

PRELIMINARY SITE PLAN

FOR

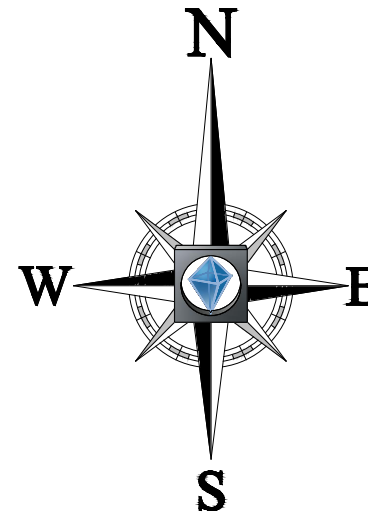
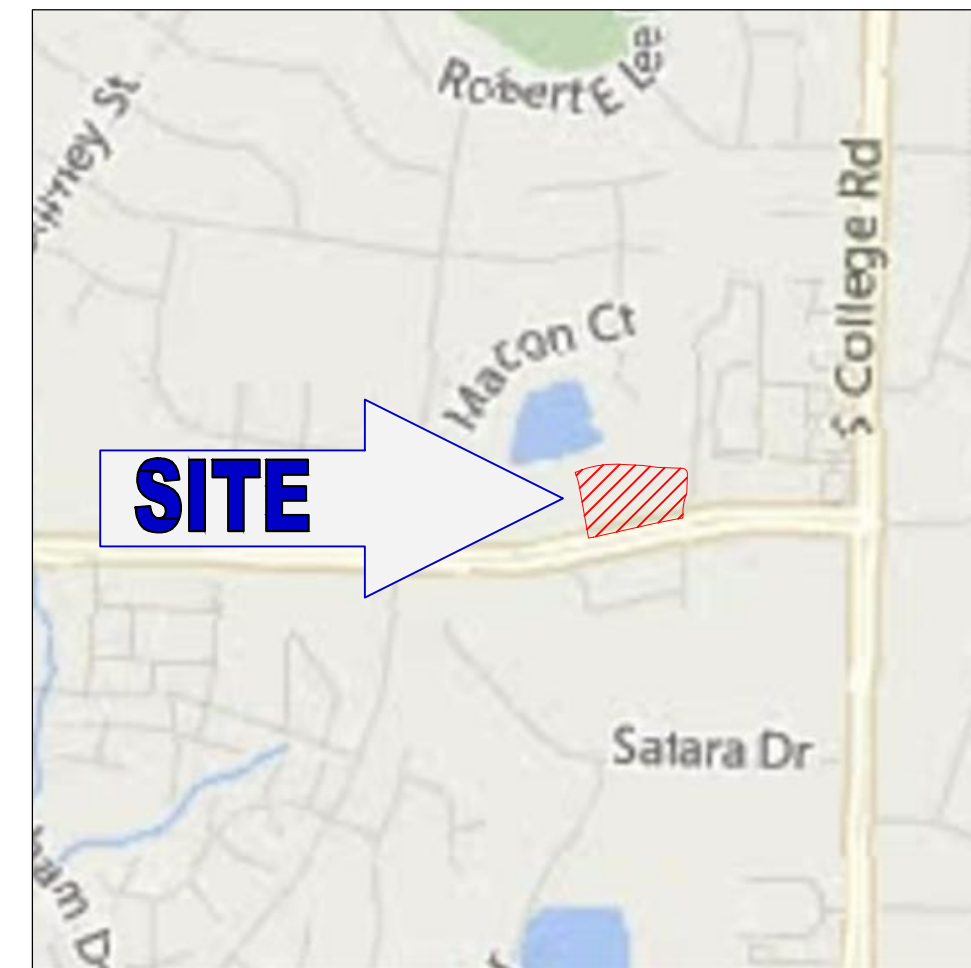
LIDL US OPERATIONS, LLC

PROPOSED GROCERY STORE

STORE #1181

LOCATION OF SITE
 4301 S 17TH STREET
 WILMINGTON, NC 28412

TAX PARCEL ID: 3135-37-9059.000 / 3135-56-8767.00 /
 R06600-001-005-012
 DB 5100 PG 288
 NEW HANOVER COUNTY, NORTH CAROLINA



SCALE: 1" = 2000'
 SOURCE: GOOGLE MAPS

PREPARED BY
BOHLER
 ENGINEERING NC, PLLC
 NCBELS P-1132

DEVELOPER
 LIDL US OPERATIONS, LLC
 PROJECT #1181
 1500 SUNDAY DRIVE, SUITE 101
 RALEIGH, NC 27607
 CONTACT: FORREST ETTER
 TELEPHONE : (919) 307-3826

4011 WESTCHASE BLVD., SUITE 290
 RALEIGH, NC 27607
 Phone: (919) 578-9000
 Fax: (919) 703-2665
NC@BohlerEng.com
 CONTACT: WYATT BONE, P.E. - WBONE@BOHLERENG.COM

SURVEYOR
 ALLIED ASSOCIATES, P.A.
 4720 KESTER MILL ROAD
 WINSTON-SALEM, NC
 PHONE : (336) 765-2377
 FAX : (760) 760-8886
 EMAIL : DALLEY@ALLIED-ENGSURV.COM

ALERT TO CONTRACTOR:
 1. ALL NECESSARY INSPECTIONS AND/OR CERTIFICATIONS REQUIRED BY CODES AND/OR UTILITY SERVICE COMPANIES SHALL BE PERFORMED PRIOR TO ANNOUNCED BUILDING POSSESSION AND THE FINAL CONNECTION OF SERVICES.

Approved Construction Plan

Name	Date
Planning	
Traffic	
Fire	

CITY OF WILMINGTON
 NORTH CAROLINA
 Public Services • Engineering Division
APPROVED STORMWATER MANAGEMENT PLAN

Date: _____ Permit # _____
 Signed: _____

CONTACT INFORMATION

REFERENCES

SURVEY:
 "ALTA SURVEY LAND TITLE SURVEY FOR LIDL US OPERATIONS, LLC"
 PREPARED BY ALLIED ASSOCIATES, P.A.
 JOB NO. PA160303
 DATED: 3/16/16

GEOTECHNICAL INVESTIGATION REPORT:
 "REPORT OF SUBSURFACE EXPLORATION - LIDL WILMINGTON, NC"
 PREPARED BY ECS CAROLINAS, LLP
 ECS PROJECT NO. 22-23971
 DATED: 3/22/16

ENVIRONMENTAL SITE ASSESSMENT:
 "PHASE I ENVIRONMENTAL SITE ASSESSMENT REPORT - LIDL WILMINGTON, NC"
 PREPARED BY ECS CAROLINAS, LLP
 ECS PROJECT NO. 49-1612
 DATED: 3/25/16

GOVERNING AGENCIES

CITY OF WILMINGTON PLANNING, DEVELOPMENT & TRANSPORTATION
 306 CHESTNUT STREET
 WILMINGTON, NC 28402
 CONTACT: JOHN FULLERTON
 PHONE: (910) 341-3247
 EMAIL: JOHN.FULLERTON@WILMINGTONNC.GOV

CITY OF WILMINGTON
 STORMWATER SERVICES
 PO BOX 1810
 209 COLEMAN DRIVE
 WILMINGTON, NC 28412

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION (NCDOT)
 DISTRICT 3
 300 DIVISION DRIVE
 WILMINGTON, NC 28401
 PHONE: (910) 251-2855

NORTH CAROLINA OF ENVIRONMENT AND NATURAL RESOURCES (NCDENR)
 127 CARDINAL DRIVE EXTENSION
 WILMINGTON, NC 28405
 PHONE: (901) 796-7215

UTILITY SERVICE CONTACTS

SERVICE	UTILITY / GOVERNING AGENCY
WATER/SEWER	CAPE FEAR PUBLIC UTILITY AUTHORITY 235 GOVERNMENT CENTER DRIVE WILMINGTON, NC 28403 PHONE: (910) 332-6550 CAREL VANDERMEYDEN - DIRECTOR OF ENGINEERING
NATURAL GAS	PIEDMONT NATURAL GAS 1321 S. 10TH ST WILMINGTON, NC 28401 PHONE: (910) 796-1785
ELECTRIC	DUKE ENERGY 8645 TRADE ST. NE LELAND, NC 28451 PHONE: (800) 452-2777

IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO REVIEW ALL OF THE DRAWINGS AND SPECIFICATIONS ASSOCIATED WITH THIS PROJECT. WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE DRAWINGS AND SPECIFICATIONS. THE CONTRACTOR SHALL NOTIFY THE PROJECT ENGINEER OF RECORD IN WRITING PRIOR TO THE START OF CONSTRUCTION. FAILURE BY THE CONTRACTOR TO NOTIFY THE PROJECT ENGINEER SHALL CONSTITUTE ACCEPTANCE OF FULL RESPONSIBILITY BY THE CONTRACTOR TO COMPLETE THE SCOPE OF THE WORK AS DEFINED BY THE DRAWINGS AND IN FULL ACCORDANCE WITH LOCAL, STATE AND FEDERAL CODES.

BOHLER ENGINEERING NC, PLLC

STATE OF NORTH CAROLINA LICENSE NO. 15000
 PROFESSIONAL ENGINEER IN CIVIL ENGINEERING

LAND SURVEYING • SITE PLANNING • ENVIRONMENTAL ENGINEERING
 SUSTAINABLE DESIGN • PROGRAM MANAGEMENT • TRANSPORTATION SERVICES

PHILADELPHIA, PA • NORTHERN VIRGINIA
 RICHMOND, VA • RALEIGH, NC
 WASHINGTON, DC • CHARLOTTE, NC
 NEW YORK, NY • SOUTHERN MARYLAND
 NEW JERSEY • SOUTH FLORIDA

REVISIONS

REV	DATE	COMMENT	BY
1	2/3/17	CITY COMMENTS	JDM

811

KNOW WHAT'S BELOW
 ALWAYS CALL 811
 BEFORE YOU DIG
 It's fast. It's free. It's the law.

NOT APPROVED FOR CONSTRUCTION

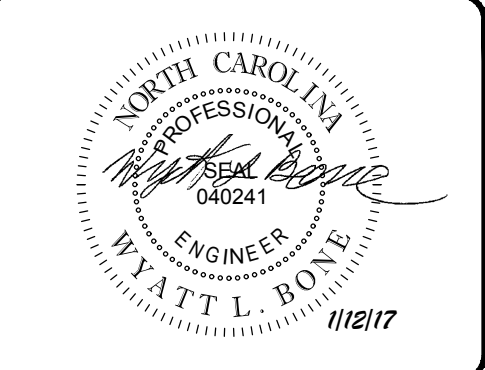
PROJECT No.: NCR151031
 DRAWN BY: JDM
 CHECKED BY: WLB
 DATE: 2/8/17
 SCALE: AS NOTED
 CAD I.D.: SSO

PROPOSED GROCERY

FOR
LIDL US OPERATIONS, LLC

LOCATION OF SITE
 4301 S 17TH STREET
 WILMINGTON, NC 28412

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 NCBELS P-1132
 4011 WESTCHASE BLVD., SUITE 290
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SHEET TITLE:
COVER SHEET

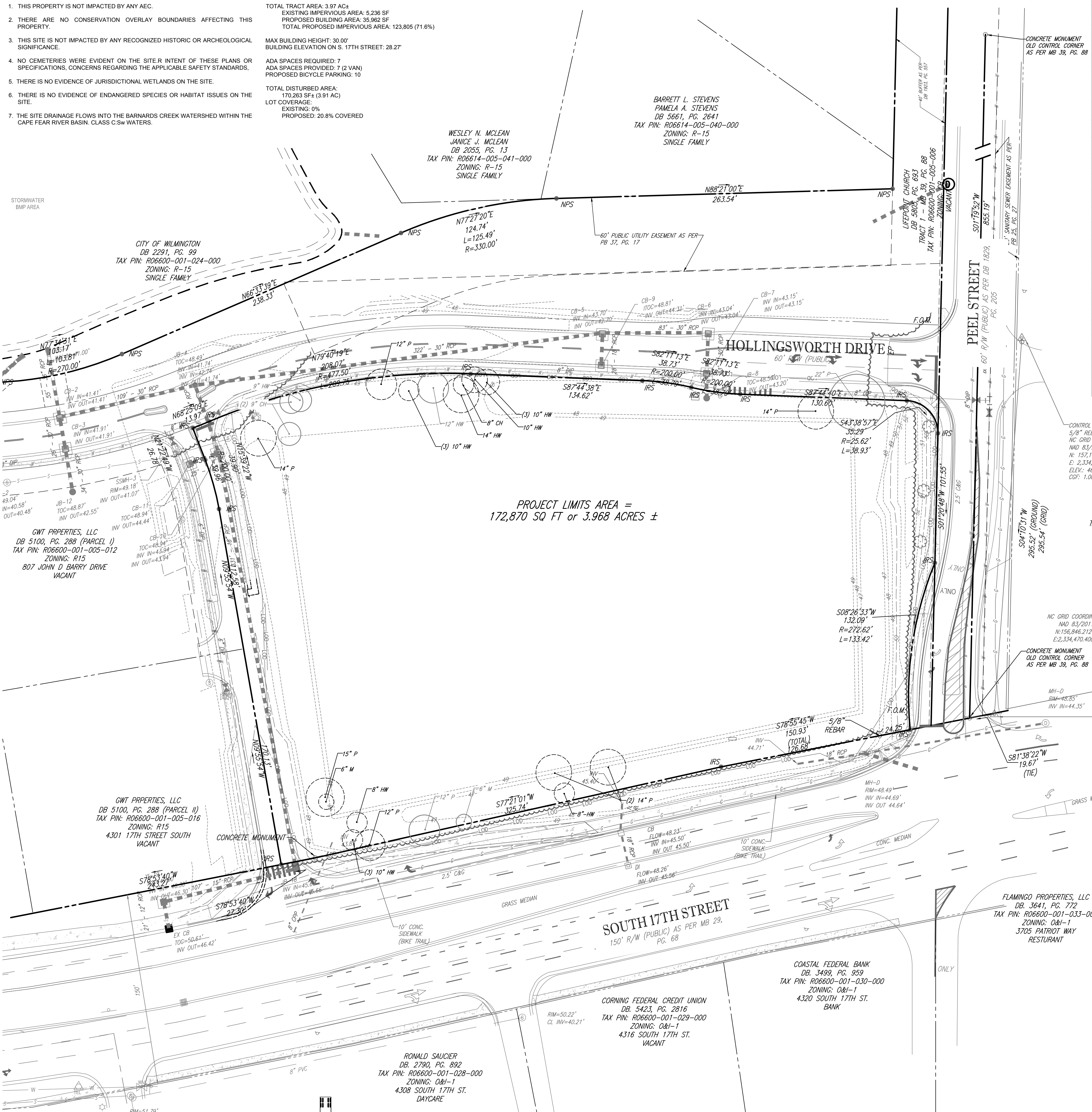
SHEET NUMBER:
C-1.0

SITE INVENTORY NOTES:

- 1. THIS PROPERTY IS NOT IMPACTED BY ANY AEC.
2. THERE ARE NO CONSERVATION OVERLAY BOUNDARIES AFFECTING THIS PROPERTY.
3. THIS SITE IS NOT IMPACTED BY ANY RECOGNIZED HISTORIC OR ARCHEOLOGICAL SIGNIFICANCE.
4. NO CEMETERIES WERE EVIDENT ON THE SITE. INTENT OF THESE PLANS OR SPECIFICATIONS, CONCERNS REGARDING THE APPLICABLE SAFETY STANDARDS.
5. THERE IS NO EVIDENCE OF JURISDICTIONAL WETLANDS ON THE SITE.
6. THERE IS NO EVIDENCE OF ENDANGERED SPECIES OR HABITAT ISSUES ON THE SITE.
7. THE SITE DRAINAGE FLOWS INTO THE BARNARDS CREEK WATERSHED WITHIN THE CAPE FEAR RIVER BASIN. CLASS C:SW WATERS.

DEVELOPMENT DATA:

TOTAL TRACT AREA: 3.97 AC
EXISTING IMPERVIOUS AREA: 5,236 SF
PROPOSED BUILDING AREA: 35,982 SF
TOTAL PROPOSED IMPERVIOUS AREA: 123,805 (71.6%)
MAX BUILDING HEIGHT: 30.00'
BUILDING ELEVATION ON S. 17TH STREET: 28.27'
ADA SPACES REQUIRED: 7
ADA SPACES PROVIDED: 7 (2 VAN)
PROPOSED BICYCLE PARKING: 10
TOTAL DISTURBED AREA: 170,263 SF (43.91 AC)
LOT COVERAGE: EXISTING: 0% PROPOSED: 20.8% COVERED



DEMOLITION LEGEND table with columns: EXISTING NOTE, TYPICAL NOTE TEXT, DEMOLITION NOTE. Includes symbols for property line, concrete curb & gutter, sawcut line, soil boundary, limits of disturbance, etc.

EXISTING CONDITIONS NOTES:

- 1. REFER TO GENERAL NOTES, SHEET C-1.1
2. EXISTING ZONING FOR PARCEL: PIN: R06600-001-005-012 - R15 - RESIDENTIAL DISTRICT
3. VERTICAL DATUM (NAVD 88) WAS ESTABLISHED USING NORTH CAROLINA REFERENCE SYSTEM.
4. THERE ARE NO WETLANDS OR STREAMS ON THIS SITE.
5. FLOOD NOTE: THIS PROPERTY IS NOT LOCATED IN A SPECIAL FLOOD HAZARD ZONE, BASED ON FEMA FIRM PANELS 81315J, MAP NUMBER 3720313500J DATED 4/03/06

GENERAL DEMOLITION NOTES:

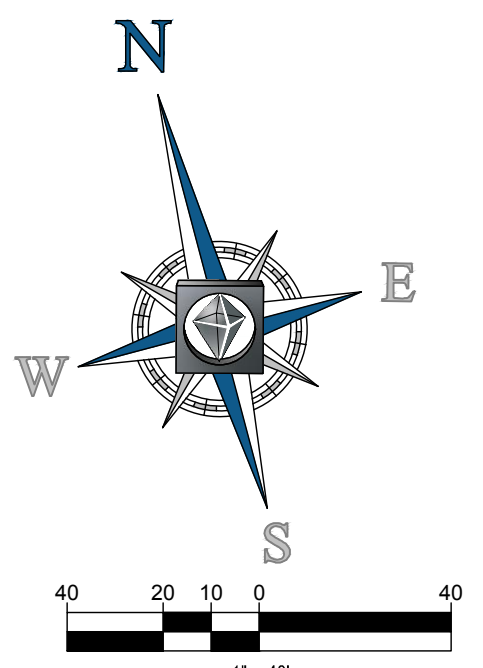
- 1. THIS PLAN REFERENCES DOCUMENTS AND INFORMATION BY: 'ALTA/ASCM LAND TITLE SURVEY FOR: LIDL US OPERATIONS, LLC'
2. CONTRACTOR SHALL PERFORM ALL WORK IN ACCORDANCE WITH THE REQUIREMENTS OF THE OCCUPATIONAL SAFETY AND HEALTH ACT OF 1970...
3. BOHLER ENGINEERING HAS NO CONTRACTUAL, LEGAL, OR OTHER RESPONSIBILITY FOR JOB SITE SAFETY OR JOB SITE SUPERVISION...
4. THE DEMOLITION PLAN IS INTENDED TO PROVIDE GENERAL INFORMATION ONLY...
5. CONTRACTOR MUST RAISE ANY QUESTIONS CONCERNING THE ACCURACY OR INTENT OF THESE PLANS OR SPECIFICATIONS...
6. PRIOR TO STARTING ANY DEMOLITION, CONTRACTOR IS RESPONSIBLE FOR: A OBTAINING ALL REQUIRED PERMITS...
7. THE LOCATION OF EXISTING UNDERGROUND UTILITIES AS INDICATED ON THE PLAN IS APPROXIMATE...
8. ALL SIDEWALKS AND CURB AND GUTTER SECTIONS SHALL BE REMOVED BY SAWCUTTING...
9. COORDINATE ALL UTILITY REMOVAL, RELOCATION, & ABANDONMENT WITH THE APPROPRIATE UTILITY SERVICE PROVIDER...

SOILS LEGEND table with columns: SOILS BOUNDARY, SOILS TYPE, DESCRIPTION. Includes Le (LEON SAND), Mu (MURVILLE FINE SAND), Rm (RIMM SAND).

REZONING CONDITIONS:

- 1. THE USE AND DEVELOPMENT OF THE SUBJECT PROPERTY SHALL COMPLY WITH ALL REGULATIONS AND REQUIREMENTS OF THE LAND DEVELOPMENT CODE...
2. APPROVAL OF THIS REZONING REQUEST DOES NOT CONSTITUTE TECHNICAL APPROVAL OF THE SITE PLAN...
3. IF, FOR ANY REASON, ANY CONDITION FOR APPROVAL IS FOUND TO BE ILLEGAL OR INVALID...
4. THE USE AND DEVELOPMENT OF THE SUBJECT PROPERTY SHALL BE IN ACCORDANCE WITH THE PLAN AS SUBMITTED APRIL 25, 2016...
5. ALL EXISTING PROTECTED TREES NOT IMPACTED BY ESSENTIAL SITE IMPROVEMENTS SHALL BE PRESERVED OR MITIGATED...
6. EXTERIOR SITE LIGHTING SHALL BE INSTALLED SO AS NOT TO SHINE DIRECTLY ONTO ADJACENT PARCELS...
7. A CONCEPTUAL SITE LIGHTING PLAN SHALL BE SUBMITTED PRIOR TO CONSTRUCTION RELEASE...
8. ANY FREESTANDING SIGN(S) ON THE SITE SHALL BE MONUMENT STYLE WITH LANDSCAPING...
9. TREE PROTECTION FENCING SHALL BE INSTALLED AROUND ALL PROTECTED TREES WITH SIGNAGE...
10. ALL REQUIREMENTS OF THE TRAFFIC IMPACT ANALYSIS (TIA) SHALL BE FOLLOWED...
11. ALL CITY, STATE AND FEDERAL REGULATIONS SHALL BE FOLLOWED...
12. THE PROPOSED BUILDING ELEVATIONS ALONG SOUTH 17TH STREET SHALL BE CONSTRUCTED...
13. THE APPLICANT SHALL PROVIDE TRAFFIC CALMING AT THE PROPOSED 'T' INTERSECTION...

Approved Construction Plan form with fields for Name, Date, Planning, Traffic, Fire, and Permit #.



BOHLER ENGINEERING NC, PLLC logo and contact information including address, phone, and website.

REVISIONS table with columns: REV, DATE, COMMENT, BY. Includes one revision on 2/3/17 regarding city comments.

811 logo and text: KNOW WHAT'S BELOW ALWAYS CALL 811 BEFORE YOU DIG.

NOT APPROVED FOR CONSTRUCTION stamp and project details including project number, date, and scale.

PROPOSED GROCERY FOR LIDL US OPERATIONS, LLC stamp with location of site at 4301 S 17TH STREET, WILMINGTON, NC 28412.

BOHLER ENGINEERING NC, PLLC stamp with address, phone, and website.

Professional Engineer seal for Matt L. Boyer, State of North Carolina, License No. 40824, dated 11/2/17.

EXISTING CONDITIONS stamp with sheet number C-2.0.

APPROVED MITIGATION FOR LOT 1 (OVERALL DEVELOPER)

LOT 1 & PROPOSED ROADWAY
 EX. REGULATED TREES TO BE REMOVED
 HARDWOOD TREES > 8" DBH (43)
 ALL CONIFER TREES > 12" DBH (24)
 ALL DOGWOODS, MAGNOLIAS, OTHER ORNAMENTAL FLOWERING TREES & AMERICAN HOLLIES > 4" DBH (0)
 TOTAL TREES TO BE REMOVED: 67
 (43) x (75% OF TYPE OF TREE) / (3) = 11
 (24) x (50% OF TYPE OF TREE) / (3) = 4
 15 REGULATED REPLACEMENT TREES REQUIRED
 EX. SIGNIFICANT TREES TO BE REMOVED
 HARDWOOD, LONG LEAF PINE, POCOSIN (PND) PINE, BLACK PINE & NON-PINE CONIFER TREES > 24" DBH (0)
 ALL OTHER PINES > 32" DBH (0)
 DOGWOODS, MAGNOLIAS, AMERICAN HOLLIES & OTHER ORNAMENTAL FLOWERING TREES > 8" DBH (1) @ 100%
 TOTAL TREES REMOVED 1
 (1) x (2 x 100% OF TYPE OF TREE) / (3) = 1 SIGNIFICANT TREE REQUIRED
 SEE TREE PERMIT FOR OVERALL ARBOR COMMONS (TPP-17-127) FOR MORE INFORMATION

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 PROPOSED BUILDING AREA: 35,962 SF
 TOTAL PROPOSED IMPERVIOUS AREA: 123,805 (71.6%)
 MAX BUILDING HEIGHT: 30.00'
 BUILDING ELEVATION ON S. 17TH STREET: 28.27'
 ADA SPACES REQUIRED: 7
 ADA SPACES PROVIDED: 7 (2 VAN)
 PROPOSED BICYCLE PARKING: 10
 TOTAL DISTURBED AREA: 170,253 SF (13.91 AC)
 LOT COVERAGE:
 EXISTING: 0%
 PROPOSED: 20.8% COVERED

PAVEMENT LEGEND

	DELINEATES PROPOSED HEAVY DUTY ASPHALT PAVEMENT
	DELINEATES PROPOSED CONCRETE SIDEWALK
	DELINEATES PROPOSED STANDARD DUTY CONCRETE (SEE DETAIL SHEET D-1.0)
	DELINEATES PROPOSED HEAVY DUTY CONCRETE PAVEMENT
	DELINEATES PROPOSED STANDARD DUTY ASPHALT PAVEMENT

(*) CONCRETE JOINTING AND FILLERS TO BE COMPLETED PER DETAIL AND SPECIFICATIONS.

GRAPHIC LEGEND

EXISTING NOTE	TYPICAL NOTE TEXT	PROPOSED NOTE
	PROPERTY LINE	---
	RIGHT OF WAY LINE	---
	BUILDING OR PARKING SETBACK	---
	LIMITS OF DISTURBANCE	---
	SAWCUT LINE	---
	CURB & GUTTER	---
	SPILL CURB	---
	FLUSH CURB	---
	TRANSITION CURB	---
	UTILITY POLE	⊙
	LIGHT POLE	⊙
	STORMWATER INLET	⊙
	SANITARY MANHOLE	⊙
	SANITARY CLEANOUT	⊙
	STORM MANHOLE	⊙
	ELEC. TRANSFORMER ON CONC. PAD	⊙
	PAVEMENT STRIPING - 4" SSWL	---
	STOP SIGN	STOP
	ADA ACCESSIBLE PARKING SIGN	---
	PAINTED STOP BAR	---
	FENCE	---

NOTES

- SEE SHEET C-1.1 SHEET FOR ALL GENERAL NOTES
- ALL DIMENSIONS ARE SHOWN FROM FACE OF CURB TO FACE OF CURB UNLESS OTHERWISE NOTED
- ALL CONSTRUCTION WITHIN THE NCDOT RIGHT-OF-WAY SHALL COMPLY WITH THE MOST CURRENT EDITION OF NCDOT CONSTRUCTION STANDARDS & SPECIFICATIONS
- ALL PROPOSED VEGETATION WITHIN SIGHT TRIANGLES SHALL NOT INTERFERE WITH CLEAR VISUAL SIGHT LINES FROM 30'-10'

PAINTING STRIPING LEGEND

4" SSWL - 4" WIDE SINGLE SOLID WHITE LINE
 4" SSSL - 4" WIDE SINGLE SOLID BLUE LINE

SITE PLAN & ZONING NOTES:

- THIS PLAN REFERENCES THE FOLLOWING DOCUMENTS & INFORMATION BY:
 *ALTA/ASCM LAND TITLE SURVEY FOR: LIDL US OPERATIONS, LLC
 PREPARED BY ALLIED ASSOCIATES, P.A.
 4720 LESTER HILL ROAD
 WINSTON-SALEM, NC 27103
 DATED 03/16/2016
 - EXISTING OWNER: PARCEL #1
 PIN # 3135-37-9059.000
 GWI PROPERTIES LLC
 DB 5100 PG 288
 GROSS AREA ± 8.23 AC
 - APPLICANT: LIDL US OPERATIONS, LLC
 1500 SUNDAY DRIVE, SUITE 101
 RALEIGH, NC 27607
 CONTACT: RYAN WEHLMANN
 PHONE: (703) 345-4654
- PARCEL: S. 17TH ST. AND PEEL ST.
 WILMINGTON, NC 28412
 GROSS AREA ± 17.54 ACRES
4. ZONE: CS-COMMUNITY BUSINESS
 USES: GROCERY / FOOD SALES RETAIL BUSINESS = PERMITTED
5. CAMA LAND CLASSIFICATION: URBAN
6. BULK REQUIREMENTS:

BUSINESS DISTRICT	CODE REFERENCE	REQUIRED	PROPOSED
MIN. LOT /LEASE AREA:		N/S	172,870 SF (3.97 AC)
MIN. LOT WIDTH:		N/S	377.5'
BUILDING SETBACKS:			
MIN. FRONT YARD SETBACK:	ARTICLE 5, SEC. 18-194	20'	143.8'
MIN. SIDE YARD SETBACK:	ARTICLE 5, SEC. 18-194	0 ft (20 ft when abutting Residential = 1 ft for every 1' over 20 ft of blg ht)	79.5'
MIN. REAR YARD SETBACK:	ARTICLE 5, SEC. 18-194	10 ft (25 ft when abutting Residential = 1 ft for every 1' over 20ft of blg ht)	13.2'
MAX BUILDING HEIGHT:	ARTICLE 5, SEC. 18-194	45'	30.00'

NA = NOT APPLICABLE, N/S = NOT SPECIFIED (V) = VARIANCE (W) = WAIVER
 (E) = EXISTING NON-COMFORMANCE TPO = TO BE DETERMINED (C) = COMPLIES

6. PARKING SUMMARY:
 NUMBER OF PARKING SPACES REQUIRED (CITY OF WILMINGTON - ARTICLE 9 SEC. 18.526-18.533):
 REQUIRED: GROCERY STORE (MIN): 1.0 SPACE / 400 SF GFA x 35,962 SF = 90 SPACES
 GROCERY STORE (MAX): 1.0 SPACE / 200 SF x 35,962 SF = 180 SPACES
 PROPOSED: TOTAL PROPOSED PARKING = 162 SPACES
 (4,481,000 SF OF GROSS FLOOR AREA) (COMPLIES)
 REQUIRED BICYCLE PARKING: 10 SPACES
 PROPOSED BICYCLE PARKING: 10 SPACES
 NUMBER OF ACCESSIBLE SPACES REQUIRED:
 CODE REQUIREMENT SOUTH LOT (4 / 76-100 SPACES):
 CODE REQUIREMENT EAST LOT: (3 / 51-75 SPACES):
 TOTAL: 7 SPACES
 PROPOSED: 7 SPACES (2 VAN) (COMPLIES)
 FOR 90 DEGREE PARKING SPACES:
 ONE-WAY TRAFFIC FLOW: REQUIRED 20, PROPOSED NA
 TWO-WAY TRAFFIC FLOW: REQUIRED 24, PROPOSED 24 FEET (COMPLIES)
 PARKING SPACE DIMENSION: REQUIRED 8.5' x 18', PROPOSED 10' x 20' (COMPLIES) PERIMETER
 7. LOADING REQUIREMENTS:
 NUMBER OF LOADING SPACES: REQUIRED 2, PROPOSED 2 (COMPLIES)
 SIZE OF LOADING SPACE (MIN.): REQUIRED 12' x 56', PROPOSED 13.5' x 96' (COMPLIES)

BOHLER ENGINEERING NC, PLLC
 REGISTERED PROFESSIONAL ENGINEER
 LICENSE NO. 34244
 STATE OF NORTH CAROLINA
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 Phone: (919) 578-9000
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1	2/3/17	CITY COMMENTS	JDM

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 DRAWN BY: WLB
 DATE: 2/6/17
 SCALE: 1" = 40'
 CAD I.D.: SSO

