

201406_MAP_TERA_RT_00589_01_Whitemud.mxd

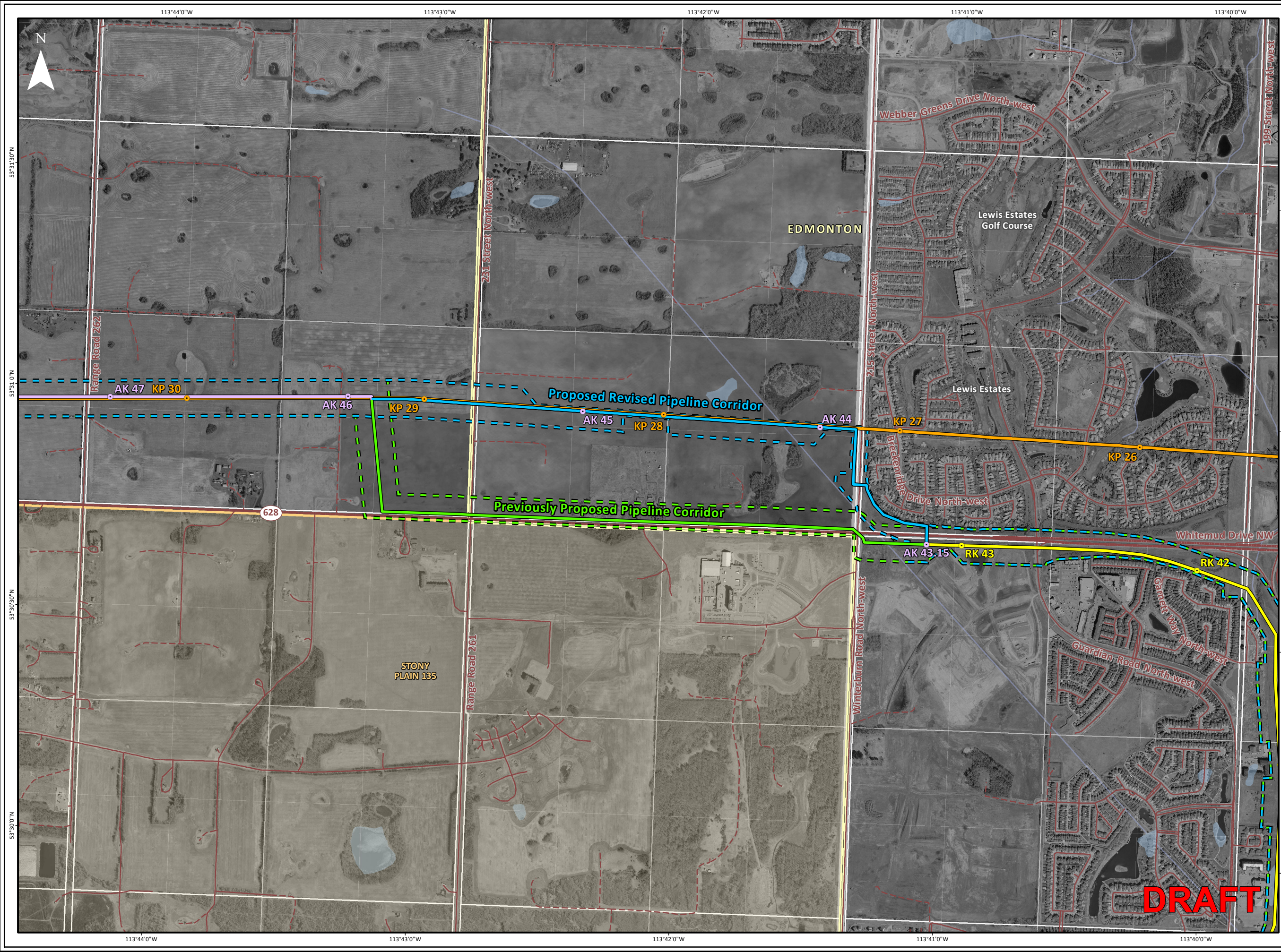
















FIGURE 2.2-2

PIPELINE CORRIDOR REVISIONS -
WHITEMUD EXTENSION

TRANS MOUNTAIN
EXPANSION PROJECT

Alternative Corridors

-  Proposed Revised Pipeline Corridor
-  Previously Proposed Pipeline Corridor

-  Reference Kilometre Post (RK)
-  Alternate Kilometre Post (AK)
-  TMPL Kilometre Post (KP)
-  TMEP Mapping Reference Line (As Filed)
-  TMEP Mapping Reference Line (New Alignment)
-  Trans Mountain Pipeline (TMPL)
-  Highway
-  Paved Road
-  Resource Road
-  Railway
-  City / Town / District Municipality
-  Indian Reserve / Métis Settlement

