

# A-MASTER TEAM TOWNHOMES

## CONSTRUCTION DOCUMENTS

151 GRAND ROCK WAY  
ROLESVILLE, NORTH CAROLINA 27571

JUNE 22, 2020



VICINITY MAP

NOT TO SCALE

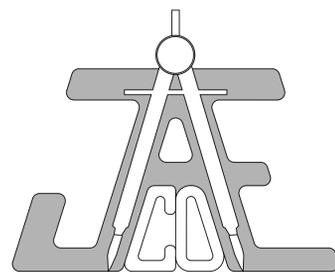
### SITE SUMMARY:

SITE ADDRESS 151 GRAND ROCK WAY  
WAKE CO PIN 1759.20-70-7093  
PROPOSED ZONING CO-SUD  
TOTAL TRACT AREA 324,170 S.F. (7.4419 AC.)

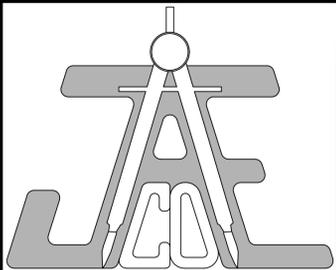
### OWNER:

A-MASTER TEAM, LLC  
6200 FALLS OF NEUSE ROAD; SUITE 10  
RALEIGH, NC 27609  
W. HAROLD PERRY - MANAGER  
E-mail: HALPERRY@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



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FINAL DRAWING



FOR REVIEW PURPOSES ONLY

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### ABBREVIATIONS

EX	EXISTING	TBRL	TO BE RELOCATED
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TBR	TO BE REMOVED		

SHEET INDEX	
SHEET NUMBER	SHEET TITLE
C-0.0	COVER
C-1.0	EXISTING CONDITIONS & DEMOLITION PLAN
C-2.0	SITE PLAN
C-3.1	EROSION AND SEDIMENT CONTROL PLAN - PHASE I
C-3.2	EROSION AND SEDIMENT CONTROL PLAN - PHASE II
C-4.0	GRADING PLAN
C-5.0	UTILITY PLAN
C-6.0	STORMDRAIN & STORMWATER MANAGEMENT PLAN
C-7.0	PROFILES
C-8.1	LANDSCAPE PLAN
C-8.2	POND PLANTING, DETAILS, & PLANT LIST
C-9.1	SITE DETAILS
C-9.2	NOG01 NOTES AND DETAILS
C-9.3	NOG01 NOTES AND DETAILS
C-9.4	EROSION CONTROL DETAILS
C-9.5	STORMDRAIN DETAILS
C-9.6	SANITARY DETAILS
C-9.7	WATER DETAILS

**EROSION CONTROL, STORMWATER AND FLOODPLAIN MANAGEMENT**

**APPROVED**

EROSION CONTROL  S-\_\_\_\_\_

STORMWATER MGMT.  S-\_\_\_\_\_

FLOOD STUDY  S-\_\_\_\_\_

DATE \_\_\_\_\_

ENVIRONMENTAL CONSULTANT SIGNATURE \_\_\_\_\_

### PLANS NOT APPROVED FOR CONSTRUCTION UNLESS SIGNED BY CITY OF RALEIGH

The City of Raleigh consents to the connection and extension of the City's Public Water 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 # \_\_\_\_\_

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 # \_\_\_\_\_

### 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

JAECO #: 362-09  
DRAWING SCALE: N/A  
DRAWN BY: TT  
CHECKED BY: JAE, JR.  
DATE ISSUED: 06/22/2020

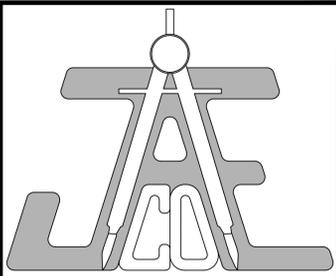
**C=0.0**





**GENERAL NOTES:**

- CONTRACTOR TO FIELD VERIFY LOCATION & ELEVATION OF ALL EXISTING UTILITIES PRIOR TO CONSTRUCTION.
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PROPOSED PROPERTY LINE	—————
PROP. LOT LINE	—————
PROP. ESMT	—————
PROP. CENTERLINE	—————
PROP. CURB & GUTTER	—————
PROP. BUFFER AREA	—————
PROP. BIORETENTION	—————

**PARKING SUMMARY:**

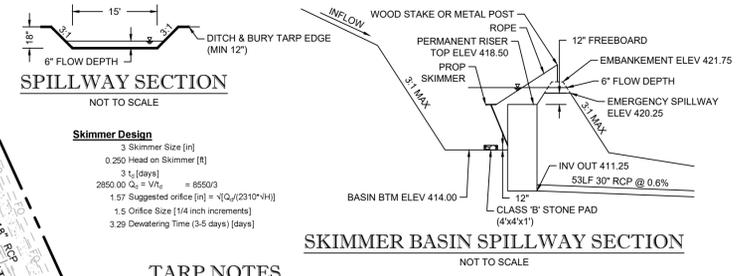
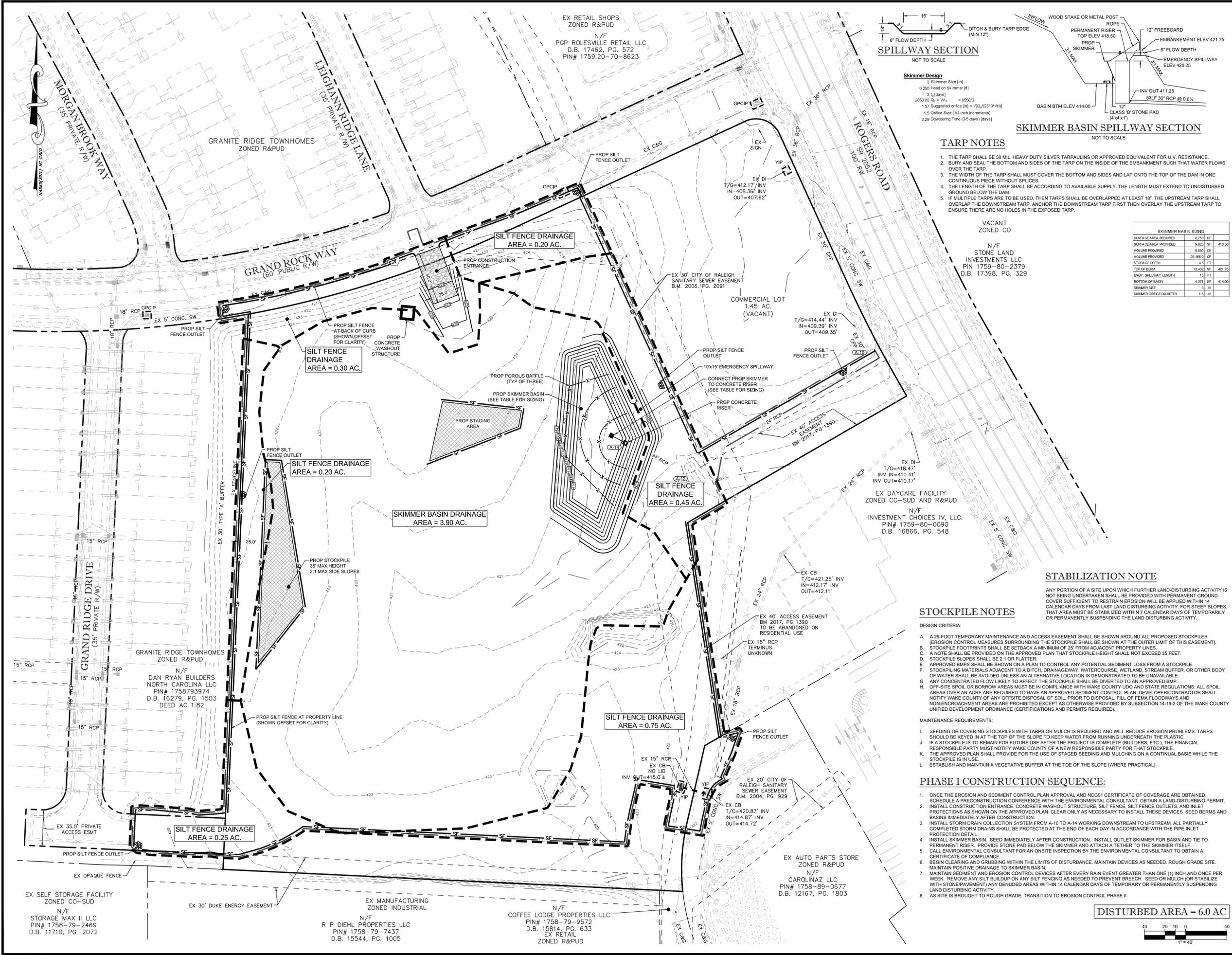
<b>PARKING REQUIRED</b>	
TOWNHOMES (ALL 2 BR)	94 (2 PER 2BR DU)
VISITOR	12 (1 PER 4 DU'S)
MAIL KIOSK	4 SPACES (1 HC VAN)
<b>TOTAL REQUIRED</b>	<b>110 SPACES</b>
<b>PARKING PROVIDED</b>	<b>111 SPACES</b>

**SITE PLAN**

Revisions		
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**C-2.0**



**Skimmer Design**

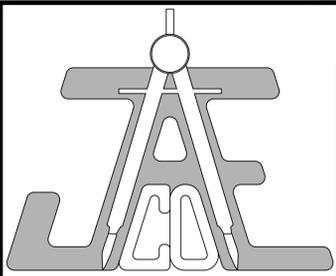
- 3 Skimmer Size [in]
- 0.250 Head on Skimmer [ft]
- 3 L<sub>1</sub> [days]
- 2850.00 Q<sub>1</sub> = V<sub>1</sub> = 6550.0
- 1.67 Suggested orifice [in] =  $\sqrt{C_d(2/3)H}$
- 1.5 orifice Size [1/4 inch increments]
- 3.20 Dewatering Time (3-5 days) [days]

**TARP NOTES**

- THE TARP SHALL BE 50 MIL HEAVY DUTY SILVER TARPULINS OR APPROVED EQUIVALENT FOR U.V. RESISTANCE.
- BURY AND SEAL THE BOTTOM AND SIDES OF THE TARP ON THE INSIDE OF THE EMBANKMENT SUCH THAT WATER FLOWS OVER THE TARP.
- 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 SPICES.
- THE LENGTH OF THE TARP SHALL BE ACCORDING TO AVAILABLE SUPPLY. THE LENGTH MUST EXTEND TO UNDISTURBED GROUND BELOW THE DAM.
- 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.

**SKIMMER BASIN SIZING**

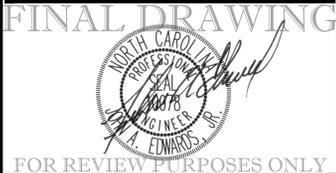
SURFACE AREA REQUIRED	8,770 SF	418.50
SURFACE AREA PROVIDED	9,025 SF	
VOLUME REQUIRED	8,560 CF	
VOLUME PROVIDED	20,466.0 CF	
STORAGE DEPTH	4.5 FT	
TOP OF BASIN	13,402 SF	421.75
BASED SPILLWAY LENGTH	15 FT	
BOTTOM OF BASIN	4,071 SF	414.00
SKIMMER SIZE	3 IN	
SKIMMER ORIFICE DIAMETER	1.5 IN	



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**EROSION AND SEDIMENT CONTROL PLAN - PHASE I**

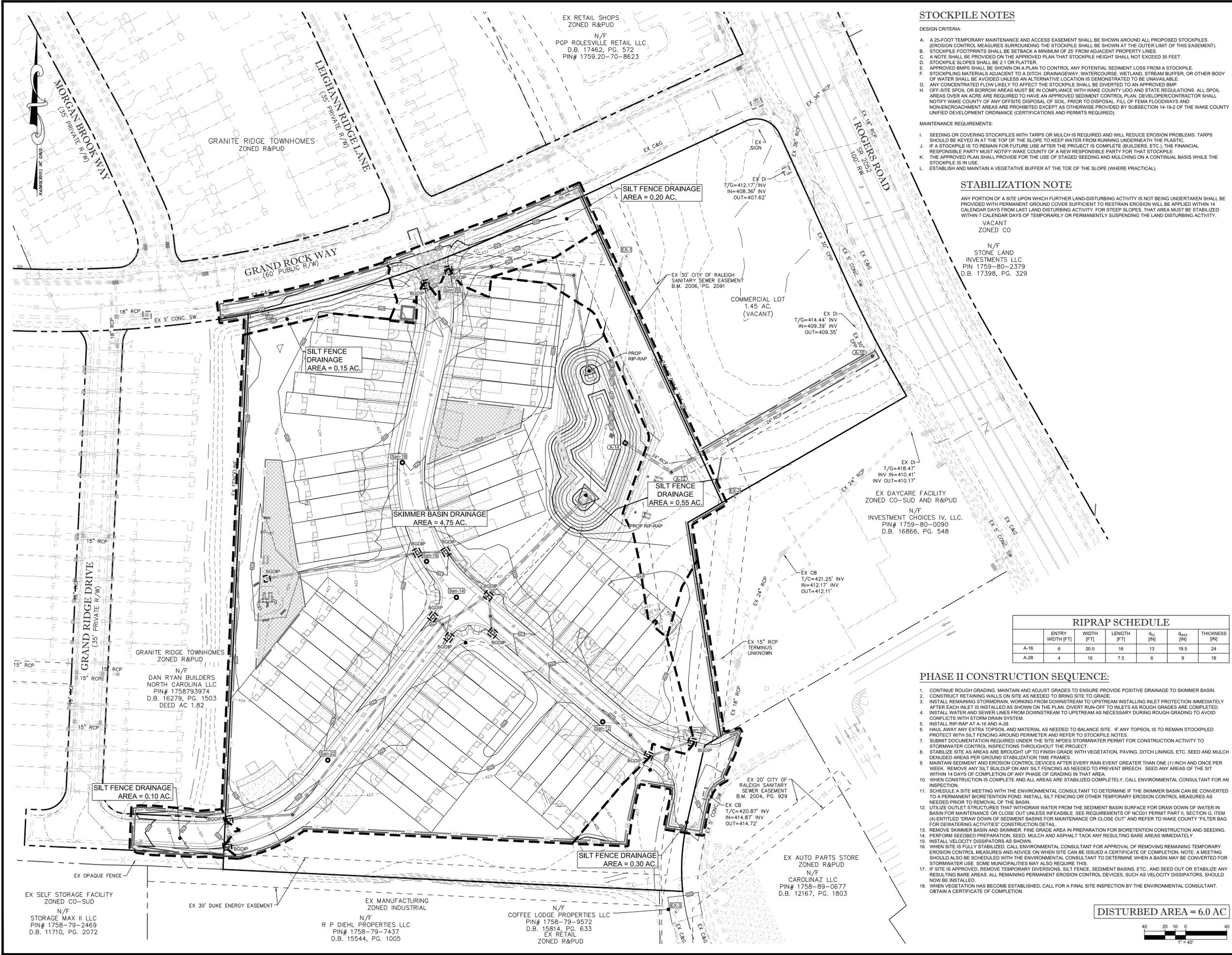
Revisions

Number	Description	Date

JAECO #: 362-09  
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DRAWN BY: TT  
CHECKED BY: JAE, JR.  
DATE ISSUED: 06/22/2020

**DISTURBED AREA = 6.0 AC**

**C-3.1**



**STOCKPILE NOTES**

- 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 OFFSITE DISPOSAL OF SOIL PRIOR TO DISPOSAL. FILL OF FEMA FLOODWAYS AND NON-ENCROACHMENT 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 KEPT 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 CONTINUAL BASIS WHILE THE STOCKPILE IS IN USE.
  - L. ESTABLISH AND MAINTAIN A VEGETATIVE BUFFER AT THE TOE OF THE SLOPE (WHERE PRACTICAL).

**STABILIZATION NOTE**

ANY PORTION OF A SITE UPON WHICH FURTHER LAND-DISTURBING ACTIVITY IS NOT BEING UNDERTAKEN SHALL BE PROVIDED WITH PERMANENT GROUND COVER SUFFICIENT TO RESTRAIN EROSION WILL BE APPLIED WITHIN 14 CALENDAR DAYS FROM LAST LAND DISTURBING ACTIVITY. FOR STEEP SLOPES, THAT AREA MUST BE STABILIZED WITHIN 7 CALENDAR DAYS OF TEMPORARILY OR PERMANENTLY SUSPENDING THE LAND DISTURBING ACTIVITY.

