TYPICAL PARALLELING CONFIGURATION WITH POWERLINE

NOTES:
1. Use for 14-inch or greater diameter pipeline.
2. The dimensions shown on this figure are typical.
3. Variations for staging areas may be necessary due to site-specific terrain features; however, unless otherwise indicated in Columbia's environmental management & construction plans, the maximum width of construction work area will be 110 feet.

PRELIMINARY
TYPICAL GREENFIELD WORKSPACE

30' SPOIL SIDE 80' WORKING SIDE
5' 25' 25' 55'
50' PERMANENT EASEMENT
TEMPORARY CONSTRUCTION WORKSPACE

110' TYPICAL CONSTRUCTION WORK AREA

PLAN/PROFILE VIEW

NOTES:
1. USE FOR 14-INCH OR GREATER DIAMETER PIPELINE.
2. THE DIMENSIONS SHOWN ON THIS FIGURE ARE TYPICAL.
3. VARIATIONS FOR STAGING AREAS MAY BE NECESSARY DUE TO SITE-SPECIFIC TERRAIN FEATURES; HOWEVER, UNLESS OTHERWISE INDICATED IN COLUMBIA'S ENVIRONMENTAL MANAGEMENT & CONSTRUCTION PLANS, THE MAXIMUM WIDTH OF CONSTRUCTION WORK AREA WILL BE 110 FEET.

PRELIMINARY

TYPICAL GREENFIELD WORKSPACE

LEACH XPRESS PROJECT

Appendix C-3

File No.

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TYPICAL AGRICULTURAL WORKSPACE

PLAN/PROFILE VIEW

NOTES:
1. USE FOR 14-INCH OR GREATER DIAMETER PIPELINE.
2. THE DIMENSIONS SHOWN ON THIS FIGURE ARE TYPICAL.
3. VARIATIONS FOR STAGING AREAS MAY BE NECESSARY DUE TO SITE-SPECIFIC TERRAIN FEATUURES; HOWEVER, UNLESS OTHERWISE INDICATED IN COLUMBIA'S ENVIRONMENTAL MANAGEMENT & CONSTRUCTION PLANS, THE MAXIMUM WIDTH OF CONSTRUCTION WORK AREA WILL BE 110 FEET.
4. OTHER CONFIGURATIONS OF TOPSOIL AND SUBSOIL ARE ACCEPTABLE PROVIDED THEY ARE KEPT SEPARATE.
5. UP TO 12 INCHES OF TOPSOIL REMOVED.
6. TOPSOIL AND SUBSOIL FILES WILL BE ADEQUATELY PROTECTED FROM EROSION AND SEDIMENTATION BY USE OF SEDIMENT FILTER DEVICES OR MULCH.

PRELIMINARY
TYPICAL WETLAND CROSSING

NOTES:

1. IN WETLAND AREAS WHICH CONTAIN NO STANDING WATER OR IF SOILS ARE SATURATED OR FROZEN, TOPSOIL (TOP 12 INCHES) AND SUBSOIL WILL BE STOCKPILED SEPARATELY WITHIN THE WETLAND CONSTRUCTION WORK AREA.
2. WETLANDS WITH STANDING WATER, SATURATED OR FROZEN SOIL, OPERATE EQUIPMENT PER REQUIREMENTS IN SECTION III.B-2. (ECS)
3. A SEDIMENT FILTER DEVICE WILL BE PLACED ACROSS THE WORK AREA AT THE WETLAND'S EDGE, IMMEDIATELY UPSLOPE OF THE WETLAND BOUNDARY.

PRELIMINARY
TYPICAL SIDE SLOPE CONSTRUCTION WORKSPACE

NOTES:
1. USE FOR 14-INCH OR GREATER DIAMETER PIPELINE.
2. THE DIMENSIONS SHOWN ON THIS FIGURE ARE TYPICAL.
3. VARIATIONS FOR STAGING AREAS MAY BE NECESSARY DUE TO SITE-SPECIFIC TERRAIN FEATURES;
   HOWEVER, UNLESS OTHERWISE INDICATED IN COLUMBIA'S ENVIRONMENTAL MANAGEMENT &
   CONSTRUCTION PLANS, THE MAXIMUM WIDTH OF CONSTRUCTION WORK AREA WILL BE 110 FEET.

PRELIMINARY

LEACH XPRESS PROJECT

Appendix C-6
TYPICAL GREENFIELD WORKSPACE
DITCH AND SPOIL SIDE TOP SOIL SALVAGE

NOTES:
1. USE FOR 14-INCH OR GREATER DIAMETER PIPELINE.
2. THE DIMENSIONS SHOWN ON THIS FIGURE ARE TYPICAL.
3. VARIATIONS FOR STAGING AREAS MAY BE NECESSARY DUE TO SITE-SPECIFIC TERRAIN FEATURES;
   HOWEVER, UNLESS OTHERWISE INDICATED IN COLUMBIA’S ENVIRONMENTAL MANAGEMENT &
   CONSTRUCTION PLANS, THE MAXIMUM WIDTH OF CONSTRUCTION WORK AREA WILL BE 110 FEET.

LEACH XPRESS PROJECT

Appendix C-7

PRELIMINARY

TYPICAL 6
TYPICAL CONFIGURATION FOR PARALLELING TO EXISTING PIPELINES

NOTES:
1. USE FOR 14-INCH OR GREATER DIAMETER PIPELINE.
2. THE DIMENSIONS SHOWN ON THIS FIGURE ARE TYPICAL.
3. VARIATIONS FOR STAGING AREAS MAY BE NECESSARY DUE TO SITE-SPECIFIC TERRAIN FEATURES; HOWEVER, UNLESS OTHERWISE INDICATED IN COLUMBIA'S ENVIRONMENTAL MANAGEMENT & CONSTRUCTION PLANS, THE MAXIMUM WIDTH OF CONSTRUCTION WORK AREA WILL BE 110 FEET.

LEACH XPRESS PROJECT

Appendix C-8

PRELIMINARY
TYPICAL CONFIGURATION FOR CO-LOCATING WITH EXISTING COLUMBIA PIPELINES - 30' EASEMENT

NOTES:
1. USE FOR 14-INCH OR GREATER DIAMETER PIPELINE.
2. THE DIMENSIONS ShOWN ON THIS FIGURE ARE TYPICAL.
3. VARIATIONS FOR STAGING AREAS MAY BE NECESSARY DUE TO SITE-SPECIFIC TERRAIN FEATURES; HOWEVER, UNLESS OTHERWISE INDICATED IN COLUMBIA'S ENVIRONMENTAL MANAGEMENT & CONSTRUCTION PLANS, THE MAXIMUM WIDTH OF CONSTRUCTION WORK AREA WILL BE 110 FEET.