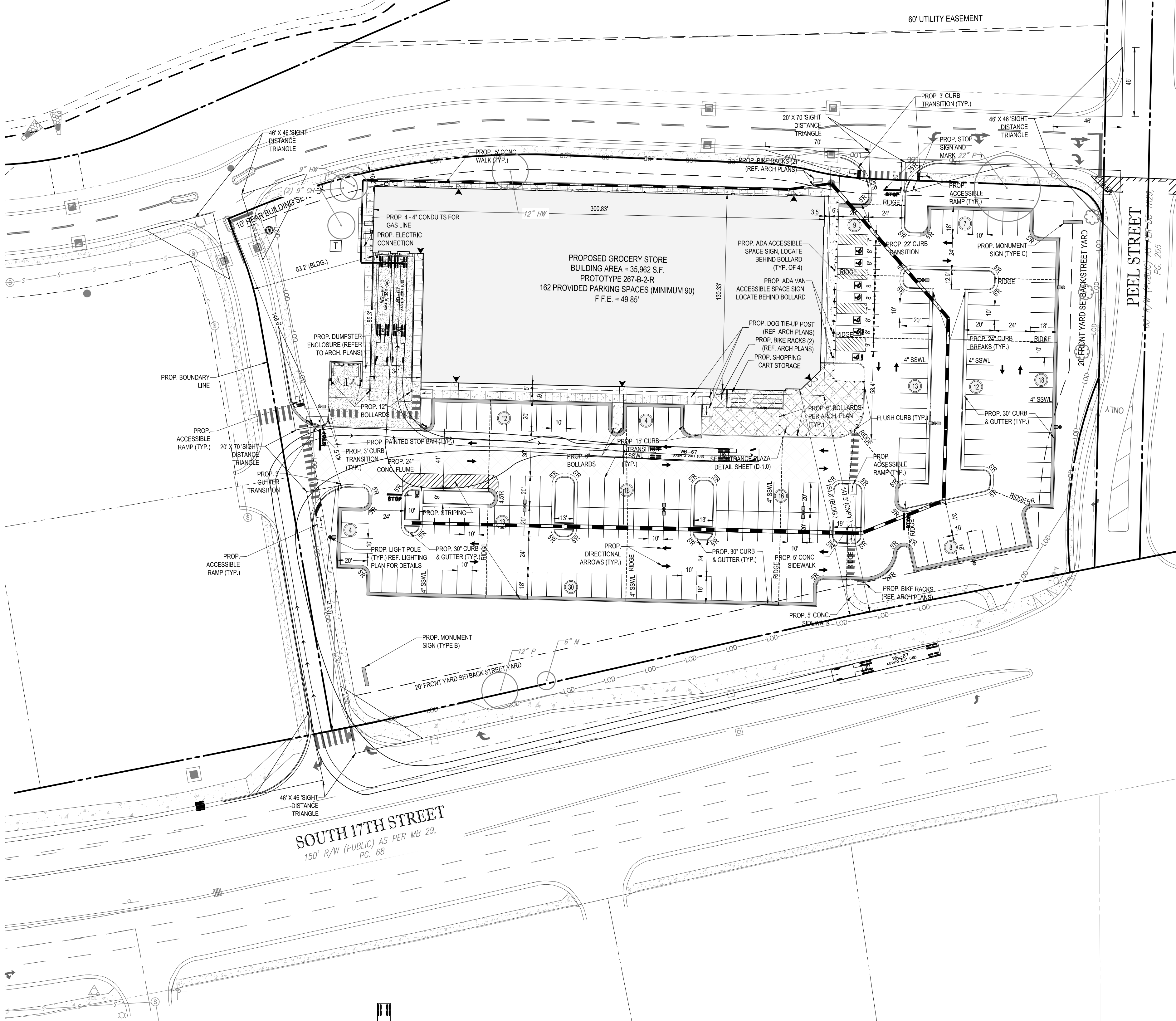
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LIDL US OPERATIONS, LLC
 LOCATION OF SITE
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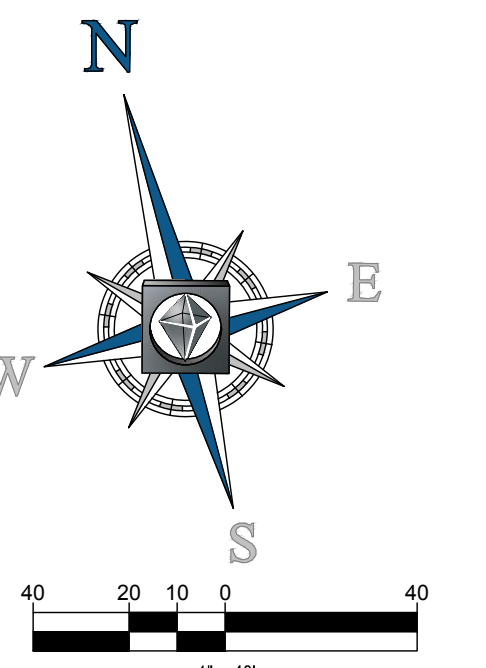
SHEET TITLE:
SITE PLAN
 SHEET NUMBER:
C-3.0

STORMWATER BMP AREA



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

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



STORM STRUCTURE SCHEDULE			
NAME	TYPE	RIM ELEV. (FT.)	INVERTS
A1	EXST. STORM MANHOLE	49.59'	INV IN = 43.20' INV IN = 43.20'
A2	DROP INLET WITH GRATE	47.72'	INV IN = 43.56' INV OUT = 43.56'
A3	DROP INLET WITH GRATE	47.63'	INV IN = 43.78' INV OUT = 43.78'
A4	PROP. CURB INLET	48.30'	INV IN = 44.92' INV OUT = 43.92'
A5	PROP. CURB INLET	48.28'	INV IN = 44.10' INV OUT = 44.10'
A6	PROP. CURB INLET	48.16'	INV IN = 44.15' INV OUT = 44.15'
A7	DROP INLET WITH GRATE	47.88'	INV IN = 44.42' INV OUT = 44.42'
A8	DROP INLET WITH GRATE	47.79'	INV IN = 44.69' INV OUT = 44.69'

STORM STRUCTURE SCHEDULE			
NAME	TYPE	RIM ELEV. (FT.)	INVERTS
A9	DROP INLET WITH GRATE	47.81'	INV IN = 45.00' INV OUT = 45.00'
A10	INSERT-A-TREE	48.45'	INV IN = 46.35'
A11	CONDENSATE DRAIN	49.79'	INV IN = 45.47'
B1	PROP. STORM CLEANOUT	49.79'	INV IN = 43.29' INV OUT = 43.29'
B2	PROP. STORM CLEANOUT	49.51'	INV IN = 44.12' INV OUT = 44.12'
B3	PROP. STORM CLEANOUT	49.72'	INV IN = 44.34' INV OUT = 44.34'
B4	DROP INLET WITH GRATE	45.65'	INV IN = 44.34' INV OUT = 44.35'
B5	DROP INLET WITH GRATE	45.65'	INV IN = 44.38' INV OUT = 44.38'

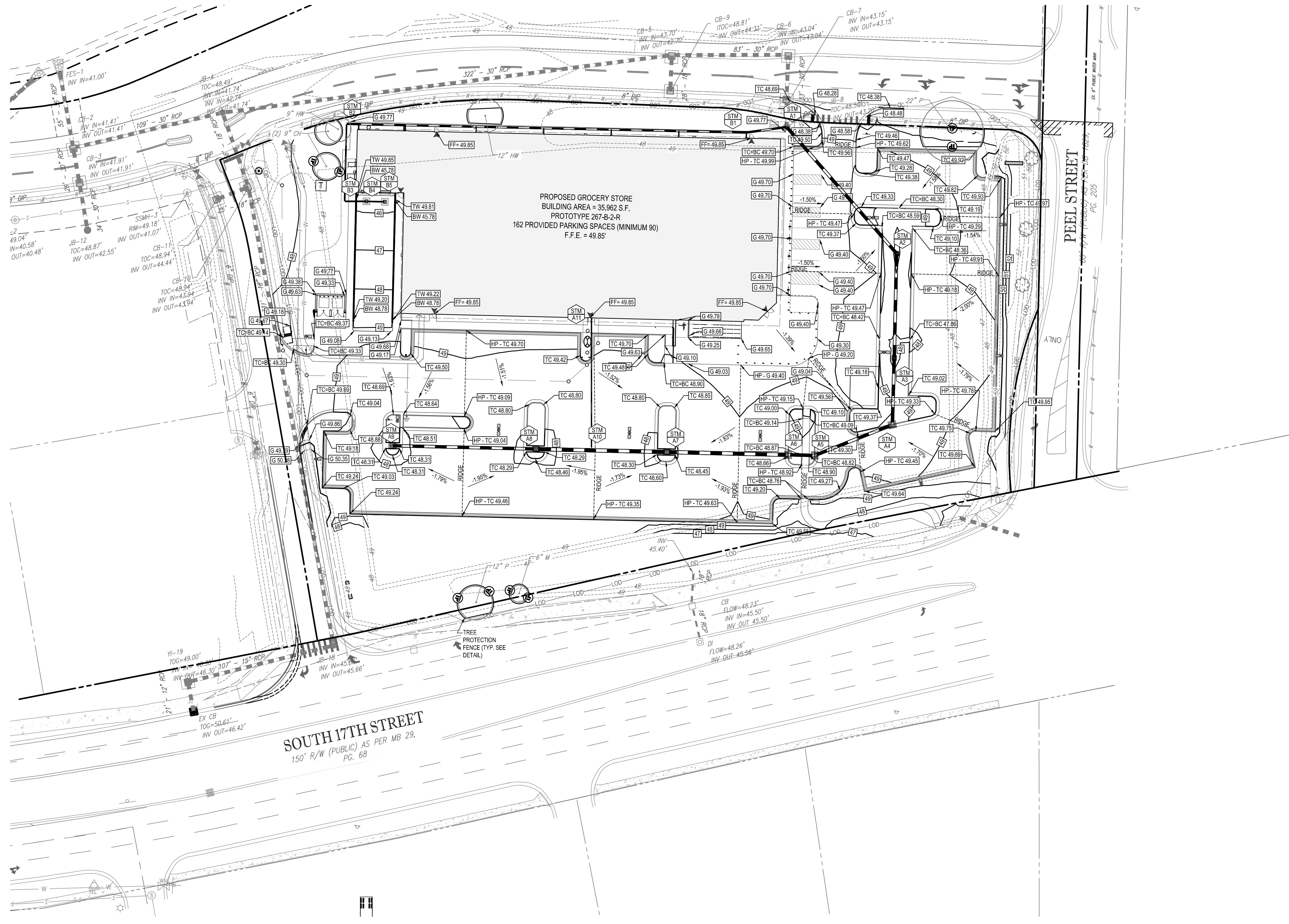
STORM SEWER PIPE SCHEDULE							
FROM	FROM INV	TO	TO INV	DIAMETER (IN)	SLOPE	PIPE LENGTH (FT.)	MATERIAL
A2	43.56	A1	43.20	24"	0.30%	119.22'	RCP
A3	43.78	A2	43.56	24"	0.30%	74.23'	RCP
A4	43.92	A3	43.78	24"	0.30%	47.45'	RCP
A5	44.10	A4	43.92	24"	0.30%	59.32'	RCP
A6	44.16	A5	44.10	24"	0.30%	19.00'	RCP
A7	44.42	A6	44.16	19" x 30"	0.30%	86.07'	ELLIPTICAL RCP
A8	44.69	A7	44.42	19" x 30"	0.30%	93.00'	ELLIPTICAL RCP
A9	45.00	A8	44.69	14" x 23"	0.30%	101.93'	ELLIPTICAL RCP
A10	46.35	A11	45.47	8"	1.00%	88.20'	PVC Pipe
B1	43.29	A1	43.20	15"	0.31%	28.93'	RCP
B2	44.12	B1	43.29	15"	0.29%	284.13'	RCP
B3	44.30	B2	44.12	8"	0.33%	55.15'	HDPE Pipe
B4	44.35	B3	44.30	8"	0.30%	15.53'	HDPE Pipe
B5	44.38	B4	44.34	8"	0.30%	13.00'	HDPE Pipe

ADA INSTRUCTIONS TO CONTRACTOR

CONTRACTORS MUST EXERCISE APPROPRIATE CARE AND PRECISION IN CONSTRUCTION OF ADA (HANDICAP) ACCESSIBLE COMPONENTS AND ACCESS ROUTES FOR THE SITE. THESE COMPONENTS, AS CONSTRUCTED, MUST COMPLY WITH THE CURRENT ADA STANDARDS AND REGULATIONS BARRIER FREE ACCESS AND ANY MODIFICATIONS, REVISIONS OR UPDATES TO SAME. FINISHED SURFACES ALONG THE ACCESSIBLE ROUTE OF TRAVEL FROM PARKING SPACE, PUBLIC TRANSPORTATION, PEDESTRIAN ACCESS, INTER-BUILDING ACCESS, TO POINTS OF ACCESSIBLE BUILDING ENTRANCE/EXIT, MUST COMPLY WITH THESE ADA CODE REQUIREMENTS. THESE INCLUDE, BUT ARE NOT LIMITED TO THE FOLLOWING:

- PARKING SPACES AND PARKING AISLES - SLOPE SHALL NOT EXCEED 1:50 (2.0%) IN ANY DIRECTION.
- CURB RAMPS - SLOPE MUST NOT EXCEED 1:12 (8.3%) FOR A MAXIMUM OF SIX (6) FEET.
- LANDINGS - MUST BE PROVIDED AT EACH END OF RAMPS, MUST PROVIDE POSITIVE DRAINAGE, AND MUST NOT EXCEED 1:50 (2.0%) IN ANY DIRECTION.
- PATH OF TRAVEL ALONG ACCESSIBLE ROUTE - MUST PROVIDE A 48-INCH OR GREATER UNOBSTRUCTED WIDTH OF TRAVEL (CAR OVERHANGS AND/OR HANDRAILS CANNOT REDUCE THIS MINIMUM WIDTH). THE SLOPE MUST BE NO GREATER THAN 1:20 (5.0%) IN THE DIRECTION OF TRAVEL, AND MUST NOT EXCEED 1:50 (2.0%) IN CROSS SLOPE. WHERE PATH OF TRAVEL BE GREATER THAN 1:30 (6.9%), ADA RAMP MUST BE ADHERED TO. A MAXIMUM SLOPE OF 1:12 (8.3%), FOR A MAXIMUM RISE OF 2.5 FEET, MUST BE PROVIDED. THE RAMP MUST HAVE ADA HAND RAILS AND "LEVEL" LANDINGS ON EACH END THAT ARE CROSS SLOPED NO MORE THAN 1:50 IN ANY DIRECTION (2.0%) FOR POSITIVE DRAINAGE.
- DOORWAYS - MUST HAVE A "LEVEL" LANDING AREA ON THE EXTERIOR SIDE OF THE DOOR THAT IS SLOPED AWAY FROM THE DOOR NO MORE THAN 1:50 (2.0%) FOR POSITIVE DRAINAGE. THIS LANDING AREA MUST BE NO LESS THAN 60 INCHES (5 FEET) LONG, EXCEPT WHERE OTHERWISE PERMITTED BY ADA STANDARDS FOR ALTERNATIVE DOORWAY OPENING CONDITIONS. (SEE ICC/ANSI A117-1:2003 AND OTHER REFERENCED INCORPORATED BY CODE.)
- WHEN THE PROPOSED CONSTRUCTION INVOLVES RECONSTRUCTION, MODIFICATION, REVISION OR EXTENSION OF OR TO ADA COMPONENTS FROM EXISTING DOORWAYS OR SURFACES, CONTRACTOR MUST VERIFY EXISTING ELEVATIONS SHOWN ON THE PLAN. NOTE THAT TABLE 405.2 OF THE DEPARTMENT OF JUSTICE'S ADA STANDARDS FOR ACCESSIBLE DESIGN ALLOWS FOR STEEPER RAMP SLOPES, IN RARE CIRCUMSTANCES. THE CONTRACTOR MUST IMMEDIATELY NOTIFY THE DESIGN ENGINEER OF ANY DISCREPANCIES AND/OR FIELD CONDITIONS THAT DIFFER IN ANY WAY OR ANY RESPECT FROM WHAT IS SHOWN ON THE PLANS. IN WRITING, BEFORE COMMENCEMENT OF WORK. CONSTRUCTED IMPROVEMENTS MUST FALL WITHIN THE MAXIMUM AND MINIMUM LIMITATIONS IMPOSED BY THE BARRIER FREE REGULATIONS AND THE ADA REQUIREMENTS.
- THE CONTRACTOR MUST VERIFY THE SLOPES OF CONTRACTOR'S FORMS PRIOR TO POURING CONCRETE. IF ANY NON-COMFORMANCE IS OBSERVED OR EXISTS, CONTRACTOR MUST IMMEDIATELY NOTIFY THE ENGINEER PRIOR TO POURING CONCRETE. CONTRACTOR IS RESPONSIBLE FOR ALL COSTS TO REMOVE, REPAIR AND REPLACE NON-COMFORMING CONCRETE.

IT IS STRONGLY RECOMMENDED THAT THE CONTRACTOR REVIEW THE INTENDED CONSTRUCTION WITH THE LOCAL BUILDING CODE PRIOR TO COMMENCEMENT OF CONSTRUCTION.



GRADING LEGEND		
EXISTING NOTE	TYPICAL NOTE TEXT	PROPOSED NOTE
	PROPERTY LINE	---
	CONTOUR & ELEVATION	---601---
	CONTOUR & ELEVATION (DONE BY OTHERS)	---601---
	UNDERGROUND WATER LINE	W---W
	UNDERGROUND FIRE LINE	F---F
	UNDERGROUND GAS LINE	G---G
	OVERHEAD WIRE	OH---OH
	UNDERGROUND ELECTRIC SERVICE	E---E
	UNDERGROUND TELEPHONE	T---T
	STORM SEWER	---S---
	SANITARY SEWER MAIN	---SS---
	LIMITS OF DISTURBANCE	---LOD---
	DRAINAGE FLOW ARROW	-2.5%
	TOP & BOTTOM OF WALL ELEVATION	TW 617.56 BW 615.29
	TOP OF CURB ELEVATION	TC 613.97
	HIGH POINT & FINISHED GRADE ELEVATION	HP 614.34 G 614.64
	FLUSH GRADE ELEVATION	FG 614.45
	TRANSFORMER ON CONC. PAD	E
	UTILITY POLE/LIGHT	UL
	SANITARY CLEAN OUT	SC
	SANITARY MANHOLE	SM
	STORM MANHOLE	SM
	STORM CURB INLET	CI
	STORM INLET	SI
	WATER VALVE	WV
	WATER METER	WM
	STORM STRUCTURE LABEL	---

REVISIONS			
REV	DATE	COMMENT	BY
1	2/3/17	CITY COMMENTS	JDM

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NOT APPROVED FOR CONSTRUCTION

PROJECT No.: NCR151031
DRAWN BY: JDM
CHECKED BY: WLB
DATE: 2/8/17
SCALE: 1" = 40'
CAD I.D.: SSO

PROPOSED GROCERY

FOR
LIDL US OPERATIONS, LLC

LOCATION OF SITE
4301 S 17TH STREET
WILMINGTON, NC 28412

BOHLER ENGINEERING NC, PLLC
NGBELS P-1132
4011 WESTCHASE BLVD., SUITE 290
RALEIGH, NC 27607
Phone: (919) 578-9000
Fax: (919) 703-2665
NC@BohlerEng.com

NORTH CAROLINA PROFESSIONAL ENGINEER
PATT BOYD
040241
1/12/17

SHEET TITLE:
GRADING PLAN

SHEET NUMBER:
C-4.0

Approved Construction Plan

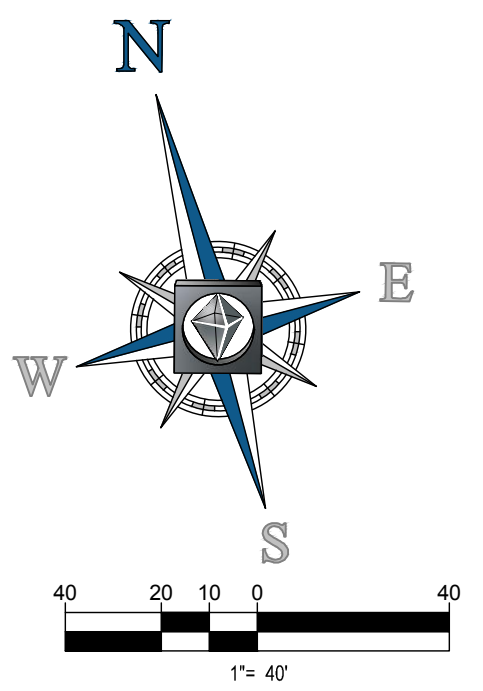
Name _____ Date _____

Planning _____

Traffic _____

Fire _____

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



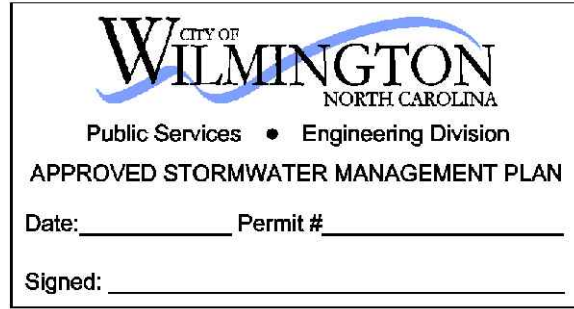
Approved Construction Plan

Name: _____ Date: _____

Planning: _____

Traffic: _____

File: _____



SANITARY STRUCTURE SCHEDULE			
NAME	TYPE	RIM ELEV. (FT.)	INVERTS
A1	EX. CLEANOUT	48.75	INV IN = 41.70'
A2	PROP. SANITARY CLEANOUT	48.80	INV IN = 41.90' INV OUT = 41.90'
A3	PROP. SANITARY CLEANOUT	49.15	INV IN = 43.11' INV OUT = 43.11'
A4	PROP. SANITARY CLEANOUT	49.36	INV IN = 43.36' INV OUT = 43.36'
A5	PROP. SANITARY CLEANOUT	48.64	INV IN = 45.22' INV OUT = 45.22'
A6	PROP. SANITARY CLEANOUT	48.84	INV OUT = 45.40'

SANITARY PIPE SCHEDULE					
FROM	TO	SIZE IN.	TYPE	SLOPE %	LENGTH FT.
A2	A1	6	PVC	1.03%	19.40
A3	A2	6	PVC	1.03%	117.39
A4	A3	6	PVC	1.03%	24.34
A5	A4	6	PVC	1.00%	186.18
A6	A5	6	PVC	1.02%	17.57

PROPOSED WATER AND SEWER FLOW	
PROPOSED WATER	10,500 GPD
PROPOSED SEWER	1,750 GPD

UTILITY NOTES:

- WATER LINES SHALL BE BURIED AS SPECIFIED BY CITY OF WILMINGTON DEPARTMENT OF PUBLIC WORKS (DPW). WATER MAINS SHALL NOT BE PLACED UNDER BUILDINGS OR STRUCTURES EXCEPT TO SUPPLY A SPRINKLER SYSTEM. THE MINIMUM COVER FOR WATER MAINS WITH IS 36". ALL WATER LINES TO BE DUCTILE IRON PIPE.
- WATER MAINS SHALL BE PLACED NO CLOSER THAN 5 FEET FROM THE FACE OF CURB TOWARD THE STREET.
- WATER MAINS SHALL BE LOCATED AT LEAST 10 FEET LATERALLY FROM EXISTING AND PROPOSED SANITARY SEWERS.
- WHERE IT IS NECESSARY FOR WATER MAINS TO CROSS OVER SEWER MAINS, VERTICAL 18" CLEARANCE IS REQUIRED.
- EXISTING WATER SERVICES THAT WILL NOT BE UTILIZED MUST BE CAPPED AT THE MAIN.
- VALVES SHALL BE INSTALLED ON ALL BRANCHES FROM FEEDER MAINS AND BETWEEN MAINS AND HYDRANTS AS FOLLOWS:
 - PRIVATE WATER SYSTEMS MUST HAVE SUFFICIENT VALVE PLACEMENT AND NUMBER SO THE PRIVATE SYSTEM CAN BE ISOLATED FROM A PUBLIC WATER SYSTEM.
- THE CONTRACTOR SHALL CONTACT THE PUBLIC WORKS DEPARTMENT PRIOR TO THE START OF CONSTRUCTION ON ANY WATER, SEWER, STORMWATER IMPROVEMENTS. THE CONTRACTOR SHALL CONTACT THE PUBLIC WORKS DEPARTMENT TO INSPECT WATER AND SEWER SERVICE TAPS, DRIVEWAY AND SIDEWALK CONSTRUCTION, STORM DRAINAGE AND ROADWAY IMPROVEMENTS.
- SUBMIT AS-BUILT DRAWINGS OF THE WATER, SEWER AND STORM SEWER SYSTEMS TO THE ENGINEERING SERVICES DEPARTMENT UPON PROJECT COMPLETION. PLEASE INCLUDE WATER METER AND CLEANOUT LOCATIONS, STORM AND SANITARY SEWER PIPE LENGTHS INDICATED ARE NOMINAL AND MEASURED CENTER OF INLET AND/OR MANHOLES STRUCTURE TO CENTER OF STRUCTURE.
- BUILDING TYPE IS I-B.
- NEW HYDRANTS SHALL BE BROUGHT INTO SERVICE PRIOR TO COMBUSTIBLE MATERIALS BEING DELIVERED TO THE JOB SITE.
- ALL ISOLATION VALVES WITHIN THE "HOT BOX" SHALL BE ELECTRICALLY SUPERVISED.

UTILITY LEGEND

EXISTING NOTE	TYPICAL NOTE TEXT	PROPOSED NOTE
-S-	SANITARY SEWER LATERAL	-S-
	UNDERGROUND WATER LINE	
-F-	UNDERGROUND FIRE WATER LINE	-F-
-E-	UNDERGROUND ELECTRIC LINE	-E-
==	UNDERGROUND GAS LINE	==
---	STORM SEWER	---
-S-	SANITARY SEWER MAIN	-S-
⊗	HYDRANT	⊗
⊙	SANITARY MANHOLE	⊙
⊙	SANITARY CLEANOUT	⊙
⊙	STORM MANHOLE	⊙
⊙	WATER METER	⊙
⊙	WATER VALVE	⊙
⊙	YARD INLET	⊙
⊙	CURB INLET	⊙
⊙	CLEAN OUT	⊙
⊙	ELECTRIC TRANSFORMER	⊙
⊙	TEST PIT	⊙
⊙	LIGHT POLE	⊙

REVISIONS

REV	DATE	COMMENT	BY
1	2/3/17	CITY COMMENTS	JDM



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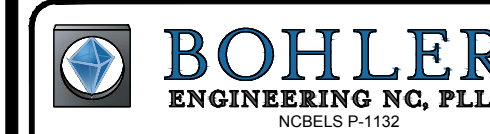
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PROJECT No.: NCR151031
DRAWN BY: JDM
CHECKED BY: WLB
DATE: 2/8/17
SCALE: 1" = 40'
CAD I.D.: SS0

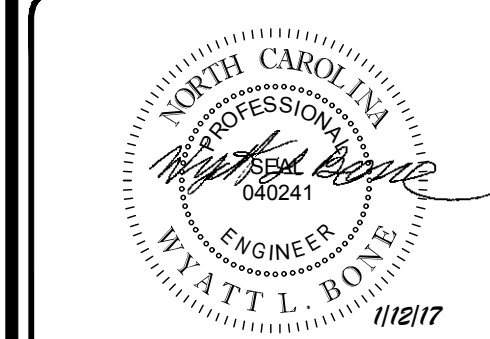
PROPOSED GROCERY

FOR
LIDL US OPERATIONS, LLC

LOCATION OF SITE
4301 S 17TH STREET
WILMINGTON, NC 28412



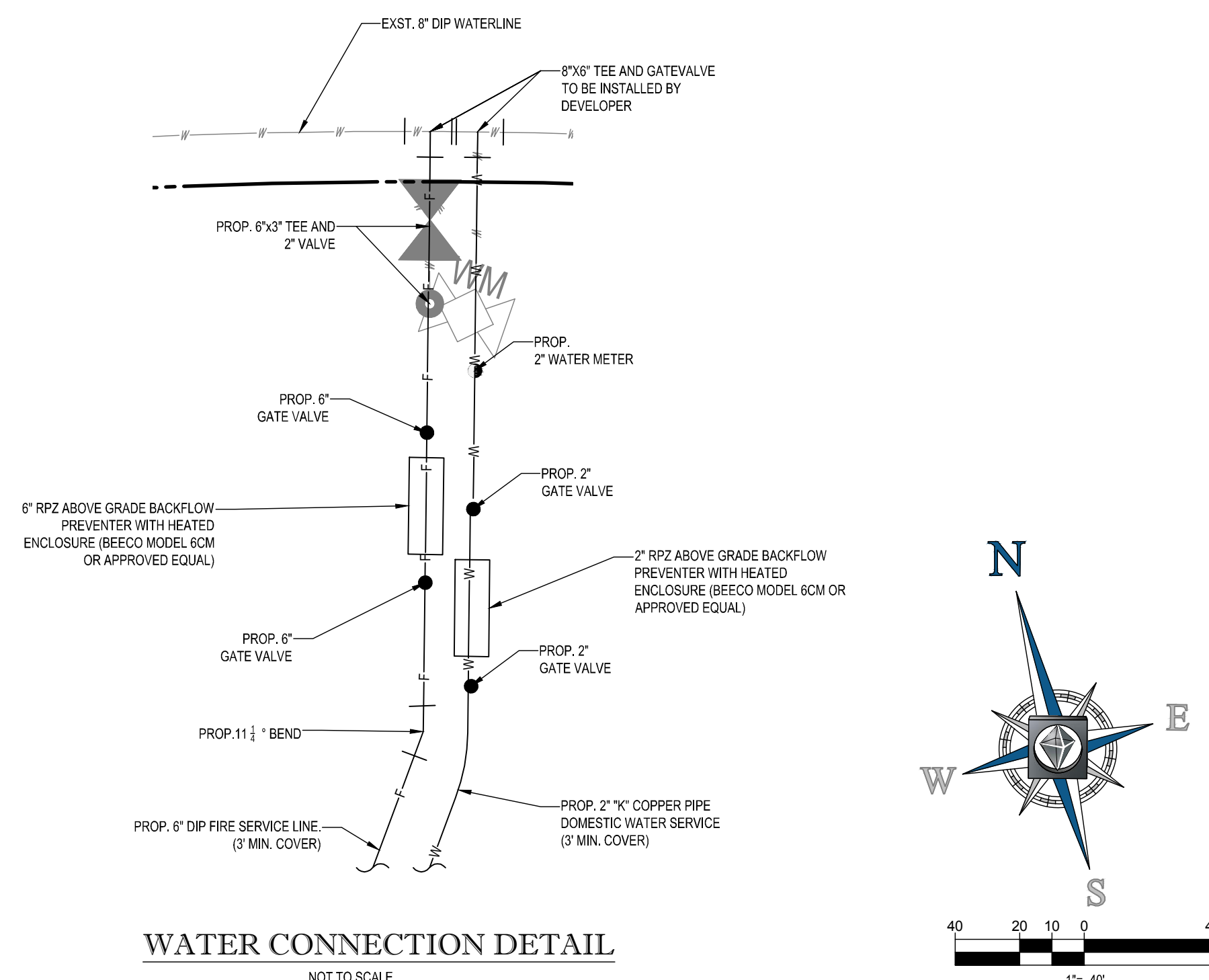
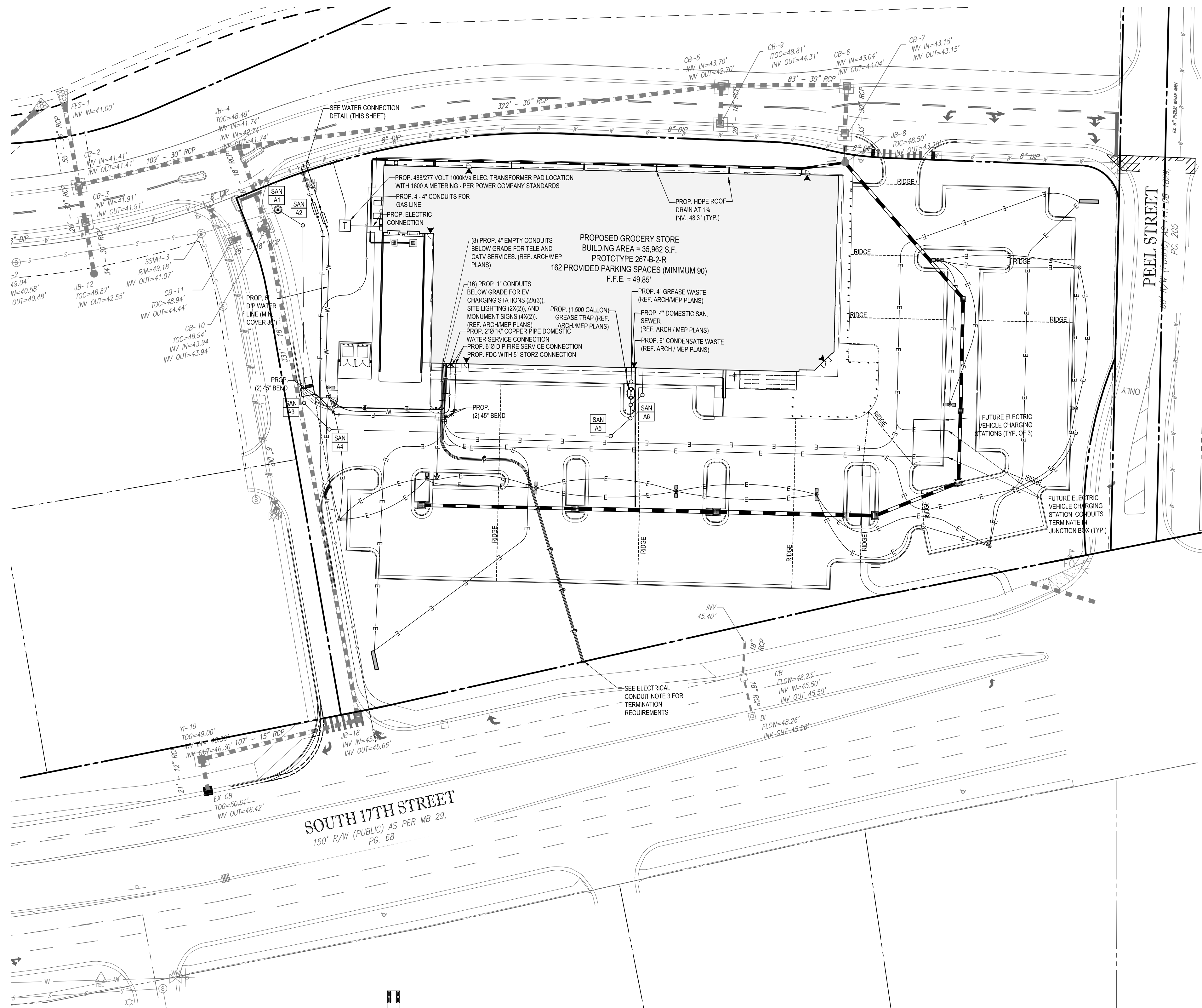
4011 WESTCHASE BLVD., SUITE 290
RALEIGH, NC 27607
Phone: (919) 578-9000
Fax: (919) 703-2665
NC@BohlerEng.com



