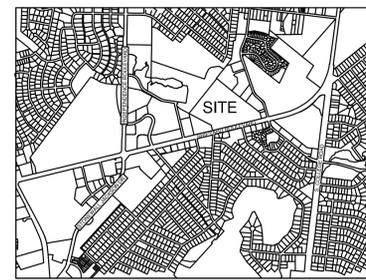


WETLAND TYPE: SWAMP FOREST. PORTION OF HATCHED AREA NOT WITHIN BUFFER IS MAN-MADE DITCH AND DOES NOT CONTAIN ANY CONSERVATION RESOURCE SETBACKS PER USACE NOTIFICATION OF JURISDICTIONAL DETERMINATION DATED 11-17-15.



VICINITY MAP (N.T.S.)

**SITE DATA**

PROJECT: HOGGARD HIGH SCHOOL  
 OWNER: NEW HANOVER COUNTY SCHOOLS  
 OWNER CONTACT: NEW HANOVER COUNTY BOARD OF EDUCATION  
 EDDIE ANDERSON  
 6410 CAROLINA BEACH ROAD  
 WILMINGTON, NC 28412  
 910-254-4325  
 DESIGNER: CLH DESIGN, PA  
 DESIGNER CONTACT: GLENN MEDLIN  
 REGENCY PARK  
 400 REGENCY FOREST DR., STE. 120  
 CARY, NC 27518  
 PHONE: 919-319-6716  
 FAX: 919-319-7516  
 PROJECT ADDRESS: 4305 SHIPYARD BOULEVARD  
 WILMINGTON, NC 2803  
 PIN: R06114-001-001-000  
 ZONING: O&I  
 EXISTING USE: INSTITUTIONAL/EDUCATIONAL  
 PROPOSED USE: INSTITUTIONAL/EDUCATIONAL  
 TRACT AREA: 62.74 ACRES  
 FLOODPLAIN: SITE IS NOT WITHIN A FLOODPLAIN  
 (REF: FIRM 3720313600J, APRIL 3, 2006)

A PORTION OF THE PROPERTY IS ENCLUMBERED BY WETLANDS/CONSERVATION RESOURCE. REFER TO USACE JURISDICTIONAL DETERMINATION DATED 11-17-15 FOR ADDITIONAL INFORMATION.  
 THERE ARE NO ENDANGERED SPECIES OR HABITATS ON THIS SITE.  
 BUILDING SETBACK: 20'  
 TYPE OF CONSTRUCTION: 1-B

**PARKING REQUIREMENTS:**  
 PARKING CODE: 1 SPACE PER 5 STUDENTS  
 (OR 1 SPACE PER 3 STADIUM SEATS)

NO. OF STUDENTS:	1900
TOTAL SPACES REQ'D:	380 (500)
EXISTING SPACES:	787
EXISTING SPACES REMOVED:	177
NEW SPACES ADDED:	82
TOTAL SPACES PROVIDED:	692
TOTAL H/C SPACES REQ'D:	14
EXISTING H/C SPACES:	22
EXISTING H/C SPACES REMOVED:	6
NEW H/C SPACES ADDED:	4 (W/ 1 VAN ACCESSIBLE)
TOTAL H/C SPACES PROVIDED:	20

**GROSS FLOOR AREA:**  
 EXISTING: 115,165 SQ. FT.  
 PROPOSED: 34,484 SQ. FT.  
 TOTAL: 151,649 SQ. FT.  
 PERCENT INCREASE: 22.71%

PROPOSED GYM ADD'N FOOTPRINT: 30,598 SQ. FT.  
 PROPOSED CAFETERIA ADD'N FOOTPRINT: 3,886 SQ. FT.

BUILDING LOT COVERAGE-EXISTING: 4.3%  
 BUILDING LOT COVERAGE-PROPOSED: 5.6%  
 MAX. BUILDING HEIGHT PROPOSED: 45'

EXISTING IMPERVIOUS (WITHIN PROJECT LIMITS): 8.88-AC (386,812.80-SF)  
 PROPOSED IMPERVIOUS (WITHIN PROJECT LIMITS): 8.72-AC (379,843.20-SF)

**CAMA LAND USE CLASSIFICATION:**  
 URBAN

**CAMA AREAS OF CONCERN:**  
 C; SW (SWAMP WATERS); PERENNIAL

A PORTION OF THE PROPERTY IS LOCATED IN THE CAMA LAND CLASSIFICATION WATERSHED RESOURCE PROTECTION (WRP) AREA AND IMPERVIOUS AREAS WITHIN THE WRP SHALL BE LIMITED TO 25% UNLESS THE PROJECT MEETS ARTICLE 10-EXCEPTIONALLY DESIGNED PROJECTS OF THE LDC.

**HEWLETT'S CREEK CLASSIFICATION:**  
 SA; HOW  
 INDEX # 18-87-26

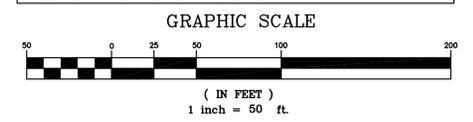
THE SITE HAS NO LOCAL, STATE OR FEDERALLY RECOGNIZED HISTORIC STRUCTURES OR ARCHAEOLOGICAL RESOURCES.  
 THE SITE HAS NO CEMETARIES, BURIAL SITES OR BURIAL GROUNDS.

**REFER TO PLAN SHEET C12 FOR CITY OF WILMINGTON STANDARD NOTES**

**A TREE REMOVAL/PRESERVATION PERMIT IS REQUIRED PRIOR TO REMOVING ANY TREES. CONTRACTOR SHALL OBTAIN & COMPLETE PERMIT. CONTACT CITY OF WILMINGTON ZONING DEPARTMENT TO OBTAIN COPY OF PERMIT.**

**EXTERIOR BUILDING MATERIALS WILL BE BRICK, ALUMINUM CURTAIN WALL AND METAL PANEL SOFFIT & FASCIA AT THE ROOF. ROOFS THAT ARE NOT FLAT WILL BE STANDING SEAM METAL.**

APPROVED CONSTRUCTION PLAN	
NAME	DATE
PLANNING _____	_____
TRAFFIC _____	_____
FIRE _____	_____



**bmh**  
**BOWMAN MURRAY HEMINGWAY**  
 ARCHITECTS  
 514 Market Street  
 Wilmington, NC 28401  
 Tel - (910) 762-2621  
 Fax - (910) 762-8506

Project ID # 900-9005

**CLH DESIGN, PA**  
 400 ReGENCY Forest Dr.  
 Cary, NC 27518  
 Phone: 919-319-6716  
 Fax: 919-319-7516  
 E-MAIL: CLH@CLH.PA

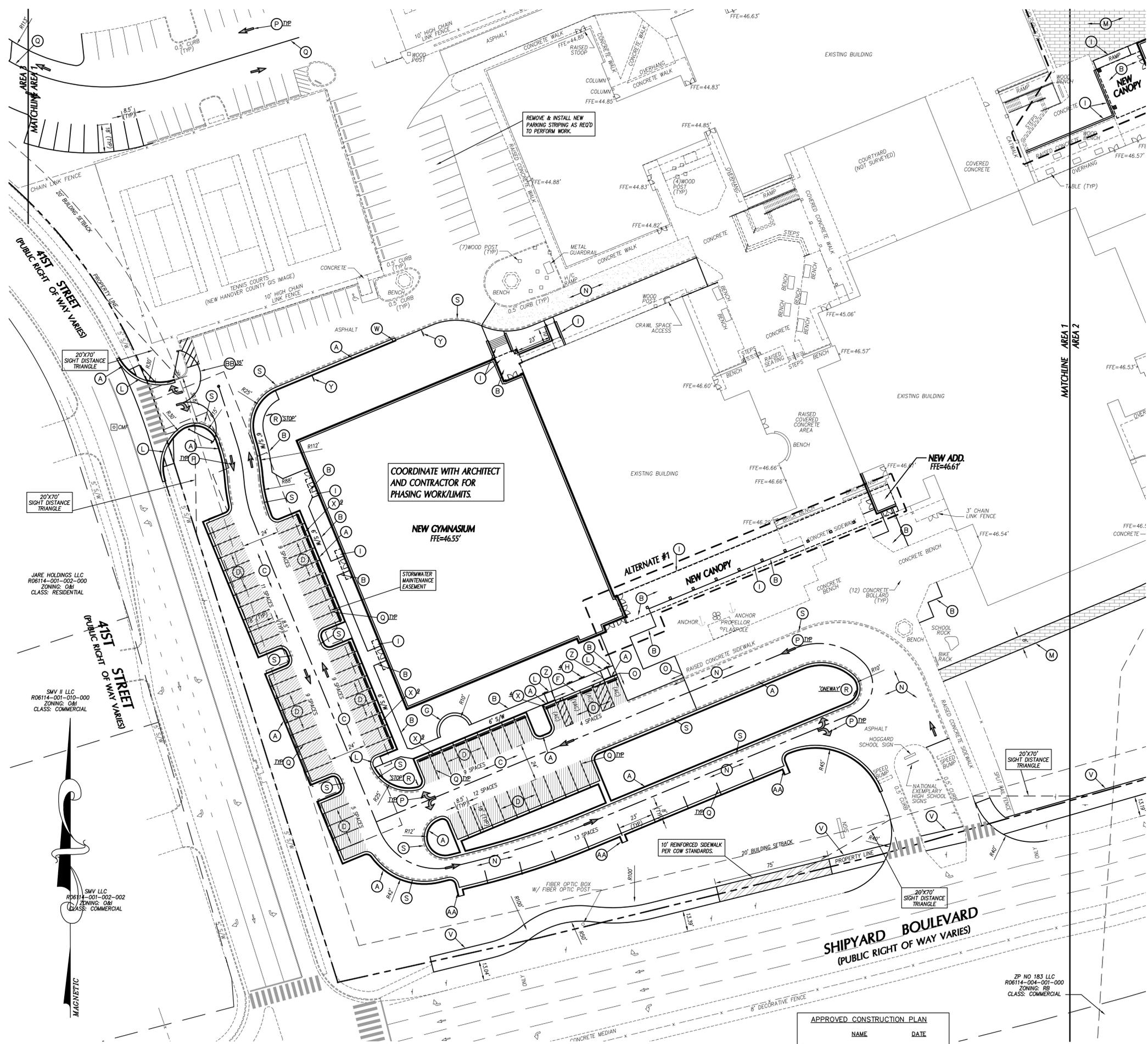
**PROFESSIONAL ENGINEER**  
 GLENNEATH A. LOVINS  
 23953  
 2-16-16

**Renovations and Additions to:**  
**John T. Hoggard High School**  
 4305 Shipyard Blvd.  
 Wilmington, North Carolina 28403

JOB NUMBER: 15-120  
 DRAWN BY: JGM  
 CHECKED BY: JGM  
 DATE: APRIL 1, 2016  
 REVISIONS:

**OVERALL SITE PLAN**  
 SHEET NUMBER  
**C-1.0**

CONSTRUCTION DOCUMENTS: 4-1-2016



**KEY NOTES**

- (A) 24" CONCRETE CURB & GUTTER, SEE DETAIL SHEET.
- (B) CONCRETE SIDEWALK, SEE DETAIL SHEET.
- (C) HEAVY DUTY ASPHALT PAVEMENT, SEE DETAIL SHEET.
- (D) LIGHT DUTY ASPHALT PAVEMENT, SEE DETAIL SHEET.
- (E) CONCRETE PAVEMENT, SEE DETAIL SHEET.
- (F) SIDEWALK FLUSH WITH PAVEMENT GRADE, SEE DETAIL SHEET.
- (G) SEAT WALL, SEE DETAIL SHEET.
- (H) ACCESSIBLE PARKING SIGNAGE, SEE DETAIL SHEET.
- (I) SEE ARCHITECTURAL PLANS FOR SCREEN WALLS, RAMP, CANOPY, STEPS, ETC.
- (J) DRIVEWAYS TO BE CONSTRUCTED PER CITY OF WILMINGTON STANDARDS.
- (K) ASPHALT PATCH, SEE DETAIL SHEET.
- (L) ACCESSIBLE CURB RAMP, SEE DETAIL SHEET.
- (M) PERMEABLE PAVERS, SEE DETAIL SHEET.
- (N) ASPHALT OVERLAY, SEE DETAIL SHEET.
- (O) RAISED CONCRETE SIDEWALK, SEE DETAIL SHEET.
- (P) DIRECTIONAL ARROW, SEE TRAFFIC CONTROL NOTES THIS SHEET.
- (Q) SOLID WHITE MARKING, SEE TRAFFIC CONTROL NOTES THIS SHEET.
- (R) TRAFFIC CONTROL SIGNAGE, SEE TRAFFIC CONTROL NOTES THIS SHEET.
- (S) FIRE LANE STRIPING, SEE TRAFFIC CONTROL NOTES THIS SHEET.
- (T) STANDARD METHOD OF ENDING CURB, SEE DETAIL SHEET.
- (U) DUMPSTERS, PROVIDED BY OWNER.
- (V) 10' WIDE ASPHALT GREENWAY PER COW STANDARDS, SEE DETAIL SHEET.
- (W) STANDARD METHOD OF ENDING CURB, SEE DETAIL SHEET.
- (X) PRE-CAST CONCRETE WHEEL STOP, SEE DETAIL SHEET.
- (Y) NO PARKING - FIRE LANE SIGNAGE, SEE DETAIL SHEET.
- (Z) ASPHALT FLUSH WITH SIDEWALK.
- (AA) CONCRETE CURB FLUME, SEE DETAIL SHEET.
- (BB) PIPE GATE, SEE DETAIL SHEET.

**GENERAL NOTES**

1. ALL DIMENSIONS SHOWN ARE FACE OF CURB AND FACE OF BUILDING WALL, UNLESS OTHERWISE SHOWN.
2. CONTRACTOR SHALL BE RESPONSIBLE FOR FIELD VERIFICATION OF ALL DIMENSIONS SHOWN AND CONTACT THE ARCHITECT IF ANY DISCREPANCIES OCCUR.
3. CONSTRUCTION STAKE OUT IS THE RESPONSIBILITY OF THE CONTRACTOR.
4. ALL SIGNS AND PAVEMENT MARKINGS ARE TO MEET MUTCD (MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES) STANDARDS.
5. PAVEMENT MARKINGS IN PUBLIC RIGHT-OF-WAYS AND FOR DRIVEWAYS ARE TO BE THERMOPLASTIC AND MEET CITY OF WILMINGTON AND/OR NCDOT STANDARDS.
6. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH CITY OF WILMINGTON STANDARDS AND SPECIFICATIONS.
7. REPLACEMENT OF ANY BROKEN OR DAMAGED CONCRETE SIDEWALK PANELS OR CURBING THAT OCCURS DURING CONSTRUCTION IS THE RESPONSIBILITY OF THE CONTRACTOR.
8. ALL PARKING STALL RADII SHALL BE 4' UNLESS OTHERWISE NOTED.
9. PIPE GATE AT THE BUS DROP-OFF/FIRE LANE SHALL MEET THE CITY OF WILMINGTON FIRE SERVICES GATE REQUIREMENTS FOR LOCKING ARRANGEMENTS.
10. A PORTION OF THIS PROPERTY IS LOCATED IN THE 100 YEAR FLOOD ZONE AS SHOWN IN THE COMMUNITY PANEL 3701710005 C DATED NOV. 4, 1997.

**TRAFFIC CONTROL NOTES**

1. ALL SITE SIGNAGE SHALL BE IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) AND NCDOT STANDARDS.
 

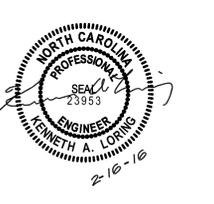
SIGN	MUTCD STD.	SIZE
STOP	R1-1	30"x30"
ONE WAY	R6-1	36"x12"
2. ALL SIGNS SHALL BE MOUNTED WITH 7'-FT MIN. VERTICAL CLEARANCE TO THE BOTTOM OF THE SIGN ON 2-LB. GALV. STEEL U-CHANNEL POST SET IN 3'-FT DEEP x 12-IN DIA. CONCRETE FOOTING.
3. ALL PAVEMENT MARKINGS SHALL BE IN ACCORDANCE WITH THE MUTCD AND NCDOT STANDARDS AND THE PROJECT SPECIFICATIONS.
 

MARKING	NCDOT STD.	SIZE	COLOR
PARKING SPACE	1205.08	4-IN STD.	WHT.
DIRECTIONAL ARROWS	-	4-IN STD.	WHT.
NO PARKING - FIRE LANE *	-	4-IN STD.	WHT.
SOLID	-	4-IN STD.	WHT.
CROSSWALK	1205.07(HI-VIS)	24-IN	WHT.

\* NO PARKING - FIRE LANE MARKING SHALL CONSIST OF A 4" SOLID WHITE STRIPE AND 8" HIGH WHITE TEXT "NO PARKING - FIRE LANE" AT 50' INTERVALS. PROVIDE IN ALL PAVED AREAS AS DESIGNATED BY FIRE MARSHALL.
4. ALL PAVEMENT MARKINGS ON SITE MAY BE EITHER THERMOPLASTIC OR ALKYD-RESIN TYPE PAINT.
5. ALL SIGNAGE SHALL BE FIELD STAKED AND THE LOCATIONS APPROVED BY CLH DESIGN PRIOR TO SIGN INSTALLATION.
6. CENTER ALL DIRECTIONAL ARROWS WITHIN TRAVEL LANE.

**bmh**  
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 514 Market Street  
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Project ID # 900-9005  
**CLH DESIGN, PA**  
 400 Regency Forest Dr.  
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 Cary, NC 27518  
 Phone: 919.219.8716  
 Fax: 919.219.7518  
 E-MAIL: CLH@CLH.COM



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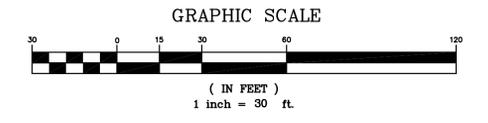
JOB NUMBER	15-120
DRAWN BY	JGM
CHECKED BY	JGM
DATE	APRIL 1, 2016
REVISIONS	

**SITE STAKING PLAN**  
 SHEET NUMBER

**C-1.1**

**APPROVED CONSTRUCTION PLAN**

NAME	DATE
PLANNING _____	_____
TRAFFIC _____	_____
FIRE _____	_____



CONSTRUCTION DOCUMENTS: 4-1-2016



**BOWMAN  
MURRAY  
HEMINGWAY**

**ARCHITECTS**  
514 Market Street  
Wilmington, NC 28401  
Tel - (910) 762-2621  
Fax - (910) 762-8506

Project ID # 900-9005



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JOB NUMBER	15-120
DRAWN BY	JGM
CHECKED BY	JGM
DATE	APRIL 1, 2016
REVISIONS	

**SITE STAKING  
PLAN**

SHEET NUMBER

**C-1.2**

**KEY NOTES**

- (A) 24" CONCRETE CURB & GUTTER, SEE DETAIL SHEET.
- (B) CONCRETE SIDEWALK, SEE DETAIL SHEET.
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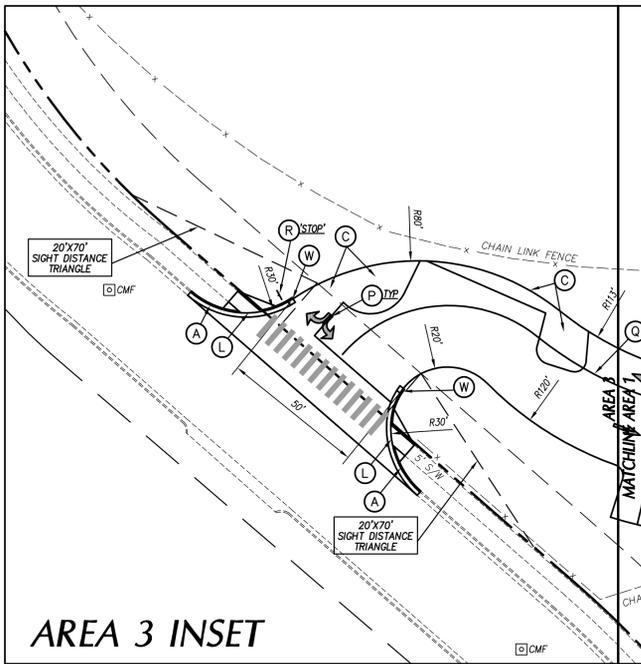
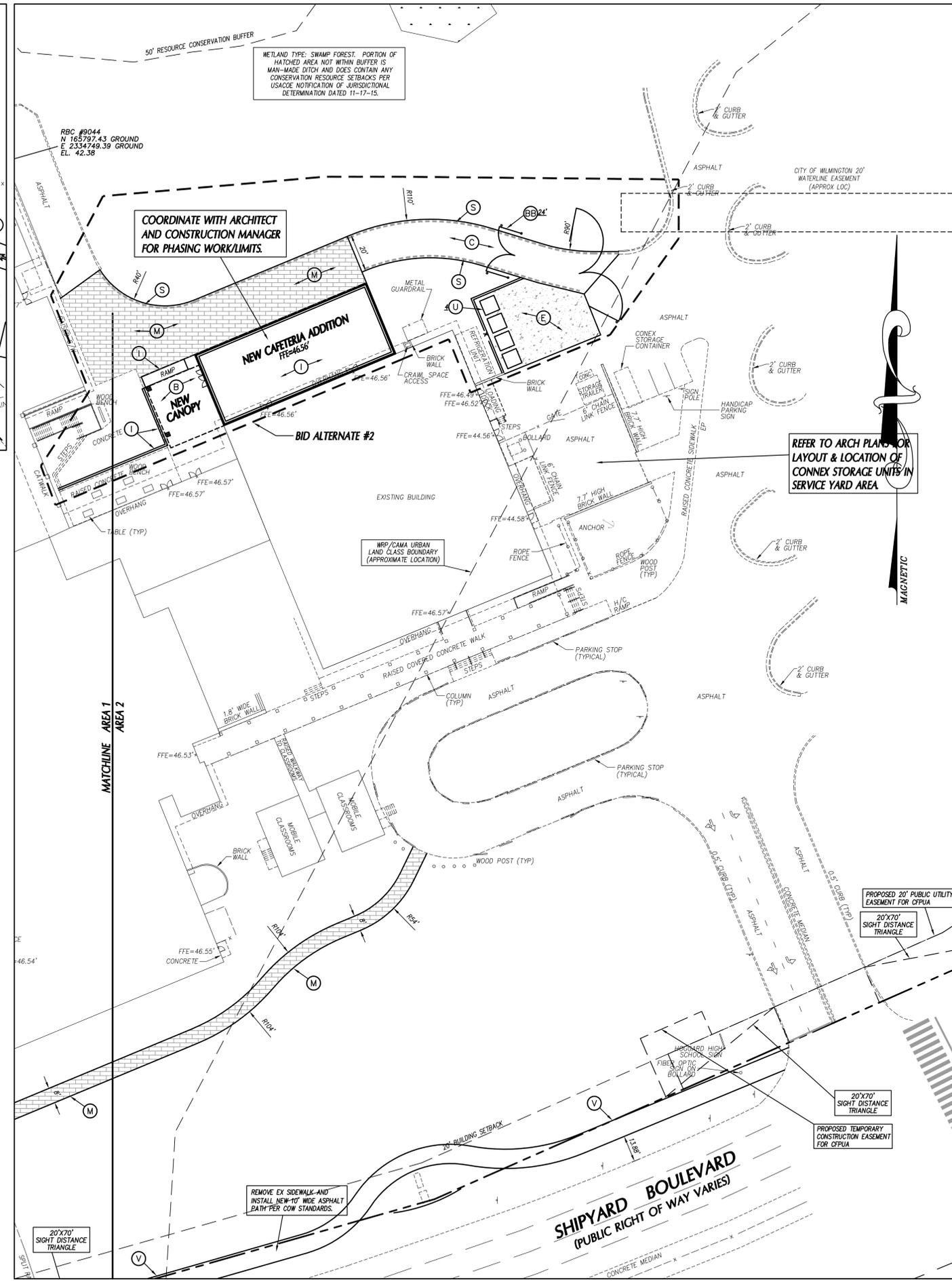
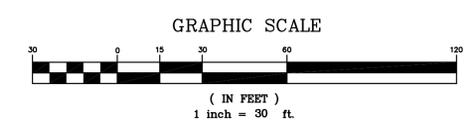
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ONE WAY	R6-1	36"x12"
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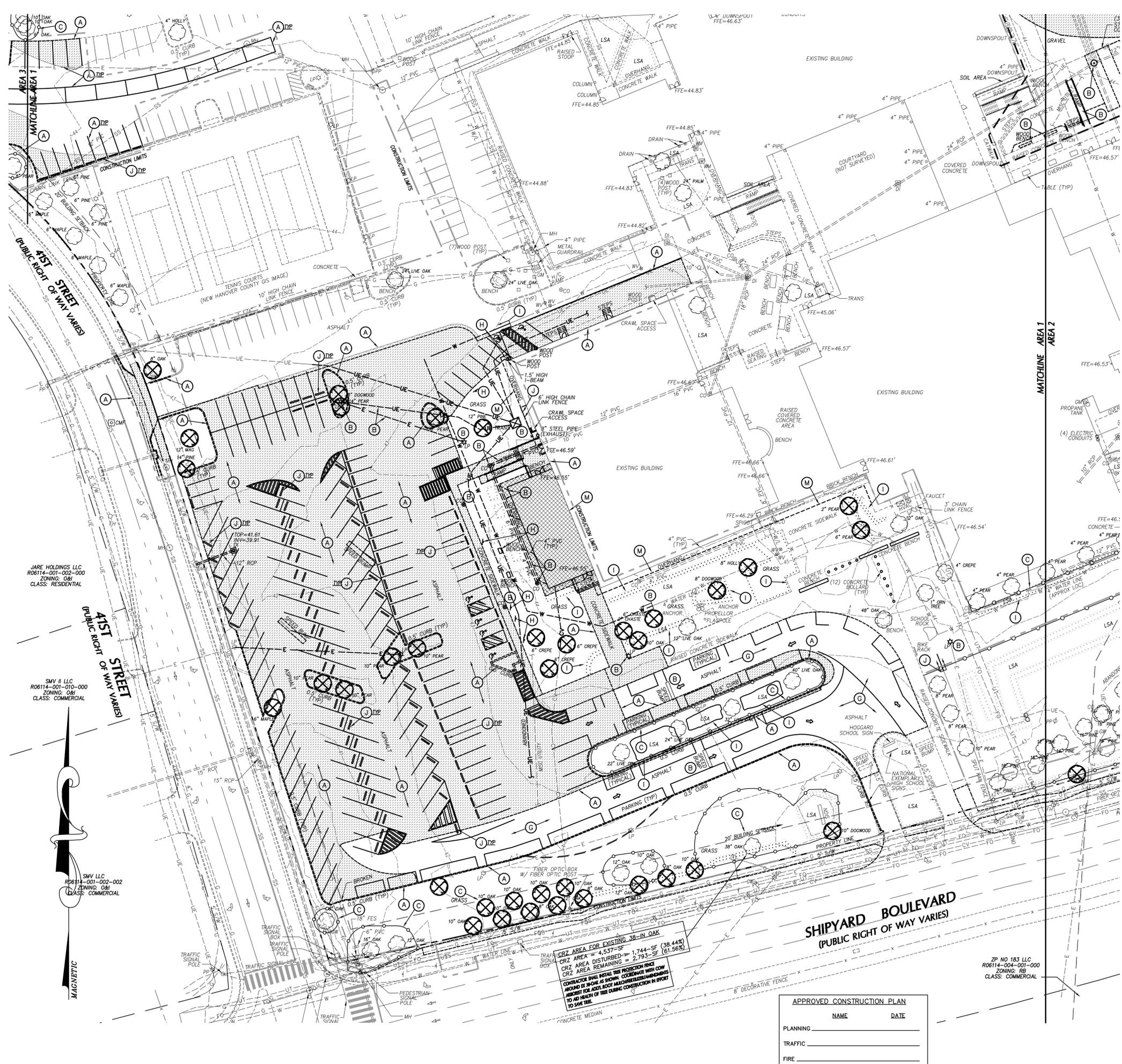


