



# Preliminary Subdivision Application

## Site Review

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

**INSTRUCTIONS:** This form is used when submitting a Preliminary Subdivision (UDO Section 10.2.5). Please check the appropriate review type and include the plan checklist document. Please email all documents and your preliminary subdivision plans to [SiteReview@raleighnc.gov](mailto:SiteReview@raleighnc.gov).

DEVELOPMENT OPTIONS (UDO Chapter 2)				
<input checked="" type="checkbox"/> Conventional Subdivision	<input type="checkbox"/> Compact Development	<input type="checkbox"/> Conservation Development		
<input type="checkbox"/> Cottage Court	<input type="checkbox"/> Flag lot	<input type="checkbox"/> Frequent Transit Development Option		
<i>NOTE: Subdivisions may require City Council approval if located in a Historic Overlay District.</i>				
GENERAL INFORMATION				
Scoping/sketch plan case number(s):				
Development name (subject to approval): Townes of Haven				
Property Address(es): 2918 Haven Road				
Recorded Deed PIN(s): 1723-17-9741 & 1723-17-9643				
<b>Building type(s):</b> <input type="checkbox"/> Detached House <input type="checkbox"/> Attached House <input checked="" type="checkbox"/> Townhouse <input type="checkbox"/> Apartment				
<input type="checkbox"/> General Building <input type="checkbox"/> Mixed Use Building <input type="checkbox"/> Civic Building <input type="checkbox"/> Open Lot <input type="checkbox"/> Tiny House				
CURRENT PROPERTY OWNER/APPLICANT/DEVELOPER INFORMATION				
<b>Current Property Owner(s) Names:</b>				
Company: John Gerard Boswell Revocable Trust			Title: Trustee	
Address: 211 Hawthorne Road, Raleigh, NC 27605				
Phone #:		Email:		
<b>Applicant Name (If different from owner. See "who can apply" in instructions):</b>				
Relationship to owner: <input checked="" type="checkbox"/> Lessee or contract purchaser <input type="checkbox"/> Owner's authorized agent <input type="checkbox"/> Easement holder				
Company: Southern Purchasing Group, Inc.		Address: P.O. Box 37086, Raleigh, NC 27627		
Phone #: (919) 889-0059		Email: nathan@bigrealty.com		
<b>NOTE: please attach purchase agreement or contract, lease or easement when submitting this form.</b>				
<b>Developer Contact Names:</b> Patricia Hildreth				
Company: CMS Engineering PLLC			Title: Manager	
Address: 9320 St. Johns Church Road, Zebulon, NC 27597				
Phone #: (919) 210-5899		Email: patti.cmseng@gmail.com		



**DEVELOPMENT TYPE + SITE DATA TABLE – ZONING INFORMATION**

Gross site acreage: 0.682

Zoning districts (if more than one, provide acreage of each):

R-6/0.461 ac; R-10/0.221 ac

Overlay district(s):	Inside City Limits? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Historic District/Landmark: N/A <input type="checkbox"/>
Conditional Use District (CUD) Case # Z-	Board of Adjustment Case # BOA-	Design Alternate Case # DA-

**STORMWATER INFORMATION**

Imperious Area on Parcel(s): Existing (sf) <u>2,718</u> Proposed total (sf) <u>14,006</u>	Impervious Area for Compliance (includes right-of-way): Existing (sf) _____ Proposed total (sf) _____
--	--

**NUMBER OF LOTS AND DENSITY**

# of Detached House Lots:	# of Attached House Lots:	# of Townhouse Lots: 7
# of Tiny House Lots:	# of Open Lots: 1	# of Other Lots (Apartment, General, Mixed Use, Civic):
Total # of Lots: 8	Total # Dwelling Units: 7	
# of bedroom units (if known): 1br _____ 2br _____ 3br <u>7</u> 4br _____		
Proposed density for each zoning district (UDO 1.5.2.F): R-6, 4 units; R-10 - 3 units		

**SIGNATURE BLOCK**

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

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

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

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

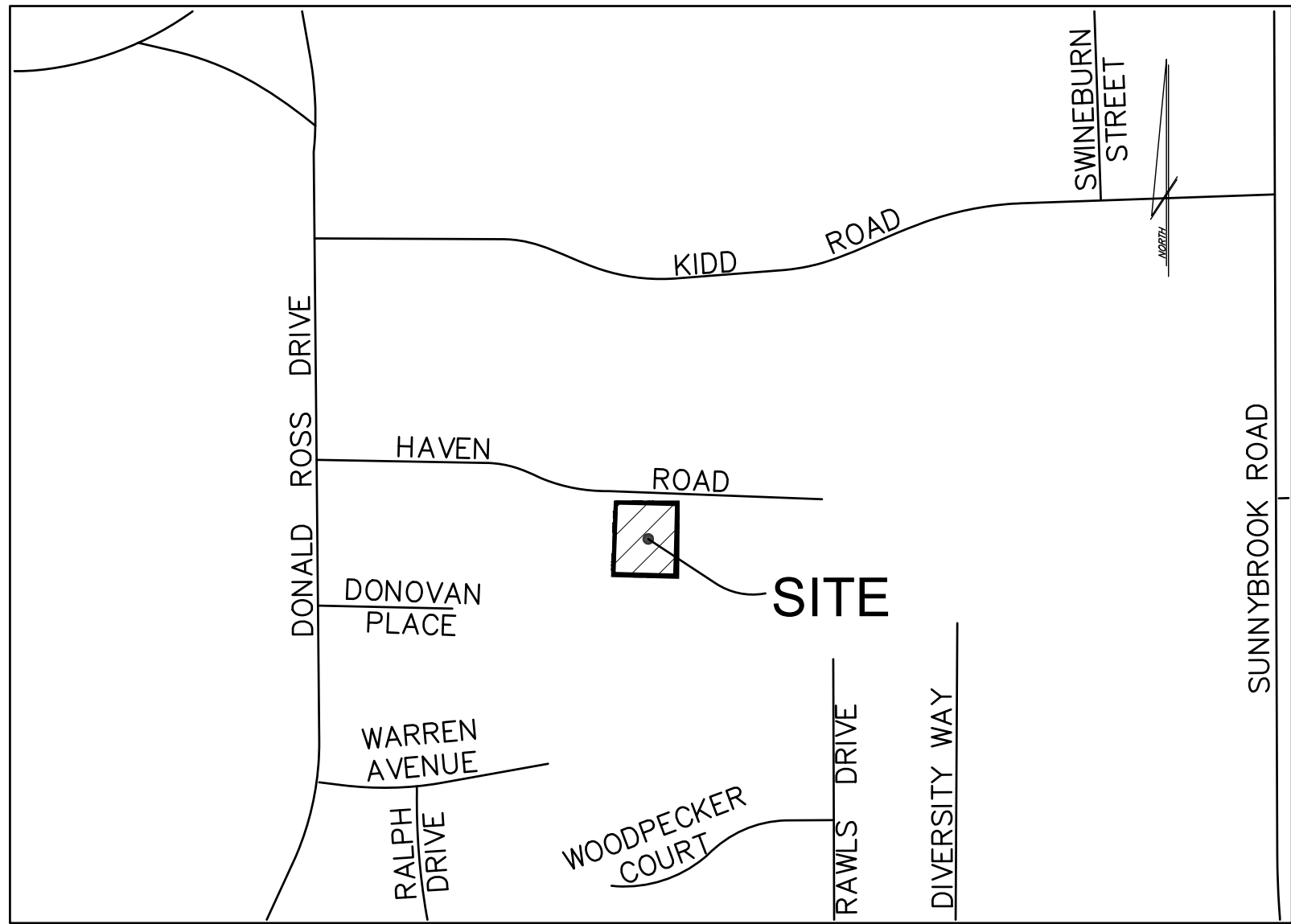
Signature: <u>Nathan Becker</u>	Date: 3/18/2024
Printed Name: <u>1249C36178FC43A...</u> Nathan Becker	
Signature:	Date:
Printed Name:	