SHEET TITLE:

UTILITY PLAN

SHEET NUMBER:
C-5.0



STORMWATER
BMP AREA

Approved Construction Plan

Name: _____ Date: _____

Planning: _____

Traffic: _____

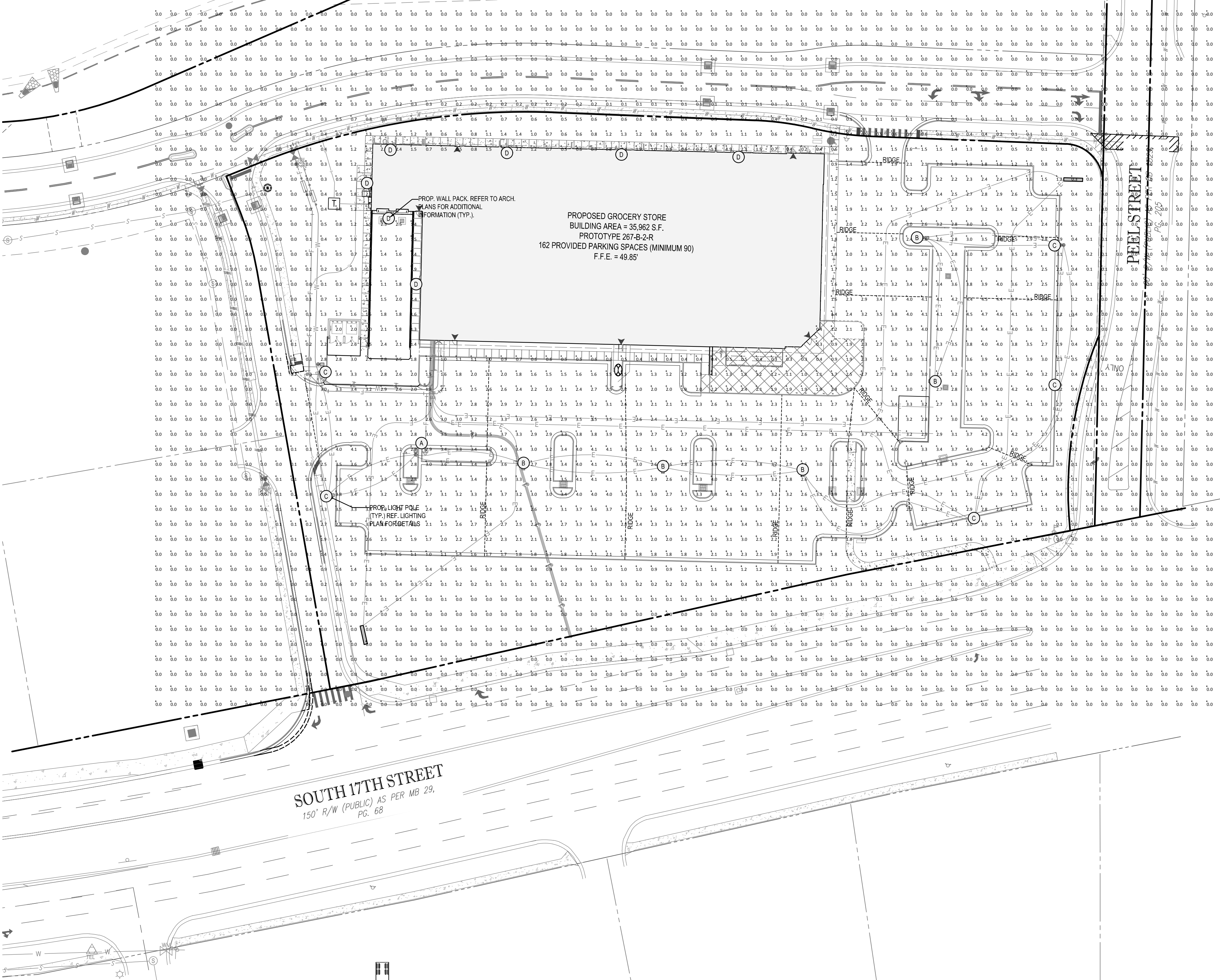
Fire: _____

City of WILMINGTON
NORTH CAROLINA
Public Services • Engineering Division

APPROVED STORMWATER MANAGEMENT PLAN

Date: _____ Permit #: _____

Signed: _____



LIGHTING NOTES

1. THIS LIGHTING PLAN DEPICTS PROPOSED SUSTAINED ILLUMINATION LEVELS CALCULATED USING DATA PROVIDED BY THE NOTED MANUFACTURER(S). ACTUAL SUSTAINED SITE ILLUMINATION LEVELS AND PERFORMANCE OF LUMINAIRES MAY VARY DUE TO VARIATIONS IN WEATHER, ELECTRICAL VOLTAGE, TOLERANCE IN LAMPS, THE SERVICE LIFE OF EQUIPMENT AND LUMINAIRES AND OTHER RELATED VARIABLE FIELD CONDITIONS.
2. THE LIGHT LOSS FACTORS USED IN THESE LIGHTING CALCULATIONS ARE 0.85 FOR ALL LED LUMINAIRES UNLESS OTHERWISE SPECIFIED. THESE FACTORS ARE INDICATIVE OF TYPICAL LIGHTING INDUSTRY MODELING STANDARDS.
3. THE LIGHTING VALUES AND CALCULATION POINTS DEPICTED ON THIS PLAN ARE ALL ANALYZED ON A HORIZONTAL GEOMETRIC PLANE AT ELEVATION ZERO (GROUND LEVEL) UNLESS OTHERWISE NOTED. THE VALUES DEPICTED ON THIS PLAN ARE IN FOOT-CANDELS.
4. THE LUMINAIRES, LAMPS AND LENSES MUST BE REGULARLY INSPECTED/MAINTAINED TO ENSURE THAT THEY FUNCTION PROPERLY. THIS WORK SHOULD INCLUDE, BUT NOT BE LIMITED TO, FREQUENT VISUAL INSPECTIONS, CLEANING OF LENSES, AND RELAMPING (IF NECESSARY) AT LEAST ONCE EVERY SIX (6) MONTHS. FAILURE TO FOLLOW THE ABOVE STEPS COULD CAUSE THE LUMINAIRES, LAMPS AND LENSES TO FAIL PROPERLY TO FUNCTION.
5. WHERE APPLICABLE, THE EXISTING CONDITION LIGHT LEVELS ILLUSTRATED ARE REPRESENTATIVE OF AN APPROXIMATION UTILIZING LABORATORY DATA FOR SIMILAR FIXTURES, UNLESS ACTUAL FIELD MEASUREMENTS ARE TAKEN WITH A LIGHT METER AND ARE, CONSEQUENTLY, APPROXIMATIONS ONLY. DUE TO FACTORS SUCH AS FIXTURE MAINTENANCE, EQUIPMENT TOLERANCES, WEATHER CONDITIONS, ETC. ACTUAL LIGHT LEVELS MAY DIFFER. EXISTING LIGHT LEVELS DEPICTED ON THIS PLAN SHOULD BE CONSIDERED APPROXIMATE.
6. THIS LIGHTING PLAN IS INTENDED TO SHOW THE LOCATIONS AND TYPE OF LUMINAIRES, ONLY. POWER SYSTEM, CONDUITS, WIRING, VOLTAGES AND OTHER ELECTRICAL COMPONENTS ARE THE RESPONSIBILITY OF THE ARCHITECT, MEP AND/OR LIGHTING CONTRACTOR, AS INDICATED IN THE CONSTRUCTION CONTRACT DOCUMENTS. THESE ITEMS MUST BE INSTALLED AS REQUIRED BY STATE AND LOCAL REGULATIONS. CONTRACTOR IS RESPONSIBLE FOR INSTALLING LIGHTING FIXTURES AND APPURTEANCES IN ACCORDANCE WITH ALL APPLICABLE BUILDING AND ELECTRICAL CODES AND ALL OTHER APPLICABLE RULES, REGULATIONS, LAWS AND STATUTES.
7. CONTRACTOR MUST BRING TO DESIGNER'S ATTENTION, PRIOR TO THE COMMENCEMENT OF CONSTRUCTION, ANY LIGHT LOCATIONS THAT CONFLICT WITH DRAINAGE, UTILITIES, OR OTHER STRUCTURES.
8. IT IS LIGHTING CONTRACTOR'S RESPONSIBILITY TO COORDINATE WITH THE PROJECT ARCHITECT OR OWNER REGARDING THE POWER SOURCE(S) FROM WITHIN THE BUILDING, AND TIMING DEVICES NECESSARY TO MEET THE DESIGN INTENT.
9. THE LIGHTING CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE CONTRACTOR REQUIREMENTS INDICATED IN THE SITE PLAN, INCLUDING BUT NOT LIMITED TO, GENERAL NOTES, GRADING AND UTILITY NOTES, SITE SAFETY, AND ALL GOVERNMENTAL RULES, LAWS, ORDINANCES, REGULATIONS AND THE LIKE.
10. UPON OWNER'S ACCEPTANCE OF THE COMPLETED PROJECT, THE OWNER SHALL BE RESPONSIBLE FOR ALL MAINTENANCE, SERVICING, REPAIR AND INSPECTION OF THE LIGHTING SYSTEM AND ALL OF ITS COMPONENTS AND RELATED SYSTEMS, TO ENSURE ADEQUATE LIGHTING LEVELS ARE PRESENT AND FUNCTIONING AT ALL TIMES.

GENERAL NOTES

1. THIS PLAN IS TO BE UTILIZED FOR LIGHTING PURPOSES ONLY. REFER TO ELECTRICAL ENGINEERING PLANS FOR CIRCUITRY DESIGN AND SPECIFICATIONS.
2. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL PROVIDE SUBMITTALS TO THE PROJECT ENGINEER (BOHLER) FOR REVIEW AND APPROVAL. SUBSTITUTION REQUESTS MUST BE ACCOMPANIED BY A HORIZONTAL PHOTOMETRIC STUDY DEMONSTRATING THAT THE FIXTURE(S) IN QUESTION WILL MEET THE DESIGN INTENT OF THIS PLAN. SUBSTITUTION REQUESTS WITHOUT A PHOTOMETRIC STUDY WILL BE REJECTED.
3. LIGHTING FIXTURE MANUFACTURER: PHILIPS LIGHTING.

CALCULATION SUMMARY

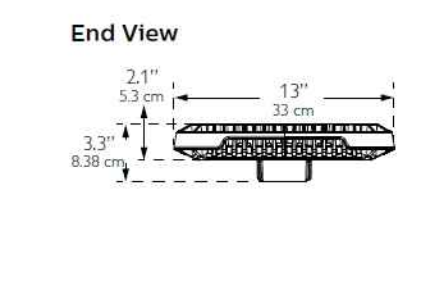
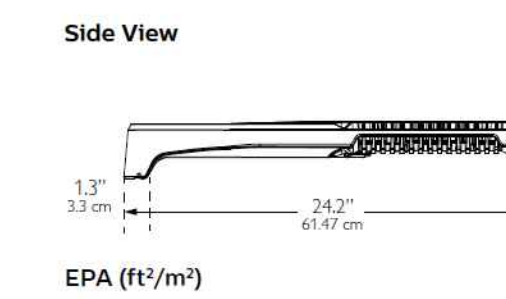
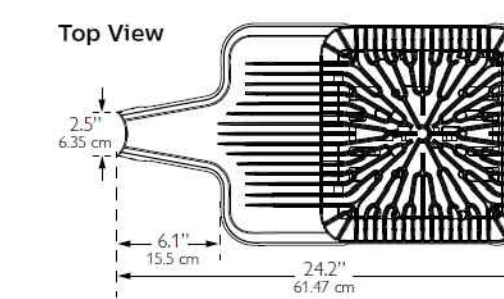
LABEL	UNITS	AVG	MAX	MIN	AVG/MIN	MAX/MIN
FULL SITE	FC	0.9	4.7	0.0	N/A	N/A
PARKING LOT	FC	2.98	4.7	1.1	2.71	4.27

LUMINAIRE SCHEDULE

PROPOSED GROCERY STORE - WILMINGTON, NC

SYMBOL	LABEL	QUANTITY	MANUFACTURER	DESCRIPTION	LUMENS PER LAMP	LIGHT LOSS FACTOR	WATTAGE
☐	A	1	PHILIPS GARDCO	ECF-1-2-215LA-81A-NW @ 25' MOUNTING HEIGHT	20874	0.85	210.3
☐	B	5	PHILIPS GARDCO	ECF-2-2-215LA-81A-NW @ 25' MOUNTING HEIGHT	20874	0.85	210.3
☐	C	5	PHILIPS GARDCO	ECF-1-4-215LA-81A-NW-S @ 25' MOUNTING HEIGHT	15431	0.85	211.7
☐	D	7	PHILIPS GARDCO	121-16L-700-NW-G3-3 @ 14' MOUNTING HEIGHT	3421	0.85	38.4

Dimensions – Standard EcoForm luminaire



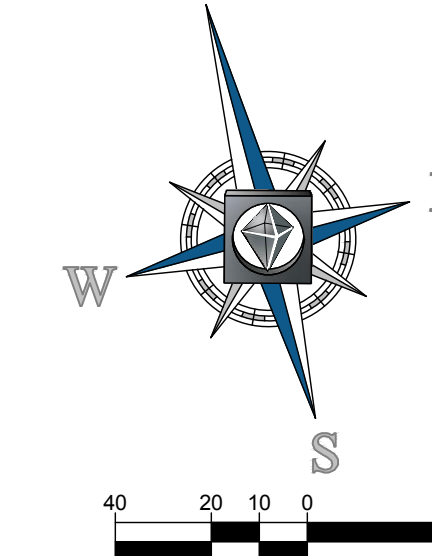
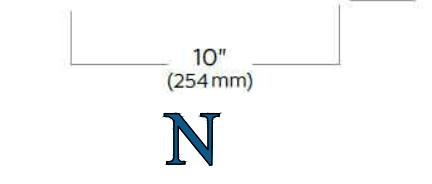
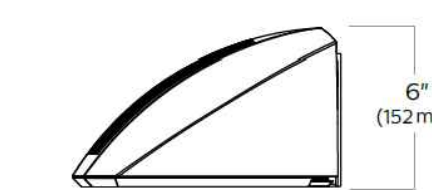
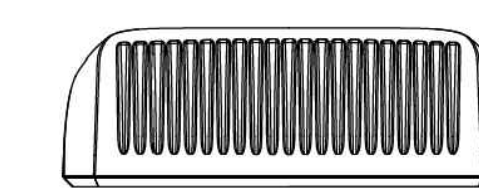
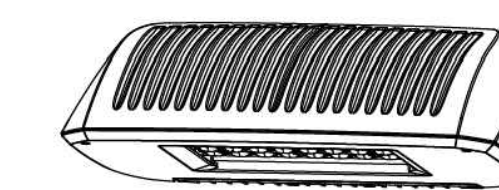
EPA (ft²/m²)

Single	Twinn (2@180)	3/4@90
0.2 / 0.019	0.5 / 0.046	0.5 / 0.046

Approximate Luminaire Weight:
20 Lbs (9.07 Kg)

Dimensions

Standard Luminaire



BOHLER ENGINEERING NC, PLLC

STATE OF NORTH CAROLINA REGISTERED PROFESSIONAL ENGINEERS

LAND SURVEYING PROGRAM MANAGEMENT LANDSCAPE ARCHITECTURE SUSTAINABLE DESIGN PERMITTING SERVICES TRANSPORTATION SERVICES

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PHOENIX AZ
RICHMOND VA
ROANOKE VA
SOUTH CAROLINA
SOUTH EASTERN PA
SOUTH FLORIDA
SOUTH IOWA
SOUTH WEST VIRGINIA
WASHINGTON DC
WISCONSIN
WYOMING

4011 WESTCHASE BLVD., SUITE 290
RALEIGH, NC 27607
Phone: (919) 578-9000
Fax: (919) 703-2665
NC@BohlerEng.com

REVISIONS

REV	DATE	COMMENT	BY
1	2/3/17	CITY COMMENTS	JDM

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PROPOSED GROCERY

FOR

LIDL US OPERATIONS, LLC

LOCATION OF SITE
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WILMINGTON, NC 28412

BOHLER ENGINEERING NC, PLLC

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WYOMING

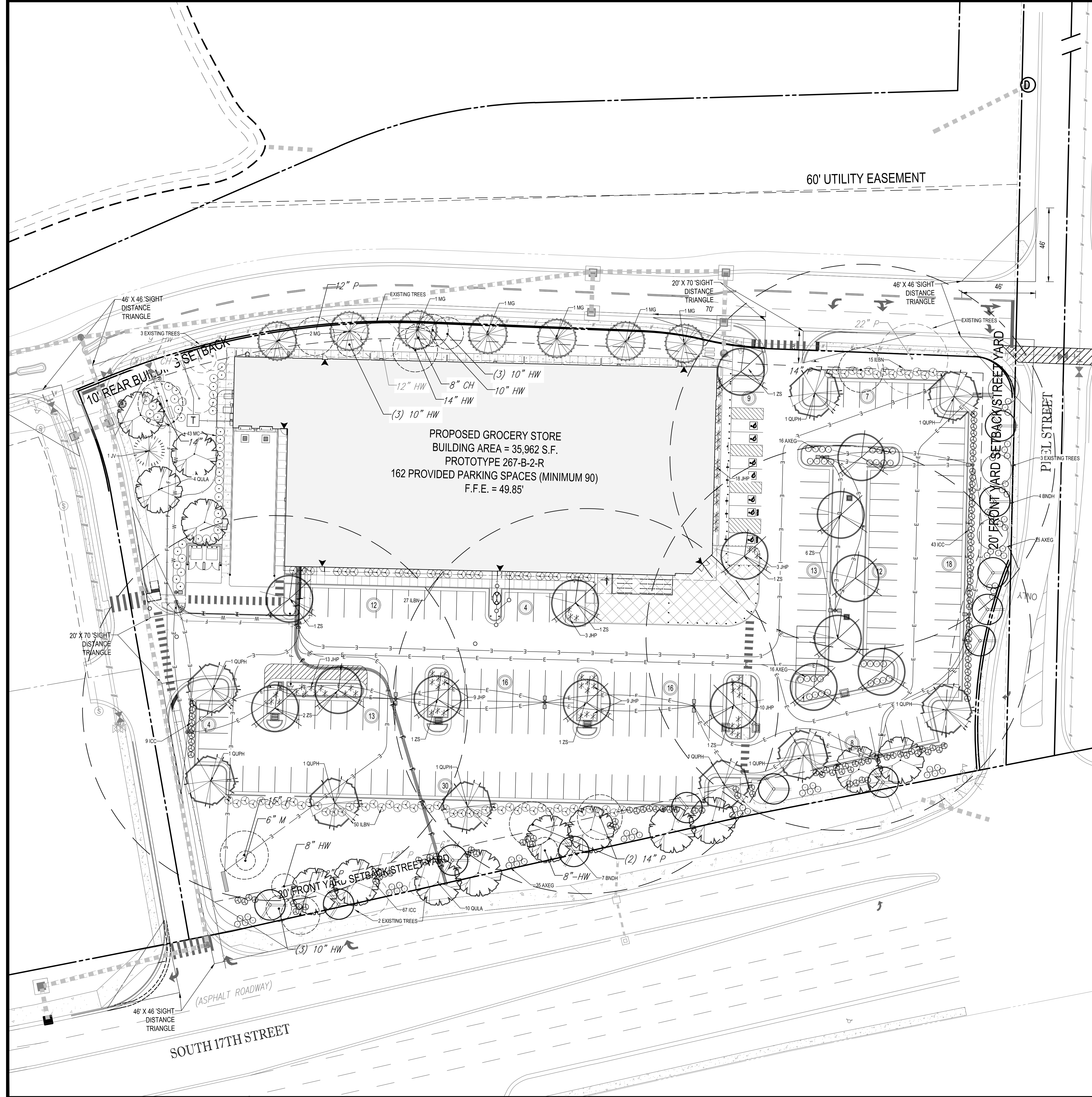
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RALEIGH, NC 27607
Phone: (919) 578-9000
Fax: (919) 703-2665
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SHEET TITLE:

LIGHTING PLAN

SHEET NUMBER:

C-6.0

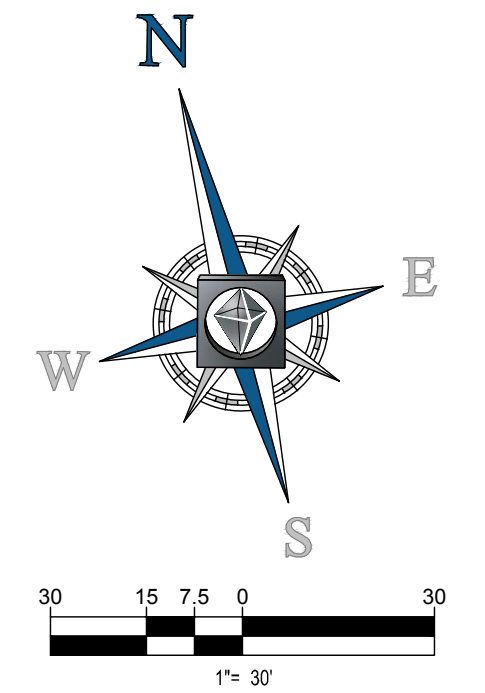


KEY	QTY.	BOTANICAL NAME	COMMON NAME	CAL.	CONT.	SIZE	REMARKS
ZS	15	ZELKOVA SERBATA	JAPANESE ZELKOVA	2.5' CAL.	888	12'-4" HT	FULL
OLA	14	OLEA	LAUREL OAK	2.5' CAL.	888	12'-4" HT	FULL CENTRAL LEADER
OUPI	9	OLEA	HIGHTOWER WILLOW OAK	2.5' CAL.	888	12'-4" HT	FULL CENTRAL LEADER
BNDH	12	BETULA NIGRA CURA HEAT	DURA HEAT RIVER BIRCH		888	8'-0" HT	FULL 3/4 CANES
JY	1	JUNIPERUS VIRGINIANA	EASTERN RED CEDAR		888	8'-0" HT	FULL
MO	7	MAQUOLA GRANDIFLORA	SOUTHERN MAGNOLIA	2.5' CAL.	888	8'-0" HT	FULL
AXEG	92	ABELIA X EDWARD GOUCHER	EDWARD GOUCHER ABELIA	5.0 GAL.	24-30" HT		FULL
ICC	119	ILEX VOMITORIA STONES DWARF	STONES DWARF YALPOND HOLLY	5.0 GAL.	30" HT		FULL
ILBN	92	ILEX CORNUTA DWARF BURFORD	DWARF BURFORD HOLLY	5.0 GAL.	30" HT		FULL
JHP	65	JUNIPERUS HORIZONTALIS PLUMOSA	SHORE JUMPER	5.0 GAL.	24-30" HT		FULL
MC	73	MYRTICA CERIFERA	WAX MYRTLE		888	5'-6" HT	FULL

LANDSCAPE COMPLIANCE CHART
CITY OF WILMINGTON, NC

REQUIREMENTS	CALCULATIONS & NOTES
SEC. 16-455 LANDSCAPE DISTURBANCE • A MINIMUM OF 15 TREES SHALL BE RETAINED OR PLANTED FOR EACH AREA DISTURBED BY DEVELOPMENT	TOTAL DISTURBED AREA: 337 AC REQUIRED: 337 X .15 = 50 TREES PROVIDED: 58 NEW TREES + 10 EXISTING TREES
SEC. 16-417 STREET YARD LANDSCAPING • FOR EVERY 600 SF OF STREET YARD: • 1 TREE + 6 SHRUBS • STREET YARD FACTOR = 18	565 LF OF PROPERTY LINE ALONG S 17TH ST. MINUS 31 LF OF DRIVEWAYS/BIKEWALK OPENING = 534 LF OF STREET YARD REQUIRED: 17 TREES PROVIDED: 17 TREES
SEC. 16-481 PARKING LOT LANDSCAPING • ALL SINGLE PARKING ISLANDS SHALL HAVE AT LEAST 1 TREE • ALL DOUBLE PARKING ISLANDS SHALL HAVE 2 SMALL MATURING OR 1 CANOPY TREE • NO PARKING SPACE SHALL BE LOCATED MORE THAN 120' FROM PARKING ISLAND • ALL ISLANDS SHALL HAVE ADDITIONAL GROUND COVER AND SHRUBBERY • PARKING SHALL BE SCREENED BY SHRUBS WITH A MIN 3' HT	255 LF OF PROPERTY LINE ALONG PEEL ST. REQUIRED: 8 TREES PROVIDED: 5 NEW TREES + 3 EXISTING TREES
SEC. 16-480 FOUNDATION PLANTINGS • THE AREA OF THE BUILDING FACE ADJACENT TO THE PARKING AREA SHALL BE MULTIPLIED BY A MINIMUM OF 12%	SOUTH FACE: 183 LF REQUIRED: 183 X .12 = 22 SHRUBS PROVIDED: 27 SHRUBS EAST FACE: 110 LF REQUIRED: 110 X .12 = 14 SHRUBS PROVIDED: 18 SHRUBS
SEC. 11-480 MITIGATION • EX. REGULATED TREES TO BE REMOVED: HARDWOOD TREES > 4" DBH (14) ALL CONIFER TREES > 12" DBH (8) ALL DOGWOODS, MAGNOLIAS, ORNAMENTALS, HOLLES > 4" DBH (3) TOTAL TREES TO BE REMOVED: 22 • EX. SIGNIFICANT TREES TO BE REMOVED: HARDWOOD, LONG LEAF PINE, POCAHON PINE, BLACK PINE, & NON-PINE CONIFER TREES > 12" DBH (9) ALL OTHER PINES > 12" DBH (0) TOTAL TREES TO BE REMOVED: 0	EX. REGULATED TREES TO BE MITIGATED: (13) X (75% OF TYPE OF TREE) (3) = 1 (7) X (50% OF TYPE OF TREE) (3) = 2 (2) X (100% OF TYPE OF TREE) (3) = 1 7 REGULATED REPLACEMENT TREES REQUIRED 7 PROVIDED EX. SIGNIFICANT TREES TO BE MITIGATED: (0) X (2 X 100% OF TYPE OF TREE) (3) = 0 0 SIGNIFICANT REPLACEMENT TREES REQUIRED

- PLANTING NOTES:**
- ALL LANDSCAPED AREAS ARE TO RECEIVE A MINIMUM OF 4" OF TOPSOIL.
 - ALL MULCHED PLANTING BEDS ADJACENT TO BUILDINGS SHALL BE SEPARATED FROM FACE OF BUILDING WITH A 3" WIDE X 4" DEPTH PEAK GRAVEL STRIP FOR FIRE SAFETY.
 - ALL PLANT MATERIAL SHALL BE HEALTHY, VIGOROUS, AND FREE OF PESTS AND DISEASE.
 - ALL PLANT MATERIAL SHALL BE CONTAINER GROWN OR BALLED AND BURLAPPED AS INDICATED IN THE PLANT LIST.
 - ALL TREES SHALL HAVE A STRAIGHT TRUNK AND FULL HEAD AND MEET ALL REGULATORY SPECIFICATIONS.
 - ALL MATERIALS ARE SUBJECT TO THE APPROVAL OF THE LANDSCAPE ARCHITECT BEFORE DURING AND AFTER INSTALLATION.
 - ALL TREES MUST BE GUYED OR STAKED AS SHOWN IN THE DETAILS.
 - PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING ALL UNDERGROUND UTILITIES AND SHALL AVOID DAMAGE TO ALL UTILITIES DURING THE COURSE OF THE WORK. LOCATIONS OF EXISTING BURIED UTILITY LINES SHOWN ON THE PLANS ARE BASED UPON BEST AVAILABLE INFORMATION AND ARE TO BE CONSIDERED APPROXIMATE. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR (1) TO VERIFY THE LOCATIONS OF UTILITY LINES AND ADJACENT TO THE WORK AREA (2) TO PROTECT OF ALL UTILITY LINES DURING THE CONSTRUCTION PERIOD (3) TO REPAIR ANY AND ALL DAMAGE TO UTILITIES, STRUCTURES, SITE APPEARANCES, ETC. WHICH OCCURS AS A RESULT OF THE CONSTRUCTION.
 - CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING ALL QUANTITIES SHOWN ON THESE PLANS BEFORE PRICING THE WORK.
 - CONTRACTOR SHALL BE RESPONSIBLE FOR DELIVERY SCHEDULE AND PROTECTION BETWEEN DELIVERY AND PLANTING PER SPECIFICATIONS TO MAINTAIN HEALTHY PLANT CONDITIONS.
 - THE CONTRACTOR SHALL COMPLETELY GUARANTEE AND BE RESPONSIBLE FOR FULLY MAINTAINING (INCLUDING BUT NOT LIMITED TO WATERING, SPRAYING, MULCHING, FERTILIZING, ETC.) ALL OF THE PLANT MATERIALS AND LAWN FOR A ONE YEAR GROWING PERIOD.
 - ANY PLANT MATERIAL WHICH IS DISEASED, DISTRESSED, DEAD, OR REJECTED PRIOR TO SUBSTANTIAL COMPLETION SHALL BE PROMPTLY REMOVED FROM THE SITE AND REPLACED WITH MATERIAL OF THE SAME SPECIES, QUANTITY, AND SIZE AND MEETING ALL PLANT LIST SPECIFICATIONS.
 - STANDARDS SET FORTH IN AMERICAN STANDARD FOR NURSERY STOCK REPRESENT GUIDELINE SPECIFICATIONS ONLY AND SHALL CONSTITUTE MINIMUM QUALITY REQUIREMENTS FOR PLANT MATERIAL.
 - WHERE SHOWN ON THE PLANS AND DETAILS, PLANTING BEDS ARE TO BE COMPLETELY COVERED WITH A MINIMUM 4" DEPTH OF TRIPLE SHRED HARDWOOD MULCH FROM A LOCAL MULCH SOURCE HARVESTED IN A SUSTAINABLE MANNER.
 - BIODEGRADABLE WEED MATTING (ALL-PRO WEED MAT OR APPROVED EQUAL) SHALL BE REQUIRED IN SHRUB BEDS AT BUILDING FACADE.
 - ALL PLANT MATERIAL QUANTITIES SHOWN ARE APPROXIMATE. CONTRACTOR SHALL BE RESPONSIBLE FOR COMPLETE COVERAGE OF ALL PLANTING BEDS AT SPRINKLING.
 - THE CONTRACTOR IS ENCOURAGED TO COMPLETE TEMPORARY OR PERMANENT SEEDING IN STAGES FOR SOIL STABILIZATION AS AREAS ARE COMPLETED AFTER GRADING.
 - THIS PLAN DOES NOT PRESENT ANY TEMPORARY STABILIZATION REQUIRED AS PART OF SWPPP PLAN.
 - PRIOR TO ANY CLEARING, GRADING, OR CONSTRUCTION ACTIVITY, TREE PROTECTION FENCING WILL BE INSTALLED AROUND PROTECTED TREES OR GROVES OF TREES. NO CONSTRUCTION WORKERS, TOOLS, MATERIALS OR VEHICLES ARE PERMITTED WITHIN THE TREE PROTECTION FENCING.



