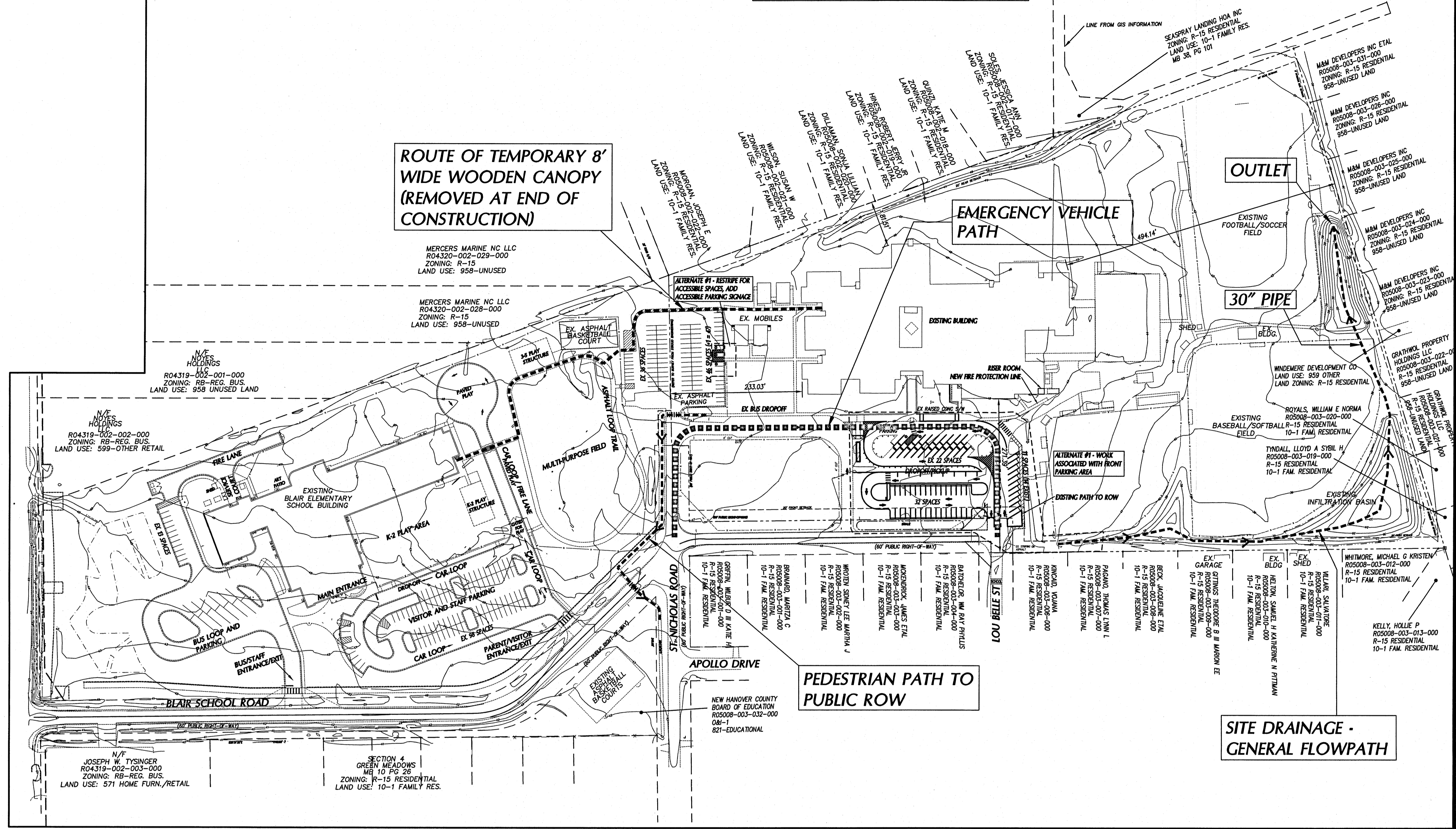


**PARKING LOT PLAN ONLY**



**ROUTE OF TEMPORARY 8' WIDE WOODEN CANOPY (REMOVED AT END OF CONSTRUCTION)**

**EMERGENCY VEHICLE PATH**

**PEDESTRIAN PATH TO PUBLIC ROW**

**SITE DRAINAGE - GENERAL FLOWPATH**

**SITE DATA**

**NO PERMANENT BUILDINGS PROPOSED. PARKING LOT PLAN ONLY.**

**PROJECT:** M.C.S. NOBLE MIDDLE SCHOOL  
**OWNER:** NEW HANOVER COUNTY SCHOOLS  
**OWNER CONTACT:** TONY CARTER  
 6410 CAROLINA BEACH ROAD  
 WILMINGTON, NC 28412  
 TONY.CARTER@HCS.NET  
 910-254-4315  
 CLH DESIGN, PA

**DESIGNER:** GLENN MEDLIN  
 400 REGENCY FOREST DRIVE, SUITE 120  
 CARY, NC 27518  
 PHONE: 919-319-6716  
 FAX: 919-319-7516

**PROJECT ADDRESS:** 6520 MARKET ST.  
 WILMINGTON, NC 28405

**PARCEL ID:** R05008-003-005-000  
**FIN:** 3158-15-4523  
**ZONING:** O&E-1  
**EXISTING USE:** INSTITUTIONAL/EDUCATIONAL  
**PROPOSED USE:** INSTITUTIONAL/EDUCATIONAL  
**LAND USE CLASS:** EDUCATIONAL

BUILDING SETBACKS:	REQUIRED	PROVIDED
FRONT	20'	271.39'
REAR	20'	81.51'
INTERIOR SIDE	20'	233.03'
		494.14'

**TRACT AREA:** 19.25 AC  
**GROSS FLOOR AREA:** EXISTING: 85,000 SF  
 PROPOSED: 85,900 SF

**BUILDING LOT COVERAGE-EXISTING:** 10.2%

**NUMBER OF UNITS:** N/A  
**NUMBER OF BUILDINGS:** 1 (NOBLE MIDDLE)  
 4 (EX. MOBILES)  
**BUILDING HEIGHT:** 30' (21M)  
**NUMBER OF FLOORS IN BUILDING:** 1

**TYPE OF CONSTRUCTION:** TYPE II-B  
**SPRINKLERS:** NFPA 13

**CAMA LAND USE CLASSIFICATION:** URBAN  
**CAMA AREAS OF CONCERN (AEC):** THIS SITE IS NOT WITHIN A CAMA AEC.  
**SPECIAL ZONING OVERLAY DISTRICT:** N/A

**FLOODPLAIN:** PROPERTY IS NOT LOCATED IN THE 100-YEAR FLOODPLAIN PER FEMA FIRM PANEL #3720315800K DATED AUGUST 28, 2018.

**STORMWATER JURISDICTION:** NCOE  
**RIVER BASIN:** WHITE OAK  
**RECEIVING WATER COURSE:** HOME CREEK  
**STREAM CLASSIFICATION:** SA,ORW  
**STREAM CLASSIFICATION NUMBER:** 18-87-23

**PROPOSED WATER AND SEWER CAPACITY FOR SCHOOL:**  
 EXISTING SEWER FLOW PER DAY (923 X 15 GPD) = 13,845 GPD  
 PROPOSED SEWER FLOW PER DAY (923 X 15 GPD) = 13,845 GPD  
 EXISTING WATER FLOW PER DAY (923 X 15 GPD) = 13,845 GPD  
 PROPOSED WATER FLOW PER DAY (923 X 15 GPD) = 13,845 GPD

**WATER AND SEWER JURISDICTION:** OFFPIA  
**STORM DRAINAGE AND LINES:** PUBLIC

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

**PARKING CODE:** SECONDARY SCHOOL: 1 SPACE PER 5 STUDENTS OR 1 PER 3 SEATS IN AUDITORIUM OR OTHER PUBLIC ASSEMBLY SPACE, WHICHEVER IS GREATER

NUMBER OF STUDENTS:	923
472	
185 (BASED ON NUMBER OF STUDENTS)	
36 (EX. AT FRONT OF SCHOOL)	
46 (EX. PORTION OF SHARED LOT WITH BLAIR)	
30 (EX. IN GRAVEL LOT)	
=112 (EXISTING)	
33 (RE-STRIPE AT FRONT OF SCHOOL)	
47 (RE-STRIPE PORTION OF SHARED LOT WITH BLAIR)	
32 (PROPOSED IN PAVED AREA OF PRE-EX GRAVEL)	
=112 (TOTAL PROPOSED SPACES)	

**TOTAL H/C SPACES REQ'D:** 5 (BASED ON PROVIDED SPACES)  
**TOTAL H/C SPACES PROVIDED:** 3 EXISTING + 2 PROPOSED = 5 PROVIDED  
**BICYCLE PARKING REQUIRED:** PER 18-528.F  
**BICYCLE PARKING PROVIDED:** EXISTING SPACES PROVIDED - 12

**IMPERVIOUS SURFACE AREAS**

**PERMITTED IMPERVIOUS AREA - SWS 00117 (STATE PERMIT AREA)**  
 (FROM NCOE PERMIT LETTER DATED 9/22/17): 228,255 SF

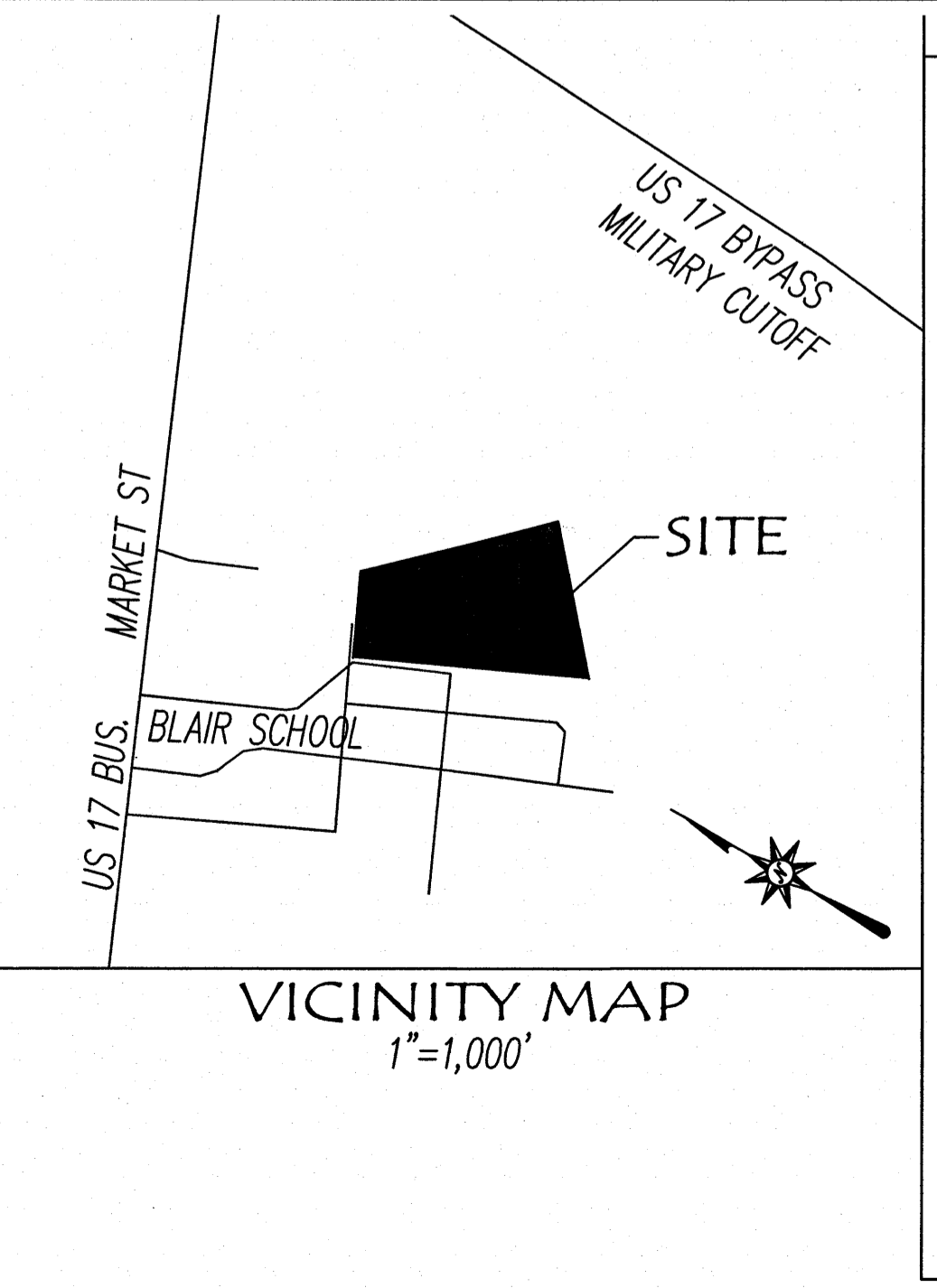
**PRE-DEVELOPMENT IMPERVIOUS AREA (STATE PERMIT AREA)**  
 (FROM NCOE PERMIT LETTER DATED 9/22/17): 228,065 SF

**EXISTING IMPERVIOUS (WITHIN PROPERTY AREA):** 217,199 SF  
**EXISTING IMPERVIOUS TO BE REMOVED (WITHIN PROPERTY AREA):** 15,047 SF  
**NEW IMPERVIOUS:** 14,838 SF  
**IMPERVIOUS PAVEMENT:** 3,499 SF  
**IMPERVIOUS SIDEWALKS:** 3,499 SF

**TOTAL ON-SITE IMPERVIOUS SURFACE = 220,469**  
**ON-SITE IMPERVIOUS PERCENTAGE: 26.3%**

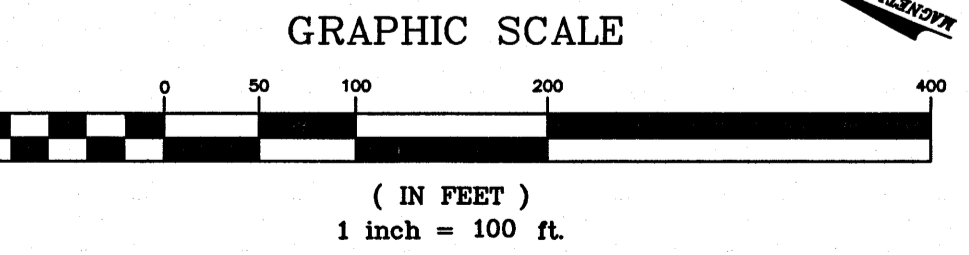
\*PLEASE SEE CITY OF WILMINGTON STORMWATER SUBMITAL FOR ADDITIONAL INFORMATION

**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.**



**CITY OF WILMINGTON NOTES (ON APPLICATION CHECKLIST)**

- 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 THE TREE PROTECTION FENCING.
- ANY TREES AND/OR AREAS DESIGNATED TO BE PROTECTED MUST BE PROTECTED BY BARBED WIRE FENCING AND PROTECTED THROUGHOUT CONSTRUCTION TO INSURE THAT NO CLEARING, GRADING OR STAGING OF MATERIALS WILL OCCUR IN THOSE AREAS.
- 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.
- ALL PAVEMENT MARKINGS IN PUBLIC RIGHTS-OF-WAY AND FOR DRIVEWAYS ARE TO BE THERMOPLASTIC AND MEET CITY AND/OR NCDOT STANDARDS.
- 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.
- 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. CONTACT TRAFFIC ENGINEERING AT 910-341-2888 TO ENSURE THAT ALL TRAFFIC SIGNAL FACILITIES AND EQUIPMENT ARE SHOWN ON THE PLAN.
- CALL TRAFFIC ENGINEERING AT 910-341-7888 FORTY-EIGHT (48) HOURS PRIOR TO ANY EXCAVATION IN THE RIGHT-OF-WAYS.
- TRAFFIC ENGINEERING MUST APPROVE OF PAVEMENT MARKING PRIOR TO ACTUAL STRIPING.
- ALL PARKING STALL MARKINGS AND LANE ARROWS WITHIN THE PARKING AREAS SHALL BE WHITE.
- ALL TRAFFIC CONTROL SIGNS AND MARKINGS OFF THE RIGHT-OF-WAY ARE TO BE MAINTAINED BY THE PROPERTY OWNER.
- STOP SIGNS AND STREET SIGNS TO REMAIN IN PLACE DURING CONSTRUCTION.
- TACTILE WARNING MATS WILL BE INSTALLED ON ALL WHEELCHAIR RAMPS.
- A UTILITY CUT PERMIT IS REQUIRED FOR EACH OPEN CUT OF A CITY STREET. CONTACT 910-341-5888 FOR MORE DETAILS.
- ANY BROKEN OR MISSING SIDEWALK PANELS WILL BE REPLACED.
- CONTACT TRAFFIC ENGINEERING AT 910-341-2888 TO DISCUSS STREET LIGHTING OPTIONS.
- WATER AND SEWER SERVICE SHALL BE IN ACCORDANCE WITH CAPE FEAR PUBLIC UTILITY AUTHORITY (CPFA) DETAILS AND SPECIFICATIONS.
- PROJECT SHALL COMPLY WITH CPFA GROSS CONNECTION CONTROL REQUIREMENTS. WATER METER(S) CANNOT BE RELEASED UNTIL REQUIREMENTS ARE MET AND THE STATE HAS GIVEN THEIR FINAL APPROVAL. CALL 910-343-3910 FOR INFORMATION.
- IF THE CONTRACTOR DESIRES CPFA 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.
- ANY IRRIGATION SYSTEM SUPPLIED BY THE CPFA WATER SHALL COMPLY WITH THE CPFA GROSS CONNECTION CONTROL REGULATIONS. CALL 910-343-3910 FOR INFORMATION.
- ANY IRRIGATION SYSTEM SHALL BE EQUIPPED WITH A RAIN AND FREEZER SENSOR.
- ANY BACKFLOW PREVENTION DEVICES REQUIRED BY THE CPFA WILL NEED TO BE ON THE LIST OF APPROVED DEVICES BY USFPCOCHR OR ASSE.
- CONTRACTOR SHALL VERIFY EXISTING WATER AND SEWER SERVICE LOCATIONS, SIZES, AND MATERIALS PRIOR TO CONSTRUCTION. ENGINEER TO BE NOTIFIED OF ANY CONFLICTS.
- CONTRACTOR SHALL MAINTAIN ALL WEATHER ACCESS FOR EMERGENCY VEHICLES AT ALL TIMES DURING CONSTRUCTION.
- UNDERGROUND FIRE LINE(S) MUST BE PERMITTED AND INSPECTED BY THE WILMINGTON FIRE DEPARTMENT FROM THE PUBLIC RIGHT-OF-WAY TO THE BUILDING. CONTACT THE WILMINGTON FIRE DEPARTMENT DIVISION FOR FIRE AND LIFE SAFETY AT 910-341-0606.
- NO OBSTRUCTIONS ARE PERMITTED IN THE SPACE BETWEEN THIRTY (30) INCHES AND TEN (10) INCHES ABOVE THE GROUND WITHIN THE TRIANGULAR SIGHT DISTANCE.
- CONTACT THE NORTH CAROLINA ONE CALL CENTER AT 1-800-632-4949 PRIOR TO DOING ANY DIGGING, CLEARING, OR GRADING.



**APPROVED CONSTRUCTION PLAN**

Public Services • Engineering Division  
 APPROVED STORMWATER MANAGEMENT PLAN  
 Date: 7/18/19 Permit #: 2019043  
 Signed: Leah Christensen

Name: Muel D Smith  
 Date: 7.18.19  
 Planning: Muel D Smith  
 Traffic: W. Shudo 7-17-19  
 Fire: C. Wel 7/18/19

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

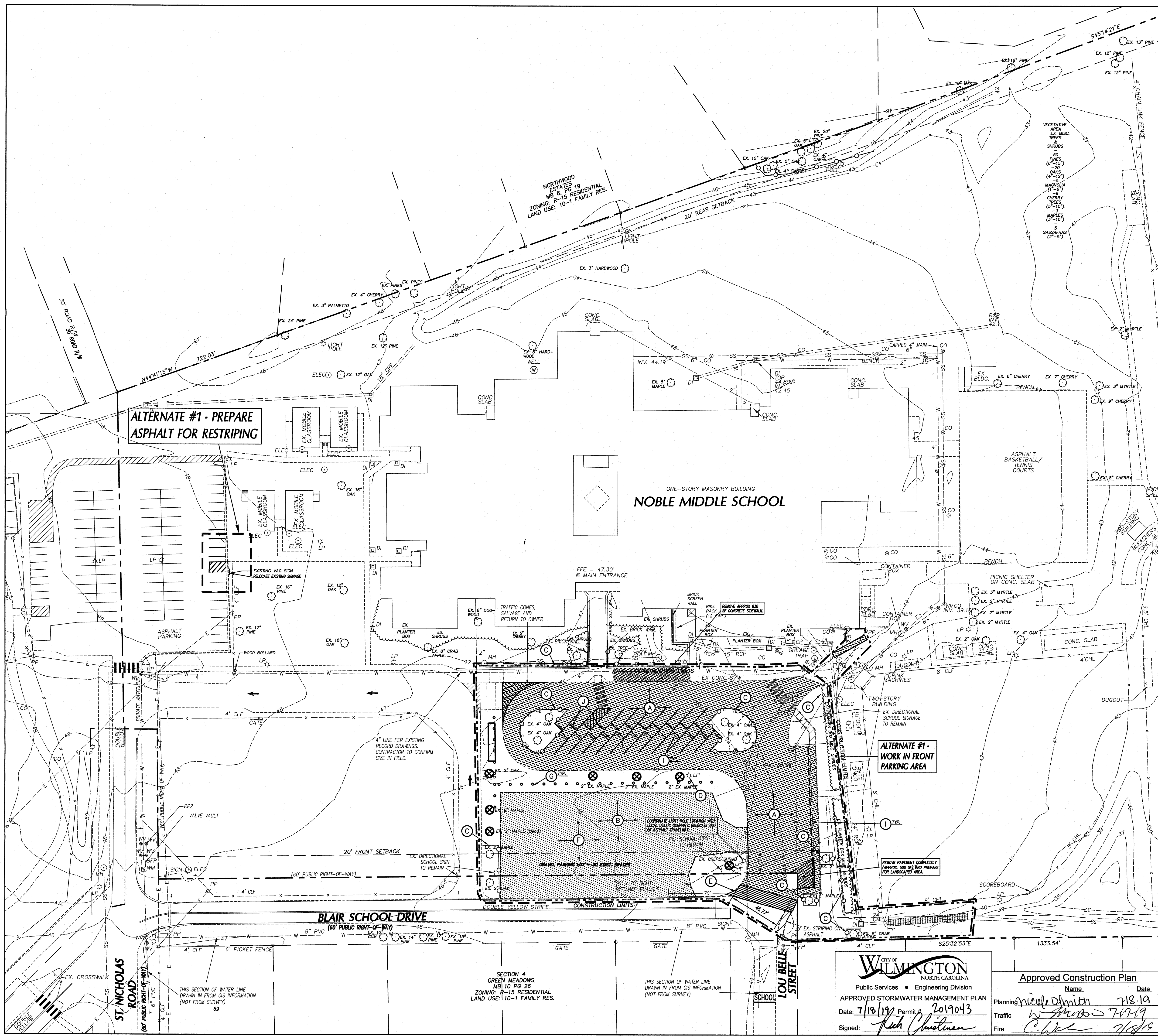
**CLH DESIGN PA**  
 400 Regency Forest Dr.  
 Suite 107  
 Cary, NC 27518  
 Phone: 919.319.6716  
 Fax: 919.319.7516  
 E-Mail: CLH@clhdesign.com

**STATE OF NORTH CAROLINA**  
 1861  
 JAMES GLENN MEDLIN  
 2/4/19

**Renovations to:**  
**M.C.S. Noble Middle School**  
 6520 Market Street  
 Wilmington, North Carolina

**OVERALL SITE PLAN**

**JOB NUMBER:** 18-131  
**DRAWN BY:** JGM/HBR  
**CHECKED BY:** JGM  
**DATE:** 2/4/2019  
**REVISIONS:** 6/18/2019 PERMITS  
 7/5/2019 PERMITS  
**SHEET NUMBER:** C0.01



**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. CONTRACTOR SHALL SALVAGE ALL SIGNAGE, METERS, ETC. TO OWNER. COORDINATE WITH OWNER PRIOR TO DEMOLITION.
3. INSTALL TREE PROTECTION FENCING PRIOR TO BEGINNING CLEARING OPERATIONS. CLEAR AND GRUB AS NEEDED WITHIN CONSTRUCTION LIMITS PER SPECIFICATIONS. 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.
4. REMOVE EXCESS TOPSOIL AND DISPOSE OF PROPERLY OFF-SITE.
5. ALL PAVEMENT OR CONCRETE TO BE REMOVED SHALL BE SAW CUT TO PROVIDE A STRAIGHT AND UNIFORM JOINT WITH NEW CONSTRUCTION. ANY EXISTING PAVEMENT, SIDEWALK, CURB & GUTTER, ETC. THAT MUST BE REMOVED TO ALLOW NEW CONSTRUCTION SHALL BE REMOVED AND REPAIRED PER THE SPECIFICATIONS AND DETAILS OR TO MATCH EXISTING CONDITIONS (WHETHER OR NOT SHOWN ON THE DRAWINGS TO BE REMOVED). UTILITY INSTALLATIONS MAY UTILIZE OPEN CUT OF PAVEMENTS UNLESS INDICATED OTHERWISE. TRENCH IN EXISTING ASPHALT SHALL BE PATCHED PER PAVEMENT REPAIR DETAIL.
6. PROTECT ALL ADJACENT PROPERTIES, THE GENERAL PUBLIC AND ALL OF THE OWNER'S FACILITIES. SHOULD DAMAGES OCCUR, NOTIFY ARCHITECT IMMEDIATELY.
7. 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.
8. VERIFY ALL ILLUSTRATED KNOWN UNDERGROUND ELEMENTS. EXERCISE REASONABLE EFFORTS TO LOCATE ANY UNKNOWN UNDERGROUND ELEMENTS. NOTIFY THE ARCHITECT IMMEDIATELY IF UNKNOWN ELEMENTS ARE DISCOVERED THAT WOULD NECESSITATE MODIFICATION TO THE PROPOSED DESIGN.
9. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH APPLICABLE LOCAL, STATE AND OSHA REGULATIONS.
10. EXISTING MANHOLES, VALVE BOXES, VAULTS, CLEANOUTS, UTILITY POLES ETC. TO REMAIN WITHIN THE GRADING LIMITS SHALL BE ADJUSTED AS NEEDED TO FUNCTION PROPERLY WITH THE PROPOSED FINISHED GRADES (NEITHER OR NOT INDICATED TO BE MODIFIED).
11. EXISTING SITE INFORMATION TAKEN FROM SURVEY BY STROUD ENGINEERING DATED 1/13/06 AND DESIGN INFORMATION PROVIDED BY OWNER.
12. 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.

**KEY NOTES**

- (A) MILL 1.5" ASPHALT. SEE SPECIFICATIONS.
- (B) CLEAR AND GRUB WITHIN CONSTRUCTION LIMITS AS REQUIRED. SEE SPECIFICATIONS.
- (C) TREE PROTECTION FENCE, SEE DETAIL SHEET.
- (D) EXISTING LIGHT POLE TO REMAIN. COORDINATE INSTALLATION OF NEW SIDEWALK AND NEW BOLLARDS TO RETAIN LIGHT POLE.
- (E) SAWCUT AND REMOVE EXISTING ASPHALT FOR PIPE INSTALLATION.
- (F) GRAVEL TO BE REMOVED.
- (G) REMOVE WOODEN BOLLARDS AND ROPE.
- (H) REMOVE TOP GRATE, CAP, COVER, AND ABANDON STRUCTURE IN-PLACE.
- (I) SALVAGE AND REUSE EXISTING WHEELSTOPS.
- (J) SALVAGE AND REUSE EXISTING ACCESSIBLE SIGNAGE. ENSURE SIGNAGE MEETS REQUIREMENTS IN DETAIL ON SHEET C5.02.

ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH CITY OF WILMINGTON STANDARDS AND SPECIFICATIONS.

