

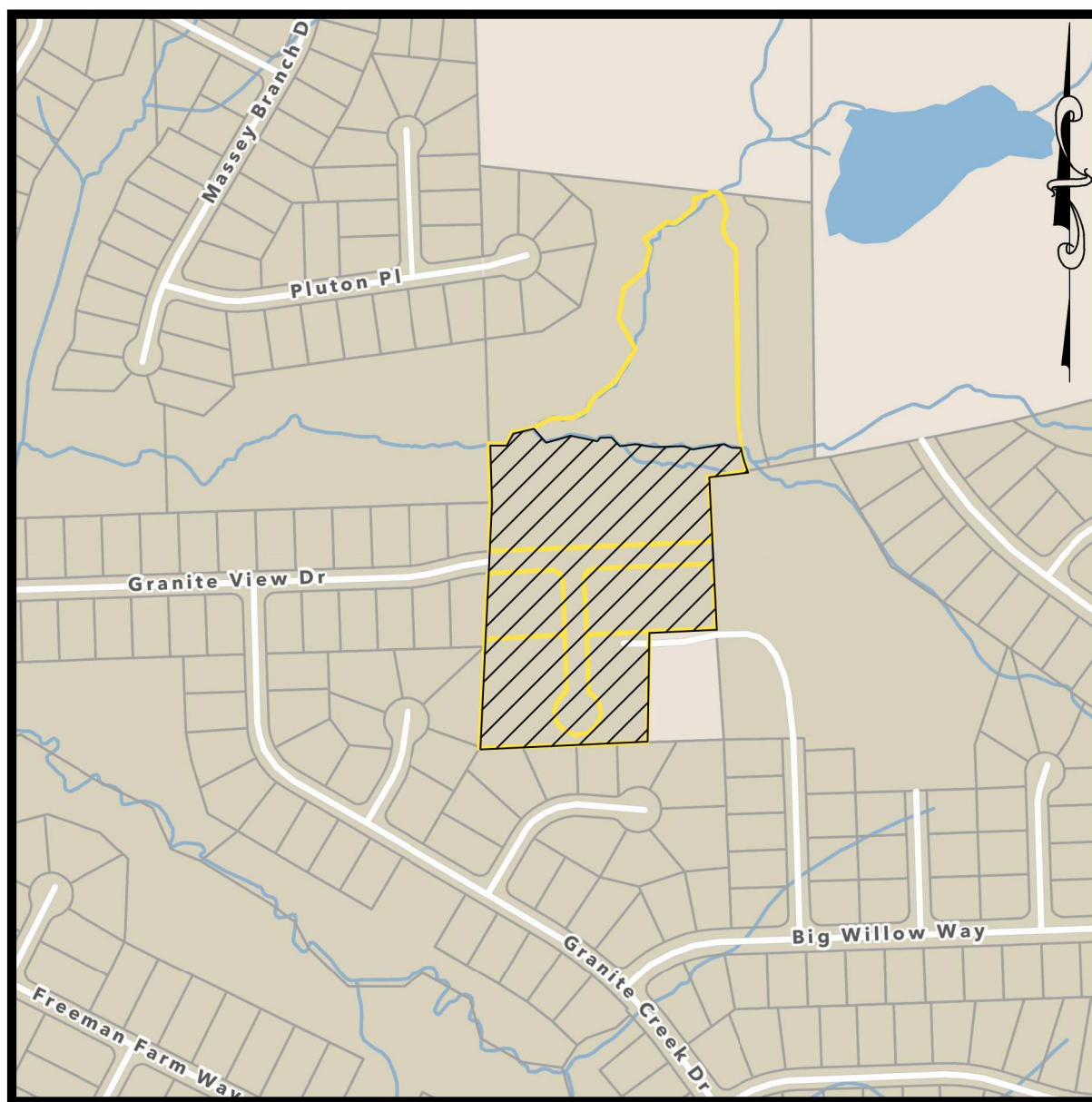
GRANITE CREST SUBDIVISION

PHASE IVB (CD-22-01)

(LOTS 176-200, 209, & 212)

CONSTRUCTION DOCUMENTS

0 PLUTON PLACE ROLESVILLE, NC



VICINITY MAP
NOT TO SCALE

SITE DATA TABLE		
ADDRESS	0 PLUTON PLACE	
WAKE COUNTY PINS	1759753474, 1759753092, 1759751000, 1759741891	
ZONING	R2-SUD	
LOT 209 (BM2016 PG679 & BM2016 PG681)	270,811 SF	
LOT 211 (BM2016 PG679)	26,337 SF	
LOT 212 (BM2016 PG679)	45,206 SF	
LOT 213 (BM2016 PG679)	80,167 SF	
PHASE III (BM2003 PG1836)	2,966 SF	
TOTAL TRACT AREA	425,487 SF	
AREA IN LOTS (16 LOTS)	205,807 SF	
LOT 212 REMAINDER	7,632 SF	
LOT 209 REMAINDER	212,048 SF	
TOTAL PROJECT AREA	332,094 SF (INC. ROW & PART OF LOT 209)	
PARKING CALCULATIONS		
MAIL KIOSK	3 SPACES (INCLUDING 1 ADA VAN)	
	3	
	TOTAL 3	
BASE DIMENSIONAL STANDARDS		
	REQUIRED	PROVIDED
MINIMUM LOT AREA	11,250 SF*	11,276 SF
MINIMUM LOT WIDTH	85'	85'
MINIMUM LOT WIDTH AT CUL-DE-SAC (AT FRONT YARD SETBACK)	35'	66.1'
FRONT YARD SETBACK	30'	30'
SIDE YARD SETBACK	12'	12'
CORNER YARD SETBACK	22'	22'
REAR YARD SETBACK	25'	25'
MAXIMUM BUILDING HEIGHT	35'	35' MAX
PROPOSED DENSITY	16 UNITS / 7.62 AC = 2.10 U/A	
IMPERVIOUS SUMMARY		
EXISTING	0.20 AC	
PROPOSED		
RIGHT-OF-WAY	0.78 AC	
16 LOTS (3,000 SF MIA PER LOT)	1.10 AC	
LOT 212	0.09 AC	
GREENWAY & CONNECTION (FUTURE)	0.13 AC	
TOTAL	2.10 AC	
UTILITIES		
WATER		
STUBS	20	
PUBLIC LENGTH (SIZE)	937 LF (8")	
PRIVATE LENGTH (SIZE)	18 LF (6")	
SEWER		
STUBS	18	
PUBLIC LENGTH (SIZE)	1,129 LF (8")	
PRIVATE LENGTH (SIZE)	0 LF	
*PER SPECIAL USE PERMIT DATED SEPTEMBER 07, 2004		

- All homes built on the six (6) lots accessible off of Pluton Place shall be a minimum of 2,500 heated square feet. All homes built on the other twenty-five (25) lots, accessible from Granite Crest Subdivision, shall be a minimum of 2,250 heated square feet.
- All homes shall have, at minimum, a two car garage.
- All front loaded, two car garages shall have two separate garage doors. Three car, front loaded garages may have one double door and one single door if so desired. Side loaded garages may be fitted with any combination of doors.
- No home shall be clad with aluminum or vinyl siding.
- All homes shall either be "crawl space" or "stem-wall" type foundations. Those houses with "stem-wall" type foundations shall have a brick veneer around the full perimeter and be made accessible in compliance with the American with Disabilities Act (ADA).
- All houses shall have sheathing that is nominally 1/2 inch or greater OSB, Densglass, or other similar materials. No "thermosol" or narrow wall panel structural sheathing will be permitted. All garages shall be completely dry walled for fire and energy rating purposes.
- The architectural requirements of the neighborhood for both homes and accessory structures shall include an anti-monotony policy whereby duplicate plans/colors shall not be allowed on adjacent lots.
- All homes accessible from Pluton Place shall, at a minimum, be similar in architectural features, size, and materials as those in the adjoining section of Heritage Subdivision. General architectural requirements of the entire neighborhood will be governed by recorded conditions, covenants, and restrictions. The developer shall submit a copy of the conditions, covenants, and restrictions to the Town of Rolesville to allow the Town Attorney to review them before recordation.
- All required open space and drainage easements shall be owned and maintained by the homeowners association in perpetuity.
- Prior to the recordation of any lots in the development, the developer shall dedicate all required greenway easements to the Town. Prior to the release of the twenty-third (23rd) certificate of occupancy, the developer shall construct a 10 foot wide paved greenway trail as shown on the attached Exhibit A or pay a fee-in-lieu to the Town of Rolesville in an amount no less than 100% of the estimated cost of constructing same.
- Prior to the recordation of any lots in the development, all required public rights of way, including but not limited to, that portion of Smoke Willow Way that would extend to the northern property line beyond the proposed cul-de-sac, shall be dedicated to the Town. The cul-de-sac shall be abandoned at such time as the road is extended to the north.
- Prior to the issuance of the first Certificate of Occupancy in each section (either those 6 lots accessible from Pluton Place or the 25 lots accessible from Granite Crest Subdivision), the developer shall construct either a centralized mail kiosk and associated parking area or individual mailboxes to the satisfaction of the Town, Wake County Inspections, and the United States Postal Service.
- If unmarked human burials or human skeletal remains are encountered as a result of construction or agricultural activities, disturbance of the remains shall cease immediately and shall not resume without authorization from either the county medical examiner or the State Archaeologist.
- All other required landscaping shall be maintained in perpetuity. Should any plantings become diseased, damaged, or die then the property owner shall be required to replace them with others in the same quantities, of similar sizes, and of similar species so as to blend with the existing landscaping.
- The developer shall notify all adjacent property owners no less than seven days prior to any blasting activities on the site.
- At no time shall development activities exceed the noise standards set forth in Rolesville Town Code of Ordinances Chapter 30.
- The final layer of asphalt, on the streets fronting recorded lots, shall be put down according to Town standards before 1 year after the issuance of the first building permit or the release of the twenty-third (23rd) certificate of occupancy, whichever comes first.
- For so long as the 50' pump station access easement recorded in BM2008 PG 1173 remains in effect, no building permit shall be issued for Lots 179, 184 and 186. Provided all other applicable requirements have been met, building permits for Lots 179, 184 and 196 may be issued only after the 50' pump station access easement recorded in BM2008, PG 1173 is relocated to outside of all proposed buildable lots and approved by the City of Raleigh and Town of Rolesville and such relocated easement plan is recorded.
- In the event that the fifty-foot wide area shown on the approved plans for the Granite Crest Lots mail kiosk (and associated parking) and access drive to the Meyer's property is dedicated to the Town of Rolesville as a future public street, developer or its successor in interest shall obtain from the Town of Rolesville an encroachment agreement for such non-public street improvements to be so located in a public right-of-way; however, the Town of Rolesville shall have no obligation to maintain or accept for maintenance such dedicated right-of-way until such time as the improvement of such dedicated right-of-way meets or exceeds the then Town standards and requirements for a public street.

SUP 15-01 CONDITIONS OF APPROVAL
(DB16229 PG2734)

JANUARY 30, 2022
APRIL 14, 2022
MAY 26, 2022
JUNE 13, 2022
JUNE 15, 2022
LAST REVISED: JUNE 27, 2022

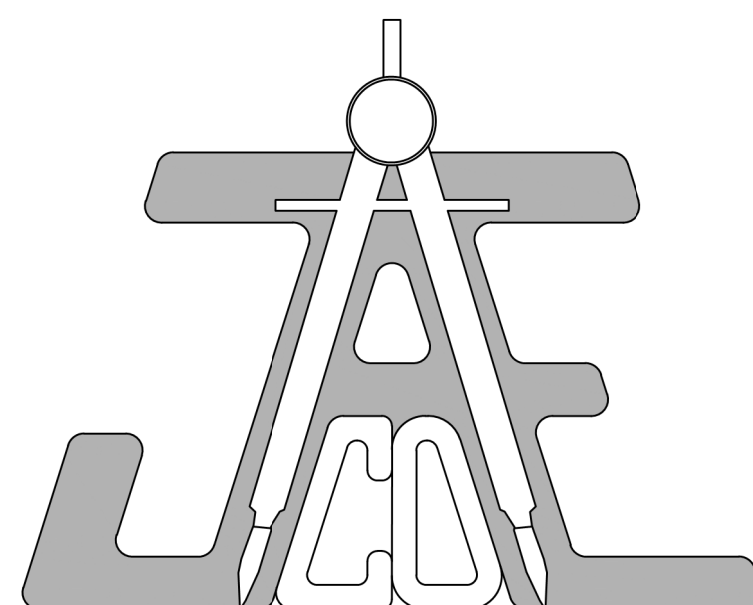
A	B
1	SHEET INDEX
2	C-0 COVER
3	C-1 EXISTING CONDITIONS & DEMOLITION PLAN
4	C-2 SUBDIVISION PLAN
5	C-3 SITE, SIGNAGE, & PAVEMENT MARKING PLAN
6	C-4 SITE DETAILS
7	C-5 EROSION & SEDIMENT CONTROL PLAN - PHASE I
8	C-6 EROSION & SEDIMENT CONTROL PLAN - PHASE II
9	C-7 EROSION & SEDIMENT CONTROL DETAILS
10	C-8 EROSION & SEDIMENT CONTROL DETAILS
11	C-9 NCG01 NOTES & DETAILS
12	C-10 NCG01 NOTES & DETAILS
13	C-11 GRANITE VIEW DRIVE PLAN & PROFILE
14	C-12 CRESTOVER CT PLAN & PROFILE
15	C-13 STORMDRAIN & GRADING PLAN
16	C-14 WET POND DETAILS
17	C-15 DETENTION FACILITY DETAILS
18	C-16 STORM OUTFALL PROFILES & STRUCTURE TABLE
19	C-17 STORMDRAIN DETAILS
20	C-18 UTILITY PLAN
21	C-19 SANITARY OUTFALL PROFILES
22	C-20 UTILITY DETAILS
23	C-21 UTILITY DETAILS
24	C-22 LANDSCAPE & LIGHTING PLAN

OWNER/DEVELOPER:
REAL ESTATE MARKETING & CONSULTING, INC
6200 FALLS OF NEUSE ROAD
SUITE 102
RALEIGH, NC 27609
Phone: (919) 865-9918
E-mail: halpery@remc.us

CIVIL ENGINEER:
JAECO
Consulting Engineers
NC License F-0289
333 Wade Ave., Raleigh, N.C. 27605
Phone: (919) 828-4428
Fax: (919) 828-4711
E-mail: info@jaeco.com

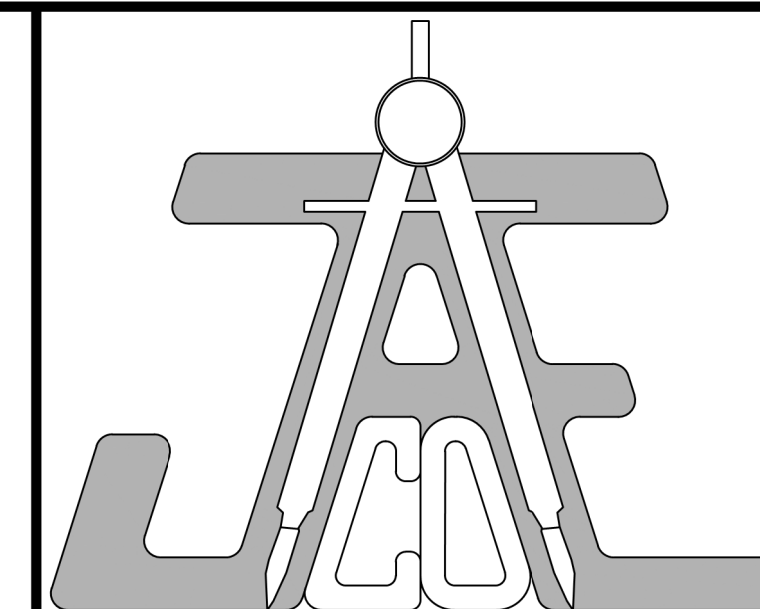
CD 22-01 Granite Crest Phase IVB APPROVED
Date: August 8, 2022

Town of Rolesville Planning Department



ABBREVIATIONS

APPLICABLE TO ENTIRE PLAN SET	
AC	ACRE
APPROX	APPROXIMATE
B-B	BACK-TO-BACK
BM	BOOK OF MAPS
B/O	BLOW-OFF ASSEMBLY
CB	CATCH BASIN
CIP	CAST IRON PIPE
CL	CENTERLINE
CO	CLEANOUT
CONC	CONCRETE
COR	CITY OF RALEIGH
CP	COMPUTED POINT
DB	DEED BOOK
DI	DROP INLET
DIP	DUCTILE IRON PIPE
DTL	DETAIL
ECM	EX CONC MONUMENT
EIP	EX IRON PIPE
EIR	EX IRON ROD
ELEC	ELECTRIC
ELEV	ELEVATION
EMAG	EX MAG NAIL
EOP	EDGE OF PAVEMENT
ESMT	EASEMENT
EX	EXISTING
FDC	FIRE DEPARTMENT CONNECTION
FEMA	FEDERAL EMERGENCY MANAGEMENT AGENCY
FH	FIRE HYDRANT
FM	FORCE MAIN
FP	FLOODPLAIN
GIS	GEOGRAPHIC INFORMATION SYSTEM
GM	GAS METER
GP	GALVANIZED PIPE
GW	GUY ANCHOR
HB	HOT BOX
HDPE	HIGH DENSITY POLYETHYLENE
IPS	IRON PIPE SET
LF	LINEAR FEET
LP	LIGHT POLE
LOC	LOCATION
MAGS	MAG NAIL SET
MH	MANHOLE
MW	MONITORING WELL
N/F	NOW OR FORMERLY
NCDOT	NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
PG	PAGE
PP	POWER POLE
PROP	PROPOSED
PVC	POLYVINYL CHLORIDE
RCP	REINFORCED CONC PIPE
ROW	RIGHT-OF-WAY
R/W	RIGHT-OF-WAY
RSDM	RALEIGH STREET DESIGN MANUAL
SF	SQUARE FEET
SS	SANITARY SEWER
STD	STANDARD
SWM	STORMWATER MANAGEMENT
TBD	TO BE DETERMINED
TBR	TO BE REMOVED
TBRL	TO BE RELOCATED
TCE	TEMPORARY CONSTRUCTION ESMT
TF	ELECTRIC TRANSFORMER
TP	TELEPHONE PEDESTAL
TYP	TYPICAL
UDO	UNIFIED DEVELOPMENT ORDINANCE
UNK	UNKNOWN
VCP	VITRIFIED CLAY PIPE
WV	WATER VALVE
WLE	WATER LINE ESMT
WM	WATER METER
YI	YARD INLET



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Suite 102
Raleigh, NC 27609

Call 811 before you dig.

LEGEND

PLANS NOT APPROVED FOR CONSTRUCTION UNLESS SIGNED BY CITY OF RALEIGH

Water and Sewer Permits (if applicable)

The City of Raleigh consents to the connection and extension of the City's Public Sewer System as shown on this plan. The material and Construction methods used for this project shall conform to the standards and specifications of the City's Public Utilities Handbook.

City of Raleigh Public Utilities Department Permit # S-5018

The City of Raleigh consents to the connection to its public sewer system and extension of the private sewer collection system as shown on this plan. The material and construction methods used for this project shall conform to the standards and specifications of the City's Public Utilities Handbook.

City of Raleigh Public Utilities Department Permit # W-3912

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 _____

COVER

Revisions		
Number	Description	Date
1	PER TRC COMMENTS	04/14/22
2	PER TRC COMMENTS	05/26/22
3	PER TRC COMMENTS	06/13/22
4	PER TRC COMMENTS	06/15/22
5	PER TRC COMMENTS	06/27/22

JAECO #: 364-04
DRAWING SCALE: AS SHOWN
DRAWN BY: TT
CHECKED BY: TT
DATE ISSUED: 01/30/2022

EROSION CONTROL, STORMWATER AND FLOODPLAIN MANAGEMENT
APPROVED
EROSION CONTROL S-EC-074659-2022
STORMWATER MGMT. S-WF-074660-2022
FLOOD STUDY S-
DATE 8/3/2022

JEEVAN NEUPANE
ENVIRONMENTAL CONSULTANT SIGNATURE

APPROVED

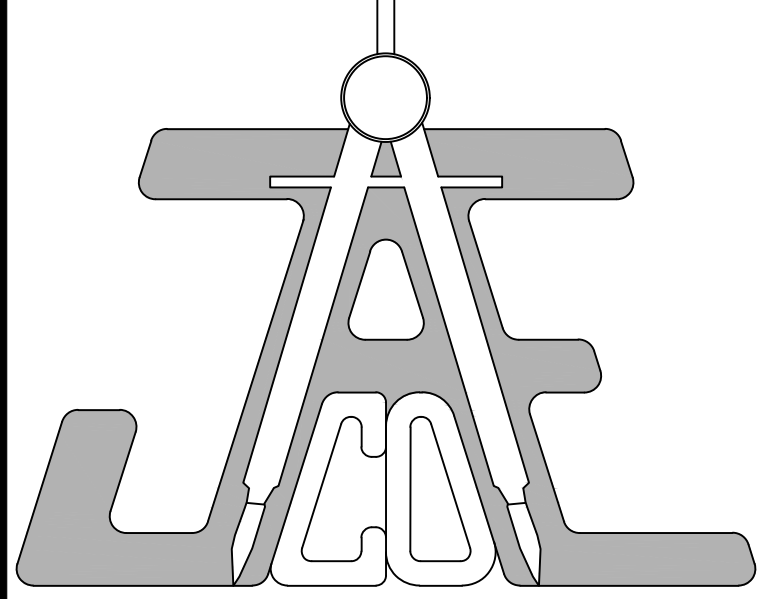
C-0

GENERAL NOTES:

- CONTRACTOR TO FIELD VERIFY LOCATION & ELEVATION OF ALL EXISTING UTILITIES PRIOR TO CONSTRUCTION AND NOTIFY ENGINEER OF CONFLICTS.
- CONSTRUCTION SHALL BE IN ACCORDANCE WITH CITY OF RALEIGH, TOWN OF ROLESVILLE, AND/OR NCDOT STANDARDS AND SPECIFICATIONS UNLESS OTHERWISE NOTED.
- 50' NEUSE RIVER BUFFER SHOWN HEREIN IS BASED ON THE "BUFFER DETERMINATION LETTER" (NBRRO #21-286) ISSUED SEPTEMBER 9, 2021 AND FLAGGING OF THE SAME BY SAEC.
- DEMOLITION INCLUDES CLEARING AND GRUBBING OF ALL VEGETATION WITHIN LIMIT OF DISTURBANCE. NO EXISTING VEGETATION IS REQUIRED TO BE PRESERVED.
- GIS TOPOGRAPHIC INFORMATION SHOWN HEREON OBTAINED FROM WAKE COUNTY OPEN DATA (ftp://wakeftp.co.wake.nc.us/GIS/Webdownloads/TOPOGRAPHY/WAKE_2013) TILE 1759 ON JANUARY 22, 2022.
- THE CITY OF RALEIGH WILL REQUIRE TRACTOR TRAILER ACCESS WITHIN THE EXISTING PUMP STATION EASEMENT 24 HOURS PER DAY, 7 DAYS PER WEEK, 365 DAYS OUT OF YEAR WHILE THIS SITE IS UNDER CONSTRUCTION
- AFTER CONSTRUCTION IS COMPLETE AND THE NEW PUBLIC RIGHTS-OF-WAY HAVE BEEN DEDICATED AND ACCEPTED THE EXISTING CITY OF RALEIGH EASEMENTS SHALL BE DISPOSED OF BY THE CITY OF RALEIGH THROUGH A FUTURE INSTRUMENT AS SHOWN ON THE PLANS.

CURVE TABLE					
CURVE	LENGTH	RADIUS	DELTA	CHORD	CHORD BEARING
C1	39.27'	25.00'	090°00'00"	35.36'	S42° 41' 38"W
C2	13.61'	16.50'	047°14'51"	13.22'	S25° 55' 33"E
C3	258.70'	52.00'	285°02'58"	63.28'	S87° 01' 30"E
C4	16.65'	16.50'	057°48'07"	15.95'	N26° 35' 56"E
C5	39.27'	25.00'	090°00'00"	35.36'	N47° 18' 22"W
C6	123.79'	425.00'	016°41'19"	123.35'	S08° 54' 36"E
C7	15.78'	16.50'	054°47'07"	15.18'	N27° 57' 30"W
C8	76.36'	52.00'	084°08'27"	69.68'	S13° 16' 50"E
C9	14.02'	16.50'	048°40'59"	13.60'	N04° 26' 54"E
C10	44.11'	375.00'	006°44'22"	44.08'	N23° 15' 47"W

LINE TABLE		
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L1	38.36'	N87° 42' 41"W
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L8	60.74'	S54° 12' 53"W
L9	87.60'	S32° 37' 58"W
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L15	63.52'	S51° 18' 29"W
L16	21.31'	N75° 48' 43"W
L17	55.39'	S51° 27' 49"W
L18	23.15'	S00° 08' 58"E
L19	37.47'	S73° 39' 37"W
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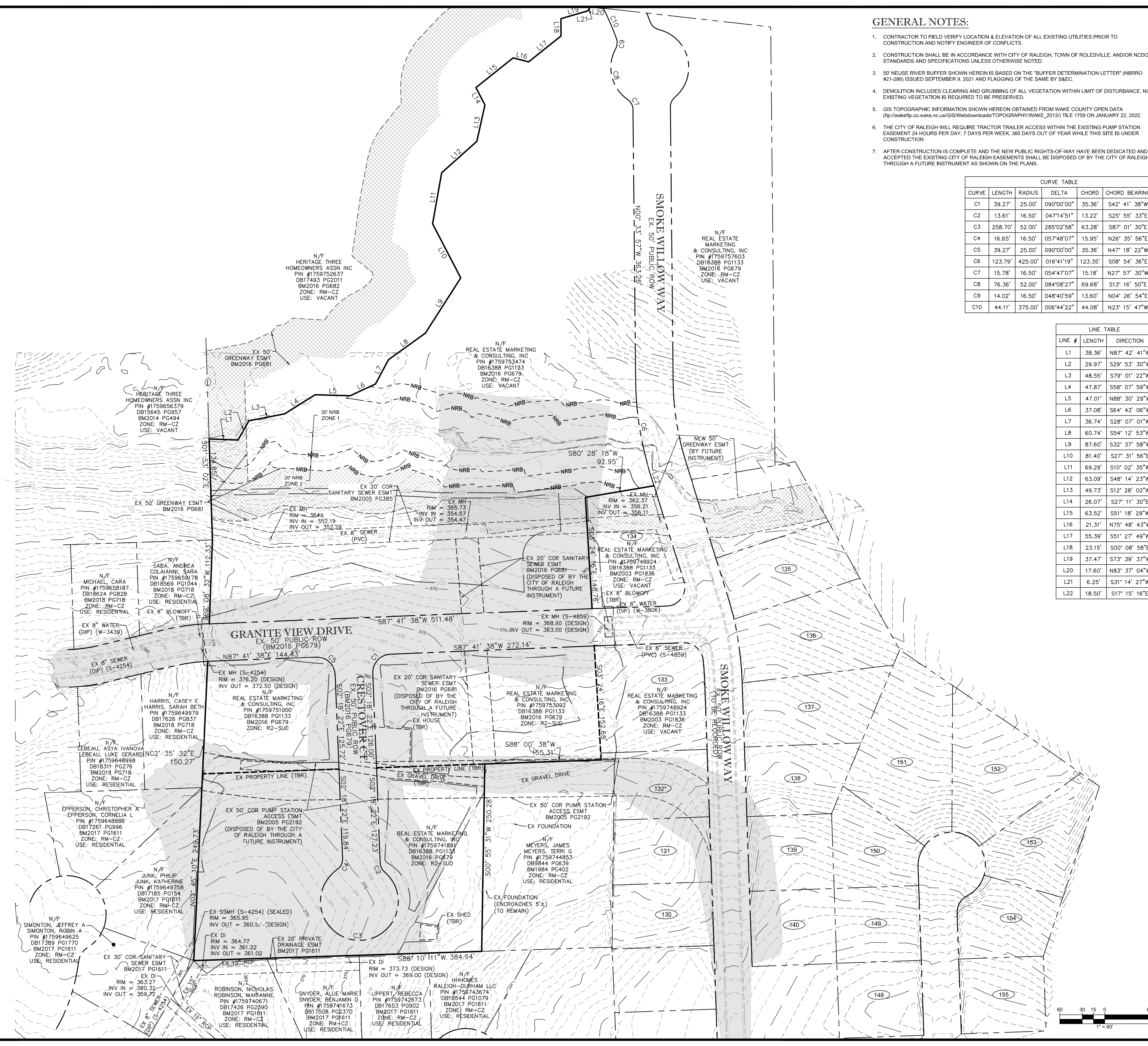
LEGEND	
	LIMIT OF DISTURBANCE
	PROPERTY LINE
	PROPERTY LINE TBR
	RIGHT-OF-WAY LINE
	ADJACENT PROPERTY LINE
	EX ESMT
	EX ESMT TBA
	STREAM TOP OF BANK (PER NBRRO #21-286)
	NEUSE RIVER BUFFER
	EX MINOR CONTOUR
	EX MAJOR CONTOUR
	EX WATER
	EX SANITARY SEWER
	EX STORM DRAIN
	LIMITS OF FIELD TOPO (SUPPLEMENTED BY GIS)
	EX 50' GREENWAY ESMT (BM2016 PG681)

EXISTING CONDITIONS & DEMOLITION PLAN

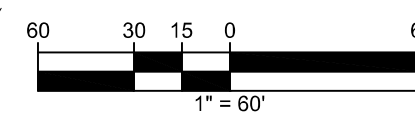
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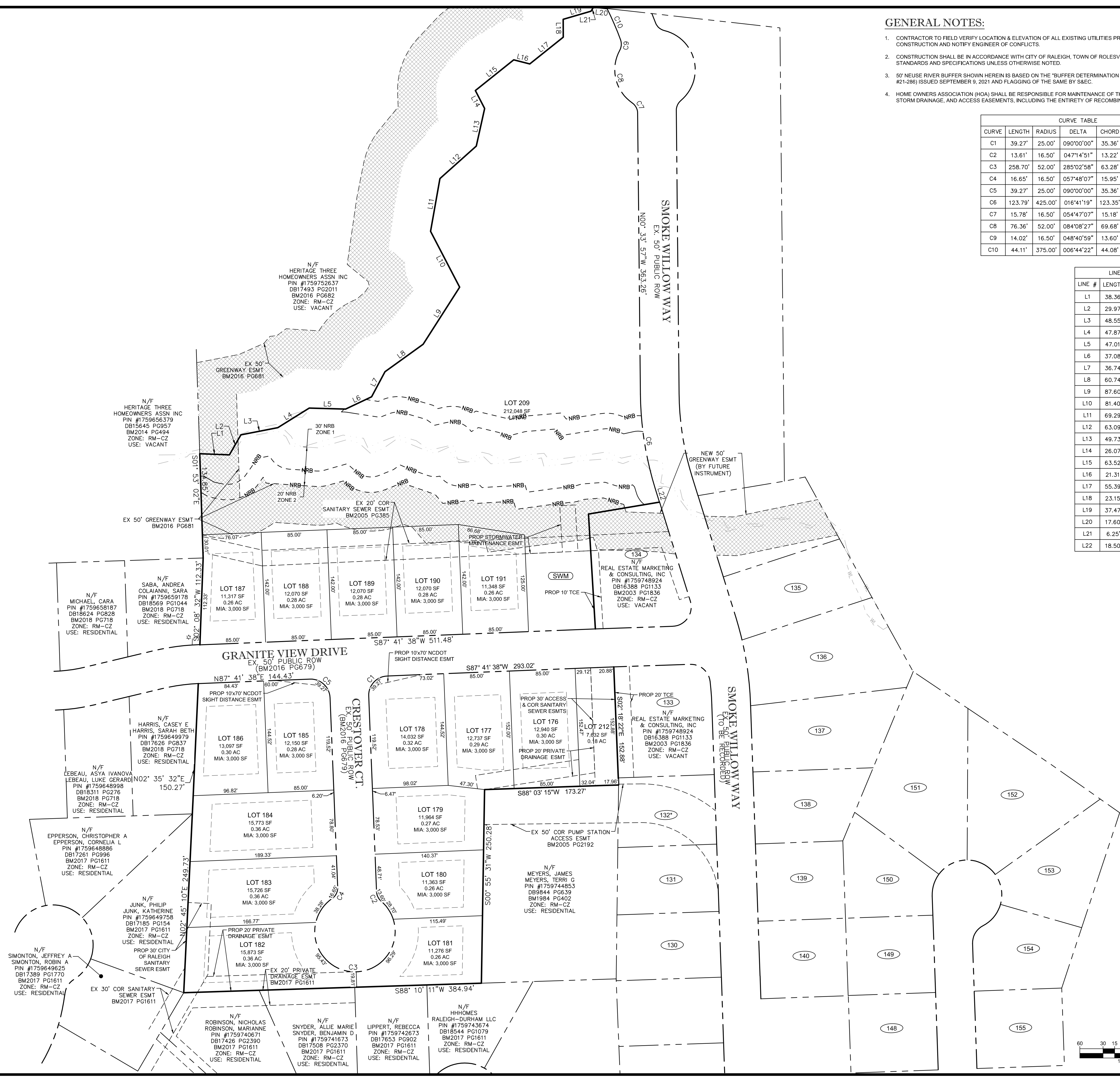
C-1



TAMARCO (2017) NC GRID



TAMARCO/2017 NC CRD

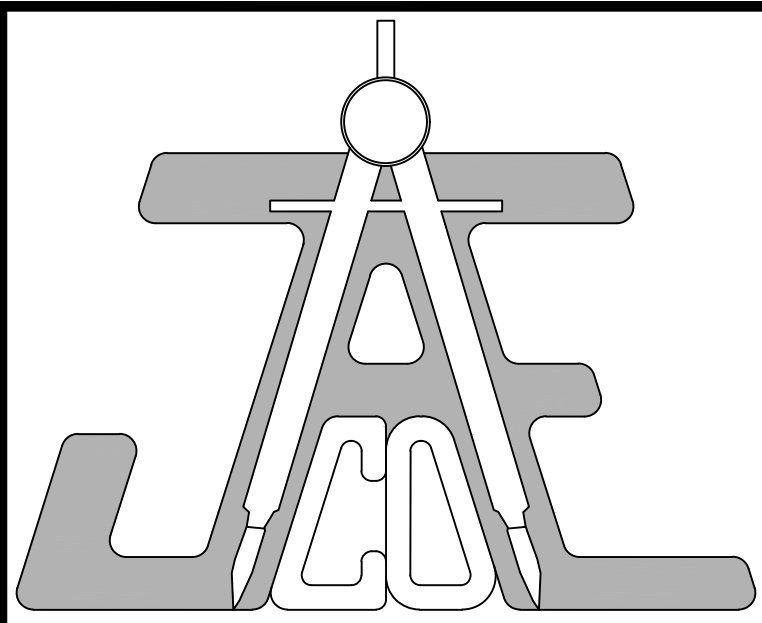


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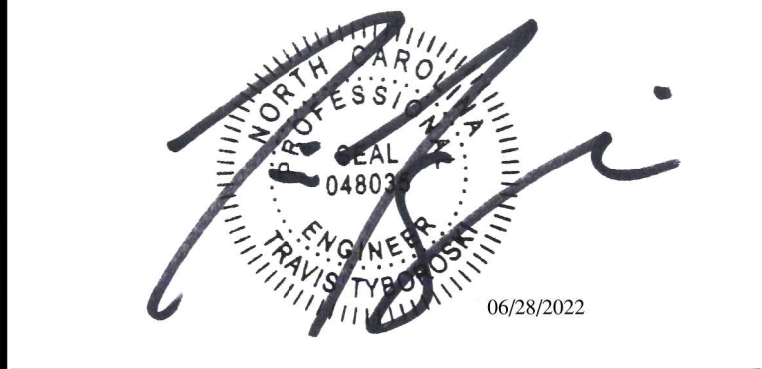
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- HOME OWNERS ASSOCIATION (HOA) SHALL BE RESPONSIBLE FOR MAINTENANCE OF THE STORM WATER, STORM DRAINAGE, AND ACCESS EASEMENTS, INCLUDING THE ENTIRETY OF RECOMBINED LOT 212.

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C1	39.27'	25.00'	090°00'00"	35.36'	S42° 41' 38"W
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JAECO #: 364-04
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STOCKPILE NOTES

SOIL STOCKPILES SHALL BE LOCATED ON THE APPROVED PLAN AND SHALL ADHERE TO THE FOLLOWING REQUIREMENTS:

DESIGN CRITERIA:

- A. 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).
- B. STOCKPILE FOOTPRINTS SHALL BE SETBACK A MINIMUM OF 25' FROM ADJACENT PROPERTY LINES.
- C. A NOTE SHALL BE PROVIDED ON THE APPROVED PLAN THAT STOCKPILE HEIGHT SHALL NOT EXCEED 35 FEET.
- D. STOCKPILE SLOPES SHALL BE 2:1 OR FLATTER.
- E. APPROVED BMPs SHALL BE SHOWN ON A PLAN TO CONTROL ANY POTENTIAL SEDIMENT LOSS FROM A STOCKPILE.
- F. 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.
- G. ANY CONCENTRATED FLOW LIKELY TO AFFECT THE STOCKPILE SHALL BE DIVERTED TO AN APPROVED BMP.
- H. OFF-SITE SPOIL OR BORROW AREAS MUST BE IN COMPLIANCE WITH 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 WAKE COUNTY OF ANY OFF-SITE DISPOSAL OF SOIL. PRIOR TO DISPOSAL, FILL OF FEMA FLOODWAY AREAS ARE PROHIBITED EXCEPT AS OTHERWISE PROVIDED BY SUBSECTION 14-19-2 OF THE WAKE COUNTY UNIFIED DEVELOPMENT ORDINANCE (CERTIFICATIONS AND PERMITS REQUIRED).

MAINTENANCE REQUIREMENTS:

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

GENERAL NOTES:

- 1. CONTRACTOR TO FIELD VERIFY LOCATION & ELEVATION OF ALL EXISTING UTILITIES PRIOR TO CONSTRUCTION AND NOTIFY ENGINEER OF CONFLICTS.
- 2. CONSTRUCTION SHALL BE IN ACCORDANCE WITH CITY OF RALEIGH, TOWN OF ROLESVILLE, AND/OR NCDOT STANDARDS AND SPECIFICATIONS UNLESS OTHERWISE NOTED.
- 3. 50' NEUSE RIVER BUFFER SHOWN HEREIN IS BASED ON THE "BUFFER DETERMINATION LETTER" (NBRRO #21-286) ISSUED SEPTEMBER 9, 2021 AND FLOODING OF THE SAME BY S&C.

LOT DEVELOPMENT NOTE

THE INTENT OF THIS EROSION CONTROL PLAN IS TO PROVIDE ADEQUATE EROSION PROTECTION WHILE PRODUCING PAD READY LOTS AND INSTALLING COMMON INFRASTRUCTURE SUCH AS ROADS AND UTILITIES. PRIOR TO CONSTRUCTION OF ACTUAL HOUSES, A SEPARATE LOT BY LOT PLANSET SHOULD BE PREPARED AND APPROVED BY OTHERS. THIS PLANSET IS NOT INTENDED TO PROVIDE LOT-BY-LOT EROSION CONTROL.

DOWNSTREAM BASIN STABILIZATION NOTE

IMMEDIATELY AFTER CONSTRUCTION OF SEDIMENT BASIN AND THROUGHOUT DURATION OF PROJECT, ENSURE AREA DOWNSTREAM OF BASIN IS STABILIZED.

PHASE I CONSTRUCTION SEQUENCE:

- 1. SCHEDULE A PRE-CONSTRUCTION CONFERENCE WITH THE WATERSHED MANAGER, KARYN PAGEAU - (919) 796-8769. OBTAIN A LAND-DISTURBING PERMIT.
- 2. DUE TO SEQUENCED NATURE OF DEVELOPMENT, INLET PROTECTION MAY STILL BE IN PLACE WITHIN THE NEW RIGHT-OF-WAY. ANY EXISTING INLET PROTECTION MAY BE USED IN LIEU OF THOSE SHOWN ON THIS PLAN IN THE EVENT THE DEVICE IS OPERATING AS INTENDED, INSPECTED, AND APPROVED FOR USE BY THE INSPECTOR.
- 3. INSTALL TREE PROTECTION FENCE, CONSTRUCTION ENTRANCE, SILT FENCE, SUPER SILT FENCE, DIVERSION DITCHES, CLEAN WATER DIVERSION DITCH, SILT FENCE OUTLETS, INLET PROTECTION, TEMPORARY SLOPE DRAINS, CONCRETE WASHOUT STRUCTURE, AND OTHER MEASURES AS SHOWN ON THE APPROVED PLAN. CLEAR ONLY AS NECESSARY TO INSTALL THESE DEVICES. SEED IMMEDIATELY AFTER CONSTRUCTION.
- 4. INSTALL SEDIMENT BASIN INCLUDING PERMANENT RISER AND OUTLET PIPE. SEED IMMEDIATELY. INSTALL SKIMMER AND TIE TO PERMANENT RISER. INSTALL RIPRAP #1 BELOW THE SKIMMER AND ATTACH TETHER TO THE SKIMMER ITSELF.
- 5. CALL KARYN PAGEAU AT (919) 796-8769 FOR AN ONSITE INSPECTION BY THE WATERSHED MANAGER TO OBTAIN A CERTIFICATE OF COMPLIANCE.
- 6. BEGIN CLEARING AND GRUBBING WITHIN THE LIMITS OF DISTURBANCE. CONTRACTOR SHALL MAINTAIN POSITIVE DRAINAGE TO BASIN AND ALL DITCHES. COMPLETE PRELIMINARY ROUGH GRADING TO ALLOW FOR POSITIVE DRAINAGE TO EROSION CONTROL DEVICES.
- 7. MAINTAIN SEDIMENT AND EROSION CONTROL DEVICES AFTER EVERY RAIN EVENT AND ONCE PER WEEK. REMOVE ANY SILT BUILDUP ON ANY SILT FENCING AS NEEDED TO PREVENT BREACH. SEED OR MULCH OR STABILIZE WITH STONE PAVEMENT) ANY DENuded AREAS WITHIN 14 CALENDAR DAYS OF TEMPORARY OR PERMANENTLY SUSPENDING LAND DISTURBING ACTIVITY.
- 8. AS SITE IS BROUGHT TO ROUGH GRADE, TRANSITION TO EROSION CONTROL PHASE II.

MATTING SCHEDULE

		SHEAR STRESSES (LB/FT ²)		NORMAL DEPTH* [FT]
		PERMISSIBLE**	CALCULATED**	
CWD	ROLLMAX C350* (TEMPORARY)	12.0	1.84	0.59
DD#1	ROLLMAX C350* (PERMANENT)	12.0	0.64	1.02
DD#2	ROLLMAX D575 (TEMPORARY)	1.6	0.65	1.04

*OR APPROVED ALTERNATE

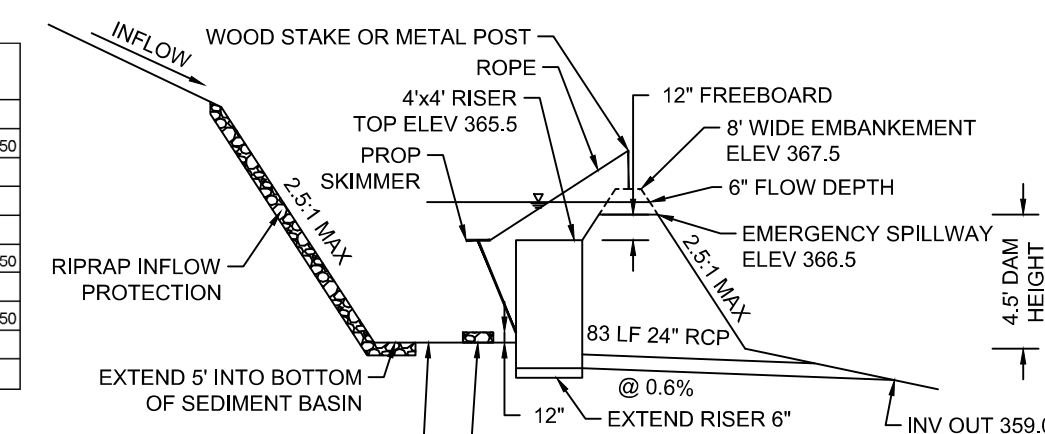
**PER NORTH AMERICAN GREEN ECMD5 7.0

RIPRAP SCHEDULE

#1	W _{max} [FT]	W _{min} [FT]	L ₅₀ [FT]	d ₅₀ [IN]	d _{max} [IN]	THICKNESS [IN]
#1	6.0	12.0	8.0	3	4.5	12

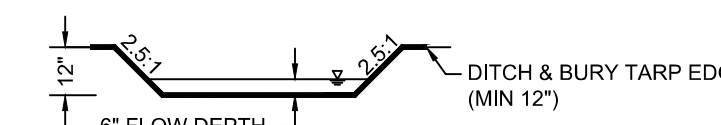
SKIMMER BASIN

SURFACE AREA REQUIRED	3,700 SF
SURFACE AREA PROVIDED	3,736 SF 365.50
VOLUME REQUIRED	5,400 CF
VOLUME PROVIDED	12,570.00 CF
STORAGE DEPTH	1.50 FT
TOP OF BERM	4.00 SF 367.20
BMSD SPILLWAY LENGTH	40 FT
BOTTOM OF BASIN	1,290 SF 360.50
SKIMMER SIZE	2'x1'
SKIMMER ORIFICE DIAMETER	1.25" IN



SEDIMENT BASIN SPILLWAY SECTION

NOT TO SCALE



SPILLWAY SECTION

NOT TO SCALE

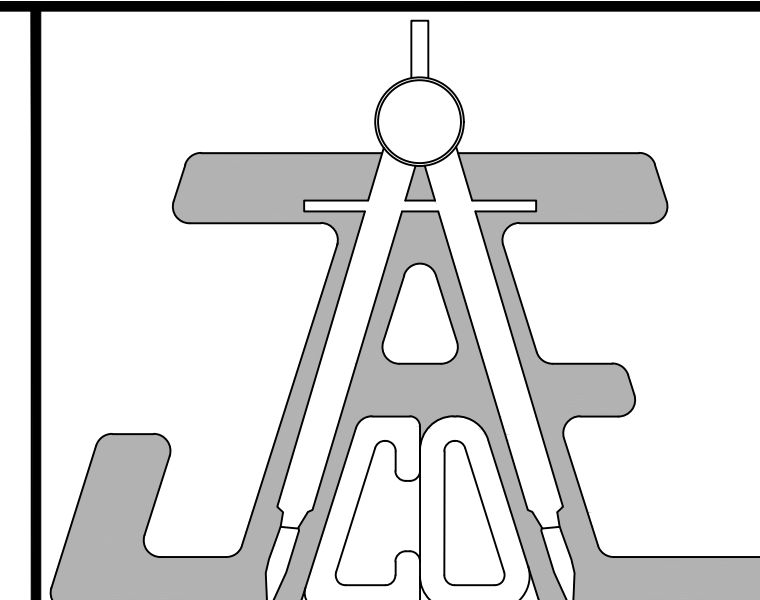
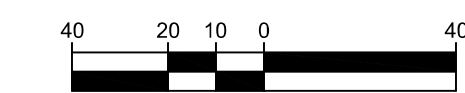
TARP NOTES

- 1. THE TARP SHALL BE 50 MIL. HEAVY DUTY SILVER TARPULINS OR APPROVED EQUIVALENT FOR U.V. RESISTANCE.
- 2. BURY AND SEAL THE BOTTOM AND SIDES OF THE TARP ON THE INSIDE OF THE EMBANKMENT SUCH THAT WATER FLOWS OVER THE TARP.
- 3. THE WIDTH OF THE TARP SHALL MUST COVER THE BOTTOM AND SIDES AND LAP ONTO THE TOP OF THE DAM IN ONE CONTINUOUS PIECE WITHOUT SPLICES.
- 4. THE LENGTH OF THE TARP SHALL BE ACCORDING TO AVAILABLE SUPPLY. THE LENGTH MUST EXTEND TO UNDISTURBED GROUND BELOW THE DAM.
- 5. IF MULTIPLE TARPS ARE TO BE USED, THEN TARPS SHALL BE OVERLAPPED AT LEAST 18". THE UPSTREAM TARP SHALL OVERLAP THE DOWNSTREAM TARP. ANCHOR THE DOWNSTREAM TARP FIRST THEN OVERLAY THE UPSTREAM TARP TO ENSURE THERE ARE NO HOLES IN THE EXPOSED TARP.

TOTAL DENUDED AREA = 4.00 AC.

PERPETUITY STATEMENT

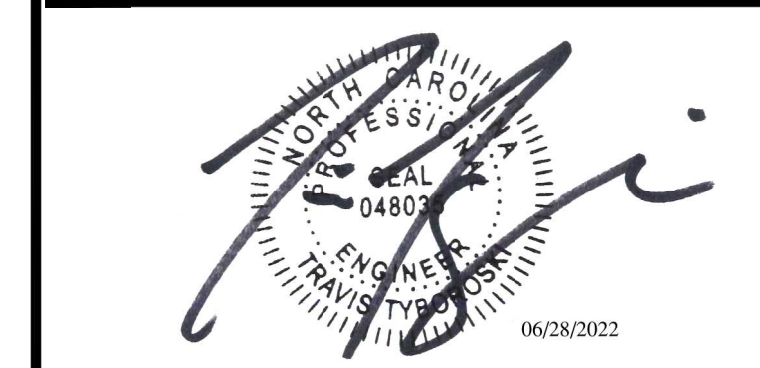
MAXIMUM IMPERVIOUS AREA SQUARE FOOTAGE ON EACH INDIVIDUAL LOT WILL BE STRINGENTLY ENFORCED WITH NO EXCEPTIONS INTO PERPETUITY. PLANS APPROVED WITH A MAXIMUM IMPERVIOUS SURFACE AS SHOWN.



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LEGEND

- LOD LIMIT OF DISTURBANCE
- EX MINOR CONTOUR
- EX MAJOR CONTOUR
- PROP MINOR CONTOUR
- PROP MAJOR CONTOUR
- EX WATER
- EX SANITARY SEWER
- EX STORM DRAIN
- PROP STORM DRAIN
- DRAINAGE DIVIDE
- SILT FENCE
- SUPER SILT FENCE
- DIVERSION DITCH
- TEMPORARY SLOPE DRAIN
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- CONCRETE WASHOUT
- PERMITS BOX
- CIP CURB INLET PROTECTION
- YIP YARD INLET PROTECTION

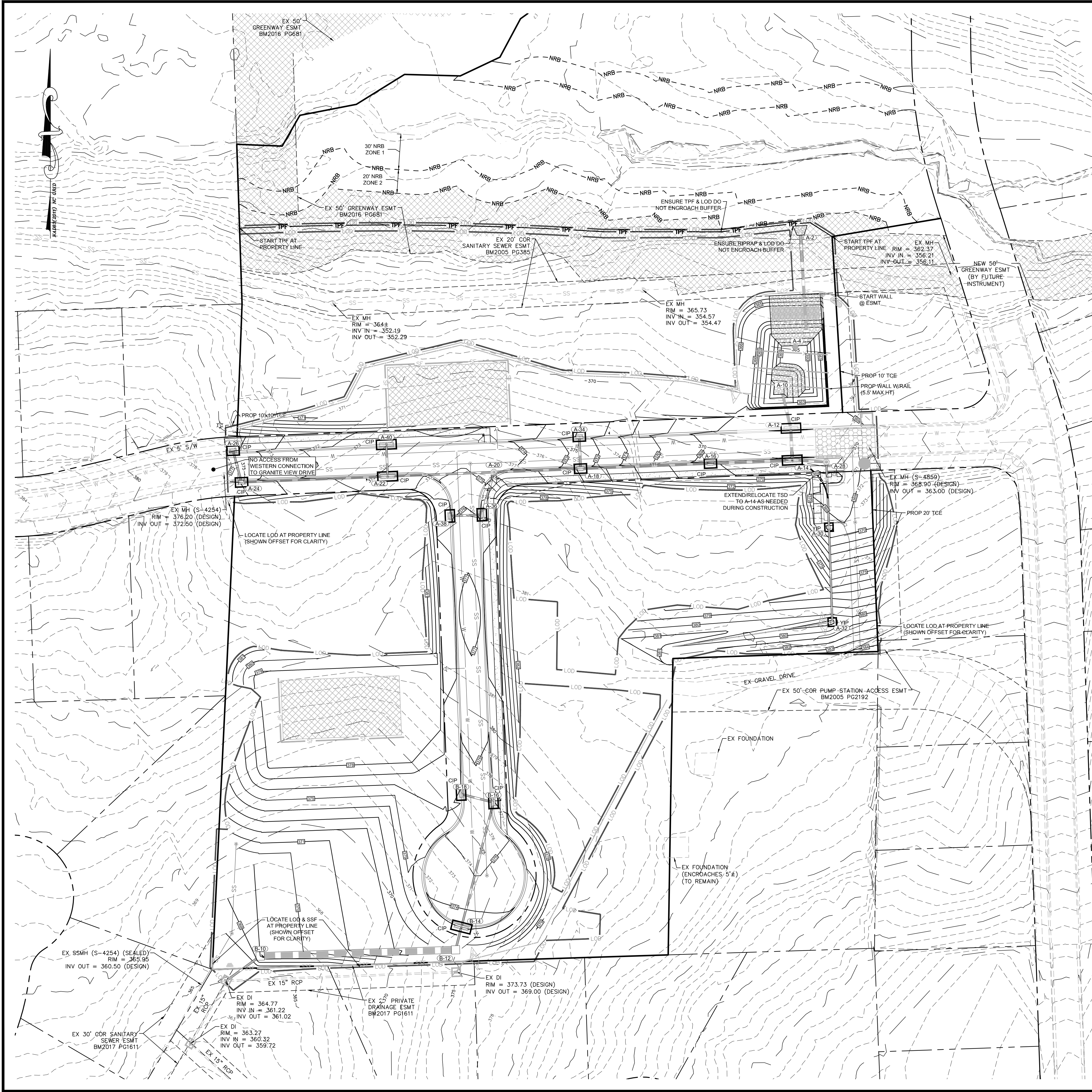
EROSION & SEDIMENT CONTROL PLAN - PHASE I

Revisions

Number	Description	Date
1	PER TRC COMMENTS	04/14/22
2	PER TRC COMMENTS	05/26/22
3	PER TRC COMMENTS	06/13/22
4	PER TRC COMMENTS	06/15/22
5	PER TRC COMMENTS	06/27/22

JAECO #: 364-04
DRAWING SCALE: 1" = 40'
DRAWN BY: TT
CHECKED BY: TT
DATE ISSUED: 01/30/2022

C-5



GENERAL NOTES:

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- CONSTRUCTION SHALL BE IN ACCORDANCE WITH CITY OF RALEIGH, TOWN OF ROLESVILLE, AND/OR NCDOT STANDARDS AND SPECIFICATIONS UNLESS OTHERWISE NOTED.
- 50' NEUSE RIVER BUFFER SHOWN HEREIN IS BASED ON THE "BUFFER DETERMINATION LETTER" (NBRRO #21-286) ISSUED SEPTEMBER 9, 2021 AND FLAGGING OF THE SAME BY S&EC.

