Administrative Approval Action

Case File / Name: ASR-0099-2022
DSLC - LCCU New Bern Avenue Branch

City of Raleigh
Development Services Department
One Exchange Plaza
Raleigh, NC 27602
(919) 996-2492
currentplanning@raleighnc.gov
www.raleighnc.gov

LOCATION: This site is located on the south side of New Bern Avenue, east of N. Rogers Lane at 5280 New Bern Ave.

REQUEST: Development of a 1.07 acre/46,751sf tract zoned PD (MP-1-96/Z-45-96: Rogers Farm Planned Development) with a base UDO district of -CX. The proposed development is a 5,021 square foot general building for a bank with two drive-thru lanes.

MP-1-96/Z-45-96 - Effective September 3, 1996: Roger's Farm Master Plan Development.

DESIGN ADJUSTMENT(S)/ ALTERNATES, ETC: N/A

FINDINGS: **City Administration finds that this request, with the below conditions of approval being met, conforms to the Unified Development Ordinance. This approval is based on a preliminary plan dated November 17, 2023 by Robby Wayne.**

CONDITIONS OF APPROVAL and NEXT STEPS:

This document must be applied to the second sheet of all future submittals except for final plats. This is a preliminary plan and as such no permits have been issued with this approval. To obtain permits and/or completion of the project, the following steps are required:

☑ **SITE PERMITTING REVIEW** - For land disturbance of 12,000 square feet or greater, public or private infrastructure, shared stormwater devices, etc. Site Permitting Review may be submitted upon receipt of this signed approval document.

The following items are required prior to approval of Site Permitting Review plans:

General

1. Sheet A202, the transparency table is revised for the North Elevation. The total "provided" transparency calculation "287'sf" is revised & includes all window transparency shown.

2. A recorded copy of plat S-58-02 Roger's Farm Subdivision (BM 2003 PG's 156-158) are inserted with the civil Site Permit Review plans set.

3. Provide verification that a cross access easement has been recorded between the proposed bank site (PIN 1734433643) and the adjacent parcel to the south (PIN 1734339337) and add reference to the easement on the site plan.

Stormwater

4. A surety equal to of the cost of clearing, grubbing and reseeding a site, shall be paid to the City (UDO 9.4.4).

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5. A stormwater control plan with a stormwater operations and maintenance manual and budget shall be approved (UDO 9.2).

6. A nitrogen offset payment must be made to a qualifying mitigation bank (UDO 9.2.2.B).

☑ **RECORDED MAP(S)** - Submit plat to record new property lines, easements, tree conservation areas, etc.). Plats may be submitted for review when the Site Permitting Review plans, if required, have been deemed ready for mylar signature.

The following items must be approved prior to recording the plat:

Stormwater

1. All stormwater control measures and means of transporting stormwater runoff to and from any nitrogen and stormwater runoff control measures shall be shown on all plats for recording as private drainage easements (UDO 9.2).

2. A surety equal to 125% of the cost of the construction of a stormwater device shall be paid to the Engineering Services Department (UDO 9.2.2.D.1.d).

☑ **BUILDING PERMITS** - For buildings and structures shown on the approved plans. Commercial building permit plans must include the signed, approved Site Permitting Review plans attached, if applicable. Permit sets may be reviewed prior to the recordation of required plats, but cannot be approved.

The following items must be approved prior to the issuance of building permits:

Urban Forestry

1. A tree impact permit must be obtained for the approved streetscape tree installation in the right of way. This development proposes 9 street trees along New Bern Ave.

2. A public infrastructure surety for the 9 required street trees shall be provided to City of Raleigh Transportation – Development Engineering Division (UDO 8.1.3) in the amount of 100% of the improvement cost for the NCDOT portion and 125% of the improvement cost for the City of Raleigh infrastructure.

The following are required prior to issuance of building occupancy permit:

General

1. All Water, Sanitary Sewer and Reuse facilities shall be installed, inspected, tested and accepted by the City of Raleigh Public Utilities Department for operations and maintenance.

Stormwater

City of Raleigh
Development Services Department
One Exchange Plaza
Raleigh, NC 27602
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2. As-built impervious survey is accepted by the Engineering Services Department (UDO 9.2).

3. As-built drawings and associated forms for all Stormwater devices are accepted by the Engineering Services Department (UDO 9.2.2.D.3).

EXPIRATION DATES: **The expiration provisions of UDO Section 10.2.8 E, including the ability to request extensions in the expiration date, apply to this site plan.** If significant construction has not taken place on a project after administrative site review approval, that approval may expire and be declared void, requiring re-approval before permits may be issued. To avoid allowing this plan approval to expire the following must take place by the following dates:

3-Year Expiration Date: June 6, 2027
Obtain a valid building permit for the total area of the project, or a phase of the project.

4-Year Completion Date:
Within four years after issuance of the first building permit for the site plan, the construction of the entire site plan must be completed unless an applicant has been granted vested rights. Failure to complete construction within this specified time frame shall automatically void the approved site plan for which no building permits have been issued.

I hereby certify this administrative decision.

Signed: _____ Date: 06/06/2024
Development Services Dir/Designee

Staff Coordinator: Jermont Purifoy

EXISTING PROPERTY LINE
MAINTAINED AS R/W LINE
TEMPORARY CONSTRUCTION EASEMENT
EXISTING EASEMENT
EXISTING SETBACK
EXISTING LANDSCAPE BUFFER
EXISTING PRIVATE DRAINAGE EASEMENT
EXISTING SEWER EASEMENT
EXISTING CONTOURS
PROPOSED CONTOURS
EXISTING EDGE OF PAVEMENT
EXISTING CURB AND GUTTER
EXISTING FENCE
PROPOSED CHAIN LINK FENCE
EXISTING WOOD FENCE
EXISTING TELEPHONE FIBER OPTIC
EXISTING CABLE TV FIBER OPTIC
EXISTING DITCH LINE
EXISTING GAS LINE
EXISTING WATER LINE
EXISTING WATER SERVICE
EXISTING SANITARY SEWER
EXISTING SEWER LATERAL
EXISTING UNDERGROUND TELEPHONE
EXISTING UNDERGROUND FIBER OPTIC
EXISTING UNDERGROUND ELECTRIC
EXISTING OVERHEAD ELECTRIC
EXISTING TELEPHONE
EXISTING STORM DRAINAGE PIPE
PROPOSED STORM DRAINAGE PIPE
PROPOSED SLOPE STAKE LIMIT
EXISTING TOP OF BANK
EXISTING TOE OF BANK
EXISTING TREE LINE
EXISTING TREE
EXISTING SHRUB
TREE PROTECTION
TREE REMOVAL
EXISTING GAS VALVE
EXISTING WATER METER
EXISTING WATER VALVE
EXISTING FIRE HYDRANT
EXISTING SANITARY SEWER MANHOLE/CLEANOUT
EXISTING HAND HOLD FIBER OPTIC
PROPOSED CATCH BASIN
EXISTING DROP INLET
PROPOSED DROP INLET
EXISTING STORM DRAIN MANHOLE
EXISTING POWER POLE
EXISTING UTILITY/LIGHT POLE
PROPOSED UTILITY/LIGHT POLE
EXISTING GUY WIRE
EXISTING IRON PIN
PROPOSED CURB
PROPOSED SIDEWALK
PROPOSED FULL DEPTH ASPHALT REPLACEMENT

PREPARED BY:

LaBella Powered by partnership.
400 S. Tryon Street
Suite 1300
Charlotte, NC 28285
704-376-6423
N.C. License # C-0430
labellapc.com
Robert Wilson, P.E.
rwilson@labellapc.com

PUBLIC UTILITY TABLE	
WATER	0 LF
SEWER	0 LF
No Public Utility Extensions Required	

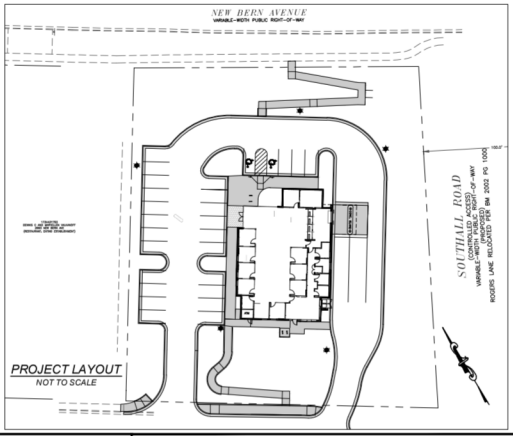
COOPERATIVA LATINO CREDIT UNION

LCCU - NEW BERN AVENUE BRANCH

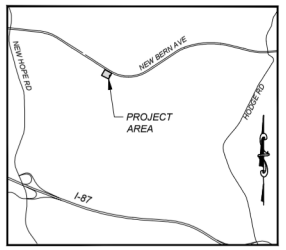
5280 NEW BERN AVENUE
RALEIGH, NC 27601
CASE NO. ASR-0099-2022
SITE PERMIT

NO:	DATE:	DESCRIPTION
1	2-24-23	REVISE PER ASR COMMENTS #1
2	5-5-23	REVISE PER ASR COMMENTS #2

INDEX OF SHEETS



PROJECT LAYOUT
NOT TO SCALE



VICINITY MAP
NOT TO SCALE

GENERAL NOTES:

1. COORDINATE ALL CURB AND STREET GRADES AT DRIVEWAY INTERSECTIONS WITH INSPECTOR.
2. SIGHT TRIANGLES SHOWN ARE THE MINIMUM REQUIRED.
3. DIRECT VEHICULAR ACCESS TO AND FROM LOTS IS PROHIBITED.
4. APPROVAL OF THIS PLAN IS NOT AN AUTHORIZATION TO GRADE ADJACENT PROPERTIES. WHEN FIELD CONDITIONS WARRANT OFF-SITE GRADING, PERMISSION MUST BE OBTAINED FROM THE AFFECTED PROPERTY OWNERS
5. IN ORDER TO ENSURE PROPER DRAINAGE, KEEP A MINIMUM OF 0.5% SLOPE ON THE CURB GUTTER.
6. THE PURPOSE OF THE STORM DRAINAGE EASEMENT (SDE) IS TO PROVIDE STORM WATER CONVEYANCE. BUILDINGS ARE NOT PERMITTED IN THE EASEMENT AREA. ANY OTHER OBJECTS WHICH IMPEDE STORM WATER FLOW OR SYSTEM MAINTENANCE ARE ALSO PROHIBITED.
7. PE SEALED SHOP DRAWINGS FOR RETAINING WALL MUST BE SUBMITTED TO CITY ENGINEER PRIOR TO CONSTRUCTION.
8. "AS-BUILT" DRAWINGS AND PLANS OF THE STORM DRAINAGE SYSTEM, INCLUDING DESIGNED DITCHES, MUST BE SUBMITTED PRIOR TO FINAL INSPECTION TO THE CITY ENGINEERING DEPARTMENT IN ACCORDANCE WITH THE CITY ORDINANCE.
9. PRIOR TO INSTALLATION, PE SEALED SHOP DRAWINGS FOR UNDERGROUND DETENTION SYSTEMS MUST BE FURNISHED TO CITY OF RALEIGH ENGINEERING FOR APPROVAL.
10. PRIOR TO CO, SURVEYOR SEALED AS-BUILT DRAWINGS OF ALL WATER QUALITY BMP'S AND DETENTION SYSTEMS MUST BE PROVIDED.
11. PRIOR TO PLAT RECORDATION, OFFSITE RIGHT-OF-WAY (R/W) AND/OR EASEMENTS ARE REQUIRED TO BE OBTAINED ACCORDING TO THE GUIDELINES OF THE "OFFSITE R/W ACQUISITION PROCESS".
12. ALL REQUIRED NATURAL AREAS AND/OR POST CONSTRUCTION CONTROLS EASEMENTS (PCCES) MUST BE RECORDED PRIOR TO THE ISSUANCE OF THE CERTIFICATE OF OCCUPANCY.
13. NON-STANDARD ITEMS (E: PAVERS, IRRIGATION SYSTEMS, ETC.) IN THE RIGHT-OF-WAY REQUIRE A RIGHT-OF-WAY ENCROACHMENT AGREEMENT.
14. SIDEWALK WITHIN THE CITY'S R/W THAT REQUIRES REPLACEMENT AS PART OF THE DEVELOPMENT AND/OR STREET IMPROVEMENTS SHOULD BE PHASED IN SUCH A WAY AS TO MINIMIZE THE DURATION OF THE SIDEWALK CLOSURE TO THE EXTENT FEASIBLE. THE DEVELOPER SHOULD MAKE EVERY ATTEMPT TO HAVE SIDEWALK REPAIRED AND REOPENED FOR PUBLIC USE WITHIN 30 DAYS OF REMOVAL.
15. ANY WORK WITHIN THE CITY'S R/W THAT REQUIRES CLOSURE OF THE SIDEWALK OR TRAVEL LANE FOR LESS THAN 30 DAYS REQUIRES A R/W USE PERMIT. TRAFFIC CONTROL PLANS FOR ANY SIDEWALK OR TRAVEL LANE CLOSURES MUST BE SUBMITTED AS PART OF THE R/W USE PERMIT REQUEST.
16. PER TC-5A-18 & SEC.1.5.4.C, THE PRIMARY STREET DESIGNATION SHALL BE: NEW BERN AVE.
17. SOLID WASTE SERVICES SHALL BE PROVIDED BY A PRIVATE HAULER (REPUBLIC SERVICES).

TRAFFIC CONTROL AND PEDESTRIAN PLAN (TCPED) NOTES:

- PRIOR TO ANY WORK THAT IMPACTS THE RIGHT-OF-WAY, CLOSING OR DETOURING OF ANY STREET, LANE, OR SIDEWALK, THE CONTRACTOR MUST APPLY FOR A PERMIT WITH RIGHT-OF-WAY SERVICES. PLEASE DIRECT ANY QUESTIONS TO RIGHTOFWAYSERVICES@RALEIGHNC.GOV.
- THE STREET, LANE, SIDEWALK, CLOSURE PERMIT IS REQUIRED FOR ANY CLOSURE ON CITY STREETS AND ALL NCDOT STREETS WITHIN RALEIGH'S JURISDICTION.
- A PERMIT REQUEST WITH A TCPED PLAN SHALL BE SUBMITTED TO RIGHT-OF-WAY SERVICES THROUGH THE CITY OF RALEIGH PERMIT AND DEVELOPMENT PORTAL.
- PRIOR TO THE START OF WORK, THE CLIENT SHALL SCHEDULE A PRE-CONSTRUCTION MEETING WITH THE ENGINEERING INSPECTIONS COORDINATOR TO REVIEW THE SPECIFIC COMPONENTS OF THE APPROVED PLAN, AND ENSURE ALL PERMITS ARE ISSUED.
- ALL TCPED PLANS SHALL COMPLY WITH ALL LOCAL, STATE, AND FEDERAL REQUIREMENTS AND STANDARDS, INCLUDING BUT NOT LIMITED TO:
  - MANUAL ON UNIFORM TRAFFIC CONTROL (MUTCD);
  - PUBLIC RIGHTS-OF-WAY ACCESSIBILITY GUIDELINES (PROWAG);
  - AMERICAN DISABILITY ACT (ADA) REQUIREMENTS;
  - RALEIGH STREET DESIGN MANUAL (RSDM).
- ALL PUBLIC SIDEWALKS MUST BE ACCESSIBLE TO PEDESTRIANS WHO ARE VISUALLY IMPAIRED AND/OR PEOPLE WITH MOBILITY CONCERNS. EXISTING AND ALTERNATIVE PEDESTRIAN ROUTES DURING CONSTRUCTION SHALL BE REQUIRED TO BE COMPLIANT WITH THE PUBLIC RIGHTS OF WAY ACCESSIBILITY GUIDELINES (PROWAG), THE ADA STANDARDS FOR ACCESSIBLE DESIGN AND THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).
- ALL PERMITS MUST BE AVAILABLE AND VISIBLE ON SITE DURING THE OPERATION.

SOLID WASTE COMPLIANCE STATEMENT:
DEVELOPERS HAVE REVIEWED AND ARE IN COMPLIANCE WITH THE REQUIREMENTS SET FORTH IN THE SOLID WASTE DESIGN MANUAL.

DocuSign Envelope ID: ACC3B3DA-8858-46EB-A717-6B6C0FF594D3

Administrative Site Review Application

Planning and Development Customer Service Center • One Exchange Plaza, Suite 400 | Raleigh, NC 27601 | 919-996-2500

Raleigh

This form is required when submitting site plans as referenced in Unified Development Ordinance (UDO) Section 10.2.8. Please check the appropriate building types and include the plan checklist document when submitting.

Office Use Only: Case #: _____ Planner (print): _____

Please review UDO Section 10.2.8. to determine the site plan tier. If assistance determining a Site Plan Tier is needed a Site Plan Tier Verification request can be submitted online via the Permit and Development Portal. (Note: There is a fee for this verification service.)

Site Plan Tier: Tier Two Site Plan ☐ Tier Three Site Plan ☑

Building and Development Type (Check all that apply)		Site Transaction History
☐ Detached	☑ General	Subdivision case #: _____
☐ Attached	☐ Mixed use	Scoping/sketch plan case #: _____
☐ Townhouse	☐ Civic	Certificate of Appropriateness #: _____
☐ Apartment	☐ Cottage Court	Board of Adjustment #: _____
☐ Tiny house	☐ Frequent Transit Development Option	Zoning Case #: _____
☐ Open lot		Design Alternate #: _____

GENERAL INFORMATION

Development name: LCCU - New Bern Avenue Branch

Inside City limits? Yes ☑ No ☐

Property address(es): 5280 New Bern Avenue, 1030 N. Rodgers Lane (secondary property)

Site P.I.N.(s): 1734433643, 1734339337 (secondary property for downstream drainage easement)

Please describe the scope of work. Include any additions, expansions, and uses (UDO 6.1.4).

The 1.07-acre project site will consist of constructing a new bank with parking and 2 drive through bays. Construction will consist of adding a 5,021 sf building, curb and gutter, asphalt parking, sidewalk accessible sidewalk from right-of-way, open space, trees and shrubs, underground water quality and detention facility, and drainage outfall. Improvements on the secondary property are driveway and sidewalk access additions to match surrounding out-parcels and extension of storm drain outfall to existing pipe system.

Current Property Owner(s): Etna Claro	
Company: Latino Community Credit Union	Title: Director of Facilities
Address: 100 West Morgan Street, Durham, NC 27701	
Phone #: (919) 595-1733	Email: etna@latinoccu.org
Applicant Name (If different from owner. See "who can apply" in instructions): Robert Wilson, PE	
Relationship to owner: ☐ Lessee or contract purchaser ☑ Owner's authorized agent ☐ Easement holder	
Company: LaBella Associates	Address: 400 South Tryon Street, Suite 1300, Charlotte, NC 28285
Phone #: (704) 941-2139	Email: rwilson@labellapc.com

Secondary Property Owner: Company: Ardena Edgewater LLC Address: PO Box 13470, Richmond, VA 23225 Signature: _____ Printed Name: _____ Title: Ashley Cicero, Manager Phone: (919) 796-5064 Email: ashley.cicero@colliers.com 9/20/2023

DocuSign Envelope ID: ACC3B3DA-8858-46EB-A717-6B6C0FF594D3

Phone #: (704) 941-2139	Email: rwilson@labellapc.com
NOTE: please attach purchase agreement or contract, lease or easement when submitting this form.	
Developer Contact: Etna Claro	
Company: Latino Community Credit Union	Title: Director of Facilities
Address: 100 West Morgan Street, Durham, NC 27701	
Phone #: (919) 595-1733	Email: etna@latinoccu.org
Applicant Name: Robert Wilson, PE	
Company: LaBella Associates	Address: 400 South Tryon Street, Suite 1300, Charlotte, NC 28285
Phone #: (704) 941-2139	Email: rwilson@labellapc.com

DEVELOPMENT TYPE + SITE DATE TABLE
(Applicable to all developments)

SITE DATA	BUILDING DATA
Zoning district(s) (please provide the acreage of each): PD	Existing gross floor area (not to be demolished):
Gross site acreage: 1.07	Existing gross floor area to be demolished:
# of parking spaces proposed: 27	New gross floor area: 5,021
Max # parking permitted (7.1.2.C): Minimum of 17	Total sf gross (to remain and new): 5,021
Overlay District (if applicable):	Proposed # of buildings: 1
Existing use (UDO 6.1.4): Vacant	Proposed # of stories for each: 1
Proposed use (UDO 6.1.4): CX-Commercial Mixed Use	Proposed # of basement levels (UDO 1.5.7.A.6) 0

STORMWATER INFORMATION

Imperious Area on Parcel(s):	Impervious Area for Compliance (includes ROW):
Existing (sf) _____ Proposed total (sf) 0.59	Existing (sf) _____ Proposed total (sf) 25,765

RESIDENTIAL & OVERNIGHT LODGING DEVELOPMENTS

Total # of dwelling units:	Total # of hotel bedrooms:
# of bedroom units: 1br____ 2br____ 3br____ 4br or more____	
# of lots:	Is your project a cottage court? ◯ Yes ◯ No
	A frequent transit development? ◯ Yes ◯ No

Continue to Applicant Signature Block on Page Three.

DocuSign Envelope ID: ACC3B3DA-8858-46EB-A717-6B6C0FF594D3

APPLICANT SIGNATURE BLOCK

Pursuant to state law (N.C. Gen. Stat. § 160D-403(a)), applications for development approvals may be made by the landowner, a lessee or person holding an option or contract to purchase or lease land, or an authorized agent of the landowner. An easement holder may also apply for development approval for such development as is authorized by the easement.

By submitting this application, the undersigned applicant acknowledges that they are either the property owner or one of the persons authorized by state law (N.C.G.S. 160D-403(a)) to make this application, as specified in the application. The undersigned also acknowledges that the information and statements made in the application are correct and the undersigned understands that developments approvals are subject to revocation for false statements or misrepresentations made in securing the development approval, pursuant to N.C. Gen. Stat. § 160D-403(f).

The undersigned indicates that the property owner(s) is aware of this application and that the proposed project described in this application will be maintained in all respects in accordance with the plans and specifications submitted herewith, and in accordance with the provisions and regulations of the City of Raleigh Unified Development Ordinance.

The undersigned hereby acknowledges that, pursuant to state law (N.C.G.S. 143-755(b1), if this permit application is placed on hold at the request of the applicant for a period of six consecutive months or more, or if the applicant fails to respond to comments or provide additional information requested by the City for a period of six consecutive months or more, then the application review is discontinued and a new application is required to proceed and the development regulations in effect at the time permit processing is resumed shall apply to the new application.

Signature: _____ Date: September 18, 2023
Printed Name: Robert Wilson, PE

jeff.caines@raleighnc.gov Digitally signed by Jeff.caines@raleighnc.gov DN: cn=Jeff.caines@raleighnc.gov Reason: I am approving this document Date: 2024.06.06 14:18:24-04'00'

C0.0

COOPERATIVA LATINO CREDIT UNION

LCCU - NEW BERN AVENUE BRANCH
5280 NEW BERN AVENUE
RALEIGH, NC 27601
PROJECT #2220725
SEPTEMBER 2023

LaBella Powered by partnership.

Project Data Sheet

Planning and Development Customer Service Center • One Exchange Plaza, Suite 400 | Raleigh, NC 27601 | 919-996-2500

Raleigh

This form must be completed and applied to the cover sheet of drawings submitted with a Non-Residential building permit associated with a Site Permit Review, or permits for an apartment, office, and/or commercial uses.

GENERAL INFORMATION								
Development Name: Edgewater Place				Proposed Use: Office (Bank)				
Property Address(es): 5280 New Bern Avenue								
Approved Site Plan or Subdivision case #:								
Wake County Property Identification Number(s) (PIN) for each parcel to which these guidelines will apply:								
PIN #: 173443364		PIN #:		PIN #:		PIN #:		
What is the project type?	☐	Apartment	☑	Bank	☐	Congregate care	☐	Hospital
	☐	Hotel/Motel	☐	Industrial building	☐	Mixed residential	☐	Non-residential condo
	☐	Office	☐	Religious institution	☐	Residential condo	☐	Retail
	☐	School	☐	Shopping center	☐	Single-family residential	☐	Telecommunication tower
	☐	Townhouse	☐	Civic use: Park, community center, museum or government facility	☐	Other		
Scope of work: The 1.07 acre project site will consist of constructing a new bank with parking and 2 drive through bays. Construction will consist of adding a 5,021 sf building, curb and gutter, asphalt parking, sidewalk, accessible sidewalk from right-of-way, open space, trees and shrubs, underground water quality and detention facility, and drainage outfall.								

FOR APARTMENTS, CONDOS, AND TOWNHOMES ONLY
1. Total number of townhouse lots: Number attached: Number detached:
2. Total number of apartment or condominium units:
3. Total number of Congregate Care or Life Care Dwelling units:
4. Overall total number of dwelling units (from 1-3 above):
5. Number of bedroom units: 1BR: 2BR: 3BR: 4BR or more:
6. Overall unit(s) per acre densities per zoning district(s):

DEVELOPMENT TYPE AND SITE DATA TABLE (applicable to all developments)	
Zoning Information	**Building Information**
Zoning district(s): PD	Proposed use of building(s):
If more than one district, provide acreage of each:	Proposed sq. ft. of building(s) gross: 5,021
Overlay district(s):	Existing sq. ft. of building(s) gross: 0
Total site acreage: 1.07 acres	Total sq. ft. gross (existing and proposed):
Off street parking: Required: 17 Provided: 27	Proposed height of building(s): 29 ft 1 in.
COA (Certificate of Appropriateness) case #:	FAR (floor area ratio) %:
BOA (Board of Adjustment) case # A -	Building lot coverage %:
CUD (Conditional Use District) case # Z -	Inside City Limits? Yes ☑ No ☐

STORMWATER INFORMATION	
Existing impervious surface: acres/square feet	
Proposed impervious surface: acres/square feet	
Neuse River buffer: Yes ☐ No ☑	Wetlands: Yes ☐ No ☑
Flood Hazard Area: Yes ☐ No ☑ If yes, Alluvial soils:	
Flood Study:	FEMA Map Panel #:
Total disturbed area: acres/square feet	

REVISION 11.16.20

PAGE 1 OF 2

raleighnc.gov

Wayne, Robby

From: Staley, Marion <Marion.Staley@raleighnc.gov>
Sent: Wednesday, February 22, 2023 3:47 PM
To: Wayne, Robby; Fink, Christine
Cc: SWS Code Compliance DL; Purifoy, Jermont
Subject: Re: [Ext] RE: Raleigh Planning Review: SWS Approval Letter - 5280 New Bern Ave Site (2.21.2023 SWS Update)

Thank you. This just keeps all stakeholders clear in the event something changes post construction and demonstrates no backing.

This Plan is approved to move forward in the planning process. Make sure you transpose a copy of the Will Serve Letter on the cover sheet of the plan.

Remain well

Marion

Get Outlook for iOS

From: Wayne, Robby <RWayne@LaBellaPC.com>
Sent: Wednesday, February 22, 2023 3:02:14 PM
To: Staley, Marion <Marion.Staley@raleighnc.gov>; Fink, Christine <cfink@LaBellaPC.com>
Cc: SWS Code Compliance DL <SWSCodeCompliance@raleighnc.gov>; Purifoy, Jermont <Jermont.Purifoy@raleighnc.gov>
Subject: RE: [Ext] RE: Raleigh Planning Review: SWS Approval Letter - 5280 New Bern Ave Site (2.21.2023 SWS Update)

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you verify that the attachment and content are safe. If you believe this email is suspicious, please click the 'Phish Alert' link in the banner to report this message.

Marion,

Please find attached dual axle garbage truck route shown on site plan. Please let me know if you have any questions.

Thanks,
Robby

Robby Wayne, PE
LaBella Associates | Senior Civil Engineer
704-941-2138 direct
704-941-6423 office

From: Staley, Marion <Marion.Staley@raleighnc.gov>
Sent: Wednesday, February 22, 2023 2:03 PM
To: Fink, Christine <cfink@LaBellaPC.com>
Cc: Wayne, Robby <RWayne@LaBellaPC.com>; SWS Code Compliance DL <SWSCodeCompliance@raleighnc.gov>; Purifoy, Jermont <Jermont.Purifoy@raleighnc.gov>
Subject: RE: [Ext] RE: Raleigh Planning Review: SWS Approval Letter - 5280 New Bern Ave Site (2.21.2023 SWS Update)

1

REPUBLIC SERVICES

1-17-2023

Re:
LATINO COMMUNITY CREDIT UNION
Attn: ETNA CLARO

This is a letter of support for trash and recycling services for your new facility being planned for **5280 NEW BERN AVE RALEIGH NC 27610** We have reviewed the plans and have found that **REPUBLIC SERVICES** will be able to safely perform all needed services.

If the event that the project design changes, this letter is void and a new letter must be issued. Additionally, this letter is non-transferable.

We want to visit the site during the initial phases of construction to ensure that the site will continue to be safe for us to provide service.

We look forward to providing waste and recycling services at your new property once it has been completed and ready to be serviced.

Please feel free to contact me directly 919- 519-9739 or email tvolk@republicservices.com

Best Regards,

Timothy M Volk
Account Executive: Raleigh Metro
Republic Services
919- 519-9739

NCDOT ENCROACHMENT AGREEMENT

UNDER REVIEW

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

ROY COOPER
GOVERNOR

J. ERIC BOYETTE
SECRETARY

February 17, 2023

Cade Larson
LaBella Associates
400 S. Tryon Street, Suite 1300
Charlotte, North Carolina 28285

Subject: Planting Permit for the New Bern Avenue Branch

To whom it may concern:

Please be advised that the planting plans have been conditionally approved for the New Bern Avenue Branch located at 5080 New Bern Avenue in Wake County, North Carolina.

This letter is issuing the Planting Permit per North Carolina Department of Transportation policy.

The following standard provisions are made part of this agreement:

1. The permittee shall maintain a clear sight distance for vehicles utilizing driveway connections.
2. The Division of Highways will not be responsible for any damage to the plants, which may be done by third parties.
3. Maintenance of the plantings will be the responsibility of the permittee. Should the plants not be maintained in a sufficient manner the plants could be subject to removal.
4. Plants to be first class quality of their species.
5. A copy of this permit must be on the worksite at all times while the work is being performed.
6. All trees and plants shall be pruned and maintained in such a manner as to not encroach upon the travel way.

Mailing Address:
NC DEPARTMENT OF TRANSPORTATION
5612 NORTH STREET
DURHAM, NC 27704

Telephone: (919) 477-2700
Website: www.ncdot.gov

Location:
2612 NORTH DUKE ST
DURHAM, NC 27704

7. The traveling public shall be warned of construction with complete and proper signing and traffic control devices in accordance with the current Manual on Uniform Traffic Devices (MUTCD). No work shall be performed in the Right of Way unless this requirement is satisfied. NCDOT reserves the right to require a written traffic control plan for encroachment operations.
8. NCDOT does not guarantee the Right of Way on this road, nor will it be responsible for any claim for damages brought by any property owner by reason of the installation.
9. Two-way traffic shall be maintained at all times.
10. No lane of traffic shall be closed or restricted between the hours of 6:00 AM - 9:00 AM and 4:00 PM - 7:00 PM Monday - Friday. Any violation of these hours will result in termination of the encroachment agreement.
11. NCDOT reserves the right to further limit, restrict, or suspend operations within the Right of Way if, in the opinion of NCDOT, safety or traffic conditions warrant such action.
12. The Traffic Services Supervisor shall be notified at (919) 477-2914 in Durham prior to beginning work on the Right of Way if there are existing NCDOT signs, traffic signals, or signal equipment in or near the proposed work zone. Costs to relocate, replace, or repair NCDOT signs, signals, or associated equipment shall be the responsibility of the Encroacher.
13. The applicant will be required to notify the Roadside Environmental Technician, **Mark Conner at (919) 816-9290** prior to beginning and after completion of work.
14. It shall be the responsibility of the Encroacher to determine the location of other utilities within the encroachment area. The Encroacher shall be responsible for notifying other utility owners and providing protection and safeguards to prevent damage or interruption to existing facilities and to maintain accessibility to existing utilities.
15. At the end of each working day, equipment shall be parked a minimum of 30 feet from the edge of any travel lane and be barricaded in order not to have any equipment obstruction within the clear recovery zone.
16. The applicant is responsible for identifying project impacts to waters of the United States (wetlands, intermittent streams, perennial streams and ponds) located within the NCDOT right-of-way. The discharge of dredged or fill material into waters of the United States requires authorization from the United States Army Corps of Engineers (USACE) and certification from the North Carolina Division of Water Quality (NCDWQ). The applicant is required to obtain pertinent permits or certification from these regulatory agencies if construction of the project impacts waters of the United States within the NCDOT right-of-way. Additional information can be obtained by contacting the USACE or NCDWQ.
17. The applicant is responsible for complying with the Neuse and Tar-Pamlico Riparian Buffer Rule as regulated by the NCDWQ. The Rule regulates activity within a 50-foot buffer along perennial streams, intermittent streams and ponds. Additional information can be obtained by contacting the NCDWQ.

18. The applicant is responsible for avoiding impacts to federally protected species during project construction. Bald eagle, Michaux's sumac, smooth coneflower, dwarf wedge-mussel, harperella, red-cockaded woodpecker and tar spiny-mussel are federally protected species that have been identified within NCDOT right-of-way in Durham, Person, Granville, Wake, Franklin, Vance, and Warren counties. Additional information can be obtained by contacting the North Carolina Natural Heritage Program or the United States Fish and Wildlife Services.

19. In the event that plants require relocation or removal for highway construction, reconstruction, maintenance or safety, such removal or relocation will be done immediately by the permittee (municipality/civic group/individual) upon notification by the Division of Highways, entirely at the expense of the permittee.

If you should need further assistance, please contact Corey Sudderth by phone at 919-317-4709 or by email at csudderth@ncdot.gov.

Sincerely,

Brandon H. Jones, PE
Division Engineer

BHJ:cls

Cc: Corey Sudderth, Roadside Environmental Engineer
File

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[redacted]

COOPERATIVA LATINO CREDIT UNION

LCCU - NEW BERN AVE BRANCH
5280 NEW BERN AVENUE
RALEIGH, NC 27601

North Carolina 811 www.nc811.org

GRAPHIC SCALE
0
(IN FEET)
1 inch = ft.