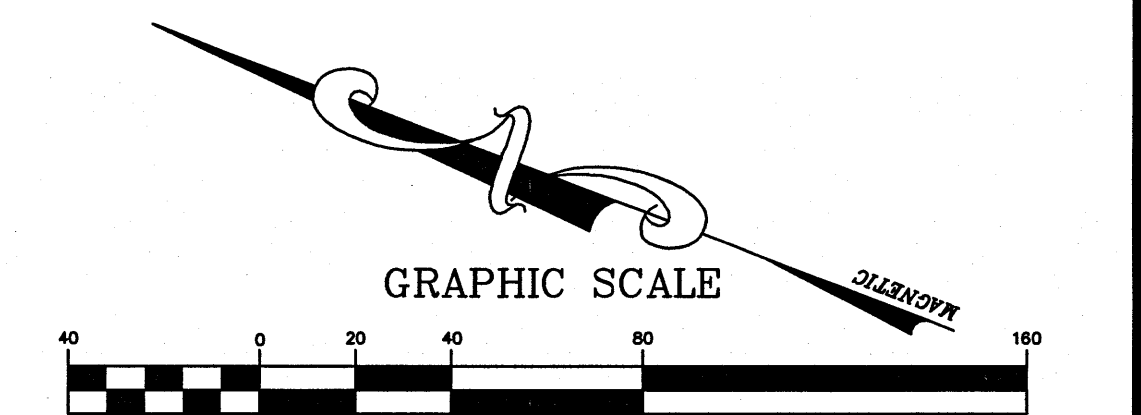
**LEGEND**

STRUCTURES/UTILITIES TO REMAIN	STRUCTURES/UTILITIES TO BE REMOVED
OVERHEAD ELECTRICAL ----- E -----	OVERHEAD ELECTRICAL ----- E -----
UNDERGROUND ELECTRICAL ----- UE -----	UNDERGROUND ELECTRICAL ----- UE -----
FIRE PROTECTION ----- FP -----	FIRE PROTECTION ----- FP -----
GAS ----- G -----	GAS ----- G -----
SANITARY SEWER ----- SS -----	SANITARY SEWER ----- SS -----
TELEPHONE ----- T -----	TELEPHONE ----- T -----
UNDERGROUND TELEPHONE ----- UT -----	UNDERGROUND TELEPHONE ----- UT -----
FIBER OPTIC ----- FO -----	FIBER OPTIC ----- FO -----
WATER ----- W -----	WATER ----- W -----
FORCE MAIN ----- FM -----	FORCE MAIN ----- FM -----
STORM DRAIN ----- SD -----	STORM DRAIN ----- SD -----
INDIVIDUAL TREE TO REMAIN (Symbol)	INDIVIDUAL TREE TO BE REMOVED (Symbol)
LIGHT POLE (Symbol)	LIGHT POLE (Symbol)
UTILITY POLE (Symbol)	UTILITY POLE (Symbol)
MANHOLE (Symbol)	MANHOLE (Symbol)
CLEAN OUT (Symbol)	CLEAN OUT (Symbol)
DROP INLET/CATCH BASIN (Symbol)	DROP INLET/CATCH BASIN (Symbol)
FIRE HYDRANT (Symbol)	FIRE HYDRANT (Symbol)
WATER VALVE (Symbol)	WATER VALVE (Symbol)

CONSTR./CLEARING LIMITS  
 PAVEMENT, S/W STRUCTURES, CAS TO BE REMOVED: [Symbol]  
 GRAVEL TO BE REMOVED: [Symbol]  
 LANDSCAPE AREA TO BE REMOVED: [Symbol]

**TREE PROTECTION NOTES:**

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

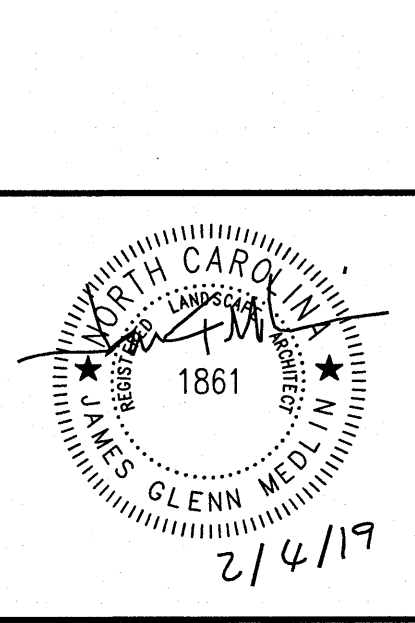


**CITY OF WILMINGTON**  
 NORTH CAROLINA  
 Public Services • Engineering Division  
 APPROVED STORMWATER MANAGEMENT PLAN  
 Date: 7/18/19 Permit #: 2019043  
 Signed: Rich Christman

**Approved Construction Plan**  
 Name: Nicole Smith Date: 7-18-19  
 Traffic: W Smith 7/18/19  
 Fire: C. Wells 7/18/19

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

**CLH DESIGN, PA**  
 481 Ragwood Forest Dr.  
 Suite 107  
 Cary, NC 27513  
 Phone: 919.219.7616  
 Fax: 919.219.7519  
 Lic. C-108-05-01995

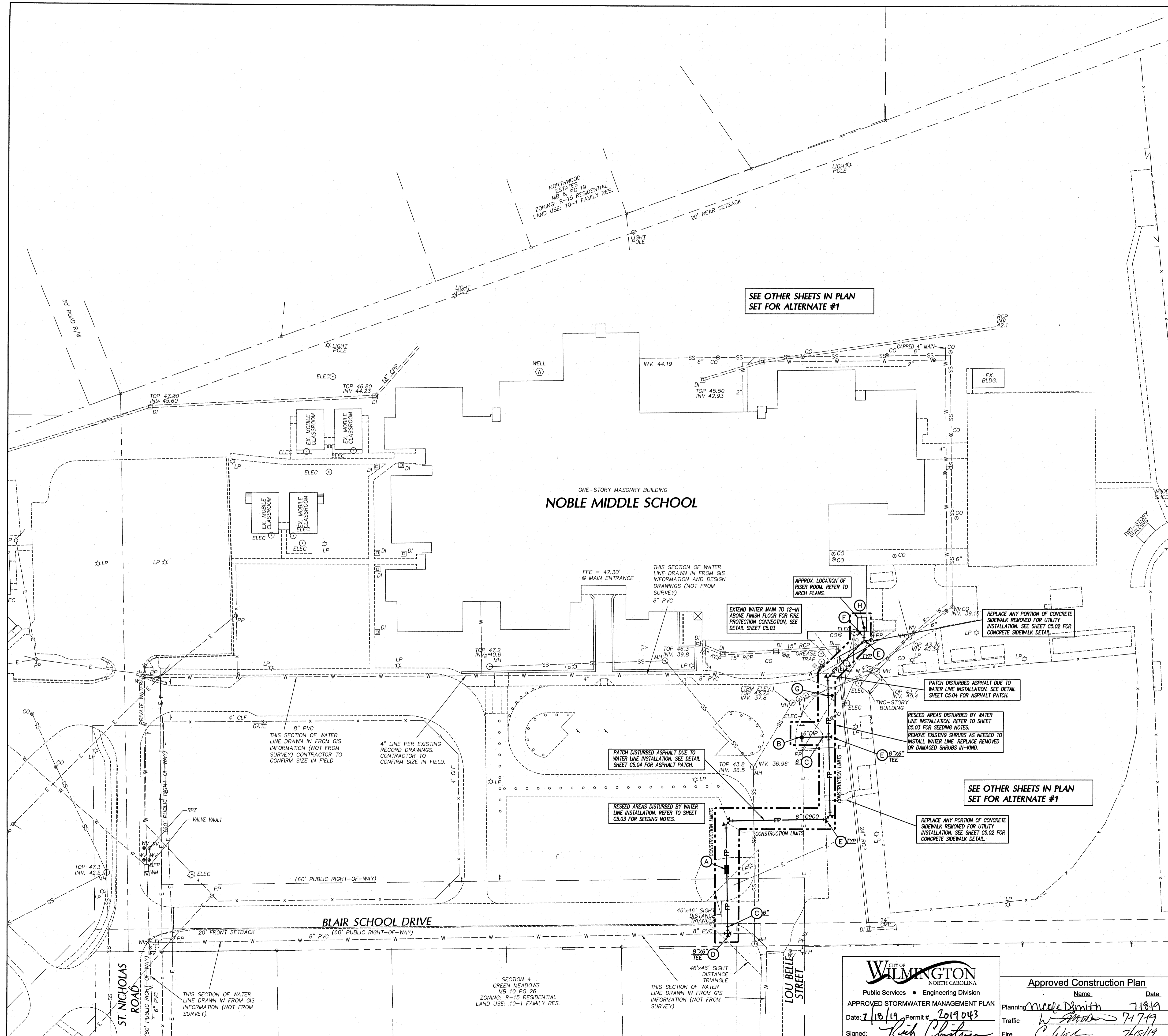


**Renovations to:**  
**M.C.S. Noble Middle School**  
 6520 Market Street  
 Wilmington, North Carolina

**EXISTING CONDITIONS AND DEMOLITION PLAN**

JOB NUMBER: 18-131  
 DRAWN BY: JGM/HBR  
 CHECKED BY: JGM  
 DATE: 2/4/2019  
 REVISIONS: 6/18/2019 PERMITS  
 7/5/2019 PERMITS

SHEET NUMBER: **C1.00**



### UTILITY LEGEND

	EXISTING	PROPOSED
OVERHEAD ELECTRICAL	---E---	E
UNDERGROUND ELECTRICAL	---UE---	UE
GAS	---G---	G
SANITARY SEWER	---SS---	SS
TELEPHONE	---T---	T
UNDERGROUND TELEPHONE	---UT---	UT
WATER	---W---	W
STAND PIPE SUPPLY	---SP---	SP
FIRE PROTECTION	---FP---	FP
FORCE MAIN	---FM---	FM
CHILLED WATER	---CW---	CW
FOUNDATION DRAIN	---FD---	FD
FIBER OPTIC	---FO---	FO
ROOF DRAIN (SEE NOTE #14)	---RD---	RD
STORM DRAIN	---	---
LIGHT POLE	☆ LP	☆
UTILITY POLE	⊙ PP	⊙
MANHOLE	⊙ MH	⊙
CLEAN OUT	⊙ CO	⊙
DROP INLET, CATCH BASIN	⊙ DI, CB	⊙
FIRE HYDRANT	⊙ FH	⊙
WATER VALVE	⊙ WV	⊙
THRUST BLOCK	⊙	⊙
SANITARY SEWER STRUCTURE I.D.	⊙	⊙
STORM SEWER STRUCTURE I.D.	⊙	⊙

- ### UTILITY NOTES
1. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH ALL CITY OF WILMINGTON STANDARDS AND SPECIFICATIONS.
  2. INSTALL WATERMANS WITH A COVER OF NO LESS THAN 4'-FT. INSTALL WATER SERVICES WITH NO LESS THAN 18-IN OF COVER TO SUBGRADE.
  3. 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.
  4. INSTALL ALL UTILITIES TO PROVIDE REQUIRED CLEARANCES AS INDICATED IN THE SPECIFICATIONS.
  5. WATERLINES AND SEWER MAINS SHALL BE INSTALLED WITH A MINIMUM HORIZONTAL CLEARANCE OF 10'-FT.
  6. WATER AND SEWER MAINS SHALL BE INSTALLED WITH A MINIMUM VERTICAL CLEARANCE OF 12-IN TO STORM DRAINAGE PIPES.
  7. 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.
  8. VERIFY EXISTING CONDITIONS AND CONNECTIONS TO EXISTING UTILITIES PRIOR TO CONSTRUCTION. NOTIFY ARCHITECT IF ANY DISCREPANCIES ARE DISCOVERED.
  9. CONTRACTOR IS RESPONSIBLE FOR ALL DAMAGES DURING CONSTRUCTION AND SHALL MAKE REPAIRS AT NO EXPENSE TO THE OWNER.
  10. ALL CONSTRUCTION SHALL COMPLY WITH ALL APPLICABLE NCSBC AND OSHA REQUIREMENTS.
  11. THE CONTRACTOR SHALL PROVIDE AN AS-BUILT SURVEY OF ALL UTILITY AND STORM DRAINAGE IMPROVEMENTS FOLLOWING CONSTRUCTION.
  12. 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.
  13. SEE GENERAL NOTES ON EXISTING CONDITIONS AND DEMOLITION PLAN FOR REQUIREMENTS FOR REMOVAL AND PATCHING OF PAVEMENT FOR UTILITY INSTALLATION.
  14. 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.

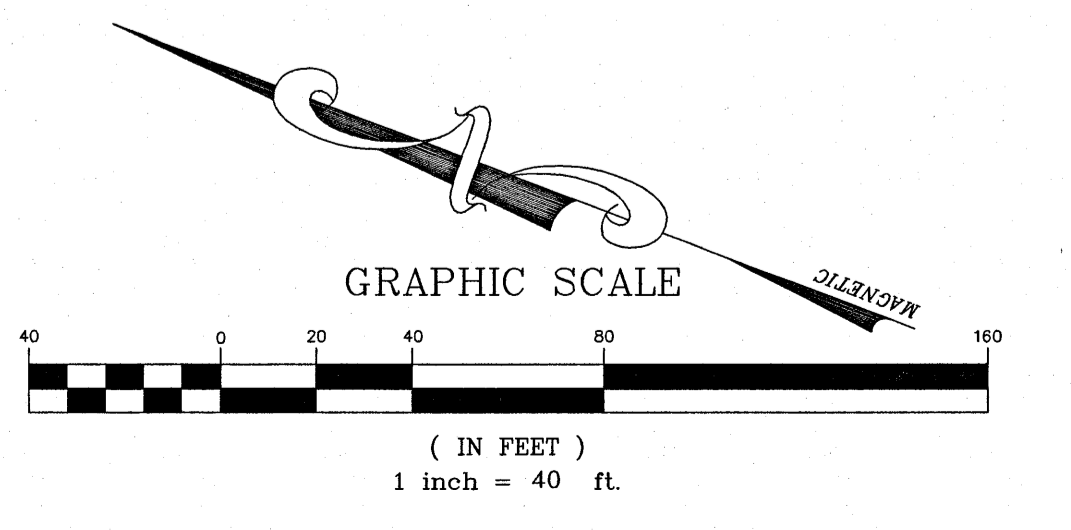
- ### KEY NOTES
- (A) 6" FERCO MASTER SERIES LP886V REDUCED PRESSURE ZONE DETECTOR ASSEMBLY (RPZDA) OR APPROVED EQUAL WITHIN HEATED ENCLOSURE. SEE DETAIL SHEET CS.04 AND ELEC. PLANS FOR ADDITIONAL INFO.
  - (B) FIRE HYDRANT ASSEMBLY. SEE DETAIL SHEET CS.04.
  - (C) GATE VALVE AND VALVE BOX. SEE DETAIL SHEET 5.04.
  - (D) CONTRACTOR SHALL COORDINATE TEMPORARY SHUT/DOWN OF EXISTING WATER SYSTEM WITH OWNER AND CPWA. SAWCUT EXISTING MAIN, INSTALL TEE, GATE VALVE, BLOCKING AND APPURTENANCES IN ACCORDANCE WITH CPWA REQUIREMENTS.
  - (E) THRUST BLOCKING, TYP. SEE DETAIL SHEET CS.05.
  - (F) FIRE DEPARTMENT CONNECTION ON BUILDING WALL. SEE FIRE PROTECTION PLANS.
  - (G) POST INDICATOR VALVE WITH TAMPER SWITCH. SEE SPECIFICATIONS. SEE ELECTRICAL PLANS FOR ADDITIONAL INFO.
  - (H) EXTEND UTILITY TO WITHIN 5'-0" OF BUILDING WALL OR AS INDICATED ON PLUMBING PLANS. REFER TO PLUMBING PLANS FOR EXACT LOCATION AND INVERT ELEVATION. SEE DETAIL SHEET CS.02.
  - (J) 2" ZURN 875XL REDUCED PRESSURE ASSEMBLY BACKFLOW PREVENTER OR APPROVED EQUAL WITHIN HEATED ENCLOSURE. SEE DETAIL SHEET CS.04 AND ELECTRICAL PLANS FOR ADDITIONAL INFORMATION.
- ALL PAVEMENT OR CONCRETE TO BE REMOVED SHALL BE SAW CUT TO PROVIDE A STRAIGHT AND UNIFORM JOINT WITH NEW CONSTRUCTION. ANY EXISTING PAVEMENT, SIDEWALK, CURB & GUTTER, ETC. THAT MUST BE REMOVED TO ALLOW NEW CONSTRUCTION SHALL BE REMOVED AND REPAIRED PER THE SPECIFICATIONS AND DETAILS OR TO MATCH EXISTING CONDITIONS (WHETHER OR NOT SHOWN ON THE DRAWINGS TO BE REMOVED). UTILITY INSTALLATIONS MAY UTILIZE OPEN CUT OF PAVEMENTS UNLESS INDICATED OTHERWISE. TRENCH IN EXISTING ASPHALT SHALL BE PATCHED PER PAVEMENT REPAIR DETAIL.

**CITY OF WILMINGTON**  
NORTH CAROLINA  
Public Services • Engineering Division

**Approved Construction Plan**

APPROVED STORMWATER MANAGEMENT PLAN  
Date: 7/18/19 Permit #: 2019043  
Signed: *Rich Johnston*

Name: *Nicole Dymith* Date: 7/18/19  
Traffic: *W. Smith* 7/17/19  
Fire: *C. W. Lee* 7/18/19



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

**CLH DESIGN, PA**  
400 Regency Forest Dr.  
Suite 100  
Cary, NC 27518  
Phone: 919.219.8716  
Fax: 919.219.7514  
E.A. C-106 P.E. C-1595

**SEAL**  
23383  
NORTH CAROLINA PROFESSIONAL ENGINEER  
MURRAY A. LOWMEYER  
7-18-19

**Renovations to:**  
**M.C.S. Noble Middle School**  
6520 Market Street  
Wilmington, North Carolina

**BASE BID PLAN**

JOB NUMBER  
18-131

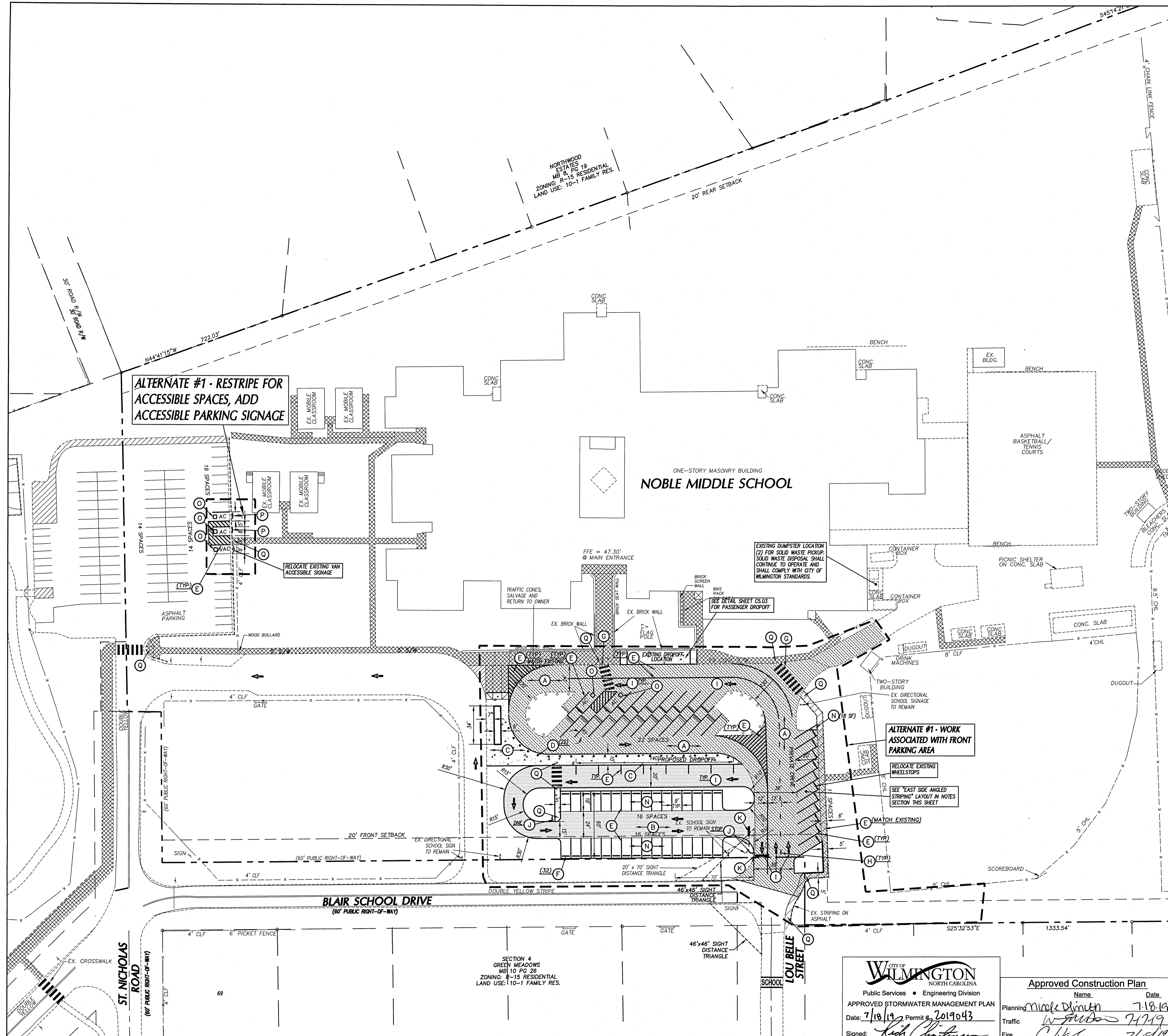
DRAWN BY  
JGM/HBR

CHECKED BY  
JGM

DATE  
2/4/2019

REVISIONS  
6/18/2019 PERMITS

SHEET NUMBER  
**C2.00**



**ALTERNATE #1 - RESTRIPE FOR ACCESSIBLE SPACES, ADD ACCESSIBLE PARKING SIGNAGE**

**ALTERNATE #1 - WORK ASSOCIATED WITH FRONT PARKING AREA**

**GENERAL NOTES**

- ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH ALL CITY OF WILMINGTON AND NCDOT STANDARDS AND SPECIFICATIONS.
- ALL DIMENSIONS SHOWN ARE TO FACE OF CURB AND FACE OF BUILDING WALL, UNLESS OTHERWISE SHOWN.
- CONTRACTOR SHALL BE RESPONSIBLE FOR FIELD VERIFICATION OF ALL DIMENSIONS SHOWN AND CONTACT THE ARCHITECT IF ANY DISCREPANCIES OCCUR.
- CONSTRUCTION STAKE OUT IS THE RESPONSIBILITY OF THE CONTRACTOR.
- ALL PAVEMENT MARKINGS AND SIGNAGE SHALL CONFORM TO THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES".
- ALL FACE OF RADII ARE 4 FT UNLESS OTHERWISE SHOWN.
- ALL PARKING SPACES SHALL BE 9 FEET WIDE X 18 FT DEEP MIN., UNLESS NOTED OTHERWISE.
- (AC) DENOTES ACCESSIBLE PARKING SPACE.
- (VAC) DENOTES VAN ACCESSIBLE PARKING SPACE.
- ANY AND ALL LANDSCAPING EXISTING TREES OR 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.
- CONTRACTOR SHALL SUBMIT SCALED PLANS OF ALL SCORING/JOINTS FOR APPROVAL BY ARCHITECT 30 DAYS MINIMUM PRIOR TO INSTALLATION.
- THE CROSS-SLOPE ON ALL SIDEWALKS SHALL BE A MAXIMUM OF 2.0%.
- NO WORK SHALL BE PERFORMED ON RIGHT-OF-WAYS OR ADJACENT PROPERTIES UNTIL THE OWNER NOTICES CONTRACTOR IN WRITING OF PROCUREMENT OF APPROPRIATE PERMITS, EASEMENTS, AGREEMENTS, OR RIGHTS-OF-WAY.
- REPLACEMENT OF ANY BROKEN OR DAMAGED CONCRETE SIDEWALK OR CURB THAT OCCURS DURING CONSTRUCTION IS THE RESPONSIBILITY OF THE CONTRACTOR.

**KEY NOTES**

- (A) MILL AND OVERLAY, SEE SPECIFICATIONS AND DETAIL SHEET C5.02
- (B) HEAVY DUTY ASPHALT PAVEMENT, SEE DETAIL SHEET C5.02
- (C) CONCRETE SIDEWALK FLUSH WITH ADJACENT GRAVEL & ASPHALT PAVEMENT, SEE DETAIL SHEET C5.02
- (D) SAFETY BOLLARD WITH CHAIN, SEE DETAIL SHEET C5.02, SEE SPECIFICATIONS
- (E) SOLID WHITE PAINT STRIPING, SEE TRAFFIC CONTROL NOTES THIS SHEET.
- (F) CONCRETE WHEEL STOP, SEE DETAIL SHEET C5.02
- (G) "CROSSWALK" MARKING, SEE TRAFFIC CONTROL NOTES THIS SHEET.
- (H) SKIP STRIPING, SEE TRAFFIC CONTROL NOTES THIS SHEET.
- (I) DIRECTIONAL ARROW, SEE TRAFFIC CONTROL NOTES.
- (J) TRAFFIC CONTROL SIGNAGE, SEE TRAFFIC CONTROL NOTES THIS SHEET.
- (K) STOP BAR, SEE TRAFFIC CONTROL NOTES THIS SHEET.
- (L) TEMPORARY MOBILE BUILDINGS, RAMPS, AND STAIRS REFER TO ARCHITECTURAL SHEETS.
- (M) 4" DEPTH ABC PAD, SEE SPECIFICATIONS
- (N) LIGHT DUTY ASPHALT PAVEMENT, SEE DETAIL SHEET C5.02
- (O) ACCESSIBLE PARKING MARKING, SEE PAVEMENT MARKING NOTES THIS SHEET.
- (P) ACCESSIBLE SIGNAGE, SEE DETAIL SHEET C5.03A.
- (Q) EXISTING WHEELCHAIR RAMPS OR SIDEWALK CROSSINGS WITH NO EXISTING DETECTABLE WARNING MAT OR DETECTABLE WARNING PAVEMENT IN THE LIMITS OF CONSTRUCTION SHALL BE RETROFITTED WITH FLEXIBLE SURFACE-APPLIED DETECTABLE WARNING MATS IN ACCORDANCE WITH CITY OF WILMINGTON STANDARDS BY "TREMUM" OR APPROVED EQUAL. COORDINATE WITH ARCHITECT AND OWNER FOR COLOR SELECTION. NOTE APPLIES TO ALL RAMP OR SIDEWALK CROSSING CONDITIONS IN LIMITS OF CONSTRUCTION EVEN IF NOT KEYNOTED. FIELD VERIFY AND COORDINATE WITH ARCHITECT FOR LOCATIONS.

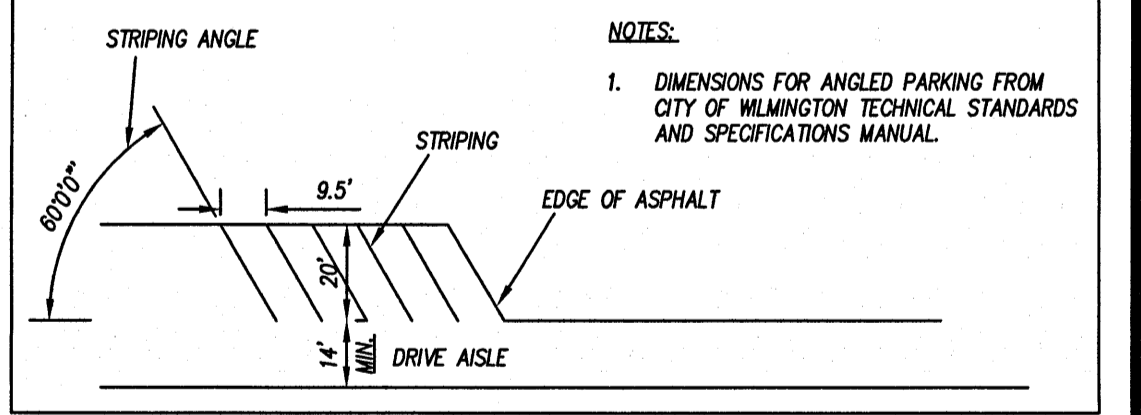
**TRAFFIC CONTROL NOTES**

- ALL SITE SIGNAGE SHALL BE IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) AND NCDOT STANDARDS. ALL SIGNS TO BE MADE OF HIGH-INTENSITY SIGN SHEETING.
 

SIGN	MUTCD STD.	SIZE
STOP	RS-1	30"x30"
(ONE) DO NOT ENTER	RS-1	30"x30"
- 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.
- ALL PAVEMENT MARKINGS SHALL BE IN ACCORDANCE WITH THE LATEST MUTCD AND CITY OF WILMINGTON STANDARDS AND THE PROJECT SPECIFICATIONS.
 

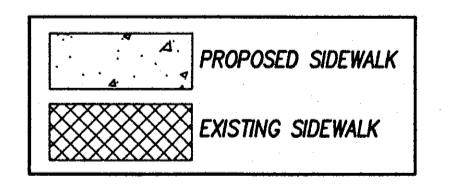
MARKING	WILMINGTON DETAIL STD.	SIZE	COLOR
PARKING SPACE	SD-11-01	4'-IN	WHT.
CROSSWALK ARROWS	SD-11-03	24'-IN	WHT.
DIRECTIONAL ARROWS	SD-11-01	STD.	WHT.
STOP BAR	SD-11-01	24'-IN	WHT.
SOLID WHITE	SD-11-01	4'-IN	WHT.
SKIP	SD-11-01	4'-IN	WHT.
ACCESSIBLE PARKING MARKING	MUTCD FIG. 3B-22	STD.	BLUE & WHT.
- ALL PAVEMENT MARKINGS ON SITE MAY BE EITHER THERMOPLASTIC OR ALKYL-RESIN TYPE PAINT, EXCEPT CROSSWALKS AND MARKINGS WITH RIGHT-OF-WAY. THEY MUST BE THERMOPLASTIC. ALL SIGNAGE SHALL BE FIELD STAKED AND THE LOCATIONS APPROVED BY CLH DESIGN PRIOR TO INSTALLATION.
- CENTER ALL DIRECTIONAL ARROWS WITHIN TRAVEL LANE.

**EAST SIDE ANGLED STRIPING (TYP)**

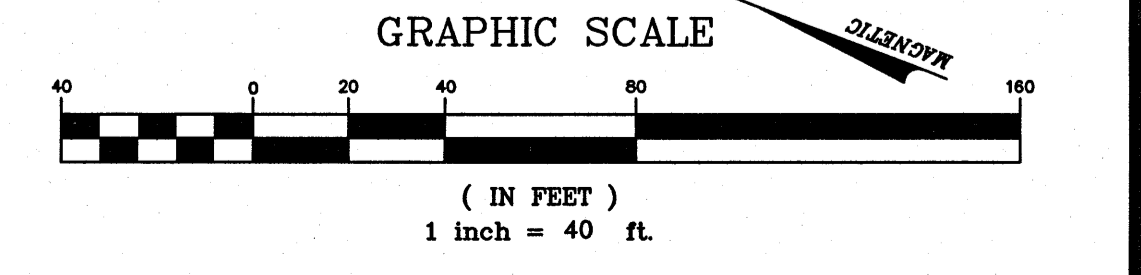
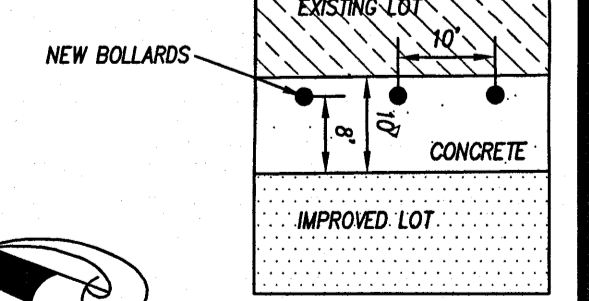


NOTE: IF PAVEMENT MARKINGS ON SITE HAVE WEATHERED TO THE POINT THAT THEY ARE NOT IN ACCORDANCE WITH THE MUTCD STANDARD OF MAINTENANCE, THEY MUST BE REPAINTED TO BE IN ACCORDANCE WITH THE MUTCD STANDARDS. ALLOW 2,000 LF.

