

| LOT | FRONTAGE | NOTE                                     |
|-----|----------|--|
| A   | 120.40   | FROM 28' SETBACK                         |
| B   | 151.41   | FROM 10' SETBACK                         |
| C   | 80.34    | FROM TWO FRONT CONRERS                   |
| D   | 45.27    | FROM TWO FRONT CONRERS EXCEPT CUL-DE-SAC |
| E   | 58.87    | CUL-DE-SAC                               |
| F   | 58.98    | CUL-DE-SAC                               |
| G   | 78.82    | CUL-DE-SAC                               |
| H   | 74.40    | FROM TWO FRONT CONRERS                   |
| I   | 104.79   | FROM TWO FRONT CONRERS                   |
| J   | 122.89   | FROM 10' SETBACK                         |

| LOT | LOT WIDTH | NOTE                      |
|-----|-----------|---------------------------|
| A   | 119.35    | AT 53' BACK FROM FRONT    |
| B   | 143.36    | AT 53' BACK FROM FRONT    |
| C   | 80.01     | AT 53' BACK FROM FRONT    |
| D   | 80.00     | AT 53' BACK FROM FRONT    |
| E   | 81.31     | AT 64.28' BACK FROM FRONT |
| F   | 134.67    | AT 53' BACK FROM FRONT    |
| G   | 84.26     | AT 53' BACK FROM FRONT    |
| H   | 116.86    | AT 53' BACK FROM FRONT    |
| I   | 125.69    | AT 53' BACK FROM FRONT    |

| CURVE | ARC LENGTH | RADIUS   | DELTA ANGLE | CHORD BEARING | CHORD LENGTH |
|-------|------------|----------|-------------|---------------|--------------|
| C1    | 55.06'     | 345.86'  | 9°07'18"    | S 80°31'15" W | 55.00'       |
| C2    | 126.52'    | 345.86'  | 20°57'32"   | S 65°28'50" W | 125.81'      |
| C3    | 12.59'     | 345.86'  | 2°05'10"    | S 53°57'29" W | 12.59'       |
| C4    | 11.57'     | 11.00'   | 60°14'27"   | N 22°48'20" E | 11.04'       |
| C5    | 38.34'     | 49.00'   | 44°50'13"   | S 15°07'14" W | 37.37'       |
| C6    | 63.29'     | 49.00'   | 74°00'20"   | N 74°32'30" E | 58.98'       |
| C7    | 18.07'     | 49.00'   | 21°07'34"   | S 03°37'58" W | 17.97'       |
| C8    | 77.35'     | 49.00'   | 90°26'42"   | N 59°25'06" E | 69.56'       |
| C9    | 10.07'     | 11.00'   | 52°26'24"   | N 78°25'18" E | 9.72'        |
| C10   | 6.49'      | 390.86'  | 0°57'07"    | N 52°40'56" E | 6.49'        |
| C11   | 88.63'     | 390.86'  | 12°59'34"   | S 59°39'17" W | 88.44'       |
| C12   | 93.78'     | 390.86'  | 13°44'50"   | N 73°01'29" E | 93.56'       |
| C13   | 35.35'     | 390.86'  | 5°10'57"    | N 82°29'23" E | 35.34'       |
| C14   | 33.15'     | 1245.00' | 1°31'32"    | S 06°36'35" E | 33.15'       |
| C15   | 19.57'     | 1245.00' | 0°54'02"    | N 05°23'49" W | 19.57'       |
| C16   | 17.68'     | 12.00'   | 84°25'49"   | S 48°51'32" E | 16.13'       |
| C17   | 18.90'     | 12.00'   | 90°14'17"   | N 40°12'35" E | 17.01'       |
| C18   | 45.31'     | 343.86'  | 7°32'58"    | S 58°46'33" W | 45.27'       |
| C19   | 11.37'     | 392.86'  | 1°39'32"    | S 80°43'40" W | 11.37'       |

| LOT | NLA(SF) | GLA(SF) |
|-----|---------|---------|
| A   | 15,583  | 17,142  |
| B   | 14,156  | 15,572  |
| C   | 15,776  | 17,353  |
| D   | 14,380  | 15,818  |
| E   | 14,036  | 15,017  |
| F   | 14,733  | 16,206  |
| G   | 14,897  | 16,387  |
| H   | 15,620  | 17,182  |
| I   | 14,801  | 16,281  |

