NOTE:

ALL DIMENSIONS ARE IN METRES UNLESS NOTED OTHERWISE.

TABLE FOR SUBGRADE CUT & FILL SLOPES		
SIDE SLOPE	FILL HEIGHT	CUT HEIGHT
4 : 1	0 – 6 m	0 – 3m
3 : 1	6 – 9 m	3 – 6m
2 : 1	Over 9 m	Over 6 m

project title

ALASKA HIGHWAY
BRITISH COLUMBIA
CONSTRUCTION DRAWING

titre du projet

drawing title

TYPICAL CROSS SECTION

titre du dessin

Public Works and Government Services Canada

Travaux publics et Services gouvernementaux Canada

REAL PROPERTY SERVICES
Western Region

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AHG	AHG	N.T.S.	MARCH 2006
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AHG			
PWGSC Project Manager / Administrateur de Projets TPSGC		sheet / feuille	
		03	

A – 8.5x11

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A – 8.5x11

Public Works and Government Services Canada
Travaux publics et Services gouvernementaux Canada

REAL PROPERTY SERVICES
Western Region

project title
ALASKA HIGHWAY
BRITISH COLUMBIA
CONSTRUCTION DRAWING

drawing title
STANDARD EMBANKMENT STRUCTURE TEMPLATE
SELECT GRANULAR SUBGRADE FILL MATERIAL

titre du dessin

	DESCRIPTION CHANGED	2011/02/11
A		

SUB–BASE MATERIAL
shall meet all the following requirements:

.1

Sieve Size	% Passing
100 mm	100%
5 mm	20 – 65%
0.075 mm	0 – 8%

.2 Material passing 0.425 mm sieve size shall have PL < 6 and LL < 25.

.3 Regardless that the material meets the above gradation, PL and LL requirements, it will be rejected if the material ruts when a loaded tandem truck passes over it.

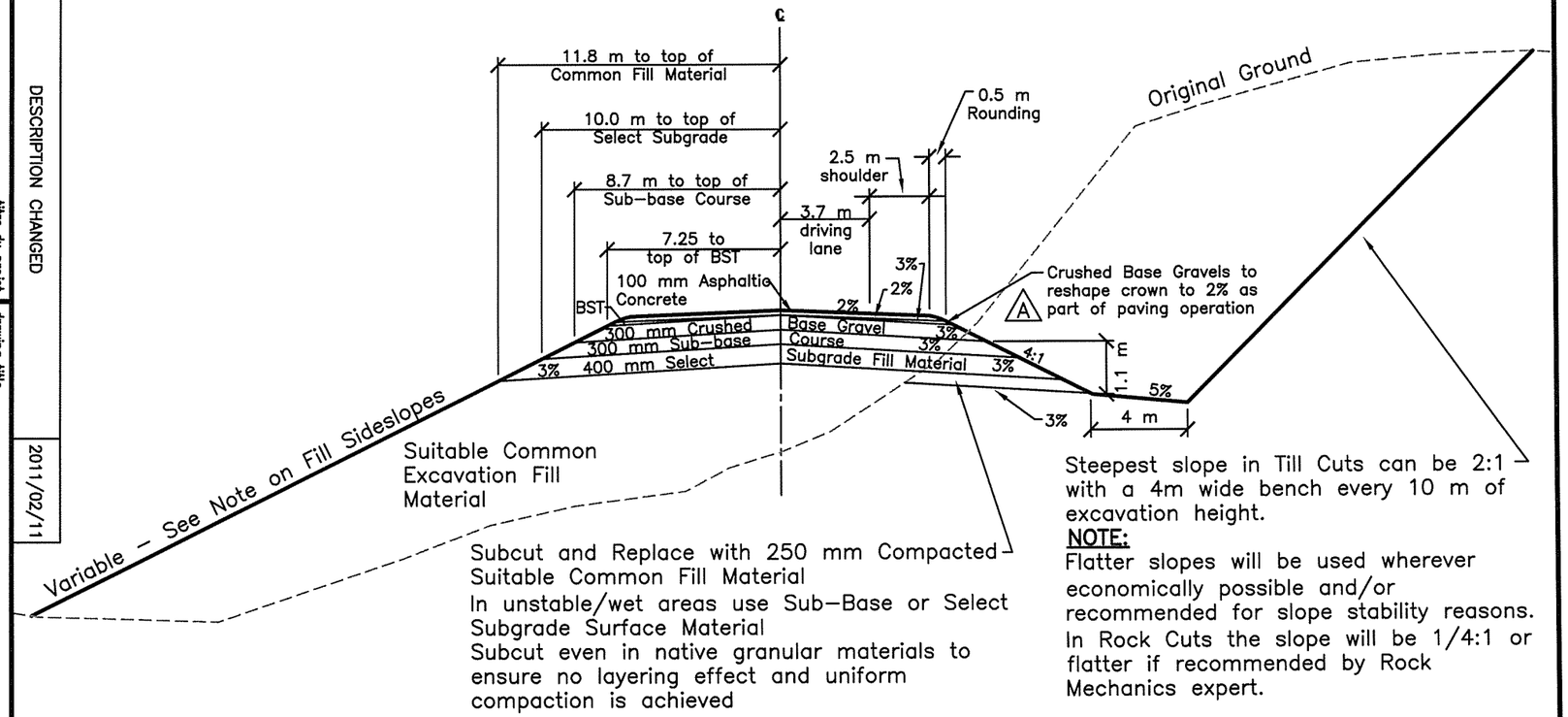
SELECT GRANULAR SUBGRADE FILL MATERIAL
shall meet all the following requirements:

.1

Sieve Size	% Passing
150 mm	100%
0.075 mm	0 – 10%

.2 Material passing 0.425 mm sieve size shall have PL < 6 and LL < 25.

.3 Regardless that the material meets the above gradation, PL and LL requirements, it will be rejected if the material ruts when a loaded tandem truck passes over it.



Fill Sideslopes

Subgrade Fill Height < 6 m	4:1 sideslope
Subgrade Fill Height > 6 m < 9 m	3:1 sideslope with 5m wide zone from bottom of sideslope clear of hazards to errant vehicle.
Subgrade Fill Height > 9 m	2:1 sideslope – BC Warrants for Guiderail will be used to determine guiderail requirements.

Roadway to be widened 1 m in sections to receive concrete guiderail.

NOTE: Sideslopes of Crushed Base Gravels, the Sub–base Course and Select Subgrade Surface Material to be always 4:1.

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drawn by / dessiné par	AHG				
approuvé par					
PWGSC Project Manager / Administrateur de Projets TPSGC		scale / échelle	N.T.S.	date	FEBRUARY 2011
		project no. / projet no.			
sheet / feuille	03A				

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SUB–BASE MATERIAL

shall meet all the following requirements:

.1

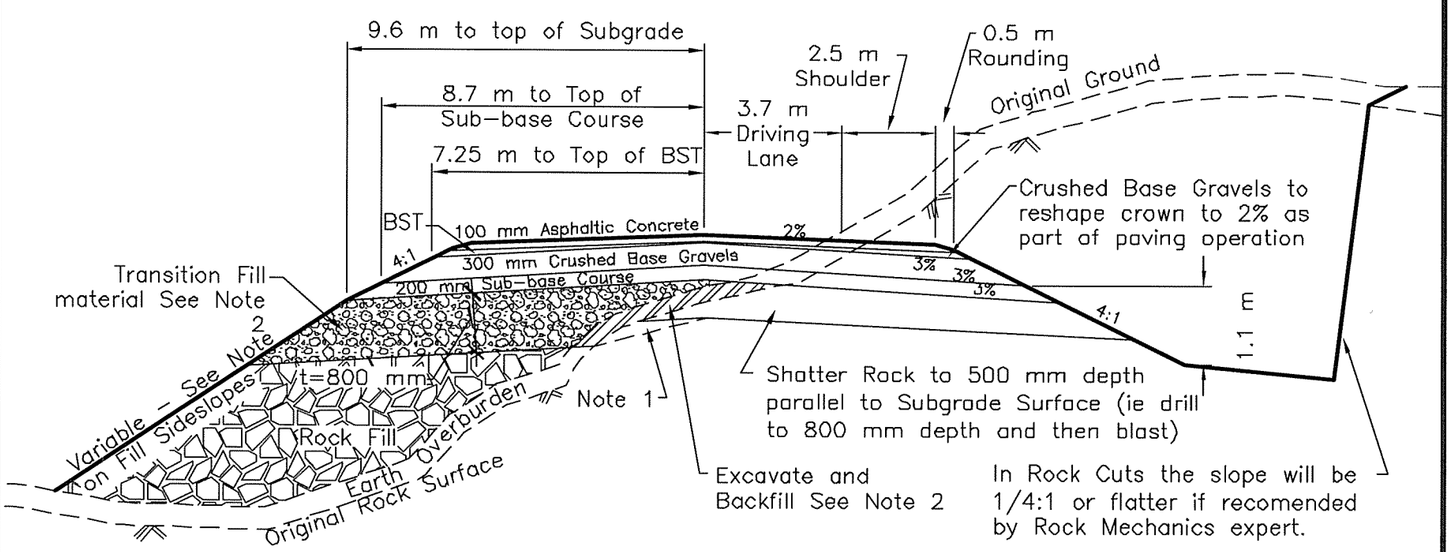
Sieve Size	% Passing
100 mm	100%
5 mm	20 – 65%
0.075 mm	0 – 8%

.2 material passing 0.425 mm sieve size shall have PL < 6 and LL < 25.

.3 Regardless that the material meets the above gradation, PL and LL requirements, it will be rejected if the material ruts when a loaded tandem truck passes over it.

NOTES:

1. Carry out sufficient rock shatter to ensure positive drainage, for estimating purposes use 3.0 m length.
2. Rock Fill or if not available Granular Sub–base material.



Fill Sideslopes

Subgrade Fill Height < 6 m	4:1 sideslope
Subgrade Fill Height > 6 m < 9 m	3:1 sideslope with 5 m wide zone from bottom of sideslope clear of hazards to errant vehicle.
Subgrade Fill Height > 9 m	2:1 sideslope – BC Warrants for Guiderail will be used to determine guiderail requirements. Roadway to be widened in 1 m sections to receive concrete guiderail.

NOTE: Sideslopes of Crushed Base Gravels, the Sub–base Course and Select Subgrade Surface material to be always 4:1.

project title / titre du projet

ALASKA HIGHWAY
BRITISH COLUMBIA
CONSTRUCTION DRAWING

drawing title / titre du dessin

STANDARD EMBANKMENT STRUCTURE TEMPLATE
CONSTRUCTION ON ROCK FILL

Public Works and Government Services Canada / Travaux publics et Services gouvernementaux Canada

REAL PROPERTY SERVICES
Western Region

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TRANSVERSE SECTION

NOTES:

1. TOP OF GRANULAR BASE COURSE IS ANYWHERE WITHIN SUBGRADE WIDTH.
2. CARRY OUT SUFFICIENT SHATTER AT TRANSITION POINT TO OBTAIN POSITIVE DRAINAGE.
3. ROCK FILL OR IF NOT AVAILABLE GRANULAR SUB–BASE MATERIAL OR SELECT GRANULAR SUBGRADE FILL MATERIAL.
4. TRANSVERSE SECTION: THIS TREATMENT SHALL APPLY FOR LENGTH OF CUT.
5. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS NOTED OTHERWISE.

project title

ALASKA HIGHWAY
BRITISH COLUMBIA
CONSTRUCTION DRAWING

titre du projet

Public Works and Government Services Canada
Travaux publics et Services gouvernementaux Canada

REAL PROPERTY SERVICES
Western Region

drawing title

TRANSITION TREATMENT
TRANSVERSE SECTION

titre du dessin

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AHG	AHG	N.T.S.	MAY 2003

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	04

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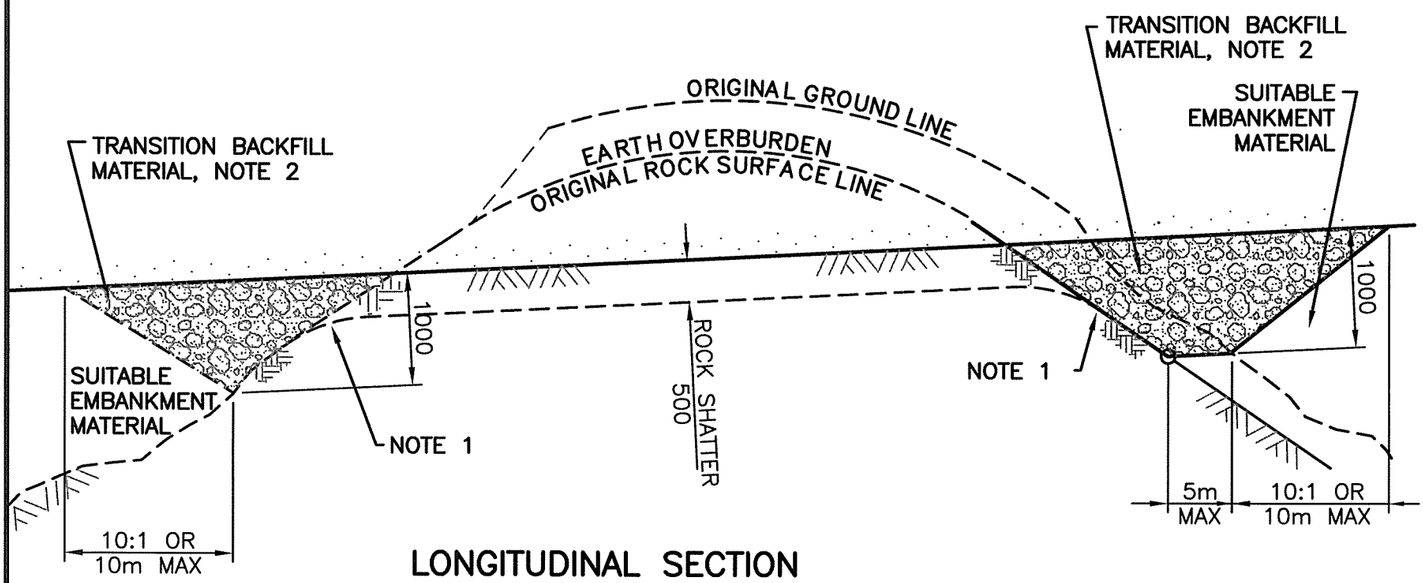

LONGITUDINAL SECTION

NOTE:

1. CARRY OUT SUFFICIENT SHATTER AT TRANSITION POINT TO OBTAIN POSITIVE DRAINAGE.
2. ROCK FILL OR IF NOT AVAILABLE GRANULAR SUB–BASE MATERIAL.
3. LONGITUDINAL SECTION: THIS TREATMENT IS TO BE CARRIED OUT FOR WIDTH OF CUT OR SUBGRADE WIDTH OF FILL.
4. ALL DIMENSIONS AND MEASUREMENTS ARE IN MILLIMETRES UNLESS NOTED OTHJERWISE.

project title / titre du projet	drawing title / titre du dessin
ALASKA HIGHWAY **BRITISH COLUMBIA** **CONSTRUCTION DRAWING**	**TREATMENT OF TRANSITION POINTS** **ROCK CUT TO FILL** **WITH OR WITHOUT OVERBURDEN**

Public Works and Government Services Canada / Travaux publics et Services gouvernementaux Canada

REAL PROPERTY SERVICES
Western Region

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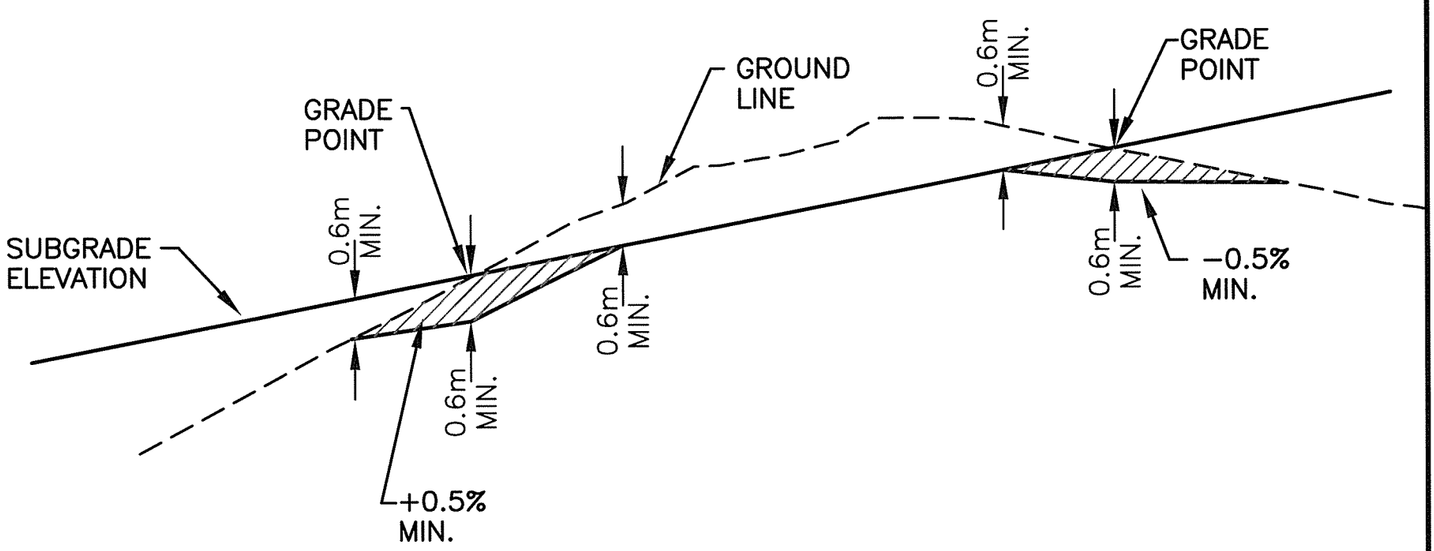

NOTE:
THE MATERIAL SHOWN BY THE SHADED AREA SHALL BE REMOVED FOR FULL WIDTH OF CUT AND FILL OF THE SECTION AND REPLACED WITH APPROVED MATERIAL IN ACCORDANCE WITH STANDARD SPECIFICATIONS.

project title / titre du projet	drawing title / titre du dessin
ALASKA HIGHWAY **BRITISH COLUMBIA** **CONSTRUCTION DRAWING**	**EARTH CUT AND FILL** **CONSTRUCTION METHOD AT GRADE POINTS**

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REAL PROPERTY SERVICES
Western Region

