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 ☐ Attached ☐ Townhouse ☑ Apartment ☐ Tiny house ☐ Open lot	☐ General ☐ Mixed use ☐ Civic ☐ Cottage Court ☐ Frequent Transit Development Option	Subdivision case #: _____ Scoping/sketch plan case #: 588128 Certificate of Appropriateness #: _____ Board of Adjustment #: _____ Zoning Case #: _____ Design Alternate #: _____

GENERAL INFORMATION

Development name: Marcom Street Project, LLC

Inside City limits? Yes ☑ No ☐

Property address(es): 3811 Marcom Street, Raleigh, NC 27606

Site P.I.N.(s): 0793-28-3640

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

(2) new apartment buildings: (15) 3-BR units (20,850 GSF), and (3) 3-BR units (4,362 GSF).

Current Property Owner(s):

Company: Marcom Street Project, LLC | Title: Mr. Gilad Simhony

Address: Sharet 43, Unit 12, Tel Aviv, Israel

Phone #: (919)782-1717 (Beth Black) | Email: gilad.simhony@gmail.com

Applicant Name (If different from owner. See "who can apply" in instructions): Samir Bahho, PE

Relationship to owner: ☐ Lessee or contract purchaser ☑ Owner's authorized agent ☐ Easement holder

Company: Civil & Struc. Engin. Services | Address: 4612 Kaplan Drive; Raleigh, NC 27606

Phone #: (919)621-0628	Email: ba.casepllc@gmail.com
NOTE: please attach purchase agreement or contract, lease or easement when submitting this form.	
Developer Contact: Beth Black	
Company: Wilson Property Management, Inc.	Title: Owner
Address: 5520 McNeely Drive, Ste 100; Raleigh, NC 27612	
Phone #: (919)782-1717	Email: beth@wpminc.net
Applicant Name: Samir Bahho	
Company: Civil & Struc. Engin. Services	Address: 4612 Kaplan Drive; Raleigh, NC 27606
Phone #: (919)621-0628	Email: ba.casepllc@gmail.com

DEVELOPMENT TYPE + SITE DATE TABLE (Applicable to all developments)	
SITE DATA	**BUILDING DATA**
Zoning district(s) (please provide the acreage of each): R-10 FTA	Existing gross floor area (not to be demolished): N/A
Gross site acreage: 19,359 SF = .444 acres	Existing gross floor area to be demolished: 3,420 GSF
# of parking spaces proposed: 15	New gross floor area: 25,212 GSF
Max # parking permitted (7.1.2.C): 45	Total sf gross (to remain and new): 25,212 GSF
Overlay District (if applicable): Special Resid. Parking	Proposed # of buildings: 2
Existing use (UDO 6.1.4): Multi-Unit Living	Proposed # of stories for each: 4 stories and 3 stories
Proposed use (UDO 6.1.4): Multi-Unit Living	Proposed # of basement levels (UDO 1.5.7.A.6) N/A

STORMWATER INFORMATION	
Imperious Area on Parcel(s): Existing (sf) 4,765 SF Proposed total (sf) 15,070 SF	Impervious Area for Compliance (includes ROW): Existing (sf) 5,325 SF Proposed total (sf) 15,865 SF

RESIDENTIAL & OVERNIGHT LODGING DEVELOPMENTS	
Total # of dwelling units: 18	Total # of hotel bedrooms: N/A
# of bedroom units: 1br ____ 2br ____ 3br 18 4br or more ____	
# of lots: 1	Is your project a cottage court? ○ Yes ◉ No
	A frequent transit development? ◉ Yes ○ No

Continue to Applicant Signature Block on Page 4.

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.

Acting as an authorized agent requires written permission from the property owner for the purposes of making this development approval and/or permit application. Written permission from the property owner to act as an authorized agent must be made available to the City of Raleigh upon request.

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 development 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).

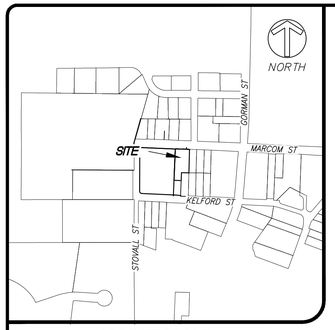
The undersigned indicates that the property owner(s) is aware of this application and that the proposed project described in this application will be maintained in all respects in accordance with the plans and specifications submitted herewith, and in accordance with the provisions and regulations of 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: Samir Bakho	Date: Sept 25 2024
Printed Name: Samir W. Bakho	
Signature: For Gilad Simhony Samir Bakho	Date: Sept 25 2024
Printed Name: Samir Bakho	

3811 MARCOM STREET

CITY OF RALEIGH ARS#



VICINITY MAP
1" = 1000'

PUBLIC IMPROVEMENT QUANTITY TABLE

Phase Number	Phse 1	Phase 2	Phase 3
Number of Lots	N/A	N/A	N/A
Lot Number (S) by Phase	N/A	N/A	N/A
Number of Units	17	N/A	N/A
Livable Buildings	1	N/A	N/A
Open Space? (Sq Ft)	N/A	N/A	N/A
Number of Open Space Lots	N/A	N/A	N/A
Public Water (LF)	N/A	N/A	N/A
Public Sewer (LF)	N/A	N/A	N/A
Public Street (LF)-Full	0	0	0
Public Street (Partia), 7' widening	150	0	0
Public Sidewalk 8' wide	120	0	0
Street Sign (LF)	0	0	0
Water Service Stubs	1		
Sewer Service Stubs	1	0	0
Fire Hydrant	0	0	0

PROPERTY OWNER	MARCOM STREET PROJECT LLC. GILAD SIMHONY Email: GILAD.SIMHONY@GMAIL.COM ADDRESS: ISRAEL: SHARET 43, UNIT 12, TEL AVIV, ISRAEL
SITE ADDRESS	3811 MARCOM STREET
WAKE COUNTY PIN #	0793-28-3640
ZONING DISTRICT	R-10 FTA
LOT SIZE	0.4 ACRES
OVERLAY DISTRICT	SPECIAL RESIDENTIAL PARKING OVERLAY DISTRICT
EXISTING USE	5 APARTMENT BUILDINGS
PROPOSED USE	MULTI-UNIT LIVING (APARTMENT BUILDING TYPE)
RESIDENTIAL TOTAL UNITS	17 APARTMENT UNITS 3 BEDROOMS / UNIT
STREET CLASSIFICATION	MARCOM STREET- NEIGHBORHOOD STREET
STREETSCAPE REQUIRED	URBAN LIMITED- FRONTAGE (SEE 8.5.6) 8' SIDEWALK 2' TREE LAWN
STREETSCAPE PROVIDED	8' SIDEWALK 3' TREE LAWN
PROVIDED BUILD TO	MARCOM STREET- BUILDING / FRONTAGE
PARKING PROVIDED	15 SPACES AREA SHALL BE DEVELOPED IN ACCORDANCE WITH ARTICLE 2.7D 3811 MARCOM STREET IS LOCATED LESS THAN FROM A BUS STATION
BICYCLE PARKING REQUIRED PROVIDED	SHORT TERM: 1 SPACE PER 20 UNITS 4 SPACES 4 SPACES
AMENITY AREA REQUIRED PROVIDED	10% 10%
BASE DIMENSIONAL STANDARDS LOT AREA	SURVEY 0.4 AC
BUILDING SETBACK FRONT SIDE REAR	10' 5' 15'
PARKING SETBACKS PRIMARY STREET	10'
BUILDING HEIGHT SEC 1.5.7.3	3 STORY / 50' MAX.
OPEN SPACE PROVIDED	MARCOM OPEN SPACE PROVIDED_____2,950 SF

SHEET INDEX:

1. COVER SHEET
2. DEMOLITION PLAN
3. EXISTING CONDITIONS SURVEY
4. DRAFT R/W PLAT
5. PROPOSED SITE PLAN
6. GRADING AND SEDIMENT CONTROL PLAN
7. NCGO1 INSPECTION AND STABILIZATION PLAN

8A. SOIL AND EROSION CONTROL PLAN - PHASE 1
8B. STORM AND SOIL AND EROSION CONTROL PLAN - PHASE 1

9. FIRE FLOW ANALYSIS

9A. WATER AND SEWER AND FIRE SAFETY

12. PROPOSED LANDSCAPE PLAN
13. PROPOSED TRANSPORTATION PLAN
14. STANDARD DETAILS
15. STANDARD DETAILS
16. STANDARD DETAILS
17. STANDARD DETAILS
18. STANDARD DETAILS
19. STANDARD DETAILS

A101 BUILDINGS 1 + 2 FLOOR PLAN
A201 BUILDING 1 EXTERIOR ELEVATIONS
A202 BUILDING 2 EXTERIOR ELEVATIONS

OWNER, ENGINEER AND SURVEYOR:

OWNER: MARCOM STREET, LLC
ATTN: GILAD SIMHONY
SHARET 43 UNIT 12
TEL AVIV, ISREAL
EMAIL: gilad.simhony@gmail.com
US CONTACT:
WILSON PROPERTY MANAGEMENT
ATTN: BETH BLACK
1410-101 COLLEGIATE CIRCLE
RALEIGH, NC 27606
TEL: (919) 859-9552

ARCHITECT AND LANDSCAPE ARCHITECT:
HARRISON ARCHITECTURE, PA
309-A WEST GEER STREET
DURHAM, NC 27701
PHONE: 919-949-4030
EMAIL: HARRISONARCHPA@GMAIL.COM

ENGINEER: CIVIL AND STRUCTURAL ENGINEERING SERVICES, PLLC
4612 KAPLAN DRIVE
RALEIGH, NC 27606
PROJECT ENGINEER: SAMIR W. BAHHO, PE
BA.CASESPLLC@GMAIL.COM
OFFICE PHONE: 919-851-1642
CELL PHONE: 919-621-0628

SURVEYOR: MAERSTAN, PLLC
2411 US 64 BUS. W
PITTSBORO, NC 27312
PROJECT SURVEYOR: RICHARD ELLIS BULLOCK, JR, PLS
RICHARD@MAERSTAN.COM
OFFICE PHONE: 919-545-7001

RIGHT-OF-WAY OBSTRUCTION NOTES:

- STREET, LANE, AND SIDEWALK CLOSURES OR DETOURS: PRIOR TO ANY WORK THAT IMPACTS THE RIGHT-OF-WAY OR CLOSING OF ANY STREET, LANE, OR SIDEWALK, THE CONTRACTOR MUST APPLY FOR A PERMIT WITH RIGHT-OF-WAY SERVICES.
- A PERMIT REQUEST WITH A TRAFFIC CONTROL AND/OR PEDESTRIAN PLAN SHALL BE SUBMITTED TO RIGHTOFWAYSERVICES@RALEIGHNC.GOV AT WWW.RALEIGHNC.GOV KEYWORD "RIGHT-OF-WAY SERVICES.
- 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.
- THE CITY OF RALEIGH REQUIRES AN APPROVED RIGHT-OF-WAY OBSTRUCTION PERMIT FOR WORK ON ANY PUBLIC STREET OR SIDEWALK AND NCDOT ROAD WITHIN RALEIGH'S JURISDICTION.
- ALL TRAFFIC CONTROL SIGNAGE AND PRACTICES SHALL ADHERE TO THE MANUAL ON UNIFORM TRAFFIC CONTROL, AND THE LATEST EDITION OF THE NCDOT "STANDARD SPECIFICATION FOR ROADWAY STRUCTURES"; NCDOT "ROADWAY STANDARD DRAWING MANUAL", AND THE NCDOT SUPPLEMENT TO THE MUTCD.
- 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.

Article 2.7. Frequent Transit Development Option

The Frequent Transit Development Option allows for additional housing in locations near current and planned frequent transit service. A Frequent Transit Area refers to areas slated for bus or other transit service where the time between vehicles will be 15 minutes or less during peak service periods and must be mapped in the City's Comprehensive plan as such. Where a regulation in this section conflicts with a regulation of a Neighborhood Conservation Overlay District (NCOD), the NCOD regulation shall control.

Sec. 2.7.1. Frequent Transit Development Option

		R-4	R-6	R-10
A. Building Types				
A1	Applicable Building Types	Tiny House, Detached House, Attached House, Townhouse, Apartment	Detached House, Attached House, Townhouse, Apartment	Detached House, Attached House, Townhouse, Apartment
B. Lot Dimensions				
B1	Area (min)	6,500 sf	4,000 sf	2,500 sf
B2	Lot width (min)	65'	50'	45'
B3	Depth (min)	100'	80'	60'
B4	Density (max)	n/a	n/a	n/a
B5	Outdoor Amenity Area (min) for Townhouse (3+ units) and Apartment	10%	10%	10%
C. Lot Area Required per Unit[1]				
C1	Single-unit living (min)	6,500 sf	4,000 sf	2,500 sf
C2	Two-unit living (min)	2,500 sf	1,500 sf	1,000 sf
C3	Multi-unit living (min)	2,000 sf	1,200 sf	800 sf
D. Principal Building Setbacks				
D1	From primary street (min)	10'	10'	10'
D2	From side street (min)	10'	10'	10'
D3	From side lot line (min)[2]	5'	5'	5'
D4	From rear lot line (min)[2]	25'	15'	15'
D5	From Alley (min)[4]	4' or 20'	4' or 20'	4' or 20'
D6	Residential infill rules may apply (see Sec. 2.2.7.)[5]	yes	yes	yes
E. Height				
E1	Detached/Attached Principal Building (max)	40'/3 stories	40'/3 stories	40'/3 stories
E2	Townhouse/Apartment Principal Building (max)	45'/3 stories	45'/3 stories	45'/3 stories
E3	Tiny House (max)	26'/2 stories	26'/2 stories	26'/2 stories
E4	Accessory Structure (max)	26'	26'	26'
E5	*Residential infill rules may apply (see Sec. 2.2.7)*	No	No	No

		R-4	R-6	R-10
F. Parking Setbacks[6]				
F1	From Primary Street (min)	10'	10'	10'
F2	From Side Street (min)	10'	10'	10'
F3	From Side Lot Line (min)	0'	0'	0'
F4	From Rear Lot Line (min)	3'	3'	3'
F5	From Alley (min)	4' or 20' min	4' or 20' min	4' or 20' min
F6	Residential Infill rules may apply (see Sec. 2.2.7)	No	No	No
G. Additional Requirements				
G1	ADU Regulations	There shall be no more than one ADU on the same lot as a principal building unless it is located in a Frequent Transit Area as shown on the City's Comprehensive Plan which would then allow for up to two ADUs on the same lot as a principal dwelling, including attached ADUs. However, in a Frequent Transit Area, only one ADU can be attached or internal to the principal building. In the case of a townhome development only one ADU is permitted per principal dwelling. See Sec. 2.6.3 for additional regulations.		
G2		This development option cannot be used in concert with Compact or Conservation Development option.		
G3		Lots utilizing this option shall have at least a portion of each lot within the mapped Frequent Transit Area in 20 order to take advantage of any regulations listed herein.		
G4[7]		A development site utilizing this option in a residential zoning district shall contain no more than twelve (12) residential units; however, a development site may contain additional residential units provided a number of units equal to at least twenty percent (20%) of the residential units over twelve (12) established within the development site shall be affordable for households earning sixty percent (60%) of the Area Median Income or less for a period of no less than 30 years from the date of issuance of a certificate of occupancy.		

See Sec. 2.5.4.D "Building Setbacks" for specific building elements requirements.

[1] For Townhouse buildings, this standard shall apply to site area and not lot area.

[2] For Townhouse buildings, C3 shall only apply to the side site boundary.

[3] For Townhouse buildings, C4 shall only apply to the rear site boundary. A permanently recorded open lot or common area lot of at least 20 feet in width may be used to satisfy Sec.2.5.1.C.4

[4] Garages (or a portion thereof) must either be located 4 feet from the travel lane of an alley or rear access drive or be a minimum of 20 feet from the alley or rear access drive. Where parking spaces are located between the garage and the alley or rear access drive, the garage must be located at least 20 feet from the travel lane of an alley or rear access drive.

[5] The property owner may elect to either adhere to the primary street setback range set forth in Section 2.2.7.; if applicable, or follow only the applicable zoning district's minimum primary street setback regulation.

[6] Parking setbacks shall not apply to driveways serving individual dwelling units or shared between two dwelling units.

[7] The rent and income limits will follow the Affordable Housing Standards determined annually by the City of Raleigh Housing & Neighborhoods Department. An Affordable Housing Deed Restriction in a form approved by the City shall be filed and recorded in the property's chain of title by the property owner in the Wake County Register of Deeds prior to the project receiving a certificate of occupancy. The property owner of development approved under this section shall provide an annual report to the City to demonstrate compliance with the requirements of this section. The report shall utilize a form prescribed by the City and shall be submitted in accordance with a schedule set by the City. Affordable units used to meet the requirements of this section shall be constructed concurrently with the project's market rate units.

LEGEND

DATUM CONTROL POINT	PROPERTY LINE (PL)
VERTICAL BENCHMARK	PL NOT SURVEYED
PROPERTY CORNER FOUND	EASEMENT
COMPUTED POINT	SETBACK LINE
STORM DRAINAGE CURB INLET	RIGHT-OF-WAY LINE
STORM DRAINAGE MANHOLE	EXISTING STORM DRAINAGE PIPE
GRATED INLET	EXISTING GRAVITY SEWER
FLARED-END SECTION	EXISTING U/G WATER LINE
STORM CLEANOUT	EDGE OF PAVEMENT
SEWER MANHOLE	PROPOSED STORM DRAINAGE PIPE
SEWER CLEANOUT	PROPOSED GRAVITY SEWER
WATER METER	PROPOSED U/G WATER LINE
WATER BACKFLOW PREVENTER	U/G RECLAIMED WATER LINE
WATER VALVE	
FIRE HYDRANT	
IRRIG BACKFLOW PREVENTER	
IRRIG WATER METER	
POWER POLE	
LIGHT POLE	

ASR REVIEW APPROVAL

CITY OF RALEIGH - PLANS AUTHORIZED FOR CONSTRUCTION

PLANS FOR THE PROPOSED USE HAVE BEEN REVIEWED FOR GENERAL COMPLIANCE WITH APPLICABLE CODES. THIS LIMITED REVIEW, AND AUTHORIZATION FOR CONSTRUCTION IS NOT TO BE CONSIDERED TO REPRESENT TOTAL COMPLIANCE WITH ALL LEGAL REQUIREMENTS FOR DEVELOPMENT AND CONSTRUCTION. THE PROPERTY OWNER, DESIGN CONSULTANTS, AND CONTRACTORS ARE EACH RESPONSIBLE FOR COMPLIANCE WITH ALL APPLICABLE CITY, STATE AND FEDERAL LAWS. THIS SPECIFIC AUTHORIZATION BELOW IS NOT A PERMIT, NOR SHALL IT BE CONSTRUED TO PERMIT ANY VIOLATION OF CITY, STATE OR FEDERAL LAW. ALL CONSTRUCTION MUST BE IN ACCORDANCE WITH ALL LOCAL, STATE, AND FEDERAL RULES AND REGULATIONS.

TRANSPORTATION FIELD SERVICES _____

PUBLIC UTILITIES _____

STORMWATER _____

PLANNING/ZONING _____

FIRE _____

URBAN FORESTRY _____

SITE ACCESIBILITY _____

SAMIR W. BAHHO, PE
CIVIL & STRUCTURAL ENGINEERING SERVICES, PLLC.
4612 KAPLAN DRIVE
RALEIGH, NORTH CAROLINA 27606
TEL: (919) 851-1642
BUSINESS LICENSE P-0537

PROPERTY OF:
MARCOM STREET PROJECT LLC
3811 MARCOM STREET
WAKE COUNTY, NORTH CAROLINA

PROJECT: RALEIGH TOWNSHIP

NO.	DESCRIPTION	DATE	BY:
	REVISIONS		

DATE: 6.9.24
SCALE: NTS
DESIGNED: SWB
CHECKED: SWB
DRAWN: JKF
APPROVED: -
SHEET: 1 OF 19
CAD FILE: MARCOM
PROJECT NO: 2024.03

NOTES:
1. THE SITE PLAN IS BASED ON A SURVEY BY NELL F. BRAFFORD AND SURVEYED BY BARRY L. SCOTT LICENSED SURVEYOR.
2. TREES SIZES AND LOCATIONS IS A FIELD LOCATED AND MEASURED
3. EXISTING TREES OUTSIDE THE SITE DEMOLITION AREA ARE NOT SHOWN AND WILL REMAIN.
4. ALL TREES SHOWN ON THE SITE PLAN WILL REMAIN AND SHALL BE PROTECTED W/TREE PROTECTION Ð FENCE OR SILT FENCE.

DEMOLITION NOTES
1. CALL NC ONE CALL TO LOCATE UTILITIES BEFORE THE START ANY DIGGING OR DEMOLITION OPERATION
2. CALL CITY, DUKE ENERGY TO REQUEST DISCONNECT OF WATER & SEWER AND POWER UTILITIES AND PROPERLY CAP AND SEAL
3. CALL OTHER UTILITIES PROVIDERS TO MAKE SURE UTILITES ARE DISCONNECTED,
4. DO NOT DISTURB AREA SOUTH OF THE SILT FENCE AND NORTH OF TPF.
5. DO NOT STORE OR OPERATE EQUIPMENT SOUTH OF SILT FENCE AREA.
6. DO NOT STORE OR OPERATE EQUIPMENTS INSIDE ROAD R/W OR IN THE AREA NORTH OF THE LINE OF TPF (TREE PROTECTION FENCE)
7. DEMOLISH, REMOVE AND HAUL OFF AS SHOWN ON THE PLAN
8. REMOVE CONCRETE DRIVEWAY CONNECTED TO THE CURB & GUTTER CAREFULLY AND NOT TO DAMAGE CURB & GUTTER
9. GRADE IN SIDE LOD DESIGNATED AREA AND SLOPE PROPERLY
10. SEED AND MULCH ALL DISTURBED AREA.
11. KEEP SILT FENCE AND TREE PROTECTION FENCE IN PLACE

NOTE:
1. BASED ON THE CITY REVIEW COMMENTS THE 2-24" PINE TREES AND 30" OAK ON PUBLIC R/W WILL BE AFFECTED BY THE PROPOSED DEMOLITION WORK AND MUST BE REMOVED.
2. THE TREES INSIDE THE R/W SHALL BE REMOVED AS MARKED AND THE OWNER PAYS THE CITY COMPENSATION PER CITY UDO.
3. THE SITE IS PROPOSED FOR A BUILDING OF APARTMENT UNITS.THE SITE PLAN AND BUILDING DESIGN ARE BEING PREPARED TO SUBMIT FOR CITY SITE PLAN AND BUILDING CONSTRUCTION. THE R/W PART OF THE SITE WILL RECEIVE STREET TREES AS REGULATED BY CITY UDO.

