

**BOHLER ENGINEERING PLLC**  
 CIVIL AND CONSTRUCTION ENGINEERING ARCHITECTURE  
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REGISTERED PROFESSIONAL ENGINEER  
 NORTH CAROLINA STATE BOARD OF ENGINEERS  
 No. 31128

1/9/18

**STORM STRUCTURE SCHEDULE**

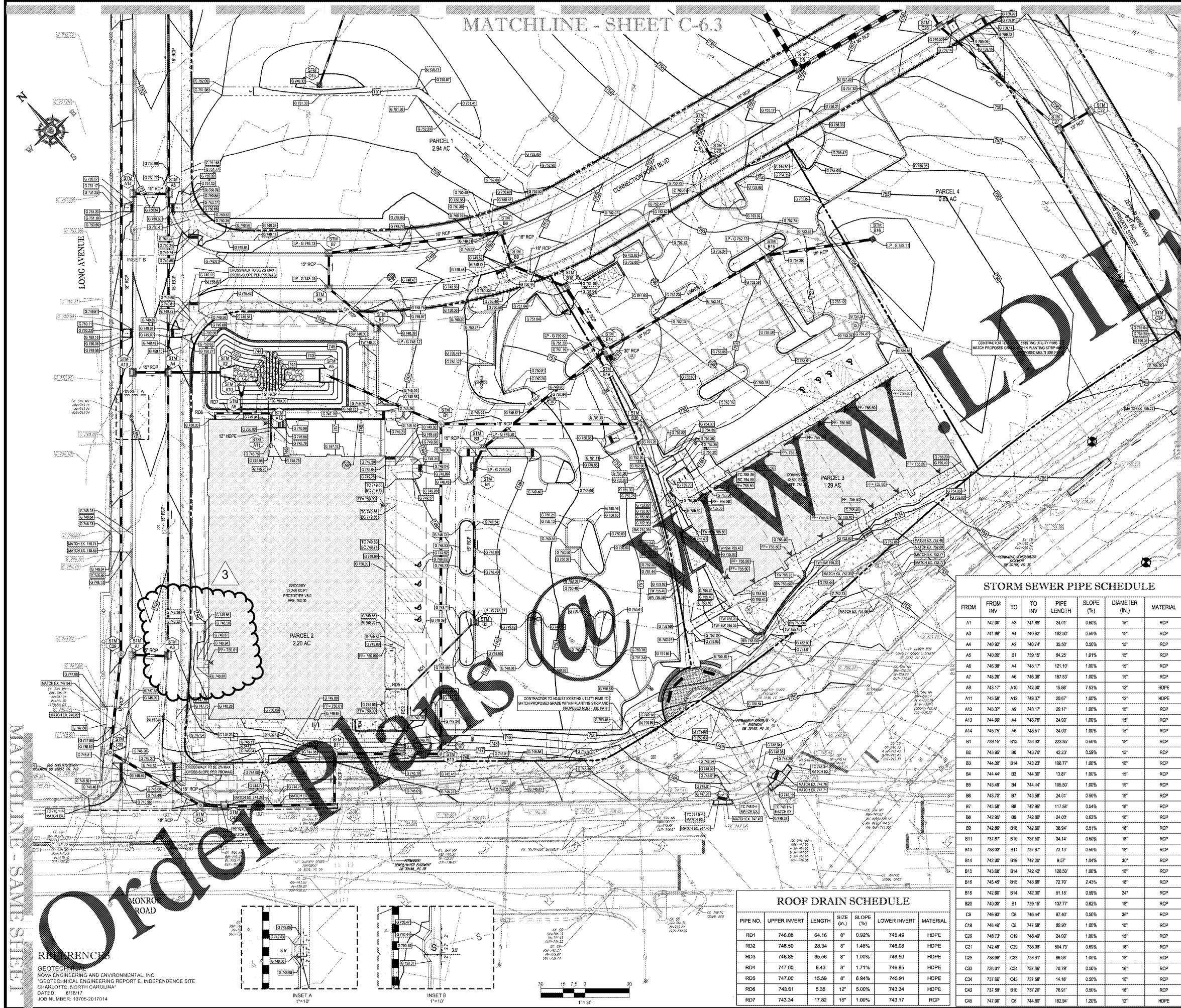
NAME	TYPE	RIM ELEV. (FT.)	INVERTS
A1	NCDOT STD 840.02	743.80	INV OUT = 742.00 (15')
A2	NCDOT STD. 838.80	742.18	INV IN = 740.74 (15')
A3	NCDOT STD 840.03	747.89	INV IN = 741.88 (15') INV OUT = 741.88 (15')
A4	NCDOT STD 840.03	749.32	INV IN = 745.17 (15') INV IN = 740.92 (15') INV IN = 743.78 (15') INV OUT = 740.92 (15')
A5	RISEN STRUCTURE. SEE SHEET C-11.1		INV OUT = 740.00 (15')
A6	NCDOT STD 840.03	750.77	INV IN = 748.38 (15') INV IN = 745.51 (15') INV OUT = 746.36 (15')
A9	TEE		INV IN = 743.17 (15') INV IN = 743.17 (15') INV OUT = 743.17 (12')
A10	FLARED END SECTION		INV IN = 742.00 (12')
A11	TRUCK WELL CATCH BASIN	745.58	INV IN = 743.58 (12') INV OUT = 743.00 (15')
A12	BEND		INV IN = 743.37 (12') INV OUT = 743.00 (15')
A13	OFFSET CATCH BASIN (ELODM STD. 20.34)	749.32	INV OUT = 744.00 (15')
A14	OFFSET CATCH BASIN (ELODM STD. 20.34)	750.77	INV OUT = 745.75 (15')
B1	NCDOT STD. 840.52	748.99	INV IN = 739.15 (15') INV IN = 739.15 (18') INV OUT = 739.15 (15')
B2	NCDOT STD 840.02	748.12	INV OUT = 743.95 (15')
B3	NCDOT STD 840.02	748.28	INV IN = 744.30 (15') INV OUT = 744.30 (15')
B4	NCDOT STD 840.02	748.05	INV IN = 744.44 (15') INV OUT = 744.44 (15')
B5	NCDOT STD 840.02	748.27	INV IN = 745.47 (8') INV OUT = 745.49 (15')