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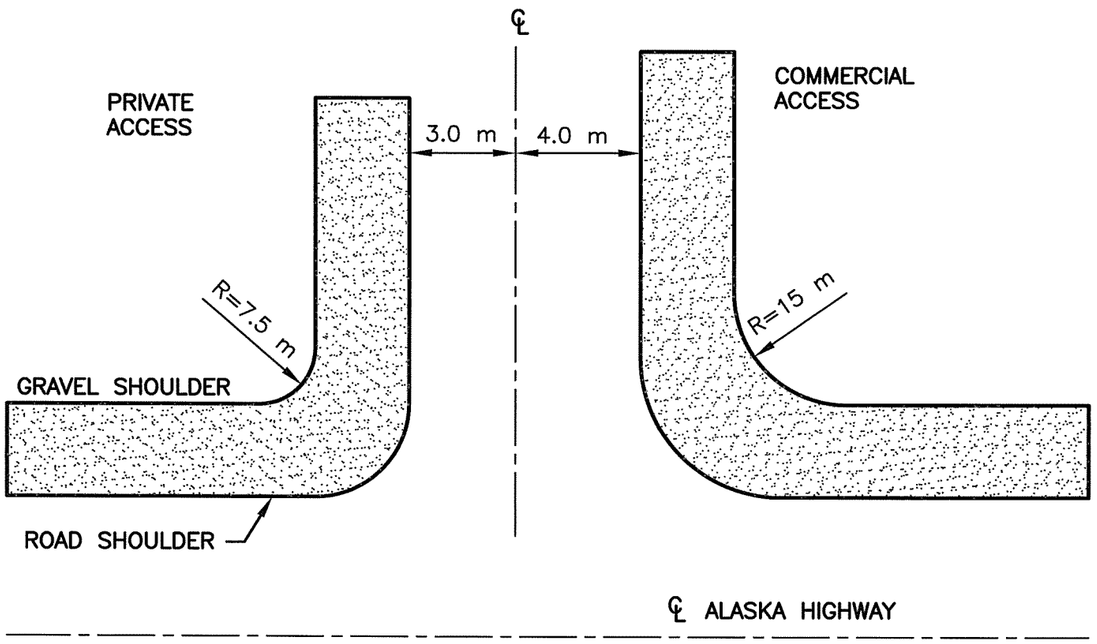
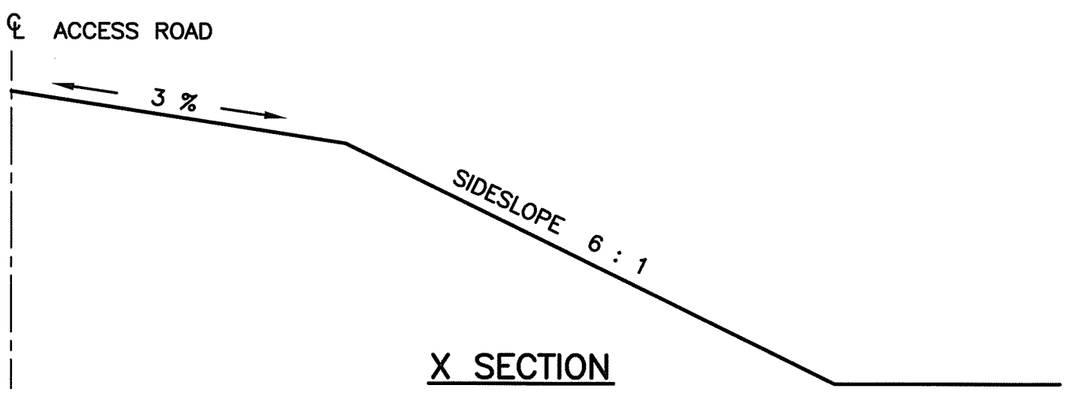


PLAN VIEW



X SECTION

NOTES:

1. MAXIMUM GRADIENT IS 10% FOR ACCESS ROAD.
2. ACCESS ROADS TO BE BUILT AT 90° TO THE CENTRE OF THE HIGHWAY.
3. ADDITIONAL CUTTING OF THE HIGHWAY BACKSLOPE MAY BE REQUIRED TO PROVIDE ADEQUATE VISIBILITY.
4. IF A CULVERT IS REQUIRED, THE SIDE SLOPES WILL BE SCULPTED TO ALLOW EFFICIENT DRAINAGE.
5. ANY ACCESS WHICH IS PROPOSED TO CONNECT TO THE HIGHWAY ON A HORIZONTAL CURVE WILL BE EVALUATED FOR SAFETY.

project title / titre du projet	drawing title / titre du dessin
ALASKA HIGHWAY **BRITISH COLUMBIA** **CONSTRUCTION DRAWING**	**TYPICAL ACCESS ROAD**

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REAL PROPERTY SERVICES
Western Region

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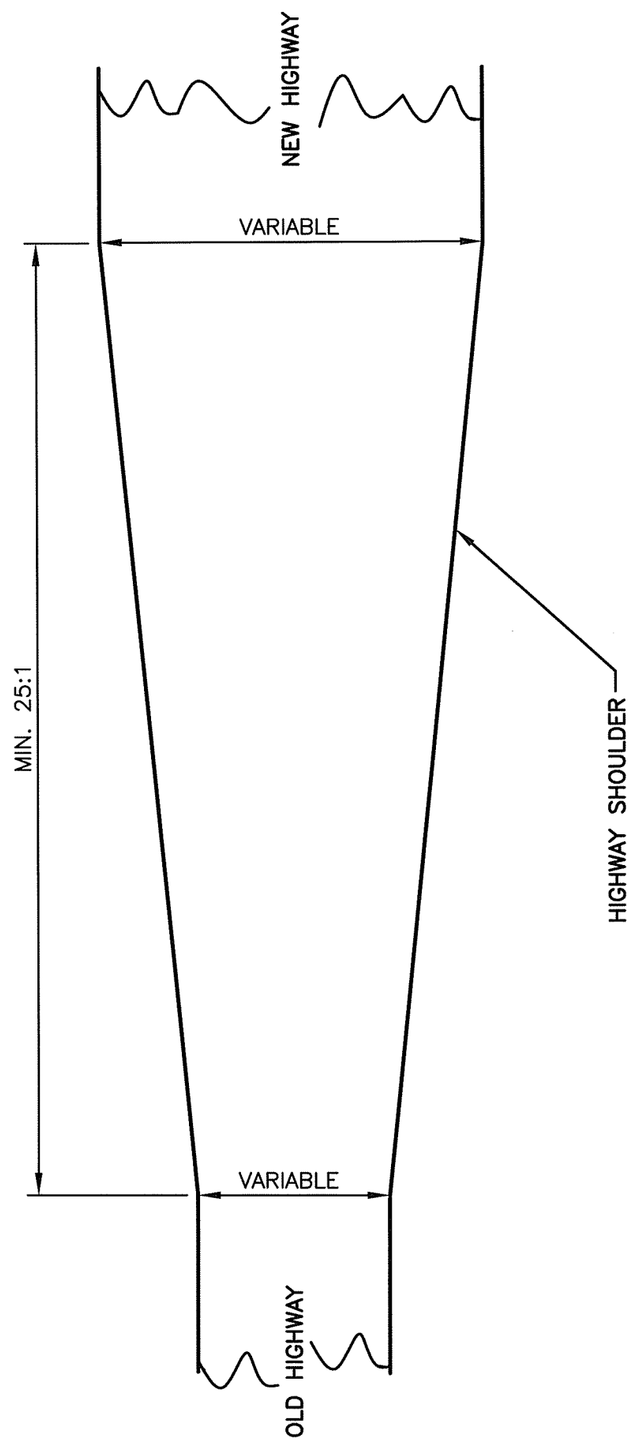

project title / titre du projet	drawing title / titre du dessin
ALASKA HIGHWAY **BRITISH COLUMBIA** **CONSTRUCTION DRAWING**	**TRANSITION FROM** **OLD TO NEW HIGHWAY**

Public Works and Government Services Canada / Travaux publics et Services gouvernementaux Canada

REAL PROPERTY SERVICES
Western Region

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Public Works and Government Services Canada

Travaux publics et Services gouvernementaux Canada

REAL PROPERTY SERVICES
Western Region

project title

ALASKA HIGHWAY
BRITISH COLUMBIA
CONSTRUCTION DRAWING

titre du projet

drawing title

PRECAST CONCRETE
BARRIER INSTALLATION

titre du dessin

NOTE:

1. BARRIERS TO BE 810mm HIGH WITH BULL–NOSE AT EACH END.

2. ALL DIMENSIONS AND MEASUREMENTS ARE IN METRES UNLESS NOTED OTHERWISE.

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		09	

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A – 8.5x11

WIDTH OF BENCHES (W)		
EXISTING SLOPES	FILLS >3.5 m	FILLS < 3.5 m
2:1	1.25 m	0.6 m
SLOPES < 2:1	2.5 m	1.25 m

NOTES:

A. THIS STANDARD APPLIES TO WIDENING OF FILLS WHERE THE DISTANCE 'X' IS 1.0 m OR MORE AT NEW SUBGRADE LEVEL.

B. BENCHES ARE TO BE EXCAVATED ONE LEVEL AT A TIME AND THE COMPACTED FILL BROUGHT UP BEFORE THE NEXT BENCH IS EXCAVATED.

C. BENCHING IS NOT REQUIRED ON SLOPES THAT ARE FLATTER THAN 3:1. ONLY STRIPPING OF EXISTING SLOPE IS REQUIRED.

NOT TO SCALE

project title: ALASKA HIGHWAY
BRITISH COLUMBIA
CONSTRUCTION DRAWING

titre du projet

Public Works and Government Services Canada
Travaux publics et Services gouvernementaux Canada

REAL PROPERTY SERVICES
Western Region

drawing title: BENCHING FOR EARTH SLOPES

titre du dessin

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AHG	AHG	N.T.S.	MAY 2003		
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AHG					
PWGSC Project Manager	Administrateur de Projets TPSGC	sheet / feuille	10		

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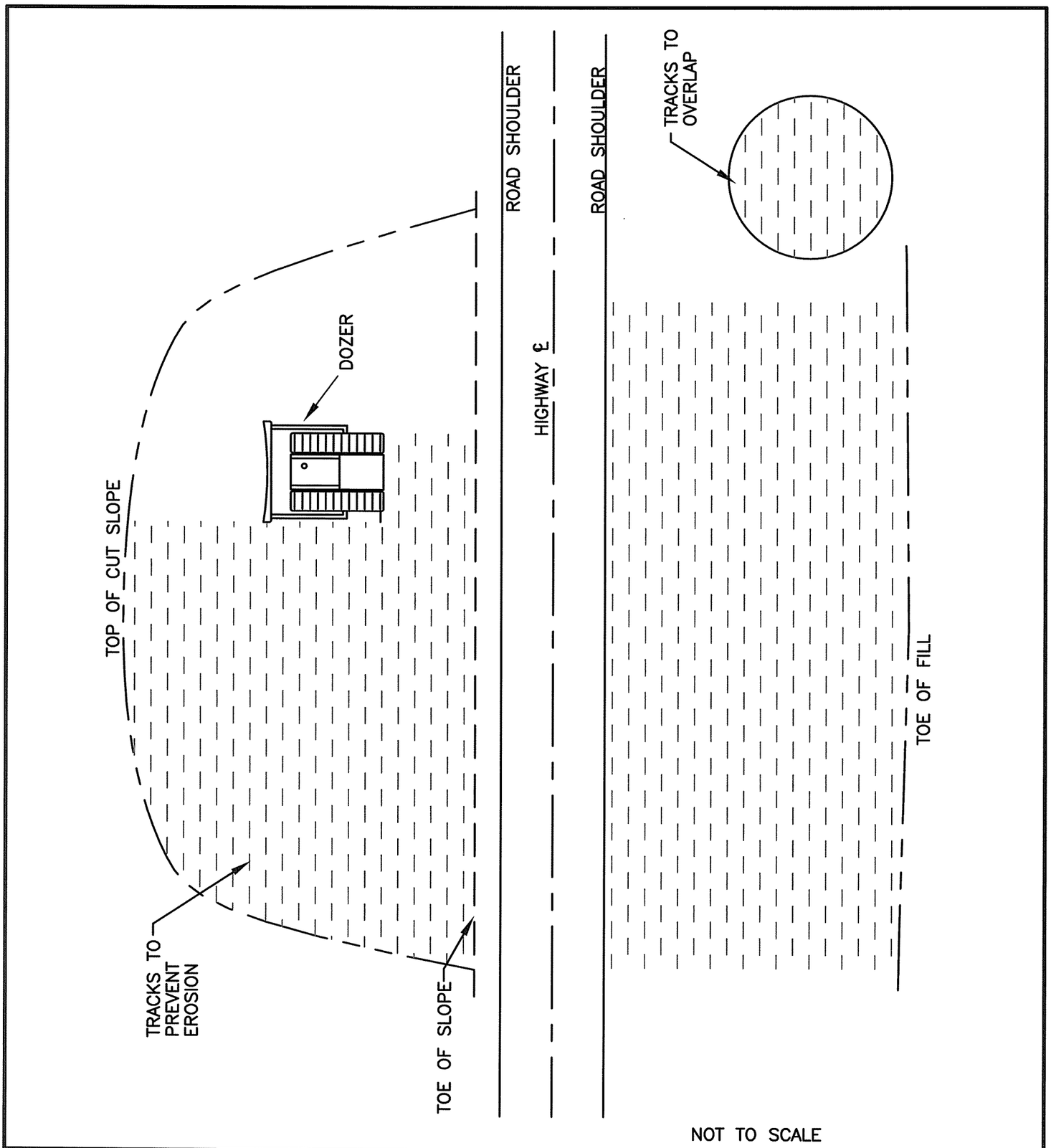

project title / titre du projet	drawing title / titre du dessin
ALASKA HIGHWAY **BRITISH COLUMBIA** **CONSTRUCTION DRAWING**	**SLOPE TREATMENT** **CUTS & FILLS**

Public Works and Government Services Canada / Travaux publics et Services gouvernementaux Canada

REAL PROPERTY SERVICES
Western Region

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PWGSC Project Manager / Administrateur de Projets TPSGC		sheet / feuille: 11	

A – 8.5x11

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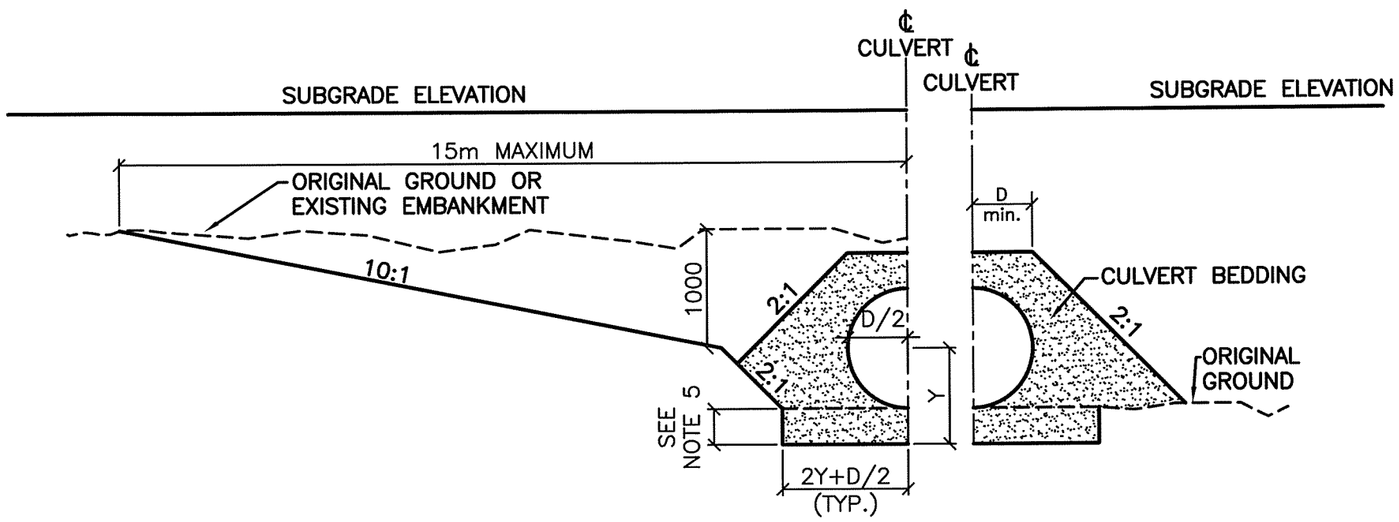

NOTES:

1. BEDDING TO BE TAKEN TO A MINIMUM OF 300 ABOVE THE CULVERT.
2. CULVERT BED TO BE CAREFULLY SHAPED TO RECEIVE LOWEST SEGMENT OF CULVERT TO A DEPTH EQUAL TO 10% OF CULVERT DIAMETER.
3. COMPACTION OF BEDDING MATERIAL – 98% OF STANDARD PROCTOR IN 150 LAYERS.
4. BEDDING MATERIAL TO BE CRUSHED BASE GRAVELS UNLESS SPECIFIED OTHERWISE IN THE CONTRACT.
5. DEPTH OF BEDDING MATERIAL BELOW CULVERT WILL BE A MINIMUM COMPACTED THICKNESS OF 300.
6. *MINIMUM CAMBER = CULVERT LENGTH x (0.5/100).*
7. ALL DIMENSIONS AND MEASUREMENTS ARE IN MILLIMETRES UNLESS NOTED OTHERWISE.

project title / titre du projet	drawing title / titre du dessin
ALASKA HIGHWAY **BRITISH COLUMBIA** **CONSTRUCTION DRAWING**	**INSTALLATION OF CULVERTS**

Public Works and Government Services Canada / Travaux publics et Services gouvernementaux Canada

REAL PROPERTY SERVICES
Western Region

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AHG	AHG	N.T.S.	MAY 2003
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PWGSC Project Manager / Administrateur de Projets TPSGC		sheet / feuille: 12	

A – 8.5x11

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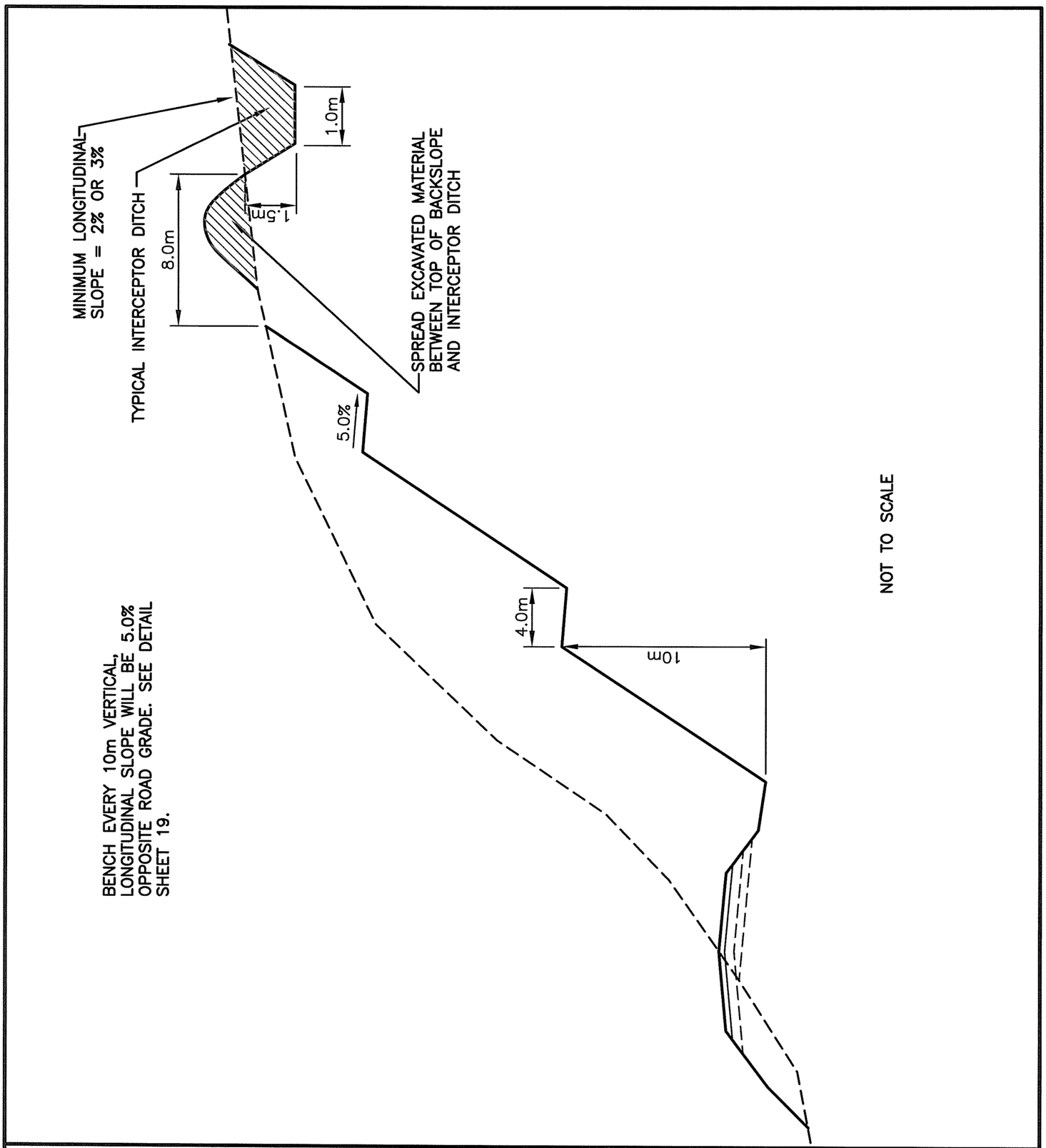

project title / titre du projet	drawing title / titre du dessin
ALASKA HIGHWAY **BRITISH COLUMBIA** **CONSTRUCTION DRAWING**	**BENCH CROSS SECTION**