BM 2008 PG 1469

N/F
MARCOM STREET PROJECT LLC
PIN 0793-28-1574
DB 16548 PG 1734
BM 2021 PG 295

NOTE:
ALL CONCRETE DRIVEWAYS AND RETAINING WALL INSIDE THE MARKED LIMIT OF DISTURBANCE SHALL BE REMOVED

N/F
TENZING
INVESTMENTS LLC
PIN 0793-28-3476
DB 17241 PG 1144

N/F
NELL F BRAFFORD
PIN 0793-28-3640
DB 1478 PG 505
BM 2008 PG 1469
19359 SF / 0.444 AC

3811 MARCOM ST

N/F
TENZING
INVESTMENTS LLC
PIN 0793-28-3476
DB 17241 PG 1144

N/F
PREISS POWELL
DEVELOPMENT LLC
PIN 0793-28-4622
DB 18594 PG 1036
BM 1924 PG 2

18" MAPLE
3/4" IPF 0.1' BG
BLACK CHERRY
MULBERRY TREE
N02° 22' 32"E — 55.89'
IPF
N02° 22' 32"E — 163.00'
24" OAK
28" OAK
2" OAK
START SILT FENCE
3/4" IPF FLUSH
CONC DRIVE TO BE REMOVED
WALL
WALK
TO BE REMOVED
28" OAK
26" OAK
15" OAK
15" OAK
3" OAK
N87° 38' 41"W — 50.15'
DISTURBED AREA : 9,835 SQFT. 0.226 AC. EXIST. IMPERVIOUS AREA: 4,765 SF
NOTE:
TREE PROTECTION FENCE TO BE INSTALLED PER CITY OF RALEIGH DETAILS TPP-01 AND TPP-02.
UNITS, CONCRETE SLAB FOUNDATION, CONCRETE PATIO, RETAINING WALLS AS WELL AS FRONT SIDEWALK AND FRONT COVERED PORCHES ARE TO BE REMOVED.
SEE DEMOLITION NOTES.
TREE TO BE REMOVED
24"PINE
SHRUB (TYP)
EXISTING SHRUBS TO REMAIN
EXISTING CURB & GUTTER
3/4" IPF 0.2' BG
3/4" IPF 0.8' BG
S02° 27' 31"W — 55.35'
CONC PATIO
2-S-M-APT. BLDG 4-UNITS
SSCO FROM BASEMENT
TREE TO BE REMOVED
18"PINE
30"OAK
SSCO
MAILBOX UNITS TO BE REMOVED
TREE TO BE REMOVED
24"PINE
TREE TO BE REMOVED
SHRUB (TYP)
24"PINE
KEEP THE AREA BETWEEN UNDISTURBED. NO HEAVY EQUIPMENT IS ALLOWED IN THIS AREA.
20 MAPLE
20 MAPLE
N88° 35' 18"W — 51.56'
WALK
WALL
TO BE REMOVED
CONC DRIVE TO BE REMOVED
10.0'
END SILT FENCE
S01° 37' 36"W — 164.22'
2" IPF FLUSH
NOTE:
TP FENCE ON WEST SIDE OF CONCRETE DRIVEWAY SHALL BE INSTALLED AFTER REMOVING THE CONCRETE DRIVEWAY

IMPERVIOUS	
HOUSE	1832 sf
CONCRETE DRIVEWAY AND WALKWAYS	2859 sf
TOTAL	4691 sf
LOT AREA	19359 sf / 0.444 AC
IMPERVIOUS	24.2%

LINE LEGEND
- PROPERTY LINE (PL)
- GIS PROPERTY LINE
- WALL
- OVERHEAD UTILITY WIRES
- CONTOUR MAJOR
- CONTOUR MINOR

SYMBOL LEGEND
- PROPERTY CORNER FOUND
- UTILITY POLE
- DECIDUOUS TREE

GRAPHIC SCALE
0 5 10 20 40
1" = 10'

SAMIR W. BAHHO, PE
CIVIL & STRUCTURAL ENGINEERING SERVICES, PLLC.
4612 KAPLAN DRIVE
RALEIGH, NORTH CAROLINA 27606
TEL: (919) 851-1642
BUSINESS LICENSE P-0537

PROPERTY OF: NELL F. BRAFFORD
3811 MARCOM STREET
WAKE COUNTY, NORTH CAROLINA

PROJECT:
RALEIGH TOWNSHIP

DEMOLITION PLAN

NO.	DATE	DESCRIPTION	BY:

REVISIONS

DATE: 7.29.24
SCALE: 1"=10'
DESIGNED: SWB
CHECKED: SWB
DRAWN: JKF
APPROVED: –
SHEET: 2 OF 19
CAD FILE: MARCOM
PROJECT NO: 2024.03

BM 2008 PG 1469

SEWER MANHOLE
RIM: 395.73
INV: 387.92 10" CLAY

334.10 LF

INACCESSIBLE
JUNCTION BOX
DRAINAGE EASEMENT
(BM 2021 PG 295)

NOW OR FORMERLY
MARCOM STREET PROJECT LLC
DB 16548 PG 1734
BM 2021 PG 295

5' UTILITY PLACEMENT
EASEMENT (BM 2021 PG 295)

15'x20' SLOPE
EASEMENT
(BM 2021 PG 295)

EXISTING 8' CONCRETE SIDEWALK

EXISTING CURB & GUTTER

EXISTING 8"DIP

3/4" IPF
0.1' BG

N2°22'32"E
55.89'

IPF

N2°22'32"E
163.00'

3/4" IPF
FLUSH

IPF 0.5 0.3BG

IPF 0.5 0.25BG

IPF 0.5 0.05BG

IPF 0.5 0.1AG@ LP JL

NOW OR FORMERLY
DAVID H. MURDOCK
DB 14581 PG 2467
BM 2008 PG 1469
BM 1924 PAGE 2

N87°38'41"W
50.15'

NOW OR FORMERLY
NELL F. BRAFFORD
PIN 0793-28-3640
DB 1478 PG 565
BM 2008 PG 1469
BM 1924 PAGE 2

REMOVE EXISTING CO AND
DISPOSE OF PER CITY OF
RALEIGH PUBLIC UTILITIES
HANDBOOK SPECS

REMOVE WATER METER TAP
AND DISPOSE OF PER CITY OF
RALEIGH PUBLIC UTILITIES
HANDBOOK SPECS

MARCOM STREET
(60' EX. PUBLIC NEIGHBORHOOD STREET R/W)

EXISTING
CURB & GUTTER

EXISTING
RIGHT-OF-WAY

N87°52'43"W
99.83'

S2°27'31"W
55.35'

3/4" IPF
0.2' BG

3/4" IPF
0.8' BG

NOW OR FORMERLY
TENZING INVESTMENTS LLC
DB 17241 PG 1144

WELL PUMP

GAS VERT TANK

N88°35'18"W
51.56'

S1°37'36"W
164.22'

2" IPF
FLUSH

EXISTING DRIVE

NOW OR FORMERLY
PREISS POWELL
DEVELOPMENT LLC
DB 18594 PG 1036
BM 1924 PG 2

SEWER MANHOLE
RIM: 412.62
INV: 406.24 10" CLAY

28" OAK
26" OAK
15" OAK
15" OAK
4" OAK
20 MAPLE
20 MAPLE
2" OAK
24" OAK
28" OAK

GRAPHIC SCALE
0 5 10 20 40
1" = 10'

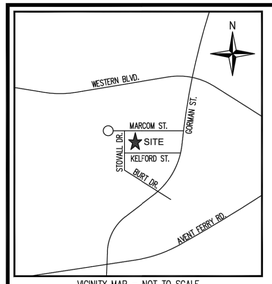
SAMIR W. BAHHO, PE
CIVIL & STRUCTURAL ENGINEERING SERVICES, PLLC.
4612 KAPLAN DRIVE
RALEIGH, NORTH CAROLINA 27606
TEL: (919) 851-1642
BUSINESS LICENSE P-0537

PROJECT:
PROPERTY OF:
MARCOM STREET PROJECT LLC
3811 MARCOM STREET
WAKE COUNTY NORTH CAROLINA
RALEIGH TOWNSHIP

EXISTING CONDITIONS PLAN

NO.	DATE	DESCRIPTION	BY:
REVISIONS			

DATE: 8.7.24
SCALE: 1"=10'
DESIGNED: SWB
CHECKED: SWB
DRAWN: JKF
APPROVED: -
SHEET: 3 OF 19
CAD FILE: MARCOM
PROJECT NO: 2024.03



VICINITY MAP – NOT TO SCALE

PROPERTY OWNER INFORMATION

DEED BOOK 19516 PAGE 1069
PIN: 0793-28-3640
REID: 7614

MARCOM STREET PROJECT LLC.
5520 McNEELY DRIVE
SUITE 100
RALEIGH, NC 27612

SURVEY REFERENCES

BM 1924 PG 2
BM 2008 PG 1469

ABBREVIATIONS

BM	BOOK OF MAPS
DB	DEED BOOK
PG	PAGE
IPF	IRON PIPE FOUND
CMF	CONCRETE MONUMENT FOUND
IPS	IRON PIPE SET
N/F	NOW OR FORMERLY
R/W	RIGHT-OF-WAY
SF	SQUARE FEET
AG	ABOVE GRADE
BG	BELOW GRADE

LINE LEGEND

- PROPERTY LINE (PL)
- PL NOT SURVEYED
- LINE TO BE REMOVED
- RIGHT-OF-WAY LINE
- EASEMENT
- CENTERLINE OF ROAD

FEMA FLOOD STATEMENT

THE PARCELS AS SHOWN HEREON ARE LOCATED IN ZONE "X", OUTSIDE THE FLOODPLAIN HAZARD AREA, PER FEMA, NATIONAL FLOOD INSURANCE PROGRAM, FLOOD INSURANCE RATE MAP PANEL 0791J, CITY OF RALEIGH, NC COMMUNITY #370243, MAP NUMBER 3720079300J AS PUBLISHED MAY 2, 2006.

DRAINAGE EASEMENT NOTE:

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

03° 57' 06" E
BM 1997 PG 137

NC GRID
NAD 83 (2011)

GENERAL NOTES

1. THE PURPOSE OF THIS PLAT IS TO DEDICATE ADDITIONAL RIGHT-OF-WAY ALONG SOUTH SIDE OF MARCOM STREET.
2. PROPERTIES SHOWN HEREON ARE SUBJECT TO EASEMENTS AND RESTRICTIONS OF RECORD THAT WOULD BE REVEALED BY A THOROUGH TITLE SEARCH. THIS PLAT SHOULD NOT BE RELIED UPON AS A COMPLETE RECORD OF ALL EASEMENTS THAT MAY AFFECT THESE PROPERTIES.
3. UNIT OF MEASUREMENT IS U.S. SURVEY FEET (FT) UNLESS SPECIFICALLY NOTED AS METERS (M).
4. ALL DISTANCES AND COORDINATES SHOWN HEREON ARE LOCALIZED, GROUND INFORMATION, UNLESS SPECIFICALLY NOTED AS "GRID".
5. AREA(S) CALCULATED BY THE COORDINATE METHOD.
6. PROPERTY AND ZONING INFORMATION TAKEN FROM CITY OF RALEIGH & WAKE COUNTY TAX MAPPING SYSTEM.

SURVEY CONTROL / GRID TIE NOTES

THE CONTROL LINE SHOWN HEREON WAS ESTABLISHED BY GPS SURVEY METHODOLOGIES USING THE NORTH CAROLINA GEODETIC SURVEY'S (NCGS) VIRTUAL REFERENCE SYSTEM (VRS), WHICH IS BASED UPON THE CONTINUALLY OPERATING REFERENCE STATIONS (CORS). NO NCGS MONUMENT WAS FOUND WITHIN 2,000 FEET OF THE SITE. SURVEY METADATA IS AS FOLLOWS:

I, RICHARD ELLIS BULLOCK, JR. CERTIFY THAT THIS MAP WAS DRAWN UNDER MY SUPERVISION FROM AN ACTUAL GPS SURVEY MADE UNDER MY SUPERVISION AND THE FOLLOWING INFORMATION WAS USED TO PERFORM THE SURVEY:

1) CLASS OF SURVEY: CLASS A
2) POSITIONAL ACCURACY: H: 0.044', V: 0.057'
3) TYPE OF GPS FIELD PROCEDURE: REAL TIME KINEMATIC NETWORKS (VRS)
4) DATE OF GPS SURVEY: 11.19.18
5) HORIZONTAL DATUM/EPOCH: NAD83 (NSRS2011) NC STATE PLANE COORDINATE SYSTEM
   VERTICAL DATUM: NAVD88
6) PUBLISHED/FIXED-CONTROL USE:
   NAME: NCRD PID: DO4687 DATUM: NAD83 EPOCH: NSRS2007
   LATITUDE: 35°45'49.50814" ELLIPSOID HEIGHT: 51.815m
   LONGITUDE: 78°34'44.39531" GEOID HEIGHT: -33.22m
   ELEVATION: 279.0
7) GEOID MODEL: GEOID 12B
8) COMBINED FACTOR: 0.999911638808
9) UNITS: LOCALIZED GROUND U.S. SURVEY FEET AT ⅄ IPF No. 50221

I, RICHARD ELLIS BULLOCK, JR., AS A PROFESSIONAL LAND SURVEYOR IN THE STATE OF NORTH CAROLINA, DO HEREBY CERTIFY THAT THIS PLAT WAS DRAWN ME, OR UNDER MY SUPERVISION, FROM AN ACTUAL GROUND (CONVENTIONAL) AND GPS; THAT THE GPS SURVEY INFORMATION (METADATA) HAS BEEN REPORTED HEREON UNDER THE "SURVEY CONTROL / GRID TIE NOTES"; THAT SURVEYED PROPERTY LINES SHOWN HEREON ARE BASED UPON THE DEEDS AND PLATS REPORTED HEREON; THAT THE BOUNDARIES NOT SURVEYED ARE CLEARLY INDICATED AS SUCH AND ARE BASED UPON THE DEEDS AND PLATS REFERENCED HEREON; THAT THE POSITIONAL ACCURACY HAS BEEN REPORTED HEREON; THAT THE RATIO OF PRECISION AS CALCULATED IS 1:10000+; THAT THIS MAP WAS PREPARED IN ACCORDANCE WITH NORTH CAROLINA GENERAL STATUTES G.S.47-30, AS AMENDED.

THAT THIS PLAT MEETS THE REQUIREMENT OF G.S.47-30 SECTION

(f)(11)(d) THAT THE SURVEY IS OF ANOTHER CATEGORY, SUCH AS THE RECOMBINATION OF EXISTING PARCELS, A COURT-ORDERED SURVEY, OR OTHER EXCEPTION TO THE DEFINITION OF SUBDIVISION.

WITNESS MY ORIGINAL SIGNATURE, REGISTRATION NUMBER AND SEAL THIS 19th DAY OF AUGUST, 2024.

RICHARD ELLIS BULLOCK, JR. LICENSE NO. L-3266

PROPERTY OWNER CERTIFICATE

THIS CERTIFIES AND WARRANTS THAT THE UNDERSIGNED IS (ARE) THE SOLE OWNER(S) OF THE PROPERTY SHOWN ON THE MAP OR PLAT AND ANY ACCOMPANYING SHEETS HAVING ACQUIRED THE PROPERTY IN FEE SIMPLE BY DEED(S) RECORDED IN THE COUNTY REGISTER OF DEEDS OFFICE WHERE THE PROPERTY IS LOCATED AND AS SUCH HAS (HAVE) THE RIGHT TO CONVEY THE PROPERTY IN FEE SIMPLE AND THAT THE DEDICATOR(S) HEREBY AGREE TO WARRANT AND DEFEND THE TITLE AGAINST ANY CLAIMS OF ALL PERSONS WHOMSOEVER (EXCEPTED AS SPECIFICALLY LISTED HEREON AND THAT BY RECORDING THIS PLAT OR MAP I (WE) DO IRREVOCABLY DEDICATE TO THE CITY OF RALEIGH FOR PUBLIC USE ALL STREETS, EASEMENTS, RIGHTS-OF-WAY, PARKS AND GREENWAYS (AS THOSE INTERESTS ARE DEFINED IN THE CITY CODE) AND AS THE SAME ARE SHOWN ON THE PLAT FOR ALL LAWFUL PURPOSES TO WHICH THE CITY MAY DEVOTE OR ALLOW THE SAME TO USE AND UPON ACCEPTANCE THEREOF, IN ACCORDANCE WITH ALL CITY POLICIES, ORDINANCES, REGULATIONS OR CONDITIONS OF THE CITY OF RALEIGH, FOR THE BENEFIT OF THE PUBLIC PROVIDED ANY DEDICATION OF EASEMENTS FOR STORM DRAINAGE NOT SPECIFICALLY LABELED CITY OF RALEIGH OR PUBLIC ARE NOT MADE TO THE CITY OF RALEIGH, BUT ARE IRREVOCABLY MADE TO THE SUBSEQUENT OWNERS OF ANY AND ALL PROPERTIES SHOWN HEREON FOR THEIR USE AND BENEFIT.

DEED BOOK 19516 PAGE 1069

MARCOM STREET PROJECT LLC

PROPERTY OWNER SIGNATURE AND TITLE/POSITION:

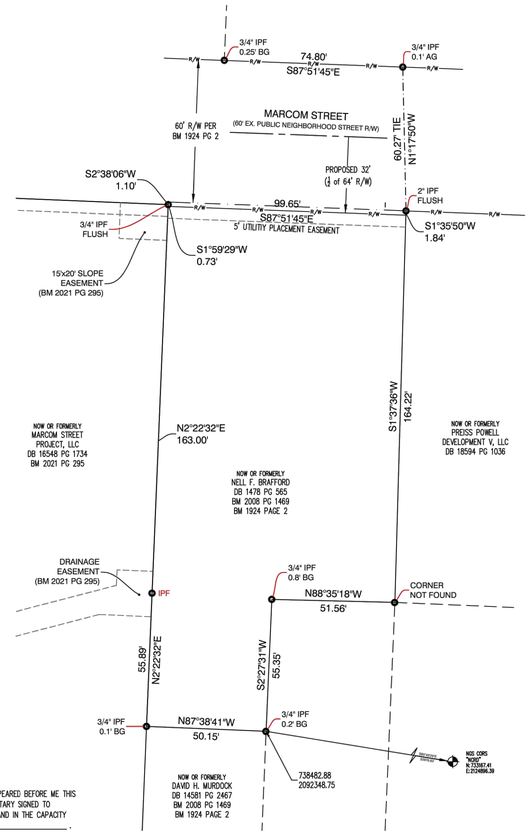
NOTARY PUBLIC

I CERTIFY THAT THE FOLLOWING PERSON(S) PERSONALLY APPEARED BEFORE ME THIS DAY, EACH ACKNOWLEDGING TO ME THAT HE OR SHE VOLUNTARY SIGNED TO FOREGOING DOCUMENT FOR THE PURPOSE STATED THEREIN AND IN THE CAPACITY INDICATED: _____.

DATE: _____,

PRINTED NAME: _____, NOTARY PUBLIC

MY COMMISSION EXPIRES: _____.



0 30' 60' 90'
1" = 30'

RCMP–
ASR–

DEDICATION CERTIFICATE

" I, THE UNDERSIGNED PLANNING AND DEVELOPMENT OFFICER OF THE CITY OF RALEIGH, AND REVIEW OFFICER FOR WAKE COUNTY, DO HEREBY CERTIFY THAT THIS MAP OR PLAT MEETS ALL THE STATUTORY REQUIREMENTS FOR RECORDING, AND THAT THE CITY OF RALEIGH, AS PROVIDED BY ITS CITY CODE, ON THE _____ DAY OF _____, IN THE YEAR _____ APPROVED THIS PLAT OR MAP AND ACCOMPANYING SHEETS AND ACCEPTED FOR THE CITY OF RALEIGH THE DEDICATIONS AS SHOWN THEREON, BUT ON THE FURTHER CONDITION THAT THE CITY ASSUMES NO RESPONSIBILITY TO OPEN OR MAINTAIN THE SAME UNTIL IN THE DISCRETION AND OPINION OF THE GOVERNING BODY OF THE CITY OF RALEIGH IT IS IN THE PUBLIC INTEREST TO DO SO."

PLANNING AND DEVELOPMENT OFFICER/WAKE COUNTY REVIEW OFFICER

RECOMBINATION CERTIFICATE

THIS PLAT OR MAP IS NOT A SUBDIVISION, BUT A RECOMBINATION OF PREVIOUSLY PLATTED PROPERTY, AND MEETS ALL STATUTORY REQUIREMENTS FOR RECORDING

PLANNING AND DEVELOPMENT OFFICER / WAKE COUNTY REVIEW OFFICER

CITY LIMITS CERTIFICATION

THIS PLAT IS NOT TO BE RECORDED AFTER _____ DAY OF _____.
ONE (1) COPY TO BE RETAINED FOR THE CITY.
THIS PLAT IS ___ IN ___ OUT OF THE CITY LIMITS.

SURVEY PREPARED FOR:

MARCOM STREET PROJECT, LLC.
5520 McNEELY DRIVE, SUITE 100
RALEIGH, NC 27612

R/W DEDICATION AND
EASEMENT PLAT
PORTIONS OF LOT 6&7, COLLEGE VIEW SUBDIVISION
3811 MARCOM STREET
RALEIGH, WAKE COUNTY

NO.	DATE	REVISION
.	1	.

DATE: 08.19.24
SCALE: 1"=30'
DRAWN BY: REB
SURVEYED BY: REB
PROJECT NO.: 21318
FILE NAME: 3811 MARCOM ST-RW-PLAT
SHEET NO. 1 of 1

MÆRSTIAN, PLLC
Land Surveyors
2141 US 64 BUS. W. PITTSBORO, NC 27312
PH: 919-545-7001 NC LIC: P-1408

SAMIR W. BAHHO, PE
CIVIL & STRUCTURAL ENGINEERING SERVICES, PLLC.
4612 KAPLAN DRIVE
RALEIGH, NORTH CAROLINA 27606
TEL: (919) 851-1642
BUSINESS LICENSE P-0537

PROPERTY OF:
MARCOM STREET PROJECT LLC
3811 MARCOM STREET
RALEIGH TOWNSHIP WAKE COUNTY NORTH CAROLINA

R/W DEDICATION PLAT – DRAFT

NO.	DATE	DESCRIPTION	BY:

REVISIONS

DATE: 8.7.24
SCALE: 1"=10'
DESIGNED: SWB
CHECKED: SWB
DRAWN: JKF
APPROVED: –
SHEET: 4 OF 19
CAD FILE: MARCOM
PROJECT NO: 2024.03

BM 2008 PG 1469

SEWER MANHOLE
RIM: 395.73
INV: 387.92 10" CLAY

EXISTING INACCESSIBLE JUNCTION BOX
DRAINAGE EASEMENT (BM 2021 PG 295)

NOW OR FORMERLY
MARCOM STREET PROJECT LLC
DB 16548 PG 1734
BM 2021 PG 295

STABILIZE, SEED AND MULCH SLOPE
REPLANT SHRUBS AND TREES AND
RELOCATE THE SILT FENCE TO THE
PROPERTY LINE AS SHOWN.
SEE NOTE 13 14 AND 17

5' UTILITY PLACEMENT
EASEMENT (BM 2021 PG 295)

15'x20' SLOPE
EASEMENT
(BM 2021 PG 295)

EXISTING 8'
CONCRETE SIDEWALK

NOTE: FOR MARCOM STREET
WIDENING SEE ROAD AND
TRANSPORTATION PLAN

EXISTING LANDSCAPING

SLOPE EASEMENT

N2°22'32"E
55.89'

N2°22'32"E
163.00'

3/4" IPF
0.1' BG

3/4" IPF
0.2' BG

3/4" IPF
0.8' BG

3/4" IPF
FLUSH

2" IPF
FLUSH

NOW OR FORMERLY
DAVID H. MURDOCK
DB 14581 PG 2467
BM 2008 PG 1469
BM 1924 PAGE 2

28" OAK

18" OAK

2" OAK

SIGN

N87°38'41"W
50.15'

S2°27'31"W
55.35'

N87°52'43"W
99.63'

S1°37'36"W
164.22'

N88°35'18"W
51.56'

5' SIDE SETBACK

15' REAR SETBACK

5.2'

3 UNIT
BUILDING
FIRST FLOOR
ELEV=395.0'

RISER
ROOM

BIKE
STOR.

18" C&G

CURB INLET
RIM: 390.0
INVERT IN: 386.5
INVERT OUT: 386.3

CURB INLET
RIM: 393.0
INVERT IN: 390.0
INVERT OUT: 389.8

(2) COMPACT
SPACES

SLOPE TO DRAIN

5' SIDEWALK

15.0'

15.1'

8.5'

22.5'

18.0'

R2.0'

TRASH
DUMPSTER

(2) 8'GATES

13.2'

20.8'

13.9'

TOP WALL
=401.5

TOP WALL
=401.0

BRICK
RETAINING WALL

TOP WALL
=402.0

18.6'

10.0'

YARD INLET
RIM: 393.5
INVERT: 390.5

HVAC
(TYP)

5' SIDEWALK

STORMWATER LINE SLOPE 0.5%
8"PVC STORMWATER LINE

CONCRETE
PATIO

FF=396.5'

BREEZEWAY

UNIT D
(4 FLOORS)
FIRST FLOOR
ELEV=396.5'

UNIT C
(4 FLOORS)
FIRST FLOOR
ELEV=396.5'

UNIT B
(4 FLOORS)
FIRST FLOOR
ELEV=396.5'

UNIT A
(3 FLOORS)
FIRST FLOOR
ELEV=407.3'

RETAINING WALL

10' FRONT SETBACK

5' UTILITY EASEMENT

RPZ

PROPOSED
RIGHT-OF-WAY

PROPOSED
8' SIDEWALK

EXISTING
RIGHT-OF-WAY

12.3'

18.0'

NOTE: FOR MARCOM
STREET WIDENING SEE ROAD
AND TRANSPORTATION PLAN

10' TRANSITION TO EXISTING
DRIVEWAY

EXISTING 8"TOP

MARCOM STREET
(60' EX. PUBLIC NEIGHBORHOOD STREET R/W)

WELL PUMP

NOW OR FORMERLY
TENZING INVESTMENTS LLC
DB 17241 PG 1144

GAS VERT TANK

NOW OR FORMERLY
NELL F. BRAFFORD
PIN 0793-28-3640
DB 1478 PG 565
BM 2008 PG 1469
BM 1924 PAGE 2

NOW OR FORMERLY
PREISS POWELL
DEVELOPMENT LLC
DB 18594 PG 1036
BM 1924 PAGE 2

TOP WALL
=397.5

TOP WALL
=398.5

TOP WALL
=399.5

TOP WALL
=400.5

TOP WALL
=403.5

CAST-IN-PLACE
CONCRETE
RETAINING WALL

18"x18"x18"
YARD INLET DRAIN
(TYP) 5 EA.

TOP WALL
=405.5

TOP WALL
=407.5

EXISTING DRIVE

MBX2

IPF 0.5 0.3BG

IPF 0.5 0.25BG

IPF 0.5 0.05BG

IPF 0.5 0.1AG@ LP JL

WM

PP

FH

GRAPHIC SCALE
0 5 10 20 40
1" = 10'

SAMIR W. BAHHO, PE
CIVIL & STRUCTURAL ENGINEERING SERVICES, PLLC.
4612 KAPLAN DRIVE
RALEIGH, NORTH CAROLINA 27606
TEL: (919) 851-1642
BUSINESS LICENSE P-0537

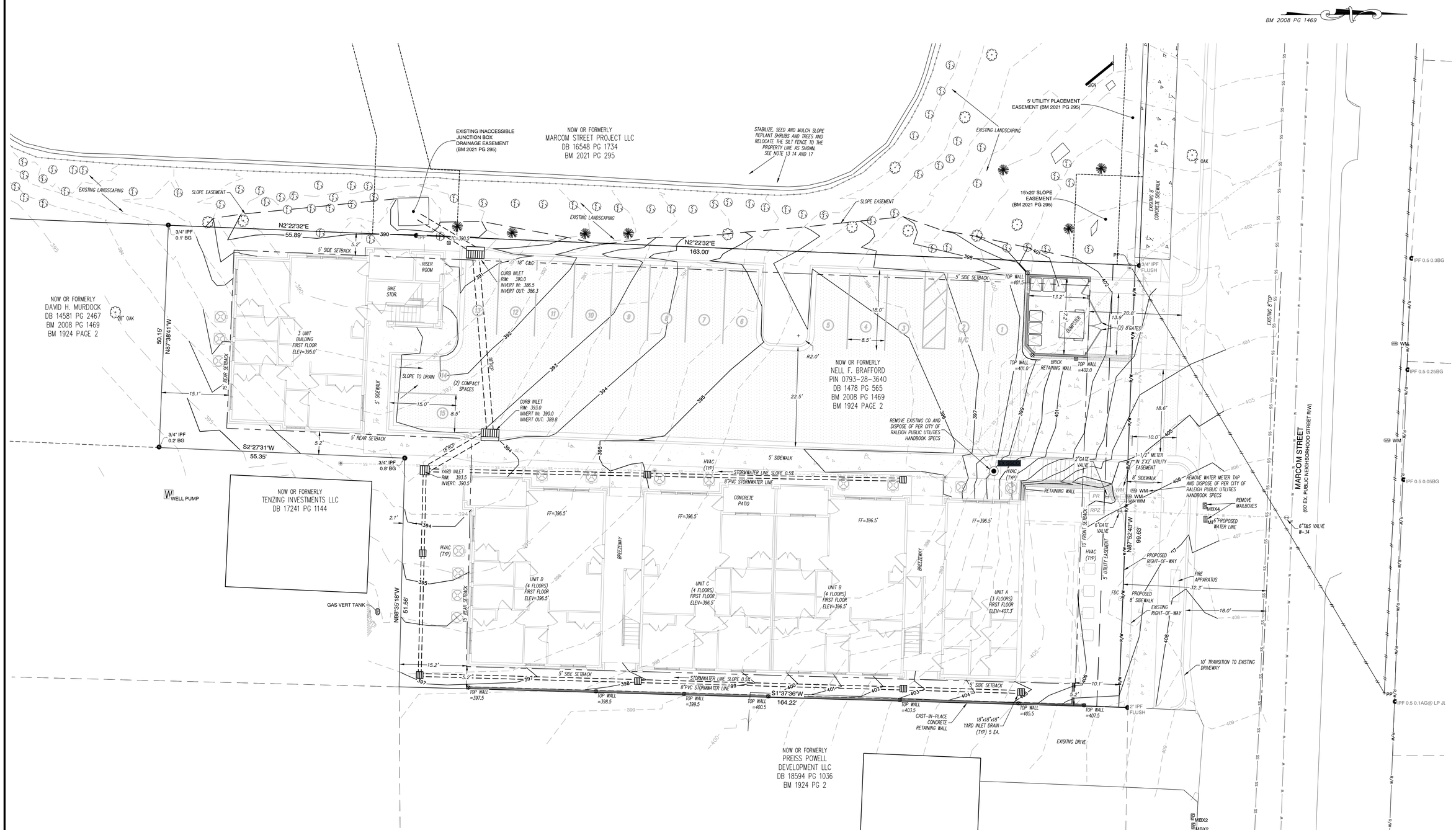
PROPERTY OF:
MARCOM STREET PROJECT LLC
3811 MARCOM STREET
WAKE COUNTY, NORTH CAROLINA

PROJECT: RALEIGH TOWNSHIP

PROPOSED SITE PLAN

NO.	DATE	DESCRIPTION	BY:
		REVISIONS	

DATE: 6.9.24
SCALE: 1"=10'
DESIGNED: SWB
CHECKED: SWB
DRAWN: JKF
APPROVED: —
SHEET: 5 OF 19
CAD FILE: MARCOM
PROJECT NO: 2024.03



SAMIR W. BAHHO, PE
CIVIL & STRUCTURAL ENGINEERING SERVICES, PLLC.
4612 KAPLAN DRIVE
RALEIGH, NORTH CAROLINA 27606
TEL: (919) 851-1642
BUSINESS LICENSE P-0537

PROPERTY OF:
MARCOM STREET PROJECT LLC
3811 MARCOM STREET
WAKE COUNTY NORTH CAROLINA
RALEIGH TOWNSHIP

PROJECT:
PROPOSED GRADING PLAN

NO.	DATE	DESCRIPTION	BY:
REVISIONS			

DATE: 6.9.24
SCALE: 1"=10'
DESIGNED: SWB
CHECKED: SWB
DRAWN: JKF
APPROVED: –
SHEET: 6 OF 19
CAD FILE: MARCOM
PROJECT NO: 2024.03

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.

