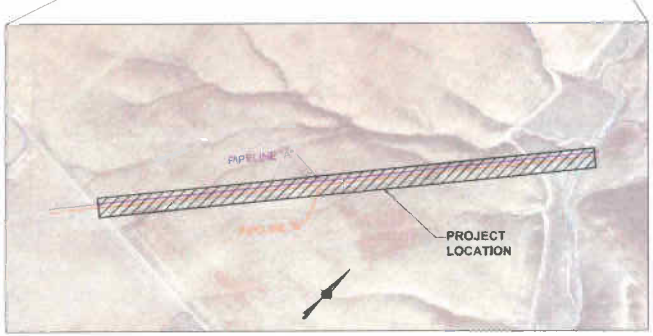
Exhibit B

TRANSCANADA
WALLULA PIPELINE
SINKHOLE REMEDIATION DESIGN
CITY OF PRESCOTT
WALLA WALLA COUNTY WASHINGTON
DECEMBER, 2010

STATE OF WASHINGTON
NOT TO SCALE



LOCATION MAP
NOT TO SCALE

SHEET INDEX

FINAL
ISSUED FOR CONSTRUCTION

TRANSCANADA
DRAWING REVIEW
☐ ACCEPTED FOR USE
☐ NOT ACCEPTED, RESUBMIT WITH CHANGES NOTED

This review does not constitute engineering approval of design or components supplied by the third party and does not relieve the third party of responsibility for incomplete or incorrect information.

APPROVAL _____
EMPLOYEE NO. _____
DATE: _____

REFERENCE DRAWINGS

DRAWING No	TITLE

REVISION

REV No	DATE	DESCRIPTION	PROJECT ENGR	DRAFTER	DRAFTING CHECKER	DESIGNER	DESIGN CHECKER	PROJECT APPROVAL	COMPANY
A	11/24/2010	PRELIMINARY DESIGN		SES	NED	AQK	AR	AQK	GOLDER
B	12/09/2010	REVISIONS		ACF	NED	AQK	AR	AQK	GOLDER
0	12/10/2010	ISSUED FOR REVIEW		ACF	NED	AQK	AR	AQK	GOLDER
1	12/14/2010	CLIENT EDITS / ISSUED FOR CONSTRUCTION		ACF	NED	AQK	AR	AQK	GOLDER

PROFESSIONAL ENGINEER/RPT _____ PERMIT/ ENG. APPROVAL _____ DATE

REV. NO. | DATE | PERMIT NUMBER

CADD DRAWING. DO NOT MAKE MANUAL REVISIONS

TransCanada | Golder Associates

File # 1239 | CHANNEL | DISCIPLINE # 03

WALLULA PIPELINE
SINKHOLE REMEDIATION DESIGN
COVER

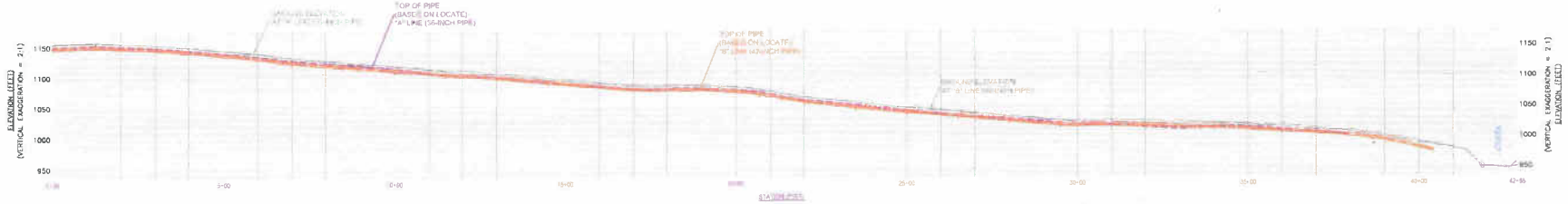
SCALE AS NOTED | DRAWING No 1239-03-ML-04-001 | REV 1

LEGEND:

EXISTING WETLAND DRAINAGE PATHWAYS

1 / 001 SITE PLAN

SCALE IN FEET



2 / . SITE PROFILE

SCALE IN FEET

FINAL
ISSUED FOR CONSTRUCTION

REFERENCE DRAWINGS

DRAWING No	TITLE

REVISION

REV No	DATE	DESCRIPTION
A	11/14/2010	PRELIMINARY DESIGN
B	12/09/2010	REVISIONS
0	12/10/2010	ISSUED FOR REVIEW
1	12/14/2010	CLIENT EDITS / ISSUED FOR CONSTRUCTION

APPROVAL

PROJECT CODE	DRAFTER	DRAWING CHECKED	DESIGNER	DESIGN CHECKED	PROJECT MANAGER	COMPANY
	SES	NED	AQK	AR	AQK	GOLDER
	ACF	NED	AQK	AR	AQK	GOLDER
	ACF	NED	AQK	AR	AQK	GOLDER
	ACF	NED	AQK	AR	AQK	GOLDER

