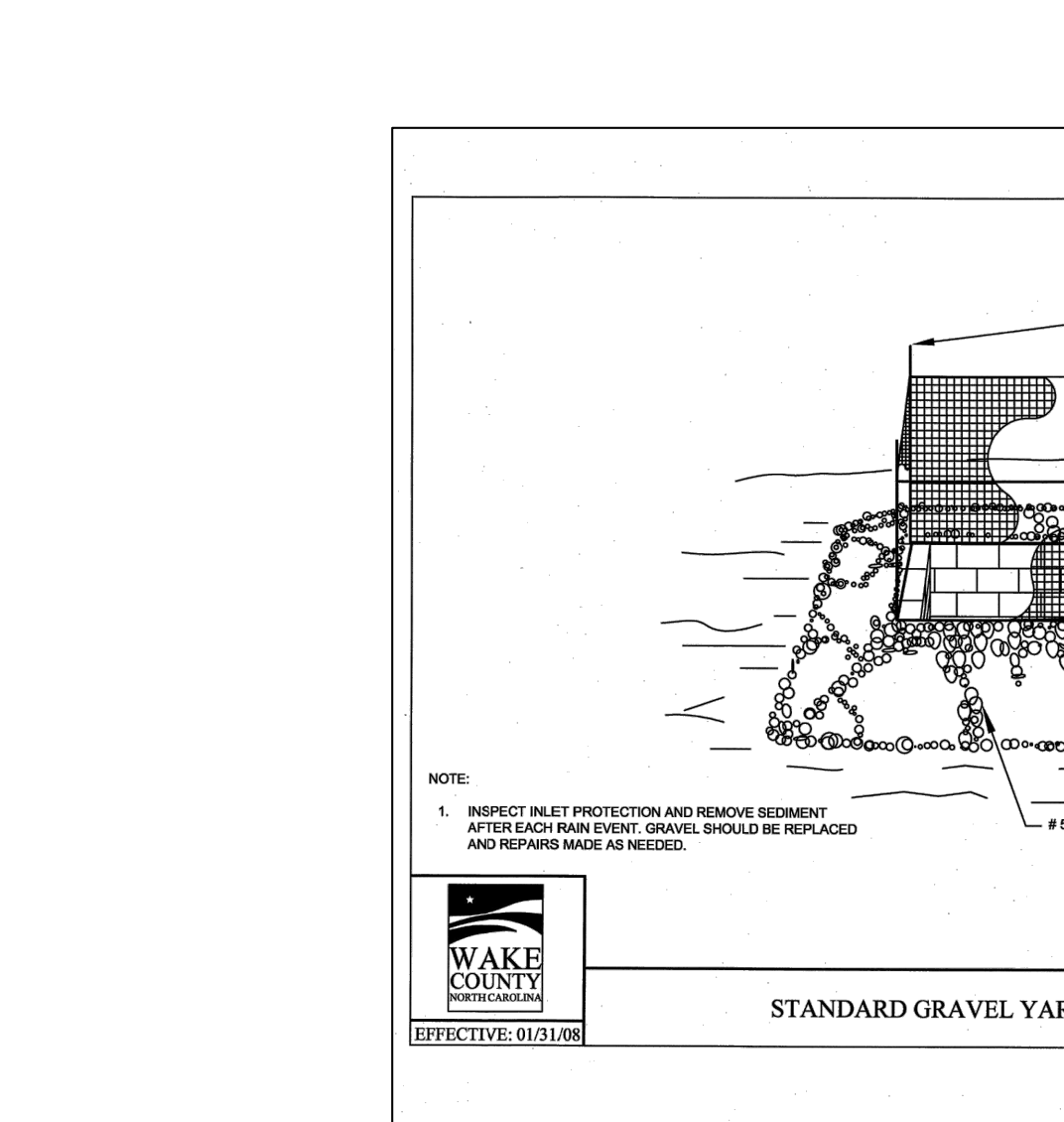
FILTER BAG / DEWATERING ACTIVITIES:
Ensure the dewatering pad is in a good stabilized condition.
Prior to use inspect bags for any defects. Ensure pump hose is secure and a floating intake is being used (when possible).
Follow all manufacturer recommendations for inspection and maintenance guidelines. Replace when trapped sediment has accumulated to 50% of the bag capacity or in accordance with the manufacturer's recommendations.

TEMPORARY DIVERSION DITCHES / ROLLED EROSION CONTROL PRODUCT:
Any areas that are damaged or not in close contact with the ground shall be repaired and stapled.
Monitor and repair the RECP as necessary until ground cover is established.

WITH WATTLES / SILT SOCKS:
Remove sediment accumulation behind measure as necessary to prevent damage to channel vegetation.
Replace wattle/sock if clogged or torn. Reinstall per detail if damaged or dislodged.
If ponding becomes excessive, replace with a larger diameter wattle/sock or a different measure.

WITH CHECK DAMS:
Remove sediment accumulation behind measure as necessary to prevent damage to channel vegetation.
Check for erosion, piping, rock displacement, and correct stone sizes. Repair immediately.
Confirm weir present and located at the center of the device.

INLET PROTECTIONS (PIPE / YARD / DRAIN / CURB):
Inspect inlet protection and remove sediment after each rain event.
Keep free of debris to provide adequate flow and if present replace stone as needed to facilitate de-watering.



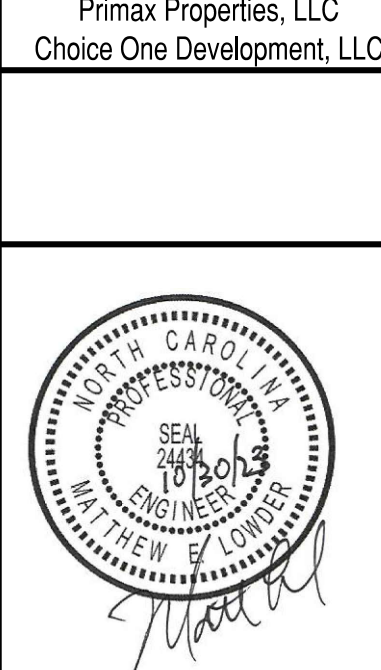
Bowman

Bowman North Carolina Ltd.
4006 BARRETT DR
Suite 104
RALEIGH, NC 27609
Phone: (919) 553-6570
bowman.com

EROSION CONTROL DETAILS

Kiddie Academy & Fresenius Kidney Center
Smithfield Road and McKnight Drive
Knightdale, NC Wake County ZCP-1-23/SEC-000012-2023

Primax Properties, LLC
Choice One Development, LLC



PLAN STATUS	
5/22/23	MASTER PLAN SUBMITTAL
7/10/23	CONSTRUCTION DOCUMENTS
8/25/23	PER TOWN CD REVIEW
10/04/23	PER TOWN CD REVIEW
10/30/23	SIGNATURE SET
DATE	DESCRIPTION

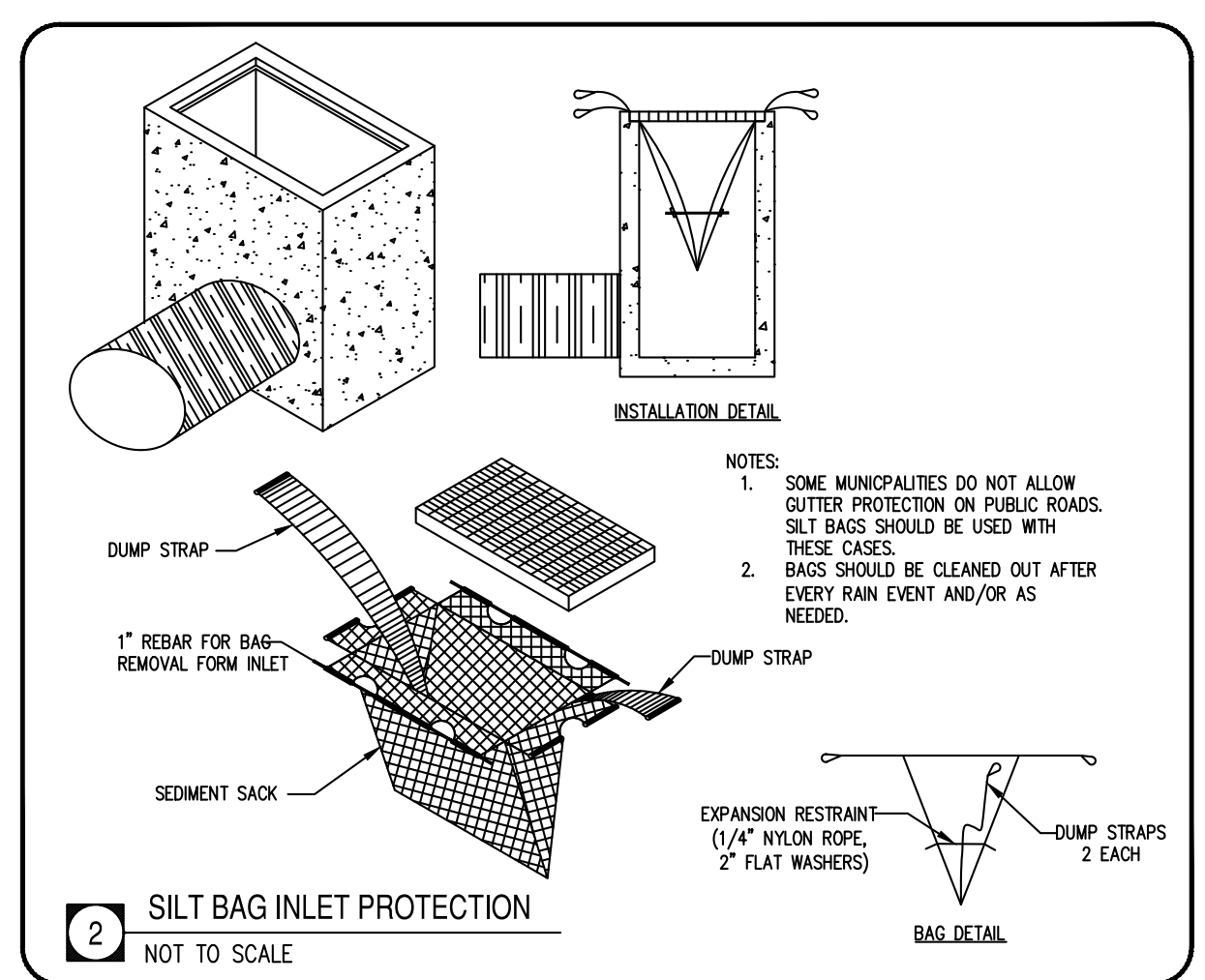
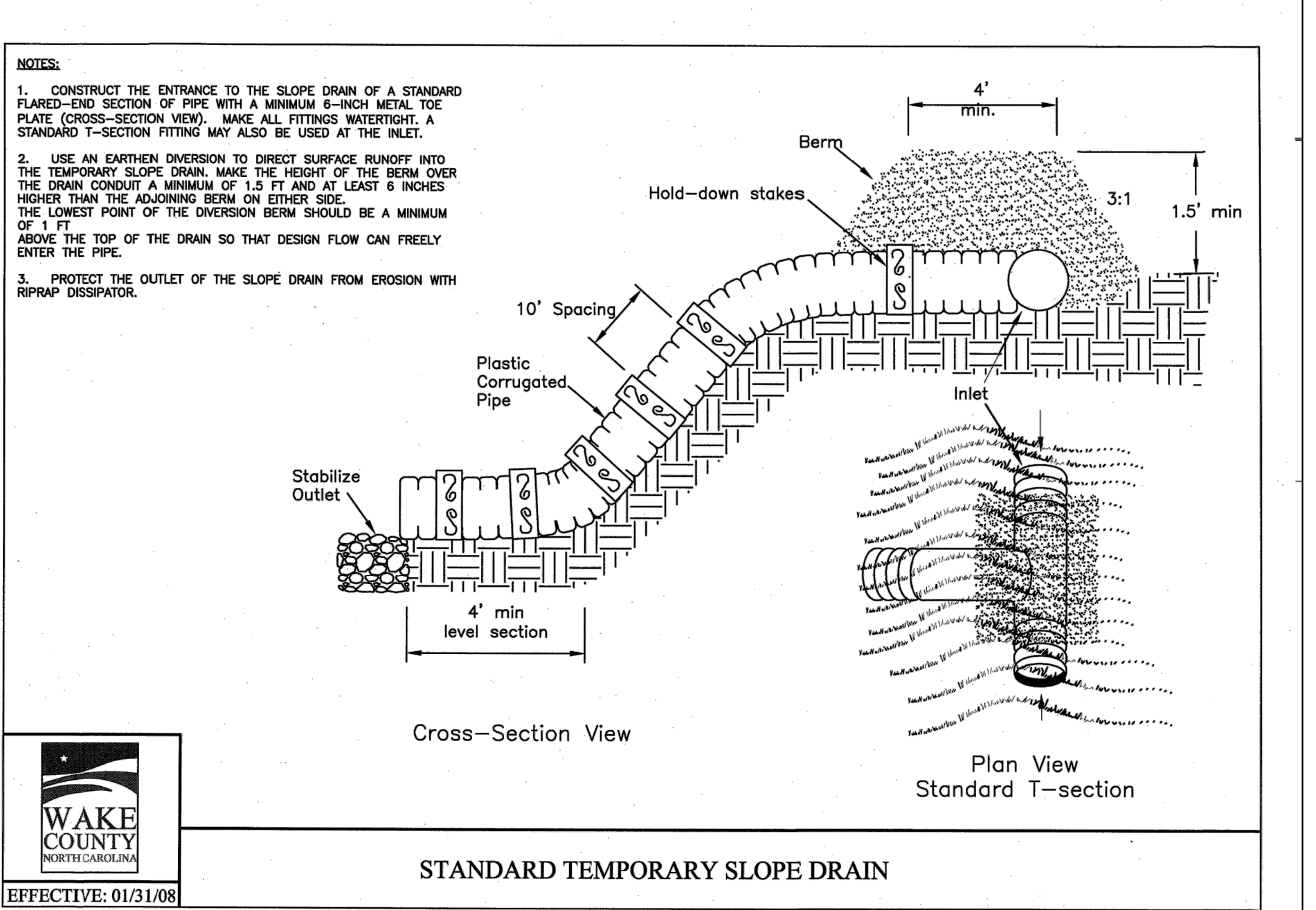
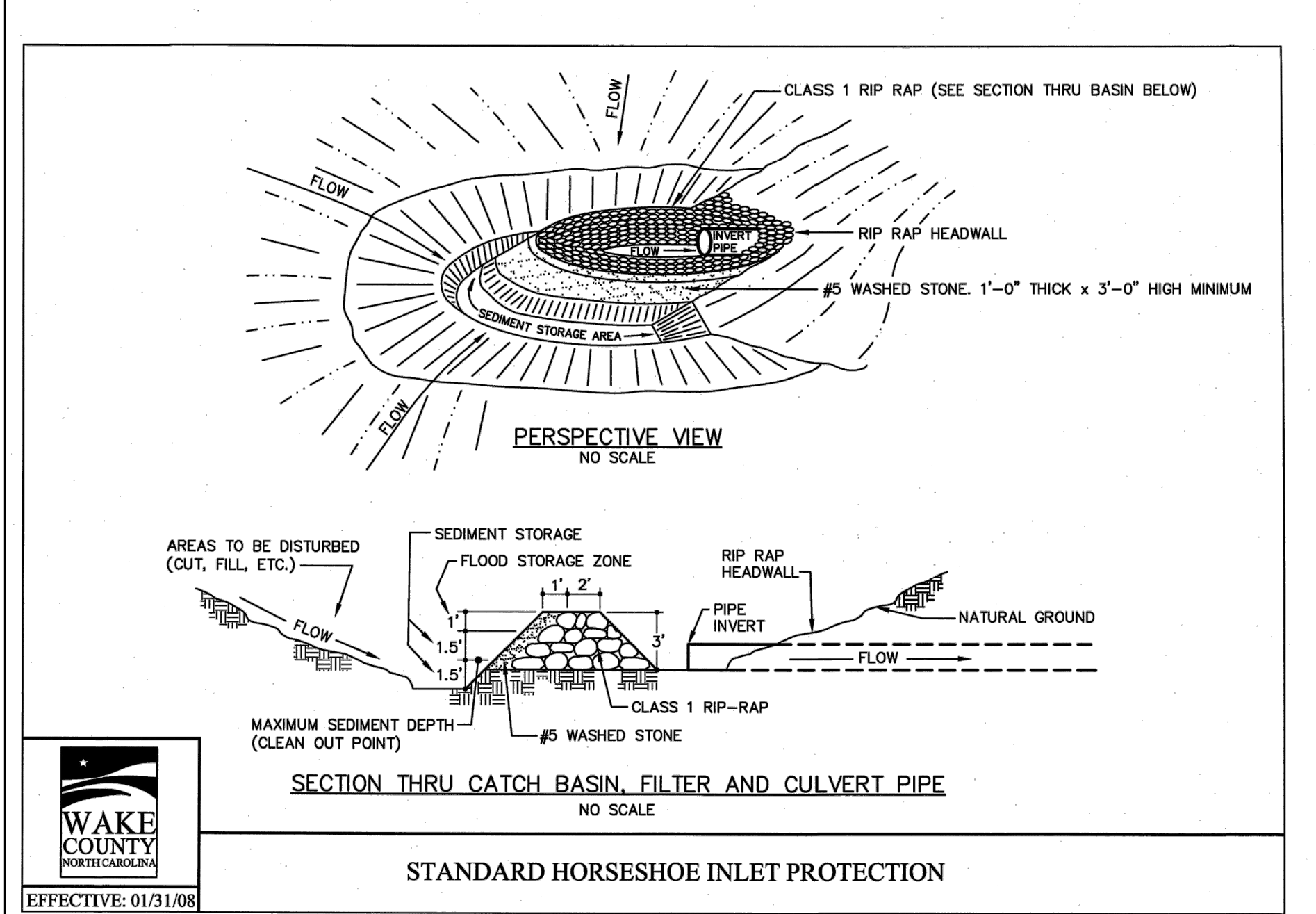
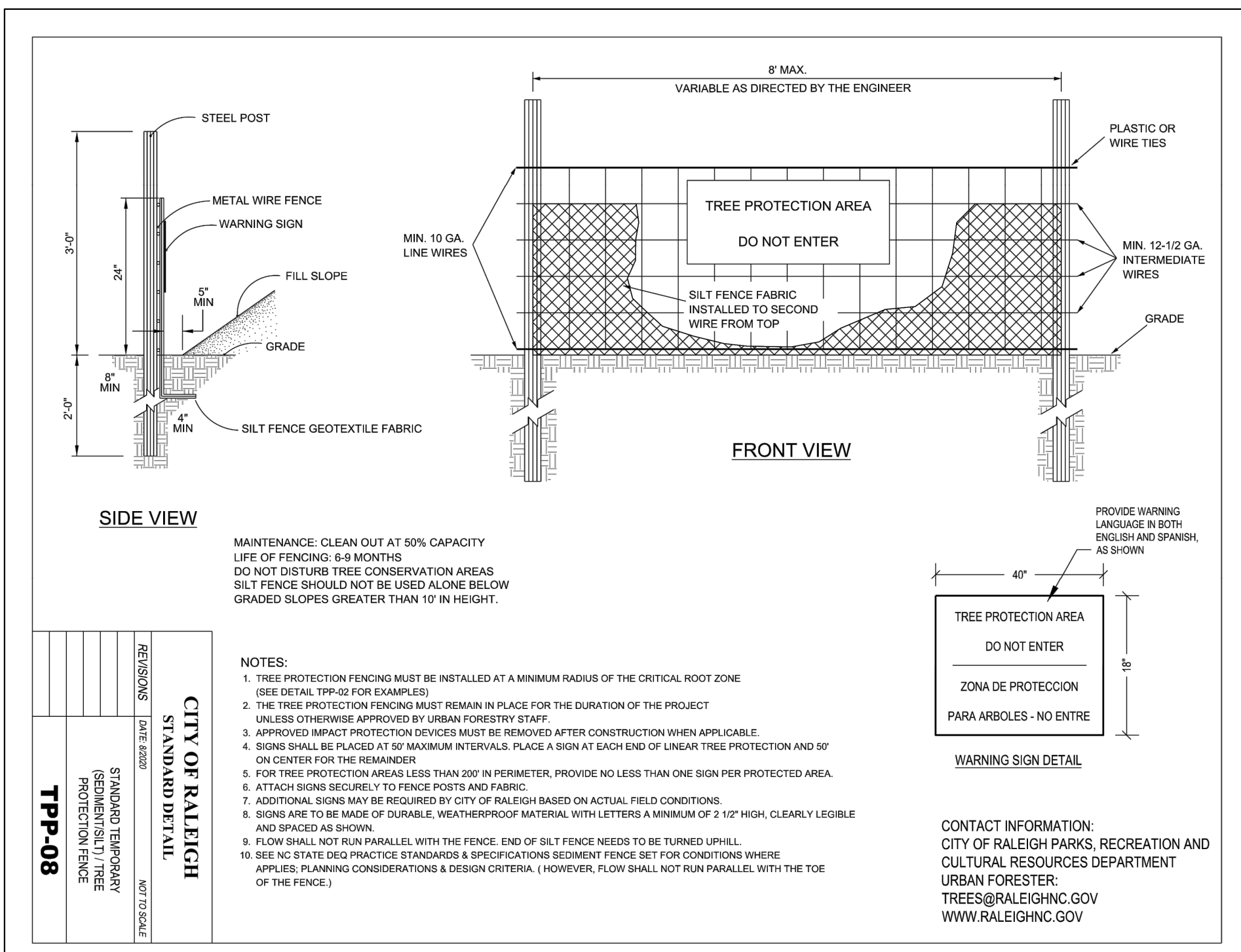
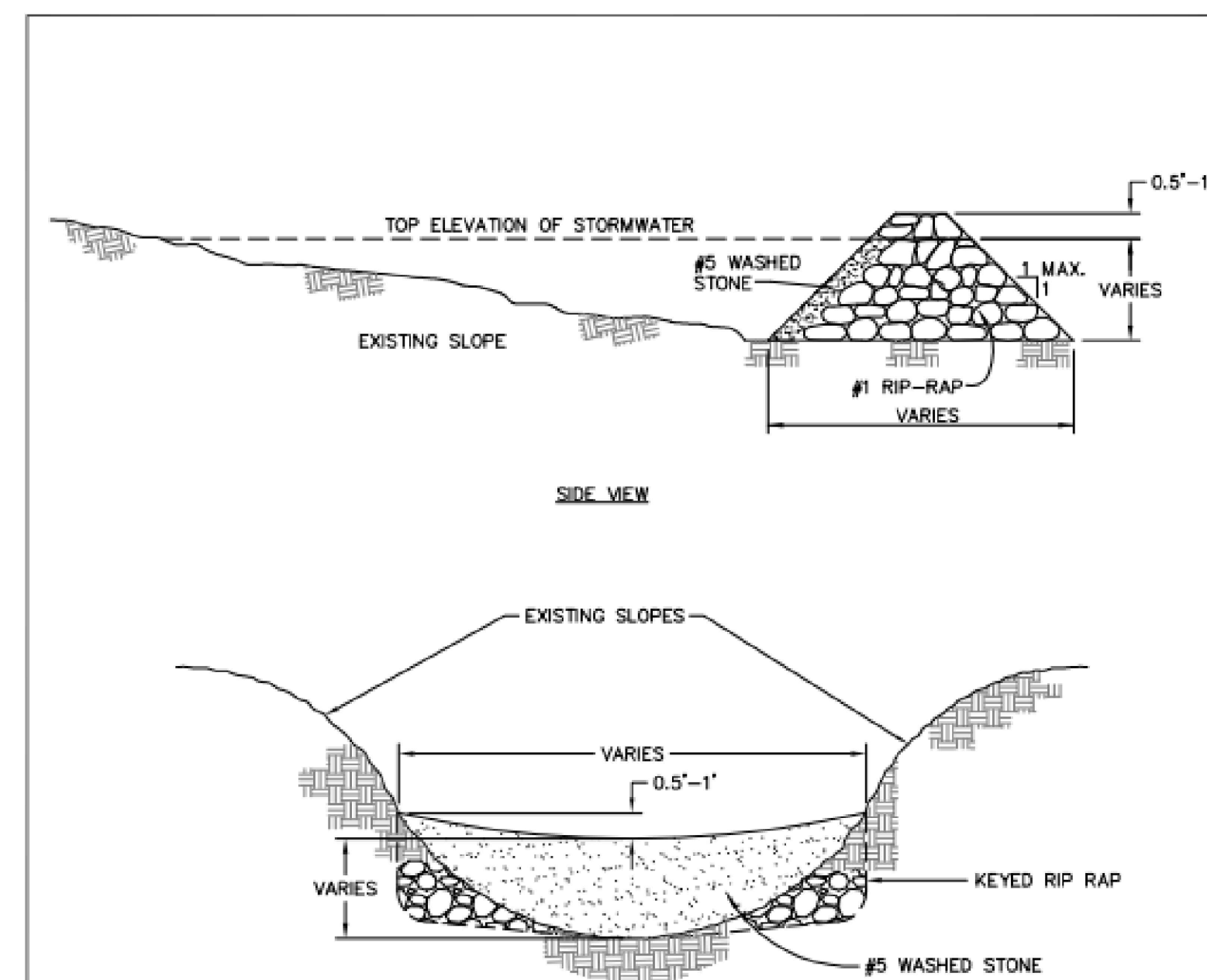
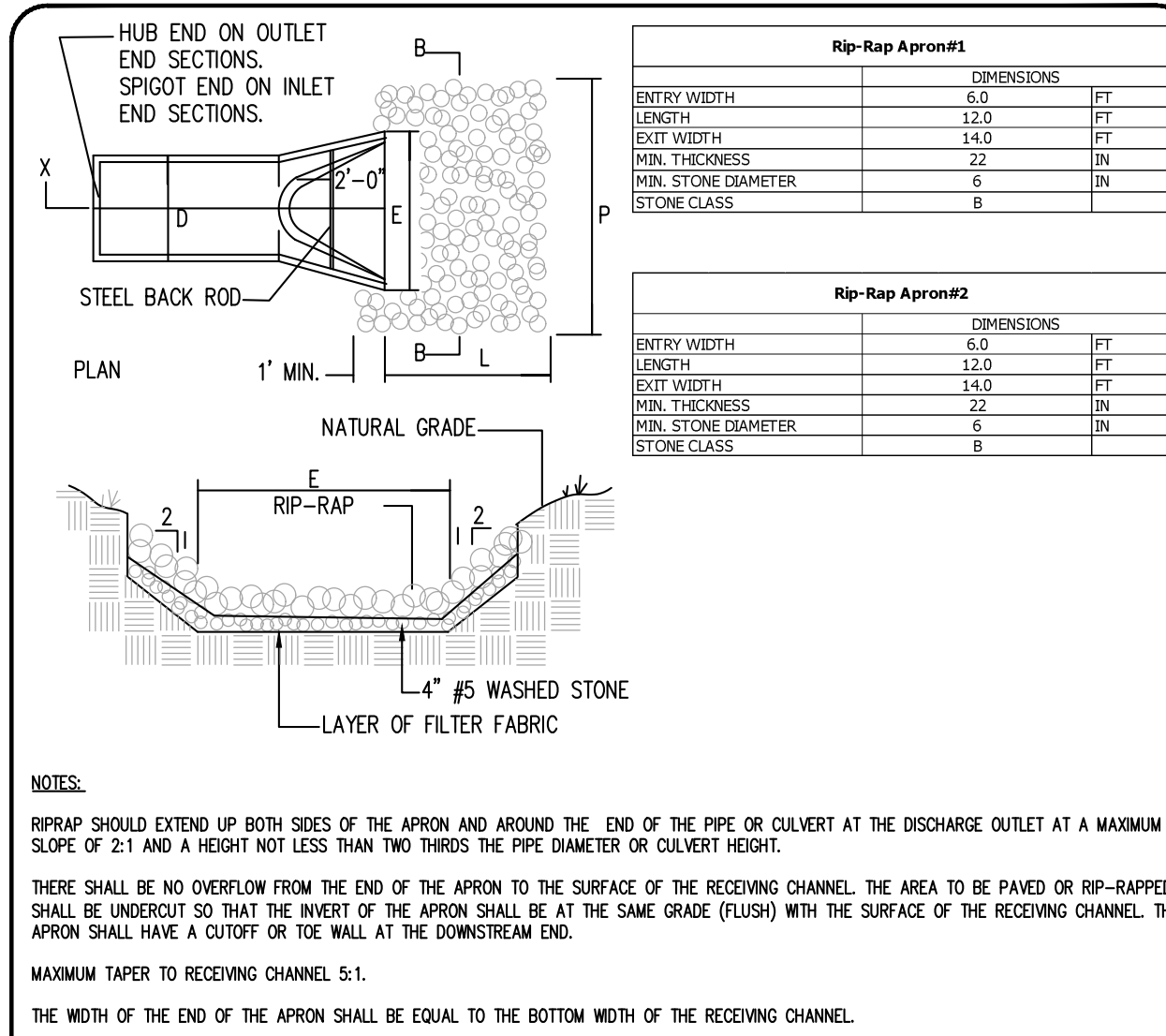
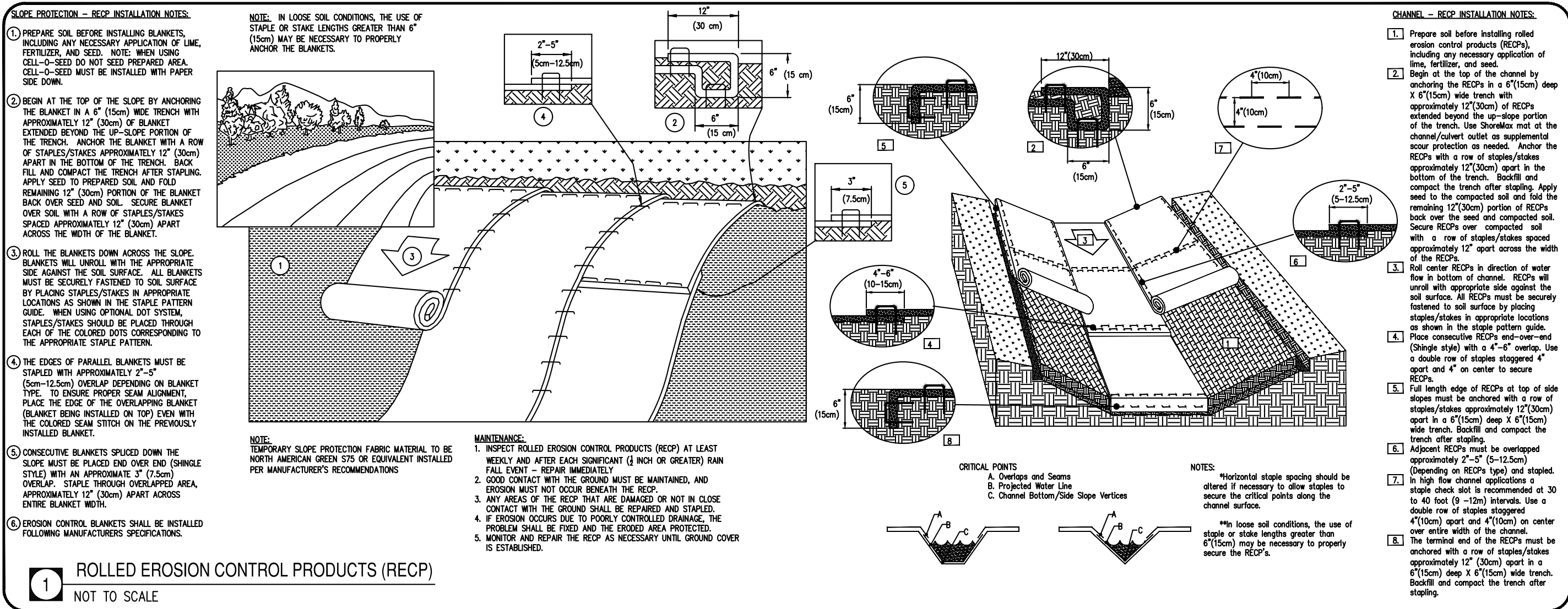
MEL DESIGN	MEL DRAWN	XXX CHKD
SCALE	H:	V:
JOB No.	220133-01-001	
DATE	March 14, 2023	
FILE No.	220133-01-001	

Town Certification:
This design has been reviewed by the Engineer for the Town of Knightdale, and to be the best of my knowledge and belief, it conforms to the requirements established in the Standard Specifications of the Town of Knightdale.

By: _____ Date: _____
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SCALE: H: V:
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FILE No. 220133-01-001

SHEET C6.2

CITY OF RALEIGH
CURB RAMPS
GENERAL NOTES

- CITY OF RALEIGH STANDARD CURB RAMPS HAVE BEEN DEVELOPED IN ACCORDANCE WITH THE AMERICANS WITH DISABILITIES ACT (ADA) AND PUBLIC RIGHT OF WAY ACCESS GUIDELINES (PROWAG).
- CURB RAMPS SHALL BE PROVIDED AT LOCATIONS AS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER. SIDEWALK ACCESS RAMPS SHALL BE LOCATED AS INDICATED IN THE DETAIL, HOWEVER, THE LOCATION MAY BE ADJUSTED IN COORDINATION WITH THE CITY OF RALEIGH WHERE EXISTING LIGHT POLES, FIRE HYDRANTS, DROP INLETS, ETC. AFFECT PLACEMENT.
- DOUBLE WHEELCHAIR RAMPS ARE TO BE INSTALLED AT ALL PUBLIC STREET INTERSECTIONS WHERE SIDEWALK IS REQUIRED.
- THE WALKING SURFACE SHALL BE SLIP RESISTANT. THE COLOR FOR THE DETECTABLE WARNING AREA SHALL BE YELLOW FOR CONTRAST.
- NO SLOPE ON THE SIDEWALK ACCESS RAMP SHALL EXCEED 11/FT (12:1) IN RELATIONSHIP TO THE GRADE OF THE STREET.
- IN NO CASE SHALL THE WIDTH OF THE SIDEWALK ACCESS RAMP BE LESS THAN 48" ALL RAMPS SHALL BE INSTALLED THE SAME WIDTH AS THE SIDEWALK.
- USE CLASS A (3000 PSI) CONCRETE WITH A SIDEWALK FINISH IN ORDER TO OBTAIN A ROUGH NONSKID SURFACE.
- A 1/2" EXPANSION JOINT INSTALLED FULL DEPTH WILL BE REQUIRED WHERE THE CONCRETE SIDEWALK ACCESS RAMP JOINS THE CURB AND ALSO WHERE NEW CONCRETE ABUTS EXISTING CONCRETE.
- CURB RAMPS SHOULD BE PLACED PARALLEL TO THE DIRECTION OF TRAVEL.

CITY OF RALEIGH STANDARD DETAIL	
REVISIONS	DATE
	03/03
	NOT TO SCALE
CURB RAMP NOTES	
T-20.01.8	

TYPICAL FOUNDATION FOR WOOD SUPPORTS

WOOD POST MODIFICATIONS FOR BREAKAWAY FEATURE

POST SIZE (IN.)	HOLE DIA. (IN.)
4" x 4"	1 1/2"
4" x 6"	2"
6" x 6"	2"

NOTES:

- ALL WOOD POSTS LARGER THAN 4" x 4" SHALL BE MADE BREAKAWAY BY DRILLING TWO HOLES CENTERED AT 4" AND 18" ABOVE THE GROUNDLINE AND PERPENDICULAR TO THE ROADWAY.
- ALL SUPPORTS WITHIN THE CLEAR ZONE SHALL BE BREAKAWAY UNLESS PROTECTED.

WARNING UNSAFE TO ENTER

Customization Area

Signs should be installed on 4" x 4" (min.) treated wooden post in a conspicuous location.
Signs should have an aluminum backing material.
Signs should contain the above symbols as applicable.
Signs should always include the following additional information:

- Name of Owner/Party responsible for maintenance
- Owner/Responsible party contact telephone
- Knightdale Stormwater Hotline Telephone: 919-217-2255

Owner/Responsible Party may submit custom signage for approval.
Signs must be properly maintained to ensure all graphics stay legible.

SP1C:	1.02 SCM Identification Sign	Drawing Type:	Detail	Drawn:	PB	TOWN OF KNIGHTDALE STANDARD DETAILS
FILE:	Stormwater Control Measure Signage Detail	Scale:	N/A	Issue:	11-03-2020	

TYPE N-4

TYPE N-4A

CITY OF RALEIGH STANDARD DETAIL

REVISIONS	DATE
	02/02
	NOT TO SCALE
CURB RAMPS (NEW DEVELOPMENT)	
T-20.01.4	

TYPICAL FIRE LANE PAVEMENT MARKING DETAIL

NO PARKING FIRE LANE

MINIMUM 8" HIGH YELLOW LETTERS (THERMOPLASTIC)

4" SOLID YELLOW LINE (THERMOPLASTIC)

REVISIONS	DATE	DESCRIPTION	STD. NO.
			3.31

TOWN OF KNIGHTDALE STANDARD DETAILS

HI-VISIBILITY CROSSWALK

STANDARD CROSSWALK

GENERAL NOTES

- THE MINIMUM WIDTH OF STANDARD CROSSWALKS TO 1.0 METERS. THE MINIMUM WIDTH OF HI-VISIBILITY CROSSWALKS IS 3 METERS.
- CENTER CROSSWALKS TO THEIR CORRESPONDING WHEELCHAIR RAMPS, BUT DO NOT SET THEM WITHIN THE INTERSECTION AREA ESTABLISHED BY BISECTING THE INTERSECTION RADIUS.
- PLACE STOP BARS A MINIMUM OF 1.0 METERS FROM NEAREST CROSSWALK LINE, BUT NOT WITHIN THE AREA OF A WHEELCHAIR RAMP. PLACE STOP BARS PARALLEL TO CROSSWALK LINES. NOT CAN BE PLACED PERPENDICULAR TO TRAVEL LINES.
- COORDINATE PLACEMENT OF CROSSWALKS IN ALL CASES WITH THE LOCATION OF WHEELCHAIR RAMPS. (SEE SIGNAL PLANS).

DETAIL 1

DETAIL 2

DETAIL 3

DETAIL 4

DETAIL 5

GENERAL NOTES

- PLACEMENT OF STOP BARS AT NON-SIGNALIZED INTERSECTIONS IS OPTIONAL. USE STOP BARS AT SIGNALIZED INTERSECTIONS (SEE STD. DET. 1005.04 OR SHEET 2 OF 2).
- USE STOP BARS WHERE IT IS IMPORTANT TO INDICATE THE POINT, BEHIND WHICH VEHICLES ARE REQUIRED TO STOP, IN COMPLIANCE WITH A STOP SIGN OR TRAFFIC SIGNAL.
- PLACE STOP BARS AT THE DESIRED STOPPING POINT, NO LESS THAN 4 FEET AND NO MORE THAN 30 FEET FROM THE NEAREST EDGE OF THE INTERSECTING ROADWAY. TEN FEET IS AN OFTEN USED SETBACK DISTANCE.
- CONTINUE YELLOW EDGE LINES AROUND MEDIUM CROSSOVER RADIUS.

BELSON OUTDOORS

Model # VP60X24

Dimension Sheet

VICTORIAN SERIES SQUARE CONCRETE PLANTERS

627 Amersale Drive
Naperville, IL 60563
Phone: (800) 323-5664
Fax: (630) 897-0573
sales@belson.com

60" x 60" x 24"

49.5" x 43.2"

www.belson.com

Bowman

Bowman North Carolina Ltd.
4006 BARRETT DR
Suite 104
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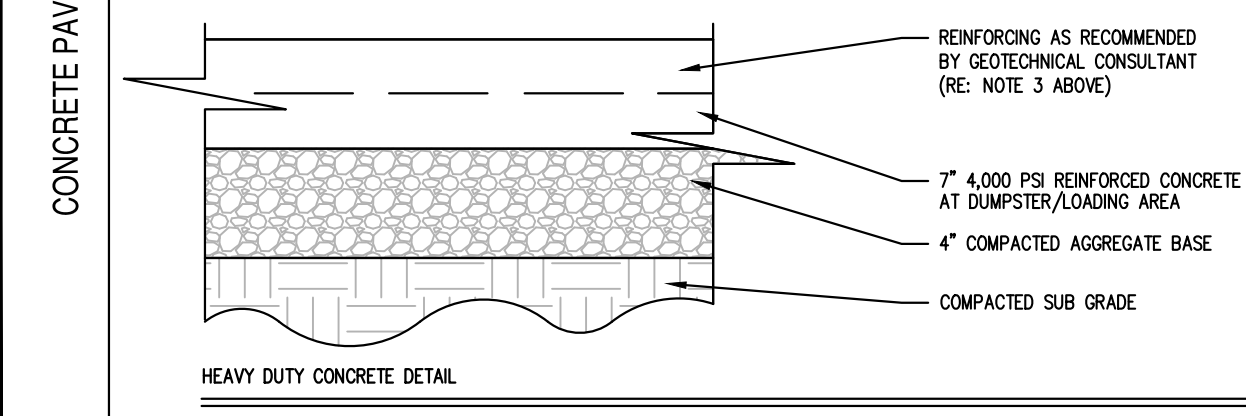
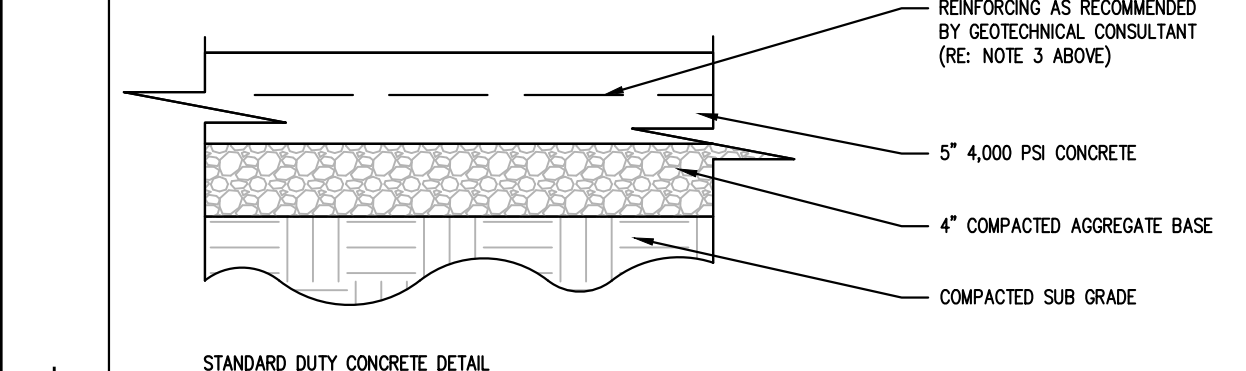
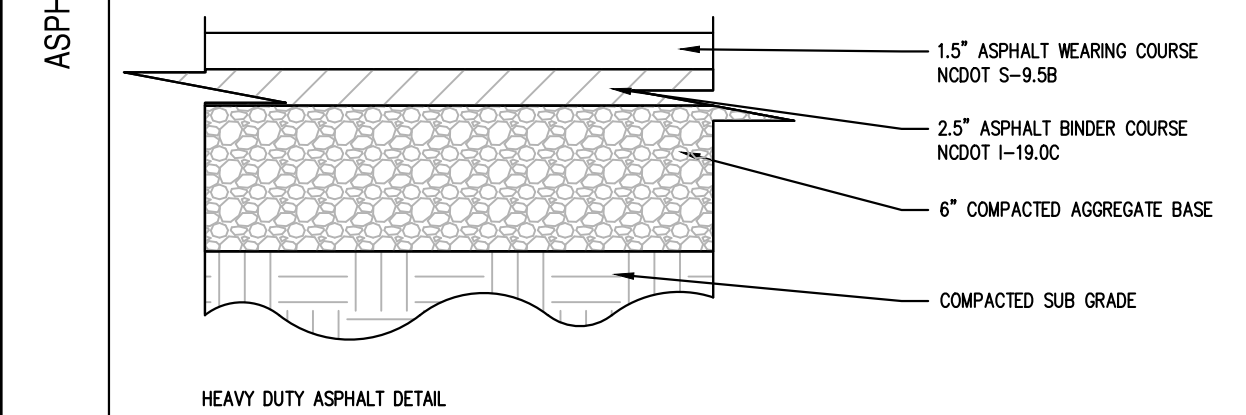
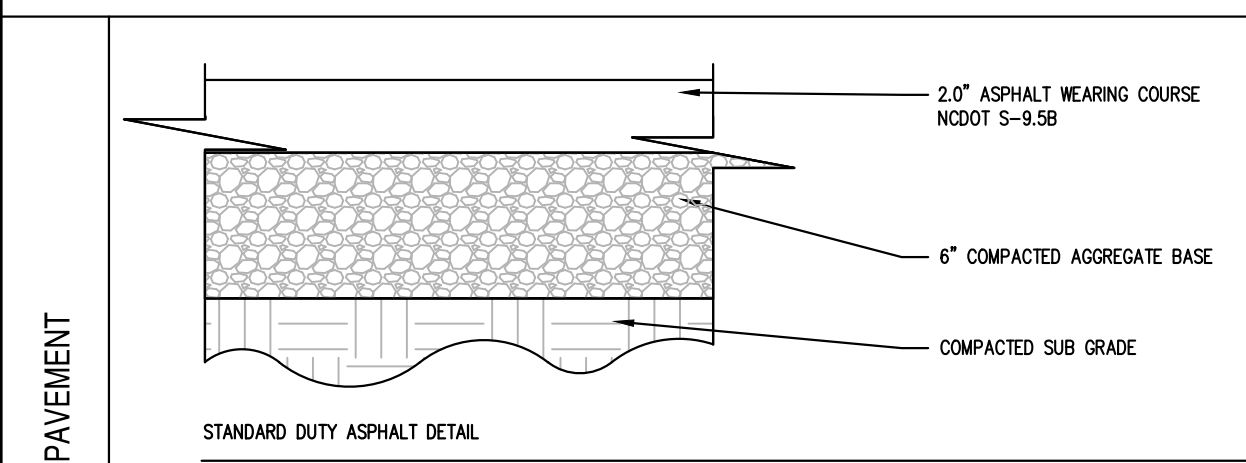
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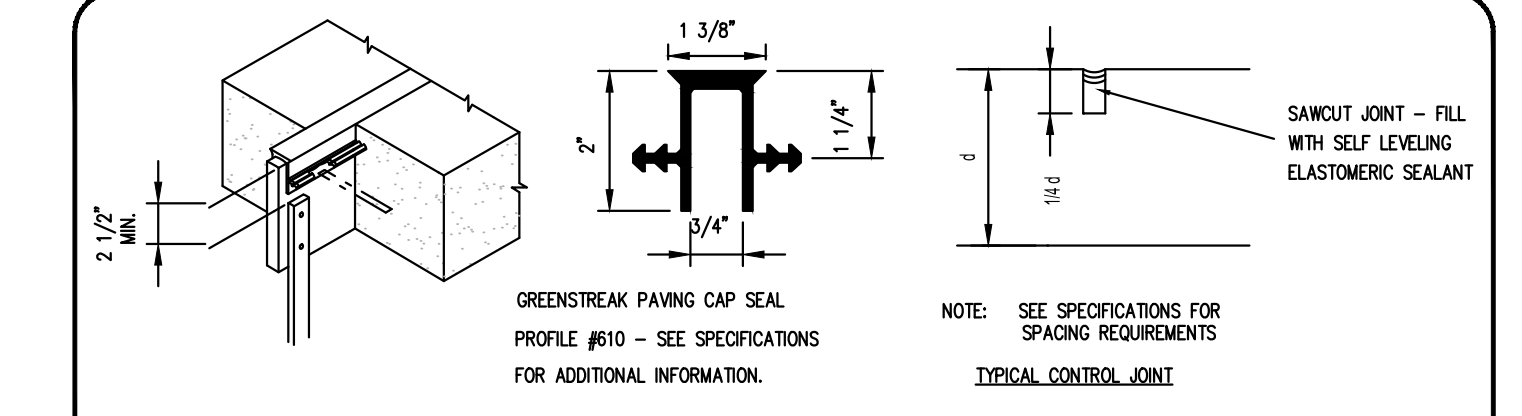
PAVEMENT GENERAL NOTES:

- REFER TO THE GEOTECHNICAL INVESTIGATION WITH PAVEMENT DESIGN RECOMMENDATIONS FOR THE DEVELOPMENT.
- THE SUBGRADE MATERIALS SHALL BE PROOF ROLLED AND/OR SCARIFIED AND COMPACTED PRIOR TO PLACEMENT OF BASE MATERIAL. WHERE EXISTING SUBGRADE MATERIALS ARE UNSUITABLE, THEY SHALL BE REMOVED AND REPLACED WITH COMPACTED SELECT MATERIAL IN ACCORDANCE WITH GEOTECHNICAL RECOMMENDATIONS.
- HEAVY DUTY CONCRETE PAVEMENT AND STANDARD DUTY CONCRETE PAVEMENT SHALL BE REINFORCED AS RECOMMENDED BY THE GEOTECHNICAL REPORT.
- CONCRETE PAVEMENT JOINTS MUST BE SEALED WITH AN APPROVED SEALANT. STEEL REINFORCING SHALL BE USED AT JOINTS. REFER TO ACI 309 (GUIDE FOR DESIGN AND CONSTRUCTION OF CONCRETE PARKING LOTS) FOR JOINT DESIGN AND LAYOUT.

