



REVISION HISTORY

REV #	DESCRIPTION	DATE	BY
1	TRC COMMENTS	7/29/2024	FLM
2	TRC COMMENTS	10/29/2024	FLM
3	TRC COMMENTS	1/2/2025	FLM
4	NCDOT COMMENTS	1/23/2025	FLM
5	SIGNATURE SET	2/17/2025	FLM

ORIGINAL PLAN SIZE: 24" X 36"

SCALE ADJUSTMENT  
THIS BAR IS 1 INCH IN LENGTH ON ORIGINAL DRAWING  
IF IT IS NOT 1 INCH ON THIS SHEET, ADJUST YOUR SCALE ACCORDINGLY

SITE DEVELOPMENT PLAN  
SDP-24-05  
  
PINE GLO  
414 S MAIN ST  
ROLESVILLE, NC 27571

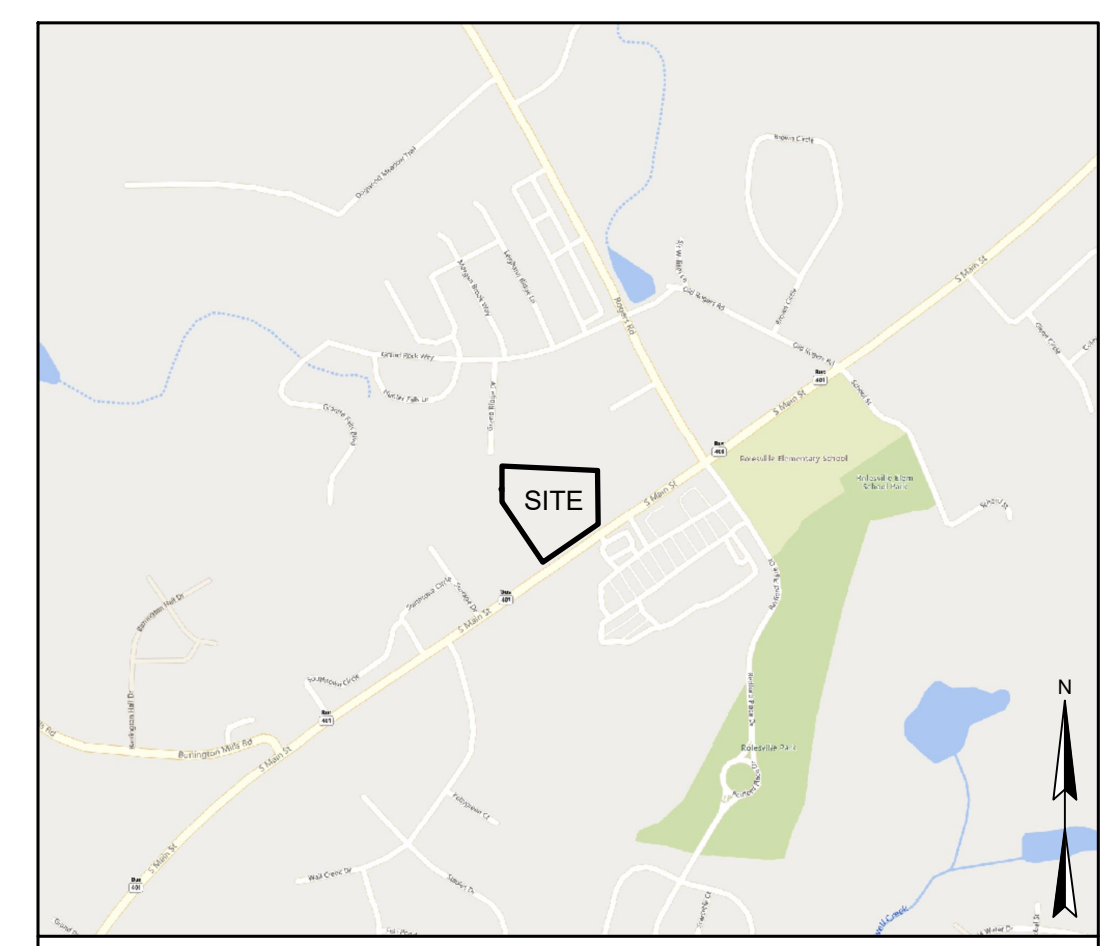
OPTIMAL GLO LLC

DATE:	06-03-2024
SCALE:	AS SHOWN
DESIGNED BY:	FLM
APPROVED BY:	FLM
PROJECT NO.:	24028

COVER  
**C-1**  
SHEET 1 OF 30

# SITE DEVELOPMENT PLAN FOR PINE GLO

414 S MAIN ST  
ROLESVILLE, WAKE COUNTY,  
NORTH CAROLINA 27571  
PIN: 1758-79-7437



VICINITY MAP  
1" = 1,000'

**SITE DATA TABLE**

**DEVELOPMENT NAME:** PINE GLO  
**STREET ADDRESS:** 414 S MAIN ST  
**PIN NUMBER:** 1758-79-7437  
**DEED BOOK AND PAGE NO.:** DB 19117, PG 2311  
**TOTAL AREA:** 4.19 AC  
**EXISTING USE:** INDUSTRIAL  
**PROPOSED USE:** COMMERCIAL (EATING ESTABLISHMENT; RECREATION, INDOOR; AND RETAIL SALES AND SERVICES, NEIGHBORHOOD)  
**JURISDICTION:** TOWN OF ROLESVILLE  
**ZONING DISTRICT:** GC-CZ (GENERAL COMMERCIAL CONDITIONAL ZONING)  
**PROPOSED BUILDING AREA:** 60,444 SF  
**PROPOSED EATING ESTABLISHMENT AREA:** 8,609 SF  
**PROPOSED RECREATION, INDOOR AREA:** 48,236 SF  
**GC MAX. BUILDING HEIGHT:** 42' (TA-24-02)  
**PROPOSED BUILDING HEIGHT:** 37'-4" (2 STORIES)  
**GI BUILDING SETBACKS:**  
FRONT: 20'  
SIDE: 15'  
REAR: 35'  
CORNER: 25'  
**PARKING CALCULATIONS:**  
**REQUIRED EATING ESTABLISHMENT SPACES:** MIN. 2.5/1,000 SF, MAX. 10/10,000 SF = MIN. 22, MAX. 86  
**REQUIRED RECREATION, INDOOR SPACES:** MIN. 4/1,000 SF, MAX. 10/1,000 SF = MIN. 193, MAX. 483  
**TOTAL REQUIRED SPACES:** MIN. 215, MAX. 569  
**TOTAL PROPOSED SPACES:** 158 (6 ADA, VAN ACCESSIBLE); REFER TO APPROVED ALTERNATIVE PARKING PLAN (APP)  
**LOADING SPACE CALCULATIONS:**  
**REQUIRED SPACES:** 1/20,000 SF = 3  
**PROPOSED SPACES:** 3  
**BICYCLE PARKING CALCULATIONS:**  
**REQUIRED SPACES:** 1/5,000 SF = 12  
**PROPOSED SPACES:** 14 (7 INVERTED 'U' RACKS)  
**REQUIRED OPEN SPACE:** 9,126 SF (5%); 4,563 SF ACTIVE (50% OF REQUIRED OPEN SPACE)  
**PROPOSED OPEN SPACE:** 9,532 SF (5.2%); 4,966 SF ACTIVE  
**EXISTING IMPERVIOUS SURFACE AREA:** 101,590 SF, 2.33 AC (55.6%)  
**PROPOSED IMPERVIOUS SURFACE AREA:** 123,100 SF, 2.83 AC (67.4%)  
**PROPOSED DISTURBED AREA:** 4.42 AC

**NOTES**

- AN ALTERNATIVE PARKING PLAN (APP) FOR THIS SITE WAS APPROVED BY THE TOWN OF ROLESVILLE BOARD OF COMMISSIONERS ON JANUARY 7, 2025.

SHEET	TITLE
C-1	COVER
C-2	CALCULATIONS
C-3	EXISTING CONDITIONS & DEMOLITION PLAN
C-4	SITE PLAN
C-5	UTILITY PLAN
C-6	GRADING & DRAINAGE PLAN
C-7	SCM DETAILS
C-8	EROSION & SEDIMENT CONTROL PLAN - PHASE 1
C-9	EROSION & SEDIMENT CONTROL PLAN - PHASE 2
C-10	EROSION & SEDIMENT CONTROL PLAN - PHASE 3
C-11	LANDSCAPING PLAN
C-12	LIGHTING PLAN
24-0239A	DUKE ENERGY PHOTOMETRIC PLAN
C-14	SITE DETAILS
C-15	STORM DRAINAGE DETAILS
C-16	EROSION & SEDIMENT CONTROL DETAILS
C-17	EROSION & SEDIMENT CONTROL DETAILS
C-18	WATER & SEWER DETAILS
C-19	NCG01 SELF-INSPECTION, RECORDKEEPING & REPORTING
C-20	NCG01 GROUND STABILIZATION & MATERIAL HANDLING
A1.1	FIRST FLOOR PLAN
A1.2	SECOND FLOOR PLAN
A1.3	DIAGRAM OF SF
A2.2	BUILDING ELEVATIONS
-	RENDERINGS

**OWNER/DEVELOPER:**

OPTIMAL GLO LLC  
CONTACT: ROBERT SHAAAR  
1021 FORESTVILLE RD, STE 200  
WAKE FOREST, NC 27587  
610.295.3699  
SHAAAR@MYOPTIMALEQUITY.COM

**ENGINEER OF RECORD:**

FLM ENGINEERING, INC  
CONTACT: JON FRAZIER, PE  
PO BOX 91727  
RALEIGH, NC 27675  
919.610.1051  
JFRAZIER@FLMENGINEERING.COM

**EROSION CONTROL, STORMWATER AND FLOODPLAIN MANAGEMENT**

**APPROVED**

EROSION CONTROL  SEC- 126025-2024  
STORMWATER MGMT.  SWF-126026-2024  
FLOOD STUDY  SWF-  
DATE 02/03/2025

ENVIRONMENTAL CONSULTANT SIGNATURE

SDP-24-05 / Site Development Plan /  
414 S Main St / Pine Glo  
**APPROVED**  
Date: February 16, 2025  
Town of Rolesville Planning Department

**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

ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH ALL TOWN OF ROLESVILLE, CITY OF RALEIGH AND WAKE COUNTY STANDARDS AND SPECIFICATIONS

CALL 48 HOURS BEFORE YOU DIG  
**North Carolina 811**  
www.nc811.org  
NORTH CAROLINA ONE-CALL CENTER  
1-800-632-4949



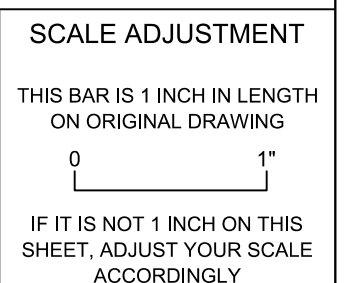
POST OFFICE BOX 91727  
 RALEIGH, NORTH CAROLINA 27675  
 PHONE: 919.610.1051  
 FIRM NC LICENSE NUMBER C-4222



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PROJECT NO.:	24028

CALCULATIONS

C-2

SHEET 2 OF 30

PIPE TABLE

STRUCTURE NUMBER	FROM	TO	NO. OF BOXES	Cc	I	A	A	Tc	Q	Q	SLOPE (ft/ft)	Dtheo (in)	SIZE (in)	Vfull (ft/sec)	PIPE LENGTH (ft)*	UPPER INVERT (ft)	LOWER INVERT (ft)	TOP ELEVATION (ft)	PIPE MATERIAL
YI-1	EX	JB	-	0.90	7.19	9500	0.22	5.0	1.41	1.41	0.0068	9.1	12	4.1	176.00	415.40	414.20	418.30	HDPE
JB-2	JB-4	JB-4	-	0.90	7.19	22200	0.51	5.0	3.30	3.30	0.0050	13.3	15	4.0	260.00	414.50	413.20	419.50	HDPE
YI-3	JB-4	JB-4	-	0.90	7.19	10500	0.24	5.0	1.56	4.86	0.0142	12.6	15	6.8	109.00	414.75	413.20	418.10	HDPE
JB-4	FES-5	FES-5	-	0.90	7.19	0	0.00	5.0	0.00	4.86	0.0500	10.0	18	14.4	4.00	413.20	413.00	419.50	HDPE
YI-6	YI-8	YI-8	-	0.90	7.19	9800	0.22	5.0	1.46	1.46	0.0059	9.5	15	4.4	85.00	415.40	414.90	418.20	HDPE
YI-7	YI-8	YI-8	-	0.90	7.19	4400	0.10	5.0	0.65	0.65	0.0079	6.6	15	5.1	63.00	415.40	414.90	418.30	HDPE
YI-8	YI-9	YI-9	-	0.90	7.19	6200	0.14	5.0	0.92	3.03	0.0056	12.6	18	4.8	72.00	414.90	414.50	418.30	HDPE
YI-9	YI-13	YI-13	-	0.90	7.19	6500	0.15	5.0	0.97	4.00	0.0058	13.9	18	4.9	69.00	414.50	414.10	418.30	HDPE
YI-10	YI-11	YI-11	-	0.90	7.19	4000	0.09	5.0	0.59	0.59	0.0053	6.9	15	4.1	38.00	415.40	415.20	418.30	HDPE
YI-11	YI-12	YI-12	-	0.90	7.19	4200	0.10	5.0	0.62	1.22	0.0053	9.0	15	4.2	75.00	415.20	414.80	418.30	HDPE
YI-12	YI-13	YI-13	-	0.90	7.19	6800	0.16	5.0	1.01	2.23	0.0050	11.4	15	4.0	60.00	414.80	414.50	418.10	HDPE
YI-13	YI-16	YI-16	-	0.90	7.19	5400	0.12	5.0	0.80	7.03	0.0053	17.4	18	4.7	75.00	413.70	413.30	418.30	HDPE
JB-14	JB-15A	JB-15A	-	0.90	7.19	28300	0.65	5.0	4.20	4.20	0.0152	11.8	15	7.0	184.00	416.40	413.60	419.70	HDPE
YI-15	JB-15A	JB-15A	-	0.90	7.19	8800	0.20	5.0	1.31	1.31	0.0058	9.1	12	3.7	86.00	414.10	413.60	418.00	HDPE
JB-15A	YI-16	YI-16	-	0.90	7.19	0	0.00	5.0	0.00	5.51	0.0075	14.9	18	5.6	40.00	413.60	413.30	418.00	HDPE
YI-16	FES-17	FES-17	-	0.90	7.19	6700	0.15	5.0	1.00	13.53	0.0065	21.4	24	6.3	46.00	413.30	413.00	418.20	HDPE

\*LENGTHS ARE OF THE PIPE ONLY, CENTER OF STRUCTURE TO CENTER OF STRUCTURE, AND DO NOT INCLUDE FLARED END SECTIONS OR OTHER END TREATMENT

SKIMMER SEDIMENT BASIN DESIGN CALCULATIONS

BASIN NUMBER	BASIN TYPE	SKIMMER SEDIMENT BASIN DESIGN				SKIMMER SEDIMENT BASIN EFFICIENCY				SKIMMER**						
		DRAINAGE AREA (ac)	DISTURBED AREA (ac)	REQUIRED VOLUME 1800 CF/AC (cf)	DEPTH* (ft)	WIDTH (ft)	LENGTH (ft)	VOLUME PROVIDED (cf)	WEIGHTED RUNOFF COEFFICIENT	10-YEAR RAINFALL INTENSITY (in/hr)	FLOW Q (cfs)	REQUIRED SURFACE AREA 435 SF/CFS (sf)	AREA PROVIDED (sf)	SIZE (in)	ORIFICE RADIUS (in)	ORIFICE DIAMETER (in)
SK-1***	PERMANENT RISER BASIN	2.13	1.98	3834	3	-	-	20504	0.50	7.19	7.66	2489	8719	1.5	0.7	1.3

\*DEPTH FROM BOTTOM TO RISER TOP

\*\*SKIMMER SIZED PER SIZING CALCULATOR AT WWW.FAIRCLOTHSKIMMER.COM FOR REQUIRED VOLUME AT A DRAWDOWN RATE OF 72 HOURS

\*\*\*SK-1 VOLUME AND SURFACE AREA PER HYDROCAD MODEL DUE TO IRREGULAR SHAPE

TEMPORARY DIVERSION DITCH DESIGN

DITCH NUMBER	RUNOFF COEFFICIENT	10-YEAR RAINFALL INTENSITY (in/hr)	DRAINAGE AREA (acres)	Q (cfs)	LENGTH (ft)	CHANNEL SECTION	BOTTOM WIDTH (ft)	LEFT SIDE SLOPE, Z:1 (ft)	RIGHT SIDE SLOPE, Z:1 (ft)	CHANNEL DEPTH (ft)	CHANNEL SLOPE (ft/ft)	NORMAL DEPTH (ft)	FREEBOARD (ft)	SHEAR STRESS (lb/ft2)	VELOCITY (fps)	MANNING'S n VALUE	TEMPORARY LINER
TD-1	0.50	7.19	0.98	3.52	200.00	TRIANGULAR	-	2.00	2.00	1.50	0.005	0.98	0.52	0.31	1.83	0.033	STRAW W/ NET

BOUYANCY CALCULATIONS

STORMWATER WETLAND

STRUCTURE DIMENSIONS

TOP OF OUTLET STRUCTURE =	416.00	ft
BOTTOM =	413.00	ft
HEIGHT OF RISER =	3.00	ft
ASSUME 6" WALL THICKNESS		

WEIGHT CALCULATIONS

Vbase =	0' x 0' x 0' =	0.00	cf
Wbase =	0 cf x 150 lb/cf =	0.00	lbs
Vsump =	4' x 4' x 2' =	32.00	cf
Wsump =	32 cf x 150 lb/cf =	4800.00	lbs
Wstruc =	[(5 x 5 x 3)-(4 x 4 x 2.5)] x 150 lb/cf =	5250.00	lbs
TOTAL WEIGHT =		10050.00	lbs

BOUYANCY CALCULATIONS

Bbase =	0 cf x 62.4 lb/cf =	0.00	lbs
Bstruc =	(5 x 5 x 3) x 62.4 lb/cf	4680.00	lbs
TOTAL BOUYANCY =		4680.00	lbs
FACTOR OF SAFETY =		2.15	

CALL 48 HOURS BEFORE YOU DIG



NORTH CAROLINA ONE-CALL CENTER  
 1-800-632-4949

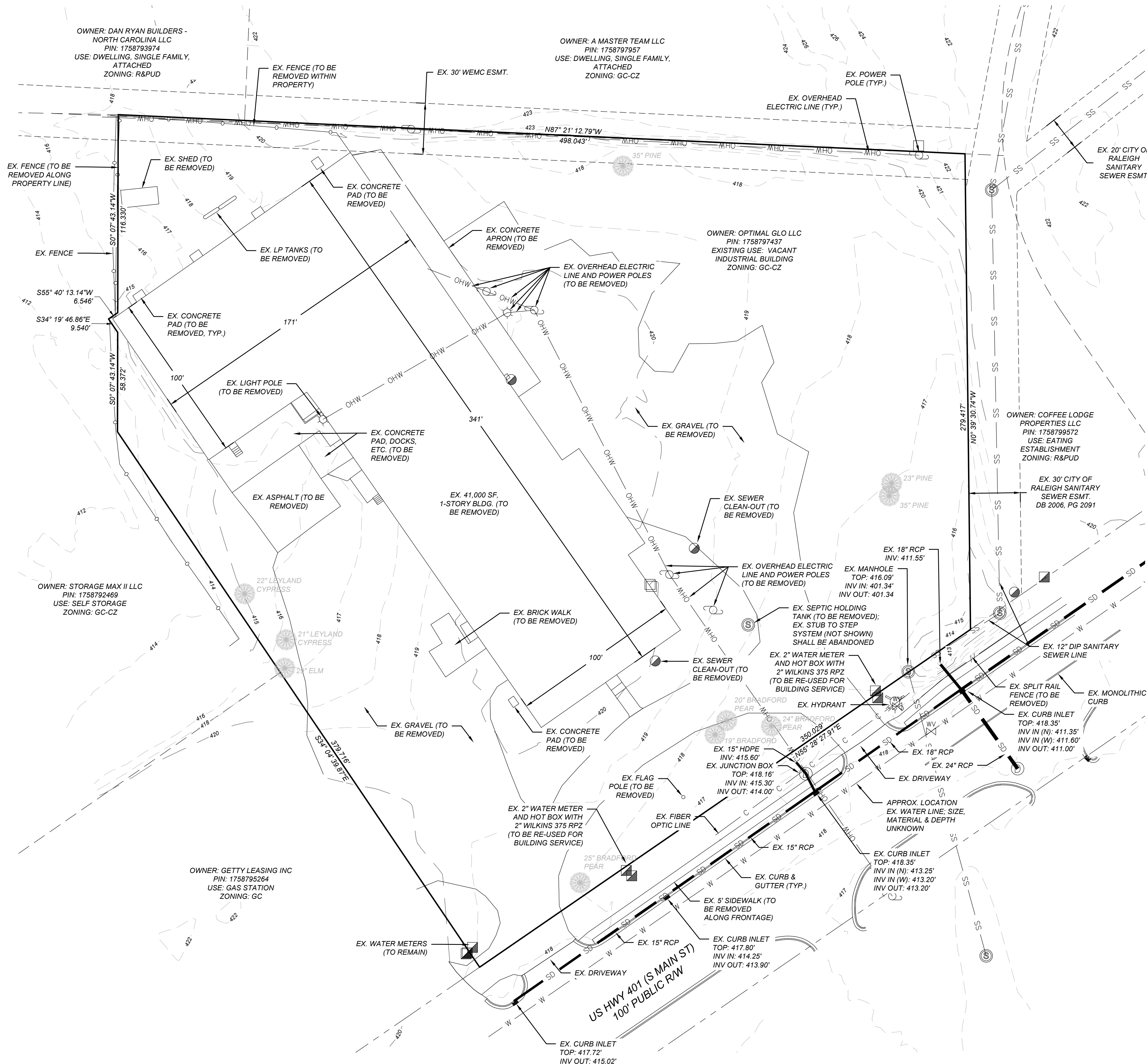
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**NOTES**

- BOUNDARY AND TOPOGRAPHIC SURVEY BY CMP PROFESSIONAL LAND SURVEYORS.
- THERE ARE NO FLOOD PRONE AREAS PRESENT PER FEMA FIRM PANEL NO. 3720175800K, EFFECTIVE 07/19/22.
- TREE SURVEY BY SOIL & ENVIRONMENTAL CONSULTANTS, PA (S&E).
- THE UTILITIES SHOWN ARE NOT GUARANTEED TO BE A REPRESENTATION OF ALL UTILITIES WITHIN THE PROJECT EXTENT.
- THE CONTRACTOR SHALL CALL THE NORTH CAROLINA ONE-CALL-CENTER AT LEAST 48 HOURS PRIOR TO BEGINNING WORK.
- THE CONTRACTOR SHALL VERIFY DEPTHS AND LOCATIONS OF ALL UTILITIES PRIOR TO BEGINNING WORK AND SHALL USE CARE WHEN OPERATING AROUND EXISTING UTILITIES.
- THE CONTRACTOR SHALL BE FINANCIALLY RESPONSIBLE FOR THE REPAIR OF ANY EXISTING UTILITIES DAMAGED DURING CONSTRUCTION.

**LEGEND**

- EX. PROPERTY LINE
- EX. RIGHT-OF-WAY
- EX. ADJACENT OWNERS
- EX. EASEMENT
- EX. CHAIN LINK FENCE
- EX. WOOD FENCE
- EX. COMMUNICATIONS LINE
- EX. OVERHEAD ELECTRIC LINE
- EX. WATER LINE
- EX. SANITARY SEWER
- EX. STORM SEWER
- EX. MAJOR CONTOUR (5')
- EX. MINOR CONTOUR (1')
- EX. TREE TO REMAIN (EVERGREEN > 20" AND/OR DECIDUOUS > 18" DBH)
- EX. TREE TO BE REMOVED (EVERGREEN > 20" AND/OR DECIDUOUS > 18" DBH)



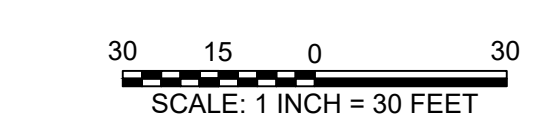
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ORIGINAL PLAN SIZE: 24" X 36"



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**SITE DEVELOPMENT PLAN SDP-24-05**

PINE GLO  
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OPTIMAL GLO LLC

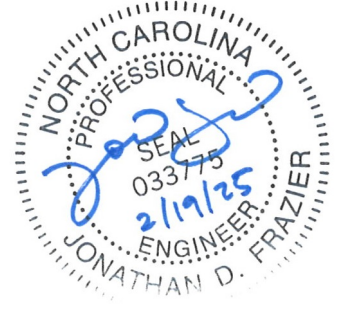
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**EXISTING CONDITIONS & DEMOLITION PLAN**

**C-3**  
SHEET 3 OF 30

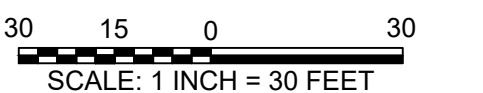
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SITE PLAN

**C-4**  
SHEET 4 OF 30

SITE DATA TABLE	
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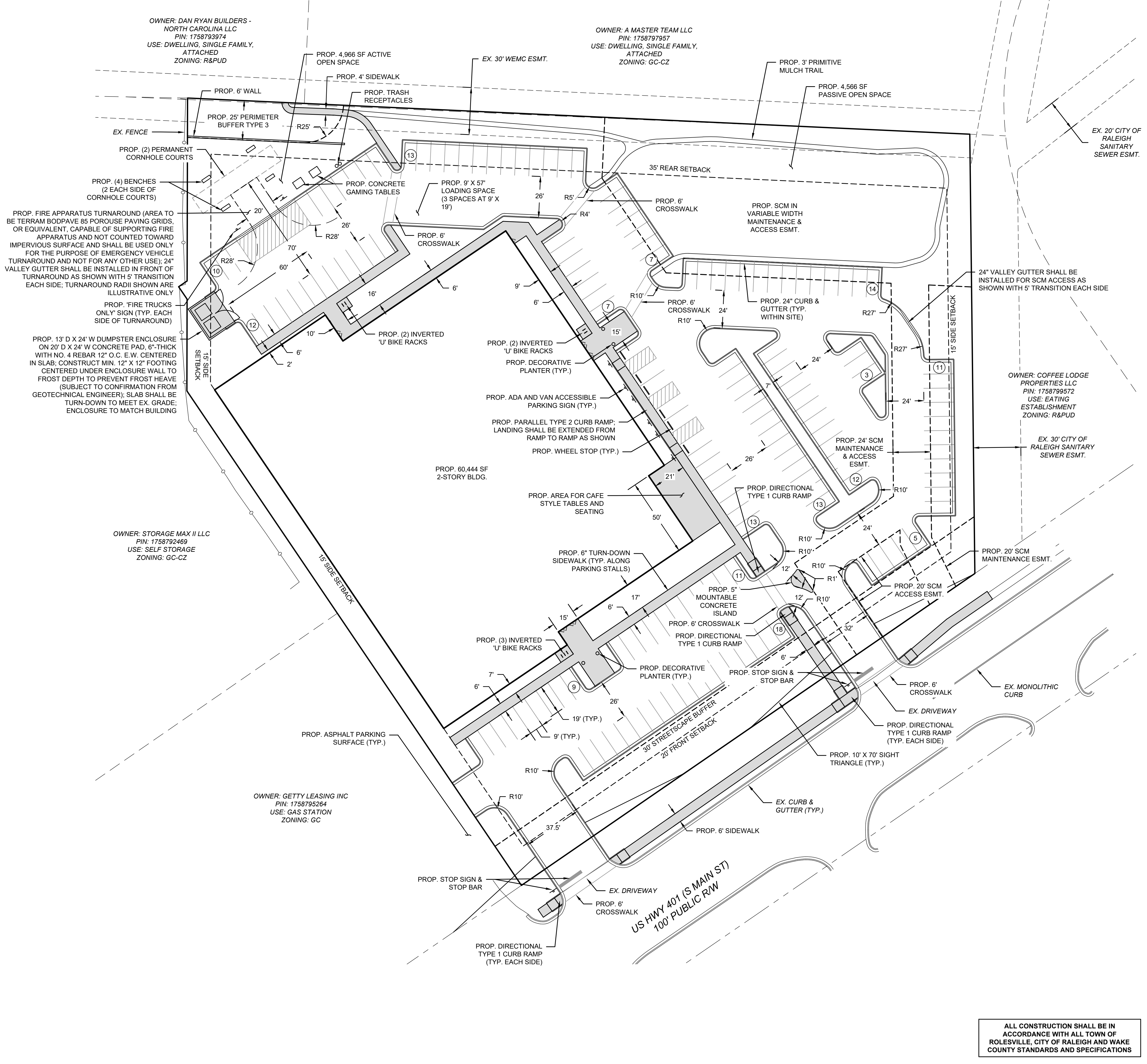
- PROPOSED ADA STALLS AND AISLES SHALL HAVE SLOPES NO STEEPER THAN 1:48 (2%) IN ALL DIRECTIONS.
- PROPOSED ACCESSIBLE ROUTES SHALL HAVE RUNNING SLOPES NO STEEPER THAN 1:20 (5%) AND CROSS SLOPES NO STEEPER THAN 1:48 (2%).
- ACCESSIBLE PARKING SPACES ARE THOSE DENOTED BY ADA PARKING SIGNS AND ACCESSIBLE AISLES ARE REPRESENTED BY CROSS HATCHING.
- DIMENSIONS SHOWN ARE TO FACE OF CURB.
- RADII ARE 3' UNLESS OTHERWISE NOTED.

**PEDESTRIAN AMENITIES NOTES**

- PER TOWN OF ROLESVILLE LDO SECTION 6.8.4.2, AT LEAST FOUR (4) PEDESTRIAN AMENITIES SHALL BE PROVIDED ONSITE. AMENITIES PROVIDED ONSITE INCLUDE:
  - ACTIVE USE AREAS;
  - CAFE STYLE TABLES AND SEATING;
  - PEDESTRIAN PLAZA WITH BENCHES; AND
  - DECORATIVE PLANTERS AND LARGE POTTED PLANTS.

**LEGEND**

	EX. PROPERTY LINE
	EX. RIGHT-OF-WAY
	EX. ADJACENT OWNERS
	EX. EASEMENT
	EX. CHAIN LINK FENCE
	PROP. SETBACK LINE
	PROP. EASEMENT/BUFFER
	PROP. CONCRETE



OWNER: DAN RYAN BUILDERS - NORTH CAROLINA LLC  
PIN: 1758793974  
USE: DWELLING, SINGLE FAMILY, ATTACHED  
ZONING: R&PUD

OWNER: A MASTER TEAM LLC  
PIN: 1758797957  
USE: DWELLING, SINGLE FAMILY, ATTACHED  
ZONING: GC-CZ

PROP. (4) BENCHES (2 EACH SIDE OF CORNHOLE COURTS)

PROP. FIRE APPARATUS TURNAROUND (AREA TO BE TERRAM BODPAVE 85 POROUSE PAVING GRIDS, OR EQUIVALENT, CAPABLE OF SUPPORTING FIRE APPARATUS AND NOT COUNTED TOWARD IMPERVIOUS SURFACE AND SHALL BE USED ONLY FOR THE PURPOSE OF EMERGENCY VEHICLE TURNAROUND AND NOT FOR ANY OTHER USE); 24" VALLEY GUTTER SHALL BE INSTALLED IN FRONT OF TURNAROUND AS SHOWN WITH 5' TRANSITION EACH SIDE; TURNAROUND RADII SHOWN ARE ILLUSTRATIVE ONLY

PROP. 13' D X 24' W DUMPSTER ENCLOSURE ON 20' D X 24' W CONCRETE PAD, 6"-THICK WITH NO. 4 REBAR 12" O.C. E.W. CENTERED IN SLAB; CONSTRUCT MIN. 12" X 12" FOOTING CENTERED UNDER ENCLOSURE WALL TO FROST DEPTH TO PREVENT FROST HEAVE (SUBJECT TO CONFIRMATION FROM GEOTECHNICAL ENGINEER); SLAB SHALL BE TURN-DOWN TO MEET EX. GRADE; ENCLOSURE TO MATCH BUILDING

OWNER: STORAGE MAX II LLC  
PIN: 1758792469  
USE: SELF STORAGE  
ZONING: GC-CZ

OWNER: GETTY LEASING INC  
PIN: 1758795264  
USE: GAS STATION  
ZONING: GC

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ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH ALL TOWN OF ROLESVILLE, CITY OF RALEIGH AND WAKE COUNTY STANDARDS AND SPECIFICATIONS

**CITY OF RALEIGH 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 WATERLINE SPECIFICATIONS. HOWEVER, THE MINIMUM SEPARATION SHALL NOT BE LESS THAN 25' FROM A PRIVATE WELL OR 50' FROM A PUBLICWELL.
  - WHEN INSTALLING WATER &/OR SEWER MAINS, THE HORIZONTAL SEPARATION BETWEEN UTILITIES SHALL BE 10'. IF THIS SEPARATION CANNOT BE MAINTAINED DUE TO EXISTING CONDITIONS, THE VARIATION ALLOWED IS THE WATER MAIN IN A SEPARATE TRENCH WITH THE ELEVATION OF THE WATER MAIN AT LEAST 18" ABOVE THE TOP OF THE SEWER & MUST BE APPROVED BY THE PUBLIC UTILITIES DIRECTOR. ALL DISTANCES ARE MEASURED FROM OUTSIDE DIAMETER TO OUTSIDE DIAMETER.
  - WHERE IT IS IMPOSSIBLE TO OBTAIN PROPER SEPARATION, OR ANYTIME A SANITARY SEWER PASSES OVER A WATERMAIN, DIP MATERIALS OR STEEL ENCASUREMENT EXTENDED 10' ON EACH SIDE OF CROSSING MUST BE SPECIFIED & INSTALLED TO WATERLINE SPECIFICATIONS.
  - 5'0" MINIMUM HORIZONTAL SEPARATION IS REQUIRED BETWEEN ALL SANITARY SEWER & STORM SEWER FACILITIES, UNLESS DIP MATERIAL IS SPECIFIED FOR SANITARY SEWER.
  - MAINTAIN 18" MIN. VERTICAL SEPARATION AT ALL WATERMAIN & RCP STORM DRAIN CROSSINGS, MAINTAIN 18" MIN. VERTICAL SEPARATION AT ALL SANITARY SEWER & RCP STORM DRAIN CROSSINGS. WHERE ADEQUATE SEPARATIONS CANNOT BE ACHIEVED, SPECIFY DIP MATERIALS & A CONCRETE CRADLE HAVING 6" MIN. CLEARANCE (PER 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 30 DAYS ADVANCE WRITTEN NOTICE TO OWNER FOR ANY WORK REQUIRED WITHIN AN EXISTING CITY OF RALEIGH UTILITY EASEMENT TRaversing PRIVATE PROPERTY.
- CONTRACTOR SHALL MAINTAIN CONTINUOUS WATER & SEWER SERVICE TO EXISTING RESIDENCES & BUSINESSES THROUGHOUT CONSTRUCTION OF PROJECT. ANY NECESSARY SERVICE INTERRUPTIONS SHALL BE PRECEDED BY A 24-HOUR ADVANCE NOTICE TO THE CITY OF RALEIGH PUBLIC UTILITIES DEPARTMENT.
- SEWER BYPASS PUMPING - A BYPASS PLAN SEALED BY AN NC PROFESSIONAL ENGINEER SHALL BE PROVIDED TO RALEIGH WATER PRIOR TO PUMPING OPERATIONS FOR APPROVAL. THE OPERATIONS AND EQUIPMENT SHALL COMPLY WITH THE PUBLIC UTILITIES HANDBOOK.
- 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 1/2" COPPER WATER SERVICES WITH METERS LOCATED AT ROW OR WITHIN A 2'X2' WATERLINE EASEMENT IMMEDIATELY ADJACENT. NOTE: IT IS THE APPLICANT'S RESPONSIBILITY TO PROPERLY SIZE THE WATER SERVICE FOR EACH CONNECTION TO PROVIDE ADEQUATE FLOW & PRESSURE.
- INSTALL 4" PVC SEWER SERVICES @ 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 RW FOG PROGRAM COORDINATOR PRIOR TO ISSUANCE OF A LIC AND/OR BUILDING PERMIT. CONTACT (919) 986-4516 OR FOG@RALEIGHNC.GOV FOR MORE INFORMATION.
- CROSS-CONNECTION CONTROL PROTECTION DEVICES ARE REQUIRED BASED ON THE DEGREE OF HEALTH HAZARD INVOLVED AS LISTED IN APPENDIX B OF THE RULES GOVERNING PUBLIC WATER SYSTEMS IN NORTH CAROLINA.
- THE DEVICES SHALL MEET THE AMERICAN SOCIETY OF SANITARY ENGINEERING (ASAE) STANDARDS AND BE ON THE UNIVERSITY OF SOUTHERN CALIFORNIA APPROVAL LIST.
- THE DEVICE AND INSTALLATION SHALL MEE THE GUIDELINES OF APPENDIX A - GUIDELINES AND REQUIREMENTS FOR THE CROSS CONNECTION PROGRAM IN RALEIGH'S SERVICE AREA.
- 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 CROSS.CONNECTION@RALEIGHNC.GOV FOR MORE INFORMATION.
- NOTICE FOR PROJECTS THAT INVOLVE AN OVERSIZED MAIN OR URBAN MAIN REPLACEMENT. ANY CITY REIMBURSEMENT GREATER THAN \$250,000.00 MUST UNDERGO THE PUBLIC BIDDING PROCESS.

**NOTES**

- ALL WATER AND SANITARY SEWER CONSTRUCTION SHALL BE IN ACCORDANCE WITH CITY OF RALEIGH STANDARDS AND SPECIFICATIONS.
- THE UTILITIES SHOWN ARE NOT GUARANTEED TO BE A REPRESENTATION OF ALL UTILITIES WITHIN THE PROJECT EXTENT.
- THE CONTRACTOR SHALL CALL THE NORTH CAROLINA ONE-CALL-CENTER AT LEAST 48 HOURS PRIOR TO BEGINNING WORK.
- THE CONTRACTOR SHALL VERIFY DEPTHS AND LOCATIONS OF ALL UTILITIES PRIOR TO BEGINNING WORK AND SHALL USE CARE WHEN OPERATING AROUND EXISTING UTILITIES.
- THE CONTRACTOR SHALL BE FINANCIALLY RESPONSIBLE FOR THE REPAIR OF ANY EXISTING UTILITIES DAMAGED DURING CONSTRUCTION.

**LEGEND**

	EX. PROPERTY LINE
	EX. RIGHT-OF-WAY
	EX. ADJACENT OWNERS
	EX. EASEMENT
	EX. CHAIN LINK FENCE
	EX. COMMUNICATIONS LINE
	EX. OVERHEAD ELECTRIC LINE
	EX. WATER LINE
	EX. SANITARY SEWER
	EX. STORM SEWER
	PROP. SETBACK LINE
	PROP. EASEMENT/BUFFER
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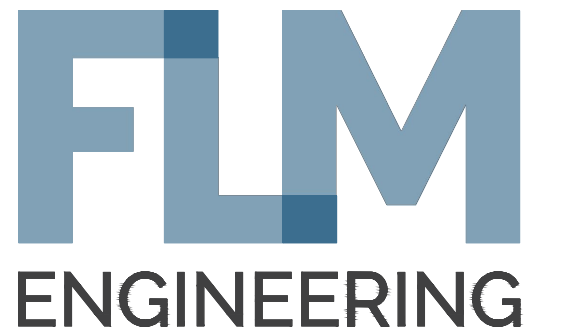
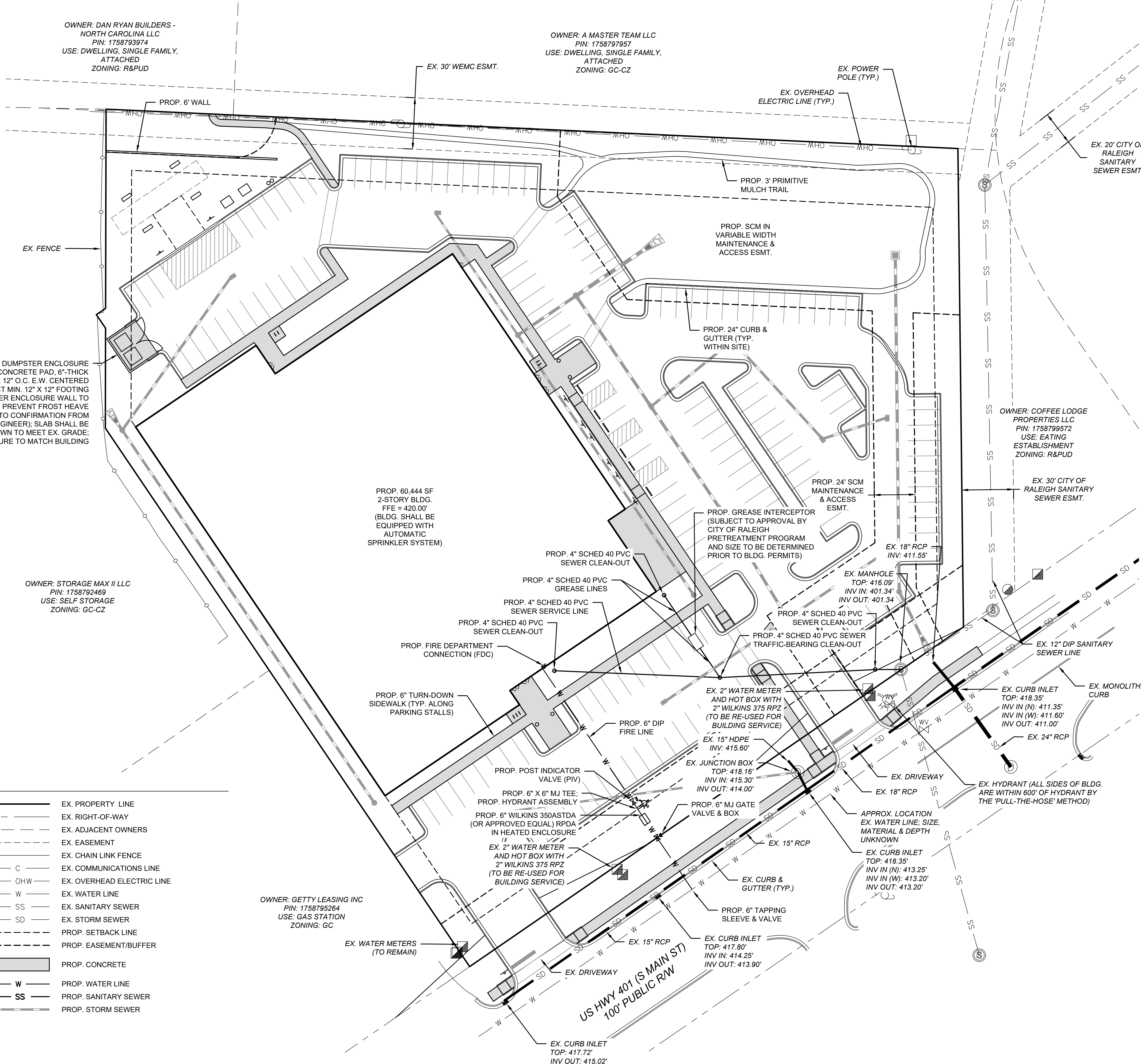
OWNER: STORAGE MAX II LLC  
PIN: 1758792469  
USE: SELF STORAGE  
ZONING: GC-CZ

OWNER: GETTY LEASING INC  
PIN: 1758795264  
USE: GAS STATION  
ZONING: GC

OWNER: DAN RYAN BUILDERS - NORTH CAROLINA LLC  
PIN: 1758793974  
USE: DWELLING, SINGLE FAMILY, ATTACHED  
ZONING: R&PUD

OWNER: A MASTER TEAM LLC  
PIN: 1758797957  
USE: DWELLING, SINGLE FAMILY, ATTACHED  
ZONING: GC-CZ

OWNER: COFFEE LODGE PROPERTIES LLC  
PIN: 1758799572  
USE: EATING ESTABLISHMENT  
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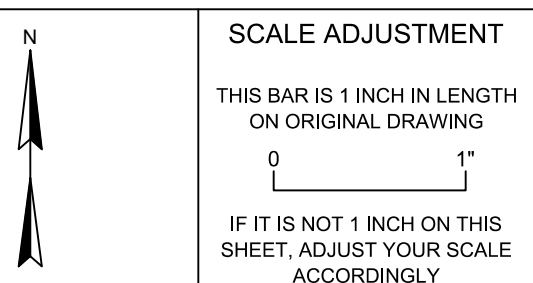
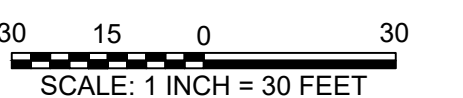
POST OFFICE BOX 91727  
RALEIGH, NORTH CAROLINA 27675  
PHONE: 919.610.1051  
FIRM NC LICENSE NUMBER C-4222



**REVISION HISTORY**

REV #	DESCRIPTION	DATE	BY
1	TRC COMMENTS	7/29/2024	FLM
2	TRC COMMENTS	10/29/2024	FLM
3	TRC COMMENTS	1/2/2025	FLM
4	NCDOT COMMENTS	1/23/2025	FLM
5	SIGNATURE SET	2/17/2025	FLM

ORIGINAL PLAN SIZE: 24" X 36"



**SITE DEVELOPMENT PLAN  
SDP-24-05**

PINE GLO  
414 S MAIN ST  
ROLESVILLE, NC 27571

OPTIMAL GLO LLC

DATE:	06-03-2024
SCALE:	AS SHOWN
DESIGNED BY:	FLM
APPROVED BY:	FLM
PROJECT NO.:	24028

**UTILITY PLAN**

**C-5**  
SHEET 5 OF 30

ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH ALL TOWN OF ROLESVILLE, CITY OF RALEIGH AND WAKE COUNTY STANDARDS AND SPECIFICATIONS

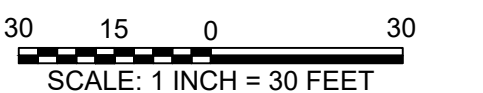
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REVISION HISTORY

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ORIGINAL PLAN SIZE: 24" X 36"



SCALE ADJUSTMENT  
THIS BAR IS 1 INCH IN LENGTH ON ORIGINAL DRAWING  
IF IT IS NOT 1 INCH ON THIS SHEET, ADJUST YOUR SCALE ACCORDINGLY

