



CONCEPT PLAN APPLICATION

Parcel Identifier Number (PIN): 9798451394

Date: 04/30/2018

Section A: Project Information

Project Name: The Oaks Condominiums

Property Address: Northwest quadrant of the NC54 (Raleigh Rd)/ Burning Tree Dr. Zip Code: 27517
Intersection in Chapel Hill, NC

Use Groups (A, B, and/or C): A Existing Zoning District: R-4

Project Description: Installation of storm drainage conveyance system to reduce existing flooding issues

Section B: Applicant, Owner and/or Contract Purchaser Information

Applicant Information (to whom correspondence will be mailed)

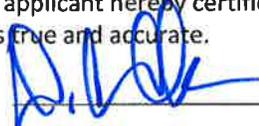
Name: Amos Clark

Address: 2905 Meridian Parkway

City: Durham State: NC Zip Code: 27713

Phone: (919) 361-5000 Email: clark@mcadamsco.com

The undersigned applicant hereby certifies that, to the best of his knowledge and belief, all information supplied with this application is true and accurate.

Signature: 

Date: 5-2-2018

Owner/Contract Purchaser Information:

Owner

Contract Purchaser

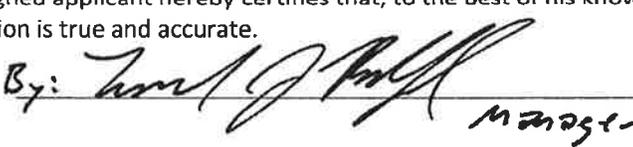
Name: Oaks Owners Association c/o Community Association Services, Inc.

Address: 5915 Farrington Road, Suite 104

City: Chapel Hill State: NC Zip Code: 27517

Phone: 919-403-1400 Email: edbedford@cas.com

The undersigned applicant hereby certifies that, to the best of his knowledge and belief, all information supplied with this application is true and accurate.

Signature: By:  Manager

Date: 5/1/18



Concept Plan Overview

Site Description	
Project Name	The Oaks Condominiums
Address	Northwest quadrant of the NC 54 (Raleigh Rd)/ Burning Tree Dr. Intersection in Chapel Hill, NC
Property Description	Installation of Storm drainage conveyance system to reduce existing flooding issues.
Existing Land Use	Multi- family residential
Proposed Land Use	
Orange County Parcel Identifier Numbers	9798451394
Existing Zoning	R-4
Proposed Zoning	
Application Process	Special Use Permit
Comprehensive Plan Elements	
Overlay Districts	

Regulatory Land Use Intensity

Design/LUMO Standards		Requirement	Proposal	Status
Sec. 3.7	Use/Density	R-4 zoning "P" – Permitted as a principal use		No Change
Sec 3.8	Net Land Area	5,500 Lot size		No Change
Sec 3.8	Gross Land Area	NA		No Change
Sec. 3.8	Dimensional Standards	Street 22' Interior 8' Solar 9'		No Change
Sec. 3.8	Floor area	1,265 sf per lot		No Change
Sec. 4.5.6	Modification to Regulations	NA		No Change
Sec. 5.5	Recreation Space	.218 of land area (max .039 floor area ratio)		No Change



Site Design

Design/LUMO Standards		Requirement	Proposal	Status
Landscape	Sec. 5.6	East	Type "B" Buffer	No Change
	Sec. 5.6	North	Type "B" Buffer	No Change
	Sec. 5.6	South	Type "C" Buffer	No Change
	Sec. 5.6	West	none	No Change
	Sec. 5.7	Tree Canopy	30%	No Change
	Sec. 5.11	Lighting Plan (footcandles)	Per LUMO	No Change
Environment	Sec. 3.6	Resource Conservation District	NA	No Change
	Sec. 5.18	Jordan Riparian Buffer	NA	No Change
	Sec. 5.3.2	Steep Slopes	NA	No Change
	Sec. 5.4	Stormwater Management	Yes	Addition of storm drainage conveyance system to reduce existing flooding issues.
		Land Disturbance	-	39,210 sf
	Sec. 5.4	Impervious Surface	NA	No Change
	Sec. 5.13	Solid Waste & Recycling	NA	No Change
Housing		Affordable Housing Proposal, if applicable	None	No Change



Design/LUMO Standards		Requirement	Proposal	Status
Access & Circulation	Sec. 5.8	Street Standards	NA	No Change
	Sec. 5.8	Vehicular Access	NA	No Change
	Sec. 5.8	Bicycle Improvements	NA	No Change
	Sec. 5.8	Pedestrian Improvements	NA	No Change
	Sec. 5.8	Distance from bus stop	NA	No Change
	Sec. 5.8	Transit Improvements	NA	No Change
	Sec. 5.9	Vehicular Parking Spaces	NA	No Change
	Sec. 5.9	Bicycle Parking Spaces	NA	No Change
	Sec. 5.9	Parking Lot Standards	NA	No Change
Other		Homeowners Association	NA	No Change
	Sec. 5.5	Recreation Space	Per LUMO	No Change
	Sec. 5.12	Utilities	Needs to be approved by OWASA	Previous approval
	Sec. 5.16	School Adequate Public Facilities	NA	No Change

Symbol	Meaning	Symbol	Meaning
	Meets Standard	M	Modification necessary
NA	Not Applicable	UNK	Not known at this time



Checklist

The following must accompany your application. Failure to do so will result in your application being considered incomplete. For assistance with this application, please contact the Chapel Hill Planning and Sustainability at (919)968-2728 or at planning@townofchapelhill.org.

<input checked="" type="checkbox"/>	Application fee (refer to fee schedule)	Amount Paid \$	360.00
<input checked="" type="checkbox"/>	Pre-application meeting – with appropriate staff		
<input checked="" type="checkbox"/>	Digital Files - provide digital files of all plans and documents		
<input checked="" type="checkbox"/>	Project Fact Sheet		
<input type="checkbox"/>	Statement of Compliance with Design Guidelines (2 copies)	*This is a stormwater improvement project not a new development.	
<input type="checkbox"/>	Statement of Compliance with Comprehensive Plan (2 copies)		
<input type="checkbox"/>	Affordable Housing Proposal, if applicable (Rezoning Policy or Inclusionary Ordinance)		
<input checked="" type="checkbox"/>	Mailing list of owners of property within 1,000 feet perimeter of subject property (see GIS notification tool)		
<input checked="" type="checkbox"/>	Mailing fee for above mailing list	Amount Paid \$	314.40
<input checked="" type="checkbox"/>	Developer's Program – brief written statement explaining how the existing conditions impact the site design. Including but not limited to:		
	<ul style="list-style-type: none"> • Natural features of site • Access, circulation, and mitigation of traffic impacts • Arrangement and orientation of buildings • Natural vegetation and landscaping • Impact on neighboring properties • Erosion, sedimentation, and stormwater 		
<input checked="" type="checkbox"/>	Resource Conservation District, Floodplain, & Jordan Buffers Determination - necessary for all submittals		
<input checked="" type="checkbox"/>	Reduced Site Plan Set (reduced to 8.5"x11")		

Plan Sets (10 copies to be submitted no larger than 24"x36")

Plans should be legible and clearly drawn. All plan sets sheets should include the following:

- Project Name
- Legend
- Labels
- North Arrow (North oriented toward top of page)
- Property Boundaries with bearing and distances
- Scale (Engineering), denoted graphically and numerically
- Setbacks and buffers
- Streams, RCD Boundary, Jordan Riparian Buffer Boundary, Floodplain, and Wetlands Boundary, where applicable



Area Map

- a) Project name, applicant, contact information, location, PIN, & legend
- b) Dedicated open space, parks, greenways
- c) Overlay Districts, if applicable
- d) Property lines, zoning district boundaries, land uses, project names of site and surrounding properties, significant buildings, corporate limit lines
- e) Existing roads (public & private), rights-of-way, sidewalks, driveways, vehicular parking areas, bicycle parking, handicapped parking, street names.
- f) 1,000' notification boundary

Existing Conditions Plan

- a) Slopes, soils, environmental constraints, existing vegetation, and any existing land features
- b) Location of all existing structures and uses
- c) Existing property line and right-of-way lines
- d) Existing utilities & easements including location & sizes of water, sewer, electrical, & drainage lines
- e) Nearest fire hydrants
- f) Nearest bus shelters and transit facilities
- g) Existing topography at minimum 2-foot intervals and finished grade
- h) Natural drainage features & water bodies, floodways, floodplain, RCD, Jordan Buffers & Watershed boundaries

Proposed Site Plan

- a) Existing building locations
- b) General location of proposed structures
- c) Parking areas
- d) Open spaces and landscaped areas
- e) Access points and circulation patterns for all modes of transportation
- f) Approximate locations of trails, pedestrian and bicycle connections, transit amenities, and parking areas
- g) Approximate location of major site elements including buildings, open areas, natural features including stream buffers, wetlands, tree stands, and steep slopes
- h) Proposed land uses and approximate location



PROJECT FACT SHEET
TOWN OF CHAPEL HILL
 Planning Department

Section A: Project Information

Application type: CDC Concept Plan Application Date: 04/30/2018
 Project Name: The Oaks Condominiums

Use Type: (check/list all that apply)

Office/Institutional Residential Mixed-Use Other: _____

Overlay District: (check all those that apply)

Historic District Neighborhood Conservation District Airport Hazard Zone

Section B: Land Area

Net Land Area (NLA): Area within zoning lot boundaries		NLA=		sq. ft.
Choose one, or both, of the following (a or b,) not to exceed 10% of NLA	a) Credited Street Area (total adjacent frontage) x ½ width of public right-of-way	CSA=		sq. ft.
	b) Credited Permanent Open Space (total adjacent frontage) x ½ public or dedicated open space	COS=		sq. ft.
TOTAL: NLA + CSA and/or COS = Gross Land Area (not to exceed NLA + 10%)		GLA=		sq. ft.

Section C: Special Protection Areas, Land Disturbance, and Impervious Area

Special Protection Areas: (check all those that apply)

Jordan Buffer Resource Conservation District 100 Year Floodplain Watershed Protection District

Land Disturbance	Total (sq ft)
Area of Land Disturbance (Includes: Footprint of proposed activity plus work area envelope, staging area for materials, access/equipment paths, all grading, including off-site clearing)	39,210
Area of Land Disturbance within RCD	2,677
Area of Land Disturbance within Jordan Buffer	

Impervious Areas	Existing (sq ft)	Demolition (sq ft)	Proposed (sq ft)	Total (sq ft)
Impervious Surface Area (ISA)				
Impervious Surface Ratio: Percent Impervious Surface Area of Gross Land Area (ISA/GLA) %				
If located in Watershed Protection District, % of impervious surface on 7/1/1993				



PROJECT FACT SHEET

TOWN OF CHAPEL HILL
Planning Department

Section D: Dimensions

Dimensional Unit (sq ft)	Existing (sq ft)	Demolition (sq ft)	Proposed (sq ft)	Total (sq ft)
Number of Buildings				
Number of Floors				
Recreational Space				

Residential Space				
Dimensional Unit (sq ft)	Existing (sq ft)	Demolition (sq ft)	Proposed (sq ft)	Total (sq ft)
Floor Area (all floors – heated and unheated)				
Total Square Footage of All Units				
Total Square Footage of Affordable Units				
Total Residential Density				
Number of Dwelling Units				
Number of Affordable Dwelling Units				
Number of Single Bedroom Units				
Number of Two Bedroom Units				
Number of Three Bedroom Units				

Non-Residential Space (Gross Floor Area in Square Feet)					
Use Type	Existing	Proposed	Uses	Existing	Proposed
Commercial					
Restaurant			# of Seats		
Government					
Institutional					
Medical					
Office					
Hotel			# of Rooms		
Industrial					
Place of Worship			# of Seats		
Other					

Dimensional Requirements		Required by Ordinance	Existing	Proposed
Setbacks (minimum)	Street			
	Interior (neighboring property lines)			
	Solar (northern property line)			
Height (maximum)	Primary			
	Secondary			
Streets	Frontages			
	Widths			



PROJECT FACT SHEET

TOWN OF CHAPEL HILL
Planning Department

Section F: Adjoining or Connecting Streets and Sidewalks

(Note: For approval of proposed street names, contact the Engineering Department)

Street Name	Right-of-way Width	Pavement Width	Number of Lanes	Existing Sidewalk*	Existing curb/gutter
				<input type="checkbox"/> Yes	<input type="checkbox"/> Yes
				<input type="checkbox"/> Yes	<input type="checkbox"/> Yes

List Proposed Points of Access (Ex: Number, Street Name):

*If existing sidewalks do not exist and the applicant is adding sidewalks, please provide the following information:

Sidewalk Information			
Street Names	Dimensions	Surface	Handicapped Ramps
			<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
			<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A

Section G: Parking Information

Parking Spaces	Minimum	Maximum	Proposed
Regular Spaces			
Handicap Spaces			
Total Spaces			
Loading Spaces			
Bicycle Spaces			
Surface Type			

Section H: Landscape Buffers

Location (North, South, Street, Etc.)	Minimum Width	Proposed Width	Alternate Buffer	Modify Buffer
			<input type="checkbox"/> Yes	<input type="checkbox"/> Yes
			<input type="checkbox"/> Yes	<input type="checkbox"/> Yes
			<input type="checkbox"/> Yes	<input type="checkbox"/> Yes
			<input type="checkbox"/> Yes	<input type="checkbox"/> Yes



PROJECT FACT SHEET

TOWN OF CHAPEL HILL
Planning Department

Section I: Land Use Intensity

Existing Zoning District:
Proposed Zoning Change (if any):

Note: Refer to Table 3.8-1 (Dimensional Matrix) in the Land Use Management Ordinance for help completing this table.

Zoning – Area – Ratio			Impervious Surface Thresholds			Minimum and Maximum Limitations	
Zoning District(s)	Floor Area Ratio (FAR)	Recreation Space Ratio (RSR)	Low Density Residential (0.24)	High Density Residential (0.50)	Non-Residential (0.70)	Maximum Floor Area (MFA) = FAR x GLA	Minimum Recreation Space (MSR) = RSR x GLA
TOTAL							
RCD Streamside		0.01					
RCD Managed		0.019					
RCD Upland							

Section J: Utility Service

Check all that apply

Water	<input type="checkbox"/> OWASA	<input type="checkbox"/> Individual Well	<input type="checkbox"/> Community Well	<input type="checkbox"/> Other
Sewer	<input type="checkbox"/> OWASA	<input type="checkbox"/> Individual Septic Tank	<input type="checkbox"/> Community Package Plant	<input type="checkbox"/> Other
Electrical	<input type="checkbox"/> Underground <input type="checkbox"/> Above Ground			
Telephone	<input type="checkbox"/> Underground <input type="checkbox"/> Above Ground			
Solid Waste	<input type="checkbox"/> Town <input type="checkbox"/> Private			

9798345972	ACE ASSET LEASING LLC	1025 E BALL RD	ANAHEIM	CA	92805
9798451394	ADAMS CHARLES H	523 CASWELL RD	CHAPEL HILL	NC	27514
9798542977	ADAMSON JEROME E	542 W BARBEE CHAPEL RD	CHAPEL HILL	NC	27517
9798542977	AHMED MOHAMMED	732 W BARBEE CHAPEL RD	CHAPEL HILL	NC	27517
9798552742	ALDERMAN NEIL G	1133 PINEHURST DR	CHAPEL HILL	NC	27517
9798542977	ALDRIDGE WILLIAM S	421 W BARBEE CHAPEL RD	CHAPEL HILL	NC	27517
9798345972	ALLEN JAMIE M	13 MERRITT ST	WEST ISLIP	NY	117954228
9798345972	ALTMAN STUART H TRUSTEE	11 BAKERS HILL RD	WESTON	MA	2493
9798353445	AMICK TRUDE J	3 OAKWOOD DR	CHAPEL HILL	NC	27517
9798542977	ANCHOR ASSET MANAGEMENT LLC	432 W BARBEE CHAPEL RD	CHAPEL HILL	NC	27517
9798345972	ANDERSON FRANKLIN R	2311 ENVIRON WAY	CHAPEL HILL	NC	27517
9798367967	ANDERSON JOHN J B	15 ROGERSON DR	CHAPEL HILL	NC	27514
9798367138	ANNA BRYAN	9 ROGERSON DR	CHAPEL HILL	NC	27514
9798345972	ANNA DAVID F	P O BOX 4040	CHAPEL HILL	NC	27517
9798469211	ANNAGEN LLC	PO BOX 4040	CHAPEL HILL	NC	27515
9798355474	ARMACOST KATHERINE A	4 OAKWOOD DR	CHAPEL HILL	NC	27517
9798561484	AURENTZ STEPHANIE	1105 PINEHURST DR	Chapel Hill	NC	27517
9798345972	BAILEY BRYAN J	2204 ENVIRON WAY	CHAPEL HILL	NC	27517
9798451394	BAKER ALICE F	PO BOX 91341	RALEIGH	NC	27675
9798550421	BALOG DOUGLAS M	1160 PINEHURST DR	CHAPEL HILL	NC	27517
9798542977	BARBEE CHAPEL CONDO LLC	5702 DURSTON CT	CHARLOTTE	NC	28269
9798451394	BARBER ELIZABETH	906 OAK TREE DR	CHAPEL HILL	NC	27517
9798459790	BARRY THOMAS A	1148 PINEHURST DR	CHAPEL HILL	NC	27517
9798451394	BASS VIRGINIA L	1207 OAK TREE DR	Chapel Hill	NC	27517
9798471149	BAUER THEODORE J	18 DENISON DR	SADDLE RIVER	NJ	7458
9798345972	BAUK KATHRYN	4404 ENVIRON WAY	Chapel Hill	NC	27517
9798542977	BEACHLER JILL S	724 W BARBEE CHAPEL RD	CHAPEL HILL	NC	27517
9798451394	BEAM MICHAEL S III	5009 CEDAR GLN	APEX	NC	275029740
9798451394	BECHERER JOHN P	1103 OAK TREE DR	CHAPEL HILL	NC	27517
9798366723	BELL FAMILY PROPERTIES LLC	PO BOX 1113	CHAPEL HILL	NC	27514
9798345972	BELL GERALD D	PO BOX 1113	Chapel Hill	NC	27514
9798355371	BENOIT HENRY B	4390 LAKESHORE RD NORTH	DENVER	NC	28037
9798345972	BENSON GARTH W	22221 DETRIOT RD	ROCKY RIVER	OH	44116
9798451394	BHATTI JAMILA	1107 ROCKFORD RD	HIGH POINT	NC	27262
9798451394	BIDDLE INVESTMENTS LLC	713 PINEHURST DR	CHAPEL HILL	NC	27517
9798367565	BIEK AARON B	PO BOX 568	CHAPEL HILL	NC	27514
9798345972	BIGHAM DAVID S	2301 ENVIRON WAY	Chapel Hill	NC	27517
9798363671	BINNEY REBECCA	21 OAKWOOD DR	CHAPEL HILL	NC	27517
9798451394	BLACK ROGER R TRUSTEE	113 N CHURCH ST	GREENSBORO	NC	27401
9798469310	BOUCHER KIRSTEN B	1124 PINEHURST DR	CHAPEL HILL	NC	27517
9798451394	BOULTON DONALD A	907 OAK TREE DR	CHAPEL HILL	NC	275174074
9798451394	BOURNER SUSAN	301 OAK TREE DR	CHAPEL HILL	NC	27517
9798451394	BOUSTANI MANIJEH	602 OAK TREE DR	CHAPEL HILL	NC	27514
9798345972	BOWEN GARY L	117 LIONS GATE DRIVE	CARY	NC	27518

