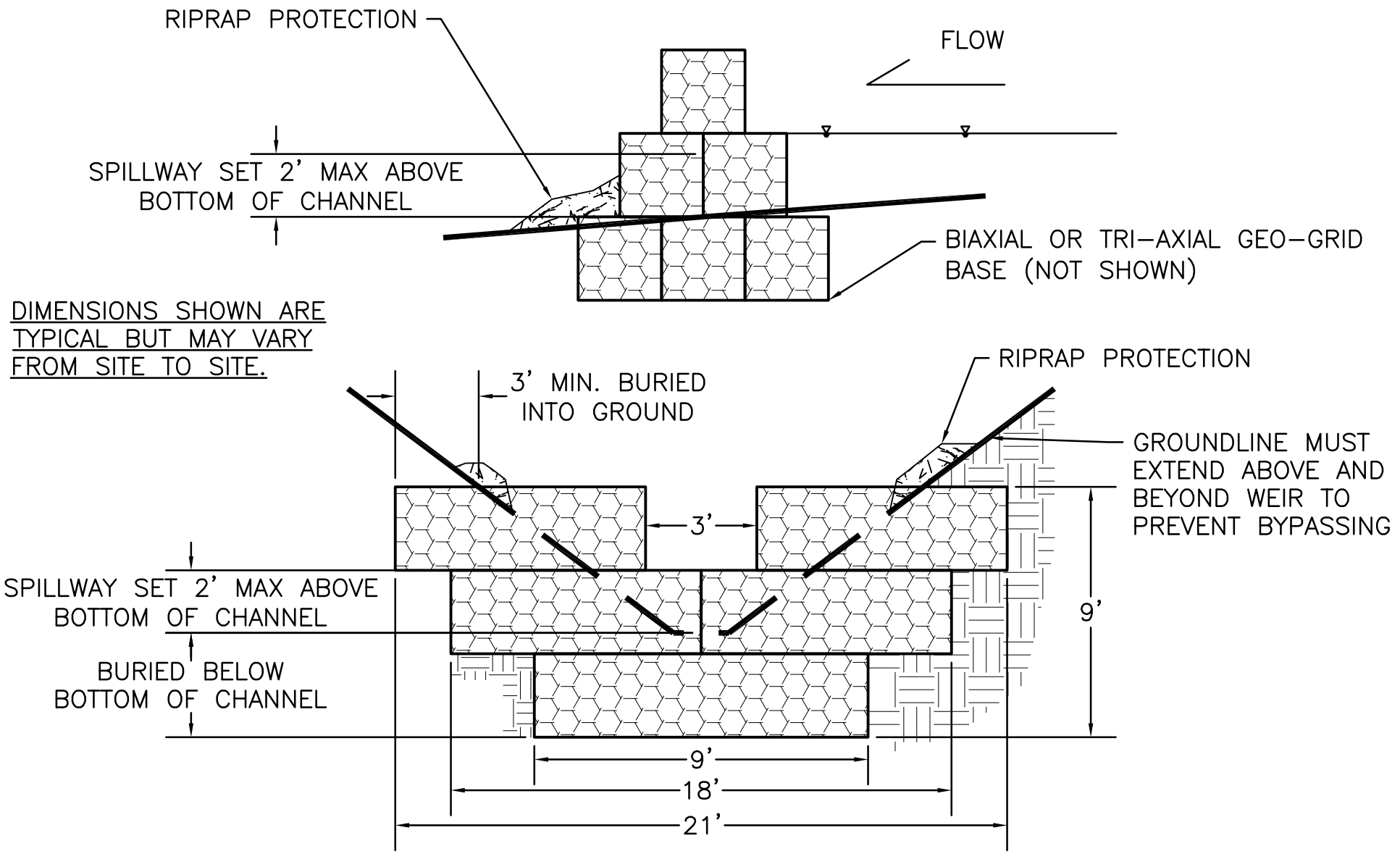
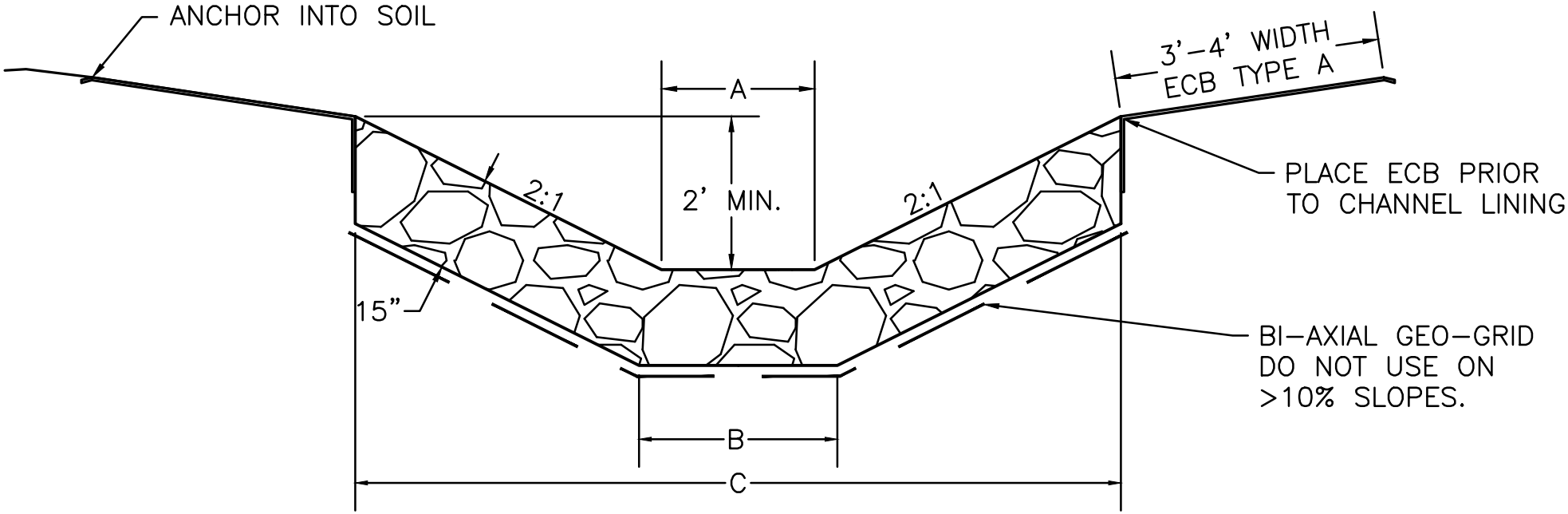


GABION WEIR (AML 10-40-1)

KY DAML 7-2017

1. EXCAVATE DITCH TO DEPTH WHERE WATER RUNS OVER ROCK ON SIDES INTO DITCH.
2. DITCHES <10% ARE UNDERLAIN WITH GEO–GRID UNLESS ON BEDROCK.
3. DITCHES OVER ACIDIC MATERIAL WILL HAVE 2' EARTHEN BASE AND MAY HAVE 3" LIMESTONE BASE.
4. DITCHES >4' DEPTH SHOULD HAVE SIDE SLOPES ON 3:1 COVERED WITH ECB INSTEAD OF ROCK.



BASED ON 2' DEPTH

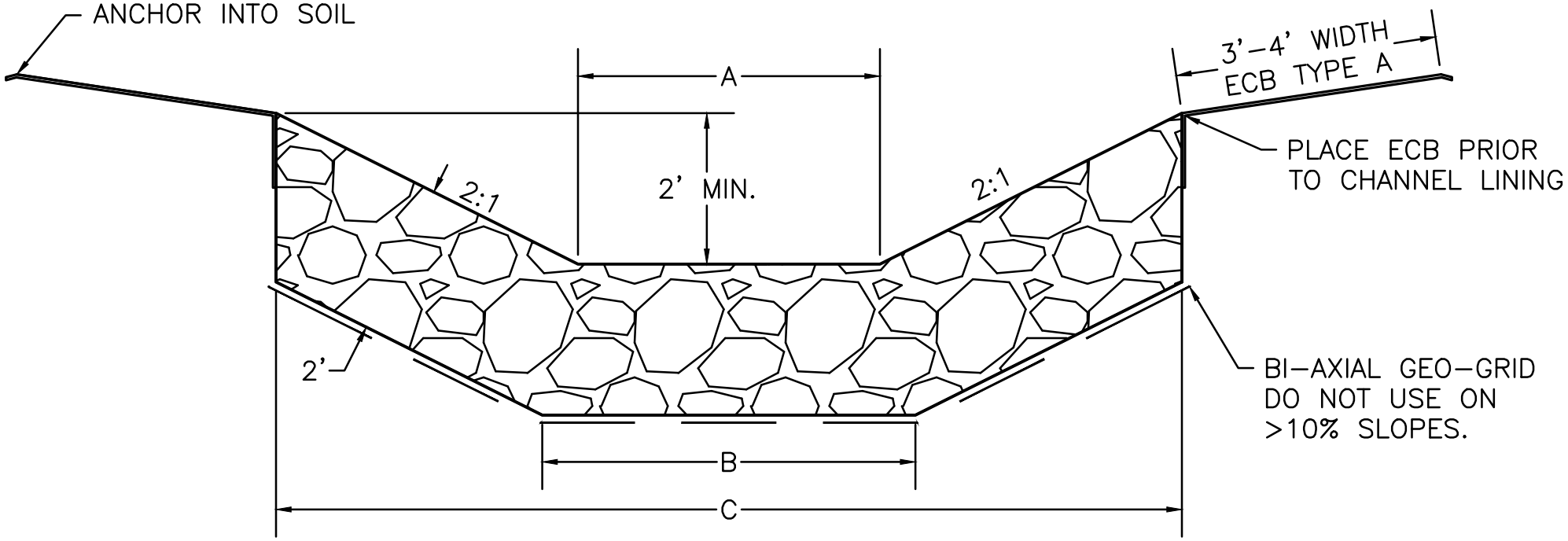
"A" FLAT BOTTOM WIDTH (LF)	"B" (LF)	"C" (LF)	CLASS II/III (TON/LF)	GEO–GRID (SQ YD/LF)	ECB (SQ YD/LF)
2	2.6	10	0.76	1.55	1
4	4.6	12	0.90	1.75	1

USE WITH AML 21–20–3

CLASS II DITCH- FLAT BOTTOM (AML 21-20-1)

KY DAML 7–2017

1. EXCAVATE DITCH TO DEPTH WHERE WATER RUNS OVER ROCK ON SIDES INTO DITCH.
2. DITCHES <10% ARE UNDERLAIN WITH GEO–GRID UNLESS ON BEDROCK.
3. DITCHES OVER ACIDIC MATERIAL WILL HAVE 2' EARTHEN BASE AND MAY HAVE 3" LIMESTONE BASE.
4. DITCHES >4' DEPTH SHOULD HAVE SIDE SLOPES ON 3:1 COVERED WITH ECB INSTEAD OF ROCK.



BASED ON 2' DEPTH

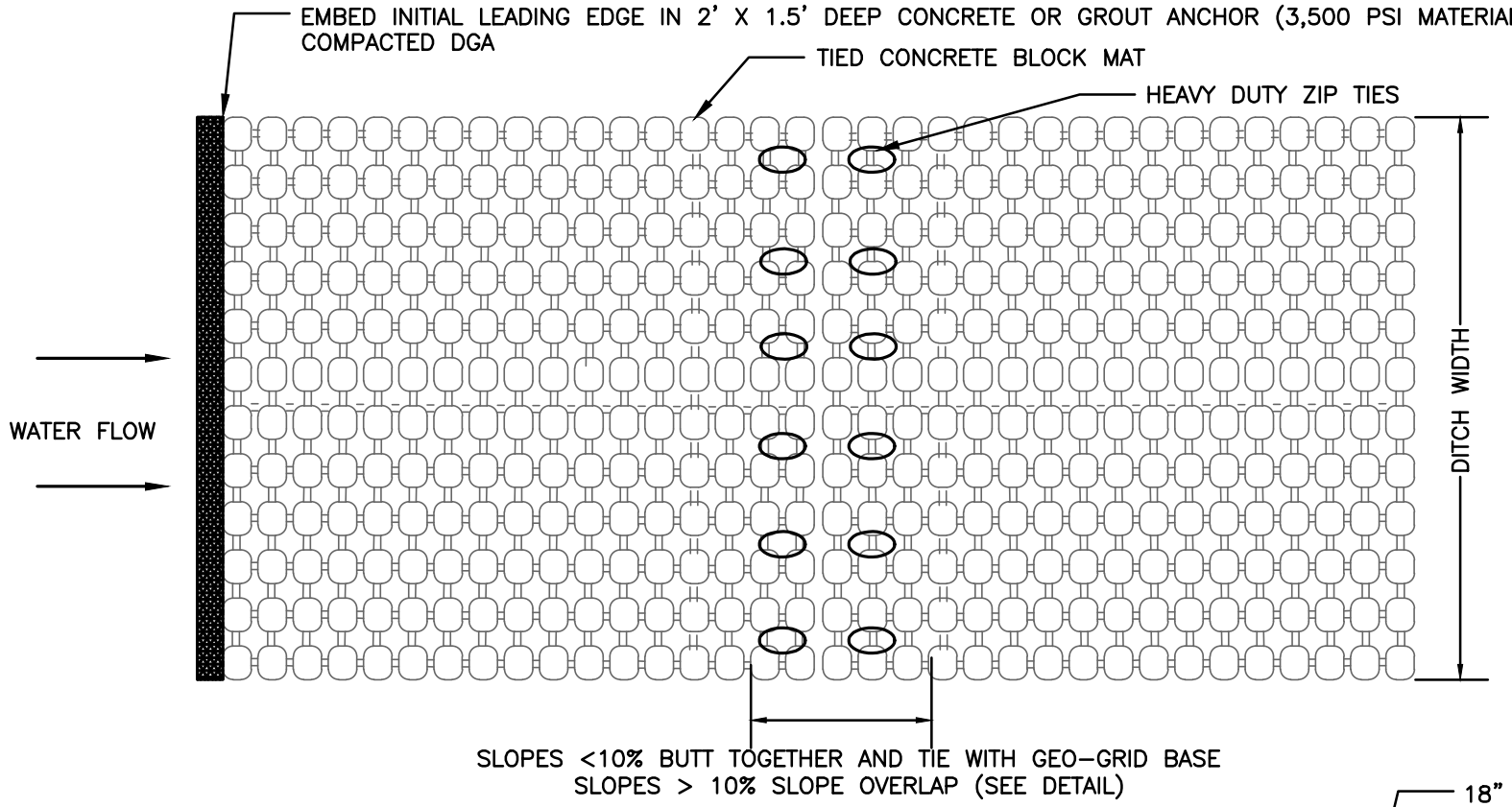
"A" FLAT BOTTOM SIZE (LF)	"B" (LF)	"C" (LF)	C + EARTH BASE (LF)*	CLASS II/III (TON/LF)	GEO–GRID (SQ YD/LF)	ECB (SQ YD/LF)
4	4.9	10	15.9	1.65	2.40	1
6	6.9	12	19.9	1.88	2.60	1
8	8.9	14	23.9	2.10	2.80	1

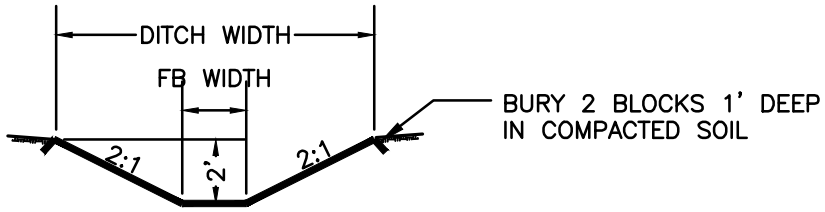
* THIS IS FOR DITCHES WITH EARTHEN COVER OVER ACIDIC UNDERLYING MATERIALS.

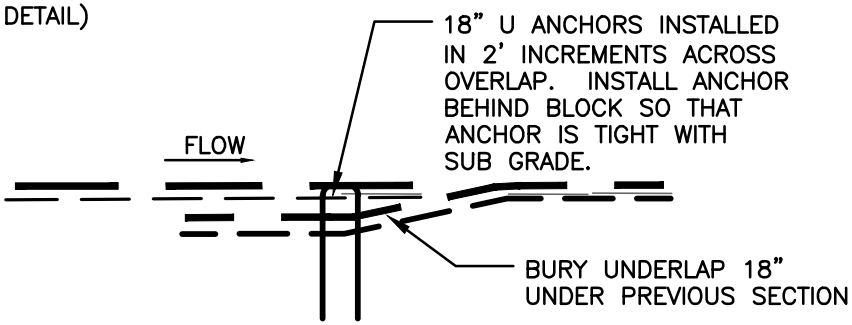
USE WITH AML 21–20–3

CLASS III DITCH- FLAT BOTTOM (AML 21-20-2)

KY DAML 7–2017







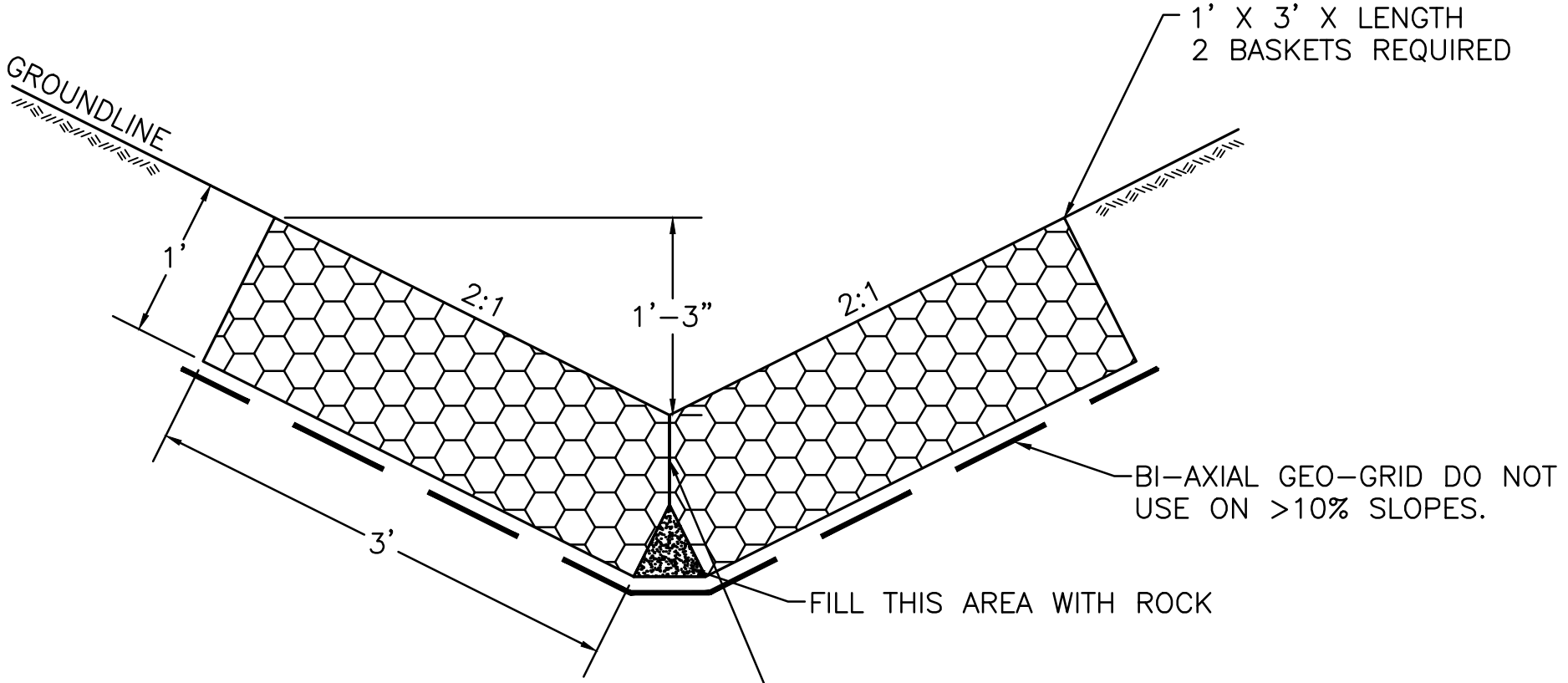
CONSTRUCTION NOTES:

1. GRADE CHANNEL SO THAT WATER IS CONTAINED AND FLOWS DOWN THE CENTER.
2. THE SUBGRADE SHALL BE SMOOTH, UNYIELDING, AND FREE OF ALL PROTRUSIONS AND/OR DEBRIS.
3. APPLY SEED PRIOR TO INSTALLATION.
4. ENGINEER MAY ELECT TO ADD ADDITIONAL "U" SHAPED REBAR ANCHORS SET MIN. 2' DEEP (INCIDENTAL).
5. ENGINEER MAY REQUIRE INTERMEDIATE CONCRETE/GROUT ANCHORS 2' WIDE X 1.5' DEEP WIDTH OF DITCH. ASSUME INCIDENTAL UNLESS STATED OTHERWISE IN BID ITEM DESCRIPTION. AN ALTERNATIVE IS TO BURY THE LEADING EDGE 18" VERTICALLY INTO COMPACTED DGA.
6. OVERLAP IS REQUIRED FOR SLOPES >10%.
7. NOT RECOMMENDED FOR SLOPES STEEP THAN 2.1.