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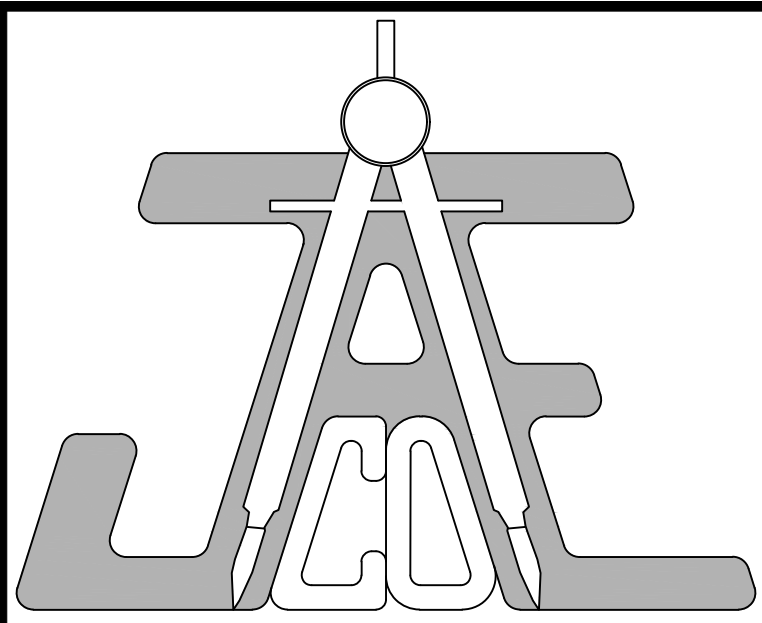
PHASE II CONSTRUCTION SEQUENCE:

- PRIOR TO COMMENCING PHASE II INSTALLATIONS AND CONSTRUCTION CONTRACTOR TO CONFIRM THE FOLLOWING:
 - AREA DOWNSTREAM OF BASIN IS STABILIZED
 - RIP RAP PAD AND SILT BAG DEWATERING DEVICES ARE PRESENT AND OPERATIONAL ADJACENT TO SEDIMENT BASIN
 - CONFIRM CHECK DAMS ARE PROVIDED AT THE OUTLET OF ALL DIVERSION DITCHES, THAT THE CHECK DAMS ARE LOCATED AS CLOSE AS POSSIBLE TO THE OUTLET AND ARE IN GOOD WORKING ORDER.
- CONTINUE ROUGH GRADING. MAINTAIN AND ADJUST GRADES TO ENSURE POSITIVE DRAINAGE TO SKIMMER BASIN.
- CONSTRUCT RETAINING WALL ON SITE AS NEEDED TO BRING SITE TO GRADE. PHASING SEDIMENT BASIN CONVERSION PER INSPECTOR DIRECTION.
- INSTALL REMAINING STORMDRAIN, WORKING FROM DOWNSTREAM TO UPSTREAM INSTALLING INLET PROTECTION IMMEDIATELY AFTER EACH INLET IS INSTALLED AS SHOWN ON THE PLAN. DIVERT RUN-OFF TO INLETS AS ROUGH GRADES ARE COMPLETED.
- INSTALL WATER AND SEWER LINES FROM DOWNSTREAM TO UPSTREAM AS NECESSARY DURING ROUGH GRADING TO AVOID CONFLICTS WITH STORM DRAIN SYSTEM.
- HAUL AWAY ANY EXTRA TOPSOIL AND MATERIAL AS NEEDED TO BALANCE SITE. IF ANY TOPSOIL IS TO REMAIN STOCKPILED PROTECT WITH SILT FENCING AROUND PERIMETER AND REFER TO STOCKPILE NOTES.
- SUBMIT DOCUMENTATION REQUIRED UNDER THE SITE NPDES STORMWATER PERMIT FOR CONSTRUCTION ACTIVITY TO STORMWATER CONTROL INSPECTIONS THROUGHOUT THE PROJECT.
- 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.
- MAINTAIN SEDIMENT AND EROSION CONTROL DEVICES AFTER EVERY RAIN EVENT GREATER THAN ONE (1) INCH AND ONCE PER WEEK. REMOVE ANY SILT BUILDUP ON ANY SILT FENCING AS NEEDED TO PREVENT BREACH. ONCE ANY AREAS OF THE SIT WITHIN 14 DAYS OF COMPLETION OF ANY PHASE OF GRADING IN THAT AREA.
- WHEN CONSTRUCTION IS COMPLETE AND ALL AREAS ARE STABILIZED COMPLETELY, CALL ENVIRONMENTAL CONSULTANT FOR AN INSPECTION.
- SCHEDULE A SITE MEETING WITH THE ENVIRONMENTAL CONSULTANT TO DETERMINE IF THE SKIMMER BASIN CAN BE CONVERTED TO A PERMANENT BIORETENTION POND. INSTALL SILT FENCING OR OTHER TEMPORARY EROSION CONTROL MEASURES AS NEEDED PRIOR TO REMOVAL OF THE BASIN.
- UTILIZE OUTLET STRUCTURES THAT WITHDRAW WATER FROM THE SEDIMENT BASIN SURFACE FOR DRAW DOWN OF WATER IN BASIN FOR MAINTENANCE OR CLOSE OUT UNLESS INFEASIBLE. SEE REQUIREMENTS OF NCGS1 PERMIT PART II, SECTION 5, ITEM 41 ENTITLED "DRAW DOWN OF SEDIMENT BASINS FOR MAINTENANCE OR CLOSE OUT" AND REFER TO WAKE COUNTY "FILTER BAG FOR DEWATERING ACTIVITIES" CONSTRUCTION DETAIL.
- REMOVE SKIMMER BASIN AND SKIMMER. FINE GRADE AREA IN PREPARATION FOR BIORETENTION CONSTRUCTION AND SEEDING.
- PERFORM SEEDBED PREPARATION, SEED, MULCH AND ASPHALT TACK ANY RESULTING BARE AREAS IMMEDIATELY.
- COMPLETE WALL INSTALLATION AS REQUIRED, IF NOT COMPLETED DURING CONVERSION FROM SEDIMENT BASIN TO PERMANENT POND.
- WHEN SITE IS FULLY STABILIZED, CALL ENVIRONMENTAL CONSULTANT FOR APPROVAL OF REMOVING REMAINING TEMPORARY EROSION CONTROL MEASURES AND ADVICE ON WHEN SITE CAN BE ISSUED A CERTIFICATE OF COMPLETION. NOTE: A MEETING SHOULD ALSO BE SCHEDULED WITH THE ENVIRONMENTAL CONSULTANT TO DETERMINE WHEN A BASIN MAY BE CONVERTED FOR STORMWATER USE. SOME MUNICIPALITIES MAY ALSO REQUIRE THIS.
- IF SITE IS APPROVED, REMOVE TEMPORARY DIVERSIONS, SILT FENCE, SEDIMENT BASINS, ETC., AND SEED OUT OR STABILIZE ANY RESULTING BARE AREAS. ALL REMAINING PERMANENT EROSION CONTROL DEVICES, SUCH AS VELOCITY DISSIPATORS, SHOULD NOW BE INSTALLED.
- DO NOT REMOVE DO#1.** INSPECT AND REPLACE ANY DAMAGED MATTING AND REGRADE AS NECESSARY TO CORRECT FOR DAMAGE THAT MAY HAVE OCCURRED DURING THE CONSTRUCTION PROCESS.
- WHEN VEGETATION HAS BECOME ESTABLISHED, CALL FOR A FINAL SITE INSPECTION BY THE ENVIRONMENTAL CONSULTANT. OBTAIN A CERTIFICATE OF COMPLETION.

TOTAL DENUDED AREA = 4.00 AC.

PERPETUITY STATEMENT

MAXIMUM IMPERVIOUS AREA SQUARE FOOTAGE ON EACH INDIVIDUAL LOT WILL BE STRINGENTLY ENFORCED WITH NO EXCEPTIONS INTO PERPETUITY. PLANS APPROVED WITH A MAXIMUM IMPERVIOUS SURFACE AS SHOWN.



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LEGEND

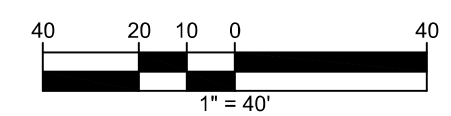
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- 379 --- EX MINOR CONTOUR
- 380 --- EX MAJOR CONTOUR
- 381 --- PROP MINOR CONTOUR
- 382 --- PROP MAJOR CONTOUR
- W --- EX WATER
- SS --- EX SANITARY SEWER
- S --- EX STORM DRAIN
- --- PROP STORM DRAIN
- --- DRAINAGE DIVIDE
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- SSF --- SUPER SILT FENCE
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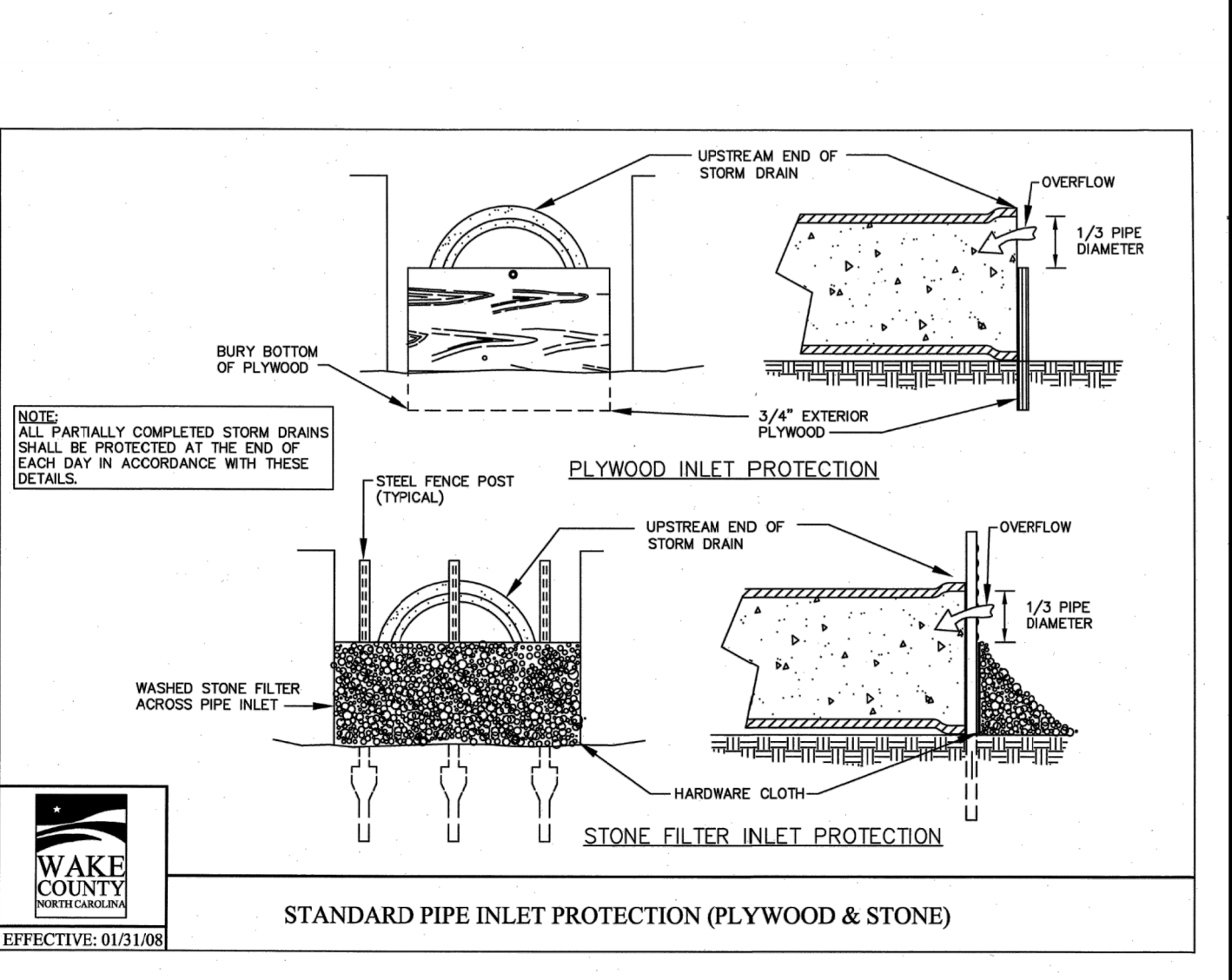
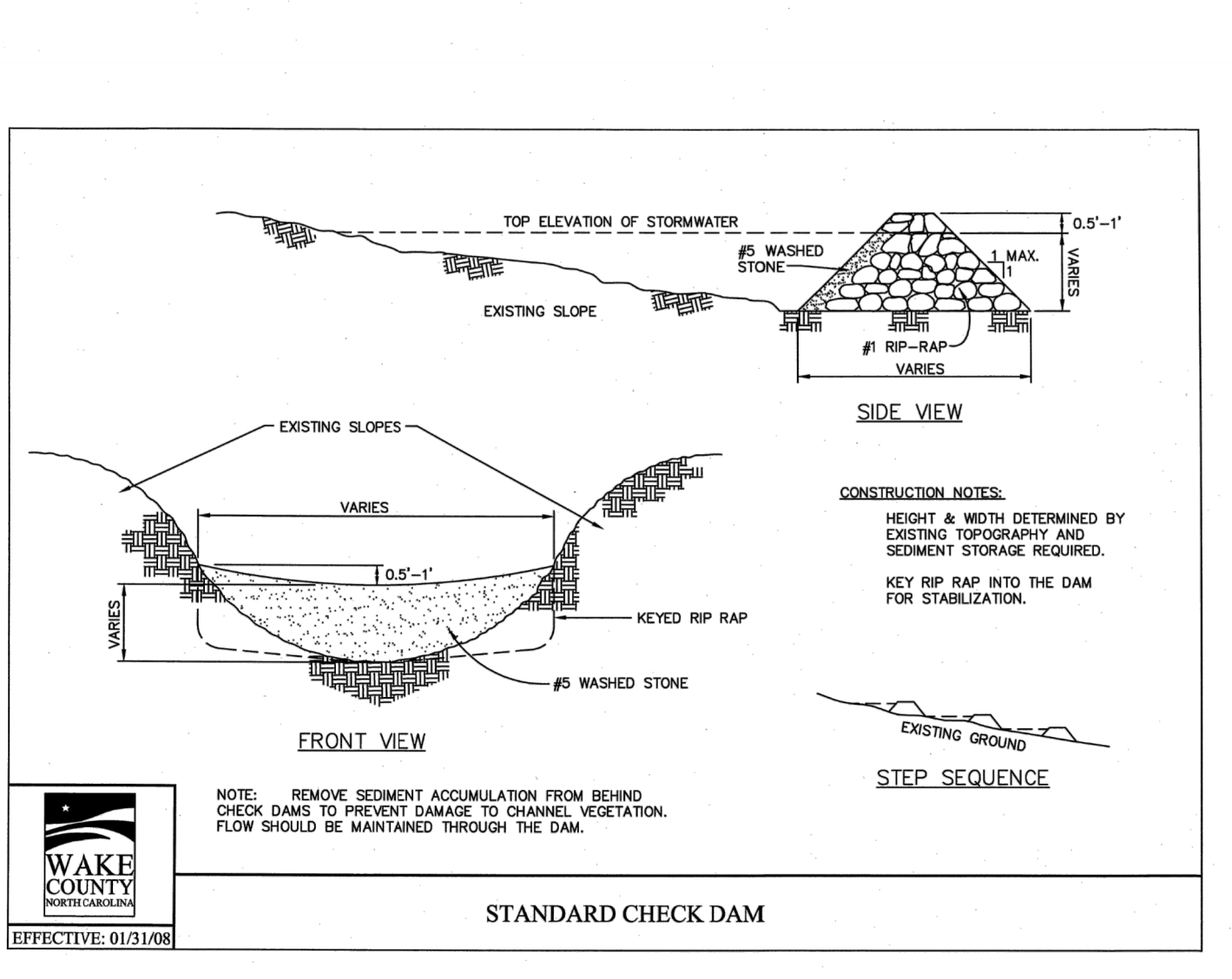
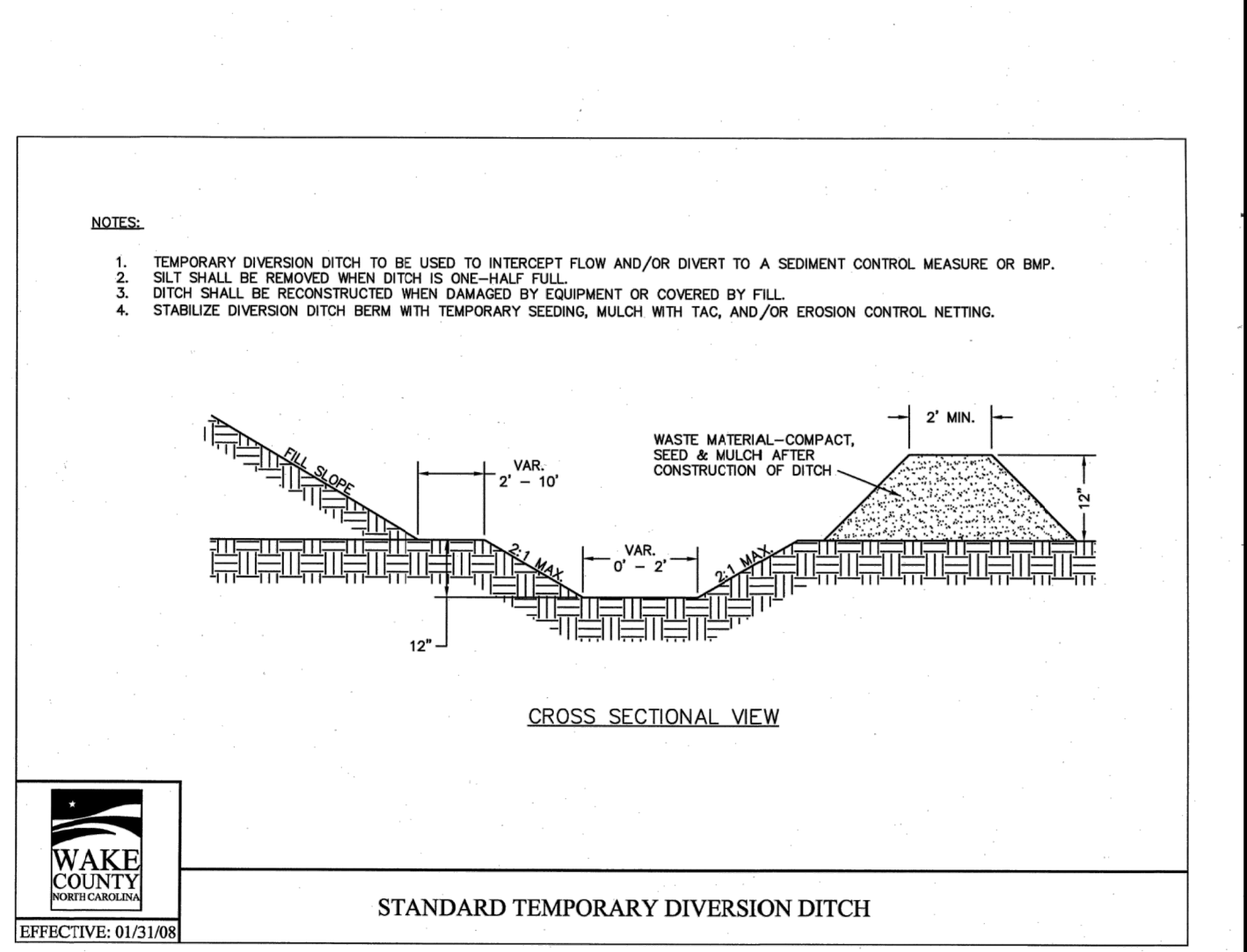
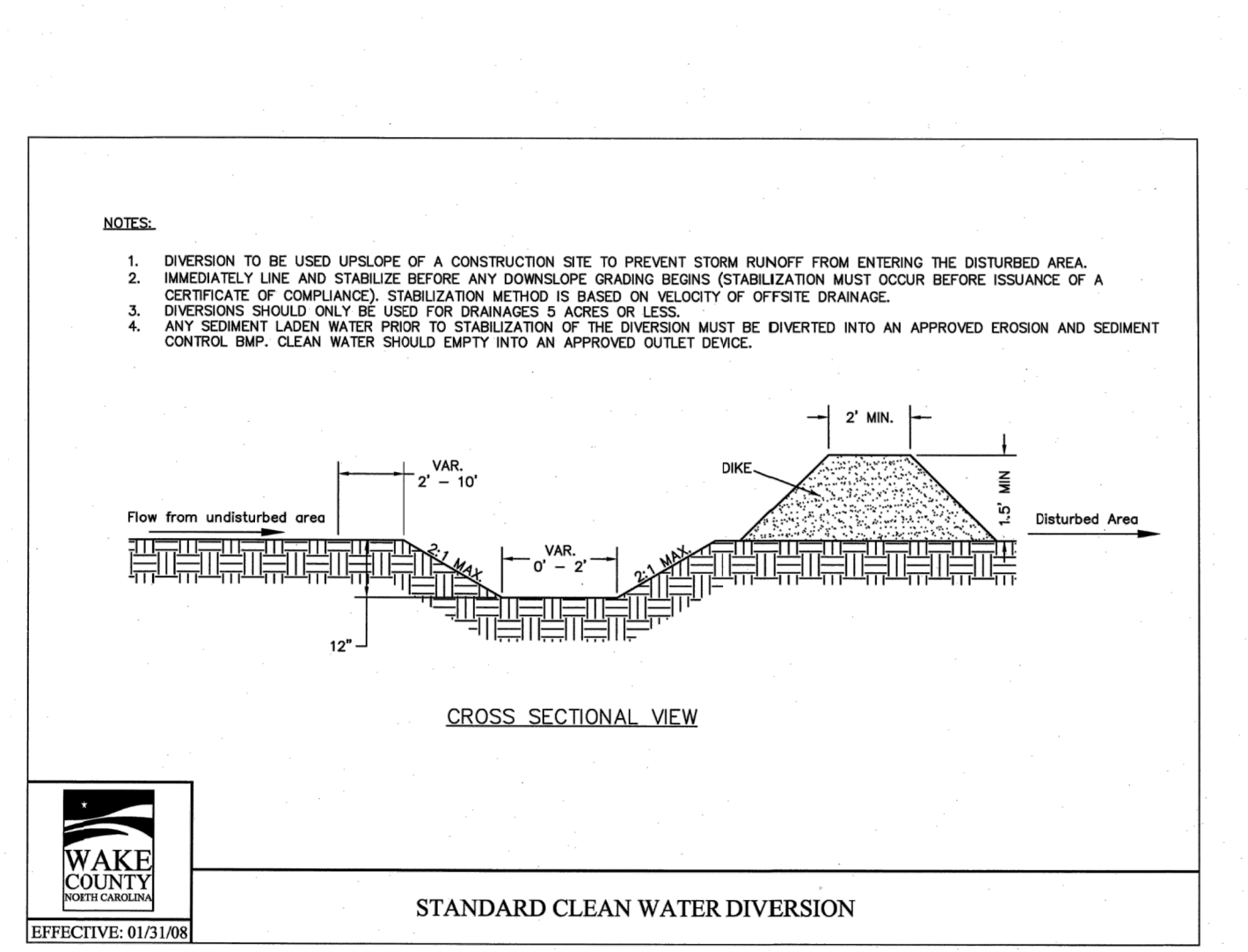
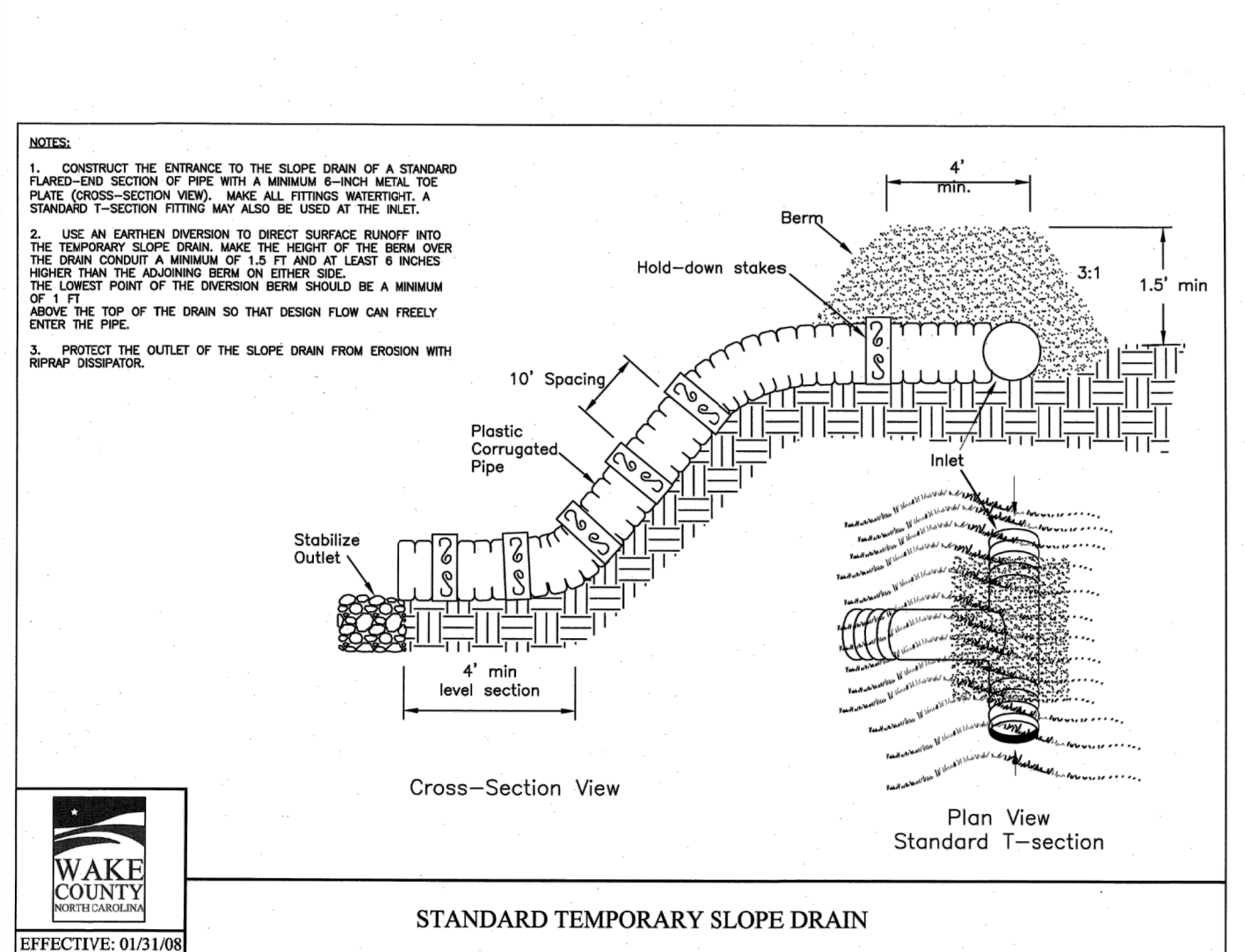
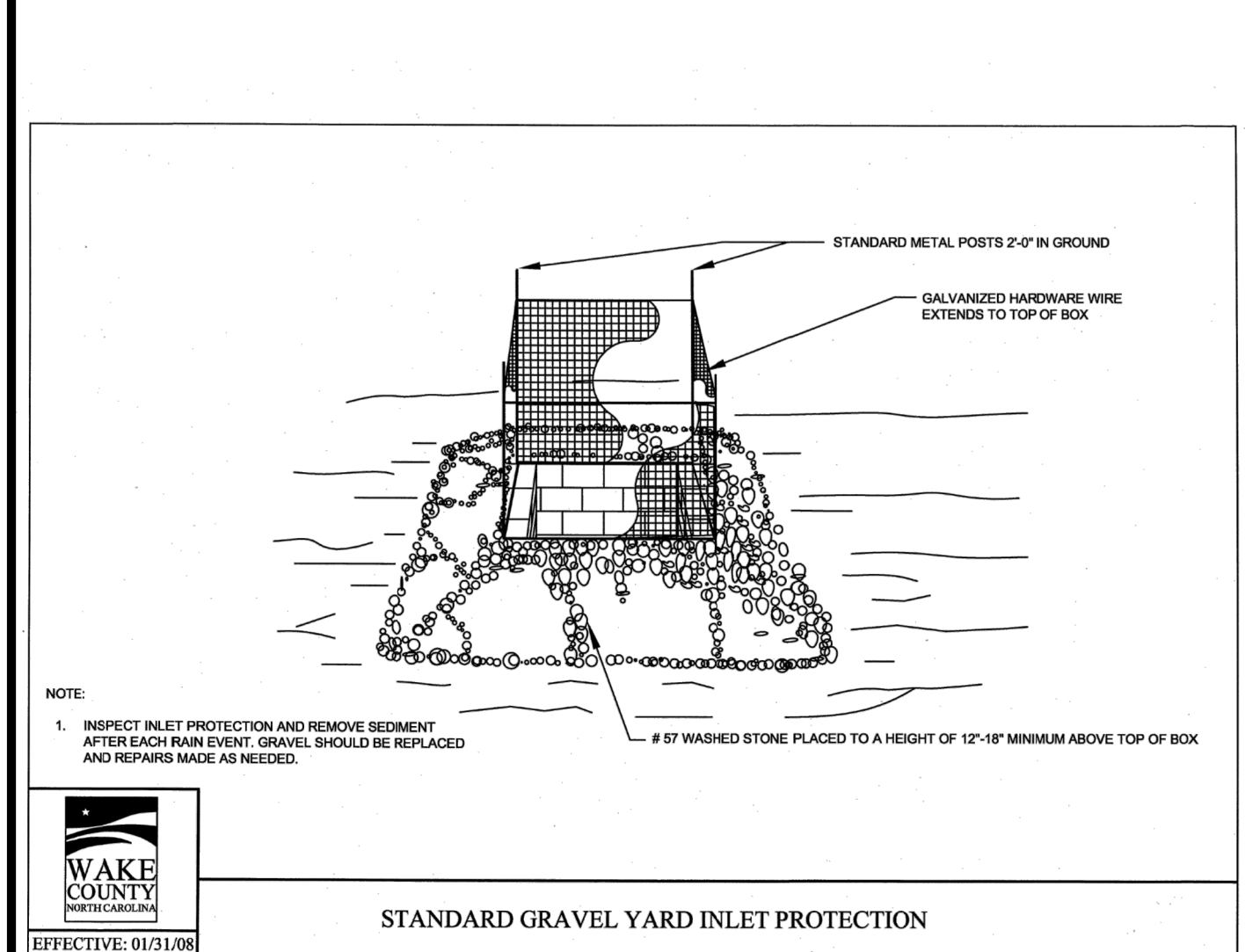
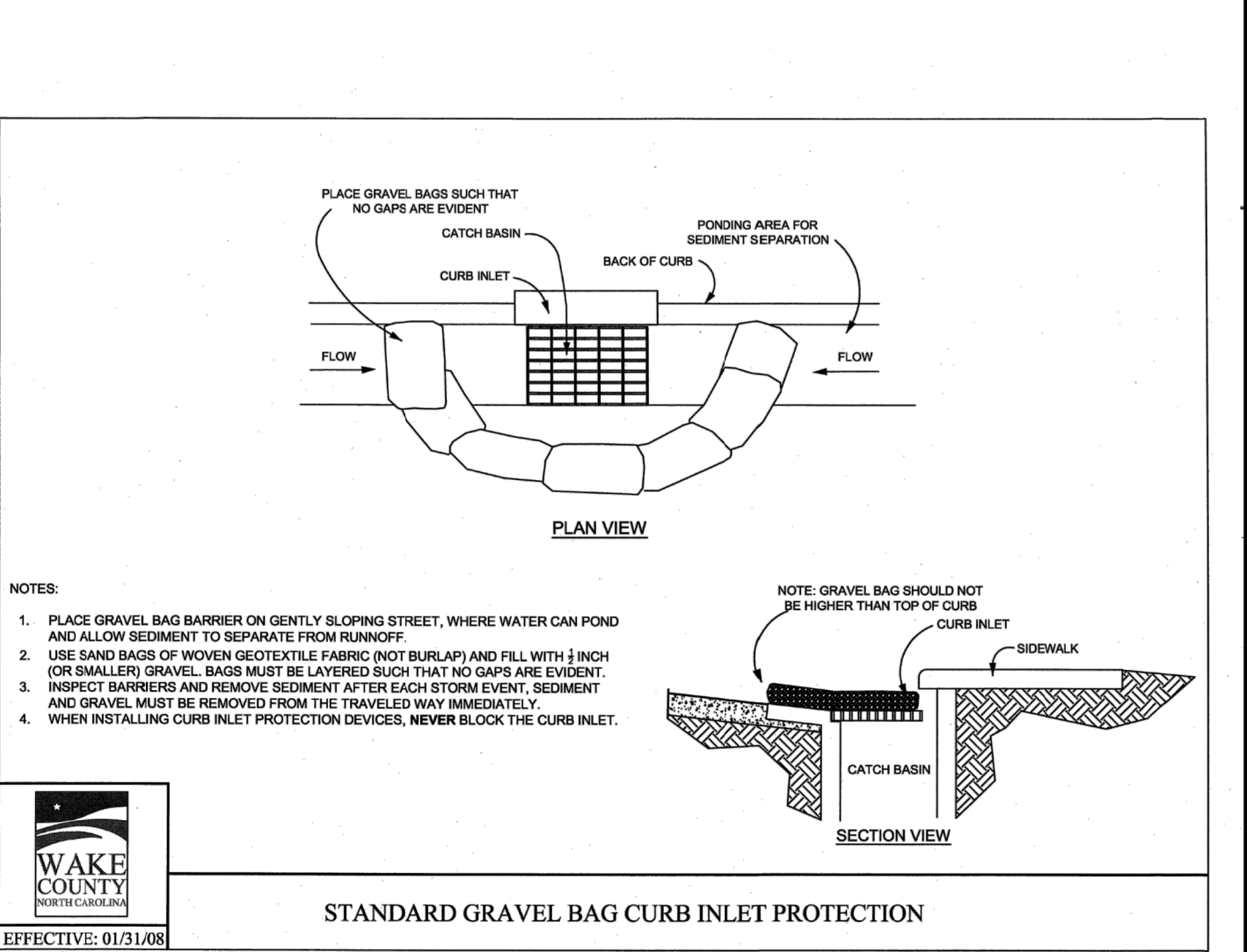
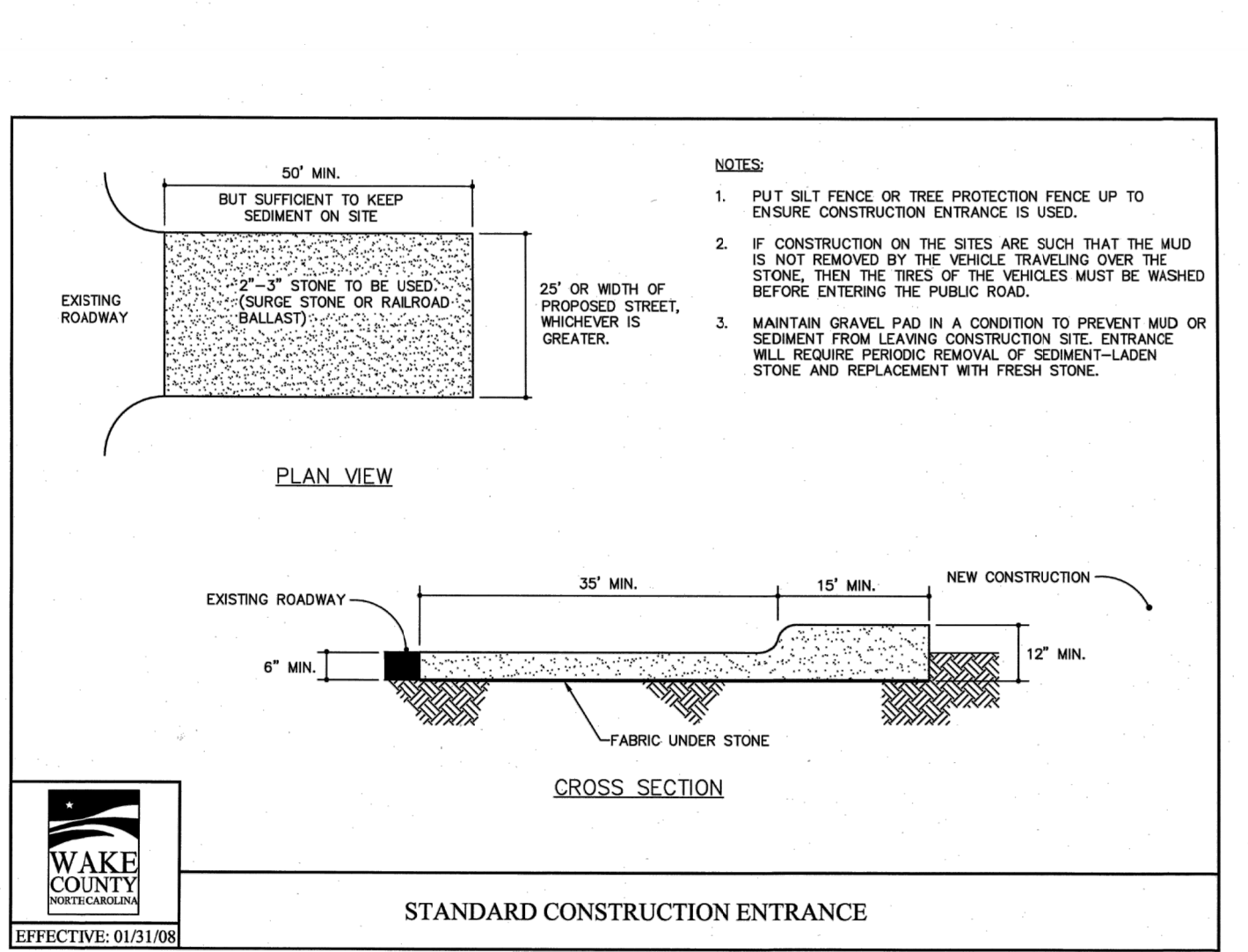
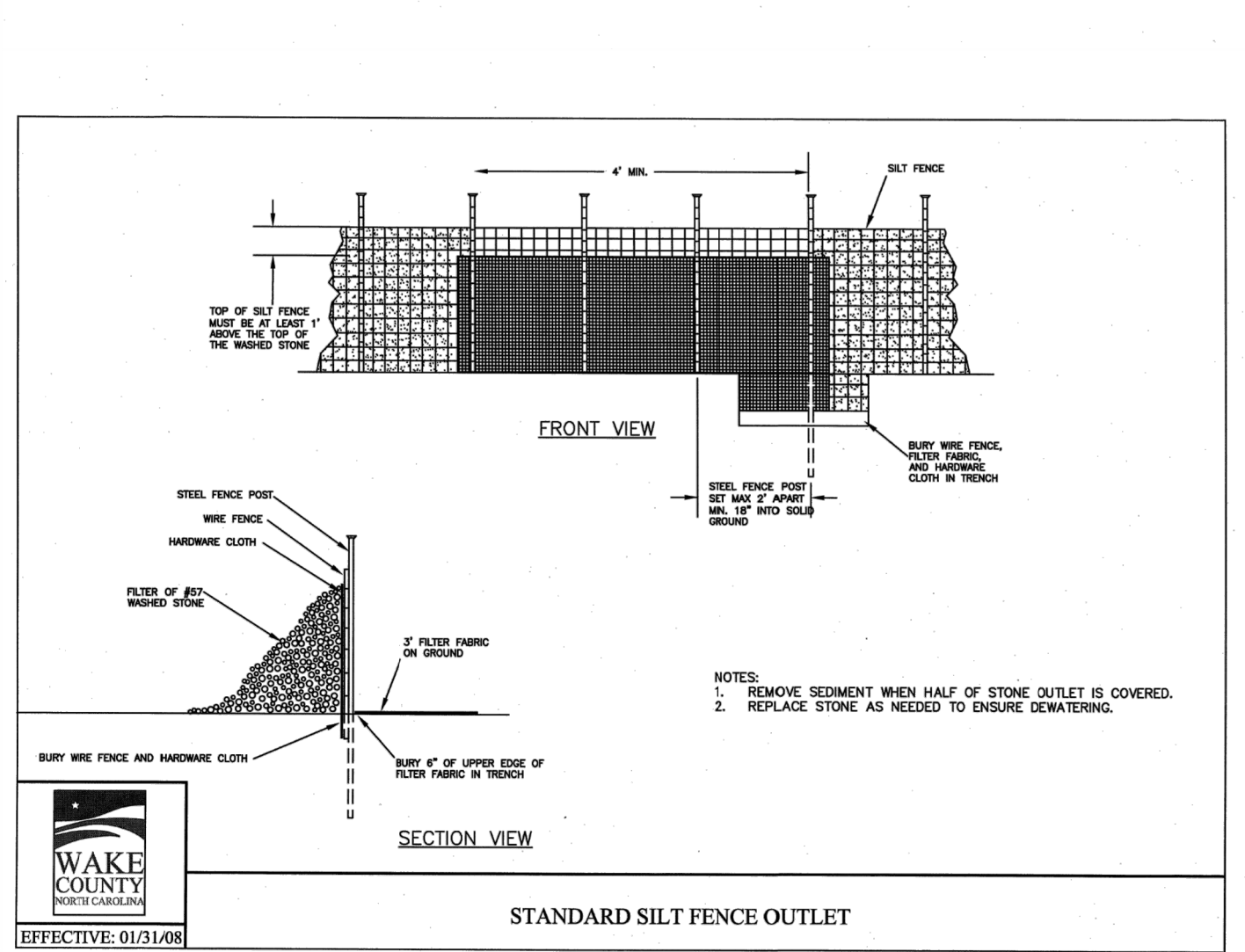
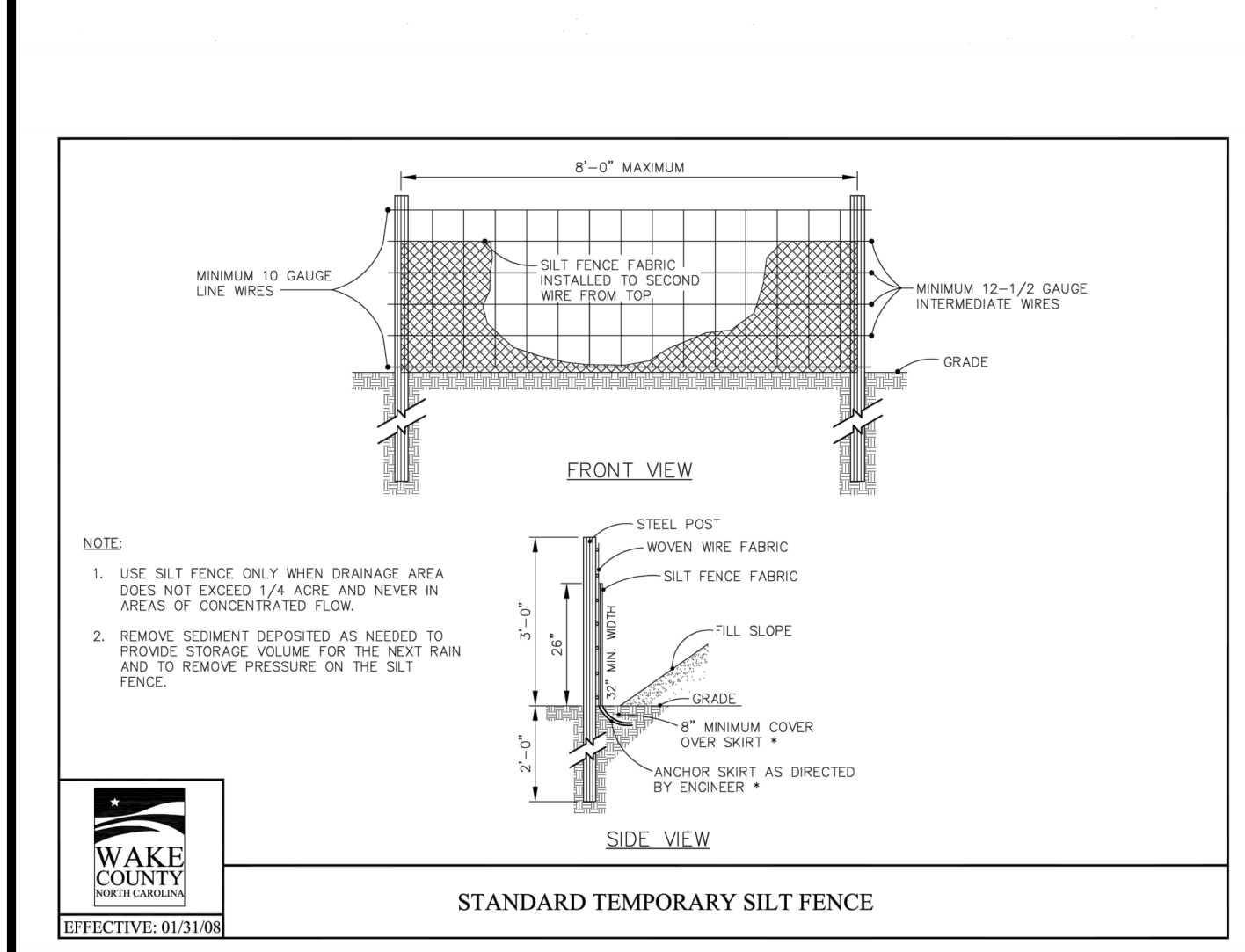
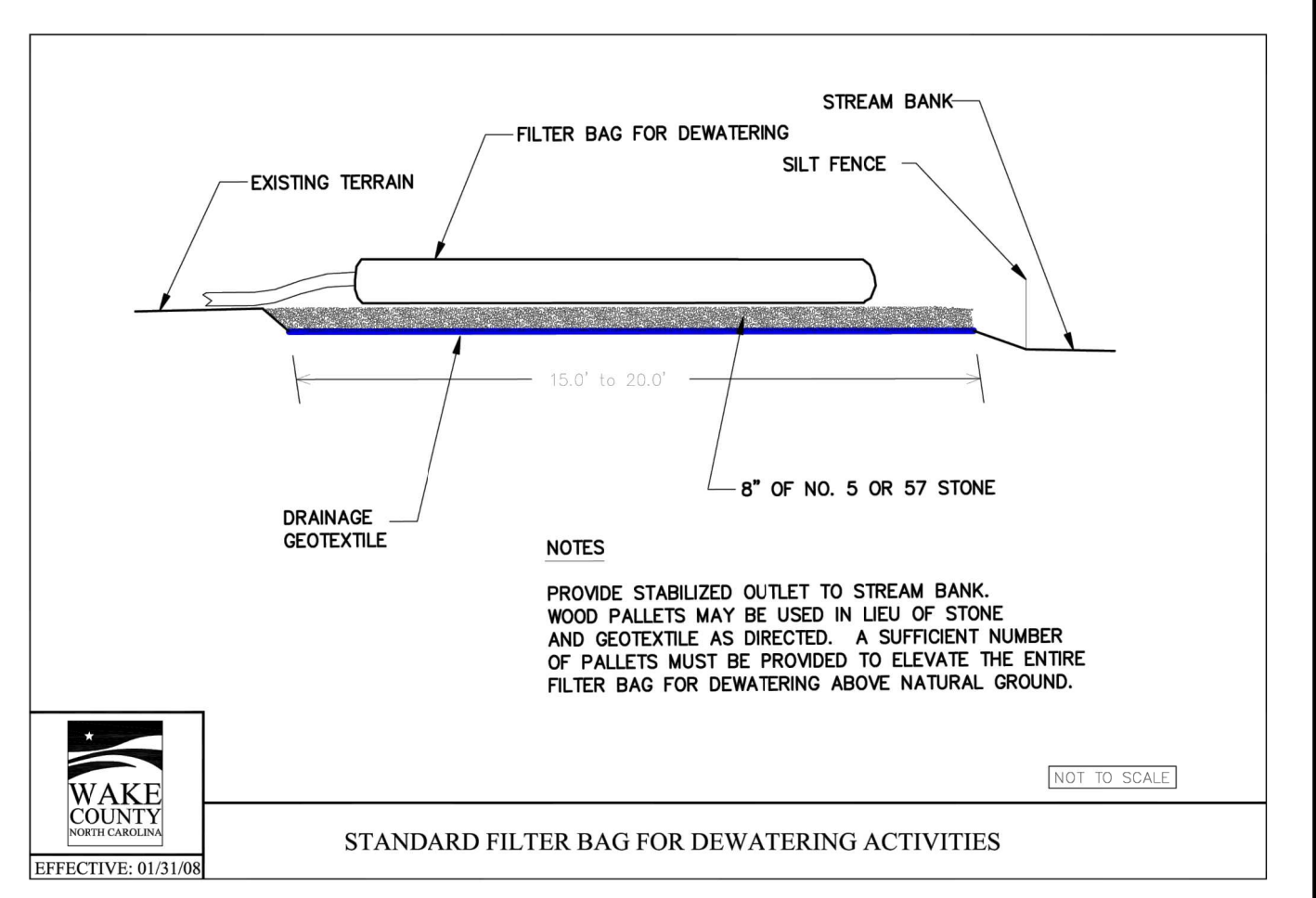
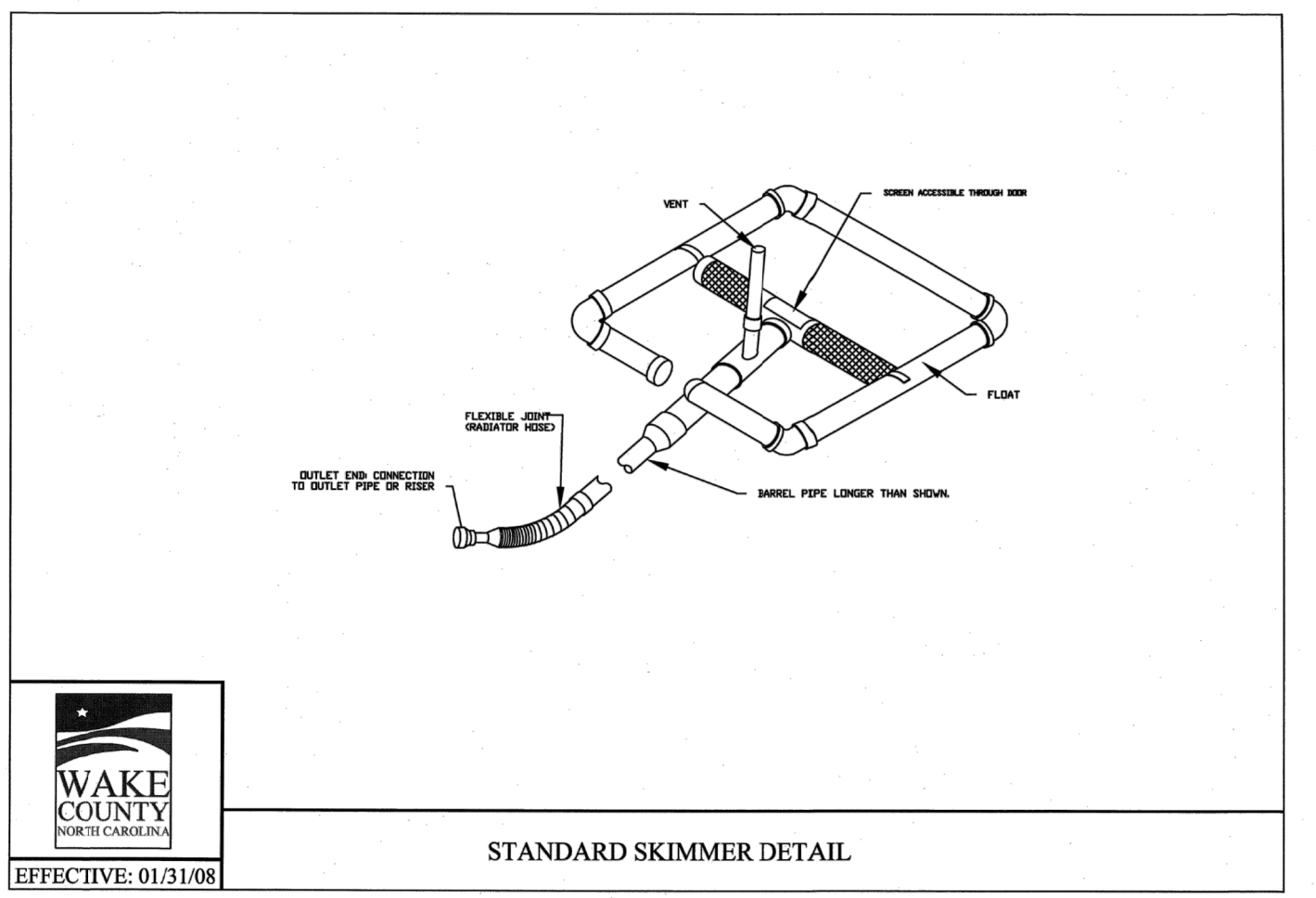
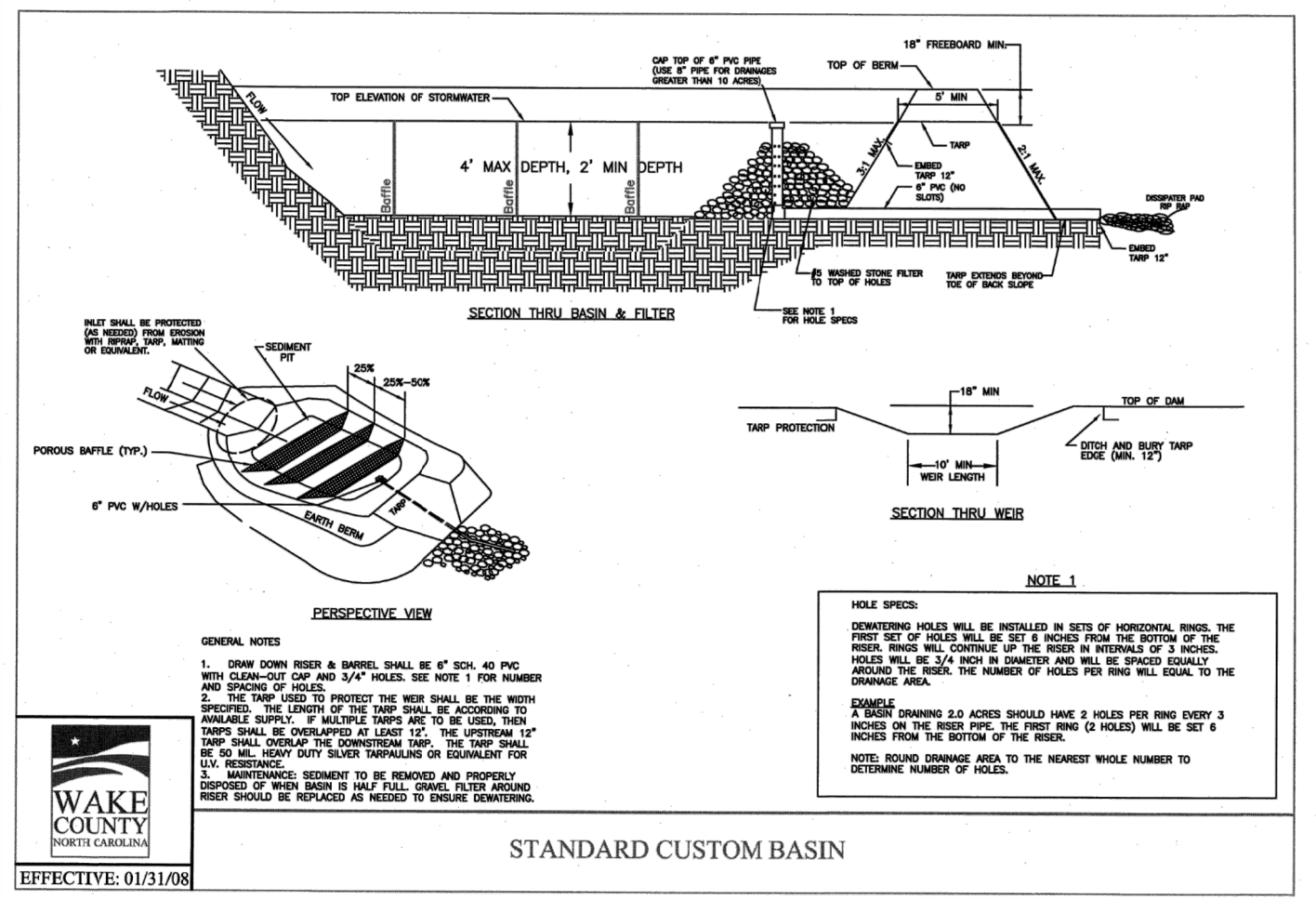
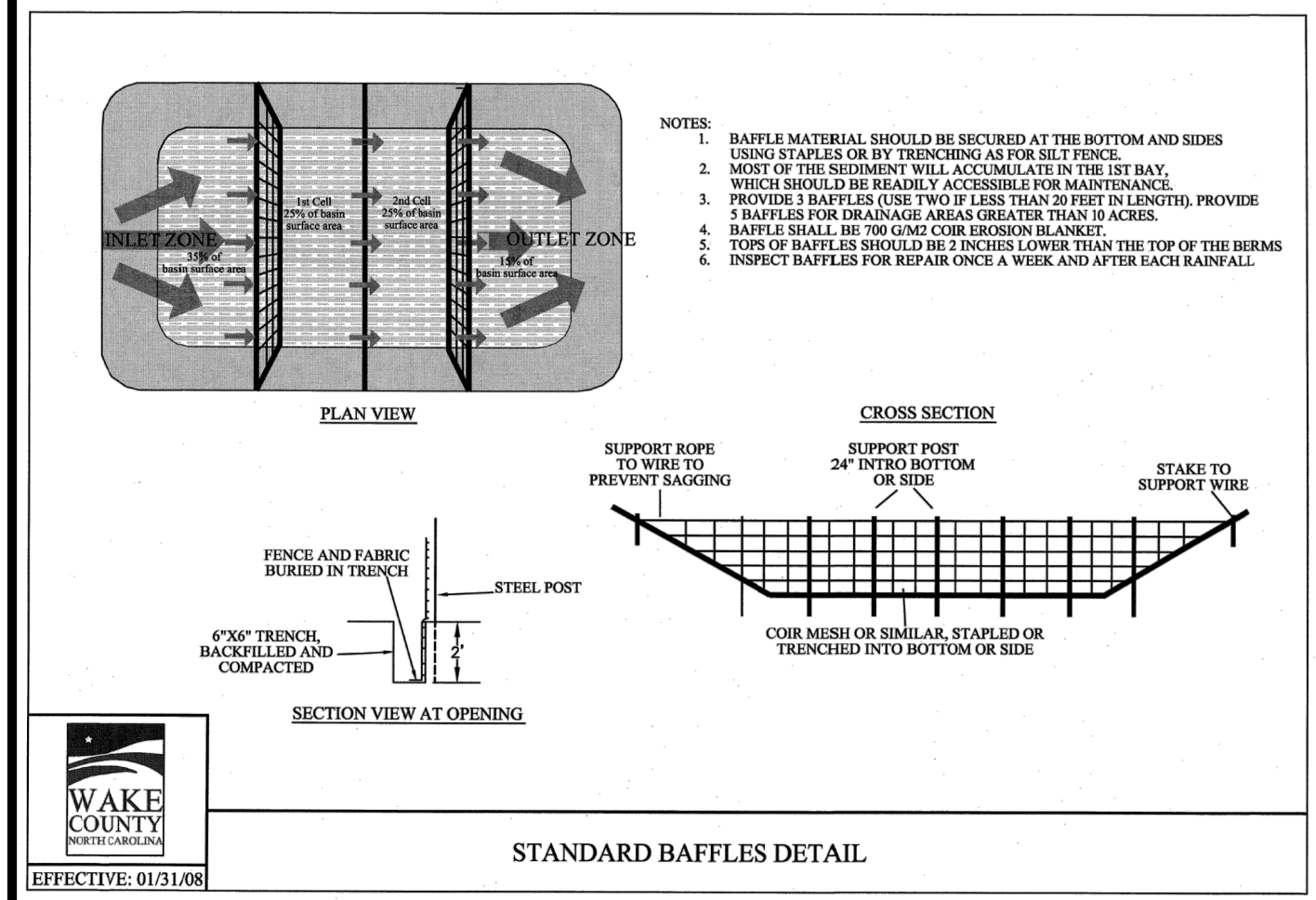
EROSION & SEDIMENT CONTROL PLAN - PHASE II