PROFESSIONAL ENGINEER/RPT | PERMIT/ ENG. APPROVAL

DATE

REV. NO. | DATE | PERMIT NUMBER

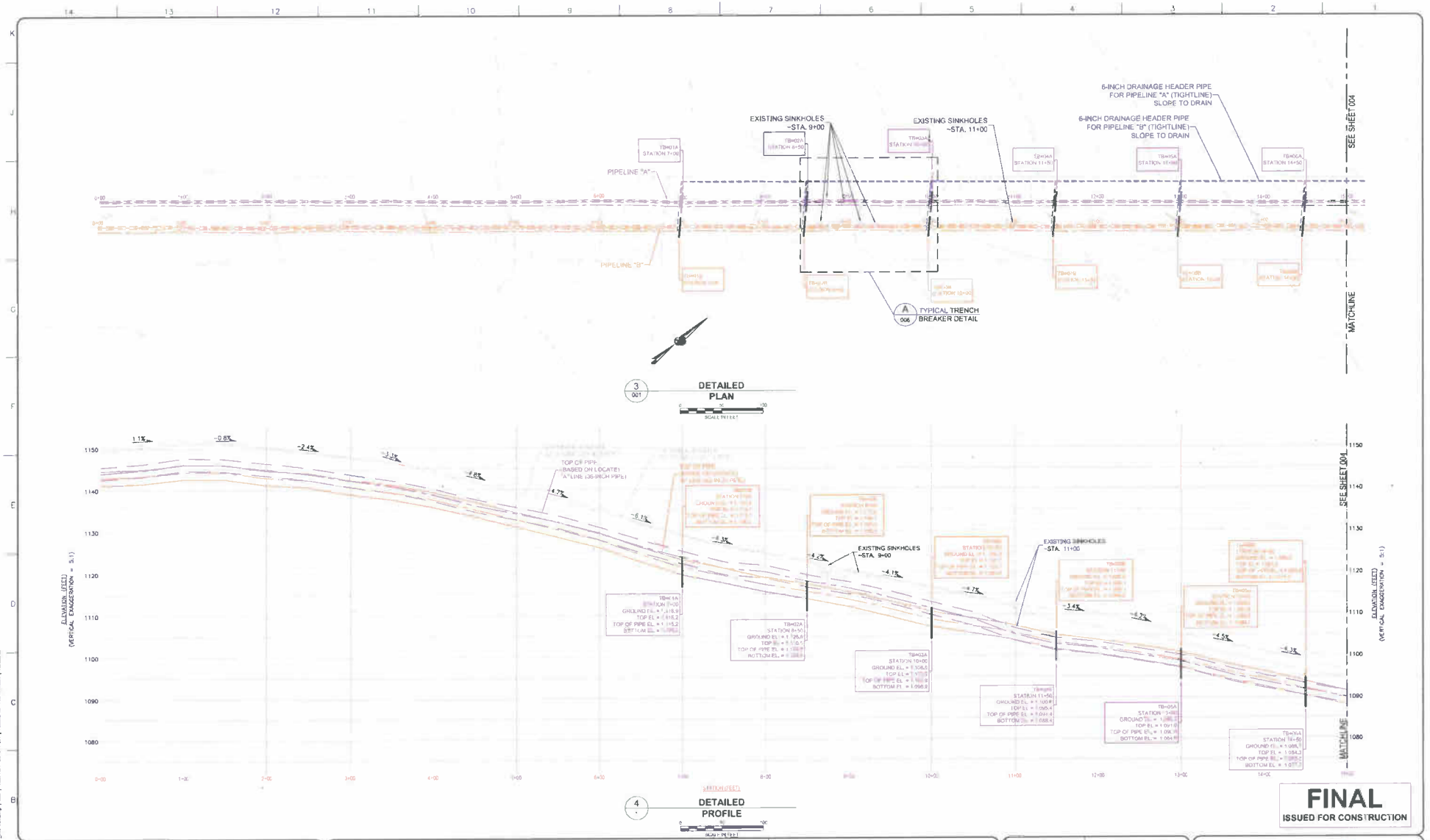
CADD DRAWING: DO NOT MAKE MANUAL REVISIONS

TransCanada | Golder Associates

FIA # 1239 | CHAINAGE | DISCIPLINE # 03

WALLULA PIPELINE
SINKHOLE REMEDIATION DESIGN
SITE PLAN AND PROFILE

SCALE 1"=200' | DRAWING No. 1239-03-ML-04-002 | REV 1



REFERENCE DRAWINGS

DRAWING No	TITLE

REVISION

REV No	DATE	DESCRIPTION	PROJECT LEAD	DRAFTER	DRAFTING CHECKER	DESIGNER	DESIGN CHECKER	PROJECT MANAGER	COMPANY
A	11/24/2010	PRELIMINARY DESIGN		SCS	NED	AQK	AR	AQK	GOLDER
B	12/09/2010	REVISIONS		ACF	NED	AQK	AR	AQK	GOLDER
0	12/10/2010	ISSUED FOR REVIEW		ACF	NED	AQK	AR	AQK	GOLDER
1	12/14/2010	CLIENT EDITS ISSUED FOR CONSTRUCTION		ACF	NED	AQK	AR	AQK	GOLDER

PROFESSIONAL ENGINEER/EPT | PERMIT/ ENG. APPROVAL | DATE

REV. NO. | DATE | PERMIT NUMBER

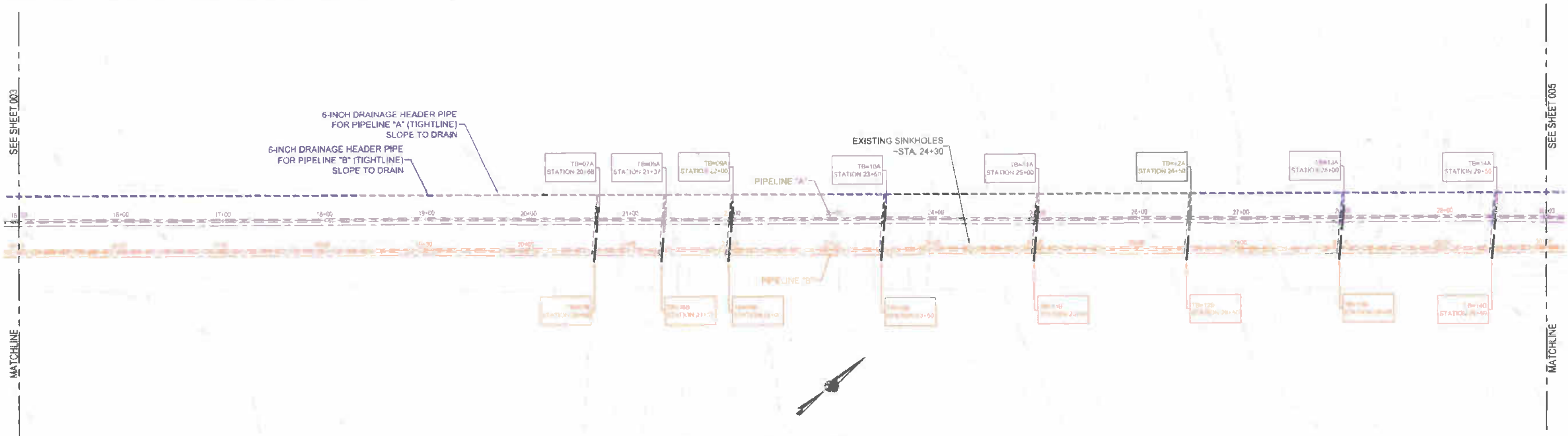
CADD DRAWING: DO NOT MAKE MANUAL REVISIONS

