CHARLOTTE

City of Charlotte Unified Development Ordinance Board of Adjustment Meeting
Government Center – Room 280 – 600 East Fourth Street
Tuesday, August 26, 2025 – 9:00 a.m.

RECOMMENDATION ITEMS

VAR-2025-00031
FOUR CORNERS OF CHARLOTTE LLC (represented by Josh Butler of Gateway Design Group) for property located at 712 RAYON ST, parcel 06910231 owned by FOUR CORNERS OF CHARLOTTE LLC.

- Variance from Article 4.3 Table 4.2(D) for setbacks for N1-C zoning of the UDO to reduce the rear setback from the required 30 ft to 10 ft, a 20 ft reduction.

VAR-2025-00032
Jason Cowan (represented by Hanna Lucas of Peninsula Civil Design) for property located at 2905 MONROE RD, parcel 15901102 and 15901103 owned by BURR AND BERRY LAND HOLDINGS 1 LLC.

- Variance from Article 20, Tables 20-3 and Table 20-2 to reduce the 25' Class B landscape yard to 10', a 15' reduction along Bramlet Rd.
- Variance from Article 8, Table 8-4 to waive requirement for a ground floor entrance facing an Other-Primary frontage (Bramlet Rd.)

VAR-2025-00033
SAM`S INVESTMENTS VIII LLC (represented by Tonya Martin of SAM'S MART) located at 5124 CENTRAL AV, parcel 13105102 owned by SAM`S INVESTMENTS VIII LLC.

- Variance from Article 17.2.K.b to allow above ground utility accessory structure (a backflow preventer) within the required setback along N. Sharon Amity Rd.

VAR-2025-00035
COMPANY PIEDMONT NATURAL GAS located at 6530 THE PLAZA, parcel 10706524 owned by COMPANY PIEDMONT NATURAL GAS.

- Variance from Principal Uses: Prescribed Conditions for Utility Equipment as a principal use, Article 15.4.DDDD.2.a to waive the additional required 20 ft setback from the front, north side and rear property lines.
- Variance from Article 4.3, Table 4-2 to reduce the front setback from 27' to 12', reduce the north side setback from 5' to 2' and rear setback from 35' to 5'.

VARIANCES

No Items

APPEALS

No Items

OTHER AGENDA ITEMS

No Items

APPROVAL OF MINUTES

July 29th, 2025, Minutes

THE BOARD RESERVES THE RIGHT TO DEVIATE FROM THE AGENDA.

City of Charlotte will comply with the American Disabilities Act (ADA), which prohibits discrimination on the basis of disability. Anyone needing special accommodations when attending this meeting and/or if this information is needed in an alternative format because of a disability please contact the Clerk to the Charlotte Board of Adjustment, (704) 336-3818 or kamesha.lampley@charlottenc.gov at least 72 hours prior to the meeting.

VAR-2025-00031 - 712 Rayon St

Menu Help

Application Detail: Detail

Application Type: Variance

Address: 712 RAYON ST, CHARLOTTE, NC 28216

Owner Name: FOUR CORNERS OF CHARLOTTE LLC

Owner Address: 1612 SEATTLE SLEW CT, WAXHAW, NC 28173

Application Name: 712 Rayon St

Parcel No: 06910231

Description of Work: request for reduced rear setback due to CLT Water easement not platted

Open Date: 06/19/2025

Application Status: In Progress

Custom Fields: **PLAN ROOM ACKNOWLEDGEMENT**

Upload Plans Acknowledgement

√

VARIANCE

Development Type
Residential

Has work started on this project?
Yes

Additional Parcel Numbers
_

Have you had a pre-submittal meeting?
Yes

Enter Accela record ID of Pre-Submittal meeting
UDOPS-2025-00094

Enter date of pre-submittal meeting
06/18/2025

Property Rezoned?
No

Is this Pre-UDO Zoning?

Pre-UDO Zoning District
_

Rezoning Petition Number
_

UDO Conditional Zoning
_

UDO Conditional Overlay
_

Rezoning Petition Accela record ID
_

UDO Zoning District
N1-C Neighborhood 1 Zoning District

UDO Overlay
N/A

Did you obtain a building permit?
No

Building Permit Number
_

Have you received a Notice of Violation or Stop Work Order for this project?
No

NOV Number
_

Related Accela Record IDs
_

Hardship results from the strict application of the ordinance
Applying the required 30' rear yard for this property will make the building depth be less than 20'.

Hardship results from conditions that are peculiar to the property
This property has a CLT Water easement that cannot be built in. It was not shown on a title search and was not on the plat for the property when it was purchased.

Hardship did not result from actions of the applicant or owner
Waterlines were there when property was purchased but there was no record or easement of that.

Variance is consistent with the spirit, purpose, and intent of the Ordinance
The spirit of the ordinance is to allow homes to be built on lots. This lot that is 150' deep should allow for a building to be constructed on it.
Both neighboring lots have buildings and the CLT Water easement.

VARIANCE REQUEST

Article	Code Section	Code Requirement	Variance Request
	Table 4-2 (D)		request that the 30' rear yard be changed to 10'

Application Comments:

View ID	Comment	Date

Workflow Status:

Task	Assigned To	Status	Status Date	Action By
Application Completene...	Crystal Monsegur	Fees Assessed	06/20/2025	Crystal Monsegur
Application Distribution	Crystal Monsegur			
CDOT Review	Jacob Carpenter			
Parks and Rec Review	Katie Lloyd			
CATS Review	Evan Punch			
LUESA Review				
Solid Waste Review	Mavis Gant			
Fire Review	Kevin Esposito			
Erosion Control Review				
Urban Design Review	Will Linville			
Land Use Review	Alberto Gonzalez			
Charlotte Water Review	Keri Cantrell			
Entitlement Services R...	John R Kinley			

Task	Assigned To	Status	Status Date	Action By
LD Zoning Review	Crystal Monsegur			
Housing Review	Zelleka Biermann			
Code Enforcement Review	Mark Fowler			
Urban Forestry/Arboris...	Henry Kunzig			
Planning Subdivision R...	Josh Weaver			
Floodplain Review				
Stormwater Engineering...				
Plan Collection	Crystal Monsegur			
Update GIS	Christopher McD...			

Adhoc Task Status:

Task	Assigned To	Status	Status Date	Action By

Contact Info:

Name	Organization Name	Contact Type	Relationship	Address	Contact Primary Address	Status	Contact Start Date	Contact End Date
Josh Butler	Gateway Design ...	Agent	Agent	8516 Foxbridge ...		Active	06/19/2025	
FOUR CORNERS OF CHARLO...	FOUR CORNERS OF...	Applicant - Key...	Applicant - Key...	1612 SEATTLE SL...		Active	06/19/2025	
FOUR CORNERS OF CHARLO...	FOUR CORNERS OF...	Financially Res...	Financially Res...	1612 SEATTLE SL...		Active	06/19/2025	

Licensed Professionals Info:

Primary	License Number	License Type	Name	Business Name	Business License #
Yes	048418	ENGINEER	Josh Butler	GATEWAY DESIGN ...	

Scheduled/Pending Inspections:

Inspection Type	Scheduled Date	Inspector	Status	Comments

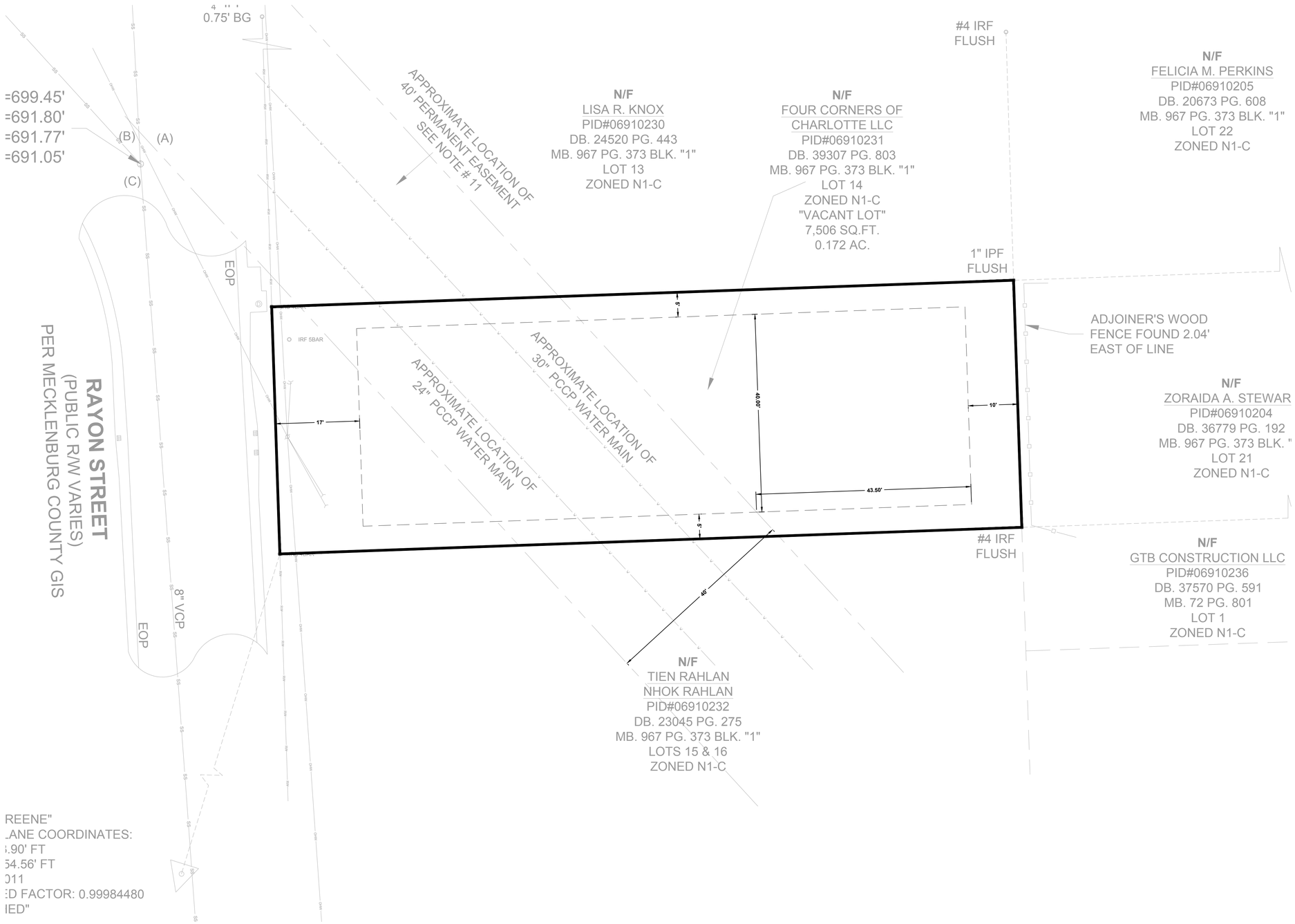
Resulted Inspections:

Inspection Type	Inspection Date	Inspector	Status	Comments

Total Fee Assessed: $820.00

Total Fee Invoiced: $820.00

Balance: $0.00



GATEWAY DESIGN GROUP, PLLC
8516 FOXBRIDGE DR WEDDINGTON, NC 28104
910-840-2661
NC FIRM # P-2147

NORTH CAROLINA PROFESSIONAL SEAL 048418 ENGINEER JOSH W. BUTLER
2025.06.16 09:47:34-04'00'

712 RAYON ST

PROJECT ADDRESS: 712 Rayon St, Charlotte, NC 28216

NO.	BY	DATE	REVISION

PROJECT #: 2025-075 DATE: 6/16/2025
DRAWN BY: JB CHECKED BY: JB

TITLE
SKETCH PLAN

SHEET NO.
SK-1

C:\Users\jbshw\Gateway Design Group Dropbox\Projects\2025\2025-075 - 712 Rayon St\CADD\References\x-layout-712.dwg JOSHW

VAR-2025-00032 - B&B Coffee Store #4

Menu Help

Application Detail: Detail

Application Type: Variance

Address: 2905 MONROE RD, CHARLOTTE, NC 28205

Owner Name: BURR AND BERRY LAND HOLDINGS 1

Owner Address: 6500 SHARON HILLS RD, CHARLOTTE, NC 28210

Application Name: B&B Coffee Store #4

Parcel No: 15901103

Description of Work: Variance request for reduction in landscape yards, front setbacks, and ground floor entrances requested.

Open Date: 07/02/2025

Application Status: In Progress

Custom Fields: **PLAN ROOM ACKNOWLEDGEMENT**

Upload Plans Acknowledgement

√

VARIANCE

Development Type
Non-Residential

Has work started on this project?
No

Additional Parcel Numbers
15901102

Have you had a pre-submittal meeting?
Yes

Enter Accela record ID of Pre-Submittal meeting
UDOPS-2025-00101

Enter date of pre-submittal meeting
06/30/2025

Property Rezoned?
No

Is this Pre-UDO Zoning?

Pre-UDO Zoning District
_

Rezoning Petition Number
_

UDO Conditional Zoning
_

UDO Conditional Overlay
_

Rezoning Petition Accela record ID
_

UDO Zoning District
ML-2 Manufacturing and Logistics Zoning District

UDO Overlay
N/A

Did you obtain a building permit?
No

Building Permit Number
_

Have you received a Notice of Violation or Stop Work Order for this project?
No

NOV Number
_

Related Accela Record IDs
_

Hardship results from the strict application of the ordinance
Please see attached diagrams showing currently available usage under VAR-2024-0056 and the proposed available usage under request VAR-2025-00032. Due to discrepancies in GIS information and Survey Information, VAR-2024-0056 was not adequate to allow for the originally proposed building and vehicle maneuvering area. Proposed use remains the same as the original request. VAR-2025-0032 requests relief from buffer along Bramlett Rd. This request increases the developable area to 3,840.64 SF which is a 750.79 SF (19

Hardship results from conditions that are peculiar to the property
The hardships requesting relief from are specific to the small size of the parcel and the parcel location. The existing VAR-2024-00056 request was based on limited information available from GIS information. Upon receiving a survey of the property and beginning construction documents, the existing variance request is not adequate for the same proposed use. To make the small business and required maneuverability work, the 20' Class B Frontage buffer along Bramlett Rd. needs to be reduced to a 10' Class B Frontage buffer. This request increases

Hardship did not result from actions of the applicant or owner
The parcel size is not a result of the applicant or the owner. The parcel size limits the use of the property without variances. VAR-2025-00032 is to correct issues resulting from more accurate survey information that was not previously available under VAR=2024-0056.
The proposed use of the building does not require the need for a second entrance based on Fire Code and Building Code. A second entrance would not work functionally with the proposed use and limited size of the building. The building is already scale down to the minim

Variance is consistent with the spirit, purpose, and intent of the Ordinance
The requested variance would provide for the development of a small commercial property that would fit well with the neighborhood. There are similar businesses along Monroe Rd. The buffers required by the ordinance are intended to screen the difference in intensity of the uses appropriately. The ordinance assumes a larger industrial use, but a small commercial building is similar in intensity to the apartments located adjacent to the development. The proposed buffers will adequately screen the difference in intensities, enhance the

VARIANCE REQUEST

Article	Code Section	Code Requirement	Variance Request
	20.9		Reduction of 40' Class A Landscape Yard adjacent to N2-B zoning to a 25' Class B Landscape Yard adjacent to N2-B zoning.
	20.9		Reduction of 25' Class B Landscape Yard across the street from Neighborhood 2 Place Type to a 10' Class B Landscape Yard across the street from Neighborhood 2 Place Type.
	8.3		Reduction of 36' Front Setback (measured from FBOC) along 4+ Lane Avenue (Monroe) frontage to a 20' Front Setback (Measured from FBOC) along 4+ Lane Avenue (Monroe) Frontage
	8.3		Reduction of 36' Front Setback (measured from FBOC) along Primary-Other (Bramlett) frontage to a 20' Front Setback (measured from existing ROW) along Primary-Other (Bramlett) frontage
	8.3		Removal of secondary ground floor entrance required along Primary-other (Bramlett) frontage

Application Comments:

View ID	Comment	Date

Workflow Status:

Task	Assigned To	Status	Status Date	Action By
Application Completene...	Crystal Monsegur	Plans Received	08/04/2025	Digital Plan Room
Application Distribution	Crystal Monsegur			
CDOT Review	Jacob Carpenter			
Parks and Rec Review	Katie Lloyd			
CATS Review	Evan Punch			
LUESA Review				
Solid Waste Review	Mavis Gant			
Fire Review	Kevin Esposito			
Erosion Control Review				
Urban Design Review	Will Linville			
Land Use Review	Alberto Gonzalez			
Charlotte Water Review	Keri Cantrell			
Entitlement Services R...	John R Kinley			
LD Zoning Review	Crystal Monsegur			
Housing Review	Zelleka Biermann			
Code Enforcement Review	Mark Fowler			
Urban Forestry/Arboris...	Henry Kunzig			
Planning Subdivision R...	Josh Weaver			
Floodplain Review				
Stormwater Engineering...				
Plan Collection	Crystal Monsegur			
Update GIS	Yorknek Romero			

Adhoc Task Status:

Task	Assigned To	Status	Status Date	Action By

Contact Info:

Name	Organization Name	Contact Type	Relationship	Address	Contact Primary Address	Status	Contact Start Date	Contact End Date
Jason Cowan	Burr & Berry Co...	Financially Res...	Financially Res...	6500 Sharon Hil...		Active	07/02/2025	
Lucas Hanna	Peninsula Civil...	Agent	Agent	52A Ervin Stree...		Active	07/02/2025	
Jason Cowan	Burr & Berry Co...	Applicant - Key...	Applicant - Key...	6500 Sharon Hil...		Active	07/02/2025	

Licensed Professionals Info:

Primary	License Number	License Type	Name	Business Name	Business License #
Yes	047011	ENGINEER	Nicholas Vesely	Peninsula Civil...	P-1007, C-390

Scheduled/Pending Inspections:

Inspection Type	Scheduled Date	Inspector	Status	Comments

Resulted Inspections:

Inspection Type	Inspection Date	Inspector	Status	Comments

Total Fee Assessed: $1,905.00

Total Fee Invoiced: $1,905.00

Balance: $0.00

ARTICLE 8.3 ZONING REQUIREMENTS	CODE REQUIREMENTS	VAR-2024-00056	VAR-2025-00032	REDUCTION AMOUNT
MINIMUM LOT WIDTH:	50'	NO VARIANCE REQUEST	NO VARIANCE REQUEST	NO REDUCTION
4+ LANE AVENUE FRONT SETBACK:	36'	20' MEASURED FROM F.B.O.C.	NO VARIANCE REQUEST	NO REDUCTION
PRIMARY-OTHER FRONT SETBACK:	36'	20' MEASURED FROM F.B.O.C.	NO VARIANCE REQUEST	NO REDUCTION
SIDE SETBACK:	0'	NO VARIANCE REQUEST	NO VARIANCE REQUEST	NO REDUCTION
REAR SETBACK:	10'	NO VARIANCE REQUEST	NO VARIANCE REQUEST	NO REDUCTION
BUILDING HIBGHT:	80'	NO VARIANCE REQUEST	NO VARIANCE REQUEST	NO REDUCTION
4-5 LANE AVE/BLVD GROUND FLOOR ENTRANCE:	1 ENTRANCE REQUIRED	NO VARIANCE REQUEST	NO VARIANCE REQUEST	NO REDUCTION
PRIMARY-OTHER GROUND FLOOR ENTRANCE:	1 ENTRANCE REQUIRED	NO VARIANCE REQUEST	NO ENTRANCE REQUIRED	1 ENTRANCE REMOVED (100%)
OPEN SPACE REQUIREMENTS:	NONE REQUIRED	NO VARIANCE REQUEST	NO VARIANCE REQUEST	NO REDUCTION

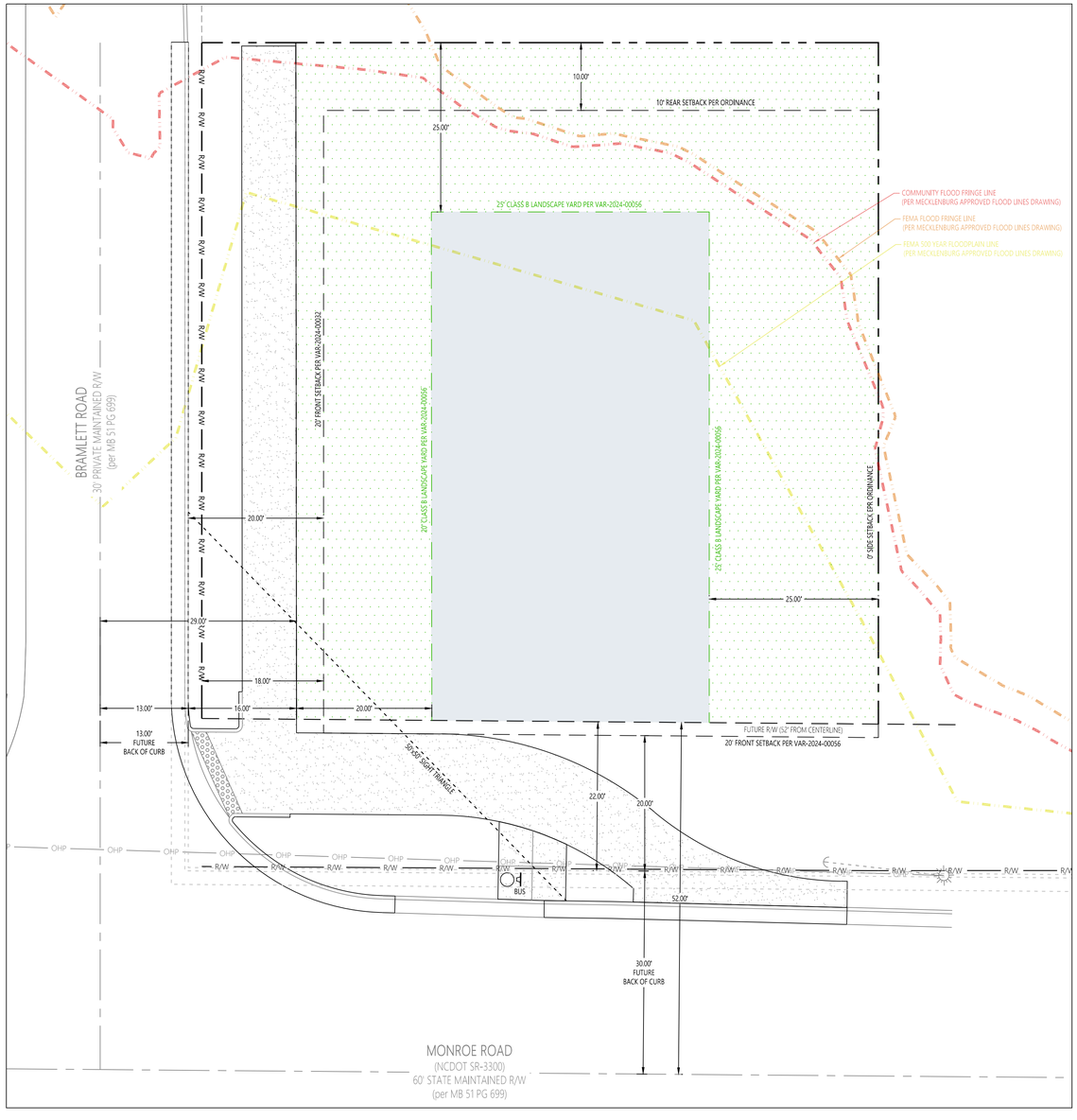
ARTICLE 20.9 ZONING REQUIREMENTS	CODE REQUIREMENTS	VAR-2024-00056	VAR-2025-00032	REDUCTION AMOUNT
LANDSCAPE YARD ADJACENT TO N2-B ZONING:	40' CLASS A LANDSCAPE YARD	25' CLASS B LANDSCAPE YARD	25' CLASS B LANDSCAPE YARD	NO REDUCTION
LANDSCAPE YARD ACROSS STREET FROM N2 PLACE TYPE:	25' CLASS B LANDSCAPE YARD	20' CLASS B LANDSCAPE YARD	10' CLASS B LANDSCAPE YARD	10' REDUCTION (50%)

DEVELOPABLE AREA SUMMARY

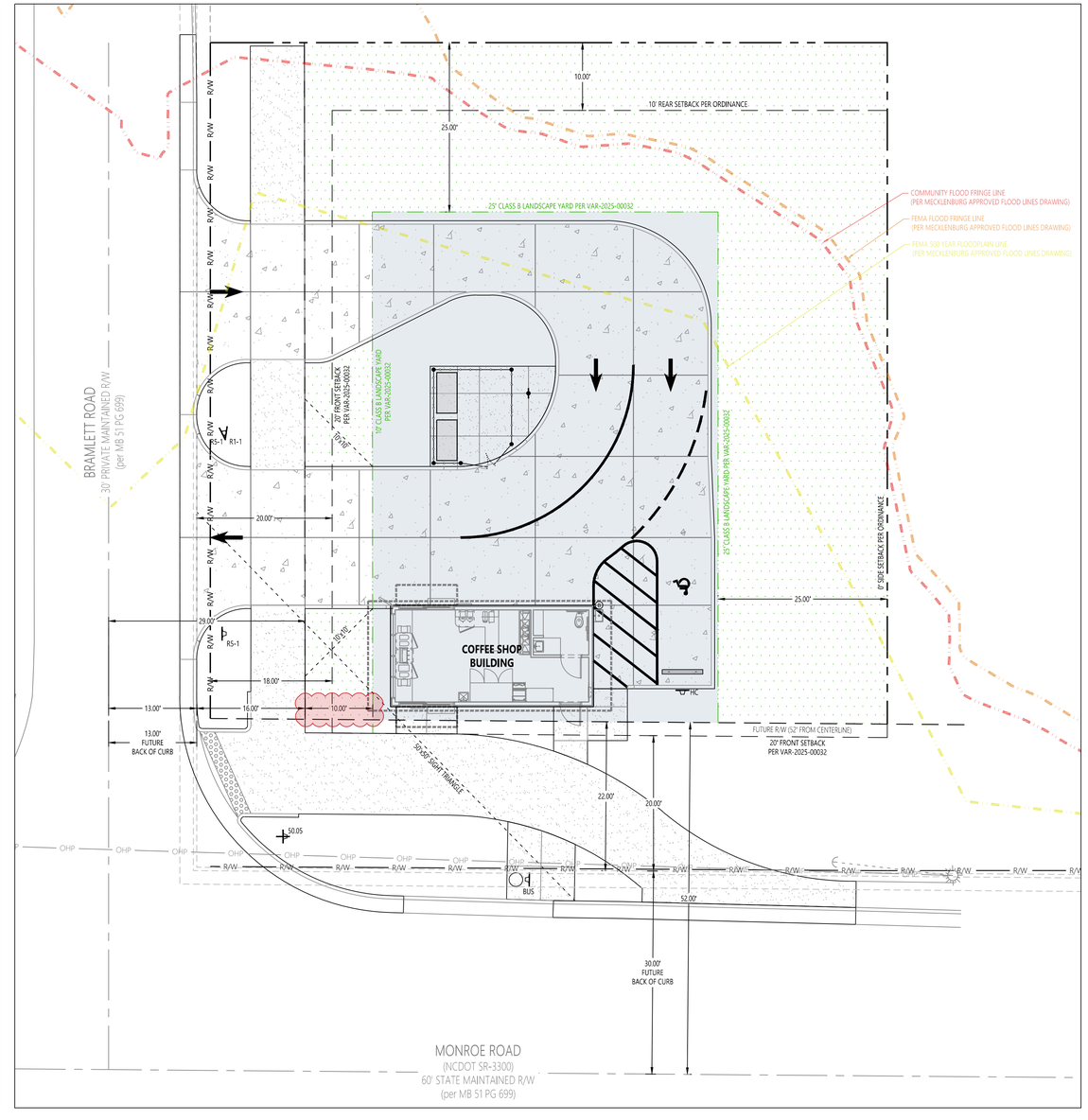
EXISTING PARCEL AREA: 10,026.38 SF (0.230 AC)
DEVELOPABLE AREA WITHOUT VARIANCE: 855.99 SF (8.54%)
DEVELOPABLE AREA WITH VAR-2024-00056: 3,089.85 SF (30.82%)
DEVELOPABLE AREA WITH VAR-2025-00032: 3,840.64 SF (38.31%)
DEVELOPABLE AREA INCREASE: 750.79 SF (19.55%)

VAR-2025-00032 LANSCAPE YARD VARIANCE REQUIREMENTS

25' CLASS B LANDSCAPE YARD = 1 EVERGREEN SHRUB PER 3 LF, 1 TREE PER 30 LF (40% EVERGREEN), NO FENCE
10' CLASS B LANDSCAPE YARD = 1 EVERGREEN SHRUB PER 5 LF, 1 TREE PER 50 LF (40% EVERGREEN), NO FENCE
NOTE: BUFFER MEASUREMENTS EXCLUDE DRIVEWAY WIDTH AND SIGHT TRIANGLE IMPACTS.
NOTE: EXISTING VEGETATION TO BE UTILIZED TO MEET REQUIREMENTS AS FEASIBLE.



1 EXISTING VAR-2024-00056 CONDITIONS
SCALE: 1"=10'



2 PROPOSED VAR-2025-00032 CONDITIONS
SCALE: 1"=10'

PENINSULA CIVIL DESIGN
Civil Engineering | Land Planning
106 Stowe Road
Belmont, NC 28012
(917) 842-2233
NC FIRM: P-2816

Burr & Berry Coffee, LLC
6500 Sharon Hills Road
Charlotte, NC 28210

PCD PROJECT NUMBER:
2435

BOUNDARY, TOPOGRAPHIC, AND UNDERGROUND UTILITY SURVEY DATED MARCH 17, 2025 PROVIDED BY CAROLINA GEMOATICS, PLLC, 469 HOSPITAL DRIVE, SUITE D, GASTONIA, NC 28054. 980-329-3382. NC FIRM P-1965.

FOR REVIEW ONLY

N

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

Burr & Berry Coffee Store #4

2901 Monroe Road
Charlotte, NC 28205

ISSUE DATE:
August 04, 2025

VARIANCE REQUEST SITE PLAN

VAR-2025-00033 - Setback Variance

Menu Help

Application Detail: Detail

Application Type: Variance

Address: 5124 CENTRAL AV, CHARLOTTE, NC 28205

Owner Name: SAM`S INVESTMENTS VIII LLC

Owner Address: PO BOX 56607, ATLANTA, GA 30343

Application Name: Setback Variance

Parcel No: 13105102

Description of Work: Backflow prevention device installation. Plans show 36' setback, we would like to move it about 25' to bring it to the edge of the existing landscape island out of the way of traffic to the store and pumps.

Open Date: 07/18/2025

Application Status: In Progress

Custom Fields:

PLAN ROOM ACKNOWLEDGEMENT

Upload Plans Acknowledgement

√

VARIANCE

Development Type
Non-Residential

Has work started on this project?
No

Additional Parcel Numbers
_

Have you had a pre-submittal meeting?
Yes

Enter Accela record ID of Pre-Submittal meeting
UDOPS-2025-00118

Enter date of pre-submittal meeting
07/14/2025

Property Rezoned?
No

Is this Pre-UDO Zoning?

Pre-UDO Zoning District
_

Rezoning Petition Number
_

UDO Conditional Zoning
_

UDO Conditional Overlay
_

Rezoning Petition Accela record ID
_

UDO Zoning District
CG General Commercial Zoning District

UDO Overlay
N/A

Did you obtain a building permit?
No

Building Permit Number
_

Have you received a Notice of Violation or Stop Work Order for this project?
No

NOV Number
_

Related Accela Record IDs
_

Hardship results from the strict application of the ordinance
Existing regulations would require the backflow to be in the middle of the parking between the fuel pumps and the planter island at Sharon Amity.
This would result in constant damage to the device as well as our guests' cars and maybe even the pumps.
The perimeter lighting wires, price sign wiring, rebar, wire mesh and communications (internet) wiring could potentially be damaged or need to be relocated. Possibly even the gas lines to the pumps.

Hardship results from conditions that are peculiar to the property
The parking lot has underground gas lines, wires, electrical conduit. Customers would be unable to freely access some of the pumps and the store.

Hardship did not result from actions of the applicant or owner
The previous backflow device was inside the store and was removed by vandals before we took the property, since it was inside we were unaware that it had been there.

Variance is consistent with the spirit, purpose, and intent of the Ordinance
We would comply with all screening requirements and make sure it looks great.

VARIANCE REQUEST

Article	Code Section	Code Requirement	Variance Request
	23-173		Setback variance for backflow prevention device installation.