# Townes of Haven

## Preliminary Subdivision

### SUB-XXXX-2024



VICINITY MAP  
SCALE: 1"=400'

#### INDEX

TITLE SHEET .....	PS-1
EXISTING CONDITIONS & DEMOLITION .....	PS-2
SUBDIVISION PLAN .....	PS-3
SITE & UTILITY PLAN .....	PS-4
FIRE APPARATUS ACCESS PLAN .....	PS-5
GRADING & STORMWATER PLAN .....	PS-6
LANDSCAPE PLAN .....	PS-7

#### PLAN SUMMARY

Address	2918 Haven Road 2906 Haven Road
Wake Co. PINs	1723-17-9741 1723-17-9643
Reference	DB 19263 PGs 1539-1541
DEVELOPER	SOUTHERN PURCHASING GROUP, LLC P.O. BOX 37086 RALEIGH, NC 27627 nathan@bigrealtyco.com (919) 889-0059

#### PROPOSED TOWNHOME SITE DATA

Zoning	R-6/R-10
R/W Dedication	0.0 ac
Other Dedications	0.0 ac
R-6 Site Area	0.461 ac/20,073 sf
R-10 Site Area	0.221 ac/9,613 sf
Gross Site Area	0.682 ac/29,686 sf
Proposed Use - Multi Unit Townhomes	UDO 2.2.3
R-6 Net Site Area/Unit (min. - 4,500 sf)	UDO 2.2.3.A1 20,073 sf/4,500 sf = 4.461 Units
R-10 Net Site Area/Unit (min.-3,000 sf)	UDO 2.2.3.A1 9,613 sf/3,000 sf = 3.204 Units
Maximum Site Density Per UDO	7.665 Units
Total Units Proposed	7 Units

#### TOWNHOME DEVELOPMENT REQUIREMENTS

##### SITE DIMENSIONS - UDO 2.2.3.A

Outdoor Amenity Area Required	UDO 2.2.3.A3	10% of 29,686 sf = 2,968.6 sf
Outdoor Amenity Area Provided	UDO 2.2.3.A3	6,440 sf = 21.7%
Min. Lot Area	UDO 2.2.3.B1	N/A
Min. Lot Width	UDO 2.2.3.B2	16 feet

##### PRINCIPLE BUILDING/STRUCTURE SETBACK - UDO 2.2.3.C

From Primary Street	UDO 2.2.3.C1	10 feet
From Side Site Boundary Line	UDO 2.2.3.C3	10 feet
From Rear Site Boundary Line	UDO 2.2.3.C4	20 feet
Building Separation	UDO 2.2.3.C6	10 feet

##### PARKING SETBACKS - UDO 2.2.3.D

From Primary Street	UDO 2.2.3.D1	20 feet
From Side Lot Line	UDO 2.2.3.D3	0 feet
From Rear Lot Line	UDO 2.2.3.D4	3 feet (min.)

##### HEIGHT - UDO 2.2.3.E

Maximum Building Height	UDO 2.2.3.E1	45 feet/3 stories
-------------------------	--------------	-------------------

##### PARKING - UDO 7.1.2

Minimum Parking Required	UDO 7.1.2.C	No minimum
Maximum Parking Allowed	UDO 7.1.2.C	No maximum
Parking Provided	- 1 space/garage + 1 space/driveway + 6 visitor spaces	= 20 spaces

#### NOTES:

- BOUNDARY & TOPOGRAPHIC SURVEY BY PENNONI.
- ALL CONSTRUCTION SHALL COMPLY WITH APPLICABLE CITY OF RALEIGH DEVELOPMENT STANDARDS AND SPECIFICATIONS.
- A FEE-IN-LIEU WILL BE PAID FOR WIDENING STREET TO ½ OF 27'B-B AND 6' WIDE CONCRETE SIDEWALK ALONG FRONTAGE.
- RESIDENTIAL INFILL RULES APPLY (SEC.2.2.7) AND PROPOSED SETBACKS AND BUILDING HEIGHTS ARE BASED ON SAID RULES.

#### SOLID WASTE SERVICES

- DEVELOPERS HAVE REVIEWED AND ARE IN COMPLIANCE WITH THE REQUIREMENTS SET FORTH IN THE SOLID WASTE DESIGN MANUAL.
- SOLID WASTE SERVICE WILL BE PROVIDED AT PUBLIC STREET BY INDIVIDUAL 96-GAL. STANDARD CITY OF RALEIGH RESIDENTIAL SOLID WASTE CART PER CITY OF RALEIGH WASTE DESIGN MANUAL.

#### BLOCK PERIMETER EXEMPTION

UDO 8.3.2.A.2.b  
MINIMUM SITE AREA APPLICABLE IS 5 ACRES, THIS SITE IS EXEMPT

#### FREQUENT TRANSIT DEVELOPMENT OPTION

NOT USED FOR THIS PROJECT

#### TREE CONSERVATION

THIS SITE IS LESS THAN 2 ACRES AND THEREFORE IS EXEMPT FROM TREE CONSERVATION REQUIREMENTS.

#### LIGHTING PLAN

A LIGHTING PLAN WILL PROVIDED WITH SITE PERMIT REVIEW.

#### PUBLIC IMPROVEMENT QUANTITIES

Phase Number(s)	1
Number of Lot(s)	8
Lot Number(s) by Phase	1-8
Number of Units	7
Livable Buildings	7
Common Area?	Yes
Number of Common Area Lots	1
Public Water (LF)	0
Public Sewer (LF)	0
Public Street (LF) - FULL	0
Public Street (LF) - PARTIAL	0
Public Sidewalk (LF)	0
Street Signs (LF)	0
Water Service Stubs	2
Sewer Service Stubs	7

#### LEGEND:

IPF - IRON PIPE FOUND  
IRF - IRON ROD FOUND  
RF - REBAR FOUND  
RW - RIGHT-OF-WAY  
CONC. - CONCRETE  
TRF - ELECTRICAL TRANSFORMER  
A/C - HVAC UNIT  
WM - WATER METER  
CO - SEWER CLEANOUT  
SSMH - SANITARY SEWER MANHOLE  
-SS- - UNDERGROUND SANITARY SEWER PIPE  
DI - STORM DROP INLET  
AI - STORM AREA INLET WITH CONCRETE LID  
RCP - REINFORCED CONC. PIPE  
-SD- - UNDERGROUND STORM PIPE (SIZE UNKNOWN)  
FES - FLARED END SECTION  
SW - SIDEWALK  
FFE - FINISHED FLOOR ELEVATION  
PP - POWER/UTILITY POLE  
-OW- - OVERHEAD UTILITY LINES

NOT RELEASED FOR CONSTRUCTION

CMS Engineering, PLLC

9320 St. John's Church Road  
Zebulon, NC 27597

PHONE: (919) 210-5899

EMAIL: patti.cmseng@gmail.com

P-1867

TOWNES OF HAVEN

SOUTHERN PURCHASING GROUP, LLC

PRELIMINARY SUBDIVISION

RALEIGH, NC

#### REVISIONS

#### TITLE SHEET

DWG NAME:

2918HAVEN

PLAN DATE:

03/18/24

DATE ISSUED:

03/18/24

SCALE: NTS

PS-1

DocuSign Envelope ID: 680F1032-CA28-4870-B354-76DFAEF092F

#### Preliminary Subdivision Application

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

INSTRUCTIONS: This form is used when submitting a Preliminary Subdivision (UDO Section 10.2.5). Please check the appropriate review type and include the plan checklist document. Please email all documents and your preliminary subdivision plans to [SiteReview@raleighnc.gov](mailto:SiteReview@raleighnc.gov).