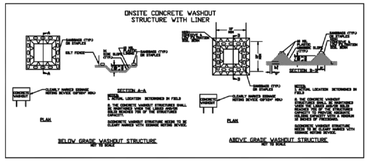
PORTABLE TOILETS

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.

NORTH CAROLINA Environmental Quality



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

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.

NORTH CAROLINA Environmental Quality

NCG01 SELF-INSPECTION, RECORDKEEPING AND REPORTING

EFFECTIVE: 04/01/19

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TEL: (919) 851-1642
BUSINESS LICENSE P-0537

PROPERTY OF:
MARCOM STREET LLC
3811 MARCOM STREET
WAKE COUNTY, NORTH CAROLINA

PROJECT:
RALEIGH TOWNSHIP

GROUND STABILIZATION AND RECORD KEEPING

REVISIONS

NO.	DATE	DESCRIPTION	BY:

DATE: 8.7.24
SCALE: NTS
DESIGNED: SWB
CHECKED: SWB
DRAWN: JKF
APPROVED:
SHEET: 7 OF 19
CAD FILE: MARCOM
PROJECT NO: 2024.03

GRADING AND CONSTRUCTION PHASING
NOTE: THE OWNER OF 3811 MARCOM STREET OWNS THE ADJACENT PROPERTY TO THE WEST (1401 &1411 STOVALL DRIVE). ANY SLOPE EASEMENT NEEDED FOR FOR CONSTRUCTION OF 3811 MARCOM STREET ON THE PROPERTY OF MARCOM STREET PROJECT, LLC SHALL BE PROVIDED THROUGH A PROPERLY EXECUTED EASEMENT DOCUMENTS

PHASE I
SITE GRADING: SEE EROSION AND SEDIMENT CONTROL AND STORM WATER PLAN SHEET 8A
1. BEFORE START OF GRADING OPERATION, ALL SHRUBS AND TREES AFFECTED BY CONSTRUCTION OF SLOPE EASEMENT ON THE PROPERTY OF MARCOM STREET PROJECT, LLC (PROPERTY OF 1401 & 1411 STOVALL DRIVE) SHALL BE MOVED AND RELOCATED AND MAINTAINED. AFTER COMPLETION OF SLOPE EASEMENT AND STABILIZING THE AREA, TREES AND SHRUBS SHALL BE REPLANTED AND RESTORED AS BEFORE. ANY DEAD OR DAMAGED TREE/SHRUB DAMAGED DUE THE REMOVING SHALL BE REPLACED WITH TREE/SHRUB THE SAME SIZEOND SPECIES.

2. BEFORE STARTING OF ANY CONSTRUCTION, CLEAR ENOUGH AREA TO INSTALL CONSTRUCTION ENTRANCE, SILT FENCE,&REE PROTECTION FENCE AS SHOWN ON THE PLANS AND STANDARD DETAILS DRAWINGS

3. CALL THE CITY OF INSPECTION OF THE INSTALLED E& SEDIMENT CONTROL DEVCES.

4. AFTER THE SITE IS APPROVED FOR GRADING OPERATION START THE FOLLOWING OPERATIONS

5. GRADE THE SITE AS SHOWN ON THE PLANS TO SUB-GRADE ELEVATION

6. CONSTRUCT THE PAD FOR THE BUILDING

7. CONSTRUCT THE PAD FOR THE SIDEWALK ALONG THE EASTERN SIDE PROPERTY LINES

8. EXCAVATE FOR CONSTRUCT RETAINING WALL ON THE EASTER PROPERTY LINE AND CONSTRUCT THE DRAINAGE PIPE UNDER THE SIDEWALK ON THE EASTER SIDE OF PROPERTY LINE.

9. IMMEDIATELY AS CONSTRUCTION OF STORM WATER PIPES ARE COMPLETED, INSTALL INLET PROTECTION DEVICES AROUND CATCH BASIN. INSPECT AND ADJUST DEVICES TO MATCH GRADED SITE.

PHASE II

10. CONTINUE WORK ON THE INSIDE ROADWAY AND PARKING PLACES ROUGH GRADING.

11. CONSTRUCT REMAINING SECTIONS OF THE RETAINING WALL ON THE WESTERN SIDE.

12. INSTALL CURB AND GUTTER ON THE WESTERN SIDE OF PROPERTY

13. STABILIZE THE SLOPE ON THE PROPERTY OF 1401 AND 1411 STOVALL DIVE AND SEED AND MULCH.

14. REPLANT SHRUBS AND TREES THAT WERE RELOCATED AT THE START OF CONSTRUCTION. REPLACE DEAD PLANTS WITH SAME SIZE AND SPECIES.

15. INSTALL SIDEWALK ALONG THE EASTER SIDE OF THE PROPERTY LINE

16. INSTALL WATER AND SEWER CLEAN OUT CONNECTION TO MAIN SEWER LINE AND MAIN WATER LINED

PHASE III

17. ADJUST LOCATION OF SILT FENCE ALONG THE WESTERN SIDE OF THE PROPERTY AND PLACE SILT FENCE ALONG AND ON THE WESTERN SIDE OF THE PROPERTY LINE

18. CONSTRUCT BUILDING STRUCTURE, SLAB FOOTERS, FOUNDATION WALLS AND FRAMING INCLUDING ROOF

19. FINE GRADE INSIDE ROADWAY AND PARKING SPACES AREA AND INSTALL REMAINING PARTS OF CURB AND GUTTER AND SIDEWALK.

20. CONTINUE WITH CONSTRUCTION OF BUILDING UNTIL COMPLETION.

21. PREPARE LANDSCAPED AREA, SEED, MULCH AND PLANT TREES.

PHASE IV MARCOM STREET WIDENING AND CONSTRUCTION OF CURB AND GUTTER
(WORK CAN BE WORKED IN COMBINATION WITH WORK ON THE OTHER PHASES)

22. INSTALL E&SC DEVICES ON MARCOM STREET AS PER THE PLAN. INSTALL FIBER ROLL CHECK DAMS ON THE EASTERN SIDE OF STOVALL DRIVE UP TO THE DOUBLE CATCH BASIN G ON STOVALL DRIVE.

23. DEMOLISH AND REMOVE EXISTING CURB AND GUTTER ON MARCOM STREET FOR THE WIDENING.

24. INSTALL AND ADJUST E&SC ALONG MARCOM STREET AS CONSTRUCTION PROGRESSES.

25. GRADE SHOULDERS OF MARCOM STREET TO INSTALL 8" CONCRETE SIDEWALK . CLOSE THE DRIVEWAY ACCESS AND CONSTRUCT THE NEW ACCESS AND WASTE DUMPSTER PAD.

26. COMPACT EXCAVATED AREA FOR THE WIDENING AND PLACE ASPHALTIC BASE COURSE FOR THE ROAD.

27. INSTALL FINAL LAYER OF ASPHALTIC COURSE NOTE: INSTALLING FINAL COURSE OF SURFACE ASPHALT ON MARCOM STREET CAN BE INSTALLED AS A PART OF THE PLACEMENT OF FINAL ASPHALT LAYER ON THE INSIDE ROADS AND PARKING SPACES.

28. TEMPORARY AND PERMANENT SEED AND MULCH SHALL PROCEED PER E&SC PLAN NOTES AND SPECS.

PHASE V PROJECT CLEAN UP AND COMPLETION PHASE

29. CLEAN UP THE PROJECT.

30. REMOVE ALL E&SC DEVICES. DRESS AREA, SEED, MULCH AND STABILIZE DEVCES LOCATIONS NOTE: REMOVAL OF E&SC DEVICES SHALL BE COORDINATED WITH THE CITY OF RALEIGH INSPECTION.

NOTE: REFER TO SHEET NCG01, GROUND STABILIZATION AND MATERIALS HANDLING, AND SELF-INSPECTION, RECORD-KEEPING AND REPORTING

BM 2008 PG 1469

NOW OR FORMERLY
MARCOM STREET PROJECT LLC
DB 16548 PG 1734
BM 2021 PG 295

EXISTING INACCESSIBLE JUNCTION BOX
DRAINAGE EASEMENT
(BM 2021 PG 295)

STABILIZE, SEED AND MULCH SLOPE
REPLANT SHRUBS AND TREES AND
RELOCATE THE SILT FENCE TO THE
PROPERTY LINE AS SHOWN.
SEE NOTE 13 14 AND 17

5' UTILITY PLACEMENT
EASEMENT (BM 2021 PG 295)

EXISTING LANDSCAPING

15'x20' SLOPE
EASEMENT
(BM 2021 PG 295)

EXISTING 6' CONCRETE SIDEWALK

EXISTING CURB & GUTTER

SILT FENCE

INLET PROTECTION

END OF SILT FENCE
SEE E&SC PLANS -
NOTE 13, 14 AND 17

3/4" IPF
0.1' BG

N2°22'32"E
55.89'

SILT FENCE OUTLET

TC=390.5

CURB INLET
RIM: 390.0
INVERT IN: 386.5
INVERT OUT: 386.3

START SECOND LAYER
OF SILT FENCE

N2°22'32"E
163.00'

INLET PROTECTION
OUTLET

24" OAK
28" OAK

3/4" IPF
FLUSH

TOP WALL
=401.5

NOW OR FORMERLY
DAVID H. MURDOCK
DB 14581 PG 2467
BM 2008 PG 1469
BM 1924 PAGE 2

28" OAK
26" OAK
15" OAK
15" OAK
OAK

N87°38'41"W
50.15'

TC=391.0

SLOPE TO DRAIN

(2) COMPACT
SPACES

CURB INLET
RIM: 393.0
INVERT IN: 390.0
INVERT OUT: 389.8

NOW OR FORMERLY
NELL F. BRAFFORD
PIN 0793-28-3640
DB 1478 PG 565
BM 2008 PG 1469
BM 1924 PAGE 2

TOP WALL
=401.0

TOP WALL
=402.0

REMOVE EXISTING CO AND
DISPOSE OF PER CITY OF
RALEIGH PUBLIC UTILITIES
HANDBOOK SPECS

REMOVE EXISTING
SILT FENCE

SILT FENCE

3/4" IPF
0.2' BG

S2°27'31"W
55.35'

3/4" IPF
0.8' BG

YARD INLET
RIM: 393.5
INVERT: 390.5

STORMWATER LINE SLOPE 0.5%
8"PVC STORMWATER LINE

REMOVE WATER METER TAP
AND DISPOSE OF PER CITY OF
RALEIGH PUBLIC UTILITIES
HANDBOOK SPECS

REMOVE
MAILBOXES

MBX4
MBX4

MARCOM STREET
(60' EX. PUBLIC NEIGHBORHOOD STREET R/W)

N87°52'43"W
99.63'

EXISTING
CURB & GUTTER

EXISTING
RIGHT-OF-WAY

WELL PUMP

NOW OR FORMERLY
TENZING INVESTMENTS LLC
DB 17241 PG 1144

20 MAPLE
20 MAPLE

FF=396.5'

GAS VERT TANK

N86°35'18"W
51.56'

REMOVE EXISTING
TREE PROTECTION
FENCE

STORMWATER LINE SLOPE 0.5%
8"PVC STORMWATER LINE

S1°37'36"W
164.22'

TOP WALL
=397.5

TOP WALL
=398.5

TOP WALL
=399.5

TOP WALL
=400.5

TOP WALL
=403.5

CAST-IN-PLACE
CONCRETE
RETAINING WALL

18"x18"x18"
YARD INLET DRAIN
(TYP) 5 EA.

TOP WALL
=405.5

SILT FENCE

TOP WALL
=407.5

3/4" IPF
FLUSH

EXISTING DRIVE

NOW OR FORMERLY
PREISS POWELL
DEVELOPMENT LLC
DB 18594 PG 1036
BM 1924 PG 2

MBX2
MBX2

EXISTING 8"TOP

IPF 0.5 0.3BG
IPF 0.5 0.25BG
IPF 0.5 0.05BG
IPF 0.5 0.1AG@ LP JL

SYMBOL LEGEND

- TREE PROTECTION FENCE
- SILT FENCE
- INLET PROTECTION
- SILT FENCE OUTLET
- CONCRETE WASHOUT BOX

GRAPHIC SCALE
0 5 10 20 40
1" = 10'

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4612 KAPLAN DRIVE
RALEIGH, NORTH CAROLINA 27606
TEL: (919) 851-1642
BUSINESS LICENSE P-0537

PROPERTY OF:
MARCOM STREET PROJECT LLC
3811 MARCOM STREET
RALEIGH TOWNSHIP WAKE COUNTY NORTH CAROLINA

PROJECT:
PROPOSED SOIL AND EROSION CONTROL PLAN - PHASE 1

NO.	DATE	DESCRIPTION	BY:
		REVISIONS	

DATE: 6.9.24
SCALE: 1"=10'
DESIGNED: SWB
CHECKED: SWB
DRAWN: JKF
APPROVED: -
SHEET: 8A OF 19
CAD FILE: MARCOM
PROJECT NO: 2024.03

GRADING AND CONSTRUCTION PHASING
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25. GRADE SHOULDERS OF MARCOM STREET TO INSTALL 8" CONCRETE SIDEWALK . CLOSE THE DRIVEWAY ACCESS AND CONSTRUCT THE NEW ACCESS AND WASTE DUMPSTER PAD.

26. COMPACT EXCAVATED AREA FOR THE WIDENING AND PLACE ASPHALTIC BASE COURSE FOR THE ROAD.

27. INSTALL FINAL LAYER OF ASPHALTIC COURSE NOTE: INSTALLING FINAL COURSE OF SURFACE ASPHALT ON MARCOM STREET CAN BE INSTALLED AS A PART OF THE PLACEMENT OF FINAL ASPHALT LAYER ON THE INSIDE ROADS AND PARKING SPACES.

28. TEMPORARY AND PERMANENT SEED AND MULCH SHALL PROCEED PER E&SC PLAN NOTES AND SPECS.

PHASE V PROJECT CLEAN UP AND COMPLETION PHASE

29. CLEAN UP THE PROJECT.

30. REMOVE ALL E&SC DEVICES. DRESS AREA, SEED, MULCH AND STABILIZE DEVCES LOCATIONS NOTE: REMOVAL OF E&SC DEVICES SHALL BE COORDINATED WITH THE CITY OF RALEIGH INSPECTION.

NOTE: REFER TO SHEET NCG01, GROUND STABILIZATION AND MATERIALS HANDLING, AND SELF-INSPECTION, RECORD-KEEPING AND REPORTING

NOTE:
THE OWNER OF 3811 MARCOM STREET OWNS THE PROPERTY 1401 & 1411 STOVALL DRIVE AND WILL PROVIDE EASEMENT ON THE PROPERTY AS SHOWN FOR SLOPE EASEMENT AS SHOWN

BM 2008 PG 1469

NOW OR FORMERLY
MARCOM STREET PROJECT LLC
DB 16548 PG 1734
BM 2021 PG 295

EXISTING INACCESSIBLE JUNCTION BOX DRAINAGE EASEMENT (BM 2021 PG 295)

STABILIZE, SEED AND MULCH SLOPE REPLANT SHRUBS AND TREES AND RELOCATE THE SILT FENCE TO THE PROPERTY LINE AS SHOWN, SEE NOTE 13 14 AND 17

5' UTILITY PLACEMENT EASEMENT (BM 2021 PG 295)

15'x20' SLOPE EASEMENT (BM 2021 PG 296)

NOW OR FORMERLY
DAVID H. MURDOCK
DB 14581 PG 2467
BM 2008 PG 1469
BM 1924 PAGE 2

NOW OR FORMERLY
NELL F. BRAFFORD
PIN 0793-28-3640
DB 1478 PG 565
BM 2008 PG 1469
BM 1924 PAGE 2

NOW OR FORMERLY
TENZING INVESTMENTS LLC
DB 17241 PG 1144

NOW OR FORMERLY
PREISS POWELL
DEVELOPMENT LLC
DB 18594 PG 1036
BM 1924 PG 2

MARCOM STREET
(60' EX. PUBLIC NEIGHBORHOOD STREET R/W)

GRAPHIC SCALE
0 5 10 20 40
1" = 10'

SYMBOL LEGEND
- TREE PROTECTION FENCE
- SILT FENCE
- INLET PROTECTION
- ROCK CHECK DAM
- SILT FENCE OUTLET
- FIBER ROLL CKECK DAMS
- CONSTRUCTION ENTRANCE
- JUTE MATTING
- CONCRETE WASHOUT BOX

MAINTENANCE OF EROSION AND SEDIMENT CONTROL PRACTICES

1. THE CONTRACTOR SHALL CHECK ALL EROSION AND SEDIMENT CONTROL PRACTICES FOR STABILITY AND OPERATION FOLLOWING EVERY RUNOFF PRODUCING RAINFALL BUT IN NO CASE LESS THAN ONCE EVERY WEEK. ANY NEEDED REPAIRS WILL BE MADE IMMEDIATELY BY THE CONTRACTOR TO MAINTAIN ALL PRACTICES AS DESIGNED. ALSO PER NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) GENERAL STORMWATER PERMIT, A RAIN GAUGE MUST BE INSTALLED ON SITE. THE RAIN GAUGE MUST BE KEPT ONSITE AND INSPECTION BY THE CONTRACTOR MUST BE MADE AND LOGGED AFTER EVERY HALF INCH RAINFALL AND ONCE A WEEK.
2. THE CONTRACTOR SHALL REMOVE SEDIMENT FROM BEHIND SILT FENCE WHEN IT BECOMES (0.5) FEET DEEP AT THE FENCE. SILT FENCE WILL BE REPAIRED AS NECESSARY TO MAINTAIN A BARRIER.
3. THE CONTRACTOR SHALL FERTILIZE, RESEED AS NECESSARY, AND MULCH ALL SEEDED AREAS ACCORDING TO SEEDING SPECIFICATIONS SHOWN ON THE PLANS TO MAINTAIN A VIGOROUS, DENSE VEGETATIVE COVER.
4. THE CONTRACTOR SHALL PROVIDE GROUND COVER ON EXPOSED SLOPES OR OTHER AREAS WITHIN 21 CALENDAR DAYS OF COMPLETION OF ANY PHASE OF GRADING. PERMANENT GROUND COVER IS TO BE PROVIDED FOR ALL DISTURBED AREAS WITHIN 21 CALENDAR DAYS OR SOONER FOLLOWING COMPLETION OF CONSTRUCTION OR DEVELOPMENT.

NOTIFICATION OF LAND RESOURCES SEDIMENT AND EROSION CONTROL SELF-INSPECTION PROGRAM:

THE SEDIMENTATION POLLUTION CONTROL ACT WAS AMENDED IN 2006 TO REQUIRE THAT PERSONS RESPONSIBLE FOR LAND-DISTURBING ACTIVITIES INSPECT A PROJECT AFTER EACH PHASE OF THE PROJECT TO MAKE SURE THAT THE APPROVED EROSION AND SEDIMENTATION CONTROL PLAN IS BEING FOLLOWED. RULES DETAILING THE DOCUMENTATION OF THESE INSPECTIONS TOOK EFFECT IN OCTOBER 1, 2010. THE SELF-INSPECTION PROGRAM IS SEPARATE FROM THE WEEKLY SELF-MONITORING PROGRAM OF THE NPDES STORMWATER PERMIT FOR CONSTRUCTION ACTIVITIES. THE FOCUS OF THE SELF-INSPECTION REPORT IS THE INSTALLATION AND MAINTENANCE OF EROSION AND SEDIMENTATION CONTROL MEASURES ACCORDING TO THE APPROVED PLAN. THE INSPECTIONS MUST BE CONDUCTED AFTER EACH PHASE OF THE PROJECT, AND CONTINUE UNTIL PERMANENT GROUND COVER IS ESTABLISHED IN ACCORDANCE WITH NCGS 113A-54H AND 15A NCAC 4B.0131. THE SELF-INSPECTION REPORT FORM IS AVAILABLE AS AN EXCEL SPREADSHEET FROM HTTP://WWW.DIR.ENR.STATE.NC.US/PHAGS/SEDIMENATION-NEW.HTM. IF YOU HAVE QUESTIONS OR CANNOT ACCESS THE FORM, PLEASE CONTACT NCDNR DIVISION OF LAND RESOURCES AT (919) 791-4200

SAMIR W. BAHHO, PE
CIVIL & STRUCTURAL ENGINEERING SERVICES, PLLC.
4612 KAPLAN DRIVE
RALEIGH, NORTH CAROLINA 27606
TEL: (919) 851-1642
BUSINESS LICENSE P-0537

PROPERTY OF:
MARCOM STREET PROJECT LLC
3811 MARCOM STREET
WAKE COUNTY, NORTH CAROLINA

PROJECT:
RALEIGH TOWNSHIP
PROPOSED STORM AND EROSION CONTROL PLAN - PHASE 2

REVISIONS

NO.	DESCRIPTION	DATE	BY

DATE: 6.9.24
SCALE: 1"=10'
DESIGNED: SWB
CHECKED: SWB
DRAWN: JKF
APPROVED: --
SHEET: 8B OF 19
CAD FILE: MARCOM
PROJECT NO: 2024.03

Andrew King Engineering, PLLC
Firm License P-2968
5917 Shedd Drive
Raleigh, NC 27603
919.906.5236
Drew@AndrewKingEngineering.com

August 14, 2024

Samir Bahho
Civil and Structural Engineering Services
4612 Kaplan Drive
Raleigh, NC 27606
ba.casesplic@gmail.com
919-851-1642

Fire Flow Analysis

Project: 3811 Marcom Street Apartments
Raleigh, NC 27606

Building Size: 1,200 Sq Ft (Largest Unit with Fire Wall/Ceiling/Floor Separations)
(20,000 Sq Ft, 4 story, 16 Units)

Type of Construction: V-A (R-2 with Automatic Sprinkler System)

Per 2018 NCFC Table B105.1 a 0 - 8,200 Sq Ft, Type V-A structure has minimum **required** fire flow of 1,500 gpm at 20 psi.

Per the attached 12/6/2023 flow test provided by Associated Fire Protection the **available** fire flow is 1,839.3 gpm at 20 psi, which is adequate for this structure.

TABLE B105.1(2)
REFERENCE TABLE FOR TABLES B105.1(1) AND B105.2

FIRE-FLOW CALCULATION AREA (square feet)					FIRE-FLOW (gallons per minute)	FLOW DURATION (hours)
Type IA and IB	Type IIA and IIIA	Type IV and V-A	Type IIB and IIIB	Type V-B		
0-22,700	0-12,700	0-8,200	0-5,900	0-3,600	1,500	2
22,701-30,200	12,701-17,000	8,201-10,900	5,901-7,900	3,601-4,800	1,750	
30,201-38,700	17,001-21,800	10,901-12,900	7,901-9,800	4,801-6,200	2,000	
38,701-48,300	21,801-24,200	12,901-17,400	9,801-12,600	6,201-7,700	2,250	
48,301-59,000	24,201-33,200	17,401-21,300	12,601-15,400	7,701-9,400	2,500	
59,001-70,900	33,201-39,700	21,301-25,500	15,401-18,400	9,401-11,300	2,750	

Sincerely,

[redacted]

Drew King, PE

Raleigh

TEST LOCATION
Address/Location Description 3800 Marcom Street
Test hydrant Facility ID WHYD 113448
Flow hydrant Facility ID WHYD 126423

APPLICATION INFORMATION
Name Marc Andersen
Address 3613 Nightfall Court, Raleigh, NC 27607
Contact Person Marc Andersen Phone 919.749.7480
Email mandersen@triphasepharma.net

SYSTEM INFORMATION
Test Date December 6, 2023
Nearest Elevated Tank Fairgrounds
Main Size 6"
Tank Hydraulic Grade 590.91'
Pump Info Wade P1
Time of Test 9:10 AM
Test Hydrant Elevation 412' +/-
Pressure Zone 595'
Use 20ft below pressure zone (tank overflow) for design*
Theoretical Pressure 77.5 psi

RESULTS
Static Pressure 72 psi
Residual Pressure 48 psi
Outlet Diameter 2 inches
Number of Outlets Flowing 2
Flow Hydrant Discharge Pressure 13,14 psi
Volume of Discharge 594 + 617 = 1,211 gpm
Water usage during test 3,000 +/- Total Gal

Test Completed by: Drew King
Testing Company: Associated Fire Protection
Checked by: KT Bailey - Assistant Fire Marshal
Date 12/6/2023

SEAL

[redacted]

Notes: Flowed (2) 2-1/2" Hose Monster(s) with 2" Pitotless Nozzle(s). (2" Pitotless Nozzle C = 1.38)

Please attach the following supporting documentation to this form;
Labeled map of location of test identifying test hydrant and flow hydrant
Calculation demonstrating how the discharge flow was determined
Calculation demonstrating the available fire flow at a residual pressure of 20 psi
Printout of any recorded data supporting the static and residual pressure at the test hydrant.
Printout of any recorded data supporting the discharge pressure of the flow hydrant.