**CITY OF WILMINGTON NOTES**

1. PRIOR TO ANY CLEARING, GRADING OR CONSTRUCTION ACTIVITY, TREE PROTECTION FENCING SHALL BE INSTALLED AROUND PROTECTED TREES OR GROVES OF TREES. NO CONSTRUCTION WORKERS, TOOLS, MATERIALS OR VEHICLES ARE PERMITTED WITHIN TREE PROTECTION FENCING.
2. ANY TREES AND/OR AREAS DESIGNATED TO BE PROTECTED MUST BE PROPERLY BARRICADED WITH FENCING AND PROTECTED THROUGHOUT CONSTRUCTION TO INSURE THAT NO CLEARING, GRADING OR STAGING OF MATERIALS WILL OCCUR IN THOSE AREAS.
3. NO EQUIPMENT IS ALLOWED ON SITE UNTIL ALL TREE PROTECTION FENCING AND SILT FENCING IS INSTALLED AND APPROVED. PROTECTIVE FENCING IS TO BE MAINTAINED THROUGHOUT THE DURATION OF THE PROJECT, AND CONTRACTORS SHALL RECEIVE ADEQUATE INSTRUCTION ON TREE PROTECTION METHODS.
4. ALL PAVEMENT MARKINGS IN PUBLIC RIGHTS-OF-WAY AND FOR DRIVEWAYS ARE TO BE THERMOPLASTIC AND MEET CITY AND/OR NCDOT STANDARDS.
5. ONCE STREETS ARE OPEN TO TRAFFIC, CONTACT TRAFFIC ENGINEERING REGARDING THE INSTALLATION OF TRAFFIC AND STREET NAME SIGNS. PROPOSED STREET NAMES MUST BE APPROVED PRIOR TO INSTALLATION OF STREET NAME SIGNS.
6. TRAFFIC CONTROL DEVICES (INCLUDING SIGNS AND PAVEMENT MARKINGS) IN AREAS OPEN TO PUBLIC TRAFFIC ARE TO MEET MUTCD (MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES) STANDARDS.
7. CONTACT TRAFFIC ENGINEERING AT 910.341.7888 TO ENSURE THAT ALL TRAFFIC SIGNAL FACILITIES AND EQUIPMENT ARE SHOWN ON THE PLAN.
8. CALL TRAFFIC ENGINEERING AT 910.341.7888 FORTY-EIGHT (48) HOURS PRIOR TO ANY EXCAVATION IN THE RIGHT-OF-WAY.
9. TRAFFIC ENGINEERING MUST APPROVE OF PAVEMENT MARKING PRIOR TO ACTUAL STRIPING.
10. ALL PARKING STALL MARKINGS AND LANE ARROWS WITH THE PARKING AREAS SHALL BE WHITE.
11. ALL TRAFFIC CONTROL SIGNS AND MARKINGS OFF THE RIGHT-OF-WAY ARE TO BE MAINTAINED BY THE PROPERTY OWNER.
12. STOP SIGNS AND STREET SIGNS TO REMAIN IN PLACE DURING CONSTRUCTION.
13. TACTILE WARNING MATS WILL BE INSTALLED ON ALL WHEELCHAIR RAMPS.
14. A UTILITY CUT PERMIT IS REQUIRED FOR EACH OPEN CUT OF A CITY STREET.
15. ANY BROKEN OR MISSING SIDEWALK PANELS, DRIVEWAY PANELS & CURBING WILL BE REPLACED.
16. CONTACT TRAFFIC ENGINEERING AT 910.341.7888 TO DISCUSS STREET LIGHT OPTIONS.
17. WATER AND SEWER SERVICE SHALL MEET CAPE FEAR PUBLIC UTILITY AUTHORITY (CFPUA) DETAILS AND SPECIFICATIONS.
18. PROJECT SHALL COMPLY WITH CFPUA CROSS CONNECTION CONTROL REQUIREMENTS. WATER METER(S) CANNOT BE RELEASED UNTIL ALL REQUIREMENTS ARE MET AND THE STATE HAS GIVEN THEIR FINAL APPROVAL. CALL 910.343.3910 FOR INFORMATION.
19. IF THE CONTRACTOR DESIRED CFPUA WATER FOR CONSTRUCTION, HE SHALL APPLY IN ADVANCE FOR THIS SERVICE AND MUST PROVIDE A REDUCED PRESSURE ZONE (RPZ) BACKFLOW PREVENTION DEVICE ON THE DEVELOPER'S SIDE OF THE WATER METER BOX.
20. ANY IRRIGATION SYSTEM SUPPLIED BY CFPUA WATER SHALL COMPLY WITH THE CFPUA CROSS CONNECTION CONTROL REGULATIONS. CALL 910.343.3910 FOR INFORMATION.
21. ANY IRRIGATION SYSTEM SHALL BE EQUIPPED WITH A RAIN AND FREEZER SENSOR.
22. ANY BACKFLOW PREVENTION DEVICES REQUIRED BY CFPUA WILL NEED TO BE ON THE LIST OF APPROVED DEVICES BY USFPOC/HR OR ASSE.
23. CONTRACTOR TO FIELD VERIFY EXISTING WATER AND SEWER SERVICE LOCATIONS, SIZES AND MATERIALS PRIOR TO CONSTRUCTION. ENGINEER TO BE NOTIFIED OF ANY CONFLICTS.
24. CONTRACTOR SHALL MAINTAIN ALL WEATHER ACCESS FOR EMERGENCY VEHICLES AT ALL TIMES DURING CONSTRUCTION.
25. UNDERGROUND FIRE LINE(S) MUST BE PERMITTED AND INSPECTED BY THE WILMINGTON FIRE DEPARTMENT FROM THE PUBLIC RIGHT-OF-WAY TO THE BUILDING. CONTACT WILMINGTON FIRE DEPARTMENT DIVISION OF FIRE AND LIFE SAFETY AT 910.341.0696.
26. NO OBSTRUCTIONS ARE PERMITTED IN THE SPACE BETWEEN THIRTY (30) INCHES AND TEN (10) FEET ABOVE THE GROUND WITHIN THE TRIANGULAR SIGHT DISTANCE.
27. CONTACT THE NORTH CAROLINA ONE CALL CENTER AT 1.800.632.4949 PRIOR TO DOING ANY DIGGING, CLEARING OR GRADING.

APPROVED CONSTRUCTION PLAN	
NAME	DATE
PLANNING _____	_____
TRAFFIC _____	_____
FIRE _____	_____

CONSTRUCTION DOCUMENTS: 4-1-2016



**LEGEND-STRUCTURES/UTILITIES TO REMAIN**

OVERHEAD ELECTRICAL	E	LIGHT POLE	LP
UNDERGROUND ELECTRICAL	UE	UTILITY POLE	UP
FIRE PROTECTION	FP	MANHOLE	MH
GAS	G	CLEAN OUT	CO
SANITARY SEWER	SS	DROP INLET,CATCH BASIN	DI, CB
TELEPHONE	T	FIRE HYDRANT	FH
UNDERGROUND TELEPHONE	UT	WATER VALVE	WV
FIBER OPTIC	FO		
WATER	W		
FORCE MAIN	FM		
STORM DRAIN	SD		
INDIVIDUAL TREE TO REMAIN	(Symbol)		

**LEGEND-STRUCTURES/UTILITIES TO BE REMOVED**

OVERHEAD ELECTRICAL	E	LIGHT POLE	LP
UNDERGROUND ELECTRICAL	UE	UTILITY POLE	UP
FIRE PROTECTION	FP	MANHOLE	MH
GAS	G	CLEAN OUT	CO
SANITARY SEWER	SS	DROP INLET,CATCH BASIN	DI, CB
TELEPHONE	T	FIRE HYDRANT	FH
UNDERGROUND TELEPHONE	UT	WATER VALVE	WV
FIBER OPTIC	FO	CONSTR./CLEARING LIMITS TO BE DEMOLISHED	(Symbol)
WATER	W	PAVEMENT, S/W, CONCRETE TO BE DEMOLISHED	(Symbol)
FORCE MAIN	FM	BUILDINGS TO BE DEMOLISHED REFER TO ARCHITECTURAL PLANS FOR ADDITIONAL INFORMATION.	(Symbol)
STORM DRAIN	SD		
INDIVIDUAL TREE TO BE REMOVED	(Symbol)		

**KEY NOTES**

- (A) SAWCUT AND REMOVE PAVEMENT, CURB & GUTTER, AND SIDEWALK.
- (B) STRUCTURES/UTILITIES TO BE REMOVED.
- (C) TREE PROTECTION FENCING, SEE DETAIL SHEET.
- (D) CLEAR & GRUB WITHIN CONSTRUCTION LIMITS, SEE SPECIFICATIONS.
- (E) EXISTING UTILITY TO BE RELOCATED/REMOVED/ADJUSTED BY UTILITY COMPANY. COORDINATE/SCHEDULE WORK WITH UTILITY COMPANY. SEE UTILITY PLAN FOR APPROXIMATE NEW LOCATIONS.
- (F) EXISTING CONNEX/STORAGE UNIT TO BE RELOCATED BY CONTRACTOR.
- (G) MILL AREA AS REQUIRED TO RECEIVE ASPHALT OVERLAY. REFER TO STAKING PLANS FOR ADDITIONAL INFORMATION.
- (H) SITE ELEMENTS (TRASH CANS, BOLLARDS, BENCHES, SIGNS, ETC.) TO BE REMOVED.
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- (M) REFER TO ARCHITECTURAL PLANS FOR REMOVAL/DEMOLITION OF ITEMS.
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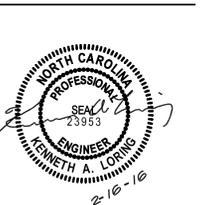
**GENERAL NOTES**

1. ALL UTILITIES OR STRUCTURES NOT INDICATED FOR REMOVAL OR MODIFICATION ARE TO REMAIN AND BE PROTECTED FROM DAMAGE.
2. ALL WASTE MATERIAL GENERATED FROM CLEARING AND DEMOLITION ACTIVITIES SHALL BE DISPOSED OF OFF-SITE IN ACCORDANCE WITH ALL APPLICABLE RULES AND REGULATIONS.
3. INSTALL TREE PROTECTION FENCING PRIOR TO BEGINNING CLEARING OPERATIONS. CLEAR AND GRUB AS NEEDED WITHIN CONSTRUCTION LIMITS PER SPECIFICATIONS AND DRAWINGS. EXISTING TREES, SHRUBS OR OTHER LANDSCAPE MATERIAL WHICH WILL CONFLICT WITH NEW CONSTRUCTION SHALL BE REMOVED (WHETHER OR NOT SHOWN ON THE DRAWINGS) FOLLOWING APPROVAL OF ARCHITECT. BY SUBMITTING A BID, CONTRACTOR ACKNOWLEDGES THAT THE SITE HAS BEEN INVESTIGATED TO DETERMINE TYPE, SIZE AND QUANTITY OF CLEARING REQUIRED FOR CONSTRUCTION.
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5. NO EQUIPMENT IS ALLOWED ON SITE UNTIL ALL TREE PROTECTION FENCING AND SILT FENCING HAS BEEN INSTALLED AND APPROVED (PER CODE SECT. 18-458).
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9. THE CONTRACTOR SHALL EMPLOY A QUALIFIED UTILITY LOCATOR SERVICE TO LOCATE ALL UNDERGROUND UTILITIES (INCLUDING BUT NOT LIMITED TO ELECTRICAL, TELEPHONE, GAS, CABLE, FIBER OPTIC) WITHIN THE LIMITS OF CONSTRUCTION.
10. VERIFY ALL ILLUSTRATED KNOWN UNDERGROUND ELEMENTS. EXERCISE REASONABLE EFFORTS TO PROTECT ANY UNKNOWN UNDERGROUND ELEMENTS. NOTIFY THE ARCHITECT IMMEDIATELY IF UNKNOWN ELEMENTS ARE DISCOVERED THAT WOULD NECESSITATE MODIFICATION TO THE PROPOSED DESIGN.
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13. GENERAL CONTRACTOR TO COORDINATE ALL PEDESTRIAN ACCESS PATHS, LOCATIONS, LIGHTING ETC. W/OWNER.
14. EXISTING SURVEY INFORMATION WAS TAKEN FROM A BOUNDARY AND TOPOGRAPHIC SURVEY BY MOON & CREED DATED 10-30-15. SURVEY PROVIDED BY OWNER.
15. ANY AND ALL LANDSCAPING AND EXISTING TREES & SHRUBS TO REMAIN WHICH ARE DAMAGED DURING DEMOLITION OR CONSTRUCTION SHALL BE REPLACED BY THE CONTRACTOR UTILIZING A LICENSED LANDSCAPE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.
16. CONTRACTOR SHALL PROVIDE POSITIVE DRAINAGE WITHIN THE CONSTRUCTION AREA AFTER DEMOLITION IS COMPLETE. EXCAVATIONS FROM FOOTING AND UTILITY REMOVAL SHALL BE FILLED WITH STRUCTURAL MATERIAL AS DIRECTED BY THE OWNER'S TESTING AGENCY AND COMPACTED PER SPECIFICATIONS.
17. AN ALL WEATHER ACCESS ROAD MUST BE MAINTAINED AROUND CONSTRUCTION AT ALL TIMES.

**mmh**  
**BOWMAN MURRAY HEMINGWAY**  
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**Renovations and Additions to:**  
**John T. Hoggard High School**  
 4305 Shipyard Blvd.  
 Wilmington, North Carolina 28403

JOB NUMBER	15-120
DRAWN BY	JGM
CHECKED BY	JGM
DATE	APRIL 1, 2016
REVISIONS	

**SITE EXISTING CONDITIONS & DEMO PLAN**

SHEET NUMBER

**C-2.1**

CONSTRUCTION DOCUMENTS: 4-1-2016

**Renovations and Additions to:**  
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 4305 Shipyard Blvd.  
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JOB NUMBER	15-120
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REVISIONS	

**SITE EXISTING CONDITIONS & DEMO PLAN**

SHEET NUMBER

**C-2.2**

**LEGEND-STRUCTURES/UTILITIES TO REMAIN**

OVERHEAD ELECTRICAL	----- E -----	LIGHT POLE	☆ LP
UNDERGROUND ELECTRICAL	----- UE -----	UTILITY POLE	☆ PP
FIRE PROTECTION	----- FP -----	MANHOLE	○ MH
GAS	----- G -----	CLEAN OUT	○ CO
SANITARY SEWER	----- SS -----	DROP INLET,CATCH BASIN	□ DI, CB
TELEPHONE	----- T -----	FIRE HYDRANT	□ FH
UNDERGROUND TELEPHONE	----- UT -----	WATER VALVE	○ WV
FIBER OPTIC	----- FO -----		
WATER	----- W -----		
FORCE MAIN	----- FM -----		
STORM DRAIN	===== SD =====		
INDIVIDUAL TREE TO REMAIN	○		

**LEGEND-STRUCTURES/UTILITIES TO BE REMOVED**

OVERHEAD ELECTRICAL	----- E -----	LIGHT POLE	☆ LP
UNDERGROUND ELECTRICAL	----- UE -----	UTILITY POLE	☆ PP
FIRE PROTECTION	----- FP -----	MANHOLE	○ MH
GAS	----- G -----	CLEAN OUT	○ CO
SANITARY SEWER	----- SS -----	DROP INLET,CATCH BASIN	□ DI, CB
TELEPHONE	----- T -----	FIRE HYDRANT	□ FH
UNDERGROUND TELEPHONE	----- UT -----	WATER VALVE	○ WV
FIBER OPTIC	----- FO -----	CONSTR./CLEARING LIMITS	-----
WATER	----- W -----	PAVEMENT, S/W, CONCRETE TO BE DEMOLISHED	▨
FORCE MAIN	----- FM -----	BUILDINGS TO BE DEMOLISHED	▩
STORM DRAIN	===== SD =====	REFER TO ARCHITECTURAL PLANS FOR ADDITIONAL INFORMATION.	
INDIVIDUAL TREE TO BE REMOVED	⊗		

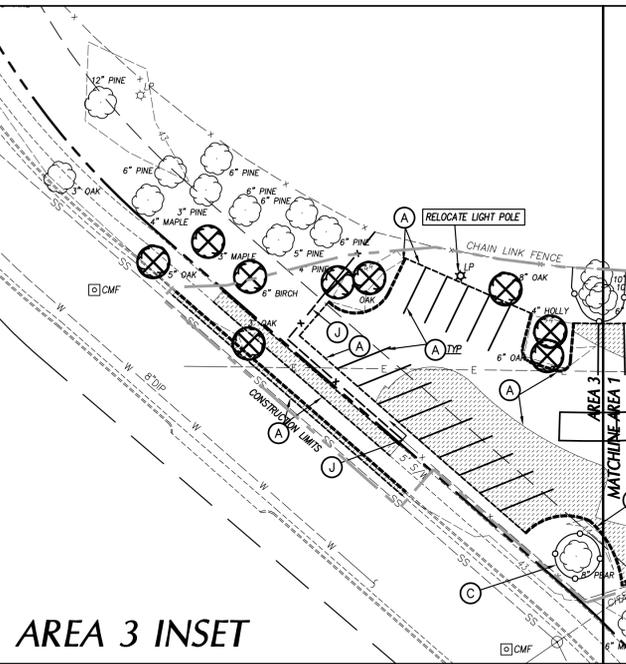
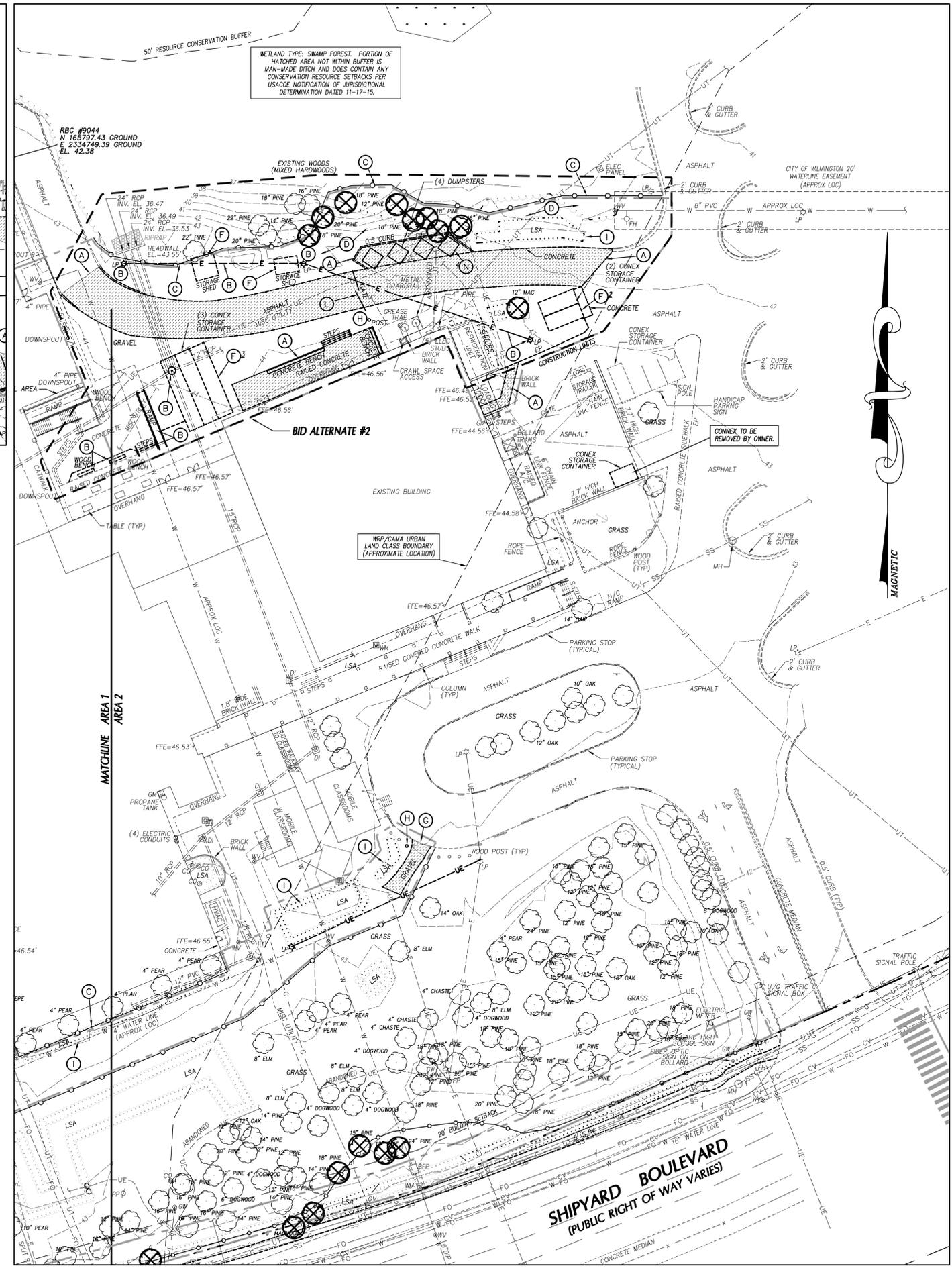
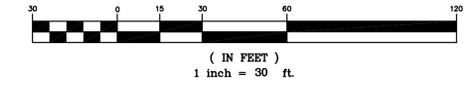
**KEY NOTES**

- (A) SAWCUT AND REMOVE PAVEMENT, CURB & GUTTER, AND SIDEWALK.
- (B) STRUCTURES/UTILITIES TO BE REMOVED.
- (C) TREE PROTECTION FENCING, SEE DETAIL SHEET.
- (D) CLEAR & GRUB WITHIN CONSTRUCTION LIMITS, SEE SPECIFICATIONS.
- (E) EXISTING UTILITY TO BE RELOCATED/REMOVED/ADJUSTED BY UTILITY COMPANY. COORDINATE/SCHEDULE WORK WITH UTILITY COMPANY. SEE UTILITY PLAN FOR APPROXIMATE NEW LOCATIONS.
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**GRAPHIC SCALE**

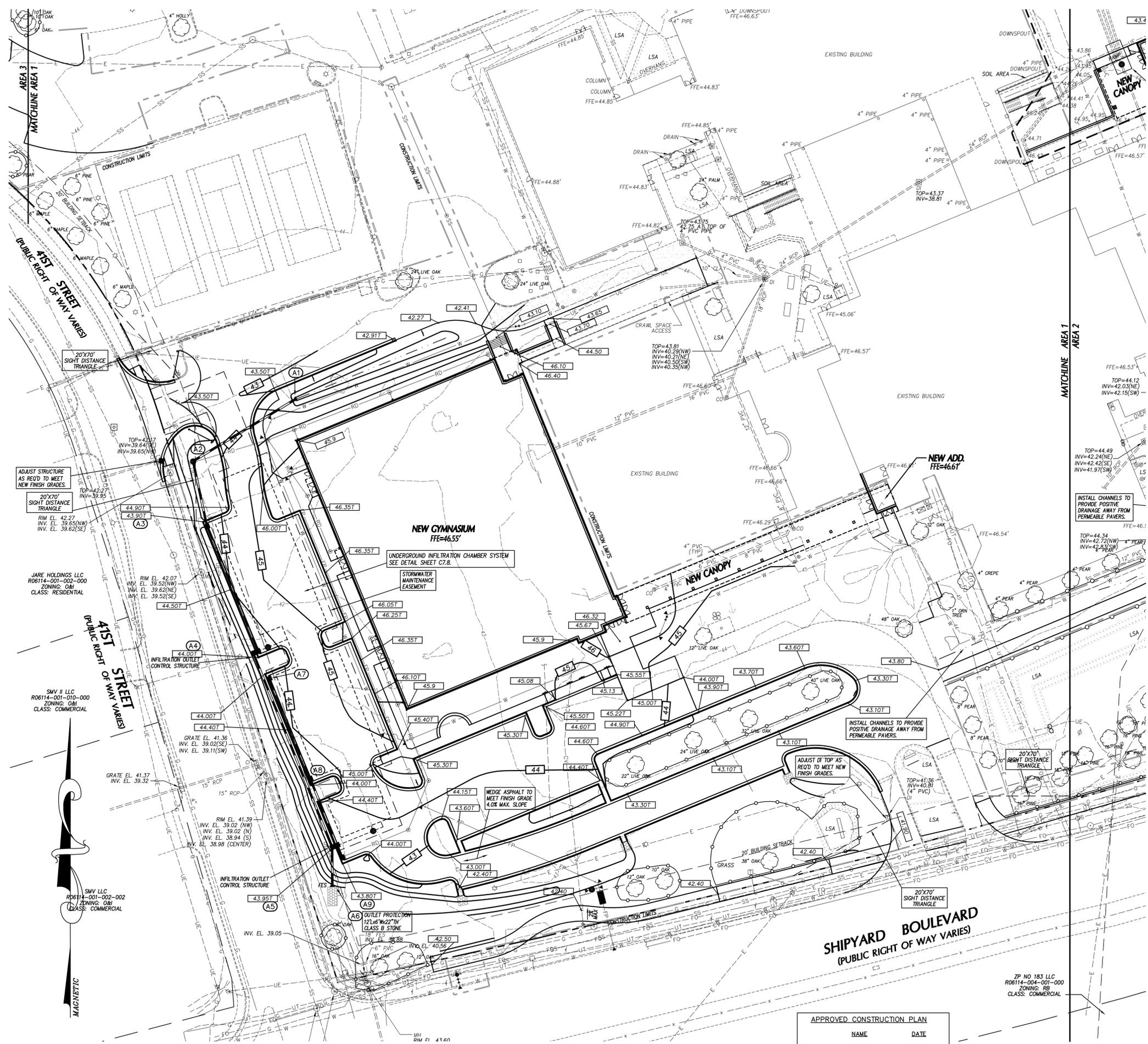


**AREA 3 INSET**

**APPROVED CONSTRUCTION PLAN**

NAME	DATE
PLANNING	
TRAFFIC	
FIRE	

CONSTRUCTION DOCUMENTS: 4-1-2016



### GRADING LEGEND

- EXISTING CONTOURS
- FINAL CONTOURS
- EXISTING SURVEY SPOT ELEVATION
- PROPOSED TOP OF CURB SPOT ELEVATION
- PROPOSED GROUND/PAVEMENT ELEVATION
- STORM STRUCTURE NUMBER
- EXISTING STORM DRAIN PIPE
- PROPOSED STORM DRAIN PIPE
- TREE PROTECTION FENCE SEE DETAIL SHEET
- CONSTRUCTION LIMITS

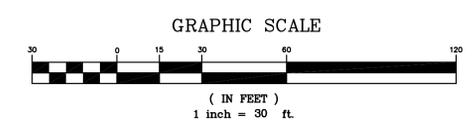
- ### GRADING NOTES
- ALL SPOT ELEVATIONS INDICATED AT CURB AND GUTTER ARE TO TOP OF CURB, UNLESS OTHERWISE SHOWN.
  - TOTAL DENUDED AREA = 5 AC.
  - CONTRACTOR SHALL ADJUST ALL EXISTING VAULTS, MANHOLES, STORM DRAIN STRUCTURES, CLEANOUTS, ETC. AS NEEDED TO MATCH FINISH GRADE.
  - ALL BACKFILL, COMPACTION, SOILS TESTING, ETC. SHALL BE PERFORMED BY THE OWNERS INDEPENDENT TESTING LABORATORY. (SEE SPECIFICATIONS FOR ADDITIONAL INFORMATION)
  - ALL STORM DRAIN PIPES SHALL BE PROTECTED WITH STONE FILTER PROTECTION AFTER STOPPAGE OF WORK EACH DAY.
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  - ALL ROOF DRAINS SHALL BE 6" PVC (SCH 40) @ 1.04% MIN. SLOPE UNLESS NOTED OTHERWISE. ROOF DRAINS SHALL BE DIP WHEN COVER IS LESS THAN 12 INCHES. PROVIDE ALL NECESSARY FITTINGS REQUIRED FOR INSTALLATION.