Number	Description	Date
1	PER TRC COMMENTS	04/14/22
2	PER TRC COMMENTS	05/26/22
3	PER TRC COMMENTS	06/13/22
4	PER TRC COMMENTS	06/15/22
5	PER TRC COMMENTS	06/27/22

JAECO #: 364-04
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C-6





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JAECO #: 364-04
DRAWING SCALE: AS SHOWN
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EROSION & SEDIMENT CONTROL DETAILS

C-7

ROLLMAX™ ROLLED EROSION CONTROL

Specification Sheet – EroNet™ D575™ Erosion Control Blanket

DESCRIPTION
The ultra short-term single net erosion control blanket shall be a machine produced mat of 100% agricultural straw with a functional longevity of up to 45 days. (NOTE: Functional longevity may vary depending upon climatic conditions, soil, geographical location, and elevation). The blanket shall be of consistent thickness with the straw evenly distributed over the entire area of the mat. The blanket shall be covered on the top side with a polypropylene netting having an approximate 0.50 x 0.50 (1/2 x 1/2 cm) mesh with photodegradable accelerators to provide breakdown of the netting within approximately 45 days, depending upon geographical location and elevation. The blanket shall be sewn together on 150 inch (3.81 cm) centers with a degradable thread. The blanket shall be manufactured with a colored thread stitched along both outer edges (approximately 2-3 inches (5.08 cm) from the edge) as an overlap guide for adjacent mats.

The D575 shall meet Type 1 specification requirements established by the Erosion Control Technology Council (ECTC) and Federal Highway Administration's (FHWA) FP-03 Section 713.07.

Index Property	Test Method	Typical
Thickness	ASTM D6027	0.48 in. (12.19 mm)
Resiliency	ECTC Guidelines	70.0%
Water Absorbency	ASTM D5717	375%
Mass/Unit Area	ASTM G475	8.37 oz/yd (24.9 g/m ²)
Small	ECTC Guidelines	95%
Smaller Resistance	ECTC Guidelines	Yes
Stiffness	ASTM D3888	6.10 in. (15.5 cm)
Light Penetration	ASTM D5657	10%
UV Strength – MD	ASTM D4818	106.6 lb/ft (15.5 kN/m)
Elongation – MD	ASTM D4818	34%
UV Strength – TD	ASTM D4818	10.62 kN/m
Elongation – TD	ASTM D4818	25.2%
Biomass Improvement	ASTM D7312	200%

Design Permissible Shear Stress	
Unvegetated Shear Stress	1.5 psf (7.0 Pa)
Unvegetated Velocity	5.00 fps (1.52 m/s)

Slope Design Data: C Factors			
Slope Length (L)	C1	C2	C3
< 25 ft (8 m)	0.20	N/A	N/A
25-50 ft	0.11	N/A	N/A
> 50 ft (15.2 m)	0.19	N/A	N/A

Standard Roll Sizes			
Width	6.67 (20.0 m)	8.0 (24.4 m)	16.0 (48.8 m)
Length	108 ft (32.9 m)	112 ft (34.1 m)	108 ft (32.9 m)
Weight 10%	40 lbs (18.1 kg)	50 lbs (22.6 kg)	56 lbs (25.3 kg)
Area	80 sq yd (66.3 m ²)	100 sq yd (84.5 m ²)	108 sq yd (95.5 m ²)

Tensar
NORTH AMERICAN GREEN™

Tensar International Corporation
2900 Northwoods Parkway
Suite 300
Aurora, NC 28009
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tensarcorp.com

Tensar International Corporation warrants that at the time of delivery the product furnished hereunder will conform to the specification stated herein. Any other specifications including mechanicals and finishes for a particular project are hereby waived. If the product does not conform to the specifications herein, the manufacturer will, at its option, either replace the product or refund the purchase price. This warranty is void where prohibited. This warranty is not intended to constitute an offer of insurance or any other financial product. For more information, please contact your local Tensar representative. © 2015 Tensar International Corporation. ECTC, FHWA, MDOT, EDOCS, I-30

ROLLMAX™ ROLLED EROSION CONTROL

Specification Sheet – VMax™ C350™ Turf Reinforcement Mat

DESCRIPTION
The composite turf reinforcement mat (TRM) shall be a machine produced mat of 100% coconut fiber matrix incorporated into permanent three-dimensional turf reinforcement matting. The matrix shall be evenly distributed across the entire width of the matting and shall consist of super heavy-duty UV-stabilized netting with 0.50 x 0.50 in. (1.27 x 1.27 cm) openings, an ultra heavy-duty UV-stabilized, dramatically convoluted (or matted) intermat netting with 0.5 x 0.5 in. (1.27 x 1.27 cm) openings, and covered by a super heavy-duty UV-stabilized netting with 0.50 x 0.50 in. (1.27 x 1.27 cm) openings. The middle convoluted netting shall form prominent closely spaced ridges across the entire width of the mat. The three nettings shall be stitched together on 150 in. (3.81 cm) centers with UV-stabilized polypropylene thread to form permanent three-dimensional turf reinforcement matting. All mats shall be manufactured with colored thread stitched along both outer edges as an overlap guide for adjacent mats.

The C350 shall meet Type 1A, B and C specification requirements established by the Erosion Control Technology Council (ECTC) and Federal Highway Administration's (FHWA) FP-03 Section 713.07.

Index Property	Test Method	Typical
Thickness	ASTM D6025	0.76 in. (19.3 mm)
Resiliency	ASTM D6024	90%
Density	ASTM D791	0.97 g/cc (70 lb/cu yd)
Mass/Unit Area	ASTM D6056	18.36 oz/yd ² (54.6 g/m ²)
UV Stability	ECTC Guidelines	80%
Stiffness	ECTC Guidelines	95%
Stiffness	ASTM D3888	0.26 in. (6.6 mm)
Light Penetration	ASTM D5657	7.2%
Tensile Strength – MD	ASTM D4818	58.6 lb/ft (8.0 kN/m)
Elongation – MD	ASTM D4818	45.2%
Tensile Strength – TD	ASTM D4818	687.6 lb/ft (10.20 kN/m)
Elongation – TD	ASTM D4818	76.5%
Biomass Improvement	ASTM D7312	300%

Design Permissible Shear Stress	
Unvegetated Shear Stress	3.0 psf (143 Pa)
Unvegetated Velocity	10.0 fps (3.05 m/s)

Standard Roll Sizes			
Width	6.6 ft (2.0 m)	8.0 ft (2.4 m)	16.0 ft (4.9 m)
Length	55.5 ft (16.9 m)		
Weight 10%	37 lbs (16.8 kg)		
Thread	40 in (1.0 m)		

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Tensar International Corporation warrants that at the time of delivery the product furnished hereunder will conform to the specification stated herein. Any other specifications including mechanicals and finishes for a particular project are hereby waived. If the product does not conform to the specifications herein, the manufacturer will, at its option, either replace the product or refund the purchase price. This warranty is void where prohibited. This warranty is not intended to constitute an offer of insurance or any other financial product. For more information, please contact your local Tensar representative. © 2015 Tensar International Corporation. ECTC, FHWA, MDOT, EDOCS, I-30

INSTALLATION MADE EASY

When under the pressure of severe conditions, even the best erosion control products can't function to their full potential without proper installation and anchoring. Tensar supplies a wide variety of fasteners for nearly every application and soil type.

For use in cohesive soils, wire staples are a cost-effective means to fasten RECPs. Available in 6 in., 12 in., 18 in., and 24 in. lengths, our U-shaped staples can reach to various depths to ensure adequate pull-out resistance. For installation using our hand-Pin Pile installation tool, 6 in. U-type staples or 6 in. crimp top pins are available.

Our biodegradable BioStaples® are available in 6 in., 12 in., and 18 in. lengths and provide an environmentally friendly alternative to metal staples. For an even more durable, deeper reacting yet natural anchoring option, our wood EcoStaples® are available in 6 in., 12 in., 18 in., and 24 in. lengths.

For severe applications needing the ultimate, long-lasting hold, try our 12 in., 18 in., and 24 in. rubber staples, our 12 in. plastic ShowMax® staples, or our complete line of permanent earth anchors. The Tensar earth anchors each attach to the soil strata to offer enhanced anchoring in the worst conditions. Our variety of earth anchors are designed for durability and holding power under extreme hydraulic stresses and adverse soil conditions.

STAPLE PATTERNS
Proper staple patterns must be used to achieve optimal results in RECP installation. Tensar recommends the following general stapling patterns as guidance for use with our RECPs, as seen in Figure 9. Site-specific stapling pattern recommendations based on soil type and severity of application may be acquired through our Erosion Control Materials Design Software (ECMS®); www.ecms.com.

STAPLE PATTERN GUIDE

FIGURE 9

SLOPE INSTALLATION

The following slope guide outlines our general recommendations for installing Tensar's RollMax™ temporary and/or permanent RECPs on sloping applications. Consult the staple pattern guide (Figure 9) for fastener spacing recommendations based on the slope severity.

SLOPE INSTALLATION STEPS

- Prepare soil before installing RECPs, including any necessary application of lime, fertilizer and seed. See page 7 for special requirements when soil filling a woven TRM.
- Begin at the top of the slope by anchoring the RECPs in a 6 in. (15 cm) deep x 6 in. (15 cm) wide trench with approximately 12 in. (30 cm) of RECPs extended beyond the upslope portion of the trench. Anchor the RECPs with a row of staples/stakes approximately 12 in. (30 cm) apart in the bottom of the trench. Backfill and compact the trench after stapling. Apply seed to the compacted soil and fold the remaining 12 in. (30 cm) portion of RECPs back over the seed and compacted soil. Secure RECPs over compacted soil with a row of staples/stakes spaced approximately 12 in. (30 cm) apart across the width of the RECPs.
- Roll the RECPs (A) down or (B) horizontally across the slope. RECPs will unroll with appropriate side against the soil surface. All RECPs must be securely fastened to soil surface by placing staples/stakes in appropriate locations as shown in the staple pattern guide.
- The edges of parallel RECPs must be stapled with approximately 12 in. (30 cm) overlap depending on the slope portion of the trench. Anchor the RECPs with a row of staples/stakes approximately 12 in. (30 cm) apart in the bottom of the trench. Backfill and compact the trench after stapling. Apply seed to the compacted soil and fold the remaining 12 in. (30 cm) portion of RECPs back over the seed and compacted soil. Secure RECPs over compacted soil with a row of staples/stakes spaced approximately 12 in. (30 cm) apart across the width of the RECPs.

FIGURE 10

JAECO

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06/28/2022

TREE PROTECTION FENCE

N.T.S.

CRITICAL POINTS
A. Channel and Gates
B. Projected Water Line
C. Channel Bottom Step Size Vertices

CHANNEL INSTALLATION STEPS

- Prepare soil before installing RECPs, including any necessary application of lime, fertilizer and seed. See page 7 for special requirements when soil filling a woven TRM.
- Begin at the top of the channel by anchoring the RECPs in a 6 in. (15 cm) deep x 6 in. (15 cm) wide trench with approximately 12 in. (30 cm) of RECPs extended beyond the upslope portion of the trench. Anchor the RECPs with a row of staples/stakes approximately 12 in. (30 cm) apart in the bottom of the trench. Backfill and compact the trench after stapling. Apply seed to the compacted soil and fold the remaining 12 in. (30 cm) portion of RECPs back over the seed and compacted soil. Secure RECPs over compacted soil with a row of staples/stakes spaced approximately 12 in. (30 cm) apart across the width of the RECPs.
- Roll center RECPs in direction of water flow in bottom of channel. RECPs will unroll with appropriate side against the soil surface. All RECPs must be securely fastened to soil surface by placing staples/stakes in appropriate locations as shown in the staple pattern guide.

SOIL FILLING
Consult the following installation instructions when soil filling a woven TRM.
• Installed TRM shall be seeded and soil-filled.
• After seeding, spread a layer of fine soil into the mat. Using the flat side of a wheel, broom or other tool, completely fill the voids. Smooth soil-fill in order to just expose the top of the TRM matrix. Do not place excessive soil above the mat.
• In the case of equipment use, no tracked equipment or sharp turns shall be allowed in the mat. Avoid any traffic over the mat if loose or wet soil conditions exist.
• Additional seed, hydraulic mulching or the use of a temporary erosion control blanket can be applied over the soil-filled mat for additional protection.
• Consult with a manufacturer's technical representative for installation assistance if unique conditions apply.

CHANNEL INSTALLATION

The following channel guide outlines our general recommendations for installing Tensar's RollMax™ temporary and/or permanent RECPs in concentrated flow applications. Consult the staple pattern guide (Figure 9) for fastener spacing recommendations based on the channel severity.

SHORELINE/STREAMBANK INSTALLATION STEPS

- For easier installation, lower water level from Level A to Level B before installation.
- Prepare soil before installing RECPs, including any necessary application of lime, fertilizer and seed. See page 7 for special requirements when soil filling a woven TRM.
- Begin at the top of the shoreline by anchoring the RECPs in a 6 in. (15 cm) deep x 6 in. (15 cm) wide trench with approximately 12 in. (30 cm) of RECPs extended beyond the upslope portion of the trench. Anchor the RECPs with a row of staples/stakes approximately 12 in. (30 cm) apart in the bottom of the trench. Backfill and compact the trench after stapling. Apply seed to the compacted soil and fold the remaining 12 in. (30 cm) portion of RECPs back over the seed and compacted soil. Secure RECPs over compacted soil with a row of staples/stakes spaced approximately 12 in. (30 cm) apart across the width of the RECPs.
- Roll RECPs either (A) down the shoreline for long banks (top to bottom) or (B) horizontally across the shoreline.

SOIL FILLING
Consult the following installation instructions when soil filling a woven TRM.
• Installed TRM shall be seeded and soil-filled.
• After seeding, spread a layer of fine soil into the mat. Using the flat side of a wheel, broom or other tool, completely fill the voids. Smooth soil-fill in order to just expose the top of the TRM matrix. Do not place excessive soil above the mat.
• In the case of equipment use, no tracked equipment or sharp turns shall be allowed in the mat. Avoid any traffic over the mat if loose or wet soil conditions exist.
• Additional seed, hydraulic mulching or the use of a temporary erosion control blanket can be applied over the soil-filled mat for additional protection.
• Consult with a manufacturer's technical representative for installation assistance if unique conditions apply.

SHORELINE INSTALLATION

The following guide outlines our general recommendations for installing Tensar's RollMax™ temporary and/or permanent RECPs along shoreline and stream bank applications. Consult the staple pattern guide (Figure 9) for fastener spacing recommendations based on the bank severity.

SHORELINE/STREAMBANK INSTALLATION STEPS

- For easier installation, lower water level from Level A to Level B before installation.
- Prepare soil before installing RECPs, including any necessary application of lime, fertilizer and seed. See page 7 for special requirements when soil filling a woven TRM.
- Begin at the top of the shoreline by anchoring the RECPs in a 6 in. (15 cm) deep x 6 in. (15 cm) wide trench with approximately 12 in. (30 cm) of RECPs extended beyond the upslope portion of the trench. Anchor the RECPs with a row of staples/stakes approximately 12 in. (30 cm) apart in the bottom of the trench. Backfill and compact the trench after stapling. Apply seed to the compacted soil and fold the remaining 12 in. (30 cm) portion of RECPs back over the seed and compacted soil. Secure RECPs over compacted soil with a row of staples/stakes spaced approximately 12 in. (30 cm) apart across the width of the RECPs.
- Roll RECPs either (A) down the shoreline for long banks (top to bottom) or (B) horizontally across the shoreline.

SOIL FILLING
Consult the following installation instructions when soil filling a woven TRM.
• Installed TRM shall be seeded and soil-filled.
• After seeding, spread a layer of fine soil into the mat. Using the flat side of a wheel, broom or other tool, completely fill the voids. Smooth soil-fill in order to just expose the top of the TRM matrix. Do not place excessive soil above the mat.
• In the case of equipment use, no tracked equipment or sharp turns shall be allowed in the mat. Avoid any traffic over the mat if loose or wet soil conditions exist.
• Additional seed, hydraulic mulching or the use of a temporary erosion control blanket can be applied over the soil-filled mat for additional protection.
• Consult with a manufacturer's technical representative for installation assistance if unique conditions apply.

SPECIAL INSTALLATION INSTRUCTIONS

INSTALLING RECP WITH EARTH ANCHORS

Consult the following guide details when using earth anchors in conjunction with our RollMax™ RECPs.

For the leading edge of a slope or channel, secure the RECP in a 6 in. (15 cm) x 6 in. (15 cm) wide trench with approximately 12 in. (30 cm) of RECP extended beyond the upslope portion of the trench. Anchor the RECP with a row of staples and anchors approximately 12 in. (30 cm) apart in the bottom of the trench. Backfill and compact the trench after stapling. Apply seed to backfilled soil and fold remaining 12 in. (30 cm) of RECP over seeded soil. Secure the RECP with a row of staples and anchors approximately 12 in. (30 cm) across the width of the RECP (Figures 2 and 3).

Full-length edge of RECPs in critical areas should be anchored with a row of staples and anchors approximately 12 in. (30 cm) apart in a 6 in. (15 cm) deep x 6 in. (15 cm) wide trench. Backfill and compact the trench after stapling (Figure 4).

The edges of all horizontal and vertical seams must be stapled with approximately 12 in. (30 cm) overlap, in streambank applications, seams over gaps should be shingled in the downstream flow direction.

The edge of the RECPs or at below normal water level must be anchored by placing the RECPs in a 12 in. (30 cm) deep x 6 in. (15 cm) wide anchor trench. Anchor the RECP with a row of staples and anchors approximately 12 in. (30 cm) apart in the bottom of the trench. Backfill and compact the trench after stapling. Apply seed to the compacted soil and fold the remaining 12 in. (30 cm) portion of RECPs back over the seed and compacted soil. Secure RECPs over compacted soil with a row of staples/stakes spaced approximately 12 in. (30 cm) apart across the width of the RECPs.

NOTE: In adverse soil conditions longer staples/stakes or earth anchors may be necessary to properly secure the RECPs.

FIGURE 5

SUPER SILT FENCE

N.T.S.

NOTES:

- MAINTENANCE SHALL OCCUR WHEN NECESSARY. SILT FENCE SHALL BE REPLACED EVERY 6 MONTHS AND POSTS SHALL BE INSPECTED TO ENSURE STRUCTURAL INTEGRITY. SILT FENCE SHALL BE INSPECTED WEEKLY AND ALL MAINTENANCE ISSUES SHALL BE CORRECTED AT THAT TIME.
- SILT FENCE SHOULD BE A MINIMUM OF 5 FEET FROM THE TOE OF SLOPE.

ROLLMAX SPECIFICATIONS AND INSTALLATION INSTRUCTIONS

SEEDING SCHEDULE FOR SHOULDERS, SIDE DITCHES, SLOPES (3:1 TO 2:1)			
DATE	TYPE	PANTING RATE	
MAR 1 - JUN 1	SERICAEA LESPEDEZA (SCARIFIED) AND USE THE FOLLOWING COMBINATIONS:	50 LBS/ACRE (SERICEA LESPEDEZA)	
MAR 1 - APR 15	ADD TALL FESCUE	10 LBS/ACRE	
MAR 1 - JUN 30	OR ADD WEEPINE LOVE GRASS	10 LBS/ACRE	
MAR 1 - JUN 30	OR ADD HULLED COMMON BERMUDAGRASS	25 LBS/ACRE	
JUN 1 - SEPT 1	TALL FESCUE AND BROWNTOP MULLET OR SORGHUM-SUDAN HYBRIDS	120 LBS/ACRE (TALL FESCUE); 35 LBS/ACRE (BROWNTOP MULLET); 30 LBS/ACRE (SORGHUM-SUDAN HYBRIDS)	
SEPT 1 - MAR 1	SERICAEA LESPEDEZA (UNHULLED-UNSCARIFIED) AND TALL FESCUE	70 LBS/ACRE (SERICEA LESPEDEZA); 120 LBS/ACRE (TALL FESCUE)	
NOV 1 - MAR 1	AND ABRUZZI RYE	25 LBS/ACRE	

CONSULT S&E/C ENVIRONMENTAL ENGINEERS FOR ADDITIONAL INFORMATION CONCERNING OTHER ALTERNATIVES FOR VEGETATION OF DENuded AREAS. THE ABOVE VEGETATION RATES ARE THOSE THAT DO WELL UNDER LOCAL CONDITIONS; OTHER SEEDING RATE COMBINATIONS ARE POSSIBLE. ***TEMPORARY: RESEED ACCORDING TO OPTIMUM SEASON FOR DESIRED PERMANENT VEGETATION. DO NOT ALLOW TEMPORARY COVER TO GROW MORE THAN 12" IN HEIGHT BEFORE MOWINGS; OTHERWISE, FESCUE MAY BE SHADED OUT.

SEEDING SCHEDULE FOR SHOULDERS, SIDE DITCHES, SLOPES (MAX 3:1)			
DATE	TYPE	PANTING RATE	
AUG 15 - NOV 1	TALL FESCUE	300 LBS/ACRE	
NOV 1 - MAR 1	TALL FESCUE & ABRUZZI RYE	300 LBS/ACRE	
MAR 1 - APR 15	TALL FESCUE	300 LBS/ACRE	
APR 15 - JUN 30	HULLED COMMON BERMUDAGRASS	25 LBS/ACRE	
JUL 1 - AUG 15	TALL FESCUE AND BROWNTOP MILLET OR SORGHUM-SUDAN HYBRIDS***	125 LBS/ACRE (TALL FESCUE); 35 LBS/ACRE (BROWNTOP MILLET); 30 LBS/ACRE (SORGHUM-SUDAN HYBRIDS)	

NEW STABILIZATION TIMEFRAMES (EFFECTIVE AUG 3, 2011)		
SITE AREA DESCRIPTION	STABILIZATION	TIMEFRAME EXCEPTIONS
PERIMETER DIKES, SWALES, DITCHES, SLOPES	7 DAYS	NONE
HIGH QUALITY WATER (HOW) ZONES	7 DAYS	NONE
SLOPES STEEPER THAN 3:1	7DAYS	IF SLOPES ARE LESS THAN 10' OR LESS IN LENGTH AND ARE NOT STEEPER THAN 2:1, 14 DAYS ARE ALLOWED
SLOPES 3:1 OR FLATTER	14 DAYS	7 DAYS FOR SLOPES GREATER THAN 50' IN LENGTH
ALL OTHER AREAS WITH SLOPES FLATTER THAN 4:1	14 DAYS	NONE, EXCEPT FOR PERIMETERS AND HOW ZONES

SEEDBED PREPARATION:
1. CHISEL COMPACTED AREAS AND SPREAD TOPSOIL THREE INCHES DEEP OVER ADVERSE SOIL CONDITIONS, IF AVAILABLE.
2. RIP THE ENTIRE AREA TO SIX INCHES DEEP.
3. REMOVE ALL LOOSE ROCK, ROOTS AND OTHER OBSTRUCTIONS, LEAVING SURFACE REASONABLY SMOOTH AND UNIFORM.
4. APPLY AGRICULTURAL LIME, FERTILIZER AND SUPERPHOSPHATE UNIFORMLY AND MIX WITH SOIL (SEE MIXTURE BELOW).
5. CONTINUE TILLAGE UNTIL A WELL-PULVERIZED, FIRM, REASONABLY UNIFORM SEEDBED IS PREPARED FOR TO SIX INCHES DEEP.
6. SEED ON A FRESHLY PREPARED SEEDBED AND COVER SEED LIGHTLY WITH SEEDING EQUIPMENT OR CULTIPACK
7. MULCH IMMEDIATELY AFTER SEEDING AND ANCHOR MULCH.
8. INSPECT ALL SEEDBED AREAS AND MAKE NECESSARY REPAIRS OR RESEEDINGS WITHIN THE PLANTING SEASON, IF POSSIBLE. IF STAND SHOULD BE MORE THAN 60% DAMAGED, RE-ESTABLISH FOLLOWING THE ORIGINAL LIME, FERTILIZER AND SEEDING RATES.
9. CONSULT S&E/C ENVIRONMENTAL ENGINEERS ON MAINTENANCE TREATMENT AND FERTILIZATION AFTER PERMANENT COVER IS ESTABLISHED.

SEEDING MIXTURE	
AGRICULTURAL LIMESTONE	2 TONS/ACRE (3 TONS/ACRE IN CLAY SOILS)
FERTILIZER	1,000 LBS/ACRE - 10-10-10
SUPERPHOSPHATE	500 LBS/ACRE - 20% ANALYSIS
MULCH	2 TONS/ACRE - SMALL GRAIN STRAW
ANCHOR	ASPHALT EMULSION AT 300 GALS/ACRE

Granite Crest - Phase IVb

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LEGEND

EROSION & SEDIMENT CONTROL DETAILS

Revisions	Number	Description	Date
	1	PER TRC COMMENTS	04/14/22
	2	PER TRC COMMENTS	05/26/22
	3	PER TRC COMMENTS	06/13/22
	4	PER TRC COMMENTS	06/15/22
	5	PER TRC COMMENTS	06/27/22

JAECO #: 364-04
DRAWING SCALE: AS SHOWN
DRAWN BY: TT
CHECKED BY: TT
DATE ISSUED: 01/30/2022

C-8

GROUND STABILIZATION AND MATERIALS HANDLING PRACTICES FOR COMPLIANCE WITH THE NCG01 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 NCG01 Construction General Permit (Sections E 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	If slopes are 10' or less in length and are not steeper than 2:1, 14 days are allowed
(d) Slopes 3:1 to 4:1	14	-7 days for slopes greater than 50' 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 Rolled 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 fabrics 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 Rolled 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 or 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 as 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 wastes.
- 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

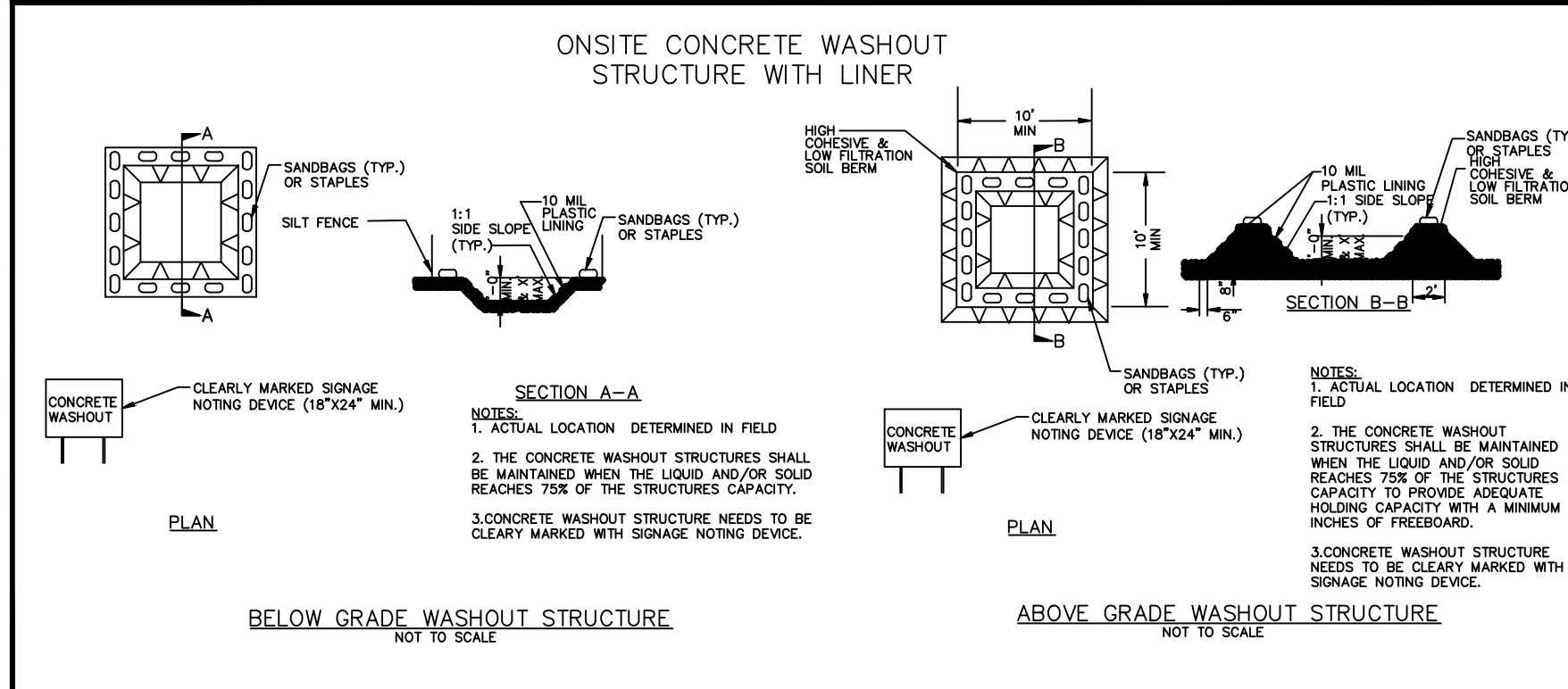
- Do not dump paint and other liquid waste into storm drains, streams or wetlands.
- Locate paint washouts at least 50 feet away from storm drain inlets and surface waters unless no other alternatives are reasonably available.
- Contain liquid wastes in a controlled area.
- Containment must be labeled, 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 relocation 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.



CONCRETE WASHOUTS

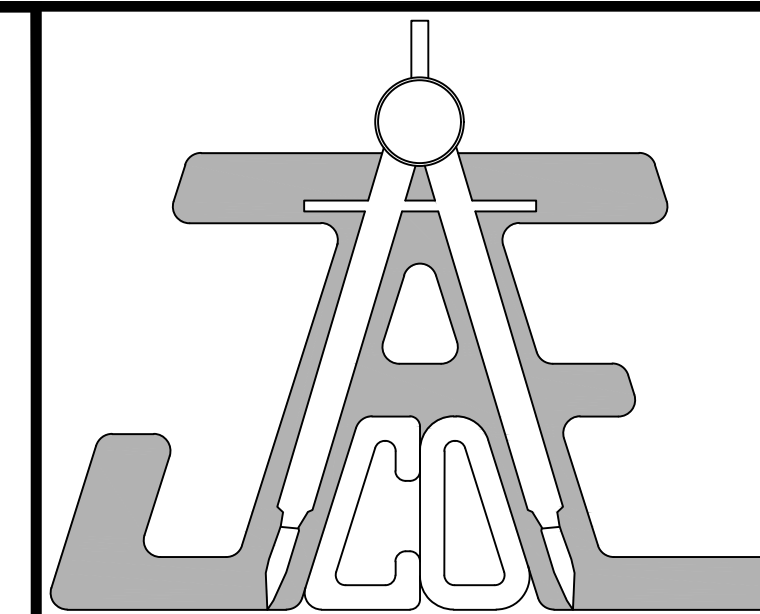
- Do not discharge concrete or cement slurry from the site.
- Dispose of, or recycle settled, hardened concrete residue in accordance with local and state solid waste regulations and at an approved facility.
- Manage washout from mortar mixers in accordance with the above item and in addition place the mixer and associated materials on impervious barrier and within lot perimeter silt fence.
- Install temporary concrete washouts per local requirements, where applicable. If an alternate method or product is to be used, contact your approval 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 this 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 stockpile 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.



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Call 811 before you dig.

LEGEND

NCG01 GROUND STABILIZATION AND MATERIALS HANDLING

EFFECTIVE: 04/01/19

Number	Description	Date
1	PER TRC COMMENTS	04/14/22
2	PER TRC COMMENTS	05/26/22
3	PER TRC COMMENTS	06/13/22
4	PER TRC COMMENTS	06/15/22
5	PER TRC COMMENTS	06/27/22

JAECO #: 364-04
DRAWING SCALE: AS SHOWN
DRAWN BY: TT
CHECKED BY: TT
DATE ISSUED: 01/30/2022

**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 were 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-day 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-monitoring device approved by the Division.
(2) E&SC 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 measure, 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 sedimentation 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 or offsite (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. Records of the required reports to the appropriate Division Regional Office per Part III, Section C, Item 2(a) of this permit.
(6) Ground stabilization measures	After each phase of grading	1. The phase of grading (installation of perimeter E&SC measures, clearing and grubbing, installation of storm drainage facilities, completion of all land-disturbing activity, construction or redevelopment, 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. E&SC Plan Documentation

The approved E&SC plan as well as any approved deviation shall be kept on the site. The approved E&SC plan must be kept up-to-date throughout the coverage under this permit. The following items pertaining to the E&SC plan shall be kept on site and available for inspection at all times during normal business hours.

Item to Document	Documentation Requirements
(a) Each E&SC measure has been installed and does not significantly deviate from the locations, dimensions and relative elevations shown on the approved E&SC plan.	Initial and date each E&SC measure on a copy of the approved E&SC plan or complete, date and sign an inspection report that lists each E&SC measure shown on the approved E&SC plan. This documentation is required upon the initial installation of the E&SC measures or if the E&SC measures are modified after initial installation.
(b) A phase of grading has been completed.	Initial and date a copy of the approved E&SC 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 E&SC plan.	Initial and date a copy of the approved E&SC 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 E&SC measures have been performed.	Complete, date and sign an inspection report.
(e) Corrective actions have been taken to E&SC measures.	Initial and date a copy of the approved E&SC 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 E&SC 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:

- (a) This General Permit as well as the Certificate of Coverage, after it is received.
- (b) 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-available 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 e-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:

- (a) Visible sediment deposition in a stream or wetland.
 - (b) 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).
- (c) Releases of hazardous substances in excess of reportable quantities under Section 311 of the Clean Water Act (Ref: 40 CFR 110.3 and 40 CFR 117.3) or Section 102 of CERCLA (Ref: 40 CFR 302.4) or G.S. 143-215.85.
- (d) Anticipated bypasses and unanticipated bypasses.
- (e) 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 1(b)-(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.
(c) Anticipated bypasses [40 CFR 122.41(m)(3)]	<ul style="list-style-type: none"> • 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.
(d) Unanticipated bypasses [40 CFR 122.41(m)(3)]	<ul style="list-style-type: none"> • Within 24 hours, an oral or electronic notification. • Within 7 calendar days, a report that includes an evaluation of the quality and effect of the bypass.
(e) Noncompliance with the conditions of this permit that may endanger health or the environment [40 CFR 122.41(l)(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 noncompliance, and its causes; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time noncompliance is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance. [40 CFR 122.41(l)(6). • Division staff may waive the requirement for a written report on a case-by-case basis.

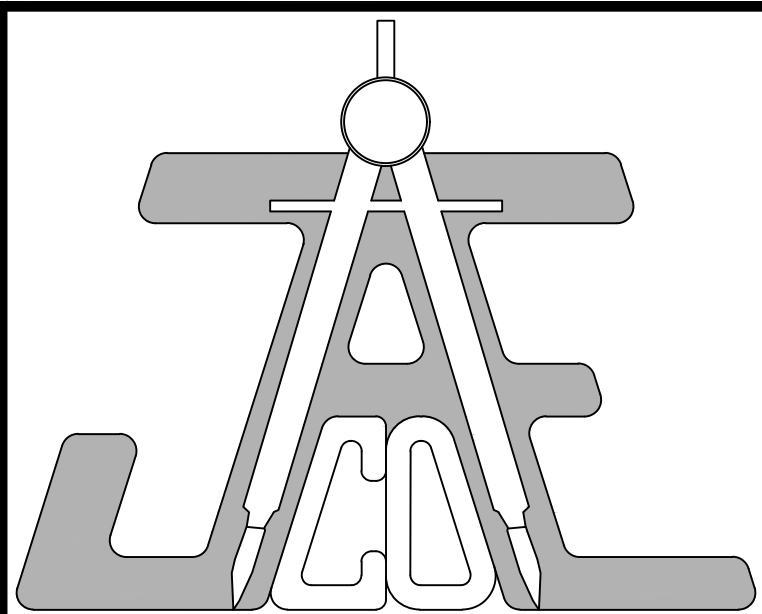
**PART II, SECTION G, ITEM (4)
DRAW DOWN OF SEDIMENT BASINS FOR MAINTENANCE OR CLOSE OUT**

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:

- (a) The E&SC 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 E&SC plan authority has approved these items,
- (b) 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,
- (c) 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 sited, designed and maintained dewatering tanks, weir tanks, and filtration systems,
- (d) Vegetated, upland areas of the sites 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,
- (e) Velocity dissipation devices such as check dams, sediment traps, and riprap are provided at the discharge points of all dewatering devices, and
- (f) 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.

NCG01 SELF-INSPECTION, RECORDKEEPING AND REPORTING

EFFECTIVE: 04/01/19



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LEGEND

NCG01 NOTES & DETAILS

Number	Description	Date
1	PER TRC COMMENTS	04/14/22
2	PER TRC COMMENTS	05/26/22
3	PER TRC COMMENTS	06/13/22
4	PER TRC COMMENTS	06/15/22
5	PER TRC COMMENTS	06/27/22

JAECO #: 364-04

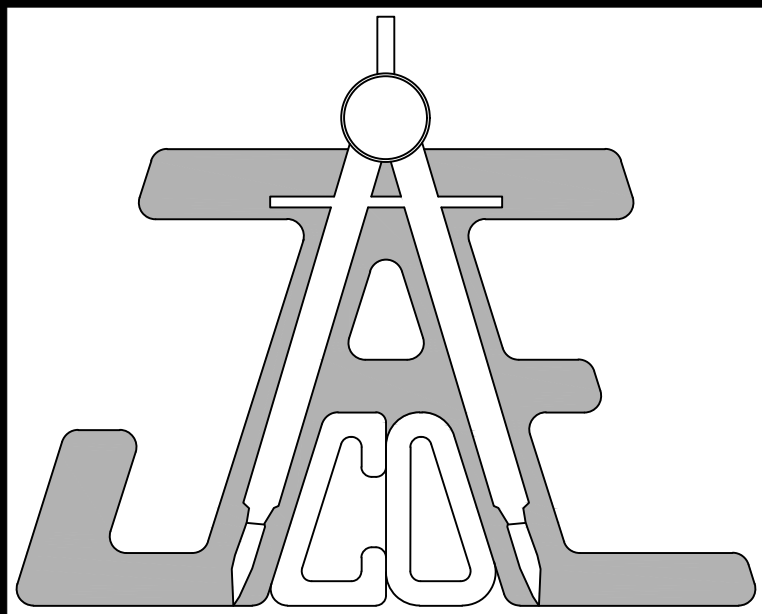
DRAWING SCALE: AS SHOWN

DRAWN BY: TT

CHECKED BY: TT

DATE ISSUED: 01/30/2022

C-10



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LEGEND

PLANS NOT APPROVED FOR CONSTRUCTION UNLESS SIGNED BY CITY OF RALEIGH

Water and Sewer Permits (if applicable)
The City of Raleigh consents to the connection and extension of the City's Public Sewer System as shown on this plan. The material and Construction methods used for this project shall conform to the standards and specifications of the City's Public Utilities Handbook, City of Raleigh Public Utilities Department Permit # S-5018

The City of Raleigh consents to the connection to its public sewer system and extension of the private sewer collection system as shown on this plan. The material and construction methods used for this project shall conform to the standards and specifications of the City's Public Utilities Handbook, City of Raleigh Public Utilities Department Permit # W-3912

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 _____

GRANITE VIEW DRIVE PLAN & PROFILE

Revisions		
Number	Description	Date
1	PER TRC COMMENTS	04/14/22
2	PER TRC COMMENTS	05/26/22
3	PER TRC COMMENTS	06/13/22
4	PER TRC COMMENTS	06/15/22
5	PER TRC COMMENTS	06/27/22

JAECO #: 364-04

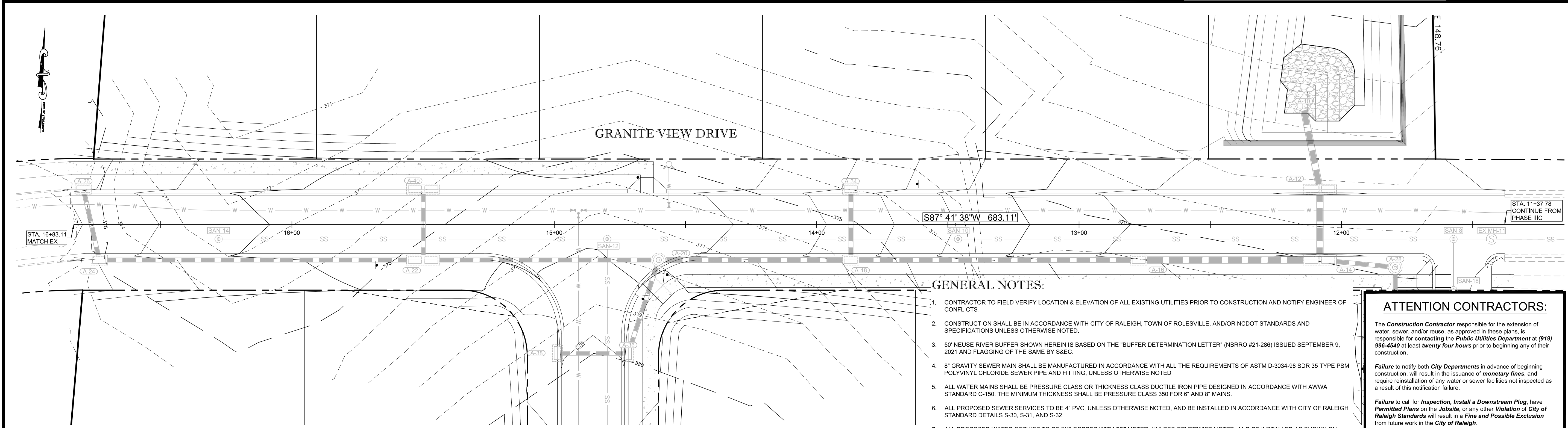
DRAWING SCALE: AS SHOWN

DRAWN BY: TT

CHECKED BY: TT

DATE ISSUED: 01/30/2022

C-11



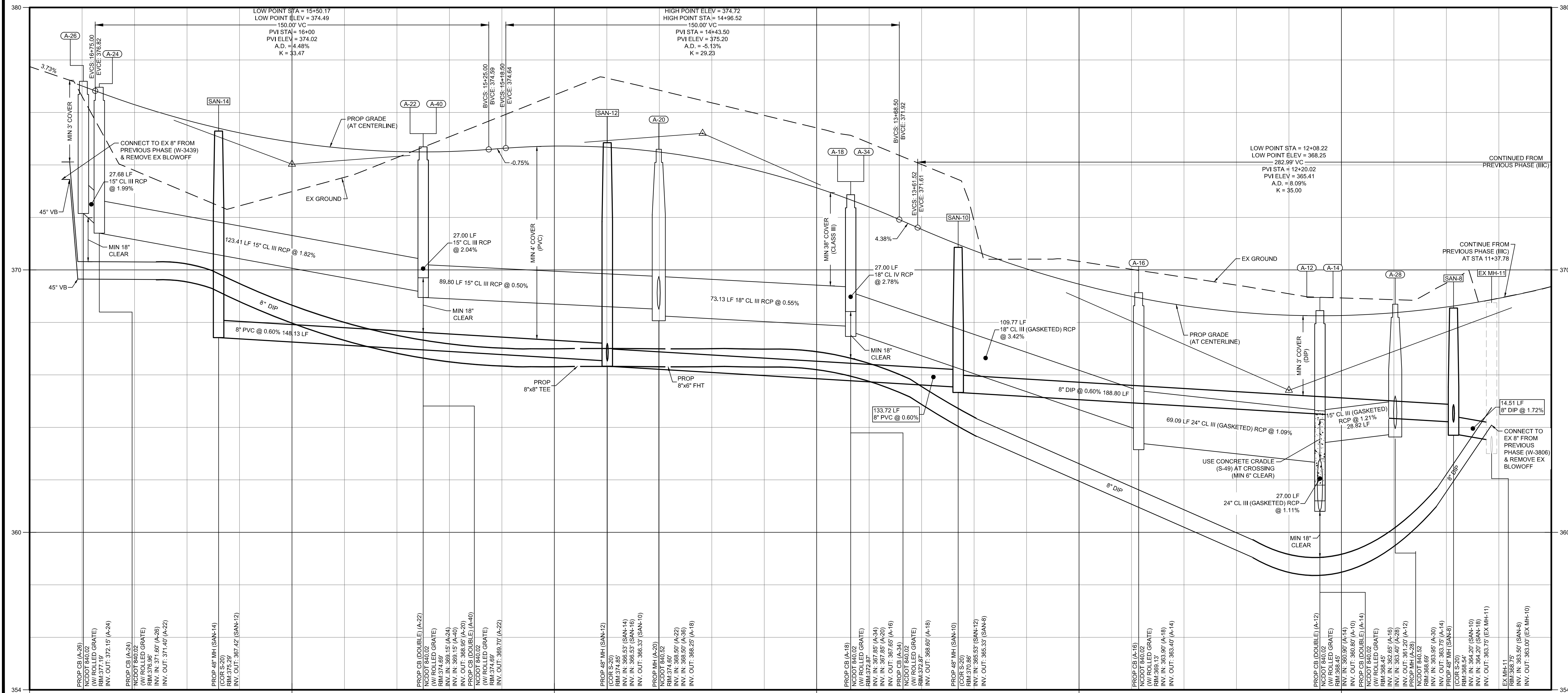
Granite View Dr Plan
SCALE: 1" = 20'

GENERAL NOTES:

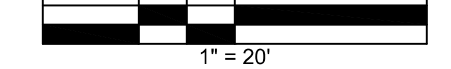
- CONTRACTOR TO FIELD VERIFY LOCATION & ELEVATION OF ALL EXISTING UTILITIES PRIOR TO CONSTRUCTION AND NOTIFY ENGINEER OF CONFLICTS.
- CONSTRUCTION SHALL BE IN ACCORDANCE WITH CITY OF RALEIGH, TOWN OF ROLESVILLE, AND/OR NCDOT STANDARDS AND SPECIFICATIONS UNLESS OTHERWISE NOTED.
- 50' NEUSE RIVER BUFFER SHOWN HEREIN IS BASED ON THE "BUFFER DETERMINATION LETTER" (NBR# #21-286) ISSUED SEPTEMBER 9, 2021 AND FLAGGING OF THE SAME BY S&C.
- 8" GRAVITY SEWER MAIN SHALL BE MANUFACTURED IN ACCORDANCE WITH ALL THE REQUIREMENTS OF ASTM D-3034-98 SDR 35 TYPE PSM POLYVINYL CHLORIDE SEWER PIPE AND FITTING, UNLESS OTHERWISE NOTED.
- ALL WATER MAINS SHALL BE PRESSURE CLASS OR THICKNESS CLASS DUCTILE IRON PIPE DESIGNED IN ACCORDANCE WITH AWWA STANDARD C-150. THE MINIMUM THICKNESS SHALL BE PRESSURE CLASS 350 FOR 6" AND 8" MAINS.
- ALL PROPOSED SEWER SERVICES TO BE 4" PVC, UNLESS OTHERWISE NOTED, AND BE INSTALLED IN ACCORDANCE WITH CITY OF RALEIGH STANDARD DETAILS S-30, S-31, AND S-32.
- ALL PROPOSED WATER SERVICE TO BE 3/4" COPPER WITH 5/8" METER, UNLESS OTHERWISE NOTED, AND BE INSTALLED AS SHOWN ON PLAN IN ACCORDANCE WITH CITY OF RALEIGH DETAIL W-23.

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**.