9798345972	BRADY MELISSA	PO BOX 741	FAIRMONT	NC	28340
9798367334	BRANTLEY CHARLES FRANK III	11 ROGERSON DR	CHAPEL HILL	NC	275144036
9798377160	BROADWELL MARK PLATT	16 ROGERSON DR	CHAPEL HILL	NC	27514
9798345972	BROWN CAROL NECOLE	4108 DOVER RD	RICHMOND	VA	23221
9798451394	BROWN GLORIA T	1303 OAK TREE DRIVE	CHAPEL HILL	NC	27514
9798542977	BROWN WILLIAM H	1502 ST JAMES PL	KINSTON	NC	28504
9798542977	BRYSON NANCY F	719 GROVE PL	VERO BEACH	VA	32963
9798345972	BULEY BRUCE	3510 ENVIRON WAY	CHAPEL HILL	NC	27517
9798456193	BURKE CHARLES T	1139 BURNING TREE DR	CHAPEL HILL	NC	27514
9798451394	BURKHEAD ANNA	1839 BEAVER PL	ANCHORAGE	AK	99504
9798462175	BURNS EDWIN J	1118 BURNING TREE DR	Chapel Hill	NC	27514
9798345972	CAMPBELL JENESS	4416 ENVIRON WAY	CHAPEL HILL	NC	27517
9798457404	CAPDET VANESSA C	1131 BURNING TREE DR	CHAPEL HILL	NC	27517
9798451394	CAPPS MICHAEL B	1806 OAK TREE DR	CHAPEL HILL	NC	27517
9798367669	CARLSON NANCY H	4224 VERDE VISTA CIR	ASHEVILLE	NC	28804
9798345972	CASEY PAUL F	2211 ENVIRON WAY	CHAPEL HILL	NC	27517
9798546749	CASTALIA GROUP LLC	PO BOX 33279	RALEIGH	NC	27636
9798451394	CASTANEDA PAVELID	1703 OAK TREE DR	CHAPEL HILL	NC	27517
9798345972	CATHCART ROBERT A	4517 ENVIRON WAY	CHAPEL HILL	NC	27517
9798451394	CHAN WILLIAM T	4801 WOOD VALLEY DR	RALEIGH	NC	27613
9798565052	CHAPEL HILL CARRBORO YOUNG MENS CHRISTIAN ASSOC'	980 MARTIN LUTHER KING JR	CHAPEL HILL	NC	27514
9798471629	CHAPEL HILL COUNTRY CLUB	PO BOX 2165	CHAPEL HILL	NC	27514
9798542977	CHEN TE HUNG TRUSTEE	742 W BARBEE CHAPEL RD	CHAPEL HILL	NC	27517
9798451394	CHENG NANCY	202 OAK TREE DR	CHAPEL HILL	NC	27517
9798353332	CIAPCIAK CHRISTOPHER ETAL	3531 STONGATE DR	CHAPEL HILL	NC	27516
9798542977	CLOWSE BARBARA	613 BARBEE CHAPEL RD	CHAPEL HILL	NC	27517
9798451394	COFFEE GLENN N	300 JORDAN HILLS DR	CHAPEL HILL	NC	27517
9798345972	COMMUNITY HOME TRUST	PO BOX 2315	CHAPEL HILL	NC	27515
9798542977	CONERLY PORTER	722 W BARBEE CHAPEL RD	CHAPEL HILL	NC	27517
9798542977	CONNUCK PAUL D	634 W BARBEE CHAPEL RD	CHAPEL HILL	NC	27517
9798451394	COOPER WALTER A III	4348 OLD FORGE DR	GASTONIA	NC	28056
9798451394	CORY STEVEN	1804 OAK TREE DR	Chapel Hill	NC	27517
9798561273	CREATORE PATRICIA J TRUSTEE	1113 PINEHURST DR	CHAPEL HILL	NC	27517
9798451394	CREECH WILLIAM E H	2612 DOVER RD	RALEIGH	NC	276082032
9798365085	CROTHERS TIMOTHY W	14 OAKWOOD DR	CHAPEL HILL	NC	27517
9798451394	CULLITON LESLIE R	708 OAK TREE DR	Chapel Hill	NC	27517
9798451394	DAVIES BENJAMIN D	118 NOTTINGHAM DR	CHAPEL HILL	NC	27517
9798376233	DAVIS JOHN M	32 OAKWOOD DR	CHAPEL HILL	NC	275175649
9798345972	DEBLASIO JOSEPH F	4506 ENVIRON WAY	CHAPEL HILL	NC	27517
9798544489	DMC EV LLC	2501 BLUE RIDGE RD	RALEIGH	NC	27607
9798357403	DONOHUE ERIN	3 ROGERSON DR	CHAPEL HILL	NC	27517
9798542977	DONOHUE JAMES F	734 W BARBEE CHAPEL RD	CHAPEL HILL	NC	27517
9798357821	DOOLEY RAYMOND E	6 ROGERSON DR	CHAPEL HILL	NC	275174035
9798451394	DRUTZ JONATHAN M	101 OAK TREE DR	CHAPEL HILL	NC	27517
9798345972	DUCEY THOMAS M	116 SWIFT ISLAND	NEW LONDON	NC	28127
9798469741	DUFFY DANIEL S	1108 PINEHURST DR	CHAPEL HILL	NC	27517
9798451394	DUNAVANT VINCENT A	206 OAK TREE DR	CHAPEL HILL	NC	27517
9798469620	DUNNICK CORY ADELINE	230 ELM ST	DENVER	CO	80220
9798345972	EAST 54 OFFICE RETAIL LLC	1450 ENVIRON WAY	CHAPEL HILL	NC	27517
9798345972	EDWARDS MORGAN R	1906 HOLDING PL	KINSTON	NC	28501
9798446949	EISCHEN JEFFREY W	1143 BURNING TREE DR	CHAPEL HILL	NC	27517
9798345972	EKIS HEIDI M	4417 ENVIRON WAY	Chapel Hill	NC	27517
9798553227	ELENGOLD SCOTT A	111 GURNSEY TRL	CHAPEL HILL	NC	27517
9798451394	ELLIS MONAGHAN JOHN J	6 MAYNARD CT	GRAND ISLE	VT	54582021
9798345972	ENVIRONS AT EAST 54 LLC	4530 PARK RD STE 410	CHARLOTTE	NC	28209
9798561374	ENYEDI MARK A	1109 PINEHURST DR	CHAPEL HILL	NC	275175662
9798531950	EXCHANGE AT MEADOWMONT LLC	5400 TRINITY RD	RALEIGH	NC	27607
9798542977	FARMER LAWRENCE W	531 W BARBEE CHAPEL RD	CHAPEL HILL	NC	27517
9798363468	FEDER NANCY L	19 OAKWOOD DR	CHAPEL HILL	NC	27514
9798345972	FEDEROWICZ TIMOTHY J	2308 ENVIRON WAY	Chapel Hill	NC	27517
9798345972	FIELDS MELVIN	1024 CLELAND DR	CHAPEL HILL	NC	27517
9798542977	FILES LAUREL	733 W BARBEE CHAPEL RD	Chapel Hill	NC	27517

9798542977	FISHMAN IRA A	6917 MARBURY RD	BETHESDA	MD	20817
9798451394	FORBES MALCOLM	1006 HIGHLAND WOODS RD	CHAPEL HILL	NC	27517
9798345972	FRAMPTON HARRY H III	PO DRAWER 2770	AVON	CO	81620
9798561083	FREDERICK LAURETTA S TRUSTEE	1121 PINEHURST DR	CHAPEL HILL	NC	27517
9798345972	FREY BENJAMIN	2203 ENVIRON WAY	CHAPEL HILL	NC	27517
9798542977	FUTURE PATH LLC	1704 SOFTWIND WAY	WILMINGTON	NC	28403
9798542977	GAMMON G ROLAND III	2845 CLAREMONT RD	RALEIGH	NC	27608
9798367765	GARDNER JOANNE K TRUSTEE	215 ROGERSON DR	CHAPEL HILL	NC	27517
9798542977	GARRETT MELISSA MANE	631 W BARBEE CHAPEL RD	CHAPEL HILL	NC	27517
9798451394	GIBSON SUSAN E	1505 OAK TREE DR	CHAPEL HILL	NC	27517
9798451394	GILL SHANNON A	302 OAK TREE DR	CHAPEL HILL	NC	27517
9798459919	GINDES JONATHAN	1136 PINEHURST DR	CHAPEL HILL	NC	27517
9798451394	GLASS KAREN L	804 OAK TREE DR	Chapel Hill	NC	27517
9798382187	GLEN LENNOX APARTMENTS LLC	4601 PARK RD	CHARLOTTE	NC	28209
9798451394	GLENN E VERNON F	49 IMMIGRATION ST STE 100	CHARLESTON	SC	29403
9798345972	GLOER DAVID W	105 DUCKHEAD POINT	CARY	NC	27518
9798345972	GONZALEZ DANIEL L	2411 ENVIRON WAY	CHAPEL HILL	NC	27517
9798451394	GORDON CHARLES S TRUSTEE	1304 OAK TREE DR	CHAPEL HILL	NC	275174078
9798345972	GOULD BONNIE K TRUSTEE	2303 ENVIRON WAY	CHAPEL HILL	NC	27517
9798451394	GRADY THOMAS F III	1901 OAK TREE DR	CHAPEL HILL	NC	27517
9798345972	GRAVELY RONALD S	3210 ENVIRON WAY	CHAPEL HILL	NC	27517
9798451394	GREENBERG STUART	1002 OAK TREE DR	CHAPEL HILL	NC	27517
9798451394	GREGORY MARC H	705 OAK TREE DR	CHAPEL HILL	NC	27517
9798542977	GRIMES WHITEFORD D TRUSTEE	532 W BARBEE CHAPEL RD	CHAPEL HILL	NC	27517
9798376130	GROSSMAN APRIL	30 OAKWOOD DR	CHAPEL HILL	NC	275145649
9798345972	GROSSWALD PAUL	4401 ENVIRON WAY	CHAPEL HILL	NC	27517
9798551175	GUPTA NEERAJ	1209 PINEHURST DR	CHAPEL HILL	NC	27514
9798451394	HALEY CLIFFORD E III	101 FAISON RD	CHAPEL HILL	NC	27517
9798451394	HAMADANI MASOUD	1355 REGULATOR ST	RALEIGH	NC	27603
9798451394	HAMMER DANIEL A	901 OAK TREE DR	CHAPEL HILL	NC	27517
9798451394	HAMMOND JANET	112 UPPER MOUNTAIN AVE	MONTCLAIR	NJ	7042
9798459034	HANSEN COREY M	1212 PINEHURST DRIVE	CHAPEL HILL	NC	27517
9798451394	HARIHARAN PRIYA R	1205 OAK TREE DR	CHAPEL HILL	NC	27517
9798542977	HARRELL NEAL B	422 W BARBEE CHAPEL RD	CHAPEL HILL	NC	27517
9798540989	HARRIS EILEEN ETAL	3110 JONES FERRY RD	CHAPEL HILL	NC	27516
9798542977	HAYES JOYCE W	524 W BARBEE CHAPEL RD	CHAPEL HILL	NC	27517
9798345972	HAYES T NOLAN	2601 ENVIRON WAY	Chapel Hill	NC	27517
9798345972	HEALEY COOPER ETAL	4414 ENVIRON WAY	CHAPEL HILL	NC	27517
9798441499	HEALTH SYSTEM PROPERTIES LLC	211 FRIDAY CENTER DR STE 2043	CHAPEL HILL	NC	27517
9798345972	HEARTINGER DAVID J	3606 ENVIRON WAY	CHAPEL HILL	NC	27517
9798451394	HEATHER H NESS REVOCABLE LIVING TRUST	700 GATEHOUSE LN	COLUMBUS	OH	432351732
9798542977	HEINE M WAYNE	7257 CATHEDRAL ROCK RD	TUCSON	AZ	85718
9798345972	HENSON DAVID L	2512 ENVIRON WAY	CHAPEL HILL	NC	27517
9798345972	HERRING MARY ELIZABETH	3201 ENVIRON WAY	CHAPEL HILL	NC	27517
9798451394	HERSHFIELD JOANNE	353 FEARRINGTON POST	PITTSBORO	NC	27312
9798451394	HIGGINS YVONNE K	801 OAK TREE DR	CHAPEL HILL	NC	27517
9798462350	HIGHTOWER LOUIS	1114 BURNING TREE DR	CHAPEL HILL	NC	275144004
9798552583	HOCHBERG ADAM KEITH	1141 PINEHURST DR	CHAPEL HILL	NC	27517
9798451394	HOFFMAN CHARLES R S	1100 HAYWOOD HILLS LANE	ASHLAND CITY	TN	37015
9798345972	HOFFMANN GROVE LLC	632 HUNT CLUB DR	COROLLA	NC	27927
9798345972	HOLLAND WAYNE	3601 ENVIRON WAY	CHAPEL HILL	NC	27517
9798550500	HOLMES EDWARD S JR	1156 PINEHURST DR	CHAPEL HILL	NC	27517
9798258108	HOLMES OIL COMPANY INC	100 EUROPA DR STE 550	CHAPEL HILL	NC	27517
9798451394	HOOGERVORST DOUGLAS J	1501 OAK TREE DR	CHAPEL HILL	NC	27517
9798552653	HOOGERVORST DOUGLAS J	1137 PINEHURST DR	CHAPEL HILL	NC	27517
9798451394	HOPPER SETH H ETAL	957 NEW HOPE CHURCH RD	APEX	NC	27523
9798355871	HORNEY JENNIFER	206 FIRESIDE CIR	COLLEGE STATION	TX	77840
9798451394	HORTON ROGER	2338 ROSEWOOD AVE	WINSTON-SALEM	NC	27103
9798366108	HOUNSHELL PAUL B	312 CAROLINA MEADOWS VILLA	CHAPEL HILL	NC	27517
9798451394	HOUSE WILLIAM DURWARD	1712 DAMASCUS CH RD	CHAPEL HILL	NC	27516
9798542977	HOWELL LYNDA P	1098 BURNING TREE DR	Chapel Hill	NC	27517
9798345972	HOWLETT KATHRYN L	4518 ENVIRON WAY	CHAPEL HILL	NC	27517
9798546749	HTHS HOLDINGS LLC	PO BOX 31	FARMVILLE	NC	27828
9798459870	HUANG DAVID Y TRUSTEE	1144 PINEHURST DR	CHAPEL HILL	NC	27517
9798451394	HUANG STEPHANIE	1408 OAK TREE DR	CHAPEL HILL	NC	27517
9798542977	HUANG YOLANDA	15 CENTRAL PARK W	NEW YORK	NY	10023
9798451394	HUBER MARC S	205 DALMENY DR	CARY	NC	27513
9798453847	HUCKABEE MICHAEL W	1126 BURNING TREE DR	CHAPEL HILL	NC	27517
9798345972	HUDEPOHL JOHN	4516 ENVIRON WAY	CHAPEL HILL	NC	27517
9798459849	HUEY BURKETT W JR	1140 PINEHURST DR	CHAPEL HILL	NC	27517
9798345972	HUTCHINS SELDEN P	2015 S LIVE OAK PKWY	WILMINGTON	NC	28403
9798345972	IHP CHAPEL HILL NC OWNER LLC	222 LAKEVIEW AVE	WEST PALM BEACH	FL	33401

9798345972	JACKSON JONATHAN D	3209 ENVIRON WAY	CHAPEL HILL	NC	27517
9798546749	JC CHAPEL HILL LLC	335 W BARBEE CHAPEL RD	CHAPEL HILL	NC	27517
9798546749	JEFFS ROGER A TRUSTEE	339 W BARBEE CHAPEL RD	CHAPEL HILL	NC	27517
9798345972	JENKINS JOSEPH M	101 VILLAGE GATE DR	CHAPEL HILL	NC	27514
9798464985	JESKE ROBERT S	1095 BURNING TREE DR	Chapel Hill	NC	27517
9798451394	JIANG KATHERINE A	305 OAK TREE DR	CHAPEL HILL	NC	27517
9798345972	JOYNER GARY STILES	PO BOX 7242	GREENVILLE	NC	27835
9798542977	JUDD BARBARA G TRUSTEE	433 W BARBEE CHAPEL RD	CHAPEL HILL	NC	27517
9798554593	KANTOR CAROLE C	4400 WEST SPRUCE ST	TAMPA	FL	33607
9798441243	KARAN NEDRET	2406 HOLLIS WAY	Mebane	NC	27302
9798345972	KARNUTA DAN	981 PATRICIAN CT	FAIRVIEW	TX	75069
9798542977	KATHYRN L ELLIS TRUST	3415 SURREY RD	Durham	NC	27707
9798551140	KAVANAGH JOAN M	1213 PINEHURST DRIVE	CHAPEL HILL	NC	27517
9798542977	KAY NEAL	514 W BARBEE CHAPEL RD	CHAPEL HILL	NC	27517
9798345972	KELLER DONALD NELSON	2462 FOXWOOD DR	CHAPEL HILL	NC	27514
9798542977	KEMP BERT	431 W BARBEE CHAPEL RD	Chapel Hill	NC	27517
9798357923	KERZMAN NORBERTO L M	7 ROGERSON DR	CHAPEL HILL	NC	27514
9798345972	KHIATANI VISHAL L	2202 ENVIRON WAY	CHAPEL HILL	NC	27517
9798552200	KINTE NEGEST	1205 PINEHURST DR	CHAPEL HILL	NC	27517
9798459680	KLAPPER JACOB	1152 PINEHURST DR	CHAPEL HILL	NC	27517
9798441243	KMS GROUP LLC	4300 THETFORD RD	Durham	NC	27707
9798451394	KNOTT CHANDRA	413 E WINMORE AVE	CHAPEL HILL	NC	27516
9798451394	KOPYTOWSKI DEBORAH R	1903 OAK TREE DR	CHAPEL HILL	NC	27517
9798345972	KULKARNI RESHAM DATTATRAYA	514 SHERWOOD FOREST PL	CARY	NC	27519
9798542977	KUNCL WAYNE T TRUSTEE	721 W BARBEE CHAPEL RD	CHAPEL HILL	NC	27517
9798363067	KUTNER JOEL T	13 OAKWOOD DR	CHAPEL HILL	NC	27517
9798345972	LANEY WILLIAM B ETAL	706 FLORHAM DR	HIGH POINT	NC	27262
9798451394	LEBOLD DANIEL AUGUSTUS	204 OXFORD HILLS DR	Chapel Hill	NC	27514
9798451394	LEMMO ANTHONY	307 OAK TREE DR	CHAPEL HILL	NC	27517
9798464599	LEVINE ARICK	1103 BURNING TREE DR	CHAPEL HILL	NC	27514
9798451394	LEWIS MICHAEL B	1006 OAK TREE DR	CHAPEL HILL	NC	275174075
9798357506	LIAO CATHERINE E	4 ROGERSON DR	CHAPEL HILL	NC	27517
9798353557	LIAO PETER B	5 OAKWOOD DR	CHAPEL HILL	NC	27517
9798345972	LIN WEILI	4502 ENVIRON WAY	CHAPEL HILL	NC	27517
9798451394	LINDLEY JOSEPH S	1406 OAK TREE DR	CHAPEL HILL	NC	27517
9798451394	LINDSAY DONALD S	68 WESTOVER DR	WAYNESBORO	VA	22980
9798345972	LINDSAY TIMOTHY M	2312 ENVIRON WAY	Chapel Hill	NC	27517
9798345972	LINDSEY HAROLD D	264 MOSHER WAY	PALO ALTO	CA	94304
9798552832	LLOYD MAX	1129 PINEHURST DR	CHAPEL HILL	NC	27517
9798451394	LOCKE CHARLES S	606 GLENVIEW RD	ENFIELD	NC	27823
9798465802	LONDON ROBERT L	1099 BURNING TREE DR	CHAPEL HILL	NC	27517
9798451394	LONG LINDA W	1805 OAK TREE DR	CHAPEL HILL	NC	275174062
9798451394	LU QUN	105 OAK TREE DR	CHAPEL HILL	NC	27517
9798542977	LYALL RONALD N TRUSTEE	523 W BARBEE CHAPEL RD	CHAPEL HILL	NC	27517
9798451394	LYDICK ALLEN	613 MISTY ISLE PL	RALEIGH	NC	27615
9798451394	MADISON RIVER LLC	2113 FALLON OAKS CT	RALEIGH	NC	27608
9798451394	MAK HOMES LLC	210 FAISON RD	Chapel Hill	NC	27517
9798474170	MAKLAKOFF ALEXIS	1091 BURNING TREE DR	CHAPEL HILL	NC	275175611
9798355688	MALCOLM LAURA B	8 OAKWOOD DR	CHAPEL HILL	NC	275175651
9798451394	MANGUM RODNEY C	PO BOX 862	CHAPEL HILL	NC	27514
9798451394	MANSOUR M A	5500 N HAWTHORNE WAY	RALEIGH	NC	27613
9798445888	MARLOW WILLIAM C	1147 BURNING TREE DR	CHAPEL HILL	NC	27517
9798542977	MARTIN SUSAN K	642 W BARBEE CHAPEL RD	CHAPEL HILL	NC	27517
9798345972	MASON TONYA A	2212 ENVIRON WAY	CHAPEL HILL	NC	27517
9798357301	MAYNARD VIRGINIA KENNEDY	PO BOX 2724	CHAPEL HILL	NC	275152724
9798542977	MCCALL ROBERT N	513 W BARBEE CHAPEL RD	CHAPEL HILL	NC	27517
9798451394	MCCUBBIN JAMES E IV	1122 BROOK RUN RD	HALIFAX	VA	24558
9798353659	MCGEE GREGORY L	520 HOGAN FARM RD	APEX	NC	27523
9798451394	MCGINNIS WALTER J	1106 OAK TREE DR	CHAPEL HILL	NC	27517
9798553413	MCLEAN SAMUEL A TRUSTEE	104 GURNSEY TRL	CHAPEL HILL	NC	275177507
9798555721	MEADOWMONT COMMUNITY ASSOCIATION INC	429 MEADOWMONT VILLAGE CIR	CHAPEL HILL	NC	27517
9798345972	MEDURE LINDA M TRUSTEE	285 BECKINGHAM LOOP	CARY	NC	27519
9798451394	MEYER KIMBERLY	1302 OAK TREE DR	CHAPEL HILL	NC	27514
9798345972	MEZER STEVEN H ETAL	5209 ENCLAVE DR	OLDSMAR	FL	34677
9798542977	MICHALAK SARAH C	633 WEST BARBEE CHAPEL RD	CHAPEL HILL	NC	27517
9798546749	MIKHAIL ASHRAF	110 DOVER LN	JACKSONVILLE	FL	28540
9798345972	MILLER MARK F	812 OSPREY RIDGE RD	WINSTON SALEM	NC	27106
9798345972	MOCK CONRAD D	2511 ENVIRON WAY	CHAPEL HILL	NC	27517
9798451394	MOLYNEAUX ELIZABETH ETAL	458 TSCHIFFELY SQ RD	GAITHERSBURG	MD	20878
9798345972	MONROE MARILYN RUTH	2604 ENVIRON WAY	CHAPEL HILL	NC	27517
9798451394	MOODY GREY B	20 KENDALL DR	CHAPEL HILL	NC	27514
9798345972	MOONSHADOW PROPERTIES LLC	PO BOX 425	SARATOGA SPRINGS	NY	12866

