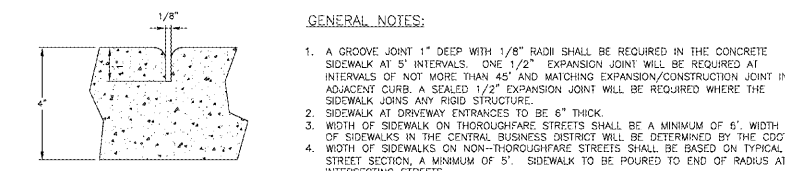


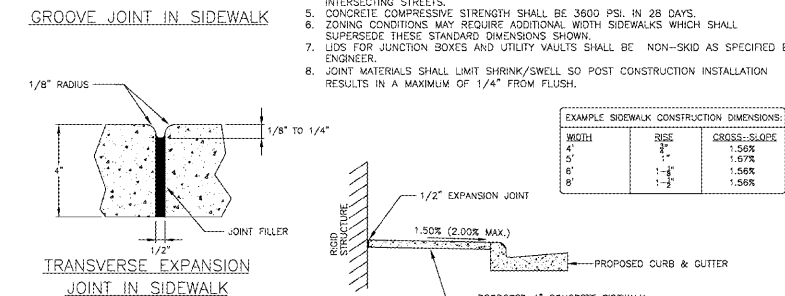
- NOTE:
- WHERE 2'-6" CURB AND GUTTER IS USED, CATCH BASINS MAY BE LOCATED AT END OF RADIUS.
 - RADIUS AT INTERSECTION MAY VARY.

CITY OF CHARLOTTE LAND DEVELOPMENT STANDARDS
INCLUDES CHARLOTTE ETJ

CATCH BASIN PLACEMENT AT INTERSECTIONS
STD. NO. 10.30



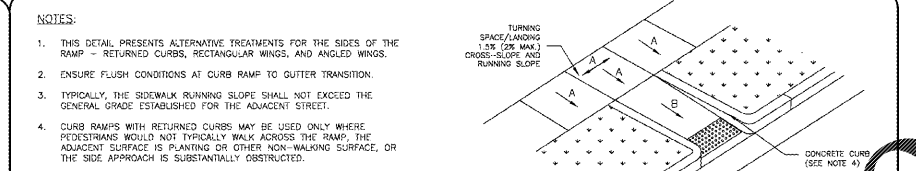
- GENERAL NOTES:
- A GROOVE JOINT 1" DEEP WITH 1/8" RADI SHALL BE REQUIRED IN THE CONCRETE SIDEWALK AT 5' INTERVALS. ONE 1/2" EXPANSION JOINT WILL BE REQUIRED AT INTERVALS OF NOT MORE THAN 45' AND MATCHING EXPANSION/CONSTRUCTION JOINT IN ADJACENT CURB. A SCALED 1/2" EXPANSION JOINT WILL BE REQUIRED WHERE THE SIDEWALK JOINS ANY RIGID STRUCTURE.
 - SIDEWALK AT DRIVEWAY ENTRANCES TO BE 6" THICK.
 - WIDTH OF SIDEWALK ON THROUGHFARE STREETS SHALL BE A MINIMUM OF 6' WIDTH OF SIDEWALKS IN THE CENTRAL BUSINESS DISTRICT WILL BE DETERMINED BY THE CDDT.
 - WIDTH OF SIDEWALKS ON NON-THROUGHFARE STREETS SHALL BE BASED ON TYPICAL STREET SECTION. A MINIMUM OF 5' SIDEWALK TO BE POURED TO END OF RADIUS AT INTERSECTING STREETS.
 - CONCRETE COMPRESSIVE STRENGTH SHALL BE 3600 PSI. IN 28 DAYS.
 - ZONING CONDITIONS MAY REQUIRE ADDITIONAL WIDTH SIDEWALKS WHICH SHALL SUPERSEDE THESE STANDARD DIMENSIONS SHOWN.
 - LIDS FOR JUNCTION BOXES AND UTILITY VAULTS SHALL BE NON-SKID AS SPECIFIED BY ENGINEER.
 - JOINT MATERIALS SHALL LIMIT SHRINK/SWELL SO POST CONSTRUCTION INSTALLATION RESULTS IN A MAXIMUM OF 1/4" FROM FLUSH.