TransCanada | Golder Associates

FIA # 1239 | CHAINAGE | DISCIPLINE # 03

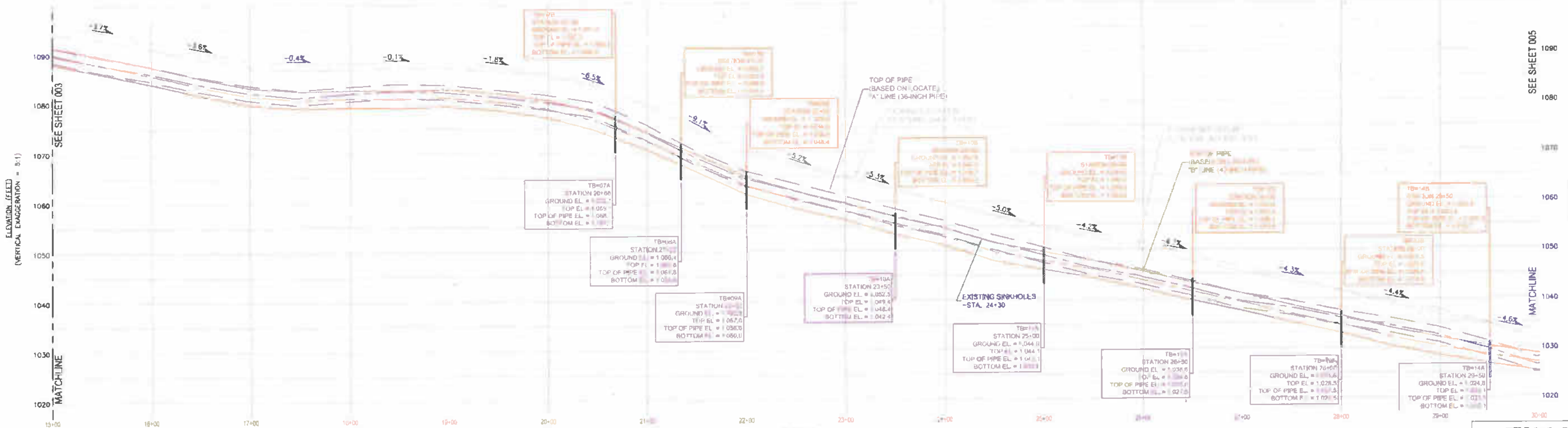
WALLULA PIPELINE
SINKHOLE REMEDIATION DESIGN
DETAILED PLAN & PROFILE

SCALE 1"=50' | DRAWING NO 1239-03-ML-04-003 | REV 1



5 001 **EXISTING DRY CREEK PLAN**

SCALE IN FEET



6 - **EXISTING DRY CREEK PROFILE**

SCALE IN FEET

FINAL

ISSUED FOR CONSTRUCTION

REFERENCE DRAWINGS

DRAWING No	TITLE

REVISION

REV No	DATE	DESCRIPTION	PROJECT CODE	DRAFTER	DRAFTING CHECKER	DESIGNER	DESIGN CHECKER	PROJECT MANAGER	COMPANY
A	11/24/2010	PRELIMINARY DESIGN		SES	NED	AQK	AR	AQK	GOLDER
B	12/08/2010	REVISIONS		ACF	NED	AQK	AR	AQK	GOLDER
0	12/10/2010	ISSUED FOR REVIEW		ACF	NED	AQK	AR	AQK	GOLDER
1	12/14/2010	CLIENT EDITS / ISSUED FOR CONSTRUCTION		ACF	NED	AQK	AR	AQK	GOLDER

PROFESSIONAL ENGINEER/APP | PERMIT/ ENG. APPROVAL | DATE

REV. NO | DATE | PERMIT NUMBER

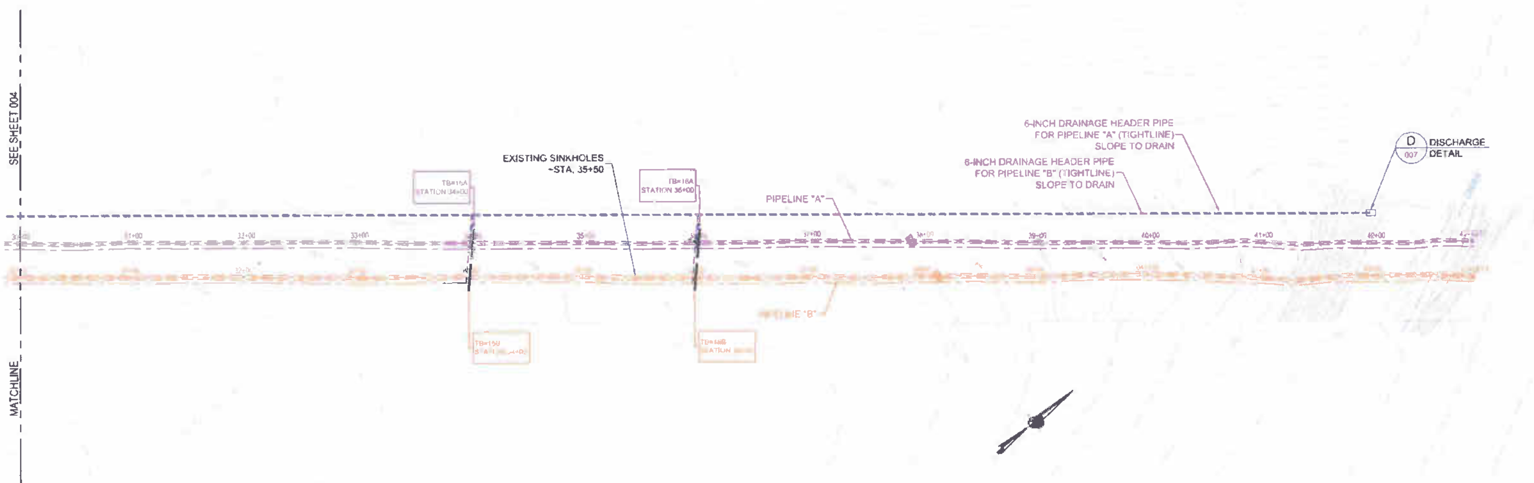
CADD DRAWING DO NOT MAKE MANUAL REVISIONS