VACANT ZONED CO

N/F  
STONE LAND INVESTMENTS LLC  
PIN 1759-80-2379  
D.B. 17398, PG. 329

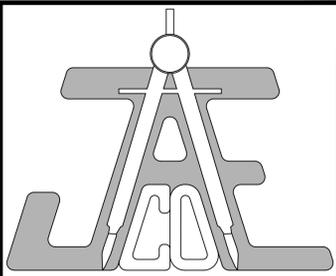
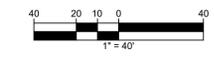
**RIPRAP SCHEDULE**

	ENTRY WIDTH [FT]	WIDTH [FT]	LENGTH [FT]	d <sub>50</sub> [IN]	d <sub>max</sub> [IN]	THICKNESS [IN]
A-16	6	20.5	16	13	19.5	24
A-28	4	10	7.5	6	9	18

**PHASE II CONSTRUCTION SEQUENCE:**

1. CONTINUE ROUGH GRADING. MAINTAIN AND ADJUST GRADES TO ENSURE PROVIDE POSITIVE DRAINAGE TO SKIMMER BASIN.
2. CONSTRUCT RETAINING WALLS ON SITE AS NEEDED TO BRING SITE TO GRADE.
3. 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.
4. INSTALL WATER AND SEWER LINES FROM DOWNSTREAM TO UPSTREAM AS NECESSARY DURING ROUGH GRADING TO AVOID CONFLICTS WITH STORM DRAIN SYSTEM.
5. INSTALL RIP-RAP AT A-16 AND A-28.
6. 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.
7. SUBMIT DOCUMENTATION REQUIRED UNDER THE SITE SPDES STORMWATER PERMIT FOR CONSTRUCTION ACTIVITY TO STORMWATER CONTROL INSPECTIONS THROUGHOUT THE PROJECT.
8. 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.
9. 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. SEED ANY AREAS OF THE SIT WITHIN 14 DAYS OF COMPLETION OF ANY PHASE OF GRADING IN THAT AREA.
10. WHEN CONSTRUCTION IS COMPLETE AND ALL AREAS ARE STABILIZED COMPLETELY, CALL ENVIRONMENTAL CONSULTANT FOR AN INSPECTION.
11. SCHEDULE A SITE MEETING WITH THE ENVIRONMENTAL CONSULTANT TO DETERMINE IF THE SKIMMER BASIN CAN BE CONVERTED TO A PERMANENT BIORETENTION POND. INSTALL ALL SILT FENCING OR OTHER TEMPORARY EROSION CONTROL MEASURES AS NEEDED PRIOR TO REMOVAL OF THE BASIN.
12. UTILIZE OUTLET STRUCTURES THAT WITHDRAW WATER FROM THE SEDIMENT BASIN SURFACE FOR DRAW DOWN OF WATER IN BASIN FOR MAINTENANCE OR CLOSE OUT UNLESS INFESABLE. SEE REQUIREMENTS OF NCG01 PERMIT PART II, SECTION G, ITEM (4) ENTITLED "DRAW DOWN OF SEDIMENT BASINS FOR MAINTENANCE OR CLOSE OUT" AND REFER TO WAKE COUNTY "FILTER BAG FOR DEWATERING ACTIVITIES" CONSTRUCTION DETAIL.
13. REMOVE SKIMMER BASIN AND SKIMMER. FINE GRADE AREA IN PREPARATION FOR BIORETENTION CONSTRUCTION AND SEEDING.
14. PERFORM SEEDBED PREPARATION, SEED, MULCH AND ASPHALT TACK ANY RESULTING BARE AREAS IMMEDIATELY.
15. INSTALL VELOCITY DISSIPATORS AS SHOWN.
16. WHEN SITE IS FULLY STABILIZED, CALL ENVIRONMENTAL CONSULTANT FOR APPROVAL OF REMOVING REMAINING TEMPORARY EROSION CONTROL MEASURES AND ADVISE ON WHEN SITE CAN BE ISSUED A CERTIFICATE OF COMPLETION. NOTE: A MEETING SHOULD ALSO BE SCHEDULED WITH THE ENVIRONMENTAL CONSULTANT TO DETERMINE WHEN A BASIN MAY BE CONVERTED FOR STORMWATER USE. SOME MUNICIPALITIES MAY ALSO REQUIRE THIS.
17. 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.
18. WHEN VEGETATION HAS BECOME ESTABLISHED, CALL FOR A FINAL SITE INSPECTION BY THE ENVIRONMENTAL CONSULTANT. OBTAIN A CERTIFICATE OF COMPLETION.

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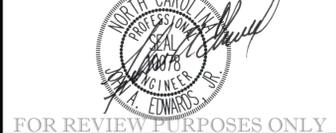


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**EROSION AND SEDIMENT CONTROL PLAN - PHASE II**

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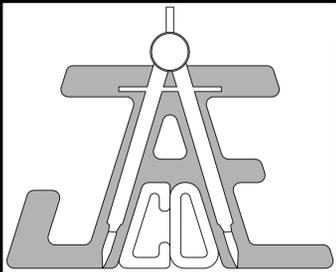
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ELEC	ELECTRIC		
TBD	TO BE DETERMINED		
TBR	TO BE REMOVED		

EX MAJOR CONTOUR	---	XXX	---
W/ ELEV LABEL			
EX MINOR CONTOUR	---	XXX	---
W/ ELEV LABEL			
PROP MAJOR CONTOUR	---	XXX	---
W/ ELEV LABEL			
PROP MINOR CONTOUR	---	XXX	---
W/ ELEV LABEL			
SPOT ELEVATION			

**GRADING PLAN**

Revisions		
Number	Description	Date

JAECO #: 362-09  
DRAWING SCALE: 1" = 40'  
DRAWN BY: TT  
CHECKED BY: JAE, JR.  
DATE ISSUED: 06/22/2020

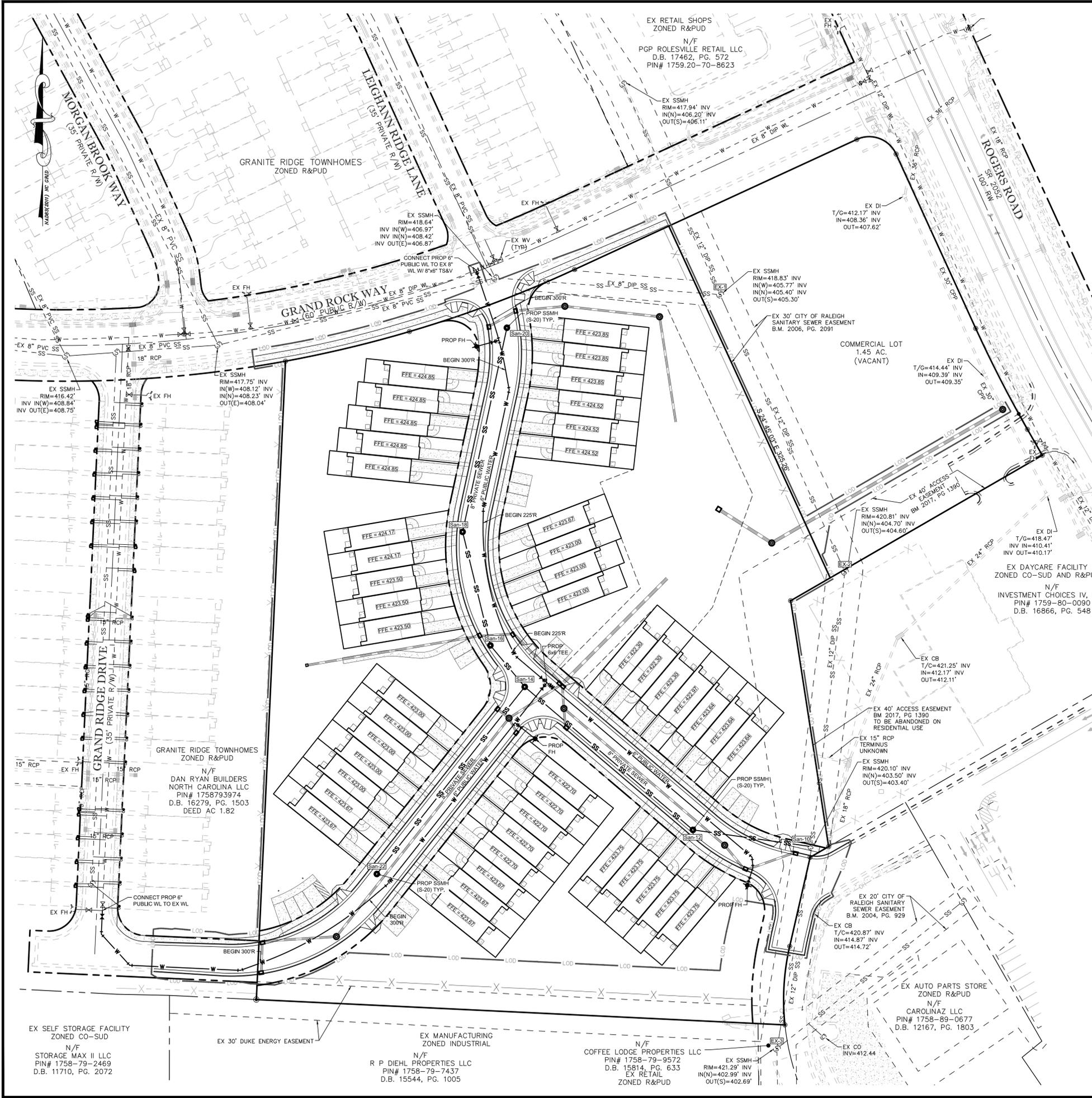
**ATTENTION CONTRACTORS:**

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**DISTURBED AREA = 6.0 AC**



**C-4.0**

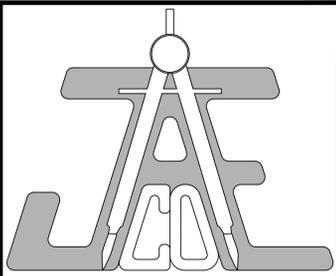
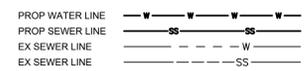


**STANDARD UTILITY NOTES (as applicable):**

- 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 10' 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 watertight 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 material is specified for sanitary sewer
  - 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-41 & S-49)
- All other underground utilities shall cross water & sewer facilities with 18" min. vertical separation required
- Any necessary field revisions are subject to review & approval of an amended plan &/or profile by the City of Raleigh Public Utilities Department prior to construction
- Developer shall provide 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 residents & businesses throughout construction of project. Any necessary service interruptions shall be preceded by a 24 hour advance notice to the City of Raleigh Public Utilities Department
- 3.0' minimum cover is required on all water mains & sewer force mains. 4.0' minimum cover is required on all reuse mains
- It is the developer's responsibility to abandon or remove existing water & sewer services not being used in redevelopment of a site unless otherwise directed by the City of Raleigh Public Utilities Department. This includes abandoning tap at main & removal of service from ROW or easement per CORPUD Handbook procedure
- Install 3/4" copper water service with 60" 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 NCDOT, USACE &/or FEMA for any riparian buffer, wetlands &/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 Harley at (919) 996-5263 or joanie.harley@raleighnc.gov for more information

**GENERAL NOTES:**

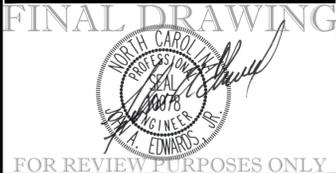
- CONTRACTOR TO FIELD VERIFY LOCATION & ELEVATION OF ALL EXISTING UTILITIES PRIOR TO CONSTRUCTION.
- UTILITY CONSTRUCTION SHALL BE IN ACCORDANCE WITH CITY OF RALEIGH AND/OR NCDOT STANDARDS AND SPECIFICATIONS UNLESS OTHERWISE NOTED.
- PROPOSED PRIVATE SANITARY SEWER TO BE 8" PVC.
- PROPOSED PUBLIC WATER LINE TO BE 6" DIP.
- 30' PUBLIC CITY OF RALEIGH WATERLINE EASEMENT AND 5' CITY OF RALEIGH WATERLINE EASEMENT TO EACH METER AND FIRE HYDRANT TO BE RECORDED.



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**ABBREVIATIONS**

EX	EXISTING	TBRL	TO BE RELOCATED
PROP	PROPOSED	FP	FLOOD PLAIN
APPROX	APPROXIMATE	FEMA	FEDERAL EMERGENCY MANAGEMENT AGENCY
LOC	LOCATION	DB	DEED BOOK
PG	PAGE	PG	PAGE
NF	NOW OR FORMERLY	ESMT	EASEMENT
ROW	RIGHT OF WAY	TYP	TYPICAL
EIP	EX IRON PIPE	SWM	STORMWATER MANAGEMENT
EMAG	EX MAG NAIL	SF	SQUARE FEET
ECM	EX CONCRETE	AC	ACRE
MON	MONUMENT	LF	LINEAR FEET
EIR	EX IRON ROD	UDO	UNIFIED
IPS	IRON PIPE SET	DEV	DEVELOPMENT
EDG	EDGE OF PAVEMENT	ORD	ORDINANCE
SS	SANITARY SEWER	GIS	GEOGRAPHIC INFORMATION SYSTEM
FM	FORCE MAIN	N	NORTH
FH	FIRE HYDRANT	NCDOT	CAROLINA DEPARTMENT OF TRANSPORTATION
ELEC	ELECTRIC		
TBD	TO BE DETERMINED		
TBR	TO BE REMOVED		

**PLANS NOT APPROVED FOR CONSTRUCTION UNLESS SIGNED BY CITY OF RALEIGH**

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City of Raleigh Public Utilities Department Permit #

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City of Raleigh Development Approval \_\_\_\_\_ Raleigh Water Review Officer \_\_\_\_\_

**UTILITY PLAN**

Revisions		
Number	Description	Date

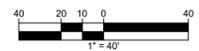
JAECO #: 362-09  
DRAWING SCALE: 1" = 40'  
DRAWN BY: TT  
CHECKED BY: JAE, JR.  
DATE ISSUED: 06/22/2020

**ATTENTION CONTRACTORS:**

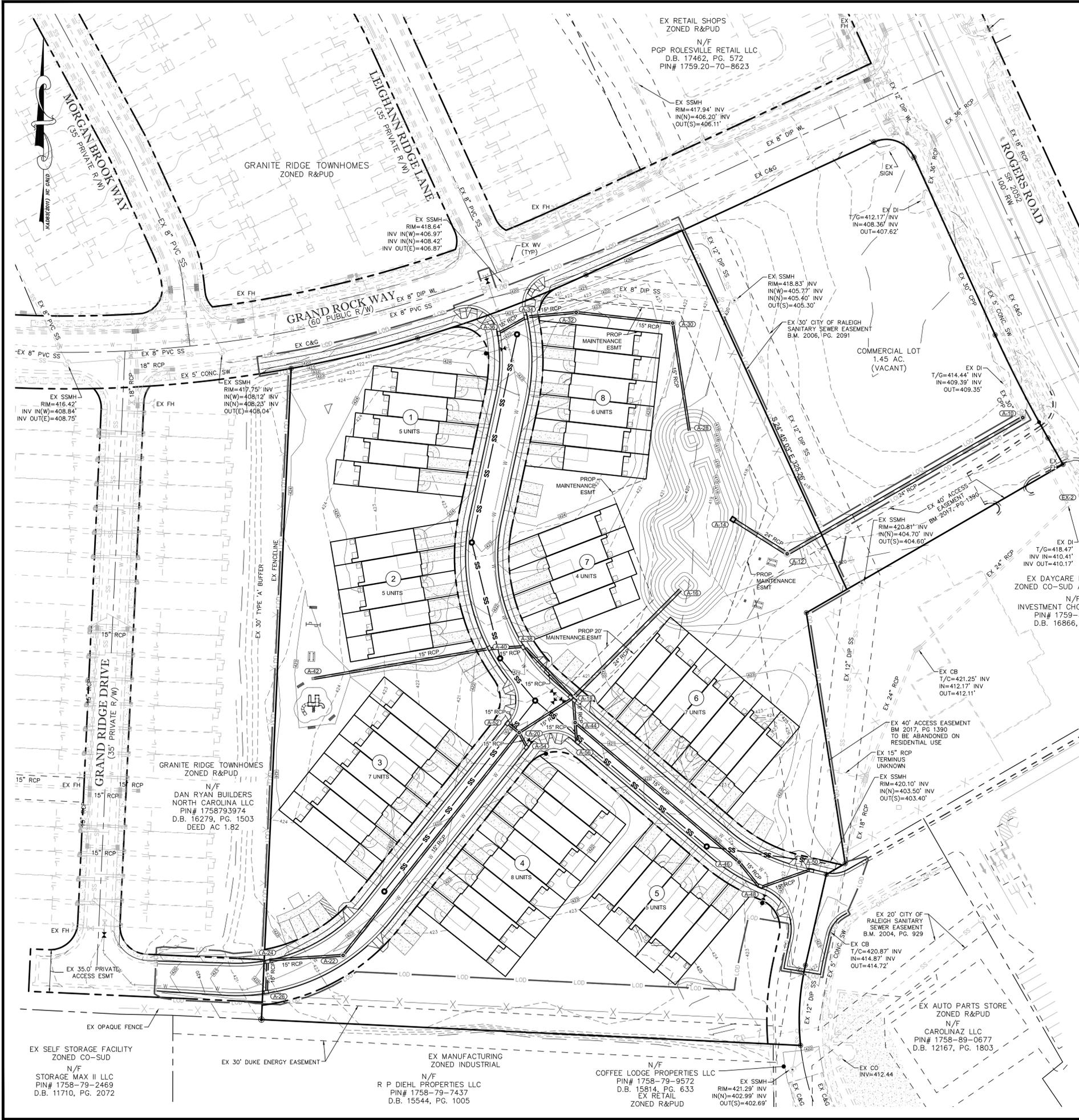
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**C-5.0**