CONCRETE BLOCK- TIED MAT (AML 21-30-1)

KY DAML 7-2017

- GEO–GRID SHALL ONLY BE PLACED UNDER ALL DITCHES WITH CHANNELS FLATTER THAN 10% AND NOT ON BEDROCK.
- INSTALL GABION ANCHORS (21–70–3) ON SLOPES >10%.

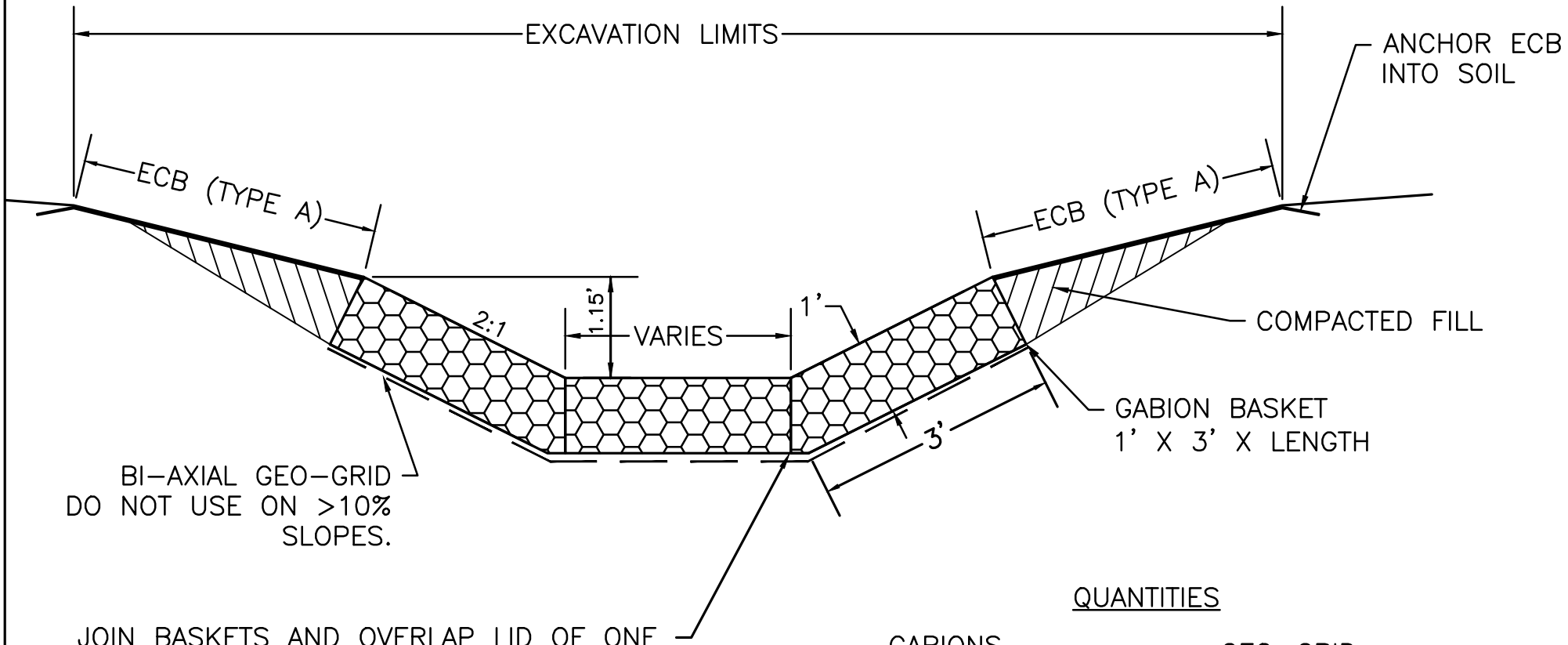


GABION = 0.22 CY/LF
GEO–GRID = 1.1 SY/LF

USE WITH AML 70–30–1

GABION DITCH- "V" (AML 21-40-1)

- GEO–GRID SHALL ONLY BE PLACED UNDER ALL DITCHES WITH CHANNELS FLATTER THAN 10% AND NOT ON BEDROCK.
- INSTALL GABION ANCHORS (21–70–3) ON SLOPES >10%.



QUANTITIES

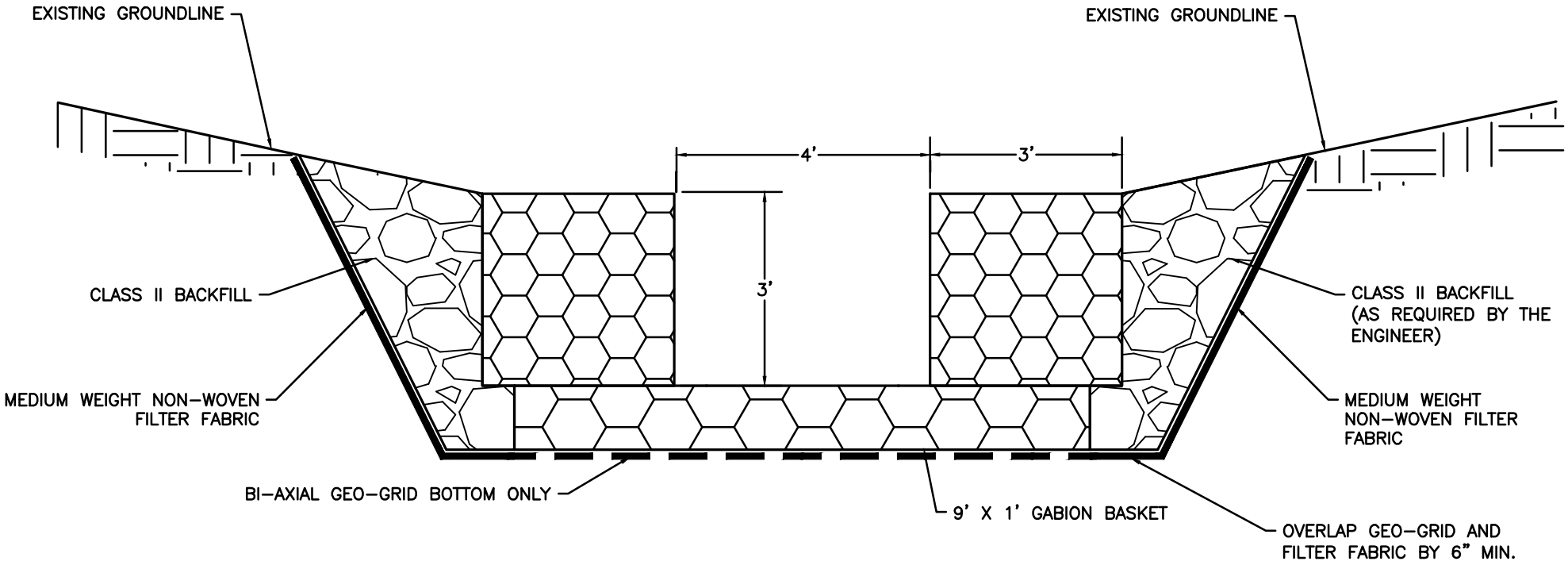
GABIONS	GEO–GRID
3' WIDE= 0.35 CY/LF	1.00 SY/LF
6' WIDE= 0.48 CY/LF	1.33 SY/LF
9' WIDE= 0.61 CY/LF	1.67 SY/LF

ECB = 1.00 SY/LF

USE WITH AML 21–70–3 & 70–30–1

GABION DITCH- TRAPEZOIDAL 3',6',9' WIDTH (AML 21-40-2)

- GEO–GRID SHALL ONLY BE PLACED UNDER ALL DITCHES WITH CHANNELS FLATTER THAN 10% AND NOT ON BEDROCK.
- INSTALL GABION ANCHORS (21–70–3) ON ALL SLOPES >10%.
- PLACE FILTER FABRIC BETWEEN ROCK AND SOIL CONTACT ON SIDES.
- USE CONCRETE HEADWALL WHEN GABION DITCHES TIE INTO A PIPE. BASE OF HEADWALL EXTENDS 1' BELOW BASE OF GABION.



QUANTITIES

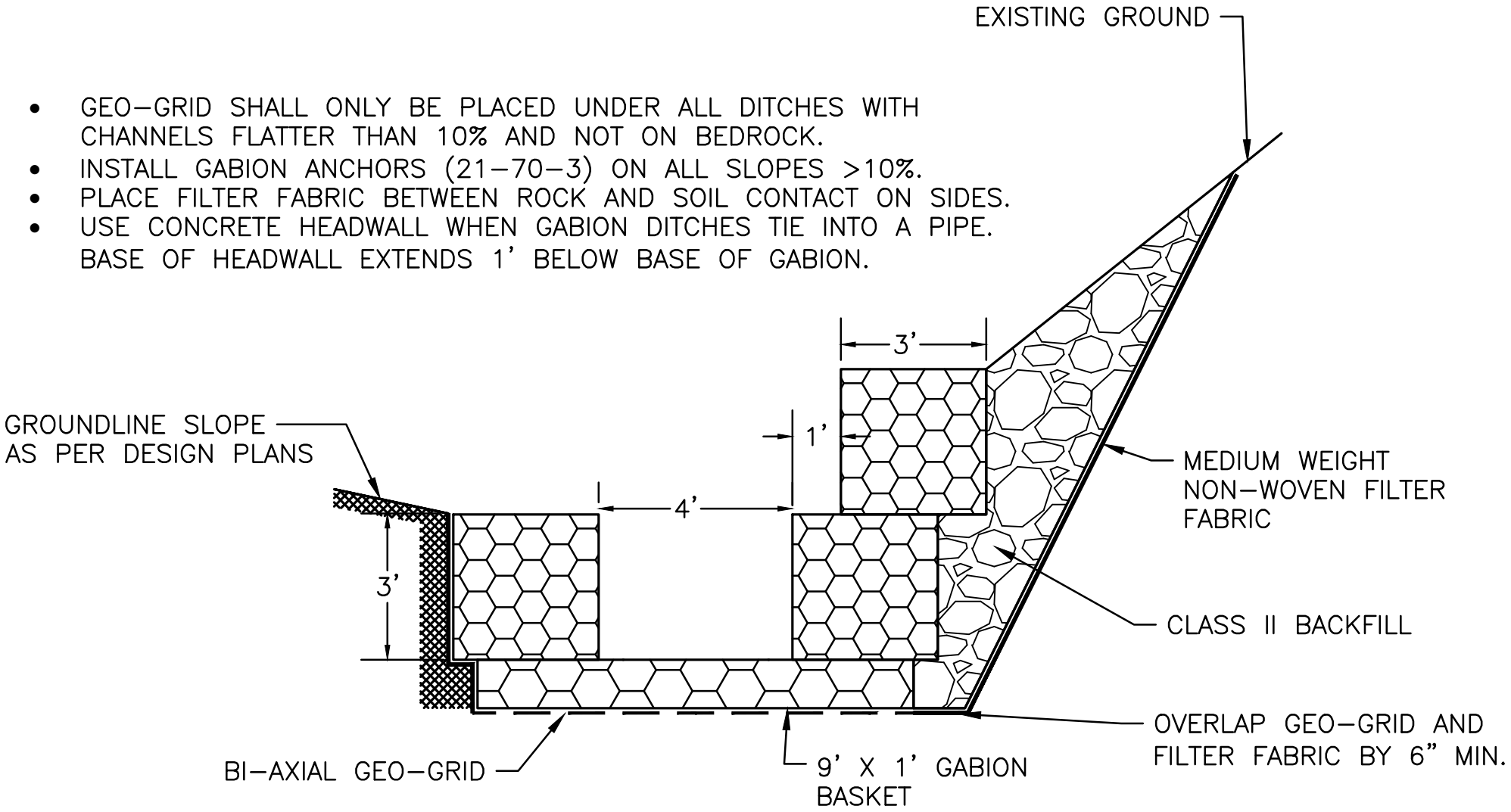
GABION	1.00 CY/LF
GEO–GRID	1.11 SY/LF
CLASS II BACKFILL	0.84 TON/LF
ECB (TYPE A)	1.00 SY/LF
FILTER FABRIC	1.5 SY/LF

USE WITH AML 21–70–3 & 70–30–1

GABION DITCH- RECTANGULAR 4' FLAT BOTTOM EVEN SIDE HEIGHTS (AML 21-40-3)

KY DAML 7–2017

- GEO–GRID SHALL ONLY BE PLACED UNDER ALL DITCHES WITH CHANNELS FLATTER THAN 10% AND NOT ON BEDROCK.
- INSTALL GABION ANCHORS (21–70–3) ON ALL SLOPES >10%.
- PLACE FILTER FABRIC BETWEEN ROCK AND SOIL CONTACT ON SIDES.
- USE CONCRETE HEADWALL WHEN GABION DITCHES TIE INTO A PIPE. BASE OF HEADWALL EXTENDS 1' BELOW BASE OF GABION.



QUANTITIES

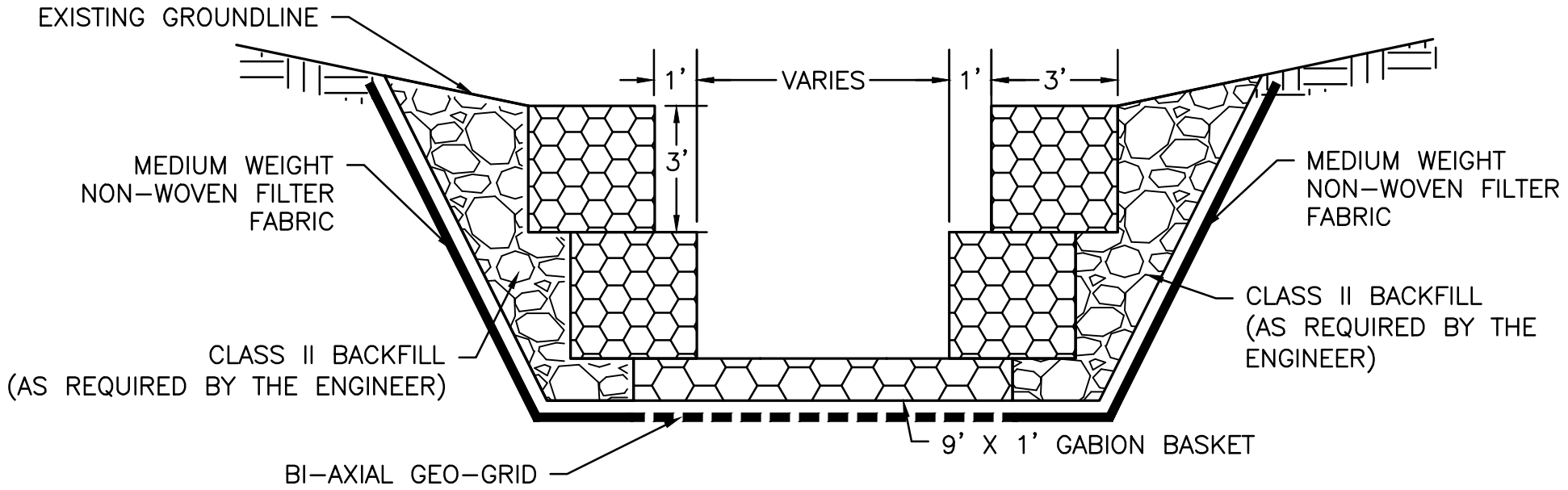
GABION	1.33 CY/LF
GEO–GRID	1.1 SY/LF
CLASS II BACKFILL	1.11 TON/LF
ECB	1.00 SY/LF
FILTER FABRIC	VARIES

USE WITH AML 21–70–3 & 70–30–1

GABION DITCH- RECTANGULAR 4' FLAT BOTTOM UNEVEN SIDE HEIGHTS (AML 21-40-4)

KY DAML 7–2017

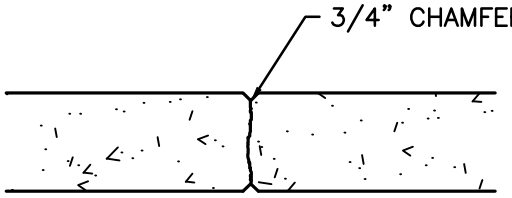
- GEO–GRID SHALL ONLY BE PLACED UNDER ALL DITCHES WITH CHANNELS FLATTER THAN 10% AND NOT ON BEDROCK.
- INSTALL GABION ANCHORS (21–70–3) ON ALL SLOPES >10%.
- PLACE FILTER FABRIC BETWEEN ROCK AND SOIL CONTACT ON SIDES.
- USE CONCRETE HEADWALL WHEN GABION DITCHES TIE INTO A PIPE. BASE OF HEADWALL EXTENDS 1' BELOW BASE OF GABION.



