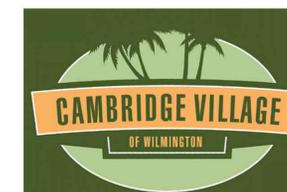
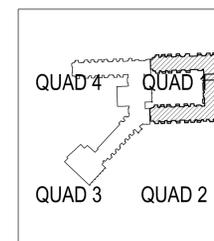




STEWART



CAMBRIDGE VILLAGE OF WILMINGTON PHASE II

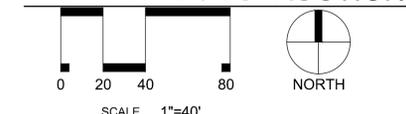


KEYPLAN

MARK	DATE	DESCRIPTION
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X	X	X
X	X	X
X	X	X
X	X	X
X	X	X
X	X	X
X	X	X
X	X	X
X	X	X

EXISTING CONDITIONS

NOT FOR CONSTRUCTION



PROJECT NO.	CLIENT NO.	NO.
C15061		
DATE	10.07.2015	
DRAWN	CKW	
APPROVED	CAH	

C1.00

CALYPSO DR.
60' PUBLIC R/W
(B.M. 56, PG. 162)

WETHERILL, RICHARD JR. ETAL
1541 EASTWOOD ROAD
PARCEL ID: R05600-001-001-000
ZONING: R-15 RESIDENTIAL
LANDUSE: 10-1 FAMILY RESIDENCE

WETHERILL, RICHARD JR. ETAL
1541 EASTWOOD ROAD
PARCEL ID: R05600-001-001-000
ZONING: R-15 RESIDENTIAL
LANDUSE: 10-1 FAMILY RESIDENCE

LEGEND

- ▲ SURVEY CONTROL POINT
- ⊕ STORM DRAIN MANHOLE
- ⊖ STORM DRAIN INLET
- ⊙ STORM DRAIN INLET
- ⊚ STORM DRAIN FLARED END SECTION
- ⊕ SANITARY SEWER MANHOLE
- ⊖ SANITARY SEWER CLEANOUT
- ⊕ ELECTRIC MANHOLE
- ⊖ ELECTRIC TRANSFORMER
- ★ LIGHT POLE
- ⊕ MANHOLE
- ⊖ SIGN
- FF=267.18' FINISHED FLOOR ELEVATION
- ⊕ DECIDUOUS TREE
- ⊖ EVERGREEN TREE
- ⊕ BUSH
- X GATE
- ▭ GUARDRAIL
- ▭ TREELINE
- SS — SANITARY SEWER LINE
- S — STORM DRAIN LINE
- U — UNKNOWN DESTINATION
- ▭ CONCRETE SURFACE
- ▭ BRICK PAVERS
- ▭ DIP
- ▭ DUCTILE IRON PIPE
- ▭ PVC
- ▭ HDPE
- ▭ RCP
- ▭ CMP



SITE MAP
1" = 1000'

LINE	BEARING	DISTANCE
L1	N84°40'28"W	22.79'

CURVE	LENGTH	RADIUS	DELTA	TANGENT	CHORD	BEARING
C1	202.13'	340.00'	34°03'47"	104.15'	199.17'	N17°59'24"E

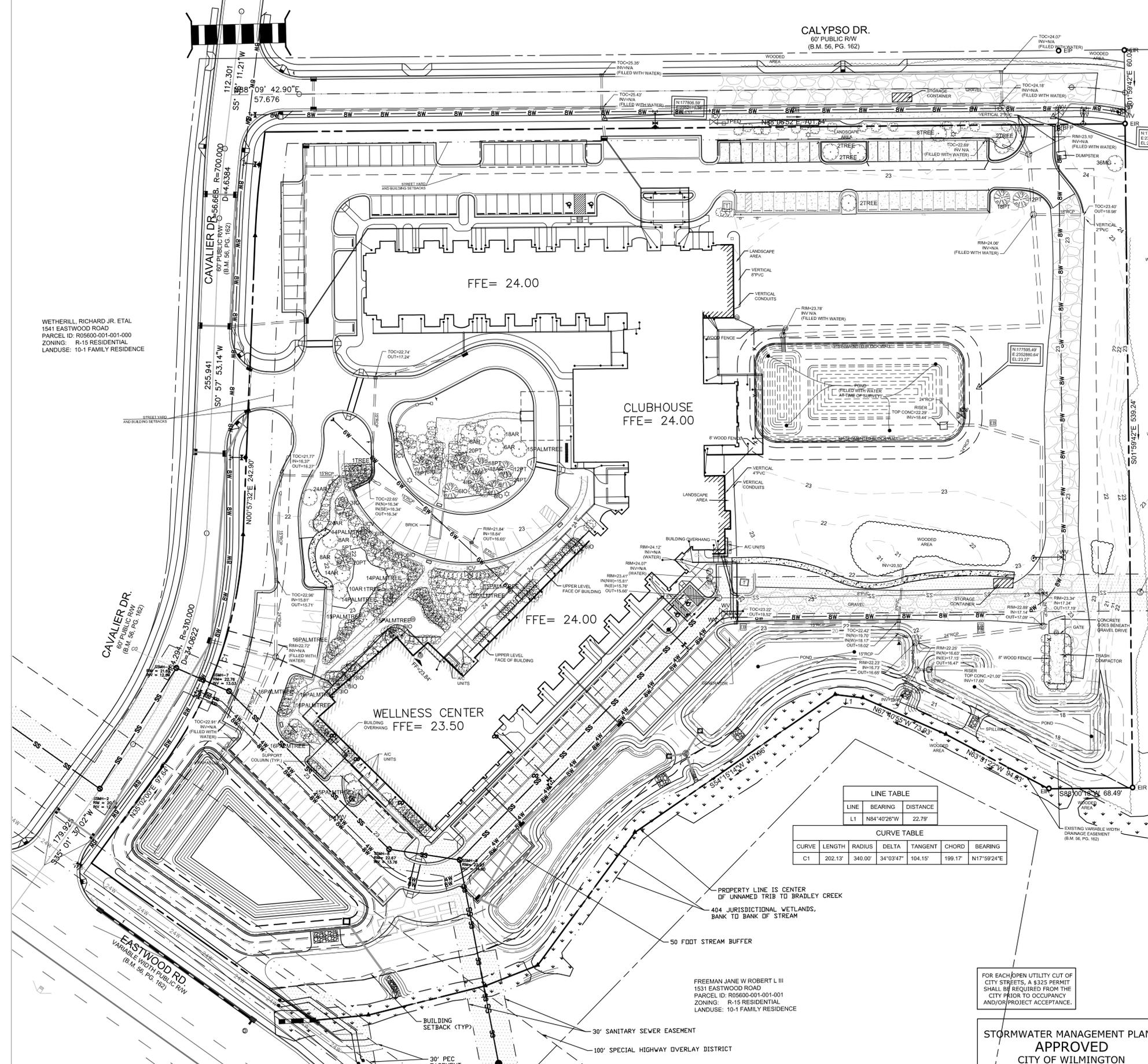
PROPERTY LINE IS CENTER OF UNNAMED TRIBUTARY TO BRADLEY CREEK
404 JURISDICTIONAL WETLANDS, BANK TO BANK OF STREAM
50 FOOT STREAM BUFFER

FREEMAN JANE W ROBERT L III
1531 EASTWOOD ROAD
PARCEL ID: R05600-001-001-001
ZONING: R-15 RESIDENTIAL
LANDUSE: 10-1 FAMILY RESIDENCE

FOR EACH OPEN UTILITY CUT OF CITY STREETS, A \$325 PERMIT SHALL BE REQUIRED FROM THE CITY PRIOR TO OCCUPANCY AND/OR PROJECT ACCEPTANCE.

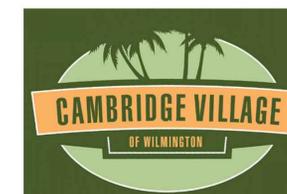
STORMWATER MANAGEMENT PLAN
APPROVED
CITY OF WILMINGTON
ENGINEERING DEPARTMENT
DATE: _____ PERMIT: _____
SIGNED: _____

Approved Construction Plan
Name: _____ Date: _____
Planning: _____
Traffic: _____
Fire: _____

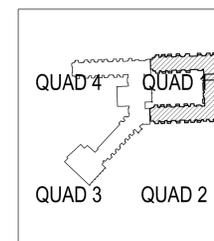




STEWART



CAMBRIDGE VILLAGE OF WILMINGTON
PHASE II



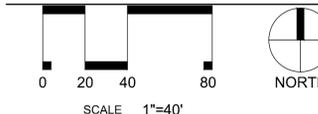
KEYPLAN
PLAN NORTH

MARK	DATE	DESCRIPTION
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X	X	X
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X	X	X
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X	X	X
X	X	X

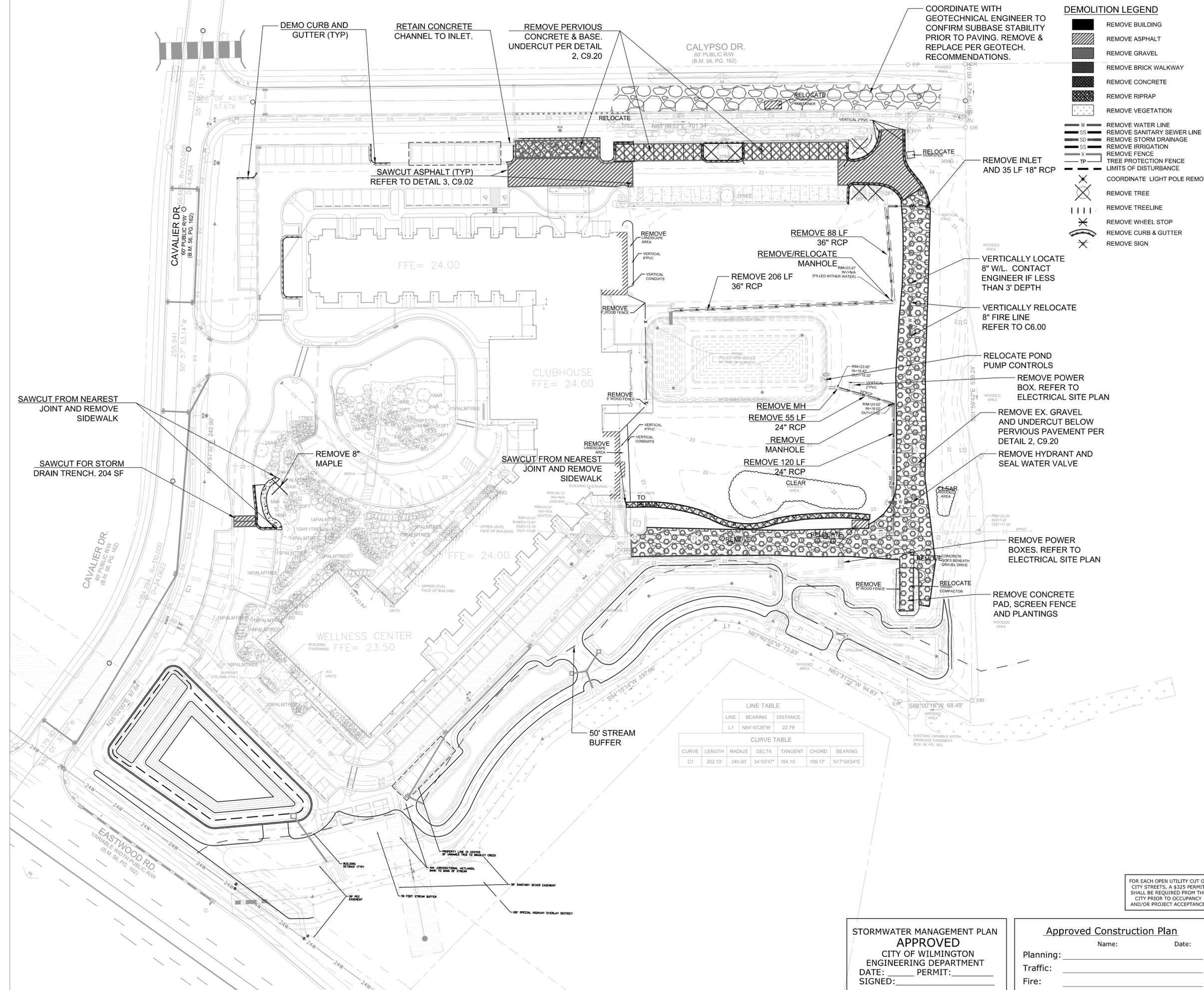
DEMOLITION PLAN



NOT FOR CONSTRUCTION



PROJECT NO.	C15061	CLIENT NO.	N/A
DATE	09.28.2015		
DRAWN	CKW		
APPROVED	CAH		
			C2.00



- DEMOLITION LEGEND**
- REMOVE BUILDING
 - REMOVE ASPHALT
 - REMOVE GRAVEL
 - REMOVE BRICK WALKWAY
 - REMOVE CONCRETE
 - REMOVE RIPRAP
 - REMOVE VEGETATION
 - REMOVE WATER LINE
 - REMOVE SANITARY SEWER LINE
 - REMOVE STORM DRAINAGE
 - REMOVE IRRIGATION
 - REMOVE FENCE
 - TREE PROTECTION FENCE
 - LIMITS OF DISTURBANCE
 - COORDINATE LIGHT POLE REMOVAL
 - REMOVE TREE
 - REMOVE TREELINE
 - REMOVE WHEEL STOP
 - REMOVE CURB & GUTTER
 - REMOVE SIGN

LINE TABLE

LINE	BEARING	DISTANCE
L1	N84°40'28"W	22.79'

CURVE TABLE

CURVE	LENGTH	RADIUS	DELTA	TANGENT	CHORD	BEARING
C1	202.13'	340.00'	34°03'47"	104.15'	199.17'	N17°59'24"E

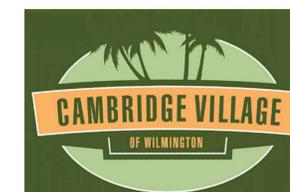
STORMWATER MANAGEMENT PLAN
APPROVED
CITY OF WILMINGTON
ENGINEERING DEPARTMENT
DATE: _____ PERMIT: _____
SIGNED: _____

Approved Construction Plan
Name: _____ Date: _____
Planning: _____
Traffic: _____
Fire: _____

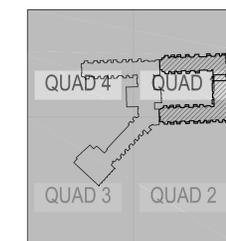
FOR EACH OPEN UTILITY CUT OF CITY STREETS, A \$325 PERMIT SHALL BE REQUIRED FROM THE CITY PRIOR TO OCCUPANCY AND/OR PROJECT ACCEPTANCE.



STEWART

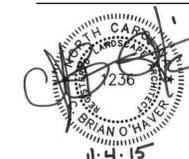
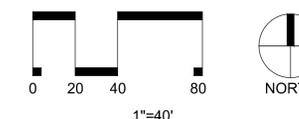


CAMBRIDGE VILLAGE OF WILMINGTON
PHASE II



KEYPLAN
PLAN NORTH

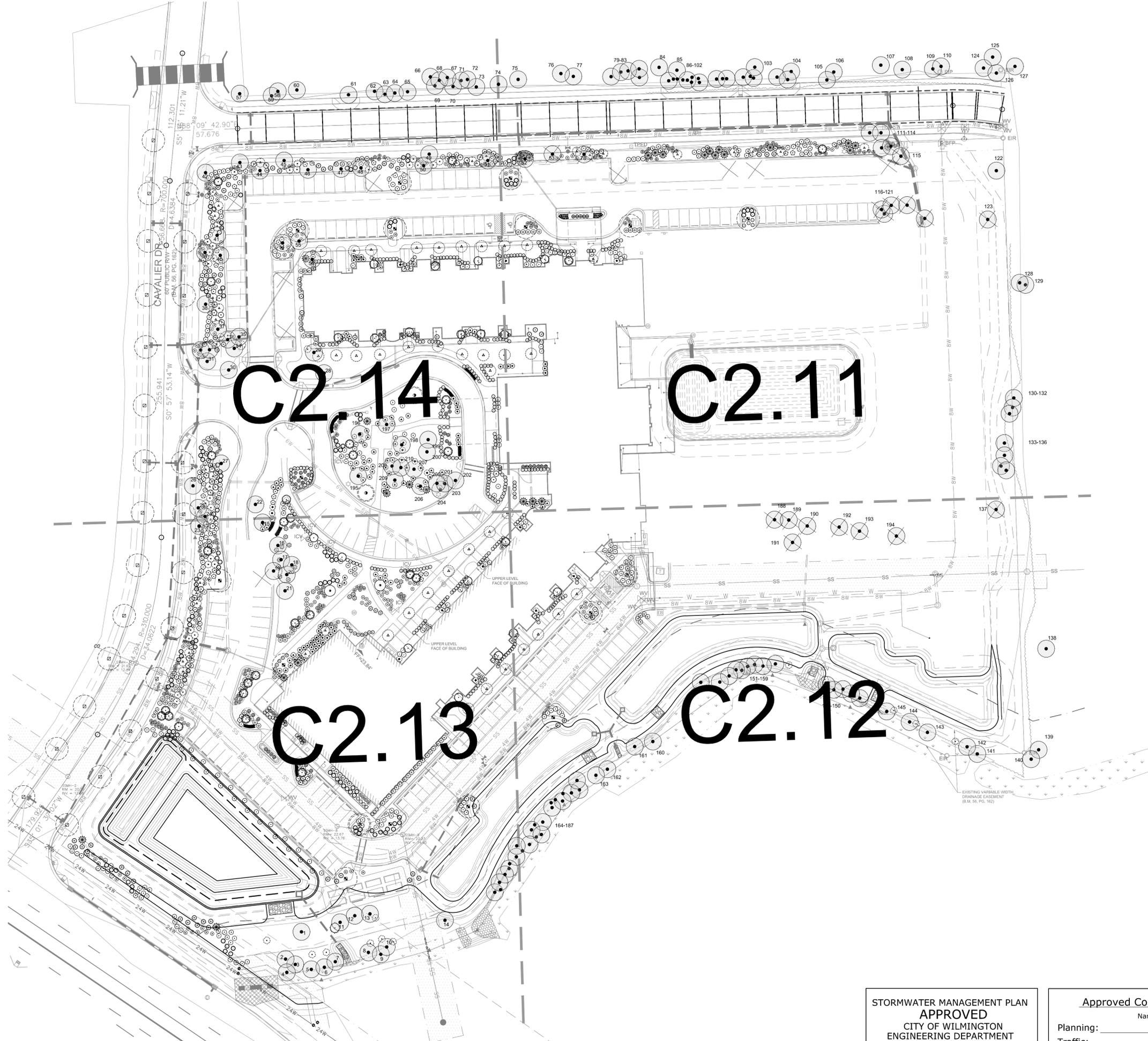
MARK	DATE	DESCRIPTION
1	11.18.2015	REVISIONS PER CITY COMMENTS



NOT FOR CONSTRUCTION
EXISTING VEGETATION
AND DEMO
QUADRANT KEY

PROJECT NO.	C15061	CLIENT NO.	N/A
DATE	11.18.2015		
DRAWN	CKW		
APPROVED	CAH		

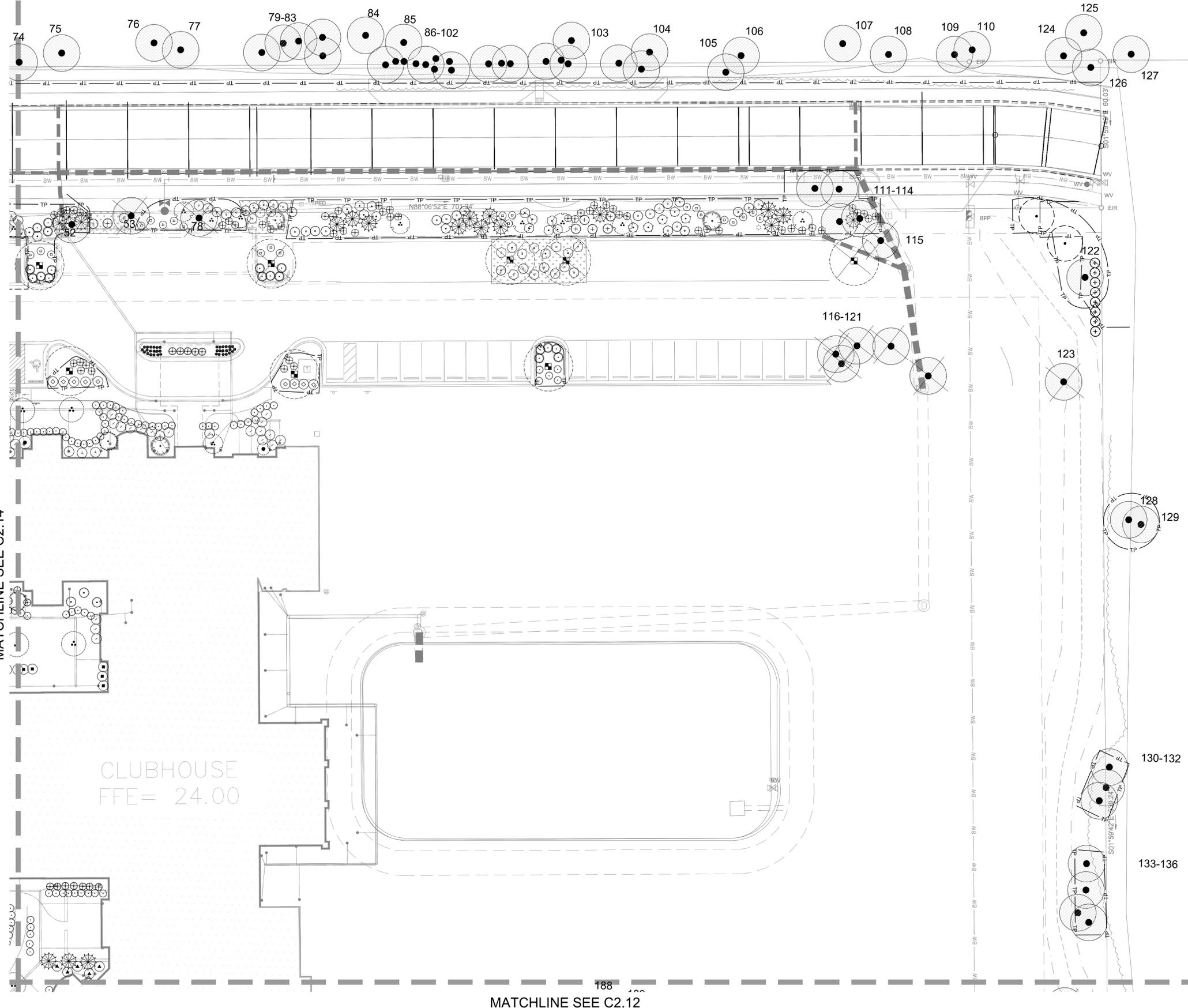
C2.10



STORMWATER MANAGEMENT PLAN
APPROVED
CITY OF WILMINGTON
ENGINEERING DEPARTMENT
DATE: _____ PERMIT: _____
SIGNED: _____

Approved Construction Plan
Name: _____ Date: _____
Planning: _____
Traffic: _____
Fire: _____

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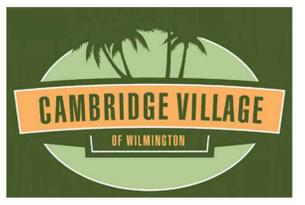
DEMOLITION LEGEND

- REMOVE VEGETATION
- EXISTING TREE
- REMOVE EXISTING TREE
- EXISTING TREE FROM PHASE I
- REMOVE EXISTING TREE FROM PHASE I
- TREE PROTECTION FENCE

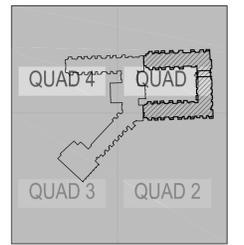
BSA
Life Structures 40 YEARS

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 Raleigh, NC 27603-1262

ph 919.803.2022 fx 317.819.7288
 www.bsalifestructures.com

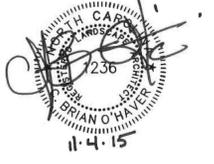
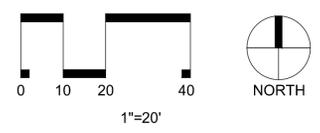


CAMBRIDGE VILLAGE OF WILMINGTON PHASE II



KEYPLAN

MARK	DATE	DESCRIPTION
1	11.18.2015	REVISIONS PER CITY COMMENTS



NOT FOR CONSTRUCTION
EXISTING VEGETATION AND DEMO
QUADRANT 1

STORMWATER MANAGEMENT PLAN
APPROVED
 CITY OF WILMINGTON
 ENGINEERING DEPARTMENT
 DATE: _____ PERMIT: _____
 SIGNED: _____

Approved Construction Plan

Name: _____ Date: _____

Planning: _____

Traffic: _____

Fire: _____

PROJECT NO.	CLIENT NO.	N/A
C15061		
DATE: 11.18.2015		
DRAWN: CKW		
APPROVED: CAH		

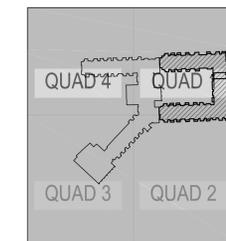
C2.11



STEWART

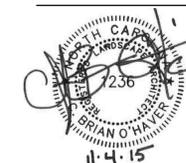
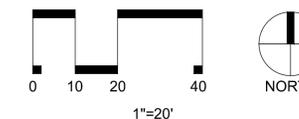


CAMBRIDGE VILLAGE OF WILMINGTON PHASE II



KEYPLAN
PLAN NORTH

MARK	DATE	DESCRIPTION
1	11.18.2015	REVISIONS PER CITY COMMENTS



NOT FOR CONSTRUCTION
EXISTING VEGETATION AND DEMO
QUADRANT 2

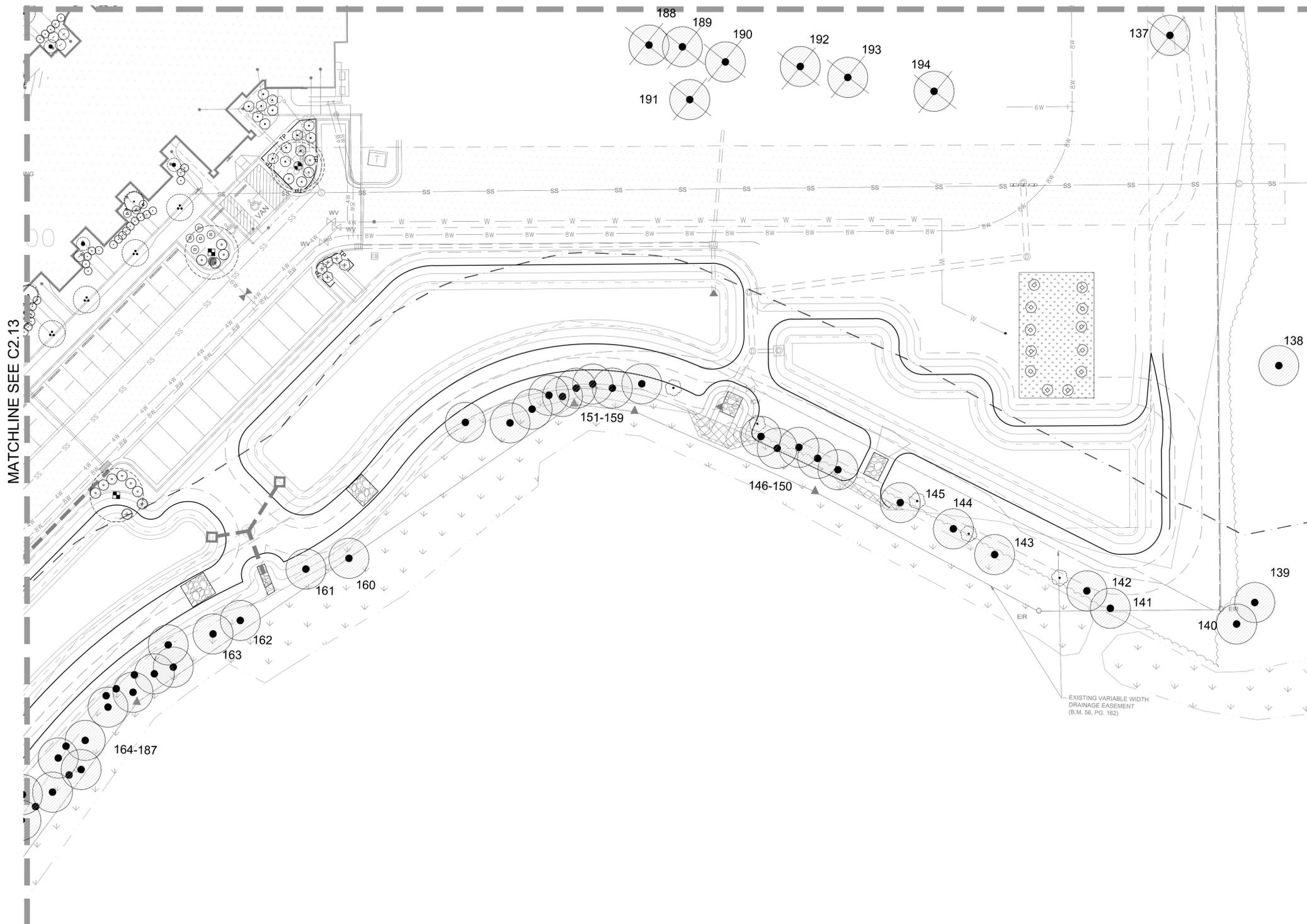
PROJECT NO.	C15061	CLIENT NO.	N/A
DATE	11.18.2015		
DRAWN	CKW		
APPROVED	CAH		

C2.12

MATCHLINE SEE C2.11

DEMOLITION LEGEND

- REMOVE VEGETATION
- EXISTING TREE
- REMOVE EXISTING TREE
- EXISTING TREE FROM PHASE I
- REMOVE EXISTING TREE FROM PHASE I
- TREE PROTECTION FENCE



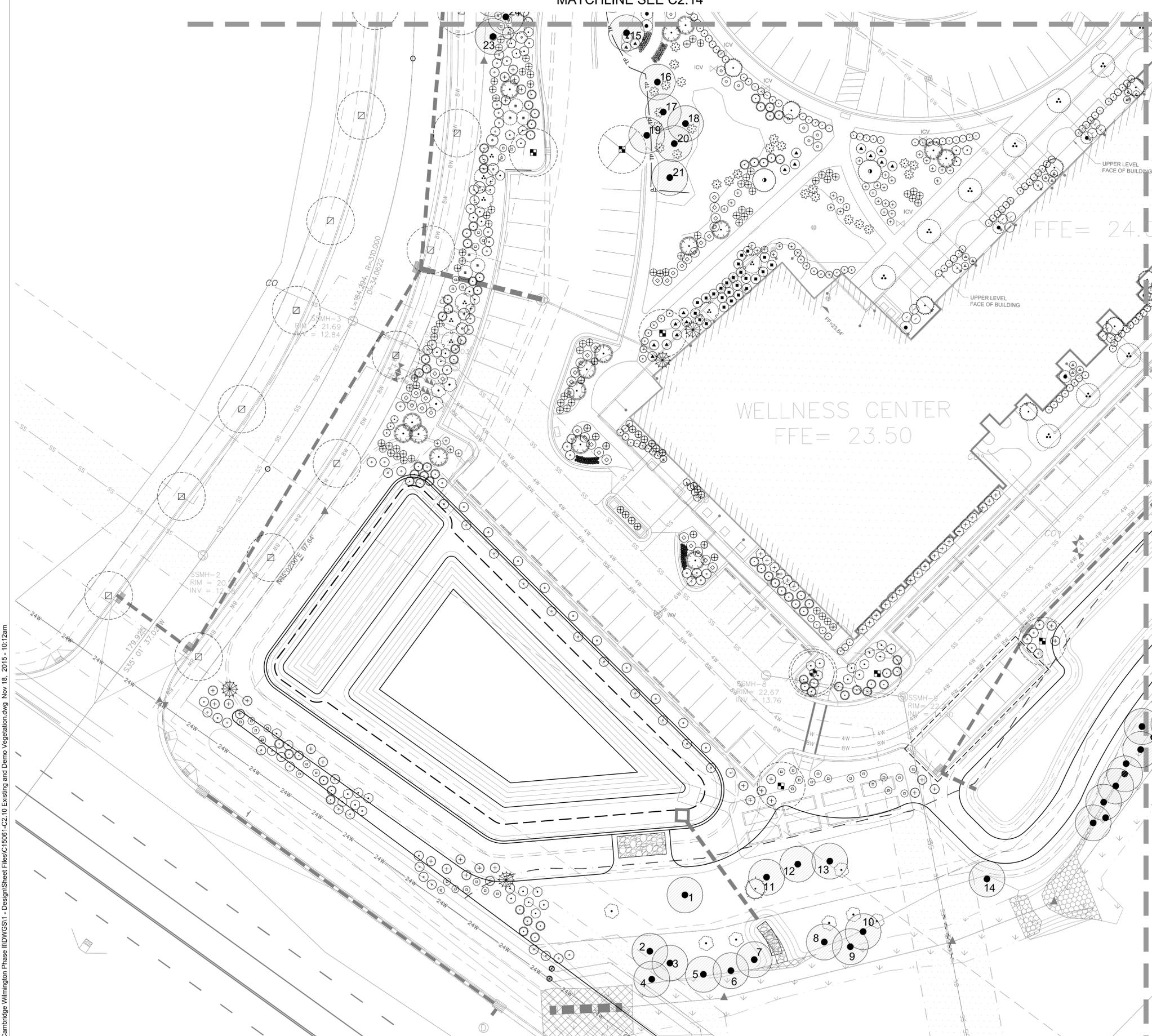
MATCHLINE SEE C2.13

EXISTING VARIABLE WIDTH DRAINAGE EASEMENT (B.M. 56, PG. 162)