*To maintain system water quality, storage tanks may be maintained as low as 20' below overflow.

updated February 2020

3800 Marcom Street

12/6/2023, 7:15:42 AM

1:1,200
0 0.01 0.02 0.04 mi
0 0.01 0.03 0.06 km

Lee Kimmel, Sarah Lanier, Andrew Hayes, City of Raleigh GIS

Web AppBuilder for ArcGIS
City of Raleigh GIS | Lee Kimmel, Sarah Lanier, Andrew Hayes |

Hydrant Flow Test Report

Test Date 12/6/2023 **Test Time** 9:10 AM

Location
3800 Marcom Street
Raleigh, NC

Tested by
Associated Fire Protection
P.O. Box 28022
Raleigh, NC 27611
DKing@afp-nc.com
919.906.5236

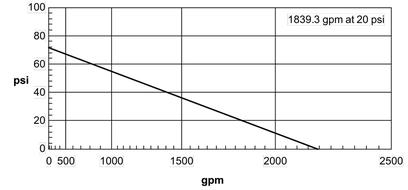
Notes

Read Hydrant
72 psi **static pressure**
48 psi **residual pressure**
412 ft **hydrant elevation**

Flow Hydrant(s)

Outlet	Elev	Size	C	Pitot Pressure	Flow
#1	370	2	1.38	13	594 gpm
#2	370	2	1.38	14	617 gpm
				Total	1211 gpm

Flow Graph



Created with the free hydrant flow test program from www.igneusinc.com

SAMIR W. BAHHO, PE
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4612 KAPLAN DRIVE
RALEIGH, NORTH CAROLINA 27606
TEL: (919) 851-1642
BUSINESS LICENSE P-0537

PROJECT: PROPERTY OF:
MARCOM STREET PROJECT LLC
3811 MARCOM STREET
RALEIGH TOWNSHIP WAKE COUNTY, NORTH CAROLINA

FIRE FLOW ANALYSIS

REVISIONS

NO.	DATE	DESCRIPTION	BY:

DATE: 8.7.24
SCALE: NTS
DESIGNED: SWB
CHECKED: SWB
DRAWN: JKF
APPROVED: –
SHEET: 09 OF 19
CAD FILE: MARCOM
PROJECT NO: 2024.03

2" PITOTLESS NOZZLE™
PN2THD
FLOW CHART

10 - 40 PSI			41 - 70 PSI			Key Flow Test Points		
2 1/2" Hose Monster Model II		Open Atmosphere	2 1/2" Hose Monster Model II		Open Atmosphere	2 1/2" Hose Monster Model II		Open Atmosphere
PSI	GPM	GPM	PSI	GPM	GPM	GPM	PSI	PSI
10	521	529	41	1055	1071	500	9.5	9.1
11	547	555	42	1068	1084	562.5	11.7	11.3
12	571	579	43	1081	1096	750	20.7	20.1
13	594	603	44	1093	1109	1000	36.8	35.8
14	617	626	45	1106	1122	1125	46.6	45.3
15	638	648	46	1118	1134	1500	82.8	80.5
16	659	669	47	1130	1146			
17	679	689	48	1142	1158			
18	699	709	49	1154	1170			
19	718	729	50	1165	1182			
20	737	748	51	1177	1194			
21	755	766	52	1188	1206			
22	773	784	53	1200	1217			
23	790	802	54	1211	1229			
24	807	819	55	1222	1240			
25	824	836	56	1233	1251			
26	840	853	57	1244	1262			
27	856	869	58	1255	1273			
28	872	885	59	1266	1284			
29	887	900	60	1277	1295			
30	903	916	61	1287	1306			
31	918	931	62	1298	1317			
32	932	946	63	1308	1327			
33	947	960	64	1318	1338			
34	961	975	65	1329	1348			
35	975	989	66	1339	1358			
36	989	1003	67	1349	1369			
37	1002	1017	68	1359	1379			
38	1016	1031	69	1369	1389			
39	1029	1044	70	1379	1399			
40	1042	1057						

The readings on this chart are based on which device the Pitotless Nozzle is connected to.
It is the user's responsibility to verify that the correct chart and column is being used:
- **2 1/2" Hose Monster Model II or Flusher with flow splitter (HM2H, HM2HF).** Use this column if the Pitotless Nozzle is connected to the 2.5" Hose Monster or Flusher. The built-in pitot or flow splitter must be installed for accuracy. If you do not have the built-in pitot or flow splitter, please contact us.
- **Open Atmosphere.** Use this column when the Pitotless Nozzle is connected directly to a test header or hydrant flowing openly to atmosphere.

This chart is FM Approved for flow rate accuracy. Please call us or instruct the Authority Having Jurisdiction to call us if there are any questions. Additional copies of flow charts are available at: www.hosemonster.com/literature.html

The HOSE MONSTER COMPANY

MANUFACTURED BY:
Hydro Flow Products, Inc.
888.202.9987 TOLL FREE
847.434.9073 FAX
Service@FlowTest.com EMAIL
www.HoseMonster.com

U. S. Patent # 6,874,375

Calculating Flow-rates

The flow charts we provide with the Pitotless Nozzle™, Hose Monster® and Nozzle Inserts are correct and should be referred to first. Our flow charts are calculated using K-Factors derived from testing performed at FM Approvals. It is common for third-party software to use the pitot formula to compute flow-rate. The 2½" Hose Monster uses a pitot to measure velocity pressure. The Pitotless Nozzle and 4" and 4½" Hose Monsters do not use a pitot, and the pitot formula has to be tricked into calculating correct flow-rates. Entering the coefficients into a program that uses orifice diameter, coefficient and velocity pressure should give relatively accurate flow-rates. Check results against our flow charts.

Here are the equations used for calculating flow-rates and predicting flow-rates. Use the orifice diameter, coefficient or K-factor found on the next page.

K-factor Formula

Computes a flow-rate in GPM given a psi and a K-factor of the flow device.

$$Q = \sqrt{P} \times K$$

Q = flow-rate in GPM, P = velocity pressure in psi, K = K-factor of flow device

Pitot Formula

Computes a flow-rate in GPM given a psi and coefficient of the flow device.

$$Q = 29.84 \times \sqrt{P} \times D^2 \times C$$

Q = flow-rate in GPM, P = velocity pressure in psi, D = orifice diameter in inches
C = coefficient of flow device

Equation for Determining Rated Capacity

Computes the flow-rate available at a specified residual pressure (a.k.a. Rated Capacity).

The example below enables you to find the predicted flow-rate at 20 psi residual pressure.

$$Q_R = Q_t \times (H_R{}^{0.54} / H_t{}^{0.54})$$

Q_R = Flow-rate predicted at the desired residual pressure in GPM

Q_t = Total test flow-rate measured during test in GPM
(GPM measured from Hose Monster or Pitotless Nozzle)

H_R = Pressure drop from static pressure to desired residual pressure
(Static – 20 psi [if 20 psi is the desired residual pressure])

H_t = Actual pressure drop measured during the test (Static – Actual Residual)

(Source: NFPA 291, 2010)

Conversion Factors

Here are some conversion factors for switching between US and metric units:

Flow-rate:

US Gallons per Minute x 3.785 = Liters per Minute
Liters per Minute x 0.264 = US Gallons per Minute

US Gallons per Minute x 0.1337 = Cubic Feet per Minute
Cubic Feet per Minute x 7.481 = US Gallons per Minute

Volume:

US Gallons x 3.785 = Liters
Liters x 0.264 = US Gallons

US Gallons x 0.8327 = Imperial Gallons
Imperial Gallons x 1.201 = US Gallons

Cubic Feet x 7.48051945 = US Gallons
US Gallons x 0.1337 = Cubic Feet

Pressure:

psi x 0.0689 = Bars
Bars x 14.5038 = psi

psi x 6894.757 = Pascals
Pascals x 0.000145 = psi

Bars x 100,000 = Pascals
Pascals x 0.00001 = Bars

Weight of Water:

US Gallons of Water x 8.3454 = Pounds
Cubic Feet of Water x 62.42796 = Pounds

Length:

Meters x 3.2808 = Feet
Feet x 0.3048 = Meters

Coefficient and K-Factor Table for Various Flow Devices

last update: 2/14/2012

Pitotless Nozzle™

Device	K-factor	Coefficient	Orifice Diameter	psi Range	Flow Range (GPM)
2" Pitotless Nozzle + Little Hose Monster™	156.0	1.31	2"	10–70	490–1300
2" Pitotless Nozzle + 2½" Hose Monster Steel	164.8	1.38	2"	10–30	520–1380
2" Pitotless Nozzle + Open Atmosphere	167.2	1.40	2"	10–70	530–1400
1¾" Pitotless Nozzle + Little Hose Monster	104.7	1.15	1.75"	10–90	330–1000
1¾" Pitotless Nozzle + 2½" Hose Monster Steel	106.6	1.17	1.75"	10–90	340–1010
1¾" Pitotless Nozzle + Open Atmosphere	109.7	1.20	1.75"	10–90	350–1040
1½" Pitotless Nozzle + Little Hose Monster	37.2	0.98	1.125"	5–90	80–350
1½" Pitotless Nozzle + 2½" Hose Monster Steel	37.4	0.99	1.125"	5–90	80–350
1½" Pitotless Nozzle + Open Atmosphere	37.0	0.98	1.125"	5–90	80–350
1" Pitotless Nozzle + Little Hose Monster	27.2	0.91	1"	3–90	50–260
1" Pitotless Nozzle + 2½" Hose Monster Steel	27.6	0.93	1"	3–90	50–260
1" Pitotless Nozzle + Open Atmosphere	27.7	0.93	1"	3–90	50–260

In-Line Pitotless Nozzle™

Device	K-factor	Coefficient	Orifice Diameter	psi Range	Flow Range (GPM)
2" In-line Pitotless Nozzle	165.3	1.38	2"	10–75	530–1430
1¾" In-line Pitotless Nozzle	109.9	1.20	1.75"	5–80	250–980
1½" In-line Pitotless Nozzle	38.4	1.02	1.125"	5–70	90–320

BigBoy Hose Monster™

Device	K-factor	Coefficient	Orifice Diameter	psi Range	Flow Range (GPM)
4 to 10 psi (BigBoy Hose Monster)	382.9	1.38	3.05"	4–10	766–1211
11 to 36 psi (BigBoy Hose Monster)	376.0	1.35	3.05"	11–36	1247–2256
37 to 53 psi (BigBoy Hose Monster)	372.0	1.34	3.05"	37–53	2263–2708

Note: Due to the shape and size of the BigBoy Pitotless Nozzle, the BigBoy Hose Monster uses three different k-factors over its operating range.

2½" Hose Monster®

Device	K-factor	Coefficient	Orifice Diameter	psi Range	Flow Range (GPM)
2½" Hose Monster	168.67	0.906	2.5"	10–75	530–1460
1¾" Nozzle Insert	89.04	0.975	1.75"	10–75	280–770
1¼" Nozzle Insert	37.36	0.99	1.125"	10–75	120–320

4" and 4½" Hose Monster®

Device	K-factor	Coefficient	Orifice Diameter	psi Range	Flow Range (GPM)
4½" Hose Monster	331.07	0.548	4.5"	10–75	1050–2870
4" Hose Monster	339.65	0.712	4"	10–75	1070–2940

Using Software

Use the table below if you are using software that requires the coefficient input to be less than "1.0". Notice that the orifice diameter must be changed from its true diameter in order to accommodate the lower coefficient. This is necessary only for the 2" Pitotless Nozzle and the ¾" Pitotless Nozzle.

Device	Coefficient	Orifice Diameter
2" Pitotless Nozzle + Little Hose Monster	0.99	2.30"
2" Pitotless Nozzle + 2½" Hose Monster Steel	0.99	2.36"
2" Pitotless Nozzle + Open Atmosphere	0.99	2.38"
1¾" Pitotless Nozzle + Little Hose Monster	0.99	1.88"
1¾" Pitotless Nozzle + 2½" Hose Monster Steel	0.99	1.90"
1¾" Pitotless Nozzle + Open Atmosphere	0.99	1.93"

Note: If your software uses the Theoretical Discharge Formula, found in NFPA 291, 4.7.3, the coefficient of discharge can be used to produce flow rates that will match our flow charts.

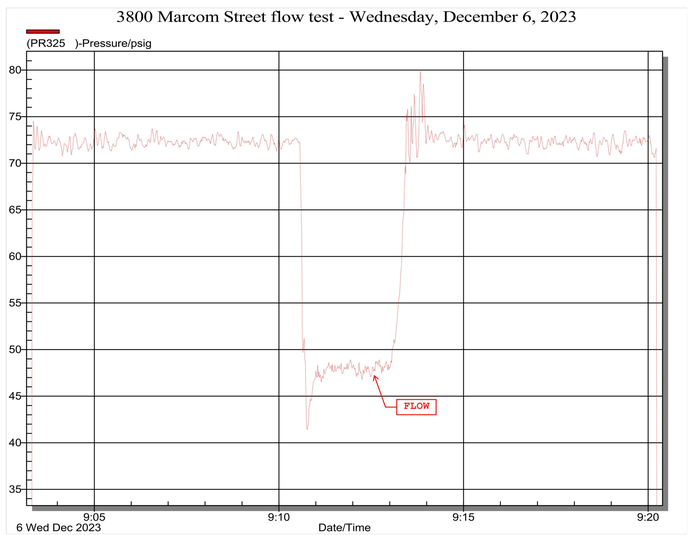
A hand-held pitot directly at a hydrant outlet

Outlet Type	Coefficient
Outlet smooth and rounded	0.9
Outlet square and sharp	0.8
Outlet square and projecting into barrel	0.7
If a stream straightener is used	0.95

Classifying and Marking of Hydrants

Rated Capacity at 20 psi	Class	Marking Color of Hydrant Tops and Nozzles
≥1500 GPM	AA	Light Blue
1000–1499 GPM	A	Green
500–999 GPM	B	Orange
≤499 GPM	C	Red

The above are the NFPA hydrant classifications and color markings for various rated capacities. Source: NFPA 291, 5.1, 2010.



CONSTRUCTION NOTES:

1. ALL MATERIALS USED AND PERFORMANCE OF WORK ON UTILITIES SHALL CONFORM TO CITY OF RALEIGH PUBLIC UTILITIES HANDBOOK AND UNIFIED DEVELOPMENT ORDINANCES.
2. BEFORE COMMENCING ANY EXCAVATION, IT IS REQUIRED TO CONTACT EACH UTILITY OWNER AND HAVE UNDERGROUND UTILITIES LOCATED.
3. ANY EXISTING WATER OR SEWER MAIN MATERIALS THAT ARE TO BE RELOCATED OR REMOVED DURING CONSTRUCTION SHALL NOT BE REUSED IN THE CITY OF RALEIGH PUBLIC UTILITIES SYSTEM.
4. PERMITS MAY BE REQUIRED FOR INSTALLATION AND CONNECTION TO CITY PUBLIC UTILITIES. CHECK WITH THE CITY DEVELOPMENT SERVICES CENTER FOR REQUIRED PERMITS.
5. FDC'S WERE PLACED ACCORDING TO NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) 13. FIRE PROTECTION DESIGNER MAY RELOCATE TO BETTER FIT THE SPRINKLER SYSTEM AS LONG AS THE LOCATION REMAINS IN COMPLIANCE WITH NFPA 13R.
6. SPRINKLER SYSTEM LINE SIZE AS SHOWN IS 4". SPRINKLER SYSTEM DESIGN MAY RESIZE BASED ON DESIGN CALCULATIONS.
7. SPRINKLER SYSTEM DESIGN IS NOT PROVIDED AS PART OF THIS SITE PLAN SUBMITTAL. SPRINKLER SYSTEM DESIGN WILL BE PROVIDED TO CITY FOR REVIEW IN LATER STAGES OF PROJECT REVIEWS.
8. ALL EXISTING SERVICES ON EXISTING CONDITIONS PLANS SHALL BE REMOVED AND ABANDONED IN ACCORDANCE WITH CITY OF RALEIGH PUBLIC UTILITY DEPARTMENT STANDARD ON DEMOLITION PLAN.

QUANTITIES:

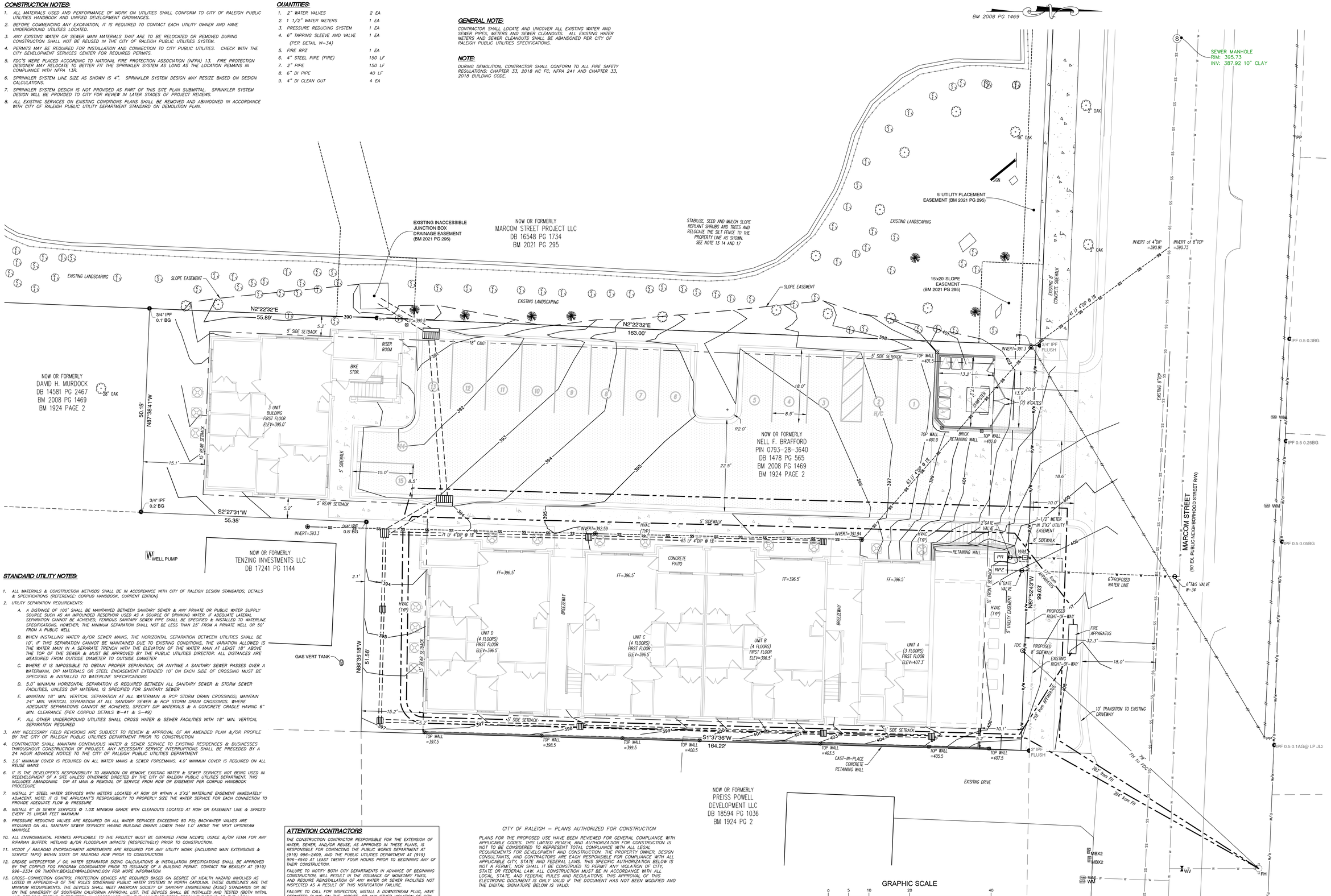
1.	2" WATER VALVES	2 EA
2.	1 1/2" WATER METERS	1 EA
3.	PRESSURE REDUCING SYSTEM	1 EA
4.	6" TAPPING SLEEVE AND VALVE (PER DETAIL W-34)	1 EA
5.	FIRE RPZ	1 EA
6.	4" STEEL PIPE (FIRE)	150 LF
7.	2" PIPE	150 LF
8.	6" DI PIPE	40 LF
9.	4" DI CLEAN OUT	4 EA

GENERAL NOTE:

CONTRACTOR SHALL LOCATE AND UNCOVER ALL EXISTING WATER AND SEWER PIPES, METERS AND SEWER CLEANOUTS. ALL EXISTING WATER METERS AND SEWER CLEANOUTS SHALL BE ABANDONED PER CITY OF RALEIGH PUBLIC UTILITIES SPECIFICATIONS.

NOTE:

DURING DEMOLITION, CONTRACTOR SHALL CONFORM TO ALL FIRE SAFETY REGULATIONS: CHAPTER 33, 2018 NC FC, NFPA 241 AND CHAPTER 33, 2018 BUILDING CODE.



STANDARD UTILITY NOTES:

1. ALL MATERIALS & CONSTRUCTION METHODS SHALL BE IN ACCORDANCE WITH CITY OF RALEIGH DESIGN STANDARDS, DETAILS & SPECIFICATIONS (REFERENCE: CORPUD HANDBOOK, CURRENT EDITION)
2. UTILITY SEPARATION REQUIREMENTS:
   - A. A DISTANCE OF 100' SHALL BE MAINTAINED BETWEEN SANITARY SEWER & ANY PRIVATE OR PUBLIC WATER SUPPLY SOURCE SUCH AS AN IMPOUNDED RESERVOIR USED AS A SOURCE OF DRINKING WATER. IF ADEQUATE LATERAL SEPARATION CANNOT BE ACHIEVED, FERROUS SANITARY SEWER PIPE SHALL BE SPECIFIED & INSTALLED TO WATERLINE SPECIFICATIONS. HOWEVER, THE MINIMUM SEPARATION SHALL NOT BE LESS THAN 25' FROM A PRIVATE WELL OR 50' FROM A PUBLIC WELL
   - B. WHEN INSTALLING WATER &/OR SEWER MAINS, THE HORIZONTAL SEPARATION BETWEEN UTILITIES SHALL BE 10'. IF THIS SEPARATION CANNOT BE MAINTAINED DUE TO EXISTING CONDITIONS, THE VARIATION ALLOWED IS THE WATER MAIN IN A SEPARATE TRENCH WITH THE ELEVATION OF THE WATER MAIN AT LEAST 18" ABOVE THE TOP OF THE SEWER & MUST BE APPROVED BY THE PUBLIC UTILITIES DIRECTOR. ALL DISTANCES ARE MEASURED FROM OUTSIDE DIAMETER TO OUTSIDE DIAMETER
   - C. WHERE IT IS IMPOSSIBLE TO OBTAIN PROPER SEPARATION, OR ANYTIME A SANITARY SEWER PASSES OVER A WATERMAIN, DIP MATERIALS OR STEEL ENCASEMENT EXTENDED 10' ON EACH SIDE OF CROSSING MUST BE SPECIFIED & INSTALLED TO WATERLINE SPECIFICATIONS
   - D. 5.0' MINIMUM HORIZONTAL SEPARATION IS REQUIRED BETWEEN ALL SANITARY SEWER & STORM SEWER FACILITIES, UNLESS DIP MATERIAL IS SPECIFIED FOR SANITARY SEWER
   - E. MAINTAIN 18" MIN. VERTICAL SEPARATION AT ALL WATERMAIN & RCP STORM DRAIN CROSSINGS; MAINTAIN 24" MIN. VERTICAL SEPARATION AT ALL SANITARY SEWER & RCP STORM DRAIN CROSSINGS. WHERE ADEQUATE SEPARATIONS CANNOT BE ACHIEVED, SPECIFY DIP MATERIALS & A CONCRETE CRADLE HAVING 6" MIN. CLEARANCE (PER CORPUD DETAILS W-41 & S-49)
   - F. ALL OTHER UNDERGROUND UTILITIES SHALL CROSS WATER & SEWER FACILITIES WITH 18" MIN. VERTICAL SEPARATION REQUIRED
3. ANY NECESSARY FIELD REVISIONS ARE SUBJECT TO REVIEW & APPROVAL OF AN AMENDED PLAN &/OR PROFILE BY THE CITY OF RALEIGH PUBLIC UTILITIES DEPARTMENT PRIOR TO CONSTRUCTION
4. CONTRACTOR SHALL MAINTAIN CONTINUOUS WATER & SEWER SERVICE TO EXISTING RESIDENCES & BUSINESSES THROUGHOUT CONSTRUCTION OF PROJECT. ANY NECESSARY SERVICE INTERRUPTIONS SHALL BE PRECEDED BY A 24 HOUR ADVANCE NOTICE TO THE CITY OF RALEIGH PUBLIC UTILITIES DEPARTMENT
5. 3.0' MINIMUM COVER IS REQUIRED ON ALL WATER MAINS & SEWER FORCEMAINS. 4.0' MINIMUM COVER IS REQUIRED ON ALL REUSE MAINS
6. IT IS THE DEVELOPER'S RESPONSIBILITY TO ABANDON OR REMOVE EXISTING WATER & SEWER SERVICES NOT BEING USED IN REDEVELOPMENT OF A SITE UNLESS OTHERWISE DIRECTED BY THE CITY OF RALEIGH PUBLIC UTILITIES DEPARTMENT. THIS INCLUDES ABANDONING TAP AT MAIN & REMOVAL OF SERVICE FROM ROW OR EASEMENT PER CORPUD HANDBOOK PROCEDURE
7. INSTALL 2" STEEL WATER SERVICES WITH METERS LOCATED AT ROW OR WITHIN A 2'X2' WATERLINE EASEMENT IMMEDIATELY ADJACENT. NOTE: IT IS THE APPLICANT'S RESPONSIBILITY TO PROPERLY SIZE THE WATER SERVICE FOR EACH CONNECTION TO PROVIDE ADEQUATE FLOW & PRESSURE
8. INSTALL 6" DI SEWER SERVICES @ 1.0% MINIMUM GRADE WITH CLEANOUTS LOCATED AT ROW OR EASEMENT LINE & SPACED EVERY 75 LINEAR FEET MAXIMUM
9. PRESSURE REDUCING VALVES ARE REQUIRED ON ALL WATER SERVICES EXCEEDING 80 PSI; BACKWATER VALVES ARE REQUIRED ON ALL SANITARY SEWER SERVICES HAVING BUILDING DRAINS LOWER THAN 1.0' ABOVE THE NEXT UPSTREAM MANHOLE
10. ALL ENVIRONMENTAL PERMITS APPLICABLE TO THE PROJECT MUST BE OBTAINED FROM NCDWQ, USACE &/OR FEMA FOR ANY RIPARIAN BUFFER, WETLAND &/OR FLOODPLAIN IMPACTS (RESPECTIVELY) PRIOR TO CONSTRUCTION.
11. NCDOT / RAILROAD ENCROACHMENT AGREEMENTS ARE REQUIRED FOR ANY UTILITY WORK (INCLUDING MAIN EXTENSIONS & SERVICE TAPS) WITHIN STATE OR RAILROAD ROW PRIOR TO CONSTRUCTION.
12. GREASE INTERCEPTOR / OIL WATER SEPARATOR SIZING CALCULATIONS & INSTALLATION SPECIFICATIONS SHALL BE APPROVED BY THE CORPUD FOG PROGRAM COORDINATOR PRIOR TO ISSUANCE OF A BUILDING PERMIT. CONTACT TIM BEASLEY AT (919) 996-2334 OR TIMOTHY.BEASLEY@RALEIGHNC.GOV FOR MORE INFORMATION
13. CROSS-CONNECTION CONTROL PROTECTION DEVICES ARE REQUIRED BASED ON DEGREE OF HEALTH HAZARD INVOLVED AS LISTED IN APPENDIX-B OF THE RULES GOVERNING PUBLIC WATER SYSTEMS IN NORTH CAROLINA. THESE GUIDELINES ARE THE MINIMUM REQUIREMENTS. THE DEVICES SHALL MEET AMERICAN SOCIETY OF SANITARY ENGINEERING (ASSE) STANDARDS OR BE ON THE UNIVERSITY OF SOUTHERN CALIFORNIA APPROVAL LIST. THE DEVICES SHALL BE INSTALLED AND TESTED (BOTH INITIAL AND PERIODIC TESTING THEREAFTER) IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS OR THE LOCAL CROSS-CONNECTION CONTROL PROGRAM, WHICHEVER IS MORE STRINGENT. CONTACT JOANIE HARTLEY AT (919) 996-5923 OR JOANIE.HARTLEY@RALEIGHNC.GOV FOR MORE INFORMATION

ATTENTION CONTRACTORS

THE CONSTRUCTION CONTRACTOR RESPONSIBLE FOR THE EXTENSION OF WATER, SEWER, AND/OR REUSE, AS APPROVED IN THESE PLANS, IS RESPONSIBLE FOR CONTACTING THE PUBLIC WORKS DEPARTMENT AT (919) 996-2409, AND THE PUBLIC UTILITIES DEPARTMENT AT (919) 996-4540 AT LEAST TWENTY FOUR HOURS PRIOR TO BEGINNING ANY OF THEIR CONSTRUCTION.