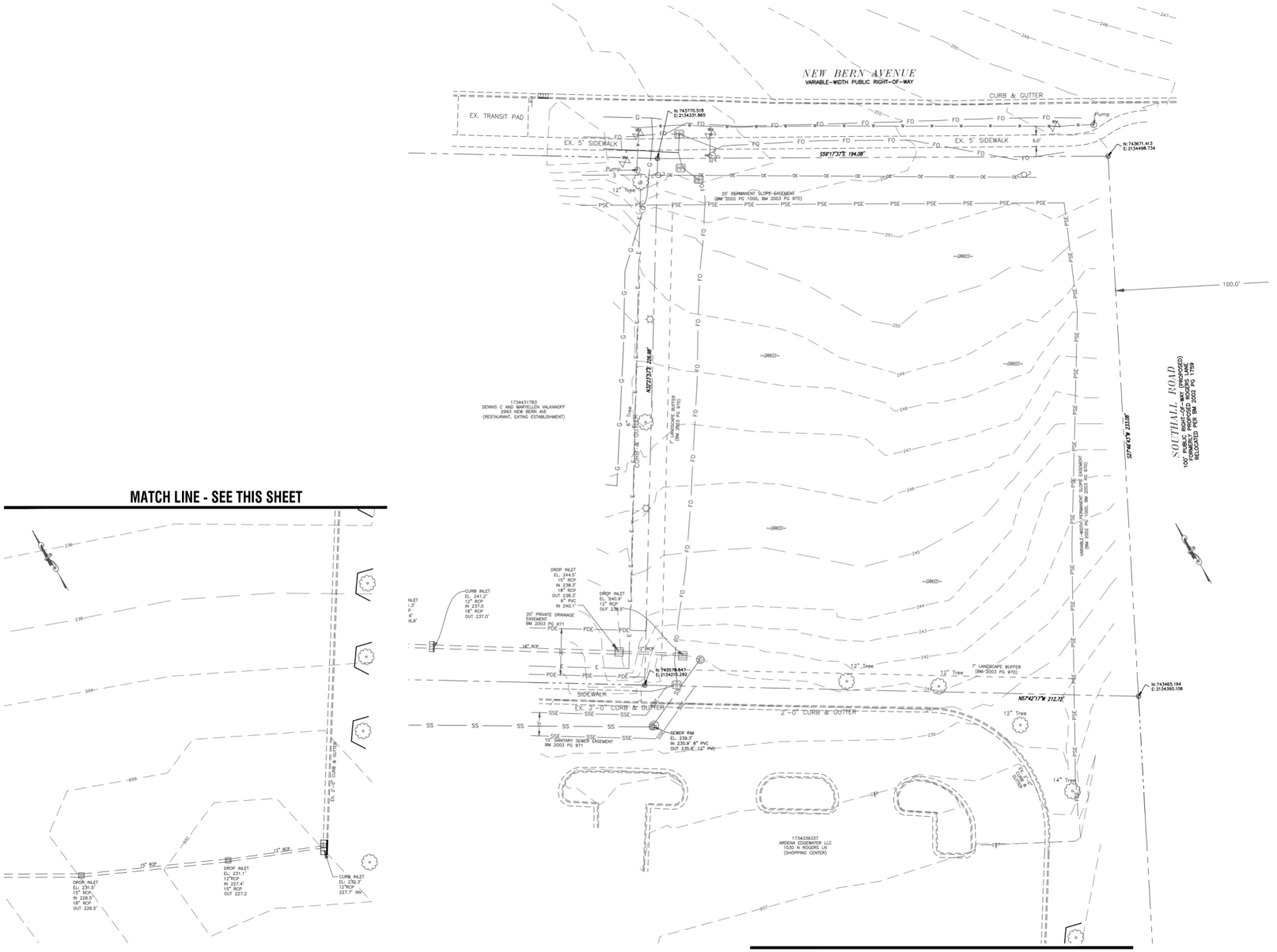
NO.	DATE:	DESCRIPTION:
1	2-24-23	REVISE PER ASR COMMENTS #1
2	5-5-23	REVISE PER ASR COMMENTS #2

PROJECT NUMBER: 2220725
DRAWN BY: TCL
REVIEWED BY: REW
ISSUED FOR: FINAL DESIGN
DATE: 9/22/23
DRAWING NAME:

ADDITIONAL FORMS

DRAWING NUMBER:

C0.1



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LCCU - NEW BERN AVE BRANCH

5280 NEW BERN AVENUE
RALEIGH, NC 27601

North Carolina 811 www.nc811.org

GRAPHIC SCALE

20 0 10 20 40

(IN FEET)
1 inch = 20 ft.

NO:	DATE:	DESCRIPTION:

PROJECT NUMBER: 2220725
DRAWN BY: TCL
REVIEWED BY: REW
ISSUED FOR: FINAL DESIGN
DATE: 9/22/23
DRAWING NAME:

EXISTING CONDITIONS

DRAWING NUMBER:

C1.0

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Y:\2220725 LCCU NEW BERN AVE RALEIGH\CAD\CIVIL\CIVIL3D\PLANSHEETS\C1.0 EXISTING CONDITIONS.DWG

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LCCU - NEW BERN AVE BRANCH

5280 NEW BERN AVENUE
RALEIGH, NC 27601

North Carolina 811 www.no811.org

GRAPHIC SCALE

40 0 20 40 80

(IN FEET)
1 inch = 40 ft.

NO.	DATE:	DESCRIPTION:
1	2-24-23	REVISE PER ASR COMMENTS #1
2	5-5-23	REVISE PER ASR COMMENTS #2
3	11-17-23	REVISE PER ASR COMMENTS #3

PROJECT NUMBER: 2220725
DRAWN BY: TCL
REVIEWED BY: REW
ISSUED FOR: FINAL DESIGN
DATE: 11/17/23
DRAWING NAME:

EASEMENTS

DRAWING NUMBER:

C1.1

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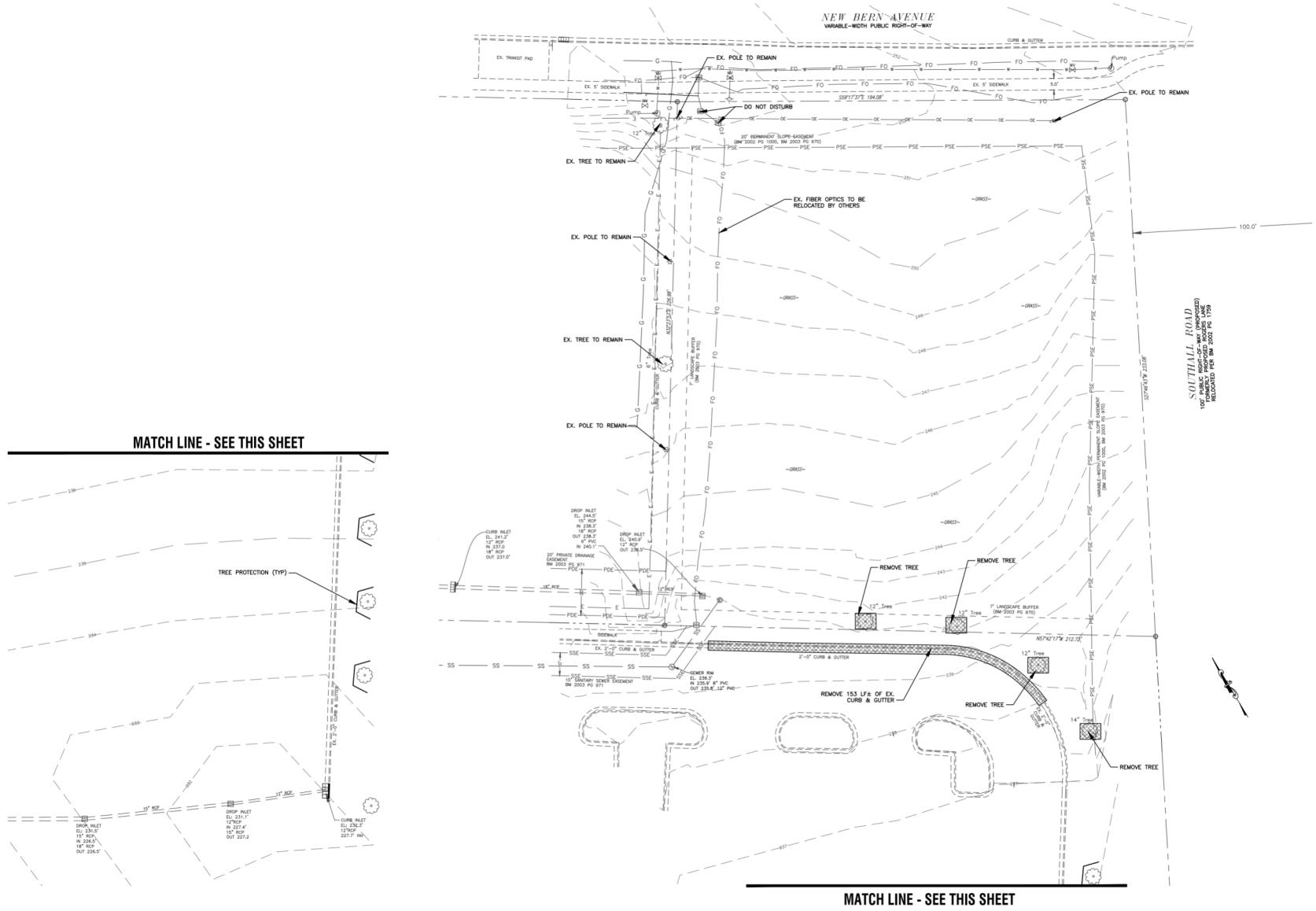

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5280 NEW BERN AVENUE
RALEIGH, NC 27601

North Carolina 811 www.nc811.org

GRAPHIC SCALE
20 0 10 20 40
(IN FEET)
1 inch = 20 ft.

NO:	DATE:	DESCRIPTION:
1	2-24-23	REVISE PER ASR COMMENTS #1
2	5-5-23	REVISE PER ASR COMMENTS #2

PROJECT NUMBER: 2220725
DRAWN BY: TCL
REVIEWED BY: REW
ISSUED FOR: FINAL DESIGN
DATE: 9/22/23
DRAWING NAME:

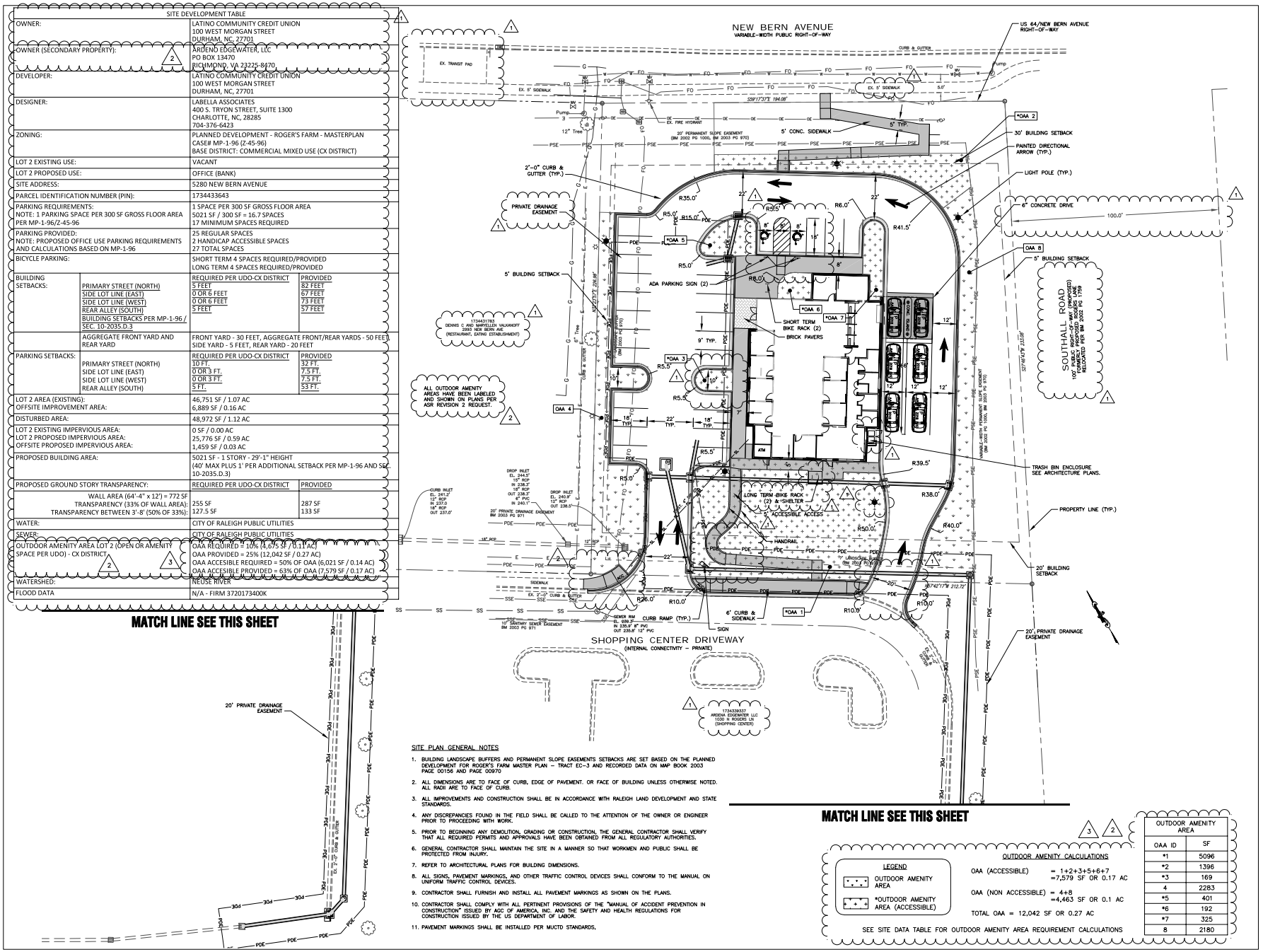
DEMOLITION PLAN

DRAWING NUMBER:

C1.2

5/2/2023 4:37 PM
Y:\2220725\LCCU NEW BERN AVE RALEIGH\CAD\CIVIL\CIVIL3D\PLANSHEETS\C1.2 DEMO PLAN.DWG

SITE DEVELOPMENT TABLE			
OWNER:		LATINO COMMUNITY CREDIT UNION 100 WEST MORGAN STREET DURHAM, NC, 27701	
OWNER (SECONDARY PROPERTY): 2		ARDENO EDGEWATER, LLC PO BOX 13470 RICHMOND, VA 23225-8470	
DEVELOPER:		LATINO COMMUNITY CREDIT UNION 100 WEST MORGAN STREET DURHAM, NC, 27701	
DESIGNER:		LABELLA ASSOCIATES 400 S. TRYON STREET, SUITE 1300 CHARLOTTE, NC, 28285 704-376-6423	
ZONING:		PLANNED DEVELOPMENT - ROGER'S FARM - MASTERPLAN CASE# MP-1-96 (Z-45-96) BASE DISTRICT: COMMERCIAL MIXED USE (CX DISTRICT)	
LOT 2 EXISTING USE:		VACANT	
LOT 2 PROPOSED USE:		OFFICE (BANK)	
SITE ADDRESS:		5280 NEW BERN AVENUE	
PARCEL IDENTIFICATION NUMBER (PIN):		1734433643	
PARKING REQUIREMENTS: NOTE: 1 PARKING SPACE PER 300 SF GROSS FLOOR AREA PER MP-1-96/Z-45-96		1 SPACE PER 300 SF GROSS FLOOR AREA 5021 SF / 300 SF = 16.7 SPACES 17 MINIMUM SPACES REQUIRED	
PARKING PROVIDED: NOTE: PROPOSED OFFICE USE PARKING REQUIREMENTS AND CALCULATIONS BASED ON MP-1-96		25 REGULAR SPACES 2 HANDICAP ACCESSIBLE SPACES 27 TOTAL SPACES	
BICYCLE PARKING:		SHORT TERM 4 SPACES REQUIRED/PROVIDED LONG TERM 4 SPACES REQUIRED/PROVIDED	
BUILDING SETBACKS:		REQUIRED PER UDO-CX DISTRICT	PROVIDED
	PRIMARY STREET (NORTH)	5 FEET	82 FEET
	SIDE LOT LINE (EAST)	0 OR 6 FEET	67 FEET
	SIDE LOT LINE (WEST)	0 OR 6 FEET	73 FEET
	REAR ALLEY (SOUTH)	5 FEET	57 FEET
	BUILDING SETBACKS PER MP-1-96 / SEC. 10-2035.D.3		
	AGGREGATE FRONT YARD AND REAR YARD	FRONT YARD - 30 FEET, AGGREGATE FRONT/REAR YARDS - 50 FEET SIDE YARD - 5 FEET, REAR YARD - 20 FEET	
PARKING SETBACKS:		REQUIRED PER UDO-CX DISTRICT	PROVIDED
	PRIMARY STREET (NORTH)	10 FT.	32 FT.
	SIDE LOT LINE (EAST)	0 OR 3 FT.	7.5 FT.
	SIDE LOT LINE (WEST)	0 OR 3 FT.	7.5 FT.
	REAR ALLEY (SOUTH)	5 FT.	53 FT.
LOT 2 AREA (EXISTING): OFFSITE IMPROVEMENT AREA:		46,751 SF / 1.07 AC 6,889 SF / 0.16 AC	
DISTURBED AREA:		48,972 SF / 1.12 AC	
LOT 2 EXISTING IMPERVIOUS AREA: LOT 2 PROPOSED IMPERVIOUS AREA: OFFSITE PROPOSED IMPERVIOUS AREA:		0 SF / 0.00 AC 25,776 SF / 0.59 AC 1,459 SF / 0.03 AC	
PROPOSED BUILDING AREA:		5021 SF - 1 STORY - 29'-1" HEIGHT (40' MAX PLUS 1' PER ADDITIONAL SETBACK PER MP-1-96 AND SEC. 10-2035.D.3)	
PROPOSED GROUND STORY TRANSPARENCY:		REQUIRED PER UDO-CX DISTRICT	PROVIDED
	WALL AREA (64'-4" x 12') = 772 SF TRANSPARENCY (33% OF WALL AREA): TRANSPARENCY BETWEEN 3'-8' (50% OF 33%):	255 SF 127.5 SF	287 SF 133 SF
WATER:		CITY OF RALEIGH PUBLIC UTILITIES	
SEWER:		CITY OF RALEIGH PUBLIC UTILITIES	
OUTDOOR AMENITY AREA LOT 2 (OPEN OR AMENITY SPACE PER UDO) - CX DISTRICT 2 3		OAA REQUIRED = 10% (4,675 SF / 0.11 AC) OAA PROVIDED = 25% (12,042 SF / 0.27 AC) OAA ACCESIBLE REQUIRED = 50% OF OAA (6,021 SF / 0.14 AC) OAA ACCESIBLE PROVIDED = 63% OF OAA (7,579 SF / 0.17 AC)	
WATERSHED:		NEUSE RIVER	
FLOOD DATA		N/A - FIRM 3720173400K	



SITE PLAN GENERAL NOTES

1. BUILDING LANDSCAPE BUFFERS AND PERMANENT SLOPE EASEMENTS SETBACKS ARE SET BASED ON THE PLANNED DEVELOPMENT FOR ROGER'S FARM MASTER PLAN – TRACT EC-3 AND RECORDED DATA ON MAP BOOK 2003 PAGE 00156 AND PAGE 00970
2. ALL DIMENSIONS ARE TO FACE OF CURB, EDGE OF PAVEMENT. OR FACE OF BUILDING UNLESS OTHERWISE NOTED. ALL RADII ARE TO FACE OF CURB.
3. ALL IMPROVEMENTS AND CONSTRUCTION SHALL BE IN ACCORDANCE WITH RALEIGH LAND DEVELOPMENT AND STATE STANDARDS.
4. ANY DISCREPANCIES FOUND IN THE FIELD SHALL BE CALLED TO THE ATTENTION OF THE OWNER OR ENGINEER PRIOR TO PROCEEDING WITH WORK.
5. PRIOR TO BEGINNING ANY DEMOLITION, GRADING OR CONSTRUCTION, THE GENERAL CONTRACTOR SHALL VERIFY THAT ALL REQUIRED PERMITS AND APPROVALS HAVE BEEN OBTAINED FROM ALL REGULATORY AUTHORITIES.
6. GENERAL CONTRACTOR SHALL MAINTAIN THE SITE IN A MANNER SO THAT WORKMEN AND PUBLIC SHALL BE PROTECTED FROM INJURY.
7. REFER TO ARCHITECTURAL PLANS FOR BUILDING DIMENSIONS.
8. ALL SIGNS, PAVEMENT MARKINGS, AND OTHER TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
9. CONTRACTOR SHALL FURNISH AND INSTALL ALL PAVEMENT MARKINGS AS SHOWN ON THE PLANS.
10. CONTRACTOR SHALL COMPLY WITH ALL PERTINENT PROVISIONS OF THE "MANUAL OF ACCIDENT PREVENTION IN CONSTRUCTION" ISSUED BY AGC OF AMERICA, INC. AND THE SAFETY AND HEALTH REGULATIONS FOR CONSTRUCTION ISSUED BY THE US DEPARTMENT OF LABOR.
11. PAVEMENT MARKINGS SHALL BE INSTALLED PER MUCTD STANDARDS.

LEGEND
- OUTDOOR AMENITY AREA
- *OUTDOOR AMENITY AREA (ACCESSIBLE)

OUTDOOR AMENITY CALCULATIONS

OAA (ACCESSIBLE) = 1+2+3+5+6+7 =7,579 SF OR 0.17 AC

OAA (NON ACCESSIBLE) = 4+8 =4,463 SF OR 0.1 AC

TOTAL OAA = 12,042 SF OR 0.27 AC

SEE SITE DATA TABLE FOR OUTDOOR AMENITY AREA REQUIREMENT CALCULATIONS

OUTDOOR AMENITY AREA	
OAA ID	SF
*1	5096
*2	1396
*3	169
4	2283
*5	401
*6	192
*7	325
8	2180

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LCCU - NEW BERN AVE BRANCH
5280 NEW BERN AVENUE
RALEIGH, NC 27601

GRAPHIC SCALE
20 0 10 20 40
(IN FEET)
1 inch = 20 ft.

NO.	DATE:	DESCRIPTION:
1	2-24-23	REVISE PER ASR COMMENTS #1
2	5-5-23	REVISE PER ASR COMMENTS #2
3	11-17-23	REVISE PER ASR COMMENTS #3

PROJECT NUMBER: 2220725
DRAWN BY: TCL
REVIEWED BY: REW
ISSUED FOR: FINAL DESIGN
DATE: 11/17/23
DRAWING NAME:

SITE PLAN

DRAWING NUMBER:

C2.0

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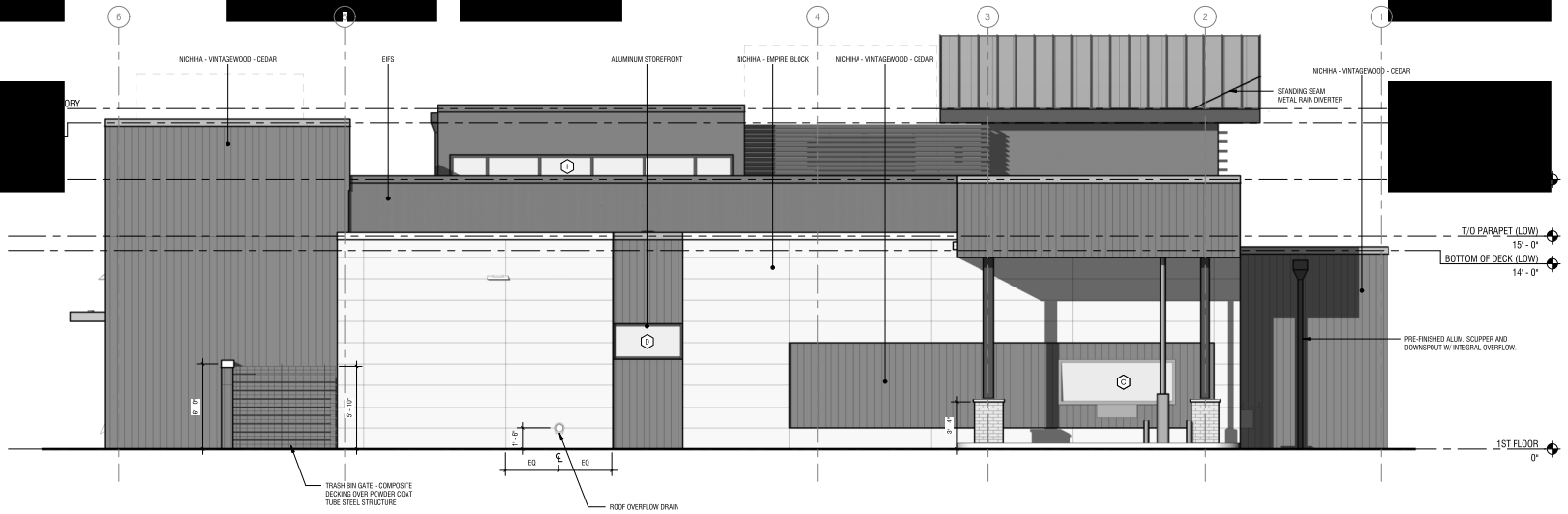
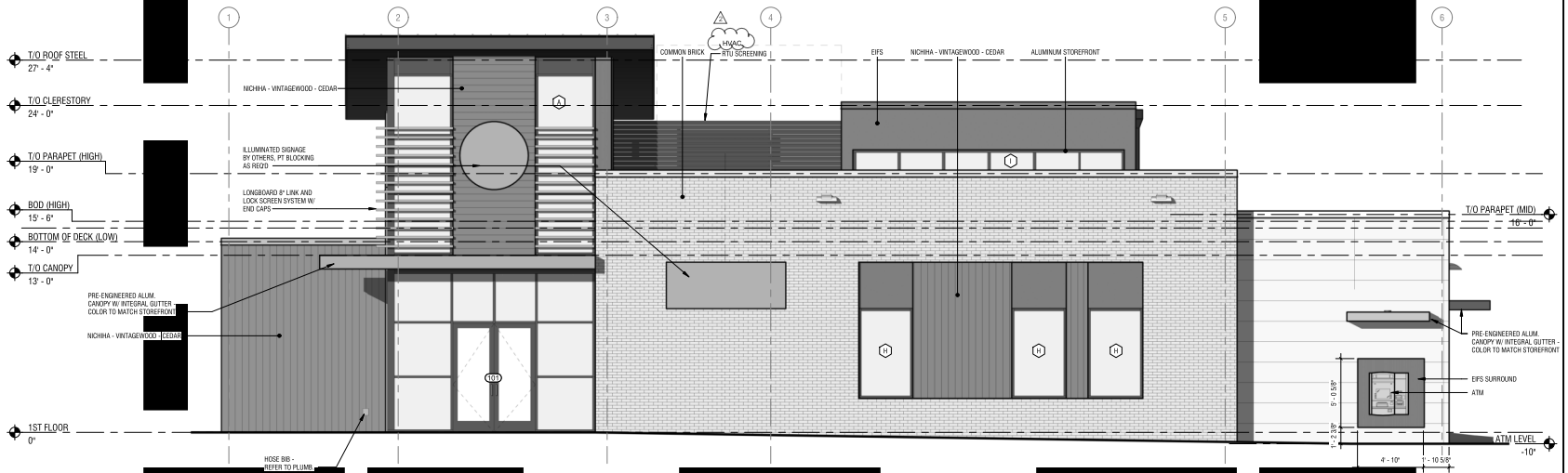
V:\2220725 LCCU NEW BERN AVE RALEIGH\CAD\CIVIL\CIVIL\SITEPLAN\SHEETS\C2.0 SITE PLAN.DWG



2 A201 EAST ELEVATION (RIGHT)
SCALE: 1/4" = 1'-0"



1 A201 WEST ELEVATIO
SCALE: 1/4" = 1'-0"

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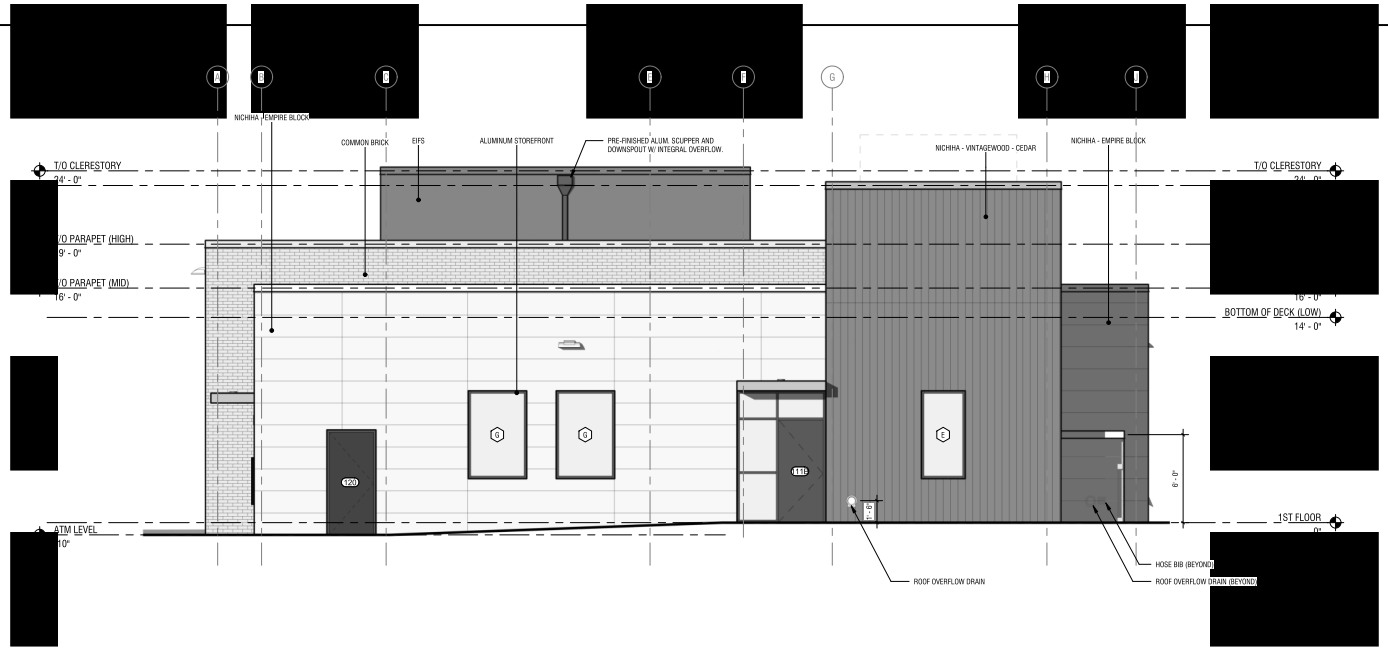
07.29.2022

COOPERATIVA LATINO CREDIT UNION

NO:
Revisions
PROJECT NUM
220123
DRAWN BY: BAW
REVIEWED BY: TAH
ISSUED FOR:
DATE:
DRAWING NAM

EXTERIOR ELEVATIONS

A201



2 A202 SCALE: 1/4" = 1'-0"

SOUTH ELEVATION (REAR)

PARENCY CALCULATIO

	SF OF WALL	TRANSPARENCY REQUIRED (33%)	TRANSP PRO
	64'-4" x 12' = 772 SF	772 x 33 = 255 SF	28

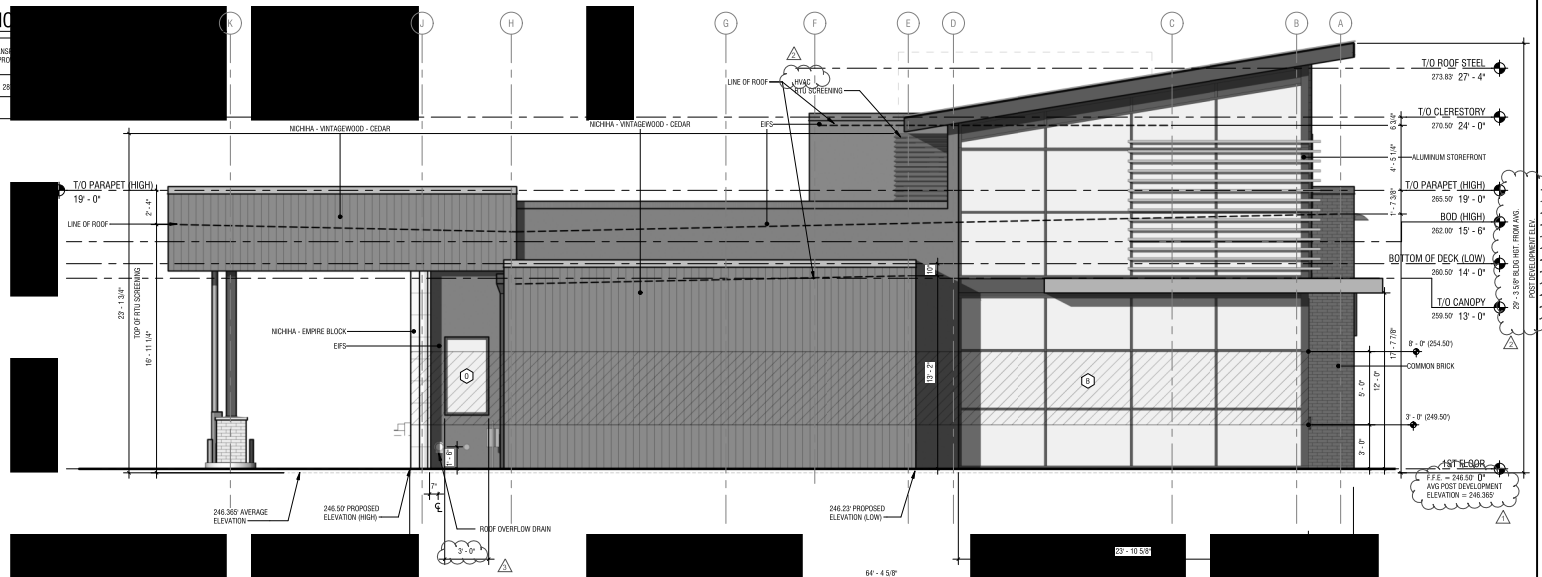
Transparency - Raleigh, NC UDO Section 1.5.9.B

1. The minimum percentage of windows and doors that must cover a ground story facade is measured between 0 and 12 feet above the surface of the ... all above-grade portions of the facade. A minimum ... transparency must be located between 3 and 8 feet ... finished ground floor.

... of windows and doors that must cover an upper ... from top of the finished floor to the top of the ... there is no floor above, upper story transparency ... of the finished floor to the top of the wall plate.

..., or general building where an Urban Frontage is ...% of the street-facing, street-level window pane ...ews into the ground story use for a depth of at ...all not be made opaque by non-operable window ... blinds or shades within the conditioned space).

4. Glass shall be considered transparent where it has a transparency higher than 80% and external reflectance of less than 15%. Glass on upper stories may have any level of transparency and external reflectance.