DEVELOPMENT OPTIONS (UDO Chapter 2)			
<input checked="" type="checkbox"/> Conventional Subdivision	<input type="checkbox"/> Compact Development	<input type="checkbox"/> Conservation Development	
<input type="checkbox"/> Cottage Court	<input type="checkbox"/> Flag lot	<input type="checkbox"/> Frequent Transit Development Option	

NOTE: Subdivisions may require City Council approval if located in a Historic Overlay District.

GENERAL INFORMATION	
Scoping/sketch plan case number(s):	
Development name (subject to approval): Townes of Haven	
Property Address(es): 2918 Haven Road	
Recorded Deed PIN(s): 1723-17-9741 & 1723-17-9643	
Building type(s):	<input type="checkbox"/> Detached House <input type="checkbox"/> Attached House <input checked="" type="checkbox"/> Townhouse <input type="checkbox"/> Apartment
	<input type="checkbox"/> General Building <input type="checkbox"/> Mixed Use Building <input type="checkbox"/> Civic Building <input type="checkbox"/> Open Lot <input type="checkbox"/> Tiny House

CURRENT PROPERTY OWNER/APPLICANT/DEVELOPER INFORMATION	
Current Property Owner(s) Names: John Gerard Boswell	
Company: John Gerard Boswell Revocable Trust	Title: Trustee
Address: 211 Hawthorne Road, Raleigh, NC 27605	
Phone #: _____	Email: _____
Applicant Name (if different from owner. See "who can apply" in Instructions):	
Relationship to owner: <input checked="" type="checkbox"/> Lessee or contract purchaser <input type="checkbox"/> Owner's authorized agent <input type="checkbox"/> Easement holder	
Company: Southern Purchasing Group	Address: P.O. Box 37086, Raleigh, NC 27627
Phone #: (919) 889-0059	Email: nathan@bigrealty.com
NOTE: please attach purchase agreement or contract, lease or easement when submitting this form.	
Developer Contact Names: Patricia Hildreth	
Company: CMS Engineering PLLC	Title: Manager
Address: 9320 St. Johns Church Road, Zebulon, NC 27597	
Phone #: (919) 210-5899	Email: patti.cmseng@gmail.com

Page 1 of 2

REVISION 09.22.23  
raleighnc.gov

DocuSign Envelope ID: 680F1032-CA28-4870-B354-76DFAEF092F

DEVELOPMENT TYPE + SITE DATE TABLE - ZONING INFORMATION			
Gross site acreage: 0.682			
Zoning districts (if more than one, provide acreage of each): R-6/0.461 ac; R-10/0.221 ac			
Overlay district(s):	Inside City Limits?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Historic District/Landmark: N/A
Conditional Use District (CUD) Case # Z- _____	Board of Adjustment Case # BOA- _____	Design Alternate Case # DA- _____	

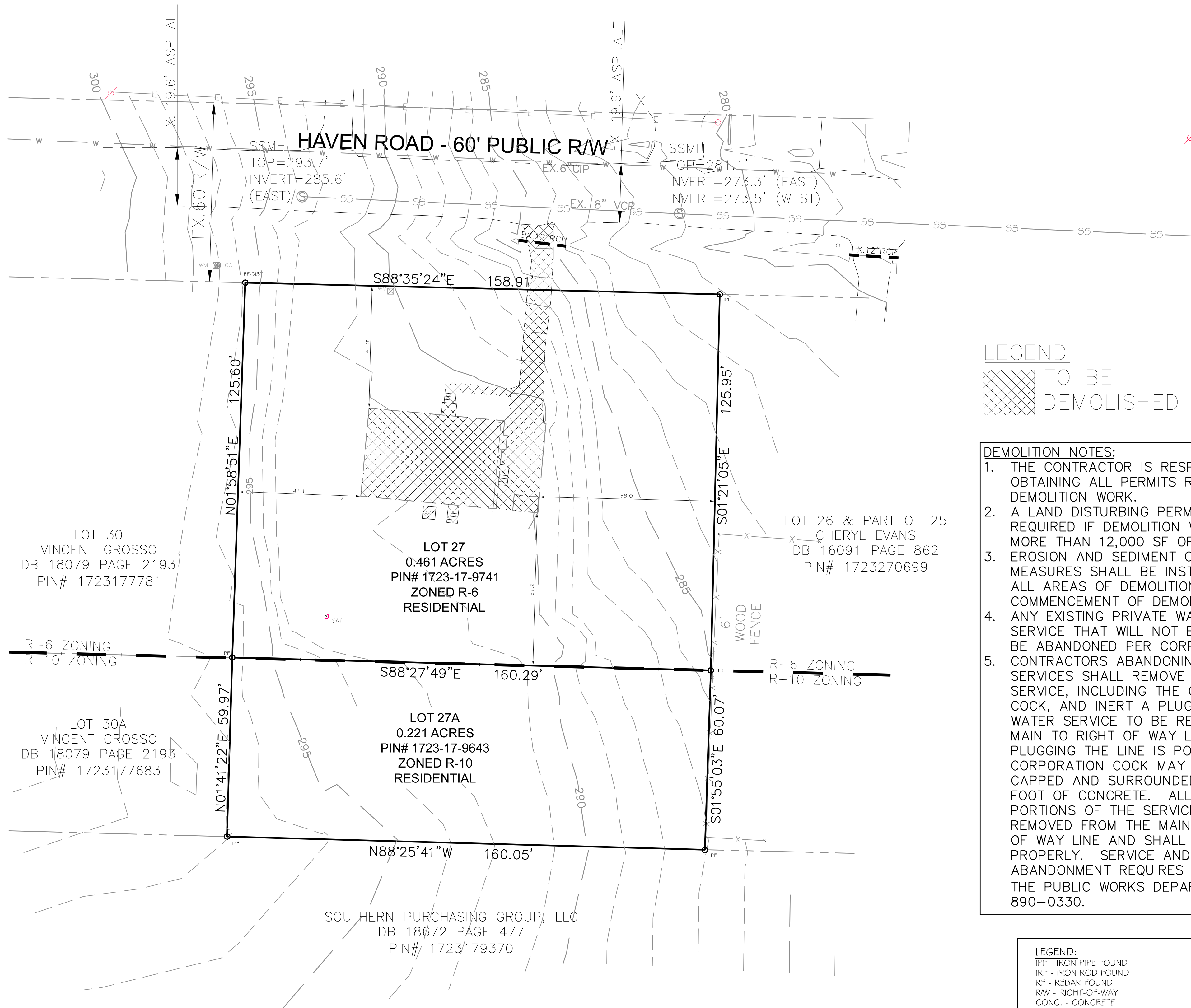
STORMWATER INFORMATION			
Imperious Area on Parcel(s): Existing (sf) 2,718 Proposed total (sf) 14,006		Impervious Area for Compliance (includes right-of-way): Existing (sf) _____ Proposed total (sf) _____	
NUMBER OF LOTS AND DENSITY			
# of Detached House Lots: _____	# of Attached House Lots: _____	# of Townhouse Lots: 7	
# of Tiny House Lots: _____	# of Open Lots: 1	# of Other Lots (Apartment, General, Mixed Use, Civic): _____	
Total # of Lots: 8	Total # Dwelling Units: 7		
# of bedroom units (if known): 1br _____ 2br _____ 3br 7 4br _____			
Proposed density for each zoning district (UDO 1.5.2.F): R-6, 4 units; R-10, 3 units			