FAILURE TO NOTIFY BOTH CITY DEPARTMENTS IN ADVANCE OF BEGINNING CONSTRUCTION, WILL RESULT IN THE ISSUANCE OF MONETARY FINES, AND REQUIRE REINSTALLATION OF ANY WATER OR SEWER FACILITIES NOT INSPECTED AS A RESULT OF THIS NOTIFICATION FAILURE.

FAILURE TO CALL FOR INSPECTION, INSTALL A DOWNSTREAM PLUG, HAVE PERMITTED PLANS ON THE JOBSITE, OR ANY OTHER VIOLATION OF CITY OF RALEIGH STANDARDS WILL RESULT IN A FINE AND POSSIBLE EXCLUSION FROM FUTURE WORK IN THE CITY OF RALEIGH.

CITY OF RALEIGH – PLANS AUTHORIZED FOR CONSTRUCTION

PLANS FOR THE PROPOSED USE HAVE BEEN REVIEWED FOR GENERAL COMPLIANCE WITH APPLICABLE CODES. THIS LIMITED REVIEW, AND AUTHORIZATION FOR CONSTRUCTION IS NOT TO BE CONSIDERED TO REPRESENT TOTAL COMPLIANCE WITH ALL LEGAL REQUIREMENTS FOR DEVELOPMENT AND CONSTRUCTION. THE PROPERTY OWNER, DESIGN CONSULTANTS, AND CONTRACTORS ARE EACH RESPONSIBLE FOR COMPLIANCE WITH ALL APPLICABLE CITY, STATE AND FEDERAL LAWS. THIS SPECIFIC AUTHORIZATION BELOW IS NOT A PERMIT, NOR SHALL IT BE CONSTRUED TO PERMIT ANY VIOLATION OF CITY, STATE OR FEDERAL LAW. ALL CONSTRUCTION MUST BE IN ACCORDANCE WITH ALL LOCAL, STATE, AND FEDERAL RULES AND REGULATIONS. THIS APPROVAL OF THIS ELECTRONIC DOCUMENT IS ONLY VALID IF THE DOCUMENT HAS NOT BEEN MODIFIED AND THE DIGITAL SIGNATURE BELOW IS VALID:

CITY OF RALEIGH DEVELOPMENT APPROVAL _____

GRAPHIC SCALE

0 5 10 20 40

1" = 10'

SAMIR W. BAHHO, PE
CIVIL & STRUCTURAL ENGINEERING SERVICES, PLLC.
4612 KAPLAN DRIVE
RALEIGH, NORTH CAROLINA 27606
TEL: (919) 851-1642
BUSINESS LICENSE P-0537

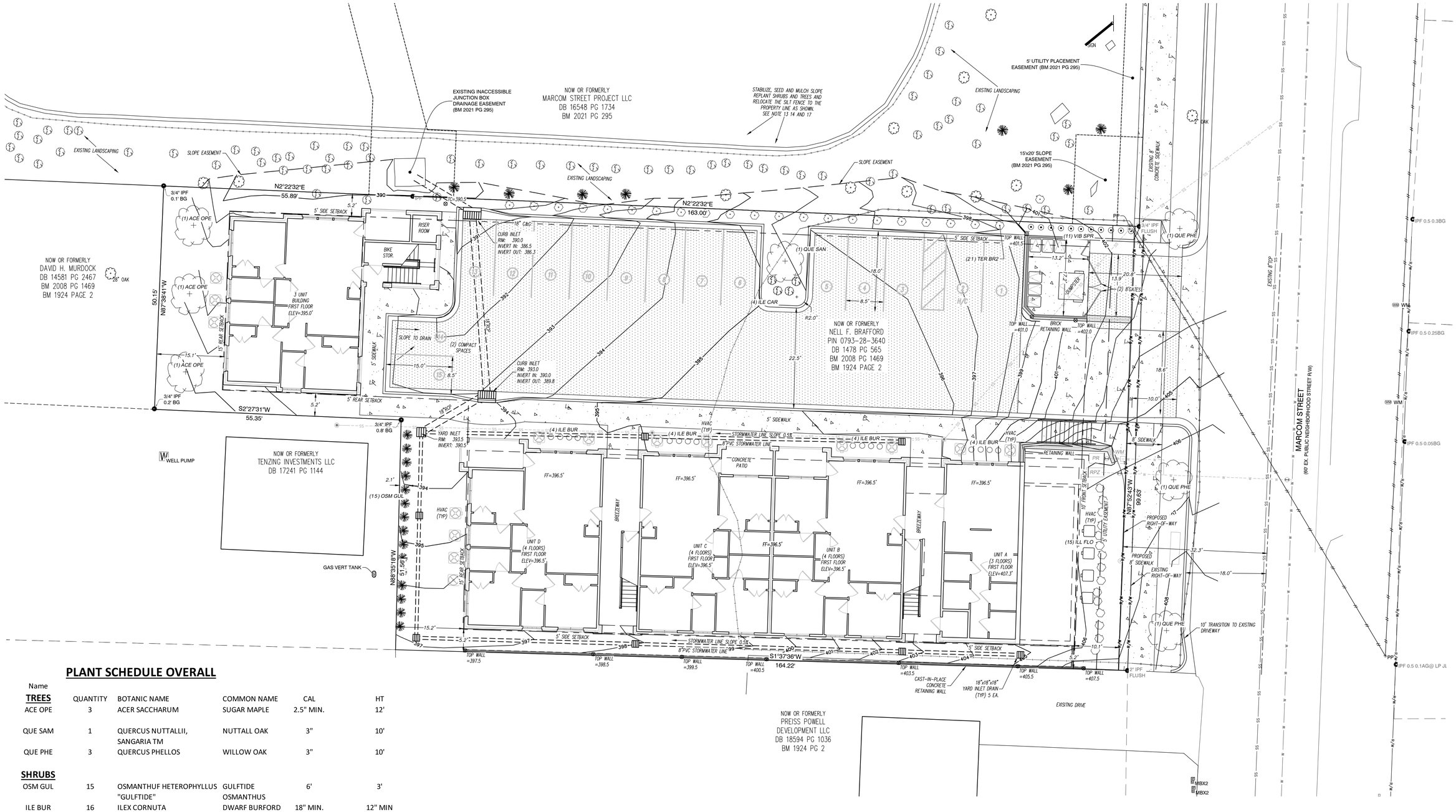
PROPERTY OF:
MARCOM STREET PROJECT LLC
3811 MARCOM STREET
RALEIGH TOWNSHIP WAKE COUNTY, NORTH CAROLINA

WATER AND SEWER AND FIRE SAFETY

PROJECT:

NO.	DATE	DESCRIPTION	BY:
		REVISIONS	

DATE: 6.9.24
SCALE: 1"=10'
DESIGNED: SWB
CHECKED: SWB
DRAWN: JKF
APPROVED: –
SHEET: 9A OF 19
CAD FILE: MARCOM
PROJECT NO: 2024.03



PLANT SCHEDULE OVERALL

Name	QUANTITY	BOTANIC NAME	COMMON NAME	CAL	HT
TREES					
ACE OPE	3	ACER SACCHARUM	SUGAR MAPLE	2.5" MIN.	12'
QUE SAM	1	QUERCUS NUTTALLII, SANGARIA TM	NUTTALL OAK	3"	10'
QUE PHE	3	QUERCUS PHELLOS	WILLOW OAK	3"	10'
SHRUBS					
OSM GUL	15	OSMANTHUF HETEROPHYLLUS "GULFTIDE"	GULFTIDE OSMANTHUS	6'	3'
ILE BUR	16	ILEX CORNUTA "BURFORDII NAN"	DWARF BURFORD HOLLY	18" MIN.	12" MIN
VIB SPR	11	VIBURNUM TINUS "SPRING BOUQUET	SPRING BOUGET LAURESTINUS	18"	12"
TER BR2	21	VIBURNUM AWABUKI "CHINDO"	BRONZE BEAUTY CLEYERA	18"	12"-15"

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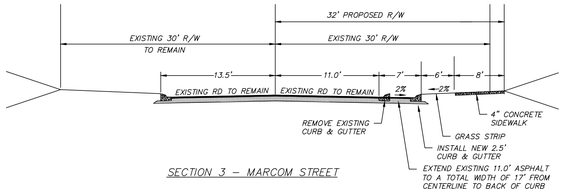
PROPERTY OF:
MARCOM STREET PROJECT LLC
3811 MARCOM STREET
WAKE COUNTY: NORTH CAROLINA
PROJECT: RALEIGH TOWNSHIP
FIRE FLOW ANALYSIS

NO.	DESCRIPTION	DATE	BY:
	REVISIONS		

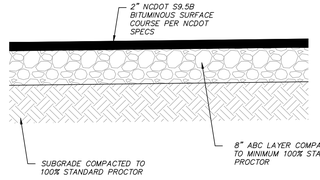
DATE: 8.7.24
SCALE: NTS
DESIGNED: SWB
CHECKED: SWB
DRAWN: JKF
APPROVED: –
SHEET: 12 OF 19
CAD FILE: MARCOM
PROJECT NO: 2024.03



SECTION 3 – MARCOM STREET

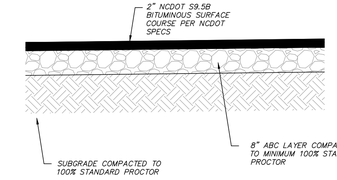
PAVEMENT SECTION ON EXTENDED WIDTH OF MARCOM STREET:
1. 4" BASE ASPHALTIC LAYER – 2" UNDER CURB AND GUTTER (B25.0B)
2. 3" INTERMEDIATE ASPHALTIC LAYER (I-19.0B)
3. 2" SURFACE ASPHALTIC LAYER (S9.5B)

CONSTRUCTION NOTES:
1. ALL SUPPLIED MATERIALS AND PERFORMED WORK SHALL CONFORM TO CITY AND NORTH CAROLINA ROAD CONSTRUCTION STANDARD AND SPECIFICATIONS.
2. REMOVE ALL DEBRIS, TREE STUMPS AND ROOTS FROM NATURAL GROUND BEFORE STARTING TO PLACE FILL. REMOVE TOPSOIL AND PROOF ROLL GROUND.
3. PLACED FILL SHALL CONFORM TO NCDOT SOIL FILL SPECIFICATIONS.
4. FILL SHALL BE PLACED IN LAYERS AND COMPACTED.
5. SUBGRADE SHALL BE SHAPED TO ELEVATION LINES AS SHOWN ON PLAN AND COMPACTED TO MINIMUM 98% OF STANDARD PROCTOR.
6. BASE COURSE MATERIAL SHALL CONFORM TO NCDOT SPECIFICATIONS AND UNIFORMLY LAID, WETTED AND COMPACTED TO 100% STANDARD PROCTOR.
7. WORK SHALL CONFORM TO CITY OF RALEIGH ROAD CONSTRUCTION SPECIFICATIONS.
8. SIGHT DISTANCE FROM PROJECT DRIVEWAY SHALL CONFORM TO RSDM ARTICLE 12.6 E AND 12.6 F.
9. USE SHEET C3.00 FOR CONSTRUCTION OF PUBLIC ROADS AND INTERNAL ROADS AND PARKING AREAS. FOR CONSTRUCTION OF OTHER TRADES USE OTHER DESIGNATED SHEETS AS SPECIFIED ON SHEETS TITLE.
10. FOR FINAL CURB AND GUTTER, STORM DRAINAGE STRUCTURES REFER TO GRADING AND STORMWATER DRAINAGE SHEETS.
11. CURB AND GUTTER ON PUBLIC STREETS SHALL BE 30" STANDARD CURB AND GUTTER PER CITY OF RALEIGH STANDARDS.



ALL AREAS TO RECEIVE FILL SHALL BE PROOF ROLLED BEFORE PLACING STONE AND FILL WITH TANDEM TRUCK WEIGHING A MINIMUM OF 20 TONS. REFER TO GENERAL SITE PREPARATION GEOTECHNICAL REPORT.

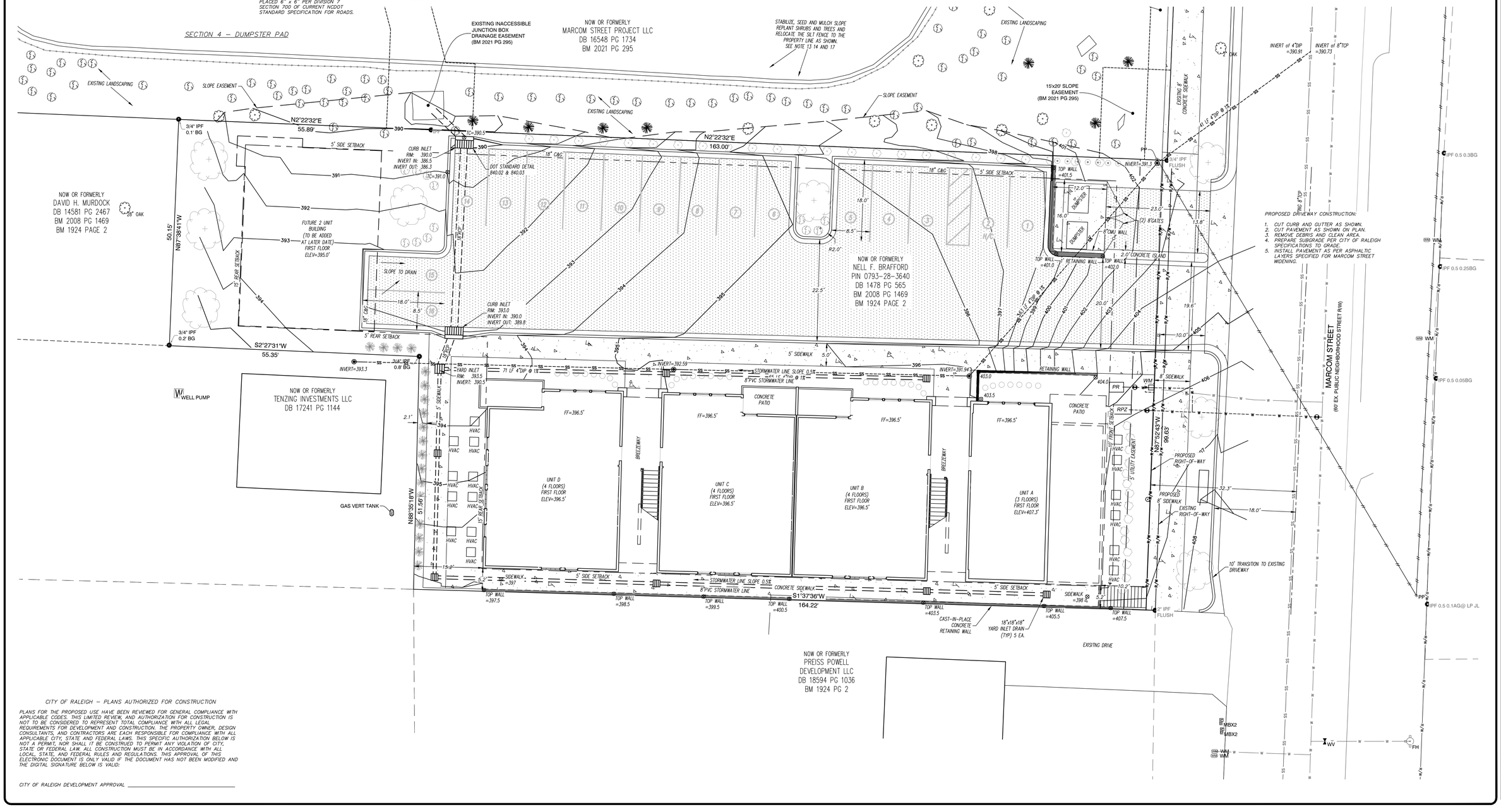
SECTION 5 – PAVEMENT SECTION FOR INTERNAL DRIVEWAYS



ALL AREAS TO RECEIVE FILL SHALL BE PROOF ROLLED BEFORE PLACING STONE AND FILL WITH TANDEM TRUCK WEIGHING A MINIMUM OF 20 TONS. REFER TO GENERAL SITE PREPARATION GEOTECHNICAL REPORT.

SECTION 6 – PAVEMENT SECTION FOR PARKING SPACES

SECTION 4 – DUMPSTER PAD



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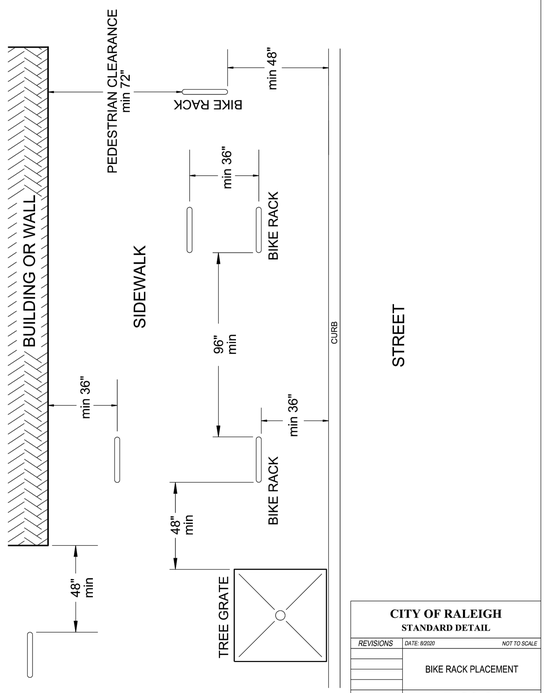
PROJECT:
PROPERTY OF:
MARCOM STREET PROJECT LLC
3811 MARCOM STREET
RALEIGH TOWNSHIP WAKE COUNTY NORTH CAROLINA

FIRE FLOW ANALYSIS

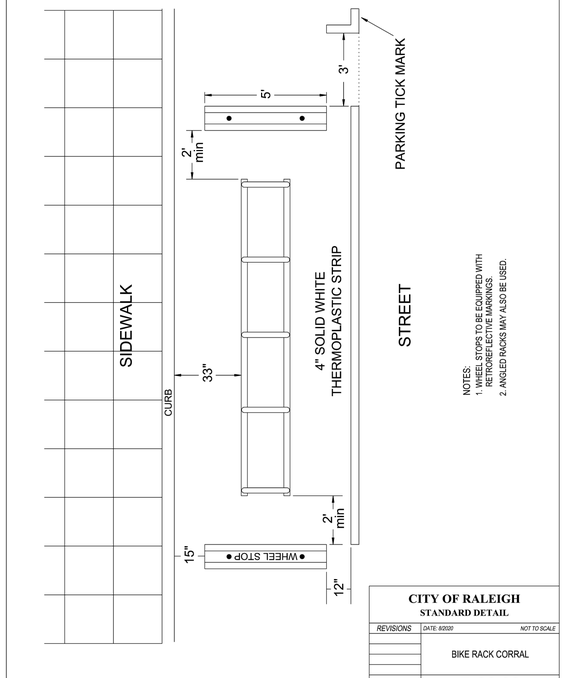
NO.	DATE	DESCRIPTION	BY
		REVISIONS	

DATE: 8.7.24
SCALE: NTS
DESIGNED: SWB
CHECKED: SWB
DRAWN: JKF
APPROVED: –
SHEET: 13 OF 19
CAD FILE: MARCOM
PROJECT NO: 2024.03



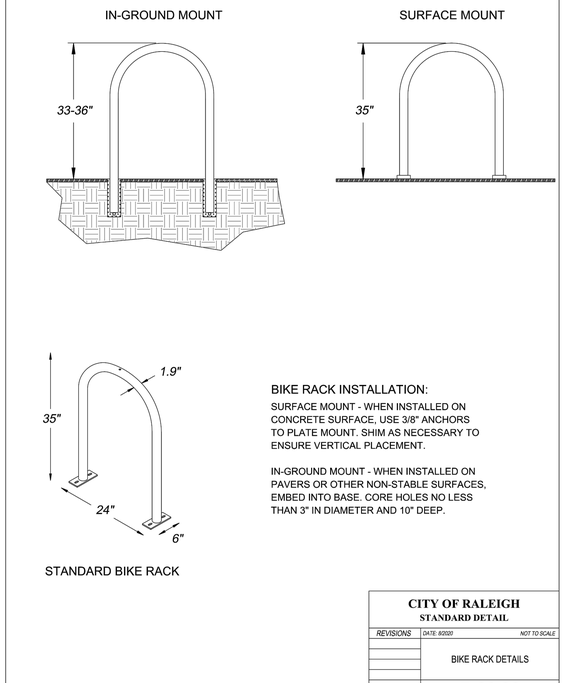
CITY OF RALEIGH
STANDARD DETAIL

REVISIONS	DATE: 8/2020	NOT TO SCALE
	BIKE RACK PLACEMENT	
	B-20.01	



CITY OF RALEIGH
STANDARD DETAIL

REVISIONS	DATE: 8/2020	NOT TO SCALE
	BIKE RACK CORRAL	
	B-20.02	



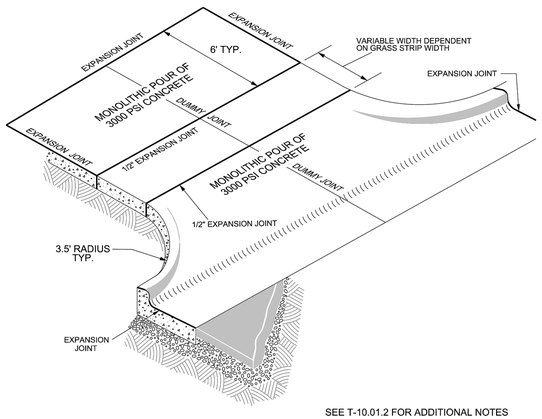
BIKE RACK INSTALLATION:

SURFACE MOUNT - WHEN INSTALLED ON CONCRETE SURFACE, USE 3/8" ANCHORS TO PLATE MOUNT. SHIM AS NECESSARY TO ENSURE VERTICAL PLACEMENT.

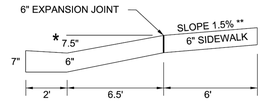
IN-GROUND MOUNT - WHEN INSTALLED ON PAVERS OR OTHER NON-STABLE SURFACES, EMBED INTO BASE. CORE HOLES NO LESS THAN 3" IN DIAMETER AND 10" DEEP.