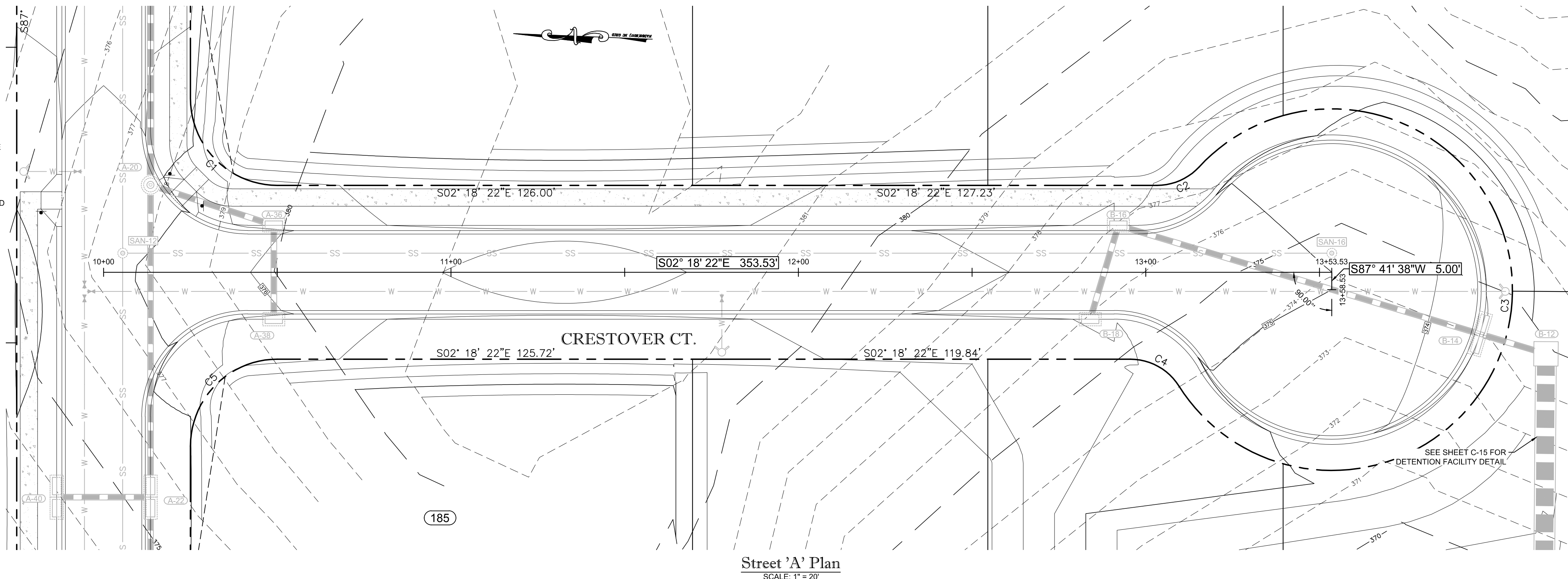


Granite View Dr Profile
HORIZONTAL SCALE: 1" = 20'
VERTICAL SCALE: 1" = 2'

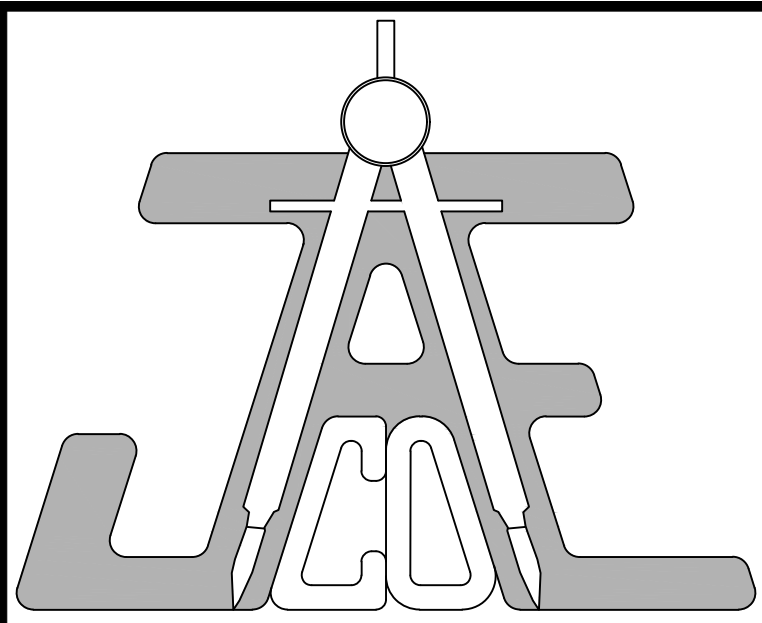


GENERAL NOTES:

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Street 'A' Plan
SCALE: 1" = 20'



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LEGEND

PLANS NOT APPROVED FOR CONSTRUCTION UNLESS SIGNED BY CITY OF RALEIGH

Water and Sewer Permits (if applicable)

The City of Raleigh consents to the connection and extension of the City's Public Sewer System as shown on this plan. The material and Construction methods used for this project shall conform to the standards and specifications of the City's Public Utilities Handbook.
City of Raleigh Public Utilities Department Permit # S-5018

The City of Raleigh consents to the connection to its public sewer system and extension of the private sewer collection system as shown on this plan. The material and construction methods used for this project shall conform to the standards and specifications of the City's Public Utilities Handbook.
City of Raleigh Public Utilities Department Permit # W-3912

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

CRESTOVER CT' PLAN & PROFILE

Number	Description	Date
1	PER TRC COMMENTS	04/14/22
2	PER TRC COMMENTS	05/26/22
3	PER TRC COMMENTS	06/13/22
4	PER TRC COMMENTS	06/15/22
5	PER TRC COMMENTS	06/27/22

JAECO #: 364-04
DRAWING SCALE: AS SHOWN
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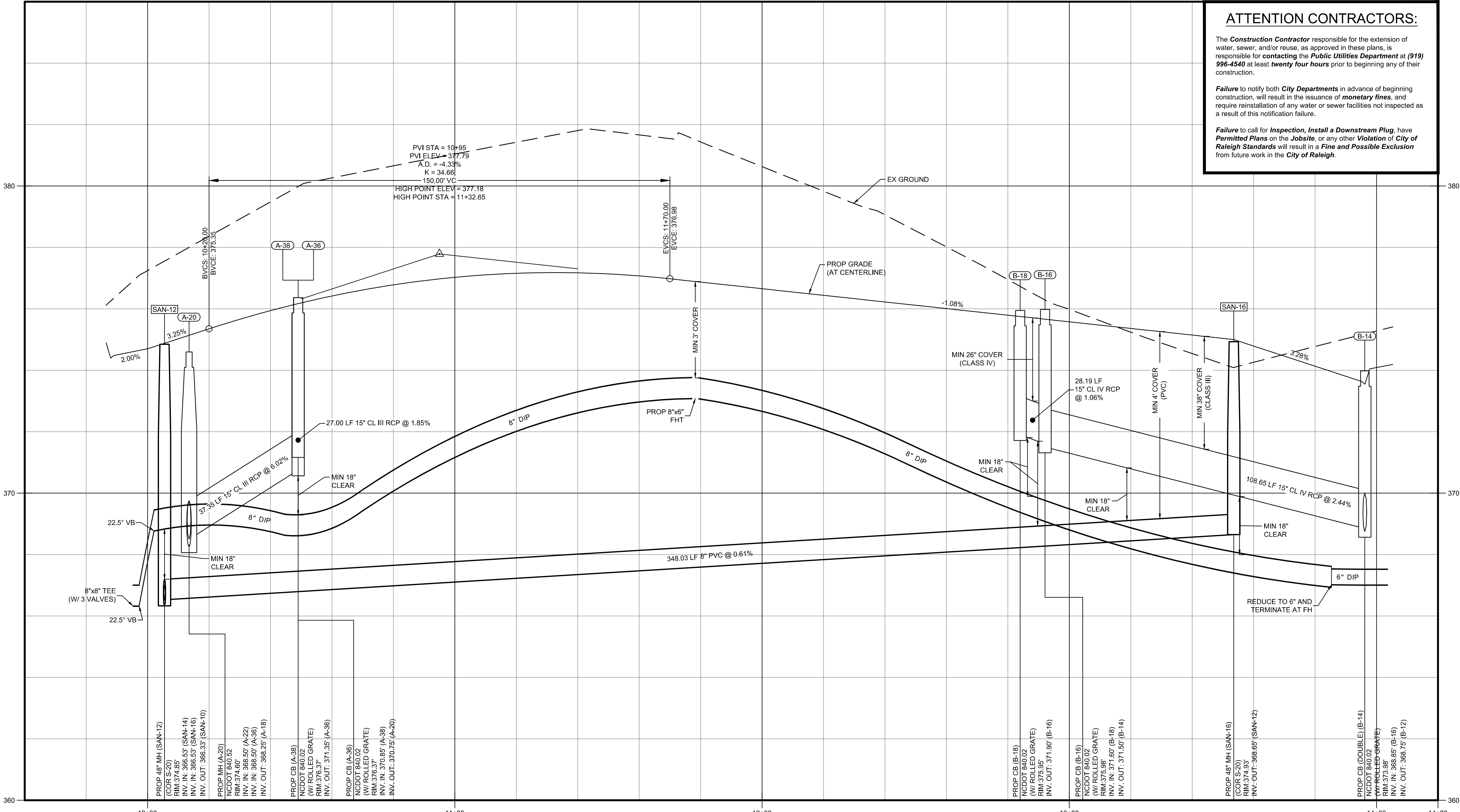
C-12

ATTENTION CONTRACTORS:

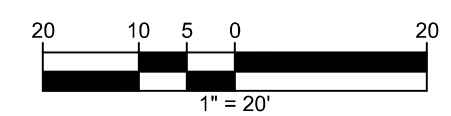
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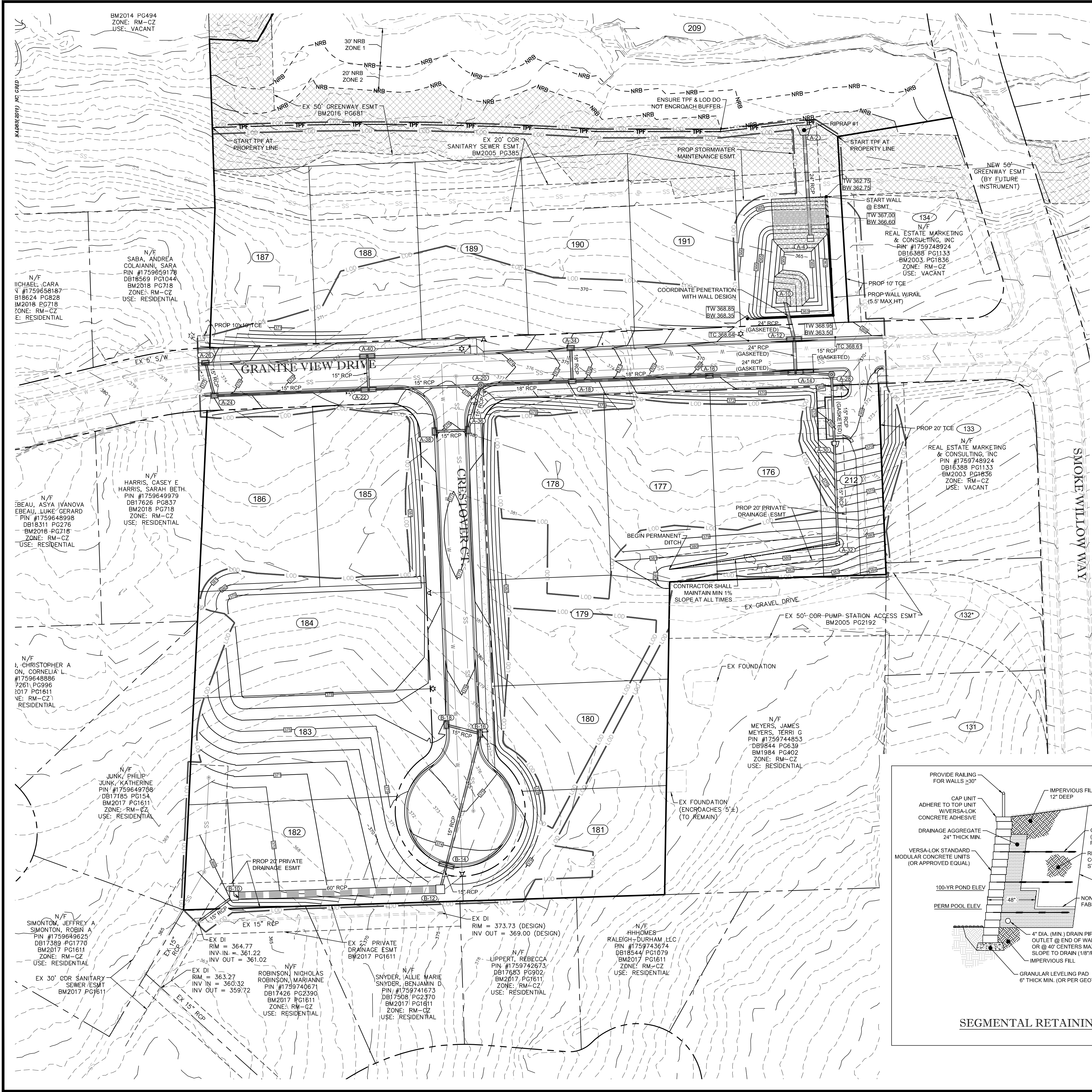
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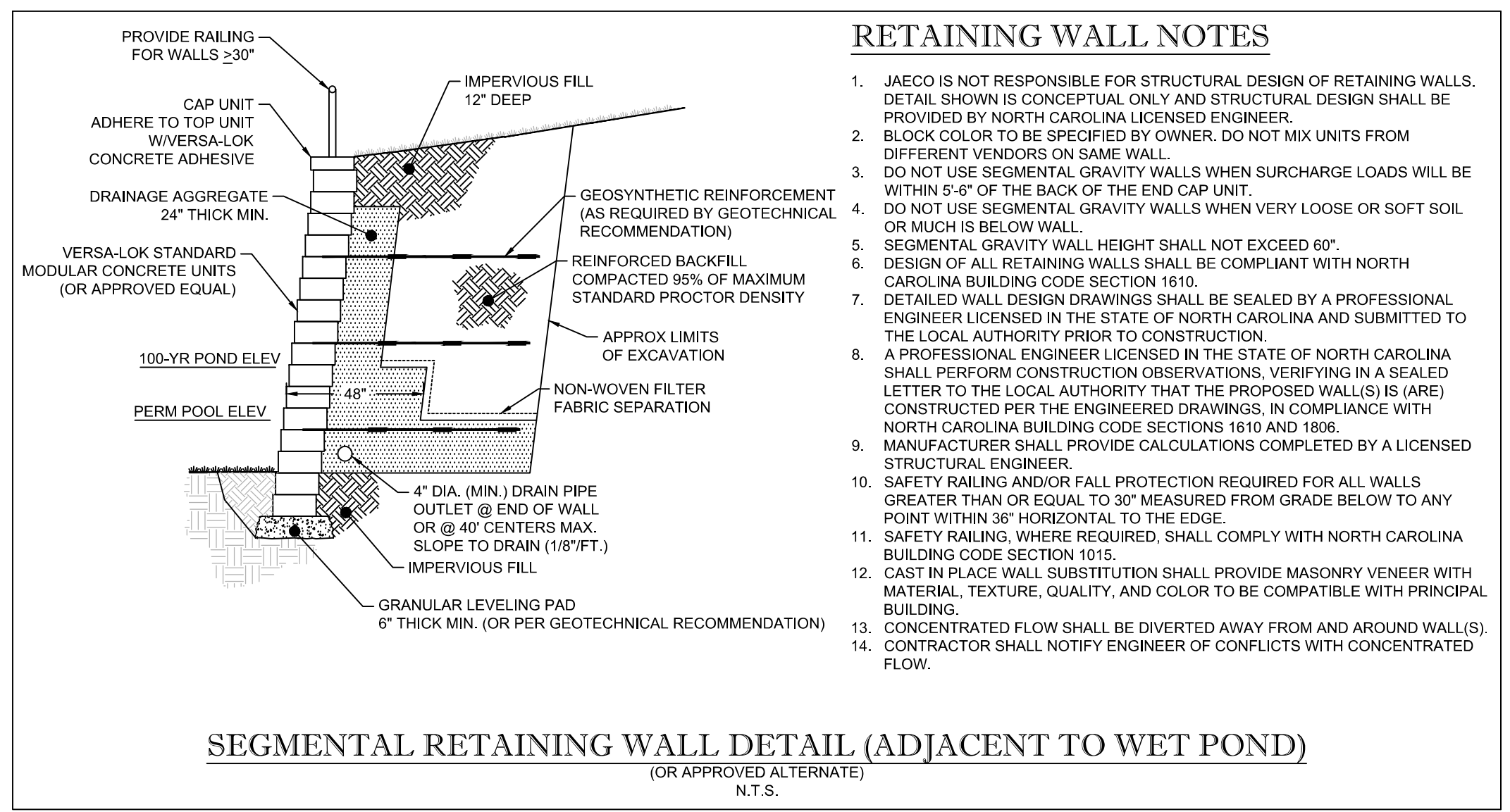
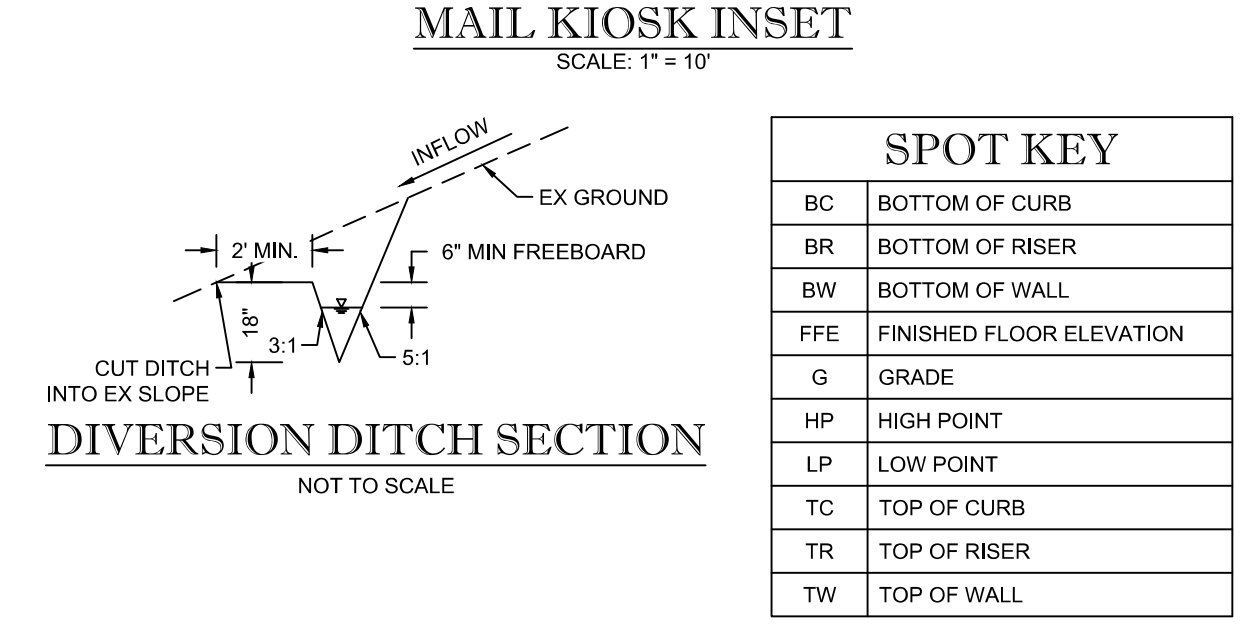
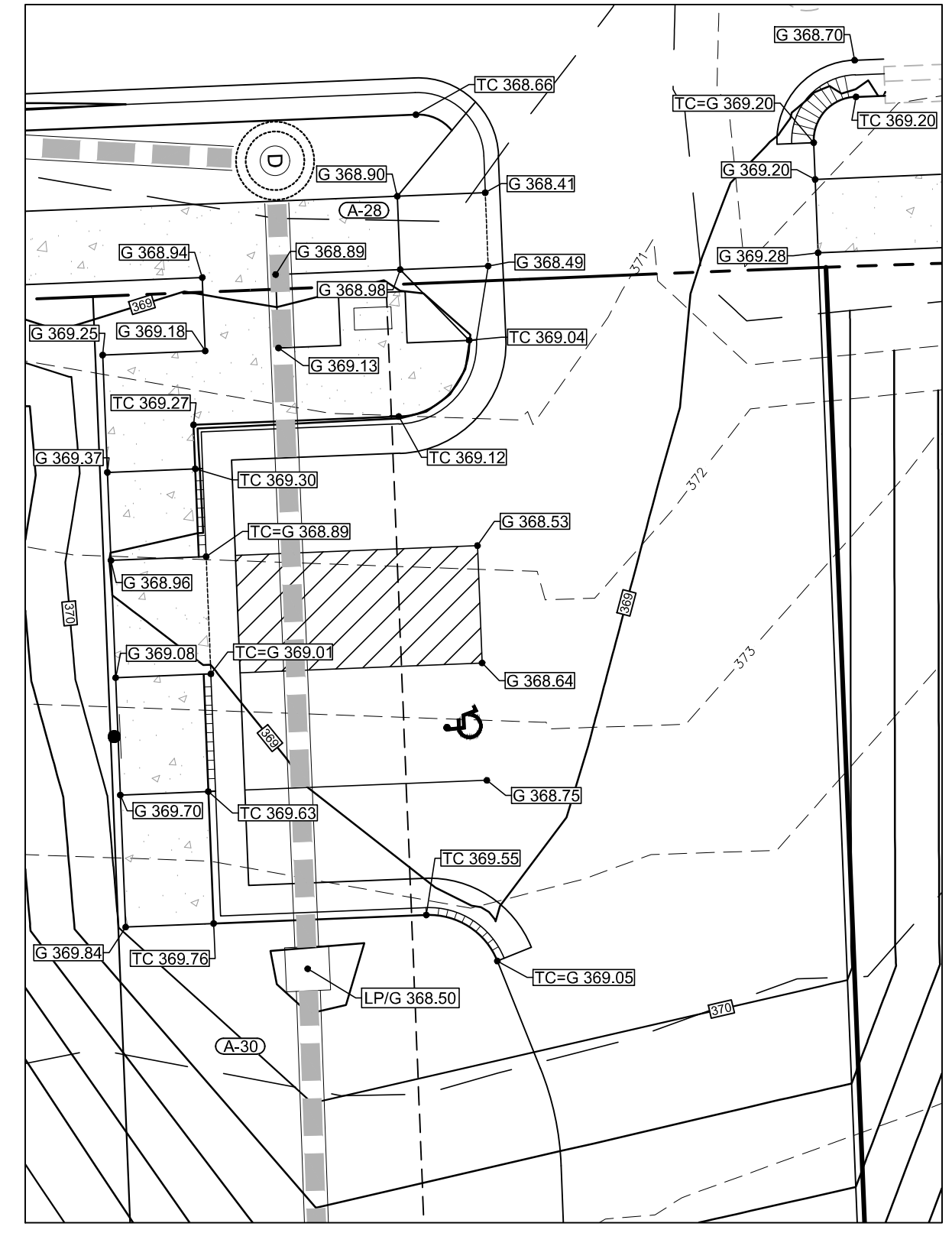
Street 'A' Profile
HORIZONTAL SCALE: 1" = 20'
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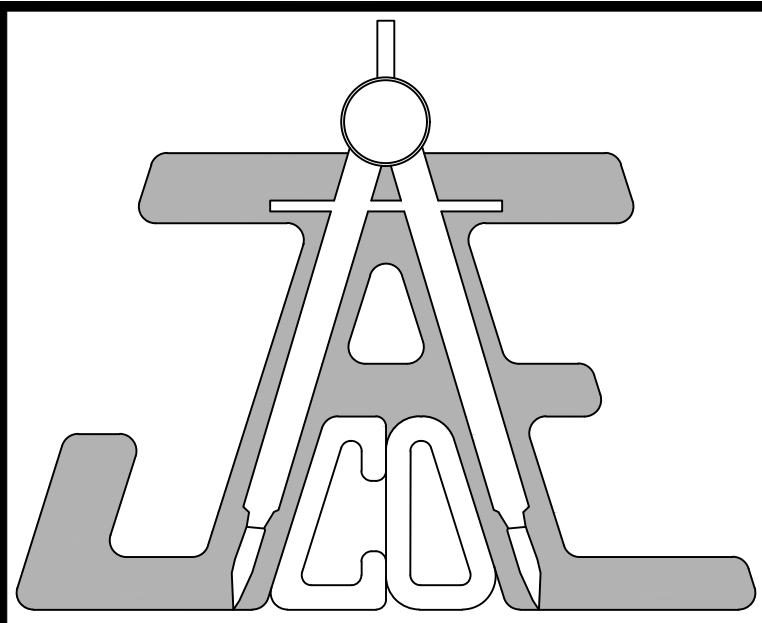
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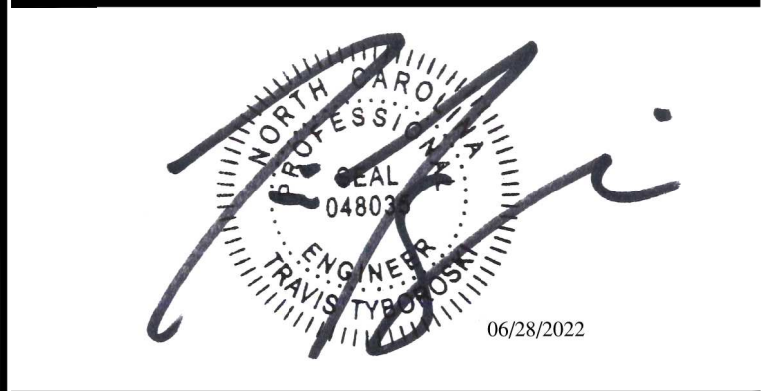


RETAINING WALL NOTES

- JAECO IS NOT RESPONSIBLE FOR STRUCTURAL DESIGN OF RETAINING WALLS. DETAIL SHOWN IS CONCEPTUAL ONLY AND STRUCTURAL DESIGN SHALL BE PROVIDED BY NORTH CAROLINA LICENSED ENGINEER.
- BLOCK COLOR TO BE SPECIFIED BY OWNER. DO NOT MIX UNITS FROM DIFFERENT VENDORS ON SAME WALL.
- DO NOT USE SEGMENTAL GRAVITY WALLS WHEN SURCHARGE LOADS WILL BE WITHIN 5'-0" OF THE BACK OF THE END CAP UNIT.
- DO NOT USE SEGMENTAL GRAVITY WALLS WHEN VERY LOOSE OR SOFT SOIL OR MUCH IS BELOW WALL.
- SEGMENTAL GRAVITY WALL HEIGHT SHALL NOT EXCEED 60'.
- DESIGN OF ALL RETAINING WALLS SHALL BE COMPLIANT WITH NORTH CAROLINA BUILDING CODE SECTION 1610.
- DETAILED WALL DESIGN DRAWINGS SHALL BE SEALED BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF NORTH CAROLINA AND SUBMITTED TO THE LOCAL AUTHORITY PRIOR TO CONSTRUCTION.
- A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF NORTH CAROLINA SHALL PERFORM CONSTRUCTION OBSERVATIONS, VERIFYING IN A SEALED LETTER TO THE LOCAL AUTHORITY THAT THE PROPOSED WALL(S) IS (ARE) CONSTRUCTED PER THE ENGINEERED DRAWINGS, IN COMPLIANCE WITH NORTH CAROLINA BUILDING CODE SECTIONS 1610 AND 1806.
- MANUFACTURER SHALL PROVIDE CALCULATIONS COMPLETED BY A LICENSED STRUCTURAL ENGINEER.
- SAFETY RAILING AND/OR FALL PROTECTION REQUIRED FOR ALL WALLS GREATER THAN OR EQUAL TO 30" MEASURED FROM GRADE BELOW TO ANY POINT WITHIN 36" HORIZONTAL TO THE EDGE.
- SAFETY RAILING, WHERE REQUIRED, SHALL COMPLY WITH NORTH CAROLINA BUILDING CODE SECTION 1015.
- GAST IN PLACE WALL SUBSTITUTION SHALL PROVIDE MASONRY VENEER WITH MATERIAL, TEXTURE, QUALITY, AND COLOR TO BE COMPATIBLE WITH PRINCIPAL BUILDING.
- CONCENTRATED FLOW SHALL BE DIVERTED AWAY FROM AND AROUND WALL(S).
- CONTRACTOR SHALL NOTIFY ENGINEER OF CONFLICTS WITH CONCENTRATED FLOW.



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 Consulting Engineers and Land Surveyors
 NC License F-0289
 333 Wade Ave., Raleigh, N.C. 27605
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 Fax: (919) 828-4711
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 www.jaeco.com



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 Rolesville, NC

Real Estate Marketing & Consulting, Inc.
 6200 Falls of Neuse Rd.
 Suite 102
 Raleigh, NC 27609

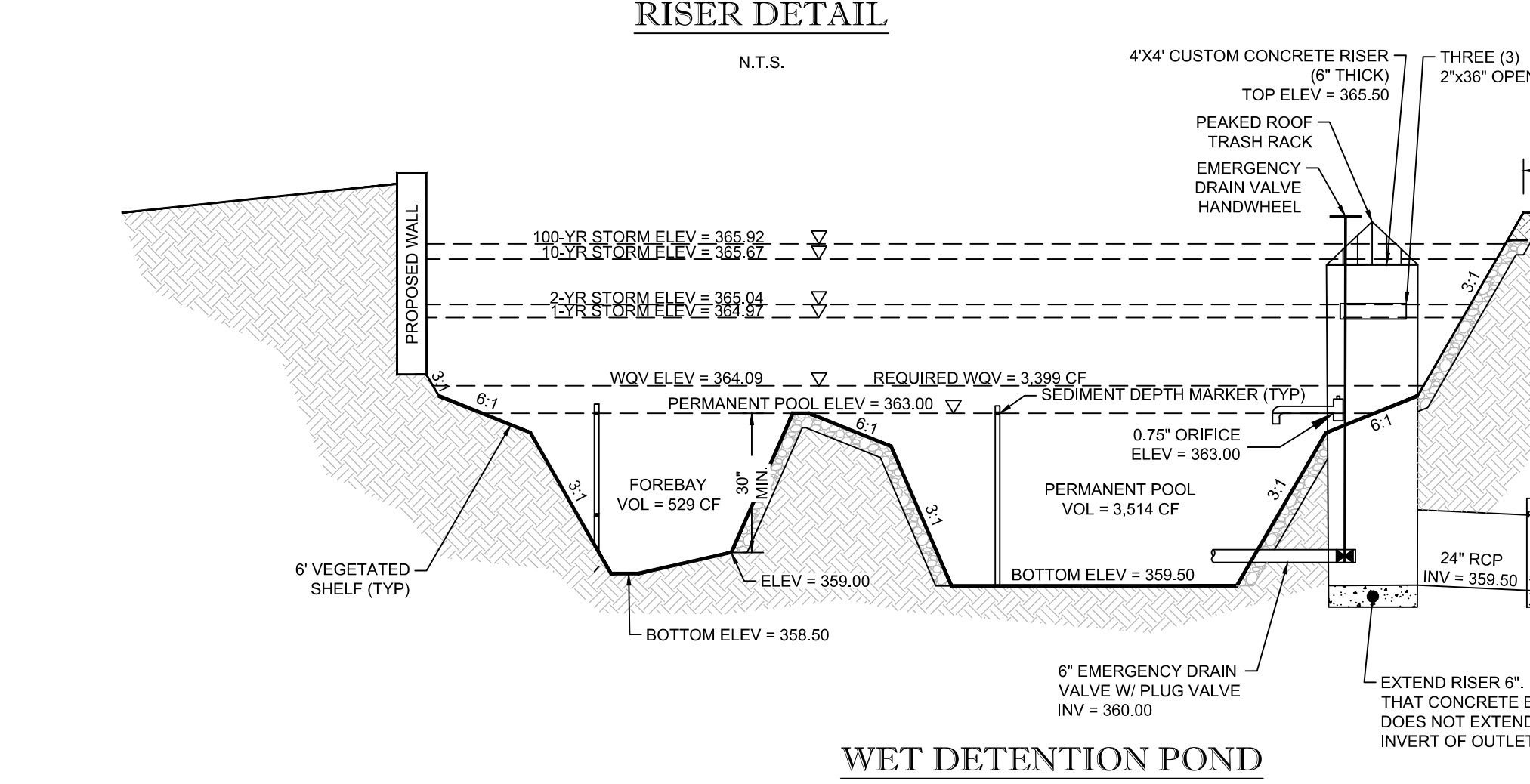
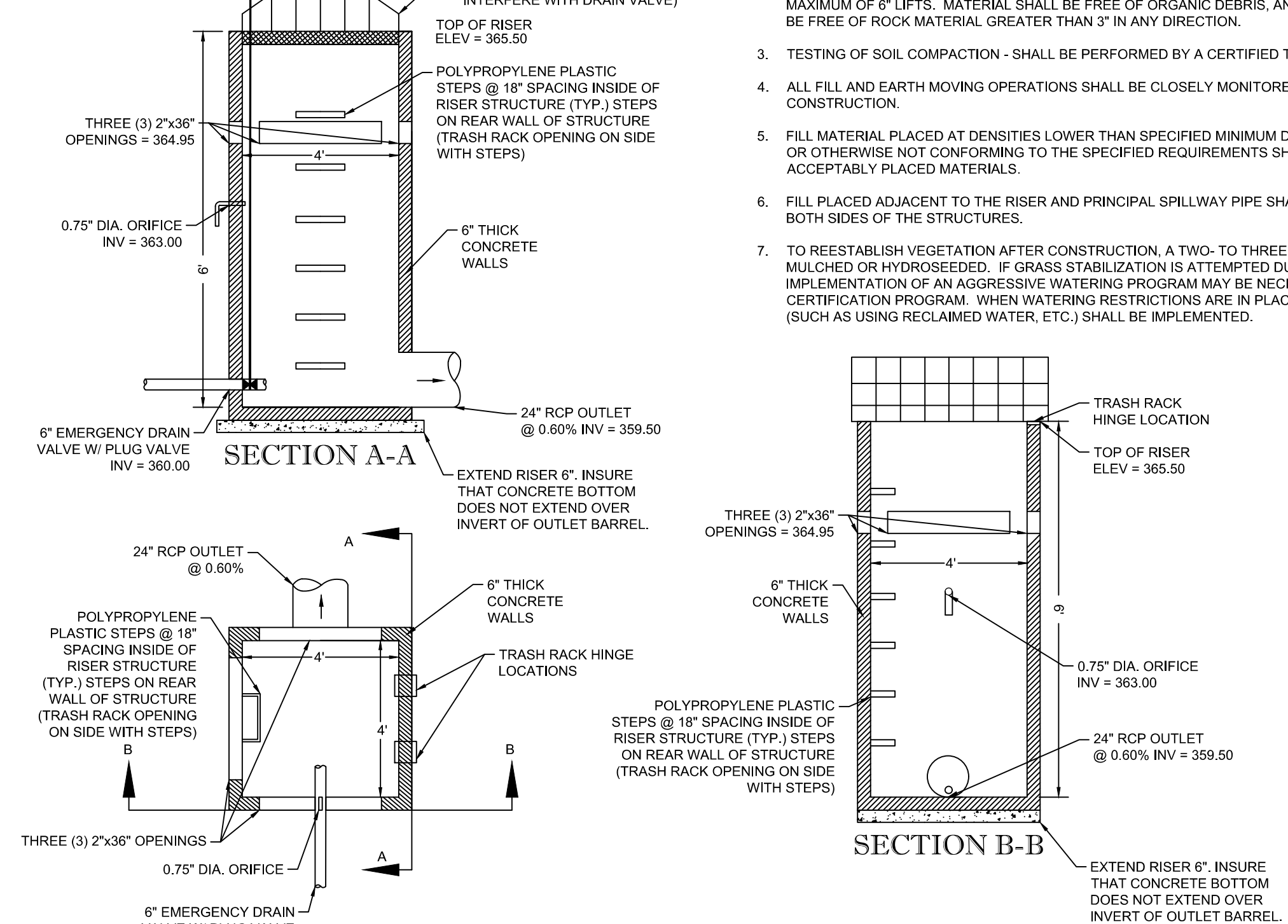
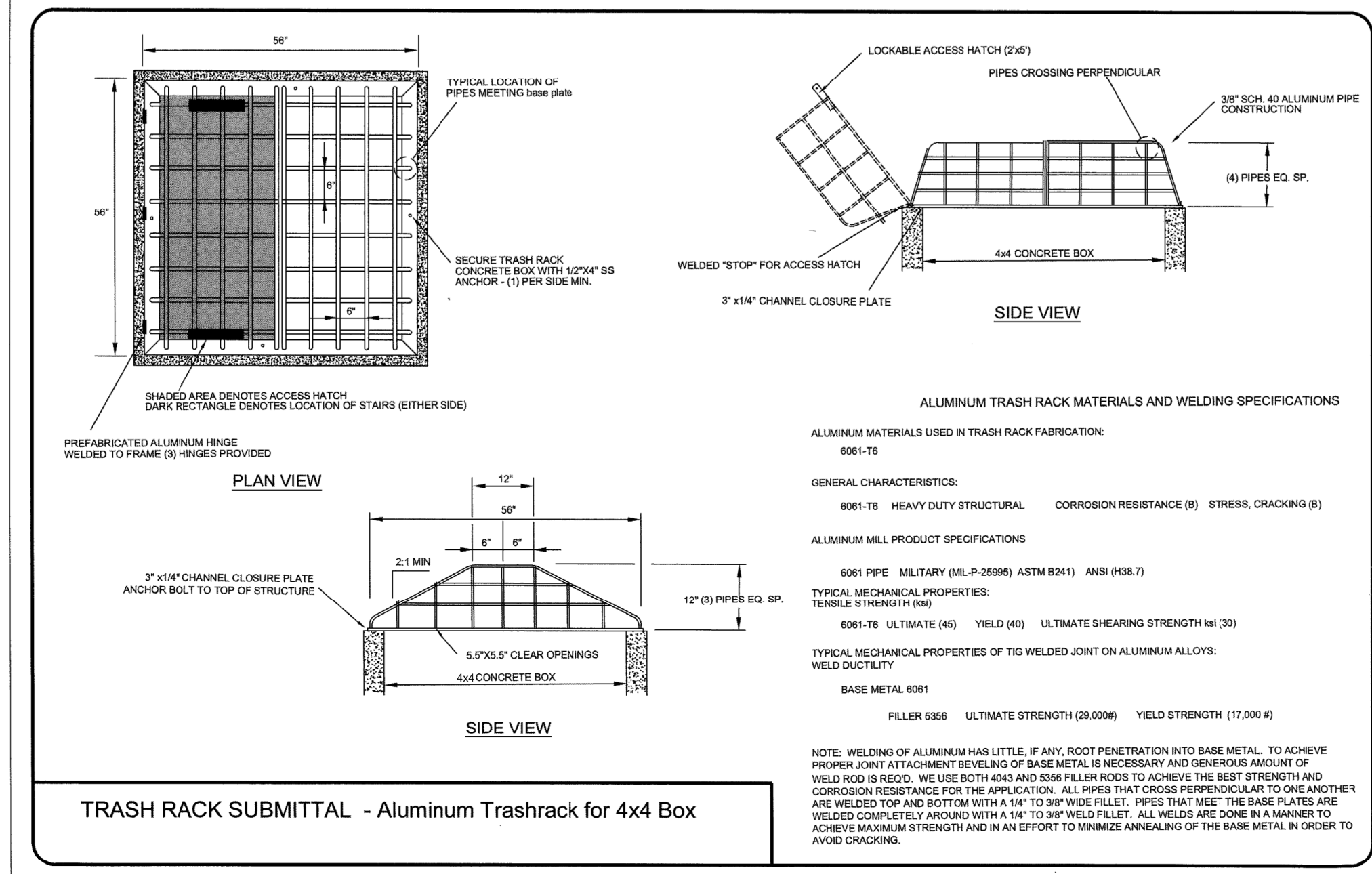
Call 811 before you dig.

LEGEND

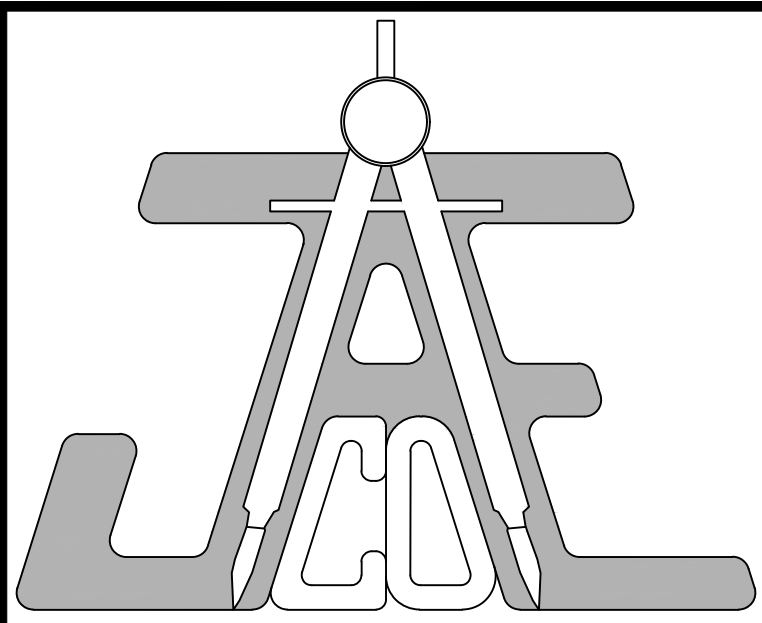
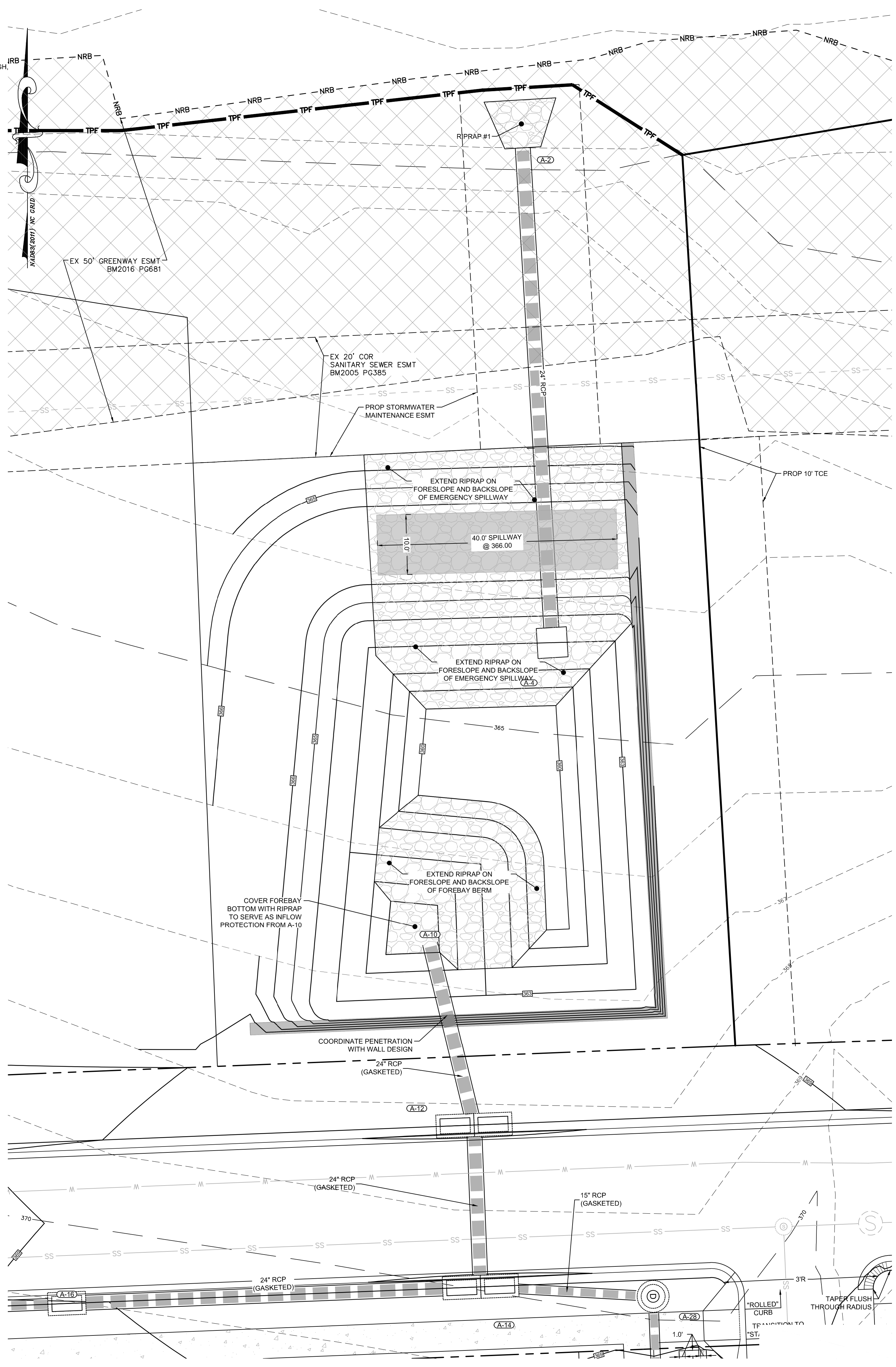
STORMDRAIN & GRADING PLAN

Revisions		
Number	Description	Date
1	PER TRC COMMENTS	04/14/22
2	PER TRC COMMENTS	05/26/22
3	PER TRC COMMENTS	06/13/22
4	PER TRC COMMENTS	06/15/22
5	PER TRC COMMENTS	06/27/22

JAECO #: 364-04
 DRAWING SCALE: AS SHOWN
 DRAWN BY: TT
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 DATE ISSUED: 01/30/2022



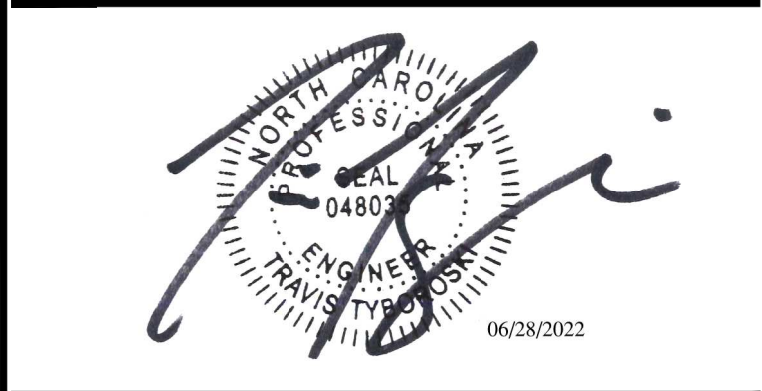
SETTLEMENT CALCULATION
EMBANKMENT SHALL BE CONSTRUCTED TO WITH AN ADDITIONAL 5% OF HEIGHT TO ALLOW FOR SETTLEMENT.
MAXIMUM PROPOSED EMBANKMENT HEIGHT FROM FINISHED GRADE: 4'.
ADDITIONAL HEIGHT REQUIRED: 0.20' (TOP OF EMBANKMENT 366.70)



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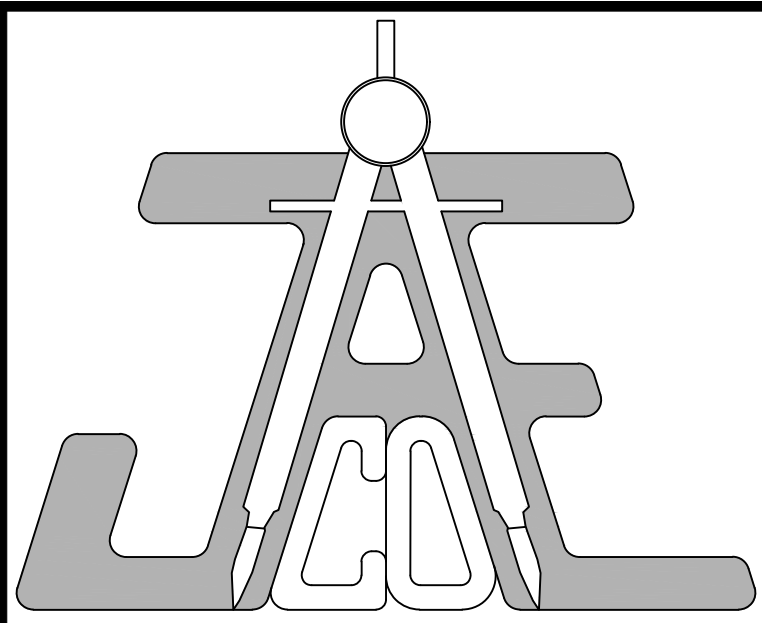
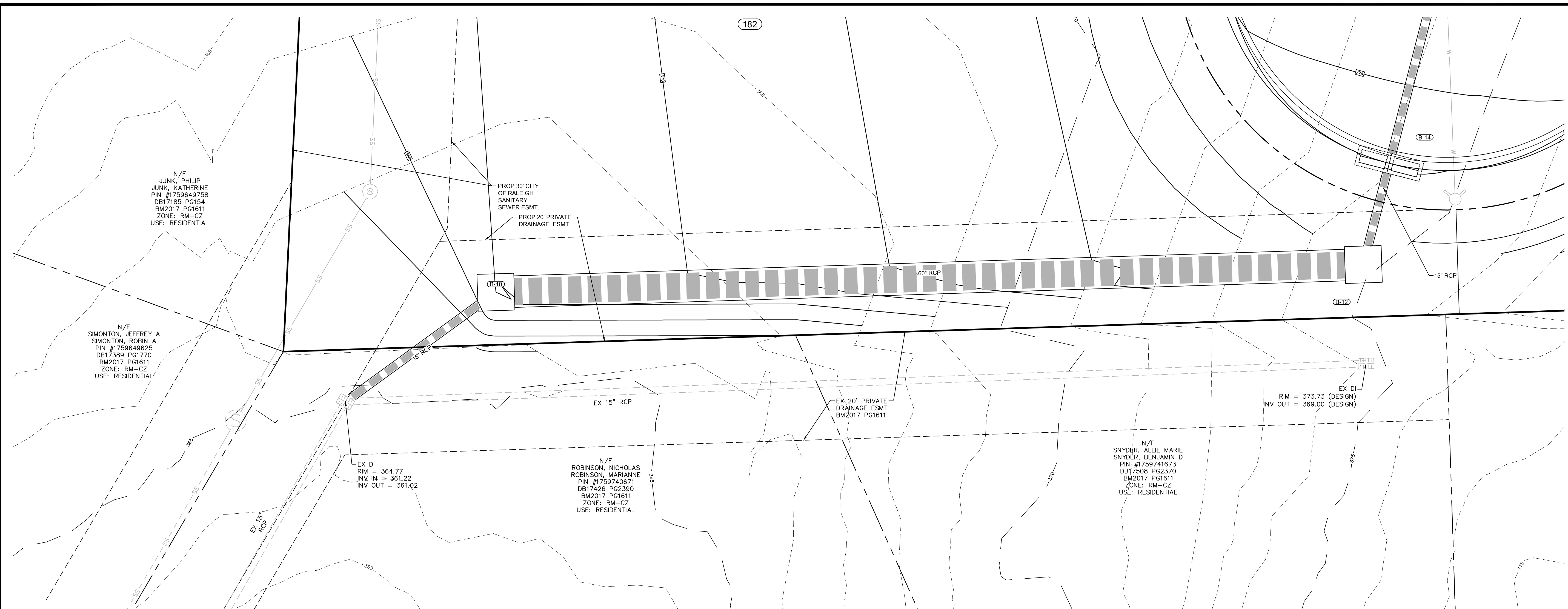
Call 811 before you dig.

LEGEND

WET POND DETAILS

Revisions		
Number	Description	Date
1	PER TRC COMMENTS	04/14/22
2	PER TRC COMMENTS	05/26/22
3	PER TRC COMMENTS	06/13/22
4	PER TRC COMMENTS	06/15/22
5	PER TRC COMMENTS	06/27/22

JAECO #: 364-04
DRAWING SCALE: AS SHOWN
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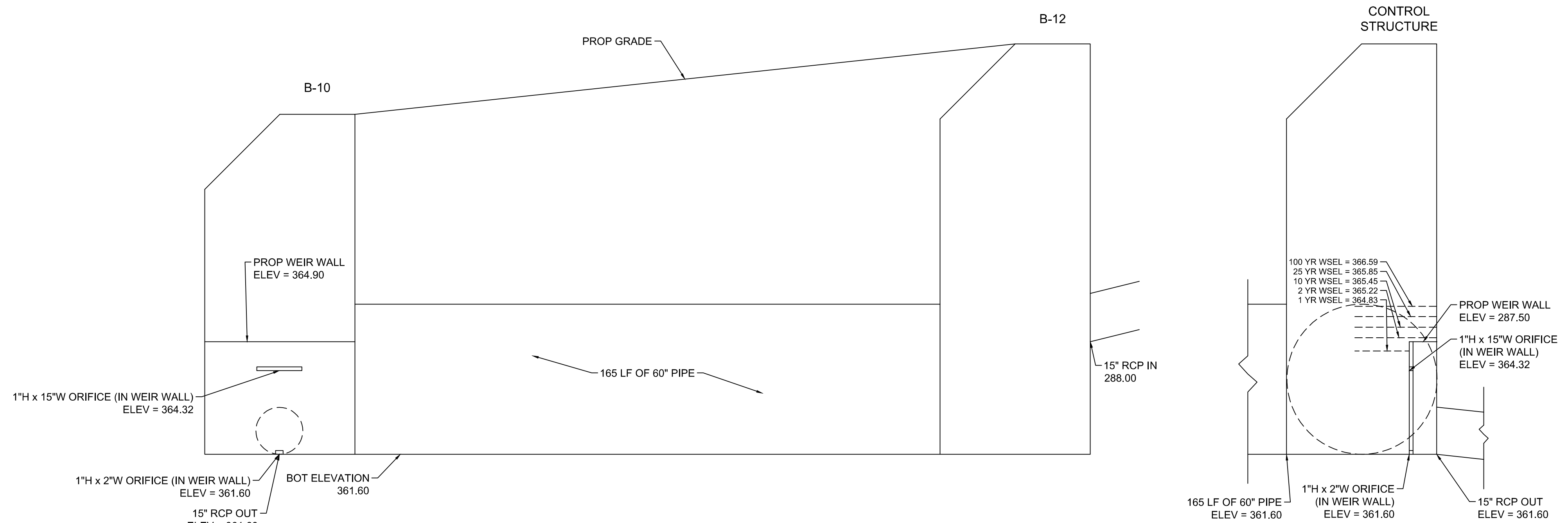
Call 811 before you dig.