### DRAINAGE STRUCTURE SCHEDULE

STRUCTURE NO.	PIPE DIA.	PIPE SLOPE	PIPE LENGTH (LF)	PIPE MAT'L.	UPPER INV. (FT)	LOWER INV. (FT)	UPSTREAM STRUCTURE DATA			NOTES	
							TOP ELEV. (FT)	DEPTH (FT)	TYPE		
A1	A2	0.60%	18	76	RCP	41.00	40.50	44.00	3.00	CB	
A2	A3	0.71%	18	42	RCP	40.40	40.10	44.50	4.10	MH	
A3	A4	0.47%	18	86	RCP	40.00	39.00	43.90	3.90	CB	
A4	A5	0.60%	18	134	RCP	40.10	39.30	44.00	3.90	CB	BMP OUTLET
A5	A6	0.77%	24	26	RCP	39.20	39.00	43.95	4.75	CB	BMP OUTLET
A7	A8	0.59%	12	68	RCP	40.50	40.10	44.00	3.50	CB	
A8	A5	0.65%	12	46	RCP	40.00	39.70	44.00	4.00	CB	
A9	A5	14.44%	12	9	RCP	41.00	39.70	43.95	2.85	CB	

**LEGEND:**  
 CB CATCH BASIN (NCOOT), SEE DETAIL SHEET.  
 DI DROP INLET (NCOOT), SEE DETAIL SHEET.  
 MH JUNCTION BOX MANHOLE (NCOOT), SEE DETAIL SHEET.  
 FES STORMWATER WETLAND OUTLET, SEE DETAIL SHEET.  
 (A2) STRUCTURE I.D. NUMBER

**NOTES:**  
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 2. ALL FES INLETS & OUTLETS SHALL BE RCP.



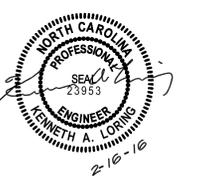
### APPROVED CONSTRUCTION PLAN

NAME	DATE
PLANNING _____	_____
TRAFFIC _____	_____
FIRE _____	_____

**BOWMAN MURRAY HEMINGWAY**  
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Project ID # 900-9005

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JOB NUMBER	15-120
DRAWN BY	JGM
CHECKED BY	JGM
DATE	APRIL 1, 2016
REVISIONS	

**SITE GRADING PLAN**

SHEET NUMBER

**C-3.1**

CONSTRUCTION DOCUMENTS: 4-1-2016



**BOWMAN  
MURRAY  
HEMINGWAY**

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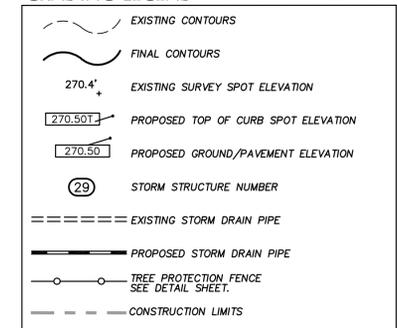
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15-120  
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DATE  
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**SITE GRADING  
PLAN**

SHEET NUMBER

**C-3.2**

**GRADING LEGEND**



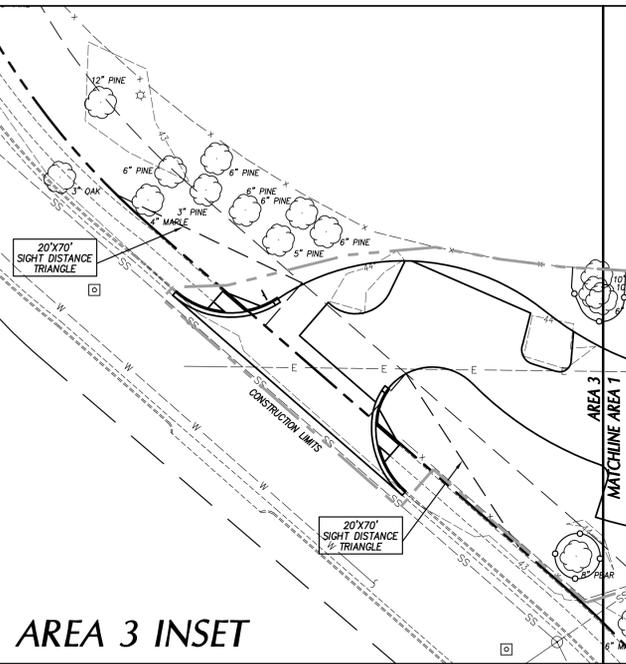
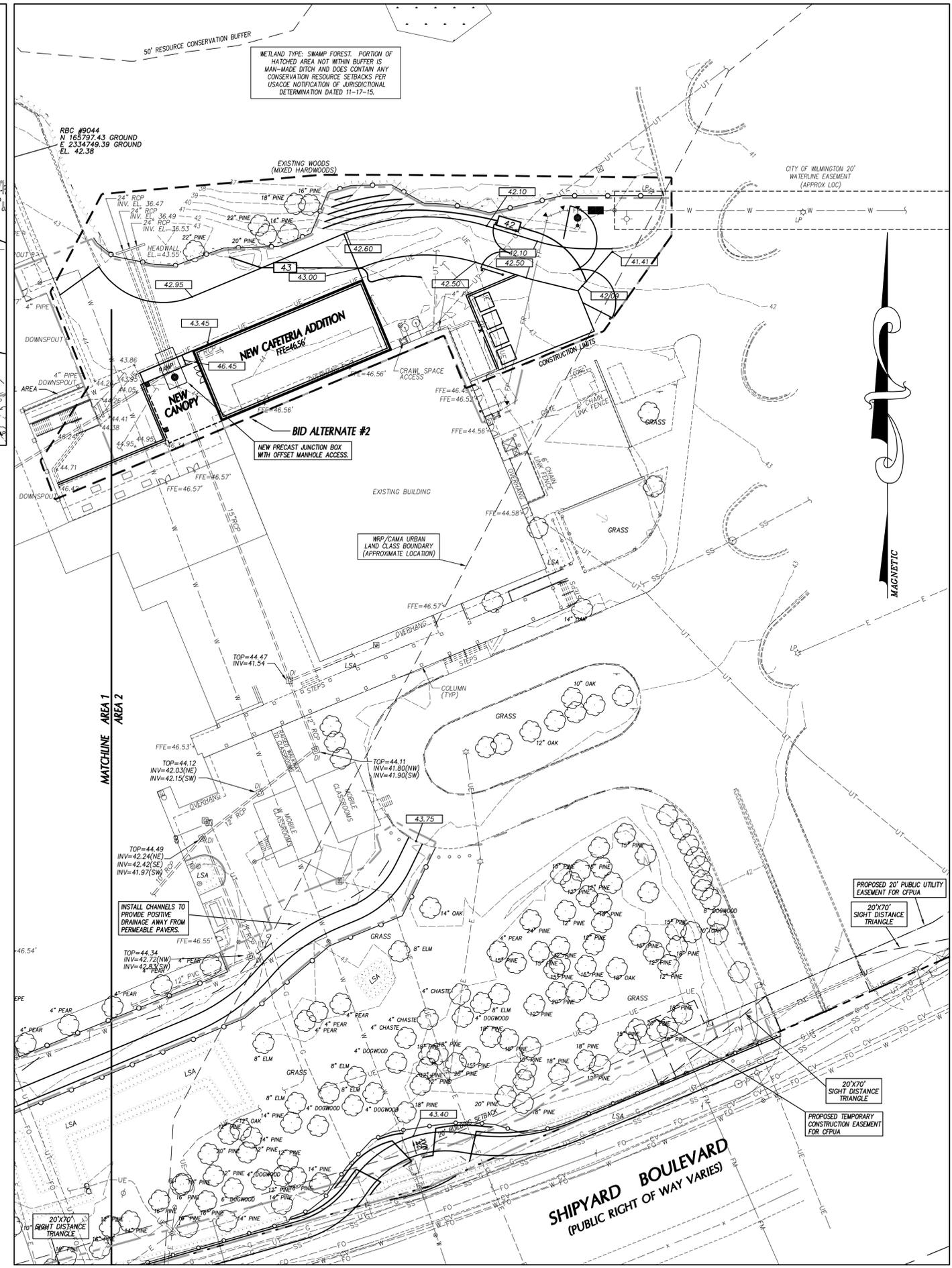
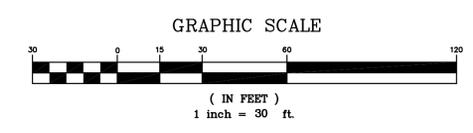
**GRADING NOTES**

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DRAINAGE STRUCTURE SCHEDULE										
STRUCTURE NO.	PIPE DIA.	PIPE SLOPE	PIPE LENGTH (LF)	PIPE MATL.	UPPER INV. (FT)	LOWER INV. (FT)	TOP ELEV. (FT)	DEPTH (FT)	UPSTREAM STRUCTURE DATA	NOTES
A1	A2	0.00%	18	76	RCP	41.00	40.50	44.00	3.00	CB
A2	A3	0.71%	18	42	RCP	40.40	40.10	44.50	4.10	MH
A3	A4	0.47%	18	86	RCP	40.00	39.00	43.90	3.90	CB
A4	A5	0.60%	18	134	RCP	40.10	39.30	44.00	3.90	CB
A5	A6	0.77%	24	26	RCP	39.20	39.00	43.95	4.75	CB
A7	A8	0.59%	12	66	RCP	40.50	40.10	44.00	3.50	CB
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A9	A5	11.44%	12	9	RCP	41.00	39.70	43.85	2.85	CB

**LEGEND**  
CB CATCH BASIN (NCDOT), SEE DETAIL SHEET.  
DI DROP INLET (NCDOT), SEE DETAIL SHEET.  
MH JUNCTION BOX MANHOLE (NCDOT), SEE DETAIL SHEET.  
FES STORMWATER WETLAND OUTLET, SEE DETAIL SHEET.  
A2 STRUCTURE I.D. NUMBER

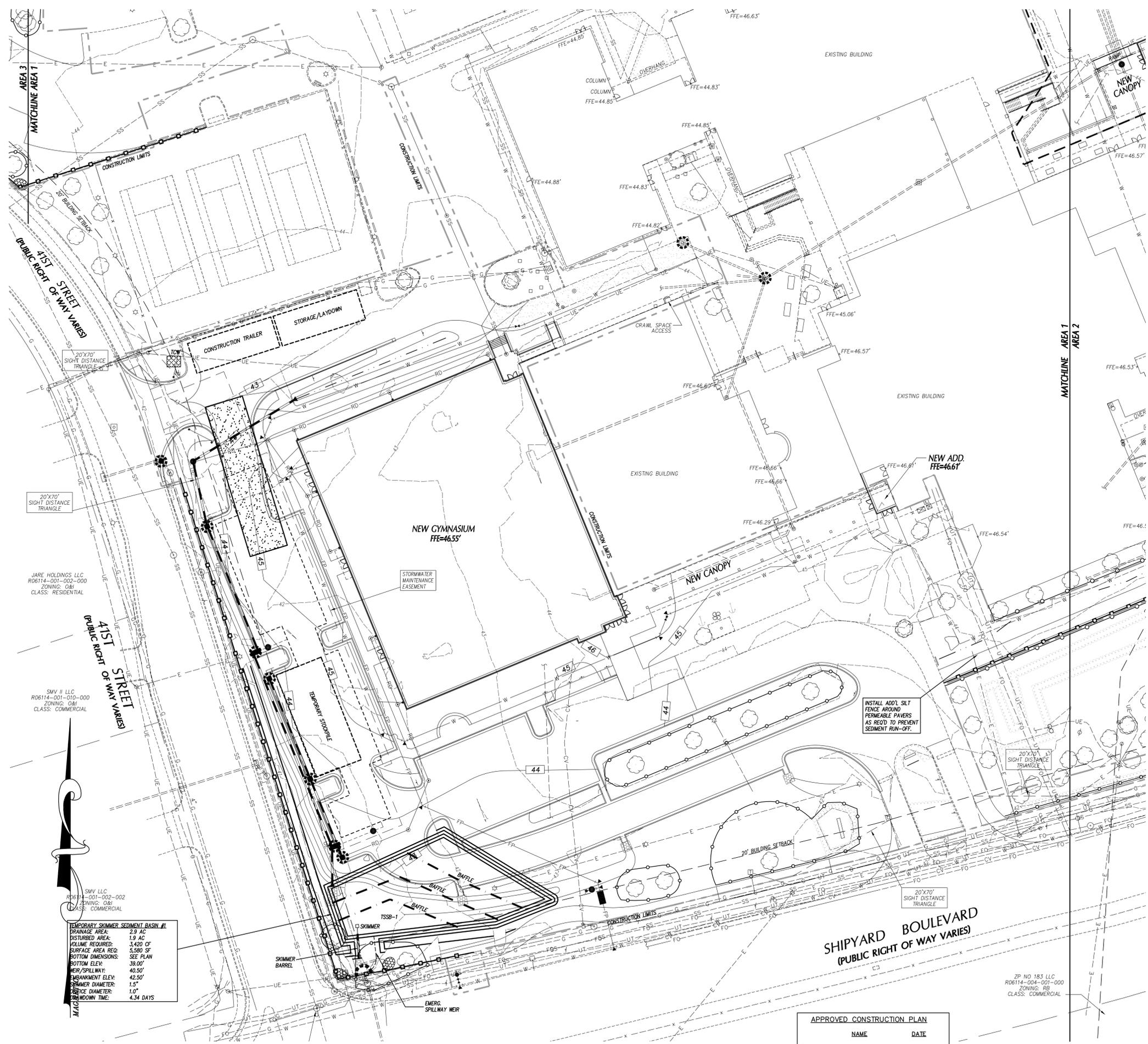
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**AREA 3 INSET**

APPROVED CONSTRUCTION PLAN	
NAME	DATE
PLANNING _____	_____
TRAFFIC _____	_____
FIRE _____	_____

CONSTRUCTION DOCUMENTS: 4-1-2016



**LEGEND**

- GRAVEL CONSTR. ENTRANCE  
SEE DETAIL SHEET.
- TEMP. INLET PROTECTION DEVICE  
SEE DETAIL SHEET.
- TEMP. DIVERSION DITCH / BERM  
SEE DETAIL SHEET.
- TEMPORARY SILT FENCE  
SEE DETAIL SHEET.
- REINFORCED SILT FENCE OUTLET  
SEE DETAIL SHEET.
- PERMANENT OUTLET PROTECTION  
SEE DETAIL SHEET.
- TEMPORARY CHECK DAM  
SEE DETAIL SHEET.
- TEMPORARY CONCRETE WASHOUT AREA  
SEE DETAIL SHEET.
- TEMPORARY ROCK PIPE INLET PROTECTION  
SEE DETAIL SHEET.
- CONSTRUCTION LIMITS  
UNLESS OTHERWISE NOTED.
- PROPOSED STORM SEWER PIPES
- EXISTING STORM SEWER PIPES
- FINISHED CONTOUR
- TEMPORARY CONTOUR  
(TEMP. GRADES DURING CONSTR.)

**GENERAL NOTES**

1. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH ALL CITY OF WILMINGTON AND NCDOT STANDARDS, SPECIFICATIONS AND DETAILS.
2. THE CONTRACTOR SHALL COMPLY WITH ALL STATE AND LOCAL CODES IN OBSERVING EROSION CONTROL MEASURES BOTH ON AND OFF SITE. ALL OFF-SITE SOIL BORROW AND WASTE SITES SHALL BE PROPERLY PERMITTED FOR SUCH ACTIVITIES. CONTRACTOR SHALL PROVIDE WRITTEN DOCUMENTATION OF SEDIMENT & EROSION CONTROL PERMIT FOR ANY OFF-SITE SITES TO OWNER.
3. THE CONTRACTOR SHALL MAINTAIN ALL EROSION CONTROL DEVICES AFTER EACH RAINFALL EVENT OR AS DIRECTED BY LOCAL AUTHORITIES OR ARCHITECT.
4. TOTAL DISTURBED AREA: 5 AC.
5. ALL OPEN STORM PIPES SHALL BE PROTECTED WITH STONE FILTER PROTECTION AFTER WORK STOPPAGE EACH DAY. SEE DETAIL SHEET.
6. ALL STORM DRAINAGE PIPES SHALL BE THOROUGHLY FLUSHED OF ALL SEDIMENT FOLLOWING SITE STABILIZATION. INTERIOR FLUSHING OF SYSTEM SHALL BE PERFORMED AS NEEDED TO MAINTAIN PROPER FUNCTIONING OF THE DRAINAGE SYSTEM.
7. THE INDICATED STAGING AREA IS INTENDED FOR VEHICLES AND NON-ERODIBLE MATERIALS ONLY. NO SOIL, SAND OR OTHER ERODIBLE, FINE GRAINED MATERIAL SHALL BE STORED OUTSIDE OF THE LIMITS OF THE SITE PROTECTED BY SEDIMENT AND EROSION CONTROL DEVICES AND MEASURES. STOCKPILES SHALL BE STABILIZED AS REQUIRED AS INDICATED IN THE SLOPE & SURFACE STABILIZATION NOTES ON THIS PLAN.
8. SOIL AND OTHER MATERIALS SHALL ONLY BE TEMPORARILY STOCKPILED WITHIN THE CONSTRUCTION LIMITS PROTECTED BY SEDIMENT AND EROSION CONTROL DEVICES AND MEASURES. STOCKPILES SHALL BE STABILIZED AS REQUIRED AS INDICATED IN THE SLOPE & SURFACE STABILIZATION NOTES ON THIS PLAN.
9. TREE PROTECTION CERTIFICATION MUST BE SUBMITTED TO THE TOWN OF CARY PLANNING DEPARTMENT AND TREE PROTECTION INSPECTION COMPLETED PRIOR TO EROSION CONTROL PERMIT ISSUANCE.
10. ROADSIDE DITCHES AND CHANNELS SHALL BE STABILIZED DAILY UNTIL PERMANENT GROUND COVER IS ESTABLISHED.

**SLOPE & SURFACE STABILIZATION**

GROUND STABILIZATION SHALL BE PROVIDED ON ALL DISTURBED AREAS ACCORDING TO FOLLOWING SCHEDULE:

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

EXTENSIONS OF TIME MAY BE APPROVED BY THE PERMITTING AUTHORITY BASED ON WEATHER OR OTHER SITE-SPECIFIC CONDITIONS THAT MAKE COMPLIANCE IMPRACTICABLE (SECTION 4.6.2) (b).

THE ABOVE REQUIREMENTS ARE THE MINIMUM NECESSARY TO MEET EROSION AND SEDIMENT CONTROL REGULATIONS. THE CONTRACT DOCUMENTS INCLUDE ADDITIONAL SEEDING AND STABILIZATION REQUIREMENTS AND SCHEDULES WHICH MAY EXCEED THOSE ABOVE.

INSTALL TEMPORARY SLOPE EROSION CONTROL EXCELSDOR MATTING FOR STABILIZATION DURING THE ESTABLISHMENT OF VEGETATIVE COVER ON ALL STEEP SLOPES (6:1 OR STEEPER). UTILIZE TEMPORARY COCOMAT MAT IN AREAS IDENTIFIED ON PLAN. REFER TO SPECIFICATION SECTION 312000 FOR MATERIAL SPECIFICATIONS. INSTALL MATTING PER MANUFACTURER'S INSTRUCTIONS.

**MAINTENANCE PLAN**

1. DURING ALL PHASES OF CONSTRUCTION, GROUND COVER ON EXPOSED SLOPES SHALL BE PROVIDED ACCORDING TO GROUND STABILIZATION TABLE (BELOW) FOLLOWING COMPLETION OF ANY PHASE OF GRADING.
2. FINAL PERMANENT GROUND COVER FOR ALL DISTURBED AREAS SHALL BE PROVIDED ON ALL DISTURBED AREAS ACCORDING TO GROUND STABILIZATION TABLE (BELOW) FOLLOWING COMPLETION OF CONSTRUCTION OR DEVELOPMENT.
3. THE ABOVE REQUIREMENTS ARE THE MINIMUM NECESSARY TO MEET EROSION AND SEDIMENT CONTROL REGULATIONS. THE CONTRACT DOCUMENTS INCLUDE ADDITIONAL SEEDING AND STABILIZATION REQUIREMENTS AND SCHEDULES WHICH MAY EXCEED THOSE ABOVE.
4. SLOPE EROSION CONTROL MATTING SHALL BE INSTALLED FOR TEMPORARY STABILIZATION DURING THE ESTABLISHMENT OF VEGETATIVE COVER ON ALL STEEP SLOPES (6:1 OR STEEPER). REFER TO MATERIAL SPECIFICATIONS. INSTALL MATTING PER MANUFACTURER'S INSTRUCTIONS.
5. ALL OTHER SEEDED AREAS SHALL BE MULCHED WITH STRAW AND TACKED WITH ASPHALT.

**SELF-INSPECTION RULES**

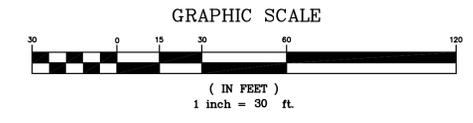
1. SELF-INSPECTION SHALL BE CONDUCTED AFTER EACH PHASE OF THE PROJECT, AND CONTINUED UNTIL PERMANENT GROUND COVER IS ESTABLISHED.
2. THE FINANCIALLY RESPONSIBLE PERSON AND/OR HIS AGENT WILL PERFORM SELF INSPECTIONS OF THE EROSION AND SEDIMENTATION CONTROL MEASURES USING NCDENR'S SELF INSPECTION REPORT (WORKSHEET) AND THIS WILL BE KEPT ON-SITE.
3. NOTIFICATION OF LAND RESOURCES SEDIMENT AND EROSION CONTROL SELF-INSPECTION PROGRAM: THE SEDIMENTATION POLLUTION CONTROL ACT WAS AMENDED IN 2008 TO REQUIRE THAT PERSONS RESPONSIBLE FOR LAND DISTURBING ACTIVITIES INSPECT A PROJECT AFTER EACH PHASE OF THE PROJECT TO MAKE SURE THAT THE APPROVED EROSION AND SEDIMENTATION CONTROL PLAN IS BEING FOLLOWED. RULES DETAILING THE DOCUMENTATION OF THESE INSPECTIONS TOOK EFFECT OCTOBER 1, 2010. THE SELF-INSPECTION PROGRAM IS SEPARATE FROM THE REGULAR SELF-MONITORING PROGRAM OF THE NCDENR'S PERMIT FOR CONSTRUCTION ACTIVITIES. THE FOCUS OF THE SELF-INSPECTION REPORT IS THE INSTALLATION AND MAINTENANCE OF EROSION AND SEDIMENTATION CONTROL MEASURES ACCORDING TO THE APPROVED PLAN. THE INSPECTIONS MUST BE CONDUCTED AFTER EACH PHASE OF THE PROJECT, AND CONTINUED UNTIL PERMANENT GROUND COVER IS ESTABLISHED IN ACCORDANCE WITH NCS 115A-54.1 AND 54A NCAC 48.0131. THE SELF-INSPECTION REPORT FORM IS AVAILABLE AS AN EXCEL SPREADSHEET FROM <http://portal.sediment.org/web/3/inspection>. IF YOU HAVE QUESTIONS OR CANNOT ACCESS THE FORM, PLEASE CONTACT NCDENR OFFICE AT 919-797-4200.

**NOTE EROSION CONTROL PLANS WILL BE REVIEWED, PERMITTED & INSPECTED BY NCDENR, NOT CITY OF WILMINGTON**

**REFER TO PLAN SHEET C-4.2 FOR CONSTRUCTION SEQUENCE**

APPROVED CONSTRUCTION PLAN

NAME	DATE
PLANNING _____	_____
TRAFFIC _____	_____
FIRE _____	_____



JARE HOLDINGS, LLC  
R06114-001-002-000  
ZONING: O&B  
CLASS: RESIDENTIAL

SMV II LLC  
R06114-001-002-000  
ZONING: O&B  
CLASS: COMMERCIAL

SMV LLC  
R06114-001-002-002  
ZONING: O&B  
CLASS: COMMERCIAL

TEMPORARY SKIMMER SEDIMENT BASIN #1  
DRAINAGE AREA: 2.9 AC  
DISTURBED AREA: 1.9 AC  
VOLUME REQUIRED: 3,420 CF  
SURFACE AREA REQ: 5,380 SF  
BOTTOM DIMENSIONS: SEE PLAN  
BOTTOM ELEV.: 39.00'  
WEIR/SPILLWAY: 40.30'  
FINISHMENT ELEV.: 42.50'  
SKIMMER DIAMETER: 1.5"  
ORIFICE DIAMETER: 1.0"  
DRAIN DOWN TIME: 4.34 DAYS

ZIP NO 183 LLC  
R06114-004-001-000  
ZONING: RB  
CLASS: COMMERCIAL

**bmh**  
**BOWMAN MURRAY HEMINGWAY**  
ARCHITECTS  
514 Market Street  
Wilmington, NC 28401  
Tel - (910) 762-2621  
Fax - (910) 762-8506

Project ID # 900-9005

**CLH DESIGN, PA**  
400 Regency Forest Dr.  
Suite 120  
Cary, NC 27518  
Phone: 919.218.9716  
Fax: 919.218.7516  
E-MAIL: CLH@CLH-PA.COM



Renovations and Additions to:  
**John T. Hoggard High School**  
4305 Shipyard Blvd.  
Wilmington, North Carolina 28403

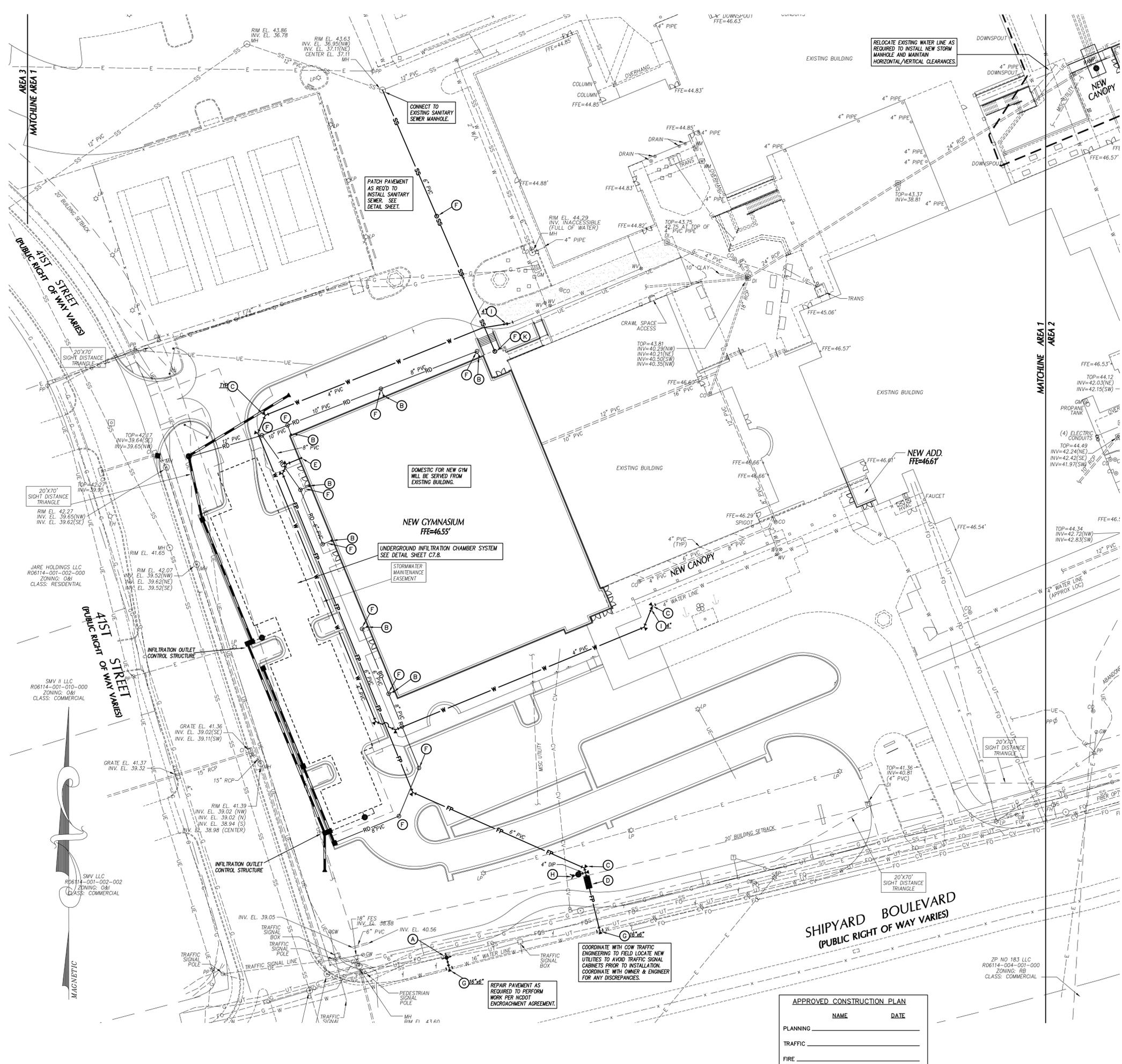
JOB NUMBER	15-120
DRAWN BY	JGM
CHECKED BY	JGM
DATE	APRIL 1, 2016
REVISIONS	

**SITE EROSION CONTROL PLAN**

SHEET NUMBER  
**C-4.1**

CONSTRUCTION DOCUMENTS: 4-1-2016



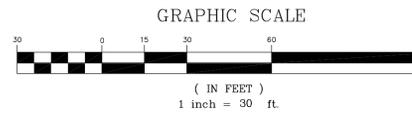


### UTILITY LEGEND

	EXISTING	PROPOSED
OVERHEAD ELECTRICAL	---	---
UNDERGROUND ELECTRICAL	---	---
GAS	---	---
SANITARY SEWER	---	---
TELEPHONE	---	---
UNDERGROUND TELEPHONE	---	---
WATER	---	---
FIRE PROTECTION	---	---
FORCE MAIN	---	---
CHILLED WATER	---	---
FOUNDATION DRAIN	---	---
FIBER OPTIC	---	---
ROOF DRAIN	---	---
STORM DRAIN	---	---
LIGHT POLE	☆	☆
UTILITY POLE	PP	PP
MANHOLE	MH	MH
CLEAN OUT	CO	CO
DROP INLET, CATCH BASIN	DI, CB	DI, CB
FIRE HYDRANT	FH	FH
WATER VALVE	WV	WV
TELEPHONE PEDESTAL	TP	TP
COMMUNICATION BOX	CB	CB
SANITARY SEWER STRUCTURE I.D.		S
STORM SEWER STRUCTURE I.D.		B

- ### UTILITY NOTES
- INSTALL WATERMAINS WITH A COVER OF NO LESS THAN 4'-FT. INSTALL WATER SERVICES WITH NO LESS THAN 18-IN OF COVER TO SUBGRADE.
  - INSTALL SEWER MAINS WITH A COVER OF NO LESS THAN 3'-FT TO FINISHED GRADE UNLESS DUCTILE IRON PIPE IS USED. INSTALL SEWER SERVICES WITH NO LESS THAN 18-IN OF COVER TO SUBGRADE.
  - INSTALL ALL UTILITIES TO PROVIDE REQUIRED CLEARANCES AS INDICATED IN THE SPECIFICATIONS.
  - WATERLINES AND SEWER MAINS SHALL BE INSTALLED WITH A MINIMUM HORIZONTAL CLEARANCE OF 10'-FT.
  - WATER AND SEWER MAINS SHALL BE INSTALLED WITH A MINIMUM VERTICAL CLEARANCE OF 12-IN TO STORM DRAINAGE PIPES.
  - COORDINATE AND SCHEDULE INSTALLATION OF ALL UTILITIES WITH OTHER PRIME CONTRACTORS, UTILITY COMPANIES AND OTHER TRADES INCLUDING BUT NOT LIMITED TO: NATURAL GAS, ELECTRICITY, TELEPHONE AND CATV.
  - VERIFY EXISTING CONDITIONS AND CONNECTIONS TO EXISTING UTILITIES PRIOR TO CONSTRUCTION. NOTIFY ARCHITECT IF ANY DISCREPANCIES ARE DISCOVERED.
  - CONTRACTOR IS RESPONSIBLE FOR ALL DAMAGES DURING CONSTRUCTION AND SHALL MAKE REPAIRS AT NO EXPENSE TO THE OWNER.
  - ALL CONSTRUCTION SHALL COMPLY WITH ALL APPLICABLE NCSBC AND OSHA REQUIREMENTS.
  - THE CONTRACTOR SHALL PROVIDE AN AS-BUILT SURVEY OF ALL UTILITY AND STORM DRAINAGE IMPROVEMENTS FOLLOWING CONSTRUCTION.
  - CONTRACTOR SHALL PHASE DEMOLITION AND NEW CONSTRUCTION TO ENSURE UNINTERRUPTED ACCESS AND UTILITY SERVICE TO ADJACENT FACILITIES. COORDINATE SHORT-TERM, OFF-HOUR, TEMPORARY SHUT-DOWNS WITH THE OWNER.
  - SEE GENERAL NOTES ON EXISTING CONDITIONS AND DEMOLITION PLAN FOR REQUIREMENTS FOR REMOVAL AND PATCHING OF PAVEMENT FOR UTILITY INSTALLATION.
  - ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH CITY OF WILMINGTON STANDARDS AND SPECIFICATIONS.
  - ALL ROOF DRAINS SHALL BE 6" PVC @ 1.04% MIN. SLOPE UNLESS INDICATED OTHERWISE. USE DUCTILE IRON WHEN COVER IS LESS THAN 24-IN.
  - ALL SANITARY SEWER SERVICES SHALL BE 4" PVC (SCH 40) @ 1.04% MIN. SLOPE UNLESS INDICATED OTHERWISE. USE DUCTILE IRON WHEN COVER IS LESS THAN 24-IN.
  - THE FOLLOWING "PERMITS" ARE REQUIRED TO BE OBTAINED FROM THE CITY OF WILMINGTON FIRE SERVICES ADMINISTRATION BY EACH RESPONSIBLE CONTRACTOR PRIOR TO THE START OF WORK. THE "GENERAL CONTRACTOR" SHALL BE RESPONSIBLE TO MAKE SURE ALL OF HIS SUBS FOLLOW THIS PROCEDURE. THE PERMITS REQUIRED ARE AS FOLLOWS:
    - UNDERGROUND PIPING PERMIT (PIRE LINE (S)).
    - SPRINKLER PERMIT
    - FIRE ALARM PERMIT
    - KITCHEN HOOD FIRE PROTECTION PERMIT
 THE "GENERAL CONTRACTOR" SHALL ALSO MAKE SURE THAT ALL HIS SUBS PROPERLY COORDINATE THE INSPECTION PROCESS WITH THE WILMINGTON FIRE DEPARTMENT ADMINISTRATION OFFICE.
  - CONTACT THE NC ONE CALL CENTER PRIOR TO ANY DIGGING. 1-800-632-4949
  - PROJECT SHALL COMPLY WITH CITY OF WILMINGTON CROSS CONNECTION CONTROL REQUIREMENTS. WATER METERS CANNOT BE RELEASED UNTIL ALL REQUIREMENTS ARE MET AND THE STATE HAS GIVEN THEIR FINAL APPROVAL. CALL 910-343-3910 FOR INFORMATION.
  - ANY BACKFLOW PREVENTION DEVICES REQUIRED BY THE CITY WILL NEED TO BE ON THE LIST OF APPROVED DEVICES BY USDFCCOHR OR ASSE.