**SIDEWALK LEGEND**



**BOLLARD SPACING (TYP)**

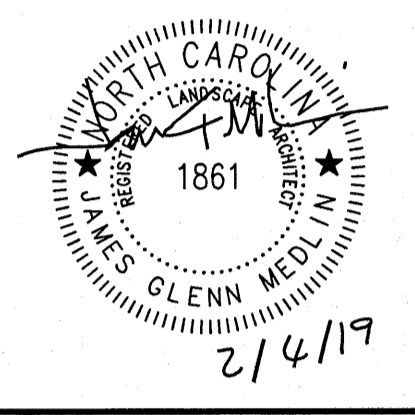


**CITY OF WILMINGTON**  
NORTH CAROLINA  
Public Services • Engineering Division  
APPROVED STORMWATER MANAGEMENT PLAN  
Date: 7/18/19 Permit #: 2019043  
Signed: *[Signature]*

**Approved Construction Plan**  
Name: *Nicole Dimuth* Date: 7-18-19  
Traffic: *W. [Signature]* 7/19/19  
Fire: *C. [Signature]* 7/18/19

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

**CLH DESIGN, PA**  
480 Ramsey Forest Dr.  
Suite 100  
Wilmington, NC 28403  
Phone: 910.719.6716  
Fax: 910.719.7919  
E-MAIL: CLH@CLHDESIGN.COM

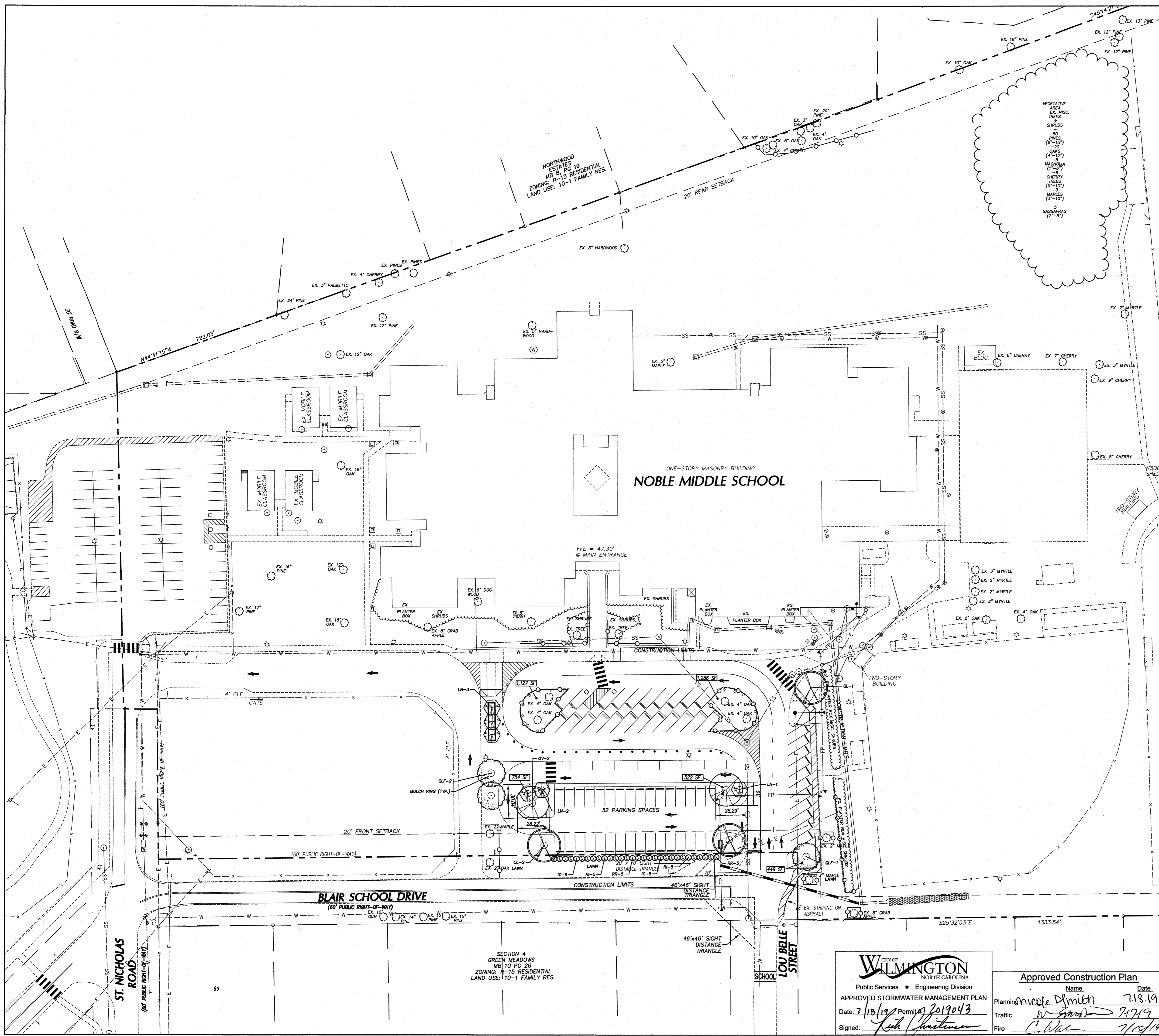


**Renovations to:  
M.C.S. Noble Middle School**  
6520 Market Street  
Wilmington, North Carolina

**STAKING AND PAVEMENT MARKING PLAN**

JOB NUMBER: 18-131  
DRAWN BY: JGM/HBR  
CHECKED BY: JGM  
DATE: 2/4/2019  
REVISIONS: 6/18/2019 PERMITS  
7/5/2019 PERMITS

SHEET NUMBER: **C2.01**



### PLANT SCHEDULE

KEY	QTY	PLANT NAME	MINIMUM SIZE	REMARKS
<b>LARGE SHADE TREES</b>				
QLF	3	LAUREL OAK <i>Quercus laurifolia</i>	2.5" CAL., 10' HT.	B&B, STRAIGHT TRUNK FULL CROWN
QL	3	OVERCUP OAK <i>Quercus lyrata</i>	2.5" CAL., 10' HT.	B&B, STRAIGHT TRUNK FULL CROWN
QV	2	LIVE OAK <i>Quercus virginiana</i>	2.5" CAL., 10' HT.	B&B, STRAIGHT TRUNK FULL CROWN
<b>SMALL SHADE TREES</b>				
LN	6	NATCHEZ CRAPE MYRTLE <i>Lagerstroemia L. x F. 'Natchez'</i>	3-5 TRUNKS 10' HT	B&B FULL CROWN
<b>SHRUBS</b>				
IC	10	DWARF HOLLY <i>Ilex cornata 'Rotundifolia'</i>	36" HT./SPR.	CONT. FULL 5.0' O.C.
RI	10	YEDDO HAWTHORNE <i>Rhodolepis umbellata</i>	36" HT./SPR.	CONT. FULL 5.0' O.C.
RR	10	ENCORE AZALEA AUTUMN JEWEL <i>Rhododendron 'Robleau'</i> PP25074	36" HT./SPR.	CONT. FULL 5.0' O.C.
<b>GROUNDCOVERS</b>				
LAWN AREAS, SEE SEEDING NOTES DETAIL SHEET CS.03				

GRAPHIC SYMBOLS SUPERCEDE WRITTEN QUANTITIES WHERE DISCREPANCIES OCCUR.

### DISTURBED LAND TREE CALCULATIONS

15 TREES (MIN. 2" CAL.)/ACRE OF DISTURBED LAND  
ACRES DISTURBED: 1.7  
CREDITS REQUIRED: 26 CREDITS  
CREDITS FOR EXISTING TREES TO REMAIN (HARDWOOD):

SIZE	QTY.	CREDIT VALUE	TOTAL
2-5" CALIPER	30	1	30
6-11"	7	2	14
12-17"	4	3	12
18-23"	1	4	4
>24"	0	DBH/6 (178")	0
<b>TOTAL:</b>			<b>60</b>

TOTAL CREDITS PROVIDED: 60+ (SEE EXISTING CONDITIONS)

A TREE REMOVAL/PRESERVATION PERMIT IS REQUIRED PRIOR TO REMOVING ANY TREES. CONTACT CITY OF WILMINGTON ZONING DEPARTMENT TO OBTAIN COPY OF PERMIT. ENSURE TO PROVIDE COPY OF TREE REMOVAL CHART WITH PERMIT.

### LANDSCAPING FOR IMPROVED PARKING LOT

PER UDD SECTION 18-510.  
NO INCREASE OF GRA PROPOSED

TOTAL EX. PARKING FACILITY: 70,902 (DRIVES, AISLES, PARKING, ASSOCIATED SIDEWALK IN PROPERTY LINE)  
\*INCLUDES EXISTING GRAVEL LOT - ONLY WITHIN PROPERTY LINES

TOTAL PROPOSED PARKING FACILITY: 74,716 (IN PROPERTY LINE)  
OVERALL INCREASE IN PARKING FACILITY: 5.4% (IN PROPERTY LINE, NOT TOTAL IMPERVIOUS LIMITS)

3,814 S.F. OF IMPROVED PARKING  
4% OF 3,814 S.F. = 153 S.F. OF REQUIRED INTERIOR LANDSCAPING  
1,750 S.F. OF INTERIOR LANDSCAPING HAS BEEN PROVIDED (IMPROVED LOT)

754 SF ISLAND (12X36 + 322) REQUIRES 1 CANOPY TREE, 2 UNDERSTORY TREES, AND GROUNDCOVER  
522 SF ISLAND (12X36 + 90) REQUIRES 1 CANOPY TREE, 1 UNDERSTORY TREE, AND GROUNDCOVER

### TREE REMOVAL CHART

SIZE/TYPER	QTY.	SIGNIFICANT TREES REMOVED - NONE
2" MAPLE	4	REGULATED TREES REMOVED - NONE
2" OAK	1	
CREPE SHRUB (MULTI)	1	

PER SECTION 18-461b, REGULATED TREES ARE NOT REQUIRED TO BE MITIGATED

SEE DETAIL SHEET CS.03 FOR LANDSCAPE NOTES AND DETAILS.

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

**CLH DESIGN, PA**  
400 Regency Forest Dr.  
Suite 120  
Cape Fear, NC 28413  
Phone: 910.719.8716  
Fax: 910.319.5716  
LIC. C-106-RE-C-1285

GLENN MEDLIN  
1861  
2/4/19

**Renovations to:**  
**M.C.S. Noble Middle School**  
6520 Market Street  
Wilmington, North Carolina

LANDSCAPE PLAN

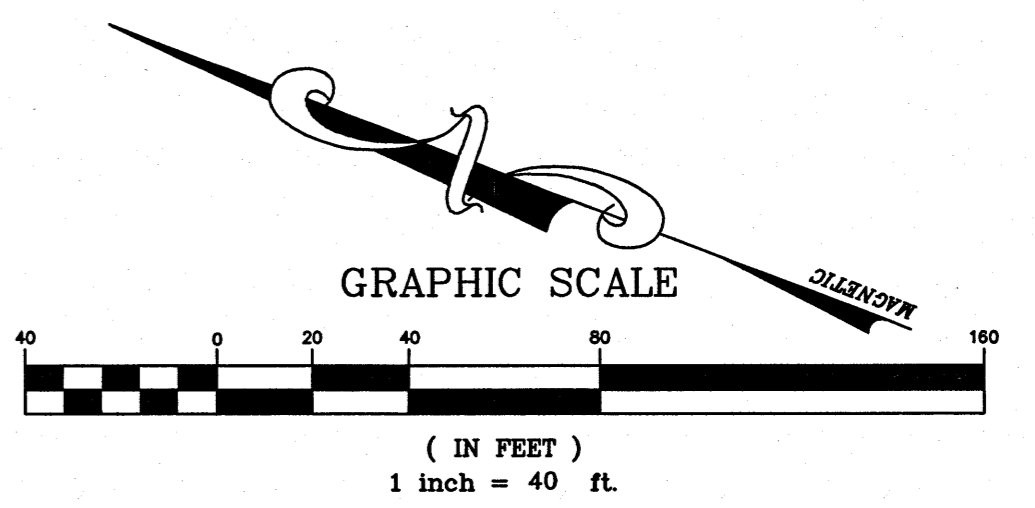
JOB NUMBER: 18-131  
DRAWN BY: JGM/HBR  
CHECKED BY: JGM  
DATE: 2/4/2019  
REVISIONS: 6/18/2019 PERMITS  
7/5/2019 PERMITS

SHEET NUMBER: **C2.02**

**CITY OF WILMINGTON**  
NORTH CAROLINA  
Public Services • Engineering Division

APPROVED STORMWATER MANAGEMENT PLAN  
Date: 2/19/19 Permit: 2019043  
Signed: *[Signature]*

Approved Construction Plan  
Name: Nicole Dymith Date: 7.18.19  
Traffic: *[Signature]* 7/7/19  
Fire: *[Signature]* 7/18/19



### CONSTRUCTION SEQUENCE

1. INSTALL TREE PROTECTION FENCING. CONTACT CITY OF WILMINGTON ZONING DEPARTMENT / NCEQ FOR INSPECTION PRIOR TO CLEARING ACTIVITIES.
2. OBTAIN APPROVED PLAN AND/OR APPROVAL PLACARD. A COPY OF THE APPROVED PLAN MUST BE ON FILE AT THE JOB SITE. NOTIFY EROSION CONTROL AUTHORITIES OF PROPOSED STARTING DATE OF LAND DISTURBING ACTIVITIES.
3. CONDUCT PRE-CONSTRUCTION CONFERENCE CONTACT NCEQ AT THE WILMINGTON REGIONAL OFFICE AT 910-798-7215 AT LEAST 48 HOURS PRIOR TO BEGINNING ANY LAND DISTURBING ACTIVITIES.
4. INSTALL PERIMETER SILT FENCES, INLET PROTECTION DEVICES ON EXISTING INLETS, AND CONSTRUCTION ENTRANCES. CLEAR ONLY AS NECESSARY FOR INSTALLATION OF TEMPORARY DEVICES.
5. CALL FOR INSPECTION OF INSTALLED DEVICES.
6. PERFORM CLEARING AND DEMOLITION OPERATIONS.
7. BEGIN ROUGH GRADING OPERATIONS. INSTALL MOBILE UNITS.
8. INSTALL STORM PIPE AND UPSTREAM CHANNEL.
9. GRADE, RESPADE TOPSOIL, VEGETATE AND INSTALL TEMPORARY LININGS OF CHANNELS AFTER STABILIZING UPSTREAM SLOPES.
10. VEGETATE (OR OTHERWISE STABILIZE WITH PAVEMENT, BUILDING PAD, ETC.) IMMEDIATELY ALL DISTURBED AREAS.
11. MAINTAIN ALL EROSION & SEDIMENT CONTROL MEASURES THROUGHOUT CONSTRUCTION.
12. REMOVE MOBILE UNITS AND ALL ASSOCIATED PAVEMENT AT THE END OF CONSTRUCTION.
13. CALL FOR INSPECTION OF STABILIZED SITE. IF APPROVED, REMOVE SILT FENCE, INLET PROTECTION AND OTHER TEMPORARY EROSION CONTROL DEVICES.
14. RESPADE TOPSOIL, INSTALL SLOPE PROTECTION BLANKETS AND VEGETATE REMAINING DISTURBED AREAS.
15. CALL FOR INSPECTION OF STABILIZED SITE. IF APPROVED, REMOVE REMAINING TEMPORARY EROSION & SEDIMENT CONTROL MEASURES.

### MAINTENANCE PLAN

1. ALL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE CHECKED FOR STABILITY AND OPERATION FOLLOWING EVERY RAINFALL-PRODUCING RAINFALL BUT IN NO CASE LESS THAN ONCE EVERY WEEK. ANY NEEDED REPAIRS SHALL BE MADE IMMEDIATELY TO MAINTAIN ALL MEASURES AS DESIGNED.
2. PERFORM REGULAR SAMPLING AND QUALITATIVE OBSERVATIONS OF STORMWATER AT ALL DISCHARGE POINTS PER THE NPDES PERMIT. DOCUMENT ALL SAMPLING AND OBSERVATIONS. SEE SPECIFICATIONS (02220) FOR FURTHER DETAILS.
3. REMOVE SEDIMENT FROM SEDIMENT TRAPS AND BASINS WHEN STORAGE CAPACITY HAS BEEN APPROXIMATELY 50% FILLED. CLEAN OR REPLACE GRAVEL FILTER WHEN THE SEDIMENT POOL NO LONGER DRAINS PROPERLY.
4. REMOVE SEDIMENT FROM BEHIND SILT FENCE WHEN DEPTH REACHES 6-INCHES AT THE FENCE. REPAIR SILT FENCE AS NECESSARY TO MAINTAIN A BARRIER.
5. ALL SEEDED AREAS SHALL BE FERTILIZED, RE-SEEDED AS NECESSARY, AND MULCHED ACCORDING TO PROJECT SPECS TO MAINTAIN A VIGOROUS, DENSE VEGETATIVE GROWTH.
6. MAINTAIN TREE PROTECTION FENCING THROUGHOUT DURATION OF CONSTRUCTION.

### GRADING NOTES

1. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH ALL CITY OF WILMINGTON AND NCEQ STANDARDS AND SPECIFICATIONS.
2. ALL SPOT ELEVATIONS INDICATED AT CURB AND GUTTER ARE TO TOP OF CURB, UNLESS OTHERWISE SHOWN.
3. TOTAL DISTURBED AREA = 1.7 AC.
4. CONTRACTOR SHALL ADJUST ALL EXISTING VAULTS, MANHOLES, STORM DRAIN STRUCTURES, CLEANOUTS, ETC. AS NEEDED TO MATCH FINISH GRADE.
5. ALL BACKFILL, COMPACTION, SOILS TESTING, ETC. SHALL BE PERFORMED BY THE OWNERS INDEPENDENT TESTING LABORATORY. (SEE SPECIFICATIONS FOR ADDITIONAL INFORMATION)
6. ALL STORM DRAIN PIPES SHALL BE PROTECTED WITH STONE FILTER PROTECTION AFTER STOPPAGE OF WORK EACH DAY. SEE DETAIL ON SHEET.
7. EXISTING VEGETATION WITHIN TREE PROTECTION AREAS SHALL REMAIN UNDISTURBED, UNLESS NOTED OTHERWISE.
8. 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.
9. THE GRADING CONTRACTOR SHALL COMPLY WITH ALL STATE CODES IN OBSERVING EROSION CONTROL MEASURES BOTH ON AND OFF-SITE.
10. THE GRADING CONTRACTOR SHALL MAINTAIN ALL EROSION CONTROL DEVICES AFTER EACH RAINFALL EVENT OR AS DIRECTED BY STATE AUTHORITIES OR THE ARCHITECT.
11. THE GRADING CONTRACTOR SHALL BE RESPONSIBLE FOR OFF-SITE DISPOSAL OF ALL CLEARING AND GRADING WASTE MATERIALS GENERATED DURING CONSTRUCTION AND FOR OBTAINING ALL APPLICABLE PERMITS FOR OFF-SITE STOCKPILES AND/OR WASTE AREAS.
12. TEMPORARY Dewatering ACTIVITIES DURING CONSTRUCTION ARE THE RESPONSIBILITY OF THE CONTRACTOR. ENSURE TO COORDINATE THESE EFFORTS WITH THE GEO-TECHNICAL ENGINEER AND LOCAL AUTHORITIES.
13. PROVIDE POSITIVE DRAINAGE AWAY FROM ALL FFE, DOORWAYS AND EXTERIOR BUILDING WALLS.

### LEGEND

- TEMPORARY INLET PROTECTION DEVICE  
SEE DETAIL SHEET CS.01
- TEMPORARY ROCK PIPE INLET  
SEE DETAIL SHEET CS.01
- TEMPORARY SILT FENCE  
SEE DETAIL SHEET CS.01
- EXISTING CONTOUR
- FINISHED CONTOUR
- EXISTING SURVEY SPOT ELEVATION
- PROPOSED GROUND/PAVEMENT ELEVATION
- TEMPORARY CHANNEL LINING  
SEE DETAIL SHEET CS.01
- CONSTRUCTION LIMITS
- TEMPORARY TREE PROTECTION FENCE  
SEE DETAIL SHEET CS.01
- PROPOSED STORM SEWER PIPES
- TEMPORARY COMPOST SOCK  
SEE DETAIL SHEET CS.01
- TEMPORARY CONSTRUCTION ENTRANCE  
SEE DETAIL SHEET CS.01
- OUTLET PROTECTION  
SEE DETAIL SHEET CS.01
- REINFORCED SILT FENCE OUTLET  
SEE DETAIL SHEET CS.01

### 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 18.02) (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.

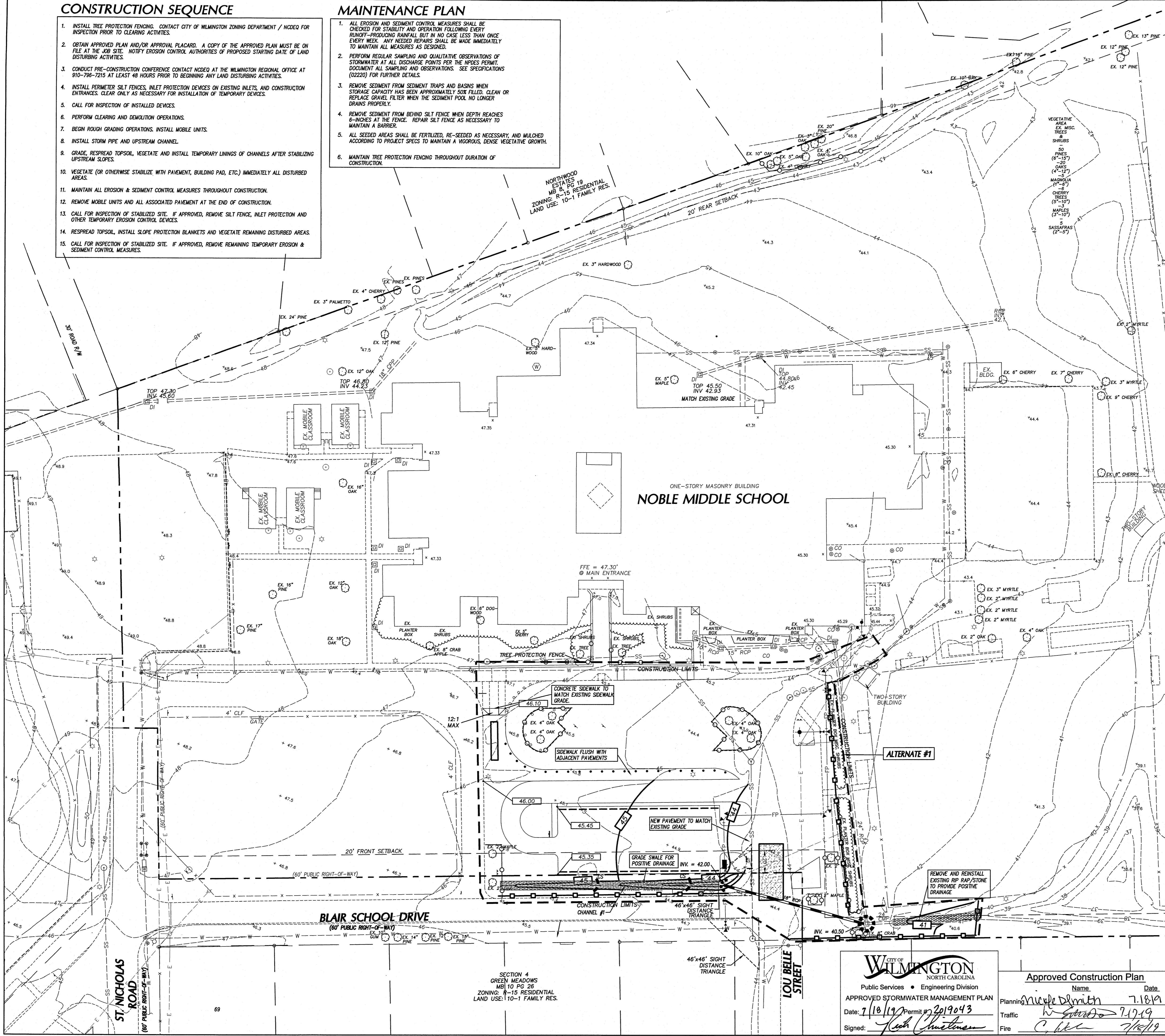
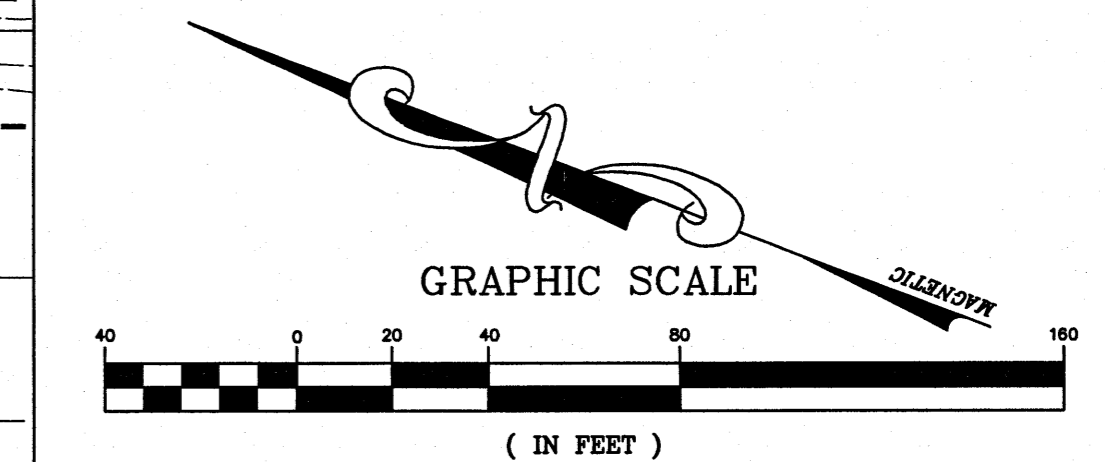
INSTALL TEMPORARY SLOPE EROSION CONTROL EXCELSPUR MATTING FOR STABILIZATION DURING THE ESTABLISHMENT OF VEGETATIVE COVER ON ALL STEEP SLOPES (6:1 OR STEEPER). UTILIZE TEMPORARY COCONUT MAT IN AREAS IDENTIFIED ON PLAN. REFER TO SPECIFICATION SECTION 312500 FOR MATERIAL SPECIFICATIONS. INSTALL MATTING PER MANUFACTURER'S INSTRUCTIONS.

MAT SLOPES IN SUMMER AND WINTER - GRADED SLOPES AND FILLS SHALL BE PROTECTED WITH A ROLLED EROSION CONTROL PRODUCT IF COMPLETED OUTSIDE OPTIMUM GERMINATION SEASONS, WHEN UNFAVORABLE WEATHER CONDITIONS PREVENT ESTABLISHMENT OF VEGETATIVE GROUND COVER.

### STORMWATER DISCHARGE

EXISTING SITE RUN-OFF	POST-CONSTRUCTION	DURING CONSTRUCTION
Q1=43.31 CFS	Q1=43.31 CFS	Q1=44.32 CFS
Q2=54.14 CFS	Q2=54.14 CFS	Q2=55.40 CFS
Q10=66.10 CFS	Q10=66.10 CFS	Q10=67.65 CFS
Q25=74.44 CFS	Q25=74.44 CFS	Q25=76.18 CFS

CALCULATIONS BY RATIONAL METHOD.



**CITY OF WILMINGTON**  
NORTH CAROLINA  
Public Services • Engineering Division  
APPROVED STORMWATER MANAGEMENT PLAN  
Date: 7/18/19 Permit #: 2019043  
Signed: [Signature]

Approved Construction Plan  
Name: Nicole Smith Date: 7.18.19  
Traffic: [Signature] 7/17/19  
Fire: C. [Signature] 7/18/19

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

**CLH DESIGN, PA**  
Civil & Survey  
1000 S. 10th St.  
Wilmington, NC 28401  
Phone: 910.719.8716  
Fax: 910.719.8716  
LIC. C-106, P.E. C-1985

**PROFESSIONAL SEAL**  
NORTH CAROLINA  
SEAL 25363  
[Signature]  
ENGINEER  
HEMINGWAY A. LORING  
6-4-19

**Renovations to:**  
**M.C.S. Noble Middle School**  
6520 Market Street  
Wilmington, North Carolina

**GRADING AND EROSION CONTROL PLAN**  
JOB NUMBER: 18-131  
DRAWN BY: JGM/HBR  
CHECKED BY: JGM  
DATE: 2/4/2019  
REVISIONS: 6/18/2019 PERMITS  
SHEET NUMBER: **C3.00**

**Renovations to:**  
**M.C.S. Noble Middle School**  
 6520 Market Street  
 Wilmington, North Carolina

**STORMWATER MANAGEMENT PLAN PRE-DEVELOPMENT**

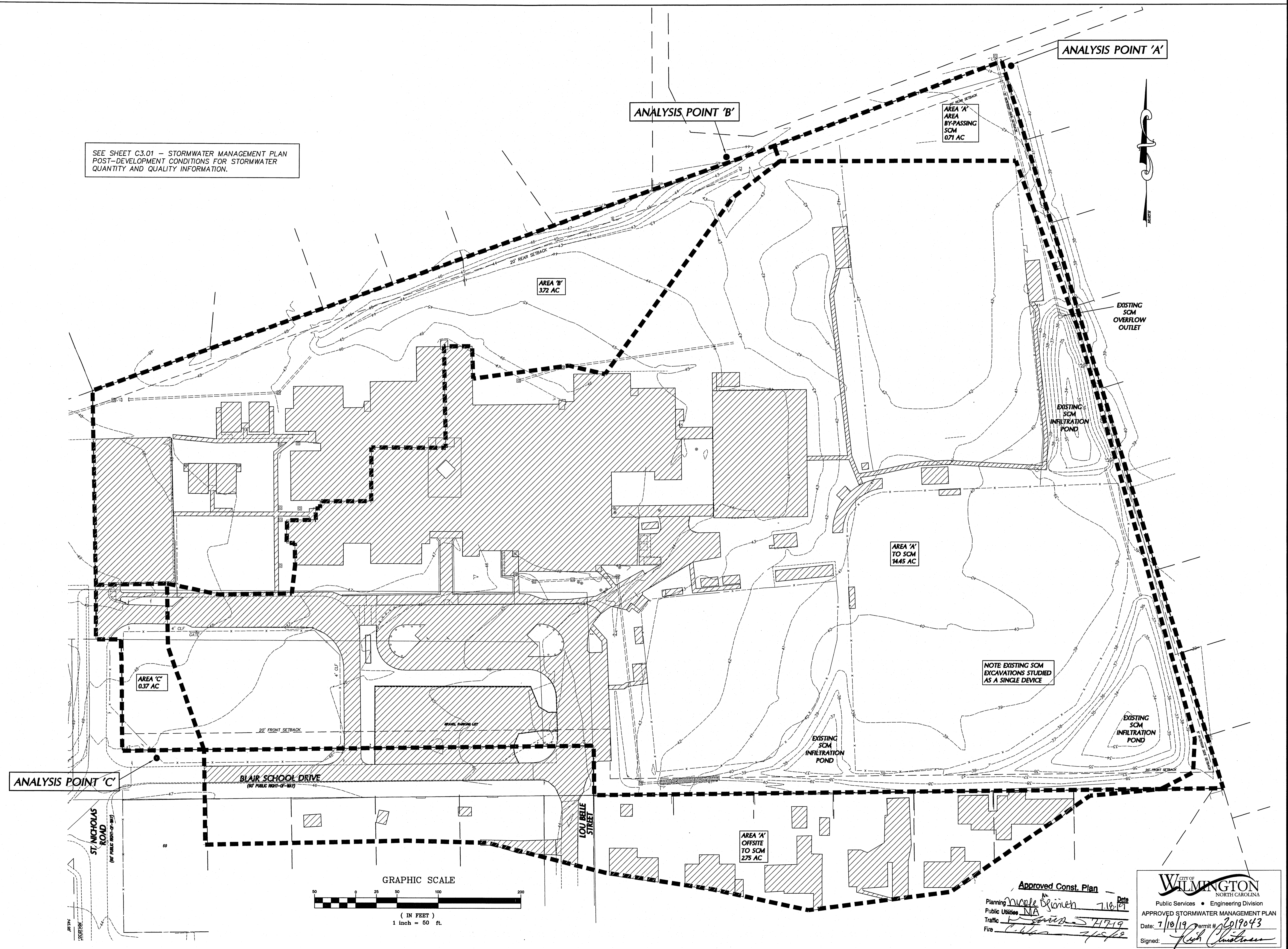
JOB NUMBER: 18-131  
 DRAWN BY: JGM/HBR  
 CHECKED BY: JGM  
 DATE: 2/4/2019  
 REVISIONS: 6/18/2019 PERMITS

**APPROVED STORMWATER MANAGEMENT PLAN**

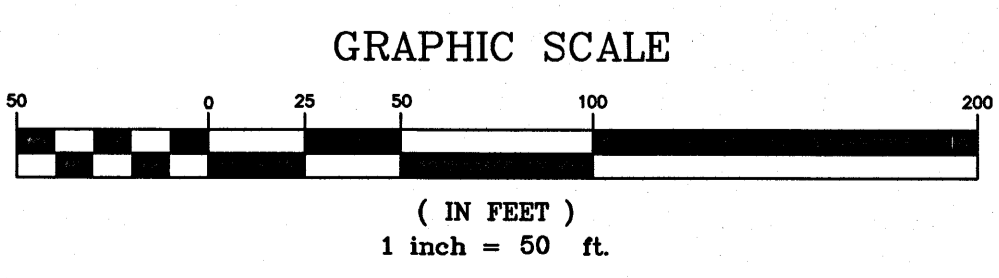
Public Services • Engineering Division  
 Date: 7/10/19 Permit # 2019043  
 Signed: *[Signature]*

SHEET NUMBER: **C3.01**

SEE SHEET C3.01 - STORMWATER MANAGEMENT PLAN POST-DEVELOPMENT CONDITIONS FOR STORMWATER QUANTITY AND QUALITY INFORMATION.



