SITE DATA TABLE (TRACT A)

PARCEL ID#:	R05713-002-005-000, R05713-002-010-000, R05713-002-011-000, R05713-002-004-000
MAP ID#:	315715.53.6721.000, 315715.53.7634.000, 315715.53.7690.000, 315715.53.8526.000
PARCEL ADDRESS:	11, 15, 17, 19 ALLENS LANE
SITE ADDRESS:	2011 ALLENS LANE
PARCEL AREA:	1.60 AC (69,556 SF)
PROPOSED PARCEL USE:	TOWNHOMES
ZONING:	O&I-1 (CD)
CAMA LAND CLASSIFICATION:	RESOURCE PROTECTION
BUILDING SETBACKS O&I-1:	FRONT SETBACK: 20' INTERIOR SIDE SETBACK: 10' CORNER SIDE SETBACK: 20' REAR SETBACKS: 20'
BUILDING SETBACKS: (PROPOSED)	FRONT SETBACK: 20' SIDE SETBACK EAST: 10' SIDE SETBACK WEST: 10' REAR SETBACK: 20'
MAX. LOT COVERAGE O&I-1:	40%
PROPOSED LOT COVERAGE:	31.85% PROPOSED BUILDING: 22,157 SF
MAX. BUILDING HEIGHT O&I-1:	45'/UP TO 75' WITH SPECIAL USE PERMIT, LOT COVERAGE AND SETBACK CONDITIONS
BUILDING HEIGHT PROPOSED:	30'-10" / 35' (SEE BUILDING DATA TABLE)
PROPOSED DENSITY:	13.75 DU/AC

PROPOSED BUILDINGS: SEE TABLE

PROPOSED PARKING REQUIREMENT

PARKING REQ'D: RESIDENTIAL	MAX: 2.5 PER UNIT = 55 MIN: 2 BR (2) = 12 3 BR (2.25) = 36	
TOTAL PARKING REQUIRED:	55 MAX., 48 MIN.	
PARKING PROPOSED	77 TOTAL INCLUDING DRIVEWAYS AND GARAGES	
BICYCLE PARKING REQUIRED/PROPOSED:	5	

PROPOSED IMPERVIOUS AREA ON SITE:

BUILDINGS:	22,157 SF	
CONCRETE CURB AND GUTTER:	444 SF	
PERVIOUS PAVEMENT (BEFORE CREDIT):	17,067 SF	4,267 SF (AFTER 75% CREDIT)
SITE TOTAL:	39,688 SF	26,868 SF (AFTER 75% CREDIT)
SITE PERCENT IMPERVIOUS:	57%	38.6% (AFTER 75% CREDIT)

PROPOSED IMPERVIOUS AREA OFF SITE:

CONCRETE CURB AND GUTTER:	2,010 SF	
PERVIOUS PAVEMENT (SIDEWALK/DRIVEWAY):	1,064 SF	266 SF (AFTER 75% CREDIT)
ASPHALT PAVEMENT:	7,534 SF	
OFF SITE TOTAL:	10,608 SF	9,810 SF (AFTER 75% CREDIT)

LANDSCAPING REQUIREMENTS (REFER TO LANDSCAPE PLAN)

STREETYARD LANDSCAPING: 18 MULTIPLIER
18 X 226 LF = 4,068 REQUIRED 4,094 PROVIDED

FOUNDATION PLANTINGS: 12% FACE OF BUILDING X LENGTH

BUFFER YARD (EAST SIDE): 20' REQUIRED 10' PROPOSED
REDUCTION IN BUFFER YARD REQUESTED FOR SITE CONSTRAINTS ALONG ADJACENT PROPERTIES. 10' BUFFER TO COMBINED WITH 8' OPAQUE FENCE.

WATER USAGE:
(2) BR UNIT X 400 GPD: 6 (2 BR UNITS) X 400 = 2,400
(3) BR UNIT X 400 GPD: 16 (3 BR UNITS) X 400 = 6,400

TOTAL: 8,800 GPD

SEWER USAGE:
(2) BR UNIT X 240 GPD: 6 (2 BR UNITS) X 240 = 1,440
(3) BR UNIT X 360 GPD: 16 (3 BR UNITS) X 360 = 5,760

TOTAL: 7,200 GPD

SITE DATA TABLE (TRACT B)

PARCEL ID#:	R05713-001-009-000 R05713-002-010-000
MAP ID#:	315715.53.7442.000, 315715.53.8430.000
PARCEL ADDRESS:	6841, 6843 WRIGHTSVILLE AVE.
SITE ADDRESS:	–
PARCEL AREA:	0.50 AC (22,109 SF)
PROPOSED PARCEL USE:	OFFICE
ZONING:	O&I-1 (CD)
CAMA LAND CLASSIFICATION:	RESOURCE PROTECTION
BUILDING SETBACKS O&I-1:	FRONT SETBACK: 20' INTERIOR SIDE SETBACK: 10' CORNER SIDE SETBACK: 20' REAR SETBACKS: 20'
BUILDING SETBACKS: (PROPOSED)	FRONT SETBACK: 26' SIDE SETBACK EAST: 37.5' SIDE SETBACK WEST: 85' REAR SETBACK: 20.25'
MAX. LOT COVERAGE O&I-1:	40%
PROPOSED LOT COVERAGE:	13.89%
MAX. BUILDING HEIGHT O&I-1:	45'/UP TO 75' WITH SPECIAL USE PERMIT, LOT COVERAGE AND SETBACK CONDITIONS
BUILDING HEIGHT PROPOSED:	35'
BUILDING AREA:	6,000 SF (3,000 PER FLOOR)

PROPOSED PARKING REQUIREMENT

PARKING REQ'D: OFFICE	MAX: 1/200 SF MIN: 1/300 SF
TOTAL PARKING REQUIRED:	30 MAX., 20 MIN.
PARKING PROPOSED	20 TOTAL
HC PARKING REQUIRED	1
HC PARKING PROVIDED	1
BICYCLE PARKING REQUIRED/PROPOSED:	5

PROPOSED IMPERVIOUS AREA ON SITE:

BUILDINGS:	3,072 SF (FOOTPRINT)	
CONCRETE CURB AND GUTTER:	1,007 SF	
PERVIOUS PAVEMENT:	7,471 SF	1,868 SF (AFTER 75% CREDIT)
SITE TOTAL:	11,550 SF	5,947 SF (AFTER 75% CREDIT)
SITE PERCENT IMPERVIOUS:	52.24%	26.9% (AFTER 75% CREDIT)

PROPOSED IMPERVIOUS AREA OFF SITE:

PERVIOUS PAVEMENT:	970 SF	242 SF (AFTER 75% CREDIT)
OFF SITE TOTAL:	970 SF	242 SF (AFTER 75% CREDIT)

LANDSCAPING REQUIREMENTS (REFER TO LANDSCAPE PLAN)

STREETYARD LANDSCAPING: 18 MULTIPLIER

PRIMARY (WRIGHTSVILLE AVE.)
18 X 220 LF = 3,960 REQUIRED 4,662 PROVIDED

SECONDARY (SOUTHERLAND AVE./ALLENS LANE)
9 X 177 LF = 1,593 REQUIRED 2,252 PROVIDED

FOUNDATION PLANTINGS: 12% FACE OF BUILDING X LENGTH

BUFFER YARD (WEST SIDE): 20' REQUIRED 10' PROPOSED
REDUCTION IN BUFFER YARD REQUESTED FOR SITE CONSTRAINTS ALONG ADJACENT PROPERTIES. 10' BUFFER TO COMBINED WITH 8' OPAQUE FENCE.

WATER USAGE: 15 EMPLOYEES X 25 GPD/EMPLOYEE = 375 GPD

SEWER USAGE: 15 EMPLOYEES X 25 GPD/EMPLOYEE = 375 GPD

BUILDING DATA TABLE

BUILDING	TOTAL UNITS	HEIGHT	STORIES	BLDG AREA	FOOT PRINT	APPROX. BLDG. DIMS AT WIDEST POINT
A	6 (3 BR)	30'-10"	3	13,150 SF	14,170 SF	150' X 54'
B	6 (3 BR)	30'-10"	3	13,150 SF	14,170 SF	150' X 54'
C	4 (3 BR)	30'-10"	3	9,186 SF	4,471 SF	93' X 54'
D	2 (2 BR)	35'	3	2,726 SF	1,172 SF	48' X 24'
E	2 (2 BR)	35'	3	2,726 SF	1,172 SF	48' X 24'
F	2 (2 BR)	35'	3	4,000 SF	1,172 SF	48' X 24'
TOTAL	22			43,664 SF	22,157 SF	

CITY OF WILMINGTON NORTH CAROLINA
Public Services • Engineering Division
APPROVED STORMWATER MANAGEMENT PLAN
Date:_____ Permit #_____
Signed: _____

For each open utility cut of City streets, a $325 permit shall be required from the City prior to occupancy and/or project acceptance.

Approved Construction Plan

	Name	Date
Planning		
Traffic		
Fire		

NOTE: ALL DRIVEWAYS AND WALKWAYS SHALL BE CONSTRUCTED OF PERVIOUS MATERIALS TO ALLOW FOR INFILTRATION TO MEET THE STATE REQUIREMENTS.

SCALE: 1" = 30'
0 30 60 90

SYMBOL	DATE	DESCRIPTION	BY
		REVISIONS	

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OVERALL SITE PLAN

SPARTINA AT LUMINA STATION - 2011 ALLENS LANE
ALLENS LANE/WRIGHTSVILLE AVE.
WILMINGTON, NORTH CAROLINA

OWNER/DEVELOPER
ALLENS LANE PARTNERS, LLC
JAMES E. WALLACE, JR.
MEMBER/MANAGER
1902 EASTWOOD ROAD
WILMINGTON, NC 28403
910 5091921

NORRIS & TUNSTALL
CONSULTING ENGINEERS, P.C.
1127 FLORAL PARKWAY
SUITE 400
WILMINGTON, NC 28403
PHONE (910) 343-9653
FAX (910) 343-9604
office@nkteng.com
licence #C-3641

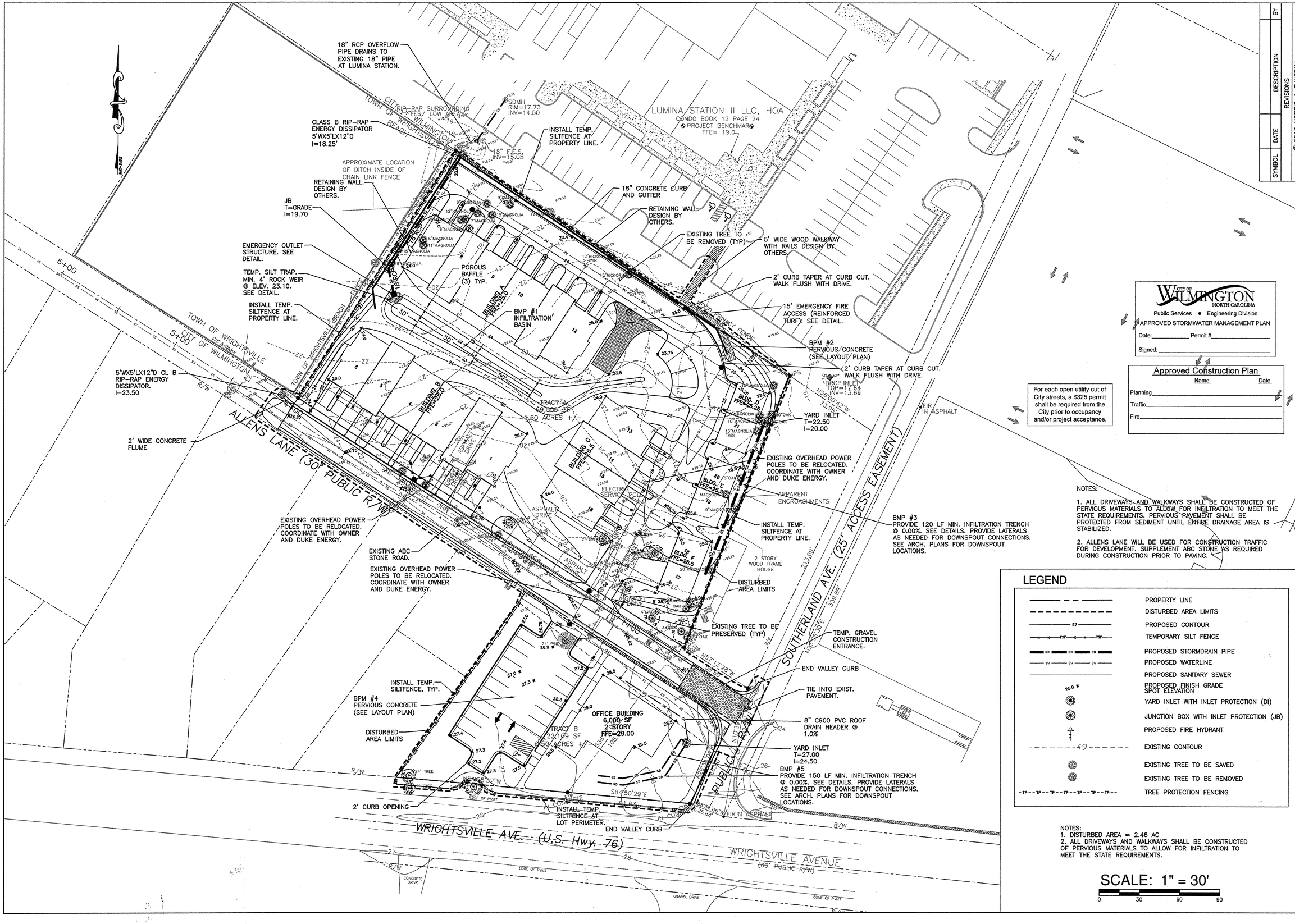
13082

DES. JST
CKD. JPN
DRWN. NKS
DATE 12/18/13

NORTH CAROLINA PROFESSIONAL SEAL 19851 ENGINEER NICHOLAS S. TUNSTALL

C0

F:\Projects\2013\13039 The Townhomes @ Lumina Station Rezoning\13039 Plans\dwg\13039.master-1.dwg, 12/18/2013 2:33:55 PM



For each open utility cut of City streets, a $325 permit shall be required from the City prior to occupancy and/or project acceptance.