TransCanada | Golder Associates

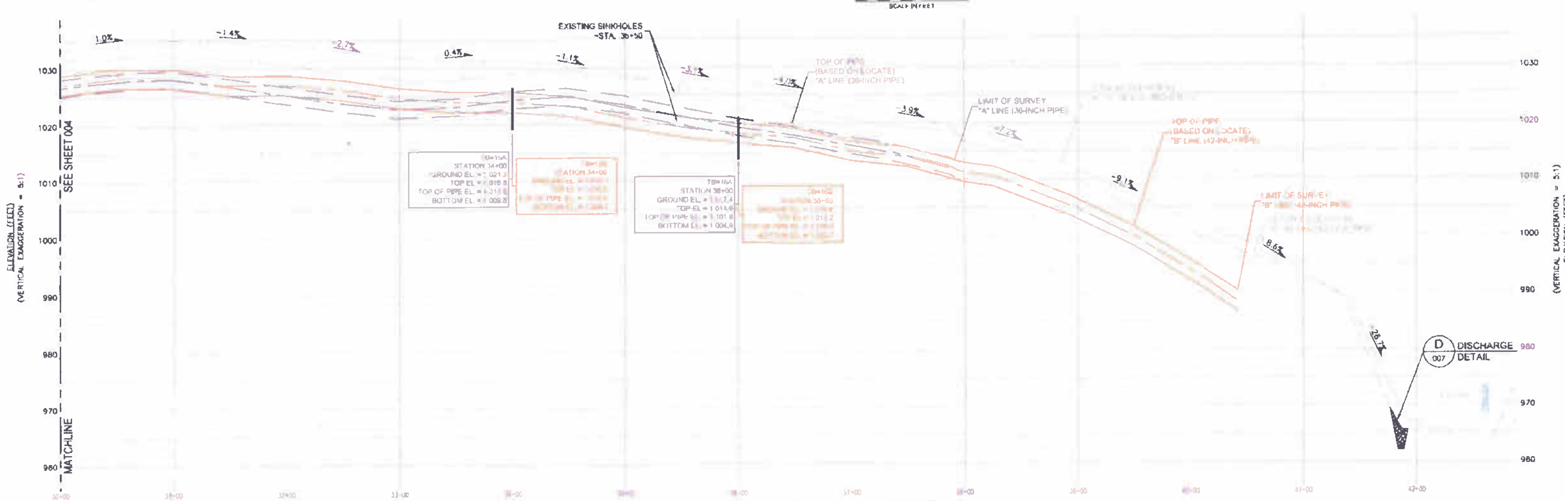
FA # 1239 | CHARGE: | DISCIPLINE # 03

WALLULA PIPELINE
SINKHOLE REMEDIATION DESIGN
DETAILED PLAN & PROFILE

SCALE 1"=30' | DRAWING No 1239-03-ML-04-004 | REV 1



7
001
EXISTING DRY CREEK
PLAN



8
EXISTING DRY CREEK
PROFILE

FINAL
ISSUED FOR CONSTRUCTION

REFERENCE DRAWINGS

DRAWING No.	TITLE

REVISION

REV No.	DATE	DESCRIPTION	PROJECT CODE	DRAFTER	DRAFTING CHECKER	DESIGNER	DESIGN CHECKER	PROJECT MANAGER	COMPANY
A	11/24/2010	PRELIMINARY DESIGN		SES	NED	AQK	AR	AQK	GOLDER
B	12/09/2010	REVISIONS		ACF	NED	AQK	AR	AQK	GOLDER
0	12/10/2010	ISSUED FOR REVIEW		ACF	NED	AQK	AR	AQK	GOLDER
1	12/14/2010	CLIENT EDITS / ISSUED FOR CONSTRUCTION		ACF	NED	AQK	AR	AQK	GOLDER

PROFESSIONAL ENGINEER/BPT — PERMIT/ ENG. APPROVAL — DATE

REV. NO. — DATE — PERMIT NUMBER

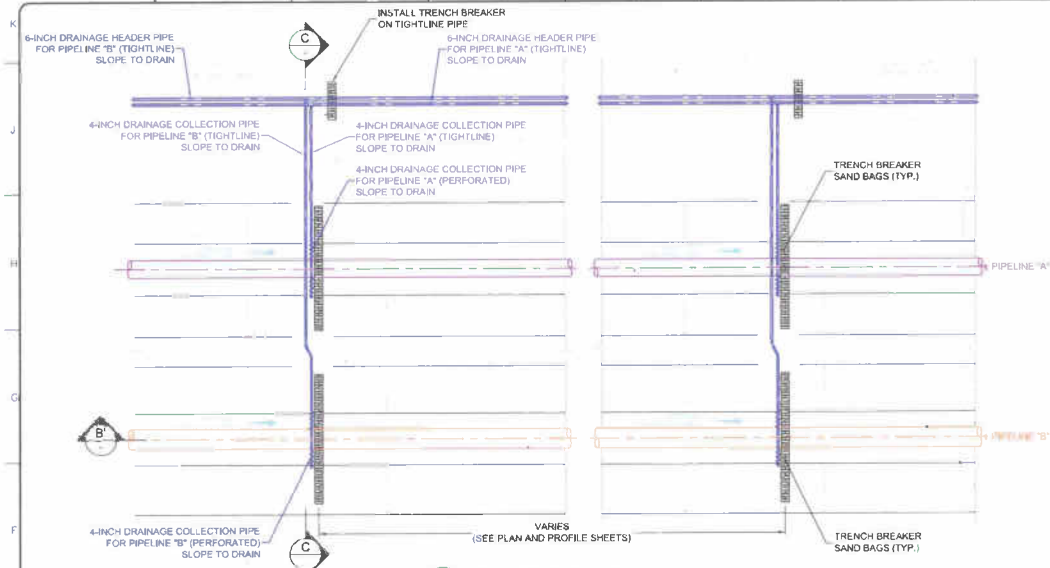
CADD DRAWING. DO NOT MAKE MANUAL REVISIONS