BOHLER ENGINEERING NC, PLLC

STATE OF NORTH CAROLINA
REGISTERED PROFESSIONAL ENGINEER
LAND SURVEYING, PROGRAM MANAGEMENT, LANDSCAPE ARCHITECTURE, SUSTAINABLE DESIGN, PERMITTING SERVICES, TRANSPORTATION SERVICES

PHILADELPHIA, PA
RICHMOND, VA
ROCKFORD, IL
SOUTH EASTON, VA
REHOBOTH BEACH, DE
NEW YORK, NY
NEW JERSEY
SOUTHERN MARYLAND

CHARLOTTE, NC
RALEIGH, NC
NORTH VIRGINIA
SOUTH VIRGINIA

REVISIONS

REV	DATE	COMMENT	BY
1	2/3/17	CITY COMMENTS	JDM

811
KNOW WHAT'S BELOW
BEFORE YOU DIG
It's fast. It's free. It's the law.

NOT APPROVED FOR CONSTRUCTION

PROJECT No: NCR151031
DRAWN BY: JDM
CHECKED BY: WLB
DATE: 2/6/17
SCALE: 1" = 30'
CAD I.D.: LP1

PROPOSED GROCERY

FOR
LIDL US OPERATIONS, LLC

LOCATION OF SITE
4301 S 17TH STREET
WILMINGTON, NC 28412

BOHLER ENGINEERING NC, PLLC
NCELS P-1122

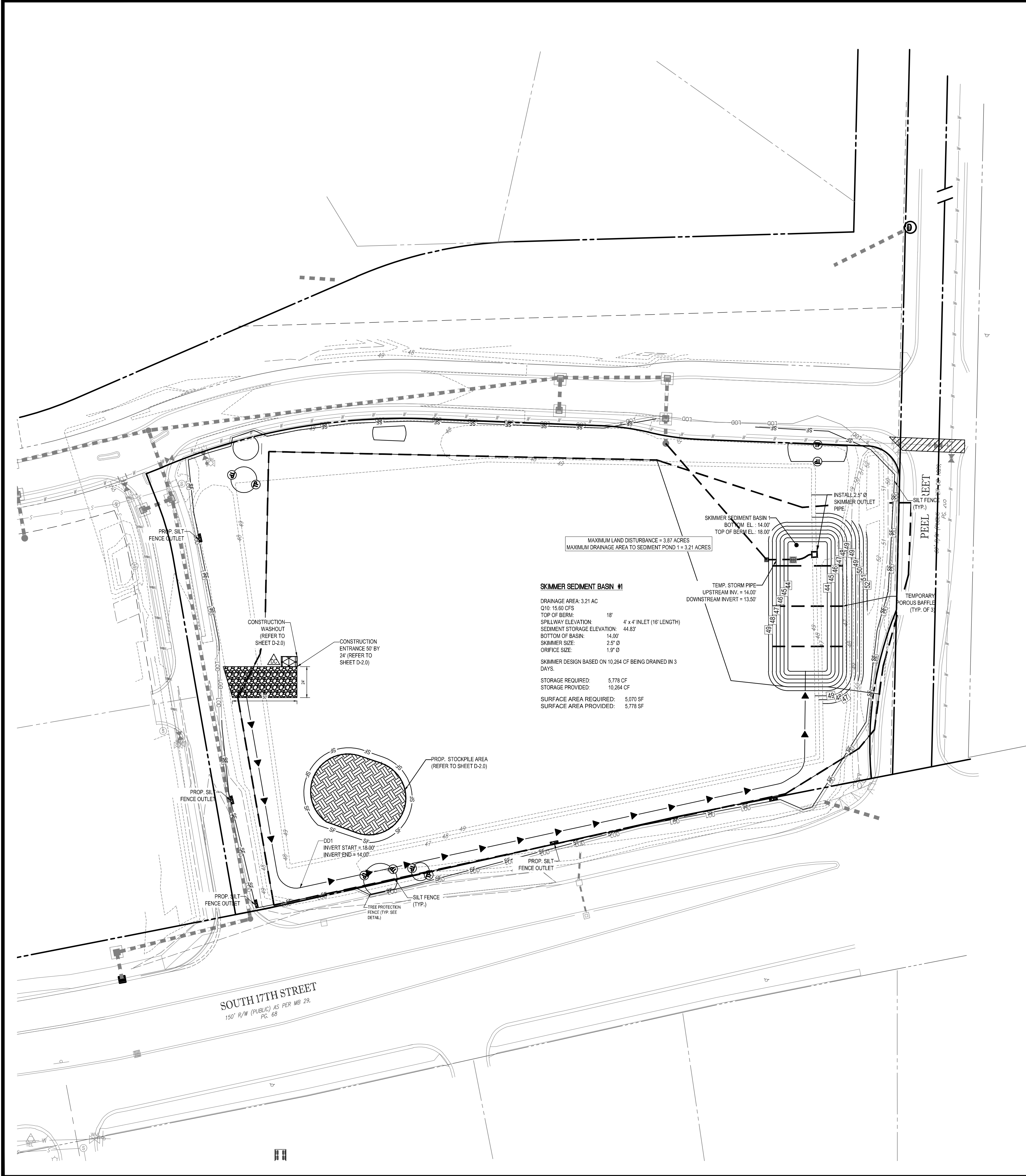
4011 WESTCHASE BLVD., SUITE 290
RALEIGH, NC 27607
Phone: (919) 578-9000
Fax: (919) 703-2665
NC@BohlerEng.com

NORTH CAROLINA REGISTERED PROFESSIONAL ENGINEER
MATT L. BOYNTON
040241
1/12/17

SHEET TITLE:
LANDSCAPE PLAN

SHEET NUMBER:
C-7.0

H:\2015\NCR151031\DRAWINGS\PLAN SET\NCR151031\PL1.DWG PRINTED BY: JMACMILLAN 2:06:17 @ 501 PM LAST SAVED BY: JMACMILLAN



PROPOSED NOTE	TYPICAL NOTE TEXT
[Symbol]	SILT FENCE
[Symbol]	TEMPORARY DIVERSION DIKE
[Symbol]	LIMITS OF DISTURBANCE
[Symbol]	TEMPORARY CONTOUR
[Symbol]	CONST. ENTRANCE
[Symbol]	TEMPORARY BAFFLE
[Symbol]	TEMPORARY SOIL STOCKPILE
[Symbol]	CONCRETE WASHOUT
[Symbol]	DUST CONTROL
[Symbol]	SILT FENCE OUTLET
[Symbol]	SLOPE DRAIN DIKE
[Symbol]	CHECK DAM
[Symbol]	TREE PROTECTION FENCE
[Symbol]	SOILS BOUNDARY
Lc	LEON SAND (0% - 2% SLOPES)
Mu	MURVILLE FINE SAND (0% - 2% SLOPES)
Rm	Rimini SAND (1% - 6% SLOPES)

NOTES: Stormwater Discharge Point for Construction Activities (SD001)
 NCDENR (Division of Energy, Mineral and Land Resources)

STABILIZATION TIMEFRAMES (Effective Aug. 3, 2011)		
Site Area Description	Stabilization	Timeframe Exceptions
Perimeter dikes, swales, ditches, slopes	7 days	None
High Quality Water (HQW) 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' in length.
All other areas with slopes flatter than 4:1	14 days	None, except for perimeters and HQW Zones.

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

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

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

Mulch
 Apply 4,000 lb/acre straw. Anchor straw by tacking with asphalt, netting, or a mulch anchoring tool. A disk with blades set nearly straight can be used as a mulch anchoring tool.

Maintenance
 Refertilize if growth is not fully adequate. Reseed, refertilize and mulch immediately following erosion or other damage.

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

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

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

Mulch
 Apply 4,000 lb/acre straw. Anchor straw by tacking with asphalt, netting, or a mulch anchoring tool. A disk with blades set nearly straight can be used as a mulch anchoring tool.

Maintenance
 Refertilize if growth is not fully adequate. Reseed, refertilize and mulch immediately following erosion or other damage.

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

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

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

Mulch
 Apply 4,000 lb/acre straw. Anchor straw by tacking with asphalt, netting, or a mulch anchoring tool. A disk with blades set nearly straight can be used as a mulch anchoring tool.

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

NCDENR EROSION AND SEDIMENT CONTROL NOTES

- ON-SITE BURIAL PITS ARE NOT ALLOWED AT ANY LOCATION WITHIN THE CITY OF EDEN.
- ANY GRADING BEYOND THE LIMITS OF CONSTRUCTION SHOWN ON THIS PLAN IS SUBJECT TO A FINE.
- GRADING 1 ACRE OR MORE WITHOUT AN APPROVED EROSION CONTROL PLAN IS A VIOLATION AND SUBJECT TO A FINE.
- GROUND STABILIZATION MUST OCCUR WITHIN 7 DAYS ON PERIMETER AREAS AND SLOPES GREATER THAN 3:1, AND GROUND STABILIZATION MUST OCCUR WITHIN 14 DAYS ON OTHER AREAS.
- INSTALL STORM STRUCTURE AZ AND PIPE FROM AZ TO A4 AS PER THE SHEET C-4.0. BASIN OUTLET STRUCTURES WITH DRAINAGE AREAS EQUAL OR GREATER THAN ONE ACRE MUST WITHDRAW WATER FROM THE SURFACE.
- ADDITIONAL MEASURES TO CONTROL EROSION AND SEDIMENT MAY BE REQUIRED BY THE NCDENR EROSION CONTROL INSPECTOR.
- ALL ELEVATIONS ARE IN REFERENCE TO THE SURVEYORS BENCHMARK WHICH MUST BE VERIFIED BY THE GENERAL CONTRACTOR PRIOR TO GROUND BREAKING.
- ALL EROSION CONTROL MEASURES SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE N.C. EROSION AND SEDIMENT CONTROL PLANNING AND DESIGN MANUAL, U.S. DEPT. OF AGRICULTURE, AND ANY APPLICABLE LOCAL LAWS AND CODES.
- PERMANENT CUT AND FILL SLOPES PLACED ON A SUITABLE FOUNDATION SHOULD BE CONSTRUCTED AT 2° (HORIZONTAL TO VERTICAL) OR FLATTER. PERMANENT SLOPES OF 3:1 SHOULD BE CONSTRUCTED WHERE MOWING IS DESIRABLE AND AS INDICATED. IF FILL MATERIAL IS BROUGHT ON TO THE PROPERTY OR IF WASTE MATERIAL IS HAULED FROM THE PROPERTY THEN THE CONTRACTOR SHALL DISCLOSE THE LOCATION OF ANY ON-SITE AND/OR OFF-SITE BARRROW LOCATION AND/OR WASTE BURIAL LOCATION TO THE EROSION CONTROL INSPECTOR.
- LIMITS OF CLEARING SHOWN ARE BASED ON CUT AND FILL SLOPES OR OTHER GRADING REQUIREMENTS.
- CONTRACTOR SHALL INSTALL ALL EROSION CONTROL MEASURES AS INDICATED PRIOR TO GRADING OPERATIONS. NO DEVICE MAY BE REMOVED WITHOUT APPROVAL OF EROSION CONTROL COORDINATOR.
- CONTRACTOR SHALL BLEND NEW EARTHWORK SMOOTHLY WITH EXISTING CONDOURS.
- ALL DISTANCES ARE HORIZONTAL.
- ANCHOR SILT FENCE WITH COMPACTED BACKFILL ON TREE PROTECTION ZONES, DO NOT BURY.
- ALL EROSION CONTROL DEVICES SHOULD BE CHECKED PERIODICALLY AND AFTER EVERY MAJOR STORM EVENT. IF ANY FAILURES ARE FOUND, THEY SHOULD BE REPAIRED AS SOON AS POSSIBLE.
- ANY ASSOCIATED DEMOLITION PERMITS AND METHODS OF DEMOLITION ARE TO BE OBTAINED AND ARRANGED BY THE CONTRACTOR PRIOR TO CONSTRUCTION.
- SEDIMENT TRAPS AND BASINS NEED TO BE INSTALLED IMMEDIATELY AFTER INSTALLATION.
- STONE OUTLETS SHOULD BE INSTALLED AT LOW POINTS OF THE SILT FENCING, BASED ON FIELD CONDITIONS.
- EFFECTIVE OCTOBER 1, 2010, PERSONS RESPONSIBLE FOR LAND DISTURBING ACTIVITIES MUST INSPECT A PROJECT AFTER EACH PHASE OF THE PROJECT TO MAKE SURE THAT THE APPROVED EROSION AND SEDIMENTATION CONTROL PLAN IS BEING FOLLOWED. SELF-INSPECTION REPORTS ARE REQUIRED. A SAMPLE SELF-INSPECTION REPORT, AS WELL AS DETAILS OF THE SELF-INSPECTION PROGRAM, CAN BE FOUND ON THE LAND QUALITY WEBSITE (HTTP://PORTAL.NCDENR.ORG/WEB/EROSION). IF YOU HAVE QUESTIONS OF THE SELF-INSPECTION PROGRAM, PLEASE CONTACT (877) 623-6746.
- A LAND DISTURBANCE PRE-CONSTRUCTION MEETING IS REQUIRED PRIOR TO ANY DISTURBANCE ON THE SITE.
- ALL CONSTRUCTION SHALL COMPLY WITH NCDENR STANDARDS AND SPECIFICATIONS.
- LOCATIONS OF ALL EXISTING UNDERGROUND UTILITIES ARE SHOWN FROM THE BEST AVAILABLE RECORDS AND FROM A SURVEY OF ABOVE GROUND FEATURES. ALL EXISTING UTILITY LOCATIONS MUST BE INDEPENDENTLY CONFIRMED BY THE CONTRACTOR PRIOR TO THE COMMENCEMENT OF CONSTRUCTION.
- SITE GRADING AND EXCAVATION MUST BE PERFORMED IN ACCORDANCE WITH THESE PLANS, SPECIFICATIONS, AND RECOMMENDATIONS SET FORTH IN THE GEOTECHNICAL REPORT REFERENCED IN THIS PLAN SET. EXCAVATION AND EARTH MOVING OPERATIONS MUST BE PERFORMED UNDER THE SUPERVISION OF THE OWNER'S GEOTECHNICAL ENGINEER.
- FOOTING EXCAVATIONS SHALL BE CONTINUOUSLY Dewatered DURING CONSTRUCTION TO PREVENT SETTLEMENT AND SEDIMENT DEPOSIT.
- ALL TEMPORARY DIVERSIONS MUST BE INSTALLED WITH POSITIVE DRAINAGE AND SHALL OVERTOP EXISTING GRADE WHEN NECESSARY TO PROVIDE A MINIMUM OF 0.3% LONGITUDINAL SLOPE.
- ALL ADJACENT ROADWAYS TO THE SITE ARE TO BE SWEEPED (NOT WASHED) AT THE END OF EACH WORK DAY TO REMOVE SEDIMENT FROM THE ROAD SURFACE.
- ALL EROSION CONTROL MEASURES MUST BE INSPECTED AND PROPERLY MAINTAINED AT THE END OF EACH WEEK AND AFTER EVERY RAINFALL EVENT.
- INSTALL ADDITIONAL EROSION CONTROL MEASURES AS REQUIRED TO PREVENT SEDIMENT FROM LEAVING THE SITE.
- CONTRACTOR SHALL CONSTRUCT ENTRANCES AND PROCEDURES WHICH MINIMIZE AND PREVENT AIRBORNE DUST OR OTHER PARTICLES FROM OCCURRING. PARTICLES WHICH CAN BE PICKED UP AND CARRIED BY WIND SHOULD BE PROTECTED WITH A TEMPORARY COVER OR KEPT UNDER CONTROL WITH WATER TO PREVENT PARTICLES FROM BECOMING AIRBORNE AND FROM EXISTING THE SITE PERIMETER TRUCKS OR OTHER DUST CONTROL AGENTS SHALL BE USED AS NEEDED DURING CONSTRUCTION TO MINIMIZE DUST GENERATE ON THE SITE. DUST CONTROL MUST BE PROVIDED BY THE CONTRACTOR TO A DEGREE THAT IS IN COMPLIANCE WITH FEDERAL, LOCAL, AND STATE DUST CONTROL REGULATIONS. THE USE OF MOTOR OILS AND OTHER PETROLEUM BASED OR TOXIC LIQUIDS FOR DUST SUPPRESSION OPERATIONS IS PROHIBITED.

PHASE I EROSION CONTROL CONSTRUCTION SEQUENCE:

- POST REQUIRED DOCUMENTS NEAR THE PLANNED CONSTRUCTION ENTRANCE AND WITHIN EASY ACCESS TO THE GENERAL PUBLIC.
- STAKE/FLAG THE LOD (WHERE STAKING IS NOT POSSIBLE/PRACTICAL, THE LOD MUST BE CONSPICUOUSLY AND PROMINENTLY MARKED TO DENOTE THE BOUNDARY). LOD MUST REMAIN CONSPICUOUSLY MARKED THROUGHOUT THE ENTIRE CONSTRUCTION PROJECT.
- INSTALL SILT FENCE. CLEAR ONLY THE MINIMUM AREA ABSOLUTELY NECESSARY TO INSTALL THESE PERIMETER CONTROL BMS.
- INSTALL STABILIZED CONSTRUCTION ENTRANCE AND SET THE PROJECT OFFICE TRAILER.
- CONSTRUCT SKIMMER SEDIMENT BASIN, STABILIZE SIDE SLOPES.
- CONSTRUCT AND STABILIZE DIVERSION DRAINING TO SKIMMER SEDIMENT BASIN.

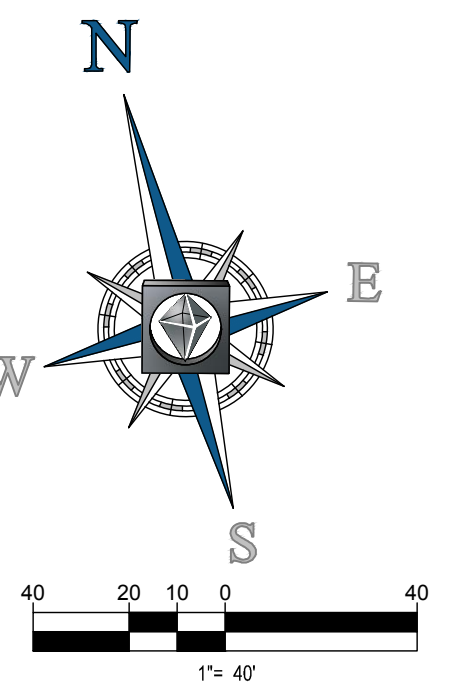
Approved Construction Plan

Name	Date
Planning	
Traffic	
Fire	

City of WILMINGTON
 NORTH CAROLINA
 Public Services • Engineering Division
 APPROVED STORMWATER MANAGEMENT PLAN

Date: _____ Permit # _____
 Signed: _____

- ANY BORROW OR WASTE MUST UTILIZE A SITE WITH AN APPROVED EROSION CONTROL PERMIT.
- IF A SINGLE SOURCE BARRROW PIT IS UTILIZED IT SHALL ONLY SELL FILL TO THIS PROJECT.
- THIS SITE IS WITHIN 575' OF SURFACE WATERS.
- THIS SITE IS IN THE WHITE OAK RIVER BASIN.
- THIS SITE DRAINS TO HOW.



BOHLER ENGINEERING NC, PLLC
 SITE INVESTIGATION, ENGINEERING, ARCHITECTURE
 SUSTAINABLE DESIGN PROGRAM MANAGER, TRANSPORTATION SERVICES
 LAND SURVEYING, PROGRAM MANAGER, TRANSPORTATION SERVICES
 PHILADELPHIA, PA
 CHARLOTTE, NC
 RICHMOND, VA
 WASHINGTON, DC
 NEW YORK, NY
 NEW JERSEY
 NORTHERN VIRGINIA
 SOUTH CAROLINA
 SOUTH FLORIDA

REVISIONS			
REV	DATE	COMMENT	BY
1	2/3/17	CITY COMMENTS	JDM

811
 KNOW WHAT'S BELOW
 ALWAYS CALL 811
 BEFORE YOU DIG
 It's fast. It's free. It's the law.

NOT APPROVED FOR CONSTRUCTION

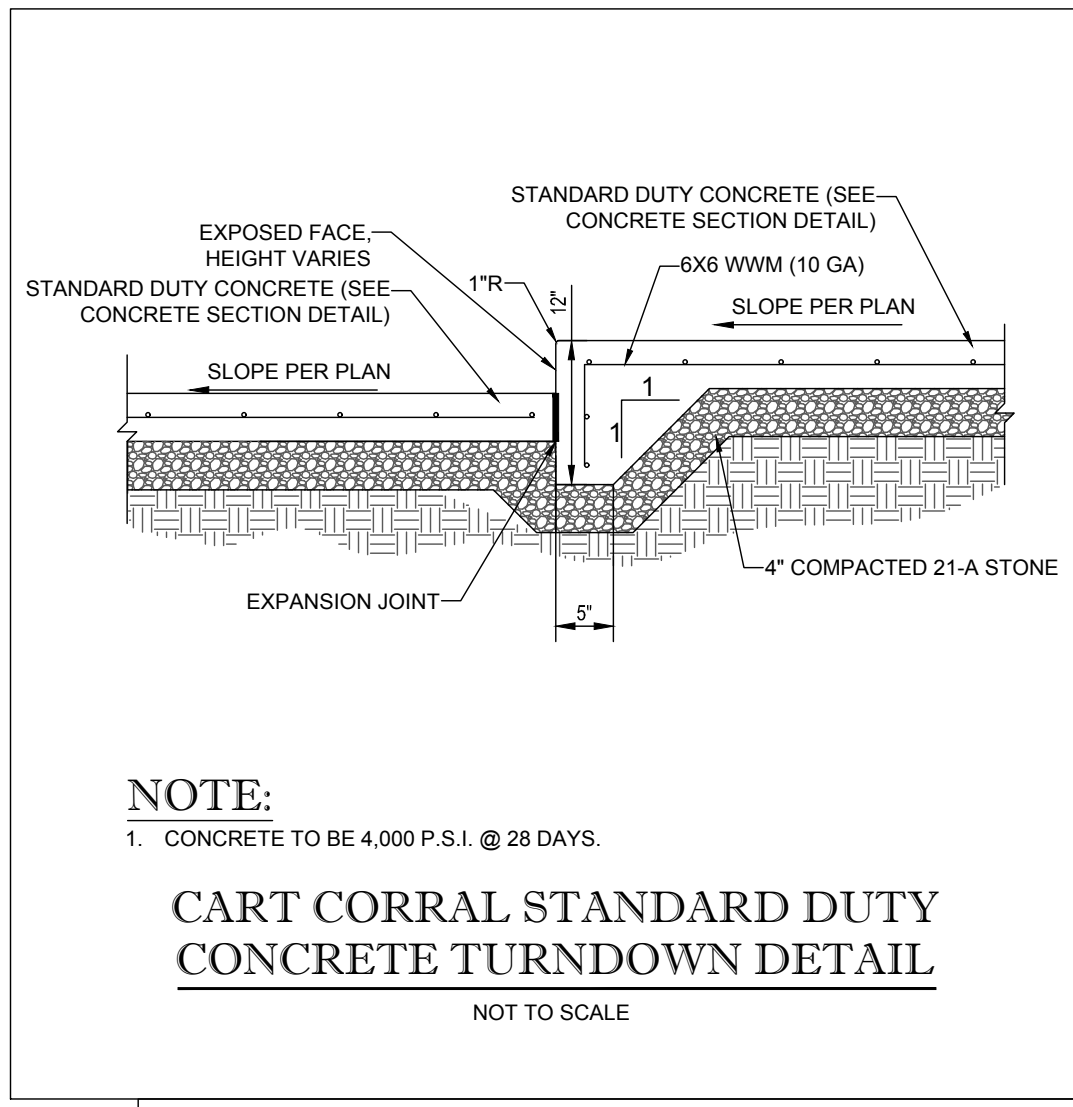
PROJECT No: NCR151031
 DRAWN BY: JDM
 CHECKED BY: WLB
 DATE: 2/6/17
 SCALE: 1" = 40'
 CAD I.D.: SSO

PROPOSED GROCERY
 FOR
LIDL US OPERATIONS, LLC
 LOCATION OF SITE
 4301 S 17TH STREET
 WILMINGTON, NC 28412

BOHLER ENGINEERING NC, PLLC
 NCELS P-1122
 4011 WESTCHASE BLVD., SUITE 290
 RALEIGH, NC 27607
 Phone: (919) 578-9000
 Fax: (919) 703-2665
 NC@BohlerEng.com

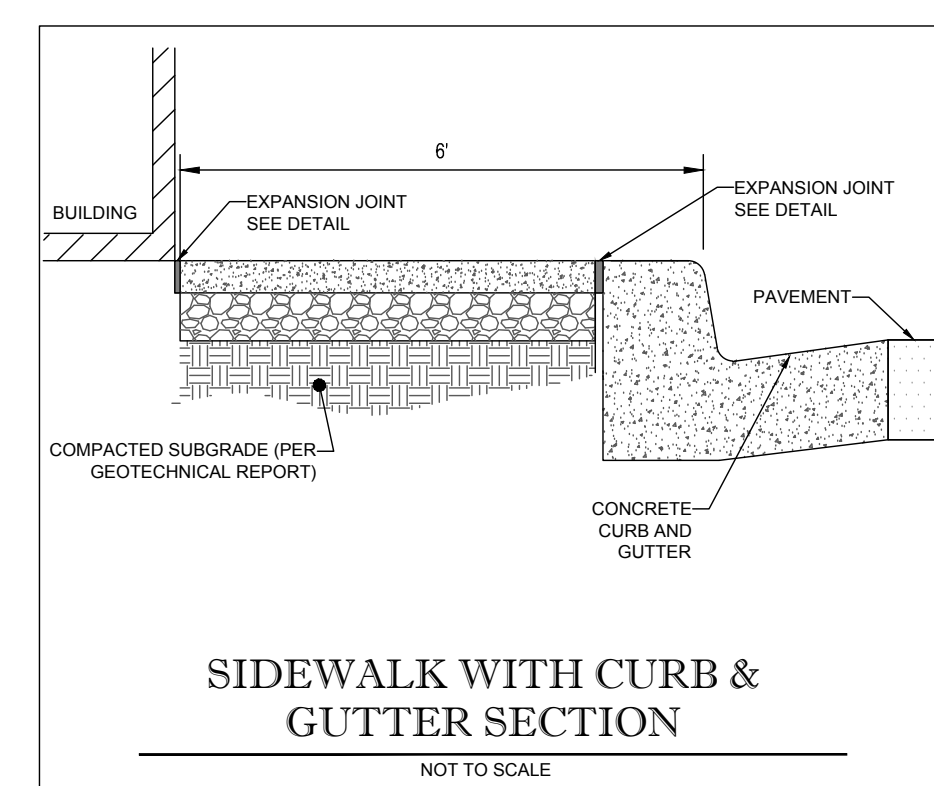
Professional Engineer
 W. L. BOYD
 ENGINEER
 040241
 1/12/17

SHEET TITLE:
EROSION AND SEDIMENT CONTROL PHASE I
 SHEET NUMBER:
C-8.0

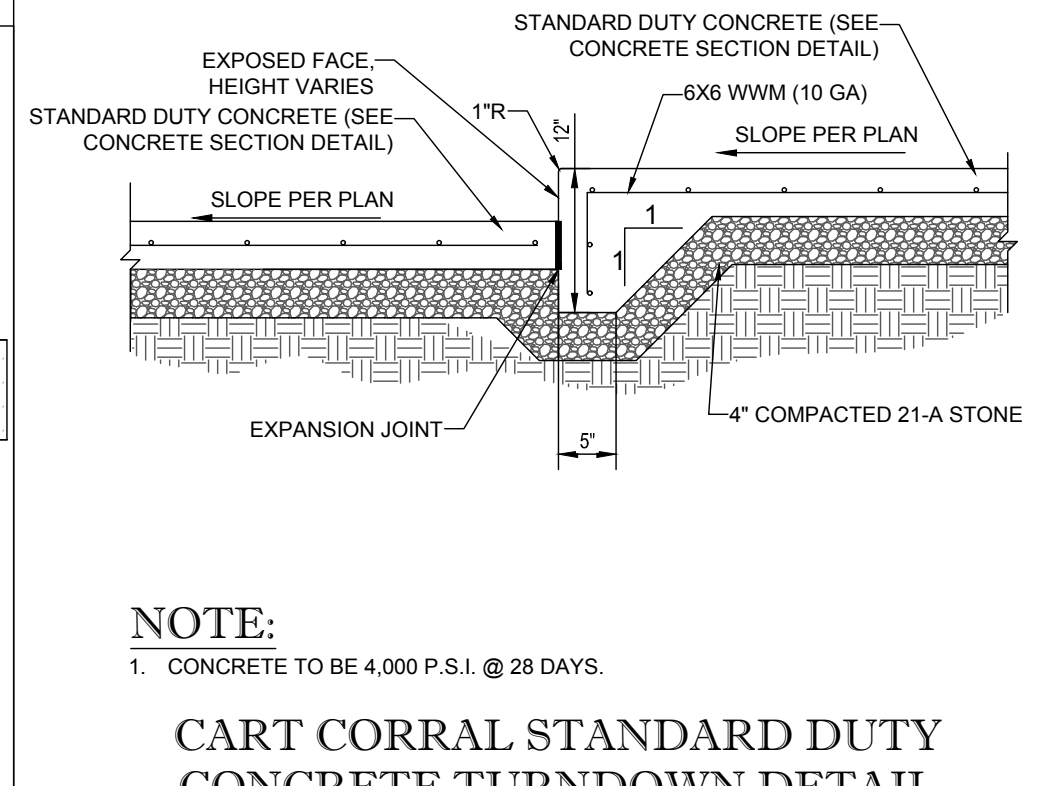


NOTE:
1. CONCRETE TO BE 4,000 P.S.I. @ 28 DAYS.