NLA:Net Land Area  
GLA:Gross Land Area

# PRELIMINARY R-1 SETBACKS

NOT FOR RECORDATION

| LINE | BEARING       | DISTANCE |
|------|---------------|----------|
| L1   | S 20°02'31" E | 23.45'   |
| L3   | S 00°00'59" E | 13.68'   |
| L4   | S 13°05'15" E | 38.77'   |
| L5   | S 84°10'34" E | 35.37'   |
| L6   | S 56°10'17" E | 50.17'   |
| L7   | S 87°25'34" E | 98.22'   |
| L8   | N 83°21'23" E | 19.91'   |
| L9   | N 88°55'34" E | 6.46'    |
| L10  | N 85°19'43" E | 5.31'    |
| L11  | S 85°58'59" W | 17.38'   |
| L12  | S 34°59'56" E | 2.00'    |
| L13  | S 10°52'01" W | 20.55'   |
| L14  | S 10°06'06" E | 2.00'    |

### LEGEND

BC=BACK OF CURB  
CB=CATCH BASIN  
CO=CLEAN OUT  
C.O.S.=COMMUNITY OPEN SPACE  
CPP=CORRUGATED PLASTIC PIPE  
DW=DRIVEWAY  
EB=ELECTRIC BOX  
EP=EDGE OF PAVEMENT  
FH=FIRE HYDRANT  
LP=LIGHT POLE  
MB=MAIL BOX  
RCP=REINFORCED CONC.PIPE  
PP=POWER POLE  
RR=RIP RAP  
RS=ROAD SIGN  
SMH=SANITARY SEWER MANHOLE  
SW=SIDE WALK  
TP=TELECOMMUNICATION PEDESTAL  
TSB=TELEPHONE SWITCH BOX  
WL=WALL  
WM=WATER METER

○=EXISTING IRON PIPE (EIP)  
○=EXISTING IRON ROD (EIR)  
○=NEW IRON PIPE (NIP)  
○=EXISTING MAG NAIL (EMN)  
○=MAG NAIL SET (MNS)

