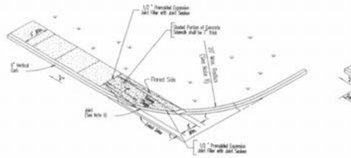
REVISED APRIL 2, 2003 – CITY COMMENTS
REVISED MAY 29, 2003 – REVISIONS

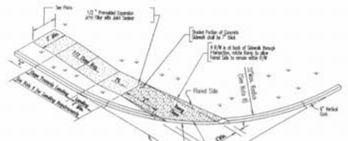
PAVEMENT DETAILS

THE MEADOWS OF PARKWOOD ESTATES

02-12003 FEBRUARY, 2003



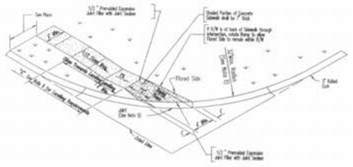
Sidewalk at Back of Curb
STRAIGHT CURB RAMP – 6" VERTICAL CURB
(TYPE 1)



Transition at Back of Curb
STRAIGHT CURB RAMP – 6" VERTICAL CURB
(TYPE 2)

TYPE 1 AND TYPE 2 CURB RAMPS	
"X" GRADE ALONG CURB (%)	MIN. LENGTH OF RAMP SLOPE (L.F.)
NEGATIVE (–) VALUES	4
0 TO +1	4
+1.01 TO +2	7
+2.01 TO +3	10
+3.01 TO +4	13
GREATER THAN +4	15

NOTE: Positive (+) "X" – Proceeding away from intersection and up a grade.
Negative (–) "X" – Proceeding away from intersection and down a grade.



Transition at Back of Curb
STRAIGHT CURB RAMP – 3" ROLLED CURB
(TYPE 3)

TYPE 3 CURB RAMP	
"X" GRADE ALONG CURB (%)	MIN. LENGTH OF RAMP SLOPE (L.F.)
NEGATIVE (–) VALUES	3
0 to +2	4
+2.01 to +3	5
+3.01 to +4	6
+4.01 to +5	8
+5.01 to +6	11
GREATER THAN +6	15

NOTE: Positive (+)"X" – Proceeding away from intersection and up a grade.
Negative (–)"X" – Proceeding away from intersection and down a grade.

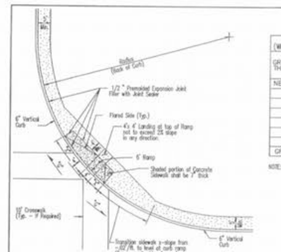
SAINT CHARLES COUNTY
HIGHWAY DEPARTMENT
ST. CHARLES, MISSOURI

PAVEMENT CONSTRUCTION DETAILS
CONCRETE SIDEWALK AND CURB RAMPS

DATE: June, 2002 DRAWING C608.10

GENERAL NOTES

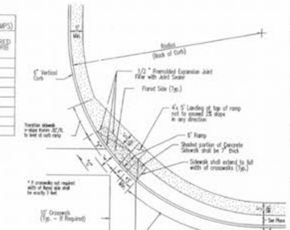
1. Do not scale drawing. Follow dimensions.
2. Sidewalks and sidewalk curb ramps shall be constructed in accordance with these details and the current approved "Americans with Disabilities Act Accessibility Guidelines" (ADAAG).
3. Provide a tangent at the top of each straight ramp run that is 4' minimum for 5% or less, 5' for 6%, 6' for 7%, and 7' for 8%. For other slopes of 8% or less, including all negative (–) values, no landing is required.
4. Minimum sidewalk width shall be 5' vertical curb shall be 5 feet. Minimum sidewalk width along 3" rolled curb shall be 4 feet.
5. Maximum sidewalk cross slope 0.02'/ft.
6. All sidewalk sections shall be 4" thick, except where indicated as 7" thick by shaded portions shown on details. All sidewalk sections and curb ramps, regardless of thickness, shall be paid for as "Concrete Sidewalk."
7. Where curb ramp meets pavement, bullnose will not be permitted.
8. Construct a diagonal ramp when the minimum corner radius shown for a straight ramp is exceeded.
9. If monolithic concrete curb is constructed, strike a dummy joint across bottom of ramp at curb line. If concrete curb is doweled-in, block out pavement to provide full depth curb across ramp from outer point of curb taper to outer point of curb taper.
10. For sidewalk locations on Cul-De-Sacs, refer to "Pavement Construction Details".
11. For pavement longitudinal and transverse joints and dowel and tie bar requirements and dimensions, refer to the "Pavement Construction Details for Roads and Curbs", Std. Dwg. C602.00.
12. For roadway cross slopes, pavement types, and thicknesses, refer to "Standard Typical Section".
13. All curb ramps shall have a detectable warning complying with "Americans with Disabilities Act Accessibility Guidelines" (ADAAG).