NOTES:

1. ALL DRIVEWAYS AND WALKWAYS SHALL BE CONSTRUCTED OF PERVIOUS MATERIALS TO ALLOW FOR INFILTRATION TO MEET THE STATE REQUIREMENTS. PERVIOUS PAVEMENT SHALL BE PROTECTED FROM SEDIMENT UNTIL ENTIRE DRAINAGE AREA IS STABILIZED.

2. ALLENS LANE WILL BE USED FOR CONSTRUCTION TRAFFIC FOR DEVELOPMENT. SUPPLEMENT ABC STONE AS REQUIRED DURING CONSTRUCTION PRIOR TO PAVING.

LEGEND

	PROPERTY LINE
	DISTURBED AREA LIMITS
27	PROPOSED CONTOUR
TSF	TEMPORARY SILT FENCE
SD	PROPOSED STORMDRAIN PIPE
3V	PROPOSED WATERLINE
	PROPOSED SANITARY SEWER
25.0 *	PROPOSED FINISH GRADE SPOT ELEVATION
	YARD INLET WITH INLET PROTECTION (DI)
	JUNCTION BOX WITH INLET PROTECTION (JB)
	PROPOSED FIRE HYDRANT
49	EXISTING CONTOUR
	EXISTING TREE TO BE SAVED
	EXISTING TREE TO BE REMOVED
TP	TREE PROTECTION FENCING

NOTES:
1. DISTURBED AREA = 2.46 AC
2. ALL DRIVEWAYS AND WALKWAYS SHALL BE CONSTRUCTED OF PERVIOUS MATERIALS TO ALLOW FOR INFILTRATION TO MEET THE STATE REQUIREMENTS.

SCALE: 1" = 30'

0 30 60 90

CITY OF WILMINGTON NORTH CAROLINA
Public Services • Engineering Division
APPROVED STORMWATER MANAGEMENT PLAN
Date:_____ Permit #_____
Signed: _____

Approved Construction Plan
Name Date
Planning_____
Traffic_____
Fire_____

SYMBOL	DATE	DESCRIPTION	BY

REVISIONS

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GRADING, DRAINAGE AND EROSION CONTROL PLAN

SPARTINA AT LUMINA STATION - 2011 ALLENS LANE
ALLENS LANE/WRIGHTSVILLE AVE.
WILMINGTON, NORTH CAROLINA

OWNER/DEVELOPER
ALLENS LANE PARTNERS, LLC
JAMES E. WALLACE, JR.
MEMBER/MANAGER
1902 EASTWOOD ROAD
WILMINGTON, NC 28403
910 5091921

NORRIS & TUNSTALL
CONSULTING ENGINEERS, P.C.
1127 FLORAL PARKWAY
SUITE 400
WILMINGTON, NC 28403
PHONE (910) 343-9653
FAX (910) 343-9604
office@nteng.com
licence #C-3641

13082

DES.	JST
CKD.	JPN
DRWN.	NKS
DATE	1/27/14

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 19851 JOHN P. TUNSTALL

C1

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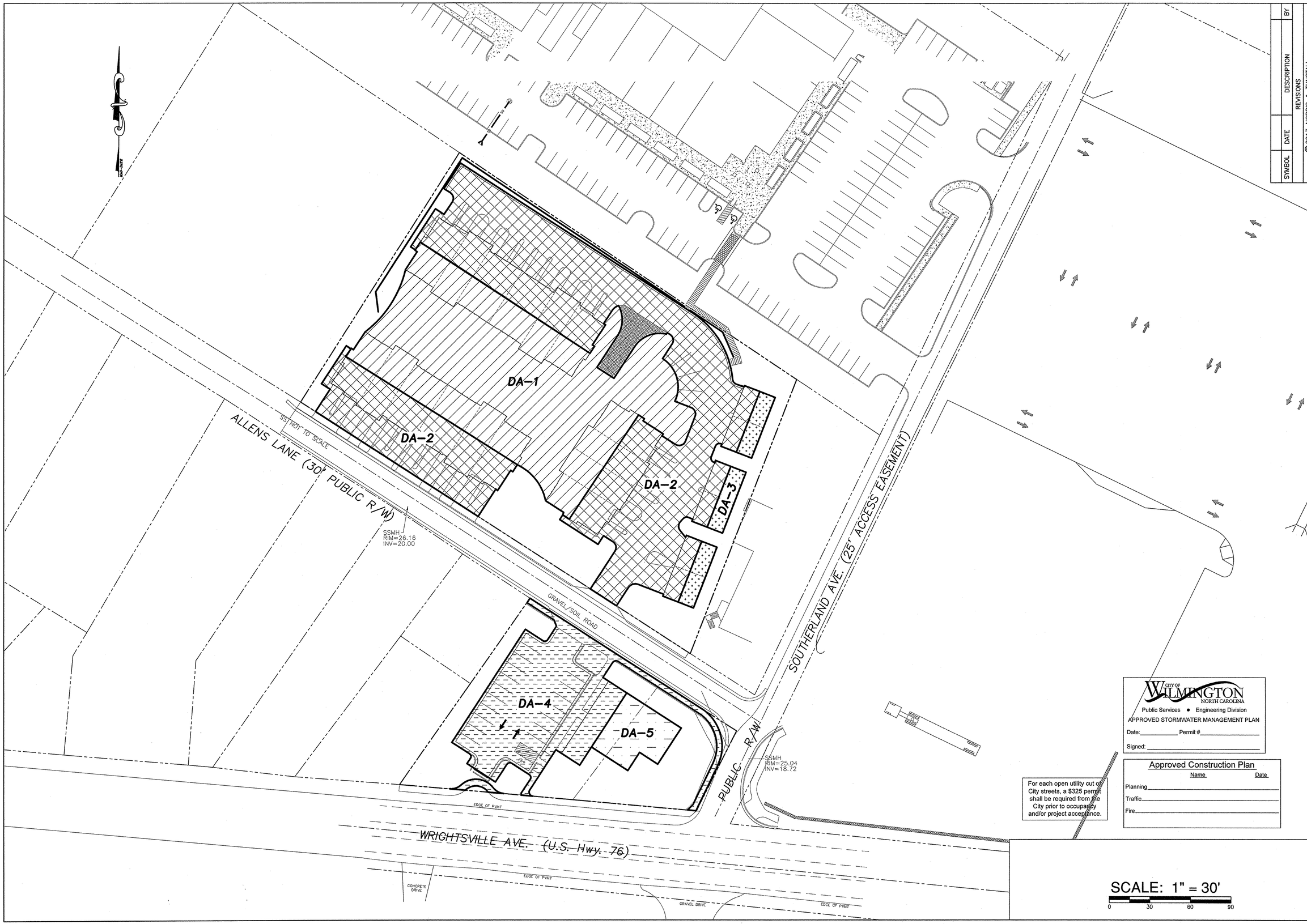

SYMBOL	DATE	DESCRIPTION	BY

REVISIONS

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DRAINAGE AREA PLAN

SPARTINA AT LUMINA STATION - 2011 ALLENS LANE
ALLENS LANE/WRIGHTSVILLE AVE.
WILMINGTON, NORTH CAROLINA

OWNER/DEVELOPER
ALLEN'S LANE PARTNERS, LLC
JAMES E. WALLACE, JR.
MEMBER/MANAGER
1902 EASTWOOD ROAD
WILMINGTON, NC 28403
910 5091921

NORRIS & TUNSTALL
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FAX (910) 343-9604
office@norrisandtunstall.com
licence # C-3641

CITY OF WILMINGTON NORTH CAROLINA
Public Services • Engineering Division
APPROVED STORMWATER MANAGEMENT PLAN
Date:_____ Permit #_____
Signed: _____

For each open utility cut on City streets, a $325 permit shall be required from the City prior to occupancy and/or project acceptance.

Approved Construction Plan

	Name	Date
Planning		
Traffic		
Fire		

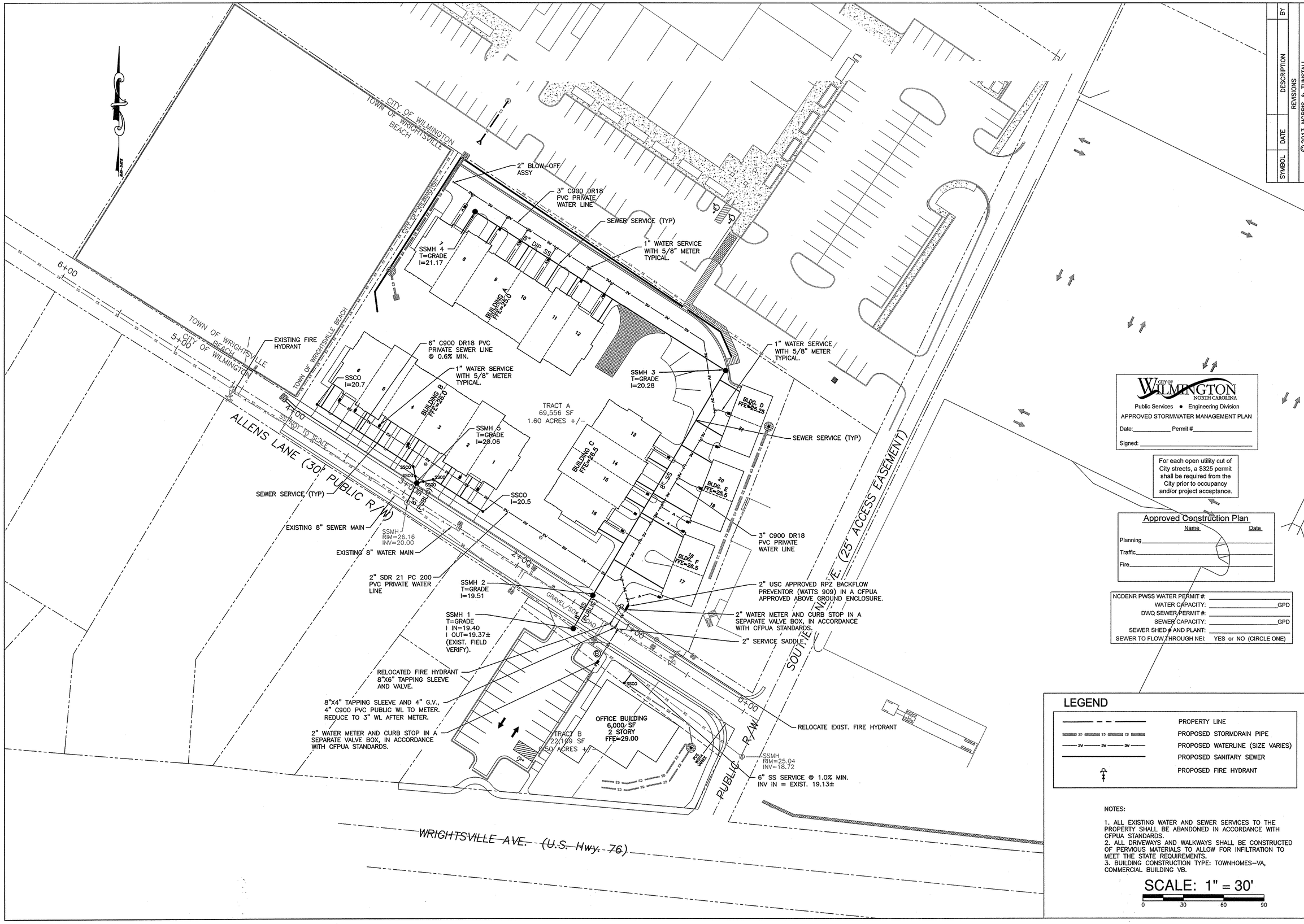
13082

DES.	JST
CKD.	JPN
DRWN.	NKS
DATE	12/18/13

NORTH CAROLINA PROFESSIONAL SEAL 19851 ENGINEER JOHN S. TUNSTALL

C1.1

F:\Projects\2013\13039 The Townhomes @ Lumina Station Rezoning\13039 Plans\dwg\13039.master.r1.dwg, 12/18/2013 2:35:42 PM



SYMBOL	DATE	DESCRIPTION	BY

REVISIONS

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UTILITY PLAN

SPARTINA AT LUMINA STATION - 2011 ALLENS LANE
ALLENS LANE/WRIGHTSVILLE AVE.
WILMINGTON, NORTH CAROLINA

OWNER/DEVELOPER
ALLENS LANE PARTNERS, LLC
JAMES E. WALLACE, JR.
MEMBER/MANAGER
1902 EASTWOOD ROAD
WILMINGTON, NC 28403
910 5091921

CITY OF WILMINGTON NORTH CAROLINA
Public Services • Engineering Division
APPROVED STORMWATER MANAGEMENT PLAN
Date:_____ Permit #_____
Signed: _____

For each open utility cut of City streets, a $325 permit shall be required from the City prior to occupancy and/or project acceptance.