### OWNERS:

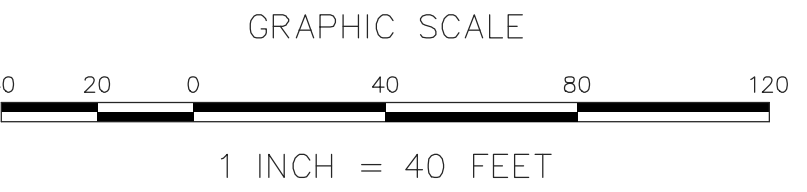
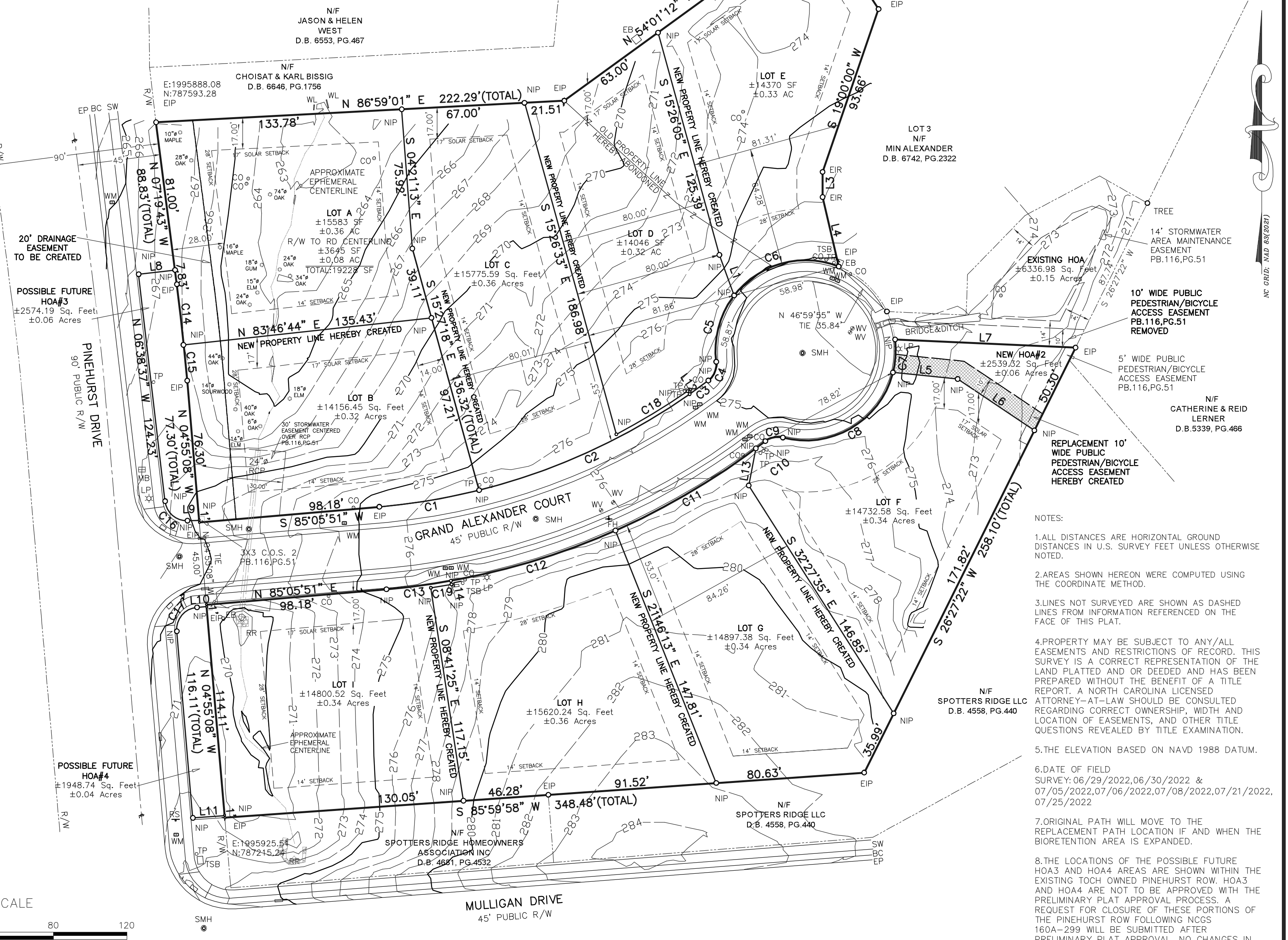
JOHN & LESLIE MACKOWIAK  
186 BLUFF ROAD, DEDAR POINT  
NC 28584

### SETBACKS PER CHAPEL HILL:

|              |     |
|--------------|-----|
| FRONT        | 28' |
| INTERIOR     | 14' |
| SOLAR(NORTH) | 17' |
| ZONING       | R-1 |

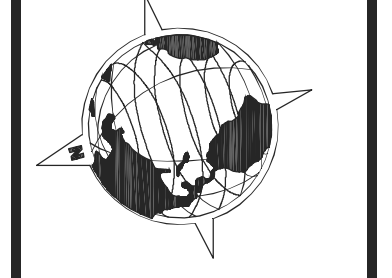
### FLOOD NOTE:

THIS PROPERTY IS NOT LOCATED IN THE SPECIAL FLOOD HAZARD AREA. FLOOD MAP: 3710979800L TOWN OF CHAPEL HILL CID: 370180 PANEL: 9798 SUFFIX: L EFFECTIVE DATE 10/19/2018



# ECLS

GLOBAL, INC  
U.S. VETERAN-OWNED  
19 N. MCKINLEY ST.  
COATS, NC 27521  
910.897.3257 ECLS@GLOBALING.COM  
910.897.2329 (FAX) CO# C-4175



### REVISIONS:

|  |  |  |
|--|--|--|
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |

### TOPOGRAPHIC AND TREES PLAT

AQUABELLA SUBDIVISION  
JOHN & LESLIE MACKOWIAK

FOR  
120,121,130 GRAND ALEXANDER COURT, CHAPEL HILL  
CHAPEL HILL TWP., ORANGE CO., N. C.  
P.B. 116 PG. 51 PIN: 9798-67-0429  
PIN: 9798-67-1340  
PIN: 9798-67-1690