STORMWATER MANAGEMENT PLAN
APPROVED
CITY OF WILMINGTON
ENGINEERING DEPARTMENT
DATE: _____ PERMIT: _____
SIGNED: _____

Approved Construction Plan
Name: _____ Date: _____
Planning: _____
Traffic: _____
Fire: _____

MATCHLINE SEE C2.14

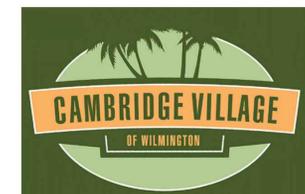


DEMOLITION LEGEND

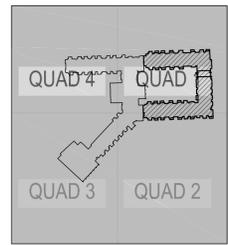
- REMOVE VEGETATION
- EXISTING TREE
- REMOVE EXISTING TREE
- EXISTING TREE FROM PHASE I
- REMOVE EXISTING TREE FROM PHASE I
- TP TREE PROTECTION FENCE



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www.bsalifestructures.com

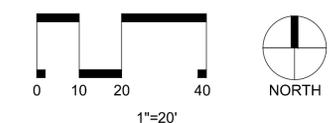


CAMBRIDGE VILLAGE OF WILMINGTON PHASE II



KEYPLAN

MARK	DATE	DESCRIPTION
1	11.18.2015	REVISIONS PER CITY COMMENTS



STORMWATER MANAGEMENT PLAN APPROVED
CITY OF WILMINGTON
ENGINEERING DEPARTMENT
DATE: _____ PERMIT: _____
SIGNED: _____

Approved Construction Plan
Name: _____ Date: _____
Planning: _____
Traffic: _____
Fire: _____

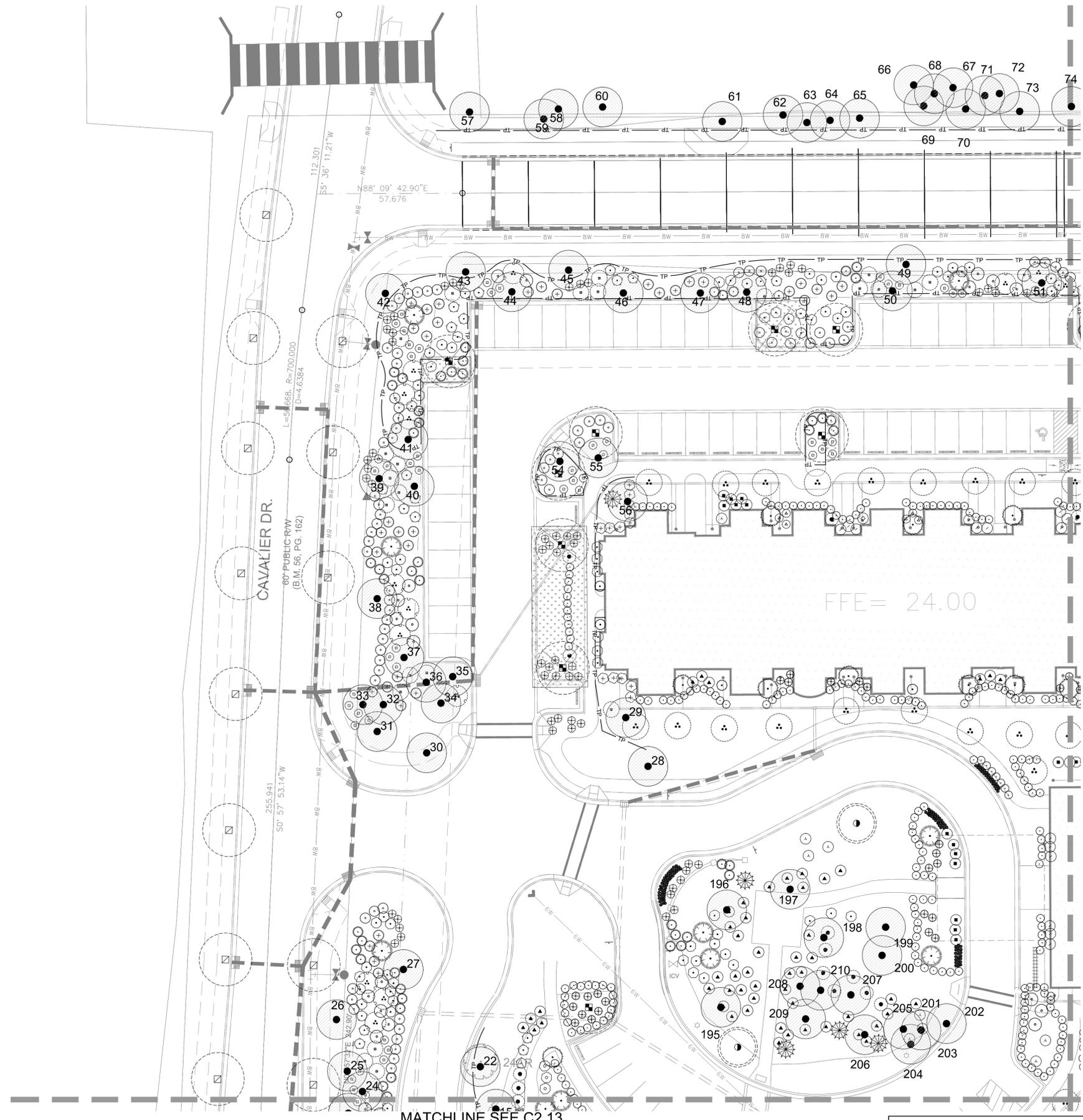
**NOT FOR CONSTRUCTION
EXISTING VEGETATION
AND DEMO
QUADRANT 3**

PROJECT NO.	CLIENT NO.	N/A
C15061		
DATE: 11.18.2015		
DRAWN: CKW		
APPROVED: CAH		

C2.13

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DEMOLITION LEGEND

-  REMOVE VEGETATION
-  EXISTING TREE
-  REMOVE EXISTING TREE
-  EXISTING TREE FROM PHASE I
-  REMOVE EXISTING TREE FROM PHASE I
-  TREE PROTECTION FENCE

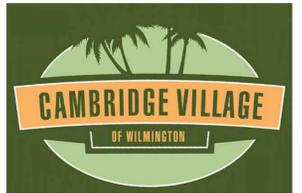


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Raleigh, NC 27603-1262

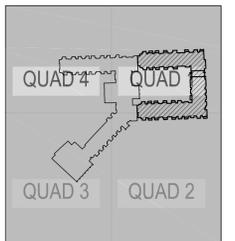
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STEWART

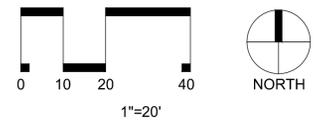


CAMBRIDGE VILLAGE OF WILMINGTON PHASE II



KEYPLAN

MARK	DATE	DESCRIPTION
1	11.18.2015	REVISIONS PER CITY COMMENTS



**NOT FOR CONSTRUCTION
EXISTING VEGETATION
AND DEMO
QUADRANT 4**

**STORMWATER MANAGEMENT PLAN
APPROVED**
CITY OF WILMINGTON
ENGINEERING DEPARTMENT
DATE: _____ PERMIT: _____
SIGNED: _____

Approved Construction Plan
Name: _____ Date: _____
Planning: _____
Traffic: _____
Fire: _____

PROJECT NO. C15061	CLIENT NO. N/A
DATE 11.18.2015	
DRAWN CKW	
APPROVED CAH	

C2.14

GENERAL NOTES:

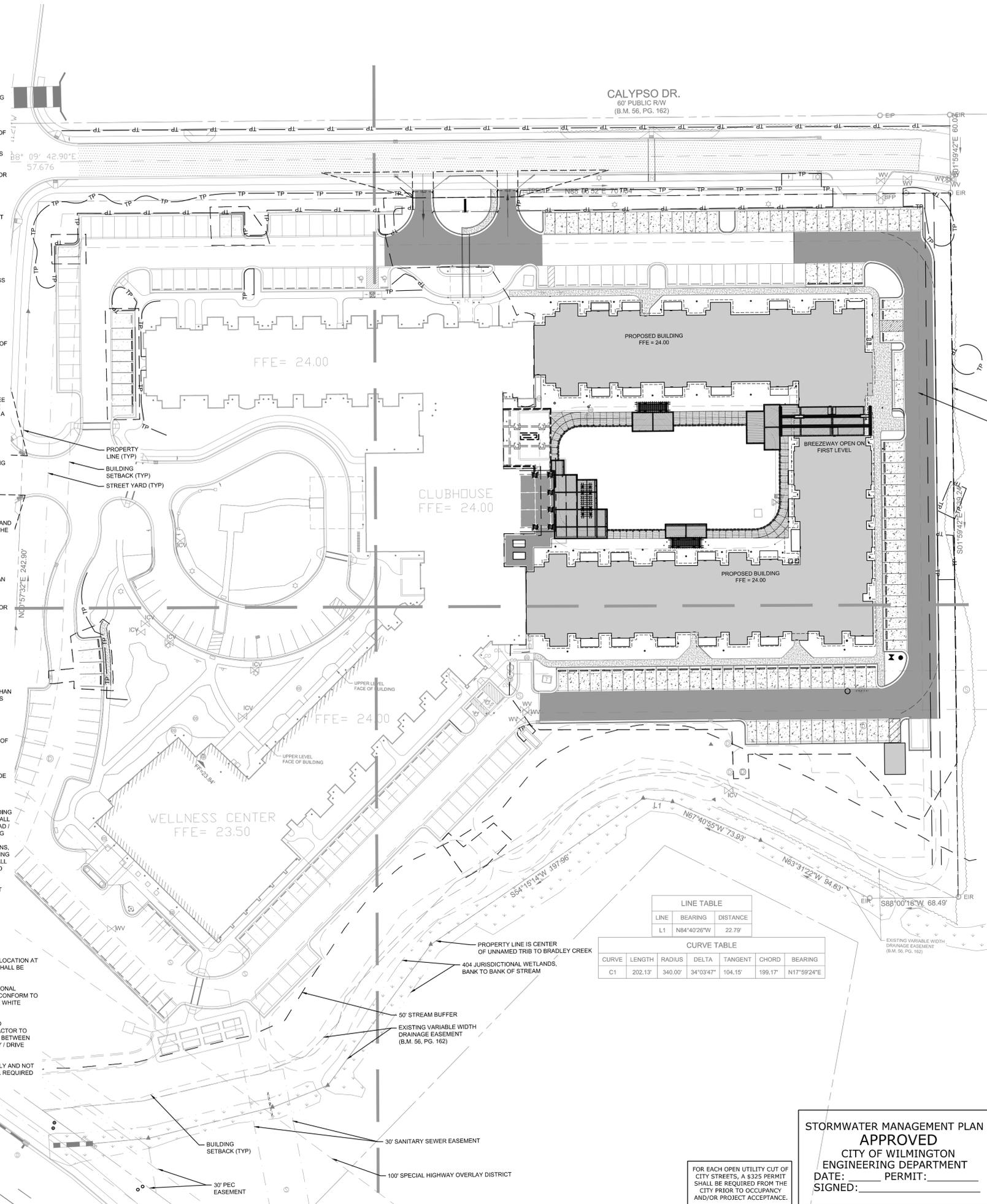
1. ALL MATERIALS AND METHODS OF CONSTRUCTION SHALL BE IN COMPLIANCE WITH THE OFFICE OF STATE CONSTRUCTION, DEPARTMENT OF INSURANCE, NCDENR, AND ALL OTHER APPLICABLE LOCAL, STATE AND FEDERAL GUIDELINES. ALL UTILITY CONSTRUCTION SHALL COMPLY WITH APPLICABLE LOCAL JURISDICTIONAL STANDARDS AND SPECIFICATIONS.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR FIELD VERIFYING EXISTING CONDITIONS PRIOR TO COMMENCEMENT OF ANY WORK. THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE OWNER'S REPRESENTATIVE OF ANY DISCREPANCIES OR CONFLICTS.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING, COORDINATING AND PAYMENT FOR ALL NECESSARY LOCATING SERVICES INCLUDING INDEPENDENT LOCATING SERVICES. THE CONTRACTOR SHALL HAVE ALL EXISTING UTILITIES LOCATED AT LEAST 48 HOURS PRIOR TO BEGINNING DEMOLITION, EXCAVATION OR ANY OTHER FORM OF CONSTRUCTION. THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE OWNER'S REPRESENTATIVE OF ANY DISCREPANCIES OR CONFLICTS.
4. ALL SUB-SURFACE UTILITIES IDENTIFIED ON THE CONSTRUCTION DOCUMENTS ARE SHOWN IN THEIR APPROXIMATE LOCATION BASED ON SURVEY INFORMATION GATHERED FROM FIELD INSPECTION AND/OR ANY OTHER APPLICABLE RECORD DRAWINGS WHICH MAY BE AVAILABLE. THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE OWNER'S REPRESENTATIVE OF ANY DISCREPANCIES OR CONFLICTS.
5. EXISTING IMPROVEMENTS DAMAGED OR DESTROYED BY THE CONTRACTOR DURING CONSTRUCTION SHALL BE RESTORED OR REPLACED TO ORIGINAL CONDITION AND TO THE SATISFACTION OF THE OWNER'S REPRESENTATIVE AT THE CONTRACTOR'S EXPENSE.
6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING AND COORDINATING PERMITS, INSPECTIONS, CERTIFICATIONS AND OTHER REQUIREMENTS WHICH MUST BE MET UNDER THIS CONTRACT.
7. THE CONTRACTOR SHALL MAINTAIN "AS-BUILT" DRAWINGS TO RECORD THE ACTUAL LOCATION OF ALL PIPING PRIOR TO CONCEALMENT, VALVE AND MANHOLE CHANGES, AND HARDSCAPE OR LANDSCAPE CHANGES. DRAWINGS SHALL BE PROVIDED TO THE OWNER'S REPRESENTATIVE AT REGULAR INTERVALS, OR AS REQUESTED THROUGHOUT THE PROJECT FOR RECORD KEEPING.
8. IF DEPARTURES FROM THE PROJECT DRAWINGS OR SPECIFICATIONS ARE DEEMED NECESSARY BY THE CONTRACTOR, DETAILS OF SUCH DEPARTURES AND REASONS THERE OF SHALL BE SUBMITTED TO THE OWNER'S REPRESENTATIVE FOR REVIEW. NO DEPARTURES FROM THE CONTRACT DOCUMENTS SHALL BE MADE WITHOUT THE EXPRESS WRITTEN PERMISSION OF THE OWNER'S REPRESENTATIVE.
9. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE RELOCATION OF ANY EXISTING UTILITY LINES REQUIRED TO COMPLETE ANY PORTION OF CONSTRUCTION. THE CONTRACTOR SHALL ALSO BE RESPONSIBLE FOR THE COORDINATION AND COSTS OF THE RELOCATION AND ASSOCIATED WORK.
10. THE CONTRACTOR SHALL BE RESPONSIBLE FOR KEEPING THE PREMISES FREE FROM ACCUMULATIONS OF WASTE MATERIALS AND RUBBISH CAUSED BY THE CONTRACTOR. ALL DEBRIS SHALL BE REMOVED FROM THE PROJECT SITE ON A DAILY BASIS.
11. THE ENGINEER AND/OR OWNER DISCLAIM ANY ROLE IN THE CONSTRUCTION MEANS AND/OR METHODS ASSOCIATED WITH THE PROJECT AS SET FORTH IN THESE PLANS.
12. ROADWAYS (TEMPORARY OR PERMANENT) MUST BE CAPABLE OF SUPPORTING FIRE FIGHTING APPARATUS (85,000 LBS) DURING ALL PHASES OF CONSTRUCTION ONCE VERTICAL CONSTRUCTION HAS BEGUN.

SITE NOTES:

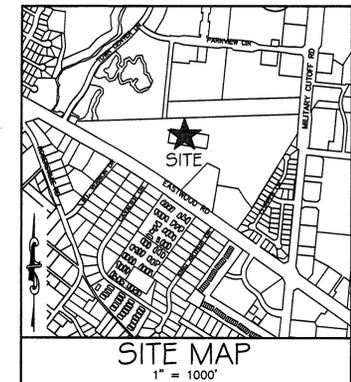
1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE INSTALLATION AND MAINTENANCE OF THE CONSTRUCTION LAYDOWN AREA, PERIMETER FENCE, AND ASSOCIATED GATES. THE CONTRACTOR SHALL ALSO BE RESPONSIBLE FOR THE REMOVAL OF THE CONSTRUCTION LAYDOWN AREA PERIMETER FENCE AND ASSOCIATED GATES AT THE COMPLETION OF THE PROJECT.
2. THE CONTRACTOR SHALL REFERENCE THE DESIGN PLANS FOR DIMENSIONS, JOINT LOCATIONS, AND INLAY SPECIFICATIONS NEAR BUILDINGS AND IN COURTYARDS. CONTRACTOR SHALL PROVIDE JOINTS IN WALKWAYS AND HARDSCAPE PER DETAILS OR AS INDICATED ON LANDSCAPE/HARDSCAPE PLAN SHEETS.
6. ALL CONSTRUCTION TRAFFIC SHALL ENTER SITE FROM CALYPSO UNLESS OTHERWISE APPROVED IN WRITING FROM THE OWNER'S REPRESENTATIVE FOR AN ALTERNATE POINT OF ACCESS.
7. REFER TO ARCHITECTURAL PLANS FOR BUILDING INFORMATION.
8. ALL DIMENSIONS ARE IN RADII TO OUTSIDE FACE OF BUILDINGS, TO CENTERLINES, AND/OR FACE OF CURB UNLESS OTHERWISE NOTED.
9. WHERE SIDEWALK OR WALKWAYS ARE ADJACENT TO PARKING SPACES THE WALKWAY SHALL BE A MINIMUM 5.5' WIDE AS MEASURED FROM THE FACE OF CURB.
10. MAXIMUM RUNNING SLOPE FOR WALKING SURFACES CANNOT BE GREATER THAN 1:20 AND CROSS SLOPES CANNOT BE GREATER THAN 1:48. HANDICAP SPACES SURFACE SLOPES SHALL NOT EXCEED 1:48 IN ALL DIRECTIONS.
11. SIGHT TRIANGLES - NOTHING OVER 30" HIGH SHALL BE ALLOWED WITHIN THE SIGHT DISTANCE TRIANGLES.
12. THE SITE SHALL BE FULLY STABILIZED (85% COVERAGE) PRIOR TO ISSUANCE OF A BUILDING CERTIFICATE OF OCCUPANCY OR PROJECT APPROVAL.
13. HANDICAP RAMPS SHALL BE INSTALLED PER LATEST EDITION OF THE NC BUILDING CODE AND ANSI 117.11 WITH DETECTABLE WARNING DOMES. SEE DETAILS AND GRADING SLOPE ELEVATIONS. IF EXISTING CONDITIONS PRECLUDE THE ABILITY TO PROVIDE A MAXIMUM SLOPE OF 6 FEET OR A MAXIMUM CROSS SLOPE OF 1:48 CONTRACTOR SHALL NOTIFY ENGINEER OR OWNER REPRESENTATIVE PRIOR TO INSTALLATION.
14. AS-BUILT DOCUMENTATION REQUIREMENTS: PRIOR TO ISSUANCE OF A BUILDING CERTIFICATE OF OCCUPANCY OR PROJECT APPROVAL THE CONTRACTOR SHALL PROVIDE AS-BUILT DRAWINGS (IN BOTH PAPER AND ELECTRONIC FORMAT (CAD / PDF) PREPARED AND SEALED BY A PROFESSIONAL LAND SURVEYOR SHOWING ALL SURFACE FEATURES INCLUDING, BUT NOT LIMITED TO: HARDSCAPE, PAVEMENT, WALKWAYS, CURB & GUTTER, STRIPING, MANHOLES, CATCH BASINS, HYDRANTS, VALVES, METERS, BACKFLOW HOT BOXES, CLEANOUTS, RETAINING WALLS, TRANSFORMERS, LANDSCAPING, AND TREES. UTILITY AS-BUILTS SHALL INCLUDE PIPE AND STRUCTURE INVERT ELEVATIONS, SLOPES, MATERIAL, AND SIZE FOR ALL UTILITIES INSTALLED AS PART OF THE PROJECT.
15. THE TESTING AGENCY SHALL BE RESPONSIBLE FOR PROVIDING THE ASPHALT AND CONTRACTOR CERTIFICATION MEMO TO NCDOT FOR ALL ROADWAY IMPROVEMENTS WITHIN THE PUBLIC RIGHT-OF-WAY.

SIGNAGE, STRIPING, AND MARKING NOTES:

1. ALL INTERNAL SIGNAGE SHALL BE COORDINATED WITH OWNER FOR ACTUAL LOCATION AT TIME OF INSTALLATION. SIGNAGE LEADING ONTO PUBLIC THROUGHFARE SHALL BE INSTALLED AT RIGHT OF WAY PER DOT STANDARDS.
2. ALL LOT STRIPING (EXCEPT INDIVIDUAL PARKING BAY STRIPING) AND DIRECTIONAL ARROWS SHALL BE THERMOPLASTIC REFLECTIVE PAINT. MATERIALS SHALL CONFORM TO NCDOT STANDARDS AND SPECIFICATIONS. PARKING BAY STRIPING SHALL BE WHITE REFLECTIVE PAINT.
3. CROSSWALKS SHALL BE CONSTRUCTED OF THERMOPLASTIC MATERIALS AND CONSTRUCTED IN ACCORDANCE WITH STATE DOT SPECIFICATIONS. CONTRACTOR TO INSTALL CROSSWALKS IN SUCH A MANNER THAT CROSSWALKS ARE ALIGNED BETWEEN HANDICAP/WALKWAY ACCESS POINTS OR PERPENDICULAR TO THE ROADWAY / DRIVE LANE.
4. ADA SYMBOLS SHOWN THESE DRAWINGS ARE FOR LOCATION PURPOSES ONLY AND NOT INTENDED TO BE PAINTED. CONTRACTOR RESPONSIBLE FOR INSTALLING ALL REQUIRED ADA SIGNAGE.



CALYPSO DR.
60' PUBLIC R/W
(B.M. 56, PG. 162)



SITE MAP
1" = 1000'

PROPERTY LINE (TYP)
BUILDING SETBACK (TYP)

EXCEPTIONAL SITE DESIGN SUMMARY

Category	Credit per Table 1 (LDC Art. 10)
25% of site hardscape will be pervious pavement	H2 = 10 pts
Stormwater BMPs designed for 90% TSS	F2 = 10 pts
Mimic 10-year, 24-hr time of concentration	G3 = 15 pts
Provide 50% of site landscaping as xeriscape	O3 = 15 pts
50 ft vegetated stream buffer	B4 = 20 pts
Total	70 points

	Points per Table 2 (LDC Art. 10)
MF-MH Credits	15
Impervious %	55
Total	70 points

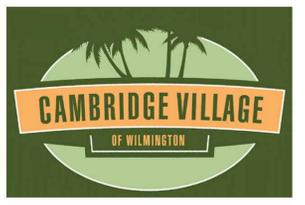
Interpolated # of Points = 70 points
Interpolated Allowable Impervious % = 60 %

Site Data Table		
Parcel Address	75 Cavalier Drive	
Building Setbacks	Required	Proposed
Front	36	125
Rear	31	61
Side (interior)	26	95
Side (corner)	36	95
Tax Parcel Identification #	R05600-001-005-000 (10.08 ac)	
Current Zoning	MF-MH (CD)	
Total Acreage within Project Boundaries	10.08 Ac	
Building size with square footage	Phase I:	203,300 sf
	Phase II:	4 stories 147,734 sf
	Shed:	384 sf
Building Lot Coverage	22.80%	
No. of Units	230	
Number of Buildings	2	
Building Height	50 foot max.	
Number of Stories & SF per Floor	Phase II: 4 stories	
	first:	36149 sf
	second:	37195 sf
	third:	37195 sf
	fourth:	37195 sf
Amount of disturbed area	212,892 sf	
CAMA land use classification	Watershed Resource Protection Area	
Impervious Area Summary		
Buildings	100,007 sf	
Impervious pavement	73,533 sf	
Phase I pervious pavement (60% credit)	11,247 sf	
Phase II pervious pavement (75% credit)	4,621 sf	
Impervious sidewalks	23,484 sf	
Total % impervious	48.50%	
Exceptional design total credits (Table 1)	70	
Allowable % impervious	60%	

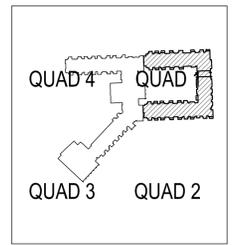
BSA
Life Structures 40 YEARS

510 Glenwood Ave, Suite 315
Raleigh, NC 27603-1262

ph 919.803.2022 fx 317.819.7288
www.bsalifestructures.com



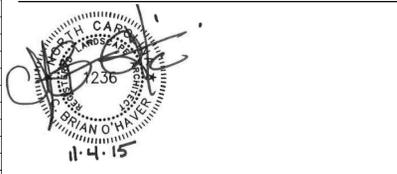
CAMBRIDGE VILLAGE OF WILMINGTON PHASE II



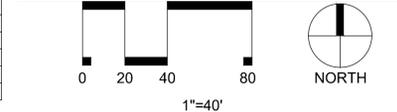
KEYPLAN

MARK	DATE	DESCRIPTION
1	11.18.2015	REVISIONS PER CITY COMMENTS

SITE PLAN OVERALL



NOT FOR CONSTRUCTION



STORMWATER MANAGEMENT PLAN APPROVED
CITY OF WILMINGTON
ENGINEERING DEPARTMENT
DATE: _____ PERMIT: _____
SIGNED: _____

Approved Construction Plan

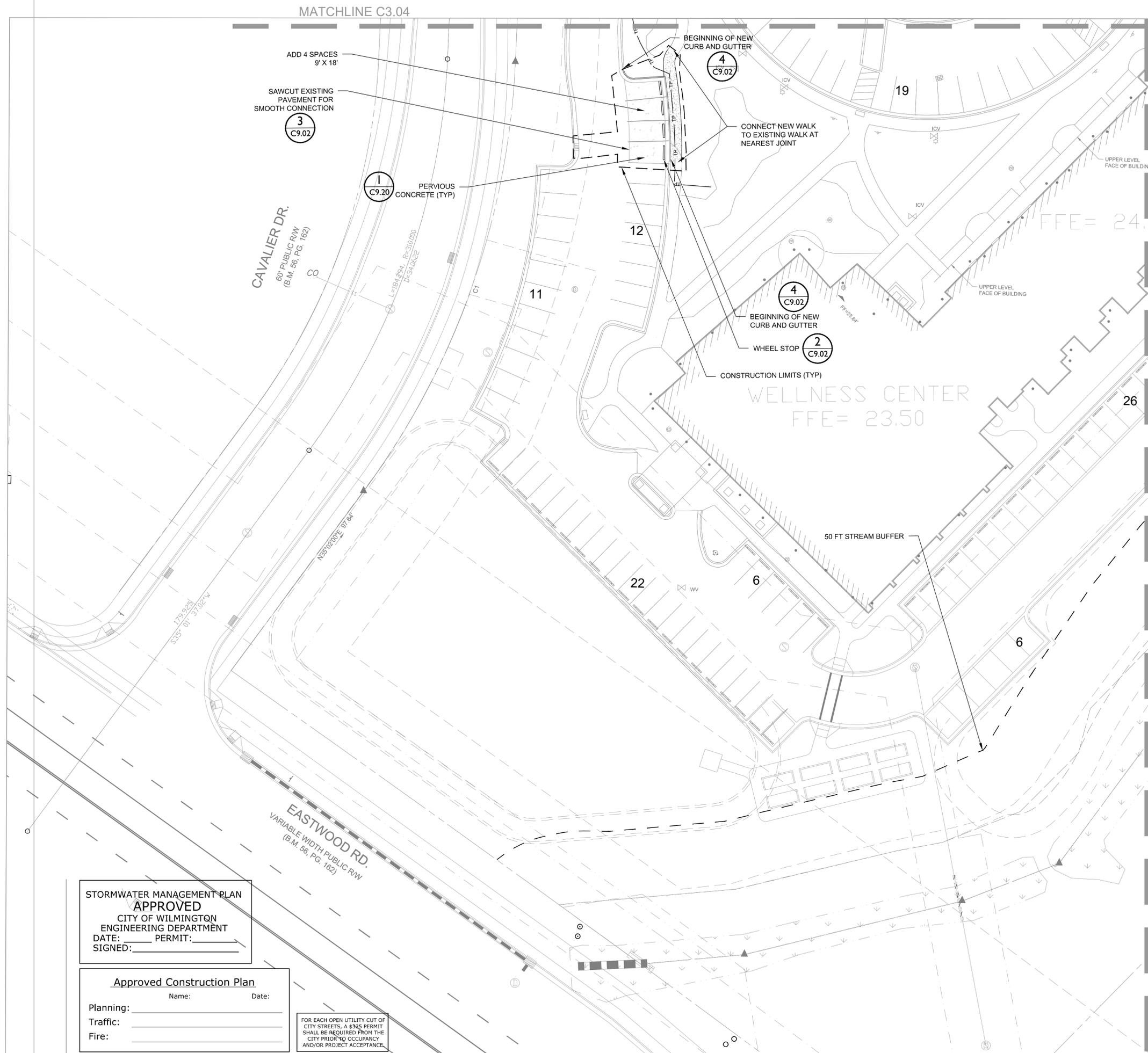
Name: _____ Date: _____

Planning: _____
Traffic: _____
Fire: _____

PROJECT NO.	C15061	CLIENT NO.	N/A
DATE	11.18.2015		
DRAWN	CKW/CAH		
APPROVED	BO		

C3.00

FOR EACH OPEN UTILITY CUT OF CITY STREETS, A \$325 PERMIT SHALL BE REQUIRED FROM THE CITY PRIOR TO OCCUPANCY AND/OR PROJECT ACCEPTANCE.



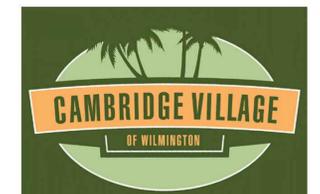
SITE LEGEND

- PROPOSED BUILDING
- PROPOSED CONCRETE SIDEWALK
- PROPOSED ASPHALT PAVEMENT (ROW)
- PROPOSED ASPHALT PAVEMENT (ON-SITE)
- PROPOSED PERVIOUS CONCRETE
- PROPOSED CURB & GUTTER
- PROPOSED STOP BAR
- PROPOSED CROSSWALK
- PROPOSED 6' WIDE STANDARD CROSSWALK
- PROPOSED 10' WIDE HIGH VISIBILITY CROSSWALK
- PROPOSED SIGN
- PROPOSED ADA PARKING SPACE
- PROPOSED WHEEL STOP
- PROPOSED FENCE
- PROPOSED VEHICLE GATE (X' WIDE)
- PROPOSED LIGHT
- PROPOSED TRANSFORMER

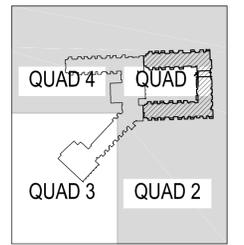
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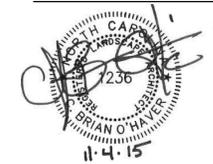
CAMBRIDGE VILLAGE OF WILMINGTON PHASE II



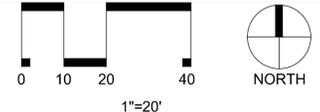
KEYPLAN

MARK	DATE	DESCRIPTION
1	11.18.2015	REVISIONS PER CITY COMMENTS

SITE PLAN QUADRANT 3



NOT FOR CONSTRUCTION



PROJECT NO.	C15061	CLIENT NO.	N/A
DATE	11.18.2015		
DRAWN	CKW/CAH	C3.03	
APPROVED	BO		

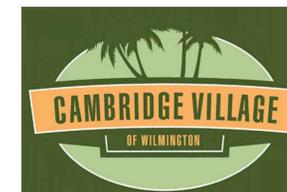
STORMWATER MANAGEMENT PLAN APPROVED
 CITY OF WILMINGTON
 ENGINEERING DEPARTMENT
 DATE: _____ PERMIT: _____
 SIGNED: _____

Approved Construction Plan
 Name: _____ Date: _____
 Planning: _____
 Traffic: _____
 Fire: _____

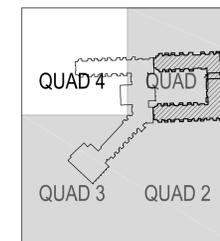
FOR EACH OPEN UTILITY CUT OF CITY STREETS, A \$325 PERMIT SHALL BE REQUIRED FROM THE CITY PRIOR TO OCCUPANCY AND/OR PROJECT ACCEPTANCE.