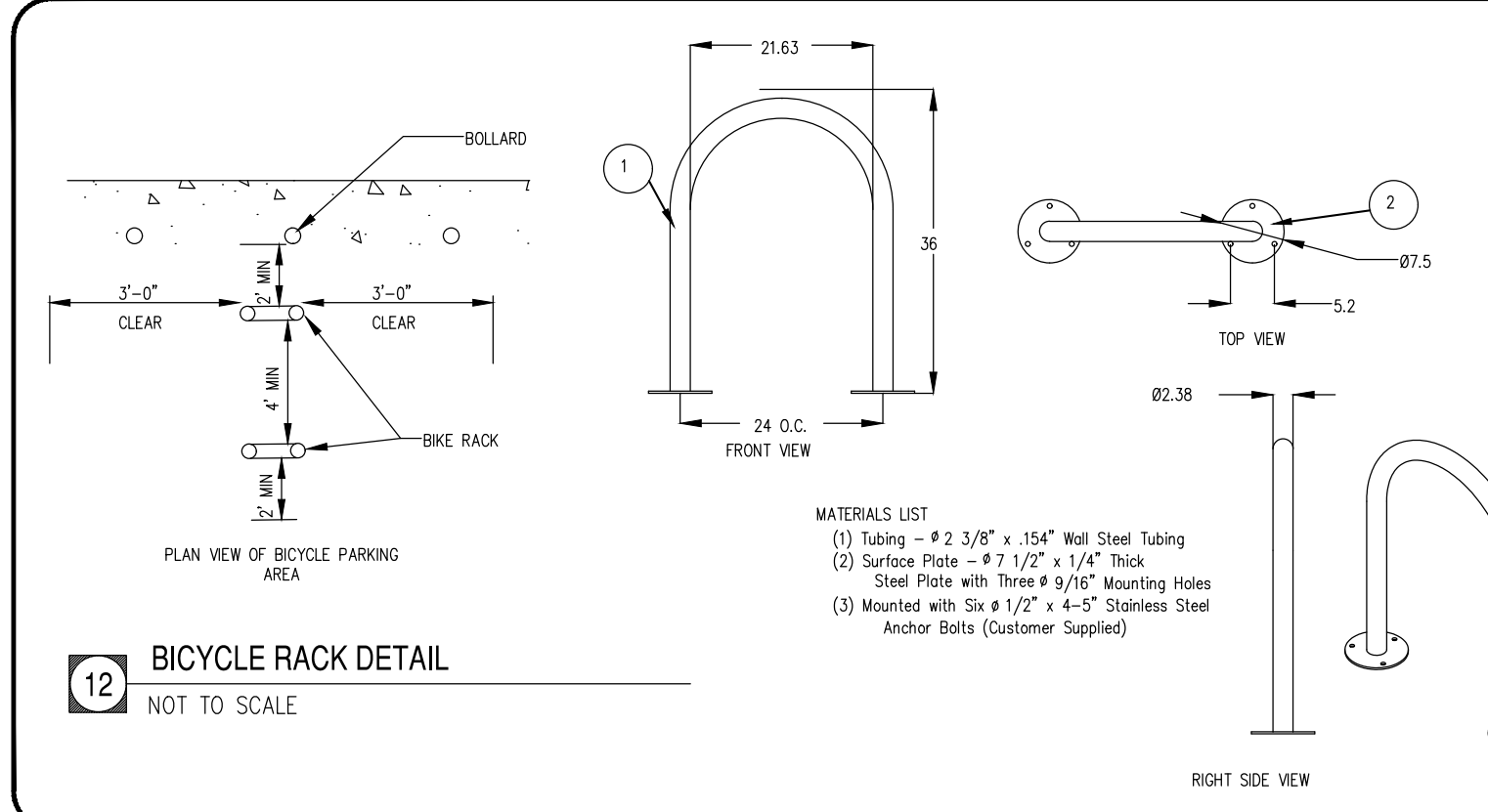


1 PAVEMENT DETAILS
NOT TO SCALE

MATERIALS AND CONSTRUCTION REQUIREMENTS PER THE NORTH CAROLINA DEPARTMENT OF TRANSPORTATION STANDARDS AND SPECIFICATIONS, LATEST EDITION
 * REFER TO NCDOT DRIVEWAY PERMIT FOR ADDITIONAL REQUIREMENTS
 * REFER TO PROJECT GEOTECHNICAL REPORT FOR ADDITIONAL REQUIREMENTS

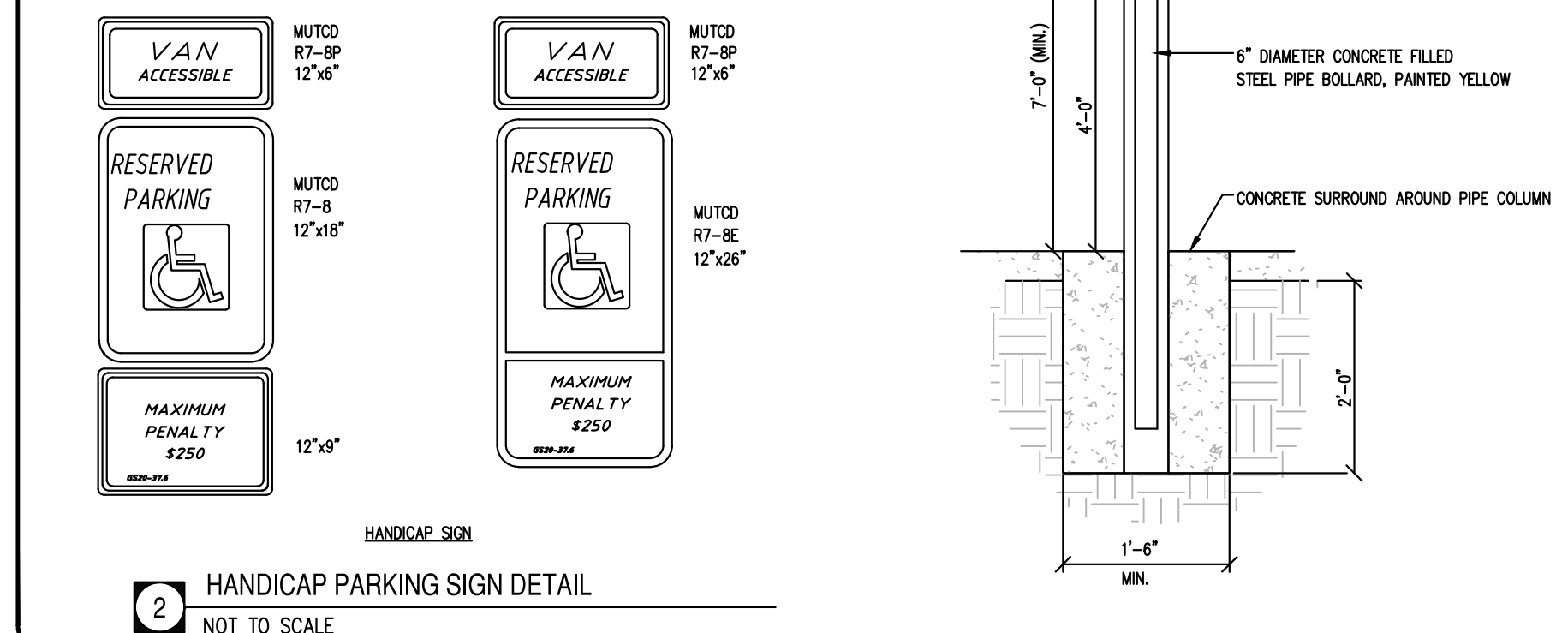


5 CONCRETE JOINTS
NOT TO SCALE

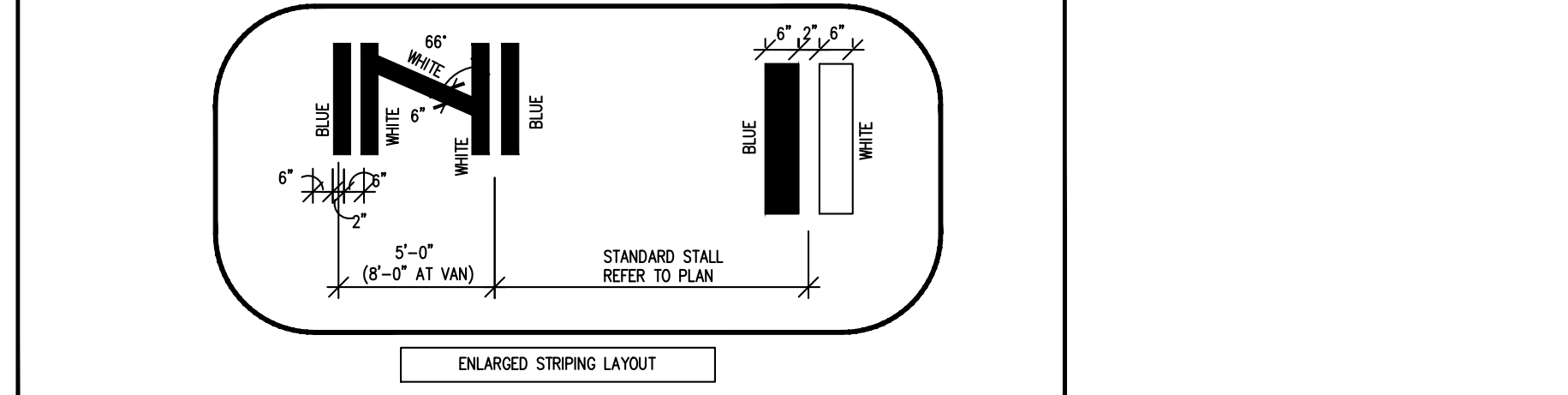
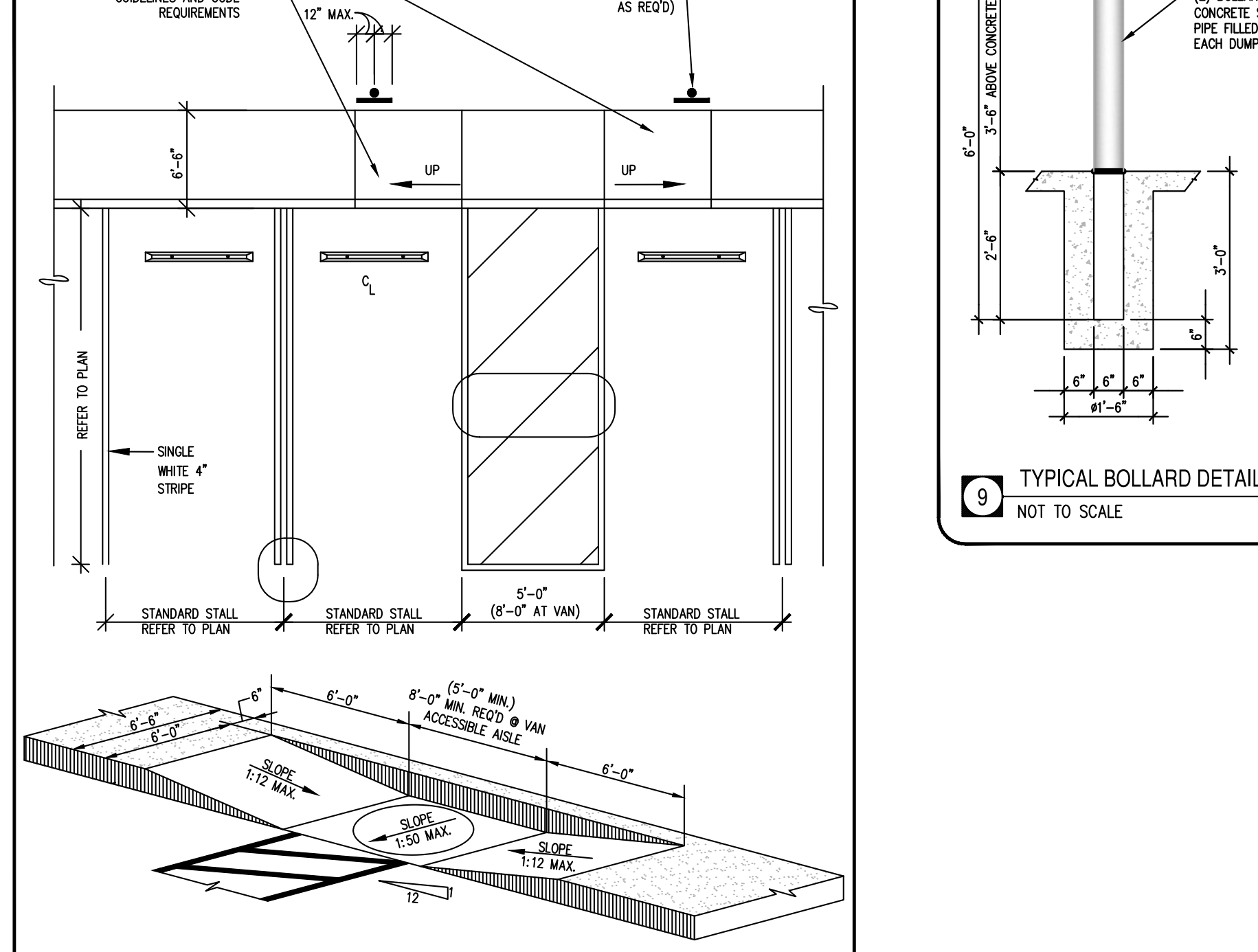


12 BICYCLE RACK DETAIL
NOT TO SCALE

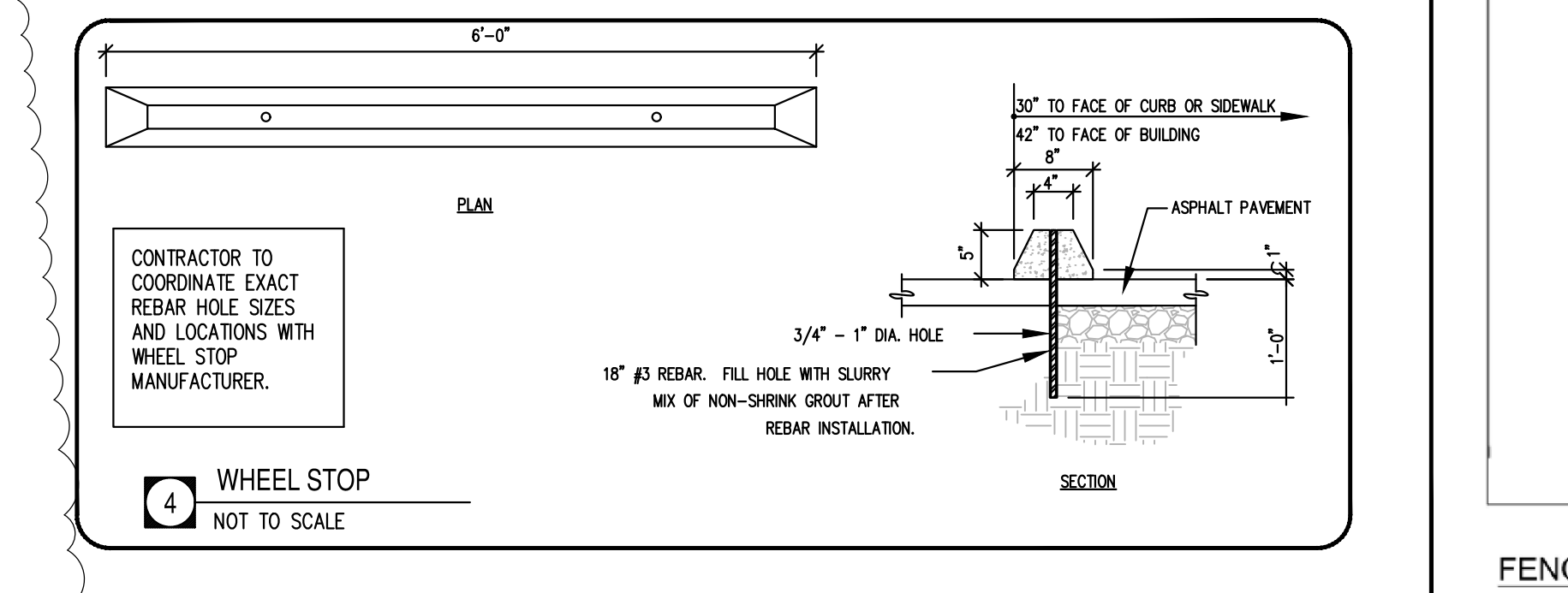
- ACCESSIBLE PARKING SIGNAGE NOTES:**
- ALL LETTERS ARE TO BE PER THE LATEST EDITION OF THE MUTCD.
 - TOP PORTION OF SIGN SHALL HAVE A REFLECTORIZED (ENGINEERING GRADE) BLUE BACKGROUND WITH WHITE REFLECTORIZED LEGEND AND BORDER.
 - BOTTOM PORTION OF SIGN SHALL HAVE A REFLECTORIZED (ENGINEERING GRADE) WHITE BACKGROUND WITH BLACK OPAQUE LEGEND AND BORDER.
 - FINC NOTIFICATION SIGN SHALL HAVE A REFLECTORIZED (ENGINEERING GRADE) WHITE BACKGROUND WITH BLACK OPAQUE LEGEND AND BORDER. CONTRACTOR SHALL VERIFY FINE AMOUNT AND ORDINANCE NUMBER.
 - ONE (1) SIGN REQUIRED FOR EACH ACCESSIBLE PARKING SPACE.
 - INSTALLED HEIGHT OF SIGN SHALL BE IN ACCORDANCE WITH SECTION 24-23 OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES. (MUTCD)
 - SIGN MAY BE MOUNTED ON BUILDING/WALL, AT PROPER HEIGHT, IF ALIGNED WITHIN 12" OF CENTER OF PARKING SPACE.



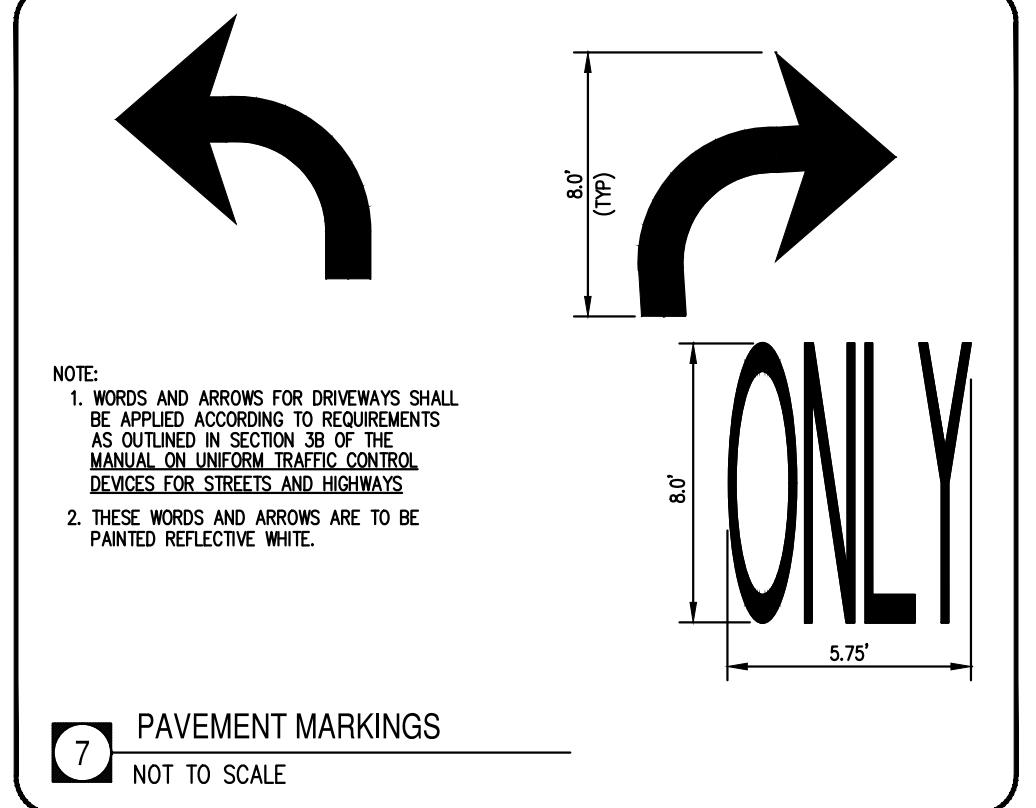
2 HANDICAP PARKING SIGN DETAIL
NOT TO SCALE



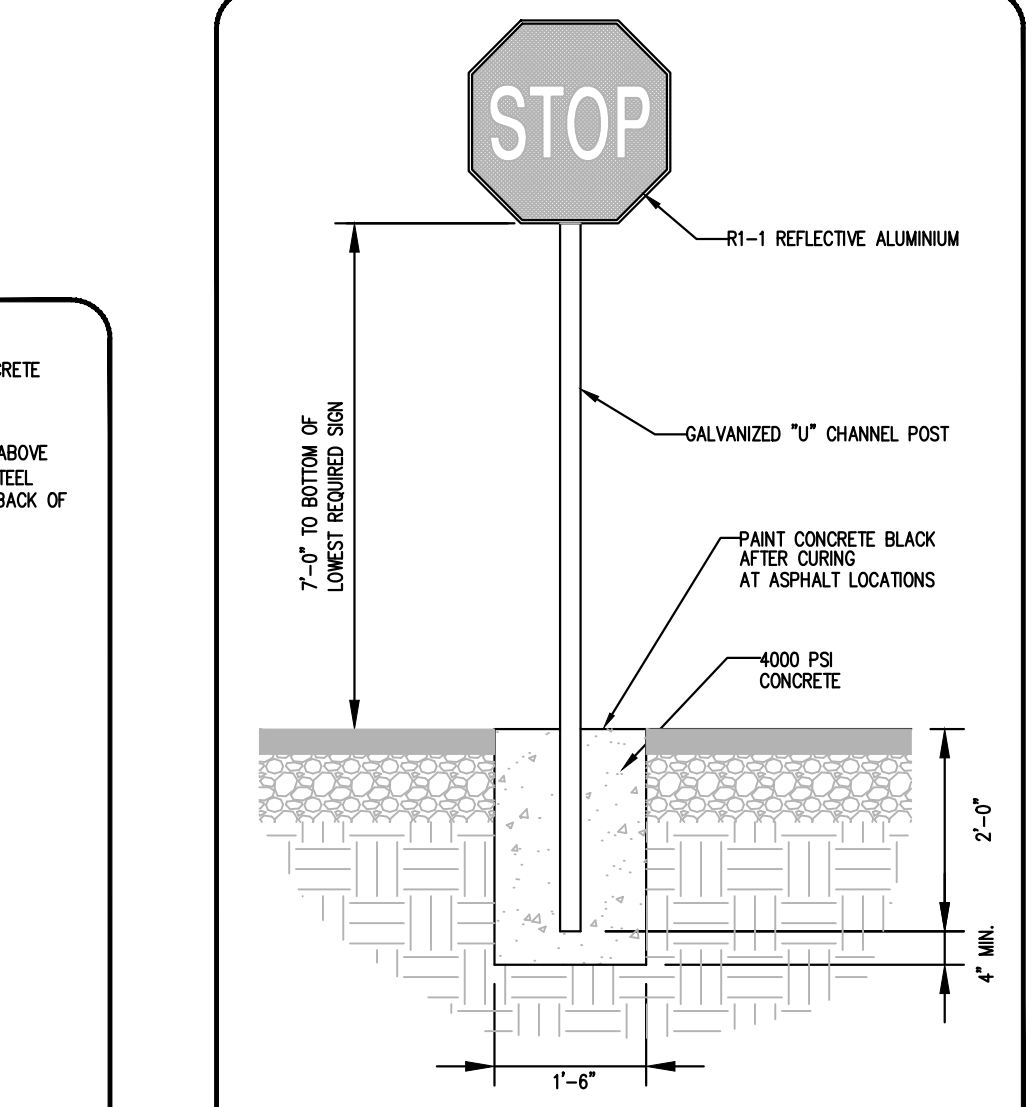
3 HANDICAP PARKING DETAIL
NOT TO SCALE



4 WHEEL STOP
NOT TO SCALE



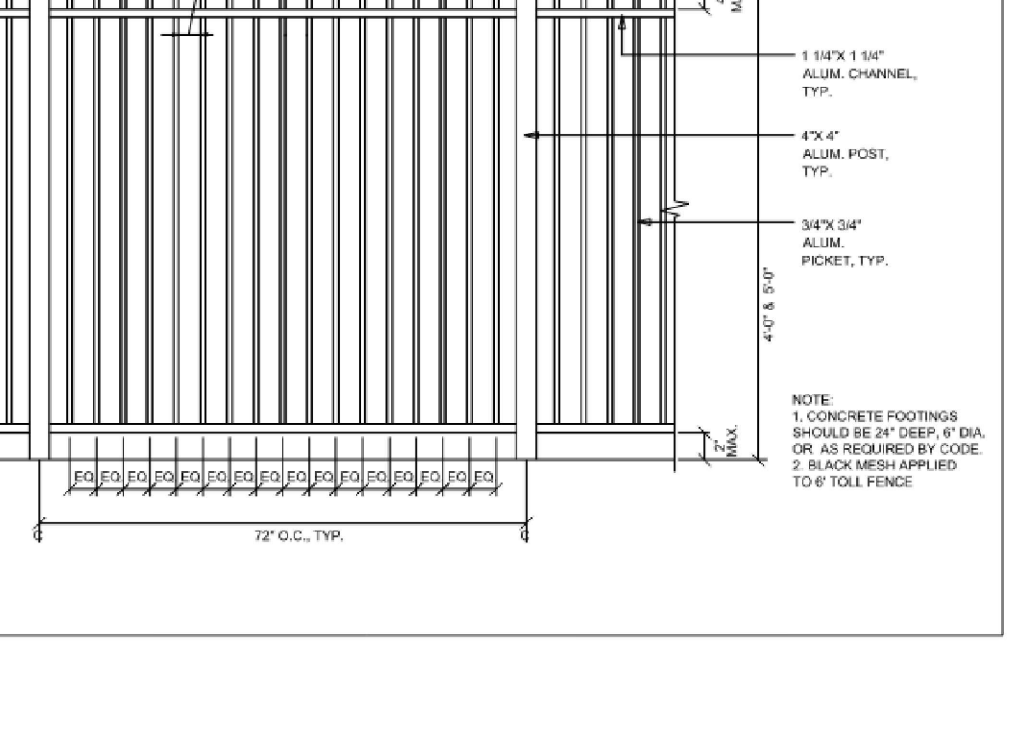
7 PAVEMENT MARKINGS
NOT TO SCALE



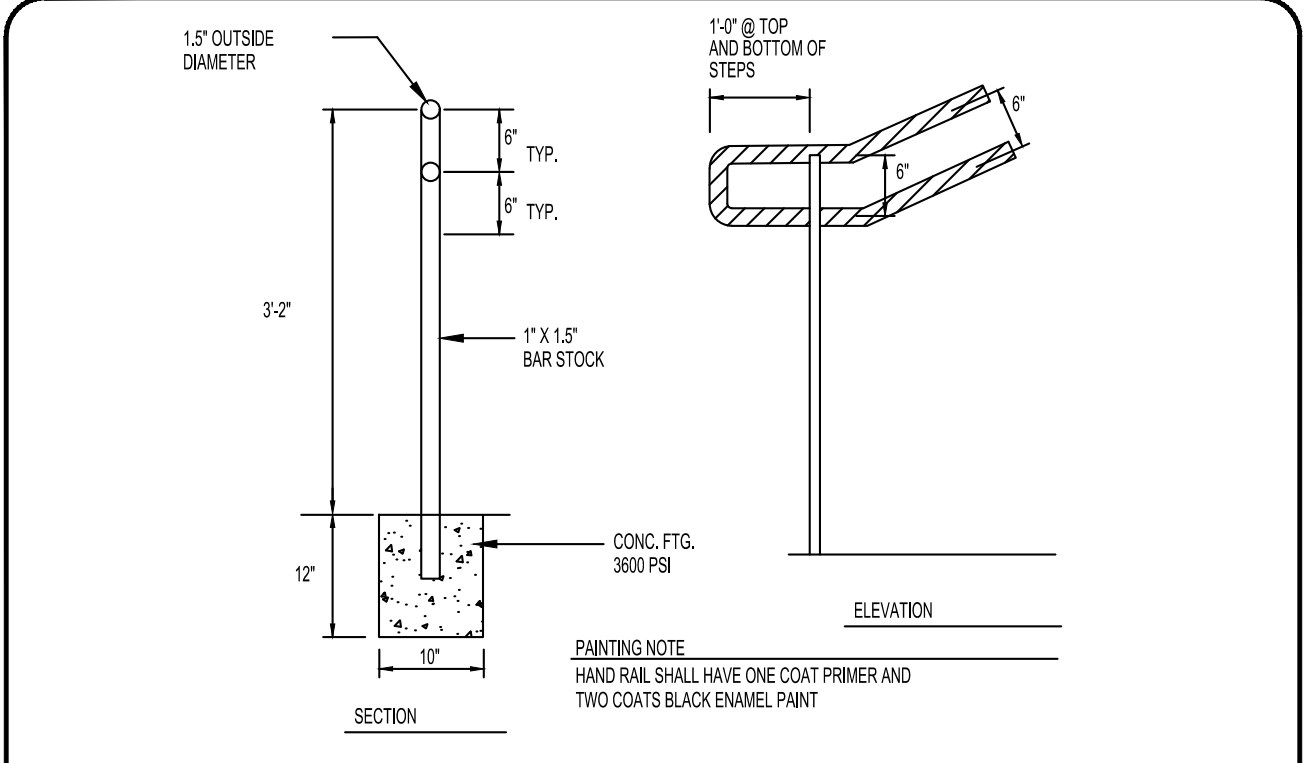
8 STOP SIGN DETAIL
NOT TO SCALE



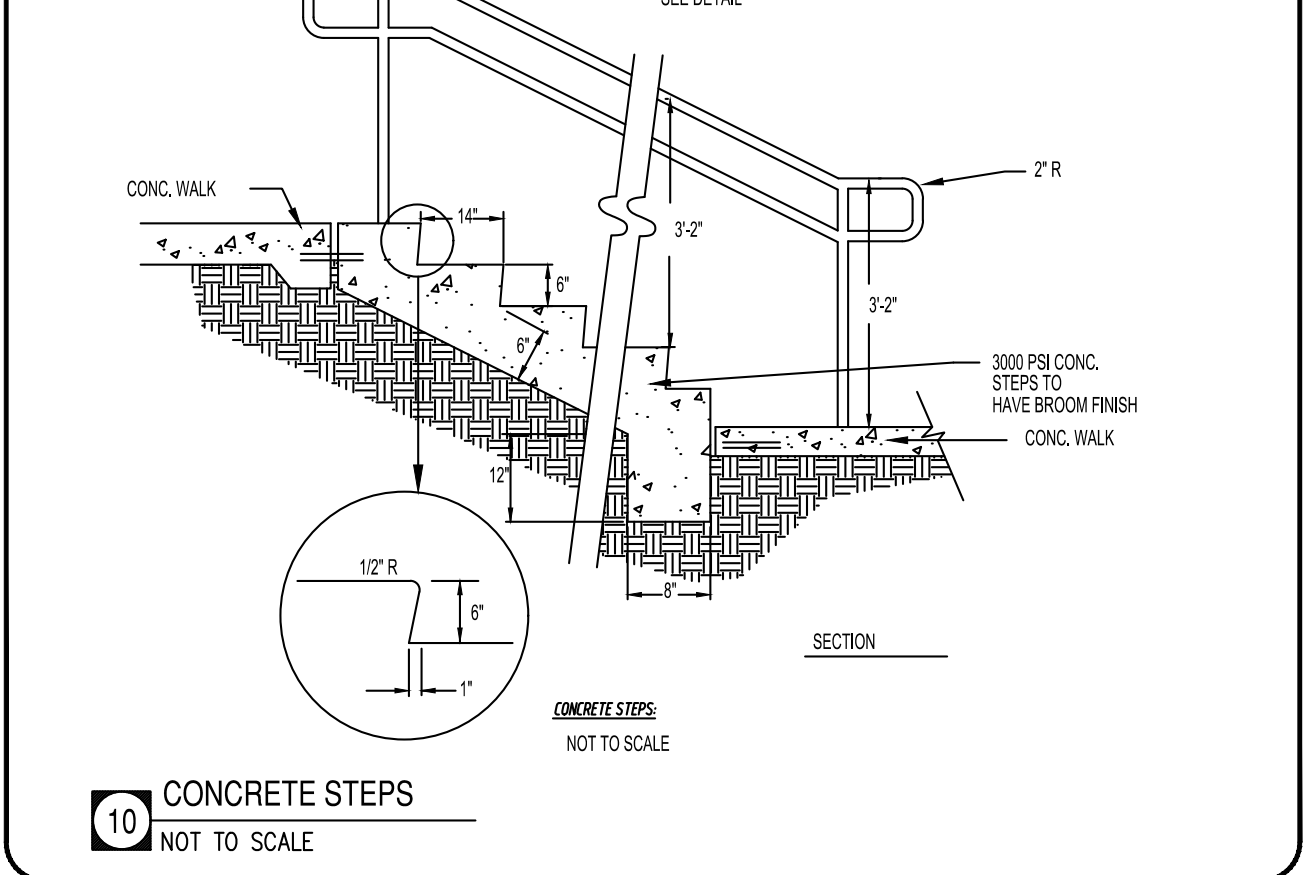
9 TYPICAL BOLLARD DETAIL
NOT TO SCALE



FENCING
SCALE: NONE



10 CONCRETE STEPS
NOT TO SCALE



11 MODULAR BLOCK RETAINING WALL
NOT TO SCALE

RETAINING WALL DETAIL SHOWN FOR GRAPHICAL PURPOSES ONLY. WALL CONTRACTOR SHALL SUBMIT ENGINEER SEALED DETAIL DRAWINGS FOR THE CONSTRUCTION OF THE RETAINING WALL. NEITHER BOWMAN NORTH CAROLINA NOR ITS EMPLOYEES ASSUME ANY LIABILITY FOR INJURIES OR DAMAGES ARISING OUT OF OR IN ANYWAY CONNECTED WITH THE DESIGN, CONSTRUCTION, OR USE OF THE WALLS DESCRIBED ON THESE PLANS. NEITHER BOWMAN NORTH CAROLINA NOR ITS EMPLOYEES ARE RESPONSIBLE FOR THE DESIGN OR CAPABILITY OF THESE WALLS.

RETAINING WALL GENERAL NOTES:

- STRIP ALL VEGETATION AND ORGANIC SOIL FROM THE WALL AND GRID ALIGNMENT.
- BENCH OUT ALL EXCAVATED SLOPES.
- DO NOT OVER EXCAVATE UNLESS DIRECTED BY SITE SOIL ENGINEER TO REMOVE UNSUITABLE SOIL.
- SITE SOIL ENGINEER SHALL VERIFY FOUNDATION SOILS AS BEING COMPETENT PER THE DESIGN STANDARDS AND PARAMETERS.
- BASE SHALL CONSIST OF COMPACTED SANDS AND GRAVEL, MINIMUM 8" THICK.
- CONTRACTOR MAY OPT FOR A CONCRETE FOOTING. CONCRETE FOOTING SHALL BE UNREINFORCED, DEPTH OF CONCRETE (APPROXIMATELY 1" TO 2") AND COMPACTED SOIL BASE SHALL NOT BE LESS THAN 12" THICK.
- MINIMUM EMBEDMENT OF WALL BELOW FINISH GRADE SHALL BE 12" FOR WALL HEIGHTS FROM 4 FT. AND UP, 8" FOR BELOW 4 FT. UNLESS SHOWN DIFFERENTLY.
- FOLLOW APPLICABLE PROVISIONS OF THE MANUFACTURERS INSTALLATION INSTRUCTIONS AND WRITTEN SPECIFICATIONS.
- DRAINAGE FILL 12" THICK SHALL BE INSTALLED BEHIND THE WALL TO WITHIN 1/2" OF THE TOP OF THE WALL.
- WHERE DRAIN TILE IS USED PROVIDE OUTLETS @ MIN. 40 FT. CC.
- BACKFILL AND COMPACT IN FRONT OF THE WALL AS WALL IS INSTALLED.
- COMPACTION TESTS SHALL BE TAKEN AS THE WALL IS INSTALLED. THE MINIMUM NUMBER OF TESTS SHALL BE DETERMINED BY THE SITE SOILS ENGINEER.
- COMPACTION SHALL BE TO 95% OF MAXIMUM STANDARD PROCTOR DENSITY.
- SEE ELEVATION FOR GEGRID TYPE, LENGTH AND LOCATION REQUIRED.
- GEGRID SHALL BE THE TYPE AND LENGTH AS SHOWN. PULL GEGRID TIGHT PRIOR TO BACKFILLING.
- PROVIDE LATERAL DRAINAGE SHOULDS TO DIRECT TO DRAINAGE AREAS AT THE ENDS OF THE WALL.
- ESTABLISH TURF AS SOON AS THE WALL IS COMPLETED.
- FINAL WALL ALIGNMENT SHALL BE LOCATED IN THE FIELD.

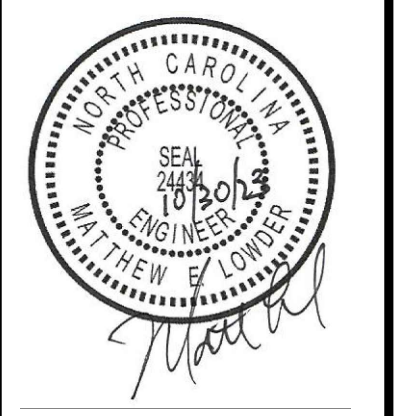
CAPPING NOTES:

- CAPS SHALL BE PLACED AS REQUIRED BY CONTRACT.
- CAPS SHALL BE ADHERED TO WALL USING CONCRETE ADHESIVE.
- WHEN CUTTING CAP UNIT FOR WALL END DO NOT USE A CAP SECTION LESS THAN 8" WIDE.
- CAPS MAY BE PLACED FLUSH OR WITH A 1/2" TO 3/4" OVERHANG ON TOP OF WALL.
- WALL CAPPING WILL REQUIRE USE OF TYPE A AND TYPE B UNITS.

IF CONDITIONS ARE DIFFERENT THAN THOSE STATED IN THESE DRAWINGS AND SPECIFICATIONS, THE CONTRACTOR MUST CONTACT THE ENGINEER PRIOR TO PROCEEDING WITH THE CONSTRUCTION OF THE WALL.