Approved Construction Plan

	Name	Date
Planning		
Traffic		
Fire		

NCDENR PWSS WATER PERMIT #:	
WATER CAPACITY:	GPD
DWQ SEWER PERMIT #:	
SEWER CAPACITY:	GPD
SEWER SHED # AND PLANT:	
SEWER TO FLOW THROUGH NEI:	YES or NO (CIRCLE ONE)

NORRIS & TUNSTALL
CONSULTING ENGINEERS, P.C.
1127 FLORAL PARKWAY
SUITE 400
WILMINGTON, NC 28403
PHONE (910) 343-9653
FAX (910) 343-9604
office@nandt.com
licence #C-3641

LEGEND

- PROPERTY LINE
- PROPOSED STORMDRAIN PIPE
- PROPOSED WATERLINE (SIZE VARIES)
- PROPOSED SANITARY SEWER
- PROPOSED FIRE HYDRANT

NOTES:

1. ALL EXISTING WATER AND SEWER SERVICES TO THE PROPERTY SHALL BE ABANDONED IN ACCORDANCE WITH CFPUA STANDARDS.
2. ALL DRIVEWAYS AND WALKWAYS SHALL BE CONSTRUCTED OF PERVIOUS MATERIALS TO ALLOW FOR INFILTRATION TO MEET THE STATE REQUIREMENTS.
3. BUILDING CONSTRUCTION TYPE: TOWNHOMES-VA, COMMERCIAL BUILDING VB.

SCALE: 1" = 30'
0 30 60 90

13082

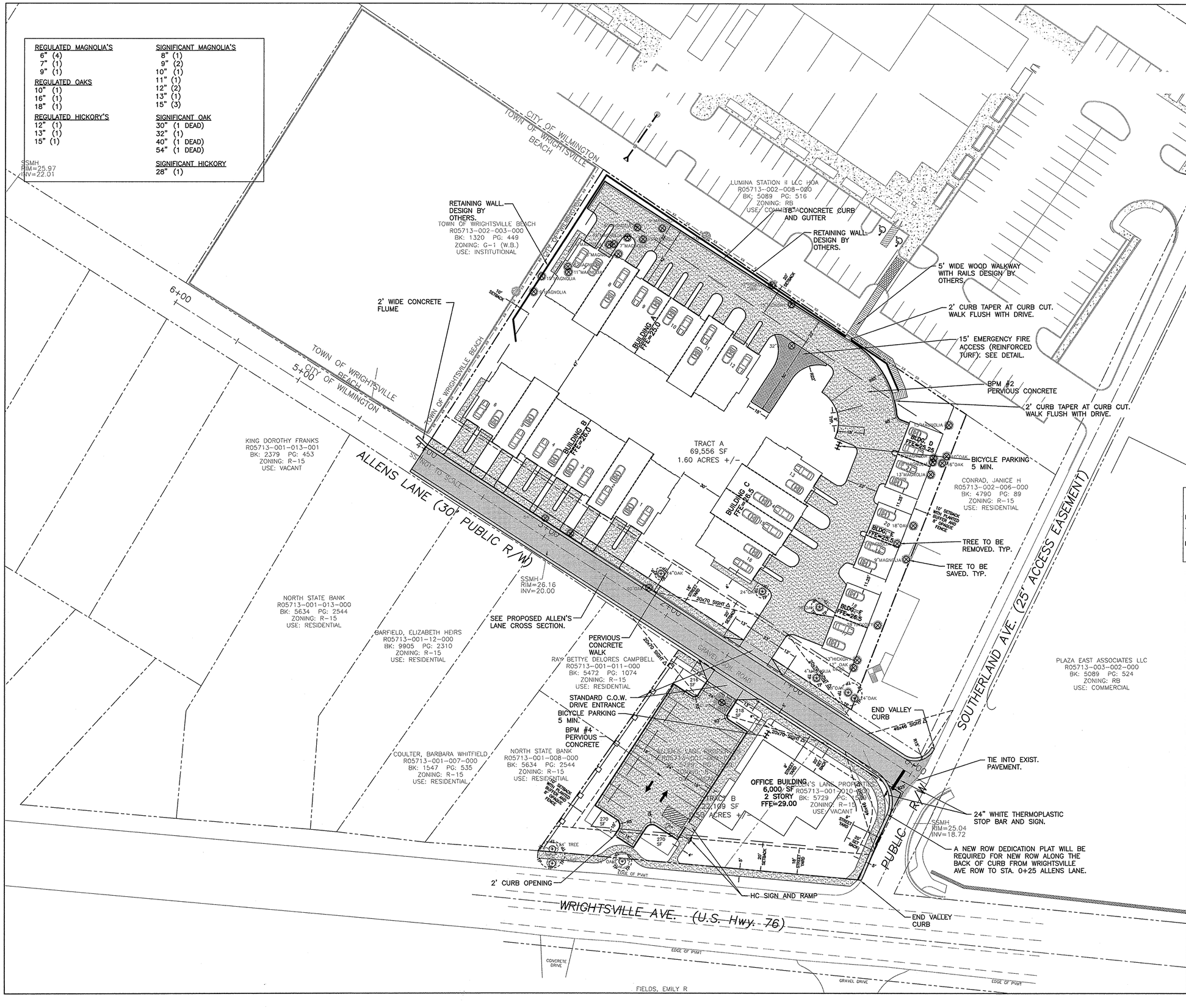
DES.	JST
CKD.	JPN
DRWN.	NKS
DATE	12/18/13

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 19851 JOHN S. TUNSTALL

C2

REGULATED MAGNOLIA'S	SIGNIFICANT MAGNOLIA'S
6" (4)	8" (1)
7" (1)	9" (2)
9" (1)	10" (1)
REGULATED OAKS	11" (1)
10" (1)	12" (2)
16" (1)	13" (1)
18" (1)	15" (3)
REGULATED HICKORY'S	**SIGNIFICANT OAK**
12" (1)	30" (1 DEAD)
13" (1)	32" (1)
15" (1)	40" (1 DEAD)
	54" (1 DEAD)
	SIGNIFICANT HICKORY
	28" (1)

SSMH
RIM=25.97
INV=22.01



SYMBOL	DATE	DESCRIPTION	BY
		REVISIONS	

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LAYOUT AND TREE PLAN

SPARTINA AT LUMINA STATION - 2011 ALLENS LANE
ALLENS LANE/WRIGHTSVILLE AVE.
WILMINGTON, NORTH CAROLINA

OWNER/DEVELOPER
ALLEN'S LANE PARTNERS, LLC
JAMES E. WALLACE, JR.
MEMBER/MANAGER
1902 EASTWOOD ROAD
WILMINGTON, NC 28403
910 5091921

CITY OF WILMINGTON NORTH CAROLINA
Public Services • Engineering Division
APPROVED STORMWATER MANAGEMENT PLAN
Date:_____ Permit #_____
Signed: _____

For each open utility cut of City streets, a $325 permit shall be required from the City prior to occupancy and/or project acceptance.

Approved Construction Plan

	Name	Date
Planning		
Traffic		
Fire		

NOTES:

1. ALL DRIVEWAYS AND WALKWAYS SHALL BE CONSTRUCTED OF PERVIOUS MATERIALS TO ALLOW FOR INFILTRATION TO MEET THE STATE REQUIREMENTS.

2. TRASH REMOVAL FOR TRACT A WILL BE HAND CART BY PRIVATE SERVICE. TRASH REMOVAL FOR TRACT B WILL BE BY HANDCART.

3. A LANDSCAPING PLAN INDICATING THE LOCATION OF REQUIRED STREET TREES SHALL BE SUBMITTED TO THE CITY OF WILMINGTON TRAFFIC ENGINEERING DIVISION AND PARKS AND RECREATION DEPARTMENT FOR REVIEW AND APPROVAL PRIOR TOI THE RECORDING OF THE FINAL PLAT.

4. ANY FREESTANDING SIGNS ON THE SITE SHALL BE MONUMENT STYLE WITH LANDSCAPING AROUND THE BASE OF THE SIGN.

5. THE PROJECT WILL NOT BE PERMITTED FOR A GATE RESTRICTED ACCESS WITHIN THE SITE UNLESS A MODIFICATION IS GRANTED TO THE CONDITIONAL DISTRICT SITE PLAN.

6. ROADWAY MONUMENTS SHALL BE PLACED AT STA. 0+00 AND 4+00.

7. ALLENS LANE WILL BE USED FOR CONSTRUCTION TRAFFIC FOR DEVELOPMENT. SUPPLEMENT ABC STONE AS REQUIRED DURING CONSTRUCTION PRIOR TO PAVING.

LEGEND

- CONCRETE
- PERVIOUS PAVEMENT
- ASPHALT
- REINFORCED TURF
- EXISTING TREE TO BE SAVED
- EXISTING TREE TO BE REMOVED
- —TP—TP—TP— TREE PROTECTION FENCING

SCALE: 1" = 30'
0 30 60 90

NORRIS & TUNSTALL
CONSULTING ENGINEERS, P.C.
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SUITE 400
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office@nt-eng.com
licence #C-3641

13082

DES.	JST
CKD.	JPN
DRWN.	NKS
DATE	12/18/13

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 19851 JOHN P. TUNSTALL

C3

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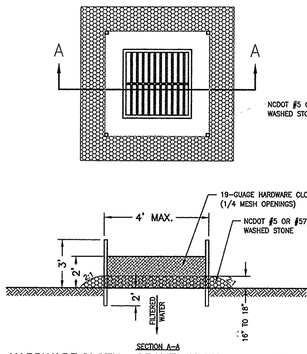
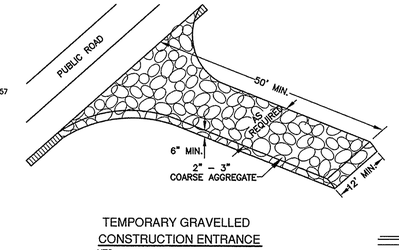


SECTION A–A

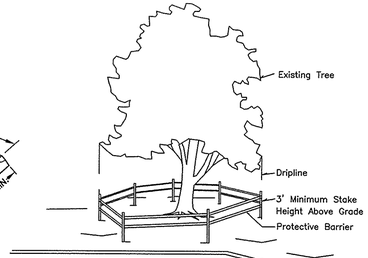
HARDWARE CLOTH & GRAVEL INLET PROTECTION
NTS

CONSTRUCTION SEQUENCE:
1. UNIFORMLY GRADE A SHALLOW DEPRESSION APPROACHING THE INLET.
2. DRIVE 5' STEEL POST 2' INTO THE GROUND SURROUNDING THE INLET. SPACE POST EVENLY AROUND THE PERIMETER OF THE INLET, A MAXIMUM OF 4' APART.
3. SURROUND THE POST WITH WIRE MESH HARDWARE CLOTH. SECURE THE WIRE MESH TO THE STEEL POST AT THE TOP, MIDDLE AND BOTTOM. PLACING A 2' FLAP OF THE WIRE MESH UNDER THE GRAVEL FOR ANCHORING IS RECOMMENDED.
4. PLACE CLEAN GRAVEL (NCDOT #5 OR #57 STONE) ON A 2:1 SLOPE WITH A HEIGHT OF 16" AROUND THE WIRE, AND SMOOTH TO AN EVEN GRADE.
5. ONCE THE CONTRIBUTING DRAINAGE AREA HAS BEEN STABILIZED, REMOVE ACCUMULATED SEDIMENT, AND ESTABLISH FINAL GRADING AND COVER.
6. COMPACT THE AREA PROPERLY AND STABILIZE IT WITH GROUNDCOVER.

MAINTENANCE:
INSPECT INLETS AT LEAST WEEKLY AND AFTER EACH SIGNIFICANT (1/2 INCH OR GREATER) RAINFALL EVENT. CLEAR THE MESH WIRE OF ANY DEBRIS OR OTHER OBJECTS TO PROVIDE ADEQUATE FLOW FOR SUBSEQUENT RAINS. TAKE CARE NOT TO DAMAGE OR UNDERCUT THE WIRE MESH DURING SEDIMENT REMOVAL. REPLACE STONE AS NEEDED.

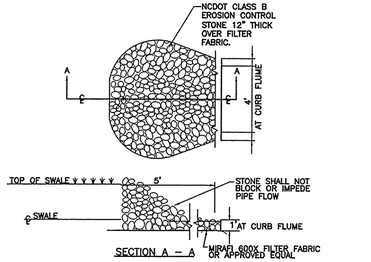


TEMPORARY GRAVELLED CONSTRUCTION ENTRANCE
NTS



METHOD OF TREE PROTECTION NTS

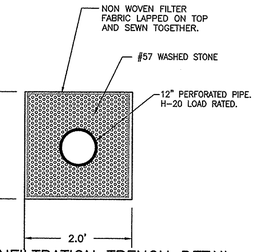
CLEARLY mark the trees to be saved prior to construction and erect a protective barrier at the dripline.
Dripline–The area of soil directly beneath the tree extending out to the tips of the outermost branches.