- ### KEY NOTES
- FIRE HYDRANT ASSEMBLY, SEE DETAIL SHEET.
  - DOWNSPOUT CONNECTION, SEE DETAIL SHEET.
  - THRUST BLOCKING, TYP. SEE DETAIL SHEET.
  - 6" REDUCED PRESSURE DETECTOR ASSEMBLY (RPDA) IN HEATED ENCLOSURE, SEE DETAIL SHEET. SEE ELECTRICAL PLANS FOR ADD'L INFO.
  - EXTEND WATER MAIN TO 12-IN ABOVE FINISH FLOOR FOR FIRE PROTECTION CONNECTION, SEE DETAIL SHEET.
  - CLEANOUT, SEE DETAIL SHEET.
  - TAPPING SLEEVE AND VALVE ASSEMBLY AND BLOCKING, SEE DETAIL SHEET.
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  - GATE VALVE AND VALVE BOX, SEE DETAIL SHEET.
  - 6" POST INDICATOR VALVE W/ TAMPER SWITCH, SEE SPECIFICATIONS.
  - EXTEND UTILITY TO WITHIN 5'-0" OF BUILDING WALL OR AS INDICATED ON PLUMBING PLANS. REFER TO PLUMBING PLANS FOR LOCATION & INVERT.
- NEW FIRE HYDRANTS MUST BE BROUGHT INTO SERVICE PRIOR TO COMBUSTIBLE MATERIALS BEING DELIVERED TO THE JOB SITE COORDINATE WITH COW FIRE DEPARTMENT.**



APPROVED CONSTRUCTION PLAN

NAME	DATE
PLANNING	
TRAFFIC	
FIRE	

**BOWMAN MURRAY HEMINGWAY**  
ARCHITECTS  
514 Market Street  
Wilmington, NC 28401  
Tel - (910) 762-2621  
Fax - (910) 762-8506

Project ID # 900-9005

CLH DESIGN, P.A.  
400 Regency Forest Dr.  
Suite 100  
Cape Fear, NC 28413  
Phone: 910-258-1516  
Fax: 910-258-7550  
E-MAIL: CLH@CLH-PA.COM

KENNETH A. LORING  
ENGINEER  
2-16-16

**Renovations and Additions to:**  
**John T. Hoggard High School**  
4305 Shipyard Blvd.  
Wilmington, North Carolina 28403

CONSTRUCTION DOCUMENTS: 4-1-2016

JOB NUMBER  
15-120

DRAWN BY  
JGM

CHECKED BY  
JGM

DATE  
APRIL 1, 2016

REVISIONS

**SITE UTILITY PLAN**

SHEET NUMBER

**C-5.1**



**BOWMAN  
MURRAY  
HEMINGWAY**

**ARCHITECTS**  
514 Market Street  
Wilmington, NC 28401  
Tel - (910) 762-2621  
Fax - (910) 762-8506

Project ID # 900-9005



**Renovations and Additions to:  
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JOB NUMBER  
15-120  
DRAWN BY  
JGM  
CHECKED BY  
JGM  
DATE  
APRIL 1, 2016  
REVISIONS

**SITE UTILITY  
PLAN**

SHEET NUMBER

**C-5.2**

**UTILITY LEGEND**

	EXISTING	PROPOSED
OVERHEAD ELECTRICAL	---	---
UNDERGROUND ELECTRICAL	---	---
GAS	---	---
SANITARY SEWER	---	---
TELEPHONE	---	---
UNDERGROUND TELEPHONE	---	---
WATER	---	---
FIRE PROTECTION	---	---
FORCE MAIN	---	---
CHILLED WATER	---	---
FOUNDATION DRAIN	---	---
FIBER OPTIC	---	---
ROOF DRAIN	---	---
STORM DRAIN	---	---
LIGHT POLE	LP	*
UTILITY POLE	UP	*
MANHOLE	MH	●
CLEAN OUT	CO	○
DROP INLET/CATCH BASIN	DI, CB	○
FIRE HYDRANT	FH	●
WATER VALVE	WV	●
TELEPHONE PEDESTAL	TP	●
COMMUNICATION BOX	CB	□
SANITARY SEWER STRUCTURE I.D.		3
STORM SEWER STRUCTURE I.D.		B

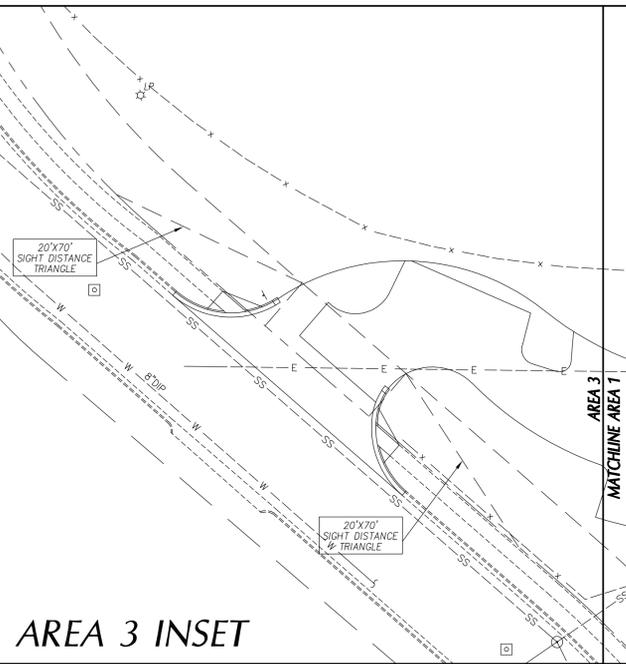
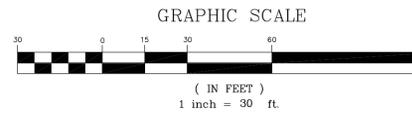
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A. UNDERGROUND PIPING PERMIT (FIRE LINE (S)).  
B. SPRINKLER PERMIT  
C. FIRE ALARM PERMIT  
D. KITCHEN HOOD FIRE PROTECTION PERMIT  
THE "GENERAL CONTRACTOR" SHALL ALSO MAKE SURE THAT ALL HIS SUBS PROPERLY COORDINATE THE INSPECTION PROCESS WITH THE WILMINGTON FIRE DEPARTMENT ADMINISTRATION OFFICE.
- CONTACT THE NC ONE CALL CENTER PRIOR TO ANY DIGGING. 1-800-632-4949
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- ANY BACKFLOW PREVENTION DEVICES REQUIRED BY THE CITY WILL NEED TO BE ON THE LIST OF APPROVED DEVICES BY USCFCOCHR OR ASSE.

**KEY NOTES**

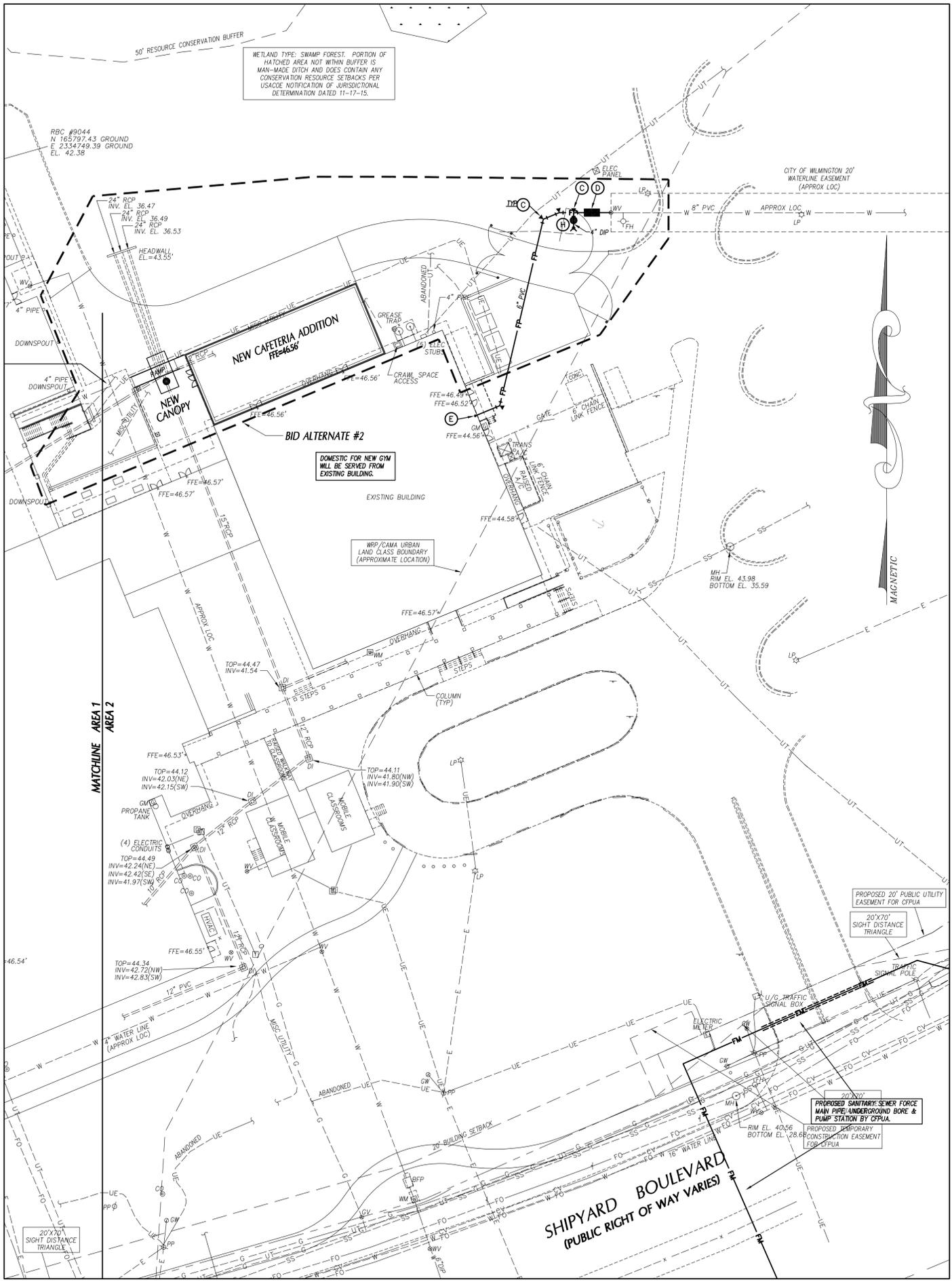
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- (C) THRUST BLOCKING, TYP, SEE DETAIL SHEET.
- (D) 6" REDUCED PRESSURE DETECTOR ASSEMBLY (RPDA) IN HEATED ENCLOSURE, SEE DETAIL SHEET. SEE ELECTRICAL PLANS FOR ADD'L INFO.
- (E) EXTEND WATER MAIN TO 12'-IN ABOVE FINISH FLOOR FOR FIRE PROTECTION CONNECTION, SEE DETAIL SHEET.
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- (G) TAPPING SLEEVE AND VALVE ASSEMBLY AND BLOCKING, SEE DETAIL SHEET.
- (H) FIRE DEPARTMENT CONNECTION, SEE DETAIL SHEET.
- (I) GATE VALVE AND VALVE BOX, SEE DETAIL SHEET.
- (J) 6" POST INDICATOR VALVE W/ TAMPER SWITCH, SEE SPECIFICATIONS.
- (K) EXTEND UTILITY TO WITHIN 5'-0" OF BUILDING WALL OR AS INDICATED ON PLUMBING PLANS. REFER TO PLUMBING PLANS FOR LOCATION & INVERT.

**NEW FIRE HYDRANTS MUST BE BROUGHT INTO SERVICE PRIOR TO COMBUSTIBLE MATERIALS BEING DELIVERED TO THE JOB SITE COORDINATE WITH COW FIRE DEPARTMENT.**

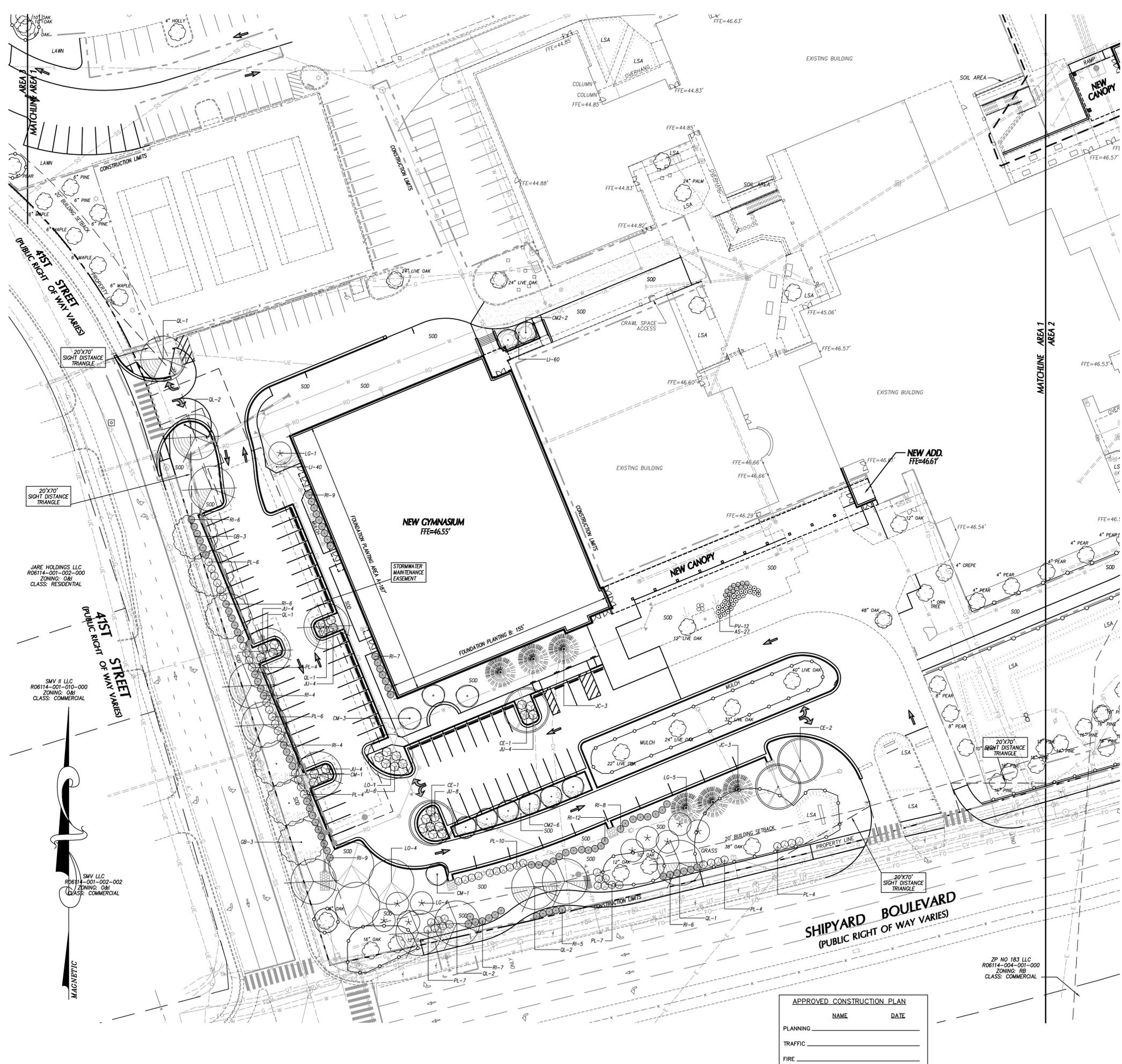


**APPROVED CONSTRUCTION PLAN**

NAME	DATE
PLANNING _____	_____
TRAFFIC _____	_____
FIRE _____	_____



CONSTRUCTION DOCUMENTS: 4-1-2016



**LANDSCAPE NOTES**

1. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH ALL CITY OF WILMINGTON AND/OR NC DOT STANDARDS AND SPECIFICATIONS.
2. LOCATE ALL EXISTING UTILITIES PRIOR TO INSTALLATION OF PLANT MATERIAL. NOTIFY OWNER OF ANY DISCREPANCIES BETWEEN FIELD CONDITIONS AND THOSE SHOWN ON THE PLAN.
3. VERIFICATION OF TOTAL QUANTITIES AS SHOWN ON THE PLANT LIST SHALL BE THE RESPONSIBILITY OF THE LANDSCAPE CONTRACTOR AND THE TOTAL QUANTITIES SHALL BE AS SHOWN ON THE PLAN.
4. LAWN AREAS SHALL BE SEEDED WITH COMMON BERMOUDA GRASS 95% COVERAGE (BASED ON A PER SQUARE YARD SAMPLE) SHALL BE ATTAINED PRIOR TO FINAL INSPECTION.
5. ALL PLANT MATERIAL SHALL CONFORM WITH THE STANDARDS SET FORTH BY THE AMERICAN ASSOCIATION OF NURSERYMEN AND THE WRITTEN SPECIFICATIONS.
6. PLANTING BEDS TO BE MULCHED WITH A MINIMUM OF 3" OF TRIPLE SHREDDED HARDWOOD MULCH. ALL PLANT GROUPINGS SHALL BE MULCHED AS ONE BED.
7. ESTABLISH POSITIVE DRAINAGE IN ALL PLANTING BEDS AND AWAY FROM BUILDINGS.
8. APPLY PRE-EMERGENT HERBICIDE TO ALL NEW PLANTING BEDS AT AT MANUFACTURER'S RECOMMENDED RATE PRIOR TO INSTALLATION OF MULCH.
9. DO NOT INSTALL PLANT MATERIAL IN IMPERVIOUS SOILS. (i.e. HOLES WHICH, WHEN FILLED WITH WATER, DO NOT COMPLETELY DRAIN WITHIN TWO HOURS.)
10. ALL SODDED AREAS SHALL BE TIFWAY-419 BERMOUDA.
11. ANY TREE WRAP SHALL BE REMOVED IMMEDIATELY AFTER INSTALLATION.
12. SEE SPECIFICATIONS REGARDING WARRANTY/MAINTENANCE REQUIREMENTS FOR ALL PLANTS, SOD, AND LAWN SEEDING.
13. DEAD OR DETERIORATING SCREENING SHALL BE REPLACED WITHIN SIX MONTHS OR DURING NEXT PLANTING SEASON.
14. ALL PROPOSED VEGETATION WITHIN SIGHT TRIANGLES SHALL NOT INTERFERE WITH CLEAR VISUAL SIGHT LINES FROM 30' - 10'.

**PLANT SCHEDULE**

KEY	QTY	PLANT NAME	SIZE	REMARKS
<b>CANOPY AND UNDERSTORY TREES</b>				
BC	3	BALD CYPRESS <i>Taxodium distichum</i>	2"-2 1/2" CAL. 10'-12' HT	B&B, STRAIGHT TRUNK FULL CROWN
CE	5	BOSQUE CHINESE ELM <i>Ulmus Parvifolia 'Bosque'</i>	2"-2 1/2" CAL. 10'-12' HT	B&B, STRAIGHT TRUNK FULL CROWN
CM2	6	CHEROKEE CRAPE MYRTLE <i>Lagerstroemia indica 'Cherokee'</i>	3-5 TRUNKS 7'-8' HT	B&B, FULL CROWN
CM	4	NATCHEZ CRAPE MYRTLE <i>Lagerstroemia l. x F. 'Natchez'</i>	3-5 TRUNKS 7'-8' HT	B&B, FULL CROWN
LO	4	LIVE OAK <i>Quercus virginiana</i>	2"-2 1/2" CAL. 10'-12' HT	B&B, STRAIGHT TRUNK FULL CROWN
JC	6	JAPANESE CRYPTOMERIA <i>Cryptomeria japonica</i>	6'-7" HT. MIN. B&B	B&B, STRAIGHT TRUNK FULL TO GROUND
LG	13	LITTLE GEM MAGNOLIA <i>Magnolia grandiflora 'Little Gem'</i>	1"-1 1/2" CAL. 8'-10' HT	B&B, STRAIGHT TRUNK FULL TO GROUND
QL	15	LAUREL OAK <i>Quercus laurifolia 'Darlington'</i>	2"-2 1/2" CAL. 10'-12' HT	B&B, STRAIGHT TRUNK FULL CROWN
GB	6	AUTUMN GOLD GINKGO (MALE ONLY) <i>Ginkgo biloba 'Autumn Gold'</i>	2"-2 1/2" CAL. 10'-12' HT	B&B, STRAIGHT TRUNK FULL CROWN
<b>SHRUBS AND GROUNDCOVERS</b>				
AS	27	LITTLE BLUESTEM <i>Andropogon scoparium 'The Blues'</i>	18"-24" HT./SPR. 4.0' O.C.	CONT., FULL 4.0' O.C.
JU	35	BLUE PACIFIC JUNIPER <i>Juniperus conferta 'Blue Pacific'</i>	15"-18" SPR. CONT.	CONT., FULL 6' O.C.
LI	100	BIG BLUE LIRIOPE <i>Liriope muscari 'Big Blue'</i>	3-5 BIBS	SPACED 18" O.C.
PL	55	DWARF CHERRY LAUREL <i>Prunus laurocerasus 'Otto Luyken'</i>	18" HT./SPR. CONT.	CONT., FULL 4' O.C.
PV	12	SWITCHGRASS <i>Panicum virgatum 'Shenandoah'</i>	18"-24" HT./SPR. CONT.	CONT., FULL 4.0' O.C.
RI	93	REDBIRD INDIAN HAWTHORN <i>Raphiaelis indica 'Redbird'</i>	18" HT./SPR. CONT.	CONT., FULL 4' O.C.

GRAPHIC SYMBOLS SUPERCEDE WRITTEN QUANTITIES WHERE DISCREPANCIES OCCUR. SEE SHEET C7.6 FOR MORE INFORMATION.

TIFWAY 419 SOD, SEE DETAIL SHEET.

REFER TO PLAN SHEET C-6.2 FOR LANDSCAPE CALCULATIONS.

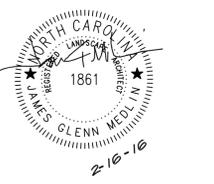


**BOWMAN  
MURRAY  
HEMINGWAY**  
ARCHITECTS  
514 Market Street  
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Tel - (910) 762-2621  
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Project ID # 900-9005



**CLH  
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Suite 100  
Cape Fear, NC 28413  
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**Renovations and Additions to:  
John T. Hoggard High School**  
4305 Shipyard Blvd.  
Wilmington, North Carolina 28403

JOB NUMBER  
15-120  
DRAWN BY  
JGM  
CHECKED BY  
JGM  
DATE  
APRIL 1, 2016  
REVISIONS

**SITE PLANTING  
PLAN**

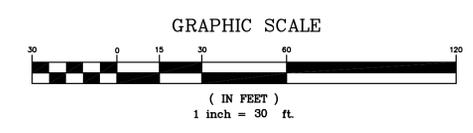
SHEET NUMBER

**C-6.1**

CONSTRUCTION DOCUMENTS: 4-1-2016

APPROVED CONSTRUCTION PLAN

NAME	DATE
PLANNING	
TRAFFIC	
FIRE	





**BOWMAN  
MURRAY  
HEMINGWAY**

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UNIVERSITY OF NORTH CAROLINA  
AT CHAPEL HILL  
1861  
JAMES GLENN MEDICINE  
2-16-16

Renovations and Additions to:  
**John T. Hoggard High School**  
4305 Shipyard Blvd.  
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JOB NUMBER  
15-120  
DRAWN BY  
JGM  
CHECKED BY  
JGM  
DATE  
APRIL 1, 2016  
REVISIONS

**SITE PLANTING  
PLAN**

SHEET NUMBER

**C-6.2**

**LANDSCAPE NOTES**

1. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH ALL CITY OF WILMINGTON AND/OR NCDOT STANDARDS AND SPECIFICATIONS.
2. LOCATE ALL EXISTING UTILITIES PRIOR TO INSTALLATION OF PLANT MATERIAL. NOTIFY OWNER OF ANY DISCREPANCIES BETWEEN FIELD CONDITIONS AND THOSE SHOWN ON THE PLAN.
3. VERIFICATION OF TOTAL QUANTITIES AS SHOWN ON THE PLANT LIST SHALL BE THE RESPONSIBILITY OF THE LANDSCAPE CONTRACTOR. AND THE TOTAL QUANTITIES SHALL BE AS SHOWN ON THE PLAN.
4. LAWN AREAS SHALL BE SEEDED WITH COMMON BERMAUDA GRASS 95% COVERAGE (BASED ON A PER SQUARE YARD SAMPLE) SHALL BE ATTAINED PRIOR TO FINAL INSPECTION.
5. ALL PLANT MATERIAL SHALL CONFORM WITH THE STANDARDS SET FORTH BY THE AMERICAN ASSOCIATION OF NURSERYMEN AND THE WRITTEN SPECIFICATIONS.
6. PLANTING BEDS TO BE MULCHED WITH A MINIMUM OF 3" OF TRIPLE SHREDED HARDWOOD MULCH. ALL PLANT GROUPINGS SHALL BE MULCHED AS ONE BED.
7. ESTABLISH POSITIVE DRAINAGE IN ALL PLANTING BEDS AND AWAY FROM BUILDINGS.
8. APPLY PRE-EMERGENT HERBICIDE TO ALL NEW PLANTING BEDS AT AT MANUFACTURER'S RECOMMENDED RATE PRIOR TO INSTALLATION OF MULCH.
9. DO NOT INSTALL PLANT MATERIAL IN IMPERVIOUS SOILS, (i.e. HOLES WHICH, WHEN FILLED WITH WATER, DO NOT COMPLETELY DRAIN WITHIN TWO HOURS).
10. ALL SODDED AREAS SHALL BE TIFWAY-419 BERMAUDA.
11. ANY TREE WRAP SHALL BE REMOVED IMMEDIATELY AFTER INSTALLATION.
12. SEE SPECIFICATIONS REGARDING WARRANTY/MAINTENANCE REQUIREMENTS FOR ALL PLANTS, SOD, AND LAWN SEEDING.
13. DEAD OR DETERIORATING SCREENING SHALL BE REPLACED WITHIN SIX MONTHS OR DURING NEXT PLANTING SEASON.
14. ALL PROPOSED VEGETATION WITHIN SIGHT TRIANGLES SHALL NOT INTERFERE WITH CLEAR VISUAL SIGHT LINES FROM 30' - 10'.