TransCanada — Golder Associates

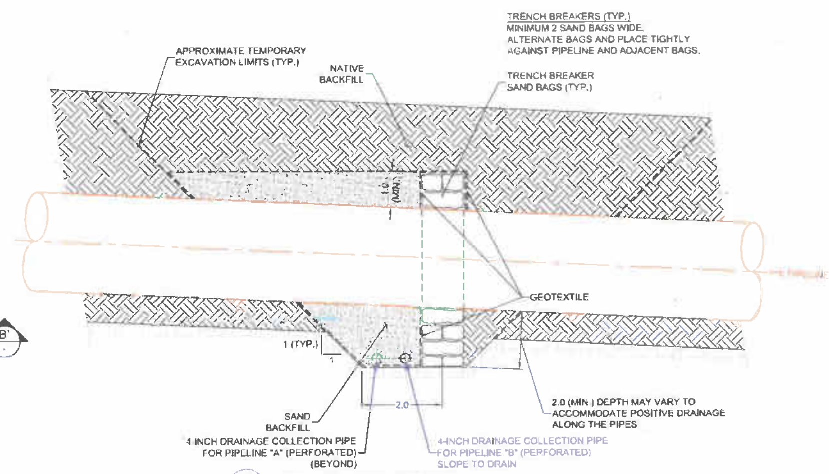
FW # 1239 — CHAINAGE — DISCIPLINE # 03

WALLULA PIPELINE
SINKHOLE REMEDIATION DESIGN
DETAILED PLAN & PROFILE

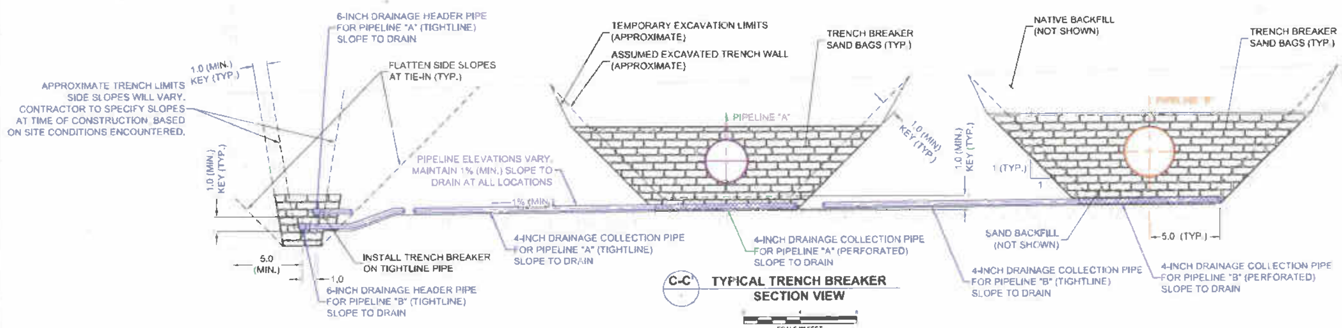
SCALE 1"=50' — DRAWING No. 1239-03-ML-04-005 — REV 1



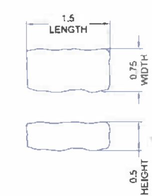
A 003 **TYPICAL TRENCH BREAKER PLAN VIEW**



B-B' **TYPICAL TRENCH BREAKER PROFILE VIEW**



C-C' **TYPICAL TRENCH BREAKER SECTION VIEW**



G **TYPICAL SAND BAG DETAIL**

FINAL
ISSUED FOR CONSTRUCTION

NOTES:
1. FINAL LOCATIONS AND LAYOUT TO BE DETERMINED AT THE TIME OF CONSTRUCTION, BASED ON SITE CONDITIONS ENCOUNTERED IN THE FIELD, AND AS DIRECTED BY THE ENGINEER.
2. THIS DRAWING WAS ORIGINALLY PRODUCED IN COLOR. REPRODUCTION IN BLACK AND WHITE MAY RESULT IN A LOSS OF INFORMATION.

REFERENCE DRAWINGS

DRAWING No	TITLE

REV No	DATE	DESCRIPTION	DRAFTER	DESIGNER	PROJECT MANAGER	COMPANY
A	11/24/2010	PRELIMINARY DESIGN	SES	NED	AQK	AR	AQK	GOLDER
B	12/09/2010	REVISIONS	ACF	NED	AQK	AR	AQK	GOLDER
0	12/10/2010	ISSUED FOR REVIEW	ACF	NED	AQK	AR	AQK	GOLDER
1	12/14/2010	CLIENT EDITS / ISSUED FOR CONSTRUCTION	ACF	NED	AQK	AR	AQK	GOLDER

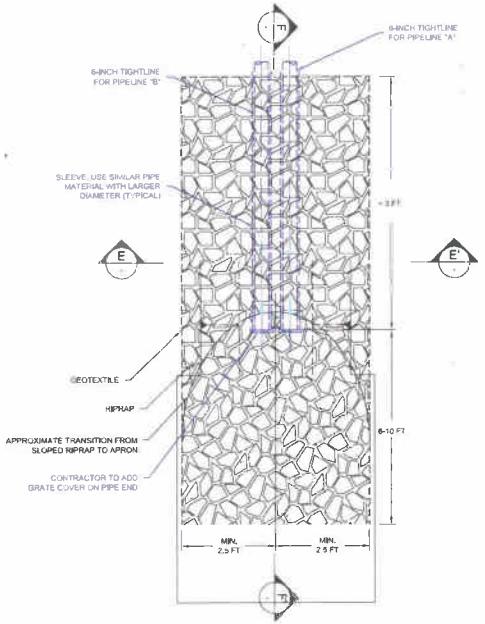
CADD DRAWING DO NOT MAKE MANUAL REVISIONS

TransCanada
Golder Associates

FA # 1239
DISCIPLINE # 03

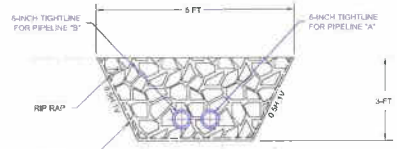
WALLULA PIPELINE
SINKHOLE REMEDIATION DESIGN
TRENCH BREAKER DETAILS

SCALE AS NOTED
DRAWING No 1239-03-ML-04-006
REV 1



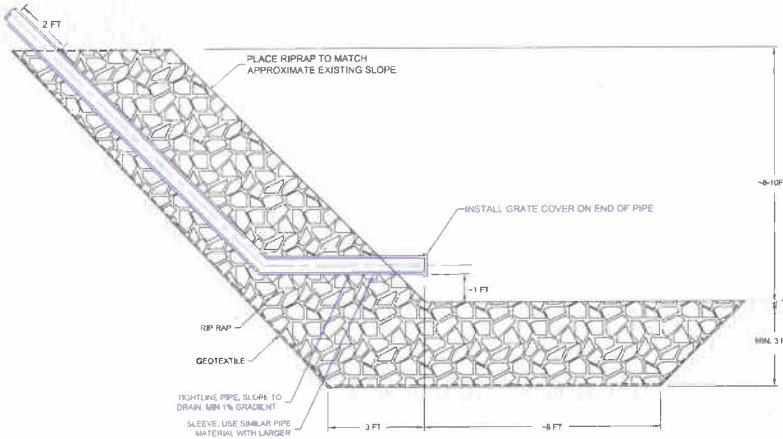
D 005 **TYPICAL DISCHARGE PLAN**

SCALE IN FEET



E-E' **TYPICAL DISCHARGE SECTION**

SCALE IN FEET



F-F' **TYPICAL DISCHARGE PROFILE**

SCALE IN FEET

FINAL
ISSUED FOR CONSTRUCTION

NOTES:
1. FINAL LOCATIONS AND LAYOUT TO BE DETERMINED AT THE TIME OF CONSTRUCTION, BASED ON CONDITIONS ENCOUNTERED IN THE FIELD, AND AS DIRECTED BY THE ENGINEER.
2. THIS DRAWING WAS ORIGINALLY PRODUCED IN COLOR. REPRODUCTION IN BLACK AND WHITE MAY RESULT IN A LOSS OF INFORMATION.