SITE DEVELOPMENT PLAN  
SDP-24-05

PINE GLO  
414 S MAIN ST  
ROLESVILLE, NC 27571

OPTIMAL GLO LLC

DATE:	06-03-2024
SCALE:	AS SHOWN
DESIGNED BY:	FLM
APPROVED BY:	FLM
PROJECT NO.:	24028

GRADING & DRAINAGE PLAN

C-6

SHEET 6 OF 30

NOTES

- PROPOSED CONTOURS REPRESENT FINISHED GRADE ELEVATIONS.
- CUT AND FILL SLOPES ARE 3H:1V UNLESS OTHERWISE NOTED.
- PROPOSED ADA STALLS AND AISLES SHALL HAVE SLOPES NO STEEPER THAN 1:48 (2%) IN ALL DIRECTIONS.
- PROPOSED ACCESSIBLE ROUTES SHALL HAVE RUNNING SLOPES NO STEEPER THAN 1:20 (5%) AND CROSS SLOPES NO STEEPER THAN 1:48 (2%).
- REFER TO SHEET C-2 FOR STORM DRAINAGE CALCULATIONS.
- ROOF DRAINS SHALL BE COORDINATED WITH BUILDING PLANS AND SHALL BE CONNECTED TO DOWNSPOUTS WITH APPROPRIATE BEND FITTINGS AND CONNECTED TO THE STORM DRAINAGE SYSTEM VIA CURRENT NC PLUMBING CODE, CHAPTER 11 "STORM DRAINAGE" COMPLIANT FIXTURES, MATERIALS, ETC.
- THE UTILITIES SHOWN ARE NOT GUARANTEED TO BE A REPRESENTATION OF ALL UTILITIES WITHIN THE PROJECT EXTENT.
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- EX. WATER LINE
- EX. SANITARY SEWER
- EX. STORM SEWER
- EX. MAJOR CONTOUR (5')
- EX. MINOR CONTOUR (1')
- PROP. SETBACK LINE
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- PROP. CONCRETE
- PROP. WATER LINE
- PROP. SANITARY SEWER
- PROP. STORM SEWER
- PROP. MAJOR CONTOUR (5')
- PROP. MINOR CONTOUR (1')
- PROP. LIMIT OF DISTURBANCE

KEY

- FES = FLARED END SECTION
- JB = JUNCTION BOX
- YI = YARD INLET
- TC = TOP OF CURB
- BC = BOTTOM OF CURB

OWNER: DAN RYAN BUILDERS - NORTH CAROLINA LLC  
PIN: 1758793974  
USE: DWELLING, SINGLE FAMILY, ATTACHED  
ZONING: R&PUD

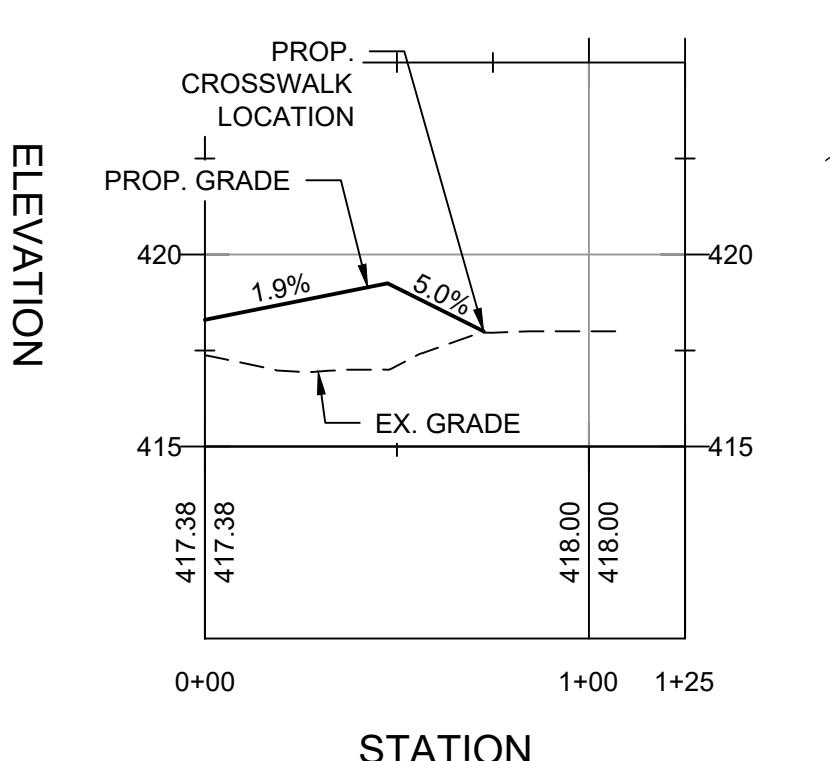
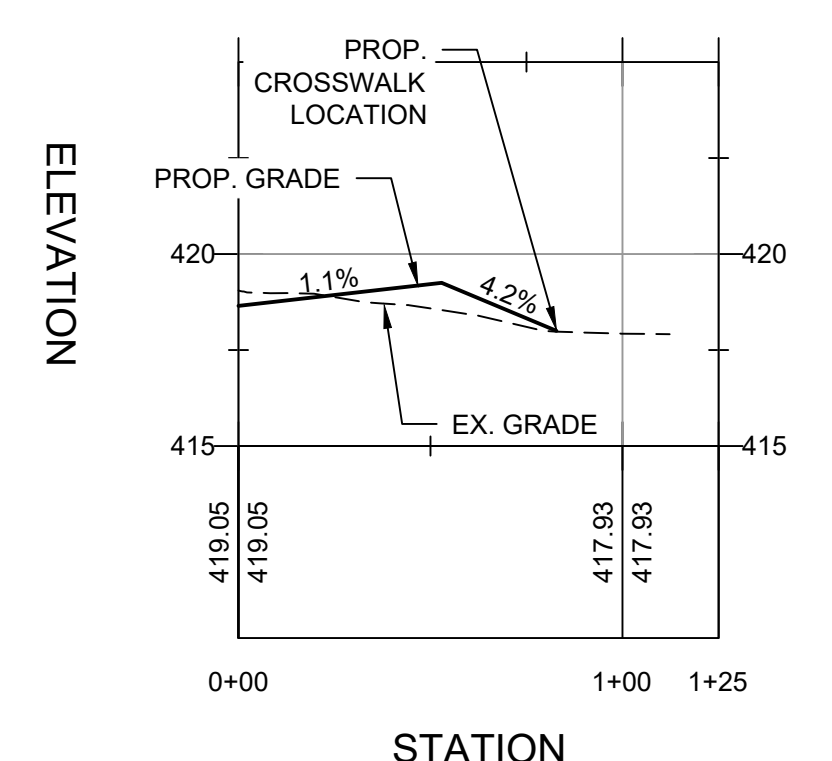
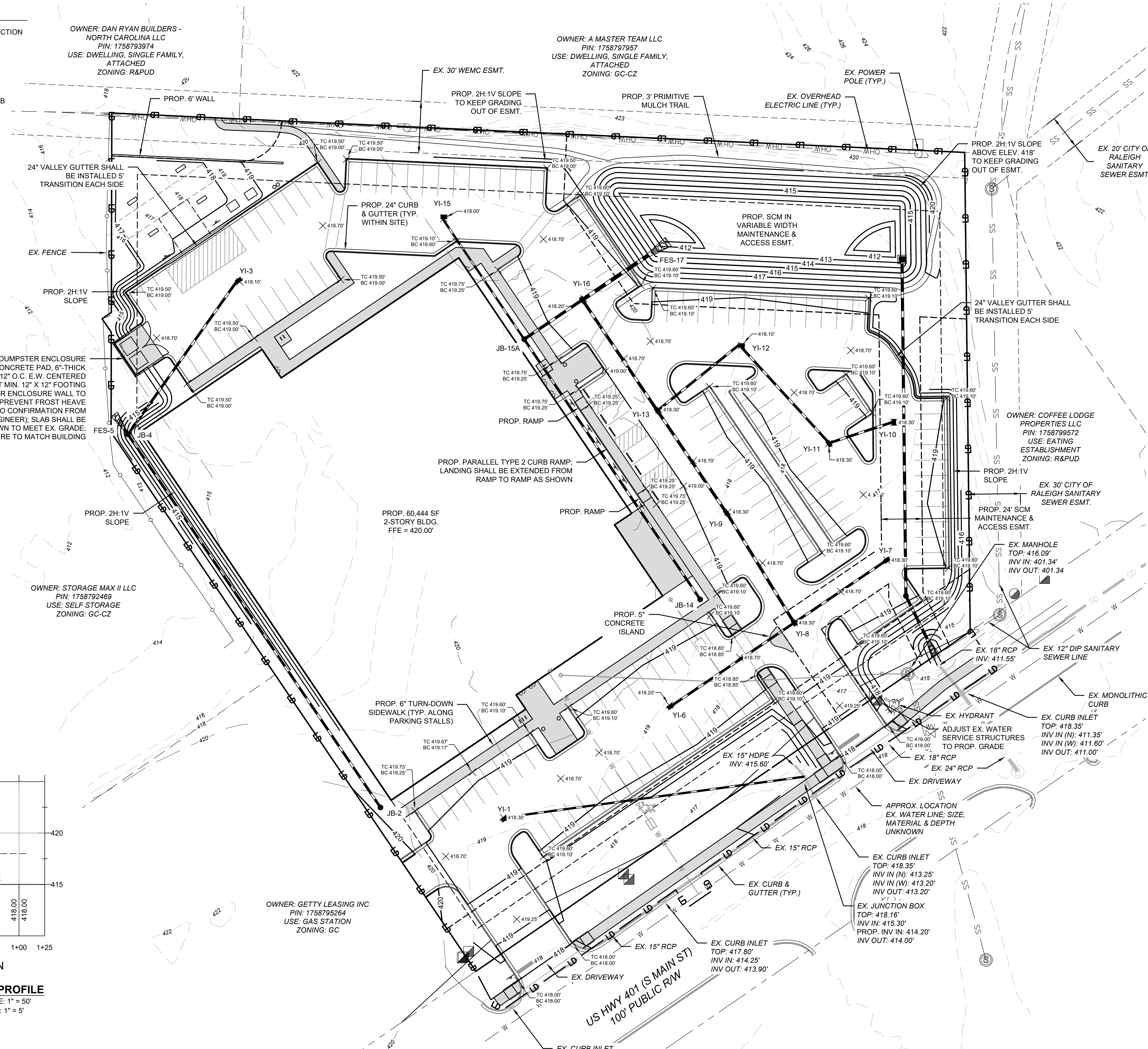
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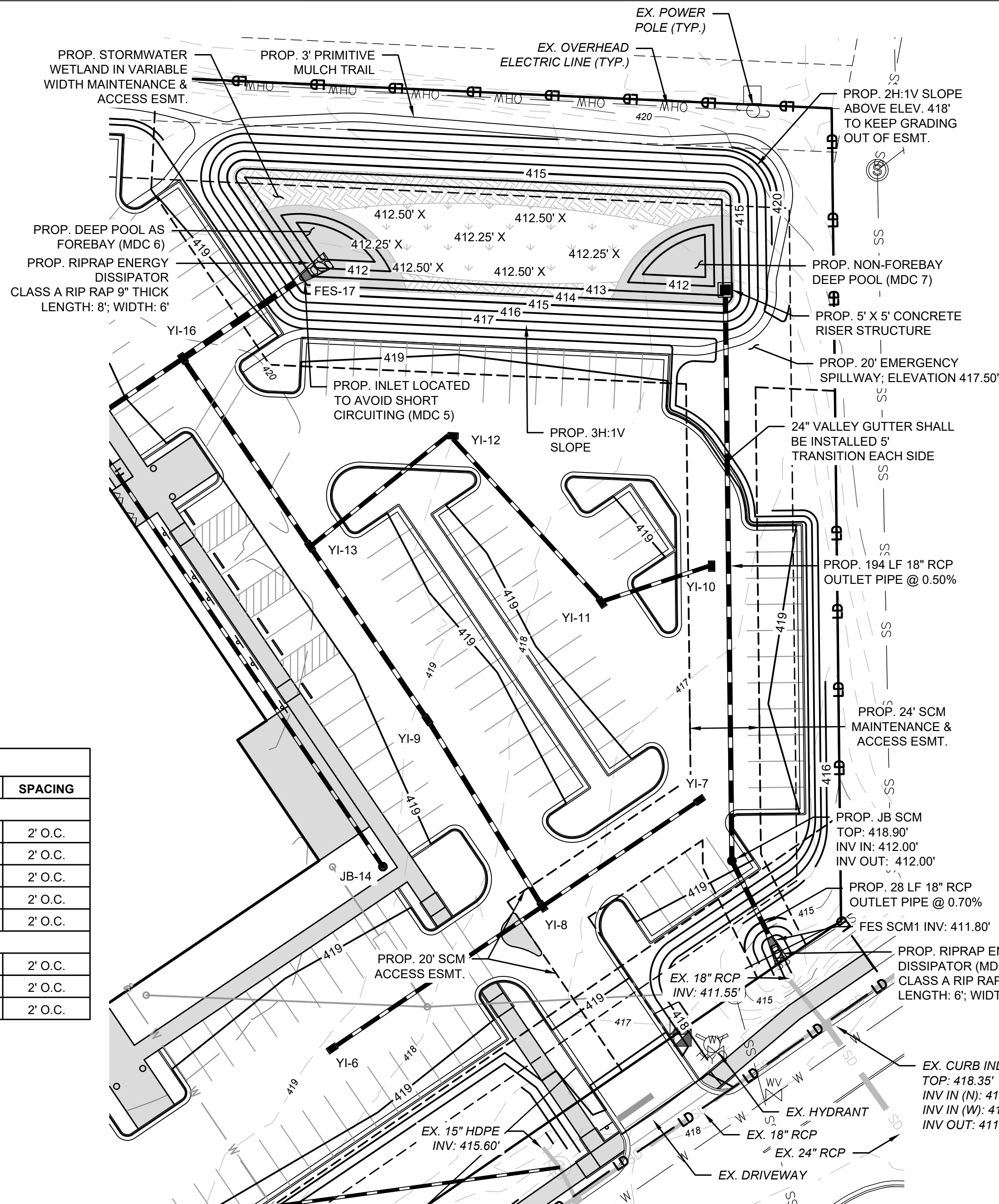
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- - - PROP. STORM SEWER
- - - PROP. MAJOR CONTOUR (5')
- - - PROP. MINOR CONTOUR (1')
- - - PROP. LIMIT OF DISTURBANCE

- SHALLOW LAND AREA (2,280 SF, 35%) (MDC 3, 9)
- SHALLOW WATER AREA (2,280 SF, 35%) (MDC 3, 8)
- DEEP POOL AREA (FOREBAY 976 SF, 15%; NON-FOREBAY 976 SF, 15%) (MDC 6, 7)

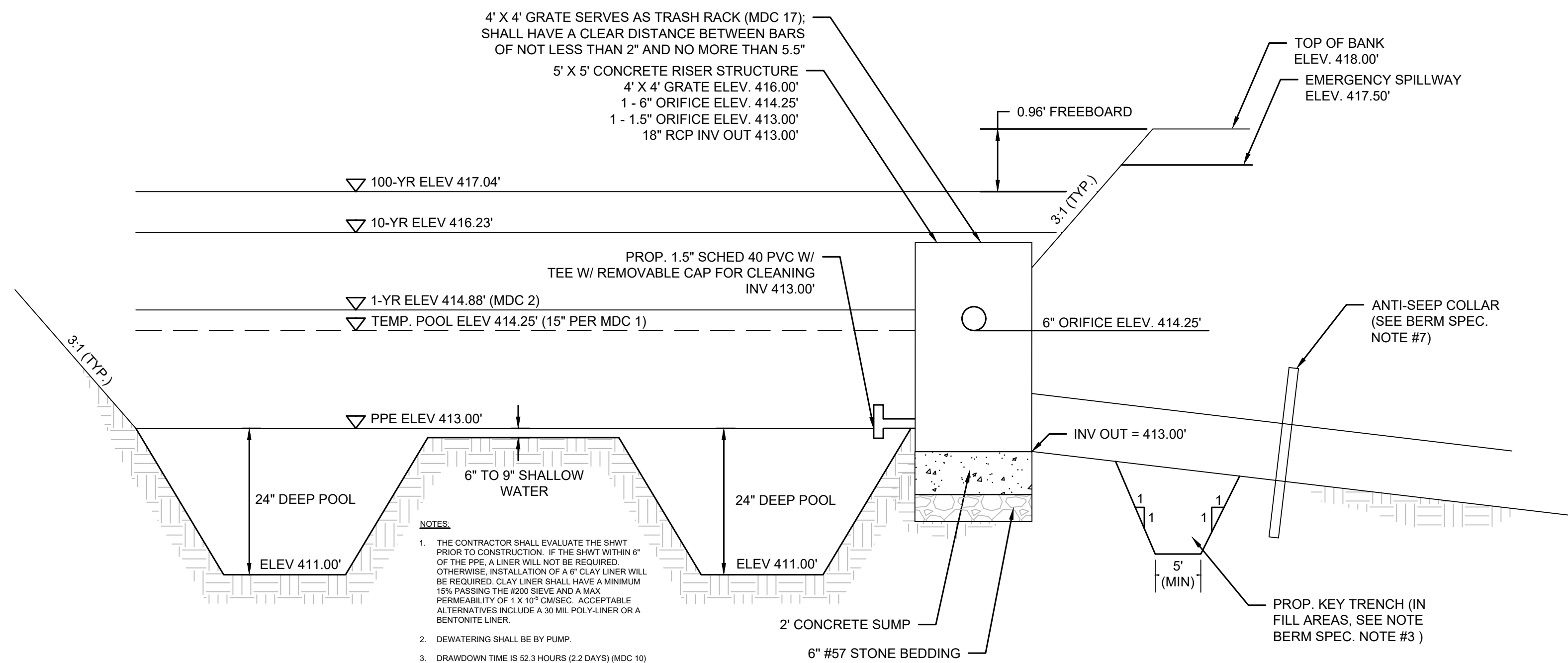
**STORMWATER WETLAND PLANTING TABLE (MDC 12, 13, 14)**

QUANTITY	BOTANICAL NAME	COMMON NAME	SIZE	SPACING
SHALLOW WATER PLANTINGS (AREA = 2,280 SQ. FT.; 50 HERBACEOUS PLANTS PER 200 SQ. FT.; 570 TOTAL PLANTS REQ.)				
114	ACORUS SUBCORDATUM	SWEETFLAG	4 CU. IN.	2' O.C.
114	HYDROLEA QUADRIVALVIS	WATERPOD	4 CU. IN.	2' O.C.
114	IRIS VIRGINICA	BLUE FLAG IRIS	4 CU. IN.	2' O.C.
114	SAGITTARIA LATIFOLIA	DUCK POTATO	4 CU. IN.	2' O.C.
114	SAURURUS CERNUUS	LIZARD'S TAIL	4 CU. IN.	2' O.C.
SHALLOW LAND PLANTINGS (AREA = 2,280 SQ. FT.; 50 HERBACEOUS PLANTS PER 200 SQ. FT.; 570 TOTAL PLANTS REQ.)				
190	CAREX TENERA	QUILL SEDGE	4 CU. IN.	2' O.C.
190	HIBISCUS COCCINEUS	SCARLET ROSE MALLOW	4 CU. IN.	2' O.C.
190	LOBELIA ELONGATA	LONGLEAF LOBELIA	4 CU. IN.	2' O.C.



**STORMWATER WETLAND PLAN VIEW**

SCALE: 1" = 30'



**STORMWATER WETLAND CROSS-SECTION**

NOT TO SCALE

**NOTES**

- THE WETLAND MUST BE STABILIZED WITHIN 14 DAYS OF CONSTRUCTION. CONSTRUCTION SHALL BE SEQUENCED SO THAT VEGETATION CAN BE PLANTED AND THE WETLAND BROUGHT ONLINE WITHIN 14 DAYS. PLANTS MAY NEED TO BE WATERED DURING THIS TIME IF THE DEVICE IS NOT BROUGHT ONLINE THE SAME DAY. STABILIZATION MAY BE IN THE FORM OF FINAL VEGETATION PLANTINGS OR A TEMPORARY MEANS UNTIL THE VEGETATION BECOMES ESTABLISHED. IF USING A TEMPORARY MEANS, CONTRACTOR SHALL PROVIDE A WET HYDROSEED MIX. CONTRACTOR SHALL SCARIFY THE SOIL TO A HALF-INCH PRIOR TO HYDROSEEDING.
- INLET AND OUTLET CHANNELS SHALL BE PROTECTED FROM SCOUR THAT MAY OCCUR DURING PERIODS OF HIGH FLOW. STANDARD EROSION CONTROL MEASURES SHOULD BE USED.
- THE STORMWATER WETLAND SHOULD BE STAKED AT THE ONSET OF THE PLANTING SEASON. WATER DEPTHS IN THE WETLAND SHOULD BE MEASURED TO CONFIRM THE ORIGINAL PLANTING ZONES. AT THIS TIME, IT MAY BE NECESSARY TO MODIFY THE PLANTING PLAN TO REFLECT ALTERED DEPTHS OR THE AVAILABILITY OF WETLAND PLANT STOCK. CONTRACTOR SHALL COORDINATE PLANTINGS, PLANTING ZONES AND WATER DEPTHS WITH THE ENGINEER. SURVEYED PLANTING ZONES SHOULD BE MARKED ON AN "AS-BUILT" OR RECORD DESIGN PLAN AND LOCATED IN THE FIELD USING STAKES OR FLAGS.
- THE WETLAND SHOULD BE DRAINED FOR NO MORE THAN 3 DAYS PRIOR TO THE PLANTING DATE (WHICH SHOULD COINCIDE WITH THE DELIVERY DATE FOR THE WETLAND PLANT STOCK) TO PRESERVE SOIL MOISTURE AND WORKABILITY.
- NURSERY STOCK SHALL BE TRANSPORTED FROM LOCAL AQUATIC PLANT NURSERIES. THE OPTIMAL PERIOD FOR TRANSPLANTING EXTENDS FROM EARLY APRIL TO MID-JUNE SO THAT THE WETLAND PLANTS WILL HAVE A FULL GROWING SEASON TO BUILD THE ROOT RESERVES NEEDED TO SURVIVE THE WINTER. HOWEVER, SOME SPECIES MAY BE PLANTED SUCCESSFULLY IN EARLY FALL. CONTRACTOR SHALL CONTACT NURSERY WELL IN ADVANCE OF CONSTRUCTION TO ENSURE THAT THEY WILL HAVE THE DESIRED SPECIES AVAILABLE.
- POST-NURSERY CARE OF WETLAND PLANTS IS VERY IMPORTANT IN THE INTERVAL BETWEEN DELIVERY OF THE PLANTS AND THEIR SUBSEQUENT INSTALLATION BECAUSE THEY ARE PRONE TO DESICCATION. STOCK SHOULD BE FREQUENTLY WATERED AND SHADED.
- SEASONAL HIGH WATER TABLE (SHWT) SHALL BE EVALUATED PRIOR TO CONSTRUCTION. IF SHWT IS WITHIN 6" OF PERMANENT POOL ELEVATION, A LINER WILL NOT BE REQUIRED. OTHERWISE, INSTALLATION OF A 6" CLAY LINER WILL BE REQUIRED. CLAY LINER SHALL HAVE A MINIMUM 1% PASSING THE #200 SIEVE AND A MAX PERMEABILITY OF 1 X 10<sup>-6</sup> CM/SEC. ACCEPTABLE ALTERNATIVES INCLUDE A 30 MIL POLY-LINER OR A BENTONITE LINER.
- GRADES SHOWN REPRESENT FINISH GRADE ELEVATIONS. TO ACHIEVE FINISH GRADE ELEVATIONS, INSTALL 4" OF TOPSOIL.
- ADJUST THE PH, COMPACTION, AND OTHER ATTRIBUTES OF THE FIRST 12" DEPTH OF THE SOIL IF NECESSARY TO PROMOTE PLANT ESTABLISHMENT AND GROWTH (MDC 4).
- PROVIDE PLANTS PER TABLE ON THIS SHEET. DAM STRUCTURE AND PERIMETER FILL SLOPES SHALL BE PLANTED WITH NON-CLUMPING TURF GRASS. TREES AND WOODY SHRUBS NOT ALLOWED (MDC 15).
- CATTAILS OR ANY OTHER INVASIVE SPECIES SHALL NOT BE PLANTED IN WETLAND (MDC 16).

**OUTLET STRUCTURE NOTES & SPECIFICATIONS**

- RCP OUTLET SHALL BE CLASS III RCP MEETING REQUIREMENTS OF ASTM C76. THE PIPE JOINTS SHALL BE MORTAR OR FLEXIBLE PLASTIC TYPE JOINT.
- THE MANHOLE OUTLET RISER SHALL MEET ASTM C-913. THE MANHOLE JOINTS SHALL BE ASTM C-443 RUBBER GASKET JOINTS. MANHOLE JOINTS SHALL BE SECURELY ANCHORED TO PREVENT SEPARATION. CONTRACTOR IS RESPONSIBLE FOR DESIGN OF THE MANHOLE SECTION ANCHORING SYSTEM.
- WATERTIGHT SEAL SHALL BE PROVIDED AT RISER/BARREL INTERFACE. PERVIOUS MATERIAL SUCH AS SAND, GRAVEL, OR CRUSHED STONE SHALL NOT BE USED AS BACKFILL AROUND THE PIPE OR ANTI-SEEP COLLAR. FILL MATERIAL AROUND THE RISER/BARREL STRUCTURE SHALL BE PLACED IN 4" LAYERS AND COMPACTED TO THE SAME DENSITY AS THE ADJACENT EMBANKMENT.
- OUTLET STRUCTURE SHALL BE PROVIDED WITH STEPS 1'-2" ON CENTER. STEPS SHALL BE IN ACCORDANCE WITH NCDOT STD. 840.66.
- CONCRETE ANTI-FLOATATION BLOCK SHALL BE PRECAST DURING FABRICATION. IF THE CONCRETE ANTI-FLOATATION BLOCK IS CAST SEPARATE FROM THE MANHOLE ASSEMBLY THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANCHORING THE ANTI-FLOATATION BLOCK TO THE MANHOLE RISER ASSEMBLY.
- ALL Poured CONCRETE SHALL BE A MINIMUM 3,000 PSI (28 DAY) UNLESS OTHERWISE NOTED.
- NON-WOVEN GEOTEXTILE FABRIC SHALL BE PLACED AROUND EACH JOINT OF THE RCP OUTLET BARREL IN 2" WIDE STRIPS CENTERED ON JOINT. FABRIC SHALL BE AMOCO STYLE 4553 POLYPROPYLENE NON-WOVEN NEEDLE PUNCHED OR APPROVED EQUAL (NON-WOVEN FABRIC).

**BERM SPECIFICATIONS**

- ALL FILL SOILS FOR BERM SECTION SHALL BE CLEAN, IMPERMEABLE MATERIAL AND COMPACTED TO AT LEAST 98% STANDARD PROCTOR MAXIMUM DRY DENSITY. AT OPTIMUM MOISTURE CONTENT. NO BLASTED MATERIALS SHALL BE USED IN THE EMBANKMENT CONSTRUCTION. SOIL SHALL NOT EXHIBIT SIGNIFICANT SHRINK/SWELL OR DISPERSIVE CHARACTERISTICS. THE ON-SITE GEOTECHNICAL ENGINEER SHALL APPROVE THE SOILS FOR PLACEMENT WITHIN THE BERM SECTION. THE GEOTECHNICAL ENGINEER SHALL ALSO SPECIFY THE METHODS TO BE USED FOR PLACEMENT OF FILL.
- IN ALL FILL AREAS OF THE BERM, A SOILS COMPACTION TEST SHALL BE CONDUCTED EACH 2,500 SQUARE FEET PER VERTICAL CUT OF FILL.
- A KEY TRENCH IS TO BE PROVIDED IN ALL FILL AREAS. TRENCH TO EXTEND A MINIMUM OF TWO FEET BELOW EXISTING GRADE. THE MINIMUM BOTTOM WIDTH SHALL BE WIDE ENOUGH TO PERMIT OPERATION OF EXCAVATION AND COMPACTION EQUIPMENT, BUT IN NO CASE SHALL BE LESS THAN 2' WIDE. CONTRACTOR SHALL CONFIRM KEY TRENCH DEPTH AND WIDTH WITH THE ON-SITE GEOTECHNICAL ENGINEER. SOILS AND COMPACTION FOR KEY TRENCH SHALL MEET ALL REQUIREMENTS OF #1 ABOVE.
- FILL PLACEMENT SHALL NOT EXCEED A MAXIMUM OF 8" LIFTS. EACH LIFT SHALL BE CONTINUOUS FOR THE ENTIRE LENGTH OF EMBANKMENT. BEFORE PLACEMENT OF FILL FOR THE BERM SECTION, ALL UNSUITABLE MATERIAL SHALL BE REMOVED AND THE SURFACE PROPERLY PREPARED FOR FILL PLACEMENT.
- NO TREES OF ANY TYPE MAY BE LOCATED ON THE BERM SECTION.
- SIDE SLOPES SHALL BE LINED WITH NAG S75, OR APPROVED EQUAL.
- INSTALL ANTI-SEEP COLLAR AT MIDPOINT OF OUTLET PIPE. CONCRETE SHALL BE 3,000 PSI (28 DAYS) AND REINFORCED WITH #4 REBAR 12" O.C. EACH WAY AND SHALL EXTEND AT LEAST 8" AROUND ALL SIDES OF PIPE. MINIMUM BEARING CAPACITY BENEATH COLLAR SHALL BE 2,000 PSF.

**STORMWATER WETLAND MAINTENANCE NOTES**

- THE LANDSCAPE PROFESSIONAL MANAGING THE WETLAND MUST UNDERSTAND THE BIOLOGICAL REQUIREMENTS OF THE PLANTS AND MANAGE WATER LEVELS APPROPRIATELY TO PROVIDE FOR THEIR NEEDS.
- ALTHOUGH WETLAND PLANTS REQUIRE WATER FOR GROWTH AND REPRODUCTION, THEY CAN BE KILLED BY DROWNING IN EXCESSIVELY DEEP WATER. USUALLY, INITIAL GROWTH IS BEST WITH TRANSPLANTED PLANTS IN WET, WELL-AERATED SOIL. OCCASIONAL INUNDATION FOLLOWED BY EXPOSURE TO AIR OF THE MAJORITY OF THE VEGETATION ENABLES THE PLANTS TO OBTAIN OXYGEN AND GROW OPTIMALLY. CONVERSELY, FREQUENT SOIL SATURATION IS IMPORTANT FOR WETLAND PLANT SURVIVAL.
- DRAMATIC SHIFTS CAN OCCUR AS PLANT SUCCESSION PROCEEDS. THE PLANT COMMUNITY REFLECTS MANAGEMENT AND CAN INDICATE PROBLEMS OR THE RESULTS OF IMPROVEMENTS. FOR EXAMPLE, A REQUIREMENT OF SUBMERGED AQUATIC PLANTS, SUCH AS PONDWEED (POTAMOGETON SPP.), IS LIGHT PENETRATION INTO THE WATER COLUMN. THE DISAPPEARANCE OF THESE PLANTS MAY INDICATE INADEQUATE WATER CLARITY. THE APPEARANCE OF INVASIVE SPECIES OR DEVELOPMENT OF A MONOCULTURE IS ALSO A SIGN OF A PROBLEM WITH THE AQUATIC/SOIL/VEGETATIVE REQUIREMENTS. FOR INSTANCE, MANY INVASIVE SPECIES CAN QUICKLY SPREAD AND TAKE OVER A WETLAND. IF CATTAILS BECOME INVASIVE, THEY CAN BE REMOVED BY A LICENSED AQUATIC PESTICIDE APPLICATOR BY WIPING AQUATIC GLYPHOSATE, A SYSTEMIC HERBICIDE, ON THE CATTAILS.
- UNLIKE MAINTENANCE REQUIREMENTS FOR WET OR DRY STORMWATER PONDS, SEDIMENT SHOULD ONLY BE SELECTIVELY REMOVED FROM STORMWATER WETLANDS. PRIMARILY FROM THE FOREBAY. SEDIMENT REMOVAL DISTURBS STABLE VEGETATION COVER AND DISRUPTS FLOWPATHS THROUGH THE WETLAND. THE TOP FEW INCHES OF SEDIMENT SHOULD BE STOCKPILED SO THAT IT CAN BE REPLACED OVER THE SURFACE OF THE WETLAND AFTER THE COMPLETION OF SEDIMENT REMOVAL TO RE-ESTABLISH THE VEGETATIVE COVER USING ITS OWN SEED BANK. ACCUMULATED SEDIMENT SHOULD BE REMOVED FROM AROUND INLET AND OUTLET STRUCTURES.
- THE TOWN OF WAKE FOREST SHALL NOT BE RESPONSIBLE FOR ANY MAINTENANCE TO THE STORMWATER CONTROL MEASURES (SCMs).

ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH ALL TOWN OF ROLESVILLE, CITY OF RALEIGH AND WAKE COUNTY STANDARDS AND SPECIFICATIONS



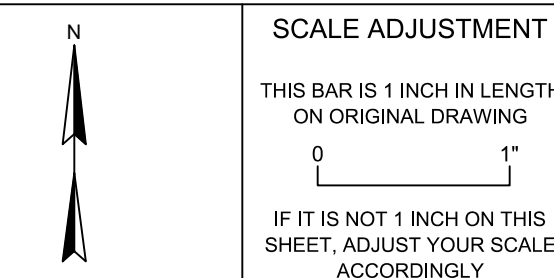
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**REVISION HISTORY**

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ORIGINAL PLAN SIZE: 24" X 36"



**SITE DEVELOPMENT PLAN**

SDP-24-05  
  
PINE GLO  
414 S MAIN ST  
ROLESVILLE, NC 27571

**OPTIMAL GLO LLC**

DATE:	06-03-2024
SCALE:	AS SHOWN
DESIGNED BY:	FLM
APPROVED BY:	FLM
PROJECT NO.:	24028

**SCM DETAILS**

**C-7**  
SHEET 7 OF 30

CALL 48 HOURS BEFORE YOU DIG  
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**WAKE COUNTY CONSTRUCTION SEQUENCE**

1. SCHEDULE A PRECONSTRUCTION CONFERENCE WITH THE ENVIRONMENTAL CONSULTANT. OBTAIN A LAND-DISTURBING PERMIT.

**PHASE 1**

2. INSTALL GRAVEL CONSTRUCTION PADS, TEMPORARY DIVERSION, SILT FENCE, SKIMMER SEDIMENT BASIN OR OTHER MEASURES AS SHOWN ON THE APPROVED PLAN. CLEAR ONLY AS NECESSARY TO INSTALL THESE DEVICES. SEED TEMPORARY DIVERSIONS AND BASIN IMMEDIATELY AFTER CONSTRUCTION.

3. CALL WAKE COUNTY FOR AN ONSITE INSPECTION BY THE ENVIRONMENTAL CONSULTANT TO OBTAIN A CERTIFICATE OF COMPLIANCE.

4. BEGIN DEMOLITION, CLEARING AND GRUBBING. MAINTAIN DEVICES AS NEEDED.

**PHASE 2**

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6. INSTALL STORM SEWER AND PROTECT INLETS WITH INLET PROTECTION, OR OTHER APPROVED MEASURES AS SHOWN ON THE PLAN.

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**PHASE 3**

8. STABILIZE SITE AS AREAS ARE BROUGHT UP TO FINISH GRADE WITH VEGETATION, PAVING, ETC. SEED AND MULCH DENUDED AREAS PER GROUND STABILIZATION TIME FRAMES.

9. WHEN CONSTRUCTION IS COMPLETE AND ALL AREAS ARE STABILIZED COMPLETELY, CALL WAKE COUNTY FOR AN INSPECTION BY THE ENVIRONMENTAL CONSULTANT.

10. IF SITE IS APPROVED, REMOVE TEMPORARY DIVERSIONS, SILT FENCE, ETC., AND SEED OR STABILIZE ANY RESULTING BARE AREAS. ALL REMAINING PERMANENT EROSION CONTROL DEVICES, SUCH AS VELOCITY DISSIPATORS, SHOULD NOW BE INSTALLED.

11. UPON STABILIZATION OF THE ENTIRE DISTURBED AREA, CONVERT SKIMMER BASIN TO STORMWATER WETLAND AS SHOWN ON THE APPROVED PLANS.

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4. THE TOTAL DISTURBED AREA IS 4.42 ACRE.

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9. PROVIDE STABLE TRANSITION AT TEMPORARY DIVERSION ENTRANCES TO BASIN - LINE SLOPE AT ENTRANCE WITH 12" ROCK RIPRAP.

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12. SEE DETAIL SHEETS C-16 AND C-17 FOR EROSION AND SEDIMENT CONTROL MAINTENANCE REQUIREMENTS.

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2. DEWATER BASIN(S) VIA SILT BAG. REMOVE ACCUMULATED SEDIMENT. FINE GRADE WETLAND IN PREPARATION FOR PLANTING.

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	PROP. FAIRCLOTH SKIMMER
	PROP. CONSTRUCTION ENTRANCE
	PROP. HORSESHOE INLET PROTECTION/CHECK DAM
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	PROP. INLET PROTECTION

**WAKE COUNTY STOCKPILE REQUIREMENTS**

EFFECTIVE SEPTEMBER 1, 2008 - SOIL STOCKPILES SHALL BE LOCATED ON THE APPROVED PLAN AND SHALL ADHERE TO THE FOLLOWING REQUIREMENTS:

**DESIGN CRITERIA**

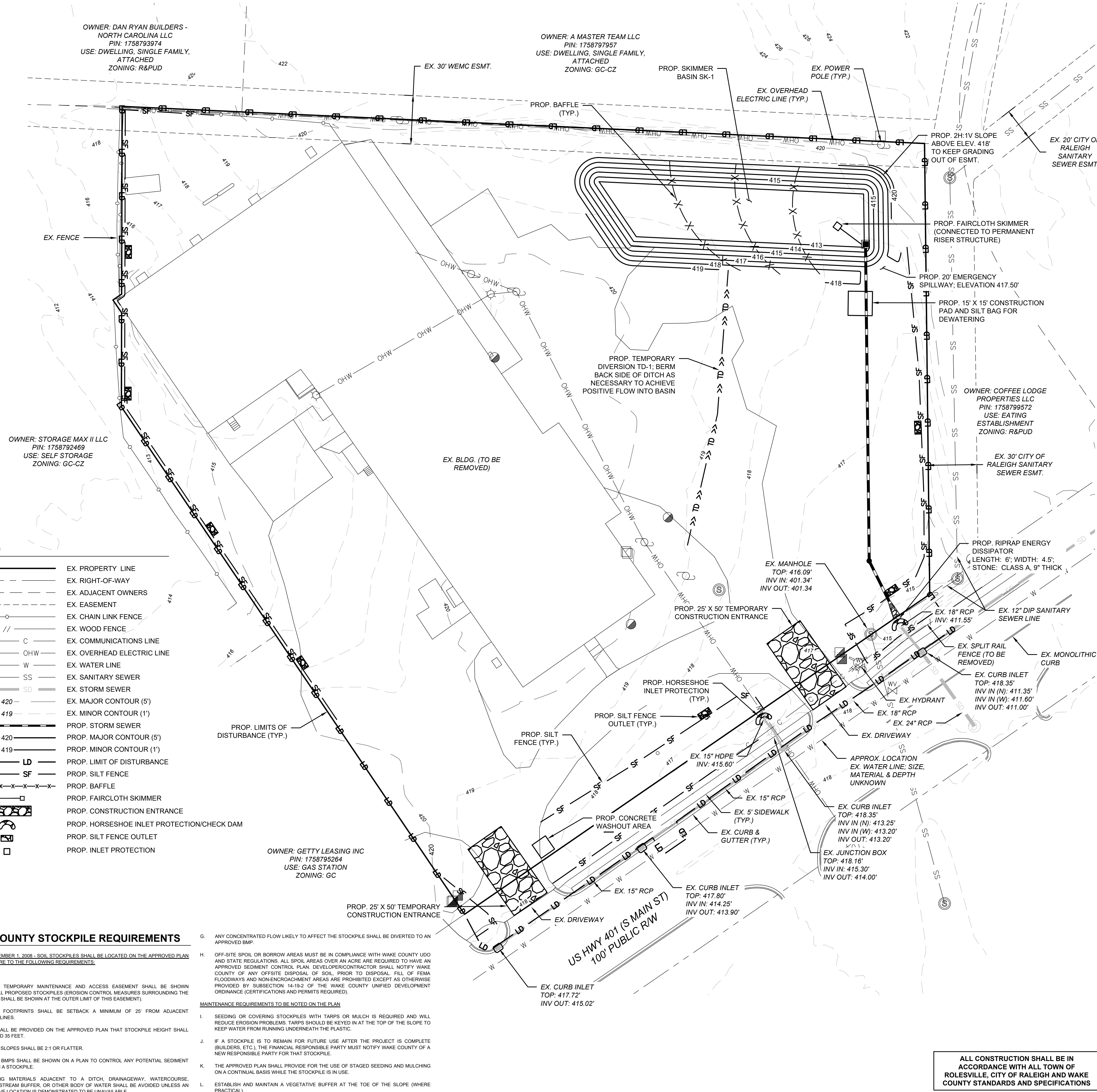
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G. ANY CONCENTRATED FLOW LIKELY TO AFFECT THE STOCKPILE SHALL BE DIVERTED TO AN APPROVED BMP.

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 TO BE NOTED ON THE PLAN**

- 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.
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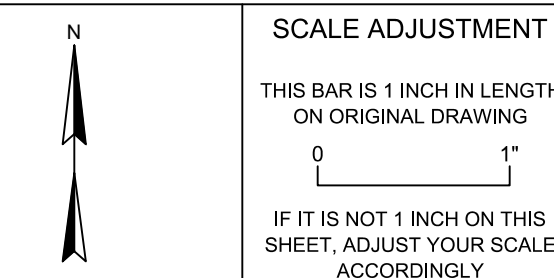
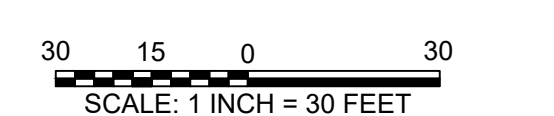
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OPTIMAL GLO LLC

DATE:	06-03-2024
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DESIGNED BY:	FLM
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**EROSION & SEDIMENT CONTROL PLAN - PHASE 1**

**C-8**  
SHEET 8 OF 30

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CALL 48 HOURS BEFORE YOU DIG  
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---	PROP. SETBACK LINE
---	PROP. EASEMENT/BUFFER
---	PROP. CONCRETE
W	PROP. WATER LINE
SS	PROP. SANITARY SEWER
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-420-	PROP. MAJOR CONTOUR (5')
-419-	PROP. MINOR CONTOUR (1')
LD	PROP. LIMIT OF DISTURBANCE
SF	PROP. SILT FENCE
-X-X-X-X-X-X-X-X-	PROP. BAFFLE
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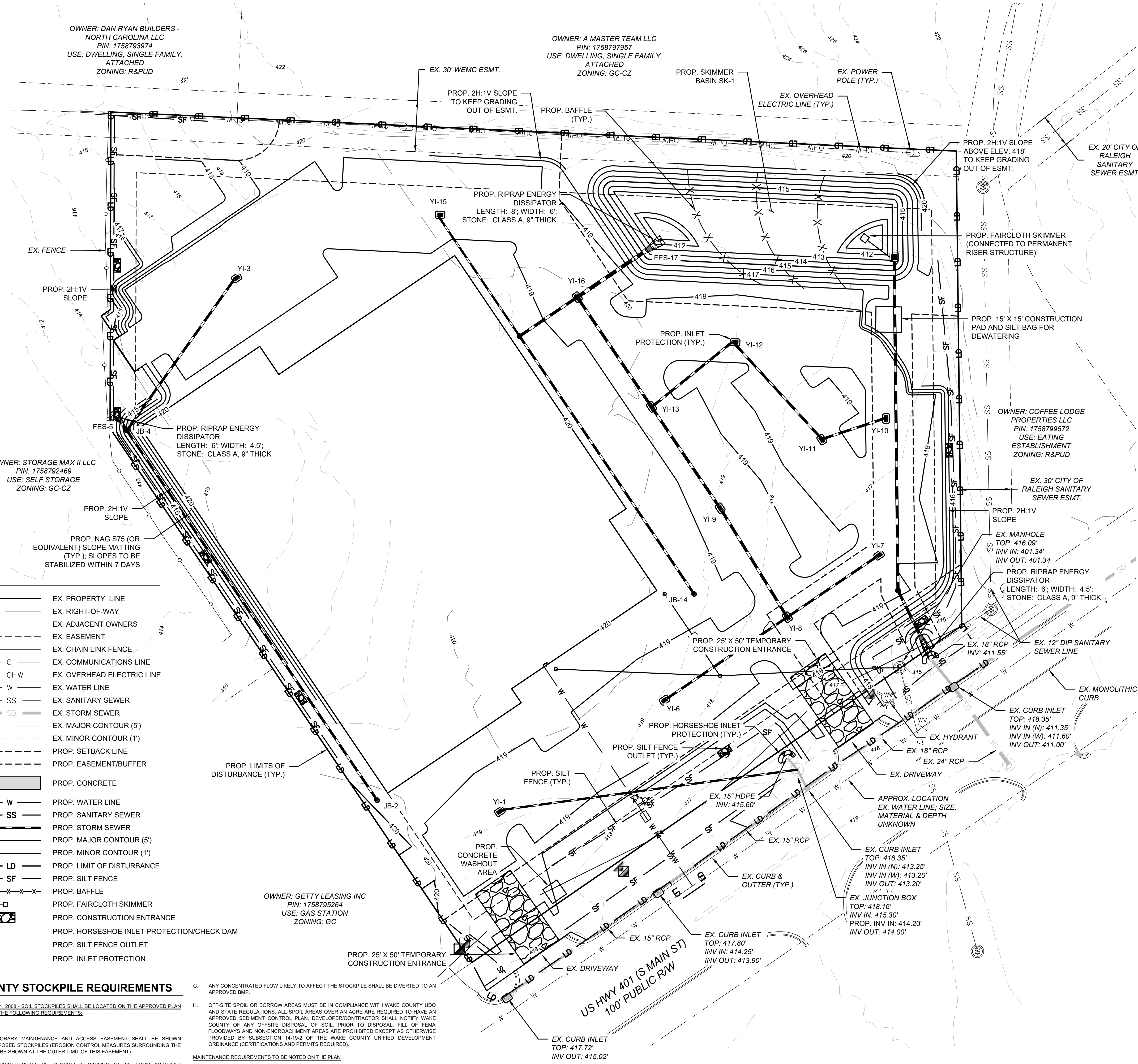
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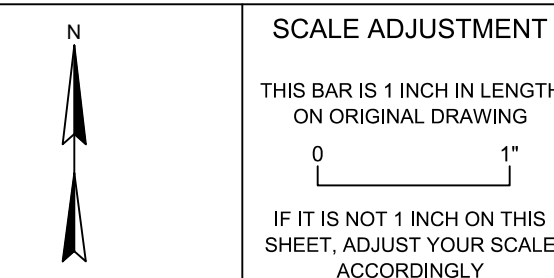
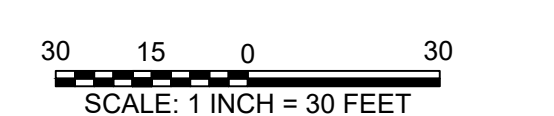
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OPTIMAL GLO LLC

DATE:	06-03-2024
SCALE:	AS SHOWN
DESIGNED BY:	FLM
APPROVED BY:	FLM
PROJECT NO.:	24028

**EROSION & SEDIMENT CONTROL PLAN - PHASE 2**

**C-9**  
SHEET 9 OF 30

ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH ALL TOWN OF ROLESVILLE, CITY OF RALEIGH AND WAKE COUNTY STANDARDS AND SPECIFICATIONS

CALL 48 HOURS BEFORE YOU DIG  
**North Carolina 811**  
www.nc811.org  
NORTH CAROLINA ONE-CALL CENTER  
1-800-632-4949

**WAKE COUNTY CONSTRUCTION SEQUENCE**

1. SCHEDULE A PRECONSTRUCTION CONFERENCE WITH THE ENVIRONMENTAL CONSULTANT. OBTAIN A LAND-DISTURBING PERMIT.

**PHASE 1**

2. INSTALL GRAVEL CONSTRUCTION PADS, TEMPORARY DIVERSION, SILT FENCE, SKIMMER SEDIMENT BASIN OR OTHER MEASURES AS SHOWN ON THE APPROVED PLAN. CLEAR ONLY AS NECESSARY TO INSTALL THESE DEVICES. SEED TEMPORARY DIVERSIONS AND BASIN IMMEDIATELY AFTER CONSTRUCTION.