PRELIMINARY

Appendix C-9
TYPICAL CONFIGURATION FOR PARALLELING TO EXISTING COLUMBIA PIPELINES - 50' EASEMENT

NOTES:
1. USE FOR 14-INCH OR GREATER DIAMETER PIPELINE.
2. THE DIMENSIONS SHOWN ON THIS FIGURE ARE TYPICAL.
3. VARIATIONS FOR STAGING AREAS MAY BE NECESSARY DUE TO SITE-SPECIFIC TERRAIN FEATURES; HOWEVER, UNLESS OTHERWISE INDICATED IN COLUMBIA'S ENVIRONMENTAL MANAGEMENT & CONSTRUCTION PLANS, THE MAXIMUM WIDTH OF CONSTRUCTION WORK AREA WILL BE 110 FEET.

PRELIMINARY

Appendix C-10

LEACH XPRESS PROJECT

File No.: TYPICAL 8B

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TYPICAL BORED ROAD CROSSING

PLAN VIEW
N.T.S.

PROFILE VIEW
N.T.S.

NOTES:
1. CONSTRUCTION WORK AREA WILL TYPICALLY BE 160 FEET WIDE.

PRELIMINARY

TYPICAL BORED ROAD CROSSING
LEACH XPRESS PROJECT

Appendix C-11
TYPICAL WATERBODY CROSSING

LEACH XPRESS PROJECT

PRELIMINARY

Appendix C-13
1. Construction work area will typically be 160 feet wide.

PRELIMINARY
NOTES:
1. USE FOR 14-INCH OR GREATER DIAMETER PIPELINE.
2. THE DIMENSIONS SHOWN ON THIS FIGURE ARE TYPICAL.
3. VARIATIONS FOR STAGING AREAS MAY BE NECESSARY DUE TO SITE-SPECIFIC TERRAIN FEATURES; HOWEVER, UNLESS OTHERWISE INDICATED IN COLUMBIA’S ENVIRONMENTAL MANAGEMENT & CONSTRUCTION PLANS, THE MAXIMUM WIDTH OF CONSTRUCTION WORK AREA WILL BE 125 FEET.
4. OTHER CONFIGURATIONS OF TOPSOIL AND SUBSOIL ARE ACCEPTABLE PROVIDED THEY ARE KEPT SEPARATE.
5. UP TO 12 INCHES OF TOPSOIL REMOVED.
6. TOPSOIL AND SUBSOIL PILES WILL BE ADEQUATELY PROTECTED FROM EROSION AND SEDIMENTATION BY USE OF SEDIMENT FILTER DEVICES OR MULCH.
7. A TYPICAL CORRIDOR WIDTH OF 125 FEET IN UPLANDS IS REQUIRED FOR LEX FROM MP 0.00 TO MP 39.98, AS ADDITIONAL SPACE WILL BE NEEDED TO PROVIDE FOR SAFE AND EFFICIENT CONSTRUCTION OF THE PIPELINE THROUGH HILLY TERRAIN AND STEEP SLOPE CONDITIONS.
TYPICAL SUCTION AND DISCHARGE LINE WORKSPACE

NOTES:
1. USE FOR 14–INCH OR GREATER DIAMETER PIPELINE.
2. THE DIMENSIONS SHOWN ON THIS FIGURE ARE TYPICAL.
3. VARIATIONS FOR STAGING AREAS MAY BE NECESSARY DUE TO SITE–SPECIFIC TERRAIN FEATURES; HOWEVER, UNLESS OTHERWISE INDICATED IN COLUMBIA'S ENVIRONMENTAL MANAGEMENT & CONSTRUCTION PLANS, THE MAXIMUM WIDTH OF CONSTRUCTION WORK AREA WILL BE 125 FEET.

TYPICAL SUCTION AND DISCHARGE LINE WORKSPACE

LEACH XPRESS PROJECT

Appendix C-16

PRELIMINARY
Appendix C-17

NOTES:
1. USE FOR 14-INCH OR GREATER DIAMETER PIPELINE.
2. THE DIMENSIONS SHOWN ON THIS FIGURE ARE TYPICAL.
3. VARIATIONS FOR STAGING AREAS MAY BE NECESSARY DUE TO SITE-SPECIFIC TERRAIN FEATURES; HOWEVER, UNLESS OTHERWISE INDICATED IN COLUMBIA'S ENVIRONMENTAL MANAGEMENT & CONSTRUCTION PLANS, THE MAXIMUM WIDTH OF CONSTRUCTION WORK AREA WILL BE 110 FEET.
4. A TYPICAL CORRIDOR WIDTH OF 125 FEET IN UPLANDS IS REQUIRED FOR LEX FROM MP 0.00 TO MP 39.98, AS ADDITIONAL SPACE WILL BE NEEDED TO PROVIDE FOR SAFE AND EFFICIENT CONSTRUCTION OF THE PIPELINE THROUGH HILLY TERRAIN AND STEEP SLOPE CONDITIONS.

PRELIMINARY

TYPICAL SLOPE WITH SIDE SLOPE WORKSPACE - LEX MP 0.00-38.98

LEACH XPRESS PROJECT

File No.: TYPICAL 15

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TYPICAL CONFIGURATION FOR PARALLELING TO EXISTING PIPELINES - LEX MP 0.00-38.98

NOTES:
1. USE FOR 14-INCH OR GREATER DIAMETER PIPELINE.
2. THE DIMENSIONS SHOWN ON THIS FIGURE ARE TYPICAL.
3. VARIATIONS FOR STAGING AREAS MAY BE NECESSARY DUE TO SITE-SPECIFIC TERRAIN FEATURES;
   HOWEVER, UNLESS OTHERWISE INDICATED IN COLUMBIA'S ENVIRONMENTAL MANAGEMENT & CONSTRUCTION PLANS, THE MAXIMUM WIDTH OF CONSTRUCTION WORK AREA WILL BE 125 FEET.

PRELIMINARY
TYPICAL CONFIGURATION FOR PARALLELING TO EXISTING COLUMBIA PIPELINES - LEX MP 0.00-38.98

NOTES:
1. USE FOR 14-INCH OR GREATER DIAMETER PIPELINE.
2. THE DIMENSIONS SHOWN ON THIS FIGURE ARE TYPICAL.
3. VARIATIONS FOR STAGING AREAS MAY BE NECESSARY DUE TO SITE-SPECIFIC TERRAIN FEATURES; HOWEVER, UNLESS OTHERWISE INDICATED IN COLUMBIA'S ENVIRONMENTAL MANAGEMENT & CONSTRUCTION PLANS, THE MAXIMUM WIDTH OF CONSTRUCTION WORK AREA WILL BE 125 FEET.