CART CORRAL STANDARD DUTY CONCRETE TURNDOWN DETAIL
NOT TO SCALE

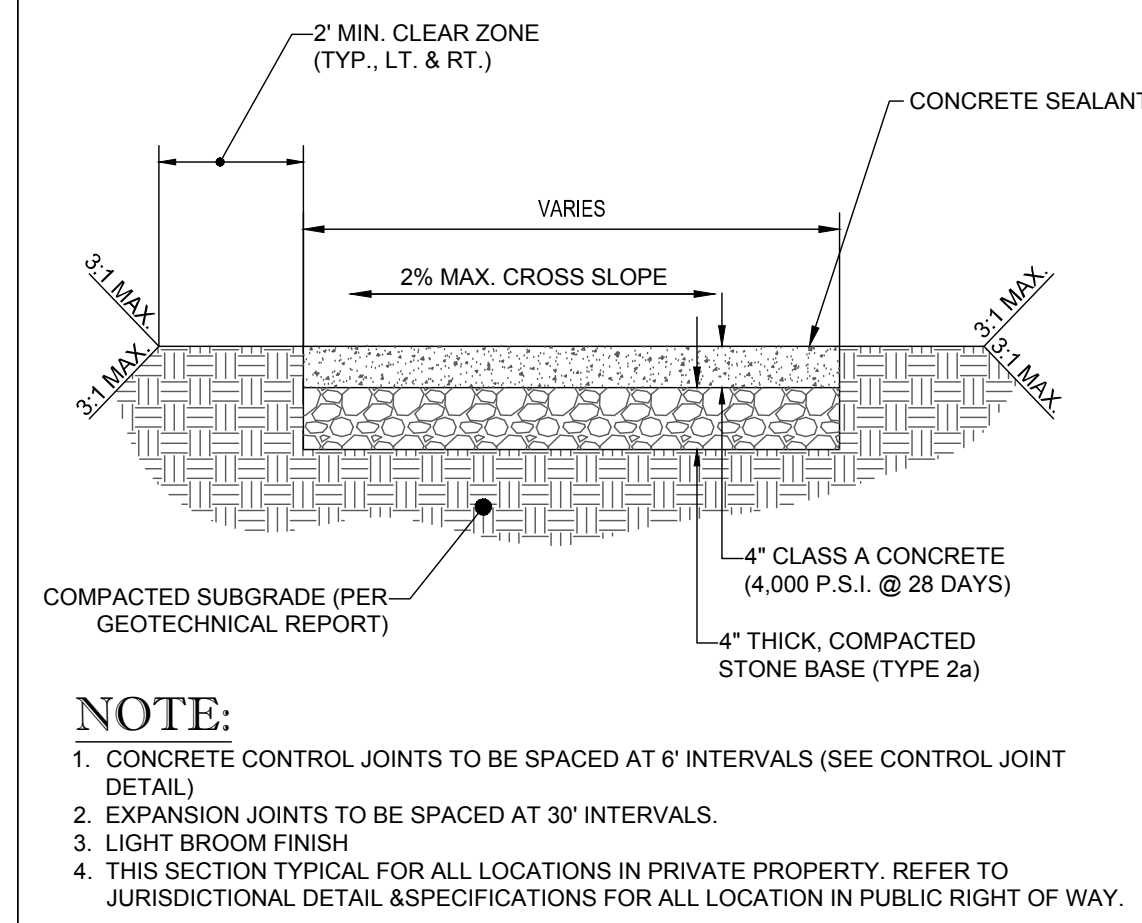


SIDEWALK WITH CURB & GUTTER SECTION
NOT TO SCALE



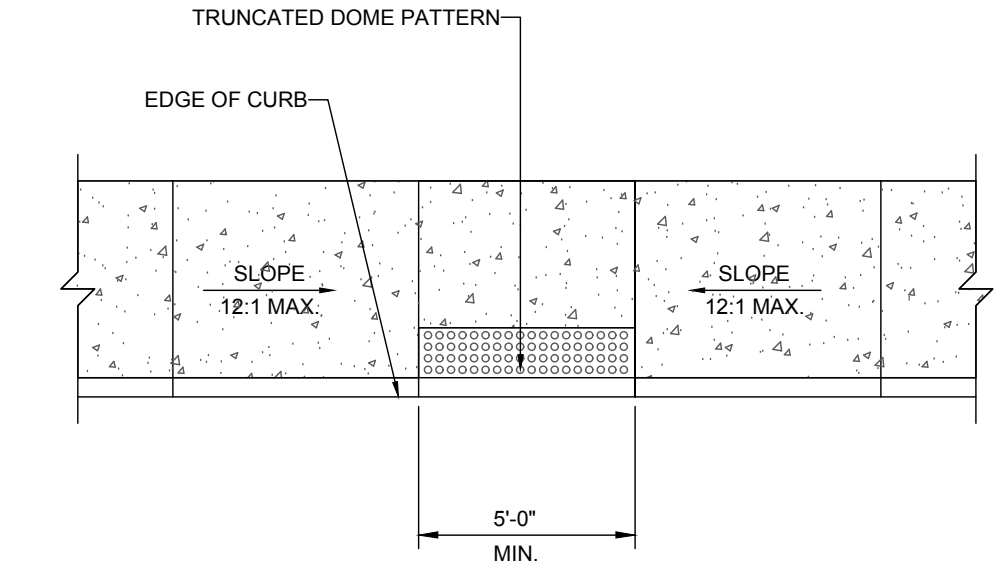
NOTE:
1. CONCRETE TO BE 4,000 P.S.I. @ 28 DAYS.

CART CORRAL STANDARD DUTY CONCRETE TURNDOWN DETAIL
NOT TO SCALE



NOTE:
1. CONCRETE CONTROL JOINTS TO BE SPACED AT 6' INTERVALS (SEE CONTROL JOINT DETAIL).
2. EXPANSION JOINTS TO BE SPACED AT 30' INTERVALS.
3. LIGHT BROOM FINISH.
4. THIS SECTION TYPICAL FOR ALL LOCATIONS IN PRIVATE PROPERTY. REFER TO JURISDICTIONAL DETAIL & SPECIFICATIONS FOR ALL LOCATION IN PUBLIC RIGHT OF WAY.

CONCRETE SIDEWALK DETAIL
NOT TO SCALE



NOTE:
ADA ACCESSIBLE RAMP CONSTRUCTION SHALL CONFORM TO CURRENT ADA ACCESSIBLE GUIDELINES.

ADA ACCESSIBLE RAMP DETAIL
NOT TO SCALE

Approved Construction Plan

Name: _____ Date: _____

Planning: _____

Traffic: _____

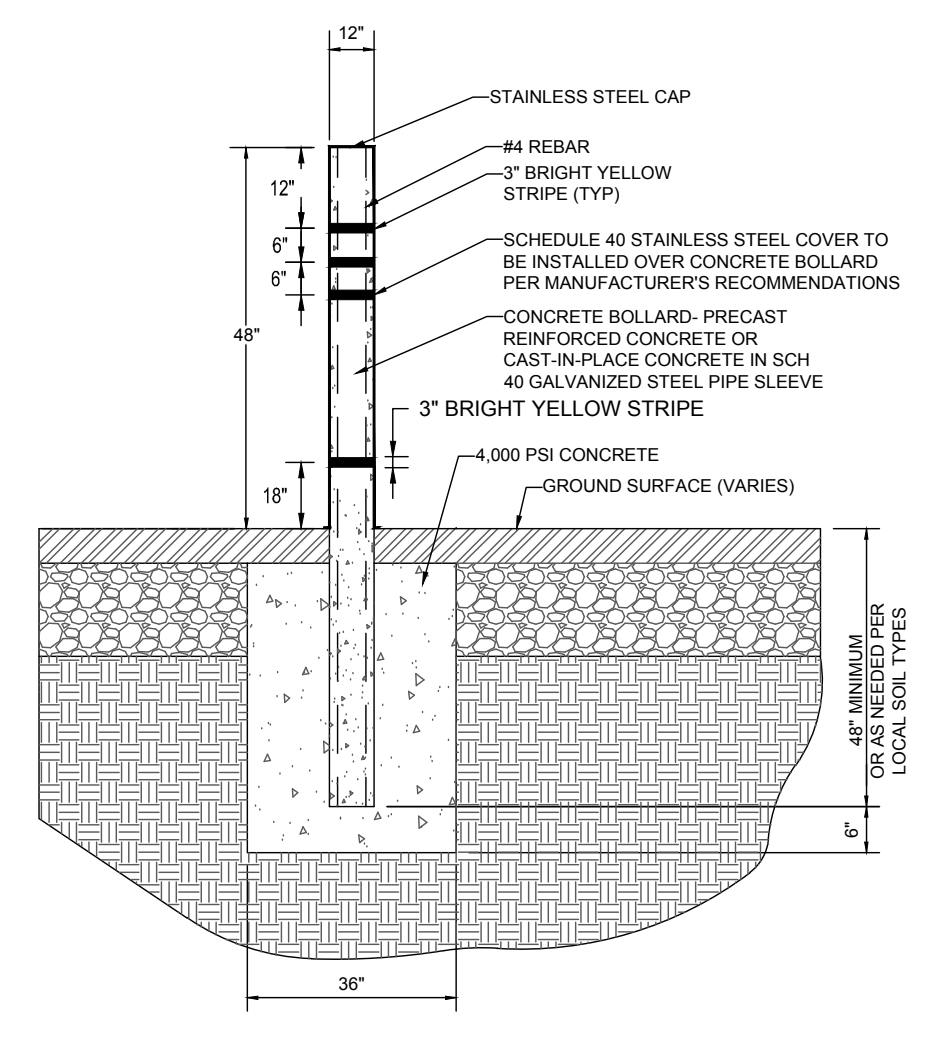
Fire: _____

CITY OF WILMINGTON
NORTH CAROLINA

Public Services • Engineering Division
APPROVED STORMWATER MANAGEMENT PLAN

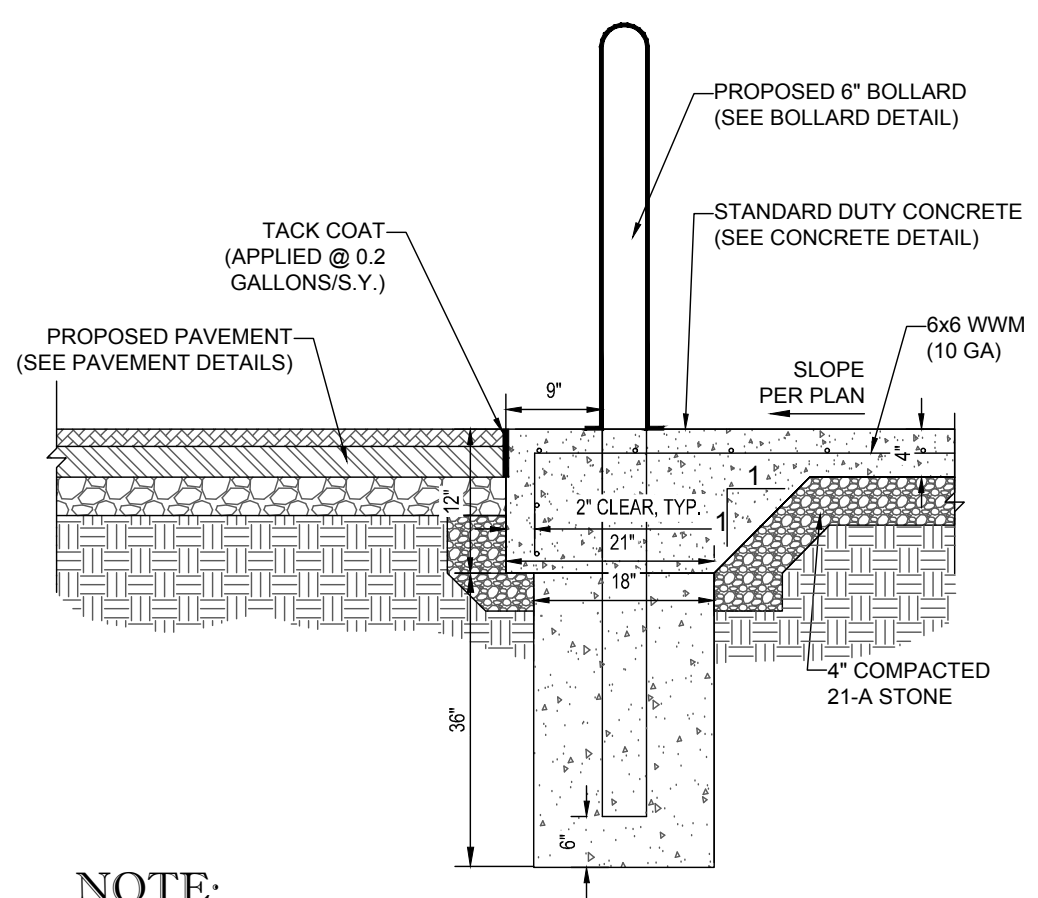
Date: _____ Permit # _____

Signed: _____



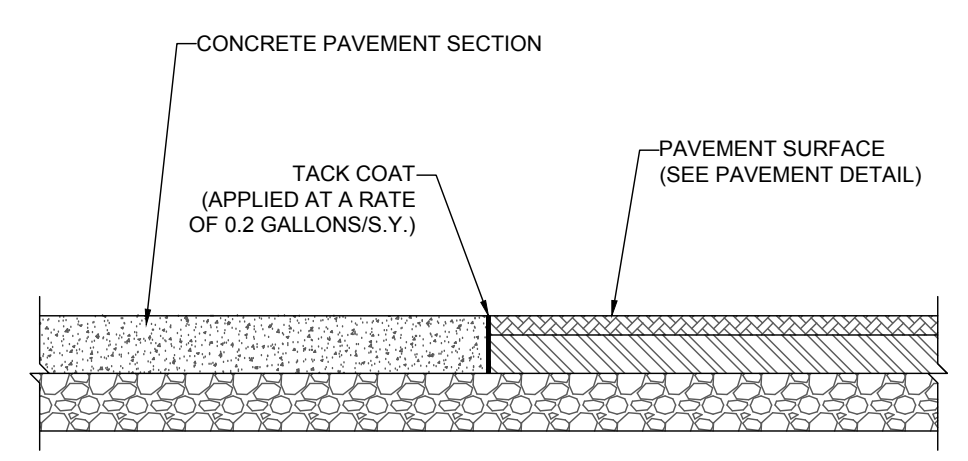
NOTE:
TO BE INSTALLED IN FRONT OF THE DUMPSTER ENCLOSURE & LOADING DOCK

12\"/>

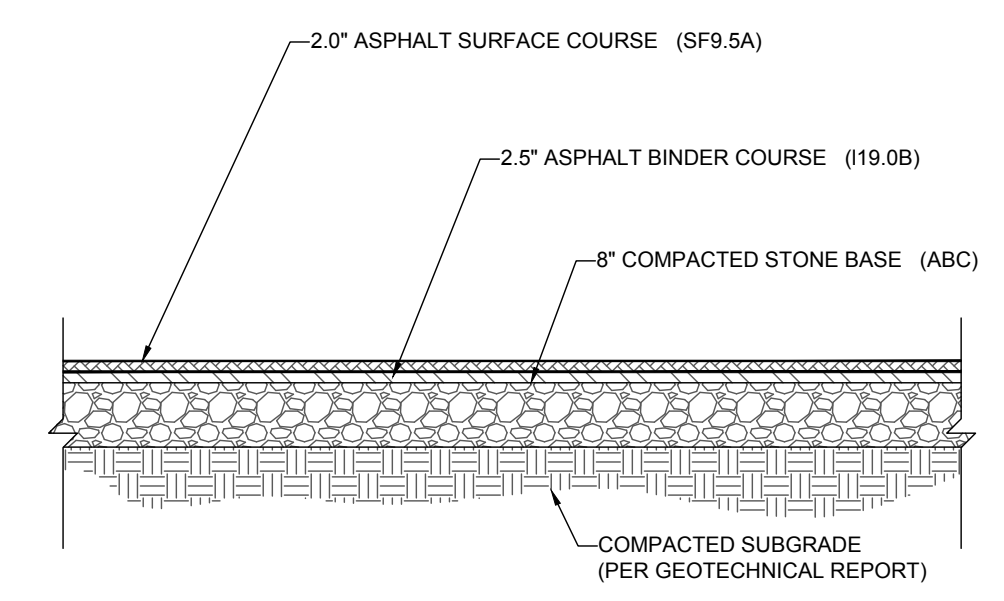


NOTE:
1. CONCRETE TO BE 4,000 P.S.I. @ 28 DAYS.
2. THICKENED EDGE TO BE WIDENED TO COVER BOLLARD FOUNDATION AS SHOWN

6\"/>

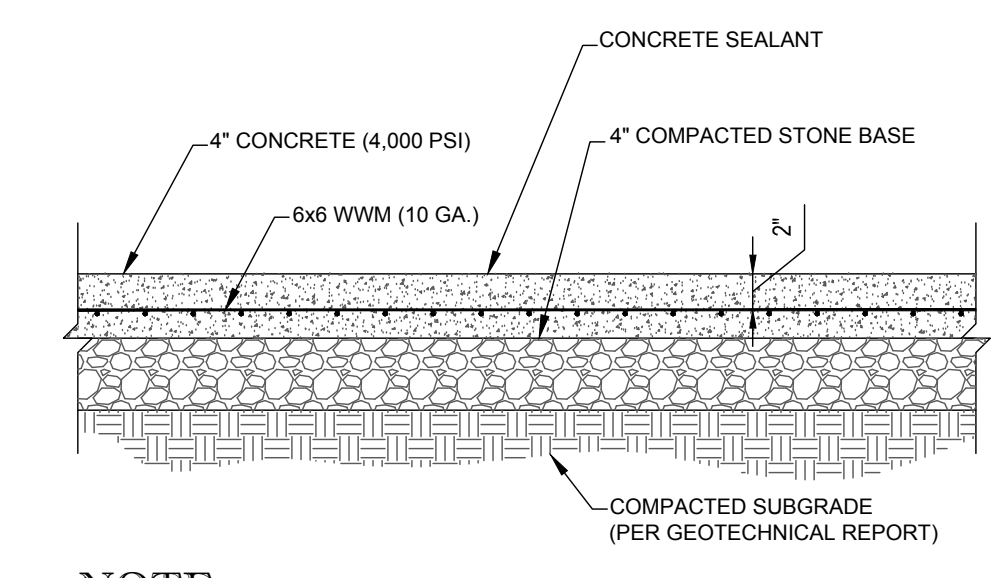


CONCRETE-TO-ASPHALT DETAIL
NOT TO SCALE



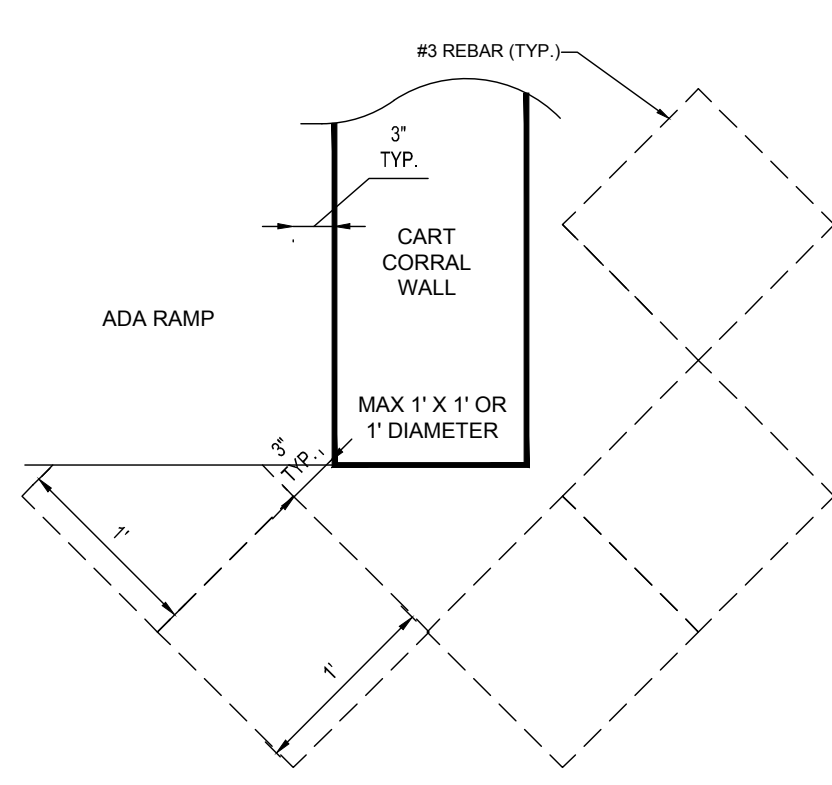
NOTE:
1. SECTION SHOWN IS BASED ON AN ANTICIPATED CBR OF 10.8 PER GEOTECHNICAL REPORT PREPARED BY ECS, ENTITLED REPORT OF SUBSURFACE EXPLORATION, DATED MARCH 22, 2016 (PROJECT #22-23971). FINAL DESIGN TO BE PROVIDED ONCE FINAL CBR'S ARE AVAILABLE ON COMPACTED SUB-BASE.

HEAVY DUTY ASPHALT PAVEMENT SECTION
NOT TO SCALE

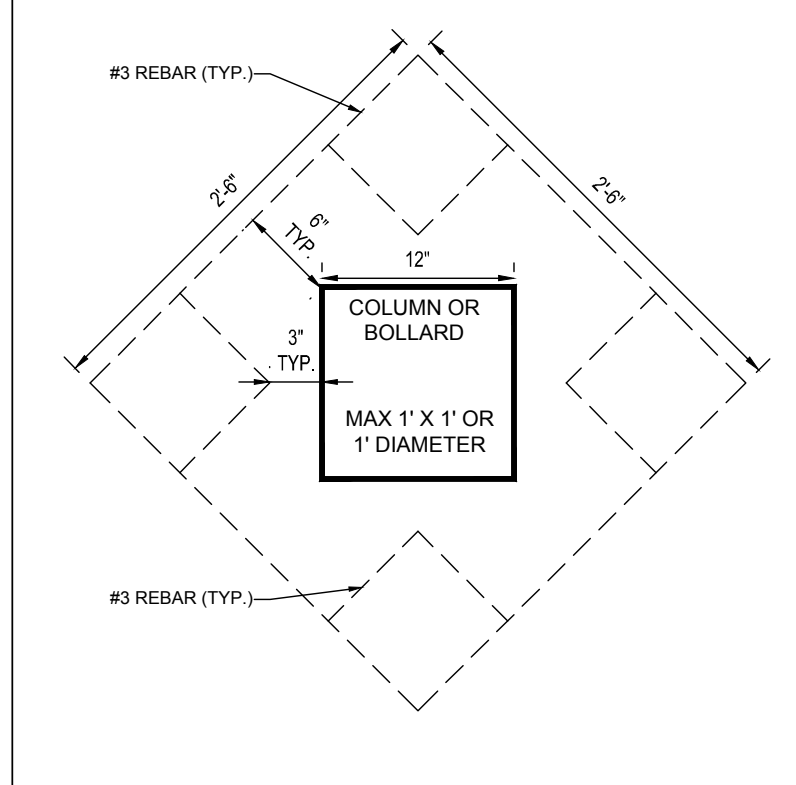


NOTE:
1. VALUES ABOVE ARE MINIMUMS ONLY. FINAL DESIGN TO BE PROVIDED ONCE FINAL CBR'S ARE AVAILABLE ON COMPACTED SUB-BASE.
2. CONTROL POINTS FOR PEDESTRIAN AREA TO BE FORMED IN A 6\"/>

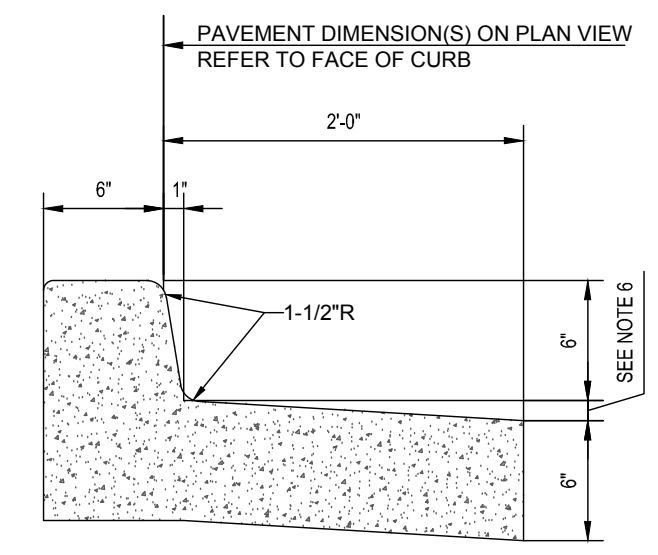
STANDARD DUTY CONCRETE SECTION
NOT TO SCALE



CART CORRAL WALL REBAR DETAIL
NOT TO SCALE

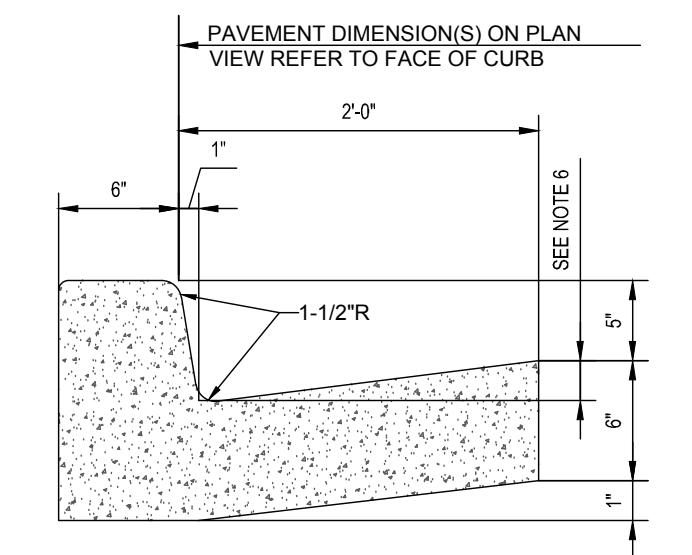


COLUMN OR BOLLARD REBAR DETAIL
NOT TO SCALE



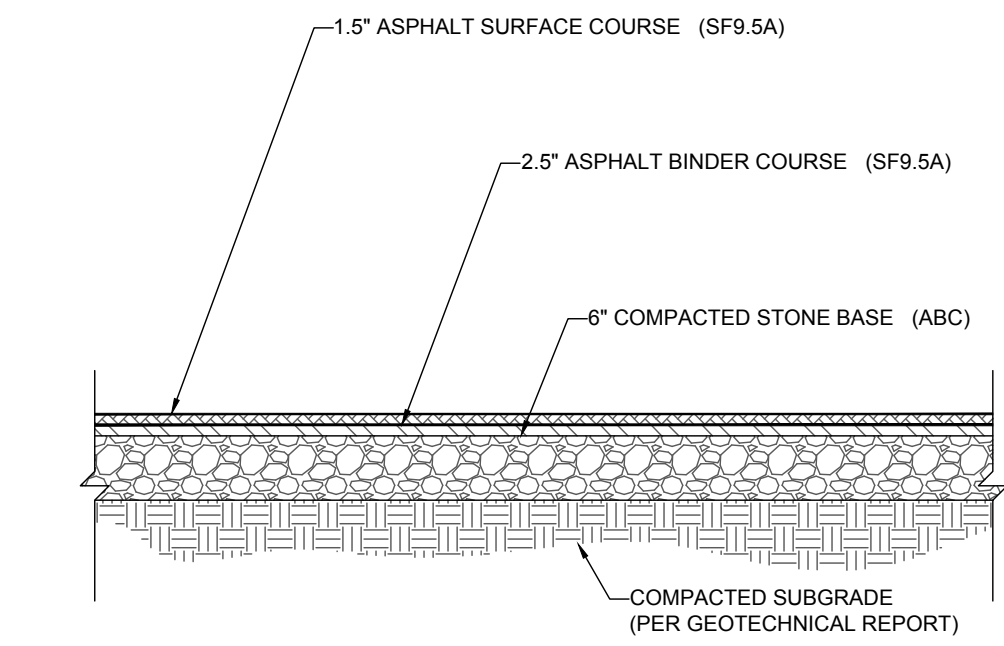
SPILL CURB & GUTTER

NOTES:
1. CONCRETE FOR CURBING SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 4,000 P.S.I. @ 28 DAYS.
2. CONSTRUCTION STAKING FOR CURB INSTALLATION SHALL BE REFERENCED (CUT OR FILL) TO THE TOP OF CURB.
3. AT CONTRACTOR'S OPTION, THE GUTTER THICKNESS MAY BE INCREASED AT THE EDGE OF PAVEMENT TO MAKE BOTTOM OF GUTTER CONTIGUOUS WITH BOTTOM OF ASPHALT PAVEMENT.
4. CONTRACTION JOINTS SHALL BE PLACED @ 10'-0\"/>



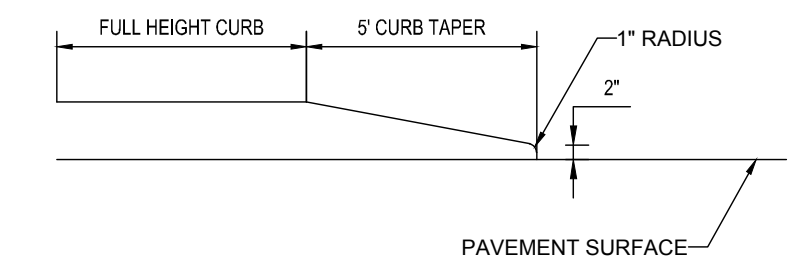
COLLECTOR CURB & GUTTER

CONCRETE CURB & GUTTER DETAIL
NOT TO SCALE

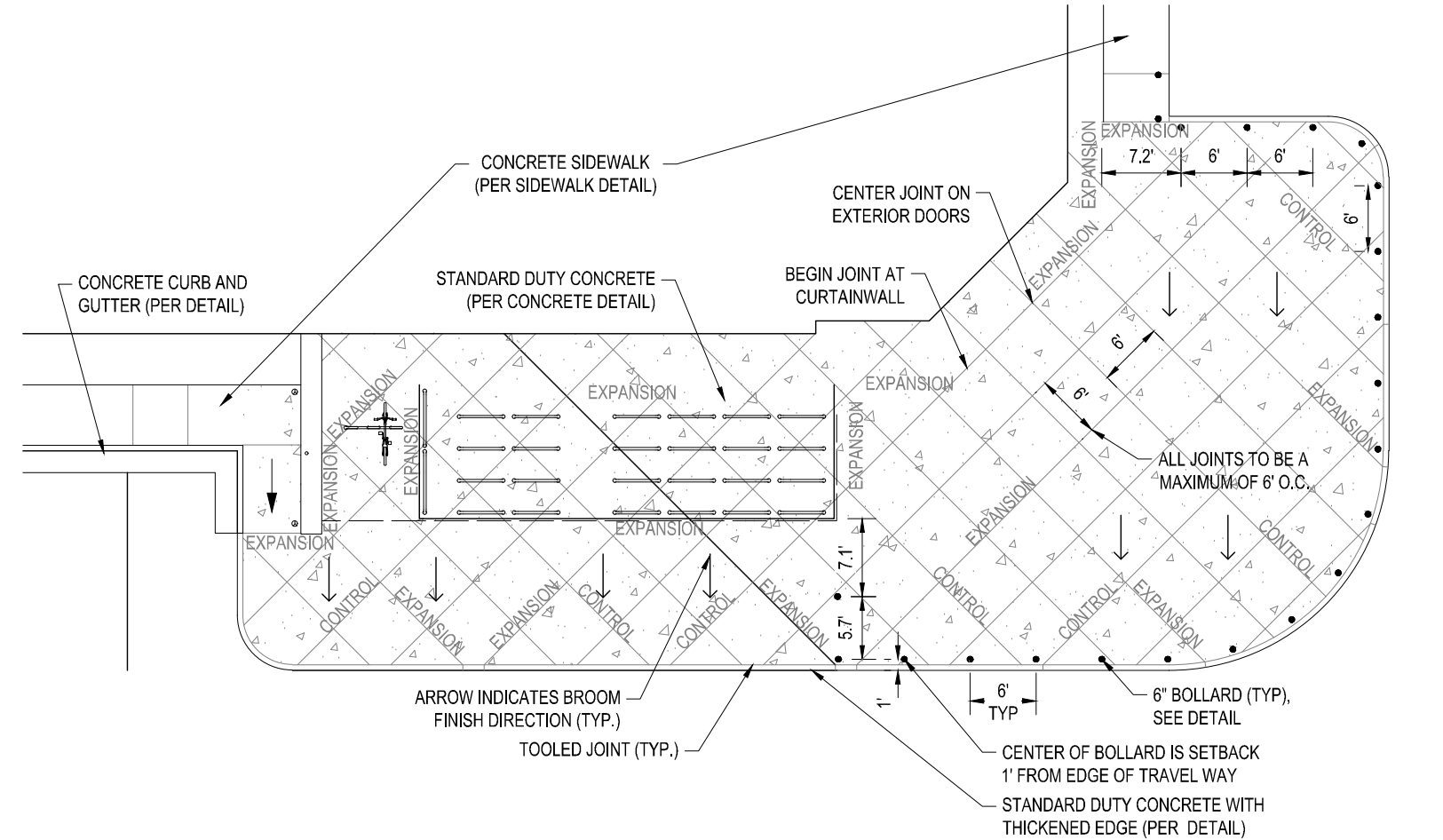


NOTE:
1. SECTION SHOWN IS BASED ON AN ANTICIPATED CBR OF 10.8 PER GEOTECHNICAL REPORT PREPARED BY ECS, ENTITLED REPORT OF SUBSURFACE EXPLORATION, DATED MARCH 22, 2016 (PROJECT #22-23971). FINAL DESIGN TO BE PROVIDED ONCE FINAL CBR'S ARE AVAILABLE ON COMPACTED SUB-BASE.