Application Comments:

View ID	Comment	Date

Workflow Status:

Task	Assigned To	Status	Status Date	Action By
Application Completene...	Crystal Monsegur	Plans Received	08/11/2025	Digital Plan Room
Application Distribution	Crystal Monsegur			
CDOT Review	Jacob Carpenter			
Parks and Rec Review	Katie Lloyd			
CATS Review	Evan Punch			
LUESA Review				
Solid Waste Review	Mavis Gant			
Fire Review	Kevin Esposito			

Task	Assigned To	Status	Status Date	Action By
Erosion Control Review				
Urban Design Review	Will Linville			
Land Use Review	Alberto Gonzalez			
Charlotte Water Review	Keri Cantrell			
Entitlement Services R...	John R Kinley			
LD Zoning Review	Crystal Monsegur			
Housing Review	Zelleka Biermann			
Code Enforcement Review	Mark Fowler			
Urban Forestry/Arboris...	Henry Kunzig			
Planning Subdivision R...	Josh Weaver			
Floodplain Review				
Stormwater Engineering...				
Plan Collection	Crystal Monsegur			
Update GIS	Yorknek Romero			

Adhoc Task Status:

Task	Assigned To	Status	Status Date	Action By

Contact Info:

Name	Organization Name	Contact Type	Relationship	Address	Contact Primary Address	Status	Contact Start Date	Contact End Date
Tonya Martin	SAM'S MART	Agent	Agent	7935 Council Pl...	7935 COUNCIL PLACE SUI...	Active	07/18/2025	
Tonya Martin	SAM'S MART	Financially Res...	Financially Res...	7935 Council Pl...	7935 COUNCIL PLACE SUI...	Active	07/18/2025	
Tonya Martin	SAM'S MART	Applicant - Key...	Applicant - Key...	7935 Council Pl...	7935 COUNCIL PLACE SUI...	Active	07/18/2025	

Licensed Professionals Info:

Primary	License Number	License Type	Name	Business Name	Business License #

Scheduled/Pending Inspections:

Inspection Type	Scheduled Date	Inspector	Status	Comments

Resulted Inspections:

Inspection Type	Inspection Date	Inspector	Status	Comments

Total Fee Assessed: $1,905.00

Total Fee Invoiced: $1,905.00

Balance: $0.00

PRECISE LOCATIONS, ELEVATIONS, LENGTH & DIRECTION OF A LINE & AREAS. Some items such as vents/piping/equip. diameters are not to scale.

NO MONITORING WELLS REPORTE
FOR HUMAN CONSUMPTION NOT I
PROPOSED LOCATION OF NEW US

TANK TYPE	TANK
GLASTEEL II	12,00
GLASTEEL II	4,000
GLASTEEL II	4,000

SEE NCDEQ DWM UST

Hedge wall moved toward street 8 ft

Treated wood wall, stained green to be no more than 1 ft taller than fiberglass shell and to be provided on the street face and either side.

Required location according to existing regulations.

Proposed location of new backflow preventer

N. SHARON AMITY RD.

24" CURB AND GUTTER

S16°14'01"W

150.18'

774

774.35

CONCRETE

13.0'

STORE

1A

1B

1C

1,2

5,9

13

3

6

4

201.76'

12" PVC

This engineer did not personally observe & confirm the record conditions or have it done under his direct supervisory control nor responsible charge. AS BUILT information has been provided by: Petroleum Specialty, Inc; Canton, NC

Tim
L
Lau

FACILITY: S
5124 CENTR
Mecklenburg
UST Permit #

ENGINEER:
7300 Glenwo
Ph: 919-782-

DATE: 09/11/
SCALE: 1.0"
REVISION #1
COMPARTMI
TANK/PIPING
PRINT: #2/3

N

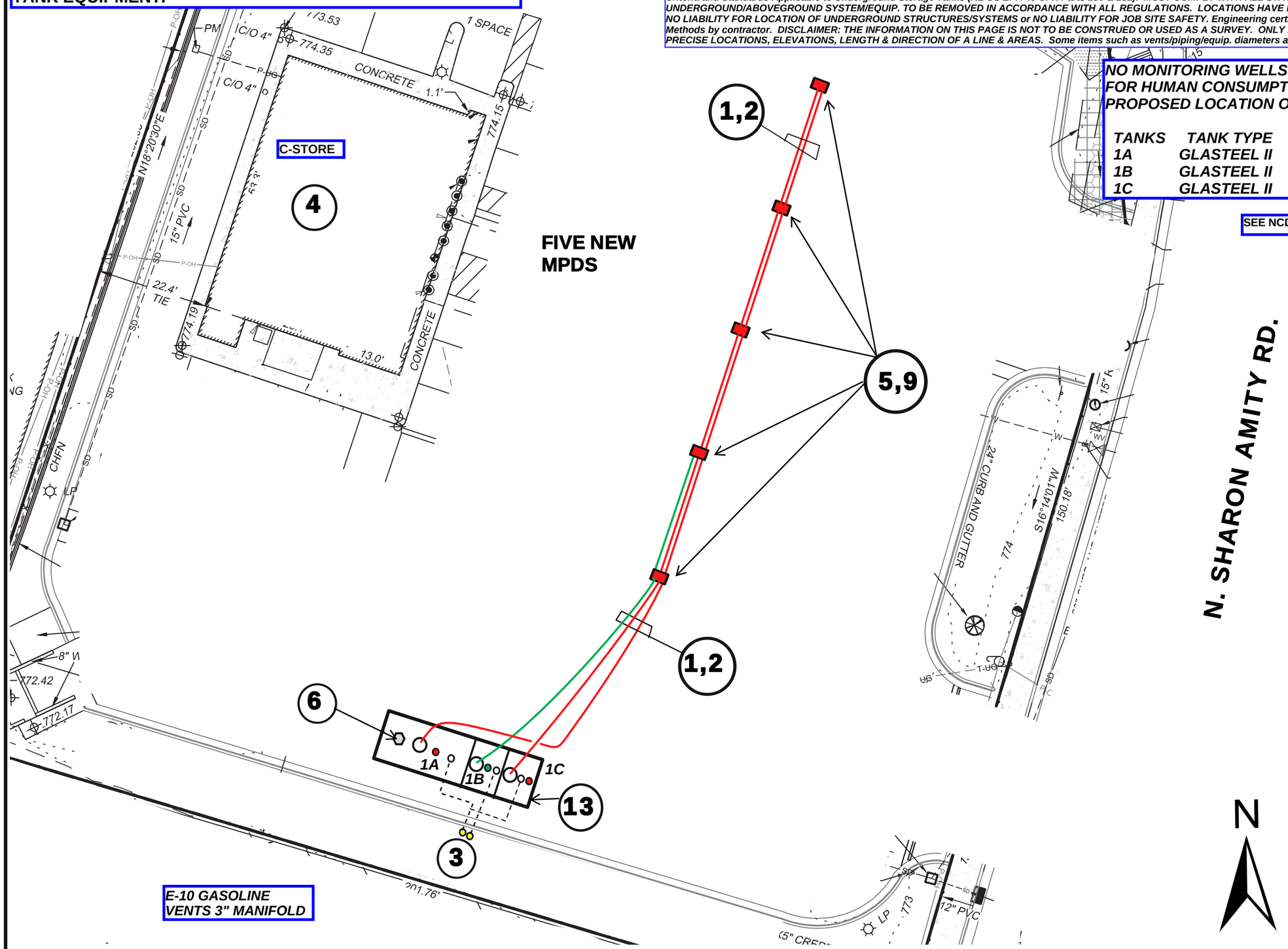
Requested location for new backflow preventer

5124 Central Ave.

Backflow preventer would be close to Sharon Amity Rd. in the area where the parking lot meets the roadside garden.

THIS PRINT IS FOR TANKS, PIPING, UDCS, VENTS, & LEAK DETECTION CONSOLE/SENSORS. SEE PRINT #1 FOR PROPERTY LINES & ROADS/SITE LAYOUT. SEE PRINT #3 FOR TANK EQUIPMENT.

Tanks and all related petroleum systems shall be installed in accordance with all requirements of North Carolina State Building/Electrical/Fire Code (Latest Editions), specifically Chapter 23 "MOTOR FUEL-DISPENSING FACILITIES AND REPAIR GARAGES"; Chapter 57 "Flammable and Combustible Liquids" & Chapter 50 "Hazardous Materials-General Provisions". As a reference under the NC Fire Code, the National Fire Protection Association (NFPA) Pamphlet 30-A "Code for Motor Fuel Dispensing Facilities and Repair Garages", & Pamphlet 30 "Code for Flammable and Combustible Liquids", (Latest Editions), may also be used. Other industry standards adopted by NC include the Petroleum Equipment Institute (PEI) and the American Petroleum Institute (API) UST Standards. Specifically, the Petroleum Equipment Institutes (PEI) RP100: "INSTALLATION OF UNDERGROUND LIQUID STORAGE SYSTEMS" & API RP 1615, "INSTALLATION OF UNDERGROUND PETROLEUM STORAGE SYSTEMS" (Latest Editions). All petroleum equip. must be installed in accordance with manufactures requirements. All Environmental Regulations in Accordance with NCDEQ DWM UST Title 15A Subchapter 2N Sections .0100 thru .0900 Criteria and Standards Applicable to Underground Storage Tanks (RE US EPA 40 CFR Parts 280 & 281). MUST COMPLY WITH ALL STATE & LOCAL OSHA & AIR QUALITY REGULATIONS. EXISTING UNDERGROUND/ABOVEGROUND SYSTEM/EQUIP. TO BE REMOVED IN ACCORDANCE WITH ALL REGULATIONS. LOCATIONS HAVE NOT BEEN VERIFIED BY THIS ENGINEER. THIS ENGINEER ASSUMES NO LIABILITY FOR LOCATION OF UNDERGROUND STRUCTURES/SYSTEMS or NO LIABILITY FOR JOB SITE SAFETY. Engineering certification for NCDEQ DWM UST FORMS 6A & 6C Permits only. Means & Methods by contractor. DISCLAIMER: THE INFORMATION ON THIS PAGE IS NOT TO BE CONSTRUED OR USED AS A SURVEY. ONLY A LICENSED LAND SURVEYOR (RLS) CAN LEGALLY DETERMINE PRECISE LOCATIONS, ELEVATIONS, LENGTH & DIRECTION OF A LINE & AREAS. Some items such as vents/piping/equip. diameters are not to scale.



NO MONITORING WELLS REPORTED. WATER SUPPLY WELLS USED FOR HUMAN CONSUMPTION NOT REPORTED WITHIN 500 FEET OF PROPOSED LOCATION OF NEW UST COMPONENTS.

TANKS	TANK TYPE	TANK SIZE	PRODUCT STORED
1A	GLASTEEL II	12,000 gals.	GASOLINE
1B	GLASTEEL II	4,000 gals.	DIESEL
1C	GLASTEEL II	4,000 gals.	GASOLINE

SEE NCDEQ DWM UST FORM #6C FOR PETROLEUM EQUIPMENT LIST.

ENGINEERING CERTIFICATION ONLY FOR NCDEQ DWM UST PERMITS.

NEW UST SYSTEMS

FACILITY: SAMS MART #215
5124 CENTRAL AVE; CHARLOTTE, NC 28205
Mecklenburg County;
UST Permit #00-0-0000014849

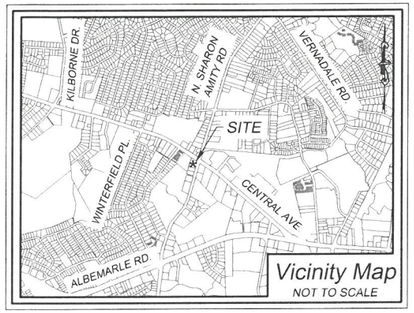
ENGINEER: Tim Laughlin, P.E. 022012 NCPCM
7300 Glenwood Ave; Raleigh, NC 27612;
Ph: 919-782-4411; NCBELS #F-1001

DATE: 09/15/2024
SCALE: 1.0" = 20.0FT.
REVISION #1:
PRINT: #2/3

GRAPHIC SCALE

20 0 10 20 40

(IN FEET)
1 inch = 20 ft.



REMOVE/CLOSE ALL NOT IN USE UST SYSTEMS IN ACCORDANCE WITH ALL STATE & FEDERAL REGULATIONS.

SUE CERTIFICATION

THE LOCATION OF SUB SURFACE UTILITIES AS SHOWN HEREON ARE BASED ON LEVEL B UTILITY DESIGNATING BY EAGLE ENGINEERING INCORPORATED (EEI), FOLLOWING ASCE 38-02 STANDARDS THROUGH THE APPLICATION OF APPROPRIATE SURFACE GEOPHYSICAL METHODS TO DETERMINE THE EXISTENCE AND APPROXIMATE HORIZONTAL POSITION OF SUBSURFACE UTILITIES. THIS SURVEYOR MAKES NO GUARANTEE THAT THE UTILITIES SHOWN HEREON COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED. THE OWNER, HIS CONSULTANTS AND HIS CONTRACTORS SHALL HEREBY DISTINCTLY UNDERSTAND THAT UTILITIES AND STRUCTURES NOT SHOWN MAY BE ENCOUNTERED. EEI CERTIFIES THAT THE UTILITIES LOCATED ARE DONE SO AS ACURATELY AS POSSIBLE FROM THE INFORMATION AVAILABLE

ZONING INFORMATION

ACCORDING TO THE CHARLOTTE/MECKLENBURG GEOGRAPHIC INFORMATION SYSTEM (GIS) ON 7/22/24, THE SUBJECT PROPERTY IS ZONED "CG" (GENERAL COMMERCIAL) BECAUSE THERE MAY BE A NEED FOR INTERPRETATION OF THE APPLICABLE ZONING CODES, WE REFER YOU TO THE CITY OF CHARLOTTE BUILDING STANDARDS DEPARTMENT FOR ADDITIONAL INFORMATION.

MIN. BUILDING SETBACK PER CG ZONING
FRONT: 40 FEET
REAR: 20 FEET
SIDE (NON-RESIDENTIAL): 0'

NEW DISPENSER CANOPY ENGINEERING BY OTHERS.
SITE DEMOLITION & EXISTING UST SYSTEMS/TANK REMOVAL BY OTHERS.
SEE PRINTS #2 & #3 FOR NCDEQ DWM UST DETAILS.

NEW UST SYSTEMS SITE LAYOUT/ROADS AS REQUIRED BY NCDEQ DWM UST SECTION FOR PRE INSTALLATION ENVIRONMENTAL PERMITS.

FACILITY: SAMS MART #215
5124 CENTRAL AVE; CHARLOTTE, NC 28205
Mecklenburg County;
UST Permit #00-0-0000014849

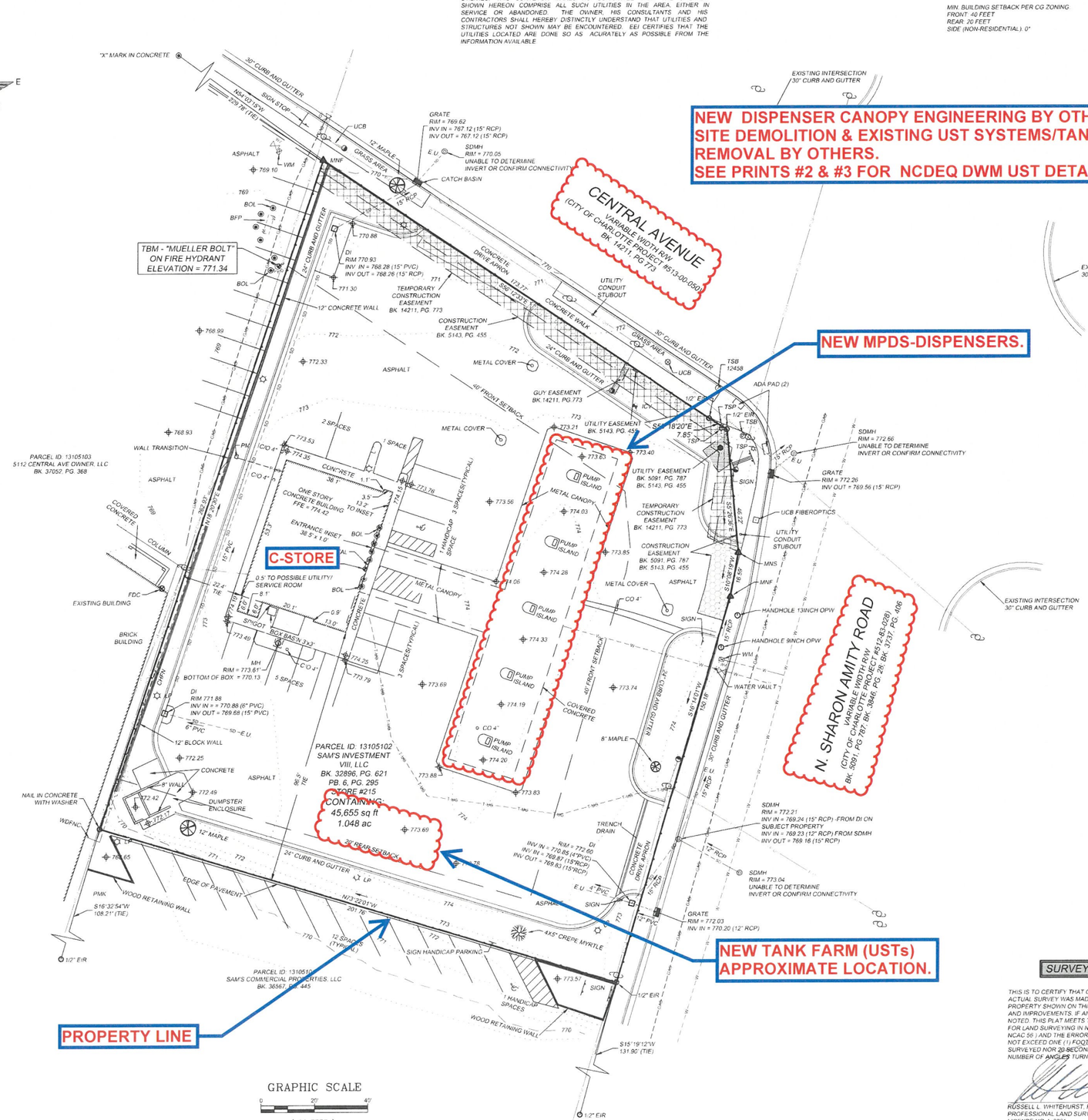
ENGINEER: Tim Laughlin, P.E. 022012 NCPCM
7300 Glenwood Ave; Raleigh, NC 27612;
Ph: 919-782-4411; NCBELS #F-1001

DATE: 09/16/2024
SCALE: GRAPHIC AS SHOWN
REVISION #1:
PRINT: #1/3

THE PROPERTY SHOWN HEREON LIES WITHIN THE "BRIAR" WATERSHED AREA AS CURRENTLY SHOWN ON THE CITY OF CHARLOTTE OPEN DATA PORTAL" WATERSHED

NORTH CAROLINA PROFESSIONAL SEAL L-022012 ENGINEER TIMOTHY L. LAUGHLIN 9/16/24

Not a Certified Document as to the Original Document but Only as to the Revisions (Blue Box/Red Cloud) - This certified RLS document originally issued by RUSSELL L. WHITEHURST, RLS #L-3661, on 7/29/24. This document is only certified as to the revisions by this engineer.



EIP - EXISTING IRON PIPE
EIR - EXISTING IRON REBAR

PVC - POLYVINYL CHLORIDE PIPE
RCP - REINFORCED CONCRETE PIPE
R/W - RIGHT OF WAY
SDMH - STORM DRAINAGE MANHOLE
SSMH - SANITARY SEWER MANHOLE
TBM - TEMPORARY BENCHMARK
TSB - TRAFFIC SIGNAL BOX
TSP - TRAFFIC SIGNAL POLE
UCB - UNDERGROUND CABLE BOX
WDFNC - WOOD FENCE
WM - WATER METER

- IRRIGATION CONTROL VALVE
- UTILITY POLE
- SANITARY SEWER MANHOLE
- FIRE HYDRANT
- WATER VALVE
- GAS VALVE
- YARD INLET / AREA DRAIN
- SIGN
- ELECTRIC BOX/TRANSFORMER
- CURB INLET
- GUY WIRE
- WATER METER
- UNDERGROUND POWER
- UNDERGROUND TELEPHONE
- GAS LINE
- OVERHEAD UTILITY LINE
- SANITARY SEWER LINE
- STORM DRAIN
- WATER LINE
- FENCE LINE
- CONCRETE
- TEMPORARY CONSTRUCTION EASEMENT
- UTILITY / GUY EASEMENT
- CONSTRUCTION EASEMENT BK. 14211, PG. 773

SURVEYORS CERTIFICATION

THIS IS TO CERTIFY THAT ON THE 29TH DAY OF JULY, 2024, AN ACTUAL SURVEY WAS MADE UNDER MY SUPERVISION OF THE PROPERTY SHOWN ON THIS PLAT, AND THAT THE BOUNDARY LINES AND IMPROVEMENTS, IF ANY, ARE SHOWN HEREON, EXCEPT AS NOTED. THIS PLAT MEETS THE MINIMUM STANDARDS OF PRACTICE FOR LAND SURVEYING IN NORTH CAROLINA BOARD RULE 1600 (21 NCAC 56) AND THE ERROR OF CLOSURE FOR THIS PARCEL DOES NOT EXCEED ONE (1) FOOT PER 10,000 LINEAR FEET OF PERIMETER SURVEYED NOR 20 SECONDS TIMES THE SQUARE ROOT OF THE NUMBER OF ANGLES TURNED.

07/29/2024
RUSSELL L. WHITEHURST, PLS — DATE
PROFESSIONAL LAND SURVEYOR
LICENSE NO. L-3661

EAGLE ENGINEERING
FIRM LICENSE # C-0873
20134 VAN BUREN AVE
INDIAN TRAIL, NC 28079
(704) 882-4222
www.eagleengine.net

NORTH CAROLINA PROFESSIONAL SEAL L-3661 LAND SURVEYOR RUSSELL L. WHITEHURST 07/29/2024

NO.	DATE	BY	ISSUE
1	XX/XX/XX	X	X

SAM'S HOLDINGS™

STORE #215 (PARCEL ID: 13105102)
5124 CENTRAL AVENUE,
CITY OF CHARLOTTE, MECKLENBURG COUNTY, NC
OWNER:
SAM'S INVESTMENTS VIII, LLC
7935 COUNCIL PLACE, SUITE 200
MATTHEWS, NC 28105

EXISTING CONDITIONS SURVEY

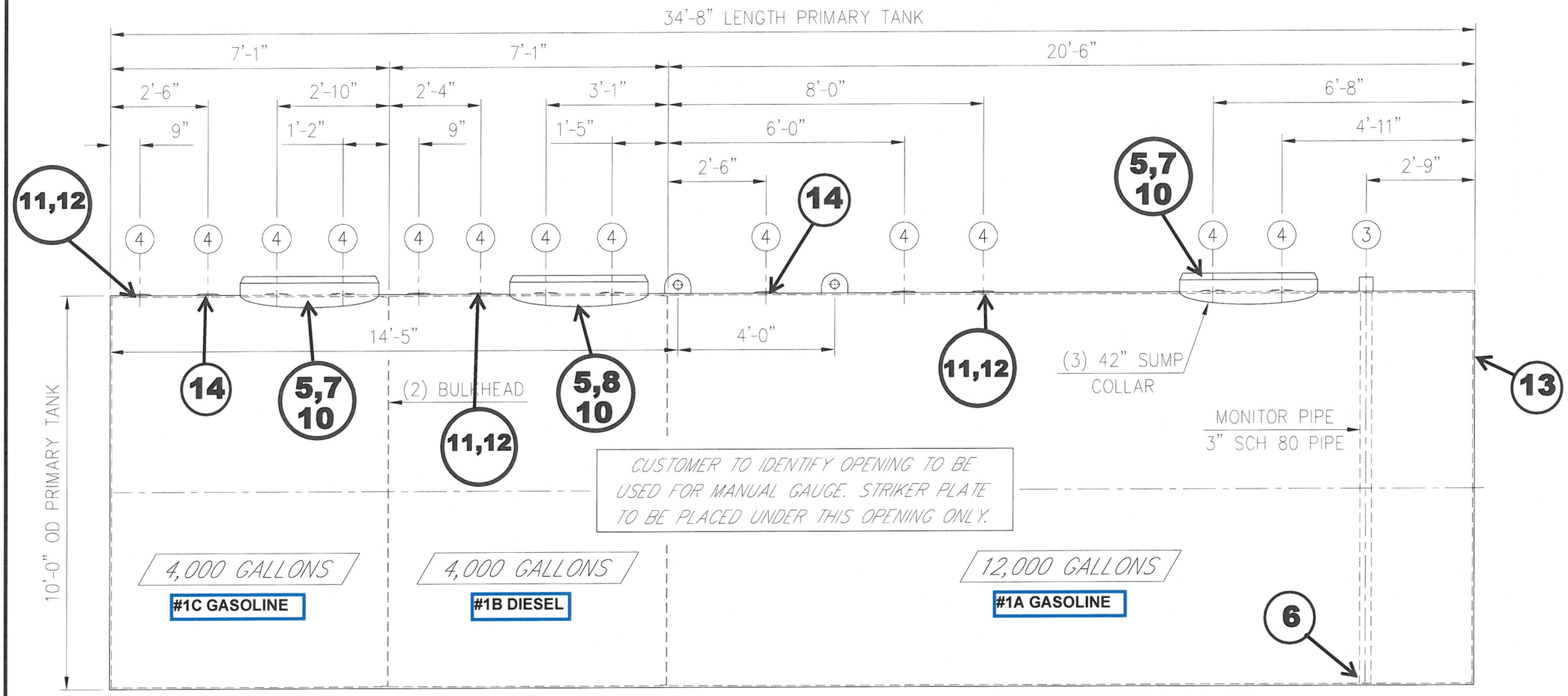
DESIGNED BY	DRAWN BY	CHECKED BY	JOB NUMBER
N/A	RMC	RLW	8376
SCALE: 1" = 20'	DATE: 07/29/2024		

Sheet 1 OF 1

CONTRACTOR RESPONSIBLE FOR CORRECT PLACEMENT OF TANK OPENINGS & EQUIPMENT

TANK METHOD USED TO ANCHOR TANKS IN GROUND: TANK OVERBURDEN SLAB AND/OR ANCHORS PER PEI RP-100. Per Tank Manufacture Requirements (By Others).

SEE NCDEQ DWM UST FORM #6C FOR PETROLEUM EQUIPMENT LIST.



20,000 Gallon Three-Compartment GLASTEEL II Tank Split 12/4/4

EST. EMPTY WEIGHT - 18,500 LBS

NORTH CAROLINA PROFESSIONAL SEAL L-022012 ENGINEER TIMOTHY L. LAUGHLIN 9/16/24

ENGINEERING CERTIFICATION ONLY FOR NCDEQ DWM UST PERMITS.

modern welding company of georgia, inc.

P.O. Box 10067 • 300 Prep Phillips Drive • Augusta, Georgia 30903 • (706) 722-3411

THIS PRINT IS FOR TANKS #1A, #1B & #1C TANK EQUIPMENT ONLY. FOR PIPING, UDCS, VENTS, & LEAK DETECTION CONSOLE/SENSORS. SEE PRINT #2.

CUSTOMER ACTION SIGNATURE BLOCK
APPROVAL DRAWING

- ☐ APPROVED AS IS PROCEED WITH FABRICATION
- ☐ APPROVED AS NOTED. REVISE & PROCEED w/FAB
- ☐ NOT APPROVED RESUBMIT w/CHGS FOR APPROVAL

AGENT/ENGINEER: _____

DATE: _____

CUSTOMER: _____

NEW UST SYSTEMS

FACILITY: SAMS MART #215
5124 CENTRAL AVE; CHARLOTTE, NC 28205
Mecklenburg County;
UST Permit #00-0-0000014849

ENGINEER: Tim Laughlin, P.E. 022012 NCPCM
7300 Glenwood Ave; Raleigh, NC 27612;
Ph: 919-782-4411; NCBELS #F-1001

DATE: 09/15/2024
SCALE: DIMENSIONS
REVISION #1:
PRINT: #3/3

VAR-2025-00035 - PNG Plaza Rd. Station - Setback Variance

Menu Help

Application Detail: Detail

Application Type: Variance

Address: 6530 THE PLAZA, CHARLOTTE, NC 28215

Owner Name: PIEDMONT NATURAL GAS COMPANY

Owner Address: PO. BOX 33068, CHARLOTTE, NC 28233

Application Name: PNG Plaza Rd. Station - Setback Variance

Parcel No: 10706524

Description of Work: PIEDMONT NATURAL GAS COMPANY, INC (PNG) PROPOSES TO UPGRADE AND REPLACE THE EXISTING STATION (ID 3339), LOCATED IN CHARLOTTE, NC, DUE TO SYSTEM CAPACITY REQUIREMENTS, IN ORDER TO SERVE THE SURROUNDING AREA. NEW STATION WILL INCLUDE: DUAL RUN MONITOR / WORKER REGULATORS, FILTER, ERX, HEATER, A RELIEF VALVE FOR OVER PRESSURE PROTECTION, A FULL STATION BYPASS, METER, AND ASSOCIATED STATION PIPING, FITTINGS, AND INSTRUMENTATION. STATION WILL BE REPLACED IN PLACE, AND EXISTING STATION TAKEN OUT OF SERVICE FOR CONSTRUCTION DURING OFF PEAK CONDITIONS.

Open Date: 07/21/2025

Application Status: In Progress

Custom Fields: **PLAN ROOM ACKNOWLEDGEMENT**

Upload Plans Acknowledgement

√

VARIANCE

Development Type
Non-Residential

Has work started on this project?
No

Additional Parcel Numbers
_

Have you had a pre-submittal meeting?
Yes

Enter Accela record ID of Pre-Submittal meeting
UDOPS-2025-00128

Enter date of pre-submittal meeting
07/02/2025

Property Rezoned?
No

Is this Pre-UDO Zoning?

Pre-UDO Zoning District
_

Rezoning Petition Number
_

UDO Conditional Zoning
_

UDO Conditional Overlay
_

Rezoning Petition Accela record ID
_

UDO Zoning District
N1-B Neighborhood 1 Zoning District

UDO Overlay
N/A

Did you obtain a building permit?
No

Building Permit Number
_

Have you received a Notice of Violation or Stop Work Order for this project?
No

NOV Number
_

Related Accela Record IDs
_

Hardship results from the strict application of the ordinance
Yes, hardship does result from the strict application of the ordinance. In order to follow PNG standards and engineering best practices, equipment separation must be met for aboveground natural gas facilities. Due to the increased size of this aboveground facility with larger equipment, current requirements for a landscaping buffer, and the limiting size of the parcel, setbacks cannot be met.

Hardship results from conditions that are peculiar to the property
Yes, hardship conditions are peculiar to the property. Due to the small size of the existing parcel, a 20' additional setback requirement on top of the original setback requirement leaves very little room for development on the parcel. In addition, the existing transmission pipeline running through the parcel has been in operation for decades, and the location of this station cannot move.

Hardship did not result from actions of the applicant or owner
PNG purchased this in 1974 according to public records, and due to increasing energy demand in the Charlotte area, this natural gas regulator station must be upgraded. This is of no fault to the owner.

Variance is consistent with the spirit, purpose, and intent of the Ordinance
This variance is certainly with the spirit, purpose and intent of the zoning ordinance. Should the parcel be large enough to meet the ordinance requirements, the aboveground facility would have been designed to do so. Again, due to the limiting size of the parcel and need for a larger station to meet energy demands, the ordinance cannot be met. The need to increase the size of the station is directly tied to the needs of Charlotte residents.

VARIANCE REQUEST

Article	Code Section	Code Requirement	Variance Request
	15.4.DDDD.2.a.		PNG is requesting a variance from the 20' additional setback for installation of utilities. Due to the increased size of the aboveground natural gas facilities, this cannot be met.
	4.3c, table 4-2		PNG is requesting a variance from the setback requirements listed in table 4-2 under code 4.3c. Due to the increased size of the aboveground natural gas facilities, this cannot be met.