WIDTH	RISE	CROSS-SLOPE
4'	1"	1.56%
5'	1"	1.57%
6'	1"	1.58%
8'	1"	1.58%

CITY OF CHARLOTTE LAND DEVELOPMENT STANDARDS
INCLUDES CHARLOTTE ETJ

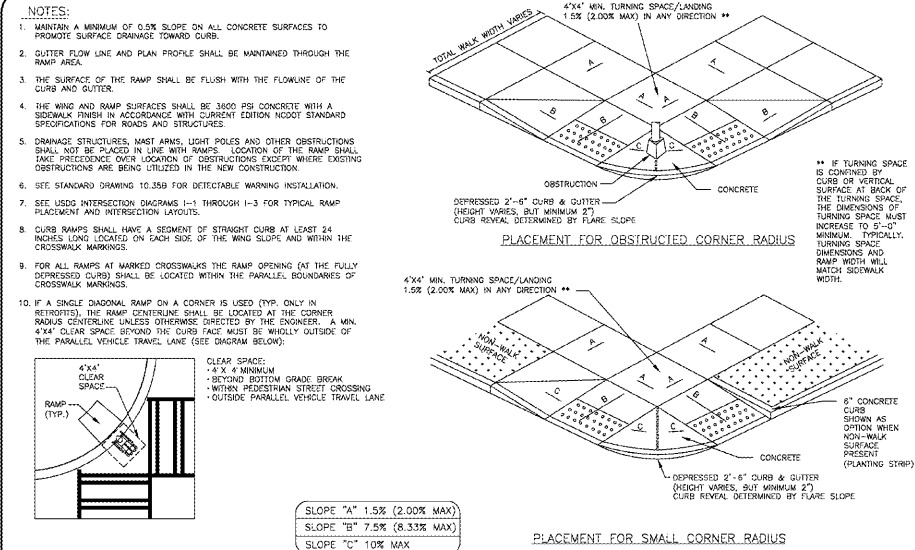
CONCRETE SIDEWALKS
STD. NO. 10.22



- NOTES:
- THIS DETAIL PRESENTS ALTERNATIVE TREATMENTS FOR THE SIDES OF THE RAMP - RETURNED CURBS, RECTANGULAR WINGS, AND ANGLED WINGS.
 - ENSURE FLUSH CONDITIONS AT CURB RAMP TO GUTTER TRANSITION.
 - TYPICALLY, THE SIDEWALK RUNNING SLOPE SHALL NOT EXCEED THE GENERAL GRADE ESTABLISHED FOR THE ADJACENT STREET.
 - CURB RAMPS WITH RETURNED CURBS MAY BE USED ONLY WHERE PEDESTRIANS WOULD NOT TYPICALLY WALK ACROSS THE RAMP. THE ADJACENT SURFACE IS PAVING OR OTHER NON-WALKING SURFACE, OR THE SIDE APPROACH IS SUBSTANTIALLY OBSTRUCTED.