CITY OF RALEIGH
STANDARD DETAIL

REVISIONS	DATE: 8/2020	NOT TO SCALE
	BIKE RACK DETAILS	
	B-20.03	



SEE T-10.01.2 FOR ADDITIONAL NOTES



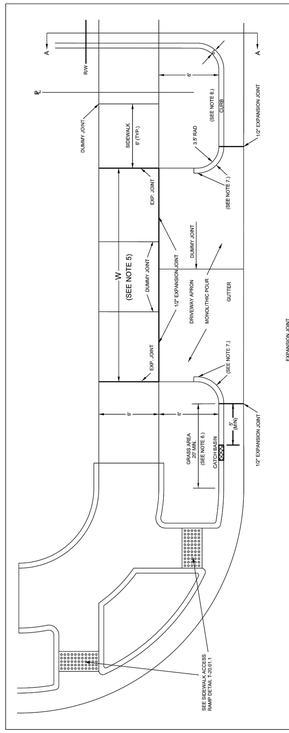
★ USE 6.5' WHEN DRIVEWAY IS USED IN LIEU OF A WHEELCHAIR RAMP TO ACCOMMODATE 12:1 MAXIMUM SLOPE (ADA COMPLIANT), SUCH AS IN A CUL-DE SAC.

** 2.08% (1:48) max

SHEET 1 OF 4

CITY OF RALEIGH
STANDARD DETAIL

REVISIONS	DATE: 8/2020	NOT TO SCALE
DATE: 12/2022	DRIVEWAY AND SIDEWALK DETAIL	
	T-10.01.1	



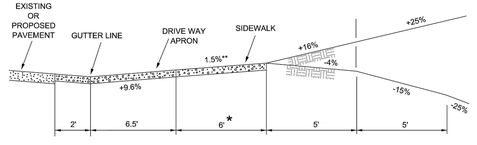
NOTES:
1. SINGLE DRIVEWAY IS TO BE CONSTRUCTED WHERE FINAL LAYER OF ASPHALT HAS BEEN PLACED. THE CURB CAN BE SAW CUT IN A STRAIGHT LINE AND REMOVED. IF THE FINAL LAYER HAS NOT BEEN PLACED, THE EXISTING CURB AND GUTTER SHALL BE REMOVED BACK TO THE NEAREST JOINT.
2. EXPANSION MATERIAL SHALL EXTEND THE FULL DEPTH OF THE CONCRETE.
3. SLOPE ON UNPAVED AREAS BETWEEN BACK OF CURB & SIDEWALK SHALL BE 1/4" PER FT.
4. ALL SIDEWALK, CURB AND GUTTER, AND DRIVEWAY APRON JOINTS SHALL BE AT LEAST 1/3 THE SLAB THICKNESS IN DEPTH.
5. W-DIMENSION AS SHOWN ON PLAN VIEW SHALL BE AS FOLLOWS:
   10' MINIMUM, 18' MAXIMUM FOR RESIDENTIAL DRIVEWAYS
   24' MAXIMUM ACCESS WIDTH FOR COMMERCIAL USES
6. THE DISTANCE FROM THE END OF A STREET CURB RADIUS TO THE BEGINNING OF THE DRIVEWAY RADIUS SHOULD BE MINIMUM OF 20 FT.
7. CURB RADIUS TO BE DISPATED BETWEEN LIMITS NOTED ABOVE.
8. 1' MIN. BETWEEN DRIVEWAYS ON ADJACENT LOTS.
   40' MIN. BETWEEN DRIVEWAYS ON SAME LOT.
9. NO PAVING EXCEPTIONS SHALL BE ALLOWED. ACCESS TO AN ADJACENT PROPERTY SHALL BE ALLOWED BY EXTENDING A LINE FROM THE PROPERTY CORNER PERPENDICULAR TO THE R/W TO THE CURB AND GUTTER LOCATION.
10. ALL CONCRETE SHALL BE POURED ON SAME DAY AS INSPECTION OR RE-INSPECTION IS REQUIRED.
11. FINISH THE SURFACE TO GRADE AND CROSS SECTION WITH A FLOAT, TROWEL SMOOTH AND FINISH WITH A BROOM
12. DRIVEWAY APRON SHALL SLOPE AWAY FROM SIDEWALK AND SHALL BE A MINIMUM OF 5' FROM ANY CATCH BASIN.
13. WHERE UTILITY BOXES/VAULTS MUST BE LOCATED IN THE SIDEWALK, THEY SHALL HAVE A MINIMUM 1' THICK FRAME OF CONCRETE AROUND THEM.

SHEET 2 OF 4

CITY OF RALEIGH
STANDARD DETAIL

REVISIONS	DATE: 8/2020	NOT TO SCALE
DATE: 12/2022	DRIVEWAY AND SIDEWALK DETAIL	
DATE: 08/2023	**T-10.01.2**	

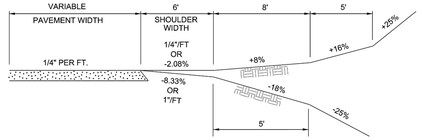
DRIVEWAY GRADES



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

** 2.08% (1:48) max

A. CURB & GUTTER , SIDEWALK SECTION

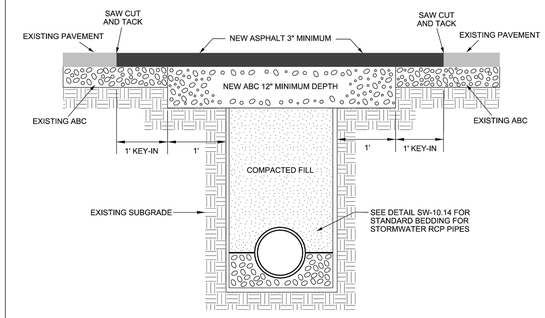


B. SHOULDER SECTION

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: 8/2020	NOT TO SCALE
DATE: 12/2022	DRIVEWAY GRADES	
	T-10.04	



NOTES:
1. THE PAVEMENT EDGE SHALL BE DEFINED BY A STRAIGHT EDGE FORMED BY A MACHINED SAW CUT.
2. THE TRENCH SUBGRADE MATERIAL SHALL BE BACKFILLED WITH SUITABLE MATERIAL AND COMPACTED TO A DENSITY OF AT LEAST 95% OF THAT OBTAINED BY COMPACTING A SAMPLE OF THE MATERIAL IN ACCORDANCE WITH AASHTO T-99 AS MODIFIED BY NCDOT.
3. THE FINAL 1' OF FILL SHALL CONSIST OF ABC MATERIAL COMPACTED TO A DENSITY EQUAL TO 100% OF THAT OBTAINED BY COMPACTING A SAMPLE OF THE MATERIAL IN ACCORDANCE WITH AASHTO T-80 AS MODIFIED BY NCDOT. BITUMINOUS BASE OR BINDER MAY BE SUBSTITUTED IF APPROVED BY TRANSPORTATION DIRECTOR OR DESIGNEE.
4. THE ENTIRE THICKNESS/VERTICAL EDGE OF THE CUT SHALL BE TACKED.
5. THE SAME DEPTH OF PAVEMENT MATERIAL WHICH EXISTS SHALL BE REINSTALLED, BUT IN NO CASE SHALL THE ASPHALT BE LESS THAN 3" THICK.
6. THE ASPHALT PAVEMENT MATERIAL SHALL BE INSTALLED AND COMPACTED THOROUGHLY AND ROLLED WITH A SMOOTH DRUM ROLLER TO ACHIEVE A SMOOTH, LEVEL PATCH.

SHEET 1 OF 2

CITY OF RALEIGH
STANDARD DETAIL

REVISIONS	DATE: 8/2020	NOT TO SCALE
DATE: 08/2023	ASPHALT PAVEMENT PATCH AND RCP PIPE BACKFILL	
	T-10.05.1	

SAMIR W. BAHHO, PE
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BUSINESS LICENSE P-0537

PROJECT:
PROPERTY OF:
MARCOM STREET PROJECT LLC
3811 MARCOM STREET
WAKE COUNTY, NORTH CAROLINA
RALEIGH TOWNSHIP
DETAILS - BICYCLE, ROAD and TRANSPORTATION

NO.	DATE	DESCRIPTION	BY:
		REVISIONS	

DATE: 6.9.24
SCALE: NTS
DESIGNED: SWB
CHECKED: SWB
DRAWN: JKF
APPROVED: —
SHEET: 14 OF 19
CAD FILE: MARCOM
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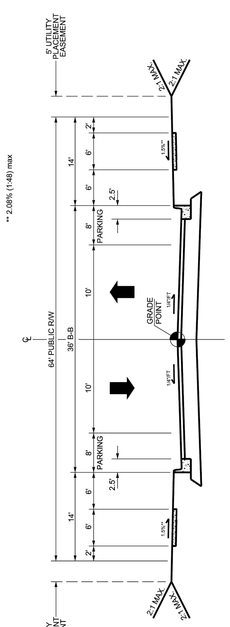
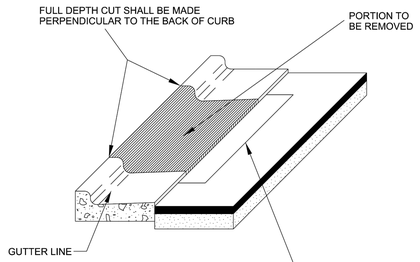


PAVEMENT DESIGN	
	3" SF9.5A
	8" ABC

GENERAL	
WALKWAY TYPE	SIDEWALK BOTH SIDES
PLANTING TYPE	TREE/LAWN
TREE SPACING	40' O.C. AVG
PARKING TYPE	PARALLEL ON 2 SIDES

CITY OF RALEIGH
STANDARD DETAIL

REVISIONS	DATE: 8/2020	NOT TO SCALE
DATE: 12/2022	NEIGHBORHOOD STREET	
	T-10.12	



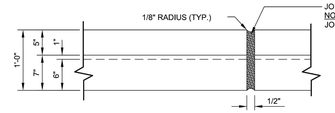
IF THE FINAL LIFT OF ASPHALT HAS BEEN INSTALLED AND IS DAMAGED DURING CURB REMOVAL, A ONE FOOT WIDE SECTION OF ASPHALT SHOULD BE SAWCUT AND REMOVED FOR FORMS TO BE USED TO KEEP A STRAIGHT EDGE ON THE DRIVEWAY APRON. REINSTALL HOT MIX SURFACE ASPHALT PATCH S9.5B.

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.

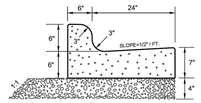
CITY OF RALEIGH
STANDARD DETAIL

REVISIONS	DATE: 8/2020	NOT TO SCALE
	STANDARD METHOD OF REMOVING EXISTING CURB (FOR A DRIVEWAY APRON INSTALLATION)	
	T-10.24	

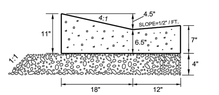


NOTE: MAINTAIN 50' MAX. BETWEEN EXPANSION JOINTS OR AT ALL RIGID OBJECTS.

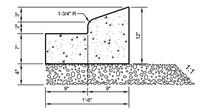
FRONT ELEVATION
TRANSVERSE EXPANSION JOINT



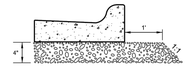
1. 30" CURB & GUTTER



2. 30" VALLEY TYPE GUTTER

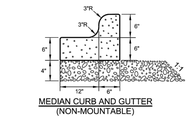


MEDIAN CURB AND GUTTER
SIDE ELEVATION

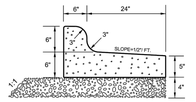


4" COMPACTED A.B.C. UNDER STANDARD CURB & GUTTER (MIN)

NO VALLEY CURB SHALL BE USED AT INTERSECTIONS, HYDRANTS, ETC.



MEDIAN CURB AND GUTTER
(NON-MOUNTABLE)



SPILL CURB DETAIL

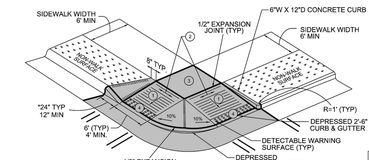
NOTES:
1. 10' MAXIMUM BETWEEN DUMMY JOINTS. 15' MAXIMUM BETWEEN DUMMY JOINTS ON MACHINE POURS.
2. 1/2" EXPANSION JOINT EVERY 50'.
3. 3000 PSI CONCRETE MINIMUM, 4" SLUMP MAXIMUM.
4. LIQUID MEMBRANE CURING COMPOUND SHALL MEET THE REQUIREMENTS OF SECTION 1026-2 OF NCDOT STANDARDS & SPECIFICATIONS FOR ROADS 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: 8/2020	NOT TO SCALE
	CURB AND GUTTER	
	T-10.26.1	

PAY LIMITS FOR CURB RAMP



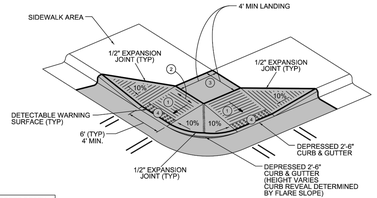
CONCRETE DEPTH	
RAMP / FLARE	6"
LANDING	4"

NOTE: * USE SMALL FLARE ONLY WHEN A CURB WOULD DIRECTLY CONFLICT WITH APPROACHING VEHICLE TURNING MOVEMENTS.

TYPE N-3

CROSS SLOPE NOT TO EXCEED 1.5% (2.08% MAX) ON ANY PORTION OF RAMP OR TRANSITION TO STREET.

1. 7.5%; 8.33% (1:12) MAX RAMP SLOPE
2. 1.5%; 2.08% (1:48) MAX CROSS SLOPE
3. CURB RAMPS REQUIRE A (4'-0") MINIMUM LANDING WITH A MAXIMUM CROSS SLOPE AND LONGITUDINAL SLOPE OF 1.5% (2.08% MAX) WHERE PEDESTRIANS PERFORM TURNING MANEUVERS. SLOPE TO DRAIN TO CURB.
4. RAMPS AND DOMES SHALL BE INSTALLED THE SAME WIDTH AS THE SIDEWALK.



CONCRETE DEPTH	
RAMP / FLARE	6"
LANDING	4"

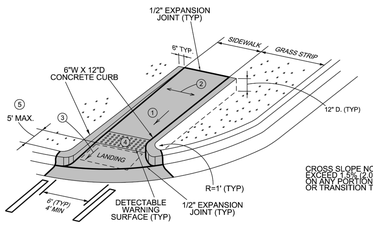
TYPE N-3A
(COMMERCIAL/RETAIL USE)

SHEET 3 OF 9

CITY OF RALEIGH
STANDARD DETAIL

REVISIONS	DATE: 8/2020	NOT TO SCALE
DATE: 12/2022	CURB RAMPS (NEW DEVELOPMENT)	
	T-20.01.3	

PAY LIMITS FOR CURB RAMP

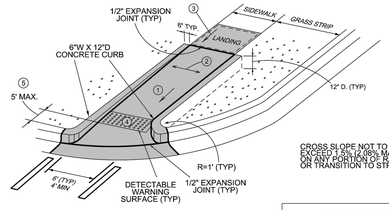


CROSS SLOPE NOT TO EXCEED 1.5% (2.08% MAX) ON ANY PORTION OF RAMP OR TRANSITION TO STREET.

TYPE N-4

1. 7.5%; 8.33% (1:12) MAX RAMP SLOPE
2. 1.5%; 2.08% (1:48) MAX CROSS SLOPE
3. CURB RAMPS REQUIRE A (4'-0") MINIMUM LANDING WITH A MAXIMUM CROSS SLOPE AND LONGITUDINAL SLOPE OF 1.5% (2.08% MAX) WHERE PEDESTRIANS PERFORM 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"



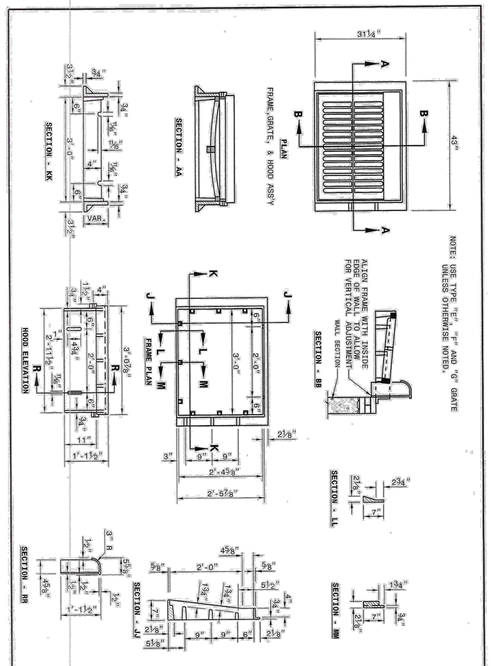
CROSS SLOPE NOT TO EXCEED 1.5% (2.08% MAX) ON ANY PORTION OF RAMP OR TRANSITION TO STREET.

TYPE N-4A

SHEET 4 OF 9

CITY OF RALEIGH
STANDARD DETAIL

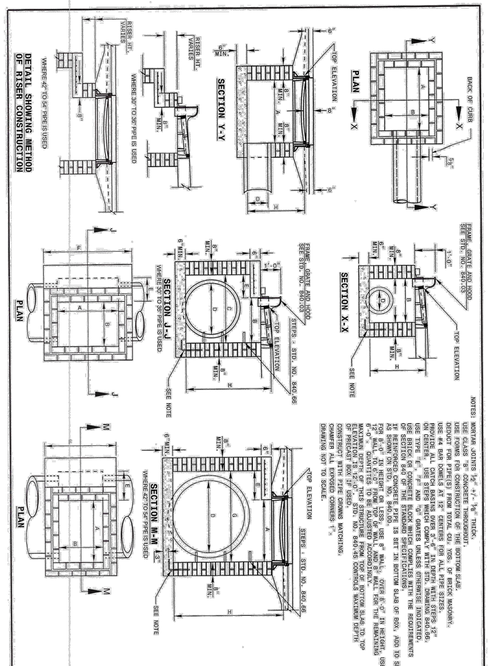
REVISIONS	DATE: 8/2020	NOT TO SCALE
DATE: 12/2022	CURB RAMPS (NEW DEVELOPMENT)	
	T-20.01.4	



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

840.03 SHEET 1 OF 2

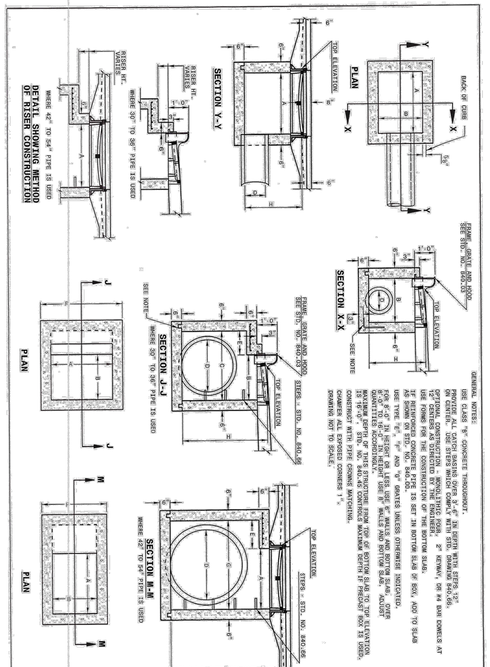
1-24 STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.



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

840.01 SHEET 1 OF 2

1-24 STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.



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

840.02 SHEET 1 OF 2

1-24 STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

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RALEIGH, NORTH CAROLINA 27606
TEL: (919) 851-1642
BUSINESS LICENSE P-0537

PROPERTY OF:
MARCOM STREET PROJECT LLC

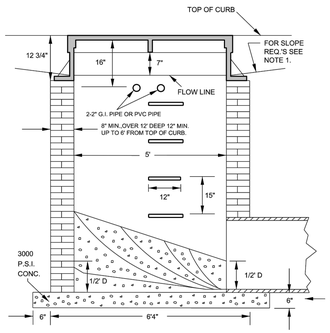
3811 MARCOM STREET
WAKE COUNTY, NORTH CAROLINA

PROJECT:
RALEIGH TOWNSHIP

DETAILS – ROAD and TRANSPORTATION

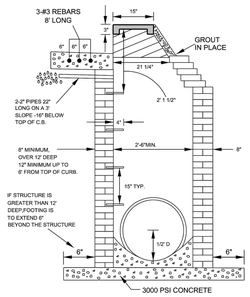
NO.	DATE	DESCRIPTION	BY:
REVISIONS			

DATE: 6.9.24
SCALE: NTS
DESIGNED: SWB
CHECKED: SWB
DRAWN: JKF
APPROVED: –
SHEET: 15 OF 19
CAD FILE: MARCOM
PROJECT NO: 2024.03

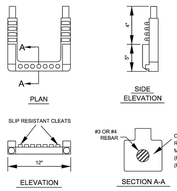


NOTES:
1. THE SLOPE OF THE GUTTER TO THE CATCH BASIN ON THE UPHILL SIDE SHALL BEGIN 10' FROM THE THE CATCH BASIN. THE SLOPE OF THE GUTTER TO THE CATCH BASIN ON THE DOWNHILL SIDE, SHALL BEGIN 10' FROM THE CATCH BASIN.
2. STEPS SHALL BE INSTALLED IN ALL CATCH BASINS OVER 3' IN DEPTH. DEPTH SHALL BE MEASURED FROM THE TOP OF CURB TO THE INVERT OF THE CATCH BASIN.
3. SOLID CONCRETE BRICKS MAY BE USED IN 4X4X8 OR 4X8X16 SIZES.
4. NCDOT APPROVED PRECAST CONCRETE BOXES ACCEPTABLE USING STANDARD 5' CASTINGS.
5. DOMESTIC CASTING REQUIRED WITHIN STREET RIGHT OF WAY.
6. 1" MAXIMUM EXTENSION OF PIPE INTO THE STORM BOX.

6" UP TO 12' DEEP
12" OVER 12' DEEP

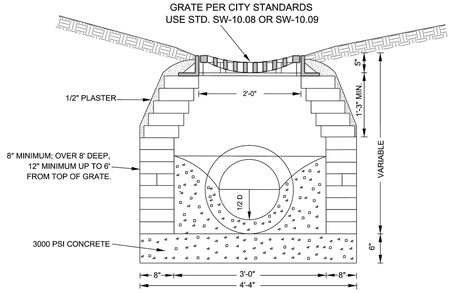


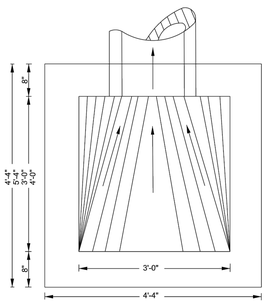
STANDARD C.B. STEP



CITY OF RALEIGH
STANDARD DETAIL

REVISIONS	DATE: 8/2020	NOT TO SCALE
	5' OM CATCH BASIN	
	SW-10.01	

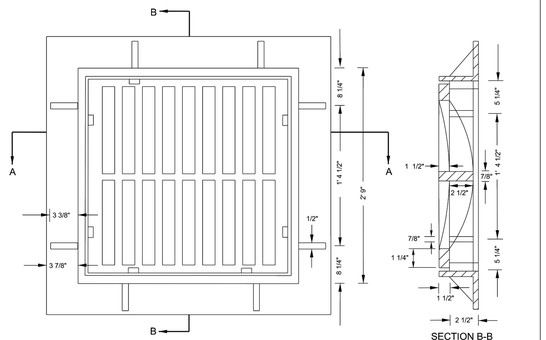




NOTES:
1. FOR 24" RCP & LARGER USE PIPE DIAMETER PLUS 12" FOR MINIMUM INSIDE DIMENSION.
2. 24" X 24" CASTING WITH 12", 15" & 18" PIPE. 24" X 36" CASTING USED WITH 24" PIPE OR LARGER. IF PLACED WITHIN PUBLIC R/W CASTING MUST BE TRAFFIC BEARING TYPE PER NCDOT STANDARDS.
3. USE 4" X 4" X 8" OR 4" X 8" X 16" SOLID CONCRETE BLOCK. CAST IN PLACE OR PRECAST CONCRETE TO MEET N.C.D.O.T. STANDARDS ACCEPTABLE.
4. STEPS SHALL BE INSTALLED IN ALL DROP INLETS OVER 3' IN DEPTH. DEPTH SHALL BE MEASURED FROM THE TOP OF GRATE TO THE INVERT OF THE DROP INLET.

CITY OF RALEIGH
STANDARD DETAIL

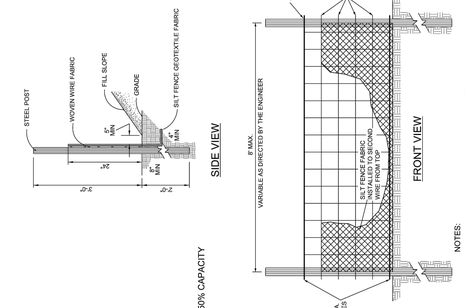
REVISIONS	DATE: 8/2020	NOT TO SCALE
	STANDARD DROP INLET	
	SW-10.03	



STANDARD 24" X 24" DROP INLET CASTING

CITY OF RALEIGH
STANDARD DETAIL

REVISIONS	DATE: 8/2020	NOT TO SCALE
	DROP INLET CASTING	
	SW-10.08	



NOTES:
1. FLOW SHALL NOT RUN PARALLEL WITH THE FENCE.
2. END OF SILT FENCE NEEDS TO BE TURNED UPHILL.
3. SEE NC DEQ SEDIMENT DESIGN MANUAL FOR CONSTRUCTION SEQUENCE AND ADDITIONAL WIRE PHOTOS. APPLIES AND PLANNING CONSIDERATIONS.
4. SILT FENCE SHOULD NOT BE USED ALONE BELOW GRADED SLOPES GREATER THAN 10' IN HEIGHT.

CITY OF RALEIGH
STANDARD DETAIL

REVISIONS	DATE: 8/2020	NOT TO SCALE
	STANDARD TEMPORARY (SEDIMENT/SILT) FENCE	
	SW-20.01	

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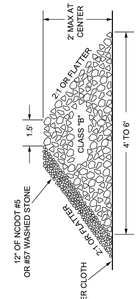
PROPERTY OF:
MARCOM STREET LLC
3811 MARCOM STREET
WAKE COUNTY, NORTH CAROLINA

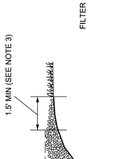
DETAILS – STORM DRAINAGE

RALEIGH TOWNSHIP

NOTES:
1. ENSURE THAT CULVERT ENTRANCES BELOW CHECK DAMS ARE NOT SUBJECT TO DAMAGE OR BLOCKAGE FROM DISPLACED STONES.
2. THE DRAINAGE AREA IS LIMITED TO ONE HALF ACRE.
3. KEY THE STONE INTO THE DITCH BANKS AND EXTEND IT BEYOND THE ABUTMENTS A MINIMUM OF 1.5 FEET TO AVOID WASHOUT FROM OVERFLOW AROUND THE DAM.