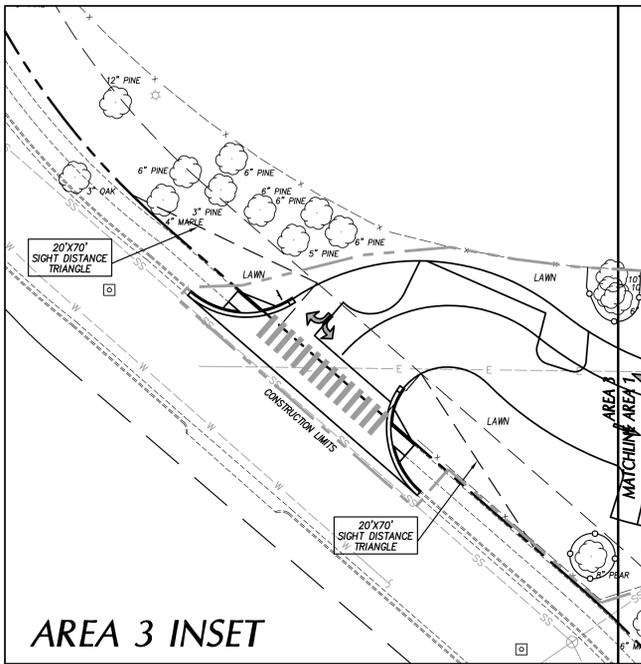
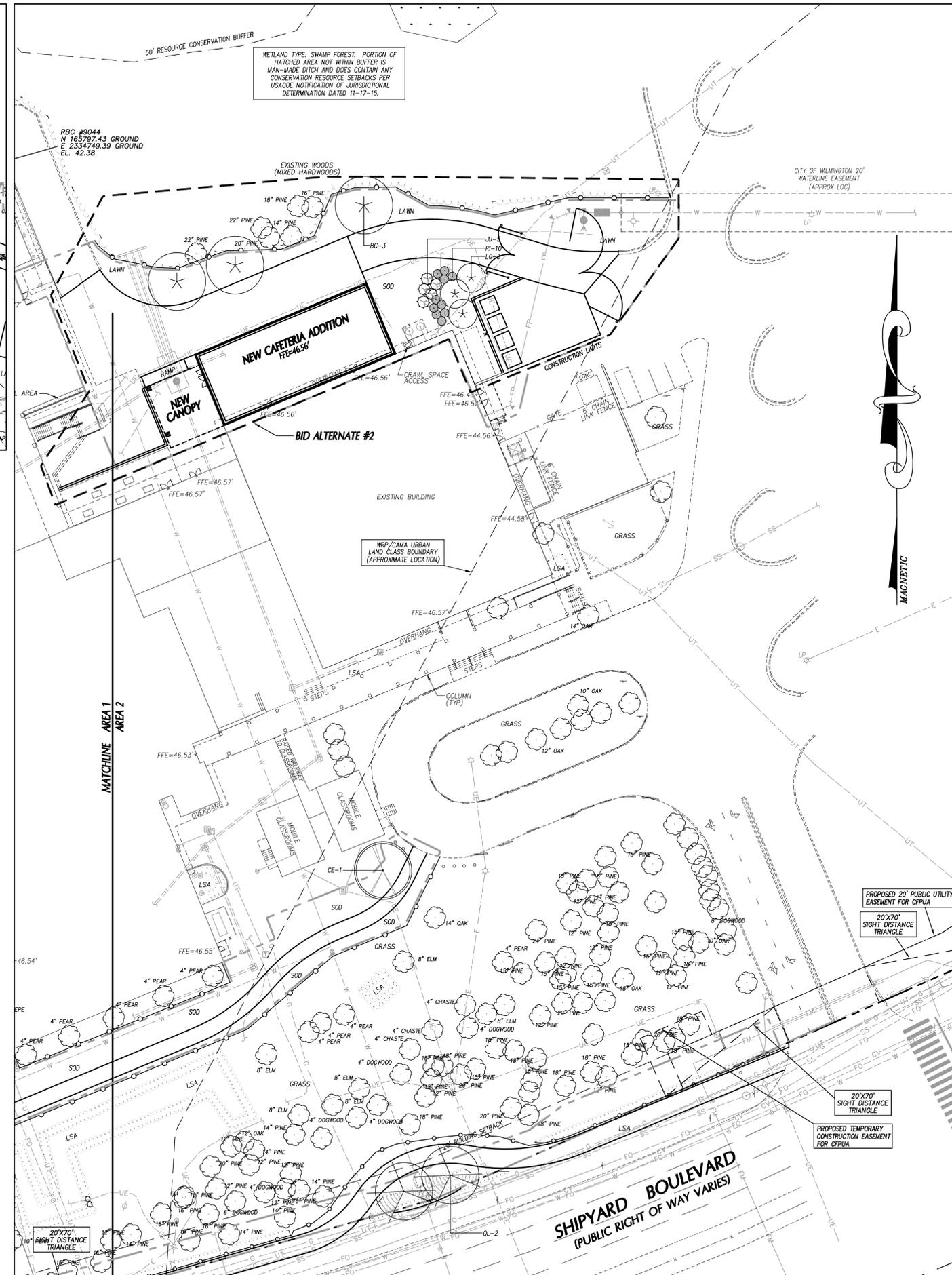
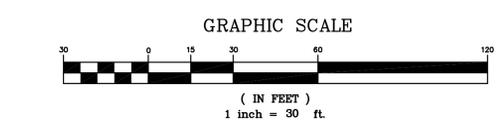
**PLANT SCHEDULE**

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REFER TO PLAN SHEET C-6.2 FOR LANDSCAPE CALCULATIONS.



**LANDSCAPE CALCULATIONS**

**STREET YARD REQUIREMENTS**

STREET YARD FACTOR = 12  
MINIMUM STANDARD: 1 CANOPY TREE (3" CAL. MIN.) - 3 UNDERST. IF PWR. LINE  
6 SHRUBS (12" HT. MIN.) OR  
6 SHRUBS (36" HT. MIN. IF ADJ. TO A PARKING AREA)  
PER 600 SQ. FT. OF STREETYARD

**PRIMARY STREET YARD: SHIPYARD BOULEVARD - 8-18' WIDTH (TO LIMITS OF WORK)**  
SQUARE FEET REQUIRED = 12(862.5 LF-35 LF) = 9,830 SF  
MINIMUM STANDARD REQUIRED: 17 CANOPY TREES, 100 SHRUBS

PROVIDED: 7 NEW CANOPY TREES 40 NEW SHRUBS  
7 EXISTING CANOPY TREES  
7 EXISTING PINES, EXIST. HEDGE

**SECONDARY STREET YARD: 41ST STREET - 8-18' WIDTH (TO LIMITS OF WORK)**  
SQUARE FEET REQUIRED = 12(376LF)/2 = 2,256 SF  
MINIMUM STANDARD REQUIRED: 4 CANOPY TREES  
23 SHRUBS

PROVIDED: 17 EXISTING CANOPY TREES  
23 SHRUBS  
EXISTING HEDGE

**FOUNDATION PLANTING REQUIREMENTS (adjacent to parking or internal drive aisle)**  
REQUIREMENT= AREA OF BUILDING FACE X 12%

**FOUNDATION PLANTING: AREA A**  
BUILDING FACE = 187 FT.  
BUILDING HEIGHT = 42 FT.  
PLANTING AREA REQUIRED = 943 SQ. FT.  
PLANTING AREA PROVIDED = 1,113 SQ. FT.

**FOUNDATION PLANTING: AREA B**  
BUILDING FACE = 154 FT.  
BUILDING HEIGHT = 42 FT.  
PLANTING AREA REQUIRED = 776 SQ. FT.  
PLANTING AREA PROVIDED = 3,389 SQ. FT.

**PARKING AREA PLANTING REQUIREMENTS**  
PARKING AREA PERIMETER PLANTINGS: N/A  
PARKING AREA INTERIOR PLANTINGS:  
REQUIREMENT: INTERIOR LANDSCAPING MUST EQUAL 8% OF TOTAL PARKING, LOADING, AND DRIVE AISLE, AND PEDESTRIAN USE AREA  
MIN. CAL. 2" TREE PER 144 SQ. FT. OF PARKING ISLAND, NO LESS THAN 12" WIDE ISLAND MUST HAVE GROUNDCOVER  
NO PARKING SPACE MORE THAN 120 FEET AWAY FROM AN ISLAND  
75% SHADE TREES

15 TREES 2" CALIPER OR GREATER PER ACRE OF DISTURBED LAND  
ACRES DISTURBED: 5.0 CREDITS REQUIRED: 75 CREDITS  
TREES PROVIDED: 22 TREES/22 CREDITS

**CREDITS FOR EXISTING TREES:**

SIZE	QTY.	CREDIT VALUE	TOTAL
2-5" CALIPER	-	1	-
6-11"	15	2	30
12-17"	2	3	6
18-23"	-	4	-
>24"	4	DBH/6 (178)	29
TOTAL:			65

TOTAL CREDITS PROVIDED: 87

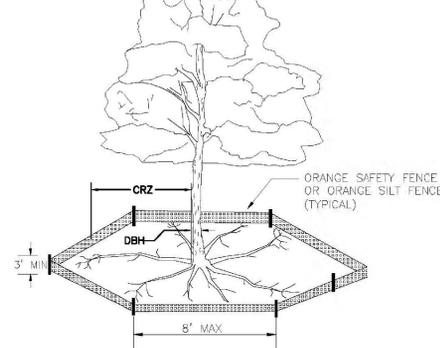
**APPROVED CONSTRUCTION PLAN**

NAME	DATE
PLANNING _____	_____
TRAFFIC _____	_____
FIRE _____	_____

CONSTRUCTION DOCUMENTS: 4-1-2016

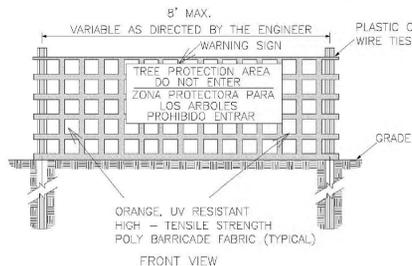
NOTE: THE CRITICAL ROOT ZONE (CRZ) OF A TREE IS WHERE THE MAJORITY OF A TREE'S ROOTS LAY. 85% OF MOST TREE ROOTS ARE FOUND IN THE TOP 24" OF THE SOIL AND SUPPLY THE MAJORITY OF NUTRIENTS AND WATER. GENERALLY, ROOTS SPREAD OUT 2-3X THE HEIGHT OF THE TREE.

NOTE: CROWN OF THE TREE IS NEEDED FOR LEAF GROWTH TO PRODUCE OXYGEN, FILTER THE AIR, REDUCE WIND AND SOFTEN NOISE. DO NOT DISFIGURE CROWN WITH INTENSIVE PRUNING.



- 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.
  - FALLING 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.

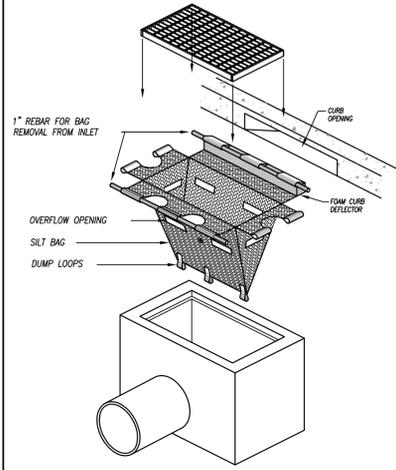
DATE: JAN. 2015	STANDARD DETAIL	<p>CITY OF WILMINGTON ENGINEERING PO BOX 1910 WILMINGTON, NC 28402 (910) 341-7807</p>	SD 15-09
DRAWN BY JSR	<b>TREE PROTECTION DURING CONSTRUCTION</b>		
CHECKED BY RDG, P.E.	SHEET 1 of 2		
SCALE NOT TO SCALE			



- 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, WEATHER-PROOF 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.

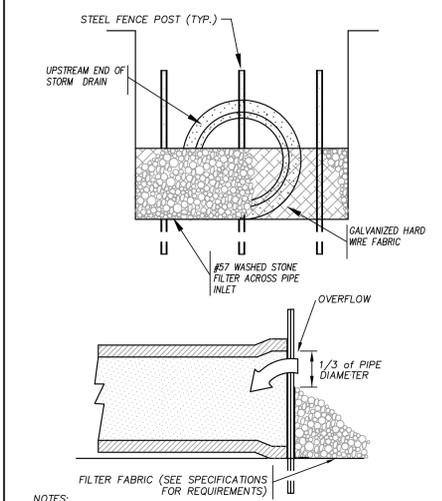
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CHECKED BY RDG, P.E.	SHEET 2 of 2		
SCALE NOT TO SCALE			

CITY OF WILMINGTON TREE PROTECTION FENCE N.T.S.



- NOTES:**
- CONTRACTOR TO INSPECT SILT BAG EVERY TWO WEEKS OR AFTER EVERY SUBSTANTIAL RAIN EVENT.
  - CONTRACTOR TO REMOVE AND DISPOSE OF COLLECTED SILT AT AN ACCEPTABLE OFF SITE LOCATION.
  - COLLECTED SEDIMENT TO BE REMOVED ROUTINELY TO ENSURE FUNCTIONALITY OF SILT BAG.
  - DEVICE SHALL BE MANUFACTURED FROM WOVEN POLYPROPYLENE GEOTEXTILE TO FIT THE OPENING OF A CATCH BASIN OR DROP INLET TO FILTER SEDIMENT FROM RUNOFF ENTERING THE INLET. DEVICE SHALL BE PROVIDED WITH AN INTEGRAL CURB DEFLECTOR IF INSTALLED AT A CATCH BASIN WITH A VERTICAL OPENING ADJACENT TO A HORIZONTAL GRATE.
  - THE DEVICE SHALL BE A HIGH FLOW "SILTSACK" AS MANUFACTURED BY ACF ENVIRONMENTAL, INC. OR APPROVED EQUAL.
  - INSTALL DEVICE IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS AND INSTALL A CURB DEFLECTOR IF APPROPRIATE.
  - INSPECT DEVICE AFTER EACH RAIN EVENT AND AT INTERVALS NOT EXCEEDING TWO WEEKS DURING CONSTRUCTION. REMOVE, EMPTY, CLEAN, AND REPLACE THE DEVICE AS NEEDED DURING CONSTRUCTION. EMPTY COLLECTED SEDIMENT IN APPROVED, PROTECTED LOCATION. REMOVE AND DISPOSE OF DEVICE FOLLOWING FULL AND PERMANENT STABILIZATION OF THE CONTRIBUTING DRAINAGE AREA.

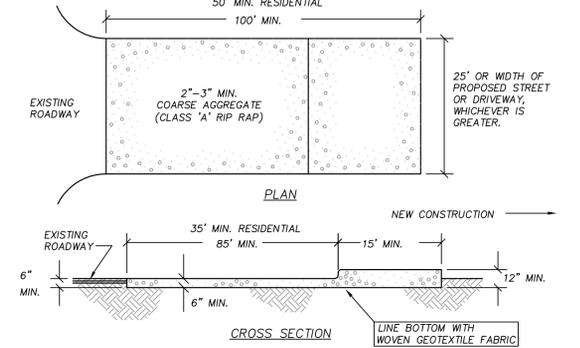
SILT BAG INLET PROTECTION N.T.S.



- NOTES:**
- ALL OPEN STORM DRAIN PIPES SHALL BE PROTECTED AFTER STOPPAGE OF WORK EACH DAY AS ILLUSTRATED.
  - ACCUMULATED SEDIMENT SHALL BE REMOVED AND PROPERLY DISPOSED OF AND THE TRENCH BOTTOM REGRADED AND COMPACTED IN ACCORDANCE WITH SPECIFICATIONS PRIOR TO CONTINUANCE OF LAYING PIPE.

STONE FILTER INLET PROTECTION FOR STORM DRAIN UNDER CONSTRUCTION N.T.S.

- NOTES:**
- ENTRANCE(S) SHALL BE LOCATED TO PROVIDE MAXIMUM UTILITY BY ALL CONSTRUCTION VEHICLES.
  - TURNING RADIUS SUFFICIENT TO ACCOMMODATE LARGE TRUCKS IS TO BE PROVIDED.
  - MUST BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR DIRECT FLOW OF MUD ONTO STREETS. PERIODIC TOPDRESSING WITH STONE WILL BE NECESSARY. CONTRACTOR SHALL MAINTAIN AS NECESSARY.
  - ANY MATERIAL WHICH STILL MAKES IT ONTO THE ROAD MUST BE CLEANED UP IMMEDIATELY.
  - FREQUENT CHECKS OF THE ENTRANCE(S) AND TIMELY MAINTENANCE SHALL BE PROVIDED.
  - NOTES ARE APPLICABLE AT ALL POINTS OF INGRESS AND EGRESS UNTIL SITE IS STABILIZED.

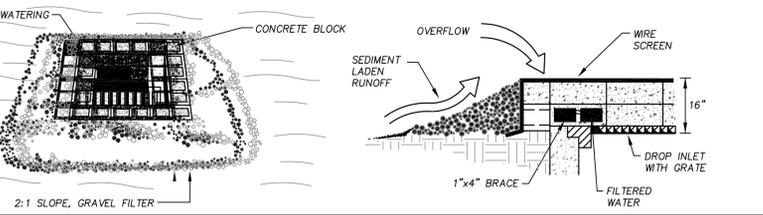


- MAINTENANCE NOTES:**
- MAINTAIN THE GRAVEL PAD IN A CONDITION TO PREVENT MUD OR SEDIMENT FROM LEAVING THE SITE.
  - MAY REQUIRE PERIODIC TOP DRESSING WITH 2-INCH STONE.
  - IMMEDIATELY REMOVE ALL OBJECTIONABLE MATERIALS SPILLED, WASHED OR TRACKED ONTO PUBLIC ROADWAYS.

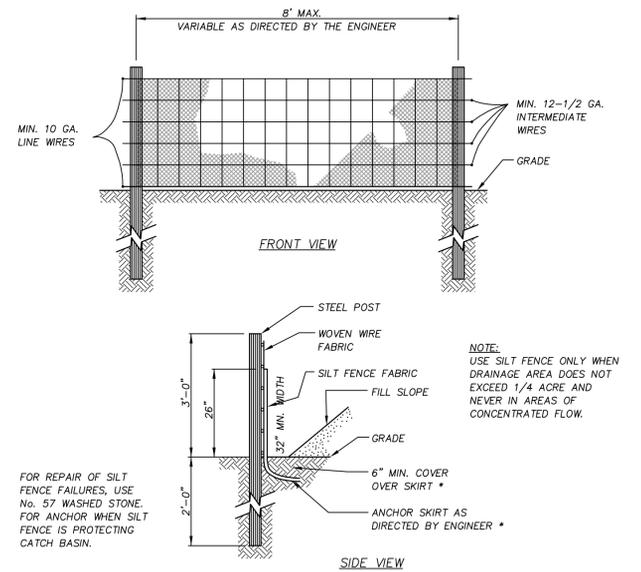
TEMPORARY GRAVEL CONSTRUCTION ENTRANCE N.T.S.

- MAINTENANCE NOTES:**
- INSPECT THE BARRIER AT LEAST WEEKLY AND AFTER EACH SIGNIFICANT RAINFALL AND MAKE REPAIRS AS NEEDED.
  - REMOVE SEDIMENT AS NECESSARY TO PROVIDE ADEQUATE STORAGE VOLUME FOR SUBSEQUENT RAINS.
  - APPROPRIATELY STABILIZE ALL BARE AREAS AROUND THE INLET.

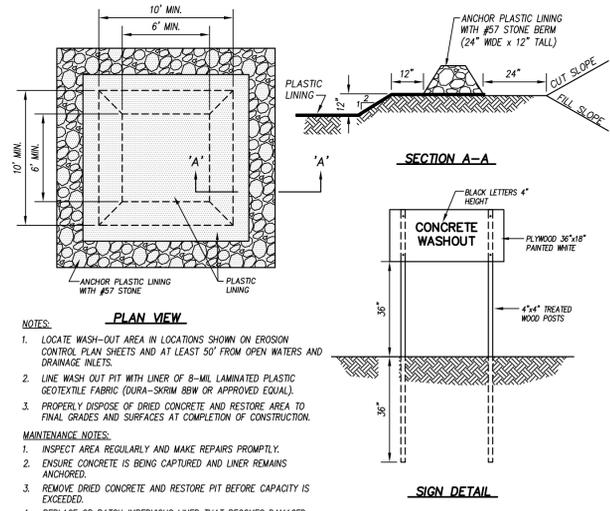
- NOTES:**
- PLACE CONCRETE BLOCKS LENGTHWISE ON THEIR SIDES IN A SINGLE ROW AROUND THE PERIMETER OF THE INLET WITH THE ENDS OF ADJACENT BLOCKS ABUTTING. THE HEIGHT OF THE BLOCKS SHALL BE 12".
  - WIRE MESH OR HARDWARE CLOTH SHALL BE PLACED OVER THE OUTSIDE VERTICAL FACE (WEBBING) OF THE BLOCKS, TO PREVENT STONE FROM BEING WASHED THROUGH THE HOLES IN THE BLOCKS.
  - #57 WASHED STONE SHALL BE PILED AGAINST THE WIRE TO THE TOP OF THE BLOCK.
  - MAINTAIN DEVICE AFTER EACH RAIN. REPLACE #57 WASHED STONE IF IT CLOGS W/ SEDIMENT.
  - PLACE 1"x4" BOARDS THROUGH THE HOLES OF CORNER BLOCKS.



TEMPORARY CATCH BASIN AND YARD INLET PROTECTION N.T.S.

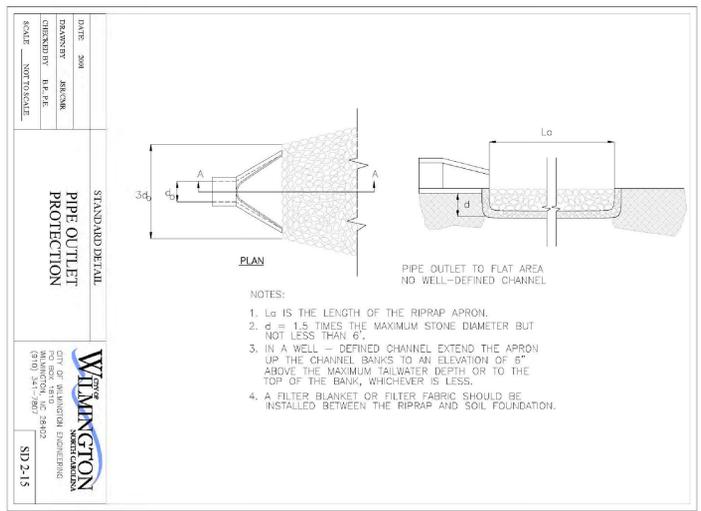


STANDARD TEMPORARY SILT FENCE N.T.S.



- NOTES:**
- LOCATE WASH-OUT AREA IN LOCATIONS SHOWN ON EROSION CONTROL PLAN SHEETS AND AT LEAST 50' FROM OPEN WATERS AND DRAINAGE INLETS.
  - LINE WASH OUT PIT WITH LINER OF 8-MIL LAMINATED PLASTIC GEOTEXTILE FABRIC (DURA-SURM 88W OR APPROVED EQUAL).
  - PROPERLY DISPOSE OF DRIED CONCRETE AND RESTORE AREA TO FINAL GRADES AND SURFACES AT COMPLETION OF CONSTRUCTION.
- MAINTENANCE NOTES:**
- INSPECT AREA REGULARLY AND MAKE REPAIRS PROMPTLY.
  - ENSURE CONCRETE IS BEING CAPTURED AND LINER REMAINS ANCHORED.
  - REMOVE DRIED CONCRETE AND RESTORE PIT BEFORE CAPACITY IS EXCEEDED.
  - REPLACE OR PATCH IMPERVIOUS LINER THAT BECOMES DAMAGED. RE-ANCHOR LINER AS NEEDED.

CONCRETE WASHOUT AREA N.T.S.



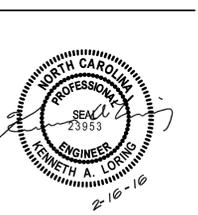
- NOTES:**
- L<sub>0</sub> IS THE LENGTH OF THE RIPRAP APRON.
  - L = 1.5 TIMES THE MAXIMUM STONE DIAMETER BUT NOT LESS THAN 6'.
  - IN A WELL-DEFINED CHANNEL EXTEND THE APRON UP THE CHANNEL BANKS TO AN ELEVATION OF 6" ABOVE THE MAXIMUM TALLEST WATER DEPTH OR TO THE TOP OF THE BANK, WHICHEVER IS LESS.
  - A FILTER BLANKET OR FILTER FABRIC SHOULD BE INSTALLED BETWEEN THE RIPRAP AND SOIL FOUNDATION.

CITY OF WILMINGTON OUTLET PROTECTION N.T.S.



**BOWMAN MURRAY HEMINGWAY ARCHITECTS**  
514 Market Street  
Wilmington, NC 28401  
Tel - (910) 762-2621  
Fax - (910) 762-8506

Project ID # 900-9005



**Renovations and Additions to:  
John T. Hoggard High School**  
4305 Shipyard Blvd.  
Wilmington, North Carolina 28403

JOB NUMBER 15-120  
DRAWN BY JGM  
CHECKED BY JGM  
DATE APRIL 1, 2016  
REVISIONS

**SITE/CIVIL DETAILS**

SHEET NUMBER

**C7.1**

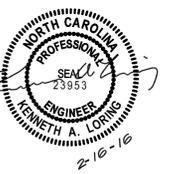
CONSTRUCTION DOCUMENTS: 4-1-2016



**BOWMAN MURRAY HEMINGWAY**  
ARCHITECTS

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Wilmington, NC 28401  
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**John T. Hoggard High School**  
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JOB NUMBER  
15-120  
DRAWN BY  
JGM  
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DATE  
APRIL 1, 2016  
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**SITE/CIVIL DETAILS**

SHEET NUMBER

**C7.2**

CONSTRUCTION DOCUMENTS: 4-1-2016

**CONCRETE PAVEMENT** N.T.S.

**CONCRETE PAVEMENT DIMENSIONS**  
CONC SLAB THICKNESS,  $d_c = 6"$   
ABC THICKNESS,  $d_b = 6"$   
REINFORCEMENT = 6x6-W2.9xW2.9 OR FIBER (SEE SPECS)

**NOTES:**  
1. ALL CONCRETE SHALL HAVE A 28-DAY COMPRESSIVE STRENGTH OF 4000 PSI (ASTM C39).  
2. CONTRACTION JOINTS SHALL BE SPACED AT 15 FT O.C.E.W. MAX. OR AS INDICATED ON THE PLAN.  
3. EXPANSION JOINTS SHALL BE SPACED AT 50 FT O.C.E.W. MAX. OR AS INDICATED ON THE PLAN AND WHERE CONCRETE PAVEMENT ABUTS ANY RIGID OBJECT.

**ASPHALT PAVEMENT** N.T.S.

	HEAVY DUTY	LIGHT ASPHALT DUTY OVERLAY*
TYPE SF-9.5A SURFACE COURSE	2.5-IN	1.5-IN 2-IN
TYPE I-19.0B BINDER COURSE	-	-
AGGREGATE BASE COURSE	6-IN	6-IN

\* 1/2-IN SAND-MIX ASPHALT LEVELING COURSE PLUS GEOSYNTHETIC FABRIC (TENSAR GLASSGRID) BENEATH ASPHALT OVERLAY.

