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NAD 83 /2001

ENGINEERING "NO IMPACT" CERTIFICATION

THIS IS TO CERTIFY THAT I AM A DULY QUALIFIED ENGINEER LICENSED TO PRACTICE IN THE STATE OF NORTH CAROLINA. IT IS TO FURTHER CERTIFY THAT, TO THE BEST OF MY TECHNICAL DATA SUPPORTS THE FACT THAT PROPOSED FB-4707B WILL NOT IMPACT THE 100-YEAR FLOOD ELEVATIONS AND FLOODWAY WIDTHS ON CHAPEL HILL RD

DocuSigned by: Matt West
SIGNATURE 2/3/2017 SEAL

NORTH CAROLINA PROFESSIONAL SEAL 029876 ENGINEER MATTHEW S. WEST

CITY OF DURHAM PUBLIC WORKS DEPARTMENT APPROVED

ENGINEERING	JBG	DATE 2/27/17
STORM WATER	MDV	DATE 2/28/2017
TRANSPORTATION		DATE
		DATE

Kimley»Horn

P.O. BOX 33068
RALEIGH, N.C. 27636-3068

RIGHT-OF-WAY REV.

CONST. REV.

PROJECT REFERENCE NO.	SHEET NO.
EB-4707B	UC-8

R/W SHEET NO.

UTILITY CONSTRUCTION ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 037953 ENGINEER NOLAN D. RANEY

DocuSigned by: Nolan Raney
2/3/2017

PATTERSON PARK LLC
DB 5116 PG 254
PB 175 PG 243

64 BENNIE T. GOODWIN
DB 3441 PG 559
PB 3 PG 168

66 WESTDALE LENOX LLC
DB 6883 PG 822

65 BOULEVARD GOLDEN POND LLC
DB 6063 PG 107

61 HIC MANAGEMENT CORP INC
DB 133 PG 397
PB 96 PG 38

68 RICHARD J. RYAN
DB 931 PG 601
PB 31 PG 86

69 JESSICA K ADAM FKA JOHN K. McVICKER
DB 5505 PG 900
DB 7560 PG 558

70 MARGARET A. DREYER
DB 3186 PG 86

71 DURHAM PUBLIC SCHOOLS BOARD
PB 84 PG 19

MATCHLINE STA 93+20 (SHEET UC 7)

MATCHLINE STA 107+00 (SHEET UC 9)

-Y18- POT Sta. 12+10.00= BEGIN CONSTRUCTION

-Y18A- POT Sta. 12+85.00= END MILLING BEGIN GRADE
-Y18A- POT Sta. 12+48.55= BEGIN CONSTRUCTION MH-1 EXISTING PAVEMENT TO TIE TO PROPOSED

-Y19- POT Sta. 10+00.00= END CONSTRUCTION

PROPOSED 75 LF 24" ENCASEMENT PIPE
PROPOSED 37 LF 24" TRENCHLESS INSTALLATION NOT IN SOIL
PROPOSED 38 LF 24" TRENCHLESS INSTALLATION IN SOIL
PROPOSED 50 LF 16" ENCASEMENT PIPE CENTERED ON CULVERT CROSSING
REPLACE 60 LF 8" PVC SANITARY GRAVITY SEWER WITH 8" DI SANITARY GRAVITY SEWER SEE SHEET UC-14 FOR PROFILE.
PROPOSED DOGHOUSE MANHOLE -L- STA 105+13.32 OFFSET 35.09 (LT) RIM = 252.54 INV IN = 238.80 INV OUT = 238.80
PROPOSED 10'x10' RECEIVING PIT
PROPOSED 12" 45° BEND -L- STA 104+74.33 OFFSET 55.94 (LT)
ABANDON 210 LF OF 12" UTILITY PIPE
PROPOSED 12" 45° BEND -L- STA 104+58.87 OFFSET 40.45 (LT)
PROPOSED 225 LF OF 12" FORCE MAIN SEWER
CONTRACTOR TO VERIFY LOCATION OF EXISTING PUMP STATION WATER METER
PROPOSED (2) 12" 45° BEND WITH THRUST BLOCKING -L- STA 104+30.87 OFFSET 42.01 (LT)
RELOCATE EXISTING WATER METER INV IN=234.51'
EXISTING PUMP STATION
REMOVE EX 18" RCP
100' CITY OF DURHAM STREAM BUFFER
ADJUST MANHOLE RING AND COVER
PROPOSED 12" 45° BEND -L- STA 106+20.97 OFFSET 22.09 (LT)
PROPOSED 12" 45° BEND -L- STA 105+91.63 OFFSET 53.86 (LT)
PROPOSED DOGHOUSE MANHOLE -L- STA 105+73.32 OFFSET 35.73 (LT) RIM= 252.80 INV IN= 239.88 INV OUT= 239.88
PROPOSED 15'x40' BORE PIT
PROPOSED THRUST COLLAR (TYP. 2) SEE DETAIL W-8.1
CONNECT TO EXISTING 12" FORCE MAIN WITH 12" DI MJ SOLID SLEEVE -L- STA 106+30.98 OFFSET 22.03 (LT)