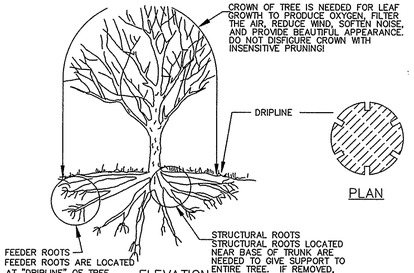
SECTION A – A

NOTE: FILTER FABRIC AND STONE SHALL BE TOED UNDER

ENERGY DISSIPATOR
NTS



TYPICAL INFILTRATION TRENCH DETAIL
NTS

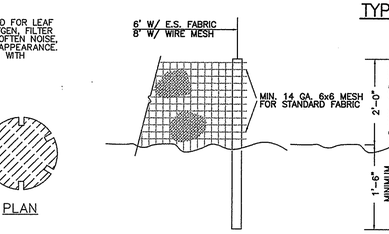


PLAN

ELEVATION

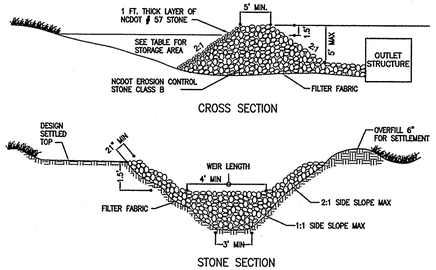
TREE PROTECTION DURING CONSTRUCTION
1. DO NOT COMPACT SOIL BENEATH TREES. NO VEHICLE SHALL BE ALLOWED TO PARK UNDER TREES. NO HEAVY MATERIALS SHALL BE STORED BENEATH TREES. RESULTS OF COMPACTION CAUSE WATER AND AIR NOT TO REACH THE ROOTS AND THE TREE WILL DIE. THESE FEEDING ROOTS OCCUR WELL AWAY FROM THE BASE OF THE TREE TO THE EDGE OF THE OVERHEAD BRANCH CANOPY. DAMAGING THE BARK WITH LAWNMOWERS, CONSTRUCTION EQUIPMENT, OR ANYTHING ELSE IS PROHIBITED. APROTECTIVE BARRIER SHOULD PREVENT DAMAGE FROM OCCURING DURING CONSTRUCTION.
2. NO CUTTING OF LARGE STRUCTURAL ROOTS LOCATED NEAR THE BASE OF THE TRUNK. THESE ARE ESSENTIAL IN SUPPORTING THE TREE AND HOLDING IT UPRIGHT IN HIGH WINDS. REMOVAL OF THESE ROOTS ALONG ONE SIDE IS OFTEN DONE BECAUSE OF A WALK, PAVING OR BUILDING WHICH IS BEING CONSTRUCTED.
3. AVOID CUT AND FILL WITHIN DIAMETER OF TREE CROWN DURING EXCAVATION.

METHOD OF TREE PROTECTION DURING CONSTRUCTION
SD 15–09
nts



NOTES:
1. SYN. FENCE FABRIC SHALL BE MIN. OF 30" IN WIDTH WITH 30 LB/IN TENSILE STRENGTH FOR STANDARD FABRIC AND 50 LB/IN FOR EXTRA STRENGTH.
2. FABRIC SHALL BE CONTINUOUS LENGTH. IF JOINTS ARE NECESSARY, LAP FABRIC POST TO POST.
3. STEEL POST SHALL BE MIN 4' IN HEIGHT AND BE OF THE SELF–FASTENER STEEL ANGLE TYPE.

TEMPORARY SILT FENCE
NTS



CROSS SECTION

STONE SECTION

TEMPORARY SILT TRAP DETAIL

BASIN #	DIMENSIONS	STORAGE AREA	WEIR LENGTH
1	VARIES	2,042 CF	4 FT

EROSION CONTROL NOTES AND MAINTENANCE PLAN

1. 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 AND WITHIN 24 HOURS OF EVERY HALF–INCH RAINFALL.

2. ALL POINTS OF EGRESS WILL HAVE CONSTRUCTION ENTRANCES THAT WILL BE PERIODICALLY TOP–DRESSED WITH AN ADDITIONAL 2 INCHES OF #4 STONE TO MAINTAIN PROPER DEPTH. THEY WILL BE MAINTAINED IN A CONDITION TO PREVENT MUD OR SEDIMENT FROM LEAVING THE SITE. IMMEDIATELY REMOVE OBJECTIONABLE MATERIAL SPILLED WASHED OR TRACKED ONTO THE CONSTRUCTION ENTRANCE OR ROADWAYS.

3. SEDIMENT WILL BE REMOVED FROM HARDWARE CLOTH AND GRAVEL INLET PROTECTION, BLOCK AND GRAVEL INLET PROTECTION, ROCK DOUGHNUT INLET PROTECTION AND ROCK PIPE INLET PROTECTION WHEN THE DESIGNED STORAGE CAPACITY HAS BEEN HALF FILLED WITH SEDIMENT. ROCK WILL BE CLEANED OR REPLACED WHEN THE SEDIMENT POOL NO LONGER DRAINS AS DESIGNED. DEBRIS WILL BE REMOVED FROM THE ROCK AND HARDWARE CLOTH TO ALLOW PROPER DRAINAGE. SILT SACKS WILL BE EMPTIED ONCE A WEEK AND AFTER EVERY RAIN EVENT. SEDIMENT WILL BE REMOVED FROM AROUND BEAVER DAMS, DANDY SACKS AND SOCKS ONCE A WEEK AND AFTER EVERY RAIN EVENT.

4. DIVERSION DITCHES WILL BE CLEANED OUT IMMEDIATELY TO REMOVE SEDIMENT OR OBSTRUCTIONS FROM THE FLOW AREA. THE DIVERSION RIDGES WILL ALSO BE REPAIRED. SWALES MUST BE TEMPORARILY STABILIZED WITHIN 21 CALENDAR DAYS OF CEASE OF ANY PHASE OF ACTIVITY ASSOCIATED WITH A SWALE.

5. SEDIMENT WILL BE REMOVED FROM BEHIND THE SEDIMENT FENCE WHEN IT BECOMES HALF FILLED. THE SEDIMENT FENCE WILL BE REPAIRED AS NECESSARY TO MAINTAIN A BARRIER. STAKES MUST BE STEEL. STAKE SPACING WILL BE 6 FEET MAX. WITH THE USE OF EXTRA STRENGTH FABRIC, WITHOUT WIRE BACKING. STAKE SPACING WILL BE 8 FEET MAX. WHEN STANDARD STRENGTH FABRIC AND WIRE BACKING ARE USED. IF ROCK FILTERS ARE DESIGNED AT LOW POINTS IN THE SEDIMENT FENCE, THE ROCK WILL BE REPAIRED OR REPLACED IF IT BECOMES HALF–FULL OF SEDIMENT, NO LONGER DRAINS AS DESIGNED OR IS DAMAGED.

6. SEDIMENT WILL BE REMOVED FROM SEDIMENT TRAPS WHEN THE DESIGNED STORAGE CAPACITY HAS BEEN HALF FILLED WITH SEDIMENT. THE ROCK WILL BE CLEANED OR REPLACED WHEN THE SEDIMENT POOL NO LONGER DRAINS OR WHEN THE ROCK IS DISLODGED. BAFFLES WILL BE REPAIRED OR REPLACED IF THEY COLLAPSE, TEAR, DECOMPOSE OR BECOME INEFFECTIVE. THEY WILL BE REPLACED PROMPTLY. SEDIMENT WILL BE REMOVED WHEN DEPOSITS REACH HALF THE HEIGHT OF THE 1ST BAFFLE. FLOATING SKIMMERS WILL BE INSPECTED AND KEPT CLEAN WEEKLY.

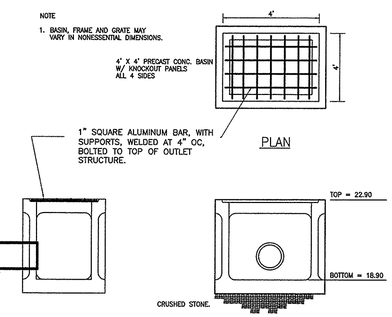
7. SEDIMENT WILL BE REMOVED FROM THE SEDIMENT BASIN WHEN THE DESIGN STORAGE CAPACITY HAS BEEN HALF FILLED WITH SEDIMENT. ROCK WILL BE CLEANED OR REPLACED WHEN THE SEDIMENT POOL NO LONGER DRAINS OR IF THE ROCK IS DISLODGED. BAFFLES WILL BE REPAIRED OR REPLACED IF THEY COLLAPSE, TEAR, DECOMPOSE OR BECOME INEFFECTIVE. THEY WILL BE REPLACED PROMPTLY. SEDIMENT WILL BE REMOVED FROM BAFFLES WHEN DEPOSITS REACH HALF THE HEIGHT OF THE 1ST BAFFLE. FLOATING SKIMMERS WILL BE INSPECTED WEEKLY AND WILL BE KEPT CLEAN.

8. LAND QUALITY REQUIRES:
ALL SEEDED AREAS WILL BE FERTILIZED, RESEEDED AS NECESSARY, AND MULCHED, ACCORDING TO SPECIFICATIONS IN THE VEGETATIVE PLAN, TO MAINTAIN A VIGOROUS, DENSE VEGETATIVE COVER. ALL SLOPES WILL BE STABILIZED WITHIN 21 CALENDAR DAYS. ALL OTHER AREAS WILL BE STABILIZED WITHIN 15 WORKING DAYS.

WATER QUALITY REQUIRES:
ALL SEEDED AREAS WILL BE FERTILIZED, RESEEDED AS NECESSARY AND MULCHED ACCORDING TO SPECIFICATIONS IN THE VEGETATIVE PLAN TO MAINTAIN A VIGOROUS, DENSE VEGETATIVE COVER. ALL PERIMETER DIKES, SWALES, DITCHES, PERIMETER SLOPES, ALL SLOPES STEEPER THAN 3' HORIZONTAL TO 1' VERTICAL (3:1) AND ALL HIGH QUALITY WATER (HQW) ZONES SHALL BE PROVIDED TEMPORARY OR PERMANENT STABILIZATION WITH GROUND COVER AS SOON AS PRACTICABLE BUT IN ANY EVENT WITHIN SEVEN (7) CALENDAR DAYS FROM THE LAST LAND–DISTURBING ACTIVITY. ALL OTHER DISTURBED AREAS SHALL BE PROVIDED TEMPORARY OR PERMANENT STABILIZATION WITH GROUND COVER AS SOON AS PRACTICABLE BUT IN ANY EVENT WITHIN FOURTEEN (14) CALENDAR DAYS FROM THE LAST LAND–DISTURBING ACTIVITY.

CITY OF WILMINGTON STANDARD NOTES

1. CONTACT THE NORTH CAROLINA ONE CALL CENTER PRIOR TO DOING ANY DIGGING AT 1–800–632–4949.
2. PRIOR TO ANY CLEARING, GRADING OR CONSTRUCTION ACTIVITY, TREE PROTECTION FENCING WILL BE INSTALLED AROUND PROTECTED TREES OR GROVES OF TREES AND NO CONSTRUCTION WORKERS, TOOLS, MATERIALS, OR VEHICLES ARE PERMITTED WITHIN THE TREE PROTECTION FENCING.
3. ALL PAVEMENT MARKINGS IN PUBLIC RIGHTS–OF–WAY AND FOR DRIVEWAYS ARE TO BE THERMOPLASTIC AND MEET CITY AND/OR NCDOT STANDARDS.
4. ALL PARKING STALL MARKINGS AND LANE ARROWS WITHIN THE PARKING AREAS SHALL BE WHITE.
5. INSTALL REFLECTORS PER CITY AND NCDOT STANDARDS. TRAFFIC ENGINEERING MUST APPROVE OF PAVEMENT MARKING LAYOUT PRIOR TO ACTUAL STRIPING.
6. ALL TRAFFIC CONTROL SIGNS AND MARKINGS OFF THE RIGHT–OF–WAY ARE TO BE MAINTAINED BY THE PROPERTY OWNER IN ACCORDANCE WITH MUTCD STANDARDS.
7. TRAFFIC CONTROL DEVICES (INCLUDING SIGNS AND PAVEMENT MARKINGS) IN AREAS OPEN TO PUBLIC TRAFFIC ARE TO MEET MUTCD (MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES) STANDARDS.
8. IT SHALL BE THE RESPONSIBILITY OF THE SUBDIVIDER TO ERECT OFFICIAL STREET NAME SIGNS AT ALL INTERSECTIONS ASSOCIATED WITH THE SUBDIVISION IN ACCORDANCE WITH THE TECHNICAL STANDARDS AND SPECIFICATIONS MANUAL. THE SUBDIVIDER MAY ACQUIRE AND ERECT OFFICIAL STREET NAME SIGNS OR MAY CHOOSE TO CONTRACT WITH THE CITY TO INSTALL THE STREET SIGNS AND THE SUBDIVIDER SHALL PAY THE COST OF SUCH INSTALLATION. CONTACT TRAFFIC ENGINEERING AT 341–7888 TO DISCUSS INSTALLATION OF TRAFFIC AND STREET NAME SIGNS. POSTED STREET NAMES MUST BE APPROVED PRIOR TO INSTALLATION OF STREET NAME SIGNS.
9. CONTACT TRAFFIC ENGINEERING AT 341–7888 FOURTY–EIGHT HOURS PRIOR TO ANY EXCAVATION IN THE RIGHT–OF–WAY.
10. A UTILITY CUT PERMIT IS REQUIRED FOR EACH OPEN CUT OF A CITY STREET. CONTACT 341–5888 FOR MORE DETAILS. IN CERTAIN CASES AN ENTIRE RESURFACING OF THE AREA BEING OPEN CUT MAY BE REQUIRED.
11. ANY BROKEN OR MISSING SIDEWALK PANELS, DRIVEWAY PANELS, AND CURBING WILL BE REPLACED.
12. CONTACT KAREN DIXON AT 341–7888 TO DISCUSS STREET LIGHTING OPTIONS.
13. PROJECT SHALL COMPLY WITH CFPUA CROSS CONNECTION CONTROL REQUIREMENTS. WATER METER(S) CANNOT BE RELEASED UNTIL ALL REQUIREMENTS ARE MET AND THE STATE HAS GIVEN THEIR FINAL APPROVAL. CALL 343–3910 FOR INFORMATION.
14. IF THE CONTRACTOR DESIRES CFPUA WATER FOR CONSTRUCTION HE SHALL APPLY IN ADVANCE FOR THIS SERVICE AND MUST PROVIDE A REDUCED PRESSURE ZONE (RPZ) BACKFLOW PREVENTION DEVICE ON THE DEVELOPER'S SIDE OF THE WATER METER BOX.
15. ANY IRRIGATION SYSTEM SUPPLIED BY CFPUA WATER SHALL COMPLY WITH CFPUA CROSS CONNECTION CONTROL REGULATIONS. CALL 332–6558 FOR INFORMATION.
16. ANY BACKFLOW PREVENTION DEVICES REQUIRED BY CFPUA WILL NEED TO BE ON THE LIST OF APPROVED DEVICES BY USC/FCCOHR OR ASSE.
17. WHEN PVC WATER MAINS AND/OR POLYETHYLENE SERVICES ARE PROPOSED, THE PIPES ARE TO BE MARKED WITH NO. 10 INSULATED SINGLE STRAND COPPER WIRE INSTALLED THE ENTIRE LENGTH AND SECURED TO ALL VALVES. THIS WIRE IS TO BE ACCESSIBLE AT ALL FIRE HYDRANTS AND WATER METER BOXES TO AID IN FUTURE LOCATION OF FACILITIES.
18. THE NUMBER AND SPACING OF DRIVEWAYS FOR ALL INTERCONNECTED SITES WILL BE DETERMINED BY THE COMBINED FRONTAGE OF THE INTERCONNECTED PROPERTIES.
19. UNDERGROUND FIRE LINE MUST BE PERMITTED AND INSPECTED BY THE WILMINGTON FIRE DEPARTMENT FROM THE PUBLIC ROW TO THE BUILDING. CONTACT THE WILMINGTON FIRE DEPARTMENT DIVISION OF FIRE AND LIFE SAFETY AT 910–343–0696 FOR ADDITIONAL INFORMATION.



