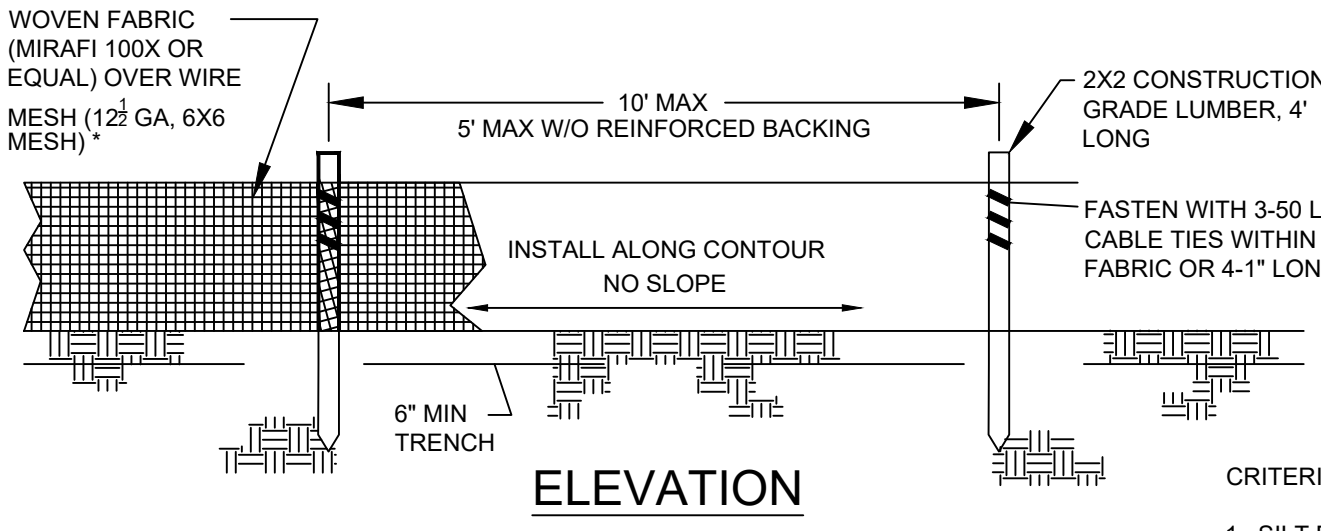


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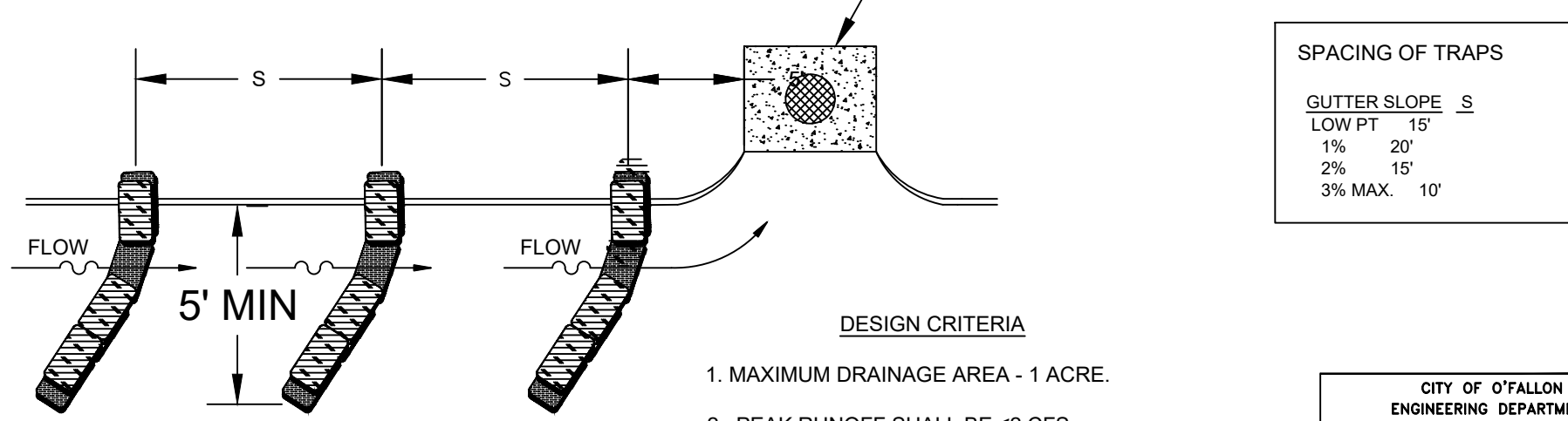
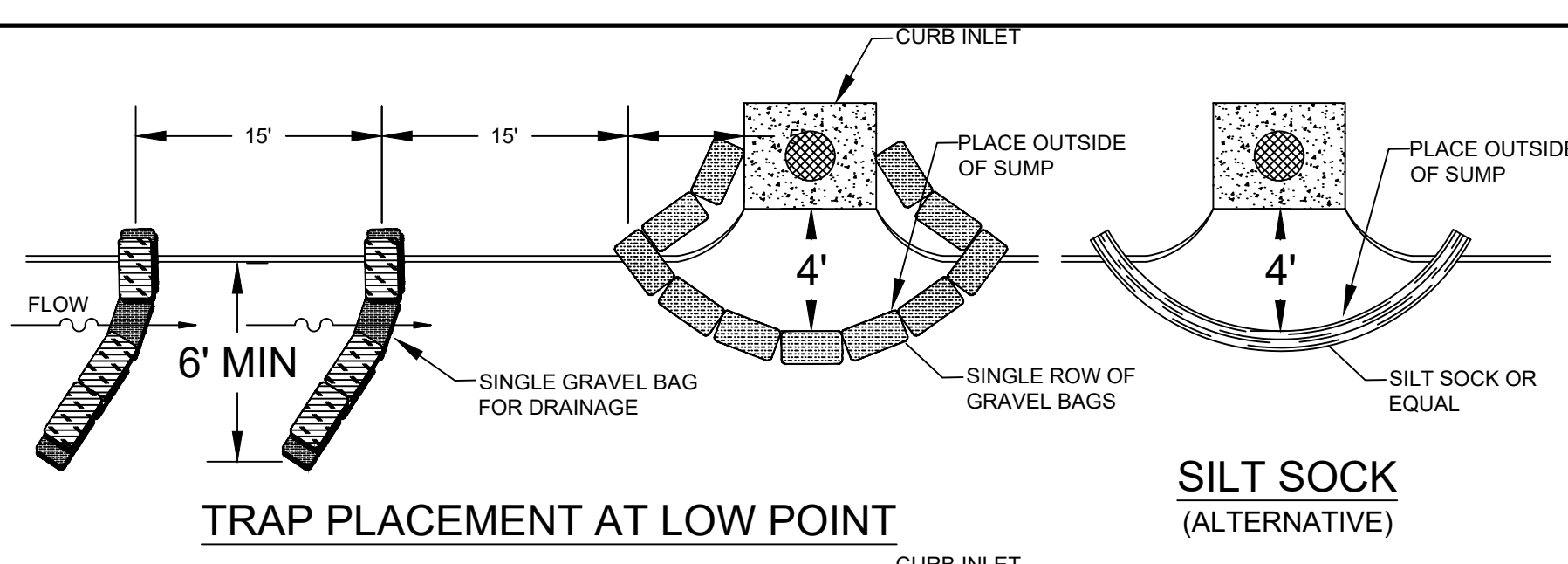
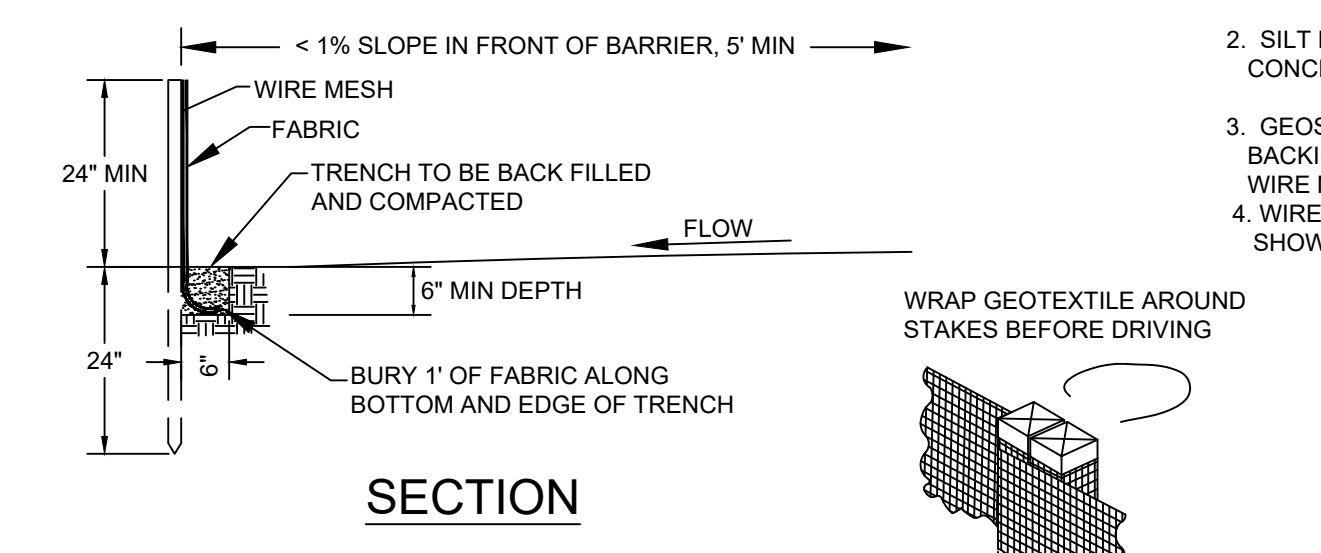
**SPACING CHART
FOR ESC DEVICES**



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**SILT FENCE INSTALLATION
SHEET FLOW (ONLY)**

NOTE: IF FABRIC IS INSTALLED BY EQUIPMENT DESIGNED TO SLICE INTO THE GROUND, THE TRENCH IS NOT REQ'D.