Public Works and Government Services Canada / Travaux publics et Services gouvernementaux Canada

REAL PROPERTY SERVICES
Western Region

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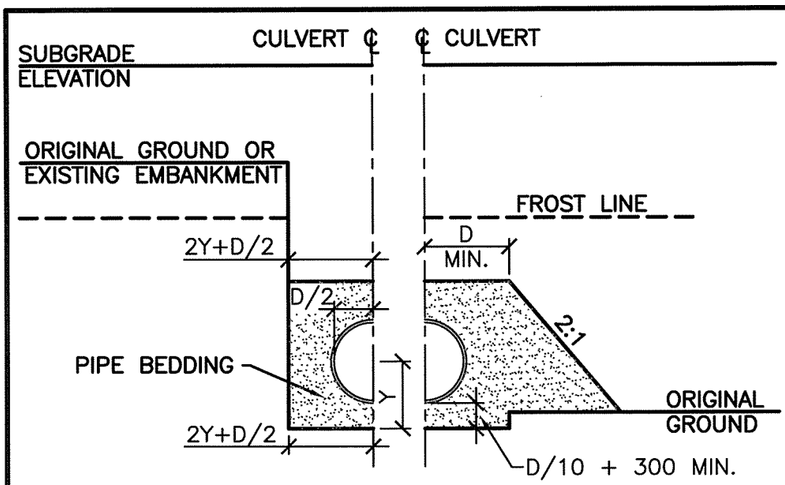
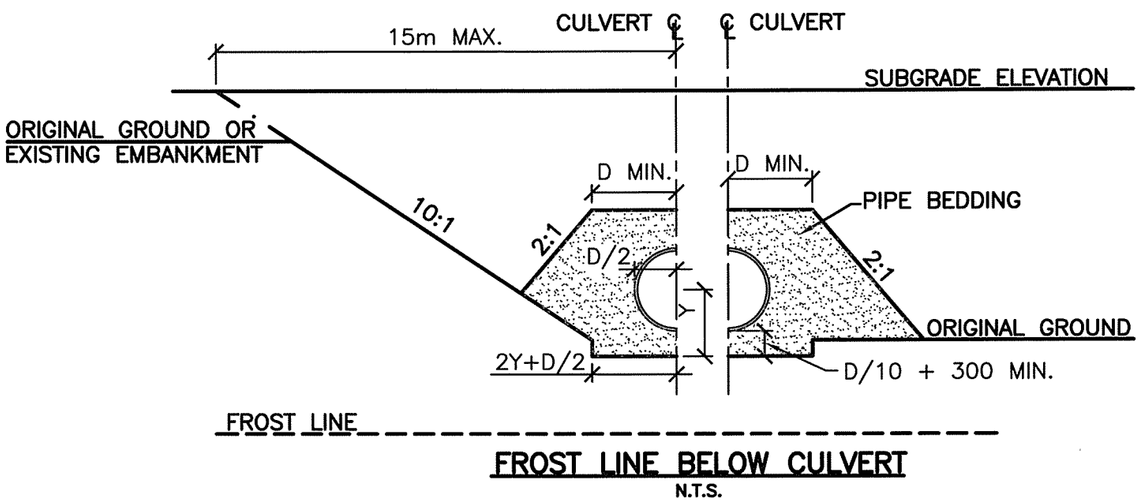


FROST LINE ABOVE CULVERT

N.T.S.

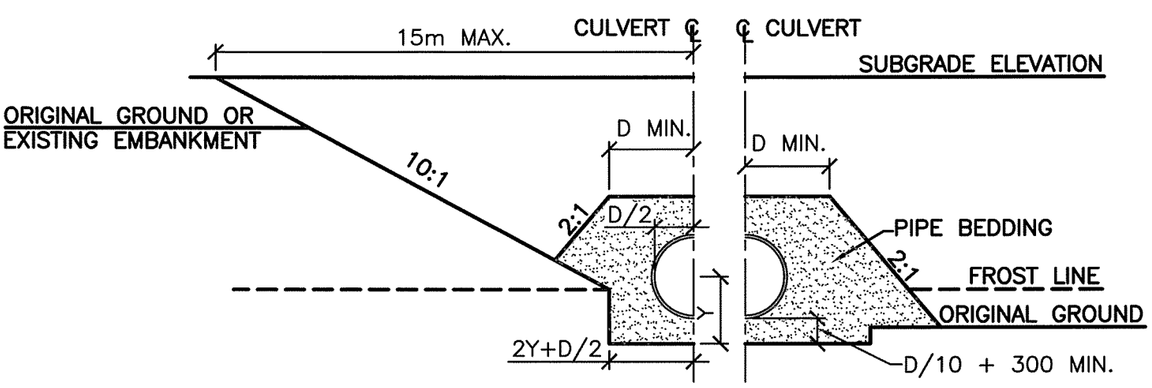
NOTES:

1. BEDDING TO BE TAKEN TO A MINIMUM OF 300 ABOVE CULVERT.
2. PIPE BED TO BE CAREFULLY SHAPED TO RECEIVE LOWEST SEGMENT OF PIPE TO A DEPTH EQUAL TO 10% OF PIPE DIAMETER.
3. COMPACTION OF BEDDING MATERIAL – 98% IN 150 LAYERS.
4. BEDDING MATERIAL TO BE AS SPECIFIED IN THE CONTRACT.
5. DEPTH OF BEDDING MATERIAL BELOW CULVERT WILL BE D/10 OR A MINIMUM COMPACTED THICKNESS OF 300.
6. ALL DIMENSIONS AND MEASUREMENTS ARE IN MILLIMETRES UNLESS NOTED OTHERWISE.



FROST LINE BELOW CULVERT

N.T.S.



FROST LINE BETWEEN BOTTOM OF BEDDING AND TOP OF CULVERT

N.T.S.

project title / titre du projet	drawing title / titre du dessin
ALASKA HIGHWAY **BRITISH COLUMBIA** **CONSTRUCTION DRAWING**	**INSTALLATION OF PIPE AND PIPE ARCHES**

Public Works and Government Services Canada / Travaux publics et Services gouvernementaux Canada

REAL PROPERTY SERVICES
Western Region

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AHG	AHG	N.T.S.	MAY 2003
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PWGSC Project Manager / Administrateur de Projets TPSGC		sheet / feuille: 13	

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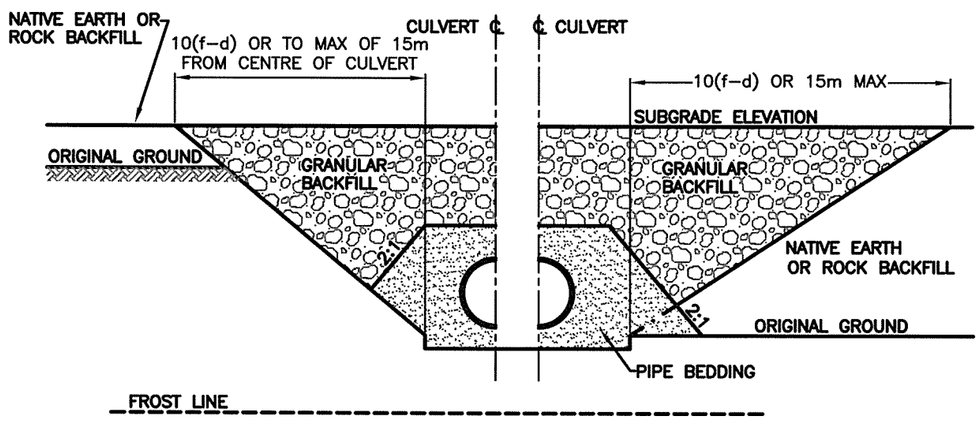
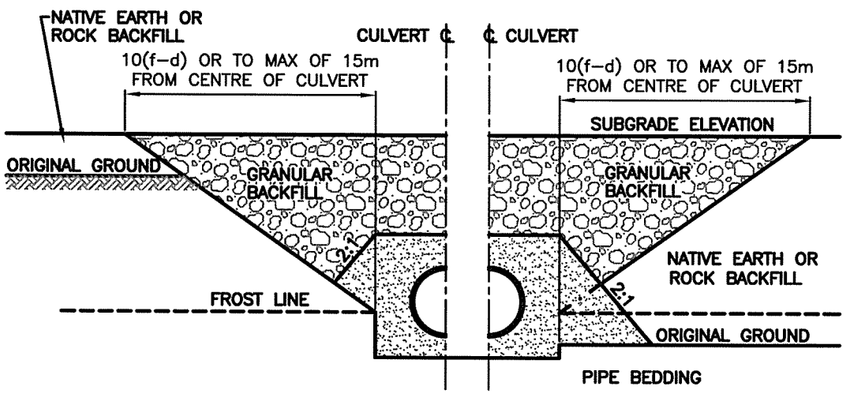


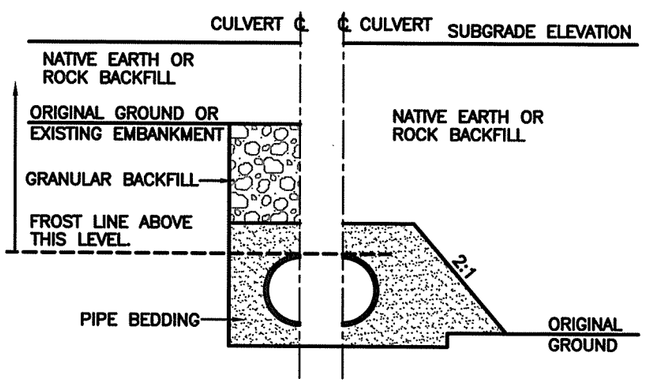
FROST LINE BELOW CULVERT

THEN "f" IS CONSIDERED AT BOTTOM OF CULVERT
N.T.S.



FROST LINE BETWEEN BOTTOM OF BEDDING AND TOP OF CULVERT

FROST LINE and "f" BETWEEN BOTTOM OF BEDDING AND TOP OF PIPE
N.T.S.



FROST LINE ABOVE CULVERT

N.T.S.

LEGEND:

"d" DENOTES DEPTH OF NORMAL GRANULAR BASE/SUB–BASE MATERIAL FOR ROADBED
"f" DENOTES DEPTH OF FROST PENETRATION

NOTES:

1. GRANULAR BACKFILL SHALL BE SUB–BASE GRAVELS.
2. PROTECTION AGAINST HEAVY CONSTRUCTION EQUIPMENT
   DEPTH OF BEDDING MATERIAL PLUS BACKFILL MATERIAL OVER TOP OF PIPE MUST BE 600 OR DIAMETER/6 PLUS 300, WHICHEVER IS GREATER. THE PROTECTIVE MATERIAL MUST BE PROPERLY COMPACTED BEFORE HEAVY CONSTRUCTION EQUIPMENT IS ALLOWED OVER THE PIPE.
3. COMPACTION: GRANULAR MATERIAL 98%, NATIVE MATERIAL 95%.
4. ALL DIMENSIONS AND MEASUREMENTS ARE MILLIMETRES UNLESS NOTED OTHERWISE.

project title / titre du projet	drawing title / titre du dessin
ALASKA HIGHWAY BRITISH COLUMBIA CONSTRUCTION DRAWING	BACKFILL FOR CULVERTS

Public Works and Government Services Canada / Travaux publics et Services gouvernementaux Canada

REAL PROPERTY SERVICES
Western Region

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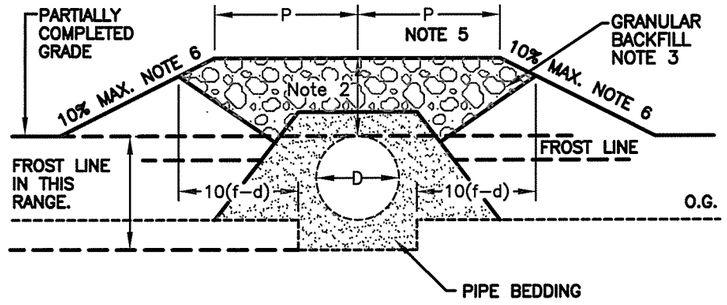
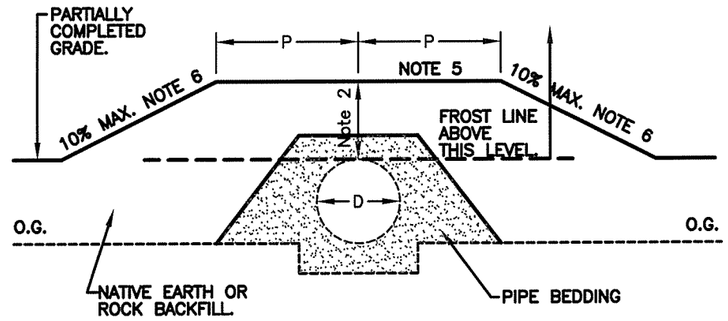


FROST LINE BETWEEN BOTTOM OF BEDDING AND TOP OF PIPE



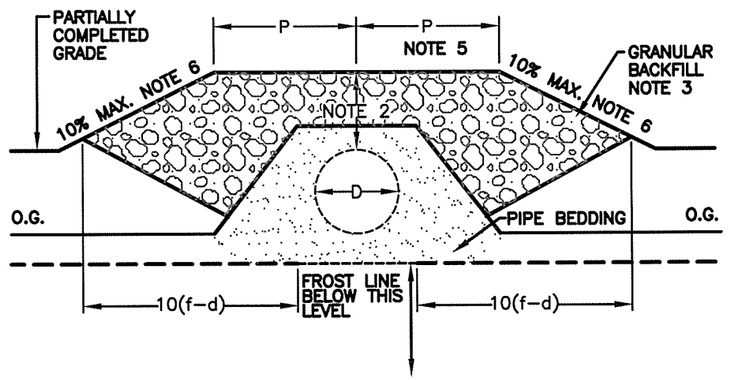
FROST LINE ABOVE TOP OF PIPE

LEGEND:

"d" DENOTES DEPTH OF GRANULAR (ROADBED)
"f" DENOTES DEPTH OF FROST PENETRATION

NOTES:

1. P = 1.5m OR 1.5 D WHICHEVER IS GREATER. D = DIAMETER OF CIRCULAR PIPE OR SPAN OF PIPE–ARCH.
2. DEPTH OF BEDDING MATERIAL PLUS BACKFILL OVE TOP OF PIPE MUST BE 600 OR (DIA. OR SPAN)/6 PLUS 300 WHICHEVER IS GREATER.
3. CONTAMINATED MATERIAL TO BE REMOVED AND REPLACED WITH APPROVED GRANULAR BACKFILL.
4. THIS STANDARD TO BE USED IN CONJUNCTION WITH BACKFILLS FOR CULVERTS.
5. WHEN PROTECTION IS HIGHER THAN SUBGRADE, IT IS TO BE REMOVED TO SUBGRADE LEVEL BEFORE PLACING GRANULAR BASE.
6. WHEN PROTECTION IS USED BY PUBLIC VEHICULAR TRAFFIC, THEN MAXIMUM SLOPE SHALL BE 5%.
7. ALL DIMENSIONS AND MEASUREMENTS ARE IN MILLIMETRES UNLESS NOTED OTHERWISE.



FROST LINE BELOW BOTTOM OF BEDDING

A – 8.5x11

Public Works and Government Services Canada / Travaux publics et Services gouvernementaux Canada

REAL PROPERTY SERVICES
Western Region

project title
ALASKA HIGHWAY
BRITISH COLUMBIA
CONSTRUCTION DRAWING

titre du projet

drawing title
PROTECTION OF CULVERTS AGAINST HEAVY CONSTRUCTION EQUIPMENT

titre du dessin

designed by / conçu par	drawn by / dessiné par	scale / échelle	date
AHG	AHG	N.T.S.	MAY 2003

approved by / approuvé par	project no. / projet no.
AHG	

PWGSC Project Manager / Administrateur de Projets TPSGC	sheet / feuille
	15

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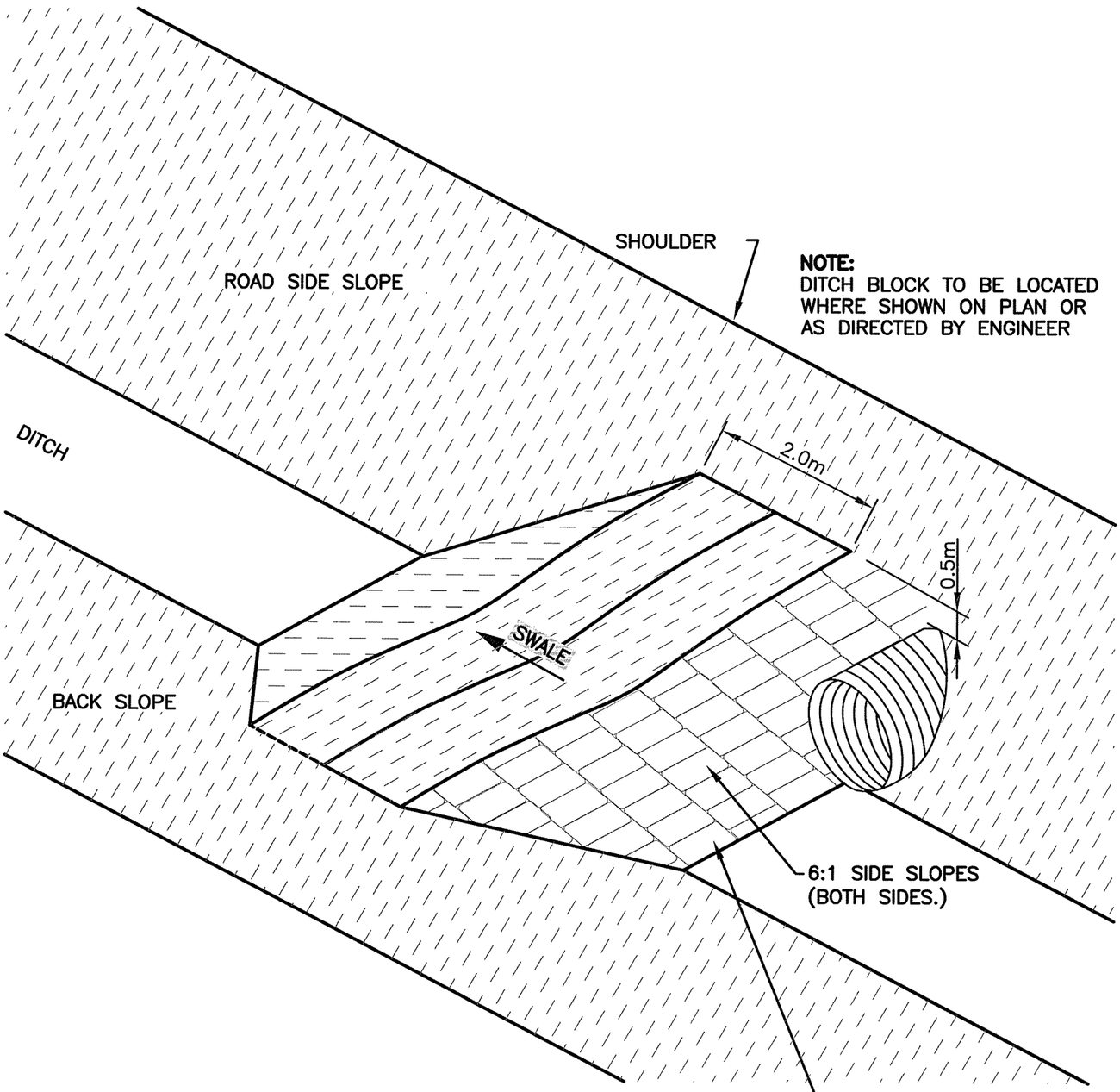

NOTE:
DITCH BLOCK TO BE LOCATED WHERE SHOWN ON PLAN OR AS DIRECTED BY ENGINEER

NOTE:
HAND–PLACED BAGGED CONCRETE ON GEOTEXTILE FABRIC TO DITCH BLOCK

NOTES:

- BAG SIZE NOMINAL 300x600
- ALL DIMENSIONS ARE IN MILLIMETRES UNLESS NOTED OTHERWISE.