PLAN

SECTION

ELEVATION

EMERGENCY OUTLET STRUCTURE
NTS

SITE WORK NOTES:

1. THE CONTRACTOR SHALL VISIT THE SITE TO BECOME FAMILIAR WITH FIELD CONSTRUCTION CONDITIONS.
2. CONTRACTOR SHALL COORDINATE WORK WITHIN NCDOT AND LOCAL RIGHT OF WAYS WITH PROPER AUTHORITIES AND SHALL MEET ANY REQUIREMENTS AS TO TRAFFIC CONTROL AND CONNECTION TO EXISTING STREETS.
3. CLEARING AND GRUBBING: REMOVE ALL TREES AS REQUIRED UNLESS OTHERWISE NOTED TO REMAIN, STUMPS, ROOTS, SHRUBBERY, ASPHALT, CONCRETE, STRUCTURES, BURIED UTILITIES, STORAGE TANKS, ETC. WITHIN LIMITS OF CONSTRUCTION.
4. STRIPPING: BEFORE EXCAVATING OR FILLING, REMOVE ALL TOPSOIL, WOOD, LEAVES, AND ANY OTHER UNSUITABLE MATERIAL.
5. MUCKING: REMOVE ANY SOFT, ORGANIC SILT MATERIALS AND EXISTING BURIED CONSTRUCTION DEBRIS AS REQUIRED AND FILL TO SUBGRADE ELEVATIONS WITH A CLEAN SELECT–FILL COMPACTED AS SPECIFIED.
6. DISPOSAL: CLEARED, GRUBBED, STRIPPED OR EXCAVATED SPOIL SHALL BE REMOVED FROM SITE AND DISPOSED OF IN ACCORDANCE WITH ALL APPLICABLE LOCAL AND STATE CODES.
7. BORROW MATERIAL: THE CONTRACTOR SHALL FURNISH BORROW MATERIAL REQUIRED FROM OFF SITE AND OBTAIN ALL REQUIRED PERMITS ASSOCIATED WITH BORROW OPERATIONS.
8. FILL AND COMPACTION: AFTER STRIPPING THOSE AREAS DESIGNATED TO RECEIVE FILL SHOULD BE PROOFROLLED. THE TOP 8" OF SUBGRADE SHALL BE COMPACTED TO AT LEAST 98% OF MAXIMUM DENSITY AT OPTIMUM MOISTURE CONTENT. ANY AREA WHICH PUMPS OR RUTS EXCESSIVELY SHOULD BE UNDERCUT AND REPLACED WITH A CLEAN, SILTY OR CLAYEY SAND HAVING A UNIFIED SOIL CLASSIFICATION OF SP, SM, OR SC. FILL MATERIAL 5" OUTSIDE OF BUILDING AREAS SHALL THEN BE PLACED IN LAYERS NOT TO EXCEED 8" AND COMPACTED TO AT LEAST 95% OF THE STANDARD PROCTOR MAXIMUM DRY DENSITY (ASTM D–698) WITH THE UPPER 12 INCHES OF SUBGRADE BEING COMPACTED TO 98% OF THE STANDARD PROCTOR MAXIMUM DRY DENSITY. FILL MATERIALS WITHIN BUILDING AREAS TO A LINE OUTSIDE THE BUILDING AREAS SHALL BE PLACED IN LAYERS NOT TO EXCEED 8" AND COMPACTED TO AT LEAST 98% OF THE STANDARD PROCTOR MAXIMUM DRY DENSITY (ASTM D–698) WITH THE UPPER 12 INCHES OF SUBGRADE BEING COMPACTED IN 6 INCH LAYERS TO 100% OF THE STANDARD PROCTOR MAXIMUM DRY DENSITY. IN AREAS WHERE NO STRUCTURAL FILL IS TO BE PLACED THE UPPER 12 INCHES OF IN–PLACE SUBGRADE SHOULD BE COMPACTED TO AT LEAST 98% OF THE STANDARD PROCTOR MAXIMUM DRY DENSITY. IF THE MATERIAL IS TOO DRY TO COMPACT TO THE REQUIRED DENSITY EACH LAYER SHALL BE WETTED IN ACCORDANCE WITH COMPACTION REQUIREMENTS. IF THE MATERIAL IS TOO WET TO SECURE PROPER COMPACTION, IT SHALL BE HARROWED REPEATEDLY OR OTHERWISE AERATED WITH SUITABLE EQUIPMENT UNTIL OPTIMUM MOISTURE CONTENT IS OBTAINED. FILL SHALL BE PLACED IN SUCH A MANNER THAT THE SURFACE WILL DRAIN READILY AT ALL TIMES. SEE STRUCTURAL NOTES AND SOILS REPORT FOR ADDITIONAL REQUIREMENTS.
9. LAYOUT: THE CONTRACTOR SHALL PROVIDE ALL LAYOUT REQUIRED TO CONSTRUCT HIS WORK.
10. THE CONTRACTOR IS RESPONSIBLE FOR THE LOCATION AND PROTECTION OF EXISTING UTILITIES DURING CONSTRUCTION.
11. EXISTING BOUNDARY AND TOPOGRAPHIC INFORMATION FROM SURVEY BY MICHAEL UNDERWOOD AND ASSOCIATES, PA AND PROVIDED BY OWNER.
12. THE CONTRACTOR SHALL VERIFY DIMENSIONS AT JOBSITE.
13. THE CONTRACTOR IS RESPONSIBLE FOR THE COORDINATION OF RELOCATION OR DISCONNECTION OF ALL EXISTING UTILITIES WITH APPLICABLE AGENCIES AND AUTHORITIES.
14. ALL PAVEMENT AND BASE MATERIALS AND WORKMANSHIP SHALL CONFORM TO NCDOT STANDARDS.
15. WATER AND SEWER SERVICES SHALL BE INSTALLED TO MEET LOCAL AND STATE PLUMBING CODES. METER AND TAPS SHALL MEET ALL LOCAL REQUIREMENTS.
16. ALL AREAS SHALL BE GRADED FOR POSITIVE DRAINAGE.
17. SEE SOILS REPORT FOR ADDITIONAL REQUIREMENTS.
18. CONTRACTOR SHALL NOTE THAT EARTHWORK QUANTITIES ARE HIS RESPONSIBILITY. PLANS DO NOT REPRESENT A BALANCED EARTHWORK CONDITION.
19. REINF. CONC. PIPE SHALL BE CLASS III W/RUBBER GASKETED JOINT OR "RAM NECK". INSTALL PER MANUFACTURER'S REQUIREMENTS.
20. USE WHITE LANE MARKING PAINT FOR ALL PAVEMENT MARKINGS. PAINT SHALL BE A CHLORINATED RUBBER ALKYD, FS TT–P–115, TYPE III, FACTORY MIXED, QUICK DRYING, NON–BLEEDING.
21. REFER TO THE PLUMBING DRAWINGS FOR LOCATION AND INVERTS OF NEW WASTE AND WATER LINES.

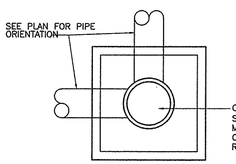
TEMPORARY/PERMANENT
GRASS SPECIFICATION

1. CHISEL COMPACTED AREAS AND SPREAD TOPSOIL 3 INCHES DEEP OVER ADVERSE SOIL CONDITIONS.
2. RIP THE ENTIRE AREA TO A 6 INCH DEPTH.
3. REMOVE ALL ROCKS, ROOTS AND OTHER OBSTRUCTIONS LEAVING SURFACES SMOOTH AND UNIFORM.
4. APPLY AGRICULTURAL LIME AND FERTILIZER UNIFORMLY AND MIX WITH SOIL.
   LIME: 45 LBS. PER 1000 S.F.
   PHOSPHOROUS: 20 LBS PER 1000 S.F.
   FERTILIZER: 17 LBS. PER 1000 S.F.
5. CONTINUE TILLAGE UNTIL A WELL PULVERIZED, FIRM, UNIFORM SEED BED IS PREPARED 4–8 INCHES DEEP.
6. SEED ON A FRESHLY PREPARED SEED BED AND COVER SEED LIGHTLY.
   2 – 3 LBS PER 1000 S.F. (SEE MIXTURE BELOW)
7. MULCH IMMEDIATELY AFTER SEEDING AND ANCHOR MULCH.
   GRAIN STRAW & HAY AT 75 TO 100 LBS PER 1000 S.F.
   WOOD CHIPS AT 500 LBS. PER 1000 S.F.
   JUTE & MESH AS PER MANUFACTURER
8. ASPHALT FOR ANCHORING MULCH SHALL BE TYPE SS–1 EMULSION AND APPLIED AT A RATE OF 1000 GAL. PER ACRE FOR SLOPE STABILIZATION, AND 150 GAL. PER TON OF STRAW FOR ANCHORING STRAW.
9. INSPECT ALL SEEDED AREAS AND MAKE NECESSARY REPAIRS OR RESEED WITHIN THE PLANTING SEASON, IF POSSIBLE. IF GRASS STAND SHOULD BE OVER 60% DAMAGED, REESTABLISH FOLLOWING ORIGINAL LIME, FERTILIZER AND SEEDING RATES.
10. CONSULT CONSERVATION INSPECTOR ON MAINTENANCE, TREATMENT, AND FERTILIZATION AFTER PERMANENT COVER IS ESTABLISHED.
11. SEED FOR TEMPORARY AND PERMANENT APPLICATIONS SHALL BE:

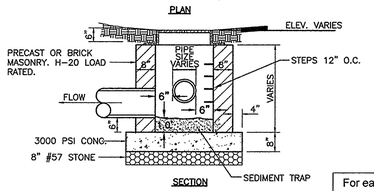
20%	CARPET GRASS
28%	BERMUDA GRASS
20%	TURF FESCUE
10%	CREEPING RED FESCUE
20%	ANNUAL RYE GRAIN

*BERMUDA SEED SHALL BE HULLED FOR WARM WEATHER PLANTING. PURITY OF SEED SHALL BE A MIN. OF 98% AND GERMINATION SHALL BE A MIN. OF 85%.

ALL DISTURBED AREA SHALL BE SEEDED WITHIN 7–14 DAYS OF THE COMPLETION OF GRADING. SEE EROSION CONTROL AND MAINTENANCE NOTES. CONSULT CONSERVATION ENGINEER OR SOIL CONSERVATION SERVICE FOR ADDITIONAL INFORMATION CONCERNING OTHER ALTERNATIVES FOR VEGETATION OF DENUDED AREAS. THE ABOVE VEGETATION RATES ARE THOSE WHICH DO WELL UNDER LOCAL CONDITIONS, OTHER SEEDING SCHEDULES MAY BE POSSIBLE.