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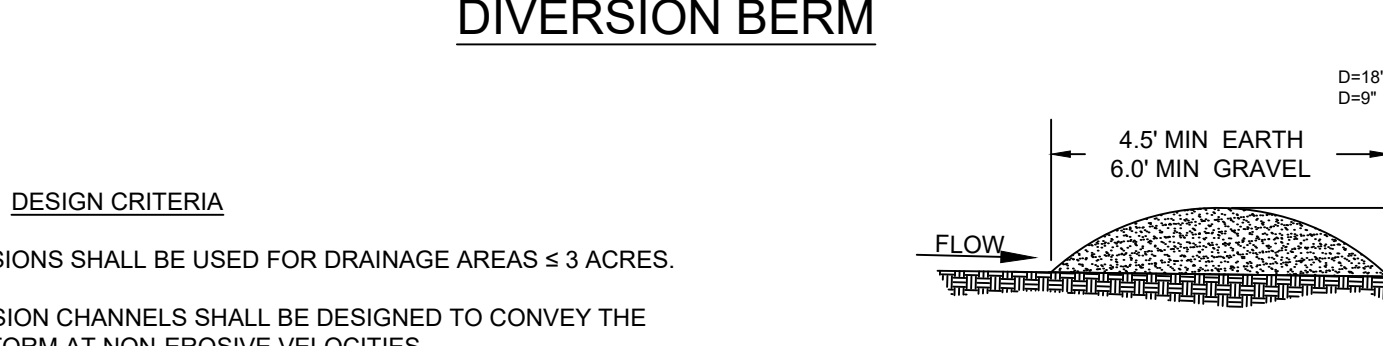
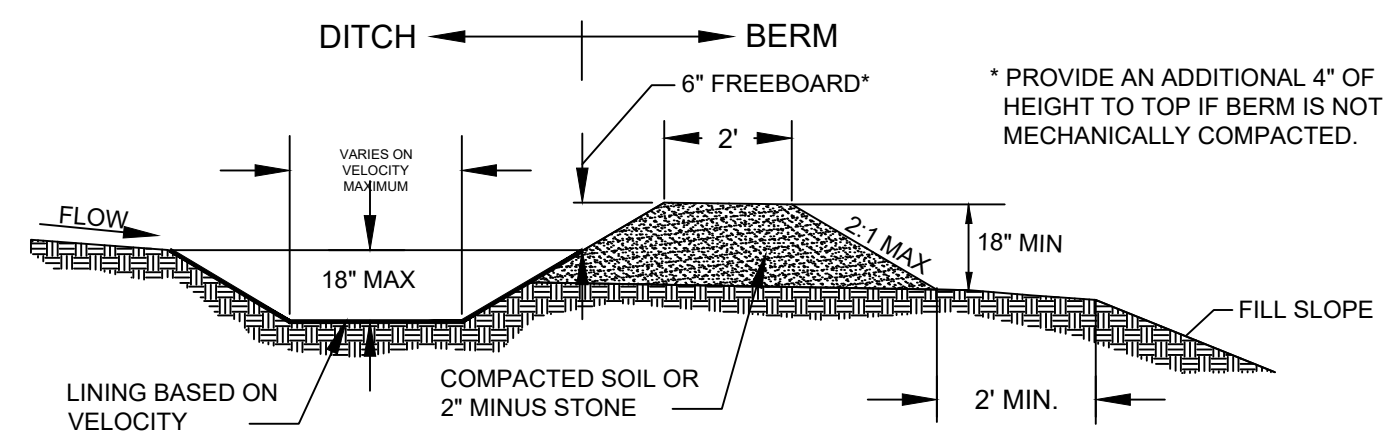
CURB INLET PROTECTION

DESIGN CRITERIA

1. MAXIMUM DRAINAGE AREA - 1 ACRE.
2. PEAK RUNOFF SHALL BE < 2 CFS BASED ON THE 6-MONTH STORM.
3. STACK GRAVEL BAGS DOUBLE HIGH. PROVIDE GAP FOR DRAINAGE.

SPACING OF TRAPS

GUTTER SLOPE	S
LOW PT	15'
2%	15'
3% MAX	10'



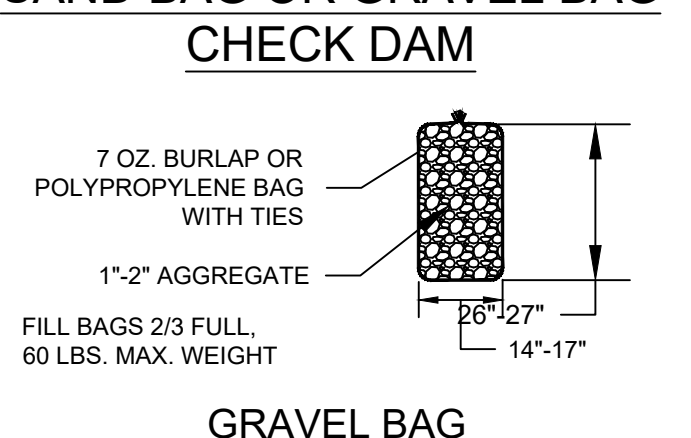
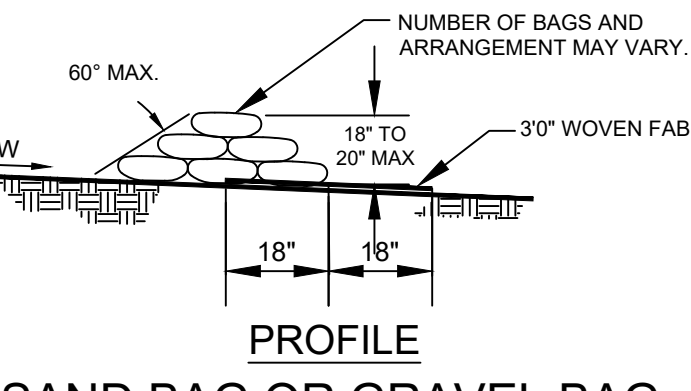
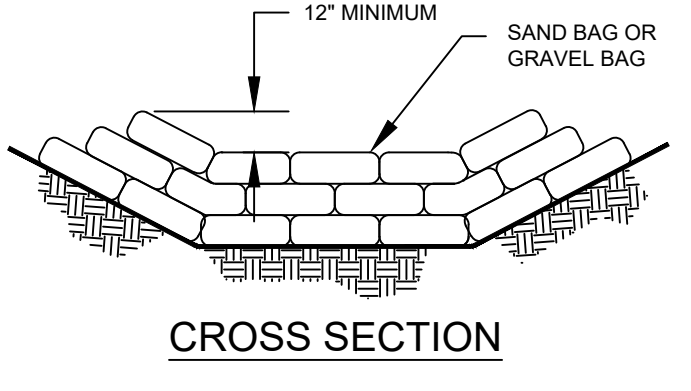
**CITY OF O'FALLON
ENGINEERING DEPARTMENT
O'FALLON, MISSOURI**