TYPICAL CONFIGURATION FOR PARALLELING TO EXISTING COLUMBIA PIPELINES - LEX MP 0.00-38.98

LEACH XPRESS PROJECT

Appendix C-19

PRELIMINARY
TYPICAL PARALLELING CONFIGURATION
WITH POWERLINE - LEX MP 0.00-38.98

VARYING WIDTH CENTER PIPE
TO CENTER POWERLINE

VARYING WIDTH
PERMANENT EASEMENT

VARYING WIDTH
CENTERLINE EXISTING POWERLINE

50'
PERMANENT EASEMENT

5' 25' 25'
TEMPORARY CONSTRUCTION WORKSPACE

30'
CENTERLINE PROPOSED PIPELINE

95'
TEMPORARY CONSTRUCTION WORKSPACE

125'
TYPICAL CONSTRUCTION WORK AREA

NOTES:
1. USE FOR 14-INCH OR GREATER DIAMETER PIPELINE.
2. THE DIMENSIONS SHOWN ON THIS FIGURE ARE TYPICAL.
3. VARIATIONS FOR STAGING AREAS MAY BE NECESSARY DUE TO SITE-SPECIFIC TERRAIN FEATURES;
   HOWEVER, UNLESS OTHERWISE INDICATED IN COLUMBIA'S ENVIRONMENTAL MANAGEMENT &
   CONSTRUCTION PLANS, THE MAXIMUM WIDTH OF CONSTRUCTION WORK AREA WILL BE 125 FEET.

PRELIMINARY

TYPICAL PARALLELING CONFIGURATION
WITH POWERLINE - LEX MP 0.00-38.98

Appendix C-20

LEACH XPRESS PROJECT

File No.: LEACH XPRESS PROJECT

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1. SILT FENCE AND INTERCEPTOR DIKE TO BE REMOVED ACROSS PIPELINE TRENCH DURING CONSTRUCTION OF PIPELINE. SILT FENCE AND INTERCEPTOR DIXES TO BE REPLACED AFTER BACKFILL OF TRENCH.

2. USE HARD OR SOFT PLUGS PRIOR TO PIPE INSTALLATION. INSTALL PERMANENT TRENCH PLUGS AFTER PIPE INSTALLATION AND PRIOR TO BACKFILLING PIPELINE TRENCH.
1. Silt fence and intercepter dike to be removed across pipeline trench during construction of pipeline. Silt fence and intercepter dikes to be replaced after backfill of trench.

2. Use hard or soft plugs prior to pipe installation. Install permanent trench plugs after pipe installation and prior to backfilling pipeline trench.
NOTE:
1. INSTALL PERMANENT INTERCEPTOR DIKES AT THE BASE OF ALL SLOPES ADJACENT TO THE WETLAND.

2. CONTRACTOR SHALL POSTPONE GRADING OF WORK AREA ADJACENT TO WETLAND UNTIL STAGING AREA IS PREPARED AND WORK IN THE WETLAND IS READY TO COMMENCE.

3. SILT FENCE OR HAY BALES SHALL BE PlACED IN THE GAP AT THE TIMBER MATS BY THE END OF EACH DAY OR PRIOR TO APPROACHING RAIN TO PREVENT SEDIMENT FLOW INTO WETLAND.

4. USE ADDITIONAL TIMBER MAT LAYERS TO RAISE CROSSING ABOVE GRADE WHERE POOR SOIL CONDITIONS EXIST.

5. SILT FENCE AND INTERCEPTOR DIKE TO BE REMOVED ACROSS PIPE TRENCH AND DURING CONSTRUCTION OF PIPELINE. SILT FENCE AND INTERCEPTOR DIKE TO BE REPLACED AFTER BACKFILL OF TRENCH.
TYPICAL CONSTRUCTION SILT FENCE

INSTALLATION REQUIREMENTS:
- When using silt fence, place it:
  - Between disturbed areas and down-slope environmental resource areas
  - At the base of all slopes next to wetlands, waterbodies, and road crossings
  - At the inlet and outlet of open drainage structures
  - Extend both ends of the silt fence a minimum of five horizontal feet upslope at 45 degrees to the main fence alignment to prevent runoff from going around the ends of the silt fence.
  - Use sandbags or backfilling to key in the bottom of the fabric where it is not feasible to trench it in (ledges, rocky soil, large roots, etc.)

MAINTENANCE REQUIREMENTS:
- Inspect silt fence:
  - Daily in areas of active construction
  - Weekly in areas with no construction
  - Within 24 hours following each major storm event
  - Repair or replace silt fence if geotextile is torn or undermining of the silt fence occurs
  - Remove accumulated sediments to an upland area when bulges develop in silt fence or when sediment reaches 20% of fence height.

DIG TRENCH 8" DEEP, BURY BOTTOM 12" OF FABRIC AND TAMPER IN PLACE

PRELIMINARY
NOTES:

1. CONTRACTOR SHALL INSTALL THE HEAVY WALL STEEL PIPE, BACKFILL AND REPLACE ROAD SURFACE IN ACCORDANCE WITH PERMIT ISSUED BY THE GOVERNMENT BODY HAVING JURISDICTION AND/OR IN ACCORDANCE WITH THE SPECIFICATIONS, WHICHEVER IS THE MOST STRINGENT.

2. THE PIPELINE SHALL CROSS AS NEAR TO RIGHT ANGLE AS POSSIBLE AND ECONOMICALLY PRACTICAL.


4. THE HEAVY WALL STEEL PIPE WITHIN THE RIGHT-OFF-WAY LIMITS SHALL BE FULLY EXTENDED DURING INSTALLATION.

5. ANY OPEN CUT TRENCH SHALL BE IN ACCORDANCE WITH STATE OR COUNTY SPECIFICATIONS AS DEFINED IN THE SPECIFICATION AND STANDARD. THE TRENCH SHALL BE BACKFILLED IN 8" LIFTS AND COMPACTED TO 95% OF THE MAXIMUM DRY DENSITY AS DETERMINED BY THE PROCTOR COMPACTION TEST (ASTM D698).

6. AS AN ALTERNATE, AND WHEN APPROVED BY ENGINEER, CONCRETE SLURRY (200PSI CONCRETE) MAY BE USED AS BACKFILL MATERIAL ABOVE THE PIPE.

7. REPLACE SUB-GRADE AND ROAD SURFACE MATERIAL WITH EQUAL OR GREATER THICKNESS AND WITH EQUAL OR GREATER MATERIAL AND SPECIFICATIONS TO PROVIDE A SMOOTH AND CONTINUOUS ROAD SURFACE.
SLOPE BREAKER NOTES:

1. SLOPE BREAKERS SHALL BE CONSTRUCTED OF COMPACTED NATIVE SOIL AND INSTALLED AT LOCATIONS AS SHOWN ON THE CONSTRUCTION DRAWINGS OR AS DIRECTED BY THE ENVIRONMENTAL INSPECTOR.

2. SLOPE BREAKER SHALL BE CREATED AS SHOWN OR OTHER PATTERN AS DIRECTED BY THE ENVIRONMENTAL INSPECTOR TO DIRECT THE WATER OFF THE WORK AREA.