B6	NCDOT STD 840.02	748.13	INV IN = 743.70 (15') INV OUT = 743.70 (15')
B7	NCDOT STD 840.02	748.13	INV IN = 743.50 (15') INV OUT = 743.50 (15')
B8	NCDOT STD 840.02	750.03	INV IN = 742.99 (18') INV OUT = 742.90 (15')
B9	NCDOT STD 840.02	750.08	INV IN = 742.90 (18') INV OUT = 742.80 (15')
B10	EX NCDOT STD 840.02	744.21	INV IN = 737.50 (18') INV IN = 731.20 (18') INV OUT = 737.11 (30')
B11	NCDOT STD. 840.52	748.63	INV IN = 737.67 (18') INV OUT = 737.67 (18')
B13	NCDOT STD. 840.52	748.40	INV IN = 738.03 (18') INV OUT = 738.03 (18')
B14	NCDOT STD 840.02	750.62	INV IN = 742.42 (18') INV IN = 742.30 (24') INV IN = 743.22 (18') INV OUT = 742.30 (30')
B15	NCDOT STD 840.02	752.13	INV IN = 743.68 (18') INV OUT = 743.68 (18')
B16	NCDOT STD 840.18	753.11	INV OUT = 745.45 (18')
B18	NCDOT STD 840.02	751.18	INV IN = 742.60 (18') INV OUT = 742.60 (24')
B19	UNDG IN SEE SHEET C-11.3		INV IN = 742.00 (30')
E20	UNDG OUT SEE SHEET C-11.3		INV OUT = 740.00 (18')
C1	NCDOT STD 840.02	755.81	INV IN = 746.44 (30') INV IN = 747.58 (15') INV OUT = 746.44 (30')
C19	NCDOT STD 840.02	753.80	INV IN = 748.40 (15') INV OUT = 748.49 (15')
C20	NCDOT STD 840.02	753.80	INV OUT = 748.73 (15')
C29	NCDOT STD. 840.52	748.06	INV IN = 738.98 (18') INV OUT = 738.98 (18')
C33	NCDOT STD 840.52	748.99	INV IN = 738.31 (18') INV IN = 740.81 (18')
C34	TRAFFIC BEARING STRUCTURE WITH MANHOLE COVER NCDOT STD. 846.46	742.68	INV IN = 737.66 (18') INV IN = 740.81 (18') INV OUT = 737.66 (18')
C43	NCDOT STD 840.03	744.57	INV IN = 737.58 (18') INV OUT = 737.58 (18')
C45	NCDOT STD 840.02	748.47	INV OUT = 747.00 (12')