GENERAL NOTES:

1. CONTRACTOR TO FIELD VERIFY LOCATION & ELEVATION OF ALL EXISTING UTILITIES PRIOR TO CONSTRUCTION AND NOTIFY ENGINEER OF CONFLICTS.
2. CONSTRUCTION SHALL BE IN ACCORDANCE WITH CITY OF RALEIGH, TOWN OF ROLESVILLE, AND/OR NCDOT STANDARDS AND SPECIFICATIONS UNLESS OTHERWISE NOTED.
3. 50' NEUSE RIVER BUFFER SHOWN HEREIN IS BASED ON THE "BUFFER DETERMINATION LETTER" (NBRLO #21-286) ISSUED SEPTEMBER 9, 2021 AND FLAGGING OF THE SAME BY S&EC.

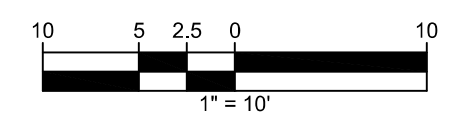
CONTROL STRUCTURE NOTE

ALL ORIFICES TO HAVE SCREEN INSTALLED OVER OPENINGS TO PREVENT BLOCKAGE.



DETENTION PIPE TO BE HDPE, CMP, OR RCP PER CONTRACTOR DISCRETION. REFER TO CHOSEN PIPE INSTALLATION SPECIFICATIONS FOR INFORMATION ON BEDDING MATERIALS AND OTHER INSTALLATION REQUIREMENTS.

TOTAL PROPOSED STORAGE = 3,240 CF
1 - 165' PIPE (EXCLUSIVE OF HEADERS)



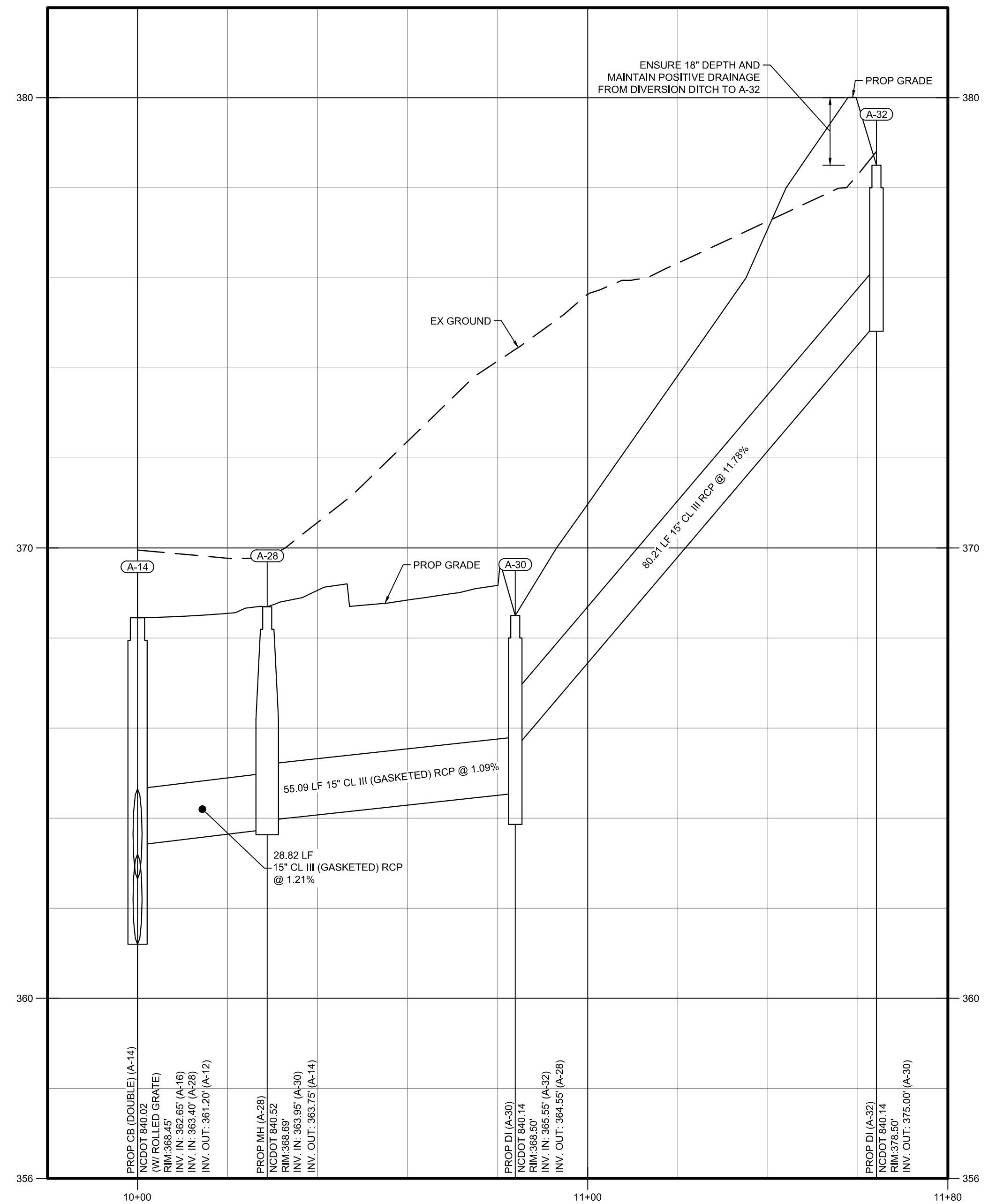
DETENTION FACILITY DETAILS

Number	Description	Date
1	PER TRC COMMENTS	04/14/22
2	PER TRC COMMENTS	05/26/22
3	PER TRC COMMENTS	06/13/22
4	PER TRC COMMENTS	06/15/22
5	PER TRC COMMENTS	08/27/22

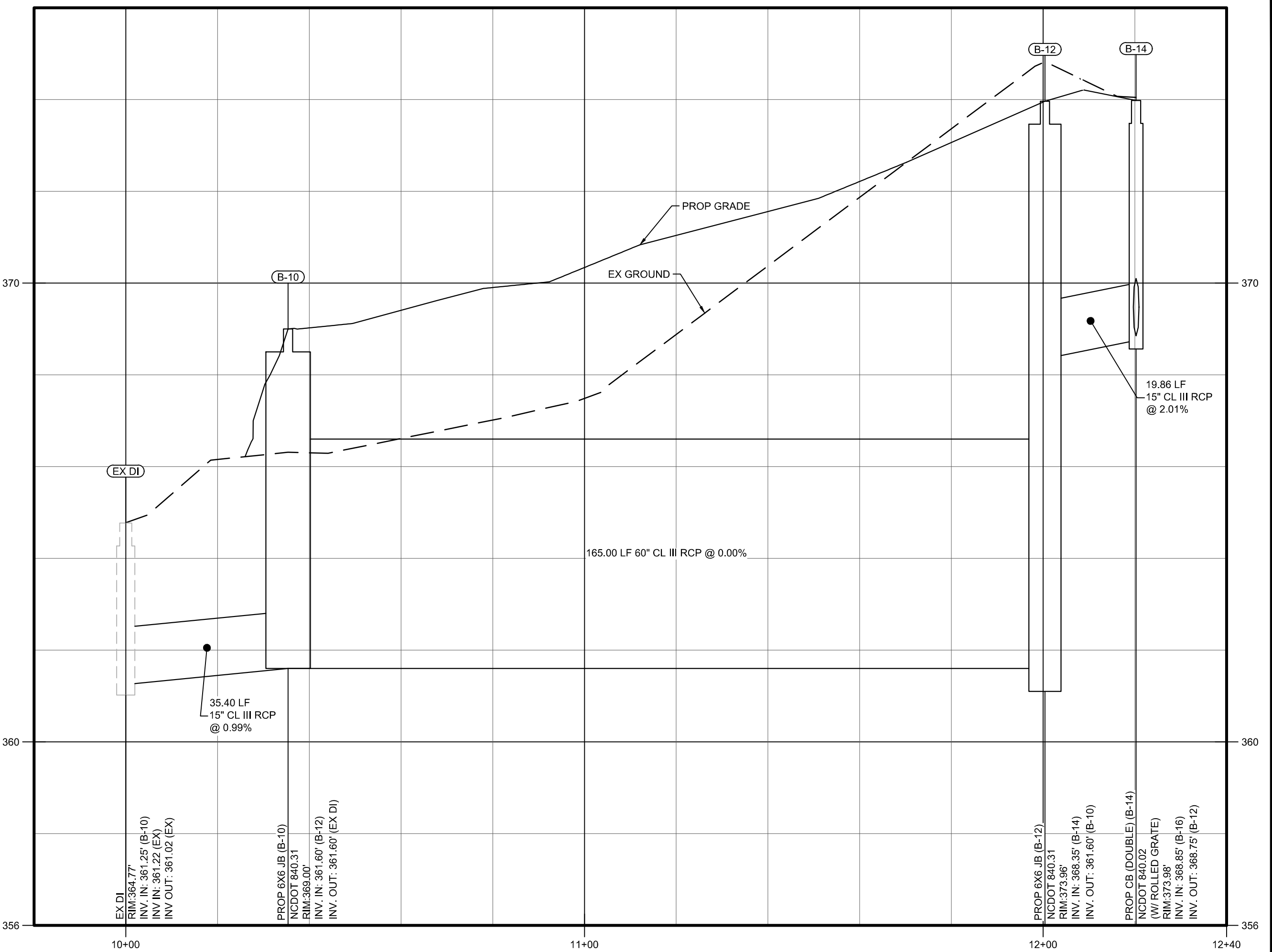
JAECO #: 364-04
DRAWING SCALE: AS SHOWN
DRAWN BY: TT
CHECKED BY: TT

DATE ISSUED: 01/30/2022

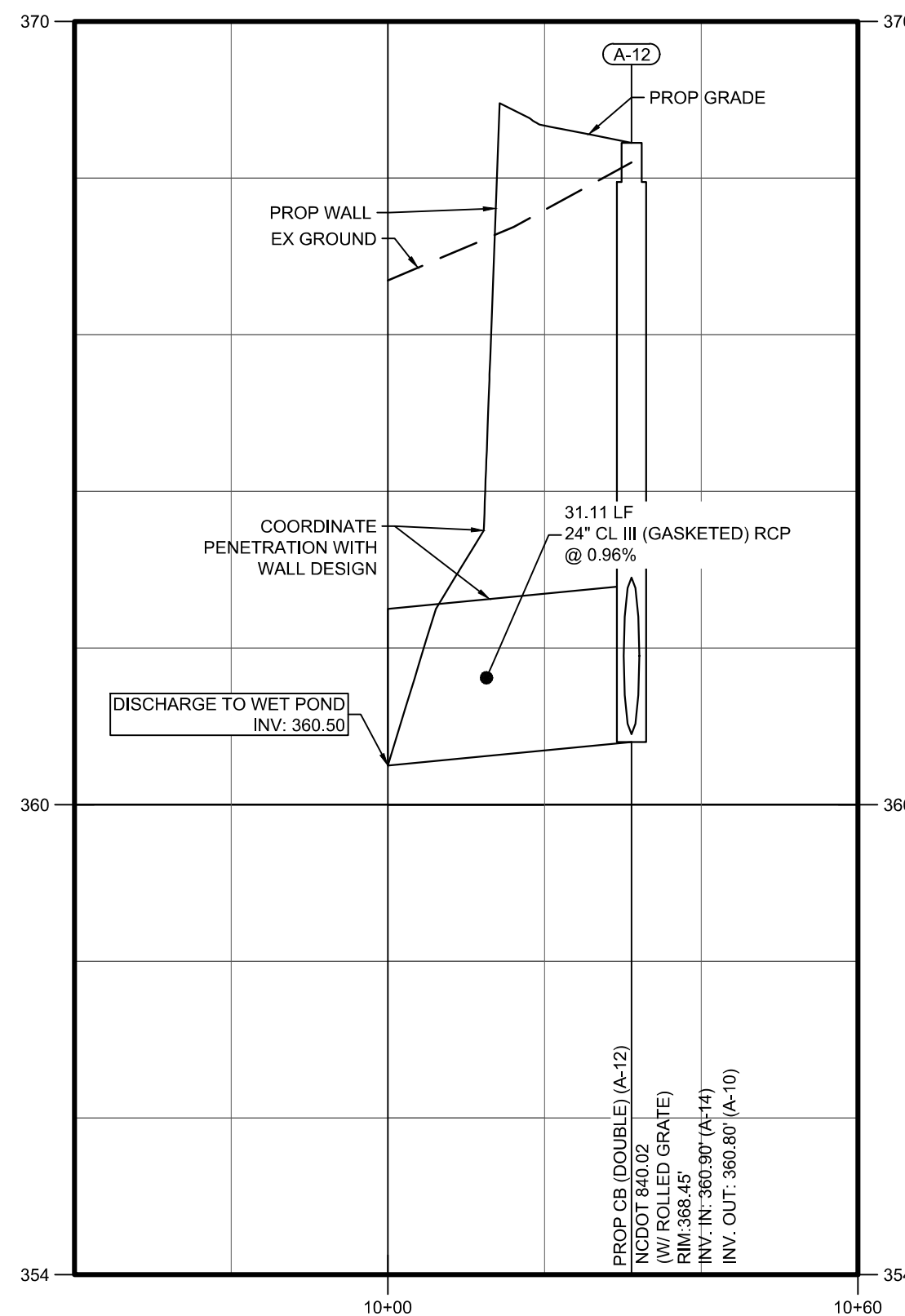
C-15



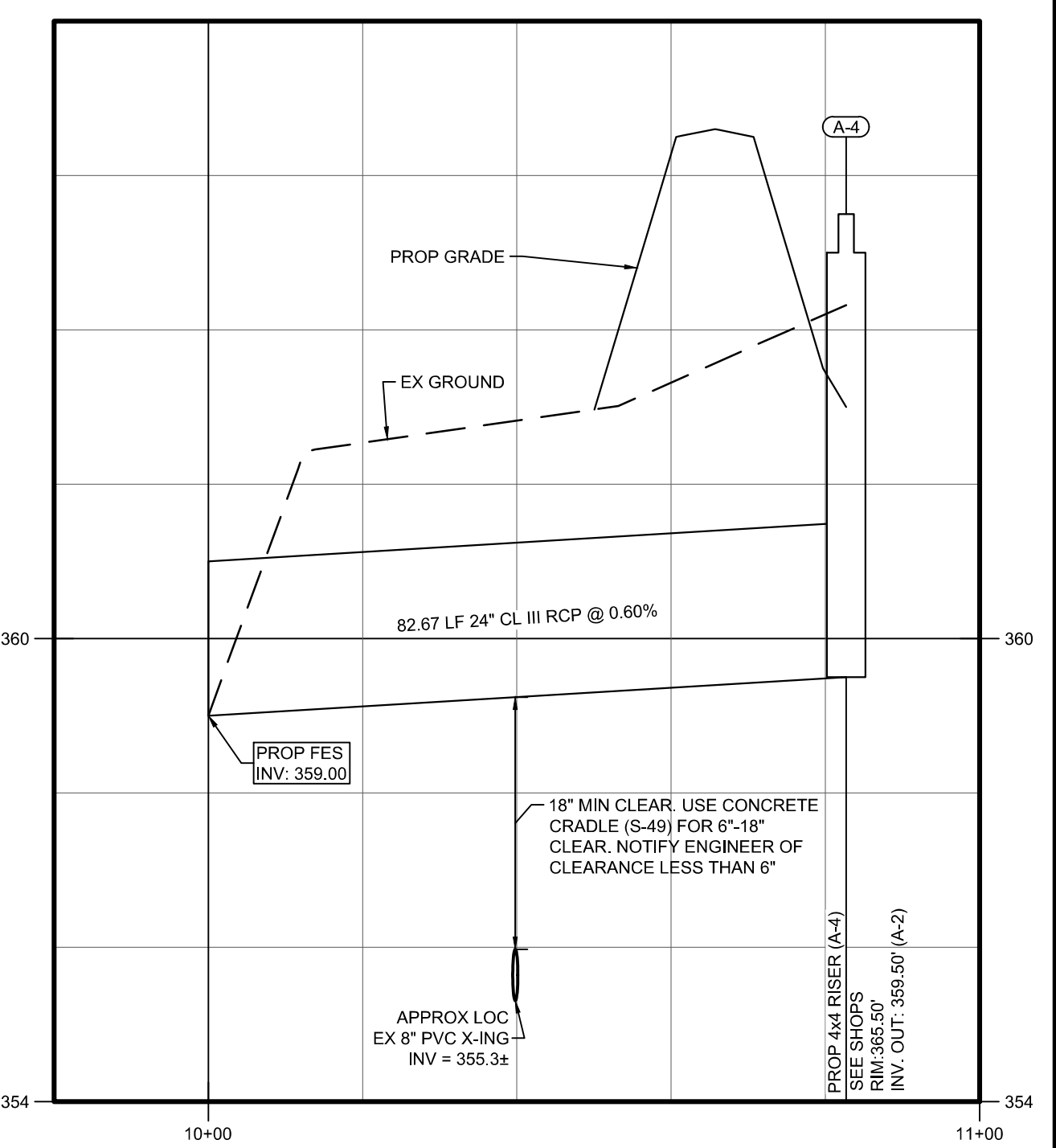
A-14 to A-32 Profile
 HORIZONTAL SCALE: 1" = 20'
 VERTICAL SCALE: 1" = 2'



EX DI to B-14 Profile
 HORIZONTAL SCALE: 1" = 20'
 VERTICAL SCALE: 1" = 2'



A-10 to A-12 Profile
 HORIZONTAL SCALE: 1" = 20'
 VERTICAL SCALE: 1" = 2'



A-2 to A-4 Profile
 HORIZONTAL SCALE: 1" = 20'
 VERTICAL SCALE: 1" = 2'

STORM STRUCTURE TABLE						
STRUCTURE ID	TYPE	STD. DETAIL	RIM	INVERT IN (U/S STR.)	INVERT OUT (D/S STR.)	PIPE OUT
A-2	FES			359.00 (A-4)		
A-4	4x4 RISER	SEE SHOPS	365.50	359.50 (A-2)	82.67LF 24" RCP @ 0.60%	
A-10	FES			360.50 (A-12)		
A-12	CB (DOUBLE)	NCDOT 840.02 (W/ ROLLED GRATE)	368.45	360.90 (A-14)	360.80 (A-10)	31.11LF 24" RCP @ 0.96%
A-14	CB (DOUBLE)	NCDOT 840.02 (W/ ROLLED GRATE)	368.45	362.65 (A-16) 363.40 (A-28)	361.20 (A-12)	27.00LF 24" RCP @ 1.11%
A-16	CB	NCDOT 840.02 (W/ ROLLED GRATE)	369.13	363.90 (A-18)	363.40 (A-14)	69.09LF 24" RCP @ 1.09%
A-18	CB	NCDOT 840.02 (W/ ROLLED GRATE)	372.87	367.85 (A-34) 367.85 (A-20)	367.65 (A-16)	109.77LF 18" RCP @ 3.42%
A-20	MH	NCDOT 840.52	374.60	368.50 (A-22) 368.50 (A-36)	368.25 (A-18)	73.13LF 18" RCP @ 0.55%
A-22	CB (DOUBLE)	NCDOT 840.02 (W/ ROLLED GRATE)	374.69	369.15 (A-24) 369.15 (A-40)	368.95 (A-20)	89.80LF 15" RCP @ 0.50%
A-24	CB	NCDOT 840.02 (W/ ROLLED GRATE)	376.96	371.60 (A-26)	371.40 (A-22)	123.41LF 15" RCP @ 1.82%
A-26	CB	NCDOT 840.02 (W/ ROLLED GRATE)	377.19		372.15 (A-24)	27.68LF 15" RCP @ 1.99%
A-28	MH	NCDOT 840.52	368.69	363.95 (A-30)	363.75 (A-14)	28.82LF 15" RCP @ 1.21%

STORM STRUCTURE TABLE						
STRUCTURE ID	TYPE	STD. DETAIL	RIM	INVERT IN (U/S STR.)	INVERT OUT (D/S STR.)	PIPE OUT
A-30	DI	NCDOT 840.14	368.50	365.55 (A-32)	364.55 (A-28)	55.09LF 15" RCP @ 1.09%
A-32	DI	NCDOT 840.14	378.50		375.00 (A-30)	80.21LF 15" RCP @ 11.78%
A-34	CB	NCDOT 840.02 (W/ ROLLED GRATE)	372.87		368.60 (A-18)	27.00LF 18" RCP @ 2.78%
A-36	CB	NCDOT 840.02 (W/ ROLLED GRATE)	376.37	370.85 (A-38)	370.75 (A-20)	37.35LF 15" RCP @ 6.02%
A-38	CB	NCDOT 840.02 (W/ ROLLED GRATE)	376.37		371.35 (A-36)	27.00LF 15" RCP @ 1.85%
A-40	CB (DOUBLE)	NCDOT 840.02 (W/ ROLLED GRATE)	374.69		369.70 (A-22)	27.00LF 15" RCP @ 2.04%
B-10	6X6 JB	NCDOT 840.31	369.00	361.60 (B-12)	361.60 (EX DI)	35.40LF 15" RCP @ 0.99%
B-12	6X6 JB	NCDOT 840.31	373.96	368.35 (B-14)	361.60 (B-10)	165.00LF 60" RCP @ 0.00%
B-14	CB (DOUBLE)	NCDOT 840.02 (W/ ROLLED GRATE)	373.98	368.85 (B-16)	368.75 (B-12)	19.86LF 15" RCP @ 2.01%
B-16	CB	NCDOT 840.02 (W/ ROLLED GRATE)	375.98	371.60 (B-18)	371.50 (B-14)	108.65LF 15" RCP @ 2.44%
B-18	CB	NCDOT 840.02 (W/ ROLLED GRATE)	375.95		371.90 (B-16)	28.19LF 15" RCP @ 1.06%



GENERAL NOTES:

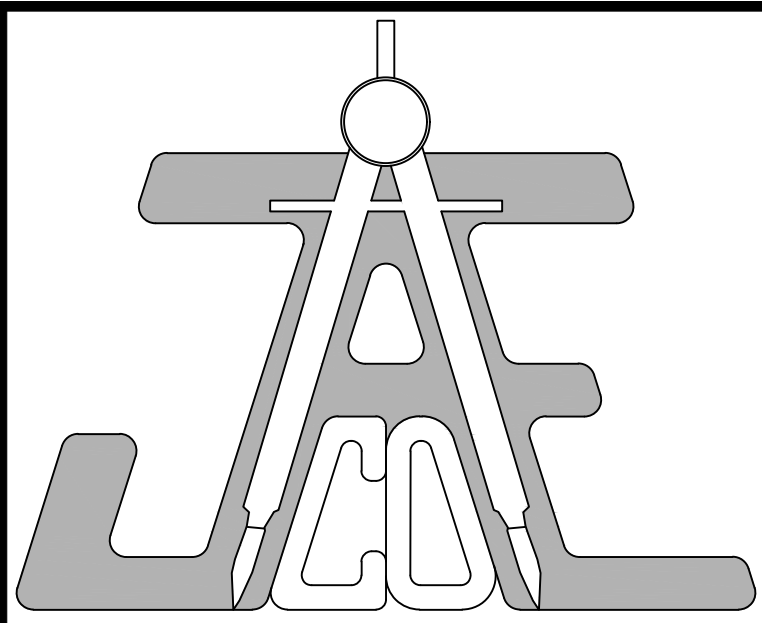
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- 50' NEUSE RIVER BUFFER SHOWN HEREIN IS BASED ON THE "BUFFER DETERMINATION LETTER" (NBRR0 #21-286) ISSUED SEPTEMBER 9, 2021 AND FLAGGING OF THE SAME BY S&C.

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.

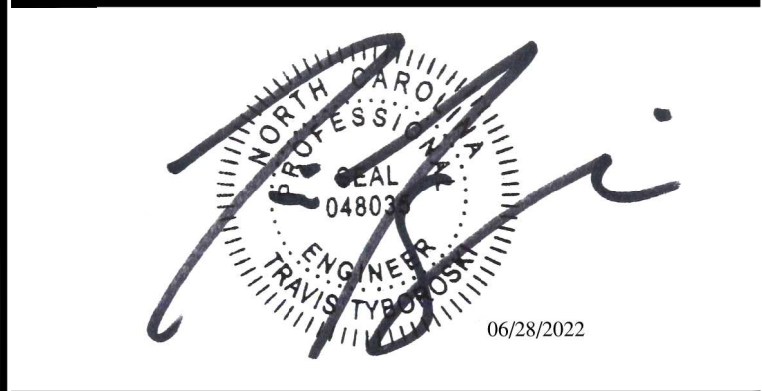
Failure to call for Inspection, Install a Downstream Plug, have Permitted Plans on the Jobsite, or any other Violation of City of Raleigh Standards will result in a Fine and Possible Exclusion from future work in the City of Raleigh.



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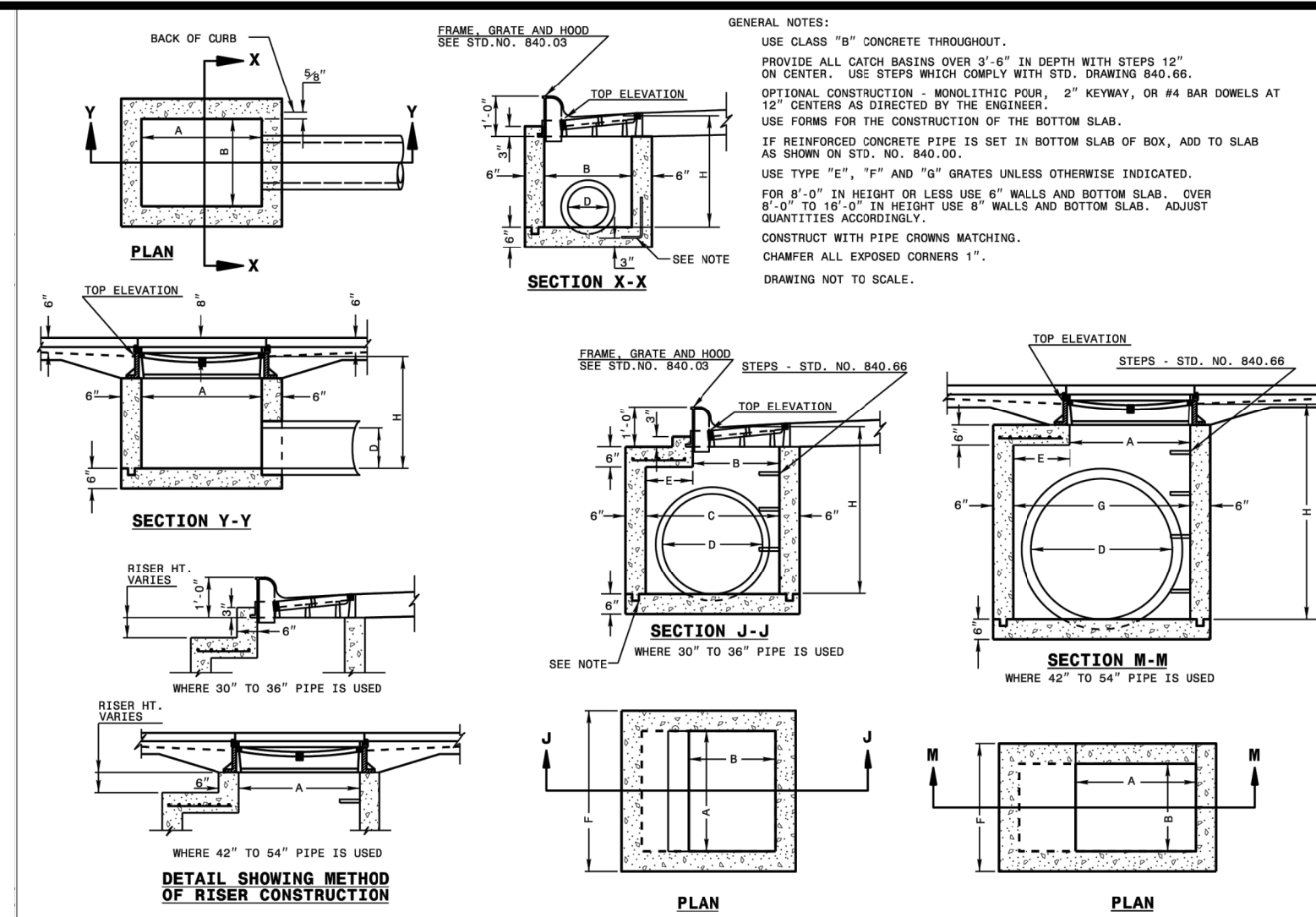
Call before you dig.

LEGEND

STORM OUTFALL PROFILES & STRUCTURE TABLE

Revisions		
Number	Description	Date
1	PER TRC COMMENTS	04/14/22
2	PER TRC COMMENTS	05/26/22
3	PER TRC COMMENTS	06/13/22
4	PER TRC COMMENTS	06/15/22
5	PER TRC COMMENTS	06/27/22

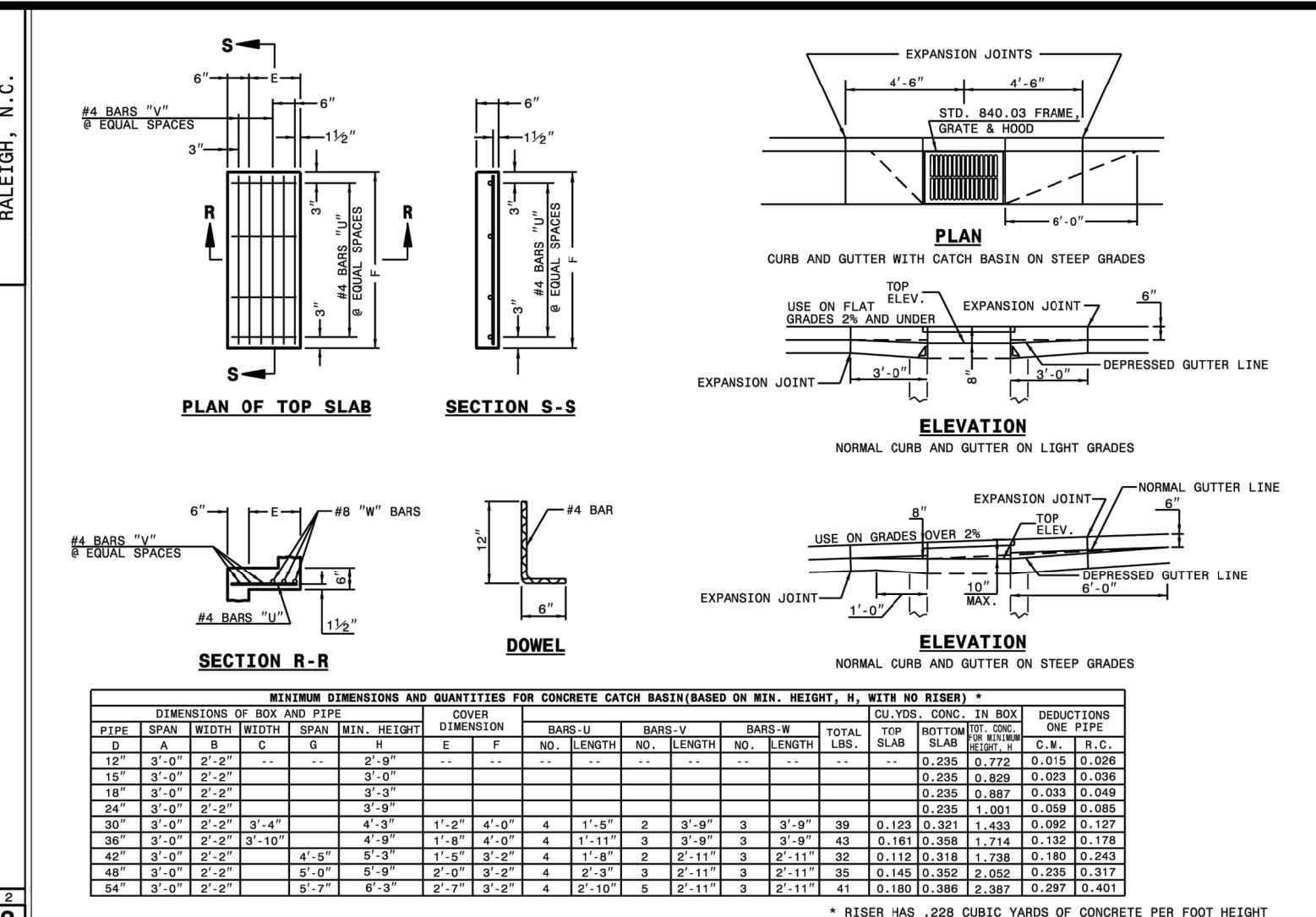
JAECO #: 364-04
 DRAWING SCALE: AS SHOWN
 DRAWN BY: TT
 CHECKED BY: TT
 DATE ISSUED: 01/30/2022



STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

ROADWAY STANDARD DRAWING FOR
CONCRETE CATCH BASIN
12" THRU 54" PIPE

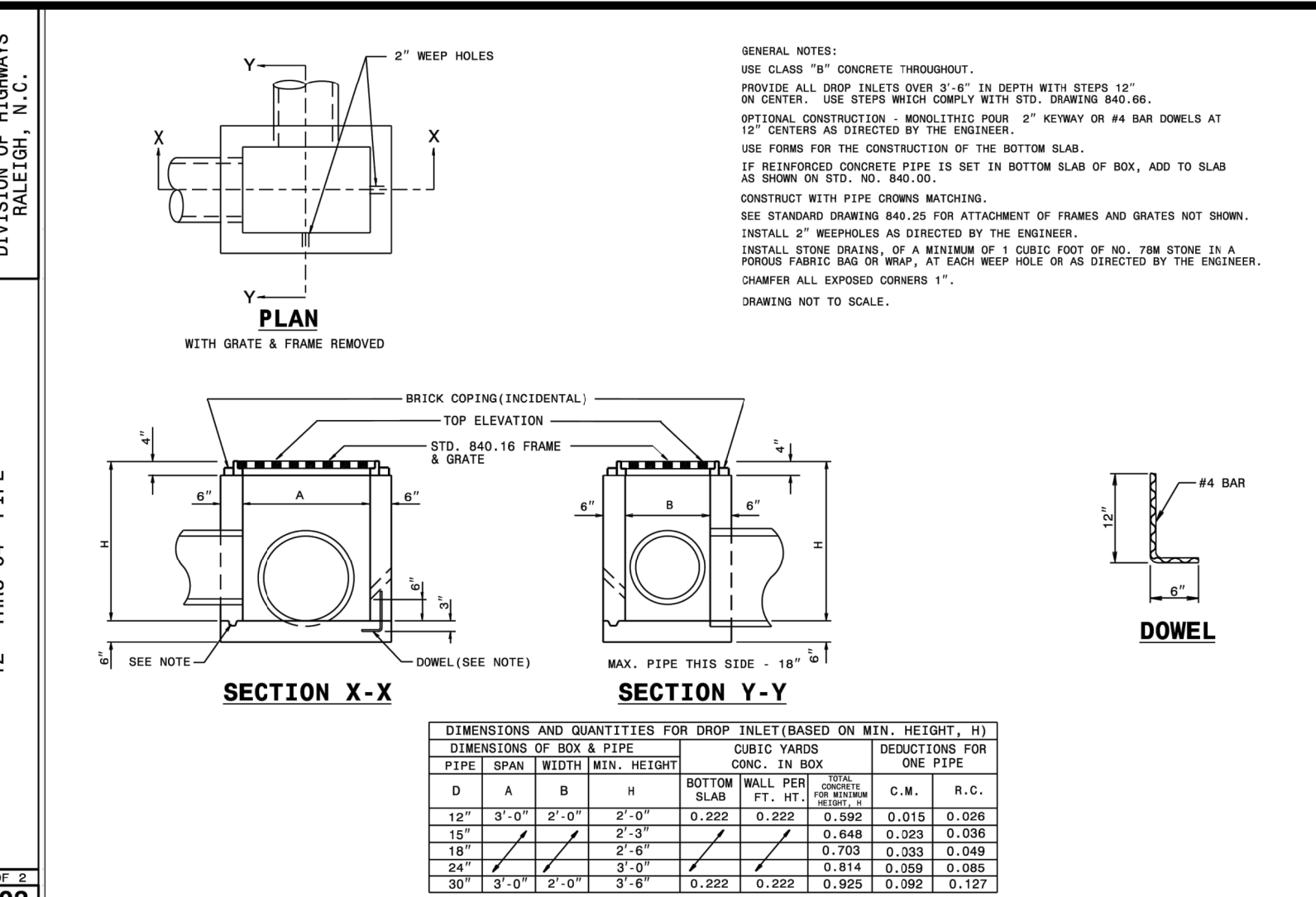
SHEET 1 OF 2
840.02



STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

ROADWAY STANDARD DRAWING FOR
CONCRETE CATCH BASIN
12" THRU 54" PIPE

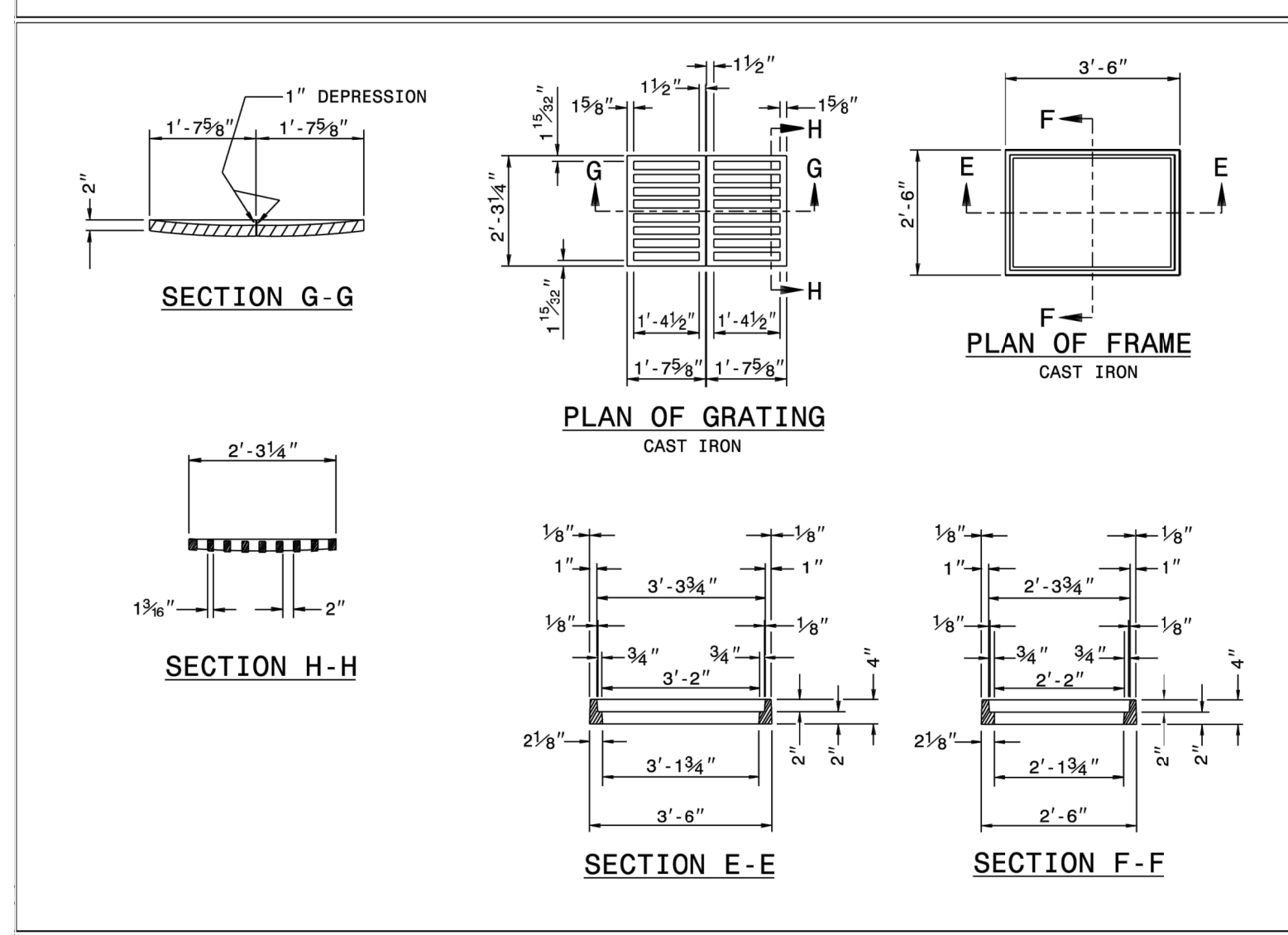
SHEET 1 OF 2
840.02



STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

ROADWAY STANDARD DRAWING FOR
CONCRETE DROP INLET
12" THRU 30" PIPE

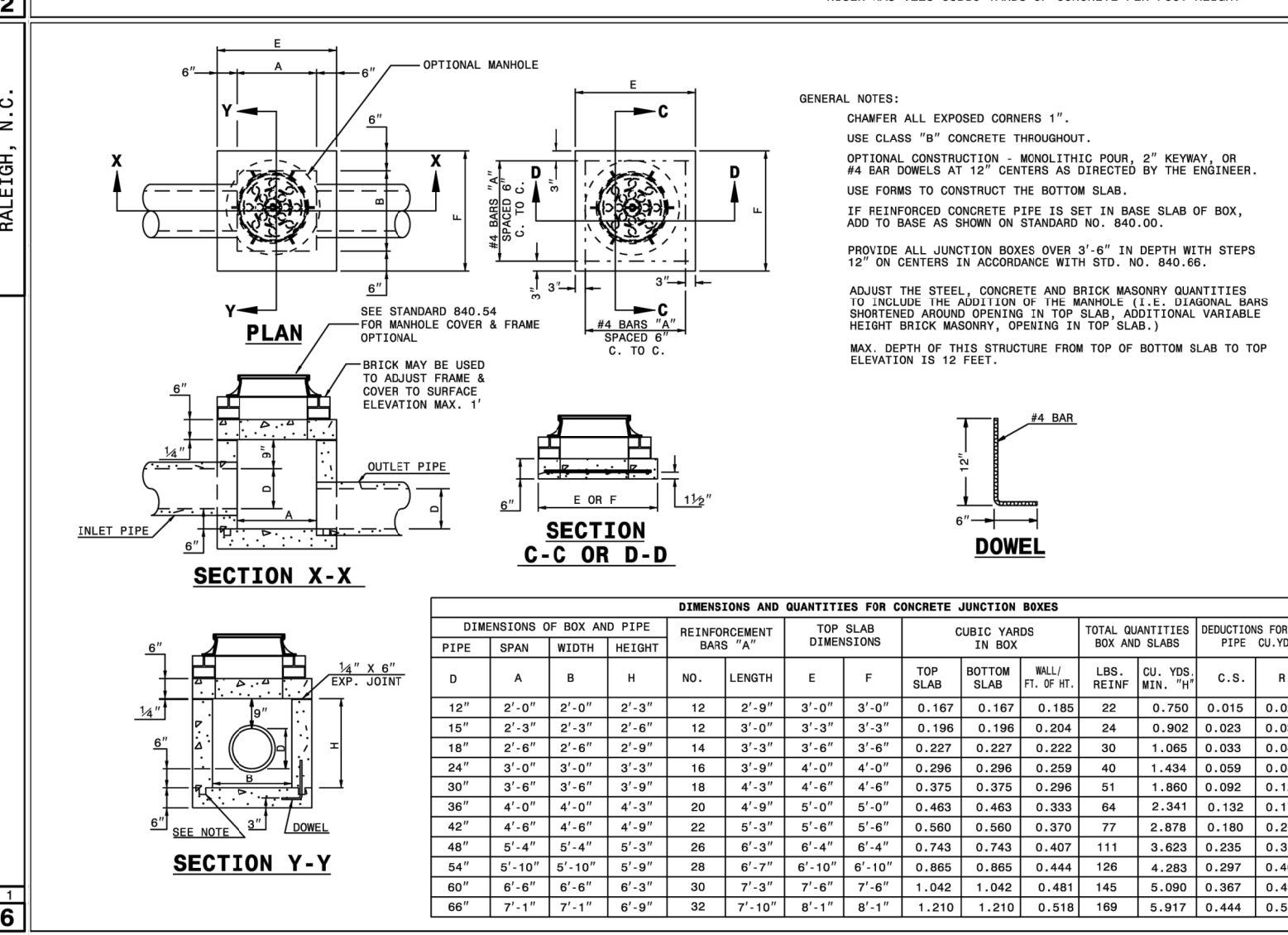
SHEET 1 OF 2
840.14



STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

ROADWAY STANDARD DRAWING FOR
DROP INLET FRAME AND GRATES
FOR USE WITH STD. DWG. S 840.14 AND 840.15

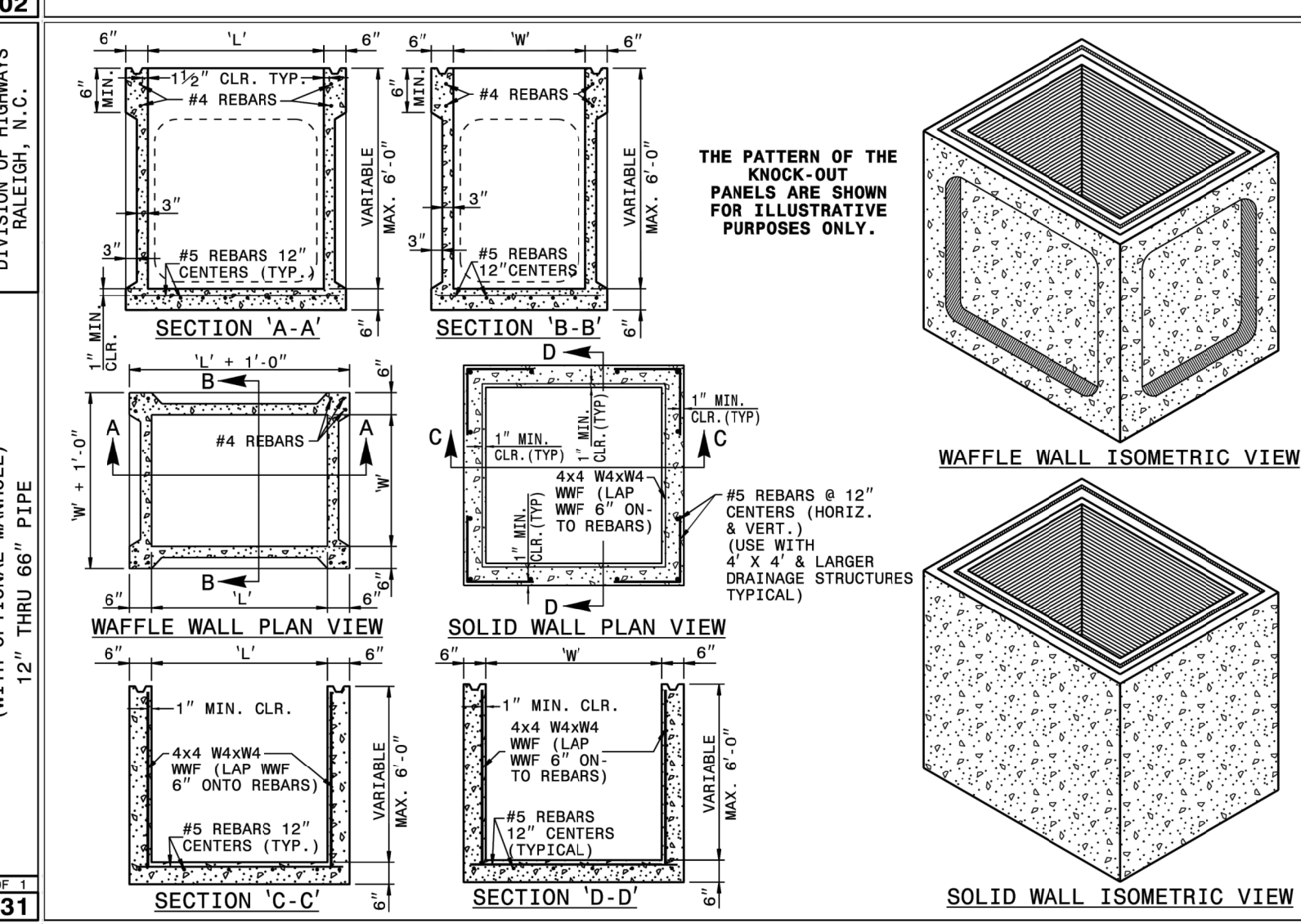
SHEET 1 OF 2
840.16



STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

ROADWAY STANDARD DRAWING FOR
CONCRETE JUNCTION BOX
(WITH OPTIONAL MANHOLE)
12" THRU 60" PIPE

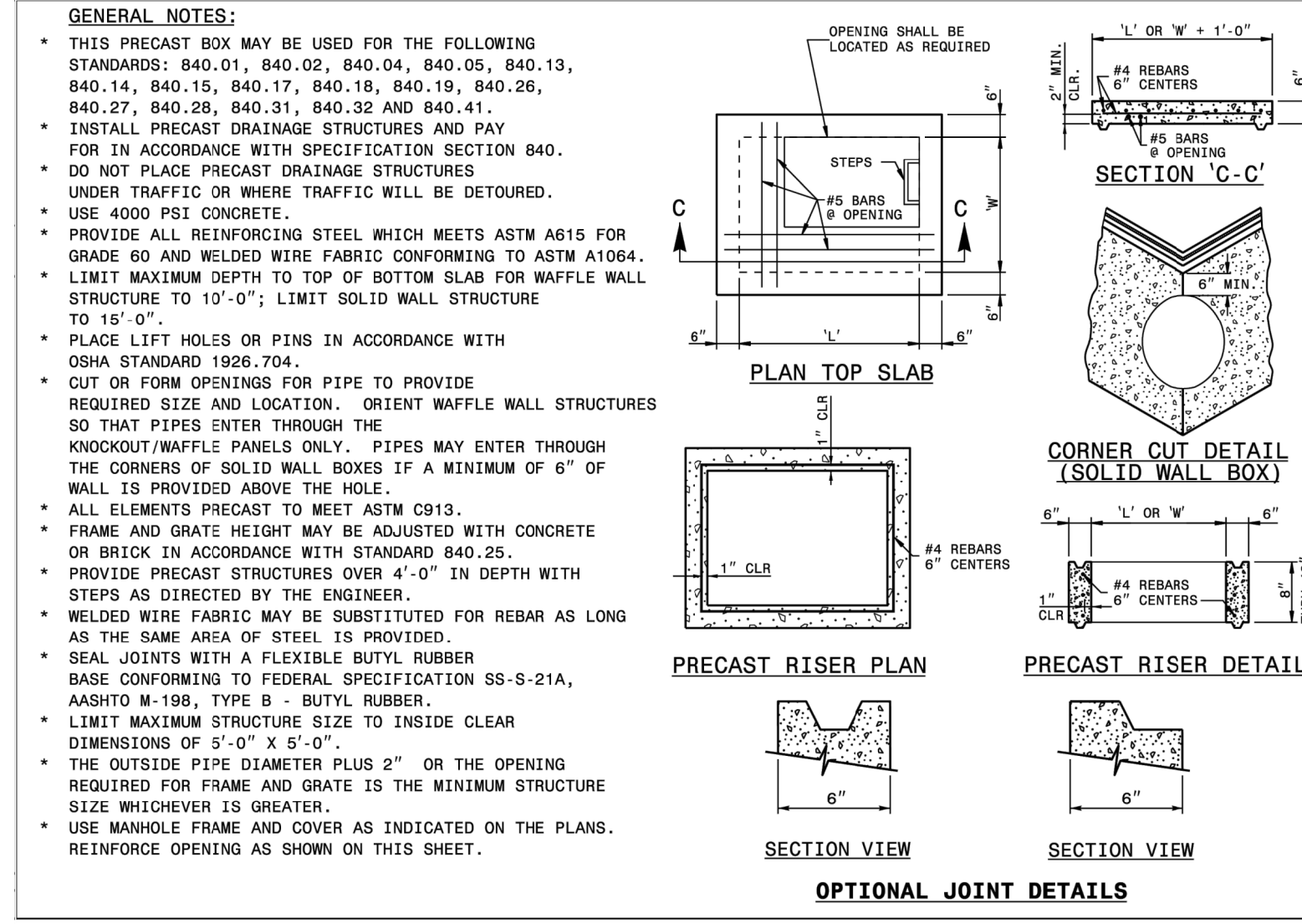
SHEET 1 OF 2
840.31



STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

ROADWAY STANDARD DRAWING FOR
PRECAST DRAINAGE STRUCTURE
(SOLID AND WAFFLE WALL)

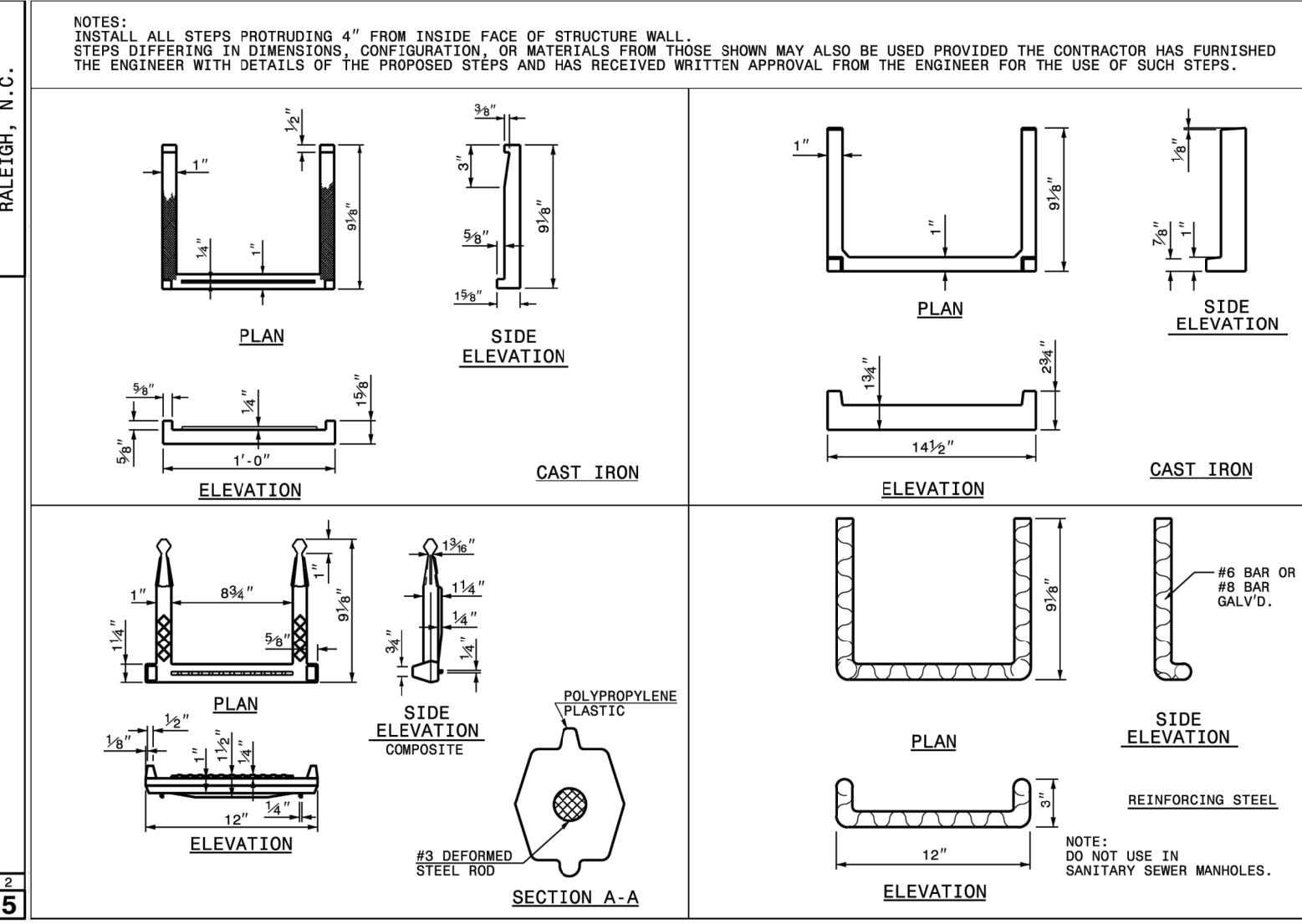
SHEET 1 OF 2
840.45



STATE OF NORTH CAROLINA
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RALEIGH, N.C.