6' FB DITCH		8' FB DITCH	
GABION	1.70 CY/LF	GABION	1.80 CY/LF
GEO–GRID	2.70 SY/LF	GEO–GRID	3.50 SY/LF
CLASS II BACKFILL	1.80 TON/LF	CLASS II BACKFILL	1.80 TON/LF
ECB	1.00 SY/LF	ECB	1.00 SY/LF
FILTER FABRIC	2.5 SY/LF	FILTER FABRIC	2.5 SY/LF

USE WITH AML 21–70–3 & 70–30–1

GABION DITCH- RECTANGULAR 6' & 8' FLAT BOTTOM (AML 21-40-5)



CONSTRUCTION JOINT

SEE AML 30–60–3 FOR ADDITIONAL DETAILS

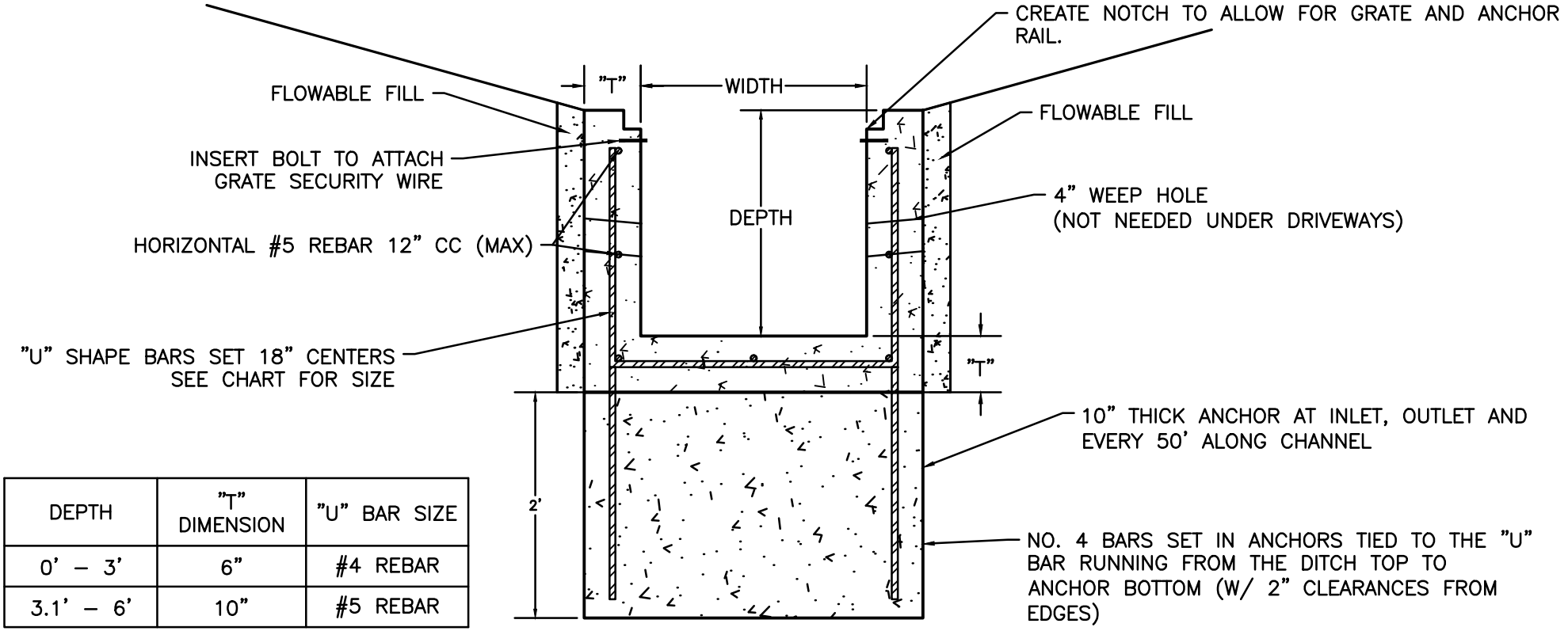
CONSTRUCTION JOINTS SHALL BE PLACED A MINIMUM OF 10' & A MAXIMUM OF 20'. SEE "STEEL" SECTION OF AML TECHNICAL SPECIFICATION FOR BAR SPLICES & EMBEDMENT INFORMATION. INSERT WEEP HOLES AT CONSTRUCTION JOINTS.

ALL STEEL REINFORCEMENT SHALL BE 60 KSI. ALL CONCRETE IS 4,000 PSI WITH FIBER REINFORCEMENT. SECURITY ANCHORS ARE INCIDENTAL. DON'T WELD GRATES CLOSED. ALL REBAR SHALL HAVE 2" MIN CLEARANCE.

INSTALL SIDEWALLS COMPLETELY BELOW GROUNDLINE. UNITS MAY BE PRE–CAST WITH ENGINEER'S PRIOR APPROVAL.

VEHICLE GRATE IS EQUIVALENT OF JR HOE "STANDARD" OR NEENAH R–499– TYPE A. ALL GRATES USE EMBEDDED FRAME RAIL TO SECURE GRATE TO THE TENCH.

NON–VEHICULAR GRATE IS 1" X 3/16" BEARING BAR SIZE PLAIN BLACK PAINTED, WELDED STEEL BAR GRATING.



DEPTH	"T" DIMENSION	"U" BAR SIZE
0' – 3'	6"	#4 REBAR
3.1' – 6'	10"	#5 REBAR

USE WITH AML 24–50–1

CONCRETE DITCH- RECTANGULAR w/ GRATE (AML 21-50-3)

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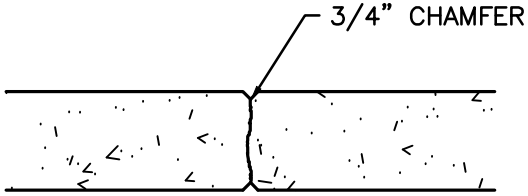


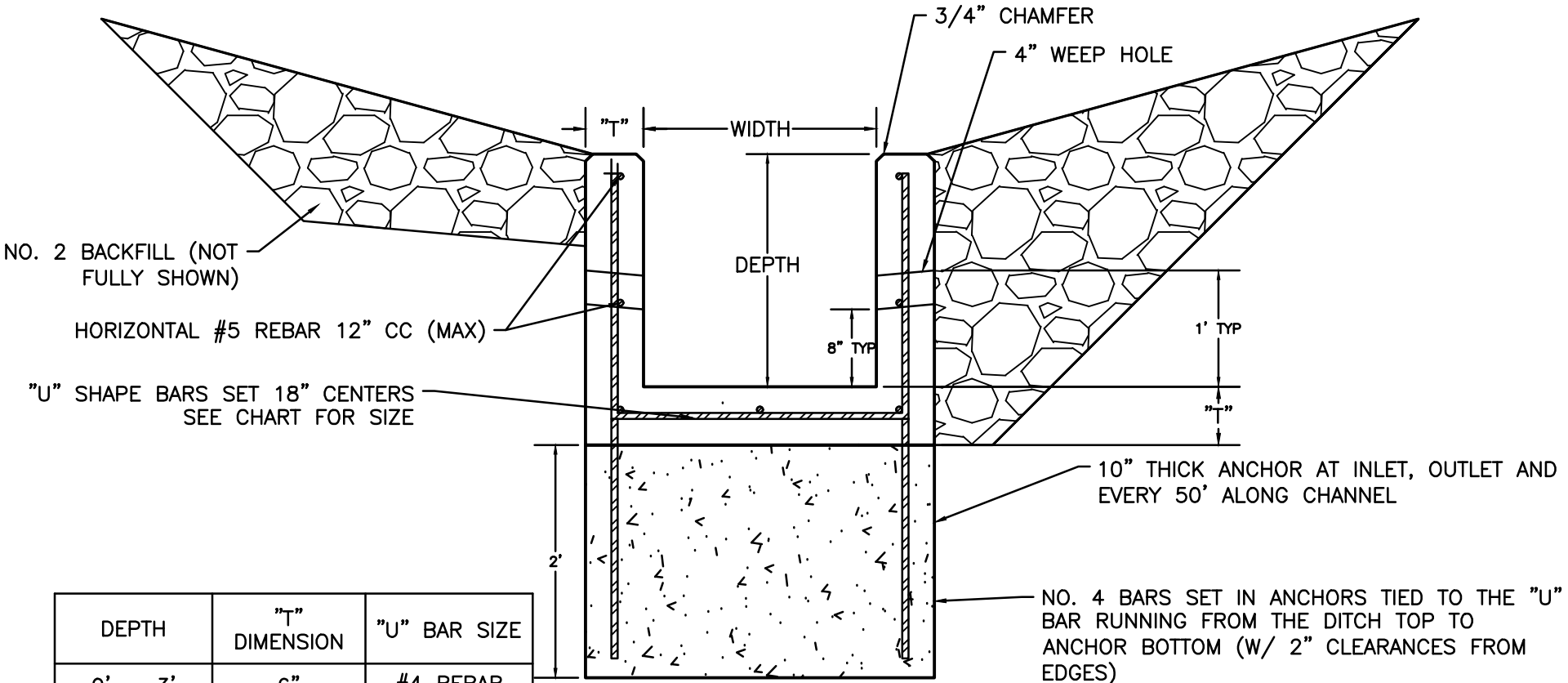
CONSTRUCTION JOINT

SEE AML 30-60-3 FOR ADDITIONAL DETAILS

CONSTRUCTION JOINTS SHALL BE PLACED A MINIMUM OF 10' & A MAXIMUM OF 20'. SEE "STEEL" SECTION OF AML TECHNICAL SPECIFICATION FOR BAR SPLICES & EMBEDMENT INFORMATION. INSERT WEEP HOLES AT CONSTRUCTION JOINTS.

ALL STEEL REINFORCEMENT SHALL BE 60 KSI. ALL CONCRETE IS 4,000 PSI WITH FIBER REINFORCEMENT. SEE "STEEL" SECTION OF AML TECHNICAL SPECIFICATION FOR BAR SPLICES & EMBEDMENT INFORMATION. ALL REBAR SHALL HAVE 2" MIN CLEARANCE.

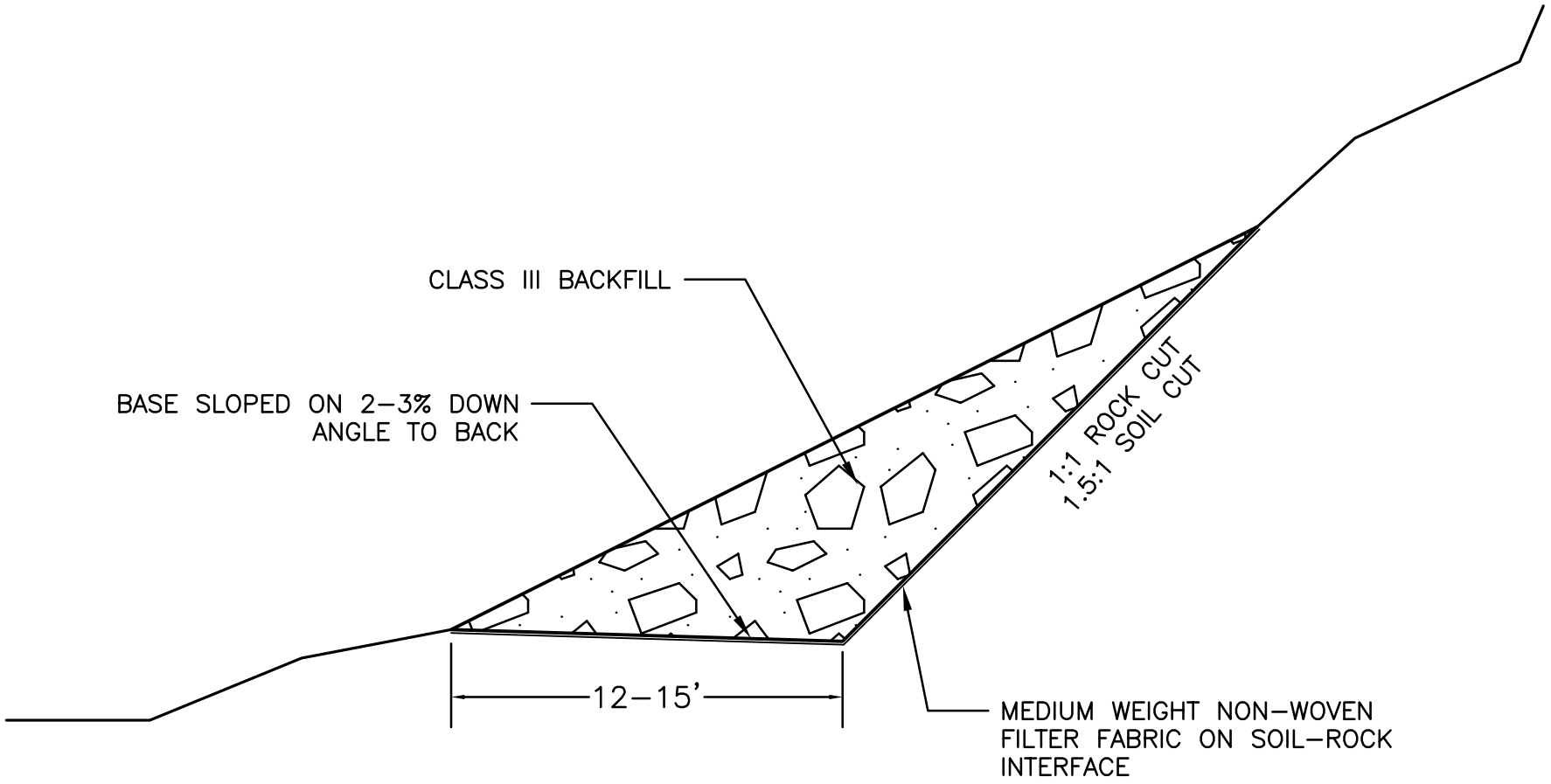
INSTALL SIDEWALLS COMPLETELY BELOW GROUNDLINE.



DEPTH	"T" DIMENSION	"U" BAR SIZE
0' – 3'	6"	#4 REBAR
3.1' – 6'	10"	#5 REBAR

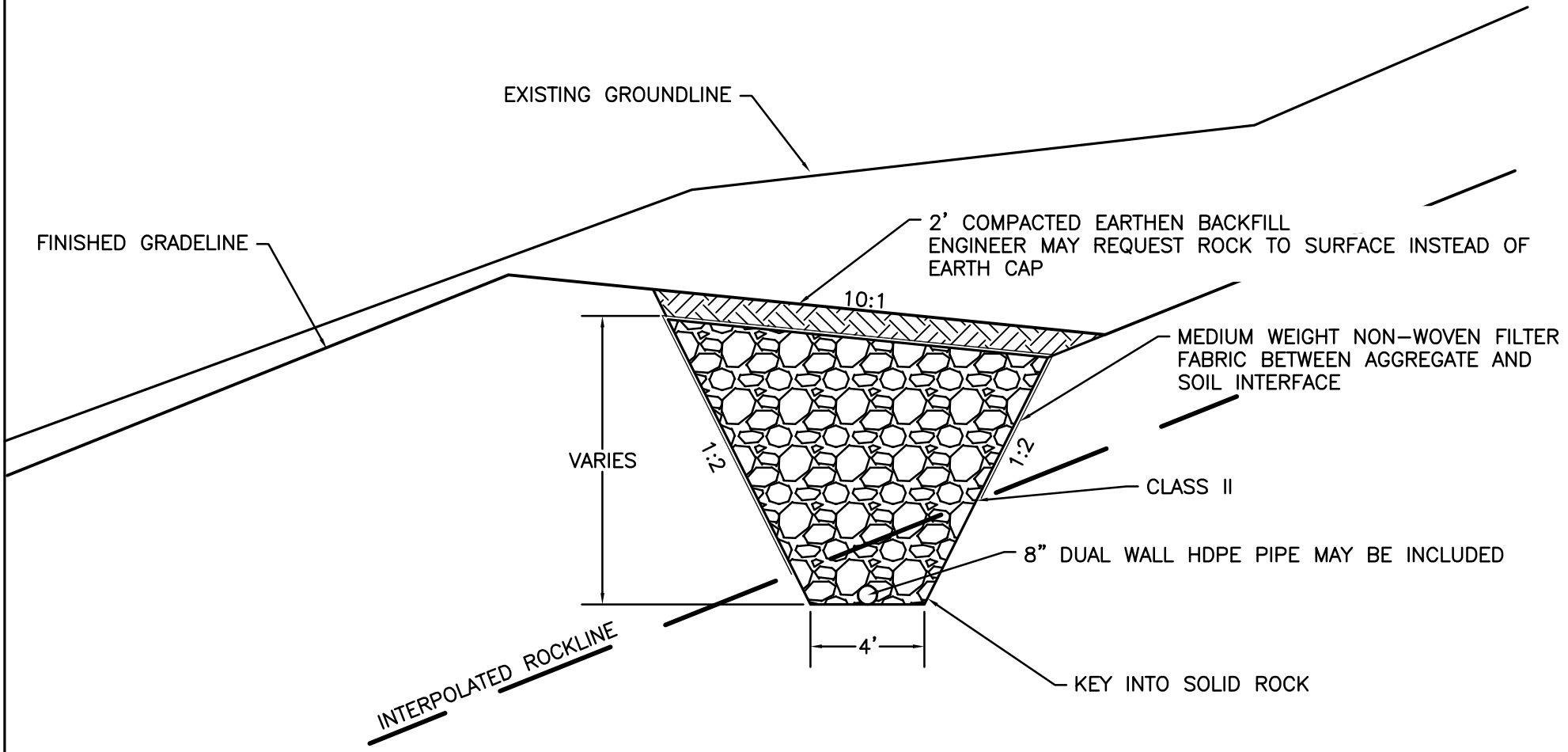
CONCRETE DITCH- RECTANGULAR NO GRATE (AML 21-50-4)