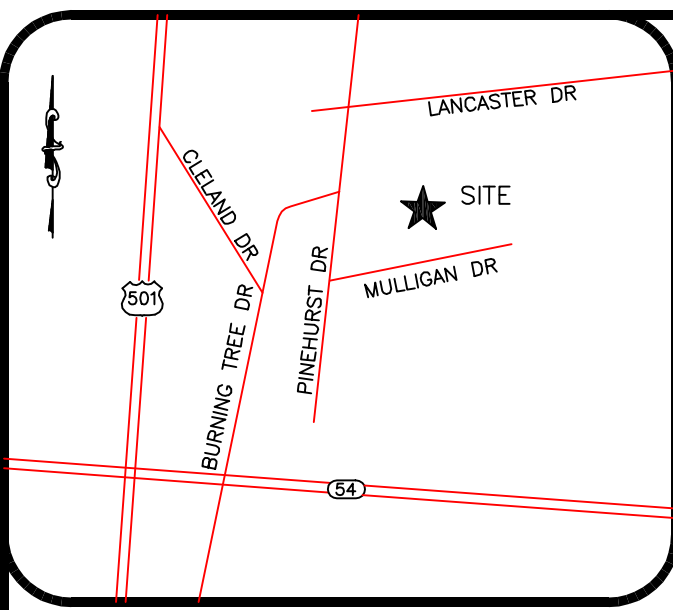
|              |            |
|--------------|------------|
| PROJECT:     | 22-294     |
| SURVEYED BY: | R. ANTONY  |
| DRAWN BY:    | JX WANG    |
| CHECK BY:    | D.B.       |
| SCALE:       | 1"=40'     |
| DATE:        | 01/09/2023 |

# ECLS

### NOTES:

- ALL DISTANCES ARE HORIZONTAL GROUND DISTANCES IN U.S. SURVEY FEET UNLESS OTHERWISE NOTED.
- AREAS SHOWN HEREON WERE COMPUTED USING THE COORDINATE METHOD.
- INES NOT SURVEYED ARE SHOWN AS DASHED LINES FROM INFORMATION REFERENCED ON THE FACE OF THIS PLAT.
- PROPERTY MAY BE SUBJECT TO ANY/ALL EASEMENTS AND RESTRICTIONS OF RECORD. THIS SURVEY IS A CORRECT REPRESENTATION OF THE LAND PLATTED AND OR DEEDED AND HAS BEEN PREPARED WITHOUT THE BENEFIT OF A TITLE REPORT. A NORTH CAROLINA LICENSED ATTORNEY-AT-LAW SHOULD BE CONSULTED REGARDING CORRECT OWNERSHIP, WIDTH AND LOCATION OF EASEMENTS, AND OTHER TITLE QUESTIONS REVEALED BY TITLE EXAMINATION.
- THE ELEVATION BASED ON NAVD 1988 DATUM.
- DATE OF FIELD SURVEY: 06/29/2022, 06/30/2022 & 07/05/2022, 07/06/2022, 07/08/2022, 07/21/2022, 07/25/2022
- ORIGINAL PATH WILL MOVE TO THE REPLACEMENT PATH LOCATION IF AND WHEN THE BIORETENTION AREA IS EXPANDED.
- THE LOCATIONS OF THE POSSIBLE FUTURE HOA3 AND HOA4 AREAS ARE SHOWN WITHIN THE EXISTING TOCH OWNED PINEHURST ROW. HOA3 AND HOA4 ARE NOT TO BE APPROVED WITH THE PRELIMINARY PLAT APPROVAL PROCESS. A REQUEST FOR CLOSURE OF THESE PORTIONS OF THE PINEHURST ROW FOLLOWING NCGS 160A-299 WILL BE SUBMITTED AFTER PRELIMINARY PLAT APPROVAL. NO CHANGES IN THE PINEHURST ROW ARE REQUESTED IN THE PRELIMINARY PLAT APPLICATION.





VICINITY MAP(NTS)

| CURVE | ARC LENGTH | RADIUS   | DELTA ANGLE | CHORD BEARING | CHORD LENGTH |
|-------|------------|----------|-------------|---------------|--------------|
| C1    | 55.06'     | 345.86'  | 9°07'18"    | S 80°31'15" W | 55.00'       |
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| C3    | 12.59'     | 345.86'  | 2°05'10"    | S 53°57'29" W | 12.59'       |
| C4    | 11.57'     | 11.00'   | 60°14'27"   | N 22°48'20" E | 11.04'       |
| C5    | 63.32'     | 49.00'   | 74°02'30"   | S 29°43'23" W | 59.01'       |
| C6    | 38.31'     | 49.00'   | 44°47'53"   | S 89°08'42" W | 37.34'       |
| C7    | 18.07'     | 49.00'   | 21°07'34"   | S 03°37'58" W | 17.97'       |
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**PRELIMINARY**  
NOT FOR RECORDATION

NO MORE THAN TWENTY-FIVE(25) PERCENT OF THE TOTAL COMBINED AREA OF 4:1(25%) OR STEEPER SHALL BE DISTURBED.