SIGNATURE BLOCK	
Pursuant to state law (N.C. Gen. Stat. § 160D-403(a)), applications for development approvals may be made by the landowner, a lessee or person holding an option or contract to purchase or lease land, or an authorized agent of the landowner. An easement holder may also apply for development approval for such development as is authorized by the easement.	
By submitting this application, the undersigned applicant acknowledges that they are either the property owner or one of the persons authorized by state law (N.C.G.S. 160D-403(a)) to make this application, as specified in the application. The undersigned also acknowledges that the information and statements made in the application are correct and the undersigned understands that development approvals are subject to revocation for false statements or misrepresentations made in securing the development approval, pursuant to N.C. Gen. Stat. § 160D-403(f).	
The undersigned indicates that the property owner(s) is aware of this application and that the proposed project described in this application will be maintained in all respects in accordance with the plans and specifications submitted herewith, and in accordance with the provisions and regulations of the City of Raleigh Unified Development Ordinance.	
The undersigned hereby acknowledges that, pursuant to state law (N.C.G.S. 143-755(b1)), if this permit application is placed on hold at the request of the applicant for a period of six consecutive months or more, or if the applicant fails to respond to comments or provide additional information requested by the City for a period of six consecutive months or more, then the application review is discontinued and a new application is required to proceed and the development regulations in effect at the time the permit processing is resumed shall apply to the new application.	
Signature: Nathan Becker	Date: 3/18/2024
Printed Name: Nathan Becker	
Signature: _____	Date: _____
Printed Name: _____	

Page 2 of 2

REVISION 09.22.23  
raleighnc.gov



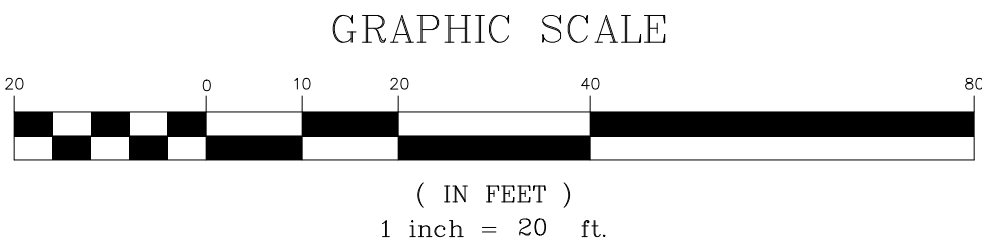


LEGEND  
 TO BE DEMOLISHED

- DEMOLITION NOTES:**
1. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL PERMITS REQUIRED FOR DEMOLITION WORK.
  2. A LAND DISTURBING PERMIT WILL BE REQUIRED IF DEMOLITION WILL DISTURB MORE THAN 12,000 SF OF LAND.
  3. EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSTALLED AROUND ALL AREAS OF DEMOLITION PRIOR THE COMMENCEMENT OF DEMOLITION ACTIVITIES.
  4. ANY EXISTING PRIVATE WATER OR SEWER SERVICE THAT WILL NOT BE USED SHALL BE ABANDONED PER CORPUD STANDARDS.
  5. CONTRACTORS ABANDONING WATER SERVICES SHALL REMOVE THE ENTIRE SERVICE, INCLUDING THE CORPORATION COCK, AND INERT A PLUG IN THE MAIN. WATER SERVICE TO BE REMOVED FROM MAIN TO RIGHT OF WAY LINE. WHEN PLUGGING THE LINE IS POSSIBLE, THE CORPORATION COCK MAY BE TURNED OFF, CAPPED AND SURROUNDED BY ONE CUBIC FOOT OF CONCRETE. ALL REMAINING PORTIONS OF THE SERVICE SHALL BE REMOVED FROM THE MAIN TO THE RIGHT OF WAY LINE AND SHALL BE DISPOSED OF PROPERLY. SERVICE AND MAIN ABANDONMENT REQUIRES INSPECTION BY THE PUBLIC WORKS DEPARTMENT (919) 890-0330.

**LEGEND:**  
IPF - IRON PIPE FOUND  
IRF - IRON ROD FOUND  
RF - REBAR FOUND  
RW - RIGHT-OF-WAY  
CONC. - CONCRETE  
TRF - ELECTRICAL TRANSFORMER  
A/C - HVAC UNIT  
WM - WATER METER  
CO - SEWER CLEANOUT  
SSMH - SANITARY SEWER MANHOLE  
-SS- - UNDERGROUND SANITARY SEWER PIPE  
DI - STORM DROP INLET  
AI - STORM AREA INLET WITH CONCRETE LID  
RCP - REINFORCED CONC. PIPE  
-SD- - UNDERGROUND STORM PIPE (SIZE UNKNOWN)  
FE5 - FLARED END SECTION  
SW - SIDEWALK  
FFE - FINISHED FLOOR ELEVATION  
PP - POWER/UTILITY POLE  
-OW- - OVERHEAD UTILITY LINES

BOUNDARY SURVEY BY PENNONI,  
KEVIN C. PIVER, PLS.



NOT RELEASED FOR CONSTRUCTION

TOWNES OF HAVEN  
SOUTHERN PURCHASING GROUP, LLC  
PRELIMINARY SUBDIVISION  
RALEIGH, NC

REVISIONS

EXISTING  
CONDITIONS  
&  
DEMOLITION  
PLAN

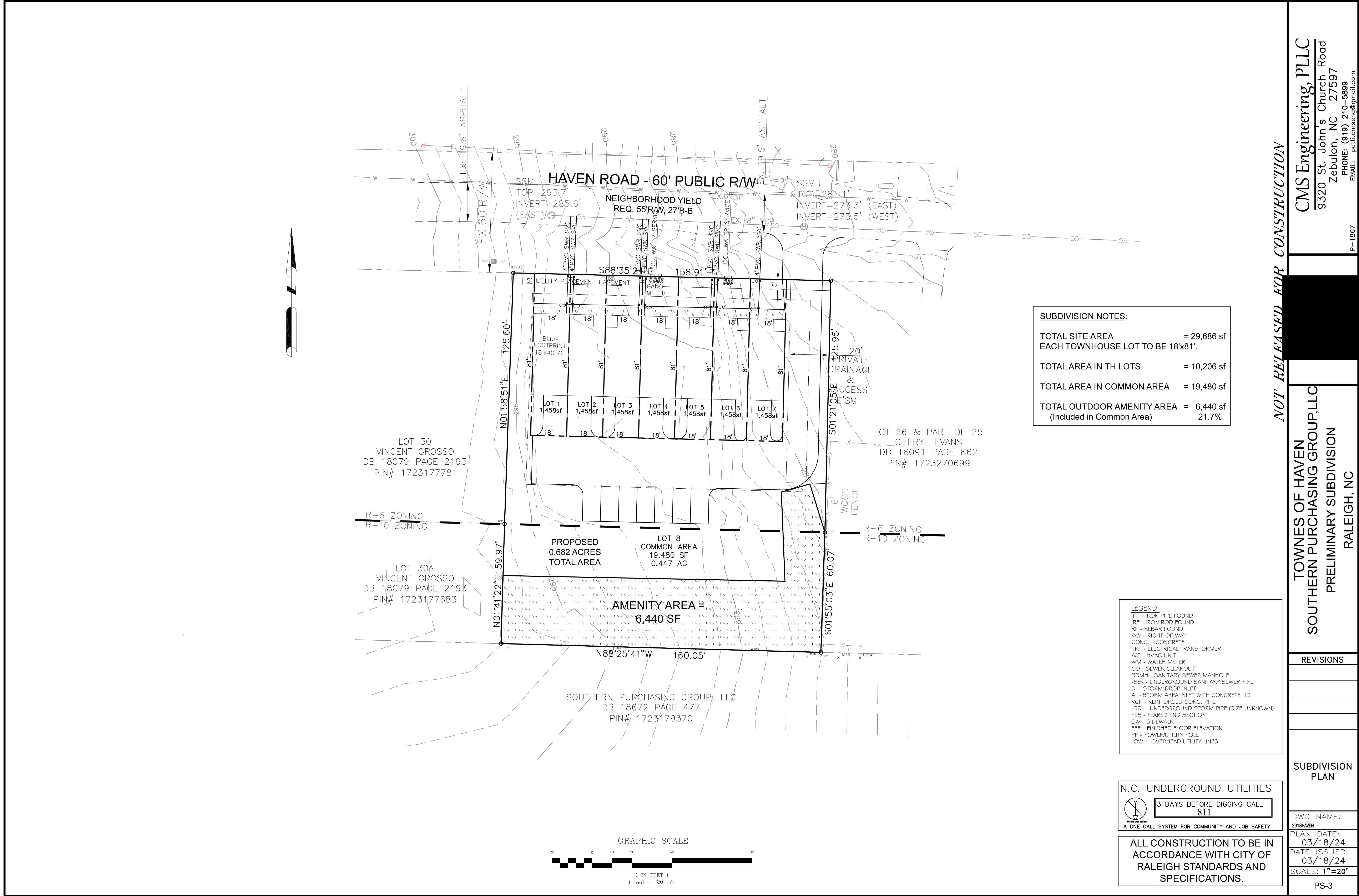
DWG NAME:  
2918HAVEN  
PLAN DATE:  
03/18/24  
DATE ISSUED:  
03/18/24  
SCALE: 1"=20'