KY DAML 7-2017



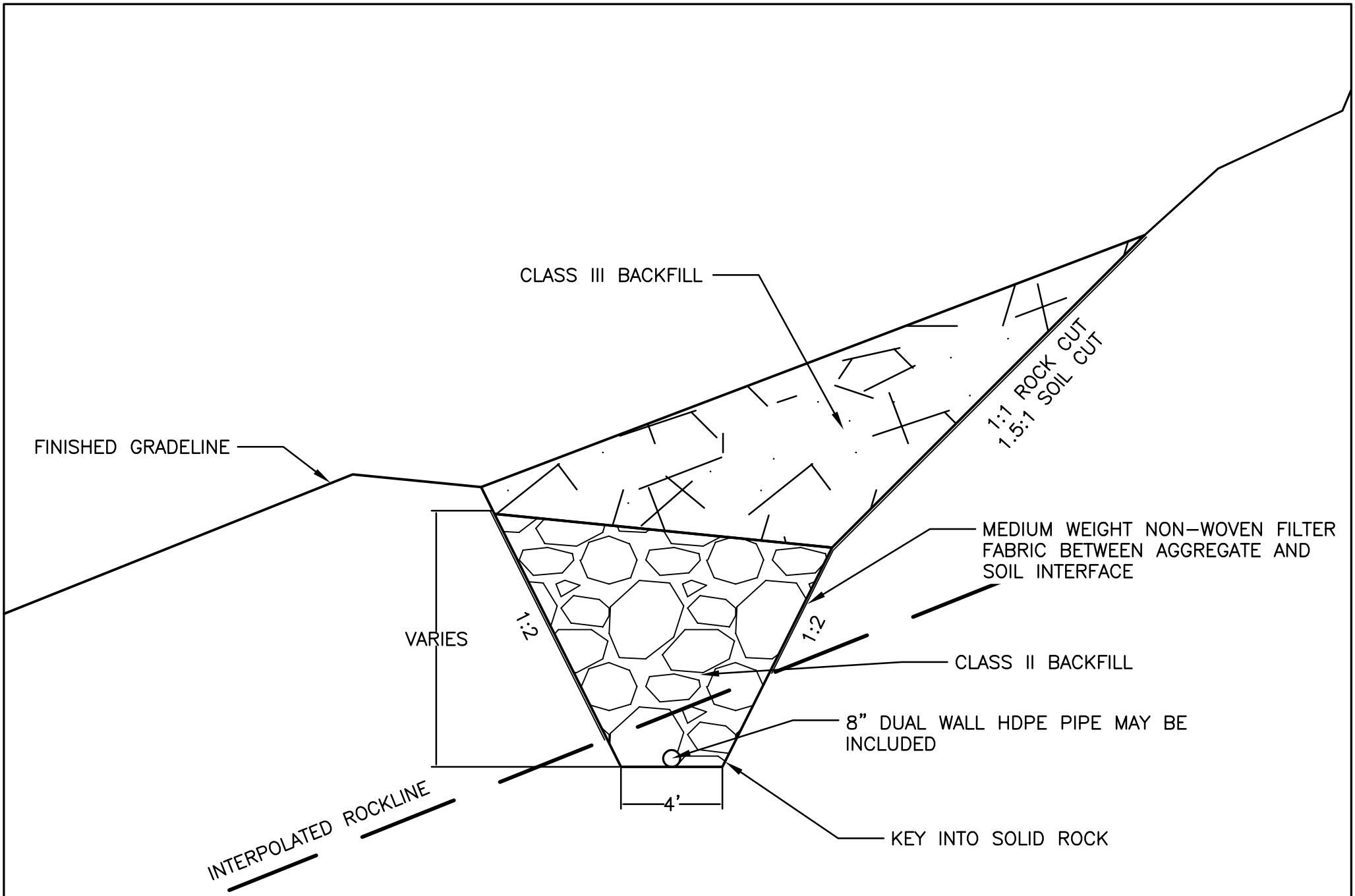
ROCK TOE BUTTRESS (AML 22-10-1)

KYDAML 7/2017



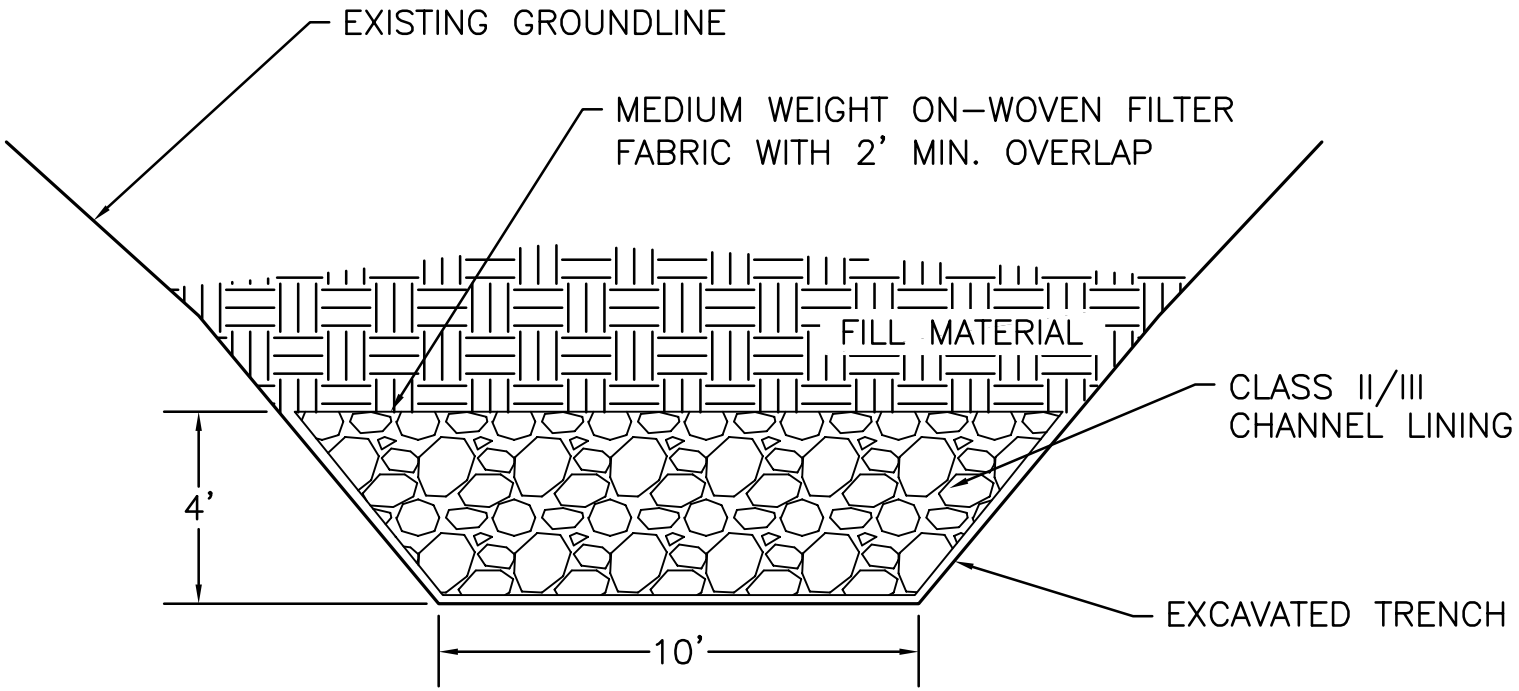
SHEAR KEY (AML 22-10-2)

KY DAML 7-2017



COMBINATION ROCK TOE BUTTRESS & SHEAR KEY (AML 22-10-3)

KY DAML 7–2017



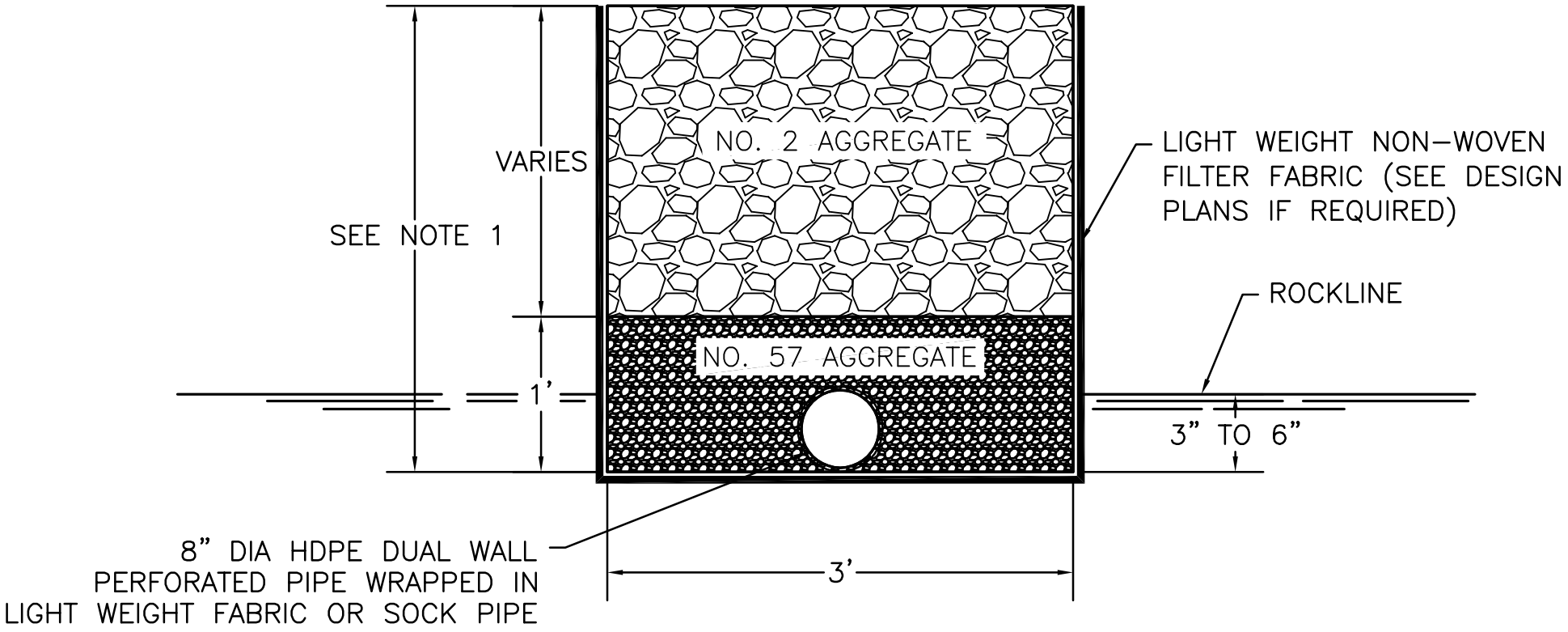
SIDE SLOPE	CLASS II/III	FILTER FABRIC
1:1	3.1 TON/LF	4.7 SY/LF
2:1	4.0 TON/LF	7.2 CY/LF

ROCK CORE DRAIN (AML 22-20-1)

KY DAML 7–2017

NOTES:

1. EXCAVATION SHALL BE CONSIDERED INCIDENTAL FOR SUBDRAINS INSTALLED TO 3 FT DEEP. FOR SUBDRAINS DEEPER THAN 3 FT, EXCAVATION SHALL BE INCLUDED FOR PAYMENT AS EARTHWORK.
2. USE SOCK PIPE FOR ALL DEPTHS.
3. WHEN SWITCHING FROM PERFORATED TO NON–PERFORATED PIPE USE A SUBDRAIN COLLAR (AML 21–30–2)
4. SET PIPE ON MINIMUM OF 1% GRADE. RAISE THE PIPE IF NECESSARY TO MAINTAIN GRADE. THE ROCK CORE OF THE SUBDRAIN IS STILL TIED INTO BEDROCK.
5. THE CONSTRUCTION DRAWINGS, NOTES, SPECIAL CONDITIONS MAY REQUIRE A LARGE DIAMETER PIPE THAN SHOWN, THE LARGER PIPE IS STILL INCIDENTAL TO THE SUBDRAIN.
6. BRING THE SUBDRAIN ROCK TO THE GROUND SURFACE. FOR COMBINATION DITCH–SUBDRAIN SEE AML 22–30–4 & 5.



USE WITH AML 22–30–2

SUBDRAIN (AML 22-30-1)

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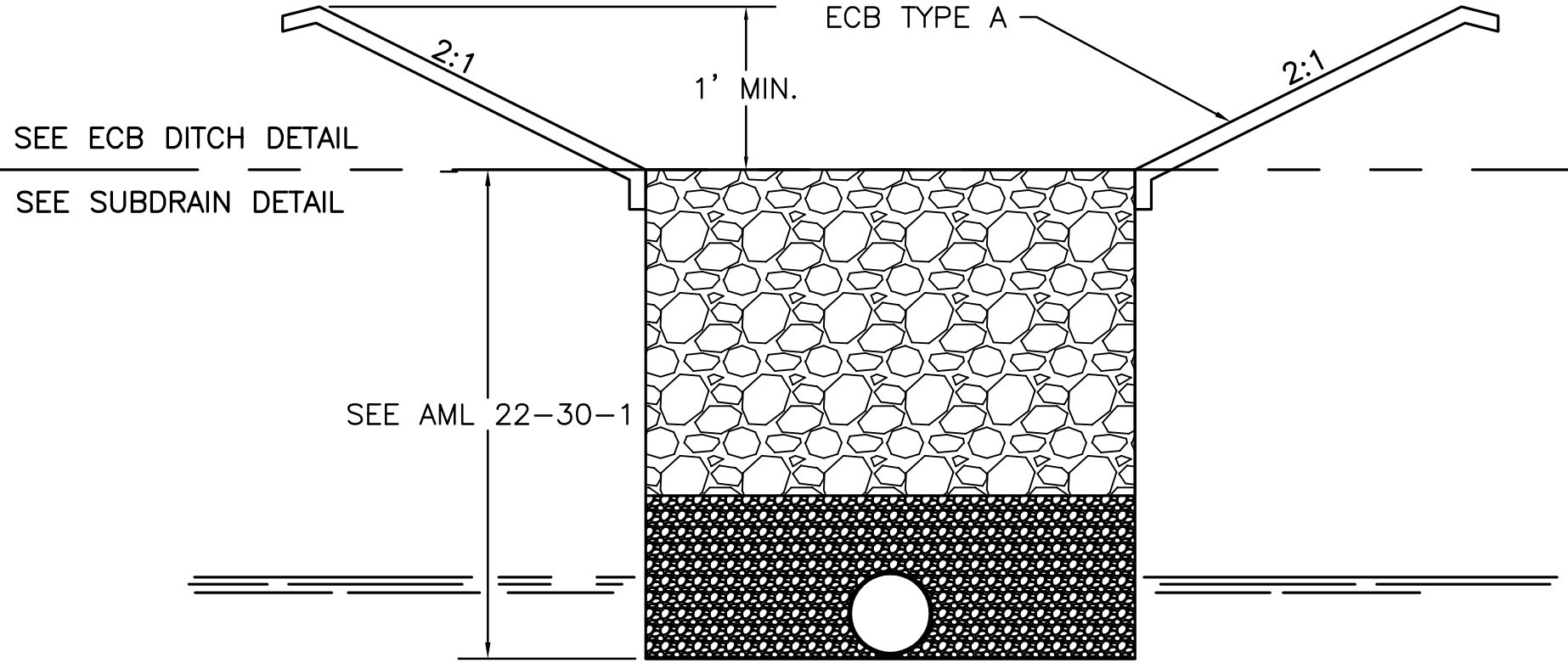
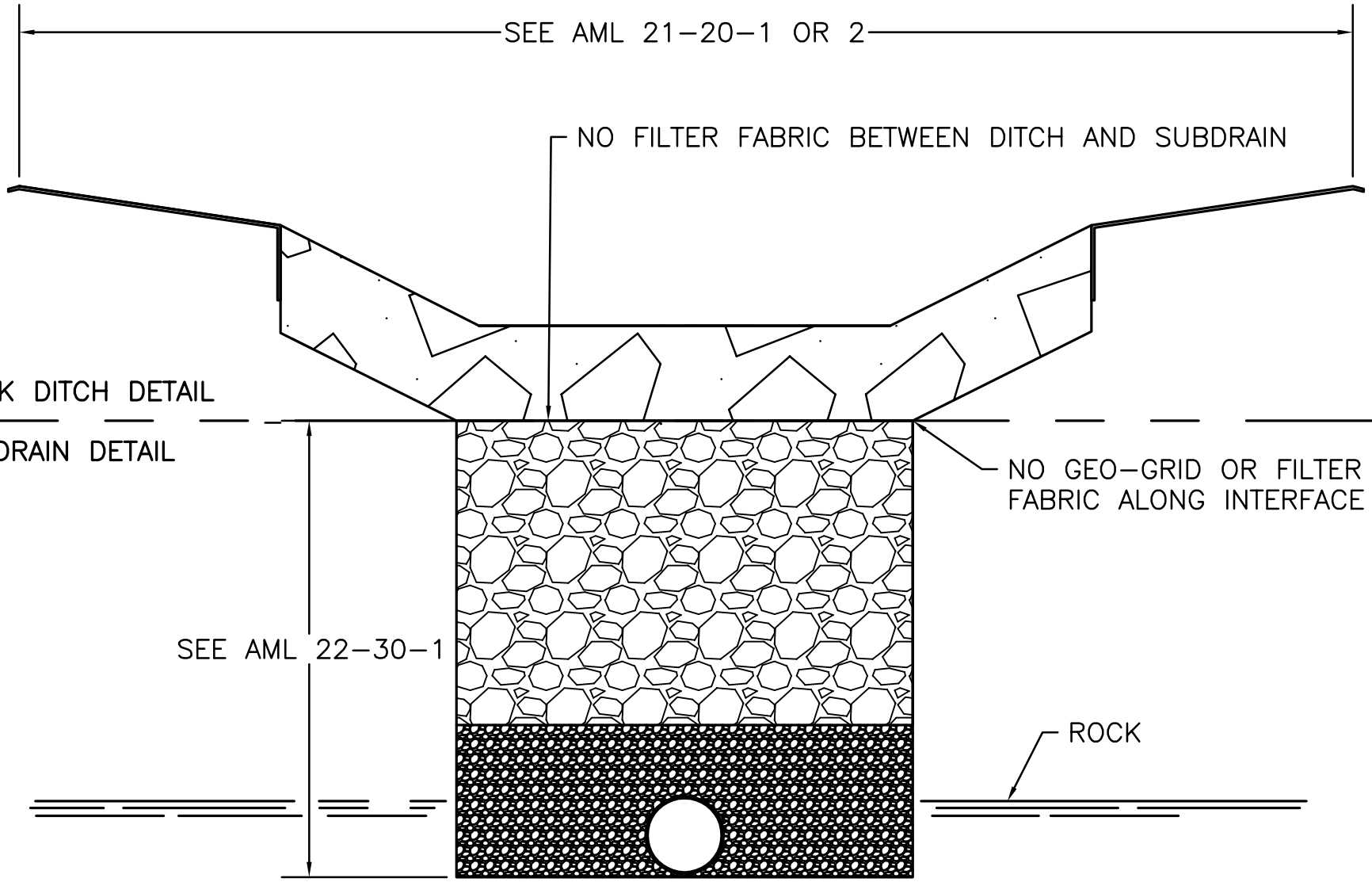