NORTH ELEVATION (FRO

SCALE: 1/4" = 1'-0"

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COOPERATIVA LATINO CREDIT UNION

220123

DRAWN BY: BAW

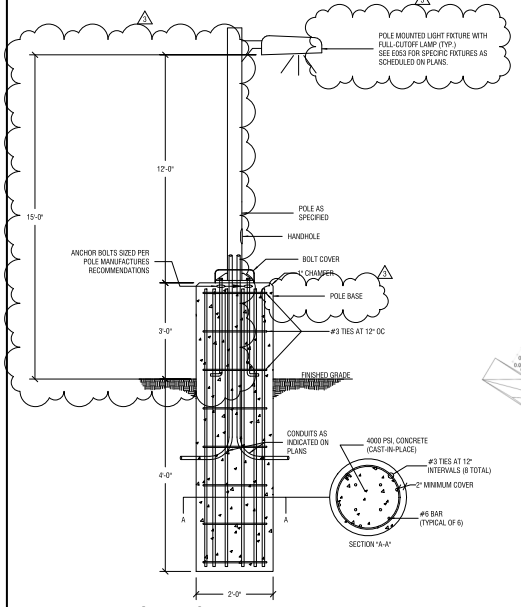
REVIEWED BY: GGA

EXTERIOR ELEVATIONS

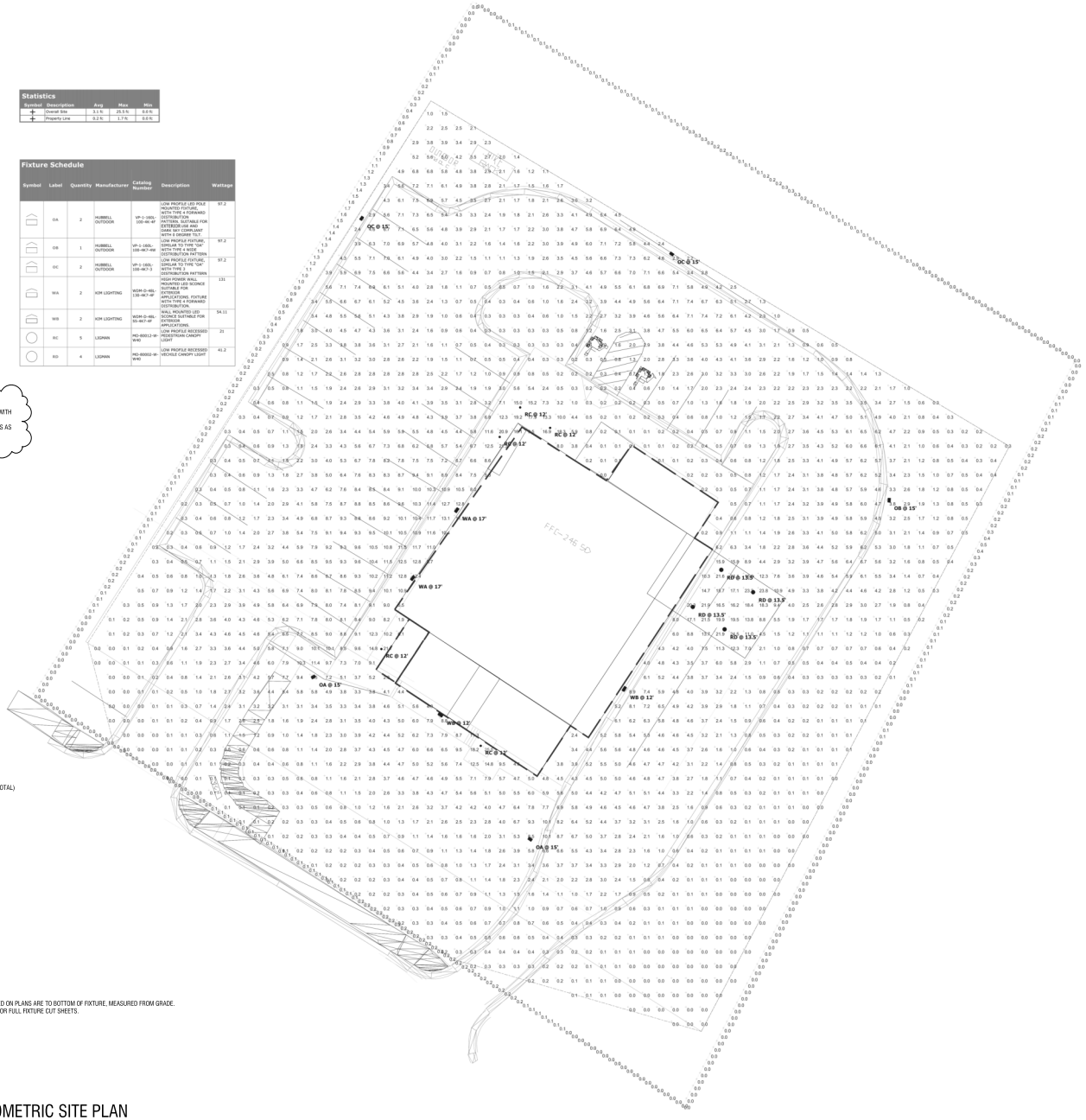
A202

Statistics				
Symbol	Description	Avg	Max	Min
+	Overall Site	3.1 fc	25.5 fc	0.0 fc
+	Property Line	0.2 fc	1.7 fc	0.0 fc

Fixture Schedule						
Symbol	Label	Quantity	Manufacturer	Catalog Number	Description	Wattage
	OA	2	HUBBELL OUTDOOR	VP-1-16SL-100-4K-4F	LOW PROFILE LED POLE MOUNTED FIXTURE, WITH TYPE 4 FORWARD THROW OPTICAL PATTERN, SUITABLE FOR EXTERIOR USE AND DARK SKY COMPLIANT WITH 0 DEGREE TILT	97.2
	OB	1	HUBBELL OUTDOOR	VP-1-16SL-100-4K7-HW	LOW PROFILE LED FIXTURE, SIMILAR TO TYPE "OA" WITH TYPE 4 WIDE DISTRIBUTION PATTERN	97.2
	OC	2	HUBBELL OUTDOOR	VP-1-16SL-100-4K7-3	LOW PROFILE FIXTURE, SIMILAR TO TYPE "OA" WITH TYPE 3 DISTRIBUTION PATTERN	97.2
	WA	2	KIM LIGHTING	WDM-D-48L-130-4K7-4F	HIGH POWER WALL MOUNTED LED SCONCE SUITABLE FOR EXTERIOR APPLICATIONS. FIXTURE WITH TYPE 4 FORWARD DISTRIBUTION	131
	WB	2	KIM LIGHTING	WDM-D-48L-55-4K7-4F	WALL MOUNTED LED SCONCE SUITABLE FOR EXTERIOR APPLICATIONS.	54.11
	RC	5	LIGMAN	MO-60012-W-W40	LOW PROFILE RECESSED DOWNLIGHTING CANOPY LIGHT	21
	RD	4	LIGMAN	MO-60002-W-W40	LOW PROFILE RECESSED VECHILE CANOPY LIGHT	41.2



2 E052 POLE BASE DETAIL
NOT TO SCALE



NOTES:
1. HEIGHTS INDICATED ON PLANS ARE TO BOTTOM OF FIXTURE, MEASURED FROM GRADE.
2. SEE SHEET E053 FOR FULL FIXTURE CUT SHEETS.

1 E052 PHOTOMETRIC SITE PLAN
1" = 15' - 0"

11/17/2023 12:03:23 PM

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[redacted]

NORTH CAROLINA BOARD OF EXAMINERS FOR ENGINEERING AND SURVEYING CERT. NO. 52904 CHARLOTTE, N.C.

01.26.2021

COOPERATIVA LATINO CREDIT UNION

LCCU - NEW BERN
5280 NEW BERN AVENUE RALEIGH, NC 27610

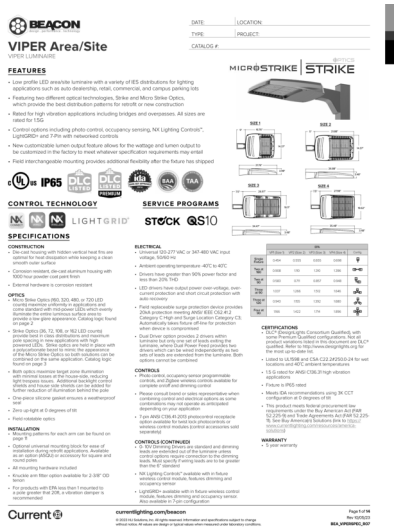
NO:	DATE:	DESCRIPTION:
3	11/17/2023	ASR 3
Revisions		

S.E.D. NUMBER: 110011
PROJECT NUMBER: 2220723
DRAWN BY: AGR
REVIEWED BY: JMH
ISSUED FOR: OWNER REVIEW
DATE: 07.29.2022
DRAWING NAME:

PHOTOMETRIC SITE PLAN

DRAWING NUMBER:

E052



BEACON

DATE: LOCATION:

TYPE: PROJECT:

CATALOG #:

VIPER Area/Site

VIPER LUMINAIRE

MICRO STRIKE | STRIKE

FEATURES

- Low profile LED area/site luminaire with a variety of IES distributions for lighting applications such as auto dealership, retail, commercial, and campus parking lots
- Featuring two different optical technologies, Strike and Micro Strike Optics, which provide the best distribution patterns for retrofit or new construction
- Rated for high vibration applications including bridges and overpasses. All sizes are rated for 1.5G
- Control options including photo control, occupancy sensing, NX Lighting Controls™, LightGRID+ and 7-Pin with networked controls
- New customizable lumen output feature allows for the wattage and lumen output to be customized in the factory to meet whatever specification requirements may entail
- Field interchangeable mounting provides additional flexibility after the fixture has shipped

IP65

CONTROL TECHNOLOGY

LIGHTGRID

SERVICE PROGRAMS

SPECIFICATIONS

CONSTRUCTION
- Die-cast housing with hidden vertical heat fins are optimal for heat dissipation while keeping a clean smooth outer surface
- Corrosion resistant, die-cast aluminum housing with 1000 hour powder coat paint finish
- External hardware is corrosion resistant

OPTICS
- Micro Strike Optics (60, 320, 480, or 720 LED counts) maximize uniformity in applications and minimize the number of luminaires. They evenly illuminate the entire luminous surface area to provide a low-glare appearance. Catalog logic found on page 3.
- Strike Optics (36, 72, 108, or 162 LED counts) offer a balance between uniformity and maximum pole spacing in new applications with high powered LEDs. Strike optics are held in place with a mounting frame. Strike optics and the rotation of the Micro Strike Optics so both solutions can be combined on the same application. Catalog logic found on page 3.
- Both optics maximize target zone illumination with minimal losses at the house-side, reducing wasted light and glare. Optional factory installed shields and house side shields can be added for further reduction of illumination behind the pole
- One-piece silicone gasket ensures a weatherproof seal
- Zero up-light at 0 degrees of tilt
- Field rotatable optics

INSTALLATION
- Multiple drill patterns for each arm can be found on page 9
- Optional universal mounting block for ease of installation and future service. Quick disconnect as an option (AMQ4) or accessory for square and round poles
- All mounting hardware included
- Knuckle arm fitter option available for 2-3/8" OD tenon
- For products with EPA less than 1 mounted to a pole greater than 20ft, a vibration damper is recommended

ELECTRICAL
- Universal 120-277 VAC or 347-480 VAC input voltage, 50/60 Hz
- Ambient operating temperature -40°C to 40°C
- Drivers have greater than 90% power factor and less than 20% THD
- LED drivers have output power over-voltage, over-current protection and short circuit protection with auto-recovery
- Field replaceable surge protection device provides 20kA protection meeting ANSI/ IEEE C62.41.2 Category C High and Surge Location Category C3. Integrated thermal fuse and fuse for protection when device is compromised
- Dual Driver option provides 2 drivers within luminaire but only one set of loads exiting the luminaire, where Dual Power Feed provides two sets of loads. Only one driver is powered and both sets of loads are extended from the luminaire. Both options cannot be combined

CONTROLS
- Photo control, occupancy sensor programmable. Dimming Drivers are standard and dimming available for complete on/off and dimming control.
- Please consult brand or sales representative when combining control and electrical options as some combinations may not operate as anticipated depending on your application
- 7 pin ANSI C136.41-2013 photocontrol receptacle is standard on all drivers. Only fixtures with wireless control modules (control accessories sold separately)

CONTROLS (CONTINUED)
- 0-10V Dimming Drivers are standard and dimming available for complete on/off and dimming control. All control options require connection to the dimming leads. Must specify if wiring leads are to be greater than the 6" standard
- NX Lighting Controls™ available with in fixture wireless control module, features dimming and occupancy sensor.
- LightGRID+ available with in fixture wireless control module, features dimming and occupancy sensor. Also available in 7-pin configuration

CERTIFICATIONS
- DLC® (DesignLights Consortium Qualified), with DLC premium for 5000K CCT selections. Refer to product variations listed in this document and DLC® qualified. Refer to http://www.designlights.org for the most up-to-date list.
- Listed to UL1598 and CSA C22.2#250.0-24 for wet locations, -40°C to 40°C ambient temperatures
- 1.5 G rated for ANSI C136.31 high vibration applications
- Fixture is IP65 rated
- Meets IDA recommendations using 3K CCT configuration at 0 degrees of tilt
- This product meets federal procurement law requirements under the Buy American Act (FAR 52.225-5) and Trade Agreements Act (FAR 52.225-48). Refer to https://www.acquisition.gov/far/current/html/52_200_end.html#wp1074159 for more information

WARRANTY
- 5 year warranty

1 E053 OA, OB, OC FIXTURE CUT SHEET
NOT TO SCALE

KIM LIGHTING

WDM

WALL MOUNTED

DATE: LOCATION:

TYPE: PROJECT:

CATALOG #:

Wall Director

Wall Director Medium

RELATED PRODUCTS

Wall Director Small

FEATURES
- -5° to +10° tilt adjustment
- High performance optics deliver up to 16,000 lumens
- up or down mountable without modification
- Programmable occupancy sensor (dimming)
- NX and SiteSync wireless controls
- 130+ lumens per watt
- UL/cUL listed for wet locations, IP66 Listed.

CONTROL TECHNOLOGY

NX DISTRIBUTED INTELLIGENCE

SPECIFICATIONS

CONSTRUCTION
- Optical housing is a one-piece, die-cast low copper (<0.6%) aluminum alloy with integral heat sink. The housing rotates against mounting arm housing to provide -5° to 10° of adjustment with degree markers label. At 0° adjustment, lens is perpendicular to the ground for symmetrical distribution with fixture mounted in the downward position.
- Mounting arm housing is one-piece die-cast, low copper (<0.6%) aluminum alloy with provisions for mounting luminaire. Mounting arm features tool-less design, with knob for rotating both handle for securing and wiring. One stainless steel socket-head screw on the tilt mechanism frees the optical housing to rotate for aiming. Tightening the screws locks the housing and lens frame together with sealing provided by a silicone gasket. For visual aiming, adjustment may be accomplished with the fixture on.
- Lens Frame is a one-piece, die-cast low copper (<0.6%) aluminum alloy with integral cooling fins to dissipate driver thermal.
- Finish: fade and abrasion resistant, electrostatically applied, thermally cured, triglycidal isocyanurate (TGIC) polyester powdercoat
- Brackets and hardware shall be stainless steel

OPTICS
- LEDs mount to a metal printed circuit board assembly (MCPCB).
- Optical lenses are clear injection molded PMMA acrylic.
- Secondary lens is impact resistant 99° tempered glass with anti-reflective coating

INSTALLATION
- Junction box (by Others): Standard with steel, quick-mount junction box plate that mounts directly to 4" J-Box.
- Mounting plate is stainless steel and features a one-piece EPDM gasket on back side of plate to firmly seal fixture to wall surface, forbidding entry of moisture and particulates.
- Fixtures must be grounded in accordance with national, state and/or local electrical codes. Failure to do so may result in serious personal injury.

SERVICING
- Housing should hang freely in an open service position for inspection of primary wire connections. Once in service position, the housing can be removed for service by sliding the assembly to the left (for down mounting) or to the right (for up mounting) and disconnecting the wiring plugs.
- Driver assembly shall be mounted to a prewired internal tray with quick disconnects for removal.

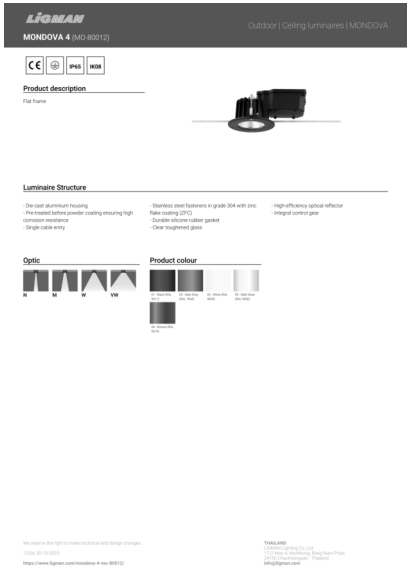
ELECTRICAL
- Universal voltage, 120 through 277V with a ±10% tolerance. Driver is Underwriters Laboratories listed.
- High voltage configurations, 347/480. Driver has a 0-10V dimming interface for multi-level illumination options. Driver is Underwriters Laboratories listed.
- "Thermal Shield", secondary side, thermistor provides protection for the sustainable life of LED module and electronic components.
- Drivers have a greater than a 0.9 power factor, less than 20% harmonic distortion, and be suitable for operation in -40°C to 40°C ambient environments.
- Luminaire shall be capable of operating at 100% brightness in a 40°C environment. Both driver and optical array have integral thermal protection that will dim the luminaire upon detection of temperatures in excess of 85°C.
- Modular wiring harness in the service area provides user access to the dimming circuitry

(Specifications continued on page 3)

KEY DATA	
Lumen Range	5,950–16,000
Wattage Range	54–139
Efficacy Range (LPW)	97–145
Reported Life (Hours)	L70/60,000
Weight	35 lbs/15.87 kg

HUBBELL Lighting

2 E053 WA, WB FIXTURE CUT SHEET
NOT TO SCALE



LIGMAN

MONDOVA 4 (MO-80012)

Outdoor | Ceiling luminaires | MONDOVA

IP65 IK08

Product description

Flat frame

Luminaire Structure
- Die-cast aluminium housing
- Pre-treated before powder coating ensuring high corrosion resistance
- Single cable entry
- Stainless steel fasteners in grade 304 with zinc flake coating (ZFC)
- Durable silicone rubber gasket
- Clear toughened glass
- High-efficiency optical reflector
- Integral control gear

Optic

N M W VW

Product colour

3 E053 RC FIXTURE CUT SHEET
NOT TO SCALE

LIGMAN

MONDOVA 2 (MO-80002)

Outdoor | Ceiling luminaires | MONDOVA

IP65 IK08

Product description

Flat frame

Luminaire Structure
- Die-cast aluminium housing
- Pre-treated before powder coating ensuring high corrosion resistance
- Two cable entries for through wiring
- Stainless steel fasteners in grade 304 with zinc flake coating (ZFC)
- Durable silicone rubber gasket
- Clear toughened glass
- High-efficiency optical reflector
- Integral control gear

Optic

N M W VW

Product colour

4 E053 RD FIXTURE CUT SHEET
NOT TO SCALE

11/17/2023 12:03:23 PM

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[redacted]

CERT. NO. 52904

01.26.2021

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LCCU - NEW BERN

5280 NEW BERN AVENUE RALEIGH, NC 27610

NO:	DATE:	DESCRIPTION:
3	11/17/2023	ASR 3
Revisions		

S.E.D. NUMBER: 110011

PROJECT NUMBER: 2220723

DRAWN BY: ZCJ

REVIEWED BY: AGR/JMH

ISSUED FOR: OWNER REVIEW

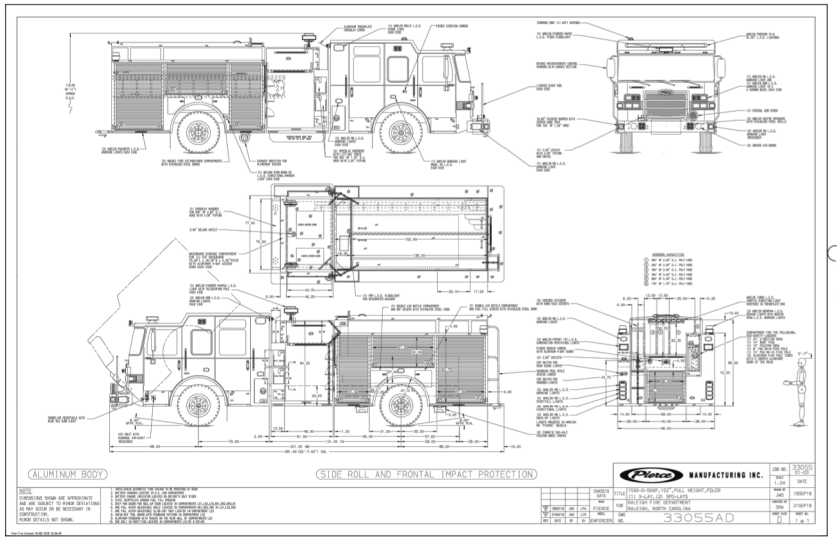
DATE: 07.29.2022

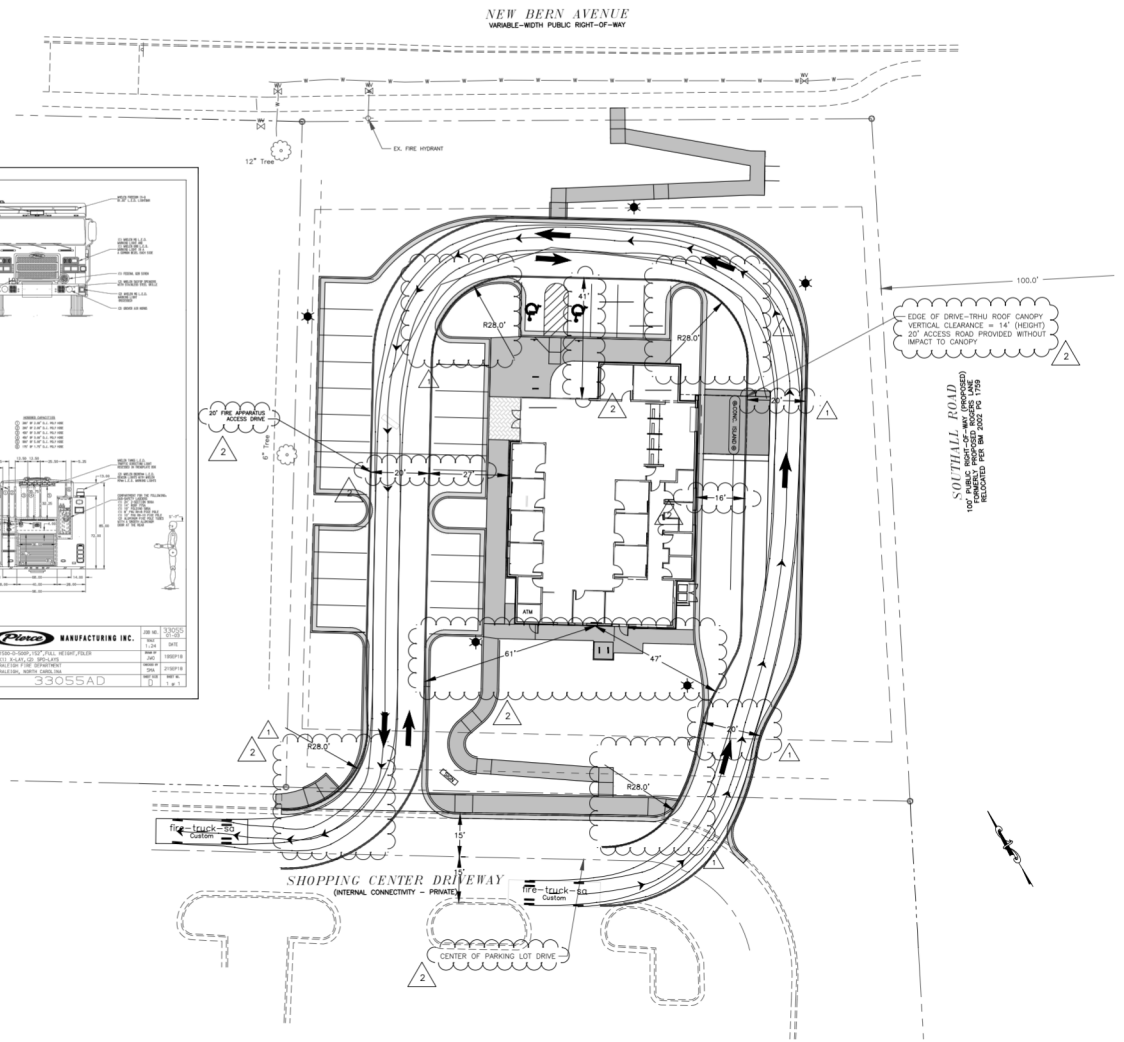
DRAWING NAME:

FIXTURE CUT SHEETS

DRAWING NUMBER:

E053





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5280 NEW BERN AVENUE
RALEIGH, NC 27601

North Carolina 811 www.nc811.org

GRAPHIC SCALE
20 0 10 20 40
(IN FEET)
1 inch = 20 ft.

NO.	DATE:	DESCRIPTION:
1	2-24-23	REVISE PER ASR COMMENTS #1
2	5-5-23	REVISE PER ASR COMMENTS #2

PROJECT NUMBER: 2220725
DRAWN BY: TCL
REVIEWED BY: REW
ISSUED FOR: FINAL DESIGN
DATE: 9/22/23
DRAWING NAME:

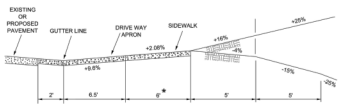
FIRE TRUCK TURNING MOVEMENT

DRAWING NUMBER:

C2.1

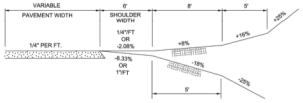
5/4/2023 11:33 AM
Y:\2220725 LCCU NEW BERN AVE RALEIGH\CAD\CIVIL\CIVIL30 PLANSHEETS\C2.0 SITE PLAN.DWG

DRIVEWAY GRADES



★ 5' FOR SENSITIVE AREA AVENUE AND SENSITIVE AREA RESIDENTIAL STREET

A. CURB & GUTTER , SIDEWALK SECTION



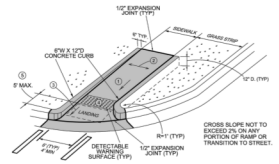
B. SHOULDER SECTION

NOTES:
IF THE SLOPE BETWEEN THE TOP OF CURB AND GUTTER AND A POINT 30 FEET FROM THE CURB AND GUTTER EXCEEDS 20%, THIS SLOPE SHALL BE ADJUSTED TO A MAXIMUM OF 8.33% (1"/FT) UP OR 4.17% (1/2" /FT) DOWN.

CITY OF RALEIGH
STANDARD DETAIL

REVISIONS	DATE: 6/2020	NOT TO SCALE
	DRIVEWAY GRADES	
	T-10.04	

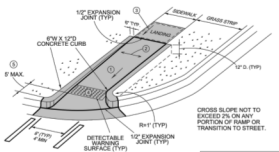
PAY LIMITS FOR CURB RAMP



TYPE N-4

1. SLOPE TO MEET GRADE, 15' MAXIMUM.
2. CROSS SLOPE: 2.00%
3. CURB RAMPS REQUIRE A (4'-0") MINIMUM LANDING WITH A MAXIMUM CROSS SLOPE AND LONGITUDINAL SLOPE OF 2.00% IN ALL DIRECTIONS FOR WHEELCHAIR TURNING MANEUVERS. SLOPE TO DRAIN TO CURB.
4. RAMPS AND DOMES SHALL BE INSTALLED THE SAME WIDTH AS THE SIDEWALK.
5. IF LENGTH EXCEEDS 5', TRUNCATED DOMES SHALL BE INSTALLED ALONG THE BACK OF THE CURB COVERING THE FULL WIDTH OF THE RAMP.

CONCRETE DEPTH	
RAMP	6"
LANDING	4"



TYPE N-4A

SHEET 4 OF 8

CITY OF RALEIGH
STANDARD DETAIL

REVISIONS	DATE: 6/2020	NOT TO SCALE
	CURB RAMPS (NEW DEVELOPMENT)	
	T-20.01.4	

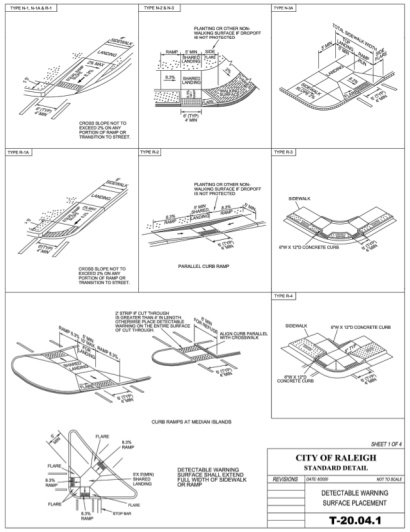
CITY OF RALEIGH CURB RAMPS GENERAL NOTES

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

SHEET 5 OF 8

CITY OF RALEIGH
STANDARD DETAIL

REVISIONS	DATE: 6/2020	NOT TO SCALE
	CURB RAMP NOTES	
	T-20.01.8	

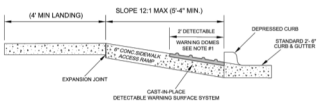


SHEET 1 OF 4

CITY OF RALEIGH
STANDARD DETAIL

REVISIONS	DATE: 6/2020	NOT TO SCALE
	DETECTABLE WARNING SURFACE PLACEMENT	
	T-20.04.1	

RAMP SECTION
WITH DETECTABLE WARNING SURFACE
CAST-IN-PLACE SYSTEM

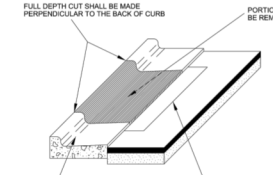


NOTES:
1. DETECTABLE WARNING DOMES SHALL COVER 2'-0" LENGTH AND FULL WIDTH OF THE RAMP FLOOR AS SHOWN ON DETAIL.
2. THE COLOR FOR THE DETECTABLE WARNING AREA SHALL BE YELLOW FOR CONTRAST.

SHEET 4 OF 4

CITY OF RALEIGH
STANDARD DETAIL

REVISIONS	DATE: 6/2020	NOT TO SCALE
	DETECTABLE WARNING CAST-IN-PLACE	
	T-20.04.4	



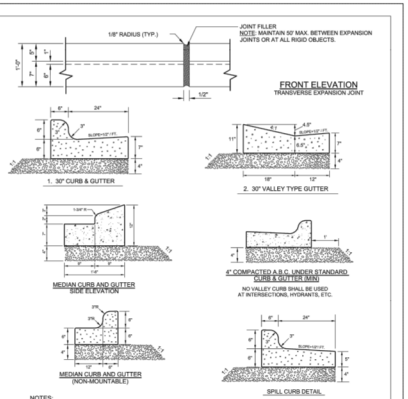
IF THE FINAL LIFT OF ASPHALT HAS BEEN INSTALLED AND IS DAMAGED DURING CURB REMOVAL, A ONE FOOT WIDE SECTION OF ASPHALT SHOULD BE SAWCUT AND REMOVED FOR FORMS TO BE USED TO KEEP A STRAIGHT EDGE ON THE DRIVEWAY APRON. REINSTALL HOT MIX SURFACE ASPHALT PATCH S9.5B.

IF THE FINAL LIFT OF ASPHALT HAS NOT BEEN INSTALLED, THE ASPHALT IN FRONT OF THE APRON CAN REMAIN IN PLACE.

NOTES:
1. CURB AND GUTTER SECTION SHALL BE REMOVED IN ACCORDANCE WITH DRIVEWAY WIDTH APPROVED BY THE CITY.
2. IF PERPENDICULAR CUT IS LESS THAN 5' FROM NEXT JOINT, THEN THE PARALLEL CUT SHALL BE MADE TO THAT JOINT.
3. THIS METHOD IS NOT ALLOWED IN NEW ROADWAY CONSTRUCTION.

CITY OF RALEIGH
STANDARD DETAIL

REVISIONS	DATE: 6/2020	NOT TO SCALE
	STANDARD METHOD OF REMOVING EXISTING CURB (FOR A DRIVEWAY APRON INSTALLATION)	
	T-10.24	

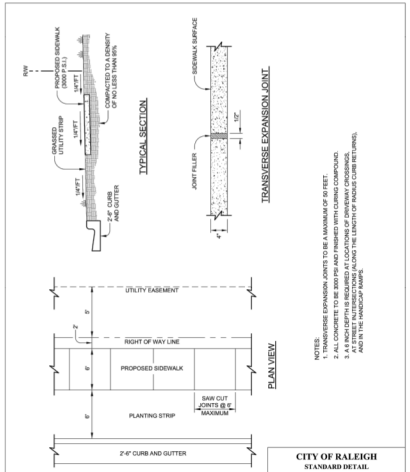


NOTES:
1. 10' MAXIMUM BETWEEN DUMMY JOINTS. 10' MAXIMUM BETWEEN DUMMY JOINTS ON MACHINE POURS.
2. 1/2" EXPANSION JOINT EVERY 50'.
3. 3000 PSI CONCRETE MINIMUM, 4" SLUMP MAXIMUM.
4. LIQUID MEMBRANE CURING COMPOUND SHALL MEET THE REQUIREMENTS OF SECTION 1026-2 OF NCDOT STANDARDS & SPECIFICATIONS FOR ROADS AND STRUCTURES.
5. ALL CONSTRUCTION JOINTS SHALL BE FILLED WITH JOINT FILLER AND SEALER IN ACCORDANCE WITH NCDOT ROADWAY STANDARD DETAIL 846.01. THE JOINT MATERIAL SHALL CONFORM TO SECTION 1028-2 OF NCDOT STANDARD & SPECIFICATIONS FOR ROADS AND STRUCTURES.
6. REFER TO NCDOT DETAIL 846.01 FOR CURB AND GUTTER SUPERELEVATION RATES.

SHEET 1 OF 2

CITY OF RALEIGH
STANDARD DETAIL

REVISIONS	DATE: 6/2020	NOT TO SCALE
	CURB AND GUTTER	
	T-10.26.1	



NOTES:
1. TRANSVERSE EXPANSION JOINTS TO BE A MAXIMUM OF 50 FEET.
2. JOINT WIDTH SHALL BE 1/2" AND SHALL BE FILLED WITH JOINT SEALANT.
3. A 4.5 INCH DEPTH IS REQUIRED AT LOCATIONS OF DRIVEWAY CROSSINGS, AT STREET INTERSECTIONS (ALONG THE LENGTH OF RADIUS CURB RETURNS), AND ON TEMPORARY RAMPS.

CITY OF RALEIGH
STANDARD DETAIL

REVISIONS	DATE: 6/2020	NOT TO SCALE
	CONCRETE SIDEWALK	
	T-30.01	

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5280 NEW BERN AVENUE
RALEIGH, NC 27601

North Carolina 811 www.nc811.org

GRAPHIC SCALE
20 0 10 20 40
(IN FEET)
1 inch = 20 ft.

