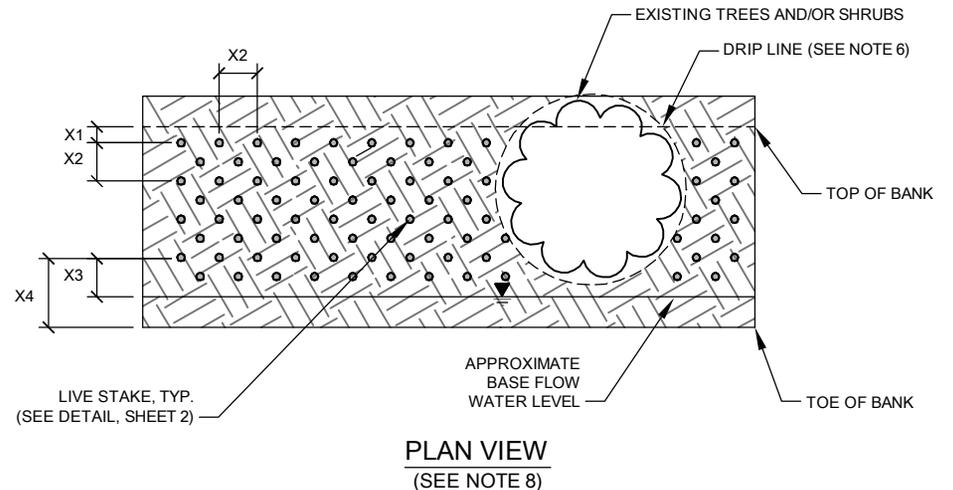


DIMENSIONS (VALUES TO BE PROVIDED BY DESIGNER)			
VARIABLE	VALUES	TYPICAL UNIT	DESCRIPTION
X1		FT. OR IN.	LIVE STAKE PLACEMENT FROM TOP OF BANK
X2		FT. OR IN.	LIVE STAKE SPACING
X3		FT. OR IN.	LIVE STAKE RELATIONSHIP TO APPROXIMATE BASE FLOW WATER LEVEL
X4		FT. OR IN.	LIVE STAKE PLACEMENT FROM TOE OF BANK
X5		FT. OR IN.	LIVE STAKE LENGTH (MAXIMUM AND MINIMUM, IF APPLICABLE)
X6		FT. OR IN.	DEPTH OF LIVE STAKE INTO GROUND
X7		IN.	LIVE STAKE DIAMETER (MAXIMUM AND MINIMUM, IF APPLICABLE)



THIS FIGURE IS ONLY MEANT TO DEFINE THE MINIMUM INFORMATION REQUIRED BY THE CITY OF CHARLOTTE TO BE INCLUDED IN A DETAIL FOR THIS TYPE OF TECHNIQUE.  
THIS FIGURE IS NOT MEANT TO REPRESENT A STANDARD DESIGN METHOD FOR THIS TYPE OF TECHNIQUE AND SHALL NOT BE USED AS SUCH.

**NOT TO SCALE**



**CHARLOTTE-MECKLENBURG**  
STORM WATER SERVICES  
GENERIC DETAIL REQUIREMENTS

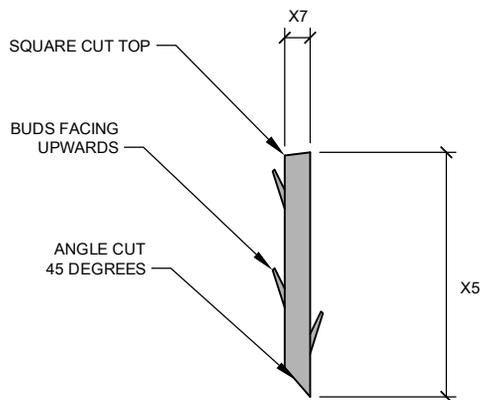
**LIVE STAKING**

DRAFT - NOT TO BE USED FOR CONSTRUCTION

SHEET NUMBER	
1 OF 2	
REV. DATE	REV. #



**PHOTO: LIVE STAKES INSTALLED OVER EROSION CONTROL FABRIC**



**LIVE STAKE DETAIL**

THIS FIGURE IS ONLY MEANT TO DEFINE THE MINIMUM INFORMATION REQUIRED BY THE CITY OF CHARLOTTE TO BE INCLUDED IN A DETAIL FOR THIS TYPE OF TECHNIQUE. THIS FIGURE IS NOT MEANT TO REPRESENT A STANDARD DESIGN METHOD FOR THIS TYPE OF TECHNIQUE AND SHALL NOT BE USED AS SUCH.