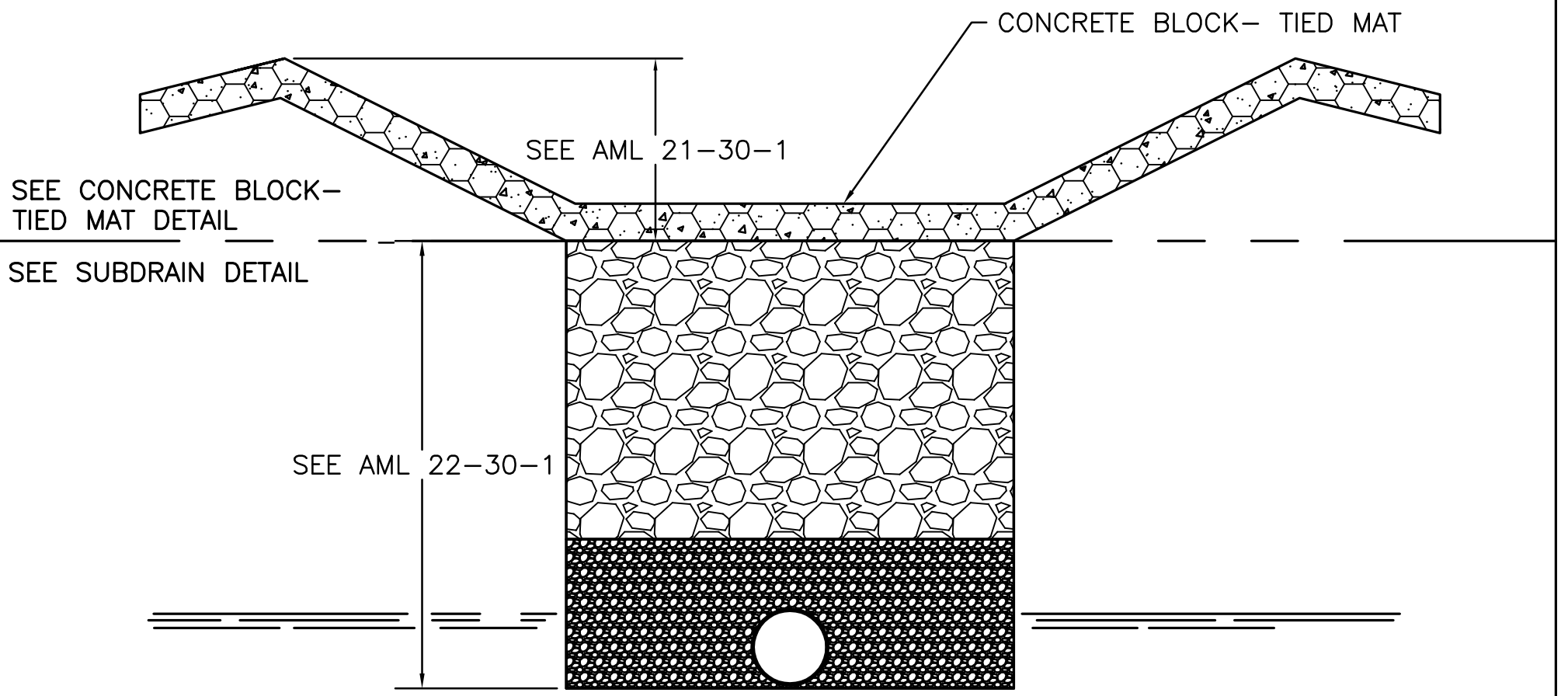
SEE THE DITCH AND SUBDRAIN DETAILS FOR SPECIFIC INFORMATION. SEPARATE BID ITEMS.

COMBINATION ECB DITCH-DRAIN (AML 22-30-3)



SEE THE DITCH OR SUBDRAIN DETAIL FOR SPECIFIC INFORMATION. SEPARATE BID ITEMS.

COMBINATION ROCK DITCH-DRAIN (AML 22-30-4)



SEE THE DITCH AND SUBDRAIN DETAILS FOR SPECIFIC INFORMATION.

SEPARATE BID ITEMS.

COMBINATION CONCRETE BLOCK- TIED MAT & DRAIN (AML 22-30-5)

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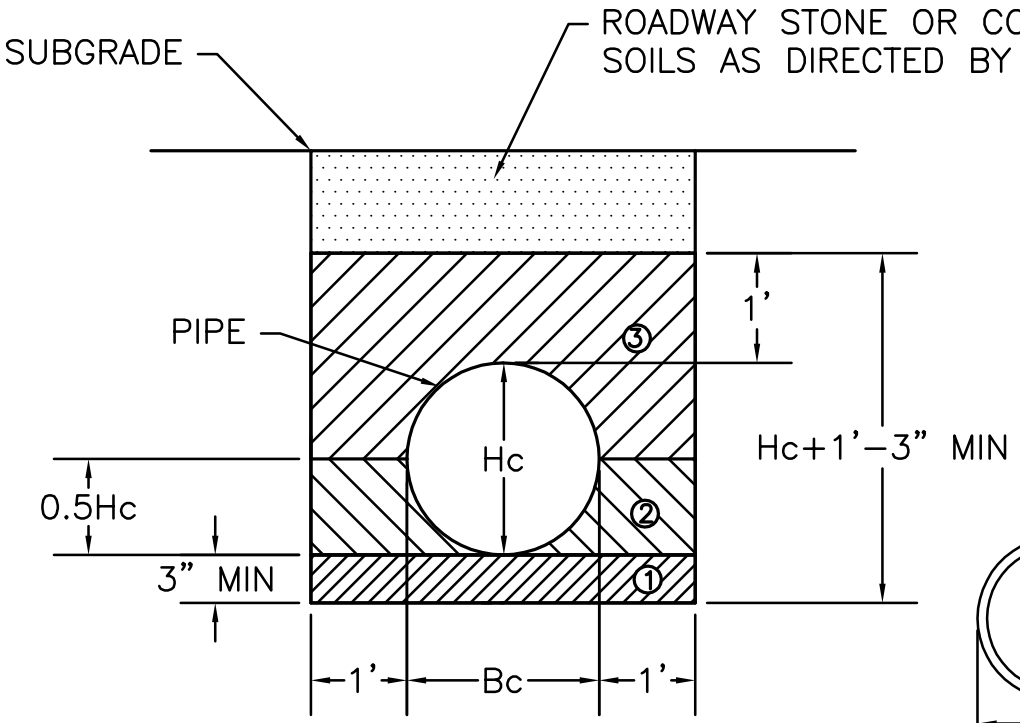
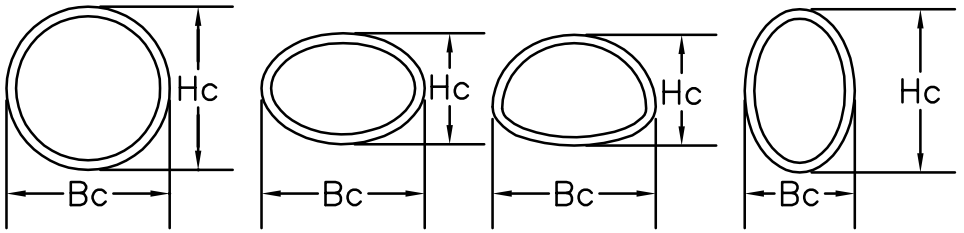
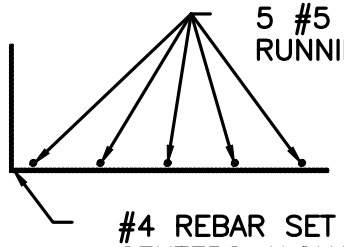


DGA BACKFILL SHOWN TO 1' MIN. OVER PIPE IS INCIDENTAL TO PIPE INSTALLATION.



1. UNCOMPACTED DENSE GRADE AGGREGATE (DGA) TO WIDTH AND ELEVATION SHOWN
2. 95% COMPACTED DGA IN LAYERS 6" OR LESS TO WIDTH AND ELEVATION AS SHOWN W/ MECHANICAL TAMPERS OR COMPACTORS
3. 85% COMPACTED DGA IN LAYERS 6" OR LESS TO WIDTH AND ELEVATION AS SHOWN W/ MECHANICAL TAMPERS OR COMPACTORS
4. ANCHORED HDPE & RHDPE WITH GUY WIRE ANCHORS AND STRAPS OR EQUIVALENT IF FLOWABLE WILL IS USED INSTEAD OF DGA. ANCHOR PRIOR TO PLACING FLOWABLE FILL.
5. USE FLOWABLE FILL ALL PAVED ROADS WITH REINFORCED CONCRETE PIPE (SEE DETAIL 50–10–4).

PIPE BEDDING (23-50-2)



5 #5 BARS SPACED EVENLY RUNNING LENGTH OF FOOTER

#4 REBAR SET 18" CENTERS ALONG FOOTER

FOOTER REINFORCEMENT DETAIL
NTS

CLASS II BACKFILL ABOVE WALL (IF REQUIRED) 1.5:1 MAX SLOPE

CHAIN–LINK FENCE (NOT SHOWN)

WALLS TERMINATE INTO HILLSIDE WINGED OR AT 90° ANGLE.

Design Height	FF SY/LF	No. 2 Ton/LF	Class II Ton/LF	Row 1	2	3	4	5	6	7	8
4.5	1.2	1.0	0.7	60"	41"	28"					
6	1.4	1.4	0.8	60"	41"	41"	28"				
7.5	1.5	1.8	0.9	60"	41"	41"	41"	28"			
9	1.7	2.3	0.9	60"	41"	41"	41"	41"	28"		
10.5	1.9	2.6	1.0	60"	60"	41"	41"	41"	41"	28"	
12	2.1	3.2	1.1	60"	60"	41"	41"	41"	41"	41"	28"

28" TOP BLOCK

NO. 2 STONE BACKFILL SET IN 2' LIFTS

1.5:1 MAX.

41" BLOCK

1.25" SETBACK (TYP.)

MOVE BLOCKS FORWARD DURING INSTALLATION TO ENGAGE SHEAR KNOBS

UP TO 9' TALL = 41" BLOCK
OVER 9' TALL = 60" BLOCK

MEDIUM WEIGHT NON–WOVEN FILTER FABRIC IF SOIL CONTACT

60" BLOCK

6" X 6" CONCRETE KEY

REINFORCED CONCRETE LEVELING PAD SET BELOW LOCAL FROST LINE
CLASS "AA" CONCRETE W/ FIBER REINFORCEMENT

2.5'

2'

8" HDPE DUAL WALL WRAPPED IN LIGHT WEIGHT FILTER FABRIC OR SOCK PIPE BURIED IN NO. 57 STONE

6'

GRAVEL SUB BASE (IF REQUIRED BY ENGINEER, BIAXIAL GEO–GRID NOT SHOWN)

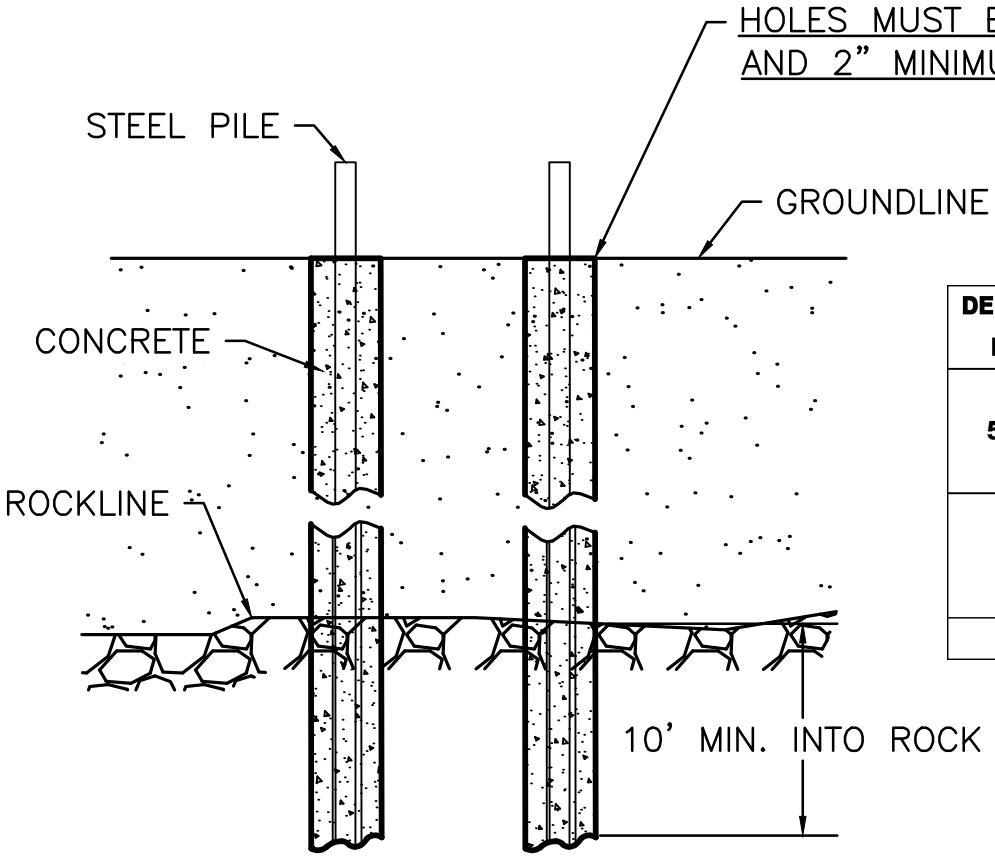
#4 REBAR SET 18" CENTERS ALONG FOOTER

5 #5 BARS SPACED EVENLY RUNNING LENGTH OF FOOTER

USE WITH AML 30–20–3

NON-REINFORCED BLOCK WALL- TYPE II (AML 30-20-2)

KY DAML 8–2017



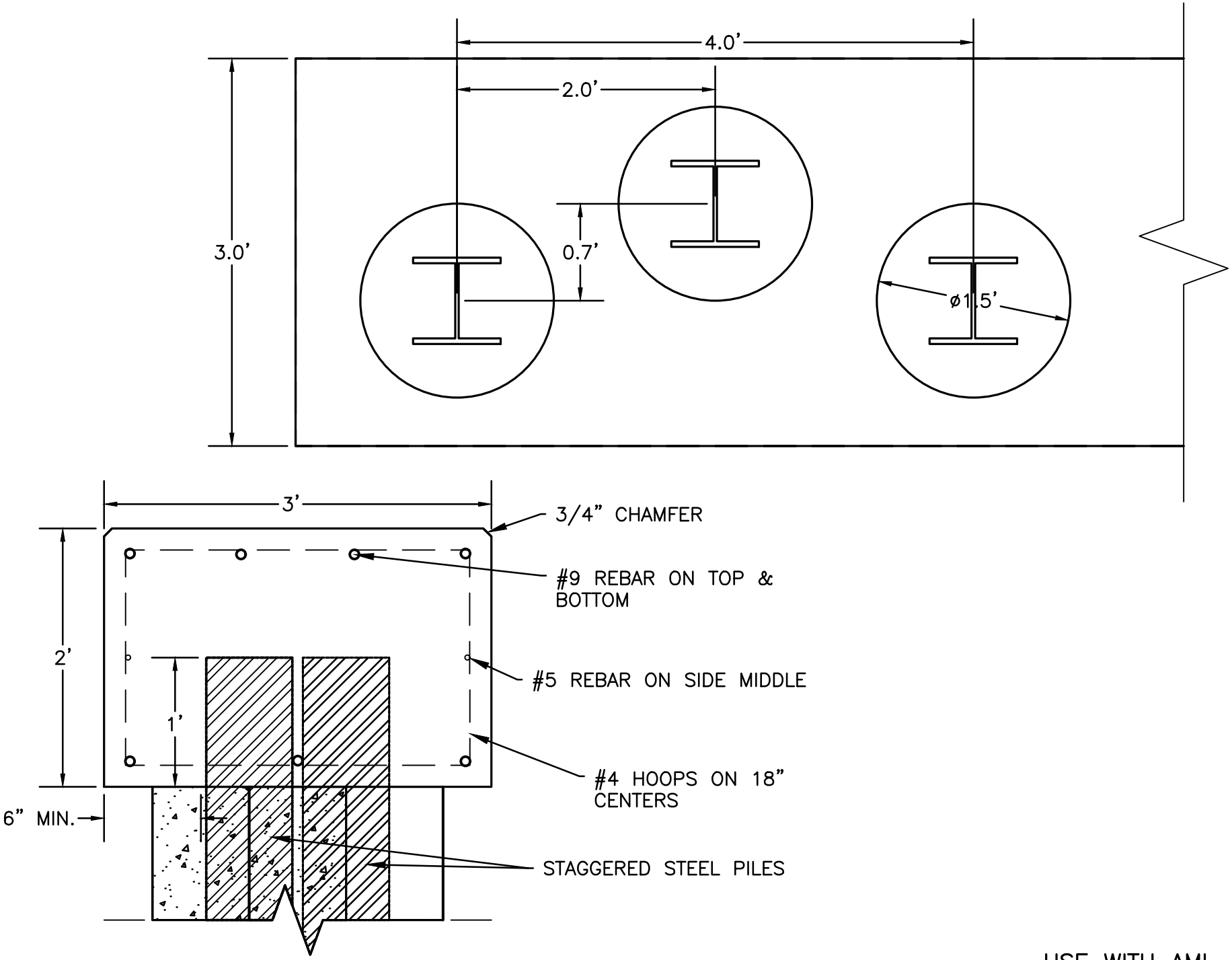
DEPTH TO ROCK	USE	TYPE	SPACING
5' - 19'	TEMPORARY SUPPORT ONLY	130 LBS/YD RAIL STEEL OR W8 X 40	SINGLE ROW, 36" OC, 15" DIA. MIN
	INDEPENDENT PERMANENT STABILIZATION	W8 X 40	DOUBLE ROW, 48" OC, 18" DIA. MIN, REINFORCED CONCRETE CAP
20' +	ENGINEER SPECIAL DESIGN		

NOTES:

1. BEAMS SHALL BE ORIENTED WITH FLANGES PERPENDICULAR TO POSSIBLE SLIDE MOVEMENT.
2. BEAMS SHALL BE ENCASED WITH CONCRETE A MINIMUM 2" CONCRETE ON ALL SIDES FOR THE ENTIRE DEPTH OF THE HOLE.
3. BEAMS SHALL BE STRAIGHT AND STRUCTURALLY SOUND. ENGINEER MUST AUTHORIZE SPLICING. NO SPLICING SHALL BE ALLOWED IN RAILROAD RAILS.
4. THE ENGINEER MAY SPECIFY THE SIZE OR TYPE OF STEEL (INCLUDING USE OF RAILROAD STEEL RAILS) ON DRAWINGS, IN THE SPECIAL CONDITIONS, OR IN WRITING DURING CONSTRUCTION.