9798451394	MORGAN WAYNE F	8208 KILDARE ST	CLEMMONS	NC	27012
9798345972	MORIN ROBERT HUNTER	980 BELLE PLAINS RD	FREDERICKSBURG	VA	22405
9798451394	MORITZ ARTHUR W	902 OAK TREE DR	CHAPEL HILL	NC	27517
9798345972	MORRIS JOHN B III	2502 ENVIRON WAY	CHAPEL HILL	NC	27517
9798469100	MORSE FAMILY LLC	10709 ROUND BROOK CR	RALEIGH	NC	27617
9798451394	MOSHIER JOYCE A	1904 OAK TREE DR	CHAPEL HILL	NC	27517
9798451394	MOUNT LORETTA JANE	503 OAK TREE DR	CHAPEL HILL	NC	275144071
9798451394	MURRAY ELEANOR W	1008 OAK TREE DR	CHAPEL HILL	NC	27517
9798542977	MUSTIAN HOWARD M	731 W BARBEE CHAPEL RD	CHAPEL HILL	NC	27517
9798451394	MYERS ALEXANDER G	1551 BEN SAWYER BLVD	MT PLEASANT	SC	29464
9798542977	MYERS DAN A	1106 WALKER DR	KINSTON	NC	28501
9798451394	MYERS SHEVA FRANCINE	1803 OAK TREE DR	CHAPEL HILL	NC	275174062
9798345972	MYRICK THOMAS G	9228 TRESANTON DR	CHARLOTTE	NC	28210
9798367855	NAGLE PATRICK J	14 ROGERSON DR	Chapel Hill	NC	27514
9798451394	NAGLE TYLER	11014 POUND HILL LN	CHARLOTTE	NC	28277
9798345972	NATHANI ADIL	3504 ENVIRON WAY	CHAPEL HILL	NC	27517
9798542977	NEBEL WILLIAM A	621 W BARBEE CHAPEL RD	CHAPEL HILL	NC	27517
9798451394	NELSON SARAH C	1402 OAK TREE DR	CHAPEL HILL	NC	27517
9798451394	NEWMAN JEFFERY	3008 JOVEL CT	APEX	NC	27539
9798432788	NORTH CAROLINA STATE OF PHI DELTA CHI	204 FINLEY GOLF COURSE RD	CHAPEL HILL	NC	27517
9798451394	OAKS OWNERS ASSOCIATION	5915 FARRINGTON RD #104	CHAPEL HILL	NC	27517
9798542977	OBRIEN WILLIAM L JR	424 W BARBEE CHAPEL RD	CHAPEL HILL	NC	27517
9798345972	OCONNOR CHRISTOPHER M	1121 PINEHURST DR	CHAPEL HILL	NC	27517
9798345972	ODALY JOHN P	3610 ENVIRON WAY	Chapel Hill	NC	27517
9798451394	OYAN GERALD B	204 WILD OAK DR	SWANSBORO	NC	28584
9798345972	PACE SMITH VIVIAN	2612 ENVIRON WAY	CHAPEL HILL	NC	27517
9798542977	PAGANO JOAN F	114 LAUREL HILL RD	CHAPEL HILL	NC	27514
9798353954	PALLADINO LINDA B	11 OAKWOOD DR	CHAPEL HILL	NC	27514
9798345972	PALMORE SUSAN M	1010 WILDER AVE	HONOLULU	HI	96822
9798451394	PARK JENNIFER	604 OAK TREE DR	CHAPEL HILL	NC	275174072
9798451394	PARKER WILLIAM P	1046 BURNING TREE DR	CHAPEL HILL	NC	27514
9798367652	PARKS E GLENN	211 ROGERSON DR	CHAPEL HILL	NC	275174081
9798451394	PARKS O TRACY III	PO BOX 4077	PINEHURST	NC	283744077
9798345972	PATEL JAY	3302 ENVIRON WAY	CHAPEL HILL	NC	27517
9798363886	PAUWELS KENNETH G	25 OAKWOOD DR	CHAPEL HILL	NC	275175650
9798462641	PEARSALL STUART K	1106 BURNING TREE DR	Chapel Hill	NC	27514
9798555421	PEDERSEN LARS C	209 OLD BARN LN	CHAPEL HILL	NC	275177501
9798366928	PEDERSEN LEE	28 OAKWOOD DR	CHAPEL HILL	NC	275175649
9798451394	PENG XIANLU	101 SCIENCE DR	DURHAM	NC	27708
9798345972	PETTERSON LYNNE M	3604 ENVIRON WAY	CHAPEL HILL	NC	27517
9798451394	PHILLIPPI P JEFFREY	8650 GETALONG RD	CHARLOTTE	NC	28213
9798542977	PHOENIX KAOLA A	624 W BARBEE CHAPEL RD	CHAPEL HILL	NC	27517
9798441243	PINEHURST PROPERTY HOLDINGS LLC	194 FINLEY GOLF COURSE RD #100	CHAPEL HILL	NC	27517
9798363774	POOCK MICHAEL	23 OAKWOOD DR	CHAPEL HILL	NC	275175650
9798451394	PORTER PATRICIA B	505 OAK TREE DR	CHAPEL HILL	NC	27517
9798451394	PROCTOR BRYAN	1001 OAK TREE DR	CHAPEL HILL	NC	27517
9798345972	PROCTOR KAREN M	PO BOX 52385	DURHAM	NC	27717
9798345972	RAMBARAT CECIL	1229 PINEHURST DR	CHAPEL HILL	NC	27517
9798540816	RAMBARAT DULAREE	1229 PINEHURST DR	CHAPEL HILL	NC	27517
9798459173	RANSOHOFF DAVID F	1208 PINEHURST DR	CHAPEL HILL	NC	27517
9798451394	REDMAN KENNETH A	8501 MEADOW RIDGE LN	CHAPEL HILL	NC	27516
9798345972	REED CHARLES N	1860 9TH ST COURT NW	HICKORY	NC	28601
9798345972	REID THOMAS R	3301 ENVIRON WAY	CHAPEL HILL	NC	27517
9798345972	RESNICK DEBORAH	2401 ENVIRON WAY	CHAPEL HILL	NC	27517
9798554403	RESNICK MICHAEL	102 GURNSEY TR	CHAPEL HILL	NC	27514
9798357109	RHYNE SIMS PROPERTIES LLC	517 NORTH ST	CHAPEL HILL	NC	27514
9798542977	RIFKIN MARLENE	741 W BARBEE CHAPEL RD	CHAPEL HILL	NC	27516
9798451394	RIGGSBEE BETTY R	1705 OAK TREE DR	CHAPEL HILL	NC	275144061
9798451394	RILEY MASON	101 NC HWY 54 BYPASS	CARRBORO	NC	27510
9798542977	ROBERTS MICHAEL W	641 W BARBEE CHAPEL RD	CHAPEL HILL	NC	27517
9798451394	ROBINSON LOREN	1100 S BROAD ST	PHILADELPHIA	PA	19146
9798451394	ROE OLIVIA C	108 OAK TREE DR	CHAPEL HILL	NC	27517
9798451394	RONG XIANGHONG	4831 HIGHGATE DR	DURHAM	NC	27713
9798457310	ROPER WILLIAM L	1135 BURNING TREE DR	CHAPEL HILL	NC	275174005
9798542977	ROSENBERG LEONARD L	2645 S BAYSHORE DR	MIAMI	FL	33133
9798451394	ROSS MIRIAM K	905 OAK TREE DRIVE	CHAPEL HILL	NC	27514
9798345972	ROSS WILLIAM G JR	337 TENNEY CIR	Chapel Hill	NC	27514
9798451394	RYAN RONALD B	1802 OAK TREE DR	CHAPEL HILL	NC	27517
9798542977	SACKS KATHRYN S	623 W BARBEE CHAPEL RD	CHAPEL HILL	NC	27517
9798345972	SADLER HERMAN M III	1501 WIGGINS RD	EMPORIA	VA	23847
9798542977	SALMON EDWARD D	534 W BARBEE CHAPEL RD	CHAPEL HILL	NC	27517
9798552226	SARFIELD SALLY	1201 PINEHURST DR	CHAPEL HILL	NC	27517

9798345972	SAWITZ PROPERTIES LLC	104 SAN MATEO PL	CHAPEL HILL	NC	27514
9798345972	SAWYER H MURRAY JR	922 FAIRTHORNE AVE	WILMINGTON	DE	19807
9798451394	SCHNEIDER ROBERT	4309 PEACHWAY DR	DURHAM	NC	27705
9798363989	SCHOPLER ELIZABETH B	27 OAKWOOD DR	CHAPEL HILL	NC	27517
9798462725	SCHREIBER JASON	1102 BURNING TREE DR	CHAPEL HILL	NC	27517
9798555417	SCIBIOR DARIUSZ S.	211 OLD BARN LN	CHAPEL HILL	NC	27517
9798451394	SEALI ENTERPRISES LLC	239 PARKER RD	CHAPEL HILL	NC	27517
9798441243	SGM REALTY ASSOCIATES LLC	194 FINLEY GOLF COURSE RD #202	CHAPEL HILL	NC	27517
9798451394	SHANKER KASTURI G HRS	301 MORAVIA LANE	CARY	NC	27513
9798448995	SILVER WILLIAM P	1216 PINEHURST DR	CHAPEL HILL	NC	27517
9798451394	SIMPSON CHRISINA E	1003 OAK TREE DR	CHAPEL HILL	NC	27517
9798451394	SINGLETARY GLORIA	1606 OAK TREE DR	CHAPEL HILL	NC	27514
9798471026	SMITH BRETT R	1094 BURNING TREE DR	CHAPEL HILL	NC	27514
9798366825	SMITH DOUGLAS	P O BOX 2426	CHAPEL HILL	NC	27515
9798546749	SMITH HENRY L	345 WEST BARBEE CHAPEL RD	Chapel Hill	NC	27517
9798367455	SMITH STEPHEN G	12 ROGERSON DR	CHAPEL HILL	NC	27514
9798451394	SOMAN SALIL S	106 OAK TREE DR	CHAPEL HILL	NC	27517
9798345972	SPEARMAN ROBERT W	2504 ENVIRON WY	Chapel Hill	NC	27517
9798345972	STALLINGS A DONALD	300 S WESLEYSAN BLVD	ROCKY MOUNT	NC	27804
9798247978	STATE EMPLOYEES CREDIT UNION	PO BOX 26807	RALEIGH	NC	27611
9798340950	STATION AT CHAPEL HILL LLC	1450 ENVIRON WAY	CHAPEL HILL	NC	27517
9798451394	STEELE GARY T	1601 OAK TREE DR	CHAPEL HILL	NC	27517
9798345972	STEINER MICHAEL ULKE	14 LITCFORD RD	Chapel Hill	NC	27514
9798463011	STEPHENS BRIAN V	1122 BURNING TREE DR	Chapel Hill	NC	27517
9798451394	STEVENS MICHAEL	1208 OAK TREE DR	CHAPEL HILL	NC	27517
9798451394	STRAUSS RONALD P	806 OAK TREE DR	CHAPEL HILL	NC	275174076
9798451394	SUDDARTH JEANE R	745 CEDAR CLUB CIR	CHAPEL HILL	NC	27517
9798345972	SUNG IN	112A CROSSGATE S	STARKVILLE	MS	39759
9798345972	SUNPOCKET REALTY LLC	109 E FRANKLIN ST	Chapel Hill	NC	27514
9798451394	SUTHERLAND JOEL THOMAS	706 OAK TREE DR	CHAPEL HILL	NC	27517
9798451394	TAKI EAGLE ENTERPRISES LLC	305 CLARKSON RIDGE LN	HILLSBOROUGH	NC	27278
9798451394	TAM JASON W	1503 OAK TREE DR	CHAPEL HILL	NC	27517
9798345972	TANG JASON J	7400 RIVER RD	NORTH BERGEN	NJ	7047
9798542977	TAYLOR ELIZABETH	533 W BARBEE CHAPEL RD	CHAPEL HILL	NC	27517
9798542977	TEWARI SANGITA M	504 KENSINGTON DR	GREENVILLE	NC	27858
9798345972	THORP HELEN	3206 ENVIRON WAY	CHAPEL HILL	NC	27517
9798345972	TIANGCO MICHAEL P	2603 ENVIRON WAY	CHAPEL HILL	NC	27517
9798451394	TOLLEY STUART G	1301 OAK TREE DR	CHAPEL HILL	NC	27517
9798345972	TOUGH BUCKET LLC	1450 RALEIGH RD	CHAPEL HILL	NC	27517
9798345972	TSAI KATY	3408 ENVIRON WAY	CHAPEL HILL	NC	27517
9798451394	TUCKER DAN C JR	312 DEERFIELD RD	APEX	NC	27523
9798451394	TUTTLE LESLIE	32 KINGS HWY WEST	HADDONFIELD	NJ	8033
9798441243	UNC ESHELMAN SCHOOL OF PHARMACY FOUNDATION	194 FINLEY GOLF COURSE RD STE 106	CHAPEL HILL	NC	27517
9798442085	UNIVERSITY OF N C	GILES F HORNEY BLG SUITE 103	CHAPEL HILL	NC	275991060
9798451394	VAIDYA PARTHIV	204 OAK TREE DR	CHAPEL HILL	NC	27517
9798451394	VAN HEUSDEN CATHARINA	1603 OAK TREE DR	Chapel Hill	NC	27517
9798355983	VERKERK JOOST F	12 OAKWOOD DR	CHAPEL HILL	NC	27514
9798550331	VIENS NICHOLAS A	1200 PINEHURST DR	CHAPEL HILL	NC	27517
9798377272	VOGLER MARY F A	17 ROGERSON DR	CHAPEL HILL	NC	275174036
9798451394	VONRAVEN LLC	11324 EMERALD CREEK DR	RALEIGH	NC	27617
9798462445	VOZELLA JOSEPH A III	1110 BURNING TREE DR	CHAPEL HILL	NC	27517
9798552422	WALDORF GERHART T	106 GURNSEY TRAIL	CHAPEL HILL	NC	27517
9798561163	WALSH RYAN C	1117 PINEHURST DR	Chapel Hill	NC	27517
9798552911	WALSH TIMOTHY W TRUSTEE	1125 PINEHURST DR	CHAPEL HILL	NC	275178639
9798451394	WATERS DAVID R	605 E SPRING ST	OXFORD	NC	27565
9798451394	WEHMANN WARREN QUINN	203 OAK TREE DR	CHAPEL HILL	NC	275174065
9798367035	WHISENANT WILLIAM D	333 BURLAGE CR	CHAPEL HILL	NC	275142703
9798373191	WHITAKER OLIVA J	29 OAKWOOD DR	CHAPEL HILL	NC	27517
9798551015	WHITE TYLER	1217 PINEHURST DR	CHAPEL HILL	NC	27517
9798353852	WHITWORTH MARGARET V	9 OAKWOOD DR	CHAPEL HILL	NC	27517
9798451394	WIGGS BOBBY R III	1405 OAK TREE DR	CHAPEL HILL	NC	27517
9798540954	WILDE NATALIE	1225 PINEHURST DR	Chapel Hill	NC	27517
9798355576	WILLIAMS SHERILYN VAN V	6 OAKWOOD DR	CHAPEL HILL	NC	27517
9798451394	WIRTH ROBERT A	1506 OAK TREE DR	CHAPEL HILL	NC	27517
9798469319	WOOD SEAN	1120 PINEHURST DR	CHAPEL HILL	NC	27517
9798366610	WOODS ROBERT H	2992 FOXTAIL CREEK AVE	HENDERSON	NV	890527078
9798345972	WU JINDI	801 KEY HIGHWAY UNIT 253	BALTIMORE	MD	21230
9798345972	YANG YANG C TRUSTEE	2302 ENVIRON WAY	CHAPEL HILL	NC	27517
9798357628	YARNELL CRAIG P	5 ROGERSON DR	CHAPEL HILL	NC	275174035
9798345972	YU ZHECHEN	2305 ENVIRON WAY	CHAPEL HILL	NC	27517
9798550202	ZOLA DANIEL S	1204 PINEHURST DR	CHAPEL HILL	NC	27517

The Oaks Condominiums

Hydraulic Analysis of Existing and Proposed Storm Drainage System

Project Description and Summary

Located at the northwest quadrant of the NC 54 (Raleigh Road)/Burning Tree Drive intersection and on the western edge of the Meadowmont development in Chapel Hill, North Carolina, is the existing multi-family development currently known as The Oaks Condominiums. Recent rainfall events have resulted in flooding of Buildings 14 and 15, along Oak Tree Drive. A hydraulic analysis of the existing storm drainage system was performed to determine if the capacity of the existing system is sufficient. The study indicated that the existing storm drainage system is undersized. As a result, it is proposed that a 36" RCP of approximately 556 linear feet be placed between the upstream invert of the existing 24" culvert just north of Building 14 and Building 15 and approximately a 220 LF swale north of the upstream invert of the existing dual 30" RCP culverts that run under Burning Tree Drive. A junction box will be added on Oak Tree Drive where an existing 24" RCP will intersect the proposed 36" RCP bypass pipe. In addition, an additional 24" RCP culvert has been added under Burning Tree Drive, and outlets in a proposed junction box that intersects an existing 30" RCP just before entering the junction box located at the northeast quadrant of the NC 54 (Raleigh Road)/Burning Tree Drive intersection. This manhole is shown as DMH500 in the pipe layout diagram in the Hydraulic Analysis Calculations section of the report, located within the NCDOT right-of-way for NC 54. No adjustments to DMH500 will be made as a part of the drainage improvements in this project. \

As part of the original SUP for the site, a landscape plan must be provided and approved by the CDC. The proposed landscape plan provides the location and type of tree to be planted to meet the requirements of the CDC. The Oaks community is proposing to replace 15 of the 30 existing trees that were removed due to this project.