CONTRACTOR SHALL VERIFY EXISTING WATERLINE ELEVATION AND VERTICALLY ADJUST AS NEEDED TO ACCOMODATE STORM DRAIN INSTALLATION, PER DETAIL 0222128. SEE NOTE 1.
PROPOSED 20 LF OF 12" WATER LINE AND (2) THRUST COLLARS PER DETAIL W-8.1
BOTTOM OF STORM PIPE AT CROSSING = 259.71 (FIELD VERIFY)
PROPOSED 12" VALVE -L- STA 103+71.54 OFFSET 43.94 (RT)
PROPOSED 12"x8" TEE -L- STA 103+66.57 OFFSET 43.89 (RT) -Y19- STA 10+43.81 OFFSET 16.76 (LT)
RELOCATE EXISTING WATER METER
PROPOSED 12" 45° BEND -L- STA 103+44.89 OFFSET 43.69 (RT)
PROPOSED 12" 45° BEND -L- STA 103+24.48 OFFSET 19.98 (RT)
RELOCATE EXISTING WATER METER
ADJUST MANHOLE RING AND COVER
RELOCATE EXISTING WATER METER
ADJUST VALVE BOX
ADJUST MANHOLE RING AND COVER
ADJUST VALVE BOX
ADJUST METER BOX
ADJUST METER BOX
ADJUST METER BOX
ADJUST MANHOLE RING AND COVER
ADJUST MANHOLE RING AND COVER
CONNECT TO EXISTING 12" WATER LINE WITH 12" DI MJ SOLID SLEEVE -L- STA 103+07.99 OFFSET 20.02 RT
ABANDON 60 LF OF 8" UTILITY PIPE
CONNECT TO EXISTING 8" WATER LINE WITH 8" DI MJ SOLID SLEEVE -Y19- STA 10+71.39 OFFSET 12.42 (LT)
PROPOSED FIRE HYDRANT ASSEMBLY TO BE PLACED ENTIRELY WITHIN EXISTING R/W PER DETAIL 1515.02
REMOVE EXISTING FIRE HYDRANT
PROPOSED 8" VALVE -L- STA 103+66.66 OFFSET 48.89 (RT) -Y19- STA 10+48.81 OFFSET 16.88 (LT)
PROPOSED 30 LF OF 8" WATER LINE
ABANDON 335 LF OF 12" UTLITY PIPE
RELOCATE EXISTING WATER METER
PROPOSED 348 LF OF 12" WATER LINE
100' CITY OF DURHAM STREAM BUFFER
PROPOSED 50 LF 24" ENCASEMENT PIPE CENTERED ON CULVERT CROSSING
PROPOSED 12" 45° BEND -L- STA 106+35.05 OFFSET 34.48 (RT)
PROPOSED 12" 45° BEND -L- STA 106+39.64 OFFSET 29.43 (RT)
CONNECT TO EXISTING 12" WATER LINE WITH 12" DI MJ SOLID SLEEVE -L- STA 106+49.64 OFFSET 29.59 (RT)
PROPOSED 12" 22.5° BEND -L- STA 105+62.45 OFFSET 33.20 (RT)
PROPOSED 12" 22.5° BEND -L- STA 105+30.43 OFFSET 46.57 (RT)

NOTE:
1. CONTRACTOR SHALL VERIFY EXISTING WATERLINE ELEVATION IN RELATION TO PROPOSED STORM PIPE INSTALLATION. INVESTIGATION SHALL BE INCIDENTAL TO STORM PIPE INSTALLATION. IF LESS THAN 6" CLEARANCE BETWEEN PROPOSED STORM AND EXISTING WATERLINE, RELOCATE WATERLINE AS SHOWN ON THE PLANS PER DETAIL 0222118 AND PROVIDE 12" MINIMUM SEPARATION BETWEEN THE STORM AND WATERLINE. IF BETWEEN 6" AND 24" CLEARANCE BETWEEN THE PROPOSED STORM PIPE AND EXISTING WATERLINE, PROVIDE PIPELINE CROSSING PER DETAIL 0222118. IF GREATER THAN 24" CLEARANCE BETWEEN THE PROPOSED STORM PIE AND EXISTING WATERLINE, NO ADDITIONAL WORK IS REQUIRED.
2. CONTRACTOR SHALL INSTALL AND TEST PROPOSED WATERLINE PRIOR TO CUTTING AND CONNECTING TO EXISTING WATERLINE.
3. BACKWATER ZONE AE FLOODPLAIN FOR NEW HOPE CREEK SHOWN WITH BFE OF 250.12. 1% FUTURE CONDITIONS BFE IS 251.04.

PIPE HYDRAULIC DATA
(1126) 2 @ 10'x 7' RCBC (BURIED 1')

DRAINAGE AREA	=	394 AC
DESIGN FREQUENCY	=	50 YRS
DESIGN DISCHARGE	=	900 CFS
DESIGN HW ELEVATION	=	250.2 FT
100 YEAR DISCHARGE	=	1000 CFS
100 YEAR HW ELEVATION	=	250.8 FT
OVERTOPPING FREQUENCY	=	> 100 YRS
OVERTOPPING DISCHARGE	=	> 1265 CFS
OVERTOPPING ELEVATION	=	252.42 FT

FLOOD ZONE AE
FLOOD ZONE 0.2% ANNUAL CHANCE FLOOD HAZARD

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