NOT TO SCALE

project title / titre du projet	drawing title / titre du dessin
ALASKA HIGHWAY **BRITISH COLUMBIA** **CONSTRUCTION DRAWING**	**TYPICAL DITCH BLOCK** **HAND PLACED BAGGED CONCRETE RIP RAP**

Public Works and Government Services Canada / Travaux publics et Services gouvernementaux Canada

REAL PROPERTY SERVICES
Western Region

designed by / concu par	drawn by / dessine par	scale / echelle	date / date
AHG	AHG	N.T.S.	MAY 2003
approved by / approuve par: AHG		project no. / projet no.	
PWGSC Project Manager / Administrateur de Projets TPSGC		sheet / feuille: 16	

A – 8.5x11

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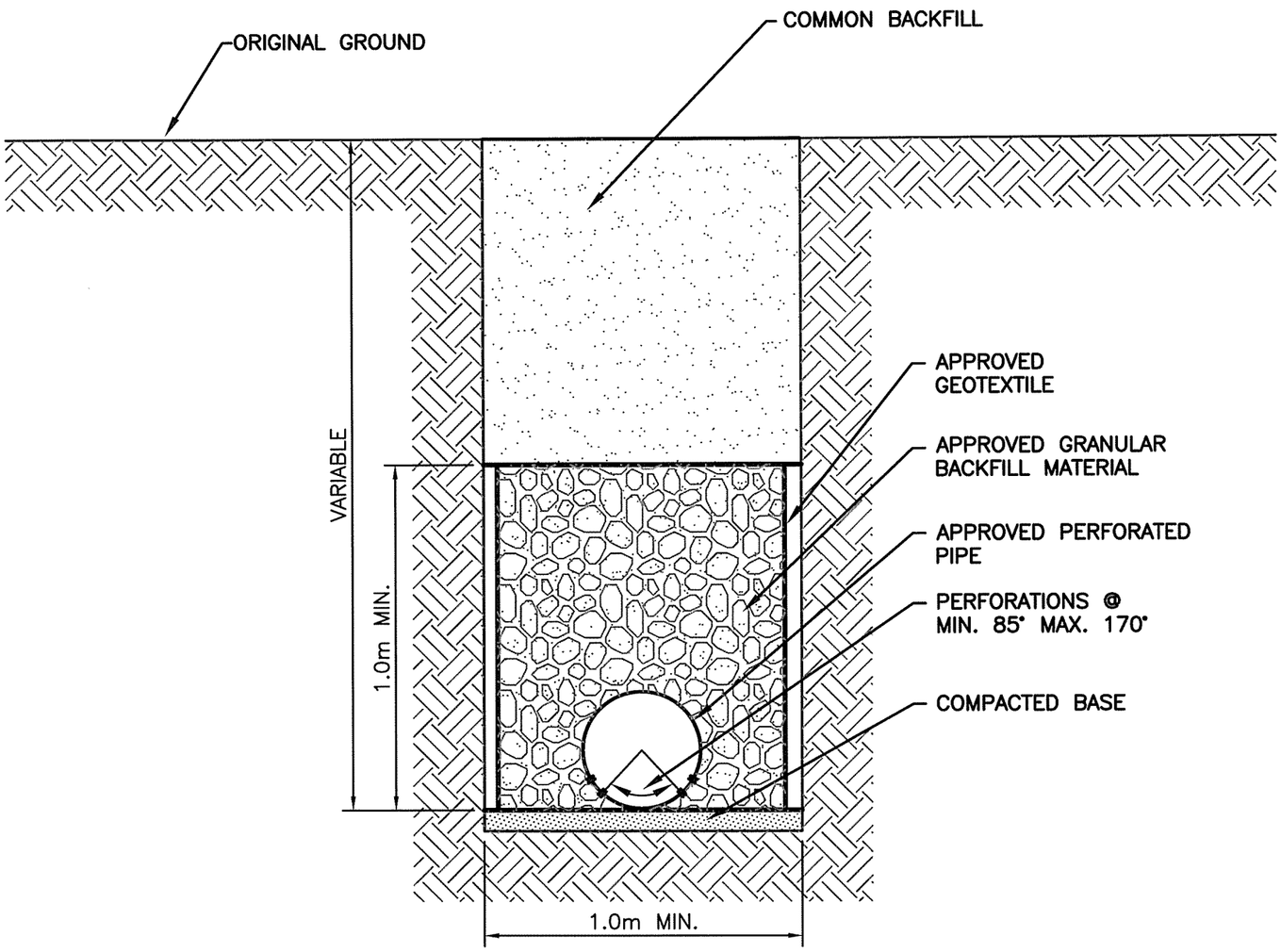

project title / titre du projet

ALASKA HIGHWAY
BRITISH COLUMBIA
CONSTRUCTION DRAWING

drawing title / titre du dessin

TYPICAL SUB DRAIN

Public Works and Government Services Canada / Travaux publics et Services gouvernementaux Canada

REAL PROPERTY SERVICES
Western Region

designed by / concu par	drawn by / dessine par	scale / echelle	date / date
	J.G.	N.T.S.	
approved by / approuve par		project no. / projet no.	
PWGSC Project Manager / Administrateur de Projets TPSGC		sheet / feuille	16B

A – 8.5x11

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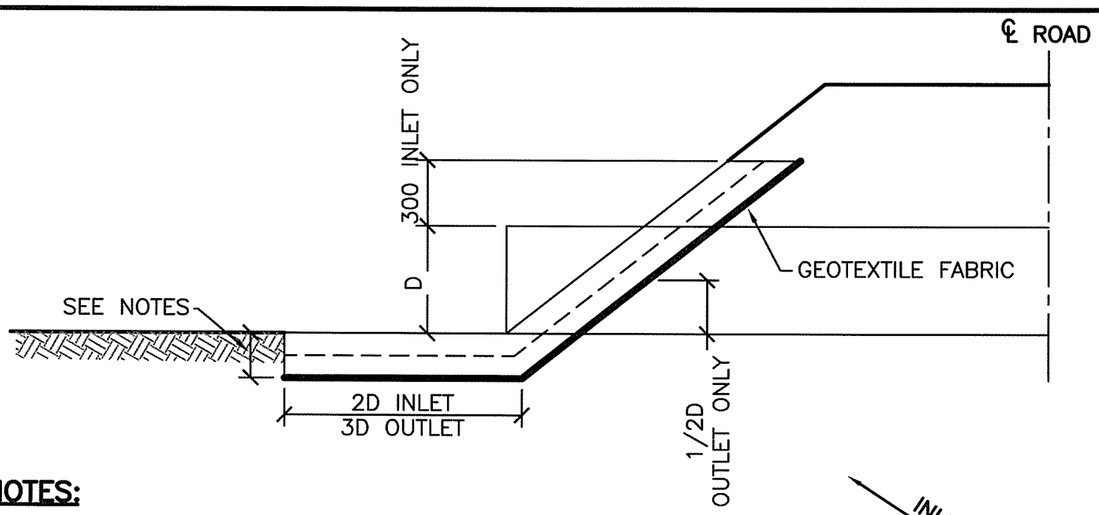
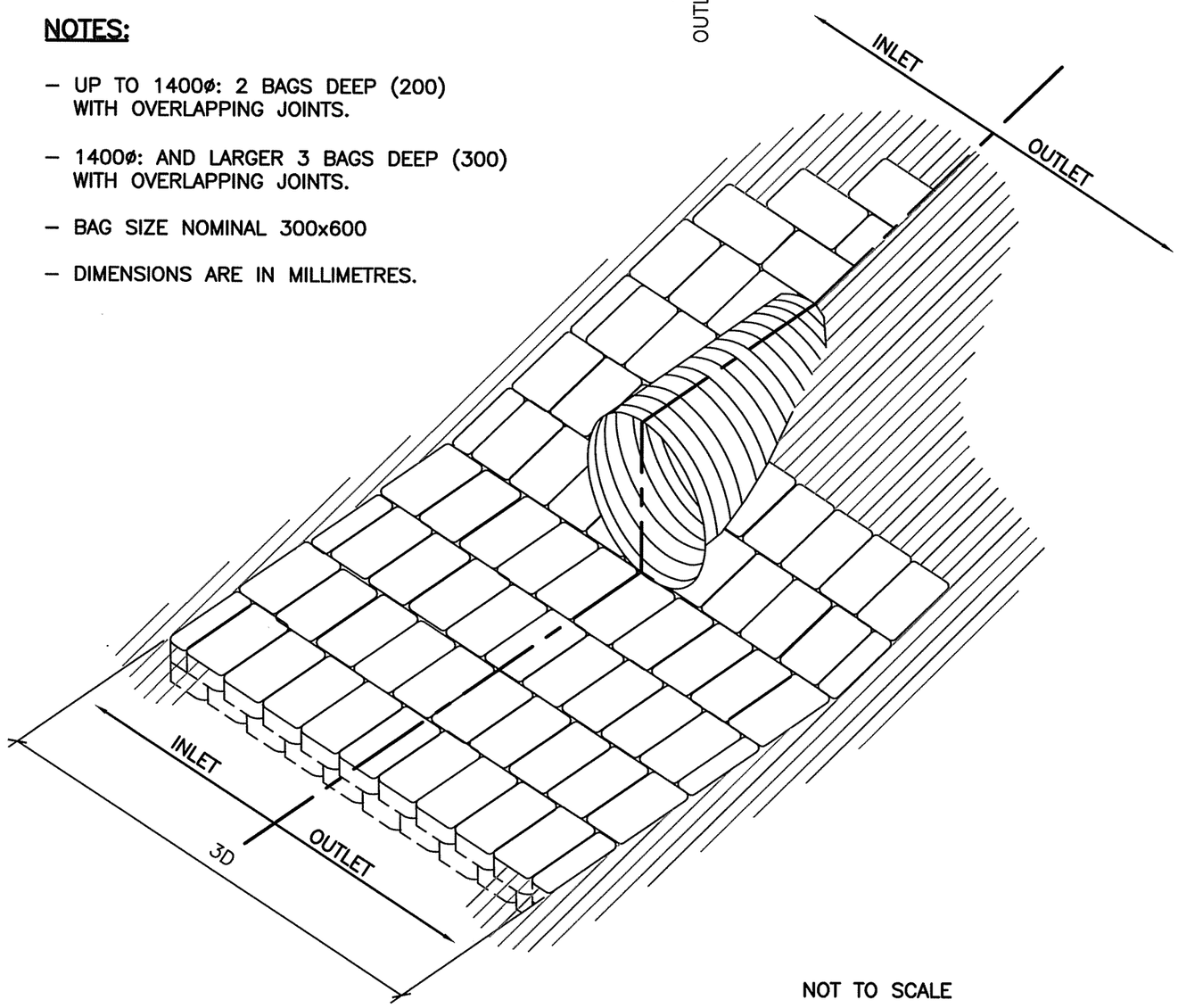


NOTES:

- UP TO 1400ø: 2 BAGS DEEP (200) WITH OVERLAPPING JOINTS.
- 1400ø: AND LARGER 3 BAGS DEEP (300) WITH OVERLAPPING JOINTS.
- BAG SIZE NOMINAL 300x600
- DIMENSIONS ARE IN MILLIMETRES.



NOT TO SCALE

project title / titre du projet	drawing title / titre du dessin
ALASKA HIGHWAY **BRITISH COLUMBIA** **CONSTRUCTION DRAWING**	**HAND PLACED** **BAGGED RIP-RAP**

Public Works and Government Services Canada / Travaux publics et Services gouvernementaux Canada

REAL PROPERTY SERVICES
Western Region

designed by / concu par	drawn by / dessine par	scale / echelle	date / date
AHG	AHG	N.T.S.	MAY 2003
approved by / approuve par: AHG		project no. / projet no.	
PWGSC Project Manager / Administrateur de Projets TPSGC		sheet / feuille: 17	

A – 8.5x11

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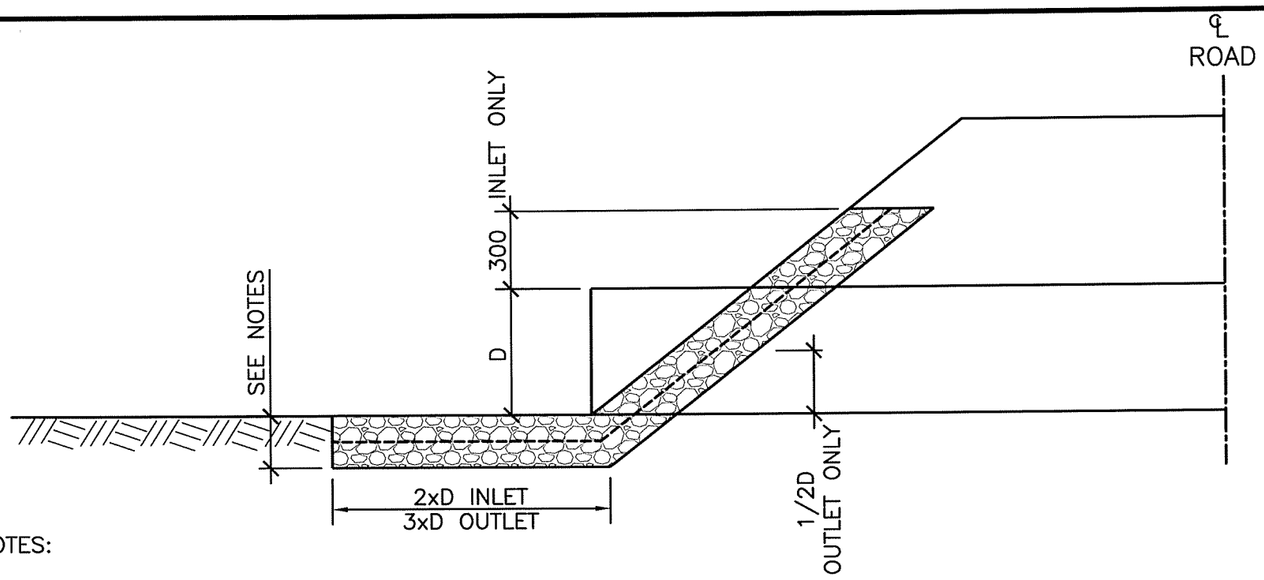

NOTES:

- UP TO 1400ø 2 BAGS DEEP (200) WITH OVERLAPPING JOINTS.
- 1400ø AND LARGER 3 BAGS DEEP (300) WITH OVERLAPPING JOINTS.
- BAG SIZE NOMINAL 300x600
- WIDTH = 3xD
- ALL MEASUREMENTS ARE IN MILLIMETRES UNLESS NOTED OTHERWISE.

Culvert Diameter	APRON						S/S	SLOPE								Total Area	Total No. of Bags
	INLET			OUTLET				INLET				OUTLET					
	Length	Width	Area	Length	Width	Area		Length	Width	Area	CSP	Length	Width	Area	CSP		
600	1.20	1.80	2.16	1.80	1.80	3.24	2:1	2.01	1.80	3.62	0.63	0.67	1.80	1.21	0.32	9.28	103
							3:1	2.85		5.12	0.89	0.95		1.71	0.45	10.89	121
							4:1	3.71		6.68	1.17	1.24		2.23	0.58	12.56	140
900	1.80	2.70	4.86	2.70	2.70	7.29	2:1	2.68	2.70	7.24	1.42	1.01	2.70	2.72	0.71	19.98	222
							3:1	3.79		10.25	2.01	1.42		3.84	1.01	23.22	258
							4:1	4.95		13.36	2.62	1.86		5.01	1.31	26.58	295
1200	2.40	3.60	8.64	3.60	3.60	12.96	2:1	3.35	3.60	12.07	2.53	1.34	3.60	4.83	1.26	34.71	386
							3:1	4.74		17.08	3.58	1.90		6.83	1.79	40.14	446
							4:1	6.18		22.26	4.66	2.47		8.91	2.33	45.78	509
1500	3.00	4.50	13.50	4.50	4.50	20.25	2:1	4.02	4.50	18.11	3.95	1.68	4.50	7.55	1.98	53.48	891
							3:1	5.69		25.61	5.59	2.37		10.67	2.79	61.65	1028
							4:1	7.42		33.40	7.29	3.09		13.92	3.64	70.13	1169
1800	3.60	5.40	19.44	5.40	5.40	29.16	2:1	4.70	5.40	25.36	5.69	2.01	5.40	10.87	2.85	76.29	1271
							3:1	6.64		35.86	8.05	2.85		15.37	4.02	87.76	1463
							4:1	8.66		46.76	10.49	3.71		20.04	5.25	99.66	1661

- CULVERT DIAMETER IN MILLIMETRES
- LENGTH AND WIDTH IN METRES
- AREA IN SQUARE METRES

project title / titre du projet

ALASKA HIGHWAY
BRITISH COLUMBIA
CONSTRUCTION DRAWING

drawing title / titre du dessin

HAND PLACED BAGGED RIP-RAP QUANTITIES

Public Works and Government Services Canada / Travaux publics et Services gouvernementaux Canada

REAL PROPERTY SERVICES
Western Region

designed by / concu par	drawn by / dessine par	scale / echelle	date / date
	KT	NTS	APRIL 2004
approved by / approuve par		project no. / projet no.	
PWGSC Project Manager / Administrateur de Projets TPSGC		sheet / feuille	17A

A – 8.5x11

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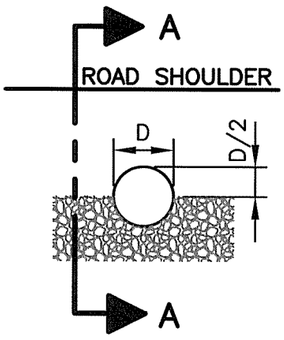
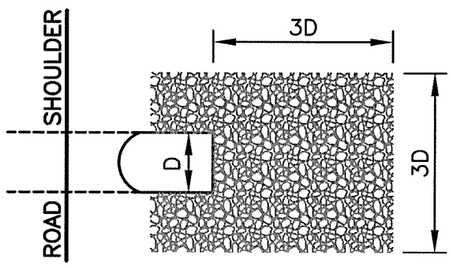
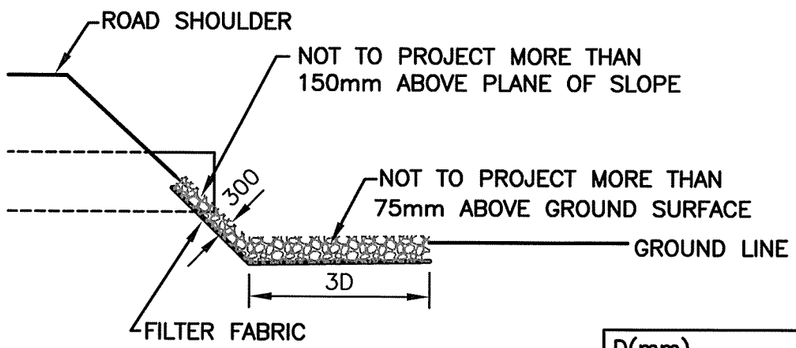


FRONT VIEW



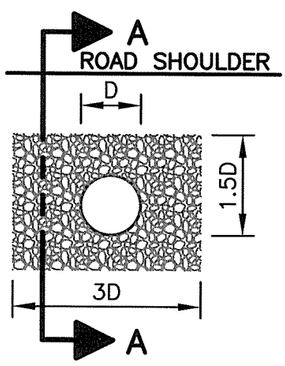
TOP VIEW



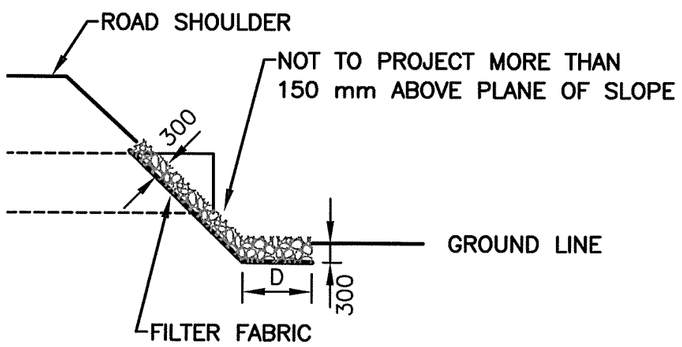
SECTION A–A

D(mm)	600	800
APRON DEPTH	450	

OUTLET



FRONT VIEW



SECTION A–A

NOTE:

1. MINIMUM SIZE OF RIP RAP TO BE AS SPECIFIED IN SPECIFICATIONS.
2. ALL DIMENSIONS AND MEASUREMENTS ARE IN MILLIMETRES UNLESS NOTED OTHERWISE.