DIAGONAL CURB RAMP – 6" VERTICAL CURB
(TYPE 4)

TYPE 4 AND TYPE 5 CURB RAMPS (WHERE PEDESTRIANS CAN WALK ACROSS RAMPS)	
GRADE ALONG CURB THROUGH ROUNDING (%)	LENGTH OF FLARED SIDE ALONG CURB (L.F.)
NEGATIVE (–) VALUES	5
0 TO +1	6
+1.01 TO +2	7
+2.01 TO +3	8
+3.01 TO +4	9
+4.01 TO +5	10
+5.01 TO +6	13
GREATER THAN +6	15

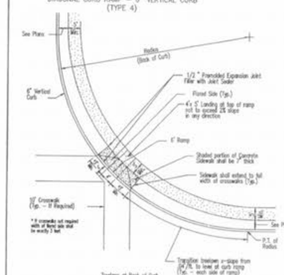
NOTE: Positive (+) "X" – Proceeding away from ramp and up a grade.
Negative (–) "X" – Proceeding away from ramp and down a grade.



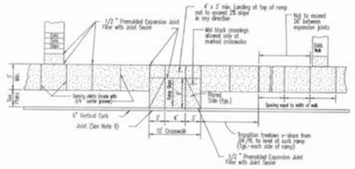
DIAGONAL CURB RAMP – 6" VERTICAL CURB
(TYPE 5)

GENERAL NOTES

1. Do not scale drawing. Follow dimensions.
2. Sidewalks and sidewalk curb ramps shall be constructed in accordance with these details and the current approved "Americans with Disabilities Act Accessibility Guidelines" (ADAAG).
3. Minimum sidewalk width along 6" vertical curb shall be 5 feet. Minimum sidewalk width along 3" rolled curb shall be 4 feet.
4. Maximum sidewalk cross slope 0.02'/ft.
5. All sidewalk sections shall be 4" thick, except where indicated as 7" thick by shaded portions shown on details. All sidewalk sections and curb ramps, regardless of thickness, shall be paid for as "Concrete Sidewalk."
6. Where curb ramp meets pavement, bullnose will not be permitted.
7. If monolithic concrete curb is constructed, strike a dummy joint across bottom of ramp at curb line. If concrete curb is doweled-in, block out pavement to provide full depth curb across ramp from outer point of curb taper to outer point of curb taper.
8. For sidewalk locations on Cul-De-Sacs, refer to "Pavement Construction Details".
9. For pavement longitudinal and transverse joints and dowel and tie bar requirements and dimensions, refer to the "Pavement Construction Details for Roads and Curbs", Std. Dwg. C602.00.
10. For roadway cross slopes, pavement types, and thicknesses, refer to "Standard Typical Sections".
11. All curb ramps shall have a detectable warning complying with "Americans with Disabilities Act Accessibility Guidelines" (ADAAG).



DIAGONAL CURB RAMP – 6" VERTICAL CURB
(TYPE 6)



TYPICAL SIDEWALK INSTALLATION
(WITH MIDBLOCK CURB RAMP – TYPE 7)