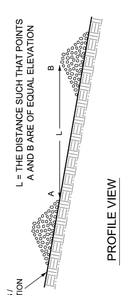


PLAN VIEW



CROSS-SECTION VIEW

MAINTENANCE:
CLEAN OUT SEDIMENT AND DEBRIS AND REPAIR WASH OUTS.



PROFILE VIEW

PURPOSE: TO REDUCE EROSION IN A CHANNEL BY REDUCING THE VELOCITY OF FLOW.

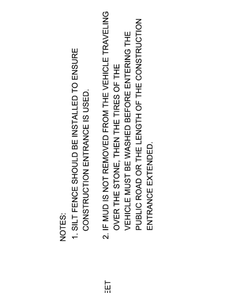
DO NOT USE CHECK DAM IN INTERMITTENT OR PERENNIAL STREAMS.

SEE N.C. DEQ EROSION and SEDIMENT CONTROL PLANNING and DESIGN MANUAL FOR CONDITIONS WHERE PRACTICE APPLIES. PLANNING CONSIDERATION & DESIGN CRITERIA.

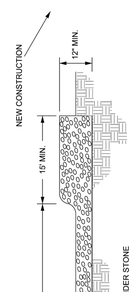
CITY OF RALEIGH
STANDARD DETAIL

REVISIONS	DATE: 8/2020	NOT TO SCALE
	CHECK DAM	
	SW-20.08	

NOTES:
1. SILT FENCE SHOULD BE INSTALLED TO ENSURE CONSTRUCTION ENTRANCE IS USED.
2. IF MUD IS NOT REMOVED FROM THE VEHICLE TRAVELING OVER THE STONE, THEN THE TIRES OF THE VEHICLE SHALL BE WASHED BEFORE ENTERING THE PUBLIC ROAD OR THE LENGTH OF THE CONSTRUCTION ENTRANCE EXTENDED.



PLAN



CROSS SECTION

MAINTENANCE:
ADD ADDITIONAL STONE AND "FLUFF" TOP DRESSING WITH 2" STONE.

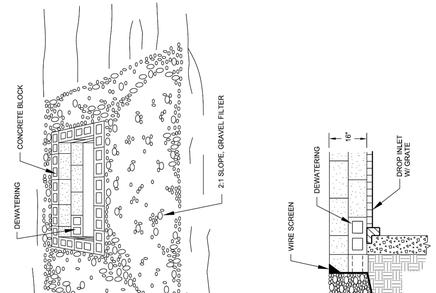
SEE N.C. DEQ EROSION and SEDIMENT CONTROL PLANNING and DESIGN MANUAL FOR CONDITIONS WHERE PRACTICE APPLIES. PLANNING CONSIDERATION & DESIGN CRITERIA.

CITY OF RALEIGH
STANDARD DETAIL

REVISIONS	DATE: 8/2020	NOT TO SCALE
	CONSTRUCTION ENTRANCE	
	SW-20.09	

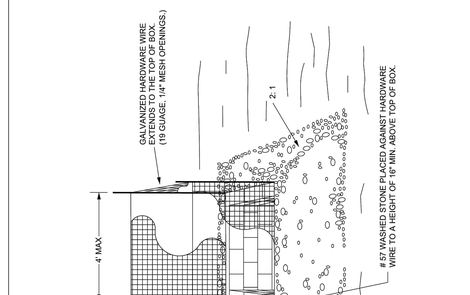
CONSTRUCTION SPECIFICATIONS

1. LAY ONE BLOCK ON EACH SIDE OF THE STRUCTURE ON ITS SIDE IN THE BOTTOM ROW TO ALLOW POOL DRAINAGE. PLACE ADDITIONAL BLOCKS AT ENDS AGAINST THE EDGE OF THE STORM DRAIN FOR LATERAL SUPPORT AND TO AVOID WASHOUTS WHEN OVERFLOW OCCURS.
2. CAREFULLY FIT HARDWARE CLOTH OR COMPARABLE WIRE MESH WITH 1/2-INCH OPENINGS OVER ALL BLOCK OPENINGS TO PREVENT STONE PASSAGE.
3. USE CLEAN GRAVEL, PLACED 2 INCHES BELOW THE TOP OF THE BLOCKS IN A 2:1 SLOPE (RE-SHAPED AND SMOOTH IT TO AN EVEN GRADE. DOT #57 WASHED STONE IS RECOMMENDED.
4. NOT TO BE USED FOR SEDIMENT STORAGE OR ON ROADWAYS OPEN TO PUBLIC TRAFFIC.



CITY OF RALEIGH
STANDARD DETAIL

REVISIONS	DATE: 8/2020	NOT TO SCALE
	BLOCK AND GRAVEL DROP INLET PROTECTION	
	SW-20.14	



DRAINAGE AREA = <1 ACRE (MAXIMUM).

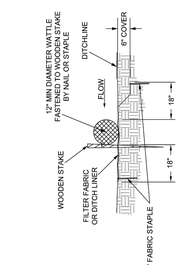
SEE N.C. DEQ EROSION and SEDIMENT CONTROL PLANNING and DESIGN MANUAL FOR CONDITIONS WHERE PRACTICE APPLIES. PLANNING CONSIDERATION & DESIGN CRITERIA.

CITY OF RALEIGH
STANDARD DETAIL

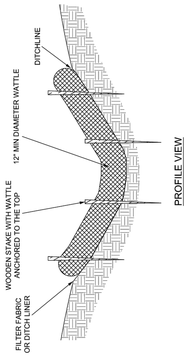
REVISIONS	DATE: 8/2020	NOT TO SCALE
	STANDARD CATCH BASIN YARD INLET PROTECTION	
	SW-20.15	

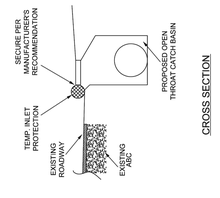
NO.	DATE	DESCRIPTION	BY:
		REVISIONS	

DATE: 6.9.24
SCALE: NTS
DESIGNED: SWB
CHECKED: SWB
DRAWN: JKF
APPROVED: –
SHEET: 16 OF 19
CAD FILE: MARCOM
PROJECT NO: 2024.03

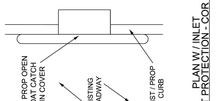


PROFILE VIEW





CROSS SECTION

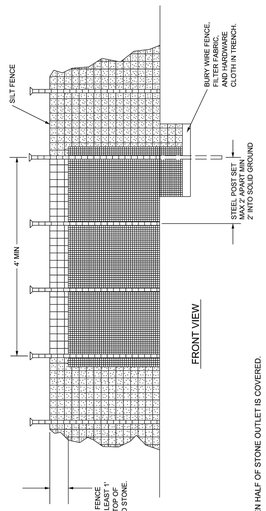


PLAN W / INLET
INLET PROTECTION - COR BOX

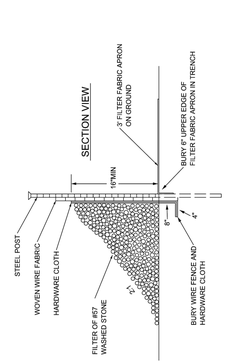
NOTES:
1. WATTLES SHALL BE FILLED WITH STRAW OR OTHER APPROVED MATERIAL.
2. SPACING OF WATTLES SHALL BE DETERMINED ON SITE BY ENGINEER.
3. WATTLES MAY BE USED FOR PROTECTION OF CATCH BASINS AND DROP INLETS WITH APPROVAL BY THE STORMWATER PROGRAM MANAGER OR DESIGNEE.
4. FOR USE OF WATTLE IN A DITCH, GRADE OF DITCH MUST BE <2.5%.

CITY OF RALEIGH
STANDARD DETAIL

REVISIONS	DATE: 8/2020	NOT TO SCALE
	WATTLE / INLET PROTECTION DETAIL	
	SW-20.23	



FRONT VIEW

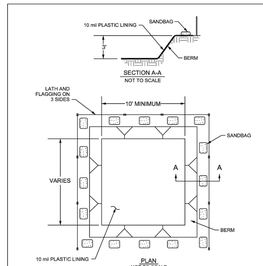


SECTION VIEW

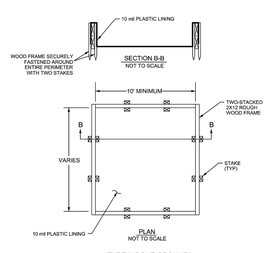
NOTES:
1. REMOVE SEDIMENT WHEN HALF OF STONE OUTLET IS COVERED.
2. REPLACE STONE AS NEEDED TO ENSURE DEWATERING.

CITY OF RALEIGH
STANDARD DETAIL

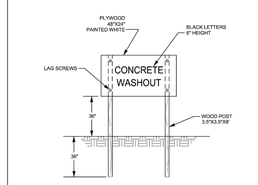
REVISIONS	DATE: 8/2020	NOT TO SCALE
	STANDARD SILT FENCE OUTLET	
	SW-20.24	



TYPE "BELOW GRADE"

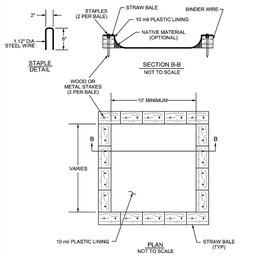


TYPE "ABOVE GROUND" WITH WOOD PLANKS



CONCRETE WASHOUT SIGN DETAIL (OR EQUIVALENT)

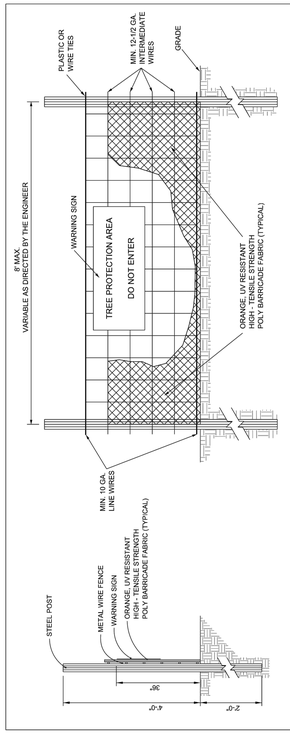
NOTES:
1. ACTUAL LAYOUT TO BE DETERMINED IN THE FIELD.
2. A CONCRETE WASHOUT SIGN SHALL BE INSTALLED WITHIN 30' OF THE TEMPORARY CONCRETE WASHOUT FACILITY.
3. MATERIALS USED TO CONSTRUCT TEMPORARY CONCRETE WASHOUT FACILITIES SHALL BE REMOVED FROM THE SITE OF THE WORK AND DISPOSED OF OR RECYCLED.
4. HOLES, DEPRESSIONS OR OTHER GROUND DISTURBANCE CAUSED BY THE REMOVAL OF THE TEMPORARY CONCRETE WASHOUT FACILITIES SHALL BE BACKFILLED, REPAIRED, AND STABILIZED TO PREVENT EROSION.
5. MUST BE LOCATED >50 FT AWAY FROM INLETS/WATERWAYS UNLESS THERE IS NO OTHER PRACTICAL ALTERNATIVE.



TYPE "ABOVE GRADE" WITH STRAW BALES

CITY OF RALEIGH
STANDARD DETAIL

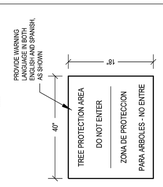
REVISIONS	DATE: 8/2020	NOT TO SCALE
	CONCRETE WASHOUT	
	SW-20.25	



FRONT VIEW

SIDE VIEW

NOTE: FOR TREE PROTECTION ONLY



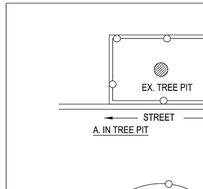
WARNING SIGN DETAIL

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

NOTES:
1. TREE PROTECTION FENCING MUST BE INSTALLED AT A MINIMUM RADIUS OF THE CRITICAL ROOT ZONE (SEE DETAIL TPP-04 FOR EXAMPLES).
2. THE TREE PROTECTION FENCING MUST REMAIN IN PLACE FOR THE DURATION OF THE PROJECT.
3. APPROVED IMPACT PROTECTION DEVICES MUST BE REMOVED AFTER CONSTRUCTION WHEN APPLICABLE.
4. ACCEPTABLE FENCE MATERIALS ARE 4' HIGH ORANGE PLASTIC SAFETY FENCE (OR EQUAL) SUPPORTED BY 6' METAL T-POSTS (OR EQUAL) SPACED 8' ON CENTER FOR THE REMAINDER.
5. FENCE SHALL BE PLACED AT THE EDGE OF THE TREE'S CRITICAL ROOT ZONE OR AS FAR OUT AS POSSIBLE, PROVIDE NO LESS THAN ONE SIGN PER PROTECTED AREA.
6. ATTACH SIGNS SECURELY TO FENCE POSTS AND FABRIC.
7. ADDITIONAL SIGNAGE MAY BE REQUIRED BY CITY OF RALEIGH BASED ON ACTUAL FIELD CONDITIONS.
8. SIGNAGE SHALL BE WEATHER RESISTANT, BILINGUAL (ENGLISH/SPANISH), AND ILLUSTRATE A MINIMUM 40" X 32" HIGH, CLEAR, LEGIBLE AND SPACED AS SHOWN.

CITY OF RALEIGH
STANDARD DETAIL

REVISIONS	DATE: 8/2020	NOT TO SCALE
	STANDARD TREE PROTECTION DETAIL	
	TPP-01	

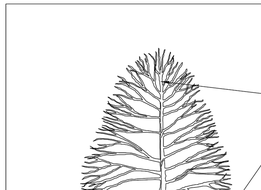


NOTES:
1. CONTRACTOR MUST PROVIDE AND INSTALL TREE PROTECTION SIGNAGE.
2. A TREE IMPACT PERMIT IS REQUIRED PRIOR TO INITIATION OF CONSTRUCTION IF ANY TREES ON CITY PROPERTY ARE TO BE IMPACTED BY PRUNING, TRENCHING, BORING, REMOVAL, PAVING, PLANTING, ETC.

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

CITY OF RALEIGH
STANDARD DETAIL

REVISIONS	DATE: 8/2020	NOT TO SCALE
	TREE PROTECTION FENCE LAYOUT	
	TPP-02	

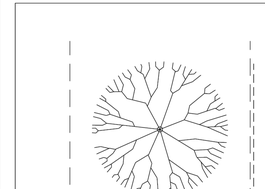


CONTACT INFORMATION:
CITY OF RALEIGH PARKS, RECREATION AND CULTURAL RESOURCES DEPARTMENT URBAN FORESTER:
TREES@RALEIGHNC.GOV
WWW.RALEIGHNC.GOV

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: 8/2020	NOT TO SCALE
102019	TREE PLANTING DETAIL	
	TPP-03	



NOTES:
1. THE CRITICAL ROOT ZONE (CRZ) IS DEFINED AS A RADIUS EXTENDING FROM THE TRUNK OF A TREE 1.25 FEET PER INCH OF DBH.
2. TRENCHING SHALL OCCUR OUTSIDE THE CRZ
   2.1. TUNNELING AND BORING IS PERMITTED WITHIN THE CRZ AS LONG AS IT IS 30 INCHES DEEP OR GREATER. EXCAVATIONS AND HAND HOLES SHALL BE OUTSIDE THE CRZ.
   2.2. ENCROACHMENT INTO THE CRZ REQUIRES APPROVAL FROM THE URBAN FORESTER
3. ROOTS MUST BE PRUNED TO A CLEAN CUT. CUTTING OR PRUNING OF ROOTS 2" OR LARGER IS PROHIBITED.
4. IF EXCAVATION CAUSES PRUNED ROOTS OVER 1.5" IN DIAMETER TO REMAIN EXPOSED FOR MORE THAN 24 HOURS, ROOTS ON TREE SIDE MUST BE KEPT MOIST.
5. A TREE IMPACT PERMIT IS REQUIRED PRIOR TO INITIATION OF CONSTRUCTION IF ANY TREES ON CITY PROPERTY ARE TO BE IMPACTED BY PRUNING, TRENCHING, BORING, REMOVAL, PAVING, PLANTING, ETC.

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

CITY OF RALEIGH
STANDARD DETAIL

REVISIONS	DATE: 8/2020	NOT TO SCALE
	TRENCHING/TUNNELING NEAR EXISTING TREES	
	TPP-04	

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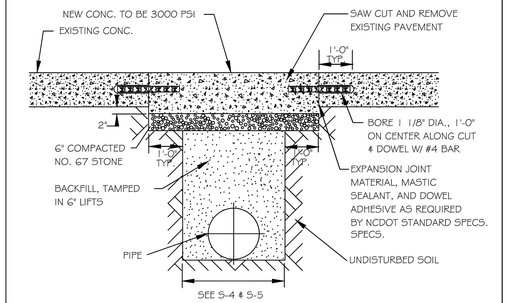
CIVIL & STRUCTURAL ENGINEERING SERVICES, PLLC.
4612 KAPLAN DRIVE
RALEIGH, NORTH CAROLINA 27606
TEL: (919) 851-1642
BUSINESS LICENSE P-0537

PROPERTY OF:
PROJECT LLC
MARCOM STREET
3811 MARCOM STREET
WAKE COUNTY, NORTH CAROLINA

PROJECT:
RALEIGH TOWNSHIP
DETAILS - STORM DRAINAGE, TREE PROTECTION, LANDSCAPING

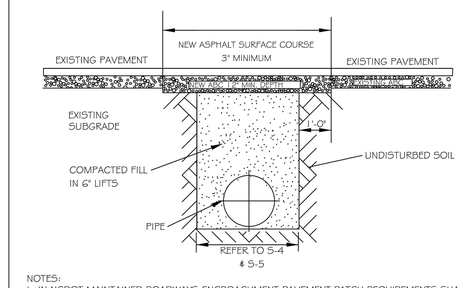
NO.	DESCRIPTION	DATE	BY:
REVISIONS			

DATE: 6.9.24
SCALE: NTS
DESIGNED: SWB
CHECKED: SWB
DRAWN: JKF
APPROVED: –
SHEET: 17 OF 19
CAD FILE: MARCOM
PROJECT NO: 2024.03



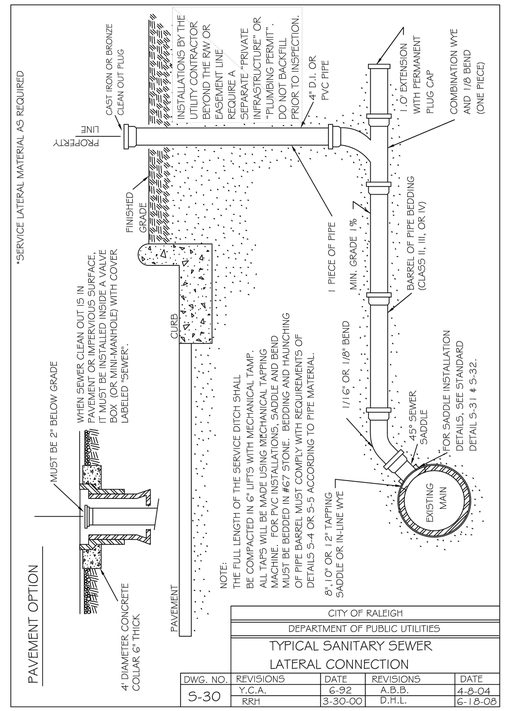
NOTES:
1. See City of Raleigh standards for trenches and pipe bedding (S-4 & S-5) for additional details.
2. Pavement cuts over 5'-0" in width shall be reinforced to N.C.D.O.T. standards.
3. Pavement cuts shall be made with an appropriate saw cut machine.
4. Pavement cuts within NCDOT ROW shall conform to the approved on site encroachment permit.

CITY OF RALEIGH				
DEPARTMENT OF PUBLIC UTILITIES				
STANDARD CONCRETE PAVEMENT PATCH DETAIL				
DWG. NO.	REVISIONS	DATE	REVISIONS	DATE
S-2	D.W.C.	6-23-99	A.B.B.	4-19-04
	RRH	3-30-00	J.P.S.	10-8-10

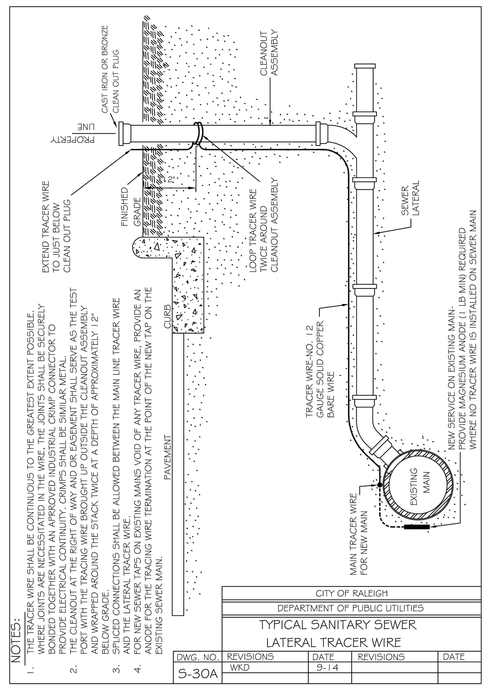


NOTES:
1. IN NCDOT MAINTAINED ROADWAYS ENCROACHMENT PAVEMENT PATCH REQUIREMENTS SHALL TAKE PRECEDENCE.
2. THE PAVEMENT CUT SHALL BE DEFINED BY A STRAIGHT EDGE AND CUT WITH AN APPROPRIATE SAWCUT MACHINE.
3. THE TRENCH SUBGRADE MATERIAL SHALL BE BACKFILLED WITH SUITABLE MATERIAL AND COMPACTED TO A DENSITY OF AT LEAST 95% OF THAT OBTAINED BY COMPACTING A SAMPLE OF THE MATERIAL IN ACCORDANCE WITH AASHTO T-99 AS MODIFIED BY NCDOT.
4. THE FINAL 1' OF FILL SHALL CONSIST OF ABC MATERIAL COMPACTED TO A DENSITY EQUAL TO 100% OF THAT OBTAINED BY COMPACTING A SAMPLE OF THE MATERIAL IN ACCORDANCE WITH AASHTO T-80 AS MODIFIED BY NCDOT.
5. THE ENTIRE THICKNESS AND VERTICAL EDGE OF CUT SHALL BE TACKED.
6. THE SAME DEPTH OF PAVEMENT MATERIAL WHICH EXISTS SHALL BE REINSTALLED, BUT IN NO CASE SHALL THE ASPHALT BE LESS THAN 3" THICK.
7. THE ASPHALT PAVEMENT MATERIAL SHALL BE INSTALLED AND COMPACTED THOROUGHLY WITH A SMOOTH DRUM ROLLER TO ACHIEVE A SMOOTH LEVEL PATCH.
8. REFER TO CITY OF RALEIGH STANDARDS FOR TRENCHES AND PIPE BEDDING (S-4 & S-5) FOR ADDITIONAL DETAILS.
9. NO HAND PATCHING ALLOWED.
10. PAVEMENT CUTS WITHIN NCDOT ROW SHALL CONFORM TO THE APPROVED ON SITE ENCROACHMENT PERMIT.

CITY OF RALEIGH				
DEPARTMENT OF PUBLIC UTILITIES				
STANDARD ASPHALT PAVEMENT PATCH DETAIL				
DWG. NO.	REVISIONS	DATE	REVISIONS	DATE
S-3	D.W.C.	11-1-99	A.B.B.	4-19-04
	RRH	3-30-00	J.P.S.	10-8-10

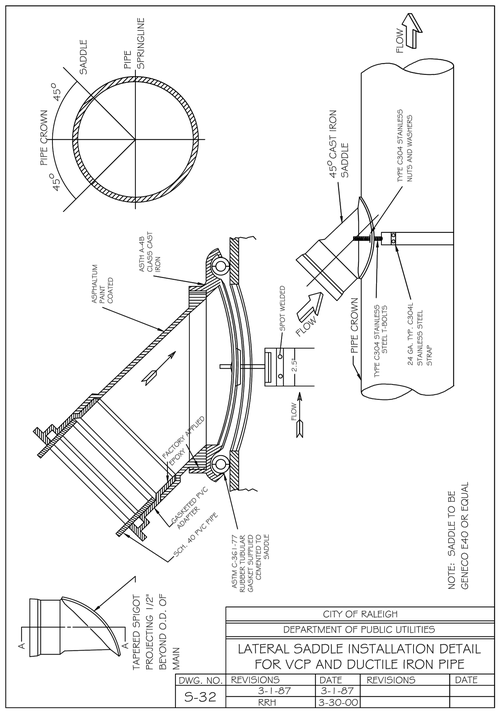


CITY OF RALEIGH				
DEPARTMENT OF PUBLIC UTILITIES				
TYPICAL SANITARY SEWER LATERAL CONNECTION				
DWG. NO.	REVISIONS	DATE	REVISIONS	DATE
S-30	Y.C.A.	6-92	A.B.B.	4-8-04
	RRH	3-30-00	D.H.L.	6-18-08

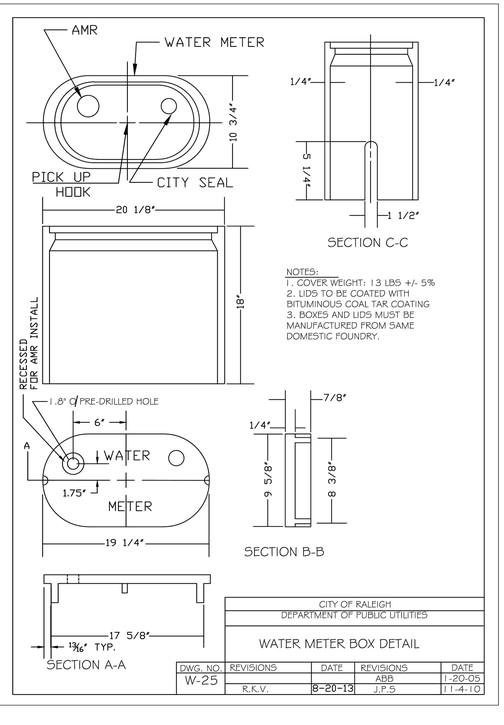


NOTES:
1. THE TRACER WIRE SHALL BE CONTINUOUS TO THE GREATEST EXTENT POSSIBLE. WHERE JOINTS ARE NECESSITATED IN THE WIRE, THE JOINTS SHALL BE SECURELY BONDED TOGETHER WITH AN APPROVED INDUSTRIAL CRIMP CONNECTOR TO PROVIDE ELECTRICAL CONTINUITY. SPLICES SHALL BE WATERPROOF.
2. THE CLEANOUT AT THE RIGHT OF WAY AND OR EASEMENT SHALL SERVE AS THE TEST PORT WITH THE TRACING WIRE BROUGHT UP OUTSIDE THE CLEANOUT ASSEMBLY AND WRAPPED AROUND THE STACK TWICE AT A DEPTH OF APPROXIMATELY 12" BELOW GRADE.
3. SPLICED CONNECTIONS SHALL BE ALLOWED BETWEEN THE MAIN LINE TRACER WIRE AND THE LATERAL TRACER WIRE.
4. FOR NEW SEWER TAPS ON EXISTING MAINS VOID OF ANY TRACER WIRE, PROVIDE AN ANODE FOR THE TRACING WIRE TERMINATION AT THE POINT OF THE NEW TAP ON THE EXISTING SEWER MAIN.