DIVERSION BERMS + DIKES

DESIGN CRITERIA

1. DIVERSIONS SHALL BE USED FOR DRAINAGE AREAS ≤ 3 ACRES.
2. DIVERSION CHANNELS SHALL BE DESIGNED TO CONVEY THE 6-MO STORM AT NON-EROSIVE VELOCITIES.
3. CRITICAL LOCATIONS SHALL BE DESIGNED FOR THE 15YR / 20MIN. STORM.
4. MAXIMUM CHANNEL SLOPE OF 3% WITHOUT CHECK DAMS.
5. SWALE SEDIMENT TRAPS ARE TO BE USED IN HIGHLY EROSION AREAS.
6. CHANNELS SHALL BE PROTECTED USING APPROPRIATE CHANNEL LINERS.
7. CHANNEL OUTLETS MUST BE STABILIZED.
8. STORM SEWERS MAY BE USED IN LIEU OF OPEN CHANNELS.

* PROVIDE AN ADDITIONAL 4" OF HEIGHT TO TOP IF BERM IS NOT MECHANICALLY COMPACTED.



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CHECK DAMS

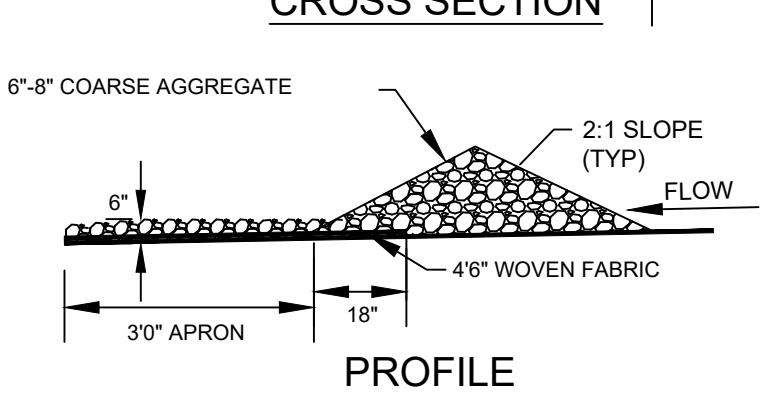
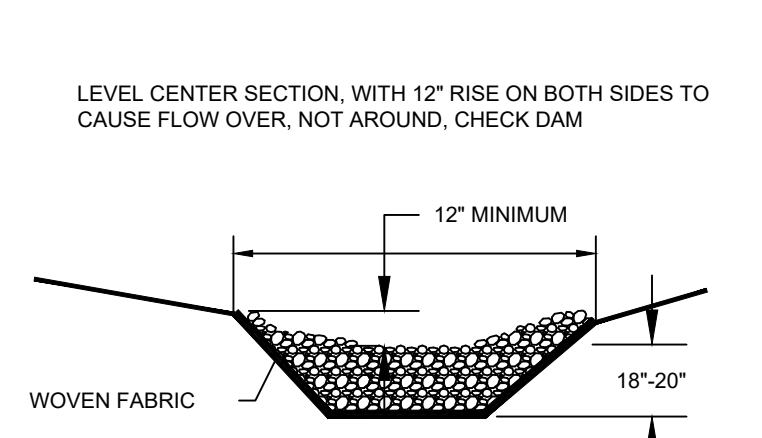
GRAVEL BAG

7 OZ BURLAP OR POLYPROPYLENE BAG WITH TIES

1"-2" AGGREGATE

FILL BAGS 2/3 FULL, 60 LBS. MAX. WEIGHT

NOTE:
1. CHECK DAMS MAY BE CONSTRUCTED OF SEVERAL ESC CHECK DAM PRODUCTS.
2. SEE TABLE 60-12 AND ESC 1 FOR CHECK DAM SPACING.