3. CALL WAKE COUNTY FOR AN ONSITE INSPECTION BY THE ENVIRONMENTAL CONSULTANT TO OBTAIN A CERTIFICATE OF COMPLIANCE.

4. BEGIN DEMOLITION, CLEARING AND GRUBBING. MAINTAIN DEVICES AS NEEDED.

**PHASE 2**

5. BEGIN ROUGH GRADING.

6. INSTALL STORM SEWER AND PROTECT INLETS WITH INLET PROTECTION, OR OTHER APPROVED MEASURES AS SHOWN ON THE PLAN.

7. INSTALL WATER AND SEWER SERVICES.

**PHASE 3**

8. STABILIZE SITE AS AREAS ARE BROUGHT UP TO FINISH GRADE WITH VEGETATION, PAVING, ETC. SEED AND MULCH DENUDED AREAS PER GROUND STABILIZATION TIME FRAMES.

9. WHEN CONSTRUCTION IS COMPLETE AND ALL AREAS ARE STABILIZED COMPLETELY, CALL WAKE COUNTY FOR AN INSPECTION BY THE ENVIRONMENTAL CONSULTANT.

10. IF SITE IS APPROVED, REMOVE TEMPORARY DIVERSIONS, SILT FENCE, ETC., AND SEED OR STABILIZE ANY RESULTING BARE AREAS. ALL REMAINING PERMANENT EROSION CONTROL DEVICES, SUCH AS VELOCITY DISSIPATORS, SHOULD NOW BE INSTALLED.

11. UPON STABILIZATION OF THE ENTIRE DISTURBED AREA, CONVERT SKIMMER BASIN TO STORMWATER WETLAND AS SHOWN ON THE APPROVED PLANS.

12. WHEN VEGETATION HAS BECOME ESTABLISHED, CALL FOR A FINAL SITE INSPECTION BY THE ENVIRONMENTAL CONSULTANT. OBTAIN A CERTIFICATE OF COMPLETION.

**EROSION CONTROL NOTES**

1. ALL LAND DISTURBING ACTIVITIES SHALL BE CONDUCTED IN ACCORDANCE WITH WAKE COUNTY AND NCDEQ STANDARDS.

2. ALL TEMPORARY EROSION CONTROL MEASURES SHALL BE MAINTAINED IN PROPER WORKING CONDITION DURING THE PERIOD OF CONSTRUCTION.

3. ADDITIONAL EROSION CONTROL MEASURES AND/OR MODIFICATIONS TO PROPOSED MEASURES MAY BE NECESSARY DEPENDING ON ACTUAL SITE CONDITIONS.

4. THE TOTAL DISTURBED AREA IS 4.42 ACRE.

5. SILT FENCE OUTLETS TO BE PLACED AS SHOWN AND AT LOW POINTS ALONG SILT FENCE AS NECESSARY.

6. SEE EROSION CONTROL CALCULATIONS ON SHEET C-2.

7. SKIMMER BASIN GRADES SHOWN ARE 2H:1V UNLESS OTHERWISE NOTED.

8. CONTRACTOR SHALL ESTABLISH GROUND COVER IMMEDIATELY AFTER DISTURBANCE DURING CONSTRUCTION OF PERMANENT SWALES.

9. PROVIDE STABLE TRANSITION AT TEMPORARY DIVERSION ENTRANCES TO BASIN - LINE SLOPE AT ENTRANCE WITH 12" ROCK RIPRAP.

10. RIPRAP ENERGY DISSIPATOR DIMENSIONS SHOWN ON DETAIL SHEET C-17.

11. DISTURBED AREAS TO BE STABILIZED AND GROUND COVER SHOULD BE ACHIEVED WITHIN 7 WORKING DAYS FOLLOWING COMPLETION OF DEVELOPMENT, PER THE NPDES CONSTRUCTION STORMWATER GENERAL PERMIT.

12. SEE DETAIL SHEETS C-16 AND C-17 FOR EROSION AND SEDIMENT CONTROL MAINTENANCE REQUIREMENTS.

**BASIN CONVERSION SEQUENCE:**

1. SCHEDULE A SITE MEETING WITH THE ENVIRONMENTAL ENGINEER / CONSULTANT TO DETERMINE IF A BASIN CAN BE CONVERTED. INSTALL SILT FENCING OR OTHER TEMPORARY EROSION CONTROL MEASURES AS NEEDED PRIOR TO CONVERSION OF THE BASIN.

2. DEWATER BASIN(S) VIA SILT BAG. REMOVE ACCUMULATED SEDIMENT. FINE GRADE WETLAND IN PREPARATION FOR PLANTING.

3. PERFORM PLANTING PREPARATION, PLANT/SEED, MULCH AND ASPHALT TACK ANY RESULTING BARE AREAS IMMEDIATELY.

4. INSTALL VELOCITY DISSIPATORS AS REQUIRED ON THE EROSION CONTROL PLAN.

5. WHEN SITE IS FULLY STABILIZED, CALL ENVIRONMENTAL ENGINEER / CONSULTANT FOR APPROVAL OF REMOVING REMAINING TEMPORARY EROSION CONTROL MEASURES AND ADVISE ON WHEN SITE CAN BE ISSUED A CERTIFICATE OF COMPLETION.

OWNER: DAN RYAN BUILDERS - NORTH CAROLINA LLC  
PIN: 1758793974  
USE: DWELLING, SINGLE FAMILY, ATTACHED  
ZONING: R&PUD

OWNER: A MASTER TEAM LLC  
PIN: 1758797957  
USE: DWELLING, SINGLE FAMILY, ATTACHED  
ZONING: GC-CZ

OWNER: STORAGE MAX II LLC  
PIN: 1758792469  
USE: SELF STORAGE  
ZONING: GC-CZ

OWNER: GETTY LEASING INC  
PIN: 1758795264  
USE: GAS STATION  
ZONING: GC

OWNER: COFFEE LODGE PROPERTIES LLC  
PIN: 1758799572  
USE: EATING ESTABLISHMENT  
ZONING: R&PUD

**LEGEND**

---	EX. PROPERTY LINE
---	EX. RIGHT-OF-WAY
---	EX. ADJACENT OWNERS
---	EX. EASEMENT
---	EX. CHAIN LINK FENCE
C --- C	EX. COMMUNICATIONS LINE
OHW --- OHW	EX. OVERHEAD ELECTRIC LINE
W --- W	EX. WATER LINE
SS --- SS	EX. SANITARY SEWER
SD --- SD	EX. STORM SEWER
---	EX. MAJOR CONTOUR (5')
---	EX. MINOR CONTOUR (1')
---	PROP. SETBACK LINE
---	PROP. EASEMENT/BUFFER
---	PROP. CONCRETE
W --- W	PROP. WATER LINE
SS --- SS	PROP. SANITARY SEWER
---	PROP. STORM SEWER
---	PROP. MAJOR CONTOUR (5')
---	PROP. MINOR CONTOUR (1')
LD --- LD	PROP. LIMIT OF DISTURBANCE
SF --- SF	PROP. SILT FENCE
-x-x-x-x-x-x-x-x-x-	PROP. BAFFLE
☐	PROP. FAIRCLOTH SKIMMER
☐	PROP. CONSTRUCTION ENTRANCE
☐	PROP. HORSESHOE INLET PROTECTION/CHECK DAM
☐	PROP. SILT FENCE OUTLET
☐	PROP. INLET PROTECTION

**WAKE COUNTY STOCKPILE REQUIREMENTS**

EFFECTIVE SEPTEMBER 1, 2008 - SOIL STOCKPILES SHALL BE LOCATED ON THE APPROVED PLAN AND SHALL ADHERE TO THE FOLLOWING REQUIREMENTS:

**DESIGN CRITERIA**

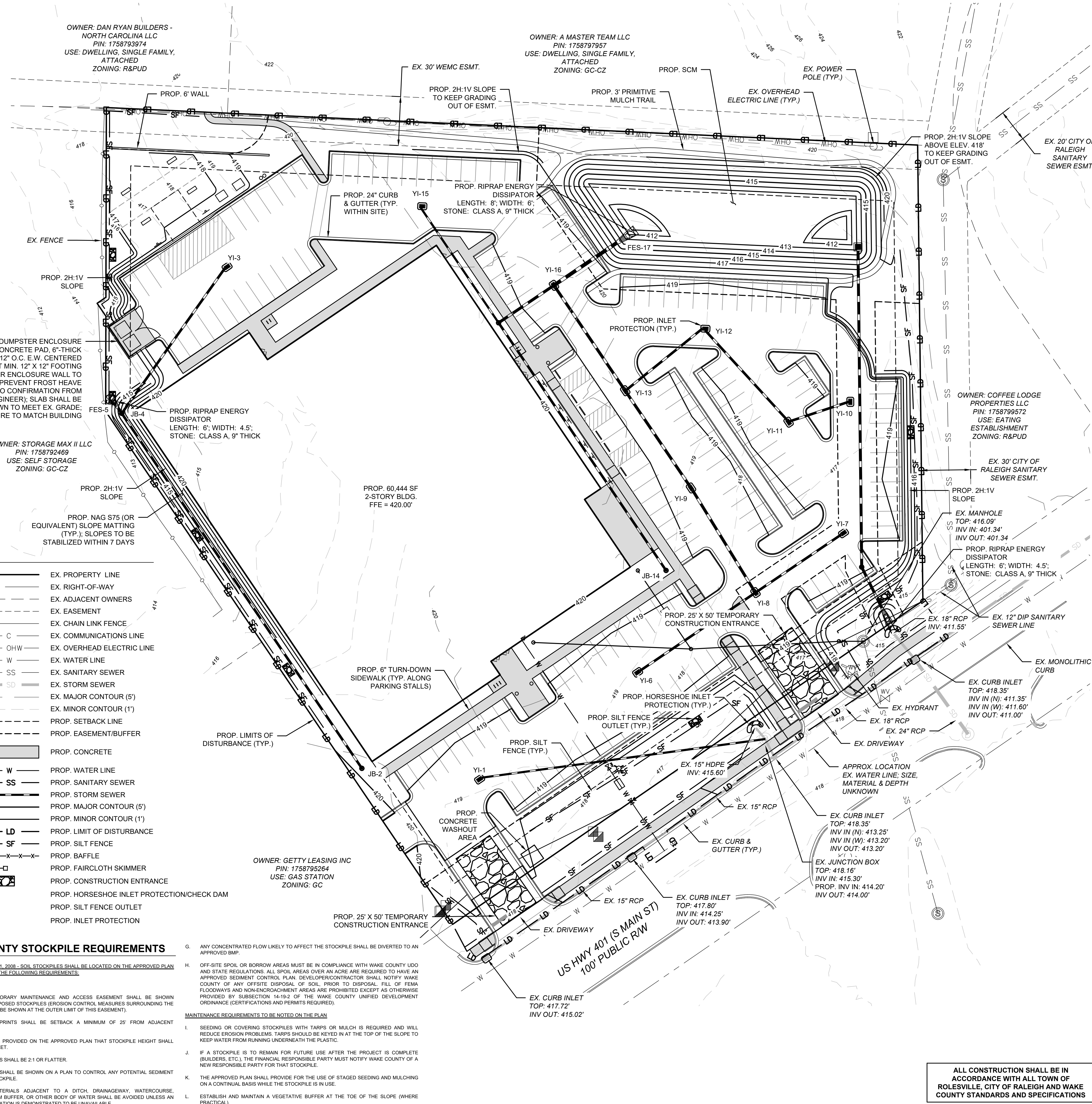
- A 25-FOOT TEMPORARY MAINTENANCE AND ACCESS EASEMENT SHALL BE SHOWN AROUND ALL PROPOSED STOCKPILES (EROSION CONTROL MEASURES SURROUNDING THE STOCKPILE SHALL BE SHOWN AT THE OUTER LIMIT OF THIS EASEMENT).
- STOCKPILE FOOTPRINTS SHALL BE SETBACK A MINIMUM OF 25' FROM ADJACENT PROPERTY LINES.
- A NOTE SHALL BE PROVIDED ON THE APPROVED PLAN THAT STOCKPILE HEIGHT SHALL NOT EXCEED 35 FEET.
- STOCKPILE SLOPES SHALL BE 2:1 OR FLATTER.
- APPROVED BMPs SHALL BE SHOWN ON A PLAN TO CONTROL ANY POTENTIAL SEDIMENT LOSS FROM A STOCKPILE.
- 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 TO BE NOTED ON THE PLAN**

- 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.
- 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.
- THE APPROVED PLAN SHALL PROVIDE FOR THE USE OF STAGED SEEDING AND MULCHING ON A CONTINUAL BASIS WHILE THE STOCKPILE IS IN USE.
- ESTABLISH AND MAINTAIN A VEGETATIVE BUFFER AT THE TOE OF THE SLOPE (WHERE PRACTICAL).



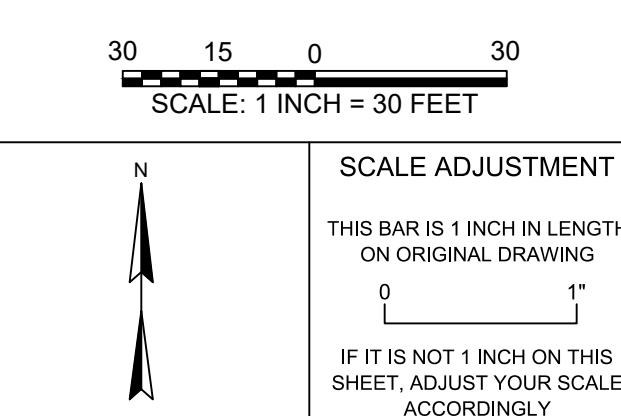
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RALEIGH, NORTH CAROLINA 27675  
PHONE: 919.610.1051  
FIRM NC LICENSE NUMBER C-4222



**REVISION HISTORY**

REV #	DESCRIPTION	DATE	BY
1	TRC COMMENTS	7/29/2024	FLM
2	TRC COMMENTS	10/29/2024	FLM
3	TRC COMMENTS	1/2/2025	FLM
4	NCDOT COMMENTS	1/23/2025	FLM
5	SIGNATURE SET	2/17/2025	FLM

ORIGINAL PLAN SIZE: 24" X 36"



**SITE DEVELOPMENT PLAN**  
SDP-24-05  
  
PINE GLO  
414 S MAIN ST  
ROLESVILLE, NC 27571

OPTIMAL GLO LLC

DATE:	06-03-2024
SCALE:	AS SHOWN
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**EROSION & SEDIMENT CONTROL PLAN - PHASE 3**

**C-10**  
SHEET 10 OF 30

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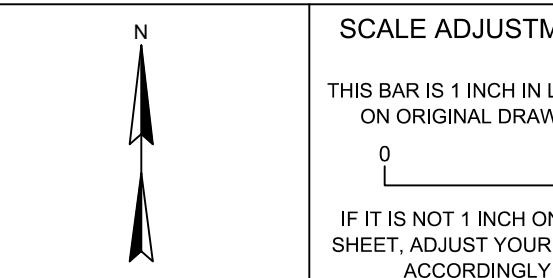
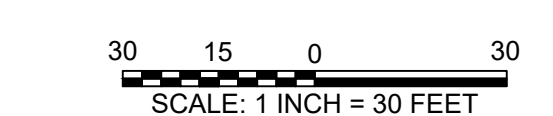
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SITE DEVELOPMENT PLAN  
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LANDSCAPING PLAN

**NOTES**

- ALL NEW PLANTINGS SHALL MEET THE REQUIREMENTS OF THE TOWN OF ROLESVILLE LAND DEVELOPMENT ORDINANCE (LDO) SECTION 6.2.
- ALL DISTURBED AREAS NOT OCCUPIED BY STRUCTURES, PAVING OR PLANTINGS SHALL BE GRADED AND SEEDED AS INDICATED IN SPECIFICATIONS.
- ALL TREE PLANTINGS SHALL BE MULCHED WITH 4" CLEAN, PINE STRAW MULCH.
- ALL PLANT BEDS TO BE EDGED WITH TYPICAL "V-CANNEL" EDGE.
- A MINIMUM OF FOUR INDIVIDUAL SOIL SAMPLES SHALL BE TAKEN THROUGHOUT THE SITE FOR OVERALL SOIL ANALYSIS.
- CONTRACTOR TO UTILIZE ALL ONSITE TOPSOIL. CONTRACTOR SHALL SUPPLY ADDITIONAL TOPSOIL AT NO ADDITIONAL COST TO OWNER IF EXISTING TOPSOIL IS NOT SUFFICIENT TO MEET THE NEEDS OF THIS PROJECT.
- ALL PLANTING AREAS TO RECEIVE 1 CY OF SOIL CONDITIONER FOR EACH 75 SF OF PLANT BED AREA. ACCEPTABLE SOIL CONDITIONERS SHALL BE PULVERIZED PINE BARK, PEAT MOSS OR SHREDDED/COMPOSTED LEAVES.
- CONTRACTOR TO FIELD VERIFY LOCATION OF EXISTING UTILITIES BEFORE BEGINNING OF GRADING AND LANDSCAPE INSTALLATION.
- CONTRACTOR TO VERIFY QUANTITIES OF PLANTINGS AS SHOWN. PLANTINGS INDICATED ON PLANS SHALL PREVAIL OVER QUANTITIES INDICATED IN PLANT LIST IF DISCREPANCIES ARISE.
- ALL PLANTS ARE TO BE THOROUGHLY "WATERED IN" THE SAME DAY AS PLANTED.
- THE PLANT HOLE WIDTH SHALL BE A MINIMUM THREE TIMES THE DIAMETER OF THE ROOT BALL.
- REMOVE ALL STRAPPING AND TWINE FROM ROOT BALL. REMOVE WIRE BASKET AND BURLAP FROM TOP 1/3 OF ROOT BALL BEFORE BACKFILLING AROUND BALL IS COMPLETED.
- ALL TREES WHICH ARE SMOOTH BARKED AT THE TIME OF PLANTING AND HAVE MORE THAN 2' OF ALL TREE WRAPPING SHALL EXTEND FROM THE TOP OF THE BACKFILL TO THE LOWERMOST TREE BRANCHES.
- ALL TREES, WHEN PLANTED, SHALL HAVE THE SAME RELATIONSHIP TO FINISHED GRADE AS TO THE GRADING PLAN.
- LANDSCAPING SHOWN MEETS QUANTITY REQUIREMENTS. ALL INSTALLATION AND MAINTENANCE SHALL BE PER TOWN OF ROLESVILLE LDO.
- ALL ADDITIONAL LANDSCAPING SHALL BE PER OWNER.

**LANDSCAPING REQUIREMENTS**

**PERIMETER BUFFERS**

75 LF PERIMETER BUFFER TYPE 3 ALONG PIN 1758793974  
4 CANOPY TREES PER 100 LF  
2 UNDERSTORY TREES PER 100 LF  
60 SHRUBS PER 100 LF

CANOPY TREES REQUIRED: 3  
CANOPY TREES PROVIDED: 4

UNDERSTORY TREES REQUIRED: 2  
UNDERSTORY TREES PROVIDED: 2

SHRUBS REQUIRED: 45  
SHRUBS PROVIDED: 60

**STREETSCAPE BUFFER**

STREET TREES SHALL BE PLACED AT 40' O.C.

CANOPY TREES PROVIDED: 8

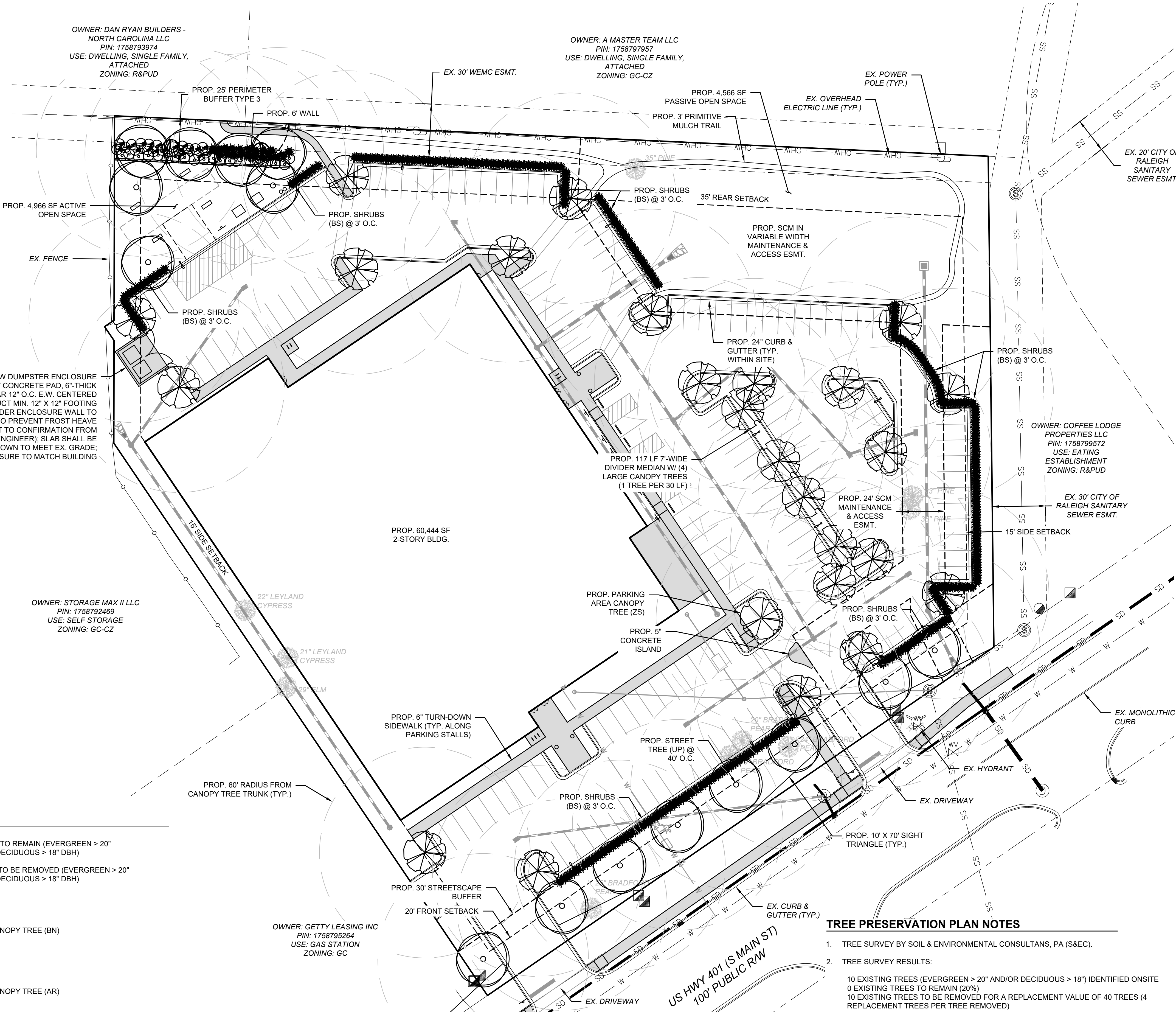
**PARKING LANDSCAPING**

- ALL PARKING SPACES SHALL BE WITHIN 60' FROM THE TRUNK OF A CANOPY TREE
- PARKING PERIMETER SHALL CONSIST OF A SINGLE CONTINUOUS ROW OF SHRUBS NO GREATER THAN 3' ON-CENTER AND WITHIN 5' OF THE PARKING LOT EDGE

CANOPY TREES PROVIDED: 25  
SHRUBS PROVIDED: 240

**LEGEND**

	EX. PROPERTY LINE		EX. TREE TO REMAIN (EVERGREEN > 20" AND/OR DECIDUOUS > 18" DBH)
	EX. RIGHT-OF-WAY		EX. TREE TO BE REMOVED (EVERGREEN > 20" AND/OR DECIDUOUS > 18" DBH)
	EX. ADJACENT OWNERS		PROP. CANOPY TREE (BN)
	EX. EASEMENT		PROP. CANOPY TREE (AR)
	EX. CHAIN LINK FENCE		PROP. UNDERSTORY TREE (CC)
	EX. COMMUNICATIONS LINE		PROP. SHRUB (RV)
	EX. OVERHEAD ELECTRIC LINE		PROP. SHRUB (KL)
	EX. WATER LINE		PROP. SHRUB (RC)
	EX. SANITARY SEWER		PROP. LIGHT POLE
	EX. STORM SEWER		
	PROP. SETBACK LINE		
	PROP. EASEMENT/BUFFER		
	PROP. CONCRETE		
	PROP. WATER LINE		
	PROP. SANITARY SEWER		
	PROP. STORM SEWER		



PLANT LIST					
KEY	SCIENTIFIC NAME	COMMON NAME	QUAN.	CAL.	PLANTING HT.
<b>CANOPY TREES</b>					
BN	BETULA NIGRA	RIVER BIRCH	15	1.5"	8'
AR	ACER RUBRUM	RED MAPLE	25	1.5"	8'
<b>UNDERSTORY TREES</b>					
CC	CERCIS CANADENSIS	EASTERN REDBUD	2	1"	6'
<b>SHRUBS</b>					
RV	RHODODENDRON VASEYI	PINKSHELL AZALEA	260		18"
KL	KALMIA LATIFOLIA	MOUNTAIN LAUREL	20		18"
RC	RHODODENDRON CAROLINIANUM	CAROLINA RHODODENDRON	20		18"

**TREE PRESERVATION PLAN NOTES**

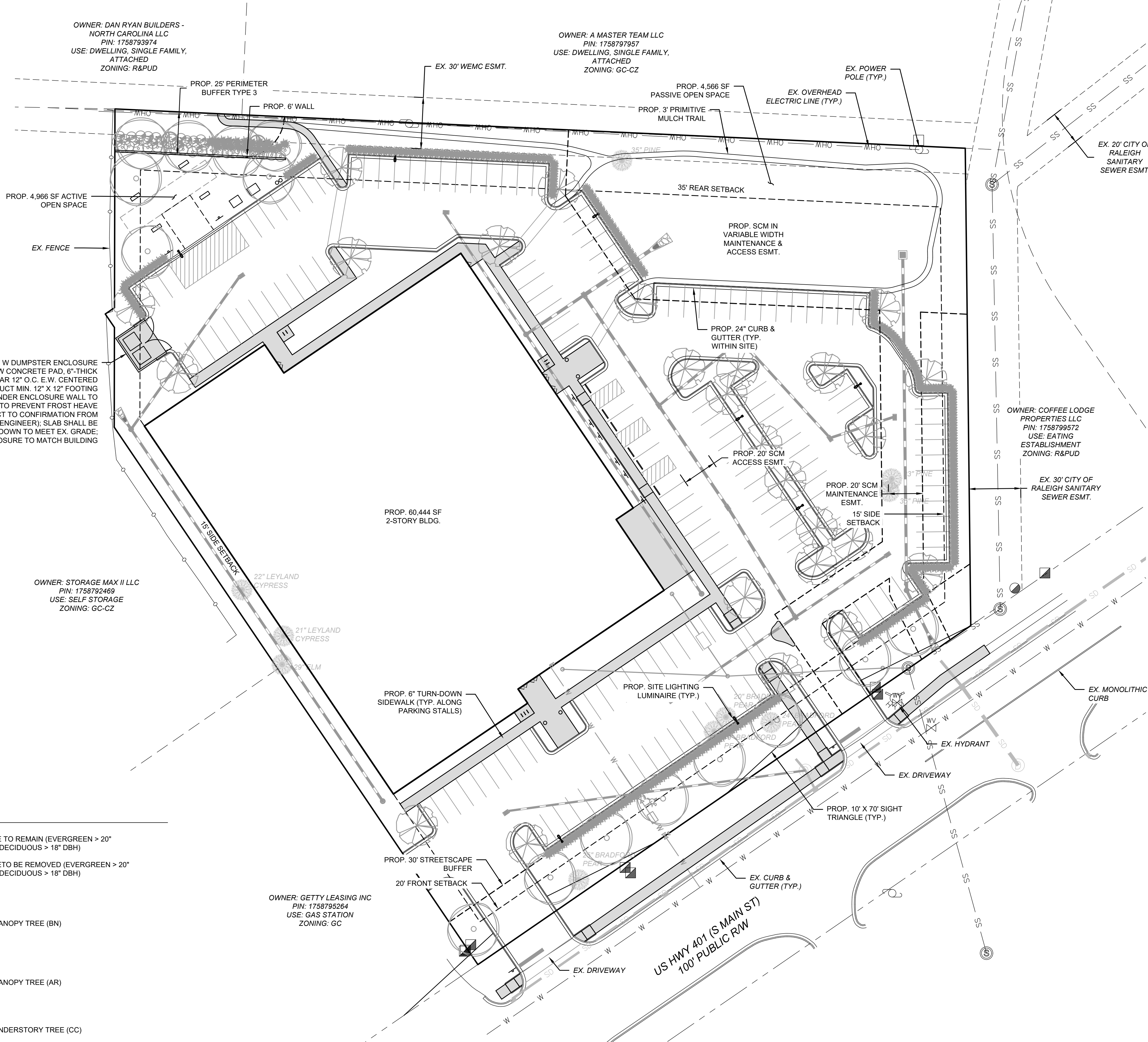
- TREE SURVEY BY SOIL & ENVIRONMENTAL CONSULTANS, PA (S&EC).
- TREE SURVEY RESULTS:  
10 EXISTING TREES (EVERGREEN > 20" AND/OR DECIDUOUS > 18") IDENTIFIED ONSITE  
0 EXISTING TREES TO REMAIN (20%)  
10 EXISTING TREES TO BE REMOVED FOR A REPLACEMENT VALUE OF 40 TREES (4 REPLACEMENT TREES PER TREE REMOVED)
- TREE PRESERVATION CALCULATIONS:  
REQUIRED TREE PRESERVATION: 10% OF EXISTING TREES IN GOOD HEALTH SHALL BE PRESERVED  
PROPOSED TREE PRESERVATION: 0% (PER THE LAND DEVELOPMENT ADMINISTRATOR, PRESERVATION OF BRADFORD PEAR IS NOT PREFERRED BECAUSE IT IS AN INVASIVE SPECIES. THUS, THE BRADFORD PEARS ALONG THE FRONTAGE ARE PROPOSED TO BE REPLACED WITH RIVER BIRCH, WHICH IS ACCEPTED AS MEETING THE PROVISIONS OF LDO SEC. 6.2.4.5.B.
- REPLACEMENT TREE CALCULATIONS:  
REQUIRED REPLACEMENT TREES: 40  
PROPOSED TREES: 40

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**LIGHTING NOTES**

- REFER TO PHOTOMETRIC PLAN, 24-0230A, BY DUKE ENERGY FOR FOOTCANDLE ILLUMINATION AND FIXTURE DETAILS.
- THIS SHEET DOES NOT PROVIDE ELECTRICAL CONNECTIONS FOR FIXTURES SHOWN. SITE DEVELOPERS (OWNERS, BUILDERS, AND GENERAL CONTRACTORS) ARE RESPONSIBLE FOR COORDINATING WITH ELECTRICAL CONTRACTOR OR POWER COMPANY FOR POWER CONNECTIONS FOR ALL FIXTURES.
- ALL SITE LIGHTING SHALL CONFORM TO THE REQUIREMENTS OF THE TOWN OF ROLESVILLE LDO.
- ALL LIGHTING FIXTURES SHALL BE CONSTRUCTED AND DESIGNED TO PREVENT LIGHT FROM EMITTING UPWARDS TOWARD THE DARK NIGHT SKY.
- ALL FIXTURES, EXCEPT FOR STREET LIGHTING FIXTURES, INCLUDING SECURITY LIGHTING, MUST BE CUTOFF FIXTURES. CUTOFF FIXTURES SHALL PROJECT ALL ITS LIGHT IN A DOWNWARD MOTION.
- CANOPY LIGHTING FIXTURES SHALL BE DESIGNED TO BE COMPLETELY RECESSED WITHIN THE CANOPY.
- ALL FIXTURES MUST BE INCORPORATED INTO THE BUILDING OR SITE AS AN INTEGRATED DESIGN ELEMENT THROUGH THE USE OF COMMON OR COMPLEMENTARY STYLE, MATERIAL, AND COLOR.
- WOOD LIGHT POLES ARE PROHIBITED IN RESIDENTIAL SUBDIVISIONS.
- INTERIOR FIXTURES USED TO LIGHT THE INTERIOR OF PARKING GARAGES MUST BE SHIELDED TO PREVENT LIGHT SPILLING FROM THE GARAGE.
- LIGHT FIXTURES ON THE TOP DECK OF A PARKING GARAGE MAY NOT EXCEED FIFTEEN (15) FEET IN HEIGHT AND MUST BE SHIELDED TO PREVENT LIGHT SPILLING FROM THE BOUNDARY OF THE GARAGE DECK. ROOFTOP LIGHTING OF PARKING GARAGES MUST BE SETBACK A MINIMUM FIFTEEN (15) FEET FROM THE PERIMETER OF THE ROOFTOP PARKING STRUCTURE.
- LIGHTING FOR PERMITTED ROOFTOP USES (SUCH AS A RESTAURANT OR LOUNGE) SHALL BE PEDESTRIAN IN SCALE AND NOT EXCEED TWELVE (12) FEET IN HEIGHT (THIS DOES NOT INCLUDE ANY FAA MANDATED LIGHTING). ROOFTOP LIGHTING FIXTURES USED FOR PERMITTED ROOFTOP USES SHALL BE LOCATED TOWARD THE CENTER OF THE ROOFTOP, AWAY FROM ITS EDGES AND NOT FACE OUTWARD. SAFETY LIGHTING MAY BE UTILIZED ALONG WALLS OR RAILS. ALL LIGHTING SHALL BE DESIGNED TO EFFECTIVELY ELIMINATE GLARE. SHIELDED TO PREVENT LIGHT SPILLING OVER THE SIDE OF THE BUILDING, AND SHALL BE TURNED OFF WHEN THE ROOFTOP AREA IS NOT IN USE.
- WALKWAYS, BIKEWAYS, PARKS AND TRAIL LIGHTING, AND PEDESTRIAN FACILITIES SUCH AS BUILDING CONNECTIONS SHALL BE LIT AT A MAXIMUM 0.2 FC.
- WALL PACKS ON BUILDINGS MAY BE USED AT ENTRANCES TO A BUILDING OR TO LIGHT POTENTIALLY UNSAFE AREAS. THEY SHOULD NOT BE INTENDED TO DRAW ATTENTION TO THE BUILDING OR PROVIDE GENERAL BUILDING OR SITE LIGHTING. WALL PACKS SHALL BE FULLY SHIELDED, CUTOFF TYPE FIXTURES WITH CONCEALED LIGHT SOURCES. THE LIGHTING MUST BE DIRECTED DOWNWARD.
- LOADING/UNLOADING DOCKS SHALL ONLY BE ILLUMINATED BY FIXTURES WHICH FEATURE FULL CUTOFF DESIGN AND SHALL BE AFFIXED TO AN OUTSIDE BUILDING WALL OR POLE.
- ALL OUTDOOR LIGHTING FIXTURES NOT MOUNTED ON BUILDINGS (I.E. GROUND BASED) SHALL BE LOCATED A MINIMUM OF TEN (10) FEET FROM A PROPERTY LINE OR RIGHT-OF-WAY LINE AND SHOULD BE NO CLOSER THAN TWO (2) FEET FROM ANY REQUIRED PERIMETER OR STREETSCAPE BUFFER. UNDERGROUNDING SERVICE IS ENCOURAGED.
- LIGHT FIXTURES SHALL NOT EXCEED THIRTY (30) FEET IN HEIGHT IN VEHICLE USE AREAS (SUCH AS RIGHTS-OF-WAY AND PARKING AREAS). ADDITIONAL STANDARDS FOR PARKING AREAS ARE DEFINED IN LDO SECTION 6.6.J: PARKING AREA LIGHTING STANDARDS.
- LIGHT FIXTURES SHALL BE TWELVE (12) TO FIFTEEN (15) FEET IN HEIGHT IN NONVEHICULAR PEDESTRIAN AREAS (SUCH AS SIDEWALKS).
- PARKING AREA LIGHTING STANDARDS: LIGHTING IS REQUIRED WITHIN PARKING AREAS. THE HEIGHT OF LIGHT FIXTURES WITHIN A PARKING AREA SHALL COMPLY WITH THE FOLLOWING STANDARDS:
  - PARKING AREA LIGHTING FIXTURES SHALL BE REQUIRED TO STAGGER THE HEIGHTS OF LIGHT FIXTURES SO THAT THE TALLEST FIXTURES ARE IN THE CENTER OF THE PARKING LOT, AND THE LOWEST HEIGHTS ARE AT THE PERIMETER OF THE PARKING LOT.
  - LIGHT FIXTURES HEIGHT SHALL NOT EXCEED THIRTY (30) FEET WITHIN THE CENTER OF A PARKING AREA AND SHALL DECREASE HEIGHT TO TWELVE (12) TO FIFTEEN (15) FEET AT THE BOUNDARY OF THE PARKING AREA.
  - TO AVOID CONFLICT IN LAYOUT, PARKING LOT LIGHTING MUST BE COORDINATED WITH PARKING AREA LANDSCAPING.
  - LIGHTING DESIGN SHALL BE COORDINATED WITH THE LANDSCAPE PLAN TO ENSURE THAT VEGETATION GROWTH WILL NOT SUBSTANTIALLY IMPAIR THE INTENDED ILLUMINATION.



**LEGEND**

- |           |                            |  |   |
|-----------|----------------------------|--|---|
| ---       | EX. PROPERTY LINE          |  | EX. TREE TO REMAIN (EVERGREEN > 20" AND/OR DECIDUOUS > 18" DBH)     |
| ---       | EX. RIGHT-OF-WAY           |  | EX. TREE TO BE REMOVED (EVERGREEN > 20" AND/OR DECIDUOUS > 18" DBH) |
| ---       | EX. ADJACENT OWNERS        |  | PROP. CANOPY TREE (BN)  |
| ---       | EX. EASEMENT               |  | PROP. CANOPY TREE (AR)  |
| ---       | EX. CHAIN LINK FENCE       |  | PROP. UNDERSTORY TREE (CC)  |
| C - C     | EX. COMMUNICATIONS LINE    |  | PROP. SHRUB (RV)  |
| OHW - OHW | EX. OVERHEAD ELECTRIC LINE |  | PROP. SHRUB (KL)  |
| W - W     | EX. WATER LINE             |  | PROP. SHRUB (RC)  |
| SS - SS   | EX. SANITARY SEWER         |  | PROP. LIGHT POLE  |
| SD - SD   | EX. STORM SEWER            |  |   |
| ---       | PROP. CONCRETE             |  |   |
| ---       | PROP. SETBACK LINE         |  |   |
| ---       | PROP. EASEMENT/BUFFER      |  |   |
| W - W     | PROP. WATER LINE           |  |   |
| SS - SS   | PROP. SANITARY SEWER       |  |   |
| SD - SD   | PROP. STORM SEWER          |  |   |

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 RALEIGH, NORTH CAROLINA 27675  
 PHONE: 919.610.1051  
 FIRM NC LICENSE NUMBER C-4222

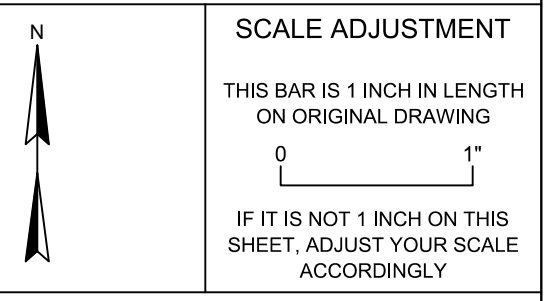


**REVISION HISTORY**

REV #	DESCRIPTION	DATE	BY
1	TRC COMMENTS	7/29/2024	FLM
2	TRC COMMENTS	10/29/2024	FLM
3	TRC COMMENTS	1/2/2025	FLM
4	NCDOT COMMENTS	1/23/2025	FLM
5	SIGNATURE SET	2/17/2025	FLM

ORIGINAL PLAN SIZE: 24" X 36"

SCALE: 1 INCH = 30 FEET



**SITE DEVELOPMENT PLAN SDP-24-05**

PINE GLO  
 414 S MAIN ST  
 ROLESVILLE, NC 27571

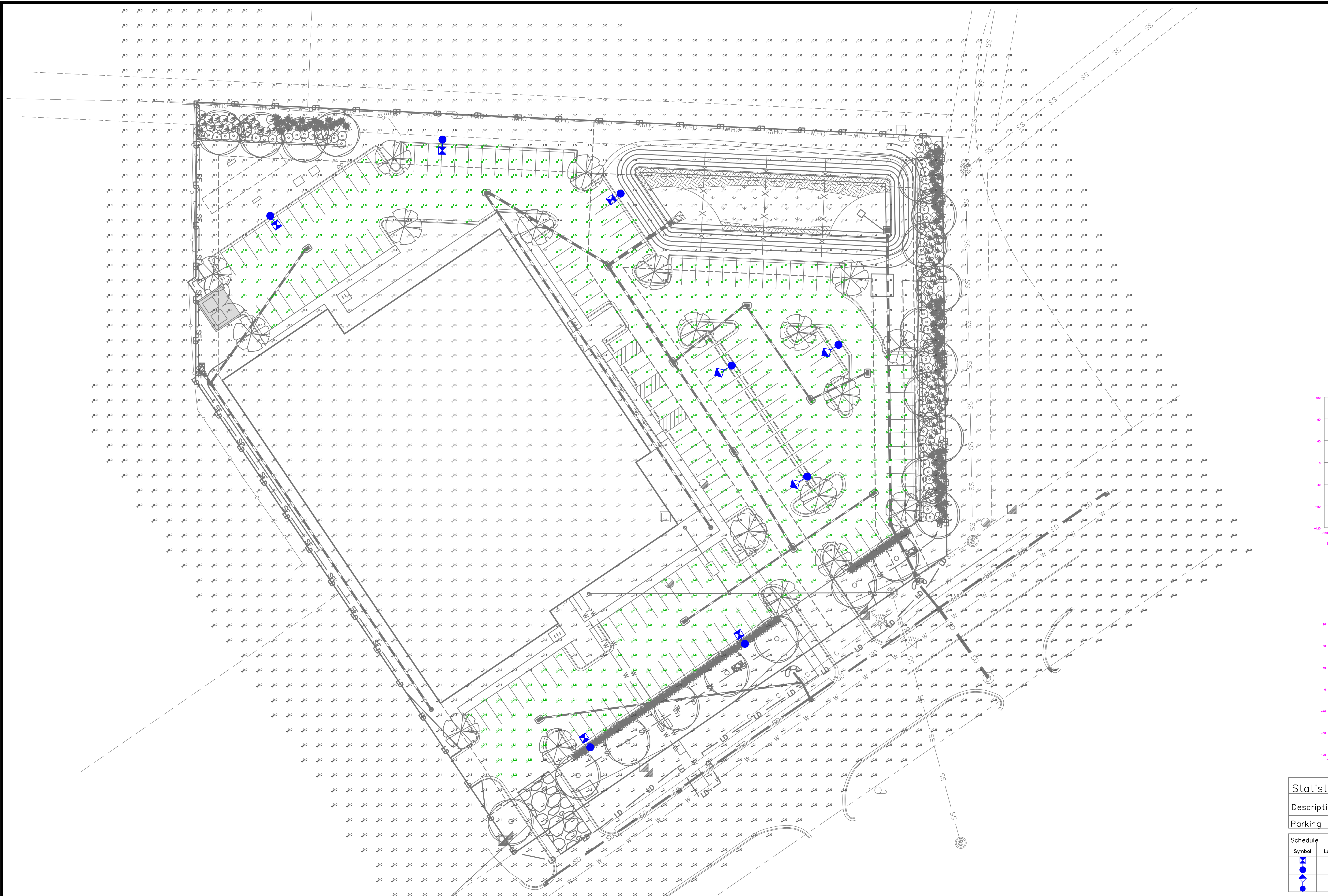
OPTIMAL GLO LLC

DATE:	06-03-2024
SCALE:	AS SHOWN
DESIGNED BY:	FLM
APPROVED BY:	FLM
PROJECT NO.:	24028

**LIGHTING PLAN**

**C-12**  
 SHEET 12 OF 30

ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH ALL TOWN OF ROLESVILLE, CITY OF RALEIGH AND WAKE COUNTY STANDARDS AND SPECIFICATIONS



### Outdoor Lighting

**SHOEBOX LED**  
(Black, Dark Sky Control)

**LED** (Light-emitting diode) 150 | 200 | 420 | 530 watts  
**Mounting height** 25', 30', 35'  
**Color** Black | Bronze | Gray | White  
**Pole** Fiberglass (1 or 2 fixtures per pole)  
 Decorative tapered metal  
 Decorative square metal  
**Applications** Neighborhoods  
 Roadways  
 Shopping centers

**Light source:** LED (white)  
**Wattage:** 150 | 200 | 420 | 530 watts  
**Light pattern:**IES Type V | Type IV (down throw) | Type III  
**IESNA cutoff classification:** Full-cutoff  
**Beam width:** 150W Type III = BS0003 / Type IV = BS0004 / Type V = BS0005  
 200W Type III = BS0004 / Type IV = BS0004 / Type V = BS0005  
 420W Type IV = BS0005 / Type V = BS0005  
 530W Type IV = BS0005 / Type V = BS0005  
**Color temperature:** 4,000K

**POLE AVAILABLE**

POLE AVAILABLE	MOUNTING HEIGHT	COLOR
Round tapered decorative metal*	35'	Black, Bronze
Decorative square metal*	25' and 30'	Black, Bronze, Gray, White
Fiberglass	25' and 30'	Black (1 or 2 fixtures per pole) Gray (1 or 2 fixtures per pole)

**FEATURES**

**Turnkey operation**  
 Little or no installation cost  
 Design services by lighting professionals included  
 Maintenance, electricity & warranty included  
 One low monthly cost on your electric bill