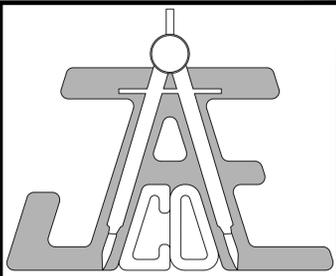


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**STRUCTURE TABLE**

STRUCTURE ID	TYPE	STD. DETAIL	RIM	INVERT IN (U/S STR.)	INVERT OUT (D/S STR.)	PIPE OUT
A-10	DOGHOUSE MH	SW-10.05	416.86	409.61 (EX-2) 409.95 (A-12)	409.61 (EX-1)	32.25LF 30" @ 0.68%
A-12	MH	SW-10.05	419.36	411.20 (A-14)	411.10 (A-10)	224.85LF 24" RCP @ 0.51%
A-14	4"x4" RISER	SEE SHEET C-9.5	418.50		411.50 (A-12)	52.94LF 24" RCP @ 0.57%
A-16	FES			414.00 (A-18)		
A-18	CB	SW-10.01 W4530 GRATE (DOUBLE)	420.80	416.00 (A-20) 416.00 (A-44) 416.00 (A-38)	415.25 (A-16)	125.21LF 24" RCP @ 1.00%
A-20	MH	SW-10.05	421.11	416.40 (A-22) 416.40 (A-54)	416.30 (A-18)	53.24LF 15" RCP @ 0.56%
A-22	MH	SW-10.05	422.88	417.70 (A-24)	417.60 (A-20)	234.16LF 15" RCP @ 0.51%
A-24	CB	SW-10.01 W4530 GRATE	422.39	418.15 (A-26)	418.05 (A-22)	62.70LF 15" RCP @ 0.56%
A-26	CB	SW-10.01 W4530 GRATE	422.38		418.30 (A-24)	27.54LF 15" RCP @ 0.54%
A-28	FES			414.75 (A-30)		
A-30	MH	SW-10.05	422.40	415.80 (A-32)	415.70 (A-28)	89.36LF 15" RCP @ 1.06%
A-32	MH	SW-10.05	422.81	416.70 (A-34)	416.60 (A-30)	80.39LF 15" RCP @ 1.00%
A-34	CB	SW-10.01 W4530 GRATE	421.67	417.25 (A-36)	417.15 (A-32)	40.54LF 15" RCP @ 1.11%
A-36	CB	SW-10.01 W4530 GRATE	422.18		417.55 (A-34)	28.44LF 15" RCP @ 1.05%
A-38	CB	SW-10.01 W4530 GRATE	421.53	416.40 (A-40)	416.30 (A-18)	58.47LF 15" RCP @ 0.51%
A-40	CB	SW-10.01 W4530 GRATE	421.78	416.65 (A-42)	416.55 (A-38)	30.13LF 15" RCP @ 0.50%
A-42	YI	SW-10.03	422.50		417.40 (A-40)	146.78LF 15" RCP @ 0.51%
A-44	MH	SW-10.05	420.72	416.25 (A-46) 416.25 (A-56)	416.15 (A-18)	20.66LF 15" RCP @ 0.73%
A-46	MH	SW-10.05	422.86	417.25 (A-48)	417.15 (A-44)	177.70LF 15" RCP @ 0.51%
A-48	CB	SW-10.01 W4530 GRATE	422.82	417.50 (A-50)	417.40 (A-46)	27.11LF 15" RCP @ 0.55%
A-50	CB	SW-10.01 W4530 GRATE	422.13		417.75 (A-48)	45.78LF 15" RCP @ 0.55%
A-52	CB	SW-10.01 W4530 GRATE	421.33		416.70 (A-20)	13.50LF 15" RCP @ 1.11%
A-54	CB	SW-10.01 W4530 GRATE	421.37		416.60 (A-20)	14.71LF 15" RCP @ 1.36%
A-56	CB	SW-10.01 W4530 GRATE	421.02		416.35 (A-44)	17.17LF 15" RCP @ 0.58%

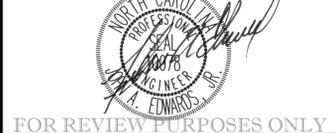


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FINAL DRAWING



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**ABBREVIATIONS**

EX	EXISTING	TBR	TO BE REMOVED
PROP	PROPOSED	FP	FLOOD PLAIN
APPROX	APPROXIMATE	FEMA	FEDERAL EMERGENCY MANAGEMENT AGENCY
LOC	LOCATION	ESMT	EASEMENT
BM	BOOK OF MAPS	TYP	TYPICAL
DB	DEED BOOK	ROW	RIGHT OF WAY
PG	PAGE	EIP	EX IRON PIPE
N/F	NOW OR FORMERLY	EMAG	EX MAG NAIL
ROW	RIGHT OF WAY	ECM	EX CONCRETE MONUMENT
EIP	EX IRON PIPE	EIR	EX IRON ROD
EMAG	EX MAG NAIL	IPS	IRON PIPE SET
ECM	EX CONCRETE MONUMENT	OP	EDGE OF PAVEMENT
EIR	EX IRON ROD	SS	SANITARY SEWER
IPS	IRON PIPE SET	FM	FORCE MAIN
OP	EDGE OF PAVEMENT	FH	FIRE HYDRANT
SS	SANITARY SEWER	ELEC	ELECTRIC
FM	FORCE MAIN	TBD	TO BE DETERMINED
FH	FIRE HYDRANT	TBR	TO BE REMOVED
ELEC	ELECTRIC		
TBD	TO BE DETERMINED		
TBR	TO BE REMOVED		

**IMPERVIOUS AREA SUMMARY**

POI #1	IMPERVIOUS AREA [AC]	
	ON SITE	TO FACILITY BYPASS
POI #1	ON SITE	2.28
	OFF SITE	0.04
POI #2	ON SITE	0.03
	OFF SITE	0.13
POI #3	ON SITE	0.01
	OFF SITE	0.00
DEVELOPMENT	ON SITE	0.09
	OFF SITE	2.45
		<b>TOTAL</b>
		2.58



**STORMDRAIN & STORMWATER MANAGEMENT PLAN**

Revisions		
Number	Description	Date

JAECO #: 362-09

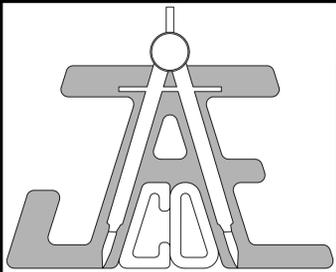
DRAWING SCALE: 1" = 40'

DRAWN BY: TT

CHECKED BY: JAE, JR.

DATE ISSUED: 06/22/2020

**C-6.0**



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APPROX	APPROXIMATE	FEMA	FEDERAL EMERGENCY MANAGEMENT AGENCY
LOC	LOCATION	DB	DEED BOOK
PG	PAGE	ESMT	EASEMENT
ROW	RIGHT OF WAY	TYP	TYPICAL
EIP	EX IRON PIPE	SWM	STORMWATER MANAGEMENT
NF	NOW OR FORMERLY	SF	SQUARE FEET
EMAG	EX MAG NAIL	AC	ACRE
EIP	EX IRON PIPE	LF	LINEAR FEET
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IPS	IRON PIPE SET	DEV	DEVELOPMENT
ES	EDGE OF PAVEMENT	GIS	GEOGRAPHIC INFORMATION
SS	SANITARY SEWER	FM	FORCE MAIN
FM	FIRE HYDRANT	NORTH	NORTH CAROLINA
ELEC	ELECTRIC	NCDOT	SYSTEM
TBD	TO BE DETERMINED		
TBR	TO BE REMOVED		

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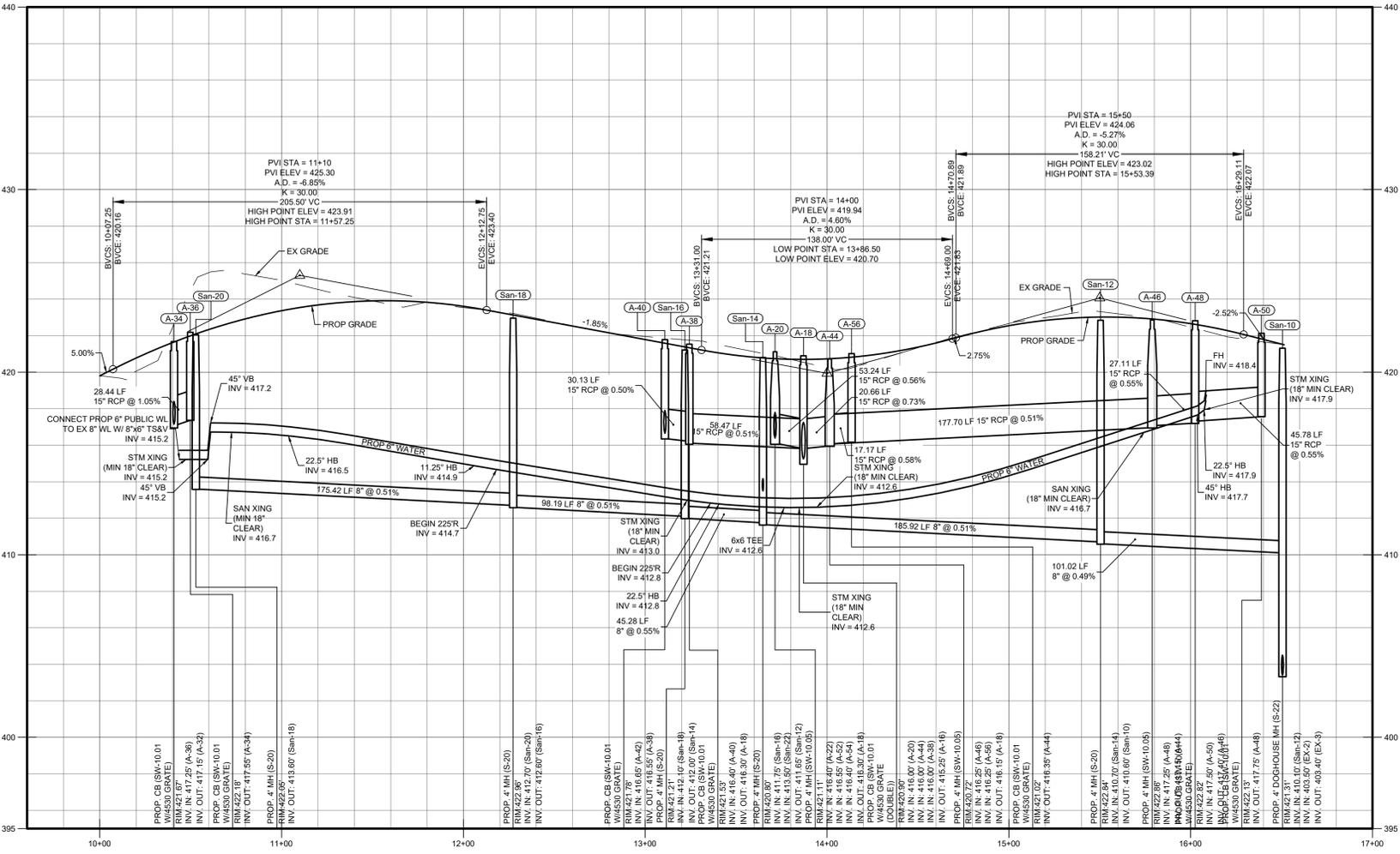
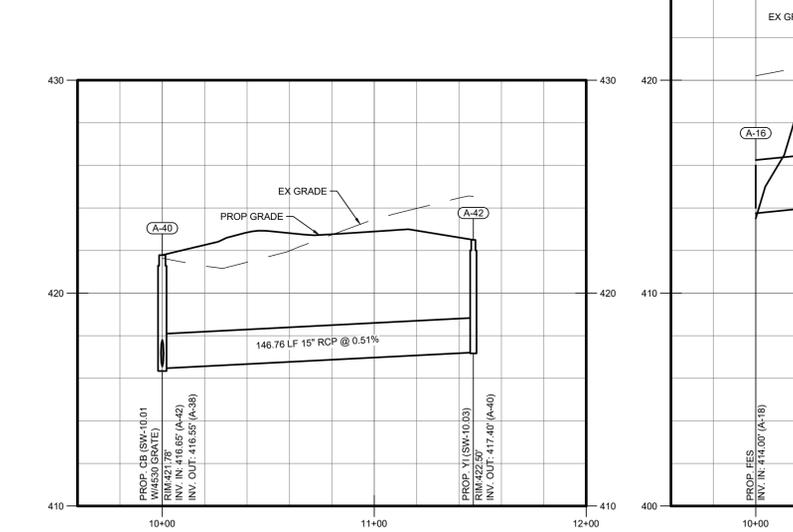
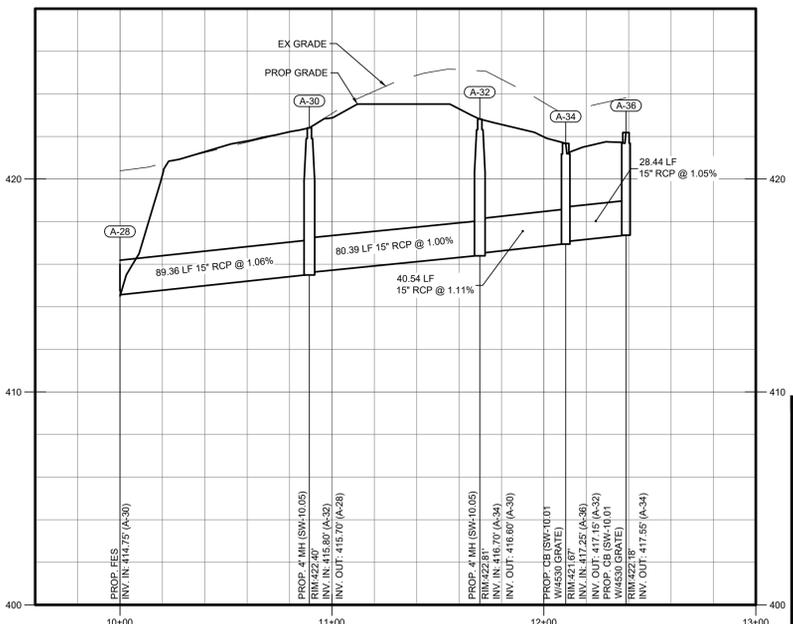
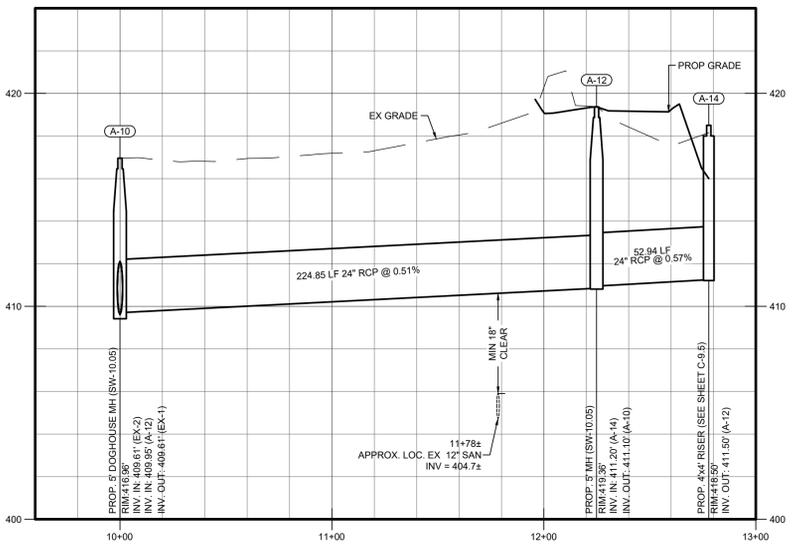
City of Raleigh Development Approval \_\_\_\_\_ Raleigh Water Review Officer \_\_\_\_\_