Design Constraints

The design and layout of the proposed system is constrained by the existing buildings and infrastructure servicing the Oaks Condominiums. The alignment of the system was selected to minimize impacts to the existing development; however, conflicts with utilities are anticipated. The route selected runs in open areas to avoid impacts to paved areas where possible.

The crossing with Burning Tree Drive is constrained vertically and horizontally. The existing 30" RCP culverts under Burning Tree Drive have minimal cover and cannot be upsized. Due to the location of the traffic signal loops and the neighborhood entrance, an additional 30" RCP cannot be laid parallel the existing culverts. The additional pipe is located north existing culvert as this is the most open area for the crossing. In order to provide adequate cover while maintaining the existing inverts, the pipe size is limited to 24" RCP.

A scenario where pipe 28 was blocked was analyzed as way to alleviate flow to CB 518, DMH 517, CB 516 to ultimately reduce the HGL in these structures. This analysis proved to adversely impact the system so pipe 28 is to be left unblocked. This scenario HGL summary is provided in this section per the request of the Town of Chapel Hill.

Discussion of Results

Drainage from The Oaks Condominiums flows generally in a southeasterly direction, through the site and to Burning Tree Drive. There are two divergent systems leaving the site, one draining down Oak Tree Drive and to Burning Tree Drive, the other flowing through the existing parking area south of Oak Tree Drive and discharging just northwest of the intersection of Burning Tree Drive and NC 54. Flow from both of these site discharges converge within the existing Burning Tree Drive drainage system before entering the drainage system for NC 54. Drainage flows across NC 54 and discharges to an existing open channel that is located at the southeastern quadrant of the intersection of NC 54, Burning Tree Drive, and Finley Golf Course Road. Significant offsite water drains through the project area to be discharged at this location, which then subsequently flows through Finley Golf Course and discharges to Morgan Creek.

This project is expected to disturb 39,210 sf of land. As part of this proposed project, a crossing of Burning Tree Drive is required to connect to proposed junction box on the east side of Burning Tree Drive. This roadway is owned and maintained by the Town of Chapel Hill, and as such approval from the Town will be required for the project.

This solution will not eliminate all potential for future flooding within this site; however, this proposed drainage improvement will significantly enhance the conveyance capability of the drainage system through the site for more frequent storm events.

Conclusion

If the storm drainage bypass system and additional storm drainage improvements are built as proposed within this report, then the requirements set forth in the Town of Chapel Hill regulations will be met.



MEMORANDUM

Date: April 30, 2018
To: Kay Pearlstein
Town of Chapel Hill Planning Department
From: D. Amos Clark, PE
Re: The Oaks Condominiums
CAS-10000

Dear Ms. Pearlstein:

The Oaks Condominiums is an existing multi-family residential community located at the intersection of NC54 and Burning Tree Drive. In order to minimize flooding on the north side of the development, a bypass pipe has been proposed to divert stormwater around the development and discharge on the upstream side of Burning Tree Drive into the existing culverts running under Burning Tree Drive.

As a result of bypass pipe addition, impacts will be made to the existing perennial stream located at the north side of the development. Thus, we are encroaching in the Resource Conservation District (RCD).

After performing the due diligence associated with the design of this project and inspection of the FEMA floodmap, no FEMA delineated floodway or floodplain is located in the vicinity of the project. Thus, floodproofing is not required.

Please feel free to contact me at (919) 361-5000 should you have any questions or need any further information.

Sincerely,

THE JOHN R. McADAMS COMPANY, INC.

A blue ink handwritten signature of D. Amos Clark, consisting of stylized initials and a surname.

D. Amos Clark, PE
Division Director, Engineering + Environmental

**The John R. McAdams
Company, Inc.**

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Suite 110
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(704) 527-0800

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Designing Tomorrow's Infrastructure & Communities

THE OAKS CONDOMINIUMS

CONSTRUCTION PLANS LOCATED AT THE INTERSECTION OF BURNING TREE DRIVE & NC 54 (RALEIGH ROAD) PROJECT NUMBER: CAS-10000

DATE: FEBRUARY 10, 2017
REVISED: SEPTEMBER 13, 2017

OWNER:
CAS, INC.
5915 FARRINGTON ROAD, SUITE 104
CHAPEL HILL, NORTH CAROLINA 27517
CONTACT: ED BEDFORD
PHONE: (919) 403-1400
EMAIL: edbedford@casnc.com

SHEET INDEX

- C-1 EXISTING CONDITIONS AND DEMOLITION PLAN
- C-2 GRADING AND STORM DRAINAGE PLAN
- C-3 EROSION CONTROL PLAN
- P-1 PLAN & PROFILE - STORM OUTFALL "A"
- D-1 SITE DETAILS
- D-2 STORM DRAINAGE DETAILS
- D-3 EROSION CONTROL DETAILS
- LS-1 OVERALL LANDSCAPE PLAN
- LS-2 LANDSCAPE PLAN AREA 'A'
- LS-3 LANDSCAPE PLAN AREA 'B'



VICINITY MAP
NTS

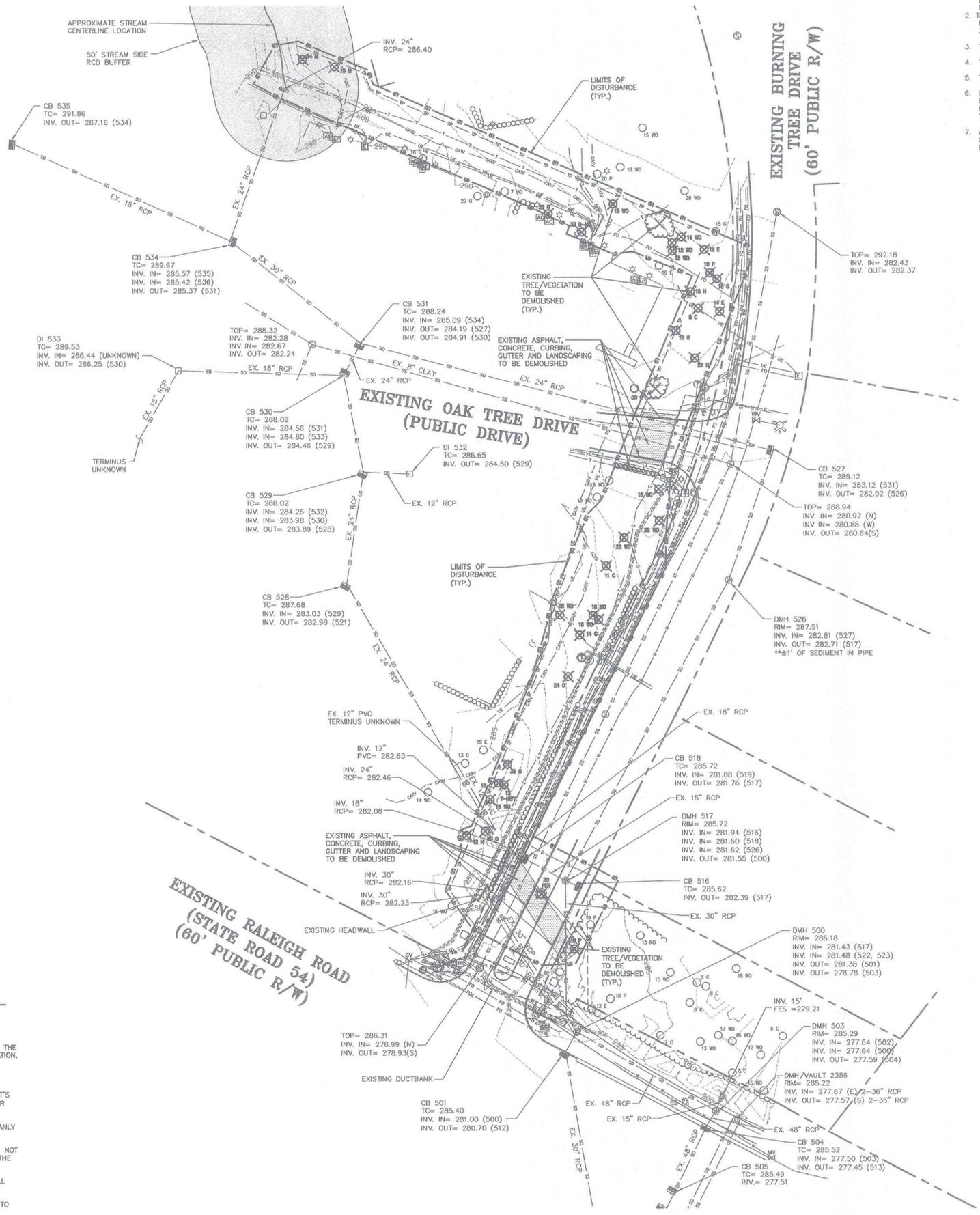


Know what's below.
Call before you dig.

CONTRACTOR SHALL NOTIFY "NC811" (811) OR (1-800-632-4949) AT LEAST 3 FULL BUSINESS DAYS PRIOR TO BEGINNING CONSTRUCTION OR EXCAVATION TO HAVE EXISTING UTILITIES LOCATED. CONTRACTOR SHALL CONTACT ANY LOCAL UTILITIES THAT PROVIDE THEIR OWN LOCATOR SERVICES INDEPENDENT OF "NC811". REPORT ANY DISCREPANCIES TO THE ENGINEER IMMEDIATELY.



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Contact: Amos Clark, PE
clark@mcadamsco.com



GENERAL NOTES:

- EXISTING UTILITIES SHOWN ARE BASED ON FIELD SURVEYS AND THE BEST AVAILABLE RECORD DRAWINGS. THE CONTRACTOR SHALL VERIFY CONDITIONS PRIOR TO BEGINNING CONSTRUCTION. ANY DISCREPANCIES BETWEEN ACTUAL FIELD CONDITIONS AND THE PLANS SHALL BE REPORTED TO THE ENGINEER IMMEDIATELY.
- THIS SITE IS NOT IN ANY SPECIAL FLOOD HAZARD AREA OR FUTURE CONDITIONS FLOOD HAZARD AREAS, AS SHOWN ON FIRM PANEL 3710979800K DATED FEBRUARY 2, 2007.
- THE SITE IS IN A PROTECTED WATERSHED OVERLAY DISTRICT.
- THERE ARE NO STEEP SLOPES ON SITE.
- THERE ARE NO WETLANDS ON SITE.
- IT IS THE CONTRACTOR'S SOLE RESPONSIBILITY TO ENSURE PROPER REMOVAL, STORAGE, AND REUSE OF ANY EXISTING INFRASTRUCTURE MATERIALS ON SITE, INCLUDING BUT NOT LIMITED TO ELECTRICAL, TELECOM, AND FIBER OPTIC.
- ALL COORDINATION FOR LOCATION AND FIELD VERIFICATION OF UTILITIES, BOTH HORIZONTALLY AND VERTICALLY, IS THE RESPONSIBILITY OF THE CONTRACTOR.

LEGEND

- BOLLARD
- SANITARY SEWER MANHOLE
- SANITARY SEWER CLEANOUT
- WATER VALVE
- WATER METER
- FIRE DEPARTMENT CONNECTION
- FIRE HYDRANT
- AIR CONDITIONING UNIT
- TELEPHONE PEDESTAL
- TELEPHONE MANHOLE
- STEAM MANHOLE
- ELECTRIC BOX
- LIGHT POLE
- CATCH BASIN
- DROP INLET
- STORM DRAINAGE MANHOLE
- STORM DRAIN
- OVERHEAD UTILITY LINE
- UNDERGROUND ELECTRIC
- UNDERGROUND TELEPHONE
- FIBER OPTICS
- WATER LINE
- SANITARY SEWER LINE
- GAS LINE
- FENCE LINE
- LIMITS OF DISTURBANCE
- EXISTING 5' CONTOUR
- EXISTING 1' CONTOUR

DEMOLITION LEGEND

- ✕ TREE VEGETATION TO BE DEMOLISHED
- ▨ AREA TO BE DEMOLISHED

DEMOLITION NOTES

THE CONTRACTOR SHALL FIELD VERIFY AND LOCATE EXISTING UTILITIES ON SITE PRIOR TO DEMOLITION.

THE CONTRACTOR SHALL VERIFY THAT THERE ARE NO UTILITY OR OTHER CONFLICTS PRIOR TO BEGINNING CONSTRUCTION.

THE CONTRACTOR SHALL PERFORM DEMOLITION ACTIVITIES AS NOTED AND SHOWN ON THESE PLANS AND SPECIFICATIONS AND AS DIRECTED BY THE OWNER.

IT WILL BE THE CONTRACTOR'S RESPONSIBILITY TO OBTAIN ANY PERMITS AND PAY FEES REQUIRED FOR DEMOLITION AND HAUL-OFF FROM THE APPROPRIATE AUTHORITIES. THESE FEES ARE TO BE INCLUDED WITH THE BID.

THE CONTRACTOR SHALL PREPARE ALL DOCUMENTS AND ACQUIRE APPROPRIATE PERMITS AS REQUIRED PRIOR TO THE COMMENCEMENT OF DEMOLITION.

THE DEMOLITION PLAN IS INTENDED TO DEPICT GENERAL DEMOLITION AND UTILITY WORK. IT IS NOT INTENDED TO IDENTIFY EACH ELEMENT OF DEMOLITION OR RELOCATION. CONTRACTOR SHALL COORDINATE WITH THE OWNER AND APPROPRIATE UTILITY COMPANY PRIOR TO WORK.

CONTRACTOR TO COMPLETELY DEMOLISH AND DISPOSE OF OFFSITE IN A LAWFUL MANNER EXISTING IMPROVEMENTS, INCLUDING FOUNDATIONS AND ALL APPURTENANCES LOCATED ON AND AROUND THE PROPERTY INCLUDING BUT NOT LIMITED TO SIGNS, CURBS, SIDEWALKS, ETC.

REMOVE AND DISPOSE OF ANY CONDUITS, LIGHT POLE BASES, DEBRIS AND RUBBISH REQUIRING REMOVAL FROM THE WORK AREA IN AN APPROVED LANDFILL. CONTRACTOR SHALL MAKE EVERY ATTEMPT TO RECYCLE ANY DEBRIS AND RUBBISH THAT IS RECYCLABLE.

REMOVE AND/OR PLUG EXISTING UTILITIES AS SHOWN. THE CONTRACTOR IS RESPONSIBLE FOR CONTACTING EACH UTILITY COMPANY TO COORDINATE REMOVAL OF ALL UTILITIES AND FOR DETERMINING HORIZONTAL AND VERTICAL LOCATIONS OF UTILITIES PRIOR TO COMMENCING WORK.

CONTRACTOR SHALL REMOVE, RELOCATE AND/OR INSTALL ALL EROSION AND SEDIMENT CONTROL DEVICES AND TREE PROTECTION PRIOR TO BEGINNING DEMOLITION WORK.

THE CONTRACTOR IS RESPONSIBLE FOR THE PROTECTION OF ALL UTILITIES TO REMAIN IN PLACE. ANY DAMAGE TO EXISTING UTILITIES SHALL BE REPAIRED AT NO ADDITIONAL EXPENSE TO THE OWNER.

THE CONTRACTOR SHALL TAKE ALL PRECAUTIONS TO AVOID UNNECESSARY DAMAGE TO EXISTING ROAD AND PARKING SURFACES. ANY UNNECESSARY DAMAGE DUE TO CONSTRUCTION ACTIVITIES AND/OR CONSTRUCTION TRAFFIC SHALL BE REPAIRED BY THE CONTRACTOR AT NO EXPENSE TO THE OWNER.

FINISH SURFACE TO BE REMOVED OR DEMOLISHED SHALL BE SAW CUT ALONG LINES OF JOINTS WHICH WILL PERMIT A NEAT AND SMOOTH SURFACE WHEN RESTORED, INCLUDE REPAIRS IF REQUIRED.

ALL EXISTING ITEMS TO REMAIN WHICH ARE DAMAGED DURING CONSTRUCTION SHALL BE RESTORED TO THEIR ORIGINAL CONDITION AT THE SOLE EXPENSE OF THE CONTRACTOR.

THE CONTRACTOR SHALL MAINTAIN ALL UTILITY SERVICES TO THE ADJACENT BUILDINGS AND PROPERTIES THROUGHOUT CONSTRUCTION.

TREE LEGEND

- 8 A ASH
- 10 C CEDAR
- 6 CH CHERRY
- 10 E ELM
- 12 C SWEET GUM
- 16 H HICKORY
- 4 HO HOLLY
- 15 M MAPLE
- 20 RO RED OAK
- 24 WO WHITE OAK
- 31 O OAK
- 7 PE PEAR
- 18 P PINE
- 4 MBY MULBERRY
- DOUBLE AND TRIPLE TRUNKS
- 20-D DOUBLE OAK
- 20-T-O TRIPLE OAK
- CALIPER INCH SIZE OF TREE
- TYPE OF TREE
- D FOR DOUBLE, T FOR TRIPLE

LANDSCAPE PROTECTION NOTES:

- PLAN SHOWS RARE AND SPECIMEN TREES IN ACCORDANCE WITH THE ORDINANCE THAT WAS IN EFFECT AT THE TIME OF APPROVAL.
- A LANDSCAPE PROTECTION SUPERVISOR WHO IS REGISTERED WITH THE TOWN OF CHAPEL HILL WILL BE PRESENT ON SITE AT ALL TIMES WHEN THE FOLLOWING ACTIVITIES ARE TAKING PLACE: CLEARING, GRUBBING, EXCAVATION, GRADING, TRENCHING, MOVING OF SOIL, INSTALLATION AND REMOVAL OF TREE PROTECTION FENCING, AND THE DELIVERY, TRANSPORTING, AND PLACEMENT OF CONSTRUCTION MATERIALS AND EQUIPMENT.
- A PRE-CONSTRUCTION CONFERENCE SHALL BE HELD WITH THE PROJECT'S LANDSCAPE PROTECTION SUPERVISOR AND THE TOWN'S URBAN FORESTER OR LANDSCAPE ARCHITECT BEFORE ANY SITE WORK BEGINS.
- ANY TREE ROOTS EXPOSED BY CONSTRUCTION SHALL BE SEVERED CLEANLY WITH A FRUING TOOL.
- THE SOIL WITHIN THE PROTECTED AREA AROUND EXISTING TREES SHALL NOT BE DRIVEN UPON ONCE TREE PROTECTION FENCING IS REMOVED, FOR THE PURPOSE OF INSTALLING LANDSCAPING.
- IT IS THE RECOMMENDATION OF THE McADAMS COMPANY TO REMOVE ALL TREES AS MARKED ON THIS PLAN. THE OWNER MAY ATTEMPT TO PRESERVE TREES MARKED AS REMOVED BUT IN DOING SO ASSUME ALL RESPONSIBILITY AND LIABILITY FOR THE TREES. ALL MEASURES TAKEN TO PRESERVE TREES MUST BE APPROVED BY THE ENGINEER.