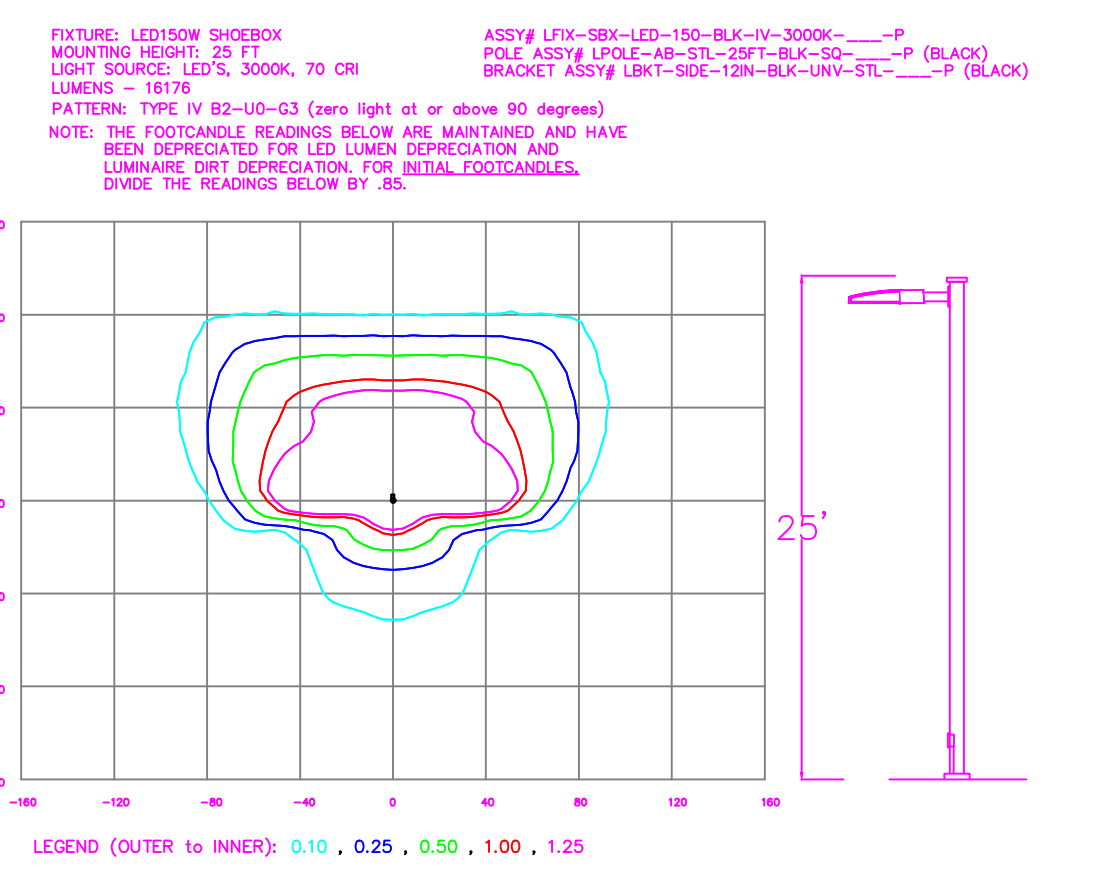
**BENEFITS**

Provides hassle-free installation and service  
 Free-up capital for other projects  
 Meets industry standards and lighting ordinances  
 Eliminates high and unexpected repair bills  
 Convenience and savings for you

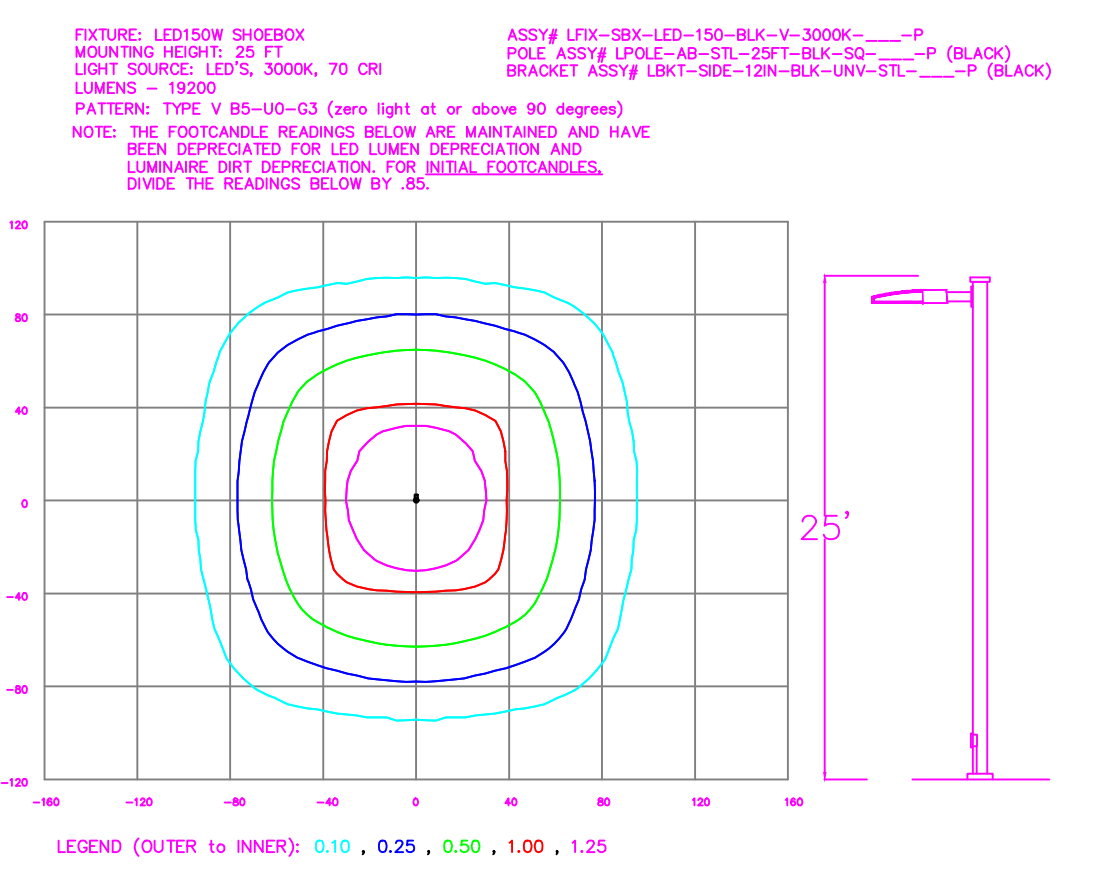
For additional information, email us at [DUKELighting@duke-energy.com](mailto:DUKELighting@duke-energy.com)

**DUKE ENERGY**  
PROGRESS

#### ISOFOOTCANDLE CURVES



#### ISOFOOTCANDLE CURVES

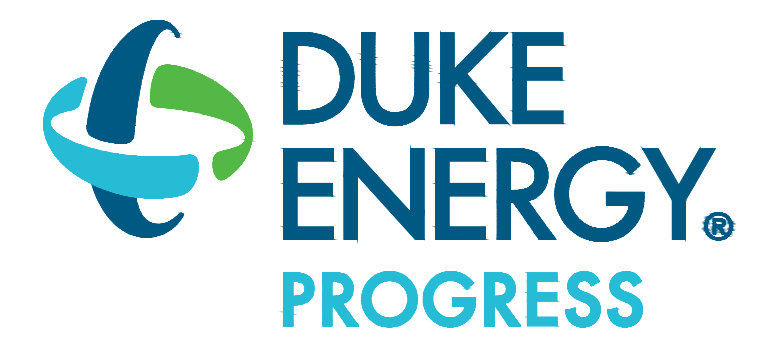


Statistics						
Description	Symbol	Avg	Max	Min	Max/Min	Avg/Min
Parking	✱	1.3 fc	2.9 fc	0.4 fc	7.3:1	3.3:1

Schedule						
Symbol	Label	QTY	Description	Number Lamps	Lamp Output	LLF
●	A	5	LED 150w Shoebox - Type IV - 3000K	48	337	0.85
◆	B	3	LED 150w Shoebox - Type V - 3000K	48	400	0.85

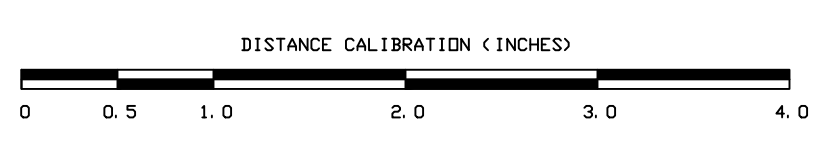
**LIGHTING DESIGN TOLERANCE**

The calculated footcandle light levels in this lighting design are predicted values and are based on specific information that has been supplied to Duke Energy. Any inaccuracies in the supplied information, differences in luminaire installation, lighted area geometry including elevation differences, reflective properties of surrounding surfaces, obstructions (foliage or otherwise) in the lighted area, or lighting from sources other than listed in this design may produce different results from the predicted values. Normal tolerances of voltage, lamp output, and ballast and luminaire manufacture will also affect results.



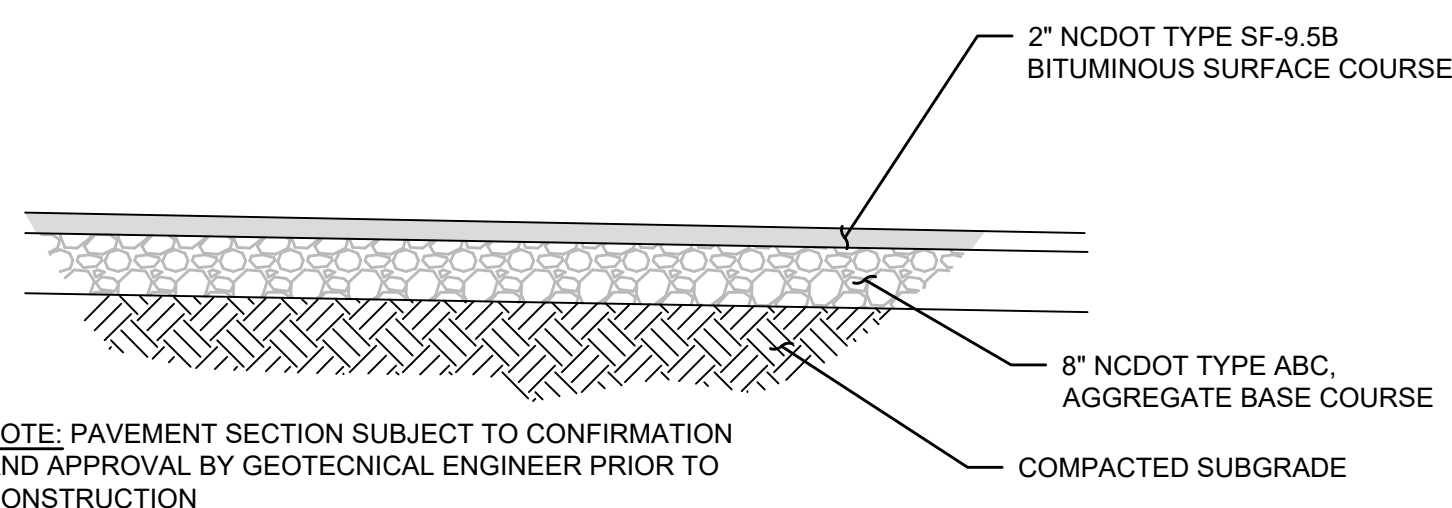
**PROPRIETARY & CONFIDENTIAL**

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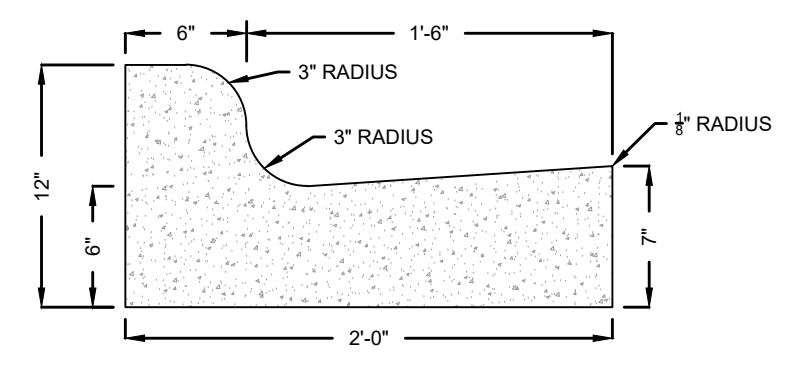
NO.	DATE	REVISION	BY

PINO GLO	
Rolesville, NC	
SITE LIGHTING ARRANGEMENT	
Designed by DUKE ENERGY PROGRESS LIGHTING SOLUTIONS	
Reviewed by N. Johnson	Scale 1" = 30'
Date 06/14/2024	Size Drawing size "D"
Description LED Shoebox	
Drawing No. 24-0239A	Sht. 1 OF 1



**ASPHALT PARKING PAVEMENT SECTION**  
NO SCALE

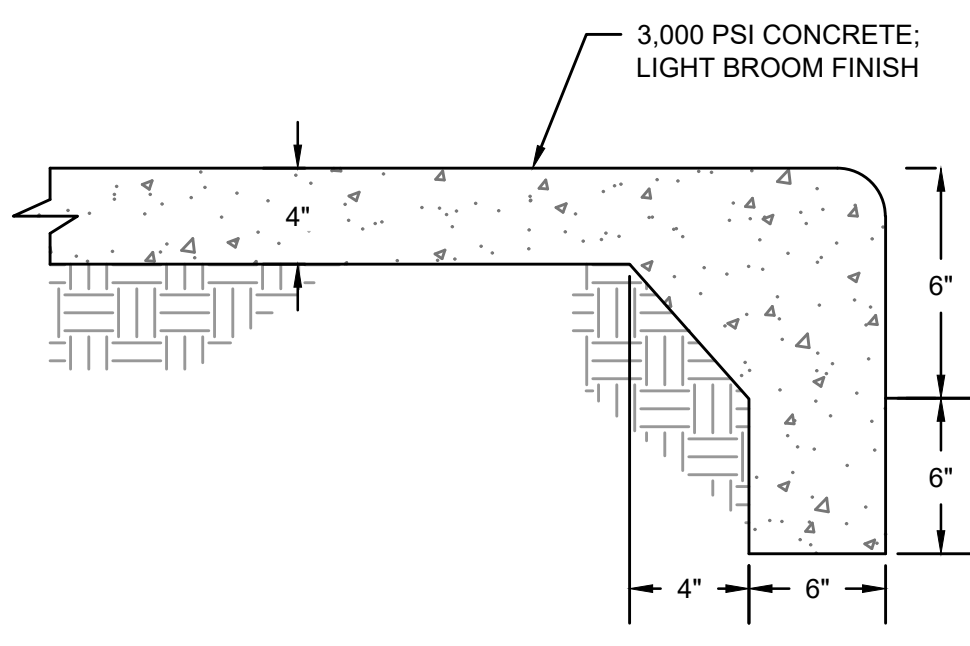
NOTE: PAVEMENT SECTION SUBJECT TO CONFIRMATION AND APPROVAL BY GEOTECHNICAL ENGINEER PRIOR TO CONSTRUCTION



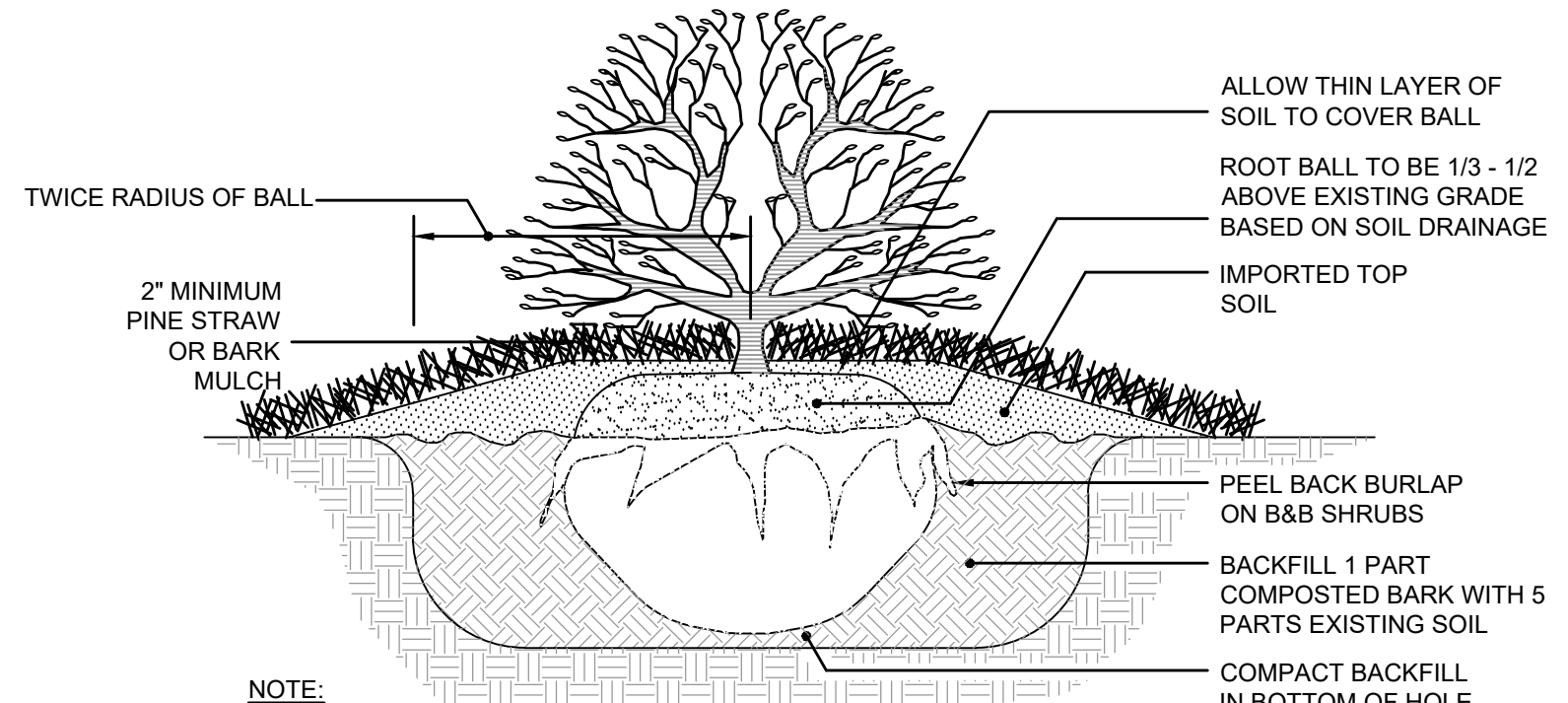
24" STANDARD CURB AND GUTTER

- NOTES:**
1. CONCRETE SHALL BE 3,000 PSI.
  2. CONTRACTION JOINTS SHALL BE SPACED AT 10' INTERVALS OR 15' INTERVALS WHEN A MACHINE IS USED.
  3. EXPANSION JOINTS SHALL BE SPACED AT 50' INTERVALS.
  4. FINISH ALL CONCRETE WITH CURING COMPOUND.
  5. FOLLOW ALL APPLICABLE ACI REQUIREMENTS.

**CONCRETE CURB & GUTTER**  
NO SCALE



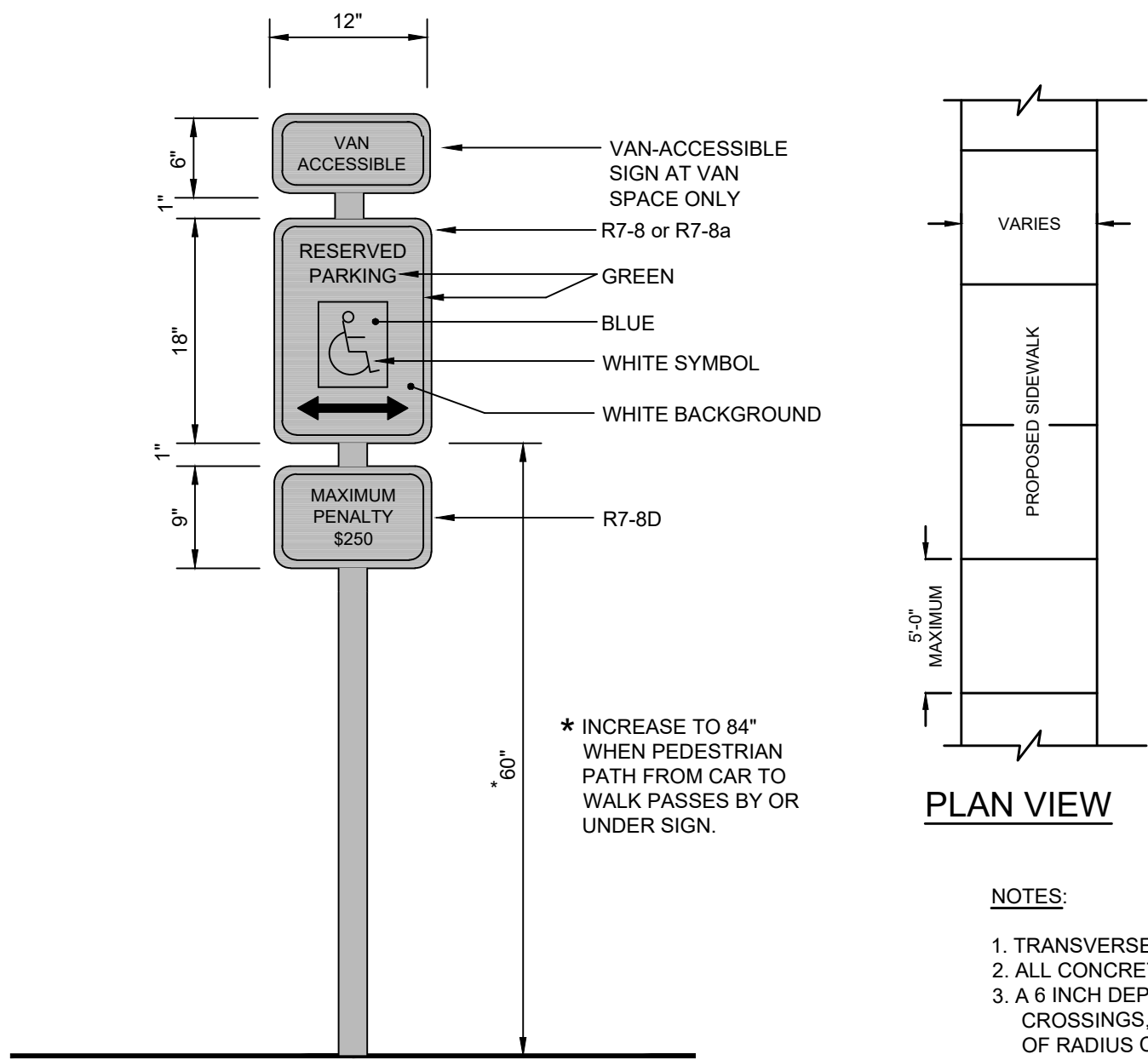
**TURNDOWN SIDEWALK**  
NO SCALE



- NOTE:**
1. ALL SHRUB/EVERGREEN BEDS SHALL BE RAISED 6" - 8" ABOVE ADJACENT GRADE, AND FILLED WITH SOIL CONDITIONER.
  2. ALL SHRUB/EVERGREEN BEDS IN PARKING ISLANDS ONLY SHALL BE RAISED 12" ABOVE ADJACENT GRADE AND FILLED WITH SOIL CONDITIONER.

**TYP. SHRUB/EVERGREEN PLANTING DETAIL**  
NO SCALE

CALL 48 HOURS BEFORE YOU DIG  
**North Carolina 811**  
www.nc811.org  
NORTH CAROLINA ONE-CALL CENTER  
1-800-632-4949



**ADA SIGN AND POST**  
NO SCALE

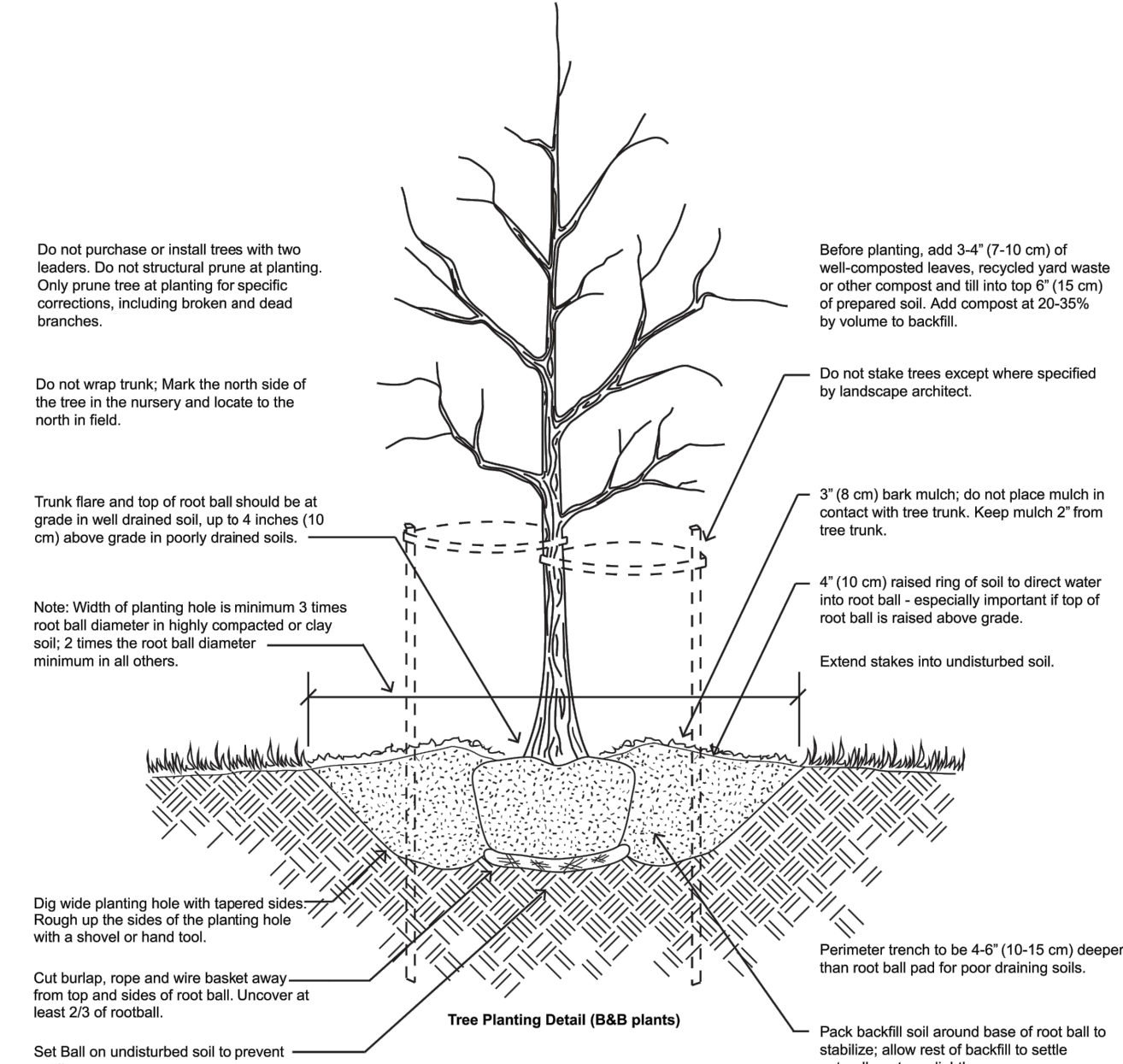
**1-Loop Wave Style Bike Rack - 3 Bike Capacity, Black**



- Upscale stylish look for downtown shopping and business districts.
- For stadiums, parks and athletic fields.
  - 10-gauge steel with attractive powder coating.
  - 2 3/8" diameter bar.
  - Mounting hardware included.

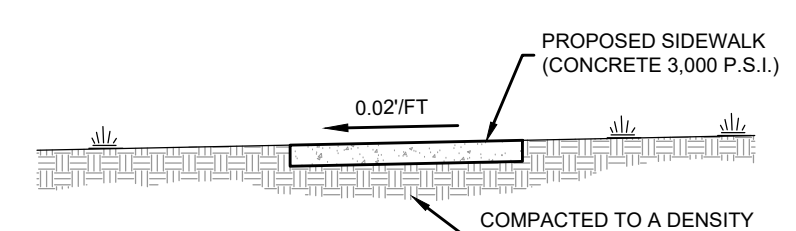
MODEL NO.	DESCRIPTION	SIZE L x W x H	BIKE CAPACITY	WT. (LBS.)	PRICE EACH	COLOR	IN STOCK SHIPS TODAY
H-2892BL	1-Loop	22 x 2 1/2 x 34"	3	27	\$230 \$220	Black *	ADD

**BIKE RACK DETAIL**  
NO SCALE

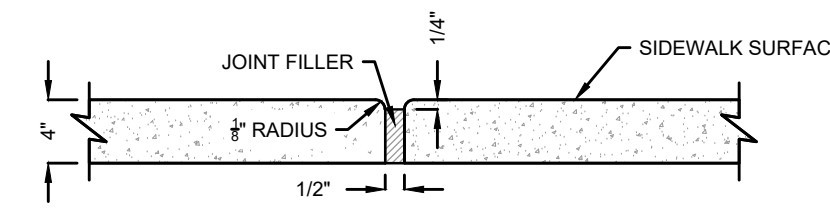


- NOTES:**
1. Where several trees will be planted close together such that they will likely share root space, fill soil amendments to a depth of 4'-6" (10-15cm) over the entire area.
  2. For container grown trees, use fingers or small hand tools to pull the roots out of the outer layer of potting soil; then cut or pull apart any roots circling the perimeter of the container.
  3. During the design phase, confirm that water drains out of the soil; use lowered planting hole depth and design alternative drainage system as required.
  4. Thoroughly soak the tree root ball and adjacent prepared soil several times during the first month after planting and regularly throughout the following two summers.
  5. The planting process is similar for deciduous and evergreen trees.

**TREE PLANTING DETAIL**  
NO SCALE



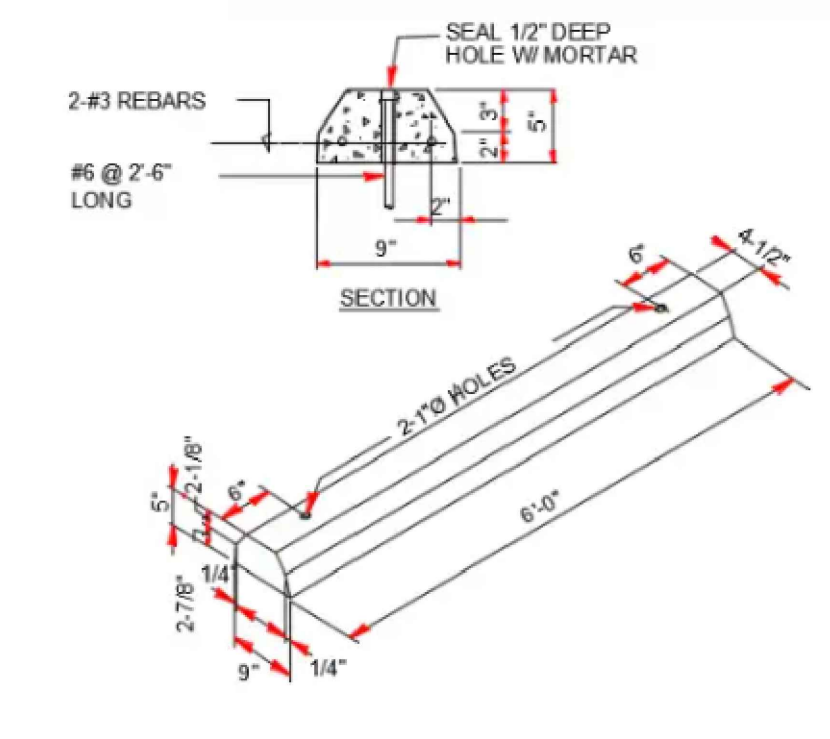
**TYPICAL SECTION**



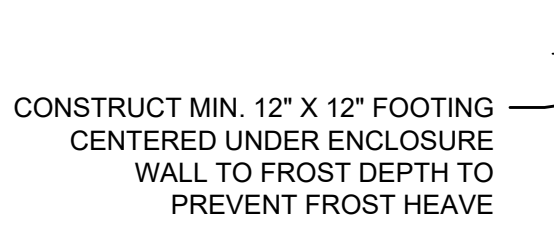
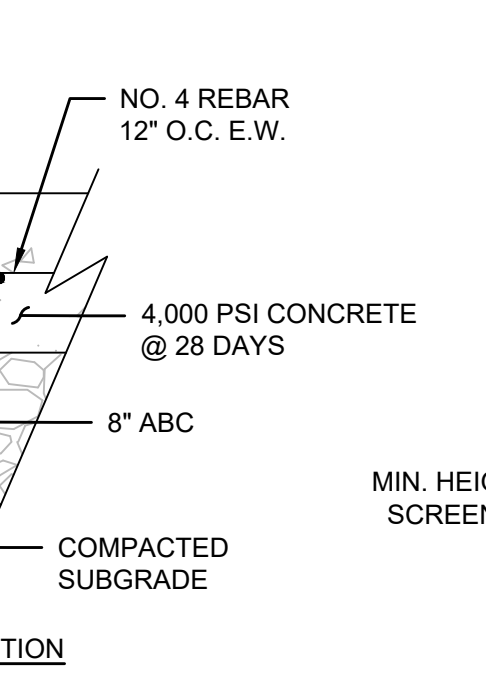
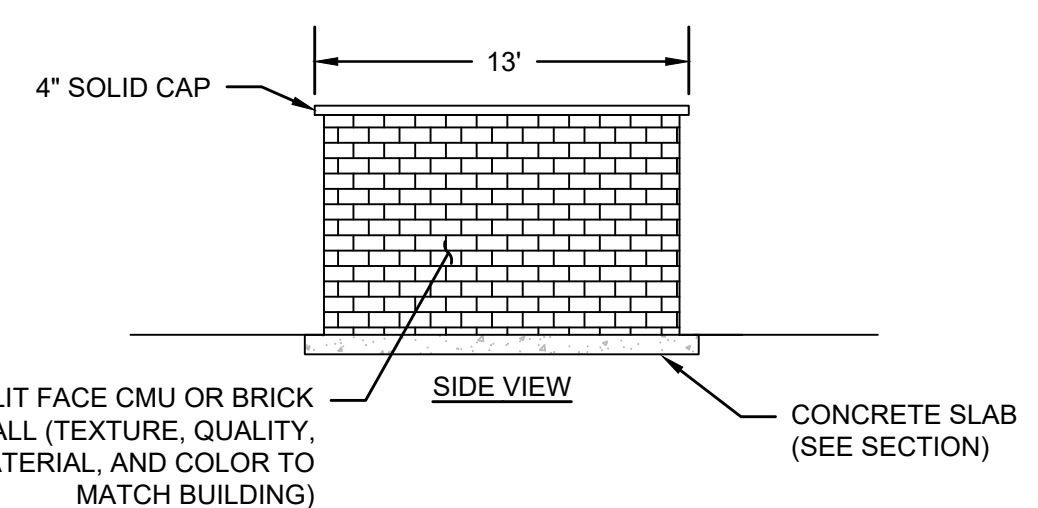
**TRANSVERSE EXPANSION JOINT**

- NOTES:**
1. TRANSVERSE EXPANSION JOINTS TO BE A MAXIMUM OF 5 FEET.
  2. ALL CONCRETE TO BE FINISHED WITH CURING COMPOUND.
  3. A 6 INCH DEPTH IS REQUIRED AT LOCATIONS OF DRIVEWAY CROSSINGS, AT STREET INTERSECTIONS (ALONG THE LENGTH OF RADIUS CURB RETURNS), AND IN THE HANDICAP RAMPS.

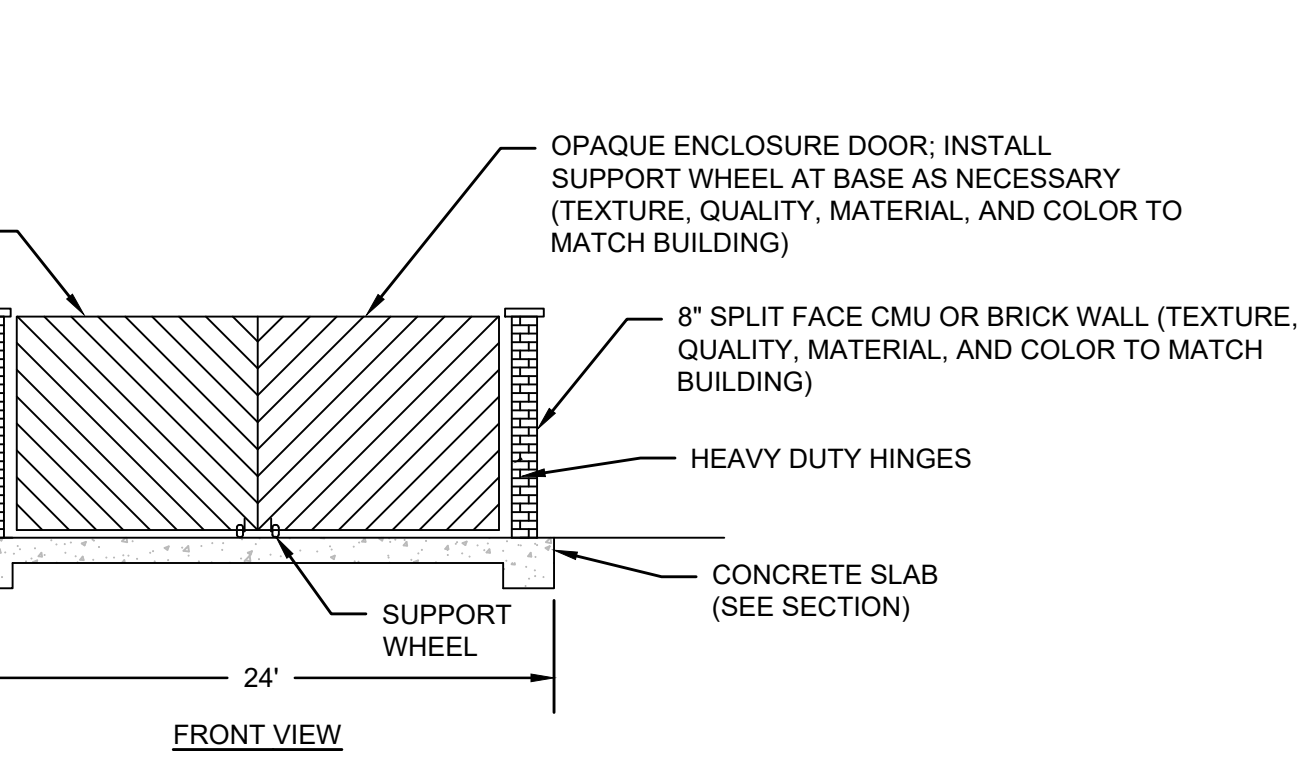
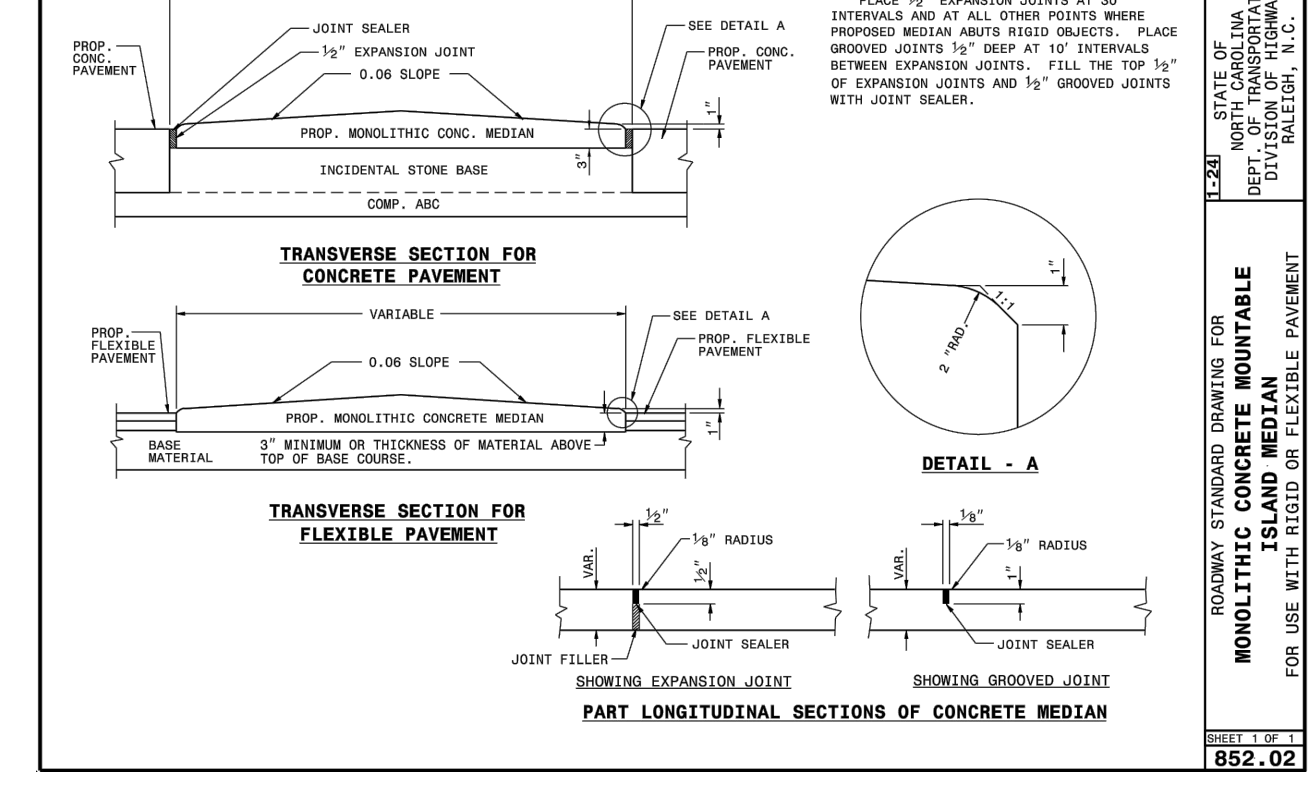
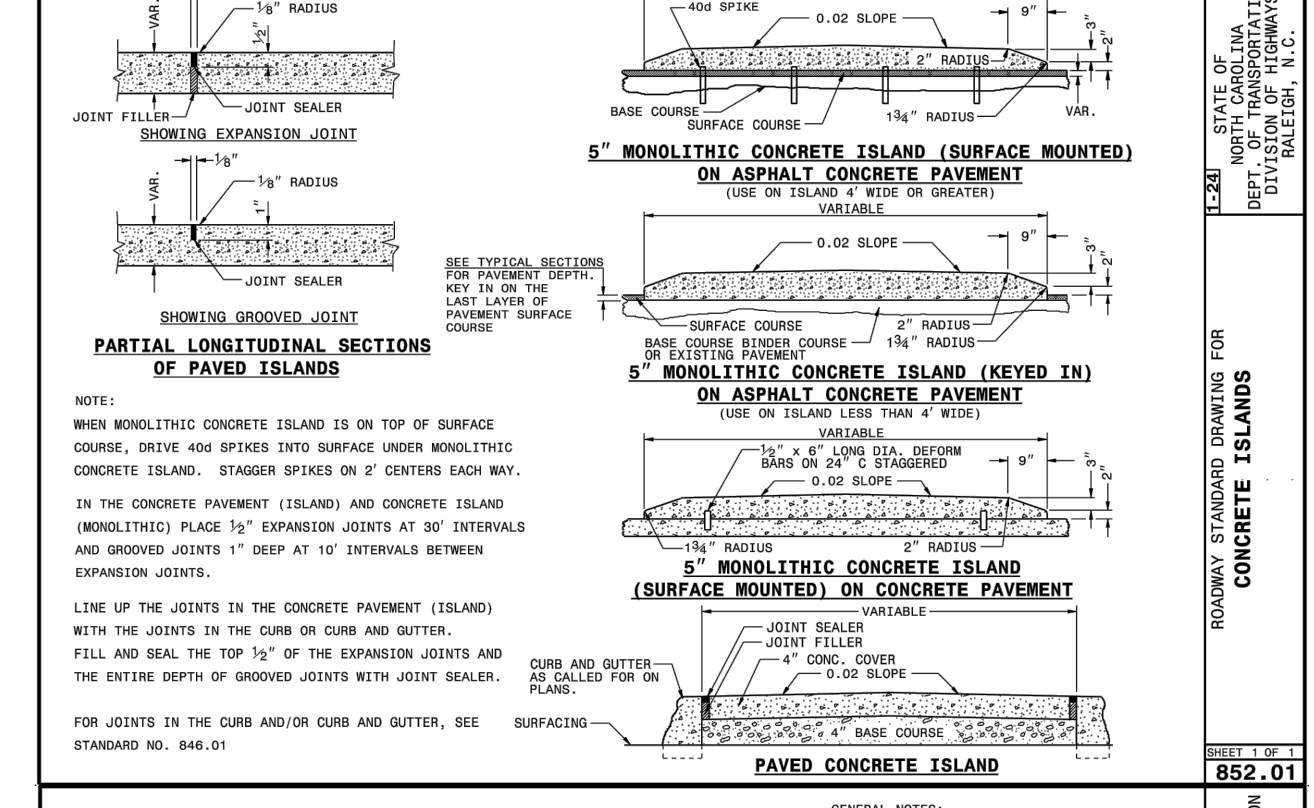
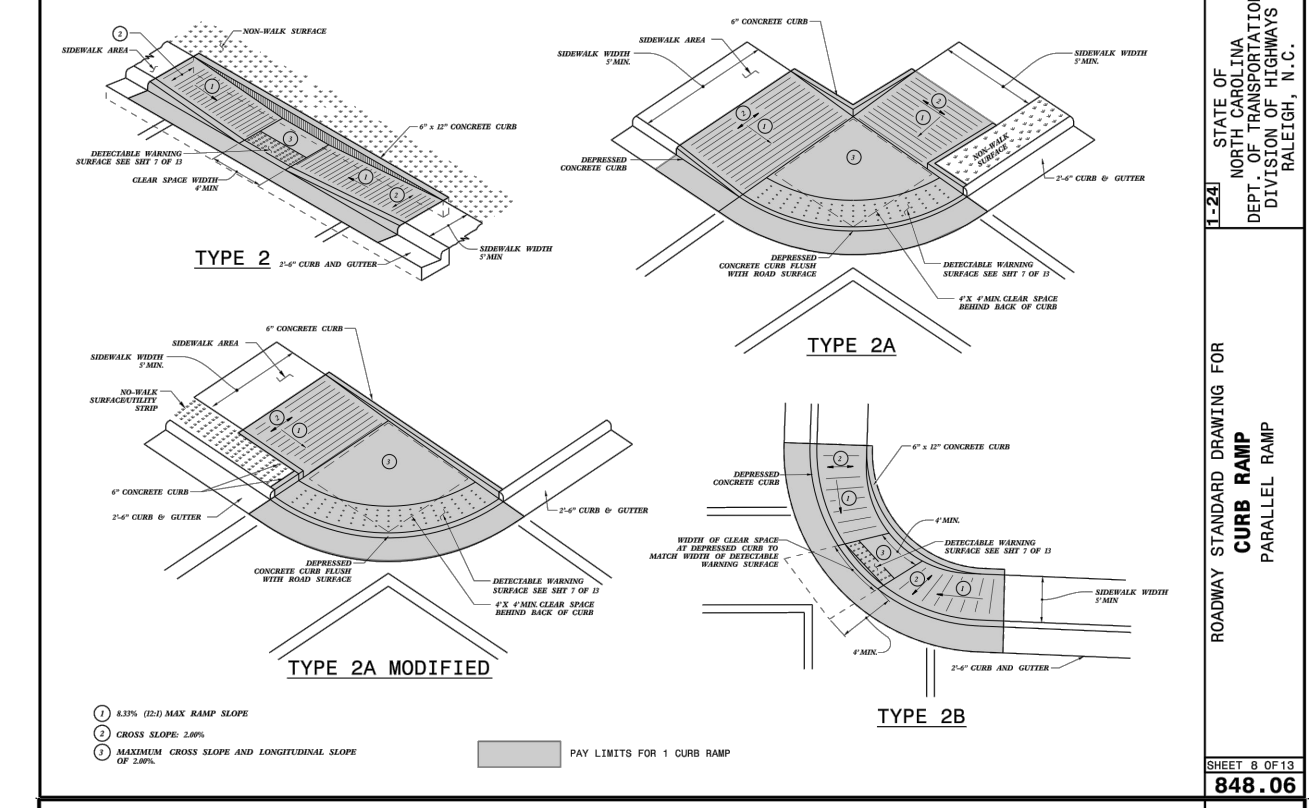
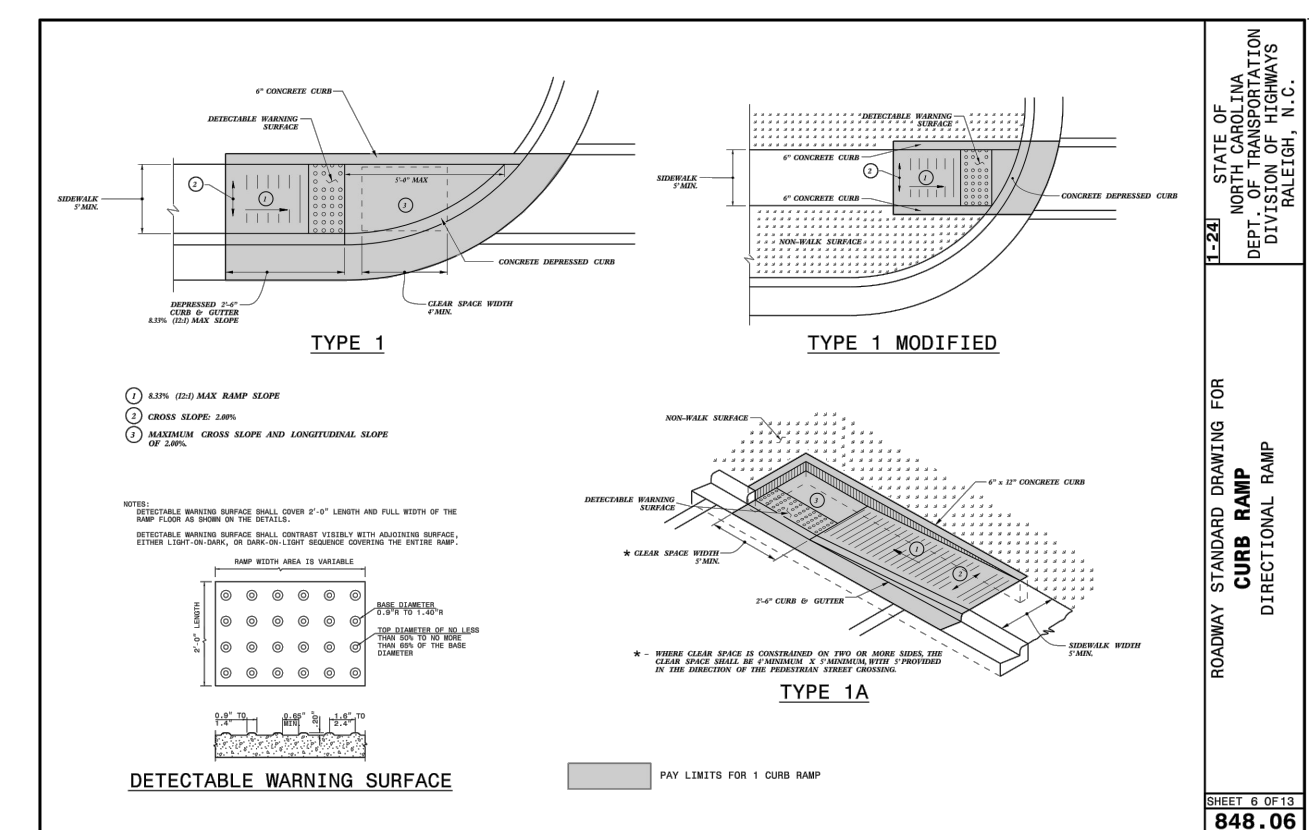
**CONCRETE SIDEWALK**  
NO SCALE



**PRE-CAST CONCRETE WHEEL STOP DETAIL**  
NO SCALE



**DUMPSTER SLAB AND ENCLOSURE**  
NO SCALE



STATE OF NORTH CAROLINA  
DEPT. OF TRANSPORTATION  
DIVISION OF HIGHWAY DESIGN & CONSTRUCTION  
HAULDRON, N.C.