**PROFILES**

Number	Description	Date

JAECO #: 362-09  
DRAWING SCALE: AS SHOWN  
DRAWN BY: TT  
CHECKED BY: JAE, JR.  
DATE ISSUED: 06/22/2020

**C-7.0**

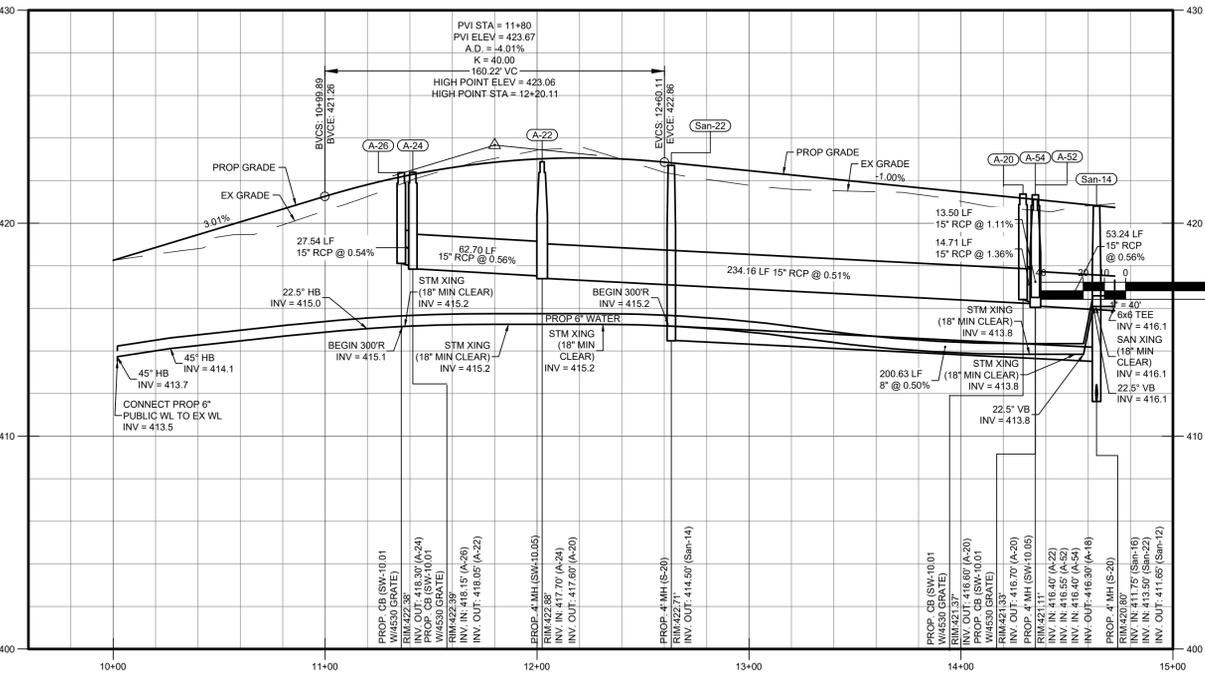
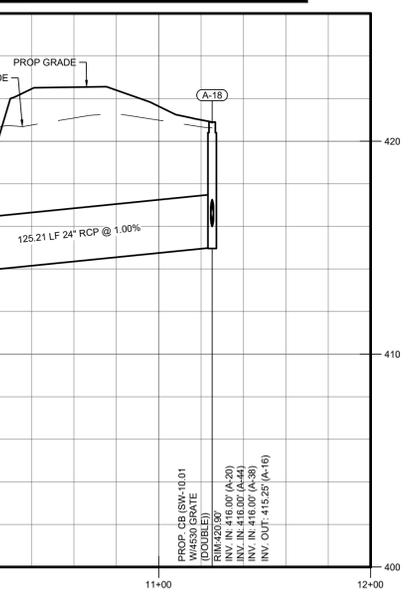


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**VEGETATED SHELF LANDSCAPING**

**SHALLOW LAND PLANTING**

USE AT LEAST 3 VARIETIES AND PLANT A MINIMUM OF 6 CELLS OF AT LEAST 26 PLANTS EACH FOR A TOTAL OF 156 SHALLOW LAND PLANTS (SEE SCHEDULE FOR APPROVED PLANTS)

**SHALLOW WATER PLANTING**

USE AT LEAST 3 VARIETIES AND PLANT A MINIMUM OF 6 CELLS OF AT LEAST 23 PLANTS EACH FOR A TOTAL OF 138 SHALLOW WATER PLANTS (SEE SCHEDULE FOR APPROVED PLANTS)

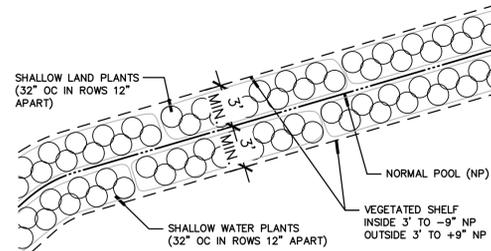
**VEGETATED SHELF PLANT SCHEDULE**

**SHALLOW LAND**

DI	Dichromena latifolia	White star grass	4-6" pot
EF	Eupatorium fistulosum	Joe Pye weed	4-6" pot
HG	Hibiscus grandiflorus	Violet Mallow	4-6" pot
HC	Hibiscus coccinea	Scarlet Rose Mallow	4-6" pot
CG	Chelone glabra	White turtlehead	4-6" pot
LC	Lobelia cardinalis	Cardinal flower	4-6" pot

**SHALLOW WATER**

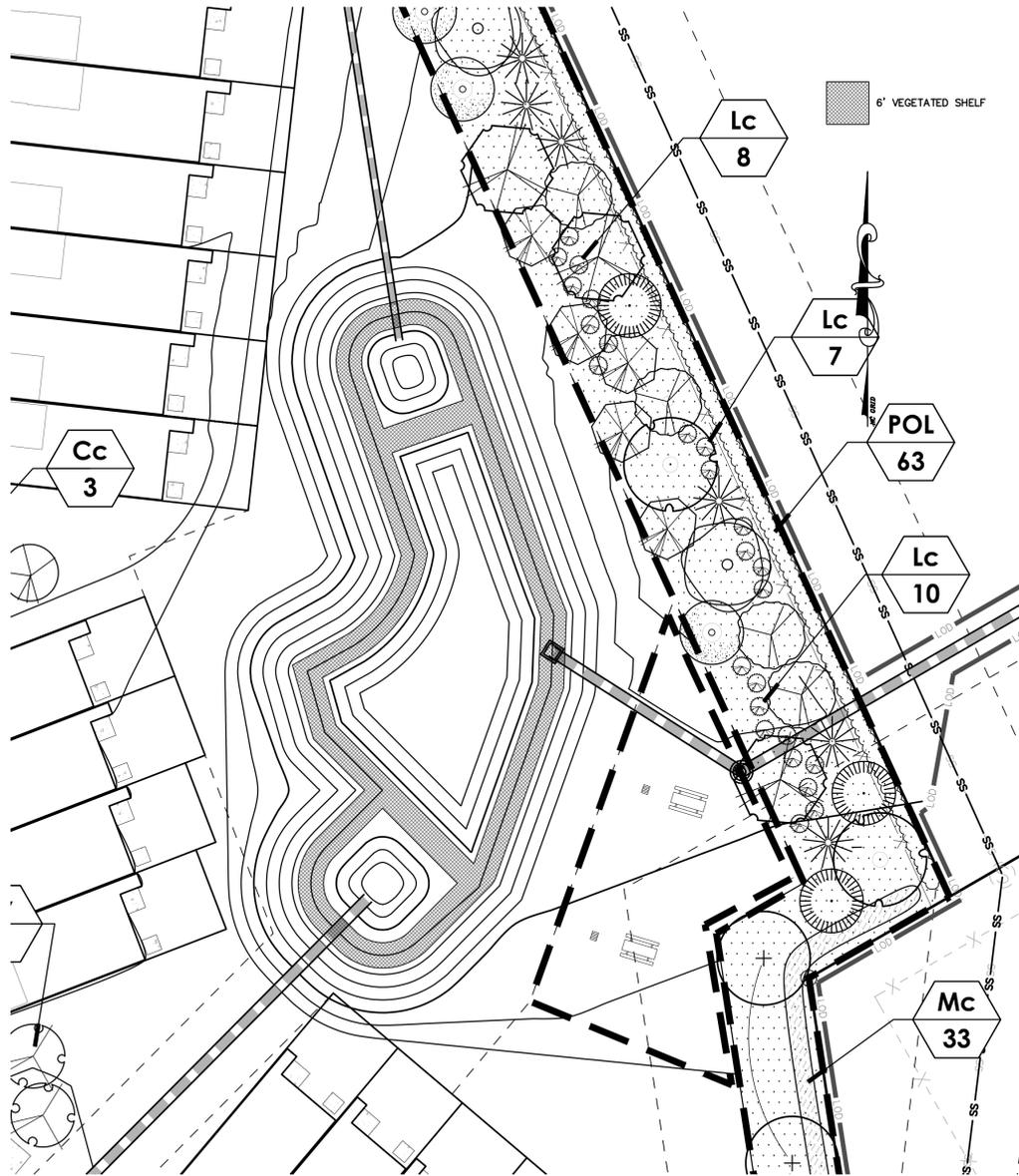
AS	Acorus Spp	Sweet flag	4-6" pot
IV	Iris versicolor	Blue flag Iris	4-6" pot
PC	Pontederia cordata	Peckered weed	4-6" pot
PV	Peltandra virginica	Arrow arum	4-6" pot
SI	Sagittaria longiloba	Arrowhead	4-6" pot
JE	Juncus effusus	Softrush	4-6" pot



**WET POND VEGETATED SHELF PLANTING DETAIL** NTS

**WET POND AREA PLANT LIST**

KEY	QUAN.	BOTANICAL NAME	COMMON NAME	MIN. CAL.	HT.	REMARKS
<b>TREES</b>						
Ar	3	Acer rubrum 'Red Sunset'	Red Maple	2"	12-14'	
Cc	6	Cercis canadensis	Redbud	2"	8-10'	
Io	3	Ilex opaca	Savannah Holly	2"	8-10'	
Lt	3	Liriodendron tulipifera	Tulip Poplar	2"	12-14'	
Mg	3	Magnolia grandiflora 'Little Gem'	Little Gem Magnolia	2"	8-10'	
Td	4	Taxodium distichum	Bald Cypress	2"	12-14'	
<b>SHRUBS</b>						
IcB	22	Ilex cornuta 'Burfordii' 'Nana'	Dwarf Burford Holly	24"	3.5' o.c.	
PIO	35	Prunus l. 'Otto Luyken'	Otto Luyken Laurel	24"	3.5' o.c.	



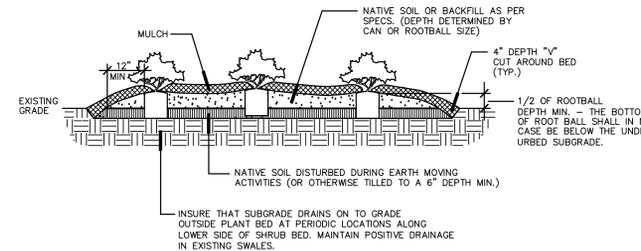
**WET POND LANDSCAPING**  
SCALE: 1"=20'

**PLANT LIST (Sheet C-8.1)**

Key	Botanical Name	Common Name	Qty	Cal	Height	Spread	Root	Remarks
<b>SHADE TREES</b>								
Ar	Acer rubrum 'October Glory'	October Glory Red Maple	10	2.5"	8' min.		BB	
As	Acer saccharum 'Legacy'	Legacy Sugar Maple	8	2.5"	8' min.		BB	
Lt	Liriodendron tulipifera	Tulip Poplar	2	2.5"	8' min.		BB	
Ns	Nyssa sylvatica	Black Gum	4	2.5"	8' min.		BB	
Pc	Pistachia chinensis	Chinese Pistache	6	2.5"	8' min.		BB	
Qn	Quercus nuttalli	Nuttall Oak	12	2.5"	8' min.		BB	
Tc	Tilia cordata 'Greenspire'	Greenspire Linden	4	2.5"	8' min.		BB	
Zs	Zelkova serrata 'Village Green'	Village Green Zelkova	7	2.5"	8' min.		BB	
<b>EVERGREEN TREES</b>								
Cj	Cryptomeria japonica 'Yoshino'	Yoshino Cryptomeria	3		8' min.		BB	
Cl	Callitropsis leylandii	Leyland Cypress	22		8' min.		BB	
Io	Ilex opaca 'Tinga'	Tinga American Holly	3		8' min.		BB	
Jv	Juniperus virginiana	Eastern Red Cedar			8' min.		BB	
Mg	Magnolia grandiflora 'Kay Parris'	Kay Parris Magnolia	7		8' min.		BB	
Pr	Prunus caroliniana	Carolina Cherry Laurel			8' min.		BB	
<b>ORNAMENTAL TREES</b>								
Ag	Amelanchier x grandiflora 'Autumn Brilliance'	Autumn Brilliance Serviceberry	3	1.5"	8' min.		BB	
Cc	Cercis canadensis	Eastern Red Bud	8	1.5"	8' min.		BB	
Cf	Cornus florida 'Cherokee Princess'	Cherokee Princess Dogwood	6	1.5"	8' min.		BB	White
Hc	Haslecia carolina 'Jersey Belle'	Jersey Belle Carolina Silverbell	5	1.5"	8' min.		BB	
Li	Lagerstroemia Whit II 'Dynamite'	Dynamite Crape Myrtle	8	1.5"	8' min.		BB	Multi-stem, Red
Py	Prunus yedoensis 'Yoshino'	Yoshino Cherry	6	1.5"	8' min.		BB	
<b>SHRUBS</b>								
Az	Azalea x indica 'Formosa'	Formosa Azalea	19		24"		Cont.	Lavender
IcB	Ilex cornuta 'Burfordii' 'Nana'	Dwf. Burford Holly	152		24"		Cont.	
Ig	Ilex glabra 'Shamrock'	Shamrock Inkberry Holly	24		24"		Cont.	
Lc	Loropetalum chinense 'Ruby'	Ruby Loropetalum	53		24"		Cont.	
Mc	Myrica cerifera	Wax Myrtle	100		24"		Cont.	
POL	Prunus laurocerasus 'Otto Luyken'	Otto Luyken Cherry Laurel	109		24"		Cont.	
Vd	Viburnum davidii	David Viburnum	9		24"		Cont.	

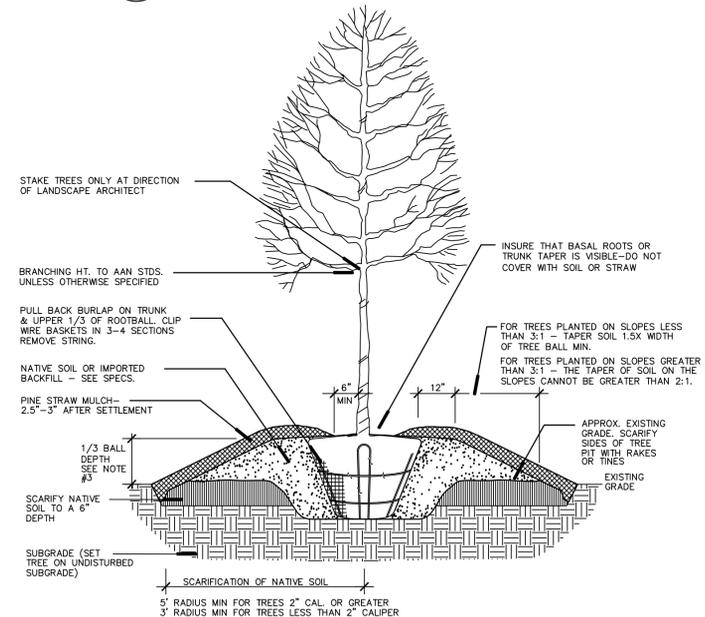
**LANDSCAPE NOTES:**

- 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, SHRUBS, AND PLANTS SHALL CONFORM TO ACCEPTED STANDARDS ESTABLISHED BY THE AMERICAN ASSOCIATION OF NURSERYMEN.
- 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" HARDWOOD BARK MULCH.