STEWART



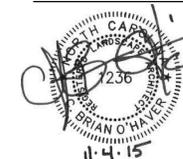
CAMBRIDGE VILLAGE OF WILMINGTON PHASE II



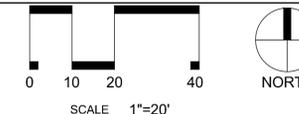
KEYPLAN
PLAN NORTH

MARK	DATE	DESCRIPTION
1	11.18.2015	REVISIONS PER CITY COMMENTS

SITE PLAN QUADRANT 4



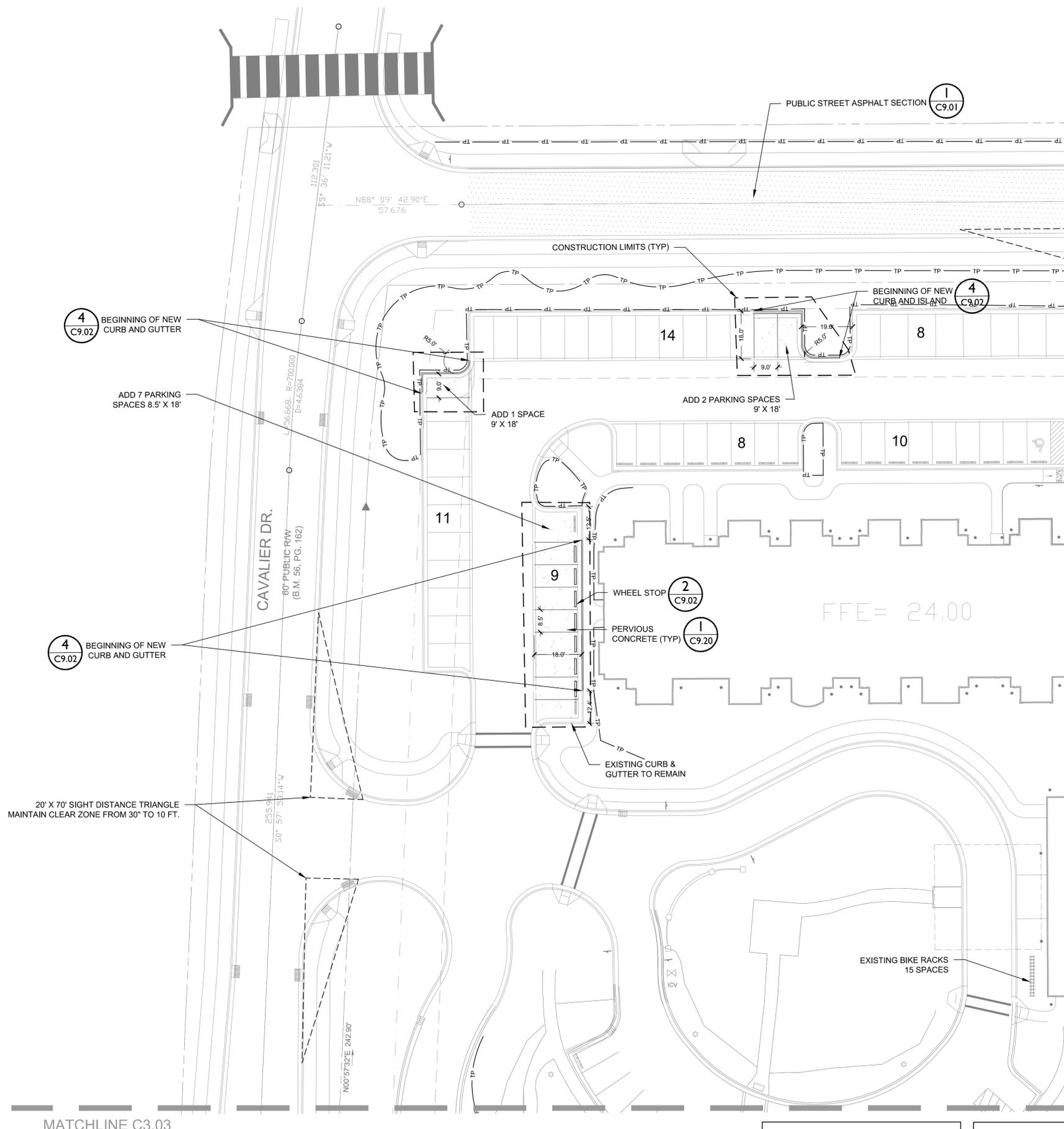
NOT FOR CONSTRUCTION



PROJECT NO.	C15061	CLIENT NO.	N/A
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DATE	11.18.2015
DRAWN	CKW/CAH
APPROVED	BO

C3.04



- SITE LEGEND**
- PROPOSED BUILDING
 - PROPOSED CONCRETE SIDEWALK
 - PROPOSED ASPHALT PAVEMENT (ROW)
 - PROPOSED ASPHALT PAVEMENT (ON-SITE)
 - PROPOSED PERVIOUS CONCRETE
 - PROPOSED CURB & GUTTER
 - PROPOSED STOP BAR
 - PROPOSED CROSSWALK
 - PROPOSED 6' WIDE STANDARD CROSSWALK
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 - PROPOSED SIGN
 - PROPOSED ADA PARKING SPACE
 - PROPOSED WHEEL STOP
 - PROPOSED FENCE
 - PROPOSED VEHICLE GATE (X' WIDE)
 - PROPOSED LIGHT
 - PROPOSED TRANSFORMER

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FOR EACH OPEN UTILITY CUT OF CITY STREETS, A \$325 PERMIT SHALL BE REQUIRED FROM THE CITY PRIOR TO OCCUPANCY AND/OR PROJECT ACCEPTANCE.

STORMWATER MANAGEMENT PLAN APPROVED
CITY OF WILMINGTON
ENGINEERING DEPARTMENT
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SIGNED: _____

Approved Construction Plan

Name: _____ Date: _____

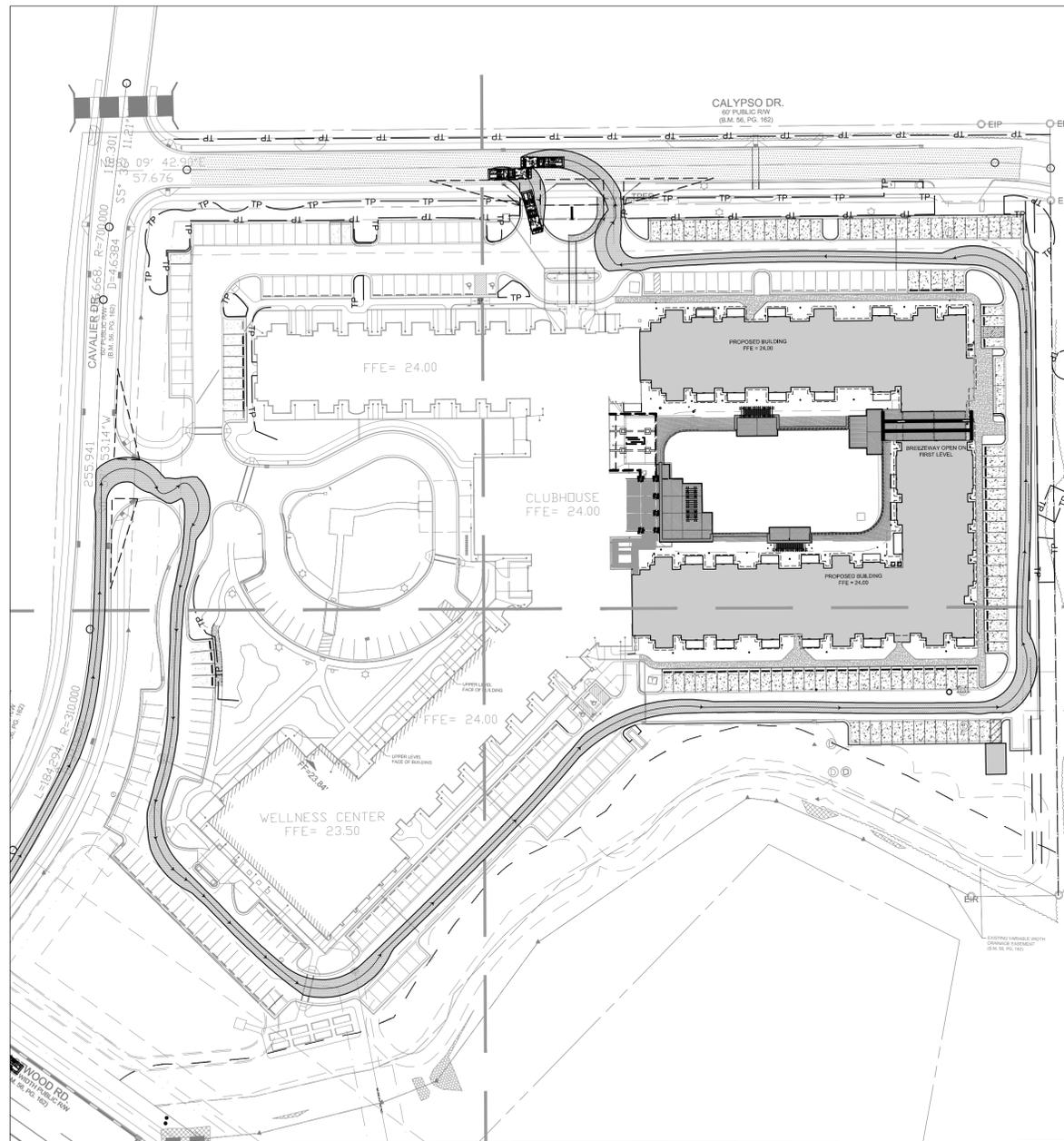
Planning: _____

Traffic: _____

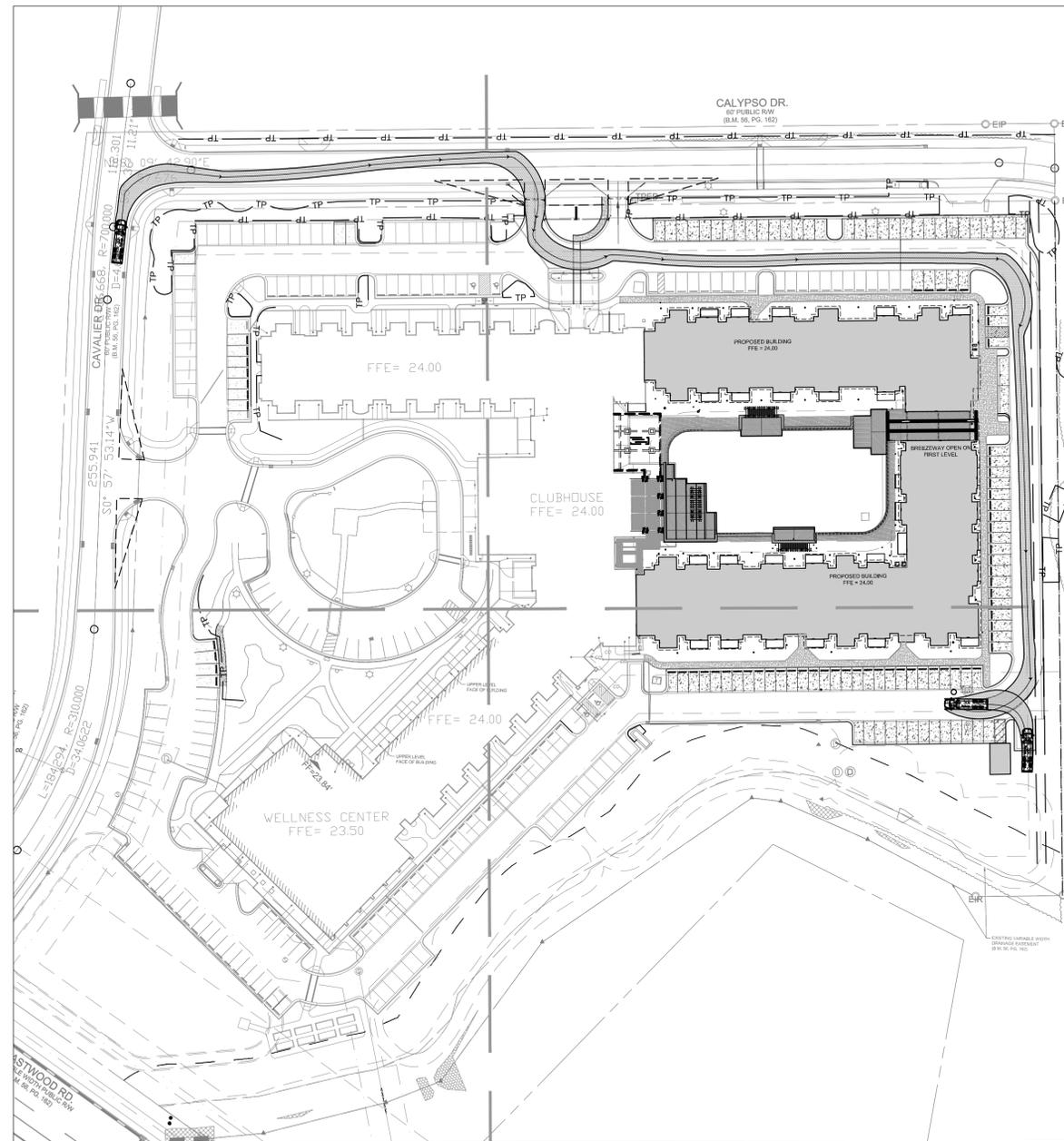
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MATCHLINE C3.03

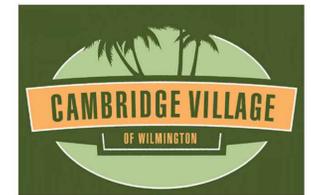
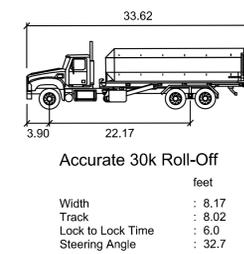
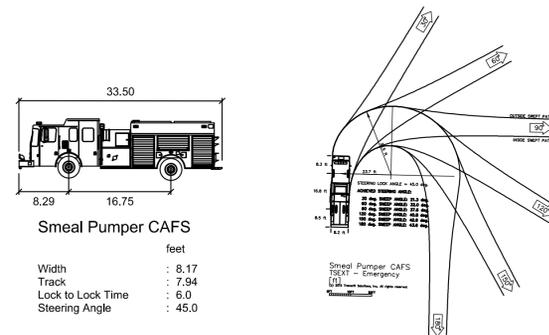
MATCHLINE C3.01



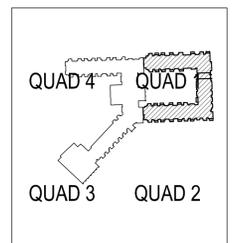
FIRE APPARATUS AUTOTURN ANALYSIS



TRASH TRUCK AUTOTURN ANALYSIS



CAMBRIDGE VILLAGE OF WILMINGTON PHASE II

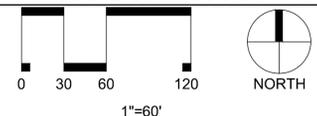


KEYPLAN

MARK	DATE	DESCRIPTION
1	11.18.2015	REVISIONS PER CITY COMMENTS

AUTOTURN ANALYSIS

NOT FOR CONSTRUCTION



FOR EACH OPEN UTILITY CUT OF CITY STREETS, A \$325 PERMIT SHALL BE REQUIRED FROM THE CITY PRIOR TO OCCUPANCY AND/OR PROJECT ACCEPTANCE.

STORMWATER MANAGEMENT PLAN
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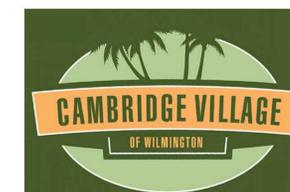
Approved Construction Plan
Name: _____ Date: _____
Planning: _____
Traffic: _____
Fire: _____

PROJECT NO.	C15061	CLIENT NO.	N/A
DATE	11.18.2015		
DRAWN	CKW/CAH		
APPROVED	BO		

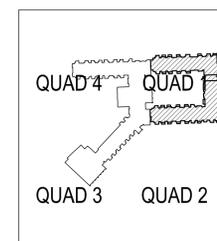
C3.06



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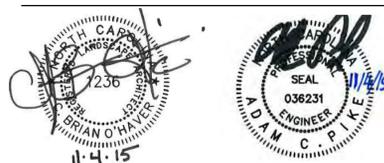
CAMBRIDGE VILLAGE OF WILMINGTON PHASE II



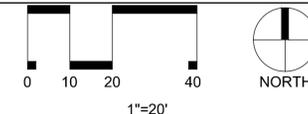
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MARK	DATE	DESCRIPTION
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X	X	X
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X	X	X
X	X	X

BULKHEAD LAYOUT

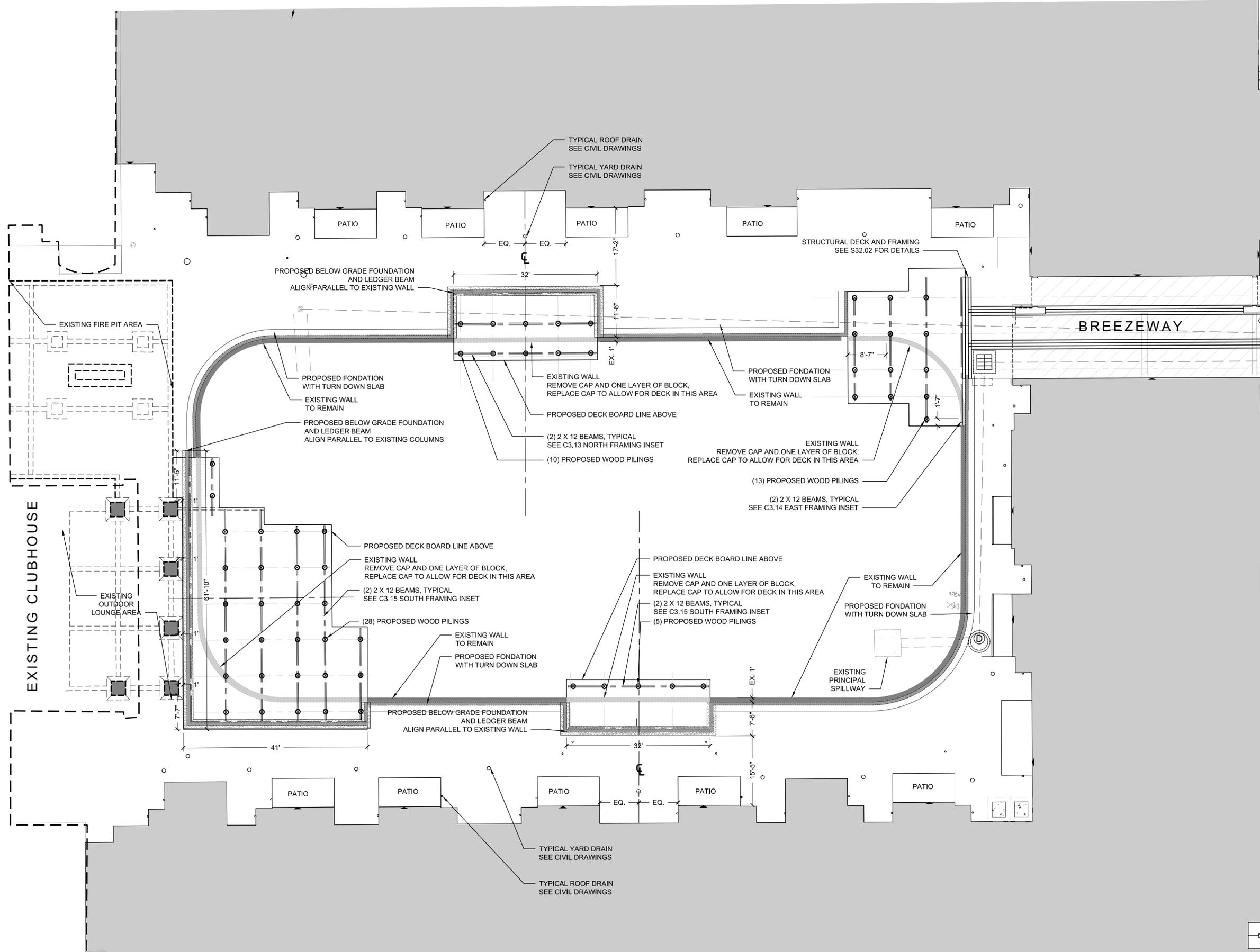


NOT FOR CONSTRUCTION



PROJECT NO.	C15061	CLIENT NO.	N/A
DATE	11.12.2015		
DRAWN	CKW/CAH		
APPROVED	BO		

C3.10



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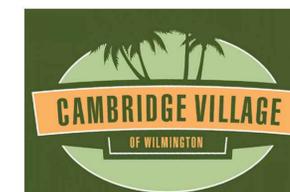
FOR EACH OPEN UTILITY CUT OF CITY STREETS, A \$325 PERMIT SHALL BE REQUIRED FROM THE CITY PRIOR TO OCCUPANCY AND/OR PROJECT ACCEPTANCE.

STORMWATER MANAGEMENT PLAN
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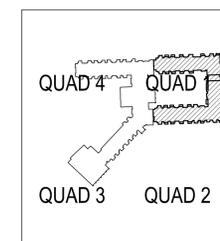
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Name: _____ Date: _____
Planning: _____
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Fire: _____



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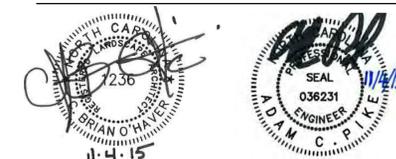
CAMBRIDGE VILLAGE OF WILMINGTON PHASE II



KEYPLAN
PLAN NORTH

MARK	DATE	DESCRIPTION
X	X	X
X	X	X
X	X	X
X	X	X
X	X	X
X	X	X
X	X	X
X	X	X
X	X	X
X	X	X

HARDSCAPE PLAN
COURTYARD SECTIONS



NOT FOR CONSTRUCTION

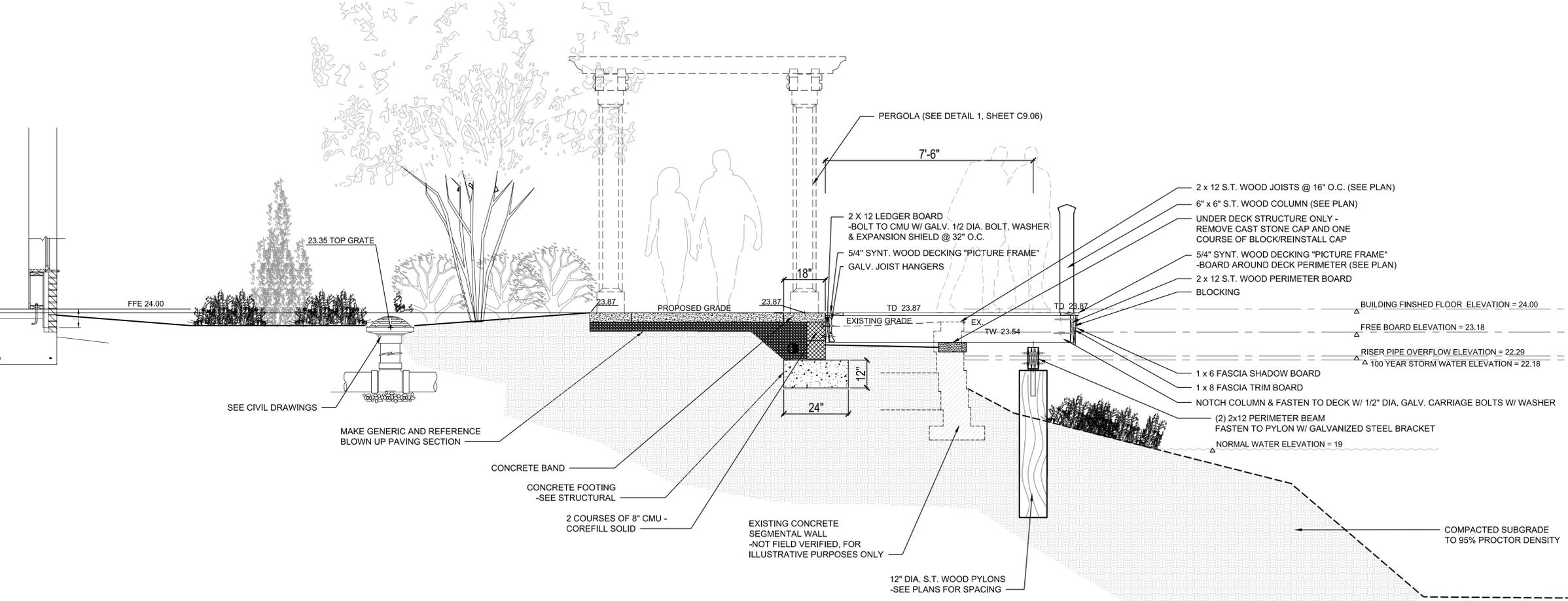


PROJECT NO. C15061 CLIENT NO. N/A

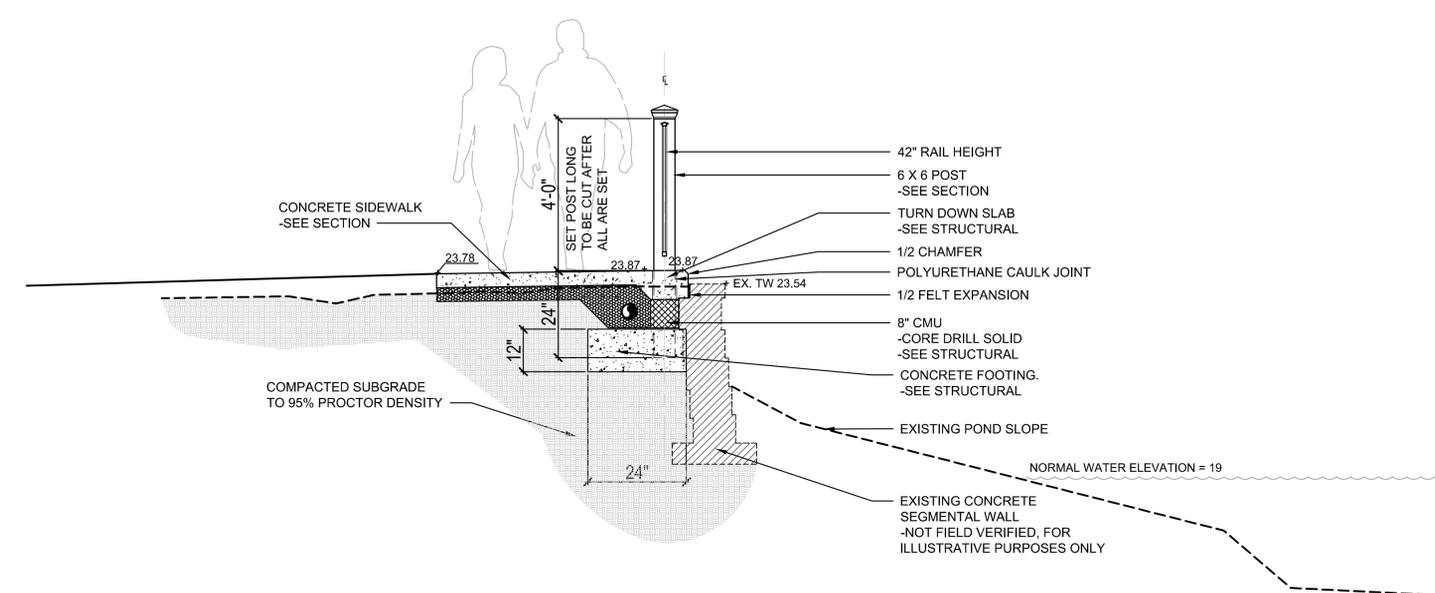
DATE 11.12.2015
DRAWN CKW/CAH
APPROVED BO

C3.20

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 1
C3.20
PERGOLA AND DECK
SCALE: 1/2" = 1'-0"



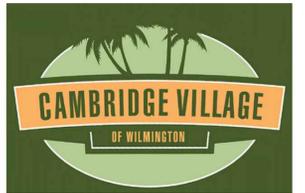
SECTION 2
C2.01
CONCRETE BULKHEAD SIDEWALK AND EXISTING WALL
SCALE: 1/2" = 1'-0"

STORMWATER MANAGEMENT PLAN
APPROVED
CITY OF WILMINGTON
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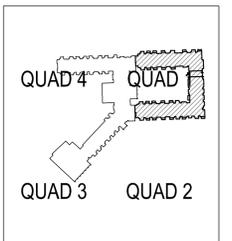
Approved Construction Plan
Name: _____ Date: _____
Planning: _____
Traffic: _____
Fire: _____



STEWART



CAMBRIDGE VILLAGE OF WILMINGTON PHASE II



KEYPLAN

MARK	DATE	DESCRIPTION
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EROSION & SEDIMENT CONTROL PLAN - NOTES



NOT FOR CONSTRUCTION

PROJECT NO.	C15061	CLIENT NO.	N/A
DATE	11.12.2015		
DRAWN	CKW		
APPROVED	CAH		

C4.00

Area	SITE AREA DESCRIPTION	STABILIZATION TIME FRAME	STABILIZATION TIME FRAME EXCEPTION
1	Perimeter dikes, swales, ditches and slopes	7 days	None
2	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
3	Slopes 3:1 or flatter	14 days	7-days for slopes greater than 50 feet in length
4	All other area with slopes flatter than 4:1	14 days	None (except as shown in chart)

NPDES DOCUMENTATION NOTES:

- THIS PAGE IS SUBMITTED TO COMPLY WITH NPDES GENERAL STORMWATER PERMIT NCG010000.
- THIS PAGE CAN BE APPROVED BY THE CITY PURSUANT TO NPDES GENERAL STORMWATER PERMIT NCG010000 ONLY.
- THIS PAGE OF THE APPROVED PLANS IS ENFORCEABLE EXCLUSIVELY PURSUANT TO NPDES GENERAL STORMWATER PERMIT NCG010000.
- THE CITY IS NOT AUTHORIZED TO ENFORCE THIS PAGE OF THE PLANS AND IT IS NOT A PART OF THE APPROVED PLANS FOR PURPOSES OF ENFORCEMENT ACTION UNDER THE CITY CODE.

ADMIXTURES

AGRICULTURAL LIMESTONE: 2 TONS/ACRE
 FERTILIZER: 1,000 LBS/ACRE - 10-10-10
 SUPERPHOSPHATE: 500 LBS/ACRE - 20% ANALYSIS
 MULCH: 2 TONS/ACRE - SMALL GRAIN STRAW
 ANCHOR: ASPHALT EMULSION AT 300 GALS/ACRE

TEMPORARY SEEDING INFORMATION:

Seeding mixture Species	Rate (lb/acre)
Rye (grain)	120
█ (Kobe in Piedmont and Coastal Plain, Korean in Mountains)	50

Omit annual lespedeza when duration of temporary cover is not to extend beyond June.

Seeding dates
 Mountains—Above 2500 feet: Feb. 15 - May 15
 Below 2500 feet: Feb. 1 - May 1
 Piedmont—Jan. 1 - May 1
 Coastal Plain—Dec. 1 - Apr. 15

Soil amendments
 Follow recommendations of soil tests or apply 2,000 lb/acre ground agricultural limestone and 750 lb/acre 10-10-10 fertilizer.

Mulch
 Apply 4,000 lb/acre 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
 Refertilize if growth is not fully adequate. Reseed, refertilize and mulch immediately following erosion or other damage.

Seeding mixture Species	Rate (lb/acre)
German millet	40

In the Piedmont and Mountains, a small-stemmed Sudangrass may be substituted at a rate of 50 lb/acre.

Seeding dates
 Mountains—May 15 - Aug. 15
 Piedmont—May 1 - Aug. 15
 Coastal Plain—Apr. 15 - Aug. 15

Soil amendments
 Follow recommendations of soil tests or apply 2,000 lb/acre ground agricultural limestone and 750 lb/acre 10-10-10 fertilizer.

Mulch
 Apply 4,000 lb/acre 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
 Refertilize if growth is not fully adequate. Reseed, refertilize and mulch immediately following erosion or other damage.

Seeding mixture Species	Rate (lb/acre)
Rye (grain)	120

Seeding dates
 Mountains—Aug. 15 - Dec. 15
 Coastal Plain and Piedmont—Aug. 15 - Dec. 30

Soil amendments
 Follow soil tests or apply 2,000 lb/acre ground agricultural limestone and 1,000 lb/acre 10-10-10 fertilizer.

Mulch
 Apply 4,000 lb/acre 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
 Repair and refertilize damaged areas immediately. Topdress with 50 lb/acre of nitrogen in March. If it is necessary to extend temporary cover beyond June 15, overseed with 50 lb/acre Kobe (Piedmont and Coastal Plain) or Korean (Mountains) lespedeza in late February or early March.

SEQUENCE OF CONSTRUCTION ACTIVITIES:

- PHASE 1 WORK AS SHOWN ON C4.01 (ITEMS 1-5)
- OBTAIN A LAND DISTURBING PERMIT.
 - ESTABLISH LIMITS OF DISTURBANCE AS SHOWN.
 - AT LEAST 48 HOURS PRIOR TO BEGINNING CONSTRUCTION SCHEDULE AN ON-SITE PRECONSTRUCTION MEETING. THE EROSION CONTROL INSPECTOR ENGINEER, AND CONTRACTOR SHALL MEET AT THE NEW HANOVER COUNTY EROSION CONTROL INSPECTOR'S OFFICE.
 - INSTALL ALL TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES SHOWN ON C4.01 INCLUDING CONSTRUCTION ENTRANCE, PERIMETER SILT FENCE, SILT TREE PROTECTION COMBINATION FENCING, AND CHECK DAM WITH WEIR. LIMIT CLEARING AND LAND DISTURBING ACTIVITY TO THE AREA NECESSARY TO INSTALL THE PERMITTED MEASURES AS SHOWN ON C4.01.
 - PRIOR TO ANY CLEARING, GRADING, OR CONSTRUCTION ACTIVITY, INSTALL TREE PROTECTION FENCING AROUND PROTECTED TREES OR GROVES OF TREES. NO CONSTRUCTION WORKERS, TOOLS, MATERIALS, OR VEHICLES ARE PERMITTED WITHIN THE TREE PROTECTION FENCING. POST SIGNS PROHIBITING ACTIVITY IN TREE PROTECTION AREAS IN SPANISH AND ENGLISH.
 - CONTRACTOR TO KEEP CONSTRUCTION SEDIMENT OFF EXISTING PVIOUS PAVEMENT ON SITE. COVER AS NEEDED.
- PHASE 2 WORK AS SHOWN ON C4.02 (ITEMS 6-10)
- PRIOR TO BEGINNING WORK ON BUILDING, CONTRACTOR TO PERFORM NECESSARY UTILITY CONSTRUCTION TO RELOCATE STORMWATER PIPING ASSOCIATED WITH EXISTING WET POND SO PIPES IS OUTSIDE OF NEW BUILDING FOOTPRINT. INSTALLATION TO BEGIN DOWNSTREAM AND PROCEED UPSTREAM. KEEP PIPE OFFLINE UNTIL ENTIRETY OF RE-ROUTE IS COMPLETED.
 - NEW HYDRANTS MUST BE BROUGHT INTO SERVICE PRIOR TO COMBUSTIBLE MATERIALS BEING DELIVERED TO THE JOB SITE.
 - ONCE RE-ROUTE PIPING IS COMPLETED, SKIMMER TO BE TIED TO RISER STRUCTURE WITH EXISTING POND AND WET POND IS TO BE TEMPORARY USED AS SEDIMENT BASIN DURING CONSTRUCTION OF PROJECT.
 - CONSTRUCTION TO BEGIN ON PROPOSED BUILDING.
 - EXISTING STORM PIPING ON SITE IS TO REMAIN ACTIVE. CONSTRUCTION RUNOFF NOT TO ENTER EXISTING AREA DRAINS.
- PHASE 3 WORK AS SHOWN ON C4.03 (ITEMS 11-12)
- REMAINING SITE ITEMS TO BE COMPLETED. JUST AS NOTED FOR EXISTING PVIOUS PAVEMENT, CONTRACTOR TO KEEP CONSTRUCTION ACTIVITY AND SEDIMENT OFF OF LOCATIONS OF NEW PVIOUS PAVEMENT.
 - ONCE SITE IS STABILIZED, EXISTING WET POND/SEDIMENT BASIN TO BE MUCKED OUT AND REGRADED PER CS.00 SERIES. STABILIZE ONCE COMPLETED.