CITY OF CHARLOTTE LAND DEVELOPMENT STANDARDS
INCLUDES CHARLOTTE ETJ

PERPENDICULAR CURB RAMP WITH 2'-6" CURB AND GUTTER
STD. NO. 10.31

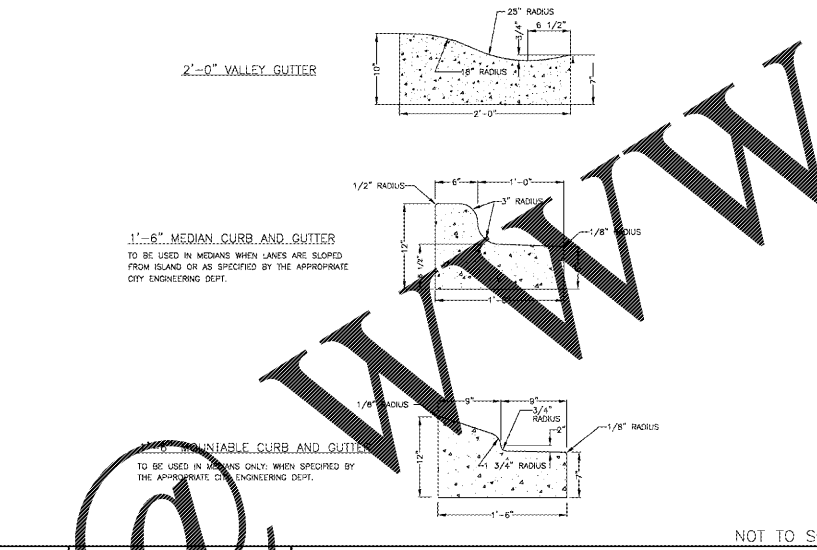


- NOTES:
- MAINTAIN A MINIMUM OF 0.5% SLOPE ON ALL CONCRETE SURFACES TO PROMOTE SURFACE DRAINAGE TOWARD CURB.
 - GUTTER FLOW LINE AND PLAN PROFILE SHALL BE MAINTAINED THROUGH THE RAMP AREA.
 - THE SURFACE OF THE RAMP SHALL BE FLUSH WITH THE FLOWLINE OF THE CURB AND GUTTER.
 - THE WING AND RAMP SURFACES SHALL BE 3600 PSI CONCRETE WITH A SIDEWALK FINISH IN ACCORDANCE WITH CURRENT EDITION NCDOT STANDARD SPECIFICATIONS FOR RAMPS AND STRUCTURES.
 - DRAINAGE STRUCTURES, MAST ARMS, LIGHT POLES AND OTHER OBSTRUCTIONS SHALL NOT BE PLACED IN LINE WITH RAMPS. LOCATION OF THE RAMP SHALL TAKE PRECEDENCE OVER LOCATION OF OBSTRUCTIONS EXCEPT WHERE EXISTING OBSTRUCTIONS ARE BEING UTILIZED IN THE NEW CONSTRUCTION.
 - SEE STANDARD DRAWING 10.359 FOR DETECTABLE WARNING INSTALLATION.
 - SEE USUAL INTERSECTION DIAGRAMS 1-1 THROUGH 1-3 FOR TYPICAL RAMP PLACEMENT AND INTERSECTION LAYOUTS.
 - CURB RAMPS SHALL HAVE A SEGMENT OF STRAIGHT CURB AT LEAST 24 INCHES LONG LOCATED ON EACH SIDE OF THE WING SLOPE AND WITHIN THE CROSSWALK MARKINGS.
 - FOR ALL RAMPS AT MARKED CROSSWALKS THE RAMP OPENING IN THE FULLY DERESSED CURB SHALL BE LOCATED WITHIN THE PARALLEL BOUNDARIES OF CROSSWALK MARKINGS.
 - IF A SINGLE DIAGONAL RAMP ON A CORNER IS USED (TYP. ONLY IN RETROFIT), THE RAMP CENTERLINE SHALL BE LOCATED AT THE CORNER RADIUS CENTERLINE UNLESS OTHERWISE DIRECTED BY THE ENGINEER. A MIN. 4'x4' CLEAR SPACE BEYOND THE CURB FACE MUST BE WHOLLY OUTSIDE OF THE PARALLEL VEHICLE TRAVEL LANE (SEE DIAGRAM BELOW).