**NOTES:**  
1. SEE SPECIFICATIONS FOR PROOFROLLING, COMPACTION & TESTING REQUIREMENTS.  
2. DETAIL IS FOR ON-SITE PAVING OPERATIONS ONLY.  
3. THE CONTRACTOR MAY CHOOSE TO INSTALL INTERMEDIATE COURSES OF PAVEMENT TO STABILIZE THE SITE DURING CONSTRUCTION AT NO ADDITIONAL COST. THE CONTRACTOR IS RESPONSIBLE FOR DETERMINING THE ADEQUATE THICKNESS REQUIRED FOR INTERMEDIATE PAVING. INCREASES IN THE DESIGN PAVEMENT SECTION TO FACILITATE INTERMEDIATE PAVING SHALL BE PROVIDED AT NO ADDITIONAL COST.  
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIRING ANY DAMAGES TO SUBGRADE, INSTALLED BASE COURSE AND/OR INTERMEDIATE PAVING PRIOR TO PLACING SUBSEQUENT PAVEMENT LIFTS AT NO ADDITIONAL COST.  
5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING PAVEMENT DURING ALL PHASES OF WORK. THE FINAL SURFACE OF PAVEMENT SHALL BE FREE OF ALL DEFECTS OR DAMAGE.

**DRIVEWAY APRON** N.T.S.

**NOTES:**  
1. REFER TO CONCRETE PAVEMENT DETAILS FOR JOINT CONSTRUCTION REQUIREMENTS.  
2. CONCRETE FOR DRIVEWAY APRON SHALL BE 3000-PSI MINIMUM.

**ACCESSIBLE PARKING SIGNAGE** N.T.S.

ALL SIGNS SHALL BE PROVIDED AND INSTALLED IN ACCORDANCE WITH LATEST MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, NCSBC AND ADA SPECIFICATIONS AND REQUIREMENTS.

**RESERVED PARKING**  
**MAXIMUM PENALTY \$250**  
**VAN ACCESSIBLE**

NOTE: MAXIMUM PENALTY SHALL BE PER LATEST FINE AMOUNT AS SPECIFIED BY LOCAL AUTHORITIES.

**RAISED CONCRETE SIDEWALK** N.T.S.

**GENERAL NOTES:**  
1. A GROOVE JOINT 1" DEEP WITH 1/8" RADI SHALL BE REQUIRED IN THE CONCRETE SIDEWALK AT 5' INTERVALS UNLESS INDICATED OTHERWISE. SEE SPECS FOR ADDITIONAL JOINT SPACING REQUIREMENTS.  
2. ONE 1/2" EXPANSION JOINT WILL BE REQUIRED AT 50' INTERVALS.  
3. A 1/2" EXPANSION JOINT WILL BE REQUIRED WHERE THE SIDEWALK JOINS ANY RIGID STRUCTURE.  
4. ALL CONCRETE SHALL BE 3000 P.S.I. WITH FIBER REINFORCING.

**PERMEABLE INTERLOCKING PAVING SYSTEM** N.T.S.

**INSTALL SILT FENCE AROUND PERIMETER OF PERMEABLE PAVERS TO PROTECT FROM SEDIMENT RUN-OFF. PERMEABLE PAVERS TO BE INSTALLED TOWARD FINAL STAGES OF PROJECT.**

**MANUFACTURERS**  
1. ADVANCED PAVEMENT TECHNOLOGY  
2. PAVESTONE  
3. HANOVER ARCHITECTURAL PRODUCTS  
(REFER TO 32-14-00 OF SPECIFICATIONS)

\*AQUA-BRIC PERMEABLE INTERLOCKING CONCRETE PAVERS BY ADVANCED PAVEMENT TECHNOLOGY OR LICENSED MANUFACTURER. PAVERS TO BE MANUFACTURED TO ASTM C936 SPECIFICATIONS.  
PAVER COLOR TO BE "COBBLE BLEND", EDGING PAVES TO BE "ARDENNES GREY". PATTERN TO BE HERRINGBONE.  
\*\*FOR VEHICULAR APPLICATIONS, USE 6" OF #57 AGGREGATE BASE. FOR PEDESTRIAN APPLICATIONS USE 4" OF #57 AGGREGATE BASE.  
\*\*\*FOR VEHICULAR APPLICATIONS, USE 12" OF #2 CRUSHED STONE SUB-BASE. FOR PEDESTRIAN APPLICATIONS USE 8" OF #2 CRUSHED STONE SUB-BASE.  
PROTECT INSTALLED PAVERS DURING CONSTRUCTION FROM SEDIMENT INTRUSION. CLEAN VOIDS PER MANUFACTURER'S RECOMMENDATIONS.  
PROVIDE 3'x3' MOCK-UP FOR REVIEW BY LANDSCAPE ARCHITECT PRIOR TO INSTALLATION.

**PRE-CAST CONCRETE WHEELSTOP** N.T.S.

**90° PARKING SPACE PLAN VIEW**

**CITY OF WILMINGTON CONCRETE SIDEWALK** N.T.S.

DATE: OCTOBER, 2010  
DRAWN: PB/JSR  
CHECKED: DBC  
SCALE: NOT TO SCALE

**STANDARD DETAIL**  
**SIDEWALK**

CITY OF WILMINGTON ENGINEERING  
PO BOX 1810  
WILMINGTON, N.C. 28402  
(910) 341-7807

SD 3-10

**CITY OF WILMINGTON CONCRETE CURB AND GUTTER** N.T.S.

DATE: AUGUST, 2011  
DRAWN: PB/JSR  
CHECKED: DBC  
SCALE: NOT TO SCALE

**STANDARD DETAIL**  
**CURBING**

CITY OF WILMINGTON ENGINEERING  
PO BOX 1810  
WILMINGTON, N.C. 28402  
(910) 341-7807

SD 3-11

**CONCRETE ISLAND FLUME** N.T.S.

**NOTES:**  
1.) CONCRETE FOR CURB AND GUTTER SHALL BE 3000 PSI @ 28 DAYS.  
2.) FORM MUST BE SMOOTH, UNIFORM AND ACCEPTABLE TO PROJECT DESIGNER.  
3.) REFER TO GRADING PLAN FOR RIP-RAP OUTLET PROTECTION.

**APPROVED CONSTRUCTION PLAN**

NAME	DATE

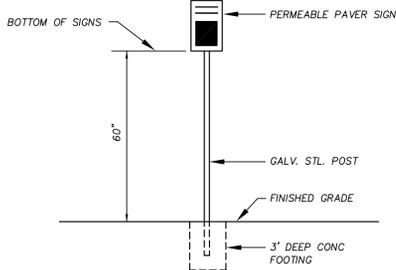
PLANNING \_\_\_\_\_  
TRAFFIC \_\_\_\_\_  
FIRE \_\_\_\_\_

**PERMEABLE INTERLOCKING PAVING SYSTEM** N.T.S.

**PERMEABLE PAVEMENT**

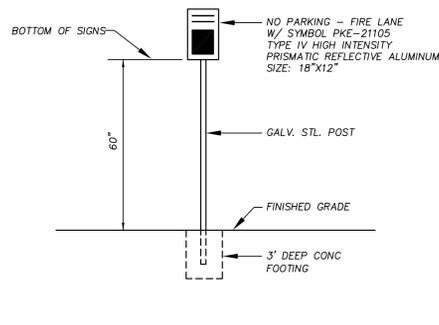


- ACTIVITIES PROHIBITED:**
- SANDING
  - RE-SEALING
  - RE-SURFACING
  - POWER WASHING
  - STORAGE OF MULCH OR SOIL
  - STORAGE OF SNOW PILES
  - STORAGE OF HEAVY LOADS
  - APPLICATION OF SALT OR DE-ICERS

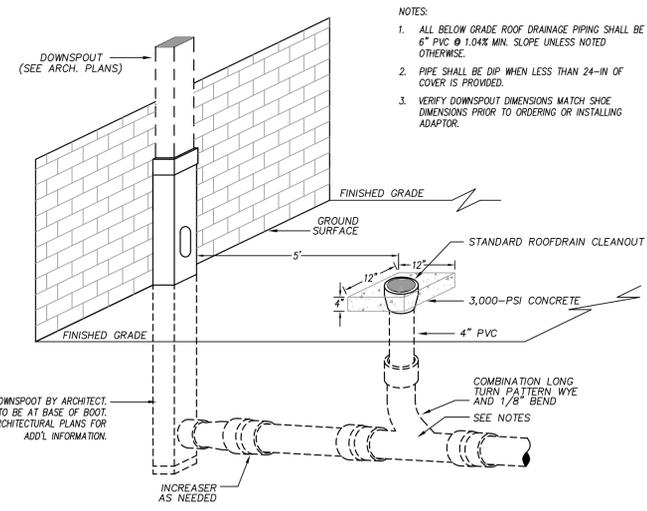
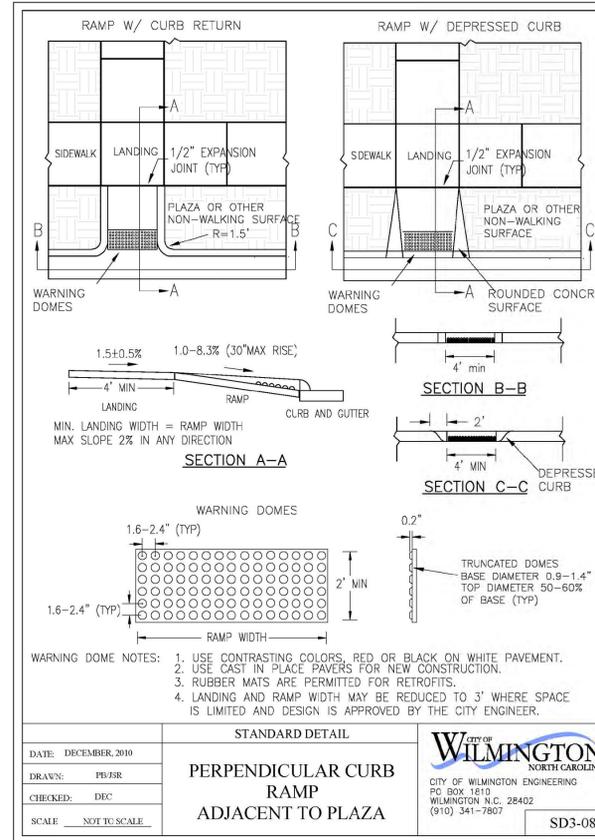
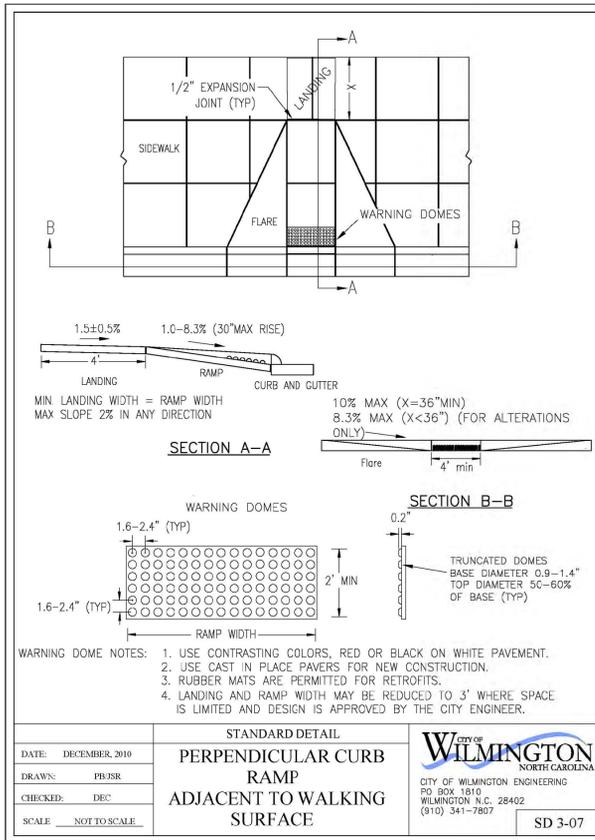


PERMEABLE PAVER SIGNAGE N.T.S.

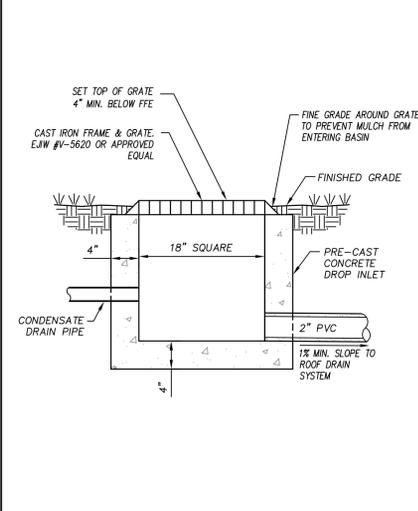
ALL SIGNS SHALL BE PROVIDED AND INSTALLED IN ACCORDANCE WITH LATEST MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES AND NCSBC REQUIREMENTS.



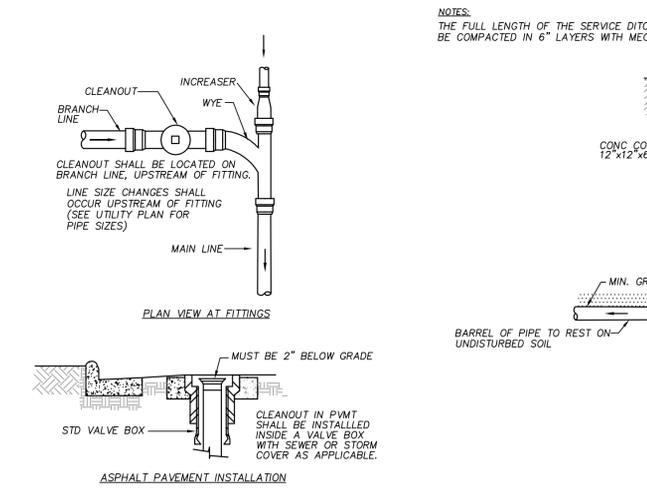
NO PARKING - FIRE LANE SIGNAGE N.T.S.



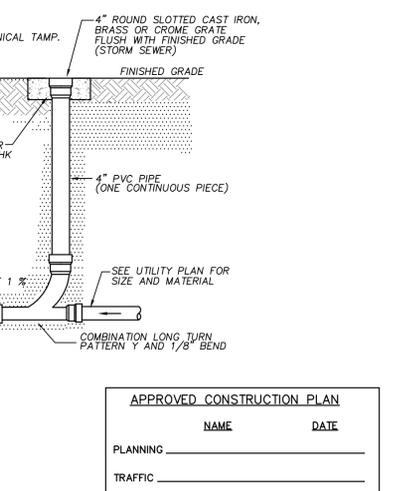
DOWNSPOUT CONNECTION N.T.S.



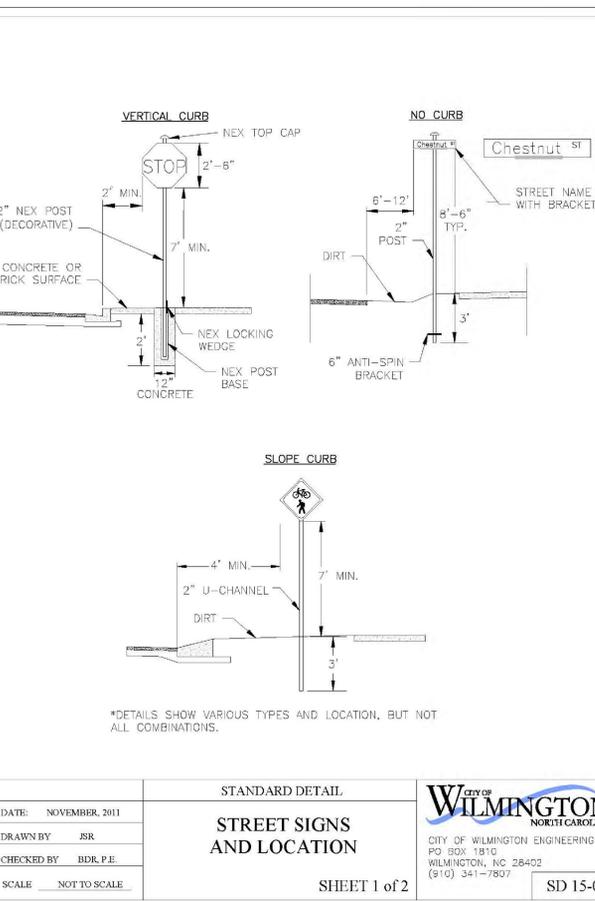
CONDENSATE RELIEF BASIN N.T.S.



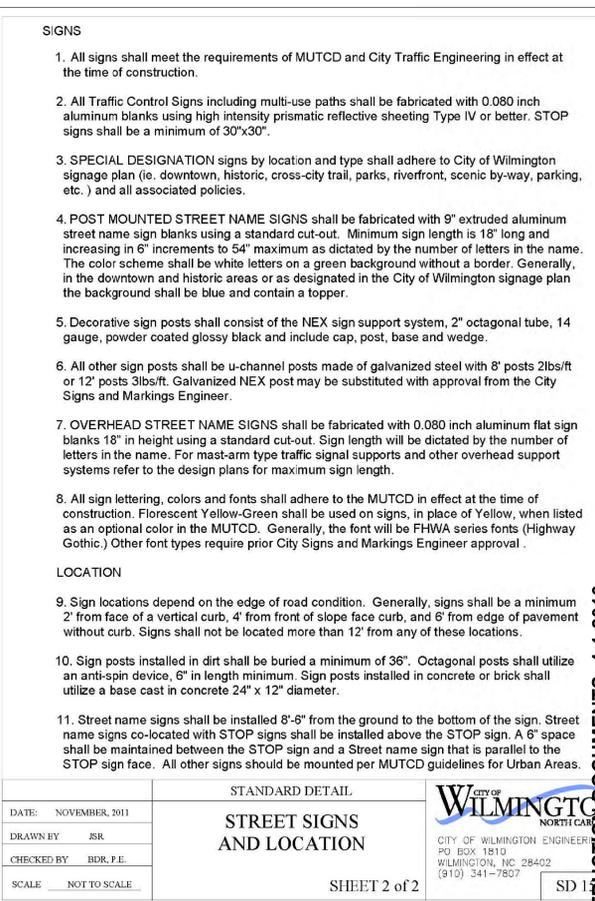
STANDARD ROOF DRAIN CLEANOUT N.T.S.



APPROVED CONSTRUCTION PLAN		
NAME	DATE	
PLANNING		
TRAFFIC		
FIRE		



CITY OF WILMINGTON STREET SIGNS



N.T.S.



**BOWMAN MURRAY HEMINGWAY ARCHITECTS**

514 Market Street  
 Wilmington, NC 28401  
 Tel - (910) 762-2621  
 Fax - (910) 762-8506

Project ID # 900-9005



**CLH DESIGN, PA**



**Renovations and Additions to:**  
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 Wilmington, North Carolina 28403

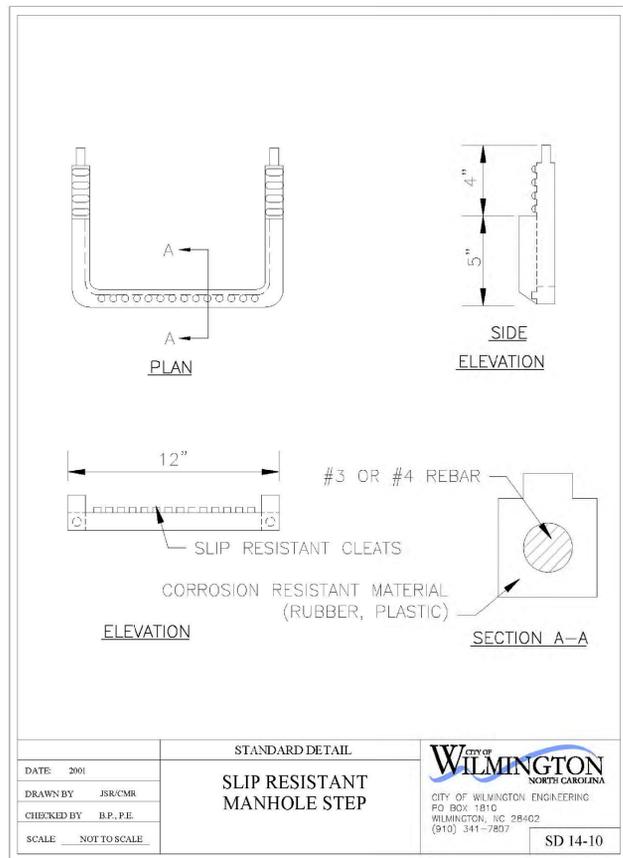
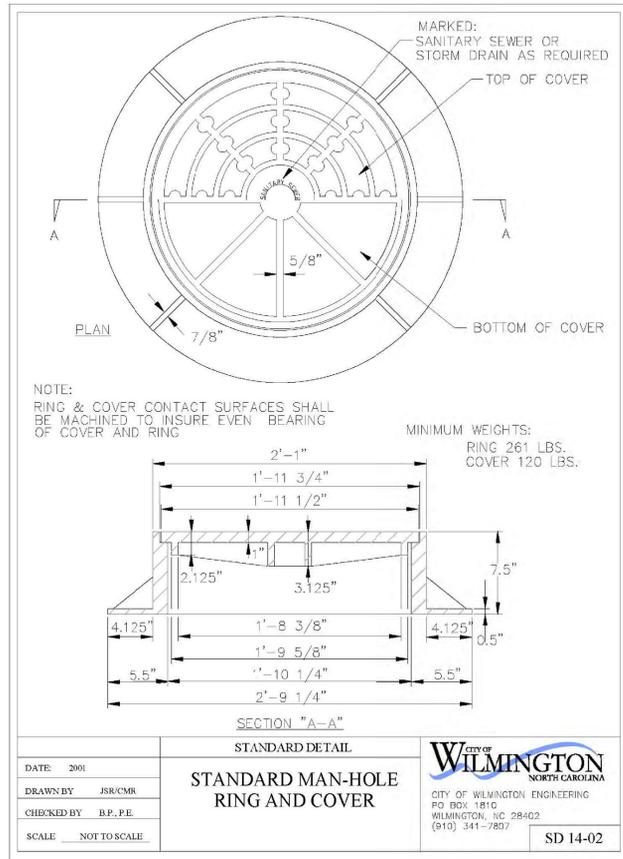
JOB NUMBER	15-120
DRAWN BY	JGM
CHECKED BY	JGM
DATE	APRIL 1, 2016
REVISIONS	

**SITE/CIVIL DETAILS**

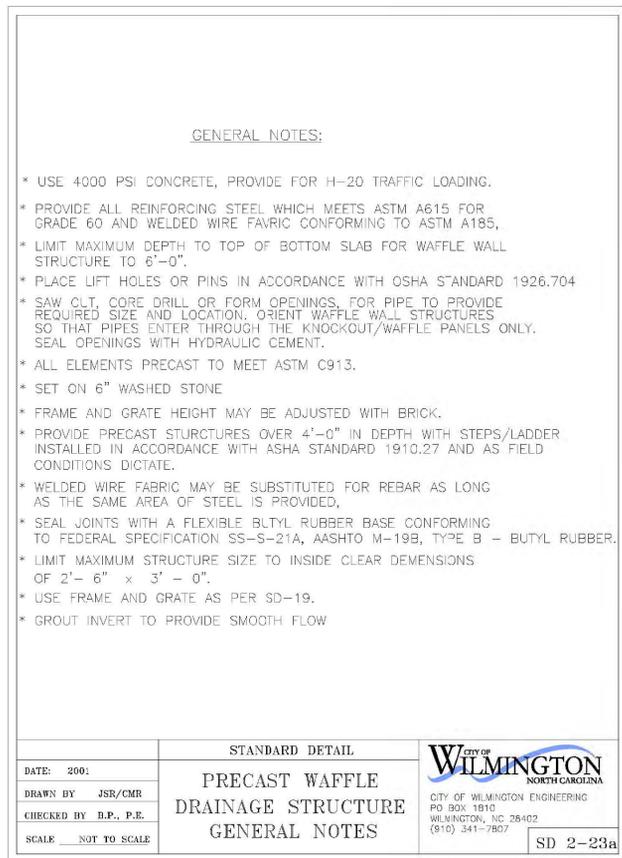
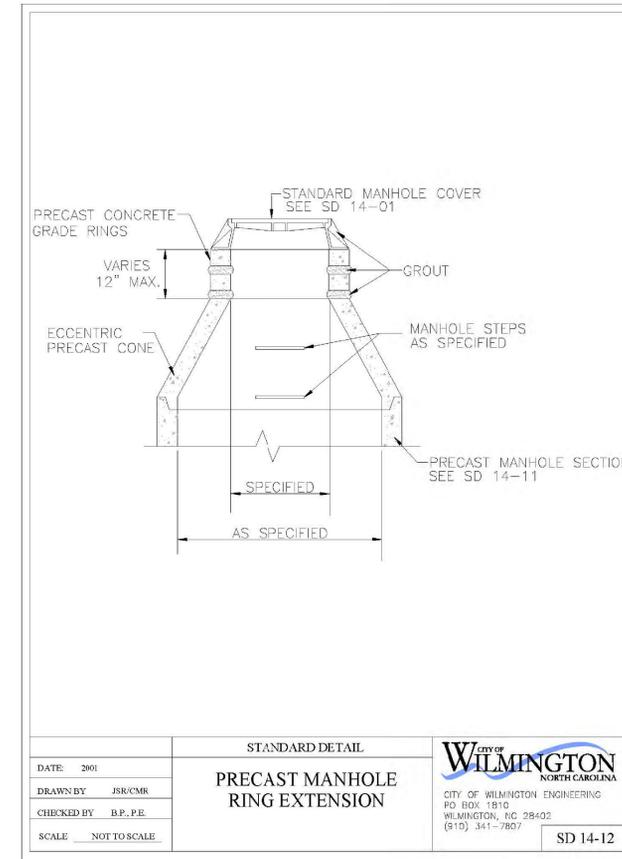
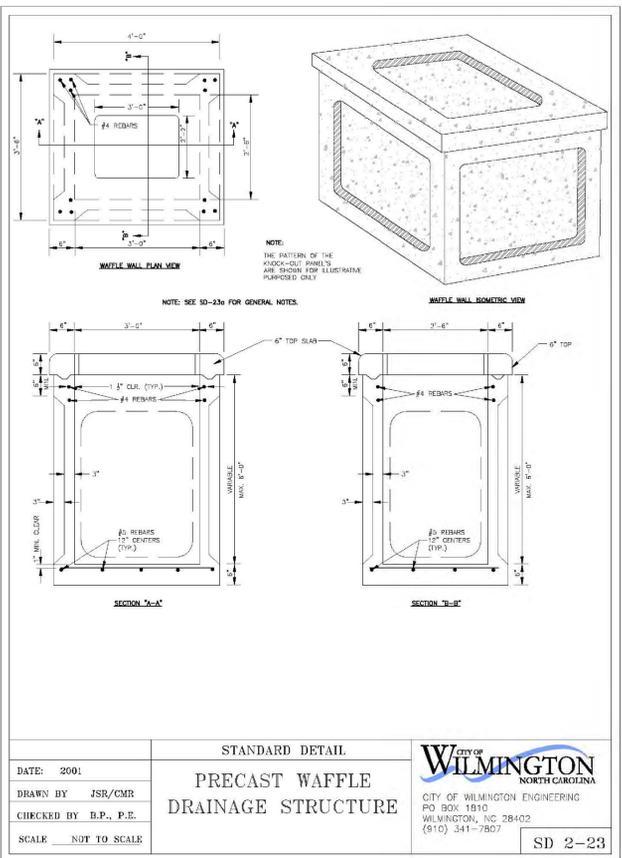
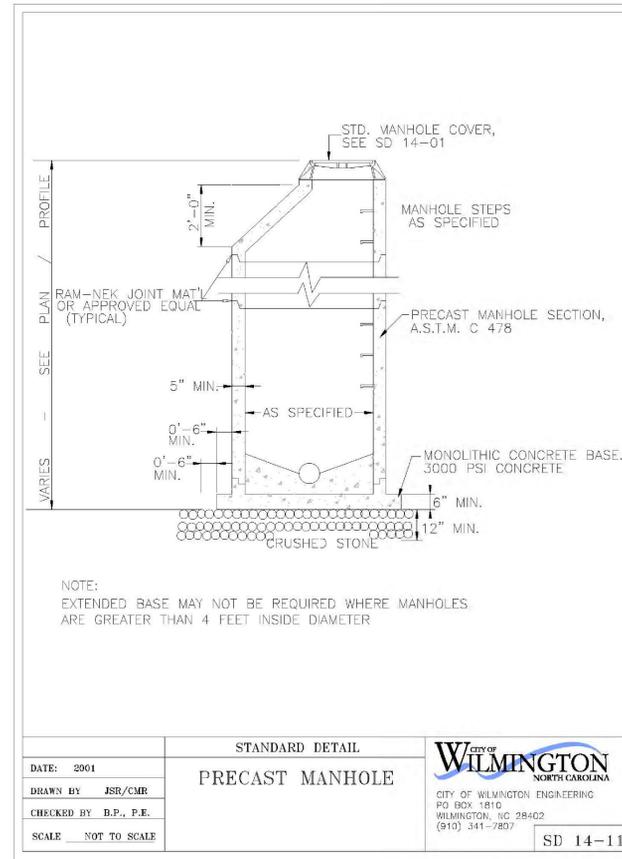
SHEET NUMBER

**C7.3**

CONSTRUCTION DOCUMENTS: 4-1-2016



APPROVED CONSTRUCTION PLAN	
NAME	DATE
PLANNING _____	
TRAFFIC _____	
FIRE _____	



**BOWMAN MURRAY HEMINGWAY ARCHITECTS**  
514 Market Street  
Wilmington, NC 28401  
Tel - (910) 762-2621  
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Project ID # 900-9005



Renovations and Additions to:  
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4305 Shipyard Blvd.  
Wilmington, North Carolina 28403

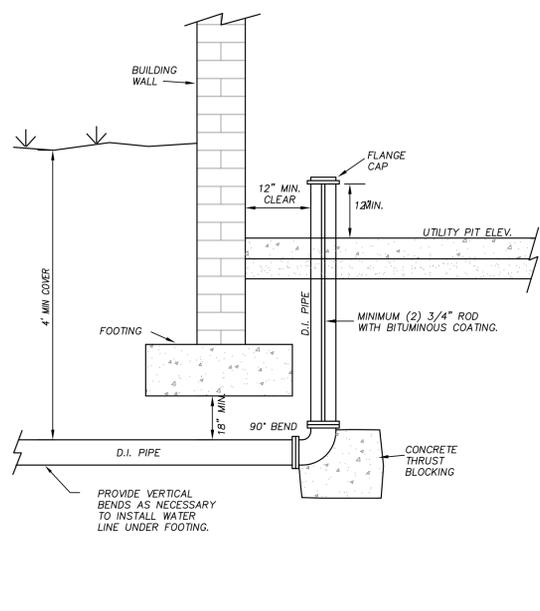
JOB NUMBER	15-120
DRAWN BY	JGM
CHECKED BY	JGM
DATE	APRIL 1, 2016
REVISIONS	

**SITE/CIVIL DETAILS**

SHEET NUMBER

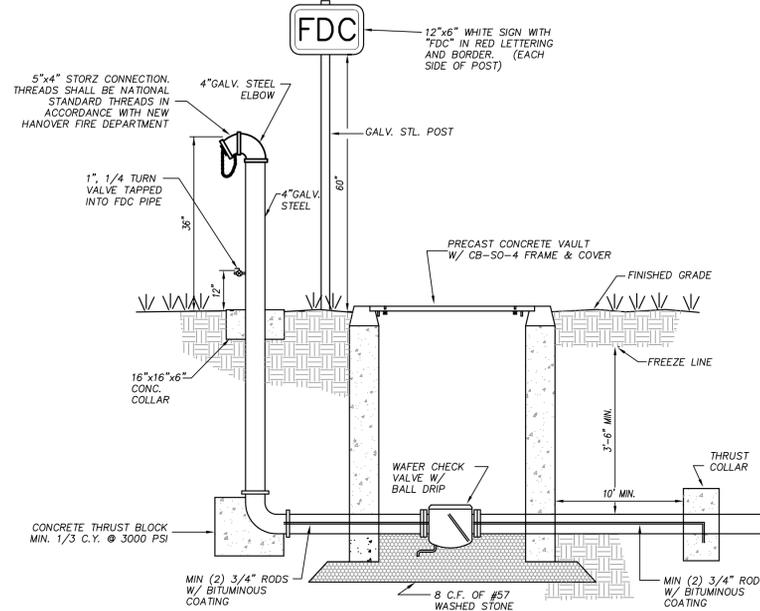
**C7.4**

CONSTRUCTION DOCUMENTS: 4-1-2016



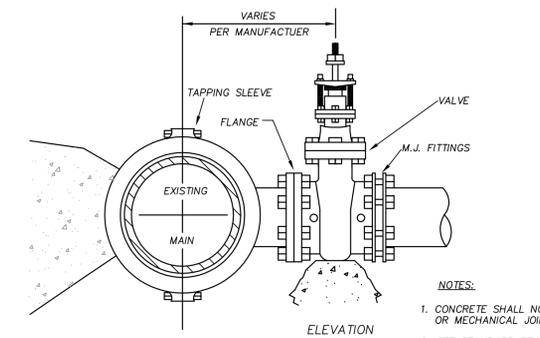
STANDARD FIRE SERVICE INSTALLATION AT BUILDING

N.T.S.