3. THE SLOPE BREAKER SHALL BE 18" DEEP (AS MEASURED FROM THE TROUGH TO THE TOP OF THE SLOPE BREAKER) THE TROUGH WILL BE A MINIMUM OF 5" WIDE ACROSS THE WIDTH OF THE WORK AREA.

4. THE OUTLET OF THE SLOPE BREAKER MUST FREELY DISCHARGE ALL RUNOFF OFF THE DISTURBED WORK AREA INTO A STABLE, WELL VEGETATED AREA OR INTO AN ENERGY DISSIPATOR.

5. WHERE SLOPE BREAKERS EXTEND BEYOND THE EDGE OF THE CONSTRUCTION WORK AREA TO DIRECT RUNOFF INTO STABLE, WELL VEGETATED AREAS THESE LOCATIONS MUST BE APPROVED BY THE ENVIRONMENTAL INSPECTOR.

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<td>5–15</td>
<td>300</td>
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<td>&gt;15–30</td>
<td>200</td>
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PRELIMINARY
TYPICAL WATER CROSSING - OPEN CUT NO FLOW

NOTES:
1. This method applies to crossings where no flowing water is present at the time of crossing.
2. Contractor may mainline trench through the crossing or up to both sides of the crossing, string, weld, coat and weight (if necessary). Using the mainline crew with the pipe skidded over the crossing.
3. No refueling of mobile equipment or concrete coating activities within 100 feet of crossing.
4. In agricultural land, strip topsoil from spoil, storage area, stockpile topsoil and spoil separately. Topsoil and spoil will not be stockpiled in the crossing channel and will be placed in a minimum of 10 feet from crossing banks within the construction work area.
5. Restore crossing channel to pre-construction profile and substrate.
6. Restore crossing bank to approximate original condition and stabilize as required. Stabilize crossing banks; install temporary sediment barriers within 24 hours of completing the crossing.
7. As directed by the pipeline director, erosion control measures shall be installed across the work area following clearing and grading and maintained until construction of the crossing erosion control measures shall be reinstalled immediately following backfilling of trench and stabilization of banks. Barriers may be temporary removed to allow construction activities but must be replaced at the end of each work day.

PRELIMINARY
EROSION CONTROL AND SEDIMENT FILTRATION MEASURES

FOR DEWATERING THE PIPELINE TRENCH AN ROADBORES WITHIN WETLANDS AND SPARSELY VEGETATED AREAS - EXHIBIT 1

Appendix C-29
EROSION CONTROL AND SEDIMENT FILTRATION MEASURES

STEP 1
ARRANGE THE STRAW BALES TO THE X AND Y DIMENSIONS (INSIDE) AS SPECIFIED BASED ON THE FLOW RATE OF THE PUMP TO BE USED FOR DEWATERING. ANCHOR STRAW BALES PER TYPICAL 30.

STEP 2
INSTALL ANOTHER LAYER OF STRAW BALES ON THE OUTER EDGE AS SHOWN. DIG IN STRAW BALES PER TYPICAL 30.

STEP 3
INSTALL SILT FENCE ALL AROUND THE STRAW BALE STRUCTURE AS SHOWN IN TYPICAL 31.

STEP 4
INSTALL ANOTHER LAYER OF STRAW BALES ON THE OUTSIDE OF THE SILT FENCE AND SECURE IN PLACE BY DRIVING A REBAR OR WOODEN STAKE THROUGH EACH OF THE OUTER STRAW BALES.

NOTE:
1. PUMP INTAKE HOSE MUST BE SECURED AND NOT BE ALLOWED TO REST ON THE TRENCH BOTTOM THROUGHOUT DEWATERING. PROVISIONS MUST BE MADE TO ELEVATE THE INLET HOSE TO AT LEAST ONE FOOT ABOVE THE BOTTOM UNTIL BOTTOM DEWATERING IS NECESSARY.
2. WHEN SILT FENCE STAKES CANNOT BE DRIVEN INTO GROUND, LINE THE BOTTOM AND EXTERIOR OF STRAW BALES WITH GEOTEXTILE FABRIC.

PRELIMINARY

EROSION CONTROL AND SEDIMENT FILTRATION MEASURES
FOR DEWATERING THE PIPELINE TRENCH AN ROADBORES WITHIN WETLANDS AND SPARSELY VEGETATED AREAS - EXHIBIT 2

Appendix C-30
TYPICAL STRAW BALE DEWATERING STRUCTURE (SMALL VOLUME)

NOTES:

1. INSTALL A STRAW BALE DEWATERING STRUCTURE WHEREVER IT IS NECESSARY AND AS DIRECTED BY THE COMPANY’S INSPECTOR TO PREVENT THE FLOW OF HEAVILY SILT LADEN WATER INTO WATER BODIES OR WETLANDS.

2. DISCHARGE SITE SHALL BE WELL VEGETATED AND THE TOPOGRAPHY OF THE SITE SUCH THAT WATER WILL FLOW INTO THE DEWATERING STRUCTURE AND AWAY FROM ANY WORK AREAS. THE AREA DOWN SLOPE FROM THE DEWATERING SITE MUST BE REASONABLY PLANE OR STABILIZED BY VEGETATION OR OTHER MEANS TO ALLOW THE FILTERED WATER TO CONTINUE AS SHEET FLOW.

3. DIRECT THE PUMPED WATER INTO A STABLE SPILL PAD CONSTRUCTED OF STRAW BALES, ROCK FILL, WEIGHTED TIMBERS OR WOVEN GEOTEXTILE STAKED TO THE GROUND SURFACE (SUCH AS MIRAFI 600X, TERRAFIX 400W) OR A COMPANY APPROVED EQUIVALENT. FORCE THE DISCHARGE WATER BEYOND THE SPILL PAD INTO SHEET FLOW USING STRAW BALES AND NATURAL TOPOGRAPHY. ANCHOR STRAW BALES SECURELY IN PLACE WITH TWO WOODEN STAKES OR REBAR. ENTRENCH (“KEY”) STRAW BALES INTO THE GROUND TO A DEPTH OF 4″.

4. DISCHARGE RATES SHALL BE SUCH THAT WATER WILL NOT OVERFLOW THE TOP OF THE STRUCTURE.

5. MANUFACTURED FILTER BAGS ARE A SUITABLE ALTERNATIVE TO STRAW BALE STRUCTURES FOR TRENCH DEWATERING. FILTER BAGS SHALL BE INSTALLED AS SPECIFIED BY THE MANUFACTURER. DISPOSE OF FULL FILTER BAGS AT AN APPROVED OFF-SITE FACILITY.