- GROUND COVER (TEMPORARY OR PERMANENT) SHALL BE PROVIDED AS FOLLOWS:
 - STABILIZE BASINS WITH GROUND COVER IMMEDIATELY AFTER INSTALLATION.
 - FOR ALL AREAS OF MODERATE AND/OR STEEP SLOPES, PROVIDE TEMPORARY GROUND COVER IF THE SLOPE HAS NOT BEEN DISTURBED FOR A PERIOD OF FOURTEEN (14) DAYS.
 - PROVIDE GROUND COVER SUFFICIENT TO RESTRAIN EROSIONS ON ANY PORTION OF THE SITE UPON WHICH FURTHER LAND-DISTURBING ACTIVITY IS NOT BEING UNDERTAKEN WITHIN FOURTEEN (14) CALENDAR DAYS OF TEMPORARILY OR PERMANENTLY SUSPENDING LAND DISTURBING ACTIVITY.
 - ESTABLISH PERMANENT GROUND COVER SUFFICIENT TO RESTRAIN EROSION WITHIN FOURTEEN (14) CALENDAR DAYS FOLLOWING COMPLETION OF CONSTRUCTION, SUSPENSION OF LAND DISTURBING ACTIVITIES, OR DEVELOPMENT AND/OR PRIOR TO FINAL INSPECTION.
- INSTALL ADEQUATE EROSION AND SEDIMENT CONTROL MEASURES AND/OR INCREASE MAINTENANCE FREQUENCY WHERE APPROVED MEASURES FAIL TO PREVENT ACCELERATED EROSION, OFF SITE SEDIMENTATION, OR REPETITIVE NON-COMPLIANCE ISSUES.
- MODIFICATIONS TO THE APPROVED AND PERMITTED PLANS SHALL BE APPROVED BY EROSION CONTROL INSPECTIONS PRIOR TO REMOVAL OR INSTALLATION.
- MAINTAIN ALL EROSION AND SEDIMENT CONTROL MEASURES IN GOOD WORKING ORDER. SILT FENCE, INLET PROTECTION AND OTHER SIMILAR MEASURES MUST BE CLEANED OUT BEFORE THEY ARE HALF FULL. CLOGGED STONE FILTERS MUST BE REFRESHED/ REPLACED. SILT FENCE CANNOT HAVE HOLES OR TEARS.

NOTES:

- INSPECTOR REFERS TO CITY OF WILMINGTON LAND QUALITY INSPECTOR OR HIS REPRESENTATIVE. FIELD INSPECTIONS MAY REQUIRE ADDITIONAL SEDIMENTATION AND EROSION CONTROL MEASURES AS DEEMED NECESSARY BY THE INSPECTOR.
- CONSTRUCTION AND MAINTENANCE OF ALL EROSION CONTROL DEVICES SHALL CONFORM TO THE STANDARDS SET FORTH IN THE NORTH CAROLINA DEPARTMENT OF ENVIRONMENT, HEALTH AND NATURAL RESOURCES LAND QUALITY SECTION EROSION AND SEDIMENT CONTROL PLANNING LAND DESIGN MANUAL.
- THE GENERAL CONTRACTOR IS RESPONSIBLE FOR MAINTENANCE OF EROSION CONTROL METHODS DURING CONSTRUCTION, AND THE OWNER IS RESPONSIBLE FOR MAINTENANCE OF ALL PERMANENT EROSION CONTROL METHODS AFTER CONSTRUCTION IS COMPLETE, IF ANY PERMANENT METHODS ARE REQUIRED.
- INSPECT SEDIMENT AND EROSION CONTROL DEVICES AFTER EVERY RAIN EVENT AND ONCE PER WEEK.

EROSION CONTROL NOTES:

- REFER TO C0.01 FOR GENERAL NOTES.
- ALL EROSION CONTROL MEASURES SHALL BE INSTALLED IN BEST LOCATION BASED ON FIELD CONDITIONS.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE INSTALLATION AND MAINTENANCE OF ALL EROSION CONTROL MEASURES THROUGHOUT THE DURATION OF CONSTRUCTION.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE INSTALLATION OF CONSTRUCTION ENTRANCES AS NECESSARY TO PREVENT THE TRACKING OF SEDIMENT OFF-SITE. AN ALL WEATHER ACCESS ROAD MUST BE MAINTAINED AROUND THE CONSTRUCTION SITE AT ALL TIMES.
- APPROVAL OF THIS EROSION AND SEDIMENTATION CONTROL (ESC) PLAN DOES NOT CONSTITUTE AN APPROVAL OF DRAINAGE DESIGN (E.G., SIZE AND LOCATION OF ROADS, PIPES, RESTRICTORS, CHANNELS, RETENTION FACILITIES, UTILITIES, ETC.).
- THE IMPLEMENTATION OF THESE ESC PLANS AND THE CONSTRUCTION, MAINTENANCE, REPLACEMENT, AND UPGRADING OF THESE ESC FACILITIES IS THE RESPONSIBILITY OF THE CONTRACTOR AND ESC SUPERVISOR UNTIL ALL CONSTRUCTION IS APPROVED.
- DURING THE CONSTRUCTION PERIOD, NO DISTURBANCE BEYOND THE LIMITS OF DISTURBANCE (L.O.D.) SHALL BE PERMITTED. THE L.O.D. SHALL BE MAINTAINED BY THE ESC SUPERVISOR FOR THE DURATION OF CONSTRUCTION.
- THE ESC FACILITIES SHOWN ON THIS PLAN MUST BE CONSTRUCTED PRIOR TO OR IN CONJUNCTION WITH ALL CLEARING AND GRADING SO AS TO ENSURE THAT THE TRANSPORT OF SEDIMENT TO DRAINAGE SYSTEMS, AND ADJACENT PROPERTIES IS MINIMIZED.
- THE ESC FACILITIES SHOWN ON THIS PLAN ARE THE MINIMUM REQUIREMENTS FOR ANTICIPATED SITE CONDITIONS. DURING THE CONSTRUCTION PERIOD, THESE ESC FACILITIES SHALL BE UPGRADED AS NEEDED FOR UNEXPECTED STORM EVENTS AND MODIFIED TO ACCOUNT FOR CHANGING SITE CONDITIONS (E.G., ADDITIONAL SUMP PUMPS, RELOCATION OF DITCHES AND SILT FENCES, ETC.).
- THE ESC FACILITIES SHALL BE INSPECTED DAILY BY THE ESC SUPERVISOR AND MAINTAINED TO ENSURE CONTINUED PROPER FUNCTIONING. WRITTEN RECORDS SHALL BE MAINTAINED BY THE CONTRACTOR THROUGHOUT THE DURATION OF THE PROJECT. COPIES OF THE WRITTEN INSPECTION REPORTS SHALL BE PROVIDED TO THE OWNER'S REPRESENTATIVE TWICE PER WEEK AND AFTER RAINS OF GREATER THAN 0.5" RAIN GAUGE REQUIRED ON SITE.
- ANY AREAS OF EXPOSED SOILS THAT WILL NOT BE DISTURBED FOR FOURTEEN DAYS SHALL BE IMMEDIATELY STABILIZED WITH THE APPROVED ESC METHODS (E.G., SEEDING, MULCHING, PLASTIC COVERING, ETC.).
- THE ESC FACILITIES ON INACTIVE SITES SHALL BE INSPECTED AND MAINTAINED A MINIMUM OF ONCE A MONTH OR WITHIN FORTY EIGHT (48) HOURS FOLLOWING A STORM EVENT.
- AT NO TIME SHALL MORE THAN ONE (1) FOOT OF SEDIMENT BE ALLOWED TO ACCUMULATE WITHIN A CATCH BASIN. ALL CATCH BASINS AND CONVEYANCE LINES SHALL BE CLEANED PRIOR TO PAVING. THE CLEANING OPERATION SHALL NOT FLUSH SEDIMENT LADEN WATER INTO THE DOWNSTREAM SYSTEM.
- STABILIZED CONSTRUCTION ENTRANCES AND ROADS SHALL BE INSTALLED AT THE BEGINNING OF CONSTRUCTION AND MAINTAINED FOR THE DURATION OF THE PROJECT. ADDITIONAL MEASURES, SUCH AS WASH PADS, MAY BE REQUIRED TO ENSURE THAT ALL PAVED AREAS ARE KEPT CLEAN FOR THE DURATION OF THE PROJECT.
- WHERE STRAW MULCH FOR TEMPORARY EROSION CONTROL IS REQUIRED, IT SHALL BE A MINIMUM THICKNESS OF 2 TO 3 INCHES.
- INTERM SLOPES MAY BE GRADED TO A MAXIMUM SLOPE OF 2:1. RIPRAP REINFORCEMENT IS REQUIRED FOR SLOPES AT 2:1. SEE CITY OF RALEIGH GUIDELINES FOR LAND DISTURBING ACTIVITIES FOR ADDITIONAL INFORMATION FOR STABILIZATION/SLOPE PROTECTION STANDARDS.
- THE SURFACE OF AREAS SLOPES STEEPER THAN 1 VERTICAL TO 4 HORIZONTAL THAT ARE TO RECEIVE INTERM FILL SHALL BE FLOWED, FURROWED, TILLED OR BROKEN UP PRIOR TO PLACING FILL SO THAT FILL MATERIAL WILL BOND WITH EXISTING. SURFACE INTERM FILL SHALL BE PLACED AS SPECIFIED FOR PERMANENT FILLS AND IN LIFTS NOT GREATER THAN 6".
- PROVIDE DUST CONTROL MEASURES INCLUDING, BUT NOT LIMITED TO, WETTING DOWN TO CONTROL DUST ON SITE, IN ORDER TO PREVENT ANNOYANCE/AND OR DAMAGE TO ADJACENT SITES. CALCIUM CHLORIDE OR ANY OTHER CHEMICAL MATERIAL MAY NOT BE USED ON SUBGRADES OF AREAS TO BE SEEDD OR PLANTED.
- SEDIMENT LADEN RUNOFF FROM EXCAVATIONS SHALL NOT BE PUMPED DIRECTLY TO STORM DRAINAGE.
- A SURETY IN THE AMOUNT OF \$1000 PER DISTURBED ACRE IS REQUIRED PRIOR TO GRADING PERMIT APPROVAL. CONTACT JONATHAN MCNEILL AT jonathan.mcneill@raleighnc.gov TO BEGIN THE PROCESS.

TREE PROTECTION NOTES:

- NO LAND DISTURBANCE INCLUDING TREE REMOVAL IS TO OCCUR OUTSIDE THE LIMITS OF DISTURBANCE SHOWN ON THE PLANS (18-457(B)).
- PROTECTIVE FENCING IS TO BE PROPERLY MAINTAINED THROUGH THE DURATION OF THE PROJECT (18-458).
- LAND CLEARING AND CONSTRUCTION CONTRACTORS SHALL RECEIVE ADEQUATE INSTRUCTION F TREE PROTECTION REQUIREMENTS AND METHODS (18-457(D)).
- ANY TREES AND/OR AREAS DESIGNATED TO BE PROTECTED MUST PROPERLY BARRICADED WITH FENCING AND PROTECTED THROUGHOUT CONSTRUCTION TO INSURE THAT NO CLEARING AND GRADING OR STAGING OF MATERIALS WILL OCCUR IN THOSE AREAS (18-458).
- NO EQUIPMENT IS ALLOWED ON THE SITE UNTIL ALL TREE PROTECTION FENCING AND SILT FENCING HAS BEEN INSTALLED AND APPROVED (18-458).
- REGULATED AND SIGNIFICANT TREES IN THE STREET YARD (18-456(C)) AND ANY TREES IN ANY REQUIRED BUFFERS (18-456(B)) ARE REQUIRED TO BE RETAINED.

FOR EACH OPEN UTILITY CUT OF CITY STREETS, A \$325 PERMIT SHALL BE REQUIRED FROM THE CITY PRIOR TO OCCUPANCY AND/OR PROJECT ACCEPTANCE.

STORMWATER MANAGEMENT PLAN
APPROVED
 CITY OF WILMINGTON
 ENGINEERING DEPARTMENT
 DATE: _____ PERMIT: _____
 SIGNED: _____

Approved Construction Plan
 Name: _____ Date: _____
 Planning: _____
 Traffic: _____
 Fire: _____

EROSION CONTROL NOTE:
REFER TO C4.00 FOR EROSION CONTROL NOTES AND INFORMATION.

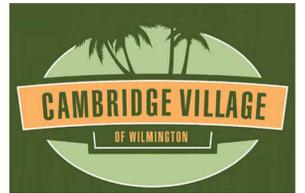


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Raleigh, NC 27603-1262

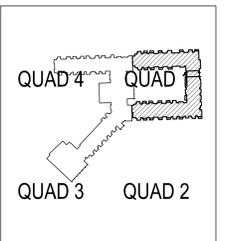
ph 919.803.2022 fx 317.819.7288
www.bsalifestructures.com



STEWART



CAMBRIDGE VILLAGE OF WILMINGTON PHASE II



KEYPLAN
PLAN NORTH

MARK	DATE	DESCRIPTION
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EROSION CONTROL LEGEND

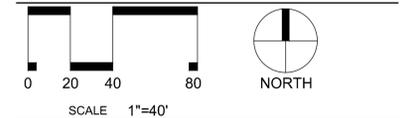
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- TREE PROTECTION
- TREE PROTECTION/SILT FENCE
- DIVERSION DITCH
- LIMITS OF DISTURBANCE
- BLOCK & GRAVEL INLET PROTECTION
- SILT FENCE OUTLET
- CHECK DAM
- FLARED END SECTION (FES)
- RIPRAP DISSIPATER
- TEMPORARY CONSTRUCTION ENTRANCE

ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH NORTH CAROLINA EROSION CONTROL SPECIFICATIONS

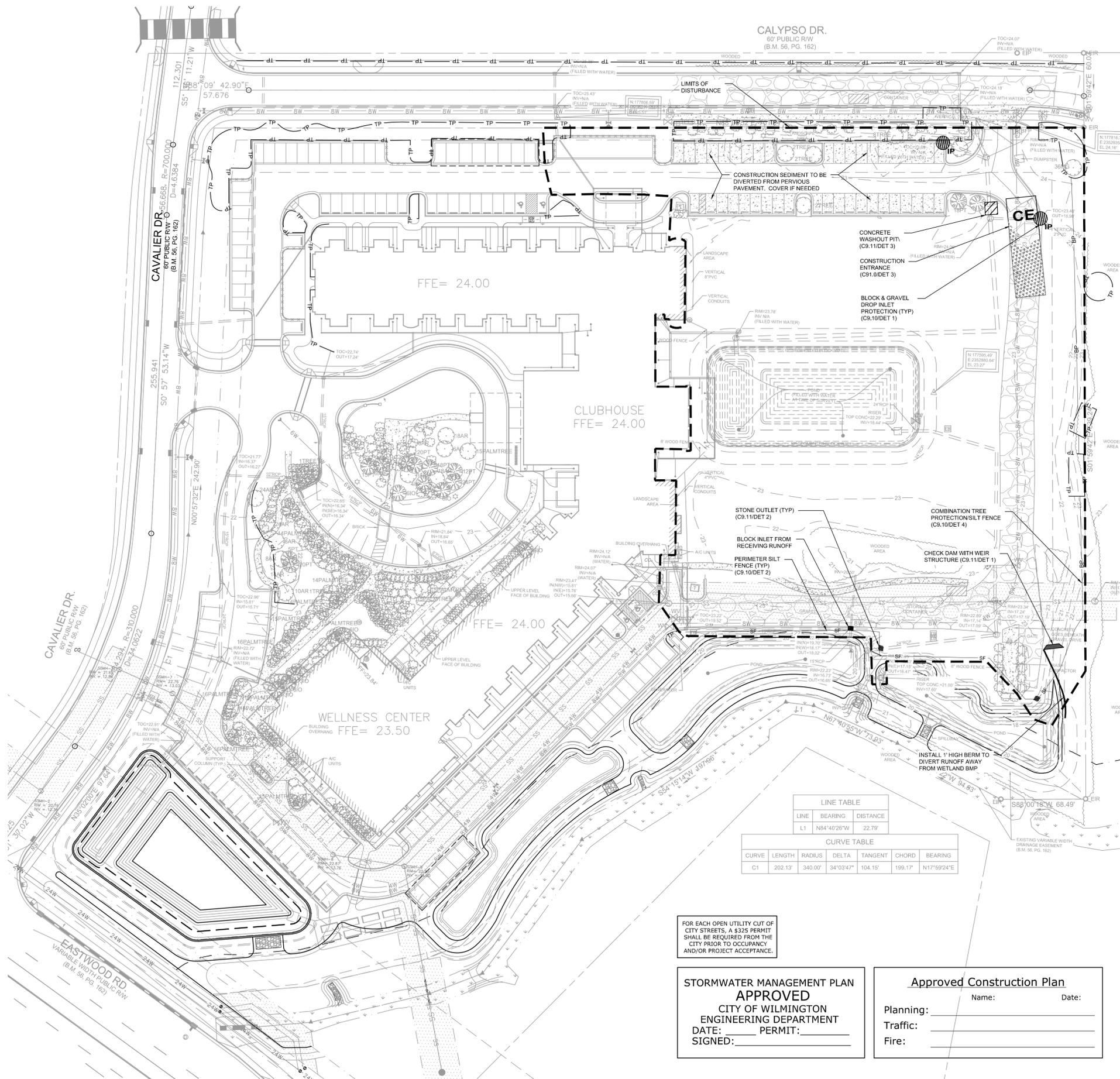
EROSION & SEDIMENT CONTROL PLAN - PHASE I



NOT FOR CONSTRUCTION



PROJECT NO.	C15061	CLIENT NO.	N/A
DATE	11.12.2015		
DRAWN	CKW		
APPROVED	CAH		



FOR EACH OPEN UTILITY CUT OF CITY STREETS, A \$325 PERMIT SHALL BE REQUIRED FROM THE CITY PRIOR TO OCCUPANCY AND/OR PROJECT ACCEPTANCE.

STORMWATER MANAGEMENT PLAN APPROVED
CITY OF WILMINGTON ENGINEERING DEPARTMENT
DATE: _____ PERMIT: _____
SIGNED: _____

Approved Construction Plan
Name: _____ Date: _____
Planning: _____
Traffic: _____
Fire: _____

AREA OF DISTURBANCE
3.52 AC

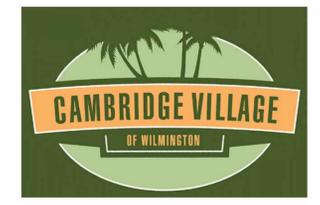
C4.01

EROSION CONTROL NOTE:
REFER TO C4.00 FOR EROSION CONTROL NOTES AND INFORMATION.

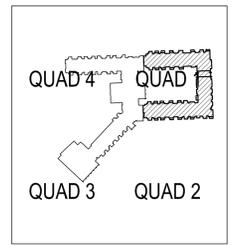


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CAMBRIDGE VILLAGE OF WILMINGTON PHASE II



KEYPLAN
PLAN NORTH

MARK	DATE	DESCRIPTION
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EROSION CONTROL LEGEND

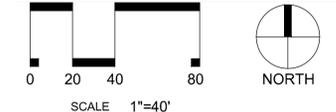
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- TREE PROTECTION
- TREE PROTECTION/SILT FENCE
- DIVERSION DITCH
- LIMITS OF DISTURBANCE
- BLOCK & GRAVEL INLET PROTECTION
- SILT FENCE OUTLET
- CHECK DAM
- FLARED END SECTION (FES)
- RIPRAP DISSIPATER
- TEMPORARY CONSTRUCTION ENTRANCE

ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH NORTH CAROLINA EROSION CONTROL SPECIFICATIONS

EROSION & SEDIMENT CONTROL PLAN - PHASE II

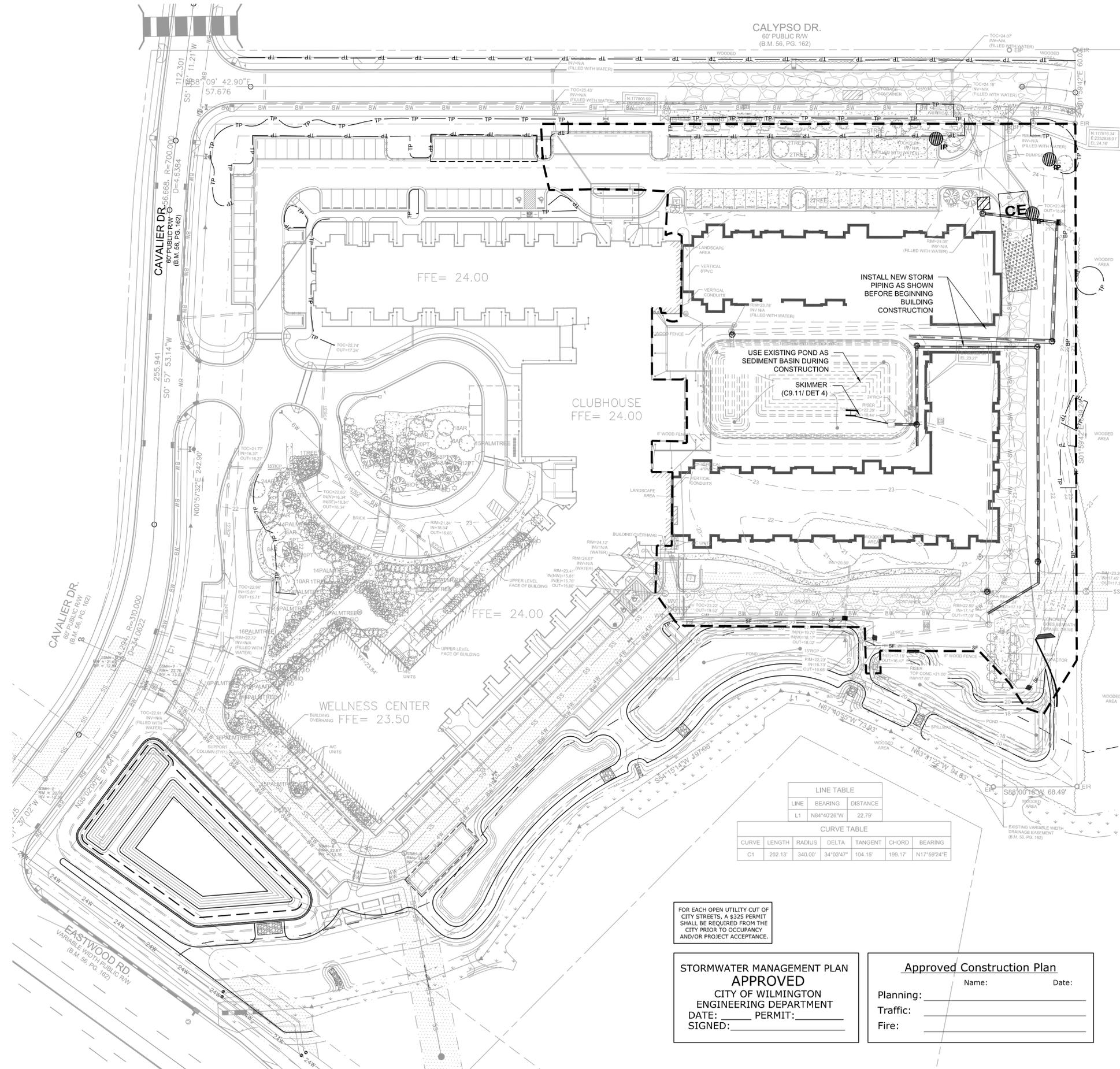


NOT FOR CONSTRUCTION



PROJECT NO.	C15061	CLIENT NO.	N/A
DATE	11.12.2015		
DRAWN	CKW		
APPROVED	CAH		

AREA OF DISTURBANCE
3.52 AC



LINE TABLE	
LINE	BEARING DISTANCE
L1	N84°40'26"W 22.79'

CURVE TABLE					
CURVE	LENGTH	RADIUS	DELTA	TANGENT	CHORD BEARING
C1	202.13'	340.00'	34°03'47"	104.15'	199.17' N17°59'24"E

FOR EACH OPEN UTILITY CUT OF CITY STREETS, A \$325 PERMIT SHALL BE REQUIRED FROM THE CITY PRIOR TO OCCUPANCY AND/OR PROJECT ACCEPTANCE.

STORMWATER MANAGEMENT PLAN APPROVED
CITY OF WILMINGTON
ENGINEERING DEPARTMENT
DATE: _____ PERMIT: _____
SIGNED: _____

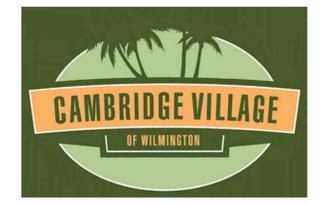
Approved Construction Plan
Name: _____ Date: _____
Planning: _____
Traffic: _____
Fire: _____

EROSION CONTROL NOTE:
REFER TO C4.00 FOR EROSION CONTROL NOTES AND INFORMATION.

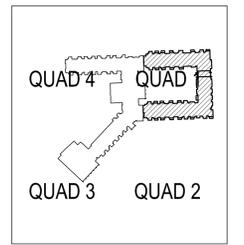


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CAMBRIDGE VILLAGE OF WILMINGTON PHASE II



KEYPLAN
PLAN NORTH

MARK	DATE	DESCRIPTION
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EROSION CONTROL LEGEND

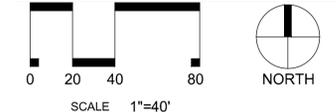
- SILT FENCE
- TREE PROTECTION
- TREE PROTECTION/SILT FENCE
- DIVERSION DITCH
- LIMITS OF DISTURBANCE
- BLOCK & GRAVEL INLET PROTECTION
- SILT FENCE OUTLET
- CHECK DAM
- FLARED END SECTION (FES)
- RIPRAP DISSIPATER
- TEMPORARY CONSTRUCTION ENTRANCE

ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH NORTH CAROLINA EROSION CONTROL SPECIFICATIONS

EROSION & SEDIMENT CONTROL PLAN - PHASE III

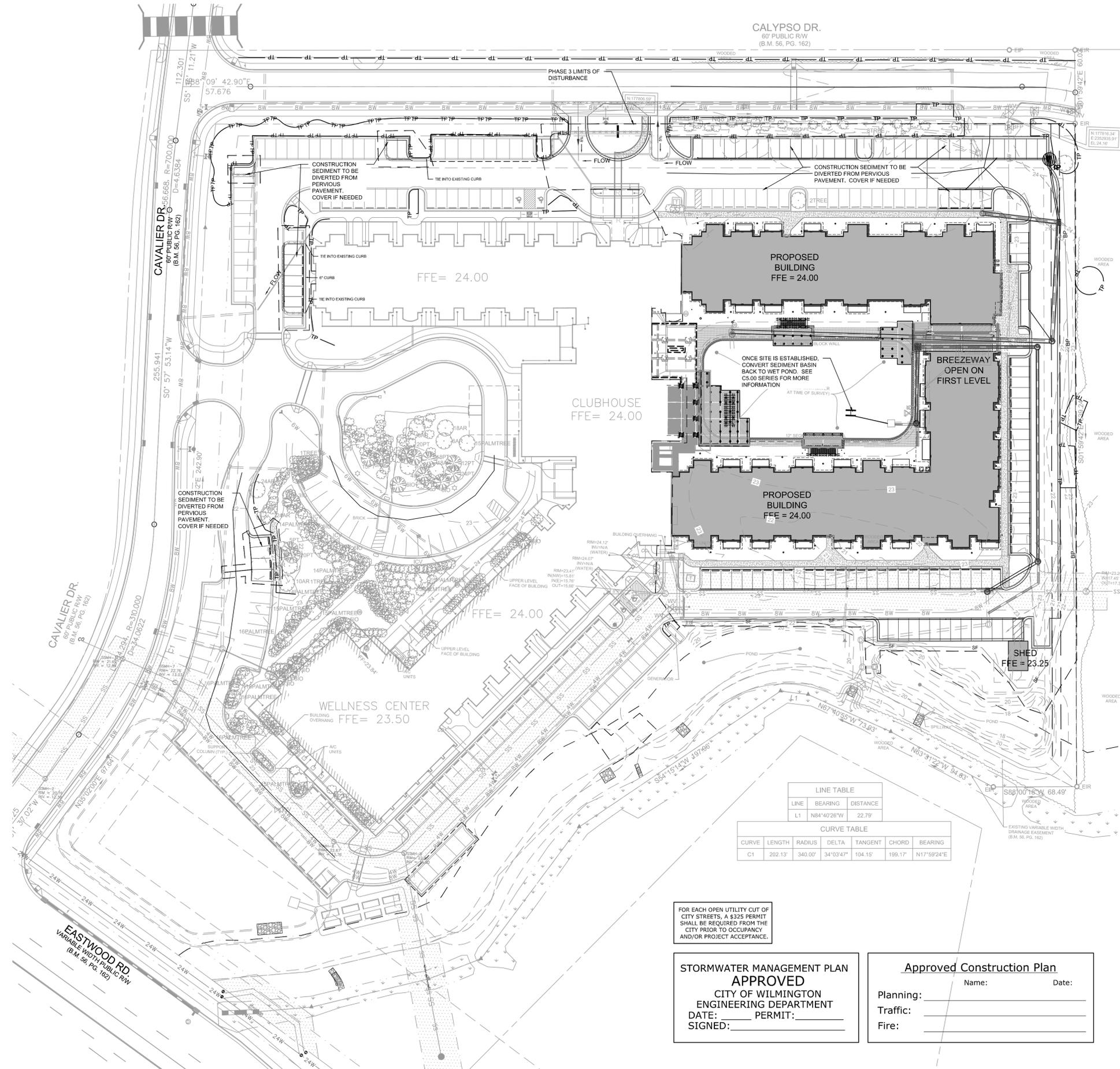


NOT FOR CONSTRUCTION



PROJECT NO.	C15061	CLIENT NO.	N/A
DATE	10.07.2015		
DRAWN	CKW		
APPROVED	CAH		

C4.03



LINE TABLE		
LINE	BEARING	DISTANCE
L1	N84°40'26"W	22.79

CURVE TABLE						
CURVE	LENGTH	RADIUS	DELTA	TANGENT	CHORD	BEARING
C1	202.13'	340.00'	34°03'47"	104.15'	199.17'	N17°59'24"E

FOR EACH OPEN UTILITY CUT OF CITY STREETS, A \$325 PERMIT SHALL BE REQUIRED FROM THE CITY PRIOR TO OCCUPANCY AND/OR PROJECT ACCEPTANCE.

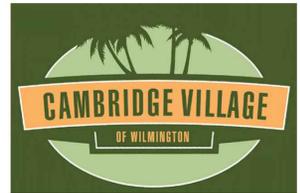
STORMWATER MANAGEMENT PLAN APPROVED
CITY OF WILMINGTON ENGINEERING DEPARTMENT
DATE: _____ PERMIT: _____
SIGNED: _____

Approved Construction Plan
Name: _____ Date: _____
Planning: _____
Traffic: _____
Fire: _____

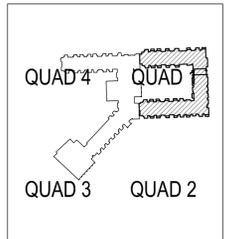
AREA OF DISTURBANCE 3.52 AC



STEWART



CAMBRIDGE VILLAGE OF WILMINGTON PHASE II



KEYPLAN

MARK	DATE	DESCRIPTION
X	X	X
X	X	X
X	X	X
X	X	X
X	X	X
X	X	X
X	X	X
X	X	X
X	X	X
X	X	X
X	X	X

GRADING AND STORM DRAINAGE PLAN OVERALL



NOT FOR CONSTRUCTION

PROJECT NO. C15061 CLIENT N/A

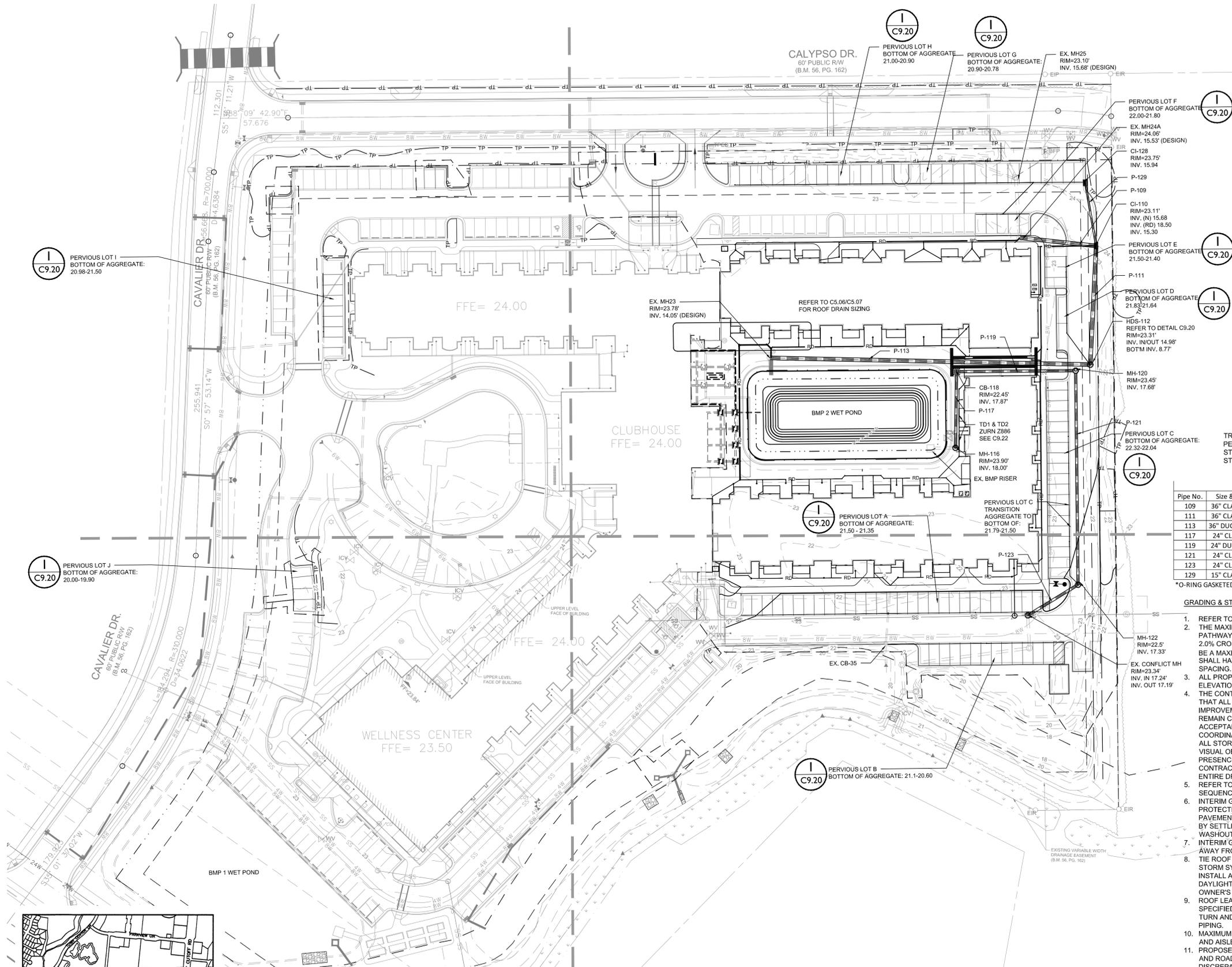
DATE 11.12.2015

DRAWN CKW/CAH

APPROVED AP/BO

C5.00

REFER TO DETAILS C9.20 FOR PERVIOUS PAVEMENT DEPTH, UNDERDRAIN CONNECTION DETAILS.
PROVIDE ONE OBSERVATION WELL PER PERVIOUS PAVEMENT SECTION.