Application Comments:

View ID	Comment	Date

Workflow Status:

Task	Assigned To	Status	Status Date	Action By
Application Completene...	Crystal Monsegur	Plans Received	08/06/2025	Digital Plan Room
Application Distribution	Crystal Monsegur			
CDOT Review	Jacob Carpenter			
Parks and Rec Review	Katie Lloyd			
CATS Review	Evan Punch			

Task	Assigned To	Status	Status Date	Action By
LUESA Review				
Solid Waste Review	Mavis Gant			
Fire Review	Kevin Esposito			
Erosion Control Review				
Urban Design Review	Will Linville			
Land Use Review	Alberto Gonzalez			
Charlotte Water Review	Keri Cantrell			
Entitlement Services R...	John R Kinley			
LD Zoning Review	Crystal Monsegur			
Housing Review	Zelleka Biermann			
Code Enforcement Review	Mark Fowler			
Urban Forestry/Arboris...	Henry Kunzig			
Planning Subdivision R...	Josh Weaver			
Floodplain Review				
Stormwater Engineering...				
Plan Collection	Crystal Monsegur			
Update GIS	Yorknek Romero			

Adhoc Task Status:

Task	Assigned To	Status	Status Date	Action By

Contact Info:

Name	Organization Name	Contact Type	Relationship	Address	Contact Primary Address	Status	Contact Start Date	Contact End Date
PIEDMONT NATURAL GAS C...	PIEDMONT NATURA...	Financially Res...	Financially Res...	PO. BOX 33068, ...		Active	07/21/2025	
PIEDMONT NATURAL GAS C...	PIEDMONT NATURA...	Agent	Agent	PO. BOX 33068, ...		Active	07/21/2025	
PIEDMONT NATURAL GAS C...	PIEDMONT NATURA...	Applicant - Key...	Applicant - Key...	PO. BOX 33068, ...		Active	07/21/2025	

Licensed Professionals Info:

Primary	License Number	License Type	Name	Business Name	Business License #

Scheduled/Pending Inspections:

Inspection Type	Scheduled Date	Inspector	Status	Comments

Resulted Inspections:

Inspection Type	Inspection Date	Inspector	Status	Comments

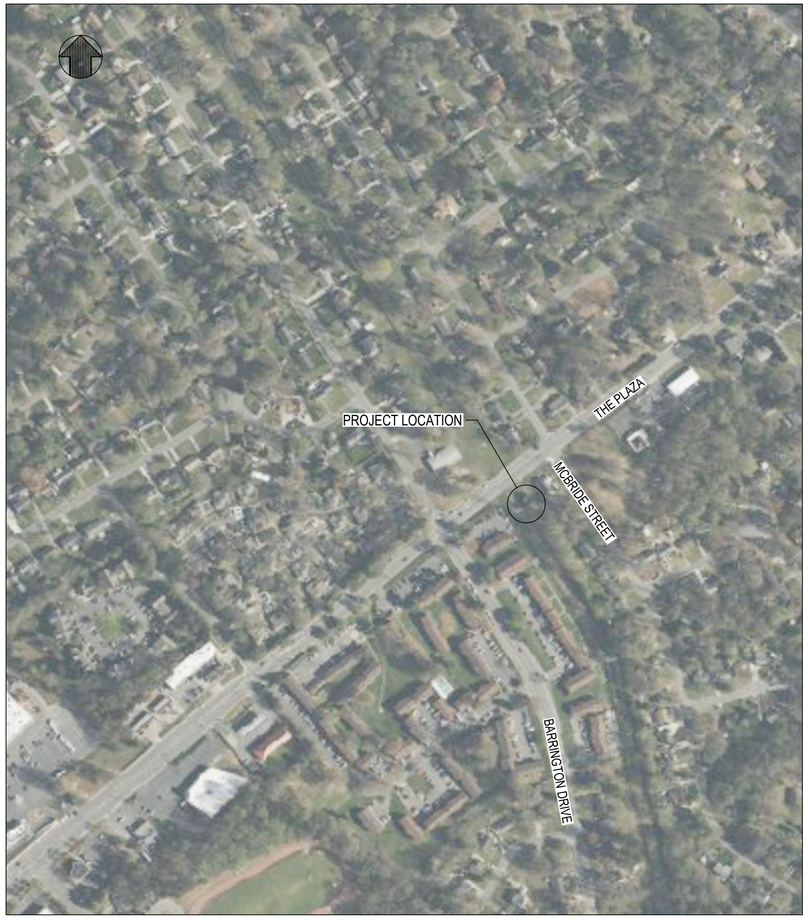
Total Fee Assessed: $1,905.00

Total Fee Invoiced: $1,905.00

Balance: $0.00

IFP DESIGN PACKAGE
PLAZA ROAD REGULATOR STATION PROJECT

CHARLOTTE, NORTH CAROLINA



LOCATION MAP

SCALE: NTS

PLAZA ROAD REGULATOR STATION
911 ADDRESS: 6530 THE PLAZA, CHARLOTTE, NC 28215
PARCEL IDENTIFICATION NUMBER (PIN): 10706524
IN SERVICE DATE:

DRAWING INDEX

PNG DRAWING NUMBER	DRAWING TITLE	SHEET NO.	REV.
PNG-G-001-0001379	COVER SHEET	1 OF 18	G
PNG-G-001-0001380	GENERAL NOTES AND LEGEND	2 OF 18	E
PNG-M-001-0001550	EXISTING STATION RETIREMENT SHEET	3 OF 18	G
PNG-C-001-0001635	FACILITY GENERAL ARRANGEMENT	4 OF 18	G
PNG-M-001-0001551	MECHANICAL PIPING PLAN	5 OF 18	E
PNG-M-001-0001552	PRE-CONSTRUCTION BY-PASS	6 OF 18	D
PNG-M-001-0001553	TP-01 & TP-02 PLAN & DETAILS	7 OF 18	D
PNG-M-001-0001554	FILTER & METER PLAN & DETAILS	8 OF 18	D
PNG-M-001-0001555	HEATER PLAN & DETAILS	9 OF 18	D
PNG-M-001-0001556	REGULATOR SET PLAN & DETAILS	10 OF 18	D
PNG-M-001-0001557	REGULATOR SET DETAILS	11 OF 18	D
PNG-M-001-0001558	RELIEF VALVE AND BYPASS PLAN & DETAILS	12 OF 18	D
PNG-M-001-0001559	TP-03 PLAN & TAP ASSEMBLY DETAILS	13 OF 18	D
PNG-C-001-0001636	SITE GRADING PLAN	14 OF 18	F
PNG-C-001-0001639	SITE GRADING NOTES	15 OF 18	E
PNG-C-001-0001637	EROSION AND SEDIMENTATION NOTES	16 OF 18	E
PNG-C-001-0001638	EROSION AND SEDIMENTATION DETAILS	17 OF 18	F
PNG-C-001-0001640	LANDSCAPING NOTES AND DETAILS	18 OF 18	C

PROJECT NARRATIVE:

PIEDMONT NATURAL GAS COMPANY, INC (PNG) PROPOSES TO UPGRADE AND REPLACE THE EXISTING STATION (ID 3339), LOCATED IN CHARLOTTE, NC, DUE TO SYSTEM CAPACITY REQUIREMENTS, IN ORDER TO SERVE THE SURROUNDING AREA. NEW STATION WILL INCLUDE: DUAL RUN MONITOR / WORKER REGULATORS, FILTER, ERX, HEATER, A RELIEF VALVE FOR OVER PRESSURE PROTECTION, A FULL STATION BYPASS, METER, AND ASSOCIATED STATION PIPING, FITTINGS, AND INSTRUMENTATION. STATION WILL BE REPLACED IN PLACE, AND EXISTING STATION TAKEN OUT OF SERVICE FOR CONSTRUCTION DURING OFF PEAK CONDITIONS. APPROXIMATE OFF PEAK CONDITIONS ARE MIDDLE OF MAY TO END OF SEPTEMBER. VERIFY WITH SYSTEM PLANNING BEFORE CONSTRUCTION START. STATION IS FED FROM LINE 364, AND WILL BE DESIGNED FOR A MAX PRESSURE OF 1000 PSIG. NEW STATION WILL FEED INTO EXISTING 75 PSIG DISTRIBUTION SYSTEM.

SYSTEM PLANNING NOTE:

CONSTRUCTION/SHUT-IN SHOULD BEGIN IN THE MIDDLE OF MAY (HEATING DEGREE DAY MUST BE LESS THAN 20 HDD).
NEW STATION MUST BE PLACED IN-SERVICE BEFORE THE END OF SEPTEMBER.
CHECK WITH SYSTEM PLANNING PRIOR TO CONSTRUCTION.
RECOMMENDED TO PREFAB STATION SECTIONS AS MUCH AS POSSIBLE TO REDUCE SHUT-IN TIME

HDR Engineering Inc. of the Carolinas, N.C.B.E.L.S. License Number F-0116
440 S. Church Street, Suite 1000, Charlotte, NC 28202, 704.338.8700

NORTH CAROLINA PROFESSIONAL SEAL 043705 ENGINEER JONATHAN W. LIECHTI, P.E.
07/18/2025
PROFESSIONAL ENG/ARCH STAMP

NO.	DATE	REVISION(S) DESCRIPTION	DRAFTING/DESIGN	CHECKER/REVIEWER	APPROVING ENGINEER
E	03/28/2025	REVISED ISSUED FOR PERMIT	DAVID STANLEY	MIKE SCARPELLI	JONATHAN LIECHTI
F	04/18/2025	REVISED ISSUE FOR PERMIT	JESSICA FORSYTHE	MIKE SCARPELLI	JONATHAN LIECHTI
G	07/16/2025	REVISED ISSUE FOR PERMIT (VARIANCE)	JON ANDREANO	ERIC HAMPTON	JONATHAN LIECHTI

DESCRIPTION	
AREA CODE	-
ACCOUNT NUMBER	-
PROJECT NUMBER	0236034
DWG TYPE	-
STATION ID	STA-7702

DUKE ENERGY. Piedmont Natural Gas

0236034
PLAZA ROAD REGULATOR STATION
COVER SHEET
CHARLOTTE, NORTH CAROLINA
CHARLOTTE, NC

CUSTOMER: XXXXXXXXX
MAP NO. XXXXXX-XX
SHEET(S) 1 OF 18 | DWG SCALE NONE
DWG DATE 03/06/2023 | SUPERSEDED -
DRAWING NUMBER: PNG -G-001-0001379 | REVISION: G
DISCIPLINE / RESOURCE CENTER / LINE NUMBER

GENERAL NOTES

1. INSTALLER SHALL FURNISH ALL MATERIALS NOT PROVIDED BY THE COMPANY (UNLESS OTHERWISE NOTED ON DRAWINGS OR SPECIFICATIONS) INCLUDING EQUIPMENT TRANSPORTATION, SERVICES AND PERFORM ALL NECESSARY WORK AS SHOWN ON THE DRAWINGS AND SPECIFIED HEREINAFTER.
2. IT SHALL BE THE RESPONSIBILITY OF THE INSTALLER TO VERIFY ALL DIMENSIONS GIVEN ON THE DRAWINGS. ANY ITEM IN QUESTION SHALL BE BROUGHT TO THE ATTENTION OF THE PROJECT MANAGER PRIOR TO PROCEEDING WITH THE WORK.
3. IT SHALL BE THE RESPONSIBILITY OF THE INSTALLER TO VERIFY THE ACCURATE DEPTH AND SIZE OF ALL UTILITIES INSIDE THE STATION AND FIELD DETERMINE THE PROPER CROSSING DEPTH AND METHOD TO MEET FOM-PR-1120.
4. INSTALLER SHALL BE RESPONSIBLE FOR PROTECTION OF ALL SURROUNDING AREAS AND NON DUKE OWNED EQUIPMENT.
5. ALL BELOW GROUND WELDS SHALL BE COATED PER CM-ST-2300.
6. ALL ABOVE GROUND PIPING TO BE BLASTED TO CORRECT SPECIFICATION FOR PROTECTIVE COATINGS (SSPC) SURFACE PROFILE. PAINT SYSTEM TO BE UTILIZED SHALL BE PER CM-ST-2370.
7. DURING BACKFILLING, A SIX INCH CROWN SHALL BE PLACED ON ALL DISTURBED AREAS. COMPACTION REQUIREMENTS SHALL BE PER FOC-ST-3000.
8. PRESSURE TESTING SHALL MEET THE REQUIREMENTS OF DUKE'S PRESSURE TESTING STANDARD, PER FOC-PR-2040.
9. INSTALLER SHALL DEWATER ALL HYDROSTATICALLY TESTED PIPING, USING CLEANING PIGS AS REQUIRED, AND DRY TO A DEWPOINT OF -40 °F PER FOC-PR-2040.
10. WHEN CONFLICTS BETWEEN DESIGN DETAILS AND DUKE CONSTRUCTION STANDARDS / MANUALS EXIST, THE MORE STRINGENT REQUIREMENTS SHALL APPLY. CONTRACTOR SHALL NOTIFY DUKE PROJECT MANAGER IMMEDIATELY FOLLOWING IDENTIFICATION OF CONFLICTS.
11. ALIGNMENT FOR ALL TIE-INS TO BE FIELD DETERMINED.
12. NO PRIVATE DRIVEWAYS MAY BE USED FOR PROJECT ACCESS. ACCESS SHALL BE VIA EXISTING STATION PAVED DRIVEWAY.
13. ALL PIPE, VALVE, FITTING, EQUIPMENT, ETC. SIZES SHOWN ARE PRELIMINARY AND SUBJECT TO CHANGE AS STATION DESIGN PROGRESSES.
14. LOCATION FOR ALL STOPPLE FITTINGS, BLIND FLANGES, AND END CAPS TO BE FIELD DETERMINED.
15. TOTAL ACREAGE WITHIN DEFINED LIMITS OF DISTURBANCE IS 0.28 ACRES.

CONSTRUCTION & DEMOLITION NOTES

1. EXISTING OVERHEAD AND BELOWGROUND FACILITIES MAY BE IN THE WORK AREA VICINITY. INSTALLER IS RESPONSIBLE FOR HAVING SUCH FACILITIES LOCATED AND IS RESPONSIBLE FOR MAINTENANCE AND PRESERVATION OF THESE FACILITIES.
2. PER DUKE HEALTH AND SAFETY HANDBOOK, INSTALLER IS REQUIRED TO CALL 811 FOR UTILITY LOCATES A MINIMUM OF 72 HOURS PRIOR TO COMMENCEMENT OF WORK. NO EXTRA COMPENSATION WILL BE ALLOWED FOR DELAYS FROM ANY WORK PROVIDED BY OTHER UTILITIES.
3. IF EXISTING UTILITIES OF ANY TYPE ARE ENCOUNTERED IN THE FIELD AND DEEMED TO BE IN CONFLICT WITH INSTALLATION OF FACILITIES, INSTALLER SHALL NOTIFY THE PROJECT MANAGER IMMEDIATELY SO THE CONFLICT MAY BE RESOLVED.
4. WHEN EXISTING DRAINAGE FACILITIES ARE DISTURBED, INSTALLER SHALL PROVIDE AND MAINTAIN TEMPORARY OUTLETS AND CONNECTIONS FOR PRIVATE DRAINS OR SEWERS. RESTORATION OF THESE FACILITIES IS TO BE PERFORMED ONCE CONSTRUCTION IS COMPLETE AND ARE CONSIDERED INCIDENTAL COSTS OF THE PROJECT.
5. ALL DRAWING MEASUREMENTS ARE TO BE TAKEN FROM EXISTING GRADE. FINAL GRADE SHALL BE MATCHED TO SURROUNDING GRADE AS PER FOC-ST-2030.
6. CONTRACTOR IS TO REMAIN WITHIN CONSTRUCTION WORKING LIMITS. ACCESS TO AREAS OUTSIDE WORKING LIMITS MUST BE COORDINATED WITH THE OWNER OR DUKE PROJECT MANAGER.
7. ALL EXCESS EXCAVATION, CONSTRUCTION DEMOLITION DEBRIS AND UNSUITABLE MATERIALS THAT DO NOT CONTAIN ASBESTOS SHALL BE REMOVED FROM THE SITE AND PROPERLY DISPOSED.
8. STANDARD SPECIFICATIONS REFERENCED ON THIS SHEET AND CONSTRUCTION PLANS ARE CONSIDERED AS PART OF THE CONTRACT DOCUMENTS. INCIDENTAL ITEMS OR ACCESSORIES NECESSARY TO COMPLETE THIS WORK MAY NOT BE SPECIFICALLY NOTED, BUT ARE CONSIDERED TO BE A PART OF THIS CONTRACT.
9. BEFORE ACCEPTANCE BY THE OWNER AND FINAL PAYMENT, ALL WORK SHALL BE INSPECTED AND APPROVED BY DUKE OR COMPANY REPRESENTATIVE. FINAL PAYMENT SHALL BE MADE AFTER ALL OF THE INSTALLER'S WORK HAS BEEN ACCEPTED AND APPROVED AND IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.
10. DURING CONSTRUCTION, ALL LOOSE MATERIAL THAT ARE DEPOSITED IN THE FLOW LINE OF GUTTERS, DRAINAGE STRUCTURES, DITCHES, ETC. SUCH THAT THE NATURAL FLOW LINE OF WATER IS OBSTRUCTED, SHALL BE REMOVED AT THE END OF EACH WORK DAY.
11. INSTALLER IS REQUIRED TO MAINTAIN A SET OF ISSUED FOR CONSTRUCTION DRAWINGS AND ALL PERMITS AT THE JOB SITE. ANY MODIFICATIONS OR ALTERATIONS TO THE PLANS OR SPECIFICATIONS SHALL BE APPROVED BY THE PROJECT MANAGER.
12. INSTALLER IS SOLELY RESPONSIBLE FOR EXECUTION OF HIS/HER WORK IN ACCORDANCE WITH THE CONTRACT DOCUMENTS AND SPECIFICATIONS. INSTALLER IS RESPONSIBLE FOR THE CONSTRUCTION METHODS AND TECHNIQUES, SEQUENCES, TIME OF PERFORMANCE ALL SAFETY PRECAUTIONS.
13. MINIMUM DEPTH OF BURIAL SHALL BE PER CM-ST-2050.
14. PER FOC-ST-2000 AND DUKE HEALTH AND SAFETY HANDBOOK, FOR OPEN DITCH EXCAVATION, A MINIMUM OF TWO FEET OF SEPARATION SHALL BE MAINTAINED BETWEEN ALL CROSSING STRUCTURES. SEPARATION BETWEEN CROSSING STRUCTURES AND PIPELINES THAT ARE INSTALLED VIA DIRECTIONAL DRILLING METHODS IS AT THE DISCRETION OF ENGINEERING.
15. BOLTS FOR FLANGES TO BE TORQUED PER FOC-ST-2010.
16. ALL PIPELINES BEING CROSSED ARE TO BE PROTECTED WITH A MINIMUM OF THREE (3) 4 FEET X 18 FEET WOODEN MATS
17. FORTY EIGHT HOURS PRIOR TO ANY EARTH DISTURBANCE WORK, THE CONTRACTOR SHALL NOTIFY THE APPLICABLE COUNTY ENGINEERS OFFICE.
18. NO CONSTRUCTION SHALL COMMENCE UNTIL ALL APPLICABLE PERMITS HAVE BEEN ISSUED AS REQUIRED.
19. DEWATERING DISCHARGES SHALL NOT BE DIRECTED INTO THE COUNTY'S SANITARY WATER SYSTEM WITHOUT THE PRIOR APPROVAL OF THE APPLICABLE COUNTY ENGINEER OR HIS/HER DESIGNEE.
20. TO PERMANENTLY STABILIZE THE EXCAVATION AREA, THE TRENCH WILL BE BACKFILLED, STABILIZED AND RETURNED TO PRE-CONSTRUCTION CONDITIONS.
21. COMPACT TO 97 PERCENT OF MAXIMUM DRY DENSITY DETERMINED IN ACCORDANCE WITH ASTM D 698
22. I HAVE PLACED MY SIGNATURE AND SEAL ON THE DESIGN DOCUMENTS SUBMITTED SIGNIFYING THAT I ACCEPT RESPONSIBILITY FOR THE DESIGN. FURTHER, I CERTIFY TO THE BEST OF MY KNOWLEDGE AND BELIEF THAT THE DESIGN IS CONSISTENT WITH THE REQUIREMENTS OF TITLE 48, CHAPTER 14 OF THE CODE OF LAWS ON SC, 1976 AS AMENDED, PURSUANT TO REGULATION 72-300 ET SEQ. (IF APPLICABLE), AND IN ACCORDANCE WITH THE TERMS AND CONDITIONS OF SCR100000.

CIVIL AND STRUCTURAL NOTES

1. ADDITIONAL EXCAVATIONS BELOW FOOTINGS MAY BE NECESSARY TO REACH UNDISTURBED SOIL. SHOULD THIS OCCUR, THE EXCAVATION SHALL BE BROUGHT TO THE BOTTOM OF THE FOOTING ELEVATION WITH COMPACTED SAND FILL MEETING THE REQUIREMENTS OF MODIFIED PROCTOR COMPACTION TEST (ASTM D1557) TO 95% IN SIX INCH LIFTS.
2. ALL EXPOSED CONCRETE EDGES SHALL HAVE A 1" X 1" 45° CHAMFER.
3. CONCRETE SHALL BE MIXED AND POURED PER PERTINENT DUKE NGBU DESIGN AND CONSTRUCTION STANDARDS. TESTING SHALL CONFORM TO ACI 318. INSTALLER TO SUPPLY ALL CONCRETE AND TESTING.
4. ALL STRUCTURAL STEEL SHALL CONFORM TO ASTM A36 SPECIFICATION. STEEL REINFORCING BAR SHALL CONFORM TO ASTM A615 GRADE 60 AND WELDED WIRE FABRIC SHALL CONFORM TO ASTM A185. TIE WIRE SHALL CONFORM TO ASTM A82.
5. UNSUITABLE OR EXCESS EARTH SPOIL SHALL BE DISPOSED OF AT AN APPROVED WASTE LOCATION. SOIL BEING TRANSPORTED ONTO THE JOB SITE SHALL BE APPROVED BY EITHER THE PROJECT MANAGER OR CONSTRUCTION MANAGER.
6. ROCKSHIELD OR SIMILAR COMPANY APPROVED PRODUCT MUST BE INSTALLED BETWEEN ALL PIPE AND FITTINGS THAT COME INTO CONTACT WITH CONCRETE. A LAYER OF NON ABRASIVE MATERIAL SUCH AS FRP SHALL BE INSTALLED BETWEEN ALL PIPE SUPPORTS AND PIPING.
7. ALL FIELD BENDING OF REBAR SHALL BE DONE COLD.
8. INSTALLER SHALL THOROUGHLY REVIEW IFC DRAWINGS FOR INSTALLATION REQUIREMENTS ON ALL VESSELS OR OTHER COMPONENTS THAT MAY BE SUBJECT TO THERMAL OR VIBRATION EFFECTS, TO ENSURE INSTALLATION OF A SUITABLE SURFACE THAT WILL ACCOMMODATE THESE EFFECTS.
9. UNLESS DIRECTED OTHERWISE, LOADING OF CONCRETE STRUCTURES SHALL BE IN ACCORDANCE WITH FOC-ST-2020.

SOIL EROSION AND SEDIMENT CONTROL NOTES

1. INSTALLER IS TO CONSTRUCT ALL SOIL EROSION AND SEDIMENT CONTROL MEASURES AT THE COMMENCEMENT OF THE PROJECT, PROVIDE MAINTENANCE AND ASSURE EFFECTIVENESS THROUGHOUT THE DURATION OF THE PROJECT.
2. CARE SHALL BE TAKEN TO MINIMIZE DOWNSTREAM SILTATION. RAW BANKS MAY BE SEEDED AND MULCHED TO PREVENT EROSION.
3. ALL SPOILS INCLUDING ORGANIC SOILS, VEGETATION AND DEBRIS SHALL BE REMOVED FROM THE SITE AND PROPERLY DISPOSED OF IN SUCH A MANNER AS TO NOT ERODE INTO ANY BODY OF WATER OR WETLAND.
4. SILT FENCING SHALL BE PLACED WHERE NECESSARY TO PREVENT SEDIMENT FROM LEAVING THE WORK AREA.
5. CATCH ALL INLET FILTERS ARE REQUIRED AT ALL SEWER INLETS, GRATES AND MANHOLES FOR SEDIMENT CONTROL.
6. WETLAND AREAS SHALL HAVE SILT FENCING AND ONE LAYER OF STRAW LOG INSTALLED NO CLOSER THAN 50 FEET FROM POINT OF WETLAND DELINEATION.
7. TOPSOIL STOCKPILES SHALL BE LOCATED TO AVOID EROSION OF SAID STOCKPILE ONTO OFFSITE AREAS.
8. ALL ENVIRONMENTAL MEASURES SHALL BE PER PERTINENT DUKE NGBU DESIGN AND CONSTRUCTION STANDARDS.

LEGEND

- PIEDMONT NATURAL GAS PIPELINE
- PROPOSED STATION BELOW GRADE PIPE
- PROPOSED STATION ABOVE GRADE PIPE
- PROPERTY LINE
- SETBACK
- 1150 — LINE LIST NUMBER
- STRUCTURES
- EXISTING EASEMENT
- EXISTING ROAD RIGHT OF WAY
- 830 — MAJOR CONTOUR
- MINOR CONTOUR
- SURVEY DATA 2018 / LIDAR DATA 2013 — SURVEY / LIDAR DATA BOUNDARY
- G — EXISTING GAS LINE
- S — EXISTING STORMPIPE
- T — EXISTING TELEPHONE LINE
- EXISTING POWER POLE
- EXISTING ROAD
- OHP — EXISTING OVERHEAD ELECTRIC
- OH — EXISTING OVERHEAD LINE
- W — EXISTING WATER LINE
- EXISTING SIDEWALK
- X — EXISTING FENCE
- EXISTING CURB
- EXISTING TREELINE
- EXISTING DRIVEWAY
- SAN — EXISTING SANITARY LINE
- E — EXISTING UNDERGROUND ELECTRIC
- EXISTING GRAVEL
- EXISTING LIGHT POLE
- EXISTING SANITARY MANHOLE
- EXISTING STORM MANHOLE
- EXISTING INLET
- PROPOSED PERMANENT EASEMENT
- PROPOSED TEMPORARY CONSTRUCTION EASEMENT
- PROPOSED FACILITY
- PROPOSED ACCESS ROAD (IMPROVED)
- PROPOSED ACCESS ROAD (PERMANENT)
- PROPOSED ACCESS ROAD (UNIMPROVED)
- PROPOSED ANODE BED
- PROPOSED LAYDOWN YARD
- EXISTING BUA TO REMAIN
- LOD — PROPOSED LIMITS OF DISTURBANCE
- PROPOSED 12" COMPOST FILTER SOCK
- CFS24 — PROPOSED 24" COMPOST FILTER SOCK
- SS1 — PROPOSED SILT FENCE
- SS2 — PROPOSED REINFORCED SILT FENCE
- 822 — PROPOSED MINOR CONTOURS
- 820 — PROPOSED MAJOR CONTOURS
- UDO LANDSCAPING BUFFER
- TEMPORARY MATTING (SLOPES AND CHANNELS)
- PROPOSED ROCK CONSTRUCTION ENTRANCE
- SFO — SILT FENCE OUTLET

HDR Engineering Inc. of the Carolinas, N.C.B.E.L.S. License Number F-0116
440 S. Church Street, Suite 1000, Charlotte, NC 28202, 704.338.8700

NORTH CAROLINA PROFESSIONAL SEAL 043705 ENGINEER JONATHAN W. LIECHTI
4/16/2025
PROFESSIONAL ENG/ARCH STAMP

NO.	DATE	REVISION(S) DESCRIPTION	DRAFTING/DESIGN	CHECKER/REVIEWER	APPROVING ENGINEER
C	12/18/2025	ISSUED FOR PERMIT	DAVID STANLEY	MIKE SCARPELLI	JONATHAN LEICHTI
D	03/28/2025	REVISED ISSUE FOR PERMIT	DAVID STANLEY	MIKE SCARPELLI	JONATHAN LIECHTI
E	04/18/2025	REVISED ISSUE FOR PERMIT	JESSICA FORSYTHE	MIKE SCARPELLI	JONATHAN LIECHTI

DESCRIPTION	
AREA CODE	-
ACCOUNT NUMBER	-
PROJECT NUMBER	0236034
DWG TYPE	-
STATION ID	STA-7702

DUKE ENERGY. Piedmont Natural Gas

0236034
PLAZA ROAD REGULATOR STATION
GENERAL NOTES AND LEGEND
CHARLOTTE, NORTH CAROLINA

CHARLOTTE, NC

REF. DWG(S) PNG-G-001-0001379

SHEET(S) 2 OF 18	DWG SCALE	NONE
DWG DATE 05/25/2023	SUPERSEDED	-

DRAWING NUMBER: PNG -G-001-0001380
REVISION: E

GENERAL / KELLOGG RESOURCE CENTER

LEGEND:

TO BE RETIRED

10' 0 10' 20'

SCALE: 1" = 10'

811 Know what's below. Call before you dig.

CALL 48 HOURS BEFORE YOU DIG

HDR Engineering Inc. of the Carolinas, N.C.B.E.L.S. License Number F-0116
440 S. Church Street, Suite 1000, Charlotte, NC 28202, 704.338.8700

NORTH CAROLINA PROFESSIONAL SEAL 043705 ENGINEER JONATHAN W. LIECHTI, P.E.
07/18/2025

PROFESSIONAL ENG/ARCH STAMP

NO.	DATE	REVISION(S) DESCRIPTION	DRAFTING/DESIGN	CHECKER/REVIEWER	APPROVING ENGINEER
E	03/28/2025	REVISED ISSUED FOR PERMIT	DAVID STANLEY	MIKE SCARPELLI	JONATHAN LIECHTI
F	04/18/2025	REVISED ISSUE FOR PERMIT	JESSICA FORSYTHE	MIKE SCARPELLI	JONATHAN LIECHTI
G	07/18/2025	REVISED ISSUE FOR PERMIT (VARIANCE)	JON ANDREANO	ERIC HAMPTON	JONATHAN LIECHTI

DESCRIPTION	
AREA CODE	-
ACCOUNT NUMBER	-
PROJECT NUMBER	0236034
DWG TYPE	-
STATION ID	STA-7702

DUKE ENERGY. Piedmont Natural Gas

0236034
PLAZA ROAD REGULATOR STATION
EXISTING STATION RETIREMENT SHEET
CHARLOTTE, NORTH CAROLINA

CHARLOTTE, NC

REF. DWG(S) PNG-G-001-0001379

SHEET(S) 3 OF 18	DWG SCALE AS NOTED
DWG DATE 03/06/2023	SUPERSEDED -

DRAWING NUMBER: PNG -M-001-0001550 — REVISION: G

DISCIPLINE / RESOURCE CENTER / LINE NUMBER

NOTES:

1. ANY CHANGES REQUIRED DUE TO FIELD CONDITIONS MUST BE APPROVED BY THE ENGINEERING DEPARTMENT.
2. UNDERGROUND STEEL INLET PIPING AND RISER TO BE CATHODICALLY PROTECTED AND MONITORED IF NOT ELECTRICALLY CONTINUOUS WITH A PROTECTED STEEL SERVICE OR MAIN.
3. DPS TO CONTACT INTEGRITY TECHNICIAN AT START OF PROJECT. PROJECT CANNOT BE GASSED UP UNTIL INTEGRITY HAS CONFIRMED NO ADDITIONAL WORK IS NEEDED.
4. CONTACT GAS SYSTEMS OPERATIONS SUPERVISOR PRIOR TO STARTING JOB TO VERIFY GAS FLOW.
5. CONSTRUCTION/SHUT-IN SHOULD BEGIN IN THE MIDDLE OF MAY (HEATING DEGREE DAY MUST BE LESS THAN 20 HDD). NEW STATION MUST BE PLACED IN-SERVICE BEFORE THE END OF SEPTEMBER. CHECK WITH SYSTEM PLANNING PRIOR TO CONSTRUCTION. RECOMMENDED TO PREFAB STATION SECTIONS AS MUCH AS POSSIBLE TO REDUCE SHUT-IN TIME.