NOTE EXISTING SCM EXCAVATIONS STUDIED AS A SINGLE DEVICE

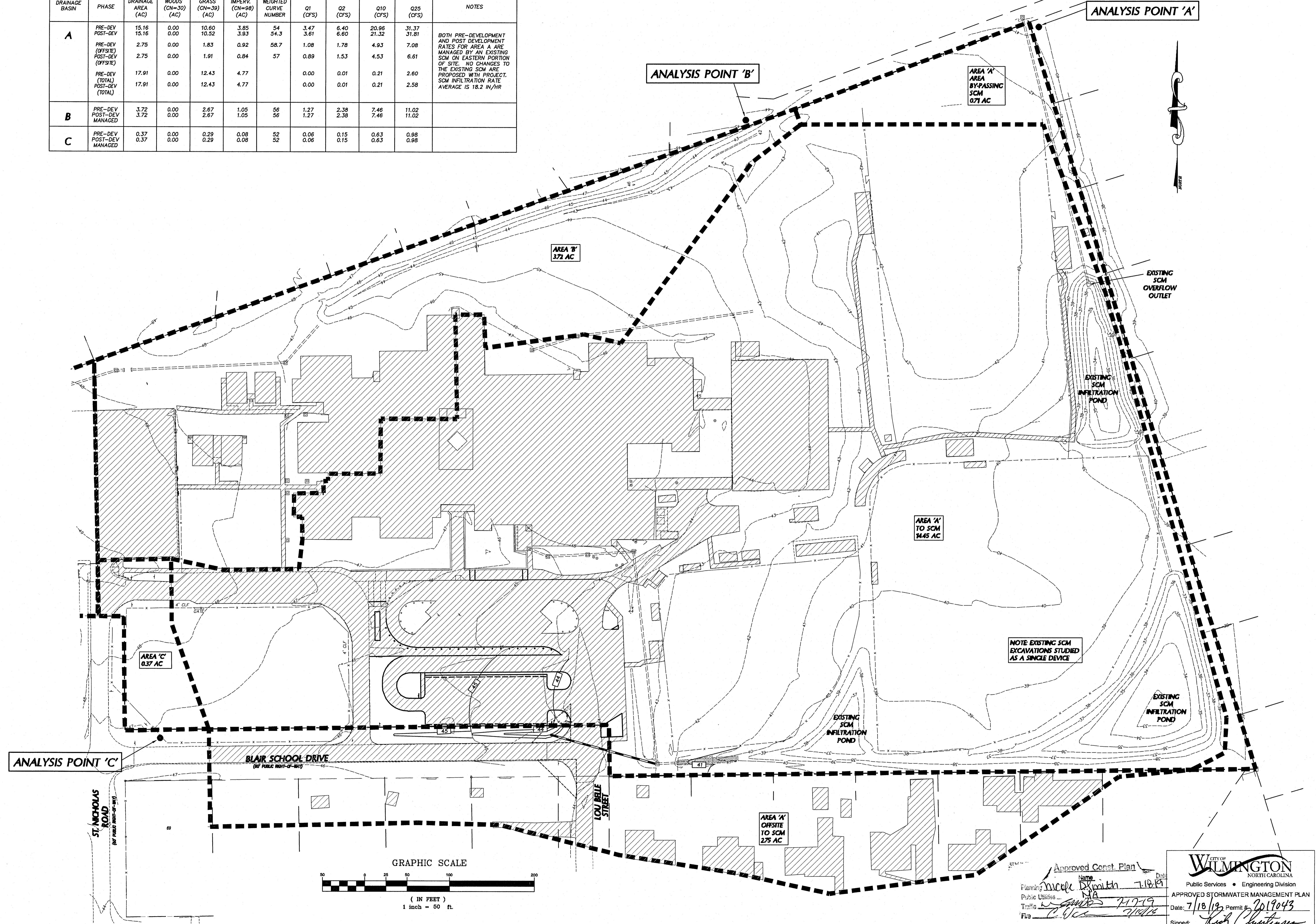


Approved Const. Plan  
 Planning: *[Signature]* 7.10.19  
 Public Utilities: *[Signature]*  
 Traffic: *[Signature]*  
 Fire: *[Signature]*

**CITY OF WILMINGTON**  
 NORTH CAROLINA  
 Public Services • Engineering Division  
 APPROVED STORMWATER MANAGEMENT PLAN  
 Date: 7/10/19 Permit # 2019043  
 Signed: *[Signature]*

**STORMWATER QUANTITY ANALYSIS**

DRAINAGE BASIN	PHASE	DRAINAGE AREA (AC)	WOODS (CN=30) (AC)	GRASS (CN=39) (AC)	IMPERV. (CN=98) (AC)	WEIGHTED CURVE NUMBER	Q1 (CFS)	Q2 (CFS)	Q10 (CFS)	Q25 (CFS)	NOTES
<b>A</b>	PRE-DEV	15.16	0.00	10.60	3.85	54	3.47	6.40	20.96	31.37	BOTH PRE-DEVELOPMENT AND POST DEVELOPMENT RATES FOR AREA A ARE MANAGED BY AN EXISTING SCM ON EASTERN PORTION OF SITE. NO CHANGES TO THE EXISTING SCM ARE PROPOSED WITH PROJECT. SCM INFILTRATION RATE AVERAGE IS 18.2 IN/HR
	POST-DEV	15.16	0.00	10.52	3.93	54.3	3.61	6.60	21.32	31.81	
	PRE-DEV (OFFSITE)	2.75	0.00	1.83	0.92	58.7	1.08	1.78	4.93	7.08	
	POST-DEV (OFFSITE)	2.75	0.00	1.91	0.84	57	0.89	1.53	4.53	6.61	
	PRE-DEV (TOTAL)	17.91	0.00	12.43	4.77		0.00	0.01	0.21	2.60	
POST-DEV (TOTAL)	17.91	0.00	12.43	4.77		0.00	0.01	0.21	2.58		
<b>B</b>	PRE-DEV	3.72	0.00	2.67	1.05	56	1.27	2.38	7.46	11.02	
	POST-DEV MANAGED	3.72	0.00	2.67	1.05	56	1.27	2.38	7.46	11.02	
<b>C</b>	PRE-DEV	0.37	0.00	0.29	0.08	52	0.06	0.15	0.63	0.98	
	POST-DEV MANAGED	0.37	0.00	0.29	0.08	52	0.06	0.15	0.63	0.98	



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

**CLH DESIGN, PA**  
 400 Regency Forest Dr.  
 Suite 120  
 Cary, NC 27513  
 Phone: 919.878.8716  
 Fax: 919.878.7516  
 L.A.C. 186 P.E. C-1385

**PROFESSIONAL SEAL**  
 NORTH CAROLINA  
 ENGINEER  
 W. M. HEMINGWAY  
 6-18-19

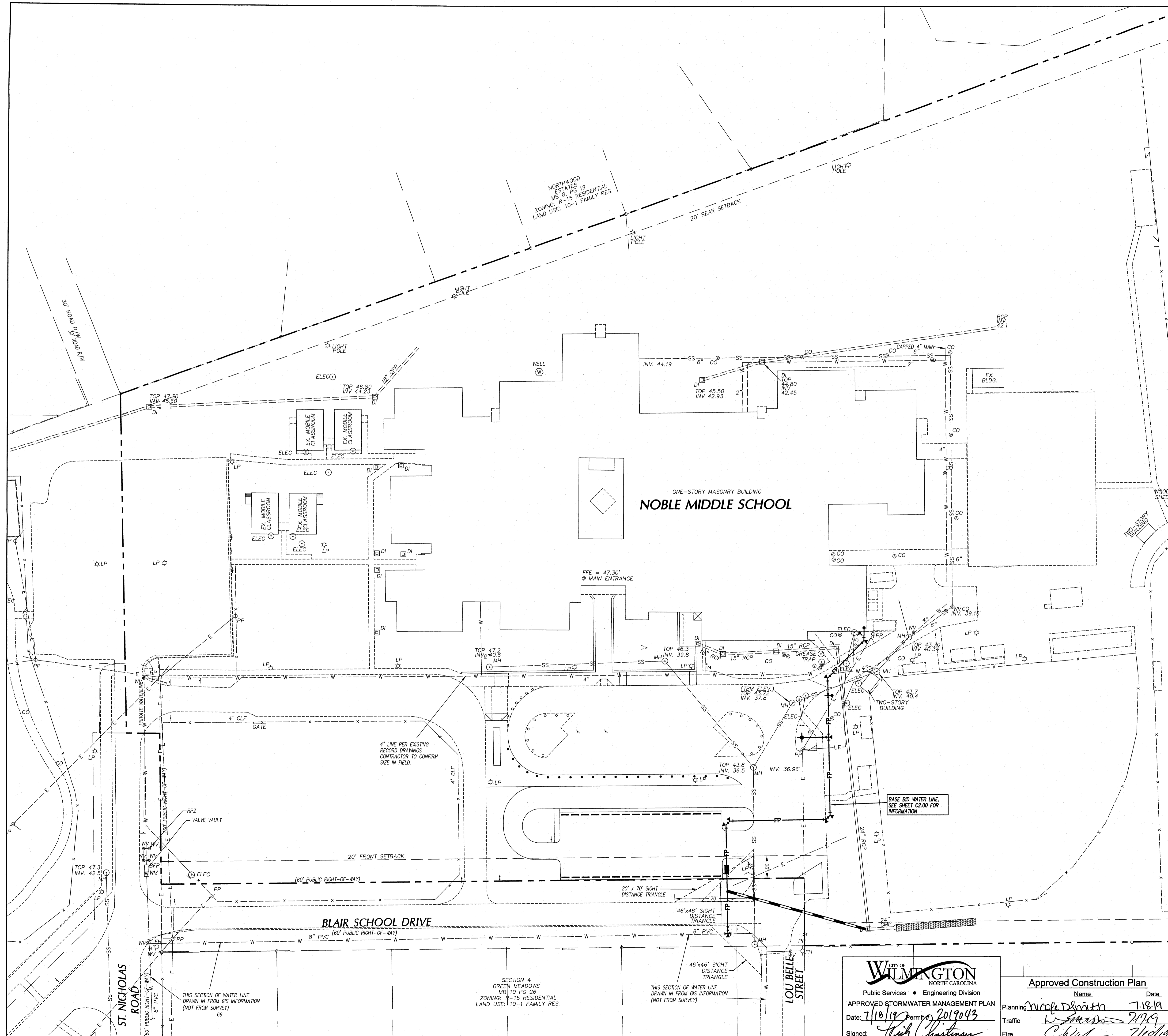
**Renovations to:**  
**M.C.S. Noble Middle School**  
 6520 Market Street  
 Wilmington, North Carolina

**STORMWATER MANAGEMENT PLAN POST DEVELOPMENT**  
 JOB NUMBER 18-131  
 DRAWN BY JGM/HBR  
 CHECKED BY JGM  
 DATE 2/4/2019  
 REVISIONS 6/18/2019 PERMITS

Approved Const. Plan  
 Name: Nicole D. Smith Date: 7/18/19  
 Planning: N/A  
 Public Utilities: N/A  
 Traffic: N/A  
 Fire: N/A  
 City of Wilmington  
 NORTH CAROLINA  
 Public Services • Engineering Division  
 APPROVED STORMWATER MANAGEMENT PLAN  
 Date: 7/18/19 Permit #: 2019043  
 Signed: Jack Christensen

SHEET NUMBER  
**C3.02**





**UTILITY LEGEND**

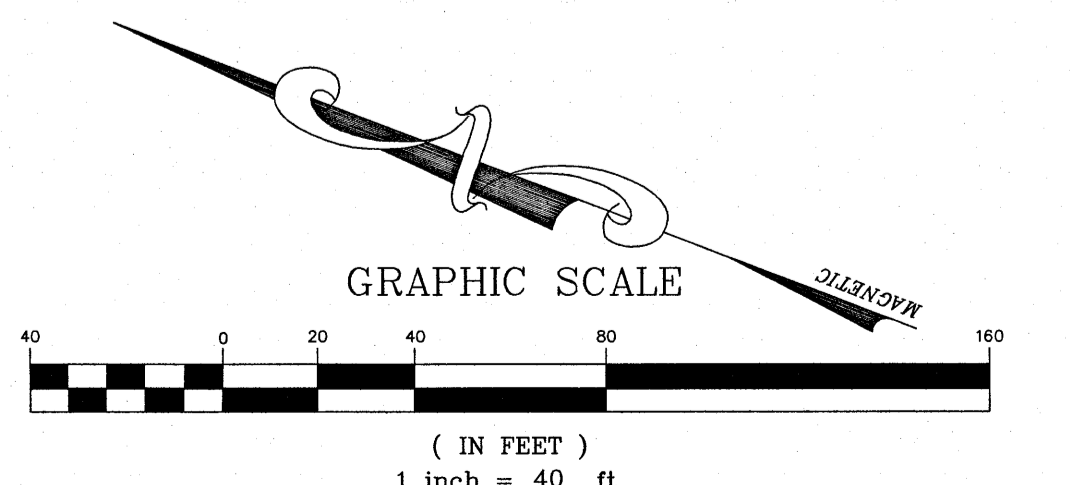
	EXISTING	PROPOSED
OVERHEAD ELECTRICAL	---E---	E
UNDERGROUND ELECTRICAL	---UE---	UE
GAS	---G---	G
SANITARY SEWER	---SS---	SS
TELEPHONE	---T---	T
UNDERGROUND TELEPHONE	---UT---	UT
WATER	---W---	W
STAND PIPE SUPPLY	---SP---	SP
FIRE PROTECTION	---FP---	FP
FORCE MAIN	---FM---	FM
CHILLED WATER	---CW---	CW
FOUNDATION DRAIN	---FD---	FD
FIBER OPTIC	---FO---	FO
ROOF DRAIN (SEE NOTE #14)	---RD---	RD
STORM DRAIN	---	---
LIGHT POLE	☆ LP	☆
UTILITY POLE	⊙ PP	⊙
MANHOLE	⊙ MH	⊙
CLEAN OUT	⊙ CO	⊙
DROP INLET, CATCH BASIN	□ DI, CB	□
FIRE HYDRANT	⊙ FH	⊙
WATER VALVE	⊙ WV	⊙
THRUST BLOCK	⊙	⊙
SANITARY SEWER STRUCTURE I.D.		3
STORM SEWER STRUCTURE I.D.		8

**UTILITY NOTES**

1. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH ALL CITY OF WILMINGTON STANDARDS AND SPECIFICATIONS.
2. INSTALL WATERMANS WITH A COVER OF NO LESS THAN 4'-FT. INSTALL WATER SERVICES WITH NO LESS THAN 18-IN OF COVER TO SUBGRADE.
3. 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.
4. INSTALL ALL UTILITIES TO PROVIDE REQUIRED CLEARANCES AS INDICATED IN THE SPECIFICATIONS.
5. WATERLINES AND SEWER MAINS SHALL BE INSTALLED WITH A MINIMUM HORIZONTAL CLEARANCE OF 10'-FT.
6. WATER AND SEWER MAINS SHALL BE INSTALLED WITH A MINIMUM VERTICAL CLEARANCE OF 12-IN TO STORM DRAINAGE PIPES.
7. 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.
8. VERIFY EXISTING CONDITIONS AND CONNECTIONS TO EXISTING UTILITIES PRIOR TO CONSTRUCTION. NOTIFY ARCHITECT IF ANY DISCREPANCIES ARE DISCOVERED.
9. CONTRACTOR IS RESPONSIBLE FOR ALL DAMAGES DURING CONSTRUCTION AND SHALL MAKE REPAIRS AT NO EXPENSE TO THE OWNER.
10. ALL CONSTRUCTION SHALL COMPLY WITH ALL APPLICABLE OSHA REQUIREMENTS.
11. THE CONTRACTOR SHALL PROVIDE AN AS-BUILT SURVEY OF ALL UTILITY AND STORM DRAINAGE IMPROVEMENTS FOLLOWING CONSTRUCTION.
12. 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.
13. SEE GENERAL NOTES ON EXISTING CONDITIONS AND DEMOLITION PLAN FOR REQUIREMENTS FOR REMOVAL AND PATCHING OF PAVEMENT FOR UTILITY INSTALLATION.
14. 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.

**KEY NOTES**

- (A) 4" FERCO MASTER SERIES LP886V REDUCED PRESSURE ZONE DETECTOR ASSEMBLY (RPZDA) OR APPROVED EQUAL WITHIN HEATED ENCLOSURE. SEE DETAIL SHEET CS.04 AND ELEC. PLANS FOR ADDITIONAL INFO.
- (B) FIRE HYDRANT ASSEMBLY, SEE DETAIL SHEET CS.04.
- (C) GATE VALVE AND VALVE BOX, SEE DETAIL SHEET 5.04.
- (D) CONTRACTOR SHALL COORDINATE TEMPORARY SHUTDOWN OF EXISTING WATER SYSTEM WITH OWNER AND CPFLA. SAWCUT EXISTING MAIN, INSTALL TEE, GATE VALVE, BLOCKING AND APPURTENANCES IN ACCORDANCE WITH CPFLA REQUIREMENTS.
- (E) THRUST BLOCKING, TYP, SEE DETAIL SHEET CS.05.
- (F) FIRE DEPARTMENT CONNECTION ON BUILDING WALL, SEE FIRE PROTECTION PLANS.
- (G) POST INDICATOR VALVE WITH TAMPER SWITCH, SEE SPECIFICATIONS. SEE ELECTRICAL PLANS FOR ADDITIONAL INFO.
- (H) EXTEND UTILITY TO WITHIN 5'-0" OF BUILDING WALL OR AS INDICATED ON PLUMBING PLANS. REFER TO PLUMBING PLANS FOR EXACT LOCATION AND INVERT ELEVATION. SEE DETAIL SHEET CS.02.
- (J) 2" ZURN 975XL REDUCED PRESSURE ASSEMBLY BACKFLOW PREVENTER OR APPROVED EQUAL WITHIN HEATED ENCLOSURE. SEE DETAIL SHEET CS.04 AND ELECTRICAL PLANS FOR ADDITIONAL INFORMATION.



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

**CLH DESIGN, P.A.**  
Civil Engineer  
1000 S. 10th St.  
Wilmington, NC 28401  
Phone: 910.771.7116  
Fax: 910.771.7118  
LA: C-106, PE: C-1595

SEAL  
2019  
ENGINEER  
A. LOU BELL  
6-19

**Renovations to:  
M.C.S. Noble Middle School**  
6520 Market Street  
Wilmington, North Carolina

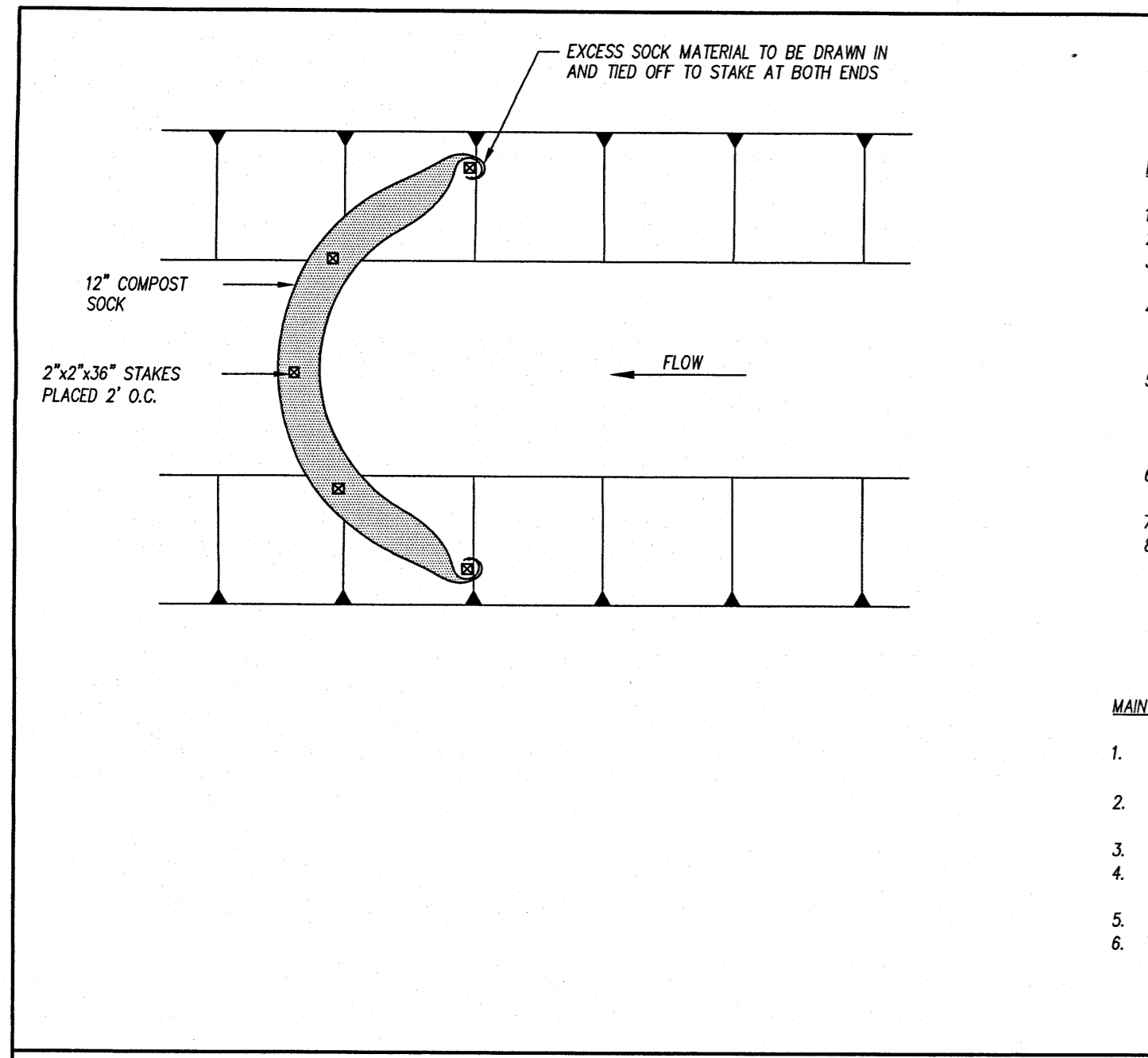
**UTILITY PLAN**

JOB NUMBER  
18-131  
DRAWN BY  
JGM/HBR  
CHECKED BY  
JGM  
DATE  
2/4/2019  
REVISIONS  
6/18/2019 PERMITS

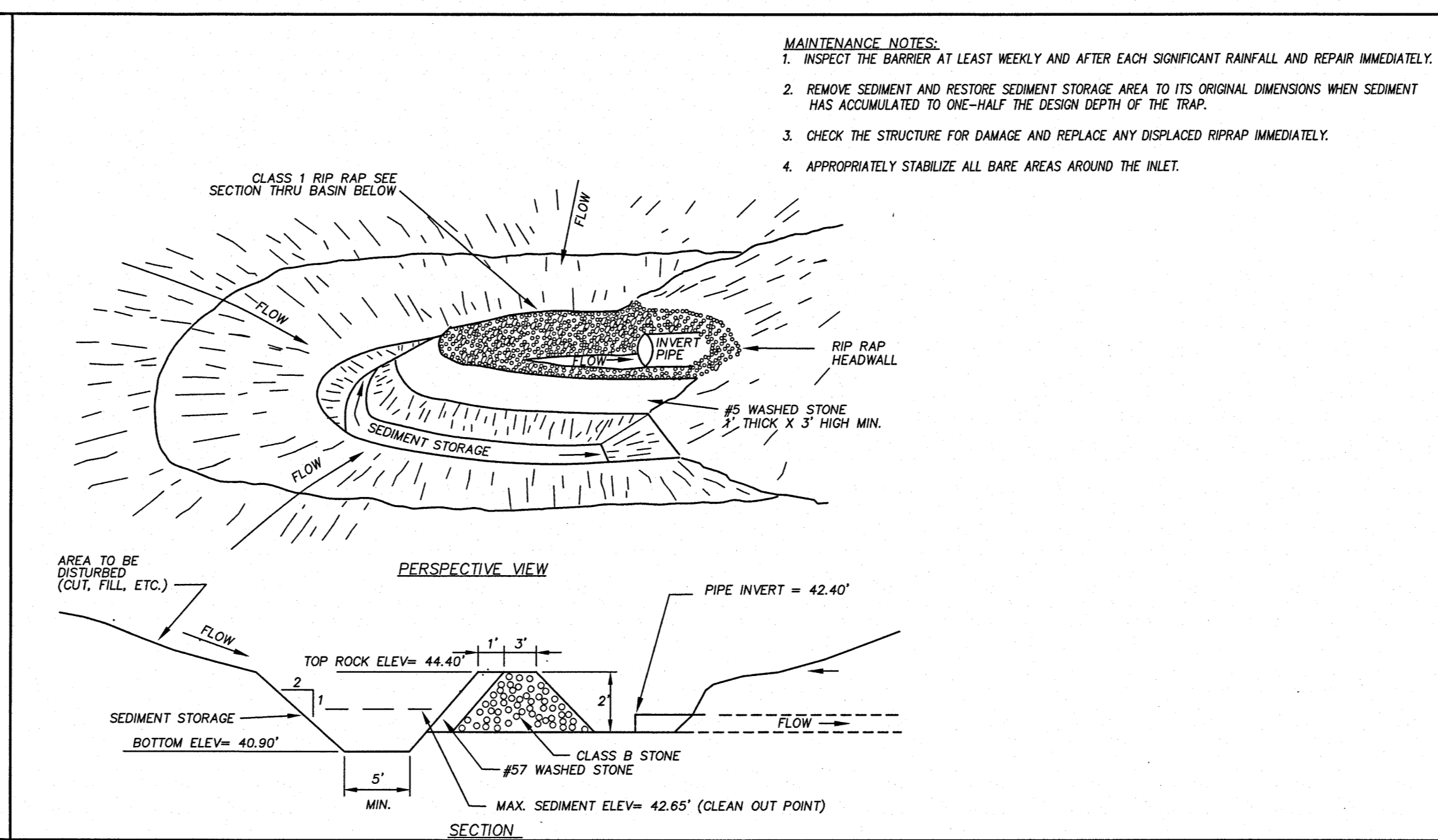
**CITY OF WILMINGTON**  
NORTH CAROLINA  
Public Services • Engineering Division  
APPROVED STORMWATER MANAGEMENT PLAN  
Date: 7/18/19 Permit #: 2019043  
Signed: *Rich Christensen*

**Approved Construction Plan**  
Name: *Nicole Smith* Date: 7-18-19  
Traffic: *[Signature]* 7/19  
Fire: *[Signature]* 7/19