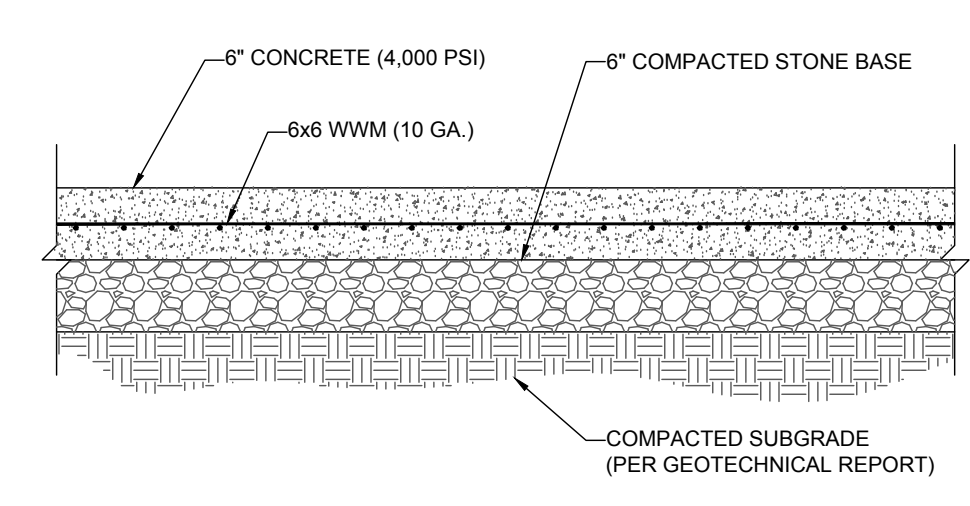
STANDARD DUTY ASPHALT PAVEMENT SECTION
NOT TO SCALE



CURB TAPER DETAIL
NOT TO SCALE

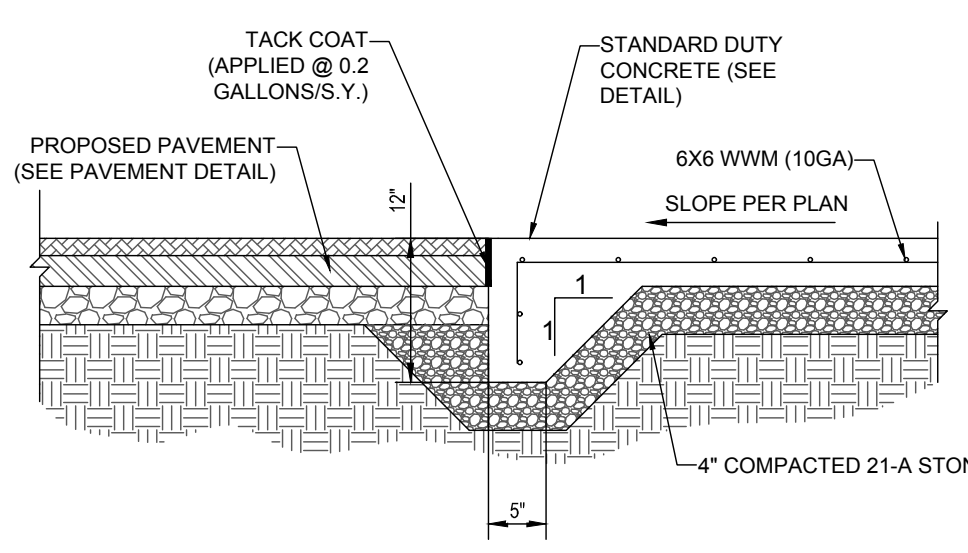


ENTRANCE PLAZA DETAIL
NOT TO SCALE



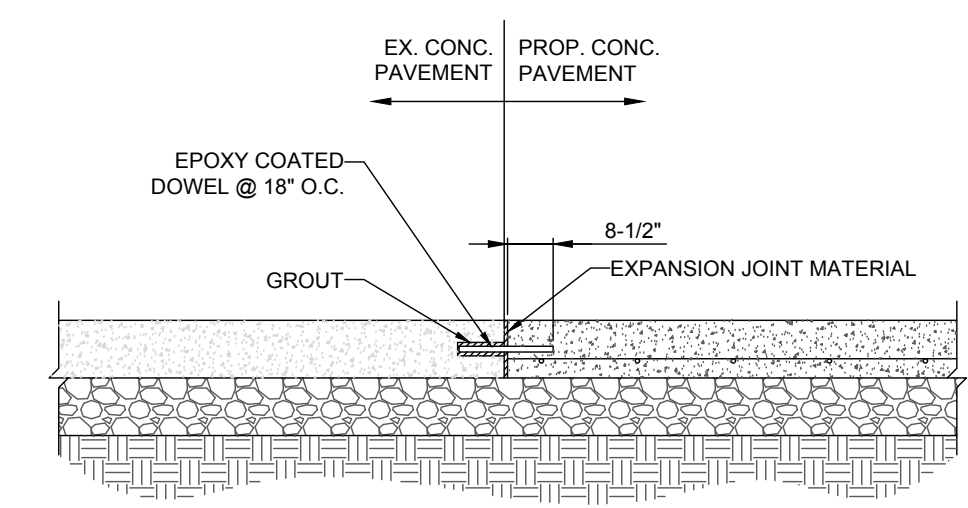
NOTE:
1. SECTION SHOWN BASED ON A REQUIRED CBR OF AT LEAST 8 PERCENT FOR OFF-SITE BORROW COMPACTED IN ACCORDANCE WITH PROJECT SPECIFICATIONS.
2. MAXIMUM JOINT SPACING OF 12 FEET.

HEAVY DUTY CONCRETE SECTION
NOT TO SCALE



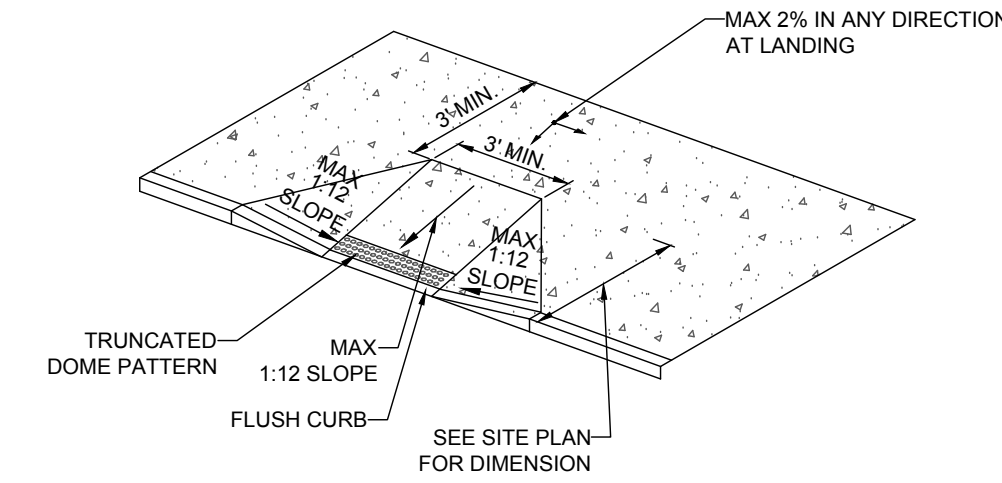
NOTE:
1. CONCRETE TO BE 4,000 P.S.I. @ 28 DAYS.

STANDARD DUTY CONCRETE WITH THICKENED EDGE DETAIL
NOT TO SCALE



NOTE:
1. CONTRACTOR TO BLOW OUT DUST FROM DRILLED HOLES PRIOR TO APPLYING GROUT.

CONCRETE DOWELING DETAIL
NOT TO SCALE



NOTE:
1. ADA ACCESSIBLE RAMP CONSTRUCTION SHALL CONFORM TO CURRENT ADA ACCESSIBLE GUIDELINES.

ADA ACCESSIBLE RAMP DETAIL
NOT TO SCALE

BOHLER ENGINEERING NC, PLLC

REGISTERED PROFESSIONAL ENGINEERS
REGISTERED PROFESSIONAL ARCHITECTS
REGISTERED PROFESSIONAL SURVEYORS

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CHARLOTTE, NC
REHOBOTH BEACH, DE
NEW YORK, NY
SOUTHERN MARYLAND
NEW JERSEY
SOUTH FLORIDA

REVISIONS

REV	DATE	COMMENT	BY
1	2/3/17	CITY COMMENTS	JDM

811

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ALWAYS CALL 811
BEFORE YOU DIG

It's fast. It's free. It's the law.

NOT APPROVED FOR CONSTRUCTION

PROJECT No: NCR151031 JDM
DRAWN BY: WLB
CHECKED BY: WLB
DATE: 2/8/17
SCALE: AS NOTED
CAD I.D.: SSO

PROPOSED GROCERY

FOR

LIDL US OPERATIONS, LLC

LOCATION OF SITE
4301 S 17TH STREET
WILMINGTON, NC 28412

BOHLER ENGINEERING NC, PLLC
NCELS P-1132

4011 WESTCHASE BLVD., SUITE 290
RALEIGH, NC 27607
Phone: (919) 578-9000
Fax: (919) 703-2665
NC@BohlerEng.com

W. BOHLER
REGISTERED PROFESSIONAL ENGINEER
STATE OF NORTH CAROLINA
No. 04024
W. BOHLER
1/12/17

SHEET TITLE:
CONSTRUCTION DETAILS

SHEET NUMBER:
D-1.0

BOHLER ENGINEERING NC, PLLC

STATE LICENSE NO. 15031 ENGINEERING
 PROFESSIONAL ARCHITECTURE
 TRANSPORTATION SERVICES
 LAND SURVEYING PROGRAM MANAGER
 SUSTAINABLE DESIGN PERMITTING SERVICES

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 PHILADELPHIA
 RICHMOND
 ROANOKE
 SOUTH FLORIDA
 WASHINGTON DC
 WILMINGTON DE
 WILMINGTON NC

15031 ENGINEERING
 15031 ARCHITECTURE
 15031 TRANSPORTATION
 15031 LAND SURVEYING

REVISIONS

REV	DATE	COMMENT	BY
1	2/3/17	CITY COMMENTS	JDM

811

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NOT APPROVED FOR CONSTRUCTION