6. INSTALL AN ENERGY DISSIPATOR IF THE DISCHARGE VELOCITY MAY ERODE THE SOIL.
STRAW BALE SEDIMENT BARRIER

NOTE:
1. STRAW BALE SEDIMENT BARRIERS MAY BE INSTALLED AT THE FOLLOWING LOCATIONS
   - THE BASE OF ALL SLOPES ABOVE ROADS, SPRINGS, WETLANDS, IMPOUNDMENTS AND STREAMS
   - THE DOWNSLOPE EDGE WHERE ANY OF THE ABOVE-MENTIONED LOCATIONS ARE ADJACENT TO
   - THE WORK AREA
   - BETWEEN TOPSOIL/SPILL STOCKPILES AND STREAMS OR WETLANDS AS NEEDED
   - ALONG THE WORK AREA BOUNDARIES IN WETLAND CONSTRUCTION
   - ACROSS CONSTRUCTION WORK AREA AT ALL WATER BODY CROSSINGS
   - AS SPECIFIED IN THE SPILL PREVENTION, CONTAINMENT, AND COUNTERMEASURE PLAN
   - AS DIRECTED BY THE COLOMBIA INSPECTOR

2. STRAW BALE SEDIMENT BARRIERS SHALL CONSIST OF A ROW OF STRAW BALES, PLACED
   ON THE FIBER-CUT EDGE (TIES NOT IN CONTACT WITH THE GROUND). BALES SHALL BE
   TIGHTLY ABUTTED TO ONE ANOTHER. THE BARRIER SHALL BE ONE BALE HIGH, ONLY CERTIFIED
   "NOXIOUS WEED-FREE" STRAW SHALL BE USED WHENEVER POSSIBLE.

3. ENTERM ("KEY") STRAW BALES INTO THE GROUND TO A DEPTH OF 4" EXCEPT IN FROZEN,
   STURATED, OR EXTREMELY ROCKY SOILS. PLACE PARENT MATERIAL ON UPSTREAM SIDE OF STRAW BALES
   TO PREVENT UNDERMINGING.

4. WALK ON STRAW BALES TO INSURE ADEQUATE BALE-TO-SOIL CONTACT.

5. ANCHOR STRAW BALES SECURELY IN PLACE WITH TWO WOODEN OR STEEL REBAR STAKES
   DRIVEN THROUGH THE TOPS OF THE BALES. THE STAKES SHALL PENETRATE THE GROUND AT A DISTANCE
   OF 12" UNLESS ROCK OR AN IMPERMEABLE LAYER IS ENCOUNTERED
   - THE FIRST, CENTER AND END BALES OF THE BARRIER SHALL HAVE STAKES DRIVEN
   - VERTICALLY THROUGH THE BALE.
   - BALES OTHER THAN THOSE LOCATED AT THE ENDS OR CENTER OF THE BARRIER, SHALL HAVE THE
   FIRST STAKE DRIVEN THROUGH THE TOP OF THE BALES AT AN ANGLE SO THAT THE STAKE PASSES
   THROUGH THE PREVIOUSLY PLACED BALES IN ORDER TO PROVIDE TIGHT CONTACT BETWEEN BALES. THE
   SECOND STAKE SHALL BE DRIVEN VERTICALLY THROUGH THE TOP OF THE BALE.

6. TIES TO BE IN HORIZONTAL POSITION.

PRELIMINARY

Appendix C-32

STRAW BALE SEDIMENT BARRIER

LEACH XPRESS PROJECT

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TYPICAL30
TYPICAL STRAW BALE
AND SILT FENCE

NOTE:
1. WHERE EXTREMELY ERODIBLE SOIL CONDITIONS EXIST AND AT THE DIRECTION OF THE INSPECTOR,
   A COMBINED STRAW BALE AND SILT FENCE SEDIMENT CONTROL BARRIER SHALL BE INSTALLED.
   FOR INSTALLATION CONDITIONS AND INSTRUCTIONS SEE: TYPICAL 23 AND TYPICAL 30

Appendix C-33
TYPICAL WATER CROSSING - OPEN CUT WITH FLOW

NOTES:

1. EQUIPMENT CROSSINGS ARE TO BE PREPARED AS ILLUSTRATED IN TYPICAL 20.
2. GRADE AND TRENCH SPOIL WILL BE STOCKPILED AT LEAST 10 FEET FROM THE WATERS’ EDGE.

PRELIMINARY
CONSTRUCTION SPECIFICATIONS:

1. USE FILL MATERIAL FREE OF BRUSH, RUBBISH, ROCKS, LOGS, STUMPS, BUILDING DEBRIS, AND OTHER OBJECTIONABLE MATERIALS THAT WOULD INTERFERE WITH OR PREVENT CONSTRUCTION OF SATISFACTORY FILLS.
2. DO NOT INCORPORATE FROZEN, SOFT, MUCKY, OR HIGHLY COMPRESSIBLE MATERIALS INTO FILL SLOPES OR STRUCTURAL FILLS. DO NOT PLACE FILL ON A FROZEN FOUNDATION.
3. PLACE ALL FILL IN LOOSE LIFTS NOT TO EXCEED 8 INCHES AND THEN COMPACT.
4. COMPACT ALL FILLS AS REQUIRED TO REDUCE EROSION, SLIPPAGE, SETTLEMENT, OR OTHER RELATED PROBLEMS. COMPACT FILL INTENDED TO SUPPORT STRUCTURES, CONDUITS, ETC., IN ACCORDANCE WITH LOCAL REQUIREMENTS OR CODES.
TYPICAL FRENCH DRAIN
(INTERCEPT DRAIN CROSS-TRENCH)

NOTES:
1. TRENCH BREAKERS PREVENT GULLY EROSION WHILE THE TRENCH IS OPEN AND HELP TO INHIBIT WATER PIPING ALONG THE PIPELINE AFTER BACKFILLING.
2. INTERCEPT DRAINS RECEIVE SOIL MOISTURE DRAINING NATURALLY FROM THE UNDISTURBED SOIL PROFILE INTO THE DISTURBED BACKFILL SOIL WITHIN THE TRENCH. THE INTERCEPT DRAIN LINES HELP PREVENT SATURATED SOIL CONDITIONS ALONG THE PIPELINE.
3. INSTALL INTERCEPTOR DRAINS AT INTERVALS AS NEEDED TO REDUCE DRAINAGE THROUGH TRENCH BACKFILL.
4. USE FILL MATERIAL FREE OF BRUSH, RUBBISH, ROCKS, LOGS, STUMPS, BUILDING DEBRIS, AND OTHER OBJECTIONABLE MATERIALS THAT WOULD INTERFERE WITH OR PREVENT CONSTRUCTION OF SATISFACTORY FILLS.