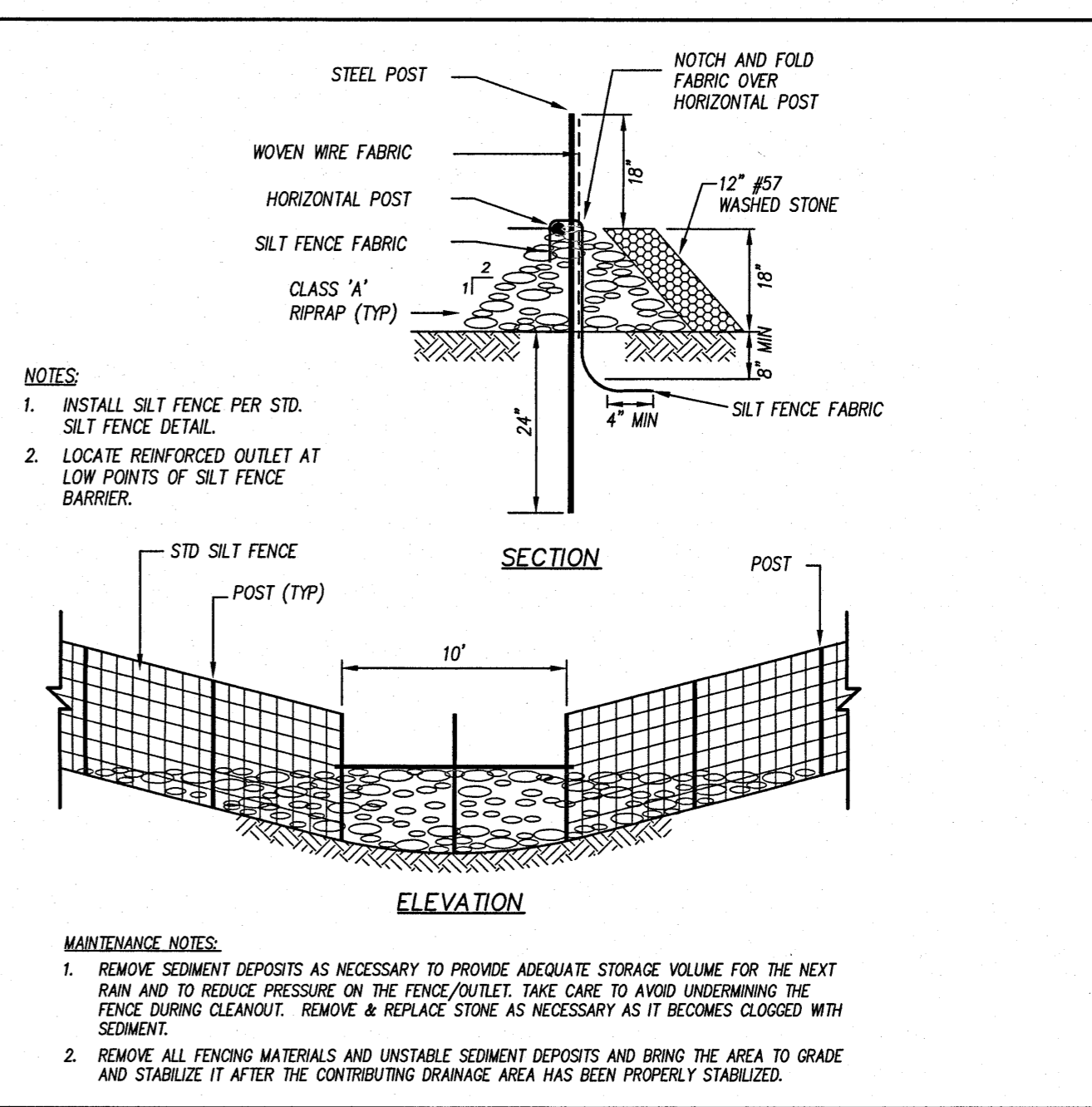
SHEET NUMBER  
**C4.00**



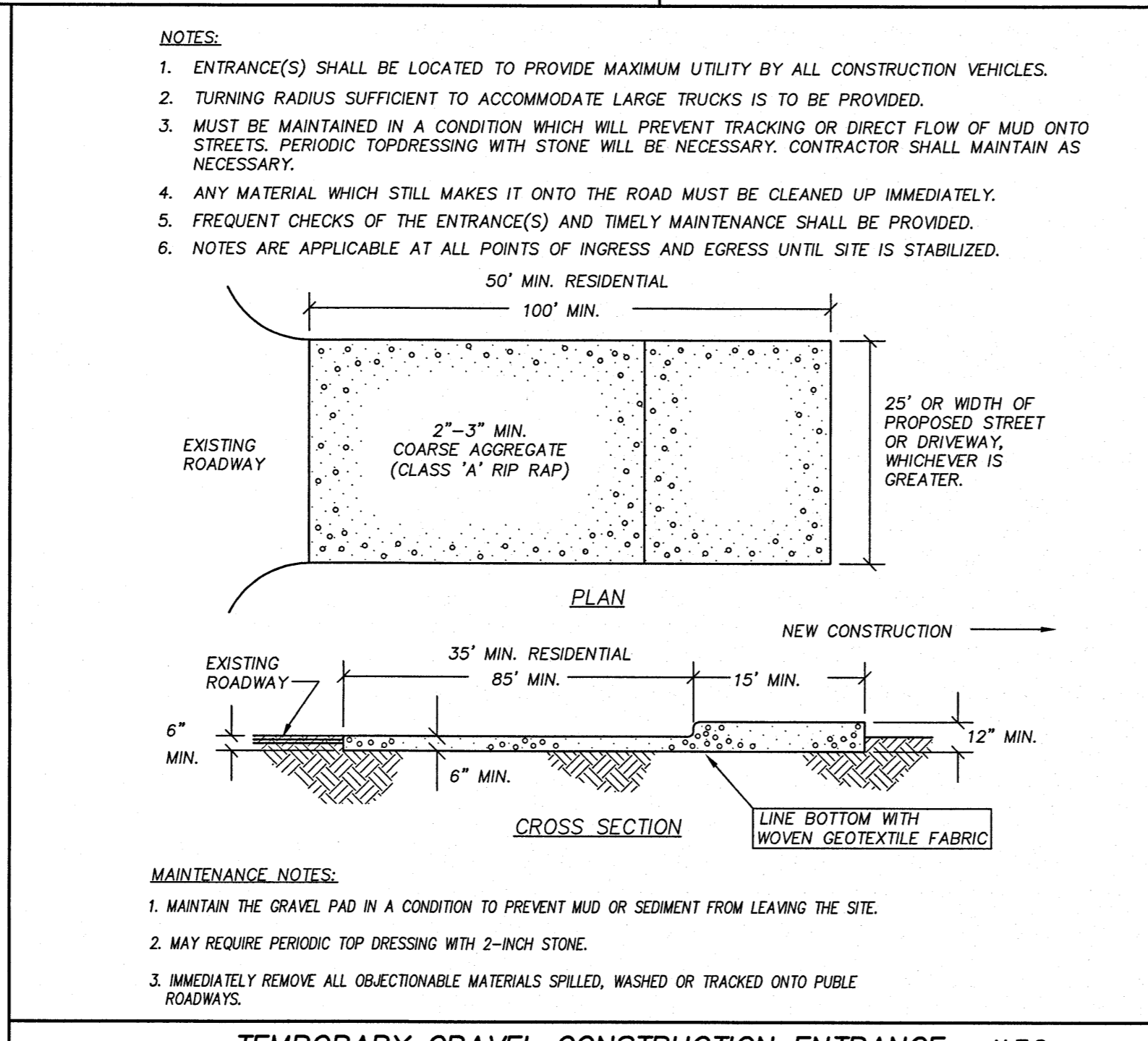
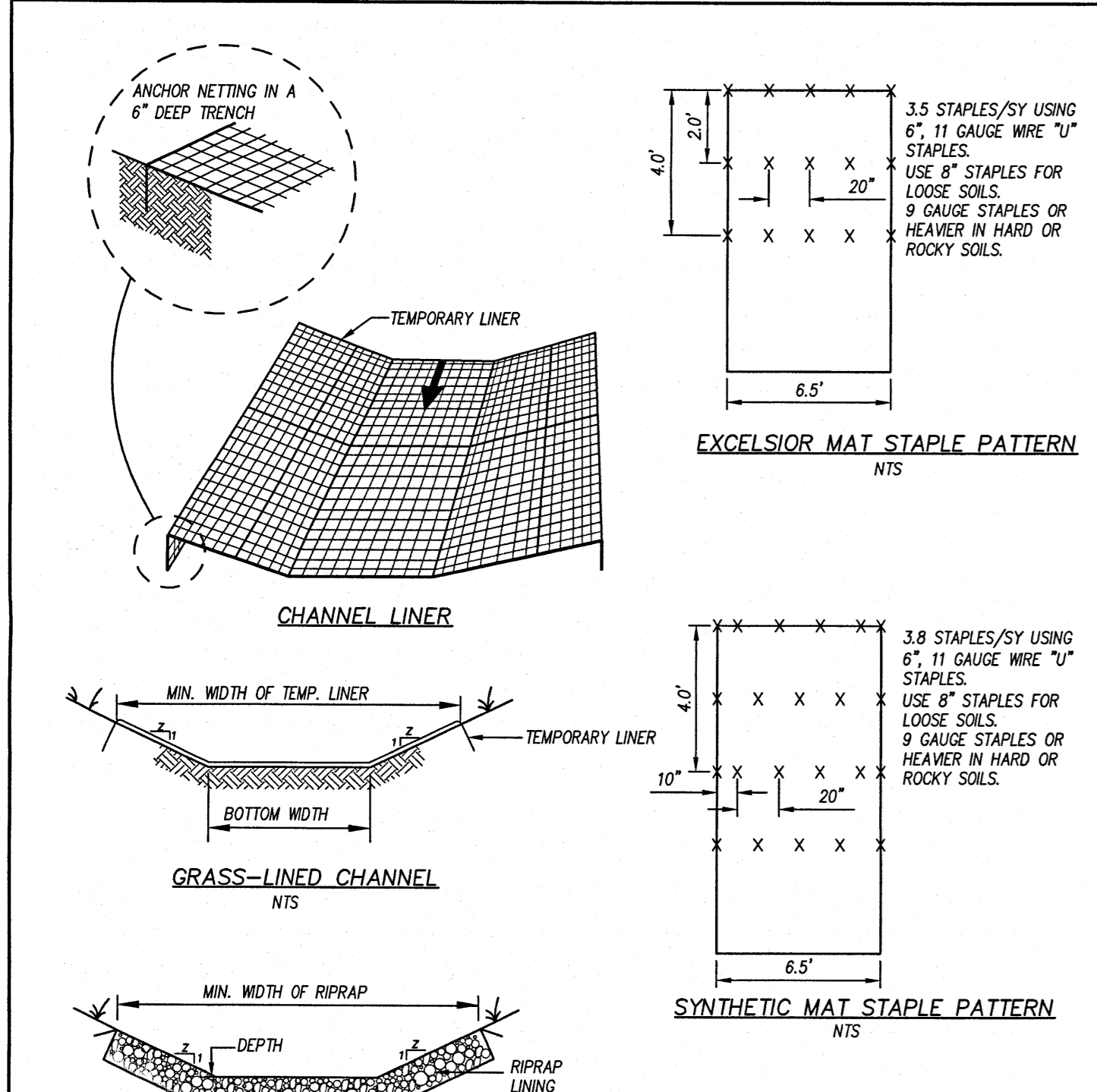
TEMPORARY COMPOST SOCK CHECK DAM N.T.S.



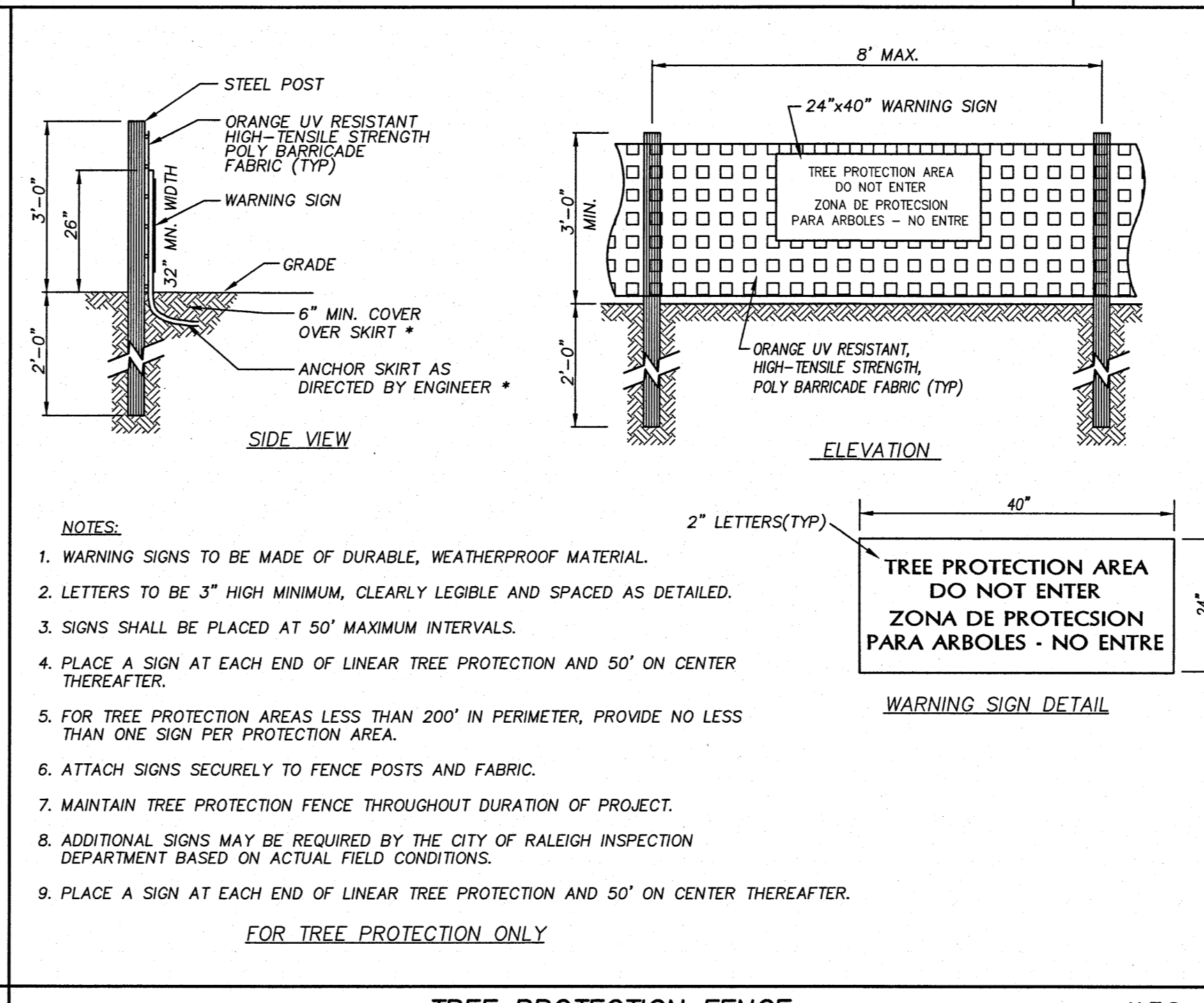
TEMPORARY ROCK PIPE INLET PROTECTION N.T.S.



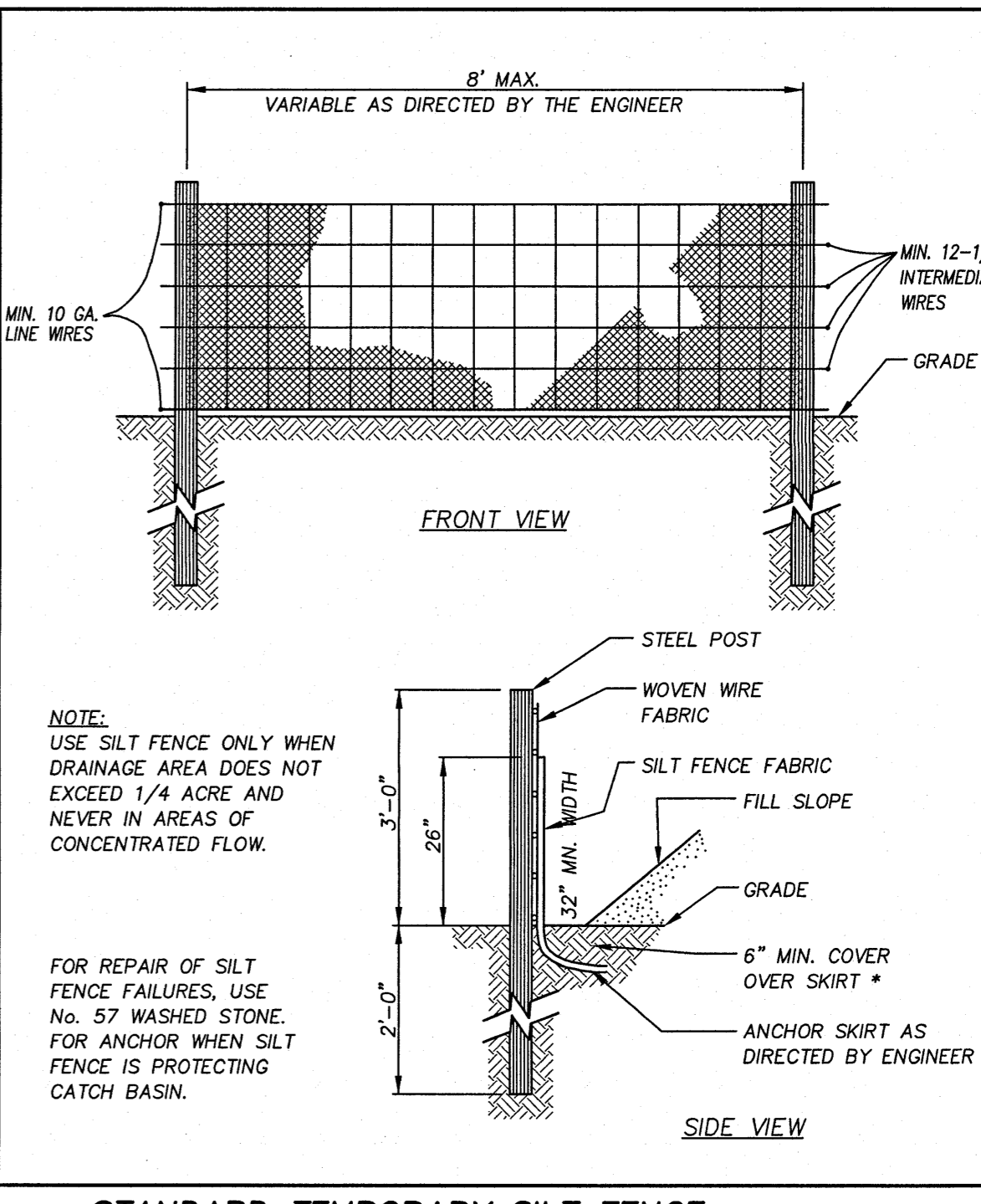
REINFORCED SILT FENCE OUTLET N.T.S.



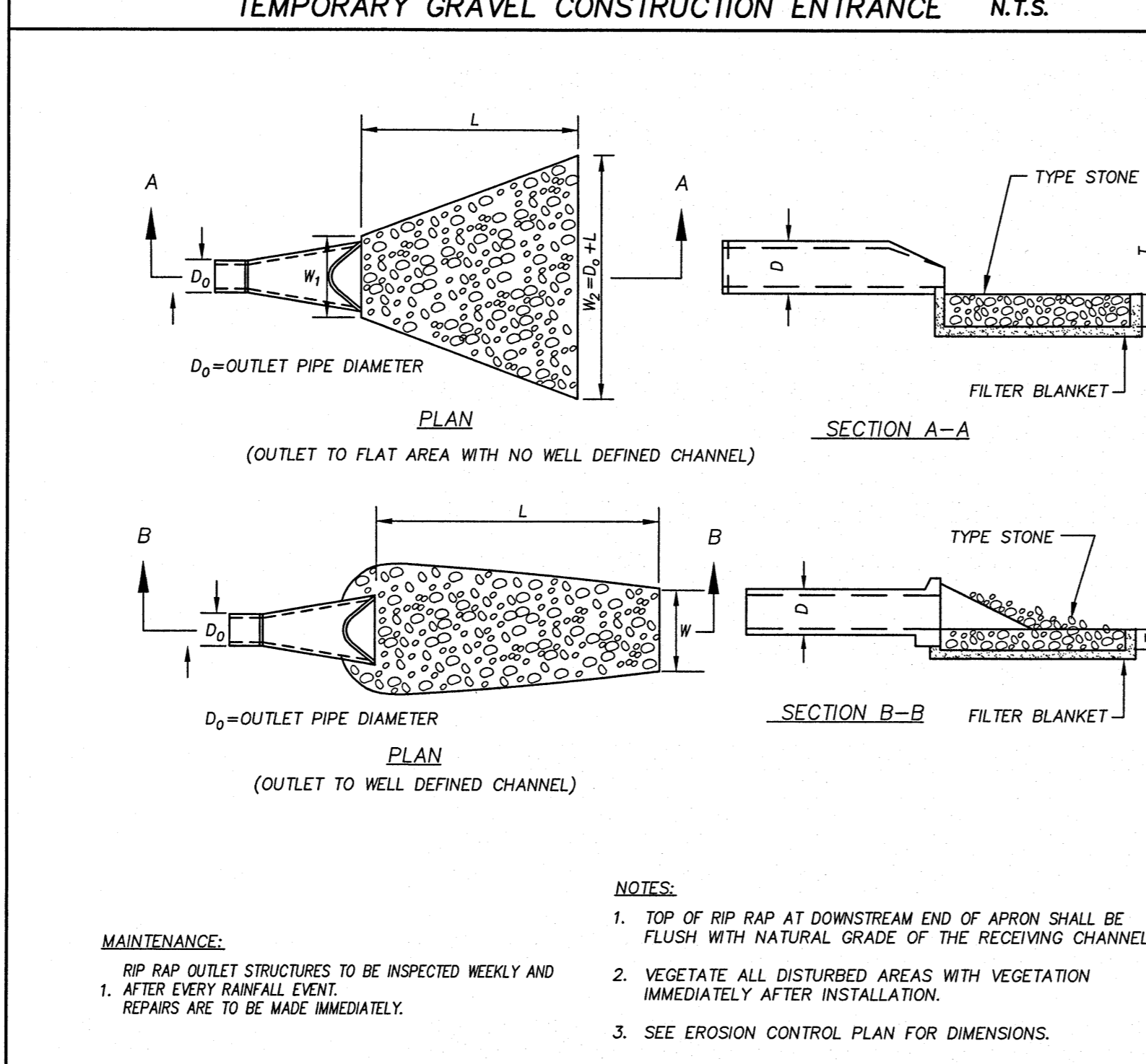
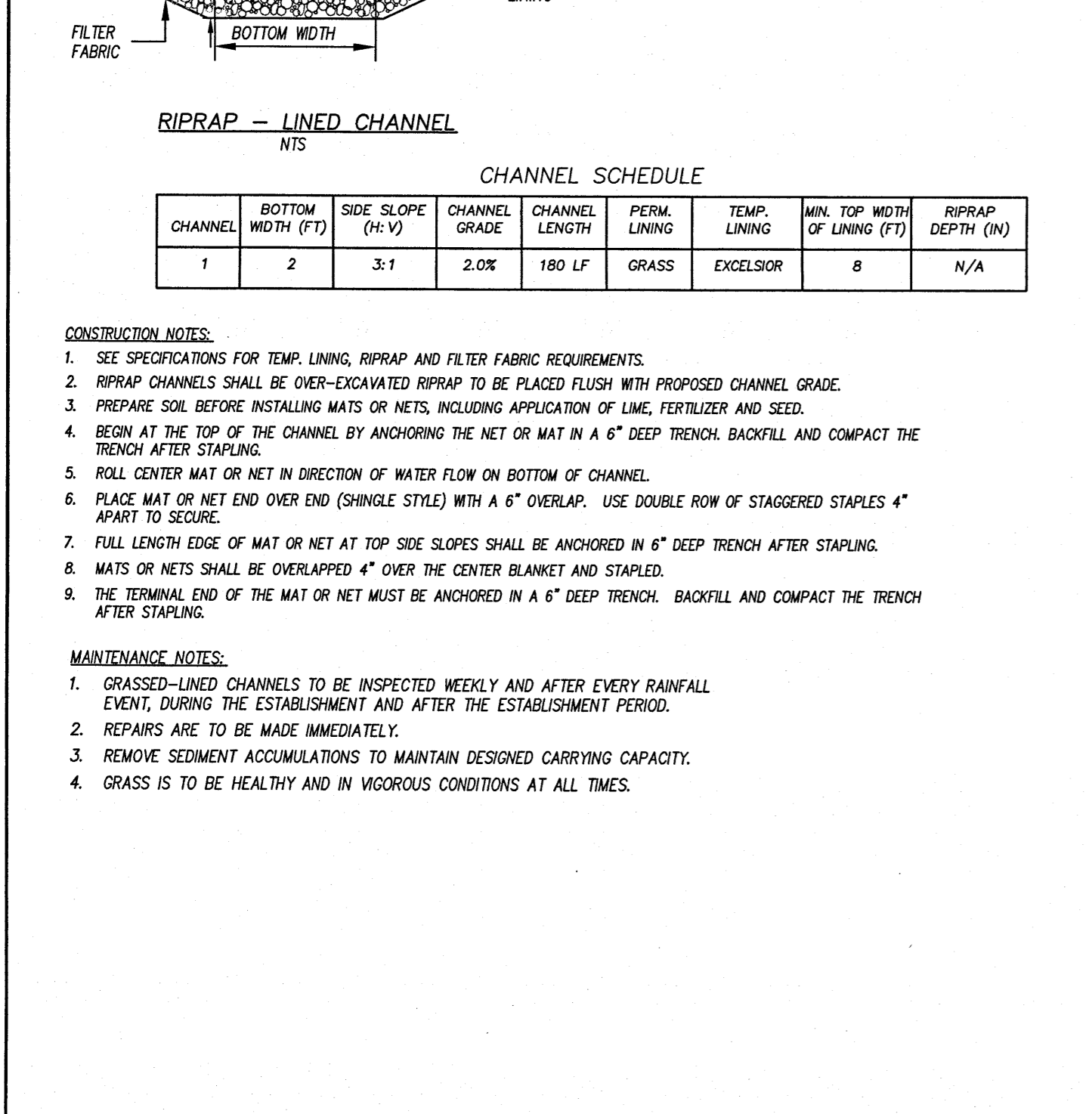
TEMPORARY GRAVEL CONSTRUCTION ENTRANCE N.T.S.



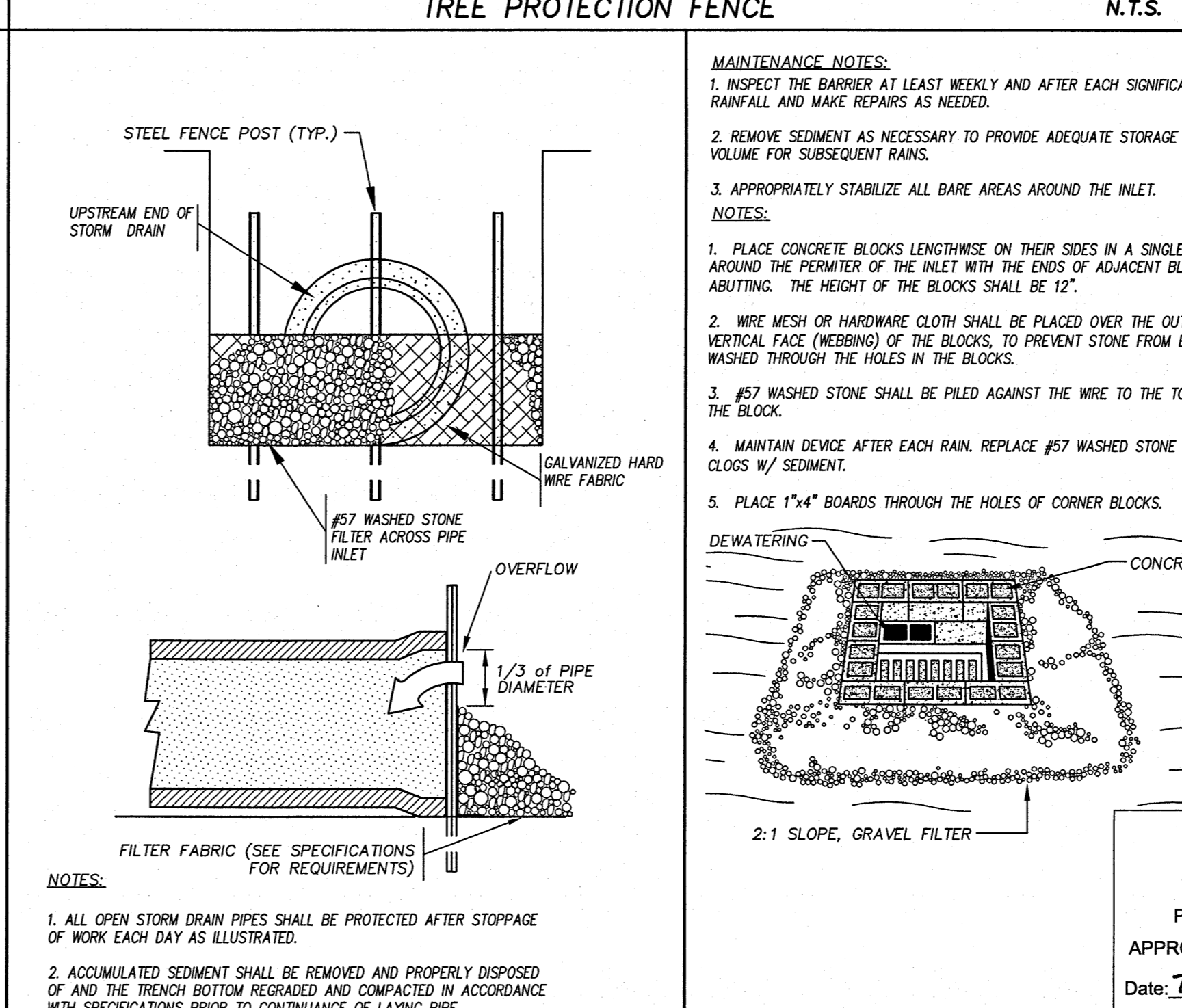
TREE PROTECTION FENCE N.T.S.



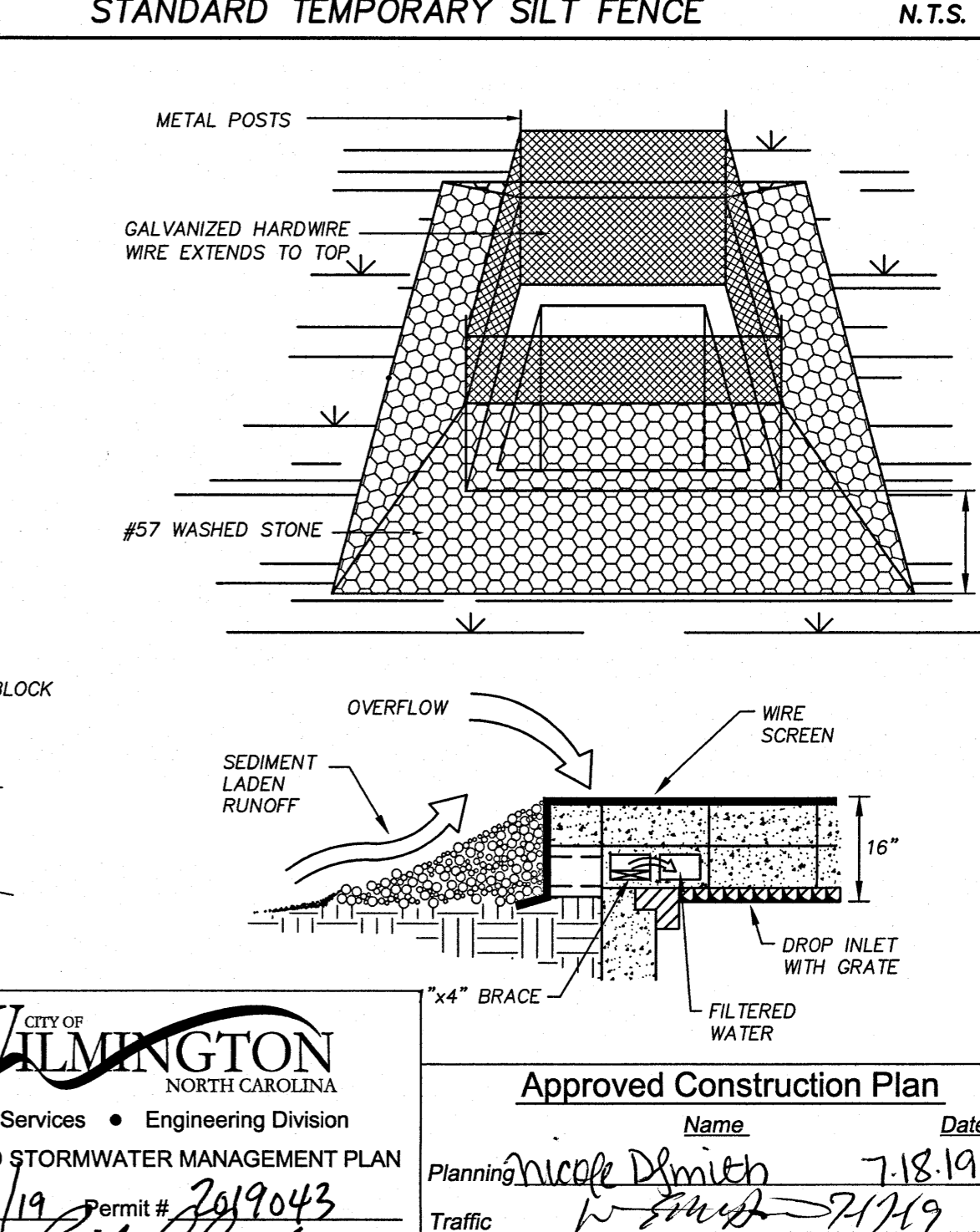
STANDARD TEMPORARY SILT FENCE N.T.S.



OUTLET PROTECTION N.T.S.