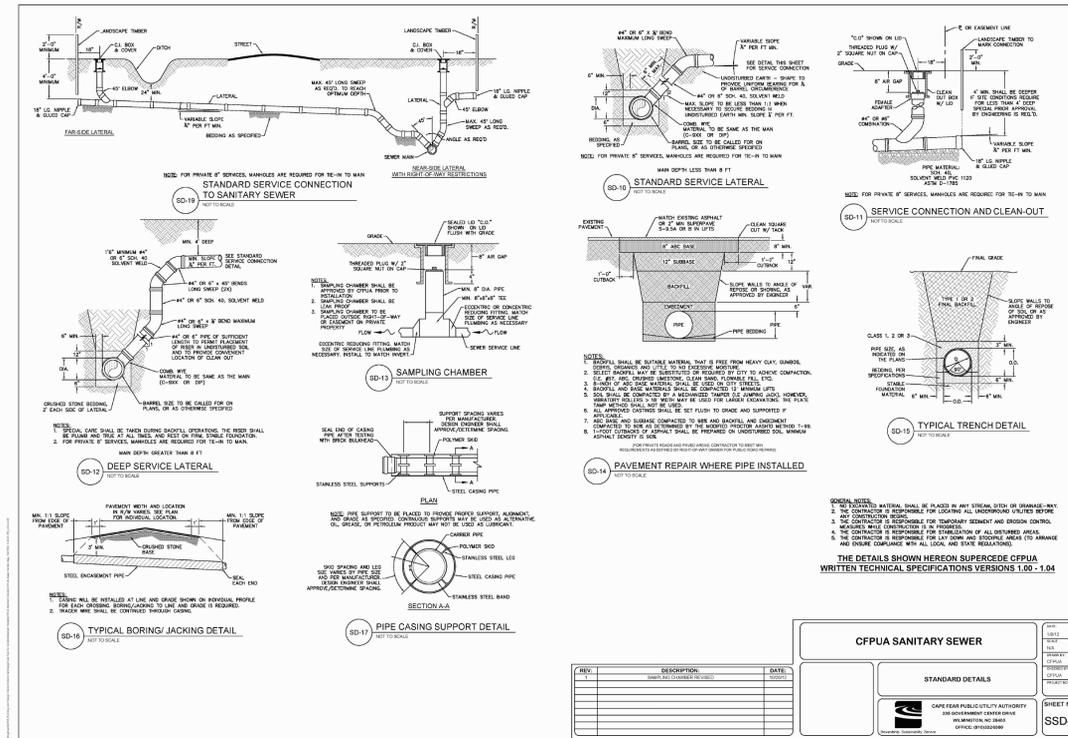
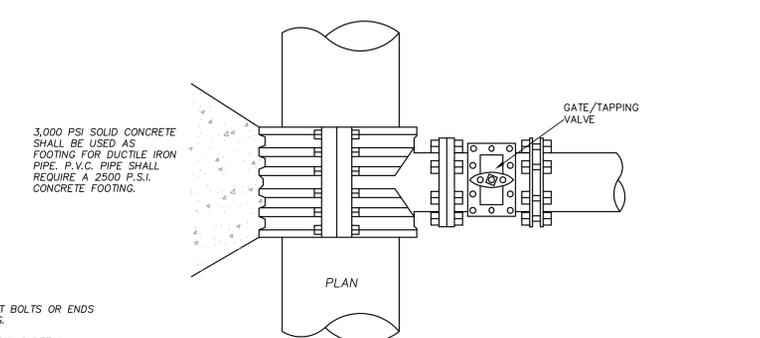
FIRE DEPARTMENT CONNECTION

N.T.S.



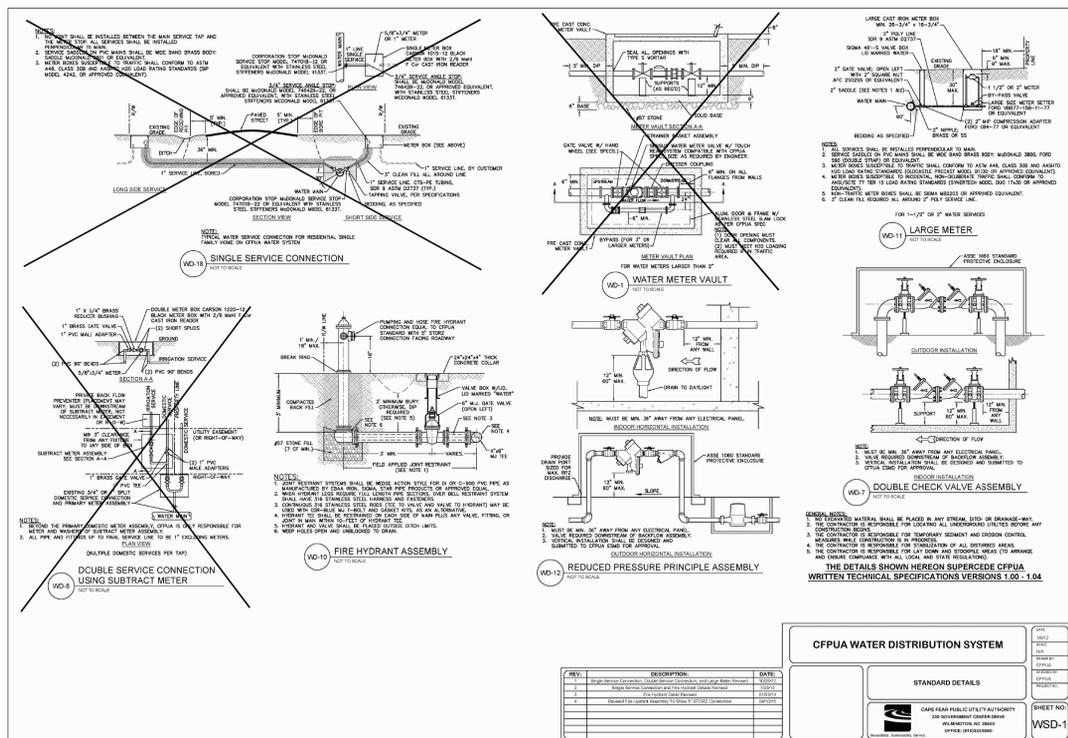
4" - 24" STANDARD TAPPING SLEEVE AND VALVE ASSEMBLY

N.T.S.

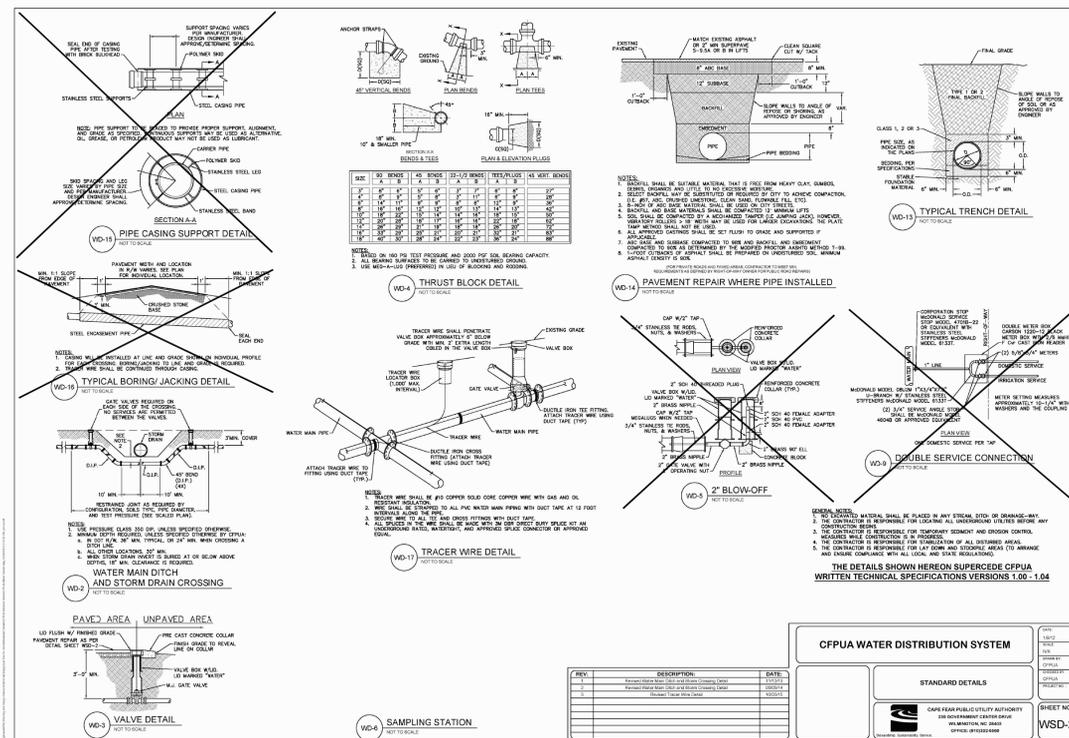


CFPUA SANITARY SEWER DETAILS

N.T.S.



CFPUA WATER DISTRIBUTION SYSTEM DETAILS



N.T.S.



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**SITE/CIVIL**  
DETAILS

SHEET NUMBER

**C7.5**

CONSTRUCTION DOCUMENTS: 4-1-2016

- No plantings over thirty (30) inches in height allowed in vision clearance.
- Protection from vehicular traffic provided around all landscaping with a minimum height of six (6) inches.
- Owner is responsible for maintenance to ensure plant material lives and prospers.
- Planting plans shall be approved by Landscape Designer prior to installation.
- Landscaping shall be required at the ends of all parking rows.
- A low buffer shall be required where parking is within fifty (50) feet of the Right-of-Way.
- Landscaped islands shall be a minimum width of twelve (12) feet (back of curb to back of curb) and a minimum of two hundred and sixteen (216) square feet.
- A minimum of fifteen (15) trees 2 inches or greater in diameter as measured 6 inches above ground per disturbed acre.
- For recommended Plant List see "Landscape" T-10.4.

STANDARD DETAIL		 CITY OF WILMINGTON ENGINEERING P.O. BOX 1810 WILMINGTON, NC 28402 (910) 341-7807
DATE	APRIL, 2008	
DRAWN BY	JSR	
CHECKED BY	B.P. PE.	
SCALE	NOT TO SCALE	

**CITY OF WILMINGTON LANDSCAPE NOTES**

N.T.S.

DATE	TYPE	PLANTING RATE
APR 15 - JULY 15 **	HULLED SUNSTAR OR RIVERA BERMUDA	85 LBS./ACRE *
JULY 15 - AUG 15	SUNSTAR OR RIVERA BERMUDA SPRIGS	5 BUSHELS/1,000 SF
AUG 15 - APR 15	TEMPORARY SEEDING APPLIES**	

\* OR AS REQUIRED TO ACHIEVE 95% COVERAGE AS DETERMINED ON A PER SQUARE YARD BASIS PRIOR TO SUBSTANTIAL COMPLETION.

\*\* WHEN SEEDING MUST TAKE PLACE OUT-OF-SEASON FOR PERMANENT GRASS. APPROPRIATE TEMPORARY SEEDING SHALL BE DONE AND THE CONTRACTOR SHALL BE RESPONSIBLE FOR PERMANENT SEEDING AS SPECIFIED IN SEASON AT NO ADDITIONAL COST TO OWNER.

**LAWN MAINTENANCE NOTES:**

- CONTRACTOR SHALL BE RESPONSIBLE FOR LAWN MAINTENANCE UNTIL FINAL COMPLETION.
- LAWN MUST BE AT 95% COVERAGE AT SUBSTANTIAL COMPLETION REVIEW TO BE ACCEPTED.
- IF NOT AT 95% SUBSTANTIAL COMPLETION WILL BE DELAYED UNTIL THE FOLLOWING GROWING SEASON.

**SUBSTANTIAL COMPLETION (GRASS):**

CONTRACTOR SHALL BE RESPONSIBLE FOR LAWN MAINTENANCE AND WATERING UNTIL SUBSTANTIAL COMPLETION. LAWN/TURF SHALL BE CONSIDERED SUBSTANTIALLY COMPLETE WHEN GRASS ESTABLISHMENT IS AT A MIN. 95% COVERAGE AND THE SURFACE COMPLIES WITH THE SLOPE, SMOOTHNESS AND OTHER SPECIFIED TOLERANCES. IF THE MINIMUM REQUIREMENTS ARE NOT MET, SUBSTANTIAL COMPLETION WILL BE DELAYED UNTIL THE MINIMUM REQUIREMENTS ARE MET (POSSIBLY INTO THE FOLLOWING GROWING SEASON). THE CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR WATERING AND MAINTENANCE OF THE GRASS UNTIL SUBSTANTIAL COMPLETION IS REACHED. SEE SPECIFICATIONS FOR FURTHER INFORMATION.

**PERMANENT SEEDING SCHEDULE-- BERMUDA SEED**

PERMANENT OR TEMPORARY GROUND COVER SHALL BE PROVIDED OVER ALL DISTURBED AREAS OF THE SITE AS SOON AS POSSIBLE, HOWEVER, NO LATER 30 DAYS AFTER CONSTRUCTION ACTIVITIES HAVE PERMANENTLY OR TEMPORARILY CEASED DURING ANY PHASE OF WORK.

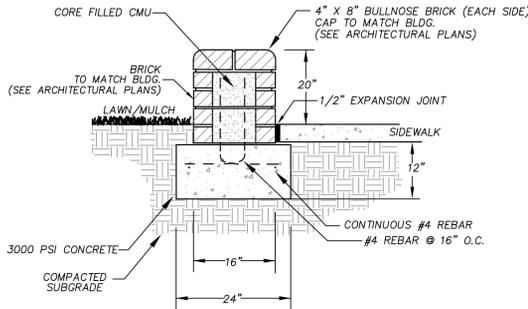
TEMPORARY OR PERMANENT GROUND COVER SHALL BE PROVIDED ON ALL SLOPES WITHIN 15 WORKING DAYS OR 30 CALENDAR DAYS AFTER CONSTRUCTION ACTIVITIES PERMANENTLY OR TEMPORARILY CEASED.

DATE	TYPE	PLANTING RATE
AUG 15 - FEB 1	TALL FESCUE AND WINTER RYE (GRAIN)	70 LBS./ACRE 25 LBS./ACRE
APR 1 - AUG 15	TALL FESCUE AND GERMAN MILLET *** OR SUDAGRASS (SMALL-STEMMED VAR.) ***	120 LBS./ACRE 25 LBS./ACRE 30 LBS./ACRE

CONSULT CONSERVATION ENGINEER OR SOIL CONSERVATION SERVICE FOR ADDITIONAL INFORMATION CONCERNING OTHER ALTERNATIVES FOR VEGETATION OF DENUDED AREAS. THE ABOVE VEGETATION RATES ARE THOSE WHICH DO WELL UNDER LOCAL CONDITIONS; OTHER SEEDING RATE COMBINATIONS ARE POSSIBLE.

\*\*\*TEMPORARY - RESEED ACCORDING TO OPTIMUM SEASON FOR DESIRED PERMANENT VEGETATION. DO NOT ALLOW TEMPORARY COVER TO GROW OVER 12" IN HEIGHT BEFORE MOWING.

**TEMPORARY SEEDING SCHEDULE**



- NOTES:**
- BRICK COLOR, TYPE AND TEXTURE TO MATCH BUILDING BRICK TYPE FB-1 (UTILITY TYPE).
  - MORTAR TO MATCH BUILDING. SEE ARCH PLANS.

**SEAT WALL**

N.T.S.

- LOCATE ALL EXISTING UTILITIES PRIOR TO INSTALLATION OF PLANT MATERIAL. NOTIFY LANDSCAPE ARCHITECT OF ANY DISCREPANCIES BETWEEN FIELD CONDITIONS AND THOSE SHOWN ON THE PLAN.
- VERIFICATION OF TOTAL QUANTITIES AS SHOWN ON THE PLANT LIST SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR, AND THE TOTAL QUANTITIES SHALL BE AS SHOWN ON THE PLAN.
- CONTACT THE LANDSCAPE ARCHITECT FOR INSPECTION 48 HOURS IN ADVANCE OF THE SCHEDULED SITE VISIT AND AT THE FOLLOWING INTERVALS:
  - REVIEW OF GRADING PRIOR TO PLANT AND LAWN INSTALLATION
  - REVIEW OF PLANT MATERIAL PRIOR TO INSTALLATION.
  - ONE SUBSTANTIAL COMPLETION MEETING FOR PLANT INSTALLATION.
  - ONE FINAL INSPECTION FOR ALL SEEDING/PLANTING OPERATIONS.
- ALL PLANT MATERIAL SHALL CONFORM WITH THE STANDARDS SET FORTH BY THE AMERICAN ASSOCIATION OF NURSERYMEN AND THE WRITTEN SPECIFICATIONS.
- ESTABLISH POSITIVE DRAINAGE IN ALL PLANTING BEDS AND AWAY FROM BUILDING.
- APPLY PRE-EMERGENT HERBICIDE TO ALL NEW PLANTING BEDS AT MANUFACTURER'S RECOMMENDED RATE PRIOR TO INSTALLATION OF PLANT MATERIAL.
- DO NOT INSTALL PLANT MATERIAL IN IMPEROUS SOILS (i.e. HOLES WHICH WHEN FILLED WITH WATER, DO NOT COMPLETELY DRAIN WITHIN TWO HOURS).
- LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE FOR WATERING ALL PLANTS AND LAWN AREAS AT HIS COST FROM HIS OWN WATER SOURCE INCLUDING DURING PERIODS OF DROUGHT UNTIL FINAL COMPLETION. ANY WATERING OR MAINTENANCE REQUIRED AFTER FINAL COMPLETION SHALL BE AT OWNER'S COST.
- GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR KEEPING ALL EQUIPMENT & SUBCONTRACTORS AWAY FROM SEEDING AREAS. IF DAMAGE OCCURS, THROUGH NO FAULT OF THE OWNER, AREAS SHALL BE REGRADED AND RESEEDED IMMEDIATELY AT NO ADDITIONAL COST TO THE OWNER. CONTRACTOR SHALL WATER AND MAINTAIN THOSE AREAS UNTIL THEY ARE AT 95% COVERAGE AT SUBSTANTIAL COMPLETION.
- SUBSTITUTIONS OF PLANT MATERIAL SHALL ONLY BE ACCEPTED 60 DAYS PRIOR TO COMMENCEMENT OF PLANTING OPERATIONS. SUBSTITUTION REQUESTS MUST BE IN WRITING AND WILL ONLY BE ACCEPTED FOR LACK OF AVAILABILITY REASONS WHICH CAN BE SUBSTANTIATED OR FOR SUPERIOR STOCK SUBSTITUTIONS.
- GENERAL LAWN AREAS SHALL BE SEEDING WITH COMMON BERMUDAGRASS OR APPROVED EQUAL.
- LANDSCAPE CONTRACTOR SHALL NOTIFY LANDSCAPE ARCHITECT TO REVIEW GRADING ONE WEEK PRIOR TO SEEDING, IF THE LANDSCAPE CONTRACTOR AND LANDSCAPE ARCHITECT FIND GRADING UNACCEPTABLE FOR FINAL SEEDING, LANDSCAPE CONTRACTOR SHALL BRING IT TO THE ATTENTION OF THE GENERAL CONTRACTOR. LANDSCAPE CONTRACTOR SHALL NOT PROCEED WITHOUT APPROVAL BY LANDSCAPE ARCHITECT.

**LANDSCAPE NOTES**

- CHISEL ALL OUT GRADED OR COMPACTED AREAS TO A MINIMUM DEPTH OF 8".
- DISC ALL AREAS TO RECEIVE GRASS TO A MINIMUM OF 8 INCHES, MIX AND AMEND WITH 3 INCHES OF WELL SCREENED TOPSOIL. ON-SITE TOPSOIL MAY BE USED IN PLACE OF IMPORTED TOPSOIL, IF WELL-SCREENED AND DRY PRIOR TO APPLICATION IN ACCORDANCE WITH SPECIFICATION SECTION 329000.
- REMOVE ALL LOOSE ROCK, ROOTS, AND OTHER OBSTRUCTIONS LEAVING SURFACE REASONABLY SMOOTH AND UNIFORM.
- APPLY AGRICULTURAL LIME, FERTILIZER, AND PHOSPHATE UNIFORMLY AS PER SPECIFICATIONS AND MIX WELL WITH SOIL.
- CONTINUE TILLAGE UNTIL A WELL-PULVERIZED, FIRM, REASONABLY UNIFORM SEEDBED IS PREPARED TO A 6 INCHES DEPTH.
- SEED AT RATE SPECIFIED OR AS NEEDED TO ACHIEVE AND MAINTAIN A THICK HEALTHY GROUND COVERAGE.
- MULCH IMMEDIATELY AFTER SEEDING AND ANCHOR MULCH. BEGIN THOROUGH WATERING OF GRASSED AREAS IMMEDIATELY UPON INSTALLATION. DO NOT ALLOW GRASSED AREAS TO BECOME EXCESSIVELY DRY.
- INSPECT ALL SEEDING AREAS AND MAKE NECESSARY REPAIRS OR RESEEDINGS AS NEEDED.
- IF CONFLICTS OCCUR BETWEEN WRITTEN SPECIFICATIONS AND THE DRAWINGS, THE WRITTEN SPECIFICATIONS SHALL PREVAIL.

**SEEDBED PREPARATION**

APPLY LIME AND FERTILIZER ACCORDING TO SOIL TESTS, OR APPLY A MINIMUM 3,000 LB/ACRE GROUND AGRICULTURAL LIMESTONE AND A MINIMUM 500 LB/ACRE 10-10-10 FERTILIZER, AS NEEDED TO ESTABLISH 95% COVERAGE (AS DETERMINED ON A PER SQUARE YARD BASIS) PRIOR TO SUBSTANTIAL COMPLETION. CONTRACTOR TO SUBMIT A COPY OF ALL SOIL REPORTS TO OWNER UPON RECEIPT.

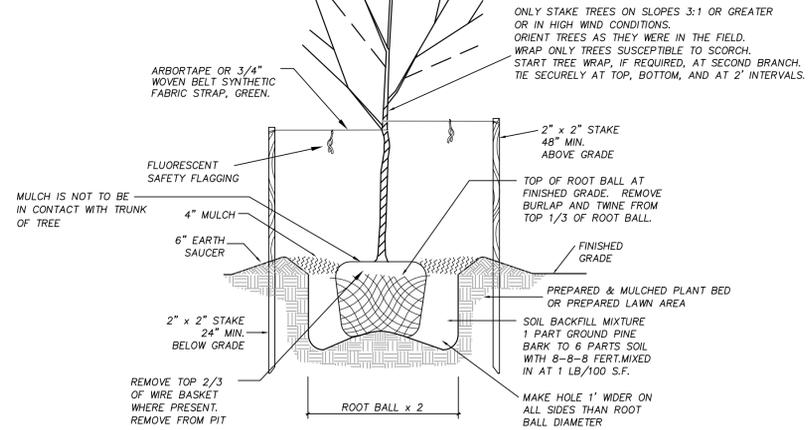
**LIME & FERTILIZATION SCHEDULE**

- DURING ALL PHASES OF CONSTRUCTION, GROUND COVER ON EXPOSED SLOPES SHALL BE PROVIDED WITHIN 14 CALENDAR DAYS FOLLOWING COMPLETION OF ANY PHASE OF GRADING.
- FINAL PERMANENT GROUND COVER FOR ALL DISTURBED AREAS SHALL BE PROVIDED ON ALL DISTURBED AREAS WITHIN 14 CALENDAR DAYS FOLLOWING COMPLETION OF CONSTRUCTION OR DEVELOPMENT.
- USE EXCELSIOR MATTING OR OTHER APPROVED CHANNEL LINING MATERIAL TO COVER THE BOTTOM OF CHANNELS.
- APPLY 4000 LB/ACRE (2 TONS LB/AC) GRAIN STRAW OVER SEEDING AREAS AND ANCHOR STRAW CRIMPING WITH HAND OR MECHANICAL CRIMPER 8" MAX. SPACING. ASPHALT TACKING OR OTHER APPROVED METHOD. ASPHALT TACKING SHALL BE 400 GAL/ACRE (9 GAL/1000 SF).
- MULCH AND ANCHORING MATERIALS MUST NOT BE ALLOWED TO WASH DOWN SLOPES AND CLOG DRAINAGE DEVICES.

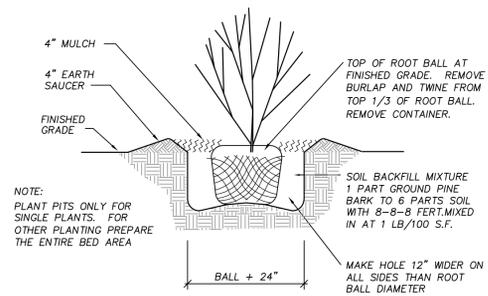
**SURFACE STABILIZATION REQUIREMENTS**



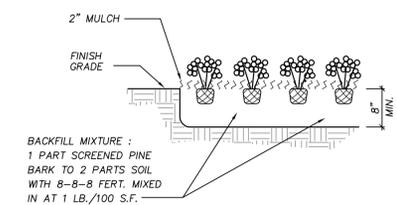
DO NOT PRUNE OR CUT LEADER. SEE SPECIFICATIONS SECTION 2900 FOR DETAILS.