THE JOHN R. McADAMS COMPANY, INC.
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CHAPEL HILL, NORTH CAROLINA 27517

OWNER:

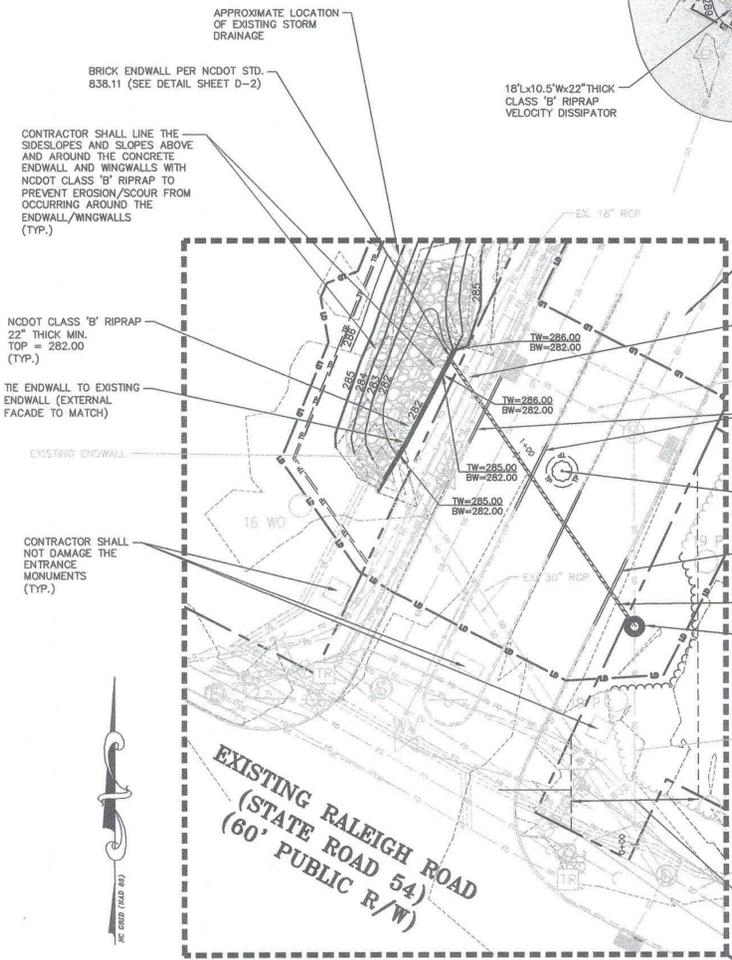
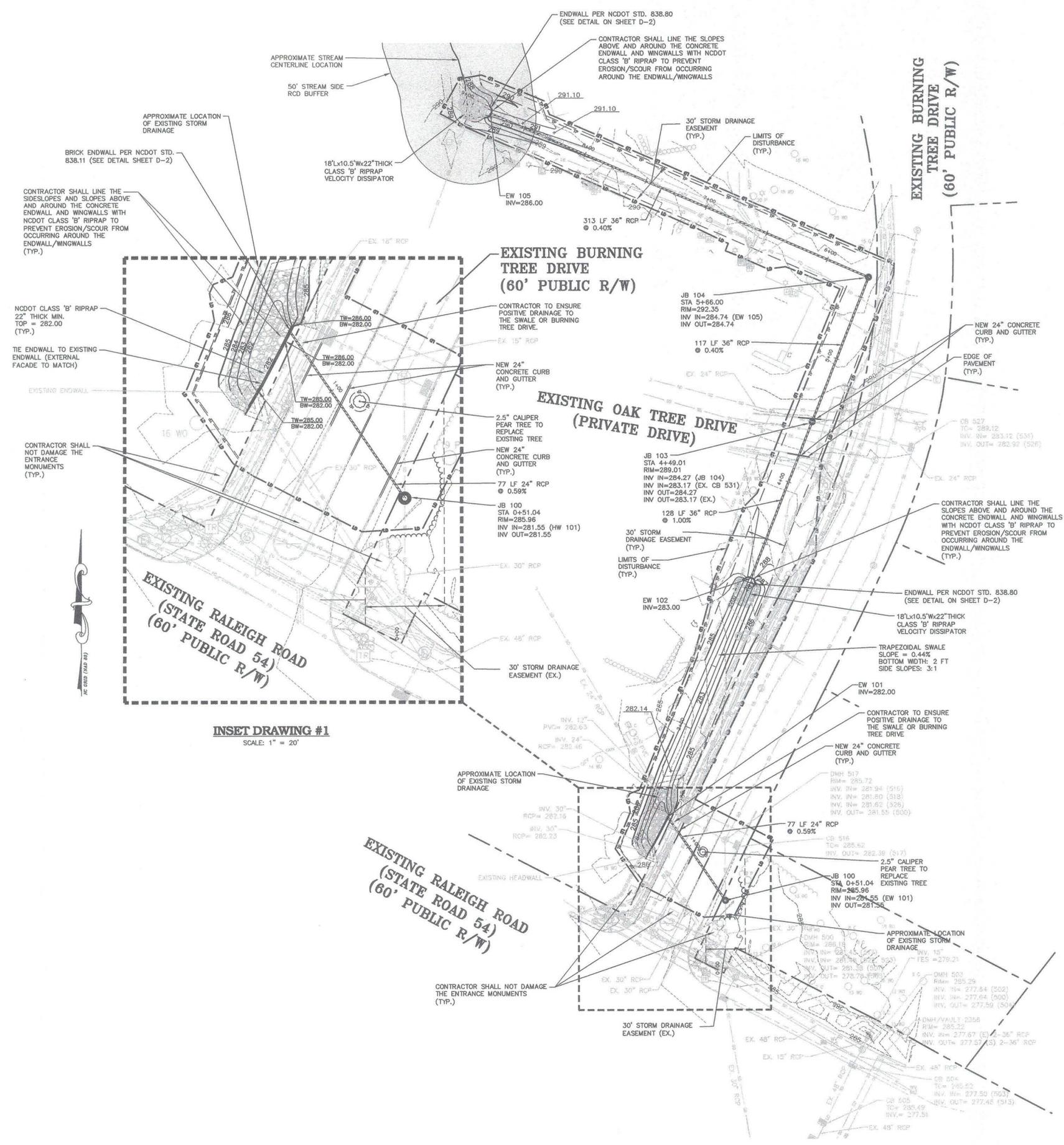
THE OAKS CONDOMINIUMS
CHAPEL HILL, NORTH CAROLINA
EXISTING CONDITIONS AND DEMOLITION PLAN

PROJECT NO.	CAS-10000
FILENAME	CAS10000-XC
CHECKED BY:	DAC
DRAWN BY:	SMP
SCALE:	1" = 40'
DATE:	08-01-2017
SHEET NO.	C-1



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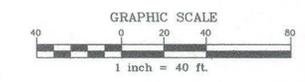
INSET DRAWING #1
SCALE: 1" = 20'

GRADING/STORM DRAINAGE NOTES:

- IT IS THE CONTRACTOR'S SOLE RESPONSIBILITY TO ENSURE PROPER REMOVAL, STORAGE, AND REUSE OF ANY EXISTING INFRASTRUCTURE MATERIALS ON SITE, INCLUDING BUT NOT LIMITED TO ELECTRICAL, TELECOM, FIBER OPTIC, AND IRRIGATION.
- ALL COORDINATION FOR LOCATION AND FIELD VERIFICATION OF UTILITIES IS THE RESPONSIBILITY OF THE CONTRACTOR.
- ALL COORDINATION WITH APPLICABLE UTILITY OWNERS FOR RELOCATION (I.E. NATURAL GAS, FIBER OPTIC, ETC.), DUE TO CONFLICTS WITH PROPOSED CONSTRUCTION IS THE RESPONSIBILITY OF THE CONTRACTOR AT NO ADDITIONAL EXPENSE TO THE OWNER.
- CONTRACTOR IS RESPONSIBLE FOR A TRAFFIC DIVERSION AND CONTROL PLAN. CONTRACTOR IS RESPONSIBLE FOR COORDINATING ALL TRAFFIC DIVERSION AND CONTROL MEASURES WITH THE HOA AND THE TOWN.
- CONTRACTOR IS RESPONSIBLE FOR ENSURING NO SEDIMENT SHALL LEAVE THE SITE WHILE PAYING STRICT ADHERENCE TO THE EROSION CONTROL PLAN. ADDITIONAL MEASURES MAY NEED TO BE PLACED TO ENSURE NO SEDIMENT LADEN RUNOFF EXITS THE SITE AT NO ADDITIONAL EXPENSE TO THE OWNER.
- THE CONTRACTOR IS RESPONSIBLE FOR HIRING AN ON-SITE GEOTECHNICAL ENGINEER AS PART OF THE PROJECT. THE ON-SITE GEOTECHNICAL ENGINEER SHALL BE A SUB TO THE CONTRACTOR AND PROVIDE FIELD TESTING REPORTS AND CERTIFICATIONS FOR ALL GEOTECHNICAL, BEDDING, COMPACTION, AND PAVEMENT ASPECTS OF THE PROJECT.
- THE ON-SITE GEOTECHNICAL ENGINEER IS RESPONSIBLE FOR ENSURING AND CERTIFYING THAT THE BEDDING AND BACKFILL CONDITIONS FOR THE PROPOSED CULVERT AND HEADWALLS ARE ADEQUATELY TESTED AT AN APPROPRIATE FREQUENCY.
- THE CONTRACTOR SHALL REPLACE ALL DISTURBED SUBGRADE AND PAVEMENT PER THE TOWN OF CHAPEL HILL DETAIL SHOWN ON SHEET D-1 UNLESS DIRECTED OTHERWISE BY THE ON-SITE GEOTECHNICAL ENGINEER.
- THE CONTRACTOR IS RESPONSIBLE FOR FOLLOWING ALL APPLICABLE OSHA REQUIREMENTS DURING THE PROJECT, INCLUDING BUT NOT LIMITED TO BARRICADES, EXCAVATIONS, TRENCH SHORING, CONFINED SPACE ENTRY, MATERIALS HANDLING, PERSONAL PROTECTIVE EQUIPMENT, AND EMERGENCY ACTION PLANS.
- ALL JUNCTION BOXES TO BE 4' DIAMETER.

STORM DRAINAGE LEGEND

	HEADWALL
	JUNCTION BOX
	STORM DRAINAGE
	LIMITS OF DISTURBANCE
	5' CONTOUR
	1' CONTOUR
	EXISTING 5' CONTOUR
	EXISTING 1' CONTOUR



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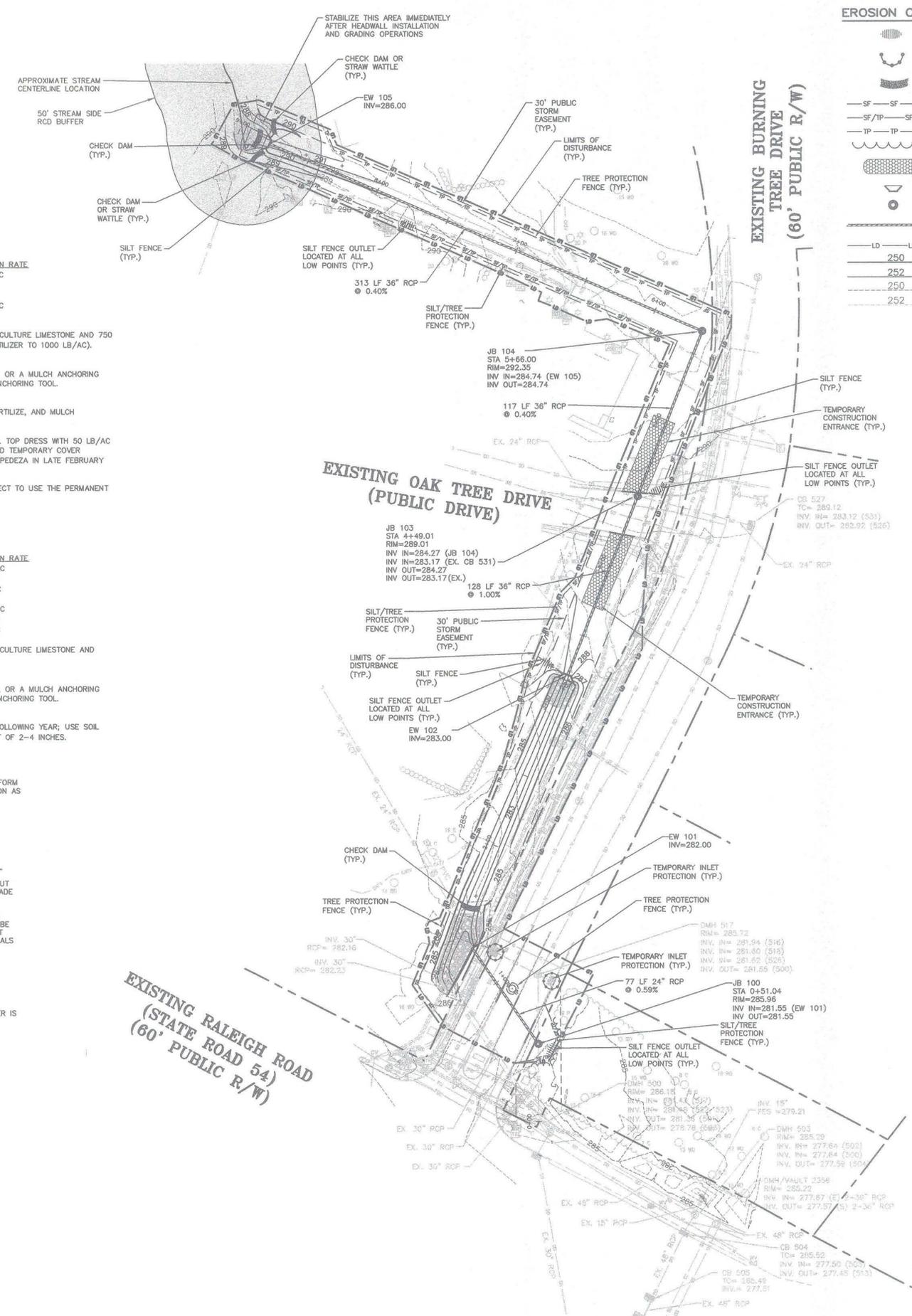
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5915 FARRINGTON ROAD, SUITE 104
CHAPEL HILL, NORTH CAROLINA 27517

THE OAKS CONDOMINIUMS
CHAPEL HILL, NORTH CAROLINA
GRADING AND STORM DRAINAGE PLAN

PROJECT NO.	CAS-10000
FILENAME	CAS10000-G1
CHECKED BY:	DAC
DRAWN BY:	SMP
SCALE:	AS NOTED
DATE:	08-01-2017
SHEET NO.	C-2

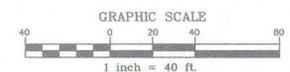




- ### EROSION CONTROL NOTES:
- EROSION AND SEDIMENT CONTROL DEVICES MUST BE INSTALLED AND INSPECTED PRIOR TO ANY GRADING ON SITE. THE CONTRACTOR SHALL CALL FOR AN INSPECTION BY ORANGE COUNTY SEDIMENTATION AND EROSION CONTROL (SEC) ONCE INITIAL MEASURES ARE IN PLACE.
 - REQUIRED TREE PROTECTION FENCING SHALL BE INSTALLED AND A PRE-CONSTRUCTION CONFERENCE SCHEDULED WITH THE TOWN'S URBAN FORESTER PRIOR TO BEGINNING LAND DISTURBANCE.
 - SEDIMENT/EROSION CONTROL DEVICES MUST BE CHECKED AFTER EACH STORM EVENT. EACH DEVICE IS TO BE MAINTAINED OR REPLACED IF SEDIMENT ACCUMULATION HAS REACHED ONE HALF THE CAPACITY OF THE DEVICE.
 - IN ADDITION TO THE REQUIREMENT DURING CONSTRUCTION FOR THE INSPECTION OF EROSION AND SEDIMENT CONTROL DEVICES AFTER EVERY RAINFALL, THE CONTRACTOR SHALL INSPECT THE EROSION AND SEDIMENT CONTROL DEVICES AND OFFSITE ROADWAYS DAILY, MAKE ANY NECESSARY REPAIRS OR ADJUSTMENTS TO THE DEVICES, REMOVE DEPOSITION OF WET OR DRY SILT ON ADJACENT ROADWAYS AND MAINTAIN INSPECTION LOGS DOCUMENTING THE DAILY INSPECTIONS AND ANY NECESSARY REPAIRS.
 - A COPY OF THE APPROVED EROSION CONTROL PLAN MUST BE ON FILE AT THE JOB SITE AT ALL TIMES.
 - CONSTRUCTION, MAINTENANCE, AND REMOVAL OF ALL EROSION CONTROL DEVICES ARE THE RESPONSIBILITY OF THE GRADING CONTRACTOR UNLESS OTHERWISE NOTED.
 - ANY GRADING BEYOND THE DENUDED LIMITS SHOWN ON THE PLAN IS A VIOLATION OF THE COUNTY EROSION CONTROL ORDINANCE AND IS SUBJECT TO A FINE.
 - NO DEBRIS SHALL BE TRACKED ONTO ANY EXISTING PAVED AREAS OR PUBLIC RIGHT OF WAY. IF THE SITUATION OCCURS WHERE MUD, ROCK AND DEBRIS IS TRACKED ONTO PAVEMENT, THE CONTRACTOR SHALL CLEAN THE PAVEMENT AND INSTALL ADDITIONAL MEASURES TO PREVENT THE FUTURE OCCURRENCE.
 - DURING THE CONSTRUCTION PHASE, ADDITIONAL EROSION AND SEDIMENT CONTROLS MAY BE REQUIRED IF THE PROPOSED MEASURES DO NOT CONTAIN THE SEDIMENT ON SITE. THE EROSION CONTROL INSPECTOR MAY REQUIRE ADDITIONAL FIELD MEASURES AS NECESSARY TO PROVIDE ADEQUATE PROTECTION FROM RECEIVING WATER COURSES.
 - PROTECTION OF EXISTING VEGETATION: AT THE START OF GRADING INVOLVING THE STRIPPING OF TOPSOIL OR LOWERING OF EXISTING GRADE AROUND A TREE, A CLEAN, SHARP, VERTICAL CUT SHALL BE MADE AT THE EDGE OF THE TREE SAVE AREA AT THE SAME TIME AS OTHER EROSION CONTROL MEASURES ARE INSTALLED. THE TREE PROTECTION FENCING SHALL BE INSTALLED ON THE SIDE OF THE CUT FARTHEST AWAY FROM THE TREE TRUNK AND SHALL REMAIN IN PLACE UNTIL ALL CONSTRUCTION IN THE VICINITY OF THE TREES IS COMPLETE. NO STORAGE OF MATERIALS, FILL, OR EQUIPMENT AND NO TRESPASSING SHALL BE ALLOWED WITHIN THE BOUNDARY OF THE PROTECTED AREA AND SHALL BE POSTED ON THE PROTECTION FENCE. A PROTECTION FENCE CONSTRUCTED OF MATERIAL RESISTANT TO DEGRADATION BY SUN, WIND, AND MOISTURE FOR THE DURATION OF THE CONSTRUCTION, SHALL BE INSTALLED AT THE SAME TIME AS THE EROSION CONTROL MEASURES AND SHALL BE IN PLACE UNTIL ALL CONSTRUCTION IN THE VICINITY OF THE TREES IS COMPLETE.
 - A CONSTRUCTION SEQUENCE HAS BEEN PROVIDED. INSTALLATION OF ALL PROPOSED SEDIMENTATION & EROSION CONTROL MEASURES IN THE SEQUENCE(S) PROVIDED AND MAINTENANCE OF THOSE DEVICES IS REQUIRED. THE CONTRACTOR MAY BE ALLOWED, WITH PRIOR APPROVAL FROM THE OWNER, TO COORDINATE CHANGES TO THE PLAN WITH THE ON-SITE SEDIMENTATION & EROSION CONTROL INSPECTOR AND THE ENGINEER.
 - PROVIDE INLET PROTECTION AROUND ALL SITE STORM INLETS. PROTECT OPEN PIPES UNDER CONSTRUCTION WITH EITHER PLYWOOD OR WITH MESH AND GRAVEL WEIRS. RUNOFF SHALL NOT BE ALLOWED IN ANY OPEN TRENCH.
 - CONTRACTOR TO VERIFY SILT FENCE OUTLET PLACEMENT AT LOW POINTS AS THEY EXIST OR DEVELOP. ADDITIONAL SILT FENCE OUTLETS MAY BE REQUIRED TO PREVENT EROSION DURING AND AFTER CONSTRUCTION AND LAND DISTURBANCE ACTIVITIES. IF ADDITIONAL SILT FENCE OUTLETS ARE NECESSARY, CONTRACTOR TO ADD ADDITIONAL SILT FENCE OUTLETS PER ENGINEER, NCEM EROSION CONTROL INSPECTOR, OR OWNER DIRECTION. IF PONDING OF WATER OR SEDIMENT OCCURS ALONG SILT FENCE, CONTRACTOR SHALL INSTALL AN ADDITIONAL SILT FENCE OUTLET.