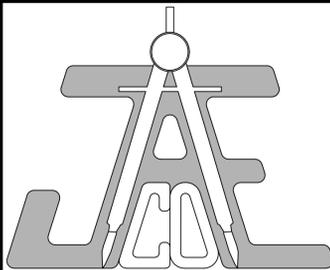
**SHRUB PLANTING DETAIL**

NOT TO SCALE



**TREE PLANTING DETAIL**

NOT TO SCALE



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FINAL DRAWING



FOR REVIEW PURPOSES ONLY

**A-MASTER TEAM**  
**TOWNHOMES**  
151 GRAND ROCK WAY  
ROLESVILLE, NC 27571

**A-MASTER TEAM, LLC**  
6200 FALLS OF NEUSE ROAD  
SUITE 10  
RALEIGH, NC 27609

**ABBREVIATIONS**

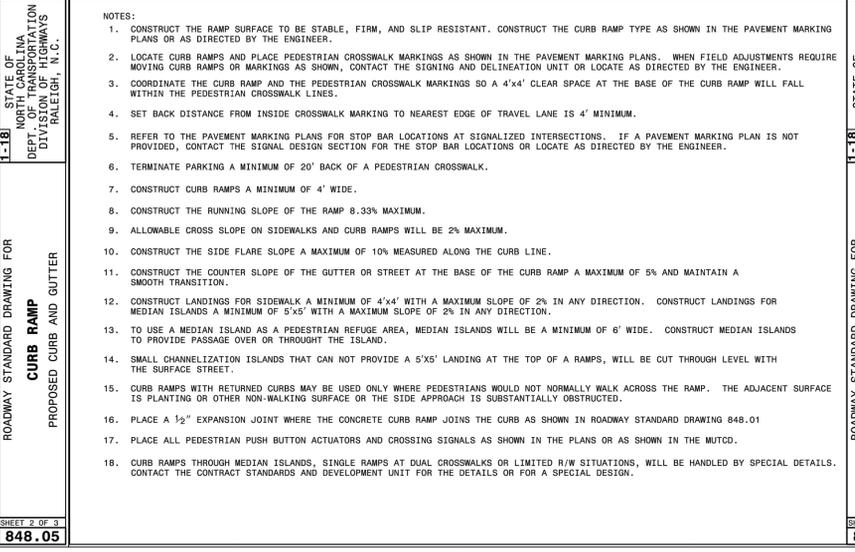
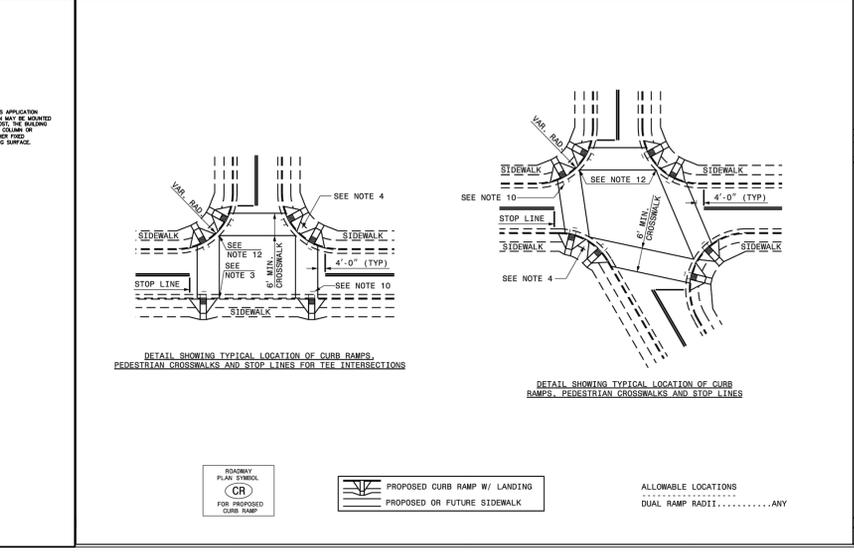
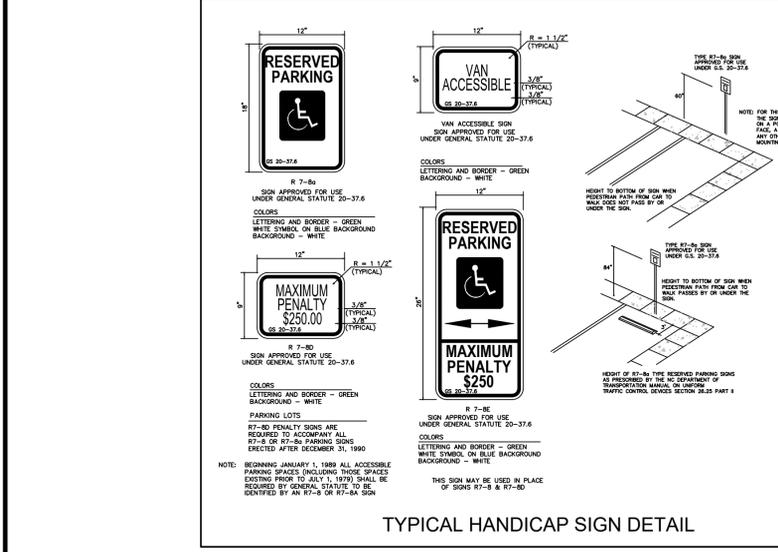
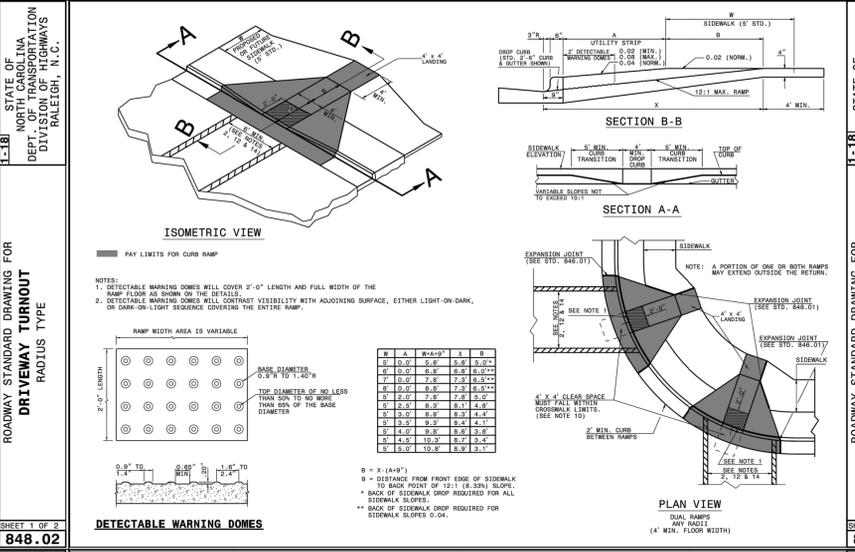
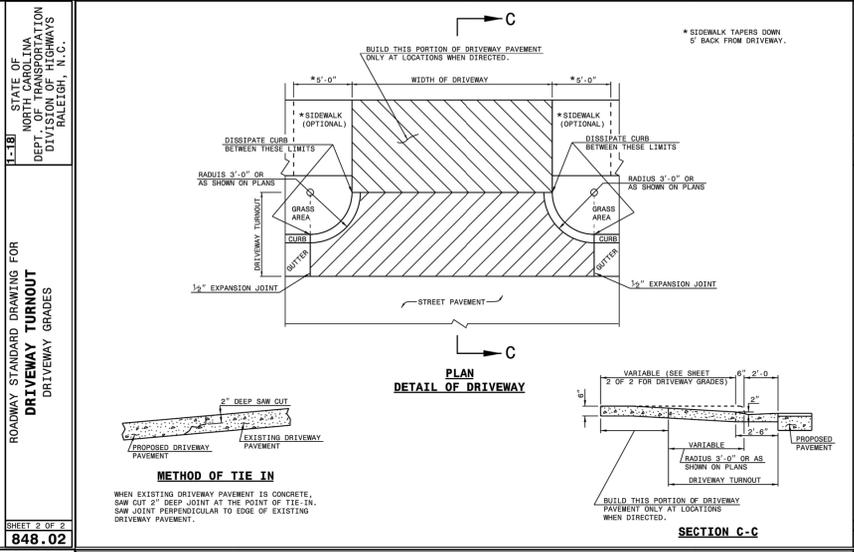
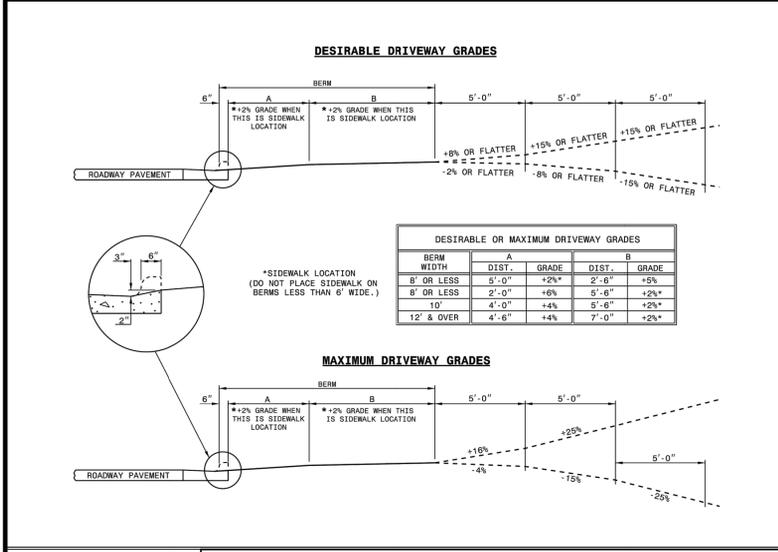
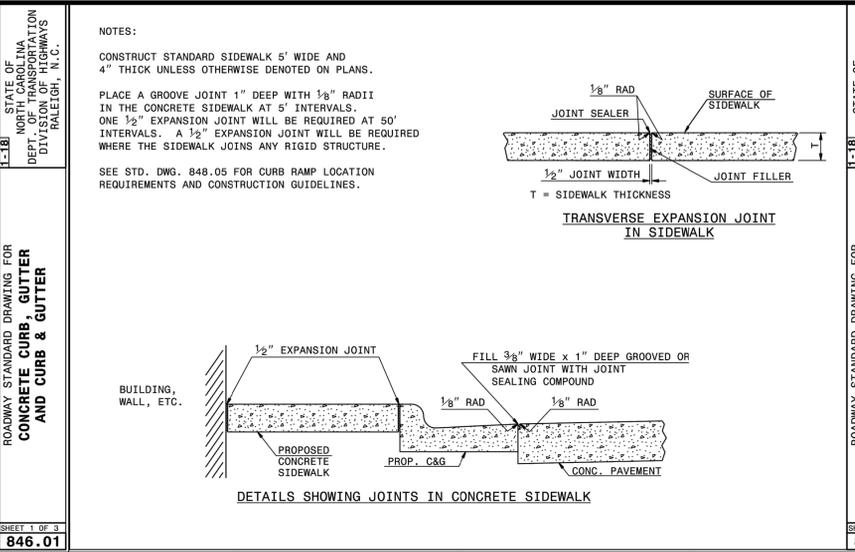
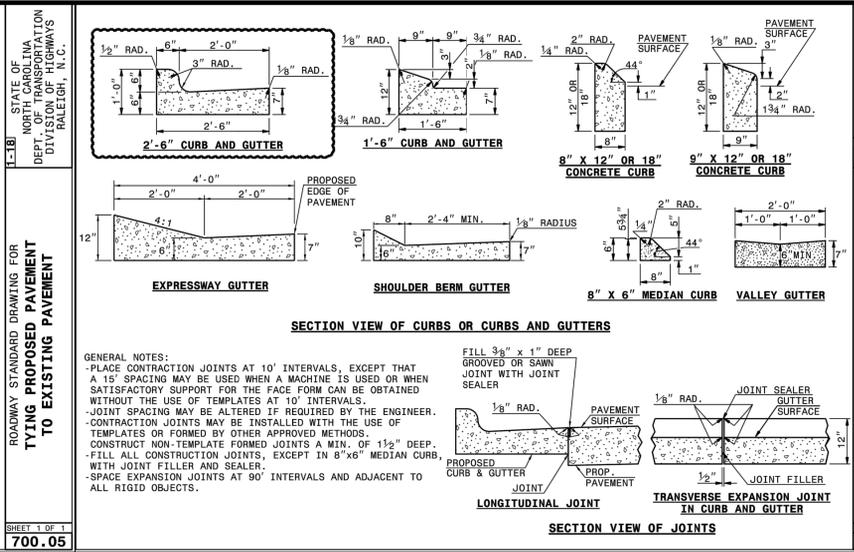
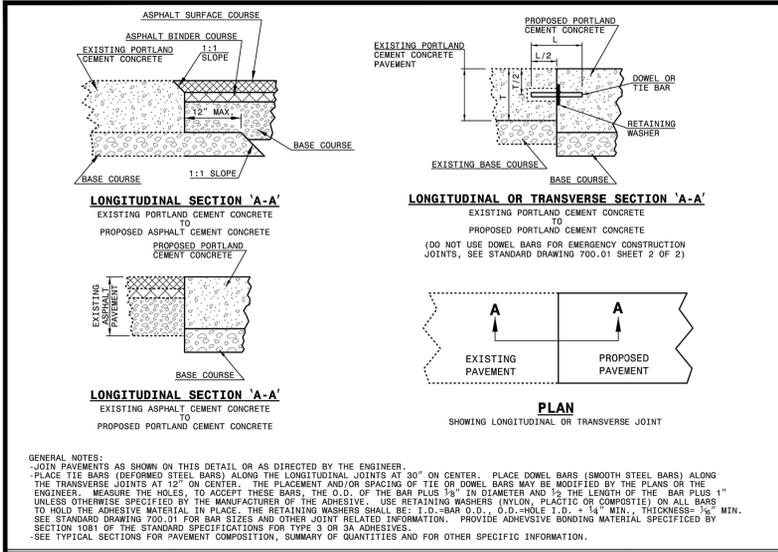
EX	EXISTING	TBRL	TO BE RELOCATED
PROP	PROPOSED	FP	FLOOD PLAIN
APPROX	APPROXIMATE	FEMA	FEDERAL EMERGENCY MANAGEMENT AGENCY
LOC	LOCATION	ESMT	EASEMENT
BM	BOOK OF MAPS	TYP	TYPICAL
DB	DEED BOOK	SWM	STORMWATER MANAGEMENT
PG	PAGE	SF	SQUARE FEET
NF	NOW OR FORMERLY	AC	ACRE
ROW	RIGHT OF WAY	LF	LINEAR FEET
EIP	EX IRON PIPE	UDO	UNIFIED DEVELOPMENT ORDINANCE
EMAG	EX MAG NAIL	GIS	GEOGRAPHIC INFORMATION SYSTEM
ECM	EX CONCRETE MONUMENT	NCDOT	NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
EIR	EX IRON ROD		
IPS	IRON PIPE SET		
EP	EDGE OF PAVEMENT		
SS	SANITARY SEWER		
FM	FORCE MAIN		
FH	FIRE HYDRANT		
ELEC	ELECTRIC		
TBD	TO BE DETERMINED		
TBR	TO BE REMOVED		

**POND PLANTING, DETAILS, & PLANT LIST**

Number	Description	Date

JAECO #: 362-09  
DRAWING SCALE: AS SHOWN  
DRAWN BY: TT  
CHECKED BY: JAE, JR.  
DATE ISSUED: 06/22/2020

**C-8.2**



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**ABBREVIATIONS**

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DB	DEED BOOK	SWM	STORMWATER MANAGEMENT
PG	PAGE	LF	LINEAR FEET
NF	NOW OR FORMERLY	SF	SQUARE FEET
ROW	RIGHT OF WAY	AC	ACRE
EIP	EX IRON PIPE	LF	LINEAR FEET
EMG	EX MAG NAIL	UD	UNIFIED
EMC	EX CONCRETE MONUMENT	IP	IRON PIPE SET
EIP	EX IRON PIPE	SS	EDGE OF SIDEWALK
IPS	IRON PIPE SET	SP	SAINT PETER'S
ES	EDGE OF SIDEWALK	FM	FIRE MAIN
SS	SAINT PETER'S	PH	PHOTONIC
FM	FIRE MAIN	ELEC	ELECTRIC
PH	PHOTONIC	TBD	TO BE DETERMINED
ELEC	ELECTRIC	TBR	TO BE REMOVED
TBD	TO BE DETERMINED		
TBR	TO BE REMOVED		