STRUCTURE TABLE

Str. No.	Rim (ft)	Ht (ft)
CI-110	23.50	8.20
HDS-112	23.31	14.08
MH-116	23.90	5.90
CB-118	22.45	4.58
MH-120	23.45	5.77
MH-122	22.50	5.17
CI-128	23.75	7.81
TD-1	24.75	24.75
TD-2	25.75	25.75

TRENCH DRAINS: ZURN MODEL Z886-8602 PERMA-TRENCH WITH BOTTOM OUTLET. STRUCTURES PER NCDOT AND CITY OF WILMINGTON STANDARDS AND SPECIFICATIONS.

PIPE TABLE

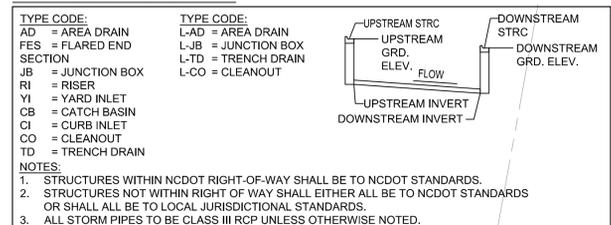
Pipe No.	Size & Material	Length	Inv. In.	Inv. Out.	Slope
109	36" CLASS III RCP*	62.71	15.53	15.30	0.0037
111	36" CLASS III RCP*	96.72	15.30	14.98	0.0033
113	36" DUCTILE IRON*	261.85	14.98	14.05	0.0036
117	24" CLASS III RCP	62.86	18.00	17.87	0.0020
119	24" DUCTILE IRON	97.40	17.87	17.68	0.0019
121	24" CLASS III RCP	174.29	17.68	17.33	0.0020
123	24" CLASS III RCP	48.05	17.33	17.24	0.0019
129	15" CLASS III RCP*	52.04	15.94	15.68	0.0050

*O-RING GASKETED, WATER TIGHT JOINTS

GRADING & STORM DRAINAGE NOTES:

- REFER TO C0.01 FOR GENERAL NOTES.
- THE MAXIMUM SLOPE ALONG ANY HANDICAP ACCESSIBLE PATHWAY SHALL NOT EXCEED 5.0% AND SHALL NOT EXCEED A 2.0% CROSS SLOPE. ADA RAMPS INDICATED ON PLANS SHALL BE A MAXIMUM OF 1/2 SLOPES. IF RAMP EXCEEDS 6' LENGTH IT SHALL HAVE HANDRAILS AND 5' LANDINGS NOT TO EXCEED 30" SPACING.
- ALL PROPOSED ELEVATIONS SHOWN ARE EDGE OF PAVEMENT ELEVATIONS UNLESS OTHERWISE SPECIFIED.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR ENSURING THAT ALL NEWLY CONSTRUCTED STORM DRAINAGE IMPROVEMENTS AND RECEIVING STORM DRAINAGE SYSTEMS REMAIN CLEAN OF SEDIMENT AND DEBRIS. PRIOR TO OWNER ACCEPTANCE OF SYSTEM, THE CONTRACTOR SHALL COORDINATE AND PROVIDE A VISUAL OBSERVATION VIDEO OF ALL STORM DRAINAGE IMPROVEMENTS 4" AND LARGER. THE VISUAL OBSERVATION SHALL BE PERFORMED IN THE PRESENCE OF THE OWNER'S REPRESENTATIVE. THE CONTRACTOR SHALL PROVIDE TWO (2) DVD COPIES OF THE ENTIRE DRAINAGE VISUAL OBSERVATION.
- REFER TO THE EROSION CONTROL DETAILS SHEET FOR THE SEQUENCE OF CONSTRUCTION.
- INTERIM GRADING SHALL BE PROVIDED THAT ENSURES THE PROTECTION OF STRUCTURES, UTILITIES, SIDEWALKS, PAVEMENTS, AND OTHER FACILITIES FROM DAMAGE CAUSED BY SETTLEMENT, LATERAL MOVEMENT, UNDERMINING, AND WASHOUT.
- INTERIM GRADING SHALL BE PROVIDED TO DIRECT WATER AWAY FROM BUILDINGS AND PREVENT PONDING.
- THE ROOF LEADERS WHERE POSSIBLE TO UNDERGROUND STORM SYSTEM. CONTRACTOR TO FIELD VERIFY LOCATE AND INSTALL AS SHOWN ON PLANS. WHERE ROOF LEADERS DAYLIGHT AT GRADE A SPLASH BLOCK APPROVED BY THE OWNER'S REPRESENTATIVE SHALL BE INSTALLED.
- ROOF LEADERS ARE 4" DIAMETER UNLESS OTHERWISE SPECIFIED ON C5.06/C5.07. PROVIDE CLEANOUTS AT EACH TURN AND A MINIMUM OF 1 PER 100 LF OF ROOF LEADER PIPING.
- MAXIMUM SLOPE ACROSS ANY HANDICAPPED PARKING SPACE AND AISLE SHALL NOT EXCEED 2% IN ANY DIRECTION.
- PROPOSED CONTOURS ARE APPROXIMATE. SPOT ELEVATIONS AND ROADWAY PROFILES SHALL BE USED IN CASE OF DISCREPANCY.
- PRIOR TO ISSUANCE OF A BUILDING CERTIFICATE OF OCCUPANCY, THE CONTRACTOR SHALL PROVIDE THE OWNER WITH A VIDEO INSPECTION OF THE STORM SEWER SYSTEM. (BOTH PUBLIC AND PRIVATE). THIS SUBMITTAL MAY NEED TO BE REVIEWED AND ACCEPTED BY THE LOCAL JURISDICTION PRIOR TO THE ISSUANCE OF THE BUILDING CO.
- PLACE BACKFILL AND FILL MATERIALS IN LAYER NOT MORE THAN 8 INCHES IN LOOSE DEPTH FOR MATERIAL COMPACTED BY HEAVY COMPACTION EQUIPMENT, AND NOT MORE THAN 4 INCHES IN LOOSE DEPTH FOR MATERIAL COMPACTED BY HAND-OPERATED TAMPERS. PLACE BACKFILL AND FILL MATERIALS EVENLY ON ALL SIDES TO REQUIRED ELEVATIONS, AND UNIFORMLY ALONG THE FULL LENGTH OF EACH STRUCTURE. COMPACT SOIL TO NOT LESS THAN 95 PERCENT OF MAXIMUM DRY UNIT WEIGHT ACCORDING TO ASTM D 698 FOR EACH LAYER OF BACKFILL OR FILL MATERIAL UP TO TWO FEET OF FINISHED GRADE. COMPACT SOIL TO NOT LESS THAN 98 PERCENT OF MAXIMUM DRY UNIT WEIGHT ACCORDING TO ASTM D 698 FOR EACH LAYER OF BACKFILL OR FILL MATERIAL FOR THE FINAL TWO FEET.

STORM DRAINAGE NETWORK



FOR EACH OPEN UTILITY CUT OF CITY STREET A \$325 PERMIT SHALL BE REQUIRED FROM THE CITY PRIOR TO OCCURANCE AND/OR PROJECT ABANDONANCE.

STORMWATER MANAGEMENT PLAN APPROVED
CITY OF WILMINGTON
ENGINEERING DEPARTMENT
DATE: _____ PERMIT: _____
SIGNED: _____

Approved Construction Plan

Name: _____ Date: _____

Planning: _____

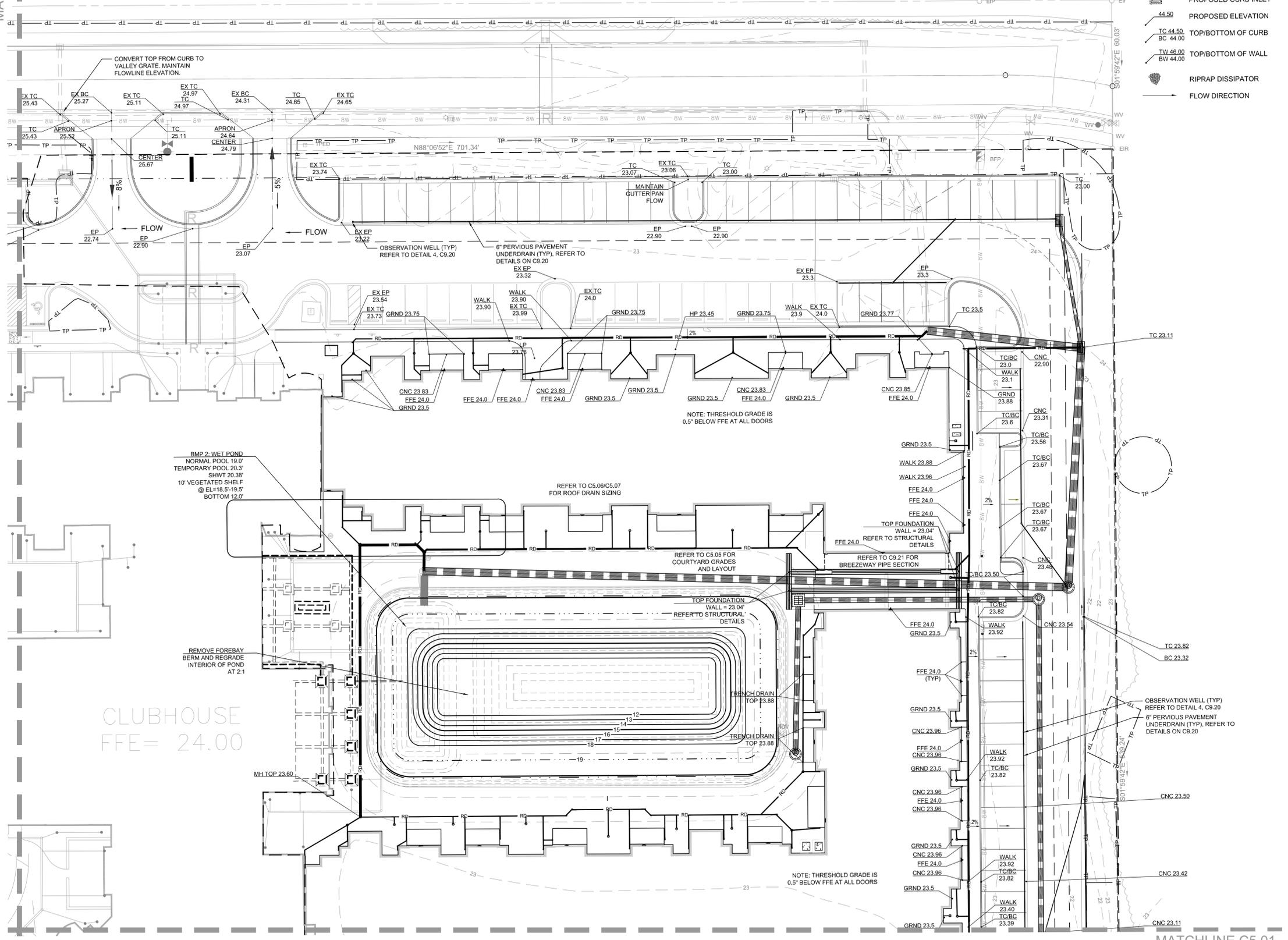
Traffic: _____

Fire: _____

MATCHLINE C5.04

CALYPSO DR.
60' PUBLIC R/W
(B.M. 56, PG. 162)

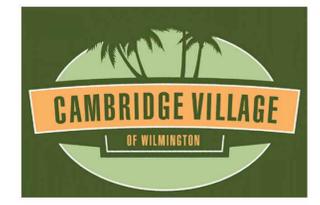
- GRADING LEGEND**
- 200 — PROPOSED MAJOR ELEVATION
 - 200 — PROPOSED MINOR ELEVATION
 - 200 — EXISTING MAJOR ELEVATION
 - 200 — EXISTING MINOR ELEVATION
 - ▬▬▬ PROPOSED STORM DRAINAGE
 - PROPOSED YARD DRAIN
 - ⊕ PROPOSED MANHOLE
 - ▭ PROPOSED CURB INLET
 - 44.50 PROPOSED ELEVATION
 - TC 44.50 TOP/BOTTOM OF CURB
 - BC 44.00
 - TW 46.00 TOP/BOTTOM OF WALL
 - BW 44.00
 - ▭ RIPRAP DISSIPATOR
 - FLOW DIRECTION



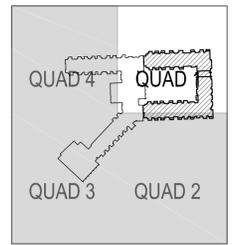
BSA
Life Structures 40 YEARS

510 Glenwood Ave, Suite 315
Raleigh, NC 27603-1262

ph 919.803.2022 fx 317.819.7288
www.bsalifestructures.com



CAMBRIDGE VILLAGE OF WILMINGTON
PHASE II



KEYPLAN

PLAN NORTH

MARK	DATE	DESCRIPTION
X	X	X
X	X	X
X	X	X
X	X	X
X	X	X
X	X	X
X	X	X
X	X	X
X	X	X
X	X	X

**GRADING AND STORM DRAINAGE PLAN
QUADRANT 1**



NOT FOR CONSTRUCTION

PROJECT NO.	C15061	CLIENT NO.	N/A
DATE	11.12.2015		
DRAWN	CKW/CAH		
APPROVED	BO		

C5.01

STORMWATER MANAGEMENT PLAN APPROVED

CITY OF WILMINGTON
ENGINEERING DEPARTMENT

DATE: _____ PERMIT: _____
SIGNED: _____

Approved Construction Plan

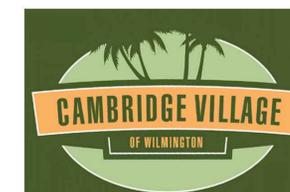
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Planning: _____
Traffic: _____
Fire: _____

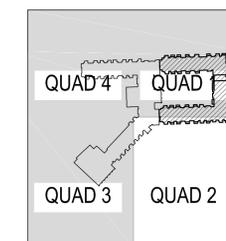
FOR EACH OPEN UTILITY CUT OF CITY STREETS, A \$325 PERMIT SHALL BE REQUIRED FROM THE CITY PRIOR TO OCCUPANCY AND/OR PROJECT ACCEPTANCE.



STEWART



CAMBRIDGE VILLAGE OF WILMINGTON PHASE II



KEYPLAN
PLAN NORTH

MARK	DATE	DESCRIPTION
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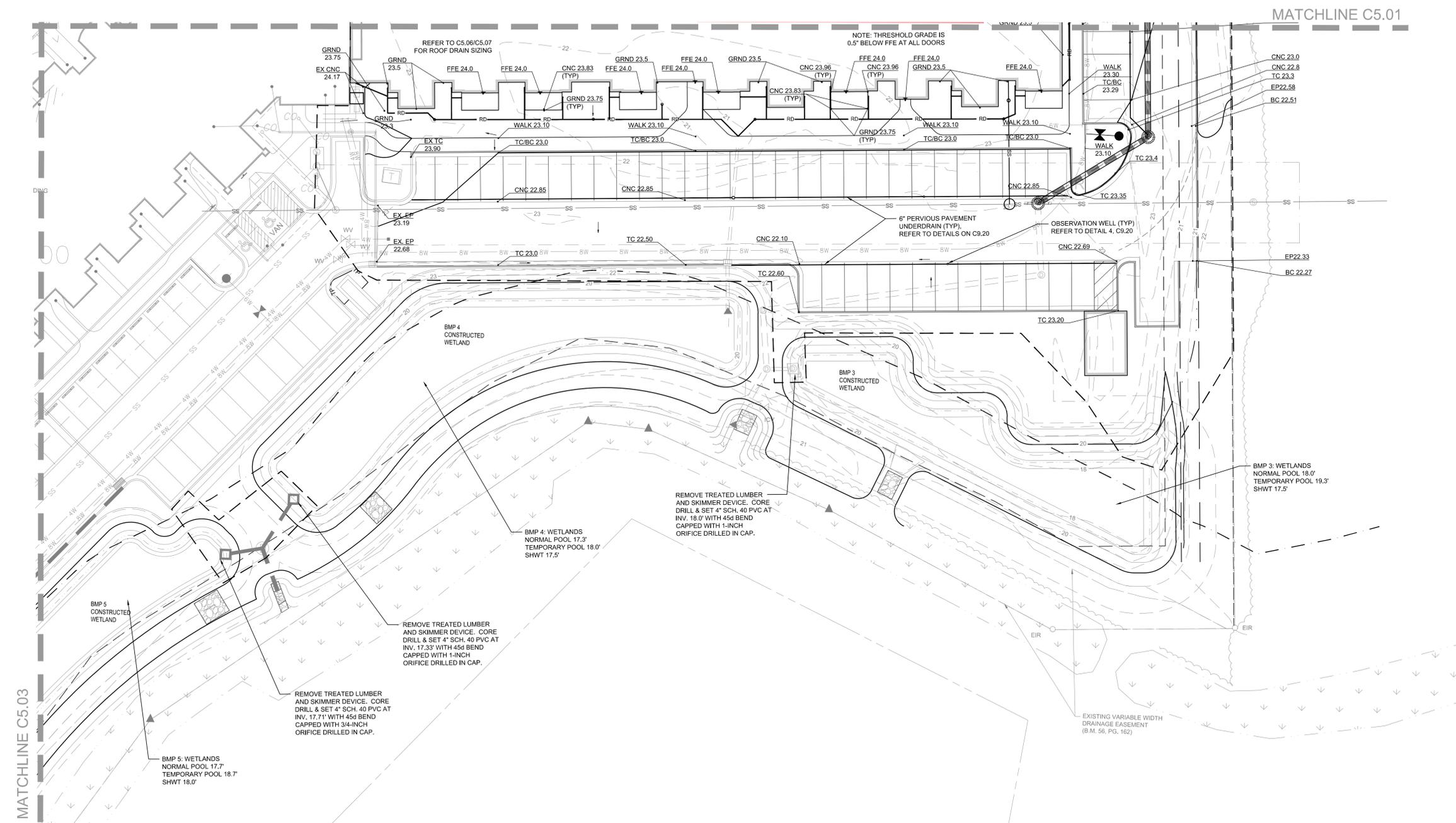
GRADING AND STORM DRAINAGE PLAN
QUADRANT 2



NOT FOR CONSTRUCTION

PROJECT NO.	C15061	CLIENT NO.	N/A
DATE	11.12.2015		
DRAWN	CKW		
APPROVED	CAH		

C5.02



- GRADING LEGEND**
- 200 — PROPOSED MAJOR ELEVATION
 - 200 — PROPOSED MINOR ELEVATION
 - 200 — EXISTING MAJOR ELEVATION
 - 200 — EXISTING MINOR ELEVATION
 - ▬▬▬▬▬ PROPOSED STORM DRAINAGE
 - PROPOSED YARD DRAIN
 - ⊙ PROPOSED MANHOLE
 - PROPOSED CURB INLET
 - 44.50 PROPOSED ELEVATION
 - TC 44.50 TOP/BOTTOM OF CURB
 - BC 44.00
 - TW 46.00 TOP/BOTTOM OF WALL
 - BW 44.00
 - RIPRAP DISSIPATOR
 - FLOW DIRECTION

FOR EACH OPEN UTILITY CUT OF CITY STREETS, A \$325 PERMIT SHALL BE REQUIRED FROM THE CITY PRIOR TO OCCUPANCY AND/OR PROJECT ACCEPTANCE.

STORMWATER MANAGEMENT PLAN APPROVED
CITY OF WILMINGTON
ENGINEERING DEPARTMENT
DATE: _____ PERMIT: _____
SIGNED: _____

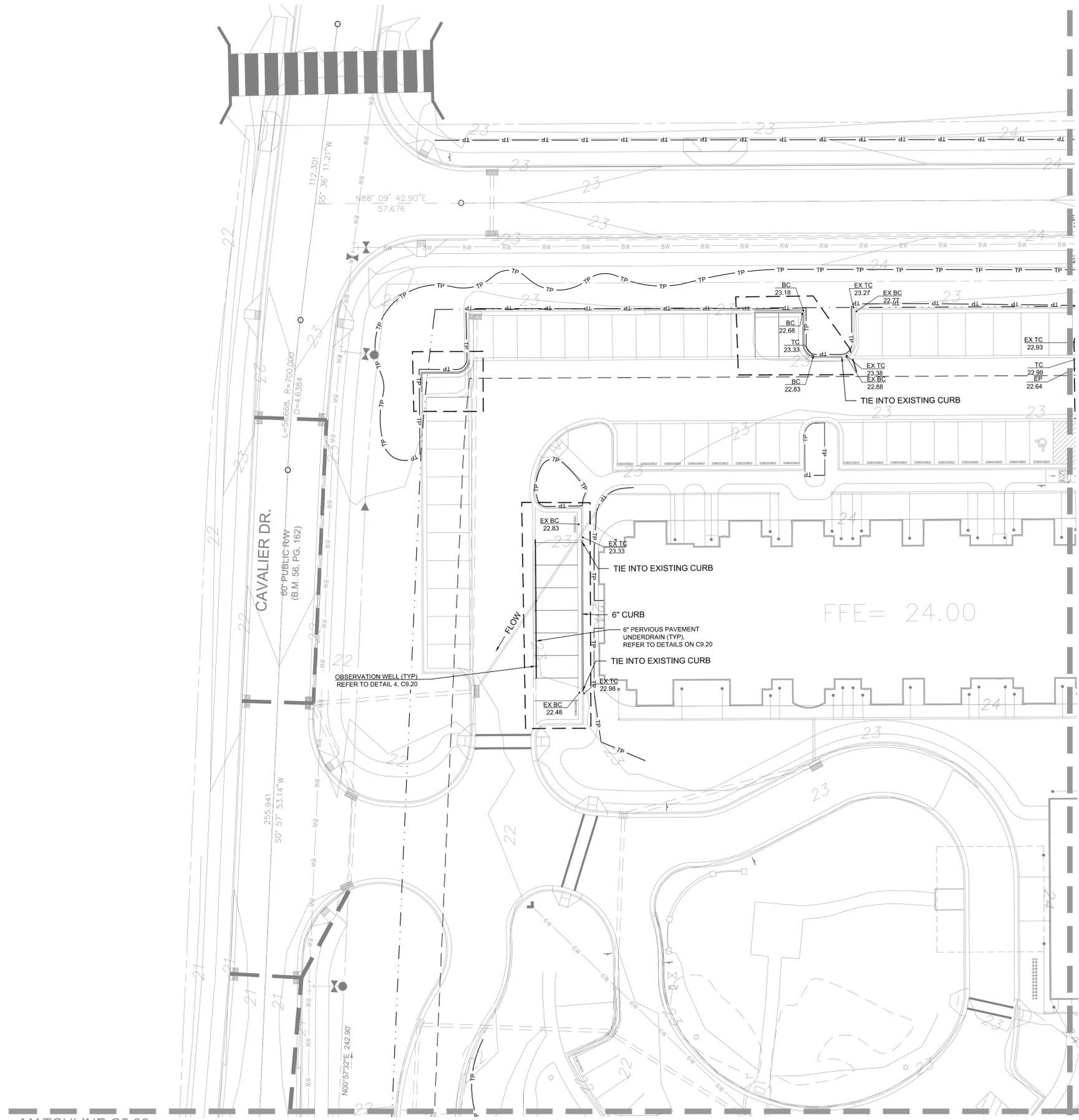
Approved Construction Plan
Name: _____ Date: _____
Planning: _____
Traffic: _____
Fire: _____

MATCHLINE C5.03

MATCHLINE C5.01

GRADING LEGEND

- PROPOSED MAJOR ELEVATION
- PROPOSED MINOR ELEVATION
- EXISTING MAJOR ELEVATION
- EXISTING MINOR ELEVATION
- PROPOSED STORM DRAINAGE
- PROPOSED YARD DRAIN
- PROPOSED MANHOLE
- PROPOSED CURB INLET
- PROPOSED ELEVATION
- TOP/BOTTOM OF CURB
- TOP/BOTTOM OF WALL
- RIPRAP DISSIPATOR
- FLOW DIRECTION

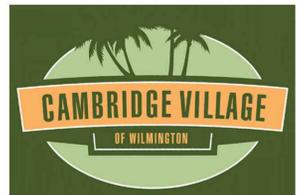


510 Glenwood Ave, Suite 315
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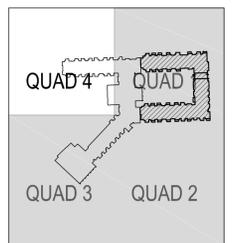
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STEWART



CAMBRIDGE VILLAGE OF WILMINGTON PHASE II



KEYPLAN

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X	X	X

GRADING AND STORM DRAINAGE PLAN QUADRANT 4



NOT FOR CONSTRUCTION

STORMWATER MANAGEMENT PLAN APPROVED
CITY OF WILMINGTON
ENGINEERING DEPARTMENT
DATE: _____ PERMIT: _____
SIGNED: _____

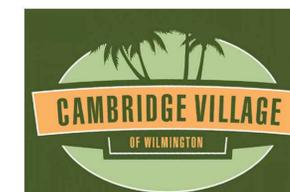
FOR EACH OPEN UTILITY CUT OF CITY STREETS, A \$325 PERMIT SHALL BE REQUIRED FROM THE CITY PRIOR TO OCCUPANCY AND/OR PROJECT ACCEPTANCE.

Approved Construction Plan
Name: _____ Date: _____
Planning: _____
Traffic: _____
Fire: _____

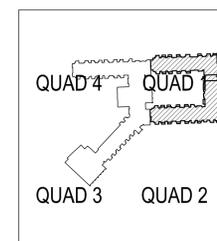
PROJECT NO. C15061 CLIENT NO. _____
DATE 11.12.2015
DRAWN CKW/CAH
APPROVED AP/BO
C5.04



STEWART



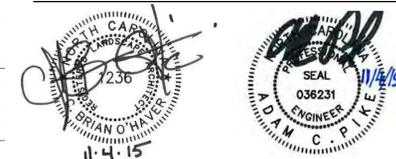
CAMBRIDGE VILLAGE OF WILMINGTON
PHASE II



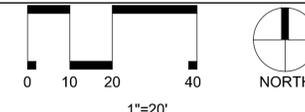
KEYPLAN
PLAN NORTH

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X	X	X

COURTYARD HARDSCAPE
GRADING PLAN



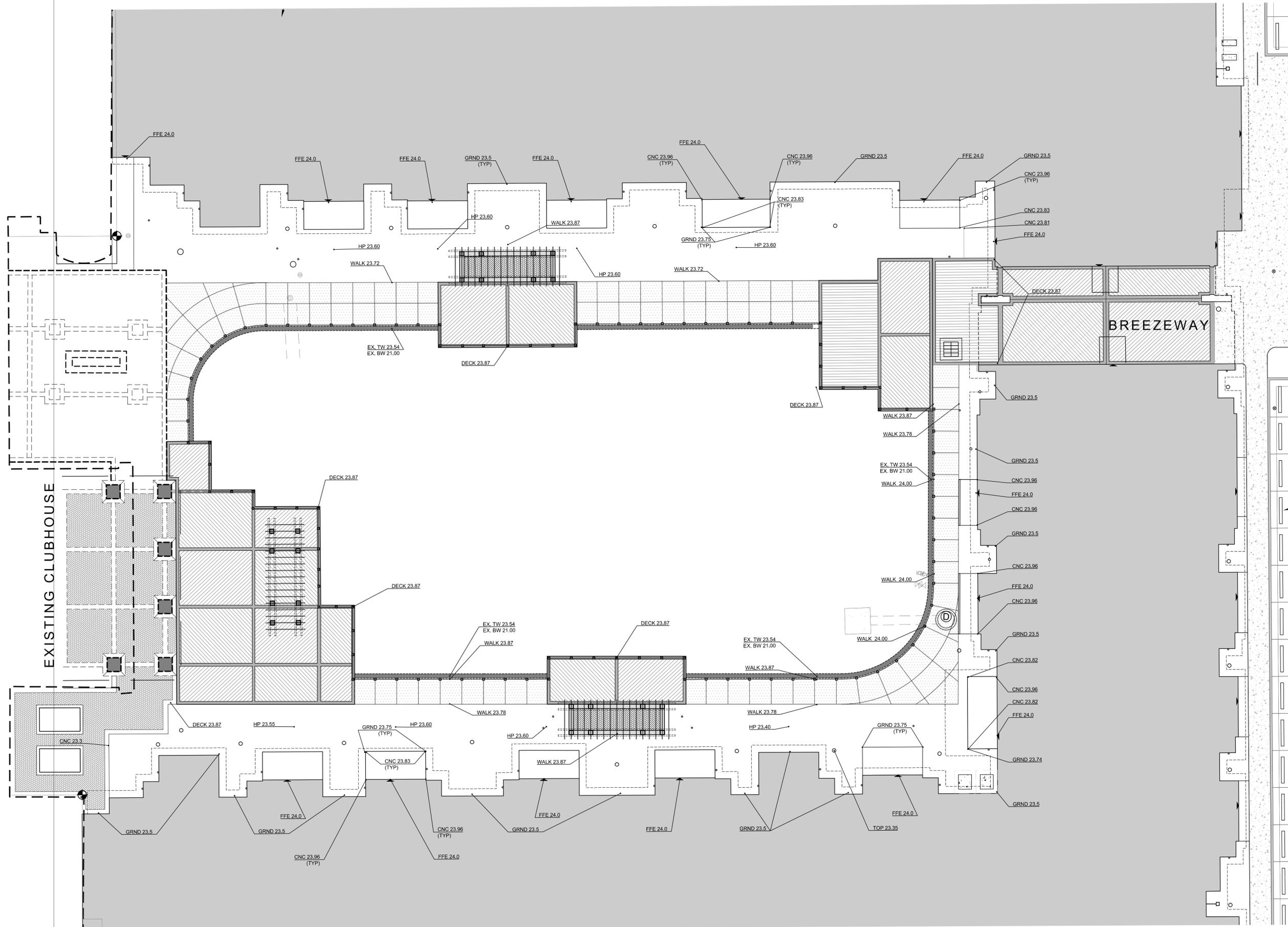
NOT FOR CONSTRUCTION



PROJECT NO. C15061 CLIENT NO. N/A

DATE 11.12.2015
DRAWN CKW/CAH
APPROVED BO

C5.05



EXISTING CLUBHOUSE

BREEZEWAY

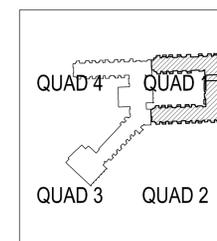
STORMWATER MANAGEMENT PLAN
APPROVED
CITY OF WILMINGTON
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DATE: _____ PERMIT: _____
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Approved Construction Plan
Name: _____ Date: _____
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Traffic: _____
Fire: _____