811 Know what's below. Call before you dig.

CALL 48 HOURS BEFORE YOU DIG

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NORTH CAROLINA PROFESSIONAL SEAL 043705 ENGINEER JONATHAN W. LIECHTI
07/18/2025
PROFESSIONAL ENG/ARCH STAMP

NO.	DATE	REVISION(S) DESCRIPTION	DRAFTING/DESIGN	CHECKER/REVIEWER	APPROVING ENGINEER
E	03/28/2025	ISSUED FOR PERMIT	AUSTIN ZALIN	MIKE SCARPELLI	JONATHAN LIECHTI
F	04/18/2025	REVISED ISSUE FOR PERMIT	JESSICA FORSYTHE	MIKE SCARPELLI	JONATHAN LIECHTI
G	07/18/2025	REVISED ISSUE FOR PERMIT (VARIANCE)	JON ANDREANO	ERIC HAMPTON	JONATHAN LIECHTI

DESCRIPTION	
AREA CODE	-
ACCOUNT NUMBER	
PROJECT NUMBER	0236034
DWG TYPE	-
STATION ID	STA-7702

DUKE ENERGY. Piedmont Natural Gas

0236034
PLAZA ROAD REGULATOR STATION FACILITY GENERAL ARRANGEMENT CHARLOTTE, NORTH CAROLINA

CHARLOTTE, NC

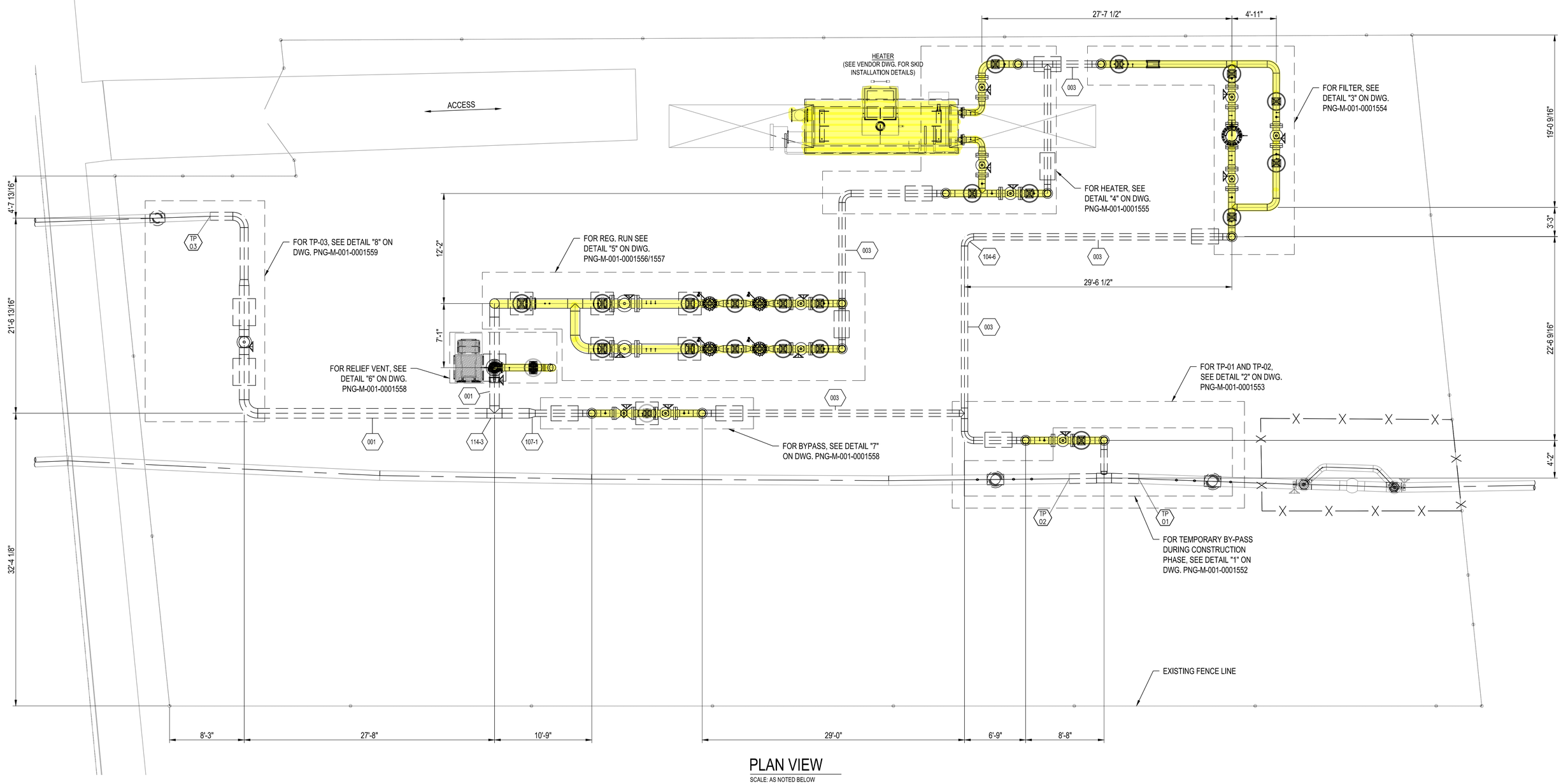
REF. DWG(S) PNG-G-001-0001379

SHEET(S) 4 OF 18	DWG SCALE AS NOTED
DWG DATE 03/06/2023	SUPERSEDED -

DRAWING NUMBER: PNG -C-001-0001635
REVISION: G

DISCIPLINE / RESOURCE CENTER / LINE NUMBER

Note: Material traced in yellow is above grade. Remainder is below grade. See details on subsequent pages for section views.



PLAN VIEW

SCALE: AS NOTED BELOW

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NORTH CAROLINA PROFESSIONAL SEAL 043705 ENGINEER JONATHAN W. LIECHTI, PE
4-16-2025
PROFESSIONAL ENG/ARCH STAMP

NO.	DATE	REVISION(S) DESCRIPTION	DRAFTING/DESIGN	CHECKER/REVIEWER	APPROVING ENGINEER
C	02/18/2025	ISSUED FOR PERMIT	DAVID STANELY	MIKE SCARPELLI	JONATHAN LIECHTI
D	03/28/2025	REVISED ISSUE FOR PERMIT	DAVID STANELY	MIKE SCARPELLI	JONATHAN LIECHTI
E	04/18/2025	REVISED ISSUE FOR PERMIT	JESSICA FORSYTHE	MIKE SCARPELLI	JONATHAN LIECHTI

DESCRIPTION	
AREA CODE	-
ACCOUNT NUMBER	-
PROJECT NUMBER	0236034
DWG TYPE	-
STATION ID	STA-7702

DUKE ENERGY. Piedmont Natural Gas

0236034
PLAZA ROAD REGULATOR STATION MECHANICAL PIPING PLAN CHARLOTTE, NORTH CAROLINA

CHARLOTTE, NC

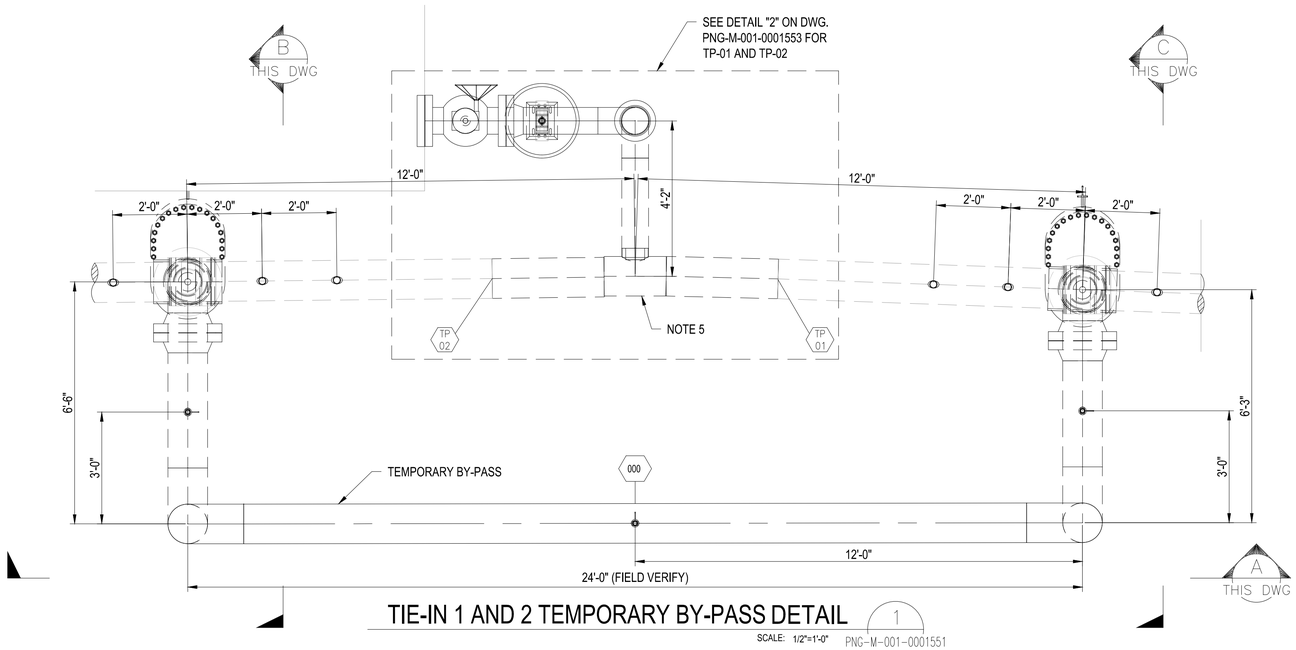
REF. DWG(S) PNG-G-001-0001379

SHEET(S) 5 OF 18 | DWG SCALE 3/16"=1'-0"

DWG DATE 06/05/2023 | SUPERSEDED -

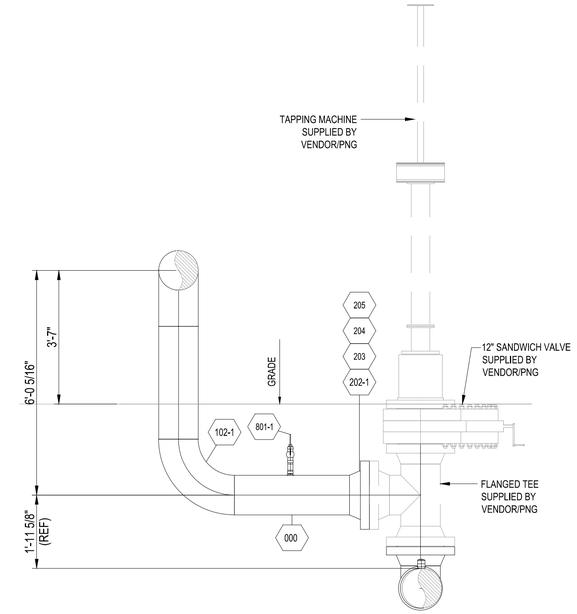
DRAWING NUMBER: PNG -M-001-0001551 | REVISION: E

DISCIPLINE / RESOURCE CENTER / LINE NUMBER



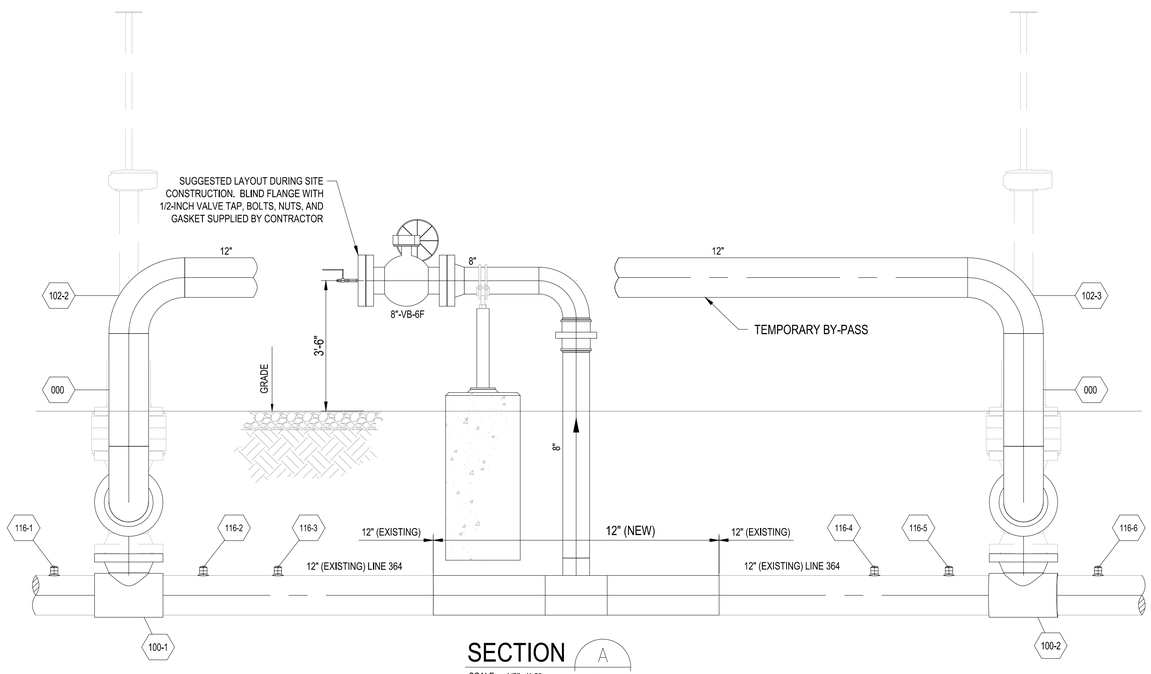
TIE-IN 1 AND 2 TEMPORARY BY-PASS DETAIL (1)

SCALE: 1/2"=1'-0" PNG-M-001-0001551



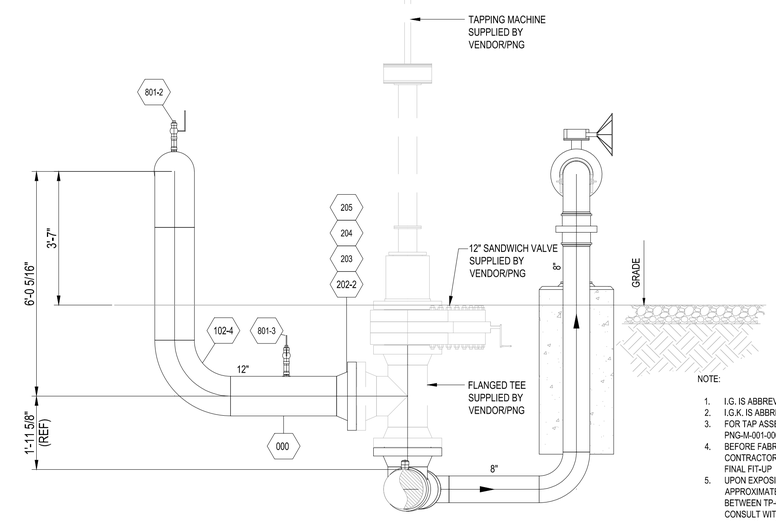
SECTION (B)

SCALE: 1/2"=1'-0" THIS DWG



SECTION (A)

SCALE: 1/2"=1'-0" THIS DWG



SECTION (C)

SCALE: 1/2"=1'-0" THIS DWG

NOTE:

1. I.G. IS ABBREVIATED FOR "INCLUDE GASKET"
2. I.G.K. IS ABBREVIATED FOR "INSULATED GASKET KIT"
3. FOR TAP ASSEMBLY DETAILS, SEE DRAWING PNG-M-001-0001559
4. BEFORE FABRICATION OF SPOOL SECTION, CONTRACTOR TO FIELD VERIFY DIMENSIONS FOR FINAL FIT-UP
5. UPON EXPOSING EXISTING PIPE, ENSURE APPROXIMATELY 8 FEET OF STRAIGHT PIPE BETWEEN TP-01 AND TP-02. IF NOT STRAIGHT, CONSULT WITH DUKE REPRESENTATIVE TO SHIFT TIE-IN TOWARDS EXISTING MLV. THE NEW STATION INLET VALVE MUST MAINTAIN 25 FEET SEPARATION FROM REGULATORS.

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NORTH CAROLINA PROFESSIONAL SEAL 043705 ENGINEER JONATHAN W. LIECHTI, PE
4-16-2025

PROFESSIONAL ENG/ARCH STAMP

NO.	DATE	REVISION(S) DESCRIPTION	DRAFTING/DESIGN	CHECKER/REVIEWER	APPROVING ENGINEER
B	09/07/2023	ISSUED FOR 90% REVIEW	EDWARD GILDERNEW	BRYAN SCHULER	JONATHAN LIECHTI
C	03/28/2025	REVISED ISSUE FOR PERMIT	DAVE STANLEY	MIKE SCARPELLI	JONATHAN LIECHTI
D	04/18/2025	REVISED ISSUE FOR PERMIT	JESSICA FORSYTHE	MIKE SCARPELLI	JONATHAN LIECHTI

DESCRIPTION	
AREA CODE	-
ACCOUNT NUMBER	-
PROJECT NUMBER	0236034
DWG TYPE	-
STATION ID	STA-7702

DUKE ENERGY. Piedmont Natural Gas

0236034
PLAZA ROAD REGULATOR STATION PRE-CONSTRUCTION BY-PASS CHARLOTTE, NORTH CAROLINA

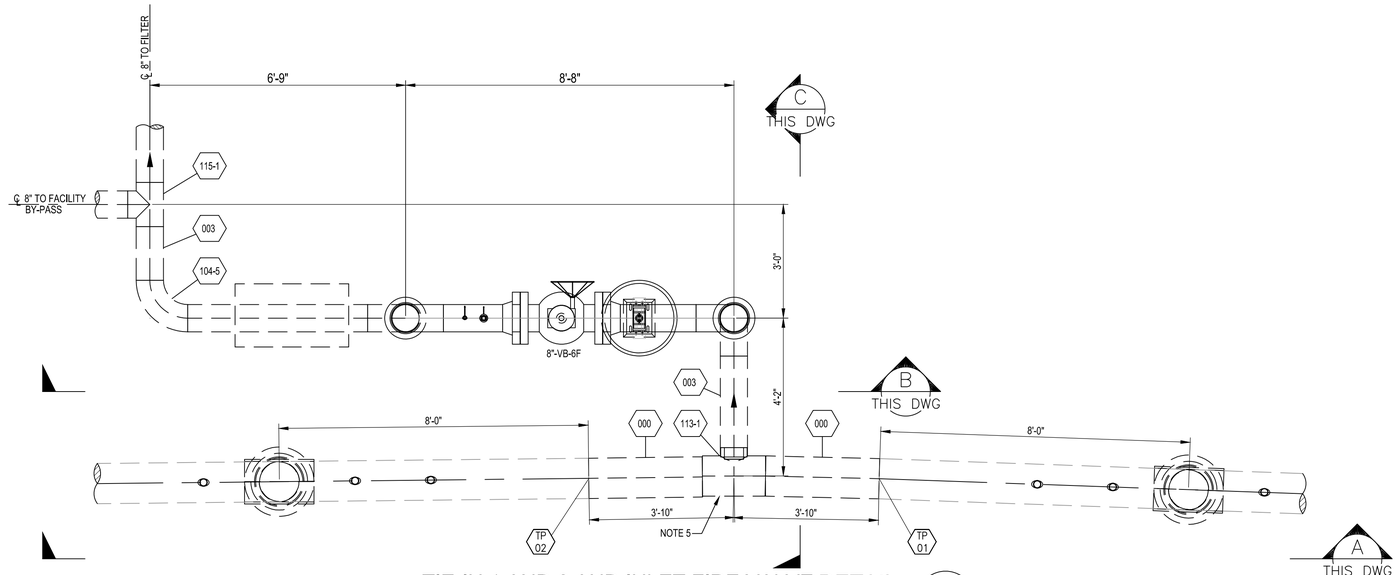
CHARLOTTE, NC

REF. DWG(S) PNG-G-001-0001379

SHEET(S) 6 OF 18	DWG SCALE AS NOTED
DWG DATE 06/05/2023	SUPERSEDED -

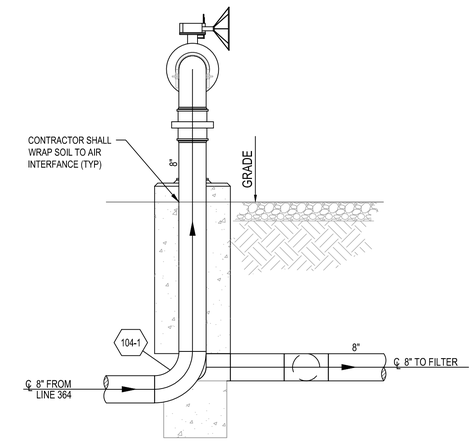
DRAWING NUMBER: PNG -M-001-0001552 — REVISION: D

DISCIPLINE / RESOURCE CENTER / LINE NUMBER



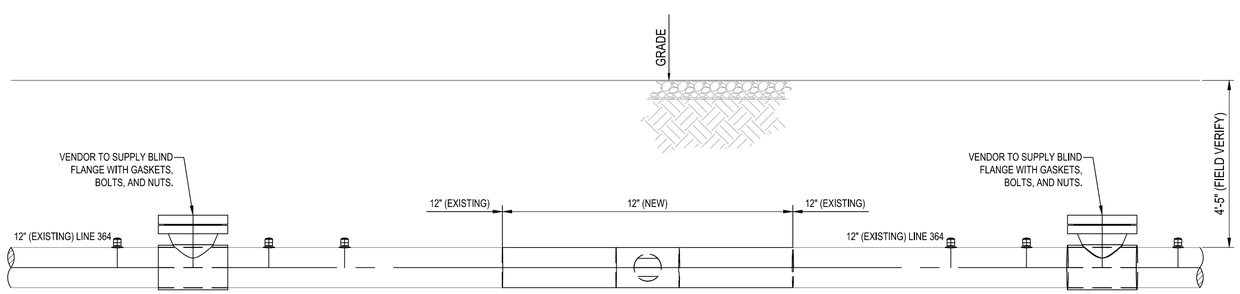
TIE-IN 1 AND 2 AND INLET FIRE VALVE DETAIL (2)

SCALE: 1/2"=1'-0" PNG-M-001-0001551



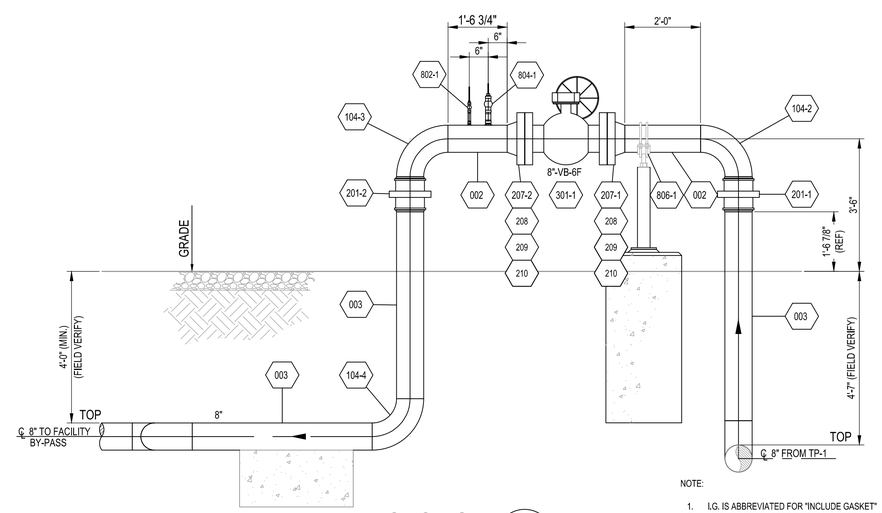
SECTION (C)

SCALE: 1/2"=1'-0" THIS DWG



SECTION (A)

SCALE: 1/2"=1'-0" THIS DWG



SECTION (B)

SCALE: 1/2"=1'-0" THIS DWG

NOTE:

1. I.G. IS ABBREVIATED FOR "INCLUDE GASKET"
2. I.G.K. IS ABBREVIATED FOR "INSULATED GASKET KIT"
3. FOR TAP ASSEMBLY DETAILS, SEE DRAWING PNG-M-001-0001559
4. BEFORE FABRICATION OF SPOOL SECTION, CONTRACTOR TO FIELD VERIFY DIMENSIONS FOR FINAL FIT-UP
5. UPON EXPOSING EXISTING PIPE, ENSURE APPROXIMATELY 8 FEET OF STRAIGHT PIPE BETWEEN TP-01 AND TP-02. IF NOT STRAIGHT, CONSULT WITH DUKE REPRESENTATIVE TO SHIFT TIE-IN TOWARDS EXISTING MLV. THE NEW STATION INLET VALVE MUST MAINTAIN 25 FEET SEPARATION FROM REGULATORS

HDR Engineering Inc. of the Carolinas, N.C.B.E.L.S. License Number F-0116
440 S. Church Street, Suite 1000, Charlotte, NC 28202, 704.338.8700

NORTH CAROLINA PROFESSIONAL SEAL 043705 ENGINEER JONATHAN W. LIECHTI, P.E.
4-16-2025
PROFESSIONAL ENG/ARCH STAMP

NO.	DATE	REVISION(S) DESCRIPTION	DRAFTING/DESIGN	CHECKER/REVIEWER	APPROVING ENGINEER
B	09/07/2023	ISSUED FOR 90% REVIEW	EDWARD GILDERNEW	BRYAN SCHULER	JONATHAN LIECHTI
C	03/28/2025	REVISED FOR ISSUE FOR PERMIT	DAVE STANLEY	MIKE SCARPELLI	JONATHAN LIECHTI
D	04/18/2025	REVISED FOR ISSUE FOR PERMIT	JESSICA FORSYTHE	MIKE SCARPELLI	JONATHAN LIECHTI

DESCRIPTION	
AREA CODE	-
ACCOUNT NUMBER	-
PROJECT NUMBER	0236034
DWG TYPE	-
STATION ID	STA-7702

DUKE ENERGY. Piedmont Natural Gas

0236034
PLAZA ROAD REGULATOR STATION TP-01 & TP-02 PLAN & DETAILS CHARLOTTE, NORTH CAROLINA

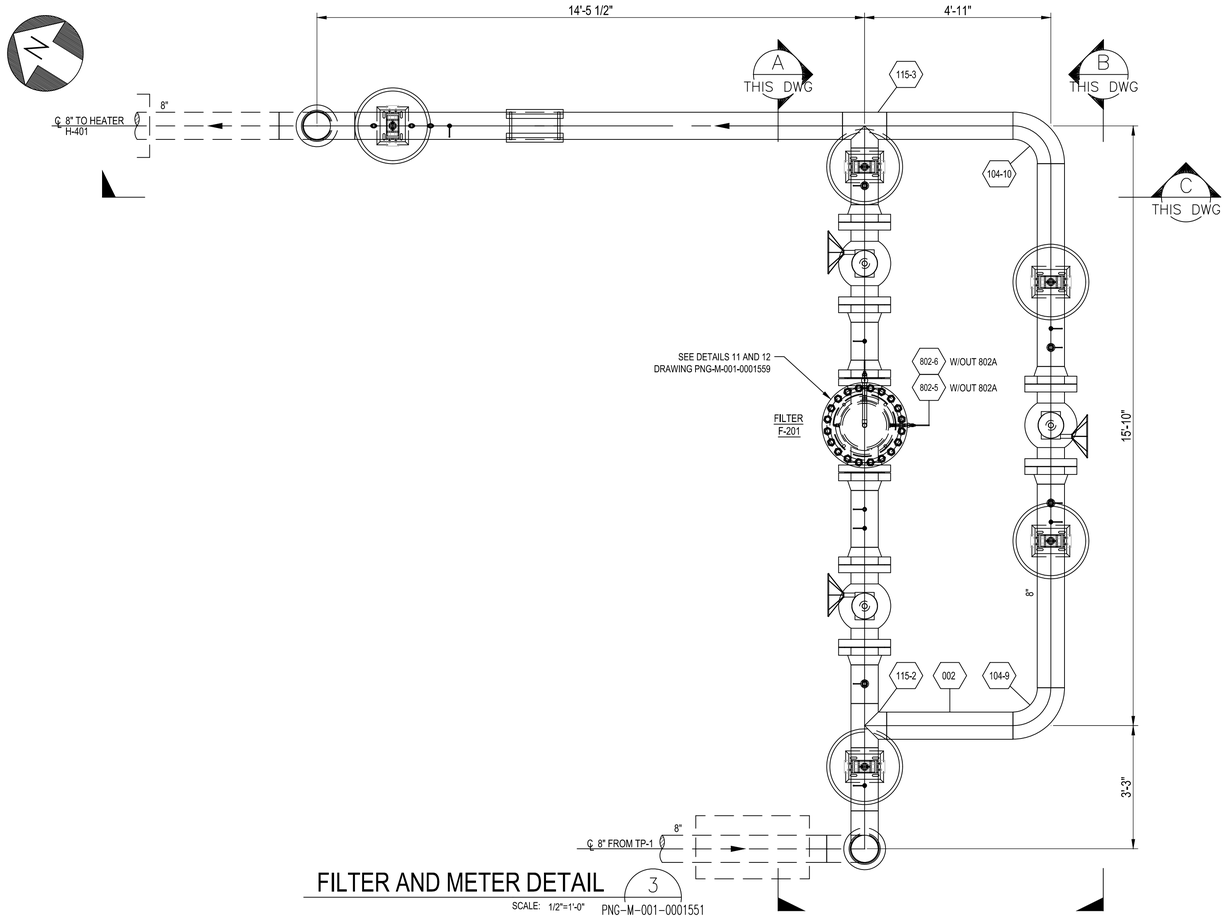
CHARLOTTE, NC

REF. DWG(S) PNG-G-001-0001379

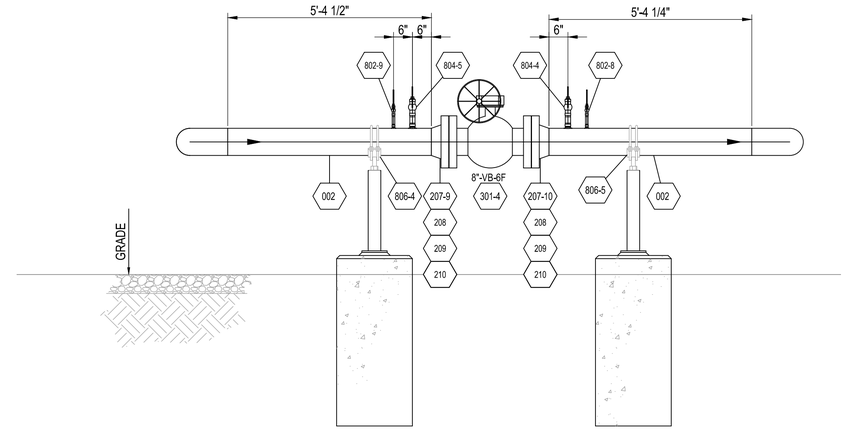
SHEET(S)	7 OF 18	DWG SCALE	AS NOTED
DWG DATE	06/05/2023	SUPERSEDED	-

DRAWING NUMBER: PNG -M-001-0001553 — REVISION: D

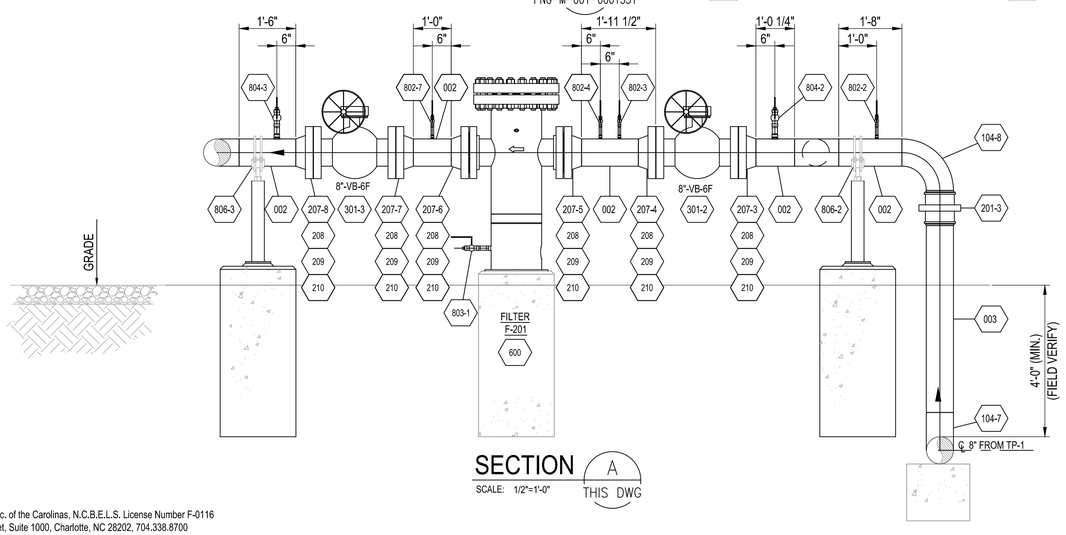
DISCIPLINE / RESOURCE CENTER / LINE NUMBER



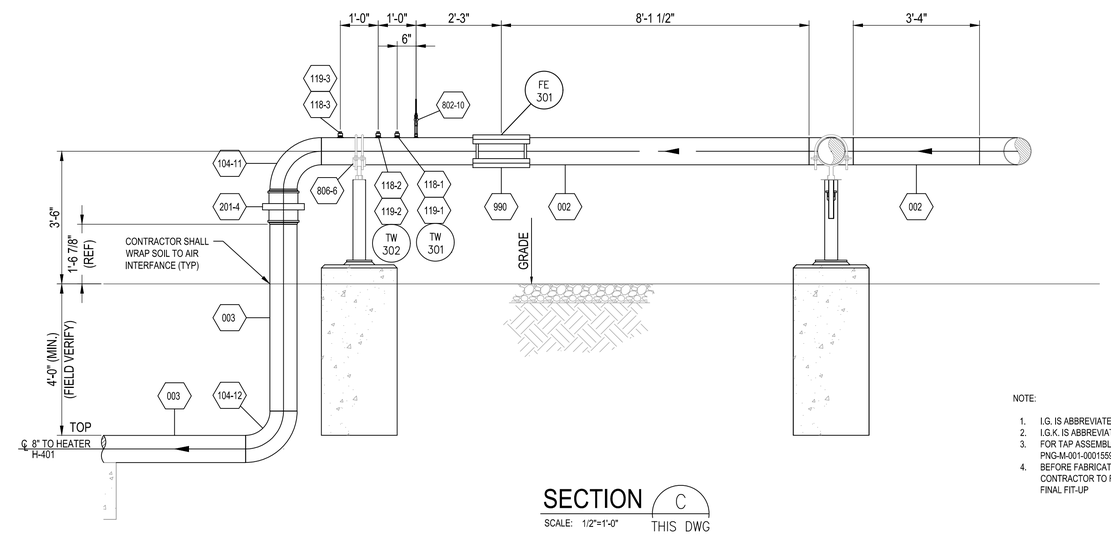
FILTER AND METER DETAIL 3
SCALE: 1/2"=1'-0" PNG-M-001-0001551