SLOPE CATEGORY

- < 15 178,461 SF
- 15 to 25 12,310 SF
- 25 to 100 2,493 SF

| LINE BEARING      | DISTANCE |
|-------------------|----------|
| L1 S 89°59'01" W  | 24.59'   |
| L2 N 23°14'51" W  | 7.48'    |
| L3 S 00°00'59" E  | 13.68'   |
| L4 S 13°05'15" E  | 38.77'   |
| L5 S 84°10'34" E  | 50.17'   |
| L6 S 56°10'17" E  | 55.17'   |
| L7 S 87°25'34" E  | 98.22'   |
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| L11 S 85°58'59" W | 17.38'   |
| L12 S 34°59'56" E | 2.00'    |
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○=EXISTING IRON ROD (EIR)  
○=NEW IRON PIPE (NIP)  
○=EXISTING MAG NAIL (EMN)  
○=MAG NAIL SET (MNS)

AG=ABOVE GROUND  
BG=BELOW GROUND

**OWNERS:**

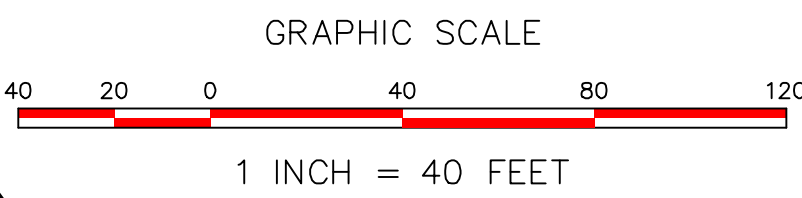
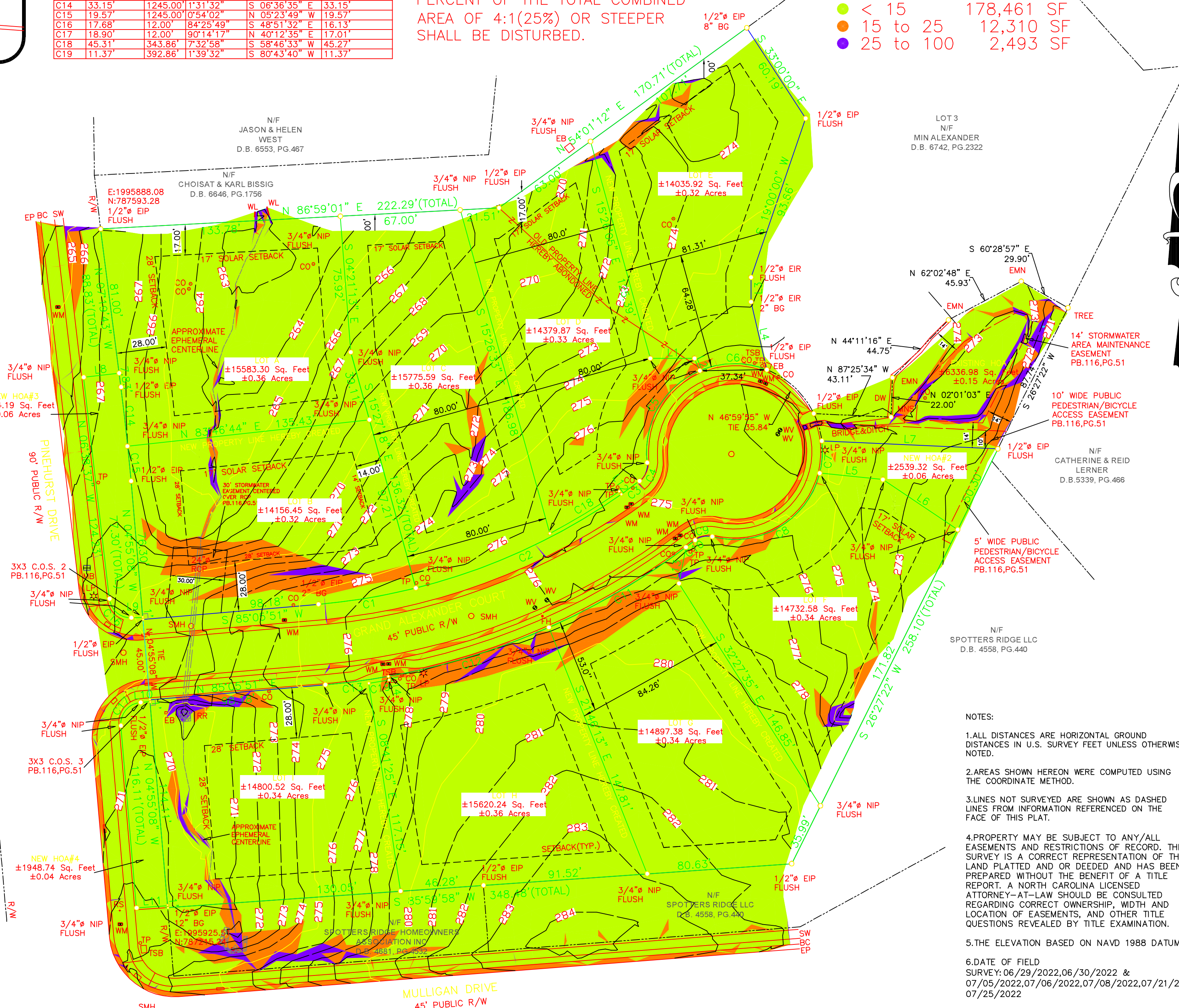
JOHN & LESLIE MACKOWIAK  
186 BLUFF ROAD, DEDAR POINT  
NC 28584