ROADWAY STANDARD DRAWING FOR
PRECAST DRAINAGE STRUCTURE
(GENERAL NOTES AND DETAILS)

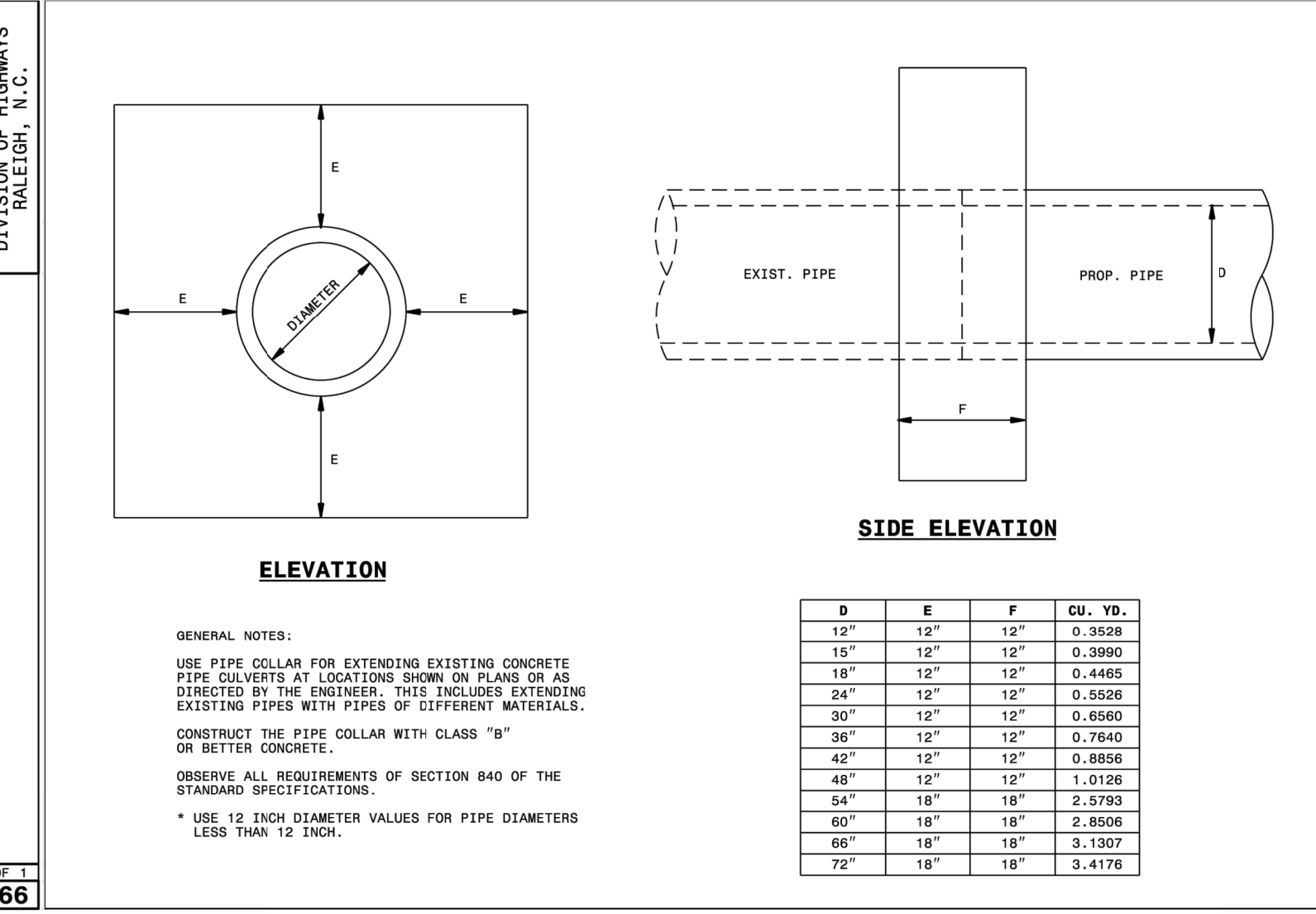
SHEET 2 OF 2
840.45



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ROADWAY STANDARD DRAWING FOR
DRAINAGE STRUCTURE STEPS

SHEET 1 OF 1
840.66



STATE OF NORTH CAROLINA
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ROADWAY STANDARD DRAWING FOR
PIPE COLLAR

SHEET 1 OF 1
840.72

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06/28/2022

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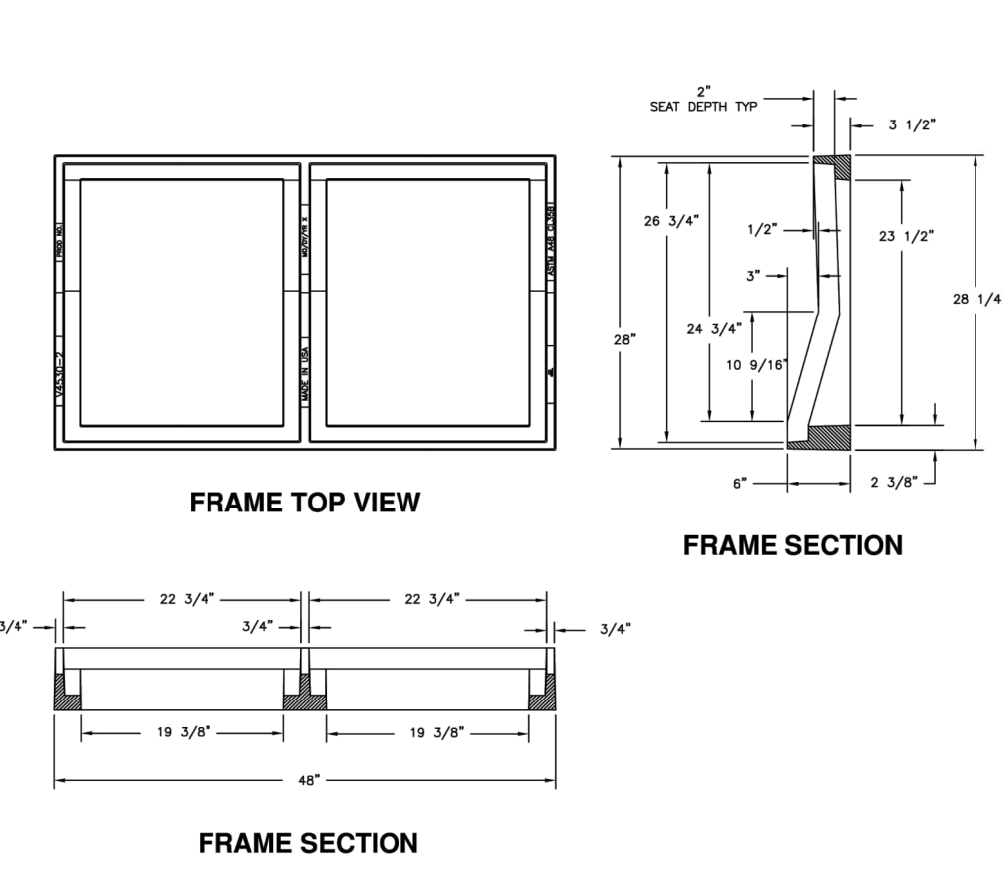
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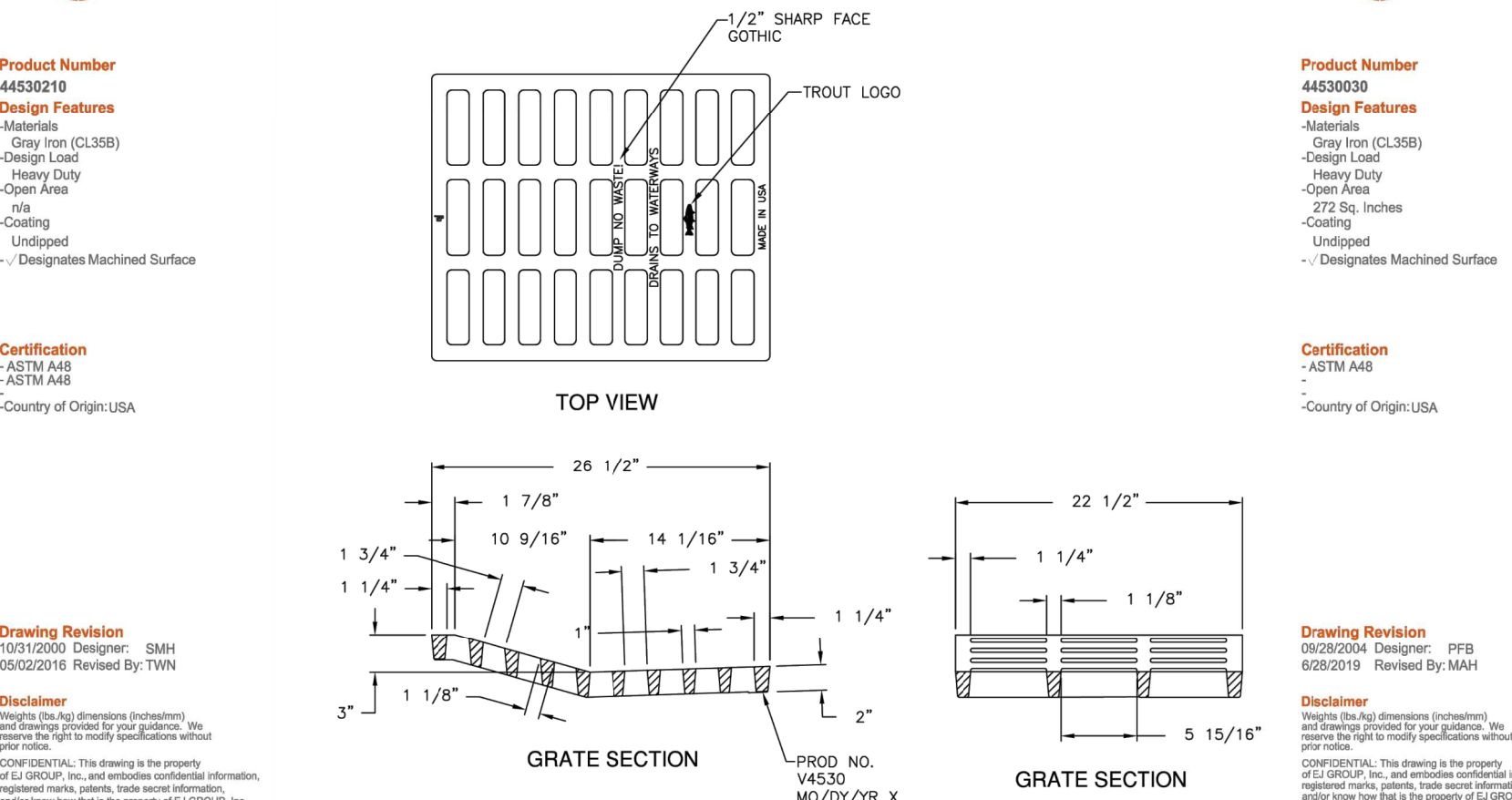
LEGEND

EXIST. PIPE
PROP. PIPE

V4530-2 Curb Inlet Frame



V4530 Grate



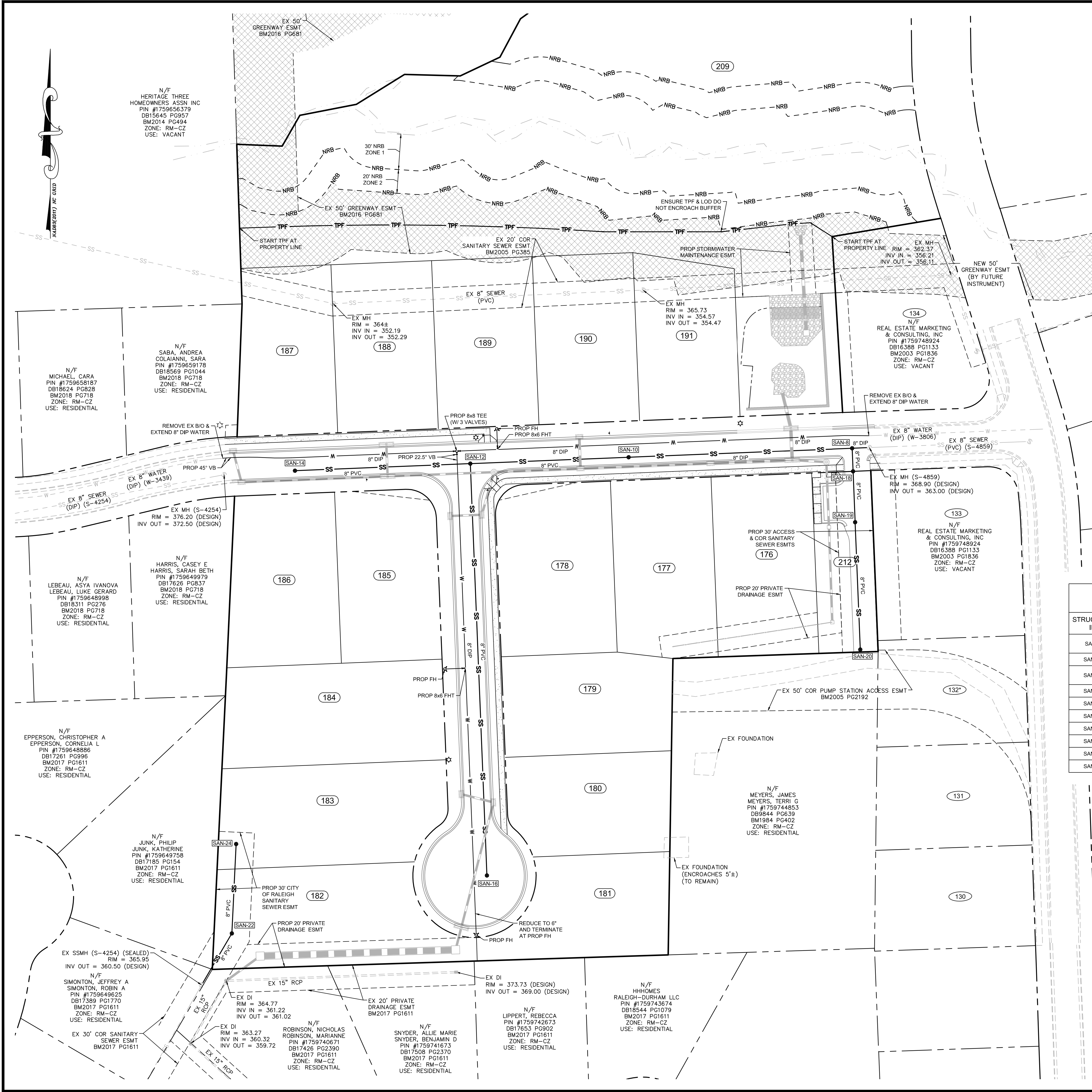
Product Number: 44530210
Design Features: Aluminum, Gray Iron (D3358), Design Load, Heavy Duty, Open Area, Coating, Undrilled, Degreased/Matched Surface
Certification: ASTM A88, ASTM A88, Country of Origin: USA
Drawing Revision: 10/15/2020 Designer: BMH 05/02/2016 Revised by: TYN
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Product Number: 44530300
Design Features: Aluminum, Gray Iron (D3358), Design Load, Heavy Duty, Open Area, Coating, Undrilled, Degreased/Matched Surface
Certification: ASTM A88, ASTM A88, Country of Origin: USA
Drawing Revision: 03/03/2020 Designer: PFB 02/28/2019 Revised by: MAM
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STORMDRAIN DETAILS

Number	Description	Date
1	PER TRC COMMENTS	04/14/22
2	PER TRC COMMENTS	05/26/22
3	PER TRC COMMENTS	06/13/22
4	PER TRC COMMENTS	06/15/22
5	PER TRC COMMENTS	06/27/22

JAECO # 364-04
DRAWING SCALE: AS SHOWN
DRAWN BY: TT
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DATE ISSUED: 01/30/2022



GENERAL NOTES:

- CONTRACTOR TO FIELD VERIFY LOCATION & ELEVATION OF ALL EXISTING UTILITIES PRIOR TO CONSTRUCTION AND NOTIFY ENGINEER OF CONFLICTS.
- CONSTRUCTION SHALL BE IN ACCORDANCE WITH CITY OF RALEIGH, TOWN OF ROLESVILLE, AND/OR NCDOT STANDARDS AND SPECIFICATIONS UNLESS OTHERWISE NOTED.
- 50' NEUSE RIVER BUFFER SHOWN HEREIN IS BASED ON THE "BUFFER DETERMINATION LETTER" (NBRRO #21-286) ISSUED SEPTEMBER 9, 2021 AND FLAGGING OF THE SAME BY S&C.
- 8" GRAVITY SEWER MAIN SHALL BE MANUFACTURED IN ACCORDANCE WITH ALL THE REQUIREMENTS OF ASTM D-3034-98 SDR 35 TYPE PSM POLYVINYL CHLORIDE SEWER PIPE AND FITTING, UNLESS OTHERWISE NOTED.
- ALL WATER MAINS SHALL BE PRESSURE CLASS OR THICKNESS CLASS DUCTILE IRON PIPE DESIGNED IN ACCORDANCE WITH AWWA STANDARD C-150. THE MINIMUM THICKNESS SHALL BE PRESSURE CLASS 350 FOR 6" AND 8" MAINS.
- ALL PROPOSED SEWER SERVICES TO BE 4" PVC, UNLESS OTHERWISE NOTED, AND BE INSTALLED IN ACCORDANCE WITH CITY OF RALEIGH STANDARD DETAILS S-30, S-31, AND S-32.
- ALL PROPOSED WATER SERVICE TO BE 3/4" COPPER WITH 5/8" METER, UNLESS OTHERWISE NOTED, AND BE INSTALLED AS SHOWN ON PLAN IN ACCORDANCE WITH CITY OF RALEIGH DETAIL W-23.
- THE CITY OF RALEIGH WILL REQUIRE TRACTOR TRAILER ACCESS WITHIN THE EXISTING PUMP STATION EASEMENT 24 HOURS PER DAY, 7 DAYS PER WEEK, 365 DAYS OUT OF YEAR WHILE THIS SITE IS UNDER CONSTRUCTION.
- AFTER CONSTRUCTION IS COMPLETE AND THE NEW PUBLIC RIGHTS-OF-WAY HAVE BEEN DEDICATED AND ACCEPTED THE EXISTING CITY OF RALEIGH EASEMENTS SHALL BE DISPOSED OF BY THE CITY OF RALEIGH THROUGH A FUTURE INSTRUMENT AS SHOWN ON THE PLANS.

STANDARD UTILITY NOTES (as applicable):

- All materials & construction methods shall be in accordance with City of Raleigh design standards, details & specifications (reference: CORPUD 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 encasement 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 CORPUD details W-11 & 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 15 days advance 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 forcemains. 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 CORPUD Handbook procedure.
- Install 3/4" copper water services with 5/8" meter located within private ROW. NOTE: It is the applicant's responsibility to properly size the water service for each connection to provide adequate flow & pressure.
- Install 4" PVC sewer service @ 1.0% minimum grade with cleanouts located at ROW or easement line & spaced every 75 linear 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 NCDWQ, USACE &/or FEMA for any riparian buffer, wetland &/or floodplain impacts (respectively) prior to construction.
- NCDOT / 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 CORPUD FOG Program Coordinator prior to issuance of a Building Permit. Contact Stephen Calverley at (919) 996-2334 or Stephen.calverley@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 Engineering (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. Contact Joanie Hartley at (919) 996-5523 or joanie.hartley@raleighnc.gov for more information.

SANITARY STRUCTURE TABLE

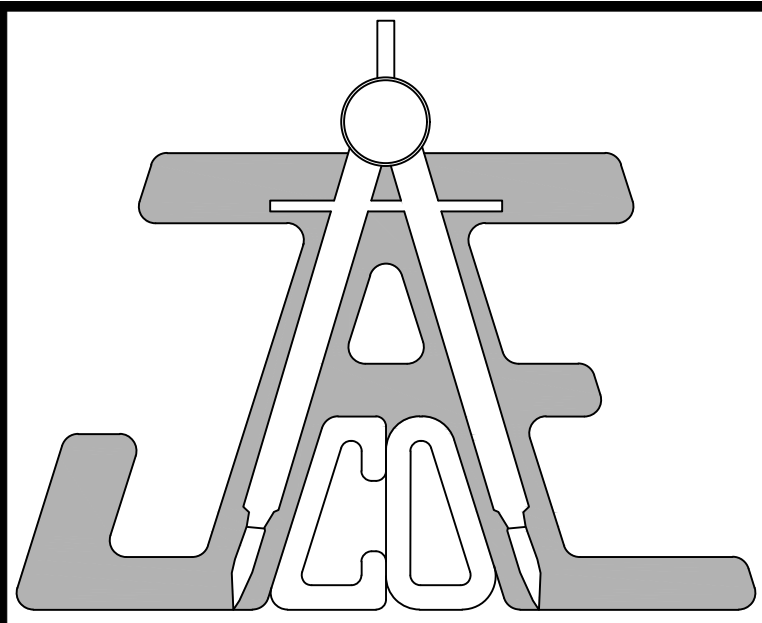
STRUCTURE ID	TYPE	STD. DETAIL	RIM	INVERT IN (I/S STR.)	INVERT OUT (O/S STR.)	PIPE OUT
SAN-8	48" MH	COR S-20	368.54	364.20 (SAN-10) 364.20 (SAN-18)	363.75 (EX MH-11)	14.51LF 8" DIP @ 1.72%
SAN-10	48" MH	COR S-20	370.86	365.53 (SAN-12)	365.33 (SAN-8)	188.80LF 8" DIP @ 0.60%
SAN-12	48" MH	COR S-20	374.85	368.53 (SAN-14) 366.53 (SAN-16)	366.33 (SAN-10)	133.72LF 8" PVC @ 0.60%
SAN-14	48" MH	COR S-20	375.29		367.42 (SAN-12)	148.13LF 8" PVC @ 0.60%
SAN-16	48" MH	COR S-20	374.93		368.65 (SAN-12)	348.03LF 8" PVC @ 0.61%
SAN-18	48" MH	COR S-20	368.78	364.80 (SAN-19)	364.80 (SAN-8)	19.50LF 8" PVC @ 2.05%
SAN-19	48" MH	COR S-20	369.31	366.14 (SAN-20)	365.94 (SAN-18)	43.00LF 8" PVC @ 2.65%
SAN-20	48" MH	COR S-20	384.12		376.60 (SAN-19)	107.61LF 8" PVC @ 9.72%
SAN-22	48" MH	COR S-20	367.48	363.25 (SAN-24)	363.05 (EX MH (SEALED))	50.46LF 8" PVC @ 1.49%
SAN-24	48" MH	COR S-20	370.30		366.00 (SAN-22)	75.56LF 8" PVC @ 3.64%

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 reinstatement of any water or sewer facilities not inspected as a result of this notification failure.

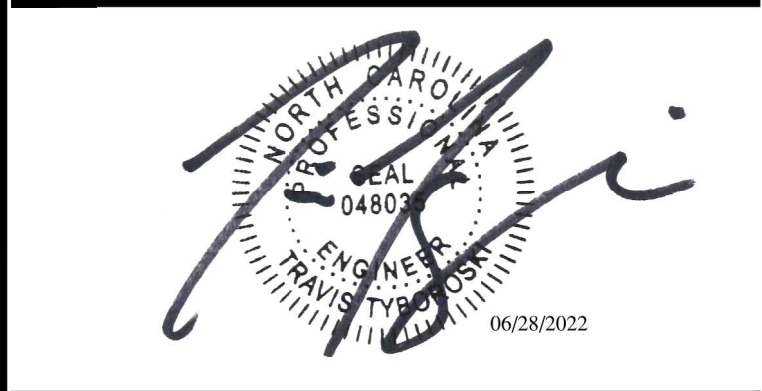
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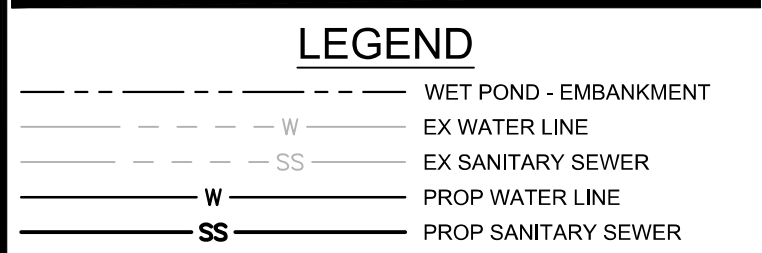
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Suite 102
Raleigh, NC 27609

Call before you dig.



PLANS NOT APPROVED FOR CONSTRUCTION UNLESS SIGNED BY CITY OF RALEIGH

Water and Sewer Permits (if applicable)

The City of Raleigh consents to the connection and extension of the City's Public Sewer System as shown on this plan. The material and Construction methods used for this project shall conform to the standards and specifications of the City's Public Utilities Handbook, City of Raleigh Public Utilities Department Permit # S-5018

The City of Raleigh consents to the connection to the public sewer system and extension of the private sewer collection system as shown on this plan. The material and construction methods used for this project shall conform to the standards and specifications of the City's Public Utilities Handbook, City of Raleigh Public Utilities Department Permit # W-3912

CITY OF RALEIGH - PLANS AUTHORIZED FOR CONSTRUCTION

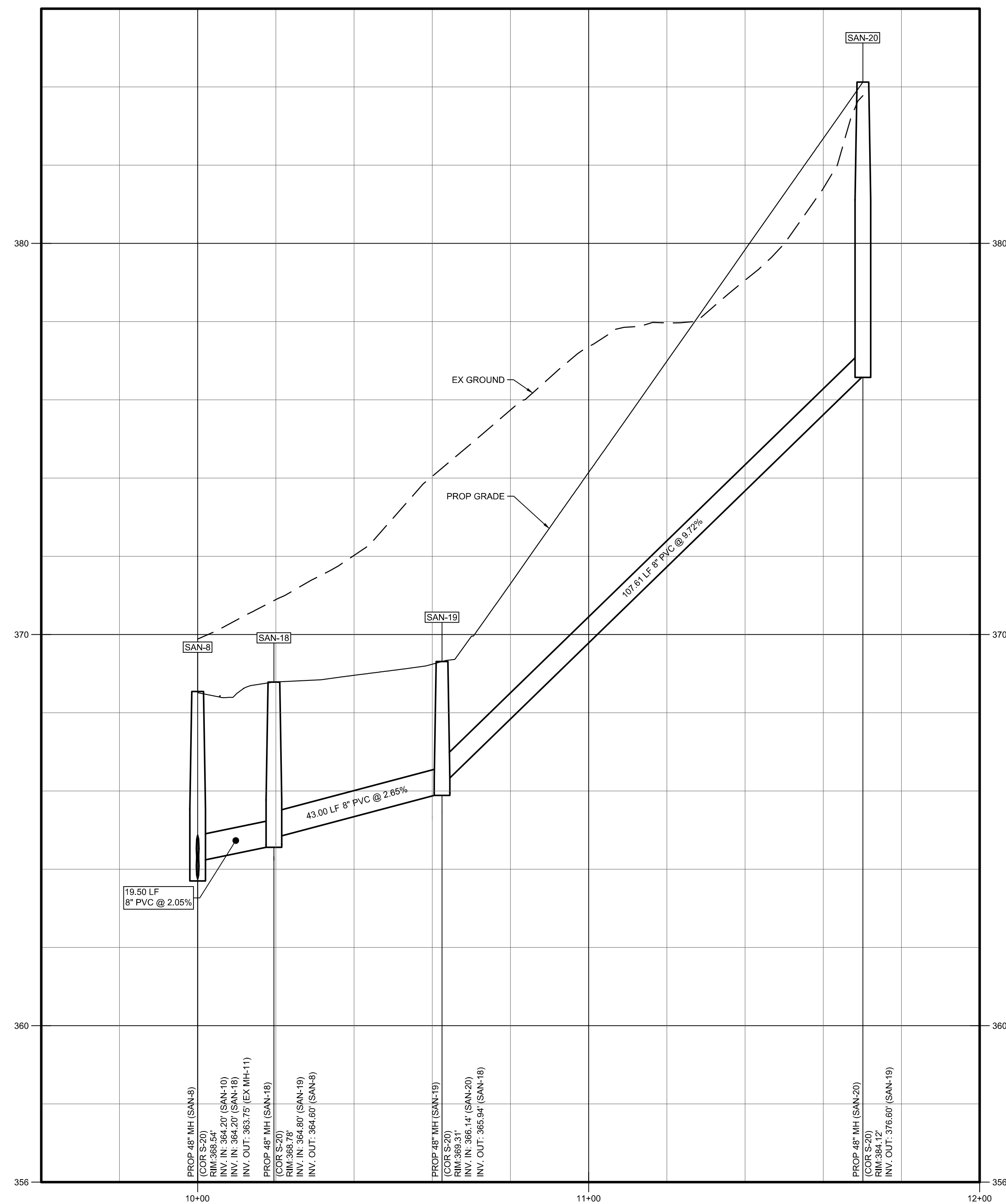
Electronic Approval: This approval is being issued electronically. This approval is valid only upon the signature of a City of Raleigh Review Officer below. The City will retain a copy of the approved plans. Any work authorized by this approval must proceed in accordance with the plans kept on file with 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 _____

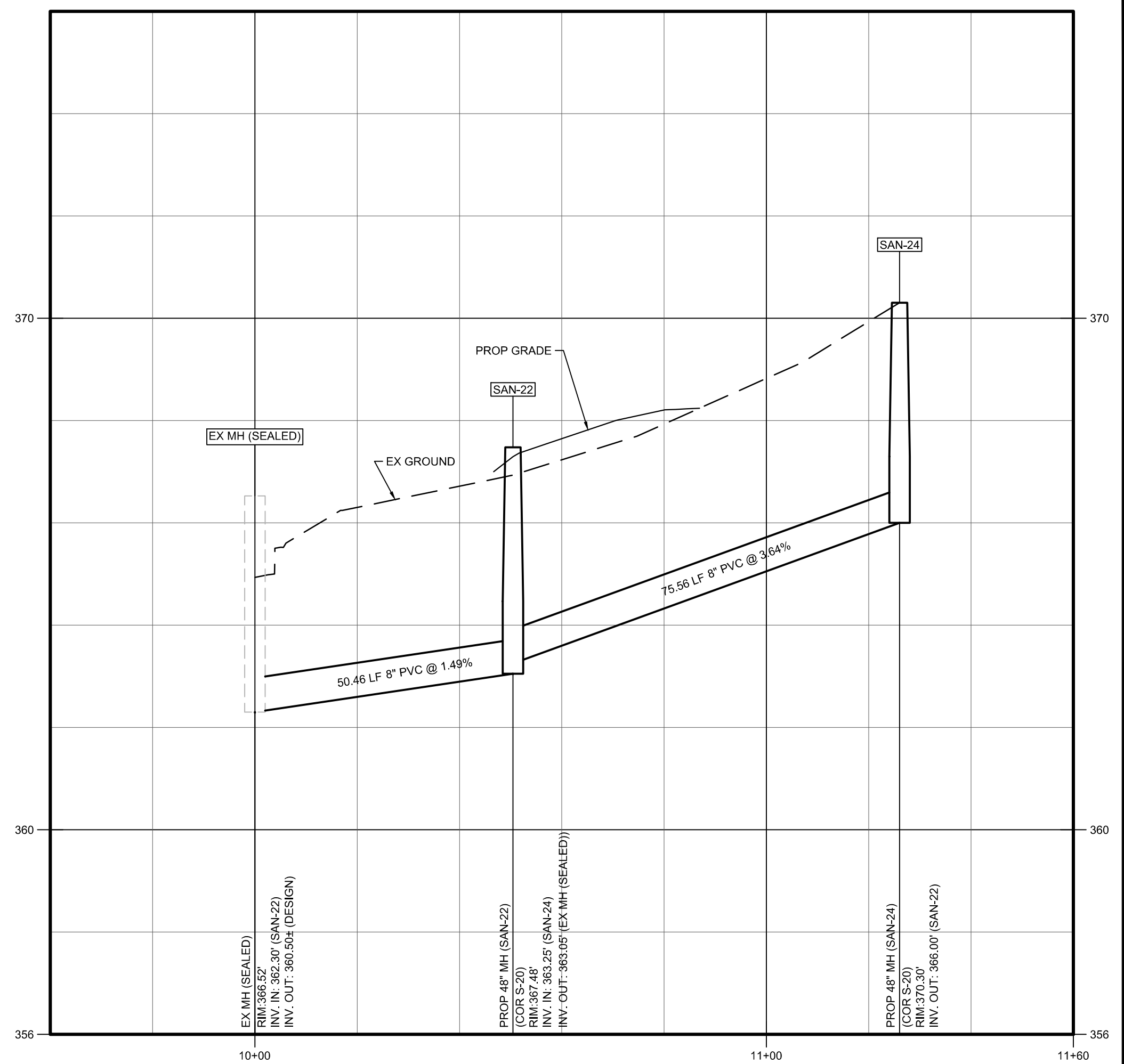
UTILITY PLAN

Number	Description	Date
1	PER TRC COMMENTS	04/14/22
2	PER TRC COMMENTS	05/26/22
3	PER TRC COMMENTS	06/13/22
4	PER TRC COMMENTS	06/15/22
5	PER TRC COMMENTS	06/27/22

JAECO #: 364-04
DRAWING SCALE: 1" = 40'
DRAWN BY: TT
CHECKED BY: TT
DATE ISSUED: 01/30/2022



SAN-8 to SAN-20 Profile
 HORIZONTAL SCALE: 1" = 20'
 VERTICAL SCALE: 1" = 2'



EX MH to SAN-24 Profile
 HORIZONTAL SCALE: 1" = 20'
 VERTICAL SCALE: 1" = 2'

GENERAL NOTES:

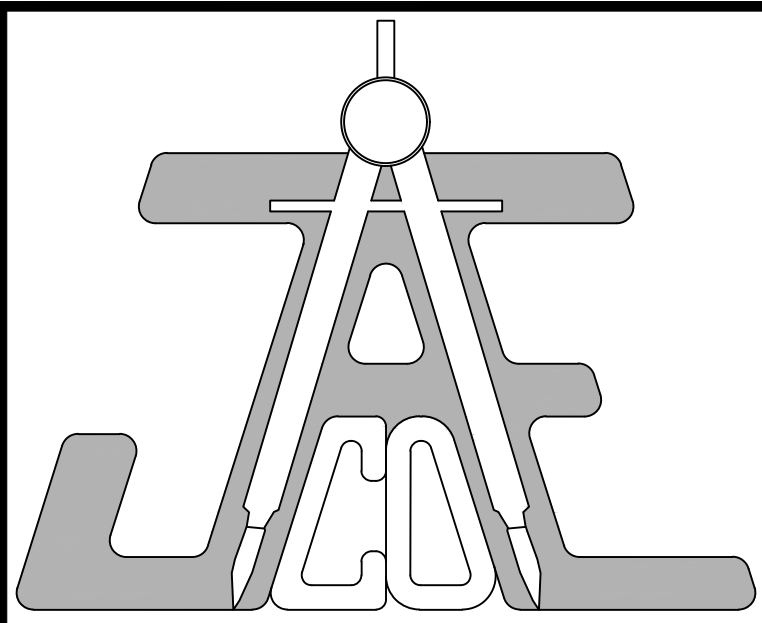
- CONTRACTOR TO FIELD VERIFY LOCATION & ELEVATION OF ALL EXISTING UTILITIES PRIOR TO CONSTRUCTION AND NOTIFY ENGINEER OF CONFLICTS.
- CONSTRUCTION SHALL BE IN ACCORDANCE WITH CITY OF RALEIGH, TOWN OF ROLESVILLE, AND/OR NCDOT STANDARDS AND SPECIFICATIONS UNLESS OTHERWISE NOTED.
- 50' NEUSE RIVER BUFFER SHOWN HEREIN IS BASED ON THE "BUFFER DETERMINATION LETTER" (NBRRO #21-286) ISSUED SEPTEMBER 9, 2021 AND FLAGGING OF THE SAME BY S&EC.
- 8" GRAVITY SEWER MAIN SHALL BE MANUFACTURED IN ACCORDANCE WITH ALL THE REQUIREMENTS OF ASTM D-3034-98 SDR 35 TYPE PSM POLYVINYL CHLORIDE SEWER PIPE AND FITTING, UNLESS OTHERWISE NOTED.
- ALL WATER MAINS SHALL BE PRESSURE CLASS OR THICKNESS CLASS DUCTILE IRON PIPE DESIGNED IN ACCORDANCE WITH AWWA STANDARD C-150. THE MINIMUM THICKNESS SHALL BE PRESSURE CLASS 350 FOR 6" AND 8" MAINS.
- ALL PROPOSED SEWER SERVICES TO BE 4" PVC, UNLESS OTHERWISE NOTED, AND BE INSTALLED IN ACCORDANCE WITH CITY OF RALEIGH STANDARD DETAILS S-30, S-31, AND S-32.
- ALL PROPOSED WATER SERVICE TO BE 3/4" COPPER WITH 5/8" METER, UNLESS OTHERWISE NOTED, AND BE INSTALLED AS SHOWN ON PLAN IN ACCORDANCE WITH CITY OF RALEIGH DETAIL W-23.

ATTENTION CONTRACTORS:

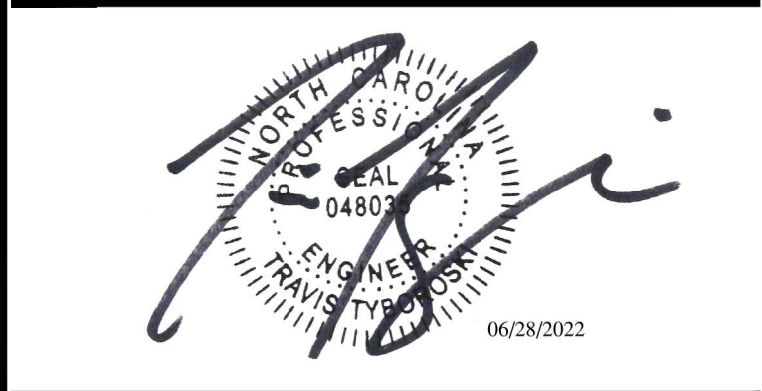
The **Construction Contractor** responsible for the extension of water, sewer, and/or reuse, as approved in these plans, is responsible for **contacting the Public Utilities Department at (919) 996-4540** at least **twenty four hours** prior to beginning any of their construction.

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.

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LEGEND

PLANS NOT APPROVED FOR CONSTRUCTION UNLESS SIGNED BY CITY OF RALEIGH

Water and Sewer Permits (if applicable)

The City of Raleigh consents to the connection and extension of the City's Public Sewer System as shown on this plan. The material and Construction methods used for this project shall conform to the standards and specifications of the City's Public Utilities Handbook.
 City of Raleigh Public Utilities Department Permit # **S-5018**

The City of Raleigh consents to the connection to its public sewer system and extension of the private sewer collection system as shown on this plan. The material and construction methods used for this project shall conform to the standards and specifications of the City's Public Utilities Handbook.
 City of Raleigh Public Utilities Department Permit # **W-3912**

CITY OF RALEIGH - PLANS AUTHORIZED FOR CONSTRUCTION

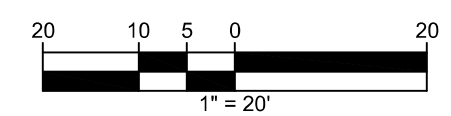
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City of Raleigh Development Approval _____
 Raleigh Water Review Officer