REFERENCE DRAWINGS

DRAWING No	TITLE

REVISION

REV No	DATE	DESCRIPTION
A	11/24/2010	PRELIMINARY DESIGN
B	12/09/2010	REVISIONS
0	12/10/2010	ISSUED FOR REVIEW
1	12/14/2010	CLIENT EDITS / ISSUED FOR CONSTRUCTION

APPROVAL

PROJECT CODE	DRAFTER	DRAFTING CHECKED	DESIGNER	DESIGN CHECKED	PROJECT MANAGER	COMPANY
	SES	NED	AQK	AR	AQK	GOLDER
	ACF	NED	AQK	AR	AQK	GOLDER
	ACF	NED	AQK	AR	AQK	GOLDER
	ACF	NED	AQK	AR	AQK	GOLDER

PROFESSIONAL ENGINEER/SEAL | PERMIT/ ENG. APPROVAL | DATE

REV. NO. | DATE | PERMIT NUMBER

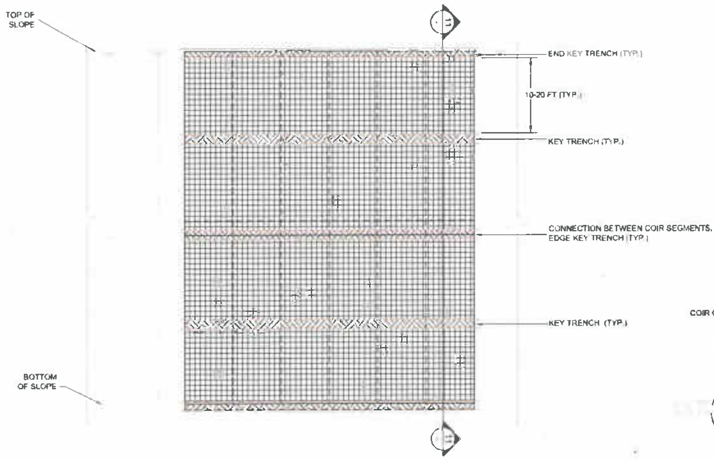
CADD DRAWING. DO NOT MAKE MANUAL REVISIONS.

TransCanada | Golder Associates

FILE # 1239 | DRAWING | DISCIPLINE # 03

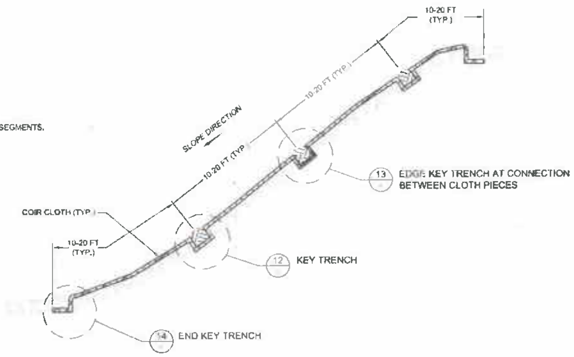
WALLULA PIPELINE
SINKHOLE REMEDIATION DESIGN
DRAINAGE DETAILS

SCALE AS NOTED | DRAWING No. 1239-03-MI-04 007 | REV 1



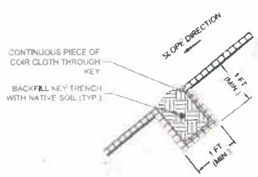
10 TYPICAL COIR EROSION CONTROL MAT/COIR CLOTH PLAN

NOT TO SCALE



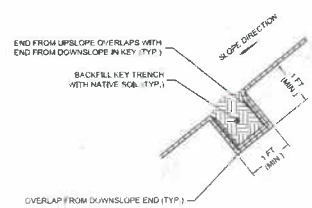
11 TYPICAL SECTION

NOT TO SCALE



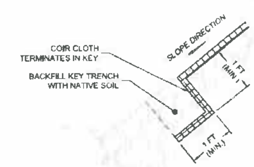
12 TYPICAL KEY TRENCH DETAIL

NOT TO SCALE



13 TYPICAL EDGE KEY TRENCH DETAIL

NOT TO SCALE



14 TYPICAL END KEY TRENCH DETAIL

NOT TO SCALE

FINAL
ISSUED FOR CONSTRUCTION

EROSION PROTECTION NOTES:

1. FINAL LOCATIONS AND LAYOUT TO BE DETERMINED AT THE TIME OF CONSTRUCTION BASED ON CONDITIONS ENCOUNTERED IN THE FIELD AND AS DIRECTED BY THE ENGINEER
2. INSTALL COIR CLOTH IN ACCORDANCE WITH MANUFACTURES INSTRUCTIONS.
3. PREPARE SOIL BEFORE INSTALLING COIR CLOTH, INCLUDING GRADING REMOVAL OF LARGE ROCKS AND DEBRIS, AND THE APPLICATION OF SEED AND FERTILIZER IF NOT USING PRE-SEEDED COIR CLOTH.
4. EROSION CONTROL COIR CLOTH SHALL EXTEND COMPLETELY ACROSS DISTURBED SLOPE AREAS TO PROTECT ERODIBLE SURFACES
5. BEGIN AT THE TOP OF THE SLOPED BY ANCHORING IN KEY TRENCH. BACKFILL AND COMPACT THE TRENCH, WITH NATIVE SOIL
6. ENSURE COMPLETE CONTACT BETWEEN THE COIR CLOTH AND THE SLOPE FACE.
7. PLACEMENT OF COIR CLOTH TO BE DIRECTED BY TRANSCANADA.
8. THIS DRAWING WAS ORIGINALLY PRODUCED IN COLOR. REPRODUCTION IN BLACK AND WHITE MAY RESULT IN A LOSS OF INFORMATION

REFERENCE DRAWINGS

DRAWING No	TITLE

REVISION / APPROVAL

REV No	DATE	DESCRIPTION	PROJECT CODE	DRAFTER	DRAFTING CHECKER	DESIGNER	DESIGN CHECKER	PROJECT MANAGER	COMPANY
A	11/24/2010	PRELIMINARY DESIGN		SES	NED	AQK	AR	AQK	GOLDER
B	12/09/2010	REVISIONS		ACF	NED	AQK	AR	AQK	GOLDER
0	12/10/2010	ISSUED FOR REVIEW		ACF	NED	AQK	AR	AQK	GOLDER
1	12/14/2010	CLIENT EDITS / ISSUED FOR CONSTRUCTION		ACF	NED	AQK	AR	AQK	GOLDER

PROFESSIONAL ENGINEER/RPF | PERMIT/ ENG. APPROVAL | DATE

REV. NO | DATE | PERMIT NUMBER

CADD DRAWING DO NOT MAKE MANUAL REVISIONS

TransCanada | Golder Associates

FA # 1238 | DISCIPLINE # 03

WALLULA PIPELINE
SINKHOLE REMEDIATION DESIGN
SURFACE EROSION CONTROL DETAILS

SCALE: AS NOTED | DRAWING No: 1239-03-ML-04-008 | REV: 1

1.0 SPECIFICATIONS

1.1 GENERAL

A. THE FINAL LOCATIONS, CONFIGURATIONS, AND LAYOUTS TO BE DETERMINED IN THE FIELD AT THE TIME OF CONSTRUCTION AND BASED ON THE CONDITIONS ENCOUNTERED.