11 MODULAR BLOCK RETAINING WALL
NOT TO SCALE

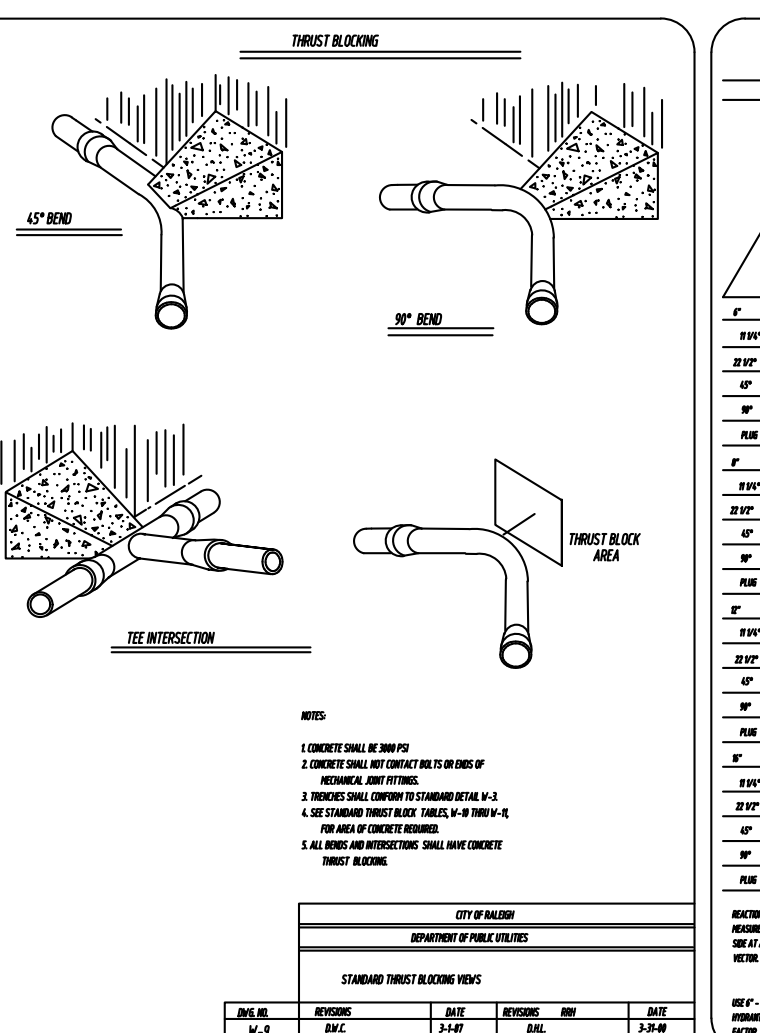
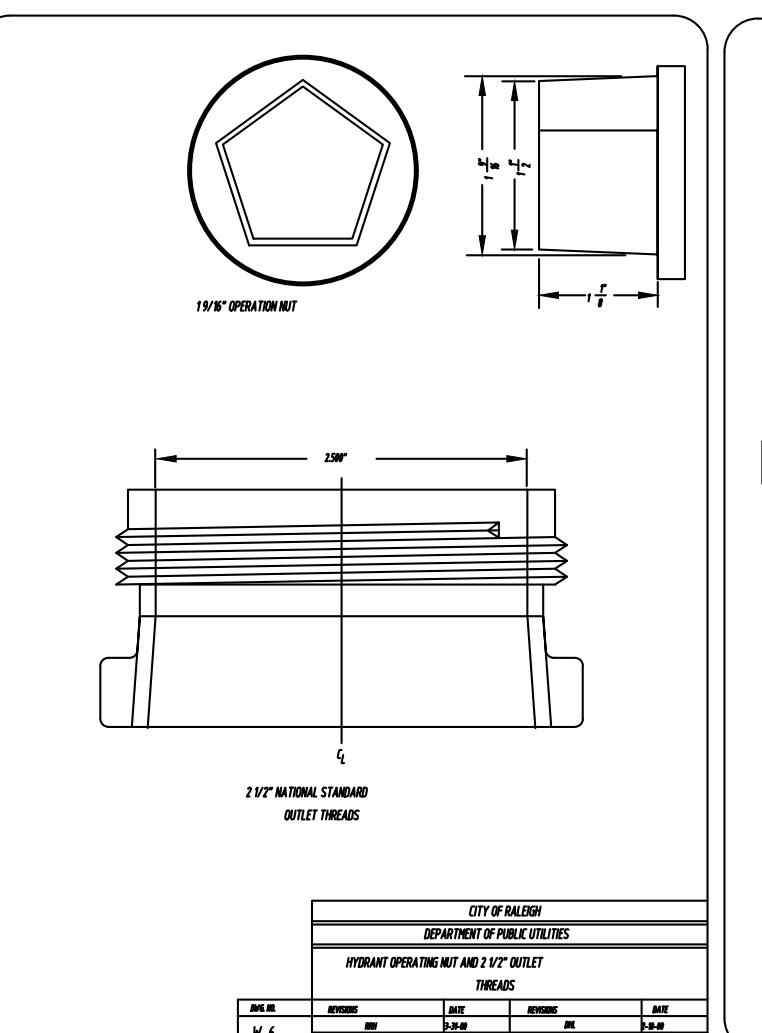
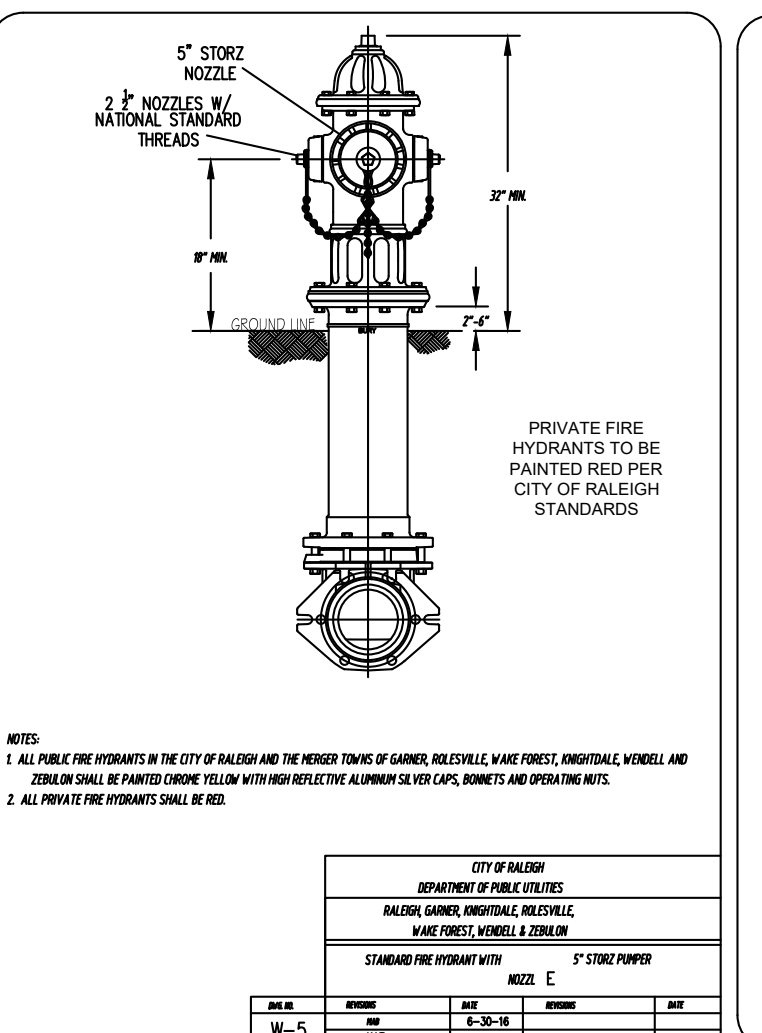
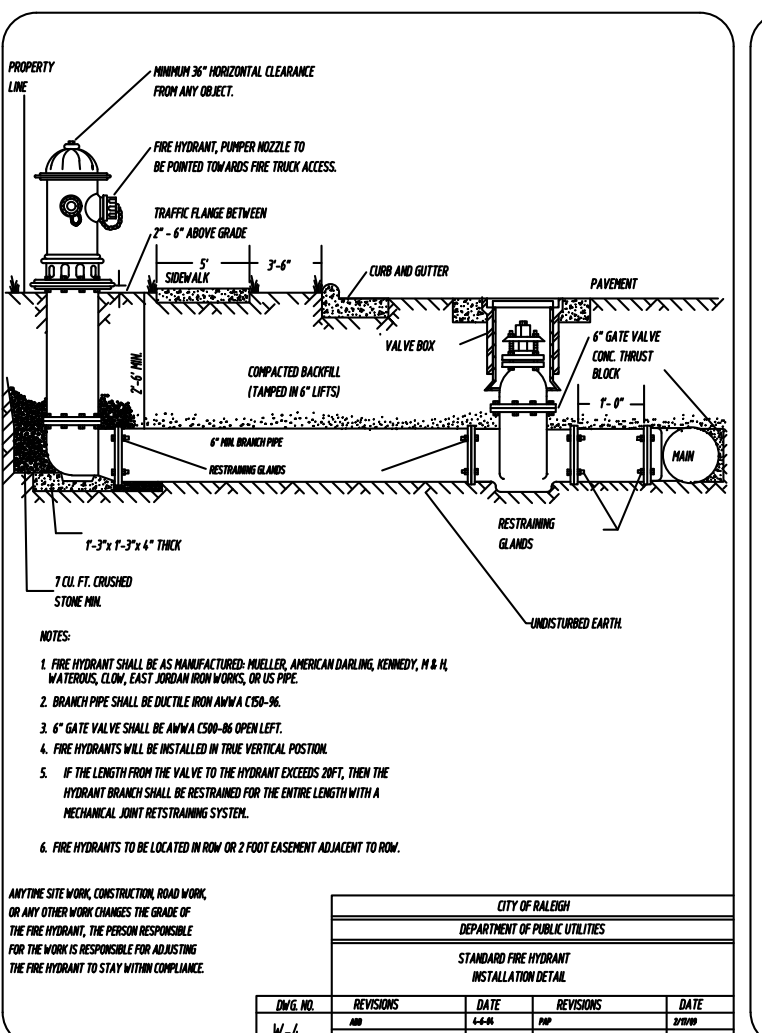
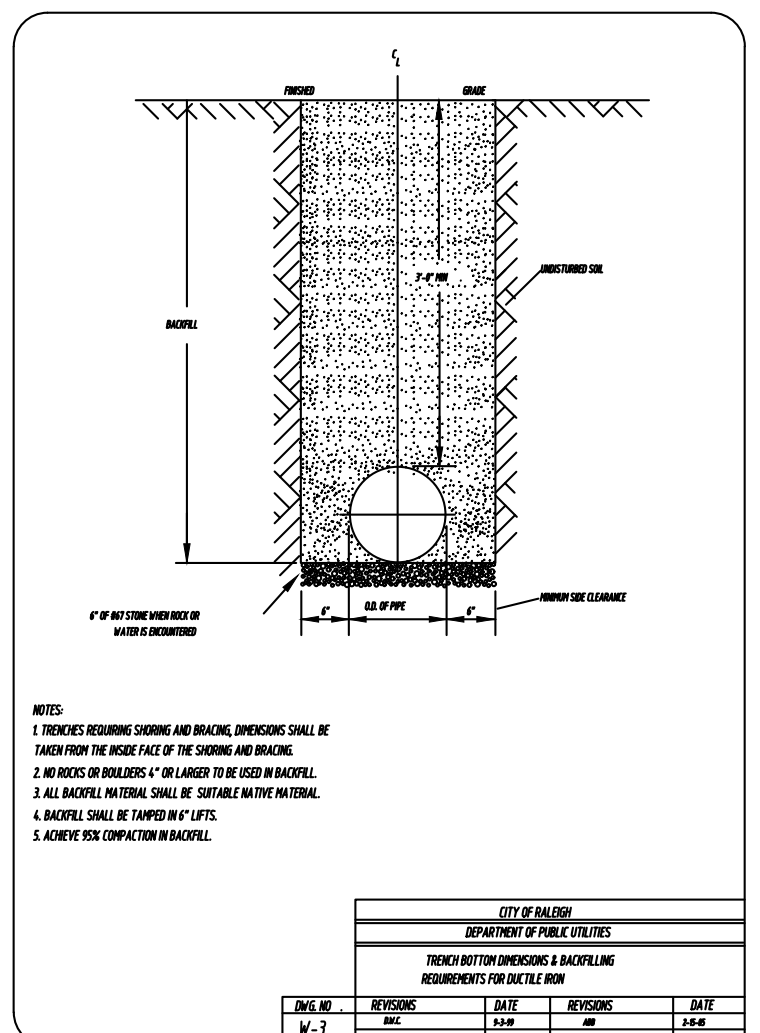
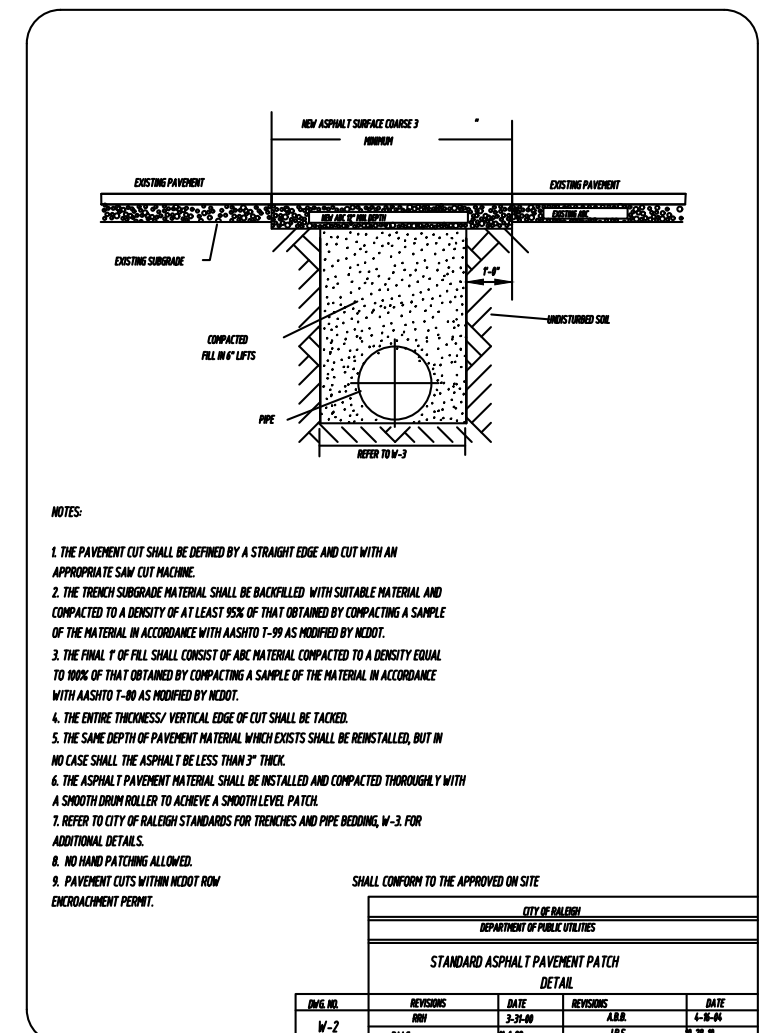
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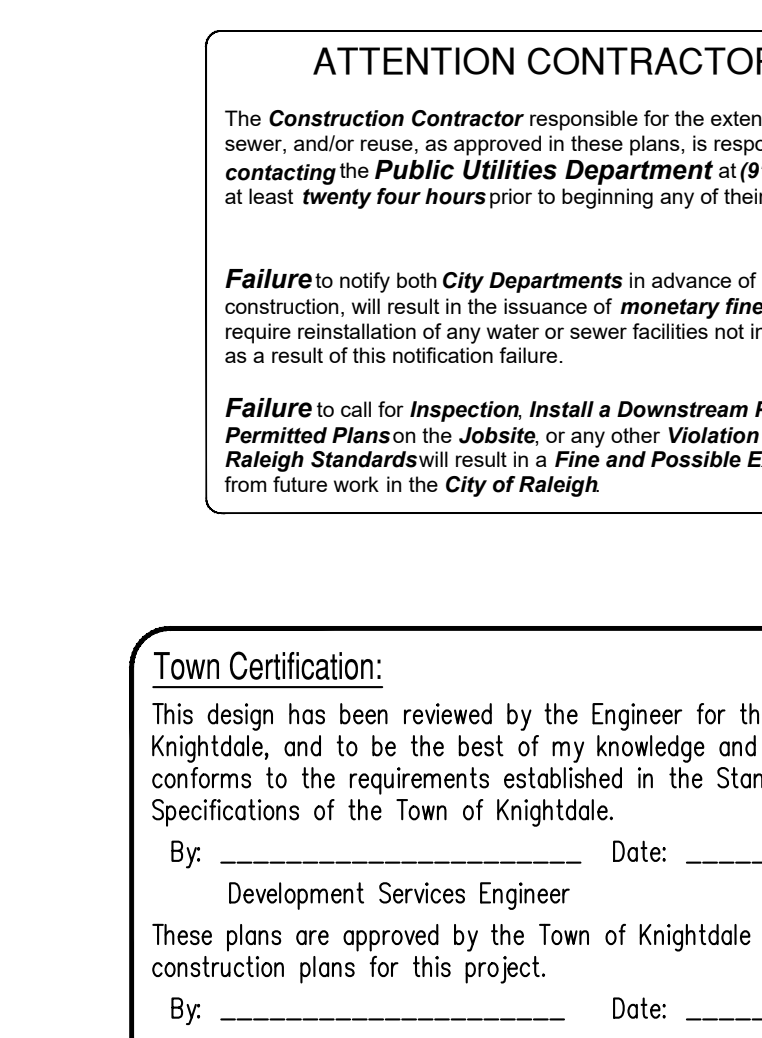
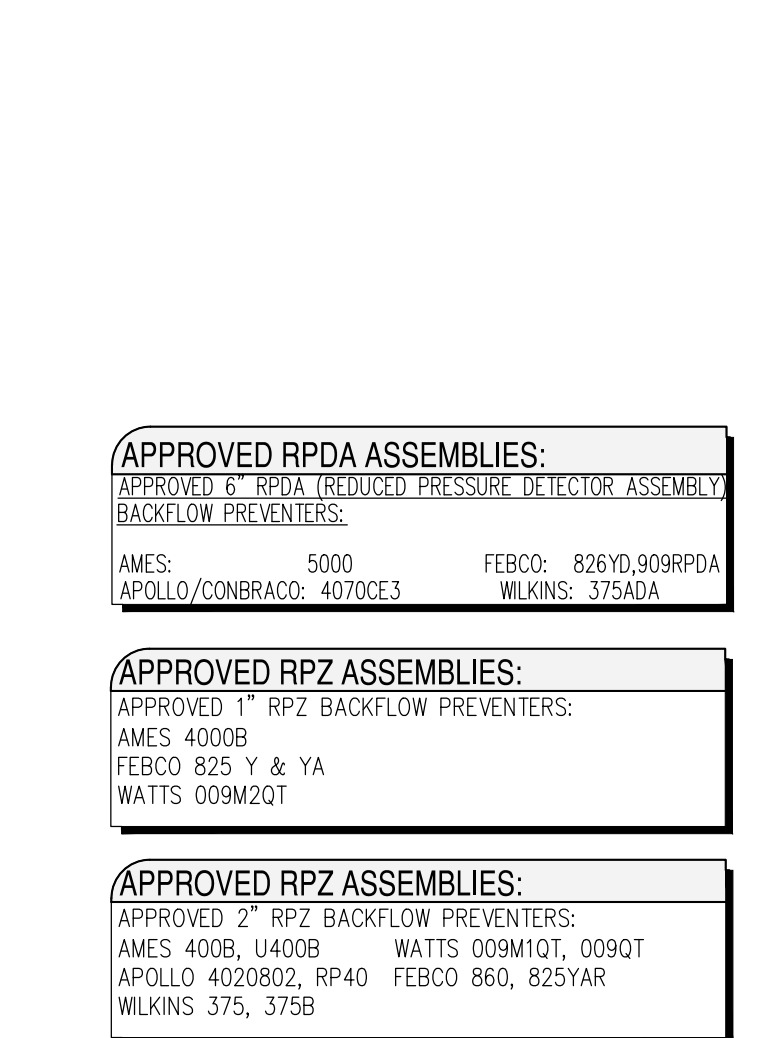
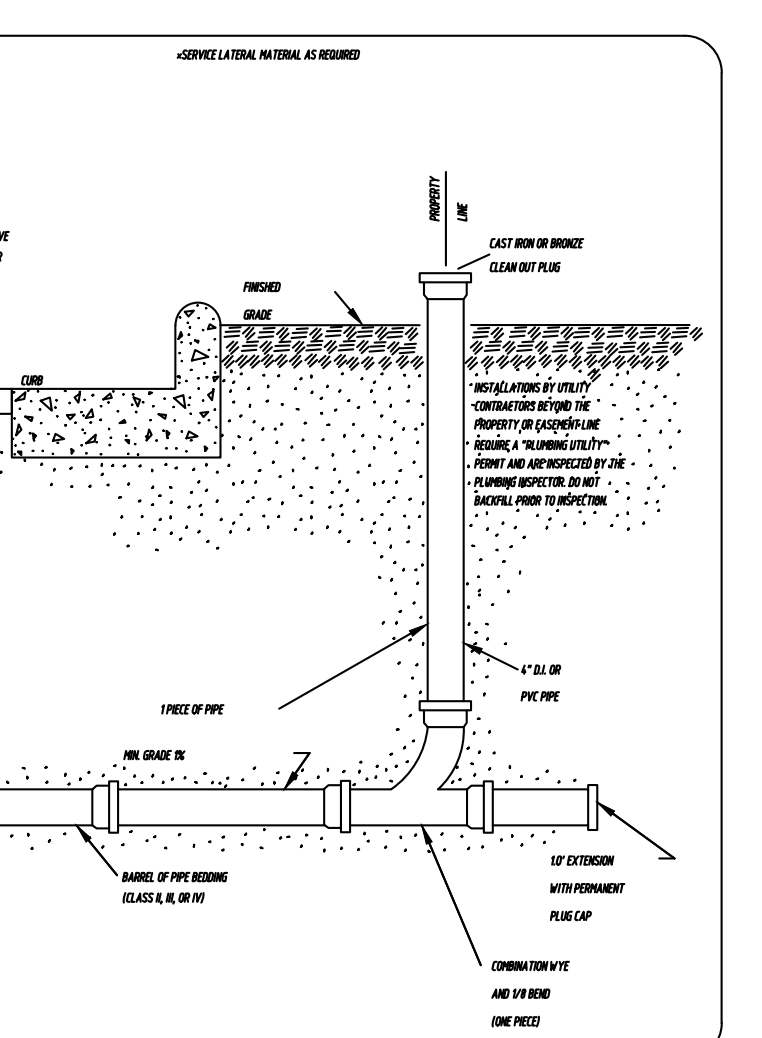
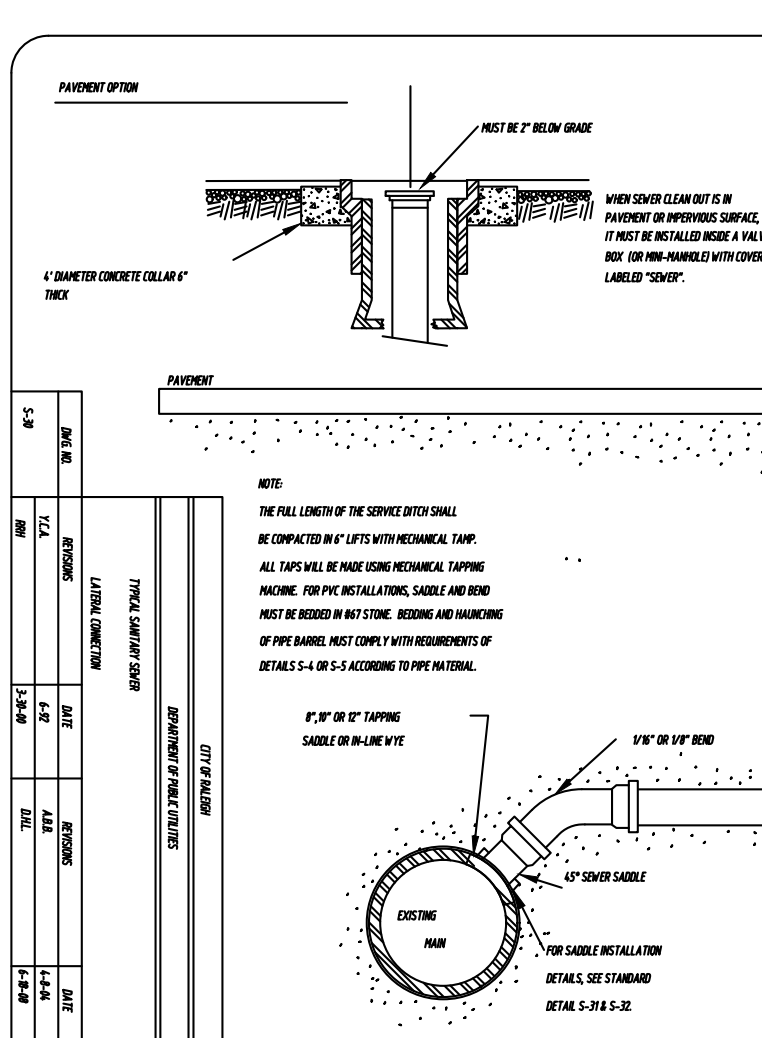
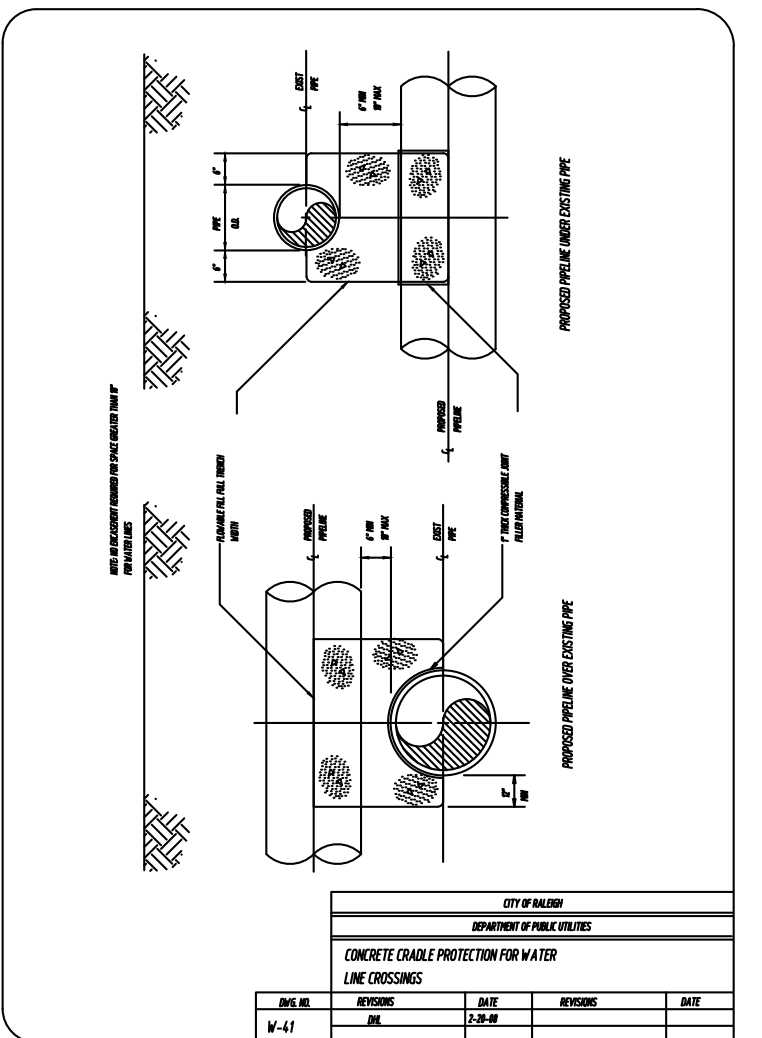
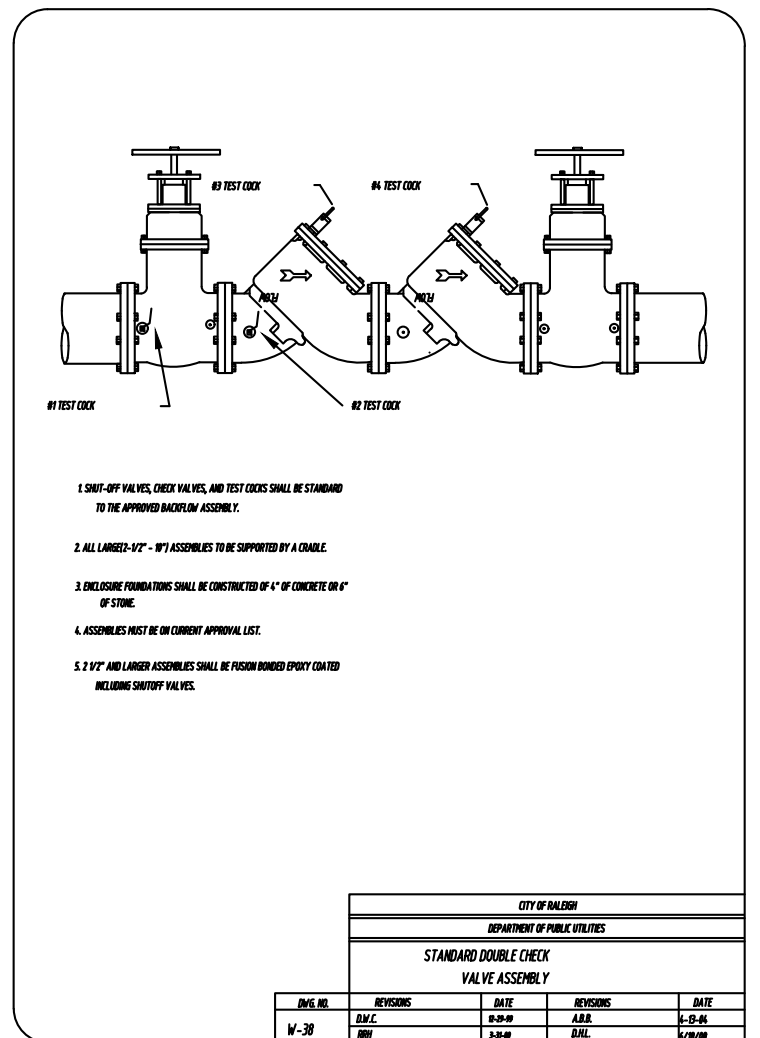
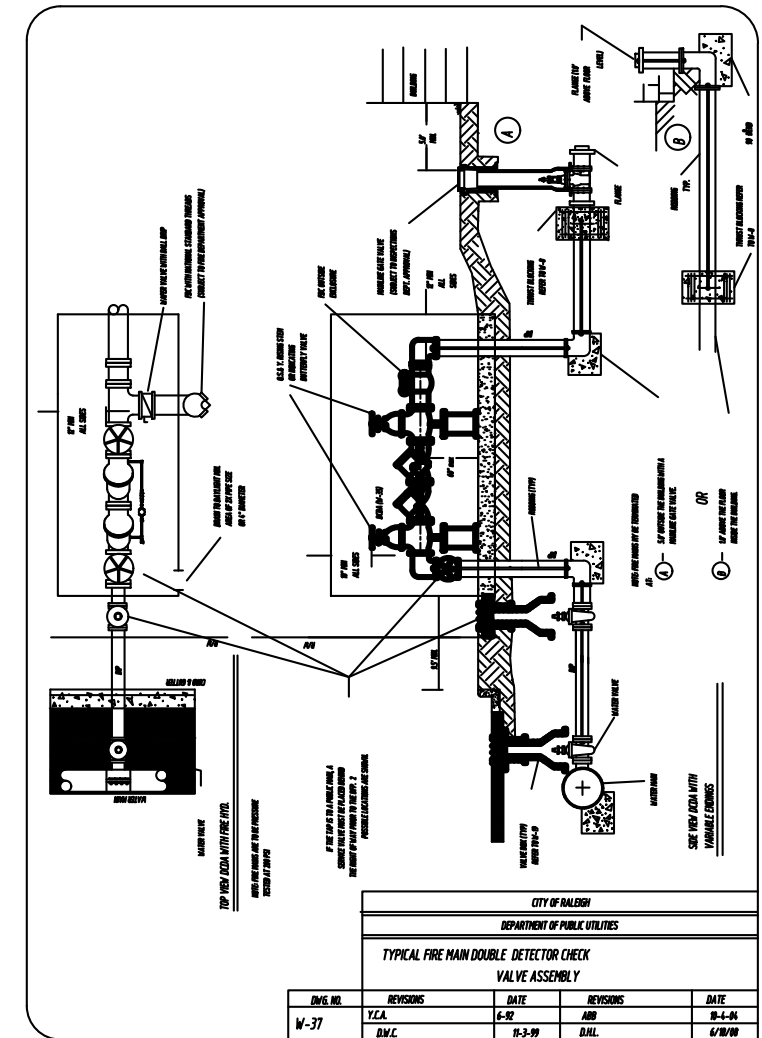
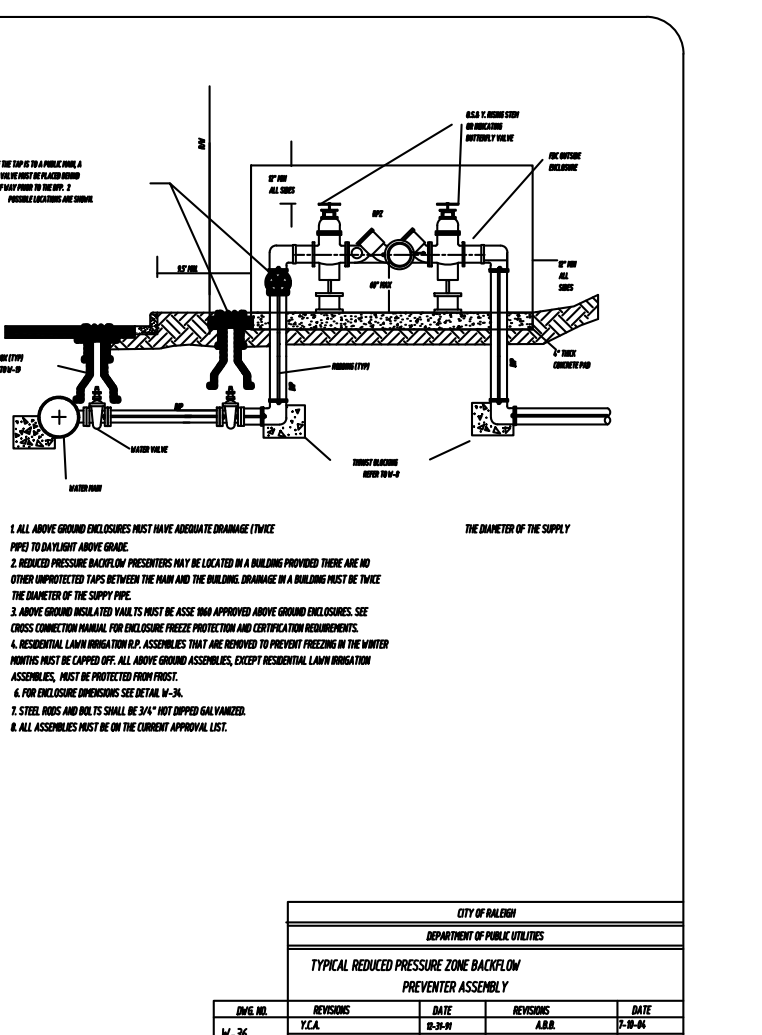
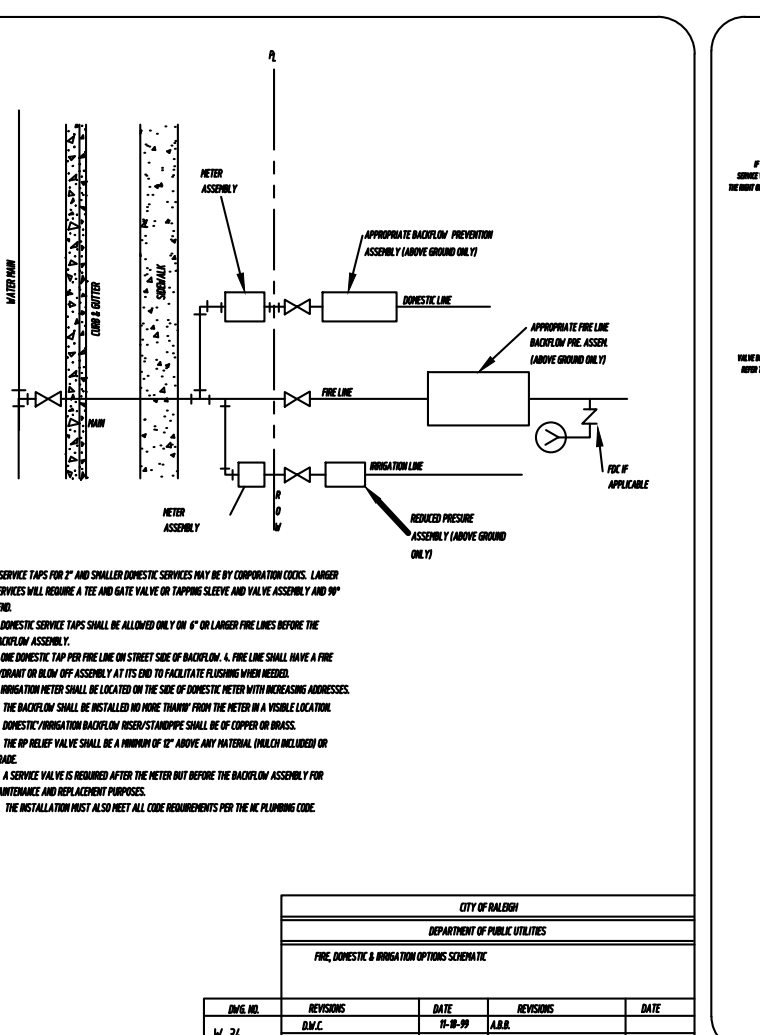
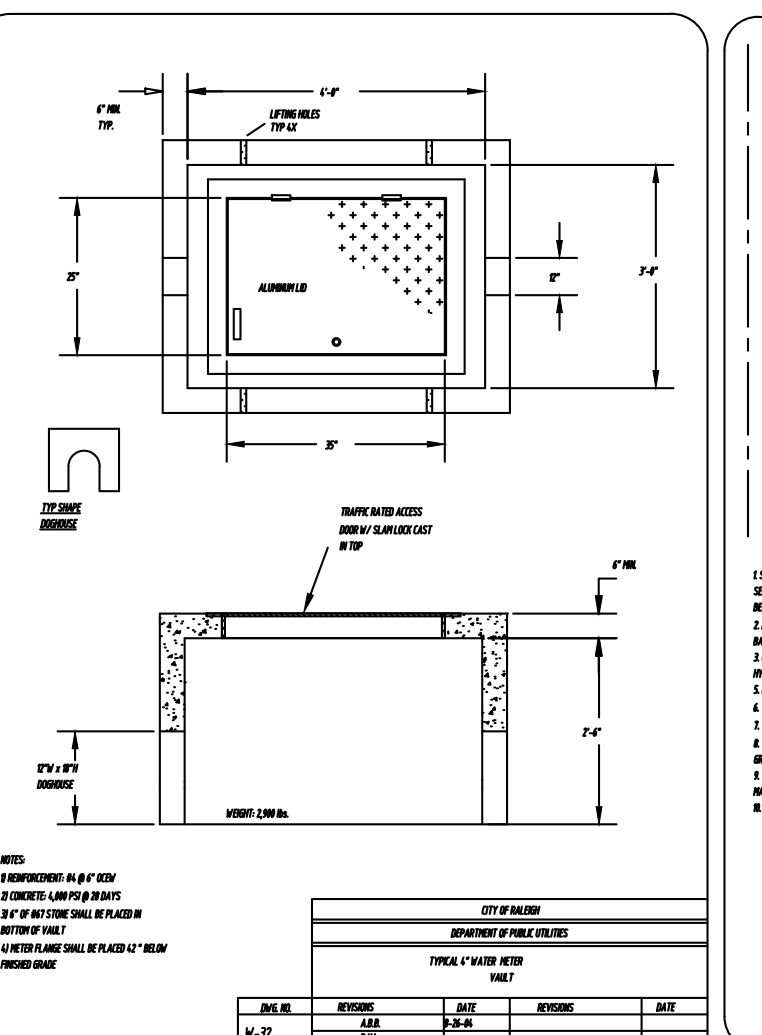
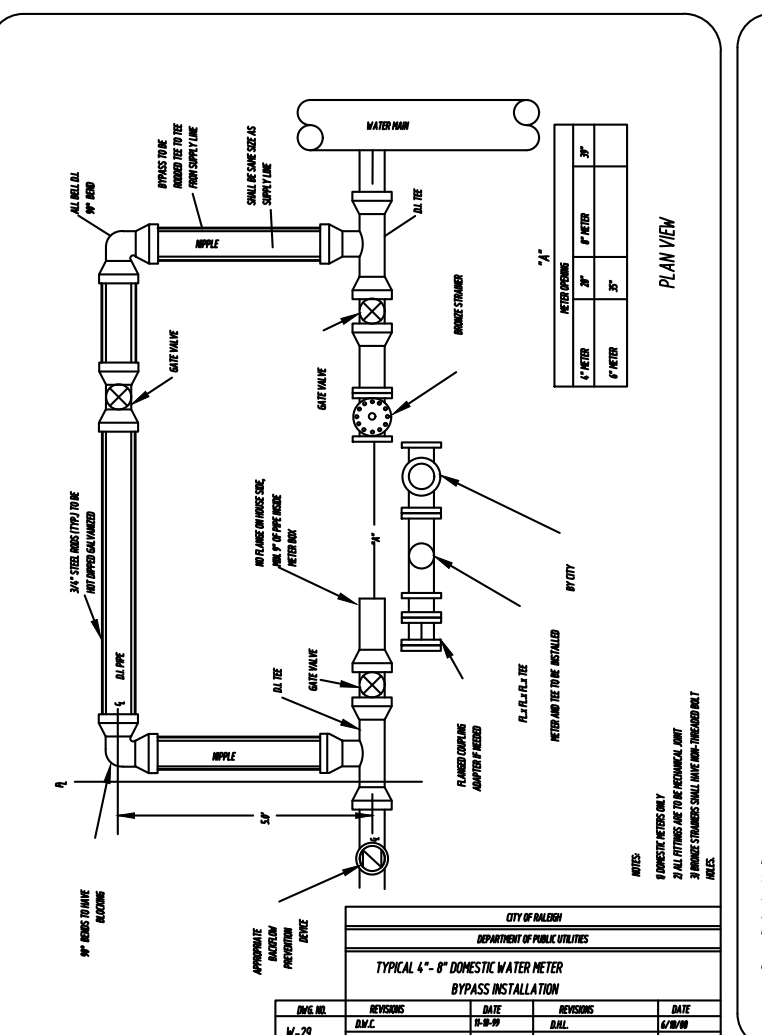
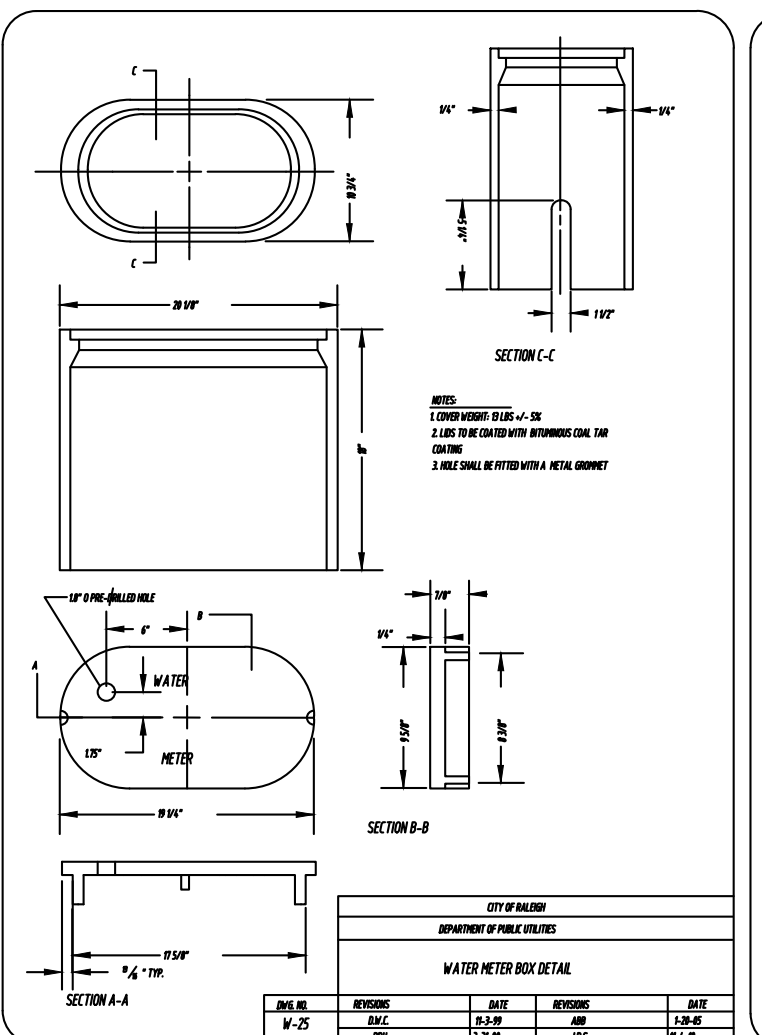
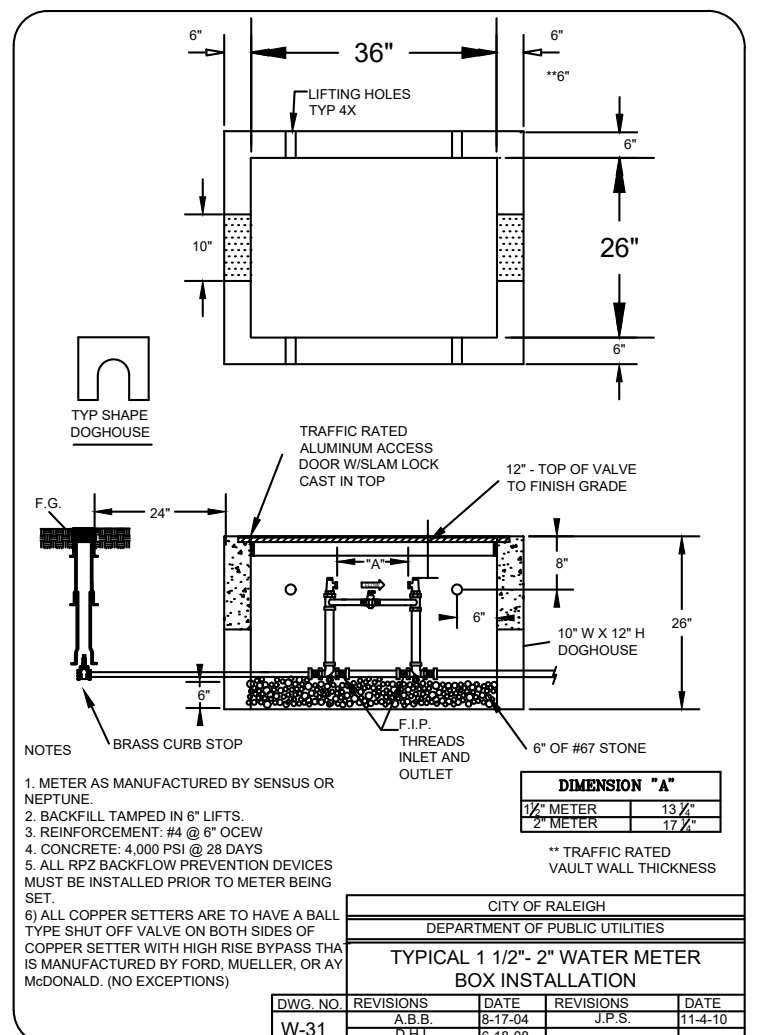
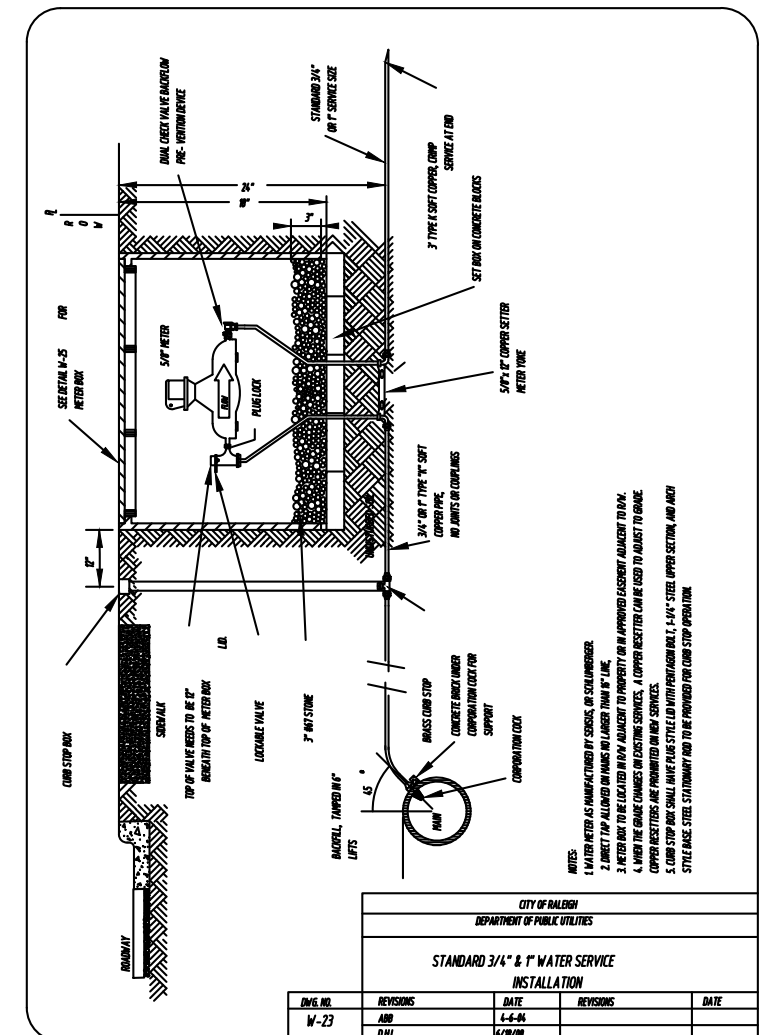
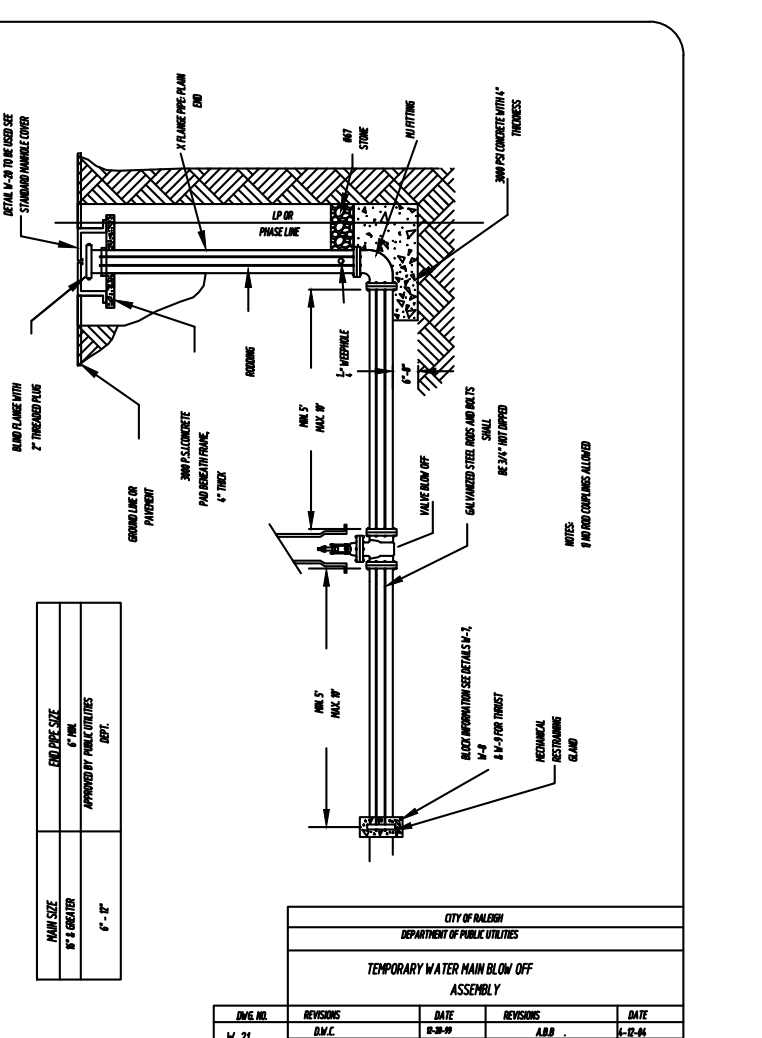
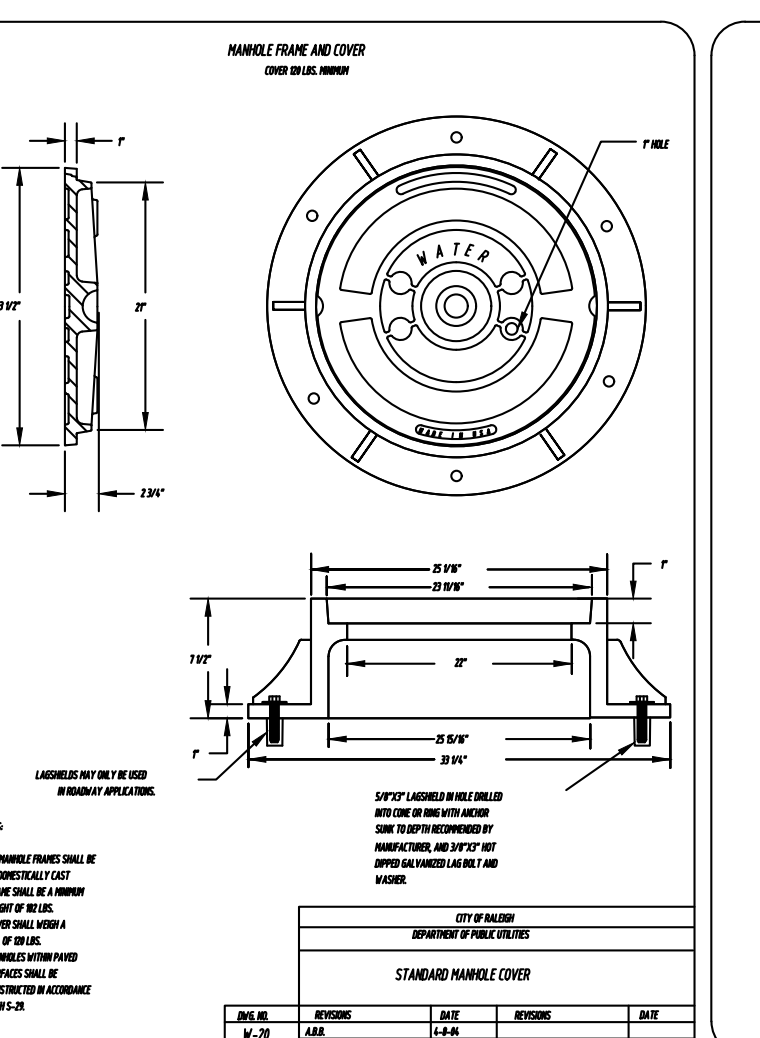
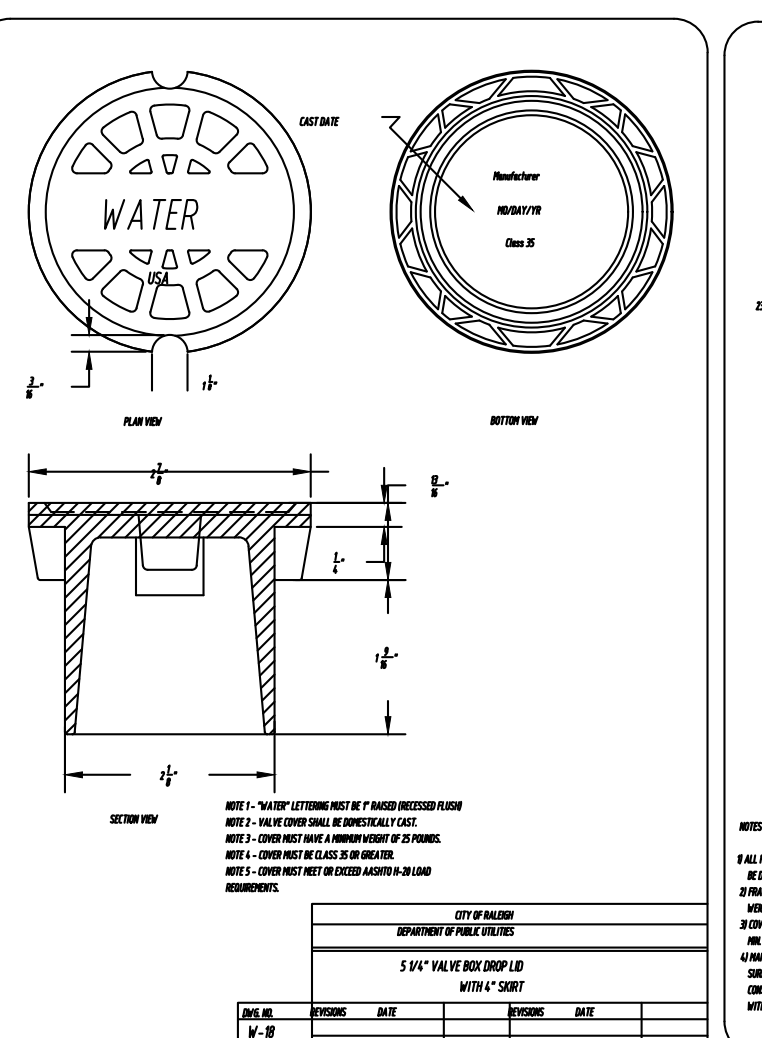
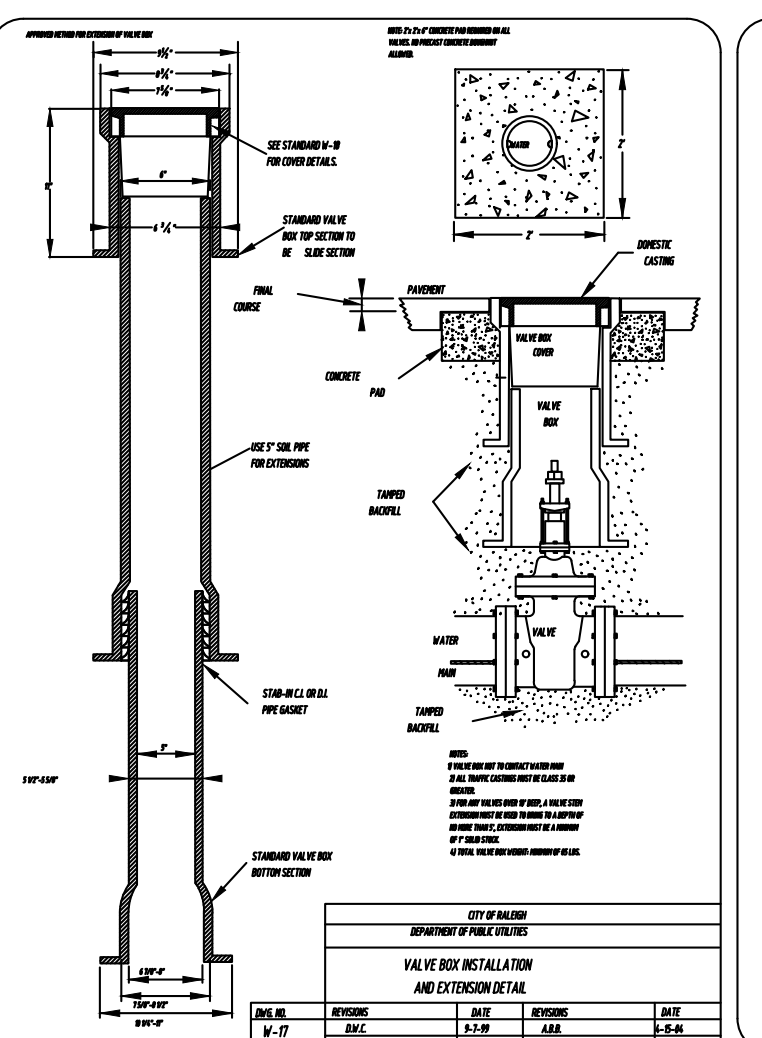
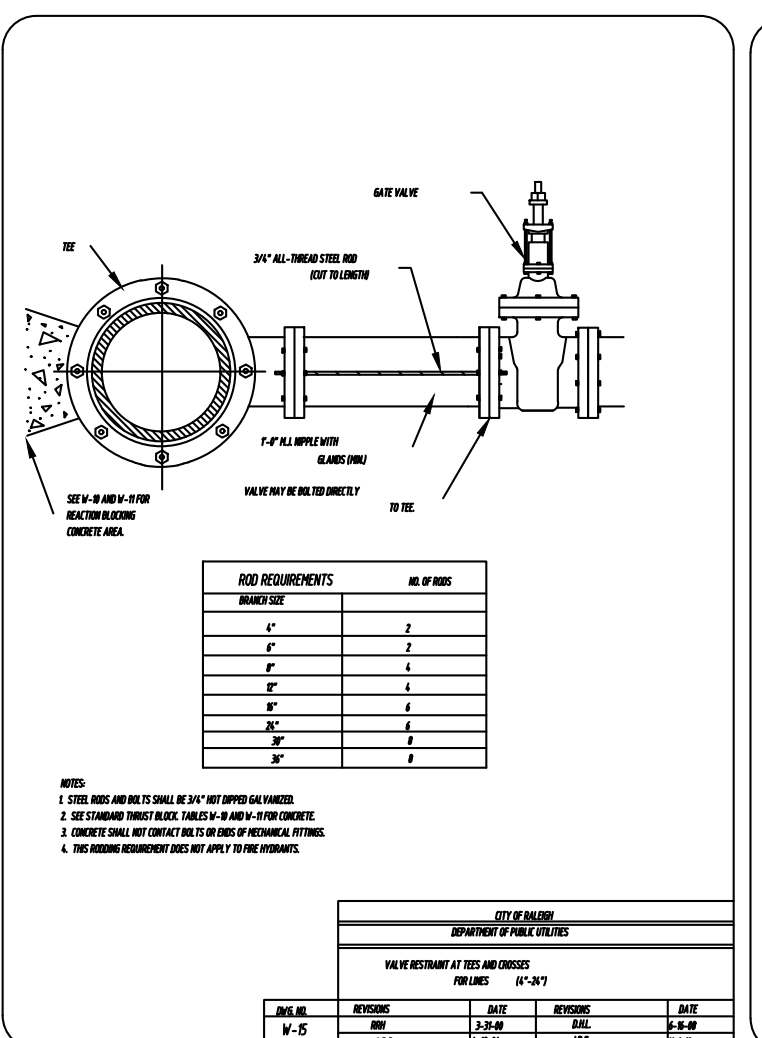
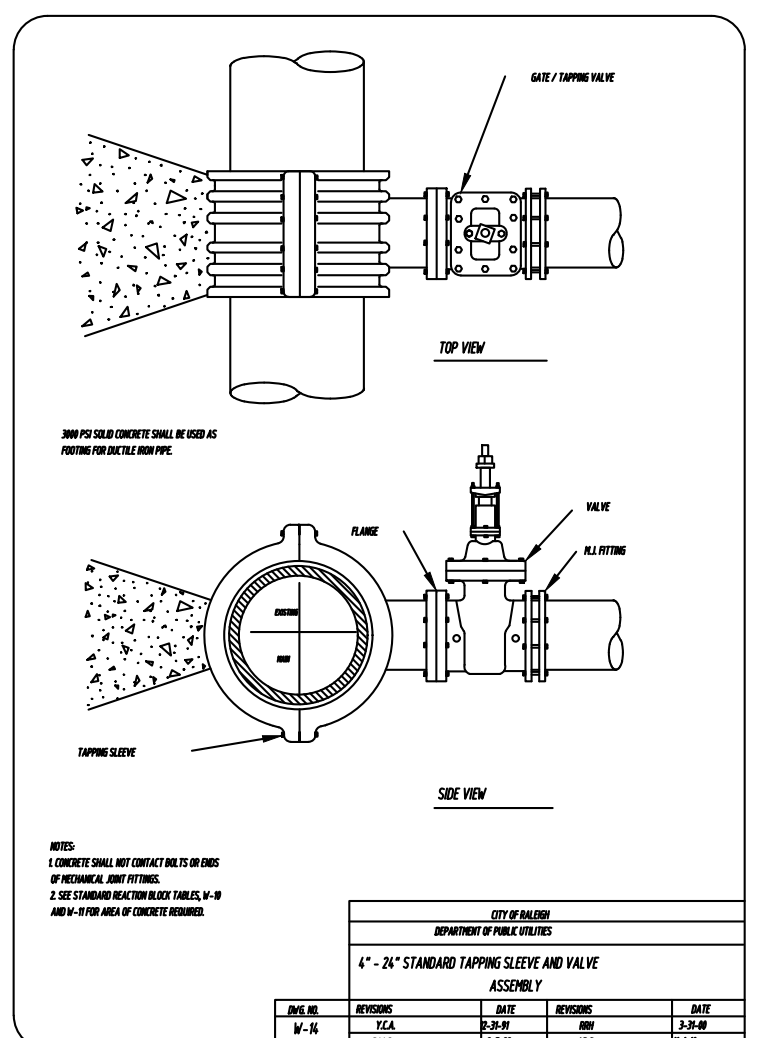
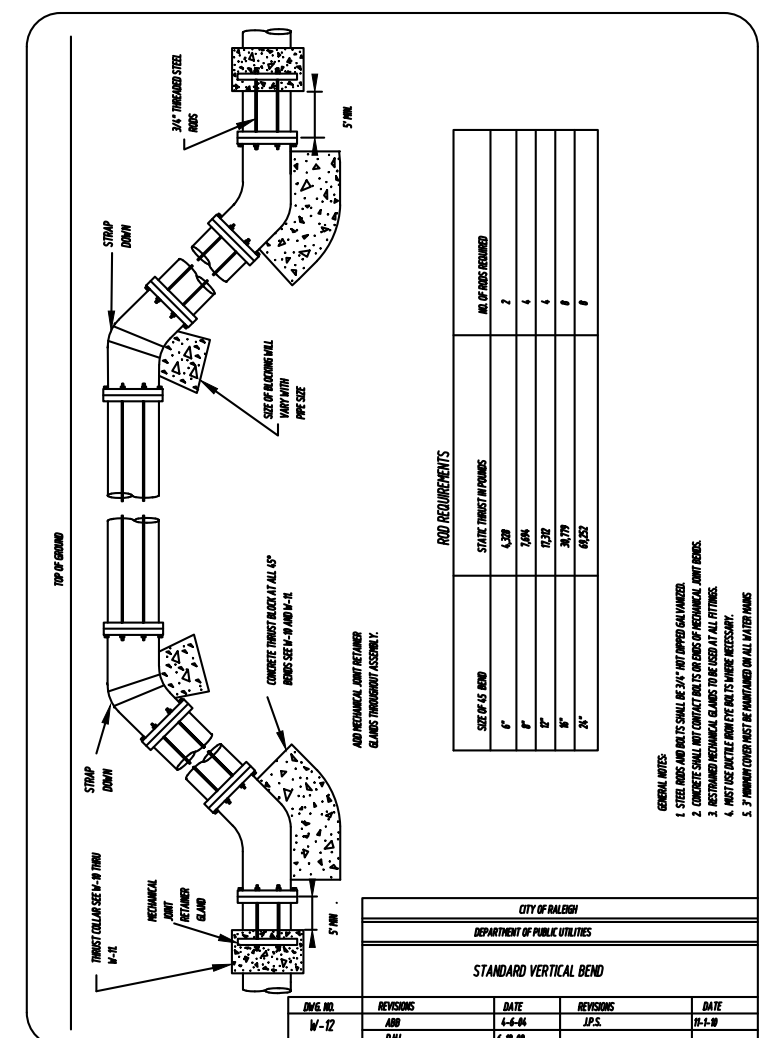
PLAN STATUS		
5/22/23	MASTER PLAN SUBMITTAL	
7/10/23	CONSTRUCTION DOCUMENTS	
8/25/23	PER TOWN CD REVIEW	
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10/30/23	SIGNATURE SET	
DATE	DESCRIPTION	
	MEL DESIGN	XXX CHKD
	MEL DRAWN	
	SCALE	
JOB No.	220133-01-001	
DATE	March 14, 2023	
FILE No.	220133-01-001	



PLAN STATUS	
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RECTOR BEARING AREA OF APPROVED 1/2\"/>				
NO.	DESCRIPTION	QTY	REVISION	DATE
W-7	STANDARD FIRE HYDRANT DETAIL			



ATTENTION CONTRACTORS

The Construction Contractor responsible for the extension of water, sewer, and/or gas, as approved in these plans, is responsible for contacting the Public Utilities Department at (919)996-4540 at least twenty four hours prior to beginning any of their construction.