**STORM SEWER PIPE SCHEDULE**

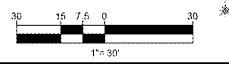
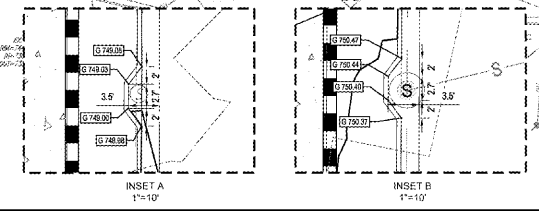
FROM	FROM INV	TO	TO INV	PIPE LENGTH	SL. (%)	DIAMETER (IN.)	MATERIAL
A1	742.00	A3	741.88	24.01	0.50%	15"	RCP
A3	741.88	A4	740.92	192.50	0.50%	15"	RCP
A4	740.92	A2	740.74	38.50	0.50%	15"	RCP
A5	740.00	B1	739.15	84.25	1.01%	15"	RCP
A6	746.38	A4	746.17	121.10	1.00%	15"	RCP
A7	748.28	A6	748.38	187.53	1.00%	15"	RCP
A8	743.17	A10	742.00	15.88	7.53%	12"	HDPE
A11	743.58	A12	743.37	20.67	1.00%	12"	HDPE
A12	743.37	A9	743.17	20.17	1.00%	12"	HDPE
A13	744.00	A4	743.76	24.00	1.00%	15"	RCP
A14	745.75	A6	745.51	24.00	1.00%	15"	RCP
B1	739.15	B13	738.03	223.85	0.50%	15"	RCP
B2	743.95	B6	743.70	42.23	0.58%	15"	RCP
B3	744.30	B14	743.29	106.77	1.00%	15"	RCP
B4	744.44	B3	744.30	13.87	1.00%	15"	RCP
B5	745.49	B4	744.44	105.50	1.00%	15"	RCP
B6	743.70	B7	743.58	24.01	0.50%	15"	RCP
B7	743.58	B8	742.95	117.58	0.54%	15"	RCP
B8	742.95	B9	742.80	24.00	0.63%	15"	RCP
B9	742.80	B18	742.60	38.94	0.61%	15"	RCP
B11	737.67	B10	737.50	34.14	0.50%	15"	RCP
B13	738.03	B11	737.67	72.13	0.50%	15"	RCP
B14	742.30	B19	742.00	9.57	1.04%	30"	RCP
B15	743.68	B14	742.42	128.50	1.00%	15"	RCP
B16	745.45	B15	743.88	72.79	2.43%	18"	RCP
B18	742.60	B14	742.30	51.10	0.38%	24"	RCP
B20	740.00	B1	739.15	137.77	0.62%	15"	RCP
C8	746.83	C8	746.44	87.40	0.50%	36"	RCP
C19	748.49	C8	747.68	89.30	1.00%	15"	RCP
C20	748.73	C19	748.49	24.00	1.00%	15"	RCP
C21	742.48	C29	738.98	504.73	0.68%	18"	RCP
C29	738.98	C33	738.31	66.98	1.00%	15"	RCP
C33	738.31	C34	737.66	70.78	0.50%	18"	RCP
C34	737.66	C43	737.58	14.18	0.50%	15"	RCP
C43	737.58	B10	737.20	76.91	0.50%	15"	RCP
C45	747.00	C8	744.80	192.94	1.20%	12"	HDPE

**ROOF DRAIN SCHEDULE**

PIPE NO.	UPPER INVERT	LENGTH	SIZE (IN.)	SLOPE (%)	LOWER INVERT	MATERIAL
RD1	746.08	64.16	8"	0.92%	745.49	HDPE
RD2	746.50	28.34	8"	1.46%	746.08	HDPE
RD3	746.85	35.56	8"	1.00%	746.50	HDPE
RD4	747.00	8.43	8"	1.71%	746.85	HDPE
RD5	747.00	15.59	8"	6.94%	746.91	HDPE
RD6	743.81	5.35	12"	5.00%	743.34	HDPE
RD7	743.34	17.82	15"	1.00%	743.17	RCP



**Order Plans**



**REFERENCES**  
 GEOTECHNICAL  
 NOVA ENGINEERING AND ENVIRONMENTAL, INC  
 "GEOTECHNICAL ENGINEERING REPORT E. INDEPENDENCE SITE  
 CHARLOTTE, NORTH CAROLINA"  
 DATED: 6/16/17  
 JOB NUMBER: 10765-2017014

**REVISIONS**

REV	DATE	COMMENT	BY
1	10/11/17	PER CITY OF CLT & NCDOT COMMENTS	SRF
2	11/29/17	PER CITY OF CLT & NCDOT COMMENTS	SRF
3	1/9/18	PER MECKLENBURG COUNTY COMMENTS	SRF

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

PROJECT No.: NCC162120  
 DRAWN BY: SRP/AJS  
 CHECKED BY: BWR  
 DATE: 8/9/17  
 SCALE: AS NOTED  
 CAD I.D.: GUE

PROJECT:  
**CONNECTION POINT**  
 FOR  
**EASTSIDE CONNECTIONS JV, LLC**  
 LOCATION OF SITE  
 MONROE RD & LONG AVE  
 CHARLOTTE, NC 28212  
 MECKLENBURG COUNTY

**BOHLER ENGINEERING INC., PLLC**  
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**GRADING AND DRAINAGE PLAN**  
 SHEET NUMBER:  
**C-6.1**