SECTION B THIS DWG
SCALE: 1/2"=1'-0"



SECTION A THIS DWG
SCALE: 1/2"=1'-0"



SECTION C THIS DWG
SCALE: 1/2"=1'-0"

NOTE:

1. I.G. IS ABBREVIATED FOR "INCLUDE GASKET"
2. I.G.K. IS ABBREVIATED FOR "INSULATED GASKET KIT"
3. FOR TAP ASSEMBLY DETAILS, SEE DRAWING PNG-M-001-0001559
4. BEFORE FABRICATION OF SPOOL SECTION, CONTRACTOR TO FIELD VERIFY DIMENSIONS FOR FINAL FIT-UP

HDR Engineering Inc. of the Carolinas, N.C.B.E.L.S. License Number F-0116
440 S. Church Street, Suite 1000, Charlotte, NC 28202, 704.338.8700

NORTH CAROLINA PROFESSIONAL SEAL 043705 ENGINEER JONATHAN W. LIECHTI, PE
4-16-2025
PROFESSIONAL ENG/ARCH STAMP

NO.	DATE	REVISION(S) DESCRIPTION	DRAFTING/DESIGN	CHECKER/REVIEWER	APPROVING ENGINEER
B	09/07/2023	ISSUED FOR 90% REVIEW	EDWARD GILDERNEW	BRYAN SCHULER	JONATHAN LIECHTI
C	03/28/2025	REVISED FOR ISSUE FOR PERMIT	DAVE STANLEY	MIKE SCARPELLI	JONATHAN LIECHTI
D	04/18/2025	REVISED FOR ISSUE FOR PERMIT	JESSICA FORSYTHE	MIKE SCARPELLI	JONATHAN LIECHTI

DESCRIPTION	
AREA CODE	-
ACCOUNT NUMBER	-
PROJECT NUMBER	0236034
DWG TYPE	-
STATION ID	STA-7702

DUKE ENERGY. Piedmont Natural Gas

0236034
PLAZA ROAD REGULATOR STATION
FILTER & METER PLAN & DETAILS
CHARLOTTE, NORTH CAROLINA

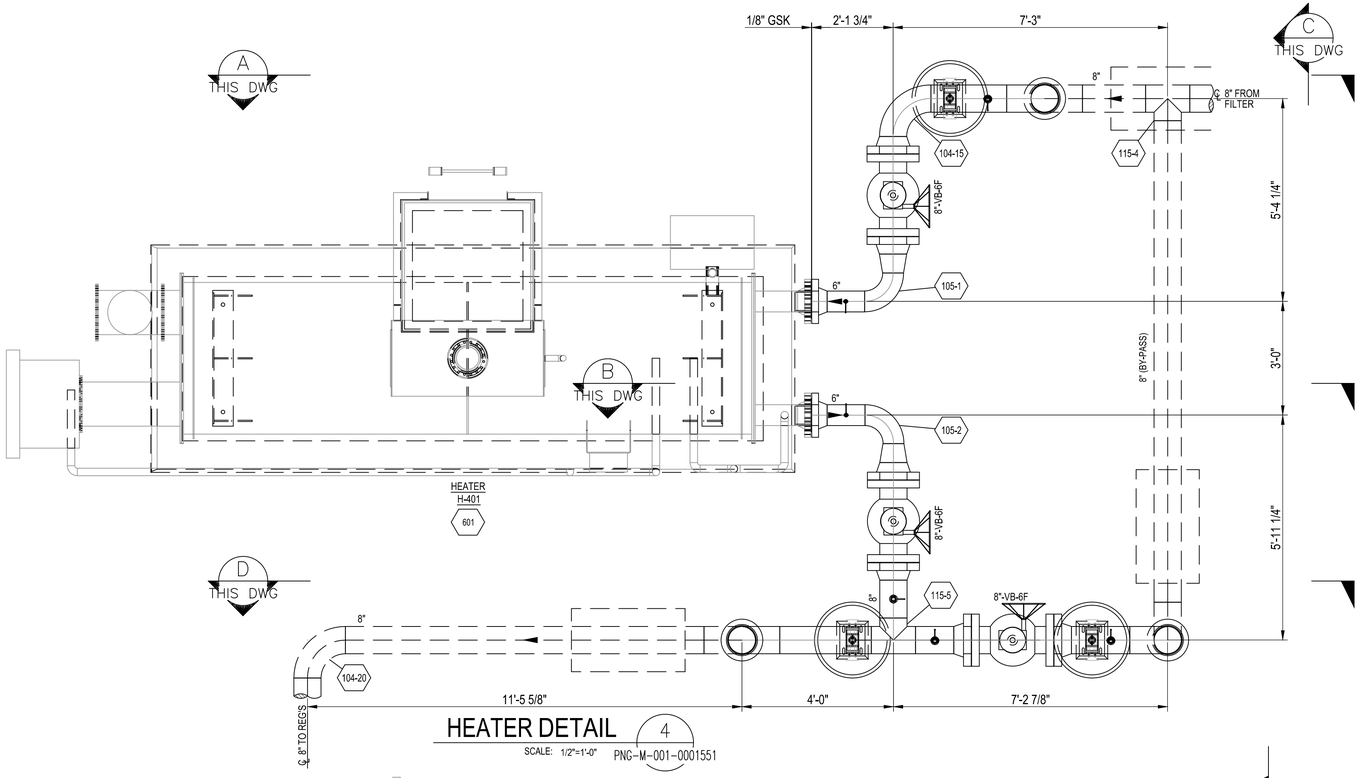
CHARLOTTE, NC

REF. DWG(S) PNG-G-001-0001379

SHEET(S) 8 OF 18	DWG SCALE AS NOTED
DWG DATE 06/05/2023	SUPERSEDED -

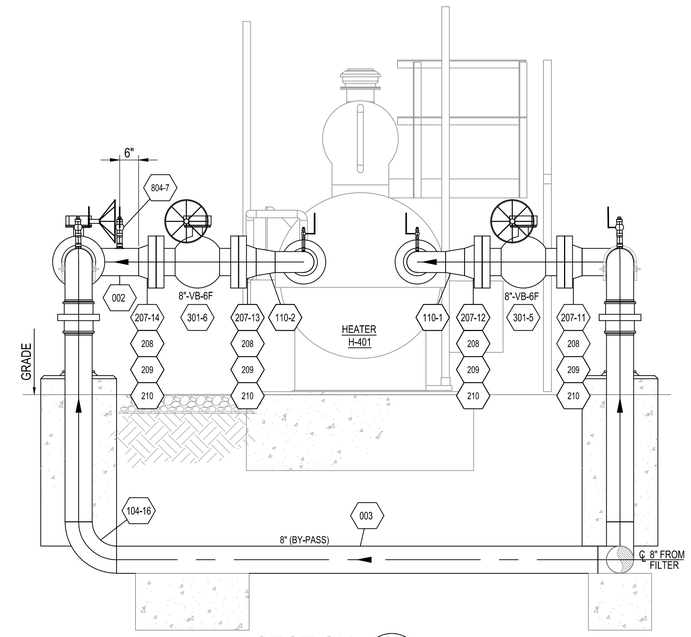
DRAWING NUMBER: PNG -M-001-0001554
REVISION: D

DISCIPLINE / RESOURCE CENTER / LINE NUMBER



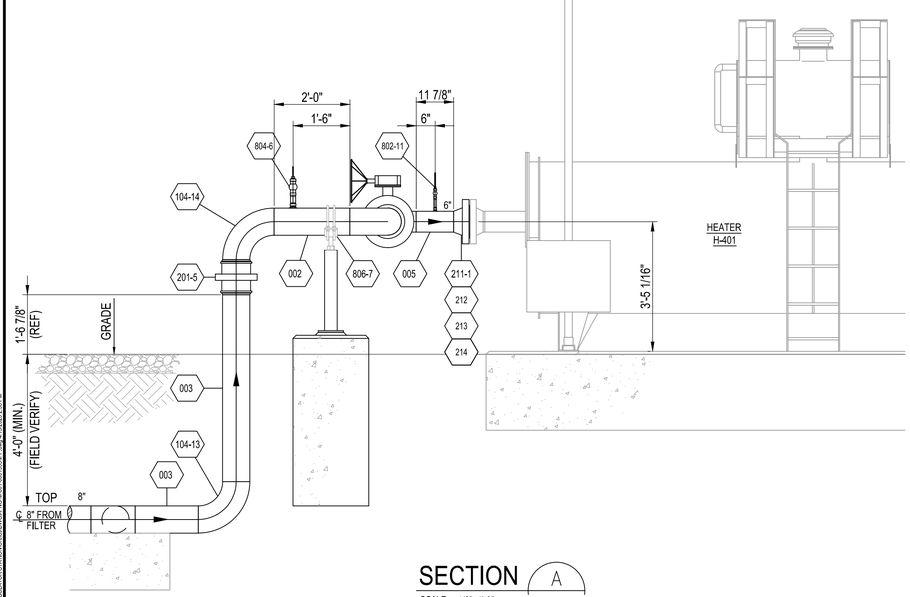
HEATER DETAIL 4

SCALE: 1/2"=1'-0" PNG-M-001-0001551



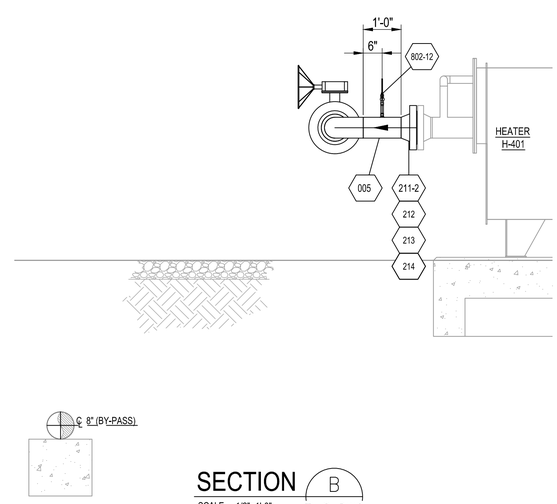
SECTION C

SCALE: 1/2"=1'-0" THIS DWG



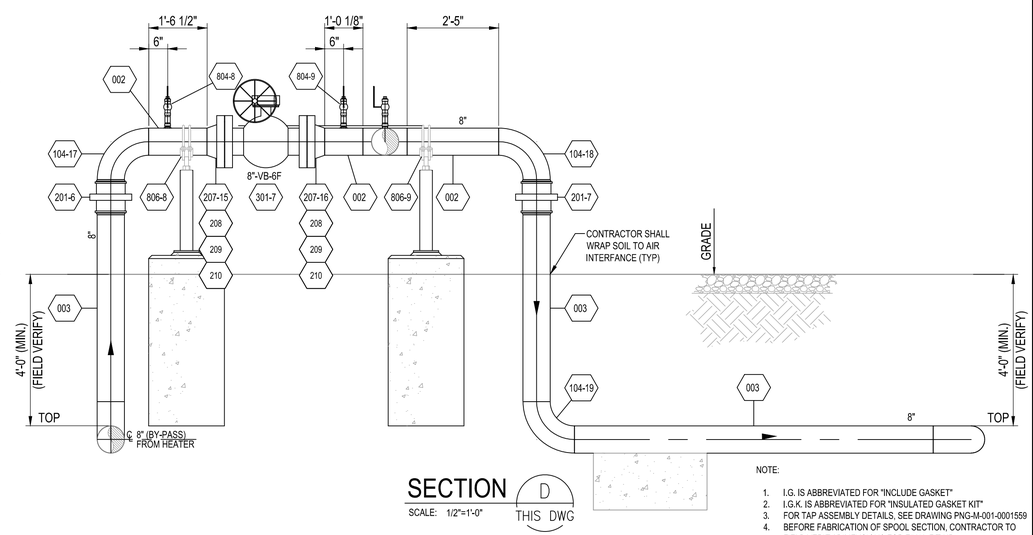
SECTION A

SCALE: 1/2"=1'-0" THIS DWG



SECTION B

SCALE: 1/2"=1'-0" THIS DWG



SECTION D

SCALE: 1/2"=1'-0" THIS DWG

NOTE:

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NORTH CAROLINA PROFESSIONAL SEAL 043705 ENGINEER JONATHAN W. LIECHTI
4-16-2025
PROFESSIONAL ENG/ARCH STAMP

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D	04/18/2025	REVISED FOR ISSUE FOR PERMIT	JESSICA FORSYTHE	MIKE SCARPELLI	JONATHAN LIECHTI

DESCRIPTION	
AREA CODE	-
ACCOUNT NUMBER	-
PROJECT NUMBER	0236034
DWG TYPE	-
STATION ID	STA-7702

DUKE ENERGY. Piedmont Natural Gas

0236034
PLAZA ROAD REGULATOR STATION
HEATER PLAN & DETAILS
CHARLOTTE, NORTH CAROLINA

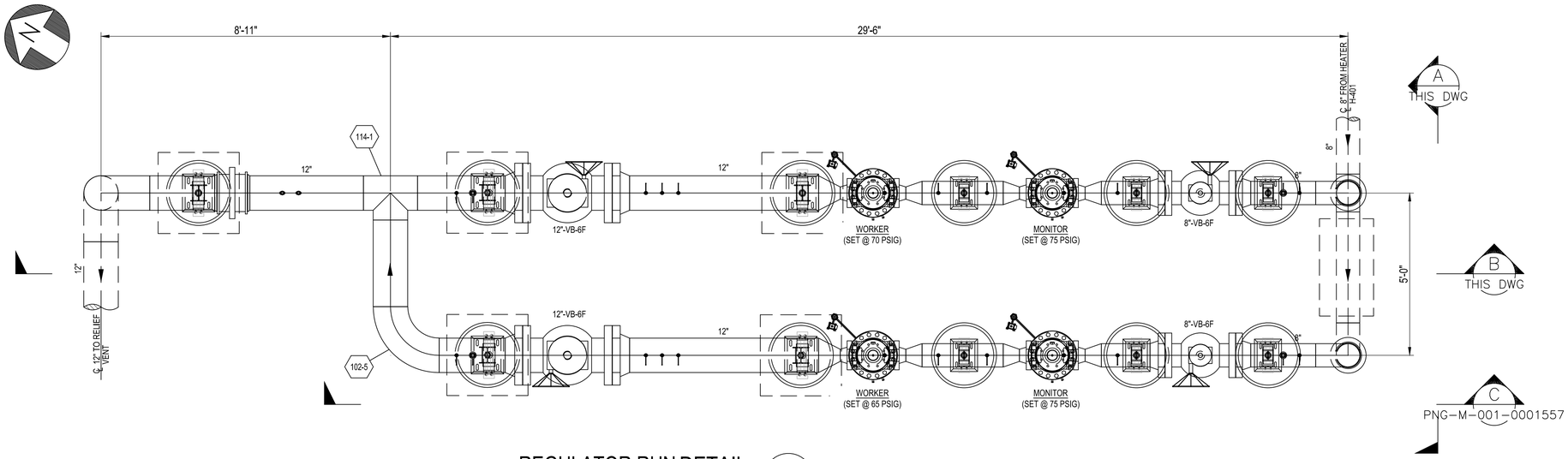
CHARLOTTE, NC

REF. DWG(S) PNG-G-001-0001379

SHEET(S) 9 OF 18	DWG SCALE AS NOTED
DWG DATE 06/05/2023	SUPERSEDED -

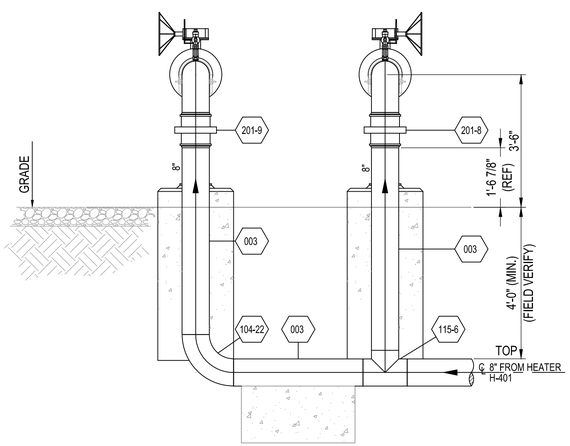
DRAWING NUMBER: PNG -M-001-0001555 — REVISION: D

DISCIPLINE / RESOURCE CENTER / LINE NUMBER



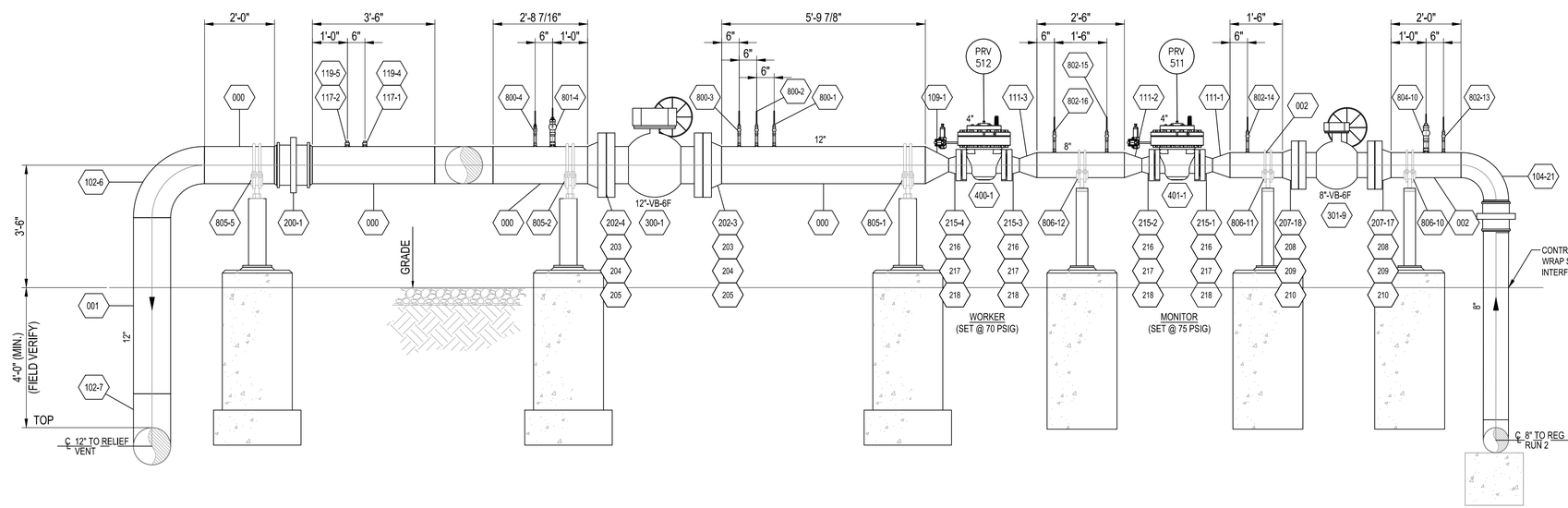
REGULATOR RUN DETAIL (5)

SCALE: 1/2"=1'-0" PNG-M-001-0001551



SECTION (A)

SCALE: 1/2"=1'-0" THIS DWG



SECTION (B)

SCALE: 1/2"=1'-0" THIS DWG

NOTE:

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2. I.G.K. IS ABBREVIATED FOR "INSULATED GASKET KIT"
3. FOR TAP ASSEMBLY DETAILS, SEE DRAWING PNG-M-001-0001559
4. BEFORE FABRICATION OF SPOOL SECTION, CONTRACTOR TO FIELD VERIFY DIMENSIONS FOR FINAL FIT-UP

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NORTH CAROLINA PROFESSIONAL SEAL 043705 ENGINEER JONATHAN W. LIECHTI
4-16-2025
PROFESSIONAL ENG/ARCH STAMP

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D	04/18/2025	REVISED FOR ISSUE FOR PERMIT	JESSICA FORSYTHE	MIKE SCARPELLI	JONATHAN LIECHTI

DESCRIPTION	
AREA CODE	-
ACCOUNT NUMBER	-
PROJECT NUMBER	0236034
DWG TYPE	-
STATION ID	STA-7702

DUKE ENERGY. Piedmont Natural Gas

0236034
PLAZA ROAD REGULATOR STATION
REGULATOR SET PLAN & DETAILS
CHARLOTTE, NORTH CAROLINA

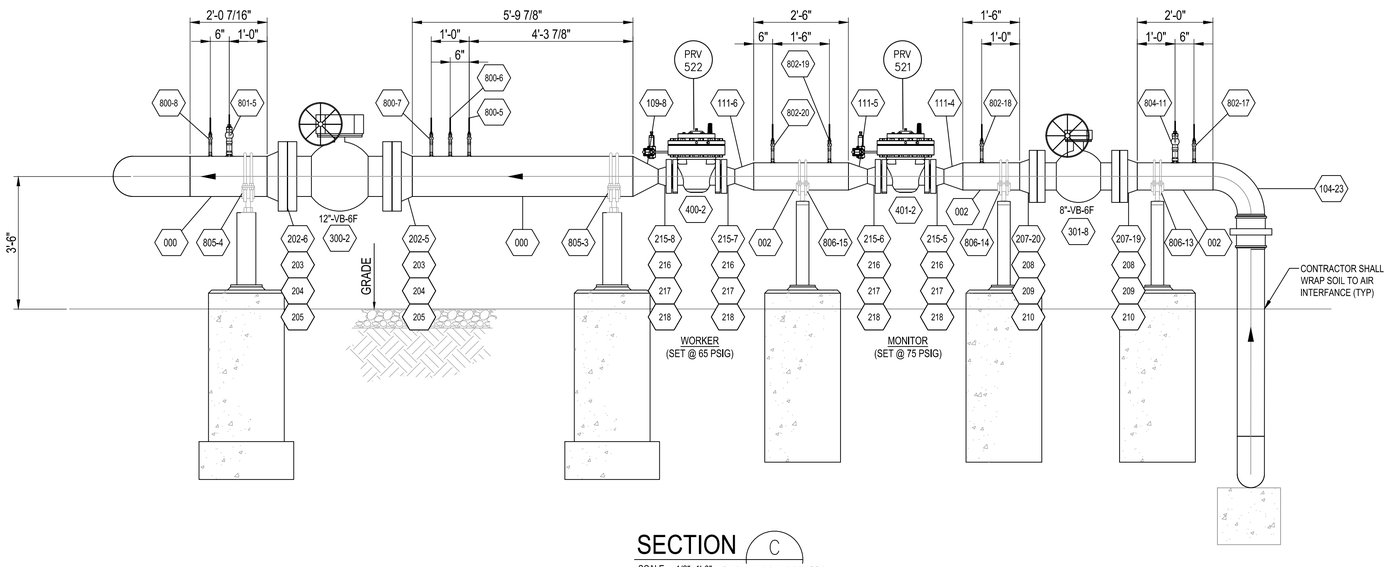
CHARLOTTE, NC

REF. DWG(S) PNG-G-001-0001379

SHEET(S) 10 OF 18	DWG SCALE AS NOTED
DWG DATE 06/05/2023	SUPERSEDED -

DRAWING NUMBER: PNG -M-001-0001556 — REVISION: D

DISCIPLINE / RESOURCE CENTER / LINE NUMBER



SECTION C

SCALE: 1/2"=1'-0" PNG-M-001-0001556

NOTE:

1. I.G. IS ABBREVIATED FOR "INCLUDE GASKET"
2. I.G.K. IS ABBREVIATED FOR "INSULATED GASKET KIT"
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NORTH CAROLINA PROFESSIONAL SEAL 043705 ENGINEER JONATHAN W. LIECHTI
4-16-2025
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D	04/18/2025	REVISED FOR ISSUE FOR PERMIT	JESSICA FORSYTHE	MIKE SCARPELLI	JONATHAN LIECHTI

DESCRIPTION	
AREA CODE	-
ACCOUNT NUMBER	-
PROJECT NUMBER	0236034
DWG TYPE	-
STATION ID	STA-7702

DUKE ENERGY. Piedmont Natural Gas

0236034
PLAZA ROAD REGULATOR STATION
REGULATOR SET DETAILS
CHARLOTTE, NORTH CAROLINA

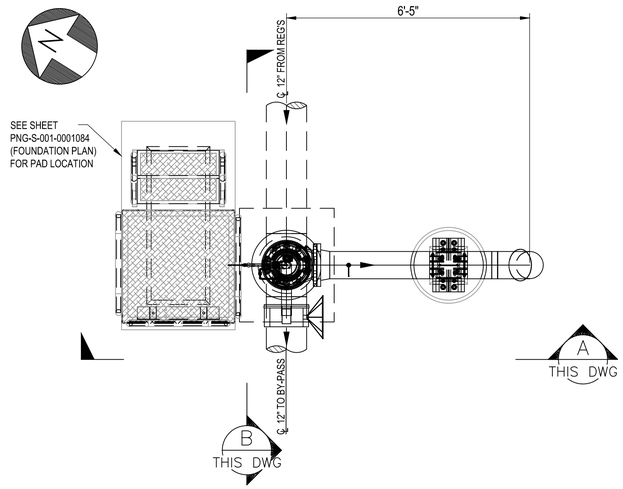
CHARLOTTE, NC

REF. DWG(S) PNG-G-001-0001379

SHEET(S) 11 OF 18	DWG SCALE AS NOTED
DWG DATE 06/05/2023	SUPERSEDED -

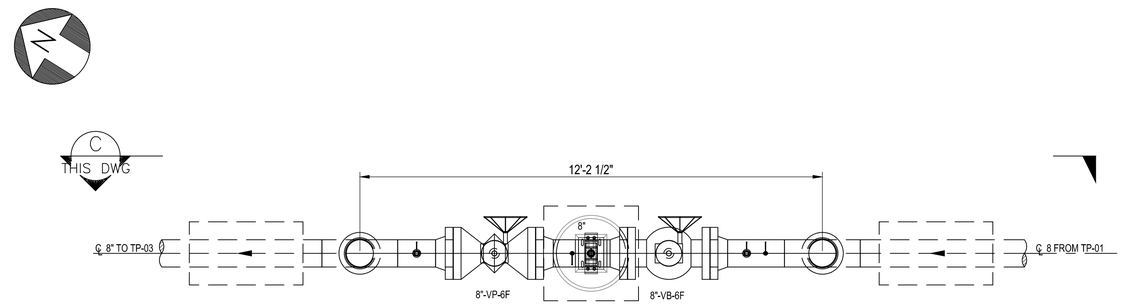
DRAWING NUMBER: PNG -M-001-0001557 — REVISION: D

DISCIPLINE / RESOURCE CENTER / LINE NUMBER



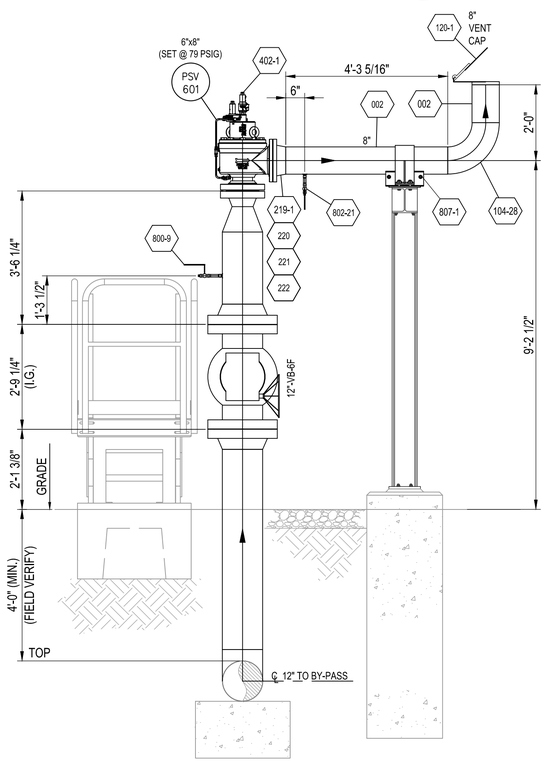
RELIEF VALVE DETAIL (6)

SCALE: 1/2"=1'-0" PNG-M-001-0001551



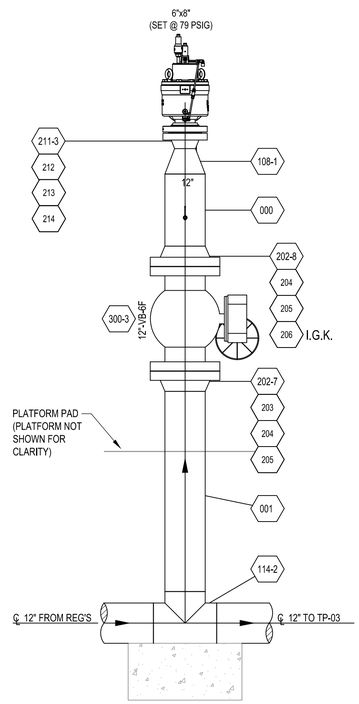
BY-PASS RUN DETAIL (7)

SCALE: 1/2"=1'-0" PNG-M-001-0001551



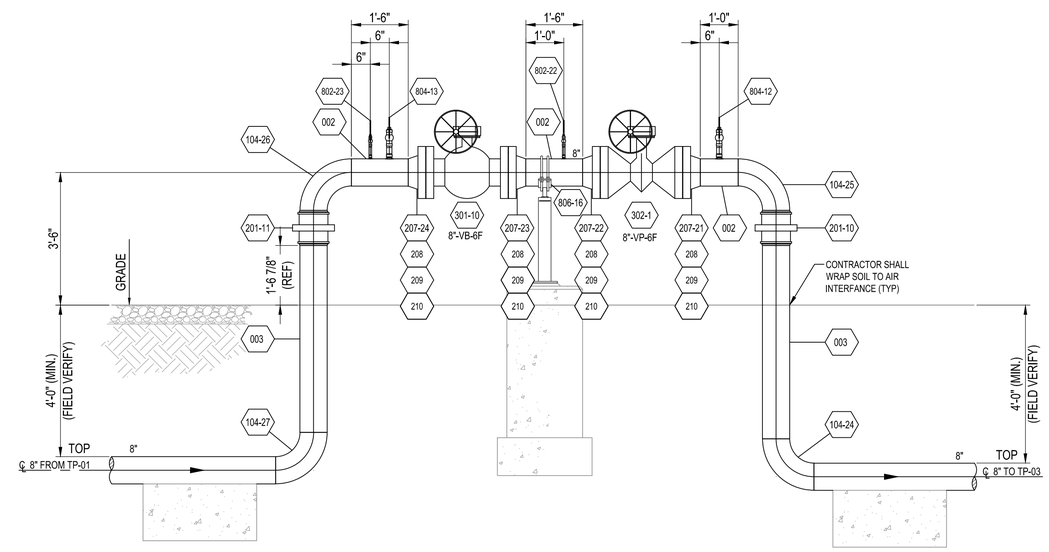
SECTION (A)

SCALE: 1/2"=1'-0" THIS DWG



SECTION (B)

SCALE: 1/2"=1'-0" THIS DWG



SECTION (C)

SCALE: 1/2"=1'-0" THIS DWG

NOTE:

1. I.G. IS ABBREVIATED FOR "INCLUDE GASKET"
2. I.G.K. IS ABBREVIATED FOR "INSULATED GASKET KIT"
3. FOR TAP ASSEMBLY DETAILS, SEE DRAWING PNG-M-001-0001559
4. BEFORE FABRICATION OF SPOOL SECTION, CONTRACTOR TO FIELD VERIFY DIMENSIONS FOR FINAL FIT-UP

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NORTH CAROLINA PROFESSIONAL SEAL 043705 ENGINEER JONATHAN W. LIECHTI, PE
4-16-2025
PROFESSIONAL ENG/ARCH STAMP

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D	04/18/2025	REVISED FOR ISSUE FOR PERMIT	JESSICA FORSYTHE	MIKE SCARPELLI	JONATHAN LIECHTI