PRELIMINARY

Appendix C-36
NOTES:
1. USE FOR 14-INCH OR GREATER DIAMETER PIPELINE.
2. THE DIMENSIONS SHOWN ON THIS FIGURE ARE TYPICAL.
3. VARIATIONS FOR STAGING AREAS MAY BE NECESSARY DUE TO SITE-SPECIFIC TERRAIN FEATURES; HOWEVER, UNLESS OTHERWISE INDICATED IN COLUMBIA'S ENVIRONMENTAL MANAGEMENT & CONSTRUCTION PLANS, THE MAXIMUM WIDTH OF CONSTRUCTION ROW WILL BE 75 FEET.
PARALLEL TO EXISTING ROW

NOTES:
1. USE FOR 12-INCH OR LESS DIAMETER PIPELINE.
2. THE DIMENSIONS SHOWN ON THIS FIGURE ARE TYPICAL.
3. VARIATIONS FOR STAGING AREAS MAY BE NECESSARY
   DUE TO SITE-SPECIFIC TERRAIN FEATURES; HOWEVER,
   UNLESS OTHERWISE INDICATED IN COLUMBIA'S ENVIRON-
   MENTAL MANAGEMENT & CONSTRUCTION PLANS, THE
   MAXIMUM WIDTH OF CONSTRUCTION ROW WILL BE 50 FEET.

Appendix C-38

TYPICAL 50 FT.
CONSTRUCTION
RIGHT-OF-WAY
Straw Bale Discharge Pipe
Geotextile Fabric  Energy Dissipator or Diffuser
Stake/Post

Isometric View (Not to Scale)

Stake/Post  Geotextile Fabric
Straw Bale

Profile View (Not to Scale)

Hydrostatic Test
Dewatering Pit

Appendix C-39
NOTES:
1. IF EXISTING FENCE POSTS ARE STEEL "T" BAR TYPE, THEN REMOVE THE STEEL "T" BAR POST ON BOTH SIDES OF THE GATE OPENING AND REPLACE WITH TEMPORARY WOODEN POSTS, BRACED AS SHOWN.
2. SUITABLE SUBSTITUTES FOR THE STICK AND WIRE GATE FASTENER ARE PERMISSIBLE.
Appendix C-41

TYPICAL TOPSOIL CONSERVATION

NOT TO SCALE

NOTES:
1. OTHER CONFIGURATIONS OF TOPSOIL AND SUBSOIL ARE ACCEPTABLE PROVIDED THEY ARE KEPT SEPARATE.
2. UP TO 12 INCHES OF TOPSOIL REMOVED.
3. TOPSOIL AND SUBSOIL PILES WILL BE ADEQUATELY PROTECTED FROM EROSION AND SEDIMENTATION BY USE OF SEDIMENT FILTER DEVICES OR MULCH.
NOTES:
1. SPACING USED FOR BOTH TEMPORARY AND FINAL INTERCEPTOR DIVERSIONS.
2. TEMPORARY INTERCEPTOR DIVERSIONS WILL BE MAINTAINED DURING THE CONSTRUCTION PHASE UNTIL FINAL INTERCEPTOR DIVERSIONS ARE INSTALLED.
3. IF EXISTING GROUND COVER IS SPARSE, SECURE SEDIMENT FILTER DEVICE IN OUTLET.
4. THE DIVERSION MAY BE EXTENDED UP TO 5 FEET OFF THE ROW, IF NECESSARY, TO PROVIDE AN ADEQUATE OUTLET.
5. DIVERSION OUTLETS WILL ALTERNATE FROM SIDE TO SIDE WHENEVER POSSIBLE.

NOT TO SCALE

Appendix C-42

INTERCEPTOR DIVERSIONS / SLOPE BREAKERS
Interceptor Diversions / Slope Breakers

Interceptor diversions are the most common and effective device used for erosion control on construction ROW. During construction, temporary diversions are installed to control water on the graded ROW. During restoration, final diversions are installed to protect the ROW from erosion until the vegetation reestablishes on the disturbed areas.

Temporary diversions are generally made by building a curb 8 to 14 inches high across the ROW. The curbs are shaped to allow passage of construction equipment and inspector vehicles. The diversion should have a gradient of 2% to 12%, and must drain either into the trench or off the ROW. Where water is directed off the ROW, the outlet will be protected by a sediment filter device or heavy vegetation. Temporary diversions may be broken down by construction equipment during the workday, but will be restored by the end of each day. Temporary diversions will be spaced along the ROW in accordance with Figure 6A. The actual number of temporary diversions may vary from that of final diversions because the construction ROW's artificial grade may reduce the slope. Temporary diversions may be constructed out of silt fence, staked hay or straw bales or sand bags with the Environmental Inspectors approval. Position the outfall of each temporary slope breaker to prevent sediment discharge into wetland, waterbodies, or other sensitive areas.

Final diversions typically consist of a curb 16 to 24 inches high below a shallow swale. The curb is constructed of compacted earth fill with side slopes of 2:1 or flatter to allow passage of maintenance equipment. The diversions should extend across the entire ROW and drain water with a 2% to 12% gradient. The outlets of final diversions are stabilized with sediment filter devices, rock, brush, or heavy vegetation. Final diversions will be spaced along the ROW in accordance with Figure 6A (or as shown on the Environmental Construction Drawings), and will tie into existing diversions where present. In places where final grade creates side slopes or slopes which break in more than one direction, diversion installation may need to vary to create an outslope of 2% to 12% which will carry water off the ROW.

Alternative diversion construction may be used in areas where an earthen diversion is impractical. In these instances, temporary diversions may be constructed with sediment filter devices as noted above.
Stakes should be spaced 8 feet apart.

36 inch total height, approx.
30 inches above ground.

NOTE: SILT FENCE CAN ALSO BE INSTALLED (USING THE SAME SPECIFICATIONS AS PRESENTED ABOVE) IN OTHER SITUATIONS FOR EROSION AND SEDIMENTATION CONTROL.

SEDIMENT FILTER DEVICE SILT FENCING
Stakes should be spaced 8 feet apart.

NOT TO SCALE
WOOD STAKES
2 INCH X 2 INCH X 5 FT.
[APPROX.]

HAY OR STRAW BALES
2 FT.X 2 FT.X 4 FT.
[APPROX.]

EMBED BALES IN EARTH APPROX.
4 INCHES

1-1/2 TO 2 FT.

SIDE VIEW

DETERMINED IN FIELD

TOP VIEW

NOTES:
1. IF BALES ARE TO BE PLACED ON TOP OF HEAVY VEGETATION, EMBEDDING THE BALES MAY NOT BE NECESSARY.
2. REBAR (3/8" TO 3/4" DIAMETER) CAN BE SUBSTITUTED FOR WOOD STAKES.