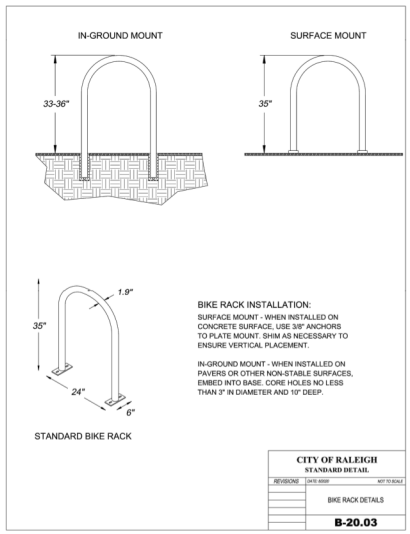
NO.	DATE:	DESCRIPTION:
1	2-24-23	REVISE PER ASR COMMENTS #1
2	5-5-23	REVISE PER ASR COMMENTS #2

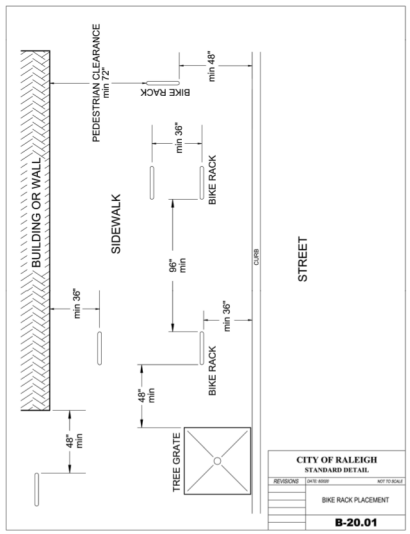
PROJECT NUMBER: 2220725
DRAWN BY: TCL
REVIEWED BY: REW
ISSUED FOR: FINAL DESIGN
DATE: 9/22/23
DRAWING NAME:

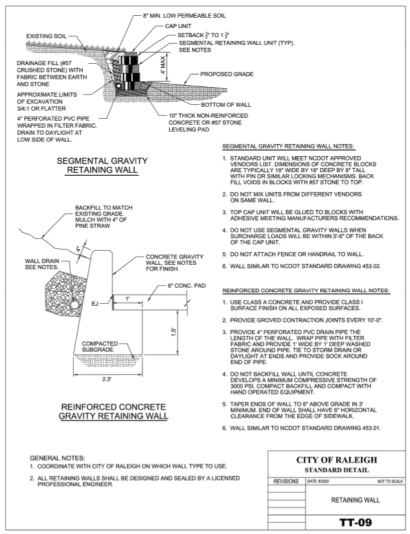
SITE PLAN DETAILS

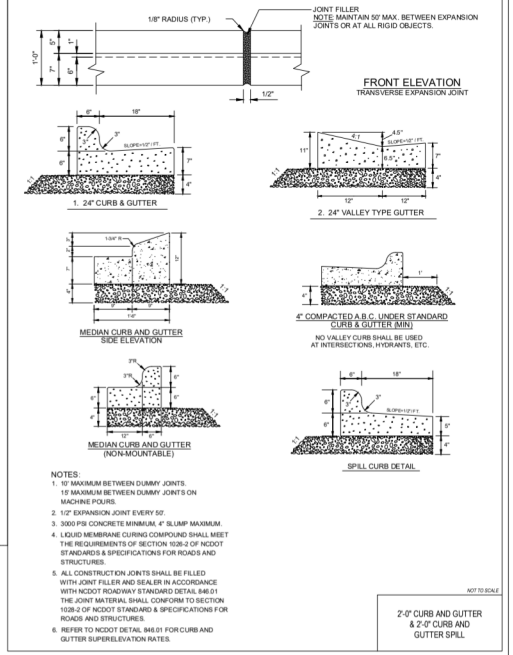
DRAWING NUMBER:

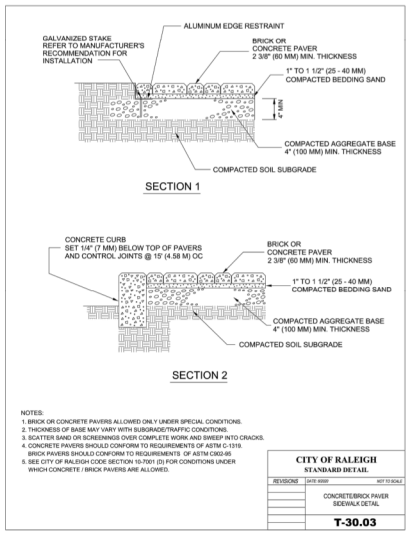
C2.2

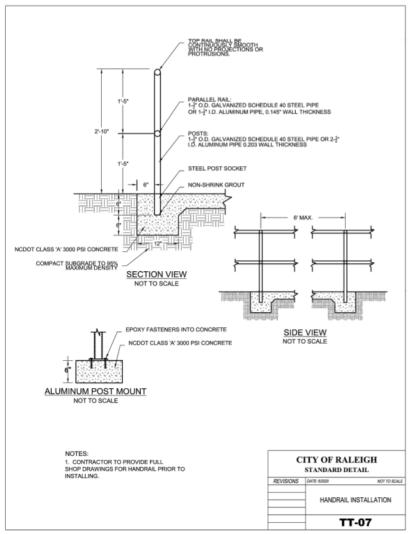


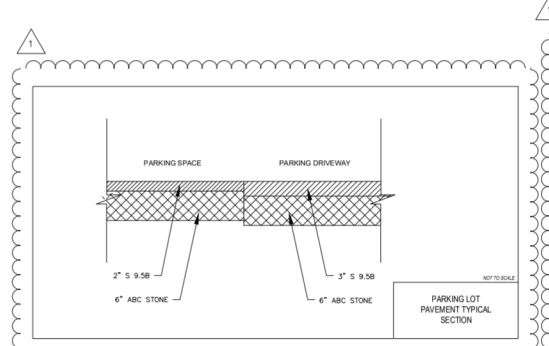


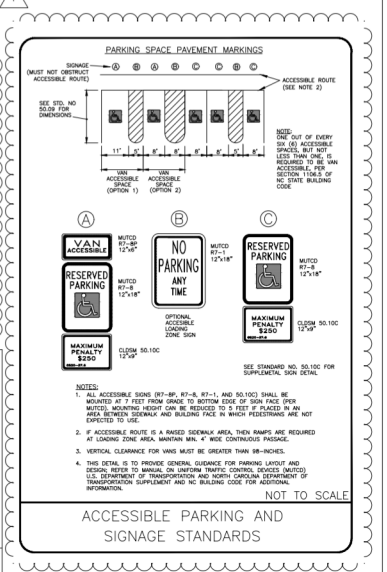


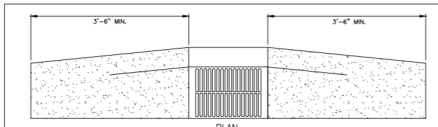


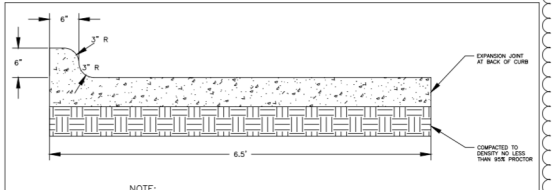












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North Carolina 811 www.nc811.org

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(IN FEET)
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2	5-5-23	REVISE PER ASR COMMENTS #2

PROJECT NUMBER: 2220725
DRAWN BY: TCL
REVIEWED BY: REW
ISSUED FOR: FINAL DESIGN
DATE: 9/22/23
DRAWING NAME:

SITE PLAN DETAILS

DRAWING NUMBER:

C2.3

4/21/2023 8:38 AM
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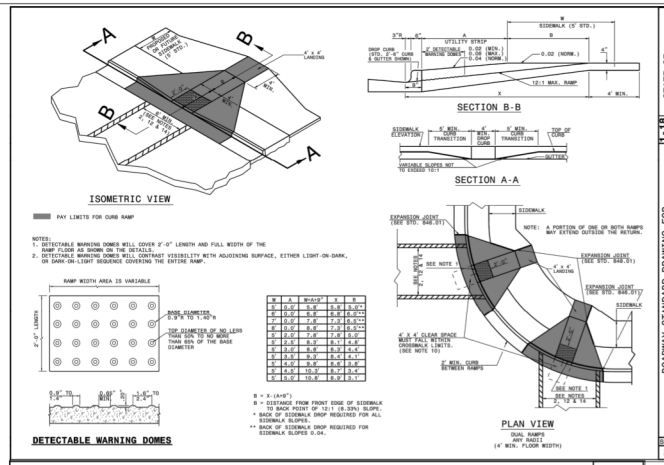
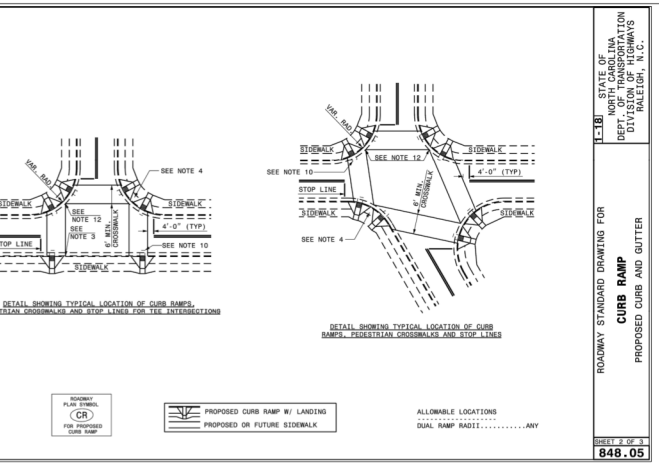


STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

1-18

ROADWAY STANDARD DRAWING FOR
CURB RAMP
PROPOSED CURB AND GUTTER

SHEET 1 OF 3
848.05



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

1-18

ROADWAY STANDARD DRAWING FOR
CURB RAMP
PROPOSED CURB AND GUTTER

SHEET 2 OF 3
848.05

NOTES:

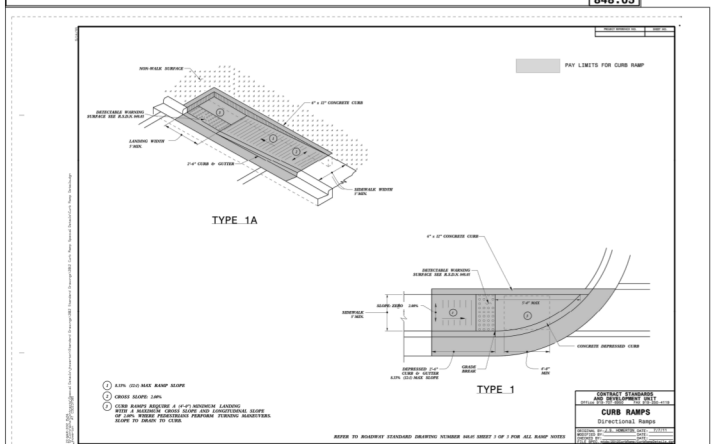
1. CONSTRUCT THE RAMP SURFACE TO BE STABLE, FIRM, AND SLIP RESISTANT. CONSTRUCT THE CURB RAMP TYPE AS SHOWN IN THE PAVEMENT MARKING PLANS OR AS DIRECTED BY THE ENGINEER.
2. LOCATE CURB RAMPS AND PLACE PEDESTRIAN CROSSWALK MARKINGS AS SHOWN IN THE PAVEMENT MARKING PLANS. WHEN FIELD ADJUSTMENTS REQUIRE MOVING CURB RAMPS OR MARKINGS AS SHOWN, CONTACT THE SIGNING AND DELINEATION UNIT OR LOCATE AS DIRECTED BY THE ENGINEER.
3. COORDINATE THE CURB RAMP AND THE PEDESTRIAN CROSSWALK MARKINGS SO A 4'x4' CLEAR SPACE AT THE BASE OF THE CURB RAMP WILL FALL WITHIN THE PEDESTRIAN CROSSWALK LINES.
4. SET BACK DISTANCE FROM INSIDE CROSSWALK MARKING TO NEAREST EDGE OF TRAVEL LANE IS 4' MINIMUM.
5. REFER TO THE PAVEMENT MARKING PLANS FOR STOP BAR LOCATIONS AT SIGNALIZED INTERSECTIONS. IF A PAVEMENT MARKING PLAN IS NOT PROVIDED, CONTACT THE SIGNAL DESIGN SECTION FOR THE STOP BAR LOCATIONS OR LOCATE AS DIRECTED BY THE ENGINEER.
6. TERMINATE PARKING A MINIMUM OF 20' BACK OF A PEDESTRIAN CROSSWALK.
7. CONSTRUCT CURB RAMPS A MINIMUM OF 4' WIDE.
8. CONSTRUCT THE RUNNING SLOPE OF THE RAMP 8.33% MAXIMUM.
9. ALLOWABLE CROSS SLOPE ON SIDEWALKS AND CURB RAMPS WILL BE 2% MAXIMUM.
10. CONSTRUCT THE SIDE FLARE SLOPE A MAXIMUM OF 10% MEASURED ALONG THE CURB LINE.
11. CONSTRUCT THE COUNTER SLOPE OF THE GUTTER OR STREET AT THE BASE OF THE CURB RAMP A MAXIMUM OF 5% AND MAINTAIN A SMOOTH TRANSITION.
12. CONSTRUCT LANDINGS FOR SIDEWALK A MINIMUM OF 4'x4' WITH A MAXIMUM SLOPE OF 2% IN ANY DIRECTION. CONSTRUCT LANDINGS FOR MEDIAN ISLANDS A MINIMUM OF 5'x5' WITH A MAXIMUM SLOPE OF 2% IN ANY DIRECTION.
13. TO USE A MEDIAN ISLAND AS A PEDESTRIAN REFUGE AREA, MEDIAN ISLANDS WILL BE A MINIMUM OF 6' WIDE. CONSTRUCT MEDIAN ISLANDS TO PROVIDE PASSAGE OVER OR THROUGHT THE ISLAND.
14. SMALL CHANNELIZATION ISLANDS THAT CAN NOT PROVIDE A 5'X5' LANDING AT THE TOP OF A RAMPS, WILL BE CUT THROUGH LEVEL WITH THE SURFACE STREET.
15. CURB RAMPS WITH RETURNED CURBS MAY BE USED ONLY WHERE PEDESTRIANS WOULD NOT NORMALLY WALK ACROSS THE RAMP. THE ADJACENT SURFACE IS PLANTING OR OTHER NON-WALKING SURFACE OR THE SIDE APPROACH IS SUBSTANTIALLY OBSTRUCTED.
16. PLACE A ½" EXPANSION JOINT WHERE THE CONCRETE CURB RAMP JOINS THE CURB AS SHOWN IN ROADWAY STANDARD DRAWING 848.01
17. PLACE ALL PEDESTRIAN PUSH BUTTON ACTUATORS AND CROSSING SIGNALS AS SHOWN IN THE PLANS OR AS SHOWN IN THE MUTCD.
18. CURB RAMPS THROUGH MEDIAN ISLANDS, SINGLE RAMPS AT DUAL CROSSWALKS OR LIMITED R/W SITUATIONS, WILL BE HANDLED BY SPECIAL DETAILS. CONTACT THE CONTRACT STANDARDS AND DEVELOPMENT UNIT FOR THE DETAILS OR FOR A SPECIAL DESIGN.

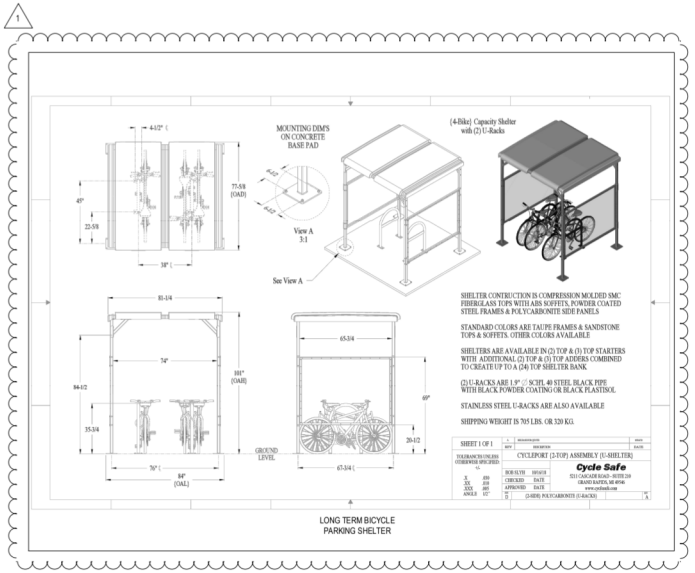
STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

1-18

ROADWAY STANDARD DRAWING FOR
CURB RAMPS
NOTES

SHEET 3 OF 3
848.05





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COOPERATIVA LATINO CREDIT UNION

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5280 NEW BERN AVENUE
RALEIGH, NC 27601

North Carolina 811 www.nc811.org

GRAPHIC SCALE
20 0 10 20 40
(IN FEET)
1 inch = 20 ft.

NO:	DATE:	DESCRIPTION:
1	2-24-23	REVISE PER ASR COMMENTS #1
2	5-5-23	REVISE PER ASR COMMENTS #2

PROJECT NUMBER: 2220725
DRAWN BY: TCL
REVIEWED BY: REW
ISSUED FOR: FINAL DESIGN
DATE: 9/22/23
DRAWING NAME:

SITE PLAN DETAILS

DRAWING NUMBER:

C2.4

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Y:\2220725 LCCU NEW BERN AVE RALEIGH\CAD\CIVIL\CIVIL3D\PLANSHEETS\C2.2 SITE PLAN DETAILS.DWG

NARRATIVE

LATINO COMMUNITY CREDIT UNION IS LOCATED IN RALEIGH, NORTH CAROLINA. THE TOTAL DISTURBED ACREAGE FOR THE PROPOSED DEVELOPMENT IS APPROXIMATELY 1.17 ACRES. THE SCOPE OF WORK INCLUDES CLEARING, STRIPPING AND GRADING FOR DRIVEWAYS, PARKING, BUILDING, ASPHALT AND CURB REMOVAL, INFRASTRUCTURE REMOVAL, UTILITY REPLACEMENT/REMOVAL, AND BUILDING PADS. INSTALLATION OF EROSION CONTROL MEASURES, STORM DRAINAGE, CURB AND GUTTER, SIDEWALKS, UTILITIES, AND PAVING.

DOWNSTREAM RECEIVING WATER IS LOWER NEUSE RIVER.

THIS SITE IS NOT IN A FEMA FLOOD ZONE PER FEMA FLOOD MAP COMMUNITY MAP NUMBER 3720173400K DATED 07/19/2022.

PHASING SEQUENCE OF CONSTRUCTION

1. EROSION CONTROL PLAN IS TO BE APPROVED BY THE NC DEQ EROSION CONTROL PROGRAM.
2. SET UP AN ON-SITE PRE-CONSTRUCTION CONFERENCE WITH EROSION CONTROL INSPECTOR OF THE CITY ENGINEERING DEPARTMENT TO DISCUSS EROSION CONTROL MEASURES.
3. INSTALL SILT FENCE, INLET PROTECTION, SEDIMENT TRAPS, DIVERSION DITCHES, TREE PROTECTION, AND OTHER MEASURES AS SHOWN ON PLANS, CLEARING ONLY AS NECESSARY TO INSTALL THESE DEVICES.
4. CALL FOR ON-SITE INSPECTION BY INSPECTOR. WHEN APPROVED, INSPECTOR ISSUES THE GRADING PERMIT AND CLEARING AND GRUBBING MAY BEGIN.
5. THE CONTRACTOR SHALL DILIGENTLY AND CONTINUOUSLY MAINTAIN ALL EROSION CONTROL DEVICES AND STRUCTURES.
6. FOR PHASED EROSION CONTROL PLANS, CONTRACTOR SHALL MEET WITH EROSION CONTROL INSPECTOR PRIOR TO COMMENCING WITH EACH PHASE OF EROSION CONTROL MEASURES.
7. STABILIZE SITE AS AREAS ARE BROUGHT TO FINISHED GRADE.
8. COORDINATE WITH EROSION CONTROL INSPECTOR PRIOR TO REMOVAL OF EROSION CONTROL MEASURE.
9. ALL EROSION CONTROL MEASURES SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE N. C. EROSION AND SEDIMENT CONTROL PLANNING AND DESIGN MANUAL.

PHASE 1

1. CLEAR AND GRADE ONLY AS NECESSARY TO INSTALL EROSION CONTROL MEASURES IN THIS PHASE.
2. INSTALL CONSTRUCTION ENTRANCE, SILT FENCE, & INLET PROTECTION.
3. INSTALL SILT FENCE OUTLET
4. CONTACT EROSION INSPECTOR FOR APPROVAL OF INSTALLED MEASURES PRIOR TO BEGINNING FULL GRADING OPERATIONS.
5. FOR PHASED EROSION CONTROL PLANS, CONTRACTOR SHALL MEET WITH EROSION CONTROL INSPECTOR PRIOR TO COMMENCING WITH EACH PHASE OF EROSION CONTROL MEASURES.

PHASE 2

1. GRADE SITE TO GRADES SHOWN LEAVING SILT FENCE AND SILT FENCE OUTLET INTACT OR MODIFIED AS SHOWN.
2. MAINTAIN PHASE 1 EROSION CONTROL MEASURES AS NEEDED.
3. CONSTRUCT STORM DRAINAGE, CONCRETE PADS, AND UTILITIES.
4. INSTALL TEMPORARY INLET PROTECTION ON ALL CATCH BASINS AND DROP INLETS (PROPOSED OR EXISTING REMAINING).
5. SEED AND MULCH AREAS AS SPECIFIED.
6. MAINTAIN ALL EROSION CONTROL MEASURES.(IN USE)
7. CALL EROSION CONTROL INSPECTOR FOR APPROVAL TO REMOVE MEASURES AS THE SITE DEVELOPS.

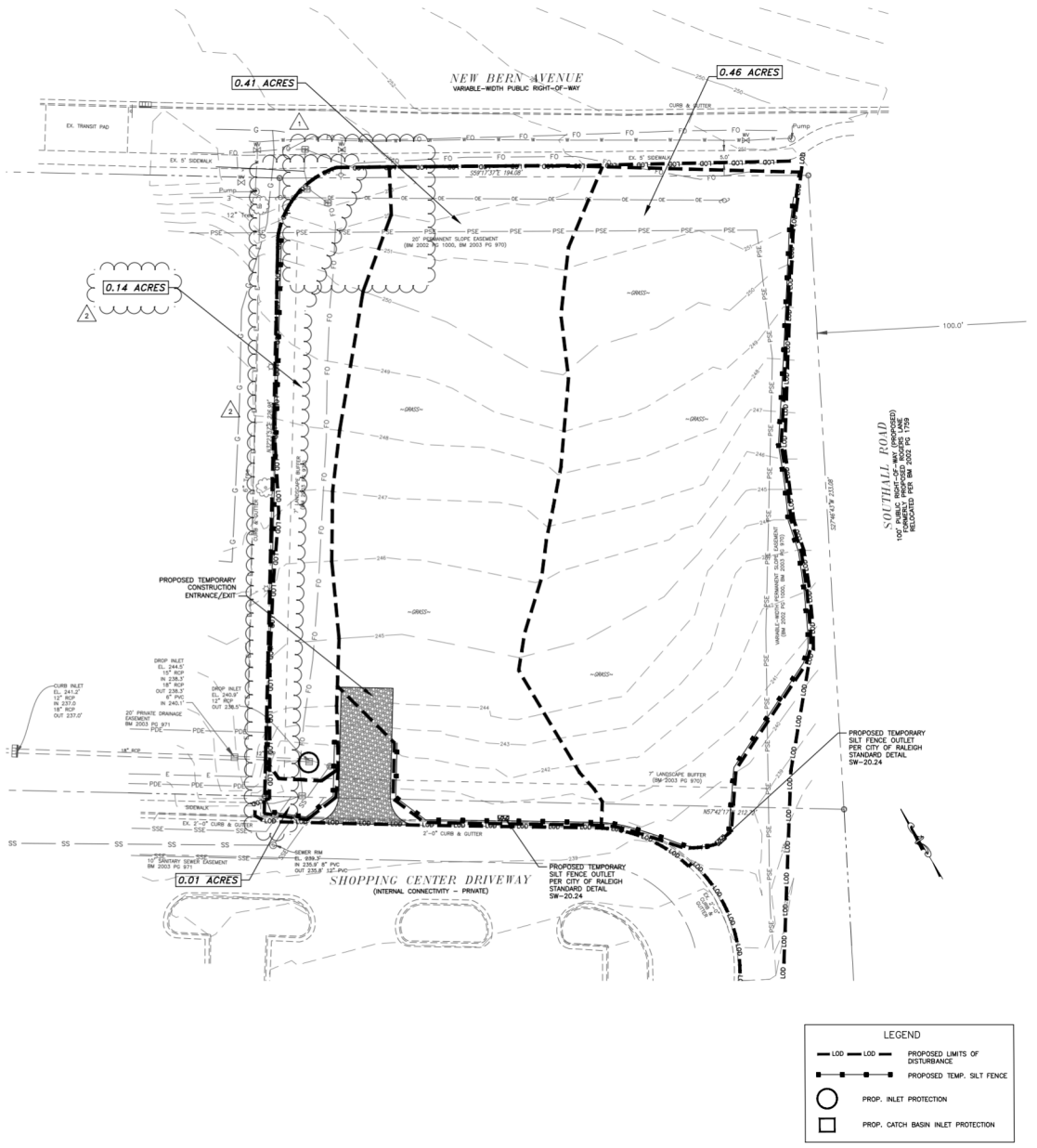
EROSION CONTROL NOTES

1. OFF-SITE CONSTRUCTION OR GRADING REQUIRES A LETTER FROM THE AFFECTED PROPERTY OWNER GRANTING PERMISSION.
2. ALL "STD." NUMBERS REFER TO THE NCDOT STANDARDS MANUAL.
3. ANY GRADING BEYOND THE DENUDED LIMITS SHOWN ON THE PLAN IS A VIOLATION OF THE CITY/COUNTY EROSION CONTROL ORDINANCE AND IS SUBJECT TO A FINE
4. GRADING MORE THAN ONE ACRE WITHOUT AN APPROVED EROSION CONTROL PLAN IS A VIOLATION OF THE CITY/COUNTY EROSION CONTROL ORDINANCE AND IS SUBJECT TO A FINE.
5. ALL PERIMETER DIKES, SWALES, DITCHES, PERIMETER SLOPES AND ALL SLOPES STEEPER THAN 3 HORIZONTAL TO 1 VERTICAL (3:1) SHALL BE PROVIDED TEMPORARY OR PERMANENT STABILIZATION WITH GROUND COVER AS SOON AS PRACTICABLE BUT IN ANY EVENT WITHIN 7 CALENDAR DAYS FROM THE LAST LAND-DISTURBING ACTIVITY.
6. ALL OTHER DISTURBED AREAS SHALL BE PROVIDED TEMPORARY OR PERMANENT STABILIZATION WITH GROUND COVER AS SOON AS PRACTICABLE BUT IN ANY EVENT WITHIN 14 CALENDAR DAYS FROM THE LAST LAND-DISTURBING ACTIVITY.
7. ADDITIONAL MEASURES TO CONTROL EROSION AND SEDIMENT MAY BE REQUIRED BY A REPRESENTATIVE OF THE CITY ENGINEERING DEPARTMENT.
8. SLOPES SHALL BE GRADED NO STEEPER THAN 2:1. FILL SLOPES GREATER THAN 10' REQUIRE ADEQUATE TERRACING PER NC DEQ.
9. STABILIZATION IS THE BEST FORM OF EROSION CONTROL. TEMPORARY SEEDING IS NECESSARY TO ACHIEVE EROSION CONTROL ON LARGE DENUDED AREAS AND ESPECIALLY WHEN SPECIFICALLY REQUIRED AS PART OF THE CONSTRUCTION SEQUENCE SHOWN ON THE PLAN.
10. ALL AREAS ARE TO BE SEEDED AND MULCHED PER THE TEMPORARY SEEDING SCHEDULE ON SHEET C3.4 AND THE PERMANENT SEEDING SCHEDULE ON SHEET C6.0.
11. ADDITIONAL MEASURES TO CONTROL EROSION AND SEDIMENT MAYBE REQUIRED BY A REPRESENTATIVE OF CITY OF RALEIGH.
12. MAXIMUM TEMPORARY GRADED SLOPES ARE 2:1. WHEN STEEPER SLOPES MUST BE USED, PLANS SHALL BE SEALED BY A GEOTECHNICAL ENGINEER FOR SLOPE STABILITY AND FINAL SURFACE STABILIZATION.
13. ALL FLOW FROM PERMANENT OR TEMPORARY DITCHES SHOULD BE DIRECTED TOWARDS SEDIMENT TRAPS UNTIL SITE IS COMPLETELY STABILIZED.
14. IF THE NEED ARISES FOR ANY OFF-SITE BORROW OR SPOIL SITE DURING CONSTRUCTION, SUBMIT A REVISION THAT DEMONSTRATES EROSION CONTROL FOR THE AREA AND ACCOUNT FOR THE ADDITIONAL ACREAGE IN THE REVIEW FEE IF AN APPROVED SITE.
15. WHEN GRASS IS USED FOR STABILIZATION REQUIREMENTS, PERMANENT GROUNDCOVER MUST BE APPLIED OVER 100% OF THE DISTURBED AREA. PERMANENT STABILIZATION IS ACHIEVED WHEN 80% OF THE PERMANENT GROUNDCOVER IS GROWING AND ESTABLISHED WITH NO EVIDENCE OF LARGE BARE PATCHES OR EROSION.

MAINTENANCE PLAN

THE FOLLOWING MAINTENANCE PLAN SHALL BE FOLLOWED UNTIL THE SITE IS COMPLETELY STABILIZED AFTER CONSTRUCTION. DURING CONSTRUCTION THE CONTRACTOR SHALL BE RESPONSIBLE FOR INSPECTION AND MAINTENANCE OF ALL EROSION AND SEDIMENT CONTROL STRUCTURES.

1. ALL EROSION CONTROL MEASURES SHALL BE CHECKED FOR STABILITY AND OPERATION FOLLOWING ANY RAINFALL PRODUCING RUNOFF AND AT LEAST ONCE EVERY WEEK. ANY NEEDED REPAIRS SHALL BE MADE IMMEDIATELY SO THAT ALL EROSION CONTROL MEASURES ARE MAINTAINED AS DESIGNED.
2. ALL SEEDED AREAS WILL BE FERTILIZED, RESEEDED AS NECESSARY, AND MULCHED IN ACCORDANCE WITH THE SEEDING SPECIFICATIONS IN ORDER TO MAINTAIN A DENSE VEGETATIVE COVER.
3. SEDIMENT DEPOSITS SHALL BE REMOVED FROM SEDIMENT FENCE AFTER EACH STORM EVENT OR SEDIMENT FENCE SHOULD BE REPLACED. THEY MUST BE REMOVED WHEN DEPOSITS REACH APPROXIMATELY HALF THE HEIGHT OF THE BARRIER. ANY SEDIMENT DEPOSITS REMAINING IN PLACE AFTER THE SEDIMENT FENCE IS REMOVED SHALL BE DRESSED TO CONFORM TO THE EXISTING GRADE, PREPARED AND SEEDED.
4. SKIMMER/SEDIMENT BASINS SHALL BE CLEANED OUT WHEN THE LEVEL REACHES THE MID-DEPTH POINT BELOW THE WEIR ELEVATION, WASHED STONE SHALL BE CLEANED OR REPLACED WHEN THE BASIN NO LONGER DRAINS PROPERLY.
5. SEDIMENT DEPOSITS SHALL BE REMOVED FROM BEHIND WATTLES AFTER EACH STORM EVENT. ALL WATTLES SHALL BE CHECKED, RESTAKED, OR REPLACED IF NECESSARY.



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DATE: 9/22/23
DRAWING NAME:

EROSION CONTROL PLAN PHASE 1

DRAWING NUMBER:

C3.0

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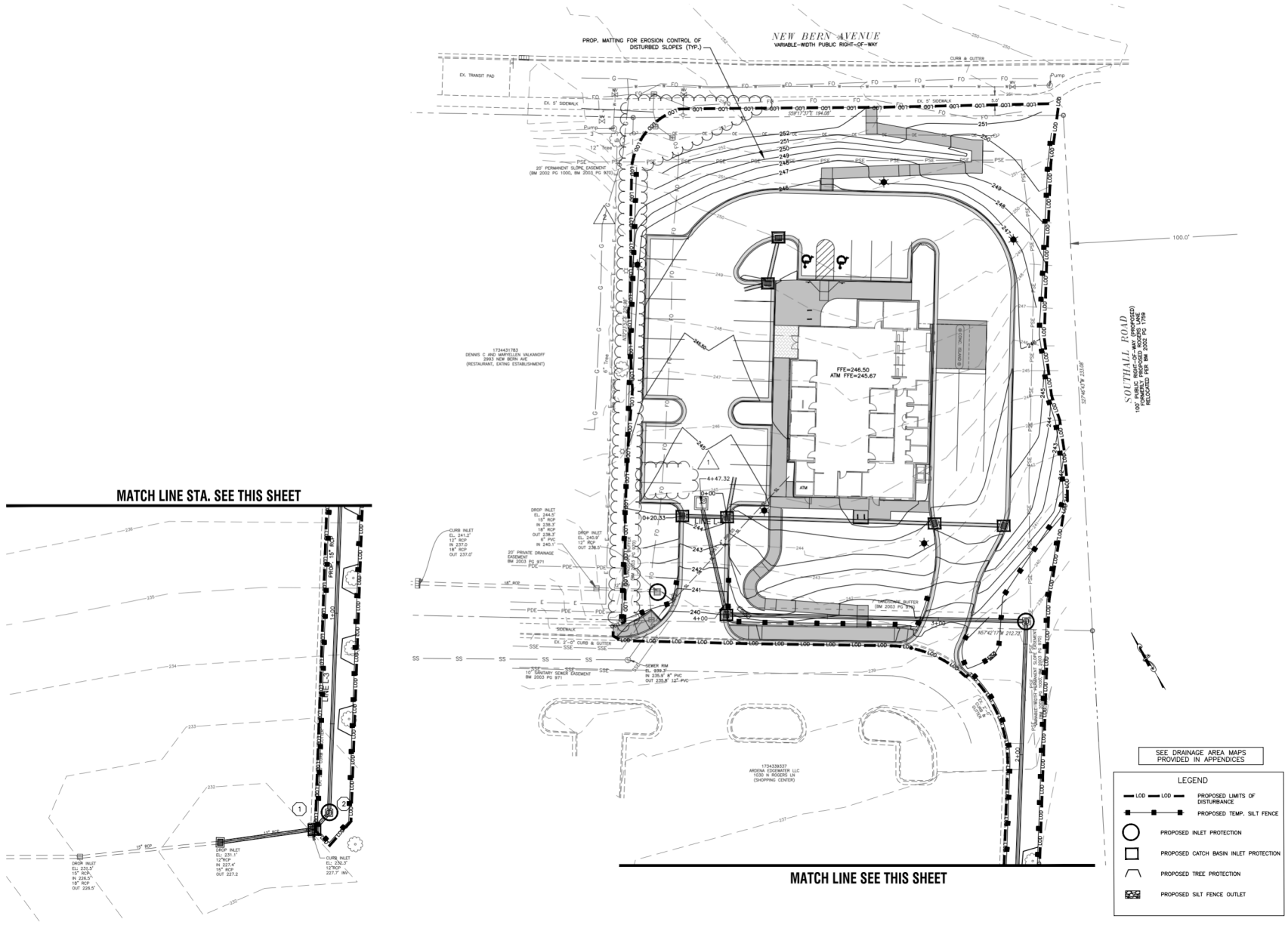

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DRAWN BY: TCL
REVIEWED BY: REW
ISSUED FOR: FINAL DESIGN
DATE: 9/22/23
DRAWING NAME:

EROSION CONTROL PLAN PHASE 2

DRAWING NUMBER:

C3.1

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 un-attended days (and this will determine if a site inspection is needed). Days on which no rainfall occurred shall be recorded as "zero." The permittee may use another rain-monitoring device approved by the Division.
(2) E&SC Measures	At least once per 7 calendar days and within 24 hours of a rain event ≥ 1.0 inch in 24 hours	1. Identification of the measures inspected, 2. Date and time of the inspection, 3. Name of the person performing the inspection, 4. Indication of whether the measures were operating properly, 5. Description of maintenance needs for the measure, 6. Description, evidence, and date of corrective actions taken.
(3) Stormwater discharge outfalls (SDOs)	At least once per 7 calendar days and within 24 hours of a rain event ≥ 1.0 inch in 24 hours	1. Identification of the discharge outfalls inspected, 2. Date and time of the inspection, 3. Name of the person performing the inspection, 4. Evidence of indicators of stormwater pollution such as oil sheen, floating or suspended solids or discoloration, 5. Indication of visible sediment leaving the site, 6. Description, evidence, and date of corrective actions taken.
(4) Perimeter of site	At least once per 7 calendar days and within 24 hours of a rain event ≥ 1.0 inch in 24 hours	If visible sedimentation is found outside site limits, then a record of the following shall be made: 1. Actions taken to clean up or stabilize the sediment that has left the site limits, 2. Description, evidence, and date of corrective actions taken, and 3. An explanation as to the actions taken to control future releases.
(5) Streams or wetlands onsite or offsite (where accessible)	At least once per 7 calendar days and within 24 hours of a rain event ≥ 1.0 inch in 24 hours	If the stream or wetland has increased visible sedimentation or a stream has visible increased turbidity from the construction activity, then a record of the following shall be made: 1. Description, evidence and date of corrective actions taken, and 2. Records of the required reports to the appropriate Division Regional Office per Part III, Section C, Item (2)(a) of this permit.
(6) Ground stabilization measures	After each phase of grading	1. The phase of grading (installation of perimeter E&SC measures, clearing and grubbing, installation of storm drainage facilities, completion of all land-disturbing activity, construction or redevelopment, permanent ground cover). 2. Documentation that the required ground stabilization measures have been provided within the required timeframe or an assurance that they will be provided as soon as possible.