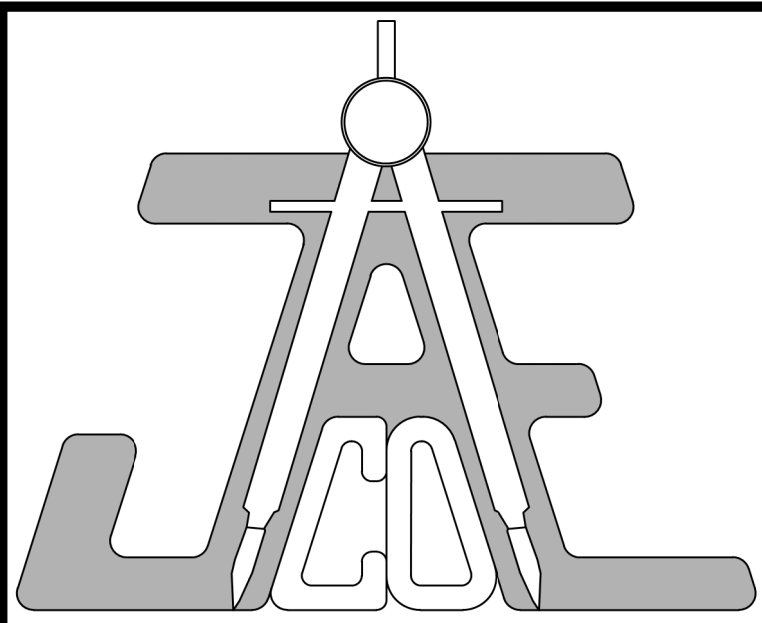
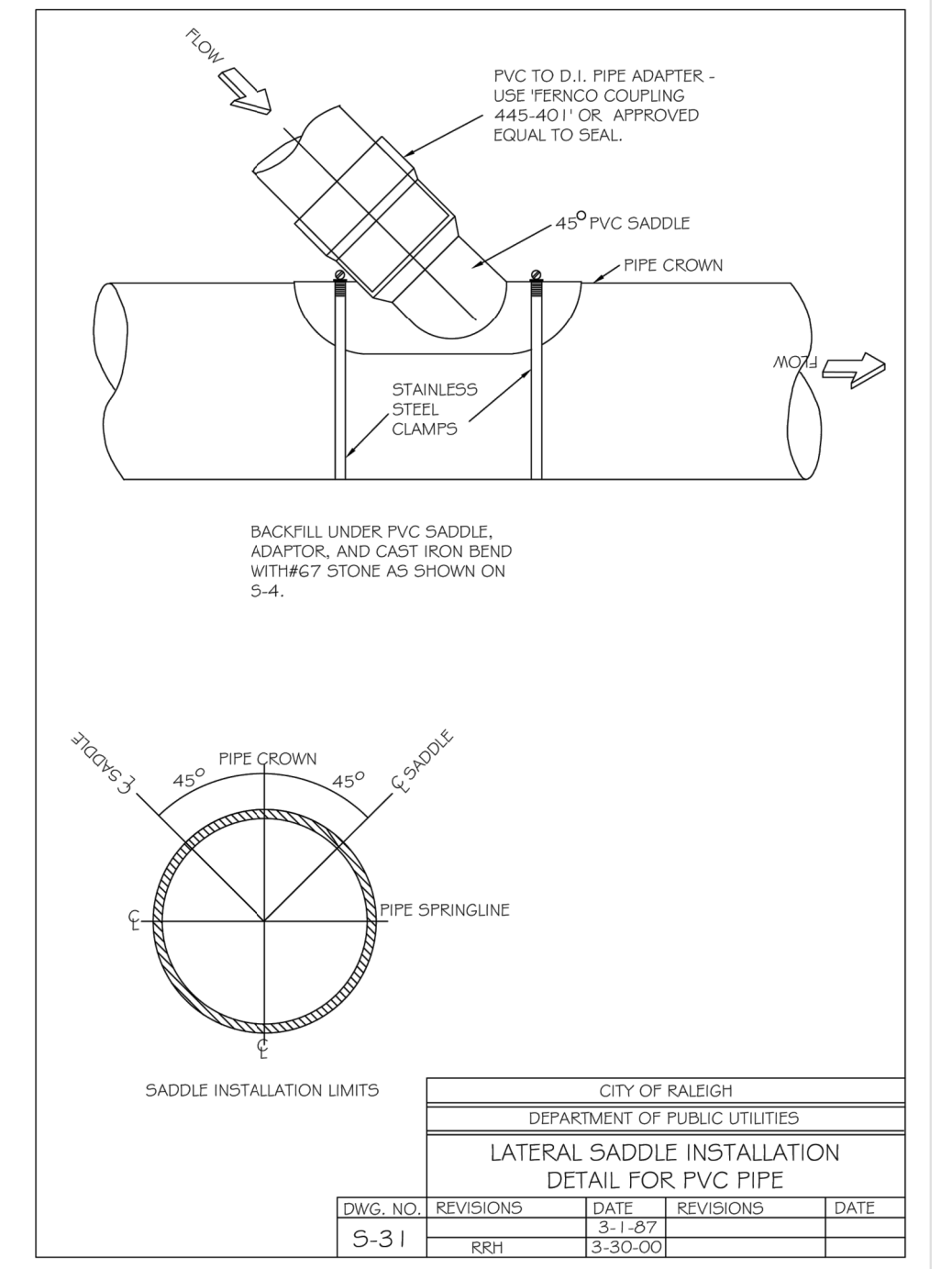
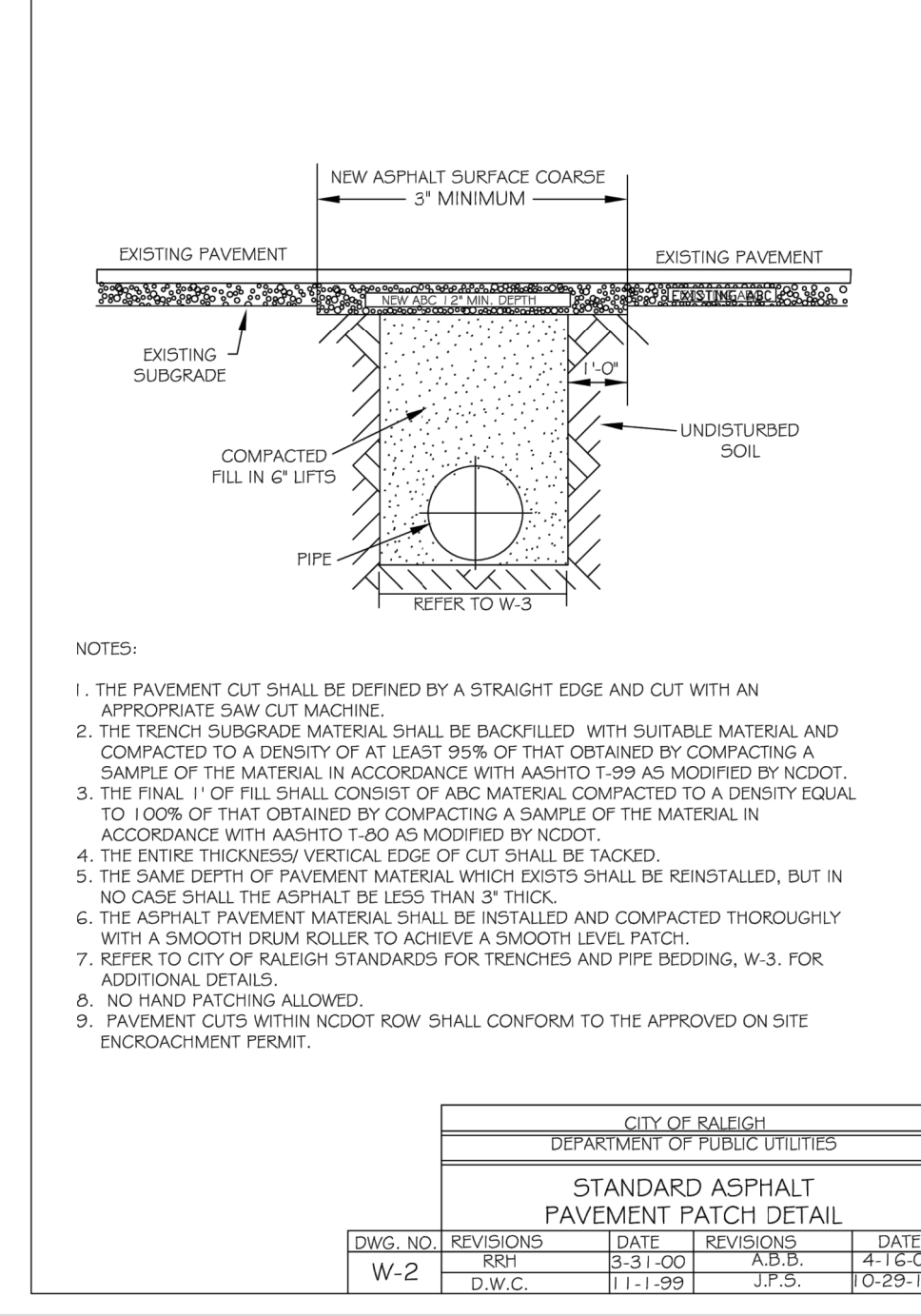
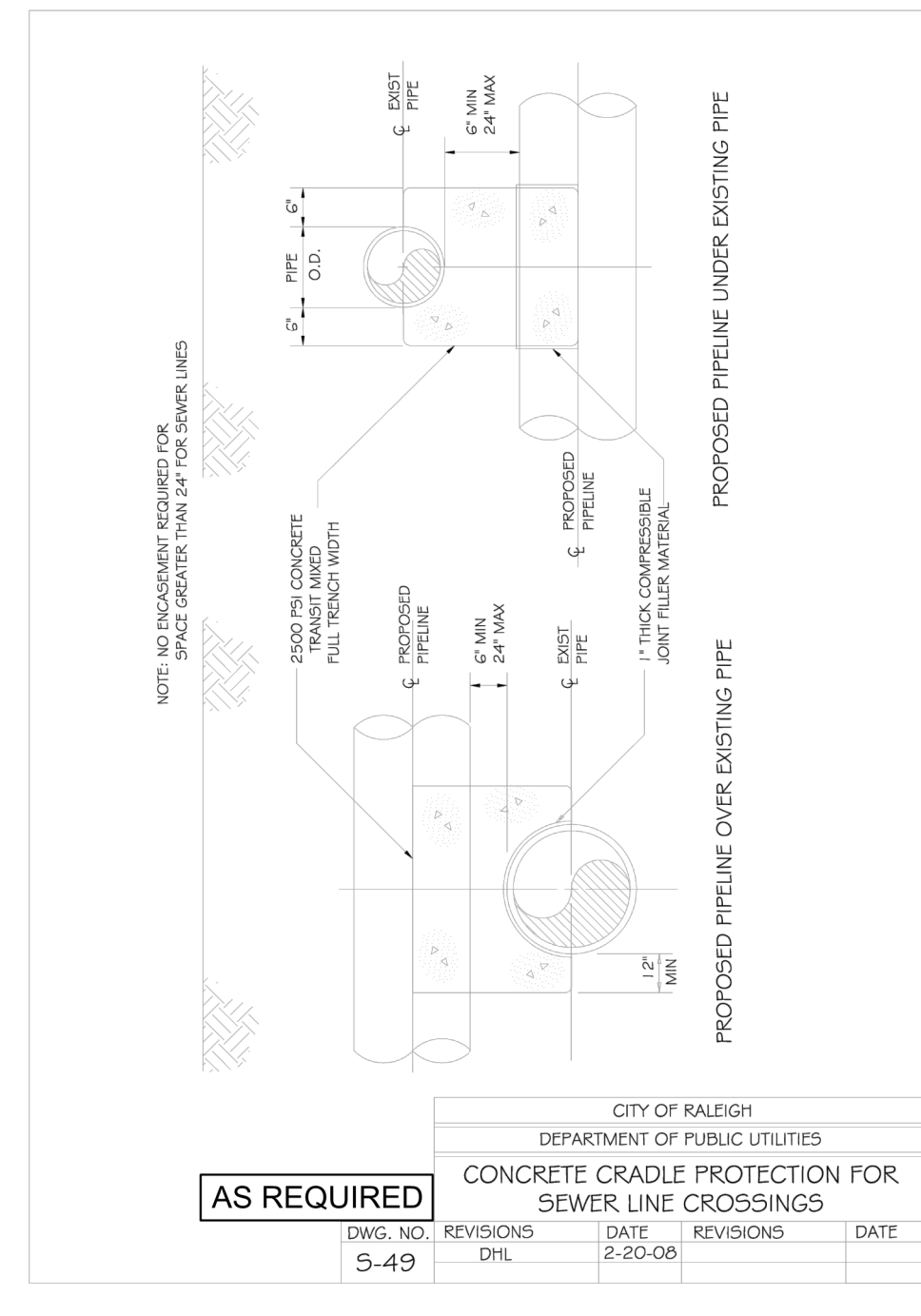
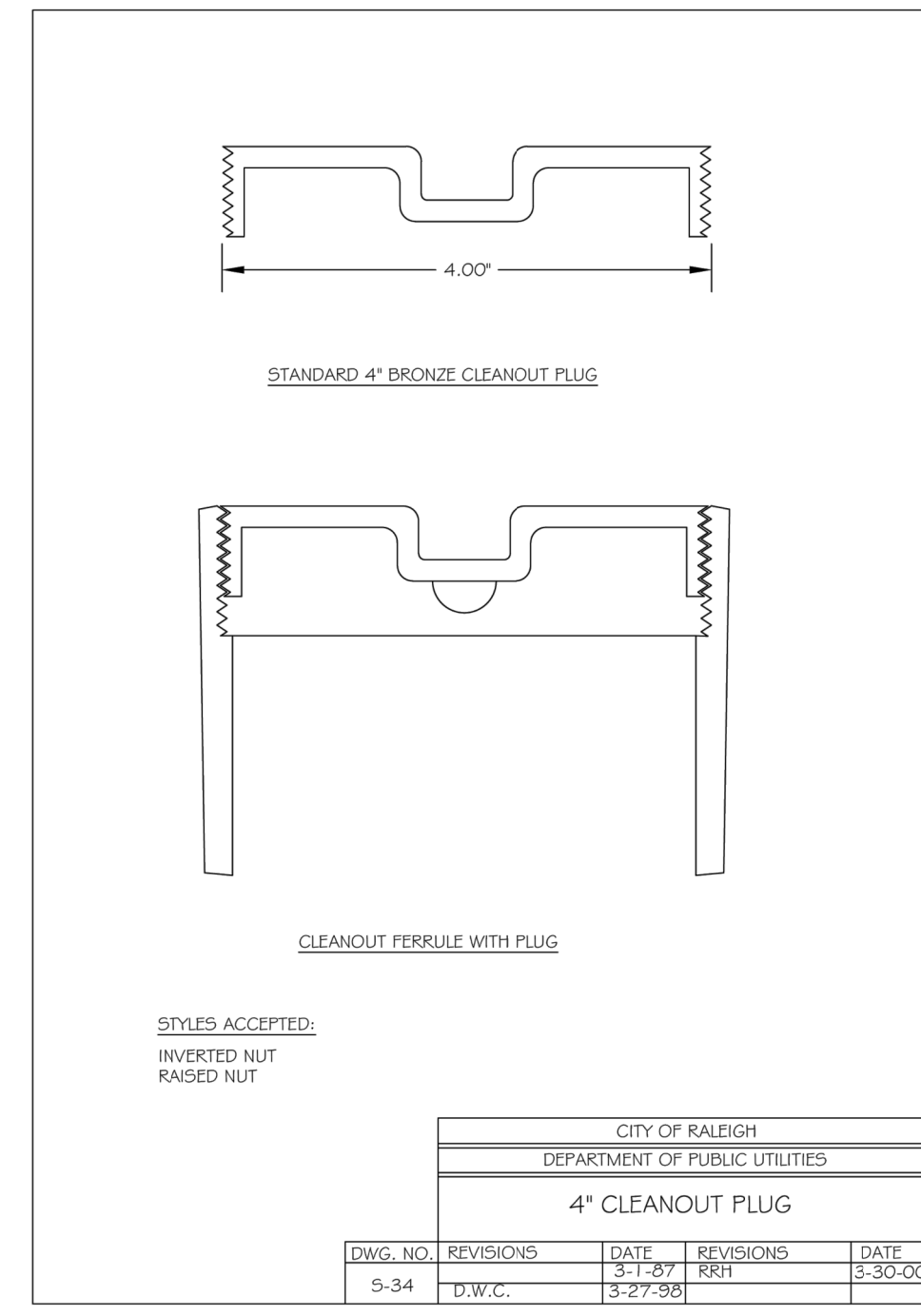
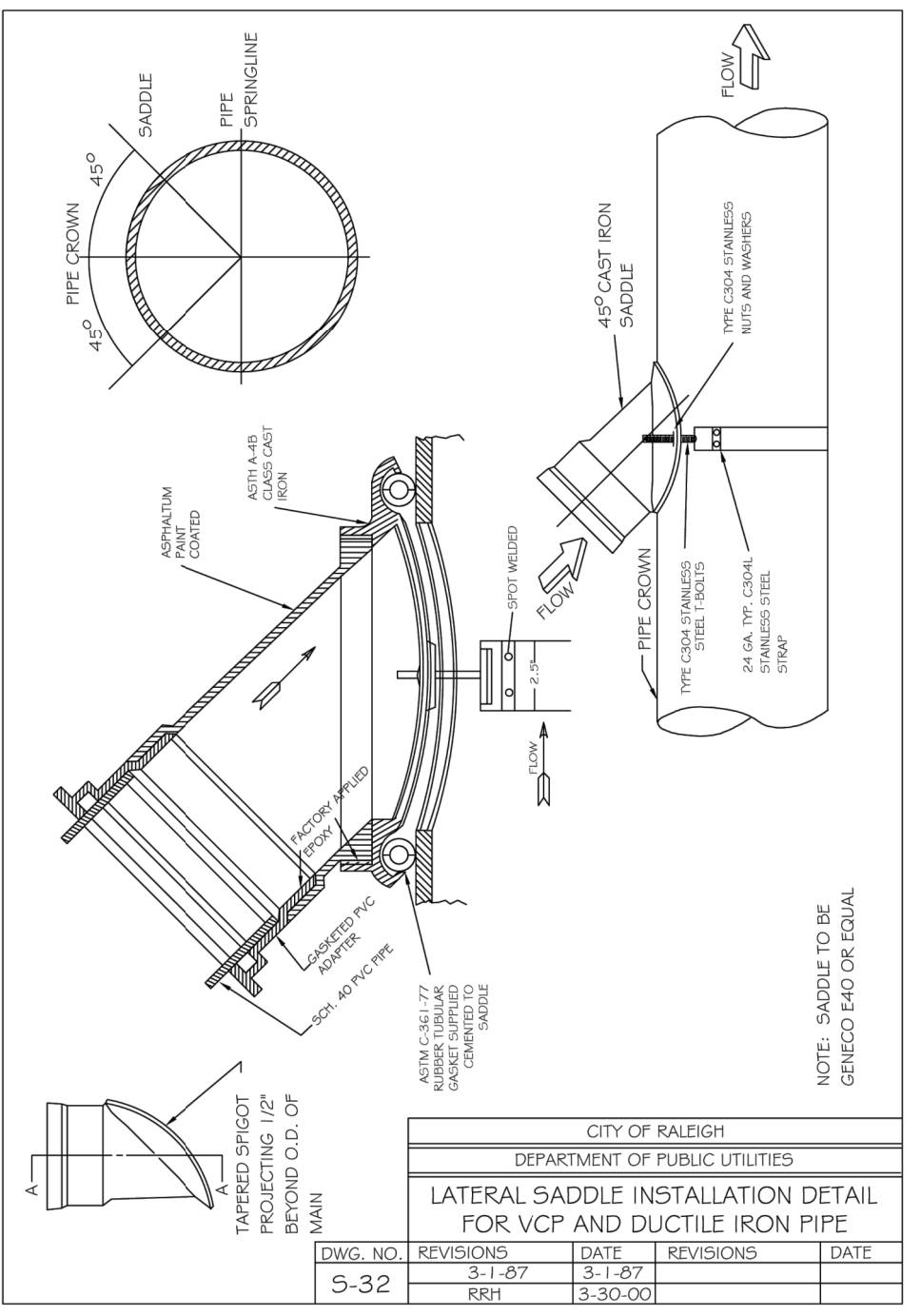
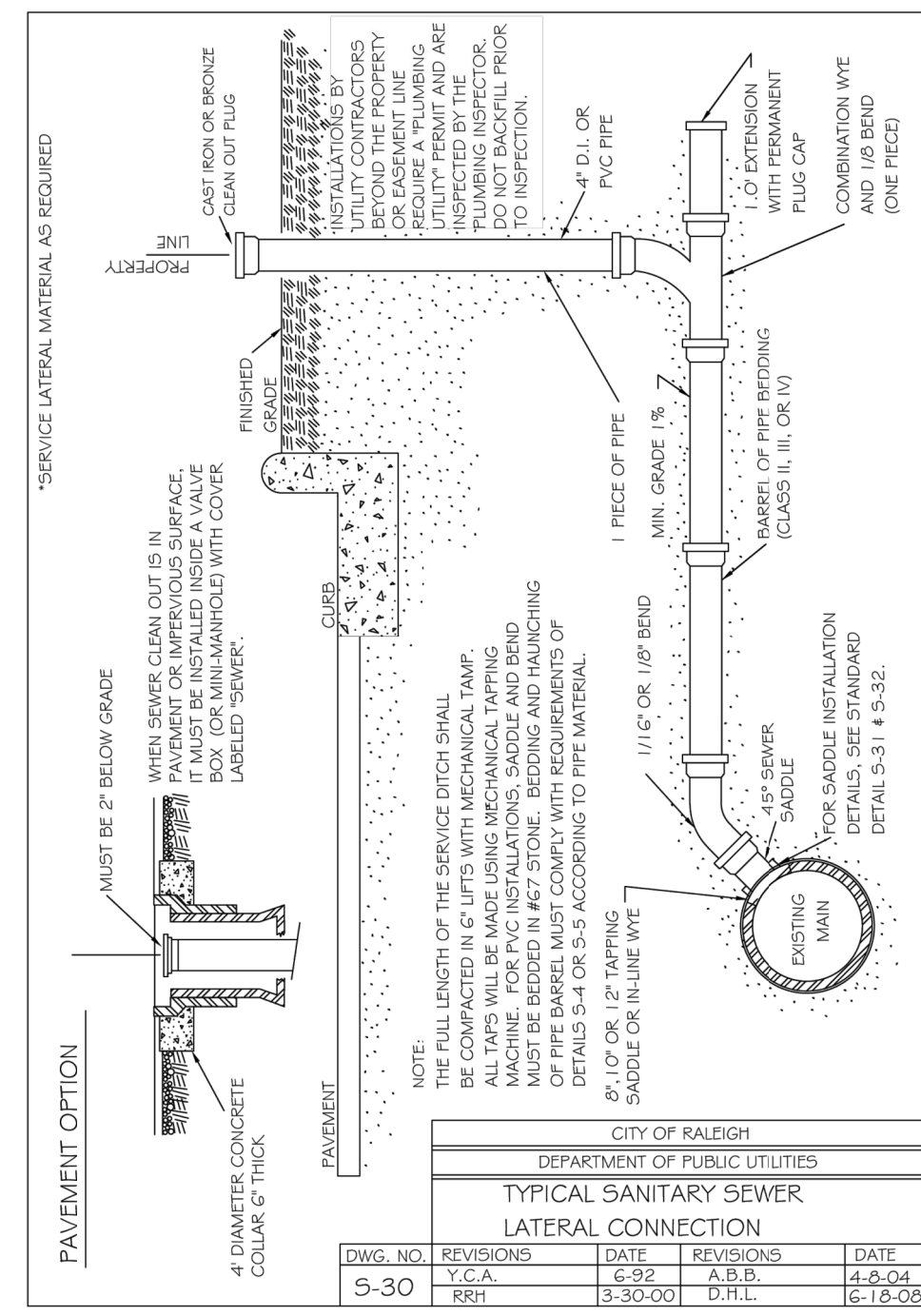
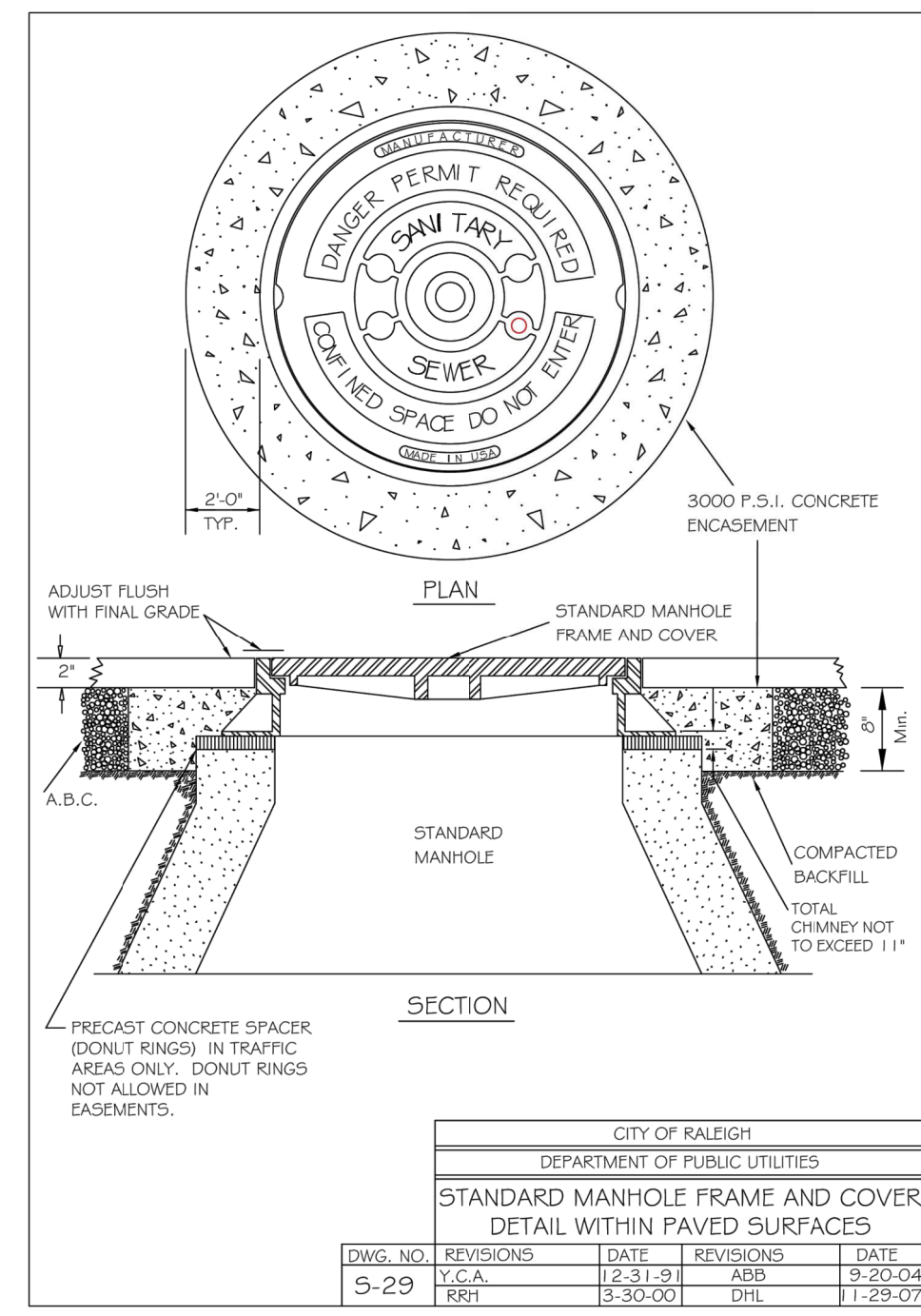
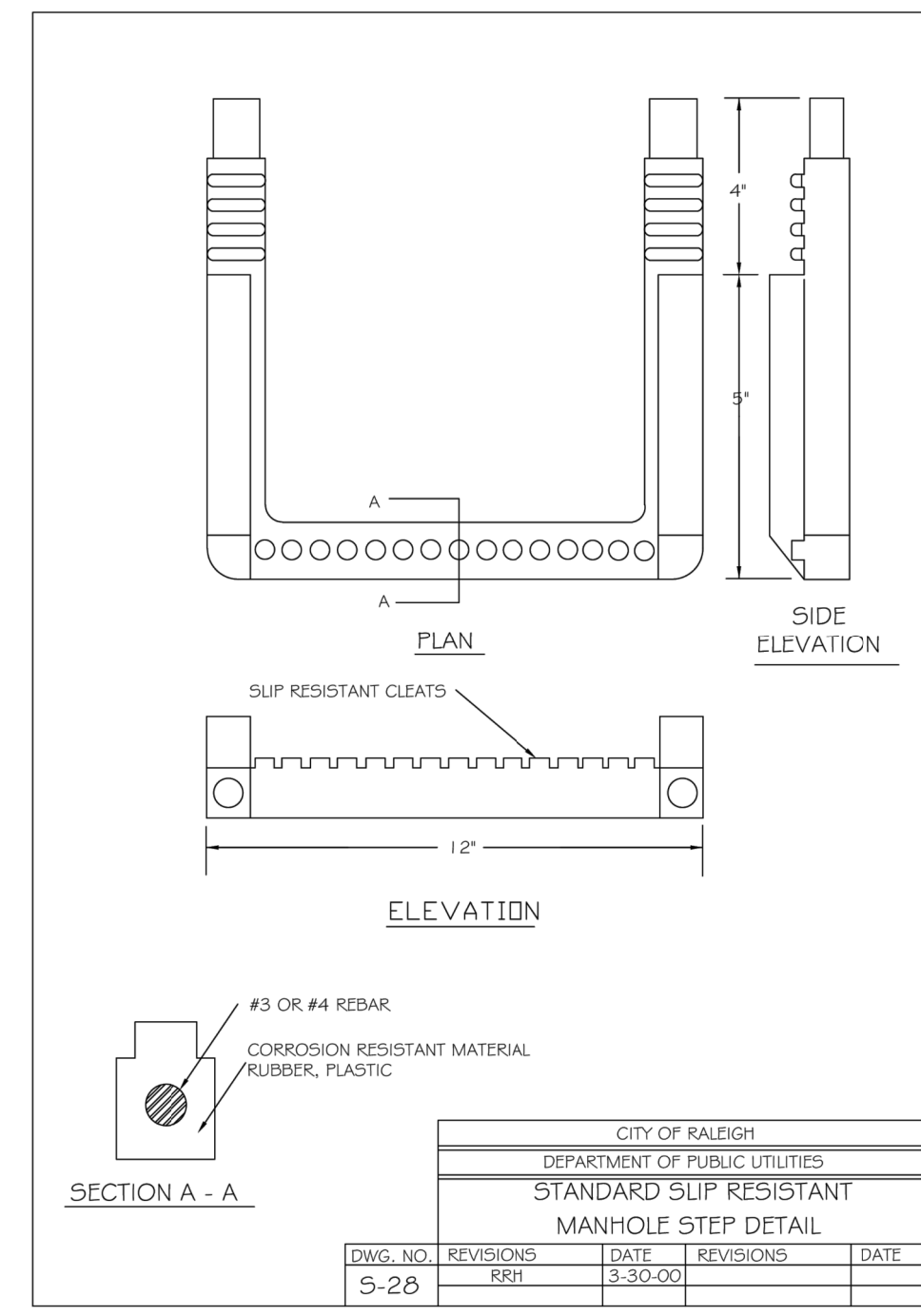
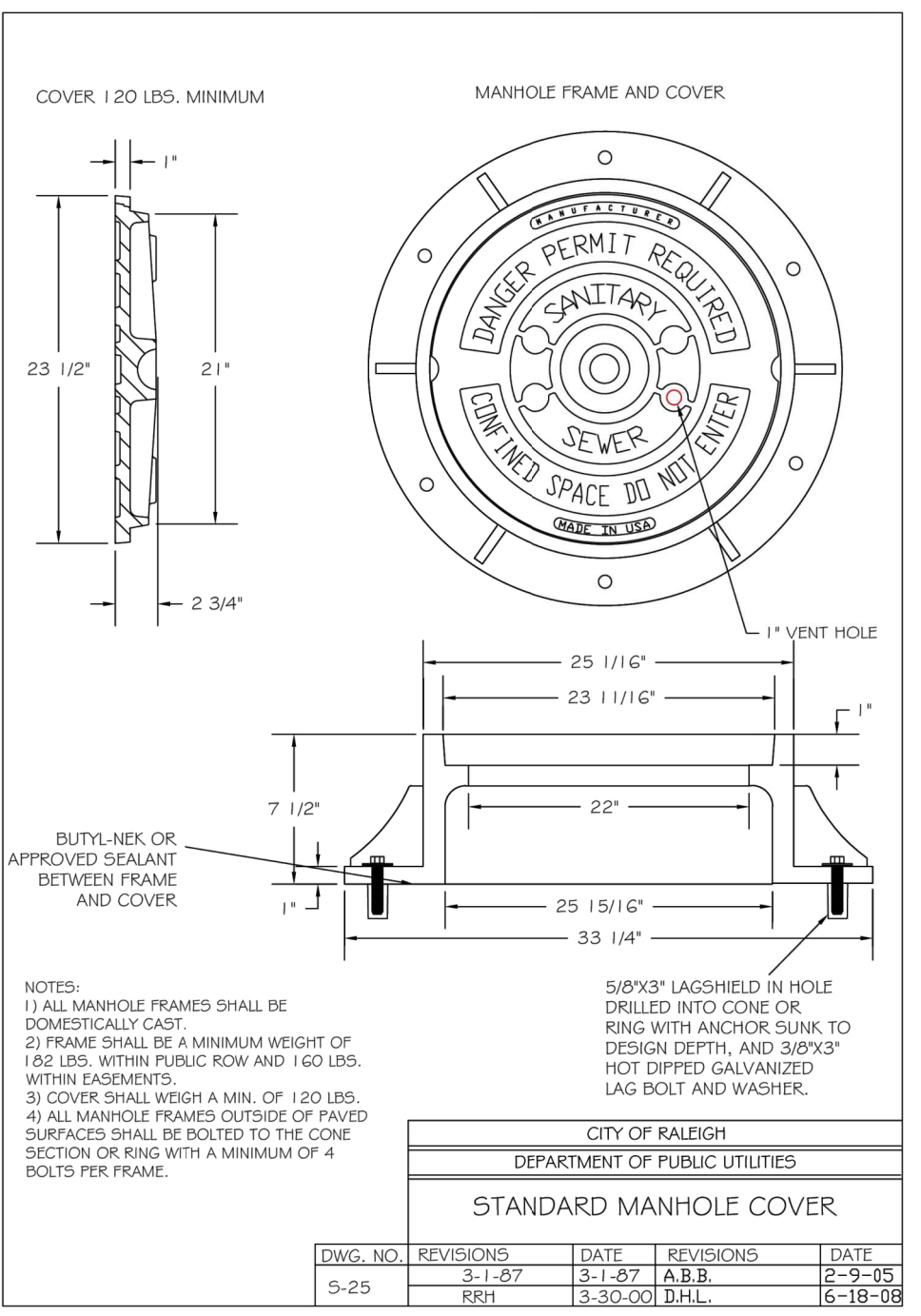
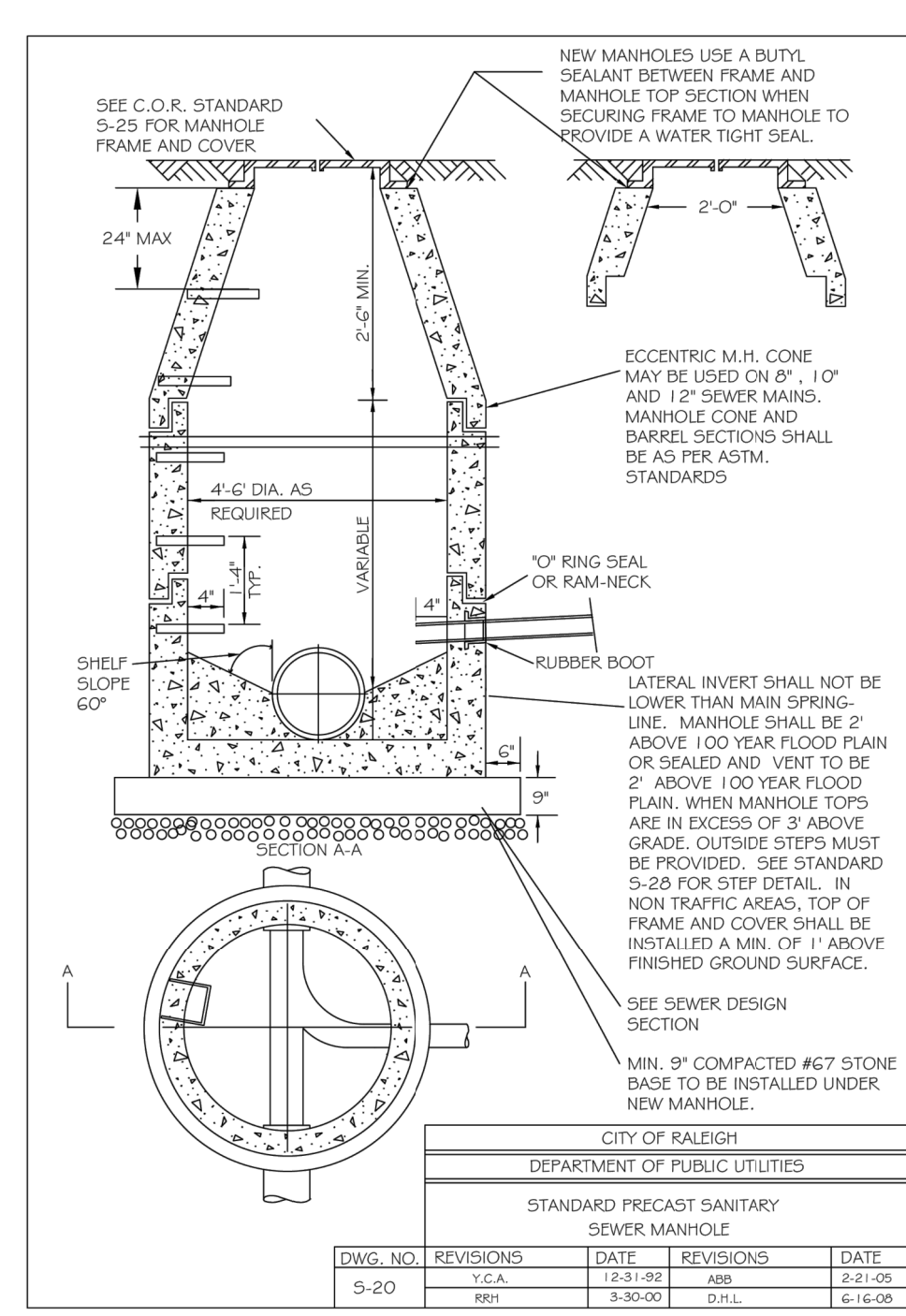
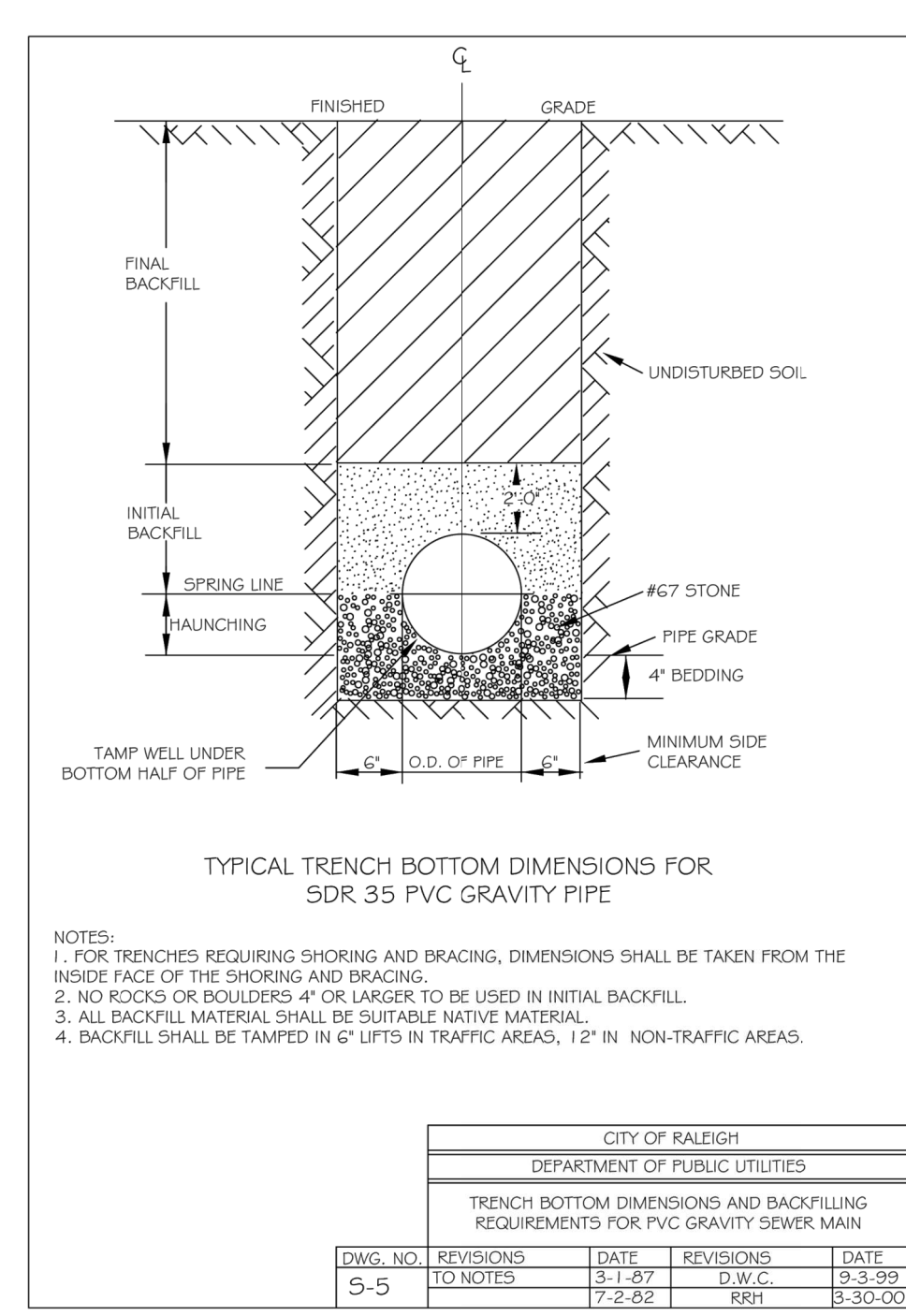
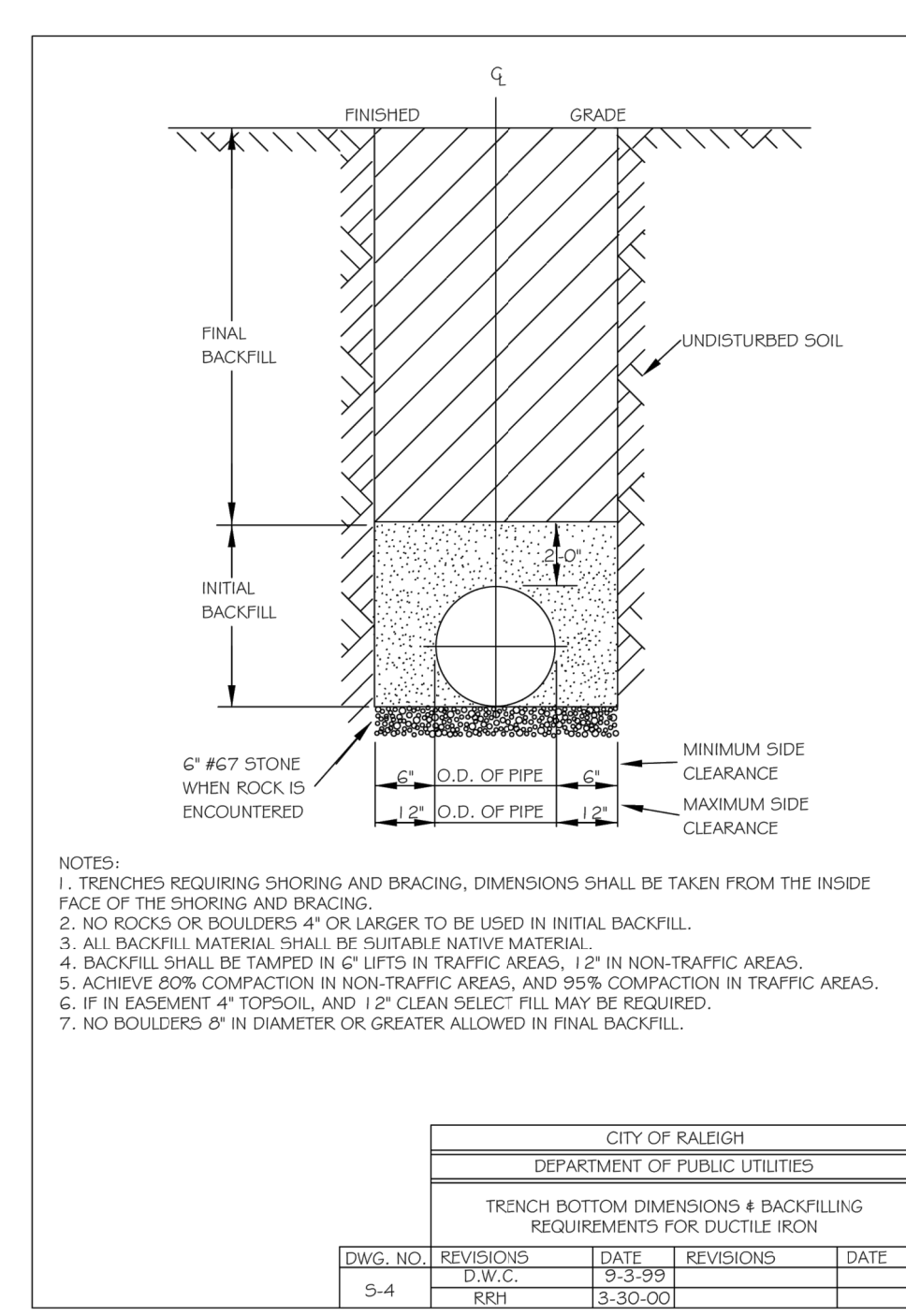
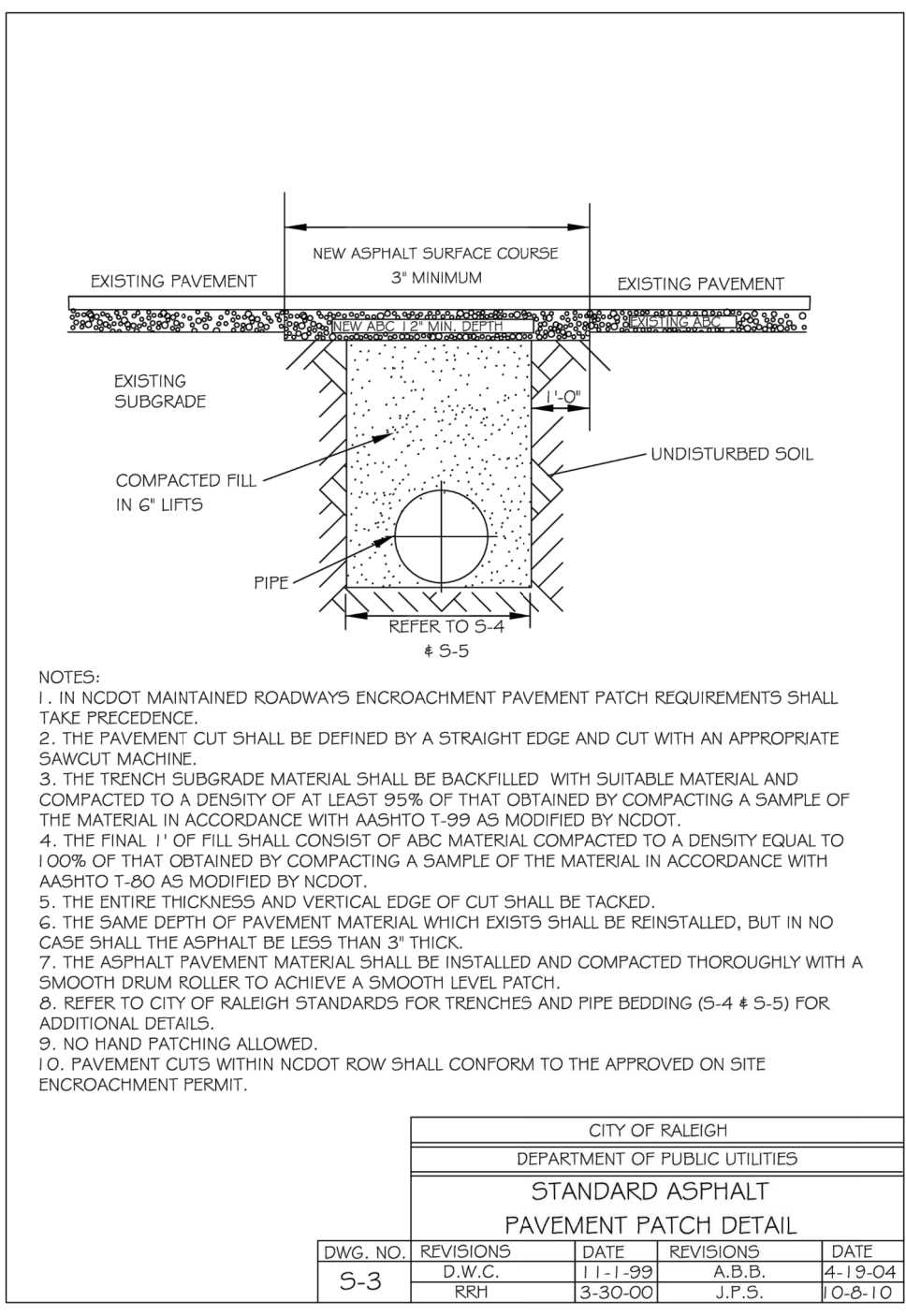
SANITARY OUTFALL PROFILES

Number	Description	Date
1	PER TRC COMMENTS	04/14/22
2	PER TRC COMMENTS	05/26/22
3	PER TRC COMMENTS	06/13/22
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5	PER TRC COMMENTS	06/27/22

JAECO #: 364-04
 DRAWING SCALE: AS SHOWN
 DRAWN BY: TT
 CHECKED BY: TT
 DATE ISSUED: 01/30/2022



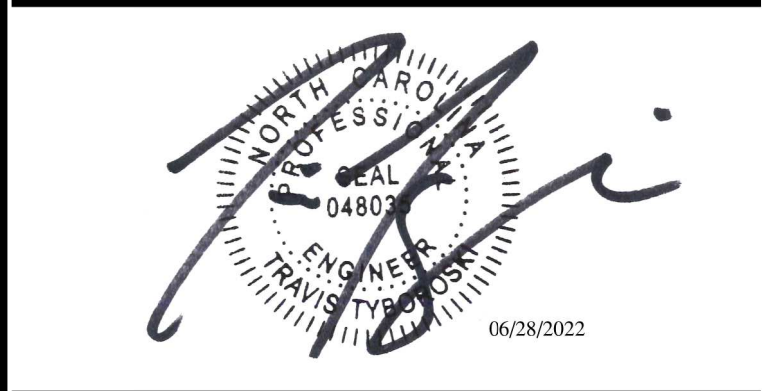
C-19



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LEGEND

PLANS NOT APPROVED FOR CONSTRUCTION UNLESS SIGNED BY CITY OF RALEIGH

CITY OF RALEIGH - PLANS AUTHORIZED FOR CONSTRUCTION

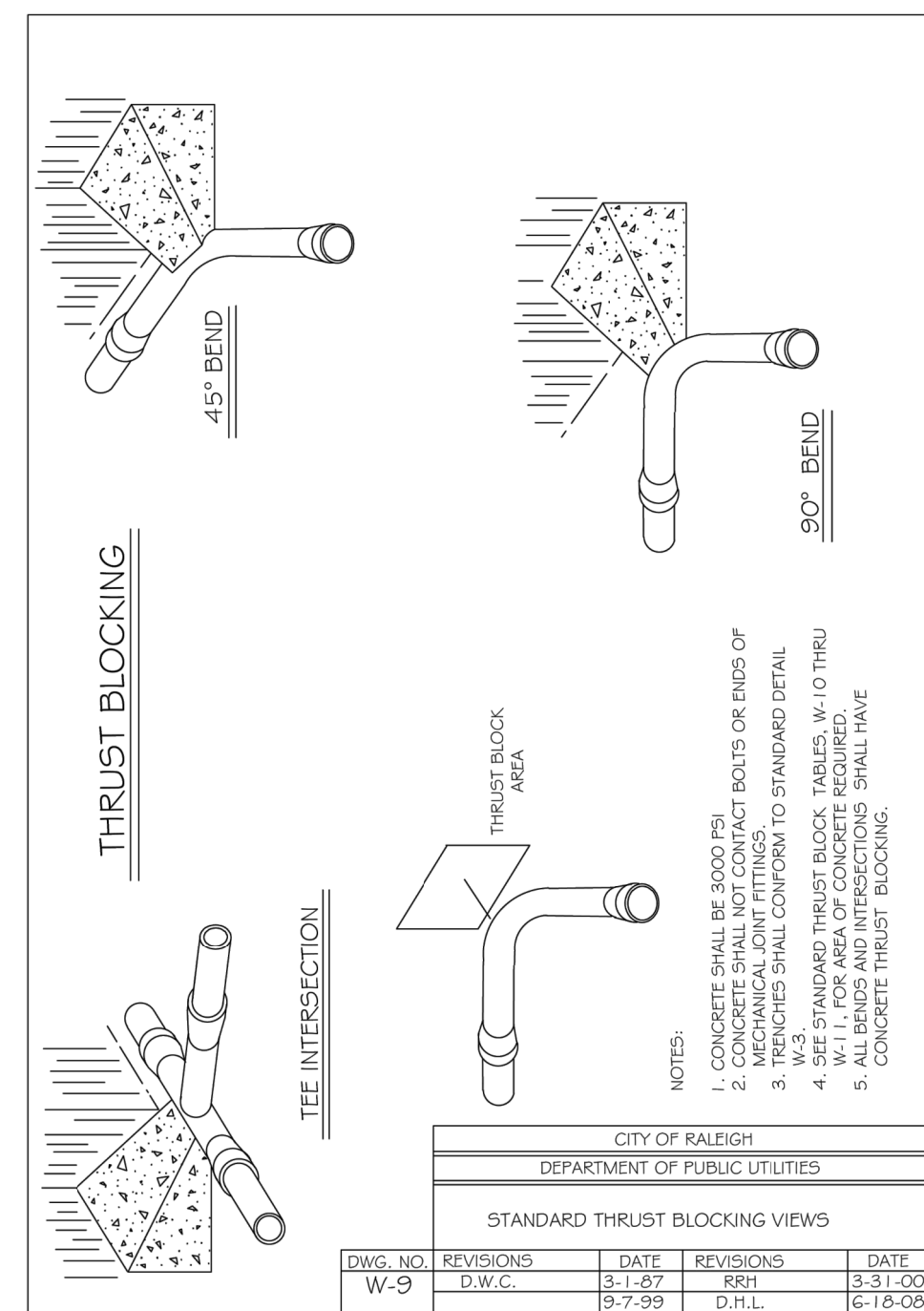
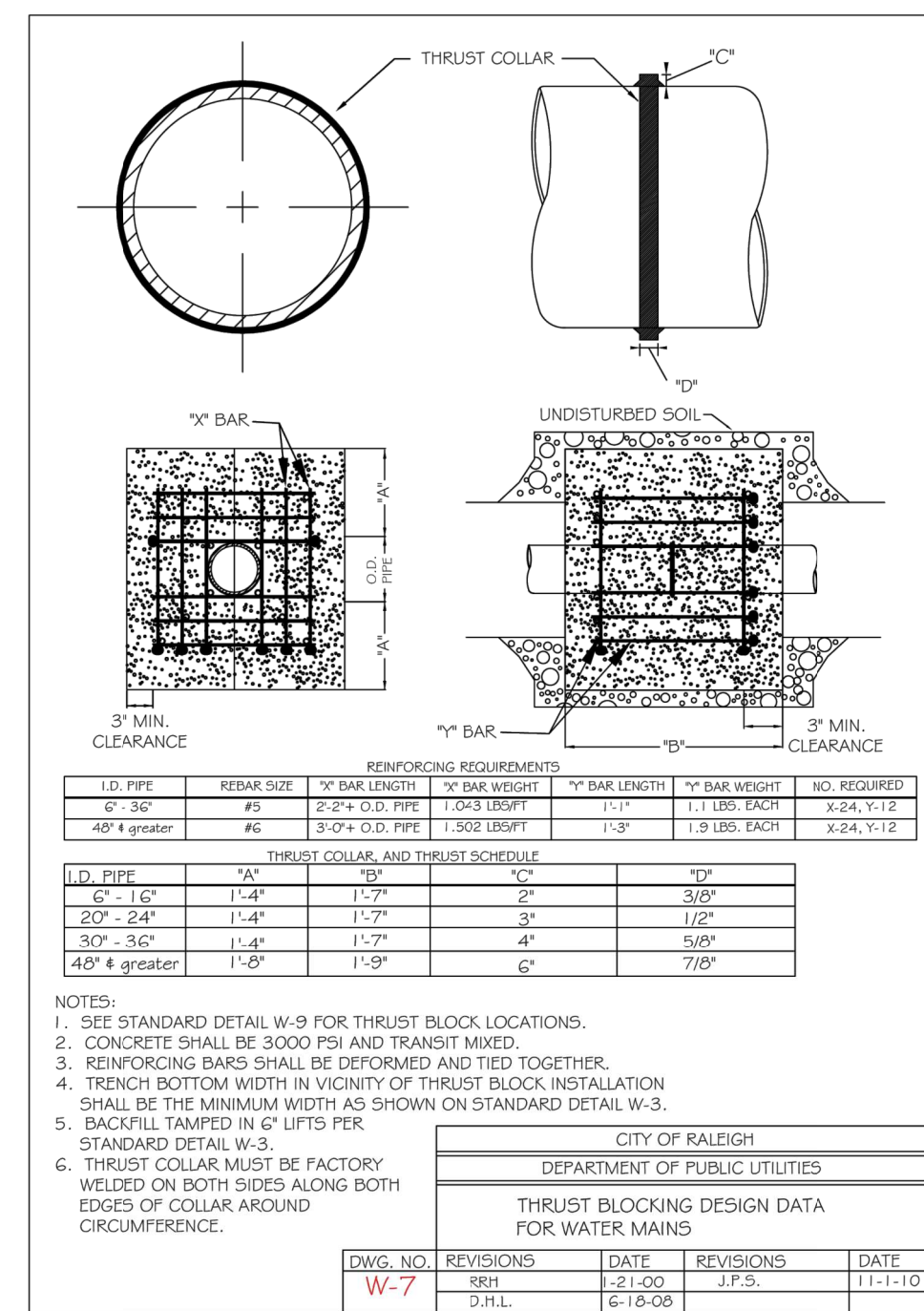
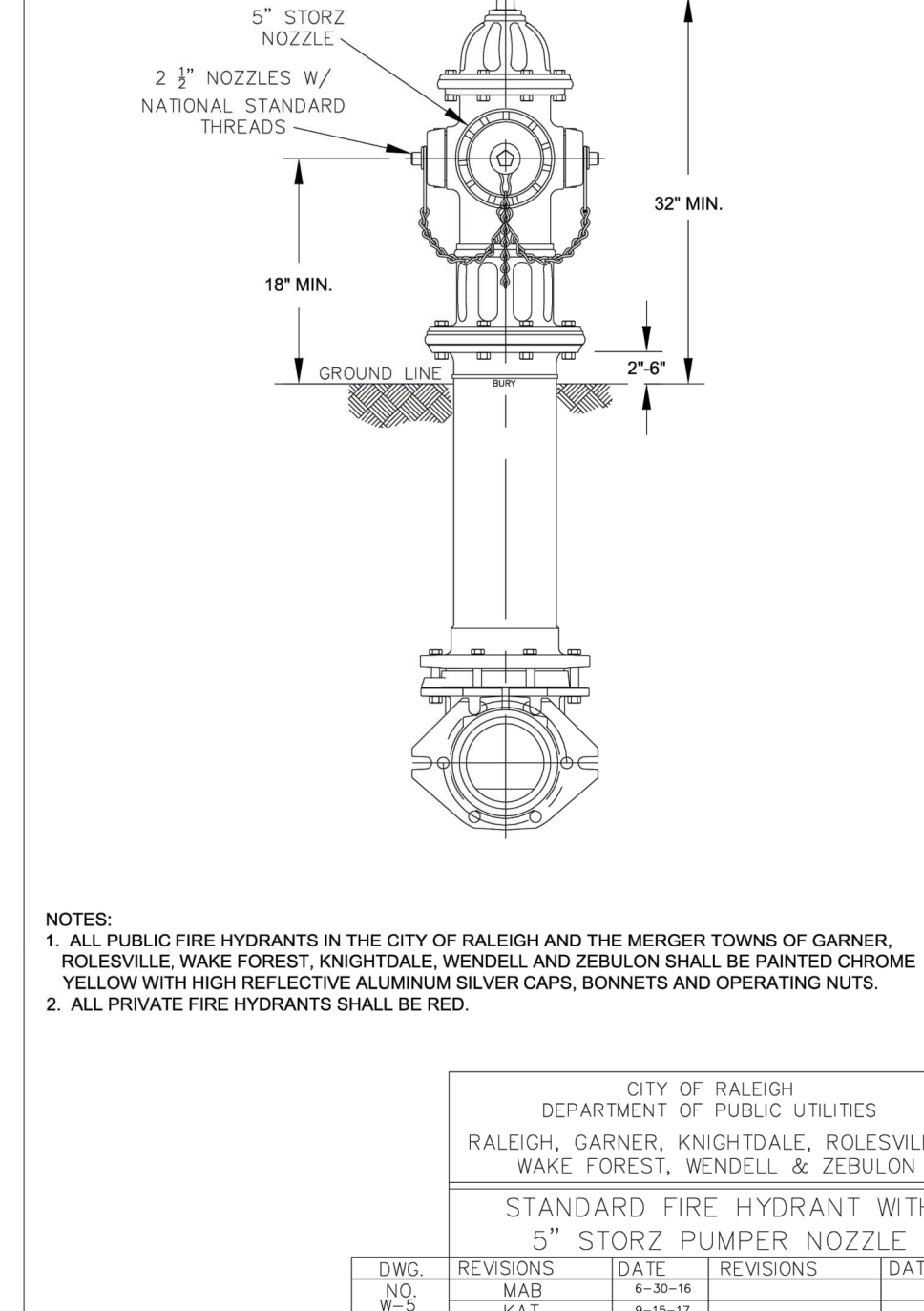
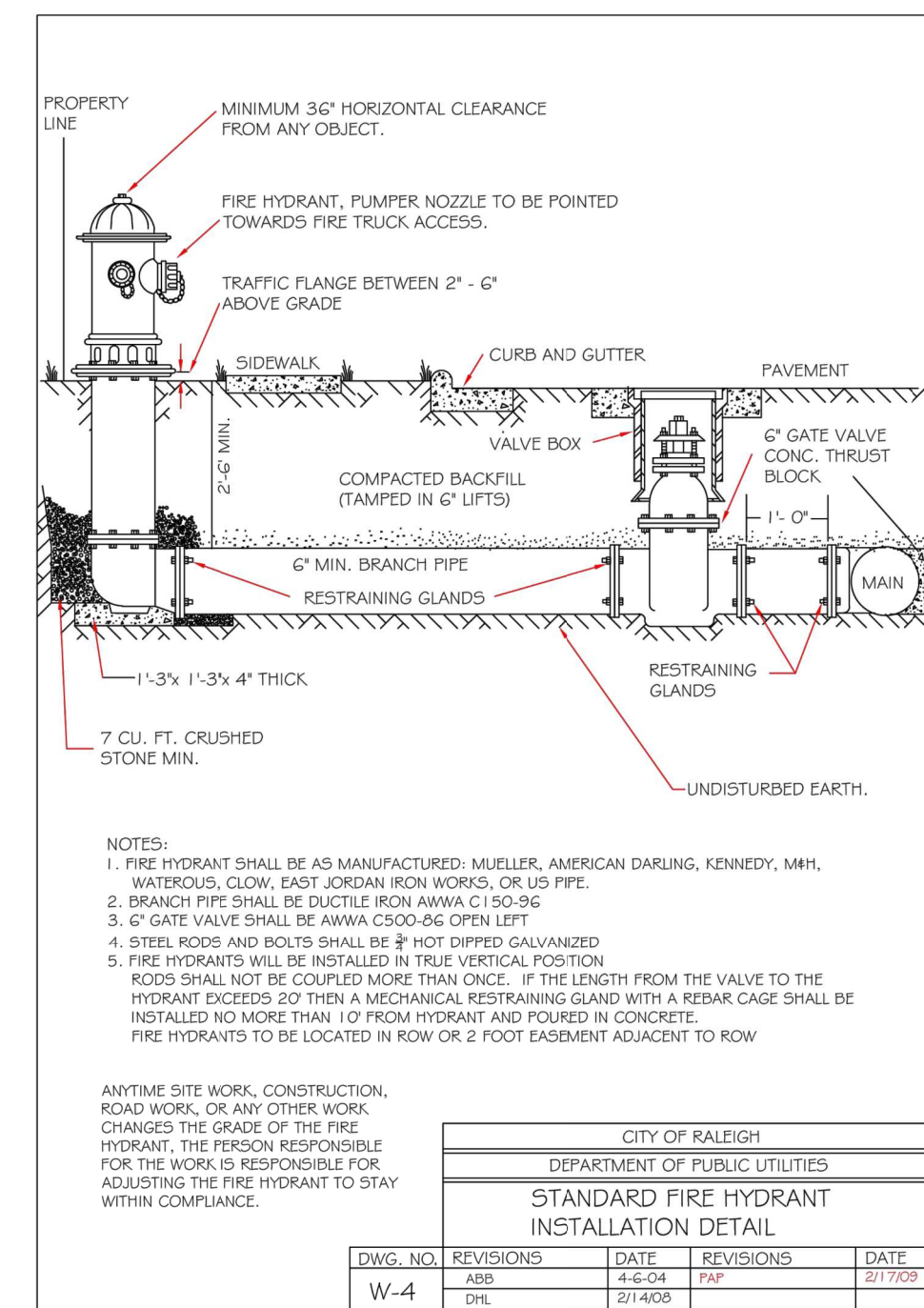
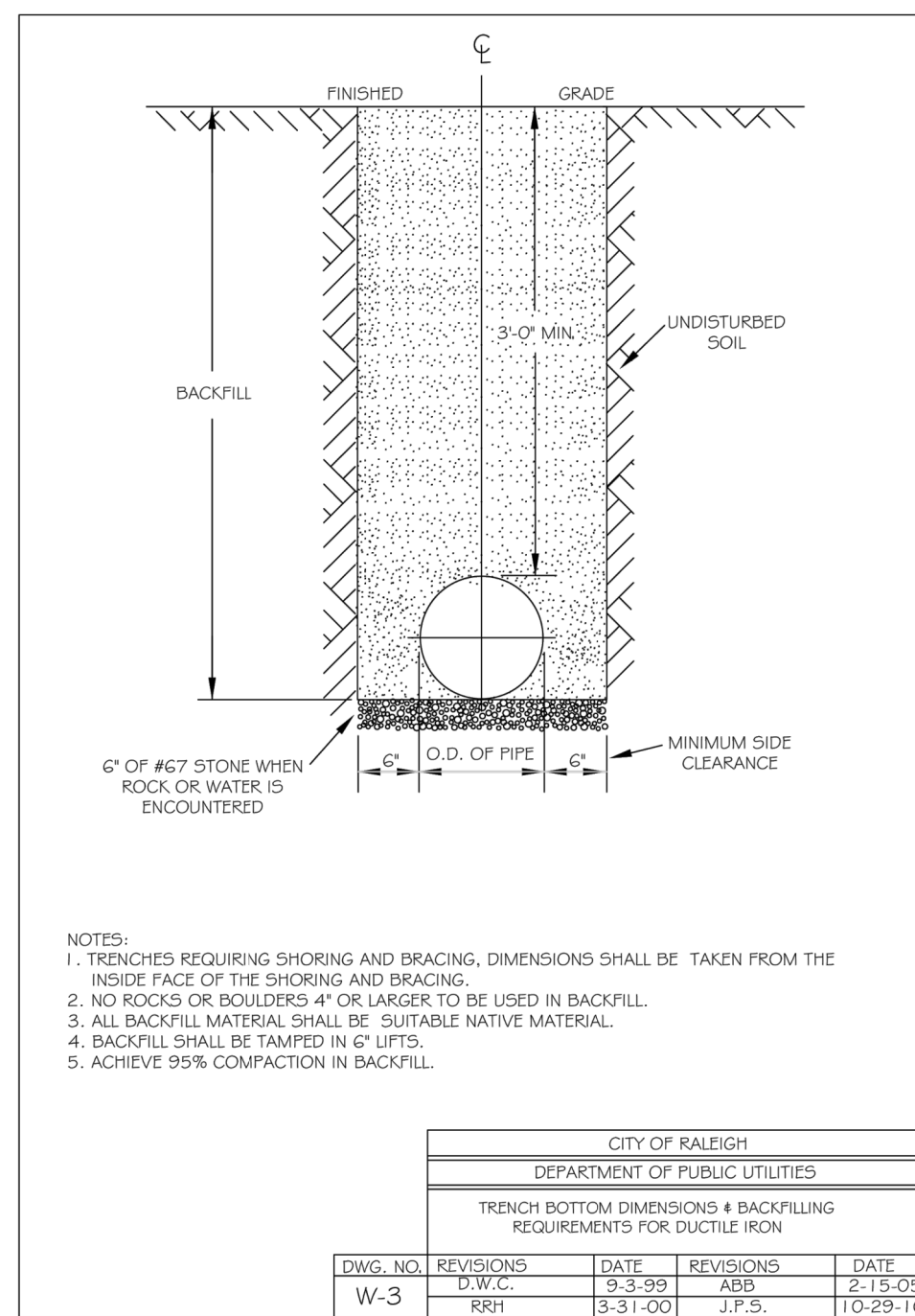
Plans for the proposed use have been reviewed for general compliance with applicable codes. This limited review, and authorization for construction is not to be considered to represent total compliance with all legal requirements for development and construction. The property owner, design consultants, and contractors are each responsible for compliance with all applicable City, State and Federal laws. This specific authorization below is not a permit, nor shall it be construed to permit any violation of City, State or Federal Law. All Construction must be in accordance with all Local, State, and Federal Rules and Regulations. This approval of this electronic document is only valid if the document has not been modified and the digital signature below is valid.