NOT TO SCALE

Appendix C-45

SEDIMENT FILTER
DEVICE
STAKED BALES
NOTES:
1. CRUSHED STONE SIZE WILL BE AASHTO NUMBER 1 COARSE AGGREGATE OR EQUIV. (4 INCH DIAMETER MINIMUM.)
2. ROCK PAD WILL BE AT LEAST 6 INCHES THICK.
3. THE ROAD ENTRANCE SHOULD HAVE A GEOTEXTILE FABRIC BENEATH THE ROCK PAD. (SEE SECTION II.E)
4. IF ROCK PAD BECOMES COVERED WITH MUD SO AS TO BECOME INEFFECTIVE, ADDITIONAL STONE WILL BE ADDED.
5. ALL STONE AND FABRIC MUST BE REMOVED DURING ROW RESTORATION.
6. THE ROCK PAD MAY BE ENLARGED TO INCLUDE A TURNING RADIUS.
NOTES:  
1. TERRA-MATS ARE CONSTRUCTED BY OVERLAPPING TIRES AND INTERCONNECTED CABLE. 
2. TERRA-MATS WILL BE UNDERLAIN WITH GEOTEXTILE FABRIC. 
3. TERRA-MATS SHOULD BE MAINTAINED SO AS NOT TO ALLOW EXCESS MUD TO ACCUMULATE.

Appendix C-47

TEMPORARY ROAD ENTRANCE TERRA-MATS
NOTES:
1. BOARD ROADS TO BE USED IN WETLANDS AND ROADWAY ENTRANCES FOR TEMPORARY ACCESS ROADS.
2. BOARD ROADS ARE CONSTRUCTED BY LAYERING A BASE OF THE INTERLOCKING MATS PARALLEL TO THE ROAD IN A STAGGERED MANNER. OTHER METHODS OF BOARD ROAD CONSTRUCTION MAY BE USED IF APPROVED BY THE EM & CP PREPARE.
3. BOARD ROADS WILL BE UNDERLAIN WITH GEOTEXTILE FABRIC. NOT TO SCALE

Appendix C-48

TEMPORARY ROAD ENTRANCE
BOARD ROAD
NOTES: 1. SIMILAR PROCEDURES WILL BE USED AT RAILROAD CROSSINGS.
2. REFER TO FIGURES 9, 10, AND 11 FOR TYPES OF ROAD ENTRANCES.

TYPICAL EROSION CONTROL MEASURES AT ROAD CROSSINGS
Appendix C-50

TRENCHLINE BARRIERS AND BREAKERS

NOTES:
1. INSTALL AT EVERY SECOND INTERCEPTOR DIVERSION PROMPTLY AS TRENCH IS COMPLETED. (SEE FIGURE 6A)
2. PRIOR TO LOWERING IN, REMOVE ALL DECOMPOSED MATERIAL AND ROCKS.
3. INSTALL SACKS TO TOP OF TRENCH ON STEEP GRADERS THAT ARE NOT USED FOR FARMING.
4. TOP OF TRENCHLINE BARRIER WILL BE BELOW PLOW DEPTH IN AGRICULTURAL LAND.
5. DOUBLE STAKED HAY/STRAW BALES MAY BE SUBSTITUTED FOR SAND BAGS (EARTH FILLED SACKS) AS TEMPORARY BREAKERS WHERE APPROPRIATE.

NOT TO SCALE
Appendix C-51

NOTES:
1. INSTALL BALES AS SHOWN. IF ADDITIONAL STORAGE VOLUME IS NECESSARY, SECURE ADDITIONAL BALES ON TOP OF INITIAL BOTTOM LAYER AND/OR BY INCREASING THE NUMBER BALES IN BOTTOM LAYER.
2. SECURE EACH BALE & EACH LAYER OF BALES USING EITHER TWO REBARS OR TWO WOODEN STAKES PER BALE.
3. PLACE A 5 TO 6 INCH DEEP LAYER OF 34 TO 1.0 INCH CLEAN STONE OR STRAW ON GROUND INSIDE BALES.
4. THE SEDIMENT TRAP WILL NOT BE GREATER THAN TWO BALES IN HEIGHT FOR SIX-BALE BOTTOM CONSTRUCTION WITHOUT ADDITIONAL REINFORCEMENT OF TRAP WALLS.
5. A FILTER BAG MAY ALSO BE UTILIZED INSIDE THE TRAP TO HELP FILTER THE DISCHARGE.

NOT TO SCALE
Appendix C-52

SIDES VIEW

NOTES:
1. FILTER BAGS SHALL BE MADE FROM NON-WOVEN GEOTEXTILE MATERIAL SEWN WITH HIGH STRENGTH, DOUBLE STITCHED "J" TYPE SEAMS. THEY SHALL BE CAPABLE OF TRAPPING PARTICLES LARGER THAN 150 MICRONS.
2. BAGS MUST BE PLACED WITHIN THE PERMITTED AREA IF ACCESSING THE BAG WITH MACHINERY IS REQUIRED FOR DISPOSAL PURPOSES. FILTER BAGS SHALL BE REPLACED WHEN THEY BECOME 1/2 FULL OF SEDIMENT. SPARE BAGS SHALL BE KEPT AVAILABLE FOR REPLACEMENT OF THOSE THAT HAVE FAILED OR ARE FILLED.
3. BAGS SHOULD BE LOCATED IN WELL-VeGETATED (GRASSY) AREAS, AND DISCHARGE ONTO STABLE, EROSION RESISTANT AREAS. WHERE THIS IS NOT POSSIBLE, A GEOTEXTILE FLOW PATH CAN BE PROVIDED OR ALLOW DISCHARGE FROM BAG TO FLOW THROUGH A SERIES OF SEDIMENT LOGS ETC., BAGS CAN BE USED INSIDE SEDIMENT TRAPS (FIGURE 14A).
4. BAGS SHALL NOT BE PLACED ON SLOPES GREATER THAN 5%.
5. THE PUMP DISCHARGE HOSE SHALL BE INSERTED INTO THE BAGS IN THE MANNER SPECIFIED BY THE MANUFACTURER AND SECURELY CLAMPED. DO NOT ALTER OR CUT BAGS.

NOT TO SCALE
NOTES:
1. INSTALL JUTE NETTING DURING RESTORATION.
2. LIME, FERTILIZE, SEED AND MULCH AREA TO BE JUTE NETTED.
3. TRENCH IN AND BURY UPHILL AND UPSTREAM EDGE OF JUTE NETTING.
4. AN INTERCEPTOR DIRECTION WILL BE INSTALLED IMMEDIATELY ABOVE JUTE NETTING ON SLOPED BANKS.
5. ON SHORT BANKS (LESS THAN 10'), JUTE NETTING CAN BE PERPENDICULAR TO BANK SLOPE.
6. INSTALL ON STEEP SLOPES OR ON THE BANKS OF FLOWING STREAMS, OR IN UPLAND AREAS.
NOTES:
1. EQUIPMENT CROSSINGS ARE TO BE PREPARED AS ILLUSTRATED IN FIGURES 21 & 22 IF NEEDED.
2. GRADE AND TRENCH SPOIL WILL BE STOCKPILED AT LEAST 10 FEET FROM THE WATER'S EDGE, TOPOGRAPHY PERMITTING.
3. SAND BAGS OR EARTH FILLED SACKS WILL BE PLACED AT UPSTREAM END OF CULVERT TO CHANNEL FLOW.