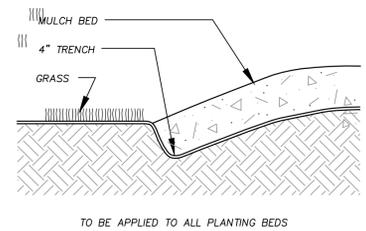
**TREE PLANTING DETAIL**



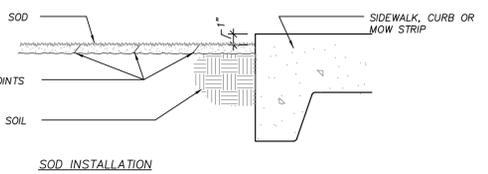
**TYPICAL SHRUB PLANTING DETAIL**



**GROUND COVER PLANTING DETAIL**



**GROUND COVER PLANTING DETAIL**



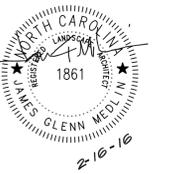
**APPROVED CONSTRUCTION PLAN**

NAME	DATE
PLANNING _____	_____
TRAFFIC _____	_____
FIRE _____	_____



514 Market Street  
Wilmington, NC 28401  
Tel - (910) 762-2621  
Fax - (910) 762-8506

Project ID # 900-9005



**Renovations and Additions to:**  
**John T. Hoggard High School**  
 4305 Shipyard Blvd.  
 Wilmington, North Carolina 28403

JOB NUMBER	15-120
DRAWN BY	JGM
CHECKED BY	JGM
DATE	APRIL 1, 2016
REVISIONS	

**SITE/CIVIL DETAILS**

SHEET NUMBER

**C7.6**

CONSTRUCTION DOCUMENTS: 4-1-2016

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

ENGLISH STANDARD DRAWING FOR BRICK CATCH BASIN 12" THRU 54" PIPE

NOTE: MORTAR JOINTS 1/2" +/- 1/8" THICK. USE CLASS "M" CONCRETE THROUGHOUT. USE FORMS FOR CONSTRUCTION OF THE BOTTOM SLAB. DEDUCT FOR PIPE(S) FROM TOTAL CU. YDS. OF BRICK MASONRY. PROVIDE ALL CATCH BASINS OVER 3'-4" IN DEPTH WITH STEPS 12" ON CENTER. USE STEPS WHICH COMPLY WITH STD. DRAWING 840.66. USE TYPE "E", "F" AND "G" GRATES UNLESS OTHERWISE INDICATED. USE BRICK OR CONCRETE BLOCK WHICH COMPLIES WITH THE REQUIREMENTS OF SECTION 840 OF THE STANDARD SPECIFICATIONS. IF REINFORCED CONCRETE PIPE IS SET IN BOTTOM SLAB OF BOX, ADD TO SLAB AS SHOWN ON STD. NO. 840.00. FOR 8'-0" IN HEIGHT OR LESS, USE 8" WALL. OVER 8'-0" IN HEIGHT, USE 12" WALL TO 6'-0" FROM TOP OF WALL AND 8" WALL FOR THE REMAINING 6'-0". QUANTITIES TO BE ADJUSTED ACCORDINGLY. CONSTRUCT WITH PIPE CROWNS MATCHING. CHAMFER ALL EXPOSED CORNERS 1". DRAWING NOT TO SCALE.

ENGLISH STANDARD DRAWING FOR BRICK CATCH BASIN 12" THRU 54" PIPE

SHEET 1 OF 2  
**840.01**

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

ENGLISH STANDARD DRAWING FOR BRICK CATCH BASIN 12" THRU 54" PIPE

DIMENSIONS OF BOX AND PIPE		TOP SLAB DIMENSIONS		BARS-U			BARS-V			BARS-W			TOTAL		CU. YDS. CONC. IN BOX		BRICK MASONRY		DEDUCTIONS		
PIPE	SPAN	WIDTH	DEPTH	MIN. HEIGHT	E	F	NO.	LENGTH	NO.	LENGTH	NO.	LENGTH	TOP LBS.	BOTTOM LBS.	TOTAL	1/4" MIN. CONC.	1/4" MIN. CONC.	TOTAL	1/4" MIN. CONC.	TOTAL	
12"	3'-0"	2'-2"	0	2'-9"	..	..	..	..	..	..	..	..	..	..	..	0.281	0.281	0.883	1.164	0.020	0.042
15"	3'-0"	2'-2"	0	3'-0"	..	..	..	..	..	..	..	..	..	..	..	0.281	0.281	0.863	1.244	0.031	0.047
18"	3'-0"	2'-2"	0	3'-3"	..	..	..	..	..	..	..	..	..	..	..	0.281	0.281	1.043	1.324	0.044	0.065
24"	3'-0"	2'-2"	0	3'-9"	..	..	..	..	..	..	..	..	..	..	..	0.281	0.281	1.204	1.485	0.078	0.121
30"	3'-0"	2'-2"	3'-4"	4'-3"	1'-2"	4'-4"	4	1'-6"	3	4'-1"	3	4'-1"	48	0.147	0.374	0.521	1.600	2.217	0.122	0.184	
36"	3'-0"	2'-2"	3'-10"	4'-9"	1'-8"	4'-4"	4	2'-0"	4	4'-1"	3	4'-1"	48	0.187	0.415	0.602	1.914	2.516	0.178	0.261	
42"	3'-0"	2'-2"	4'-6"	5'-3"	1'-9"	3'-6"	4	1'-9"	3	3'-3"	3	3'-3"	38	0.138	0.372	0.508	2.152	2.660	0.240	0.371	
48"	3'-0"	2'-2"	5'-0"	5'-9"	2'-0"	3'-6"	4	2'-6"	4	3'-3"	3	3'-3"	41	0.173	0.410	0.583	2.415	2.998	0.313	0.477	
54"	3'-0"	2'-2"	5'-7"	6'-3"	2'-7"	3'-6"	4	3'-0"	6	3'-3"	3	3'-3"	47	0.211	0.448	0.659	2.808	3.465	0.396	0.595	

\* RISER HAS .321 CUBIC YARDS OF BRICK MASONRY PER FOOT HEIGHT

ENGLISH STANDARD DRAWING FOR BRICK CATCH BASIN 12" THRU 54" PIPE

SHEET 2 OF 2  
**840.01**

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

ENGLISH STANDARD DRAWING FOR FRAME, GRATES, AND HOOD FOR USE ON STANDARD CATCH BASIN

NOTE: USE TYPE "E", "F" AND "G" GRATE UNLESS OTHERWISE NOTED.

ENGLISH STANDARD DRAWING FOR FRAME, GRATES, AND HOOD FOR USE ON STANDARD CATCH BASIN

SHEET 1 OF 2  
**840.03**

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

ENGLISH STANDARD DRAWING FOR FRAME, GRATES, AND HOOD FOR USE ON STANDARD CATCH BASIN

DETAIL SHOWING TYPES OF GRATES USE ACCORDING TO WATER FLOW.

ENGLISH STANDARD DRAWING FOR FRAME, GRATES, AND HOOD FOR USE ON STANDARD CATCH BASIN

SHEET 2 OF 2  
**840.03**

APPROVED CONSTRUCTION PLAN

PLANNING	NAME	DATE
TRAFFIC		
FIRE		

Renovations and Additions to:  
**John T. Hoggard High School**  
 4305 Shipyard Blvd.  
 Wilmington, North Carolina 28403

JOB NUMBER  
 15-120  
 DRAWN BY  
 JGM  
 CHECKED BY  
 JGM  
 DATE  
 APRIL 1, 2016  
 REVISIONS

SITE/CIVIL DETAILS

SHEET NUMBER

**C7.7**

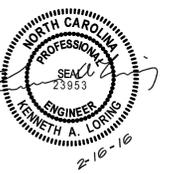
CONSTRUCTION DOCUMENTS: 4-1-2016



**BOWMAN  
MURRAY  
HEMINGWAY**

ARCHITECTS  
514 Market Street  
Wilmington, NC 28401  
Tel - (910) 762-2621  
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Project ID # 900-9005



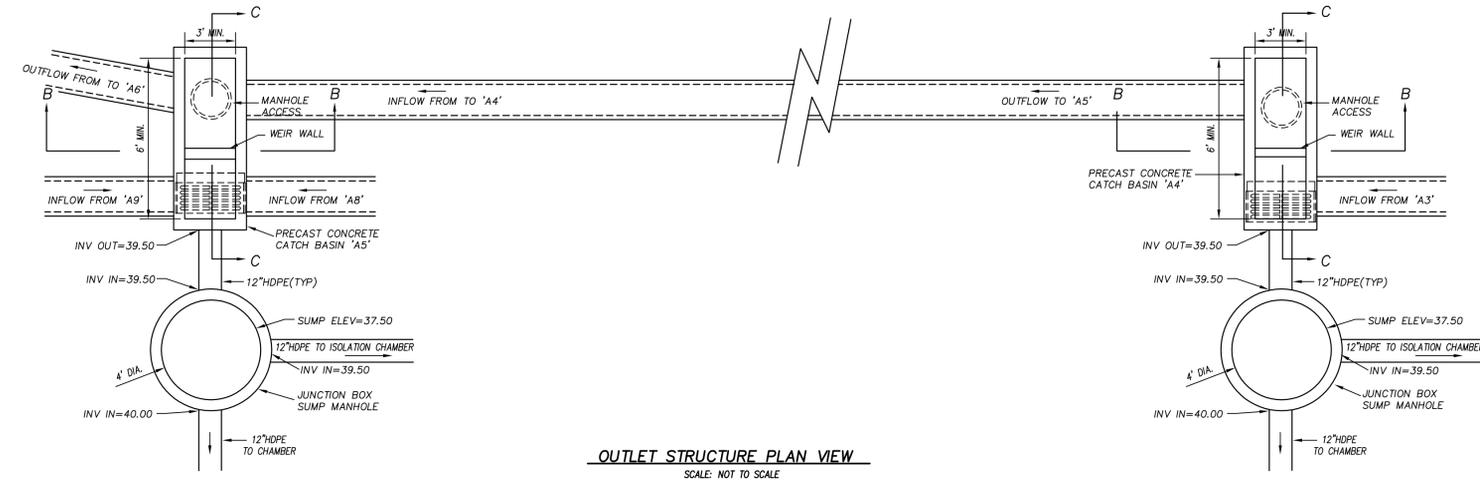
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JOB NUMBER	15-120
DRAWN BY	JGM
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REVISIONS	

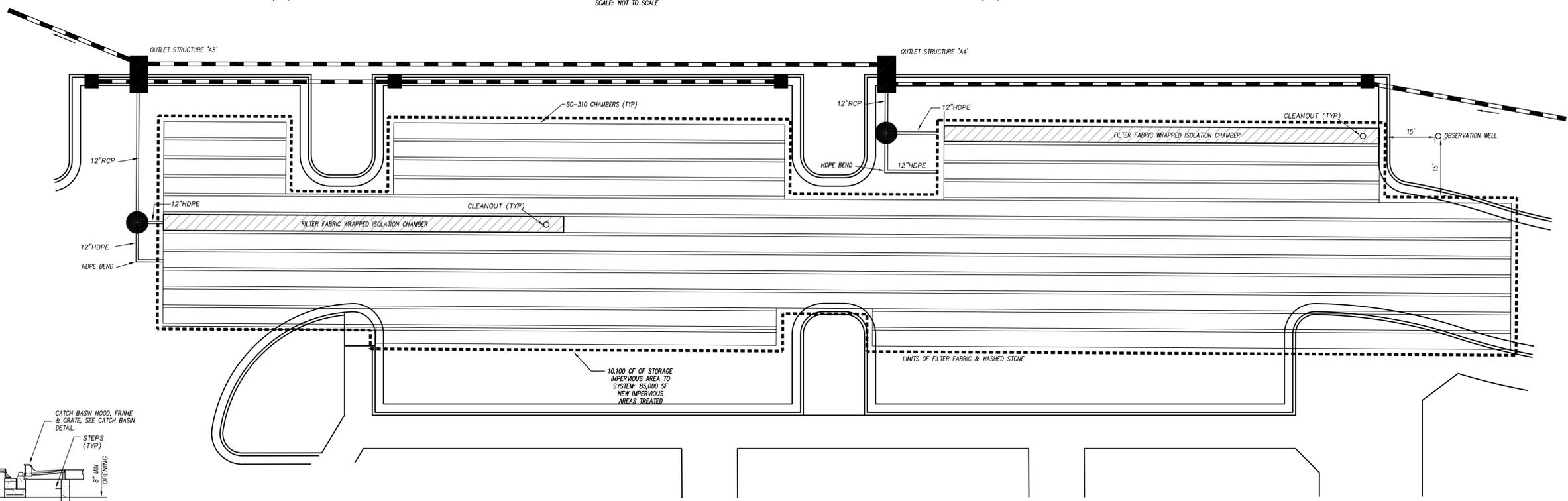
**SITE/CIVIL  
DETAILS**

SHEET NUMBER

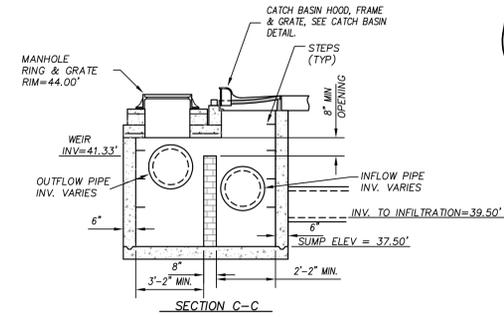
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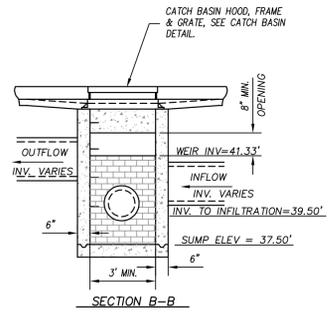
**OUTLET STRUCTURE PLAN VIEW**  
SCALE: NOT TO SCALE



**PLAN VIEW**  
SCALE: 1"=10'

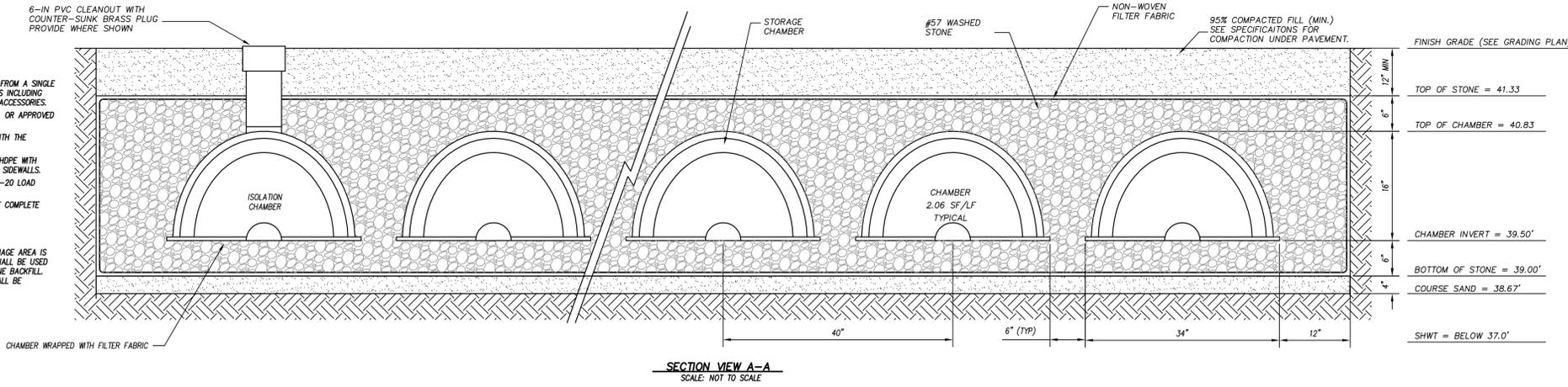


**SECTION C-C**



**STRUCTURE 'A2' & 'A3'**  
SCALE: NOT TO SCALE

- NOTES:**
1. A COMPLETE STORMWATER STORAGE SYSTEM SHALL BE PROVIDED FROM A SINGLE MANUFACTURER AND SHALL INCLUDE ALL NECESSARY COMPONENTS INCLUDING STORAGE CHAMBER UNITS, CHAMBER CONNECTORS, FITTINGS AND ACCESSORIES.
  2. STORMWATER STORAGE CHAMBERS SHALL BE STORMTECH SC-310 OR APPROVED EQUAL.
  3. ALL COMPONENTS SHALL BE INSTALLED IN STRICT ACCORDANCE WITH THE MANUFACTURER'S WRITTEN INSTRUCTIONS.
  4. CHAMBERS SHALL BE CONSTRUCTED OF HIGH MOLECULAR WEIGHT HDPE WITH OPEN BOTTOMS, INTEGRALLY FORMED ENDWALLS AND PERFORATED SIDEWALLS.
  5. CHAMBER SYSTEMS SHALL BE DESIGNED TO WITHSTAND AASHTO H-20 LOAD RATINGS.
  6. CONTRACTOR SHALL SUBMIT DIMENSIONED SHOP DRAWINGS OF THE COMPLETE SYSTEM FOR APPROVAL PRIOR TO CONSTRUCTION.
  7. FILTER FABRIC SHALL BE A 4-OZ NON-WOVEN GEOTEXTILE.
  8. STONE BACKFILL SHALL BE NO. 57 WASHED STONE.
  9. SYSTEM SHALL NOT BE INSTALLED UNTIL THE CONTRIBUTING DRAINAGE AREA IS STABILIZED AND PROVIDED BY THE ENGINEER. EXTREME CARE SHALL BE USED DURING INSTALLATION TO MAINTAIN INTEGRITY OF WASHED-STONE BACKFILL. SYSTEM SHALL BE BACKFILLED AND FINAL GROUND SURFACES SHALL BE STABILIZED IMMEDIATELY THEREAFTER.
- PLANNING \_\_\_\_\_  
TRAFFIC \_\_\_\_\_  
FIRE \_\_\_\_\_

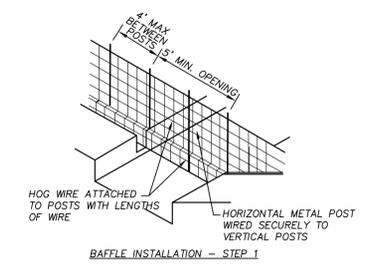
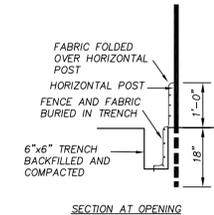
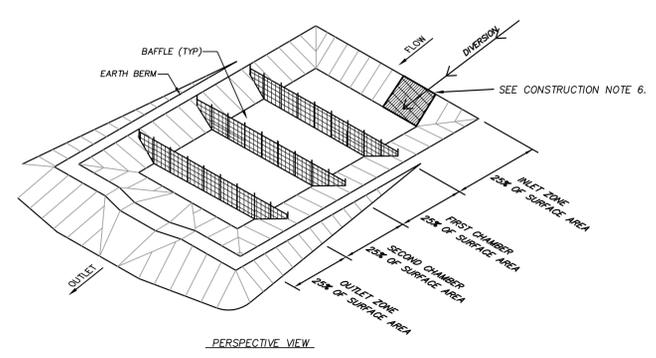


**SECTION VIEW A-A**  
SCALE: NOT TO SCALE

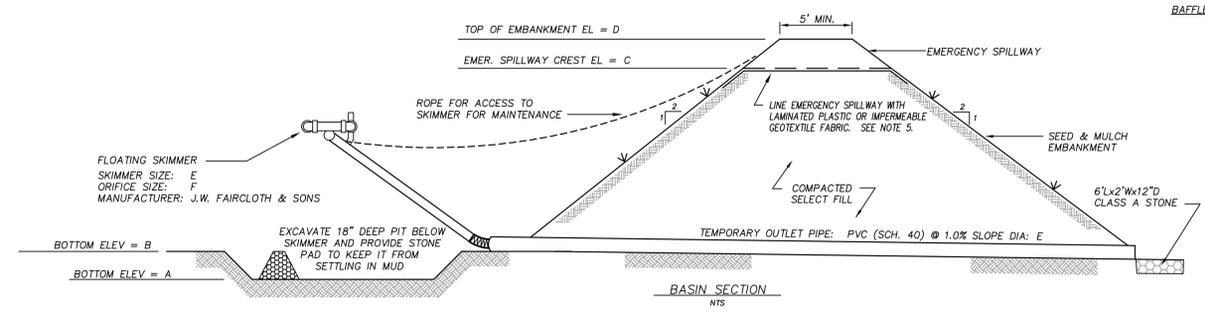
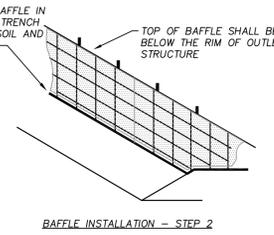
**UNDERGROUND INFILTRATION BASIN**

N.T.S.

CONSTRUCTION DOCUMENTS: 4-1-2016

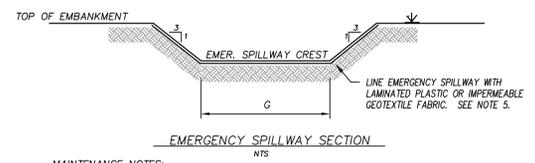


- BAFFLE NOTES:**
1. DRIVE STEEL FENCE POST AT LEAST 18" INTO SOLID GROUND.
  2. WOOD POSTS ARE NOT ACCEPTABLE.
  3. USE STAPLES 1" APART TO ATTACH FABRIC TO "HOG WIRE".
  4. BAFFLE SPACED AS PER APPROVED PLAN.
  5. BAFFLE FABRIC SHALL WOVEN JUTE NET.



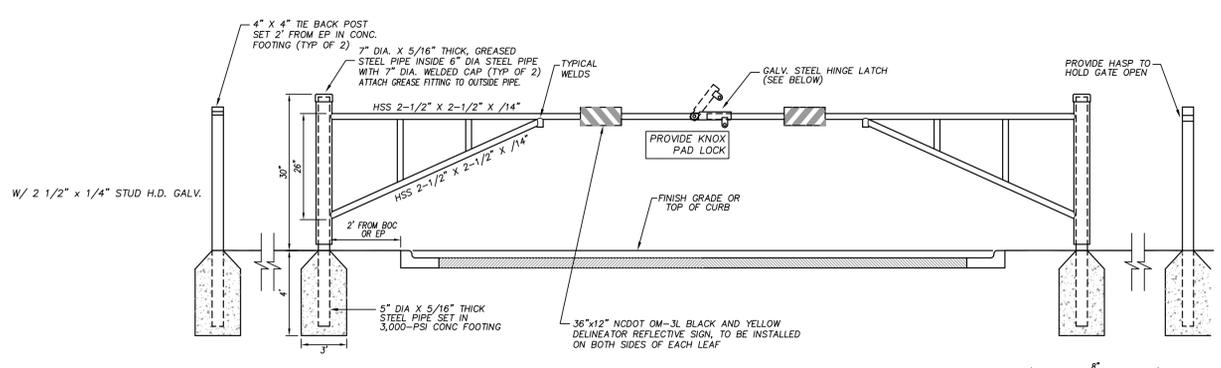
- CONSTRUCTION NOTES:**
1. PLACE TEMPORARY SEDIMENT CONTROL MEASURES BELOW BASIN AS INDICATED. CLEAR, GRUB AND STRIP THE AREA UNDER THE EMBANKMENT OF ALL VEGETATION AND ROOT MAT. REMOVE ALL SURFACE SOILS CONTAINING HIGH AMOUNTS OF ORGANIC MATTER.
  2. PLACE OUTLET BARREL ON A FIRM, SMOOTH FOUNDATION OF IMPERVIOUS SOIL. DO NOT USE PERVIOUS MATERIAL SUCH AS SAND, GRAVEL OR CRUSHED STONE AS BACKFILL AROUND PIPE. PLACE FILL MATERIAL AROUND PIPE IN 4-IN LAYERS AND COMPACT IT UNDER AND AROUND THE PIPE TO AT LEAST 90% OF THE STANDARD PROCTOR DENSITY. CARE SHALL BE TAKEN TO NOT RAISE THE PIPE FROM FIRM CONTACT WITH ITS FOUNDATION.
  3. ASSEMBLE THE SKIMMER IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS. ATTACH SKIMMER TO BARREL PIPE WITH FLEXIBLE JOINT AND POSITION THE SKIMMER OVER THE EXCAVATED PIT. ATTACH A ROPE TO THE SKIMMER AND ANCHOR IT TO THE SIDE OF THE BASIN.
  4. EMBANKMENT SHALL BE CONSTRUCTED OF CLEAN STRUCTURAL SOIL, FREE OF ROOTS, VEGETATION, ROCKS & OTHER OBJECTIONABLE MATERIAL. SCARIFY SURFACES BEFORE PLACING FILL. PLACE FILL IN 6-8 INCH LOOSE LIFTS. COMPACT TO AT LEAST 90% OF THE STANDARD PROCTOR DENSITY.
  5. LINE THE ENTIRE EMERGENCY SPILLWAY WITH LAMINATED PLASTIC OR IMPERMEABLE GEOTEXTILE FABRIC. FABRIC SHALL BE WIDE ENOUGH TO COVER THE BOTTOM AND SIDES OF THE SPILLWAY AND EXTEND ONTO THE TOP OF THE DAM FOR ANCHORING IN A TRENCH. THE EDGES SHALL BE SECURED WITH 8-IN STAPLES OR PINS. THE FABRIC SHALL BE LONG ENOUGH TO EXTEND DOWN THE SLOPE AND EXIT ONTO STABLE GROUND. THE WIDTH OF THE FABRIC SHALL BE ONE PACE, NOT JOINED OR SPLICED. IF THE LENGTH OF THE FABRIC IS INSUFFICIENT FOR THE ENTIRE LENGTH OF THE SPILLWAY, MULTIPLE SECTIONS, SPANNING THE COMPLETE WIDTH, MAY BE USED. THE UPPER SECTIONS SHALL OVERLAP THE LOWER SECTIONS SO WATER CANNOT FLOW UNDER THE FABRIC. SECURE THE UPPER EDGE AND SIDES OF THE FABRIC IN A TRENCH WITH STAPLES OR PINS.
  6. LINE SLOPES WHERE DIVERSION DITCH DISCHARGES INTO BASIN WITH LAMINATED PLASTIC OR IMPERMEABLE GEOTEXTILE FABRIC.

BASIN NUMBER	A (FT)	B (FT)	C (FT)	D (FT)	E (IN)	F (IN)	G (FT)
TSSB-1	37.5	39.0	40.5	42.5	1.5	1.0	10.0



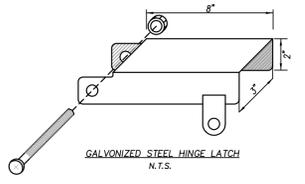
- MAINTENANCE NOTES:**
1. INSPECT DEVICE AFTER EACH RAINFALL. REMOVE SEDIMENT WHEN SEDIMENT REACHES A DEPTH OF NO MORE THAN ONE-HALF THE HEIGHT OF THE RISER. REPAIR BAFFLES IF THEY ARE DAMAGED.
  2. PULL SKIMMER TO SIDE OF BASIN WITH ROPE AND INSPECT REGULARLY. KEEP SKIMMER HEAD, ORIFICE AND PIPE FREE OF DEBRIS. REMOVE SEDIMENT FROM BENEATH SKIMMER AND ENSURE VEGETATION DOES NOT INTERFERE WITH SKIMMER OPERATION.
  3. CHECK FABRIC LINED SPILLWAY FOR DAMAGE AND MAKE ANY REPAIRS WITH FABRIC THAT SPANS THE FULL WIDTH OF THE SPILLWAY.
  4. ALL DEWATERING SHALL BE PUMPED THROUGH SILT FILTER BAG. SILT FILTER BAG SHALL BE PLACED ON FLAT SURFACE WITHIN LIMITS OF DISTURBANCE.

TEMPORARY SKIMMER SEDIMENT BASIN N.T.S.



- PAINTING SPECIFICATIONS:**
1. MANUFACTURER: TMEMEC COMPANY, INC.; CARY, NC (919-859-3737)
  2. SYSTEM TYPE: EPOXY-POLYURETHANE
  3. SURFACE PREPARATION: SSPV-SPI AND BRUSH OFF BLAST CLEAN
  4. PRIMER: SERIES 27 (FIELD-COATED) TYPQXY OR 69 HI-BUILD EPOXIOUNE
  5. FINISH PAINT: SERIES 73 ENDURA-SHIELD, SEMI-GLOSS, SUBMIT COLOR OPTIONS FOR SELECTION BY ARCHITECT.
  6. CONTRACTOR SHALL INSTALL KNOX BOX AT THE DIRECTION OF FIRE MARSHAL. KNOX BOX SHALL BE PER TOWN OF APEX STANDARDS.

- NOTES:**
1. ALL STEEL SHALL BE HOT-DIPPED GALVANIZED AND EPOXY PAINTED.
  2. SUBMIT SHOP DRAWING FOR REVIEW AND APPROVAL PRIOR TO FABRICATION AND ASSEMBLY.



PIPE GATE N.T.S.

APPROVED CONSTRUCTION PLAN

NAME	DATE
PLANNING	
TRAFFIC	
FIRE	



**BOWMAN MURRAY HEMINGWAY ARCHITECTS**  
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