PLAN

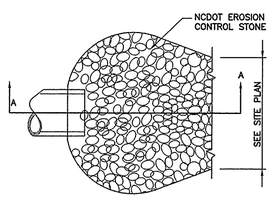


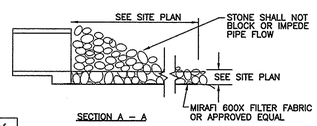
SECTION

MUST COMPLY WITH CITY OF WILMINGTON STANDARDS

JUNCTION BOX DETAIL
NTS

For each open utility cut of City streets, a $325 permit shall be required from the City prior to occupancy and/or project acceptance.

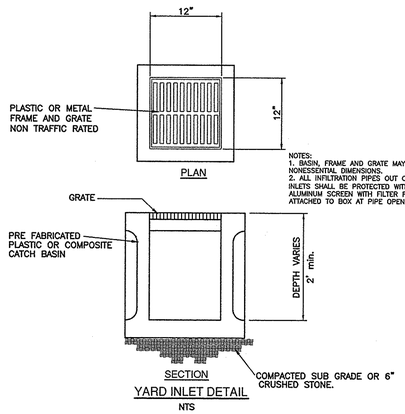




SECTION A – A

NOTE: FILTER FABRIC AND STONE SHALL BE TOED UNDER FLARED END SECTION

ENERGY DISSIPATOR
NTS

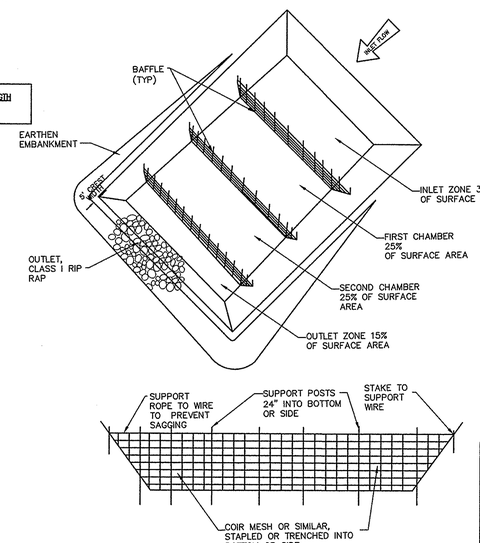


PLAN

NOTES:
1. BASIN, FRAME AND GRATE MAY VAY IN NONESSENTIAL DIMENSIONS.
2. ALL INFILTRATION PIPES OUT OF YARD INLETS SHALL BE PROTECTED WITH 1/4" ALUMINUM SCREEN WITH FILTER FABRIC ATTACHED TO BOX AT PIPE OPENING.

SECTION

YARD INLET DETAIL
NTS



CITY OF WILMINGTON NORTH CAROLINA
Public Services • Engineering Division
APPROVED STORMWATER MANAGEMENT PLAN
Date:_____ Permit #_____
Signed: _____

Approved Construction Plan

	Name	Date
Planning		
Traffic		
Fire		

SYMBOL	DATE	DESCRIPTION	BY
		REVISIONS	

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NOTES AND DETAILS

SPARTINA AT LUMINA STATION - 2011 ALLENS LANE
ALLENS LANE/WRIGHTSVILLE AVE.
WILMINGTON, NORTH CAROLINA

OWNER/DEVELOPER
ALLEN'S LANE PARTNERS, LLC
JAMES E. WALLACE, JR.
MEMBER/MANAGER
1902 EASTWOOD ROAD
WILMINGTON, NC 28403
910 5091921

NORRIS & TUNSTALL
CONSULTING ENGINEERS, P.C.
1127 FLORAL PARKWAY
SUITE 400
WILMINGTON, NC 28403
PHONE (910) 343–9653
FAX (910) 343–9604
office@nrtengr.com
licence #C–3641

13082

DES.	JST
CKD.	JPN
DRWN.	NKS
DATE	1/27/14

NORTH CAROLINA PROFESSIONAL SEAL 19851 ENGINEER JOHN S. TUNSTALL

C4

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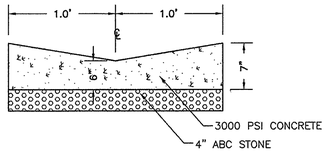
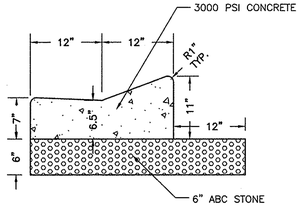
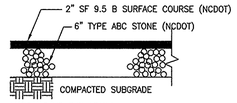


2' WIDE CONCRETE FLUME
NTS

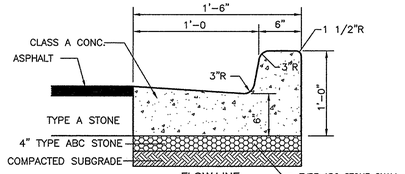


24" VALLEY CURB & GUTTER
NTS



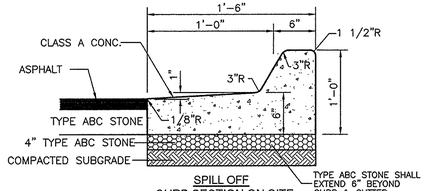
NOTE: PAVEMENT SECTION MAY VARY DEPENDING UPON FIELD CONDITIONS. CONTRACTOR SHALL COORDINATE w/OWNER & GEOTECHNICAL ENGINEER TO DETERMINE ACTUAL PAVEMENT SECTION.

ASPHALT PAVEMENT SECTION
N.T.S.



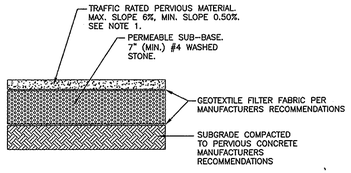
FLOW LINE
CURB SECTION ON SITE
NTS

NOTE: CURB TYPE DEPENDS ON GRADES SHOWN ON GRADING PLAN. GRADES INDICATING FALL AWAY FROM CURB SHALL BE SPILL OFF TYPE CURB. GRADES INDICATING CURB ACCEPTING FLOW SHALL BE FLOW LINE TYPE.



SPILL OFF
CURB SECTION ON SITE
NTS

NOTE: CURB TYPE DEPENDS ON GRADES SHOWN ON GRADING PLAN. GRADES INDICATING FALL AWAY FROM CURB SHALL BE SPILL OFF TYPE CURB. GRADES INDICATING CURB ACCEPTING FLOW SHALL BE FLOW LINE TYPE.



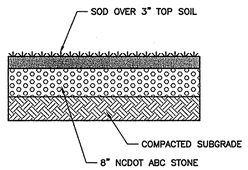
NOTES:

1. TRAFFIC RATED PERVIOUS MATERIALS SHALL BE INSTALLED PER MANUFACTURERS RECOMMENDATIONS.

2. PERVIOUS MATERIALS SECTION MAY VARY DEPENDING UPON FIELD CONDITIONS. THE CONTRACTOR SHALL COORDINATE WITH HOME OWNERS ASSOCIATION ARCHITECTURAL REVIEW BOARD TO DETERMINE ACTUAL PAVEMENT SECTION.

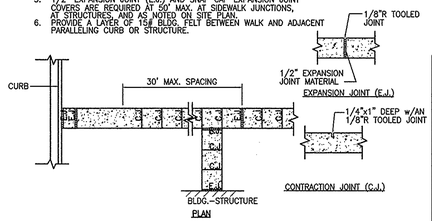
3. THE SURFACE OF SOIL SUBGRADE SHALL HAVE A SLOPE LESS THAN OR EQUAL TO 0.5%. TERRACES OR BAFFLES MAY BE INCORPORATED TO ACHIEVE FLAT SUBGRADES UNDER SLOPING SURFACES.

PERVIOUS PAVEMENT SECTION
N.T.S.

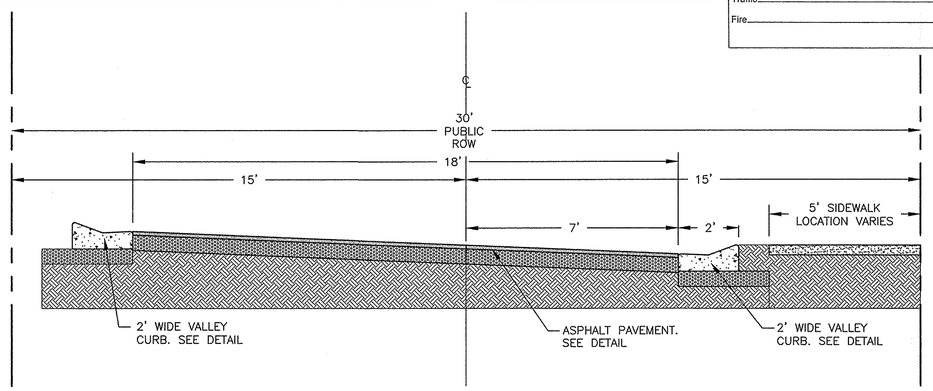


REINFORCED TURF
NTS

NOTES:
1. SIDEWALK THICKNESS SHALL BE 4" UNLESS NOTED OTHERWISE.
2. CONTRACTION JOINTS (C.J.) SPACE SAME AS SIDEWALK WIDTH.
3. THICKEN SIDEWALK TO 6" AT DRIVEWAYS.
4. THICKEN SIDEWALK TO 6" IN LAST 3' WHERE IT ABUTS PAVEMENT WITH NO CURB.
5. 1/2" EXPANSION JOINT (E.J.) AND SNAP CAP EXPANSION JOINT COVERS ARE REQUIRED AT 50' MAX. AT SIDEWALK JUNCTIONS, AT STRUCTURES, AND AS NOTED ON SITE PLAN.
6. PROVIDE A LAYER OF 15# BLDG. FELT BETWEEN WALK AND ADJACENT PARALLELING CURB OR STRUCTURE.



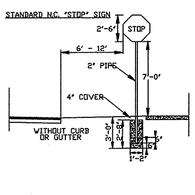
SIDEWALK JOINT DETAILS

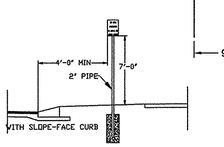


PROPOSED ALLEN'S LANE ROAD SECTION
NTS

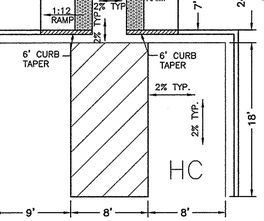
Approved Construction Plan

	Name	Date
Planning		
Traffic		
Fire		

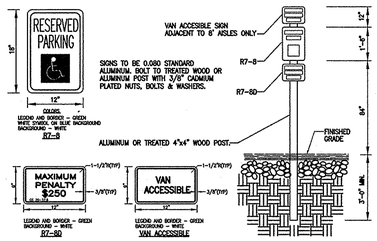




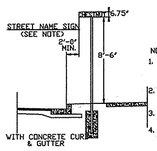
STANDARD INFORMATION SIGN



HANDICAPPED RAMP DETAIL
NTS

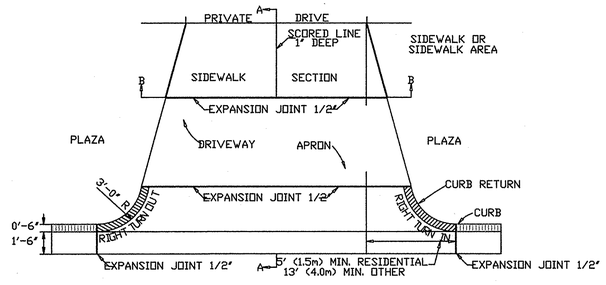


TYPICAL HANDICAPPED SIGN DETAIL
NTS

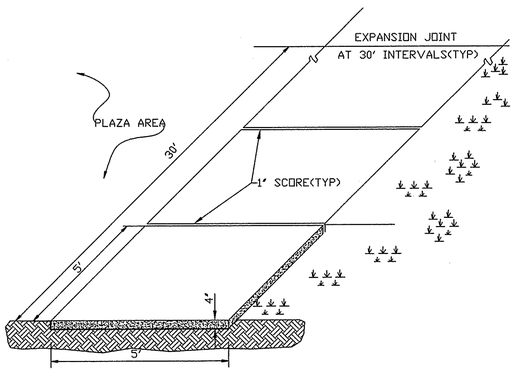


NOTES:
1. STREET NAME SIGNS SHALL BE A MINIMUM OF 6' EXTRUDED ALUMINUM BLADES USING A MINIMUM OF 4" C SERIES LETTERING IN REFLECTIVE SILVER & REFLECTIVE GREEN BACKGROUND.
2. ALL REFLECTIVE SIGNS SHALL BE MADE OF ENGINEERING GRADE, OR HIGH INTENSITY GRADE REFLECTIVE SHEETING OR APPROVED EQUIVALENT.
3. ALL SIGNS PLACED IN RIGHT-OF-WAY WILL BE APPROVED BY TRAFFIC ENGINEERING DIVISION.
4. ALL FOOTINGS TYPICAL FOR ALL SIGNS, WHICH NEED TO BE ANCHORED IN CONCRETE.