INLET

project title / titre du projet

ALASKA HIGHWAY
BRITISH COLUMBIA
CONSTRUCTION DRAWING

drawing title / titre du dessin

HAND PLACED ROCK RIP RAP

Public Works and Government Services Canada / Travaux publics et Services gouvernementaux Canada

REAL PROPERTY SERVICES
Western Region

designed by / concu par	drawn by / dessine par	scale / echelle	date / date
AHG	AHG	N.T.S.	MAY 2003
approved by / approuve par: AHG		project no. / projet no.	
PWGSC Project Manager / Administrateur de Projets TPSGC		sheet / feuille: 18	

A – 8.5x11

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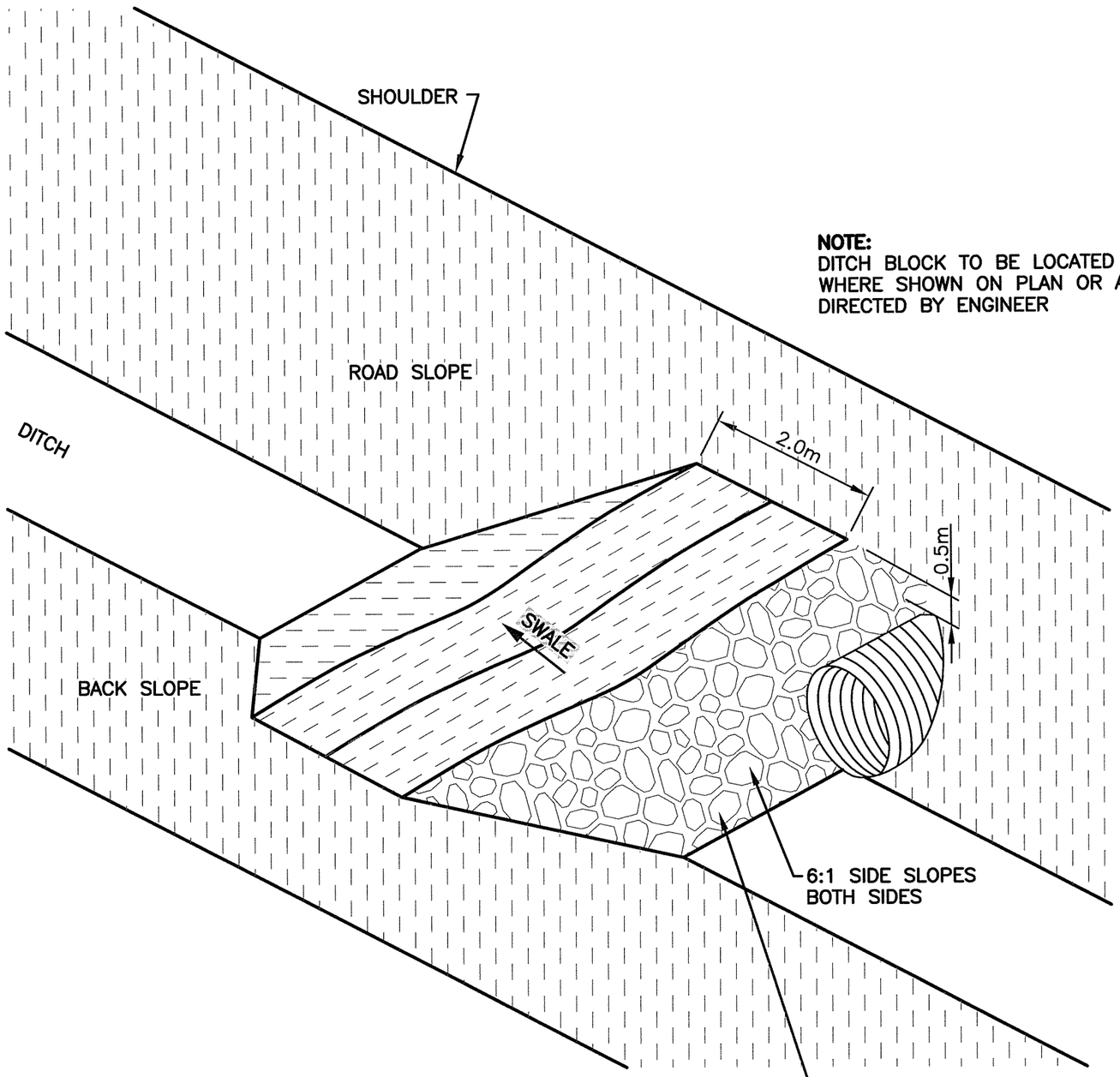

NOTE:
DITCH BLOCK TO BE LOCATED WHERE SHOWN ON PLAN OR AS DIRECTED BY ENGINEER

NOTE:
HAND–PLACED ROCK RIP RAP ON GEOTEXTILE FABRIC TO TOP OF DITCH BLOCK

NOTES:

- ROCK MASS MINIMUM 15kg.
- ALL DIMENSIONS ARE IN MILLIMETRES UNLESS NOTED OTHERWISE.

NOT TO SCALE

project title / titre du projet	drawing title / titre du dessin
ALASKA HIGHWAY **BRITISH COLUMBIA** **CONSTRUCTION DRAWING**	**TYPICAL DITCH BLOCK** **HAND PLACED ROCK RIP RAP**

Public Works and Government Services Canada / Travaux publics et Services gouvernementaux Canada

REAL PROPERTY SERVICES
Western Region

designed by / concu par	drawn by / dessine par	scale / echelle	date / date
AHG	AHG	N.T.S.	MAY 2003
approved by / approuve par: AHG		project no. / projet no.	
PWGSC Project Manager / Administrateur de Projets TPSGC		sheet / feuille: 19	

A – 8.5x11

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A – 8.5x11

SUB–BASE MATERIAL
shall meet all the following requirements:

.1

Sieve Size	% Passing
100mm	100%
5mm	20 – 65%
0.075mm	0 – 8%

.2 Material passing 0.425mm sieve size shall have PL < 6 and LL < 25.

.3 Regardless that the material meets the above gradation, PL and LL requirements, it will be rejected if the material ruts when a loaded tandem truck passes over it.

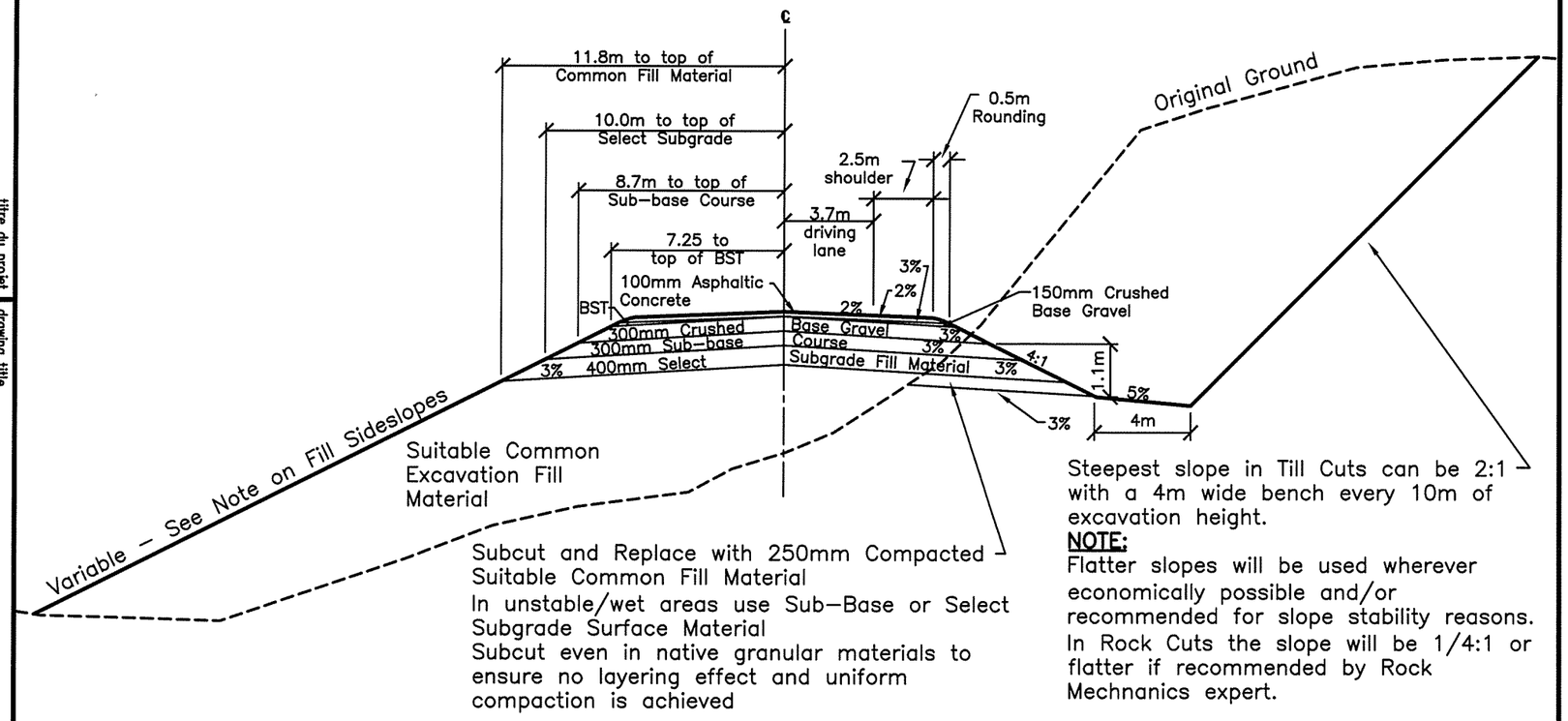
SELECT GRANULAR SUBGRADE FILL MATERIAL
shall meet all the following requirements:

.1

Sieve Size	% Passing
150mm	100%
0.075mm	0 – 10%

.2 Material passing 0.425mm sieve size shall have PL < 6 and LL < 25.

.3 Regardless that the material meets the above gradation, PL and LL requirements, it will be rejected if the material ruts when a loaded tandem truck passes over it.



Fill Sideslopes

Subgrade Fill Height < 6m	4:1 sideslope
Subgrade Fill Height > 6m < 9m	3:1 sideslope with 5m wide zone from bottom of sideslope clear of hazards to errant vehicle.
Subgrade Fill Height > 9m	2:1 sideslope – BC Warrants for Guiderail will be used to determine guiderail requirements.

Roadway to be widened 1m in sections to receive concrete guiderail.

NOTE: Sideslopes of Crushed Base Gravels, the Sub–base Course and Select Subgrade Surface Material to be always 4:1.

project title
ALASKA HIGHWAY
BRITISH COLUMBIA
CONSTRUCTION DRAWING
titre du projet

Public Works and Government Services Canada
Travaux publics et Services gouvernementaux Canada
REAL PROPERTY SERVICES
Western Region

drawing title
SURFACING STRUCTURE TEMPLATE
NEW CONSTRUCTION OF
SUITABLE COMMON EXCAVATION MATERIAL
titre du dessin

designed by / concu par	drawn by / dessine par	scale / echelle	date
AHG	AHG	N.T.S.	JULY 2001

approved by / approuve par	project no. / projet no.

PWGSC Project Manager	Administrateur de Projets TPSGC	sheet / feuille
		19A

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A – 8.5x11

Public Works and Government Services Canada

Travaux publics et Services gouvernementaux Canada

REAL PROPERTY SERVICES
Western Region

project title

ALASKA HIGHWAY
BRITISH COLUMBIA
CONSTRUCTION DRAWING

titre du projet

drawing title

SURFACING STRUCTURE TEMPLATE
NEW CONSTRUCTION OF
SUITABLE COMMON EXCAVATION MATERIAL

titre du dessin

designed by / concu par	drawn by / dessine par	scale / echelle	date
AHG		N.T.S.	JULY 2001

approved by / approuve par

PWGSC Project Manager / Administrateur de Projets TPSGC

project no. / projet no.

sheet / feuille **19B**

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SUB–BASE MATERIAL
shall meet all the following requirements:

.1

Sieve Size	% Passing
100mm	100%
5mm	20 – 65%
0.075mm	0 – 8%

.2 Material passing 0.425mm sieve size shall have PL < 6 and LL < 25.

.3 Regardless that the material meets the above gradation, PL and LL requirements, it will be rejected if the material ruts when a loaded tandem truck passes over it.

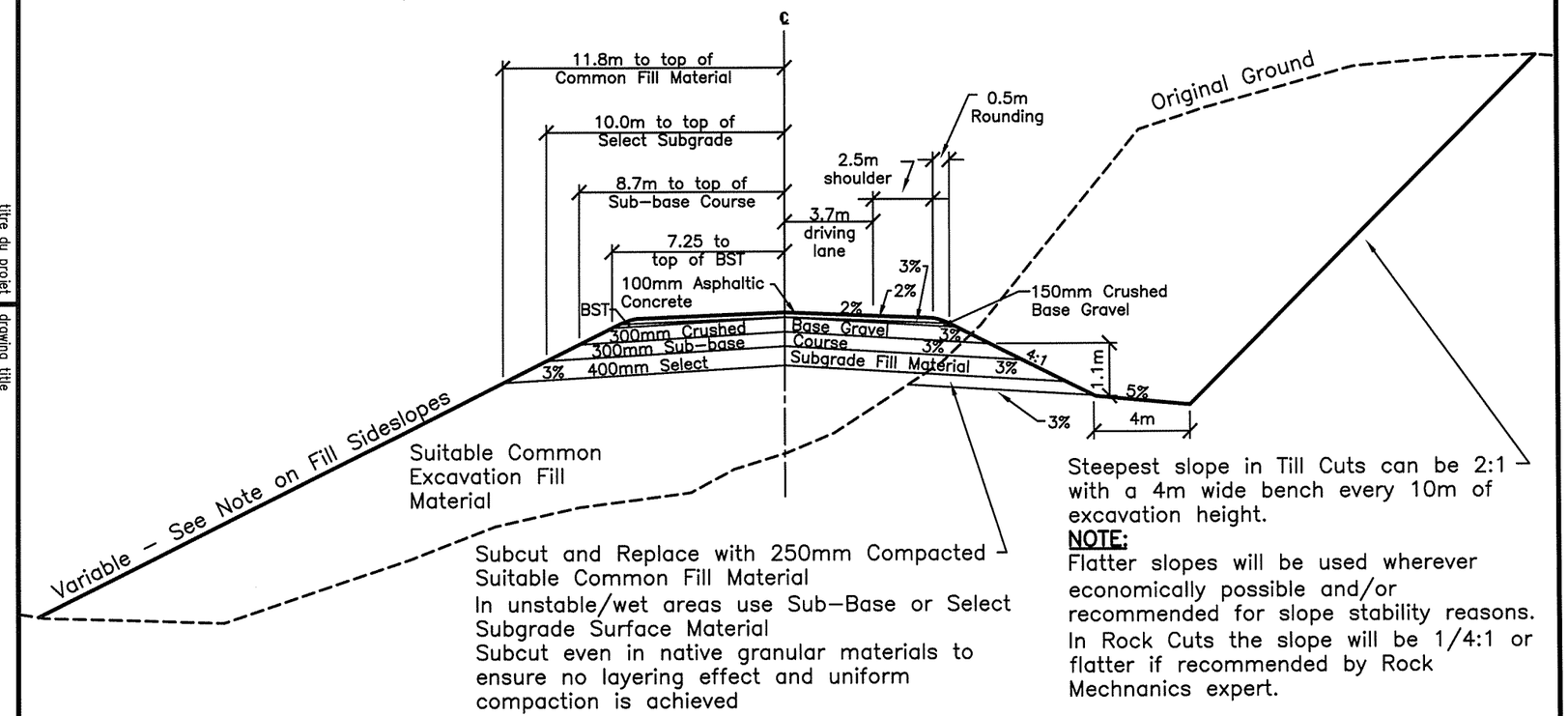
SELECT SUBGRADE SURFACE MATERIAL
shall meet all the following requirements:

.1

Sieve Size	% Passing
150mm	100%
0.075mm	0 – 10%

.2 Material passing 0.425mm sieve size shall have PL < 6 and LL < 25.

.3 Regardless that the material meets the above gradation, PL and LL requirements, it will be rejected if the material ruts when a loaded tandem truck passes over it.

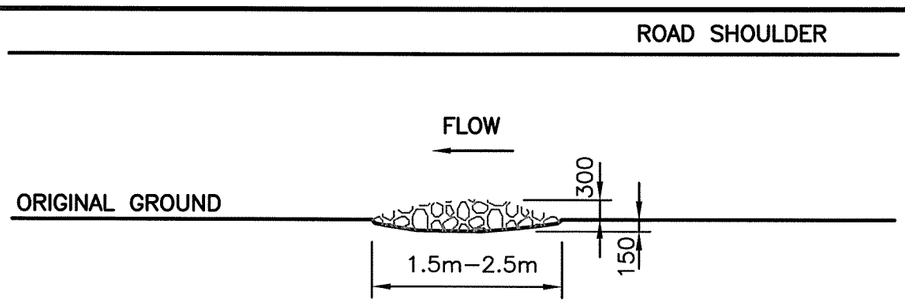


Fill Sideslopes

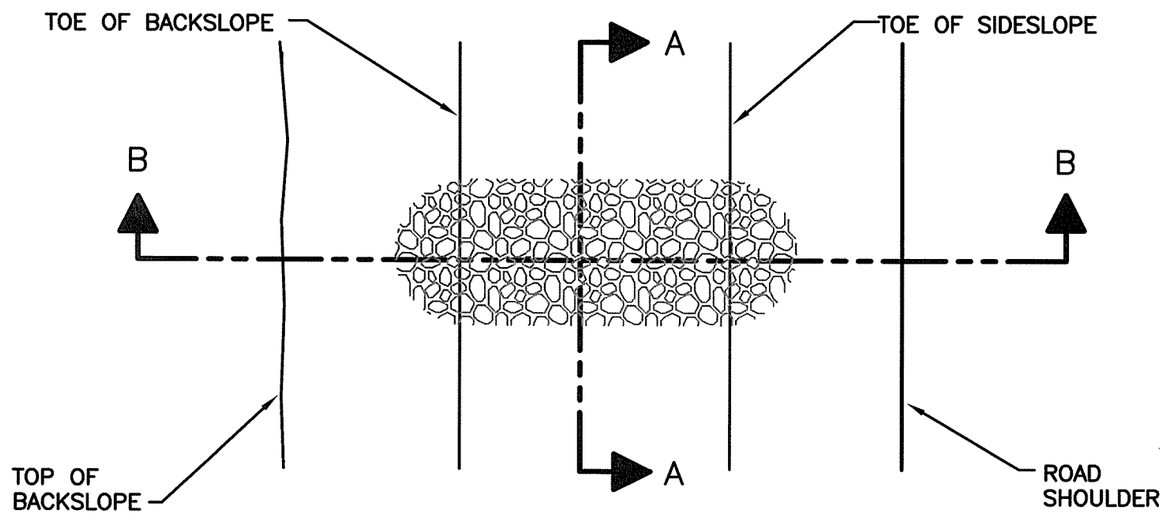
Subgrade Fill Height < 6m	4:1 sideslope
Subgrade Fill Height > 6m < 9m	3:1 sideslope with 5m wide zone from bottom of sideslope clear of hazards to errant vehicle.
Subgrade Fill Height > 9m	2:1 sideslope – BC Warrants for Guiderail will be used to determine guiderail requirements.

Roadway to be widened 1m in sections to receive concrete guiderail.