ROADWAY STANDARD DRAWING FOR CURB RAMP  
848-06

ROADWAY STANDARD DRAWING FOR CURB RAMP  
848-06

ROADWAY STANDARD DRAWING FOR CONCRETE ISLANDS  
852-01

ROADWAY STANDARD DRAWING FOR MONOLITHIC CONCRETE MOUNTABLE CURB RAMP  
852-02



POST OFFICE BOX 91727  
RALEIGH, NORTH CAROLINA 27675  
PHONE: 919.610.1051  
FIRM NC LICENSE NUMBER C-4222



REVISION HISTORY

REV #	DESCRIPTION	DATE	BY
1	TRC COMMENTS	7/29/2024	FLM
2	TRC COMMENTS	10/29/2024	FLM
3	TRC COMMENTS	1/2/2025	FLM
4	NCDOT COMMENTS	1/23/2025	FLM
5	SIGNATURE SET	2/17/2025	FLM

ORIGINAL PLAN SIZE: 24" X 36"

SCALE ADJUSTMENT  
THIS BAR IS 1 INCH IN LENGTH ON ORIGINAL DRAWING  
IF IT IS NOT 1 INCH ON THIS SHEET, ADJUST YOUR SCALE ACCORDINGLY

SITE DEVELOPMENT PLAN  
SDP-24-05

PINE GLO  
414 S MAIN ST  
ROLESVILLE, NC 27571

OPTIMAL GLO LLC

DATE:	06-03-2024
SCALE:	AS SHOWN
DESIGNED BY:	FLM
APPROVED BY:	FLM
PROJECT NO.:	24028

SITE DETAILS

**C-14**  
SHEET 14 OF 30

ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH ALL TOWN OF ROLESVILLE, CITY OF RALEIGH AND WAKE COUNTY STANDARDS AND SPECIFICATIONS



REVISION HISTORY			
REV #	DESCRIPTION	DATE	BY
1	TRC COMMENTS	7/29/2024	FLM
2	TRC COMMENTS	10/29/2024	FLM
3	TRC COMMENTS	1/2/2025	FLM
4	NCDOT COMMENTS	1/23/2025	FLM
5	SIGNATURE SET	2/17/2025	FLM

ORIGINAL PLAN SIZE: 24" X 36"

**SCALE ADJUSTMENT**  
THIS BAR IS 1 INCH IN LENGTH ON ORIGINAL DRAWING  
0 1"  
IF IT IS NOT 1 INCH ON THIS SHEET, ADJUST YOUR SCALE ACCORDINGLY

**SITE DEVELOPMENT PLAN**  
SDP-24-05  
  
PINE GLO  
414 S MAIN ST  
ROLESVILLE, NC 27571

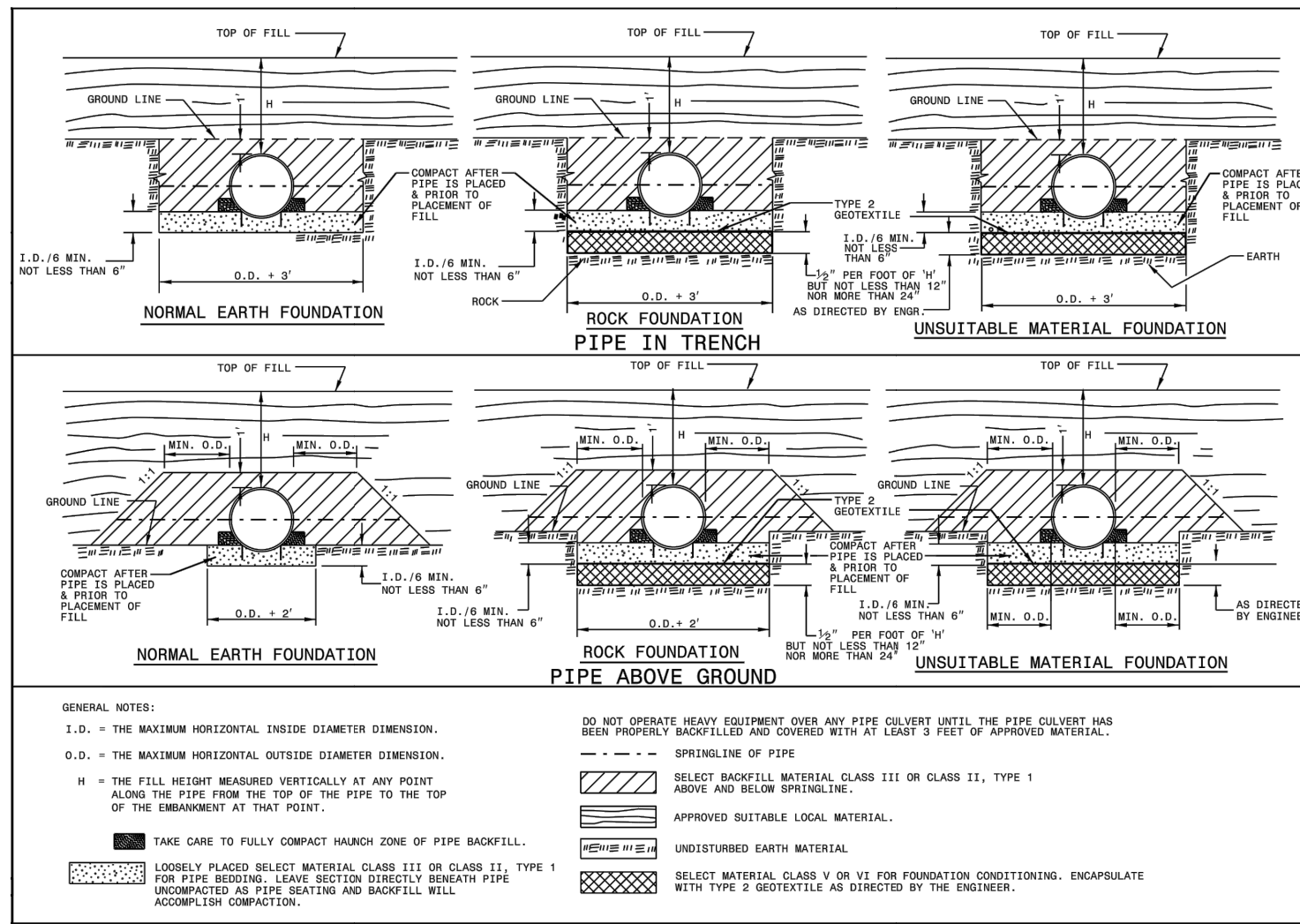
OPTIMAL GLO LLC

DATE:	06-03-2024
SCALE:	AS SHOWN
DESIGNED BY:	FLM
APPROVED BY:	FLM
PROJECT NO.:	24028

STORM DRAINAGE DETAILS

# C-15

SHEET 15 OF 30



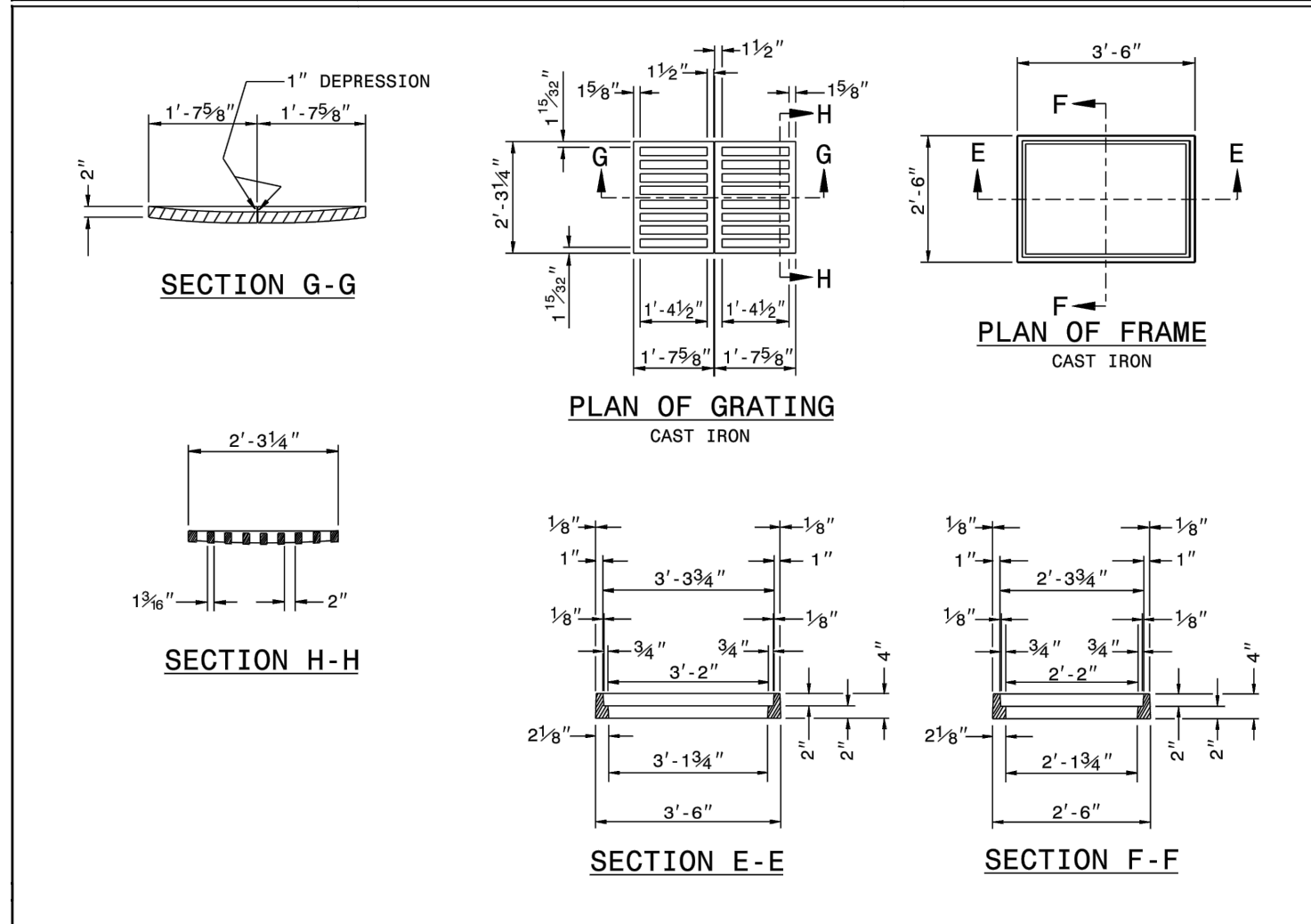
### FLEXIBLE PIPE

Round Corrugated Steel Pipe 2 1/2" x 1/8" CORRUGATION					
Diameter (Inches)	Minimum cover (Inches)	Maximum height of cover (feet)	Diameter (Inches)		
12	12	204	18	12	125
15	12	204	24	12	125
18	12	160	30	12	125
21	12	115	36	12	125
24	12	100	42	12	125
30	12	79	48	12	125
36	12	65	54	12	125
42	12	55	60	12	125
48	12	48	66	12	125
54	12	42	72	12	125
60	12	38	78	12	125
66	12	34	84	12	125
72	12	31	90	12	125
78	12	28	96	12	125
84	12	26	102	12	125

Round Corrugated Aluminum Pipe 2 1/2" x 1/8" CORRUGATION					
Diameter (Inches)	Minimum cover (Inches)	Maximum height of cover (feet)	Diameter (Inches)		
15	12	125	21	12	125
18	12	98	24	12	125
21	12	87	27	12	125
24	12	80	30	12	125
27	12	75	33	12	125
30	12	71	36	12	125
33	12	68	39	12	125
36	12	65	42	12	125
39	12	63	45	12	125
42	12	61	48	12	125
45	12	59	51	12	125
48	12	57	54	12	125
51	12	56	57	12	125
54	12	55	60	12	125
57	12	54	63	12	125
60	12	53	66	12	125
63	12	52	69	12	125
66	12	51	72	12	125
69	12	50	75	12	125
72	12	49	78	12	125
75	12	48	81	12	125
78	12	47	84	12	125
81	12	46	87	12	125
84	12	45	90	12	125

GENERAL NOTES:  
DO NOT OPERATE HEAVY EQUIPMENT OVER ANY PIPE UNLESS THE PIPE IS PROPERLY SUPPORTED AND COVERED WITH AT LEAST 3 FEET OF APPROVED MATERIAL.  
MINIMUM FILL HEIGHTS ARE SHOWN IN THIS TABLE.  
FOR DIFFERENT CORRUGATIONS AND ARCH PIPES REFER TO ROADWAY DESIGN MANUAL OR MANUFACTURER'S SPECIFICATION.  
REFER TO THE FOLLOWING FOR PIPE SPECIFICATIONS:  
CSF - AASHTO M38  
CMP - AASHTO M196  
HOPE - AASHTO M304  
PVC - ASTM F840 or AASHTO M204  
NOTES: FILL HEIGHTS SHOWN WERE CALCULATED USING AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS  
1" MINIMUM COVER FOR ALL SIZE DRAIN PIPES IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS



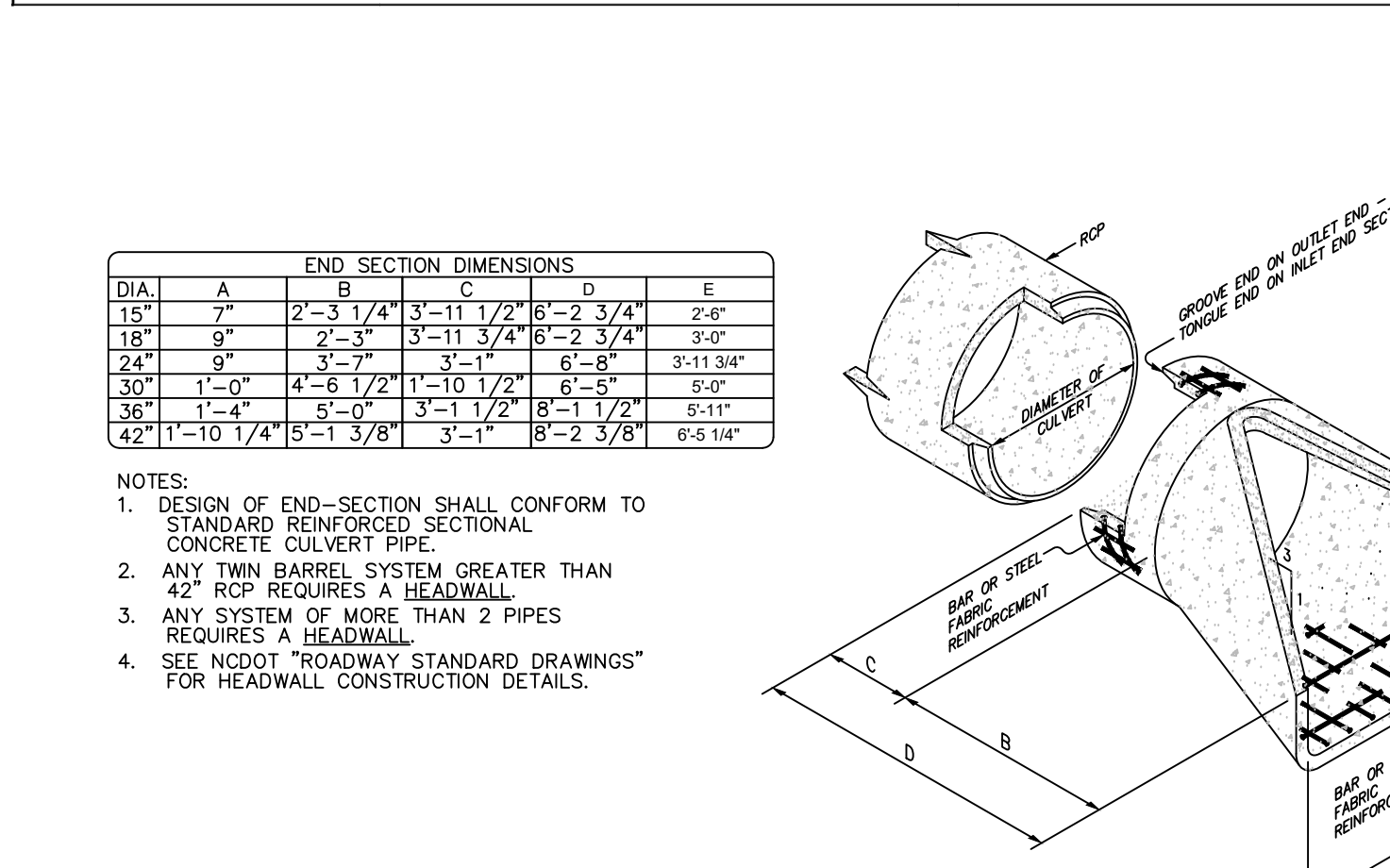
### RIGID PIPE

Round Corrugated Steel Pipe 2 1/2" x 1/8" CORRUGATION					
Diameter (Inches)	Minimum cover (Inches)	Maximum height of cover (feet)	Diameter (Inches)		
12	12	204	18	12	125
15	12	204	24	12	125
18	12	160	30	12	125
21	12	115	36	12	125
24	12	100	42	12	125
30	12	79	48	12	125
36	12	65	54	12	125
42	12	55	60	12	125
48	12	48	66	12	125
54	12	42	72	12	125
60	12	38	78	12	125
66	12	34	84	12	125
72	12	31	90	12	125
78	12	28	96	12	125
84	12	26	102	12	125

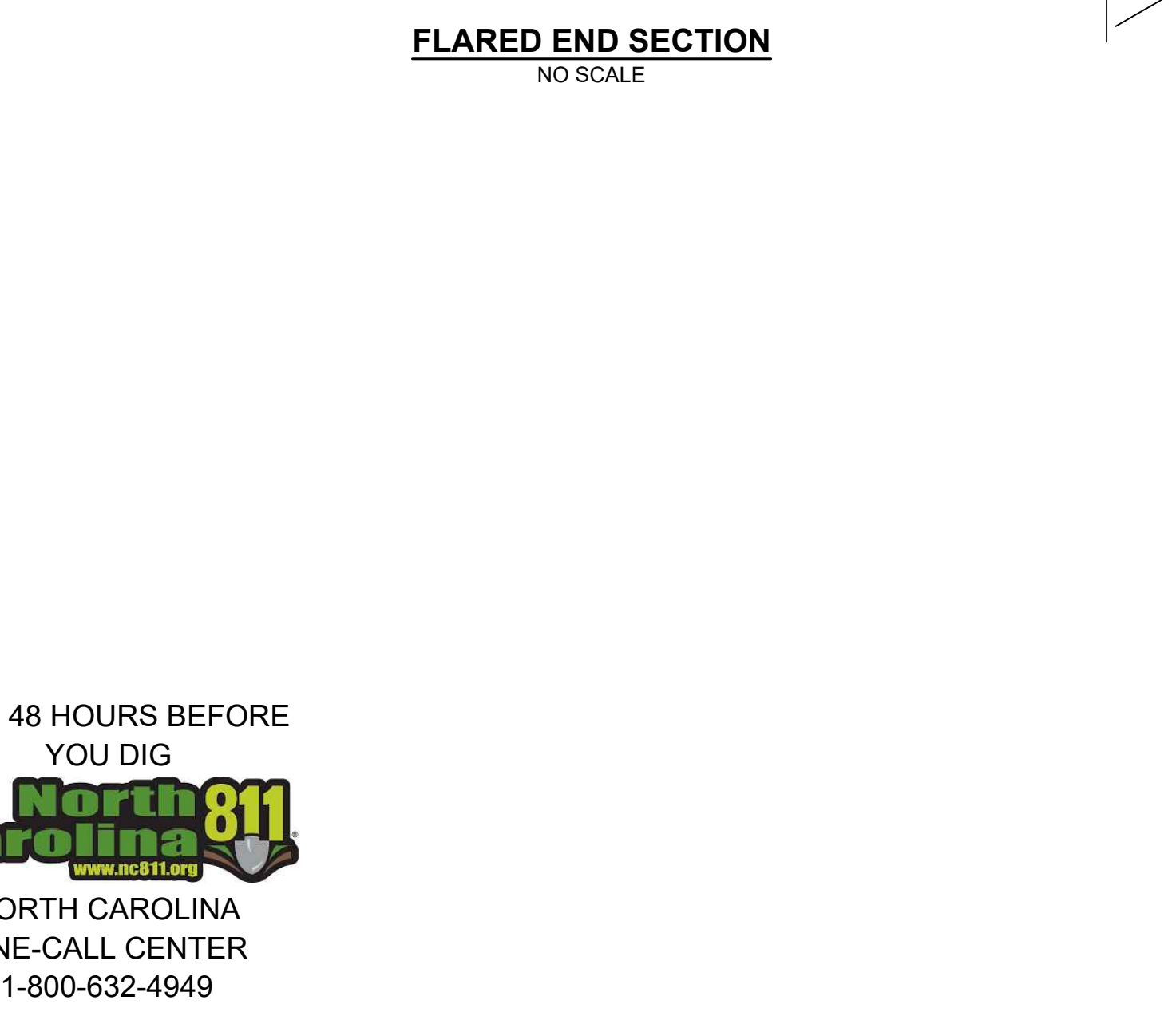
Round Corrugated Aluminum Pipe 2 1/2" x 1/8" CORRUGATION					
Diameter (Inches)	Minimum cover (Inches)	Maximum height of cover (feet)	Diameter (Inches)		
15	12	125	21	12	125
18	12	98	24	12	125
21	12	87	27	12	125
24	12	80	30	12	125
27	12	75	33	12	125
30	12	71	36	12	125
33	12	68	39	12	125
36	12	65	42	12	125
39	12	63	45	12	125
42	12	61	48	12	125
45	12	59	51	12	125
48	12	57	54	12	125
51	12	56	57	12	125
54	12	55	60	12	125
57	12	54	63	12	125
60	12	53	66	12	125
63	12	52	69	12	125
66	12	51	72	12	125
69	12	50	75	12	125
72	12	49	78	12	125
75	12	48	81	12	125
78	12	47	84	12	125
81	12	46	87	12	125
84	12	45	90	12	125

GENERAL NOTES:  
DO NOT OPERATE HEAVY EQUIPMENT OVER ANY PIPE UNLESS THE PIPE IS PROPERLY SUPPORTED AND COVERED WITH AT LEAST 3 FEET OF APPROVED MATERIAL.  
MINIMUM FILL HEIGHTS ARE SHOWN IN THIS TABLE.  
FOR DIFFERENT CORRUGATIONS AND ARCH PIPES REFER TO ROADWAY DESIGN MANUAL OR MANUFACTURER'S SPECIFICATION.  
REFER TO THE FOLLOWING FOR PIPE SPECIFICATIONS:  
RCF - AASHTO M170  
NOTES: FILL HEIGHTS SHOWN WERE CALCULATED USING AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS  
1" MINIMUM COVER FOR ALL SIZE DRAIN PIPES IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS



### CONCRETE MANHOLE FRAME AND COVER

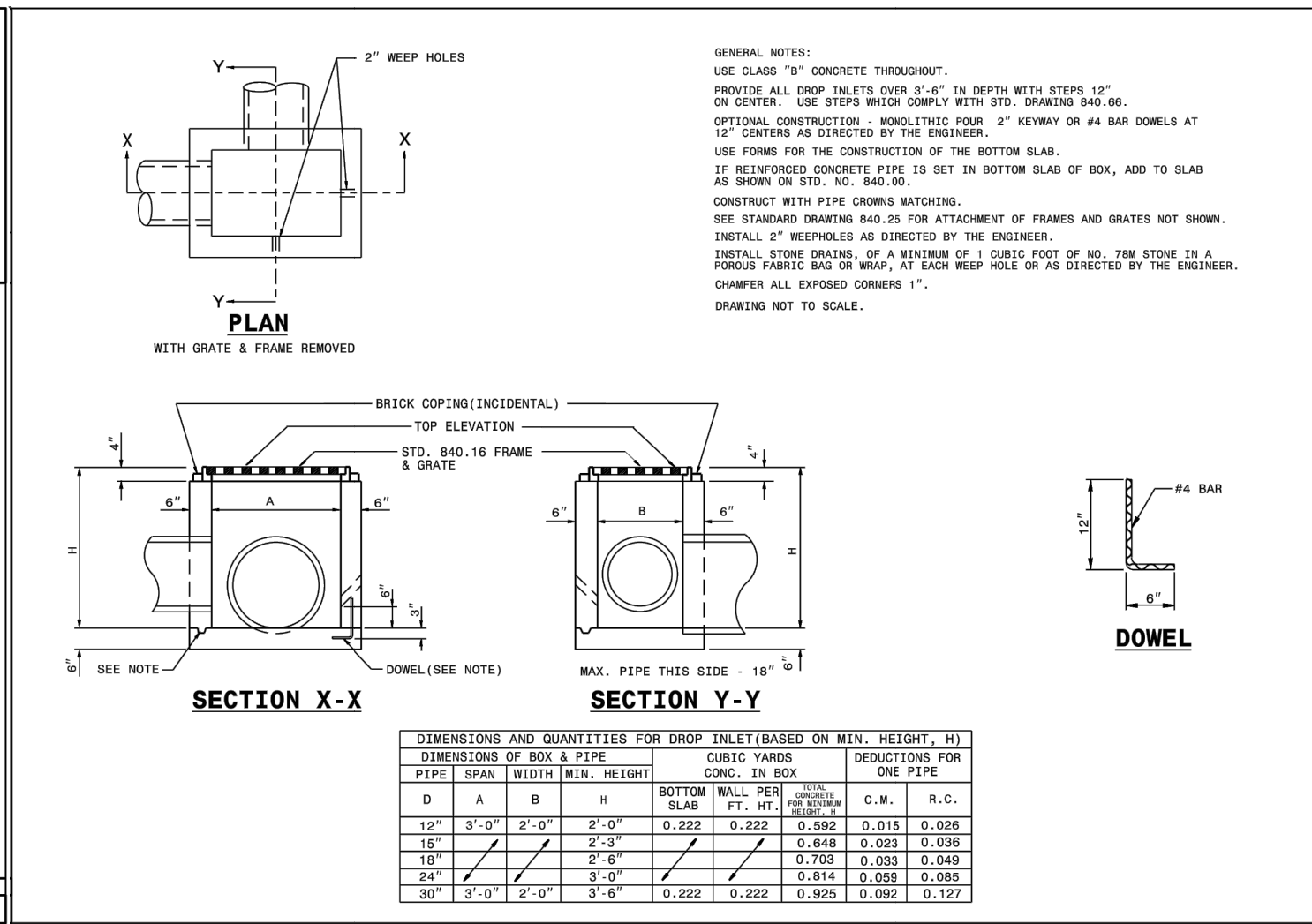
PIPE SPAN	WIDTH	HEIGHT	REINFORCEMENT BARS "A"		TOP SLAB DIMENSIONS		CONCRETE WEIGHTS		TOTAL WEIGHTS		REMARKS	
			NO.	LENGTH	E	F	TOP SLAB	FR. OF FT.	FR. OF FT.	FR. OF FT.	C.S.	R.C.
18"	2'-0"	2'-0"	2	3'-0"	3'-0"	0.167	0.167	0.168	22	0.700	0.019	0.024
18"	2'-0"	2'-0"	2	3'-0"	3'-0"	0.198	0.198	0.204	24	0.700	0.029	0.038
18"	2'-0"	2'-0"	2	3'-0"	3'-0"	0.227	0.227	0.232	25	1.085	0.033	0.049
24"	3'-0"	3'-0"	3	4'-0"	4'-0"	0.256	0.256	0.268	40	1.434	0.059	0.085
24"	3'-0"	3'-0"	3	4'-0"	4'-0"	0.315	0.315	0.326	51	1.880	0.082	0.127
30"	4'-0"	4'-0"	4	5'-0"	5'-0"	0.463	0.463	0.530	84	2.341	0.132	0.178
30"	4'-0"	4'-0"	4	5'-0"	5'-0"	0.500	0.500	0.570	77	2.878	0.180	0.253
36"	5'-0"	5'-0"	5	6'-0"	6'-0"	0.743	0.743	0.807	111	3.623	0.238	0.317
36"	5'-0"	5'-0"	5	6'-0"	6'-0"	0.805	0.805	0.844	126	4.283	0.287	0.401
42"	6'-0"	6'-0"	6	7'-0"	7'-0"	1.042	1.042	1.081	145	5.089	0.387	0.495
42"	6'-0"	6'-0"	6	7'-0"	7'-0"	1.210	1.210	1.258	169	5.917	0.444	0.589



ROADWAY STANDARD DRAWING FOR METHOD OF PIPE INSTALLATION FLEXIBLE PIPE SHEET 15 OF 300.01

ROADWAY STANDARD DRAWING FOR METHOD OF PIPE INSTALLATION RIGID PIPE SHEET 15 OF 300.01

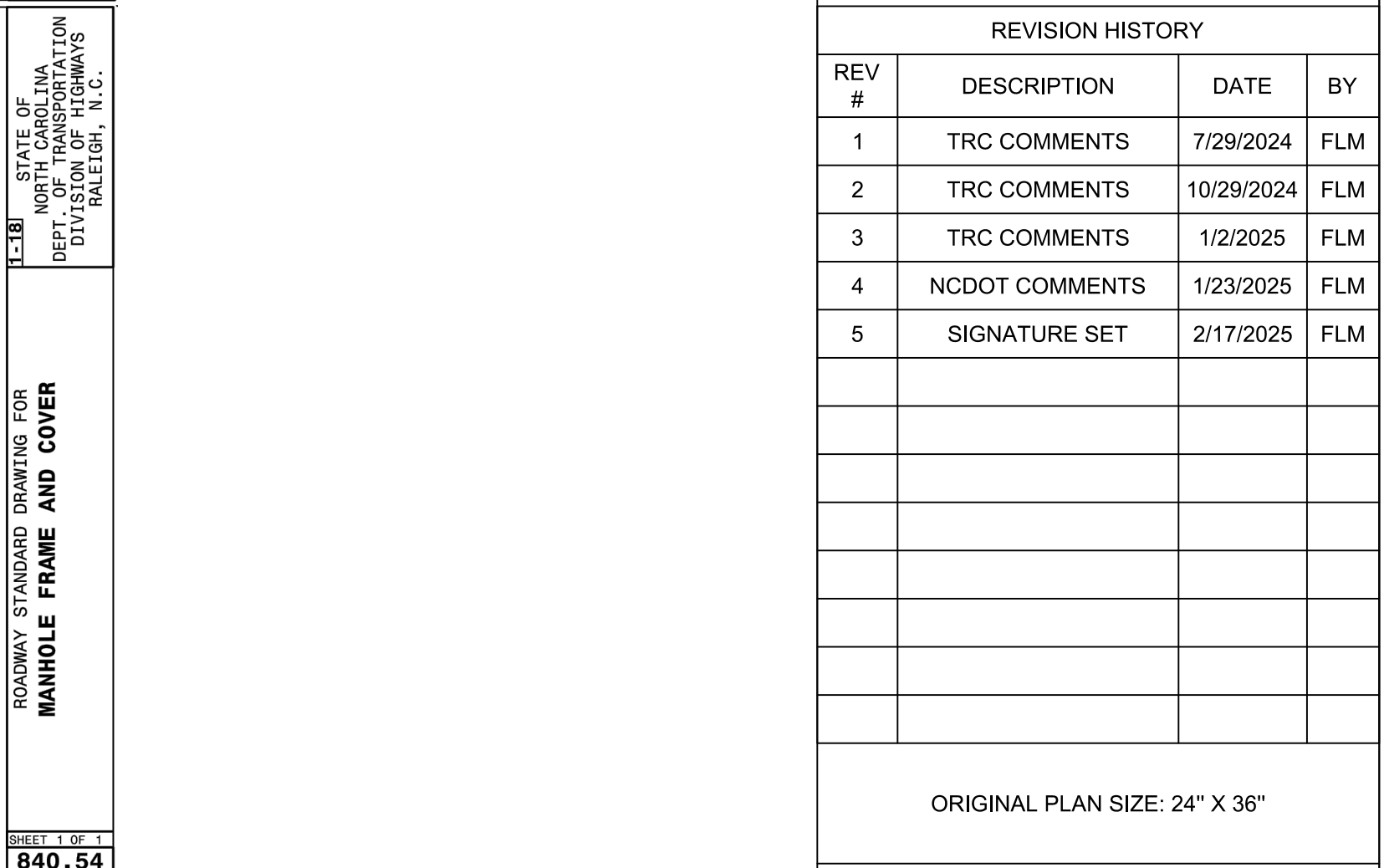
ROADWAY STANDARD DRAWING FOR CONCRETE JUNCTION BOX (WITH OPTIONAL MANHOLE) 12" THRU 66" PIPE SHEET 15 OF 840.31



### CONCRETE DROP INLET

DIMENSIONS AND QUANTITIES FOR CONCRETE DROP INLET (BASED ON MIN. HEIGHT, H)					
PIPE SPAN	WIDTH	MIN. HEIGHT	CIRC. COVER	REINFORCEMENT FOR CONCR. IN BOX	REMARKS
18"	3'-6"	2'-0"	2'-0"	0.222	0.222
18"	3'-6"	2'-0"	2'-0"	0.268	0.268
24"	4'-6"	2'-0"	2'-0"	0.222	0.222
24"	4'-6"	2'-0"	2'-0"	0.268	0.268
30"	5'-6"	2'-0"	2'-0"	0.222	0.222
30"	5'-6"	2'-0"	2'-0"	0.268	0.268

GENERAL NOTES:  
USE CLASS "B" CONCRETE THROUGHOUT.  
PROVIDE ALL DROP INLETS OVER 3'-6" IN DEPTH WITH STEPS 12" OR LESS. USE STEPS WHICH COMPLY WITH STD. DRAWING 840.46.  
OPTIONAL CONSTRUCTION - REINFORCED PIPE 2" AWAY OR #4 BAR DOWELS AT 16" CENTERS AS DIRECTED BY THE ENGINEER.  
USE FORMS FOR THE CONSTRUCTION OF THE BOTTOM SLAB.  
IF REINFORCED CONCRETE PIPE IS SET IN BOTTOM SLAB OF BOX, ADD TO SLAB AS SHOWN ON STD. 840.46.  
CONSTRUCT WITH PIPE GRADING WATCHING.  
USE STANDARD DRAWING 840.30 FOR ATTACHMENT OF FRAMES AND GRATES NOT SHOWN.  
INSTALL 2" WEAPHOLES AS DIRECTED BY THE ENGINEER.  
INITIAL ELEVATION SHALL BE A MINIMUM 1' ABOVE FINISH OF ADJ. PAV. SURF. IN A FORNED PARTIS AND OR "W/OP." AT EACH WEAP HOLE OR AS DIRECTED BY THE ENGINEER.  
CHAMFER ALL EXPOSED CORNERS 1".  
DRAWING NOT TO SCALE.



### CONCRETE MANHOLE FRAME AND COVER

PIPE SPAN	WIDTH	HEIGHT	REINFORCEMENT BARS "A"		TOP SLAB DIMENSIONS		CONCRETE WEIGHTS		TOTAL WEIGHTS		REMARKS	
			NO.	LENGTH	E	F	TOP SLAB	FR. OF FT.	FR. OF FT.	FR. OF FT.	C.S.	R.C.
18"	2'-0"	2'-0"	2	3'-0"	3'-0"	0.167	0.167	0.168	22	0.700	0.019	0.024
18"	2'-0"	2'-0"	2	3'-0"	3'-0"	0.198	0.198	0.204	24	0.700	0.029	0.038
18"	2'-0"	2'-0"	2	3'-0"	3'-0"	0.227	0.227	0.232	25	1.085	0.033	0.049
24"	3'-0"	3'-0"	3	4'-0"	4'-0"	0.256	0.256	0.268	40	1.434	0.059	0.085
24"	3'-0"	3'-0"	3	4'-0"	4'-0"	0.315	0.315	0.326	51	1.880	0.082	0.127
30"	4'-0"	4'-0"	4	5'-0"	5'-0"	0.463	0.463	0.530	84	2.341	0.132	0.178
30"	4'-0"	4'-0"	4	5'-0"	5'-0"	0.500	0.500	0.570	77	2.878	0.180	0.253
36"	5'-0"	5'-0"	5	6'-0"	6'-0"	0.743	0.743	0.807	111	3.623	0.238	0.317
36"	5'-0"	5'-0"	5	6'-0"	6'-0"	0.805	0.805	0.844	126	4.283	0.287	0.401
42"	6'-0"	6'-0"	6	7'-0"	7'-0"	1.042	1.042	1.081	145	5.089	0.387	0.495
42"	6'-0"	6'-0										



REVISION HISTORY

REV #	DESCRIPTION	DATE	BY
1	TRC COMMENTS	7/29/2024	FLM
2	TRC COMMENTS	10/29/2024	FLM
3	TRC COMMENTS	1/2/2025	FLM
4	NCDOT COMMENTS	1/23/2025	FLM
5	SIGNATURE SET	2/17/2025	FLM

ORIGINAL PLAN SIZE: 24" X 36"