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



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

**mm**

**BOWMAN MURRAY HEMINGWAY**

ARCHITECTS

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

**CLH DESIGN PA**

600 Regency Forest Dr.  
Suite 110  
Cary, NC 27518  
Phone: 919.319.8716  
Fax: 919.319.7519  
L.A.C. 000005-01-095

**Professional Engineer**

North Carolina Professional Seal

SEAL 23849

REGISTERED PROFESSIONAL ENGINEER

WILMINGTON A. LORING

6/19

**Renovations to:**

**M.C.S. Noble Middle School**

6520 Market Street

Wilmington, North Carolina

**SITE DETAILS**

JOB NUMBER 18-131

DRAWN BY JGM/HBR

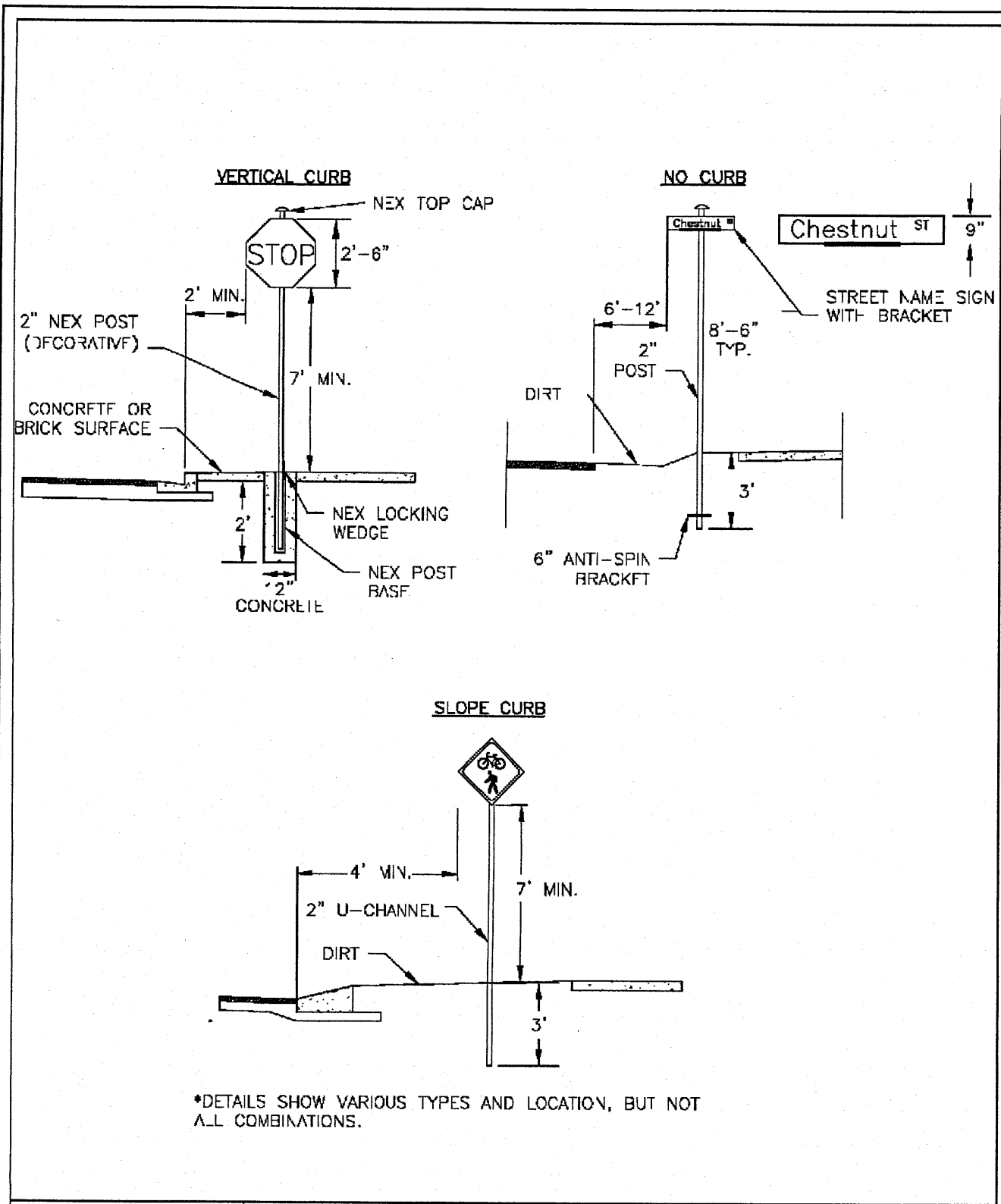
CHECKED BY JGM

DATE 2/4/2019

REVISIONS 6/18/2019 PERMITS

SHEET NUMBER

**C5.01**



**STANDARD DETAIL**  
**STREET SIGNS AND LOCATION**  
 SHEET 1 of 2

DATE: NOVEMBER, 2011  
 DRAWN BY: JSR  
 CHECKED BY: BDR, P.E.  
 SCALE: NOT TO SCALE

**CITY OF WILMINGTON**  
 NORTH CAROLINA  
 CITY OF WILMINGTON ENGINEERING  
 PO BOX 1810  
 WILMINGTON, NC 28402  
 (910) 341-7807

SD 15-03

**SIGNS**

- All signs shall meet the requirements of MUTCD and City Traffic Engineering in effect at the time of construction.
- All Traffic Control Signs including multi-use paths shall be fabricated with 0.080 inch aluminum blanks using high intensity prismatic reflective sheeting Type IV or better. STOP signs shall be a minimum of 30"x30".
- SPECIAL DESIGNATION** signs by location and type shall adhere to City of Wilmington signage plan (ie. downtown, historic, cross-city trail, parks, riverfront, scenic by-way, parking, etc.) and all associated policies.
- POST MOUNTED STREET NAME SIGNS** shall be fabricated with 9" extruded aluminum street name sign blanks using a standard cut-out. Minimum sign length is 18" long and increasing in 6" increments to 54" maximum as dictated by the number of letters in the name. The color scheme shall be white letters on a green background without a border. Generally, in the downtown and historic areas or as designated in the City of Wilmington signage plan the background shall be blue and contain a topper.
- Decorative sign posts shall consist of the NEX sign support system, 2" octagonal tube, 14 gauge, powder coated glossy black and include cap, post, base and wedge.
- All other sign posts shall be u-channel posts made of galvanized steel with 8" posts 2lbs/ft or 12" posts 3lbs/ft. Galvanized NEX post may be substituted with approval from the City Signs and Markings Engineer.
- OVERHEAD STREET NAME SIGNS** shall be fabricated with 0.080 inch aluminum flat sign blanks 18" in height using a standard cut-out. Sign length will be dictated by the number of letters in the name. For mast-arm type traffic signal supports and other overhead support systems refer to the design plans for maximum sign length.
- All sign lettering, colors and fonts shall adhere to the MUTCD in effect at the time of construction. Fluorescent Yellow-Green shall be used on signs, in place of Yellow, when listed as an optional color in the MUTCD. Generally, the font will be FHWA series fonts (Highway Gothic.) Other font types require prior City Signs and Markings Engineer approval.

**LOCATION**

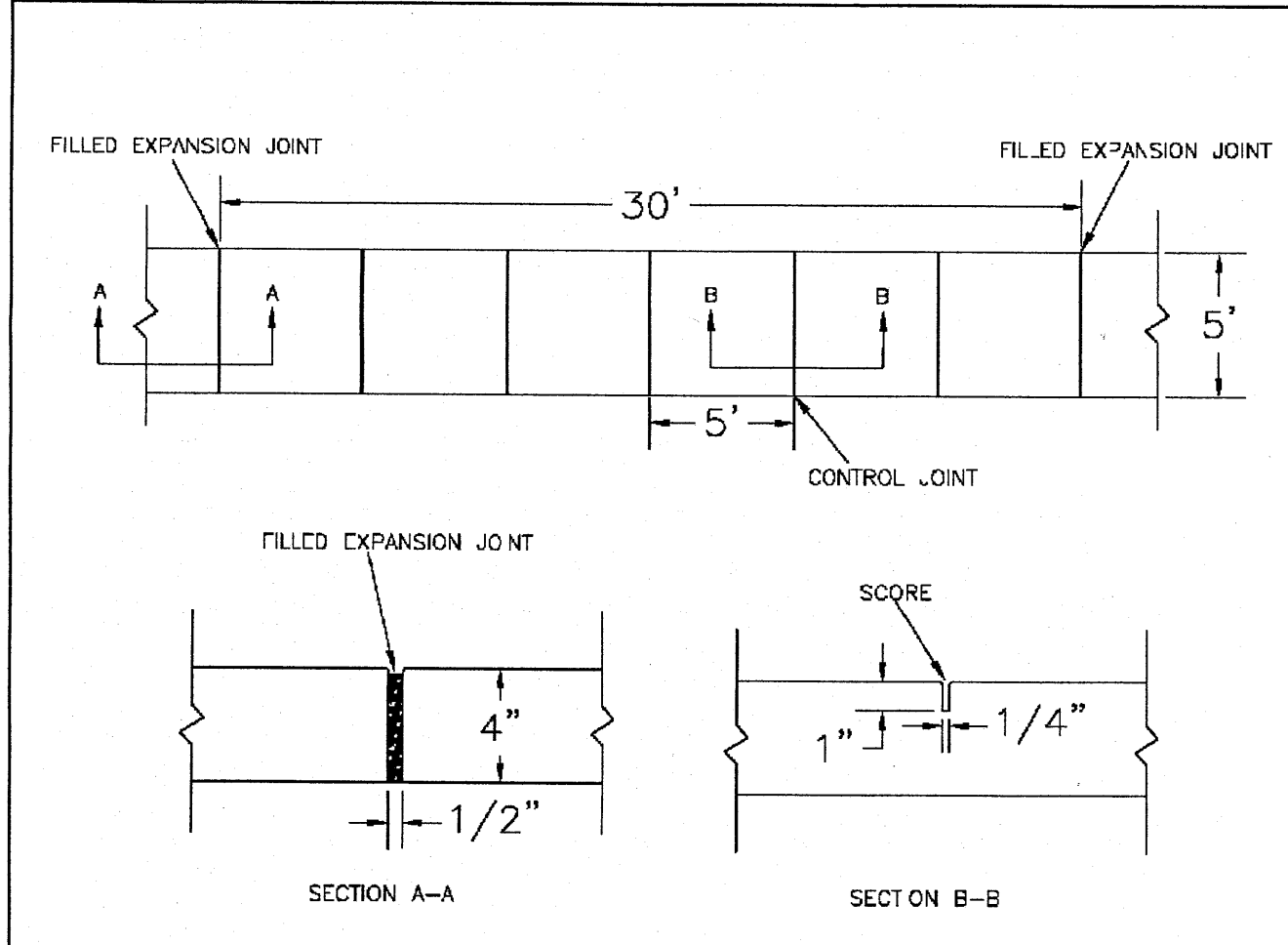
- Sign locations depend on the edge of road condition. Generally, signs shall be a minimum 2' from face of a vertical curb, 4' from front of slope face curb, and 6' from edge of pavement without curb. Signs shall not be located more than 12' from any of these locations.
- Sign posts installed in dirt shall be buried a minimum of 36". Octagonal posts shall utilize an anti-spin device, 6" in length minimum. Sign posts installed in concrete or brick shall utilize a base cast in concrete 24" x 12" diameter.
- Street name signs shall be installed 8'-6" from the ground to the bottom of the sign. Street name signs co-located with STOP signs shall be installed above the STOP sign. A 6" space shall be maintained between the STOP sign and a Street name sign that is parallel to the STOP sign face. All other signs should be mounted per MUTCD guidelines for Urban Areas.

**STANDARD DETAIL**  
**STREET SIGNS AND LOCATION**  
 SHEET 2 of 2

DATE: NOVEMBER, 2011  
 DRAWN BY: JSR  
 CHECKED BY: BDR, P.E.  
 SCALE: NOT TO SCALE

**CITY OF WILMINGTON**  
 NORTH CAROLINA  
 CITY OF WILMINGTON ENGINEERING  
 PO BOX 1810  
 WILMINGTON, NC 28402  
 (910) 341-7807

SD 15-03



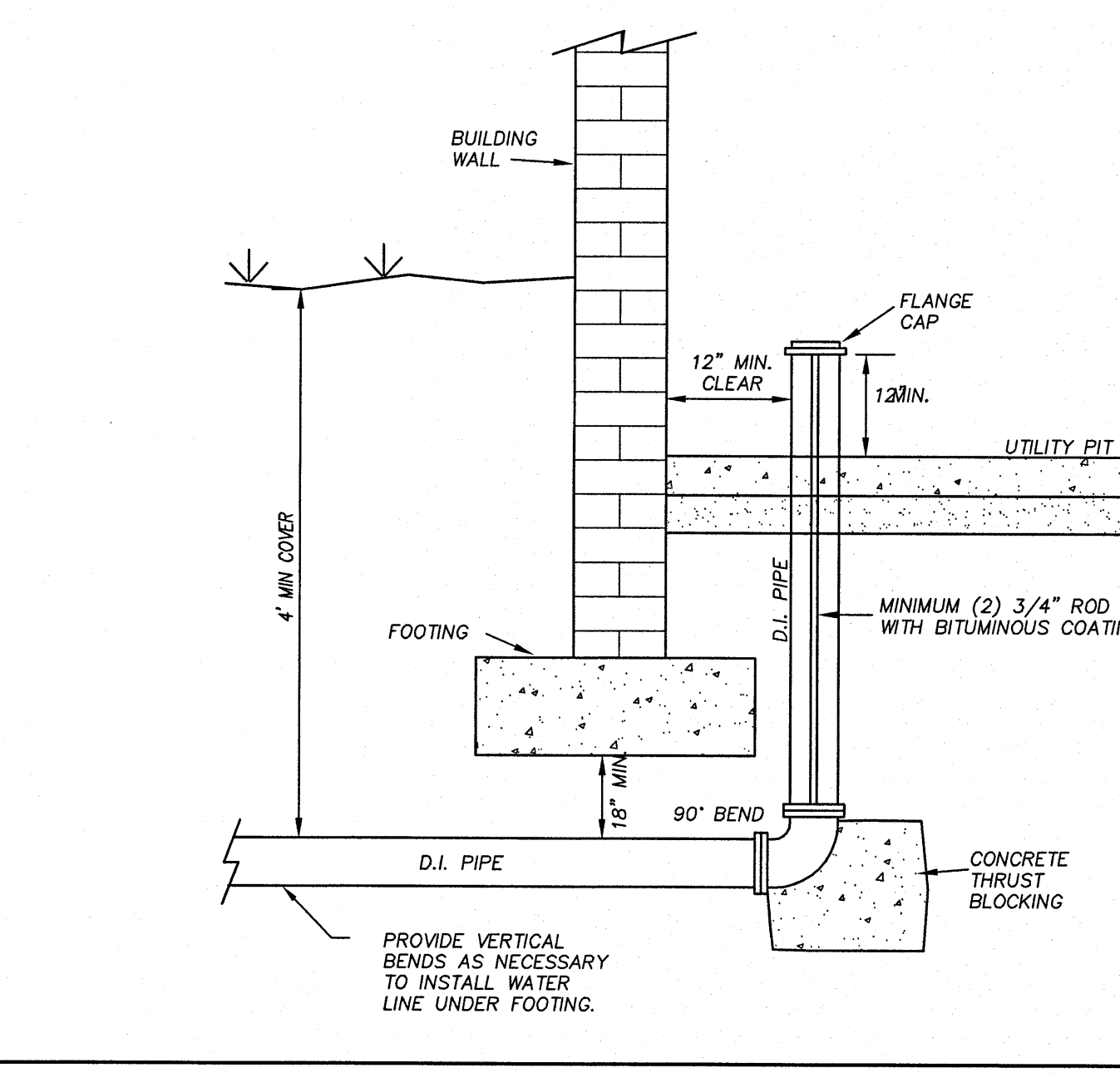
- NOTES:**
- JOINT MATERIAL TO COMPLY WITH CURRENT NCDOT STANDARDS.
  - SANITARY SEWER CLEAN-OUTS, WATER METERS, MANHOLES, AND VALVE JOBS TO BE LOCATED OUTSIDE SIDEWALK WHERE FEASIBLE.
  - MINIMUM SIDEWALK WIDTH TO BE 6' MINIMUM IF PLACED AT BACK OF CURB.
  - CONCRETE FOR ALL SIDEWALKS (EXCEPT ANY PORTION CONTAIN WITHIN A DRIVEWAY APRON) SHALL BE CLASS "A" - 3,000 PSI.
  - MINIMUM REPLACEMENT FOR REPAIRS IS A 5' X 5' PANEL.
  - 4" STONE BASE MAY BE REQUIRED FOR POOR SOIL CONDITIONS.
  - MINIMUM DEPTH FOR TUNNELING BELOW SIDEWALK IS 12"
  - MAX ADJACENT GROUND SLOPE WITHOUT RAILING IS 2:1
  - MIN GRADE FOR PROPER DRAINAGE IS 1% IN AT LEAST 1' DIRECTION. MAX CROSS SLOPE IS 2%. MAX LONGITUDINAL SLOPE IS 8.3%, 10% IF LIMITED BY EXISTING CONDITIONS, OR NO GREATER THAN THE SLOPE OF THE EXISTING ADJACENT ROAD.

**STANDARD DETAIL**  
**SIDEWALK**  
 SHEET 1 of 2

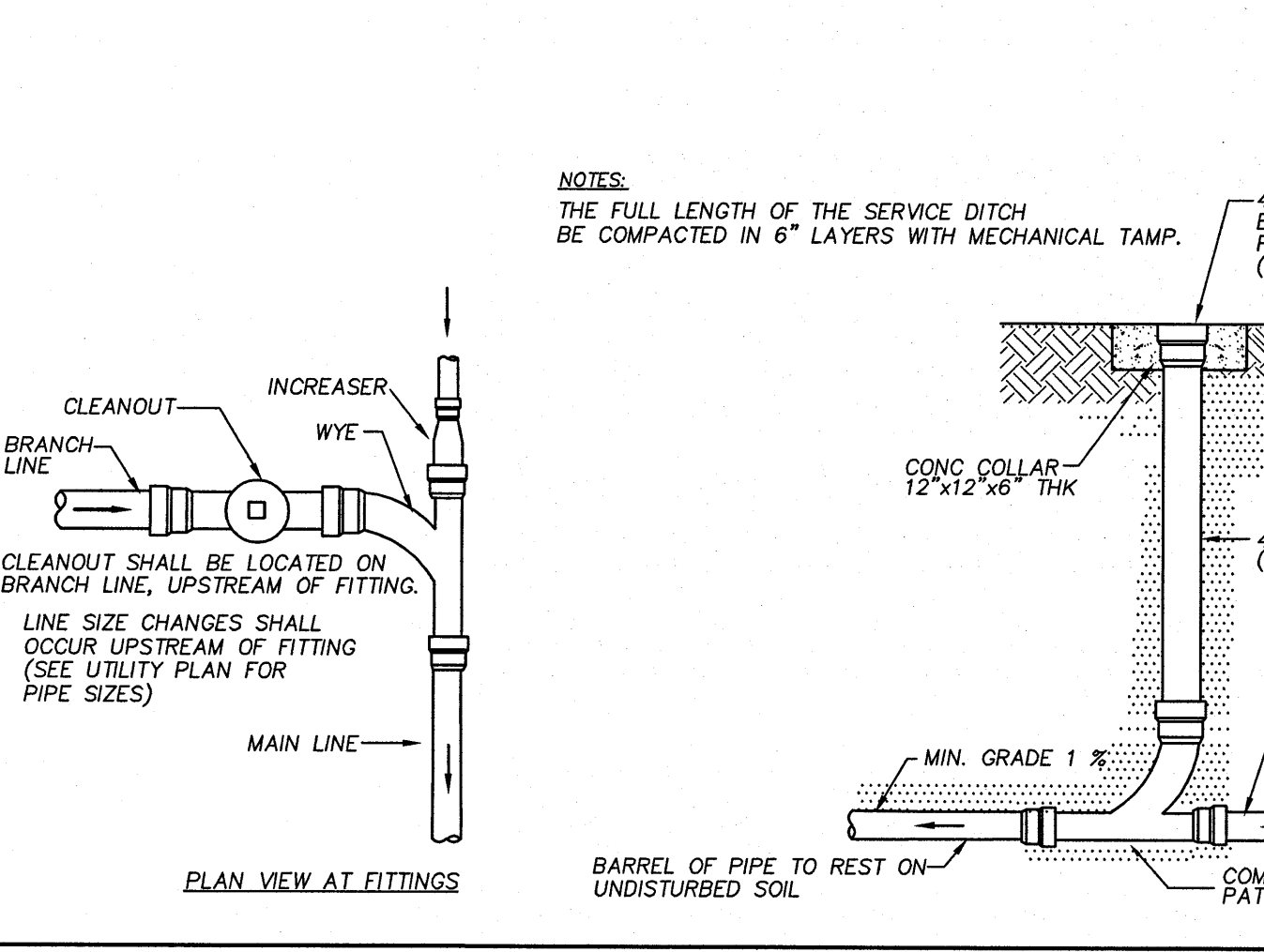
DATE: OCTOBER, 2010  
 DRAWN BY: PJSR  
 CHECKED BY: DDC  
 SCALE: NOT TO SCALE

**CITY OF WILMINGTON**  
 NORTH CAROLINA  
 CITY OF WILMINGTON ENGINEERING  
 PO BOX 1810  
 WILMINGTON, NC 28402  
 (910) 341-7807

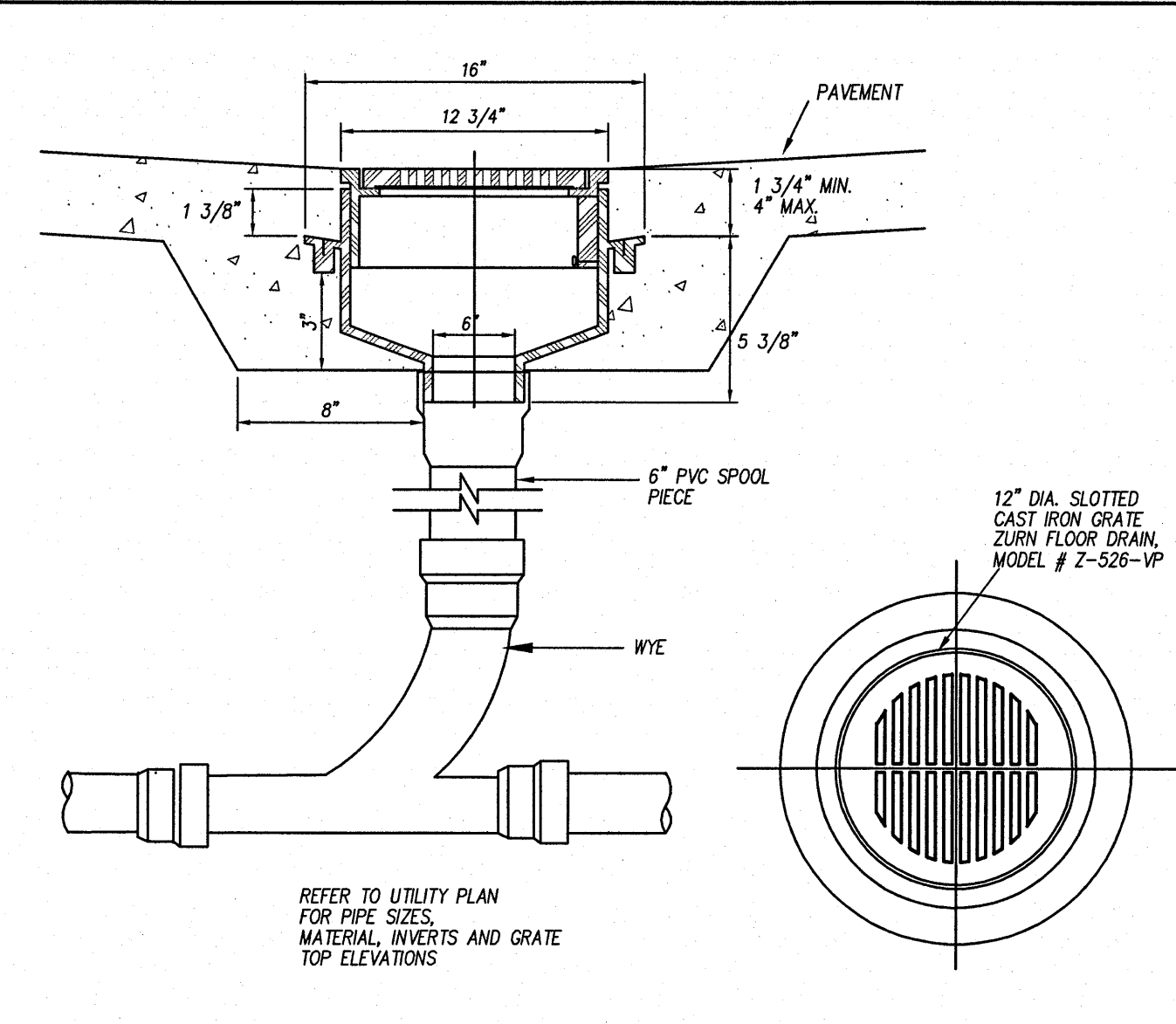
SD 3-10



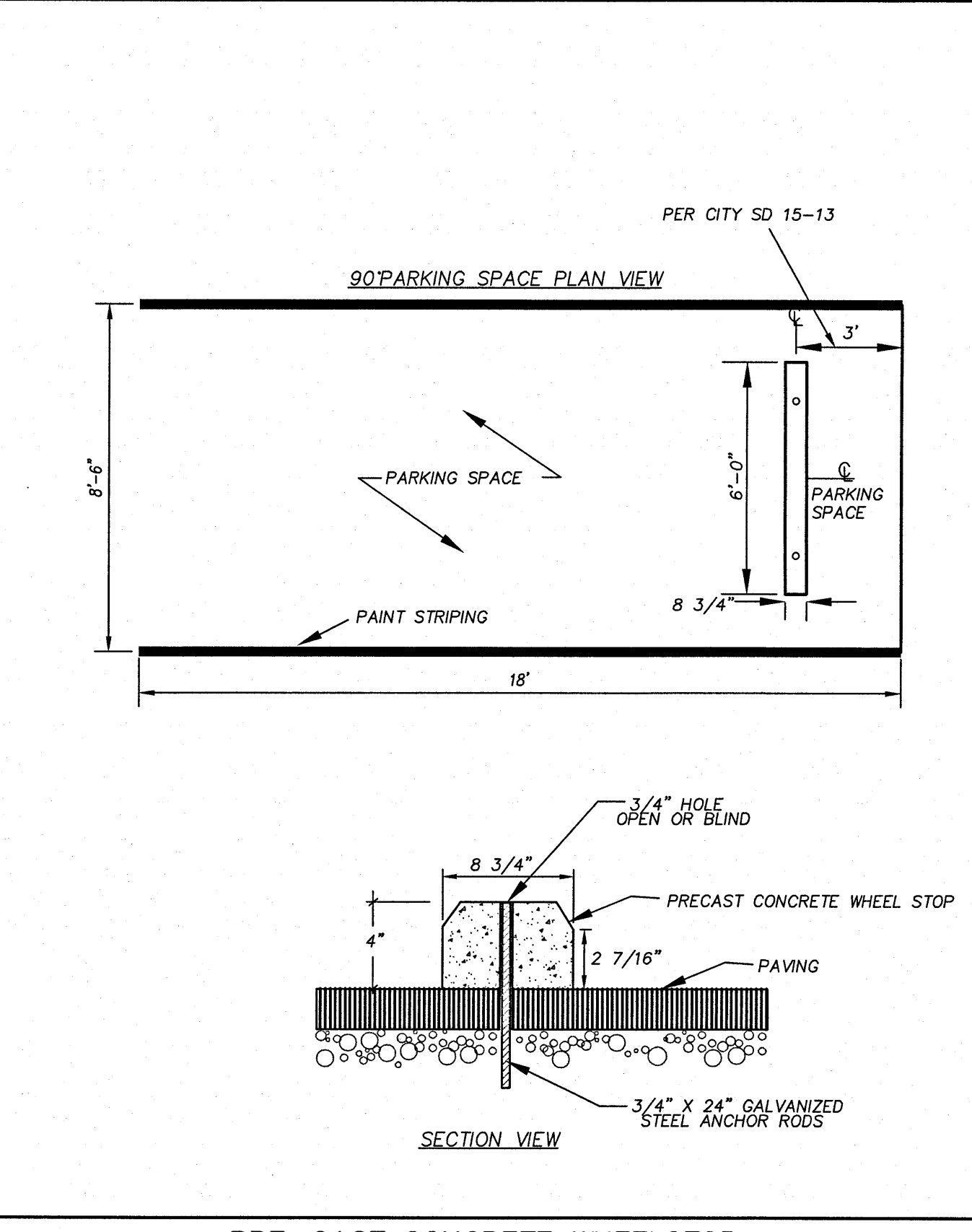
**STANDARD FIRE SERVICE INSTALLATION AT BUILDING** N.T.S.



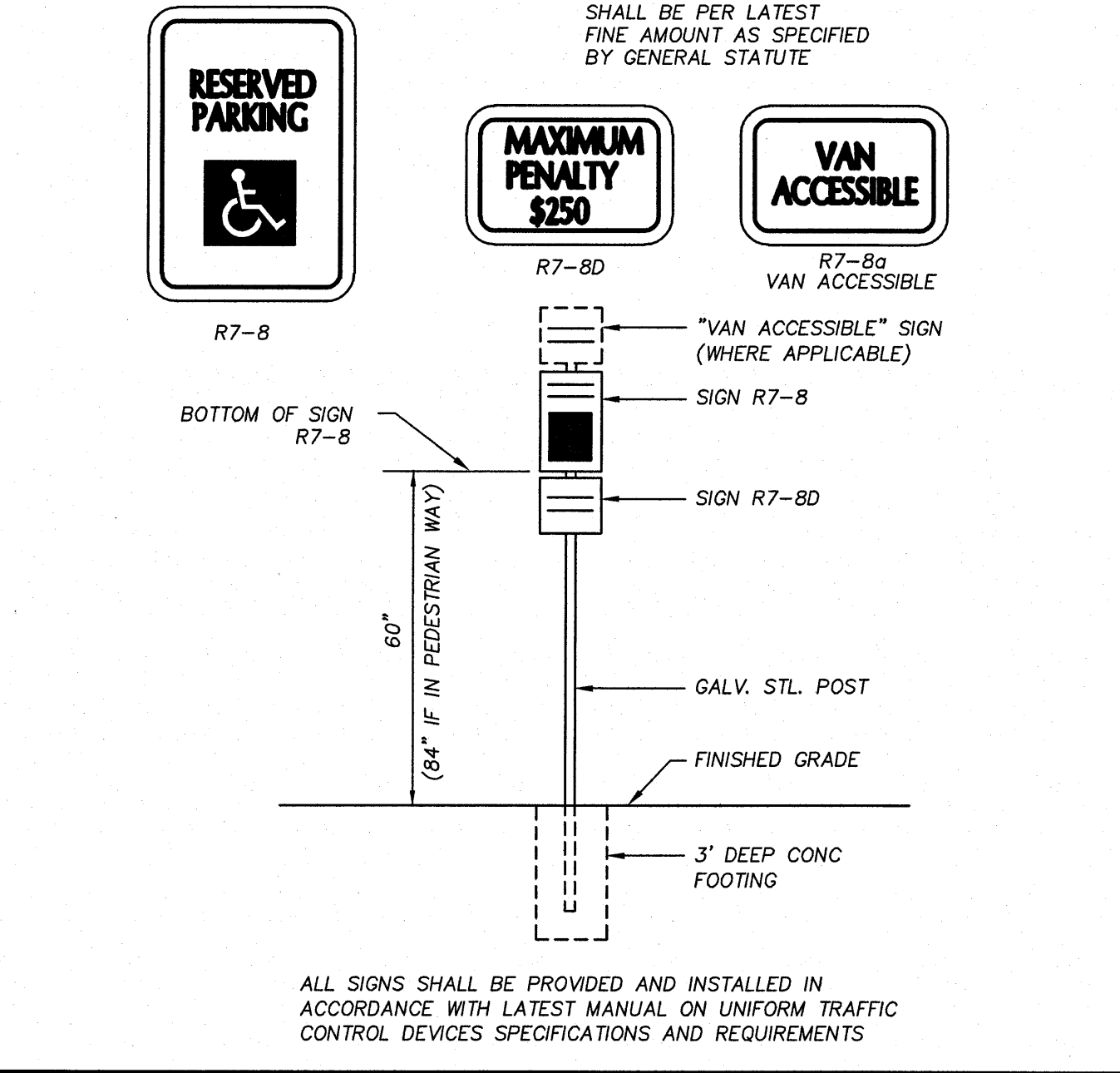
**STANDARD CLEANOUT** N.T.S.