SLOPE "A"	1.5% (2.00% MAX)
SLOPE "B"	7.5% (8.33% MAX)
SLOPE "C"	10% MAX

CITY OF CHARLOTTE LAND DEVELOPMENT STANDARDS
INCLUDES CHARLOTTE ETJ

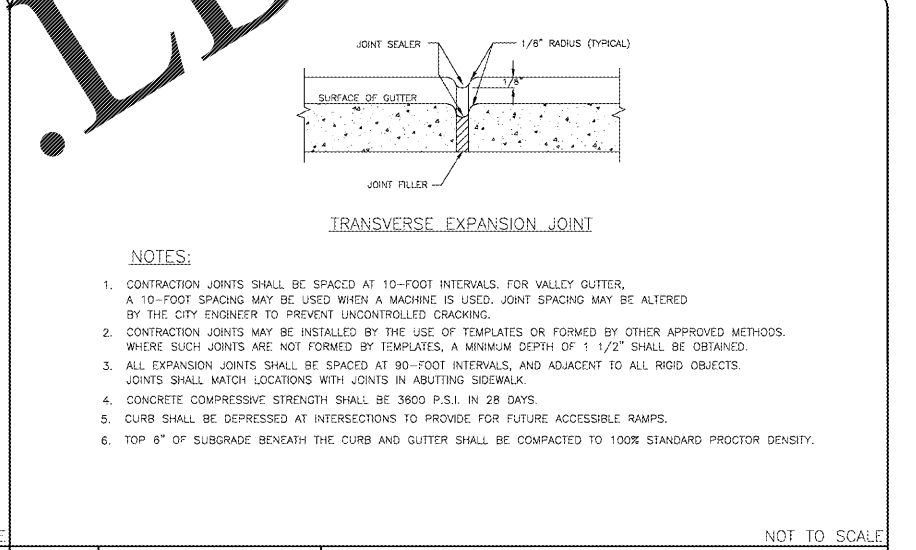
STANDARD PLACEMENT OF CURB RAMP AND GENERAL NOTES
STD. NO. 10.35A



- NOTES:
- CONCRETE TO BE 3600 P.S.I.
 - ALL CURB OR CURB AND GUTTER AND SIDEWALKS ARE TO BE REMOVED TO THE NEAREST JOINT BEYOND NEW CONSTRUCTION OR CUT WITH A SAW AND REMOVED. SAW CUT OR JOINT TO BE PERPENDICULAR TO EDGE OF EXISTING PAVEMENT. SEE STD. NO. 10.17 FOR JOINT DETAIL.
 - ALL DRIVEWAYS MUST MEET THE CURRENT CITY DRIVEWAY REGULATIONS AND NCDOT REQUIREMENTS FOR SPACING, SIGHT DISTANCE AND OFFSETS FROM PROPERTY LINES AND INTERSECTIONS.
 - "X" BREAKOVER SHALL BE 6% OR LESS (A = ALGEBRAIC DIFFERENCE).
 - PRIOR APPROVAL IS REQUIRED BY CDDT ON GRADES EXCEEDING WHAT ARE SHOWN.
 - ** PER NC IPC SECTION D103.2, FIRE APPARATUS ACCESS ROADS SHALL NOT EXCEED 10 PERCENT IN GRADE.
 - JOINT MATERIAL SHOULD BE PLACED FLUSH WITH CONCRETE.

CITY OF CHARLOTTE LAND DEVELOPMENT STANDARDS
INCLUDES CHARLOTTE ETJ

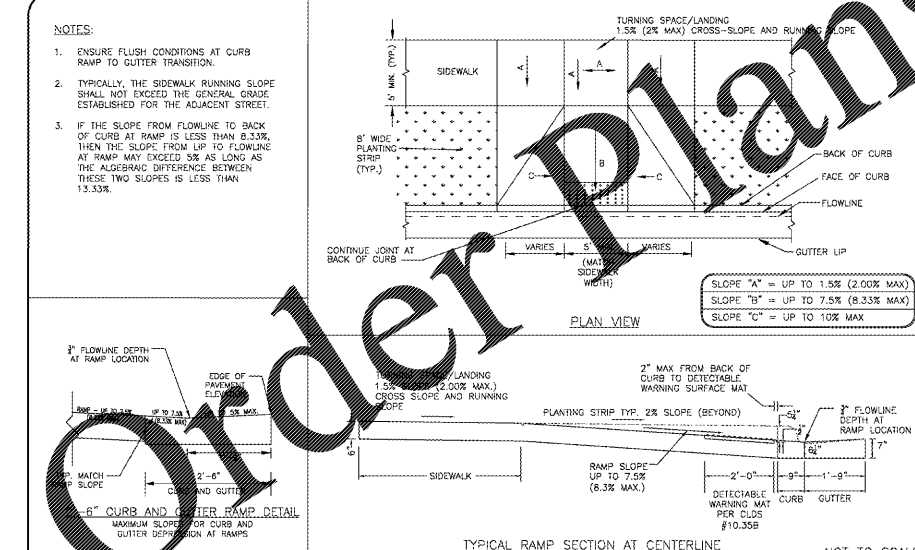
CURB AND GUTTER
STD. NO. 10.17B



- NOTES:
- CONTRACTION JOINTS SHALL BE SPACED AT 10'-FOOT INTERVALS. FOR VALLEY GUTTER, A 10'-FOOT SPACING MAY BE USED WHEN A MACHINE IS USED. JOINT SPACING MAY BE ALTERED BY THE CITY ENGINEER TO PREVENT UNCONTROLLED CRACKING.
 - CONTRACTION JOINTS MAY BE INSTALLED BY THE USE OF TEMPLATES OR FORMED BY OTHER APPROVED METHODS. WHERE SUCH JOINTS ARE NOT FORMED BY TEMPLATES, A MINIMUM DEPTH OF 1 1/2" SHALL BE OBTAINED.
 - ALL EXPANSION JOINTS SHALL BE SPACED AT 90'-FOOT INTERVALS, AND ADJACENT TO ALL RIGID OBJECTS. JOINTS SHALL MATCH LOCATIONS WITH JOINTS IN ADJUTING SIDEWALK.
 - CONCRETE COMPRESSIVE STRENGTH SHALL BE 3600 P.S.I. IN 28 DAYS.
 - CURB SHALL BE DERESSED AT INTERSECTIONS TO PROVIDE FOR FUTURE ACCESSIBLE RAMPS.
 - TOP 6" OF SUBGRADE BENEATH THE CURB AND GUTTER SHALL BE COMPACTED TO 100% STANDARD PROCTOR DENSITY.