Failure to notify both City Departments in advance of beginning construction, will result in the issuance of monetary fines and require reinstallation of any water or sewer facilities not inspected as a result of this notification failure.

Failure to call for Inspection, Install a Downstream Plug, have Permitted Plans on the Jobsite, or any other Violation of City of Raleigh Standards will result in a Fine and Possible Exclusion from future work in the City of Raleigh.

- APPROVED RPDA ASSEMBLIES:**
- APPROVED 6" RPDA (REDUCED PRESSURE DETECTOR ASSEMBLY) BACKFLOW PREVENTERS:
 - AMES: 5000 FEBCO: 826YD, 909RPDA
 - APOLLO/CONCRACO: 4070CE3 WILKINS: 375ADA
- APPROVED RPZ ASSEMBLIES:**
- APPROVED 1" RPZ BACKFLOW PREVENTERS:
 - AMES 4000B
 - FEBCO 825 Y & YA
 - WATTS 009M20T
- APPROVED RPZ ASSEMBLIES:**
- APPROVED 2" RPZ BACKFLOW PREVENTERS:
 - AMES 400B, U400B
 - FEBCO 825 Y & YA
 - WATTS 009M10T, 009Q7
 - APOLLO 4020B02, RP40 FEBCO 860, 825YAR
 - WILKINS 375, 375B

Town Certification:

This design has been reviewed by the Engineer for the Town of Knightdale, and to be the best of my knowledge and belief, it conforms to the requirements established in the Standard Specifications of the Town of Knightdale.

By: _____ Date: _____

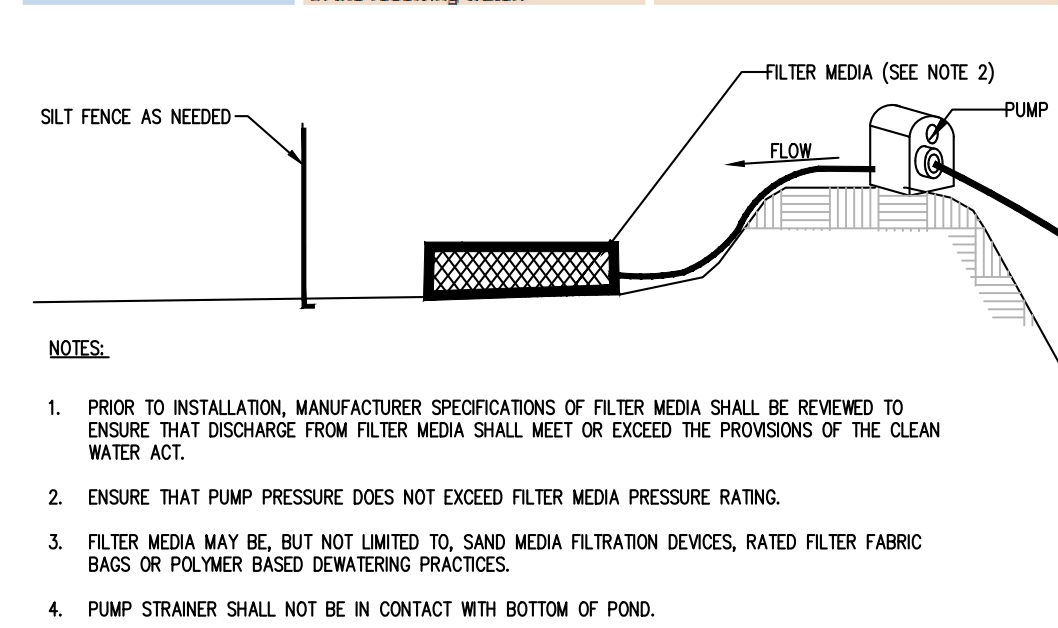
Development Services Engineer

These plans are approved by the Town of Knightdale and serve as construction plans for this project.

By: _____ Date: _____

Administrator

SCM element:	Potential problems:	How to remediate the problem:
The entire wetland	Trash/debris is present.	Remove the trash/debris.
The perimeter of wetland	Areas of bare soil and/or erosive gullies have formed.	Regrade the soil if necessary to remove the gully, and then plant a ground cover and water until it is established. Provide lime and a one-time fertilizer application.
Inlet device	The inlet pipe is clogged (if applicable). The inlet pipe is cracked or otherwise damaged (if applicable).	Unclog the pipe. Dispose of the sediment in a location where it will not cause impacts to streams or the SCM. Repair or replace the pipe.
Forebay	Erosion is occurring in the swale (if applicable). Sediment has accumulated in the forebay to a depth of less than 15" or that inhibits the forebay from functioning well. Erosion has occurred.	Regrade the swale if necessary and provide erosion control devices such as reinforced turf matting or riprap to avoid future problems with erosion. Search for the source of the sediment and remedy the problem if possible. Remove the sediment and dispose of it in a location where it will not cause impacts to streams or the SCM. Provide additional erosion protection such as reinforced turf matting or riprap if needed to prevent future erosion problems.
	Weeds are present.	Remove the weeds, preferably by hand. If a pesticide is used, wipe it on the plants rather than spraying.
	Algal growth covers over 30% of the deep pool and shallow water areas.	Consult a professional to remove and control the algal growth.
Deep pool, shallow water and shallow land areas	Cattails, phragmites or other invasive plants cover 30% of the deep pool and shallow water areas. The temporary inundation zone remains flooded more than 5 days after a storm event. Plants are dead, diseased or dying.	Remove the invasive plants by hand or by wiping them with pesticide (do not spray) - consult a professional if necessary. Unclog the outlet device immediately. Determine the source of the problem: soils, hydrology, disease, etc. Remedy the problem and replace plants. Provide a one-time fertilizer application to establish the ground cover if necessary.
	Sediment has accumulated and reduced the depth to 75% of the original design depth of the deep pools.	Search for the source of the sediment and remedy the problem if possible. Remove the sediment and dispose of it in a location where it will not cause impacts to streams or the SCM.
Embankment	A tree has started to grow on the embankment. An annual inspection by an appropriate professional shows that the embankment needs repair.	If tree is <6" in diameter, remove the tree. If the tree is >6" in diameter, consult a dam safety specialist to remove the tree. Make all needed repairs.
	Evidence of muskrat or beaver activity is present.	Consult a professional to remove muskrats or beavers and repair any holes or erosion.
Micropool	Sediment has accumulated and reduced the depth to 75% of the original design depth.	Search for the source of the sediment and remedy the problem if possible. Remove the sediment and dispose of it in a location where it will not cause impacts to streams or the SCM.
Outlet Structure	Clogging has occurred. The outlet device is damaged.	Clean out the outlet device. Dispose of the sediment off-site. Repair or replace the outlet device.
Receiving water	Erosion or other signs of damage have occurred at the outlet. Discharges from the wetland are causing erosion or sedimentation in the receiving water.	Repair the damage and improve the flow dissipation structure. Contact the local NCDQ Regional Office.



BMP POND DEWATERING

SCIENTIFIC NAME	COMMON NAME	PLANTING ZONE	QUANTITY	HEIGHT	IDEAL DEPTH	NURSERY CONTAINER TYPE	SPACING	PLANTING SEASON
<i>Juncus effusus</i>	Common Rush	SHALLOW WATER	174	9" FOLIAGE HEIGHT	0-2'	4" TEA POT	2' O.C.	SPRING/AUTUMN
<i>Lithospermum carolinense</i>	Carolina Crosswort	SHALLOW WATER	174	9" FOLIAGE HEIGHT	0-9"	4" TEA POT	2' O.C.	SPRING/AUTUMN
<i>Scheuchzeria palustris</i>	Softstem Bulrush	SHALLOW WATER	174	9" FOLIAGE HEIGHT	0-6"	4" TEA POT	2' O.C.	SPRING/AUTUMN

SCIENTIFIC NAME	COMMON NAME	PLANTING ZONE	QUANTITY	HEIGHT	NURSERY CONTAINER TYPE	SPACING	PLANTING SEASON
<i>Eutrochium dubium</i>	Coastal Joy Pyc Weed	SHALLOW LAND	153	9" FOLIAGE HEIGHT	4" TEA POT	2' O.C.	SPRING/AUTUMN
<i>Eupatorium eriolatum</i>	Bonaset	SHALLOW LAND	153	9" FOLIAGE HEIGHT	4" TEA POT	2' O.C.	SPRING/AUTUMN
<i>Rhynchospora colorata</i>	Starwort Whitetop	SHALLOW LAND	153	9" FOLIAGE HEIGHT	4" TEA POT	2' O.C.	SPRING/AUTUMN

PLANTINGS

SEEDBED PREPARATION:

- CHISEL COMPACTED AREAS AND SPREAD TOPSOIL THREE INCHES DEEP OVER ADVERSE SOIL CONDITIONS, IF AVAILABLE.
- RIP THE ENTIRE AREA TO SIX INCHES DEEP.
- REMOVE ALL LOOSE ROCK, ROOTS AND OTHER OBSTRUCTIONS, LEAVING SURFACE REASONABLY SMOOTH AND UNIFORM.
- APPLY AGRICULTURAL LIME, FERTILIZER, AND SUPERPHOSPHATE UNIFORMLY AND MIX WITH SOIL (SEE SEEDING MIXTURE).
- CONTINUE TILLAGE UNTIL A WELL-PULVERIZED, FIRM, REASONABLY UNIFORM SEEDBED IS PREPARED FOUR TO SIX INCHES DEEP.
- SEED ON A FRESHLY PREPARED SEEDBED AND COVER SEED LIGHTLY WITH SEEDING EQUIPMENT OR CULTIPACK.
- AFTER SEEDING, MULCH IMMEDIATELY AFTER SEEDING AND ANCHOR MULCH.
- INSPECT ALL SEEDBED AREAS AND MAKE NECESSARY REPAIRS OR RE-SEEDINGS WITHIN THE PLANTING SEASON, IF POSSIBLE. IF STAND SHOULD BE MORE THAN 60% DAMAGED, RE-ESTABLISH FOLLOWING THE ORIGINAL LIME, FERTILIZER AND SEEDING RATES.
- CONSULT SABC ENVIRONMENTAL ENGINEERS ON MAINTENANCE TREATMENT AND FERTILIZATION AFTER PERMANENT COVER IS ESTABLISHED.
- THE PH, COMPACTION, AND OTHER ATTRIBUTES OF THE FIRST 12-INCH DEPTH OF THE SOIL SHALL BE ADJUSTED IF NECESSARY TO PROMOTE PLANT ESTABLISHMENT AND GROWTH.

LANDSCAPING NOTES:

ALL LANDSCAPING SHALL BE IN COMPLIANCE WITH THE NCDQ BMP REQUIREMENTS.
LANDSCAPE CONTRACTOR SHALL PROVIDE A TWO-YEAR WARRANTY FOR BMP PLANTING SURVIVAL/REPLACEMENT.
AT THE END OF THE FIRST YEAR AND AT THE END OF THE TWO-YEAR WARRANTY PERIOD, ALL PLANTS THAT DO NOT SURVIVE MUST BE REPLACED.
ESTABLISHMENT PROCEDURES, SUCH AS CONTROL OF INVASIVE WEEDS, ANIMAL AND VANDAL DAMAGE, MULCHING, RE-SEEDING, WATERING, AND WEED OR TUBE PROTECTION REPLACEMENT, SHALL BE IMPLEMENTED TO THE EXTENT NEEDED TO ENSURE PLANT SURVIVAL. STAKING MUST BE REMOVED AFTER ESTABLISHMENT (APPROXIMATELY 12 MONTHS), TO PREVENT GROUND (STRANGLING) OF ALL WOODY PLANTS.
FOR SOO NOTE REFER TO NOTE 1 - TOWN OF KNIGHTDALE SCM PLANTING NOTES, REFER TO LANDSCAPE PLAN FOR LOCATION OF AREAS TO BE SOO'D.
GRASS OR WILDFLOWER SEED MUST BE APPLIED AT THE RATES SPECIFIED BY THE SUPPLIERS. IF PLANT ESTABLISHMENT CANNOT BE ACHIEVED WITH SEEDING BY THE TIME OF SUBSTANTIAL COMPLETION OF THE STORMWATER FACILITY PORTION OF THE PROJECT, THEN THE CONTRACTOR SHALL PLANT THE AREA WITH WILDFLOWER SOO, PLUGS, CONTAINER PLANTS, OR OTHER MEANS TO COMPLETE THE SPECIFIED PLANTING AND PROTECT AGAINST EROSION BEFORE WATER IS ALLOWED TO ENTER THE STORMWATER BMP FACILITY.
ALL MATERIALS SHALL BE ACQUIRED FROM AN APPROVED NEEDED PLANT VENDOR. PLANT MATERIAL SHOULD BE PURCHASED FROM A LOCAL SOURCE TO ENSURE SURVIVABILITY. LOCAL VENDORS FOR THIS SITE INCLUDE:
- CALL DE NATIVE PLANT NURSERY 919-662-5566
- GROWING WILD NURSERY 919-299-6361
- NC FOREST SERVICE 919-731-7888
- PLANT DELIGHTS NURSERY 919-772-4794
- TARBELL NATIVE TREES 919-553-9927

REFER TO PLANTINGS ON THIS SHEET FOR TYPE AND LOCATION OF SHALLOW WATER AND TEMPORARY INUNDATION ZONE PLANTINGS.

IMMEDIATELY AFTER THE STORMWATER WETLAND DETENTION POND IS ESTABLISHED, THE PLANTS ABOVE THE PERMANENT POOL, ELEVATION AND PERIMETER OF THE BASIN SHOULD BE MARKED TWICE WEEKLY IF NEEDED UNTIL THE PLANTS BECOME ESTABLISHED (COMMONLY SIX WEEKS).

NO PORTION OF THE STORMWATER WETLAND DETENTION POND SHOULD BE FERTILIZED AFTER THE FIRST INITIAL FERTILIZATION THAT IS REQUIRED TO ESTABLISH THE PLANTS.

TOWN OF KNIGHTDALE SCM PLANTING NOTES:

THE DAM STRUCTURE, INCLUDING FRONT AND BACK EMBANKMENT SLOPES, OF THE POND SHALL BE VEGETATED WITH NON-CUMULATING TURF GRASS OR SOO. (CONTRIBUTE (HYBRID-BENLUDA) SOO GERMINATION OF NON-CUMULATING TURF WILL BE REQUIRED PRIOR TO FINAL CERTIFICATION FROM THE TOWN.
THE VEGETATED SHELF SHALL BE PLANTED WITH A MINIMUM OF THREE DIVERSE SPECIES OF HERBACEOUS, NATIVE VEGETATION AT A MINIMUM DENSITY OF 50 PLANTS PER 200 FEET OF SHELF AREA.
CONTRACTOR TO WORK WITH SOILS SCIENTIST TO ENSURE SOILS ARE ADEQUATE TO SUPPORT PROPER ESTABLISHMENT AND GROWTH OF THE AQUATIC PLANTINGS. CONTRACTOR TO AMEND SOILS AND INSTALL SOILS IN PLANT, SHRUB, AND TREE AREAS PER DETAILS, SOO SPECIFICATIONS, NCDQ SPECIFICATION, AND SOIL SCIENTIST RECOMMENDATIONS.
ALL AQUATIC PLANTINGS ARE TO BE INSTALLED DURING THE APPROPRIATE TIME OF YEAR TO ENSURE SURVIVABILITY. (LAST SPRING FROST AND THE FIRST FALL FROST)
ALL DISTURBED AREAS AROUND THE OUTSIDE OF THE DEVICE SHALL BE SEEDED WITH A LAWN AREA SEED MIX (PER SEEDING SPECIFICATIONS) NATIVE GRASSES, LEGUMES, CLOVERS, AND WILDFLOWERS.
IF THE DEVICE WAS USED DURING CONSTRUCTION AS A SEDIMENT BASIN OR TRAP, THE BASIN MUST BE CLEANED, GRADED, APPROPRIATE AREAS COVERED WITH 4" OF TOPSOIL AS SPECIFIED IN NOTE #2 ABOVE, AND VEGETATED WITHIN 14 DAYS OF THE COMPLETION OF CONSTRUCTION.
CONTRACTOR SHALL WATER ALL VEGETATION AND GRASS ON A WEEKLY BASIS AS NEEDED TO ENSURE GRASS AND PLANT SURVIVAL UNTIL AFTER THE SCM IS CERTIFIED AND ACCEPTED BY THE TOWN.

STORMWATER MANAGEMENT NOTES:

- THE DEVELOPER OR HIS AGENT SHALL CONTACT THE DESIGN ENGINEER WHEN THE BEST MANAGEMENT PRACTICE(S) ARE CONSTRUCTED AND ABOUT TO BECOME OPERATIONAL, SO A FINAL INSPECTION CAN BE PERFORMED TO DETERMINE COMPLIANCE WITH THE APPROVED PLAN CAN BE PERFORMED.
- ANNUAL MAINTENANCE INSPECTION AND REPORT REQUIRED - THE OWNER OF A PERMITTED STRUCTURAL STORMWATER BMP/CONTROL SHALL ANNUALLY SUBMIT A MAINTENANCE AND INSPECTION REPORT FOR EACH BMP TO THE STORMWATER ADMINISTRATOR. ANNUAL INSPECTIONS SHALL BEGIN WITHIN ONE YEAR OF THE RECORDED OF ANY DEED(S) SHOWING STORMWATER BMP/CONTROL STRUCTURES.
- UPON COMPLETION OF THE PROJECT, AND BEFORE A CERTIFICATE OF OCCUPANCY SHALL BE GRANTED, THE ENGINEER OF RECORD SHALL CERTIFY THAT THE COMPLETED PROJECT IS IN ACCORDANCE WITH THE APPROVED STORMWATER MANAGEMENT PLANS AND DESIGNS.
- A FINAL INSPECTION OF THE SITE AND STORMWATER MANAGEMENT BMP/CONTROLS TO BE SCHEDULED WITH AND COMPLETED BY THE PROJECT ENGINEER.
- TOWN OF KNIGHTDALE AND THEIR ASSIGNS HAVE RIGHT TO ACCESS THE STORMWATER CONTROL(S) FOR INSPECTIONS OR MAINTENANCE AS NECESSARY.
- THE ENGINEER'S CERTIFICATION OF COMPLETION WILL BE REQUIRED PRIOR TO THE FINAL PLAT OR CERTIFICATE OF OCCUPANCY. THE STORMWATER CONTROL IS TO BE INSPECTED TO ENSURE IT IS FUNCTIONING AS DESIGNED AND HAS FULL DESIGN VOLUME PRIOR TO ISSUANCE OF THE FINAL CERTIFICATE OF OCCUPANCY.
- THE PROPERTY OWNER IS RESPONSIBLE FOR MAINTAINING THE STORMWATER CONTROL(S) ACCORDING TO THE APPROVED MAINTENANCE PLAN AND DIRECTION OF TOWN OF KNIGHTDALE.
- THE ENGINEER'S CERTIFICATION OF COMPLETION WILL BE REQUIRED PRIOR TO THE FINAL PLAT OR CERTIFICATE OF OCCUPANCY. THE STORMWATER CONTROL IS TO BE INSPECTED TO ENSURE IT IS FUNCTIONING AS DESIGNED AND HAS FULL DESIGN VOLUME PRIOR TO ISSUANCE OF THE FINAL CERTIFICATE OF OCCUPANCY.

TOWN OF KNIGHTDALE SCM INSPECTION NOTES

WHEN SCHEDULING INSPECTIONS, PLEASE CALL THE PUBLIC WORKS ADMINISTRATIVE ASSISTANT AT (919) 217-2250.

PLEASE NOTE: THE FOLLOWING PERSONNEL MUST BE PRESENT AT ALL INSPECTIONS:
1) SITE SUPERVISOR
2) GEOTECH
3) AS-BUILT CERTIFYING ENGINEER OR SOMEONE UNDER THEIR SUPERVISION

THE FOLLOWING ITEMS MUST BE INSPECTED BY TOK STAFF DURING THE INSTALLATION OF ANY SCM WITH DAM:

- KEY TRENCH EXCAVATION:
 - PRINCIPAL SPLLYWAY PIPE AND ASSOCIATED COMPONENTS:
 - CONCRETE CRADLE
 - ANTI-SEEP COLLAR
 - SEEPAGE DIAPHRAGM
- OUTLET STRUCTURE
- ANTI-FLOTATION BALLAST
- ANY SITE-CONSTRUCTED REINFORCED CONCRETE STRUCTURES

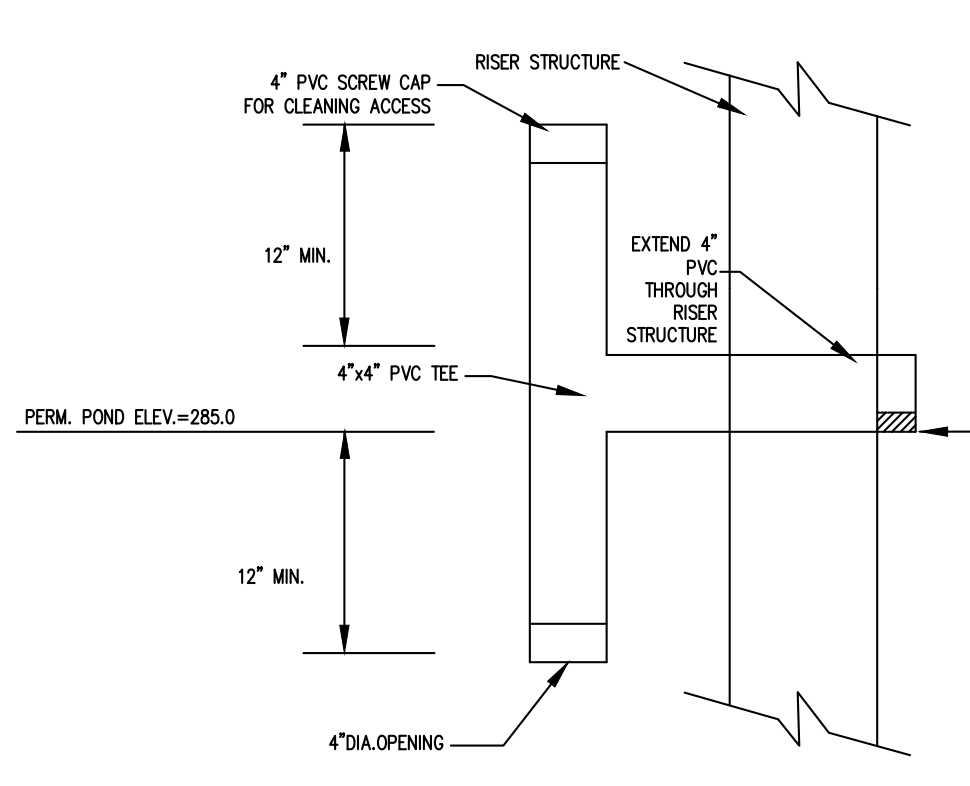
THE FOLLOWING ITEMS MUST BE INSPECTED BY TOK STAFF DURING THE INSTALLATION OF ANY SAND FILTERS OR BIOTRENTION DEVICES:

- SUBGRADE OR CONSTRUCTED FOUNDATION
- OUTLET OR RISER IN COMBINATION WITH CONNECTING UNDERDRAINS
- FILTER MEDIA
- DAM ITEMS ON PREVIOUS LIST IF APPLICABLE

GEOTECHNICAL TESTING AND CERTIFICATION

ALL REPORTS ARE TO BE SUBMITTED WITHIN 30-DAYS OF DAM COMPLETION. REQUIRED GEOTECHNICAL RECORDS INCLUDE:

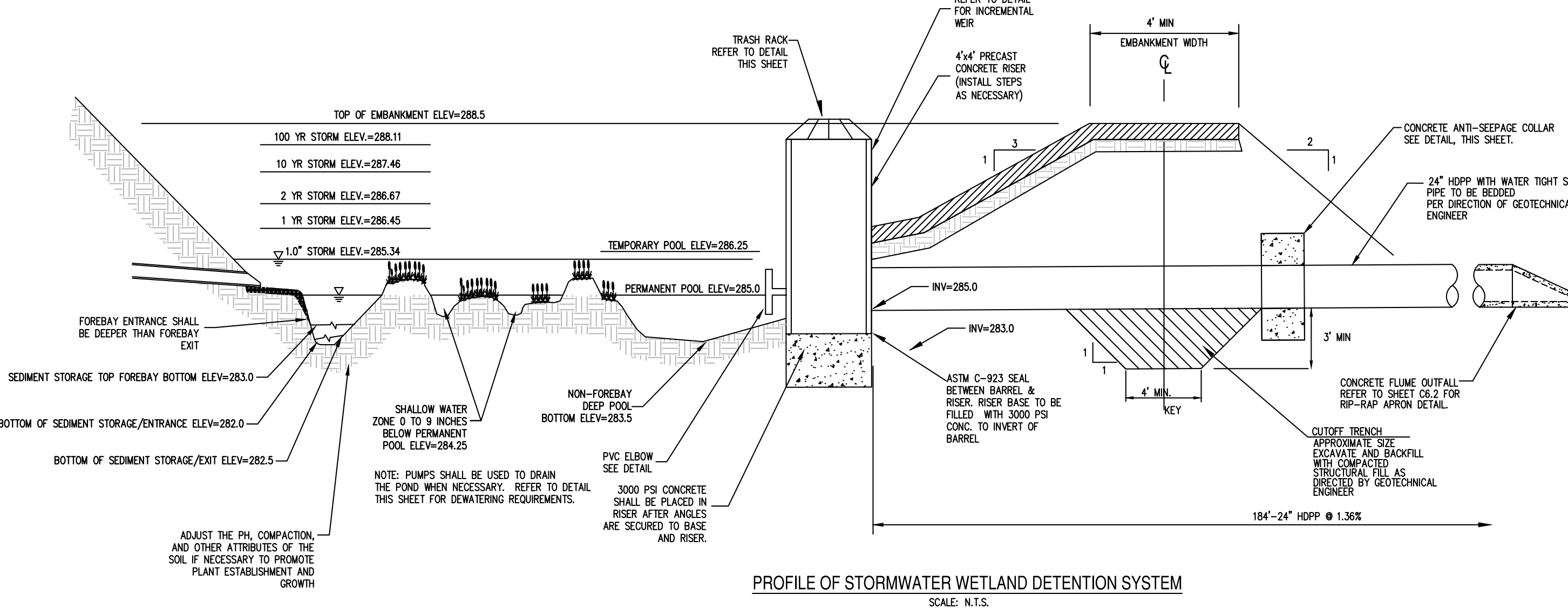
- DAM EMBANKMENT MATERIAL COMPOSITION AND DENSITY TESTING
- MAP THAT LABELS ALL POINTS WHERE THE DAM AND DAM FOUNDATION AREAS WERE TESTED
- DIGITAL PHOTOS SHOWING THE DAM FOUNDATION AREAS, THE RISER, THE PRINCIPLE SPLLYWAY PIPE, THE CONCRETE CRADLE, THE SEEPAGE DIAPHRAGM, RELIEF DRAINS, ETC., BEING INSTALLED.



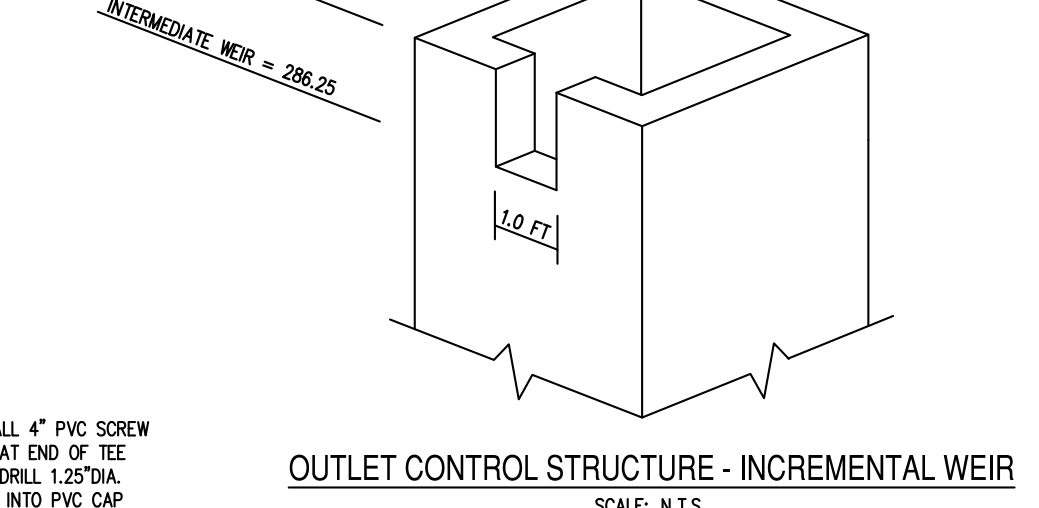
PVC DRAIN OUTLET
SCALE: N.T.S.

GENERAL NOTE

AT THE CONCLUSION OF THE PROJECT ALL SCM'S INSTALLED ON-SITE MUST BE CERTIFIED BY A DESIGN PROFESSIONAL AND THE TOWN OF GARNER ENGINEERING DEPARTMENT MUST RECEIVE ALL AS-BUILT DRAWINGS PRIOR TO RECEIVING THE CERTIFICATE OF OCCUPANCY.

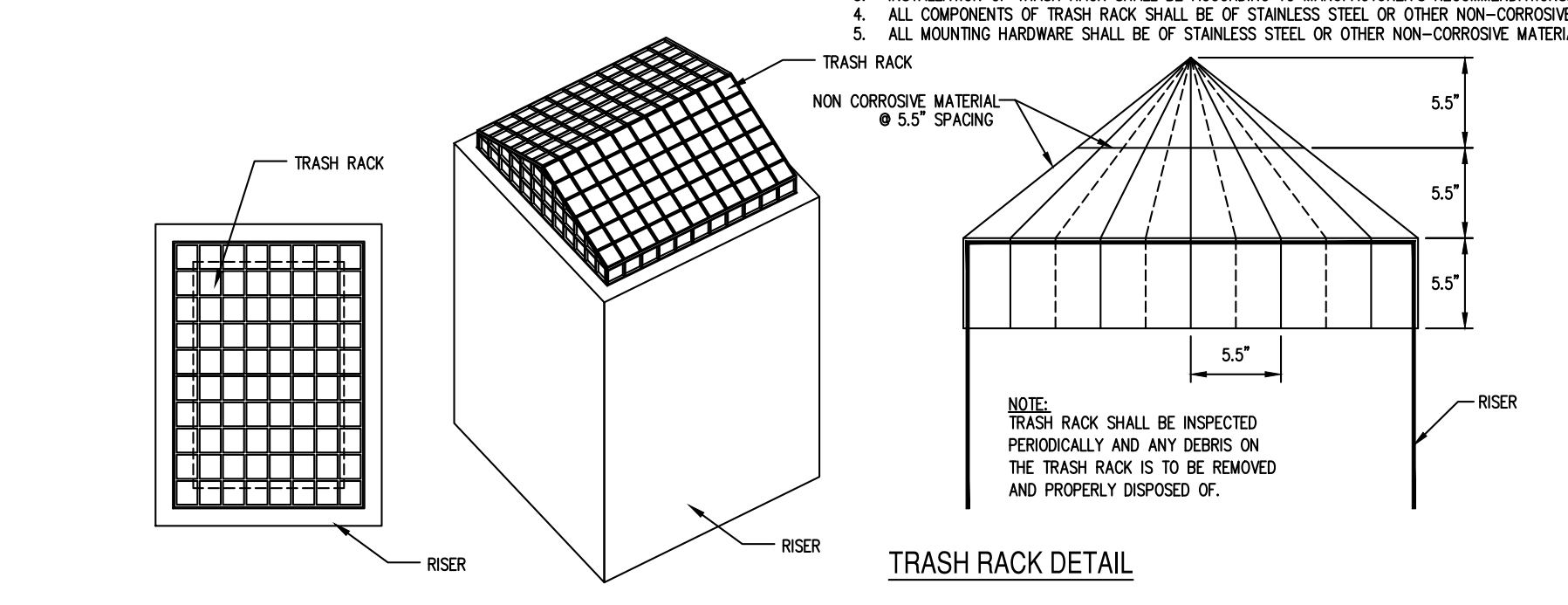


PROFILE OF STORMWATER WETLAND DETENTION SYSTEM
SCALE: N.T.S.

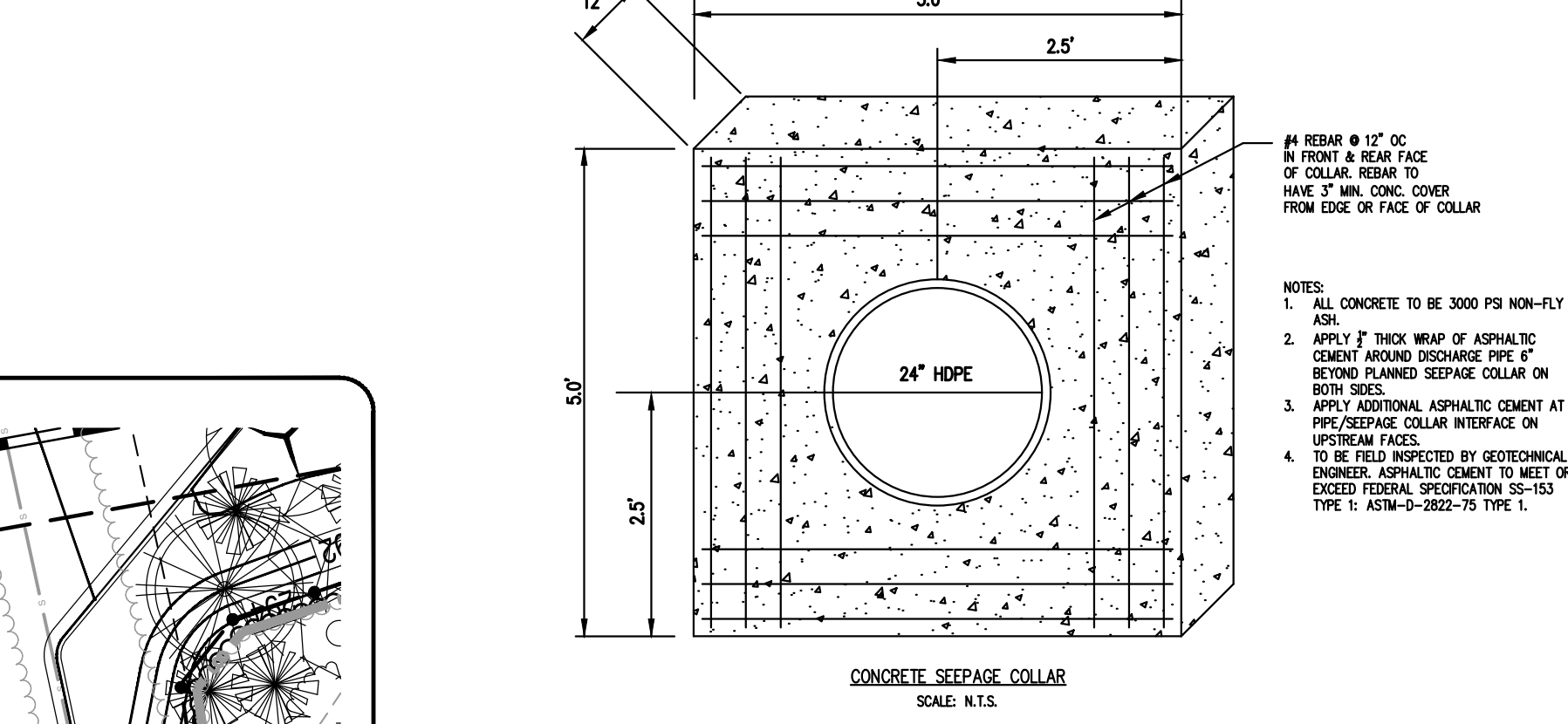


OUTLET CONTROL STRUCTURE - INCREMENTAL WEIR
SCALE: N.T.S.

STAGE (FT)	ELEVATION (FT)	CONTOUR AREA (SF)	INCREMENTAL STORAGE (CF)	TOTAL STORAGE (CF)
0.0	285.0	5500	0	0
0.5	285.5	6325	2956	2956
1.0	286.0	6965	3298	6254
1.25	286.25	7140	1751	8005 (NOV)
2.0	287.0	7420	5460	13464
3.0	288.0	8570	7995	21459
3.5	288.5	9170	4435	25894



TRASH RACK DETAIL



STORMWATER MANAGEMENT DESIGN STORMWATER WETLAND:

RIVER BASIN:	NEUSE
RECEIVING STREAM:	MANGO CREEK
STREAM INDEX:	27-32
STREAM CLASS:	CNSW
HUC:	03020201
PROJECT COORDINATES:	35.793316N, -78.487310W

DRAINAGE AREA TO POND:	2.70 ACRES
SITE IMPERVIOUS AREA TO POND:	1.514 ACRES
FUTURE-SITE DESIGN IMPERVIOUS AREA TO POND:	0.443 ACRES
TOTAL DESIGN IMPERVIOUS AREA TO POND:	1.957 ACRES

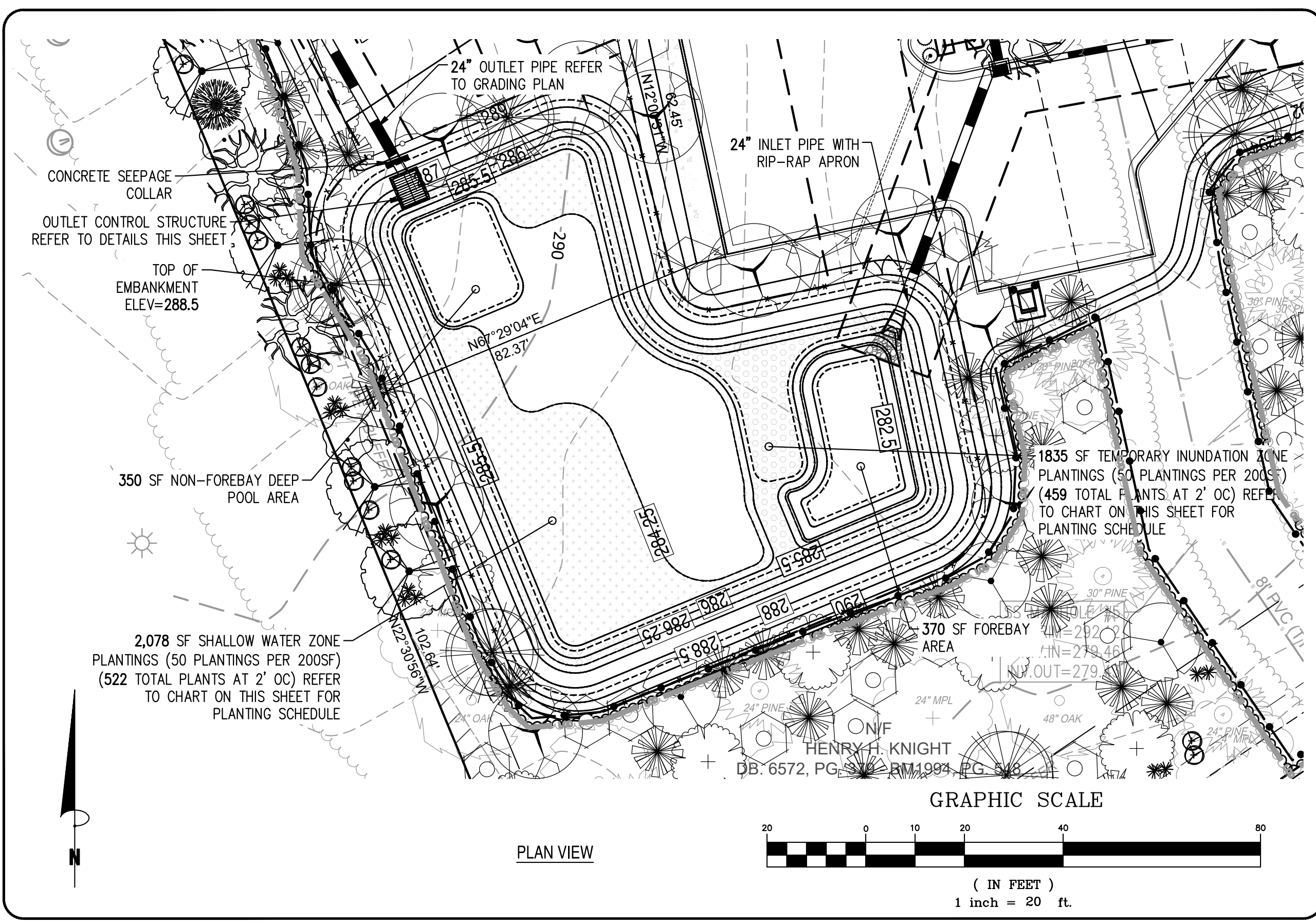
PRE-DEVELOPED TO POND	2.70 AC	POST-DEVELOPED THROUGH POND	0.022 CFS
CURVE NUMBER:	65.4	POST DEVELOPED BYPASS	0.631 CFS
TIME OF CONCENTRATION:	15.9 MIN	POST DEVELOPED COMBINED	0.970 CFS
			2.082 CFS
			2.800 CFS
			5.885 CFS

1.0\"/>

STORMWATER MANAGEMENT SYSTEM DETAILS

1. NOT TO SCALE

Town Certification:
This design has been reviewed by the Engineer for the Town of Knightdale, and to be the best of my knowledge and belief, it conforms to the requirements established in the Standard Specifications of the Town of Knightdale.
By: _____ Date: _____
Development Services Engineer
These plans are approved by the Town of Knightdale and serve as construction plans for this project.
By: _____ Date: _____
Administrator



PLAN VIEW
(IN FEET)
1 inch = 20 ft.



Bowman North Carolina Ltd.
4006 BARRETT DR
Suite 104
RALEIGH, NC 27609
Phone: (919)559-6570
bowman.com

KA&FC CONSTRUCTED WETLAND SCM 1
Kiddie Academy & Fresenius Kidney Center
Smithfield Road and McKnight Drive
Knightdale, NC Wake County ZCP-1-23/SEC-00012-2023

Primax Properties, LLC
Choice One Development, LLC



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- UTILITY SCREENING NOTE**
A/C UNITS, TRANSFORMERS AND OTHER ABOVE GROUND UTILITY STRUCTURES SHALL BE SCREENED FROM VIEW FROM THE RIGHT-OF-WAY WITH LANDSCAPING
- EXISTING TREE NOTE**
ALL EXISTING TREES THAT ARE NOTED TO REMAIN SHALL BE MONITORED AFTER CONSTRUCTION BEGINS TO ENSURE THAT THE TREE'S HEALTH HAS NOT BEEN COMPROMISED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVING AND REPLACING ANY TREES THAT FAIL TO MAINTAIN GOOD HEALTH AFTER CONSTRUCTION BEGINS.
- TREE PERCENTAGE NOTE**
ALL CANOPY TREES AND UNDERSTORY TREES SHALL BE 40%-60% EVERGREEN PER UDO SECTION 8.6
- PLANT SIZE NOTE**
ALL LANDSCAPING SHALL BE SUFFICIENT SIZE UPON INSTALLATION SO THAT MATURE APPEARANCE WILL BE ACHIEVED WITHIN THREE (3) YEARS FOR SHRUBS AND FIVE (5) YEARS FOR TREES PER 8.4.G
- UTILITY SCREEN NOTE**
ALL ABOVE GROUND UTILITIES INCLUDING TRANSFORMERS, BACKFLOWS, ETC., SHALL BE SCREENED IN ACCORDANCE WITH PER UDO SECTION 8.7.C

LANDSCAPE NOTES:
HYDROMULCH ALL DISTURBED AREAS OUTSIDE OF PROPERTY LIMITS (UNLESS SHOWN AS SOO).
THE LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE FOR THE MAINTENANCE OF ALL WORK SHOWN ON THESE PLANS FOR 90 DAYS BEYOND FINAL ACCEPTANCE OF THE OWNER. LANDSCAPE MAINTENANCE SHALL INCLUDE WEEKLY SITE VISITS FOR THE FOLLOWING ACTIONS (AS APPROPRIATE): PROPER PRUNING, RESTAKING OF TREES, RESETING OF PLANTS THAT HAVE SETTLED, MOWING AND AERATION OF LAWNS, WEEDING, RESEEDING AREAS WHICH HAVE NOT GERMINATED WELL, TREATING FOR INSECTS AND DISEASES, REPLACEMENT OF MULCH, REMOVAL OF LITTER, REPAIRS TO THE IRRIGATION SYSTEM DUE TO FAULTY PARTS AND/OR WORKMANSHIP, AND THE APPROPRIATE WATERING OF ALL PLANTINGS. THE LANDSCAPE CONTRACTOR SHALL MAINTAIN THE IRRIGATION SYSTEM IN PROPER WORKING ORDER, WITH SCHEDULING ADJUSTMENTS BY SEASON TO MAXIMIZE WATER CONSERVATION.
SHOULD SEEDED AND/OR SODDED AREAS NOT BE COVERED BY AN AUTOMATIC IRRIGATION SYSTEM, THE LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE FOR WATERING THESE AREAS AND OBTAINING A FULL STAND OF GRASS AT NO ADDITIONAL COST TO THE OWNER.