SCALE ADJUSTMENT

THIS BAR IS 1 INCH IN LENGTH ON ORIGINAL DRAWING

IF IT IS NOT 1 INCH ON THIS SHEET, ADJUST YOUR SCALE ACCORDINGLY

SITE DEVELOPMENT PLAN  
SDP-24-05

PINE GLO  
414 S MAIN ST  
ROLESVILLE, NC 27571

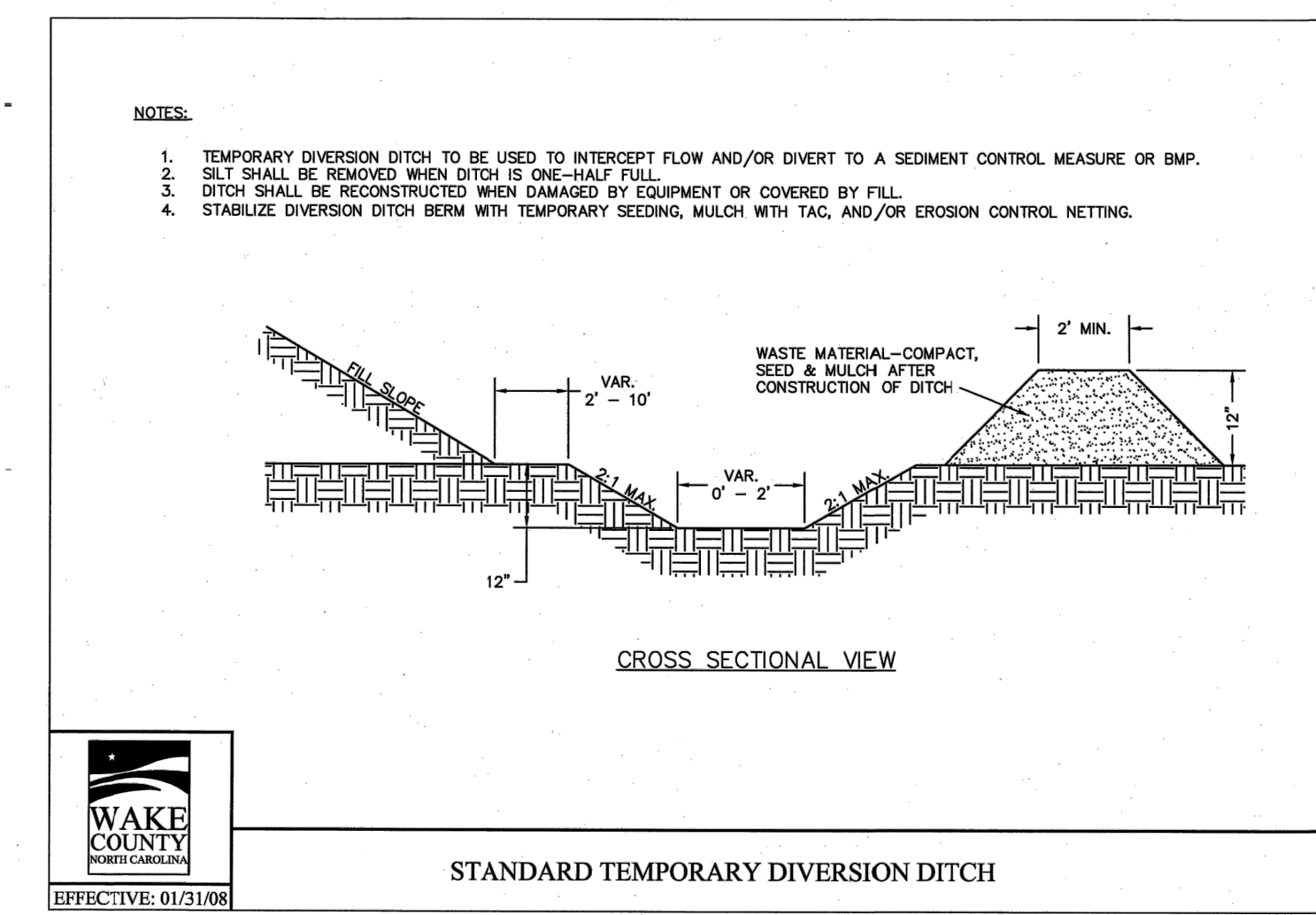
OPTIMAL GLO LLC

DATE:	06-03-2024
SCALE:	AS SHOWN
DESIGNED BY:	FLM
APPROVED BY:	FLM
PROJECT NO.:	24028

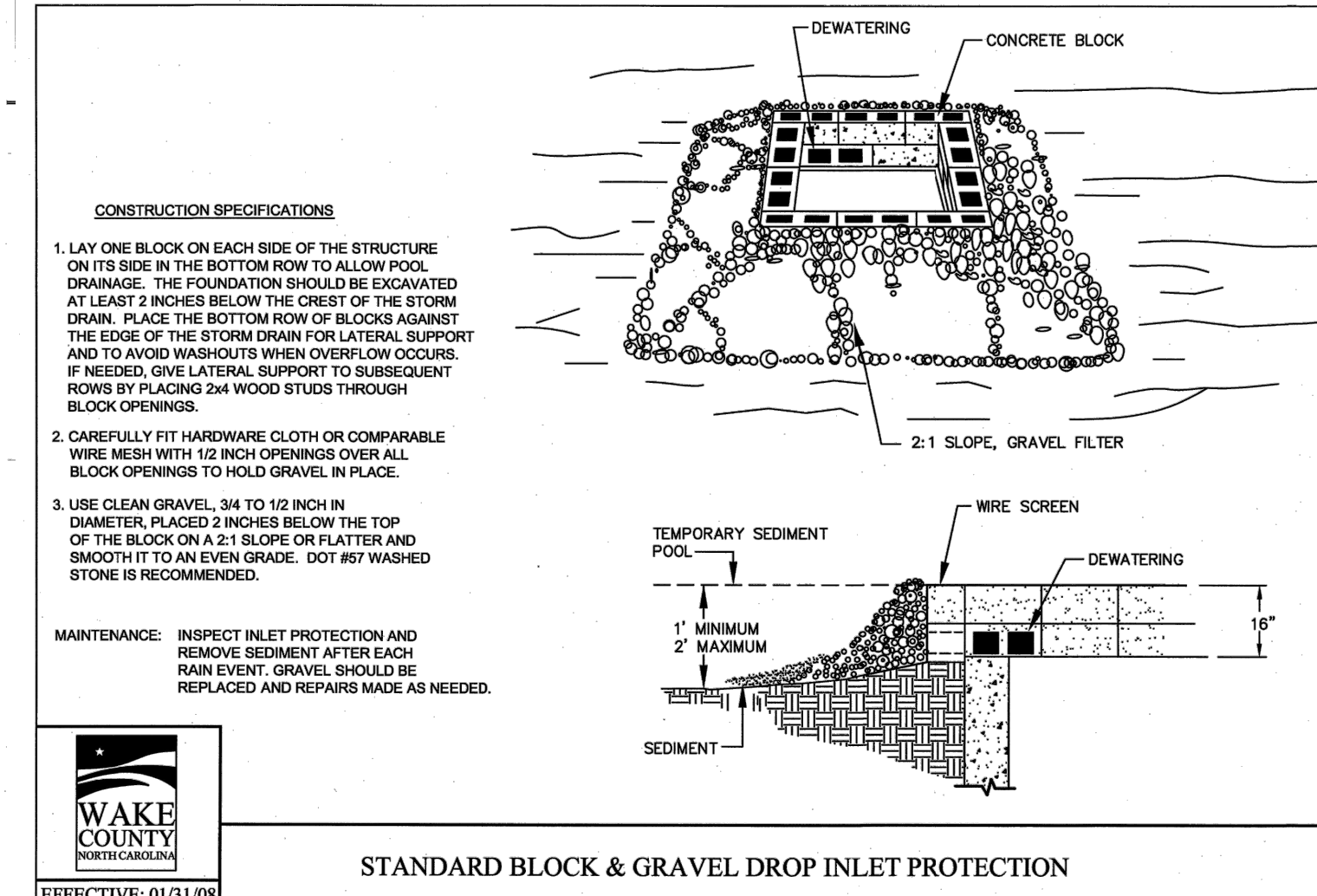
EROSION & SEDIMENT CONTROL  
DETAILS

## C-16

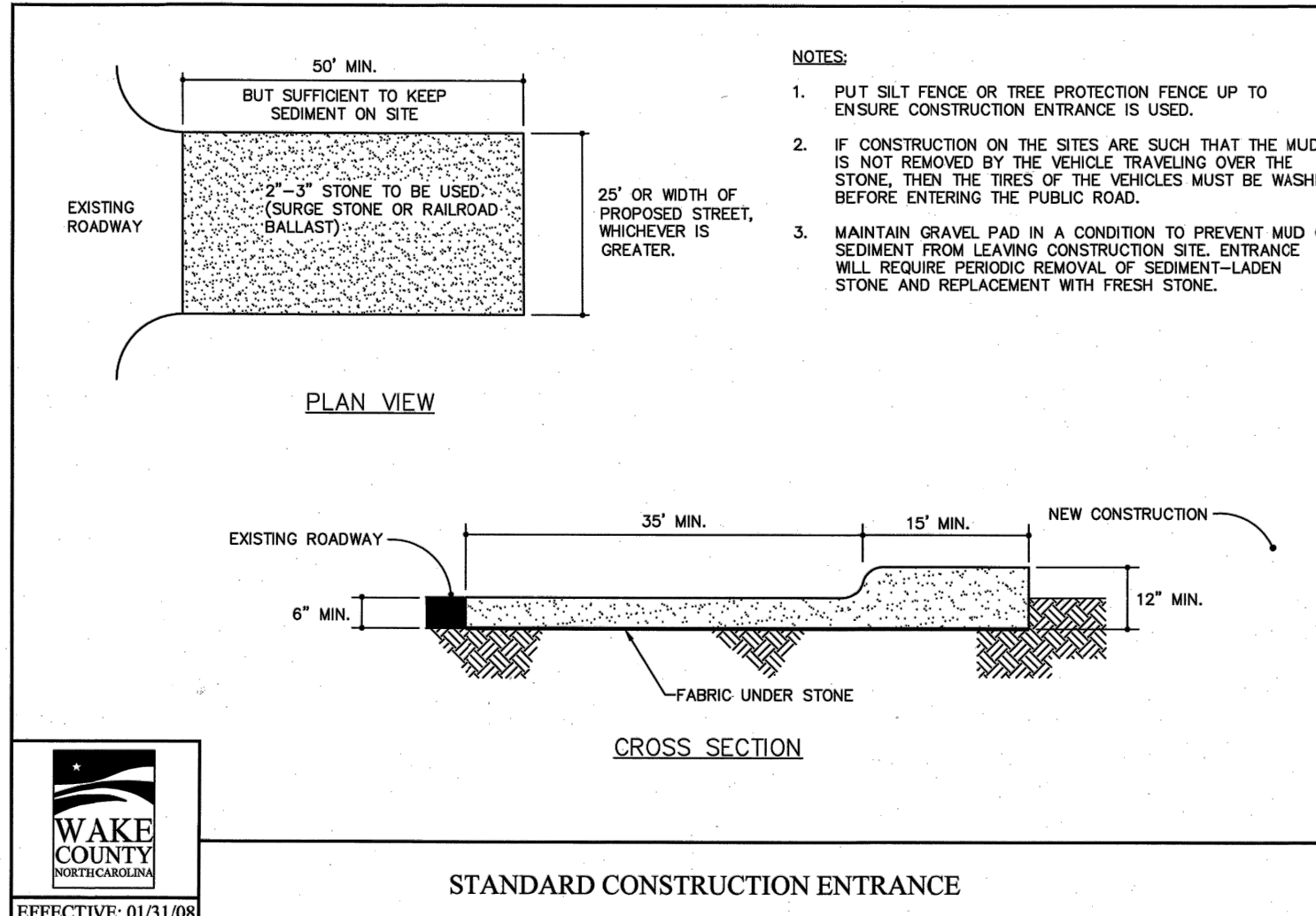
SHEET 16 OF 30



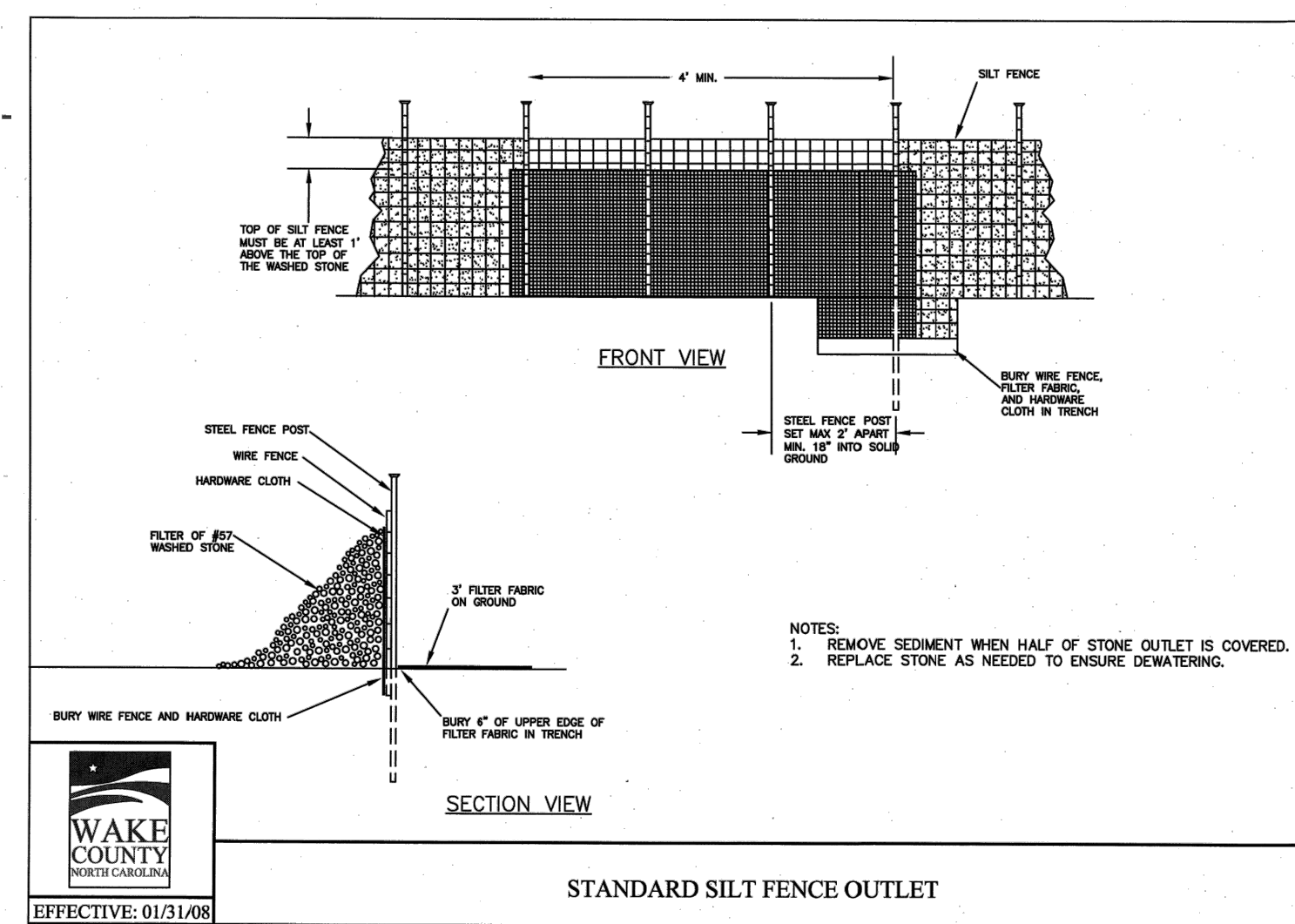
STANDARD TEMPORARY DIVERSION DITCH



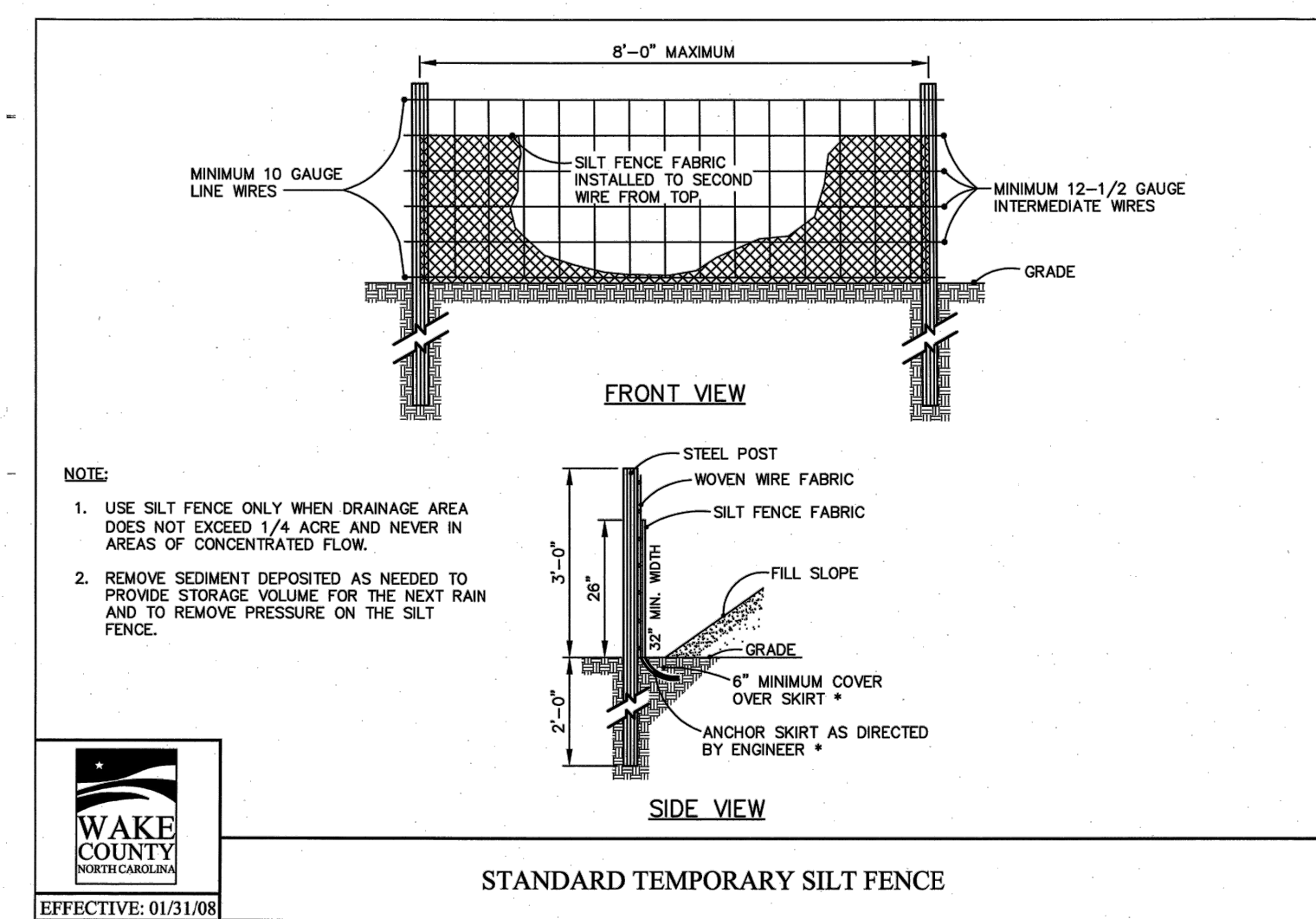
STANDARD BLOCK & GRAVEL DROP INLET PROTECTION



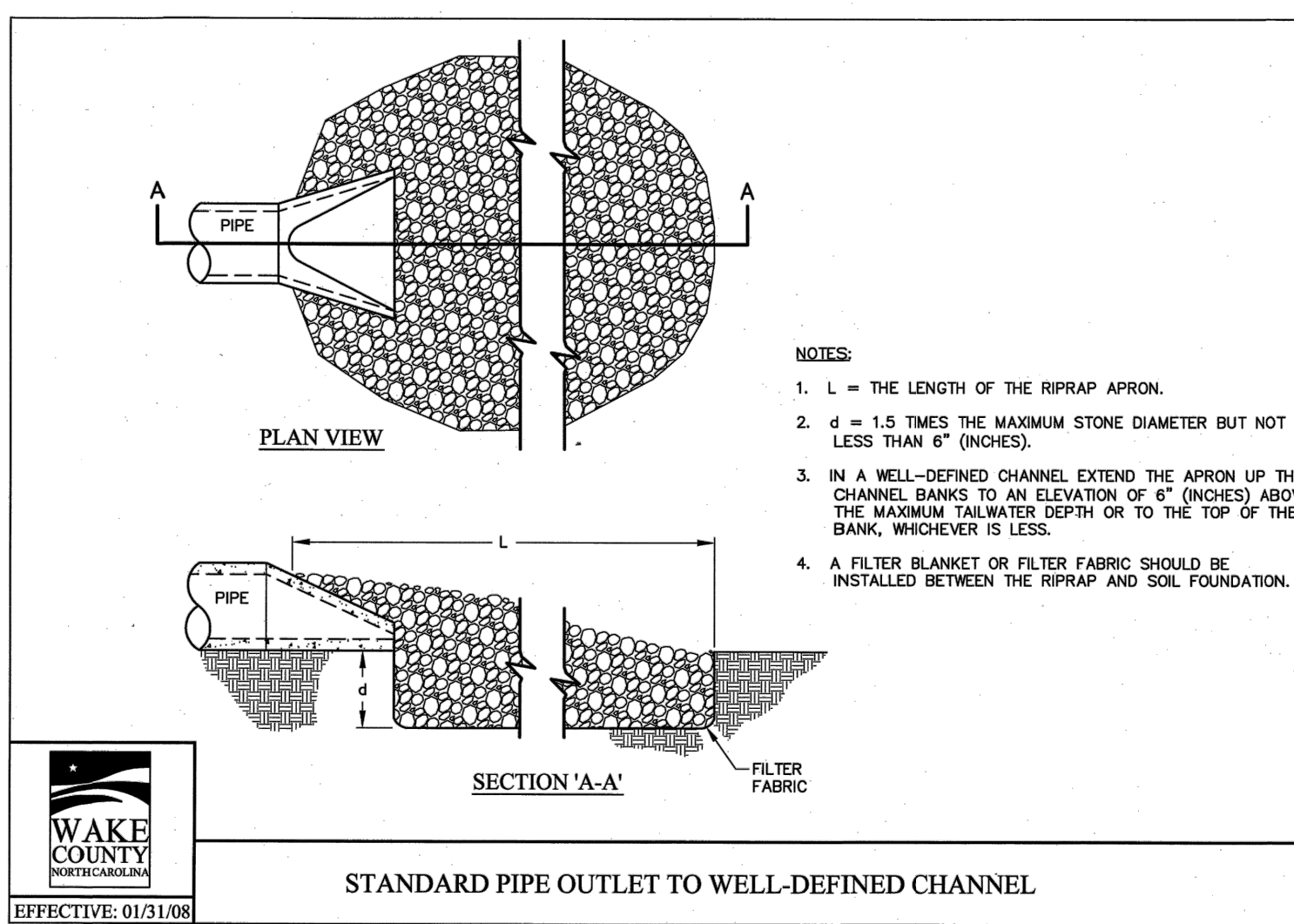
STANDARD CONSTRUCTION ENTRANCE



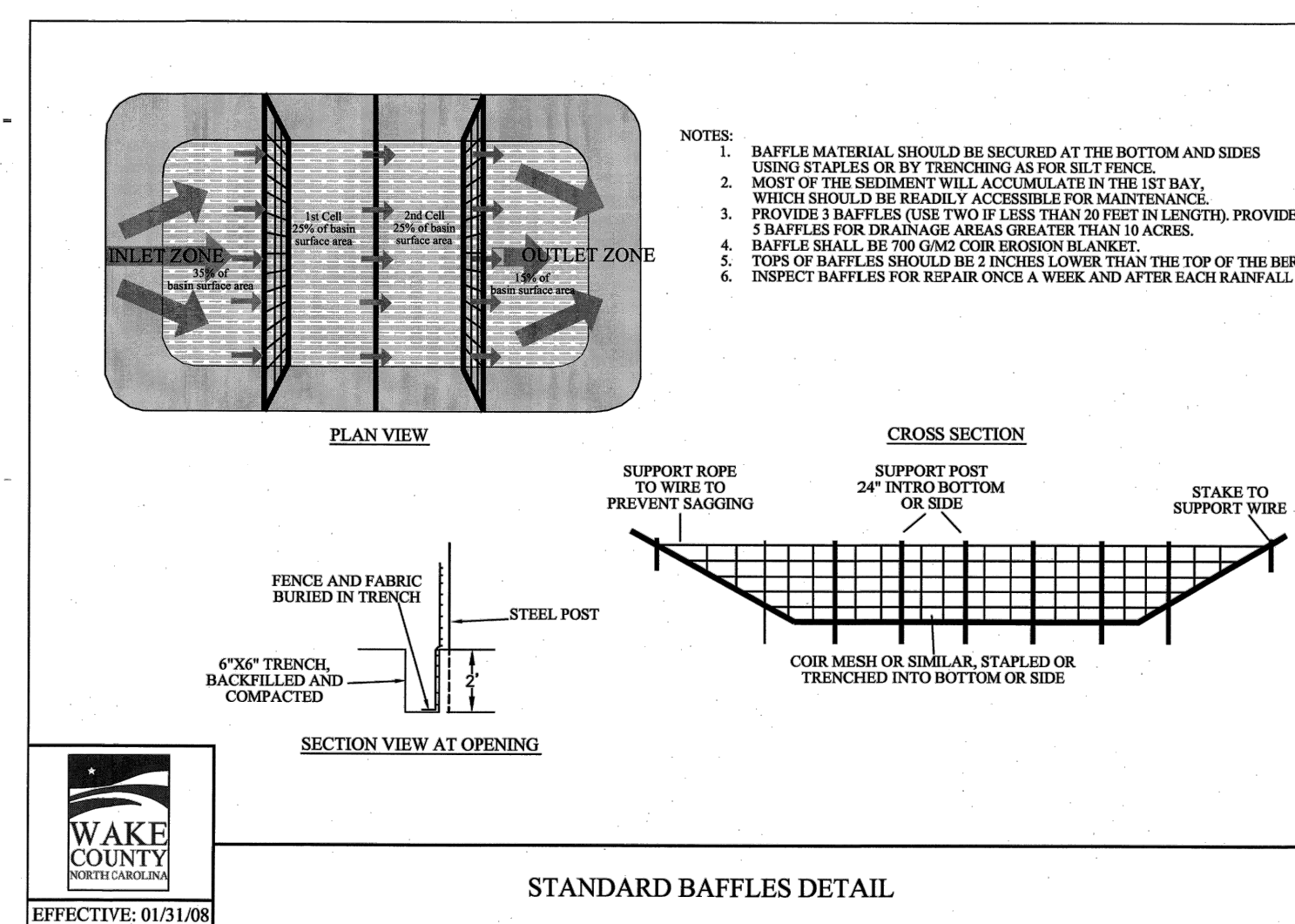
STANDARD SILT FENCE OUTLET



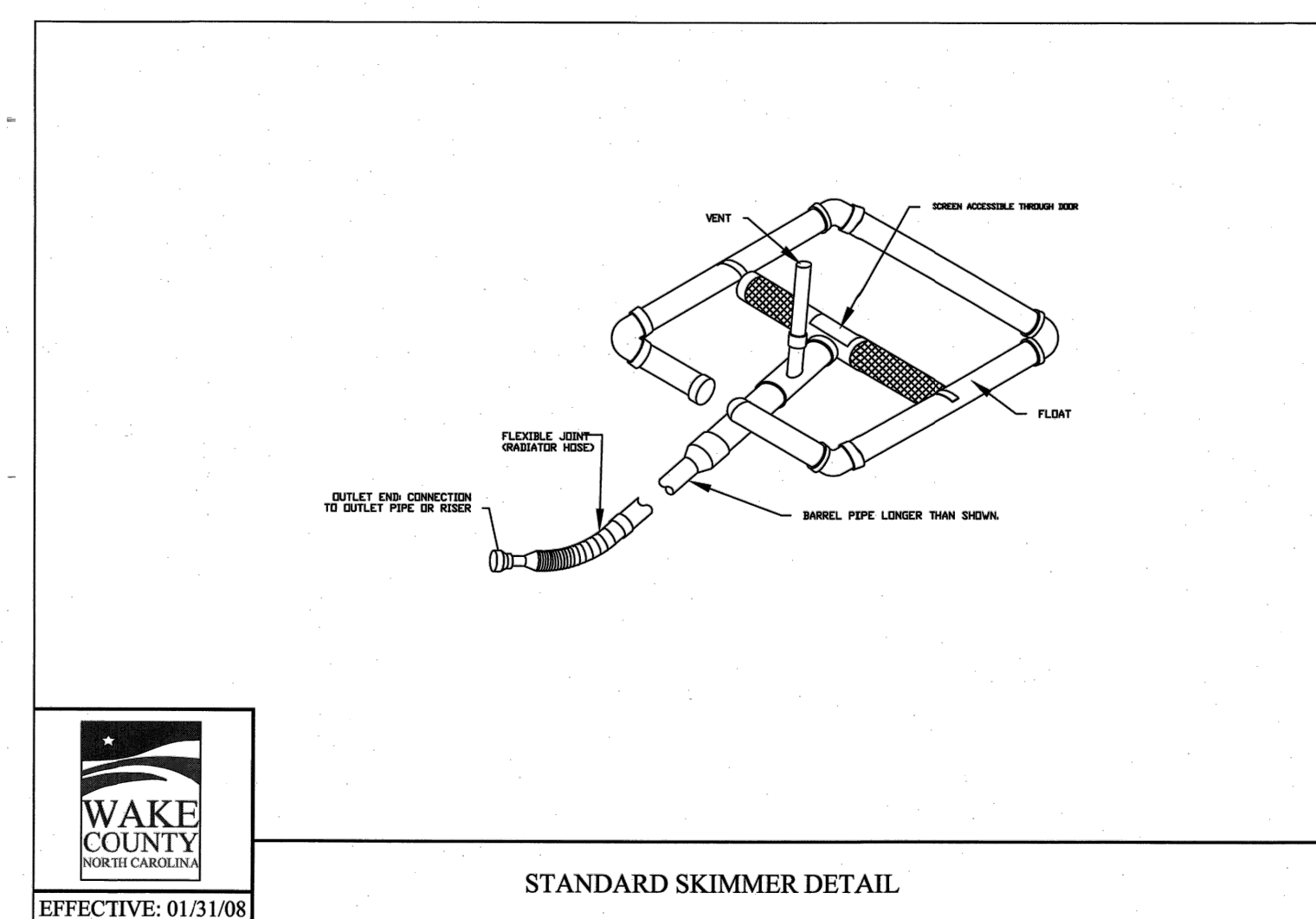
STANDARD TEMPORARY SILT FENCE



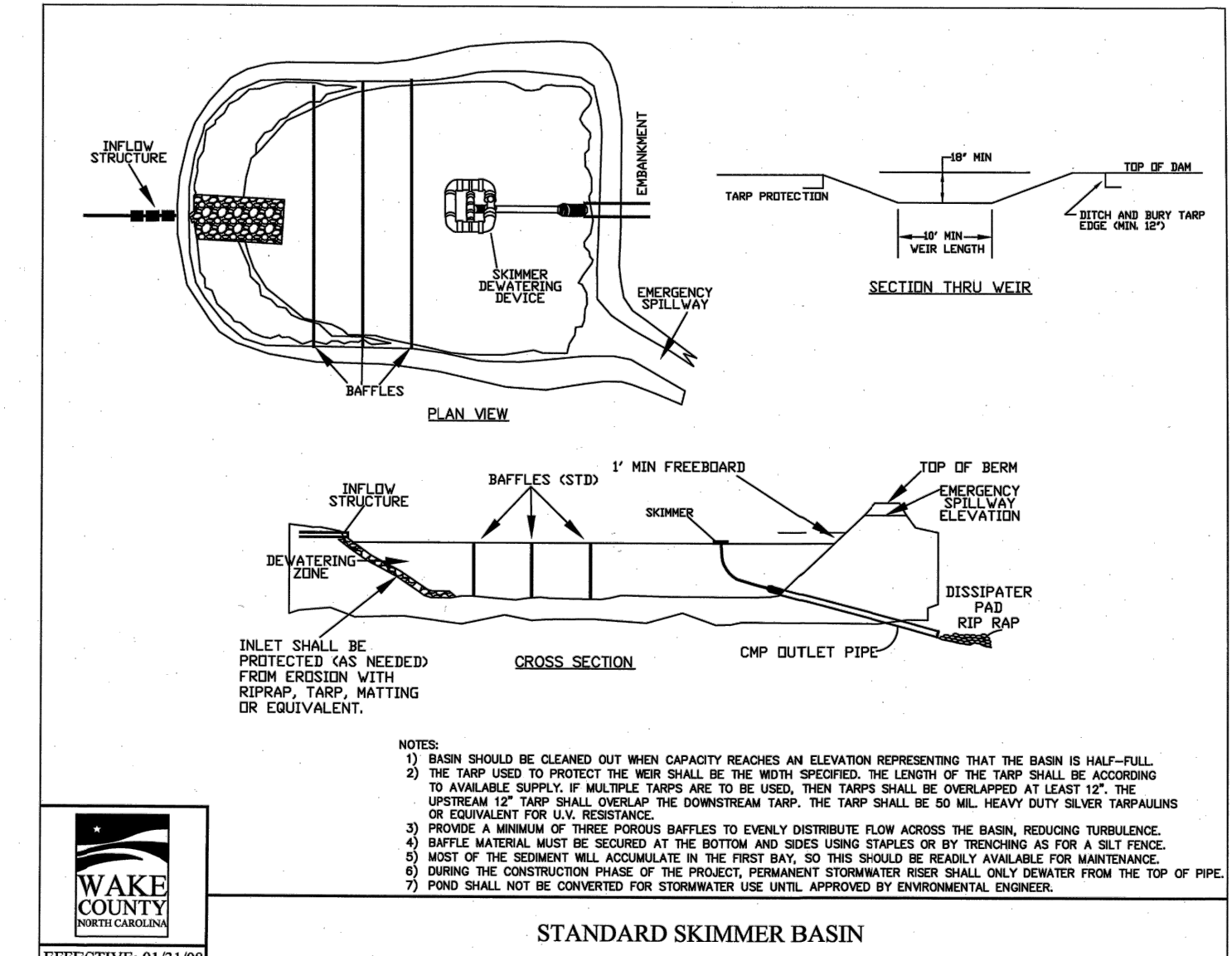
STANDARD PIPE OUTLET TO WELL-DEFINED CHANNEL



STANDARD BAFFLES DETAIL



STANDARD SKIMMER DETAIL

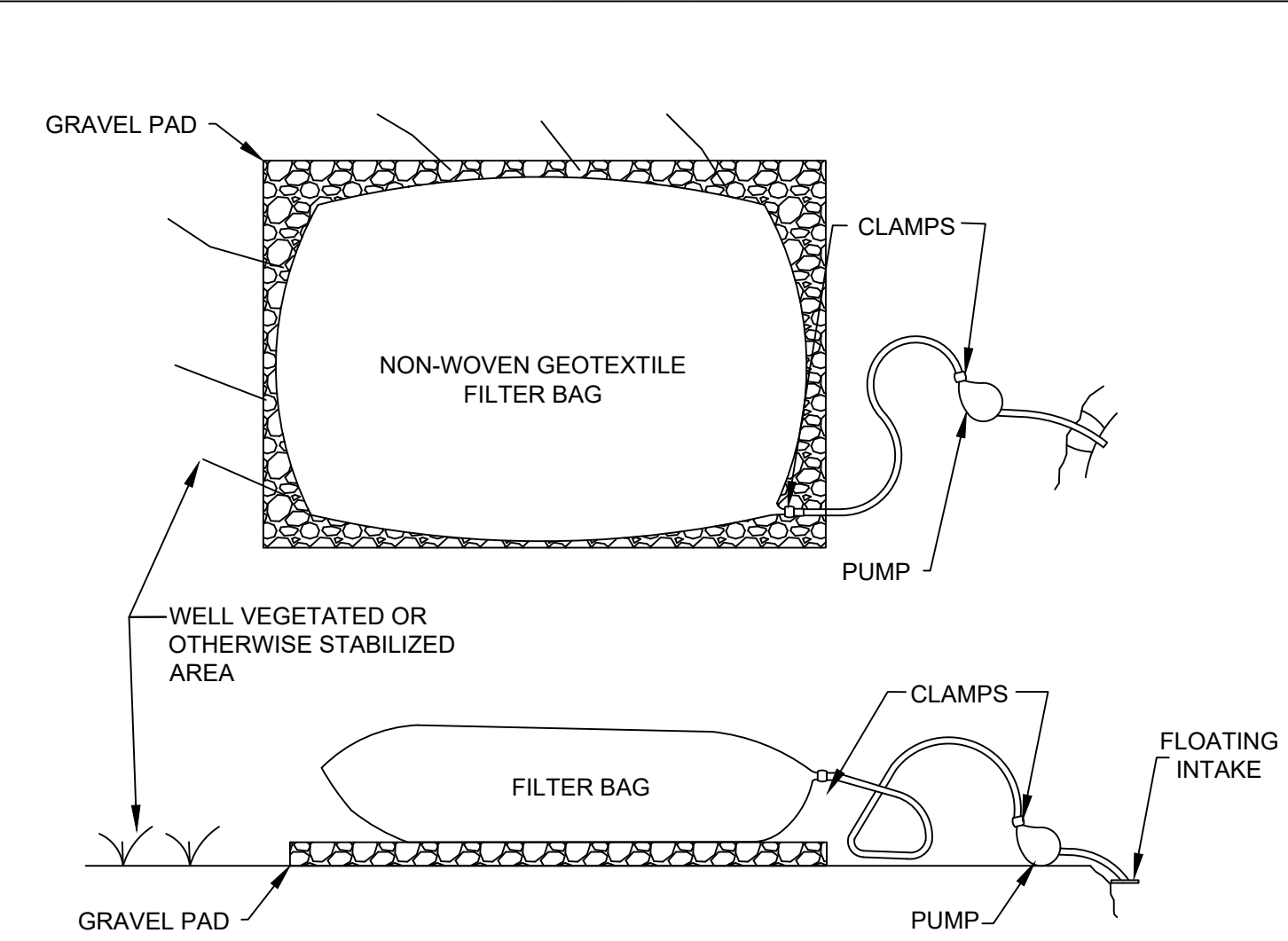


STANDARD SKIMMER BASIN

CALL 48 HOURS BEFORE  
YOU DIG  
**North Carolina 811**  
www.nc811.org  
NORTH CAROLINA  
ONE-CALL CENTER  
1-800-632-4949

ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH ALL TOWN OF ROLESVILLE, CITY OF RALEIGH AND WAKE COUNTY STANDARDS AND SPECIFICATIONS





FILTER BAGS MAY BE USED TO FILTER WATER PUMPED FROM EXCAVATIONS PRIOR TO DISCHARGING.

FILTER BAGS SHALL BE MADE FROM NON-WOVEN GEOTEXTILE MATERIAL SEWN WITH HIGH STRENGTH, DOUBLE STITCHED "J" TYPE SEAMS. THEY SHALL BE CAPABLE OF TRAPPING PARTICLES LARGER THAN 150 MICRONS.

THE PUMPING RATE SHALL BE NO GREATER THAN 750 GPM OR 1/2 THE MAXIMUM SPECIFIED BY THE MANUFACTURER, WHICHEVER IS LESS. PUMP INTAKES SHOULD BE FLOATING AND SCREENED.

FILTER BAGS SHALL BE LOCATED IN WELL-VEGETATED (GRASSY) AREAS AND DISCHARGED ONTO STABLE, EROSION RESISTANT AREAS. WHERE THIS IS NOT POSSIBLE, A GEOTEXTILE FLOW PATH SHALL BE PROVIDED. BAGS SHALL NOT BE PLACED ON SLOPES GREATER THAN 5%.

THE PUMP DISCHARGE HOSE SHALL BE INSERTED INTO THE FILTER BAG IN THE MANNER SPECIFIED BY THE MANUFACTURER AND SECURELY CLAMPED.

A SUITABLE MEANS OF ACCESSING THE BAG WITH MACHINERY REQUIRED FOR DISPOSAL PURPOSES MUST BE PROVIDED. FILTER BAGS SHALL BE REPLACED WHEN THEY BECOME 1/2 FULL. SPARE REPLACEMENT BAGS SHALL BE KEPT AVAILABLE FOR REPLACEMENT OF THOSE THAT HAVE FAILED OR ARE 1/2 FULL.

FILTER BAGS SHALL BE INSPECTED DAILY. IF ANY PROBLEM IS DETECTED, PUMPING SHALL CEASE IMMEDIATELY AND NOT RESUME UNTIL THE PROBLEM IS CORRECTED.

**SILT BAG**  
NO SCALE

**FOR SHOULDERS, SIDE DITCHES, SLOPES (MAX 3:1):**

DATE	TYPE	PLANTING 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 BROWN TOP MILLET OR SORGHUM-SUDAN HYBRIDS ***	125 LBS/ACRE (TALL FESCUE); 35 LBS/ACRE (BROWN TOP MILLET); 30 LBS/ACRE (SORGHUM-SUDAN HYBRIDS)

\*\*\* TEMPORARY: RESEED ACCORDING TO OPTIMUM SEASON FOR DESIRED PERMANENT VEGETATION. DO NOT ALLOW TEMPORARY COVER TO GROW MORE THAN 12" IN HEIGHT BEFORE MOWING; OTHERWISE, FESCUE MAY BE SHADED OUT.

**FOR SHOULDERS, SIDE DITCHES, SLOPES (3:1 TO 2:1):**

DATE	TYPE	PLANTING RATE
MAR 1 - JUN 1	SERICEA LESPEDEZA (SCARIFIED) AND USE THE FOLLOWING COMBINATIONS:	50 LBS/ACRE
MAR 1 - APR 15	ADD TALL FESCUE	120 LBS/ACRE
MAR 1 - JUN 30	OR ADD WEeping LOVE GRASS	10 LBS/ACRE
MAR 1 - JUN 30	OR ADD HULLED COMMON BERMUDAGRASS	25 LBS/ACRE
JUL 1 - SEPT 1	TALL FESCUE AND BROWN TOP MILLET OR SORGHUM-SUDAN HYBRIDS ***	125 LBS/ACRE (TALL FESCUE); 35 LBS/ACRE (BROWN TOP MILLET); 30 LBS/ACRE (SORGHUM-SUDAN HYBRIDS)
SEPT 1 - MAR 1	SERICEA 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

\*\*\* TEMPORARY: RESEED ACCORDING TO OPTIMUM SEASON FOR DESIRED PERMANENT VEGETATION. DO NOT ALLOW TEMPORARY COVER TO GROW MORE THAN 12" IN HEIGHT BEFORE MOWING; OTHERWISE, FESCUE MAY BE SHADED OUT.

**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

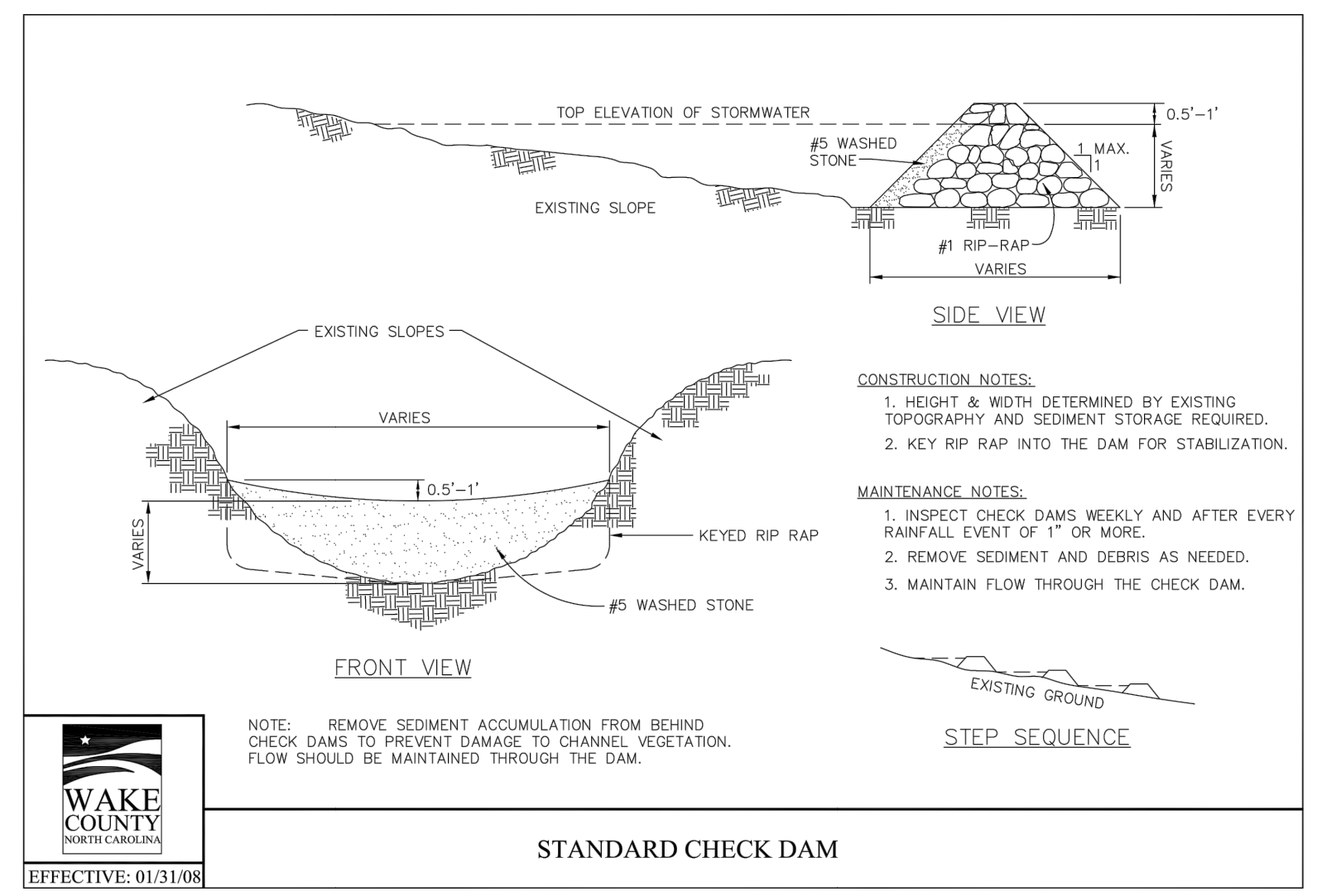
**SEEDBED PREPARATION:**

- CHISEL COMPACTED AREAS AND SPREAD TOPSOIL THREE INCHES DEEP OVER ADVERSE SOIL CONDITIONS, IF AVAILABLE.
- RIP THE ENTIRE AREA TO SIX INCHES DEEP.
- REMOVE ALL LOOSE ROCKS, ROOTS, AND OTHER OBSTRUCTIONS LEAVING SURFACE REASONABLY SMOOTH AND UNIFORM.
- APPLY AGRICULTURAL LIME, FERTILIZER AND SUPERPHOSPHATE UNIFORMLY AND MIX WITH SOIL. (\*SEE BELOW).
- CONTINUE TILLAGE UNTIL A WELL-PULVERIZED, FIRM REASONABLY UNIFORM SEEDBED IS PREPARED FOUR TO SIX INCHES DEEP.
- SEED ON A FRESHLY PREPARED SEEDBED AND COVER SEED LIGHTLY WITH SEEDING EQUIPMENT OR CULTIPACK AFTER SEEDING.
- MULCH IMMEDIATELY AFTER SEEDING AND ANCHOR MULCH.
- INSPECT ALL SEEDING AREAS AND MAKE NECESSARY REPAIRS OR RESEEDINGS WITHIN THE PLANTING SEASON, IF POSSIBLE. IF STAND SHOULD BE OVER 50% DAMAGED, RE-ESTABLISH FOLLOWING THE ORIGINAL LIME, FERTILIZER AND SEEDING RATES.

\*APPLY: AGRICULTURAL LIMESTONE- 2 TONS/ACRE MINIMUM OR PER SOIL TEST

FERTILIZER - 10-10-10 ANALYSIS @ 900 LBS/ACRE  
SUPERPHOSPHATE - 500 LBS/ACRE OF 20% ANALYSIS  
MULCH - 2 TONS (+80 BALES) STRAW/ACRE  
ANCHOR - USE LIQUID ASPHALT @ 400 GALS/ACRE  
OR EMULSIFIED ASPHALT @ 300 GALS/ACRE

**PERMANENT SEEDING SCHEDULE**  
NO SCALE



**FOR LATE WINTER AND EARLY SPRING:**

**SEEDING MIXTURE:**  
RYE (GRAIN) - 120 LBS/ACRE  
ANNUAL LESPEDEZA\* (KORE IN PIEDMONT AND COASTAL PLAIN, KOREAN IN MOUNTAINS) - 50 LBS/ACRE  
\*OMI ANNUAL LESPEDEZA WHEN DURATION OF TEMPORARY COVER IS NOT TO EXTEND BEYOND JUNE

**SEEDING DATES:**  
MOUNTAINS: ABOVE 2500 FEET: FEB. 15 - MAY 15  
BELOW 2500 FEET: FEB. 1 - MAY 1  
PIEDMONT: JAN. 1 - MAY 1  
COASTAL PLAIN: DEC. 1 - APR. 15

**FOR SUMMER:**

**SEEDING MIXTURE:**  
GERMAN MILLET - 40 LBS/ACRE

\*IN THE PIEDMONT AND MOUNTAINS, A SMALL-STEMMED SUDAGRASS MAY BE SUBSTITUTED AT A RATE OF 50 LBS/ACRE

**SEEDING DATES:**  
MOUNTAINS: MAY 15 - AUG. 15  
PIEDMONT: MAY 1 - AUG. 15  
COASTAL PLAIN: APR. 15 - AUG. 15

**SOIL AMENDMENTS:**  
FOLLOW RECOMMENDATIONS OF SOIL TESTS OR APPLY 2,000 LBS/ACRE GROUND AGRICULTURAL LIMESTONE AND 750 LBS/ACRE 10-10-10 FERTILIZER

**MULCH:**  
APPLY 4,000 LBS/ACRE STRAW. ANCHOR STRAW BY TACKLING WITH ASPHALT, NETTING, OR A MULCH ANCHORING TOOL. A DISK WITH BLADES SET NEARLY STRAIGHT CAN BE USED AS A MULCH ANCHORING TOOL

**MAINTENANCE:**  
REFERTILIZE IF GROWTH IS NOT FULLY ADEQUATE. RESEED, REFERTILIZE, AND MULCH IMMEDIATELY FOLLOWING EROSION OR OTHER DAMAGE

**FOR FALL:**

**SEEDING MIXTURE:**  
RYE (GRAIN) - 120 LBS/ACRE

**SEEDING DATES:**  
MOUNTAINS: AUG. 15 - DEC. 15  
PIEDMONT: MAY 1 - AUG. 15  
COASTAL PLAIN AND PIEDMONT: AUG. 15 - DEC. 30

**SOIL AMENDMENTS:**  
FOLLOW RECOMMENDATIONS OF SOIL TESTS OR APPLY 2,000 LBS/ACRE GROUND AGRICULTURAL LIMESTONE AND 1,000 LBS/ACRE 10-10-10 FERTILIZER

**MULCH:**  
APPLY 4,000 LBS/ACRE STRAW. ANCHOR STRAW BY TACKLING WITH ASPHALT, NETTING, OR A MULCH ANCHORING TOOL. A DISK WITH BLADES SET NEARLY STRAIGHT CAN BE USED AS A MULCH ANCHORING TOOL

**MAINTENANCE:**  
REPAIR AND REFERTILIZE DAMAGED AREAS IMMEDIATELY TOPRESS WITH 50 LBS/ACRE OF NITROGEN IN MARCH. IF IT IS NECESSARY TO EXTEND TEMPORARY COVER BEYOND JUNE 15, OVERSEED WITH 50 LBS/ACRE KORE (PIEDMONT AND COASTAL PLAIN) OR KOREAN (MOUNTAINS) LESPEDEZA IN LATE FEBRUARY OR EARLY MARCH.