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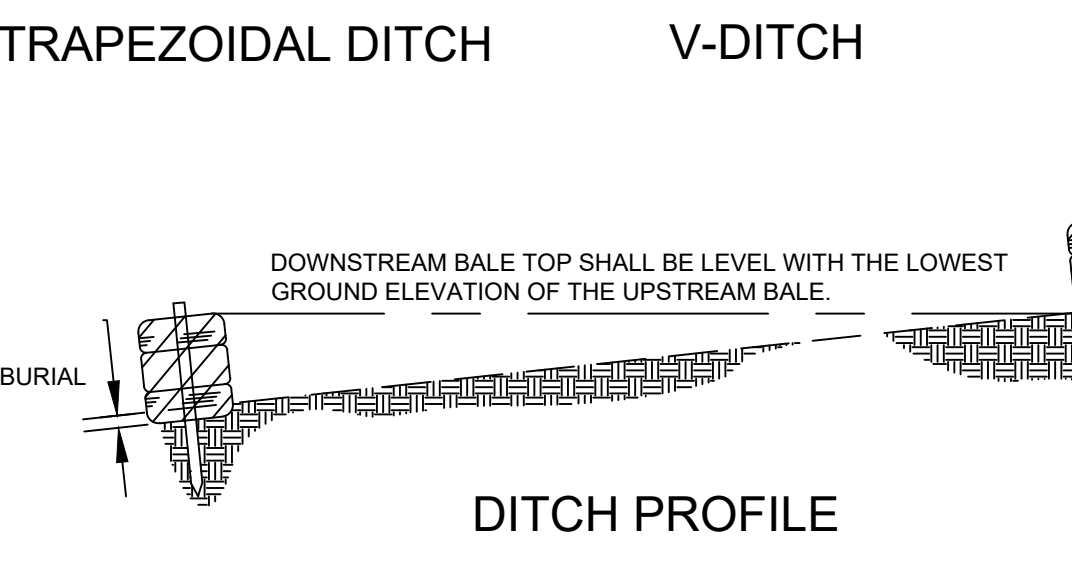
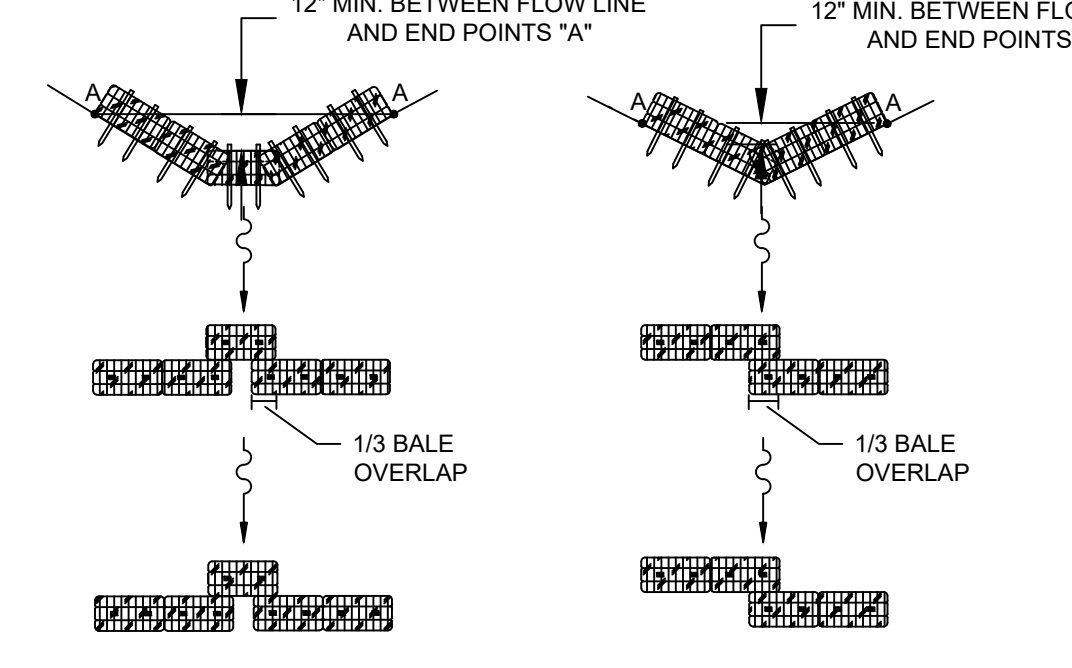
CHECK DAMS

TRAPEZOIDAL DITCH

V-DITCH

CRITERIA FOR LOW CONCENTRATED FLOWS

1. DRAINAGE AREAS SHALL BE LESS THAN 1 ACRE.
2. INSTALL TWO STAKES PER BALE.
3. BALES WILL BE TRENCHED 4" DEEP INTO EARTH.
4. MAXIMUM CHANNEL SLOPE OF 3%.
5. SEDIMENTATION TRAPS TO BE USED IN HIGHLY EROSION AREAS.