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

PART III
SELF-INSPECTION, RECORDKEEPING AND REPORTING

SECTION B: RECORDKEEPING

1. E&SC Plan Documentation

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

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

2. Additional Documentation to be Kept on Site

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

(a) This General Permit as well as the Certificate of Coverage, after it is received.

(b) Records of inspections made during the previous twelve months. The permittee shall record the required observations on the Inspection Record Form provided by the Division or a similar inspection form that includes all the required elements. Use of electronically-available records in lieu of the required paper copies will be allowed if shown to provide equal access and utility as the hard-copy records.

3. Documentation to be Retained for Three Years

All data used to complete the e-NOI and all inspection records shall be maintained for a period of three years after project completion and made available upon request. [40 CFR 122.41]

PART III
SELF-INSPECTION, RECORDKEEPING AND REPORTING

SECTION C: REPORTING

1. Occurrences that Must be Reported

Permittees shall report the following occurrences:

(a) Visible sediment deposition in a stream or wetland.

(b) Oil spills if:
- They are 25 gallons or more,
- They are less than 25 gallons but cannot be cleaned up within 24 hours,
- They cause sheen on surface waters (regardless of volume), or
- They are within 100 feet of surface waters (regardless of volume).

(c) Releases of hazardous substances in excess of reportable quantities under Section 311 of the Clean Water Act (Ref: 40 CFR 110.3 and 40 CFR 117.3) or Section 102 of CERCLA (Ref: 40 CFR 302.4) or G.S. 143-215.85.

(d) Anticipated bypasses and unanticipated bypasses.

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

2. Reporting Timeframes and Other Requirements

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

Occurrence	Reporting Timeframes (After Discovery) and Other Requirements
(a) Visible sediment deposition in a stream or wetland	• ***Within 24 hours***, an oral or electronic notification. • ***Within 7 calendar days***, a report that contains a description of the sediment and actions taken to address the cause of the deposition. Division staff may waive the requirement for a written report on a case-by-case basis. • If the stream is named on the NC 303(d) list as impaired for sediment-related causes, the permittee may be required to perform additional monitoring, inspections or apply more stringent practices if staff determine that additional requirements are needed to assure compliance with the federal or state impaired-waters conditions.
(b) Oil spills and release of hazardous substances per Item 1(b)-(c) above	• ***Within 24 hours***, an oral or electronic notification. The notification shall include information about the date, time, nature, volume and location of the spill or release.
(c) Anticipated bypasses [40 CFR 122.41(m)(3)]	• ***A report at least ten days before the date of the bypass, if possible***. The report shall include an evaluation of the anticipated quality and effect of the bypass.
(d) Unanticipated bypasses [40 CFR 122.41(m)(3)]	• ***Within 24 hours***, an oral or electronic notification. • ***Within 7 calendar days,*** a report that includes an evaluation of the quality and effect of the bypass.
(e) Noncompliance with the conditions of this permit that may endanger health or the environment[40 CFR 122.41(l)(7)]	• ***Within 24 hours***, an oral or electronic notification. • ***Within 7 calendar days***, a report that contains a description of the noncompliance, and its causes; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time noncompliance is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance. [40 CFR 122.41(l)(6). • Division staff may waive the requirement for a written report on a case-by-case basis.

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

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

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

NCG01 SELF-INSPECTION, RECORDKEEPING AND REPORTING

EFFECTIVE: 04/01/19

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EROSION CONTROL NOTES

DRAWING NUMBER:

C3.2

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
• Temporary grass seed covered with straw or other mulches and tackifiers • Hydroseeding • Rolled erosion control products with or without temporary grass seed • Appropriately applied straw or other mulch • Plastic sheeting	• Permanent grass seed covered with straw or other mulches and tackifiers • Geotextile fabrics such as permanent soil reinforcement matting • Hydroseeding • Shrubs or other permanent plantings covered with mulch • Uniform and evenly distributed ground cover sufficient to restrain erosion • Structural methods such as concrete, asphalt or retaining walls • Rolled erosion control products with grass seed

POLYACRYLAMIDES (PAMS) AND FLOCCULANTS

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

EQUIPMENT AND VEHICLE MAINTENANCE

1. Maintain vehicles and equipment to prevent discharge of fluids.
2. Provide drip pans under any stored equipment.
3. Identify leaks and repair as soon as feasible, or remove leaking equipment from the project.
4. Collect all spent fluids, store in separate containers and properly dispose as hazardous waste (recycle when possible).
5. Remove leaking vehicles and construction equipment from service until the problem has been corrected.
6. 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

1. Never bury or burn waste. Place litter and debris in approved waste containers.
2. Provide a sufficient number and size of waste containers (e.g dumpster, trash receptacle) on site to contain construction and domestic wastes.
3. Locate waste containers at least 50 feet away from storm drain inlets and surface waters unless no other alternatives are reasonably available.
4. 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.
5. Cover waste containers at the end of each workday and before storm events or provide secondary containment. Repair or replace damaged waste containers.
6. Anchor all lightweight items in waste containers during times of high winds.
7. Empty waste containers as needed to prevent overflow. Clean up immediately if containers overflow.
8. Dispose waste off-site at an approved disposal facility.
9. On business days, clean up and dispose of waste in designated waste containers.

PAINT AND OTHER LIQUID WASTE

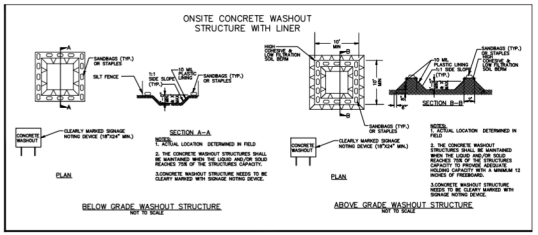
1. Do not dump paint and other liquid waste into storm drains, streams or wetlands.
2. Locate paint washouts at least 50 feet away from storm drain inlets and surface waters unless no other alternatives are reasonably available.
3. Contain liquid wastes in a controlled area.
4. Containment must be labeled,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

PORTABLE TOILETS

1. 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.
2. Provide staking or anchoring of portable toilets during periods of high winds or in high foot traffic areas.
3. 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

1. 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.
2. Protect stockpile with silt fence installed along toe of slope with a minimum offset of five feet from the toe of stockpile.
3. Provide stable stone access point when feasible.
4. 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

1. Do not discharge concrete or cement slurry from the site.
2. Dispose of, or recycle settled, hardened concrete residue in accordance with local and state solid waste regulations and at an approved facility.
3. 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.
4. 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.
5. 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.
6. 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.
7. 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.
8. 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.
9. 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.
10. 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

1. Store and apply herbicides, pesticides and rodenticides in accordance with label restrictions.
2. 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.
3. 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.
4. Do not stockpile these materials onsite.

HAZARDOUS AND TOXIC WASTE

1. Create designated hazardous waste collection areas on-site.
2. Place hazardous waste containers under cover or in secondary containment.
3. Do not store hazardous chemicals, drums or bagged materials directly on the ground.

NCG01 GROUND STABILIZATION AND MATERIALS HANDLING

EFFECTIVE: 04/01/19

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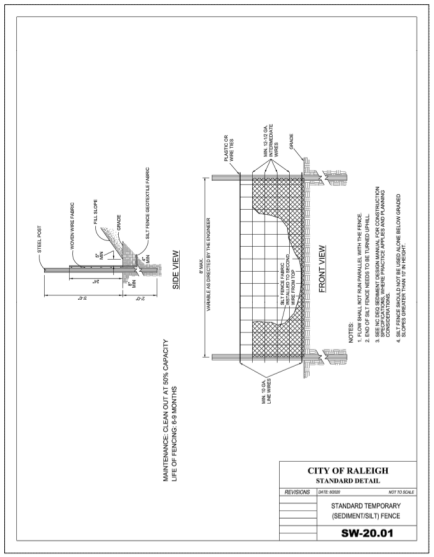
GRAPHIC SCALE
20 0 10 20 40
(IN FEET)
1 inch = 20 ft.

NO.	DATE:	DESCRIPTION:
1	2-24-23	REVISE PER ASR COMMENTS #1
2	5-5-23	REVISE PER ASR COMMENTS #2

PROJECT NUMBER: 2220725
DRAWN BY: TCL
REVIEWED BY: REW
ISSUED FOR: FINAL DESIGN
DATE: 9/22/23
DRAWING NAME: EROSION CONTROL NOTES
DRAWING NUMBER: C3.3

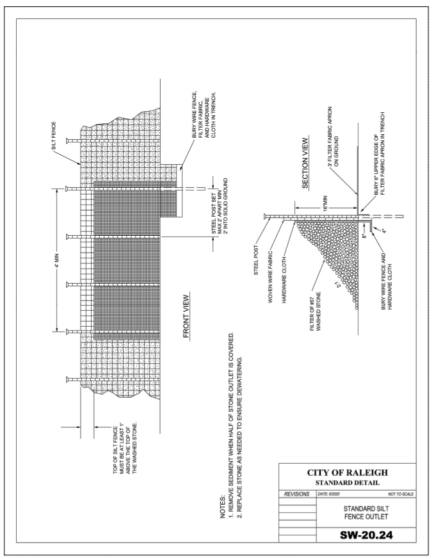


CITY OF RALEIGH
STANDARD DETAIL

REVISIONS	DATE: 8/2020	NOT TO SCALE

STANDARD TEMPORARY (SEDIMENT/SILT) FENCE

SW-20.01

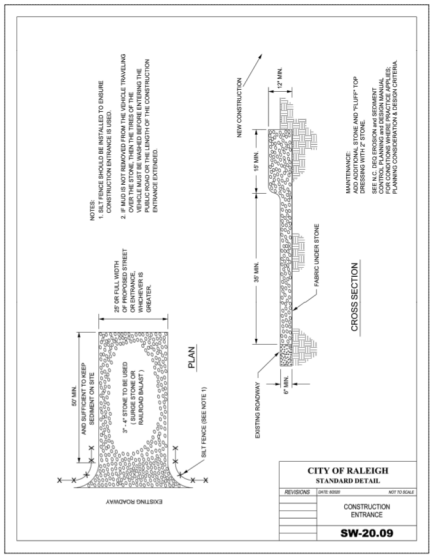


CITY OF RALEIGH
STANDARD DETAIL

REVISIONS	DATE: 8/2020	NOT TO SCALE

STANDARD SILT FENCE OUTLET

SW-20.24

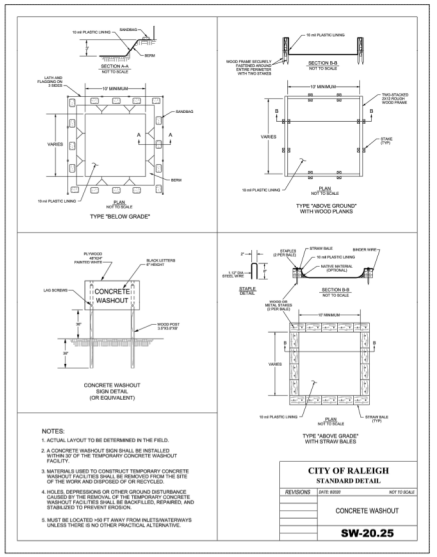


CITY OF RALEIGH
STANDARD DETAIL

REVISIONS	DATE: 8/2020	NOT TO SCALE

CONSTRUCTION ENTRANCE

SW-20.09

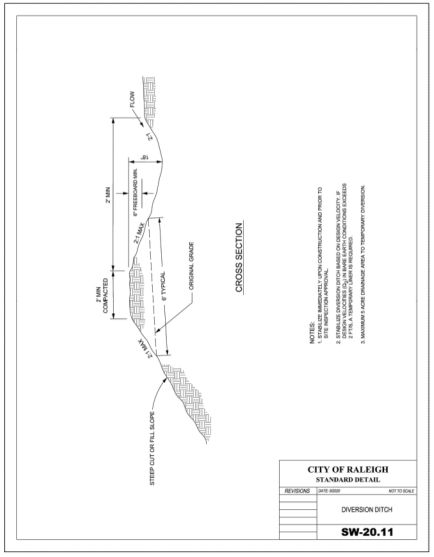


CITY OF RALEIGH
STANDARD DETAIL

REVISIONS	DATE: 8/2020	NOT TO SCALE

CONCRETE WASHOUT

SW-20.25

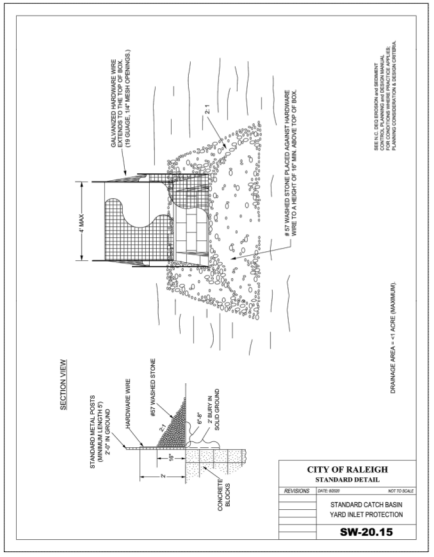


CITY OF RALEIGH
STANDARD DETAIL

REVISIONS	DATE: 8/2020	NOT TO SCALE

DIVERSION DITCH

SW-20.11

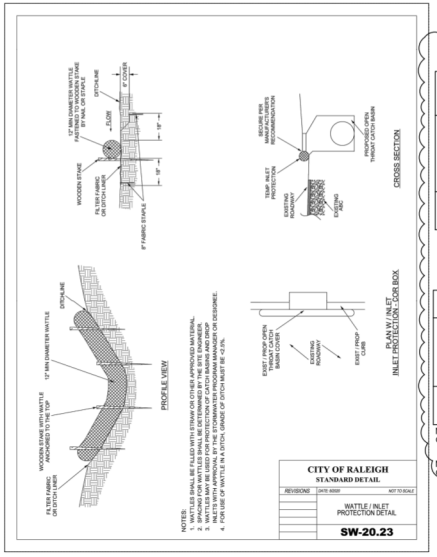


CITY OF RALEIGH
STANDARD DETAIL

REVISIONS	DATE: 8/2020	NOT TO SCALE

STANDARD CATCH BASIN YARD INLET PROTECTION

SW-20.15



CITY OF RALEIGH
STANDARD DETAIL

REVISIONS	DATE: 8/2020	NOT TO SCALE

WATTLE / INLET PROTECTION DETAIL

SW-20.23

SEEDING SCHEDULE (SEASONAL)

	GENTLE SLOPES	STEEP SLOPES
SEEDING MIXTURE	80 LBS/ACRE OF TALL FESCUE	100 LBS/ACRE TALL FESCUE 30 LBS/ACRE SERICEA LESPEDEZA (UNSCARIFIED AFTER AUGUST 15) 10 LBS/ACRE KOBE LESPEDEZA
SEEDING DATES	FALL: AUGUST 25 – OCTOBER 15 LATE WINTER: FEBRUARY 15 – APRIL 15 TO EXTEND SPRING SEEDING INTO JUNE, ADD 15 LBS/ACRE HULLED BERMUDAGRASS OVERSEEDING OF KOBE LESPEDEZA OVER FALL-SEEDED TALL FESCUE IS VERY EFFECTIVE.	FALL: AUGUST 25 – OCTOBER 15 LATE WINTER: FEBRUARY 15 – APRIL 15 TO EXTEND SPRING SEEDING INTO JUNE, ADD 15 LBS/ACRE HULLED BERMUDAGRASS OVERSEEDING OF KOBE LESPEDEZA OVER FALL-SEEDED TALL FESCUE IS VERY EFFECTIVE.
SEEDING AMENDMENTS	APPLY LIME AND FERTILIZER PER SOIL TESTS, OR 4000 LBS/ACRE LIMESTONE AND 1000 LBS/ACRE 10–10–10 FERTILIZER.	APPLY LIME AND FERTILIZER PER SOIL TESTS, OR 4000 LBS/ACRE LIMESTONE AND 1000 LBS/ACRE 10–10–10 FERTILIZER.

TEMPORARY SEEDING FOR WARM AND COOL SEASON

	EARLY SUMMER SEASON	STEEP SLOPES
SEEDING MIXTURE	40 LBS/ACRE OF GERMAN MILLET 80 LBS/ACRE OF TALL FESCUE	120 LBS/ACRE RYE (GRAIN) 80 LBS/ACRE TALL FESCUE
SEEDING DATES	MAY 1 – AUGUST 15 REFERTILIZE IF GROWTH IS NOT FULLY ADEQUATE. APPLY 4000 LBS/ACRE STRAW OR EQUIVALENT HYDROSEEDING.	OCTOBER 25 – DECEMBER 30 BETWEEN DECEMBER 30 – FEBRUARY 15, ADD 50 LBS/ACRE OF ANNUAL KOBE LESPEDEZA. APPLY 4000 LBS/ACRE STRAW OR EQUIVALENT HYDROSEEDING.
SEEDING AMENDMENTS	APPLY LIME AND FERTILIZER PER SOIL TESTS, OR 2000 LBS/ACRE LIMESTONE AND 750 LBS/ACRE 10–10–10 FERTILIZER.	APPLY LIME AND FERTILIZER PER SOIL TESTS, OR 2000 LBS/ACRE LIMESTONE AND 750 LBS/ACRE 10–10–10 FERTILIZER.

NOTE 1
GROUND COVER: PROTECTIVE COVER MUST BE ESTABLISHED ON ALL DISTURBED AREAS WITHIN 14 CALENDAR DAYS AFTER LAND DISTURBING ACTIVITY IS COMPLETED OR HAS TEMPORARILY CEASED.

NOTE 2
GRADED SLOPES AND FILLS: PROTECTIVE COVER MUST BE ESTABLISHED ON ALL GRADED SLOPES AND FILLS WITHIN 14 CALENDAR DAYS AFTER A PHASE OF GRADING IS COMPLETED OR HAS TEMPORARILY CEASED.

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GRAPHIC SCALE
20 0 10 20 40
(IN FEET)
1 inch = 20 ft.

NO.	DATE:	DESCRIPTION:
1	2-24-23	REVISE PER ASR COMMENTS #1
2	5-5-23	REVISE PER ASR COMMENTS #2

PROJECT NUMBER: 2220725
DRAWN BY: TCL
REVIEWED BY: REW
ISSUED FOR: FINAL DESIGN
DATE: 9/22/23
DRAWING NAME:

EROSION CONTROL DETAILS

DRAWING NUMBER:

C3.4

4/21/2023 8:38 AM
Y:\2220725 LCCU NEW BERN AVE RALEIGH\CAD\CIVIL\CIVIL30 PLANSHEETS\C3.2 EROSION CONTROL DETAILS.DWG

GENERAL CONSTRUCTION NOTES

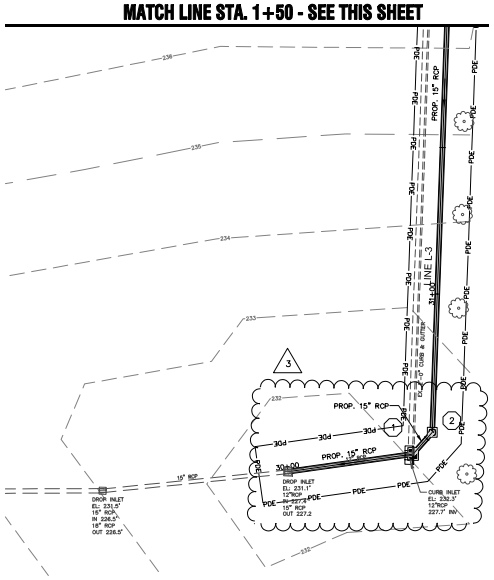
1. APPROVAL OF THE PLAN IS NOT AN AUTHORIZATION TO GRADE ADJACENT PROPERTIES. WHEN FIELD CONDITIONS WARRANT OFF-SITE GRADING, PERMISSION MUST BE OBTAINED FROM THE AFFECTED PROPERTY OWNERS.
2. ALL CONTOURS AND SPOT ELEVATIONS REFLECT FINISHED GRADES INCLUDING ASPHALT. REFER TO PAVEMENT CROSS SECTION DATA TO ESTABLISH CORRECT SUBBASE OR AGGREGATE BASE COURSE ELEVATIONS TO BE COMPLETED UNDER THIS CONTRACT.
3. CONTRACTOR SHALL BLEND NEW EARTHWORK SMOOTHLY TO TRANSITION BACK TO EXISTING GRADE.
4. CONTRACTOR SHALL IMMEDIATELY REPORT TO OWNER OR ENGINEER ANY DISCREPANCIES FOUND BETWEEN ACTUAL FIELD CONDITIONS AND CONSTRUCTION DOCUMENTS AND SHALL WAIT FOR INSTRUCTION PRIOR TO PROCEEDING.
5. ALL EARTH FILL TO BE COMPACTED TO MINIMUM 95% OF STD. PROCTOR MAXIMUM DRY DENSITY.
6. TOP 12" OF SUBGRADE OF BUILDING PADS AND PARKING AREAS TO BE COMPACTED TO MINIMUM 100% OF STD. PROCTOR MAXIMUM DRY DENSITY.
7. ALL RCP CULVERTS TO BE MINIMUM CLASS III RCP WITH TONGUE AND GROOVE OR BELL AND SPIGOT WATERPROOF JOINTS. JOINT MATERIAL SHALL BE BUTYL RUBBER MASTIC PER FSS-SS-S-00210.
8. SUBGRADE OF PARKING AREAS TO BE PROOF ROLLED PRIOR TO STONE PLACEMENT.
9. ABC STONE TO BE COMPACTED TO 100% OF STD. PROCTOR.
10. BITUMINOUS PAVEMENT SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE NCDOT STANDARD SPECIFICATIONS.
11. ALL CONCRETE FOR SIDEWALKS, CURBS, AND DRIVEWAYS SHALL BE CONSTRUCTED IN ACCORDANCE WITH NCDOT STANDARD SPECIFICATIONS.
12. REFER TO ARCHITECTURAL DRAWINGS FOR DOWN SPOUT LOCATIONS. TIE DOWN SPOUTS TO PROPOSED DRAINAGE SYSTEM
13. ALL PVC PIPE FOR THE DRAINAGE SYSTEMS SHALL BE SCHEDULE 40.
14. BUILDING SHALL HAVE 4" CLEAN, GRATED AND COMPACTED (NO SLAG) ABC STONE BELOW FOUNDATION. MINIMUM COMPACTION 100% STANDARD PROCTOR MAX DRY DENSITY.

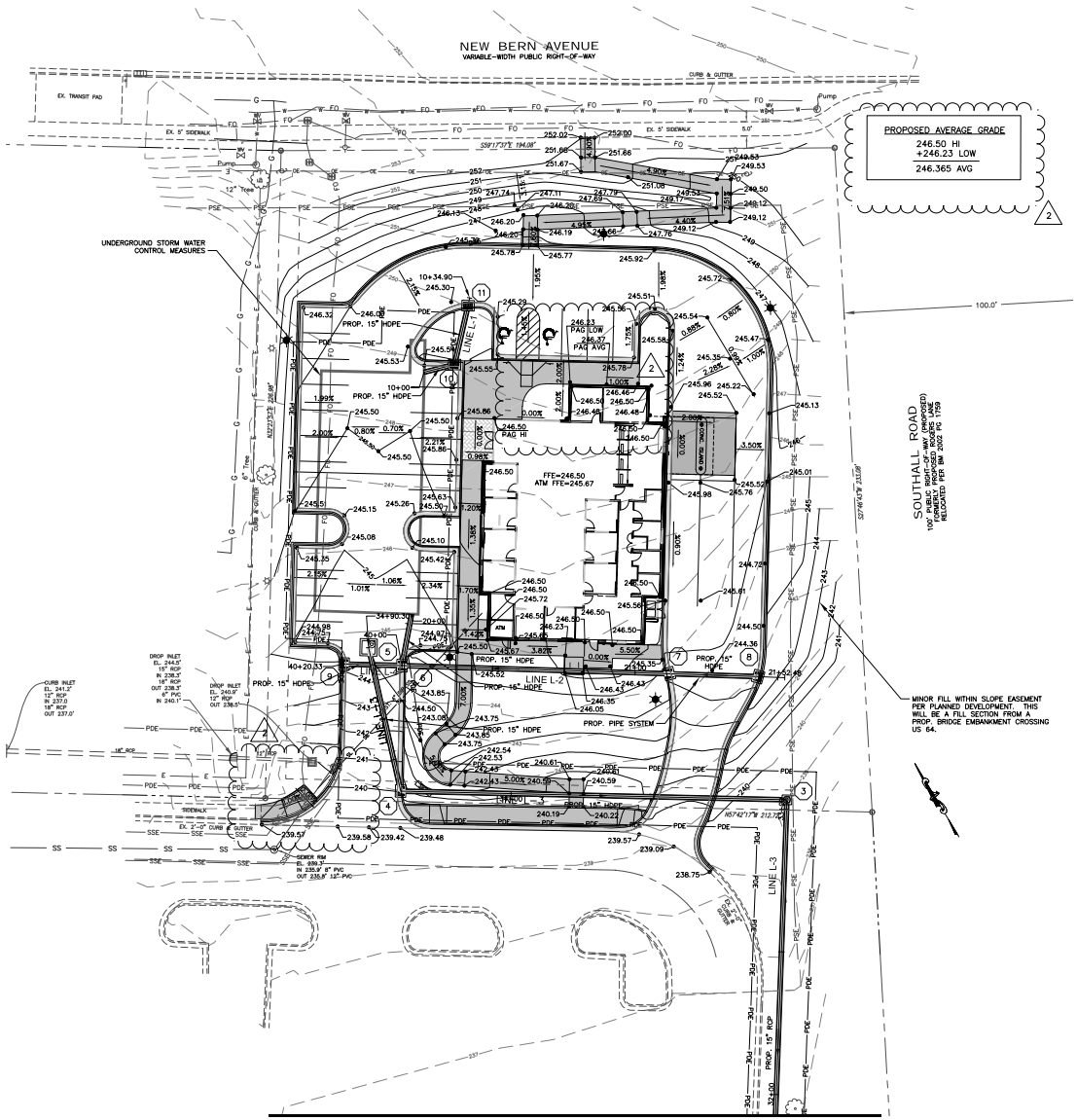
1

GENERAL NOTES

1. ALL PRIVATE STORM DRAINAGE EASEMENTS & STORMWATER MEASURES WILL BE MAINTAINED BY THE PROPERTY OWNERS ASSOCIATION

MATCH LINE STA. 1+50 - SEE THIS SHEET





MATCH LINE STA. 1+50 - SEE THIS SHEET

1

ASR 1 NOTES

SPOT ELEVATIONS, SLOPES, AND LABELING ADDED PER ASR 1 REVIEW COMMENTS FROM CITY OF RALEIGH STAFF

ROCK EXCAVATION NOTES:

ROCK EXCAVATION WILL BE REQUIRED ON THE PROJECT PER THE SUPPLIED GEOTECHNICAL REPORT. REFER TO SECTION 312000.

THE BASE BID QUANTITY FOR ROCK EXCAVATION IS 1,400 CUBIC YARDS FOR THE PROJECT. REFER TO PROJECT SPECIFICATIONS FOR MORE DETAIL REGARDING UNIT RATES AND ALLOWANCES.

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GRAPHIC SCALE
20 0 10 20 40
(IN FEET)
1 inch = 20 ft.