SEE AML 30–30–2 FOR CAP DETAILS

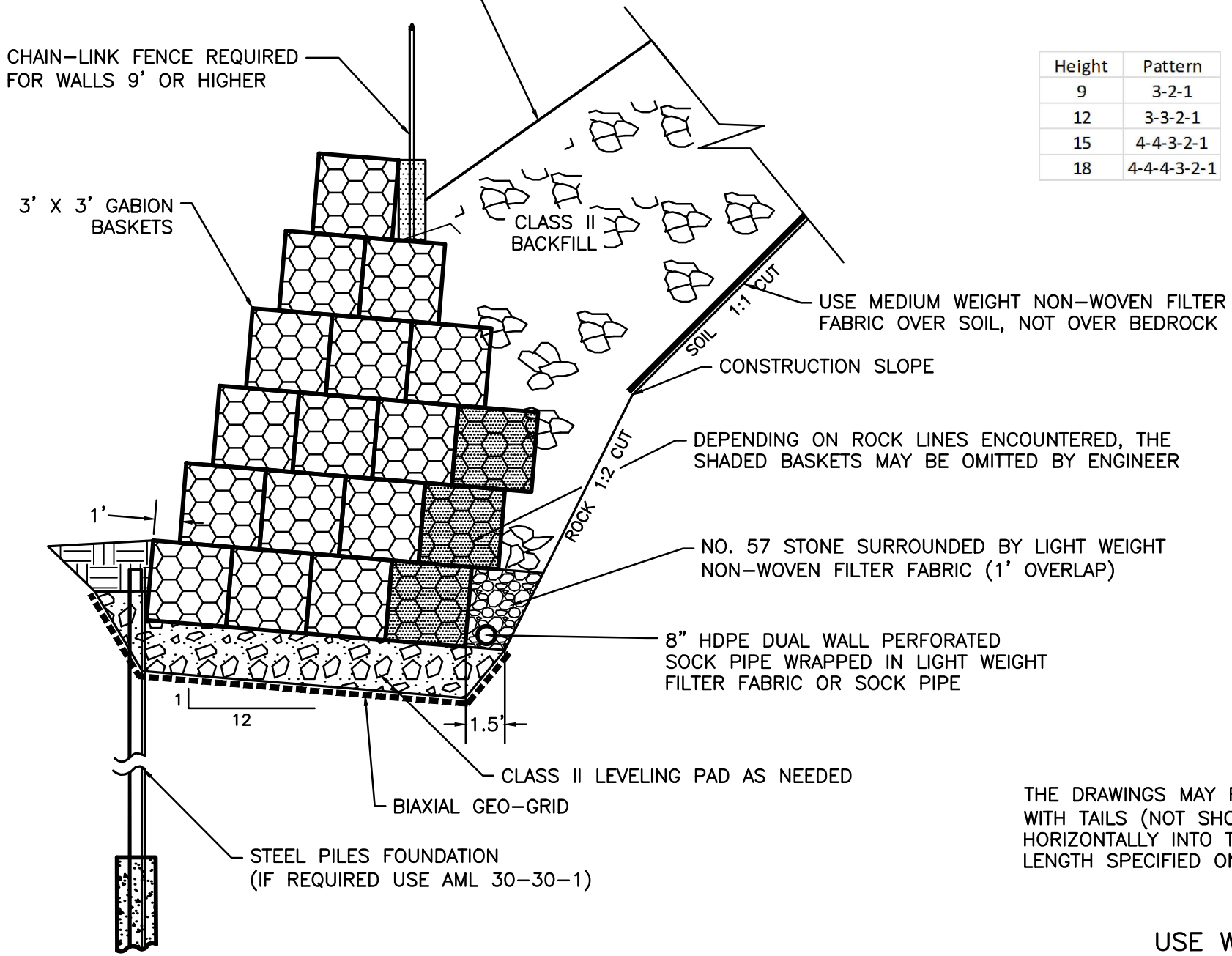
STEEL PILES- TEMPORARY AND INDEPENDENT SUPPORT (AML 30-30-1)



USE WITH AML 30–30–1

STEEL PILES WITH REINFORCED CONCRETE CAP (AML 30-30-2)

1. BURY ONLY 1/2 BASKET FOR WALLS SHORTER THAN 9 FT.
2. GABION WALLS MUST BE CONSTRUCTED IN A STAGGER PATTERN AS SHOWN. THIS MUST BE DONE FOR BOTH DIRECTIONS OF THE WALL.



Height	Pattern
9	3-2-1
12	3-3-2-1
15	4-4-3-2-1
18	4-4-4-3-2-1

THE DRAWINGS MAY REQUIRE GABIONS WITH TAILS (NOT SHOWN). TAILS EXTEND HORIZONTALLY INTO THE BACKFILL AT LENGTH SPECIFIED ON DRAWINGS.

USE WITH AML 70–30–1

GABION RETAINING WALL (AML 30-40-1)

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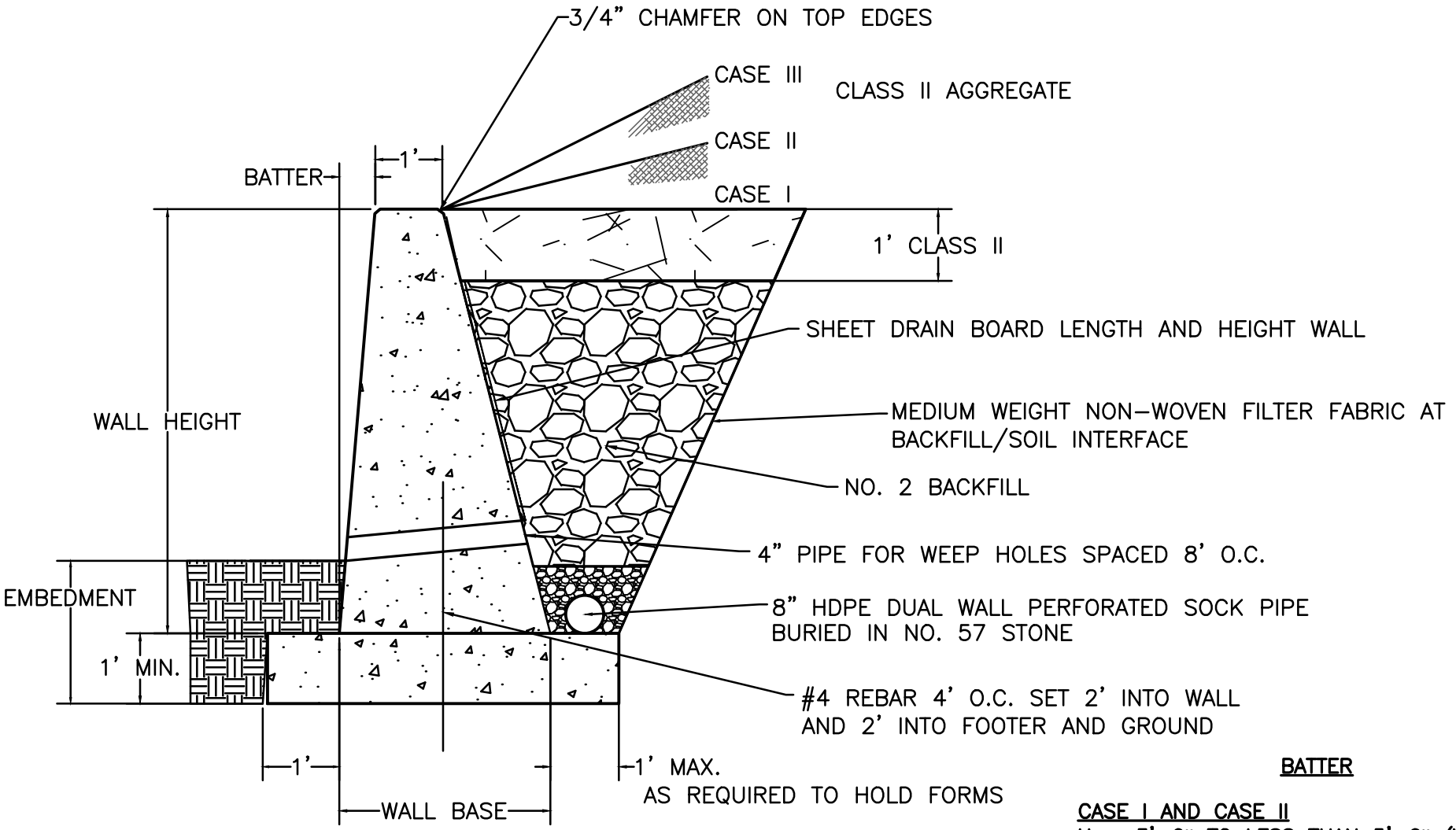


EMBEDMENT

1. MINIMUM EMBEDMENT VALUE FOR FIRM EARTH IS 2'-0".
2. CASE III REQUIRES AN EMBEDMENT OF 1/4 H FOR A WALL OVER 8'.
3. FOR FOOTER SET ON ROCK 1/2 FOOTER DEPTH WILL BE SET IN ROCK.

WALLS TERMINATE INTO HILLSIDE WINGED OR AT 90° ANGLE

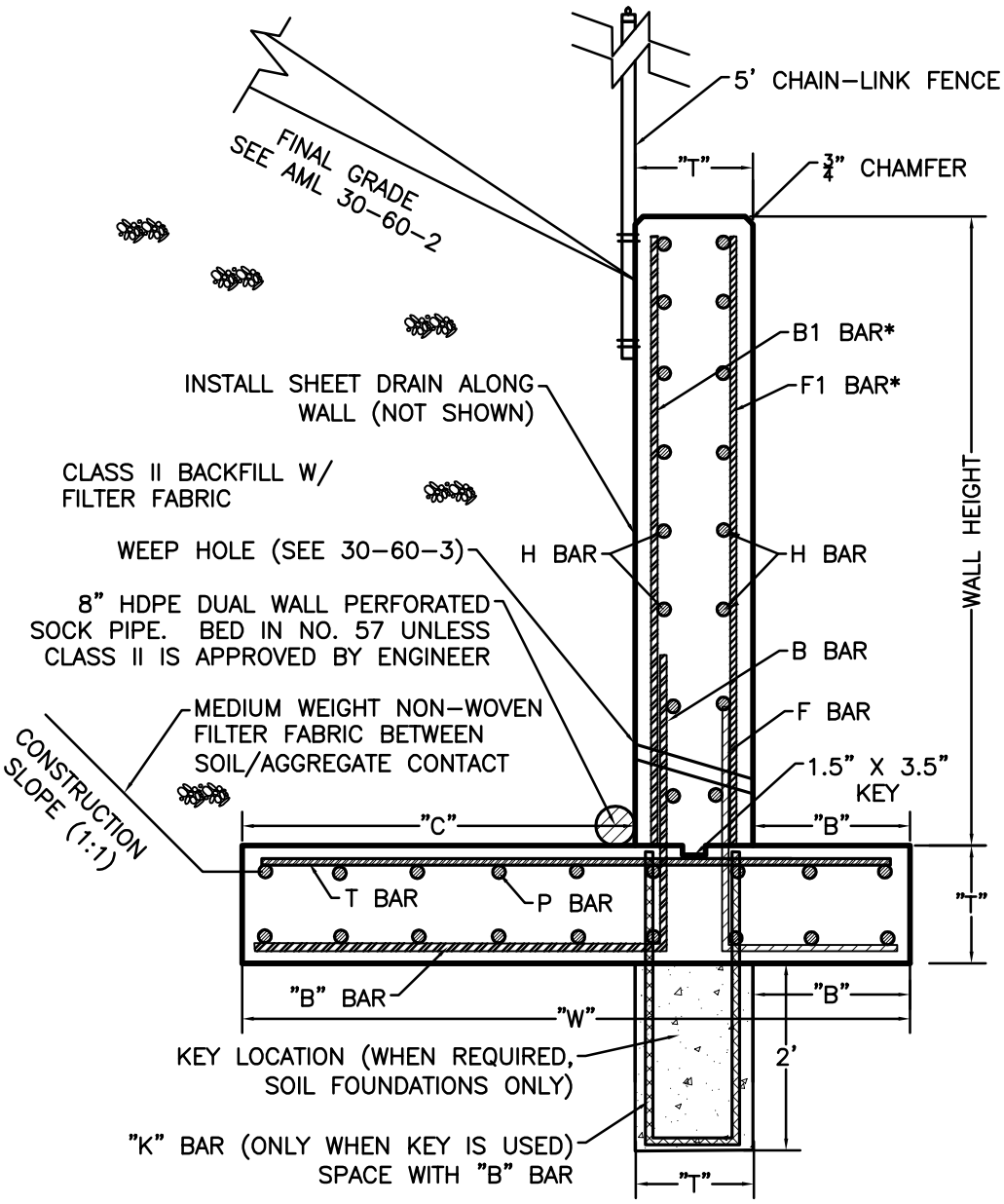
BATTER

CASE I AND CASE II
H = 3'-0" TO LESS THAN 5'-0" (VERTICAL)
H = 5'-0" TO LESS THAN 10'-0" (12:1)
H = 10'-0" TO LESS THAN 12'-0" (6:1)

CASE III
H = 3'-0" TO LESS THAN 5'-0" (12:1)
H = 5'-0" TO LESS THAN 12'-0" (6:1)

USE WITH AML 30-50-2

CONCRETE GRAVITY WALL (AML 30-50-1)



KEY AND FOOTING SHALL BE SAME CONCRETE POUR

THE BASE OF THE FOOTER MUST BE SET MIN. 24" DEPTH.

WALLS TERMINATE INTO HILLSIDE WINGED OR AT 90° ANGLE.

WALL DIMENSIONS (FEET)				
WALL HT	"B"	"C"	"T"	"W"
5'-7'	2.00	3.00	1.00	6.00
8'-10'	2.25	3.50	1.25	7.00
11'-13'	2.75	4.00	1.25	8.00
14'-16'	3.50	5.00	1.50	10.00
17'-20'	4.00	6.25	2.25	12.50

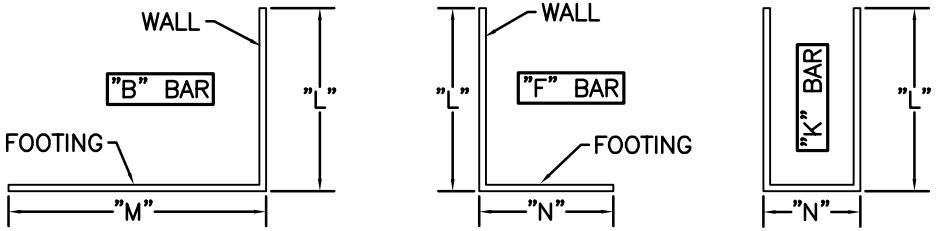
ALL REINFORCEMENT IS TO BE SPACED AT 12 INCH CENTERS

REINFORCEMENT REQUIREMENTS						
WALL HT	B BAR	F BAR	H BAR	P BAR	T BAR	K BAR
5'-7'	#5	#5	#4	#5	#5	#4
8'-10'	#6	#5	#5	#5	#6	#4
11'-13'	#7	#5	#5	#5	#7	#4
14'-16'	#8	#5	#6	#5	#8	#4
17'-20'	#9	#5	#6	#5	#9	#4

* B1 BAR IS TO BE ONE BAR SIZE SMALLER THAN "B" BAR
* F1 BAR IS TO BE ONE BAR SIZE SMALLER THAN "F" BAR

NUMBER OF H BARS TO USE IS EQUAL TO WALL HEIGHT X 2
NUMBER OF P BARS TO USE IS EQUAL TO "W" (FOOTING WIDTH) X 2

BAR DIMENSIONS (FEET)			
WALL HT	B BAR	F BAR	K BAR
5'-7'	L= 3.00', M= 2.75'	L= 2.75', N= 1.75'	L= 2.75', N= 0.50'
8'-10'	L= 3.33', M= 3.25'	L= 2.75', N= 2.0'	L= 3.0', N= 0.75'
11'-13'	L= 4.00', M= 3.75'	L= 3.50', N= 2.50'	L= 3.0', N= 0.75'
14'-16'	L= 5.00', M= 4.75'	L= 3.75', N= 3.25'	L= 3.25', N= 1.00'
17'-20'	L= 7.25', M= 6.00'	L= 4.25', N= 3.75'	L= 4.0', N= 1.50'



USE WITH AML 30-60-2 TO 5

REINFORCED CONCRETE WALL (HEIGHTS FROM 5' TO 20') (AML 30-60-1)

KY DAML 7-2017

CONSTRUCTION NOTES:

ALL FOUNDATION EXCAVATION AREA SHALL BE APPROVED BY THE ENGINEER, PRIOR TO THE PLACEMENT OF FORMWORK AND REBAR PLACEMENT. IN THE OPINION OF THE ENGINEER, ANY AREA NOT SUITABLE FOR FOOTING PLACEMENT (I.E. SOFT, SATURATED, ETC.) SHALL BE OVER EXCAVATED AND BACKFILLED WITH MECHANICALLY COMPACTED DENSE GRADE AGGREGATE AS DIRECTED BY THE ENGINEER.

ALL REINFORCING BARS ARE 2" FROM EDGE UNLESS OTHERWISE NOTED.

SAFETY FENCE MAY BE BOLTED TO THE WALL OR SET IN PLACE WITH CONCRETE BEHIND THE WALL. DO NOT PLACE FENCE IN THE WALL.

CONSTRUCTION JOINTS SHALL BE PLACED A MINIMUM OF 10' & A MAXIMUM OF 20'.

ALL STEEL REINFORCEMENT SHALL BE 60 KSI.

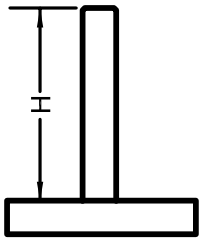
ALL CONCRETE SHALL BE 4,000 PSI WITH FIBER REINFORCEMENT.

FINAL SLOPE SHALL BE MAX 2:1 FROM THE TOP EDGE OF THE WALL, MAX. 1.5:1 IF ROCK FROM WALL IS LEVEL FOR 10' THEN SLOPED UP.

AT THE CONTRACTOR'S REQUEST, THE LENGTHS OF THE LONGITUDINAL REINFORCEMENT MAY BE CHANGED WITH PRIOR APPROVAL OF THE ENGINEER. LONGER OR SHORTER LONGITUDINAL BARS MAY BE USED TO ACCOMMODATE CONSTRUCTION OR FOR ECONOMY. ALL WORK AND/OR MATERIALS REQUIRED FOR CHANGES IN THE LENGTHS OF LONGITUDINAL REINFORCEMENT SHALL BE AT NO COST TO AML. SPLICES MUST BE IN ACCORDANCE WITH THE "STEEL" SECTION OF THE TECHNICAL SPECIFICATIONS.

CONCRETE VOLUMES		
WALL HEIGHT	VOLUME (PER FOOT OF WALL LENGTH)	Key Volume (PER FOOT OF WALL LENGTH)
5'-7'	V= 0.23 + (.04 x H)	0.074 Cu. Yds.
8'-10'	V= 0.32 + (.05 x H)	0.093 Cu. Yds.
11'-13'	V= 0.37 + (.05 x H)	0.093 Cu. Yds.
14'-16'	V= 0.56 + (.06 x H)	0.111 Cu. Yds.
17'-20'	V= 1.04 + (.09 x H)	0.167 Cu. Yds.