NOT TO SCALE
NOTES:  
1. EQUIPMENT CROSSINGS ARE TO BE PREPARED AS ILLUSTRATED IN FIGURES 21 & 22.
2. GRADE AND TRENCH SPOIL WILL BE STOCKPILED AT LEAST 10 FEET FROM THE WATER'S EDGE.
3. INSTALL FLUME PIPE AFTER BLASTING (IF NECESSARY), BUT BEFORE TRENCHING.
4. PROPERLY ALIGN FLUME PIPE(S) TO PREVENT BANK EROSION OR STREAM BED SCOUR.
5. COMPLETE STREAMBED AND BANK STABILIZATION BEFORE RETURNING FLOW TO THE WATERBODY CHANNEL.

NOT TO SCALE
NOTES:
1. EQUIPMENT CROSSINGS ARE TO BE INSTALLED AS ILLUSTRATED IN FIGURES 21 OR 22.
2. GRADE AND TRENCH SPOIL WILL BE STOCKPILED AT LEAST 10 FEET FROM THE WATER'S EDGE, TOPOGRAPHY PERMITTING.
3. PUMP INTAKES WILL BE SCREENED, PREVENT STREAMBED SCOUR AT DISCHARGE.
4. SUFFICIENT PUMP CAPACITY WILL BE USED TO MAINTAIN STREAM FLOW AT ALL TIMES UNTIL BACKFILL AND REMOVAL OF SANDBAG DAM.
5. BACKUP PUMPS (AS SAME NUMBER AND CAPACITY AS ACTIVE PUMPS) WILL BE READILY AVAILABLE IN WORKING CONDITION ON SITE AT CROSSING.
6. CONSTRUCT DAMS WITH MATERIAL THAT PREVENT SEDIMENT AND OTHER POLLUTANTS FROM ENTERING THE WATERBODY.
7. MONITOR THE DAM AND PUMPS TO ENSURE PROPER OPERATIONS THROUGHOUT THE WATERBODY CROSSING.

NOT TO SCALE

Appendix C-57
TYPICAL STREAM CROSSING DAM AND PUMP
NOTES: 1. EQUIPMENT CROSSINGS ARE TO BE PREPARED AS ILLUSTRATED IN FIGURES 21 & 22.
2. GRADE AND TRENCH SPOIL WILL BE STOCKPILED AT LEAST 10 FEET FROM THE WATERS' EDGE.
NOTES:
1. Minimum contouring of the bottom necessary to lay the culverts level may be done.
2. Use as many culverts as required to span entire stream bed. (Culverts shall be placed side by side.)
3. Stones will be placed at the outlet of all culverts to provide scour protection in the existing channels. Minimum rock size: 8 to 10 inches.
4. Minimum culvert diameter 20 inches.
5. Maintain rock as not to allow mud to enter the stream.
6. Align culverts to prevent bank erosion.

NOT TO SCALE

Appendix C-59

TEMPORARY EQUIPMENT CROSSING CULVERT AND STONE
NOTES:
1. CULVERT PIPE UTILIZED IF ADDITIONAL SUPPORT IS REQUIRED. ALIGN CULVERT TO PREVENT SCOUR OR BANK EROSION.
2. ADDITIONAL PADS CAN BE PUT SIDE BY SIDE IF EXTRA WIDTH IS REQUIRED.
3. EQUIPMENT PAD TYPICALLY CONSTRUCTED OF HARDWOOD; MUST ACCOMMODATE THE LARGEST EQUIPMENT USED.
4. RAMP APPROACHES CAN EITHER BE GRADED OR DUG INTO GROUND. IF NECESSARY, CRUSHED STONE WILL BE USED TO RAMP UP TO THE EQUIPMENT PADS.
5. MINIMUM CULVERT DIAMETER 20 INCHES.
6. MAINTAIN PADS SO AS NOT TO ALLOW MUD TO ENTER THE STREAM.

Appendix C-60

TEMPORARY EQUIPMENT CROSSING EQUIPMENT PADS

NOT TO SCALE
NOTES:
1. IN WETLAND AREAS WHICH CONTAIN NO STANDING WATER OR IF SOILS ARE SATURATED OR FROZEN, TOPSOIL (TOP 12 INCHES) AND SUBSOIL WILL BE STOCKPILED SEPARATELY WITHIN THE WETLAND CONSTRUCTION ROW.
2. WETLANDS WITH STANDING WATER, SATURATED OR FROZEN SOIL, OPERATE EQUIPMENT PER REQUIREMENTS IN SECTION III.B.2 (ECS)
3. A SEDIMENT FILTER DEVICE WILL BE PLACED ACROSS THE ROW AT THE WETLAND'S EDGE, IMMEDIATELY UPSLOPE OF THE WETLAND BOUNDARY.
4. A SEDIMENT FILTER DEVICE WILL BE PLACED AT THE EDGE OF THE ROW AND AROUND SOIL AND SUBSOIL PILES AS NECESSARY.

Appendix C-61

TYPICAL WETLAND CROSSING
NOTES:
1. FULL WIDTH ROW MAINTENANCE PRACTICES WITHIN 25 FEET OF PERENNIAL STREAMBANKS ARE PROHIBITED.
2. A CORRIDOR UP TO 10 FEET WIDE CENTERED ON THE PIPELINE OR APPURTEANCES MAY BE MAINTAINED IN A HERBACEOUS STATE.
3. TREES LOCATED WITHIN 15 FEET OF THE PIPELINE AND GREATER THAN 15 FEET TALL MAY BE SELECTIVELY CUT AND REMOVED FROM THE ROW.
NOTES:
1. COMPOST FILTER SOCK TO BE FILTRIXX SITTEX OR APPROVED EQUIVALENT.
2. 8", 12", 18", AND 24" COMPOST FILTER SOCK TO BE USED. SEE PLAN SHEET FOR SIZES AND LOCATIONS.
3. ACCUMULATED SEDIMENT SHALL BE REMOVED AND DISPOSED OF WHEN IT REACHES ½ THE ABOVE GROUND HEIGHT OF THE COMPOST FILTER SOCK.
4. COMPOST FILTER SOCK SHALL BE INSPECTED WEEKLY AND AFTER EACH RUNOFF EVENT. DAMAGED COMPOST FILTER SOCK SHALL BE REPAIRED ACCORDING TO MANUFACTURER'S SPECIFICATIONS.

TYPICAL
COMPOST
FILTERSOCK

Appendix C-63

NOT TO SCALE