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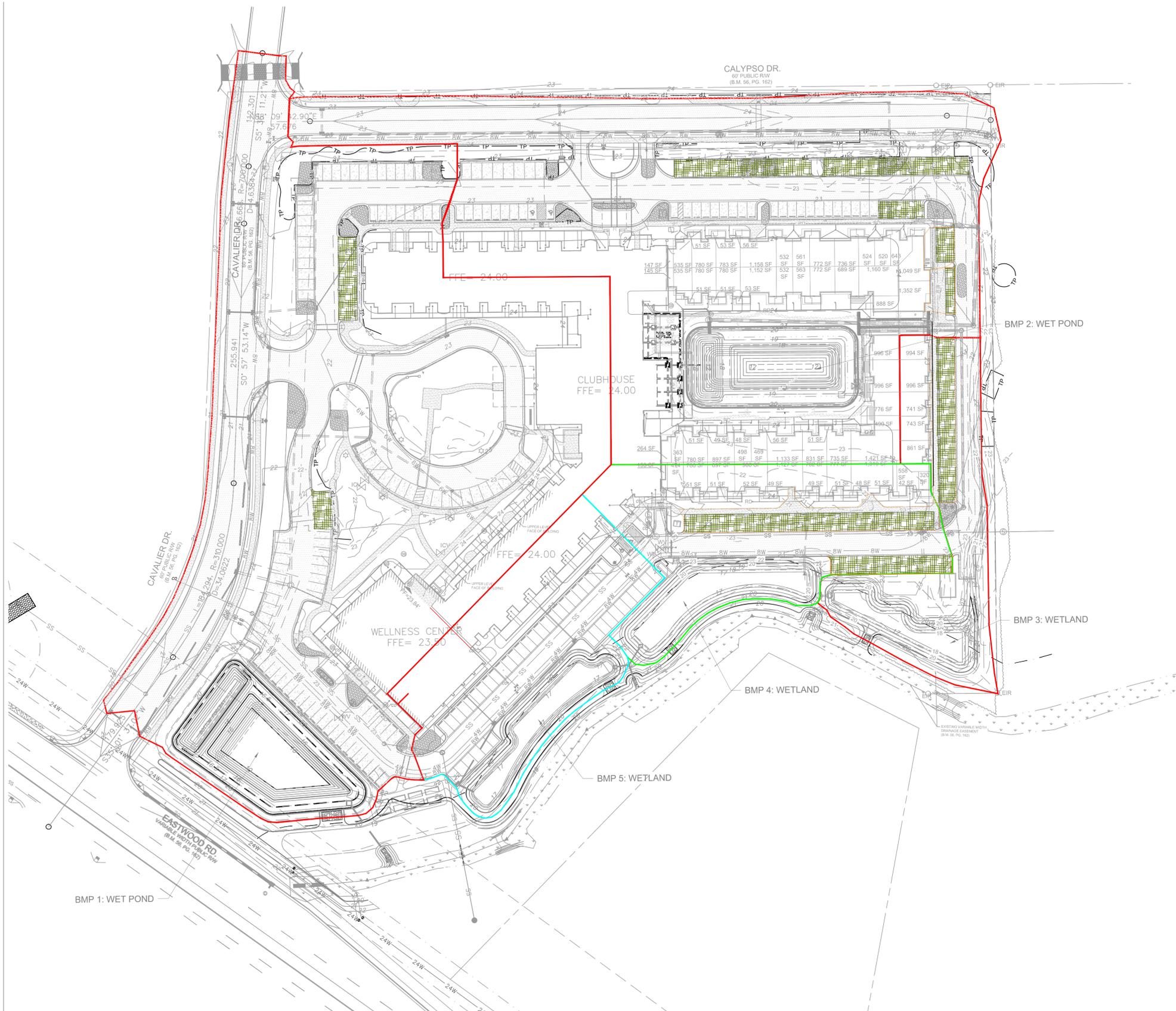
CAMBRIDGE VILLAGE OF WILMINGTON PHASE II



KEYPLAN

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X	X	X
X	X	X
X	X	X
X	X	X
X	X	X
X	X	X

DRAINAGE AREA MAP



Approved Construction Plan
Name: _____ Date: _____
Planning: _____
Traffic: _____
Fire: _____



NOT FOR CONSTRUCTION

DRAINAGE BASIN SUMMARY		Unadjusted Areas
BMP #	1	
WQ Treatment	Wet Pond	
TOTAL DRAINAGE AREA	206,880 SF	4.75 ac
AREA ON-SITE	167,173 SF	
AREA OFF-SITE	39,707 SF	
buildings/lots	32,161 SF	
impervious pavement	32,226 SF	
phase I pervious pavement 100%	17,001 SF	17001 SF
pervious pavement 75%	552 SF	2207 SF
sidewalks	10,455 SF	
off-site pavement	24,303 SF	
off-site sidewalks	6,598 SF	30,900
TOTAL IMPERVIOUS AREA	123,295 SF	2.83 ac
% IMPERVIOUS	59.6%	
WQv=(0.05+0.009I)*P*A by Simple Method	15,164 CF	

DRAINAGE BASIN SUMMARY		Unadjusted Areas
BMP #	2	
WQ Treatment	Wet Pond	
TOTAL DRAINAGE AREA	159,514 SF	3.66 ac
AREA ON-SITE	124,268 SF	
AREA OFF-SITE	35,246 SF	
buildings/lots	42,140 SF	
impervious pavement	18,536 SF	
phase I pervious pavement 100%	6,504 SF	6503.8 SF
pervious pavement 75%	1,689 SF	6754.7 SF
sidewalks	7,472 SF	
off-site pavement	19,681 SF	
off-site sidewalks	6,863 SF	26,544
TOTAL IMPERVIOUS AREA	102,884 SF	2.36 ac
% IMPERVIOUS	64.5%	
WQv=(0.05+0.009I)*P*A by Simple Method	12,571 CF	

DRAINAGE BASIN SUMMARY		Unadjusted Areas
BMP #	3	
WQ Treatment	Wetland	
TOTAL DRAINAGE AREA	28,947 SF	0.66 ac
AREA TO BE TREATED	25,090 SF	**
AREA OFF-SITE	0 SF	
buildings/lots	3,599 SF	
impervious pavement	6,129 SF	
phase I pervious pavement 100%	0 SF	0 SF
pervious pavement 75%	0 SF	2921.5 SF
sidewalks	0 SF	935.2 SF
off-site pavement	0 SF	
off-site sidewalks	0 SF	0
TOTAL IMPERVIOUS AREA	9,728 SF	
% IMPERVIOUS	39%	
WQv=(0.05+0.009I)*P*A by Simple Method	1,251 CF	

DRAINAGE BASIN SUMMARY		Unadjusted Areas
BMP #	4	
WQ Treatment	Wetland	
TOTAL DRAINAGE AREA	43,244 SF	0.99 ac
AREA TO BE TREATED	35,432 SF	**
AREA OFF-SITE	0 SF	
buildings/lots	9,907 SF	
impervious pavement	7,963 SF	
phase I pervious pavement 100%	287 SF	286.5 SF
pervious pavement 75%	0 SF	6600.9 SF
sidewalks	939 SF	2696 SF
off-site pavement	0 SF	
off-site sidewalks	0 SF	0
TOTAL IMPERVIOUS AREA	19,095 SF	
% IMPERVIOUS	54%	
WQv=(0.05+0.009I)*P*A by Simple Method	2,370 CF	

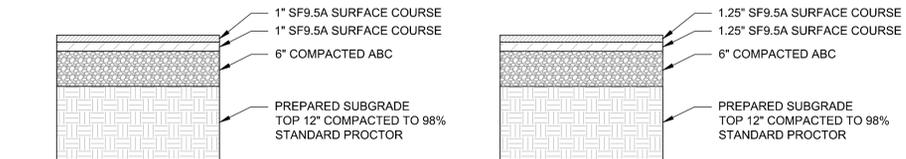
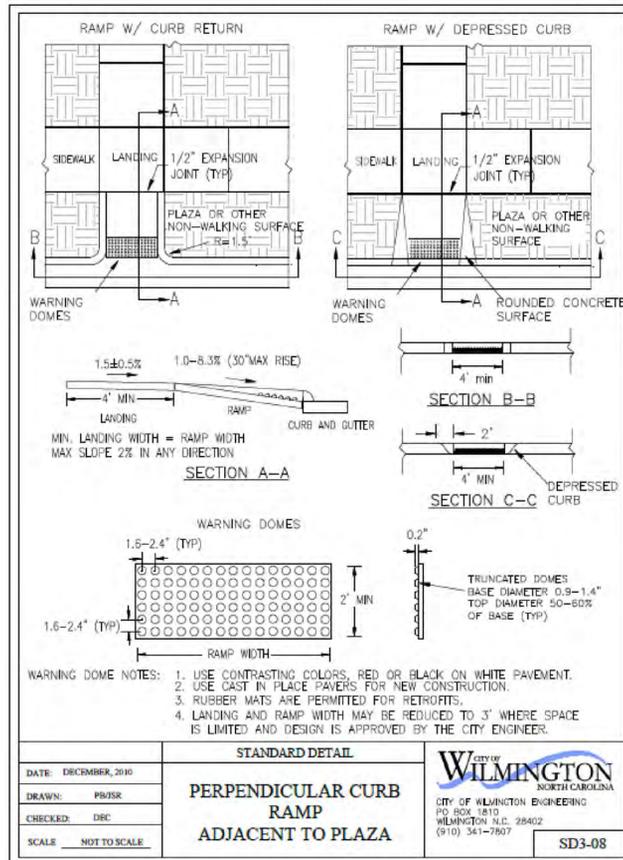
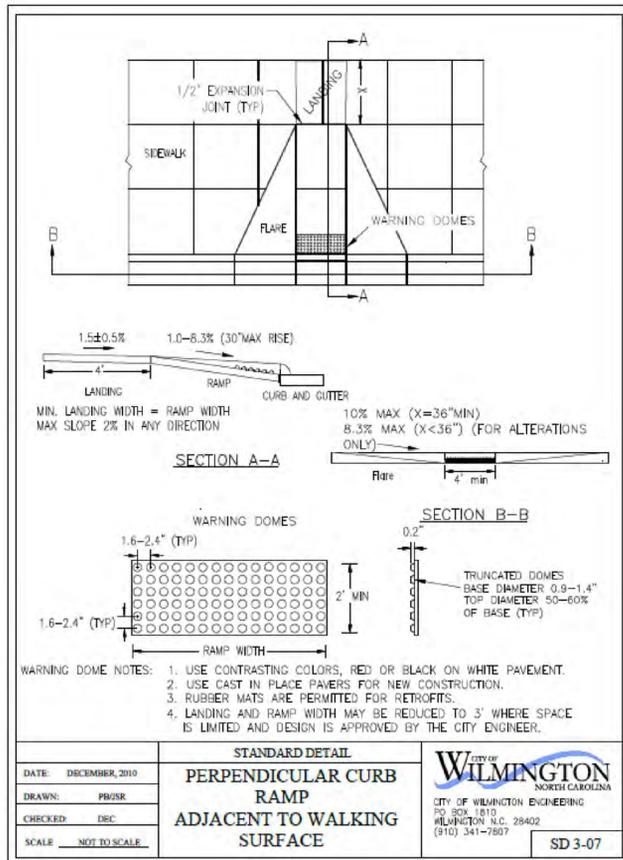
DRAINAGE BASIN SUMMARY		Unadjusted Areas
BMP #	5	
WQ Treatment	Wetland	
TOTAL DRAINAGE AREA	48,352 SF	1.11 ac
AREA ON-SITE	48,352 SF	
AREA OFF-SITE	0 SF	
buildings/lots	12,200 SF	
impervious pavement	8,679 SF	
phase I pervious pavement 100%	4,325 SF	4325 SF
pervious pavement 75%	0 SF	0 SF
sidewalks	1,926 SF	
off-site pavement	0 SF	
off-site sidewalks	0 SF	0
TOTAL IMPERVIOUS AREA	27,130 SF	0.62 ac
% IMPERVIOUS	56.1%	
WQv=(0.05+0.009I)*P*A by Simple Method	3,354 CF	

FOR EACH OPEN UTILITY CUT OF CITY STREETS, A \$325 PERMIT SHALL BE REQUIRED FROM THE CITY PRIOR TO OCCUPANCY AND/OR PROJECT ACCEPTANCE.

STORMWATER MANAGEMENT PLAN
APPROVED
CITY OF WILMINGTON
ENGINEERING DEPARTMENT
DATE: _____ PERMIT: _____
SIGNED: _____

PROJECT NO. C15061 CLIENT NO. N/A

DATE 11.12.2015
DRAWN CKW/CAH
APPROVED AP/BO
C5.10



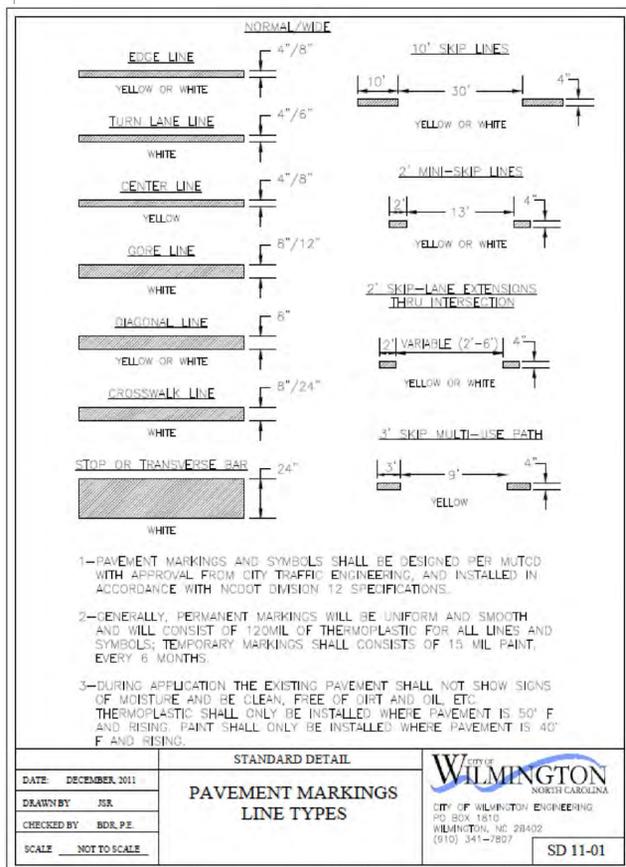
PRIVATE DRIVE SECTION

PUBLIC STREET SECTION

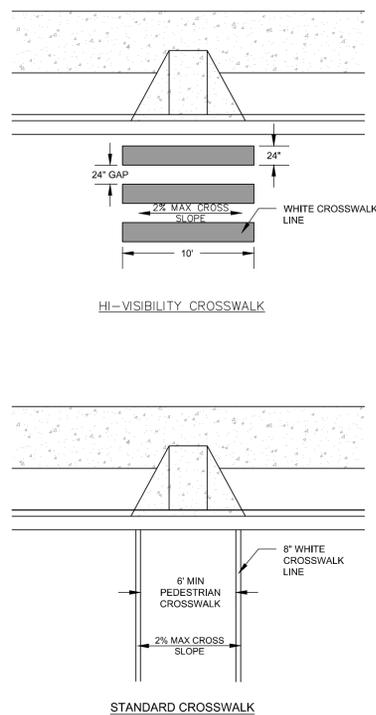
1 ASPHALT PAVING ON AGGREGATE BASE SECTION

NTS

2 PEDESTRIAN RAMP DETAILS PLAN



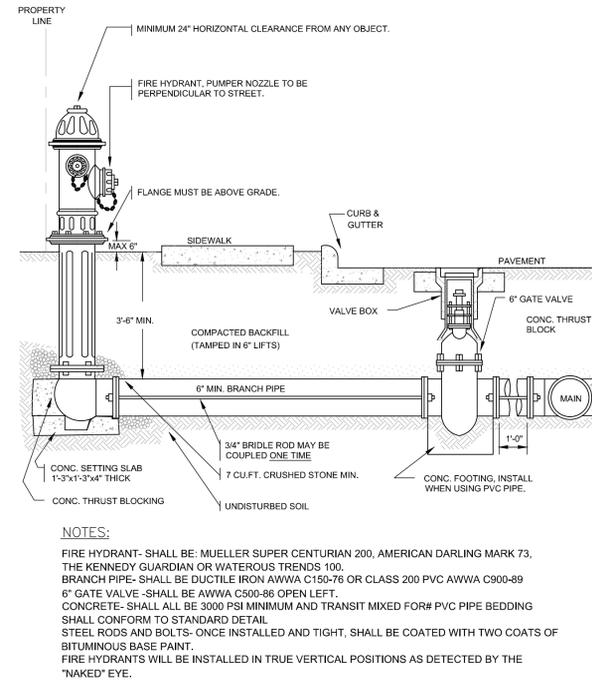
4 PEDESTRIAN CROSSWALK PLAN



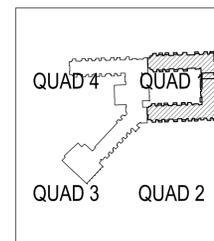
NTS

3 STANDARD FIRE HYDRANT INSTALLATION DETAIL SECTION

NTS



CAMBRIDGE VILLAGE OF WILMINGTON PHASE II



KEYPLAN

MARK	DATE	DESCRIPTION
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X	X	X
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SITE DETAILS



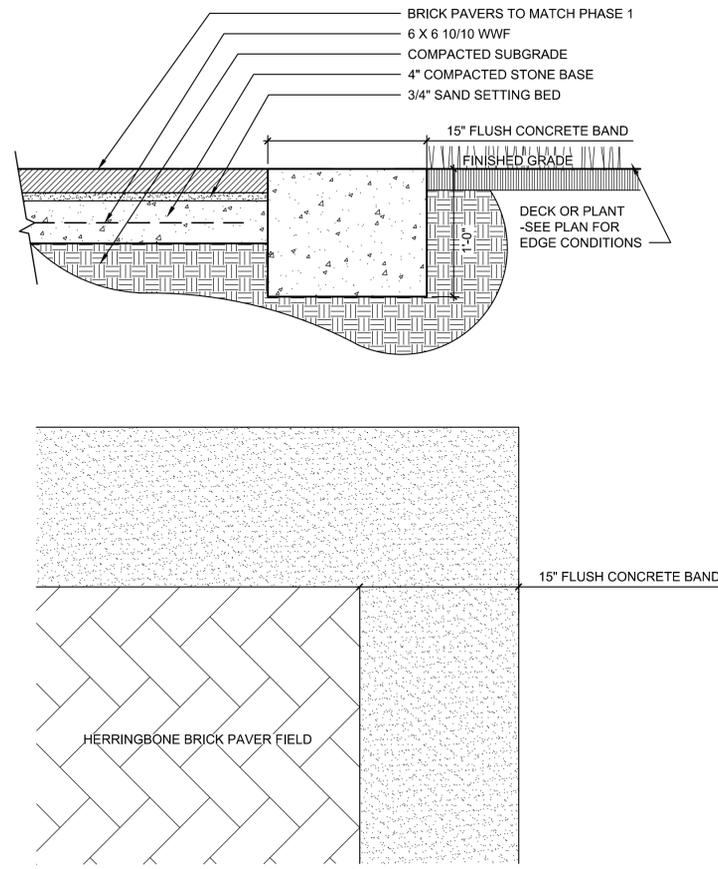
NOT FOR CONSTRUCTION

STORMWATER MANAGEMENT PLAN
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 CITY OF WILMINGTON
 ENGINEERING DEPARTMENT
 DATE: _____ PERMIT: _____
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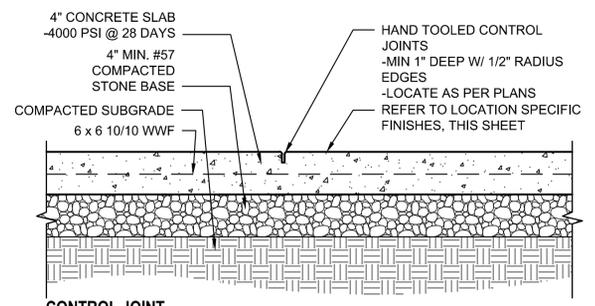
Approved Construction Plan
 Name: _____ Date: _____
 Planning: _____
 Traffic: _____
 Fire: _____

PROJECT NO.	C15061	CLIENT NO.	N/A
DATE	11.12.2015		
DRAWN	CKW		
APPROVED	CAH		

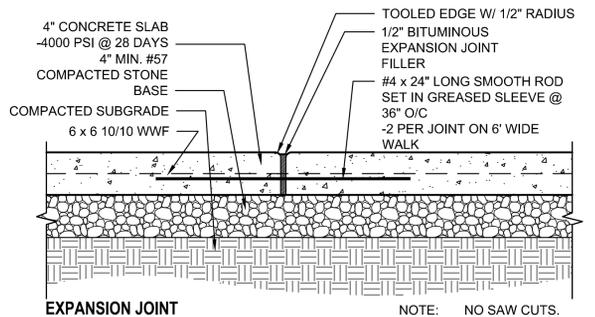
C9.01



2 BRICK PAVERS WITH CONCRETE BAND SECTION 1 1/2" = 1'-0"



CONTROL JOINT

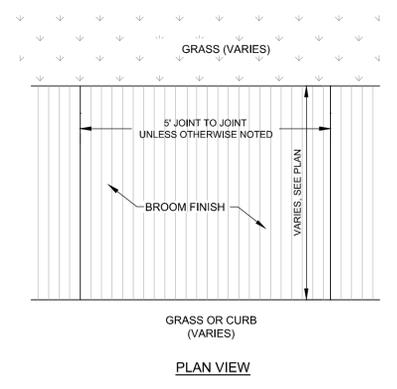


EXPANSION JOINT

NOTE: NO SAW CUTS.

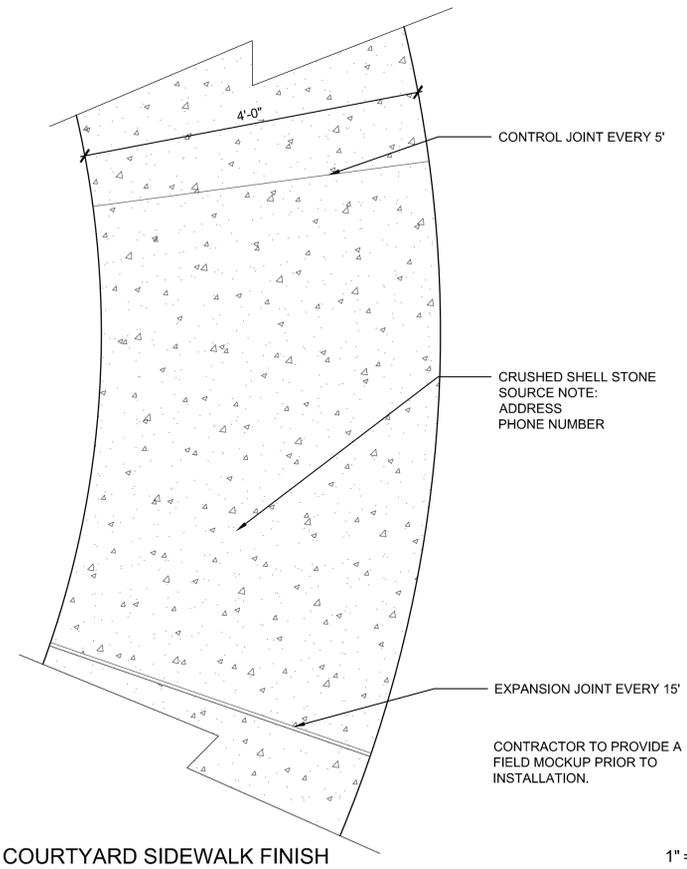
NOTES:		1. JOINT MATERIAL TO COMPLY WITH CURRENT AASHTO STANDARDS.
		2. SANDWICH SEAM CLEAN-OUTS, WATER VENTS, MANHOLES, AND VALVE LIDS TO BE LOCATED OUTSIDE SIDEWALK WHERE FEASIBLE.
		3. MINIMUM SIDEWALK WIDTH TO BE 4' MINIMUM IF PLACED AT BACK OF CURB.
		4. CONCRETE FOR ALL SIDEWALKS EXCEPT ANY PORTION CONTAINING A DRAINWAY WHICH SHALL BE CLASS 'C' - 4000 PSI.
		5. MINIMUM REPLACEMENT FOR REPAIRS TO A 3' X 3' PANEL.
		6. 4" STONE BASE MAY BE REQUIRED FOR POOR SOIL CONDITIONS.
		7. MINIMUM DEPTH FOR TAMPING BELOW SIDEWALK IS 12".
		8. MAX. ADJUSTMENT BEHIND SLABE WITHOUT TAMPING IS 2".
		9. MAX. GRADE FOR PROPOSED SIDEWALK IS 1% IN ANY DIRECTION. MAX. CROSS SLOPE IS 2%. MAX. LONGITUDINAL SLOPE IS 3%. SEE 108 IF LIMITED BY EXISTING CONDITIONS OR ADJACENT ROAD.
		10. THE SLOPE OF THE EXISTING ADJACENT ROAD.
DATE: 11/12/2015	DESIGNER: JRM	SCALE: 1/2"=1'-0"
STANDARD DETAIL		WILMINGTON
SIDEWALK		SD 3-10

1 CONCRETE WALK SECTION 1 1/2" = 1'-0"

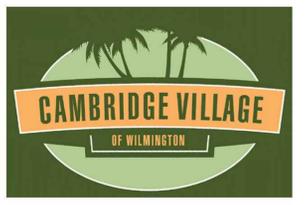


NOTE:
4" THICK CONC., 4000 PSI
USE 1/2" BITUMINOUS EXPANSION JOINT EVENLY SPACED A MAX. OF 50' O.C. AND WHENEVER CONCRETE WALK MEETS FIXED OBJECTS (IE. CURBS, BLDG. ECT.)

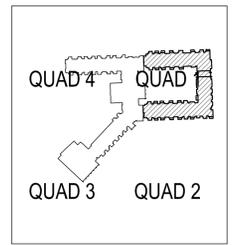
4 SITE CONCRETE SIDEWALK FINISH SECTION NTS



3 COURTYARD SIDEWALK FINISH PLAN 1" = 1'-0"



CAMBRIDGE VILLAGE OF WILMINGTON PHASE II



KEYPLAN

MARK	DATE	DESCRIPTION
X	X	X
X	X	X
X	X	X
X	X	X
X	X	X
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SITE DETAILS



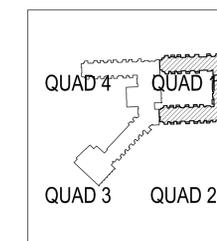
NOT FOR CONSTRUCTION

PROJECT NO.	C15061	CLIENT NO.	N/A
DATE	11.12.2015		
DRAWN	CKW		
APPROVED	CAH		

C9.03

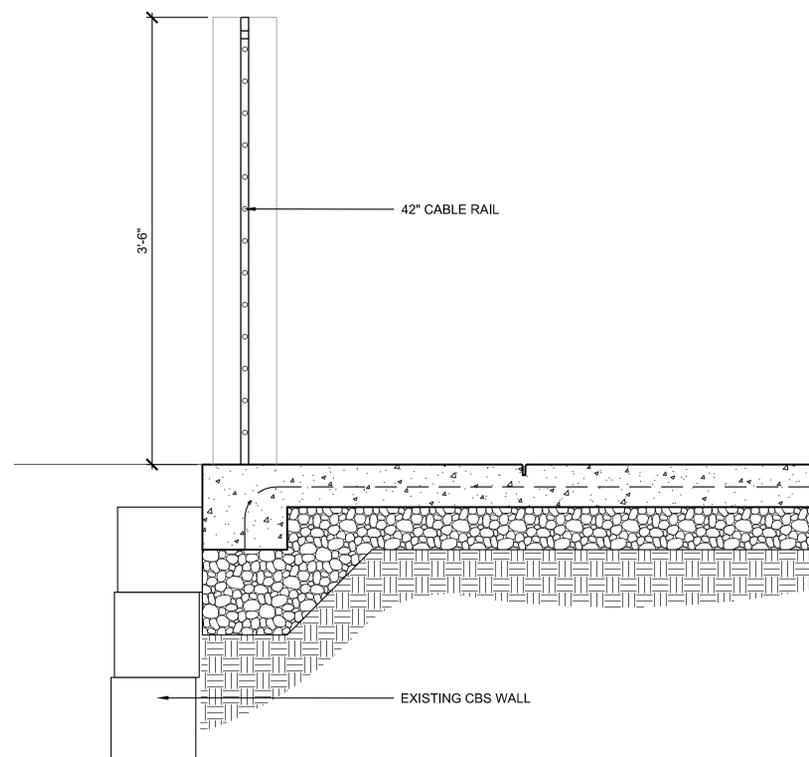


CAMBRIDGE VILLAGE OF WILMINGTON
PHASE II

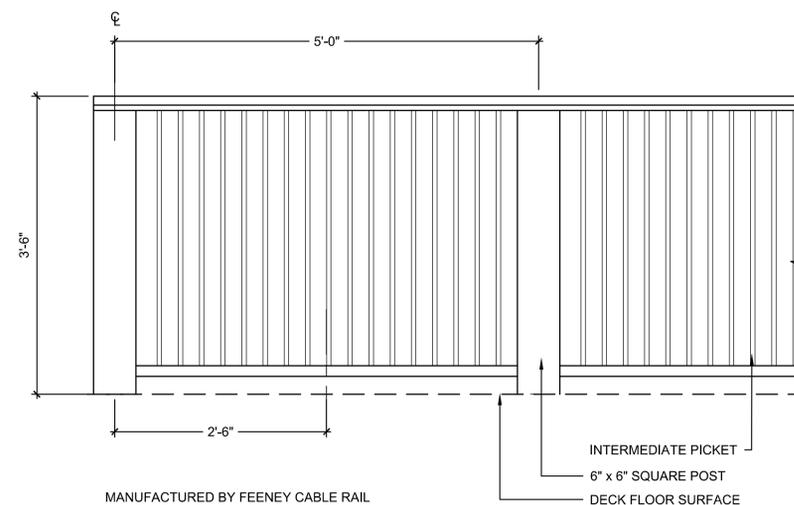


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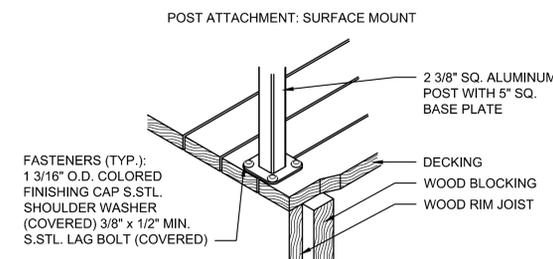
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X	X	X
X	X	X



1 CONCRETE PAVING & BARRIER WALL SECTION 1 1/2" = 1'-0"



2 BARRIER RAILING ELEVATION 1" = 1'-0"



3 MOUNTING BASE ELEVATION 1" = 1'-0"

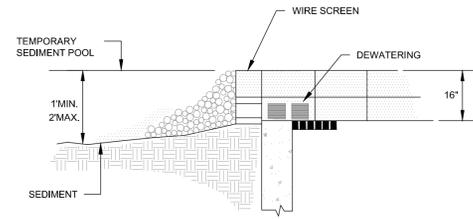
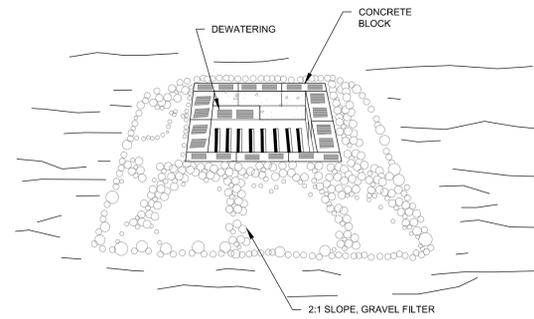
SCREEN DETAILS



NOT FOR CONSTRUCTION

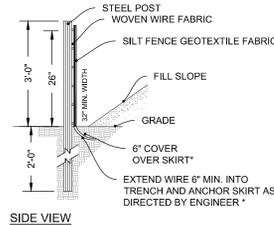
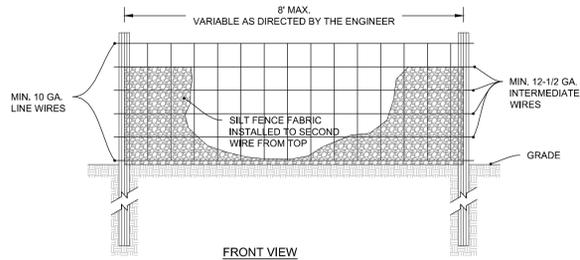
PROJECT NO.	C15061	CLIENT NO.	N/A
DATE	11.12.2015		
DRAWN	CKW		
APPROVED	CAH		

C9.04



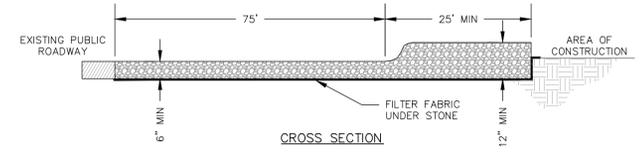
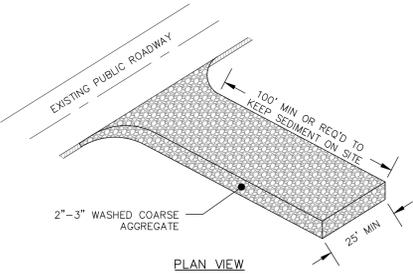
- CONSTRUCTION SPECIFICATIONS**
- LAY ONE BLOCK ON EACH SIDE OF THE STRUCTURE ON ITS SIDE ON THE BOTTOM ROW TO ALLOW POOL DRAINAGE. THE FOUNDATION SHOULD BE EXCAVATED AT LEAST 2 INCH BELOW THE CREST OF THE STORM DRAIN. PLACE THE BOTTOM ROW OF THE BLOCK AGAINST THE EDGE OF THE STORM DRAIN FOR LATERAL SUPPORT AND TO AVOID WASHOUTS WHEN OVERFLOW OCCURS. IF NEEDED, GIVE LATERAL SUPPORT TO SUBSEQUENT ROWS BY PLACING 2x4 WOOD STUDS THROUGH BLOCK OPENINGS. CAREFULLY FIT HARDWARE CLOTH OR COMPARABLE.
 - WIRE MESH WITH 1/2-INCH OPENING OVER ALL BLOCK OPENING TO HOLD GRAVEL IN PLACE.
 - USE CLEAN GRAVEL 3/4 TO 1 1/2 INCH IN DIAMETER, PLACED 2 INCHES BELOW THE TOP OF THE BLOCK ON A 2:1 SLOPE OR FLATTER AND SMOOTH IT TO AN EVEN GRADE. DOT #57 WASHED STONE IS RECOMMENDED.

1 BLOCK & GRAVEL DROP INLET PROTECTION DETAIL SECTION NTS



- NOTES:**
- USE SILT FENCE ONLY WHEN DRAINAGE AREA DOES NOT EXCEED 1/4 ACRE AND NEVER IN AREAS OF CONCENTRATED FLOW
 - END OF SILT FENCE NEEDS TO BE TURNED UPHILL.
 - FOR REPAIR OF SILT FENCE FAILURES, USE NO. 57 WASHED STONE.
 - FOR ANCHOR WHEN SILT FENCE IS PROTECTING CATCH BASIN.