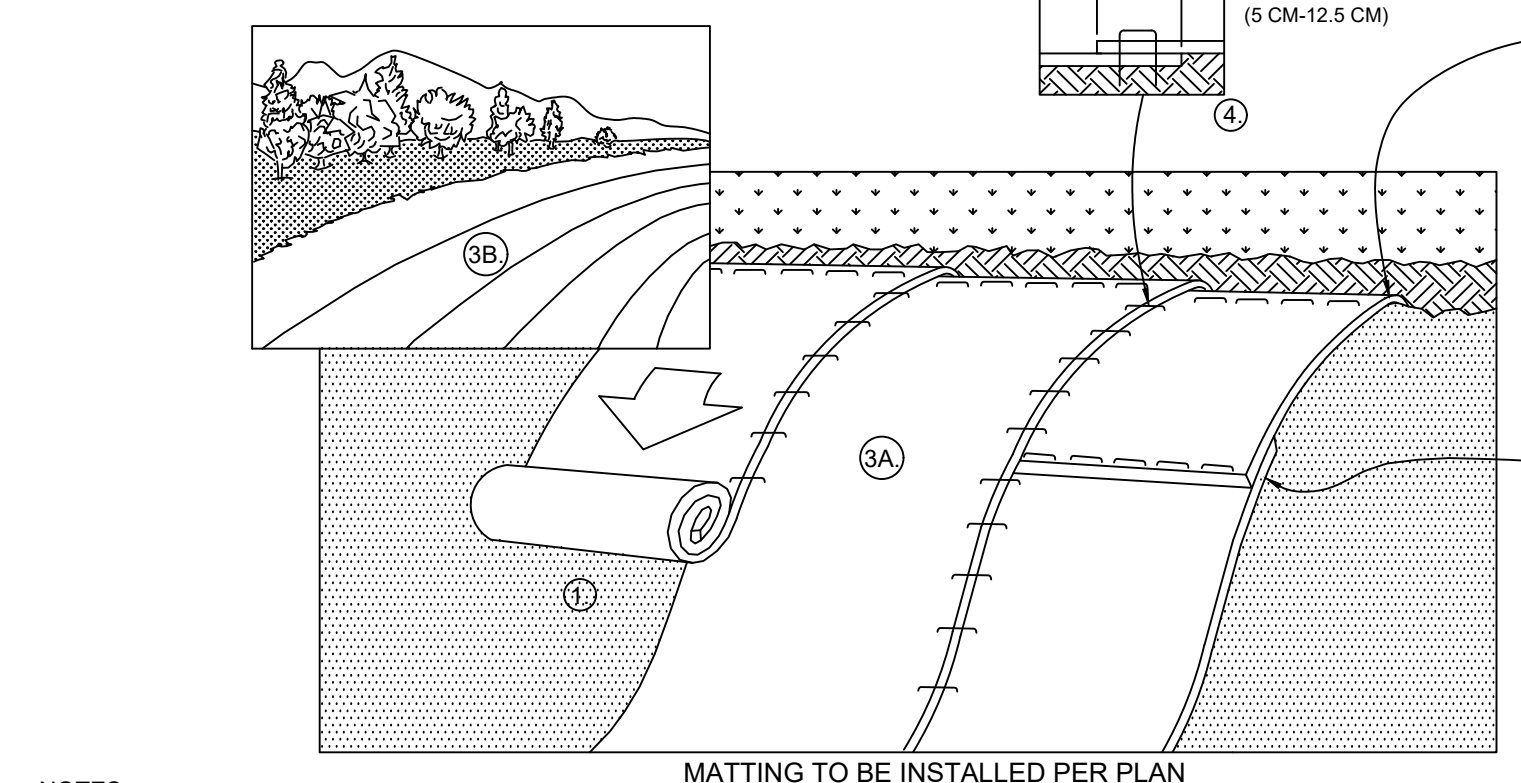
**SEEDBED PREPARATION:**

LIMING - APPLY LIME ACCORDING TO SOIL TEST RECOMMENDATIONS. IF THE PH (ACIDITY) OF THE SOIL IS NOT KNOWN, AN APPLICATION OF GROUND AGRICULTURAL LIMESTONE AT THE 6:00 RATE OF 1 TO 1 1/2 TONS/ACRE ON COARSE TEXTURED SOILS AND 2-3 TONS/ACRE ON FINE TEXTURED SOILS IS USUALLY SUFFICIENT. APPLY LIME UNIFORMLY AND INCORPORATE INTO THE TOP 4-6 INCHES OF SOIL. SOILS WITH A PH OF 6 OR HIGHER NEED NOT BE LIMED.

FERTILIZER - BASE APPLICATION RATES ON SOIL TESTS. WHEN THESE ARE NOT POSSIBLE, APPLY A 10-10-10 GRADE FERTILIZER AT 700-1,000 LBS/ACRE. BOTH FERTILIZER AND LIME SHOULD BE INCORPORATED INTO THE TOP 4-6 INCHES OF SOIL. IF A HYDRAULIC SEEDER IS USED, DO NOT MIX SEED AND FERTILIZER MORE THAN 30 MINUTES BEFORE APPLICATION.

SURFACE ROUGHENING - IF RECENT TILLAGE OPERATIONS HAVE RESULTED IN A LOOSE SURFACE, ADDITIONAL ROUGHENING MAY NOT BE REQUIRED, EXCEPT TO BREAK UP LARGE CLOS. IF RAINFALL CAUSES THE SURFACE TO BECOME SEALED OR CRUSTED, LOOSEN IT JUST PRIOR TO SEEDING BY DISKING, RAKING, HARROWING, OR OTHER SUITABLE METHODS. GROOVE OR FURROW SLOPES STEEPER THAN 3:1 ON THE CONTOUR BEFORE SEEDING (PRACTICE 6.03, SURFACE ROUGHENING).

**TEMPORARY SEEDING SCHEDULE**  
NO SCALE



- NOTES:**
- PREPARE SOIL BEFORE INSTALLING BLANKETS, INCLUDING ANY NECESSARY APPLICATION OF LIME, FERTILIZER, AND SEED. NOTE: WHEN USING CELL-O-SEED DO NOT SEED PREPARED AREA. CELL-O-SEED MUST BE INSTALLED WITH PAPER SIDE DOWN.
  - BEGIN AT THE TOP OF THE SLOPE BY ANCHORING THE BLANKET IN A 6" (15 CM) DEEP X 6" (15 CM) WIDE TRENCH WITH APPROXIMATELY 12" (30 CM) OF BLANKET EXTENDED BEYOND THE UP-SLOPE PORTION OF THE TRENCH. ANCHOR THE BLANKET WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" (30 CM) APART IN THE BOTTOM OF THE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING. APPLY SEED TO COMPACTED SOIL AND FOLD REMAINING 12" (30 CM) PORTION OF BLANKET BACK OVER SEED AND COMPACTED SOIL. SECURE BLANKET OVER COMPACTED SOIL WITH A ROW OF STAPLES/STAKES SPACED APPROXIMATELY 12" (30 CM) APART ACROSS THE WIDTH OF THE BLANKET.
  - ROLL THE BLANKETS (A.) DOWN OR (B.) HORIZONTALLY ACROSS THE SLOPE. BLANKETS WILL UNROLL WITH APPROPRIATE SIDE AGAINST THE SOIL SURFACE. ALL BLANKETS MUST BE SECURELY FASTENED TO SOIL SURFACE BY PLACING STAPLES/STAKES IN APPROPRIATE LOCATIONS AS SHOWN IN THE STAPLE PATTERN GUIDE. WHEN USING THE DOT SYSTEM, STAPLES/STAKES SHOULD BE PLACED THROUGH EACH OF THE COLORED DOTS CORRESPONDING TO THE APPROPRIATE STAPLE PATTERN.
  - THE EDGES OF PARALLEL BLANKETS MUST BE STAPLED WITH APPROXIMATELY 2" - 5" (5 CM - 12.5 CM) OVERLAP DEPENDING ON BLANKET TYPE.
  - CONSECUTIVE BLANKETS SPLICED DOWN THE SLOPE MUST BE PLACED END OVER END (SHINGLE STYLE) WITH AN APPROXIMATE 3" (7.5 CM) OVERLAP. STAPLE THROUGH OVERLAPPED AREA, APPROXIMATELY 12" (30 CM) APART ACROSS ENTIRE BLANKET WIDTH. NOTE: IN LOOSE SOIL CONDITIONS, THE USE OF STAPLE OR STAKE LENGTHS GREATER THAN 6" (15 CM) MAY BE NECESSARY TO PROPERLY SECURE THE BLANKETS.

DETAIL AND LANGUAGE PROVIDED BY NORTH AMERICAN GREEN REV. 1/2004

**SLOPE INSTALLATION**  
NO SCALE

**ROLLMAX™**  
ROLLED EROSION CONTROL

Specification Sheet - EroNet™ S75<sup>®</sup> Erosion Control Blanket

**DESCRIPTION**  
The short-term single net erosion control blanket shall be a machine-produced mat of 100% agricultural straw with a functional longevity of up to 12 months. (NOTE: functional longevity may vary depending upon climatic conditions, soil, geographical location, and elevation). The blankets 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 lightweight photodegradable polypropylene netting having an approximate 0.50 x 0.50 in. (1.27 x 1.27 cm) mesh. The blanket shall be sewn together on 1.50 inch (3.81 cm) centers with degradable thread. The blanket shall be manufactured with a colored thread stitched along both outer edges (approximately 2-5 inches [5-12.5 cm] from the edge) as an overlap guide for adjacent mats.

The S75 shall meet Type 2-C specification requirements established by the Erosion Control Technology Council (ECTC) and Federal Highway Administration's (FHWA) FH-03 Section 713.17

Index Property	Test Method	Typical
Thickness	ASTM D625	0.50 in. (0.2 mm)
Resiliency	ECTC Guidelines	78.8%
Water Absorbency	ASTM D197	30%
Mass/Unit Area	ASTM D475	3.76 kg/m² (332 g/sqyd)
Soil	ECTC Guidelines	95%
Smolder Resistance	ECTC Guidelines	Yes
Stiffness	ASTM D188	6.31 oz-in
Light Penetration	ASTM D567	6.0%
Tensile Strength - MD	ASTM D818	122.4 lb/in (1.81 kN/m)
Elongation - MD	ASTM D818	36.1%
Tensile Strength - TD	ASTM D818	79.2 lb/in (1.10 kN/m)
Elongation - TD	ASTM D818	26.8%
Biomass Improvement	ASTM D722	30%

Material Content	Design Permissible Shear Stress
Matrix: 100% Straw Fiber	5.5 lbf/ft² (0.27 kg/m²)
Netting: Top side only, lightweight photodegradable	1.5 lbf/1000 sq ft (0.73 kg/100 sqm)
Thread: Degradable	

Standard Roll Sizes	Slope Gradients (%)
Width: 6.0 ft (1.83 m)   8.0 ft (2.44 m)   9.0 ft (2.74 m)	1:1   1.5:1   2:1
Length: 100 ft (30.5 m)   150 ft (45.7 m)   200 ft (60.9 m)	0.025   N/A   N/A
Weight @ 10%: 40 lbs (18.1 kg)   50 lbs (22.6 kg)   96 lbs (43.5 kg)	0.15   N/A   N/A
Area: 80 sq yd (86.9 sm)   120 sq yd (138.5 sm)   192 sq yd (216.5 sm)	NTPF Long-Scale Slope Testing ASTM D6459 - C-factor = 0.012

Roughness Coefficients - Unveg.	
Flow Depth	
0-0.50 ft (0-15 cm)	Manning's n 0.055
0.50 - 2.0 ft	0.055-0.021
2.0 ft (0.61 m)	0.021

**Maintenance:**  
INSPECT PIPE INLET PROTECTION AT LEAST WEEKLY AND AFTER EACH SIGNIFICANT (1/2 INCH OR GREATER) RAINFALL EVENT TO SEE IF ANY EROSION AROUND OR BELOW THE RIPRAP HAS TAKEN PLACE. OR IF THE STONES HAVE BEEN DISLOADED. IMMEDIATELY MAKE ALL NEEDED REPAIRS TO PREVENT FURTHER DAMAGE.

Outlet	Do	3Do	La	W	RIP RAP	d
FES-5	18"	4.5'	6'	4.5'	CLASS A RIPRAP	9"
FES-17	24"	6'	8'	6'	CLASS A RIPRAP	9"
FES-SCM 1	18"	4.5'	6'	4.5'	CLASS A RIPRAP	9"

**RIPRAP ENERGY DISSIPATOR**  
NO SCALE

**SLOPE MATTING**  
NO SCALE

CALL 48 HOURS BEFORE YOU DIG

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www.nc811.org

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1-800-632-4949

**SCALE ADJUSTMENT**  
THIS BAR IS 1 INCH IN LENGTH ON ORIGINAL DRAWING  
IF IT IS NOT 1 INCH ON THIS SHEET, ADJUST YOUR SCALE ACCORDINGLY

**SITE DEVELOPMENT PLAN SDP-24-05**

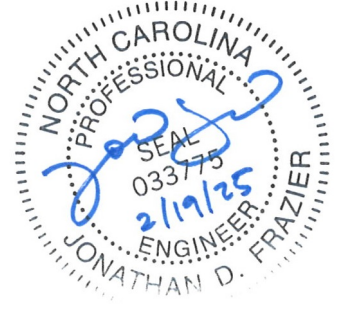
PINE GLO  
414 S MAIN ST  
ROLESVILLE, NC 27571

OPTIMAL GLO LLC

DATE:	06-03-2024
SCALE:	AS SHOWN
DESIGNED BY:	FLM
APPROVED BY:	FLM
PROJECT NO.:	24028

**EROSION & SEDIMENT CONTROL DETAILS**

ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH ALL TOWN OF ROLESVILLE, CITY OF RALEIGH AND WAKE COUNTY STANDARDS AND SPECIFICATIONS



REVISION HISTORY

REV #	DESCRIPTION	DATE	BY
1	TRC COMMENTS	7/29/2024	FLM
2	TRC COMMENTS	10/29/2024	FLM
3	TRC COMMENTS	1/2/2025	FLM
4	NCDOT COMMENTS	1/23/2025	FLM
5	SIGNATURE SET	2/17/2025	FLM

ORIGINAL PLAN SIZE: 24" X 36"

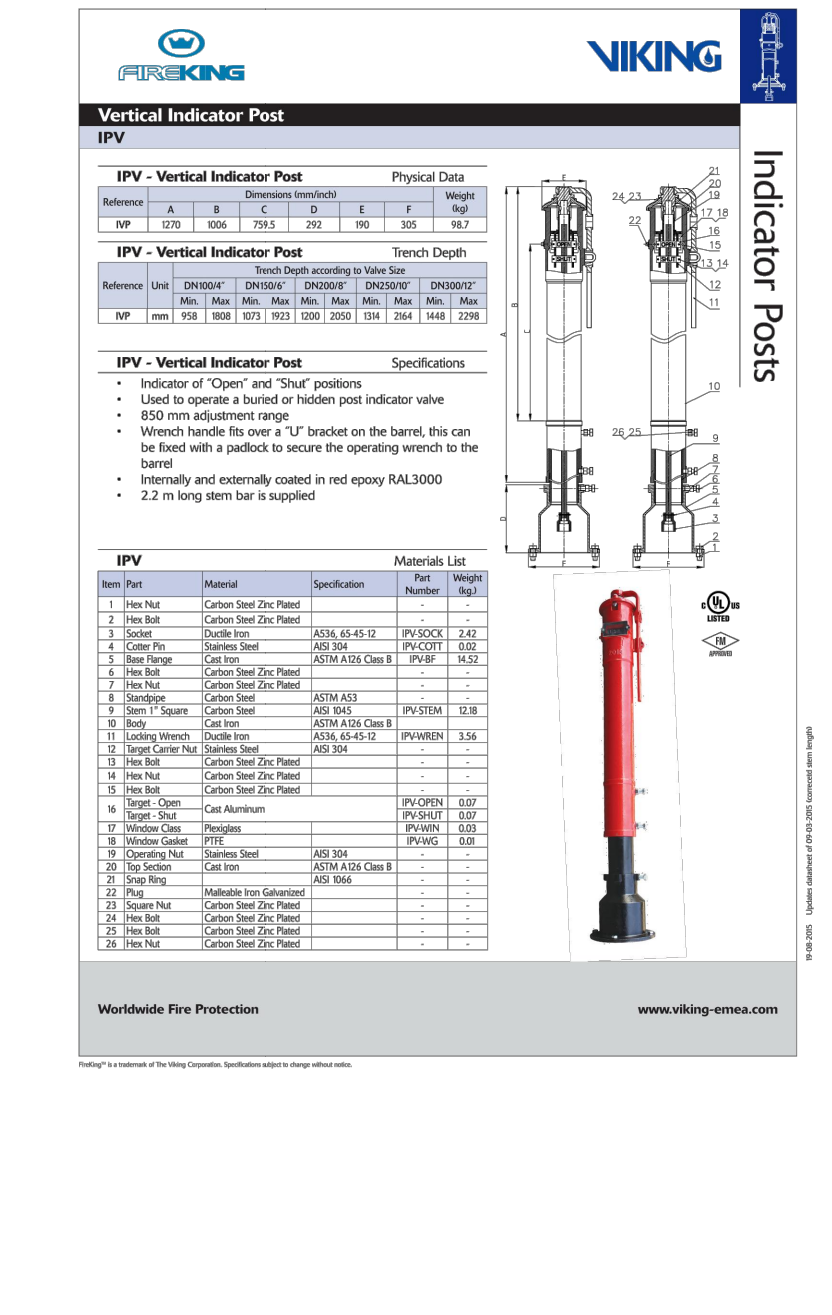
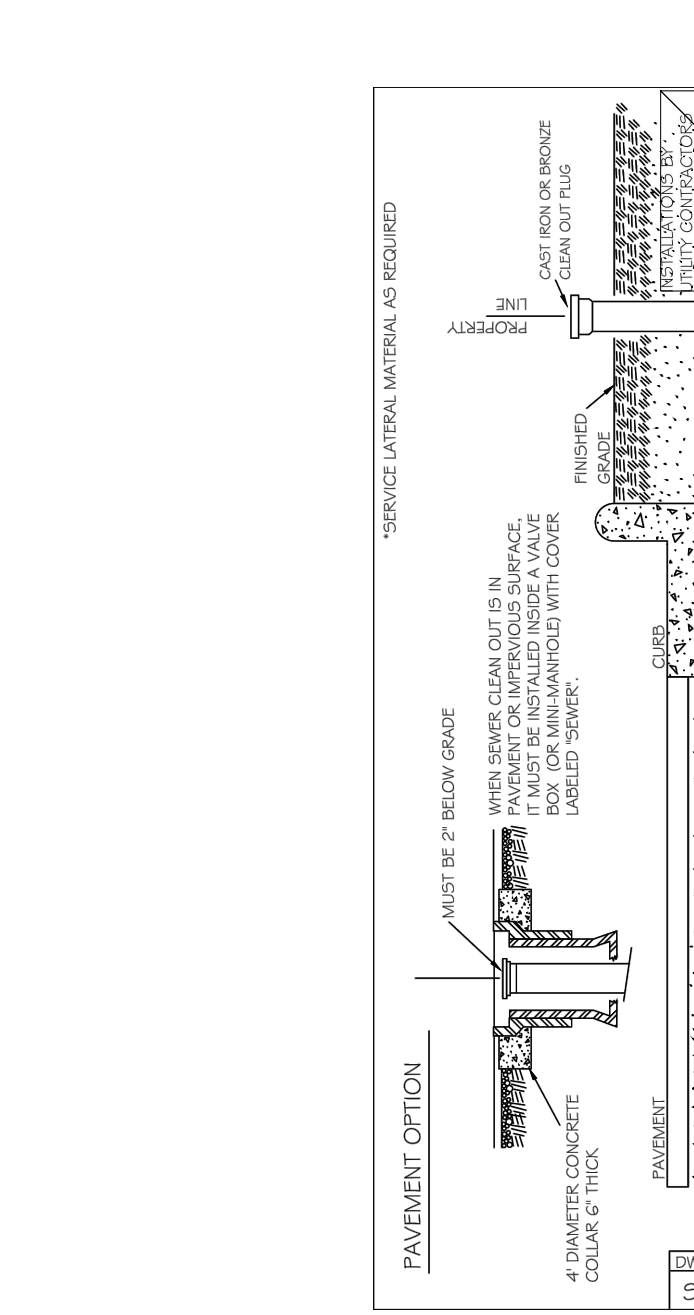
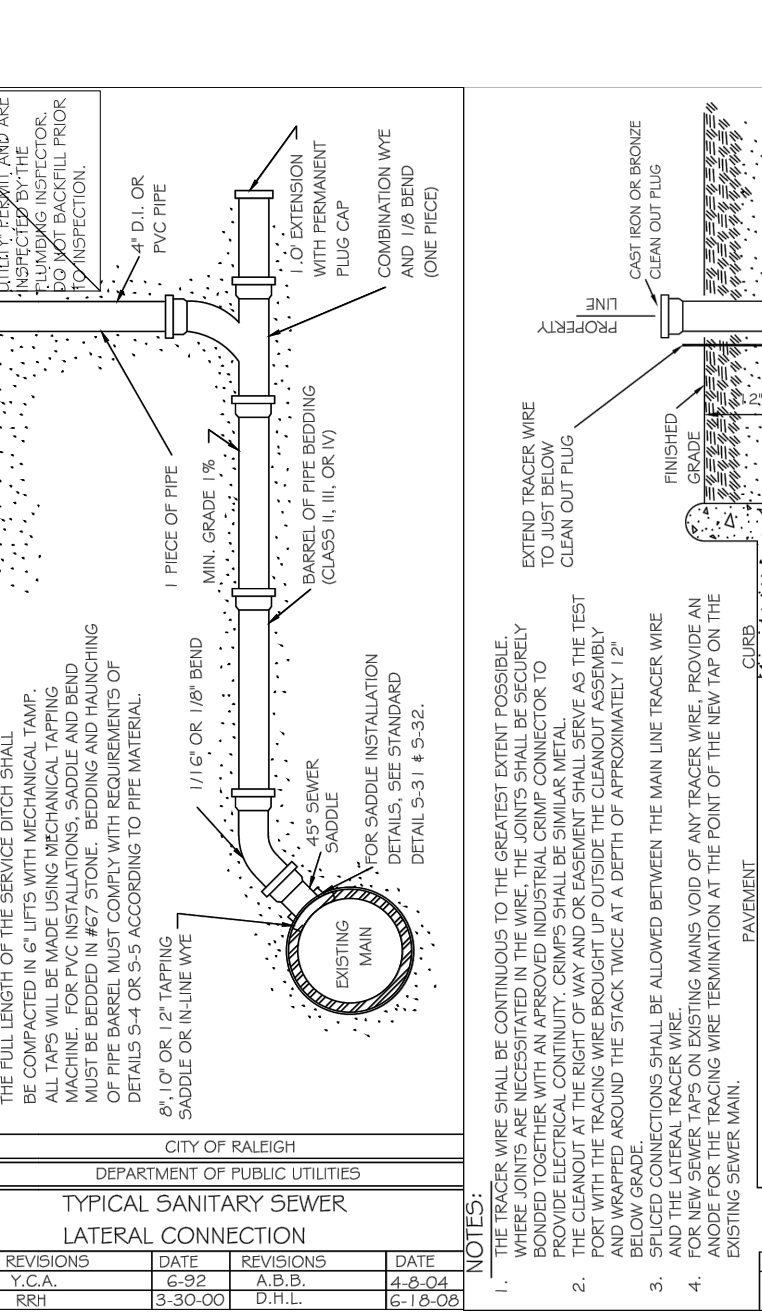
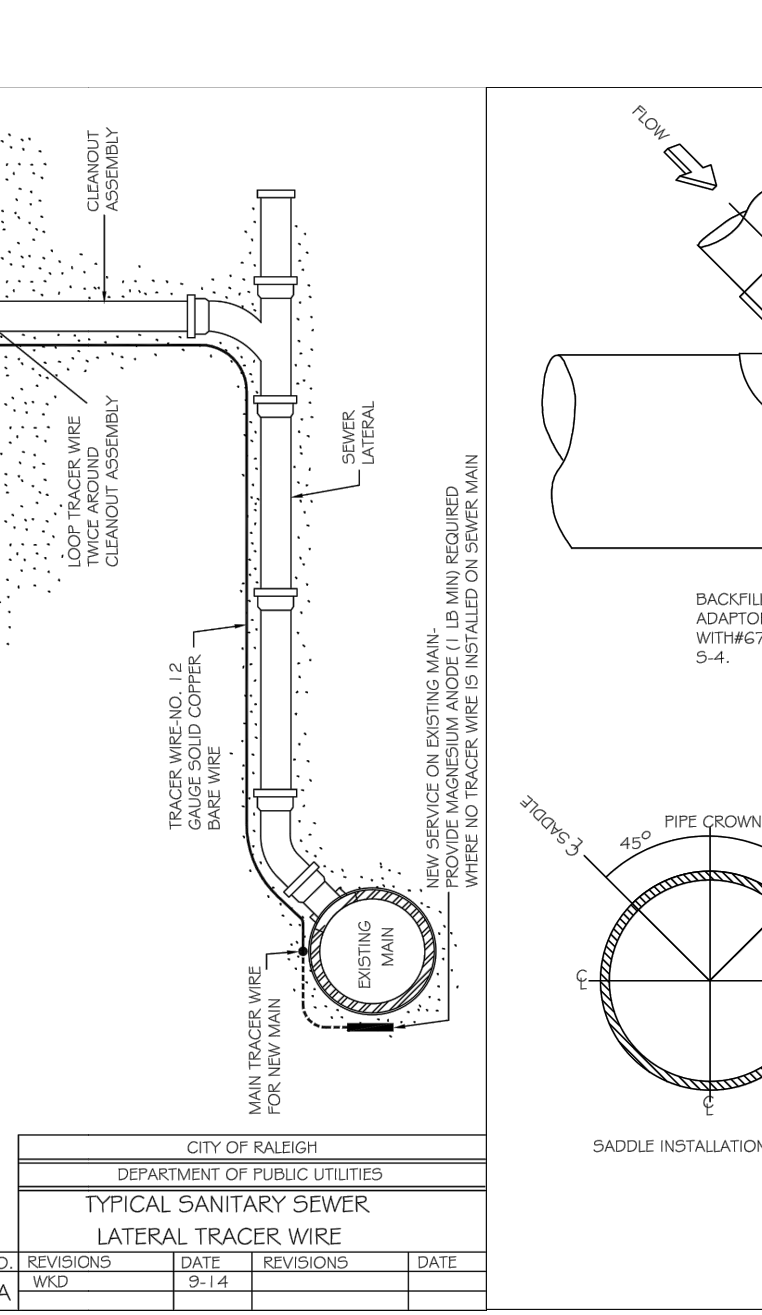
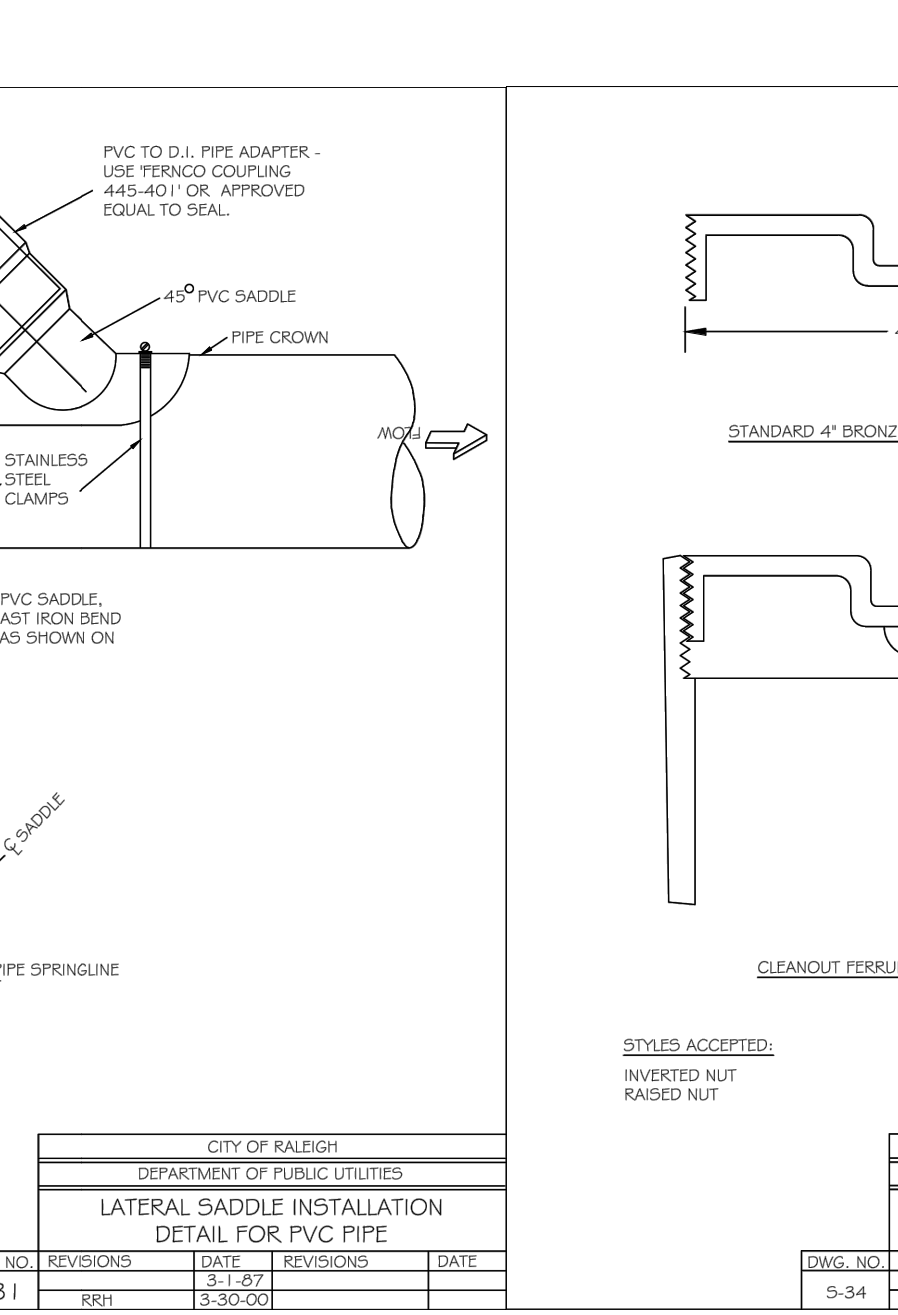
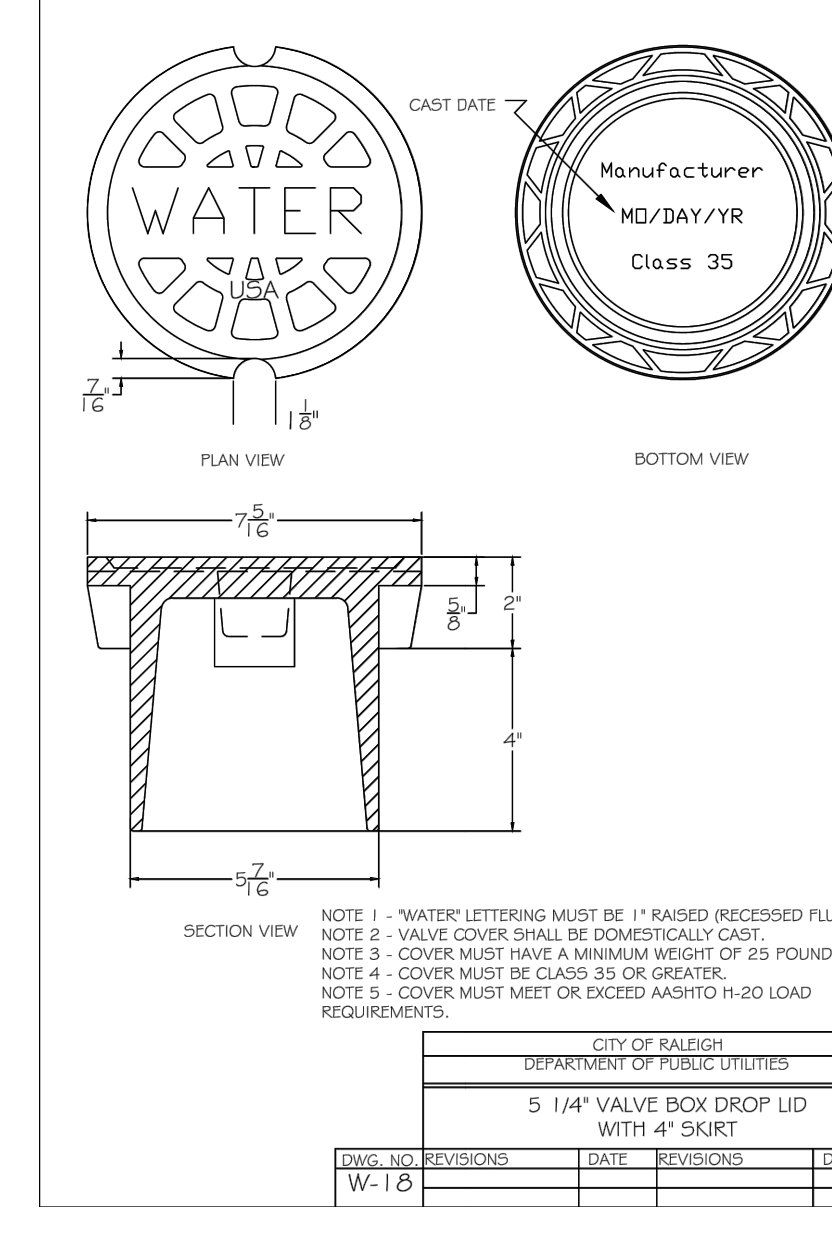
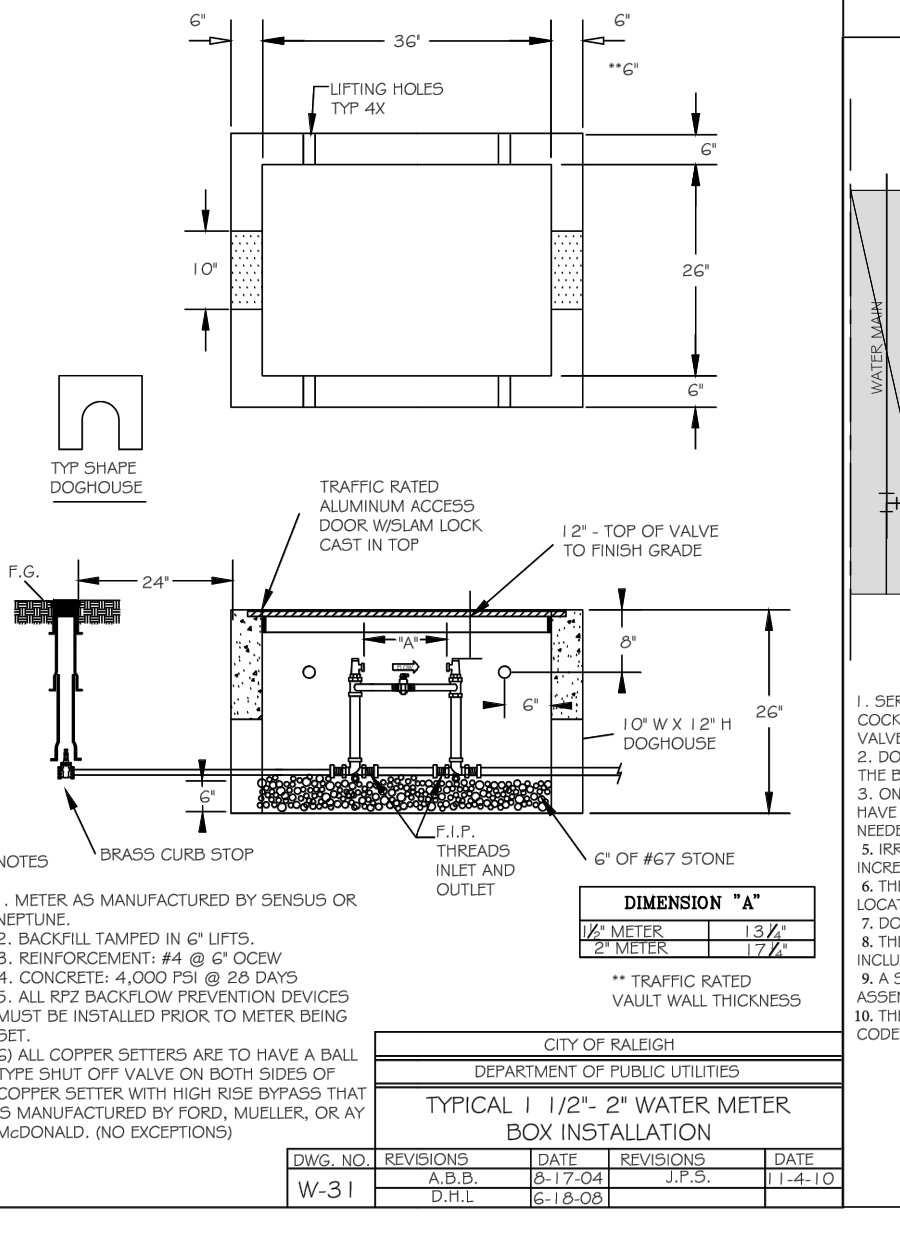
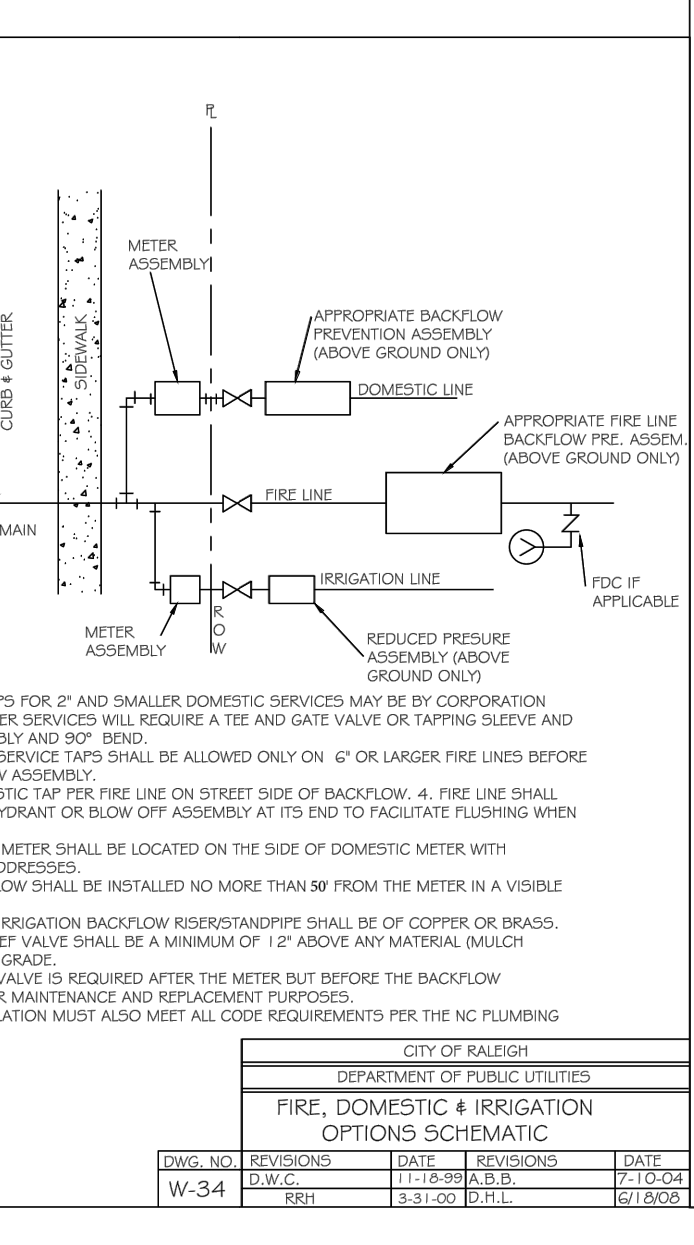
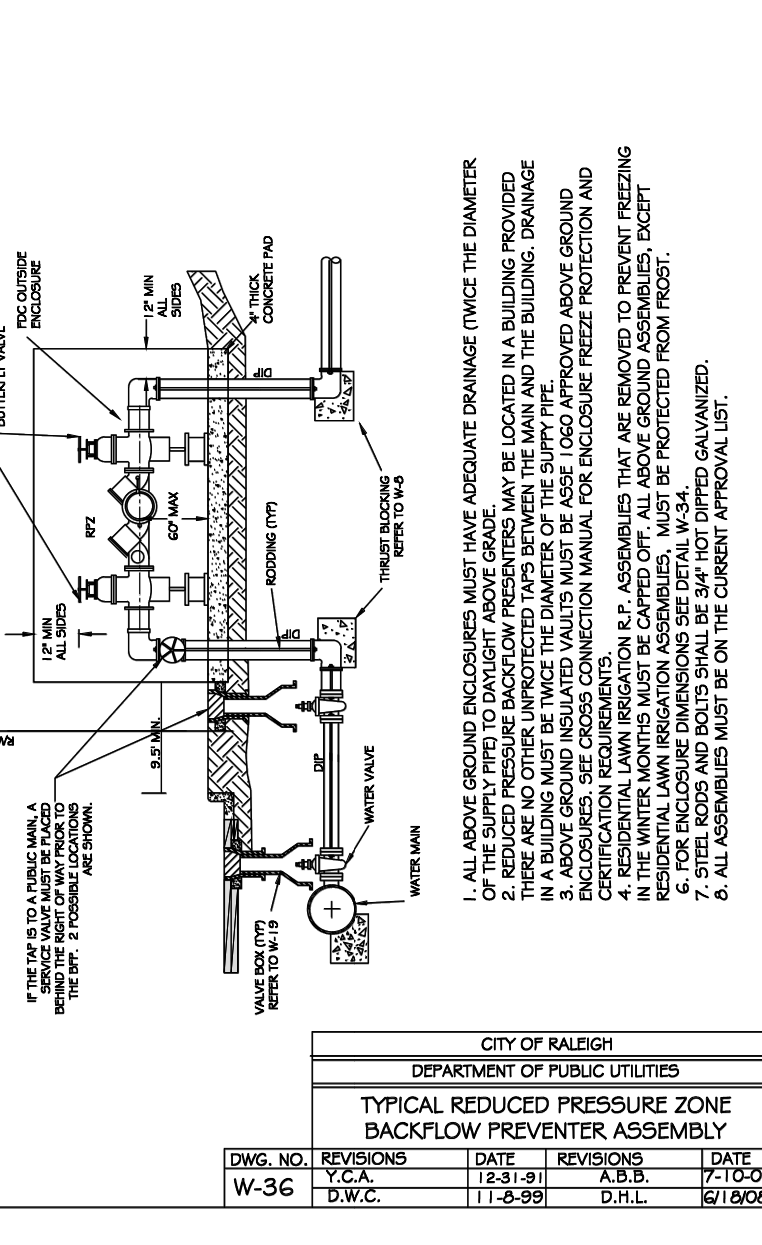
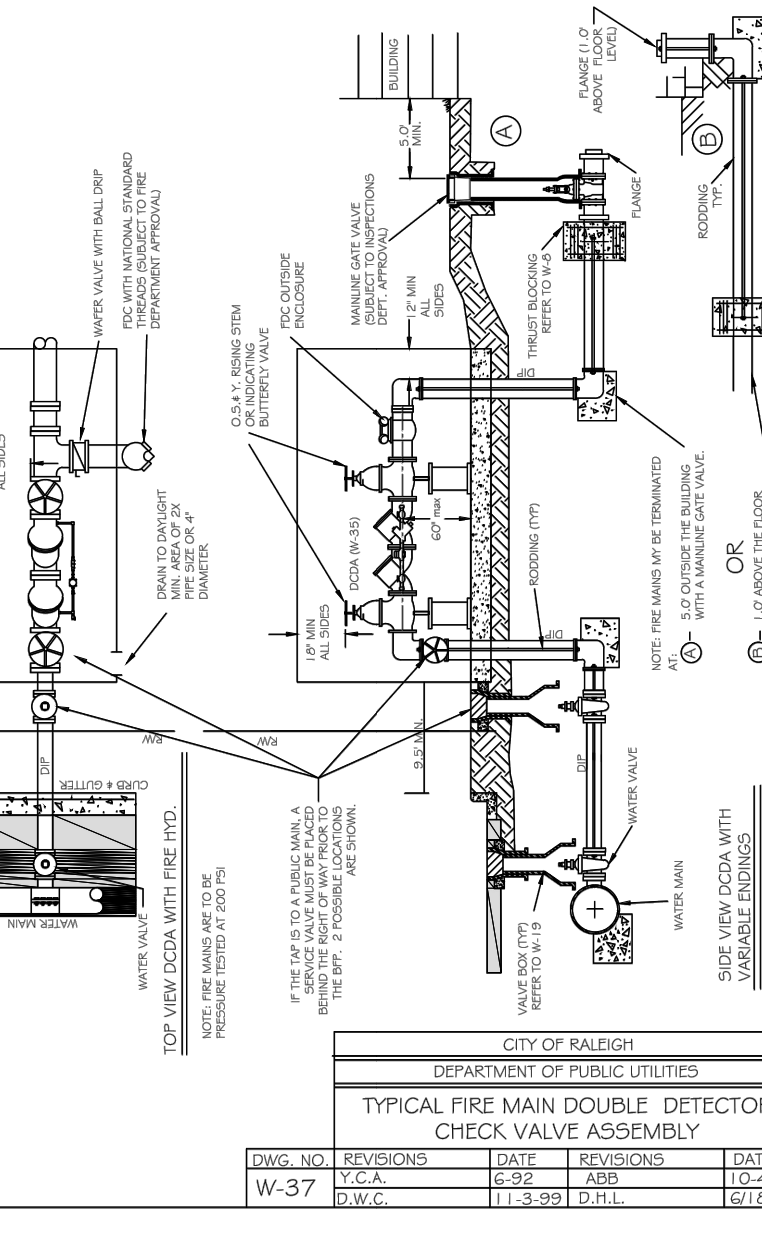
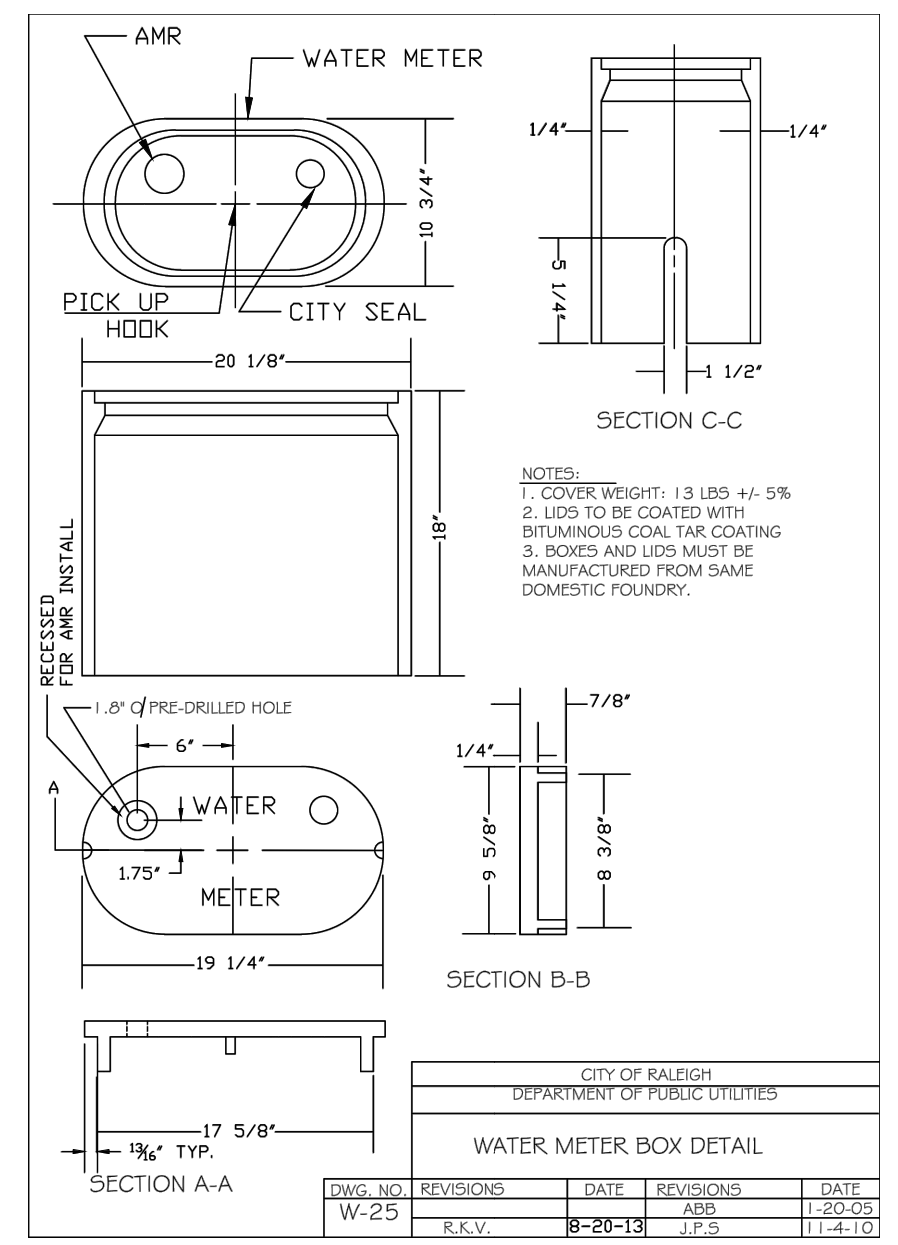
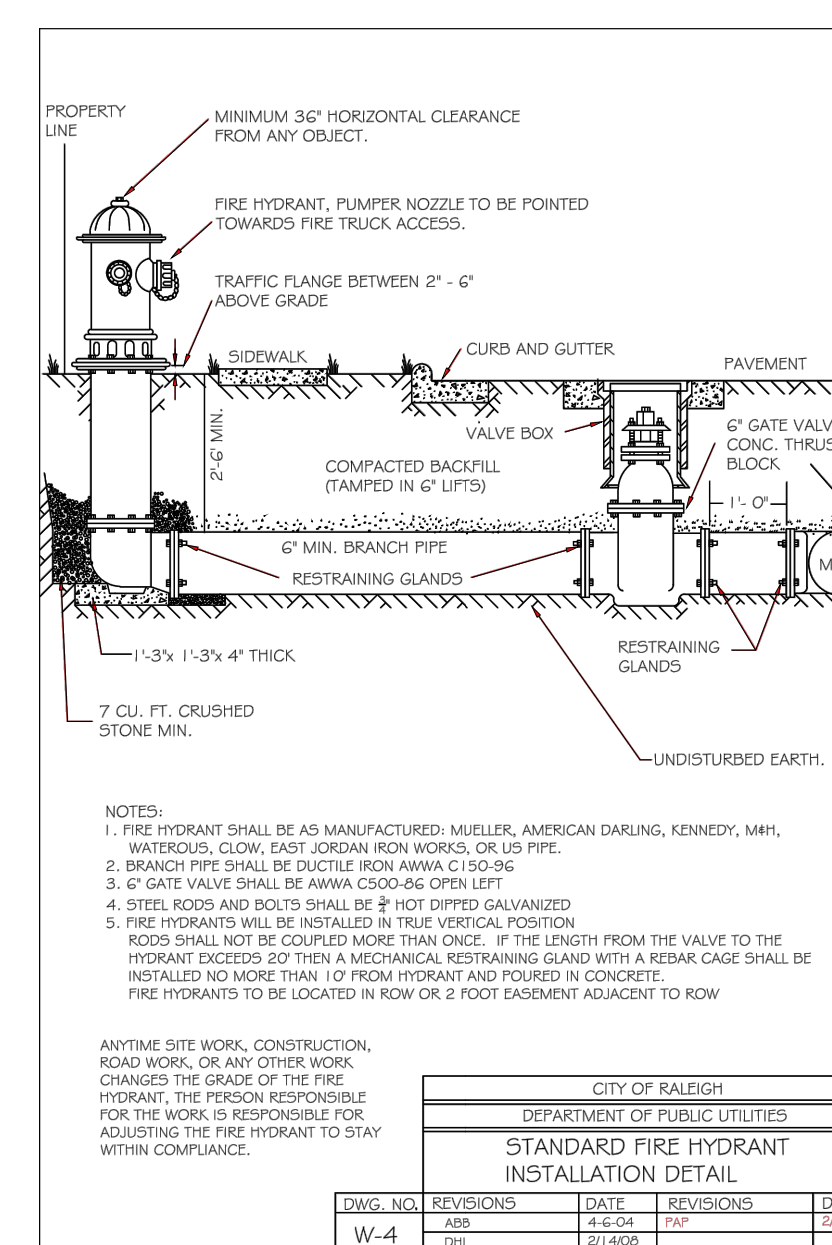
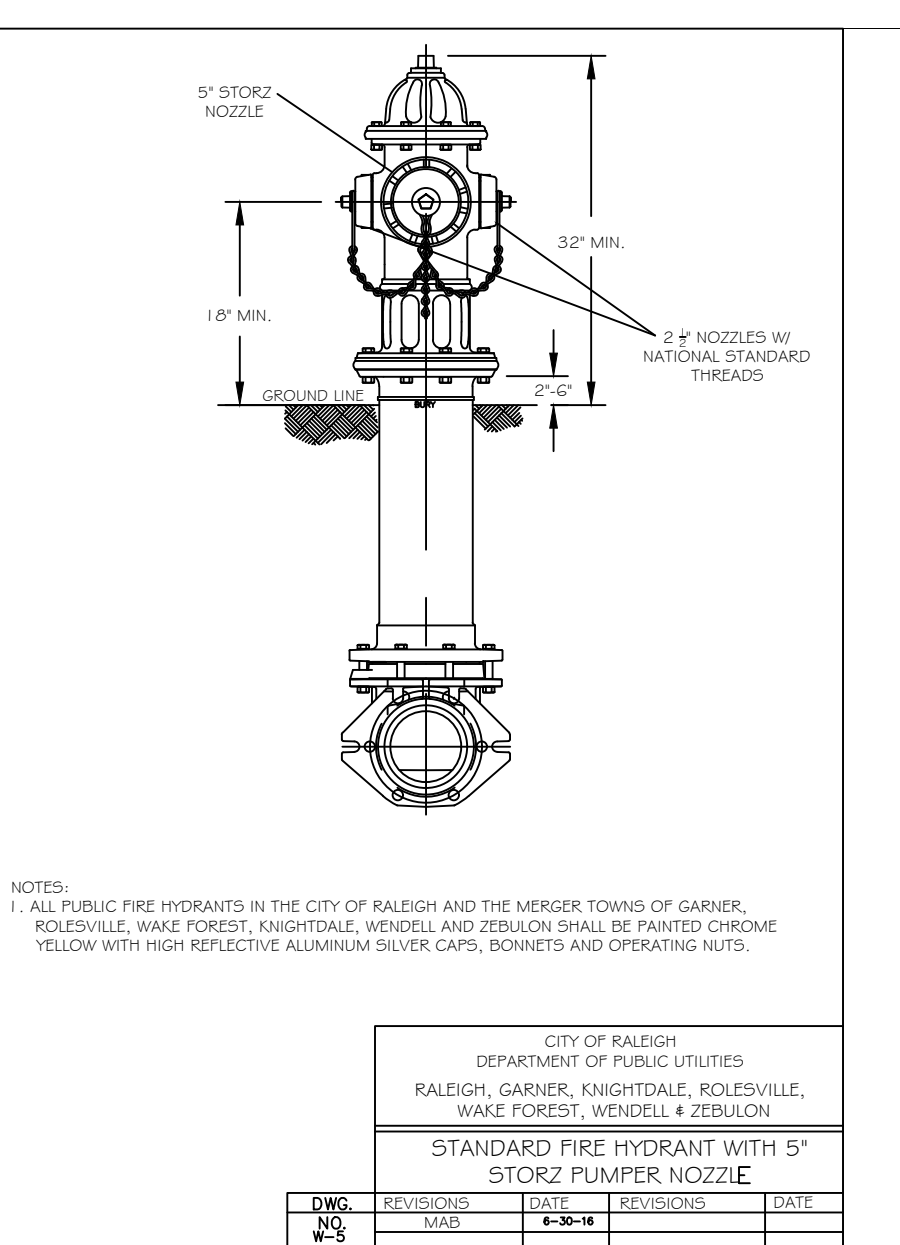
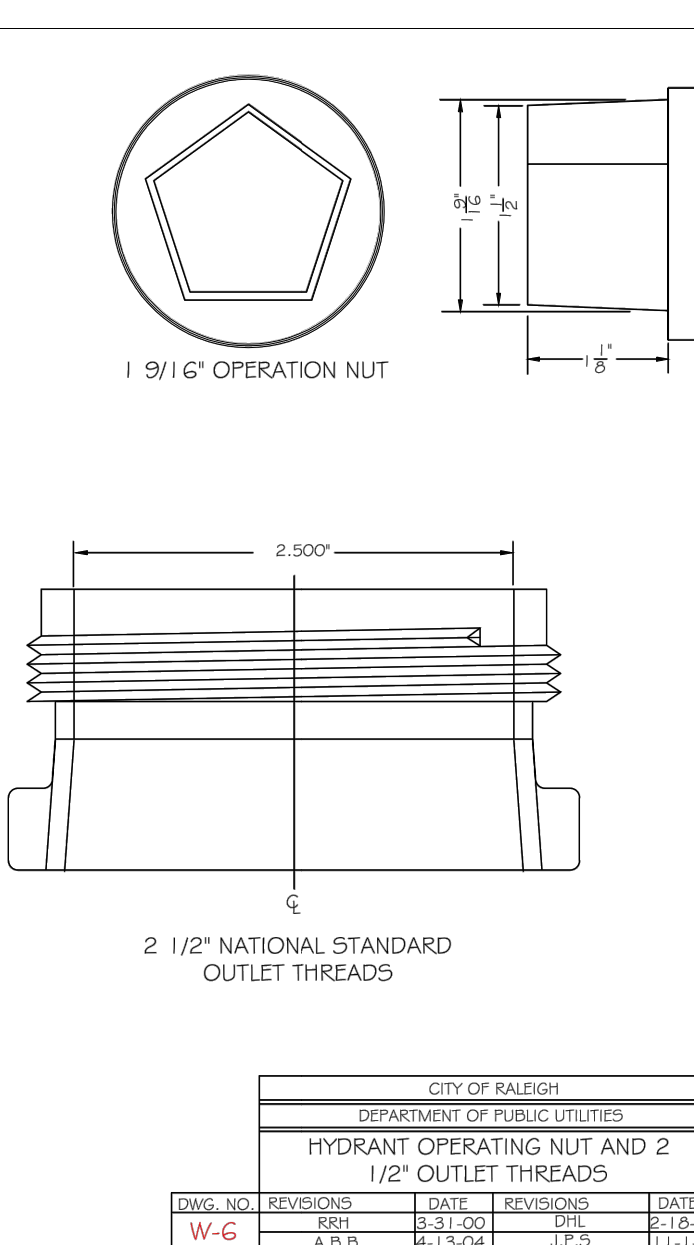
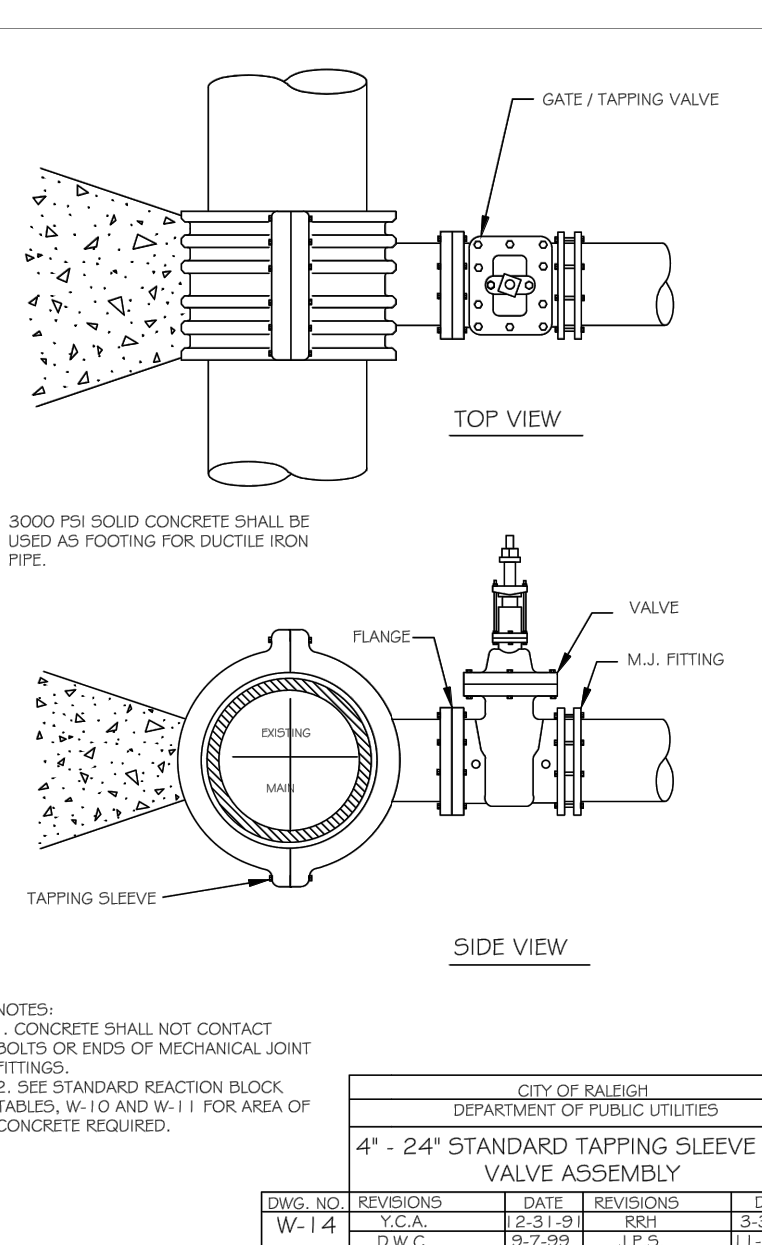
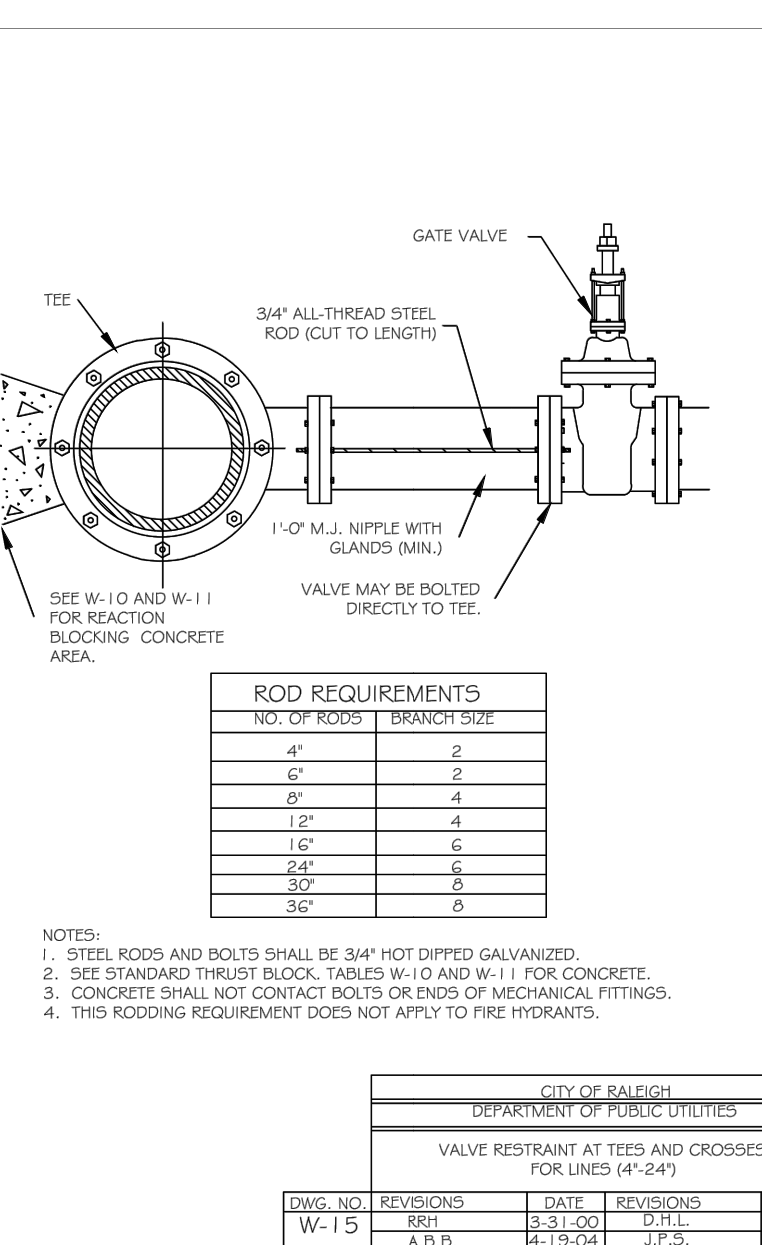
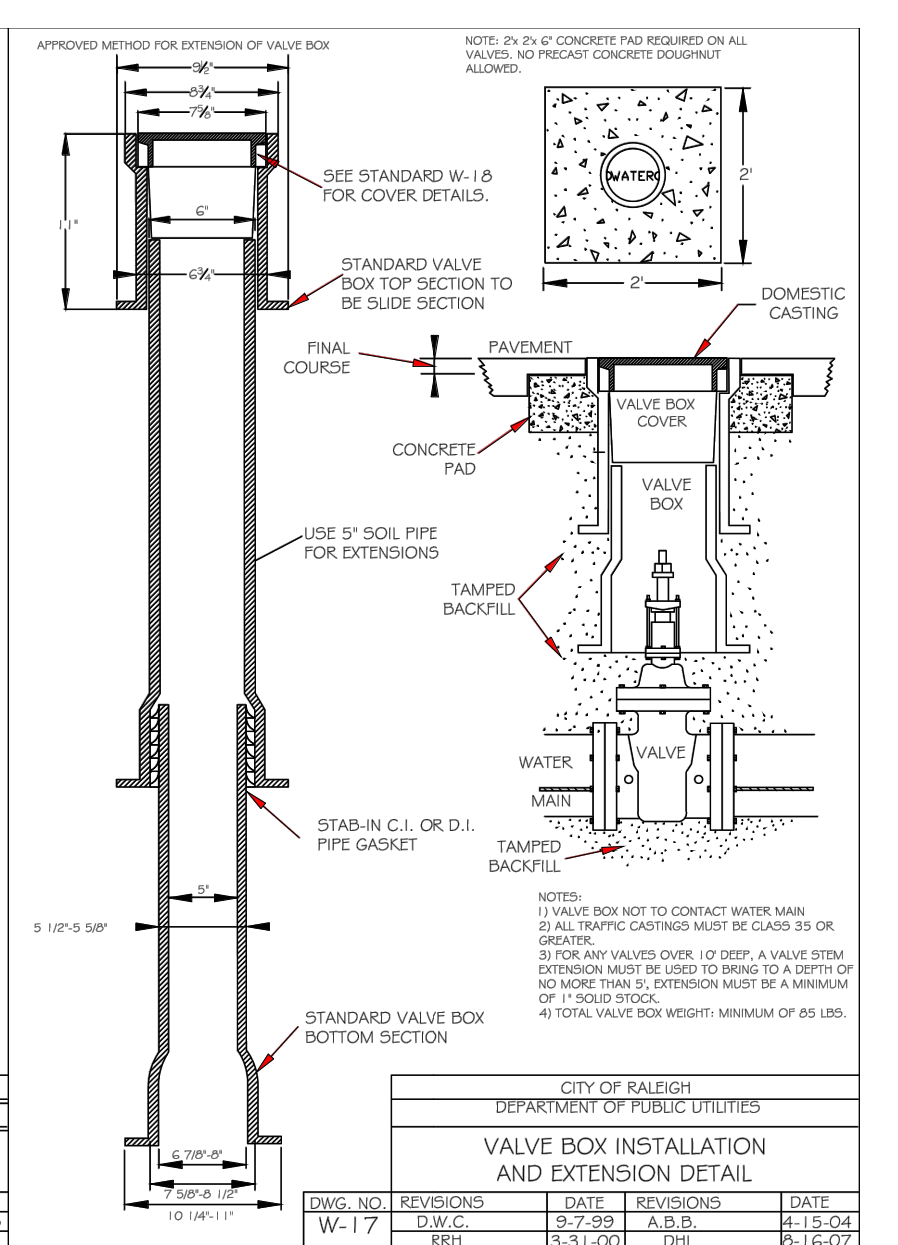
SCALE ADJUSTMENT  
THIS BAR IS 1 INCH IN LENGTH ON ORIGINAL DRAWING  
IF IT IS NOT 1 INCH ON THIS SHEET, ADJUST YOUR SCALE ACCORDINGLY