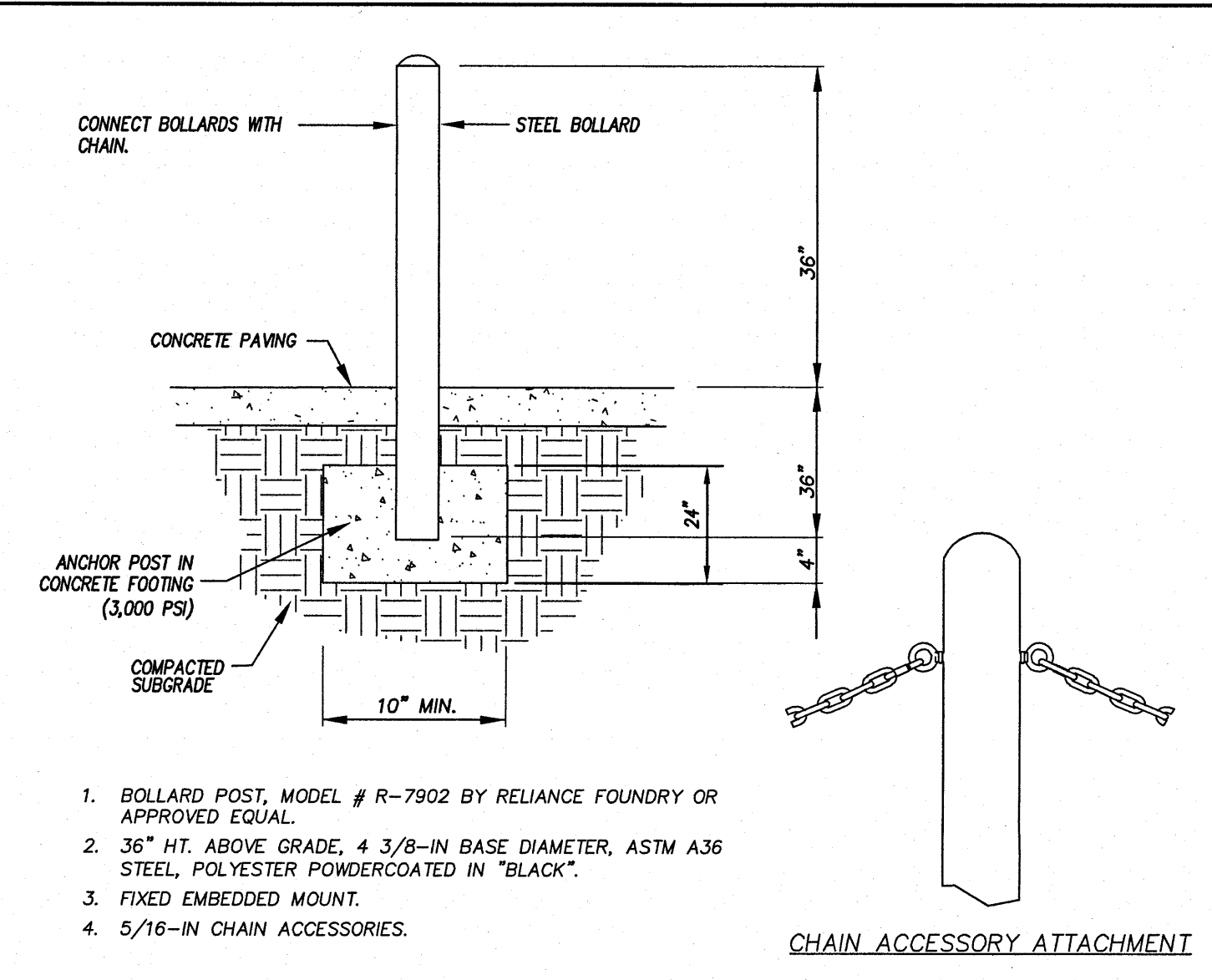
**12" ADJUSTABLE MEDIUM DUTY FLOOR DRAIN** N.T.S.



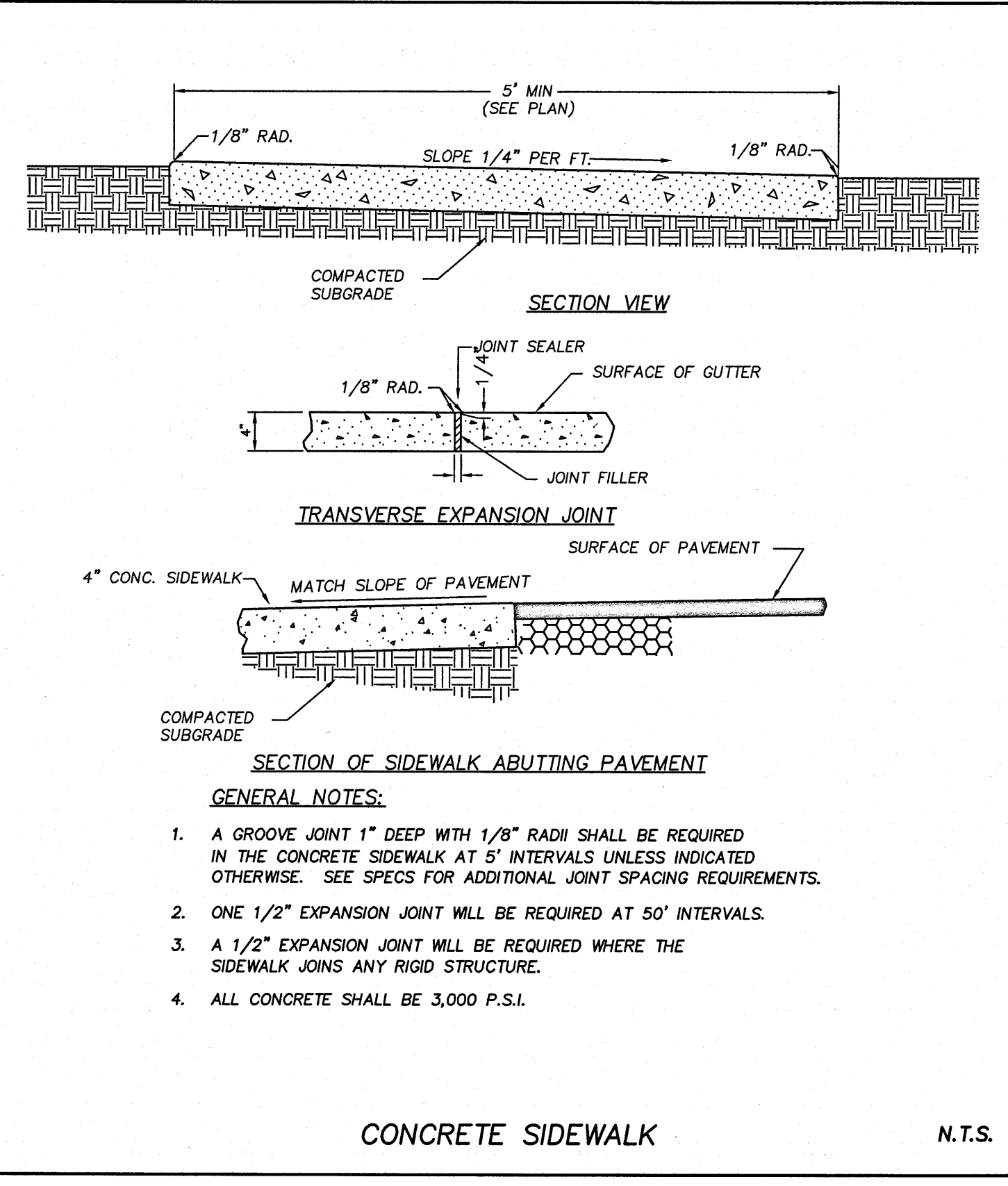
**PRE-CAST CONCRETE WHEELSTOP** N.T.S.



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



**STEEL BOLLARD WITH CHAIN IN SIDEWALK** N.T.S.



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

	HEAVY DUTY	LIGHT DUTY	ASPHALT OVERLAY*
TYPE SF-9.5B SURFACE COURSE	2.5-IN	1.5-IN	1.5-IN
TYPE 1-19.0C BINDER COURSE	-	-	-
AGGREGATE BASE COURSE	6-IN	6-IN	-

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

**NOTES:**

- SEE SPECIFICATIONS FOR PROOFROLLING, COMPACTION & TESTING REQUIREMENTS.
- DETAIL IS FOR ON-SITE PAVING OPERATIONS ONLY.
- 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.
- 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.
- 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.

**APPROVED CONSTRUCTION PLAN**

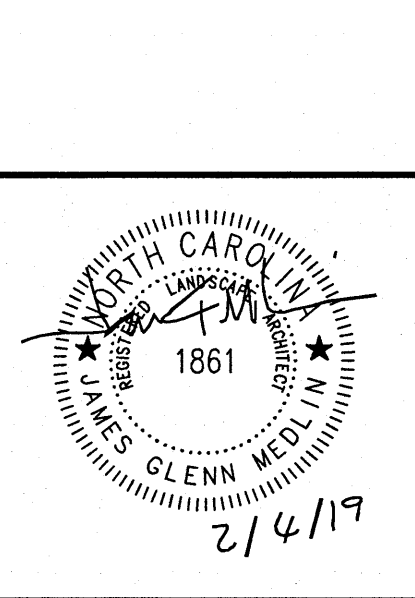
City of Wilmington  
 Public Services • Engineering Division  
 Approved Stormwater Management Plan  
 Date: 7/13/19 Permit # 2019043  
 Signed: [Signature]

Planned by: Nicole D Smith 7-18-19  
 Traffic: [Signature] 7-17-19  
 Fire: [Signature] 7-18-19

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

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

**CLH DESIGN, PA**  
 400 Regency Forest Dr.  
 Suite 100  
 Cary, NC 27513  
 Phone: 919.319.6716  
 Fax: 919.319.7516  
 Lic. C-100-PCS-0185



**Renovations to:**  
**M.C.S. Noble Middle School**  
 6520 Market Street  
 Wilmington, North Carolina

**SITE DETAILS**

JOB NUMBER: 18-131  
 DRAWN BY: JGM/HBR  
 CHECKED BY: JGM  
 DATE: 2/4/2019  
 REVISIONS: 6/18/2019 PERMITS

**C5.02**

- 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 PO BOX 1810 WILMINGTON, NC 28402 (910) 341-7807
DATE	APRIL, 2008	
DRAWN BY	JSR	
CHECKED BY	RDO, P.E.	
SCALE	NOT TO SCALE	
LANDSCAPE NOTES		SD 15-14

LANDSCAPE NOTES

DATE	TYPE	PLANTING RATE
APR 15 - JULY 15 **	HULLED SUNSTAR OR RIVERA BEREMUDA	85 LBS/ACRE *
JULY 15 - AUG 15	SUNSTAR OR RIVERA BEREMUDA 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:**  
 1. CONTRACTOR SHALL BE RESPONSIBLE FOR LAWN MAINTENANCE UNTIL FINAL COMPLETION.  
 2. LAWN MUST BE AT 95% COVERAGE AT SUBSTANTIAL COMPLETION REVIEW TO BE ACCEPTED.  
 3. 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 SUBSTANTIAL COMPLETION WHEN GRASS ESTABLISHMENT IS AT A MIN. 95% COVERAGE AND THE SURFACE COMPLETES 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 UNTIL 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- BEREMUDA SEED

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

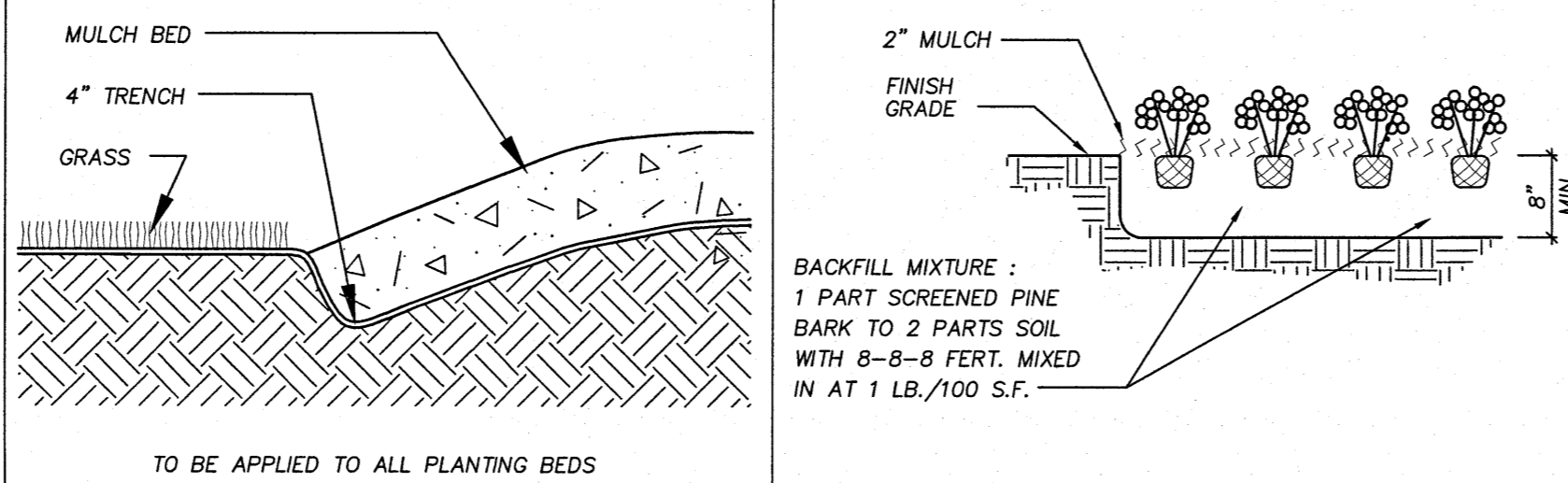
TEMPORARY OR PERMANENT GROUND COVER SHALL BE PROVIDED ON ALL SLOPES WITHIN 15 WORKING DAYS OR 30 CALENDAR DAYS AFTER CONSTRUCTION ACTIVITIES PERMANENTLY OR TEMPORARILY CEASED.

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 SUDANGRASS (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 DENUDDED AREAS. THE ABOVE VEGETATION RATES ARE THOSE WHICH DO WELL UNDER LOCAL CONDITIONS; OTHER SEEDING RATE COMBINATIONS ARE POSSIBLE.

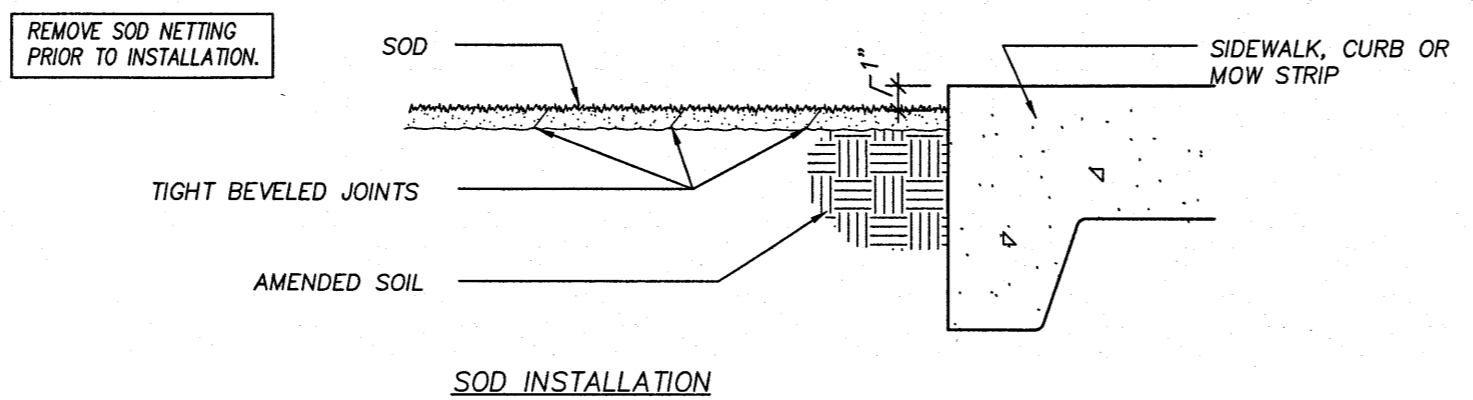
\*\*\*TEMPORARY - RESEED ACCORDING TO OPTIMUM SEASON FOR DESIRED PERMANENT VEGETATION. DO NOT ALLOW TEMPORARY COVER TO GROW OVER 12" IN HEIGHT BEFORE MOWING.

TEMPORARY SEEDING SCHEDULE



MULCH BED PLANTING DETAIL

GROUND COVER PLANTING DETAIL



SOD INSTALLATION DETAIL

- 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 NURSEYMEN 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 IMPERVIOUS 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.
- SEEDING
  - GENERAL LAWN AREAS SHALL BE SEEDING WITH SUNSTAR/RIVERA BEREMUDAGRASS 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 CUT 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 2900B.
- 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.

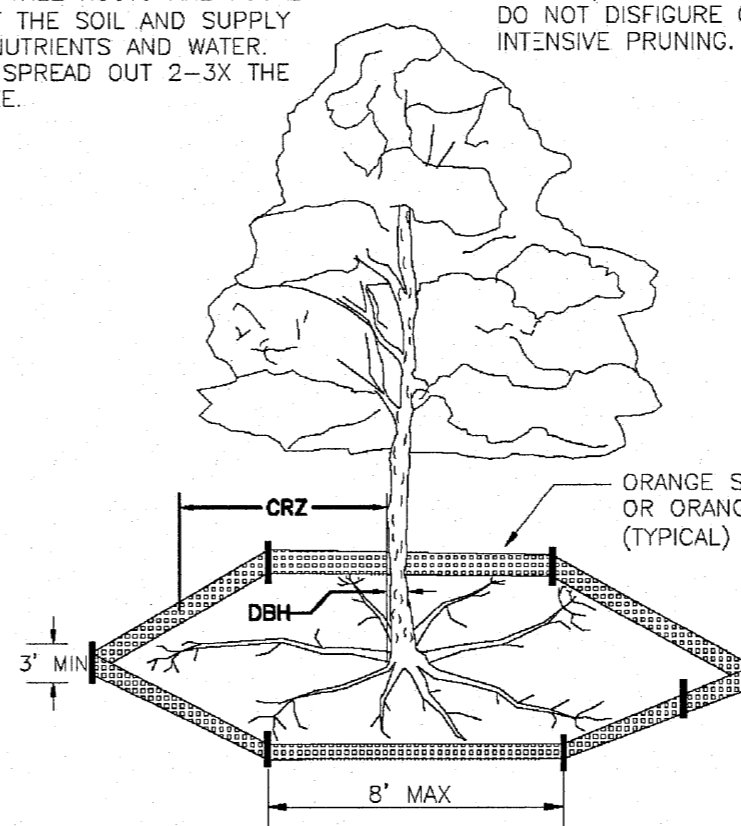
LIME & FERTILIZATION SCHEDULE

- DURING ALL PHASES OF CONSTRUCTION, GROUNDCOVER ON EXPOSED SLOPES SHALL BE PROVIDED WITHIN 14 CALENDAR DAYS FOLLOWING COMPLETION OF ANY PHASE OF GRADING.
- FINAL PERMANENT GROUNDCOVER FOR ALL DISTURBED AREAS SHALL BE PROVIDED ON ALL DISTURBED AREAS WITHIN 14 CALENDAR DAYS FOLLOWING COMPLETION OF CONSTRUCTION OR DEVELOPMENT.
- USE EXCELISOR 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 6" 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

NOTE: THE CRITICAL ROOT ZONE (CRZ) OF A TREE IS WHERE THE MAJORITY OF A TREE'S ROOTS LAY. 65% 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.

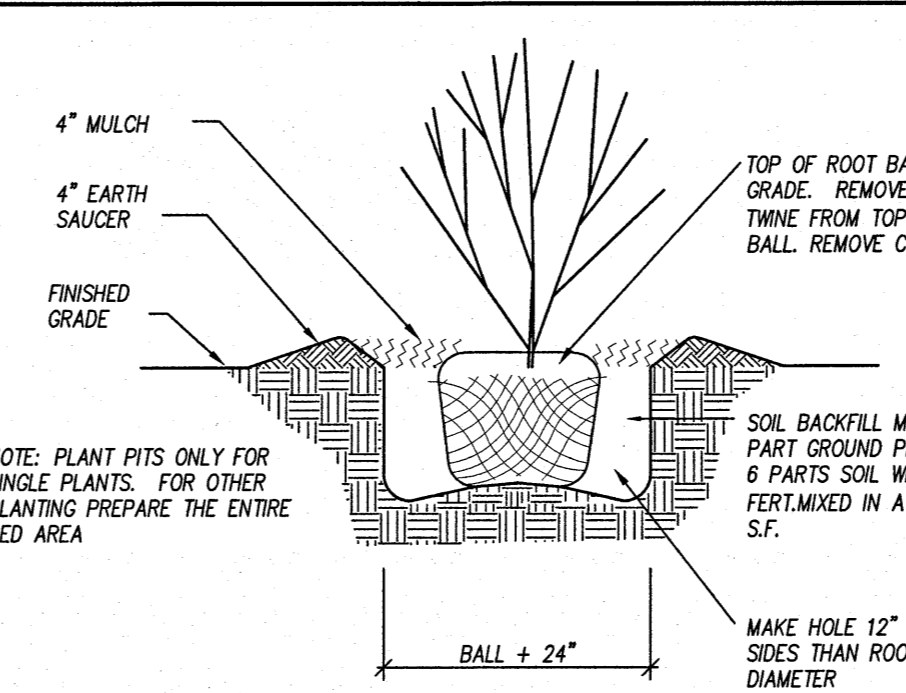
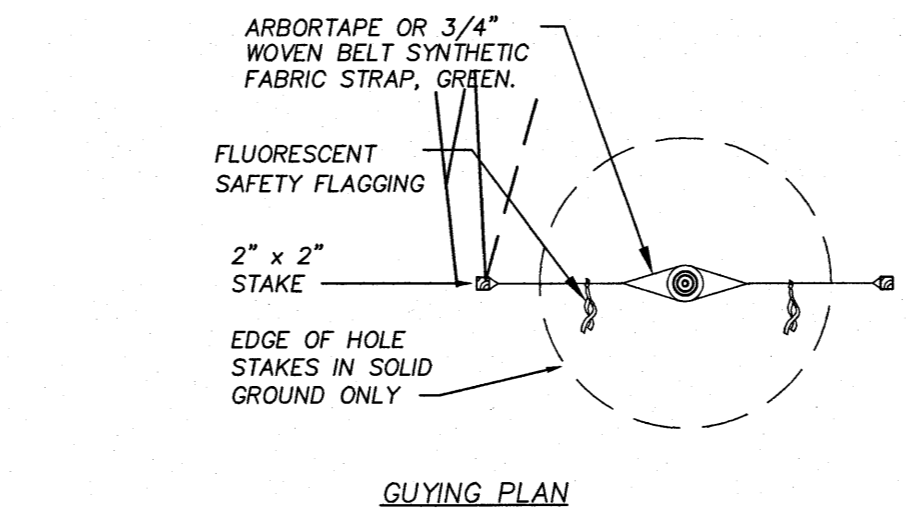
NOTE: CROWN OF THE TREE IS NEEDED FOR LEAF GROWTH TO PRODUCE OXYGEN, FILTER THE AIR, REDUCE WIND AND SOFTEN NOISE. DO NOT DISFIGURE CROWN WITH INTENSIVE PRUNING.



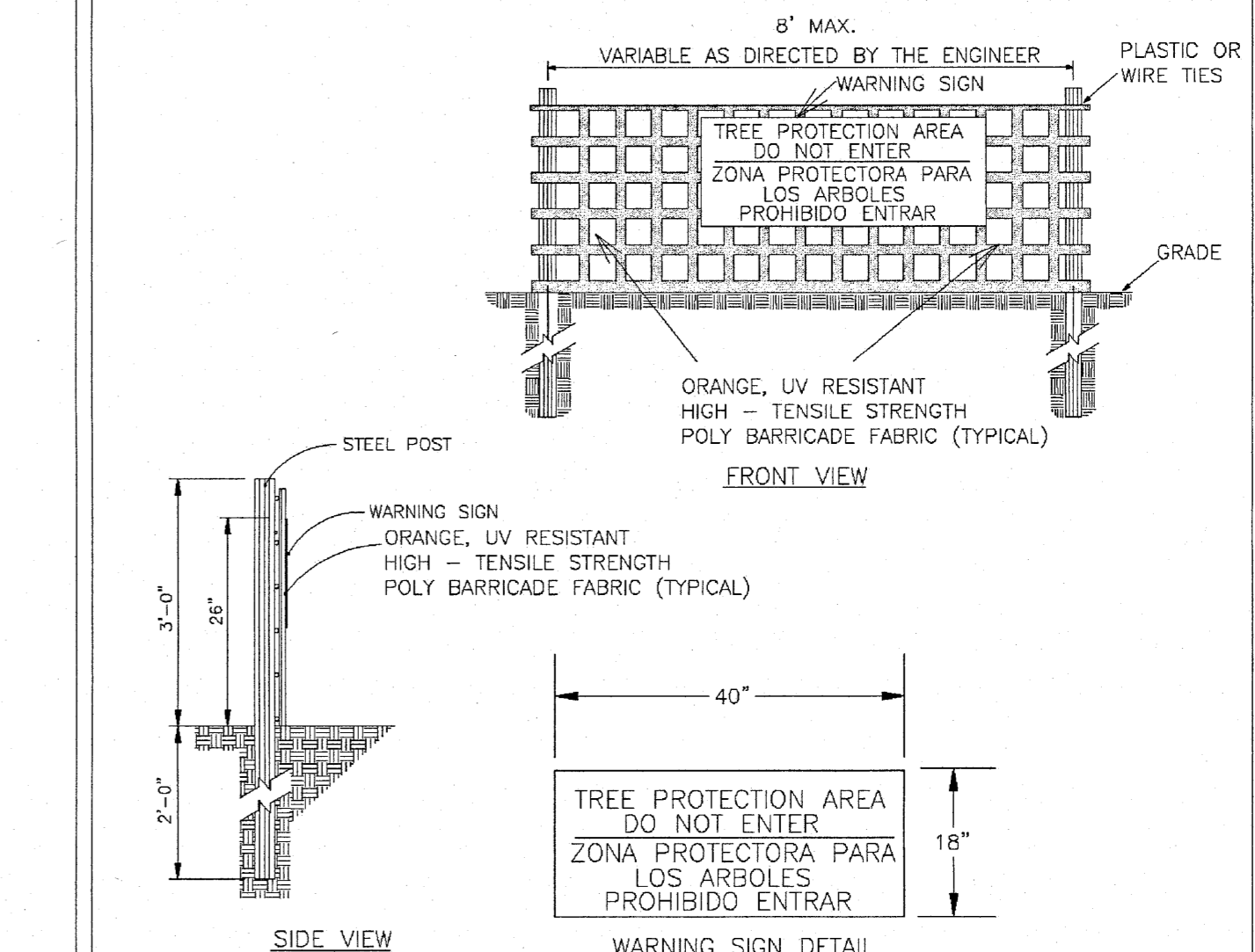
- NOTES:
- PROTECT CRITICAL ROOT ZONE (CRZ) OF TREES PRIOR TO CONSTRUCTION. CLEARLY MARK THE TREES AND ERECT A PROTECTIVE BARRIER AT THE CRZ. BARRIER SHALL BE MAINTAINED UNTIL CONSTRUCTION IS COMPLETE.
  - CRZ RADIUS IS 1 FT PER INCH OF TREE DIAMETER AT BREAST HEIGHT (DBH).
  - IF CONSTRUCTION OCCURS 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.
  - FAILING TO INSTALL OR MAINTAIN PROTECTION MEASURES SHALL RESULT IN A STOP WORK ORDER AND FINE OF \$500/DAY. DISTURBANCE OTHER THAN THAT ALLOWED ON THE APPROVED PLAN WILL REQUIRE OWNER TO POST A LETTER OF CREDIT FOR 3 YRS FOR TREE MITIGATION.

STANDARD DETAIL		 CITY OF WILMINGTON ENGINEERING PO BOX 1810 WILMINGTON, NC 28402 (910) 341-7807
DATE	JAN, 2015	
DRAWN BY	JSR	
CHECKED BY	RDO, P.E.	
SCALE	NOT TO SCALE	
TREE PROTECTION DURING CONSTRUCTION		SD 15-09

TREE PROTECTION FENCING

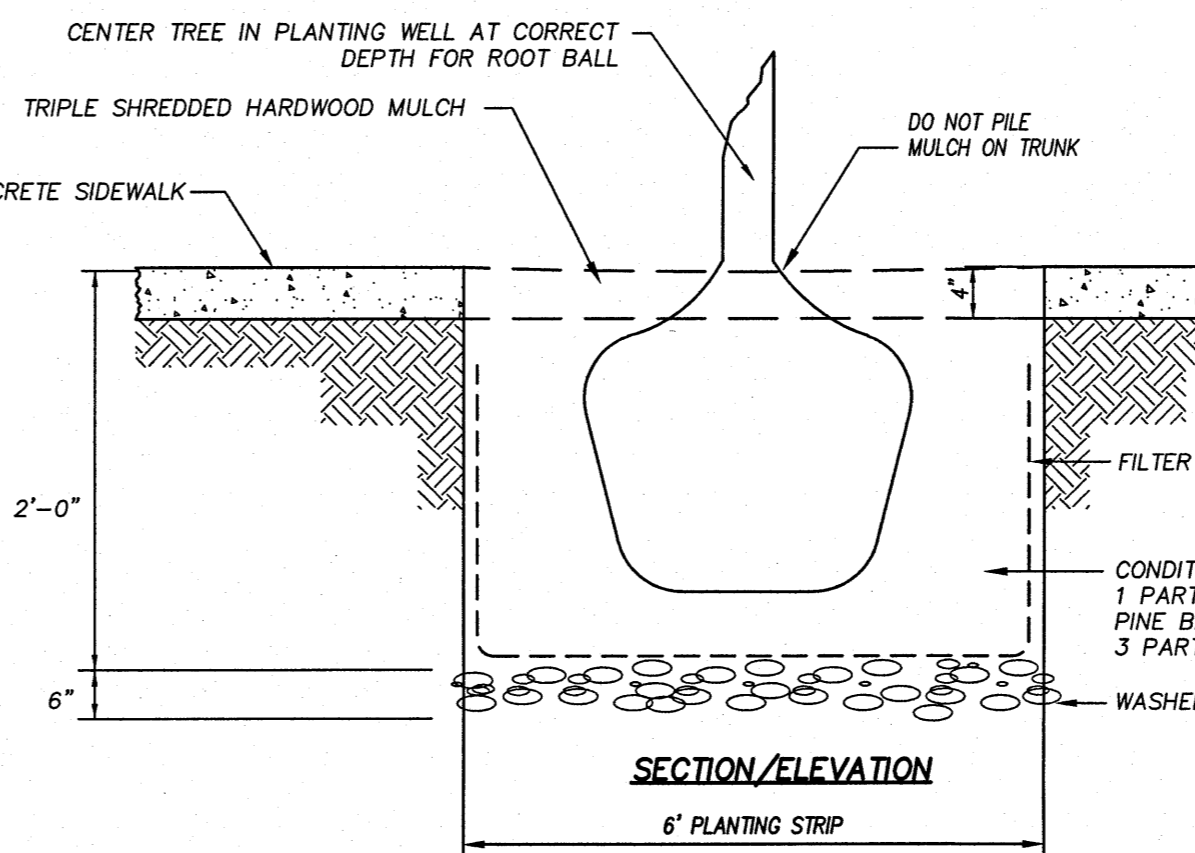


TYPICAL SHRUB PLANTING DETAIL

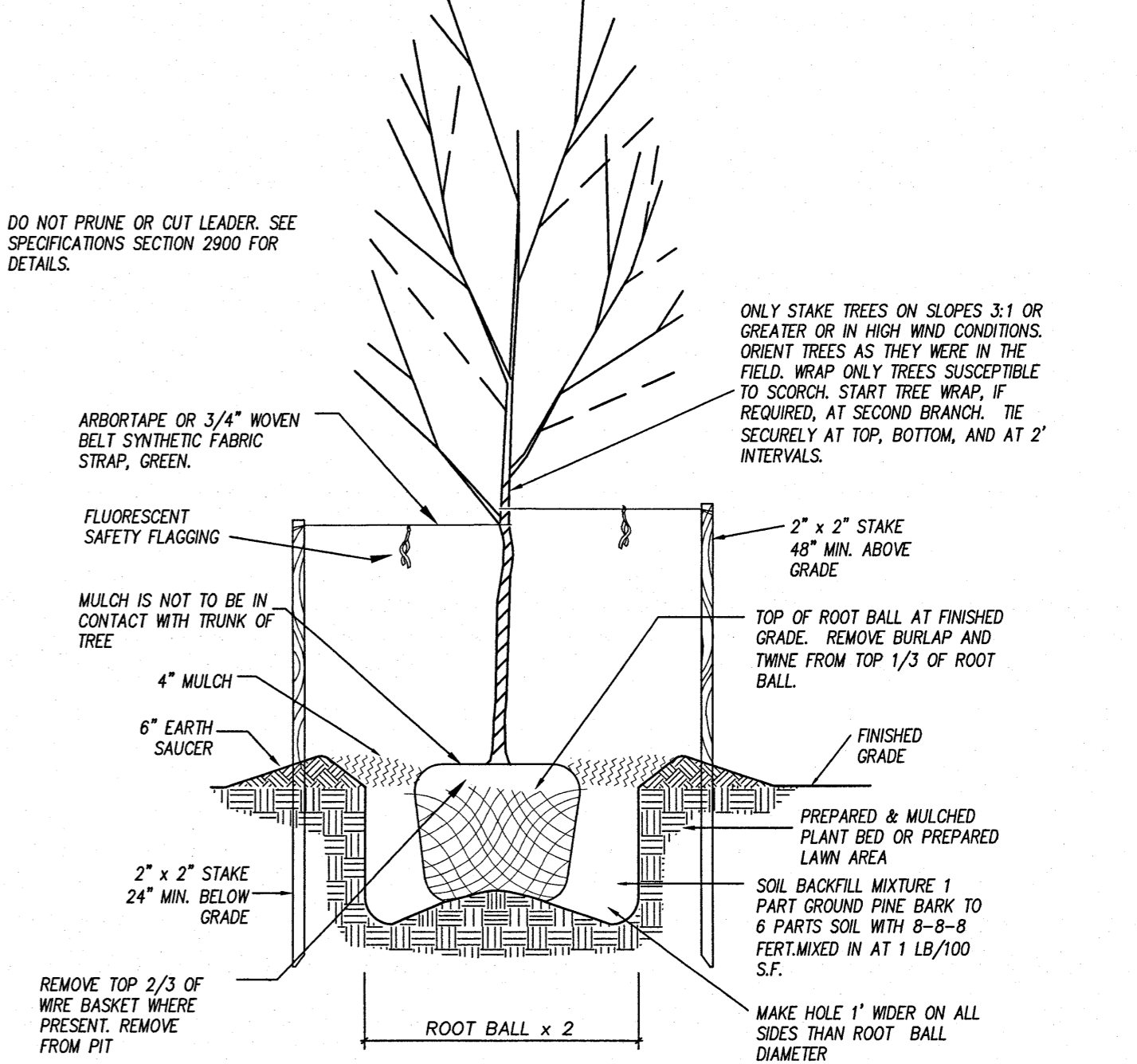


- NOTES:
- THE TREE PROTECTION FENCING SHALL NOT BE VIOLATED FOR THE ENTIRE DURATION OF THE PROJECT WITHOUT APPROVAL FROM URBAN FORESTRY STAFF.
  - WARNING SIGNS TO BE MADE OF DURABLE, WEATHERPROOF MATERIAL. LETTERS TO BE 3" HIGH, MINIMUM, CLEARLY LEGIBLE AND SPACED AS DETAILED.
  - SIGNS SHALL BE PLACED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