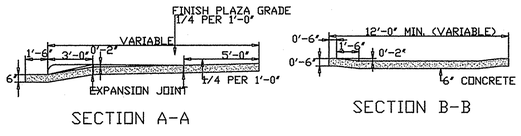
STANDARD SIGN INSTALLATION LOCATION
SD 15-03
NOT TO SCALE



PAVEMENT PLAN



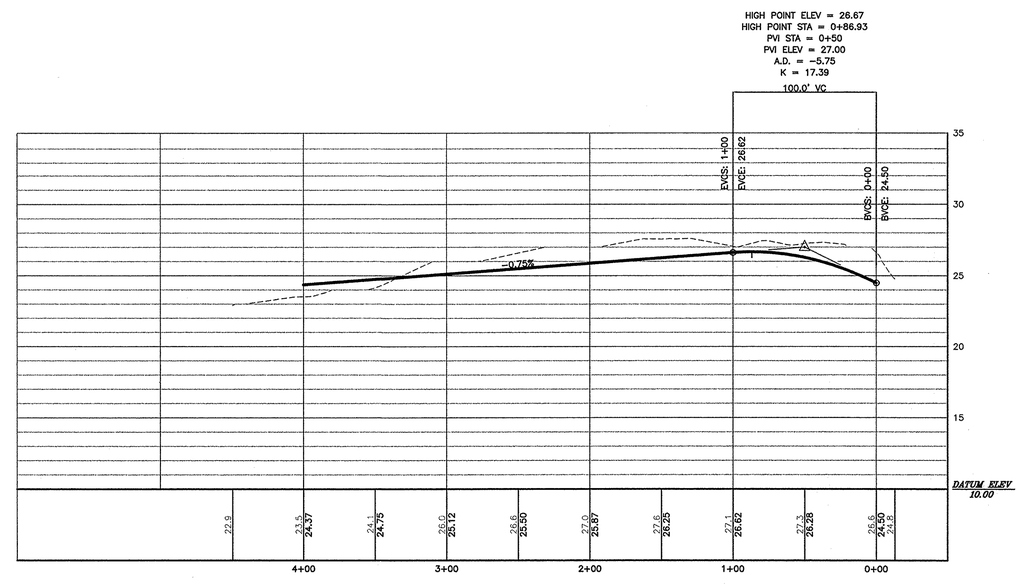
STANDARD SIDEWALK DETAIL
SD 8-15
NOT TO SCALE



SECTION A-A

SECTION B-B

STANDARD DRIVEWAY DETAIL
SD 8-02
NOT TO SCALE



ALLEN'S LANE ROAD PROFILE
SCALE: 1"=50' HORIZONTAL
1"=5' VERTICAL

For each open utility cut of City streets, a $325 permit shall be required from the City prior to occupancy and/or project acceptance.

SYMBOL	DATE	DESCRIPTION	BY
		REVISIONS	

© 2013 NORRIS & TUNSTALL

NOTES AND DETAILS

SPARTINA AT LUMINA STATION - 2011 ALLENS LANE
ALLENS LANE/WRIGHTSVILLE AVE.
WILMINGTON, NORTH CAROLINA

OWNER/DEVELOPER
ALLEN'S LANE PARTNERS, LLC
JAMES E. WALLACE, JR.
MEMBER/MANAGER
1902 EASTWOOD ROAD
WILMINGTON, NC 28403
910 5091921

NORRIS & TUNSTALL
CONSULTING ENGINEERS, P.C.
1127 FLORAL PARKWAY
SUITE 400
WILMINGTON, NC 28403
PHONE (910) 343-9653
FAX (910) 343-9604
office@nxtteng.com
licence #C-3641

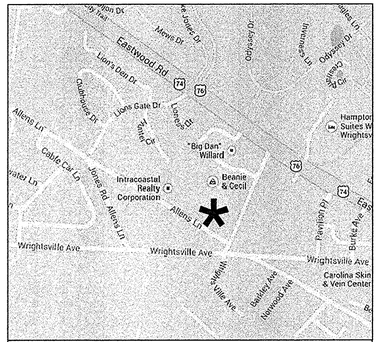
13082

DES.	JST
CKD.	JPN
DRWN.	NKS
DATE	11/20/13

NORTH CAROLINA PROFESSIONAL SEAL 19851 ENGINEER JOHN P. TUNSTALL II

C5

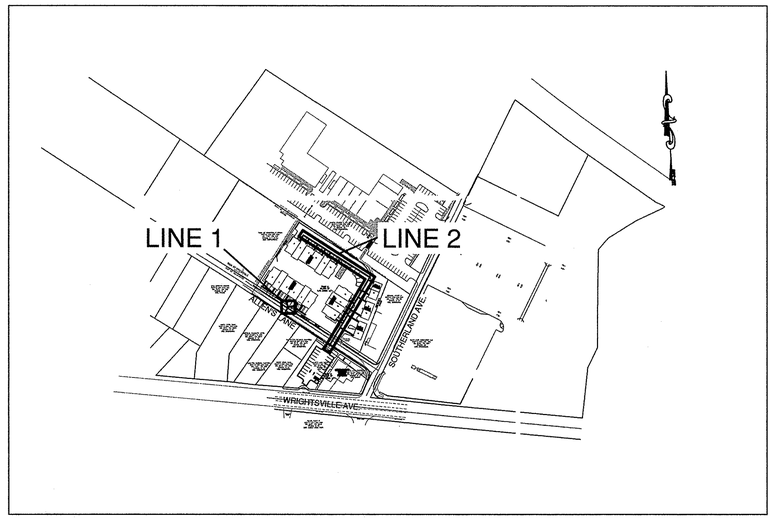
F:\Projects\2013\13039 The Townhomes @ Lumina Station Rezoning\13039 Plans\dwg\nancy current.dwg, 11/20/2013 11:07:53 AM



LOCATION MAP NTS

SPARTINA AT LUMINA STATION

2011 ALLENS LANE
WILMINGTON, NC
NEW HANOVER COUNTY



SCALE: 1" = 200'

0 200 400 600

OWNER/DEVELOPER
ALLEN'S LANE PARTNERS, LLC
JAMES E. WALLACE, JR.
MEMBER/MANAGER
1902 EASTWOOD ROAD
WILMINGTON, NC 28403
910 5091921

SURVEYOR:
MICHAEL UNDERWOOD and ASSOCIATES, PA
3963 MARKET STREET, SUITE C-3
WILMINGTON, NC 28403
PHONE: 910-815-0650
FAX: 910-815-0393
E-MAIL: mua@bizec.rr.com

NORRIS & TUNSTALL
CONSULTING ENGINEERS, INC.
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WILMINGTON, NC, 28403
PHONE (910) 343-9653
FAX (910) 343-9604
office@nkteng.com
licence #C-0520

For each open utility cut of City streets, a $325 permit shall be required from the City prior to occupancy and/or project acceptance.

NCDENR PWSS WATER PERMIT #: _____
WATER CAPACITY: _____ GPD
DWQ SEWER PERMIT #: _____
SEWER CAPACITY: _____ GPD
SEWER SHED # AND PLANT: _____
SEWER TO FLOW THROUGH NEI: YES or NO (CIRCLE ONE)

CITY OF WILMINGTON NORTH CAROLINA
Public Services • Engineering Division
APPROVED STORMWATER MANAGEMENT PLAN
Date:_____ Permit #_____
Signed: _____

Approved Construction Plan
Name Date
Planning_____
Traffic_____
Fire_____

INDEX OF SHEETS

COVER SHEET
PR1: SS PLAN AND PROFILE LINE 1
WSD-1 WATERMAIN CONSTRUCTION STANDARD DETAILS
WSD-2 WATERMAIN CONSTRUCTION STANDARD DETAILS
SSD-1: SANITARY SEWER STANDARD DETAILS
SSD-2: SANITARY SEWER STANDARD DETAILS
SSD-3: SANITARY SEWER STANDARD DETAILS

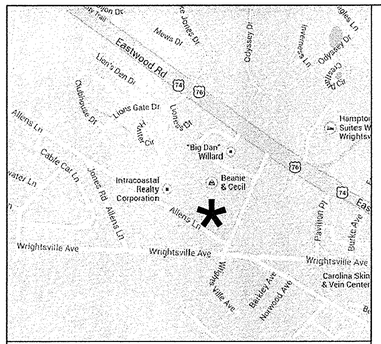
PUBLIC SS

16 LF 8" DIP
29 LF 8" C900 PVC
45 LF TOTAL

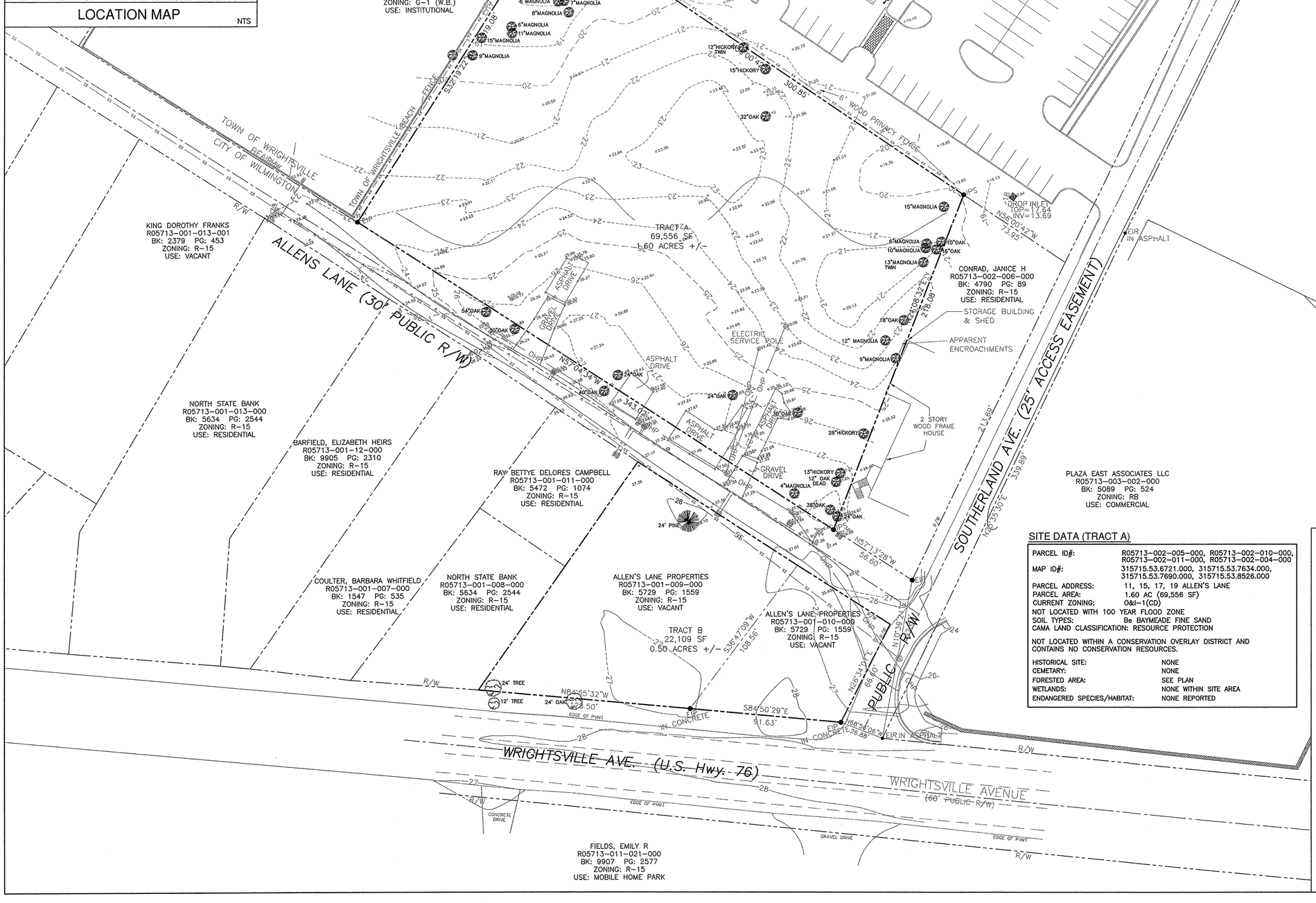
PRIVATE SS

220 LF 8" DIP
194 LF 8" C900 PVC
414 LF TOTAL

13082



LOCATION MAP NTS



SYMBOL	DATE	DESCRIPTION	BY
		REVISIONS	

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SITE INVENTORY PLAN

SPARTINA AT LUMINA STATION - 2011 ALLENS LANE
ALLENS LANE
WILMINGTON, NORTH CAROLINA

OWNER/DEVELOPER
ALLEN'S LANE PARTNERS, LLC
JAMES E. WALLACE, JR.
MEMBER/MANAGER
1902 EASTWOOD ROAD
WILMINGTON, NC 28403
910 5091921

APPLICANT/PREPARER OF PLAN:
NORRIS & TUNSTALL CONSULTING ENGINEERS, INC.
1127 FLORAL PARKWAY
SUITE 300/400
WILMINGTON, NC, 28403
PHONE (910) 343-9653
(910) 343-9604 FAX
LICENCE #C-3641

SURVEYOR:
MICHAEL UNDERWOOD and ASSOCIATES, PA
102 CINEMA DRIVE, SUITE C
WILMINGTON, NC 28403
PHONE: 910-815-0650
FAX: 910-815-0393
E-MAIL: mua@bzcc.rr.com

SITE DATA (TRACT A)

PARCEL ID#:	R05713-002-005-000, R05713-002-010-000, R05713-002-011-000, R05713-002-004-000
MAP ID#:	315715.53.6721.000, 315715.53.7634.000, 315715.53.7690.000, 315715.53.8526.000
PARCEL ADDRESS:	11, 15, 17, 19 ALLEN'S LANE
PARCEL AREA:	1.60 AC (69,556 SF)
CURRENT ZONING:	O&I-1(CD)
NOT LOCATED WITH 100 YEAR FLOOD ZONE	
SOIL TYPES:	Be BAYMEADE FINE SAND
CAMA LAND CLASSIFICATION:	RESOURCE PROTECTION

NOT LOCATED WITHIN A CONSERVATION OVERLAY DISTRICT AND CONTAINS NO CONSERVATION RESOURCES.