SITE DEVELOPMENT PLAN  
SDP-24-05  
PINE GLO  
414 S MAIN ST  
ROLESVILLE, NC 27571

OPTIMAL GLO LLC

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WATER & SEWER DETAILS



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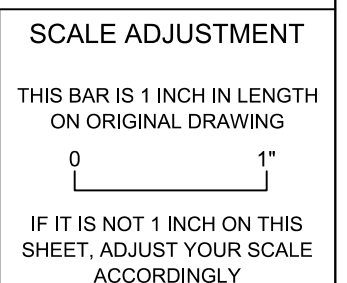
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NCG01 SELF-INSPECTION,  
RECORDKEEPING & REPORTING

**C-19**

SHEET 19 OF 30

**PART III**  
SELF-INSPECTION, RECORDKEEPING AND REPORTING

**SECTION C: REPORTING**

**1. Occurrences that Must be Reported**

Permittees shall report the following occurrences:

- Visible sediment deposition in a stream or wetland.
- Oil spills if:
  - They are 25 gallons or more,
  - They are less than 25 gallons but cannot be cleaned up within 24 hours,
  - They cause sheen on surface waters (regardless of volume), or
  - They are within 100 feet of surface waters (regardless of volume).
- Releases of hazardous substances in excess of reportable quantities under Section 311 of the Clean Water Act (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>

**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 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.

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

EFFECTIVE: 04/01/19

CALL 48 HOURS BEFORE  
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NCG01 GROUND STABILIZATION  
& MATERIAL HANDLING

**C-20**  
SHEET 20 OF 30

**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**

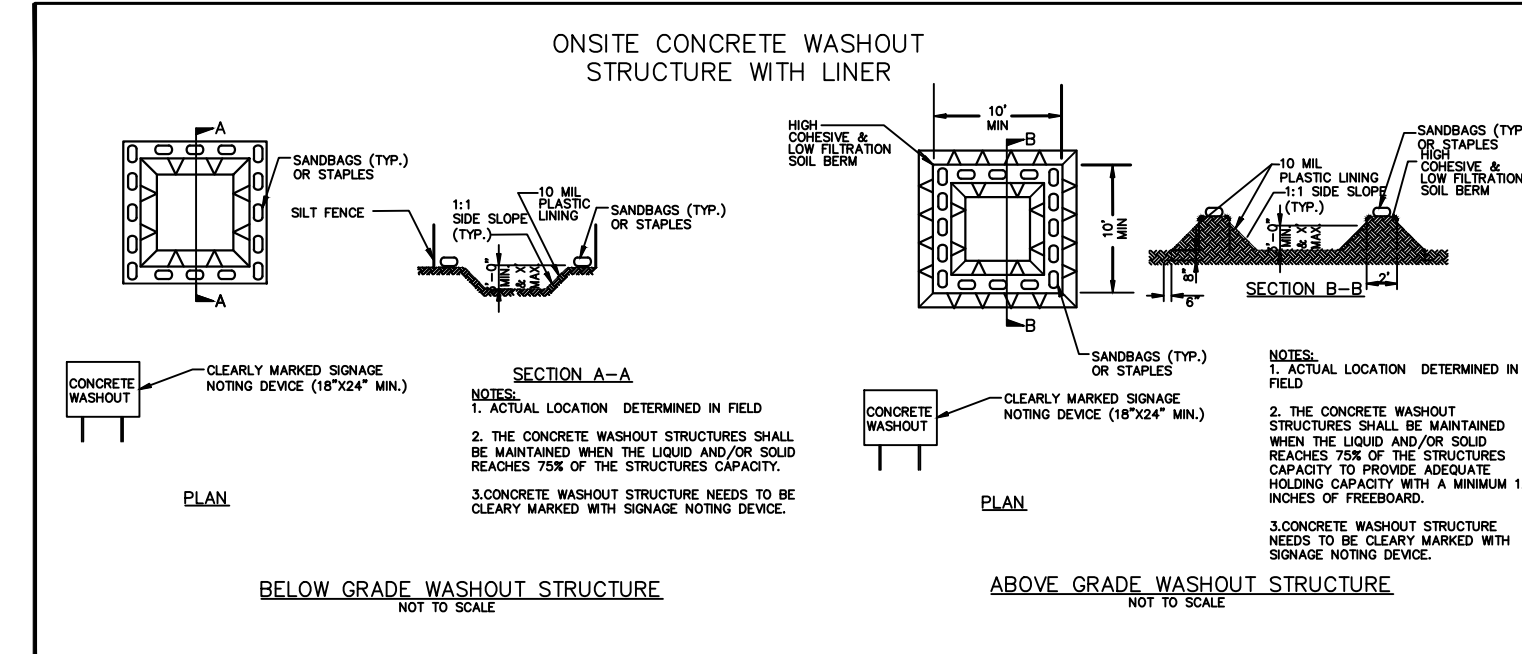
- Do not dump paint and other liquid waste into storm drains, streams or wetlands.
- Locate paint washouts at least 50 feet away from storm drain inlets and surface waters unless no other alternatives are reasonably available.
- Contain liquid wastes in a controlled area.
- Containment must be labeled,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

**NCG01 GROUND STABILIZATION AND MATERIALS HANDLING**

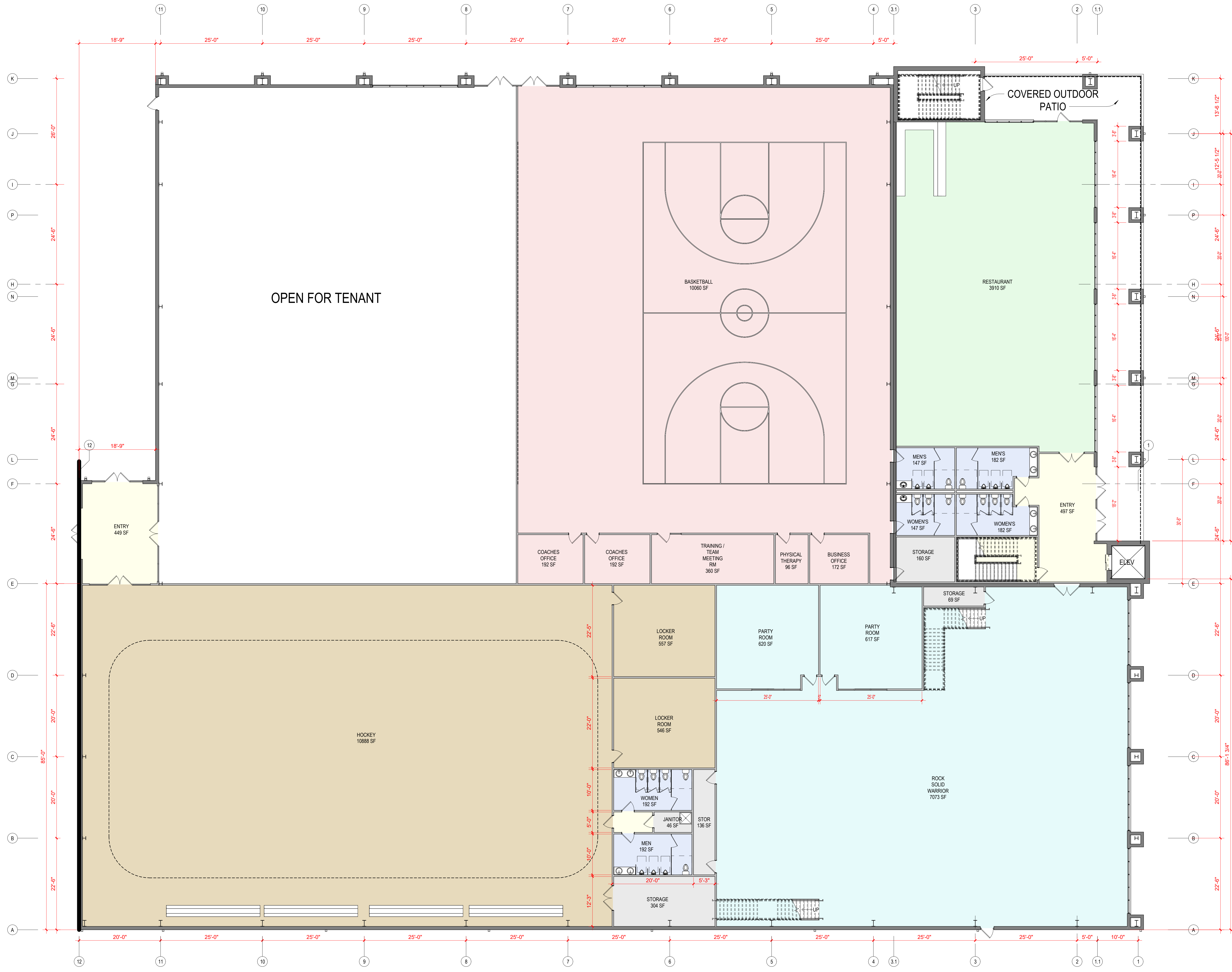
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ACCORDANCE WITH ALL TOWN OF  
ROLESVILLE, CITY OF RALEIGH AND WAKE  
COUNTY STANDARDS AND SPECIFICATIONS



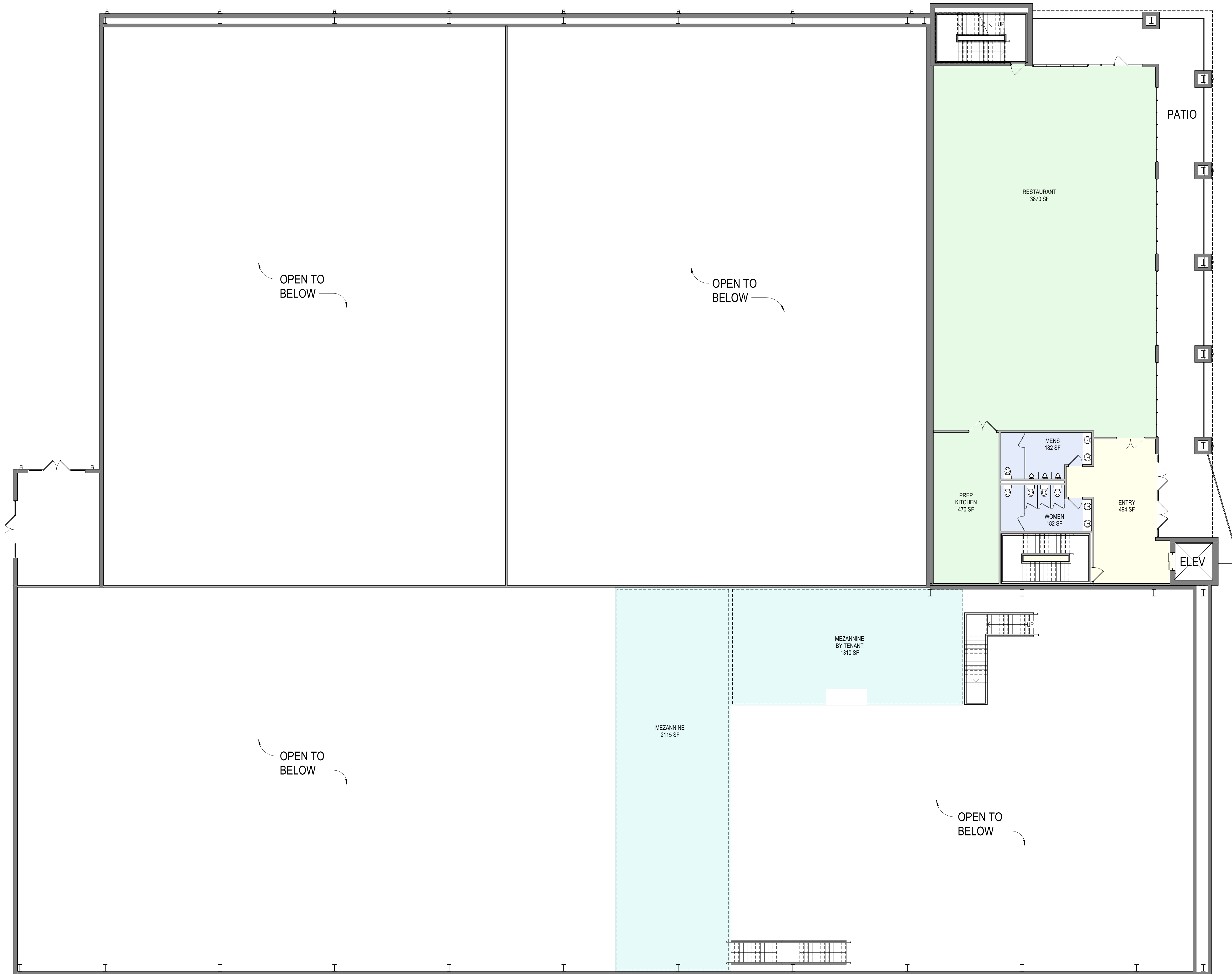
**1 FLOOR PLAN**  
1" = 10'-0"

**REVIEW SET  
NOT FOR  
CONSTRUCTION**

**PINE GLO BUILDING RENOVATIONS**  
414 S. MAIN ST  
ROLESVILLE, NC 27571

No.	Description	Date

PROJECT #: 210072  
DATE: 10/14/2024  
FIRST FLOOR PLAN



**REVIEW SET  
NOT FOR  
CONSTRUCTION**

**PINE GLO BUILDING RENOVATIONS**  
414 S. MAIN ST  
ROLESVILLE, NC 27571

No.	Description	Date
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PROJECT #: 210072

DATE: 10/14/2024

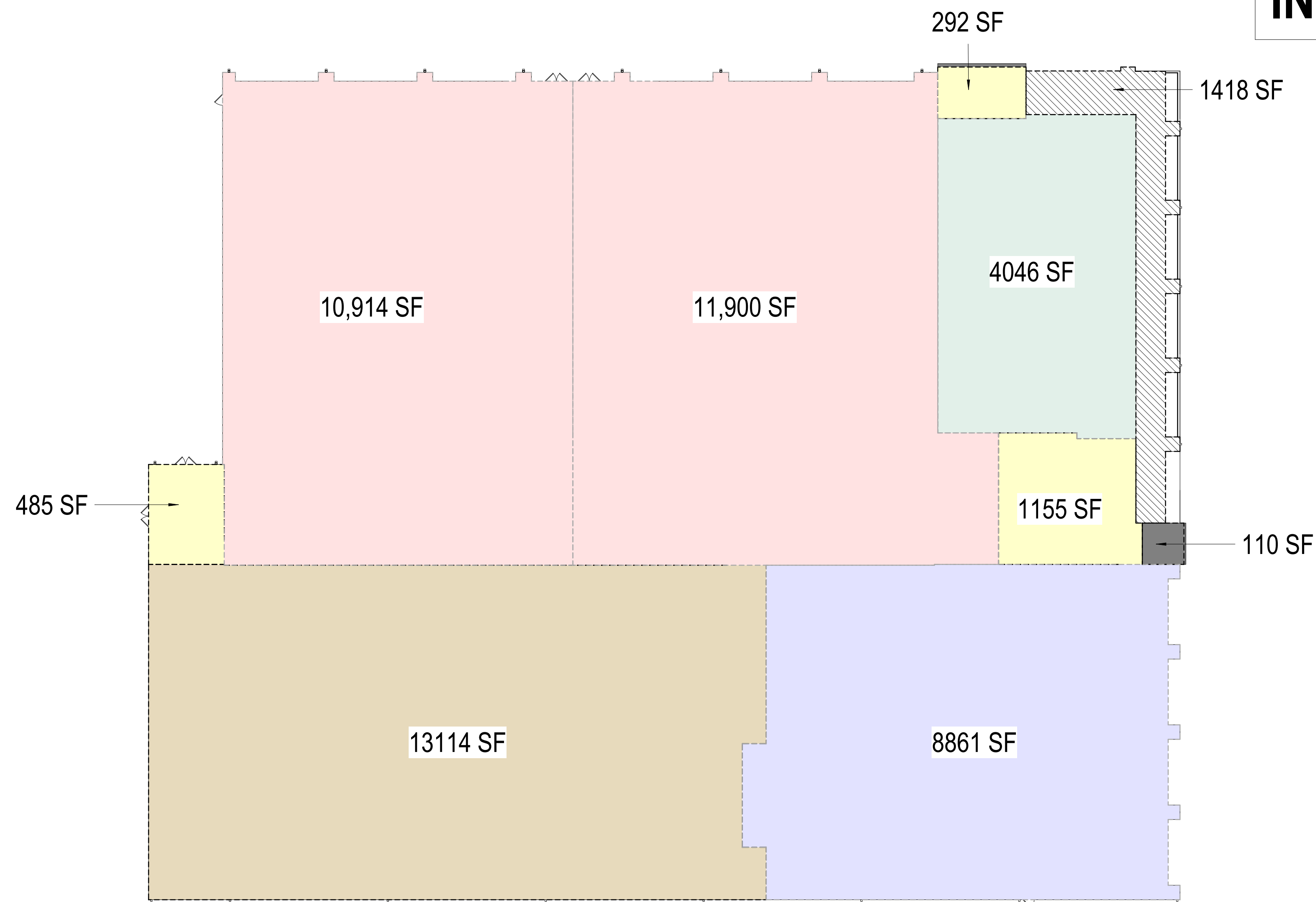
SECOND FLOOR PLAN

**A1.2**

DIGITAL PRINT DATE: 10/31/2024 2:50:51 PM

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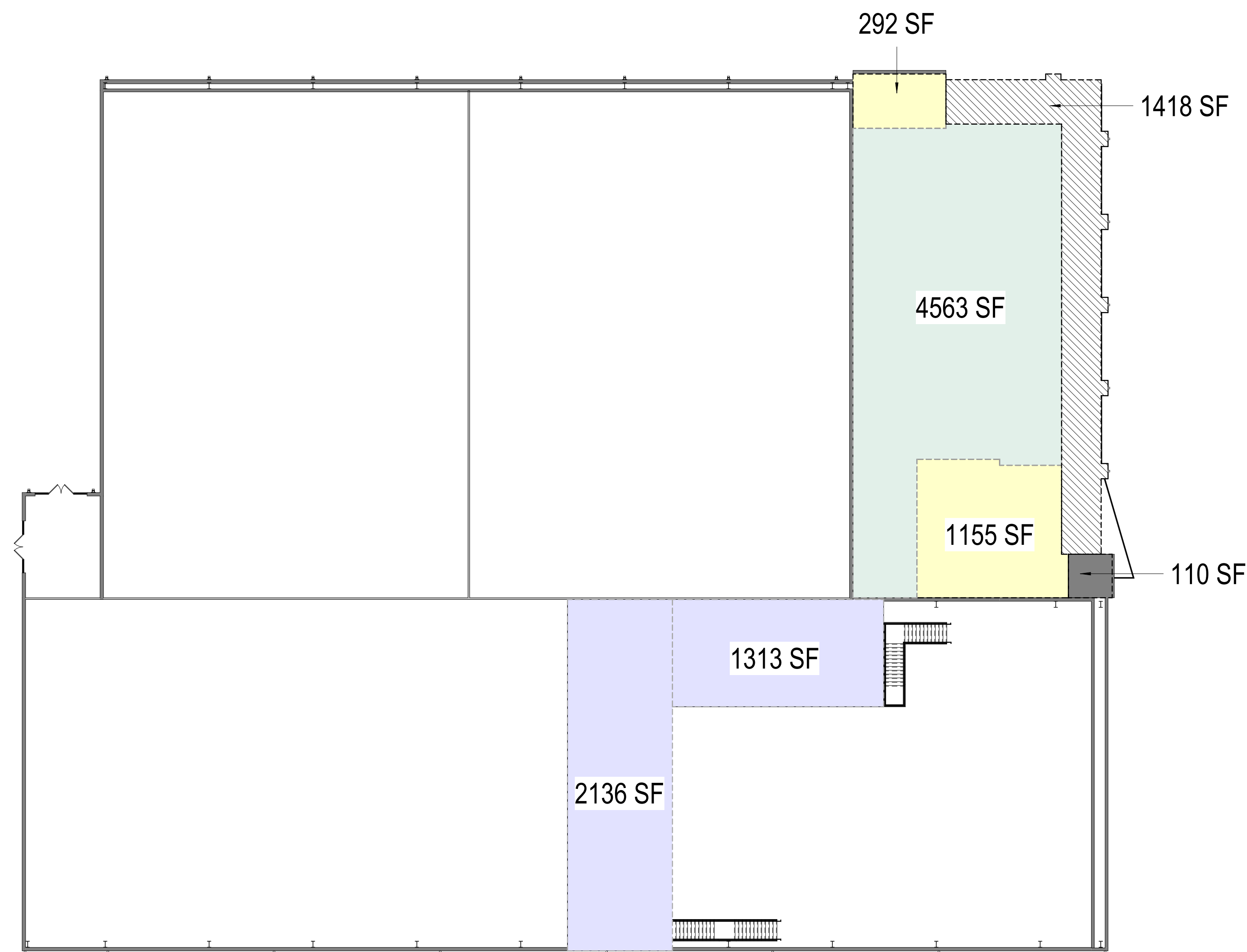
**THESE CALCULATIONS  
INCLUDE EXTERIOR WALLS**



**1st FLOOR**

BASKETBALL (INCLUDES TLT + STOR)	22,812 SF
HOCKEY (LCKR RM + TLT + STOR)	13,114 SF
ROCK SOLID WARRIOR (INCLUDES PARTY RM + STOR)	8,861 SF
RESTAURANT	4,046 SF
PATIO	1418 SF
2 STAIRS + TOILET RM + VEST (EAST)	1,447 SF
ELEVATOR	110 SF
<b>VESTIBULE (WEST)</b>	<b>485 SF</b>
<b>TOTAL = 50,875 SF</b>	
<b>WITH PATIO = 54,921 SF</b>	

**1 1 FLOOR SF DIAGRAM**  
1" = 20'-0"



**2nd FLOOR**

ROCK SOLID MEZANINE	2,136 SF
MEZZ BY TENANT (OPTION)	1,313 SF
RESTAURANT	4,563 SF
PATIO	1,418 SF
2 STAIRS + TOILET RM + VEST (EAST)	1,447 SF
<b>ELEVATOR</b>	<b>110 SF</b>
<b>TOTAL = 8,256 SF</b>	
<b>(WITH PATIO) 9,674 SF</b>	
<b>(MEZZ OPTION) 10,987 SF</b>	

**2 2 FLOOR SF DIAGRAM**  
1" = 20'-0"

**REVIEW SET  
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CONSTRUCTION**

**PINE GLO BUILDING RENOVATIONS**  
414 S. MAIN ST  
ROLESVILLE, NC 27571

No.	Description	Date
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PROJECT #: 210072

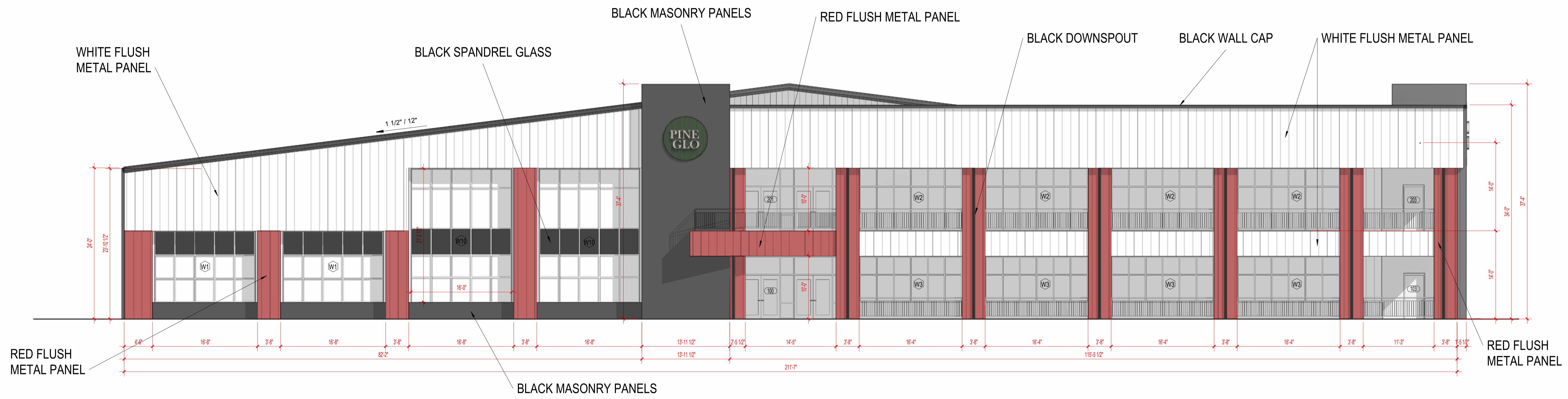
DATE: 10/14/2024

DIAGRAM OF SF

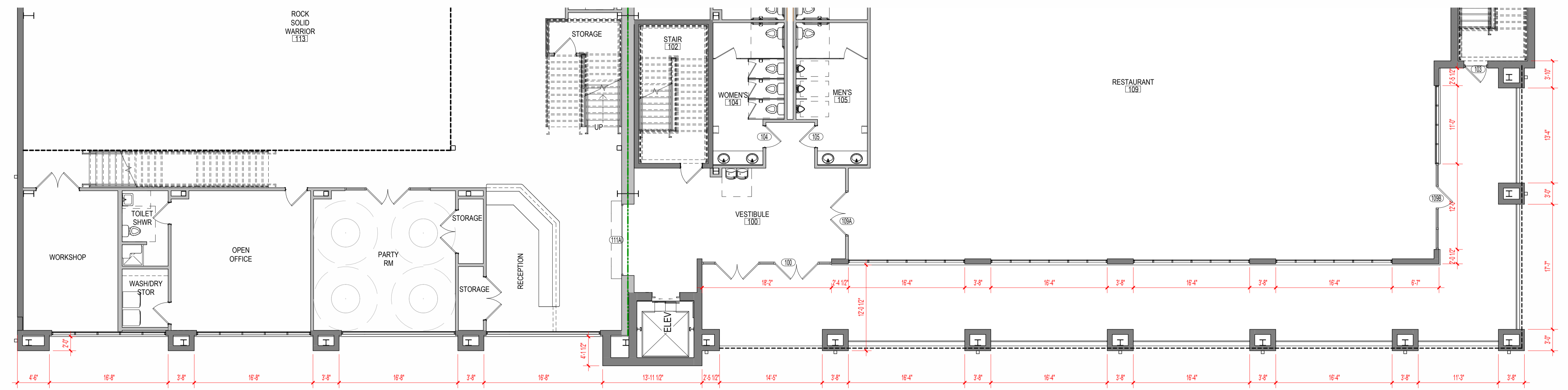
**A1.3**

DIGITAL PRINT DATE: 10/31/2024 2:53:00 PM

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NOT FOR  
CONSTRUCTION**



**ELEVATION - PUBLIC FACING FACADE**  
1/8" = 1'-0"



**1 FLOOR PLAN**  
1/8" = 1'-0"

**ROCK SOLID WARRIORS UPPIT**  
414 S. MAIN ST  
ROLESVILLE, NC 27571

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No.	Description	Date
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PROJECT #: 210072

DATE: 12/19/2024

BUILDING ELEVATIONS  
(SITE PLAN)

**A2.2**

DIGITAL PRINT DATE: 12/20/2024 11:24:34 AM





PINE  
GLO





PINE  
GLO