**SETBACKS PER CHAPEL HILL:**

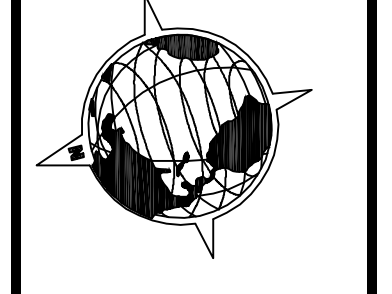
|              |     |
|--------------|-----|
| FRONT        | 28' |
| INTERIOR     | 14' |
| SOLAR(NORTH) | 17' |
| ZONING       | R-1 |

**FLOOD NOTE:**

THIS PROPERTY IS NOT LOCATED IN THE SPECIAL FLOOD HAZARD AREA. FLOOD MAP: 3710979800L TOWN OF CHAPEL HILL CID: 370180 PANEL: 9798 SUFFIX: L EFFECTIVE DATE 10/19/2018



**ECLS GLOBAL, INC**  
U.S. VETERAN-OWNED  
19 N. MCKINLEY ST.  
COATS, NC 27521  
910.897.3257 ECLSGLOBAL.COM  
910.897.2329 (FAX) CO# C-4175



REVISIONS:

|     |            |             |
|-----|------------|-------------|
| NO. | DATE       | DESCRIPTION |
| 1   | 01-09-2023 |             |