HISTORICAL SITE:	NONE
CEMETARY:	NONE
FORESTED AREA:	SEE PLAN
WETLANDS:	NONE WITHIN SITE AREA
ENDANGERED SPECIES/HABITAT:	NONE REPORTED

SITE DATA (TRACT B)

PARCEL ID#:	R05713-001-009-000 R05713-002-010-000
MAP ID#:	315715.53.7442.000, 315715.53.8430.000
PARCEL ADDRESS:	6841, 6843 WRIGHTSVILLE AVE.
PARCEL AREA:	0.50 AC (22,109 SF)
CURRENT ZONING:	O&I-1(CD)
NOT LOCATED WITH 100 YEAR FLOOD ZONE	
SOIL TYPES:	Be BAYMEADE FINE SAND
CAMA LAND CLASSIFICATION:	RESOURCE PROTECTION

NOT LOCATED WITHIN A CONSERVATION OVERLAY DISTRICT AND CONTAINS NO CONSERVATION RESOURCES.

HISTORICAL SITE:	NONE
CEMETARY:	NONE
FORESTED AREA:	SEE PLAN
WETLANDS:	NONE WITHIN SITE AREA
ENDANGERED SPECIES/HABITAT:	NONE REPORTED

Approved Construction Plan

	Name	Date
Planning		
Traffic		
Fire		

SCALE: 1" = 30'

0 30 60 90

NORRIS & TUNSTALL
CONSULTING ENGINEERS, P.C.
1127 FLORAL PARKWAY
SUITE 400
WILMINGTON, NC 28403
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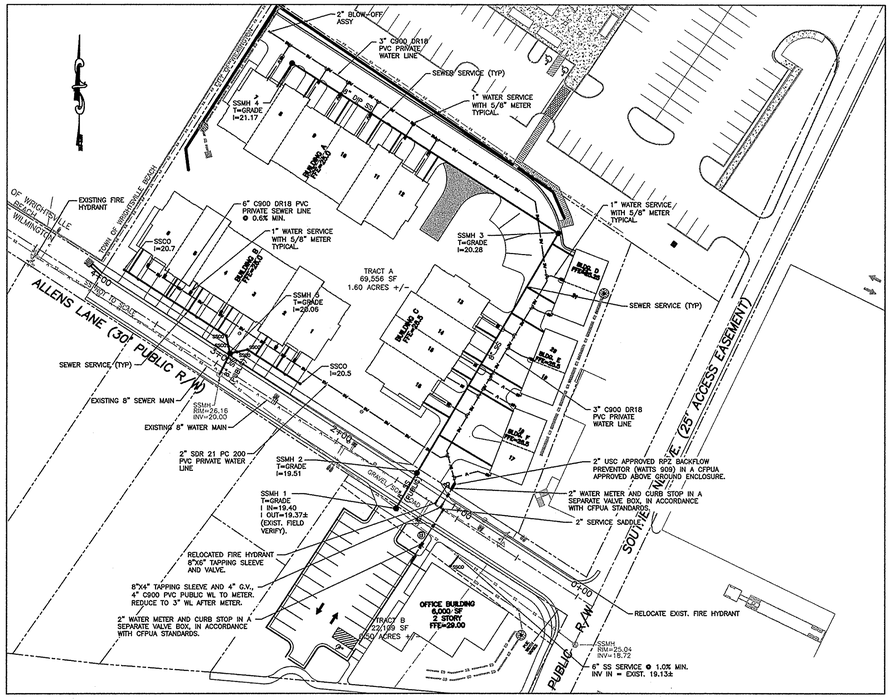
1902 EASTWOOD ROAD
WILMINGTON, NC 28403
910 5091921

13082

DES.	JST
CKD.	JPN
DRWN.	NKS
DATE	11/18/13

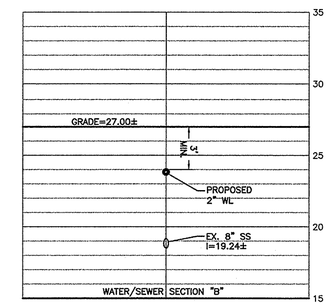
NORTH CAROLINA PROFESSIONAL SEAL 19851 ENGINEER JOHN S. TUNSTALL

C:\Projects\2013\13039 The Townhomes @ Lumina Station Rezoning\13039 Plans\Veg\veg current.dwg, 11/18/2013 12:03:48 AM



SCALE: 1" = 50'

0 50 100 150



SCALE: 1"=50' HORIZONTAL
1"=5' VERTICAL

UTILITY NOTES:

1. LATERAL SEPARATION OF SEWERS AND WATER MAINS. WATER MAINS SHALL BE LAID AT LEAST 10 FEET LATERALLY FROM EXISTING OR PROPOSED SEWERS, UNLESS LOCAL CONDITIONS OR BARRIERS PREVENT A 10 FOOT LATERAL SEPARATION–IN WHICH CASE:

(A) THE WATER MAIN IS LAID IN A SEPARATE TRENCH, WITH THE ELEVATION OF THE BOTTOM OF THE WATER MAIN AT LEAST 18 INCHES ABOVE THE TOP OF THE SEWER; OR

(B) THE WATER MAIN IS LAID IN THE SAME TRENCH AS THE SEWER WITH THE WATER MAIN LOCATED AT ONE SIDE ON A BENCH OF UNDISTURBED EARTH, AND WITH THE ELEVATION OF THE BOTTOM OF THE WATER MAIN AT LEAST 18 INCHES ABOVE THE TOP OF THE SEWER.

2. CROSSING A WATER MAIN OVER A SEWER. WHENEVER IT IS NECESSARY FOR A WATER MAIN TO CROSS OVER A SEWER, THE WATER MAIN SHALL BE LAID AT SUCH AN ELEVATION THAT THE BOTTOM OF THE WATER MAIN IS AT LEAST 18 INCHES ABOVE THE TOP OF THE SEWER, UNLESS LOCAL CONDITIONS OR BARRIERS PREVENT AN 18 INCH VERTICAL SEPARATION–IN WHICH CASE BOTH THE WATER MAIN AND THE SEWER SHALL BE CONSTRUCTED OF FERROUS MATERIALS AND WITH JOINTS THAT ARE EQUIVALENT TO WATER MAIN STANDARDS FOR A DISTANCE OF 10 FEET ON EACH SIDE OF THE POINT OF CROSSING.

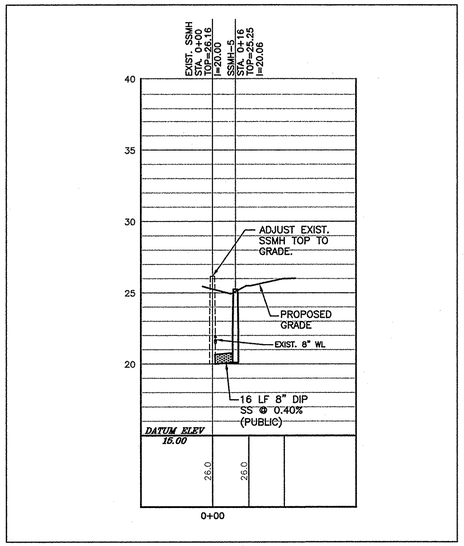
3. CROSSING A WATER MAIN UNDER A SEWER. WHENEVER IT IS NECESSARY FOR A WATER MAIN TO CROSS UNDER A SEWER, BOTH THE WATER MAIN AND THE SEWER SHALL BE CONSTRUCTED OF FERROUS MATERIALS AND WITH JOINTS EQUIVALENT TO WATER MAIN STANDARDS FOR A DISTANCE OF 10 FEET ON EACH SIDE OF THE POINT OF CROSSING. A SECTION OF WATER MAIN PIPE SHALL BE CENTERED AT THE POINT OF CROSSING.

4. THE FOLLOWING SHOULD BE FOLLOWED IN THE CASES OF GRAVITY SEWER UNDER STORM DRAIN:
- LESS THAN 12" OF SEPARATION BETWEEN STORM DRAIN AND GRAVITY SEWER, STORM DRAIN MUST BE BRIDGED.
- 12" TO 24" OF SEPARATION BETWEEN STORM DRAIN AND GRAVITY SEWER. GRAVITY SEWER CAN BE DIP OR STORM DRAIN CAN BE BRIDGED.
- GREATER THAN 24" OF SEPARATION BETWEEN STORM DRAIN AND GRAVITY SEWER NO BRIDGING OR DIP REQUIRED.

5. RESTRAINING/BLOCKING: THE PLUGS, CAPS, TEES AND BENDS DEFLECTING 22-1/2 DEGREES OR MORE EITHER VERTICALLY OR HORIZONTALLY ON WATER LINES 6 INCHES IN DIAMETER OF LARGER SHALL BE PROVIDED WITH THRUST BLOCKING OF "MEGALUG" RETAINER GLAND AT EACH JOINT, INSTALLED PER MANUFACTURER'S REQUIREMENTS.

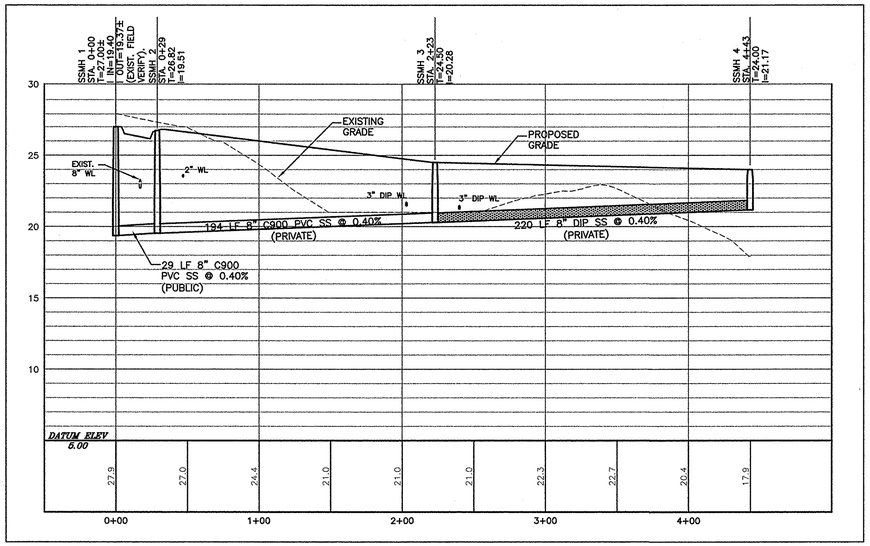
CFPUA STANDARD NOTES:

1. SEWER GUARDS REQUIRED AT ALL MANHOLES. STAINLESS STEEL SEWER GUARDS REQUIRED AT MANHOLES LOCATED IN TRAFFIC AREAS.
2. WELLS IN CONFLICT ARE TO BE RELOCATED.
3. SERVICES SHALL BE PERPENDICULAR TO MAIN AND TERMINATE AT RIGHT OF WAY LINE. SERVICES IN CUL-DE-SAC ARE REQUIRED TO BE PERPENDICULAR, OR MUST ORIGINATE IN MANHOLE AND TERMINATE AT RIGHT OF WAY LINE.
4. ALL SERVICES TYING INTO DUCTILE IRON MAINS SHALL BE CONSTRUCTED OF CLASS 50, D.I.P. 401 PROTECTO CERAMIC LINED.
5. NO FLEXIBLE COUPLINGS SHALL BE USED.
6. WATER METERS AND FIRST CLEAN-OUTS SHALL BE 18" MIN. INSIDE ROW/EASEMENT AS PER CFPUA DETAILS.



LINE 1

SCALE: 1"=50' HORIZONTAL
1"=5' VERTICAL



LINE 2

SCALE: 1"=50' HORIZONTAL
1"=5' VERTICAL

CITY OF WILMINGTON NORTH CAROLINA
Public Services • Engineering Division
APPROVED STORMWATER MANAGEMENT PLAN
Date:_____ Permit #_____
Signed: _____

For each open utility cut of City streets, a $325 permit shall be required from the City prior to occupancy and/or project acceptance.

Approved Construction Plan

	Name	Date
Planning		
Traffic		
Fire		

NCDENR PWSS WATER PERMIT #: _____
WATER CAPACITY: _____ GPD
DWQ SEWER PERMIT #: _____
SEWER CAPACITY: _____ GPD
SEWER SHED # AND PLANT: _____
SEWER TO FLOW THROUGH NEI: YES or NO (CIRCLE ONE)

REV NO.	DESCRIPTION	DATE

REVISIONS

NORTH CAROLINA PROFESSIONAL SEAL 19651 ENGINEER JOHN S. TUNSTALL

Cape Fear Public Utility Authority
Stewardship. Sustainability. Service.

NORRIS & TUNSTALL
CONSULTING ENGINEERS, INC.
1127 FLORAL PARKWAY SUITE 400 WILMINGTON, NC, 28403
PHONE (910) 343-9653
FAX (910) 343-9604
licence #C-0520

SANITARY SEWER PLAN AND PROFILE
SPARTINA AT LUMINA STATION
2011 ALLENS LANE
WILMINGTON, N. C.

DATE: 12/18/13
SCALE: 1" = 50' 1" = 5'
DRAWN: NKS
CHECKED: JST
PROJECT NO: 13082

SHEET NO: PR1