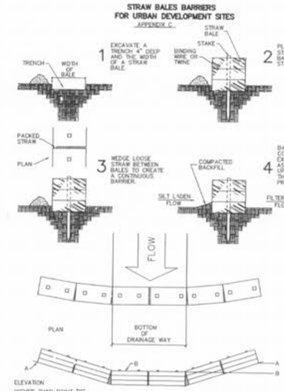
SAINT CHARLES COUNTY
HIGHWAY DEPARTMENT
ST. CHARLES, MISSOURI

PAVEMENT CONSTRUCTION DETAILS
CONCRETE SIDEWALK AND CURB RAMPS

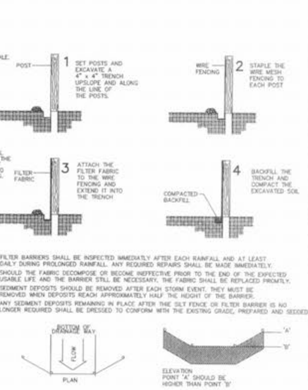
DATE: June, 2002 DRAWING C608.11

STRAW BALES BARRIERS FOR URBAN DEVELOPMENT SITES

APPENDIX C



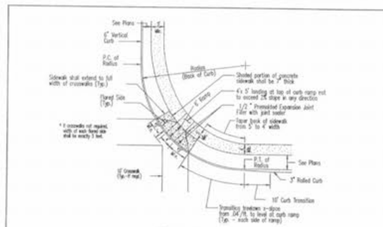
PLACEMENT AND CONSTRUCTION OF A STRAW BALE BARRIER



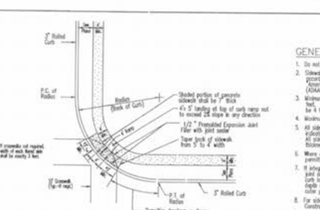
1. FILTER BARRIERS SHALL BE INSPECTED IMMEDIATELY AFTER EACH RAINFALL AND AT LEAST DAILY DURING PROLONGED RAINFALL. ANY REQUIRED REPAIRS SHALL BE MADE IMMEDIATELY.
2. SHOULD THE FABRIC DECOMPOSE OR BECOME INEFFECTIVE PRIOR TO THE END OF THE EXPECTED USABLE LIFE AND THE BARRIER STILL BE NECESSARY, THE FABRIC SHALL BE REPLACED PROMPTLY.
3. SEDIMENT DEPOSITS SHOULD BE REMOVED AFTER EACH STORM EVENT. THEY MUST BE REMOVED WHEN DEPOSITS REACH APPROXIMATELY HALF THE HEIGHT OF THE BARRIER.
4. ANY SEDIMENT DEPOSITS REMAINING IN PLACE AFTER THE SILT FENCE OR FILTER BARRIER IS NO LONGER REQUIRED SHALL BE DRESSED TO CONFORM WITH THE EXISTING GRADE, PREPARED AND SEEDED.

SILTATION FENCE DETAIL

NOT TO SCALE



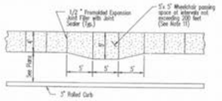
DIAGONAL CURB RAMP – COMBINATION 6" VERTICAL CURB AND 3" ROLLED CURB
(TYPE 8)



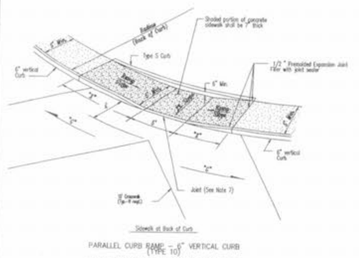
DIAGONAL CURB RAMP – 3" ROLLED CURB
(TYPE 9)

GENERAL NOTES

1. Do not scale drawing. Follow dimensions.
2. Sidewalks and sidewalk curb ramps shall be constructed in accordance with these details and the current approved "Americans with Disabilities Act Access Ability Guidelines" (ADAAG).
3. Minimum sidewalk width along 6" vertical curb shall be 5 feet. Minimum sidewalk width along 3" rolled curb shall be 4 feet.
4. Maximum sidewalk cross slope 0.02'/ft.
5. All sidewalk sections shall be 4" thick, except where indicated as 7" thick by shaded portions shown on details. All sidewalk sections and curb ramps, regardless of thickness, shall be paid for as "Concrete Sidewalk."
6. Where curb ramp meets pavement, bullnose will not be permitted.
7. If integral concrete curb is constructed, strike a dummy joint across bottom of ramp at curb line. If concrete curb is doweled-in, block out pavement to provide full depth curb across ramp from outer point of curb taper to outer point of curb taper.
8. For sidewalk locations on Cul-De-Sacs, refer to "Pavement Construction Details".
9. For pavement longitudinal and transverse joints and dowel and tie bar requirements and dimensions, refer to the "Pavement Construction Details for Roads and Curbs", Std. Dwg. C602.00.
10. For roadway cross slopes, pavement types, and thicknesses, refer to "Standard Typical Sections".
11. The intersection of two sidewalks or the intersection of a sidewalk and a driveway may serve as a wheelchair passing space as sidewalks less than 5 feet wide.
12. All curb ramps shall have a detectable warning complying with "Americans with Disabilities Act Accessibility Guidelines" (ADAAG).