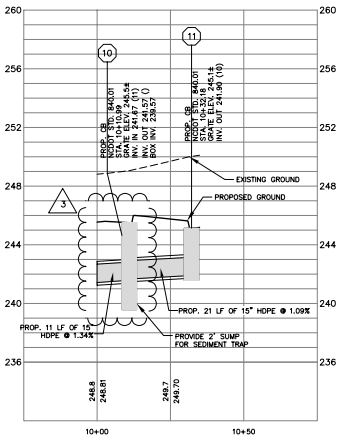
NO.	DATE:	DESCRIPTION:
1	2-24-23	REVISE PER ASR COMMENTS #1
2	5-5-23	REVISE PER ASR COMMENTS #2
3	11-17-23	REVISE PER ASR COMMENTS #3

PROJECT NUMBER: 2220725
DRAWN BY: TCL
REVIEWED BY: REW
ISSUED FOR: FINAL DESIGN
DATE: 11/17/23
DRAWING NAME:

GRADING and DRAINAGE PLAN

DRAWING NUMBER:

C4.0



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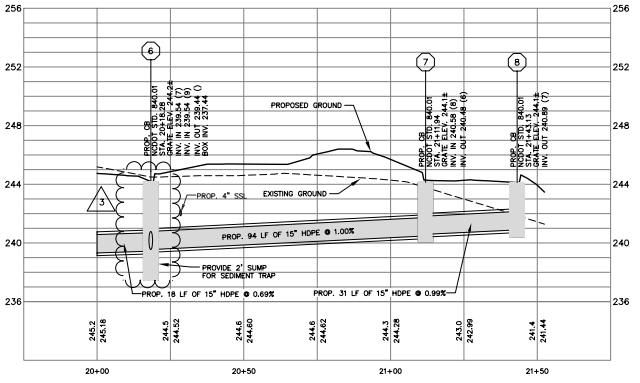

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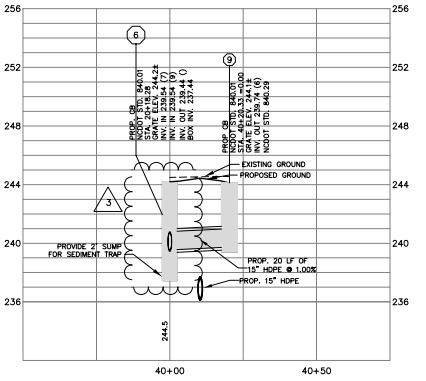

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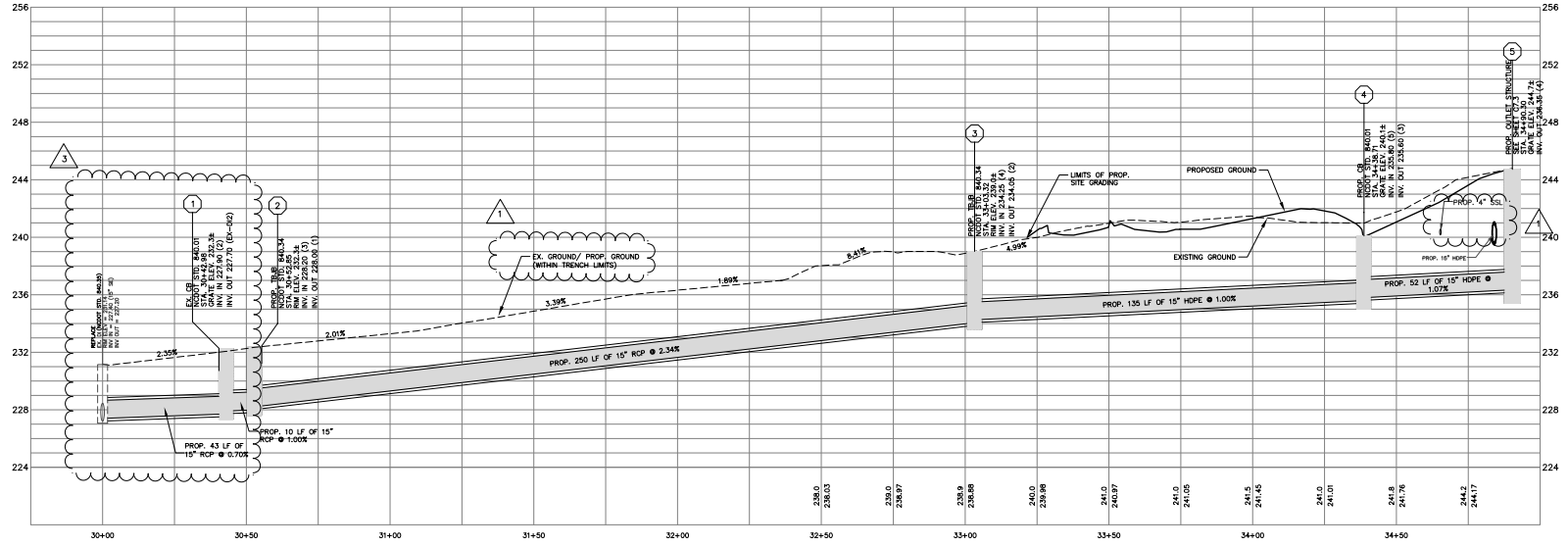

LINE L-3

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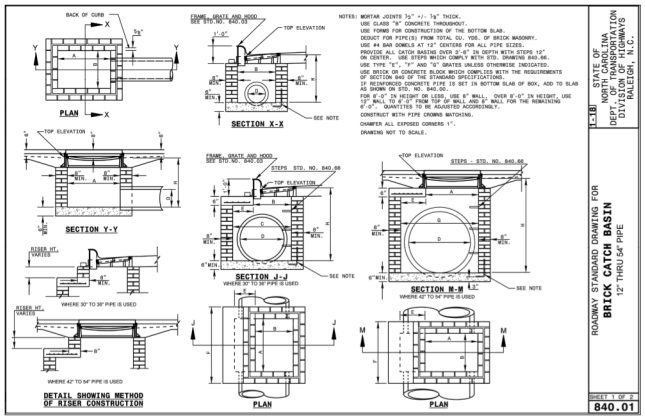
PROJECT NUMBER: 2220725
DRAWN BY: TCL
REVIEWED BY: REW
ISSUED FOR: FINAL DESIGN
DATE: 11/17/23
DRAWING NAME:

STORM DRAINAGE PROFILES

DRAWING NUMBER:

C4.1

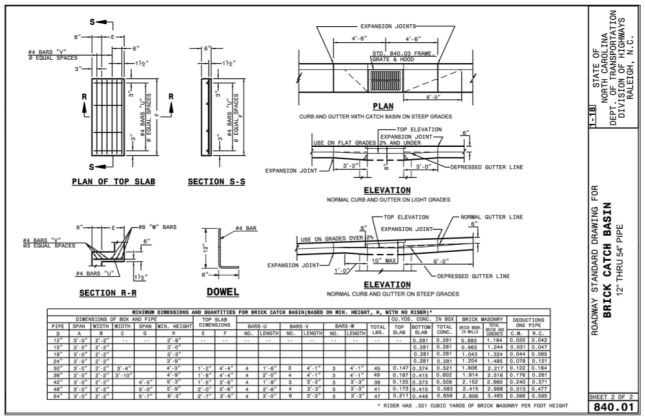


STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

1-18

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

SHEET 1 OF 2
840.01



MINIMUM DIMENSIONS AND QUANTITIES FOR BRICK CATCH BASIN(BASED ON MIN. HEIGHT, H, WITH NO RISER)*																		
DIMENSIONS OF BOX AND PIPE						TOP SLAB DIMENSIONS		BARS-U		BARS-V		BARS-W		TOTAL LBS.	CU.YDS. CONC. IN BOX		BRICK MASONRY		DEDUCTING ONE PIPE
PIPE DIA.	SPAN A	B	WIDTH C	G	SPAN H	MIN. HEIGHT E	F	NO.	LENGTH	NO.	LENGTH	NO.	LENGTH		TOP SLAB	BOTTOM SLAB	TOTAL CONC.	MIN. WALL THICKNESS	CU.YDS. C.M.	R.C.
12"	3'-0"	2'-3"	---	---	2'-6"	---	---	---	---	---	---	---	---	---	0.281	0.281	0.885	1'-0"	1.164	0.000	0.042
15"	3'-0"	2'-3"			3'-0"										0.281	0.281	0.963		1.244	0.031	0.047
18"	3'-0"	2'-3"			3'-0"										0.281	0.281	1.043		1.324	0.044	0.065
24"	3'-0"	2'-3"			3'-0"										0.281	0.281	1.204		1.485	0.078	0.121
30"	3'-0"	2'-3"	3'-4"		4'-3"	1'-0"	4'-4"	4	1'-8"	3	4'-1"	3	4'-1"	49	0.147	0.374	0.521	1'-0"	1.608	0.217	0.122	0.183
36"	3'-0"	2'-3"	3'-10"		4'-9"	1'-6"	4'-4"	4	2'-0"	4	4'-1"	3	4'-1"	49	0.187	0.413	0.602		1.914	0.316	0.178	0.261
42"	3'-0"	2'-3"		4'-3"	5'-3"	1'-6"	5'-4"	4	1'-3"	3	5'-3"	3	5'-3"	59	0.195	0.373	0.506		2.152	0.360	0.240	0.371
48"	3'-0"	2'-3"		3'-0"	5'-9"	2'-0"	5'-4"	4	2'-6"	4	5'-3"	3	5'-3"	61	0.173	0.413	0.583		2.415	0.398	0.313	0.477
54"	3'-3"	2'-3"		3'-7"	6'-3"	2'-3"	5'-8"	4	2'-9"	4	5'-3"	3	5'-3"	67	0.211	0.448	0.659		2.606	0.466	0.398	0.595

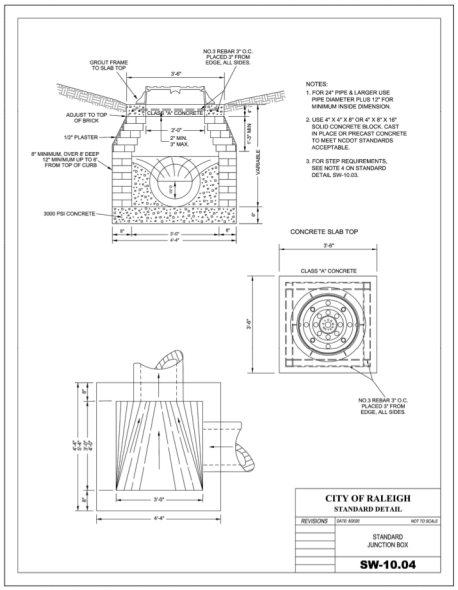
* RISER HAS .321 CUBIC YARDS OF BRICK MASONRY PER FOOT HEIGHT

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

1-18

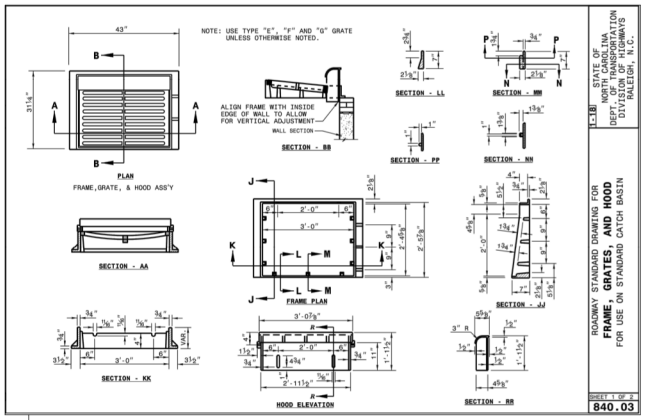
ROADWAY STANDARD DRAWING FOR
BRICK CATCH BASIN
12" THRU 54" PIPE

SHEET 2 OF 2
840.01



CITY OF RALEIGH
STANDARD DETAIL

REVISIONS	DATE: 8/03/07	NOT TO SCALE
	STANDARD JUNCTION BOX	
	SW-10.04	

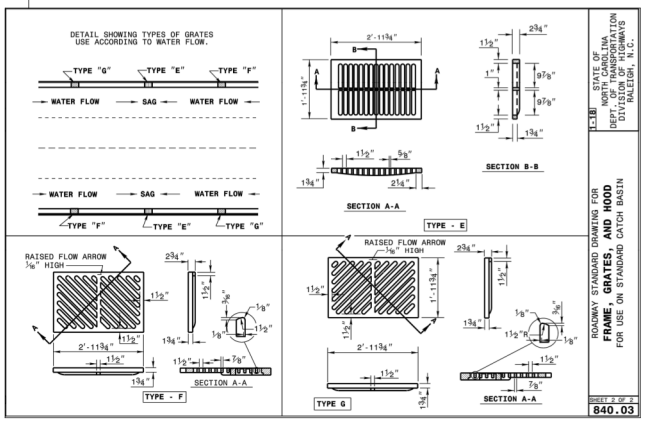


STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

1-18

ROADWAY STANDARD DRAWING FOR
FRAME, GRATES, AND HOOD
FOR USE ON STANDARD CATCH BASIN

SHEET 1 OF 2
840.03

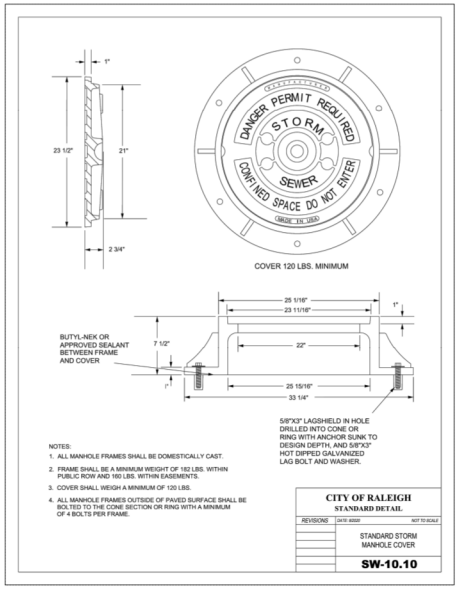


STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

1-18

ROADWAY STANDARD DRAWING FOR
FRAME, GRATES, AND HOOD
FOR USE ON STANDARD CATCH BASIN

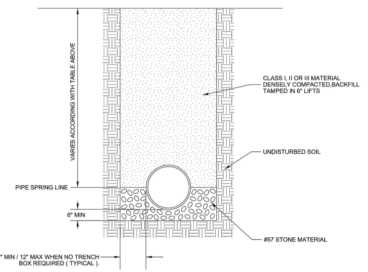
SHEET 2 OF 2
840.03



CITY OF RALEIGH
STANDARD DETAIL

REVISIONS	DATE: 8/03/07	NOT TO SCALE
	STANDARD STORM MANHOLE COVER	
	SW-10.10	

COVER FOR PIPES WITHIN THE R.O.W. MINIMUM PIPE CLEARANCE FROM INVERT TO SUBGRADE	
PIPE SIZE (in)	CLEARANCE DISTANCE (ft)
15	2.4
18	2.7
24	3.3
30	3.8
36	4.4
42	4.9
48	5.4
54	6.0
60	6.5
66	7.0
72	7.6



CITY OF RALEIGH
STANDARD DETAIL

REVISIONS	DATE: 8/03/07	NOT TO SCALE
	BEDDING FOR STORMWATER RCP PIPES	
	SW-10.14	

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LCCU - NEW BERN AVE BRANCH
5280 NEW BERN AVENUE
RALEIGH, NC 27601

North Carolina 811 www.nc811.org

GRAPHIC SCALE
20 0 10 20 40
(IN FEET)
1 inch = 20 ft.

NO:	DATE:	DESCRIPTION:
1	2-24-23	REVISE PER ASR COMMENTS #1
2	5-5-23	REVISE PER ASR COMMENTS #2

PROJECT NUMBER: 2220725
DRAWN BY: TCL
REVIEWED BY: REW
ISSUED FOR: FINAL DESIGN
DATE: 9/22/23
DRAWING NAME:

GRADING and DRAINAGE DETAILS

DRAWING NUMBER:

C4.2

4/21/2023 8:57 AM
Y:\2220725\.LCCU NEW BERN AVE RALEIGH\CAD\CIVIL\C3D\PLANSHEETS\C4.2 GRADING-DRAINAGE DETAILS.DWG

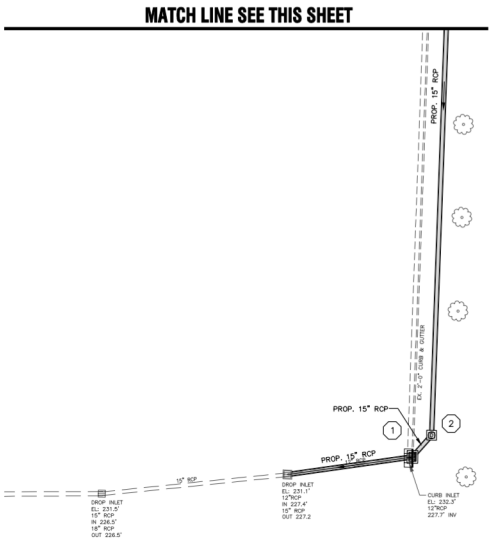
BACKFLOW PREVENTION NOTES

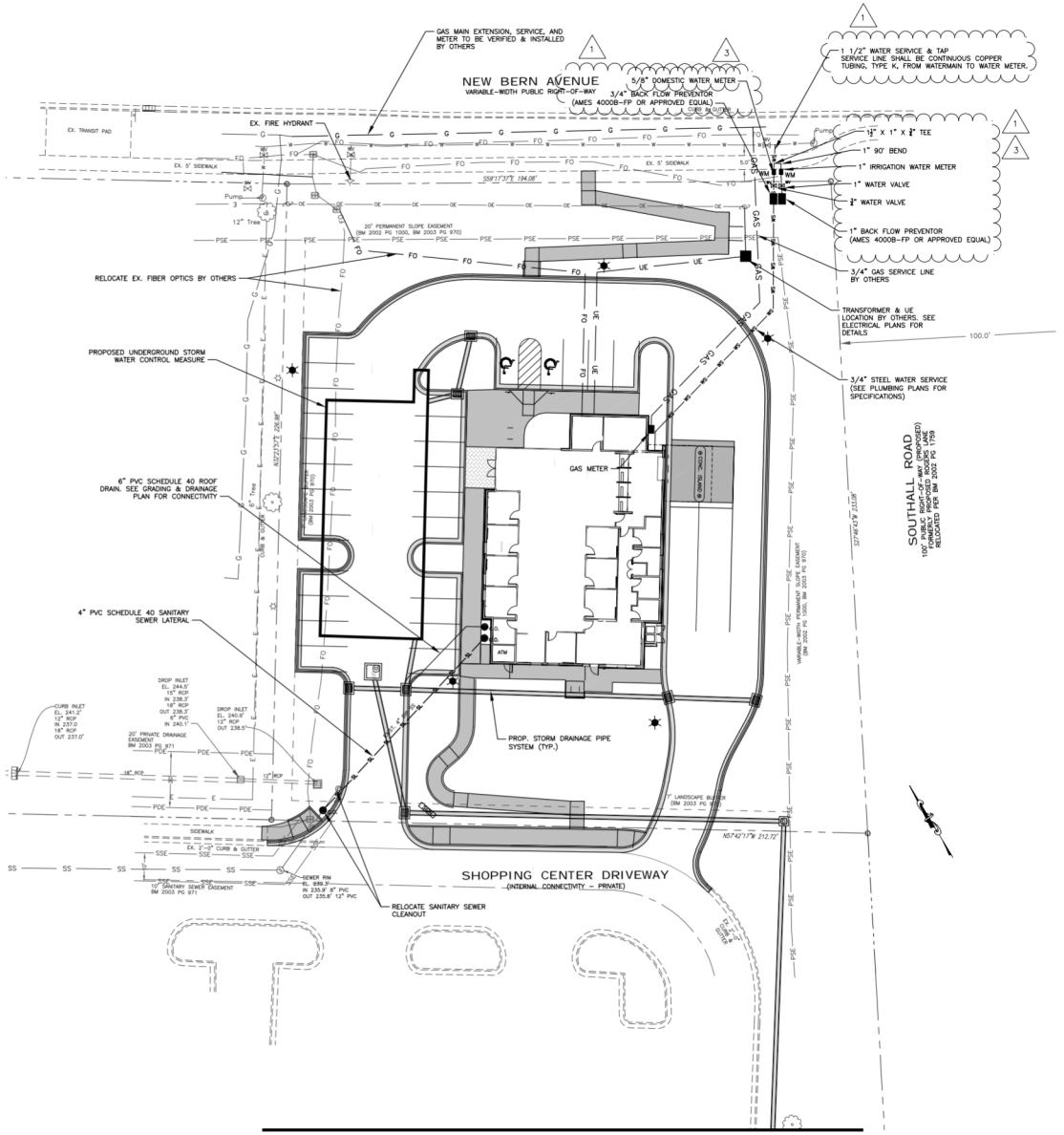
1. INSULATED ENCLOSURE SHALL BE PROVIDED WITH A HEATER TO SUSTAIN A MINIMUM TEMPERATURE OF 40°. CONTRACTOR RESPONSIBLE FOR COORDINATING AND HAVING ELECTRICAL SERVICE BROUGHT TO BACKFLOW PREVENTION DEVICE FOR THE HEATER.
2. THERE SHALL BE NO TAPS, PIPING BRANCHES, UNAPPROVED BYPASS PIPING, HYDRANTS, FIRE DEPARTMENT CONNECTION POINTS, OR OTHER WATER USING APPURTENANCES CONNECTED TO THE SUPPLY LINE BETWEEN ANY WATER METER AND ITS REQUIRED BACKFLOW DEVICE.
3. EACH BACKFLOW PREVENTER IS REQUIRED TO BE TESTED BY AN APPROVED CERTIFIED TESTER PRIOR TO PLACING THE WATER SYSTEM IN SERVICE.
4. NO PLASTIC PIPE WITHIN 5 FEET OF EITHER END OF BACKFLOW PREVENTERS.
5. NO PERMANENT INSULATION SHALL BE INSTALLED ON THE BACKFLOW PREVENTER ASSEMBLY.

UTILITY NOTES:

- NCDEQ PRIVATE WATER PERMIT NO. PWP _____-_____
- NCDEQ PRIVATE SEWER PERMIT NO. WQOO _____

1. CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING APPROVED UTILITY PLANS PRIOR TO COMMENCEMENT OF CONSTRUCTION.
2. ALL PROPOSED UTILITIES SHALL BE CONSTRUCTED, INSPECTED, TESTED, AND CERTIFIED IN ACCORDANCE WITH AGENCY SPECIFICATIONS.





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5280 NEW BERN AVENUE
RALEIGH, NC 27601

North Carolina 811 www.nc811.org

GRAPHIC SCALE
20 0 10 20 40
(IN FEET)
1 inch = 20 ft.

NO.	DATE:	DESCRIPTION:
1	2-24-23	REVISE PER ASR COMMENTS #1
2	5-5-23	REVISE PER ASR COMMENTS #2
3	11-17-23	REVISE PER ASR COMMENTS #3

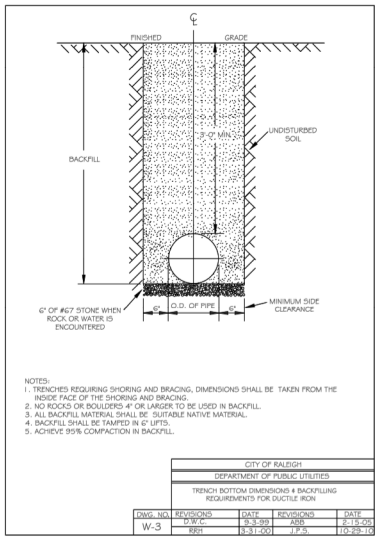
PROJECT NUMBER: 2220725
DRAWN BY: TCL
REVIEWED BY: REW
ISSUED FOR: FINAL DESIGN
DATE: 11/17/23
DRAWING NAME:

UTILITY PLAN

DRAWING NUMBER:

C5.0

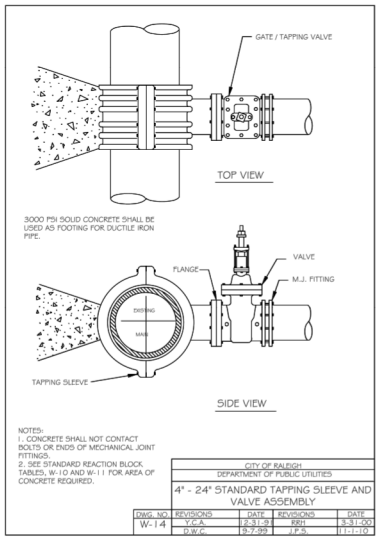
5/5/2023, 5:40 PM
Y:\2220725 LCCU NEW BERN AVE RALEIGH\CAD\CIVIL\CIVIL3D\PLANSHEETS\C5.0 UTILITY PLAN.DWG



NOTES:
1. TRENCHES REQUIRING SHORING AND BRACING, DIMENSIONS SHALL BE TAKEN FROM THE INSIDE FACE OF THE SHORING AND BRACING.
2. NO ROCKS OR BOULDERS 4" OR LARGER TO BE USED IN BACKFILL.
3. ALL BACKFILL MATERIAL SHALL BE SUITABLE NATIVE MATERIAL.
4. BACKFILL SHALL BE TAMPED IN 6" LIFTS.
5. ACHIEVE 95% COMPACTION IN BACKFILL.

CITY OF RALEIGH
DEPARTMENT OF PUBLIC UTILITIES
TRENCH BOTTOM DIMENSIONS & BACKFILLING REQUIREMENTS FOR DUCTILE IRON

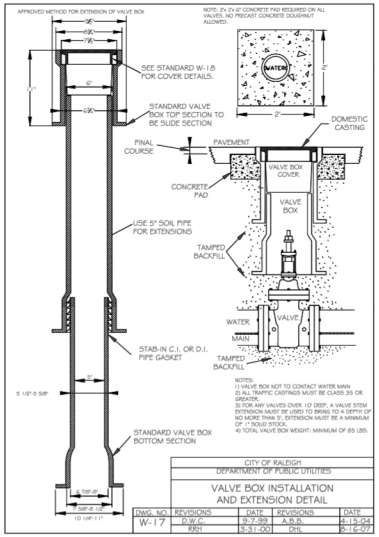
DWG. NO.	REVISIONS	DATE	REVISIONS	DATE
W-3	D.W.C.	9-3-99	ABB	2-15-05
	RRH	3-31-00	J.P.S.	10-29-10



NOTES:
1. CONCRETE SHALL NOT CONTACT BOLTS OR ENDS OF MECHANICAL JOINT FITTINGS.
2. SEE STANDARD REACTION BLOCK TABLES, W-10 AND W-11 FOR AREA OF CONCRETE REQUIRED.

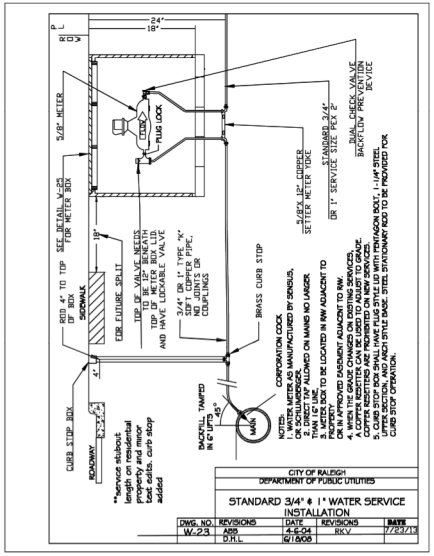
CITY OF RALEIGH
DEPARTMENT OF PUBLIC UTILITIES
4" - 24" STANDARD TAPPING SLEEVE AND VALVE ASSEMBLY

DWG. NO.	REVISIONS	DATE	REVISIONS	DATE
W-14	Y.C.A.	12-31-91	RRH	3-31-00
	D.W.C.	9-7-99	J.P.S.	11-1-10



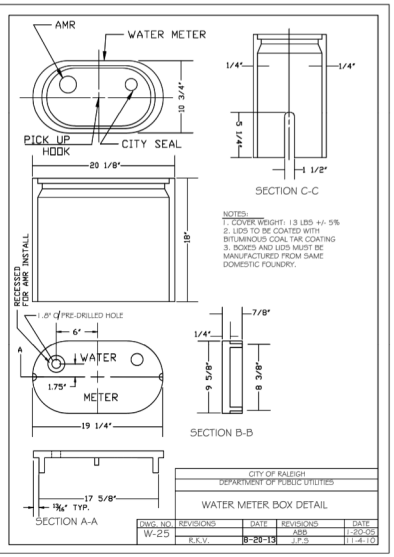
CITY OF RALEIGH
DEPARTMENT OF PUBLIC UTILITIES
VALVE BOX INSTALLATION AND EXTENSION DETAIL

DWG. NO.	REVISIONS	DATE	REVISIONS	DATE
W-17	D.W.C.	9-7-99	A.B.B.	4-15-04
	RRH	3-31-00	D.H.L.	5-16-07



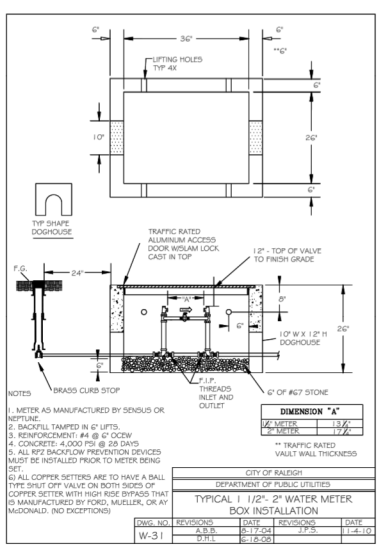
CITY OF RALEIGH
DEPARTMENT OF PUBLIC UTILITIES
STANDARD 3/4" & 1" WATER SERVICE INSTALLATION

DWG. NO.	REVISIONS	DATE	REVISIONS	DATE
W-23	ABB	4-5-04	R.K.V.	11-27-13
	D.H.L.	6/18/08		



CITY OF RALEIGH
DEPARTMENT OF PUBLIC UTILITIES
WATER METER BOX DETAIL

DWG. NO.	REVISIONS	DATE	REVISIONS	DATE
W-25			ABB	1-20-05
	R.K.V.	8-20-13	J.P.S.	11-4-10



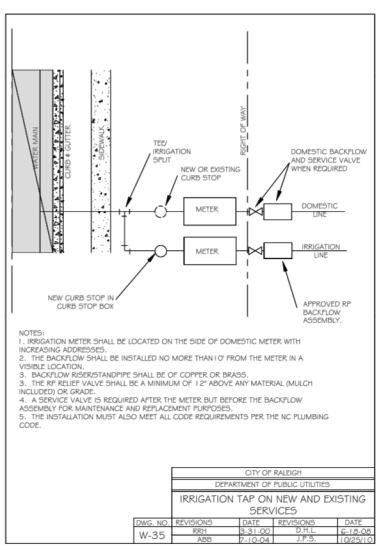
NOTES
1. METER AS MANUFACTURED BY SENSUS OR NEPTUNE.
2. BACKFILL TAMPED IN 6" LIFTS.
3. REINFORCEMENT: #4 @ 6" OCEW
4. CONCRETE: 4,000 PSI @ 28 DAYS
5. ALL RPZ BACKFLOW PREVENTION DEVICES MUST BE INSTALLED PRIOR TO METER BEING SET.
6) ALL COPPER SETTERS ARE TO HAVE A BALL TYPE SHUT OFF VALVE ON BOTH SIDES OF COPPER SETTER WITH HIGH RISE BYPASS THAT IS MANUFACTURED BY FORD, MUELLER, OR AY McDONALD. (NO EXCEPTIONS)

DIMENSION "A"	
1" METER	13 3/4"
2" METER	17 3/4"

** TRAFFIC RATED VAULT WALL THICKNESS

CITY OF RALEIGH
DEPARTMENT OF PUBLIC UTILITIES
TYPICAL 1 1/2"- 2" WATER METER BOX INSTALLATION

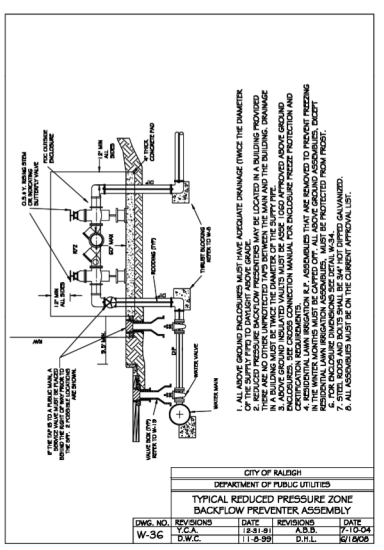
DWG. NO.	REVISIONS	DATE	REVISIONS	DATE
W-31	A.B.B.	5-17-04	J.P.S.	11-4-10
	D.H.L.	6-15-08		



NOTES:
1. IRRIGATION METER SHALL BE LOCATED ON THE SIDE OF DOMESTIC METER WITH INCREASING ADDRESSES.
2. THE BACKFLOW SHALL BE INSTALLED NO MORE THAN 10' FROM THE METER IN A VISIBLE LOCATION.
3. BACKFLOW RISER/STANDPIPE SHALL BE OF COPPER OR BRASS.
3. THE RP RELIEF VALVE SHALL BE A MINIMUM OF 12" ABOVE ANY MATERIAL (MULCH INCLUDED) OR GRADE.
4. A SERVICE VALVE IS REQUIRED AFTER THE METER BUT BEFORE THE BACKFLOW ASSEMBLY FOR MAINTENANCE AND REPLACEMENT PURPOSES.
5. THE INSTALLATION MUST ALSO MEET ALL CODE REQUIREMENTS PER THE NC PLUMBING CODE.

CITY OF RALEIGH
DEPARTMENT OF PUBLIC UTILITIES
IRRIGATION TAP ON NEW AND EXISTING SERVICES

DWG. NO.	REVISIONS	DATE	REVISIONS	DATE
W-35	RRH	3-31-00	D.H.L.	6-16-06
	ABB	7-10-04	J.P.S.	10/25/10



1. ALL ABOVE GROUND ENCLOSURES MUST HAVE ADEQUATE DRAINAGE (TWICE THE DIAMETER OF THE SUPPLY PIPE) TO DAYLIGHT ABOVE GRADE.
2. ALL ABOVE GROUND ENCLOSURES MAY BE LOCATED IN A BUILDING PROVIDED THERE ARE NO OTHER UNPROTECTED TAPS BETWEEN THE MAIN AND THE BUILDING, DRAINAGE IS PROVIDED AND ACCESS IS PROVIDED FOR TESTING.
3. ABOVE GROUND INSULATED VAULTS MUST BE ASSE 1060 APPROVED ABOVE GROUND ENCLOSURES. SEE CROSS CONNECTION MANUAL FOR ENCLOSURE FREEZE PROTECTION AND DRAINAGE REQUIREMENTS.
4. RESIDENTIAL LAWN IRRIGATION R.P. ASSEMBLIES THAT ARE REMOVED TO PREVENT FREEZING MUST BE REINSTALLED BY A CERTIFIED TECHNICIAN. ALL OTHER RP ASSEMBLIES, EXCEPT RESIDENTIAL LAWN IRRIGATION ASSEMBLIES, MUST BE PROTECTED FROM FREEZE.
5. FOR ENCLOSURE DIMENSIONS SEE DETAIL W-34
6. ALL PIPING SHALL BE COPPER OR BRASS. NO GALVANIZED.
7. ALL ASSEMBLIES MUST BE ON THE CURRENT APPROVAL LIST.

CITY OF RALEIGH
DEPARTMENT OF PUBLIC UTILITIES
TYPICAL REDUCED PRESSURE ZONE BACKFLOW PREVENTER ASSEMBLY

DWG. NO.	REVISIONS	DATE	REVISIONS	DATE
W-36	Y.C.A.	12-31-91	A.B.B.	7-10-04
	D.W.C.	11-8-99	D.H.L.	6/18/08

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RALEIGH, NC 27601

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GRAPHIC SCALE
20 0 10 20 40
(IN FEET)
1 inch = 20 ft.

NO:	DATE:	DESCRIPTION:
1	2-24-23	REVISE PER ASR COMMENTS #1
2	5-5-23	REVISE PER ASR COMMENTS #2

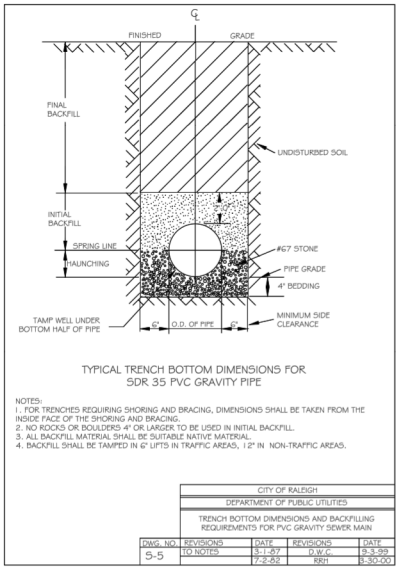
PROJECT NUMBER: 2220725
DRAWN BY: TCL
REVIEWED BY: REW
ISSUED FOR: FINAL DESIGN
DATE: 9/22/23
DRAWING NAME:

WATER DETAILS

DRAWING NUMBER:

C5.1

5/5/2023 5:40 PM
Y:\2220725 LCCU NEW BERN AVE RALEIGH\CAD\DWL\DWL3D\PLANSHEETS\C5.0 UTILITY PLAN.DWG

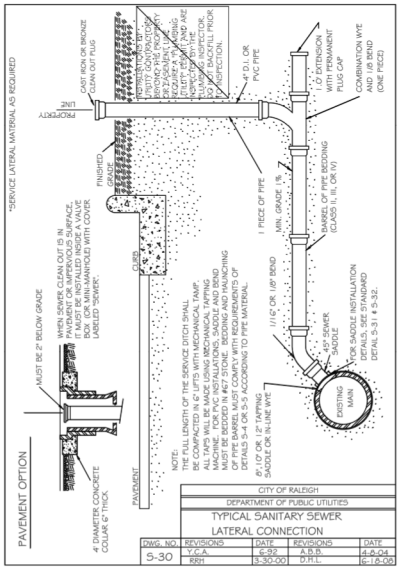


TYPICAL TRENCH BOTTOM DIMENSIONS FOR SDR 35 PVC GRAVITY PIPE

NOTES:
1. FOR TRENCHES REQUIRING SHORING AND BRACING, DIMENSIONS SHALL BE TAKEN FROM THE INSIDE FACE OF THE SHORING AND BRACING.
2. NO ROCKS OR BOULDERS 4" OR LARGER TO BE USED IN INITIAL BACKFILL.
3. ALL BACKFILL MATERIAL SHALL BE SUITABLE NATIVE MATERIAL.
4. BACKFILL SHALL BE TAMPED IN 6" LIFTS IN TRAFFIC AREAS, 12" IN NON-TRAFFIC AREAS.