B. TRENCHING AND BACKFILL SHALL COMPLY WITH TRANSCANADA PROCEDURES, AS OUTLINED IN TRANSCANADA "TES-PROJ-EXC EXCAVATION SPECIFICATION, EDMS #005890120

2.0 MATERIAL DESCRIPTION/NOTES:

A. ALL MATERIALS SHALL BE PROVIDED BY CONTRACTOR. ALL MATERIALS AND/OR ALTERNATIVE MATERIALS SHALL BE REVIEWED AND APPROVED BY TRANS CANADA PRIOR TO INSTALLATION.

2.1 SAND

A. SPECIFIES THE TYPE AND SIZE OF SAND TO BE USED AS SELECT BACKFILL, AS SHOWN IN THE PLANS.

B. THE SELECT BACKFILL (SAND) MATERIAL SHALL MEET THE SPECIFICATIONS OUTLINED IN TRANSCANADA #TES-PROJ-COM COMPACTION CONTROL MEASURES FOR PIPELINE EXCAVATIONS, EDMS #005974567" FOR FILTER SAND (BEDDING MATERIAL) AS DESCRIBED IN SECTION 8.3.3.

2.2 RIPRAP

A. THE CONTRACTOR SHALL SUPPLY ALL MATERIALS, EQUIPMENTS, AND LABOR NECESSARY TO COMPLETE THE INSTALLATION OF ARMOR ROCK AS DESCRIBED IN THESE SPECIFICATIONS OR AS DIRECTED BY THE ENGINEER.

B. RIPRAP ARMOR SHALL MEET THE FOLLOWING GRADATION EQUIREMENTS:

TYPE A RIPRAP

% PASSING	SIZE(INCHES)
100	10-12
50	4-6
10	1-3

C. MATERIAL SHOULD CONSIST OF DURABLE, ANGULAR, FIELD, OR QUARRY STONE WHICH IS SOUND, HARD, AND FREE FROM SEAMS OR OTHER STRUCTURAL DEFECTS.

D. MATERIAL SHALL BE FREE OF OVERBURDEN, SPOIL, OR OTHER ORGANIC MATERIAL.

E. MATERIAL SPECIFIC GRAVITY SHALL BE AT A MINIMUM OF 2.50.

F. TRANSCANADA SHALL APPROVE SOURCE OF ROCK MATERIAL AND MAY REQUEST TESTING OR OTHER ASSESSMENTS TO CONFIRM SUITABILITY FOR INTENDED PURPOSE.

G. SUBSTITUTIONS FOR SPECIFIED MATERIALS SHALL BE APPROVED BY THE ENGINEER PRIOR TO INSTALLATION.

2.3 TRENCH BREAKERS

A. TRENCH BREAKERS ARE INTENDED TO INTERCEPT AND SLOW (BUT NOT STOP) POTENTIAL SEEPAGE FLOWS ALONG THE PIPELINE TRENCH AND THEREBY MINIMIZE POTENTIAL SOIL TRANSPORT (I.E. "PIPING FAILURES") BY SEEPAGE FLOW WITHIN THE BACKFILLED TRENCH.

B. TRENCH BREAKERS SHALL BE INSTALLED ALONG THE 36-INCH AND 42-INCH NATURAL GAS PIPELINES AS SHOWN IN THE PLANS.

C. TRENCH BREAKERS SHALL BE INSTALLED ON THE DRAINAGE PIPES JUST DOWNGRADIENT OF CONNECTION POINTS WHERE SEEPAGE IS INTERCEPTED AT THE NATURAL GAS PIPELINES (AS SHOWN IN THE PLANS), AND AT APPROXIMATELY 250 FOOT SPACING ALONG THE RUNNING LENGTH OF THE DRAINAGE TIGHTLINES.

D. SANDBAGS FOR TRENCH BREAKERS SHALL BE MADE OF BURLAP OR GEOTEXTILE FILTER FABRIC MATERIALS (AS SPECIFIED IN THE FOLLOWING SECTION ADDRESSING GEOTEXTILE MATERIALS).

E. PLASTIC BAG MATERIALS SHALL NOT BE USED.

D. SANDBAG FILL MATERIAL SHALL BE SAND, AS SPECIFIED IN 2.1 ABOVE.

F. INDIVIDUAL SACKS SHALL BE FILLED APPROXIMATELY 50-75%, AND NOT OVERFILLED TO 100% CAPACITY OF THE SACK VOLUME.

G. SUBSTITUTIONS FOR SPECIFIC MATERIALS SHALL BE APPROVED BY THE ENGINEER PRIOR TO INSTALLATION.

2.4 DRAINAGE PIPE MATERIALS:

A. ALL MATERIALS SHALL BE PROVIDED BY THE CONTRACTOR.

B. TIGHTLINE PIPING: RECOMMEND USING SOLID INTERIOR SMOOTH WALLED, HDPE PIPE WITH INSIDE DIMENSIONS AS SPECIFIED ON THE DRAWINGS, OR AS DIRECTED BY THE ENGINEER. RECOMMENDED PRODUCT IS SUPPLIED BY ADVANCED DRAINAGE SYSTEMS (ADS), INC., OR HANCOR, INC., AND SHOULD MEET REQUIREMENTS OF AASHTO M252 AND M294.

C. PERFORATED DRAINAGE COLLECTION PIPING: RECOMMEND USING CORROGATED HDPE DRAIN PIPE WITH NSIDE DIMENSTIONS AS SPECIFIED IN THE DRAWINGS, OR AS DIRECTED BY THE ENGINEER. DRAIN PIPE SHOULD HAVE KNIFE-SLOTTED PERFORATIONS, AND HAVE FILTER FABRIC SOCK COVERING. RECOMMENDED PRODUCT IS SUPPLIED BY ADVANCED DRAINAGE SYSTEMS (ADS), INC., OR HANCOR, INC., AND SHOULD MEET REQUIREMENTS OF AASHTO M252 AND M294.