CITY OF CHARLOTTE LAND DEVELOPMENT STANDARDS
INCLUDES CHARLOTTE ETJ

CURB AND GUTTER
STD. NO. 10.17C

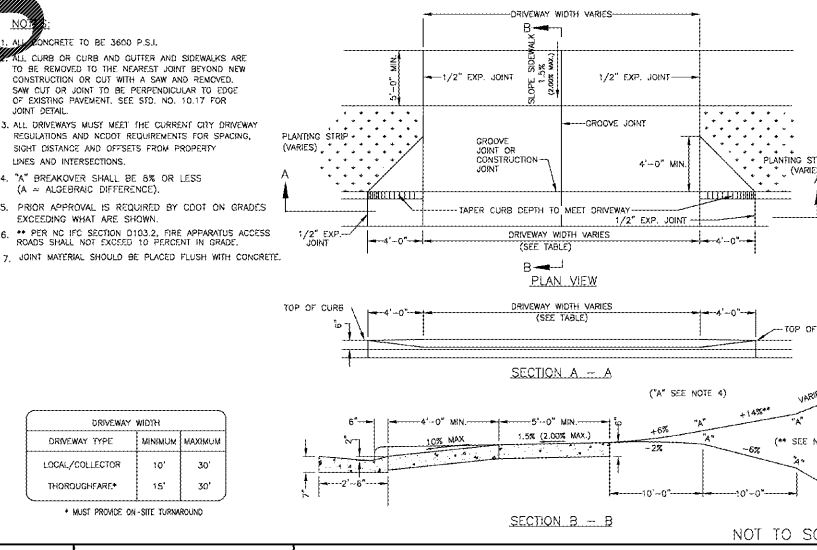


- NOTES:
- ENSURE FLUSH CONDITIONS AT CURB RAMP TO GUTTER TRANSITION.
 - TYPICALLY, THE SIDEWALK RUNNING SLOPE SHALL NOT EXCEED THE GENERAL GRADE ESTABLISHED FOR THE ADJACENT STREET.
 - IF THE SLOPE FROM FLOWLINE TO BACK OF CURB AT RAMP IS LESS THAN 8.33%, THEN THE SLOPE FROM UP TO FLOWLINE AT RAMP MAY EXCEED 5% AS LONG AS THE ALGEBRAIC DIFFERENCE BETWEEN THESE TWO SLOPES IS LESS THAN 13.33%.