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STRAW BALE CHECK DAM

CHECK DAM SPACING

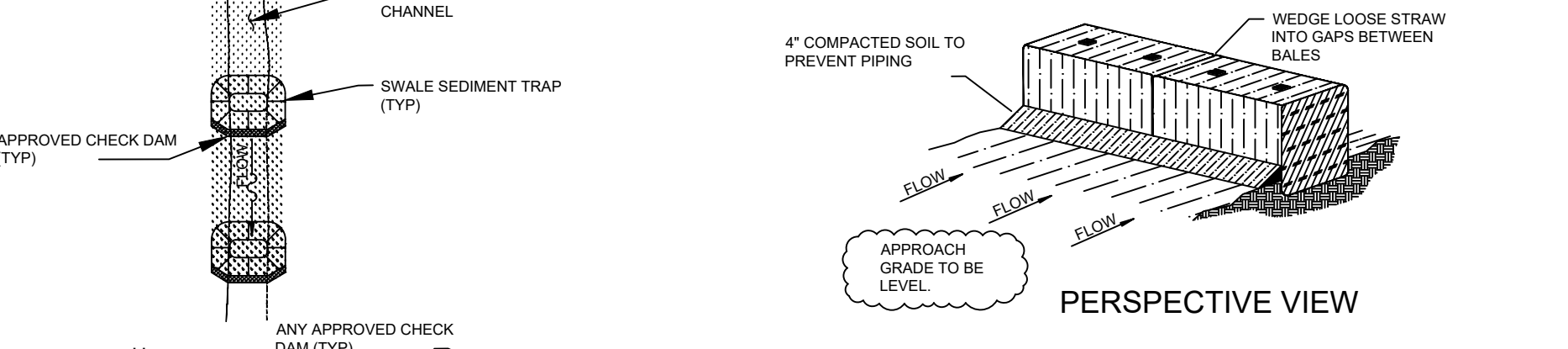
Ditch Slope	Maximum Spacing
3%	50'
2%	75'

**CITY OF O'FALLON
ENGINEERING DEPARTMENT
O'FALLON, MISSOURI**

SWALE SEDIMENT TRAP STRAW BALE BARRIER INSTALLATION

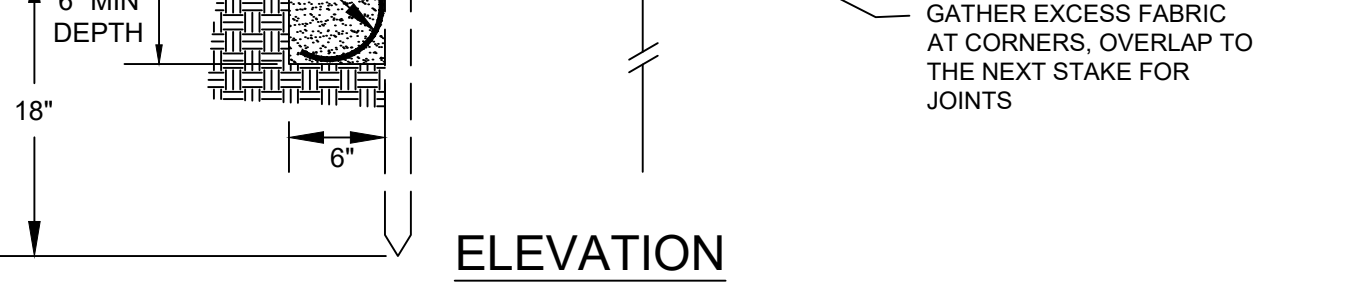
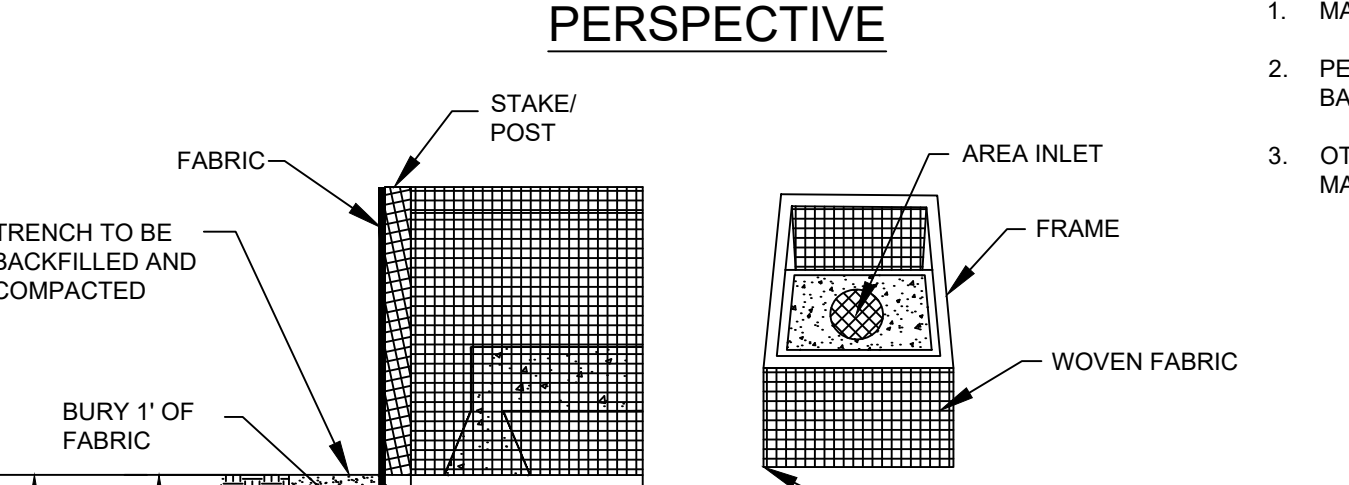
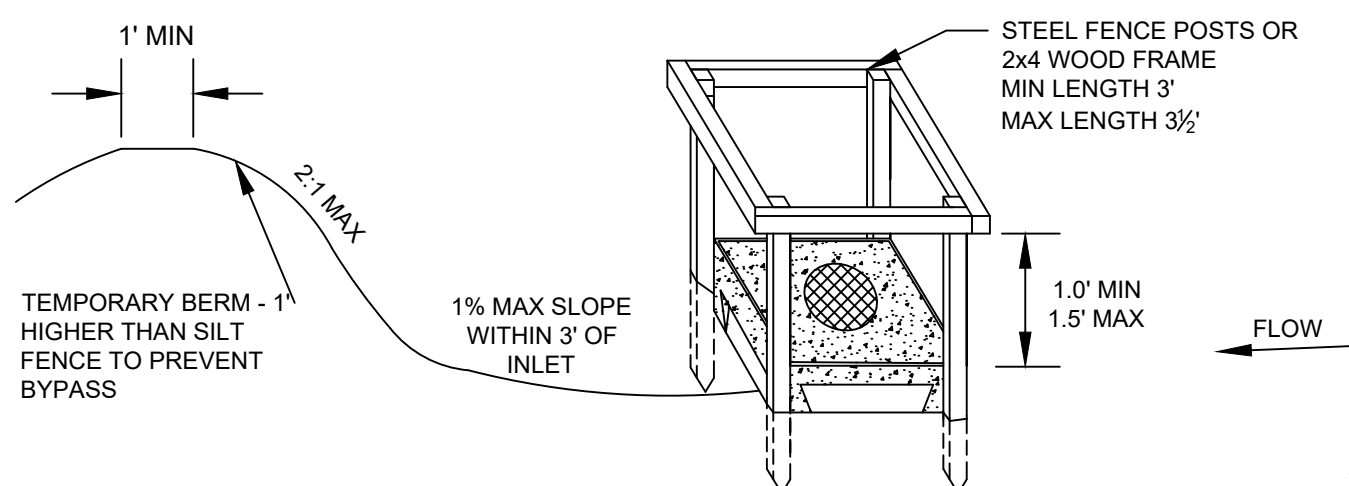
CRITERIA