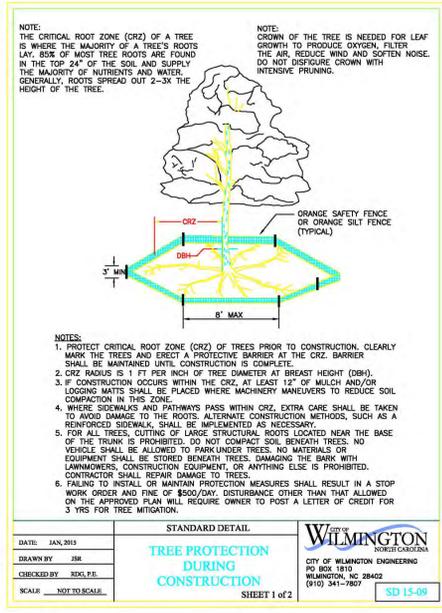
2 STANDARD TEMPORARY SILT FENCE SECTION



- TYPICAL NOTES**
- STONE SHALL BE 2-3" WASHED COARSE AGGREGATE. PAD TO BE 100' L X 25' W X 6" D AT A MINIMUM.
 - TURNING RADIUS SUFFICIENT TO ACCOMMODATE LARGE TRUCKS IS TO BE PROVIDED.
 - ENTRANCE(S) SHOULD BE LOCATED TO LIMIT SEDIMENT FROM LEAVING THE SITE AND TO PROVIDE FOR MAXIMUM UTILITY BY ALL CONSTRUCTION VEHICLES. AVOID STEEP GRADES AND ENTRANCES AT CURVES IN PUBLIC ROADS.
 - ANY MATERIAL WHICH STILL MAKES IT ONTO THE ROAD MUST BE CLEANED UP IMMEDIATELY.
 - SILT FENCE OR TREE PROTECTION FENCE SHALL BE USED TO LIMIT INGRESS AND EGRESS TO CONSTRUCTION ENTRANCE ONLY.
 - IF CONSTRUCTION ON SITE IS SUCH THAT MUD IS NOT REMOVED BY VEHICULAR TRAVEL OVER THE STONE, THE TIRES MUST BE WASHED PRIOR TO VEHICLES ENTERING THE PUBLIC THOROUGHFARE.
 - IF CONSTRUCTION CONTINUES TO PULL MUD AND/OR DEBRIS ONTO THE PUBLIC THOROUGHFARE, THE GOVERNING AUTHORITY WILL CLEAN THE AREA AND INVOICE THE FINANCIALLY RESPONSIBLE PERSON(S) AS INDICATED ON THE FINANCIAL RESPONSIBILITY FORM.

- CONSTRUCTION SPECIFICATIONS/MAINTENANCE**
- CLEAR THE ENTRANCE/EXIT AREA OF ALL VEGETATION, ROOTS, AND OTHER OBJECTIONABLE MATERIAL AND PROPERLY GRADE THE AREA.
 - PLACE THE GRAVEL TO THE SPECIFIC GRADE AND DIMENSIONS SHOWN ON THE PLANS AND SMOOTH IT.
 - PROVIDE DRAINAGE TO CARRY WATER TO A SEDIMENT TRAP OR OTHER SUITABLE OUTLET.
 - MAINTAIN THE GRAVEL PAD IN A CONDITION TO PREVENT MUD OR SEDIMENT FROM LEAVING THE CONSTRUCTION SITE. THIS MAY REQUIRE PERIODIC TOPDRESSING WITH 2-INCH STONE. AFTER EACH RAINFALL EVENT, INSPECT ANY STRUCTURE USED TO TRAP SEDIMENT AND CLEAN IT OUT AS NECESSARY. IMMEDIATELY REMOVE ALL MATERIALS SPILLED, WASHED, OR TRACKED OFF THE CONSTRUCTION SITE OR ONTO PUBLIC ROADWAYS.

3 CONSTRUCTION ENTRANCE/EXIT SECTION NTS



- NOTES:**
- PROTECT CRITICAL ROOT ZONE (CRZ) OF TREES PRIOR TO CONSTRUCTION. CLEARLY MARK THE TREES AND ERECT A PROTECTIVE BARRIER AT THE CRZ. BARRIER SHALL BE MAINTAINED UNTIL CONSTRUCTION IS COMPLETE.
 - CRZ RADIUS IS 1 FT PER INCH OF TREE DIAMETER AT BREAST HEIGHT (DBH).
 - IF CONSTRUCTION OCCURS WITHIN THE CRZ, AT LEAST 12" OF MULCH AND/OR LOGGING MATS SHALL BE PLACED WHERE MACHINERY MANEUVERS TO REDUCE SOIL COMPACTION IN THIS ZONE.
 - WHERE SIDEWALKS AND PATHWAYS PASS WITHIN CRZ, EXTRA CARE SHALL BE TAKEN TO AVOID DAMAGE TO THE ROOTS. ALTERNATE CONSTRUCTION METHODS, SUCH AS A REINFORCED SIDEWALK, SHALL BE IMPLEMENTED AS NECESSARY.
 - FOR ALL TREES, CUTTING OF LARGE STRUCTURAL ROOTS LOCATED NEAR THE BASE OF THE TRUNK IS PROHIBITED. DO NOT COMPACT SOIL BENEATH TREES. NO VEHICLE SHALL BE ALLOWED TO PARK UNDER TREES. NO MATERIALS OR EQUIPMENT SHALL BE STORED BENEATH TREES, DAMAGING THE BARK WITH LAWNMOWERS, CONSTRUCTION EQUIPMENT, OR ANYTHING ELSE IS PROHIBITED. CONTRACTOR SHALL REPAIR DAMAGE TO TREES.
 - FAILING TO INSTALL OR MAINTAIN PROTECTION MEASURES SHALL RESULT IN A STOP WORK ORDER AND FINE OF \$500/DAY. DISTURBANCE OTHER THAN THAT ALLOWED ON THE APPROVED PLAN WILL REQUIRE OWNER TO POST A LETTER OF CREDIT FOR 3 YRS FOR TREE MITIGATION.

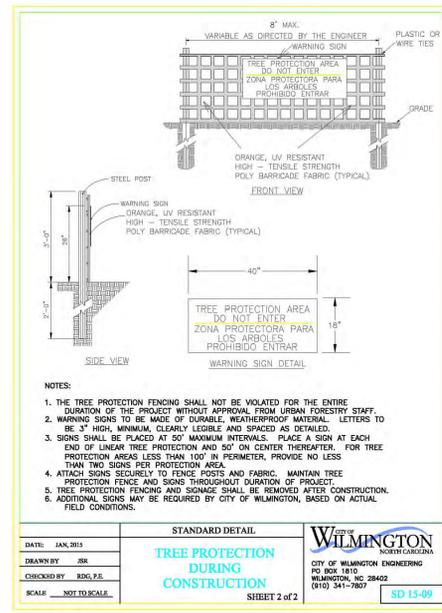
STANDARD DETAIL

DATE: JAN, 2015
 DRAWN BY: JRM
 CHECKED BY: REG, P.E.
 SCALE: NOT TO SCALE

CITY OF WILMINGTON
 WILMINGTON, NC 28402
 (910) 341-7807

TREE PROTECTION DURING CONSTRUCTION
 SHEET 1 of 2

SD 15-09



- NOTES:**
- THE TREE PROTECTION FENCING SHALL NOT BE VIOLATED FOR THE ENTIRE DURATION OF THE PROJECT WITHOUT APPROVAL FROM URBAN FORESTRY STAFF.
 - WARNING SIGNS TO BE MADE OF DURABLE, WEATHERPROOF MATERIAL. LETTERS TO BE 3" HIGH, MINIMUM, CLEARLY LEGIBLE AND SPACED AS DETAILED.
 - SIGNS SHALL BE PLACED AT 50' MAXIMUM INTERVALS. PLACE A SIGN AT EACH END OF LINEAR TREE PROTECTION AND 50' ON CENTER THEREAFTER. FOR TREE PROTECTION AREAS LESS THAN 100' IN PERIMETER, PROVIDE NO LESS THAN TWO SIGNS PER PROTECTION AREA.
 - ATTACH SIGNS SECURELY TO FENCE POSTS AND FABRIC. MAINTAIN TREE PROTECTION FENCE AND SIGNS THROUGHOUT DURATION OF PROJECT.
 - TREE PROTECTION FENCING AND SIGNAGE SHALL BE REMOVED AFTER CONSTRUCTION.
 - ADDITIONAL SIGNS MAY BE REQUIRED BY CITY OF WILMINGTON, BASED ON ACTUAL FIELD CONDITIONS.

STANDARD DETAIL

DATE: JAN, 2015
 DRAWN BY: JRM
 CHECKED BY: REG, P.E.
 SCALE: NOT TO SCALE

CITY OF WILMINGTON
 WILMINGTON, NC 28402
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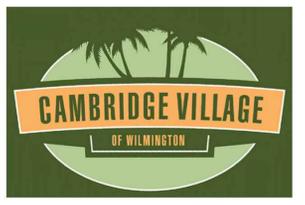
TREE PROTECTION DURING CONSTRUCTION
 SHEET 2 of 2

SD 15-09

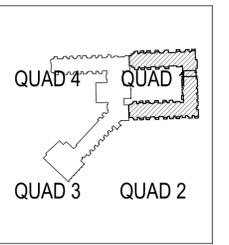
FOR EACH OPEN UTILITY CUT OF CITY STREETS, A \$325 PERMIT SHALL BE REQUIRED FROM THE CITY PRIOR TO OCCUPANCY AND/OR PROJECT ACCEPTANCE.

STORMWATER MANAGEMENT PLAN APPROVED
 CITY OF WILMINGTON
 ENGINEERING DEPARTMENT
 DATE: _____ PERMIT: _____
 SIGNED: _____

Approved Construction Plan
 Name: _____ Date: _____
 Planning: _____
 Traffic: _____
 Fire: _____



CAMBRIDGE VILLAGE OF WILMINGTON PHASE II



KEYPLAN

MARK	DATE	DESCRIPTION

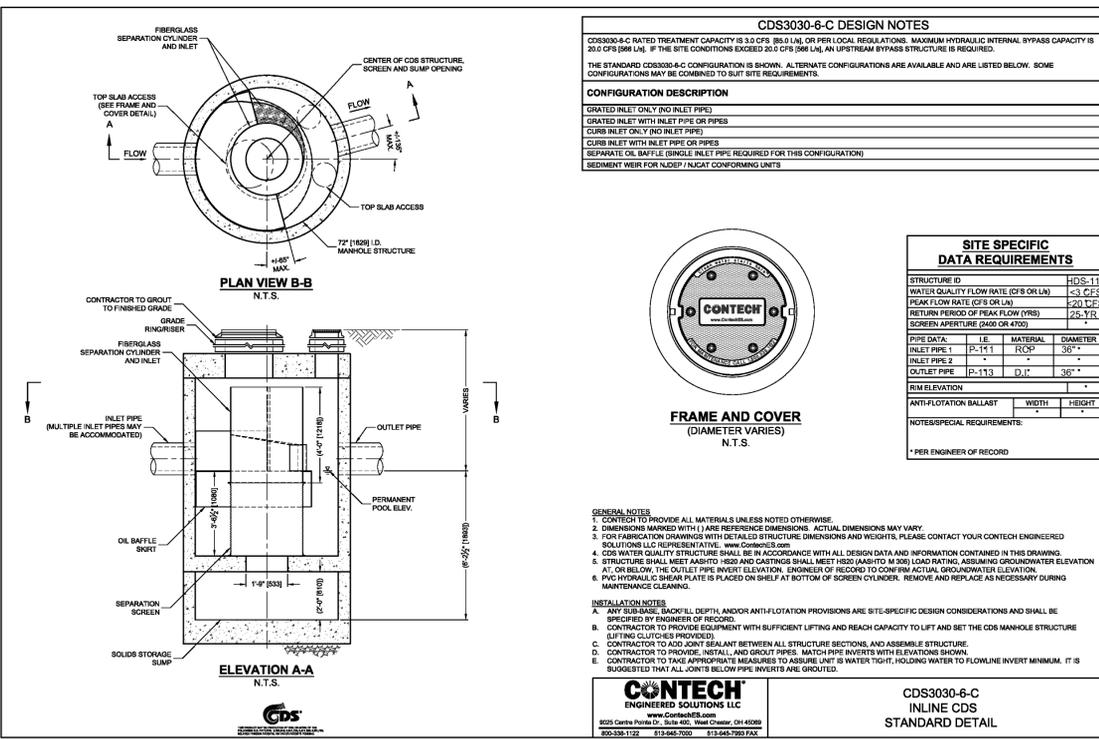
EROSION & SEDIMENT CONTROL DETAILS



NOT FOR CONSTRUCTION

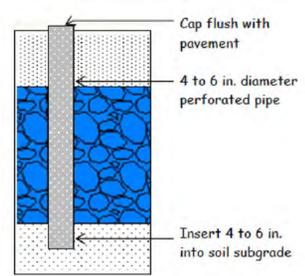
PROJECT NO.	CLIENT NO.	N/A
11.04.2015		
DATE		
DRAWN CKW		
APPROVED CAH		

C9.10



2 HYDRODYNAMIC SEPARATOR SECTION NTS

PER NCDENR STORMWATER BMP MANUAL



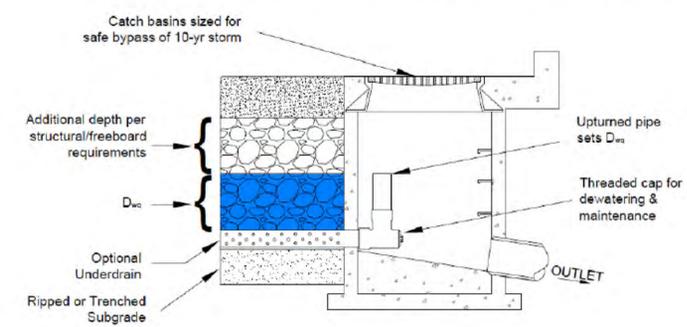
INSTALL A MINIMUM OF 1 OBSERVATION WELL PER PERVIOUS PAVEMENT SECTION AS LABELED ON C5.00 (I.E. SECTIONS A, B, C, ETC)

4 PERVIOUS PAVEMENT OBSERVATION WELL SECTION NTS

1 PERVIOUS PAVEMENT SECTION SECTION NTS

PER NCDENR STORMWATER BMP MANUAL

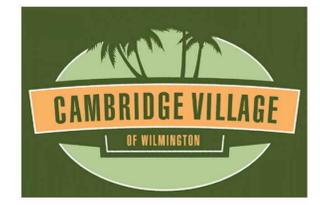
Option 4: Bypass via Catch Basins (PC & PA Only)



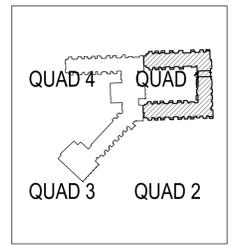
UNDERDRAIN SUMMARY			
AREA	UNDERDRAIN SIZE (in)	OVERFLOW ELEV (ft)	INLET
LOT A	6	21.80	EX. CB35
LOT B	6	21.00	EX. CB35
LOT C	6	21.75	MH-122
LOT D	6	22.77	HDS-112
LOT E	6	21.90	HDS-112
LOT F	6	22.30	CI-128
LOT G	6	21.30	CI-128
LOT H	6	21.40	CI-128

FOR UNDERDRAIN CONNECTION TO HDS-112, INSTALL 90° BEND OUTSIDE OF STRUCTURE AND CONNECT TO STRUCTURE AT THE OVERFLOW ELEVATION.

3 PERVIOUS PAVEMENT UNDERDRAIN CONNECTION SECTION NTS



CAMBRIDGE VILLAGE OF WILMINGTON PHASE II



KEYPLAN

MARK	DATE	DESCRIPTION
X	X	X
X	X	X
X	X	X
X	X	X
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X	X	X
X	X	X

STORM DRAINAGE DETAILS

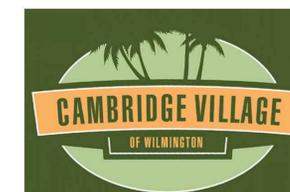


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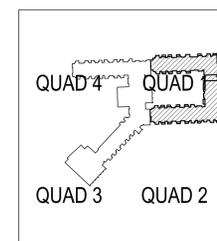
STORMWATER MANAGEMENT PLAN
APPROVED
 CITY OF WILMINGTON
 ENGINEERING DEPARTMENT
 DATE: _____ PERMIT: _____
 SIGNED: _____

Approved Construction Plan
 Name: _____ Date: _____
 Planning: _____
 Traffic: _____
 Fire: _____

PROJECT NO. C15061 CLIENT NO. N/A
 DATE 11.12.2015
 DRAWN CKW
 APPROVED CAH
C9.20



CAMBRIDGE VILLAGE OF WILMINGTON
PHASE II



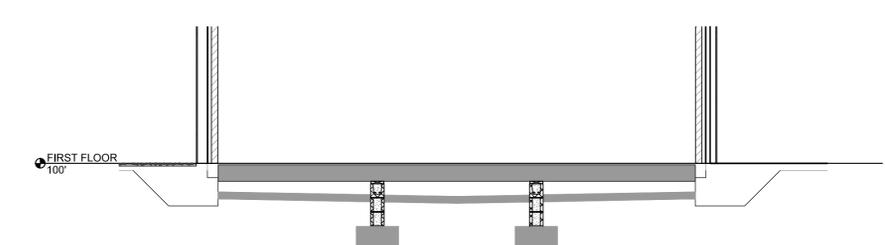
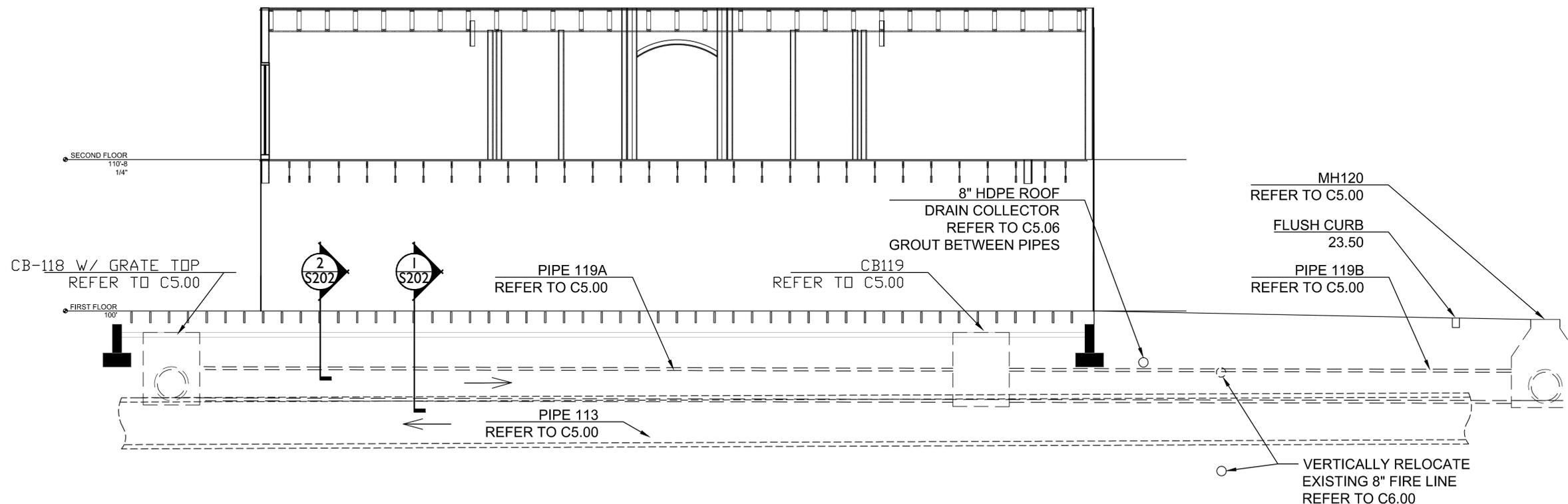
KEYPLAN

MARK	DATE	DESCRIPTION
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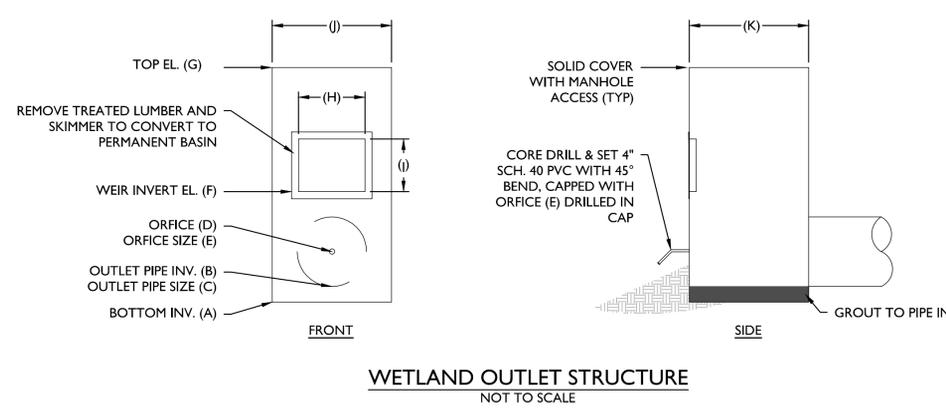
STORM DRAINAGE
DETAILS



NOT FOR CONSTRUCTION



1 BREEZEWAY THRU SECTION SECTION 1/4" = 1'-0"



	AS-BUILT WETLAND OUTFALL STRUCTURE		
	WETLAND 3	WETLAND 4	WETLAND 5
A	15.0'	15.0'	15.0'
B	17.19'	16.93'	17.0'
C	15" RCP	15" RCP	15" RCP
D	18.73'	71.33'	17.71'
E	2.0"	2.0"	2.0"
F	9.34'	17.95'	18.65'
G	21.89'	20.35'	20.40'
H	1.5'	1.50'	2.40'
I	6"	6"	6"
J	36"	36"	36"
K	36"	36"	36"
L	18.63"	18.88"	19.60"
M	20'	20'	20'

	PROPOSED WETLAND OUTFALL STRUCTURE		
	WETLAND 3	WETLAND 4	WETLAND 5
A			
B			
C			
D	18.00'		
E	3/4"	1"	1"
F			
G			
H			
I			
J			
K			
L			
M			

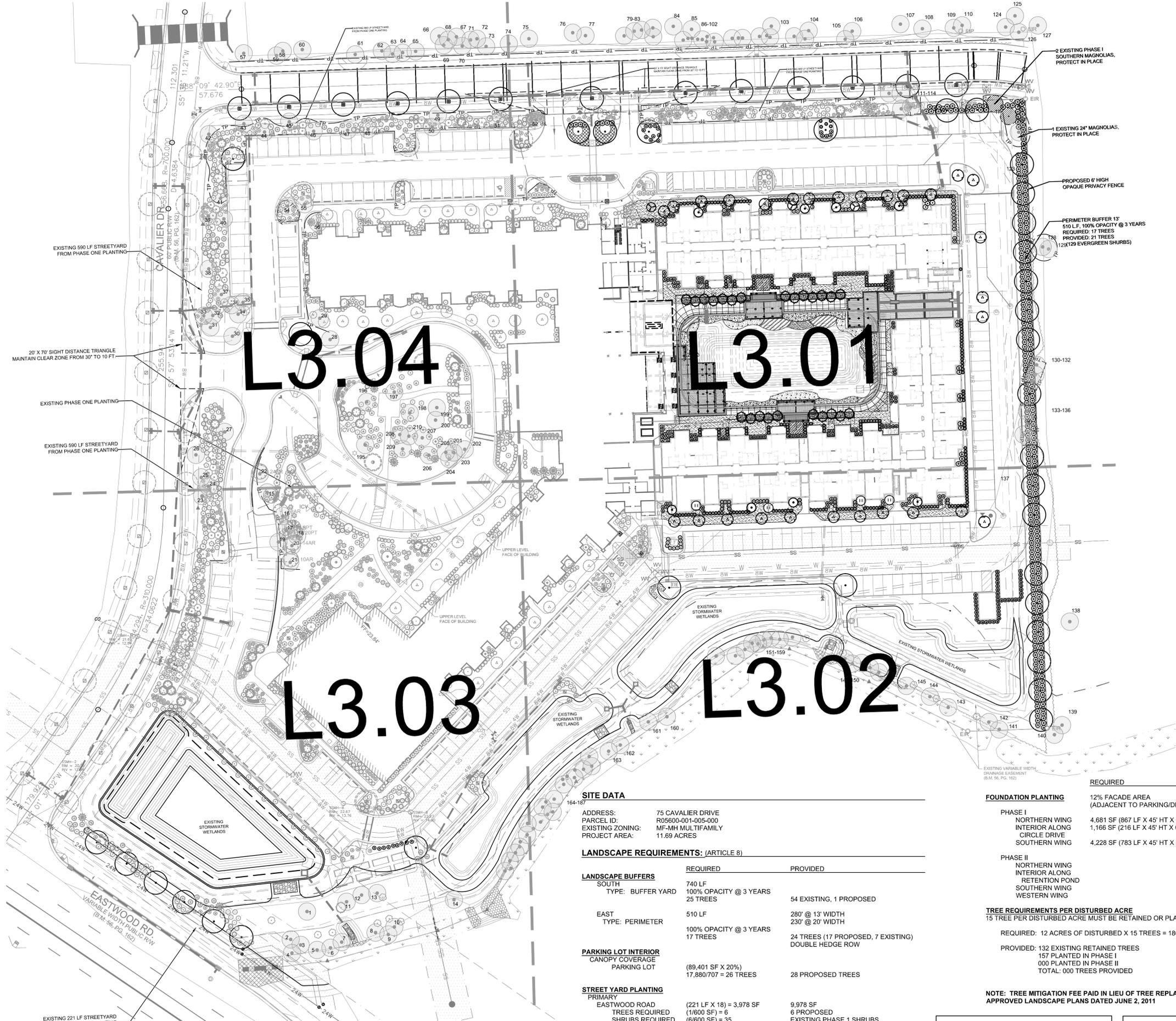
NOTE: PROPOSED DATA ONLY REFLECTS CHANGES TO AS-BUILT DATA

2 AS-BUILT WETLAND OUTFALL STRUCTURES SECTION NTS

STORMWATER MANAGEMENT PLAN
APPROVED
CITY OF WILMINGTON
ENGINEERING DEPARTMENT
DATE: _____ PERMIT: _____
SIGNED: _____

Approved Construction Plan
Name: _____ Date: _____
Planning: _____
Traffic: _____
Fire: _____

PROJECT NO. C15061 CLIENT NO. N/A
DATE 11.12.2015
DRAWN CKW
APPROVED CAH
C9.21



EXISTING 590 LF STREETYARD FROM PHASE ONE PLANTING

20' X 70' SIGHT DISTANCE TRIANGLE MAINTAIN CLEAR ZONE FROM 30' TO 10 FT

EXISTING PHASE ONE PLANTING

EXISTING 590 LF STREETYARD FROM PHASE ONE PLANTING

EXISTING 221 LF STREETYARD FROM PHASE ONE PLANTING

2 EXISTING PHASE I SOUTHERN MAGNOLIAS, PROTECT IN PLACE

1 EXISTING 24" MAGNOLIAS, PROTECT IN PLACE

PROPOSED 6' HIGH OPAQUE PRIVACY FENCE

PERIMETER BUFFER 13' 510 LF, 100% OPACITY @ 3 YEARS
REQUIRED: 17 TREES
PROVIDED: 21 TREES
129 (129 EVERGREEN SHRUBS)

SITE DATA

ADDRESS: 75 CAVALIER DRIVE
PARCEL ID: R05600-001-005-000
EXISTING ZONING: MF-MH MULTIFAMILY
PROJECT AREA: 11.69 ACRES

LANDSCAPE REQUIREMENTS: (ARTICLE 8)

LANDSCAPE BUFFERS	REQUIRED	PROVIDED
SOUTH TYPE: BUFFER YARD	740 LF 100% OPACITY @ 3 YEARS 25 TREES	54 EXISTING, 1 PROPOSED
EAST TYPE: PERIMETER	510 LF 100% OPACITY @ 3 YEARS 17 TREES	28' @ 13' WIDTH 23' @ 20' WIDTH 24 TREES (17 PROPOSED, 7 EXISTING) DOUBLE HEDGE ROW
PARKING LOT INTERIOR CANOPY COVERAGE PARKING LOT	(89,401 SF X 20%) 17,880/707 = 26 TREES	28 PROPOSED TREES
STREET YARD PLANTING PRIMARY	EASTWOOD ROAD (221 LF X 18) = 3,978 SF (1/600 SF) = 6 (6/600 SF) = 35 CAVALIER DRIVE (590 LF X 18) = 10,636 SF (1/600 SF) = 18 (6/600 SF) = 108 SECONDARY CALYPSO DRIVE (660 LF X 9) = 6,120 SF (1/600 SF) = 10 (6/600 SF) = 60	9,978 SF 6 PROPOSED EXISTING PHASE 1 SHRUBS 10,836 SF 29 (16 MULTI-TRUNK, 13 EXISTING) EXISTING PHASE 1 SHRUBS 6,550 SF 23 (2 CANOPY, 7 MULTI-TRUNK, 14 EXISTING) EXISTING PHASE 1 SHRUBS

FOUNDATION PLANTING

	REQUIRED	PROVIDED
PHASE I	12% FACADE AREA (ADJACENT TO PARKING/DRIVE AISLE)	
NORTHERN WING	4,681 SF (867 LF X 45' HT X 0.12)	7,206 SF
INTERIOR ALONG CIRCLE DRIVE	1,166 SF (216 LF X 45' HT X 0.12)	1,334 SF
SOUTHERN WING	4,228 SF (783 LF X 45' HT X 0.12)	4,938 SF

PHASE II

NORTHERN WING	
INTERIOR ALONG RETENTION POND	
SOUTHERN WING	
WESTERN WING	

TREE REQUIREMENTS PER DISTURBED ACRE

15 TREE PER DISTURBED ACRE MUST BE RETAINED OR PLANTED ON SITE
REQUIRED: 12 ACRES OF DISTURBED X 15 TREES = 180 TREES REQUIRED
PROVIDED: 132 EXISTING RETAINED TREES
157 PLANTED IN PHASE I
000 PLANTED IN PHASE II
TOTAL: 000 TREES PROVIDED

NOTE: TREE MITIGATION FEE PAID IN LIEU OF TREE REPLACEMENT, REFER TO PREVIOUSLY APPROVED LANDSCAPE PLANS DATED JUNE 2, 2011

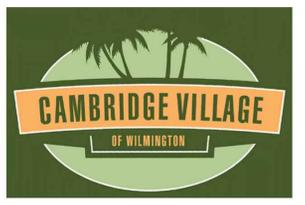
STORMWATER MANAGEMENT PLAN
APPROVED
CITY OF WILMINGTON
ENGINEERING DEPARTMENT
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Approved Construction Plan
Name: _____ Date: _____
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Fire: _____

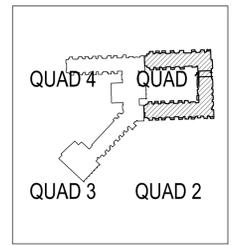
BSA
Life Structures 40 YEARS

510 Glenwood Ave, Suite 315
Raleigh, NC 27603-1262

ph 919.803.2022 fx 317.819.7288
www.bsalifestructures.com

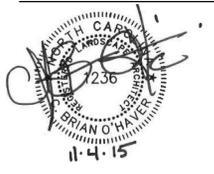
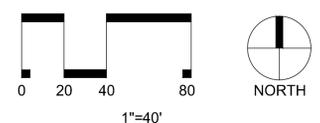


CAMBRIDGE VILLAGE OF WILMINGTON PHASE II



KEYPLAN

MARK	DATE	DESCRIPTION
1	11.18.2015	REVISIONS PER CITY COMMENTS



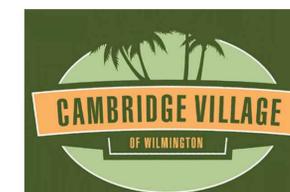
NOT FOR CONSTRUCTION
OVERALL LANDSCAPE PLAN

PROJECT NO.	CLIENT NO.	N/A
C15061		
DATE: 11.18.2015		
DRAWN: CKW		
APPROVED: CAH		

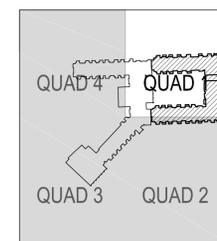
L3.00



STEWART

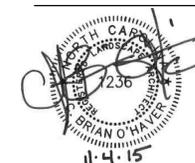
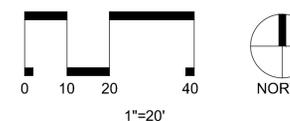