City of Raleigh Development Approval _____
 City of Raleigh Review Officer _____

UTILITY DETAILS

Number	Description	Date
1	PER TRC COMMENTS	04/14/22
2	PER TRC COMMENTS	05/26/22
3	PER TRC COMMENTS	06/13/22
4	PER TRC COMMENTS	06/15/22
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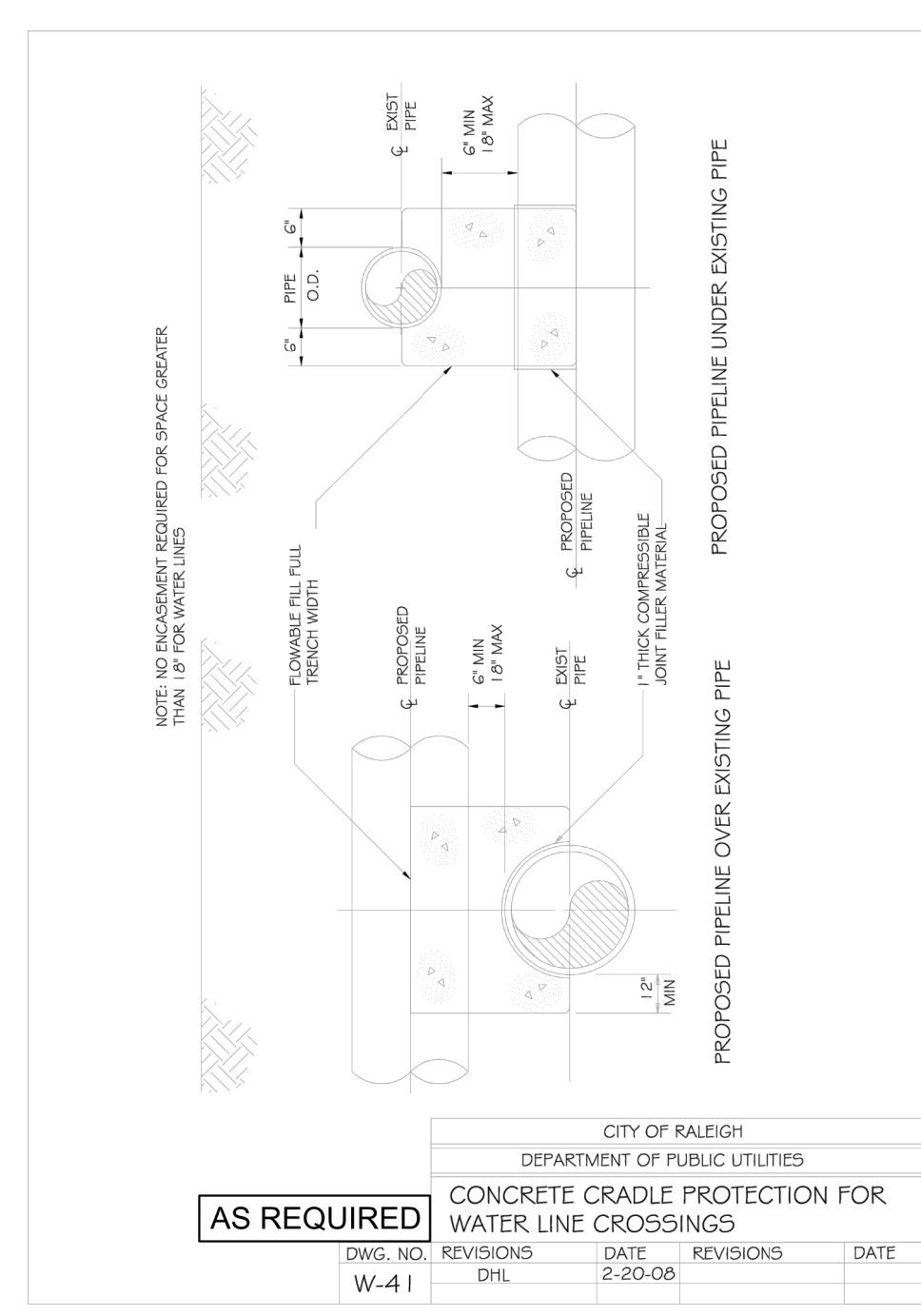
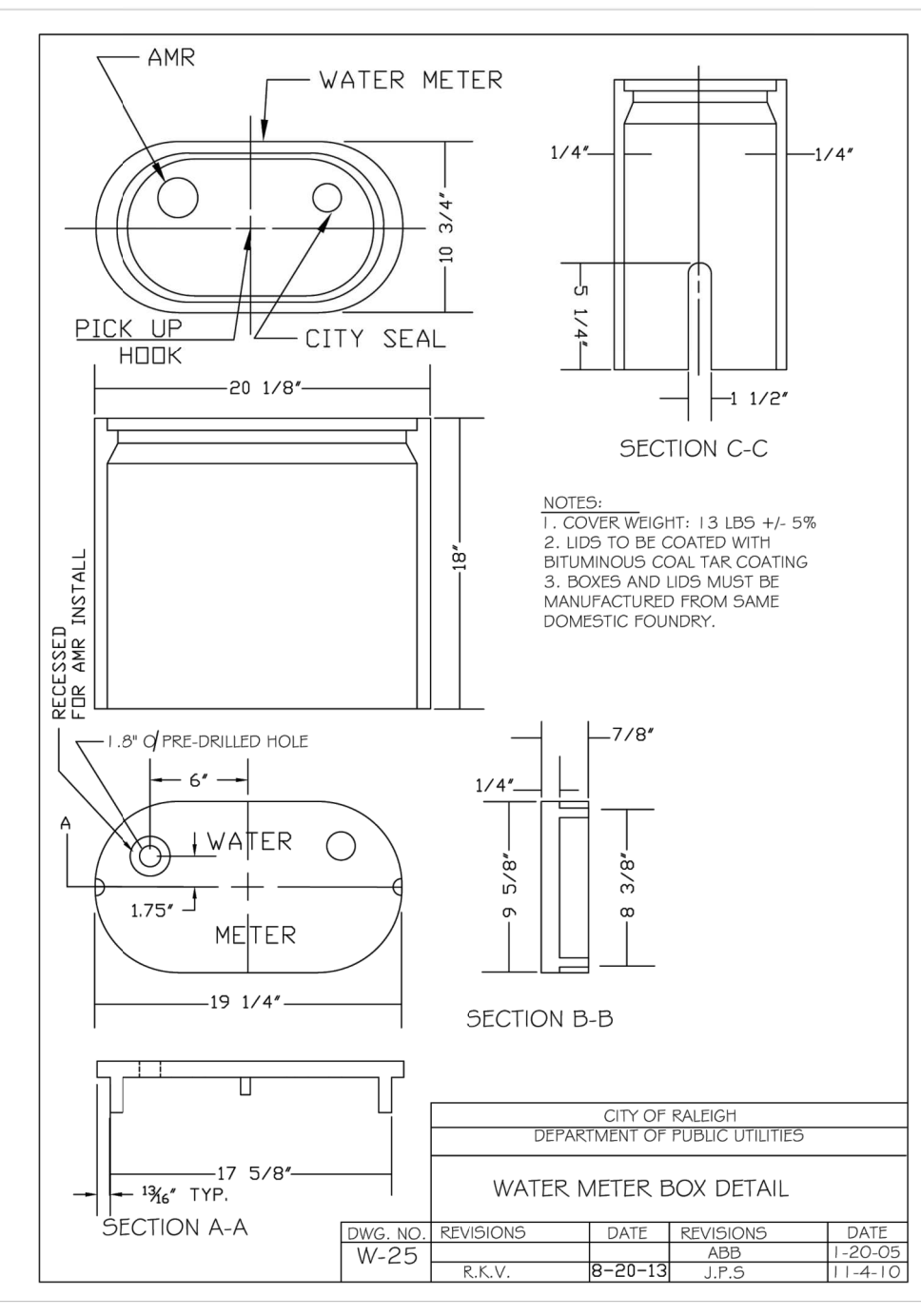
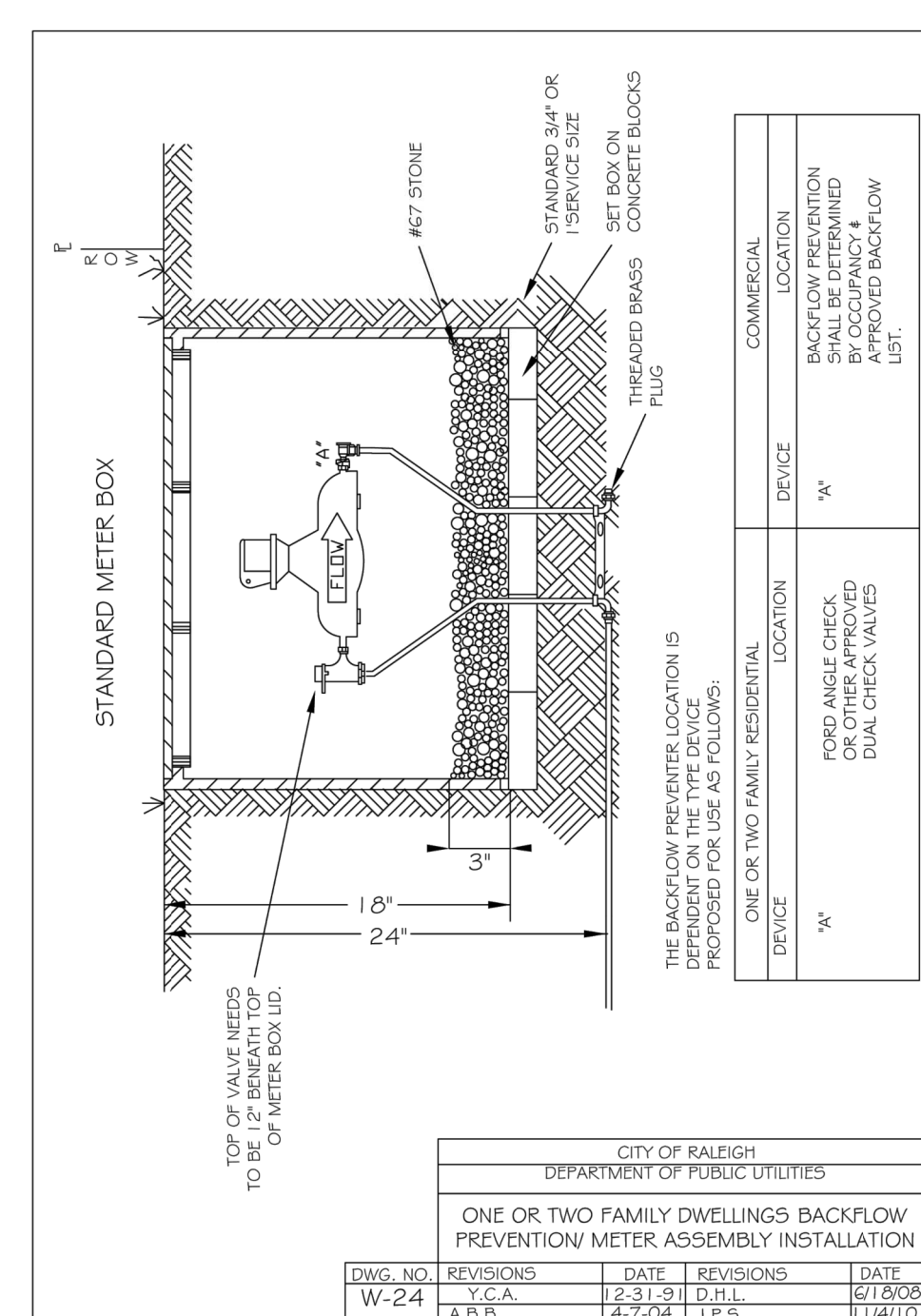
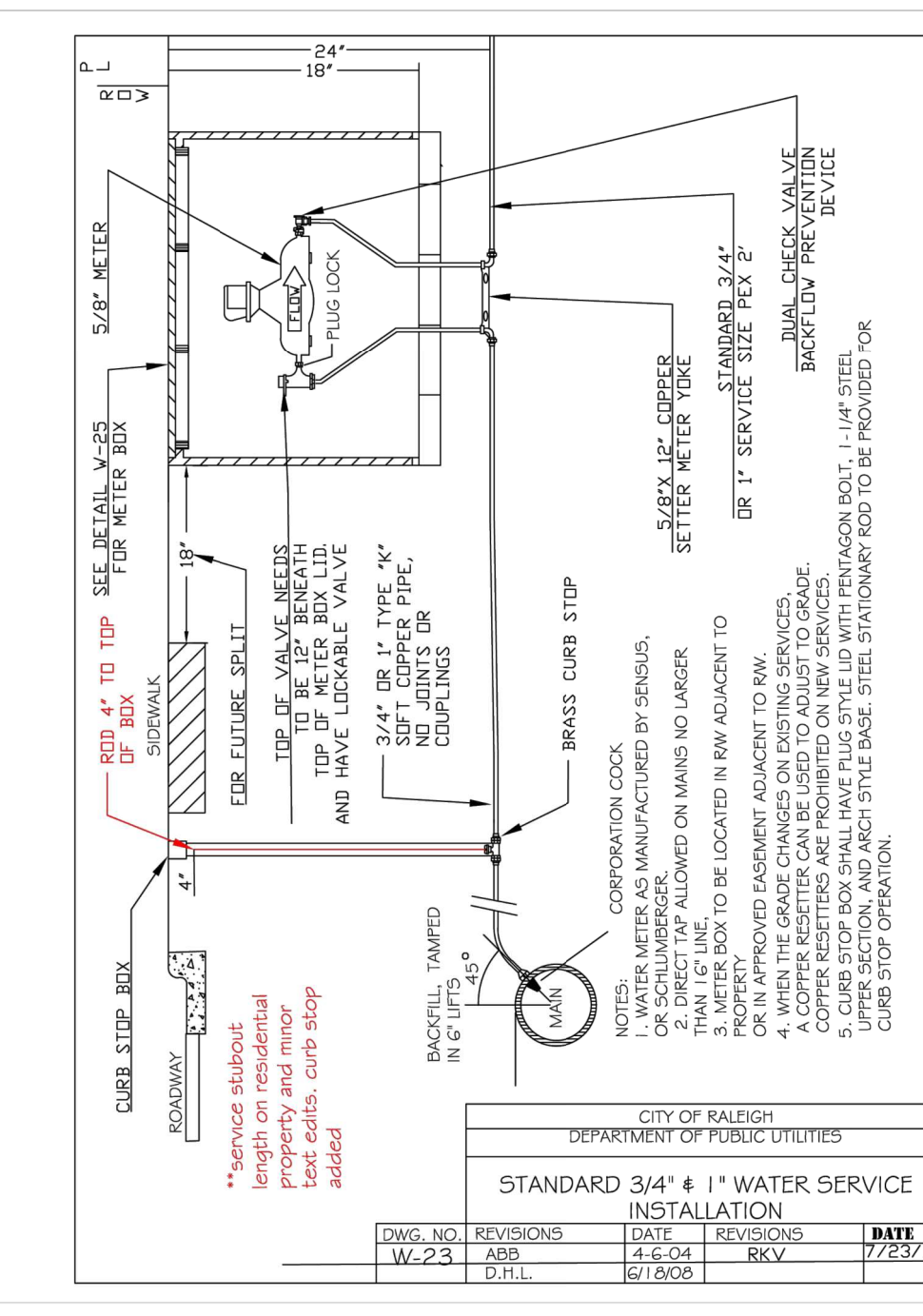
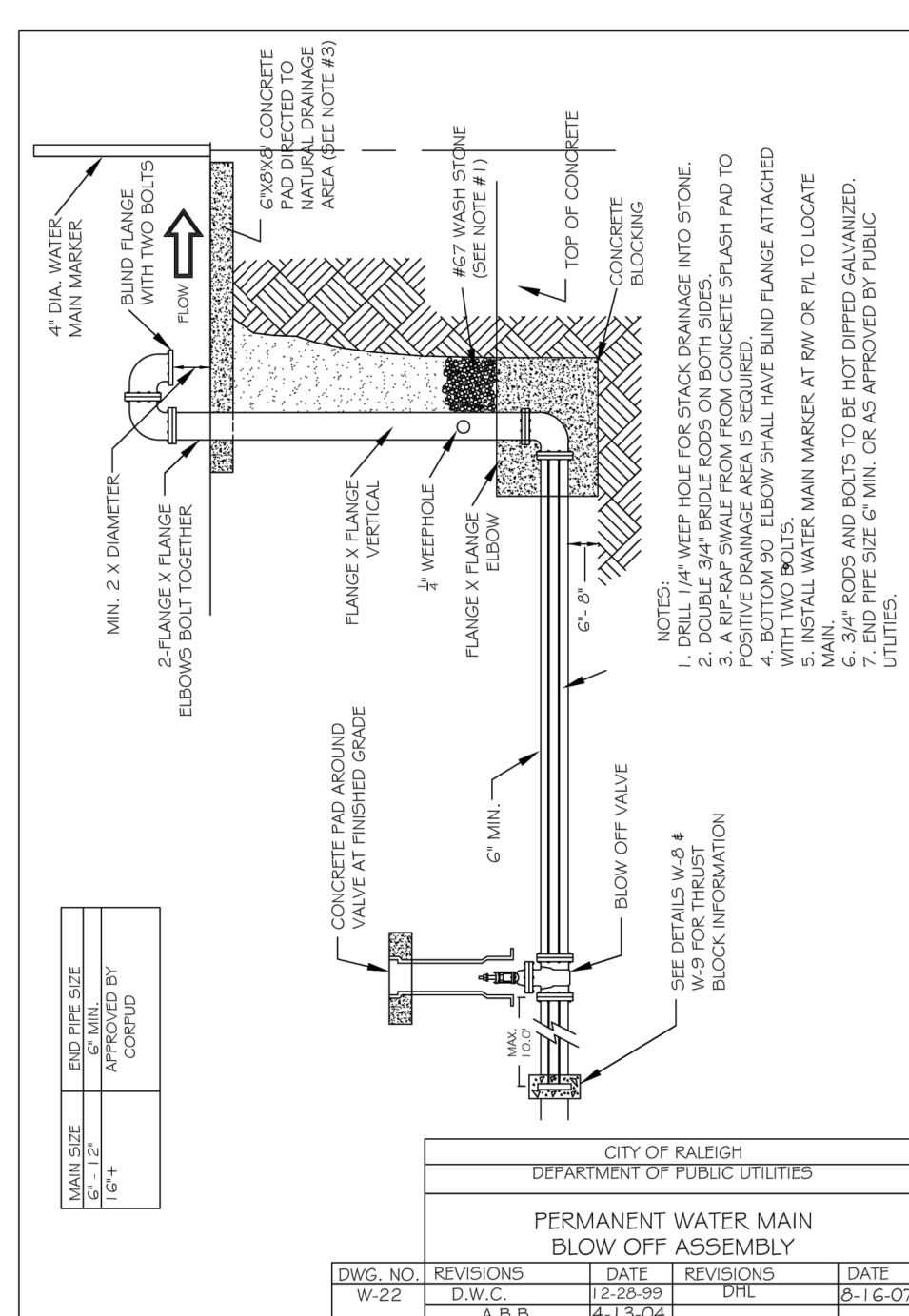
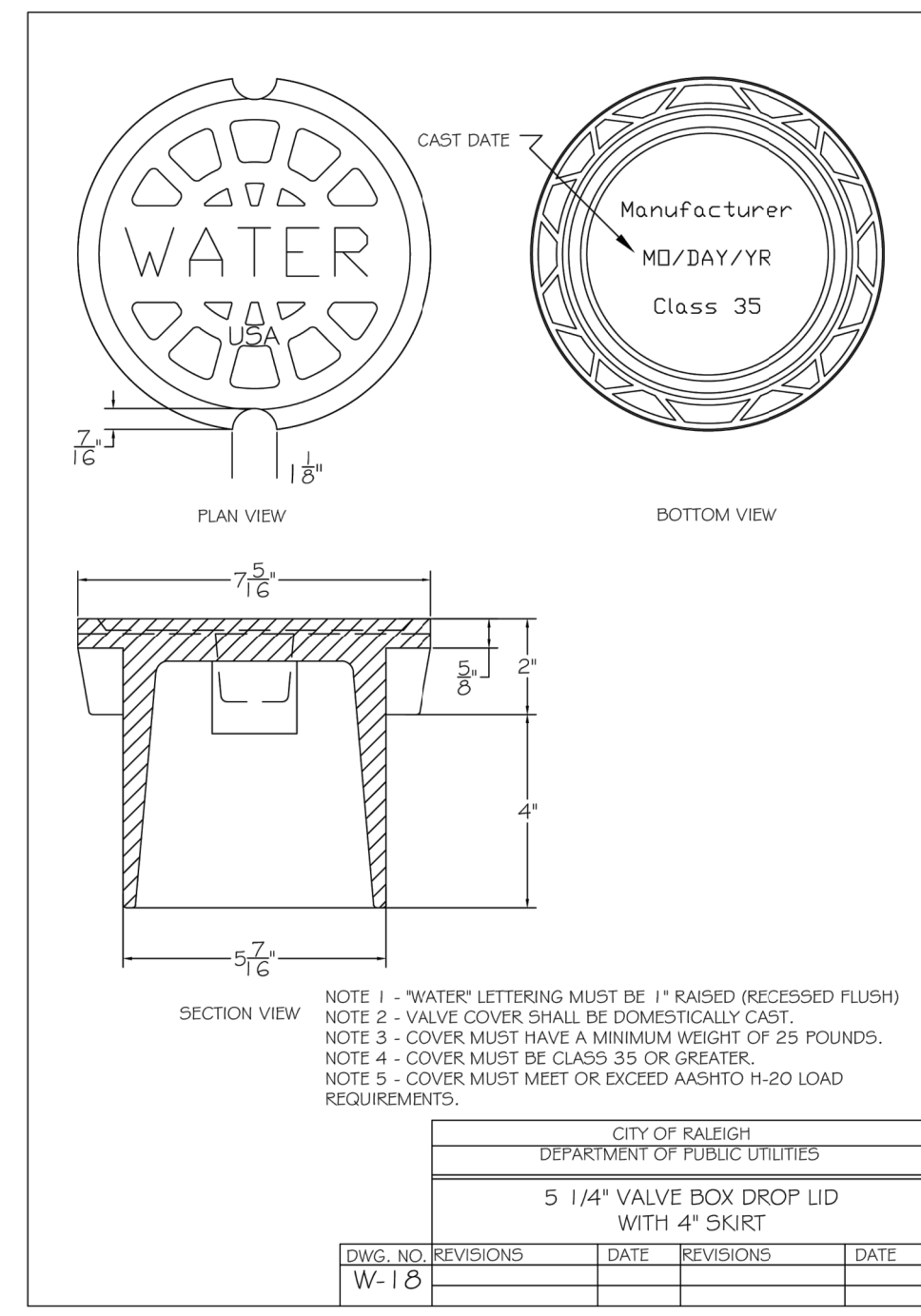
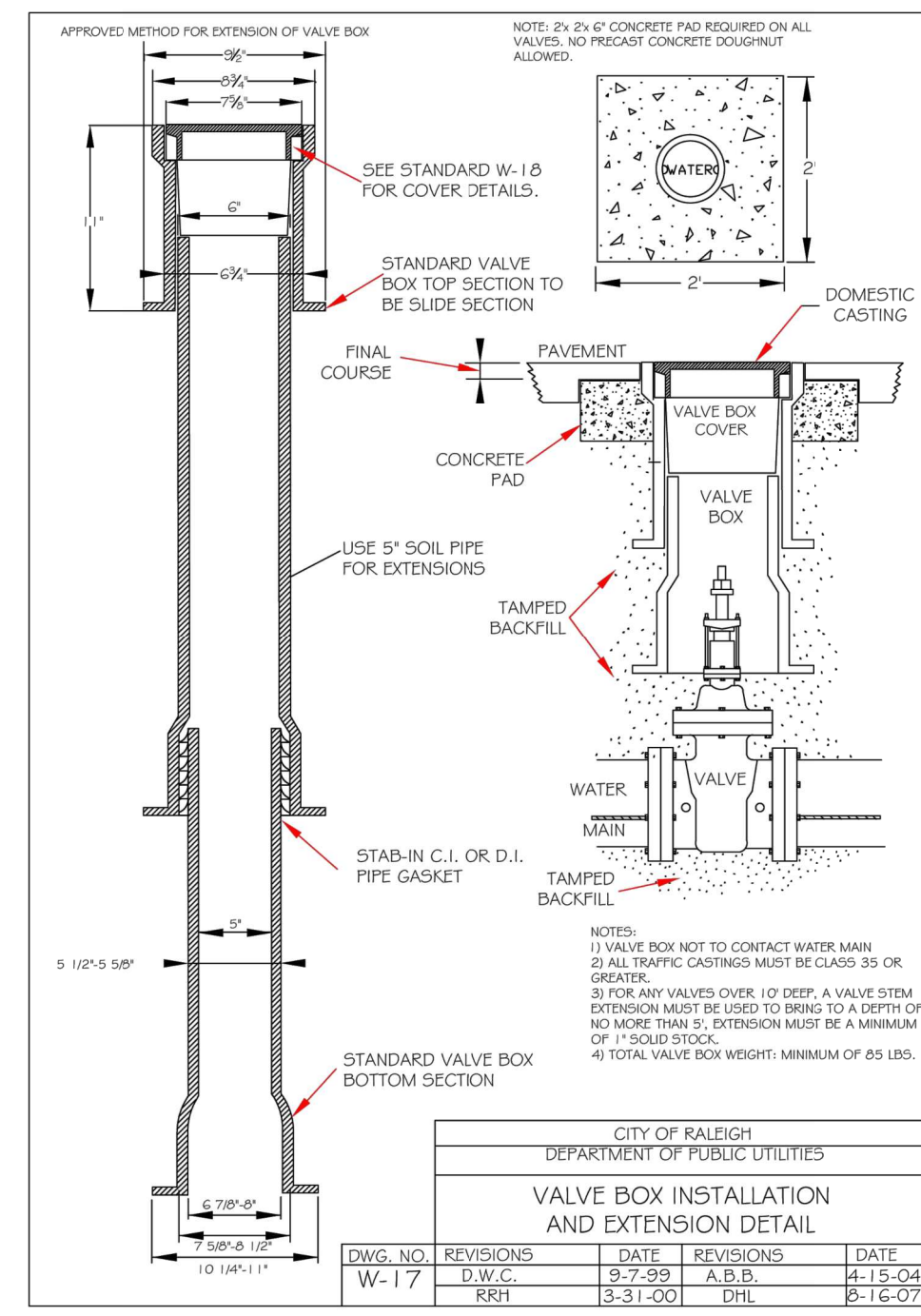
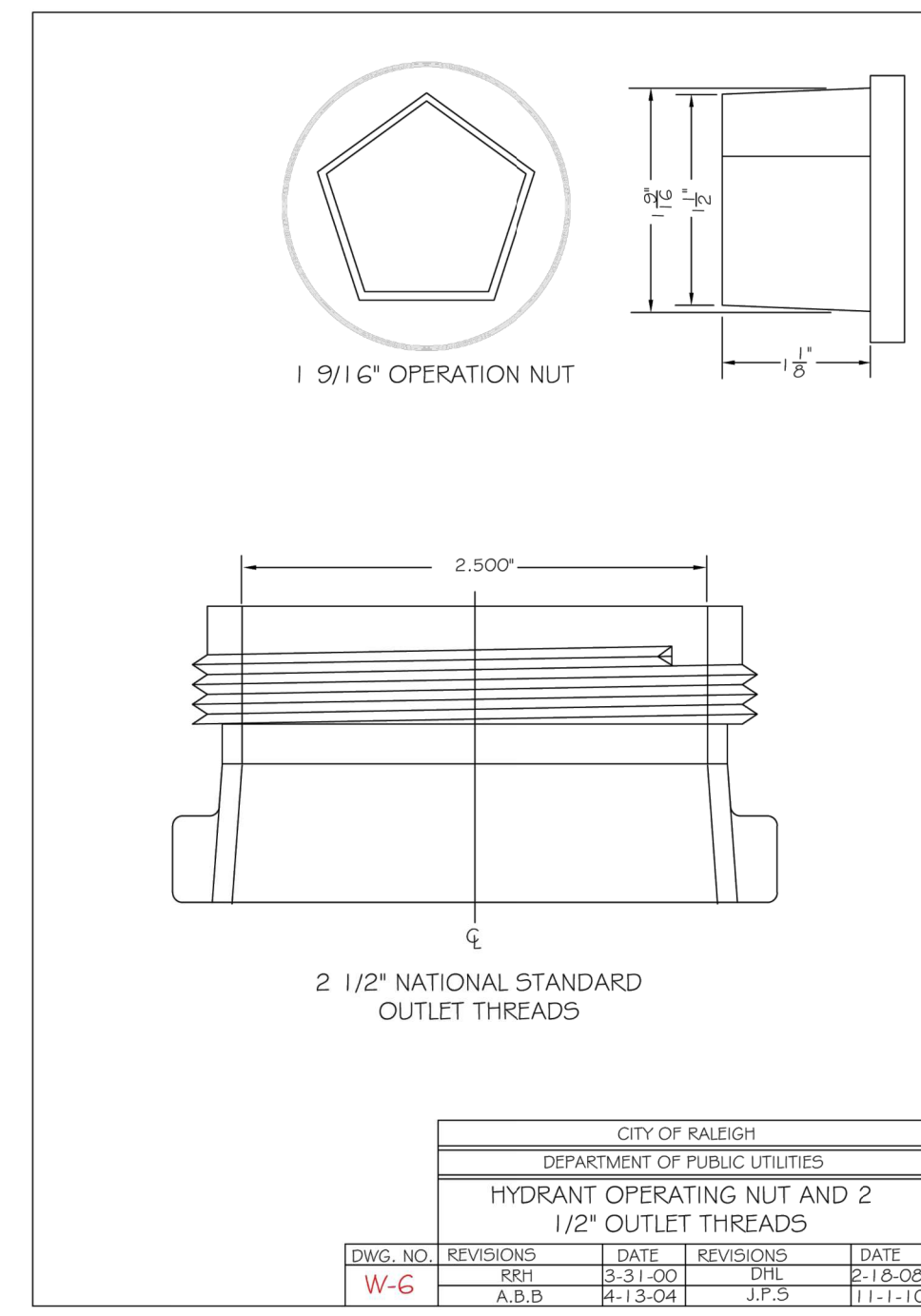
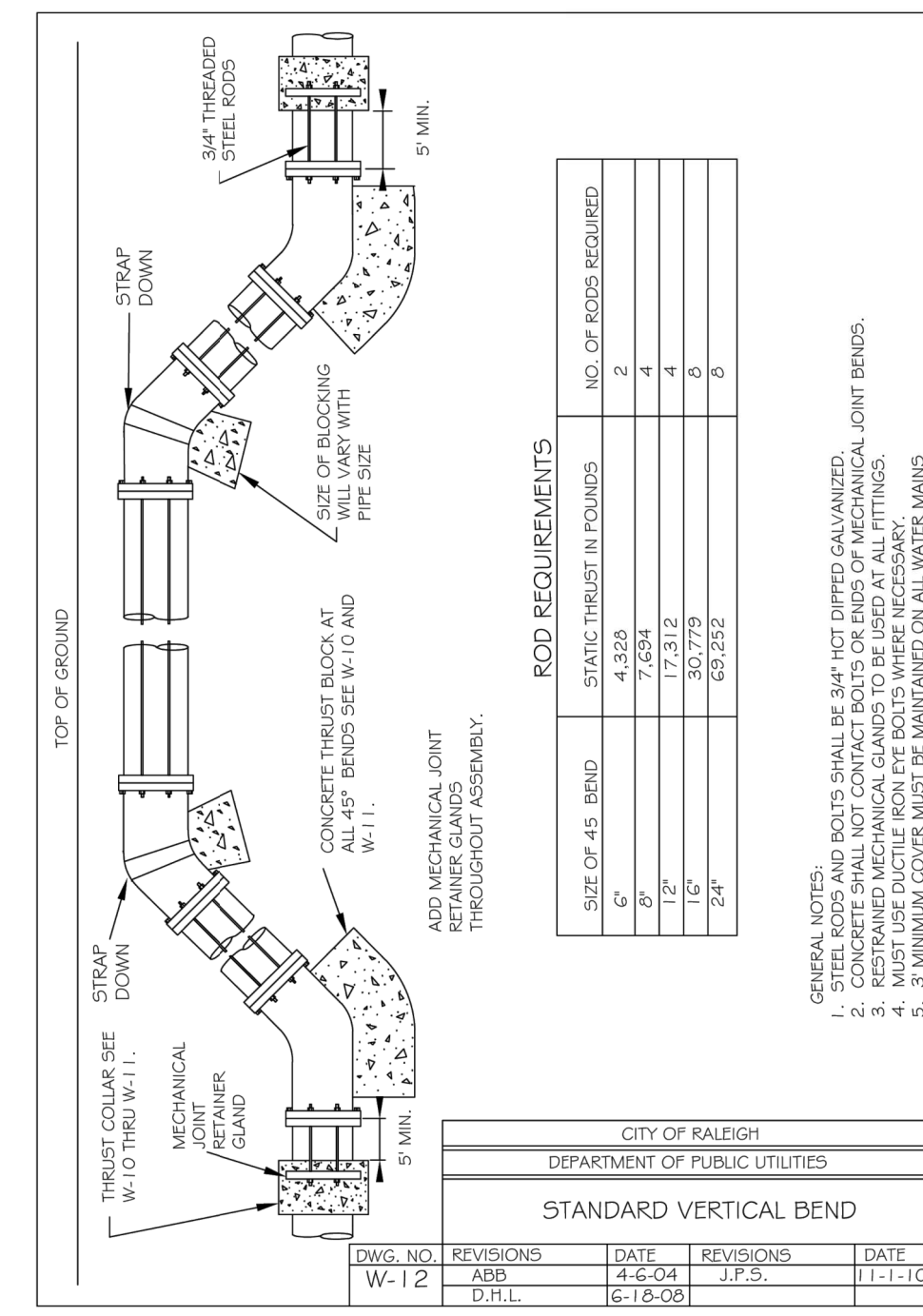
JAECO #: 364-04
 DRAWING SCALE: AS SHOWN
 DRAWN BY: TT
 CHECKED BY: TT
 DATE ISSUED: 01/30/2022



REACTION BEARING AREAS FOR HORIZONTAL WATER PIPE BENDS
BASED ON TEST PRESSURE OF 200 P.S.I.

ALL AREAS GIVEN IN SQUARE FEET

SIZE AND THROUGHT OF BEND	1/4\"/>
6\"/>	
11 1/4\"/>	
22 1/2\"/>	
45\"/>	
90\"/>	
180\"/>	
11 1/4\"/>	
22 1/2\"/>	
45\"/>	
90\"/>	
180\"/>	
11 1/4\"/>	
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LEGEND

Symbol	Description
(Symbol)	Proposed Pipeline
(Symbol)	Proposed Pipeline Over Existing
(Symbol)	Proposed Pipeline Under Existing

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CITY OF RALEIGH - PLANS AUTHORIZED FOR CONSTRUCTION

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City of Raleigh Review Officer _____

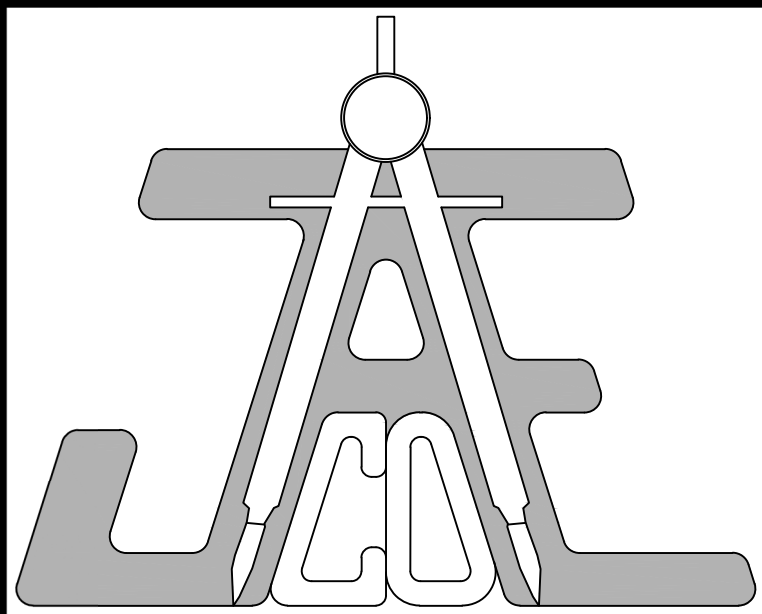
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JAECO #: 364-04
DRAWING SCALE: AS SHOWN
DRAWN BY: TT
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PLANT LIST

	Tree	Common Name	Qty	Cal	Height	Spread	Root	Remarks
Ar	Acer rubrum 'Red Sunset'	Red Sunset Maple	1	2.5" min.	10' min		BB	
lg	Ilex glabra 'Shamrock'	Shamrock Holly	6		24" min.		3 gal	



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Granite Crest - Phase IVb
0 Pluton Place
Rolesville, NC

Real Estate Marketing & Consulting, Inc.
6200 Falls of Neuse Rd.
Suite 102
Raleigh, NC 27609

Call before you dig.

LEGEND

PLANT TAG (SEE PLANT LIST)

Ar 2 PLANT ABBREVIATION (KEY)
2 QUANTITY

LANDSCAPE & LIGHTING PLAN

Number	Description	Date
1	PER TRC COMMENTS	04/14/22
2	PER TRC COMMENTS	05/26/22
3	PER TRC COMMENTS	06/13/22
4	PER TRC COMMENTS	06/15/22
5	PER TRC COMMENTS	06/27/22

JAECO #: 364-04

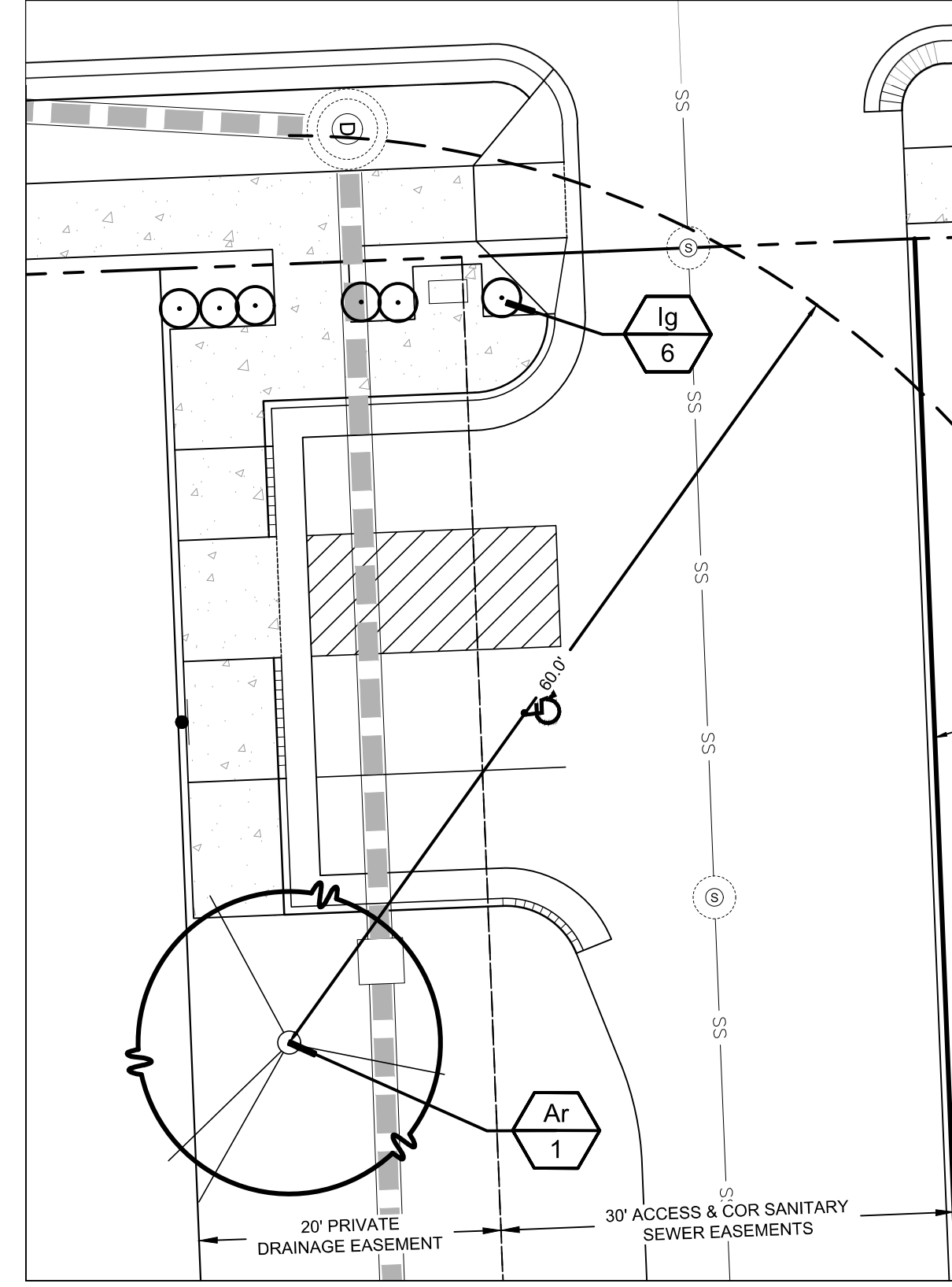
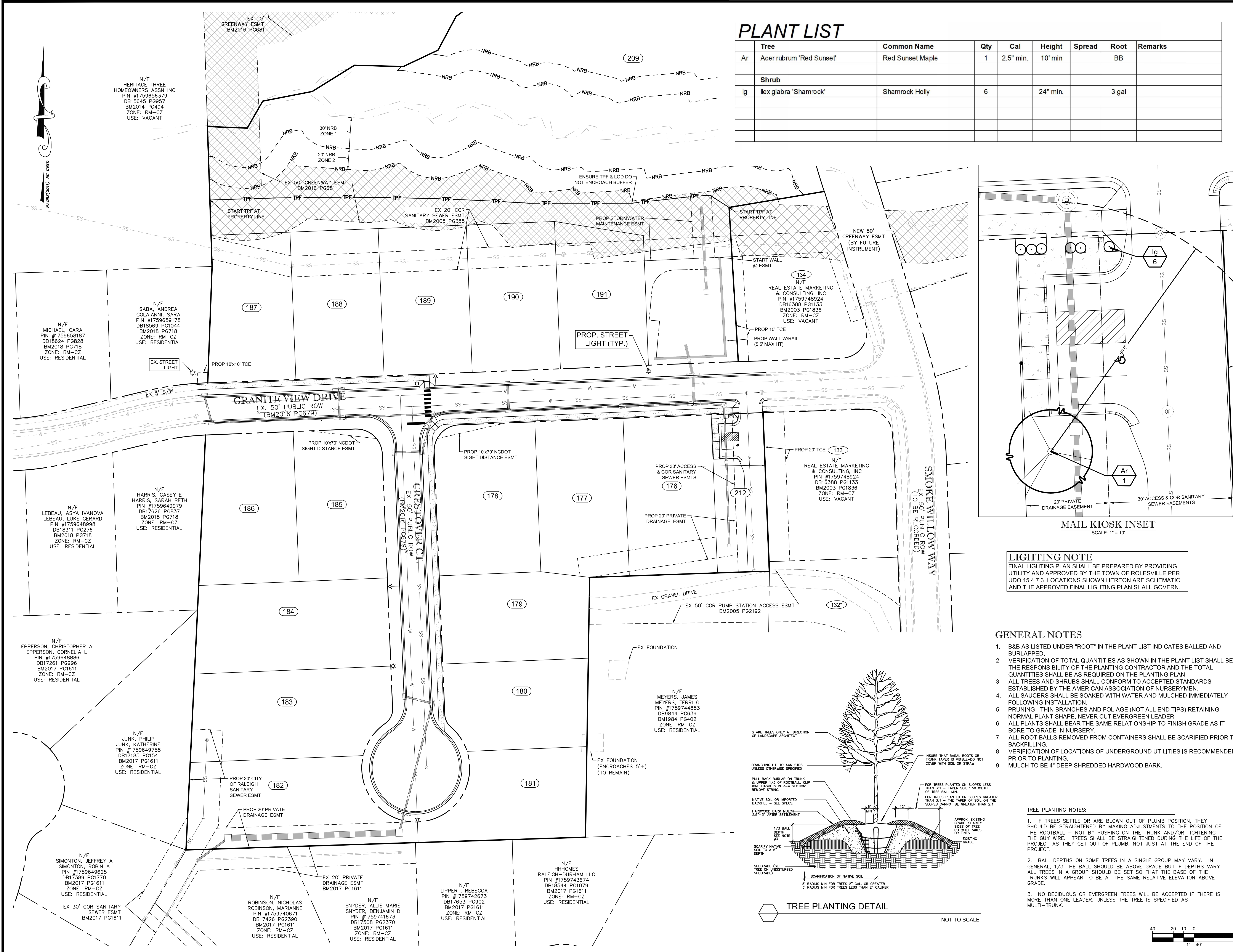
DRAWING SCALE: AS SHOWN

DRAWN BY: RT

CHECKED BY: TT

DATE ISSUED: 01/30/2022

C-22

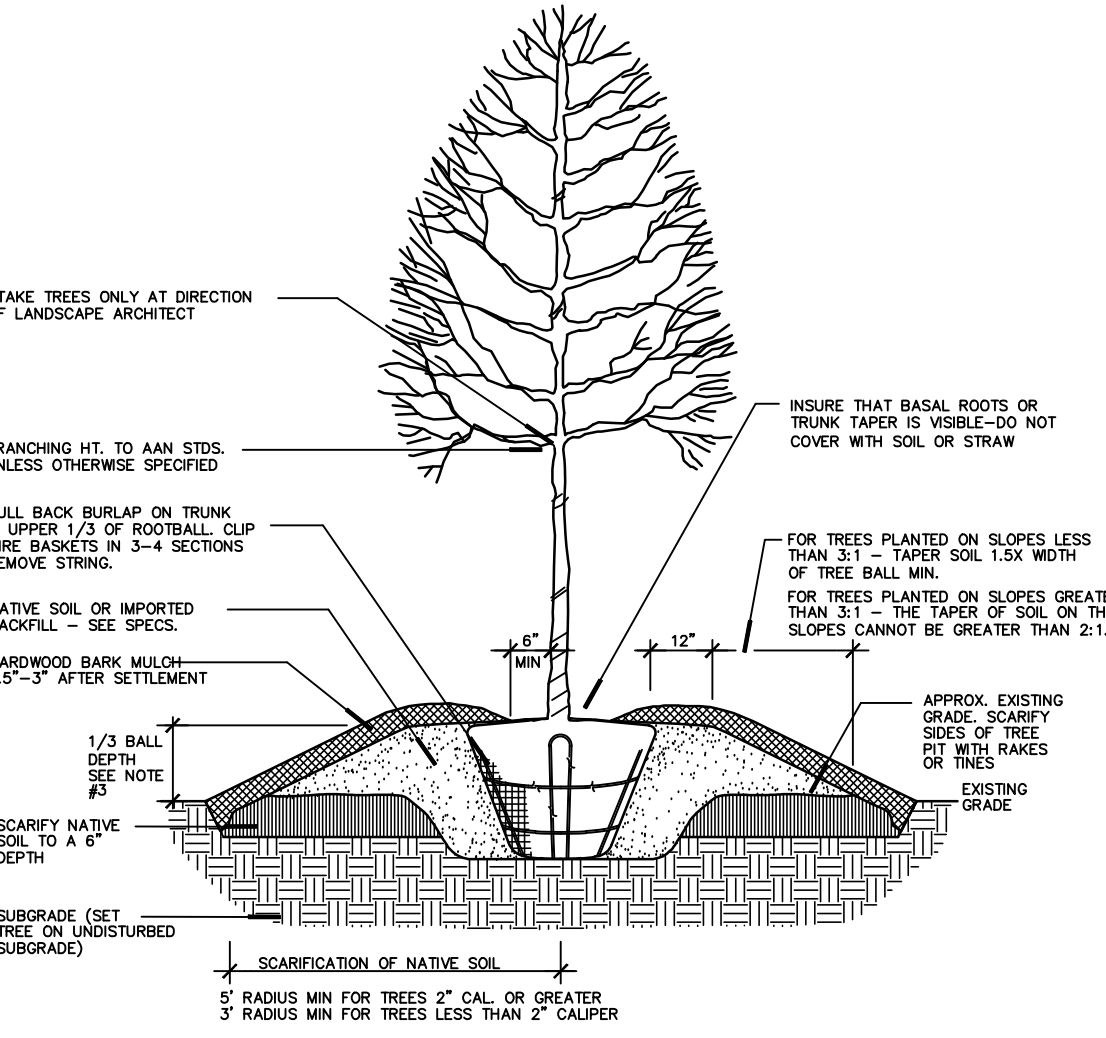


MAIL KIOSK INSET
SCALE: 1" = 10'

LIGHTING NOTE
FINAL LIGHTING PLAN SHALL BE PREPARED BY PROVIDING UTILITY AND APPROVED BY THE TOWN OF ROLESVILLE PER UD0 15.4.7.3. LOCATIONS SHOWN HEREON ARE SCHEMATIC AND THE APPROVED FINAL LIGHTING PLAN SHALL GOVERN.

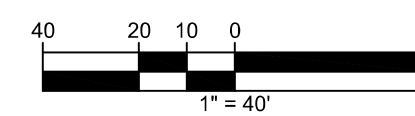
GENERAL NOTES

- B&B AS LISTED UNDER "ROOT" IN THE PLANT LIST INDICATES BALLED AND BURLAPPED.
- VERIFICATION OF TOTAL QUANTITIES AS SHOWN IN THE PLANT LIST SHALL BE THE RESPONSIBILITY OF THE PLANTING CONTRACTOR AND THE TOTAL QUANTITIES SHALL BE AS REQUIRED ON THE PLANTING PLAN.
- ALL TREES AND SHRUBS SHALL CONFORM TO ACCEPTED STANDARDS ESTABLISHED BY THE AMERICAN ASSOCIATION OF NURSERMEN.
- ALL SAUCERS SHALL BE SOAKED WITH WATER AND MULCHED IMMEDIATELY FOLLOWING INSTALLATION.
- PRUNING - THIN BRANCHES AND FOLIAGE (NOT ALL END TIPS) RETAINING NORMAL PLANT SHAPE. NEVER CUT EVERGREEN LEADER.
- ALL PLANTS SHALL BEAR THE SAME RELATIONSHIP TO FINISH GRADE AS IT BORE TO GRADE IN NURSERY.
- ALL ROOT BALLS REMOVED FROM CONTAINERS SHALL BE SCARIFIED PRIOR TO BACKFILLING.
- VERIFICATION OF LOCATIONS OF UNDERGROUND UTILITIES IS RECOMMENDED PRIOR TO PLANTING.
- MULCH TO BE 4" DEEP SHREDDED HARDWOOD BARK.



TREE PLANTING DETAIL

NOT TO SCALE



1" = 40'