1. EXCAVATE TRENCH THE WIDTH OF THE BALE AT LEAST 4 INCHES DEEP AND LONG ENOUGH THAT THE END BALES ARE SOMEWHAT UPSLOPE.
2. REFER TO STRAW BALE CHECK DAM DETAIL FOR SPACING AND STRAW BALE USES AS DITCH CHECKS.
3. UPSLOPE FACE OF BALE MUST BE AT LEAST 5' FROM A DISTURBED EMBANKMENT.



**CITY OF O'FALLON
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SWALE SEDIMENT TRAP STRAW BALE BARRIER INSTALLATION



**CITY OF O'FALLON
ENGINEERING DEPARTMENT
O'FALLON, MISSOURI**

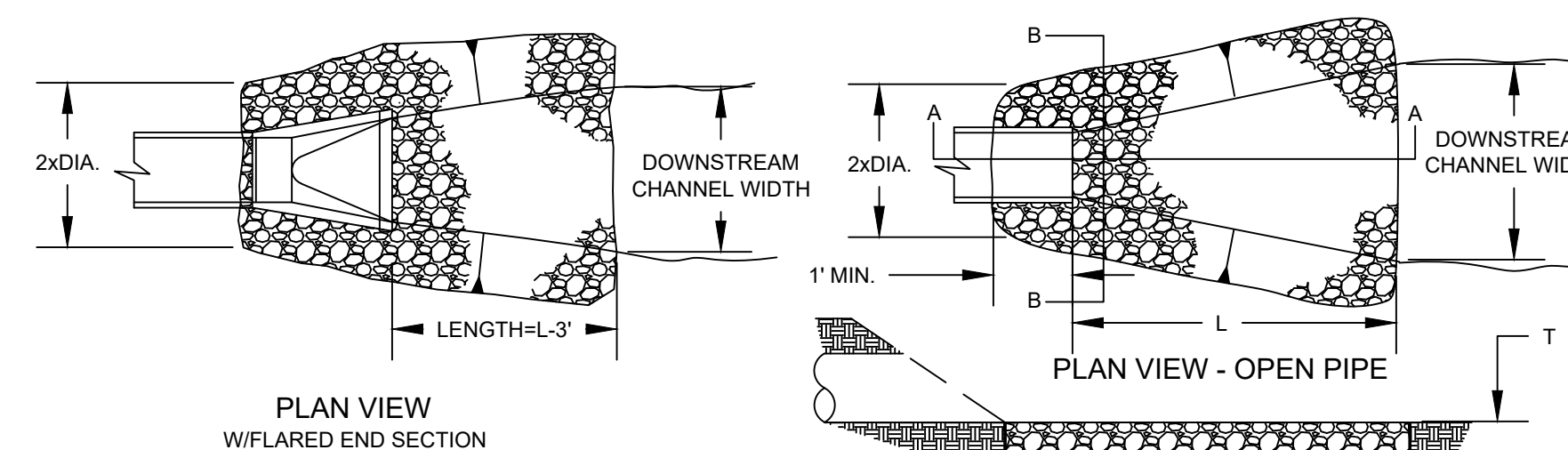
AREA INLET PROTECTION FABRIC DROP

**St. Charles County
Erosion & Sediment Controls
Standard Drawings**

AREA INLET PROTECTION FABRIC DROP

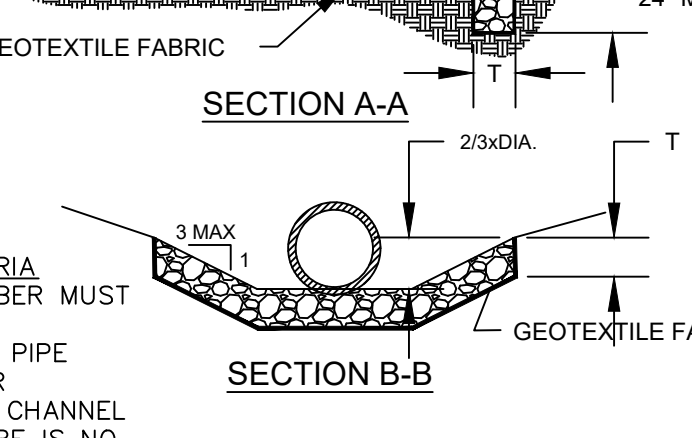
DATE: MARCH 2008

DRAWING: ESC-14



RIPRAP SIZE & APRON DIMENSION

PIPE SIZE	VELOCITY < 5 FPS				VELOCITY < 10 FPS			
	ROCK SIZE	APRON DIM	ROCK SIZE	APRON DIM	ROCK SIZE	APRON DIM	ROCK SIZE	APRON DIM
12	5	9	15	12	5	9	15	16
15	5	9	15	14	5	9	15	18
18-24	5	9	15	16	9	14	24	20
27-30	5	9	15	18	9	14	24	22
36-42	9	14	24	22	12	18	27	26
48-54	9	14	24	26	12	18	27	30
60-66	12	18	27	34	15	24	30	38
72-84	15	24	30	42	15	24	30	46
96	18	27	30	50	18	27	30	54



**CITY OF O'FALLON
ENGINEERING DEPARTMENT
O'FALLON, MISSOURI**

TEMPORARY OUTLET PIPE DISCHARGE PROTECTION

DESIGN CRITERIA

1. FROUDE NUMBER MUST BE ≤ 2.50.
2. USE 3 TIMES PIPE DIAMETER FOR DOWNSTREAM CHANNEL WIDTH IF THERE IS NO DEFINED CHANNEL.
3. BANK PROTECTION HEIGHT TO BE 2/3 TIMES PIPE DIAMETER.
4. ROCK SLOPES SHALL BE NO STEEPER THAN 3:1.

d₅₀ - NOMINAL DIAMETER
d_{max} - MAXIMUM DIAMETER
T - THICKNESS
L - LENGTH

**CITY OF O'FALLON
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TEMPORARY OUTLET PIPE DISCHARGE PROTECTION

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the clayton
engineering
company, inc.

ENGINEERS • SURVEYORS • PLANNERS

2208 WELSH INDUSTRIAL COURT
ST. LOUIS, MISSOURI 63146
ST. LOUIS, MISSOURI 63146
Tel: 636-821-7400 Fax: 636-821-7401
St. Louis, Missouri 63108