STREET TREES
1 CANOPY TREE
PER 40' OC

NOTE: BUFFERS TO BE SUPPLEMENTED WITH ADDITIONAL PLANTINGS IF BUFFER PLANTING STANDARDS CANNOT BE MET WITH EXISTING VEGETATION IN ACCORDANCE WITH CHAPTER 8 OF THE UDO.

510' - 10' TYPE A BUFFER
EXISTING VEGETATION TO REMAIN
TO MEET BUFFER REQUIREMENTS

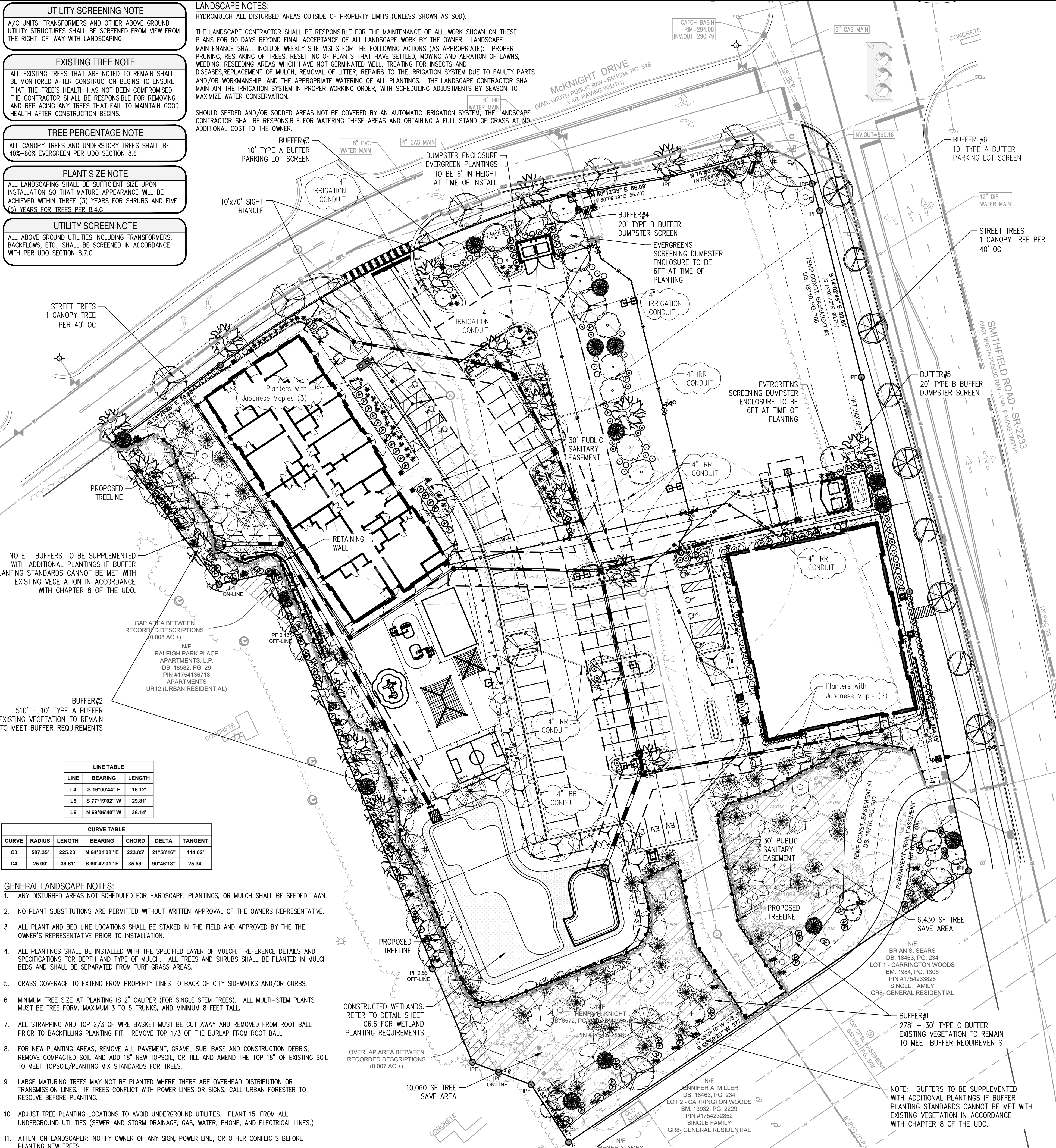
LINE	BEARING	LENGTH
L4	S 16°00'44" E	16.12'
L5	S 77°19'02" W	29.81'
L6	N 69°06'40" W	36.14'

CURVE	RADIUS	LENGTH	BEARING	CHORD	DELTA	TANGENT
C3	587.35'	225.23'	N 64°01'08" E	223.85'	21°58'16"	114.02'
C4	25.00'	39.61'	S 69°42'01" E	35.59'	90°46'13"	25.34'

- GENERAL LANDSCAPE NOTES:**
- ANY DISTURBED AREAS NOT SCHEDULED FOR HARDSCAPE, PLANTINGS, OR MULCH SHALL BE SEEDED LAWN.
 - NO PLANT SUBSTITUTIONS ARE PERMITTED WITHOUT WRITTEN APPROVAL OF THE OWNER'S REPRESENTATIVE.
 - ALL PLANT AND BED LINE LOCATIONS SHALL BE STAKED IN THE FIELD AND APPROVED BY THE OWNER'S REPRESENTATIVE PRIOR TO INSTALLATION.
 - ALL PLANTINGS SHALL BE INSTALLED WITH THE SPECIFIED LAYER OF MULCH. REFERENCE DETAILS AND SPECIFICATIONS FOR DEPTH AND TYPE OF MULCH. ALL TREES AND SHRUBS SHALL BE PLANTED IN MULCH BEDS AND SHALL BE SEPARATED FROM TURF GRASS AREAS.
 - GRASS COVERAGE TO EXTEND FROM PROPERTY LINES TO BACK OF CITY SIDEWALKS AND/OR CURBS.
 - MINIMUM TREE SIZE AT PLANTING IS 2" CALIPER (FOR SINGLE STEM TREES). ALL MULTI-STEM PLANTS MUST BE TREE FORM, MAXIMUM 3 TO 5 TRUNKS, AND MINIMUM 8 FEET TALL.
 - ALL STRAPPING AND TOP 2/3 OF WIRE BASKET MUST BE CUT AWAY AND REMOVED FROM ROOT BALL PRIOR TO BACKFILLING PLANTING PIT. REMOVE TOP 1/3 OF THE BURLAP FROM ROOT BALL.
 - FOR NEW PLANTING AREAS, REMOVE ALL PAVEMENT, GRAVEL SUB-BASE AND CONSTRUCTION DEBRIS; REMOVE COMPACTED SOIL AND ADD 18" NEW TOPSOIL, OR TILL AND AMEND THE TOP 18" OF EXISTING SOIL TO MEET TOPSOIL/PLANTING MIX STANDARDS FOR TREES.
 - LARGE MATURING TREES MAY NOT BE PLANTED WHERE THERE ARE OVERHEAD DISTRIBUTION OR TRANSMISSION LINES. IF TREES CONFLICT WITH POWER LINES OR SIGNS, CALL URBAN FORESTER TO RESOLVE BEFORE PLANTING.
 - ADJUST TREE PLANTING LOCATIONS TO AVOID UNDERGROUND UTILITIES. PLANT 15' FROM ALL UNDERGROUND UTILITIES (SEWER AND STORM DRAINAGE, GAS, WATER, PHONE, AND ELECTRICAL LINES).
 - ATTENTION LANDSCAPER: NOTIFY OWNER OF ANY SIGN, POWER LINE, OR OTHER CONFLICTS BEFORE PLANTING NEW TREES.

CONSTRUCTED WETLANDS.
REFER TO DETAIL SHEET
C6.6 FOR WETLAND
PLANTING REQUIREMENTS

OVERLAP AREA BETWEEN
RECORDED DESCRIPTIONS
(0.007 AC.)



MASTER PLANT LIST - STREET TREES											
TYPE	SYM/KEY	QUANTITY	BOTANICAL NAME	COMMON NAME	SYMBOL	CALIPER	HEIGHT	SPREAD	ROOT	SPACING	OTHER
LARGE TREES	UP	4	Ulmus parvifolia	Loebark Elm (Chinese)	☼	2.5"	8' MIN	30'	B&B	AS SHOWN	
	ZS	5	Zelkova serrata	Japanese Zelkova	☼	2.5"	8' MIN	20'	B&B	AS SHOWN	
UNDERSTORY TREES	SW	4	Ostrya virginiana	Sourwood	☼	1.5"	6' MIN	30'	B&B	AS SHOWN	
	FD	5	Comus florida	Flowering Dogwood	☼	1.5"	6' MIN	30'	B&B	AS SHOWN	

MASTER PLANT LIST - BUFFER LANDSCAPING											
TYPE	SYM/KEY	QUANTITY	BOTANICAL NAME	COMMON NAME	SYMBOL	CALIPER	HEIGHT	SPREAD	ROOT	SPACING	OTHER
LARGE TREES	UP	10	Ulmus parvifolia	Loebark Elm (Chinese)	☼	2.5"	8' MIN	30'	B&B	AS SHOWN	
	ZS	13	Zelkova serrata	Japanese Zelkova	☼	2.5"	8' MIN	20'	B&B	AS SHOWN	
	CA	6	Cupressus arizonica	Arizona Cypress	☼	2.5"	8' MIN	15'	B&B	AS SHOWN	
UNDERSTORY TREES	MM	9	Magnolia x spp.	Hybrid Evergreen Magnolia "Monland"	☼	1.25"	6' MIN	15'	B&B	AS SHOWN	
	BN	11	Betula nigra	River Birch	☼	1.25"	6' MIN	10'	B&B	AS SHOWN	
	KP	10	Koeleruteria paniculata	Goldenrain Tree	☼	1.25"	6' MIN	15'	B&B	AS SHOWN	
	PT	14	Pinus taeda	Dwarf Loblolly Pine	☼	1.25"	6' MIN	10'	B&B	AS SHOWN	
SHRUBS	RC	76	Rhododendron carolinianum	Carolina Rhododendron	☼	-	18" MIN	4'-5'	7 GAL	AS SHOWN	
	RI	85	Rhaphistelis indica "Ballerina Pink Dancer"	Indian Hawthorne	☼	-	18" MIN	3'-6"	3 GAL	AS SHOWN	
	ND	74	Nandina domestica "Atrappurpura nana"	Dwarf Nandina	☼	-	18" MIN	3'-4"	3 GAL	AS SHOWN	
	MB	10	Mahonia bealei	Leatherleaf Mahonia	☼	-	18" MIN	4'-5"	3 GAL	AS SHOWN	

MASTER PLANT LIST - INTERNAL LANDSCAPING											
TYPE	SYM/KEY	QUANTITY	BOTANICAL NAME	COMMON NAME	SYMBOL	CALIPER	HEIGHT	SPREAD	ROOT	SPACING	OTHER
LARGE TREES	UP	5	Ulmus parvifolia	Loebark Elm (Chinese)	☼	2.5"	8' MIN	30'	B&B	AS SHOWN	
	ZS	4	Zelkova serrata	Japanese Zelkova	☼	2.5"	8' MIN	20'	B&B	AS SHOWN	
SMALL TREE	AP	5	Acer palmatum	Japanese Maple	☼	2"	6' MIN	10'	B&B	AS SHOWN	PATIO PLANTERS
SHRUBS	RC	34	Rhododendron carolinianum	Carolina Rhododendron	☼	-	18" MIN	4'-5"	7 GAL	AS SHOWN	
	RI	42	Rhaphistelis indica "Ballerina Pink Dancer"	Indian Hawthorne	☼	-	18" MIN	3'-6"	3 GAL	AS SHOWN	
	ND	49	Nandina domestica "Atrappurpura nana"	Dwarf Nandina	☼	-	18" MIN	3'-4"	3 GAL	AS SHOWN	
	MB	33	Mahonia bealei	Leatherleaf Mahonia	☼	-	18" MIN	4'-5"	3 GAL	AS SHOWN	

- LANDSCAPING NOTES:**
- CONTRACTOR SHALL BE RESPONSIBLE FOR COMPLETING ALL REQUIRED LANDSCAPING FOR THE ENTIRE SITE, TO INCLUDE BUT NOT LIMITED TO: SODDED/SEEDED AREAS, SHRUB BEDS, PARKING LOT ISLANDS, ROADSIDE SIGN BASE(S) AND MONUMENT PLANTERS.
 - CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE CODES AND ORDINANCES REGARDING LANDSCAPING.
 - IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO ESTABLISH A HEALTHY STAND OF GRASS ON ALL SEEDED AREAS.
 - IN THE EVENT THAT PLANTING BEDS AND MULCH ARE REQUIRED, THE CONTRACTOR SHALL INSTALL BLACK FABRIC WEED BLOCK LANDSCAPE MESH UNDER THE MULCH TO PREVENT WEED GROWTH.
 - CONTRACTOR SHALL PROVIDE NATURAL TOPSOIL THAT IS FERTILE, FRIABLE, WITHOUT MIXTURE OF SUBSOIL MATERIALS, AND OBTAINED FROM A WELL DRAINED, AVAILABLE SITE. IT SHALL NOT CONTAIN SUBSTANCES WHICH MAY BE HARMFUL TO PLANT GROWTH. TOPSOIL SHALL BE SCREENED AND FREE FROM CLAY, LUMPS, STONES, ROOTS, PLANTS, OR SIMILAR SUBSTANCES 1" OR MORE IN DIAMETER, DEBRIS, OR OTHER OBJECTS WHICH MIGHT BE A HINDERANCE TO PLANTING OPERATIONS. TOPSOIL SHALL CONTAIN AT LEAST 4-6% ORGANIC MATTER BY WEIGHT AND HAVE A PH RANGE OF 5.5 TO 7.0.
 - CONTRACTOR SHALL BE RESPONSIBLE FOR THE WATERING AND THE MAINTENANCE OF ALL LANDSCAPED AREAS UNTIL THE LATER OF: (a) THIRTY (30) DAYS FOLLOWING THE PLANTING OF THE GRASS AND SHRUBS, OR (b) THE DATE THAT BUILDINGS OPEN FOR BUSINESS TO THE PUBLIC.
 - GENERAL CONTRACTOR IS TO CLEAN ENTIRE SITE OF ALL CONSTRUCTION DEBRIS AND RAKE ALL GRASS AREAS.
 - PROVIDE LANDSCAPE PLANS TO OWNER AND AS REQUIRED BY LOCAL JURISDICTION TO THE BLDG. DEPT. FOR REVIEW AND APPROVAL PRIOR TO START OF WORK.
 - ALL LANDSCAPING, TREES, SHRUBS, ETC. SHALL NOT INTERFERE WITH THE VISIBILITY OF PROJECT SIGNAGE.
 - CONTRACTOR TO VERIFY QUANTITIES PRIOR TO COMMENCING WORK.
 - OPEN AREAS WITHIN PLANTING BEDS SHALL BE MULCHED.

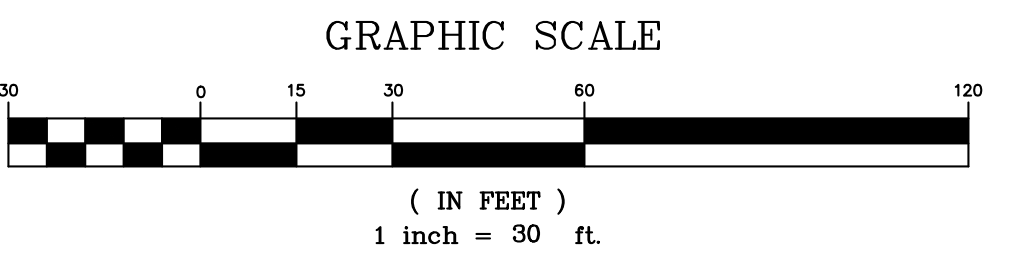
BUFFER YARD CALCULATIONS:	
BUFFER#1 30' TYPE C BUFFER TOTAL BUFFER YARD LENGTH = 278' REQUIRED: CANOPY TREES (5/100LF) = 14 UNDERSTORY TREES (2/100LF) = 14 SHRUBS (25/100LF) = 70 PROVIDED: EXISTING VEGETATION TO REMAIN TO MEET BUFFER REQUIREMENTS CANOPY TREES = 14 EXISTING + 2 (50% EVERGREEN) UNDERSTORY TREES = 14 (50% EVERGREEN) SHRUBS = 70 (100% EVERGREEN)	BUFFER#3 10' TYPE A BUFFER (PARKING LOT SCREEN) TOTAL BUFFER YARD LENGTH = 55' REQUIRED: CANOPY TREES (3/100LF) = 2 UNDERSTORY TREES (2/100LF) = 2 SHRUBS (20/100LF) = 11 PROVIDED: CANOPY TREES = 2 PROPOSED (50% EVERGREEN) UNDERSTORY TREES = 4 PROPOSED (50% EVERGREEN) SHRUBS = 18 PROPOSED (100% EVERGREEN)
BUFFER#2 10' TYPE A BUFFER TOTAL BUFFER YARD LENGTH = 510' REQUIRED: CANOPY TREES (3/100LF) = 16 UNDERSTORY TREES (2/100LF) = 11 SHRUBS (20/100LF) = 102 PROVIDED: EXISTING VEGETATION TO REMAIN TO MEET BUFFER REQUIREMENTS CANOPY TREES = 16 (50% EVERGREEN) UNDERSTORY TREES = 11 (50% EVERGREEN) SHRUBS = 102 (100% EVERGREEN)	BUFFER#4 & #5 20' TYPE B BUFFER (DUMPSTER SCREEN) TOTAL BUFFER YARD LENGTH = 45' REQUIRED: CANOPY TREES (3/100LF) = 2 UNDERSTORY TREES (2/100LF) = 3 SHRUBS (20/100LF) = 9 PROVIDED: CANOPY TREES = 2 PROPOSED (50% EVERGREEN) UNDERSTORY TREES = 4 PROPOSED (50% EVERGREEN) SHRUBS = 13 PROPOSED (100% EVERGREEN)
BUFFER#6 10' TYPE A BUFFER TOTAL BUFFER YARD LENGTH = 105' REQUIRED: CANOPY TREES (3/100LF) = 4 UNDERSTORY TREES (5/100LF) = 6 SHRUBS (20/100LF) = 21 PROVIDED: CANOPY TREES = 6 PROPOSED (60% EVERGREEN) UNDERSTORY TREES = 7 PROPOSED (60% EVERGREEN) SHRUBS = 27 PROPOSED (100% EVERGREEN)	

TREE SAVE AREA NOTE:
EXISTING TREES IN TREE SAVE AREA MUST NOT BE DISTURBED.

IRRIGATION NOTE:
IRRIGATION SYSTEM TO BE A DESIGN-BUILD SYSTEM PROVIDED BY THE CONTRACTOR. IRRIGATION HEADS TO BE A MINIMUM OF 3' FROM EDGE OF CURB LINE. ALL LANDSCAPE BEDS TO HAVE OUT EDGE OR COMMERCIAL EDGING MATERIAL INSTALLED FULLY SEPARATING THE MULCH BED FROM ADJACENT LAWN AREA. ANY TREES OVER 2" CALIPER MUST BE STAKED AND TIED.

SIGHT TRIANGLE NOTE
WITHIN THE SIGHT TRIANGLES SHOWN ON THIS PLAN, NO OBSTRUCTION BETWEEN TWO (2) FEET AND EIGHT (8) FEET IN HEIGHT ABOVE THE CURB LINE ELEVATION OR THE NEAREST TRAVELED WAY, IF NO CURBING EXISTS.

Town Certification:
This design has been reviewed by the Engineer for the Town of Knightdale, and to be the best of my knowledge and belief, it conforms to the requirements established in the Standard Specifications of the Town of Knightdale.
By: _____ Date: _____
Development Services Engineer
These plans are approved by the Town of Knightdale and serve as construction plans for this project.
By: _____ Date: _____
Administrator



Bowman North Carolina Ltd.
4006 BARRETT DR
Suite 104
RALEIGH, NC 27609
Phone: (919)559-6570
bowman.com

LANDSCAPE PLAN
Kiddie Academy & Fresenius Kidney Center
Smithfield Road and McKnight Drive
Knightdale, NC Wake County ZCP-1-23/SEC-000012-2023

Primax Properties, LLC
Choice One Development, LLC



PLAN STATUS		
5/22/23	MASTER PLAN SUBMITTAL	
7/10/23	CONSTRUCTION DOCUMENTS	
8/25/23	PER TOWN CD REVIEW	
10/04/23	PER TOWN CD REVIEW	
10/30/23	SIGNATURE SET	
DATE	DESCRIPTION	
MEL DESIGN	MEL DRAWN	XXX CHKD
SCALE	H:	V:
JOB No.	220133-01-001	
DATE	March 14, 2023	
FILE No.	220133-01-001	
SHEET	C7.0	

UTILITY SCREENING NOTE

A/C UNITS, TRANSFORMERS AND OTHER ABOVE GROUND UTILITY STRUCTURES SHALL BE SCREENED FROM VIEW FROM THE RIGHT-OF-WAY WITH LANDSCAPING

EXISTING TREE NOTE

ALL EXISTING TREES THAT ARE NOTED TO REMAIN SHALL BE MONITORED AFTER CONSTRUCTION BEGINS TO ENSURE THAT THE TREE'S HEALTH HAS NOT BEEN COMPROMISED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVING AND REPLACING ANY TREES THAT FAIL TO MAINTAIN GOOD HEALTH AFTER CONSTRUCTION BEGINS.

TREE PERCENTAGE NOTE

ALL CANOPY TREES AND UNDERSTORY TREES SHALL BE 40%-60% EVERGREEN PER UDO SECTION 8.6

PLANT SIZE NOTE

ALL LANDSCAPING SHALL BE SUFFICIENT SIZE UPON INSTALLATION SO THAT MATURE APPEARANCE WILL BE ACHIEVED WITHIN THREE (3) YEARS FOR SHRUBS AND FIVE (5) YEARS FOR TREES PER 8.4.G

UTILITY SCREEN NOTE

ALL ABOVE GROUND UTILITIES INCLUDING TRANSFORMERS, BACKFLOWS, ETC., SHALL BE SCREENED IN ACCORDANCE WITH PER UDO SECTION 8.7.C

LANDSCAPE NOTES:

HYDROMULCH ALL DISTURBED AREAS OUTSIDE OF PROPERTY LIMITS (UNLESS SHOWN AS SOO).
 THE LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE FOR THE MAINTENANCE OF ALL WORK SHOWN ON THESE PLANS FOR 90 DAYS BEYOND FINAL ACCEPTANCE OF ALL LANDSCAPE WORK BY THE OWNER. LANDSCAPE MAINTENANCE SHALL INCLUDE WEEKLY SITE VISITS FOR THE FOLLOWING ACTIONS (AS APPROPRIATE): PROPER PRUNING, RESTAKING OF TREES, RESETING OF PLANTS THAT HAVE SETTLED, MOWING AND AERATION OF LAWNS, WEEDING, RESEEDING AREAS WHICH HAVE NOT GERMINATED WELL, TREATING FOR INSECTS AND DISEASES, REPLACEMENT OF MULCH, REMOVAL OF LITTER, REPAIRS TO THE IRRIGATION SYSTEM DUE TO FAULTY PARTS AND/OR WORKMANSHIP, AND THE APPROPRIATE WATERING OF ALL PLANTINGS. THE LANDSCAPE CONTRACTOR SHALL MAINTAIN THE IRRIGATION SYSTEM IN PROPER WORKING ORDER, WITH SCHEDULING ADJUSTMENTS BY SEASON TO MAXIMIZE WATER CONSERVATION.
 SHOULD SEEDING AND/OR SODDED AREAS NOT BE COVERED BY AN AUTOMATIC IRRIGATION SYSTEM, THE LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE FOR WATERING THESE AREAS AND OBTAINING A FULL STAND OF GRASS AT NO ADDITIONAL COST TO THE OWNER.

STREET TREES
1 CANOPY TREE PER 40' OC

10'x70' SIGHT TRIANGLE

NOTE: DO NOT DISTURB EXISTING TREES IN TREE SAVE AREAS

NOTE: BUFFERS TO BE SUPPLEMENTED WITH ADDITIONAL PLANTINGS IF BUFFER PLANTING STANDARDS CANNOT BE MET WITH EXISTING VEGETATION IN ACCORDANCE WITH CHAPTER 8 OF THE UDO.

510' - 10' TYPE A BUFFER EXISTING VEGETATION TO REMAIN TO MEET BUFFER REQUIREMENTS

LINE	BEARING	LENGTH
L4	S 16°00'44" E	16.12'
L5	S 77°19'02" W	29.81'
L6	N 69°06'40" W	36.14'

CURVE	RADIUS	LENGTH	BEARING	CHORD	DELTA	TANGENT
C3	587.35'	225.23'	N 64°01'08" E	223.85'	21°58'16"	114.02'
C4	25.00'	39.61'	S 69°42'01" E	35.59'	90°46'13"	25.34'

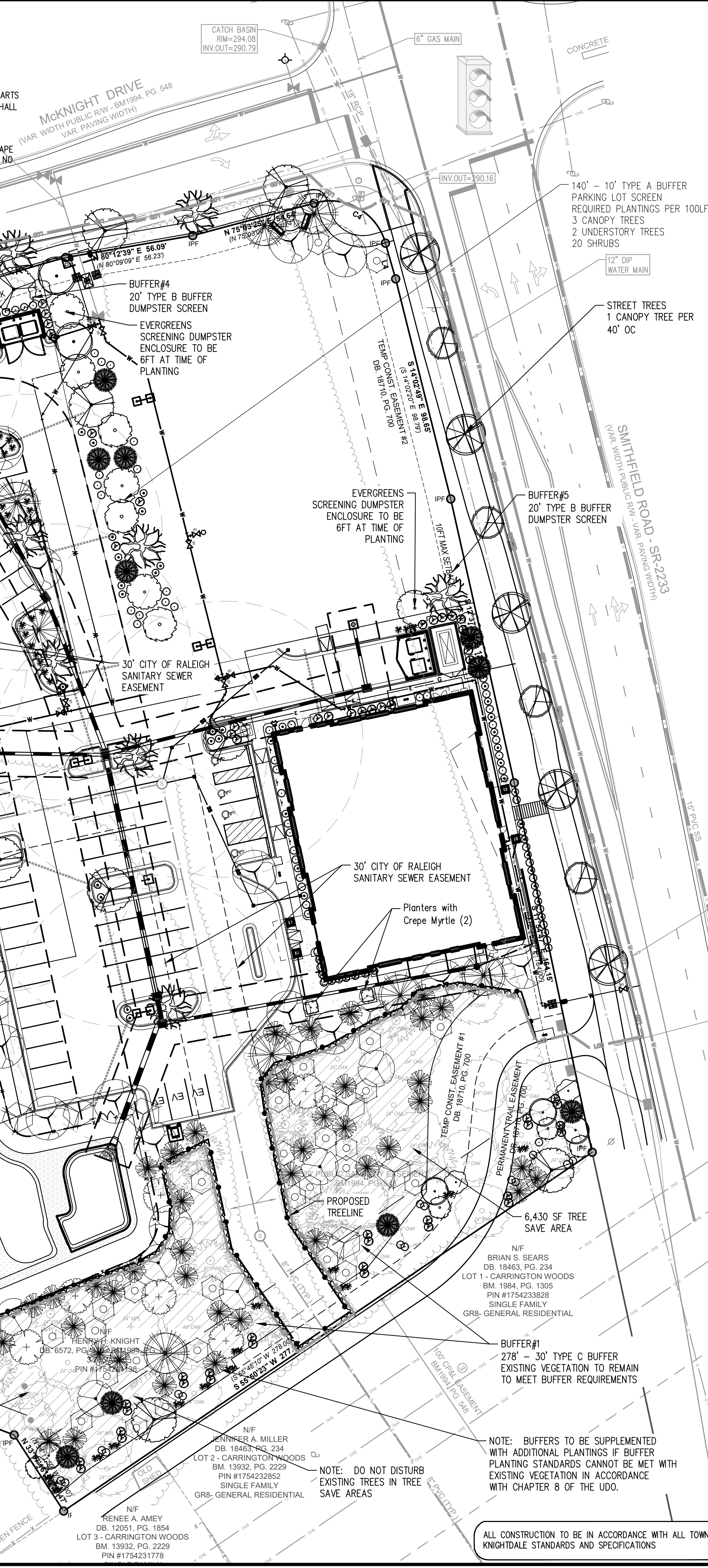
GENERAL LANDSCAPE NOTES:

- ANY DISTURBED AREAS NOT SCHEDULED FOR HARDSCAPE, PLANTINGS, OR MULCH SHALL BE SEEDED LAWN.
- NO PLANT SUBSTITUTIONS ARE PERMITTED WITHOUT WRITTEN APPROVAL OF THE OWNERS REPRESENTATIVE.
- ALL PLANT AND BED LINE LOCATIONS SHALL BE STAKED IN THE FIELD AND APPROVED BY THE OWNER'S REPRESENTATIVE PRIOR TO INSTALLATION.
- ALL PLANTINGS SHALL BE INSTALLED WITH THE SPECIFIED LAYER OF MULCH. REFERENCE DETAILS AND SPECIFICATIONS FOR DEPTH AND TYPE OF MULCH. ALL TREES AND SHRUBS SHALL BE PLANTED IN MULCH BEDS AND SHALL BE SEPARATED FROM TURF GRASS AREAS.
- GRASS COVERAGE TO EXTEND FROM PROPERTY LINES TO BACK OF CITY SIDEWALKS AND/OR CURBS.
- MINIMUM TREE SIZE AT PLANTING IS 2" CALIPER (FOR SINGLE STEM TREES). ALL MULTI-STEM PLANTS MUST BE TREE FORM, MAXIMUM 3 TO 5 TRUNKS, AND MINIMUM 8 FEET TALL.
- ALL STRAPPING AND TOP 2/3 OF WIRE BASKET MUST BE CUT AWAY AND REMOVED FROM ROOT BALL PRIOR TO BACKFILLING PLANTING PIT. REMOVE TOP 1/3 OF THE BURLAP FROM ROOT BALL.
- FOR NEW PLANTING AREAS, REMOVE ALL PAVEMENT, GRAVEL SUB-BASE AND CONSTRUCTION DEBRIS; REMOVE COMPACTED SOIL AND ADD 18" NEW TOPSOIL, OR TILL AND AMEND THE TOP 18" OF EXISTING SOIL TO MEET TOPSOIL/PLANTING MIX STANDARDS FOR TREES.
- LARGE MATURING TREES MAY NOT BE PLANTED WHERE THERE ARE OVERHEAD DISTRIBUTION OR TRANSMISSION LINES. IF TREES CONFLICT WITH POWER LINES OR SIGNS, CALL URBAN FORESTER TO RESOLVE BEFORE PLANTING.
- ADJUST TREE PLANTING LOCATIONS TO AVOID UNDERGROUND UTILITIES. PLANT 15' FROM ALL UNDERGROUND UTILITIES (SEWER AND STORM DRAINAGE, GAS, WATER, PHONE, AND ELECTRICAL LINES).
- ATTENTION LANDSCAPER: NOTIFY OWNER OF ANY SIGN, POWER LINE, OR OTHER CONFLICTS BEFORE PLANTING NEW TREES.

CONSTRUCTED WETLANDS. REFER TO DETAIL SHEET FOR WETLAND PLANTING REQUIREMENTS

OVERLAP AREA BETWEEN RECORDED DESCRIPTIONS (0.007 AC.±)

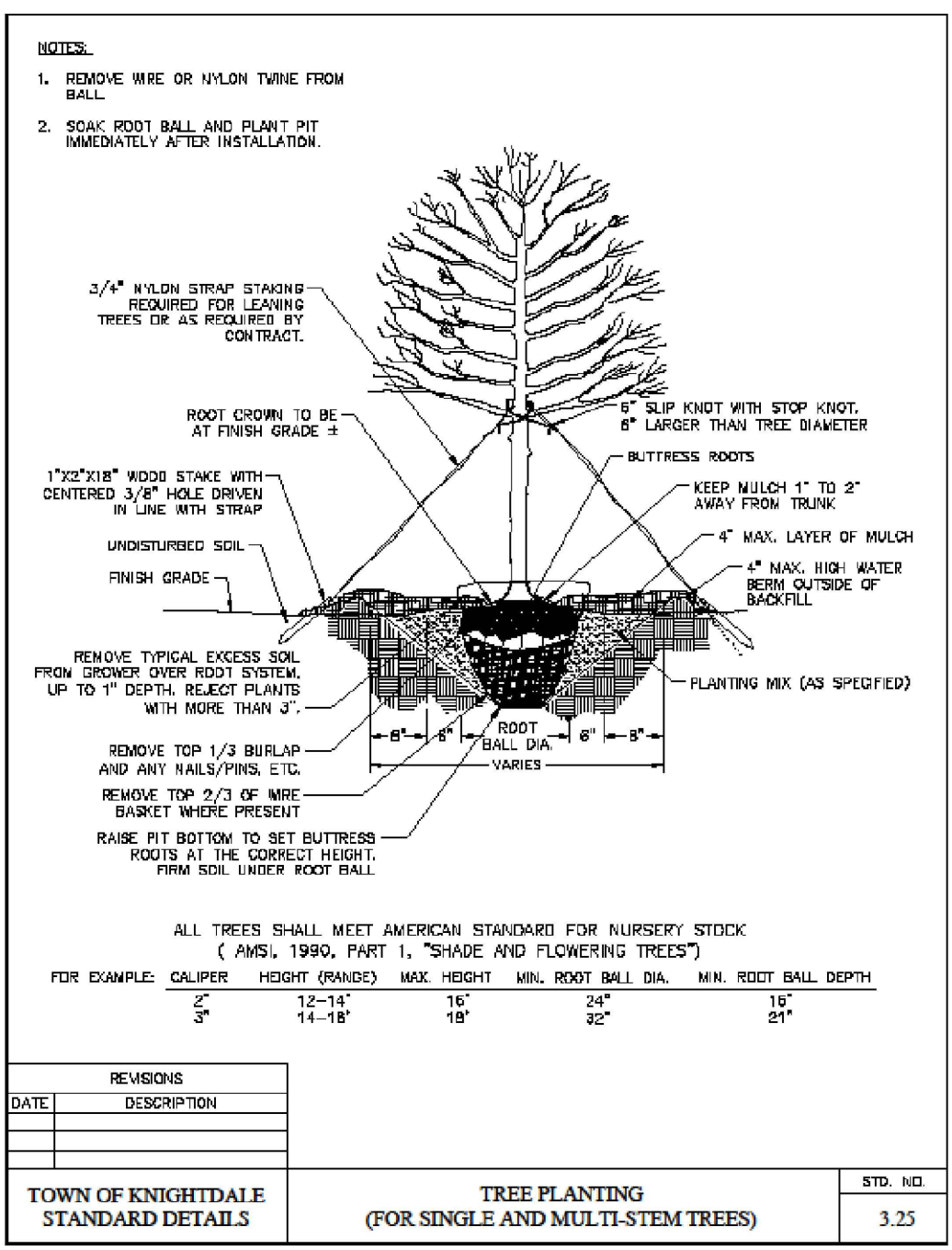
10,060 SF TREE SAVE AREA



SEEDING PERIOD	SEEDING TYPE	APPLICATION RATE (LBS/AC)
AUGUST 15 - NOVEMBER 01	TALL FESCUE	300
NOVEMBER 01 - MARCH 01	TALL FESCUE AND ABRUZZI PVE	300
MARCH 01 - APRIL 15	TALL FESCUE	300
APRIL 15 - JUNE 30	HULLED COMMON BERKUDGRASS	25
JULY 01 - AUGUST 15	TALL FESCUE AND HYPOCHOERIS OR HYPOCHOERIS	120
MARCH 01 - JUNE 01	SENECA LESPEDEZA (SCARIFIED) AND TALL FESCUE OR	90
MARCH 01 - APRIL 15	TALL FESCUE OR	120
MARCH 01 - JUNE 30	WEEPING LONGBASS OR HULLED COMMON BERKUDGRASS	12
JUNE 01 - SEPTEMBER 01	TALL FESCUE AND HYPOCHOERIS OR	35
SEPTEMBER 01 - MARCH 01	SENECA LESPEDEZA (UNMULCHED) AND TALL FESCUE OR	70
NOVEMBER 01 - MARCH 01	ABRUZZI PVE	25

REVISIONS

DATE	DESCRIPTION	STG. NO.
		2.01



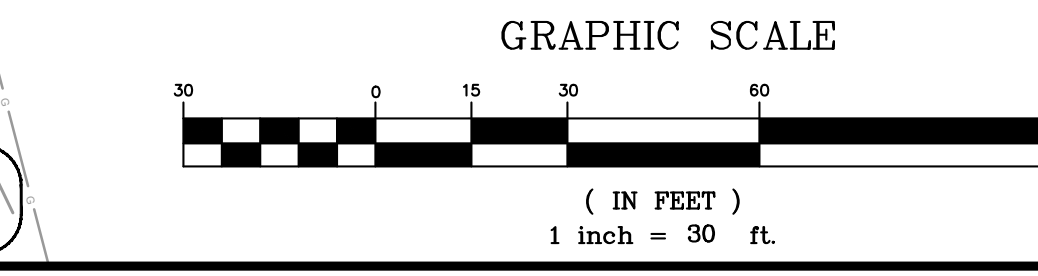
TYPE	SYM/KEY	QUANTITY	BOTANICAL NAME	COMMON NAME	SYMBOL (REPLACEMENT)	CALIPER	HEIGHT	SPREAD	ROOT	SPACING	OTHER
LARGE TREES	QA	23	Quercus acutissima	Sawtooth Oak		2.5"	8' MN	30'	B&B	AS SHOWN	
	ZS	15	Zelkova serrata	Japanese Zelkova		2.5"	8' MN	20'	B&B	AS SHOWN	
	CA	13	Cupressus arizonica	Arizona Cypress		2.5"	8' MN	15'	B&B	AS SHOWN	
UNDERSTORY TREES	MM	12	Magnolia x spp.	Hybrid Evergreen Magnolia "Monland"		1.25"	6' MN	15'	B&B	AS SHOWN	
	BN	46	Betula nigra	River Birch		1.25"	6' MN	10'	B&B	AS SHOWN	
	KP	10	Koeleruteria paniculata	Goldenrain Tree		1.25"	6' MN	15'	B&B	AS SHOWN	
	PT	56	Pinus taeda	Dwarf Loblolly Pine		1.25"	6' MN	10'	B&B	AS SHOWN	

- LANDSCAPING NOTES:**
- CONTRACTOR SHALL BE RESPONSIBLE FOR COMPLETING ALL REQUIRED LANDSCAPING FOR THE ENTIRE SITE, TO INCLUDE BUT NOT LIMITED TO: SODDED/SEEDING AREAS, SHRUB BEDS, PARKING LOT ISLANDS, ROADSIDE SIGN BASE(S) AND MONUMENT PLANTERS.
 - CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE CODES AND ORDINANCES REGARDING LANDSCAPING.
 - IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO ESTABLISH A HEALTHY STAND OF GRASS ON ALL SEEDING AREAS.
 - IN THE EVENT THAT PLANTING BEDS AND MULCH ARE REQUIRED, THE CONTRACTOR SHALL INSTALL BLACK FABRIC WEED BLOCK LANDSCAPE MESH UNDER THE MULCH TO PREVENT WEED GROWTH.
 - CONTRACTOR SHALL PROVIDE NATURAL TOPSOIL THAT IS FERTILE, FRIABLE, WITHOUT MIXTURE OF SUBSOIL MATERIALS, AND OBTAINED FROM A WELL DRAINED, AVAILABLE SITE. IT SHALL NOT CONTAIN SUBSTANCES WHICH MAY BE HARMFUL TO PLANT GROWTH. TOPSOIL SHALL BE SCREENED AND FREE FROM CLAY, LUMPS, STONES, ROOTS, PLANTS, OR SIMILAR SUBSTANCES 1" OR MORE IN DIAMETER, DEBRIS, OR OTHER OBJECTS WHICH MIGHT BE A HINDERANCE TO PLANTING OPERATIONS. TOPSOIL SHALL CONTAIN AT LEAST 4-6% ORGANIC MATTER BY WEIGHT AND HAVE A PH RANGE OF 5.5 TO 7.0.
 - CONTRACTOR SHALL BE RESPONSIBLE FOR THE WATERING AND THE MAINTENANCE OF ALL LANDSCAPED AREAS UNTIL THE LATER OF: (a) THIRTY (30) DAYS FOLLOWING THE PLANTING OF THE GRASS AND SHRUBS, OR (b) THE DATE THAT BUILDINGS OPEN FOR BUSINESS TO THE PUBLIC.
 - GENERAL CONTRACTOR IS TO CLEAN ENTIRE SITE OF ALL CONSTRUCTION DEBRIS AND RAKE ALL GRASS AREAS.
 - PROVIDE LANDSCAPE PLANS TO OWNER AND AS REQUIRED BY LOCAL JURISDICTION TO THE BLDG. DEPT. FOR REVIEW AND APPROVAL PRIOR TO START OF WORK.
 - ALL LANDSCAPING, TREES, SHRUBS, ETC. SHALL NOT INTERFERE WITH THE VISIBILITY OF PROJECT SIGNAGE
 - CONTRACTOR TO VERIFY QUANTITIES PRIOR TO COMMENCING WORK.
 - OPEN AREAS WITHIN PLANTING BEDS SHALL BE MULCHED.

TREE SAVE AREA NOTE:
EXISTING TREES IN TREE SAVE AREA MUST NOT BE DISTURBED.

SPECIES:	QUANTITY:
SAWTOOTH OAK	23
JAPANESE ZELKOVA	15
ARIZONA CYPRESS	13
HYBRID EVERGREEN MAGNOLIA "MONLAND"	12
RIVER BIRCH	46
GOLDENRAIN TREE	10
DWARF LOBLOLLY PINE	56
REQUIRED REPLACEMENT TREE TOTAL PER C2.0 DEMOLITION PLAN:	175
PROVIDED REPLACEMENT TREE TOTAL:	175

SIGHT TRIANGLE NOTE
WITHIN THE SIGHT TRIANGLES SHOWN ON THIS PLAN, NO OBSTRUCTION BETWEEN TWO (2) FEET AND EIGHT (8) FEET IN HEIGHT ABOVE THE CURB LINE ELEVATION OR THE NEAREST TRAVELED WAY, IF NO CURBING EXISTS.



TREE REPLACEMENT CALCULATION	
PER SECTION 7.4.H.1 OF THE TOWN OF KNIGHTDALE UDO:	
TOTAL NUMBER OF EXISTING TREES ≥ 24" DBH =	229
# OF EXISTING TREES ≥ 24" DBH TO REMAIN =	54
# OF EXISTING TREES ≥ 24" DBH TO BE REMOVED =	175
REPLACED AT 1 TREE PER 12" DBH =	175

ENVIRONMENTAL SURVEY
THE LOCATIONS OF EXISTING TREES IS BASED ON A FIELD SURVEY OF THE PROPERTY AS SHOWN ON THE DEMOLITION PLAN. THERE ARE 79 OAK TREES, 107 PINE TREES, 3 POPLAR TREES, 35 MAPLE TREES AND 5 BEECH TREES IDENTIFIED ON THE SITE THAT ARE 24" DBH AND LARGER (229 TOTAL TREES). 49 OF THE OAK TREES, 91 PINE TREES, 30 MAPLE TREES, 3 BEECH TREES AND 2 POPLAR TREES ARE NOTED TO BE REMOVED AND THE REMAINING 54 TREES ARE SHOWN TO REMAIN. EXISTING TREES BEING REMOVED MUST BE REPLACED IN ACCORDANCE WITH TABLE IN UDO SECTION 8.5A - SEE CHART THIS SHEET. THE EXISTING WOODED AREAS HAVE A MIXTURE OF DECIDUOUS AND EVERGREEN TREES. THE LIMITS OF GRADING WILL BE LIMITED TO THE EXTENT PRACTICAL TO PRESERVE THE EXISTING WOODED AREAS ON THE SITE. NO ENDANGERED SPECIES ARE LOCATED ON THE SITE. NO HISTORIC STRUCTURES ARE LOCATED ON THE SITE. THERE ARE NO STREAM AND/OR WETLAND FEATURES ON THE PROPERTY AND THE PROPERTY IS OUTSIDE ANY FEMA FLOOD ZONES.

Town Certification:
This design has been reviewed by the Engineer for the Town of Knightdale, and to be the best of my knowledge and belief, it conforms to the requirements established in the Standard Specifications of the Town of Knightdale.
 By: _____ Date: _____
 Development Services Engineer
 These plans are approved by the Town of Knightdale and serve as construction plans for this project.
 By: _____ Date: _____
 Administrator



Bowman North Carolina Ltd.
4006 BARRETT DR
Suite 104
RALEIGH, NC 27609
Phone: (919) 553-6570
bowman.com

TREE REPLACEMENT PLAN
Kiddie Academy & Fresenius Kidney Center
 Smithfield Road and McKnight Drive
 Knightdale, NC Wake County ZCP-1-23/SEC-000012-2023
 Primax Properties, LLC
 Choice One Development, LLC



PLAN STATUS		
5/22/23	MASTER PLAN SUBMITTAL	
7/10/23	CONSTRUCTION DOCUMENTS	
8/25/23	PER TOWN CD REVIEW	
10/04/23	PER TOWN CD REVIEW	
10/30/23	SIGNATURE SET	
DATE	DESCRIPTION	
MEL DESIGN	MEL DRAWN	XXX CHKD
SCALE	H:	V:
JOB No.	220133-01-001	
DATE	March 14, 2023	
FILE No.	220133-01-001	
SHEET	C7.1	

Scalable.

Blink MQ 200

50 Amp Fleet & Multiunit EV Charging



Elevating EV charging solutions for large-scale charger deployments, the MQ 200 is designed for fleets and multiunit locations with a fast 50-amp output and effortless user experience, and paired with a robust new charger portal for maximum control.

POWERFUL • VERSATILE • COMPACT

Blink MQ 200 Benefits

- Smart Grid functionality for direct utility communications
- Local load management across two or more chargers
- Robust remote management tool via Blink Fleet portal and Blink Network
- Intuitive and powerful mobile management via Blink Mobile and Blink Fleet mobile apps
- Plug & Charge functionality (ISO 15118)
- Heavy duty 23ft cable
- Lockable SAE J1772 connector compatible with all EVs*
- Efficient and clear OLED Screen Interface
- Wall mount with optional pedestal and pole mounts
- Optional cable management accessories for pedestal, wall, ceiling, or pole mount
- Variable output of 12A-50A
- 4G LTE and Wi-Fi connectivity



Product Details

Max Output	50A
Input/Output Voltage Range	180VAC to 264VAC
Input/Output Amperage (Selectable)	12A, 16A, 24A, 32A, 40A, 48A, 50A
Cable Length	23 ft.
Dimensions	11.65"H x 8.91"W x 4.02"D
Standards Compliance	UL/ULC, CSA, NEC Article 625, RoHS
Networked	Blink OCPP, OCPP 1.6J, OCPP 2.0.1
Enclosure	NEMA Type 3R Indoor/Outdoor
Installation Type	Wall Mount and Pedestals with Cable Management Solutions

*Selo Adapter Required
*The product image shown is for illustration purposes only and may not be an exact representation of the product.
BlinkCharging.com • (888) 998.2546

Blink IQ 200

Pedestal Specifications

MODELS	BLINK IQ 200 PEDESTAL SPECIFICATIONS			
	RECTANGLE SINGLE 01-Q210	RECTANGLE DUAL 01-Q211	TRIANGLE DUAL 01-Q212	TRIANGLE TRIPLE 01-Q213
Model Number	01-Q210	01-Q211	01-Q212	01-Q213
Number of Supported Charging Stations	1	2	2	3
User Interface Height	48"	48"	48"	48"
Pedestal Dimensions	56.04" H x 13.58" W x 4.28" D	56.04" H x 13.58" W x 4.28" D	59.00" H x 12.50" W x 11.19" D	59.00" H x 12.50" W x 11.19" D
Pedestal Weight (unpacked)	TBD	TBD	TBD	TBD
Pedestal Weight (packaged)	TBD	TBD	TBD	TBD



Rectangle Pedestal
The rectangle pedestal slim installation is great for small spaces that may wish to expand in the future.



Triangle Pedestal
Maximizing space, the triangle pedestal can securely mount 1-3 independent charging stations.



Triangle Pedestal - Dual Port
Dual Port Using the triangle pedestal, the dual port unit features 1 advanced and 1 or 2 smart chargers.