- ### CONSTRUCTION SEQUENCE
- OBTAIN A LAND-DISTURBING PERMIT. SCHEDULE A PRECONSTRUCTION CONFERENCE WITH ORANGE COUNTY EROSION CONTROL OFFICER, WESLEY POOLE (919)245.2587. PRECONSTRUCTION MEETING SHALL INCLUDE A REPRESENTATIVE FROM OWASA, TOWN OF CHAPEL HILL, TOWN'S URBAN FORESTER, AND OWNER.
 - NOTE: INSTALL A RURAL TYPE MAILBOX ON THE SITE TO HOLD A COPY OF THE APPROVED EROSION CONTROL PLAN AND TO PROVIDE A PLACE FOR INSPECTORS TO LEAVE INSPECTION REPORTS, COMPLIANCE NOTICES, ETC.
 - TRAFFIC CONTROL PLAN TO BE PROVIDED BY CONTRACTOR
 - INSTALL GRAVEL CONSTRUCTION ENTRANCE(S) PER PLAN. ALSO INSTALL TEMPORARY SILT FENCING WITH OUTLETS AS SHOWN.
 - CONTRACTOR SHALL CLEAR ONLY THOSE AREAS NECESSARY TO ACCESS AND INSTALL INITIAL PERIMETER DEVICES. INSTALL INLET PROTECTION ON EXISTING INLETS AS NECESSARY.
 - INSTALL INLET PROTECTION PER ORANGE COUNTY SEC STANDARDS AND SPECIFICATIONS ON ALL INLETS.
 - CALL 919.245.2587 FOR ON-SITE INSPECTION BY ORANGE COUNTY EROSION CONTROL.
 - BEGIN GRADING TO EXCAVATE FOR PROPOSED STORM PIPE.
 - NO MUD SHALL BE TRACKED ONTO EXISTING PAVEMENT. ADDITIONAL MEASURES MAY BE NECESSARY TO ASSURE THAT NO SEDIMENT LEAVES THE SITE.
 - PROVIDE ALL DISTURBED AREAS WITH GROUND COVER WITHIN 14 CALENDAR DAYS AFTER COMPLETION OF ANY PHASE OF CLEARING, GRUBBING OR GRADING. THE SEEDING, SEEDBED PREPARATION, MULCH AND/OR ROLLED EROSION CONTROL PRODUCT INSTALLATION MUST BE IN ACCORDANCE WITH THE SEEDING SCHEDULE PROVIDED IN THIS S&E PLAN. NOTE: SLOPES IN EXCESS OF 3H:1V SHALL BE STABILIZED WITHIN 7 DAYS AND FOR MODERATE SLOPES (SLOPES LESS THAN 3H:1V) SHALL BE STABILIZED WITHIN 10 DAYS.
 - CONSTRUCT STORM DRAIN SYSTEM AS SHOWN.
 - INSTALL INLET PROTECTION ON ALL INLET STRUCTURES DURING CONSTRUCTION.
 - AT THE CONCLUSION OF CONSTRUCTION OR IF LAND-DISTURBING ACTIVITY IS STOPPED FOR MORE THAN 14 CONSECUTIVE CALENDAR DAYS, PERMANENT VEGETATIVE COVER SHALL BE INSTALLED IN ACCORDANCE WITH THE S&E PLAN.
 - WHEN THE SITE IS AT FINAL GRADE AND NO FURTHER GRADING IS NECESSARY, CONTRACTOR SHALL STABILIZE THE SITE PER THE PERMANENT SEEDING SCHEDULE.
 - WHEN CONSTRUCTION IS COMPLETE, CALL ORANGE COUNTY EROSION CONTROL TO OBTAIN FINAL INSPECTION AND CERTIFICATE OF COMPLETION TO CLOSE OUT EROSION CONTROL PERMIT.

TOTAL DISTURBED AREA = 39,210 SF. (0.90 AC.)



TEMPORARY SEEDING SCHEDULE

SEEDING DATE	SEEDING MIXTURE	APPLICATION RATE
JAN 1 - MAY 1	RYE (GRAIN)	120 LBS/AC
	KOBE LESPEDEZA	50 LBS/AC
MAY 1 - AUG 15	GERMAN MILLET	40 LBS/AC
AUG 15 - DEC 30	RYE (GRAIN)	120 LBS/AC

SOIL AMENDMENTS

FOLLOW RECOMMENDATIONS OF SOIL TESTS OR APPLY 4,000 LB/AC GROUND AGRICULTURE LIMESTONE AND 750 LB/AC 10-10-10 FERTILIZER (FROM AUG 15 - DEC 30, INCREASE 10-10-10 FERTILIZER TO 1000 LB/AC).

MULCH

APPLY 4000 LB/AC STRAW. ANCHOR STRAW BY TACKING WITH ASPHALT, NETTING, OR A MULCH ANCHORING TOOL. A DISK WITH BLADES SET NEARLY STRAIGHT CAN BE USED AS A MULCH ANCHORING TOOL.

MAINTENANCE

JAN 1 - AUG 15: REFERTILIZE IF GROWTH IS NOT FULLY ADEQUATE. RESEED, REFERTILIZE, AND MULCH IMMEDIATELY FOLLOWING EROSION OR OTHER DAMAGE.

AUG 15 - DEC 30:

REPAIR AND REFERTILIZE DAMAGED AREAS IMMEDIATELY. TOP DRESS WITH 50 LB/AC OF NITROGEN IN MARCH. IF IT IS NECESSARY TO EXTEND TEMPORARY COVER BEYOND JUNE 15, OVERSEED WITH 50 LB/AC KOBE LESPEDEZA IN LATE FEBRUARY OR EARLY MARCH.

NOTE:

USE THE TEMPORARY SEEDING SCHEDULE ONLY WHEN DATE IS NOT CORRECT TO USE THE PERMANENT SEEDING SCHEDULE.

PERMANENT SEEDING SCHEDULE

SEEDING DATE	SEEDING MIXTURE	APPLICATION RATE
AUG 25 - OCT (BEST)	TALL FESCUE	200 LBS/AC
	RYE (GRAIN)	50 LBS/AC
	GERMAN MILLET	50 LBS/AC

FEB - APR 15 (POSSIBLE)

TALL FESCUE	200 LBS/AC
RYE (GRAIN)	50 LBS/AC
GERMAN MILLET	50 LBS/AC

SOIL AMENDMENTS

FOLLOW RECOMMENDATIONS OF SOIL TESTS OR APPLY 4,000 LB/AC GROUND AGRICULTURE LIMESTONE AND 1000 LB/AC 10-10-10 FERTILIZER.

MULCH

APPLY 4000 LB/AC STRAW. ANCHOR STRAW BY TACKING WITH ASPHALT, NETTING, OR A MULCH ANCHORING TOOL. A DISK WITH BLADES SET NEARLY STRAIGHT CAN BE USED AS A MULCH ANCHORING TOOL.

MAINTENANCE

INSPECT AND REPAIR MULCH FREQUENTLY. REFERTILIZE IN LATE WINTER OF THE FOLLOWING YEAR; USE SOIL TESTS OR APPLY 150 LB/AC 10-10-10 FERTILIZER. MOW REGULARLY TO A HEIGHT OF 2-4 INCHES.

SEEDBED PREPARATION

AREAS TO BE SEED TO BE SCARIFIED 4" DEEP. A FIRM, WELL PULVERIZED, UNIFORM SEEDBED SHOULD BE PROVIDED. FERTILIZER SHALL BE PLACED DURING SCARIFICATION AS FOLLOWS:

LIME: 45 LBS / 1,000 SF
 PHOSPHOROUS: 20 LBS / 1,000 SF
 FERTILIZER: 17 LBS / 1,000 SF

MAINTENANCE PLAN

- ALL EROSION AND SEDIMENT CONTROL MEASURES WILL BE CHECKED FOR STABILITY AND OPERATION FOLLOWING EVERY RUNOFF-PRODUCING RAINFALL BUT IN NO CASE LESS THAN ONCE EVERY WEEK. ANY NEEDED REPAIRS WILL BE MADE IMMEDIATELY TO MAINTAIN ALL MEASURES AS DESIGNED.
- SILT FENCES SHALL BE INSPECTED AT LEAST ONCE A WEEK AND AFTER EACH RAINFALL. REPAIRS SHALL BE MADE IMMEDIATELY. SEDIMENT DEPOSITS SHALL BE REMOVED AS NEEDED TO PROVIDE ADEQUATE STORAGE VOLUME FOR THE NEXT RAINFALL EVENT, AND TO REDUCE PRESSURE ON THE FENCE. FENCING MATERIALS AND SEDIMENT DEPOSITS SHALL BE REMOVED, AND THE AREA BROUGHT TO GRADE FOLLOWING STABILIZATION OF UPGRADIENT DISTURBED AREAS.
- DIVERSION DITCHES MUST REMAIN IN PLACE UNTIL PROJECT IS STABILIZED.
- SEED AND MULCH DENUDED AREA WITHIN 14 DAYS AFTER ANY PHASE OF GRADING.
- MAINTAIN SOIL EROSION CONTROL MEASURES UNTIL PERMANENT GROUND COVER IS ESTABLISHED.

OFFSITE SPOIL NOTE:

IF AN OFFSITE SOIL SPOIL OR BORROW SITE IS UTILIZED, THEN THE DISTURBED AREA FOR THE SPOIL/BORROW SITE MUST BE INCLUDED IN THE LAND-DISTURBANCE PLAN AND PERMIT UNLESS THE SPOIL/BORROW SITE ALREADY HAS A LAND-DISTURBANCE PERMIT.

GROUND STABILIZATION

SITE AREA DESCRIPTION	STABILIZATION TIME FRAME	STABILIZATION TIME FRAME EXCEPTIONS
PERIMETER DIKES, SWALES, DITCHES AND SLOPES	7 DAYS	NONE
HIGH QUALITY WATER (HOW) ZONES	7 DAYS	NONE
SLOPES STEEPER THAN 3:1	7 DAYS	IF SLOPES ARE 10' OR LESS IN LENGTH AND ARE NOT STEEPER THAN 2:1, 14 DAYS ARE ALLOWED
SLOPES 3:1 OR FLATTER	14 DAYS	7-DAYS FOR SLOPES GREATER THAN 50 FEET IN LENGTH
ALL OTHER AREAS WITH SLOPES FLATTER THAN 4:1	14 DAYS	NONE (EXCEPT FOR PERIMETERS AND HOW ZONES)

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 Durham, North Carolina 27713
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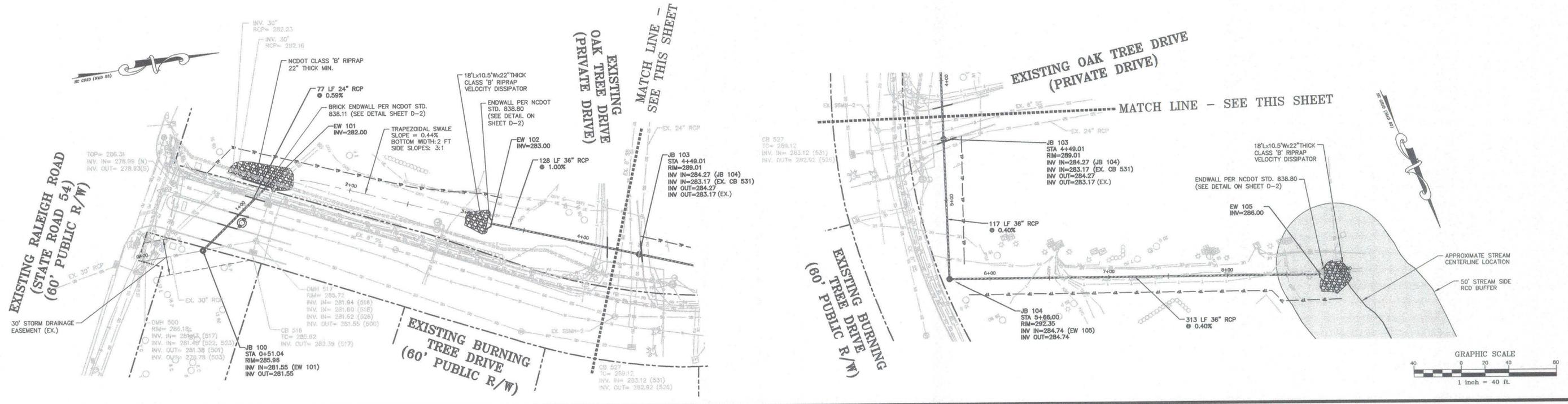


REVISIONS:

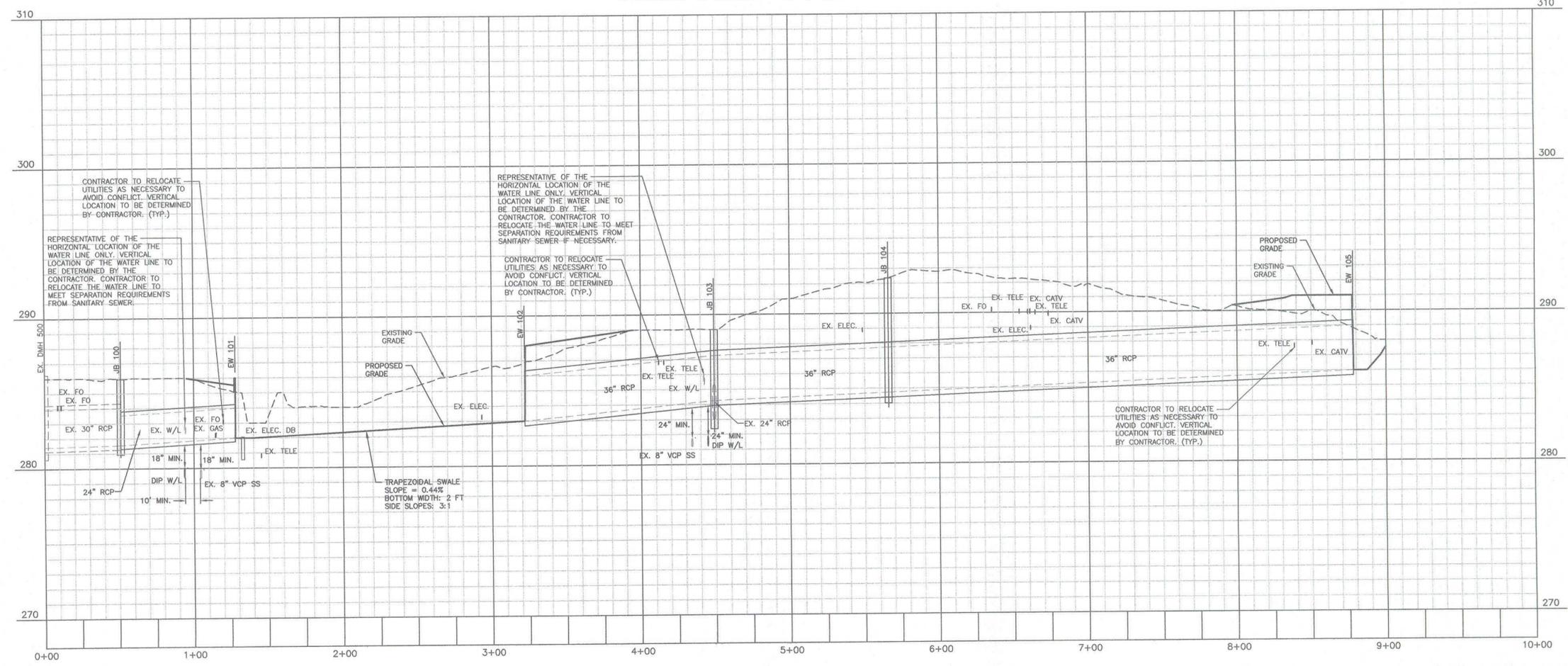
OWNER:
 CAS, INCORPORATED
 5915 FARRINGTON ROAD, SUITE 104
 CHAPEL HILL, NORTH CAROLINA 27617

THE OAKS CONDOMINIUMS
 CHAPEL HILL, NORTH CAROLINA
 EROSION CONTROL PLAN

PROJECT NO. CAS-10000
 FILENAME: CAS10000-EC1
 CHECKED BY: DAC
 DRAWN BY: SMP
 SCALE: 1" = 40'
 DATE: 08-01-2017
 SHEET NO. C-3
 MCADAMS



PROPOSED OUTFALL "A"



FINAL DRAWING - NOT RELEASED FOR CONSTRUCTION

REVISIONS:

OWNER:
CAS, INC.
5915 FARRINGTON ROAD, SUITE 104
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PROJECT NO.	CAS-10000
FILENAME:	CAS10000-P1
CHECKED BY:	DAC
DRAWN BY:	SMP
HORIZ. SCALE:	1" = 40'
VERT. SCALE:	1" = 4'
DATE:	08-01-2017

PLAN & PROFILE
STORM OUTFALL "A"