D. DRAINAGE PIPING SHALL PASS THROUGH TRENCH BREAKERS, WHERE SPECIFIED, SO THERE IS NO GAP BETWEEN THE PIPE AND THE INDIVIDUAL SAND BAGS. SAND BAGS SHALL BE PLACED TIGHTLY AGAINST THE PIPEING, BUT SHOULD NOT CRUSH THE PIPEING.

E. TIGHTLINE AND DRAINAGE COLLECTION PIPING CONNECTIONS, JOINTS, AND COUPLINGS: CONTRACTOR TO DETERMINE THE SIZE OF PIPING CONNECTIONS, JOINTS, AND ANGLE JOINTS (I.E. ELBOWS) NECESSARY TO FACILITATE THE DESIGN AS SHOWN IN THE DRAWINGS. PIPING CONNECTIOSN SHALL BE INSTSALLED TO PREVENT SEPARATION DURING CONSTRUCTION AND DURING BACKFILL AND/OR COMPACTION OF FILL.

F. ALTERNATIVE MATERIALS SHALL BE REVIEWED AND APPROVED BY THE ENGINEERING PRIOR TO INSTALLATION.

2.5 EROSION CONTROL MAT/COIR CLOTH:

A. THE CONTRACTOR SHALL SUPPLY ALL MATERIALS, EQUIPMENT, AND LABOR NECESSARY TO COMPLETE THE INSTALLATION OF COIR FABRIC DESCRIBED IN THE THESE SPECIFICATIONS AND SHOWN IN THE DESIGN DRAWINGS.

B. COIR FABRIC SHALL BE INSTALLED AS SHOWN IN THE DESIGN DRAWINGS, OR AS DIRECTED BY THE ENGINEER.

C. SOIL AREAS COVERED WITH COIR FABRIC SHALL BE RESEEDED WITH NATIVE SEED MIX. THE SEED MIX WILL BE PROVIDED BY THE OWNER.

D. COIR FABRIC SHALL CONSIST OF WOVEN COIR BLANKET MADE FROM COIR TWINES OBTAINED FROM FRESH WATER CURED COCONUT HUSKS. THE BLANKET COMES IN VARIED WIDTHS AND LENGTHS, BUT IS TYPICALLY SUPPLIED IN ROLLS.

E. THE MINIMUM WEIGHT OF THE COIR FABRIC MATERIAL SHALL BE 28 OZ/SQUARE YARD AS DETERMINED BY ASTM D 3776. RECOMMENDED MANUFACTURER IS ROLANKA INTERNATIONAL, BioD-MAT (WWW.ROLANKA.COM), OR EQUIVALENT.

F. COIR BLANKETS SHALL BE INSTALLED LOOSELY ALONG THE SURFACE OF THE GROUND TO INSURE CLOSE CONTACT WITH THE GROUND SURFACE.

G. WHERE ENDS OF THE COIR FABRIC ROLLS INTERSECTED ALONG THE SLOPE, THEY SHALL OVERLAP A MINIMUM OF 24-INCHES.

H. SUBSTITUTIONS FOR SPECIFIED MATERIALS SHALL BE APPROVED BY THE ENGINEER PRIOR TO INSTALLATION.

2.6 GEOTEXTILE

A. THE CONTRACTOR SHALL SUPPLY ALL MATERIALS, EQUIPMENT, AND LABOR NECESSARY TO COMPLETE THE INSTALLATION OF GEOTEXTILE AS DESCRIBED IN THESE SPECIFICATIONS AND SHOWN IN THE DESIGN DRAWINGS.

B. GEOTEXTILE SHALL BE PLACED AS SHOWN IN THE DESIGN DRAWINGS, OR AS DIRECTED BY THE ENGINEER.

C. GEOTEXTILE FILTER FABRIC MATERIAL SHALL BE A NON-WOVEN GEOTEXTILE COMPOSED OF POLYPROPYLENE FIBERS WHICH AS FORMED INTO A STABLE NETWORK SUCH THAT FIBERS RETAIN THEIR POSITION. THE GEOTEXTILE SHALL BE UV RESISTANT. THE RECOMMENDED MATERIAL IS MIRAFI 140N (HTTP://WWW.TCMIRAFI.COM), OR EQUIVALENT MATERIAL.

D. SUBSTITUTIONS FOR SPECIFIED MATERIALS SHALL BE APPROVED BY THE ENGINEER PRIOR TO INSTALLATION.

2.7 ESTIMATED QUANTITIES

A. THE FOLLOWING ESTIMATED QUANTITIES ARE APPROXIMATE AND SHOULD BE CONFIRMED BY THE CONTRACTOR PRIOR TO CONSTRUCTION.

SUMMARY OF QUANTITIES	QUANTITY	UNIT
PIPELINE TRENCH BREAKERS	32	EACH
DRAINAGE TRENCH BREAKERS	~20	EACH
SAND BAGS	~1[illegible],000	EACH
6-INCH TIGHTLINE PIPE	~7,000	LF
4-INCH TIGHTLINE PIPE	~3,500	LF
4-INCH PERFORATED PIPE	~400	LF
GEOTEXTILE	~25,000	SQFT
RIPRAP	~200	CUFT
DISCHARGE TIGHTLINE GRATE	2	EACH

FINAL
ISSUED FOR CONSTRUCTION

REFERENCE DRAWINGS	
DRAWING No	TITLE

REV No	DATE	REVISION DESCRIPTION	PROJECT CODE	DRAFTER	DRAFTING CHECKER	DESIGNER	DESIGN CHECKER	PROJECT MANAGER	COMPANY
A	11/24/2010	PRELIMINARY DESIGN		SES	NED	AQK	AR	AQK	GOLDER
B	12/09/2010	REVISIONS		ACF	NED	AQK	AR	AQK	GOLDER
0	12/10/2010	ISSUED FOR REVIEW		ACF	NED	AQK	AR	AQK	GOLDER
1	12/14/2010	CLIENT EDITS / ISSUED FOR CONSTRUCTION		ACF	NED	AQK	AR	AQK	GOLDER

PROFESSIONAL ENGINEER/RPT — PERMIT/ ENG APPROVAL — DATE

REV NO — DATE — PERMIT NUMBER

CADD DRAWING, DO NOT MAKE MANUAL REVISIONS

TransCanada — Golder Associates

FA # 1239 | CHAINAGE | DISCIPLINE # 03

WALLULA PIPELINE
SINKHOLE REMEDIATION DESIGN
SURFACE EROSION CONTROL SPECS

SCALE NONE | DRAWING No 1239-03-ML-04-009 | REV 1