BlinkCharging.com
©2022 Blink Charging Co. • NANSDAQ:BLNK

5

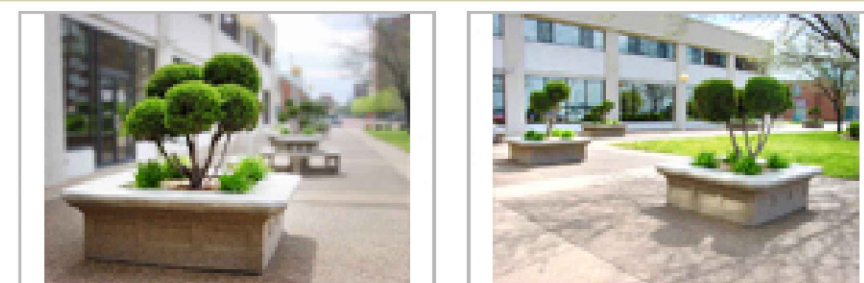


Gallery

Dimensions

Model # VP73X24 | Victorian Series Square Concrete Planter | 73"L x 73"W x 24"H

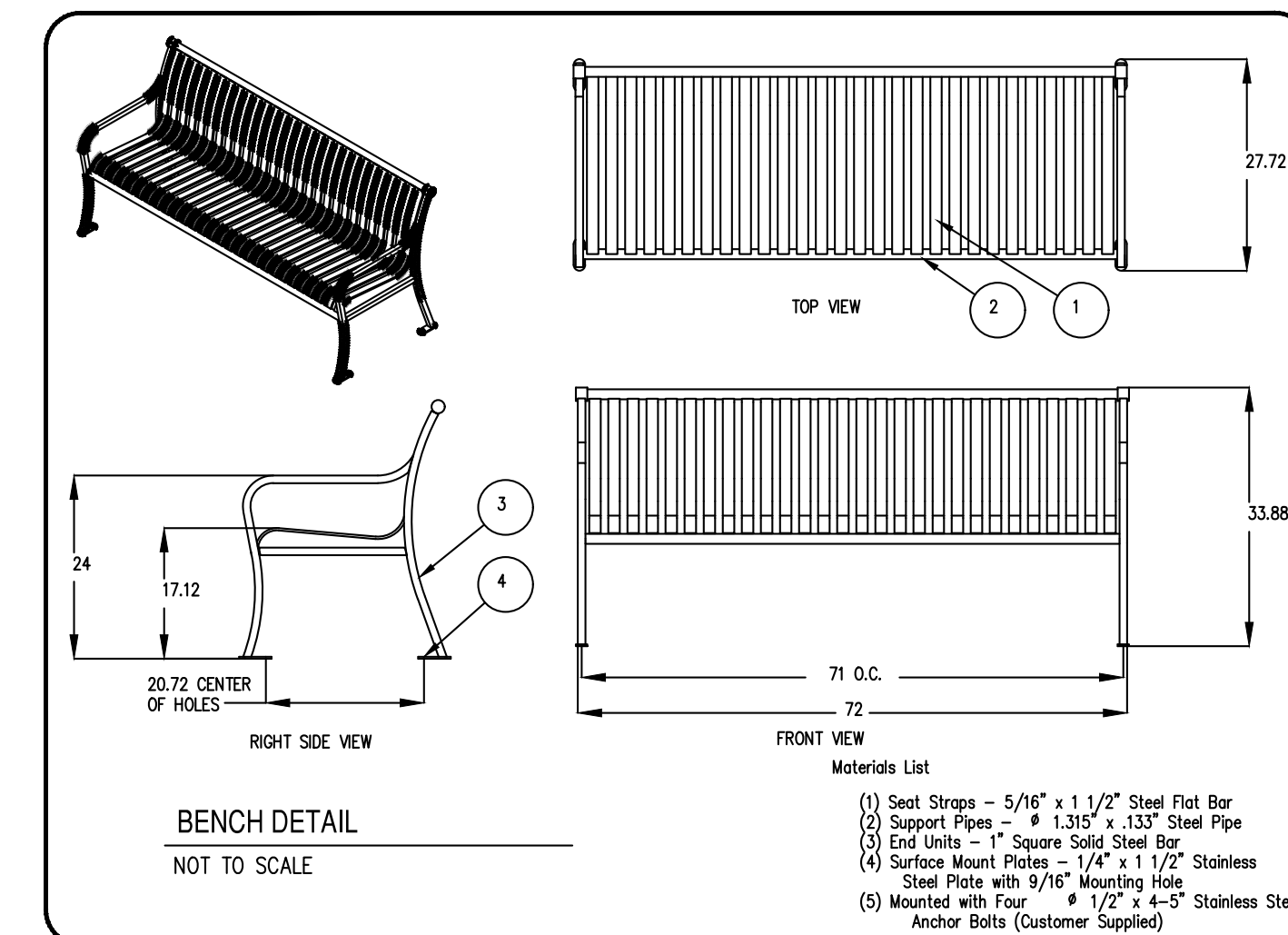
Print | Close Window



PATIO TREE PLANTERS



PROPOSED PUBLIC ART FEATURE

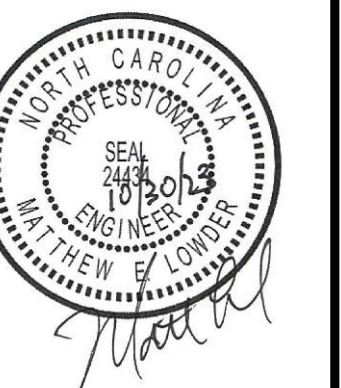


Bowman

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4006 BARRETT DR
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AMENITY DETAILS
Kiddie Academy & Fresenius Kidney Center
Smithfield Road and McKnight Drive
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Primax Properties, LLC
Choice One Development, LLC



PLAN STATUS	
6/22/23	MASTER PLAN SUBMITTAL
7/10/23	CONSTRUCTION DOCUMENTS
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10/30/23	SIGNATURE SET
DATE	DESCRIPTION
MEL DESIGN	MEL DRAWN
SCALE	XXX CHKD
JOB No. 220133-01-001	DATE March 14, 2023
FILE No. 220133-01-001	

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Administrator

SHEET C7.2

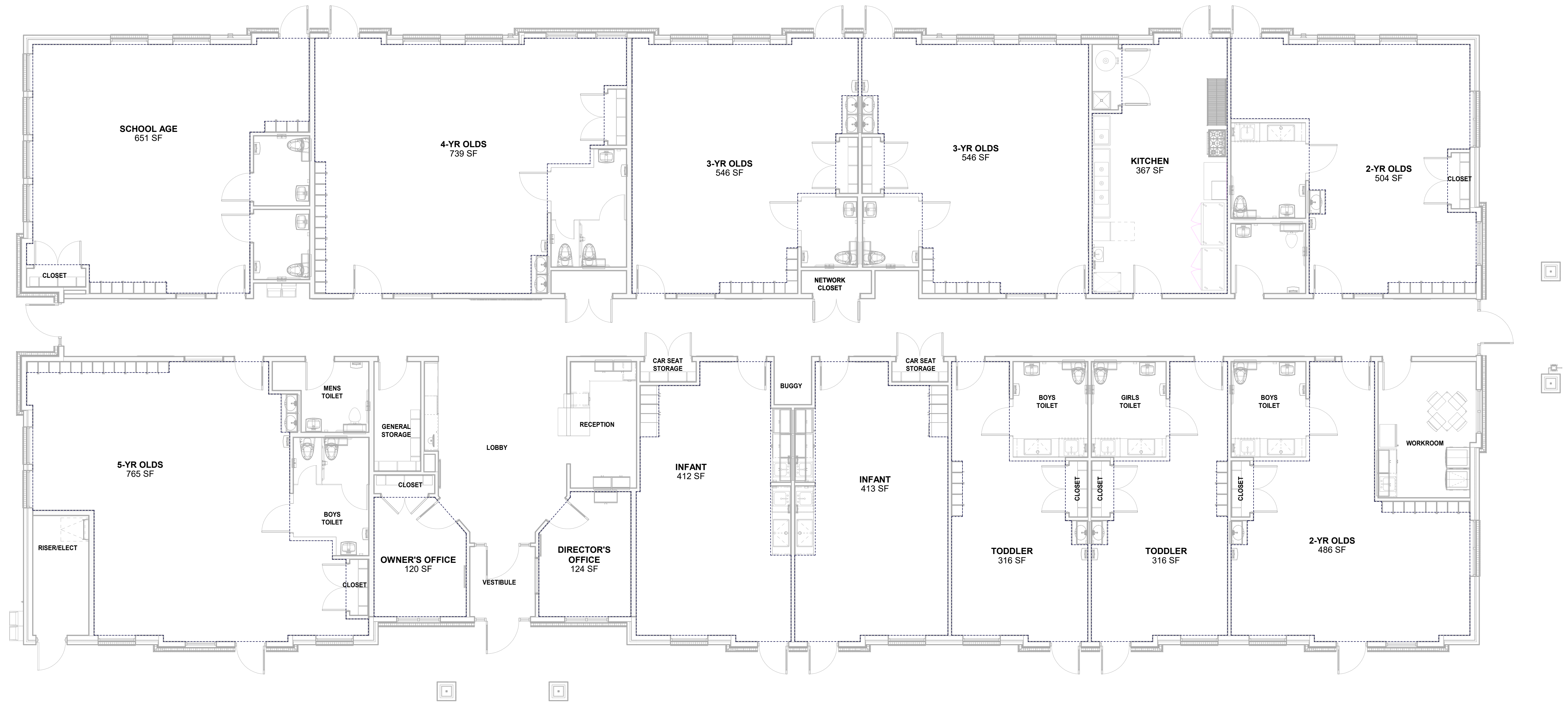
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Town Engineer

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By: _____ Date: _____
Land Use Administrator

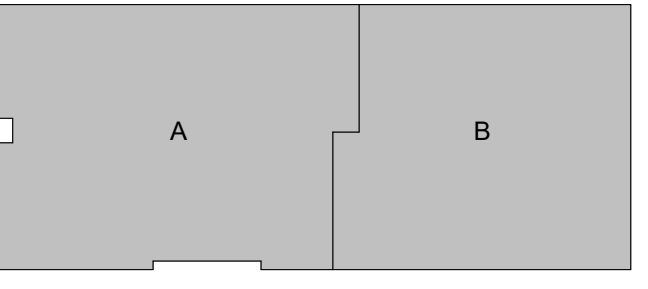
LICENSING SCHEDULE					
ROOM NAME	AREA (SF)	SF PER CHILD	NUMBER OF CHILDREN	NUMBER OF TEACHERS	NUMBER OF ADMIN
INFANT	412 SF	50 SF	8	2	0
INFANT	413 SF	50 SF	8	2	0
TODDLER	316 SF	30 SF	10	2	0
TODDLER	316 SF	30 SF	10	2	0
2-YR OLDS	504 SF	30 SF	16	2	0
2-YR OLDS	486 SF	30 SF	16	2	0
3-YR OLDS	546 SF	30 SF	18	2	0
3-YR OLDS	546 SF	30 SF	18	2	0
4-YR OLDS	739 SF	30 SF	24	2	0
SCHOOL AGE	651 SF	30 SF	21	1	0
5-YR OLDS	765 SF	30 SF	25	2	0
DIRECTOR'S OFFICE	124 SF	0 SF		0	1
OWNER'S OFFICE	120 SF	0 SF		0	1
KITCHEN	367 SF	0 SF		0	1
TOTAL	6304 SF	0 SF	174	21	3



KNIGHTDALE CAMPUS

MCKNIGHT DRIVE
KNIGHTDALE, NC 27545
WAKE COUNTY

KEY PLAN



Revisions		
#	Date	Description
1	07/28/23	REVISED PER SITE REVIEW

1 LICENSING PLAN
SCALE: 3/16" = 1'-0"

Project Number: 22195
Issued for: CONSTRUCTION
Issue Date: 06/15/23

DRAWING TITLE
OVERALL LICENSING FLOOR PLAN

SHEET NUMBER
L1

EXTERIOR GENERAL NOTES

- COORDINATE GRADES AND MASONRY VENEER SO THAT CAVITY IS GROUDED SOLID BELOW GRADE AND THRU-WALL FLASHING IS ABOVE GRADE. WHERE FLOOR SLAB IS BELOW EXTERIOR GRADE MASONRY VENEER TO HAVE LIQUID APPLIED WATERPROOFING / DRAINAGE BOARD.
- ALL FLASHINGS ARE TO BE PRE-FINISHED & ARE TO MATCH ADJACENT MATERIALS. TYPICAL.
- IF DUMPSTER ENCLOSURE INCLUDED, IT IS TO MATCH BUILDING DETAILS & MATERIALS. SEE DUMPSTER ENCLOSURE DETAILS.
- ALL COPINGS, DOWNSPOUTS, AND SCUPPERS SHALL BE PRE-FINISHED TO COLORS LISTED IN THE EXTERIOR FINISH LEGEND.
- WHEN SEALANTS AT DISSIMILAR MATERIALS OCCUR AT TWO DIFFERENT COLORS, LIGHTER COLORED MATERIAL SHALL TAKE PRECEDENCE OVER DARK. SEALANT COLOR SHALL MATCH THE LIGHTER MATERIAL.
- CONTRACTOR TO SUBMIT SAMPLES OF ALL FINISH MATERIALS FOR REVIEW & APPROVAL, INCLUDING BUT NOT LIMITED TO: STONE, SEALANTS, GROUT, METALS, & PAINT.
- REFER TO WINDOW / GLAZING SCHEDULE FOR MORE INFORMATION ON WINDOWS & STOREFRONT.
- AIR & WEATHER BARRIER ON ENTIRE BUILDING SHALL BE LIQUID APPLIED PRODUCT & INSTALLED PER MANUFACTURER'S RECOMMENDATIONS. THIS INCLUDES AREAS / SUBSTRATES BEHIND STONE.
- ALL SIGNS ARE TO BE PERMITTED UNDER A SEPARATE SIGNAGE PERMIT. PER SECTION 8.5.B. WALL SIGN SHALL NOT EXCEED 10% OF FRONT WALL FACADE AND 5% OF SIDE WALL FACADE.
- PROVIDE CONTROL JOINTS AT ALL INSIDE CORNERS.

a. Town Certification. This design has been reviewed by the Engineer for the Town of Knightdale, and to the best of my knowledge and belief, it conforms to the requirements established in the Standard Specifications of the Town of Knightdale.

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Town Engineer

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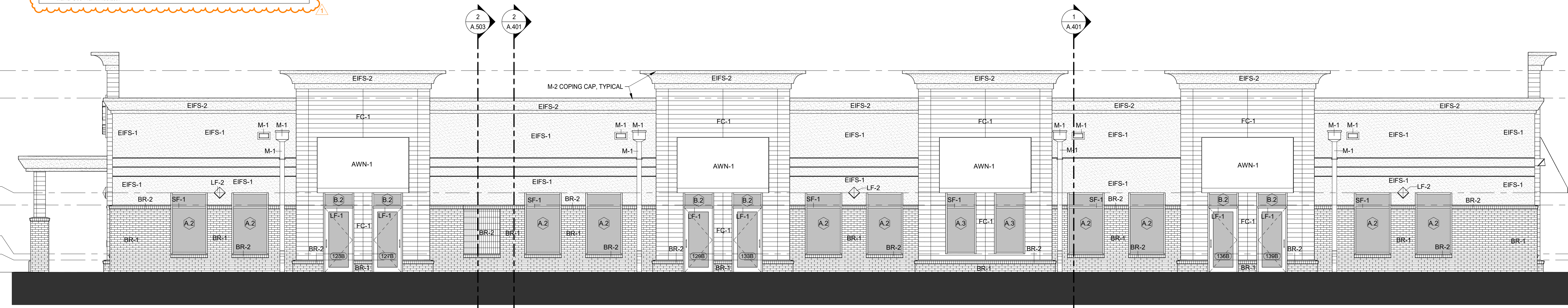
By: _____ Date: _____
Land Use Administrator

EXTERIOR FINISH LEGEND

TAG	POCHE	MATERIAL DESCRIPTION	TAG	POCHE	MATERIAL DESCRIPTION	TAG	POCHE	MATERIAL DESCRIPTION	TAG	POCHE	MATERIAL DESCRIPTION	TAG	POCHE	MATERIAL DESCRIPTION
ALUMINUM FRAMED AWNINGS			FIBER CEMENT			MASONRY			MISCELLANEOUS METALS			PLUMBING FIXTURES		
AWN-1	AWN-2	FRAME: MANUFACTURER: TBD STYLE: 1"x1" ALUMINUM FRAME COLOR: CLEAR ANODIZED COVER: MANUFACTURER: TEMPOTEST MARINE STYLE: SOLID COLOR: T97 CHARCOAL NOTE: AWNING TO HAVE COVERED ENDS REFER TO AWNING LEGEND FOR MORE INFORMATION	FC-1		MANUFACTURER: NICHHA ARCHITECTURAL WALL PANELS VINTAGEWOOD REDWOOD MANUFACTURED CORNER OR ALTERNATE OF CORNER KEY TO MATCH FINISH	BR-1		BRICK VENEER MANUFACTURER: GENERAL SHALE MODULAR GRAYSBURG NO COLOR MORTAR SEALANT: BASF MEDIUM BRONZE LINTEL PAINT MATCH: SW7048 "URBANE BRONZE"	M-1		CONDUCTOR BOX, DOWNSPOUT, SCUPPER FINISH: KYNAR COLOR: PAINTED TO MATCH PT-1 NOTE: DOWNSPOUTS TO BE RECTANGULAR IN SHAPE REFER TO ROOF DRAINAGE CALCULATIONS FOR SIZING OF CONDUCTOR BOX, DOWNSPOUT, AND SCUPPER	PF-1		DRINKING FOUNTAIN STYLE: DOUBLE FOUNTAINS BARRIER FREE TBD COLOR: SEE PLUMBING FOR MORE INFORMATION NOTE: MOUNT AT CHILD HEIGHT
DOORS			LIGHTING FIXTURES			PAINT			STOREFRONT					
DR-1		MATERIAL: INSULATED HOLLOW METAL COLOR: PAINTED PT-2 SEE DOOR SCHEDULE FOR MORE INFORMATION	LF-1		EMERGENCY EGRESS FIXTURE MANUFACTURER: VISA LIGHTING STYLE: PASSAGE MULLION MOUNT COLOR: BLADE SILVER (BSL) MOUNTING HEIGHT: 7'-1 1/4" TO C.O. FIXTURE SEE ELECTRICAL FOR MORE INFORMATION	BR-2		BRICK SOLDIER COURSE / ROWLOCK VENEER MANUFACTURER: GENERAL SHALE MODULAR GRAYSBURG NO COLOR MORTAR SEALANT: BASF MEDIUM BRONZE LINTEL PAINT MATCH: SW7048 "URBANE BRONZE"	M-2		COPING CAP, SCUPPERS IN EIFS-2 FINISH: KYNAR COLOR: PAINTED TO MATCH PT-2 NOTE: REFER TO ROOF DRAINAGE CALCULATIONS FOR SIZING OF SCUPPER IN EIFS-2	PF-2		HOSE BIBB TBD COLOR: SEE PLUMBING FOR MORE INFORMATION
EIFS			WALL PACK			APPLY SEALER OVER ALL BRICK THAT DOES NOT HAVE A CAVITY DRAINAGE SYSTEM.								
EIFS-1		MANUFACTURER: SENERGY COLOR: ST #3058 NIGHTINGALE FINISH: FINE FINISH SEALANT: BASF OFF WHITE	LF-2		DECORATIVE WALL SCONCE MANUFACTURER: FC LIGHTING STYLE: FCW3262 COLOR: SILVER (SL) MOUNTING HEIGHT: 8'-8" TO C.O. FIXTURE SEE ELECTRICAL FOR MORE INFORMATION	CJ-1		MASONRY CONTROL JOINT COLOR: TO MATCH ADJACENT MATERIAL	PT-1		MANUFACTURER: SHERWIN WILLIAMS COLOR: SW8055 "GAUZY WHITE"			
EIFS-2		MANUFACTURER: SENERGY COLOR: LRV #33 HAZELNUT FINISH: FINE FINISH SEALANT: BASF MEDIUM BRONZE	LF-3		WALL PACK MANUFACTURER: LUMARK STYLE: WP-WAL-PAK COLOR: WHITE MOUNTING HEIGHT: 12'-0" TO C.O. FIXTURE SEE ELECTRICAL FOR MORE INFORMATION				PT-2		MANUFACTURER: SHERWIN WILLIAMS COLOR: SW8083 "DUSTED TRUFFLE"			

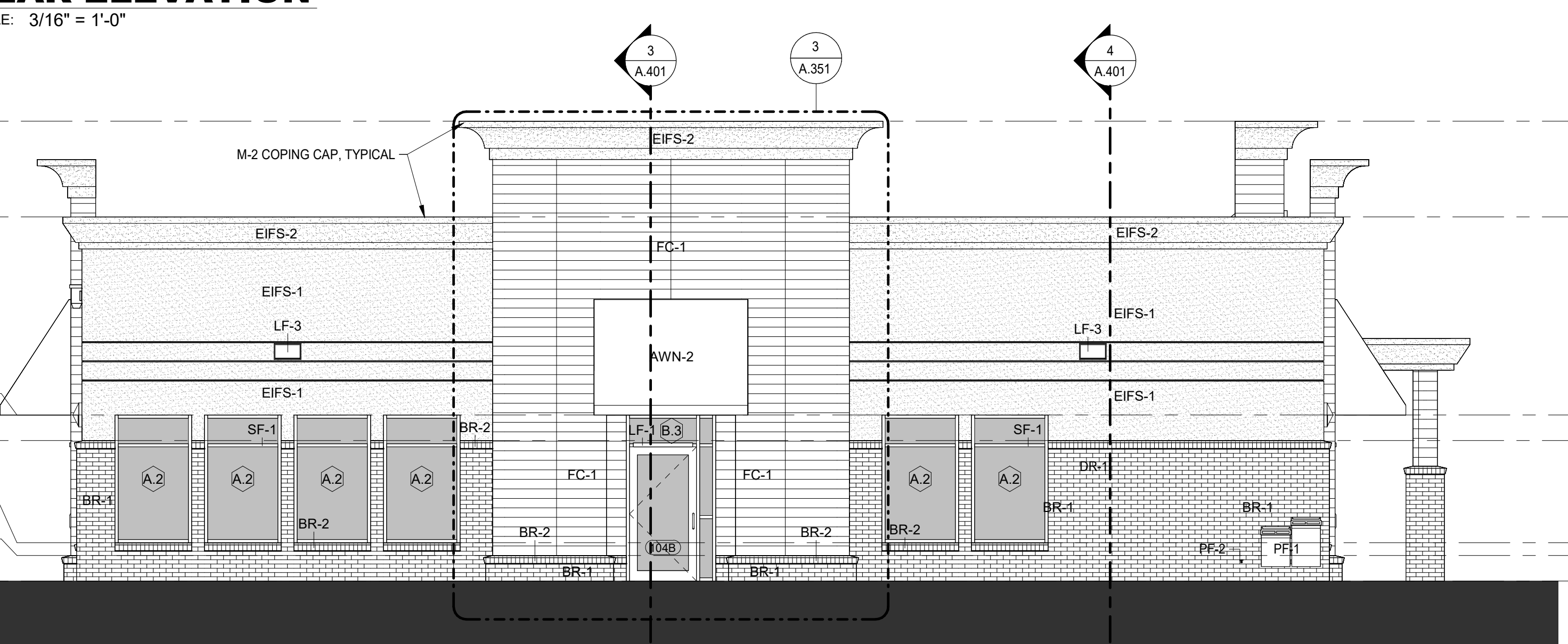
- T.O. MID PARAPET 22'-0"
- T.O. LOW PARAPET 19'-0"
- T.O. WINDOWS 8'-8"
- T.O. BRICK 7'-4"
- B.O. WINDOWS 2'-0"
- T.O. WATERTABLE 1'-4"
- FIRST FLOOR 0'-0"

4 REAR ELEVATION
SCALE: 3/16" = 1'-0"



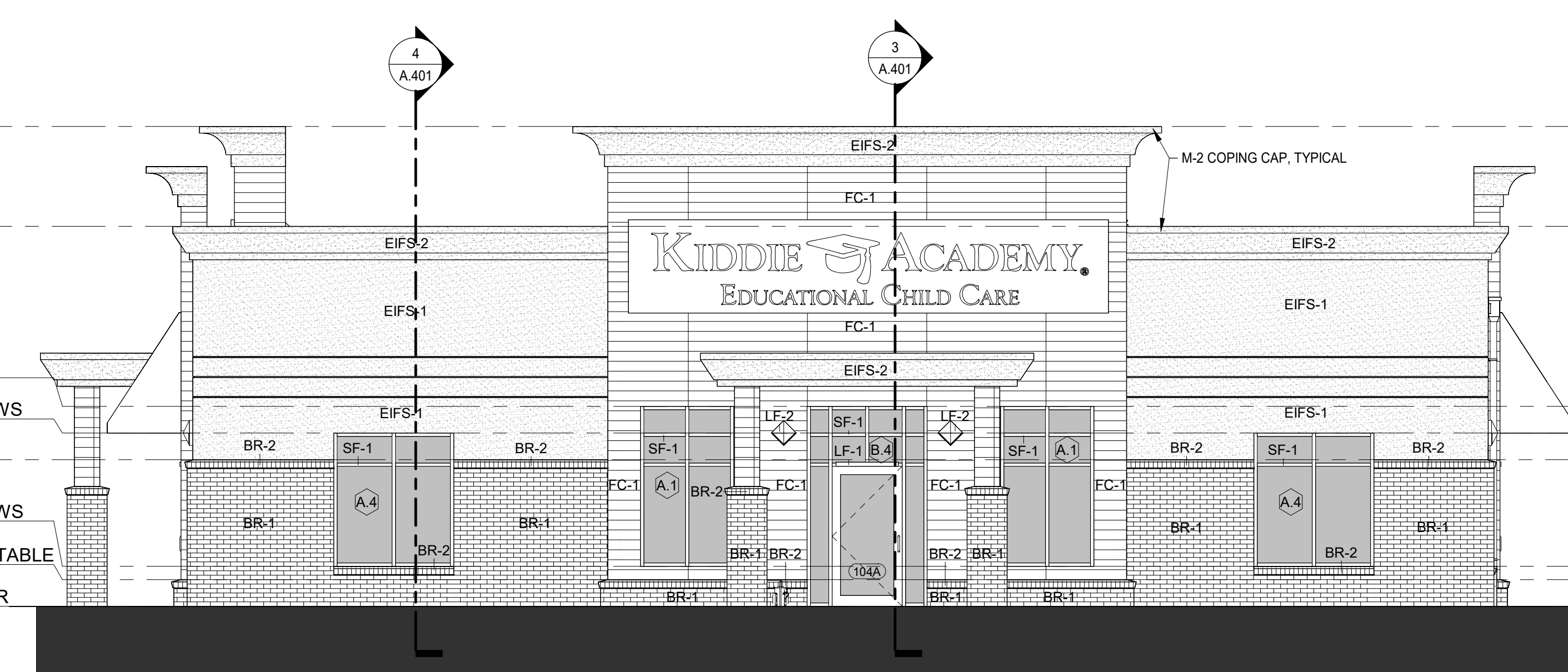
- T.O. HIGH PARAPET 24'-0"
- T.O. LOW PARAPET 19'-0"
- T.O. WINDOWS 8'-8"
- T.O. BRICK 7'-4"
- B.O. WINDOWS 2'-0"
- T.O. WATERTABLE 1'-4"
- FIRST FLOOR 0'-0"

2 PLAYGROUND ELEVATION
SCALE: 3/16" = 1'-0"



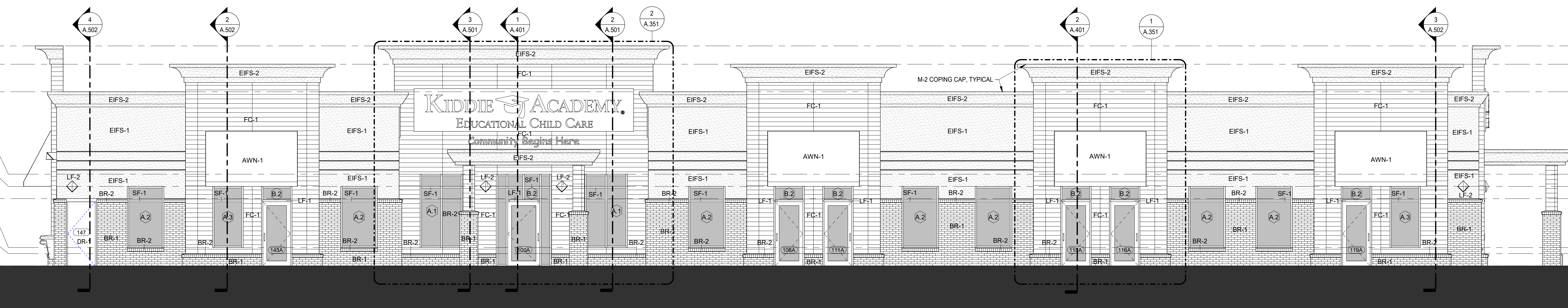
- T.O. HIGH PARAPET 24'-0"
- T.O. LOW PARAPET 19'-0"
- T.O. TALL WINDOWS 10'-0"
- T.O. WINDOWS 8'-8"
- T.O. BRICK 7'-4"
- B.O. WINDOWS 2'-0"
- T.O. WATERTABLE 1'-4"
- FIRST FLOOR 0'-0"

3 MCKNIGHT DRIVE ELEVATION
SCALE: 3/16" = 1'-0"



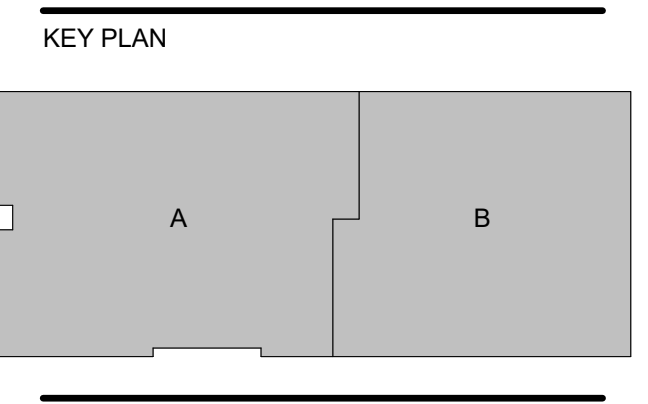
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- T.O. WINDOWS 8'-8"
- T.O. BRICK 7'-4"
- B.O. WINDOWS 2'-0"
- T.O. WATERTABLE 1'-4"
- FIRST FLOOR 0'-0"

1 ENTRY ELEVATION
SCALE: 3/16" = 1'-0"



KNIGHTDALE CAMPUS

MCKNIGHT DRIVE
KNIGHTDALE, NC 27545
WAKE COUNTY



Revisions

#	Date	Description
1	07/28/23	REVISED PER SITE REVIEW

Project Number: 22195
Issued for: CONSTRUCTION
Issue Date: 06/27/23

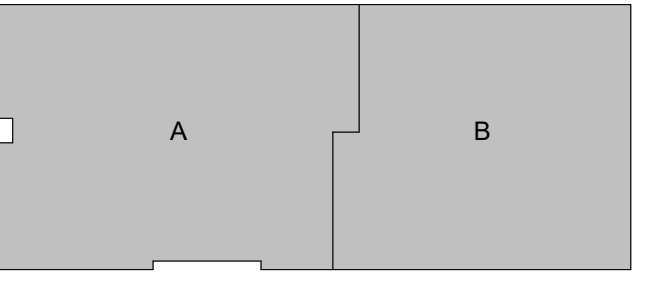
DRAWING TITLE
OVERALL ELEVATIONS

SHEET NUMBER
A.301

KNIGHTDALE CAMPUS

MCKNIGHT DRIVE
KNIGHTDALE, NC 27545
WAKE COUNTY

KEY PLAN



Revisions		
#	Date	Description
1	07/28/23	REVISED PER SITE REVIEW

Project Number: 22195
Issued for: CONSTRUCTION
Issue Date: 06/27/23

DRAWING TITLE
FAÇADE OVERLAY ELEVATIONS

SHEET NUMBER
A.311

EXTERIOR FINISH LEGEND								
PRIMARY MATERIALS			SECONDARY MATERIALS			MISCELLANEOUS MATERIALS		
TAG	POCHE	MATERIAL DESCRIPTION	TAG	POCHE	MATERIAL DESCRIPTION	TAG	POCHE	MATERIAL DESCRIPTION
MASONRY			EIFS			PAINT		
BR-1		BRICK VENEER MANUFACTURER: GENERAL SHALE STYLE: MODULAR COLOR: GRAYSBURG - MONCURE, NC PLANT	EIFS-1		MANUFACTURER: SENERGY STYLE: FINE FINISH COLOR: ST #3058 NIGHTINGALE	PT-1		COLOR: SW9035 GAUZY WHITE
FIBER CEMENT PANELS			EIFS-2			PT-2		
FC-1		FIBER CEMENT PANELS MANUFACTURER: NICHHA ARCHITECTURAL WALL PANELS STYLE: VINTAGEWOOD COLOR: REDWOOD	EIFS-2		MANUFACTURER: SENERGY STYLE: FINE FINISH COLOR: LRV #33 HAZELNUT	PT-2		COLOR: SW9083 DUSTED TRUFFLE
CANVAS CANOPY								
	AWN-1				MANUFACTURER: TEMPOTEST MARINE STYLE: SOLID COLOR: T97 CHARCOAL			

APPLY SEALER OVER ALL BRICK THAT DOES NOT HAVE A CAVITY DRAINAGE SYSTEM.

LEGEND	
	PRIMARY MATERIALS: BRICK / FIBER CEMENT PANEL
	SECONDARY MATERIALS: EIFS
	GLAZING

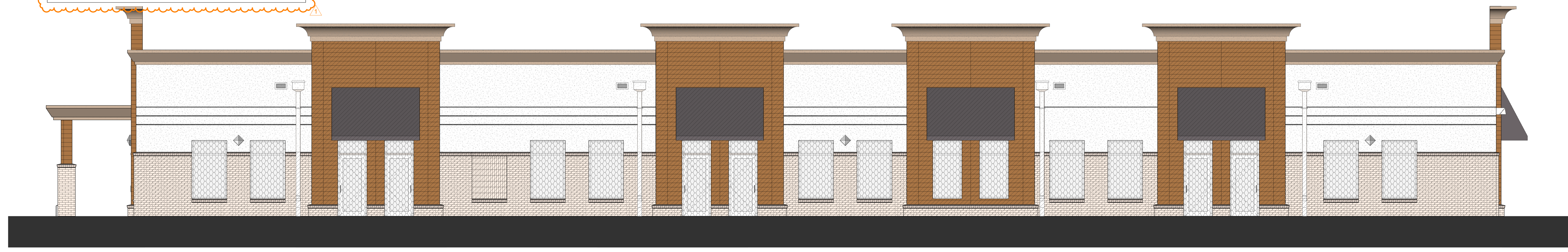
REAR ELEVATION WINDOW PERCENTAGE		
BUILDING LENGTH FEET:	156	0
INCHES:	1872	
WINDOW LENGTH INCHES:	800	
40% LENGTH	749	YES
COMPLIANT?		YES
WALL MATERIAL PERCENTAGES		
TOTAL FAÇADE SF	3153	
WINDOWS SF	484	
TOTAL FAÇADE SF W/O WINDOW:	2668	
BRICK / FIBER CEMENT SF	1453	
EIFS SF	1216	
BRICK / FIBER CEMENT %	54%	YES
COMPLIANT?		YES
EIFS %	46%	YES
COMPLIANT?		YES

ENTRY ELEVATION WINDOW PERCENTAGE		
BUILDING LENGTH FEET:	156	0
INCHES:	1872	
WINDOW LENGTH INCHES:	840	
40% LENGTH	749	YES
COMPLIANT?		YES
WALL MATERIAL PERCENTAGES		
TOTAL FAÇADE SF	3299	
WINDOWS SF	539	
TOTAL FAÇADE SF W/O WINDOW:	2760	
BRICK / FIBER CEMENT SF	1753	
EIFS SF	1006	
BRICK / FIBER CEMENT %	64%	YES
COMPLIANT?		YES
EIFS %	36%	YES
COMPLIANT?		YES

PLAYGROUND ELEVATION WINDOW PERCENTAGE		
BUILDING LENGTH FEET:	65	8
INCHES:	788	
WINDOW LENGTH INCHES:	344	
40% LENGTH	315	YES
COMPLIANT?		YES
WALL MATERIAL PERCENTAGES		
TOTAL FAÇADE SF	1342	
WINDOWS SF	200	
TOTAL FAÇADE SF W/O WINDOW:	1142	
BRICK / FIBER CEMENT SF	586	
EIFS SF	556	
BRICK / FIBER CEMENT %	51%	YES
COMPLIANT?		YES
EIFS %	49%	YES
COMPLIANT?		YES

MCKNIGHT DRIVE ELEVATION WINDOW PERCENTAGE		
BUILDING LENGTH FEET:	65	8
INCHES:	788	
WINDOW LENGTH INCHES:	328	
40% LENGTH	315	YES
COMPLIANT?		YES
WALL MATERIAL PERCENTAGES		
TOTAL FAÇADE SF	1379	
WINDOWS SF	215	
TOTAL FAÇADE SF W/O WINDOW:	1164	
BRICK / FIBER CEMENT SF	635	
EIFS SF	529	
BRICK / FIBER CEMENT %	55%	YES
COMPLIANT?		YES
EIFS %	45%	YES
COMPLIANT?		YES

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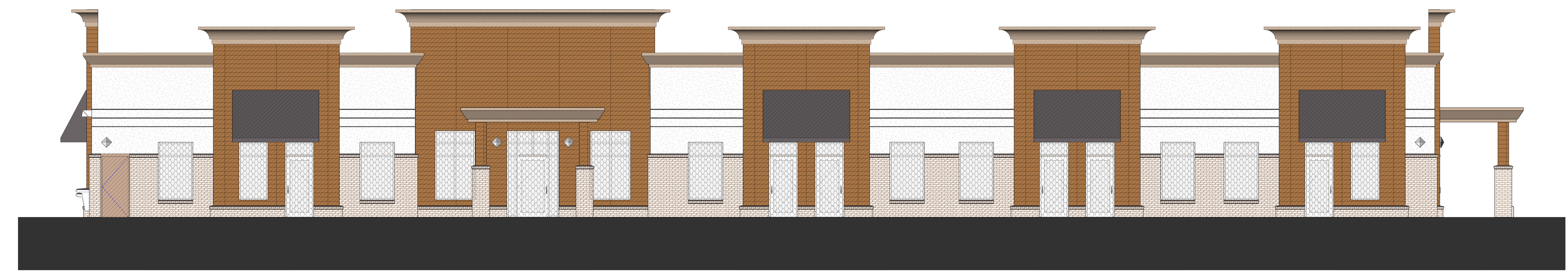
4 REAR ELEVATION
SCALE: 3/16" = 1'-0"



2 PLAYGROUND ELEVATION
SCALE: 3/16" = 1'-0"



3 MCKNIGHT DRIVE ELEVATION
SCALE: 3/16" = 1'-0"



1 ENTRY ELEVATION
SCALE: 3/16" = 1'-0"

EXTERIOR GENERAL NOTES

- COORDINATE GRADES AND MASONRY VENEER SO THAT CAVITY IS GROUDED SOLID BELOW GRADE AND THRU-WALL FLASHING IS ABOVE GRADE. WHERE FLOOR SLAB IS BELOW EXTERIOR GRADE MASONRY VENEER TO HAVE LIQUID APPLIED WATERPROOFING / DRAINAGE BOARD.
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- ALL COPINGS, DOWNSPOUTS, AND SCUPPERS SHALL BE PRE-FINISHED TO COLORS LISTED IN THE EXTERIOR FINISH LEGEND.
- WHEN SEALANTS AT DISSIMILAR MATERIALS OCCUR AT TWO DIFFERENT COLORS, LIGHTER COLORED MATERIAL SHALL TAKE PRECEDENCE OVER DARK, & SEALANT COLOR SHALL MATCH THE LIGHTER MATERIAL.
- CONTRACTOR TO SUBMIT SAMPLES OF ALL FINISH MATERIALS FOR REVIEW & APPROVAL, INCLUDING BUT NOT LIMITED TO: STONE, SEALANTS, GROUT, METALS, & PAINT.
- REFER TO WINDOW / GLAZING SCHEDULE FOR MORE INFORMATION ON WINDOWS & STOREFRONT.
- AIR & WEATHER BARRIER ON ENTIRE BUILDING SHALL BE LIQUID APPLIED PRODUCT & INSTALLED PER MANUFACTURER'S RECOMMENDATIONS. THIS INCLUDES AREAS / SUBSTRATES BEHIND STONE.
- ALL SIGNS ARE TO BE PERMITTED UNDER A SEPARATE SIGNAGE PERMIT. PER SECTION 8.5.B, WALL SIGN SHALL NOT EXCEED 10% OF FRONT WALL FACADE AND 5% OF SIDE WALL FACADE.
- PROVIDE CONTROL JOINTS AT ALL INSIDE CORNERS.

Town Certification. This design has been reviewed by the Engineer for the Town of Knightdale, and to the best of my knowledge and belief, it conforms to the requirements established in the Standard Specifications of the Town of Knightdale.

By: _____ Date: _____
Town Engineer

These plans are approved by the Town of Knightdale and serve as construction plans for this project.

By: _____ Date: _____
Land Use Administrator

EXTERIOR FINISH LEGEND

TAG	POCHE	MATERIAL DESCRIPTION	TAG	POCHE	MATERIAL DESCRIPTION	TAG	POCHE	MATERIAL DESCRIPTION	TAG	POCHE	MATERIAL DESCRIPTION	TAG	POCHE	MATERIAL DESCRIPTION
ALUMINUM FRAMED AWNINGS			FIBER CEMENT			MASONRY			MISCELLANEOUS METALS			PLUMBING FIXTURES		
[AWN-1]		FRAME: MANUFACTURER: TBD STYLE: 1" X 1" ALUMINUM FRAME COLOR: CLEAR ANODIZED	[FC-1]		MANUFACTURER: NICHHA ARCHITECTURAL STYLE: VINTAGEWOOD COLOR: REDWOOD OUTSIDE CORNERS: MANUFACTURED CORNER OR ALTERNATE OF CORNER KEY TO MATCH FINISH	[BR-1]		BRICK VENEER MANUFACTURER: GENERAL SHALE MODULAR GRAYSBURG NO COLOR MORTAR BASF MEDIUM BRONZE LINTEL PAINT MATCH: SW7048 "URBANE BRONZE"	[M-1]		CONDUCTOR BOX, DOWNSPOUT, SCUPPER FINISH: KYNAR COLOR: PAINTED TO MATCH PT-1 NOTE: DOWNSPOUTS TO BE RECTANGULAR IN SHAPE REFER TO ROOF DRAINAGE CALCULATIONS FOR SIZING OF CONDUCTOR BOX, DOWNSPOUT, AND SCUPPER	[PF-1]		DRINKING FOUNTAIN STYLE: DOUBLE FOUNTAINS BARRIER FREE TBD COLOR: SEE PLUMBING FOR MORE INFORMATION NOTE: MOUNT AT CHILD HEIGHT
[AWN-2]		COVER: MANUFACTURER: TEMPOTEST MARINE STYLE: SOLID COLOR: T97 CHARCOAL NOTE: AWNING TO HAVE COVERED ENDS REFER TO AWNING LEGEND FOR MORE INFORMATION	LIGHTING FIXTURES			[BR-2]		BRICK SOLDIER COURSE / ROWLOCK VENEER MANUFACTURER: GENERAL SHALE MODULAR GRAYSBURG NO COLOR MORTAR BASF MEDIUM BRONZE LINTEL PAINT MATCH: SW7048 "URBANE BRONZE"	[M-2]		COPING CAP, SCUPPERS IN EIFS-2 FINISH: KYNAR COLOR: PAINTED TO MATCH PT-2 REFER TO ROOF DRAINAGE CALCULATIONS FOR SIZING OF SCUPPER IN EIFS-2	[PF-2]		HOSE BIBB TBD COLOR: SEE PLUMBING FOR MORE INFORMATION
DOORS			[LF-1]		EMERGENCY EGRESS FIXTURE MANUFACTURER: VISA LIGHTING STYLE: PASSAGE MULLION MOUNT COLOR: BLADE SILVER (BSL) MOUNTING HEIGHT: 7'-1 1/4" TO C.O. FIXTURE SEE ELECTRICAL FOR MORE INFORMATION	[C-1]		MASONRY CONTROL JOINT TO MATCH ADJACENT MATERIAL *PROVIDE CONTROL JOINTS AT ALL INSIDE CORNERS	[PT-1]		PAINT MANUFACTURER: SHERWIN WILLIAMS COLOR: SW8055 "GAUZY WHITE"	[SF-1]		STOREFRONT MANUFACTURER: KAWNEER MATERIAL: PERMADONIC ANODIZED CLEAR NO. 14 NOTE: LAYOUT, SIZES, AND DOOR QUANTITY VARY. SEE DOOR AND WINDOW SCHEDULE FOR MORE INFORMATION
[DR-1]		MATERIAL: INSULATED HOLLOW METAL COLOR: PAINTED PT-2 SEE DOOR SCHEDULE FOR MORE INFORMATION	[LF-2]		DECORATIVE WALL SCONCE MANUFACTURER: FC LIGHTING STYLE: FCW3262 COLOR: SILVER (SL) MOUNTING HEIGHT: 8'-8" TO C.O. FIXTURE SEE ELECTRICAL FOR MORE INFORMATION	WALL PACK MANUFACTURER: LUMARK STYLE: WP-WAL-PAK COLOR: WHITE MOUNTING HEIGHT: 12'-0" TO C.O. FIXTURE SEE ELECTRICAL FOR MORE INFORMATION			[PT-2]		PAINT MANUFACTURER: SHERWIN WILLIAMS COLOR: SW8083 "DUSTED TRUFFLE"			
EIFS			[EIFS-1]		MANUFACTURER: SENERGY COLOR: ST #3058 NIGHTINGALE FINISH: FINE FINISH SEALANT: BASF OFF WHITE	APPLY SEALER OVER ALL BRICK THAT DOES NOT HAVE A CAVITY DRAINAGE SYSTEM.								
[EIFS-2]		MANUFACTURER: SENERGY COLOR: LRV #33 HAZELNUT FINISH: FINE FINISH SEALANT: BASF MEDIUM BRONZE	[LF-3]											



4 REAR ELEVATION (COLOR)

SCALE: 3/16" = 1'-0"



2 PLAYGROUND ELEVATION (COLOR)

SCALE: 3/16" = 1'-0"



3 MCKNIGHT DRIVE ELEVATION (COLOR)

SCALE: 3/16" = 1'-0"



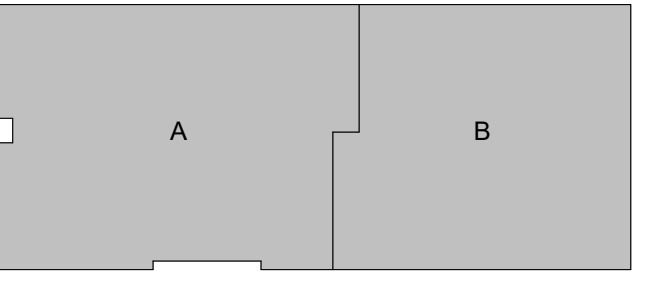
1 ENTRY ELEVATION (COLOR)

SCALE: 3/16" = 1'-0"

KNIGHTDALE CAMPUS

MCKNIGHT DRIVE
KNIGHTDALE, NC 27545
WAKE COUNTY

KEY PLAN



Revisions		
#	Date	Description
1	07/28/23	REVISED PER SITE REVIEW

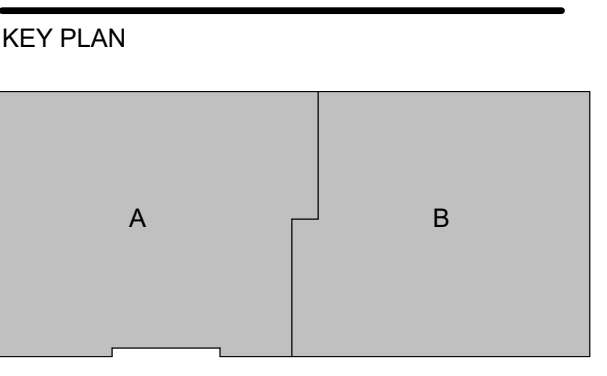
Project Number: 22195
Issued for: CONSTRUCTION
Issue Date: 06/27/23

DRAWING TITLE
OVERALL COLORED ELEVATIONS

SHEET NUMBER
A.321

KNIGHTDALE CAMPUS

MCKNIGHT DRIVE
KNIGHTDALE, NC 27545
WAKE COUNTY



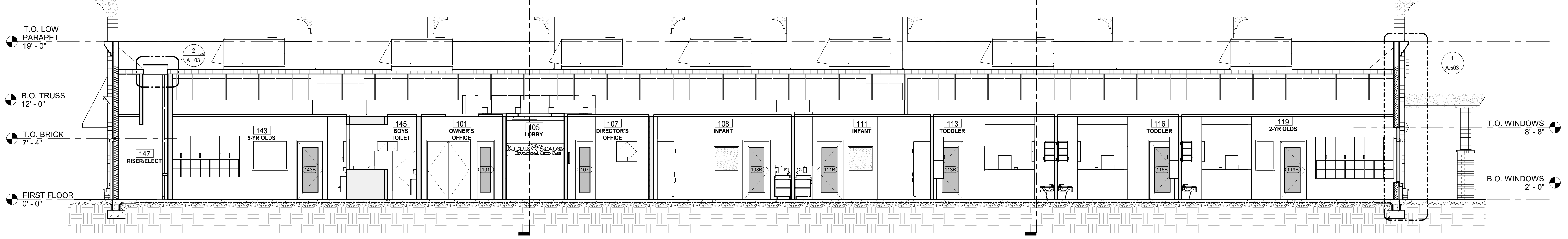
Revisions		
#	Date	Description
1	07/28/23	REVISED PER SITE REVIEW