**PRELIMINARY PLAT**  
AQUABELLA SUBDIVISION  
JOHN & LESLIE MACKOWIAK

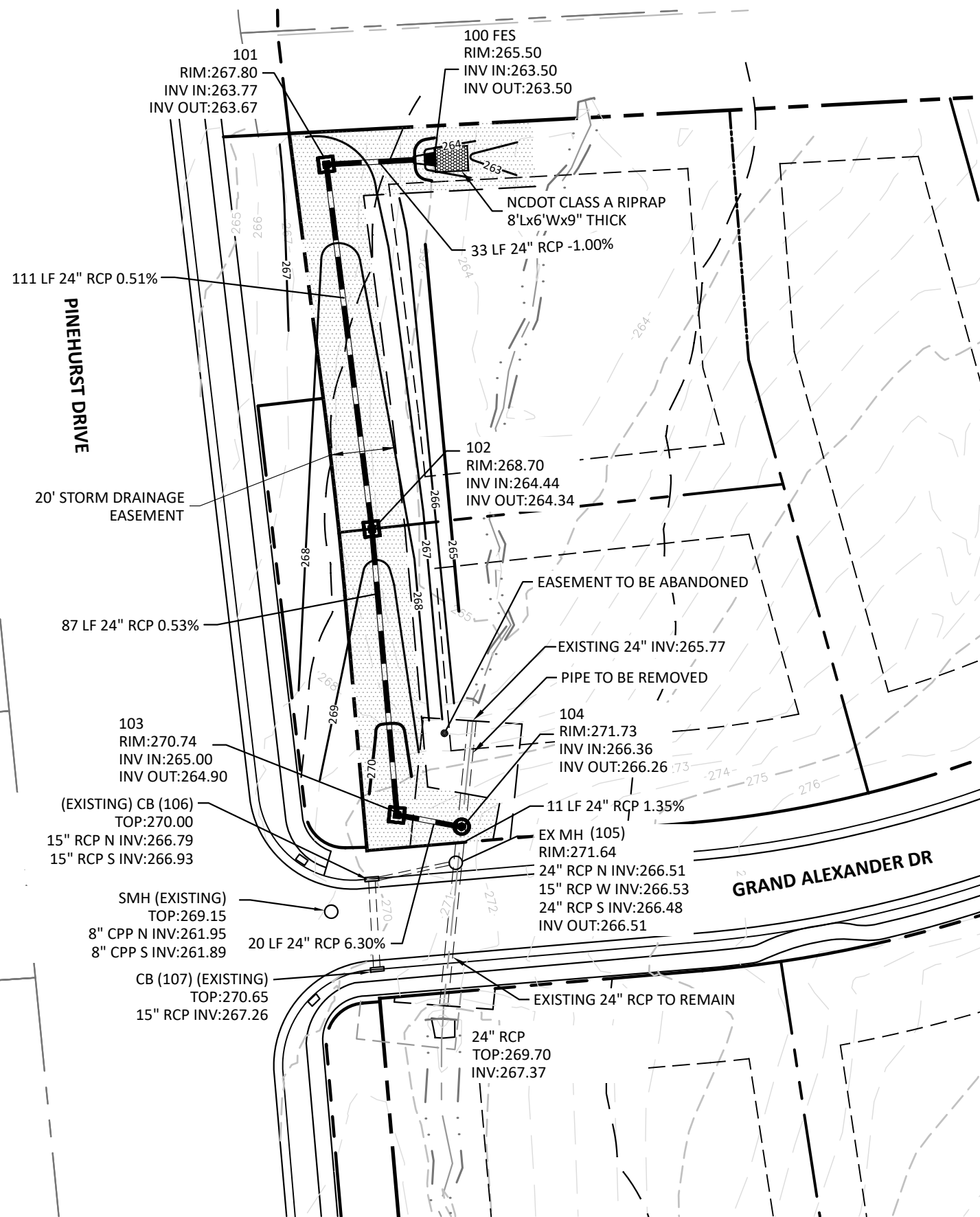
FOR  
120,121,130 GRAND ALEXANDER COURT, CHAPEL HILL  
CHAPEL HILL TWP., ORANGE CO., N. C.  
P.B. 116 PG. 51 PIN: 9798-67-0429  
PIN: 9798-67-1340  
PIN: 9798-67-1690

|              |            |
|--------------|------------|
| PROJECT:     | 22-294     |
| SURVEYED BY: | R. ANTONY  |
| DRAWN BY:    | JX WANG    |
| CHECK BY:    | D.B.       |
| SCALE:       | 1"=40'     |
| DATE:        | 01/09/2023 |



- NOTES:**
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  - AREAS SHOWN HEREON WERE COMPUTED USING THE COORDINATE METHOD.
  - LINE NOT SURVEYED ARE SHOWN AS DASHED LINES FROM INFORMATION REFERENCED ON THE FACE OF THIS PLAT.
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  - THE ELEVATION BASED ON NAVD 1988 DATUM.
  - DATE OF FIELD SURVEY: 06/29/2022, 06/30/2022 & 07/05/2022, 07/06/2022, 07/08/2022, 07/21/2022, 07/25/2022





**PROPOSED CONDITIONS**

1. THE PURPOSE OF THIS PLAN IS TO PRESENT A PROPOSED STORM DRAINAGE DIVERSION TO ALLOW FOR THE CONSTRUCTION OF SINGLE FAMILY DWELLINGS ON LOTS 1A AND 1B
2. ALL CONSTRUCTION NOT RELATED TO THIS STORM DRAINAGE DIVERSION THAT REQUIRES REVIEW AND APPROVAL FROM THE TOWN OF CHAPEL HILL IS TO BE DESIGNED AND PREPARED FOR REVIEW BY OTHERS.