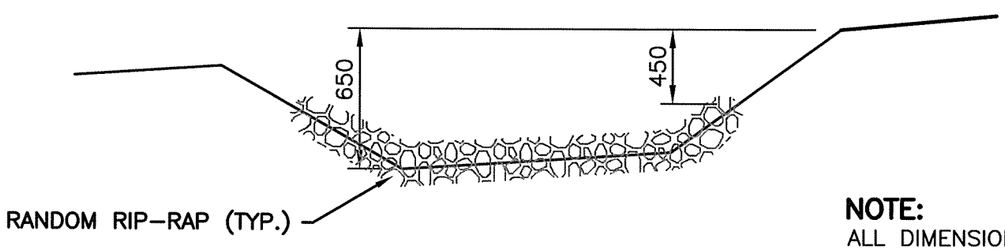
NOTE: Sideslopes of Crushed Base Gravels, the Sub–base Course and Select Subgrade Surface Material to be always 4:1.



SECTION A–A
N.T.S.



PLAN VIEW
N.T.S.



SECTION B–B
N.T.S.

NOTE:
ALL DIMENSIONS ARE IN MILLIMETRES UNLESS INDICATED OTHERWISE.

project title / titre du projet	drawing title / titre du dessin
ALASKA HIGHWAY **BRITISH COLUMBIA** **CONSTRUCTION DRAWING**	**TYPICAL DITCH CHECK**

Public Works and Government Services Canada / Travaux publics et Services gouvernementaux Canada

REAL PROPERTY SERVICES
Western Region

designed by / concu par	drawn by / dessine par	scale / echelle	date / date
AHG	AHG	N.T.S.	MAY 2003
approved by / approuve par: AHG		project no. / projet no.	
PWGSC Project Manager / Administrateur de Projets TPSGC		sheet / feuille: 20	

A – 8.5x11

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SUB–BASE MATERIAL

shall meet all the following requirements:

.1

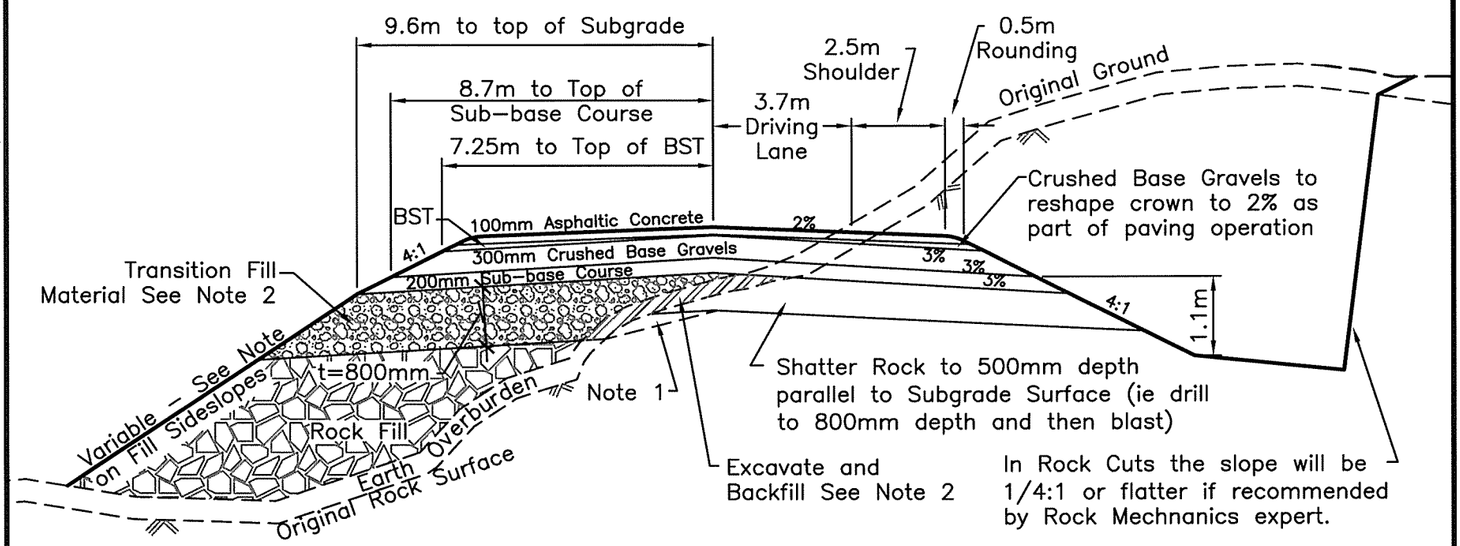
Sieve Size	% Passing
100mm	100%
5mm	20 – 65%
0.075mm	0 – 8%

.2 Material passing 0.425mm sieve size shall have PL < 6 and LL < 25.

.3 Regardless that the material meets the above gradation, PL and LL requirements, it will be rejected if the material ruts when a loaded tandem truck passes over it.

NOTES:

1. Carry out sufficient rock shatter to ensure positive drainage, for estimating purposes use 3.0m length.
2. Rock Fill or if not available Granular Sub–base material.



Fill Sideslopes

Subgrade Fill Height < 6m	4:1 sideslope
Subgrade Fill Height > 6m < 9m	3:1 sideslope with 5m wide zone from bottom of sideslope clear of hazards to errant vehicle.
Subgrade Fill Height >9m	2:1 sideslope – BC Warrants for Guiderail will be used to determine guiderail requirements. Roadway to be widened in 1m sections to receive concrete guiderail.

NOTE: Sideslopes of Crushed Base Gravels, the Sub–base Course and Select Subgrade Surface Material to be always 4:1.

project title / titre du projet	drawing title / titre du dessin
ALASKA HIGHWAY **BRITISH COLUMBIA** **CONSTRUCTION DRAWING**	**SURFACING STRUCTURE TEMPLATE** **NEW CONSTRUCTION ON ROCK FILL**

Public Works and Government Services Canada / Travaux publics et Services gouvernementaux Canada

REAL PROPERTY SERVICES
Western Region

designed by / concu par	drawn by / dessine par	scale / echelle	date / date
AHG	AHG	N.T.S.	JULY 2001
approved by / approuve par		project no. / projet no.	
PWGSC Project Manager / Administrateur de Projets TPSGC		sheet / feuille	**20A**

A – 8.5x11

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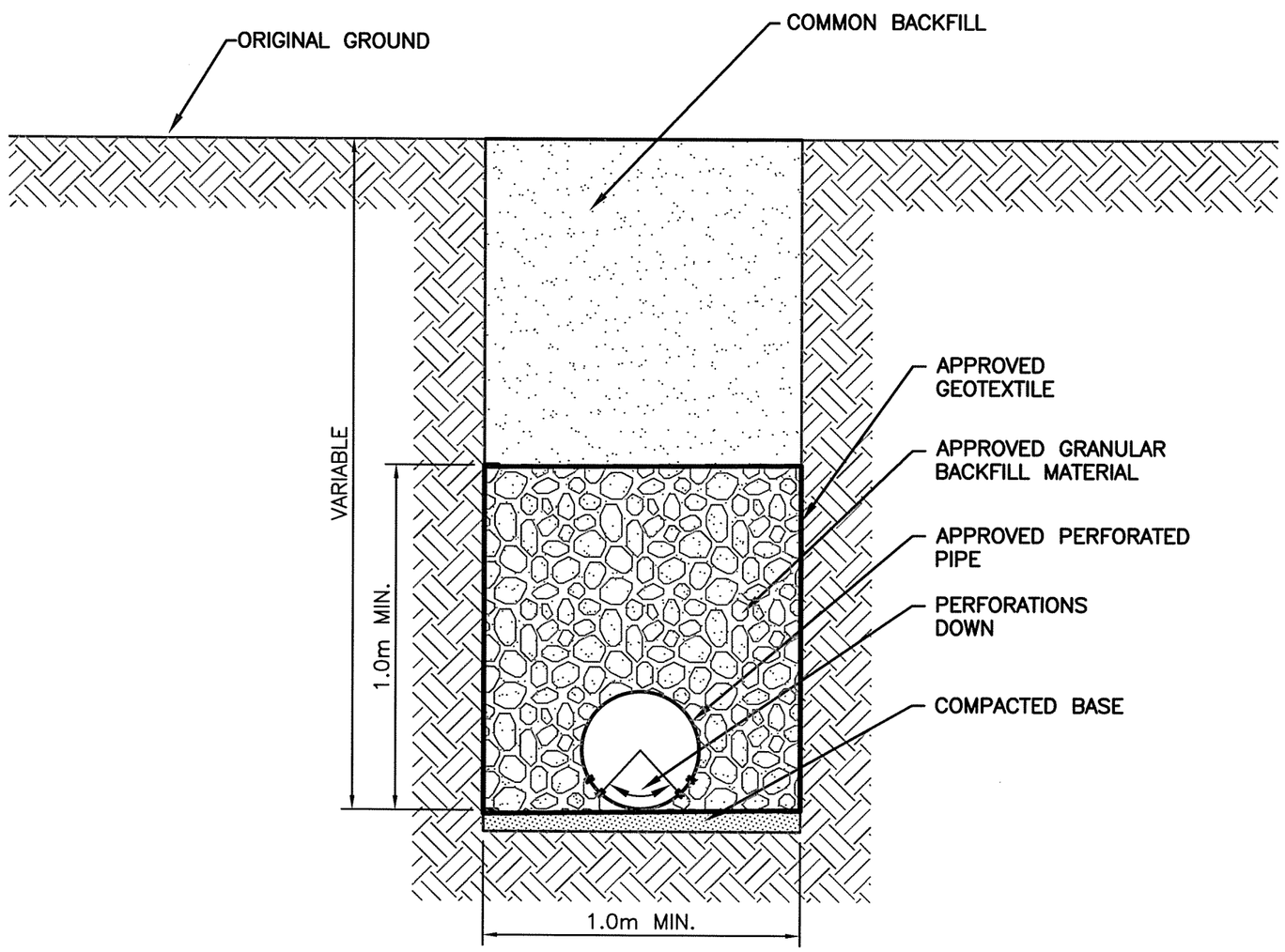

project title / titre du projet

ALASKA HIGHWAY
BRITISH COLUMBIA
CONSTRUCTION DRAWING

drawing title / titre du dessin

TYPICAL SUB DRAIN INSTALLATION

Public Works and Government Services Canada / Travaux publics et Services gouvernementaux Canada

REAL PROPERTY SERVICES
Western Region

designed by / concu par	drawn by / dessine par	scale / echelle	date / date
AHG	AHG	N.T.S.	MAY 2003
approved by / approuve par: AHG		project no. / projet no.	
PWGSC Project Manager / Administrateur de Projets TPSGC		sheet / feuille: 21	

A – 8.5x11

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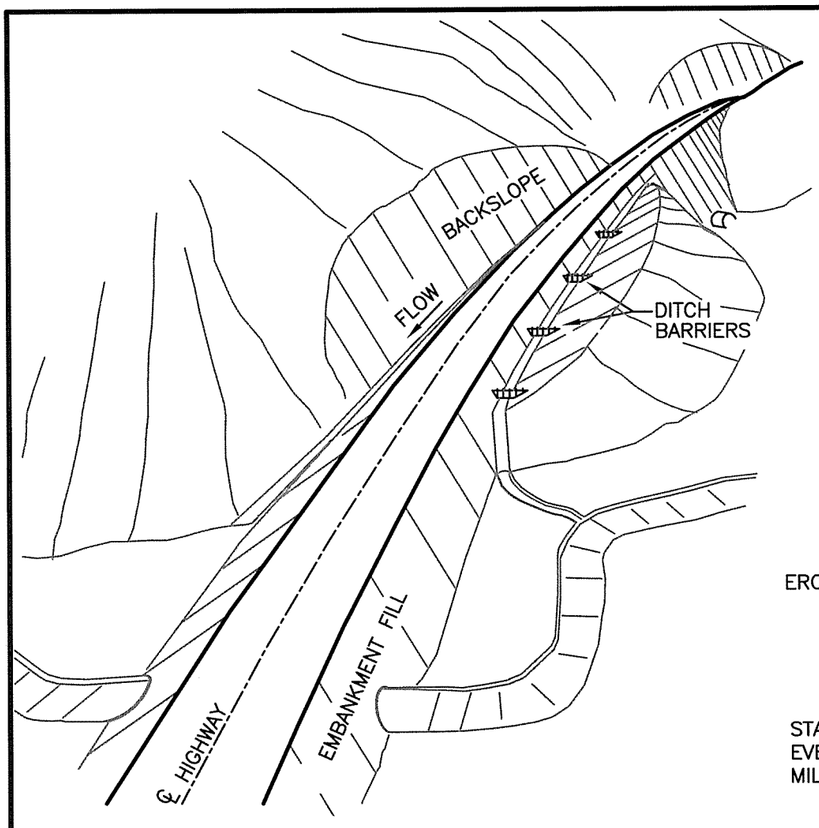
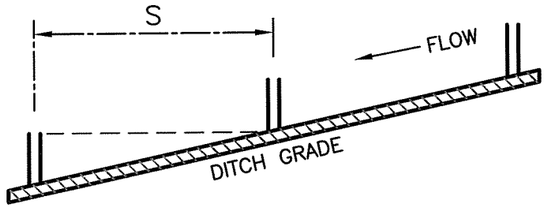
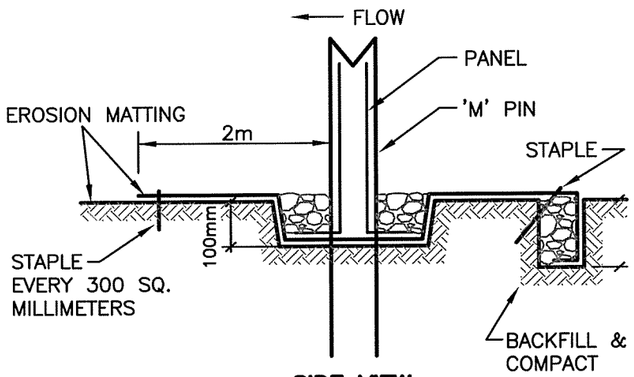


SYNTHETIC PERMEABLE DITCH BARRIER TYPICAL LOCATION

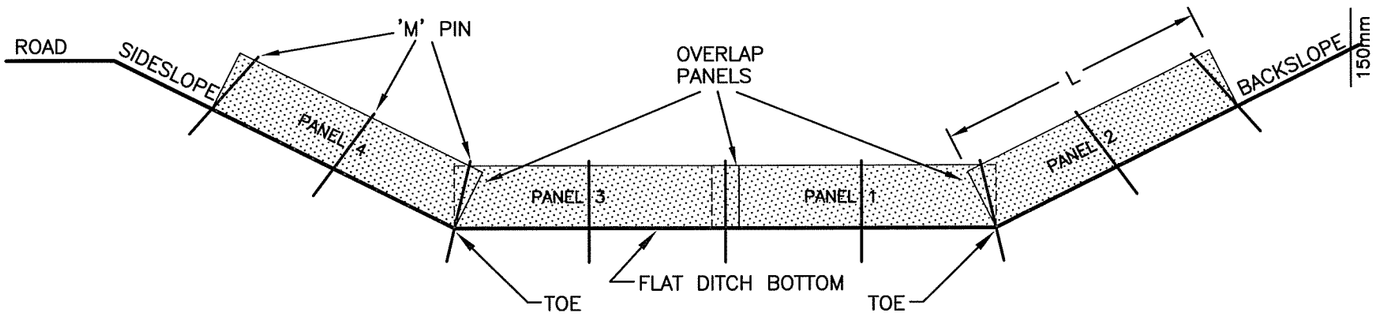
SPACING DETERMINED BY HEIGHT OF BARRIER DIVIDED BY DITCH GRADE = S



TYPICAL DITCH BARRIER SPACING



SIDE VIEW



FRONT VIEW

NOTES:

1. BARRIERS TO BE INSTALLED AS SOON AS PRACTICAL.
2. SILT ACCUMULATION TO BE REMOVED WHEN HALF BARRIER HEIGHT COVERED.
3. PROPER STORAGE OF SYNTHETIC PERMEABLE DITCH BARRIER MANDATORY UNTIL USED IN STRUCTURE.

MINIMUM INSTALLATION LENGTH UP SLOPES	
SLOPE	LENGTH : L (m)
2 : 1	0.55
2.5 : 1	1.1
3 : 1	1.1
3.5 : 1	1.1
4 : 1	1.1
5 : 1	1.3
6 : 1	1.5

project title / titre du projet

ALASKA HIGHWAY
BRITISH COLUMBIA
CONSTRUCTION DRAWING

drawing title / titre du dessin

SYNTHETIC PERMEABLE DITCH BARRIER DETAILS

Public Works and Government Services Canada / Travaux publics et Services gouvernementaux Canada

REAL PROPERTY SERVICES
Western Region

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AHG	AHG	N.T.S.	MAY 2003
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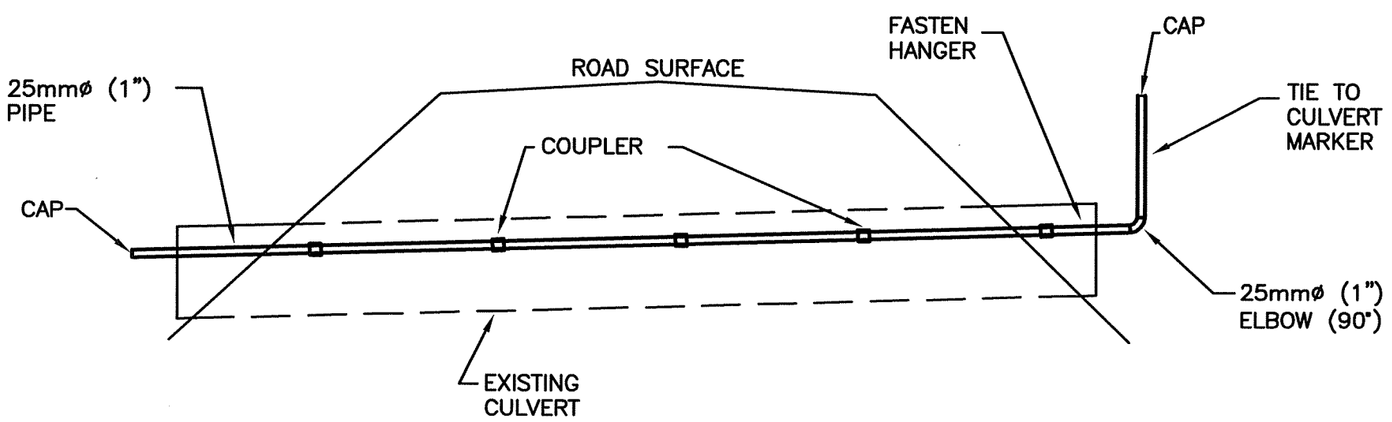
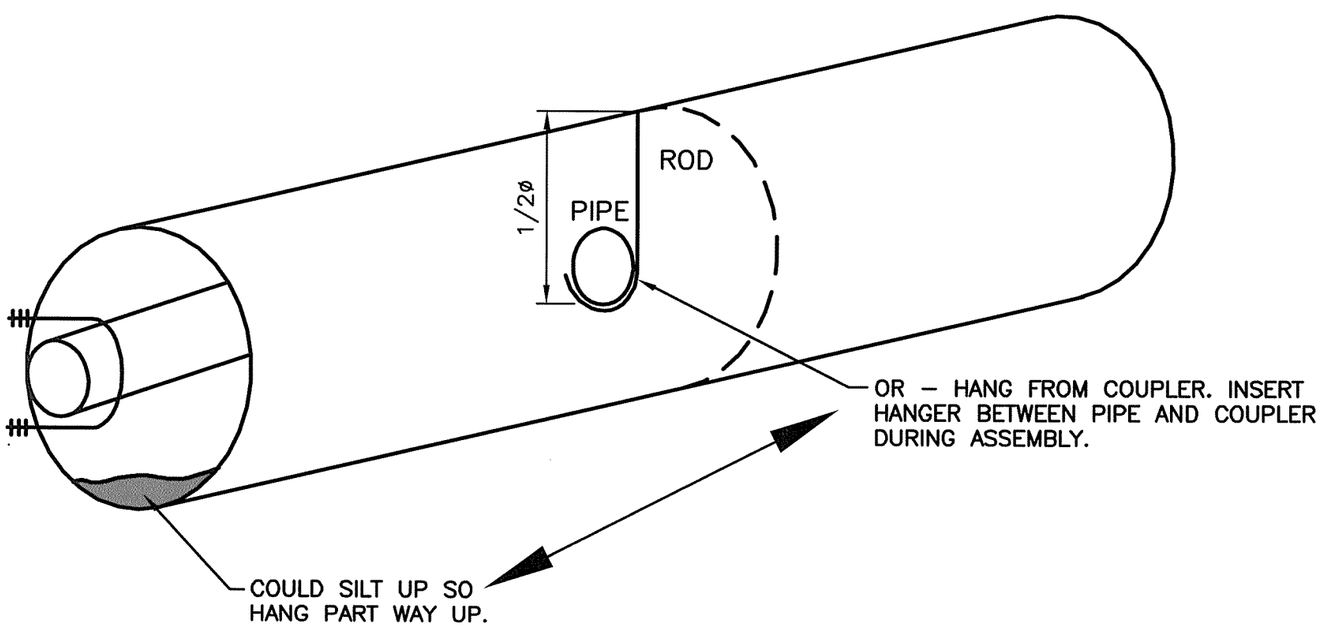
PWGSC Project Manager / Administrateur de Projets TPSGC		sheet / feuille: 22	