PROJECT No. NCR151031
 DRAWN BY: JDM
 CHECKED BY: WLB
 DATE: 2/8/17
 SCALE: AS NOTED
 CAD I.D.: SSO

PROPOSED GROCERY

FOR

LIDL US OPERATIONS, LLC

LOCATION OF SITE
 4301 S 17TH STREET
 WILMINGTON, NC 28412

BOHLER ENGINEERING NC, PLLC

4011 WESTCHASE BLVD., SUITE 290
 RALEIGH, NC 27607
 Phone: (919) 578-9000
 Fax: (919) 703-2665
 NC@BohlerEng.com

BOHLER ENGINEERING NC, PLLC

1/12/17

SHEET TITLE:
CONSTRUCTION DETAILS

SHEET NUMBER:
D-1.1

Approved Construction Plan

Name _____ Date _____

Planning _____

Traffic _____

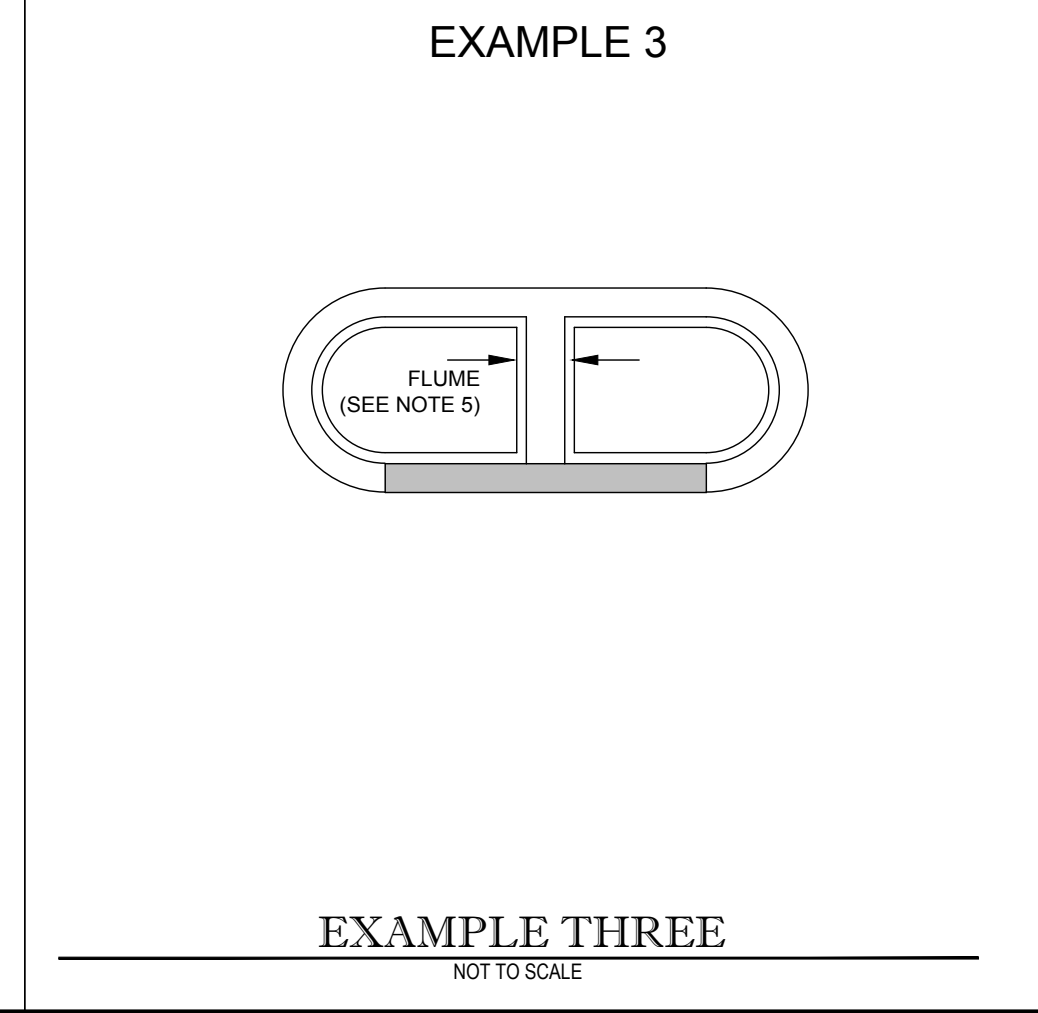
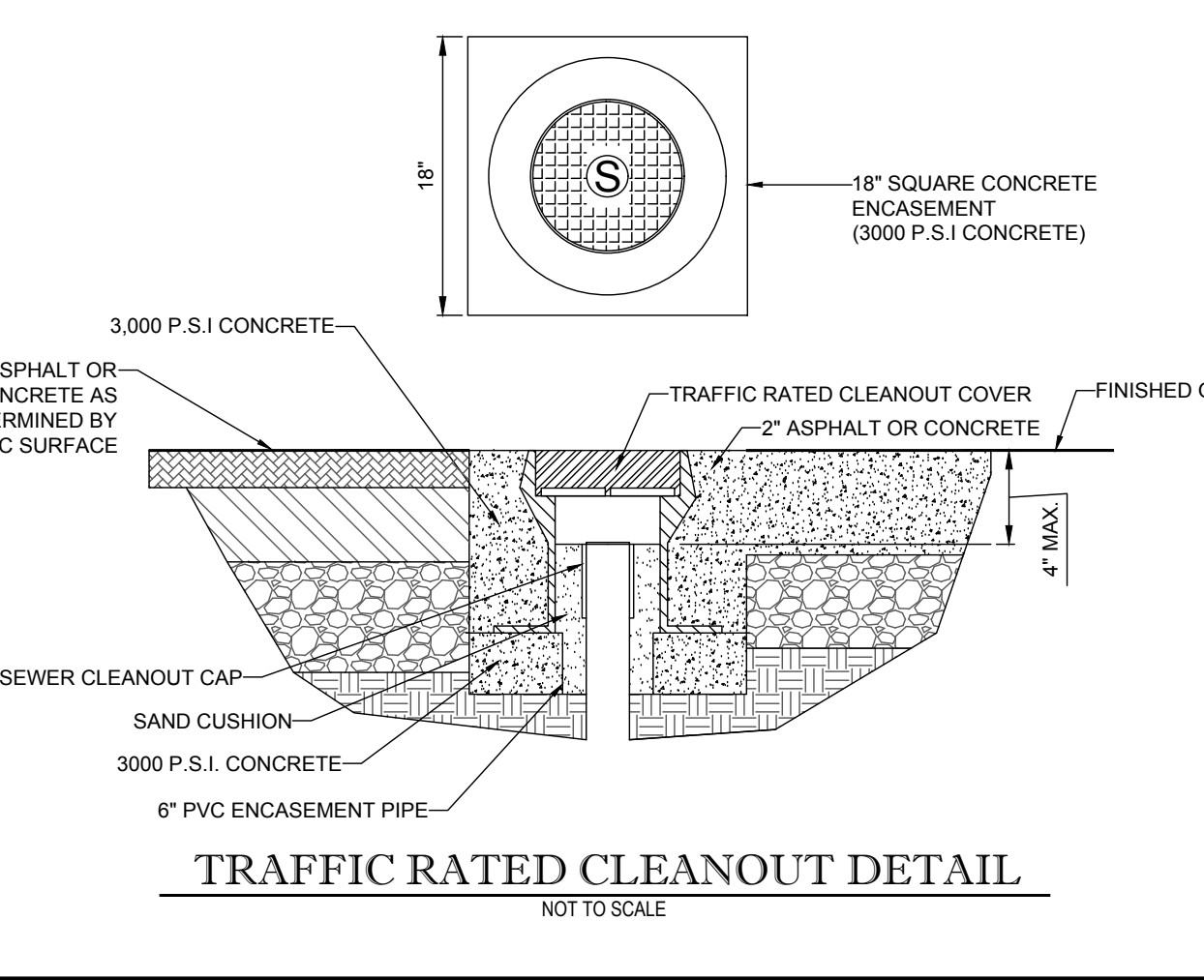
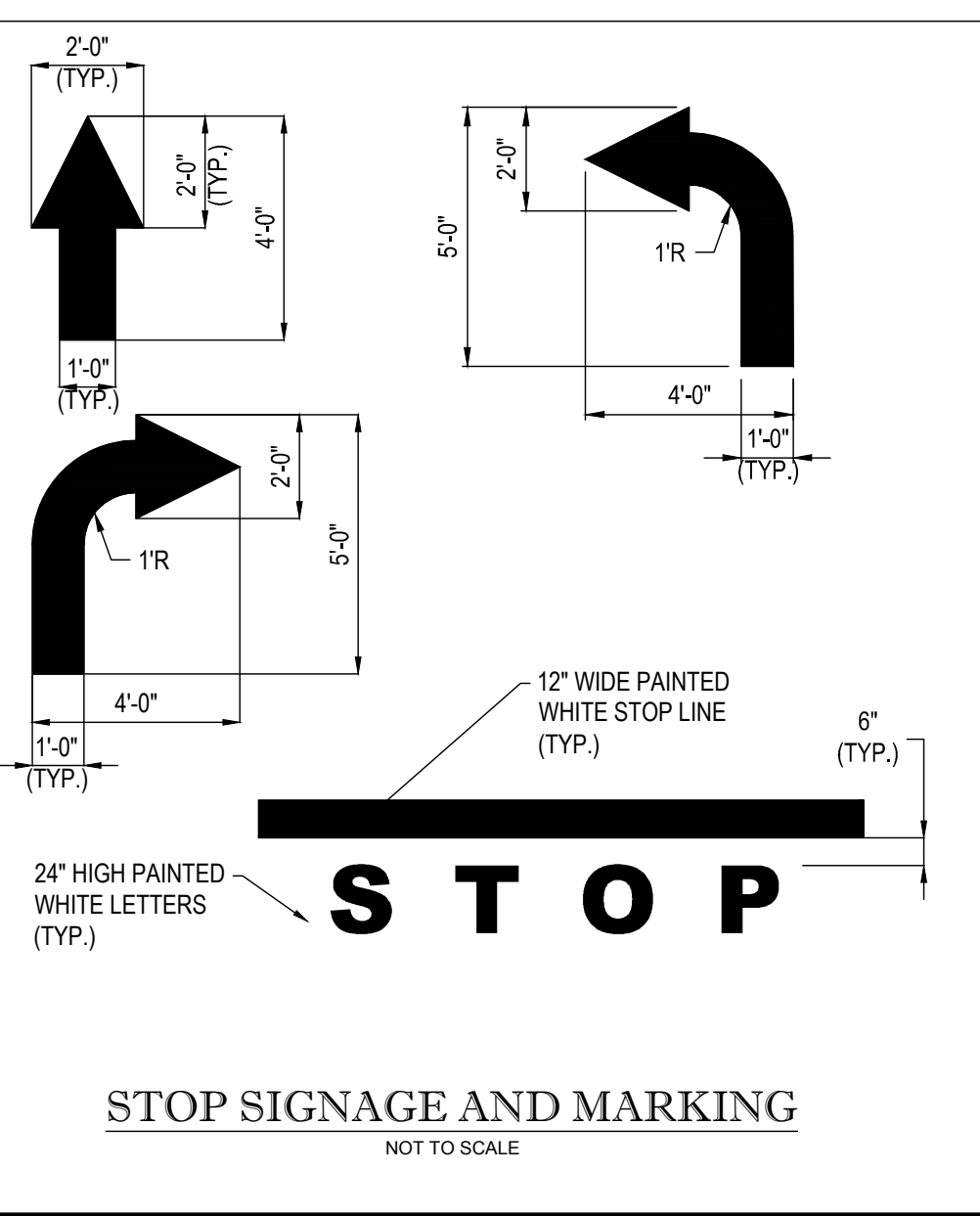
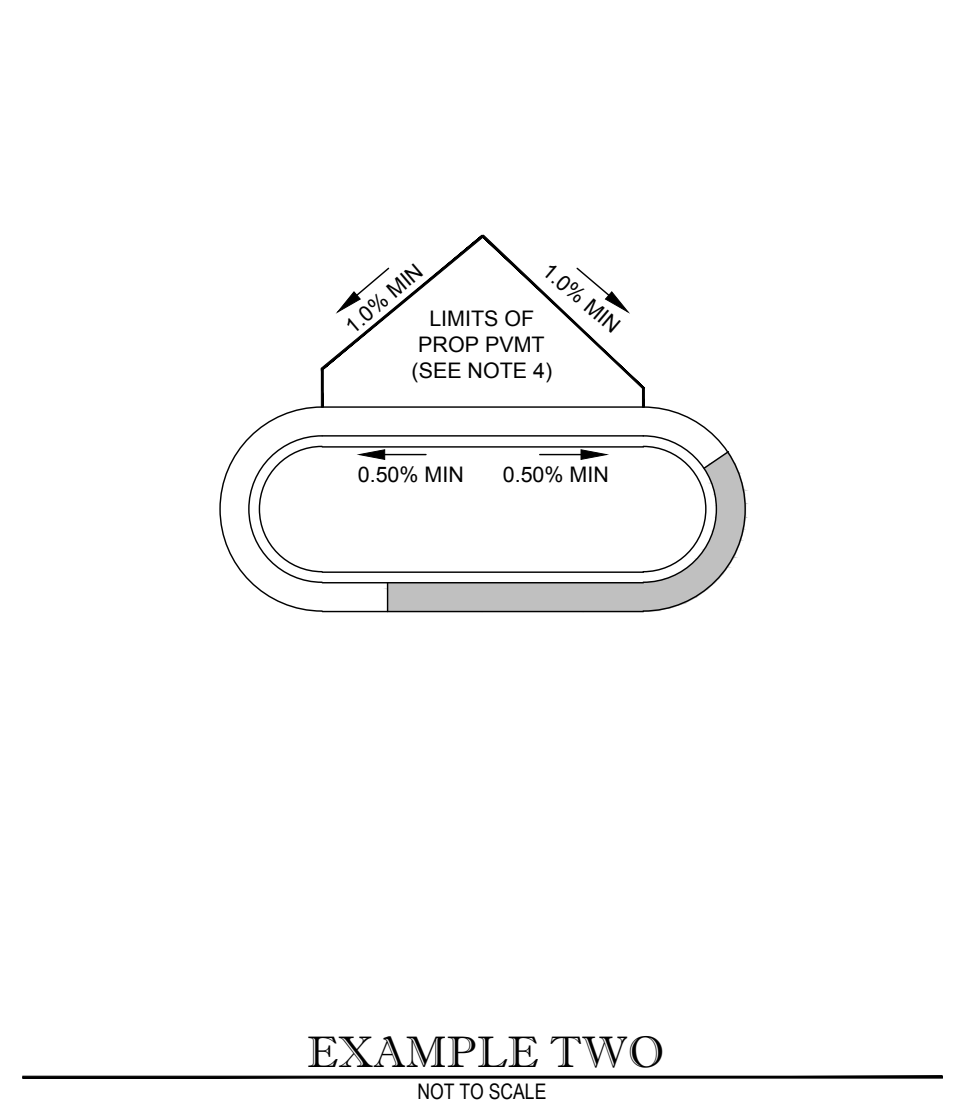
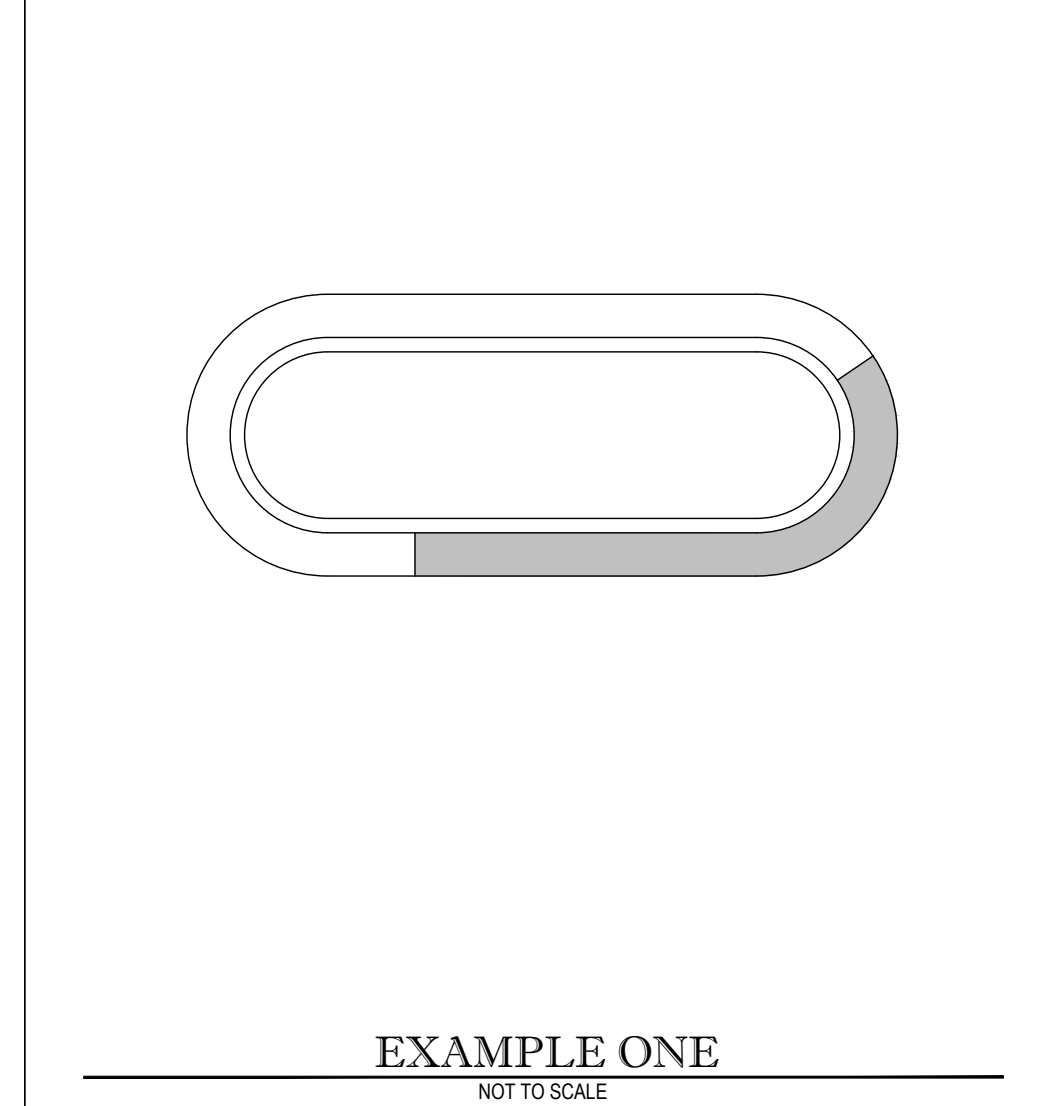
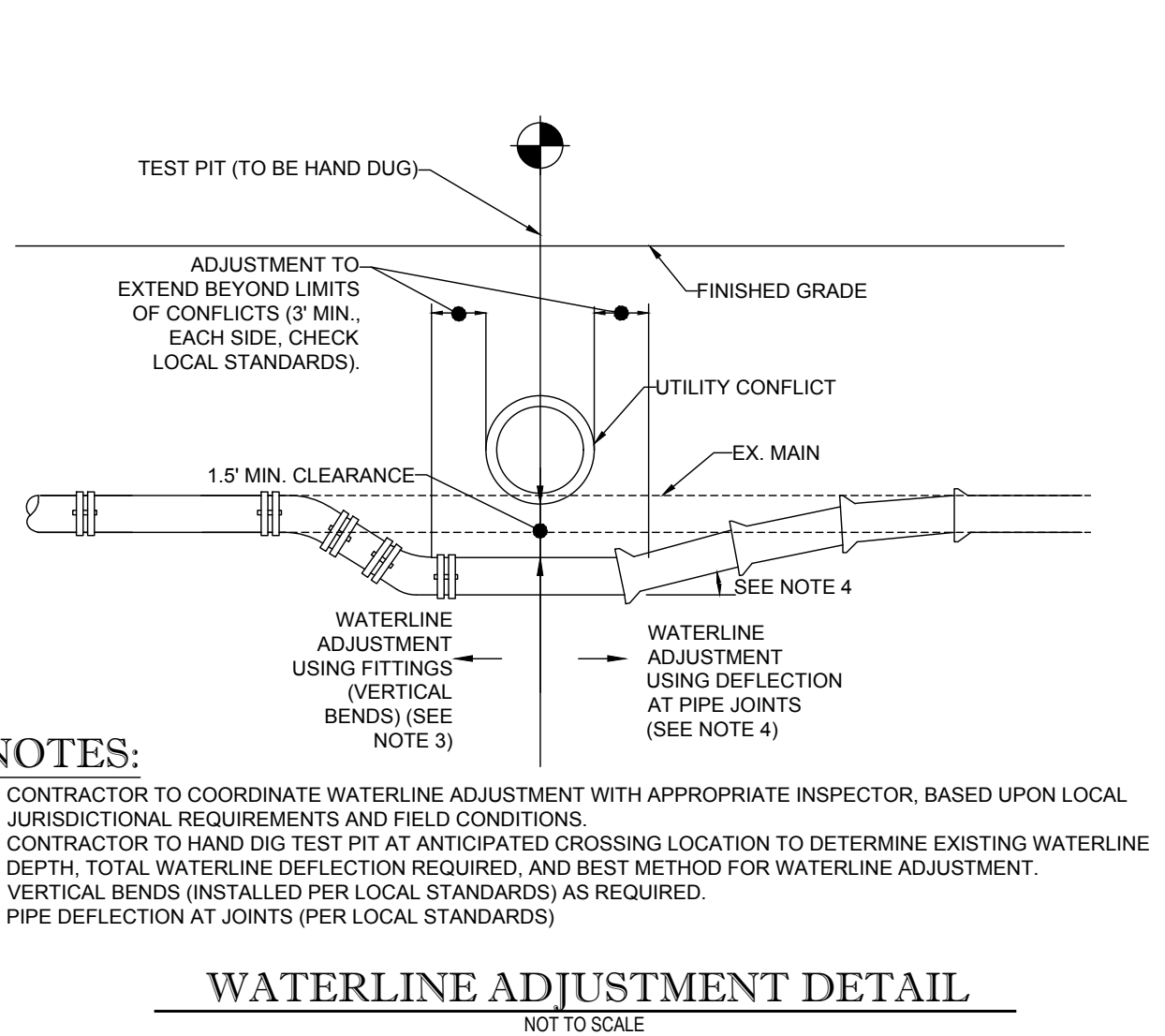
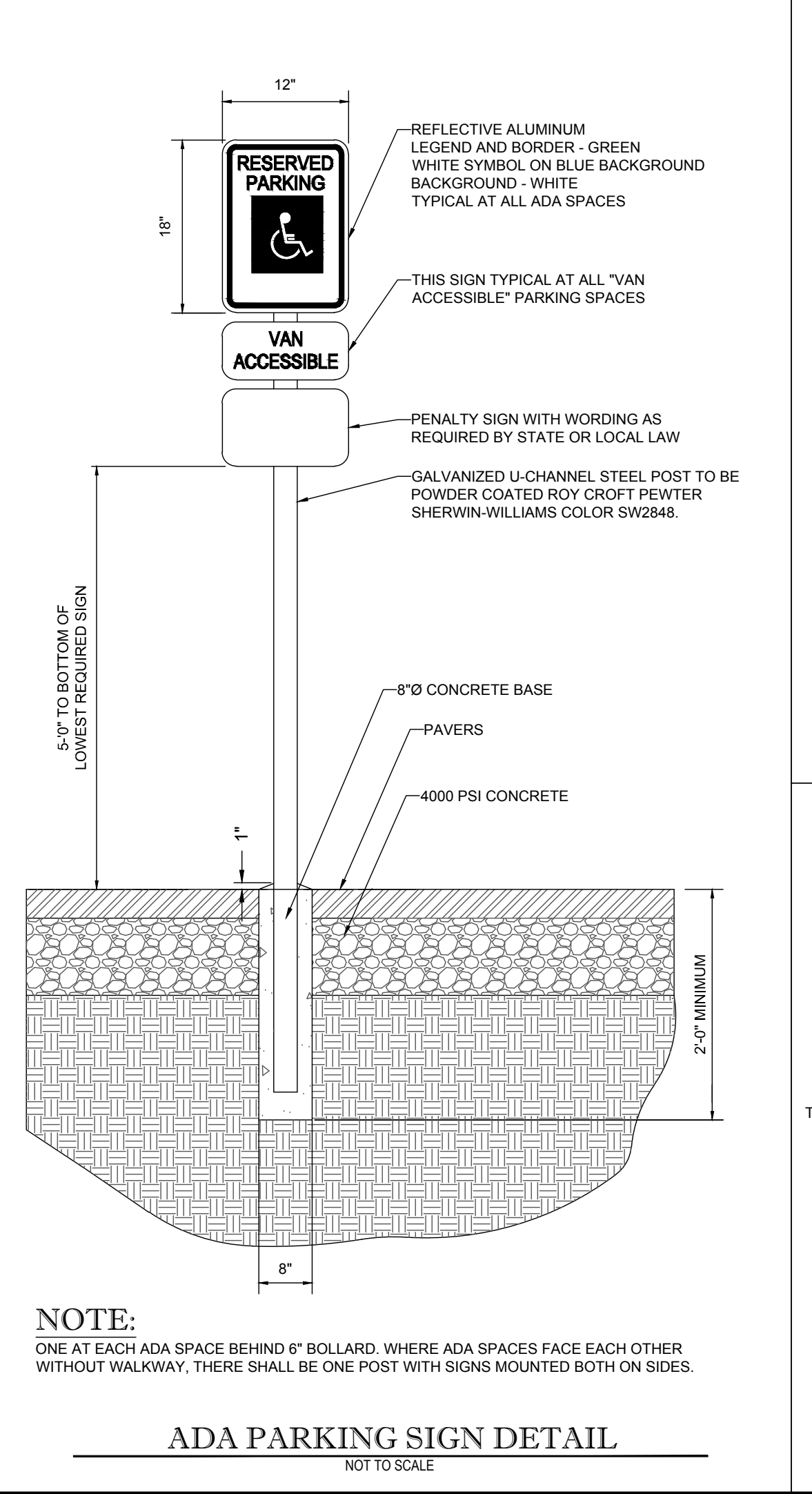
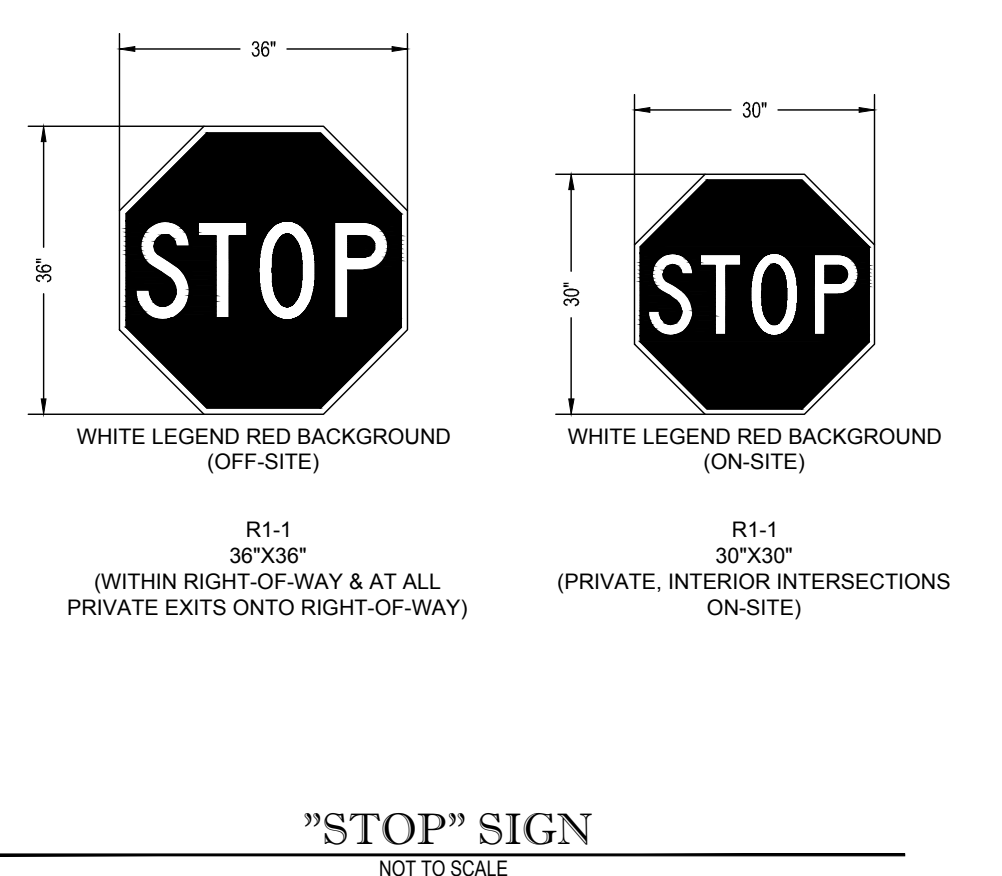
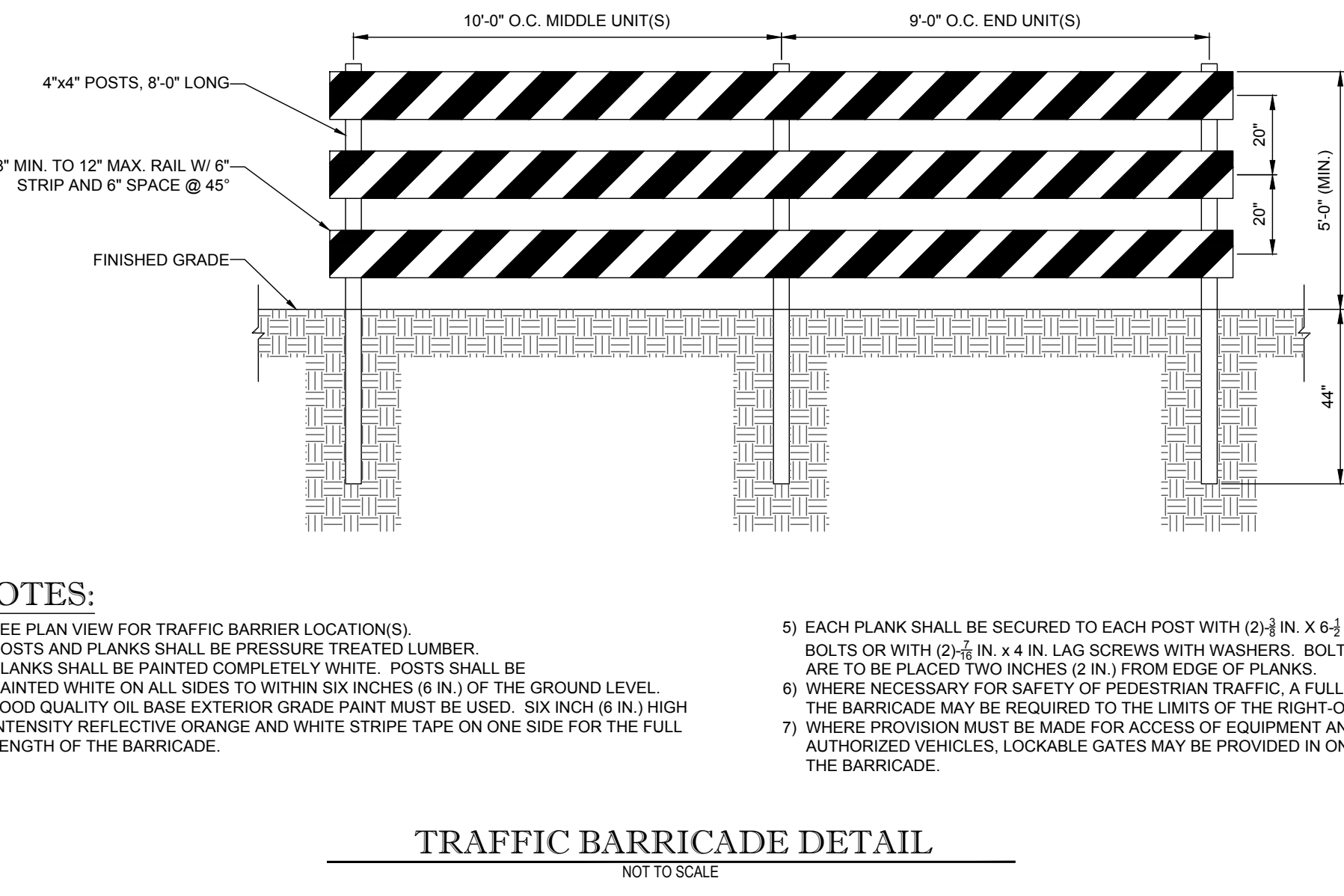
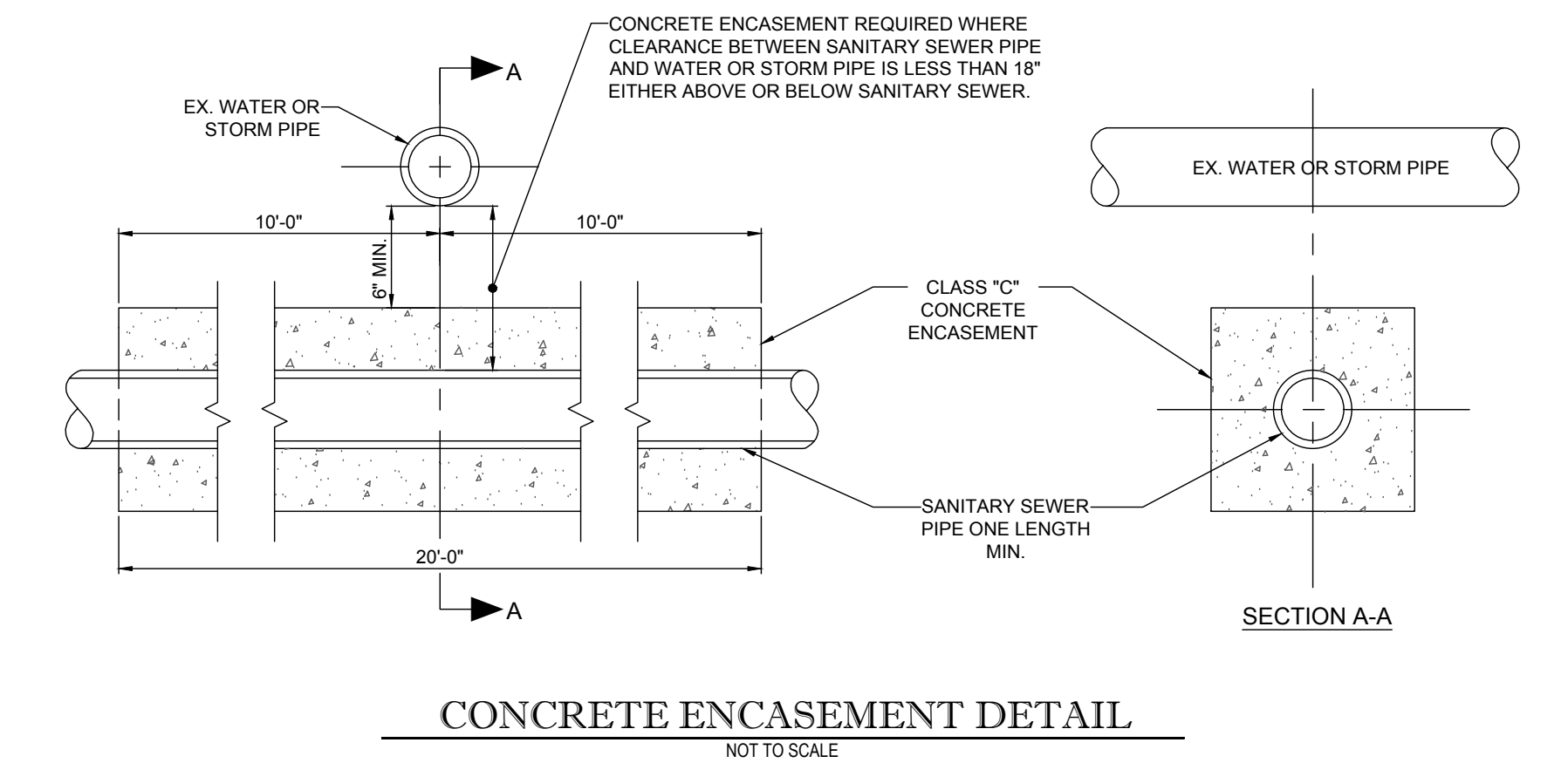
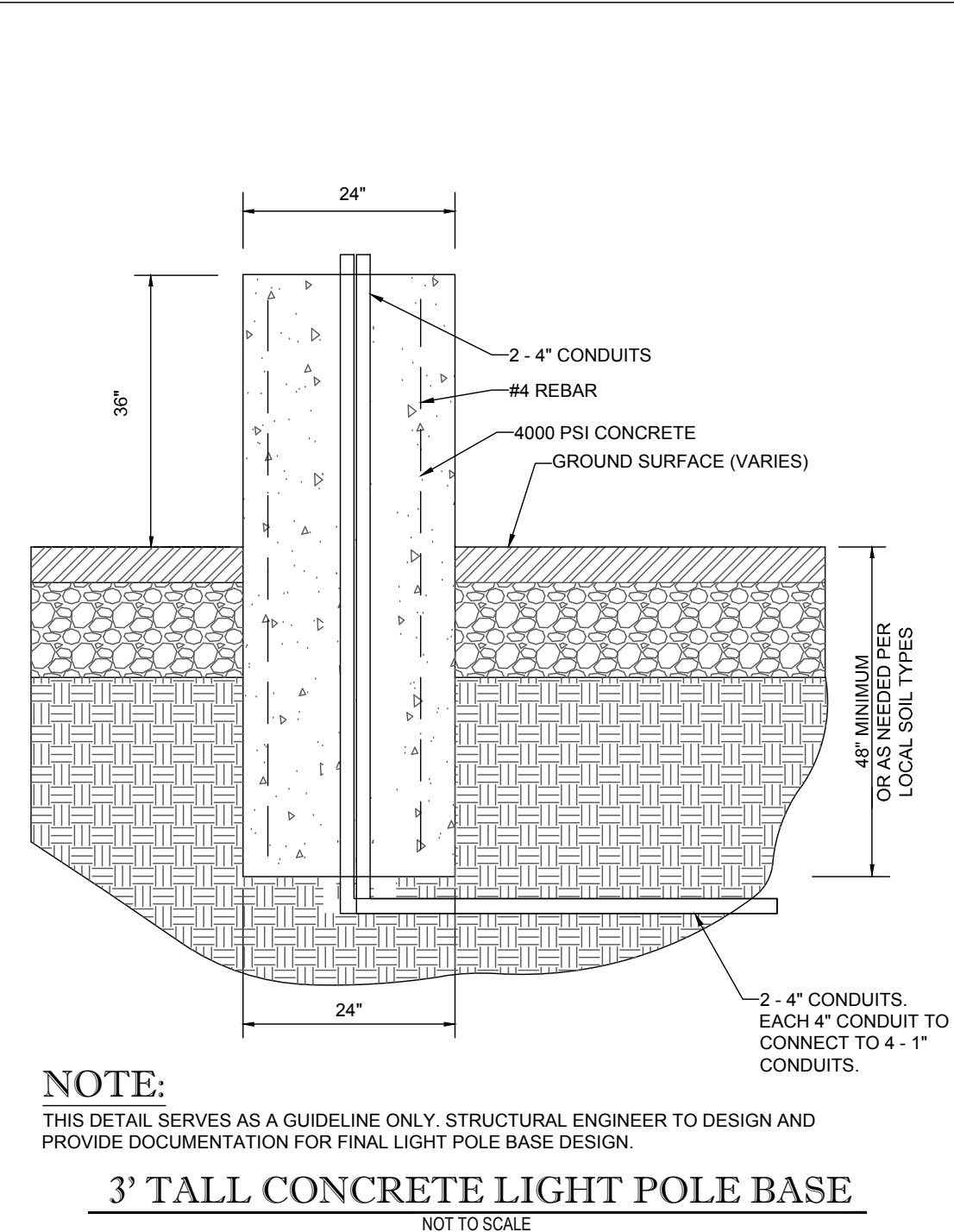
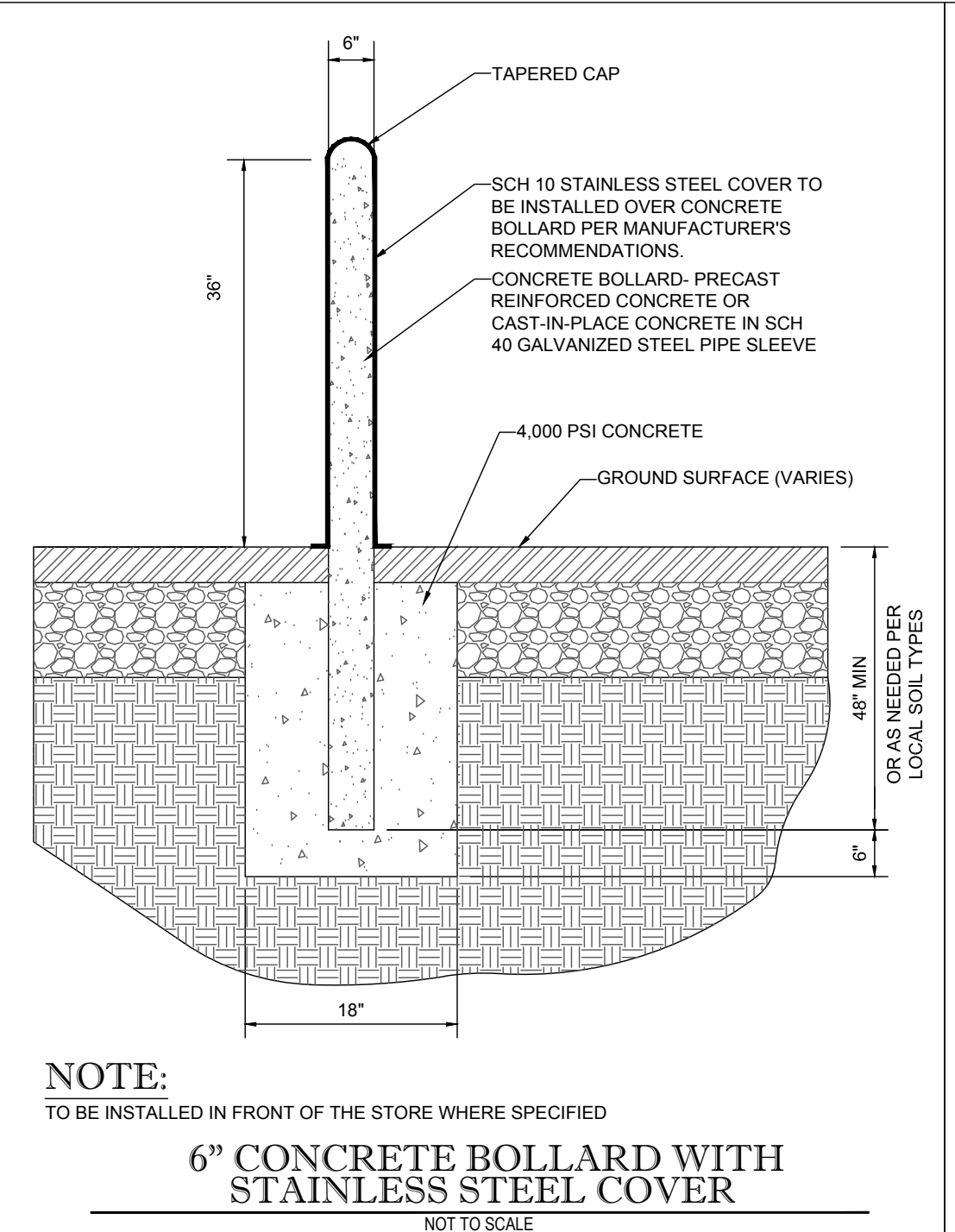
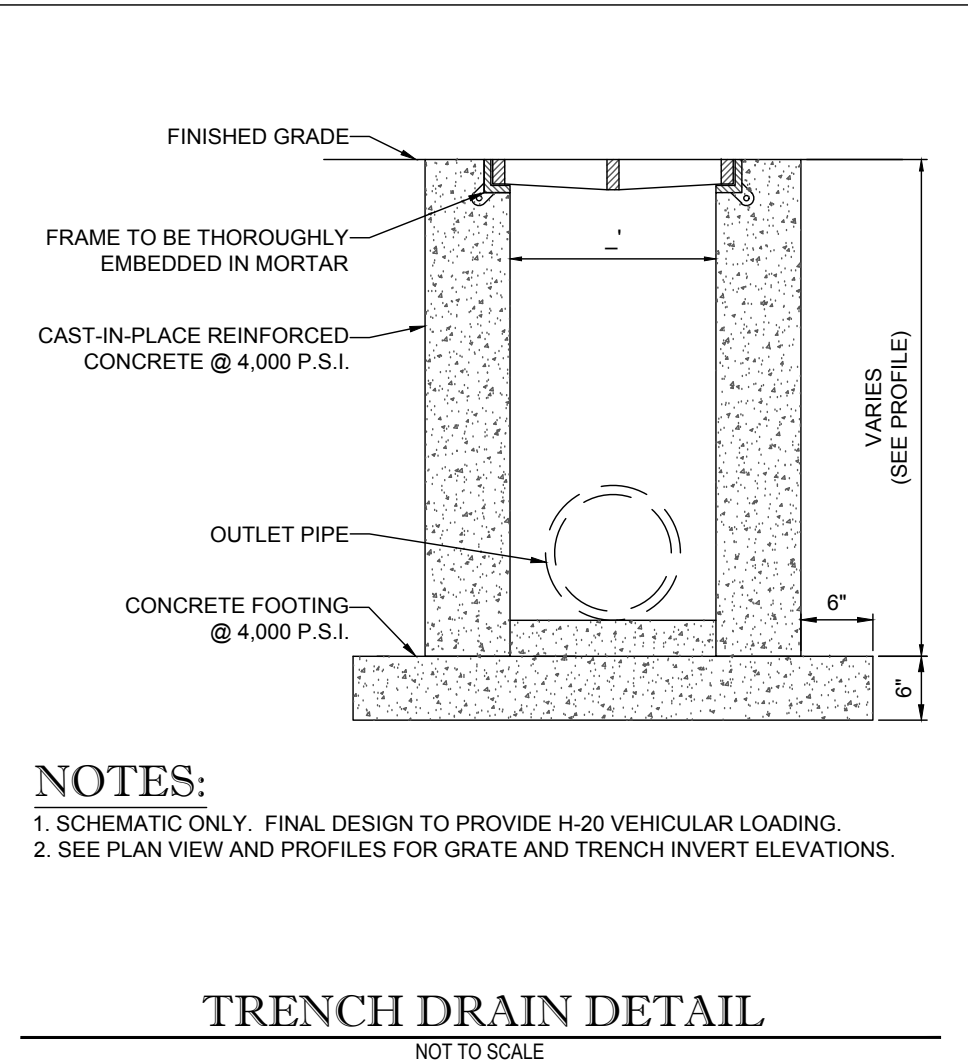
Fire _____