THE OAKS CONDOMINIUMS
CHAPEL HILL, NORTH CAROLINA

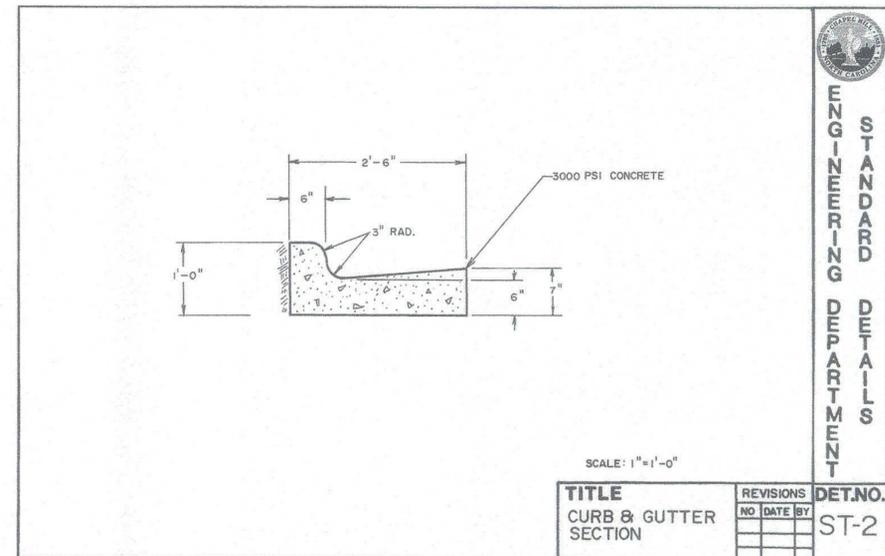
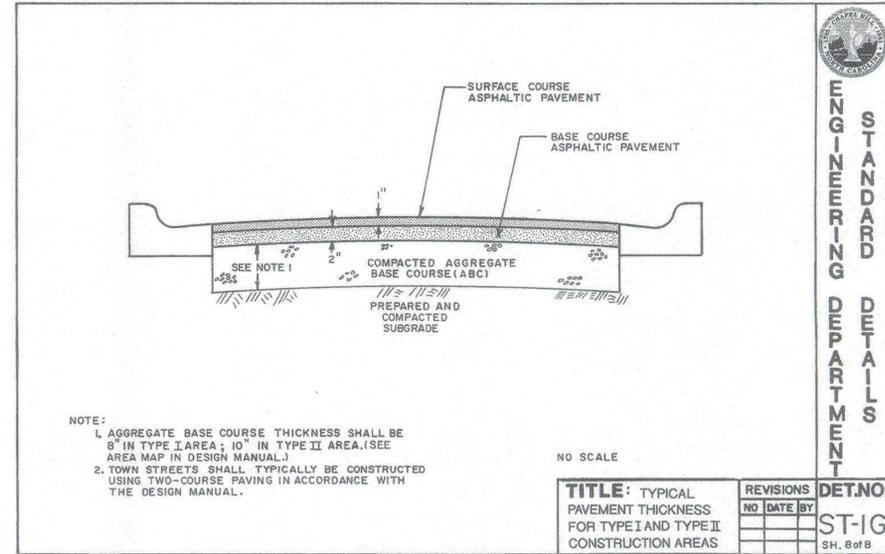
SHEET NO. **P-1**

McADAMS

PRINT DATE:

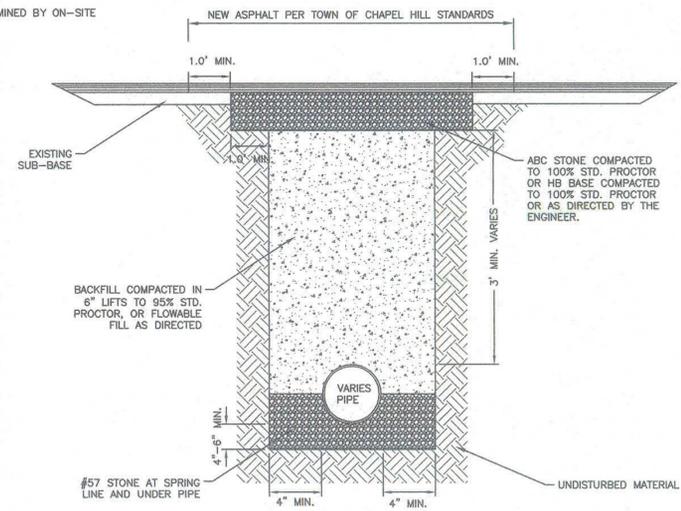
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NOTES:

- BEDDING AND BACKFILL MATERIAL TO BE DETERMINED BY ON-SITE GEOTECHNICAL ENGINEER.



TRENCH CUT INSTALLATION

N.T.S.

FINAL DRAWING - NOT RELEASED FOR CONSTRUCTION

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REVISIONS:

OWNER:
 CAS, INCORPORATED
 5915 FARRINGTON ROAD, SUITE 104
 CHAPEL HILL, NORTH CAROLINA 27517

PROJECT NO. CAS-10000
 FILENAME: CAS10000-D1
 CHECKED BY: DAC
 DRAWN BY: SMP
 SCALE: NTS
 DATE: 08-01-2017
 SHEET NO. D-1

THE OAKS
 CONDOMINIUMS
 CHAPEL HILL, NORTH CAROLINA

SITE DETAILS
 MCADAMS

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

ENGLISH STANDARD DRAWING FOR CONCRETE ENDWALL FOR SINGLE AND DOUBLE PIPE CULVERTS 15" THRU 48" PIPE - 90° SKEW

TABLE: DOWELS IN SNOWFALL WITH REINFORCED CONCRETE PIPE

LOC.	SINGLE PIPE				DOUBLE PIPE			
	15"	18"	24"	48"	15"	18"	24"	48"
BARS	"x"	"x"	"x"	"x"	"x"	"x"	"x"	"x"
QTY.	2	3	3	4	4	5	2	3
B	3	3	3	4	4	4	2	2
QTY.	2	2	3	4	4	6	2	2
TOTAL LBS.	9	14	14	19	55	65	12	13

TABLE: DIMENSIONS AND CONCRETE QUANTITIES USING CONCRETE PIPE

D	H	G	T	SINGLE PIPE		DOUBLE PIPE	
				W	L	M	N
18"	3'-3"	1'-8"	2'-9"	24"	24"	24"	24"
24"	3'-7"	1'-10"	3'-2"	24"	24"	24"	24"
30"	4'-2"	2'-1"	4'-0"	30"	30"	30"	30"
36"	4'-8"	2'-6"	4'-7"	36"	36"	36"	36"
42"	5'-4"	3'-1"	5'-4"	42"	42"	42"	42"
48"	6'-0"	3'-6"	6'-0"	48"	48"	48"	48"

838.01

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

ENGLISH STANDARD DRAWING FOR CONCRETE ENDWALL FOR SINGLE AND DOUBLE PIPE CULVERTS 15" THRU 48" PIPE - 90° SKEW

TABLE: TITLE, REVISIONS, DET. NO.

TITLE	REVISIONS	DET. NO.
MANHOLE RING & COVER - TYPE 2		SD-4B

838.01

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

ENGLISH STANDARD DRAWING FOR PRECAST MANHOLE 4', 5' AND 6' DIAMETER 12" THRU 48" PIPE

NOTES:

- A FILTER BLANKET IS TO BE INSTALLED BETWEEN THE RIPRAP AND SOIL FOUNDATION. THE FILTER BLANKET WILL CONSIST OF A MINIMUM 4" THICK LAYER OF STONE (NCDOT #57) UNDERLAIN WITH MIRAP FILTER WEAVE 700 OR APPROVED EQUIVALENT

840.52

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

ENGLISH STANDARD DRAWING FOR CONCRETE ENDWALL FOR SINGLE AND DOUBLE PIPE CULVERTS 15" THRU 48" PIPE - 90° SKEW

GENERAL NOTES:

- CHAMFER ALL CORNERS 1" OR HAVE A RADIUS OF 1".
- PLACE 2 #6 "V" BARS IN THE TOP OF ALL ENDWALL FOR PIPE CULVERTS 42" AND OVER WITH A MINIMUM OF 3" COVER AND A LENGTH OF 6" LESS THAN ENDWALL LENGTH.
- CONSTRUCT BOTTOM SLAB WITH FORMS.
- DO NOT INTERPRET WALL THICKNESS (T) SHOWN FOR THE THICKNESS ACCEPTABLE, BUT IS USED IN COMPUTING ENDWALL QUANTITIES.
- WHEN THE CONTRACTOR ELECTS TO USE A CONSTRUCTION JOINT AT THE BOTTOM OF THE PIPE, PLACE BAR "X" DOWELS IN THE BASE AS SHOWN ON PLANS. SPACE BARS APPROXIMATELY ON 12" CENTERS UNLESS OTHERWISE DIRECTED BY THE ENGINEER.
- WHEN THE CONTRACTOR ELECTS TO USE A CONSTRUCTION JOINT AT THE BOTTOM OF THE PIPE AND POUR THE BASE SEPARATELY LEAVE THE POUR ROUGH. USE CLASS "B" CONCRETE.

838.01

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

ENGLISH STANDARD DRAWING FOR PRECAST MANHOLE 4', 5' AND 6' DIAMETER 12" THRU 48" PIPE

TABLE: DIMENSIONS

D	W	T	A ₀
INTERNAL DIAMETER (FT.)	MIN. WALL THICKNESS (IN.)	MIN. TOP/BOTTOM SLAB THICKNESS (IN.)	MIN. CIRCUMFERENTIAL AREA OF STEEL PER VERTICAL FT. (SQ. IN.)
4	4	6	0.12
5	5	6	0.15
6	6	6	0.18

840.52

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

ENGLISH STANDARD DRAWING FOR PRECAST MANHOLE 4', 5' AND 6' DIAMETER 12" THRU 48" PIPE

36" DIVERSION PIPE VELOCITY DISSIPATOR

PERMANENT GRASSED SWALE DETAIL

840.52

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

ENGLISH STANDARD DRAWING FOR BRICK ENDWALL FOR SINGLE AND DOUBLE PIPE CULVERTS 15" THRU 48" PIPE - 90° SKEW

TABLE: DIMENSIONS AND QUANTITIES USING COMBINATION METAL PIPE

D	H	G	T	SINGLE PIPE		DOUBLE PIPE	
				W	L	M	N
18"	3'-3"	1'-8"	2'-9"	24"	24"	24"	24"
24"	3'-7"	1'-10"	3'-2"	24"	24"	24"	24"
30"	4'-2"	2'-1"	4'-0"	30"	30"	30"	30"
36"	4'-8"	2'-6"	4'-7"	36"	36"	36"	36"
42"	5'-4"	3'-1"	5'-4"	42"	42"	42"	42"
48"	6'-0"	3'-6"	6'-0"	48"	48"	48"	48"

838.11

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

ENGLISH STANDARD DRAWING FOR DRAINAGE STRUCTURE STEPS

NOTES:

- INSTALL ALL STEPS PROTRUDING 4" FROM INSIDE FACE OF STRUCTURE WALL.
- STEPS DIFFERING IN DIMENSIONS, CONFIGURATION, OR MATERIALS FROM THOSE SHOWN MAY ALSO BE USED PROVIDED THE CONTRACTOR HAS FURNISHED THE ENGINEER WITH DETAILS OF THE PROPOSED STEPS AND HAS RECEIVED WRITTEN APPROVAL FROM THE ENGINEER FOR THE USE OF SUCH STEPS.

840.66

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

ENGLISH STANDARD DRAWING FOR DRAINAGE STRUCTURE STEPS

840.66

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STATE OF NORTH CAROLINA PROFESSIONAL SEAL 23498

REVISIONS:

OWNER: CAS, INCORPORATED
5915 FARRINGTON ROAD, SUITE 104
CHAPEL HILL, NORTH CAROLINA 27517

THE OAKS CONDOMINIUMS
CHAPEL HILL, NORTH CAROLINA
STORM DRAINAGE DETAILS

PROJECT NO: CAS-10000
FILENAME: CAS10000-D1
CHECKED BY: DAC
DRAWN BY: SMP
SCALE: NTS
DATE: 08-01-2017
SHEET NO. D-2

MCADAMS

Channel Installation Instructions:

- Dig a 6" by 6" trench both up-slope and down-slope, and along the top side of the channel. Prepare the slope soil surface (raking, seeding and fertilizing). Note: If used with stormwater discharge, place the up-slope trench at the face of the discharge structure footer.
- Begin by placing the center blanket a minimum of 12" down-slope of the up-slope trench. Secure the blanket at the bottom of the trench with staples placed 12" apart. Backfill and compact the trench. Apply seed, and fold the blanket over soil, secure with a row of staples placed 12" apart across the width of the blanket (See Diagram A).
- Roll the blanket vertically down the slope. Secure using the appropriate staple pattern below, specified by slope. (See Staple Patterns).
- Continue placing blankets up the slopes on both sides, with a minimum 4" overlapping (Diagram B), and securing each blanket in the beginning trench (Diagram A).
- Additional horizontal blankets can be joined using a minimum 4" overlapping or shingle style in the direction of water flow. Connect the blankets by placing staples approximately 5" apart across the width of the blankets. (Diagram C)
- For maximum performance a check slot should be placed at 25'-40' intervals. Place a row of staples 4" apart along the entire width of the channel. A second row should be placed 4" below in a staggered pattern. (Diagram D)
- The end of the blanket must be secured in a 6" x 6" trench by a row of staples placed at 12" intervals. (Diagram E)
- At the top edge of the side slope, fasten the blanket in a 6" x 6" trench with staples placed at 12" intervals. Install an additional row of staples 1'-0" down slope of the trench along the width of the fabric. (Diagram F)

Staple Patterns:

3.5 staples/yd² MED TO HIGH FLOW CHANNEL

3.8 staples/yd² HIGH FLOW CHANNEL

Channel Installation Detail

Specifications and Equivalency:

All product material and performance specifications are available from East Coast Erosion Blankets via the product specification sheet. Utilization of a 11 gauge staple, a minimum 6" long by 1" crown, is recommended. The tightly compressed blankets are wrapped and include a product label, code and installation guide.

In addition to meeting all data available on the specification sheet, equivalent products shall meet the following requirements:

- The product must be listed with the NTPP database.
- The product must meet the product specification requirements established by the Erosion Control Technology Council (ECTC).
- The product must meet the Federal Highway Administration's (FHWA) FP-03 Section 713.17 specification.

Up-slope Trench Installation Detail (Diagram A)

Down-slope Trench Installation Detail (Diagram E)

Proud Member of:

EASTCOAST
erosion control

443 Bricker Road Bernville, PA 19506
Toll Free: 1-800-582-4005 * Phone: +1-610-488-8496 * Fax: +1-610-488-8494

DRAWN BY: MR DRAWING #: EC-CHANNEL REV. # 1 DATE: 1/2/09

Slope Installation Guidelines:

These guidelines are recommendations only. Any questions with the installation should be confirmed with your local distributor.

- Dig a 6" by 6" trench both up-slope and down-slope of the area the matting is to be applied. Prepare the slope soil surface (raking, seeding and fertilizing).
- Begin by placing the blanket a minimum of 12" down-slope of the up-slope trench. Secure the blanket at the bottom of the trench with staples placed 12" apart. Backfill and compact the trench. Apply seed, and fold the blanket over soil, secure with a row of staples placed 12" apart across the width of the blanket. (See Diagram A)
- Roll the blanket vertically down the slope. Secure using the appropriate staple pattern below, specified by slope. (See Staple Patterns).
- Parallel blankets must be overlapped by a minimum of 4", and secured with a row of staples placed approximately 3'-0" apart. (See Diagram B)
- Additional vertical blankets can be joined using a minimum 4" overlapping or shingle style (See Diagram C) in the direction of water flow. Connect the blankets by placing staples approximately 12" apart across the width of the blankets.
- For maximum performance a check slot should be placed at 25'-40' intervals. Place a row of staples 4" apart along the entire width of the slope. A second row should be placed 4" below in a staggered pattern. Then continue with general installation. (See Diagrams D)
- The end of blanket must be secured in a 6" x 6" trench with a row of staples placed at 12" intervals. (Diagram E)

Staple Patterns:

1.3 staples/yd² 1:1 SLOPES

1.75 staples/yd² 2:1 SLOPES

Slope Installation Detail

Specifications and Equivalency:

All product material and performance specifications are available from East Coast Erosion Blankets via the product specification sheet. Utilization of a 11 gauge staple, a minimum 6" long by 1" crown, is recommended. The tightly compressed blankets are wrapped and include a product label, code and installation guide.

In addition to meeting all data available on the specification sheet, equivalent products shall meet the following requirements:

- The product must be listed with the NTPP database.
- The product must meet the Type 2.C specification requirements established by the Erosion Control Technology Council (ECTC).
- The product must meet the Federal Highway Administration's (FHWA) FP-03 Section 713.17 specification.

Up-slope Trench Installation Detail (Diagram A)

Down-slope Trench Installation Detail (Diagram E)

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DRAWN BY: MR DRAWING #: EC-SLOPE REV. # 1 DATE: 1/2/09

Channel Installation Detail

FRONT VIEW

SIDE VIEW

WARNING SIGN DETAIL

NOTES FOR TREE PROTECTION ONLY

VERTICE SHOULD BE BASE OF DURABLE WEATHERING MATERIAL. LETTERS TO BE 3" HIGH MINIMUM. CLEARLY LEGIBLE AND SPACED AS DETAILS. SIGN SHALL BE PLACED AT 90 DEGREE ANGLE.

PLACE A SIGN AT EACH END OF TREE PROTECTION AND AT 50' INTERVAL THEREAFTER. FOR TREE PROTECTION AREAS LESS THAN 50' IN LENGTH, PROVIDE AT LEAST ONE SIGN PER PROTECTION AREA. ATTACH SIGNS SECURELY TO PROTECT ROOTS AND TRUNK.

MARKING THE PROTECTION FENCE THROUGHOUT SPACING OF PRODUCTS.

ADDITIONAL SIGNS MAY BE INSTALLED BASED ON LOCAL TREE PROTECTION.

PLACE A SIGN AT EACH END OF TREE PROTECTION AND AT 50' INTERVAL THEREAFTER.

STANDARD GRAVEL BAG CURB INLET PROTECTION

EROSION CONTROL DETAIL
DURHAM COUNTY, NC
ENGINEERING DEPARTMENT

REVISIONS:

NO.	DATE	BY

DET. NO. E-1

Channel Installation Detail

FRONT VIEW

CROSS SECTION

ISOMETRIC VIEW

NOTES:

USE CLASS B EROSION CONTROL STONE FOR STRUCTURAL STONE.

THE ENGINEER MAY DIRECT THE OPTION OF CLASS A STONE FOR SITES HAVING LESS THAN ONE (1) ACRE DRAINAGE AREA AND A DITCH GRADE LESS THAN 3%.

USE NO. 5 OR NO. 8 STONE FOR SEDIMENT CONTROL. PLACE SEDIMENT CONTROL STONE AS DIRECTED.

STANDARD GRAVEL BAG CURB INLET PROTECTION

EROSION CONTROL DETAIL
DURHAM COUNTY, NC
ENGINEERING DEPARTMENT

REVISIONS:

NO.	DATE	BY

DET. NO. E-1

Channel Installation Detail

FRONT VIEW

SECTION VIEW

PLAN VIEW

NOTES:

- PLACE GRAVEL BAG BARRIER ON GENTLY SLOPING STREET, WHERE WATER CAN POND AND ALLOW SEDIMENT TO SEPARATE FROM RUNOFF.
- USE SAND BAGS OF WOVEN GEOTEXTILE FABRIC (NOT BURLAP) AND FILL WITH 1/2 INCH (OR SMALLER) GRAVEL. BAGS MUST BE LAYERED SUCH THAT NO GAPS ARE EVIDENT.
- INSPECT BARRIERS AND REMOVE SEDIMENT AFTER EACH STORM EVENT. SEDIMENT AND GRAVEL MUST BE REMOVED FROM THE TRAVELED WAY IMMEDIATELY.
- WHEN INSTALLING CURB INLET PROTECTION DEVICES, NEVER BLOCK THE CURB INLET.

NOTE: GRAVEL BAG SHOULD NOT BE HIGHER THAN TOP OF CURB.

STANDARD GRAVEL BAG CURB INLET PROTECTION

EROSION CONTROL DETAIL
DURHAM COUNTY, NC
ENGINEERING DEPARTMENT

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Channel Installation Detail

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DURHAM COUNTY, NC
ENGINEERING DEPARTMENT

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Channel Installation Detail

FRONT VIEW

SECTION VIEW

PLAN VIEW

NOTES:

- Use silt fence only when drainage area does not exceed 1/4 acre and meet in area of concentrated flow.
- Silt fence shall not be removed unless site is stabilized and inspected by town of Chapel Hill staff.

NOTE: DRAWING NOT TO SCALE.