V= Cu. Yds. PER FOOT OF WALL LENGTH
H= ACTUAL WALL HEIGHT USED FOR DESIGN



Example: 12' Wall Height, 100' Long, with Key

V= 0.37+(.05 x 12) + 0.093 = 1.063
Total V= 1.063 x 100' = 106.3 Cu. Yds.

REINFORCEMENT QUANTITIES			
WALL HEIGHT	FOOTING*	WALL**	ADD FOR "K" BAR
5'-7'	29.50	2.68	4.00
8'-10'	35.00	3.80	4.50
11'-13'	54.63	4.26	4.50
14'-16'	80.22	5.72	5.00
17'-20'	118.38	6.34	6.35

* PER FOOT OF WALL LENGTH
** PER FOOT OF WALL HEIGHT AND PER FOOT OF WALL LENGTH

Example: 12' Wall Height, 100' Long, with Key

[(4.26 x 12) + 54.63 + 3.85] x 100 = 10,960 LBS. REINFORCEMENT

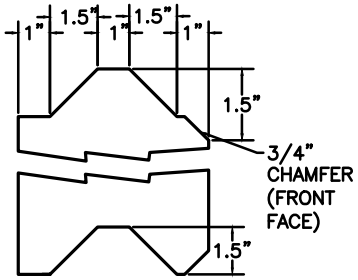
WALL HEIGHT — "K" BAR BECAUSE USING KEY

USE WITH AML 30–60–1

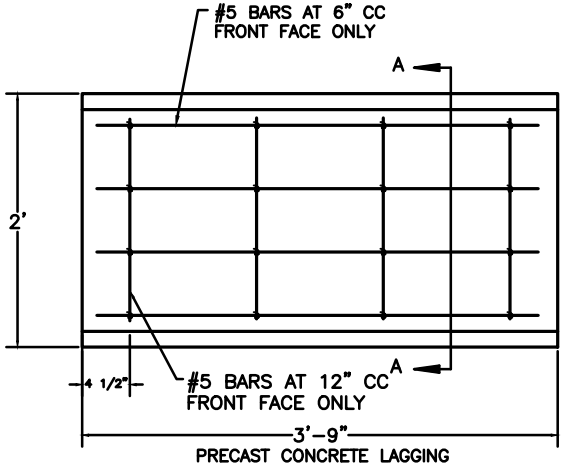
REINFORCED CONCRETE WALL- CONSTRUCTION NOTES & QUANTITIES (AML 30-60-2)

KY DAML 7–2017

NOTE: ALL CONCRETE 4,000 PSI



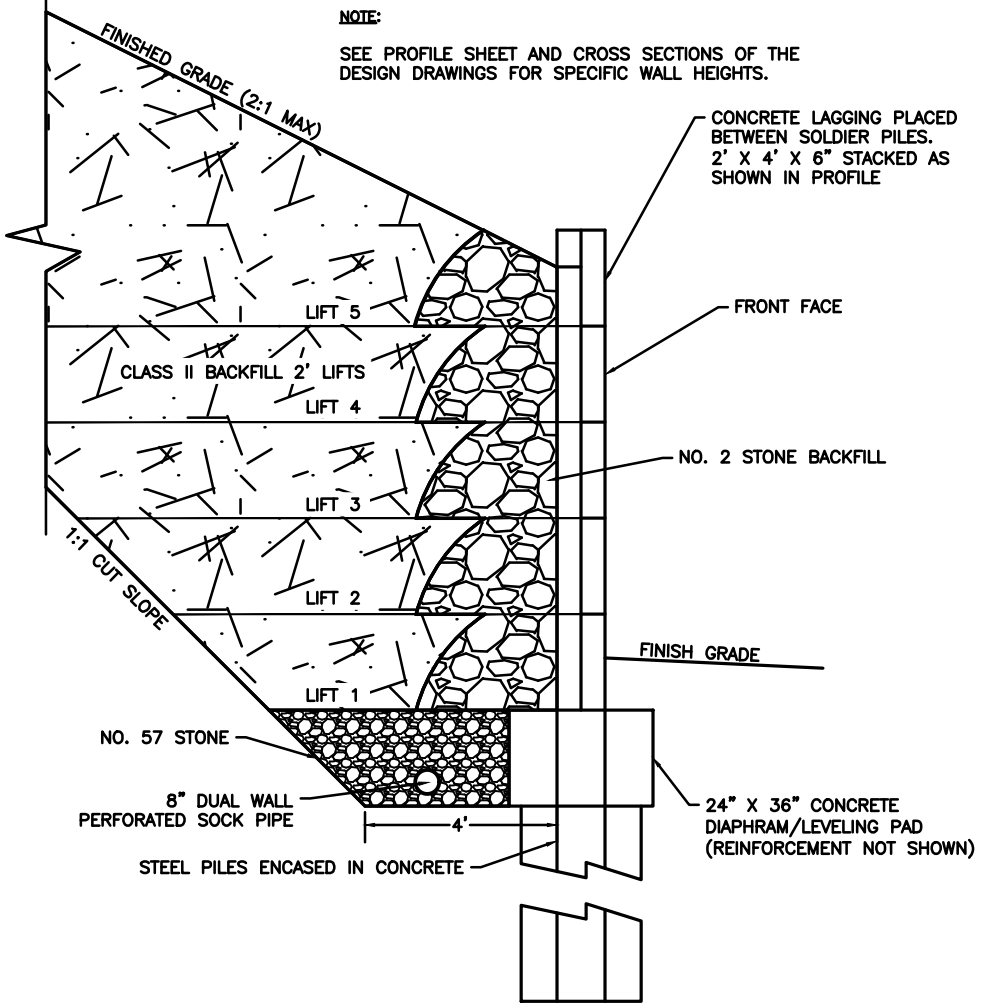
PRECAST CONCRETE LAGGING KEY



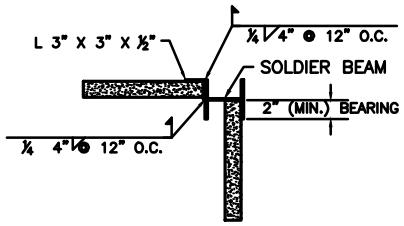
PRECAST CONCRETE LAGGING

NOTE:

SEE PROFILE SHEET AND CROSS SECTIONS OF THE DESIGN DRAWINGS FOR SPECIFIC WALL HEIGHTS.

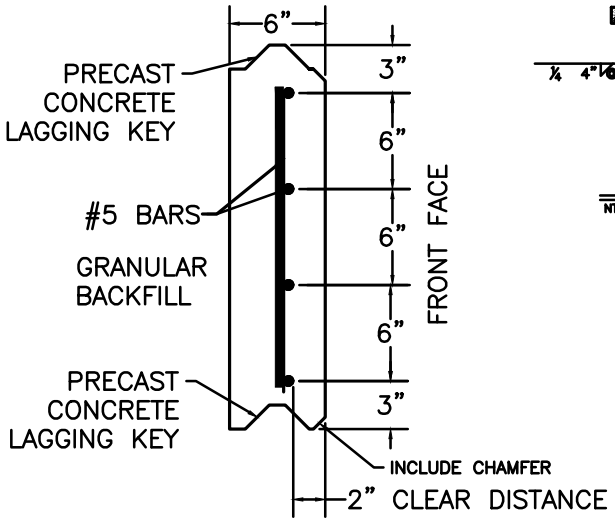


SECTION – PILE AND LAGGING WALL

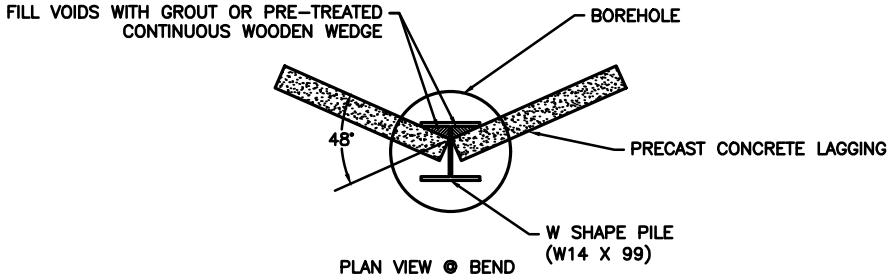


INSIDE CORNER LAGGING

NTS



SECTION A–A



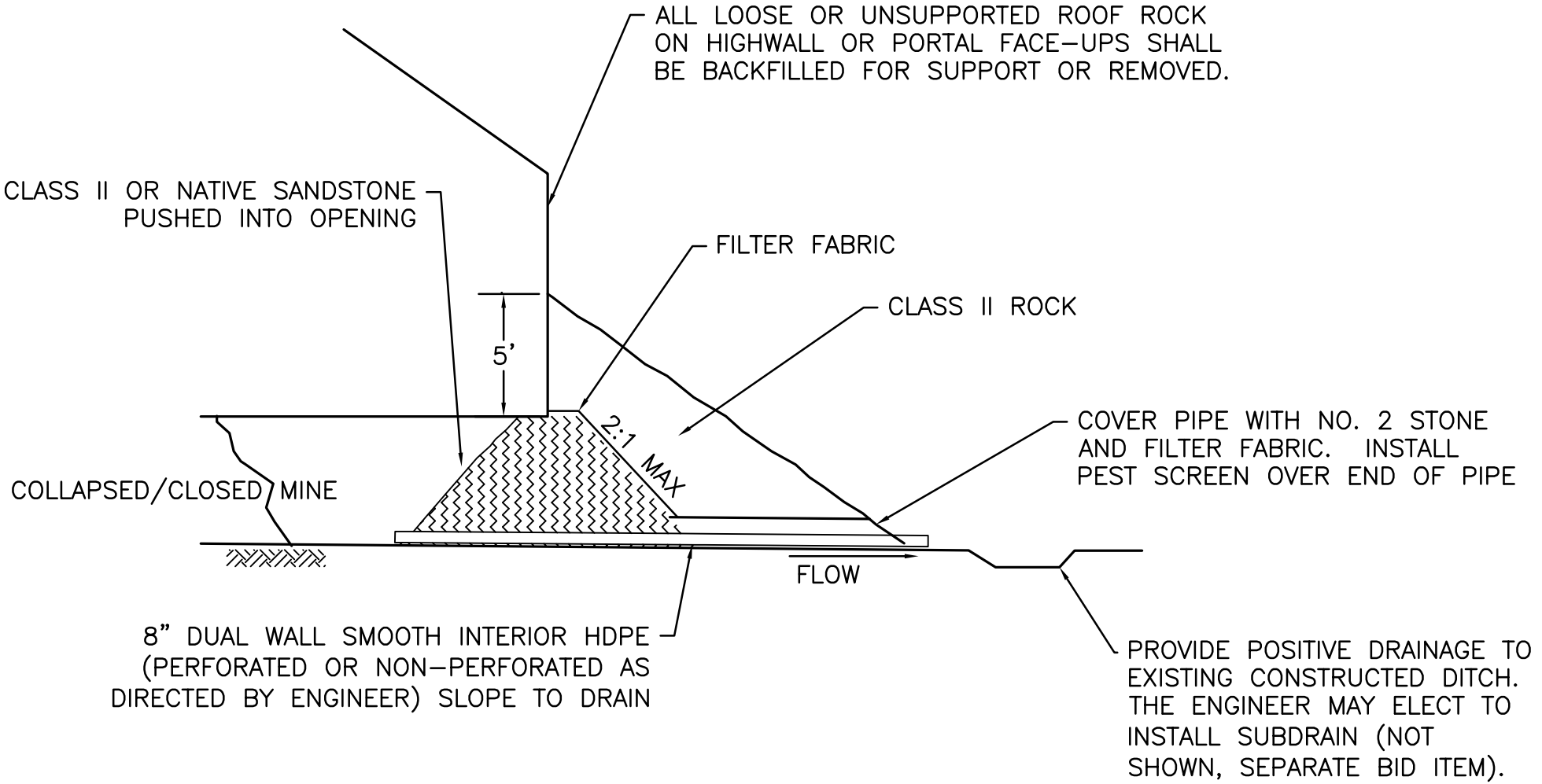
FLANGE PRESSURE DISTRIBUTION DETAIL

NTS

USE WITH AML 30–70–2

PILE AND LAGGING WALL- SHEET 1 (AML 30-70-1)

KY DAML 8–2017



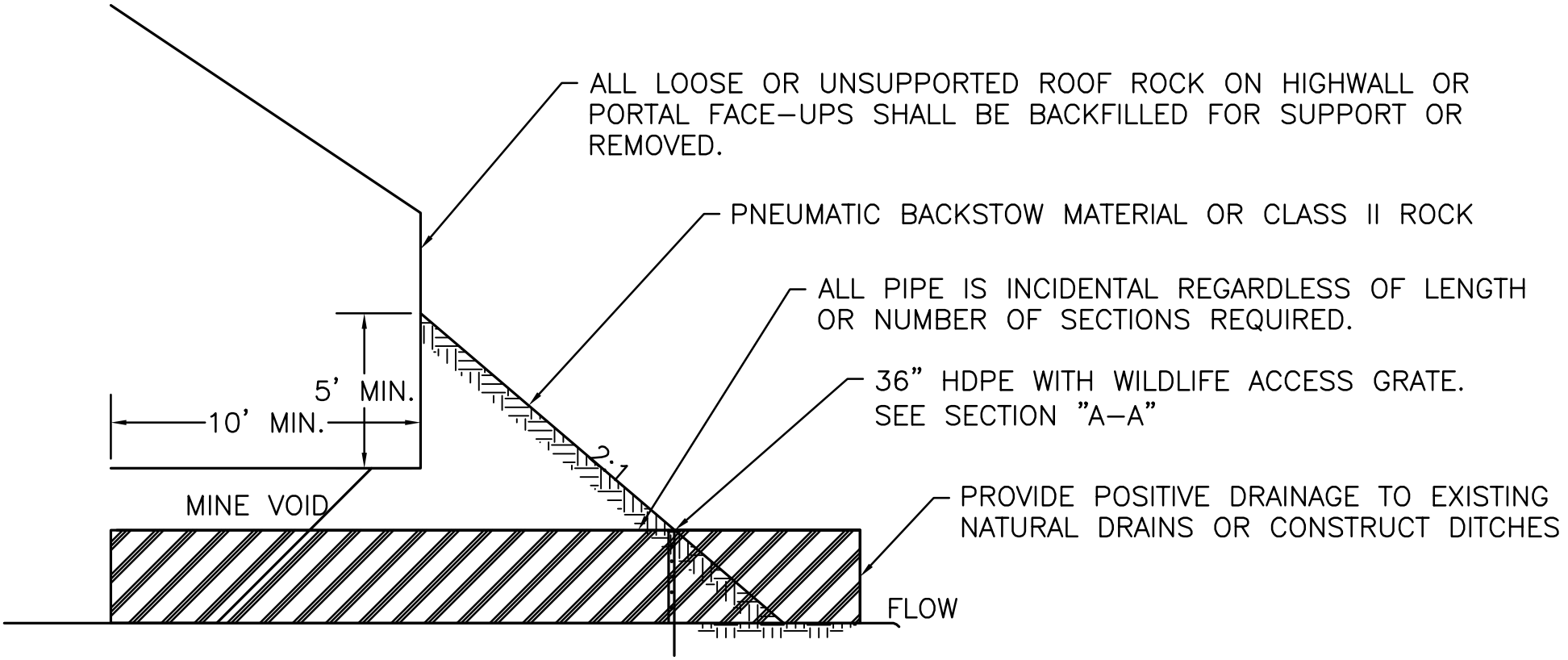
ALL ROCK, EXCAVATION, PIPE, SCREENS ARE INCIDENTAL TO EACH PORTAL CLOSURE.

IF PNEUMATICALLY BACKSTOWED GRAVEL, ROCK DITCHES, SUBDRAIN ARE USED THEY ARE SEPARATE BID ITEM.

ALL PIPE IS INCIDENTAL REGARDLESS OF LENGTH OR NUMBER OF SECTIONS REQUIRED.

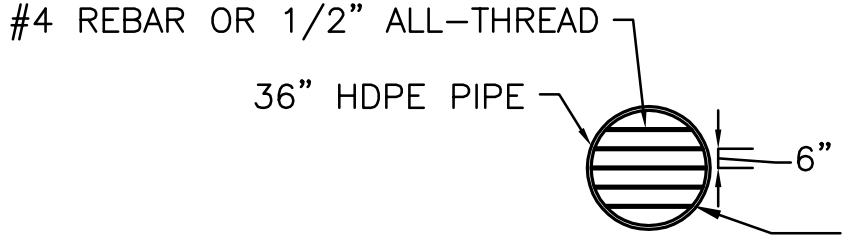
SEE AML 40–20–11 FOR ADDITIONAL NOTES

STANDARD NON-WILDLIFE ACCESSIBLE CLOSURE (AML 40-20-1)



NOTE:

REBAR SHALL BE SET BACK THE DISTANCE FROM THE END TWICE THE DIAMETER OF THE PIPE. E.G. 36" PIPE WOULD BE SETBACK 6' MIN. FROM THE END.



SECTION "A – A"

MAJOR INCIDENTALS: ALL ITEMS SHOWN.

SEE AML 40–20–11 FOR ADDITIONAL NOTES

STANDARD WILDLIFE ACCESSIBLE CLOSURE (AML 40-20-2)

KY DAML 7–2017

GENERAL NOTES:

POLYURETHANE FOAM IS A SEPARATE BID ITEM. ALL OTHER MATERIALS, EQUIPMENT, AND LABOR ARE INCIDENTAL TO THE PORTAL CLOSURE BID ITEM.

POLYURETHANE FOAM NOTES:

1. REAR AND FRONT BARRIERS SHALL BE CONSTRUCTED FROM COMMON MATERIALS OR SHALL BE COMPRISED OF BAGGED FOAM PLACED IN LAYERS AND ALLOWED TO PARTIALLY HARDEN. THE ENGINEER MAY SUBSTITUTE CONSTRUCTED BULKHEADS WITH LOCAL OR COMMON MATERIALS.