**NOTES:**

- CONSTRUCT THE RAMP SURFACE TO BE STABLE, FIRM, AND SLIP RESISTANT. CONSTRUCT THE CURB RAMP TYPE AS SHOWN IN THE PAVEMENT MARKING PLANS OR AS DIRECTED BY THE ENGINEER.
- LOCATE CURB RAMPS AND PLACE PEDESTRIAN CROSSWALK MARKINGS AS SHOWN IN THE PAVEMENT MARKING PLANS. WHEN FIELD ADJUSTMENTS REQUIRE MOVING CURB RAMPS OR MARKINGS AS SHOWN, CONTACT THE SIGNING AND DELINEATION UNIT OR LOCATE AS DIRECTED BY THE ENGINEER.
- COORDINATE THE CURB RAMP AND THE PEDESTRIAN CROSSWALK MARKINGS SO A 4'x4' CLEAR SPACE AT THE BASE OF THE CURB RAMP WILL FALL WITHIN THE PEDESTRIAN CROSSWALK LINES.
- SET BACK DISTANCE FROM INSIDE CROSSWALK MARKING TO NEAREST EDGE OF TRAVEL LANE IS 4' MINIMUM.
- REFER TO THE PAVEMENT MARKING PLANS FOR STOP BAR LOCATIONS AT SIGNALIZED INTERSECTIONS. IF A PAVEMENT MARKING PLAN IS NOT PROVIDED, CONTACT THE SIGNAL DESIGN SECTION FOR THE STOP BAR LOCATIONS OR LOCATE AS DIRECTED BY THE ENGINEER.
- TERMINATE PARKING A MINIMUM OF 20' BACK OF A PEDESTRIAN CROSSWALK.
- CONSTRUCT CURB RAMPS A MINIMUM OF 4' WIDE.
- CONSTRUCT THE RUNNING SLOPE OF THE RAMP 0.33% MAXIMUM.
- ALLOWABLE CROSS SLOPE ON SIDEWALKS AND CURB RAMPS WILL BE 2% MAXIMUM.
- CONSTRUCT THE SIDE FLARE SLOPE A MAXIMUM OF 10% MEASURED ALONG THE CURB LINE.
- CONSTRUCT THE COUNTER SLOPE OF THE GUTTER OR STREET AT THE BASE OF THE CURB RAMP A MAXIMUM OF 5% AND MAINTAIN A SMOOTH TRANSITION.
- CONSTRUCT LANDINGS FOR SIDEWALK A MINIMUM OF 4'x4' WITH A MAXIMUM SLOPE OF 2% IN ANY DIRECTION. CONSTRUCT LANDINGS FOR MEDIAN ISLANDS A MINIMUM OF 5'x5' WITH A MAXIMUM SLOPE OF 2% IN ANY DIRECTION.
- TO USE A MEDIAN ISLAND AS A PEDESTRIAN REFUGE AREA, MEDIAN ISLANDS WILL BE A MINIMUM OF 6' WIDE. CONSTRUCT MEDIAN ISLANDS TO PROVIDE PASSAGE OVER OR THROUGH THE ISLAND.
- SMALL CHANNELIZATION ISLANDS THAT CAN NOT PROVIDE A 5'x5' LANDING AT THE TOP OF A RAMPS, WILL BE CUT THROUGH LEVEL WITH THE SURFACE STREET.
- CURB RAMPS WITH RETURNED CURBS MAY BE USED ONLY WHERE PEDESTRIANS WOULD NOT NORMALLY WALK ACROSS THE RAMP. THE ADJACENT SURFACE IS PLANTING OR OTHER NON-WALKING SURFACE OR THE SIDE APPROACH IS SUBSTANTIALLY OBSTRUCTED.
- PLACE A 1/2" EXPANSION JOINT WHERE THE CONCRETE CURB RAMP JOINS THE CURB AS SHOWN IN ROADWAY STANDARD DRAWING 848.01
- PLACE ALL PEDESTRIAN PUSH BUTTON ACTUATORS AND CROSSING SIGNALS AS SHOWN IN THE PLANS OR AS SHOWN IN THE MUTCD.
- CURB RAMPS THROUGH MEDIAN ISLANDS, SINGLE RAMPS AT DUAL CROSSWALKS OR LIMITED R/W SITUATIONS, WILL BE HANDLED BY SPECIAL DETAILS. CONTACT THE CONTRACT STANDARDS AND DEVELOPMENT UNIT FOR THE DETAILS OR FOR A SPECIAL DESIGN.

**SITE DETAILS**

Revisions

Number	Description	Date

JAECO # 362-09  
DRAWING SCALE: AS SHOWN  
DRAWN BY: TT  
CHECKED BY: JAE, JR  
DATE ISSUED: 06/22/2020

**C-9.1**

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

**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**

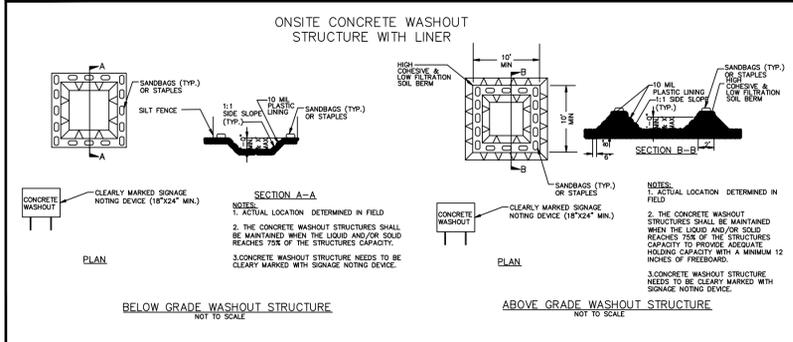
- Do not dump paint and other liquid waste into storm drains, streams or wetlands.
- Locate paint washouts at least 50 feet away from storm drain inlets and surface waters unless no other alternatives are reasonably available.
- Contain liquid wastes in a controlled area.
- Containment must be labeled,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

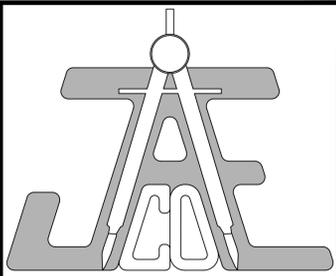
- Do not discharge concrete or cement slurry from the site.
- Dispose of, or recycle settled, hardened concrete residue in accordance with local and state solid waste regulations and at an approved facility.
- Manage washout from mortar mixers in accordance with the above item and in addition place the 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**

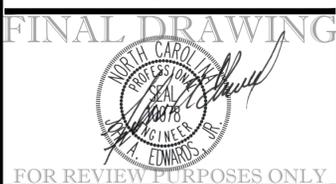
- Store and apply herbicides, pesticides and rodenticides in accordance with label restrictions.
- Store herbicides, pesticides and rodenticides in their original containers with the label, which lists directions for use, ingredients and first aid steps in case of accidental poisoning.
- Do not store 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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FH	FIRE HYDRANT		
ELEC	ELECTRIC		
TBD	TO BE DETERMINED		
TBR	TO BE REMOVED		

**NCG01 NOTES AND DETAILS**

Revisions	Number	Description	Date

JAECO #: 362-09  
DRAWING SCALE: AS SHOWN  
DRAWN BY: TT  
CHECKED BY: JAE, JR.  
DATE ISSUED: 06/22/2020

**NCG01 GROUND STABILIZATION AND MATERIALS HANDLING**

**EFFECTIVE: 04/01/19**

**C-9.2**

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

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

- The 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,
- The non-surface withdrawal has been reported as an anticipated bypass in accordance with Part III, Section C, Item (2)(c) and (d) of this permit,
- Dewatering discharges are treated with controls to minimize discharges of pollutants from stormwater that is removed from the sediment basin. Examples of appropriate controls include properly sited, designed and maintained dewatering tanks, weir tanks, and filtration systems,
- 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,
- Velocity dissipation devices such as check dams, sediment traps, and riprap are provided at the discharge points of all dewatering devices, and
- Sediment removed from the dewatering treatment devices described in Item (c) above is disposed of in a manner that does not cause deposition of sediment into waters of the United States.

**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:

- This General Permit as well as the Certificate of Coverage, after it is received.
- Records of inspections made during the previous twelve months. The permittee shall record the required observations on the Inspection Record Form provided by the Division or a similar inspection form that includes all the required elements. Use of electronically-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**

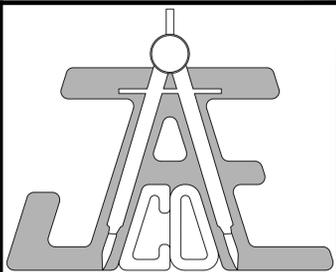
Permittees shall report the following occurrences:

- Visible sediment deposition in a stream or wetland.
  - They are 25 gallons or more,
  - They are less than 25 gallons but cannot be cleaned up within 24 hours,
  - They cause sheen on surface waters (regardless of volume), or
  - They are within 100 feet of surface waters (regardless of volume).
- Releases of hazardous substances in excess of reportable quantities under Section 311 of the Clean Water Act (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.
- Anticipated bypasses and unanticipated bypasses.
- 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"> <li><b>Within 24 hours</b>, an oral or electronic notification.</li> <li><b>Within 7 calendar days</b>, 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.</li> <li>If the stream is named on the <a href="#">NC 303(d) list</a> 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.</li> </ul>
(b) Oil spills and release of hazardous substances per Item 1(b)-(c) above	<ul style="list-style-type: none"> <li><b>Within 24 hours</b>, an oral or electronic notification. The notification shall include information about the date, time, nature, volume and location of the spill or release.</li> </ul>
(c) Anticipated bypasses [40 CFR 122.41(m)(3)]	<ul style="list-style-type: none"> <li><b>A report at least ten days before the date of the bypass, if possible.</b> The report shall include an evaluation of the anticipated quality and effect of the bypass.</li> </ul>
(d) Unanticipated bypasses [40 CFR 122.41(m)(3)]	<ul style="list-style-type: none"> <li><b>Within 24 hours</b>, an oral or electronic notification.</li> <li><b>Within 7 calendar days</b>, a report that includes an evaluation of the quality and effect of the bypass.</li> </ul>
(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"> <li><b>Within 24 hours</b>, an oral or electronic notification.</li> <li><b>Within 7 calendar days</b>, 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).</li> <li>Division staff may waive the requirement for a written report on a case-by-case basis.</li> </ul>



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**FINAL DRAWING**



FOR REVIEW PURPOSES ONLY

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TOWNHOMES**  
151 GRAND ROCK WAY  
ROLESVILLE, NC 27571

**A-MASTER TEAM, LLC**  
6200 FALLS OF NEUSE ROAD  
SUITE 10  
RALEIGH, NC 27609

**ABBREVIATIONS**

EX	EXISTING	TBRL	TO BE RELOCATED
PROP	PROPOSED	FP	FLOOD PLAIN
APPROX	APPROXIMATE	FEMA	FEDERAL EMERGENCY MANAGEMENT AGENCY
LOC	LOCATION	ESMT	EASEMENT
BM	BOOK OF MAPS	TYP	TYPICAL
DB	DEED BOOK	SWM	STORMWATER MANAGEMENT
PG	PAGE	SF	SQUARE FEET
NF	NOW OR FORMERLY	AC	ACRE
ROW	RIGHT OF WAY	LF	LINEAR FEET
EIP	EX IRON PIPE	UDO	UNIFIED DEVELOPMENT ORDINANCE
EMAG	EX MAG NAIL	GIS	GEOGRAPHIC INFORMATION SYSTEM
ECM	EX CONCRETE MONUMENT	NCDOT	NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
EIR	EX IRON ROD		
IPS	IRON PIPE SET		
EOP	EDGE OF PAVEMENT		
SS	SANITARY SEWER		
FM	FORCE MAIN		
FH	FIRE HYDRANT		
ELEC	ELECTRIC		
TBD	TO BE DETERMINED		
TBR	TO BE REMOVED		

**NCG01 NOTES AND DETAILS**

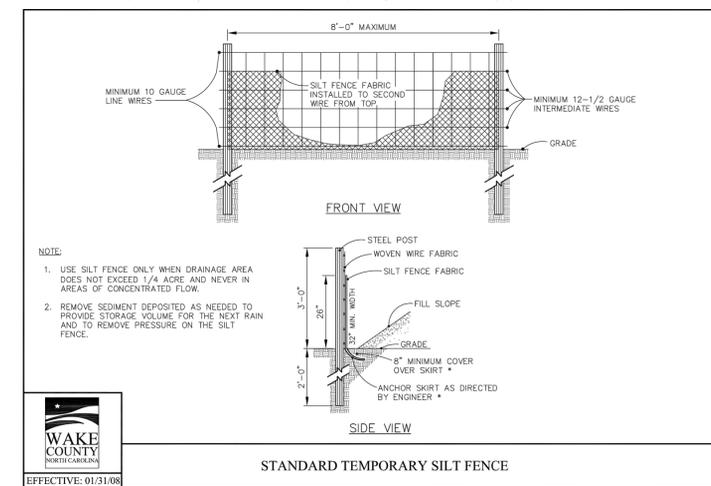
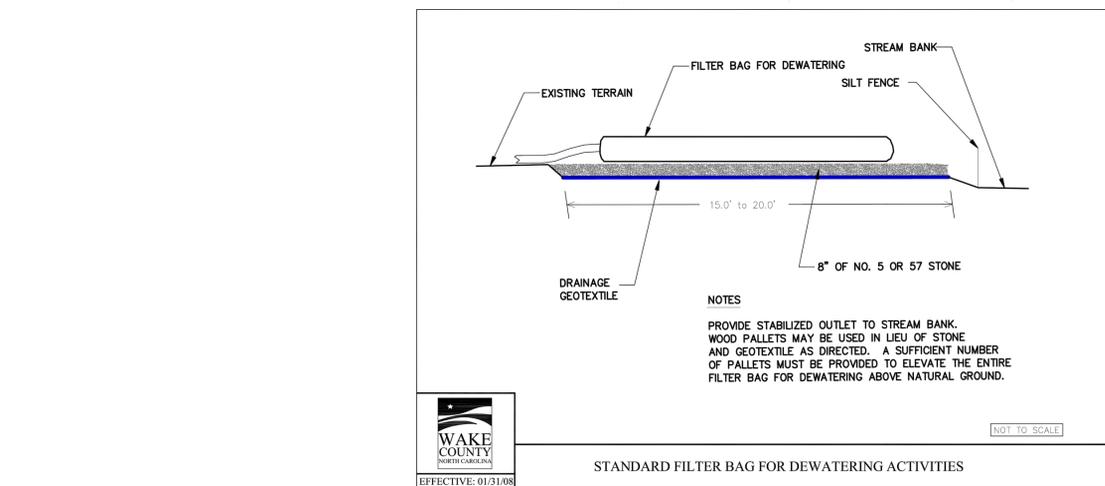
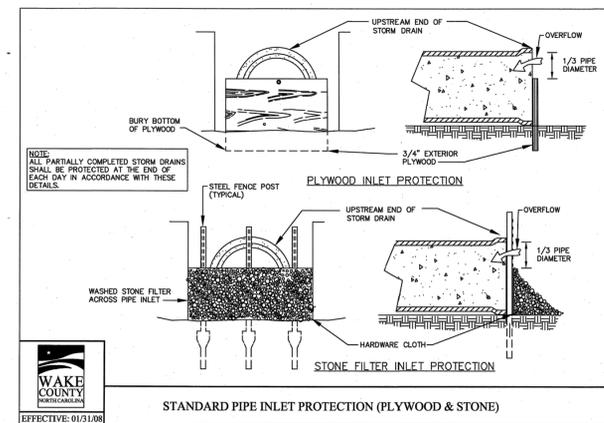
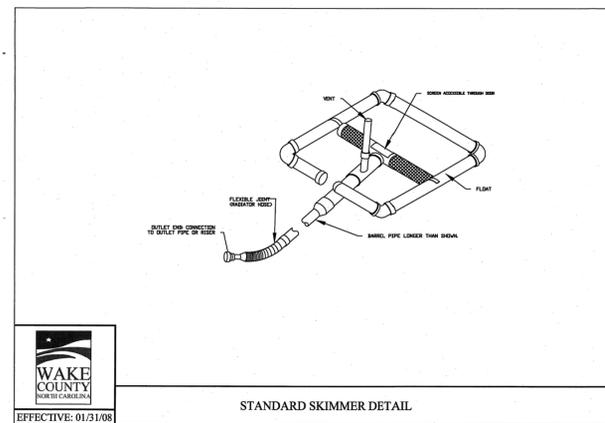
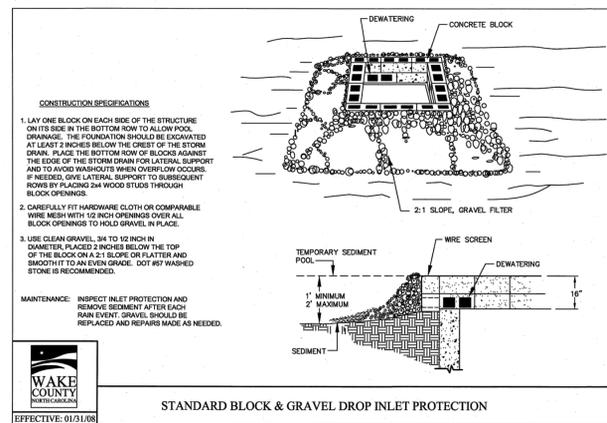
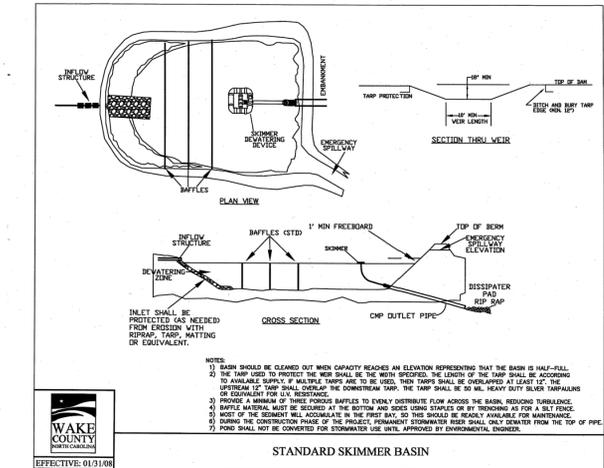
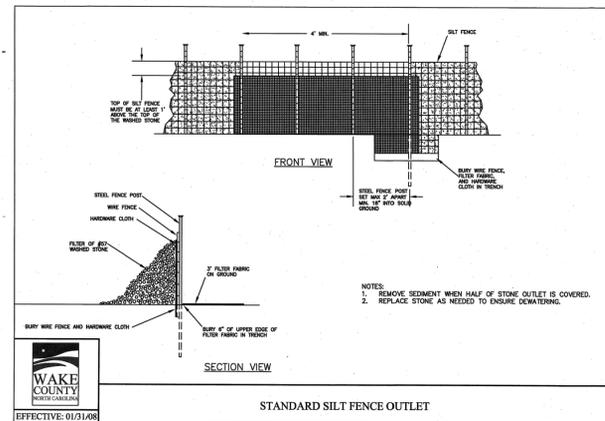
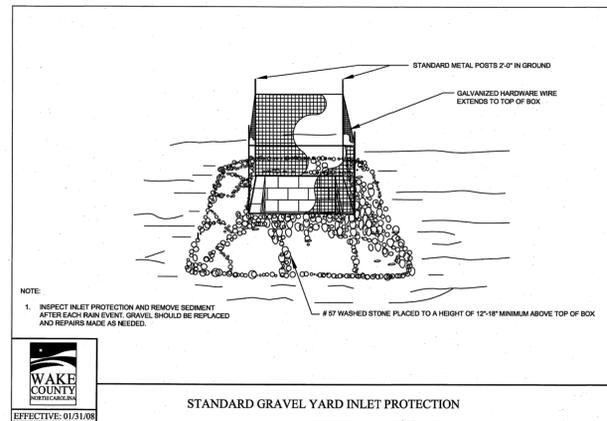
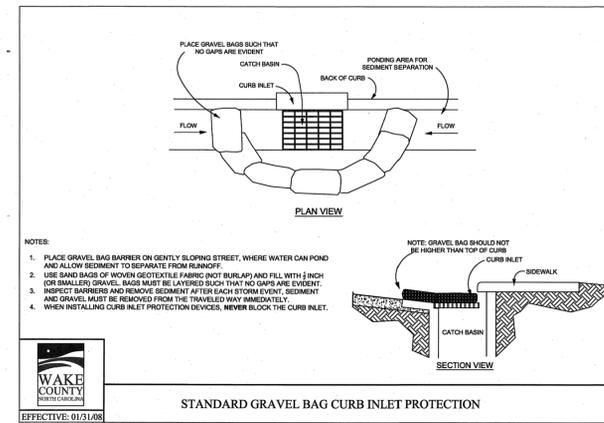
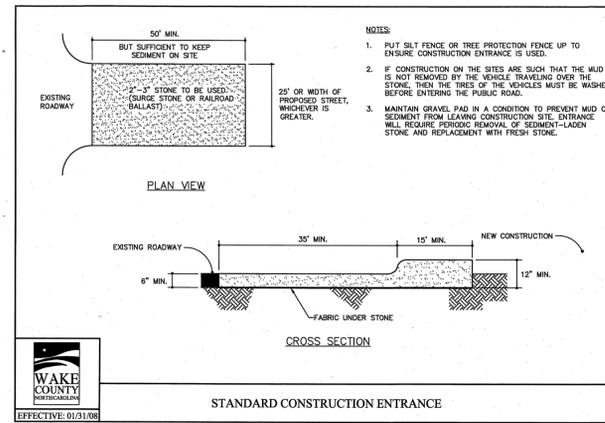
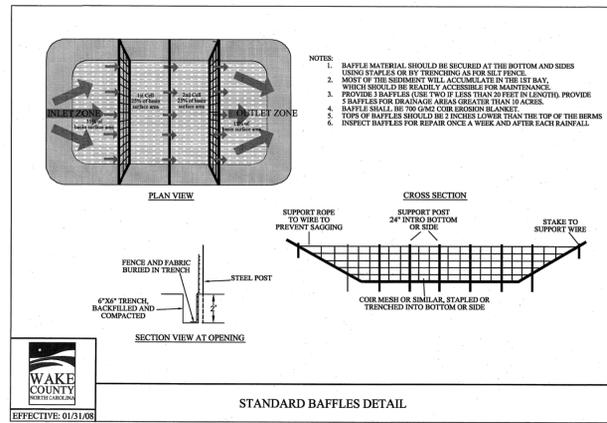
Revisions	Number	Description	Date