1400 Carondelet Drive, St. Louis, Missouri 63114
E-Design: design@claytoneng.com Phone: 636-821-7402
F. E. - 1480

REVISIONS

NO.	DATE	DESCRIPTION
1	04-26-22	EAS BID SET
2	05-13-22	EAS

FILE: G:\2100\2103 RANGE OF FIELDS\DWG-SWPPP-detail.dwg
PLOTTED: 05/20/22 12:31 PM

PRIMAX PROPERTIES, LLC

1100 E. Morehead Street

Charlotte, NC 28204

SWPPP DETAILS 2

RANGE USA INDOOR GUN RANGE

9100 Veterans Memorial Parkway

Eric A. Skelton - Professional Engineer
PE #000150069

Eric A. Skelton
Professional Engineer
No. 2000150069

06-09-22

Designed: EAS
Drawn: EAS
Checked: EAS
Date: March 19, 2022

Project Number: 21100
Sheet Number: C8.2 of

The original signed and sealed of this drawing is on file at the office of The Clayton Engineering Company. Any modifications to this drawing shall release said The Clayton Engineering Company, the Engineer and/or Surveyor whose seal appears herein from any liability resulting from said unauthorized modifications. The signed and sealed original is the official document and shall take precedence over any digital version.

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The Contractor shall be responsible for verifying the actual location of all underground facilities, structures, & utilities, either shown or not shown on these plans. The underground facilities, structures, & utilities shall be located in the field prior to any grading, excavation or construction of improvements. These provisions shall in no way absolve any party from complying with the Underground Facility Safety and Damage Prevention Act.

Additional erosion control measures may be required during construction that are not shown on these plans. Contractor is responsible for installing and maintaining temporary and/or interim erosion control measures during construction progression or as required by the City and/or MDR Inspector. Any changes/additions to the Storm Water Pollution Prevention Plan (SWPPP) shall be documented by the contractor and remain on file at the site.