STANDARD DETAIL		 CITY OF WILMINGTON ENGINEERING PO BOX 1810 WILMINGTON, NC 28402 (910) 341-7807
DATE	JAN, 2015	
DRAWN BY	JSR	
CHECKED BY	RDO, P.E.	
SCALE	NOT TO SCALE	
TREE PROTECTION DURING CONSTRUCTION		SD 15-09



INTERIOR TREE PLANTER



TREE PLANTING DETAIL

 Public Services • Engineering Division	
APPROVED STORMWATER MANAGEMENT PLAN	
Date:	2/19/19 Permit # 2019043
Sign:	<i>[Signature]</i>
Approved Construction Plan	
Name:	Nicole Dimith
Date:	7/18/19
Traffic:	<i>[Signature]</i> 7/18/19
Fire:	<i>[Signature]</i> 7/18/19

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

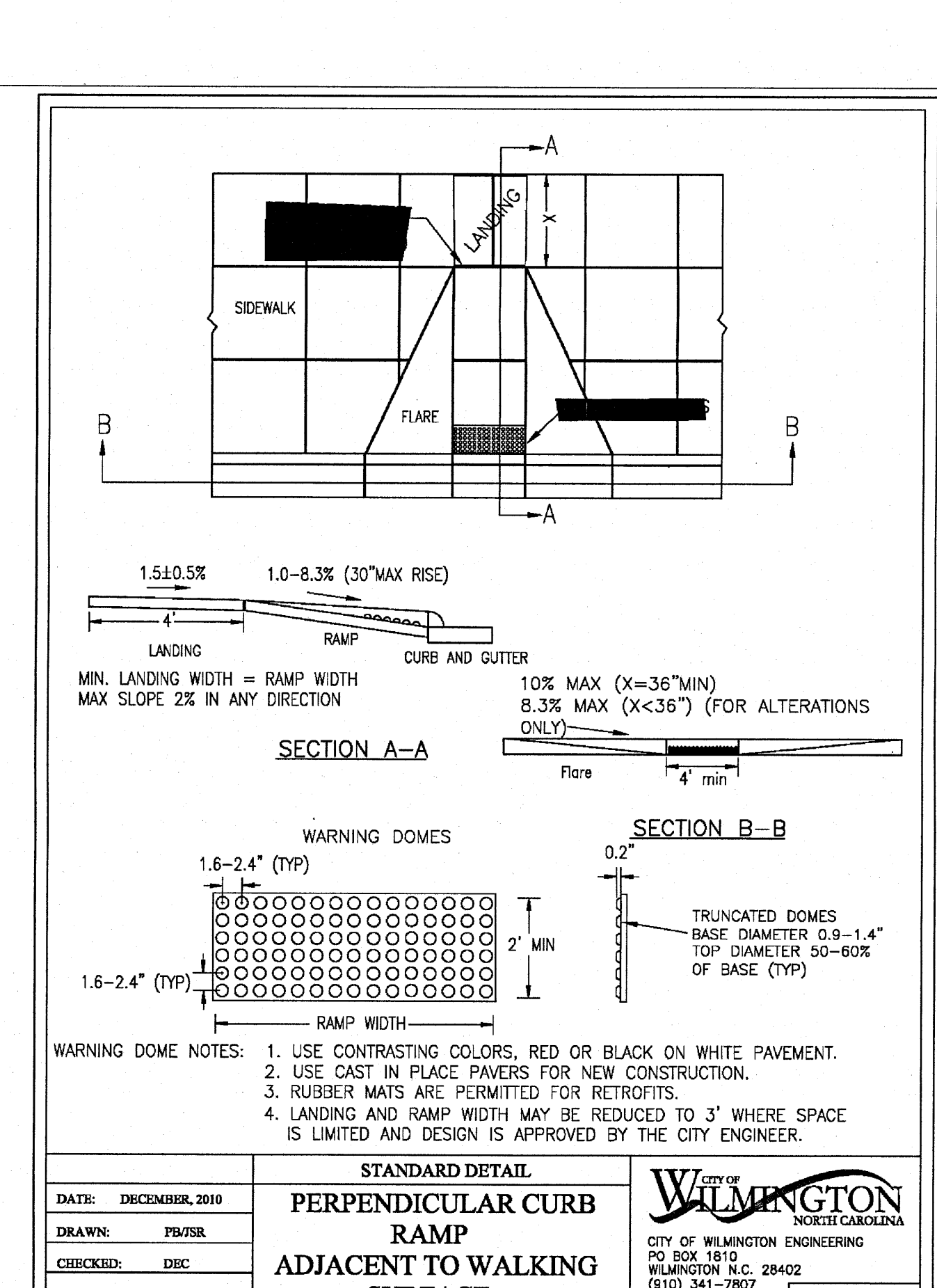
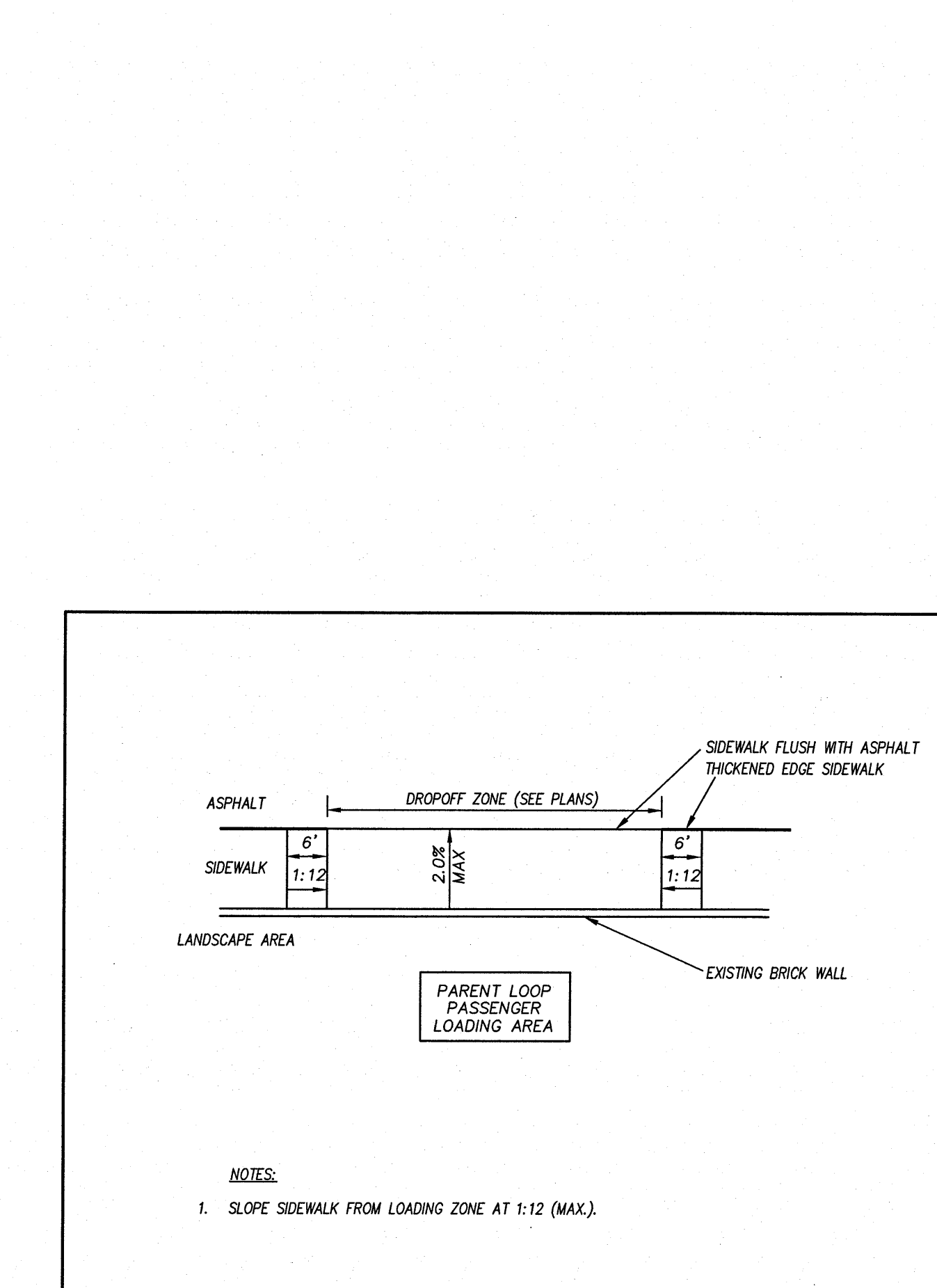
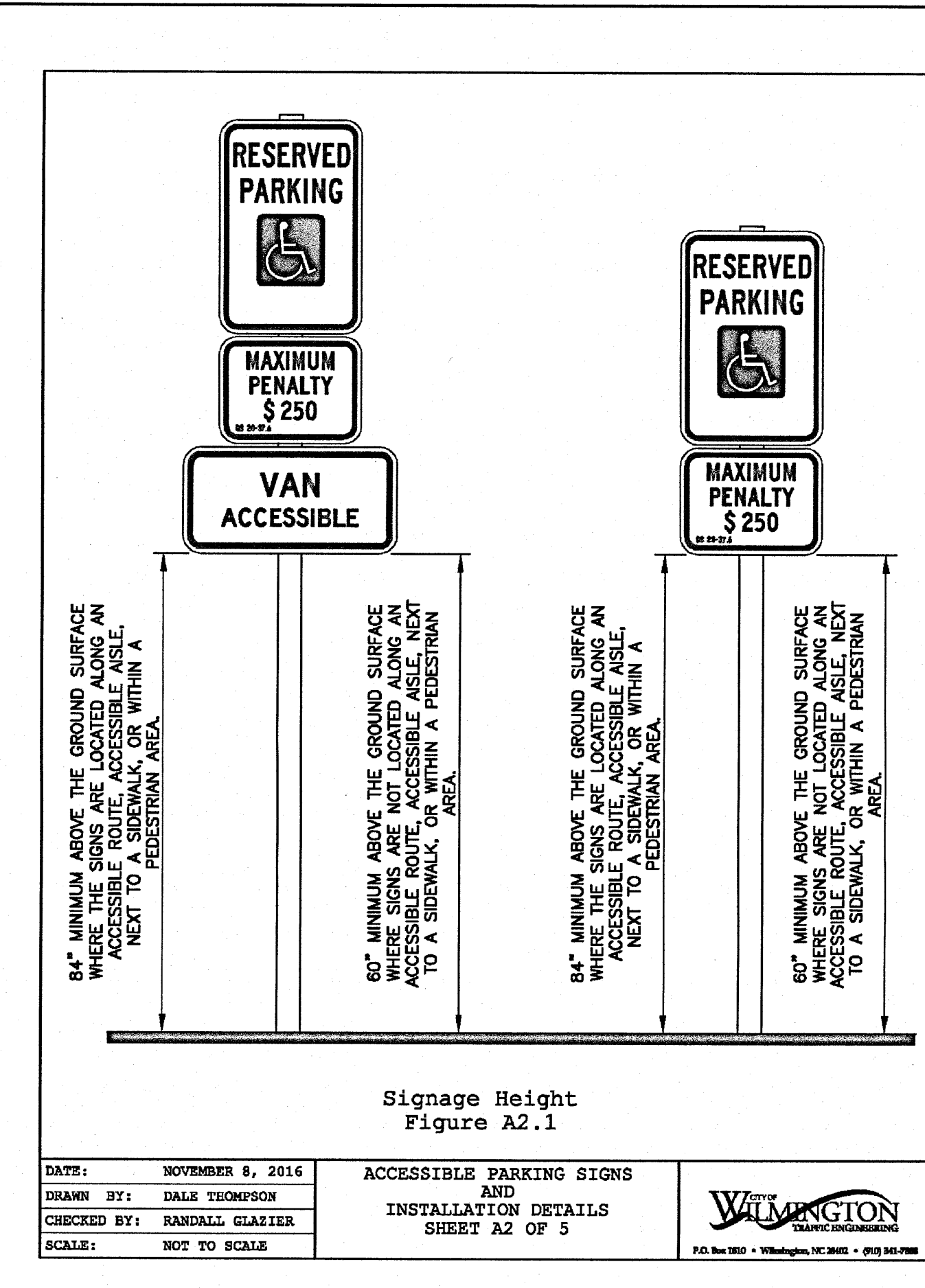
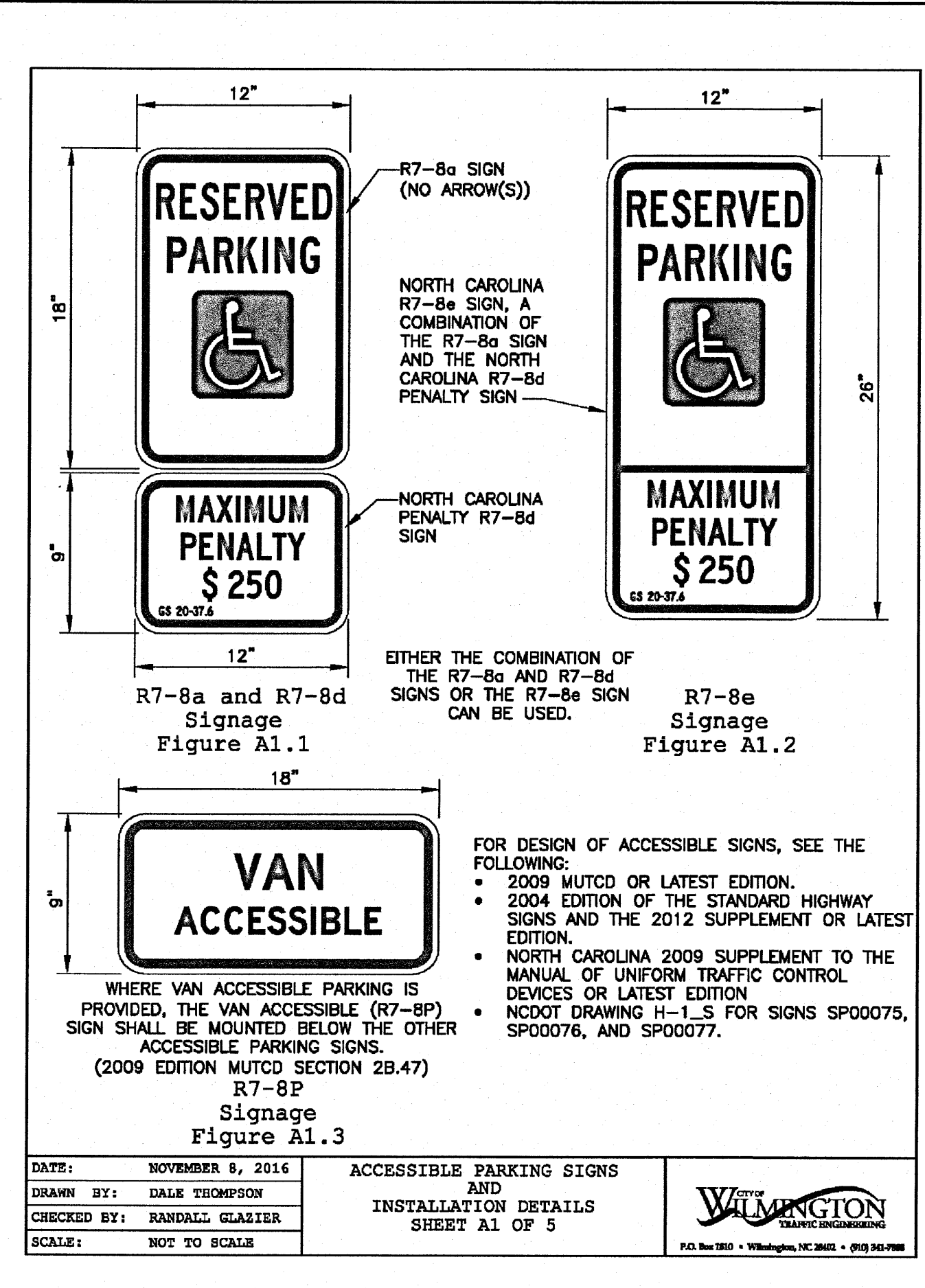
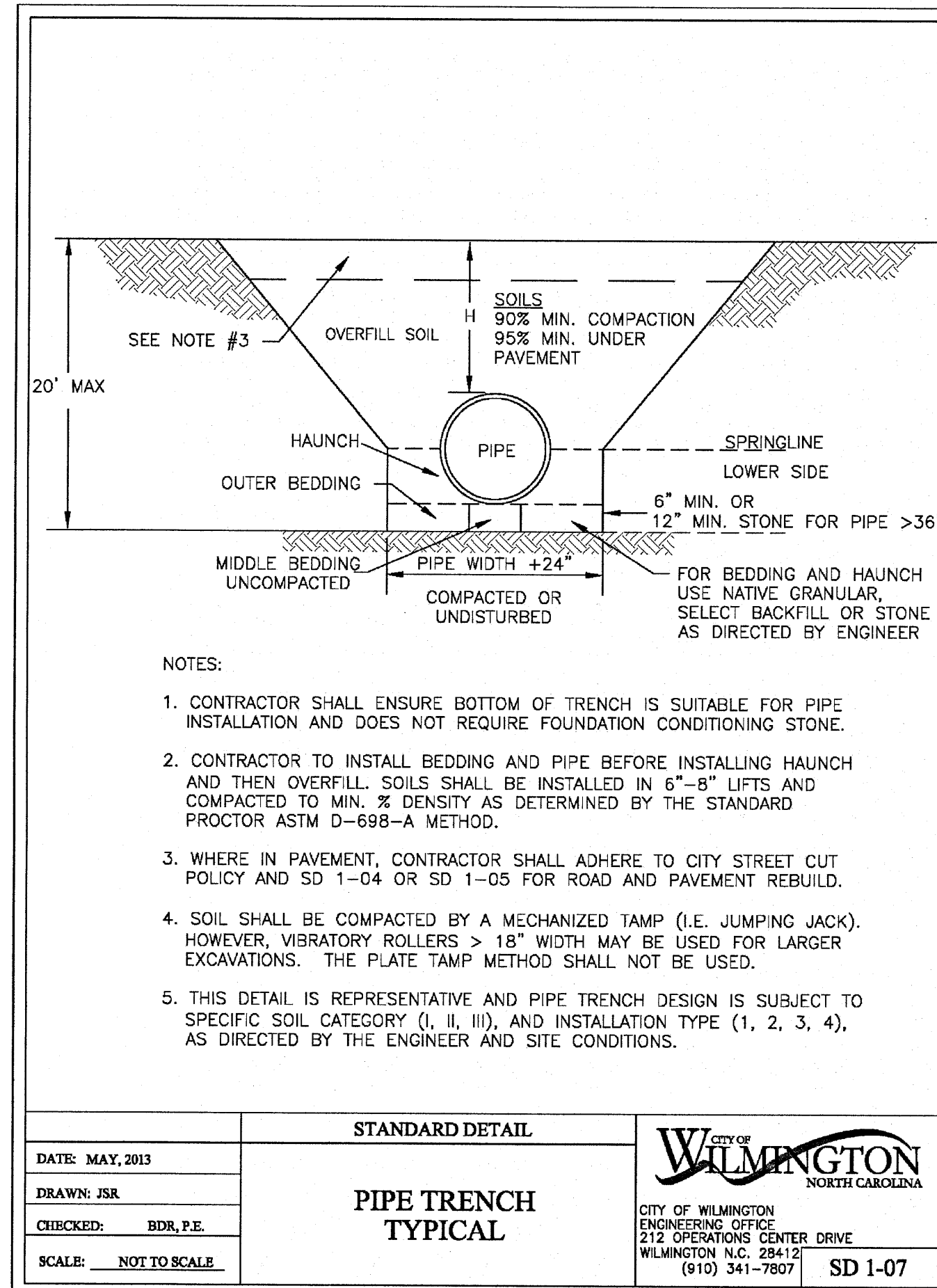
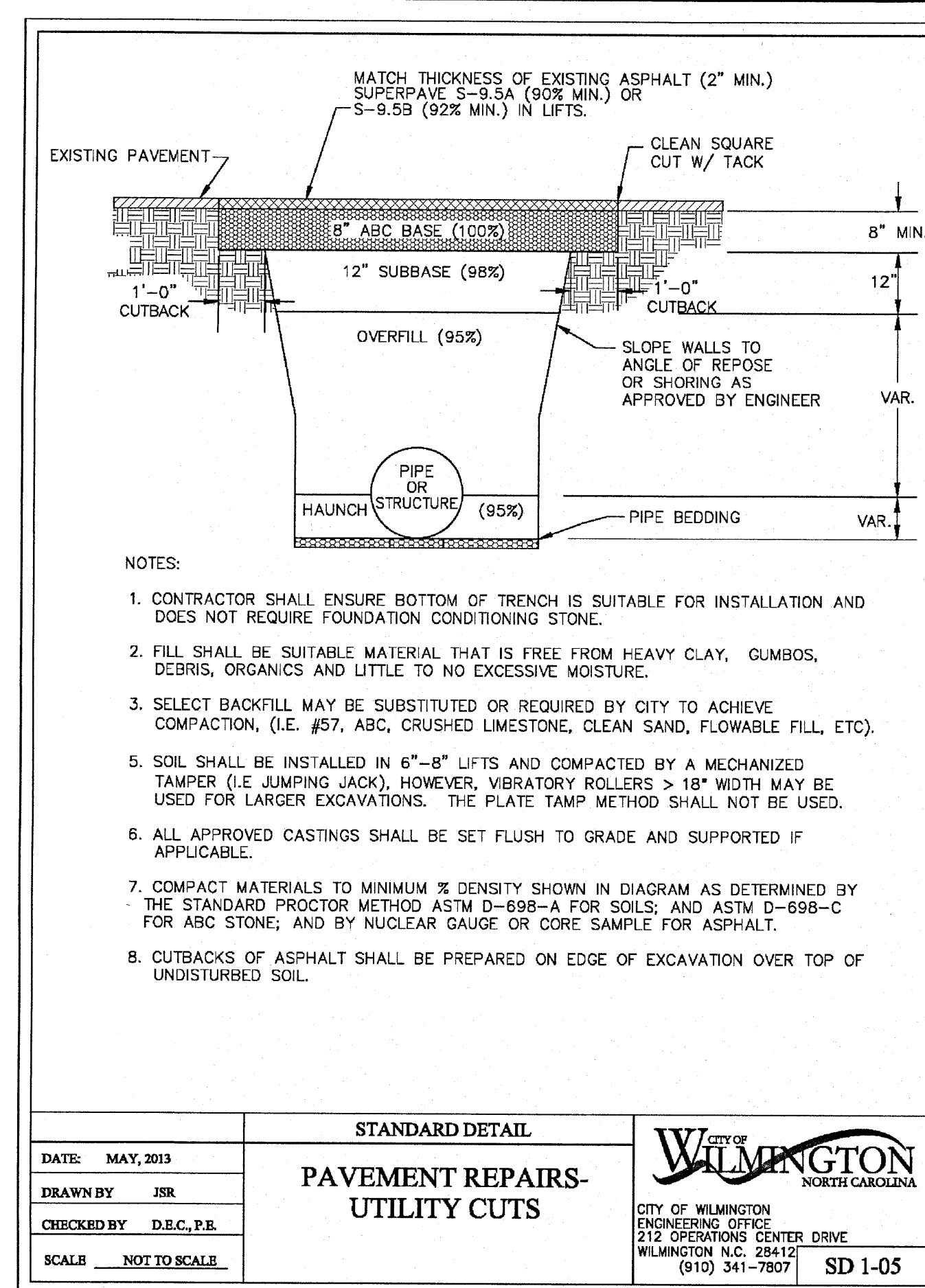
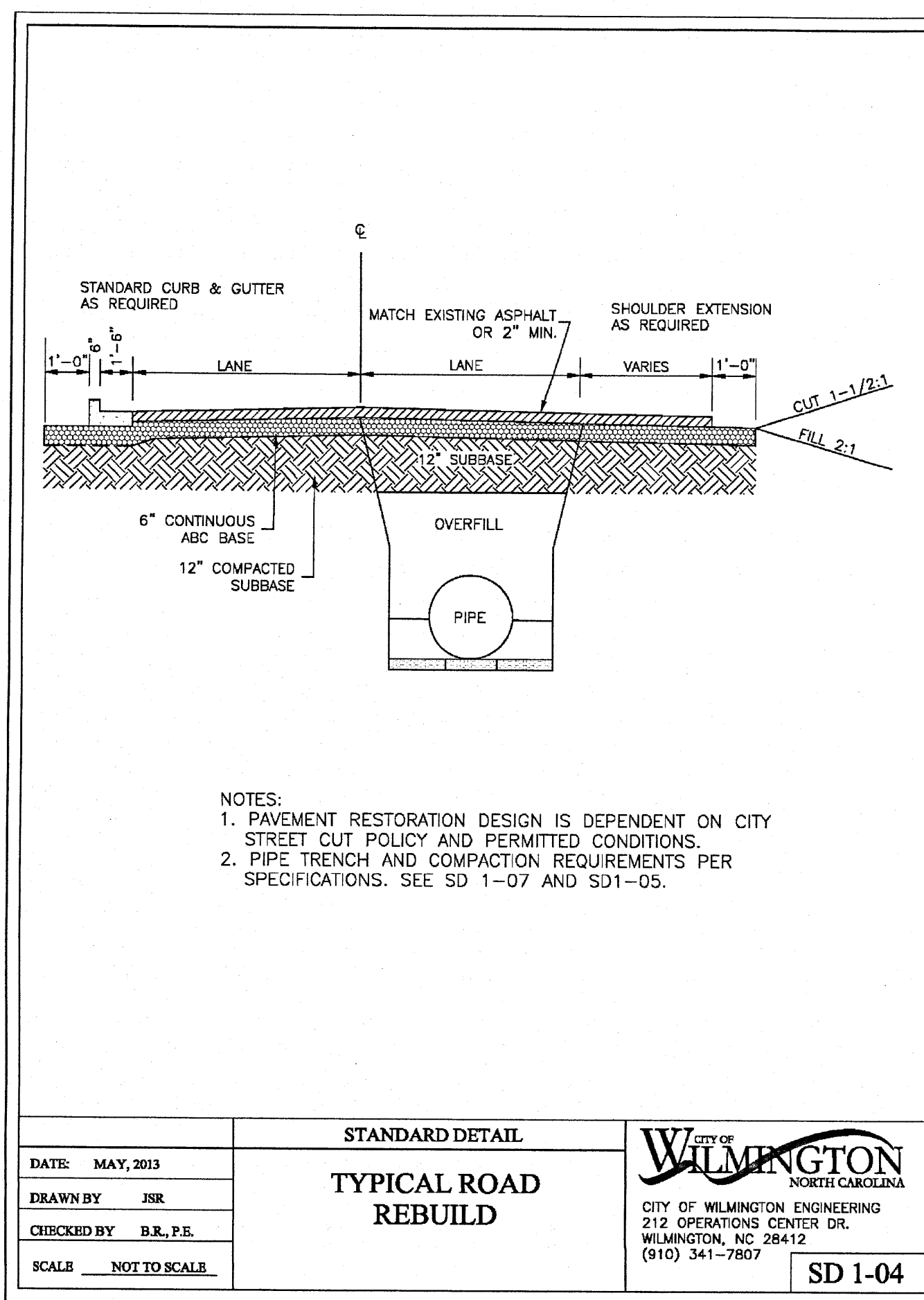
**CLH DESIGN PA**  
 4022 W. 10th St.  
 Suite 100  
 Cary, NC 27513  
 Phone: 919.779.8716  
 Fax: 919.779.8716  
 LA: C-106 PE: C-1095

WILMINGTON, NORTH CAROLINA  
 1861  
 2/4/19

**Renovations to:**  
**M.C.S. Noble Middle School**  
 6520 Market Street  
 Wilmington, North Carolina

JOB NUMBER	18-131
DRAWN BY	JGM/HBR
CHECKED BY	JGM
DATE	2/4/2019
REVISIONS	6/18/2019 PERMITS
SHEET NUMBER	

**C5.03**



APPROVED STORMWATER MANAGEMENT PLAN

Public Services • Engineering Division

Approved Construction Plan

Name: Nicole D. Smith Date: 7/18/19

Planning: Nicole D. Smith Traffic: [Signature] Fire: [Signature]

Date: 7/18/19 Permit #: 2019043

Signature: [Signature]

DATE: 7/18/2019

REVISIONS: 6/18/2019 PERMITS, 7/5/2019 PERMITS

SHEET NUMBER: C5.03A

**BOWMAN MURRAY HEMINGWAY ARCHITECTS**

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

**CLH DESIGN, PA**

400 Regency Forest Dr.  
Suite 120  
Cary, NC 27518  
Phone: 919.318.6716  
Fax: 919.318.7916  
L.A.C-108 P.C.-1295

2/4/19

**Renovations to:**  
**M.C.S. Noble Middle School**  
6520 Market Street  
Wilmington, North Carolina

**DETAILS**

JOB NUMBER: 18-131

DRAWN BY: JGM/HBR

CHECKED BY: JGM

DATE: 2/4/2019

REVISIONS: 6/18/2019 PERMITS, 7/5/2019 PERMITS

SHEET NUMBER: C5.03A