JAECO #: 362-09  
DRAWING SCALE: AS SHOWN  
DRAWN BY: TT  
CHECKED BY: JAE, JR.  
DATE ISSUED: 06/22/2020

**C-9.3**

**NCG01 SELF-INSPECTION, RECORDKEEPING AND REPORTING**

**EFFECTIVE: 04/01/19**



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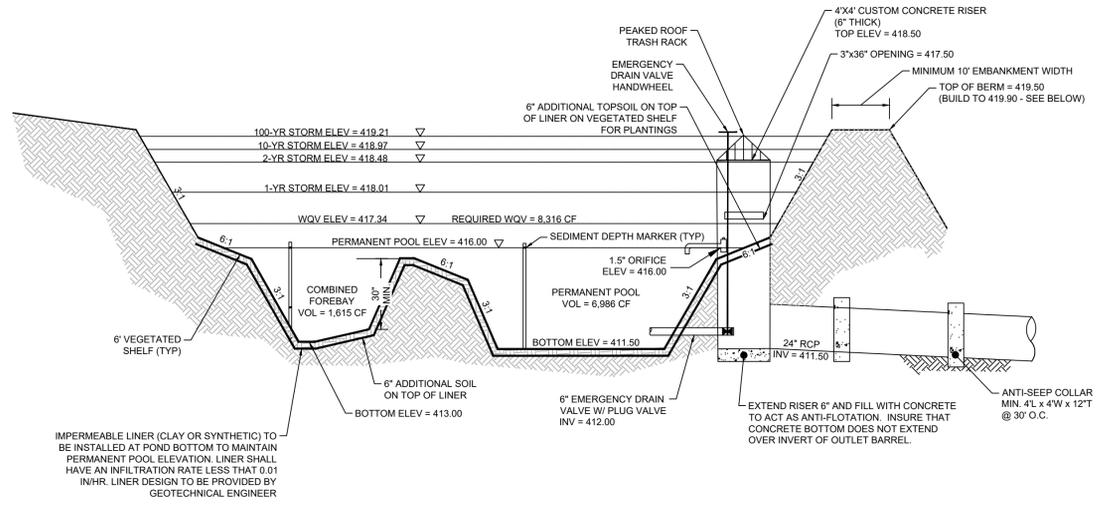
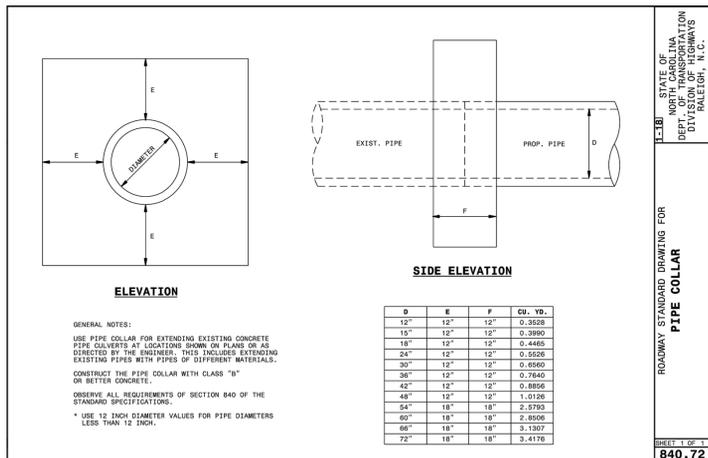
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LF	LINEAR FEET	FM	FIRE MAIN
UDO	UNIFIED DEVELOPMENT ORDINANCE	ELEC	ELECTRIC
GIS	GEOGRAPHIC INFORMATION SYSTEM	NCDOT	NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
FM	FIRE MAIN		
ELEC	ELECTRIC		
NCDOT	NORTH CAROLINA DEPARTMENT OF TRANSPORTATION		

**EROSION CONTROL DETAILS**

Number	Description	Date

JAECO #: 362-09  
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DRAWN BY: TT  
CHECKED BY: JAE, JR.  
DATE ISSUED: 06/22/2020

**C-9.4**



**GENERAL NOTES AND SPECIFICATIONS**

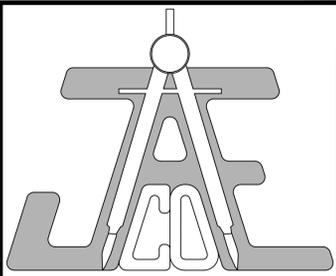
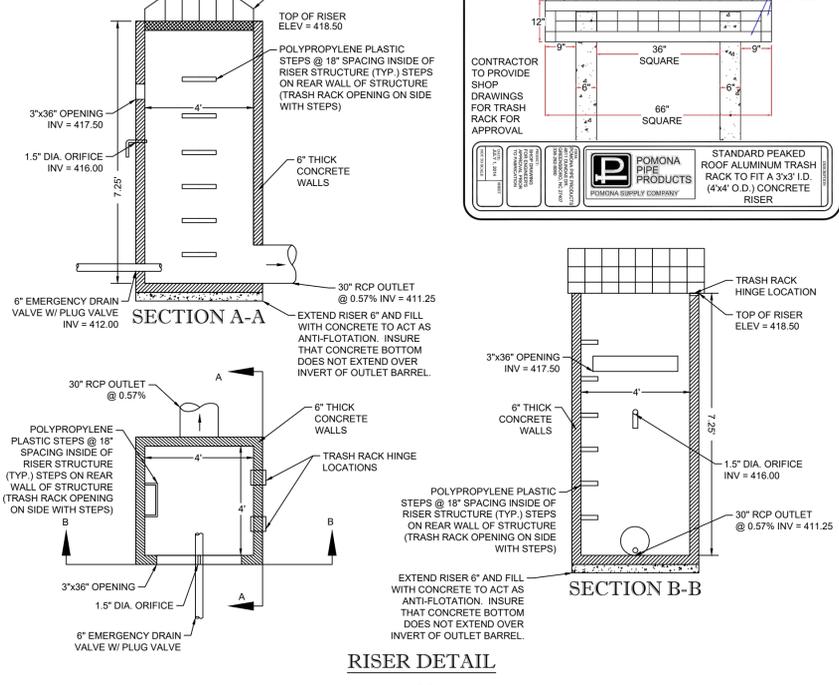
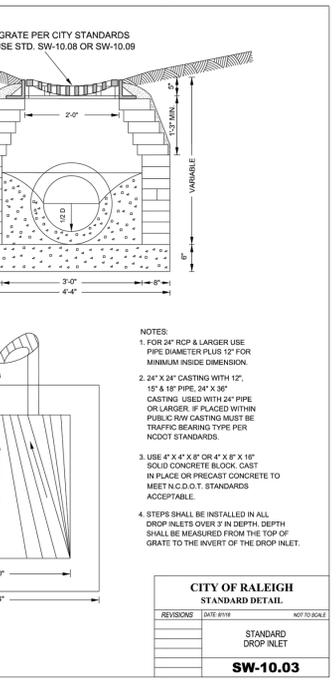
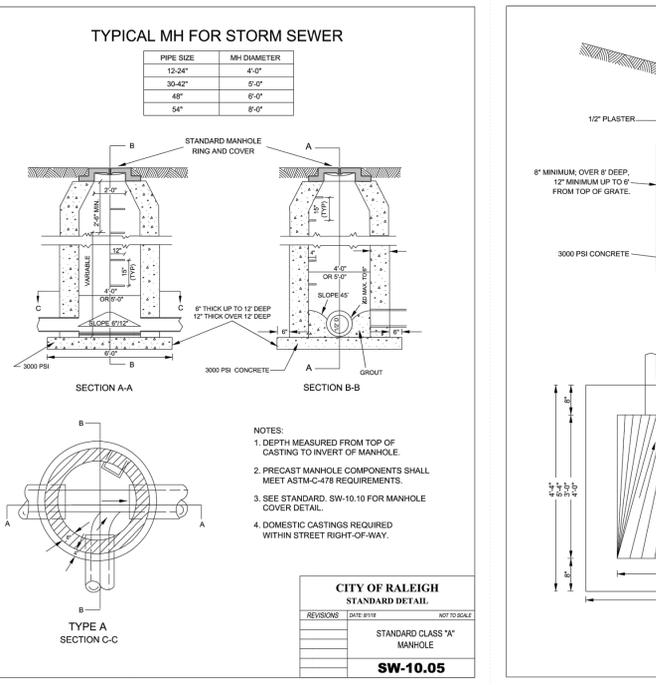
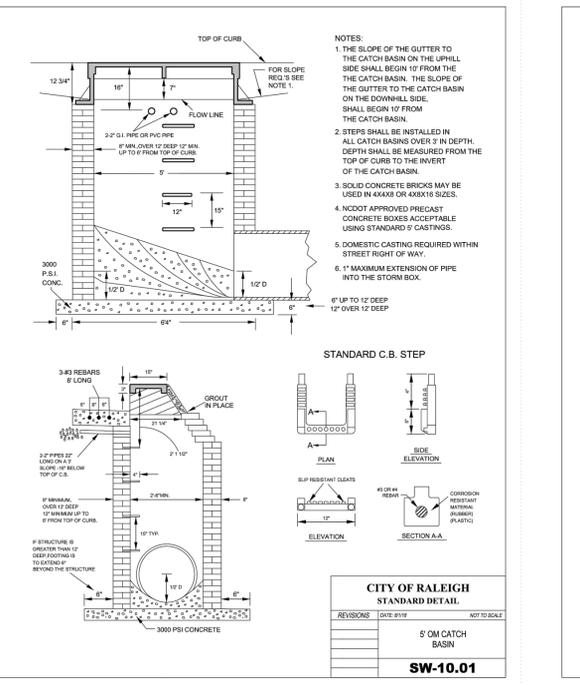
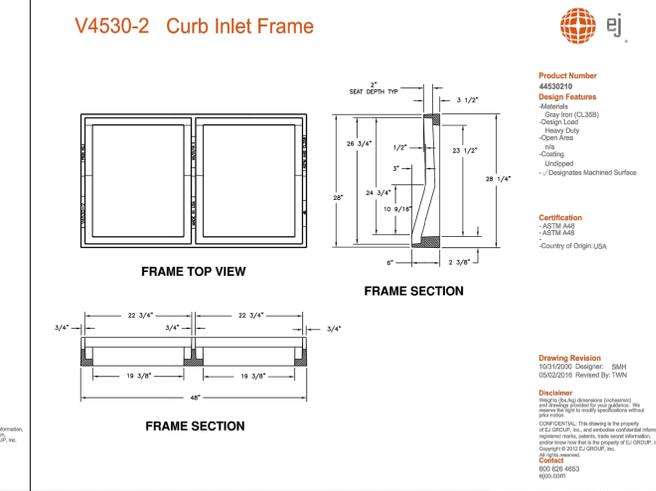
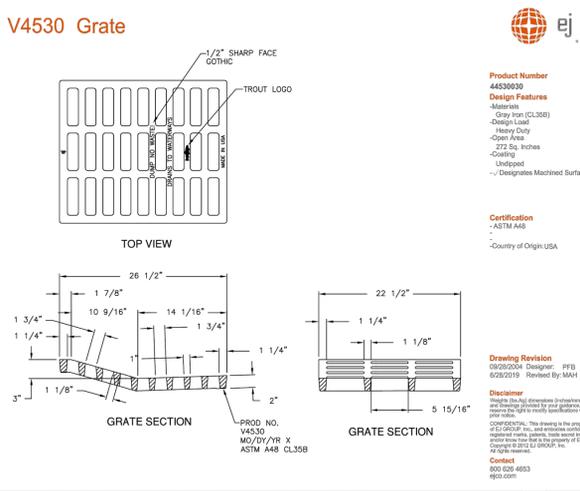
- BMP CONSTRUCTION SHALL BE IN ACCORDANCE WITH AMERICAN SOCIETY OF TESTING AND MATERIALS (ASTM) AS FOLLOWS:
  - SOILS SUITABLE FOR BERM CONSTRUCTION - ASTM D-2487
  - ENGINEERED SOIL MATERIALS - ASTM D-2940
  - SOIL COMPACTION - ASTM D-698
  - PRECAST CONCRETE RISERS - ASTM C-478, ASTM C-913
  - CEMENT - ASTM C-150, ASTM C-33
  - JOINT SEALANT - ASTM C-990
  - REINFORCED CONCRETE PIPING - ASTM C-76 CLASS III
- FILL MATERIALS SHALL BE MOISTURE CONDITIONED TO THE REQUIREMENTS OF THE GEOTECHNICAL ENGINEER, PLACED AND COMPACTED IN A MAXIMUM OF 6" LIFTS. MATERIAL SHALL BE FREE OF ORGANIC DEBRIS, AND HAVE A MAXIMUM ORGANIC CONTENT OF 5%. FILL MATERIAL SHALL BE FREE OF ROCK MATERIAL GREATER THAN 3" IN ANY DIRECTION.
- TESTING OF SOIL COMPACTION - SHALL BE PERFORMED BY A CERTIFIED TESTING AGENCY IN ACCORDANCE WITH ASTM E-329 AND ASTM D-3740.
- ALL FILL AND EARTH MOVING OPERATIONS SHALL BE CLOSELY MONITORED AND DOCUMENTED BY THE GEOTECHNICAL ENGINEER DURING CONSTRUCTION.
- FILL MATERIAL PLACED AT DENSITIES LOWER THAN SPECIFIED MINIMUM DENSITIES OR AT MOISTURE CONTENTS OUTSIDE THE SPECIFIED RANGES OR OTHERWISE NOT CONFORMING TO THE SPECIFIED REQUIREMENTS SHALL BE REMOVED AND REWORKED OR REMOVED AND REPLACED WITH ACCEPTABLY PLACED MATERIALS.
- FILL PLACED ADJACENT TO THE RISER AND PRINCIPAL SPILLWAY PIPE SHALL BE PLACED IN A MANNER WHERE LIFTS ARE AT THE SAME LEVEL ON BOTH SIDES OF THE STRUCTURES.
- TO REESTABLISH VEGETATION AFTER CONSTRUCTION, A TWO- TO THREE-INCH LAYER OF TOPSOIL SHALL BE PLACED AND THE AREA SEEDED AND MULCHED OR HYDROSEED. IF GRASS STABILIZATION IS ATTEMPTED DURING THE SUMMER MONTHS, THE PLACEMENT OF SOIL AND THE IMPLEMENTATION OF AN AGGRESSIVE WATERING PROGRAM MAY BE NECESSARY TO ACHIEVE THE 85% STABILIZATION REQUIREMENT OF THE BCE CERTIFICATION PROGRAM. WHEN WATERING RESTRICTIONS ARE IN PLACE DURING DROUGHT CONDITIONS, OTHER AVENUES FOR WATERING (SUCH AS USING RECLAIMED WATER, ETC.) SHALL BE IMPLEMENTED.