STANDARD GRAVEL BAG CURB INLET PROTECTION

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ENGINEERING DEPARTMENT

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EROSION CONTROL DETAIL
DURHAM COUNTY, NC
ENGINEERING DEPARTMENT

REVISIONS:

NO.	DATE	BY

DET. NO. E-1



REVISIONS:

CAS, INCORPORATED
5915 FARRINGTON ROAD, SUITE 104
CHAPEL HILL, NORTH CAROLINA 27517

OWNER:

THE OAKS CONDOMINIUMS
CHAPEL HILL, NORTH CAROLINA
EROSION CONTROL DETAILS

PROJECT NO. CAS-10000
FILESNAME: CAS10000-E1
CHECKED BY: DAC
DRAWN BY: SMP
SCALE: NTS
DATE: 08-01-2017
SHEET NO. D-3



THE OAKS CONDOMINIUMS – TREE REPLACEMENT LIST

BOTANICAL NAME	COMMON NAME	VARIETY	SIZE	QTY.	SPACING
ACER RUBRUM	RED MAPLE	OCTOBER GLORY	2.5"	2	35'–40'
ACER RUBRUM	RED MAPLE	AUTUMN BLAZE	3.5"	2	35'–40'
ACER SACCHARUM	SUGAR MAPLE	LEGACY	5"	2	35'–40'
CERCIS CANADENSIS	REDBUD	FOREST PANSY	2"	3	25'–30'
QUERCUS LYRATA	OVERCUP OAK		2.5"	3	40'–45'
QUERCUS PHELLOS	WILLOW OAK		4"	3	40'–45'
			TOTAL	15	

TREE LEGEND

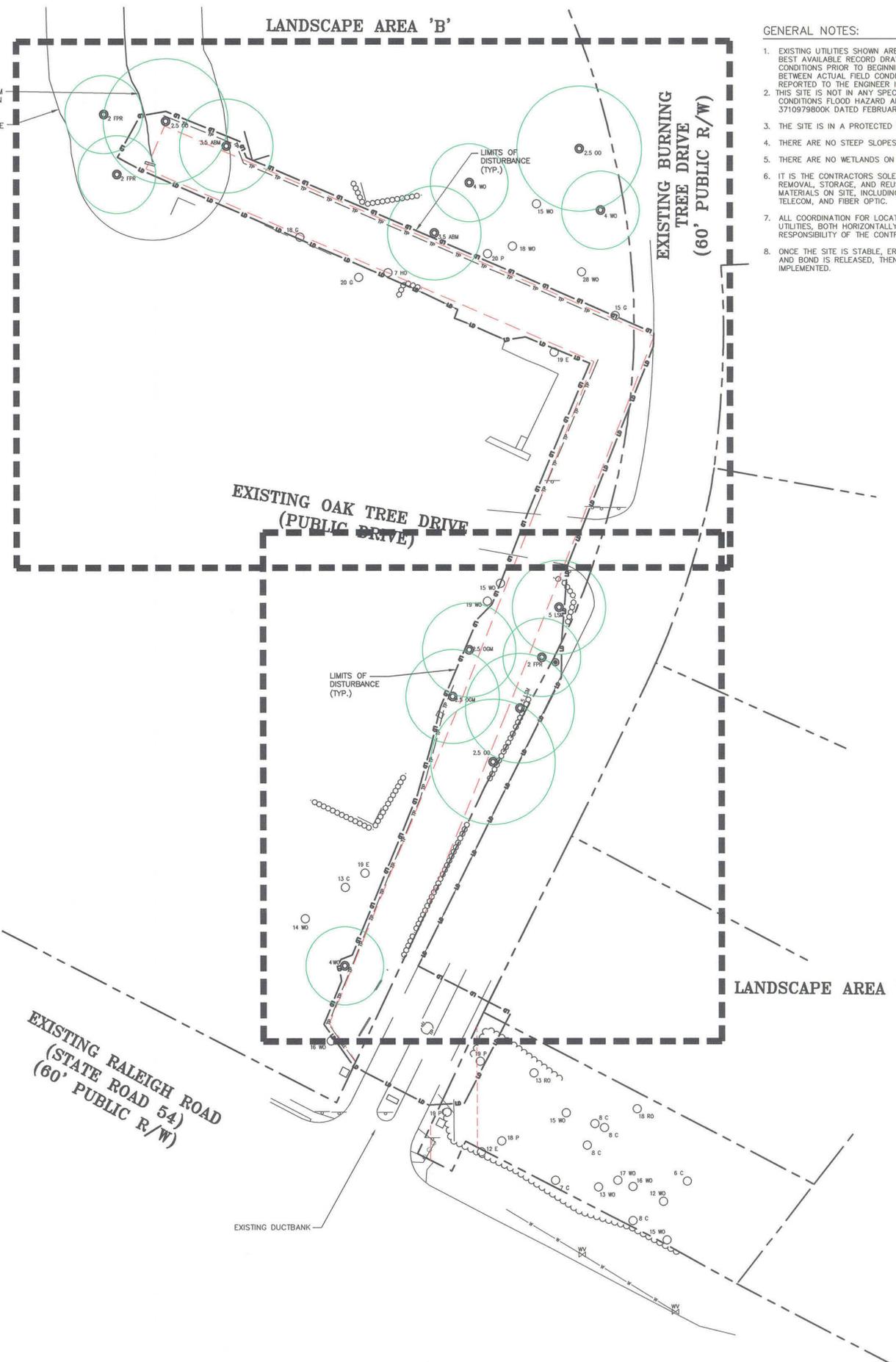
- 8 A ASH
- 10 C CEDAR
- 6 CH CHERRY
- 10 E ELM
- 12 G SWEET GUM
- 16 H HICKORY
- 4 HO HOLLY
- 15 M MAPLE
- 20 RO RED OAK
- 24 WO WHITE OAK
- 31 O OAK
- 7 PER PEAR
- 18 P PINE
- 4 MB MULBERRY
- 2.5 OG M OCTOBER GLORY RED MAPLE
- 3.5 AB M AUTUMN BLAZE RED MAPLE
- 5 LM M LEGACY SUGAR MAPLE
- 2 FFR M FOREST PANSY REDBUD
- 2.5 OO M OVERCUP OAK
- 4 WO M WILLOW OAK

- DOUBLE AND TRIPLE TRUNKS
- 20 D-O DOUBLE OAK
 - 20 T-O TRIPLE OAK

- 20 T-O CALIPER INCH SIZE OF TREE
 ○ 20 T-O TYPE OF TREE
 D FOR DOUBLE, T FOR TRIPLE

LANDSCAPE PROTECTION NOTES:

- PLAN SHOWS RARE AND SPECIMEN TREES IN ACCORDANCE WITH THE ORDINANCE THAT WAS IN EFFECT AT THE TIME OF APPROVAL.
- A LANDSCAPE PROTECTION SUPERVISOR WHO IS REGISTERED WITH THE TOWN OF CHAPEL HILL WILL BE PRESENT ON SITE AT ALL TIMES WHEN THE FOLLOWING ACTIVITIES ARE TAKING PLACE: CLEARING, GRUBBING, EXCAVATION, GRADING, TRENCHING, MOVING OF SOIL, INSTALLATION AND REMOVAL OF TREE PROTECTION FENCING, AND THE DELIVERY, TRANSPORTING, AND PLACEMENT OF CONSTRUCTION MATERIALS AND EQUIPMENT.
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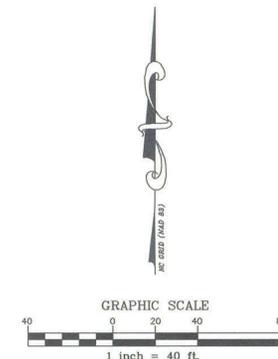


GENERAL NOTES:

- EXISTING UTILITIES SHOWN ARE BASED ON FIELD SURVEYS AND THE BEST AVAILABLE RECORD DRAWINGS. THE CONTRACTOR SHALL VERIFY CONDITIONS PRIOR TO BEGINNING CONSTRUCTION. ANY DISCREPANCIES BETWEEN ACTUAL FIELD CONDITIONS AND THE PLANS SHALL BE REPORTED TO THE ENGINEER IMMEDIATELY.
- THIS SITE IS NOT IN ANY SPECIAL FLOOD HAZARD AREAS OR FUTURE CONDITIONS FLOOD HAZARD AREAS, AS SHOWN ON FIRM PANEL 3710979B00K DATED FEBRUARY 2, 2007.
- THE SITE IS IN A PROTECTED WATERSHED OVERLAY DISTRICT.
- THERE ARE NO STEEP SLOPES ON SITE.
- THERE ARE NO WETLANDS ON SITE.
- IT IS THE CONTRACTOR'S SOLE RESPONSIBILITY TO ENSURE PROPER REMOVAL, STORAGE, AND REUSE OF ANY EXISTING INFRASTRUCTURE MATERIALS ON SITE, INCLUDING BUT NOT LIMITED TO ELECTRICAL, TELECOM, AND FIBER OPTIC.
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- ONCE THE SITE IS STABLE, EROSION CONTROL PERMIT IS CLOSED OUT, AND BOND IS RELEASED, THEN THE LANDSCAPE PLAN SHOULD BE IMPLEMENTED.

LEGEND

- BOLLARD
- SANITARY SEWER MANHOLE
- SANITARY SEWER CLEANOUT
- WATER VALVE
- WATER METER
- FIRE DEPARTMENT CONNECTION
- FIRE HYDRANT
- AIR CONDITIONING UNIT
- TELEPHONE PEDESTAL
- TELEPHONE MANHOLE
- STEAM MANHOLE
- ELECTRIC BOX
- LIGHT POLE
- CATCH BASIN
- DROP INLET
- STORM DRAINAGE MANHOLE
- EXISTING TREE
- PROPOSED TREE
- PROPOSED TREE CANOPY
- SD — STORM DRAIN
- OU — OVERHEAD UTILITY LINE
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- X — FENCE LINE
- LD — LIMITS OF DISTURBANCE
- 250 — EXISTING 5' CONTOUR
- 252 — EXISTING 1' CONTOUR



FINAL DRAWING – NOT RELEASED FOR CONSTRUCTION

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THE JOHN R. McADAMS COMPANY, INC.
 2905 Meridian Parkway
 Durham, North Carolina 27713
 License No.: C-0283
 (800) 783-5646 • McAdamsCo.com



REVISIONS:

NO.	DATE	DESCRIPTION

OWNER:
 CAS, INCORPORATED
 5915 FARRINGTON ROAD, SUITE 104
 CHAPEL HILL, NORTH CAROLINA 27517

THE OAKS CONDOMINIUMS
 CHAPEL HILL, NORTH CAROLINA
 OVERALL LANDSCAPE PLAN

PROJECT NO. CAS-10000
 FILENAME: CAS10000-LS
 CHECKED BY: DAC/DAP
 DRAWN BY: SMP/NB
 SCALE: 1" = 40'
 DATE: 09-06-2017
 SHEET NO. LS-1



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TREE LEGEND

- 8 A ASH
- 10 C CEDAR
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LANDSCAPE PROTECTION NOTES:

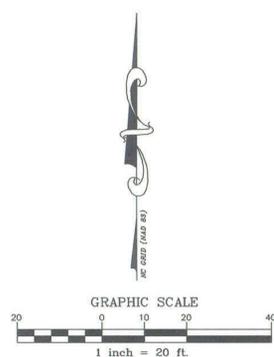
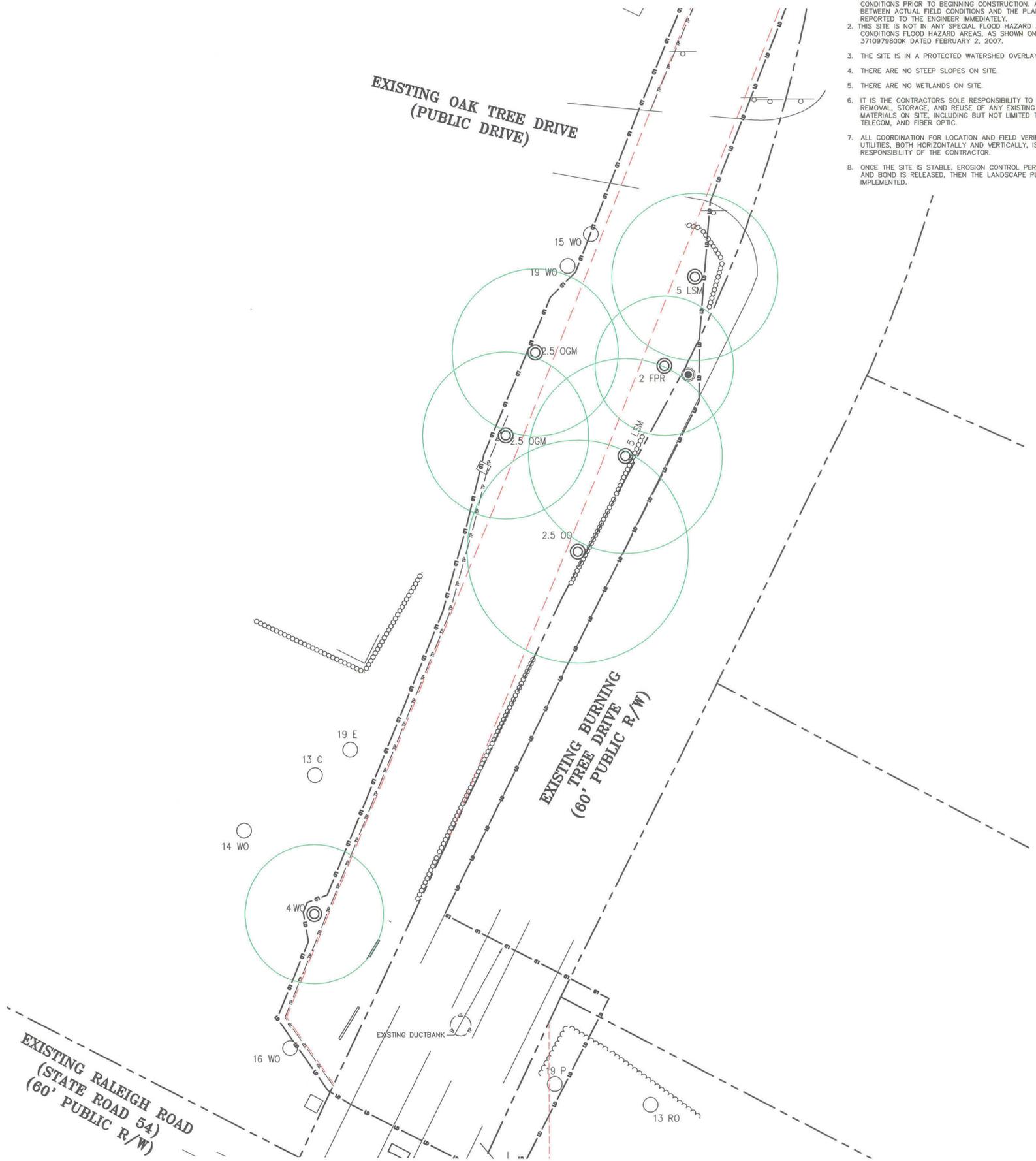
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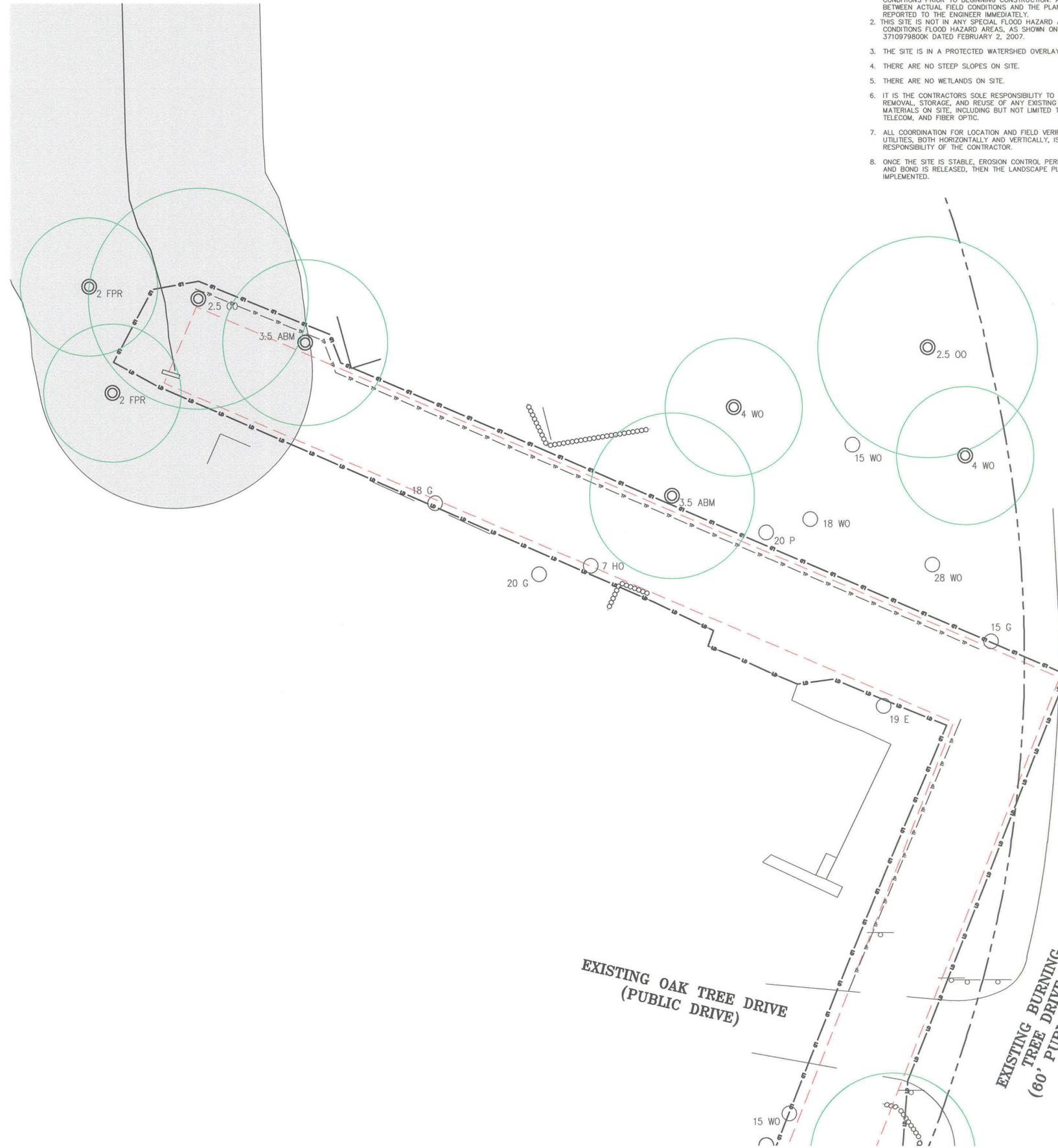
OWNER:
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5915 FARRINGTON ROAD, SUITE 104
CHAPEL HILL, NORTH CAROLINA 27517

THE OAKS CONDOMINIUMS
CHAPEL HILL, NORTH CAROLINA
LANDSCAPE AREA 'A'

PROJECT NO. CAS-10000
FILENAME: CAS10000-LS
CHECKED BY: DAC/DAP
DRAWN BY: SMP/NB
SCALE: 1" = 20'
DATE: 09-06-2017
SHEET NO. **LS-2**



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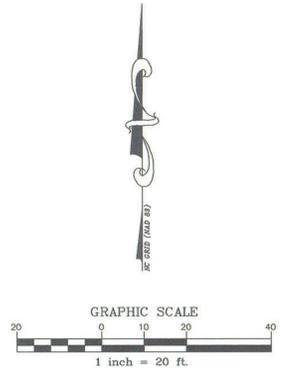
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SHEET No. **LS-3**