PS-2

CMS Engineering, PLLC  
9320 St. John's Church Road  
Zebulon, NC 27597  
PHONE: (919) 210-5899  
EMAIL: patti.cmseng@gmail.com

P-1867



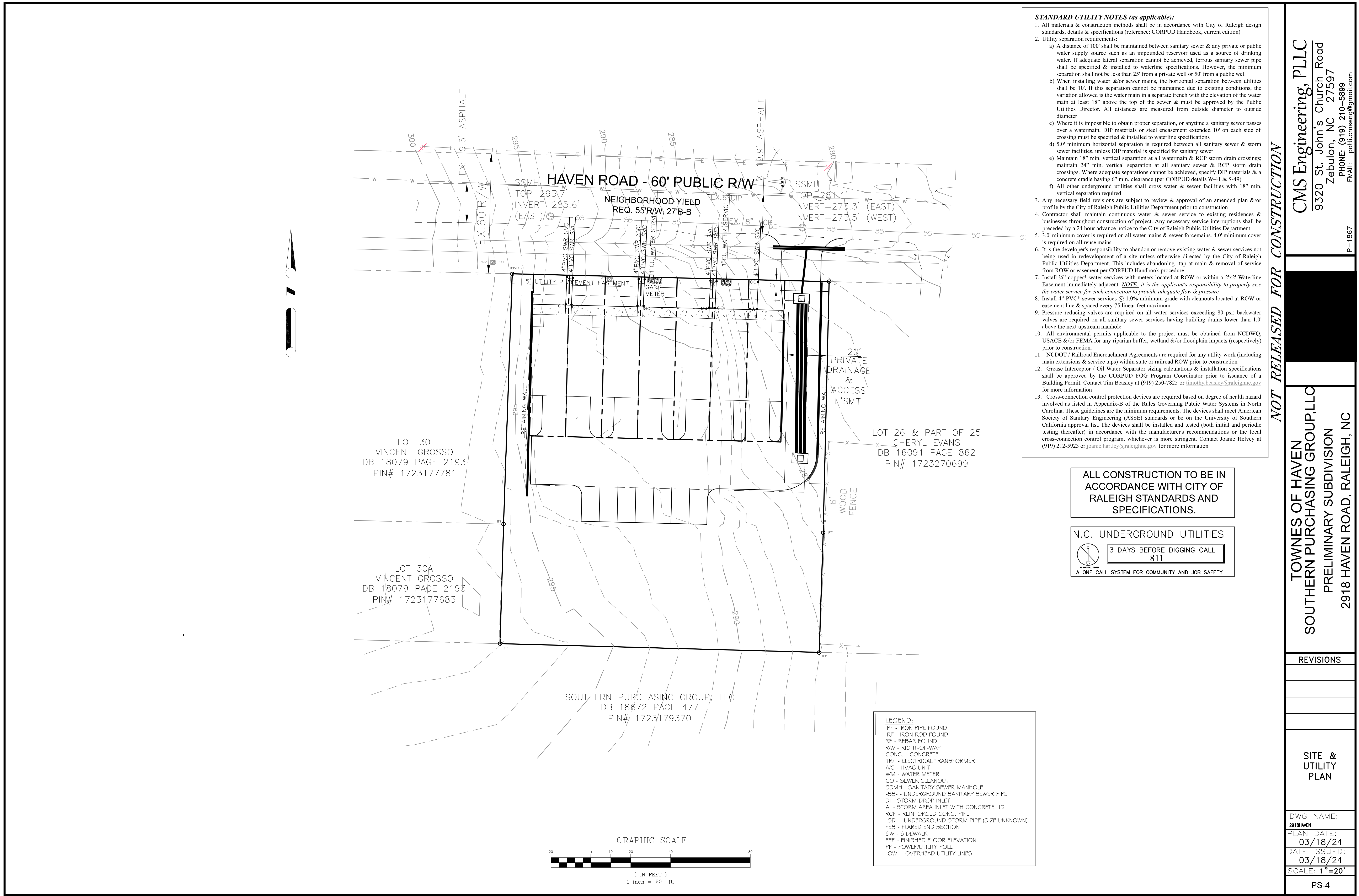


NOT RELEASED FOR CONSTRUCTION

CMS Engineering, PLLC  
9320 St. John's Church Road  
Zebulon, NC 27597  
PHONE: (919) 210-5899  
EMAIL: patti.cmseng@gmail.com

P-1867





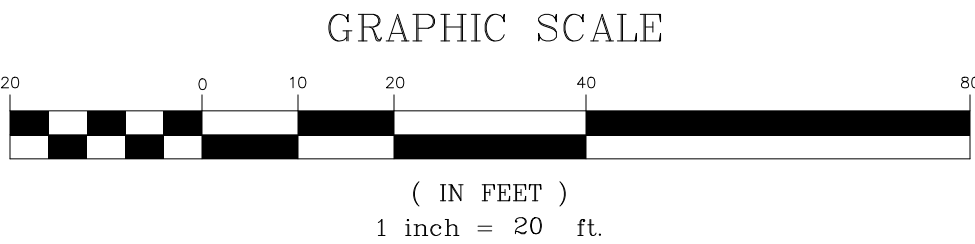
**STANDARD UTILITY NOTES (as applicable):**