SLOPE "A"	UP TO 1.5% (2.00% MAX)
SLOPE "B"	UP TO 7.5% (8.33% MAX)
SLOPE "C"	UP TO 10% MAX

CITY OF CHARLOTTE LAND DEVELOPMENT STANDARDS
INCLUDES CHARLOTTE ETJ

PERPENDICULAR CURB RAMP WITH 2'-6" CURB AND GUTTER
STD. NO. 10.31A

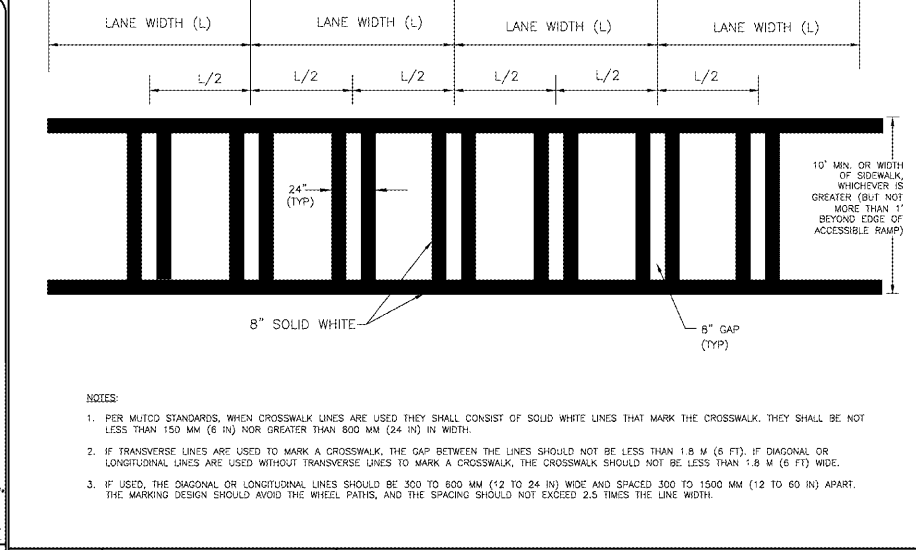


- NOTES:
- CONCRETE TO BE 3600 P.S.I.
 - ALL CURB OR CURB AND GUTTER AND SIDEWALKS ARE TO BE REMOVED TO THE NEAREST JOINT BEYOND NEW CONSTRUCTION OR CUT WITH A SAW AND REMOVED. SAW CUT OR JOINT TO BE PERPENDICULAR TO EDGE OF EXISTING PAVEMENT. SEE STD. NO. 10.17 FOR JOINT DETAIL.
 - ALL DRIVEWAYS MUST MEET THE CURRENT CITY DRIVEWAY REGULATIONS AND NCDOT REQUIREMENTS FOR SPACING, SIGHT DISTANCE AND OFFSETS FROM PROPERTY LINES AND INTERSECTIONS.
 - "X" BREAKOVER SHALL BE 6% OR LESS (A = ALGEBRAIC DIFFERENCE).
 - PRIOR APPROVAL IS REQUIRED BY CDDT ON GRADES EXCEEDING WHAT ARE SHOWN.
 - ** PER NC IPC SECTION D103.2, FIRE APPARATUS ACCESS ROADS SHALL NOT EXCEED 10 PERCENT IN GRADE.
 - JOINT MATERIAL SHOULD BE PLACED FLUSH WITH CONCRETE.

DRIVEWAY WIDTH	MINIMUM	MAXIMUM
LOCAL/COLLECTOR	10'	30'
THROUGHFARE**	15'	30'

CITY OF CHARLOTTE LAND DEVELOPMENT STANDARDS
INCLUDES CHARLOTTE ETJ

RESIDENTIAL DROP CURB TYPE I DRIVEWAY WITH PLANTING STRIP (2'-6" CURB AND GUTTER)
STD. NO. 10.25A



- NOTES:
- PER MUTCD STANDARDS, WHEN CROSSWALK LINES ARE USED THEY SHALL CONSIST OF SOLID WHITE LINES THAT MARK THE CROSSWALK. THEY SHALL BE NOT LESS THAN 150 MM (6 IN) NOR GREATER THAN 800 MM (24 IN) IN WIDTH.
 - IF TRANSVERSE LINES ARE USED TO MARK A CROSSWALK, THE GAP BETWEEN THE LINES SHOULD NOT BE LESS THAN 1.8 M (6 FT). IF DIAGONAL OR LONGITUDINAL LINES ARE USED WITHOUT TRANSVERSE LINES TO MARK A CROSSWALK, THE CROSSWALK SHOULD NOT BE LESS THAN 1.8 M (6 FT) WIDE.
 - IF USED, THE DIAGONAL OR LONGITUDINAL LINES SHOULD BE 300 TO 800 MM (12 TO 24 IN) WIDE AND SPACED 300 TO 1500 MM (12 TO 60 IN) APART. THE MARKING DESIGN SHOULD AVOID THE WHEEL PATNS, AND THE SPACING SHOULD NOT EXCEED 2.5 TIMES THE LINE WIDTH.

CITY OF CHARLOTTE LAND DEVELOPMENT STANDARDS
INCLUDES CHARLOTTE ETJ

CROSSWALK
STD. NO. 50.14

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CHARLOTTE, NC 28203
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REVISIONS

REV.	DATE	COMMENT	BY
1	10/11/17	PER CITY OF CLT & NCDOT COMMENTS	SRF
2	11/28/17	PER CITY OF CLT & NCDOT COMMENTS	SRF

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PROJECT: CONNECTION POINT FOR EASTSIDE CONNECTIONS JV, LLC

LOCATION OF SITE: MONROE RD & LONG AVE CHARLOTTE, NC 28212 MECKLENBURG COUNTY

BOHLER ENGINEERING & PLLC
1927 S. TRYON STREET, SUITE 310
CHARLOTTE, NC 28203
Phone: (980) 272-3400
Fax: (980) 272-3401
NC@BohlerEng.com

REGISTERED PROFESSIONAL ENGINEER
No. 31128
MOR 11/28/17

SHEET TITLE: SITE DETAILS
SHEET NUMBER: C-9.0