**CONTROL STRUCTURE NOTE**

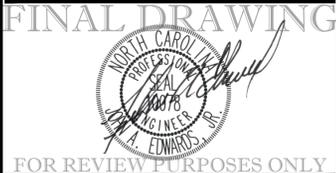
ALL ORIFICES TO HAVE SCREEN INSTALLED OVER OPENINGS TO PREVENT BLOCKAGE.

**SETTLEMENT CALCULATION**

EMBANKMENT SHALL BE CONSTRUCTED TO WITH AN ADDITIONAL 5% OF HEIGHT TO ALLOW FOR SETTLEMENT. MAXIMUM PROPOSED EMBANKMENT HEIGHT FROM FINISHED GRADE: 8' ADDITIONAL DAM HEIGHT REQUIRED: 0.40' (TOP OF EMBANKMENT 419.90')



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EX	EXISTING	EIF	EX IRON ROD
EMAG	EX MAG NAIL	IRS	IRON PIPE SET
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EIF	EX IRON ROD	ELEC	ELECTRIC
IRS	IRON PIPE SET	TBD	TO BE DETERMINED
ES	EDGE OF PAVEMENT	TBR	TO BE REMOVED
SS	SANITARY SEWER		
FM	FIRE HYDRANT	GIS	GEOGRAPHIC INFORMATION SYSTEM
ELEC	ELECTRIC	PN	NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
TBD	TO BE DETERMINED	NCDDT	
TBR	TO BE REMOVED		

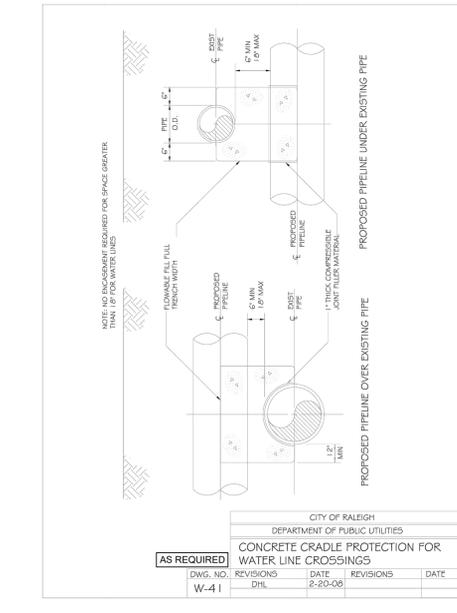
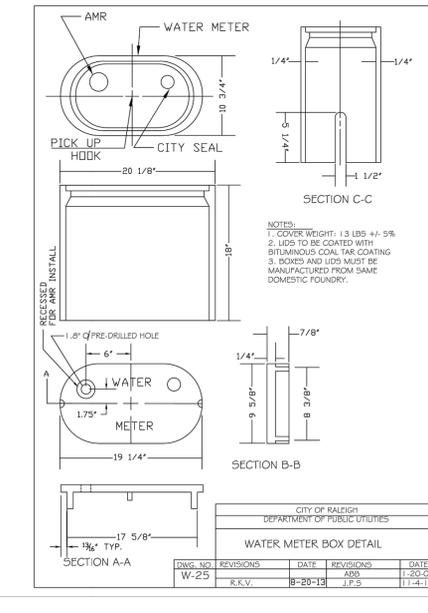
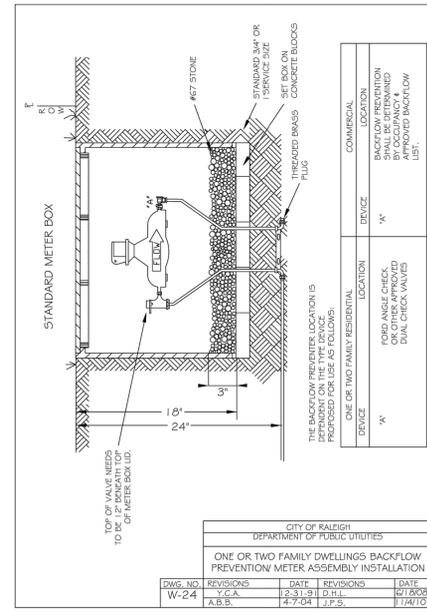
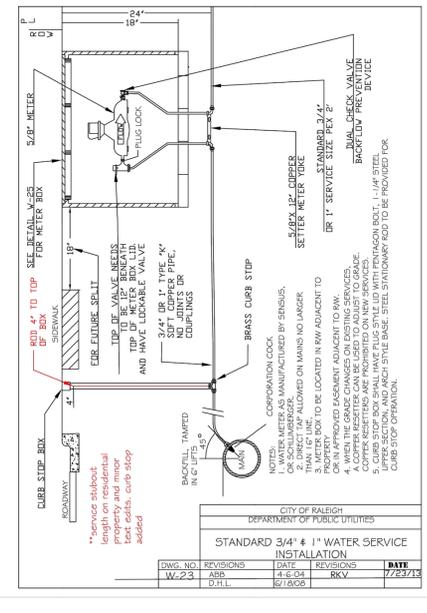
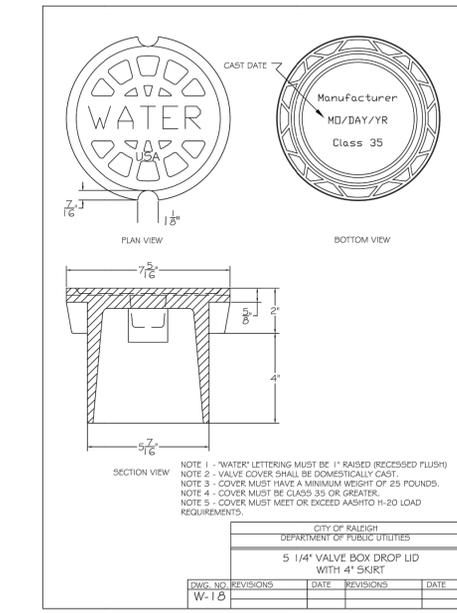
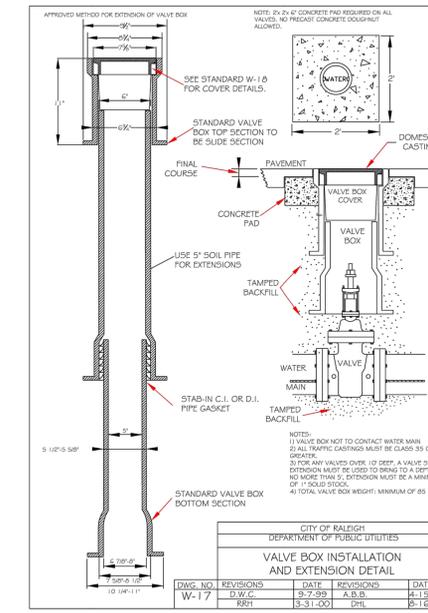
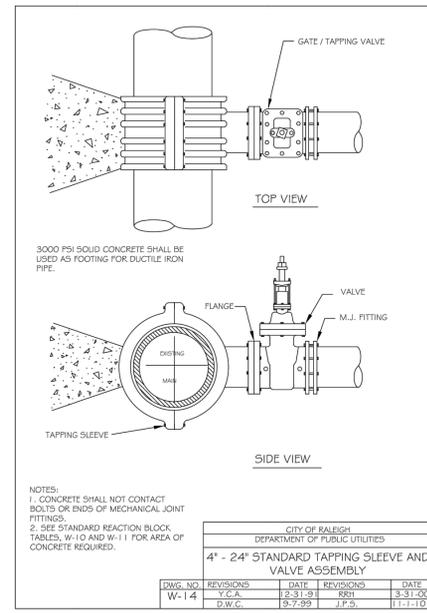
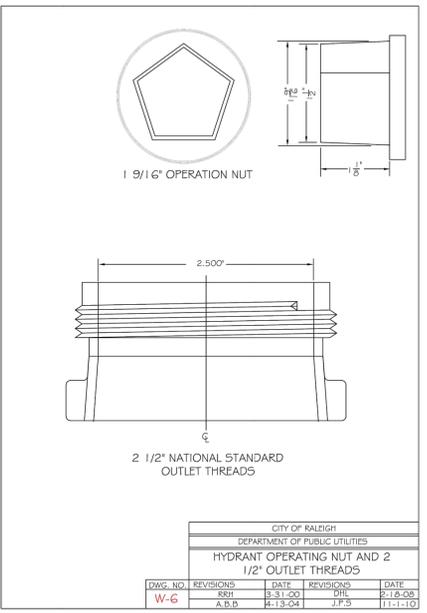
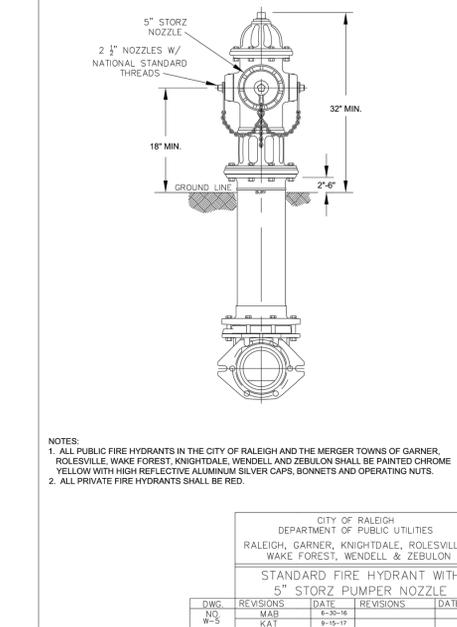
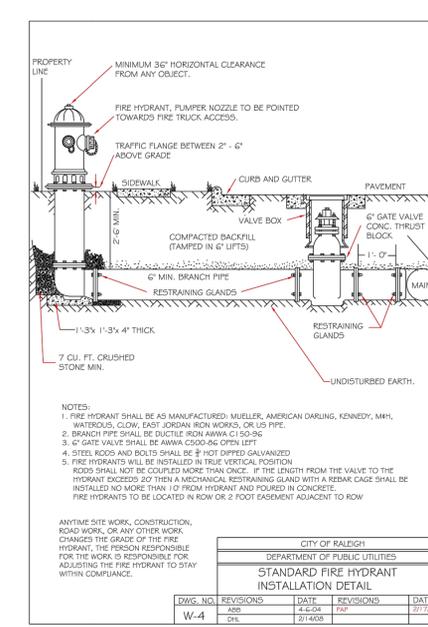
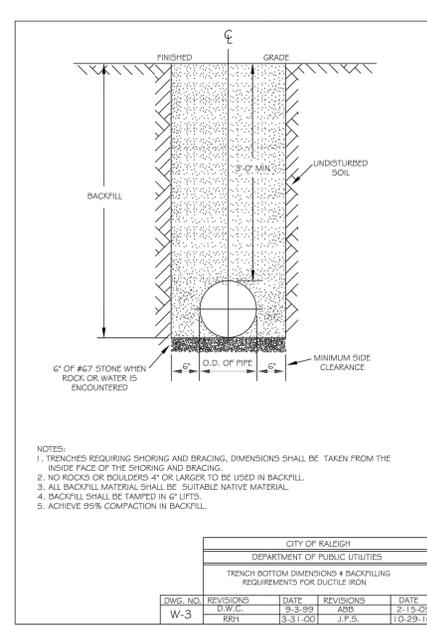
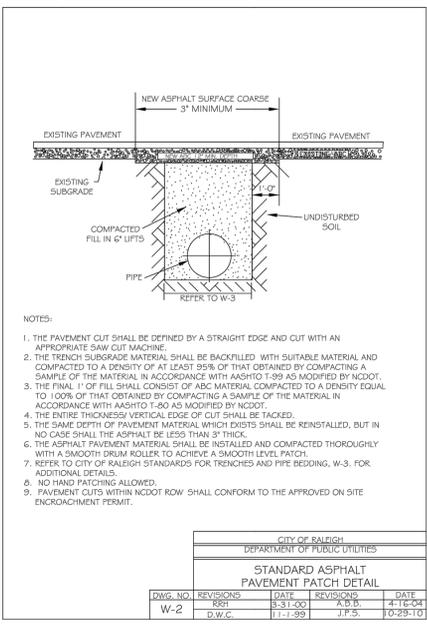
**STORMDRAIN DETAILS**

Number	Description	Date

JAECO #: 362-09  
 DRAWING SCALE: AS SHOWN  
 DRAWN BY: JT  
 CHECKED BY: JAE, JR.  
 DATE ISSUED: 06/22/2020

**C-9.5**





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**FINAL DRAWING**

FOR REVIEW PURPOSES ONLY

**A-MASTER TEAM TOWNHOMES**  
151 GRAND ROCK WAY  
ROLESVILLE, NC 27571

**A-MASTER TEAM, LLC**  
6200 FALLS OF NEUSE ROAD  
SUITE 10  
RALEIGH, NC 27609

**ABBREVIATIONS**

EX	EXISTING	TBRL	TO BE RELOCATED
PROP	PROPOSED	FP	FLOOD PLAIN
APPROX	APPROXIMATE	FEMA	FEDERAL EMERGENCY MANAGEMENT AGENCY
LOC	LOCATION	ESMT	EASEMENT
BM	BOOK OF MAPS	TYP	TYPICAL
DB	DEED BOOK	ROW	RIGHT OF WAY
PG	PAGE	EIP	EX IRON PIPE
NF	NOW OR FORMERLY	EX MAG NAIL	EX IRON ROD
ROW	RIGHT OF WAY	EX CONCRETE MONUMENT	EX IRON ROD
EIP	EX IRON PIPE	IP	IRON PIPE SET
EMG	EX MAG NAIL	IP	IRON PIPE SET
ECM	EX CONCRETE MONUMENT	IP	IRON PIPE SET
EIR	EX IRON ROD	IP	IRON PIPE SET
IPS	IRON PIPE SET	IP	IRON PIPE SET
ES	EDGE OF PAVEMENT	IP	IRON PIPE SET
SS	SEWER	IP	IRON PIPE SET
FM	FORCE MAIN	IP	IRON PIPE SET
FH	FIRE HYDRANT	IP	IRON PIPE SET
ELEC	ELECTRIC	IP	IRON PIPE SET
TBD	TO BE DETERMINED	IP	IRON PIPE SET
TBR	TO BE REMOVED	IP	IRON PIPE SET

**PLANS NOT APPROVED FOR CONSTRUCTION UNLESS SIGNED BY CITY OF RALEIGH**

The City of Raleigh consents to the connection and extension of the City's Public Water 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 #

**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 \_\_\_\_\_

**WATER DETAILS**

Revisions	Number	Description	Date

JAECO #: 362-09  
DRAWING SCALE: AS SHOWN  
DRAWN BY: TT  
CHECKED BY: JAE, JR.  
DATE ISSUED: 06/22/2020

**C-9.7**