- All materials & construction methods shall be in accordance with City of Raleigh design standards, details & specifications (reference: CORPUD Handbook, current edition)
- Utility separation requirements:
  - A distance of 100' shall be maintained between sanitary sewer & any private or public water supply source such as an impounded reservoir used as a source of drinking water. If adequate lateral separation cannot be achieved, ferrous sanitary sewer pipe shall be specified & installed to waterline specifications. However, the minimum separation shall not be less than 25' from a private well or 50' from a public well
  - When installing water &/or sewer mains, the horizontal separation between utilities shall be 10'. If this separation cannot be maintained due to existing conditions, the variation allowed is the water main in a separate trench with the elevation of the water main at least 18" above the top of the sewer & must be approved by the Public Utilities Director. All distances are measured from outside diameter to outside diameter
  - Where it is impossible to obtain proper separation, or anytime a sanitary sewer passes over a watermain, DIP materials or steel encasement extended 10' on each side of crossing must be specified & installed to waterline specifications
  - 5.0' minimum horizontal separation is required between all sanitary sewer & storm sewer facilities, unless DIP material is specified for sanitary sewer
  - Maintain 18" min. vertical separation at all watermain & RCP storm drain crossings; maintain 24" min. vertical separation at all sanitary sewer & RCP storm drain crossings. Where adequate separations cannot be achieved, specify DIP materials & a concrete cradle having 6" min. clearance (per CORPUD details W-41 & S-49)
  - All other underground utilities shall cross water & sewer facilities with 18" min. vertical separation required
- Any necessary field revisions are subject to review & approval of an amended plan &/or profile by the City of Raleigh Public Utilities Department prior to construction
- Contractor shall maintain continuous water & sewer service to existing residences & businesses throughout construction of project. Any necessary service interruptions shall be preceded by a 24 hour advance notice to the City of Raleigh Public Utilities Department
- 3.0' minimum cover is required on all water mains & sewer forcemains. 4.0' minimum cover is required on all reuse mains
- It is the developer's responsibility to abandon or remove existing water & sewer services not being used in redevelopment of a site unless otherwise directed by the City of Raleigh Public Utilities Department. This includes abandoning tap at main & removal of service from ROW or easement per CORPUD Handbook procedure
- Install 3/4" copper\* water services with meters located at ROW or within a 2x2' Waterline Easement immediately adjacent. *NOTE: it is the applicant's responsibility to properly size the water service for each connection to provide adequate flow & pressure*
- Install 4" PVC\* sewer services @ 1.0% minimum grade with cleanouts located at ROW or easement line & spaced every 75 linear feet maximum
- Pressure reducing valves are required on all water services exceeding 80 psi; backwater valves are required on all sanitary sewer services having building drains lower than 1.0' above the next upstream manhole
- All environmental permits applicable to the project must be obtained from NCDWQ, USACE &/or FEMA for any riparian buffer, wetland &/or floodplain impacts (respectively) prior to construction.
- NCDOT / Railroad Encroachment Agreements are required for any utility work (including main extensions & service taps) within state or railroad ROW prior to construction
- Grease Interceptor / Oil Water Separator sizing calculations & installation specifications shall be approved by the CORPUD FOG Program Coordinator prior to issuance of a Building Permit. Contact Tim Beasley at (919) 250-7825 or [timothy.beasley@raleighnc.gov](mailto:timothy.beasley@raleighnc.gov) for more information
- Cross-connection control protection devices are required based on degree of health hazard involved as listed in Appendix-B of the Rules Governing Public Water Systems in North Carolina. These guidelines are the minimum requirements. The devices shall meet American Society of Sanitary Engineering (ASSE) standards or be on the University of Southern California approval list. The devices shall be installed and tested (both initial and periodic testing thereafter) in accordance with the manufacturer's recommendations or the local cross-connection control program, whichever is more stringent. Contact Joanie Helvey at (919) 212-5923 or [joanie.hartley@raleighnc.gov](mailto:joanie.hartley@raleighnc.gov) for more information

ALL CONSTRUCTION TO BE IN  
ACCORDANCE WITH CITY OF  
RALEIGH STANDARDS AND  
SPECIFICATIONS.

N.C. UNDERGROUND UTILITIES  
3 DAYS BEFORE DIGGING CALL  
811  
A ONE CALL SYSTEM FOR COMMUNITY AND JOB SAFETY

**LEGEND:**  
IPF - IRON PIPE FOUND  
IRF - IRON ROD FOUND  
RF - REBAR FOUND  
R/W - RIGHT-OF-WAY  
CONC. - CONCRETE  
TRF - ELECTRICAL TRANSFORMER  
A/C - HVAC UNIT  
WM - WATER METER  
CO - SEWER CLEANOUT  
SSMH - SANITARY SEWER MANHOLE  
-SS- - UNDERGROUND SANITARY SEWER PIPE  
DI - STORM DROP INLET  
AI - STORM AREA INLET WITH CONCRETE LID  
RCP - REINFORCED CONCG. PIPE  
-SD- - UNDERGROUND STORM PIPE (SIZE UNKNOWN)  
FES - FLARED END SECTION  
SW - SIDEWALK  
FFE - FINISHED FLOOR ELEVATION  
PP - POWER/UTILITY POLE  
-OW- - OVERHEAD UTILITY LINES



NOT RELEASED FOR CONSTRUCTION

TOWNES OF HAVEN  
SOUTHERN PURCHASING GROUP, LLC  
PRELIMINARY SUBDIVISION  
2918 HAVEN ROAD, RALEIGH, NC

CMS Engineering, PLLC  
9320 St. John's Church Road  
Zebulon, NC 27597  
PHONE: (919) 210-5899  
EMAIL: [patti.cmseng@gmail.com](mailto:patti.cmseng@gmail.com)