DESCRIPTION	
AREA CODE	-
ACCOUNT NUMBER	-
PROJECT NUMBER	0236034
DWG TYPE	-
STATION ID	STA-7702

DUKE ENERGY. Piedmont Natural Gas

0236034
PLAZA ROAD REGULATOR STATION
RELIEF VALVE AND BYPASS PLAN & DETAILS
CHARLOTTE, NORTH CAROLINA

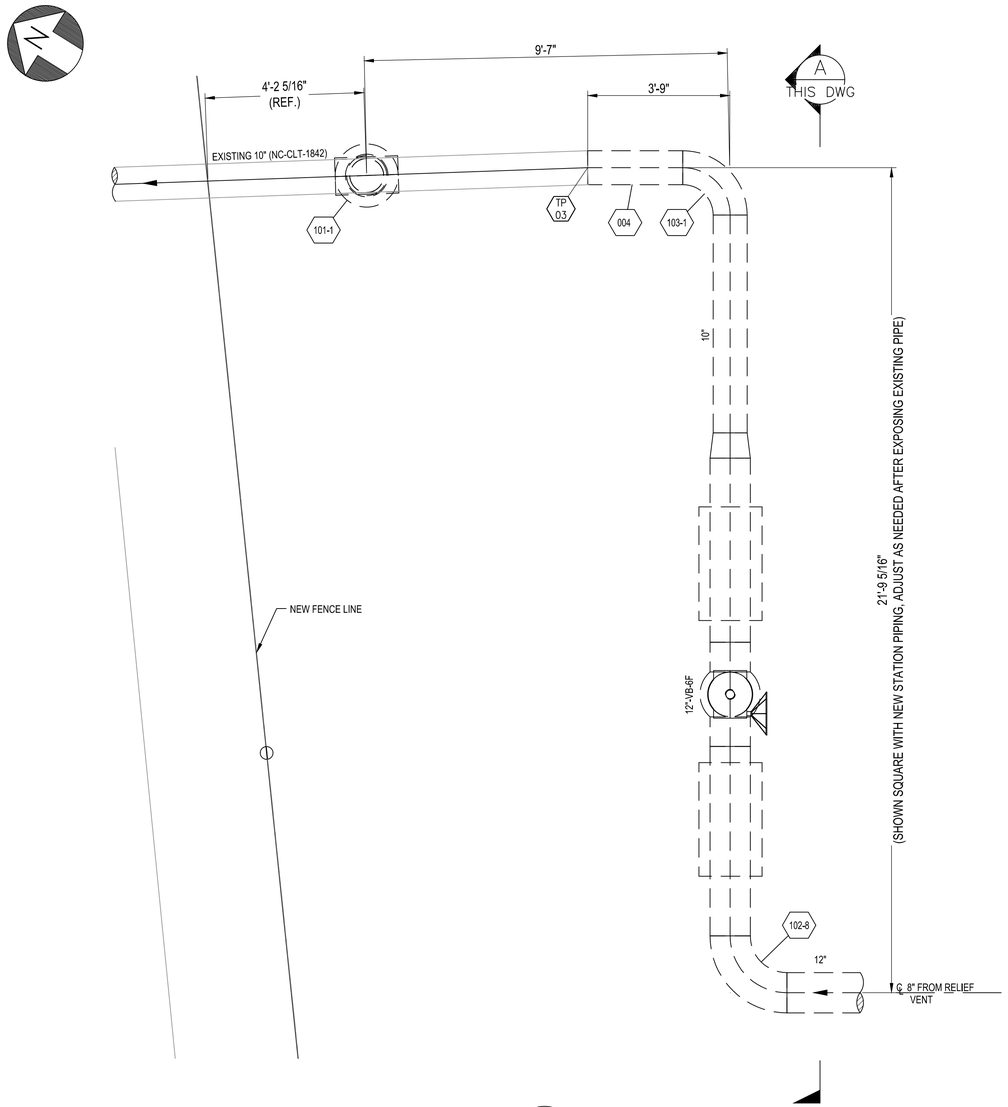
CHARLOTTE, NC

REF. DWG(S) PNG-G-001-0001379

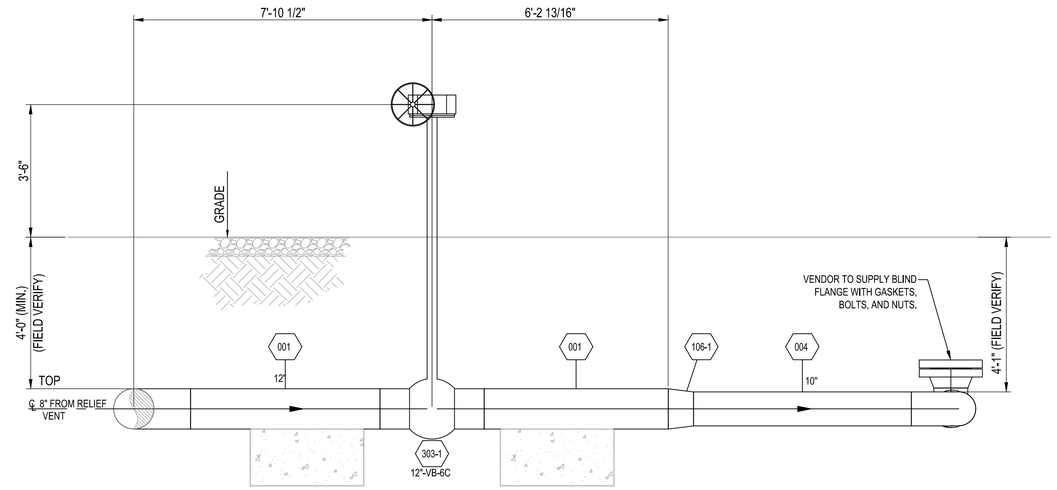
SHEET(S) 12 OF 18	DWG SCALE AS NOTED
DWG DATE 06/05/2023	SUPERSEDED -

DRAWING NUMBER: PNG -M-001-0001558 — REVISION: D

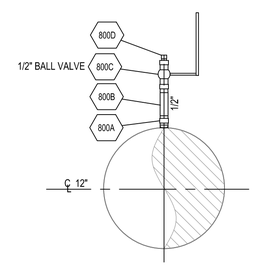
DISCIPLINE / RESOURCE CENTER / LINE NUMBER



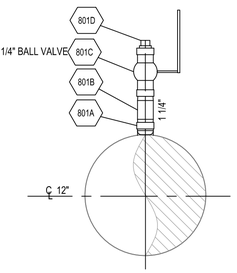
TIE-IN 3 AND OUTLET FIRE VALVE DETAIL 8
SCALE: 1/2"=1'-0" PNG-M-001-0001551



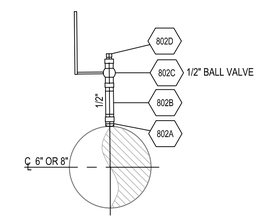
SECTION A
SCALE: 1/2"=1'-0" THIS DWG



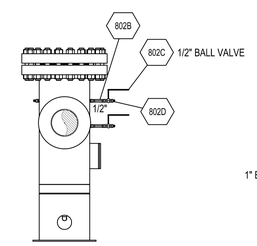
DETAIL 8
SCALE: 1 1/2"=1'-0"
800 12" RUN W/ 1/2" TAP ASSEMBLY



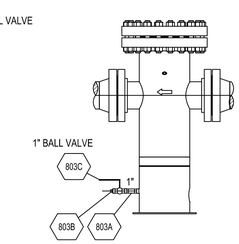
DETAIL 9
SCALE: 1 1/2"=1'-0"
801 12" RUN W/ 1 1/4" TAP ASSEMBLY



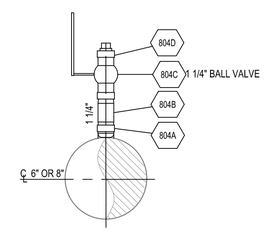
DETAIL 10
SCALE: 1 1/2"=1'-0"
802 6" OR 8" RUN W/ 1/2" TAP ASSEMBLY



DETAIL 11
SCALE: 1"=1'-0"
802 FILTER BLOW OFF W/ 1/2" TAP ASSEMBLY



DETAIL 12
SCALE: 1"=1'-0"
803 FILTER DRAIN W/ 1" TAP ASSEMBLY



DETAIL 13
SCALE: 1 1/2"=1'-0"
804 6" OR 8" RUN W/ 1 1/4" TAP ASSEMBLY

NOTE:

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NORTH CAROLINA PROFESSIONAL SEAL 043705 ENGINEER JONATHAN W. LIECHTI, PE
4-16-2025
PROFESSIONAL ENG/ARCH STAMP

NO.	DATE	REVISION(S) DESCRIPTION	DRAFTING/DESIGN	CHECKER/REVIEWER	APPROVING ENGINEER
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D	04/18/2025	REVISED FOR ISSUE FOR PERMIT	JESSICA FORSYTHE	MIKE SCARPELLI	JONATHAN LIECHTI

DESCRIPTION	
AREA CODE	-
ACCOUNT NUMBER	-
PROJECT NUMBER	0236034
DWG TYPE	-
STATION ID	STA-7702

DUKE ENERGY. Piedmont Natural Gas

0236034
PLAZA ROAD REGULATOR STATION
TP-03 PLAN & TAP ASSEMBLY DETAILS
CHARLOTTE, NORTH CAROLINA

CHARLOTTE, NC

REF. DWG(S) PNG-G-001-0001379

SHEET(S) 13 OF 18	DWG SCALE AS NOTED
DWG DATE 06/05/2023	SUPERSEDED -

DRAWING NUMBER: PNG -M-001-0001559
REVISION: D

DISCIPLINE / RESOURCE CENTER / LINE NUMBER

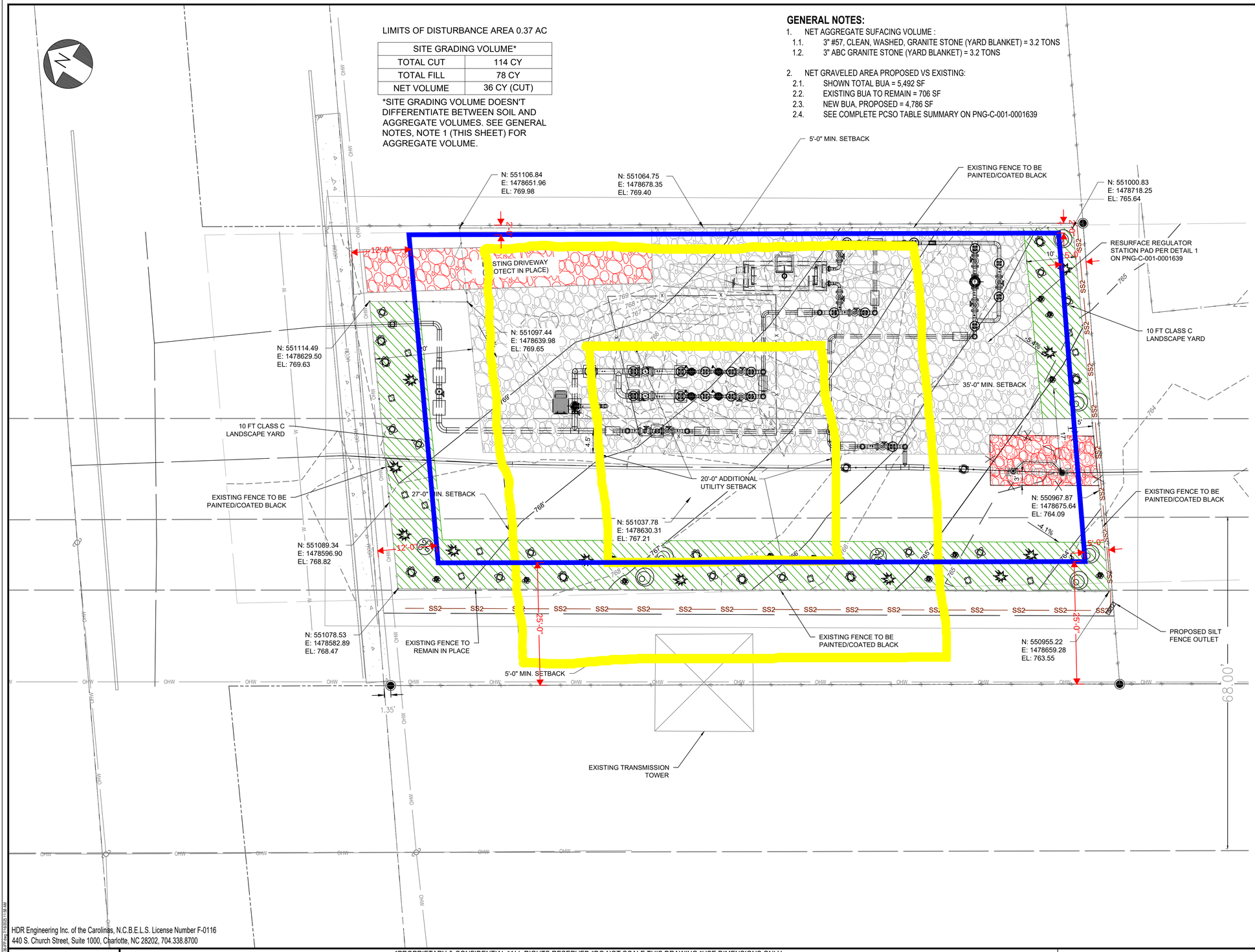
LIMITS OF DISTURBANCE AREA 0.37 AC

SITE GRADING VOLUME*	
TOTAL CUT	114 CY
TOTAL FILL	78 CY
NET VOLUME	36 CY (CUT)

*SITE GRADING VOLUME DOESN'T DIFFERENTIATE BETWEEN SOIL AND AGGREGATE VOLUMES. SEE GENERAL NOTES, NOTE 1 (THIS SHEET) FOR AGGREGATE VOLUME.

GENERAL NOTES:

1. NET AGGREGATE SUFACING VOLUME :
   - 1.1. 3" #57, CLEAN, WASHED, GRANITE STONE (YARD BLANKET) = 3.2 TONS
   - 1.2. 3" ABC GRANITE STONE (YARD BLANKET) = 3.2 TONS
2. NET GRAVELED AREA PROPOSED VS EXISTING:
   - 2.1. SHOWN TOTAL BUA = 5,492 SF
   - 2.2. EXISTING BUA TO REMAIN = 706 SF
   - 2.3. NEW BUA, PROPOSED = 4,786 SF
   - 2.4. SEE COMPLETE PCSO TABLE SUMMARY ON PNG-C-001-0001639



ZONING SPECIFIC SPECIES DIVERSITY REQUIREMENTS: Landscape Yard and Parking Lot Screening Plantings

Planting Type: Large & Medium Maturing Evergreen Trees

Symbol / Key	Tree Species Proposed - Scientific Name	Common Name	Quantity Proposed	% of overall tree total proposed	Approved Species Substitution*
	Ilex opaca	AMERICAN HOLLY	2	25%	N/A
	Ilex x attenuate 'Fosteri'	FOSTER HOLLY	6	75%	N/A
		Total Quantity and Percentage:	8	100%	

Planting Type: Small Maturing Evergreen Trees

Symbol / Key	Tree Species Proposed - Scientific Name	Common Name	Quantity Proposed	% of overall tree total proposed	Approved Species Substitution*
N/A	N/A	N/A	N/A	N/A	N/A
		Total Quantity and Percentage:		-	

Planting Type: Large & Medium Maturing Deciduous Trees

Symbol / Key	Tree Species Proposed - Scientific Name	Common Name	Quantity Proposed	% of overall tree total proposed	Approved Species Substitution*
N/A	N/A	N/A	N/A	N/A	N/A
		Total Quantity and Percentage:		-	

Planting Type: Small Maturing Deciduous Trees

Symbol / Key	Tree Species Proposed - Scientific Name	Common Name	Quantity Proposed	% of overall tree total proposed	Approved Species Substitution*
N/A	N/A	N/A	N/A	N/A	N/A
		Total Quantity and Percentage:		-	

Planting Type: Evergreen Shrubs

Symbol / Key	Shrub Species Proposed -Scientific Name	Common Name	Quantity Proposed	% of overall shrub total proposed	Approved Species Substitution*
	Juniperus x pfitzeriana	PFITZER JUNIPER	11	20%	N/A
	Viburnum tinus	LAURESTINUS VIBURNUM	11	20%	N/A
	Ilex vomitoria	YAUPON HOLLY	11	20%	N/A
	Camellia	CAMELLIA	11	20%	N/A
	Myrica cerifera	WAX MYRTLE	11	20%	N/A
		Total Quantity and Percentage:	55	100%	

* These are substitutions that may be allowed on a case-by-case basis in the event that an approved planting is not available at the time of development.

LANDSCAPING NOTES:

1. EXISTING PLANTINGS ON SITE TO BE REMOVED FOR THE NEW LANDSCAPE BUFFER
2. SEE SHEET PNG-C-001-0001640 FOR CHAPTER 21 CITY TREE ORDINANCE CODE SUMMARY.
3. SEE SHEET PNG-C-001-0001639 FOR REMAINING LANDSCAPE YARD DATA TABLE AND SITE DEVELOPMENT DATA TABLE.

10' 0 10' 20'
SCALE: 1" = 10'

811 Know what's below. Call before you dig.
CALL 48 HOURS BEFORE YOU DIG

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440 S. Church Street, Suite 1000, Charlotte, NC 28202, 704.338.8700

NORTH CAROLINA PROFESSIONAL SEAL 056228 ENGINEER GREGORY M. YOUNG 7/18/2025

PROFESSIONAL ENG/ARCH STAMP

NO.	DATE	REVISION(S) DESCRIPTION	DRAFTING/DESIGN	CHECKER/REVIEWER	APPROVING ENGINEER
D	03/28/2025	REVISED ISSUED FOR PERMIT	LIAM O'HALLORAN	MIKE SCARPELLI	GREG YOUNG
E	04/18/2025	REVISED ISSUE FOR PERMIT	JESSICA FORSYTHE	MIKE SCARPELLI	GREG YOUNG
F	07/18/2025	REVISED ISSUE FOR PERMIT (VARIANCE)	JON ANDREANO	ERIC HAMPTON	GREG YOUNG

DESCRIPTION	
AREA CODE	-
ACCOUNT NUMBER	
PROJECT NUMBER	0236034
DWG TYPE	-
STATION ID	STA-7702

DUKE ENERGY. Piedmont Natural Gas

0236034 PLAZA ROAD REGULATOR STATION SITE GRADING PLAN CHARLOTTE, NORTH CAROLINA

CHARLOTTE, NC

REF. DWG(S) PNG-G-001-0001379

SHEET(S) 14 OF 18 | DWG SCALE AS NOTED

DWG DATE 03/06/2023 | SUPERSEDED -

DRAWING NUMBER: PNG -C-001-0001636 | REVISION: F

DISCIPLINE / RESOURCE CENTER / LINE NUMBER

CIVIL AND STRUCTURAL NOTES:

1. THE ACCESS ROAD SUBGRADE SHALL HAVE SUFFICIENT STABILITY TO ACCOMMODATE CONSTRUCTION TRAFFIC WITHOUT EXCESSIVE SUBGRADE RUTTING OR SHOVING. AT THE TIME OF PLACEMENT OF THE PAVEMENT, THE IN SITU SUBGRADE SHALL HAVE A CALIFORNIA BEARING RATIO (CBR) OF AT LEAST 6 PERCENT IN THE TOP 12 INCHES OF SUBGRADE. THE CBR PERCENTAGE WILL BE ASCERTAINED BY THE CONTRACTOR.

2. THE QUALITY OF THE SOIL TO BE USED AS FILL MATERIAL SHALL BE AS SPECIFIED IN THIS DOCUMENT. ALL BACKFILL SHALL BE SPREAD IN LOOSE LIFTS NOT EXCEEDING 8 INCHES IN THICKNESS WHEN SELF-PROPELLED EQUIPMENT IS USED AND NOT EXCEEDING 6 INCHES WHEN HAND GUIDED EQUIPMENT IS USED. ALL ROOTS, WOOD, AND VEGETATION SHALL BE REMOVED FROM THE LAYER OF FILL PRIOR TO COMPACTION. ALL FILL AND EXPOSED SOIL IN CUT AREAS SHALL BE COMPACTED AS SPECIFIED IN THIS DOCUMENT. SOIL COMPACTION TEST WILL BE REQUESTED BY THE OWNER AT APPROPRIATE INTERVALS DURING GRADING OPERATIONS.

3. SELECT SOIL MATERIAL SHALL BE THAT MATERIAL CLASSIFIED AS SM, SP, SC, SW, AND CL, OR SW AND SC IN ACCORDANCE WITH ASTM D2487, AND SHALL HAVE A MAXIMUM LIQUID LIMIT OF 30, A MAXIMUM PLASTICITY INDEX OF 8, AND A MAXIMUM OF 35 PERCENT PASSING THE #200 SIEVE.

4. COMPACTION TESTING WILL BE PROVIDED AT THE EXPENSE OF THE CONTRACTOR. COMPACTION REQUIREMENTS OF SOIL BACKFILL SHALL BE AS INDICATED IN THE FOLLOWING TABLE:

LOCATION OF FILL	MINIMUM REQUIRED COMPACTION LEVEL STANDARD PROCTOR
A. GENERAL YARD AREA	98% (ASTM D698)
B. UPPER 18 INCHES OF SOIL TO BE USED AS ROAD SUBGRADE MATERIAL AND EXTENDING A MINIMUM OF 5 FEET BEYOND THE EDGE OF DEFINED ROADWAYS (IMMEDIATELY UNDER BASE MATERIAL)	98% (ASTM D698)

5. APPROVAL SHALL BE RECEIVED FROM THE CLIENT REPRESENTATIVE FOR EACH FILL TYPE TO BE USED PRIOR TO PROCEEDING WITH BACKFILL OPERATIONS WITH THE MATERIAL IN QUESTION.

6. INSPECTION AND TESTING OF MATERIAL SHALL BE PERFORMED AS REQUIRED BY THIS DOCUMENT AT THE EXPENSE OF THE CONTRACTOR.

7. TEST AND ANALYSIS OF MATERIAL SHALL BE PERFORMED IN ACCORDANCE WITH THE APPLICABLE STANDARDS REFERENCED IN THIS DOCUMENT FOR THE SPECIFIC TEST. FIELD INSPECTION SHALL BE PERFORMED AS REQUIRED BY THIS DOCUMENT.

8. THE BACKFILL AND EXPOSED SOIL IN CUT AREAS SHALL BE COMPACTED AS SPECIFIED ON THIS DOCUMENT. FIELD DENSITY TEST SHALL BE PERFORMED BY THE CONTRACTOR TO VERIFY COMPACTION REQUIREMENTS HAVE BEEN ACHIEVED. IN-PLACE FIELD DENSITY TESTING OF THE COMPACTED BACKFILL SHALL BE CONDUCTED ACCORDING TO THE PROCEDURES OF THE SAND CONE METHOD (ASTM 1556), NUCLEAR METHOD (ASTM D3017), OR ACCORDING TO THE PROVISIONS OF THIS DOCUMENT. TEST RESULTS REPORTED SHALL INCLUDE BOTH THE MOISTURE CONTENT AND DRY DENSITY, ALONG WITH OTHER PERTINENT DATA SUCH AS LOCATION, ELEVATION, PROCTOR CURVE USED FOR COMPARISON, ETC. THE TESTING FREQUENCY SHALL BE ONE TEST FOR EACH 5,000 SQUARE FEET OF LIFT AREA OR PORTION THEREOF FOR EACH LIFT. IN ISOLATED AREAS OF LESS THAN 5,000 SQUARE FEET, TEST AT LEAST EVERY THIRD LIFT. WHEN BACKFILL OPERATIONS ARE CONCENTRATED IN SMALL AREAS USING LIGHT MANUALLY-GUIDED EQUIPMENT AND RELATIVELY THIN LIFTS, THE FREQUENCY OF DENSITY TESTING MAY BE REVISED AS DIRECTED BY THE OWNER'S CONSTRUCTION INSPECTOR. TEST LOCATION SHALL BE THE WEAKEST APPEARING AREA OF THE TOP LIFT DETERMINED BY TRACKING ACTION OF THE EQUIPMENT.

9. TESTING OF IN-PLACE DENSITY AND MOISTURE CONTENT BY NUCLEAR METHODS IN ACCORDANCE WITH ASTM D2922 AND AST D3017, RESPECTIVELY, WILL BE ALLOWED PROVIDED:

   A. ACCEPTABLE CORRELATION WITH SAND CONE DENSITY AND LABORATORY DETERMINED MOISTURE CONTENT TEST RESULTS CAN BE OBTAINED ACCORDING TO THE GUIDELINES OF "CALIBRATION" SECTIONS OF ASTM D2922 AND ASTM D3017.

   B. THE INITIAL CORRELATION RESULTS ARE REVIEWED AND USE OF THE NUCLEAR DEVICE IS APPROVED BY THE OWNER'S CONSTRUCTION INSPECTOR.

   C. THE CONTRACTOR INSURES THAT THE REPRESENTATIVE FROM THE TESTING AGENCY OPERATION THE NUCLEAR DENSITY TESTING HAS THE NECESSARY STATE AND/OR FEDERAL LICENSES TO OPERATE THE DEVICE AND CARRY A NUCLEAR ENERGY SOURCE.

10. EMBANKMENT FILL SHALL CONSIST OF AN INORGANIC, NON-PLASTIC, GRANULAR SOIL CONTAINING LESS THAN 10 PERCENT MATERIAL PASSING THE #200 MESH SIEVE WITH UNIFIED SOIL CLASSIFICATION OF SP, SP-SC, OR SP-SM. EMBANKMENT FILL SHALL BE PLACED IN LIFTS NOT EXCEEDING 8 INCHES WHEN USING A STATIC DRUM ROLLER WITH A MINIMUM OPERATING WEIGHT OF 5 TONS WITH A DRUM DIAMETER OF 3 TO 4 FEET. WHERE LIGHTWEIGHT VIBRATOR COMPACTION METHODS ARE UTILIZED MAXIMUM LOOSE LIFT THICKNESS SHALL BE 6 INCHES. COMPACTION TO MEET A MAXIMUM DRY DENSITY OF 98 PERCENT STANDARD PROCTOR DRY DENSITY.

11. ANY GRADING TO CORRECT SLOPES SHALL BE COMPACTED PER THIS DOCUMENT.

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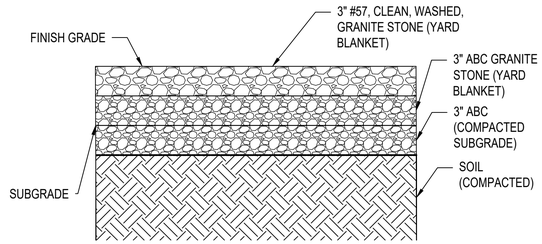
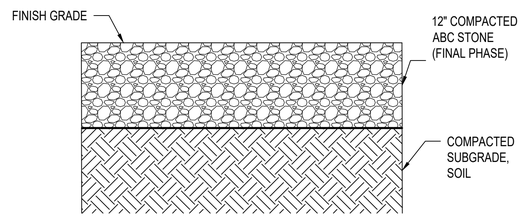


TYPICAL STATION PAD SECTION 1

SCALE: NTS



TYPICAL ACCESS DRIVE SECTION 2

SCALE: NTS

CIVIL AND STRUCTURAL NOTES CONT'D:

12. SITE GRADING VOLUMES DO NOT ACCOUNT FOR POTENTIAL SHRINKING, SWELLING OR COMPACTION OF MATERIAL. CONTRACTOR TO ACCOUNT FOR EXCESS SOIL DISPOSAL OR IMPORT OF CLEAN FILL FOR THE INSTALLATION OF PIPELINES, FOUNDATIONS, GENERAL SITE GRADING. GRAVEL SURFACING IS NOT INCLUDED IN THE VOLUME CALCULATIONS.

LANDSCAPE YARD DATA TABLE

Total site area:	14,024 SF	
Zoning:	N1-B	
Petition number (if applicable):		
Landscape Yard Plantings		
(List landscape yard by name matching site plan)	Class:	C
	Required Width:	10'
	Final Width (including any increases due to utilities, etc.):	10'
	Landscape Yard Total Length:	233'
	General Shrub Requirement (by Zone if applicable) per __ LF or per ___ SF:	1 shrub/5LF
	Total Shrubs Required:	47
	Total Shrubs Provided:	55
	Large/Medium Maturing Trees Required (by Zone if applicable) per ___LF or per___ SF:	1 tree/50LF
	Total Large & Medium Maturing Trees Required:	5
	Total Large & Medium Maturing Trees Provided:	8
	Required Evergreen Tree Percentage:	40%
	Proposed evergreen trees:	8
	Small maturing tree substitution:	N/A
	Number of LM/MM trees substituted:	N/A
	Total small maturing trees provided:	N/A
	Fence/wall required:	N/A*
	Fence/wall material proposed:	N/A
	Fence/wall type height proposed:	N/A

* REFERENCE THE UDOAA

PCSO SUMMARY

Original Parcel ID Number(s):	10706524	
Development Type:	Industrial	
Subject to PCSO? Y/N	YES	
If NO, why?	Below BUA/Disturbance Thresholds	
Watershed:	Central Catawba	
Disturbed Area (ac):	0.3700	
Site Area (ac):	0.3250	
	DA#1	DA#2
Total on-site Drainage Area (ac):	0.325	N/A
Existing Built-upon-area (SF):	1595	N/A
Existing BUA to be removed (SF):	889	N/A
Existing BUA to remain (SF):	706	N/A
Proposed New BUA (SF):	4786	N/A
Proposed % BUA:	34	N/A
Density (High / Low)	HIGH	N/A
Total Post-Project BUA for site:	5492 SF	
Development or Redevelopment?	Redevelopment	
Natural Area Required (ac):	N/A	
Natural Area provided, total (ac):	N/A	
Undisturbed Treed Natural Area Preserved (ac):	N/A	
Total stream buffer protected on-site (ac):	N/A	
Transit Station Area? Y/N	N/A	
Distressed Business District? Y/N	N/A	
Mitigation Type (if applicable)	N/A	
Natural Area mitigation? Y/N	N/A	
Buffer Mitigation? Y/N	N/A	
Total Phosphorous Mitigation? Y/N	N/A	

SITE DEVELOPMENT DATA TABLE

UDO Version Used for Project:	As amended on September 16th, 2024			
Tax parcel(s):	10706524.0000			
Address:	6530 The Plaza, Charlotte, NC 28215			
Total site area:	14024 SF			
Minimum lot area required:	N/A			
Lot width required:	N/A			
Zoning district:	N1-B			
Rezoning petition number (if applicable):	N/A			
Previous related submittals (if applicable):	N/A			
Existing use:	NATURAL GAS REGULATOR STATION			
Proposed use per UDO article 15 definitions:	PUBLIC UTILITY			
Residential uses only:	# of units:	N/A	# of bedrooms/studios:	N/A
Existing building(s) square footage to remain (if applicable):	N/A			
Proposed square footage by use:	5,054 SF FOR NATURAL GAS REGULATOR STATION			
Maximum building coverage allowed:	"LOTS 10,000 SQ. FT. AND GREATER ~40% LOTS LESS THAN 10,000 SQ. FT. ~50%"			
Building coverage proposed (per lot):	N/A			
Front setback (listed by street + street classification):	27 FT			
Side setback:	5 FT			
Rear setback:	35 FT			
Garage setback from public right-of-way or back of sidewalk:	N/A			
Garage separation from internal streets:	N/A			
Build-to zone (listed by street):	N/A			
Build-to percentage (listed by street):	Required:	N/A	Proposed:	N/A
Minimum building length as percentage of lot width (by frontage):	N/A			
Cumulative building length proposed:	Linear feet:	N/A	Percentage:	N/A
Maximum builing length allowed:	N/A			
Longest building length proposed (in feet):	N/A			
Minimum building height required:	N/A			
Maximum building height allowed:	48 FT			
Tallest building height proposed:	N/A			
Parking tier designation:	N/A			
Minimum parking required (list by use/residential unit type):	Use:	N/A	Regular:	N/A
	EVSE installed:	N/A	EV capable:	N/A
Maximum parking allowed:	N/A			
Proposed parking:	Standard Spaces:	N/A	Compact Spaces:	N/A
	On Street Spaces:	N/A	Shared Spaces:	N/A
	(Res) Driveway/Pad:	N/A	(Res) Unit Garage Spaces:	N/A
	EV capable:	N/A	EV ready:	N/A
	EVSE installed:	N/A	Required ADA:	N/A
Required loading:	N/A			
Proposed loading:	N/A			
Required bicycle parking (list by use):	Use:	N/A		
	Short term:	N/A	Long term:	N/A
Proposed bicycle parking:	Short term:	N/A	Long term:	N/A
Landscape Yards Required?	YES			
	Name, class and depth(s):	10' CLASS C LY		
Screening Required?	N/A			
	Location & type(s):	N/A		
Total common area:	N/A			
Open space:	Required:	N/A	Proposed:	N/A
Public open space (if applicable):	Required:	N/A	Proposed:	N/A
Common open space (if applicable):	Required:	N/A	Proposed:	N/A
Private open space (if applicable):	Required:	N/A	Proposed:	N/A
Outdoor storage Proposed?	N/A			
	Percentage of building area:	N/A		
Solid Waste Required (if applicable):	N/A			
Solid Waste Proposed:	N/A			
Recycling Area Required (if applicable):	N/A			
Recycling Area Proposed:	N/A			

PROFESSIONAL ENG/ARCH STAMP

NO.	DATE	REVISION(S) DESCRIPTION	DRAFTING/DESIGN	CHECKER/REVIEWER	APPROVING ENGINEER
C	03/28/2025	REVISED ISSUE FOR PERMIT	AUSTIN ZALIN	MIKE SCARPELLI	GREG YOUNG
D	04/18/2025	REVISED ISSUE FOR PERMIT	JESSICA FORSYTHE	MIKE SCARPELLI	GREG YOUNG
E	07/18/2025	REVISED ISSUE FOR PERMIT (VARIANCE)	JON ANDREANO	ERIC HAMPTON	GREG YOUNG

DESCRIPTION	
AREA CODE	-
ACCOUNT NUMBER	-
PROJECT NUMBER	0236034
DWG TYPE	-
STATION ID	STA-7702

DUKE ENERGY. Piedmont Natural Gas

0236034
PLAZA ROAD REGULATOR STATION
SITE GRADING NOTES
CHARLOTTE, NORTH CAROLINA
CHARLOTTE, NC

REF. DWG(S) PNG-G-001-0001636

SHEET(S) 15 OF 18	DWG SCALE	NTS	
DWG DATE 07/28/2023	SUPERSEDED	-	

DRAWING NUMBER: PNG -C-001-0001639
REVISION: E
DISCIPLINE / RESOURCE CENTER / LINE NUMBER

NCDEQ STANDARD NOTES:

1. IF NECESSARY, SLOPES, WHICH EXCEED EIGHT (8) VERTICAL FEET SHOULD BE STABILIZED WITH SYNTHETIC OR VEGETATIVE MATS, IN ADDITION TO HYDROSEEDING. IT MAY BE NECESSARY TO INSTALL TEMPORARY SLOPE DRAINS DURING CONSTRUCTION. TEMPORARY BERMS MAY BE NEEDED UNTIL THE SLOPE IS BROUGHT TO GRADE.