WHEELCHAIR PASSING SPACE – 4' SIDEWALK WITH 3" ROLLED CURB



PARALLEL CURB RAMP – 6" VERTICAL CURB
(TYPE 10)

WHERE PASSAGE BEHIND RAMP CANNOT BE CONSTRUCTED DUE TO SITE INSTABILITY)

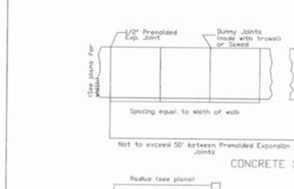
TYPE 10 CURB RAMP	
GRADE ALONG CURB THROUGH ROUNDING (%)	LENGTH OF FLARED SIDE ALONG CURB (L.F.)
NEGATIVE (–) VALUES	4
0 TO +1	6
+1.01 TO +2	8
+2.01 TO +3	10
+3.01 TO +4	12
GREATER THAN +4	15

NOTE: Positive (+) "X" – Proceeding away from ramp and up a grade.
Negative (–) "X" – Proceeding away from ramp and down a grade.

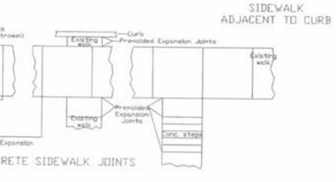
SAINT CHARLES COUNTY
HIGHWAY DEPARTMENT
ST. CHARLES, MISSOURI

PAVEMENT CONSTRUCTION DETAILS
CONCRETE SIDEWALK AND CURB RAMPS

DATE: June, 2002 DRAWING C608.12



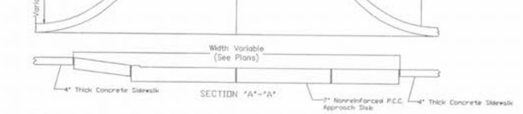
CONCRETE SIDEWALK WITH PARKWAY



CONCRETE SIDEWALK NO PARKWAY

CONCRETE SIDEWALK JOINTS

SIDEWALK ADJACENT TO CURB



CONCRETE SIDEWALK AND HANDICAP RAMP AT COMMERCIAL ENTRANCE

CONCRETE SIDEWALK THRU COMMERCIAL ENTRANCE

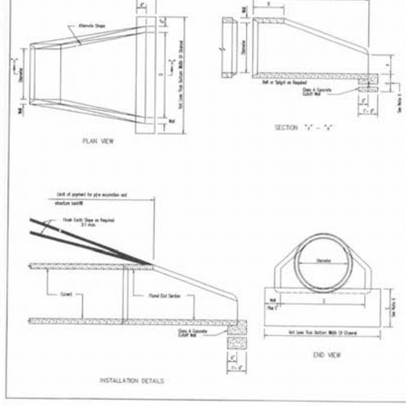
SAINT CHARLES COUNTY
HIGHWAY DEPARTMENT
ST. CHARLES, MISSOURI

CONCRETE SIDEWALK

DATE: October, 2002 DRAWING C608.14

GENERAL NOTES

1. Do not scale drawing. Follow dimensions.
2. Sidewalk cross slope 0.02"/ft.
3. Sidewalk thickness increases to 6" on each side of Private Driveways and 7" on each side of Commercial Driveways for one section of sidewalk equal in length to the width of the sidewalk. See "Entrance Construction Details".
4. Sidewalks thru private and commercial driveways will be paid For as 6" and 7" approaches, see "Integral Curb Detail 'B' At Driveways"
5. For sidewalk locations on Cul-De-Sacs see "Pavement Construction Details".
6. For longitudinal and transverse joints, dowel, and tie bar requirements and dimensions refer to the "Integral Curb Pavement Typical Sections and Details"
7. All necessary pavement by St. Charles County.
8. For roadway cross slopes, pavement types, and thickness, refer to "Standard Typical Section".
9. See "Integral Curb Detail 'B' at Driveways" for premolded expansion joint requirements.