**NOT TO SCALE**

**NOTES:**

1. LIVE STAKES SHALL BE INSTALLED ON FINISHED STREAM BANKS. "FINISHED" GENERALLY REFERS TO ANY AND/OR ALL OF THE FOLLOWING AS SPECIFIED BY THE DESIGNER:
  - A. GRADED
  - B. PREPARED (ROTO-TILLED, RAKED, AND AMENDED),
  - C. SEEDED,
  - D. MULCHED, AND
  - E. COVERED WITH EROSION CONTROL MATTING.
2. INFORMATION REGARDING ACTIVITIES REQUIRED TO FINISH THE STREAM BANKS SHALL BE ADDED TO THE LIVE STAKING DETAIL OR DETAILED SEPARATELY AND REFERENCED HEREIN.
3. LIVE STAKES SHALL BE OF THE SIZE SPECIFIED BY THE DESIGNER AND PLACED IN ACCORDANCE WITH THE PATTERN AND SPACING DESIGNATED BY THE DESIGNER.
4. LIVE STAKES SHALL BE FASHIONED FROM DORMANT CUTTINGS OF WOODY PLANT SPECIES (TREES AND SHRUBS) SPECIFIED BY THE DESIGNER AND SHOWN IN THIS DETAILED IN A TABLE OR ELSEWHERE IN THE PLANS (E.G. - A PLANTING PLAN).
5. LIVE STAKE SPACING AND PLACEMENT MAY VARY, AS SPECIFIED BY THE DESIGNER, AT DIFFERENT LOCATIONS ALONG THE STREAM, SUCH AS ON STREAM BANKS THROUGH RIFFLE SECTIONS OR ON STREAM BANKS ALONG THE OUTSIDE OF MEANDER BENDS.
6. LIVE STAKES SHALL NOT BE PLACED WITHIN THE DRIP LINE OF ANY EXISTING TREES AND/OR SHRUBS THAT REMAIN ON THE BANKS.
7. DETAILED HANDLING, PREPARATION, AND INSTALLATION GUIDELINES FOR LIVE STAKES SHALL BE SPECIFIED BY THE DESIGNER, INCLUDING:
  - A. LIVE STAKES SHALL BE CUT AND INSTALLED ON THE SAME DAY UNLESS OTHERWISE PROVIDED FOR IN THE SPECIFICATIONS.
  - B. ALL LATERAL BRANCHES SHALL BE CAREFULLY REMOVED FROM THE WOODY CUTTINGS PRIOR TO INSTALLATION.
  - C. LIVE STAKES SHALL BE DRIVEN INTO THE GROUND USING A "DEAD BLOW" PLASTIC HAMMER, BY CREATING A PILOT HOLE AND SLIPPING THE STAKE INTO IT, OR WITH THE USE OF A HYDRAULIC INJECTION SYSTEM. SOIL SHALL BE FIRMLY PACKED AROUND THE HOLE AFTER INSTALLATION.
  - D. LIVE STAKES SHALL BE TAMPED IN AT A RIGHT ANGLE TO THE GROUND WITH BETWEEN 70%- 80% OF THE STAKE INSTALLED BELOW THE GROUND SURFACE.
  - E. BETWEEN 20%-30% AND TWO BUDS (OR PRUNED, LATERAL BRANCH LOCATIONS) ON THE LIVE STAKE SHALL BE ABOVE THE GROUND SURFACE.
  - F. SPLIT OR OTHERWISE DAMAGED LIVE STAKES SHALL NOT BE USED.
8. THE PLAN VIEW ILLUSTRATES A PERPENDICULAR PERSPECTIVE OF EACH SURFACE DEPICTED IN THE CROSS SECTION. THERE IS NO FORESHORTENING OF THE STREAM BANK (OR ANY OTHER SLOPED SURFACE) IN THE PLAN VIEW.



**CHARLOTTE-MECKLENBURG**  
**STORM WATER SERVICES**  
 GENERIC DETAIL REQUIREMENTS

**LIVE STAKING**

DRAFT - NOT TO BE USED FOR CONSTRUCTION

SHEET NUMBER	
2 OF 2	
REV. DATE	REV. #