CITY OF RALEIGH				
DEPARTMENT OF PUBLIC UTILITIES				
TYPICAL SANITARY SEWER LATERAL TRACER WIRE				
DWG. NO.	REVISIONS	DATE	REVISIONS	DATE
S-30A	WKD	9-14		

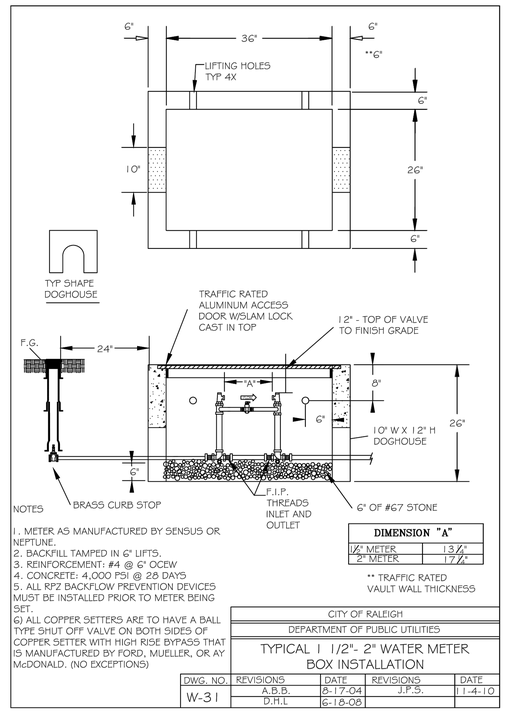


CITY OF RALEIGH				
DEPARTMENT OF PUBLIC UTILITIES				
LATERAL SADDLE INSTALLATION DETAIL FOR VCP AND DUCTILE IRON PIPE				
DWG. NO.	REVISIONS	DATE	REVISIONS	DATE
S-32	3-1-87	3-1-87		
	RRH	3-30-00		



NOTES:
1. COVER WEIGHT: 13 LBS +/- 5%
2. LIDS TO BE COATED WITH BITUMINOUS COAL TAR COATING
3. BOXES AND LIDS MUST BE MANUFACTURED FROM SAME DOMESTIC FOUNDRY.

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

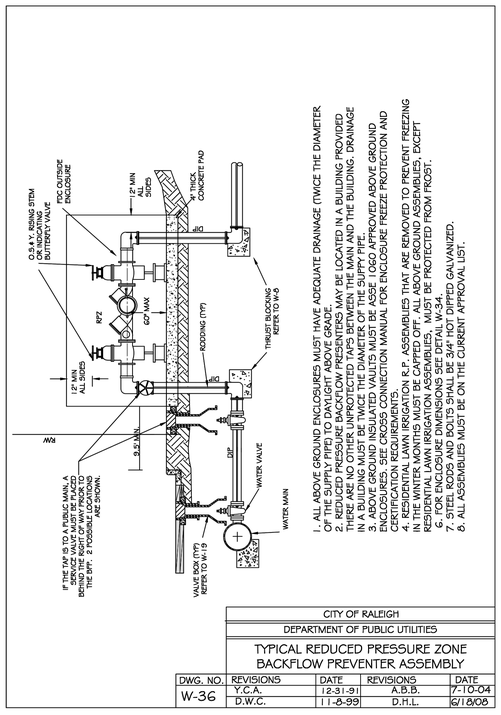


NOTES
1. METER AS MANUFACTURED BY SENSUS OR NEPTUNE.
2. BACKFILL TAMPED IN 6" LIFTS.
3. REINFORCEMENT: #4 @ 6" OCEW
4. CONCRETE: 4,000 PSI @ 28 DAYS
5. ALL RPZ BACKFLOW PREVENTION DEVICES MUST BE INSTALLED PRIOR TO METER BEING SET.
6) ALL COPPER SETTERS ARE TO HAVE A BALL TYPE SHUT OFF VALVE ON BOTH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

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

** 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.	8-17-04	J.P.S.	11-4-10
	D.H.L.	6-18-08		



1. ALL ABOVE GROUND ENCLOSURES MUST HAVE ADEQUATE DRAINAGE (TWICE THE DIAMETER OF THE SUPPLY PIPE) TO DAYLIGHT ABOVE GRADE.
2. REDUCED PRESSURE PRINCIPLE BACKFLOW PREVENTERS MAY BE LOCATED IN A BUILDING PROVIDED THERE IS ADEQUATE DRAINAGE FOR THE DISCHARGE FROM THE MAIN AND THE BUILDING. DRAINAGE IN A BUILDING MUST BE TWICE THE DIAMETER OF THE SUPPLY PIPE.
3. ABOVE GROUND INSULATED VAULTS MUST BE ASSE 1060 APPROVED ABOVE GROUND ENCLOSURES. SEE CROSS CONNECTION MANUAL FOR ENCLOSURE FREEZE PROTECTION AND CONSTRUCTION DETAILS.
4. RESIDENTIAL LAWN IRRIGATION R.P. ASSEMBLIES THAT ARE REMOVED TO PREVENT FREEZING IN THE WINTER MONTHS MUST BE CAPPED OFF. ALL ABOVE GROUND ASSEMBLIES, EXCEPT RESIDENTIAL LAWN IRRIGATION ASSEMBLIES, MUST BE PROTECTED FROM FROST.
5. FOR ENCLOSURE DIMENSIONS SEE DETAIL W-34.
6. ALL PIPE, BOLTS, AND NUTS SHALL BE STAINLESS STEEL OR GALVANIZED.
7. ALL ASSEMBLIES MUST BE ON THE CURRENT APPROVAL LIST.

IF THE TAP IS TO A PUBLIC MAIN, A MAGNESIUM ANODE SHALL BE BONDED TO THE MAIN AT THE POINT OF THE TAP. 2 POSSIBLE LOCATIONS ARE SHOWN.

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

SAMIR W. BAHHO, PE
CIVIL & STRUCTURAL ENGINEERING SERVICES, PLLC.
4612 KAPLAN DRIVE
RALEIGH, NORTH CAROLINA 27606
TEL: (919) 851-1642
BUSINESS LICENSE P-0537

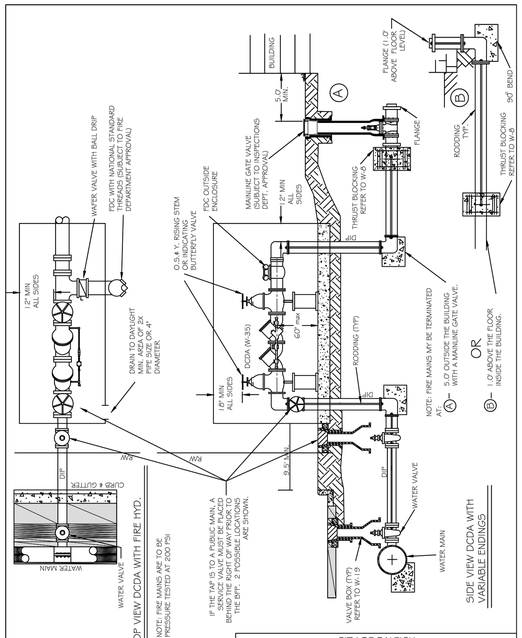
PROPERTY OF:
MARCOM STREET PROJECT LLC
3811 MARCOM STREET
WAKE COUNTY, NORTH CAROLINA

PROJECT:
RALEIGH TOWNSHIP

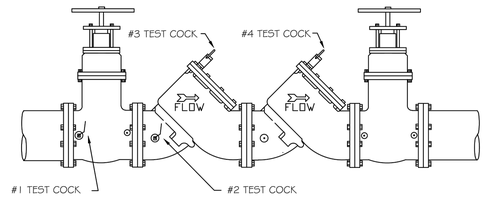
DETAILS – WATER AND SEWER

NO.	DESCRIPTION	DATE	BY:
	REVISIONS		

DATE: 6.9.24
SCALE: NTS
DESIGNED: SWB
CHECKED: SWB
DRAWN: JKF
APPROVED: –
SHEET: 18 OF 19
CAD FILE: MARCOM
PROJECT NO: 2024.03



CITY OF RALEIGH				
DEPARTMENT OF PUBLIC UTILITIES				
TYPICAL FIRE MAIN DOUBLE DETECTOR CHECK VALVE ASSEMBLY				
DWG. NO.	REVISIONS	DATE	REVISIONS	DATE
W-37	Y.C.A.	6-92	ABB	10-4-04
	D.W.C.	11-3-99	D.H.L.	6/18/08



1. SHUT-OFF VALVES, CHECK VALVES, AND TEST COCKS SHALL BE STANDARD TO THE APPROVED BACKFLOW ASSEMBLY.
2. ALL LARGE(2-1/2" - 10") ASSEMBLIES TO BE SUPPORTED BY A CRADLE.
3. ENCLOSURE FOUNDATIONS SHALL BE CONSTRUCTED OF 4" OF CONCRETE OR 6" OF STONE.
4. ASSEMBLIES MUST BE ON CURRENT APPROVAL LIST.
5. 2 1/2" AND LARGER ASSEMBLIES SHALL BE FUSION BONDED EPOXY COATED INCLUDING SHUTOFF VALVES.

CITY OF RALEIGH				
DEPARTMENT OF PUBLIC UTILITIES				
STANDARD DOUBLE CHECK VALVE ASSEMBLY				
DWG. NO.	REVISIONS	DATE	REVISIONS	DATE
W-38	D.W.C.	12-29-99	A.B.B.	4-13-04
	RRH	3-31-00	D.H.L.	6/18/08

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TEL: (919) 851-1642
BUSINESS LICENSE P-0537

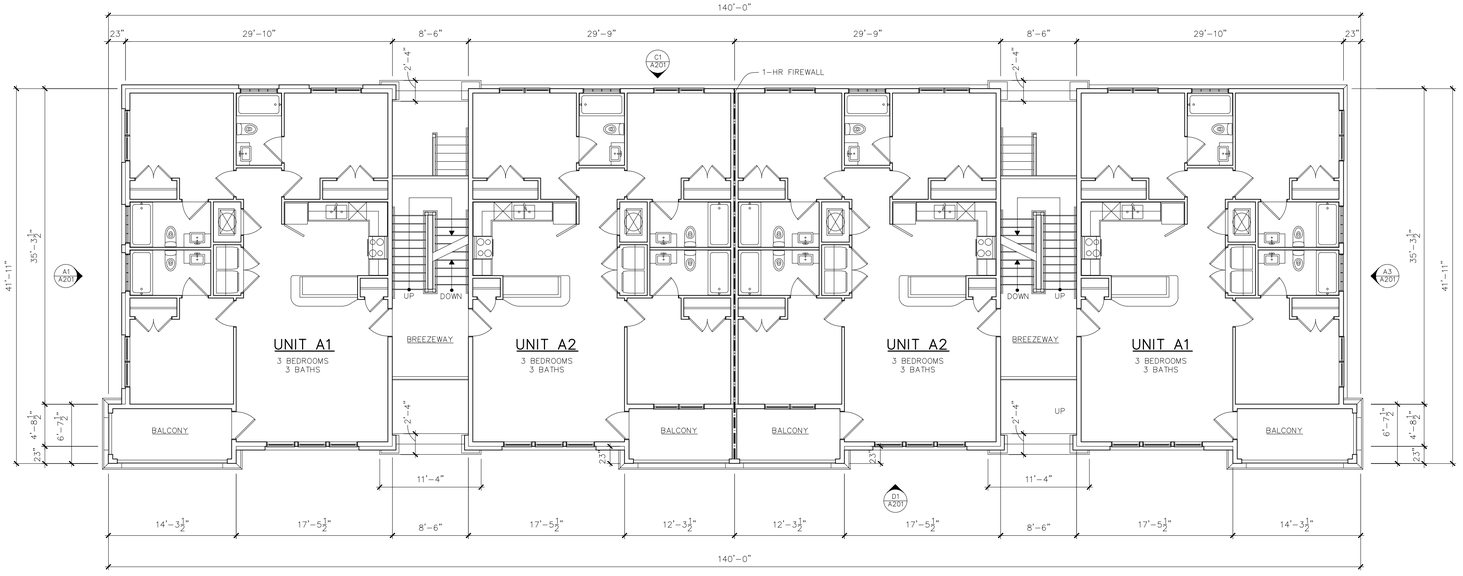
PROJECT:
PROPERTY OF:
MARCOM STREET PROJECT LLC
3811 MARCOM STREET
WAKE COUNTY, NORTH CAROLINA
RALEIGH TOWNSHIP

DETAILS - WATER AND SEWER

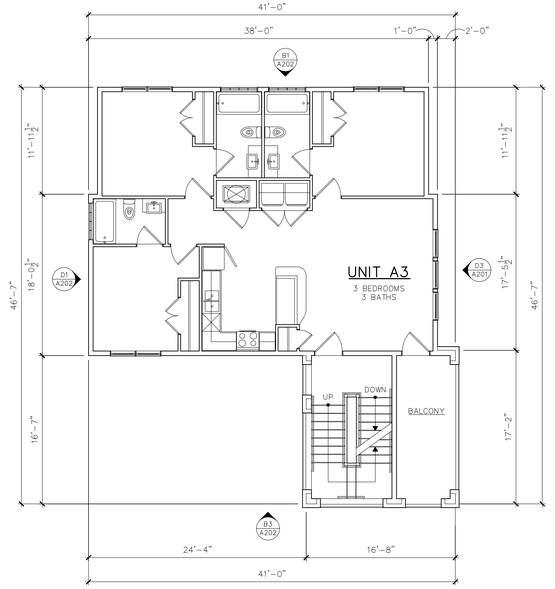
REVISIONS

NO.	DATE	DESCRIPTION	BY:

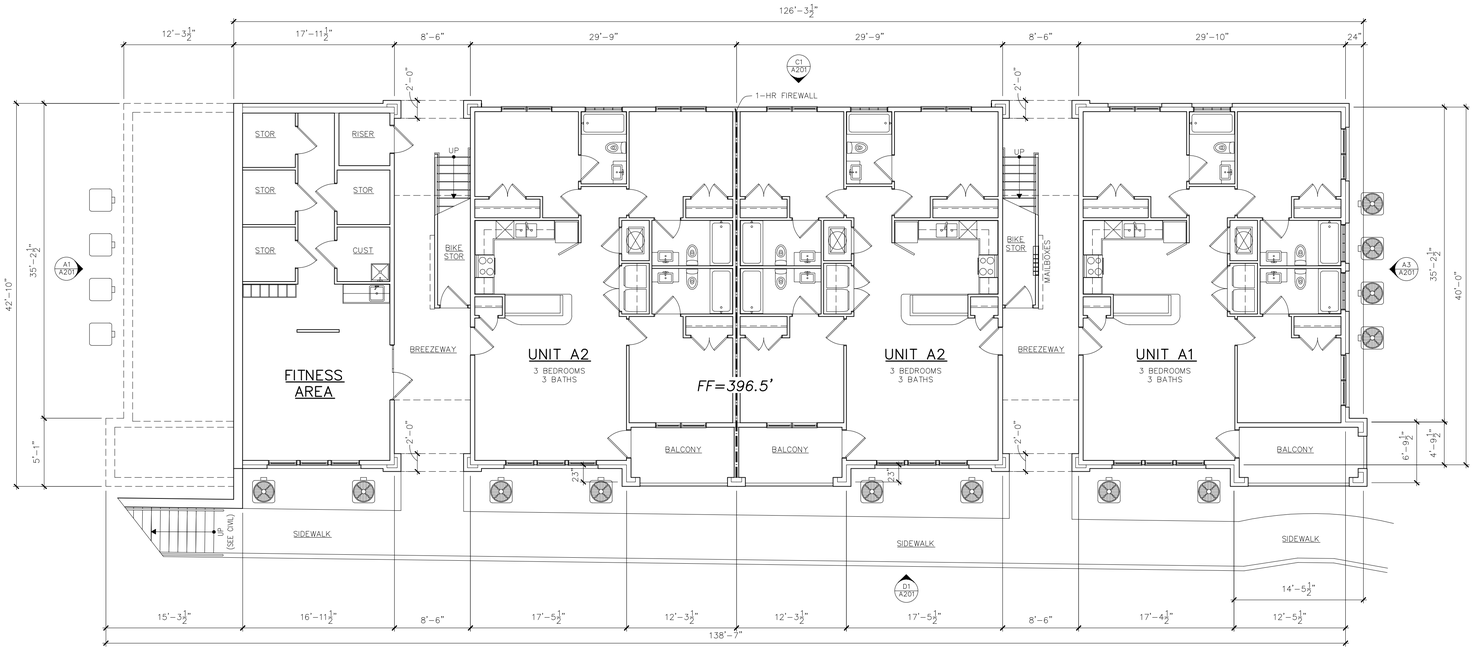
DATE: 6.9.24
SCALE: NTS
DESIGNED: SWB
CHECKED: SWB
DRAWN: JKF
APPROVED: –
SHEET: 19 OF 19
CAD FILE: MARCOM
PROJECT NO: 2024.03



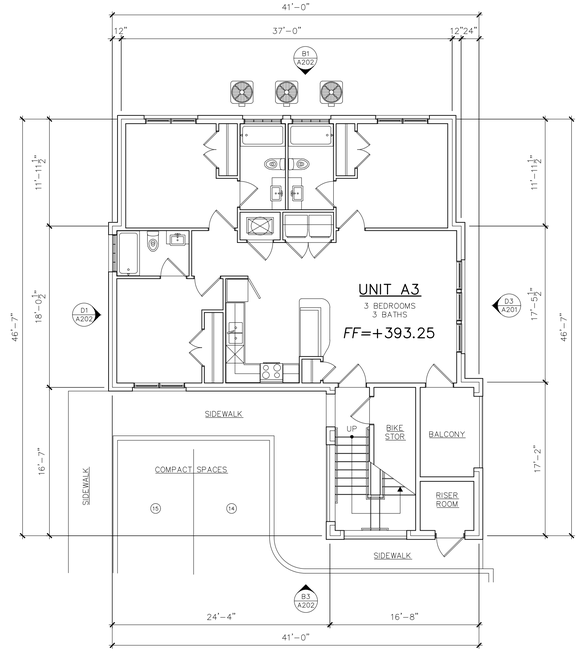
C3 A101 BUILDING 1 – UPPER FLOOR PLANS (2–4 SIMILAR)
SCALE: 1/8"" = 1'-0"



C1 A101 BUILDING 2 – UPPER FLOOR PLANS (2–3 SIMILAR)
SCALE: 1/8"" = 1'-0"



A3 A101 BUILDING 1 – FIRST FLOOR PLAN
SCALE: 1/8"" = 1'-0"



A1 A101 BUILDING 2 – FIRST FLOOR PLAN
SCALE: 1/8"" = 1'-0"

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NOT FOR CONSTRUCTION

SITE PLANS SUBMITTAL SET

prepared for

SITE PLAN SUBMITTAL

project name

MARCOM STREET APARTMENTS

3811 MARCOM ST.
RALEIGH, NORTH CAROLINA

project number

202424–MSA

drawing title

BUILDING 1 & 2
FLOOR PLANS

drawing scale

AS NOTED

orientation

revision history

9/12/2024 SITE PLAN SUBMITTAL SET

issue date

09/12/24

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A101

D1 A201 BUILDING 1 – FRONT ELEVATION
SCALE: 1/8" = 1'-0"

C1 A201 BUILDING 1 – REAR ELEVATION
SCALE: 1/8" = 1'-0"

A3 A201 BUILDING 1 – SIDE ELEVATION
SCALE: 1/8" = 1'-0"

A1 A201 BUILDING 1 – SIDE ELEVATION (STREET SIDE)
SCALE: 1/8" = 1'-0"

AVERAGE GRADE CALCULATION

PER SECTION 2.7 OF THE CoR UDO, BUILDING HEIGHT IS MEASURED FROM THE AVERAGE GRADE TO THE TOP OF THE HIGHEST POINT OF A PITCHED OR FLAT ROOF, EXCLUDING THE PARAPET.

AVERAGE GRADE IS DETERMINED BY CALCULATING THE AVERAGE OF THE HIGHEST AND LOWEST ELEVATION ALONG PRE-DEVELOPED GRADE OR IMPROVED GRADE, WHICHEVER IS MOST RESTRICTIVE) ALONG THE FRONT OF THE BUILDING PARALLEL TO THE PRIMARY STREET SETBACK.

WHERE THE PROPERTY SLOPE INCREASES TO THE REAR, BUILDING HEIGHT IS MEASURED FROM THE AVERAGE POINT AT GRADE OF THE FRONT AND REAR WALL PLANE.

BUILDING 2 AVERAGE GRADE CALCULATION (PROPOSED)			
	HIGHEST	LOWEST	AVERAGE
FRONT-PARALLEL TO STREET	406.5	394.0	400.25
RIGHT SIDE-STREET SIDE	407.5	406.5	407.00
REAR	407.5	397.0	402.25
LEFT SIDE	397.0	394.0	395.50
AVERAGE OF FOUR SIDES			401.25
ALLOWABLE HEIGHT		PLUS 45'	446.25

making places better for people
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RALEIGH, NORTH CAROLINA

project number

202424-MSA

drawing title

BUILDING 1
EXTERIOR ELEVATIONS

drawing scale

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orientation

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issue date

09/12/24

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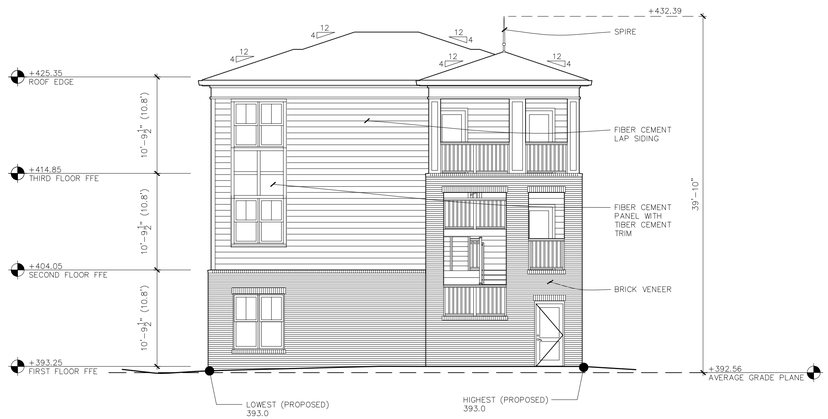
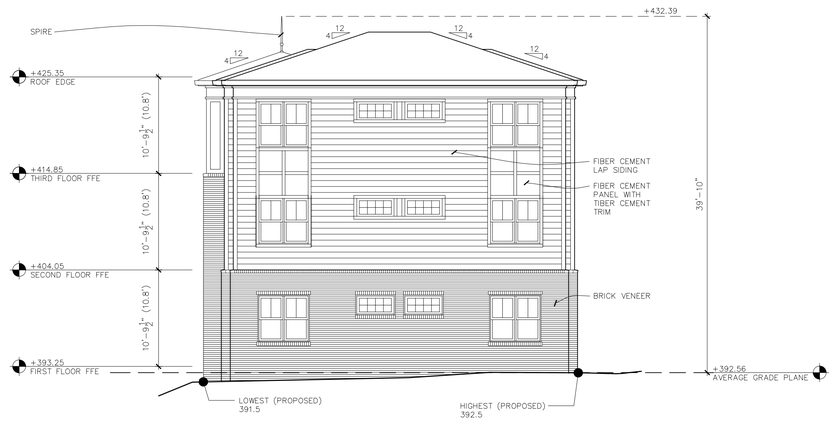
A201

D3 A202 BUILDING 2 – RIGHT ELEVATION
SCALE: 1/8" = 1'-0"

D1 A202 BUILDING 2 – LEFT SIDE ELEVATION (PARALLEL TO STREET)
SCALE: 1/8" = 1'-0"



B3 A202 BUILDING 2 – FRONT ELEVATION (STREET SIDE)
SCALE: 1/8" = 1'-0"



B1 A202 BUILDING 2 – REAR ELEVATION
SCALE: 1/8" = 1'-0"

AVERAGE GRADE CALCULATION

PER SECTION 2.7 OF THE CoR UDO, BUILDING HEIGHT IS MEASURED FROM THE AVERAGE GRADE TO THE TOP OF THE HIGHEST POINT OF A PITCHED OR FLAT ROOF, EXCLUDING THE PARAPET.

AVERAGE GRADE IS DETERMINED BY CALCULATING THE AVERAGE OF THE HIGHEST AND LOWEST ELEVATION ALONG PRE-DEVELOPED GRADE OR IMPROVED GRADE, WHICHEVER IS MOST RESTRICTIVE) ALONG THE FRONT OF THE BUILDING PARALLEL TO THE PRIMARY STREET SETBACK.

WHERE THE PROPERTY SLOPE INCREASES TO THE REAR, BUILDING HEIGHT IS MEASURED FROM THE AVERAGE POINT AT GRADE OF THE FRONT AND REAR WALL PLANE.

BUILDING 2 AVERAGE GRADE CALCULATION (PROPOSED)			
	HIGHEST	LOWEST	AVERAGE
FRONT–STREET SIDE	393.0	393.0	393.0
LEFT SIDE–PARALLEL TO STREET	393.0	391.5	392.25
REAR	392.5	391.5	392.0
RIGHT SIDE	393.0	392.5	393.0
AVERAGE OF FOUR SIDES			392.56

ALLOWABLE HEIGHT		PLUS 45'	437.56

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project number

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drawing title

BUILDING 2
EXTERIOR ELEVATIONS

drawing scale

AS NOTED

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issue date

09/12/24

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A202