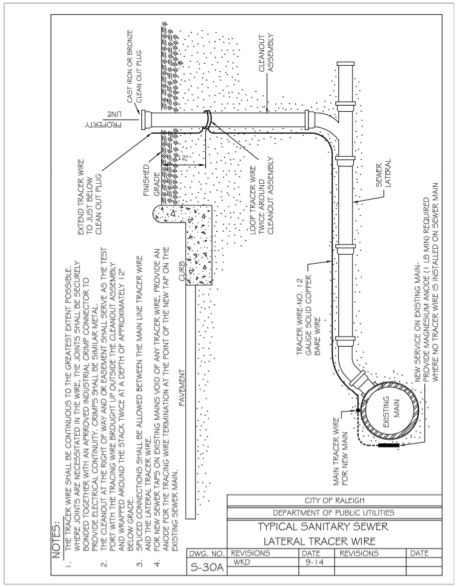
CITY OF RALEIGH
DEPARTMENT OF PUBLIC UTILITIES
TRENCH BOTTOM DIMENSIONS AND BACKFILLING REQUIREMENTS FOR PVC GRAVITY SEWER MAIN

DWG. NO.	REVISIONS	DATE	REVISIONS	DATE
S-5	TO NOTES	3-1-87	D.W.C.	9-3-99
		7-2-92	RRH	3-30-00



CITY OF RALEIGH
DEPARTMENT OF PUBLIC UTILITIES
TYPICAL SANITARY SEWER LATERAL CONNECTION

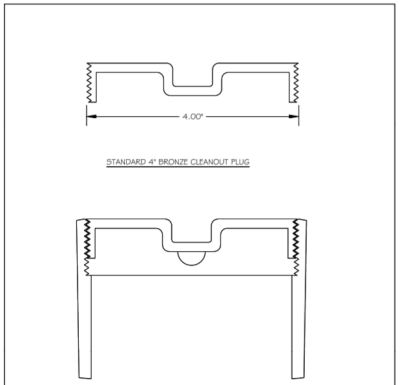
DWG. NO.	REVISIONS	DATE	REVISIONS	DATE
S-30	Y.C.A.	6-82	A.B.B.	4-6-04
	RRH	3-30-00	D.M.L.	6-16-06



NOTES:
1. TRACER WIRE SHALL BE CONTINUOUS TO THE GREATEST EXTENT POSSIBLE. WHERE JOINTS ARE NECESSITATED IN THE WIRE, THE JOINTS SHALL BE SECURELY BONDED TOGETHER WITH AN APPROVED INDUSTRIAL CRIMP CONNECTOR TO PROVIDE CONTINUITY. TRACER WIRE SHALL BE INSTALLED FROM THE CLEANOUT AT THE RIGHT OF WAY AND OR EASEMENT SHALL SERVE AS THE TEST POINT WITH THE TRACING WIRE BROUGHT UP OUTSIDE THE CLEANOUT ASSEMBLY AND LOOPED TWICE THROUGH THE CLEANOUT ASSEMBLY AT 6" AND 12" BELOW GRADE.
2. ALL CONNECTIONS SHALL BE ALLOWED BETWEEN THE MAIN LINE TRACER WIRE AND THE LATERAL TRACER WIRE.
3. FOR NEW SEWER TAPS ON EXISTING MAINS VOID OF ANY TRACER WIRE, PROVIDE AN ADDITIONAL 12" GAUGE TRACING WIRE TERMINATED AT THE FRONT OF THE NEW TAP ON THE EXISTING SEWER MAIN.
4. ALL SPLICES SHALL BE WATERPROOF.

CITY OF RALEIGH
DEPARTMENT OF PUBLIC UTILITIES
TYPICAL SANITARY SEWER LATERAL TRACER WIRE

DWG. NO.	REVISIONS	DATE	REVISIONS	DATE
S-30A	WKD	9-14		



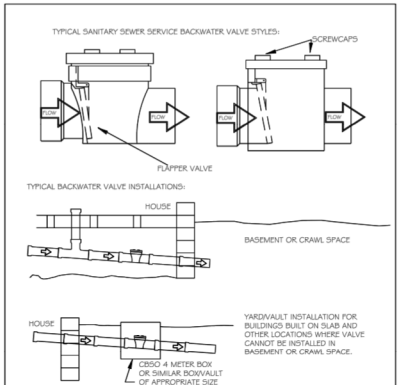
STANDARD 4" BRONZE CLEANOUT PLUG

CLEANOUT FERRULE WITH PLUG

STYLES ACCEPTED:
INVERTED NUT
RAISED NUT

CITY OF RALEIGH
DEPARTMENT OF PUBLIC UTILITIES
4" CLEANOUT PLUG

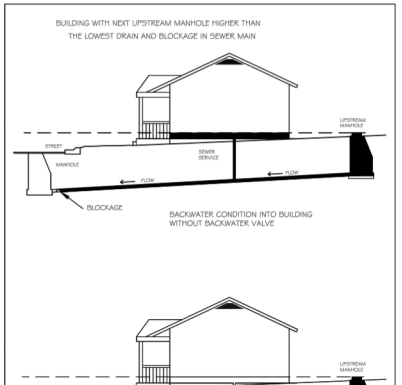
DWG. NO.	REVISIONS	DATE	REVISIONS	DATE
S-34		3-1-87	RRH	3-30-00
	D.W.C.	3-27-98		



NOTES:
1. INSTALLATIONS OF GREATER THAN 4' IN DEPTH MAY REQUIRE MANHOLE.
2. VALVES MUST BE INSTALLED IN A LOCATION AT WHICH THEY CAN BE CLEANED AND SERVICED REGULARLY.

CITY OF RALEIGH
DEPARTMENT OF PUBLIC UTILITIES
TYPICAL SANITARY SEWER SERVICE BACK-WATER VALVE INSTALLATION

DWG. NO.	REVISIONS	DATE	REVISIONS	DATE
S-36	RRH	3-31-00		



CITY OF RALEIGH
DEPARTMENT OF PUBLIC UTILITIES
TYPICAL SEWER SERVICE REQUIRING BACKWATER VALVE

DWG. NO.	REVISIONS	DATE	REVISIONS	DATE
S-42	RRH	3-31-00		

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COOPERATIVA LATINO CREDIT UNION

LCCU - NEW BERN AVE BRANCH
5280 NEW BERN AVENUE
RALEIGH, NC 27601

North Carolina 811 www.nc811.org

GRAPHIC SCALE
20 0 10 20 40
(IN FEET)
1 inch = 20 ft.

NO:	DATE:	DESCRIPTION:
1	2-24-23	REVISE PER ASR COMMENTS #1
2	5-5-23	REVISE PER ASR COMMENTS #2

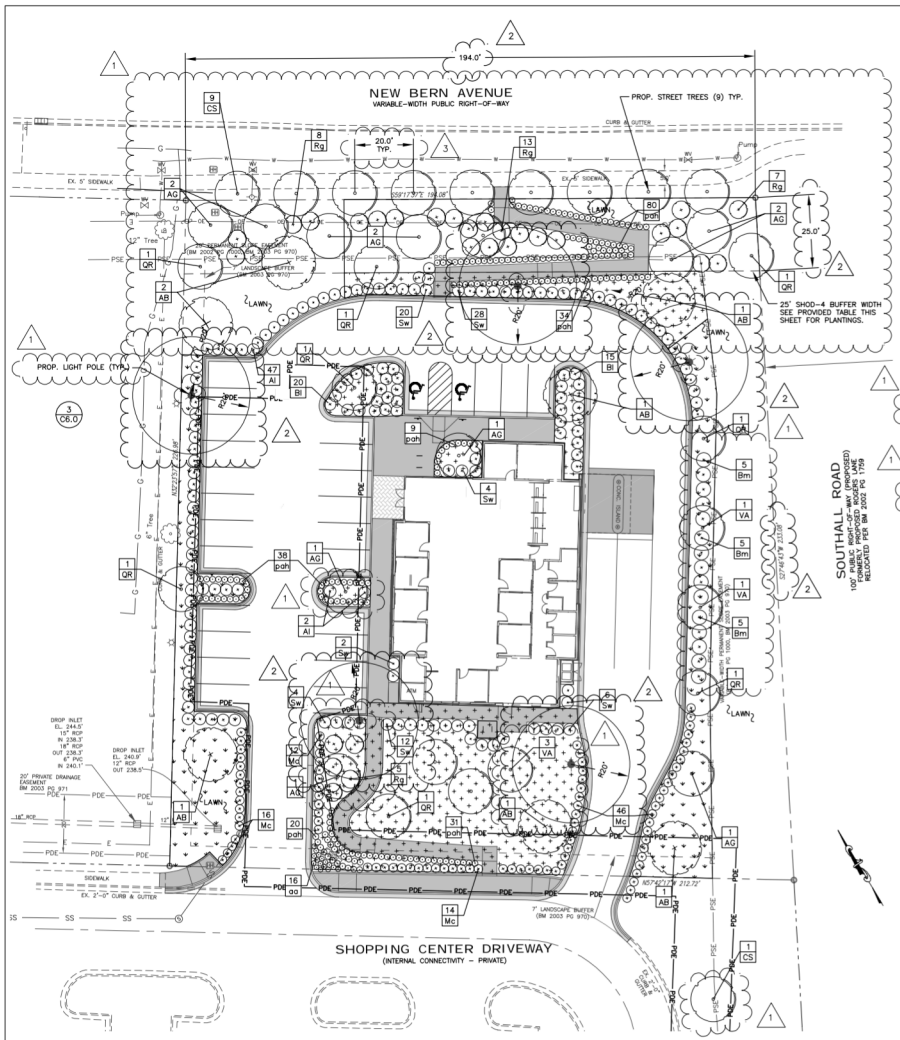
PROJECT NUMBER: 2220725
DRAWN BY: TCL
REVIEWED BY: REW
ISSUED FOR: FINAL DESIGN
DATE: 9/22/23
DRAWING NAME:

SEWER DETAILS

DRAWING NUMBER:

C5.2

5/5/2023 5:40 PM
Y:\2220725 LCCU NEW BERN AVE RALEIGH\CAD\CIVIL\C30\PLANSHEETS\C5.0 UTILITY PLAN.DWG



PLAN LEGEND:

- PROPOSED TREES
- PROPOSED SHRUBS
- 4.3 / CO — PLANT QUANTITY / PLANT NAME
- OUTDOOR AMENITY AREA
- *OUTDOOR AMENITY AREA (ACCESSIBLE)

STREET TREE CALCULATIONS

(194 LF/ 20 LF) = 9.7 UNDERSTORY STREET TREES

REQUIRED STREET TREES = 9

PROVIDED STREET TREES = 9

SHOD-4 PLANTING CALCULATIONS

25' SHOD-4 BUFFER & PLANTINGS PER MP-196

194 LF ROAD FRONTAGE - SHOD-4 BUFFER WIDTH = 25 LF

REQUIRED SHADE TREES = (3 TREE/100 LF) = 5
REQUIRED UNDERSTORY TREES = (4 TREE/100 LF) = 7
REQUIRED SHRUBS = (50 SHRUBS/100 LF) = 98

PROVIDED SHADE TREES = 4
PROVIDED UNDERSTORY TREES = 6
PROVIDED SHRUBS = 107

PARKING PLANTING CALCULATIONS

18,367 SF OF PARKING - PERIMETER 620 LF

REQUIRED SHADE TREES = (1 TREE/2000 SF) = 8
REQUIRED SHRUBS = (30 SHRUBS/100 LF PER.) = 186

PROVIDED SHADE TREES = 12
PROVIDED UNDERSTORY TREES = 7
PROVIDED SHRUBS = 198

GENERAL NOTES:

1. CONTRACTOR RESPONSIBLE FOR ALL PLANTS SHOWN ON PLAN. QUANTITIES SHOWN FOR CONVENIENCE ONLY.
2. SPACE PLANTS AS SHOWN ON PLAN OR IN PLANT LIST. ADJUST AS NECESSARY TO MEET EXISTING CONDITIONS.
3. REPORT ANY DISCREPANCIES IN CONTRACT DOCUMENTS TO OWNERS REPRESENTATIVE.
4. FOR NEW PLANTING AREAS, REMOVE ALL PAVEMENT, GRAVEL SUB-BASE, AND CONSTRUCTION DEBRIS BEFORE PREPARING SOIL AND PLANTING TREES AND/OR SHRUBS. EXISTING COMPACTED SOIL SHALL BE REMOVED TO A DEPTH OF 18" AND REPLACED WITH 18" OF TOPSOIL/PLANTING MIX OR EXISTING SOIL MAY BE UN-COMPLICATED TO A DEPTH OF 18" AND AMENDED TO MEET TOPSOIL. SEE NOTES BELOW FOR TOPSOIL REQUIREMENTS.
5. ALL STRAPPING AND TOP 2/3 OF WIRE BASKET MUST BE CUT AWAY AND REMOVED FROM ROOT BALL.
6. ANY SUBSTITUTIONS IN SIZE AND/OR PLANT MATERIAL MUST BE APPROVED BY THE OWNERS REPRESENTATIVE. ALL PLANTS WILL BE SUBJECT TO APPROVAL BY OWNERS REPRESENTATIVE BEFORE PLANTING CAN BEGIN.
7. ALL PLANTS AND PLANTING AREAS TO BE MULCHED WITH CLEAN SHREDDED BARK TO A MINIMUM DEPTH OF 3", MULCH TREES TO 3'-0" BEYOND TRUNK, MINIMUM, AND TO BED LINES AS SHOWN. KEEP MULCH OFF THE TRUNKS OF TREES. STREET TREES TO BE MULCHED TO A MAXIMUM DEPTH OF 3" AND NO MULCH SHALL TOUCH THE TRUNK OF THE TREE OR COVER THE TREE'S ROOT FLARE.
8. ALL DISTURBED PLANTING AREAS AND FIELD ADJUSTMENTS SHALL BE SEEDED PER SEEDING SCHEDULE. SEE NOTES BELOW FOR PERMANENT AND TEMPORARY SEEDING MIX.
9. IT IS THE RESPONSIBILITY OF THE CONTRACTOR/ LANDSCAPER TO NOTIFY THE OWNERS REPRESENTATIVE OF ANY SITE CONFLICTS THAT AFFECT TREE SPECIES OR LOCATIONS PRIOR TO PLANTING TREES AND FOR ANY CONFLICTS REGARDING SIGHT, SIGNS,OVERHEADPOWER LINES, OTHER UTILITIES, OR CHANGE IN REQUIRED MATERIAL.
10. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE LOCATION OF ALL UNDERGROUND UTILITIES PRIOR TO EXCAVATION.
11. STREET TREES SHALL BE INSTALLED AND MAINTAINED IN ACCORDANCE WITH THE REQUIREMENTS OF CHAPTER 2 OF THE CITY TREE MANUAL.
12. ALL STREET TREES ARE TO BE PLANTED IN ACCORDANCE WITH CITY OF RALEIGH STANDARD DETAIL TPP-03.

SOIL MIX FOR PLANTINGS:

A. IMPORTED TOPSOIL: PROVIDE TOPSOIL CONFORMING TO THE FOLLOWING:

i. LOAM TOPSOIL, WELL DRAINED HOMOGENEOUS TEXTURE AND OF UNIFORM GRADE, WITHOUT THE ADMIXTURE OF SUBSOIL MATERIAL AND FREE OF DENSE MATERIAL, HARDPAN, CLAY, STONES, SOD OR OTHER OBJECTIONABLE MATERIAL.

ii. CONTAINING NOT LESS THAN 5% NOR MORE THAN 20% ORGANIC MATTER IN THAT PORTION OF A SAMPLING PASSING A 1/4" SIEVE WHEN DETERMINED BY THE WET COMBUSTION METHOD ON A SAMPLE DRIED AT 105°C.

III. CONTAINING A PH VALUE WITHIN THE RANGE OF 6.5 TO 7.5 ON THAT PORTION OF THE SAMPLE WHICH PASSES A 1/4" SIEVE.

iv. CONTAINING THE FOLLOWING WASHED GRADATIONS:

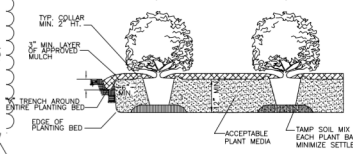
SIEVE DESIGNATION	% PASSING
1"	100
1/4"	97-100
NO 200	20-60

STANDARD SEEDBED PREPARATION NOTES:

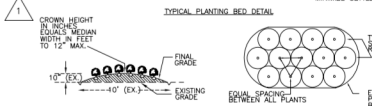
1. SURFACE WATER CONTROL MEASURES TO BE INSTALLED ACCORDING TO PLAN.
2. AREAS TO BE SEEDED SHALL BE RIPPED AND SPREAD WITH AVAILABLE TOPSOIL 3" DEEP. TOTAL SEEDBED PREPARED DEPTH SHALL BE 4"-6" DEEP.
3. LOOSE ROCKS, ROOTS, AND OTHER OBSTRUCTIONS SHALL BE REMOVED FROM THE SURFACE SO THAT THEY WILL NOT INTERFERE WITH THE ESTABLISHMENT AND MAINTENANCE OF VEGETATION. SURFACE FOR FINAL SEEDBED PREPARATION.
4. IF NO SOIL TEST IS TAKEN, FERTILIZER AND LIME TO BE APPLIED ACCORDING TO SEEDING SPECIFICATIONS LISTED. IN ADDITION, PROVIDED 15 LBS/1000 SF OF SUPERPHOSPHATE.
5. LIME AND FERTILIZER SHALL BE APPLIED UNIFORMLY AND MIXED WITH THE SOIL DURING SEEDBED PREPARATION.

NOTES:

1. SCARIFY ROOT MASS OF CONTAINERIZED PLANT MATERIAL.
2. INSTALL CONTAINERIZED PLANTS AT FINISHED GRADE
3. TAMP PLANTING MIX FIRMLY AS PIT IS FILLED AROUND EACH PLANT BALL.
4. OMIT COLLAR AROUND EACH SHRUB WHEN IRRIGATION SYSTEM IS PRESENT.
5. SOAK EACH PLANT BALL AND PIT IMMEDIATELY AFTER INSTALLATION.



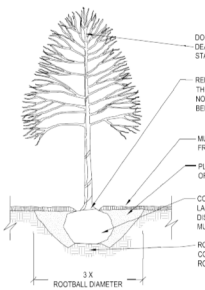
TYPICAL PLANTING BED DETAIL



TYPICAL BED CROWNING

TYPICAL PLANTING BED PLAN

1 SHRUB PLANTING DETAIL
NTS



DO NOT PRUNE LEADER. PRUNE OR CUT ONLY DEAD OR DAMAGED BRANCHES TO AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI) A300 STANDARDS

REMOVE EXCESS SOIL TO EXPOSE THE ROOT FLARE. THE ROOT FLARE SHALL BE PLANTED AT GRADE, NO HIGHER THAN 2" ABOVE GRADE, AND NEVER BELOW GRADE. TREE SHALL BE SET PLUMB.

MULCH DEPTH NOT MORE THAN 3". KEEP MULCH 3" FROM ROOT FLARE AND DO NOT CONTACT STEM

PLANTING SOIL MIX AROUND ROOT BALL. 600 CU FT. OF SOIL OR STRUCTURAL SOIL REQUIRED PER TREE

COMPLETELY REMOVE TOP HALF OF BURLAP, LACING STRAPS, NAILS AND WIRE BASKET AND DISCARD FROM HOLE. ALL SYNTHETIC BURLAP MUST BE REMOVED FROM SIDES OF ROOT BALL.

ROOT BALL SHALL BE PLACED DIRECTLY ON COMPACTED SUBGRADE. HANDLE TREE BY THE ROOT BALL ONLY.

CONTACT INFORMATION:
CITY OF RALEIGH PARKS, RECREATION AND CULTURAL RESOURCES DEPARTMENT URBAN FORESTER:
TREES@RALEIGHNC.GOV
WWW.RALEIGHNC.GOV

NOTES:
1. TREES MUST MEET THE TREE QUALITY STANDARDS IN CH. 2 OF THE CITY TREE MANUAL.
2. CONTRACTOR IS RESPONSIBLE FOR ADEQUATE DRAINAGE OF ALL PLANTING PITS. (POSITIVE DRAINAGE AWAY FROM PIT)
3. TREES SHALL BE PLANTED BETWEEN OCTOBER 1ST AND APRIL 30TH.
4. A TREE IMPACT PERMIT IS REQUIRED.
5. ELECTRICAL OUTLETS AND OTHER UTILITIES ARE PROHIBITED IN THE PLANTING AREA IMMEDIATELY SURROUNDING THE TREE.
6. IF STAKING IN ACCORDANCE WITH THE CITY TREE MANUAL, THE STAKING MUST BE REMOVED WITHIN ONE YEAR.
7. TREES WILL HAVE A MINIMUM 1 YEAR WARRANTY AFTER THE INITIAL PLANTING IS APPROVED BY THE CITY.

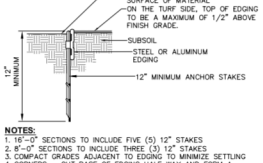
CITY OF RALEIGH
STANDARD DETAIL

REVISIONS	DATE ADDED	NOT TO SCALE
10/2019		

TREE PLANTING DETAIL

TPP-03

2 PLANTING DETAIL - SINGLE STEM TREE
NTS



NOTES:
1. 16'-0" SECTIONS TO INCLUDE FIVE (5) 12" STAKES
2. 8'-0" SECTIONS TO INCLUDE THREE (3) 12" STAKES
3. COMPACT GRADES ADJACENT TO EDGING TO MINIMIZE SETTLING
4. CORNERS - CUT BASE OF EDGING HALF WAY AND FORM A CONTINUOUS CORNER.

3 LANDSCAPE BED EDGING
NTS

PLANT LIST

	QTY	ABRV	BOTANICAL NAME	COMMON NAME	PLANTED SIZE	COND	SPACING	REMARKS
TREES								
2 C6.0	7	AB	Acer buergerianum	Trident Maple	3" Cal./10' Ht.	B&B	As Shown	Single-Stem
	8	QR	Quercus rubra	Red Oak	3" Cal./10' Ht.	B&B	As Shown	Single-Stem
	11	AG	Amelanchelr grandiflora 'Autumn Brilliance'	Autumn Brilliance Serviceberry	1.5" Cal./6' Ht.	B&B	As Shown	
	10	CS	Cornus spp.	Dogwood	1.5" Cal./6' Ht.	B&B	As Shown	Single-Stem
	5	VA	Vitex agnus-castus	Lilac Chastetree	1.5" Cal./6' Ht.	B&B	As Shown	
SHRUBS, PERENNIALS AND ORNAMENTAL GRASSES								
1 C6.0	47	AI	Abelia x grandiflora 'Little Richard'	Little Richard Glossy Abelia	18" Ht.	Cont.	As Shown	
	76	Sw	Spirea x bumalda 'Anthony Waterer'	Anthony Waterer Spirea	18" Ht.	Cont.	As Shown	
	88	Mc	Muhlenbergia capillaris	Pink Muhly Grass	18" Ht.	Cont.	As Shown	
	16	aa	Aster amellus 'Violet Queen'	Italian Asters	12" Ht.	Cont.	As Shown	
	213	pah	Pennisetum alopecuroides 'Hameln'	Hameln Fountain Grass	18" Ht.	Cont.	As Shown	
	31	Rg	Rhus aromatica 'Gro-low'	Gro-Low Sumac	18" Ht.	Cont.	As Shown	
	35	Bl	Buddleia davidii 'Buddaplav' PP 33,625	Buddleia 'Dapper Lavender'	18" Ht.	Cont.	As Shown	
	15	Bm	Buxus microphylla japonica	Winter Gem Boxwood	36" Ht.	Cont.	As Shown	

PERMANENT SEEDING

	GENTLE SLOPES	STEEP SLOPES
SEEDING MIXTURE	80 LBS/ACRE OF TALL FESUE	100 LBS/ACRE TALL FESCUE 30 LBS/ACRE SERICEA LESPEDEZA (UNSCARIFIED AFTER AUGUST 15) 10 LBS/ACRE KOBE LESPEDEZA
SEEDING DATES	FALL- AUGUST 25 - OCTOBER 25 LATE WINTER: FEBRUARY 15 - APRIL 15 TO EXTEND SPRING SEEDING INTO JUNE, ADD 15 LBS/ACRE HULLED BERMUDAGRASS OVERSEEDING OF KOBE LESPEDEZA OVER FALL-SEEDED TALL FESCUE IS VERY EFFECTIVE.	FALL- AUGUST 25 - OCTOBER 25 LATE WINTER: FEBRUARY 15 - APRIL 15 TO EXTEND SPRING SEEDING INTO JUNE, ADD 15 LBS/ACRE HULLED BERMUDAGRASS OVERSEEDING OF KOBE LESPEDEZA OVER FALL-SEEDED TALL FESCUE IS VERY EFFECTIVE.
SEEDING AMENDMENTS	APPLY LIME AND FERTILIZER PER SOIL RESTS, OR 4000 LBS/ACRE LIMESTONE AND 1000 LBS/ACRE 10-10-10 FERTILIZER.	APPLY LIME AND FERTILIZER PER SOIL RESTS, OR 4000 LBS/ACRE LIMESTONE AND 1000 LBS/ACRE 10-10-10 FERTILIZER.

TEMPORARY SEEDING

	EARLY SUMMER SEASON	STEEP SLOPES
SEEDING MIXTURE	40 LBS/ACRE OF GERMAN MILLET 80 LBS/ACRE OF TALL FESUE	120 LBS/ACRE RYE (GRAIN) 80 LBS/ACRE TALL FESUE
SEEDING DATES	MAY 1 - AUGUST 15 REFERTILIZE IF GROWTH IS NOT FULLY ADEQUATE. APPLY 4000 LBS/ACRE STRAW OR EQUIVALENT HYDROSEEDING.	OCTOBER 25 - DECEMBER 30 BETWEEN DECEMBER 30 - FEBRUARY 15, ADD 50 LBS/ACRE OF ANNUAL KOBE LESPEDEZA. APPLY 4000 LBS/ACRE STRAW OR EQUIVALENT HYDROSEEDING.
SEEDING AMENDMENTS	APPLY LIME AND FERTILIZER PER SOIL RESTS, OR 2000 LBS/ACRE LIMESTONE AND 750 LBS/ACRE 10-10-10 FERTILIZER.	APPLY LIME AND FERTILIZER PER SOIL RESTS, OR 2000 LBS/ACRE LIMESTONE AND 750 LBS/ACRE 10-10-10 FERTILIZER.

LaBella
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400 S. Tryon Street, Suite 1300
Charlotte, NC 28285
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COOPERATIVA LOTINO CREDIT UNION

LCCU - NEW BERN AVE BRANCH
5280 NEW BERN AVENUE
RALEIGH, NC 27601

North Carolina 811 www.nc811.org

GRAPHIC SCALE
20 0 10 20 40
(IN FEET)
1 inch = 20 ft.

NO.	DATE:	DESCRIPTION:
1	2-24-23	REVISE PER ASR COMMENTS #1
2	5-5-23	REVISE PER ASR COMMENTS #2
3	11-17-23	REVISE PER ASR COMMENTS #3

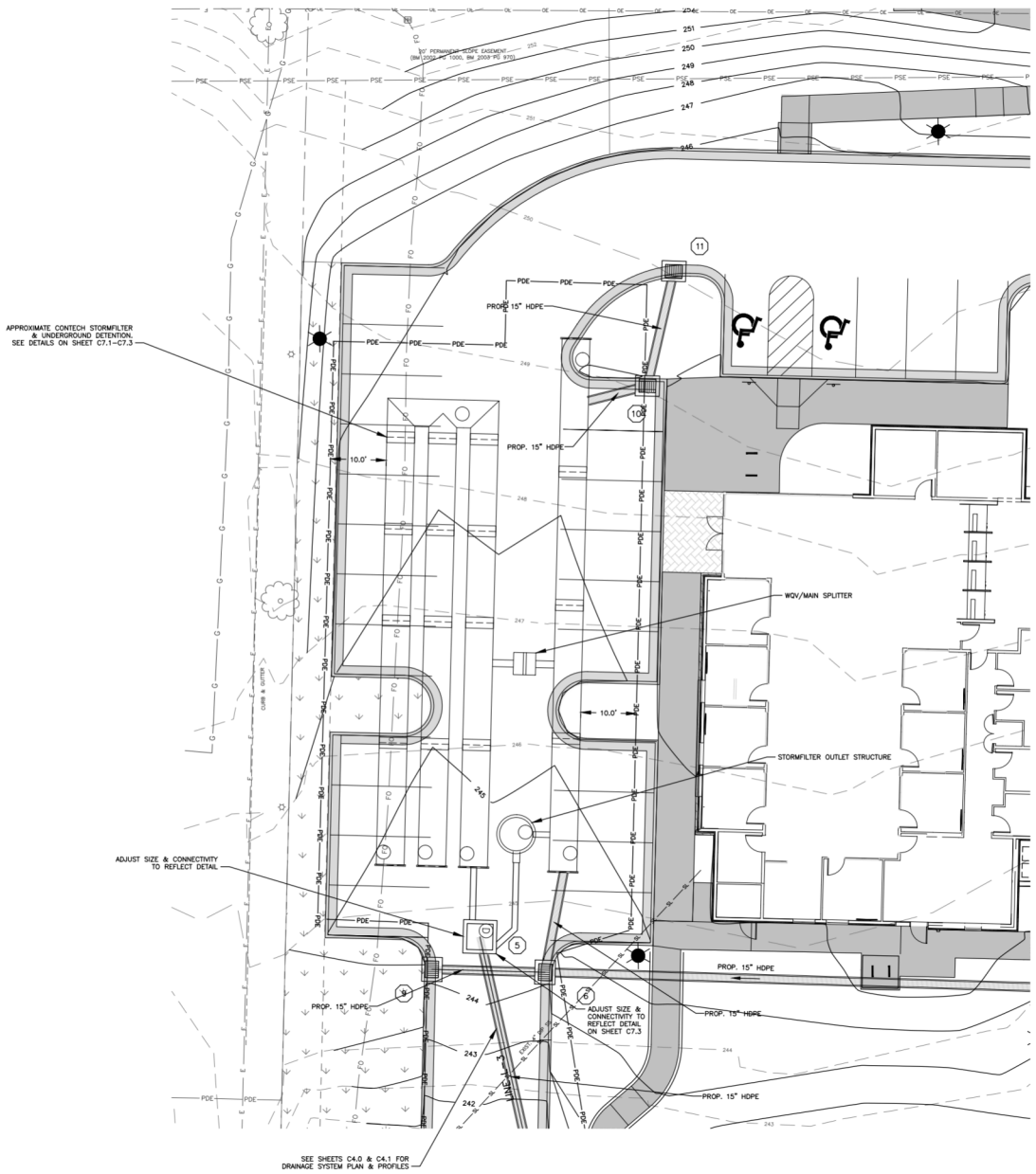
PROJECT NUMBER: 2220725
DRAWN BY: TCL
REVIEWED BY: REW
ISSUED FOR: FINAL DESIGN
DATE: 11/17/23
DRAWING NAME:

LANDSCAPE PLAN

DRAWING NUMBER:

C6.0

11/3/2023 2:09 PM
V:\2220725 LCCU NEW BERN AVE RALEIGH\CAD\CIVIL\CIVIL3D\PLANSHEETS\C6.0 LANDSCAPE PLAN.DWG



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5280 NEW BERN AVENUE
RALEIGH, NC 27601

North Carolina 811 www.nc811.org

GRAPHIC SCALE
10 0 5 10 20
(IN FEET)
1 inch = 10 ft.

NO:	DATE:	DESCRIPTION:

PROJECT NUMBER: 2220725
DRAWN BY: TCL
REVIEWED BY: REW
ISSUED FOR: FINAL DESIGN
DATE: 9/22/23
DRAWING NAME:

STORMWATER MANAGEMENT FACILITY PLAN

DRAWING NUMBER:

C7.0

PROJECT SUMMARY

CALCULATION DETAILS
- LOADING = HS20/HS25
- APPROX. LINEAR FOOTAGE = 363 LF

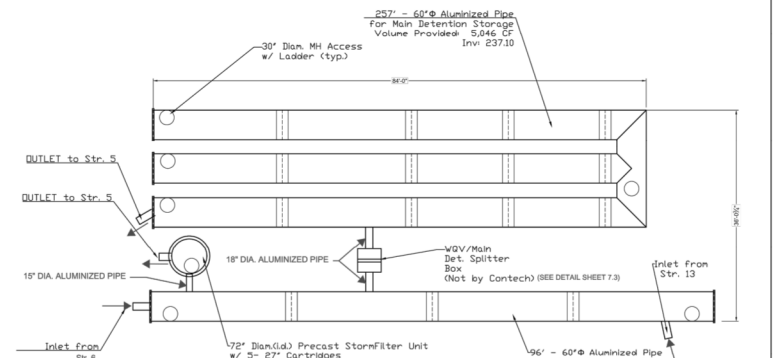
STORAGE SUMMARY
- STORAGE VOLUME REQUIRED = 6,700 CF
- PIPE STORAGE VOLUME = 6,931 CF
- BACKFILL STORAGE VOLUME = 0 CF
- TOTAL STORAGE PROVIDED = 6,935 CF

PIPE DETAILS
- DIAMETER = 60"
- CORRUGATION = 5x1
- GAGE = 14
- COATING = ALT2
- WALL TYPE = SOLID
- BARREL SPACING = 30"

BACKFILL DETAILS
- WIDTH AT ENDS = 12"
- ABOVE PIPE = 0"
- WIDTH AT SIDES = 12"
- BELOW PIPE = 0"

See sheet C4.0 & C7.3 for system connectivity & details.

NOTES
- ALL RISER AND STUB DIMENSIONS ARE TO CENTERLINE. ALL ELEVATIONS, DIMENSIONS, AND LOCATIONS OF RISERS AND INLETS, SHALL BE VERIFIED BY THE ENGINEER OF RECORD PRIOR TO RELEASING FOR FABRICATION.
- ALL FITTINGS AND REINFORCEMENT COMPLY WITH ASTM A998.
- ALL RISERS AND STUBS ARE 2⅔" x ½" CORRUGATION AND 16 GAGE UNLESS OTHERWISE NOTED.
- RISERS TO BE FIELD TRIMMED TO GRADE.
- QUANTITY OF PIPE SHOWN DOES NOT PROVIDE EXTRA PIPE FOR CONNECTING THE SYSTEM TO EXISTING PIPE OR DRAINAGE STRUCTURES. OUR SYSTEM AS DETAILED PROVIDES NOMINAL INLET AND/OR OUTLET PIPE STUB FOR CONNECTION TO EXISTING DRAINAGE FACILITIES. IF ADDITIONAL PIPE IS NEEDED IT IS THE RESPONSIBILITY OF THE CONTRACTOR.
- BAND TYPE TO BE DETERMINED UPON FINAL DESIGN.
- THE PROJECT SUMMARY IS REFLECTIVE OF THE DYODS DESIGN. QUANTITIES ARE APPROX. AND SHOULD BE VERIFIED UPON FINAL DESIGN AND APPROVAL. FOR EXAMPLE, TOTAL EXCAVATION DOES NOT CONSIDER ALL VARIABLES SUCH AS SHORING AND ONLY ACCOUNTS FOR MATERIAL WITHIN THE ESTIMATED EXCAVATION FOOTPRINT.
- THESE DRAWINGS ARE FOR CONCEPTUAL PURPOSES AND DO NOT REFLECT ANY LOCAL PREFERENCES OR REGULATIONS. PLEASE CONTACT YOUR LOCAL CONTECH REP FOR MODIFICATIONS.