Project Number: 22195
Issued for: CONSTRUCTION
Issue Date: 06/27/23

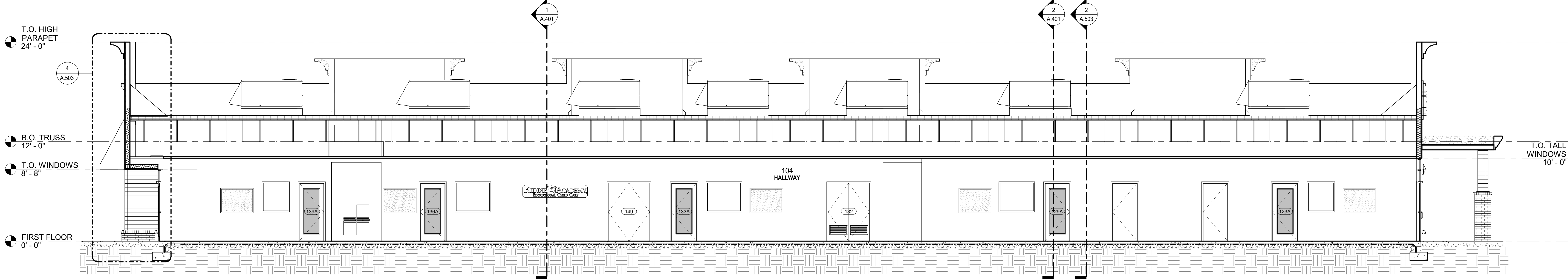
DRAWING TITLE
BUILDING SECTIONS

SHEET NUMBER
A.401

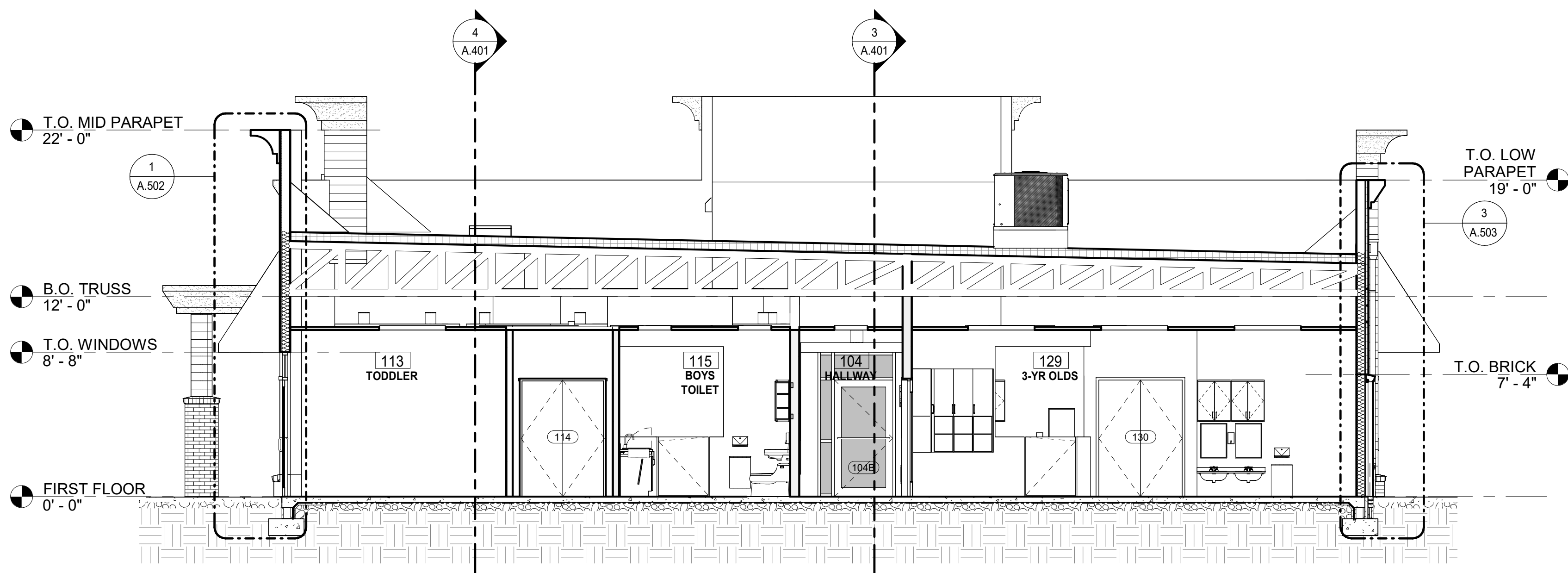
a. Town Certification: This design has been reviewed by the Engineer for the Town of Knightdale, and to the best of my knowledge and belief, it conforms to the requirements established in the Standard Specifications of the Town of Knightdale.
By: _____ Date: _____
Town Engineer
These plans are approved by the Town of Knightdale and serve as construction plans for this project.
By: _____ Date: _____
Land Use Administrator



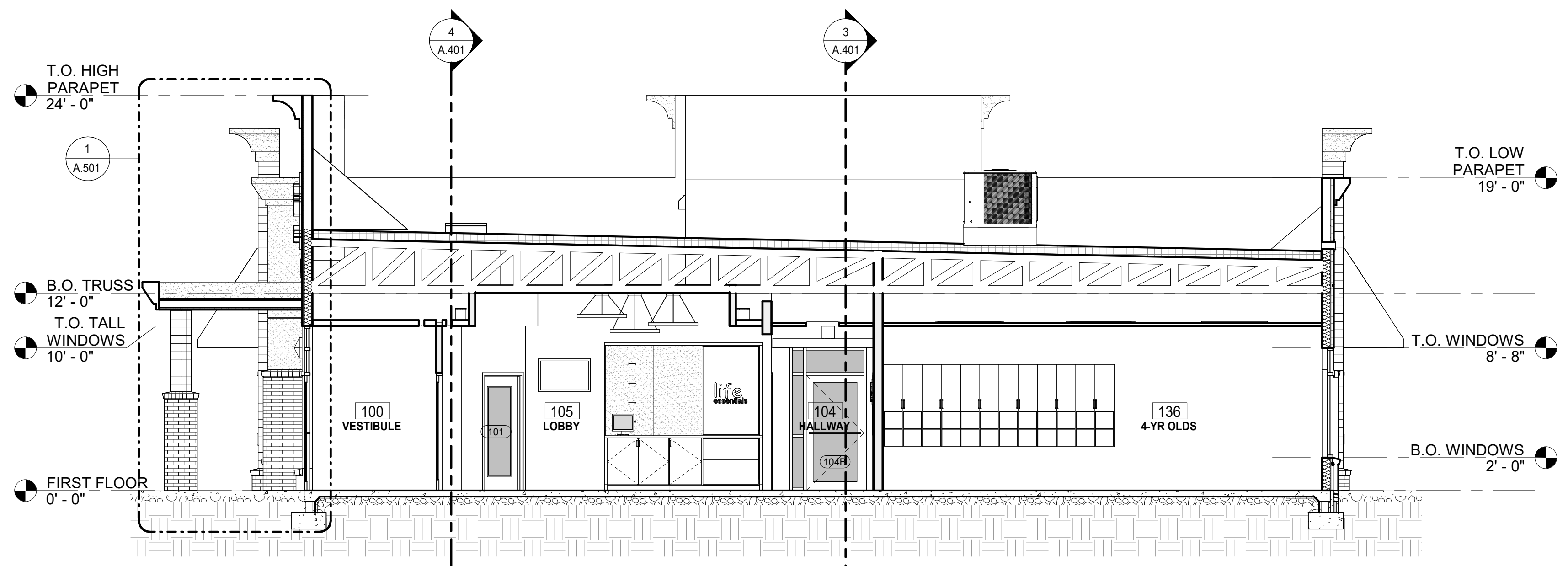
4 BUILDING SECTION 4
SCALE: 3/16" = 1'-0"



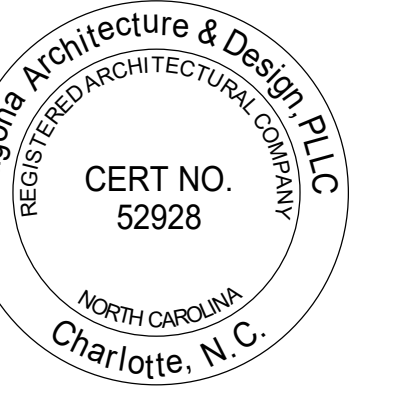
3 BUILDING SECTION 3
SCALE: 3/16" = 1'-0"



2 BUILDING SECTION 2
SCALE: 3/16" = 1'-0"



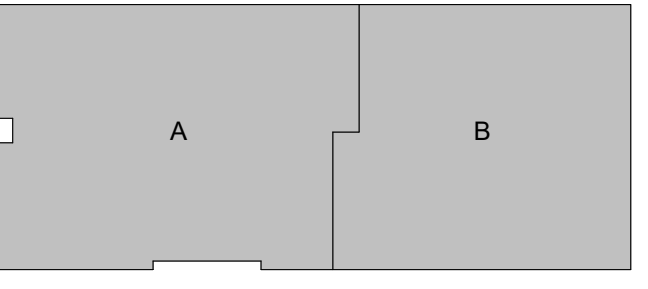
1 BUILDING SECTION 1
SCALE: 3/16" = 1'-0"



KNIGHTDALE CAMPUS

MCKNIGHT DRIVE
KNIGHTDALE, NC 27545
WAKE COUNTY

KEY PLAN



Revisions		
#	Date	Description
1	07/28/23	REVISED PER SITE REVIEW

Project Number: 22195
Issued for: CONSTRUCTION
Issue Date: 06/27/23

DRAWING TITLE
3D PERSPECTIVE VIEWS

SHEET NUMBER
G.401

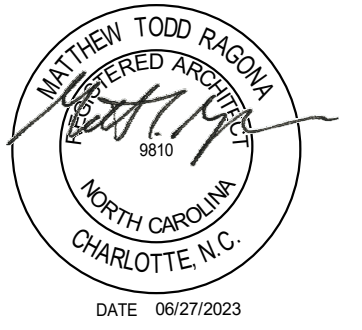
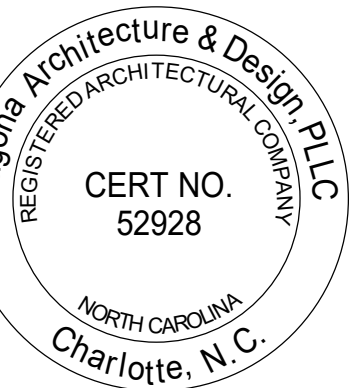
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Town Engineer
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By: _____ Date: _____
Land Use Administrator



2 3D VIEW 2
SCALE:

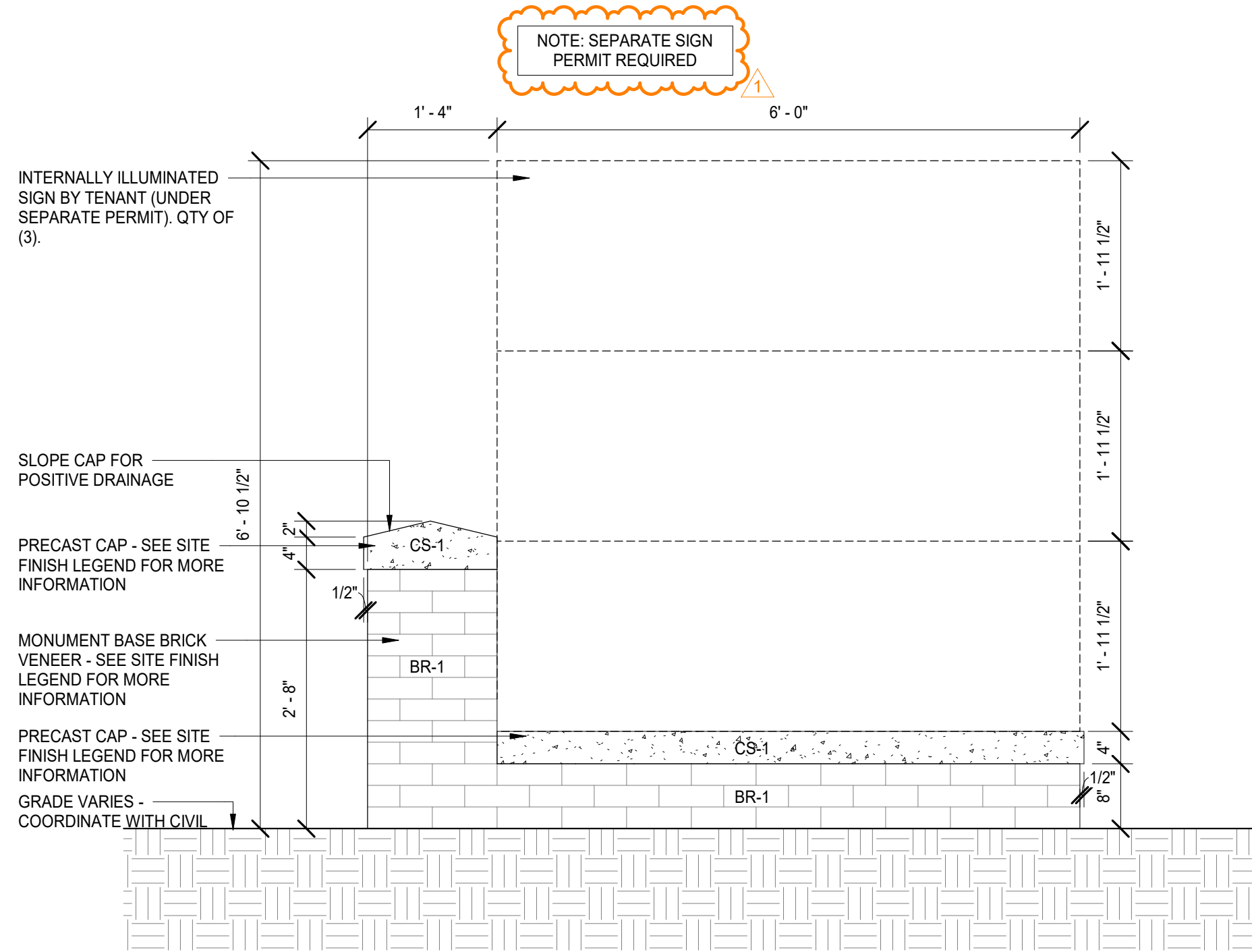


1 3D VIEW 1
SCALE:



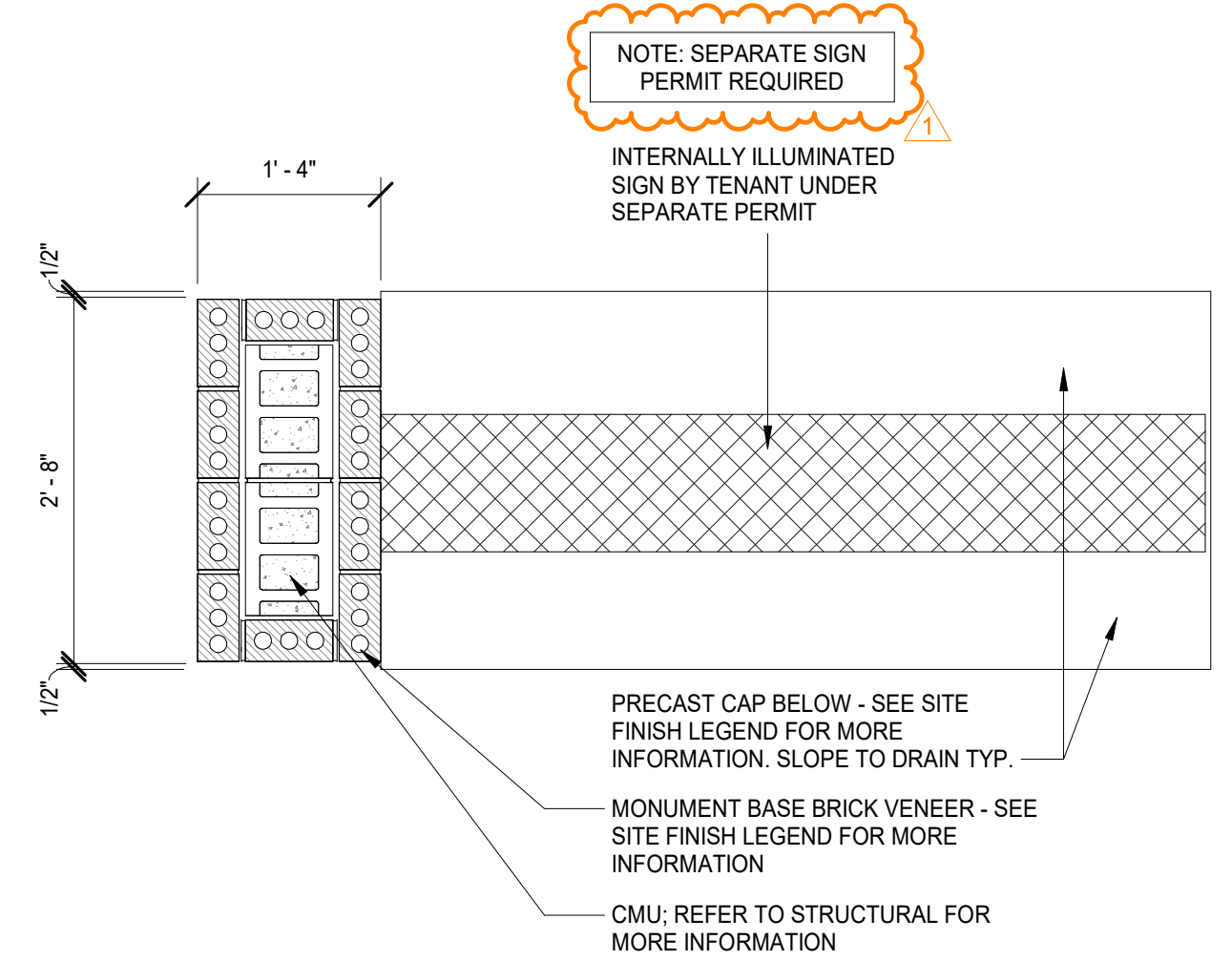
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By: _____ Date: _____
Town Engineer
These plans are approved by the Town of Knightdale and serve as construction plans for this project.
By: _____ Date: _____
Land Use Administrator

SITE FINISH LEGEND		
TAG	POCHE	MATERIAL DESCRIPTION
MASONRY		
BR-1		BRICK VENEER MANUFACTURER: GENERAL SHALE STYLE: MODULAR COLOR: GRAYSBURG MORTAR: NO COLOR MORTAR SEALANT: BASF MEDIUM BRONZE LINTEL PAINT MATCH: SW7048 "URBANE BRONZE"
MISCELLANEOUS METALS		
M-2		COPING CAP FINISH: KYNAR COLOR: PAINTED TO MATCH PT-2
PAINT		
PT-2		MANUFACTURER: SHERWIN WILLIAMS COLOR: SW9083 "DUSTED TRUFFLE"
PRECAST CAP		
CS-1		MANUFACTURER: JOHNSON CONCRETE PRODUCTS STYLE: SMOOTH COLOR: JGL-C107 SMOKY QUARTZ SEALANT: BASF STONE
APPLY SEALER OVER ALL BRICK THAT DOES NOT HAVE A CAVITY DRAINAGE SYSTEM.		
ALL SITE ITEMS CALLED TO BE PAINTED ARE TO BE PAINTED PT-2 PER THE SCHEDULE ABOVE.		



NOTE: SIGN VENDOR TO VERIFY OVERALL MASONRY EXTENTS AND SIGNAGE IS IN COMPLIANCE WITH LOCAL JURISDICTION PRIOR TO CONSTRUCTION. ILLUMINATED SIGN SHOWN FOR REFERENCE ONLY AND SHALL BE PERMITTED UNDER SEPARATE PERMIT. SEE STRUCTURAL FOR MASONRY AND FOUNDATION SCOPE OF WORK.

3 MONUMENT SIGN - ELEVATION
SCALE: 3/4" = 1'-0"



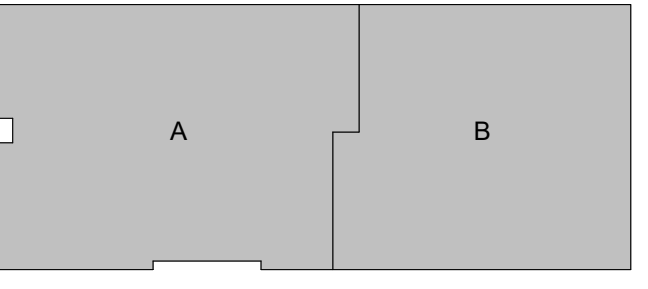
2 MONUMENT SIGN - PLAN
SCALE: 3/4" = 1'-0"

KIDDIE ACADEMY
EDUCATIONAL CHILD CARE

KNIGHTDALE CAMPUS

MCKNIGHT DRIVE
KNIGHTDALE, NC 27545
WAKE COUNTY

KEY PLAN

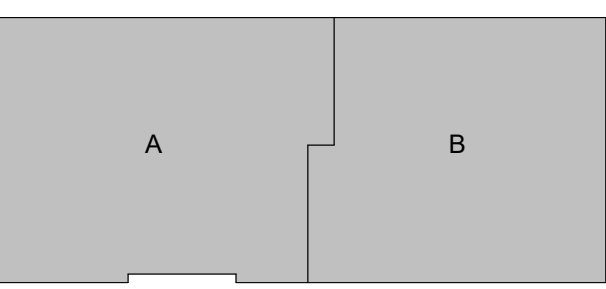


Revisions		
#	Date	Description
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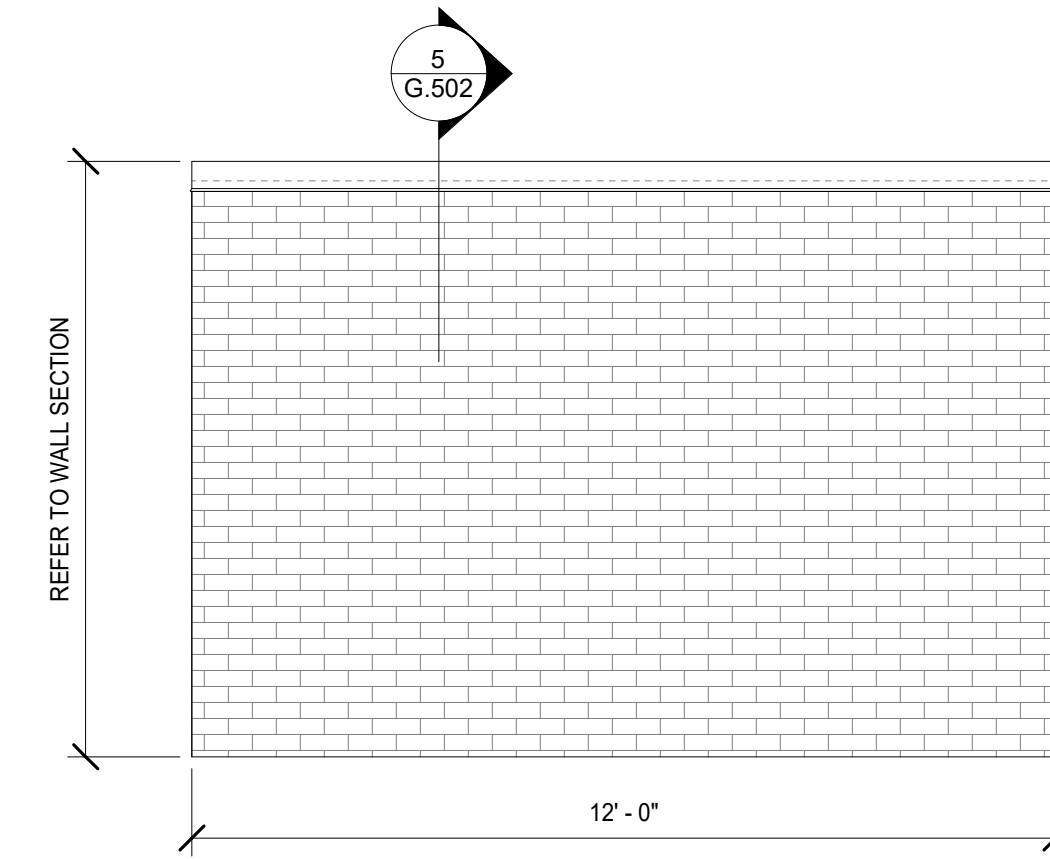
Project Number: 22195
Issued for: CONSTRUCTION
Issue Date: 06/27/23

DRAWING TITLE
ARCHITECTURAL SITE PLAN - FOR REFERENCE ONLY

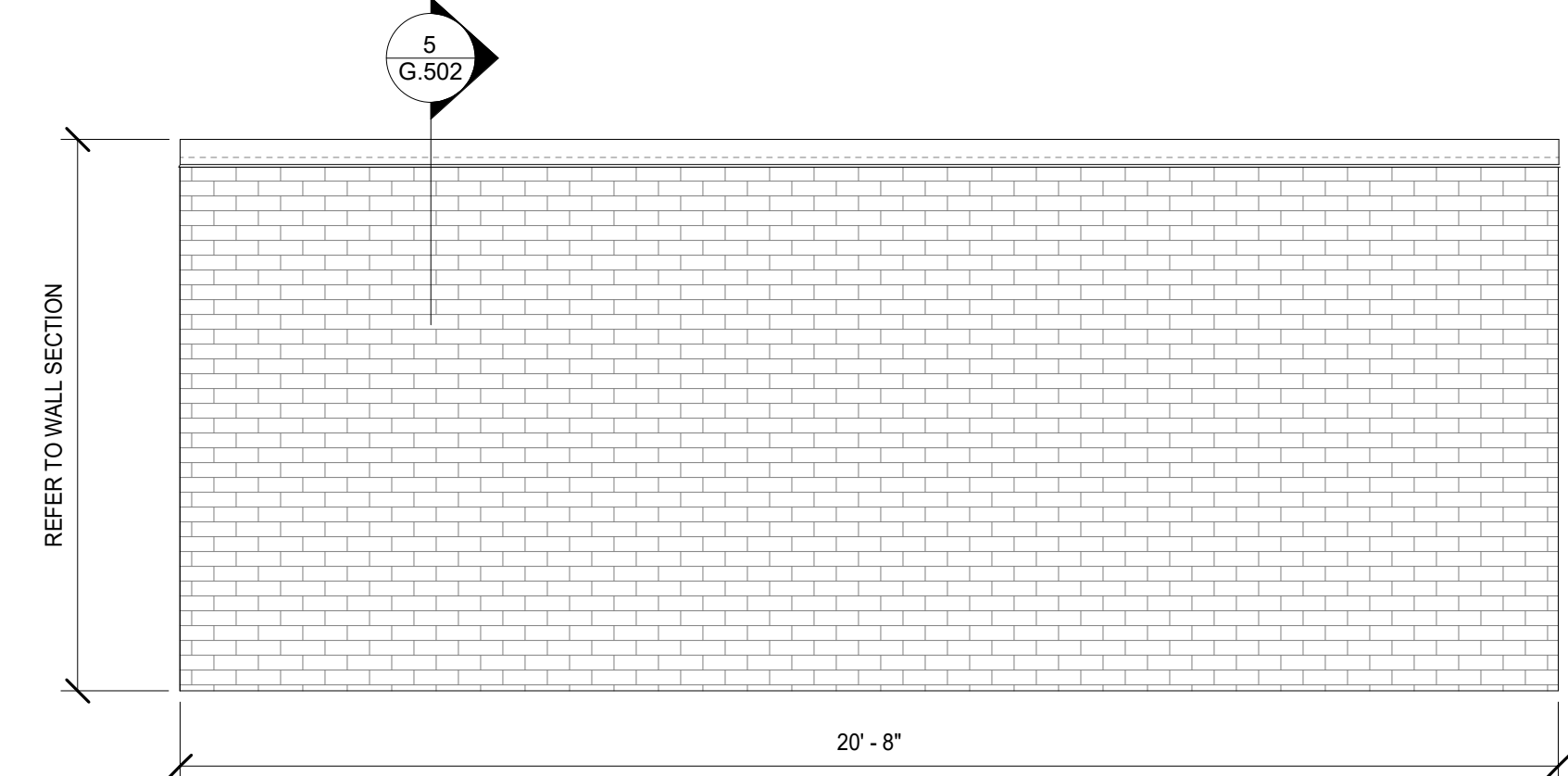
SHEET NUMBER
G.501



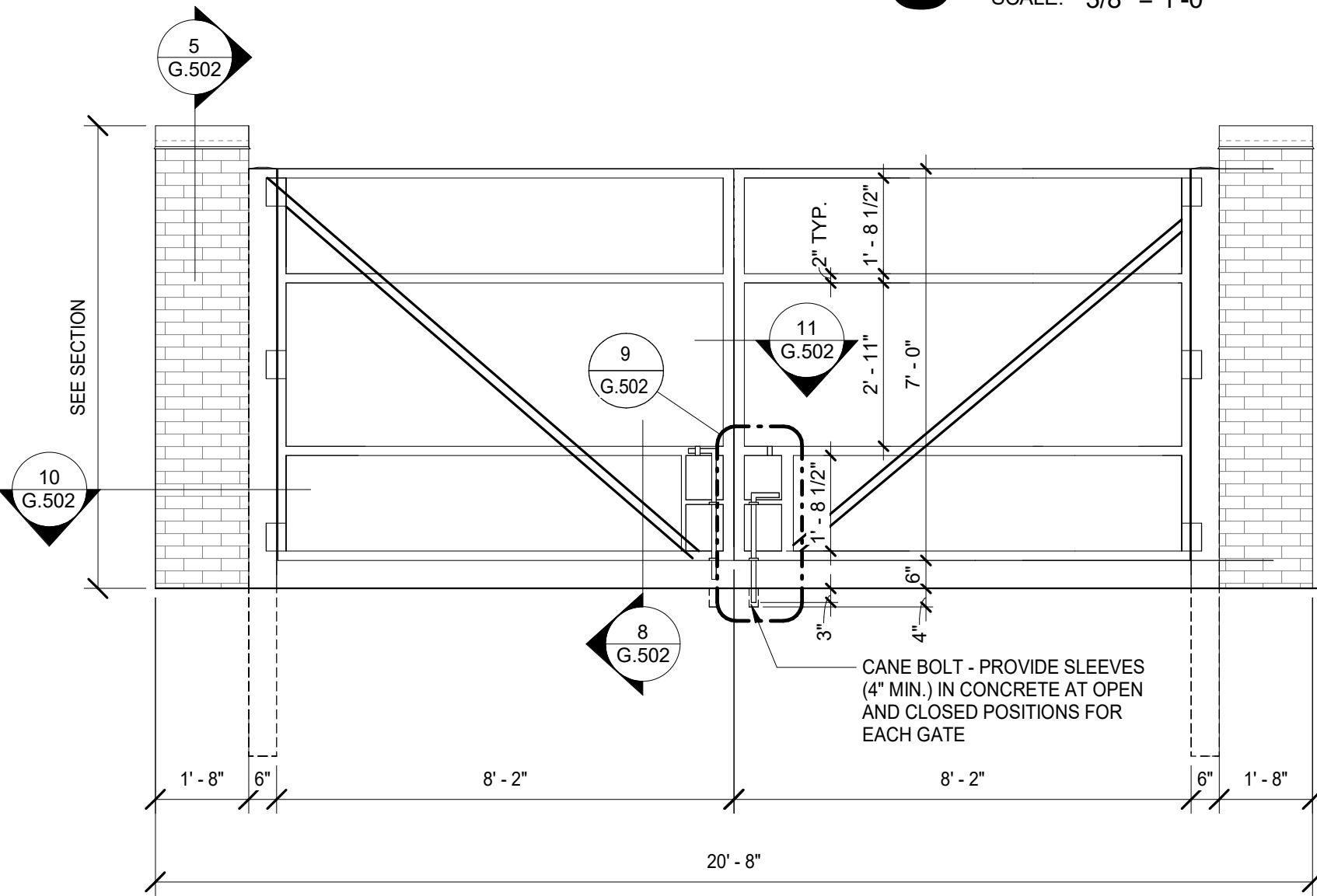
Revisions		
#	Date	Description



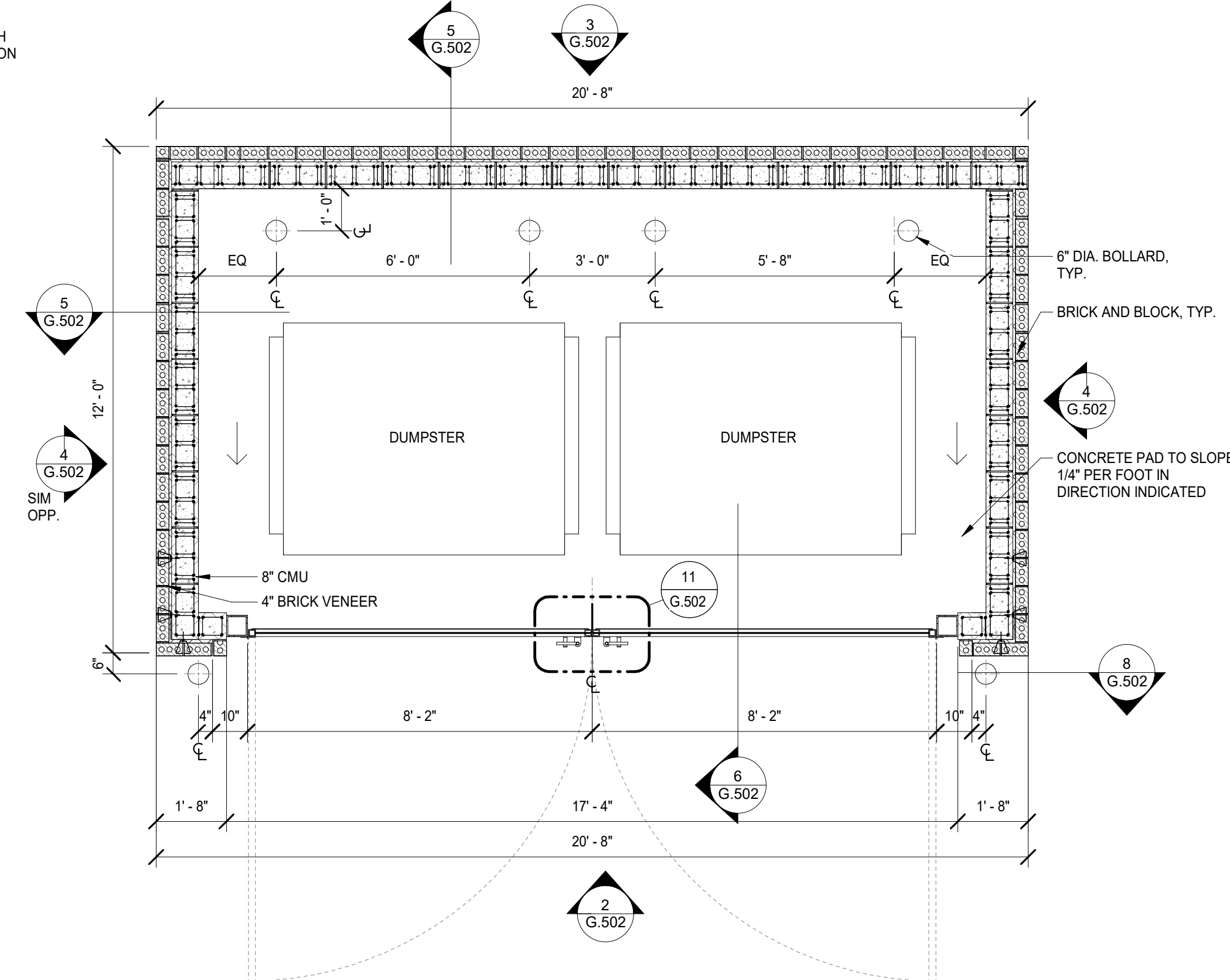
4 DUMPSTER ENCLOSURE SIDE ELEVATION
SCALE: 3/8" = 1'-0"



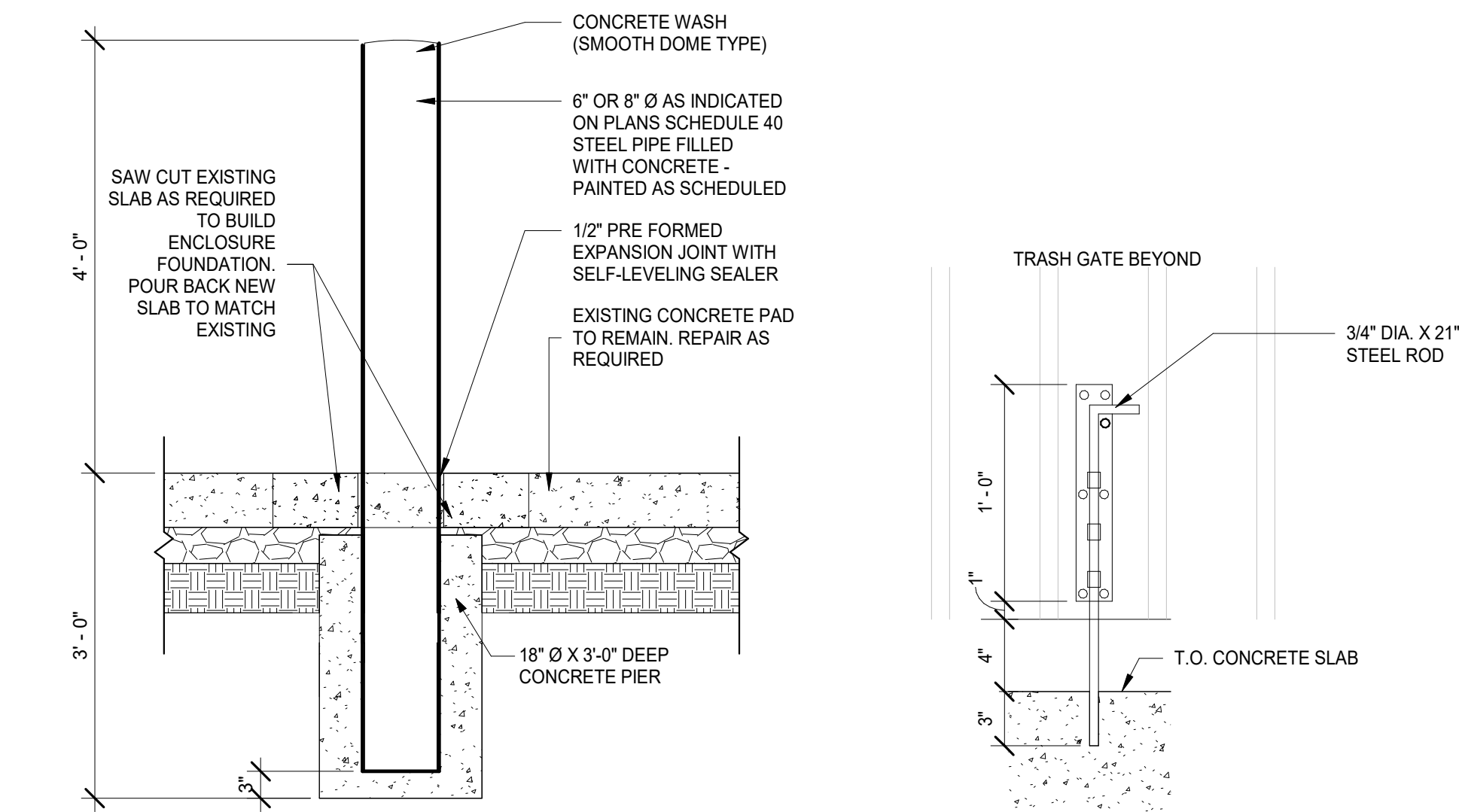
3 DUMPSTER ENCLOSURE REAR ELEVATION
SCALE: 3/8" = 1'-0"



2 DUMPSTER ENCLOSURE ELEVATION
SCALE: 3/8" = 1'-0"

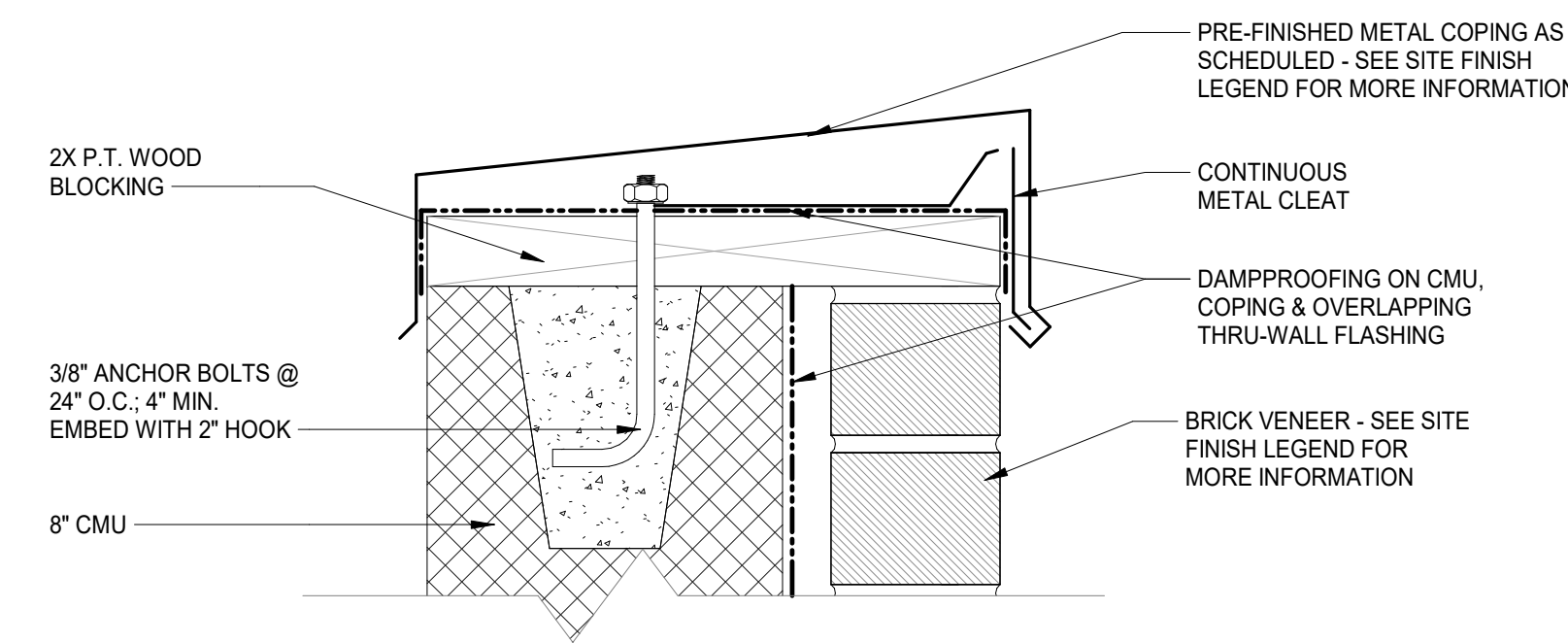


1 DUMPSTER ENCLOSURE PLAN
SCALE: 3/8" = 1'-0"

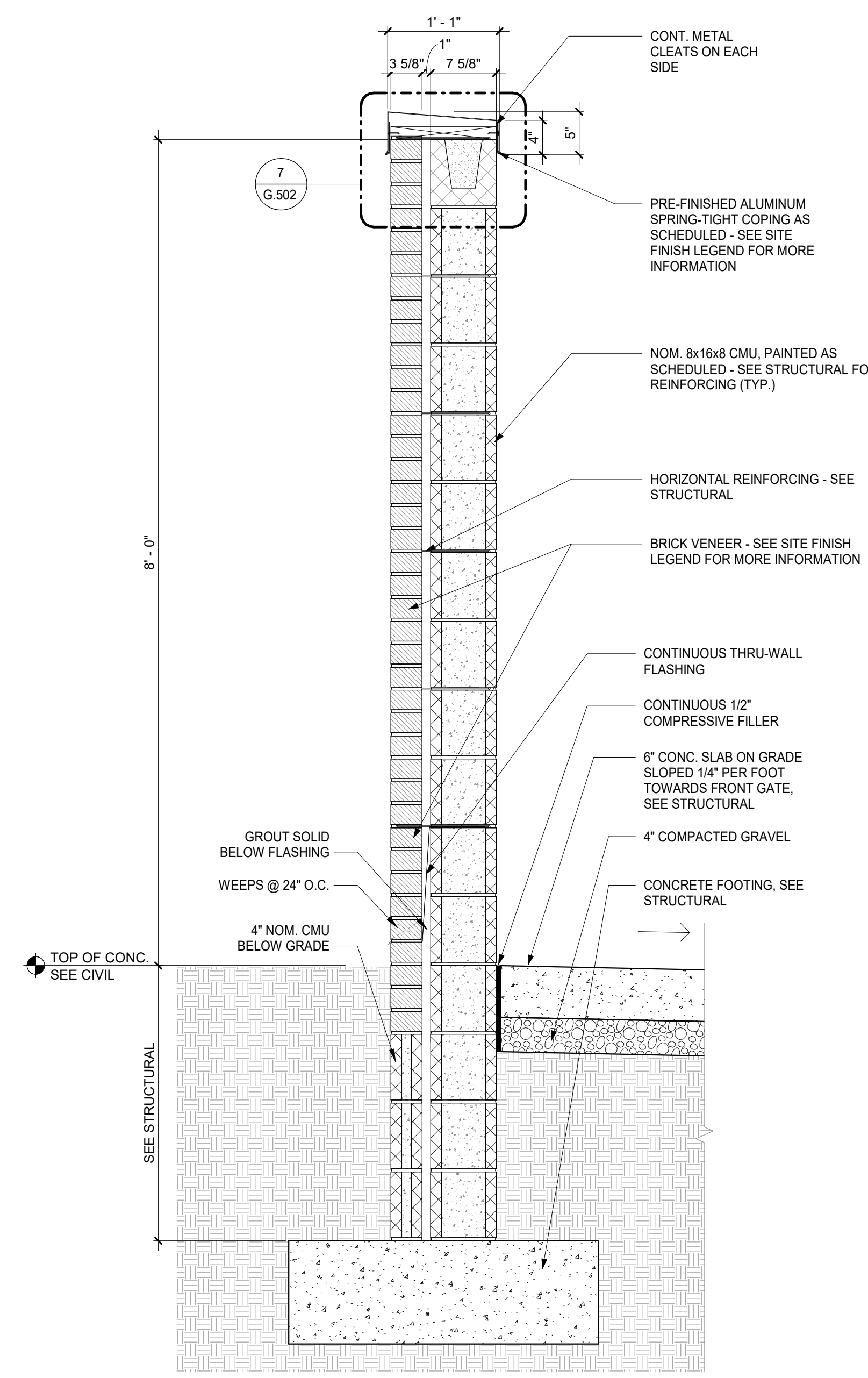


8 DETAIL - SITE BOLLARD
SCALE: 3/4" = 1'-0"

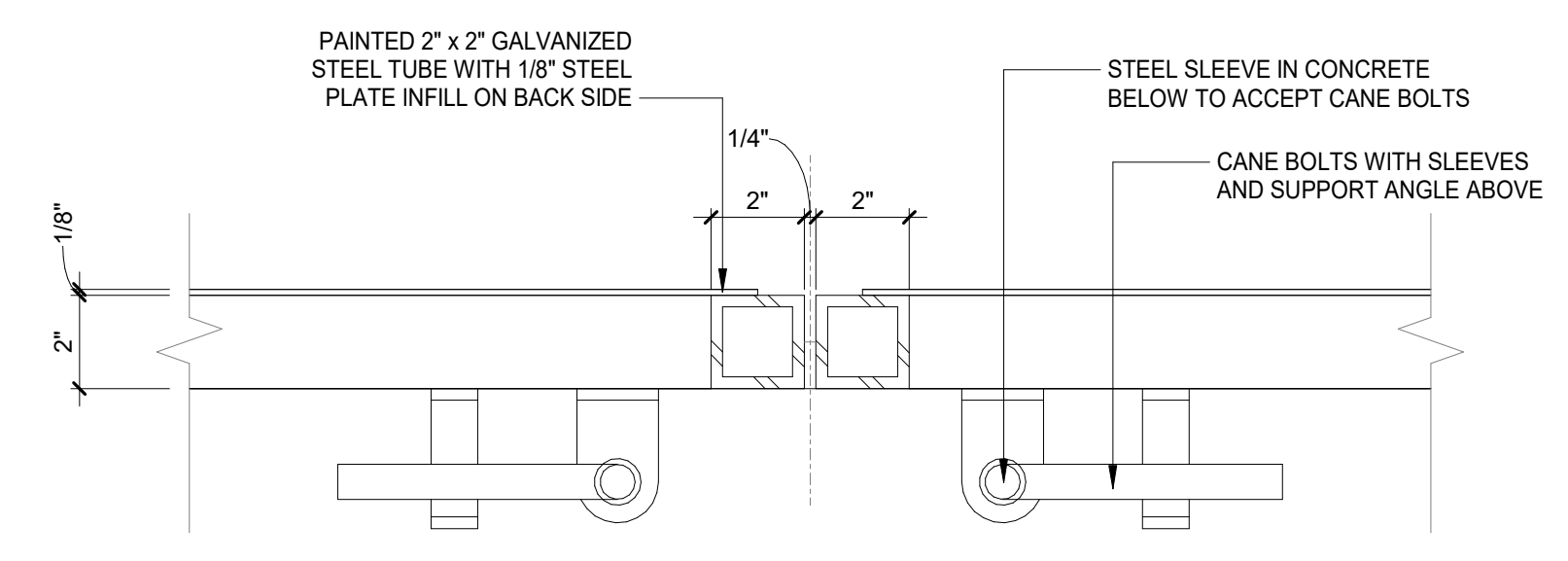
9 DETAIL - CANE BOLT/ LATCH
SCALE: 1 1/2" = 1'-0"



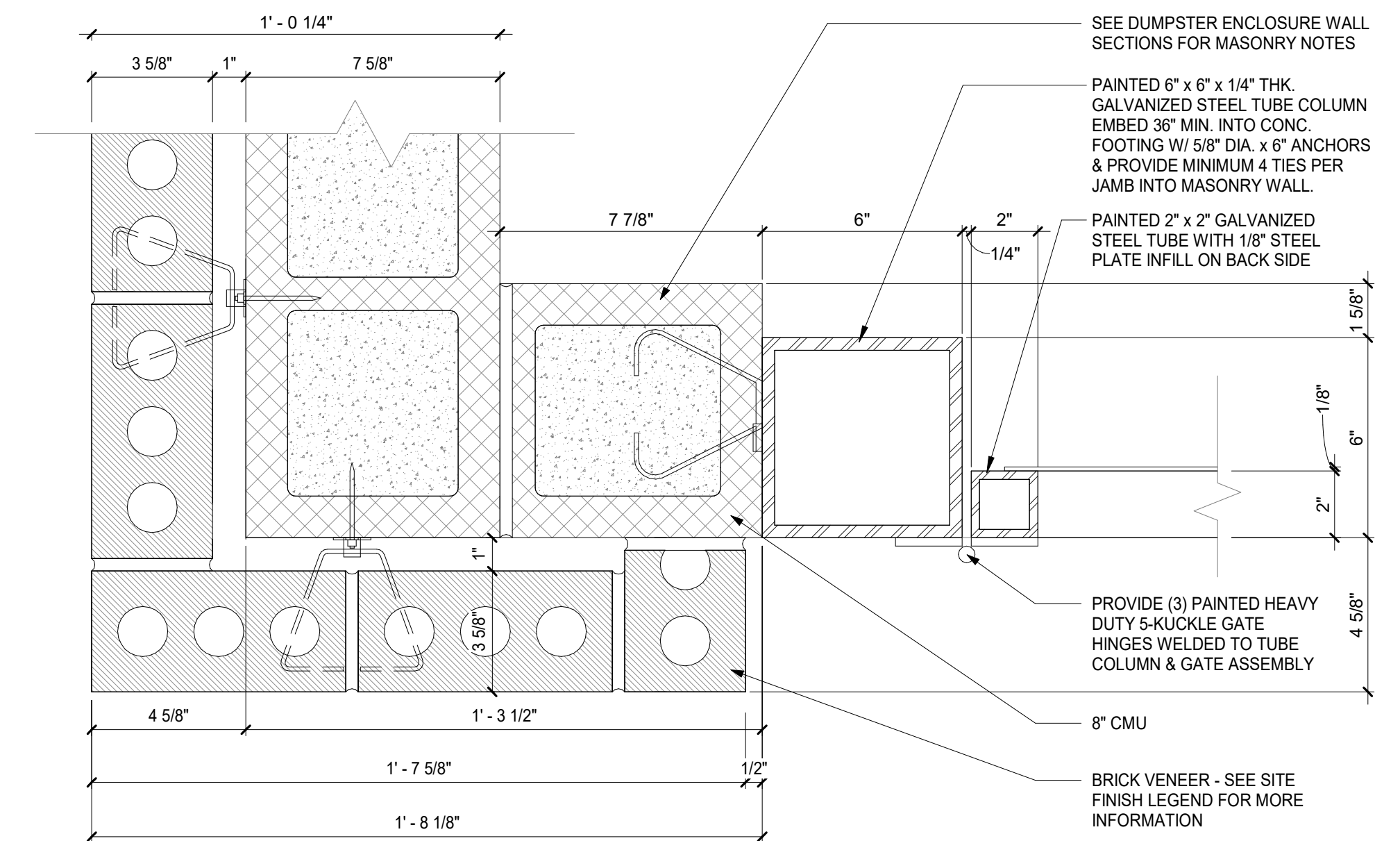
7 DETAIL - DUMPSTER ENCLOSURE COPING
SCALE: 3" = 1'-0"



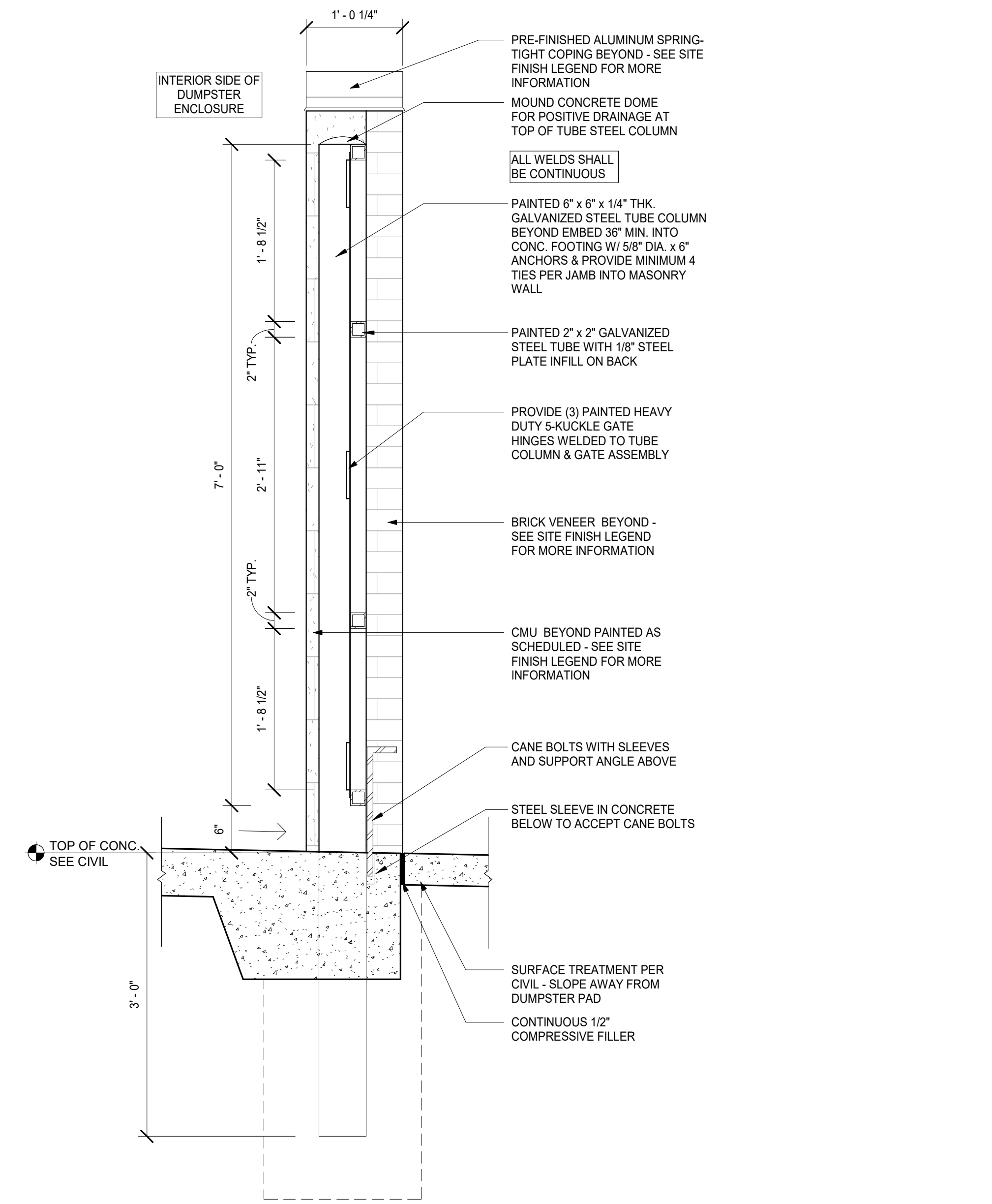
5 DUMPSTER ENCLOSURE WALL SECTION
SCALE: 1" = 1'-0"



11 PLAN
SCALE: 3" = 1'-0"



10 DETAIL - DUMPSTER ENCLOSURE JAMB
SCALE: 3" = 1'-0"



6 DUMPSTER ENCLOSURE GATE SECTION
SCALE: 1" = 1'-0"

SITE FINISH LEGEND		
TAG	POCHE	MATERIAL DESCRIPTION
MASONRY		
BR-1		BRICK VENEER MANUFACTURER: GENERAL SHALE STYLE: MODULAR COLOR: GRAYSBURG MORTAR: NO COLOR MORTAR SEALANT: BASF MEDIUM BRONZE LINTEL PAINT MATCH: SW7048 "URBANE BRONZE"
MISCELLANEOUS METALS		
M-2		COPING CAP FINISH: KYNAR COLOR: PAINTED TO MATCH PT-2
PAINT		
PT-2		MANUFACTURER: SHERWIN WILLIAMS COLOR: SW9083 "DUSTED TRUFFLE"
PRECAST CAP		
CS-1		MANUFACTURER: JOHNSON CONCRETE PRODUCTS STYLE: SMOOTH COLOR: JCL-C107 SMOKY QUARTZ SEALANT: BASF STONE
APPLY SEALER OVER ALL BRICK THAT DOES NOT HAVE A CAVITY DRAINAGE SYSTEM.		
ALL SITE ITEMS CALLED TO BE PAINTED ARE TO BE PAINTED PT-2 PER THE SCHEDULE ABOVE.		