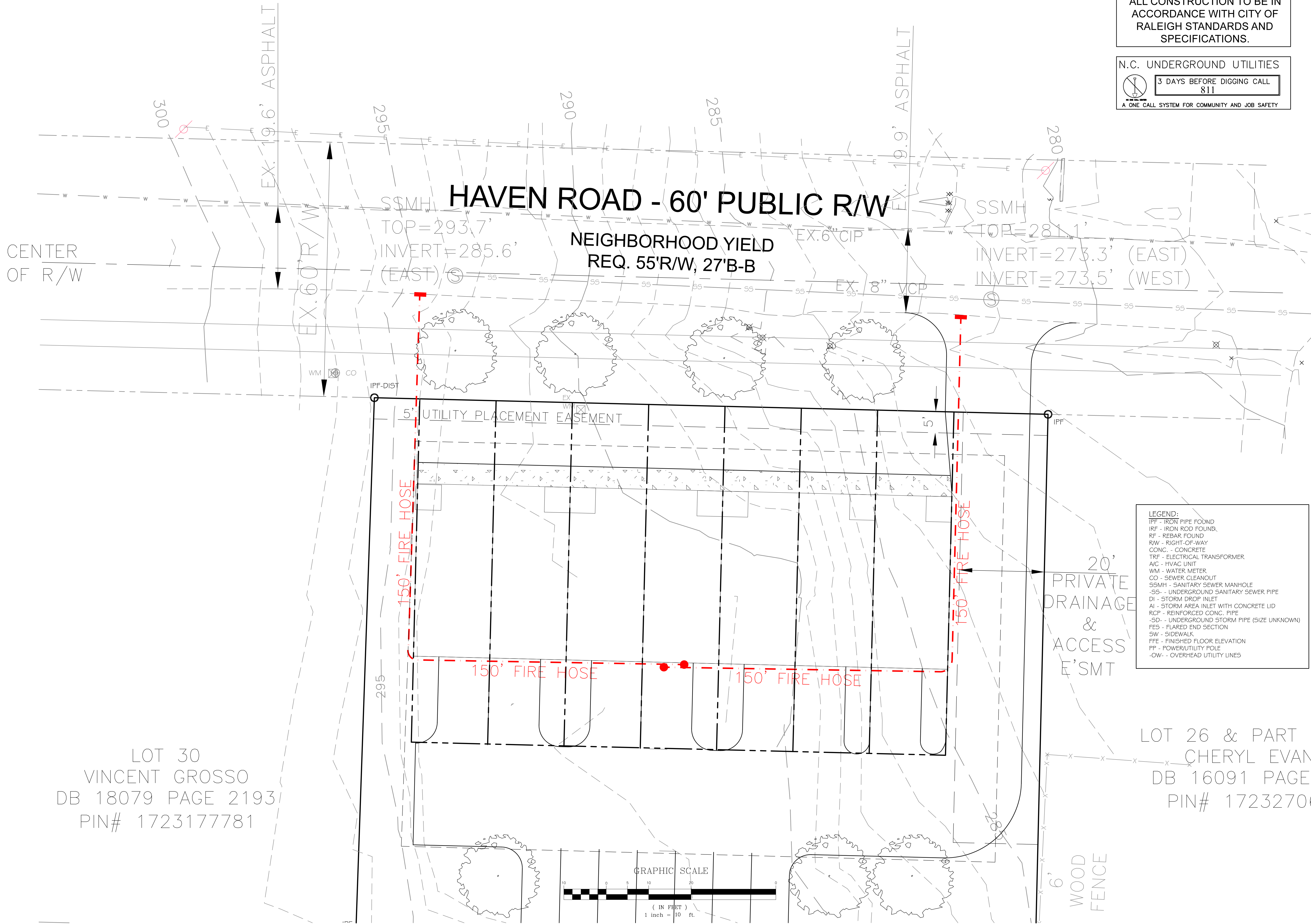
REVISIONS

SITE &  
UTILITY  
PLAN

DWG NAME:  
2918HAVEN  
PLAN DATE:  
03/18/24  
DATE ISSUED:  
03/18/24  
SCALE: 1"=20'

PS-4





NOT RELEASED FOR CONSTRUCTION

TOWNES OF HAVEN  
SOUTHERN PURCHASING GROUP, LLC  
PRELIMINARY SUBDIVISION  
2918 HAVEN ROAD, RALEIGH, NC

REVISIONS

FIRE  
APPARATUS  
ACCESS  
PLAN

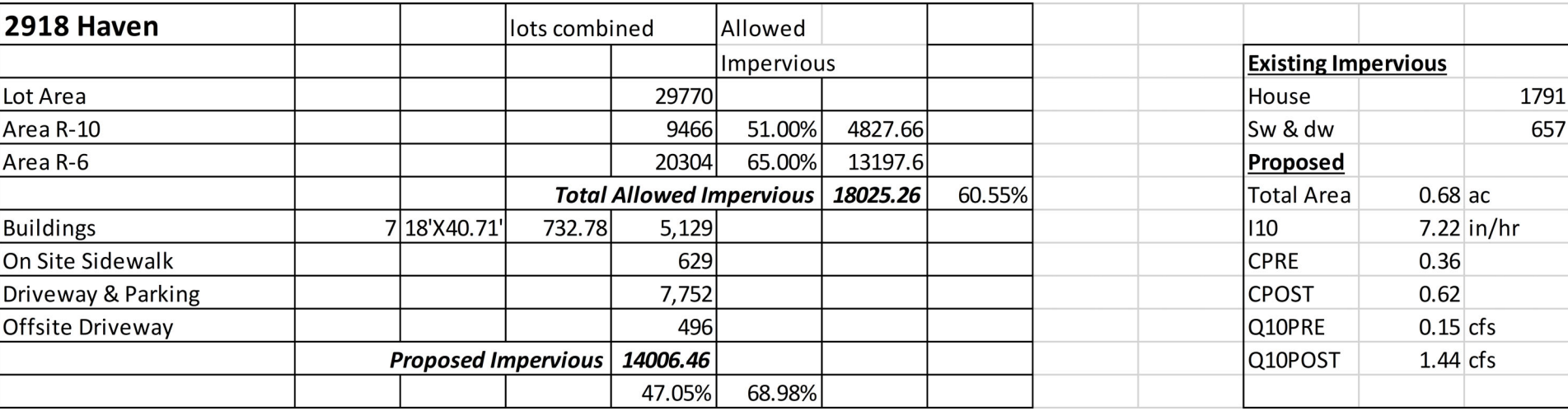
DWG NAME:  
2918HAVEN  
PLAN DATE:  
03/18/24  
DATE ISSUED:  
03/18/24  
SCALE: 1"=10'

PS-5

CMS Engineering, PLLC  
9320 St. John's Church Road  
Zebulon, NC 27597  
PHONE: (919) 210-5899  
EMAIL: patti.cmseng@gmail.com

P-1867





Required Storage Volume		2918 Haven Road	
$Q_{10\text{ Pre}} =$	0.15 cfs		
$Q_p =$	1.44 cfs	10 Year Peak Inflow Post	
MPRR=	0.16 cfs	Maximum Permissible Release Rate	$Q_{10}\text{Pre} * 1.08$
$T_p =$	300 seconds	Time to peak	5 min= 300 seconds
$S=(Q_p\text{-MPRR})*T_p$			
S=	384.75 cf	<b>ORIFICE EQUATION</b>	
		$Q=CD\Delta V(2*32.2^2\text{h})$	
Pipe diameter	Length Required	$h=$	2 ft
18 in	218 ft	<b>Pipe Size=</b>	12 in
24 in	122 ft	$Q=$	10.00 cfs
30 in	78 ft	$CD=$	0.59
36 in	54 ft	$A=$	0.79 $\text{ft}^2$

Simple Runoff Volume Method		
Rv=0.05+0.9*la		
	Rv = runoff coefficient	
	la = Impervious fraction	
Treatment Areas		
Parking Lot(sf)		5,000
Building Roof		5,129
		0
Walkway		0
courtyard		0
Landscape areas(sf)		0
Total Area(sf)		10,129
la		1.00
Site Name	2918Haven	
Lot size (acres)		0.68
Total Impervious Area(acres)		0.32
Percent Impervious		0.47
Rv		0.47
Runoff Volume		
Volume=3630*Rd*Rv*Area in acres		
Rd = rainfall depth		
Constant		3630
Rd		1
Rv		0.47
Area in acres		0.32
Volume (cf)		553

ALL CONSTRUCTION TO BE IN  
ACCORDANCE WITH CITY OF  
RALEIGH STANDARDS AND  
SPECIFICATIONS.