A – 8.5x11

S:\HWY FILES\2.CAPITAL PROJECTS\SPEC DWGS\22





project title / titre du projet	drawing title / titre du dessin
ALASKA HIGHWAY BRITISH COLUMBIA	**TYPICAL STEAM PIPE INSTALLATION**

Public Works and Government Services Canada / Travaux publics et Services gouvernementaux Canada

REAL PROPERTY SERVICES
Western Region

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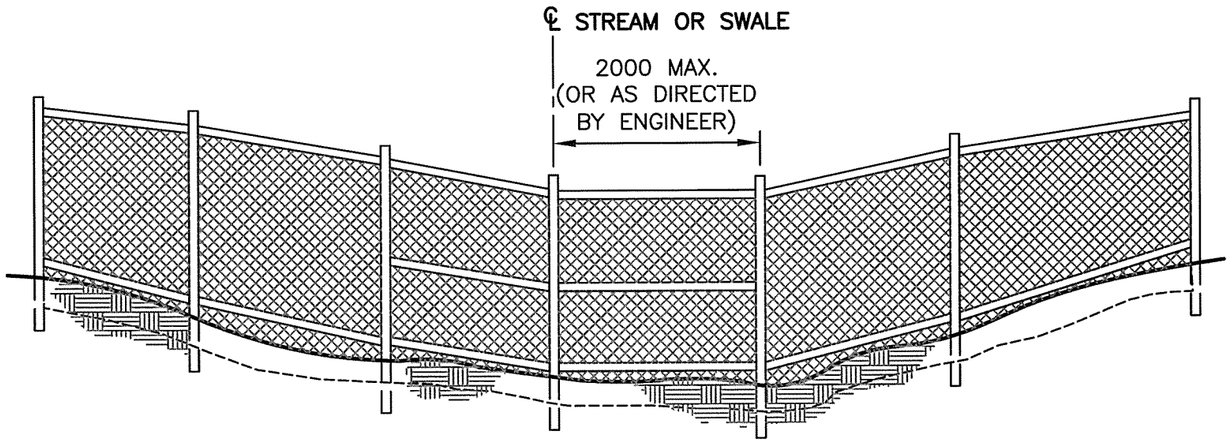
PWGSC Project Manager / Administrateur de Projets TPSGC		sheet / feuille	**22A**

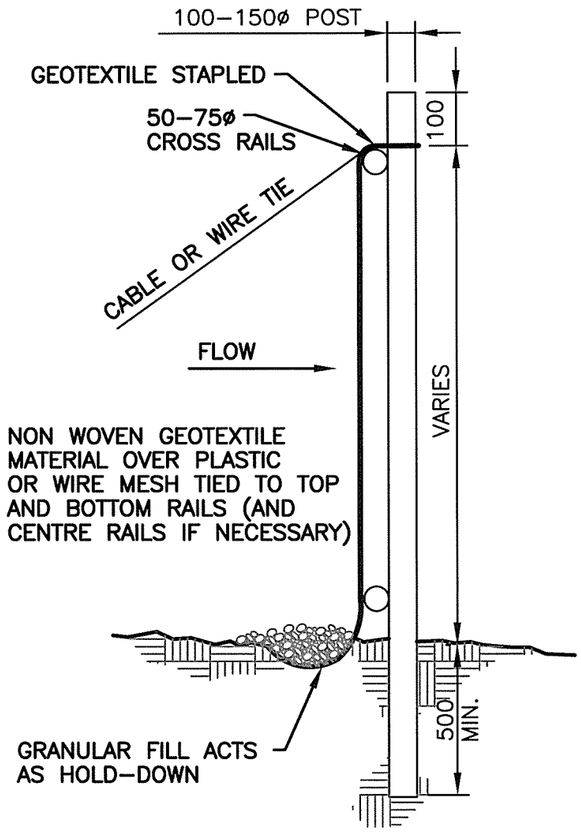
A – 8.5x11

S:\HWY FILES\2.CAPITAL PROJECTS\SPEC DWGS\DWG22A



TYPICAL INSTALLATION

N.T.S.



TYPICAL SECTION

N.T.S.

project title / titre du projet	drawing title / titre du dessin
ALASKA HIGHWAY **BRITISH COLUMBIA** **CONSTRUCTION DRAWING**	**SILT FENCES**

Public Works and Government Services Canada / Travaux publics et Services gouvernementaux Canada

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Western Region

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PWGSC Project Manager / Administrateur de Projets TPSGC		sheet / feuille: 23	

A – 8.5x11

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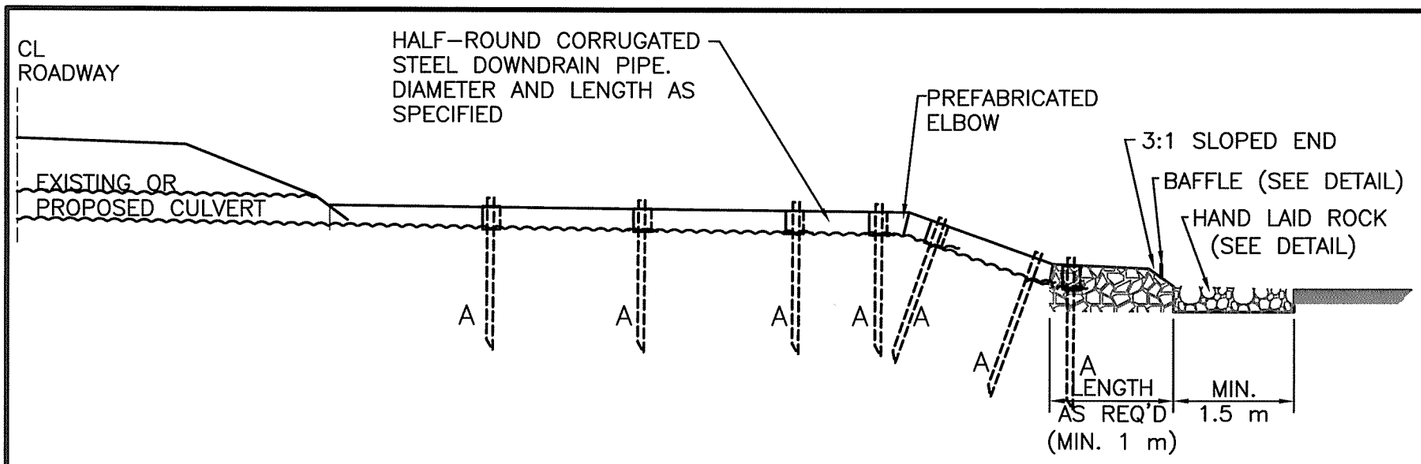
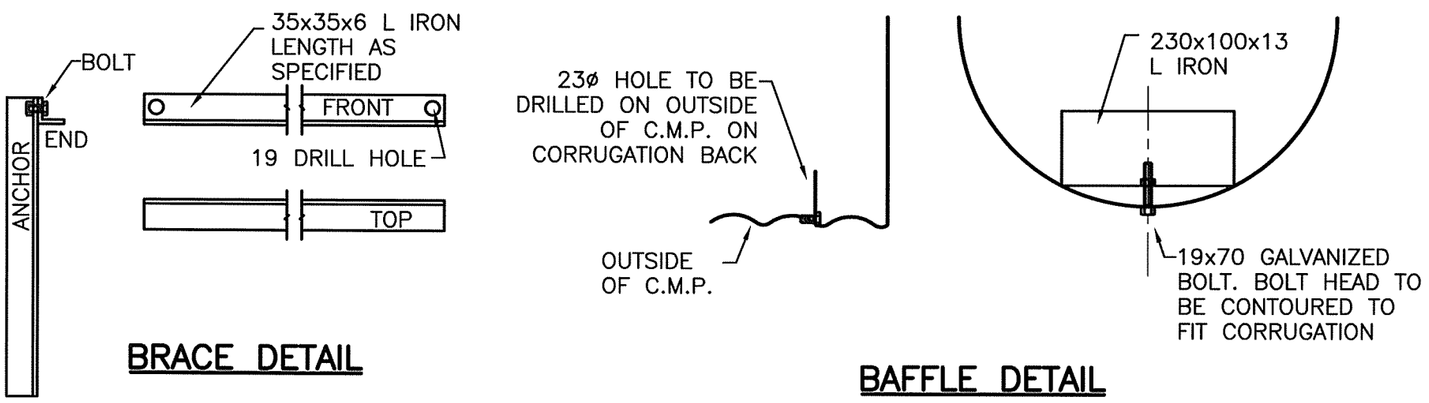
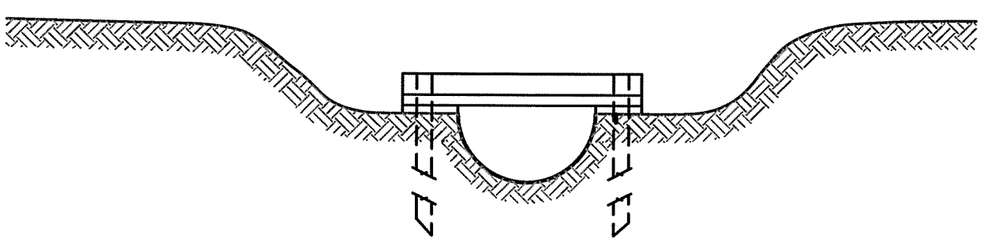




BRACE DETAIL

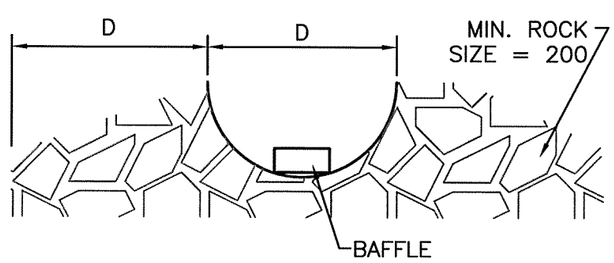
BAFFLE DETAIL



TYPICAL INSTALLATION

NOTES:

1. THE METAL ANCHORS (A) ARE 35x35x6 L IRON; MIN. LENGTH 1.5 m.
2. SPACING OF ANCHORS DEPEND ON SLOPE AND SOIL STABILITY.
3. MAXIMUM SPACING OF ANCHORS NOT TO EXCEED 6 m. ALL JOINTS TO BE ANCHORED.
4. ALL ANCHORS (A) TO BE DRILLED 19 FROM TOP END TO RECEIVE 16ø BOLT.
5. 40x16ø BOLT TO BE SUPPLIED WITH EACH ANCHOR.
6. ALL METAL COMPONENTS TO BE GALVANIZED OR COATED WITH ZINC PRIMER.
7. ALL DIMENSIONS IN MILLIMETRES UNLESS NOTED OTHERWISE.



RIP–RAP DETAIL
END VIEW

project title / titre du projet	drawing title / titre du dessin
ALASKA HIGHWAY **BRITISH COLUMBIA** **CONSTRUCTION DRAWING**	**DETAILS OF HALF-ROUND CORRUGATED STEEL PIPE DOWNSLOPE DRAIN**

Public Works and Government Services Canada / Travaux publics et Services gouvernementaux Canada

REAL PROPERTY SERVICES
Western Region

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ALTA TRANSPORTATION	A.A.	N.T.S.	JANUARY 2002
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PWGSC Project Manager / Administrateur de Projets TPSGC		sheet / feuille	23A

A – 8.5x11

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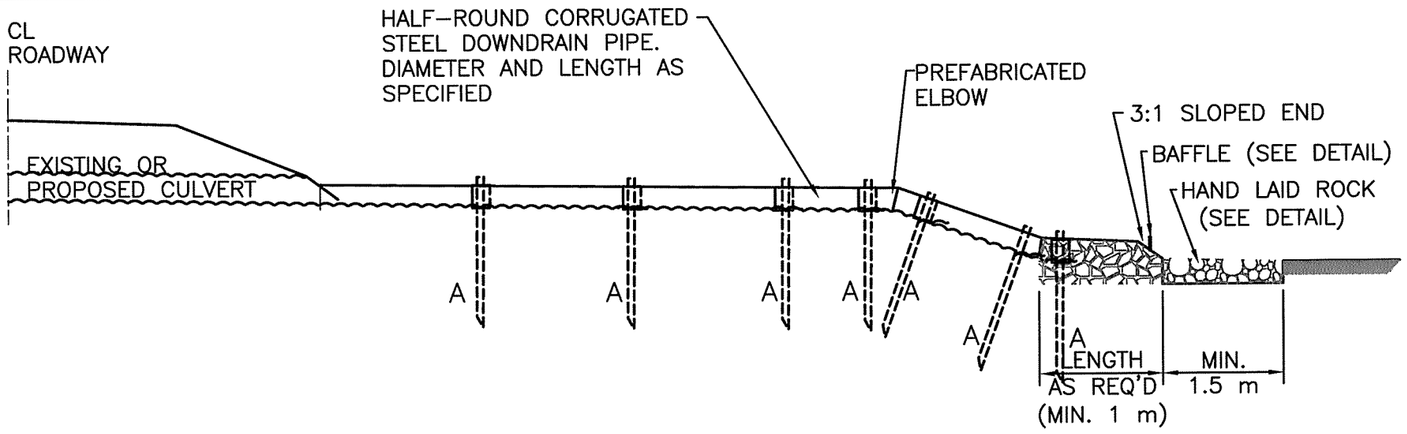

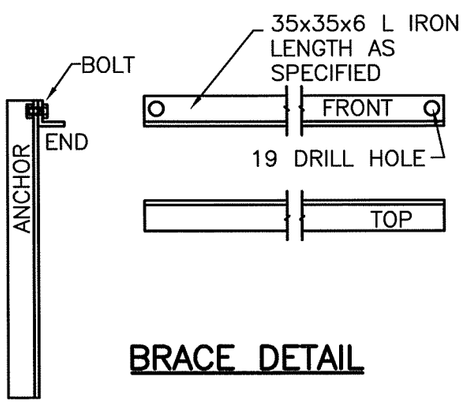

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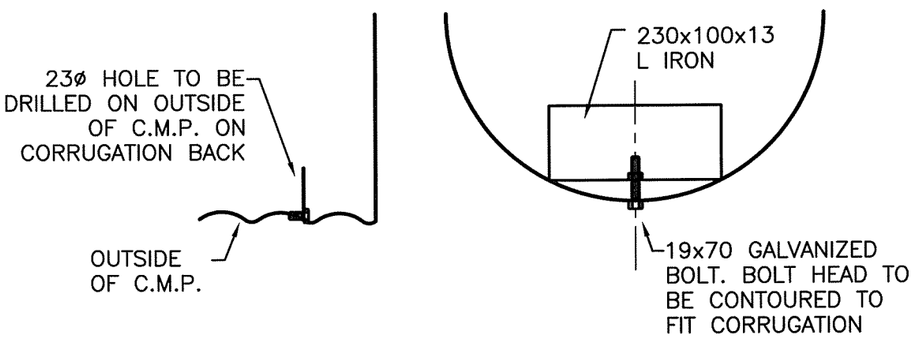
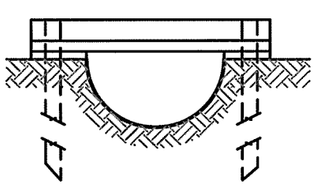


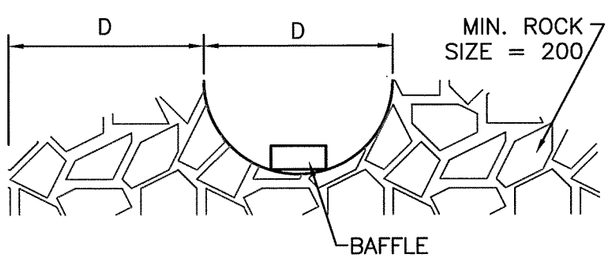
BAFFLE DETAIL



TYPICAL INSTALLATION

NOTES:

1. THE METAL ANCHORS (A) ARE 35x35x6 L IRON; MIN. LENGTH 1.5 m.
2. SPACING OF ANCHORS DEPEND ON SLOPE AND SOIL STABILITY.
3. MAXIMUM SPACING OF ANCHORS NOT TO EXCEED 6 m. ALL JOINTS TO BE ANCHORED.
4. ALL ANCHORS (A) TO BE DRILLED 19 FROM TOP END TO RECEIVE 16ø BOLT.
5. 40x16ø BOLT TO BE SUPPLIED WITH EACH ANCHOR.
6. ALL METAL COMPONENTS TO BE GALVANIZED OR COATED WITH ZINC PRIMER.
7. ALL DIMENSIONS IN MILLIMETRES UNLESS NOTED OTHERWISE.



RIP–RAP DETAIL
END VIEW

project title / titre du projet	drawing title / titre du dessin
ALASKA HIGHWAY **BRITISH COLUMBIA** **CONSTRUCTION DRAWING**	**DETAILS OF HALF-ROUND CORRUGATED STEEL PIPE DOWNSLOPE DRAIN**

Public Works and Government Services Canada / Travaux publics et Services gouvernementaux Canada

REAL PROPERTY SERVICES
Western Region

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ALTA. TRANSPORTATION	A.A.	N.T.S.	JANUARY 2002
approved by / approuve par		project no. / projet no.	
PWGSC Project Manager / Administrateur de Projets TPSGC		sheet / feuille	**24A**

A – 8.5x11

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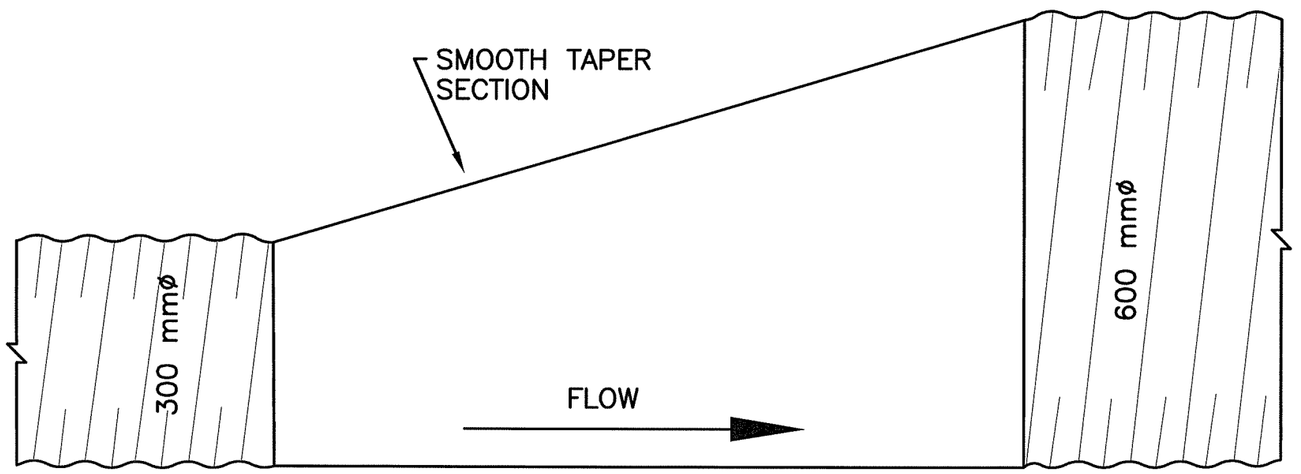
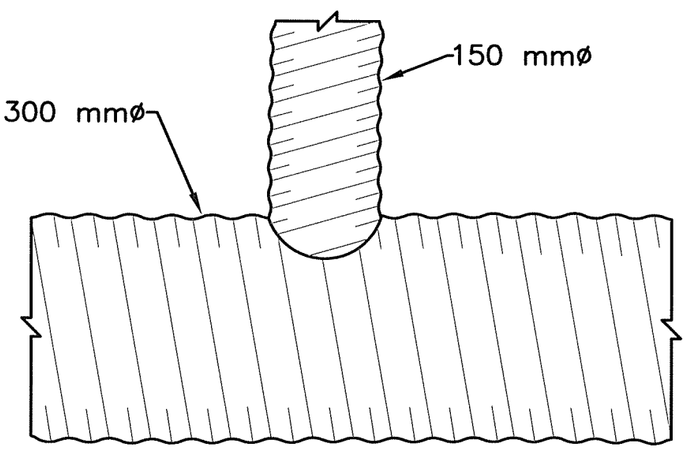


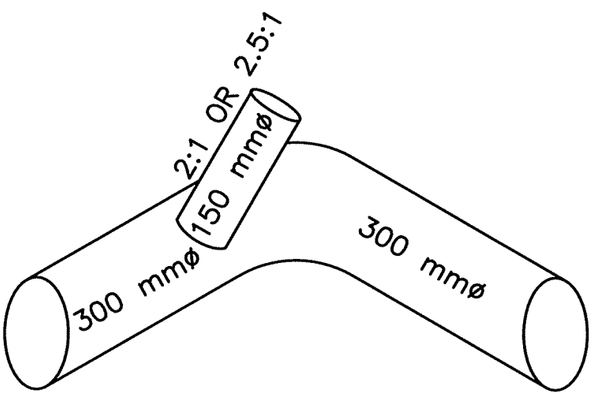
600 mmø TO 300 mmø REDUCER

N.T.S.