2. STABILIZATION MEASURES SHALL BE INITIATED AS SOON AS PRACTICABLE IN PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITIES HAVE TEMPORARILY OR PERMANENTLY CEASED, BUT IN NO CASE MORE THAN FOURTEEN (14) DAYS AFTER WORK HAS CEASED, EXCEPT AS STATED BELOW:

- WHERE STABILIZATION BY THE 14TH DAY IS PRECLUDED BY SNOW COVER OR FROZEN GROUND CONDITIONS STABILIZATION MEASURES MUST BE INITIATED AS SOON AS PRACTICABLE.
- WHERE CONSTRUCTION ACTIVITY ON A PORTION OF THE SITE IS TEMPORARILY CEASED, AND EARTH-DISTURBING ACTIVITIES WILL BE RESUMED WITHIN 14 DAYS, TEMPORARY STABILIZATION MEASURES DO NOT HAVE TO BE INITIATED ON THAT PORTION OF THE SITE.

3. ALL SEDIMENT AND EROSION CONTROL DEVICES SHALL BE INSPECTED ONCE EVERY CALENDAR WEEK. IF PERIODIC INSPECTION OR OTHER INFORMATION INDICATES THAT A BMP HAS BEEN INAPPROPRIATELY OR INCORRECTLY INSTALLED, THE PERMITTEE MUST ADDRESS THE NECESSARY REPLACEMENT OR MODIFICATION REQUIRED TO CORRECT THE BMP WITHIN 48 HOURS OF IDENTIFICATION.

4. PROVIDE SILT FENCE AND/OR OTHER CONTROL DEVICES, AS MAY BE REQUIRED, TO CONTROL SOIL EROSION DURING UTILITY CONSTRUCTION. ALL DISTURBED AREAS SHALL BE CLEANED, GRADED AND STABILIZED WITH GRASSING IMMEDIATELY AFTER THE UTILITY INSTALLATION. FILL, COVER, AND TEMPORARY SEEDING AT THE END OF EACH DAY ARE RECOMMENDED. IF WATER IS ENCOUNTERED WHILE TRENCHING, THE WATER SHOULD BE FILTERED TO REMOVE ANY SEDIMENTS BEFORE BEING PUMPED BACK INTO ANY WATERS OF THE STATE.

5. ALL EROSION CONTROL DEVICES SHALL BE PROPERLY MAINTAINED DURING ALL PHASES OF CONSTRUCTION UNTIL THE COMPLETION OF ALL CONSTRUCTION ACTIVITIES AND ALL DISTURBED AREAS HAVE BEEN STABILIZED. ADDITIONAL CONTROL DEVICES MAY BE REQUIRED DURING CONSTRUCTION IN ORDER TO CONTROL EROSION AND/OR OFFSITE SEDIMENTATION. ALL TEMPORARY CONTROL DEVICES SHALL BE REMOVED ONCE CONSTRUCTION IS COMPLETE AND THE SITE IS STABILIZED.

6. THE CONTRACTOR MUST TAKE NECESSARY ACTION TO MINIMIZE THE TRACKING OF MUD ONTO PAVED ROADWAY(S) FROM CONSTRUCTION AREAS AND THE GENERATION OF DUST. THE CONTRACTOR SHALL DAILY REMOVE MUD/SOIL FROM PAVEMENT, AS MAY BE REQUIRED.

7. TEMPORARY DIVERSION BERMS AND/OR DITCHES WILL BE PROVIDED AS NEEDED DURING CONSTRUCTION TO PROTECT WORK AREAS FROM UPSLOPE RUNOFF AND/OR TO DIVERT SEDIMENT-LADEN WATER TO APPROPRIATE TRAPS OR STABLE OUTLETS.

8. ALL WATERS OF THE STATE (WoS), INCLUDING WETLANDS, ARE TO BE FLAGGED OR OTHERWISE CLEARLY MARKED IN THE FIELD. A DOUBLE ROW OF SILT FENCE IS TO BE INSTALLED IN ALL AREAS WHERE A 50-FOOT BUFFER CAN'T BE MAINTAINED BETWEEN THE DISTURBED AREA AND ALL WoS. A 10-FOOT BUFFER SHOULD BE MAINTAINED BETWEEN THE LAST ROW OF SILT FENCE AND ALL WoS.

9. LITTER, CONSTRUCTION DEBRIS, OIL, FUELS, AND BUILDING PRODUCTS WITH SIGNIFICANT POTENTIAL FOR IMPACT (SUCH AS STOCKPILES OF FRESHLY TREATED LUMBER) AND CONSTRUCTION CHEMICALS THAT COULD BE EXPOSED TO STORM WATER MUST BE PREVENTED FROM BECOMING A POLLUTANT SOURCE IN STORM WATER DISCHARGES.

10. IF SOIL OR NATURAL RAW MATERIALS ARE TO BE STOCK PILED ONSITE THE CONTRACTOR SHALL LOCATE STOCK PILE WITHIN LIMITS OF DISTURBANCE AND INSTALL SILT FENCE AROUND STOCKPILE. ONCE THE STOCK PILE IS DEPLETED AND THE PROJECT IS NO LONGER STOCK PILING MATERIAL, THE CONTRACTOR SHALL REMOVE SILT FENCE AND STABILIZE STOCK PILE AREA BEFORE THE SITE IS RELEASED FOR FINAL PLAT APPROVAL.

11. WITHIN SEVEN CALENDAR DAYS, TEMPORARY STABILIZATION MEASURES SHALL BE COMPLETED ON TOPSOIL STOCKPILES. THE BURIAL OF ANY CELLULOSE DEBRIS WILL NEED TO BE PLATTED. THE REMOVAL OF SOIL OR WASTE FROM THE PROPOSED SITE WILL NEED TO BE TAKEN TO A PERMITTED LANDFILL OR ANOTHER PERMITTED SITE WITH A VALID LAND DISTURBANCE PERMIT. THE ASSOCIATED SITE WOULD ALSO BE REQUIRED TO PROVIDE THE APPROPRIATE EROSION AND SEDIMENT CONTROL NECESSARY TO RETAIN SEDIMENT ON SITE (WITHIN THE LIMITS OF DISTURBANCE PERMITTED).

12. A COPY OF THE SWPPP, INSPECTIONS, AND RAINFALL DATA MUST BE RETAINED AT THE CONSTRUCTION SITE OR A NEARBY LOCATION EASILY ACCESSIBLE DURING NORMAL BUSINESS HOURS, FROM THE DATE OF COMMENCEMENT OF CONSTRUCTION ACTIVITIES TO THE DATE THAT FINAL STABILIZATION IS REACHED.

13. INITIATE STABILIZATION MEASURES ON ANY EXPOSED STEEP SLOPE (3H:1V OR GREATER) WHERE LAND DISTURBING ACTIVITIES HAVE PERMANENTLY OR TEMPORARILY CEASED, AND WILL NOT RESUME FOR A PERIOD OF 7 CALENDAR DAYS.

14. MINIMIZE SOIL COMPACTION AND, UNLESS INFEASIBLE, PRESERVE TOPSOIL.

15. MINIMIZE THE DISCHARGE OF POLLUTANTS FROM EQUIPMENT AND VEHICLE WASHING, WHEEL WASH WATER, AND OTHER WASH WATERS. WASH WATERS MUST BE TREATED IN A SEDIMENT BASIN OR ALTERNATIVE CONTROL THAT PROVIDES EQUIVALENT OR BETTER TREATMENT PRIOR TO DISCHARGE.

16. MINIMIZE THE DISCHARGE OF POLLUTANTS FROM DEWATERING OF TRENCHES AND EXCAVATED AREAS. THESE DISCHARGES ARE TO BE ROUTED THROUGH APPROPRIATE BMPS (SEDIMENT BASIN, FILTER BAG, ETC.).

17. THE FOLLOWING DISCHARGES FROM SITES ARE PROHIBITED:

- WASTEWATER FROM WASHOUT OF CONCRETE, UNLESS MANAGED BY AN APPROPRIATE CONTROL;
- WASTEWATER FROM WASHOUT AND CLEANOUT OF STUCCO, PAINT, FORM RELEASE OILS, CURING COMPOUNDS AND OTHER CONSTRUCTION MATERIALS;
- FUELS, OILS, OR POLLUTANTS USED IN VEHICLE AND EQUIPMENT OPERATION AND MAINTENANCE, AND
- SOAPS OR SOLVENTS USED IN VEHICLE AND EQUIPMENT WASHING.

19. AFTER CONSTRUCTION ACTIVITIES BEGIN, INSPECTIONS MUST BE CONDUCTED AT A MINIMUM OF AT LEAST ONCE PER CALENDAR WEEK AND MUST BE CONDUCTED UNTIL FINAL STABILIZATION IS REACHED ON ALL AREAS OF THE CONSTRUCTION SITE.

20. IF EXISTING BMPs NEED TO BE MODIFIED OR IF ADDITIONAL BMPs ARE NECESSARY TO COMPLY WITH THE REQUIREMENTS OF THIS PERMIT AND/OR SOUTH CAROLINA'S WATER QUALITY STANDARDS, IMPLEMENTATION MUST BE COMPLETED BEFORE THE NEXT STORM EVENT WHENEVER PRACTICABLE. IF IMPLEMENTATION BEFORE THE NEXT STORM EVENT IS IMPRACTICABLE, THE SITUATION MUST BE DOCUMENTED IN THE SWPPP AND ALTERNATIVE BMPs MUST BE IMPLEMENTED AS SOON AS REASONABLY POSSIBLE.

21. A PRE-CONSTRUCTION CONFERENCE MUST BE HELD FOR EACH CONSTRUCTION SITE WITH AN APPROVED SWPPP PRIOR TO THE IMPLEMENTATION OF CONSTRUCTION ACTIVITIES. FOR NON-LINEAR PROJECTS THAT DISTURB 10 ACRES OR MORE THIS CONFERENCE MUST BE HELD ONSITE UNLESS THE DEPARTMENT HAS APPROVED OTHERWISE.

22. CONTRACTORS ARE REQUIRED TO HAVE RAIN GAUGES AR THE CONSTRUCTION SITE AND THE RAIN TOTALS DOCUMENTED FOR REVIEW BY MECKLENBURG COUNTY AND NCDEQ.

23. CONTRACTOR TO UTILIZE STANDARD DUKE ENERGY SPECIFICATIONS FOR CONSTRUCTION SUPPLEMENTED BY NCDEQ EROSION CONTROL STANDARDS/ SPECIFICATIONS.

24. TRENCHES FOR CULVERTS SHALL BE COMPACTED TO 95% AND FOLLOW NCDOT SPECIFICATIONS FOR TRENCHING/COMPACTION, ETC.

25. ALL GRADED FILL AREAS INCLUDING ACCESS DRIVE SUB-GRADE SHALL BE COMPACTED TO 95% STANDARD PROCTOR.

26. CRUSHER-RUN MATERIAL FOR ACCESS DRIVES SHALL BE COMPACTED 95%.

CONSTRUCTION SEQUENCE

ITEMS MUST OCCUR IN THE ORDER LISTED; ITEMS CANNOT OCCUR CONCURRENTLY UNLESS SPECIFICALLY NOTED.

1. PRIOR TO COMMENCING ANY LAND DISTURBANCE ACTIVITY, CLEARLY AND ACCURATELY DEMARCATE THE LIMITS OF THE LAND DISTURBANCE WITH STAKES, RIBBONS, OR OTHER APPROPRIATE MEANS.

2. INSTALL STABILIZED CONSTRUCTION ENTRANCE AND SILT FENCE PRIOR TO ANY LAND DISTURBANCE ACTIVITIES (CLEARING, GRUBBING, OR EXCAVATION) CLEARING ONLY AS NECESSARY TO INSTALL THESE MEASURES.

3. AFTER CONSTRUCTION ACTIVITIES BEGIN, INSPECTIONS MUST BE CONDUCTED AT A MINIMUM OF AT LEAST ONCE EVERY CALENDAR WEEK, WITH NO TIME PERIOD BETWEEN INSPECTIONS EXCEEDING 9 DAYS, AND MUST BE CONDUCTED UNTIL FINAL STABILIZATION IS REACHED ON ALL AREAS OF THE CONSTRUCTION SITE. IT IS RECOMMENDED THAT BMPS BE ASSESSED BY THE CONTRACTOR WITHIN 24 HOURS OF THE END OF A STORM EVENT OF 1.0 INCH OR GREATER, AS WELL AS DURING THE FIRST RAIN EVENT AFTER THE INITIATION OF CONSTRUCTION ACTIVITIES, AFTER THE INSTALLATION OF BMPS.

4. BEGIN REMAINDER OF CLEARING, GRUBBING, DEMOLITION AND GRADING OF SITE.

5. STABILIZE SITE PER EROSION CONTROL NOTES AND SEEDING SCHEDULE AS AREAS ARE BROUGHT TO FINISHED GRADE WITH VEGETATION, PAVING, DITCH LININGS, ETC, PER GENERAL PERMIT. ALL PERIMETER SLOPES, AND ALL SLOPES STEEPER THAN 3:1 SHALL BE PROVIDED TEMPORARY OR PERMANENT STABILIZATION WITH GROUND COVER AS SOON AS PRACTICABLE BUT IN ANY EVENT WITHIN 7 CALENDAR DAYS FROM THE LAST LAND DISTURBING ACTIVITY. ALL OTHER DISTURBED AREAS SHALL BE PROVIDED TEMPORARY OR PERMANENT STABILIZATION WITH GROUND COVER AS SOON AS PRACTICABLE BUT IN ANY EVENT WITHIN 14 CALENDAR DAYS FROM THE LAST LAND DISTURBING ACTIVITY.

6. ADDITIONAL CONTROL DEVICES MAY BE REQUIRED DURING CONSTRUCTION IN ORDER TO CONTROL EROSION AND/OR OFFSITE SEDIMENTATION.

7. CONTACT THE INSPECTOR FOR AN INSPECTION WHEN CONSTRUCTION IS COMPLETE, AND ALL AREAS ARE FULLY PLANTED AND STABILIZED.

8. WHEN FINAL SITE STABILIZATION IS APPROVED, REMOVE ALL EROSION CONTROL DEVICES AND STABILIZE THESE AND ANY RESULTING BARE AREAS.

- NOTE: MAINTENANCE OF SEDIMENT AND EROSION CONTROL MEASURES MUST CONTINUE UNTIL THE SITE IS PERMANENTLY STABILIZED AND THE CONTROLS ARE REMOVED.

- NOTE: IF NPDES COVERAGE IS BEING ISSUED AFTER LAND-DISTURBING ACTIVITIES HAVE ALREADY STARTED (E.G. IN RESPONSE TO A NOTICE TO COMPLY, NOTICE OF VIOLATION, OR ENFORCEMENT ACTION), THEN THE CONSTRUCTION SEQUENCE MUST SPECIFICALLY INDICATE THE ITEMS THAT HAVE ALREADY OCCURRED AND THE ITEMS THAT WILL BE OCCURRING AFTER NPDES COVERAGE IS ISSUED.

- NOTE: IF FLOWS FROM OFFSITE AREAS WILL BE DIVERTED AROUND THE SITE AND THE ON-SITE STRUCTURES ARE NOT DESIGNED TO HANDLE FLOWS FROM THE OFFSITE AREAS, THEN THE DIVERSIONS/PIPING FOR THE OFFSITE FLOWS MUST BE INSTALLED BEFORE AND-DISTURBING ACTIVITIES BEGIN ON THE SITE; INCLUDE THIS IN THE SEQUENCE. SEDIMENT AND EROSION CONTROL MEASURES FOR THE DISTURBED AREAS FOR THE DIVERSION/PIPING MUST BE INSTALLED BEFORE THOSE AREAS ARE DISTURBED AND SHOULD BE SHOWN ON THE PLANS.

- NOTE: MAINTENANCE OF SEDIMENT AND EROSION CONTROL MEASURES MUST CONTINUE UNTIL THE SITE IS PERMANENTLY STABILIZED UNTIL THE CONTROLS ARE REMOVED.

- NOTE: ALL HOMEOWNERS WITH STRUCTURES WITHIN THE DUKE RIGHT OF WAY HAVE BEEN NOTIFIED AND ADVISED TO MOVE THE STRUCTURES PRIOR TO CONSTRUCTION.

SEEDBED PREPARATION NOTES:

1. SURFACE WATER CONTROL MEASURES TO BE INSTALLED ACCORDING TO PLAN.
2. AREAS TO BE SEEDED SHALL BE RIPPED AND SPREAD WITH AVAILABLE TOPSOIL 3" DEEP. TOTAL SEEDBED PREPARED DEPTH SHALL BE 4" TO 6" DEEP.
3. LOOSE ROCKS, ROOTS AND OTHER OBSTRUCTIONS SHALL BE REMOVED FROM THE SURFACE SO THAT THEY WILL NOT INTERFERE WITH ESTABLISHMENT AND MAINTENANCE OF VEGETATION. SURFACE FOR FINAL SEEDBED PREPARATION AT FINISHED GRADES SHOWN SHALL BE REASONABLY SMOOTH AND UNIFORM.
4. IF NO SOIL TEST IS TAKEN, FERTILIZER AND LIME TO BE ACCORDING TO SEEDING SPECIFICATIONS, IN ADDITION, PROVIDE 15 LBS/1000 S.F. OF SUPERPHOSPHATE.
5. IF SOIL TEST IS TAKEN, PROVIDE LIME AND FERTILIZER ACCORDING TO SOIL TEST REPORT.
6. LIME AND FERTILIZER SHALL BE APPLIED UNIFORMLY AND MIXED WITH THE SOIL DURING SEEDBED PREPARATION.
7. ADDITIONAL EROSION CONTROL MEASURES MAY BE REQUIRED DEPENDING ON FIELD CONDITIONS.
8. MULCH TO BE TACKED OR MECHANICALLY TIED DOWN WITHIN TWO DAYS AFTER MULCH IS SPREAD.
9. ALL SLOPES GREATER THAN 2.5:1 SHALL BE STABILIZED WITH JUTE MESH.

INSPECTION AND MAINTENANCE NOTES:

CONSTRUCTION ENTRANCE (INCLUDING ACCESS ROAD SECTIONS REQUIRING STONE AND TEMPORARY CULVERT CROSSINGS)

1. THE KEY TO FUNCTIONAL CONSTRUCTION ENTRANCES IS WEEKLY INSPECTIONS, ROUTINE MAINTENANCE, AND REGULAR SEDIMENT REMOVAL.
2. REGULAR INSPECTIONS OF CONSTRUCTION ENTRANCES SHALL BE CONDUCTED ONCE EVERY CALENDAR WEEK AND, AS RECOMMENDED, WITHIN 24-HOURS AFTER EACH RAINFALL EVEN THAT PRODUCES 1/2- INCH OR MORE PRECIPITATION.
3. DURING REGULAR INSPECTIONS, CHECK FOR MUD AND SEDIMENT BUILDUP AND PAD INTEGRITY. INSPECTIONS FREQUENCIES MAY NEED TO BE MORE FREQUENT DURING LONG PERIODS OF WET WEATHER.
4. RESHAPE THE STONE PAD AS NECESSARY FOR DRAINAGE AND RUNOFF CONTROL.
5. WASH OR REPLACE STONES AS NEEDED AND AS DIRECTED BY SITE INSPECTOR. THE STONE IN THE ENTRANCE SHOULD BE WASHED OR REPLACED WHENEVER THE ENTRANCE FAILS TO REDUCE THE AMOUNT OF MUD BEING CARRIED OFF-SITE BY VEHICLES. FREQUENT WASHING WILL EXTEND THE USEFUL LIFE OF STONE PAD.
6. IMMEDIATELY REMOVE MUD AND SEDIMENT TRACKED OR WASHED ONTO ADJACENT IMPERVIOUS SURFACES BY BRUSHING OR SWEEPING. FLUSHING SHOULD ONLY BE USED WHEN THE WATER CAN BE DISCHARGED TO A SEDIMENT TRAP OR BASIN.
7. DURING MAINTENANCE ACTIVITIES, ANY BROKEN PAVEMENT SHOULD BE REPAIRED IMMEDIATELY.
8. CONSTRUCTION ENTRANCES SHOULD BE REMOVED AFTER THE SITE HAS REACHED FINAL STABILIZATION. PERMANENT VEGETATION SHOULD REPLACE AREAS FROM WHICH CONSTRUCTION ENTRANCES HAVE BEEN REMOVED, UNLESS AREA WILL BE CONVERTED TO AN IMPERVIOUS SURFACE TO SERVE POST-CONSTRUCTION.

SILT FENCE (INCLUDING J-HOOKS)

1. THE KEY TO FUNCTIONAL SILT FENCE IS WEEKLY INSPECTIONS, ROUTINE MAINTENANCE, AND REGULAR SEDIMENT REMOVAL.
2. REGULAR INSPECTIONS OF SILT FENCE SHALL BE CONDUCTED ONCE EVERY CALENDAR WEEK AND, AS RECOMMENDED, WITHIN 24-HOURS AFTER EACH RAINFALL EVENT THAT PRODUCES 1/2-INCH OR MORE PRECIPITATION.
3. ATTENTION TO SEDIMENT ACCUMULATIONS ALONG THE SILT FENCE IS EXTREMELY IMPORTANT. ACCUMULATED SEDIMENT SHOULD BE CONTINUALLY MONITORED AND REMOVED WHEN NECESSARY.
4. REMOVE ACCUMULATED SEDIMENT WHEN IT REACHES 1/3 THE HEIGHT OF THE SILT FENCE.
5. REMOVE SEDIMENT SHALL BE PLACED IN STOCKPILE STORAGE AREAS OR SPREAD THINLY ACROSS DISTURBED AREA. STABILIZE THE REMOVED SEDIMENT AFTER IT IS RELOCATED.
6. CHECK FOR AREAS WHERE STORMWATER RUNOFF HAS ERODED A CHANNEL BENEATH THE SILT FENCE, OR WHERE THE FENCE HAS SAGGED OR COLLAPSED DUE TO RUNOFF OVERTOPPING THE SILT FENCE. INSTALL CHECKS/TIE-BACKS AND/OR REINSTALL SILT FENCE, AS NECESSARY.
7. CHECK FOR TEARS WITHIN THE SILT FENCE, AREAS WHERE SILT FENCE HAS BEGUN TO DECOMPOSE, AND FOR ANY OTHER CIRCUMSTANCE THAT MAY RENDER THE SILT FENCE INEFFECTIVE. REMOVED DAMAGED SILT FENCE AND REINSTALL NEW SILT FENCE IMMEDIATELY.
8. SILT FENCE SHOULD BE REMOVED WITHIN 30 DAYS AFTER FINAL STABILIZATION IS ACHIEVED AND ONCE IT IS REMOVED, THE RESULTING DISTURBED AREA SHALL BE PERMANENTLY STABILIZED.

MATTING

1. CHECK AREAS PROTECTED BY TRMS FOR DISLOCATION OR FAILURE EVERY 7 CALENDAR DAYS AND WITHIN 24-HOURS AFTER EACH STORM THAT PRODUCES 1/2-INCH OR MORE OF RAIN.
2. CONDUCT REGULAR INSPECTIONS UNTIL GRASSES ARE FIRMLY ESTABLISHED.
3. ADHERE TO THE PINNING OR STAPLING PATTERN SHOWN ON THE MANUFACTURER'S INSTALLATION SHEET. IF THERE IS EVIDENCE THAT THE TRM IS NOT SECURELY FASTENED TO THE SOIL, INSTALL EXTRA PINS OR STAPLES TO INHIBIT THE TRM FROM BECOMING DISLODGED.
4. IF WASHOUT OR BREAKAGE OCCURS, REPAIR ALL DAMAGED AREAS IMMEDIATELY BY RESTORING THE SOIL ON SLOPES OR CHANNELS TO ITS FINISHED GRADE, RE-APPLY FERTILIZER AND SEED, AND REPLACING THE APPROPRIATE TRM MATERIAL AS NEEDED.

EROSION CONTROL NOTES:

1. ALL EROSION CONTROL MEASURES SHALL BE IN STRICT ACCORDANCE WITH STATE STANDARDS - SPECIFICALLY THE NCDEQ & NCDOT SEDIMENT CONTROL MANUAL AND ITS SPECIFICATIONS.
2. NO ON-SITE BURIAL PITS ARE ALLOWED.
3. ANY GRADING BEYOND THE DENUDED LIMITS SHOWN ON THE PLAN IS A VIOLATION OF THE STATE EROSION CONTROL REGULATION AND IS SUBJECT TO A FINE.
4. GRADING MORE THAN ONE ACRE WITHOUT AN APPROVED EROSION CONTROL PLAN IS A VIOLATION OF THE STATE.
5. STABILIZATION IS THE BEST FORM OF EROSION CONTROL. TEMPORARY SEEDING IS NECESSARY TO ACHIEVE EROSION CONTROL ON LARGE DENUDED AREAS AND ESPECIALLY WHEN SPECIFICALLY REQUIRED AS PART OF THE CONSTRUCTION SEQUENCE SHOWN ON THE PLAN.
6. ADDITIONAL MEASURES TO CONTROL EROSION AND SEDIMENT MAY BE REQUIRED DUE TO FIELD CONDITIONS OR AS DIRECTED BY THE COUNTY/STATE INSPECTOR AND/OR THE ENGINEER.
7. SLOPES SHALL BE GRADED NO STEEPER THAN 2:1.
8. APPROVAL OF THIS PLAN IS NOT AN AUTHORIZATION TO GRADE ADJACENT PROPERTIES. WHEN FIELD CONDITIONS WARRANT OFF-SITE GRADING, PERMISSION MUST BE OBTAINED FROM THE AFFECTED PROPERTY OWNERS.
9. THE DEVELOPER SHALL MAINTAIN ANY STREAM, CREEK, OR BACKWASH CHANNEL IN AN UNOBSTRUCTED STATE AND SHALL REMOVE FROM THE CHANNEL AND BANKS OF THE STREAM ALL DEBRIS, LOGS, TIMBER, JUNK AND OTHER ACCUMULATIONS.
10. NON-STANDARD ITEMS (I.E. PAVERS, IRRIGATION SYSTEMS, ETC.) IN THE RIGHT-OF-WAY REQUIRE AN ENCROACHMENT AGREEMENT WITH THE NORTH CAROLINA DEPARTMENT OF TRANSPORTATION.
11. THE ANGLE FOR GRADED SLOPES AND FILLS SHALL BE NO GREATER THAN THE ANGLE THAT CAN BE RETAINED BY VEGETATIVE COVER OR OTHER ADEQUATE EROSION CONTROL DEVICES OR STRUCTURES.
12. ALL MATERIALS REQUIRED FOR CONSTRUCTION OF SEDIMENTATION AND EROSION CONTROL MEASURES SHALL BE AVAILABLE ON SITE BEFORE ANY LAND-DISTURBING ACTIVITY IS BEGUN.
13. LINEAR TREE PROTECTION SHALL BE ORANGE SAFETY FENCE 3' HIGH.

GENERAL NOTES:

1. PROVIDE SILT FENCE AROUND PERIMETER OF ALL STOCKPILES. IF NEEDED. STABILIZE IMMEDIATELY UPON ESTABLISHMENT OF PILE.
2. GRADING CONTRACTOR SHALL CHECK/ IDENTIFY FOR ALL UNDERGROUND UTILITIES PRIOR TO BEGINNING THE CLEARING / GRADING.
3. ALL EROSION CONTROL DEVICES SHALL BE MAINTAINED DAILY. THE SEDIMENT TRAPS SHALL BE CLEANED OUT WHEN THE SEDIMENT REACHES 1/2 OF THE SEDIMENT STORAGE CAPACITY. SILT FENCE SHALL BE CLEANED FROM SEDIMENT WHEN THE SEDIMENT LEVEL IS HALF WAY UP THE SILT FENCE FABRIC.
4. THE CONSTRUCTION ENTRANCE MAY REQUIRE ADDITIONAL STONE TO PREVENT TRACKING ONTO PUBLIC ROADS.
5. THE GRADING CONTRACTOR WILL BE RESPONSIBLE FOR CLEANING ANY TRACKING OF SEDIMENT ONTO PAVED ROAD AS SOON AS POSSIBLE, BUT BEFORE THE END OF THE WORK DAY.
6. ALL DEBRIS STOCK PILES SHALL BE REMOVED AND PROPERLY DISPOSED OF IN A LEGAL LANDFILL (I.E. MULCH AND LOG PILES).

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NORTH CAROLINA PROFESSIONAL SEAL 056228 ENGINEER GREGORY M. YOUNG 4/18/2025

PROFESSIONAL ENG/ARCH STAMP

NO.	DATE	REVISION(S) DESCRIPTION	DRAFTING/DESIGN	CHECKER/REVIEWER	APPROVING ENGINEER
C	02/18/2025	ISSUED FOR PERMIT	AUSTIN ZALIN	MIKE SCARPELLI	GREG YOUNG
D	03/28/2025	REVISED ISSUE FOR PERMIT	AUSTIN ZALIN	MIKE SCARPELLI	GREG YOUNG
E	04/18/2025	REVISED ISSUE FOR PERMIT	JESSICA FORSYTHE	MIKE SCARPELLI	GREG YOUNG

DESCRIPTION	
AREA CODE	-
ACCOUNT NUMBER	-
PROJECT NUMBER	0236034
DWG TYPE	-
STATION ID	STA-7702

DUKE ENERGY. Piedmont Natural Gas

0236034
PLAZA ROAD REGULATOR STATION
EROSION AND SEDIMENTATION NOTES
CHARLOTTE, NORTH CAROLINA

CHARLOTTE, NC

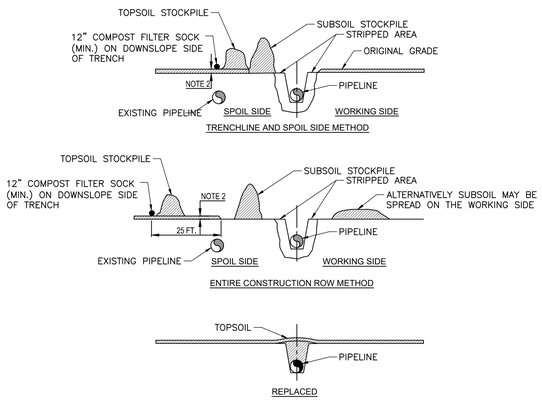
REF. DWG(S) PNG-G-001-0001379

SHEET(S) 16 OF 18 | DWG SCALE -

DWG DATE 03/06/2023 | SUPERSEDED -

DRAWING NUMBER: PNG -C-001-0001637 | REVISION: E

DISCIPLINE / RESOURCE CENTER / LINE NUMBER

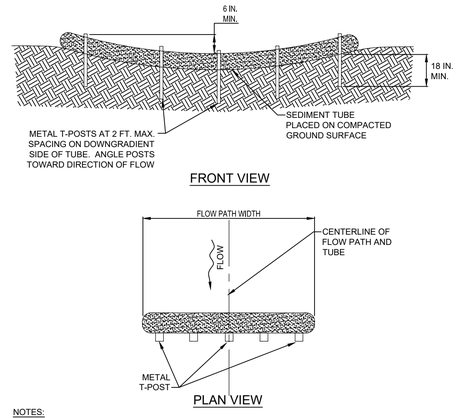


NOTES:

1. OTHER CONFIGURATIONS OF TOPSOIL AND SUBSOIL ARE ACCEPTABLE PROVIDED THEY ARE KEPT SEPERATE AND APPROPRIATE EROSION AND SEDIMENT CONTROL DEVICES ARE EMPLOYED.
2. UP TO 12 INCHES OF TOPSOIL REMOVED
3. TOPSOIL AND SUBSOIL PILES WILL BE ADEQUATELY PROTECTED FROM EROSION AND SEDIMENTATION BY THE USE OF COMPOST FILTER SOCKS. FOR THIS PROJECT (NON-EV WATERSHED), IT IS ACCEPTABLE TO SUBSTITUTE SILT FENCE AS INDICATED IN THE E&S DETAIL SHEETS.