**GENERAL NOTES**

1. THE LAYOUT ON THIS PLAN WAS TAKEN FROM A CAD FILE PROVIDED BY JOHN MACKOWIAK AND PREPARED BY ECLS GLOBAL, LLC SURVEYORS
2. TOPOGRAPHY SHOWN ON THIS PLAN WAS TAKEN FROM A CAD FILE PROVIDED BY JOHN MACKOWIAK AND PREPARED BY ECLS GLOBAL, LLC SURVEYORS
3. PROPERTY LINES ADJACENT TO THIS PROJECT WERE TAKEN FROM ORANGE COUNTY GIS
4. INFORMATION FOR STORM DRAINAGE PIPES IN GRAND ALEXANDER DRIVE WAS TAKEN FROM A CAD FILE PROVIDED BY JOHN MACKOWIAK AND PREPARED BY ECLS GLOBAL, LLC SURVEYORS.

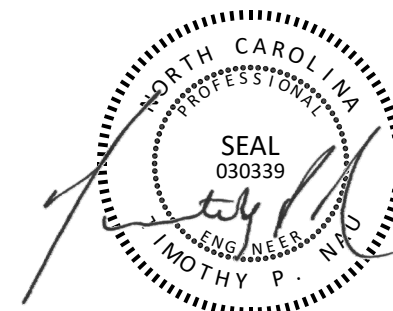
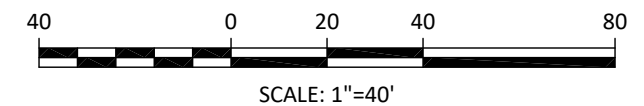
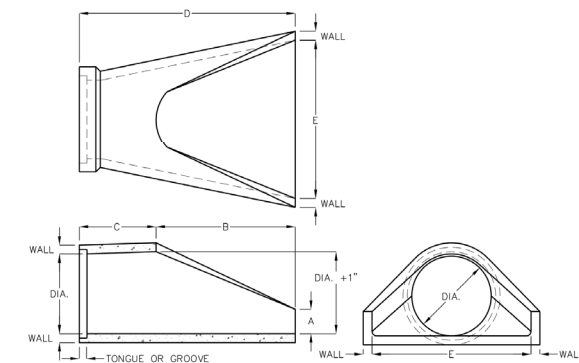
**PROPOSED GRADING AND STORM DRAINAGE NOTES**

1. GRADING AROUND THE PROPOSED HOUSES IS NOT AVAILABLE AT THIS TIME. ALL GRADING AROUND THE PROPOSED HOUSES SHALL PROVIDE POSITIVE DRAINAGE AWAY FROM THE HOUSE FOUNDATION
2. GRADING IS NECESSARY OVER THE PROPOSED STORM DRAINAGE PIPE TO PROVIDE ADEQUATE COVER. PROVIDE POSITIVE DRAINAGE AWAY FROM FILL OVER PROPOSED STORM PIPES.

**PROPOSED FLARED END SECTION (FES 100)**

1. IF EXISTING CIRCULAR FLARED END SECTION IS IN GOOD CONDITION AND IS COMPATIBLE AT THE JOINT, IT WILL BE USED FOR THE PROPOSED RCP CULVERT EXTENSION OUTLET.
2. IF THE EXISTING FLARED END SECTION IS NOT IN GOOD CONDITION AND/OR IS NOT COMPATIBLE AT THE JOINT, A NEW FLARED END SECTION OF IDENTICAL DIMENSIONS AND COMPATIBLE AT THE JOINT WILL BE USED AT THE OUTLET OF THE PROPOSED RCP CULVERT EXTENSION.

**REINFORCED CONCRETE PIPE FLARED END SECTIONS**  
15" TO 42" I.D.



8-7-2024

PREPARED BY:  
**The Nau Company**  
Consulting Civil Engineers  
PO Box 810 Rolesville, NC 27571  
919-435-6395  
NCBELS License P-0751

CLIENT:  
JOHN MACKOWIAK

GRAND ALEXANDER SUBDIVISION

CHAPEL HILL, NC

STORM DRAINAGE PLAN

PROJECT NO: ---

SCALE: 1"=40'

DATE: 2024-08-07

SHEET NO: **SD1.1**