CITY OF WILMINGTON
 NORTH CAROLINA

Public Services • Engineering Division
 APPROVED STORMWATER MANAGEMENT PLAN

Date: _____ Permit # _____

Signed: _____

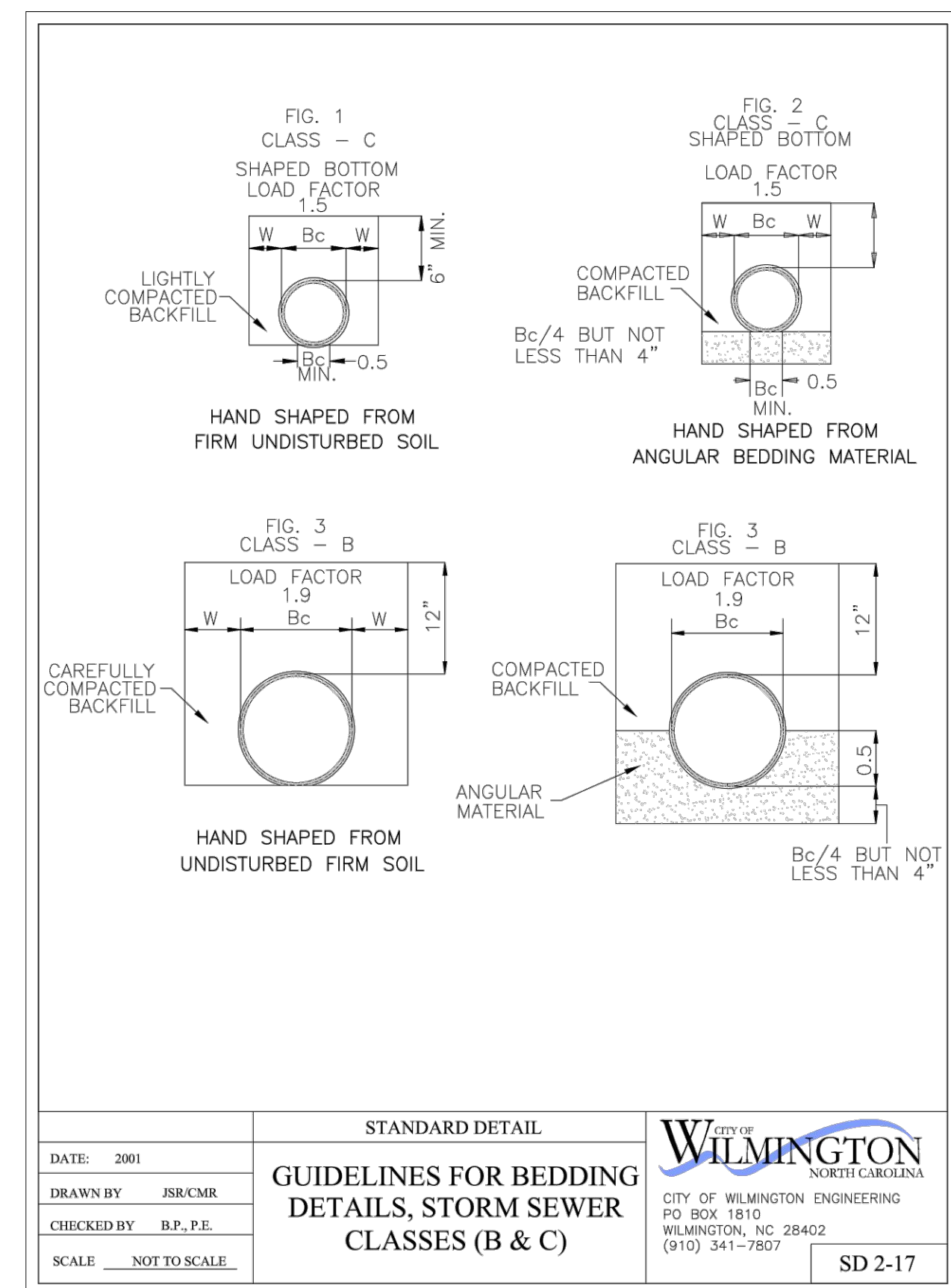
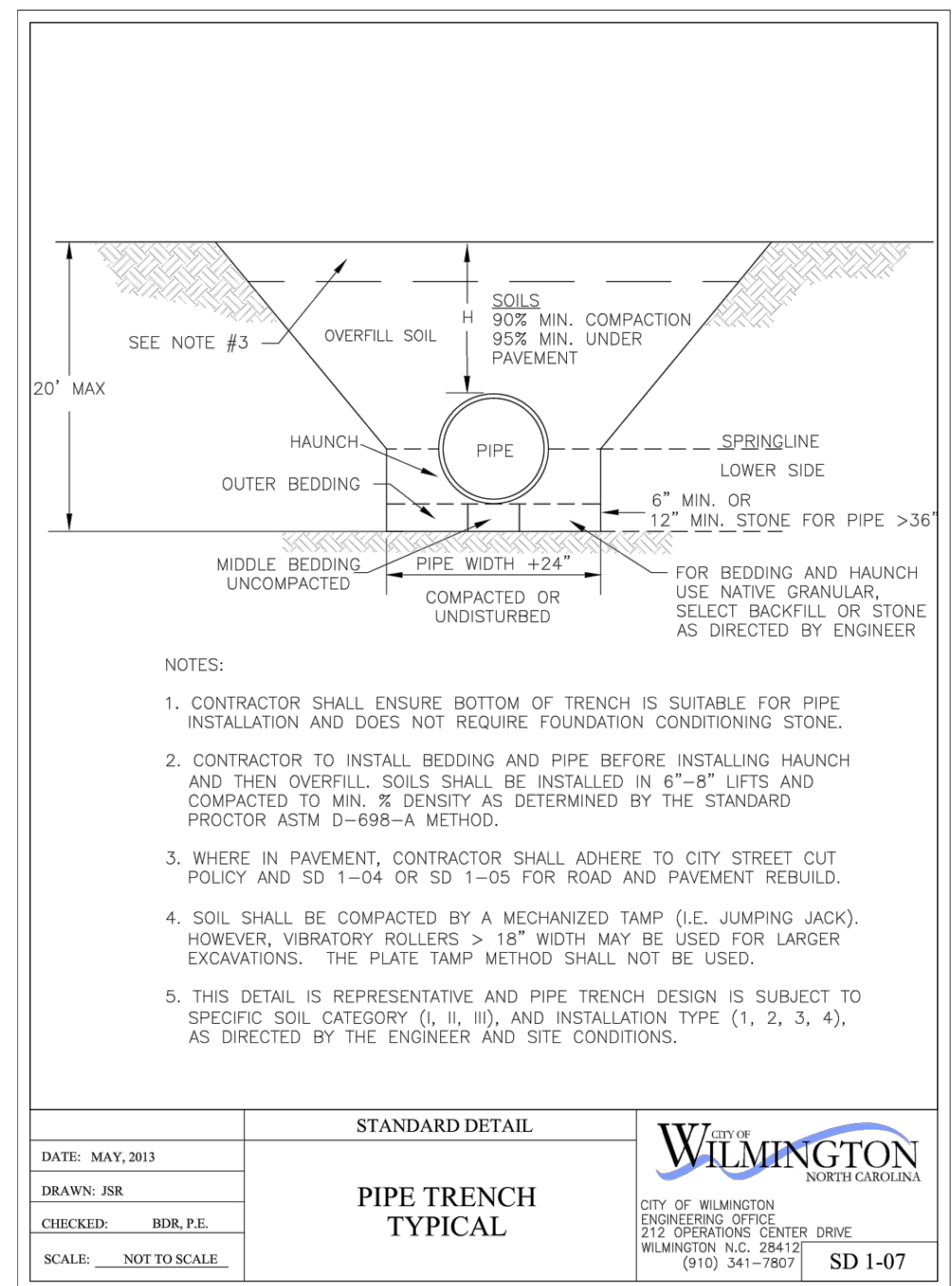
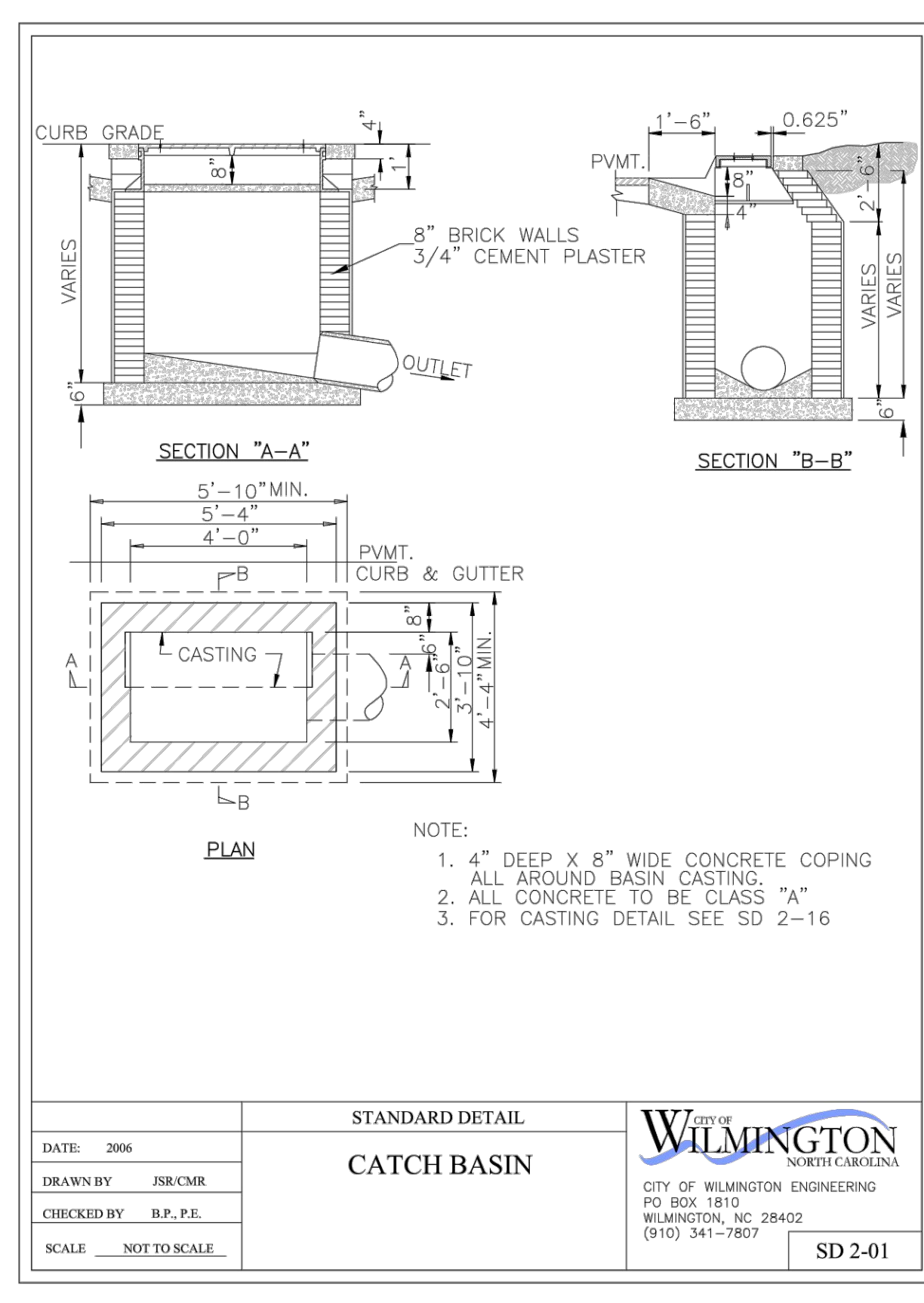
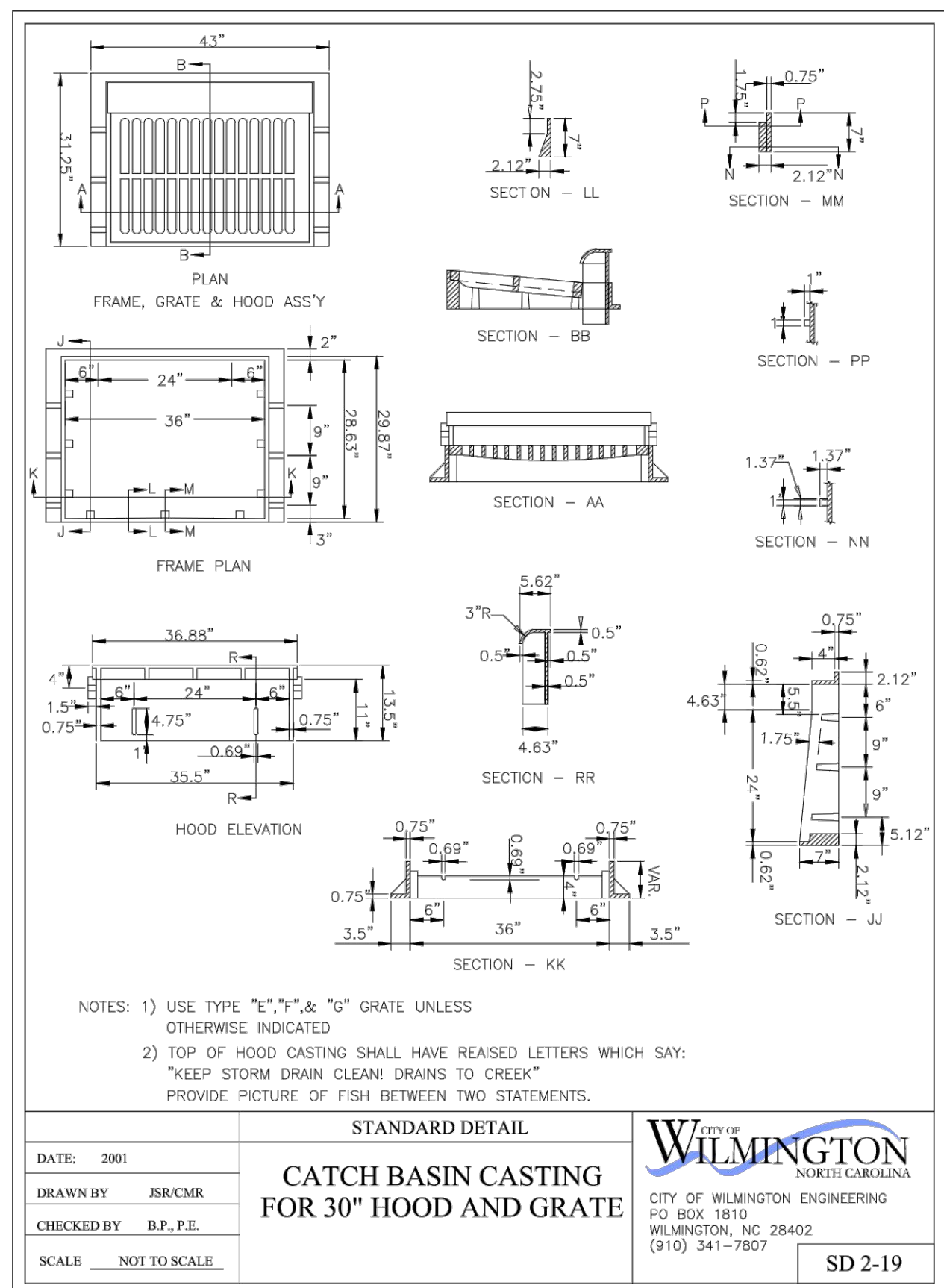
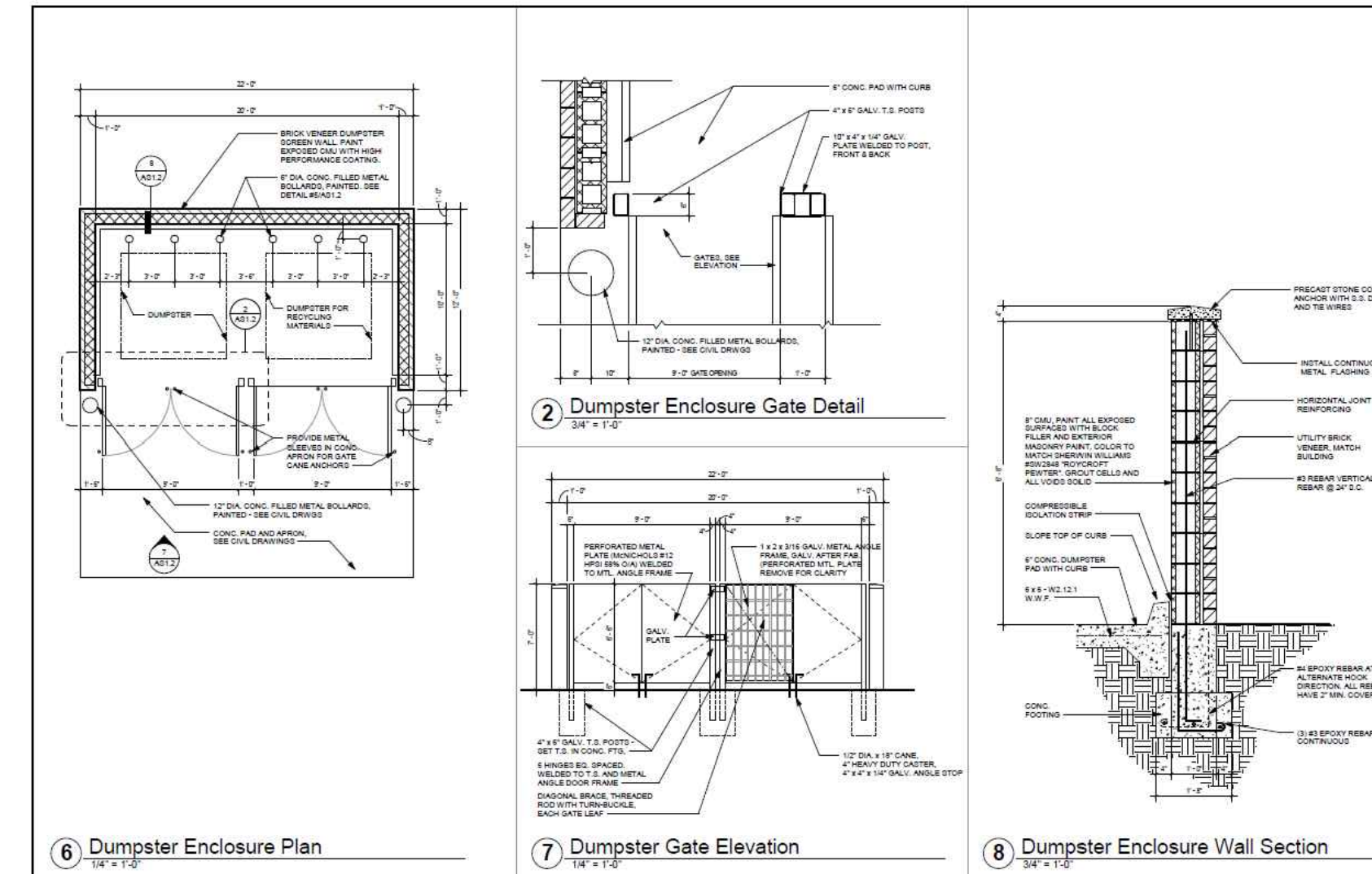
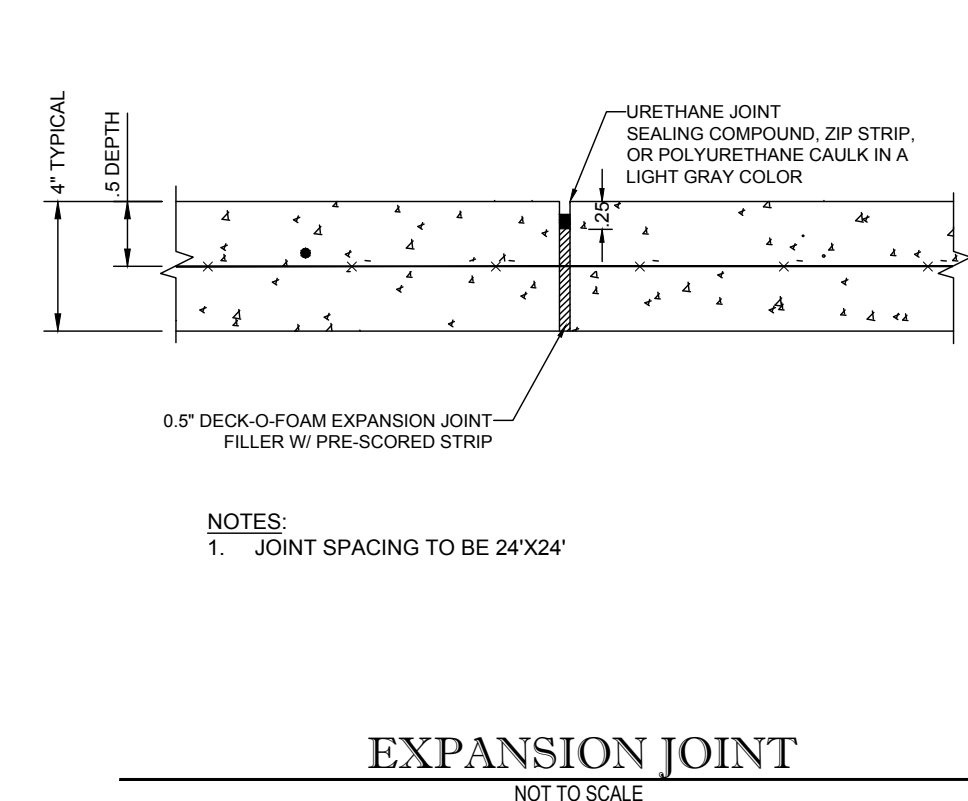
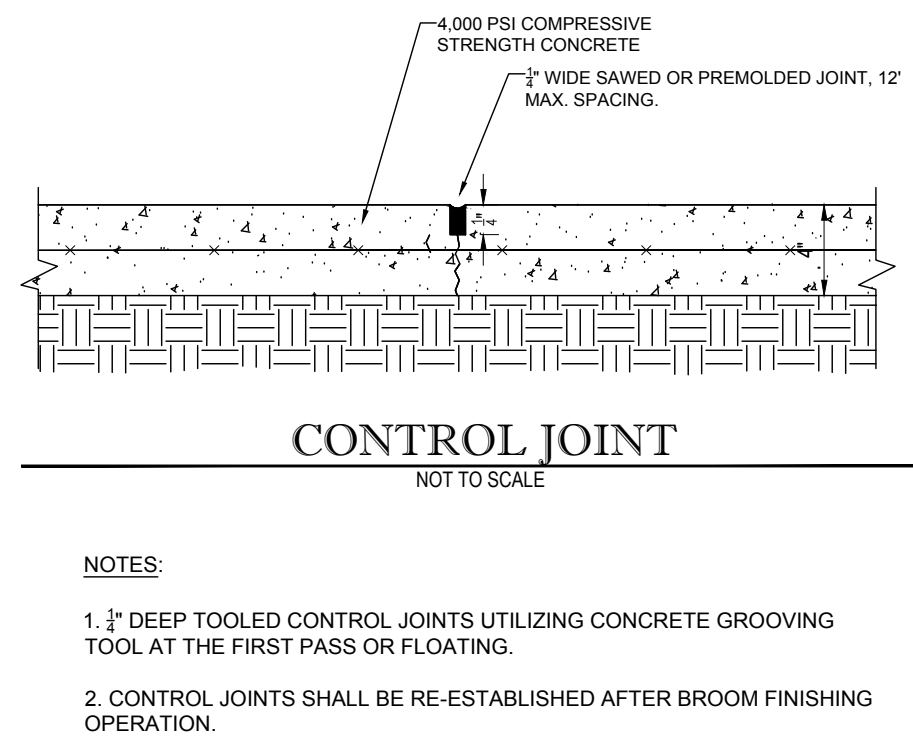
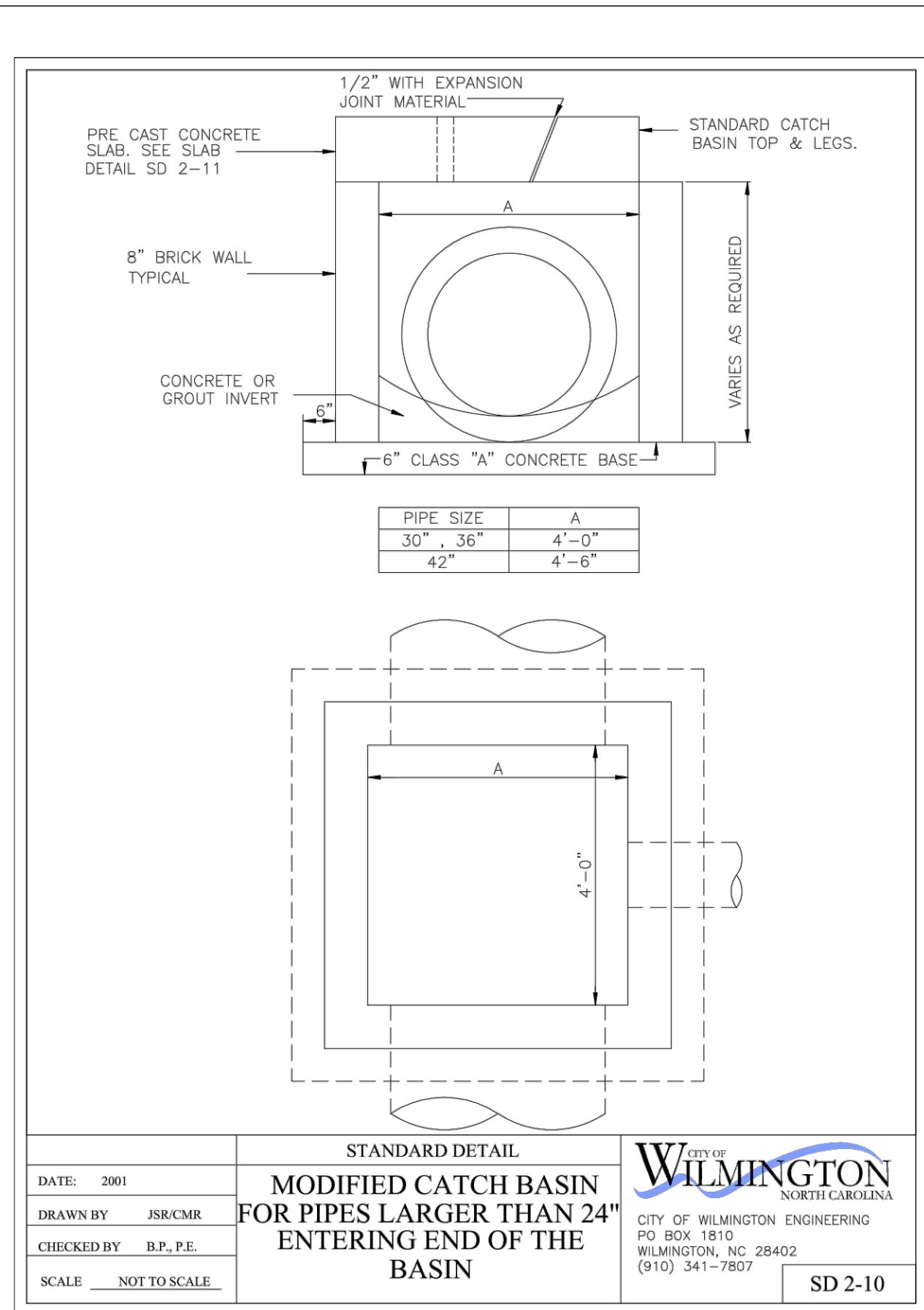
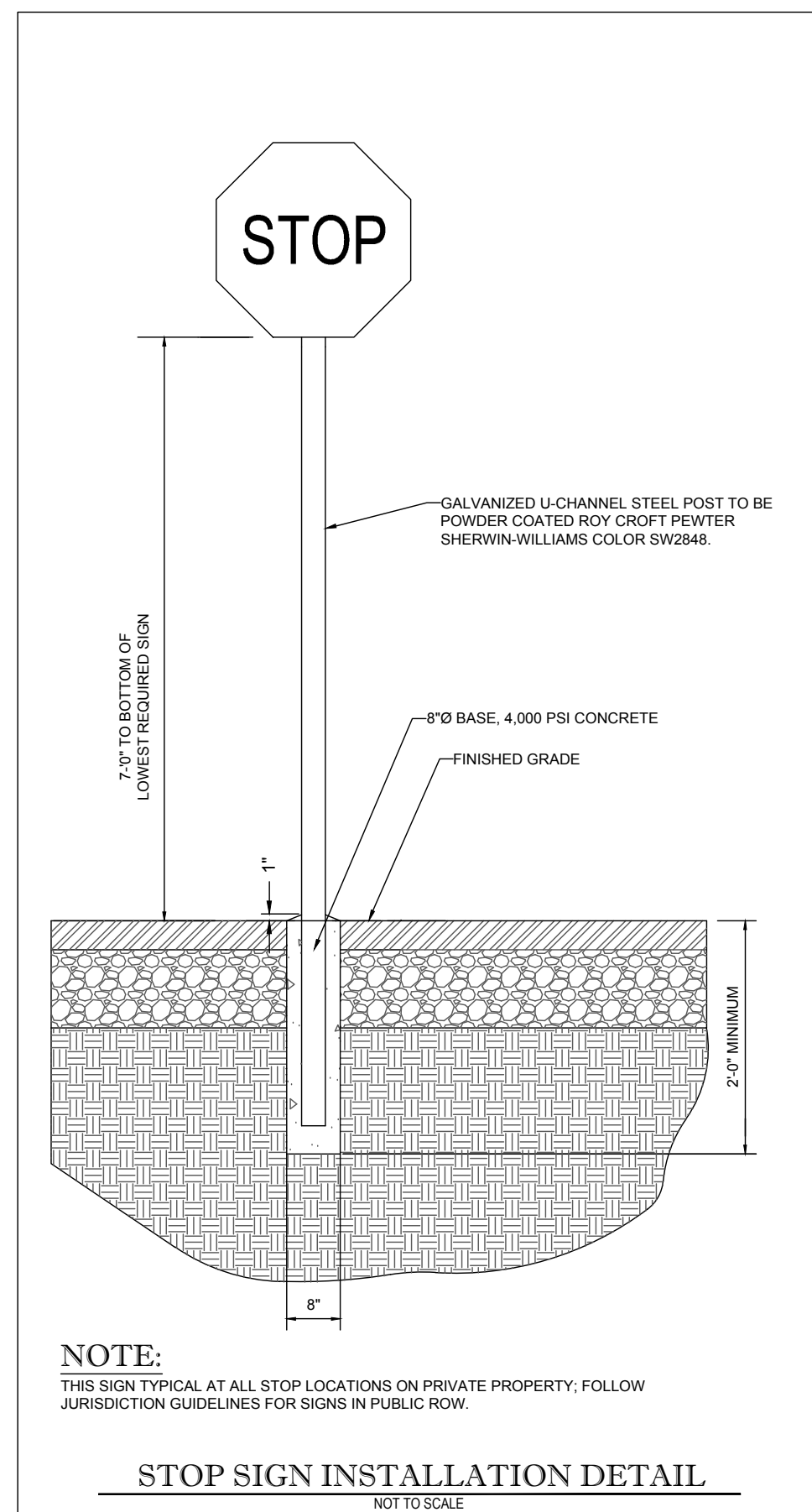


NOTES:
 1. CONTRACTOR TO INSTALL CURB AND GUTTER AT ELEVATION OF EXISTING PAVEMENT (ELEVATION AT EDGE OF GUTTER PAN MATCHES ELEVATION AT EXISTING PAVEMENT, UNLESS PLANS AND/OR SCHEMATICS INDICATE DIFFERENTLY).
 2. CONTRACTOR TO PROVIDE GUTTER PANS (COLLECTOR/SPILL) PER GRADING PLAN. SHADED GUTTER PAN REPRESENTS FULL SPILL SECTION, NON-SHADED IS COLLECTOR. CONTRACTOR TO PROVIDE 3 FOOT TRANSITIONS BETWEEN SPILL AND COLLECTOR SECTIONS.
 3. PLAN INTENT IS TO PROVIDE A MINIMUM SLOPE OF 0.50% ALONG COLLECTOR CURB. IF FIELD CONDITIONS AND/OR PLAN REPRESENTATION DOES NOT PROVIDE MINIMUM SLOPE REQUIREMENTS, CONTRACTOR IS TO CONTACT ENGINEER PRIOR TO POURING CURB AND GUTTER. BOHLER ENGINEERING SHALL BE HELD HARMLESS FOR ANY CURB AND GUTTER POURED THAT DOES NOT MEET MINIMUM REQUIREMENTS.
 4. IN THOSE SITUATIONS WHERE RE-GRADING OF PARKING AND PAVEMENT REMOVAL IS NECESSARY (SEE EXAMPLE 2), THE CONTRACTOR IS TO VERIFY THAT THE RESULTANT GRADIENT AT THE HIGH SIDE OF THE ISLAND PROVIDES 1% PAVEMENT SLOPE, PER PLAN INTENT.
 5. IN ISLANDS WHERE FLUMES ARE INDICATED, THE CONTRACTOR SHALL PROVIDE A FLAT BOTTOMED FLUME AT THE SPECIFIED WIDTH. MINIMUM FLUME SLOPE SHALL BE 0.50%.

Approved Construction Plan		
Name	Date	
Planning		
Traffic		
Fire		

City of WILMINGTON
NORTH CAROLINA
Public Services • Engineering Division
APPROVED STORMWATER MANAGEMENT PLAN

Date: _____ Permit # _____
Signed: _____



BOHLER ENGINEERING NC, PLLC

STATE OF NORTH CAROLINA LICENSE NO. 10000
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REVISIONS			
REV	DATE	COMMENT	BY
1	2/3/17	CITY COMMENTS	JDM

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NOT APPROVED FOR CONSTRUCTION

PROJECT No: NCR151031
 DRAWN BY: JDM
 DATE: 2/8/17
 SCALE: AS NOTED
 CAD I.D.: S80

PROPOSED GROCERY

FOR
LIDL US OPERATIONS, LLC

LOCATION OF SITE
4301 S 17TH STREET
WILMINGTON, NC 28412

BOHLER ENGINEERING NC, PLLC
NCELS P-1122

4011 WESTCHASE BLVD., SUITE 290
 RALEIGH, NC 27607
 Phone: (919) 578-9000
 Fax: (919) 703-2665
 NC@BohlerEng.com

W. PAT L. BOYD
REGISTERED PROFESSIONAL ENGINEER
NO. 40324
1/12/17

SHEET TITLE:
CONSTRUCTION DETAILS

SHEET NUMBER:
D-1.2

Approved Construction Plan

Name: _____ Date: _____

Planning: _____

Traffic: _____

Fire: _____

CITY OF WILMINGTON
NORTH CAROLINA
Public Services • Engineering Division
APPROVED STORMWATER MANAGEMENT PLAN

Date: _____ Permit #: _____

Signed: _____

BOHLER ENGINEERING NC, PLLC

STATE OF NORTH CAROLINA REGISTERED PROFESSIONAL ENGINEER
NO. 15111

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SUSTAINABLE DESIGN • PERMITTING SERVICES

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REVISIONS

REV	DATE	COMMENT	BY
1	2/3/17	CITY COMMENTS	JDM

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PROJECT No: NCR151031
DRAWN BY: JDM
DATE: 2/8/17
SCALE: AS NOTED
CAD I.D.: SS0

PROPOSED GROCERY

FOR
LIDL US OPERATIONS, LLC

LOCATION OF SITE
4301 S 17TH STREET
WILMINGTON, NC 28412

BOHLER ENGINEERING NC, PLLC
NCEBELS P-1122

4011 WESTCHASE BLVD., SUITE 290
RALEIGH, NC 27607
Phone: (919) 578-9000
Fax: (919) 703-2665
NC@BohlerEng.com

NORTH CAROLINA REGISTERED PROFESSIONAL ENGINEER
No. 15111
PATT L. BOYD
ENGINEER
1/12/17

SHEET TITLE:
EROSION AND SEDIMENT CONTROL DETAILS

SHEET NUMBER:
D-14

STANDARD DETAIL

TREE PROTECTION DURING CONSTRUCTION

SHEET 2 of 2

SD 15-09

DATE: JAN, 2015
DRAWN BY: JSR
CHECKED BY: RDG, P.E.
SCALE: NOT TO SCALE

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

STANDARD DETAIL

TREE PROTECTION DURING CONSTRUCTION

SHEET 1 of 2

SD 15-09

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.

NOTE: 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.

NOTE: 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.

NOTE: 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.

NOTE: 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.

DATE: JAN, 2015
DRAWN BY: JSR
CHECKED BY: RDG, P.E.
SCALE: NOT TO SCALE

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

SILT FENCE DETAIL

NOT TO SCALE

NCDEMR MAINTENANCE NOTE:
SEDIMENT FENCE- INSPECT SEDIMENT FENCES AT LEAST ONCE A WEEK AND AFTER EACH RAINFALL. MAKE ANY REQUIRED REPAIRS IMMEDIATELY. SHOULD THE FABRIC OF THE SEDIMENT FENCE COLLAPSE, TEAR, DECOMPOSE OR BECOME INEFFECTIVE, REPLACE IT PROMPTLY. REMOVE SEDIMENT DEPOSITS AS NECESSARY TO PROVIDE ADEQUATE STORAGE VOLUME FOR THE NEXT RAIN AND TO REDUCE PRESSURE ON THE FENCE. TAKE CARE TO AVOID UNDERMINING THE FENCE DURING CLEANOUT. REMOVE ALL FENCING MATERIALS AND UNSTABLE SEDIMENT DEPOSITS AND BRING THE AREA TO GRADE AND STABILIZE IT AFTER THE CONTRIBUTING DRAINAGE AREA HAS BEEN PROPERLY STABILIZED.

Test Method	Units	Supported ^A Silt Fence		Type of Value	
		Machine Direction	XMachine Direction		
Grab Strength	ASTM D 4632	N (lbs)	400 (90)	550 (90)	MAR/V
			400 (90)	450 (90)	
Permeability <i>B</i>	ASTM D 4691	sec-1	0.05	0.05	MAR/V
Apparent Opening Size <i>B</i>	ASTM D 4751	mm (US Sieve #)	0.60 (30)	0.60 (30)	Max. ARV ^C
Ultraviolet Stability	ASTM D 4355	% Retained Strength	70% after 500 h of exposure	70% after 500 h of exposure	Typical

^A Silt fence support shall consist of 14 gage steel wire with a mesh spacing of 150 mm (6 in.) or prefabricated polymer mesh of equivalent strength.

^B These default values are based on empirical evidence with a variety of sediments. For environmentally sensitive areas, a review of previous experience and/or site or regionally specific geotextile tests in accordance with Test Method D 5141 should be performed by the agency to confirm suitability of these requirements.

^C As measured in accordance with Test Method D 4632.

TABLE 1 TAKEN FROM ASTM D 6461-99 (2007)

DIVERSION CHANNEL

NOT TO SCALE

NOTES:

- REMOVE ANY EXISTING VEGETATION AND SCARIFY OR BENCH ADJACENT SOILS PRIOR TO PLACING BERM.
- BERM MATERIALS MUST BE ADEQUATELY COMPACTED AND IMMEDIATELY STABILIZED.
- DIVERSION DITCHES/BERMS MUST BE IMMEDIATELY STABILIZED TO PREVENT EROSION AND TRANSPORT OF SEDIMENT.
- TOP SHALL BE NO LESS THAN 6" HIGHER THAN RECEIVING BASIN EMERGENCY SPILLWAY ELEVATION.

MAINTENANCE NOTES:

- INSPECT DIVERSION CHANNELS ONCE A WEEK AND AFTER EVERY RAINFALL. IMMEDIATELY REMOVE SEDIMENT FROM THE FLOW AREA AND REPAIR THE DIKE.
- CHECK OUTLETS, AND MAKE TIMELY REPAIRS AS NEEDED TO AVOID GULLY FORMATION. WHEN THE AREA ABOVE THE TEMPORARY DIVERSION DIKE IS PERMANENTLY STABILIZED, REMOVE THE DIKE, AND FILL AND STABILIZE THE CHANNEL TO BLEND WITH THE NATURAL SURFACE.

DIVERSION NAME AND SEGMENT	LENGTH (FT.)	LONGITUDINAL SLOPE	DESIGN FLOW DEPTH (IN.)	EROSION PROTECTION TYPE (I.E., MATTING, BLANKET, ETC.)	CHANNEL BOTTOM WIDTH (IN.)
D01	670	0.50%	12	JUTE NET	24