DIMENSIONS						
Dia.	Rad.	L	R(min.)	R(max.)	S	T
12"	3'-0"	2' - 0"	4' - 0"	6' - 0"	2'-2"	
15"	3'-0"	2' - 0"	4' - 0"	6' - 0"	2'-2"	
18"	3'-0"	2' - 0"	4' - 0"	6' - 0"	2'-2"	
21"	3'-0"	2' - 0"	4' - 0"	6' - 0"	2'-2"	
24"	3'-0"	2' - 0"	4' - 0"	6' - 0"	2'-2"	
27"	4'-0"	2' - 0"	5' - 0"	7' - 0"	2'-2"	
30"	4'-0"	2' - 0"	5' - 0"	7' - 0"	2'-2"	
33"	4'-0"	2' - 0"	5' - 0"	7' - 0"	2'-2"	
36"	4'-0"	2' - 0"	5' - 0"	7' - 0"	2'-2"	

GENERAL NOTES

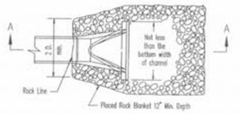
1. Do not scale drawing. Follow dimensions.
2. Sidewalk cross slope 0.02"/ft.
3. Cold Mid may be used in place of precast.
4. Cold Mid is to be considered a mixture of 3/4" Water and 60" of water and or C-cut.
5. For construction details refer to the Save Water, Soil and Stone Conservation Manual, Soil and Water Conservation District, Dwg. 1004-A.
6. No debris shall be allowed to enter the natural Department of Transportation, Standard Drawings.

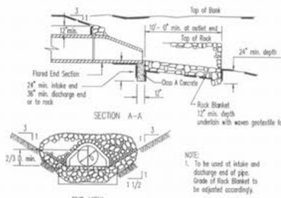
REINFORCEMENT					
SLOPE WALL (SEE NOTE 1)	CIRCULAR		ELLIPTICAL	CURB, GUTTER AND SIDEWALK	
	SPIRAL	CAGE		SPIRAL	CAGE
12"	0.07	—	—	0.045	0.040
15"	0.07	—	—	0.054	0.054
18"	0.07	—	0.07	0.063	0.063
21"	0.07	—	0.07	0.072	0.072
24"	0.07	—	0.11	0.075	0.078
27"	0.74	—	0.12	0.084	0.084
30"	0.82	0.08	0.12	0.098	0.098
33"	0.90	0.12	0.12	0.108	0.108
36"	0.98	0.16	0.20	0.120	0.120
42"	1.22	0.19	0.24	0.144	0.144
48"	1.31	0.23	0.24	0.210	0.216

SAINT CHARLES COUNTY
HIGHWAY DEPARTMENT
ST. CHARLES, MISSOURI

SEWER CONSTRUCTION DETAILS
FLARED END SECTION
(PRECAST CONCRETE)

DATE: June, 2002 DRAWING C604.40





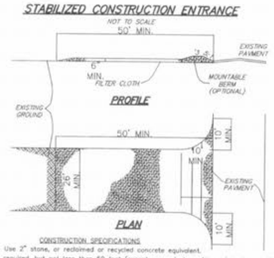
NOTE:
1. To be used at intake and discharge end of pipe. Grade of Rock Blanket to be adjusted accordingly.
2. Woven Geotextile Fabric required under Rock Blanket.

SAINT CHARLES COUNTY
HIGHWAY DEPARTMENT
ST. CHARLES, MISSOURI

SEWER CONSTRUCTION DETAILS
FLARED END SECTION
(INLET/OUTLET PROTECTION)

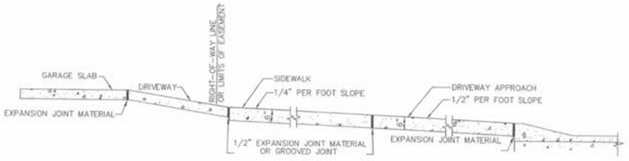
DATE: September, 2002 DRAWING C604.45

STABILIZED CONSTRUCTION ENTRANCE



CONSTRUCTION SPECIFICATIONS

1. Stone Size – Use 2" stone, or reclaimed or recycled concrete equivalent.
2. Length – As required, but not less than 50 feet (except on a single residence lot where a 30 foot minimum length would apply).
3. Thickness – Not less than six (6) inches.
4. Width – Twenty six (26) foot minimum, but not less than the full width at points where ingress or egress occurs.
5. Filter Cloth – Will be placed over the entire area prior to placing of stone. Filter will not be required on a single family residence lot.
6. Surface Water – All surface water flowing or diverted toward construction entrances shall be piped across the entrance. If piping is impractical, a mountable berm with 5:1 slopes will be permitted.
7. Maintenance – The entrance shall be maintained in a condition which will prevent tracking or flowing of sediment onto public rights-of-way. This may require periodic top dressing with additional stone as conditions demand and repair and/or cleanout of any measures used to trap sediment. All sediment spilled, dropped, washed or tracked onto public rights-of-way must be removed immediately.
8. Washing – Wheels shall be cleaned to remove sediment prior to entrance onto public rights-of-way. When washing is required, it shall be done on an area stabilized with stone and which drains into an approved sediment trapping device.
9. Periodic inspection and needed maintenance shall be provided after each rain.