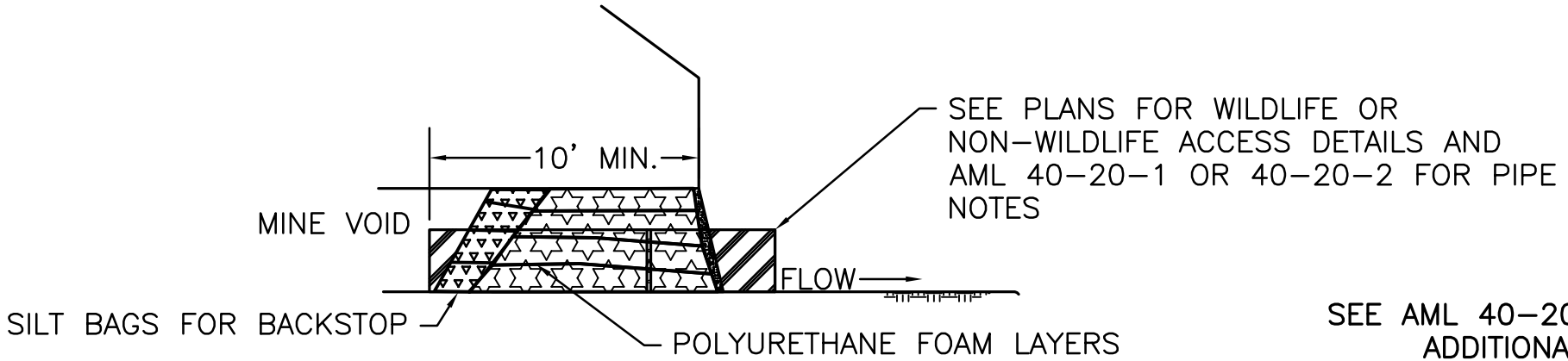
2. THE VOID IN FRONT OF EACH SUCCESSIVE LAYER SHALL THEN BE FILLED WITH FOAM.

3. THE FOAM SEAL SHALL BE TIGHT ENOUGH TO SECURE THE ADIT, BUT IT DOES NOT HAVE TO BE AIR TIGHT.

4. THE ENGINEER WILL DETERMINE THE DEPTH OF FOAM REQUIRED IN THE FIELD.

5. THE FACE OF THE FINAL CLOSURE MUST BE COVERED WITH 2' OF EARTH OR ROCK, OR 2" OF GROUT. THE GROUT MUST BE TIED TO THE FACE USING PINS SET IN THE FOAM AND A WIRE MESH OVER THE FOAM FACE.

6. ALL PIPE IS INCIDENTAL REGARLESS OF LENGTH OR NUMBER OF SECTIONS REQUIRED.



SEE AML 40-20-11 FOR ADDITIONAL DETAILS

STANDARD CLOSURES W/ POLYURETHANE FOAM (AML 40-20-3)

KY DAML 7-2017

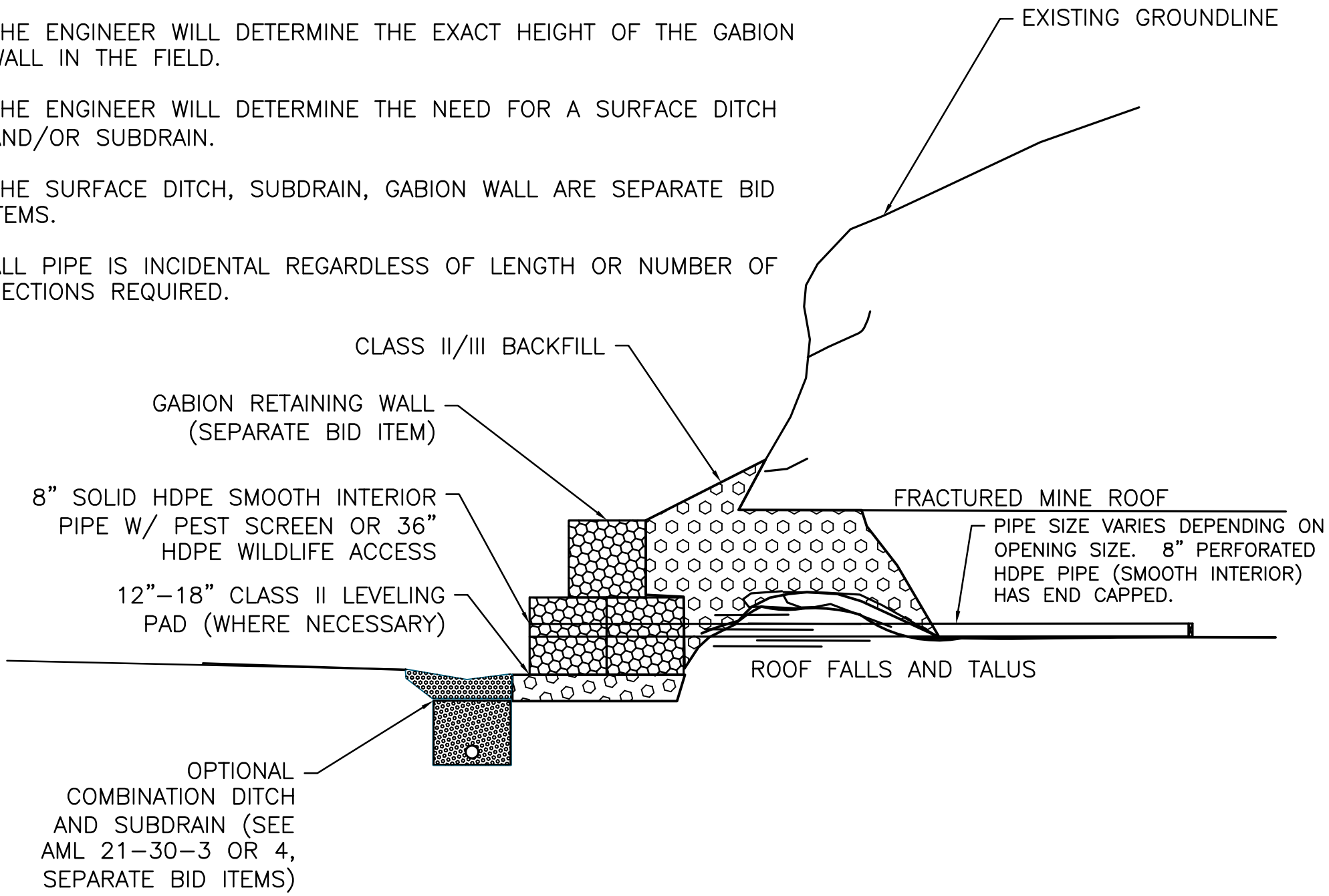
NOTES:

THE ENGINEER WILL DETERMINE THE EXACT HEIGHT OF THE GABION WALL IN THE FIELD.

THE ENGINEER WILL DETERMINE THE NEED FOR A SURFACE DITCH AND/OR SUBDRAIN.

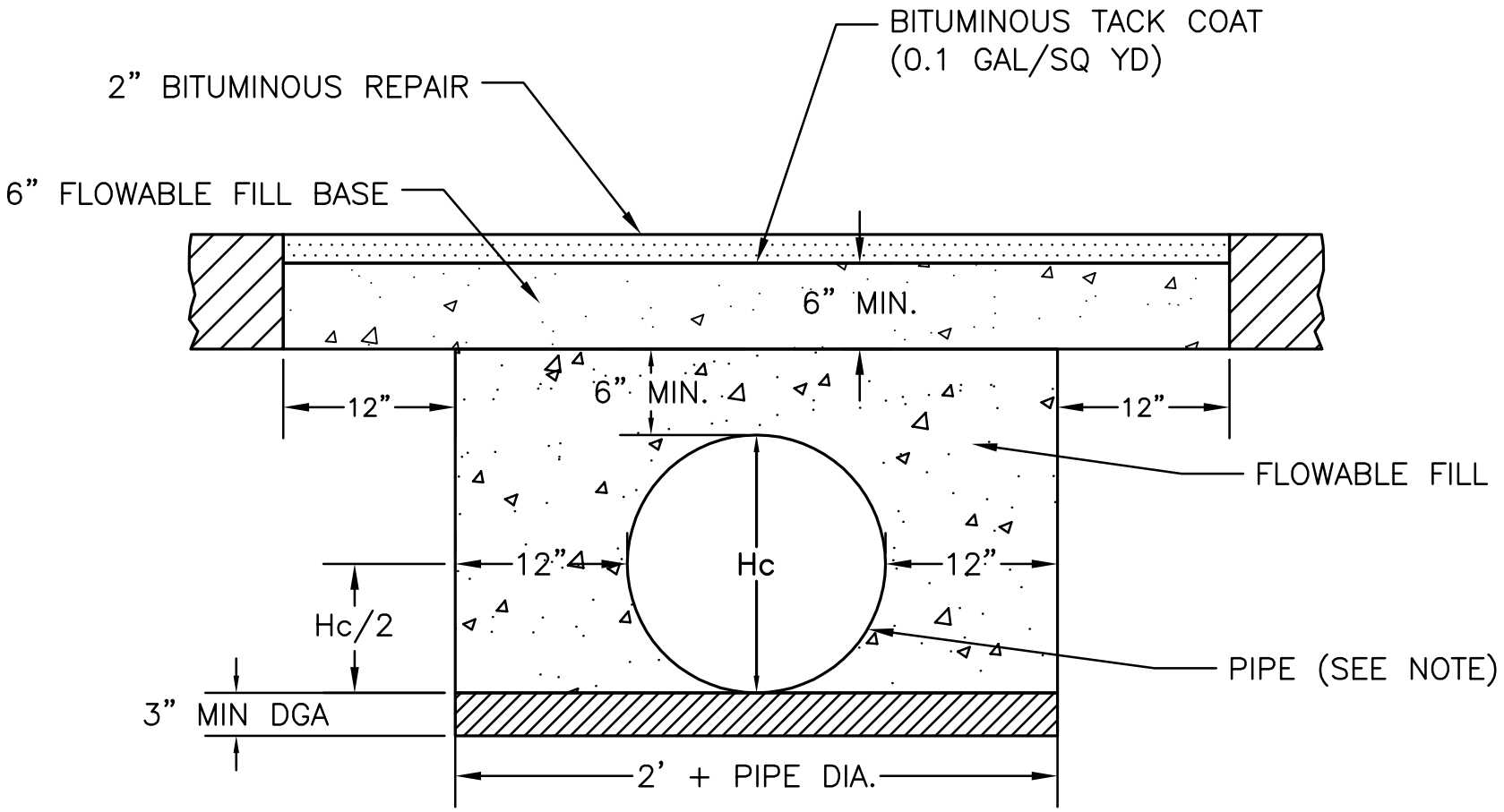
THE SURFACE DITCH, SUBDRAIN, GABION WALL ARE SEPARATE BID ITEMS.

ALL PIPE IS INCIDENTAL REGARDLESS OF LENGTH OR NUMBER OF SECTIONS REQUIRED.



PORTAL CLOSURE W/ GABION RETAINING WALL (AML 40-20-4)

KY DAML 7–2017



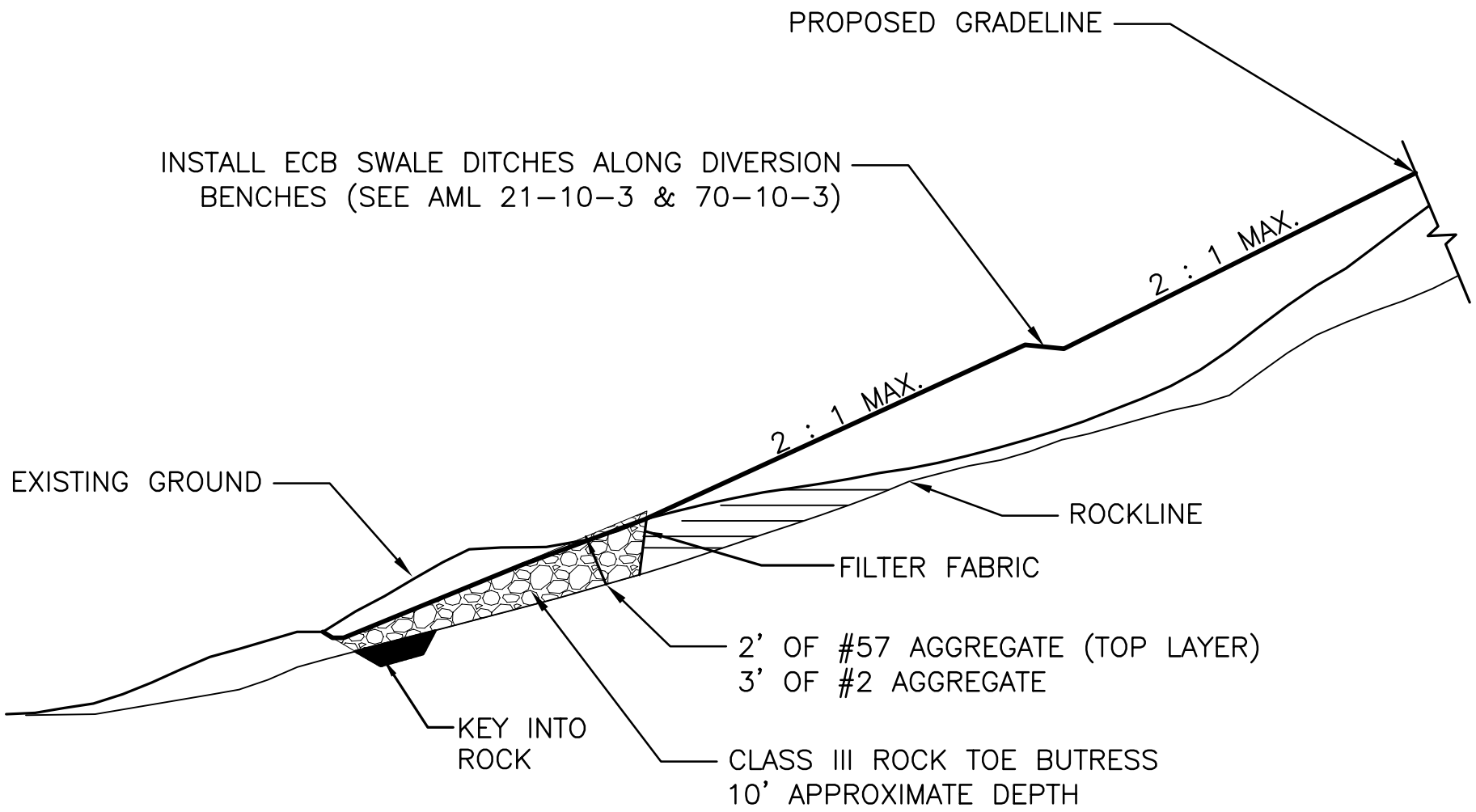
PIPE NOTE:
RCP OR RHDPE (DUAL WALL REINFORCED HIGH DENSITY POLYETHYLENE) FOR PIPE ≥30" DIA.
RCP OR DWPP (DUAL WALL POLYPROPROPYLENE) FOR PIPES ≤30" DIA.
HDPE (DUAL WALL HIGH DENSITY POLYETHYLENE) SHALL NOT BE USED UNDER PUBLIC ROADS

PROVIDE STEEL PLATING TO COVER TRENCH UNTIL PAVEMENT REPAIRED (INCIDENTAL TO PIPE INSTALLATION).

BITUMINOUS PAVEMENT RESTORATION W/PIPE (AML 50-10-4)

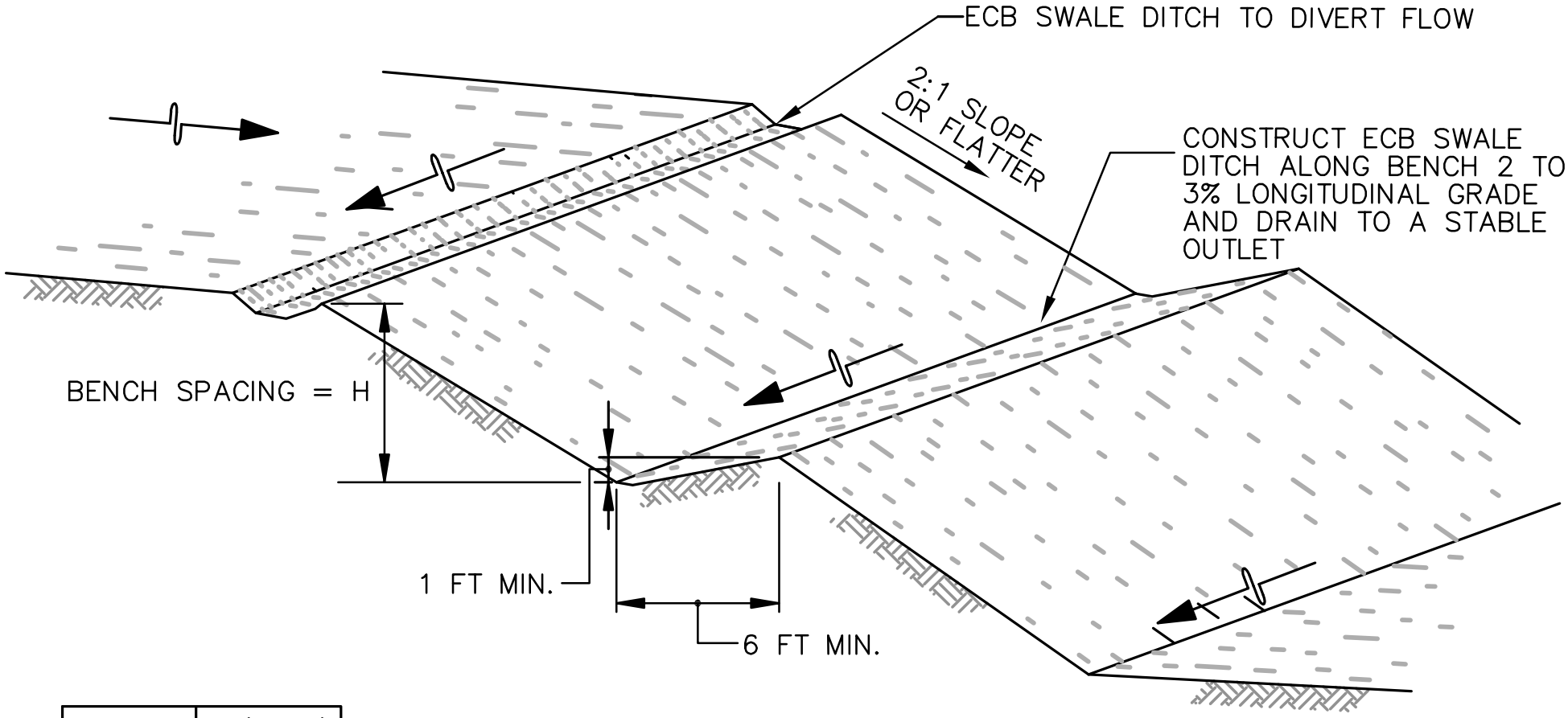
1. ALL FINAL GRADE AREAS SHOULD HAVE BENCHES CREATED WITH BENCH DIVERSIONS TO CENTRAL DRAINAGE CHANNELS.

2. LINE BENCH CHANNELS WITH TYPE A ECB (EROSION CONTROL BLANKET). BENCH SPACING AND GRADES MAY BE ADJUSTED AT THE ENGINEERS DIRECTION IN THE FIELD.



SLOPE RECONSTRUCTION (AML 70-10-2)

KY DAML 7–2017



SLOPE	H (MAX.)
2:1	20 FT
3:1	30 FT
4:1	40 FT

BENCHING (AML 70-10-3)