UTILITY LINE TRENCH STAGING DETAIL

NOT TO SCALE



NOTES:

THIS DETAIL APPLICABLE TO FLOW PATHS WITH WIDTHS LESS THAN OR EQUAL TO ONE TUBE LENGTH.

METAL T-POSTS SHALL BE INSTALLED AT THE CENTER AND AT EACH END OF THE TUBE. ADDITIONAL T-POSTS SHALL BE INSTALLED AS NEEDED TO MEET THE MAXIMUM 2-FOOT SPACING.

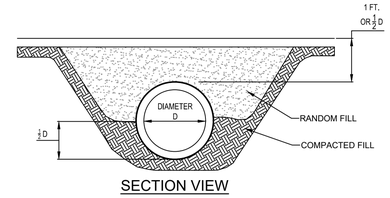
SEDIMENT TUBES SHALL BE INSPECTED WEEKLY AND AFTER EACH RUNOFF EVENT.

ACCUMULATED SEDIMENT SHALL BE REMOVED WHEN IT REACHES HALF THE HEIGHT OF THE TUBE AND DISPOSED AS DIRECTED ELSEWHERE IN THE E&S PLAN.

DAMAGED TUBES SHALL BE REPAIRED OR REPLACED WITHIN 24 HOURS OF INSPECTION. A SUPPLY OF TUBES SHALL BE KEPT ON SITE FOR THIS PURPOSE.

STANDARD CONSTRUCTION DETAIL #4-4
WEIGHTED SEDIMENT FILTER TUBE INSTALLATION
CONCENTRATED FLOW AREA

NOT TO SCALE



NOTES:

MINIMUM DIAMETER FOR ANY CULVERT IS 12"; OTHERWISE CULVERT SHALL BE SIZED FOR ANTICIPATED PEAK FLOW. PLACE CULVERT SO BOTTOM IS AT SAME LEVEL AS BOTTOM OF DITCH OR ADJOINING SLOPE. CULVERTS SHALL BE PLACED WITH A SLOPE OF 2 TO 4%. LOWER END SHALL BE AT LEAST 2" BELOW UPPER END.

EXTEND CULVERT 12" BEYOND BASE OF ROAD FILL ON BOTH SIDES. FIRMLY PACK FILL AROUND CULVERT, ESPECIALLY THE BOTTOM HALF.

PROVIDE SUITABLE OUTLET PROTECTION* AND, WHERE APPROPRIATE, INLET PROTECTION.

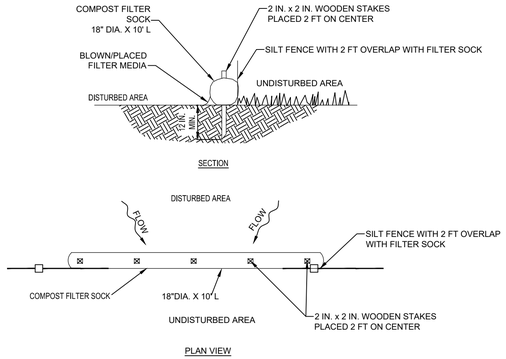
INSPECT CULVERT WEEKLY: REMOVE ANY FLOW OBSTRUCTIONS AND MAKE NECESSARY REPAIRS IMMEDIATELY.

THIS DETAIL MAY BE USED FOR DITCH RELIEF CULVERTS AND FOR CROSSINGS OF ROADSIDE DITCHES. IT IS NOT APPROPRIATE FOR STREAM CROSSINGS.

* FOR STEEP SLOPE (>2H:1V) OUTFALLS, A MINIMUM 20 FOOT LONG R-5 APRON IS RECOMMENDED FOR TEMPORARY ACCESS ROADS WHERE THE RECOMMENDED CULVERT SPACING IS USED. FOR PERMANENT ACCESS ROADS, A MINIMUM R-6 ROCK SIZE IS RECOMMENDED.

DITCH RELIEF CULVERT

NOT TO SCALE



NOTES:

SOCK FABRIC SHALL UTILIZE AN OUTER NETTING THAT CONSISTS OF SEAMLESS, HIGH-DENSITY POLYETHYLENE PHOTODEGRADABLE MATERIALS TREATED WITH ULTRAVIOLET STABILIZERS OR A SEAMLESS, HIGH-DENSITY POLYETHYLENE NON-DEGRADABLE MATERIAL. CURLED WOOD EXCELSIOR FIBER, OR NATURAL COCONUT FABER ROLLED EROSION CONTROL PRODUCTS ROLLED UP TO CREATE AN INLET TUBE DEVICE ARE NOT ALLOWED.

COMPOST FILTER SOCK SHALL BE COMPOSED OF COMPACTED GEOTEXTILES, CURLED EXCELSIOR WOOD, NATURAL COCONUT FIBERS, A HARDWOOD MULCH, OR A MIX OF THESE MATERIALS ENCLOSED BY A FLEXIBLE NETTING MATERIAL.

ACCUMULATED SEDIMENT SHALL BE REMOVED WHEN IT REACHES 1/2 THE ABOVE GROUND HEIGHT OF THE SOCK AND DISPOSEDOF WITHIN THE LIMITS OF DISTURBANCE.

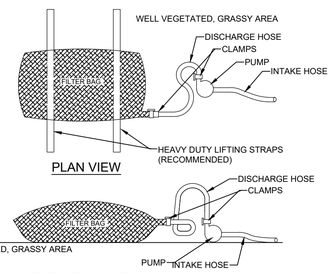
COMPOST FILTER SOCKS SHALL BE INSPECTED WEEKLY AND AFTER EACH RUNOFF EVENT. DAMAGED SOCKS SHALL BE REPAIRED ACCORDING TO MANUFACTURER'S SPECIFICATIONS OR REPLACED WITHIN 24 HOURS OF INSPECTION.

BIODEGRADABLE COMPOST FILTER SOCKS SHALL BE REPLACED AFTER 6 MONTHS; PHOTODEGRADABLE SOCKS AFTER 1 YEAR. POLYPROPYLENE SOCKS SHALL BE REPLACED ACCORDING TO MANUFACTURER'S RECOMMENDATIONS.

UPON STABILIZATION OF THE AREA TRIBUTARY TO THE SOCK, STAKES SHALL BE REMOVED. THE SOCK MAY BE LEFT IN PLACE AND VEGETATED OR REMOVED. IN THE LATTER CASE, THE MESH SHALL BE CUT OPEN AND THE MULCH SPREAD AS A SOIL SUPPLEMENT.

SILT FENCE OUTLET

NOT TO SCALE



NOTES:

LOW VOLUME FILTER BAGS SHALL BE MADE FROM NON-WOVEN GEOTEXTILE MATERIAL SEWN WITH HIGH STRENGTH, DOUBLE STITCHED "J" TYPE SEAMS. THEY SHALL BE CAPABLE OF TRAPPING PARTICLES LARGER THAN 150 MICRONS. HIGH VOLUME FILTER BAGS SHALL BE MADE FROM WOVEN GEOTEXTILES THAT MEET THE FOLLOWING STANDARDS:

PROPERTY	TEST METHOD	MINIMUM STANDARD
AVG. WIDE WIDTH STRENGTH	ASTM D-4884	60 LB/IN
GRAB TENSILE	ASTM D-4632	205 LB
PUNCTURE	ASTM D-4833	110 LB
MULLEN BURST	ASTM D-3786	350 PSI
UV RESISTANCE	ASTM D-4355	70%
AOS % RETAINED	ASTM D-4751	80 SIEVE

A SUITABLE MEANS OF ACCESSING THE BAG WITH MACHINERY REQUIRED FOR DISPOSAL PURPOSES SHALL BE PROVIDED. FILTER BAGS SHALL BE REPLACED WHEN THEY BECOME 1/2 FULL OF SEDIMENT. SPARE BAGS SHALL BE KEPT AVAILABLE FOR REPLACEMENT OF THOSE THAT HAVE FAILED OR ARE FILLED. BAGS SHALL BE PLACED ON STRAPS TO FACILITATE REMOVAL UNLESS BAGS COME WITH LIFTING STRAPS ALREADY ATTACHED.

BAGS SHALL BE LOCATED IN WELL-VEGETATED (GRASSY) AREA, AND DISCHARGE ONTO STABLE, EROSION RESISTANT AREAS. WHERE THIS IS NOT POSSIBLE, A GEOTEXTILE UNDERLAYMENT AND FLOW PATH SHALL BE PROVIDED. BAGS MAY BE PLACED ON FILTER STONE TO INCREASE DISCHARGE CAPACITY. BAGS SHALL NOT BE PLACED ON SLOPES GREATER THAN 5%. FOR SLOPES EXCEEDING 5%, CLEAN ROCK OR OTHER NON-ERODIBLE AND NON-POLLUTING MATERIAL MAY BE PLACED UNDER THE BAG TO REDUCE SLOPE STEEPNESS.

NO DOWNSLOPE SEDIMENT BARRIER IS REQUIRED FOR MOST INSTALLATIONS. COMPOST BERM OR COMPOST FILTER SOCK SHALL BE INSTALLED BELOW BAGS LOCATED IN HQ OR EV WATERSHEDS, WITHIN 50 FEET OF ANY RECEIVING SURFACE WATER OR WHERE GRASSY AREA IS NOT AVAILABLE.

THE PUMP DISCHARGE HOSE SHALL BE INSERTED INTO THE BAGS IN THE MANNER SPECIFIED BY THE MANUFACTURER AND SECURELY CLAMPED. A PIECE OF PVC PIPE IS RECOMMENDED FOR THIS PURPOSE.

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

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

PUMPED WATER FILTER BAG

NOT TO SCALE

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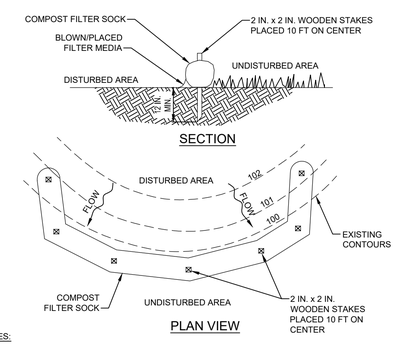


NOTES:

SOCK MATERIAL SHALL MEET THE STANDARDS OF SECTION 6.66 COMPOST SOCK OF THE NC EROSION AND SEDIMENT CONTROL PLANNING AND DESIGN MANUAL.
COMPOST MATERIAL SHALL MEET THE STANDARD OF TABLE 6.18A OF THE NC EROSION AND SEDIMENT CONTROL PLANNING AND DESIGN MANUAL, WITH THE EXCEPTION OF PARTICLE SIZE. SLIGHTLY MORE COARSE COMPOST IS RECOMMENDED FOR THE SOCKS, AS FOLLOWS:

PARTICLE SIZE DISTRIBUTION

SIEVE SIZE	PERCENT PASSING SELECTED SIEVE MESH SIZE, DRY WEIGHT BASIS
2"	99 % (3" MAXIMUM PARTICLE SIZE)
3/8"	30-50 %

COMPOST FILTER SOCK SHALL BE PLACED AT EXISTING LEVEL GRADE. BOTH ENDS OF THE BARRIER SHALL BE EXTENDED AT LEAST 8 FEET UP SLOPE AT 45 DEGREES TO THE MAIN BARRIER ALIGNMENT. MAXIMUM SLOPE LENGTH ABOVE ANY BARRIER SHALL NOT EXCEED THAT SPECIFIED FOR THE SIZE OF THE SOCK AND THE SLOPE OF ITS TRIBUTARY AREA.

TRAFFIC SHALL NOT BE PERMITTED TO CROSS COMPOST FILTER SOCKS.

ACCUMULATED SEDIMENT SHALL BE REMOVED WHEN IT REACHES 1/2 THE ABOVE GROUND HEIGHT OF THE BARRIER AND DISPOSED IN THE MANNER DESCRIBED ELSEWHERE IN THE PLAN.

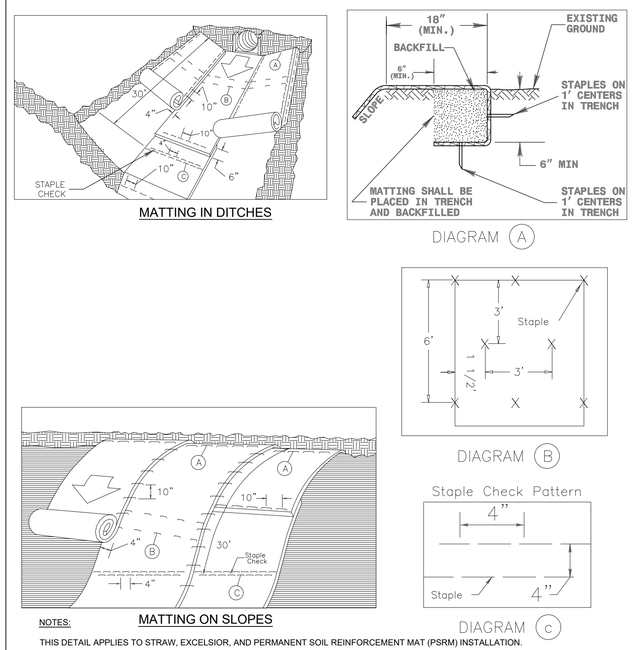
COMPOST FILTER SOCKS SHALL BE INSPECTED WEEKLY OR AFTER EACH 1/2 IN. STORM EVENT. DAMAGED SOCKS SHALL BE REPAIRED ACCORDING TO MANUFACTURER'S SPECIFICATIONS OR REPLACED WITHIN 24 HOURS OF INSPECTION.

BIODEGRADABLE COMPOST FILTER SOCKS SHALL BE REPLACED AFTER 6 MONTHS; PHOTODEGRADABLE SOCKS AFTER 1 YEAR. POLYPROPYLENE SOCKS SHALL BE REPLACED ACCORDING TO MANUFACTURER'S RECOMMENDATIONS.

UPON STABILIZATION OF THE AREA TRIBUTARY TO THE SOCK, STAKES SHALL BE REMOVED. THE SOCK MAY BE LEFT IN PLACE AND VEGETATED OR REMOVED. IN THE LATTER CASE, THE MESH SHALL BE CUT OPEN AND THE MULCH SPREAD AS A SOIL SUPPLEMENT.

COMPOST FILTER SOCK

NOT TO SCALE



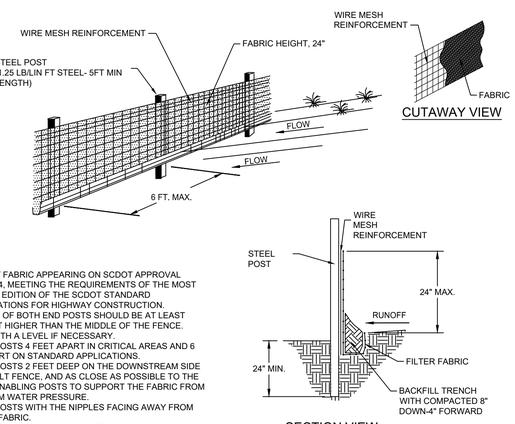
NOTES:

THIS DETAIL APPLIES TO STRAW, EXCELSIOR, AND PERMANENT SOIL REINFORCEMENT MAT (PSRM) INSTALLATION.

STAPLES SHALL BE NO. 11 GAUGE STEEL WIRE FORMED INTO A "U" SHAPE WITH A MINIMUM THROAT WIDTH OF 1 INCH AND NOT LESS THAN 6 INCHES IN LENGTH

MATTING INSTALLATION NCDOT 1631.01

NOT TO SCALE



NOTES:

1. USE ONLY FABRIC APPEARING ON SCDOT APPROVAL SHEET #34, MEETING THE REQUIREMENTS OF THE MOST CURRENT EDITION OF THE SCDOT STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION.
2. THE BASE OF BOTH END POSTS SHOULD BE AT LEAST ONE FOOT HIGHER THAN THE MIDDLE OF THE FENCE. CHECK WITH A LEVEL IF NECESSARY.
3. INSTALL POSTS 4 FEET APART IN CRITICAL AREAS AND 6 FEET APART ON STANDARD APPLICATIONS.
4. INSTALL POSTS 2 FEET DEEP ON THE DOWNSTREAM SIDE OF THE SILT FENCE, AND AS CLOSE AS POSSIBLE TO THE FABRIC, ENABLING POSTS TO SUPPORT THE FABRIC FROM UPSTREAM WATER PRESSURE.
5. INSTALL POSTS WITH THE NIPPLES FACING AWAY FROM THE SILT FABRIC.
6. ATTACH THE FABRIC TO EACH POST WITH FOUR TIES, ALL SPACED WITHIN THE TOP 8 INCHES OF THE FABRIC. ATTACH EACH TIE DIAGONALLY 45 DEGREES THROUGH THE FABRIC, WITH EACH PUNCTURE AT LEAST 1 INCH VERTICALLY APART. ALSO, EACH TIE SHOULD BE POSITIONED TO HANG ON A POST NIPPLE WHEN TIGHTENED TO PREVENT SAGGING.
7. WRAP APPROXIMATELY 6 INCHES OF FABRIC AROUND THE END POSTS AND SECURE WITH 3 TIES.
8. NO MORE THAN 24 INCHES OF A 36 INCH FABRIC IS ALLOWED ABOVE GROUND LEVEL.
9. THE INSTALLATION SHOULD BE CHECKED AND CORRECTED FOR ANY DEVIATIONS BEFORE COMPACTION.
10. COMPACTION IS VITALLY IMPORTANT FOR EFFECTIVE RESULTS. COMPACT THE SOIL IMMEDIATELY NEXT TO THE SILT FENCE FABRIC WITH THE FRONT WHEEL OF THE TRACTOR, SKID STEER, OR ROLLER EXERTING AT LEAST 60 POUNDS PER SQUARE INCH. COMPACT THE UPSTREAM SIDE FIRST, AND THEN EACH SIDE TWICE FOR A TOTAL OF 4 TRIPS.

MAINTENANCE:

1. INSPECT AND REPAIR FENCE WEEKLY OR WITHIN 24-HOURS AFTER EACH 1/2 IN. STORM EVENT AND REMOVE SEDIMENT WHEN DEPOSITS REACH 1/3 OF FENCE HEIGHT.
2. REMOVED SEDIMENT SHALL BE DEPOSITED TO AN AREA THAT WILL NOT CONTRIBUTE SEDIMENT OFF-SITE AND CAN BE PERMANENTLY STABILIZED.
3. ANY SECTION OF SILT FENCE WHICH HAS BEEN UNDERMINED OR OVERTOPPED SHALL BE IMMEDIATELY REPLACED WITH A ROCK FILTER OUTLET (DETAIL 4 THIS SHEET)

REINFORCED SILT FENCE (SS2)

NOT TO SCALE

NORTH CAROLINA PROFESSIONAL SEAL 056228 ENGINEER GREGORY M. YOUNG 4/18/2025

PROFESSIONAL ENG/ARCH STAMP

NO.	DATE	REVISION(S) DESCRIPTION	DRAFTING/DESIGN	CHECKER/REVIEWER	APPROVING ENGINEER
D	02/18/2025	ISSUED FOR PERMIT	CHARLES SWAIN	MIKE SCARPELLI	JONATHAN LIECHTI
E	03/28/2025	REVISED ISSUE FOR PERMIT	CHARLES SWAIN	MIKE SCARPELLI	JONATHAN LIECHTI
F	04/18/2025	REVISED ISSUE FOR PERMIT	JESSICA FORSYTHE	MIKE SCARPELLI	GREG YOUNG

DESCRIPTION	
AREA CODE	-
ACCOUNT NUMBER	-
PROJECT NUMBER	0236034
DWG TYPE	-
STATION ID	STA-7702

DUKE ENERGY. Piedmont Natural Gas

0236034
PLAZA ROAD REGULATOR STATION
EROSION AND SEDIMENTATION DETAILS
CHARLOTTE, NORTH CAROLINA

CHARLOTTE, NC

REF. DWG(S) PNG-G-001-0001379

SHEET(S) 17 OF 18	DWG SCALE	NONE
DWG DATE 03/06/2023	SUPERSEDED	-

DRAWING NUMBER: PNG -C-001-0001638 — REVISION: F

DISCIPLINE / RESOURCE CENTER / LINE NUMBER

Chapter 21 City Tree Ordinance Code Summary

FOR COMMERCIAL SITES

(*Reproduce the following data on site/landscape plans*)

PERIMETER TREE REQUIREMENTS

Show linear feet of road frontage along public maintained right-of-way, including driveways.
Calculate one large maturing tree every 40 linear feet or faction thereof, or if overhead power is present, one small maturing trees every 30 feet or faction thereof.

Street: N/A /_____LFT = _____trees required/____trees provided

Street: N/A /_____LFT = _____trees required/____trees provided

Street: N/A /_____LFT = _____trees required/____trees provided

If overhead distribution power lines exist, only small maturing trees are allowed within 25ft. of lines.

INTERNAL TREE REQUIREMENTS

One tree per 10,000 sq.ft. of impervious area or faction thereof. All parking spaces to be within 40 feet of a tree.
Minimum landscape area as a percentage of entire site is 10% for new sites and 5% for renovated sites.

Calculations: Total Site Area (Entire site) = N/A sq.ft
Impervious area = N/A sq.ft. (*)
Landscape area = N/A sq.ft = N/A % of total imperv.

(*) Internal tree requirement: Impervious area/10,000 = N/A trees required/ N/A trees provided.

TREE SAVE AREA (TSA) REQUIREMENTS

A minimum 15 percent of the overall commercial site must be preserved as tree save area (Unless the site falls under one of the exceptions).

Site Zoning: N/A ; Wedge, Corridor (transit), Center: N/A

Calculations: Total Site Area (Entire site) = N/A acres (sq.ft)
Total Tree Save Area = N/A acres (sq.ft)
Percentage Tree Save Area = N/A %
Option(s) if applicable = N/A

Please see UDOAA-2024-00069 for tree requirements on this project.
These requirements are reflected in the submitted plan set.

REVISED: 06/22/18

Charlotte Urban Forestry - Tree Planting and Preservation Requirements (updated 1/26/2022)

Inspector contact info: https://charlotteexplorer/ click *Planning* layer > *Land Development – Urban Forestry Inspectors*

Plant Material

1. Minimum tree size at planting is 2" caliper and 8' tall for single-stem trees. All multi-stem plants must be tree form, maximum 3 to 5 trunks, and minimum 10' tall. Where 3" single-stem caliper trees are specified/required the minimum height shall be 10' tall, if multi-stem trees are specified then they shall be a minimum of 12' tall.
2. All new trees must have **straight trunks with strong central leaders intact to the top of the crown** unless multi-stem trees are specified. All required trees shall be typical of their species and variety, have normal growth habits, have well-developed branches, be vigorous and have fibrous root systems. Trees with major girdling roots will NOT be accepted. Trees with co-dominant branching will NOT be accepted. Trees that have been sheared, topped or cut back to multiply the branching structure will NOT be accepted. Trees shall be free of abrasions, damage, disease, pests and cracks. All pruning cuts greater than ¾ inch diameter shall have callus tissue formed prior to planting. No pruning cut on the trunk shall be more than one-half the diameter of the central leader at the height where the cut was made. Root flares shall be located at grade. Trees with more than 2" of soil covering the root ball/flare from will NOT be accepted (CLDS.40.09).
3. Size of required plants, spread of roots and size of balls shall be in accordance with ANSI Z60.1 (latest edition) as published by the American Nursery & Landscape Association, except where specified/authorized by Urban Forestry. All required trees of a particular species and variety shall be uniform in size and configuration.
4. Perimeter trees in urban zones shall be 3" in caliper and be free of branches up to 6' from the top of root crown (ball).
5. A minimum of 50% of new trees must be native species, and sites with more than 20 trees required will have to install multiple (3 or more) species pursuant to the Tree Ordinance Guidelines.
6. 75% of required trees must be large mature species except in situations with overhead power line conflicts.

Planting Requirements

7. See CLDS 40.01 & 40.09 (on plan) for detailed tree planting requirements.
8. Plastic hose parts will NOT be accepted for tree staking. See CLDS 40.01 for approved staking method/materials.
9. All strapping, and top 1/3 of wire basket and burlap must be cut away and removed from root ball when planting.
10. For new planting areas, remove all pavement, gravel sub-base and construction debris; remove compacted soil and add 18" new topsoil, or till and amend the top 18" of existing soil to meet topsoil/planting mix standards for trees (within entire minimum area of 274 square feet).
11. Trees planted on public street right-of-way require approval from Urban Forestry prior to installation.
12. Review soil requirements in the Tree Ordinance Guidelines.

Utility Issues

13. If utility is to be installed in/near any required tree(s) or Tree Save Area(s), call Urban Forestry **PRIOR** to utility installation.
14. Large maturing trees may not be planted within 25' of overhead power distribution or transmission lines.
15. If trees conflict with any utilities or signs; call Urban Forester to resolve **BEFORE** planting.
16. Adjust tree planting locations to avoid existing underground utilities. Plant 15' from all underground utilities.
17. **No light poles, utilities or transformers can be installed in tree islands.**
18. Commercial scale lighting (> 15' in height) must be a minimum distance of 30' from a tree. Pedestrian scale lighting (≤ 15' in height) must be a minimum distance of 15' from a tree. **Show site lighting on landscape plan.**

Tree Save and Preservation

19. Tree protection must be installed and verified by Urban Forestry prior to starting **ANY** construction activity.
20. Show tree protection and trees save areas on demolition, erosion control, grading and landscape plan sheets.
21. Commercial tree save areas must be recorded on a final plat with the Mecklenburg County Register of Deeds before Urban Forestry holds can be released. A 10' no build zone around tree save areas must be referenced on the plat.
22. Tree Save Areas shall be free of invasive plant species. If an area proposed for tree save contains invasive plant species at time of proposal, such invasive plant species shall be removed prior to final CO.
23. The area of any easements (water, sewer, utility, etc.) can NOT be counted toward the tree save requirement.
24. Any activity in tree save areas must be accomplished without mechanized equipment.
25. No structure will be allowed within 10' of tree save areas unless approved by Urban Forestry.
26. All trees on public street right-of-way/property are protected and removal must be permitted by Urban Forestry.
27. Contact Urban Forestry **PRIOR** to any crane set-up, machinery operation or temporary building erection that may impact protected trees, tree save areas, including City trees in public right-of-way. Impacts may include but are not limited to: encroaching in tree drip-lines, excavation, soil compaction, tree trimming, erecting and dismantling of construction cranes.

General

28. Submit required CO/hold release form at https://charlottenc.gov/developmentcenter for an inspection of tree protection/planting areas, a minimum of 3 days before the CO/hold release is needed.
29. Visit City of Charlotte's CLT Development Center website for additional information and urban forestry requirements: https://charlottenc.gov/developmentcenter then click *Trees*.

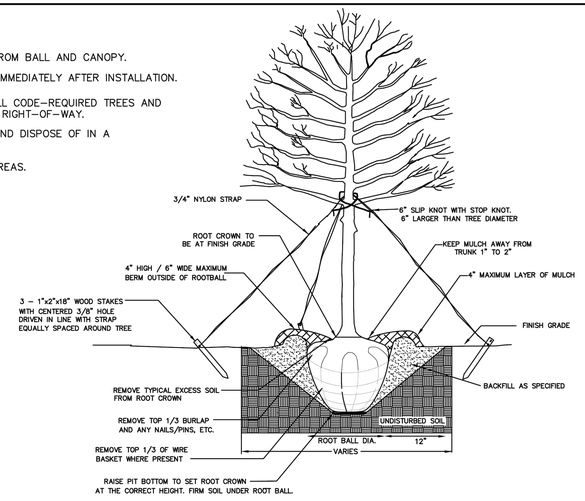
Charlotte Urban Forestry - Tree Planting and Preservation Requirements (updated 1/26/2022)

30. All tree save payment-in-lieu, perimeter tree payment in lieu, and City tree mitigation payments (checks) must be submitted to:

Attn: Urban Forestry Supervisor
CLT Development Center
600 E. Fourth St. (1st Floor)
Charlotte, NC 28202

NOTES:

1. REMOVE WIRE AND NYLON TWINE FROM BALL AND CANOPY.
2. SOAK ROOT BALL AND PLANT PIT IMMEDIATELY AFTER INSTALLATION.
3. STAKING MAY BE REQUIRED FOR ALL CODE–REQUIRED TREES AND TREES PLANTED IN PUBLIC STREET RIGHT–OF–WAY.
4. REMOVE EXCESS SOIL FROM SITE AND DISPOSE OF IN A LEGAL MANNER.
5. RESEED UNMULCHED, DISTURBED AREAS.



ALL TREES SHALL MEET AMERICAN STANDARD FOR NURSERY STOCK (ANSI Z60.1–2014 OR CURRENT EDITION)

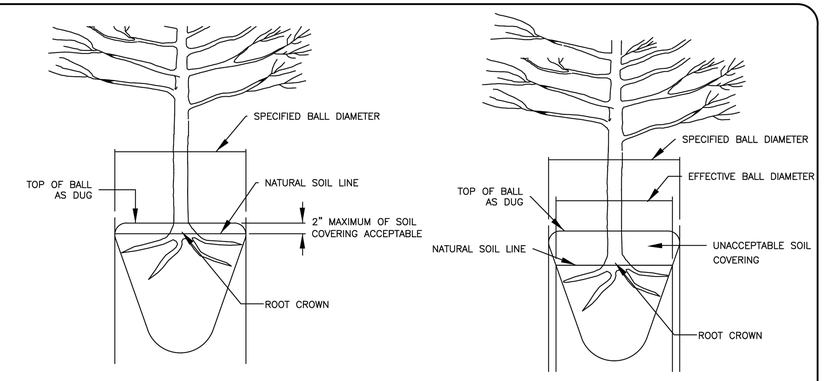
FOR EXAMPLE:	CALIPER	HEIGHT (RANGE)	MAX. HEIGHT	MIN. ROOT BALL DIA.	MIN. ROOT BALL DEPTH
	2"	12–14'	16'	24"	16"
	3"	14–16'	18'	32"	21"

NOT TO SCALE

CITY OF CHARLOTTE
LAND DEVELOPMENT STANDARDS
INCLUDES CHARLOTTE ETJ

TREE PLANTING
(FOR SINGLE AND MULTI–STEM TREES)

STD. NO. 40.01 REV. 23



ACCEPTABLE CONDITION
(AS DELIVERED)

UNACCEPTABLE CONDITION
(AS DELIVERED)

NOTE:
A ROOT FLARE EXCAVATION FOR ALL TREES SPECIFIED WILL BE DONE BY THE CITY TO ENSURE THAT TREES WERE NOT PLANTED/GROWN TOO DEEPLY AT SOURCE (NURSERY). LANDSCAPE CONTRACTOR SHALL HAVE SUPPLIER MARK GROUND LEVEL LINE ABOVE ROOT BALL. IF THE CITY DETERMINES THAT THERE IS EXCESSIVE SOIL OVER THE ROOT CROWN, THESE TREES WILL BE REJECTED.

CITY OF CHARLOTTE
LAND DEVELOPMENT STANDARDS
INCLUDES CHARLOTTE ETJ

ROOT FLARE DEPTHS
(TREE ROOT BALL CONDITION ON TREES FROM SUPPLIERS)

STD. NO. 40.09 REV. 23

HDR Engineering Inc. of the Carolinas, N.C.B.E.L.S. License Number F-0116
440 S. Church Street, Suite 1000, Charlotte, NC 28202, 704.338.8700

NORTH CAROLINA PROFESSIONAL SEAL 043705 ENGINEER JONATHAN W. LIECHTI, P.E.
4-16-2025
PROFESSIONAL ENG/ARCH STAMP

NO.	DATE	REVISION(S) DESCRIPTION	DRAFTING/DESIGN	CHECKER/REVIEWER	APPROVING ENGINEER
A	02/18/2025	ISSUED FOR PERMIT	DAVE STANLEY	MIKE SCARPELLI	JONATHAN LIECHTI
B	03/28/2025	REVISED ISSUE FOR PERMIT	DAVE STANLEY	MIKE SCARPELLI	JONATHAN LIECHTI
C	04/18/2025	REVISED ISSUE FOR PERMIT	JESSICA FORSYTHE	MIKE SCARPELLI	JONATHAN LIECHTI

DESCRIPTION	
AREA CODE	-
ACCOUNT NUMBER	-
PROJECT NUMBER	0236034
DWG TYPE	-
STATION ID	STA-7702

DUKE ENERGY. Piedmont Natural Gas

0236034
PLAZA ROAD REGULATOR STATION
LANDSCAPING NOTES AND DETAILS
CHARLOTTE, NORTH CAROLINA
CHARLOTTE, NC

REF. DWG(S) PNG-G-001-0001379

SHEET(S) 18 OF 18	DWG SCALE	NONE
DWG DATE 03/06/2023	SUPERSEDED	-

DRAWING NUMBER: PNG -C-001-0001640
REVISION: C
DISCIPLINE / RESOURCE CENTER / LINE NUMBER