INTEGRAL CURB DETAIL "B" AT DRIVEWAYS

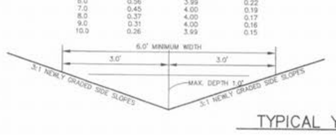
N.T.S.

NOTES

1) A 1" JOINT IS REQUIRED AT THE CURB AND GARAGE FOR ALL DRIVEWAYS LOCATED ON THE OUTER EDGE OF CURVED PAVEMENT, UNLESS GROOVED JOINTS ARE USED AT SIDEWALK. THEN A 2" JOINT IS REQUIRED AT CURB.
2) A 1/2" JOINT IS REQUIRED AT THE CURB AND GARAGE FOR ALL DRIVEWAYS LOCATED ON TANGENT SECTIONS OF PAVEMENT OR THE INNER EDGE OF CURVED PAVEMENT.
3) EXPANSION JOINT MATERIAL MUST EXTEND THROUGH THE FULL DEPTH OF THE PAVEMENT.
4) SIDEWALK THICKNESS SHALL BE A MINIMUM OF 7" THROUGH COMMERCIAL DRIVEWAYS.

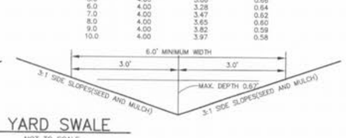
Maximum Discharge (Q) = 4.00 cfs
Maximum Velocity (V) = 4.00 ft/sec
N = 0.020 (ash)
Maximum side slopes = 3 (horizontal) :1 (vertical)

Longitudinal Slope (%)	Discharge (cfs)	Velocity (ft/sec)	Depth (ft)
0.5	4	2.57	0.72
1.0	4	3.33	0.63
2.0	2.94	4.00	0.50
3.0	1.60	4.00	0.37
4.0	1.04	4.00	0.29
5.0	0.74	3.99	0.25
6.0	0.56	3.99	0.22
7.0	0.45	4.00	0.19
8.0	0.37	4.00	0.17
9.0	0.31	4.00	0.16
10.0	0.26	3.99	0.15



Maximum Discharge (Q) = 4.00 cfs
Maximum Velocity (V) = 4.00 ft/sec
N = 0.050 (grass)
Maximum side slopes = 3 (horizontal) :1 (vertical)

Longitudinal Slope (%)	Discharge (cfs)	Velocity (ft/sec)	Depth (ft)
0.5	1.30	0.98	0.67
1.0	1.84	1.38	0.67
2.0	2.60	1.95	0.67
3.0	3.19	2.39	0.67
4.0	3.68	2.76	0.67
5.0	4.00	3.06	0.66
6.0	4.00	3.28	0.64
7.0	4.00	3.47	0.62
8.0	4.00	3.63	0.60
9.0	4.00	3.82	0.59
10.0	4.00	3.97	0.58



TYPICAL YARD SWALE

NOT TO SCALE

TYPICAL EMERGENCY RELIEF SWALE

N.T.S.

TYPE A	TYPE B	WHERE:
Qmax.=4.00 cfs	:Qmax.=8.00 cfs	:Q=WATER IN CUBIC FEET PER SECOND
n=0.04	:n=0.04	:n=MANNING'S NUMBER
S=1.0%–6.0%	:S=1.0%–16.0%	:S=SLOPE IN FEET PER FOOT
Dmax.=0.75' @ 1.0%	:Dmax.=0.47' @ 1.0%	:D=DEPTH OF WATER IN SWALE
Vmax.=4.90 fps @ 6.0%	:Vmax.=4.90 fps @ 16.0%	:V=VELOCITY IN FEET PER SECOND
Bottom Width = 4.0'	:Bottom Width = 8.0'	

STATE OF MISSOURI
REGISTERED PROFESSIONAL ENGINEER
RICHARD L FRANCIS
NUMBER E-25651
5-21-03