## N.C. UNDERGROUND UTILITIES



3 DAYS BEFORE DIGGING CALL  
811

A ONE CALL SYSTEM FOR COMMUNITY AND JOB SAFETY

**NOT RELEASED FOR CONSTRUCTION**

TOWNES OF HAVEN  
SOUTHERN PURCHASING GROUP, LLC  
PRELIMINARY SUBDIVISION  
2918 HAVEN ROAD, RALEIGH NC

## REVISIONS

# GRADING & STORMWATER PLAN

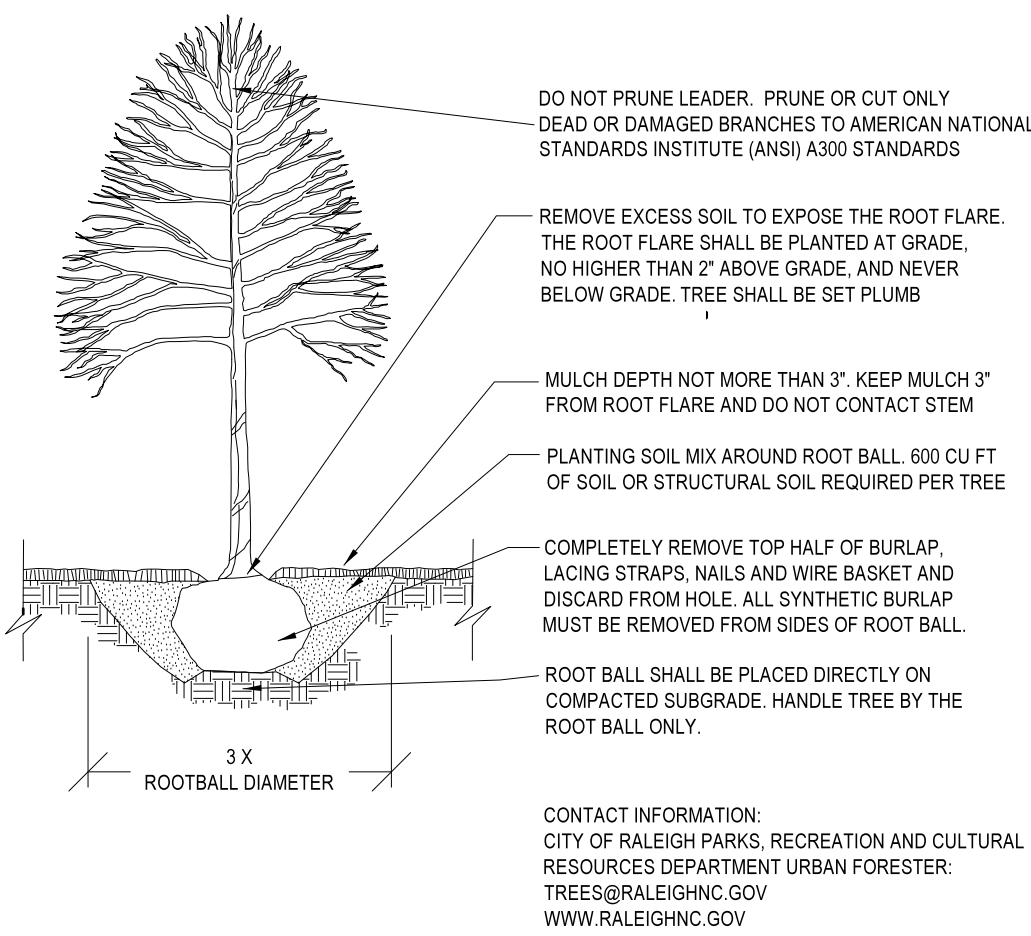
DWG NAME: 2918HAVEN  
PLAN DATE: 03/18/24  
DATE ISSUED: 03/18/24  
SCALE: 1"=20'

PS-6

**CMS Engineering, PLLC**  
 9320 St. John's Church Road  
 Zebulon, NC 27597  
 PHONE: (919) 210-5899  
 EMAIL: [patti.cmseng@gmail.com](mailto:patti.cmseng@gmail.com)

P-1867





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

CITY OF RALEIGH STANDARD DETAIL		
REVISIONS	DATE: 03/03	NOT TO SCALE
10/2019		
TREE PLANTING DETAIL		
TPP-03		

LANDSCAPE PLANTING SCHEDULE					
	QTY	COMMON	SCIENTIFIC	SIZE @ PLANTING	MATURE HT/CROWN SPREAD
	3	SUGAR MAPLE	ACER SACCHARUM	3" CAL, 10' HT	50-75' / 30-40'

- PLANTING STANDARDS:
- ALL PLANT MATERIAL AND INSTALLATION WORK SHALL CONFORM TO THE STANDARDS DETAILED IN THE FOLLOWING DOCUMENTS:
    - AMERICAN NATIONAL STANDARDS FOR TREE CARE OPERATIONS, ANSI A300, AMERICAN NATIONAL STANDARDS INSTITUTE, 11 WEST 42nd STREET, NEW YORK, N.Y. 10036
    - AMERICAN NATIONAL STANDARD FOR NURSERY STOCK, ANSI Z60.1, AMERICAN NURSERY AND LANDSCAPE ASSOCIATION, 1250 EYE STREET, NW, SUITE 500, WASHINGTON, DC 20005
    - HORTUS THIRD, THE STAFF OF THE L.H.BAILEY HORTORIUM, 1976, MacMILLAN PUBLISHING CO., NEW YORK

- NOTES:
- THIS PARCEL IS LESS THAN 2 ACRES THEREFORE COMPLIANCE WITH ARTICLE 9.1 TREE CONSERVATION IS NOT REQUIRED.
  - STREET TREES SHALL BE INSTALLED AND MAINTAINED IN ACCORDANCE WITH THE REQUIREMENTS OF CHAPTER 2 OF THE CITY TREE MANUAL.

PARKING TREE REQUIREMENT	
AREA IN PARKING	4,180 SF
TREES REQUIRED	
1/2,000 SF	3 TREES
TREES PROVIDED	3 TREES

RESIDENTIAL STREET FRONTAGE:	
159'-20'(DW)=139'	
TREES REQUIRED 1/40' = 3.5	
TREES PROVIDED = 4	

STREETSCAPE WIDTH = 6' STREETSCAPE

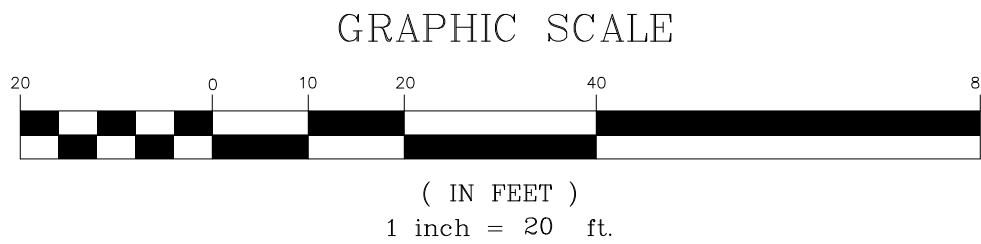
ALL CONSTRUCTION TO BE IN ACCORDANCE WITH CITY OF RALEIGH STANDARDS AND SPECIFICATIONS.

N.C. UNDERGROUND UTILITIES

3 DAYS BEFORE DIGGING CALL 811

A "ONE CALL SYSTEM FOR COMMUNITY AND JOB SAFETY"

- LEGEND:
- IPF - IRON PIPE FOUND
  - IRF - IRON ROD FOUND
  - RF - REBAR FOUND
  - RW - RIGHT-OF-WAY
  - CONC. - CONCRETE
  - TRF - ELECTRICAL TRANSFORMER
  - AC - HVAC UNIT
  - WM - WATER METER
  - CO - SEWER CLEANOUT
  - SSMH - SANITARY SEWER MANHOLE
  - SS - UNDERGROUND SANITARY SEWER PIPE
  - DI - STORM DROP INLET
  - AI - STORM AREA INLET WITH CONCRETE LID
  - RCP - REINFORCED CONC. PIPE
  - SD - UNDERGROUND STORM PIPE (SIZE UNKNOWN)
  - FES - FLARED END SECTION
  - SW - SIDEWALK
  - FTE - FINISHED FLOOR ELEVATION
  - PP - POWER/UTILITY POLE
  - OW - OVERHEAD UTILITY LINES



NOT RELEASED FOR CONSTRUCTION

TOWNES OF HAVEN  
SOUTHERN PURCHASING GROUP, LLC  
PRELIMINARY SUBDIVISION  
RALEIGH, NC

CMS Engineering, PLLC  
9320 St. John's Church Road  
Zebulon, NC 27597  
PHONE: (919) 210-5899  
EMAIL: patli.cmseng@gmail.com

REVISIONS

LANDSCAPE PLAN

DWG NAME:  
2918HAVEN  
PLAN DATE:  
03/18/24  
DATE ISSUED:  
03/18/24  
SCALE: 1"=20'  
PS-7