300 x 150 mmø TEE SECTION

N.T.S.



FABRICATED ELBOW SECTION

N.T.S.

project title / titre du projet	drawing title / titre du dessin
ALASKA HIGHWAY **SUB-DRAIN INSTALLATION &** **WASTE EXCAVATION - km 610** **BRITISH COLUMBIA**	**CULVERT DETAILS**

Public Works and Government Services Canada / Travaux publics et Services gouvernementaux Canada

REAL PROPERTY SERVICES
Western Region

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AHG	a.a.	N.T.S.	AUGUST 2003
approved by / approuve par		project no. / projet no.	
		852351	
PWGSC Project Manager / Administrateur de Projets TPSGC		sheet / feuille	
		25	

A – 8.5x11

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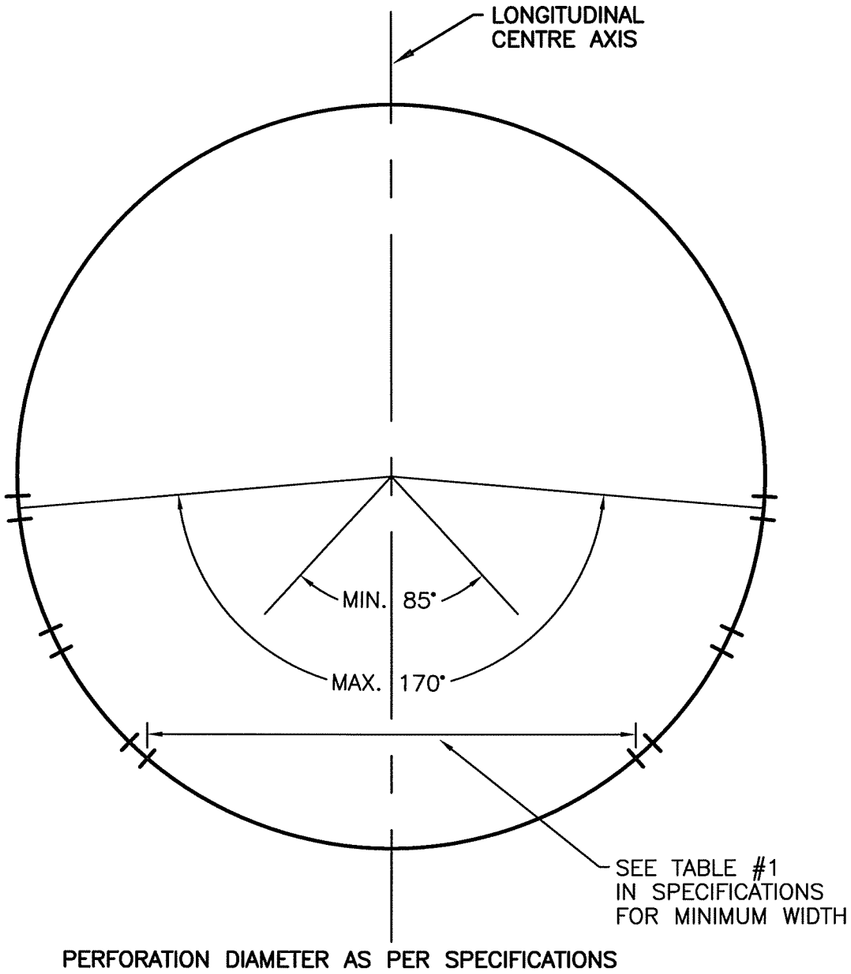

PERFORATION DIAMETER AS PER SPECIFICATIONS

INVERT PERFORATION DETAIL

project title / titre du projet	drawing title / titre du dessin
ALASKA HIGHWAY **BRITISH COLUMBIA** **CONSTRUCTION DRAWING**	**TYPICAL INVERT PERFORATING DETAIL**

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REAL PROPERTY SERVICES
Western Region

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PWGSC Project Manager / Administrateur de Projets TPSGC		sheet / feuille: 26	

A – 8.5x11

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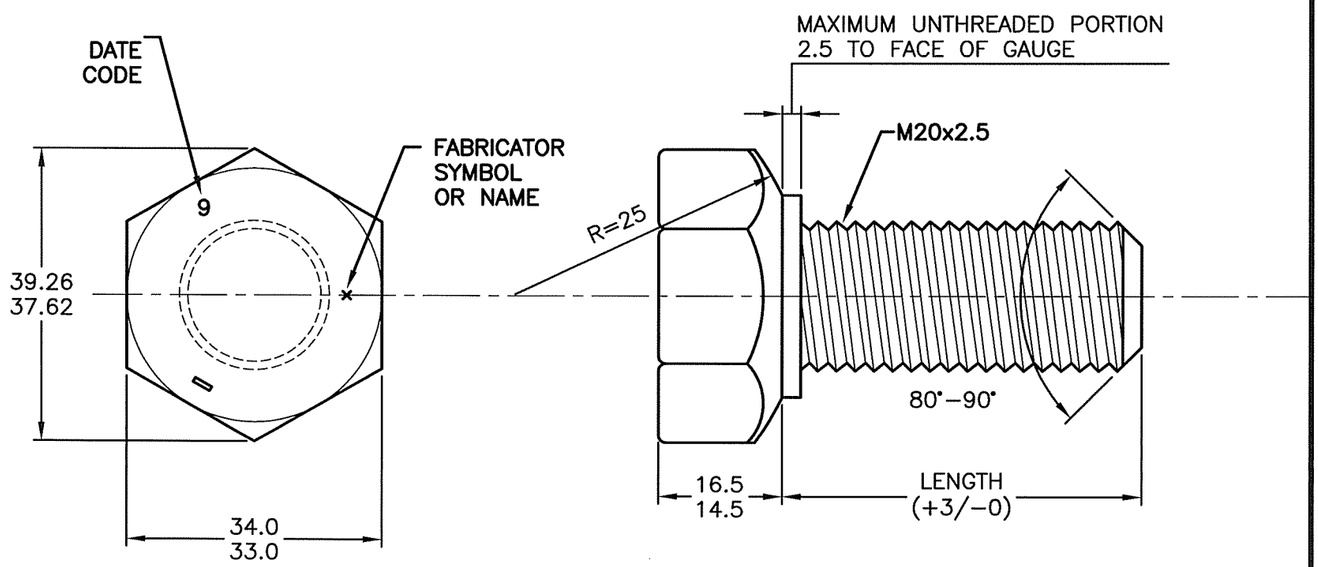
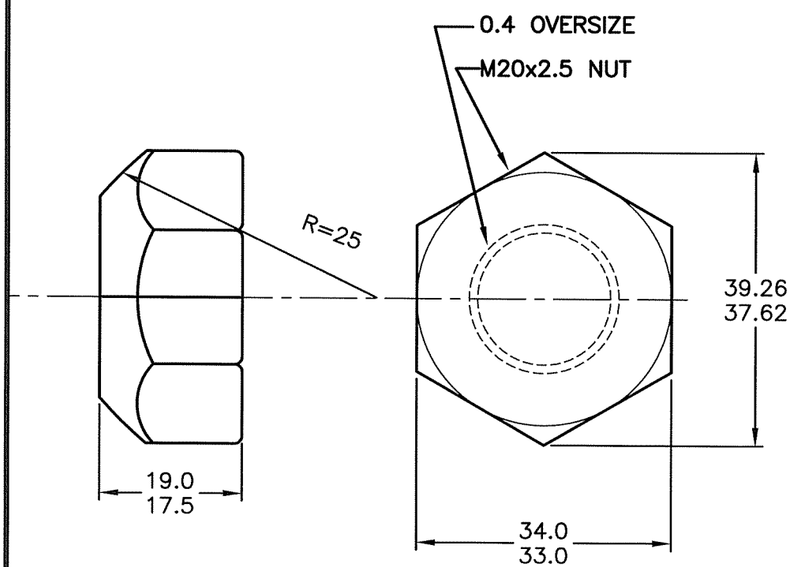


FIGURE 1
SPCSP BOLTS
N.T.S.



DATE CODE	DATE
NONE	PREVIOUS TO 1980
8	1980 – 1990
9	1990 – 2000
0	AFTER 2000

FIGURE 2
SPCSP NUTS
N.T.S.

project title / titre du projet	drawing title / titre du dessin
ALASKA HIGHWAY BRITISH COLUMBIA	SPCSP BOLTS AND NUTS

Public Works and Government Services Canada / Travaux publics et Services gouvernementaux Canada

REAL PROPERTY SERVICES
Western Region

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		AS NOTED	NOVEMBER 2003
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PWGSC Project Manager / Administrateur de Projets TPSGC		sheet / feuille	27

A – 8.5x11

S:\HWY FILES\2.CAPITAL PROJECTS\SPEC DWGS\DWG27-28

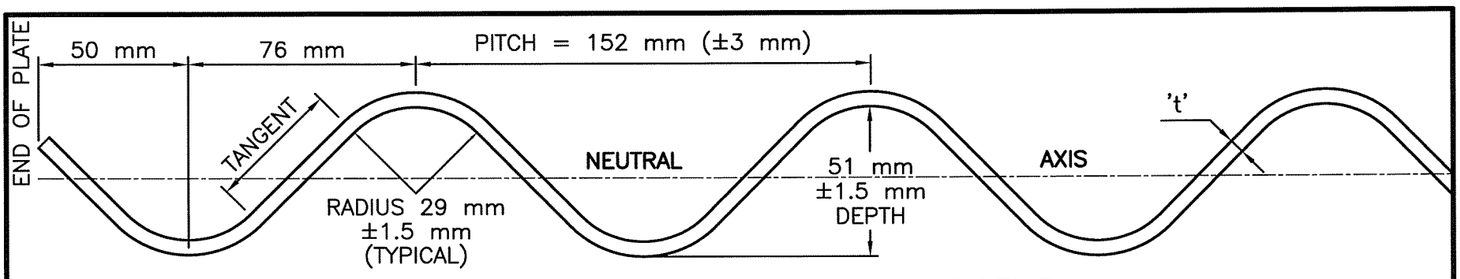

FIGURE 3:SPCSP CORRUGATION PROFILE

N.T.S.

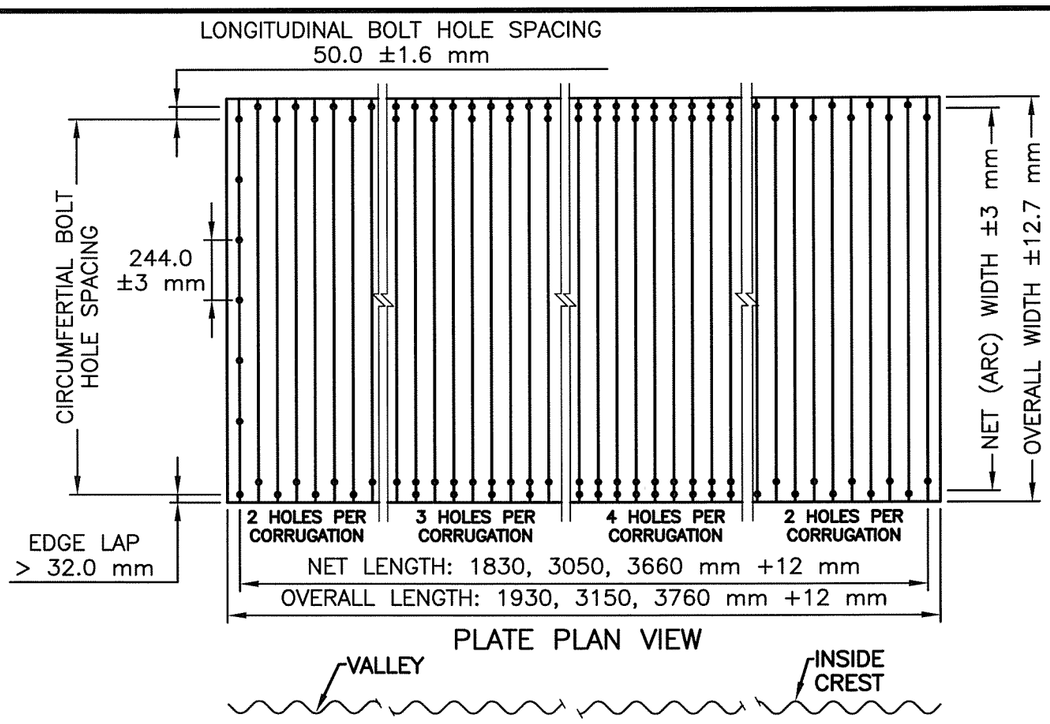

FIGURE 4: STANDARD SPCSP PLATE CONFIGURATION AND DIMENSIONS (AFTER CORRUGATION AND BEFORE CURVING)

N.T.S.

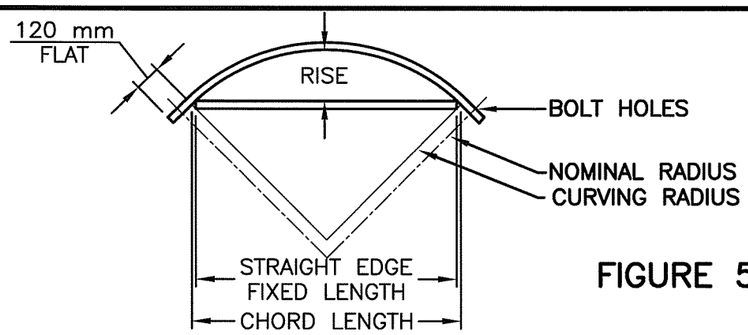

FIGURE 5: SPCSP PLATE CURVATURE

N.T.S.

project title / titre du projet	drawing title / titre du dessin
ALASKA HIGHWAY **BRITISH COLUMBIA**	**STANDARD SPCSP PLATE CONFIGURATION AND CORRUGATION DETAILS**

Public Works and Government Services Canada / Travaux publics et Services gouvernementaux Canada

REAL PROPERTY SERVICES
Western Region

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		AS NOTED	NOVEMBER 2003
approved by / approuve par		project no. / projet no.	
PWGSC Project Manager / Administrateur de Projets TPSGC		sheet / feuille	28

A – 8.5x11

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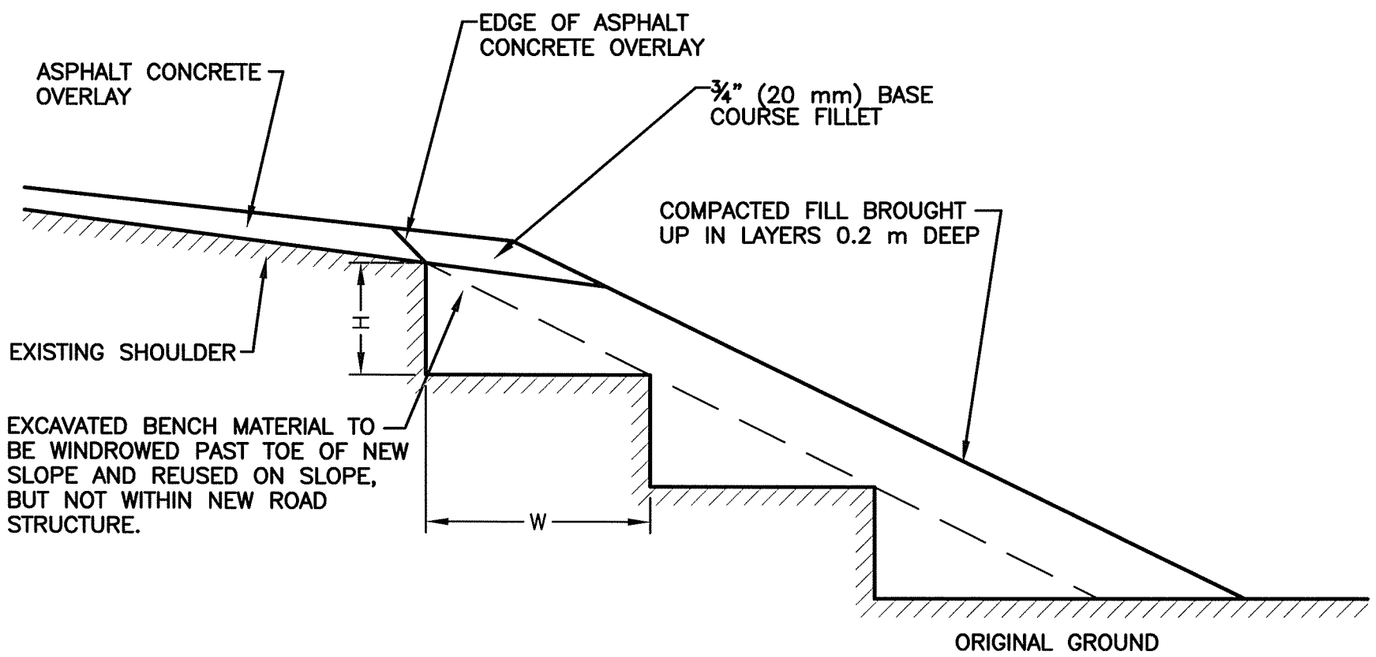

NOTES:

A. BENCHES ARE TO BE EXCAVATED ONE LEVEL AT A TIME AND THE COMPACTED FILL BROUGHT UP BEFORE THE NEXT BENCH IS EXCAVATED.

B. BENCHING IS NOT REQUIRED ON SLOPES THAT ARE FLATTER THAN 3:1. ONLY STRIPPING OF EXISTING SLOPE IS REQUIRED.

project title / titre du projet	drawing title / titre du dessin
ALASKA HIGHWAY **BRITISH COLUMBIA** **CONSTRUCTION DRAWING**	**SHOULDER WIDENING**

Public Works and Government Services Canada / Travaux publics et Services gouvernementaux Canada

REAL PROPERTY SERVICES
Western Region

designed by / concu par	drawn by / dessine par	scale / echelle	date / date
AHG	AHG	N.T.S.	MAY 2005
approved by / approuve par: AHG		project no. / projet no.	
PWGSC Project Manager / Administrateur de Projets TPSGC		sheet / feuille: 29	

A – 8.5x11