CAMBRIDGE VILLAGE OF WILMINGTON PHASE II



KEYPLAN
PLAN NORTH

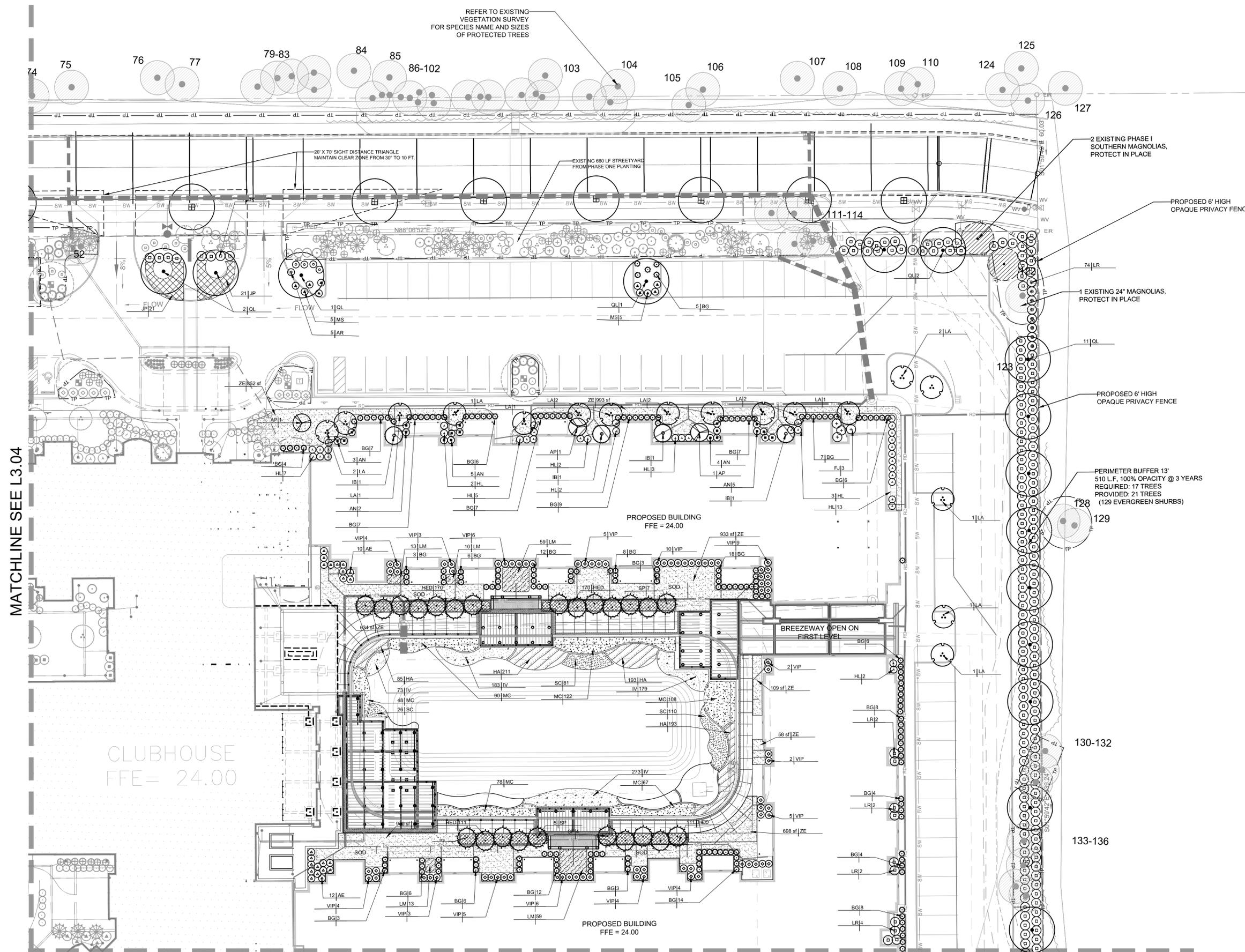
MARK	DATE	DESCRIPTION
1	11.18.2015	REVISIONS PER CITY COMMENTS



NOT FOR CONSTRUCTION
LANDSCAPE PLAN
QUADRANT 1

PROJECT NO.	CLIENT NO.	NO.
C15061		
DATE	11.18.2015	
DRAWN	CKW	
APPROVED	CAH	

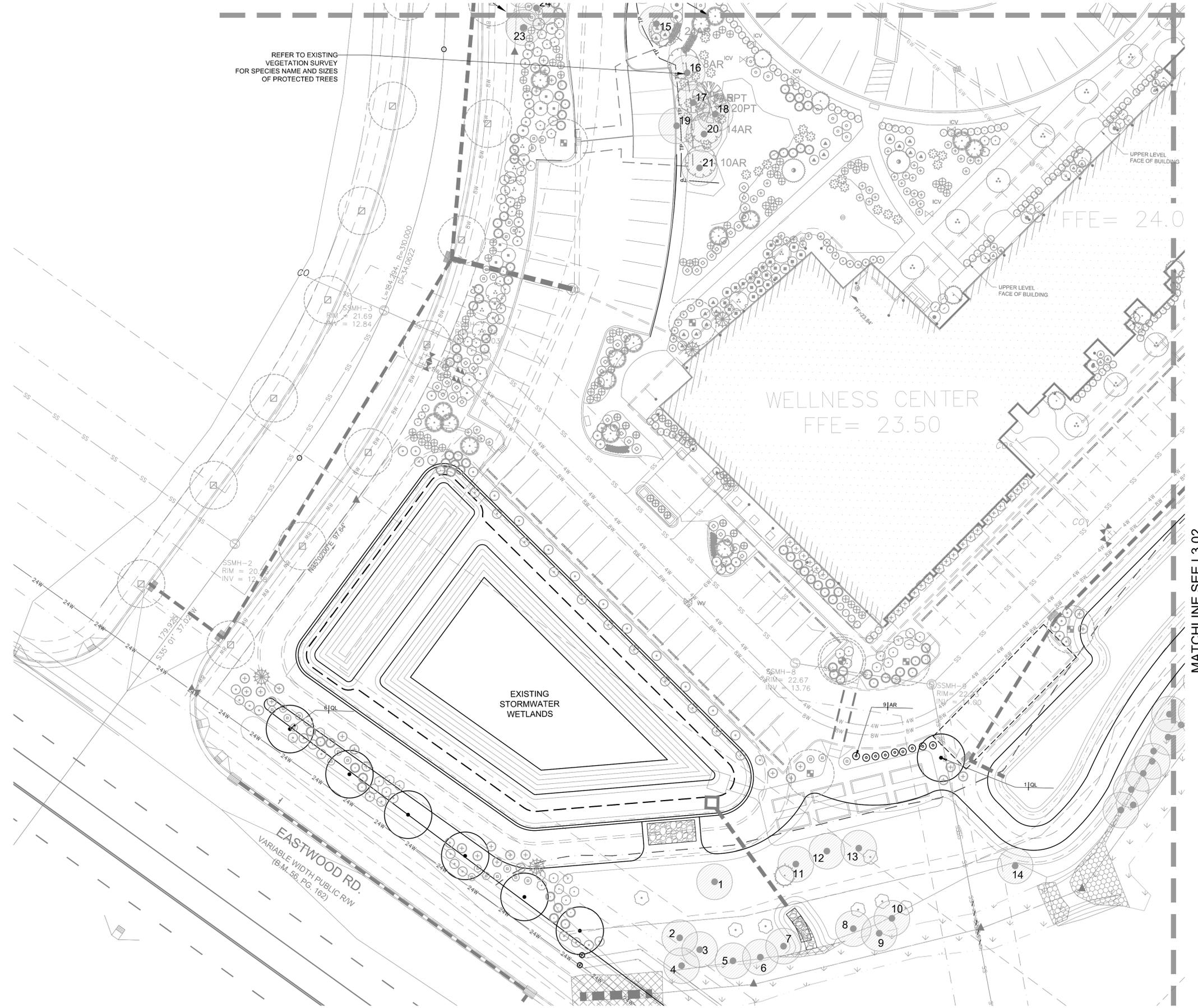
L3.01



STORMWATER MANAGEMENT PLAN
APPROVED
CITY OF WILMINGTON
ENGINEERING DEPARTMENT
DATE: _____ PERMIT: _____
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Approved Construction Plan
Name: _____ Date: _____
Planning: _____
Traffic: _____
Fire: _____

MATCHLINE SEE L3.04



REFER TO EXISTING VEGETATION SURVEY FOR SPECIES NAME AND SIZES OF PROTECTED TREES

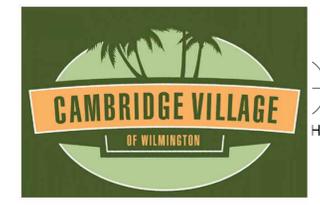


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Raleigh, NC 27603-1262

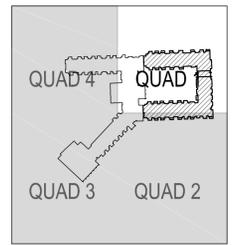
ph 919.803.2022 fx 317.819.7288
www.bsalifestructures.com



STEWART

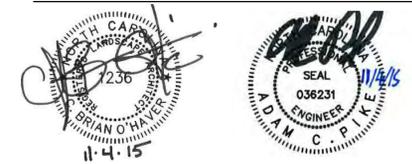
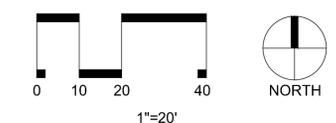


CAMBRIDGE VILLAGE OF WILMINGTON PHASE II



KEYPLAN
PLAN NORTH

MARK	DATE	DESCRIPTION
1	11.18.2015	REVISIONS PER CITY COMMENTS

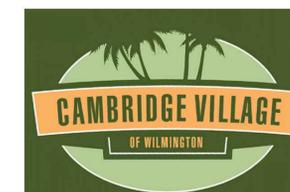


NOT FOR CONSTRUCTION
LANDSCAPE PLAN
QUADRANT 3

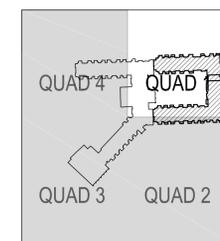
STORMWATER MANAGEMENT PLAN
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ENGINEERING DEPARTMENT
DATE: _____ PERMIT: _____
SIGNED: _____

Approved Construction Plan
Name: _____ Date: _____
Planning: _____
Traffic: _____
Fire: _____

PROJECT NO. C15061
CLIENT NO. _____
DATE 11.18.2015
DRAWN CKW
APPROVED CAH
L3.03

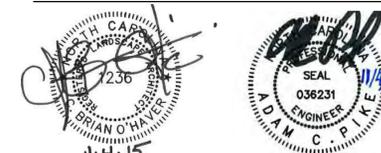
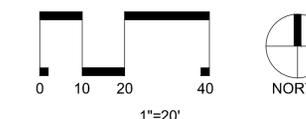


CAMBRIDGE VILLAGE OF WILMINGTON
PHASE II



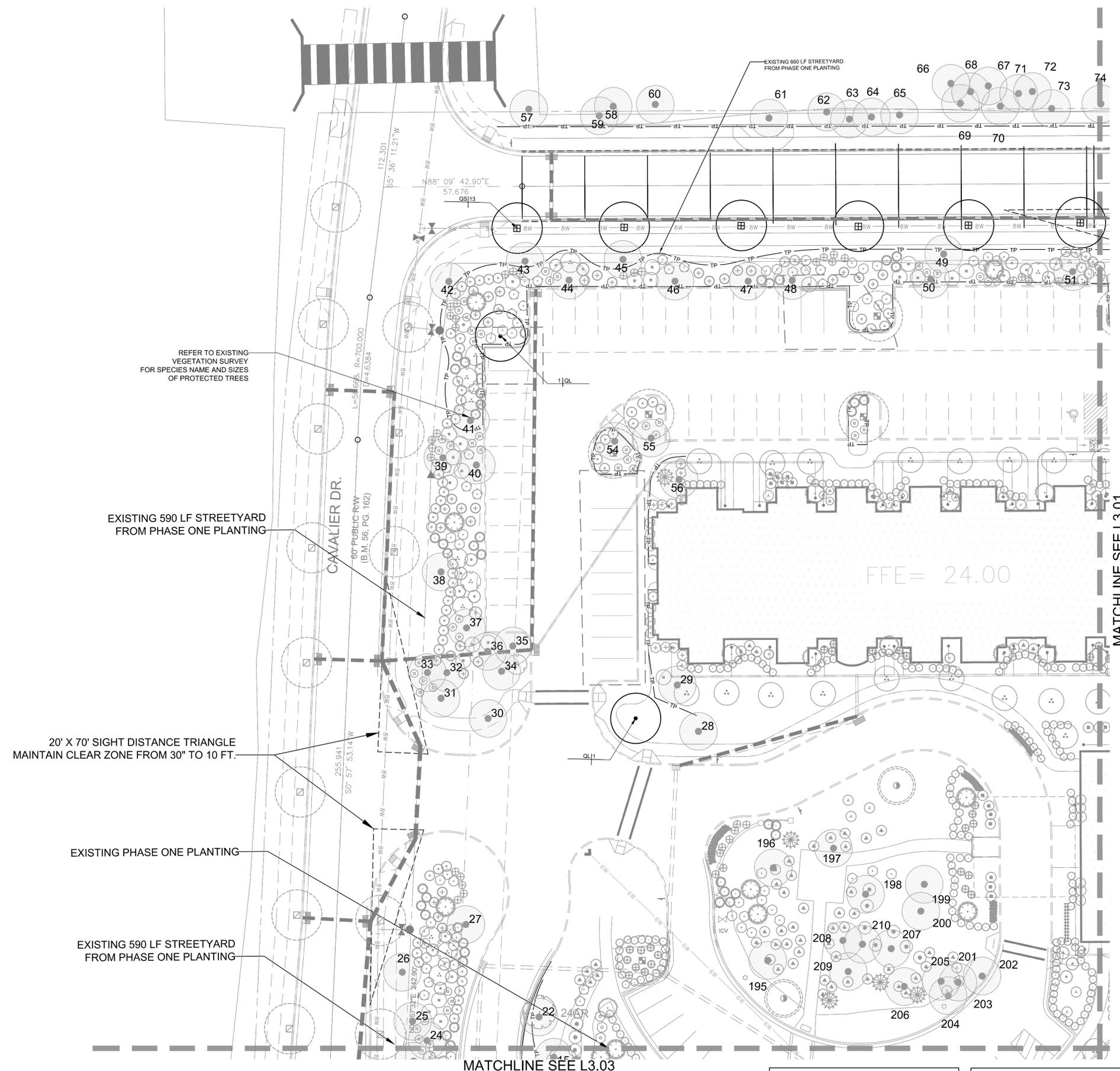
KEYPLAN
PLAN NORTH

MARK	DATE	DESCRIPTION
1	11.18.2015	REVISIONS PER CITY COMMENTS



NOT FOR CONSTRUCTION
LANDSCAPE PLAN
QUADRANT 4

PROJECT NO.	C15061	CLIENT NO.	N/A
DATE	11.18.2015		
DRAWN	CKW		
APPROVED	CAH		
			L3.04

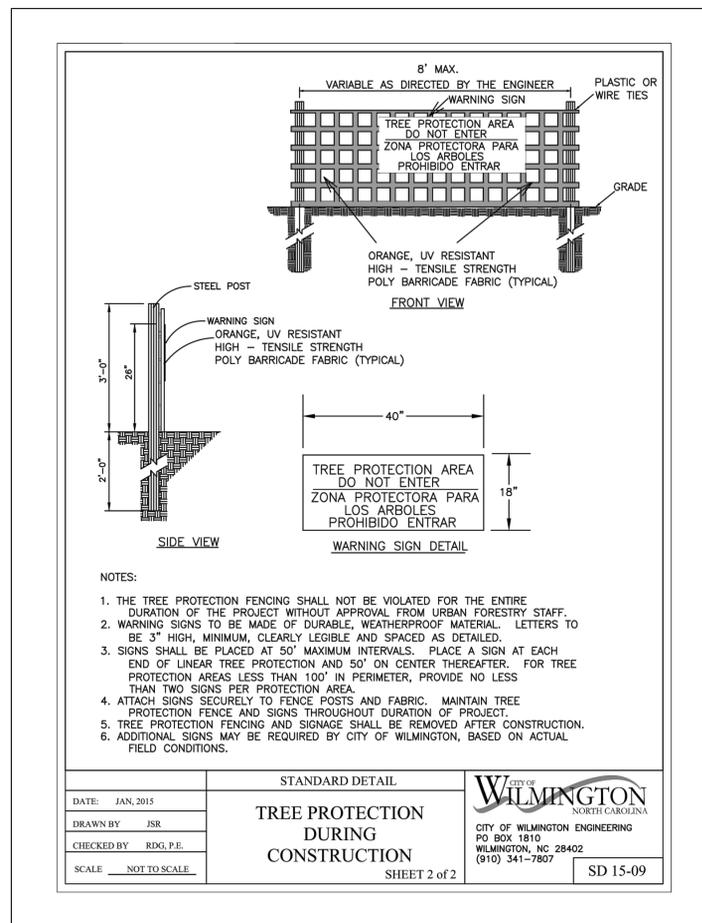
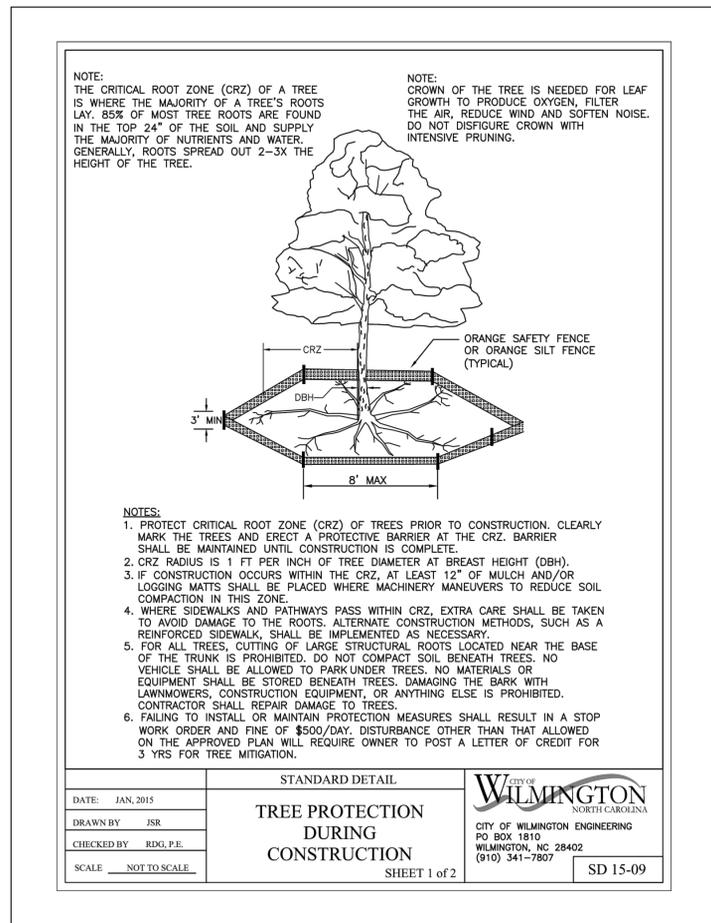


MATCHLINE SEE L3.03

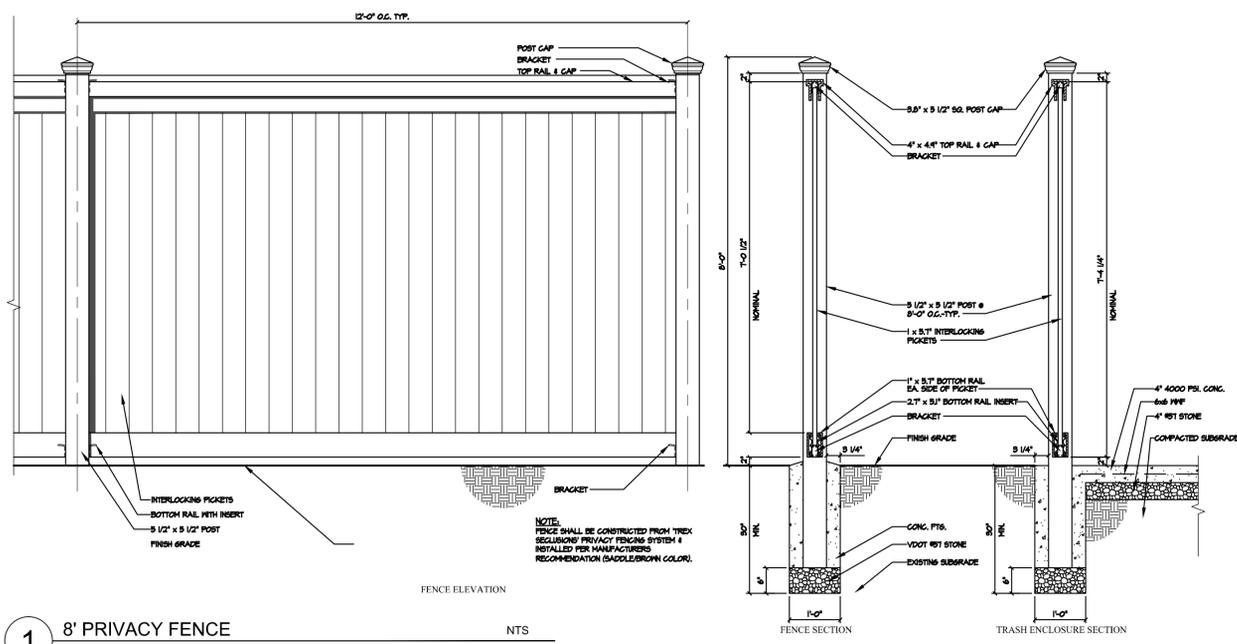
MATCHLINE SEE L3.01

STORMWATER MANAGEMENT PLAN
APPROVED
CITY OF WILMINGTON
ENGINEERING DEPARTMENT
DATE: _____ PERMIT: _____
SIGNED: _____

Approved Construction Plan
Name: _____ Date: _____
Planning: _____
Traffic: _____
Fire: _____



2 TREE PROTECTION FENCE NTS

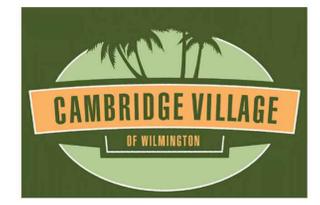


1 8' PRIVACY FENCE NTS

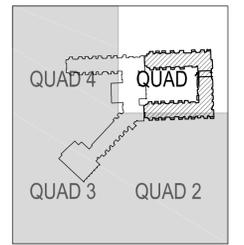
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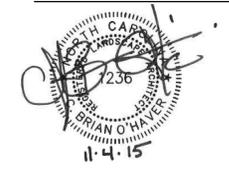


CAMBRIDGE VILLAGE OF WILMINGTON PHASE II



KEYPLAN

MARK	DATE	DESCRIPTION
1	11.18.2015	REVISIONS PER CITY COMMENTS



NOT FOR CONSTRUCTION

LANDSCAPE DETAILS

STORMWATER MANAGEMENT PLAN

APPROVED

CITY OF WILMINGTON
ENGINEERING DEPARTMENT

DATE: _____ PERMIT: _____

SIGNED: _____

Approved Construction Plan

Name: _____ Date: _____

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PROJECT NO.	C15061	CLIENT NO.	N/A
DATE	11.18.2015		
DRAWN	CKW		
APPROVED	CAH		

L3.06

PHASE I EXISTING PLANT SCHEDULE

TREES	QTY	BOTANICAL NAME	COMMON NAME	REMARKS
	2	Bulia capitata	Pindo Palm	
	27	Chamaerops humilis	Mediterranean Fan Palm	
	20	Ilex cornuta 'Burfordii'	Burford Chinese Holly	
	1	Ilex vomitoria	Yaupon Holly	
	28	Ilex x 'Mary Nell'	Mary Nell Holly	
	35	Lagerstroemia indica x faurei 'Acoma'	Acoma Crape Myrtle	
	32	Lagerstroemia indica	Crape Myrtle	
	29	Ligustrum japonicum	Japanese Privet	
	2	Magnolia grandiflora	Southern Magnolia	
	25	Quercus laurifolia	Laurel-leaved Oak	
	25	Quercus shumardii	Shumard Red Oak	
	27	Sabal palmetto	Cabbage Palmetto	
	2	Taxodium distichum	Bald Cypress	
SHRUBS	QTY	BOTANICAL NAME	COMMON NAME	REMARKS
	116	Abelia x grandiflora 'Rose Creek'	Rose Creek Abelia	
	46	Aspidistra elatior	Cast Iron Plant	
	22	Aucuba japonica 'Nana'	Dwarf Acuba	
	76	Azalea Encore TM	Encore Azalea	
	413	Buxus microphylla 'Winter Gem'	Globe Winter Gem Boxwood	
	23	Camellia japonica	Camellia	
	14	Fatsia japonica	Japanese Fatsia	
	51	Hydrangea paniculata 'Limelight' TM	Limelight Hydrangea	
	17	Ilex vomitoria 'Nana'	Dwarf Yaupon	
	202	Juniperus davurica 'Parsonii'	Parson's Juniper	
	58	Ligustrum japonicum 'Recurvifolium'	Wax leaf ligustrum	
	143	Loropetalum chinense 'Ruby'	Ruby Loropetalum	
	140	Miscanthus sinensis 'Adagio'	Adagio Eulalia Grass	
	15	Myrica cerifera	Wax Myrtle	
	7	Osmanthus fragrans	Sweet Olive	
	3	Phormium tenax	New Zealand Flax	
	37	Pittosporum tobira 'Variegata'	Variegated Mock Orange	
	36	Pittosporum tobira 'Wheeler's Dwarf'	Wheeler's Dwarf Mock Orange	
	42	Podocarpus macrophyllus maki	Shrubby Yew	
	75	Rhaphiolepis indica 'Majestic Beauty' TM	Majestic Beauty Indian Hawthorn	
	187	Rosa x 'Drift'	Drift Roses	
	59	Rosa x 'Knockout' TM	Rose	
	25	Sabal minor	Dwarf Palmetto	
	47	Trachelospermum asiaticum	Star Jasmine	
	12	Viburnum awabuki 'Chindo'	Chindo Viburnum	
	215	Viola tricolor 'Hortensis'	Pansy	

PHASE II PLANT SCHEDULE

TREES	CODE	QTY	BOTANICAL NAME	COMMON NAME	CONT	CAL	SIZE	REMARKS
	AP	3	Acer palmatum	Japanese Maple	15 gal		6'-8'	
	IB	8	Ilex cornuta 'Burfordii'	Burford Holly	15 gal		5' HT TREE FORM	
	LA	22	Lagerstroemia indica x faurei 'Acoma'	Acoma Crape Myrtle	15 gal		6'-8'	
	QL	36	Quercus laurifolia	Laurel Oak	B & B	2"Cal	12'-14'	
	QS	13	Quercus shumardii	Shumard Red Oak	B & B	2.5"Cal	12'-14'	
PALM TREES	CODE	QTY	BOTANICAL NAME	COMMON NAME	CONT	CAL	SIZE	REMARKS
	SP	24	Sabal palmetto	Cabbage Palmetto	B & B		see plan	See Plan for CT, Heights, Botted, Candle cut heads
SHRUBS	CODE	QTY	BOTANICAL NAME	COMMON NAME	CONT	HGT.		REMARKS
	AE	46	Azalea Encore TM	Encore Azalea	3 gal	18" MIN.		
	AN	20	Aucuba japonica 'Nana'	Dwarf Acuba	3 gal	18" MIN.		
	AR	14	Abelia x grandiflora 'Rose Creek'	Rose Creek Abelia	3 gal	18" MIN.		
	BG	266	Buxus microphylla 'Winter Gem'	Globe Winter Gem Boxwood	3 gal	18" MIN.		
	FJ	4	Fatsia japonica	Fatsia	7 gal	30"		
	HL	38	Hydrangea paniculata 'Limelight' TM	Limelight Hydrangea	3 gal	18" MIN.		
	LR	149	Loropetalum chinense 'Ruby'	Ruby Loropetalum	3 gal	18" MIN.		
	MS	10	Miscanthus sinensis 'Adagio'	Adagio Eulalia Grass	3 gal	12"		
	OF	4	Osmanthus fragrans	Fragrant Tea Olive	15 gal	7' MIN.		
	PM	10	Podocarpus macrophyllus maki	Shrubby Yew	7 gal	24" MIN.		
	RR	20	Rosa x 'Knockout' TM	Rose	3 gal	18" MIN.		
	VIP	119	Viburnum x pragnense	Prague Viburnum	7 gal	3'		
GROUND COVERS	CODE	QTY	BOTANICAL NAME	COMMON NAME	CONT			REMARKS
	HED	562	Helianthus debilis	Dune Sunflower	1 gal			
	JP	32	Juniperus davurica 'Parsonii'	Parson's Juniper	3 gal			
	LM	154	Liriope muscari	Lily Turf	1 gal			
	ZE	7,138 sf	Zoysia japonica 'Empire'	Empire Zoysia	sod			
POND PLANTS	CODE	QTY	BOTANICAL NAME	COMMON NAME	CONT			REMARKS
	HA	882	Helianthus angustifolius	Swamp Sunflower	PLUGS			
	IV	708	Irish virginica	Blue Flag Iris	PLUGS			
	MC	513	Muhlenbergia capillaris	Pink Muhly	1 gal			
	SC	217	Saururus cernuus	Lizard's Tail	PLUGS			

LANDSCAPING NOTES:

- ALL TREES TO BE A MINIMUM OF 2" IN CALIPER AND MUST MEET THE AMERICAN STANDARD FOR NURSERY STOCK.
- TREE PROTECTION NOTE: TREE PROTECTION FENCING MUST BE IN PLACE PRIOR TO ANY DEMOLITION, LAND DISTURBANCE OR ISSUANCE OF A GRADING PERMIT AND SHALL INCLUDE WARNING SIGNS POSTED IN BOTH ENGLISH AND SPANISH. AS FOLLOWS: "NO TRESPASSING/TREE PROTECTION AREA/PROHIBIDO ENTRAR / ZONA PROTECTORA PARA LOS ARBOLES."
- PROTECTION OF EXISTING VEGETATION: AT THE START OF GRADING INVOLVING THE LOWERING OF EXISTING GRADE AROUND A TREE OR STRIPPING OF TOPSOIL, 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.
- ROOT ZONE PROTECTION AREA: VARIES BASED ON LOCAL JURISDICTION HAVING AUTHORITY. CONTRACTOR SHALL COMPLY WITH LOCAL JURISDICTIONAL REQUIREMENTS. NO DISTURBANCE ALLOWED WITHIN THIS AREA. AREA MUST BE PROTECTED WITH BOTH TREE PROTECTION FENCING AND WARNING SIGNS.
- SEED BED PREPARATION: ALL AREAS TO BE SEEDED ARE TO BE RECEIVE A MINIMUM OF 2" OF APPROVED TOPSOIL. ALL DEBRIS, ROCKS, ETC. LARGER THAN .5" ARE TO BE REMOVED. ALL LARGE CONCENTRATIONS OF GRAVEL & DEBRIS REGARDLESS OF SIZE ARE TO BE REMOVED PRIOR TO SEEDING OR PLANTING.
- ALL PLANT BED AREAS ARE TO RECEIVE A MINIMUM OF 6" OF APPROVED TOPSOIL.
- SOIL SHOULD BE TESTED AND AMENDED WITH LIME AND FERTILIZER FOR HARDWOOD TREES ACCORDING TO NCSA PROCEDURES. SCARIFY PLANT PIT WALLS. CONSULT LANDSCAPE ARCHITECT FOR ALTERNATE COMPLIANCE.
- SHREDDED HARDWOOD MULCH 3" DEEP EXCEPT AT CROWN OF PLANT UNLESS OTHERWISE NOTED. FLARE AT CROWN SHOULD BE REVEALED. BACKFILL CONSISTS OF THOROUGHLY BROKEN UP NATIVE SOIL. TOTAL VOLUME OF BACKFILL SHOULD BE AMENDED WITH UP TO ONE THIRD PINE BARK MULCH. PIECES SHOULD BE NO LARGER THAN WHAT PASSES THROUGH A ONE INCH SCREEN. IF ADDITIONAL SOIL IS REQUIRED FOR BACKFILL DUE TO DETRIMENTAL SUBSOIL DRAINAGE CONDITIONS, USE SOIL SIMILAR TO EXISTING NATIVE SOIL. ADDITIONAL SOIL TO BE APPROVED BY LANDSCAPE ARCHITECT. MAXIMUM SAUCER HEIGHT IS 6 INCHES.
- TOP OF ROOTBALL TO BE RAISED 2-3 INCHES ABOVE EXISTING GRADE.
- FOR B&B PLANTS, NATURAL FIBER BURLAP SHOULD BE TURNED DOWN BY 1/3 TOTAL HEIGHT OF ROOT BALL. PLASTIC FIBER BURLAP AND WIRE BASKETS SHOULD BE REMOVED TO 2/3'S OF TOTAL HEIGHT OF ROOT BALL.
- CONTRACTOR IS RESPONSIBLE FOR KEEPING THE TREE UPRIGHT AND PLUMB THROUGHOUT THE WARRANTY PERIOD. IF STABILIZATION IS NECESSARY SEE STAKING IN TREE DETAIL. ORANGE FLAGGING TAPE SHOULD BE ATTACHED TO SUPPORT WIRE. STAKING SHOULD BE REMOVED BY CONTRACTOR AT END OF ONE YEAR WARRANTY PERIOD OR AS DIRECTED BY GROUNDS MANAGEMENT.
- USE STANDARD "GATOR" BAGS FOR WATERING TREES IN AREAS NOT UNDER IRRIGATION. INCORPORATE TERRA-SORB (OR EQUAL) AS PER MANUFACTURERS RECOMMENDATIONS. FOR AREAS NOT UNDER IRRIGATION.
- USE "BIO-BARRIER" OR EQUIVALENT ACCORDING TO MANUFACTURER'S RECOMMENDATION FOR TREES THAT WILL BE PLANTED WITHIN 10' OF PAVEMENT
- LANDSCAPING/C.O. STANDARDS NOTE: ALL LANDSCAPING MUST BE IN PLACE PRIOR TO REQUEST FOR A CERTIFICATE OF COMPLIANCE.

STORMWATER MANAGEMENT PLAN
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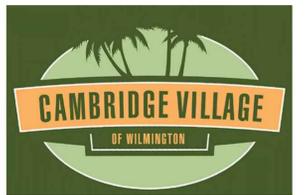


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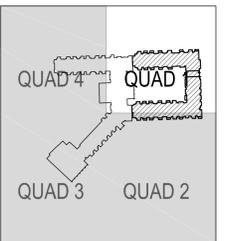
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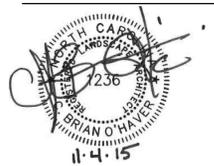


CAMBRIDGE VILLAGE OF WILMINGTON PHASE II



KEYPLAN
 PLAN NORTH

MARK	DATE	DESCRIPTION
1	11.18.2015	REVISIONS PER CITY COMMENTS



NOT FOR CONSTRUCTION
LANDSCAPE SCHEDULE

PROJECT NO.	CLIENT NO.	N/A
C15061		
DATE	11.18.2015	
DRAWN	CKW	
APPROVED	CAH	

L3.07