ASSEMBLY
SCALE: 1" = 10'

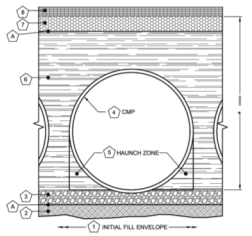
DATE	REVISION DESCRIPTION	BY

CONTECH ENGINEERED SOLUTIONS LLC
www.ContechES.com
9025 Centre Pointe Dr., Suite 400, West Chester, OH 45069
800-338-1122 513-645-7000 513-645-7993 FAX

CONTECH CMP DETENTION SYSTEMS
CONTECH DYODS DRAWING

DYO30800 LCCU - New Bern Branch
60in UDS - Main and WQV
Raleigh, NC
DETENTION SYSTEM

PROJECT No.	SEQ. No.	DATE
19982	30800	4/26/2023
DESIGNED: DYO	DRAWN: DYO	
CHECKED: DYO	APPROVED: DYO	
SHEET NO.: 1		



DETENTION SYSTEMS - CMP DETENTION / CMP DRAINAGE

	Material Location	Description	Material Designation	Designation
B	Rigid or Flexible Pavement (if applicable)			
7	Road Base (if applicable)			
A	Geotextile Layer	Non-Woven Geotextile	CONTECH C-40 or C-45	Engineer Decision for consideration to prevent soil migration into varying soil types
6	Backfill	Well graded granular material which may contain small amounts of silt or clay.	AASHTO M 145- A-1, A-2, A-3	Placed in 8" +/- loose lifts and compacted to 90% Standard Proctor Per AASHTO T 99
5	Bedding Stone	Well graded granular bedding material w/maximum particle size of 2"	AASHTO MX3 - 3,357,A,467, 5, 56, 57	Engineer to determine if bedding is required. Pipe may be placed on the trench bottom of a relatively loose, native suitable well graded & granular material. For Arch pipes it is recommended to be shaped to a relatively flat bottom or fine-grade the foundation to a slight v-shape. Unsuitable foundation soils may be undercut and backfilled with a 4"-6" layer of well graded & granular stone per the material designation. See AASHTO 26.3.8.1 / 26.5.3 Bedding Info.
A	Geotextile Layer	Non-Woven Geotextile	CONTECH C-40 or C-45	Engineer Decision for consideration to prevent soil migration into varying soil types

* Note: *Backfill using controlled low-strength material (CLSM, "flash fill" or "flowable fill") when the spacing between the pipes will not allow for placement and adequate compaction of the backfill.*

1. MINIMUM WIDTH DEPENDS ON SITE CONDITIONS AND ENGINEERING JUDGEMENT

FOUNDATION/BEDDING PREPARATION

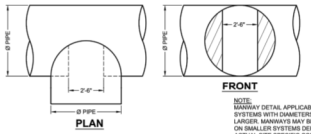
2. PRIOR TO PLACING THE BEDDING, THE FOUNDATION MUST BE CONSTRUCTED TO A UNIFORM AND STABLE GRADE. IN THE EVENT THAT UNSUITABLE FOUNDATION MATERIALS ARE ENCOUNTERED DURING EXCAVATION, THEY SHALL BE REMOVED AND BROUGHT BACK TO THE GRADE WITH A FILL MATERIAL AS APPROVED BY THE ENGINEER.

3. HAUNCH ZONE MATERIAL SHALL BE PLACED AND UNIFORMALLY COMPACTED WITHOUT SOFT SPOTS.

BACKFILL

WHEN PLACING THE FIRST LIFTS OF BACKFILL IT IS IMPORTANT TO MAKE SURE THAT THE BACKFILL IS PROPERLY COMPACTED UNDER AND AROUND THE PIPE HAUNCHES. BACKFILL SHALL BE PLACED SUCH THAT THERE IS NO MORE THAN A TWO LIFT (16") DIFFERENTIAL BETWEEN ANY OF THE PIPES AT ANY TIME DURING THE BACKFILL PROCESS. THE BACKFILL SHALL BE ADVANCED ALONG THE LENGTH OF THE DETENTION SYSTEM AT THE SAME RATE TO AVOID DIFFERENTIAL LOADING ON THE PIPE.

OTHER ALTERNATE BACKFILL MATERIAL MAY BE ALLOWED DEPENDING ON SITE SPECIFIC CONDITIONS, AS APPROVED BY SITE ENGINEER.

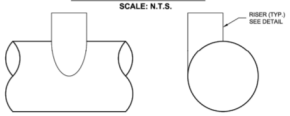


PLAN

TYPICAL MANWAY DETAIL
SCALE: N.T.S.

FRONT

NOTE:
MANWAY DETAIL APPLICABLE FOR CMP SYSTEMS WITH DIAMETERS 48" AND LARGER. MANWAYS MAY BE REQUIRED ON SMALLER SYSTEMS DEPENDING ON ACTUAL SITE SPECIFIC CONDITIONS.

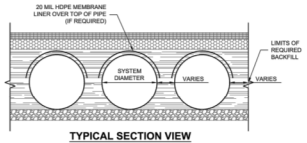


ELEVATION

END

TYPICAL RISER DETAIL
SCALE: N.T.S.

NOTE:
LADDERS ARE OPTIONAL AND ARE NOT REQUIRED FOR ALL SYSTEMS.



TYPICAL SECTION VIEW
LINER OVER ROWS
SCALE: N.T.S.

NOTE: IF SALTING AGENTS FOR SNOW AND ICE REMOVAL ARE USED ON OR NEAR THE PROJECT, AN HDPE MEMBRANE LINER IS RECOMMENDED WITH THE SYSTEM. THE IMPERMEABLE LINER IS INTENDED TO HELP PROTECT THE SYSTEM FROM THE POTENTIAL ADVERSE EFFECTS THAT MAY RESULT FROM A CHANGE IN THE SURROUNDING ENVIRONMENT OVER A PERIOD OF TIME. PLEASE REFER TO THE CORRUGATED METAL PIPE DETENTION DESIGN GUIDE FOR ADDITIONAL INFORMATION.

DATE	REVISION DESCRIPTION	BY

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CONTECH CMP DETENTION SYSTEMS
CONTECH DYODS DRAWING

DYO30800 LCCU - New Bern Branch
60in UDS - Main and WQV
Raleigh, NC
DETENTION SYSTEM

PROJECT No.	SEQ. No.	DATE
19982	30800	4/26/2023
DESIGNED: DYO	DRAWN: DYO	
CHECKED: DYO	APPROVED: DYO	
SHEET NO.: 1		

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COOPERATIVA LATINO CREDIT UNION

LCCU - NEW BERN AVE BRANCH
5280 NEW BERN AVENUE
RALEIGH, NC 27601

North Carolina 811 www.nc811.org

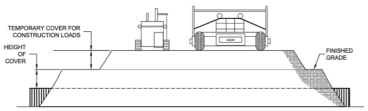
NO:	DATE:	DESCRIPTION:

PROJECT NUMBER: 2220725
DRAWN BY: TCL
REVIEWED BY: REW
ISSUED FOR: FINAL DESIGN
DATE: 9/22/23
DRAWING NAME:

STORMWATER MANAGEMENT CONTECH DETAILS

DRAWING NUMBER:

C7.1



CONSTRUCTION LOADS

FOR TEMPORARY CONSTRUCTION VEHICLE LOADS, AN EXTRA AMOUNT OF COMPACTED COVER MAY BE REQUIRED OVER THE TOP OF THE PIPE. THE HEIGHT-OF-COVER SHALL MEET THE MINIMUM REQUIREMENTS SHOWN IN THE TABLE BELOW. THE USE OF HEAVY CONSTRUCTION EQUIPMENT NECESSITATES GREATER PROTECTION FOR THE PIPE THAN FINISHED GRADE COVER MINIMUMS FOR NORMAL HIGHWAY TRAFFIC.

PIPE SPAN, INCHES	AXLE LOADS (kips)			
	18-50	50-75	75-110	110-150
	MINIMUM COVER (FT)			
12-42	2.0	2.5	3.0	3.0
48-72	3.0	3.0	3.5	4.0
78-120	3.0	3.5	4.0	4.0
126-144	3.5	4.0	4.5	4.5

*MINIMUM COVER MAY VARY, DEPENDING ON LOCAL CONDITIONS. THE CONTRACTOR MUST PROVIDE THE ADDITIONAL COVER REQUIRED TO AVOID DAMAGE TO THE PIPE. MINIMUM COVER IS MEASURED FROM THE TOP OF THE PIPE TO THE TOP OF THE MAINTAINED CONSTRUCTION ROADWAY SURFACE.

CONSTRUCTION LOADING DIAGRAM

SCALE: N.T.S.

SPECIFICATION FOR DESIGNED DETENTION SYSTEM:

SCOPE
THIS SPECIFICATION COVERS THE MANUFACTURE AND INSTALLATION OF THE DESIGNED DETENTION SYSTEM DETAILED IN THE PROJECT PLANS.

MATERIAL
THE MATERIAL SHALL CONFORM TO THE APPLICABLE REQUIREMENTS LISTED BELOW:

ALUMINIZED TYPE 2 STEEL COILS SHALL CONFORM TO THE APPLICABLE REQUIREMENTS OF AASHTO M-274 OR ASTM A-92.

THE GALVANIZED STEEL COILS SHALL CONFORM TO THE APPLICABLE REQUIREMENTS OF AASHTO M-218 OR ASTM A-929.

THE POLYMER COATED STEEL COILS SHALL CONFORM TO THE APPLICABLE REQUIREMENTS OF AASHTO M-246 OR ASTM A-742.

THE ALUMINUM COILS SHALL CONFORM TO THE APPLICABLE REQUIREMENTS OF AASHTO M-197 OR ASTM B-744.

CONSTRUCTION LOADS
CONSTRUCTION LOADS MAY BE HIGHER THAN FINAL LOADS. FOLLOW THE MANUFACTURER'S OR NCSPA GUIDELINES.

PIPE
THE PIPE SHALL BE MANUFACTURED IN ACCORDANCE TO THE APPLICABLE REQUIREMENTS LISTED BELOW:

ALUMINIZED TYPE 2: AASHTO M-36 OR ASTM A-760

GALVANIZED: AASHTO M-36 OR ASTM A-760

POLYMER COATED: AASHTO M-245 OR ASTM A-762

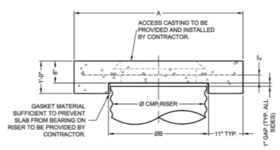
ALUMINUM: AASHTO M-196 OR ASTM B-745

HANDLING AND ASSEMBLY
SHALL BE IN ACCORDANCE WITH NCSP'S (NATIONAL CORRUGATED STEEL PIPE ASSOCIATION) FOR ALUMINIZED TYPE 2, GALVANIZED OR POLYMER COATED STEEL. SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS FOR ALUMINUM PIPE.

INSTALLATION
SHALL BE IN ACCORDANCE WITH AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, SECTION 26, DIVISION II DIVISION II OR ASTM A-798 (FOR ALUMINIZED TYPE 2, GALVANIZED OR POLYMER COATED STEEL) OR ASTM B-788 (FOR ALUMINUM PIPE) AND IN CONFORMANCE WITH THE PROJECT PLANS AND SPECIFICATIONS. IF THERE ARE ANY INCONSISTENCIES OR CONFLICTS THE CONTRACTOR SHOULD DISCUSS AND RESOLVE WITH THE SITE ENGINEER.

IT IS ALWAYS THE RESPONSIBILITY OF THE CONTRACTOR TO FOLLOW OSHA GUIDELINES FOR SAFE PRACTICES.

NOTE:
THESE DRAWINGS ARE FOR CONCEPTUAL PURPOSES AND DO NOT REFLECT ANY LOCAL PREFERENCES OR REGULATIONS. PLEASE CONTACT YOUR LOCAL CONTECH REP FOR MODIFICATIONS.

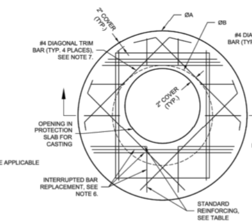


SECTION VIEW

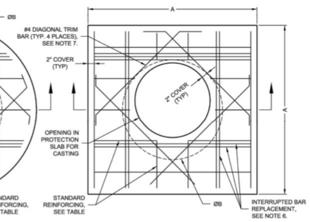
Ø CMP RISER	A	Ø B	REINFORCING	**BEARING PRESSURE (PSF)
24"	Ø 4' 4'X4'	26"	#5 @ 12" OCEW #5 @ 12" OCEW	2,410 1,780
30"	Ø 4'-6" 4'-6" X 4'-6"	32"	#5 @ 12" OCEW #5 @ 12" OCEW	2,120 1,530
36"	Ø 5' 5' X 5'	38"	#5 @ 10" OCEW #5 @ 10" OCEW	1,890 1,350
42"	Ø 5'-6" 5'-6" X 5'-6"	44"	#5 @ 10" OCEW #5 @ 9" OCEW	1,720 1,210
48"	Ø 6' 6' X 6'	50"	#5 @ 9" OCEW #5 @ 8" OCEW	1,600 1,100

REINFORCING TABLE

** ASSUMED SOIL BEARING CAPACITY



ROUND OPTION PLAN VIEW



SQUARE OPTION PLAN VIEW

NOTES:

1. DESIGN IN ACCORDANCE WITH AASHTO, 17th EDITION.
2. DESIGN LOAD HS25.
3. EARTH COVER = 1' MAX.
4. CONCRETE STRENGTH = 3,500 psi
5. REINFORCING STEEL = ASTM A615, GRADE 60.
6. PROVIDE ADDITIONAL REINFORCING AROUND OPENINGS EQUAL TO THE BARS INTERRUPTED, HALF EACH SIDE. ADDITIONAL BARS TO BE IN THE SAME PLANE.
7. TRIM OPENING WITH DIAGONAL #4 BARS, EXTEND BARS A MINIMUM OF 12" BEYOND OPENING, BEND BARS AS REQUIRED TO MAINTAIN BAR COVER.
8. PROTECTION SLAB AND ALL MATERIALS TO BE PROVIDED AND INSTALLED BY CONTRACTOR.
9. DETAIL DESIGN BY DELTA ENGINEERING, BINGHAMTON, NY.

MANHOLE CAP DETAIL

SCALE: N.T.S.

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CONTECH CMP DETENTION SYSTEMS
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DYO30800 LCCU - New Bern Branch
60in UDS - Main and WQV
Raleigh, NC
DETENTION SYSTEM

PROJECT No.: 19962 | SEQ. No.: 30800 | DATE: 4/26/2023
DESIGNED: DYO | DRAWN: DYO
CHECKED: DYO | APPROVED: DYO
SHEET NO.: 1

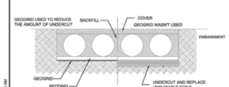
CMP DETENTION INSTALLATION GUIDE

PROPER INSTALLATION OF A FLEXIBLE UNDERGROUND DETENTION SYSTEM WILL ENSURE LONG-TERM PERFORMANCE. THE CONFIGURATION OF THESE SYSTEMS OFTEN REQUIRES SPECIAL CONSTRUCTION PRACTICES THAT DIFFER FROM CONVENTIONAL FLEXIBLE PIPE CONSTRUCTION. CONTECH ENGINEERED SOLUTIONS STRONGLY SUGGESTS SCHEDULING A PRE-CONSTRUCTION MEETING WITH YOUR LOCAL SALES ENGINEER TO DETERMINE IF ADDITIONAL MEASURES, NOT COVERED IN THIS GUIDE, ARE APPROPRIATE FOR YOUR SITE.

FOUNDATION

CONSTRUCT A FOUNDATION THAT CAN SUPPORT THE DESIGN LOADING APPLIED BY THE PIPE AND ADJACENT BACKFILL WEIGHT AS WELL AS MAINTAIN ITS INTEGRITY DURING CONSTRUCTION.

IF SOFT OR UNSUITABLE SOILS ARE ENCOUNTERED, REMOVE THE POOR SOILS DOWN TO A SUITABLE DEPTH AND THEN BUILD UP TO THE APPROPRIATE ELEVATION WITH A COMPETENT BACKFILL MATERIAL. THE STRUCTURAL FILL MATERIAL GRADATION SHOULD NOT ALLOW THE MIGRATION OF FINES, WHICH CAN CAUSE SETTLEMENT OF THE DETENTION SYSTEM OR PAVEMENT ABOVE. IF THE STRUCTURAL FILL MATERIAL IS NOT COMPATIBLE WITH THE UNDERLYING SOILS AN ENGINEERING FABRIC SHOULD BE USED AS A SEPARATOR. IN SOME CASES, USING A STIFF REINFORCING GEOGRID REDUCES OVER EXCAVATION AND REPLACEMENT FILL QUANTITIES.

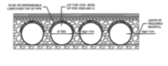


GRADE THE FOUNDATION SUBGRADE TO A UNIFORM OR SLIGHTLY SLOPING GRADE. IF THE SUBGRADE IS CLAY OR RELATIVELY NON-POROUS AND THE CONSTRUCTION SEQUENCE WILL LAST FOR AN EXTENDED PERIOD OF TIME, IT IS BEST TO SLOPE THE GRADE TO ONE END OF THE SYSTEM. THIS WILL ALLOW EXCESS WATER TO DRAIN QUICKLY, PREVENTING SATURATION OF THE SUBGRADE.

GEOMEMBRANE BARRIER

A SITE'S RESISTIVITY MAY CHANGE OVER TIME WHEN VARIOUS TYPES OF SALTING AGENTS ARE USED, SUCH AS ROAD SALTS FOR DEICING AGENTS. IF SALTING AGENTS ARE USED ON OR NEAR THE PROJECT SITE, A GEOMEMBRANE BARRIER IS RECOMMENDED WITH THE SYSTEM. THE GEOMEMBRANE LINER IS INTENDED TO HELP PROTECT THE SYSTEM FROM THE POTENTIAL ADVERSE EFFECTS THAT MAY RESULT FROM THE USE OF SUCH AGENTS INCLUDING PREMATURE CORROSION AND REDUCED ACTUAL SERVICE LIFE.

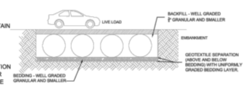
THE PROJECT'S ENGINEER OF RECORD IS TO EVALUATE WHETHER SALTING AGENTS WILL BE USED ON OR NEAR THE PROJECT SITE, AND USE HIS/HER BEST JUDGEMENT TO DETERMINE IF ANY ADDITIONAL PROTECTIVE MEASURES ARE REQUIRED. BELOW IS A TYPICAL DETAIL SHOWING THE PLACEMENT OF A GEOMEMBRANE BARRIER FOR PROJECTS WHERE SALTING AGENTS ARE USED ON OR NEAR THE PROJECT SITE.



IN-SITU TRENCH WALL

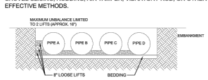
IF EXCAVATION IS REQUIRED, THE TRENCH WALL NEEDS TO BE CAPABLE OF SUPPORTING THE LOAD THAT THE PIPE SHEDS AS THE SYSTEM IS LOADED. IF SOILS ARE NOT CAPABLE OF SUPPORTING THESE LOADS, THE PIPE CAN DEFLECT. PERFORM A SIMPLE SOIL PRESSURE CHECK USING THE APPLIED LOADS TO DETERMINE THE LIMITS OF EXCAVATION BEYOND THE SPRING LINE OF THE OUTER MOST PIPES.

IN MOST CASES THE REQUIREMENTS FOR A SAFE WORK ENVIRONMENT AND PROPER BACKFILL PLACEMENT AND COMPACTION TAKE CARE OF THIS CONCERN.



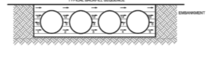
BACKFILL PLACEMENT

MATERIAL SHALL BE WORKED INTO THE PIPE HAUNCHES BY MEANS OF SHOVEL-SLICING, RODDING, AIR TAMPER, VIBRATORY ROD, OR OTHER EFFECTIVE METHODS.

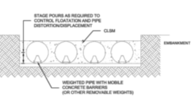


IF AASHTO T99 PROCEDURES ARE DETERMINED INFEASIBLE BY THE GEOTECHNICAL ENGINEER OF RECORD, COMPACTION IS CONSIDERED ADEQUATE WHEN NO FURTHER YIELDING OF THE MATERIAL IS OBSERVED UNDER THE COMPACTOR, OR UNDER FOOT, AND THE GEOTECHNICAL ENGINEER OF RECORD (OR REPRESENTATIVE THEREOF) IS SATISFIED WITH THE LEVEL OF COMPACTION.

FOR LARGE SYSTEMS, CONVEYOR SYSTEMS, BACKHOES WITH LONG REACHES OR DRAGLINES WITH STONE BUCKETS MAY BE USED TO PLACE BACKFILL. ONCE MINIMUM COVER FOR CONSTRUCTION LOADING ACROSS THE ENTIRE WIDTH OF THE SYSTEM IS REACHED, ADVANCE THE EQUIPMENT TO THE END OF THE RECENTLY PLACED FILL, AND BEGIN THE SEQUENCE AGAIN UNTIL THE SYSTEM IS COMPLETELY BACKFILLED. THIS TYPE OF CONSTRUCTION SEQUENCE PROVIDES ROOM FOR STOCKPILED BACKFILL DIRECTLY BEHIND THE BACKHOE, AS WELL AS THE MOVEMENT OF CONSTRUCTION TRAFFIC. MATERIAL STOCKPILES ON TOP OF THE BACKFILLED DETENTION SYSTEM SHOULD BE LIMITED TO 8- TO 10-FEET HIGH AND MUST PROVIDE BALANCED LOADING ACROSS ALL BARRELS. TO DETERMINE THE PROPER COVER OVER THE PIPES TO ALLOW THE MOVEMENT OF CONSTRUCTION EQUIPMENT SEE TABLE 1, OR CONTACT YOUR LOCAL CONTECH SALES ENGINEER.



WHEN FLOWABLE FILL IS USED, YOU MUST PREVENT PIPE FLOATATION. TYPICALLY, SMALL LIFTS ARE PLACED BETWEEN THE PIPES AND THEN ALLOWED TO SET-UP PRIOR TO THE PLACEMENT OF THE NEXT LIFT. THE ALLOWABLE THICKNESS OF THE CLSM LIFT IS A FUNCTION OF A PROPER BALANCE BETWEEN THE UPLIFT FORCE OF THE CLSM, THE OPPOSING WEIGHT OF THE PIPE, AND THE EFFECT OF OTHER RESTRAINING MEASURES. THE PIPE CAN CARRY LIMITED FLUID PRESSURE WITHOUT PIPE DISTORTION OR DISPLACEMENT, WHICH ALSO AFFECTS THE CLSM LIFT THICKNESS. YOUR LOCAL CONTECH SALES ENGINEER CAN HELP DETERMINE THE PROPER LIFT THICKNESS.

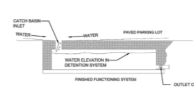


CONSTRUCTION LOADING

TYPICALLY, THE MINIMUM COVER SPECIFIED FOR A PROJECT ASSUMES H-20 LIVE LOAD. BECAUSE CONSTRUCTION LOADS OFTEN EXCEED DESIGN LIVE LOADS, INCREASED TEMPORARY MINIMUM COVER REQUIREMENTS ARE NECESSARY. SINCE CONSTRUCTION EQUIPMENT VARIES FROM JOB TO JOB, IT IS BEST TO ADDRESS EQUIPMENT SPECIFIC MINIMUM COVER REQUIREMENTS WITH YOUR LOCAL CONTECH SALES ENGINEER DURING YOUR PRE-CONSTRUCTION MEETING.

ADDITIONAL CONSIDERATIONS

BECAUSE MOST SYSTEMS ARE CONSTRUCTED BELOW-GRADE, RAINFALL CAN RAPIDLY FILL THE EXCAVATION; POTENTIALLY CAUSING FLOATATION AND MOVEMENT OF THE PREVIOUSLY PLACED PIPES. TO HELP MITIGATE POTENTIAL PROBLEMS, IT IS BEST TO START THE INSTALLATION AT THE DOWNSTREAM END WITH THE OUTLET ALREADY CONSTRUCTED TO ALLOW A ROUTE FOR THE WATER TO ESCAPE. TEMPORARY DIVERSION MEASURES MAY BE REQUIRED FOR HIGH FLOWS DUE TO THE RESTRICTED NATURE OF THE OUTLET PIPE.



CMP DETENTION SYSTEM INSPECTION AND MAINTENANCE

UNDERGROUND STORMWATER DETENTION AND INFILTRATION SYSTEMS MUST BE INSPECTED AND MAINTAINED AT REGULAR INTERVALS FOR PURPOSES OF PERFORMANCE AND LONGEVITY.

INSPECTION

INSPECTION IS THE KEY TO EFFECTIVE MAINTENANCE OF CMP DETENTION SYSTEMS AND IS EASILY PERFORMED. CONTECH RECOMMENDS ONGOING, ANNUAL INSPECTIONS. SITES WITH HIGH TRASH LOAD OR SMALL OUTLET CONTROL ORIFICES MAY NEED MORE FREQUENT INSPECTIONS. THE RATE AT WHICH THE SYSTEM COLLECTS POLLUTANTS WILL DEPEND MORE ON SITE SPECIFIC ACTIVITIES RATHER THAN THE SIZE OR CONFIGURATION OF THE SYSTEM.

INSPECTIONS SHOULD BE PERFORMED MORE OFTEN IN EQUIPMENT WASHDOWN AREAS, IN CLIMATES WHERE SANDING AND/OR SALTING OPERATIONS TAKE PLACE, AND IN OTHER VARIOUS INSTANCES IN WHICH ONE WOULD EXPECT HIGHER ACCUMULATIONS OF SEDIMENT OR ABRASIVE/ CORROSIVE CONDITIONS. A RECORD OF EACH INSPECTION IS TO BE MAINTAINED FOR THE LIFE OF THE SYSTEM

MAINTENANCE

CMP DETENTION SYSTEMS SHOULD BE CLEANED WHEN AN INSPECTION REVEALS ACCUMULATED SEDIMENT OR TRASH IS CLOGGING THE DISCHARGE ORIFICE.

ACCUMULATED SEDIMENT AND TRASH CAN TYPICALLY BE EVACUATED THROUGH THE MANHOLE OVER THE OUTLET ORIFICE. IF MAINTENANCE IS NOT PERFORMED AS RECOMMENDED, SEDIMENT AND TRASH MAY ACCUMULATE IN FRONT OF THE OUTLET ORIFICE. MANHOLE COVERS SHOULD BE SECURELY SEATED FOLLOWING CLEANING ACTIVITIES. CONTECH SUGGESTS THAT ALL SYSTEMS BE DESIGNED WITH AN ACCESS/INSPECTION MANHOLE SITUATED AT OR NEAR THE INLET AND THE OUTLET ORIFICE. SHOULD IT BE NECESSARY TO GET INSIDE THE SYSTEM TO PERFORM MAINTENANCE ACTIVITIES, ALL APPROPRIATE PRECAUTIONS REGARDING CONFINED SPACE ENTRY AND OSHA REGULATIONS SHOULD BE FOLLOWED.

ANNUAL INSPECTIONS ARE BEST PRACTICE FOR ALL UNDERGROUND SYSTEMS. DURING THIS INSPECTION, IF EVIDENCE OF SALTING/DE-ICING AGENTS IS OBSERVED WITHIN THE SYSTEM, IT IS BEST PRACTICE FOR THE SYSTEM TO BE RINSED, INCLUDING ABOVE THE SPRING LINE SOON AFTER THE SPRING THAW AS PART OF THE MAINTENANCE PROGRAM FOR THE SYSTEM.

MAINTAINING AN UNDERGROUND DETENTION OR INFILTRATION SYSTEM IS EASIEST WHEN THERE IS NO FLOW ENTERING THE SYSTEM. FOR THIS REASON, IT IS A GOOD IDEA TO SCHEDULE THE CLEANOUT DURING DRY WEATHER.

THE FOREGOING INSPECTION AND MAINTENANCE EFFORTS HELP ENSURE UNDERGROUND PIPE SYSTEMS USED FOR STORMWATER STORAGE CONTINUE TO FUNCTION AS INTENDED BY IDENTIFYING RECOMMENDED REGULAR INSPECTION AND MAINTENANCE PRACTICES. INSPECTION AND MAINTENANCE RELATED TO THE STRUCTURAL INTEGRITY OF THE PIPE OR THE SOUNDNESS OF PIPE JOINT CONNECTIONS IS BEYOND THE SCOPE OF THIS GUIDE.

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DYO30800 LCCU - New Bern Branch
60in UDS - Main and WQV
Raleigh, NC
DETENTION SYSTEM

PROJECT No.: 19962 | SEQ. No.: 30800 | DATE: 4/26/2023
DESIGNED: DYO | DRAWN: DYO
CHECKED: DYO | APPROVED: DYO
SHEET NO.: 1

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5280 NEW BERN AVENUE
RALEIGH, NC 27601

North Carolina 811
www.nc811.org

NO:	DATE:	DESCRIPTION:

PROJECT NUMBER: 2220725
DRAWN BY: TCL
REVIEWED BY: REW
ISSUED FOR: FINAL DESIGN
DATE: 9/22/23
DRAWING NAME:

STORMWATER MANAGEMENT CONTECH DETAILS

DRAWING NUMBER:

C7.2

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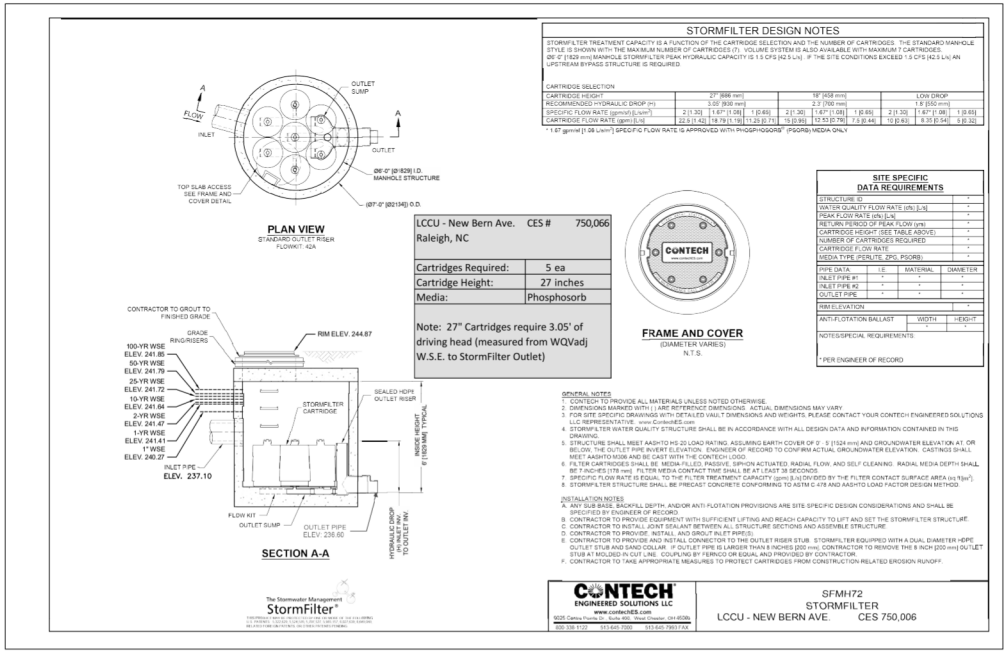

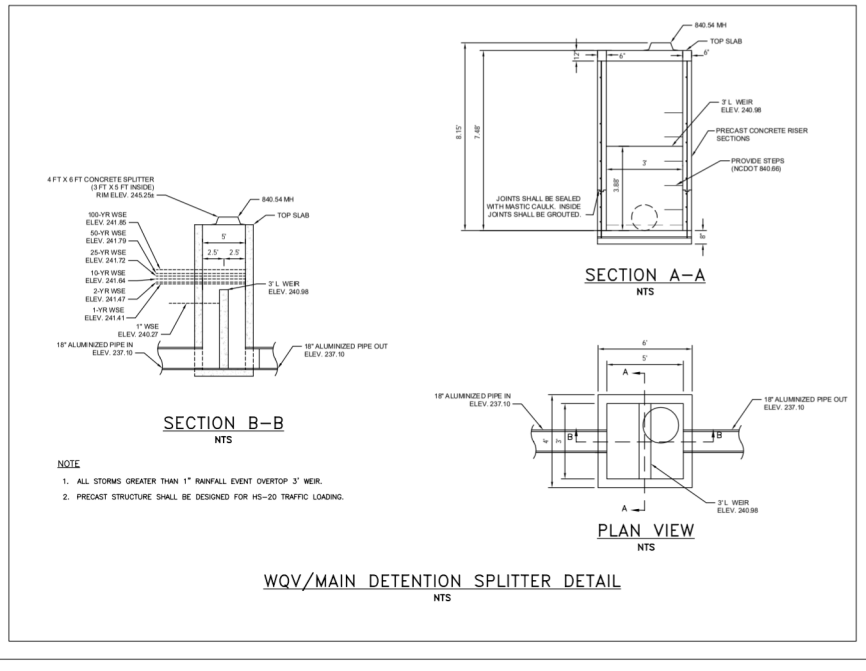

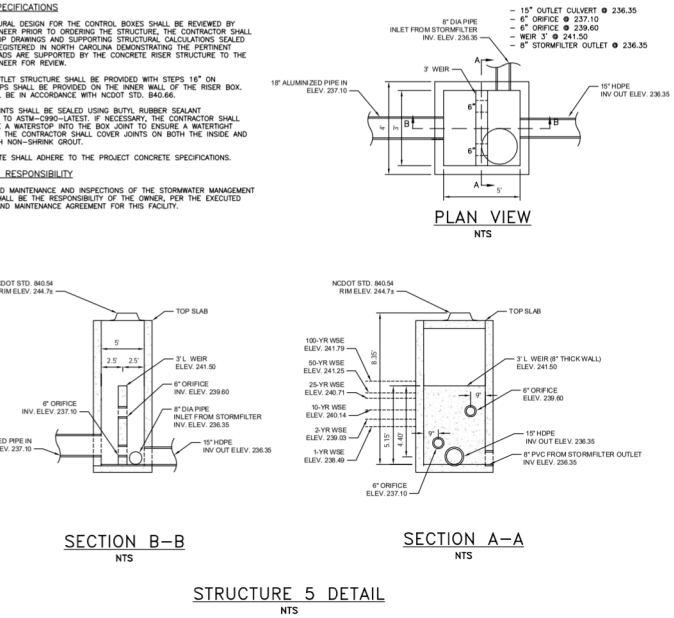

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RALEIGH, NC 27601

NO.	DATE:	DESCRIPTION:
1	2–24–23	REVISE PER ASR COMMENTS #1
2	5–5–23	REVISE PER ASR COMMENTS #2
3	11–17–23	REVISE PER ASR COMMENTS #3

PROJECT NUMBER: 2220725
DRAWN BY: TCL
REVIEWED BY: REW
ISSUED FOR: FINAL DESIGN
DATE: 11/17/23
DRAWING NAME:

STORMWATER MANAGEMENT CONTECH DETAILS

DRAWING NUMBER:

C7.3