Town Certification:
This design has been reviewed by the Engineer for the Town of Knightdale, and to the best of my knowledge and belief, it conforms to the requirements established in the Standard Specifications of the Town of Knightdale.

By: _____ Date: _____
Development Services Engineer

These plans are approved by the Town of Knightdale and serve as construction plans for this project.

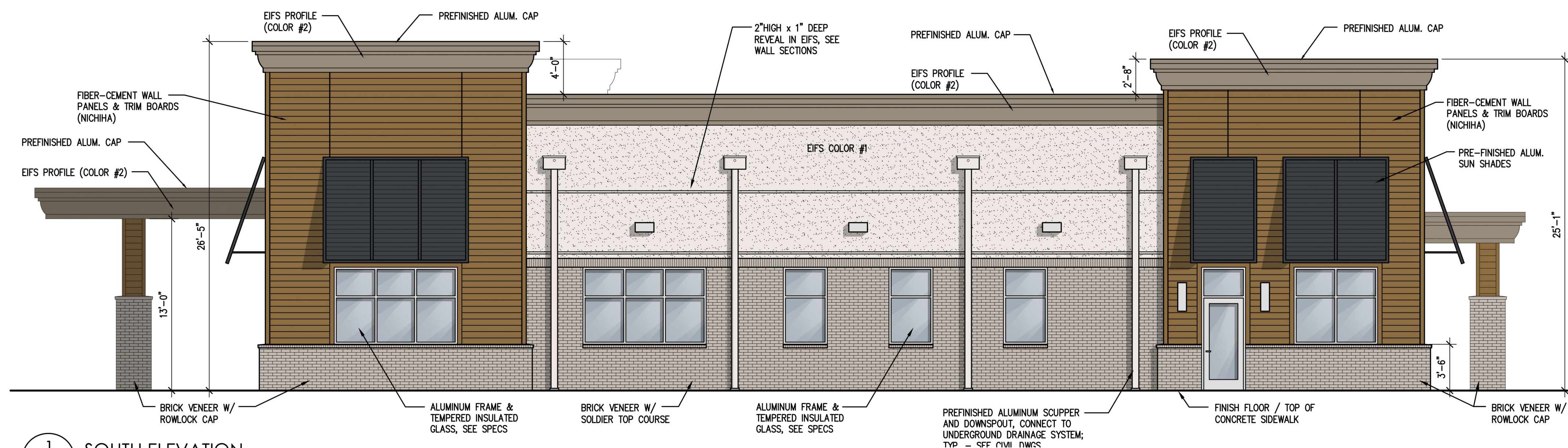
By: _____ Date: _____
Administrator

- NOTES:**
- SEE CIVIL SITE PLAN FOR DUMPSTER ENCLOSURE LOCATION, APRON AND ADDITIONAL DETAILS.
 - COORDINATE CONCRETE PAD SLOPE WITH ADJACENT SPOT ELEVATIONS FOR DRAINAGE DIRECTION AS INDICATED.
 - FLOOR DRAINS AND DRAINAGE TO SANITARY SEWER SYSTEM NOT PERMITTED.
 - COORDINATE DUMPSTER SIZE CAPACITY WITH THE REQUIREMENTS OF THE CITY/COUNTY WASTE MANAGEMENT DEPARTMENT, OTHER AUTHORITIES HAVING JURISDICTION, AND WITH WASTE MANUFACTURER'S RECOMMENDATIONS.
 - SEE STRUCTURAL FOR ADDITIONAL REQUIREMENTS.
 - PAINT INSIDE FACE OF CMU AS SCHEDULED.

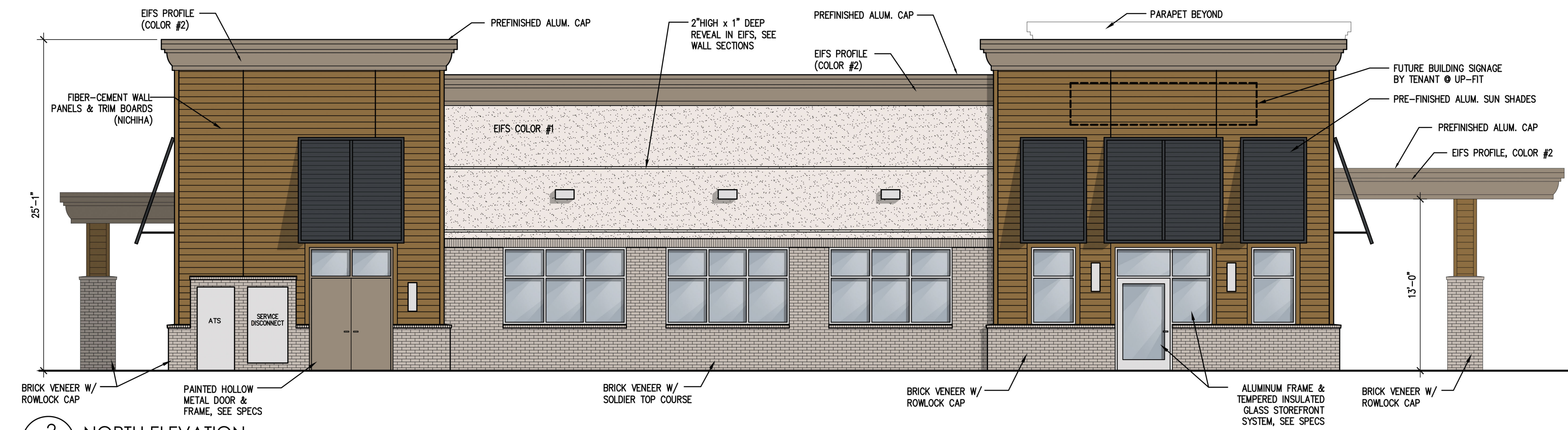
Project Number: 22195
Issued for: SCHEMATIC
Issue Date: 05/09/23

DRAWING TITLE
SITE DETAILS

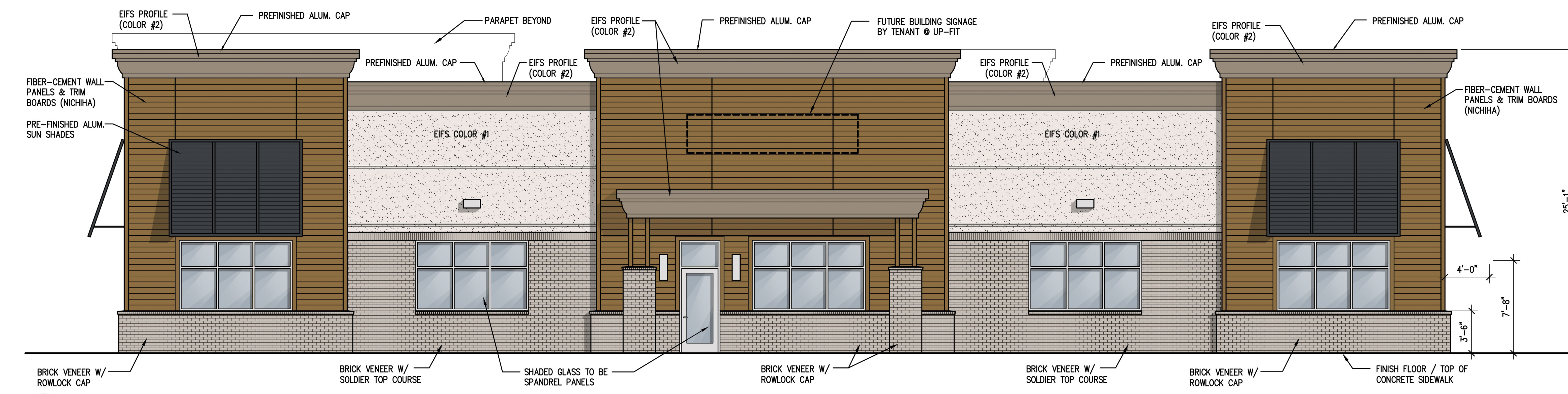
SHEET NUMBER
G.502



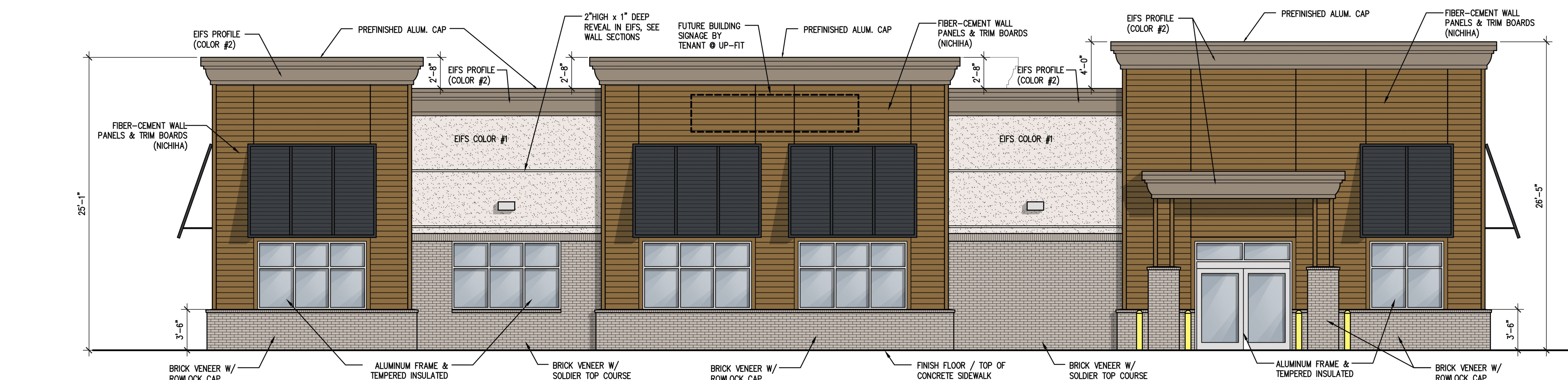
1 SOUTH ELEVATION
A3.0 SCALE: 3/16" = 1'-0"



2 NORTH ELEVATION
A3.0 SCALE: 3/16" = 1'-0"



3 EAST ELEVATION
A3.0 SCALE: 3/16" = 1'-0"



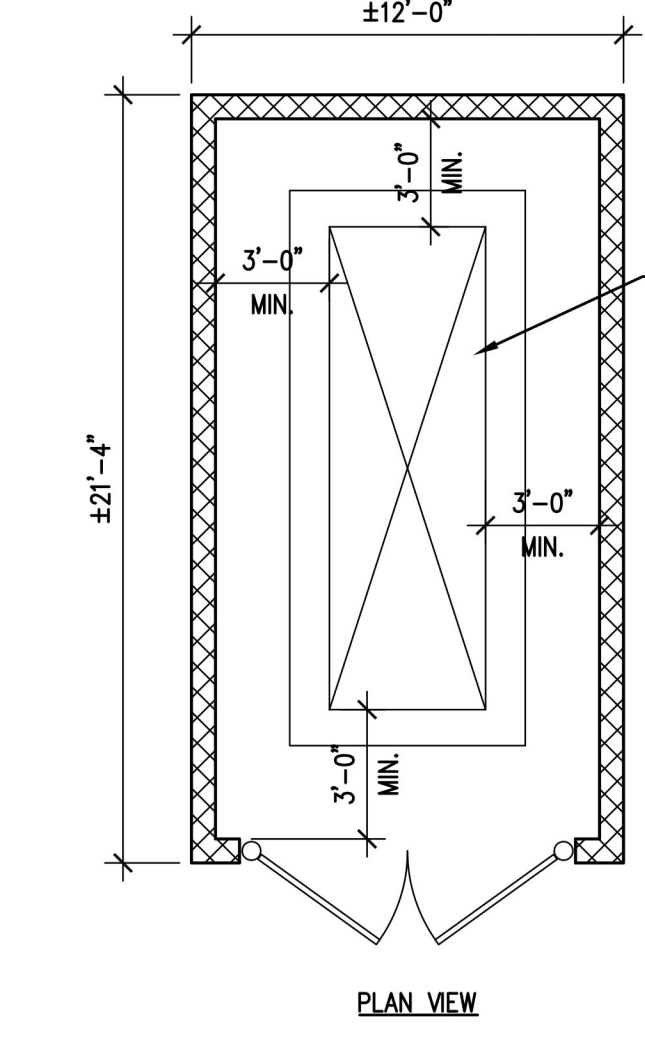
4 WEST ELEVATION
A3.0 SCALE: 3/16" = 1'-0"

EXTERIOR MATERIALS:

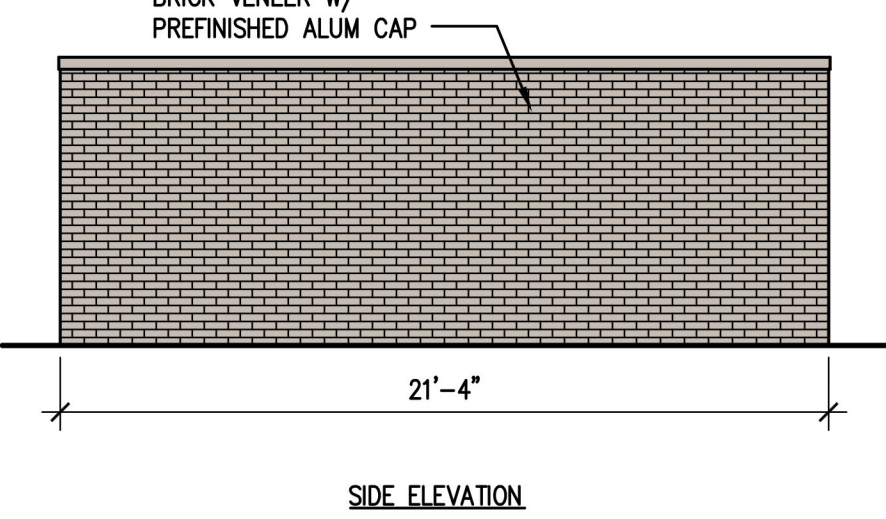
BRICK VENEER: GENERAL SHALE - GRAYSBURG
 EIFS COLOR #1: SENERGY - FINE FINISH - COLOR: ST #3058 NIGHTINGALE
 EIFS COLOR #2: SENERGY - FINE FINISH - COLOR: LV #33 HAZELNUT
 FIBER-CEMENT WALL PANELS:
 NICHHA ARCHITECTURAL WALL PANELS VINTAGE WOOD - COLOR: REDWOOD
 ALUMINUM STOREFRONT: CLEAR ANODIZED ALUMINUM
 ALUMINUM COPING: MATCH EIFS COLOR #2
 SCUPPER / DOWNSPOUTS: KYNAR FINISH PAINTED TO MATCH PAINT COLOR #1
 PAINT:
 COLOR #1: SHERWIN WILLIAMS #SW6035 "GAUZY WHITE"
 COLOR #2: SHERWIN WILLIAMS #SW9083 "DUSTED TRUFFLE"
 SUNSHADES: ARCHITECTURAL FABRICATION OR EQUAL KYNAR FINISH: COLOR: CHARCOAL #392F232

Town Certification:

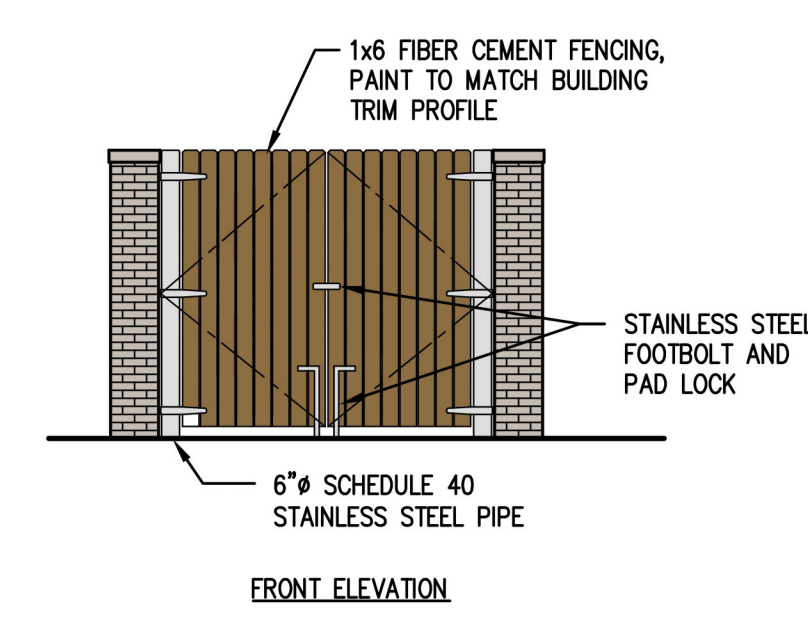
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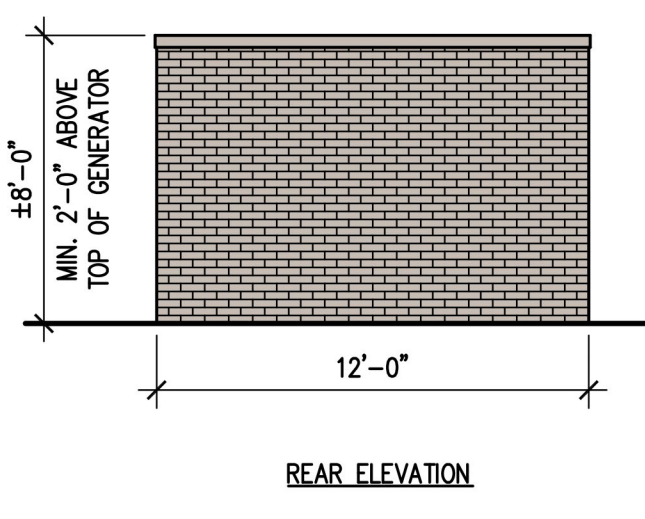
PLAN VIEW



SIDE ELEVATION

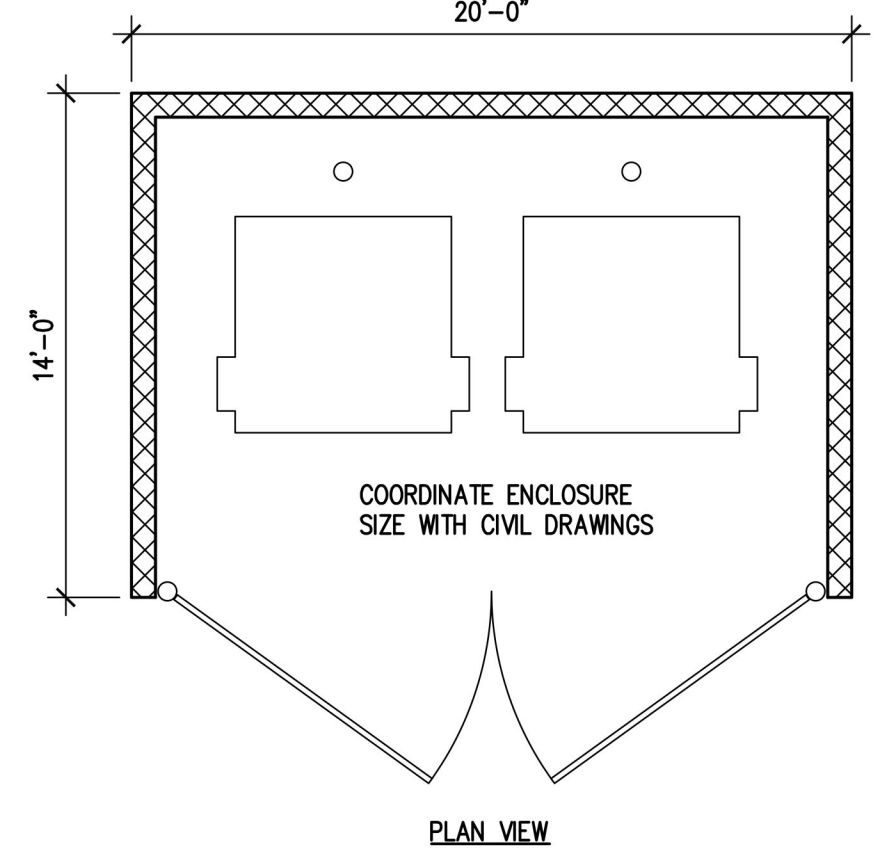


FRONT ELEVATION

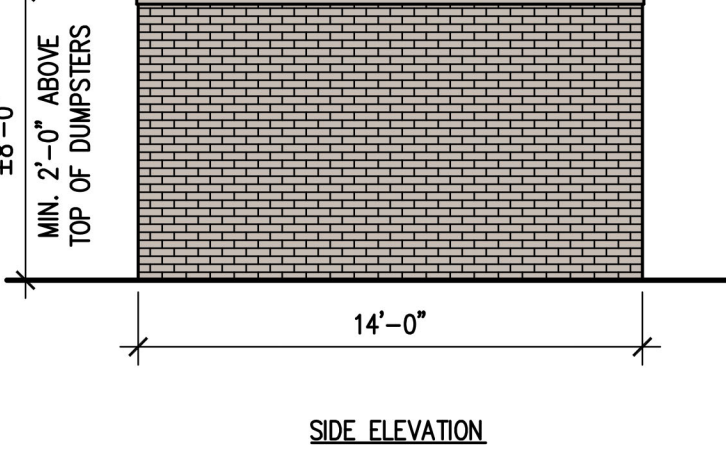


REAR ELEVATION

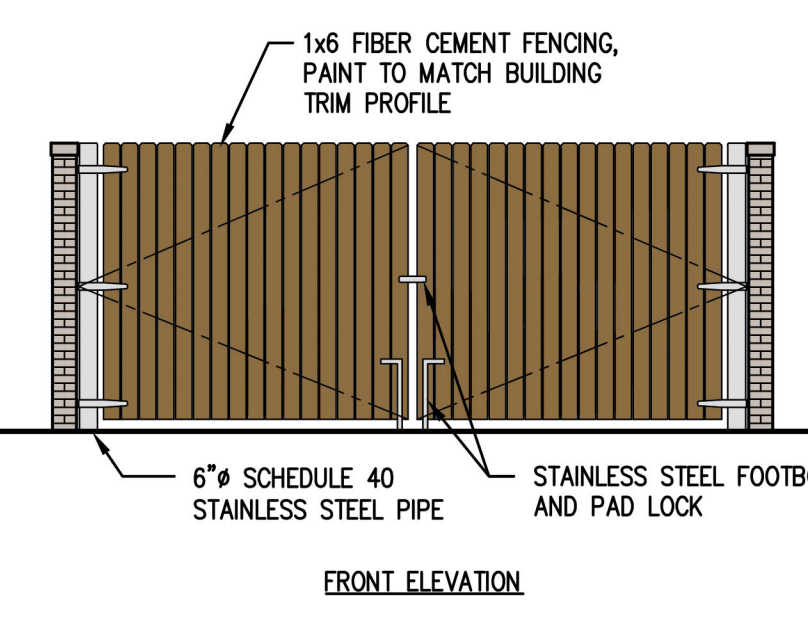
5 GENERATOR ENCLOSURE PLAN & ELEVATIONS
A3.0 SCALE: 3/16" = 1'-0"



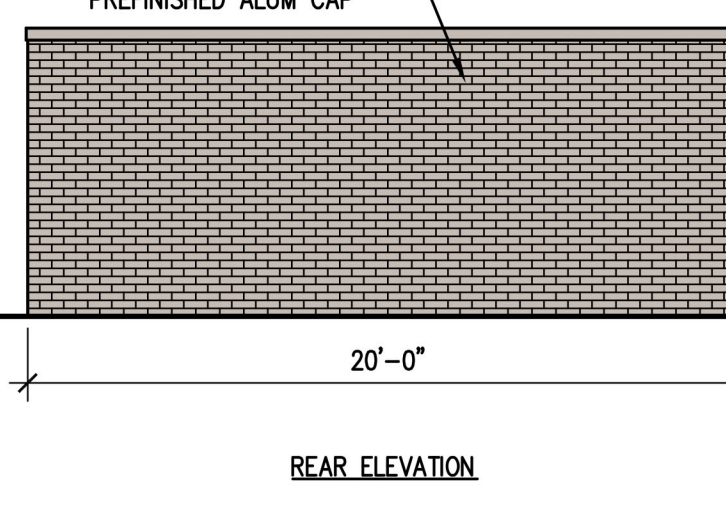
PLAN VIEW



SIDE ELEVATION

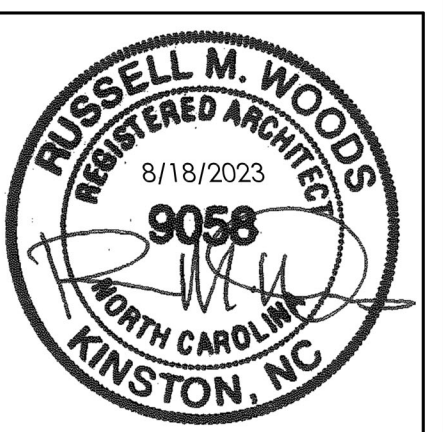


FRONT ELEVATION



REAR ELEVATION

6 DUMPSTER ENCLOSURE PLAN AND ELEVATIONS
A3.0 SCALE: 3/16" = 1'-0"



DUNN & DALTON ARCHITECTS
 401 North Heritage St.
 Knightdale, NC 27545
 919.527.1523 phone
 919.527.0049 fax

Proposed Shell Building for:
FKC KNIGHTDALE
#101477-1-DN-S-BO-2021
 MCKNIGHT DRIVE
 KNIGHTDALE, NC 27545



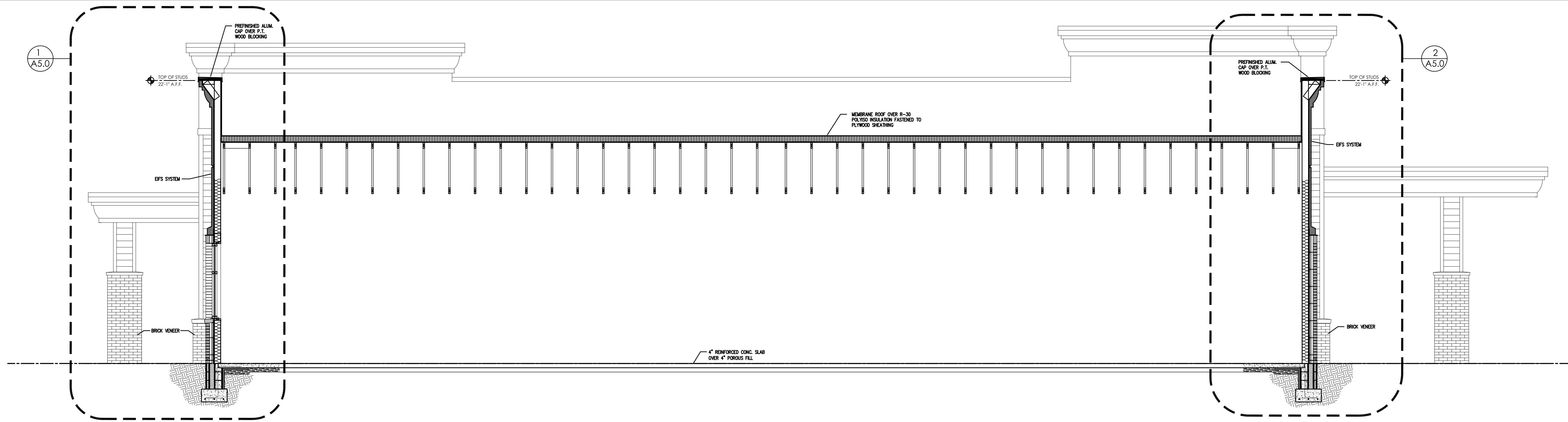
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Drafted By: TWD
 Checked By: TWD
 Date Drawn: 8/18/2023
 Project #: FRE-COD-21070

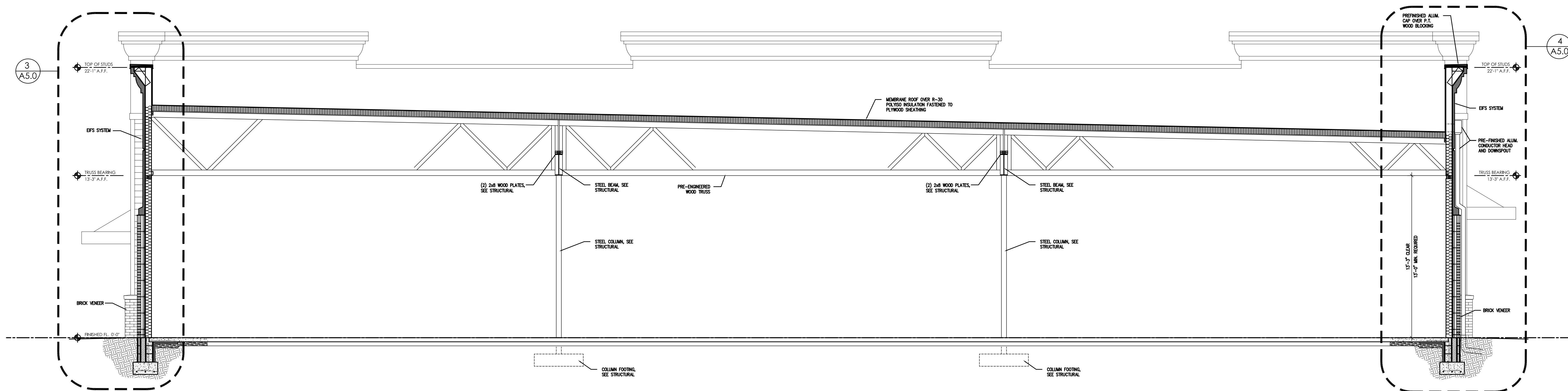
REVISION DESCRIPTION	DATE

EXTERIOR ELEVATIONS

A3.0

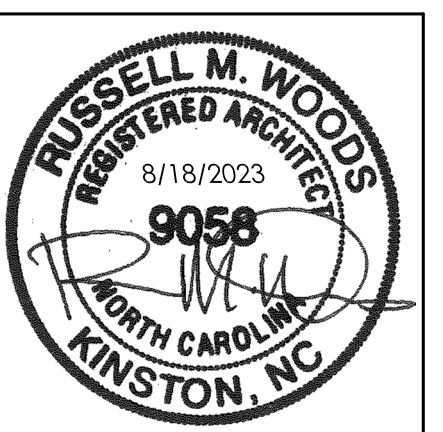


1 BUILDING CROSS SECTION
A4.0 SCALE: 1/4" = 1'-0"



2 BUILDING CROSS SECTION
A4.0 SCALE: 1/4" = 1'-0"

Town Certification:
This design has been reviewed by the Engineer for the Town of Knightdale, and to be the best of my knowledge and belief, it conforms to the requirements established in the Standard Specifications of the Town of Knightdale.
By: _____ Date: _____
Development Services Engineer
These plans are approved by the Town of Knightdale and serve as construction plans for this project.
By: _____ Date: _____
Administrator



DUNN & DALTON ARCHITECTS
401 North Heritage St.
252-527-1523 phone
252-527-0049 fax

Proposed Shell Building for:
FKC KNIGHTDALE
#101477-1-DN-S-BO-2021
McKNIGHT DRIVE
KNIGHTDALE, NC 27545



THIS DRAWING IS THE PROPERTY OF DUNN & DALTON ARCHITECTS, P.A. THIS DRAWING IS NOT TO BE COPIED IN WHOLE OR IN PART. THIS DRAWING OR THE INFORMATION HEREON IS NOT TO BE USED ON ANY OTHER PROJECT. COPYRIGHT 2023 DUNN & DALTON ARCHITECTS, P.A.

Drafted By: TWD
Checked By: TWD
Date Drawn: 8/18/2023
Project #: FRE-COD-21070

REV #	DATE	REVISION DESCRIPTION

STREET NAME: _____
BUILDING SECTIONS

SHEET NUMBER:
A4.0

STREET LIGHTING IS OUT OF SCOPE - WILL BE PROVIDED BY DUKE POWER AS PUBLIC WORKS



a. Lighting Plan Certification: I hereby certify I am the applicant and that a Lighting Plan shall be submitted by the utility provider to the Knightdale Development Services Department for approval prior to the installation of all required lighting. The lighting plan shall designate the proposed location of all light poles and shall be in compliance with Section 7.7 of the Town of Knightdale UDO. If a proposed light pole location should present a conflict with existing or proposed vegetation according to the approved construction drawings, the Landscaping Plan shall be revised to comply with the Town of Knightdale UDO requirements. All revisions are subject to Town of Knightdale approval.

Date _____ Applicant _____

I (officer authorized to take acknowledgments) do hereby certify that _____ personally appeared before me this day and acknowledged the due execution of this certificate. Witness my hand and (where an official seal is required by law) official seal this ____ day of _____, A.D., ____ (year).

Official Seal _____ Notary _____
 Commission Expires _____

#	Date	Comments

#	Date	Comments

KIDDLE ACADEMY
 KNIGHTDALE, NC

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STREET LIGHTING IS OUT OF SCOPE - WILL BE PROVIDED BY DUKE POWER AS PUBLIC WORKS



FC Lighting

Date: _____ Approved: _____
 Type: H
 Fixture: FCW3362-120-LED-4K-750-BZ
 Project: Kiddie Academy
 TYPE: H

FCW3260, FCW3262, FCW3263
 Diamond Shaped Die-Cast Aluminum-Ceiling, Wall, or Surface Mounted.

ORDERING

EXAMPLE: FCW3260-120V-LED-4K-1000-SL-F					
SERIES	VOLTAGE	SOURCE/TEMPERATURE/LAMP	FINISH	ACCESSORIES	
FCW3260	120V	PL 2/130 260 2/260	BK Black	D Dimming	
FCW3262	277V	LED 3K 750 Lumens (30W)	BZ Bronze	LD LED Dimming	
FCW3263	347V	35K 850 Lumens (30W) 4K 2200 Lumens (30W)	CC Custom Color SL Silver WH White	EMR Emergency Backup, Remote (PL only, LED...) F Fuse	

△ contact factory
 ▲ FCW3260, FCW3263

SPECIFICATION

- MOUNTING**
- For ceiling/surface mount or wall applications: Mounting holes allow unit to be attached directly to mounting surface or junction box.
- CONSTRUCTION**
- Marine grade, corrosion resistant, heavy walled, high pressure die-cast aluminum construction.
 - Impact resistant, UV stabilized, white opal, polycarbonate. Vandal resistant.
 - Neoprene continuous closed cell urethane 'O' ring gasket to seal out contaminants.
 - Captive stainless steel, tamper resistant hex socket screws.
- LED**
- Lumens stated are the minimum delivered out of the luminaire. LED lifetime is greater than or equal to 70,000 hours with the lumen depreciation greater than L70. All of our luminaires are LM-80 tested and are ≥ CRI80, with a 4-step MacAdam Ellipse color consistency. Integral power supply standard. Input voltage 120V or 277V standard.
- FINISH**
- Six stage chemical pre-treatment process that includes iron phosphate, to prepare the substrate for a UV stable, super durable standard polyester powder coat. Optional e-coat process is added to the standard finish including zinc phosphate for a 5 year limited warranty.
- ELECTRICAL**
- Socket PL: Four pin plug-in type compact fluorescent lamp holder. HID: G12 base porcelain socket.
 - Ballast PL: Fluorescent electronic. HID: Remote electronic ballast standard. Ballast has a manufacturer issued 5 year warranty. Electronic universal voltage 120V or 277V is standard. Please consult factory for other voltage options.
- LISTING**
- UL & cUL/ETL U.S. and CA listed for wet locations. IP65 rating.
 - Suitable for interior or exterior application.

FC Lighting, Inc. reserves the right to change details or specifications without notice. Product use certifies agreement to FC Lighting's terms and conditions.
 © 2016, FC Lighting, Inc. 3609 Swenson Ave., St. Charles, IL 60174 p. 800-900-1730 f. 630-889-8106 www.fc-lighting.com RF Rev. 916

Lumark

The Lumark Wal-Pak wall luminaire provides traditional architectural style with high performance energy efficient illumination. Rugged die-cast aluminum construction, stainless steel hardware along with a sealed and gasketed optical compartment make the Wal-Pak virtually impervious to contaminants. IP66 Rated. Three available lamp sources including patented energy efficient LED, pulse start metal halide and high pressure sodium. UL/cUL wet location listed. The Wal-Pak wall luminaire is ideal for pathway illumination, building entrances, vehicle ramps, schools, tunnels, stairways and loading docks.

Catalog #	Type
Project	TYPE: B
Comments	Date
Prepared by	

DESCRIPTION

Housing
 Rugged one-piece die-cast aluminum housing and hinged, removable die-cast aluminum door. One-piece silicone gasket seals the optical chamber. UL 1598 wet location listed and IP66 ingress protection rated.

Electrical
 Ballasts, LED driver and related electrical components are hard mounted to the die-cast housing for optimal heat sinking and operating efficiency. Wiring is extended through a silicone gasket at the back of the housing. Three 1/2" threaded conduit entry points allow for thru-branch wiring. LED thermal management system incorporates both conduction and natural convection to transfer heat rapidly away from LED source. Integral LED electronic driver incorporates internal fusing designed to withstand a 6kV surge test and is Class 2 rated for 120-277V with an operating temperature of -40° to 55°C. Wal-

Pak LED systems maintain greater than 93% of the initial light output after 72,000 hours of operation. UL listed HID high power factor ballasts are Class H insulation rated (high pressure sodium: 250, 400W [-40°C / -40°F], High efficiency HID ballasts are available in 120, 208, 240, 277, 347 and 480V.

Optical
 Highly reflective anodized aluminum reflectors provide high efficiency illumination. Optical assemblies include impact resistant borosilicate refractive glass, and full cutoff ESNR compliant 1/2" threaded conduit entry points allow for thru-branch wiring. LED thermal management system incorporates both conduction and natural convection to transfer heat rapidly away from LED source. Integral LED electronic driver incorporates internal fusing designed to withstand a 6kV surge test and is Class 2 rated for 120-277V with an operating temperature of -40° to 55°C. Wal-

installation and maintenance. Door assembly is hinged at the bottom for easy removal, installation and re-lamping.

Finish
 Finished in five-stage super TGIC polyester powder coat paint, 2.5 mil nominal thickness for superior protection against fade and wear. Standard color is bronze. Additional colors available in white, grey, bronze, black, dark platinum and graphite metallic. Consult your lighting representative at Cooper Lighting Solutions for a complete selection of standard colors.

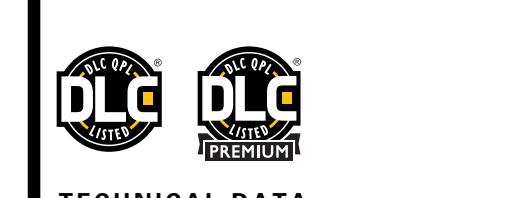
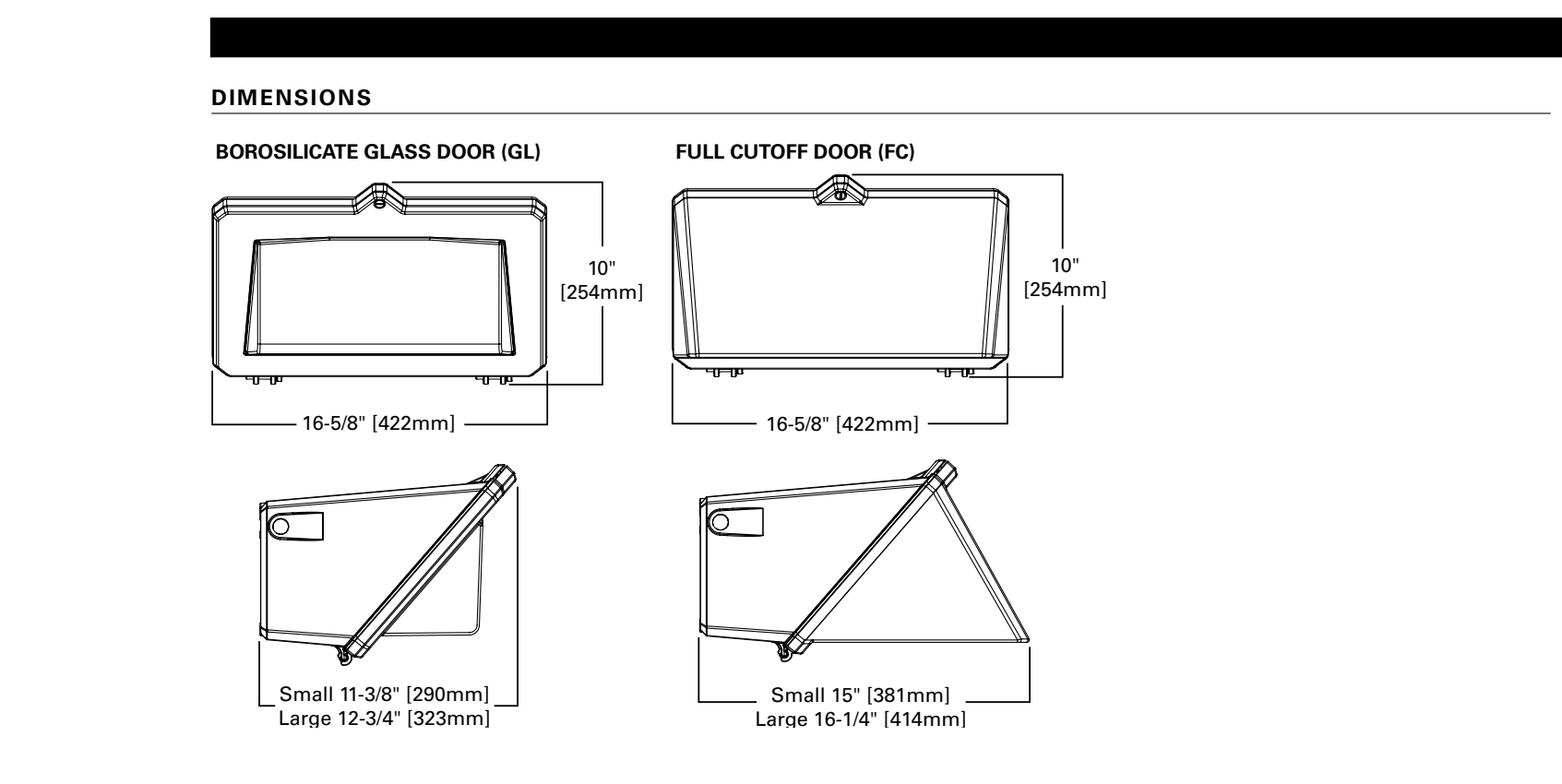
Efficiency Standards Notice
 Select luminaires are manufactured to USA and California efficiency regulations.

Door Assembly
 Single point, captive stainless steel hardware secures the removable hinged door allowing for ease of



WP WAL-PAK

- 27, 32 and 46W LED
- 250 - 400W Pulse Start Metal Halide
- 250 - 400W High Pressure Sodium



TECHNICAL DATA
 UL/cUL Wet Location Listed
 IP66 Rated
 40°C Maximum Ambient Temperature
 External Supply Wiring 90°C Minimum
 EISA II, ARIE, Title 20 Compliant
 LM79 / LM80 Compliant
 DesignLights Consortium® Qualified®

ENERGY DATA
 CW Ballast Input Watts
 200W HPS HFF (250 Watts) @
 400W HPS HFF (465 Watts) @
 400W MP HFF (452 Watts) @

SHIPPING DATA
 Approximate Net Weight:
 27-32 lbs. (12.18 kg) @
 46 lbs. (20.87 kg) @

Town Certification:
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 By: _____ Date: _____
 Development Services Engineer
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 Administrator



For Reference Only
 See Electrical Drawing
 for Lighting Schedule

Comments

Date	#	Revisions

Building Exterior
 Lights Exhibit

Date: 9/14/23

KIDDIE ACADEMY
 KNIGHTDALE, NC

Page 1 of 1