Projection: NAD 1983 UTM Zone 12N. Routing: Baseline TMPL & Facilities: provided by KMC, 2012; Proposed Corridors provided by UPI, August 23, 2013 and June 5, 2014. Reference Line & RK/AK provided by UPI, March 25 & 28, 2014; Additional Routing Alternatives provided by UPI 2013-2014; Transportation: IHS Inc., 2013, Natural Resources Canada, 2012; Geopolitical Boundaries: Natural Resources Canada, 2003, AltaLIS, 2013, IHS Inc., 2011, BC FLNRO, 2007 & ESRI, 2005; First Nation Lands: Government of Canada, 2007-11 & BC FLNRO, 2008; Parks and Protected Areas: Natural Resources Canada, 2014, AltaLIS, 2012 & BC FLNRO, 2008; B/W & Colour Imagery: 2008-2012: Provided by KMC, 2012.


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MAP NUMBER 201406_MAP_TERA_RT_00589_01_WHITEMUD		PAGE SHEET 1 OF 1
DATE July 2014	TERA REF. 496781	REVISION 0
SCALE 1:15,000	PAGE SIZE 11x17	DISCIPLINE RT
DRAWN AJS	CHECKED TGG	DESIGN TGG



0 100 200 300 400 500 m

ALL LOCATIONS APPROXIMATE

DRAFT

TABLE 2.2-1

STUDY OF ALTERNATIVE CORRIDORS – WHITEMUD EXTENSION (RK 43.1 TO RK 45.9)

Factors	Previously Proposed Pipeline Corridor	Proposed Revised Pipeline Corridor
LENGTHS		
Length of pipeline corridor (km)	2.8	2.7
Length following existing TMPL right-of-way (km)	0	2.0
Length following other linear features (other pipelines, power lines, highways, roads, fibre-optic lines, railways, etc.) (km)	2.4	0.4
Length of "new" corridor (km)	0.4	0.3
Total parallels (km)	2.8	2.7
CROSSINGS		
No. of highway crossings (No.)	0	0
No. of road (arterial, collector, local) crossings (No.)	2	3
No. of TMPL crossings (No.)	0	0
No. of foreign line crossings (No.)	4	4
No. of fibre-optic/other cable crossings (No.)	5	7
No. of main power line crossings (No.)	0	0
No. of distribution power line crossings (No.)	0	0
No. of railway crossings (No.)	0	0
Crossings of named rivers (No.)	0	0
Crossings of named creeks (No.)	0	0
Crossings of other watercourses (No.)	1	1
Total watercourses (No.)	1	1
GEOTECHNICAL		
Length crossing slopes > 50% on the fall line (km)	0	0
Length crossing slopes > 50% on sidehill (km)	0	0
Natural hazard potential (km)	High: 0 Medium: 0 Low: 2.8	High: 0 Medium: 0 Low: 2.7
Length of thin veneer of overburden or exposed bedrock (km)	0	0
HYDRAULICS		
Minimum elevation (m)	697	697
Maximum elevation (m)	713	713
Acceptability	Yes	Yes
LAND		
Indian Reserve (km)(name)	0	0
Provincial Crown (km)	0	0
Private (km)	1.6	2.1
Unknown Parcels (km)	0	0
No. of private parcels (No.)	2	6
ENVIRONMENT		
Wetlands crossed (km)	0.1	0
Key Wildlife and Biodiversity Zones crossed (km)	0	0
Environmentally Significant Areas crossed (km)	0	0
SOCIO-ECONOMIC		
Parks and protected areas (km)(name)	0	0
Designated Recreational Use Areas (crossed or km parallel)	0	0
Residential Use Zones crossed (km)	0.2 (Semi-Detached Residential Zone)	0.5 (Residential Small Lot Zone) 0.1 (Semi-Detached Residential Zone)
Industrial and Commercial Use Areas crossed (km)	0.1 (Site Specific Development Control Provision Zone) 1.7 (Agricultural Zone [Whitemud Drive easement]) 0.8 (Outside Edmonton)	0.6 (Agricultural Zone) 1.1 (Public Utility Zone) 0.4 (Outside Edmonton)
Transportation Infrastructure (construct within)	0	0

TABLE 2.2-1 Cont'd

Factors	Previously Proposed Pipeline Corridor	Proposed Revised Pipeline Corridor
Municipalities crossed (km) (name)	2.0 (City of Edmonton)	2.3 (City of Edmonton)
CONSTRUCTABILITY AND COST		
Constructability	Building along south side of Whitemud Drive within road easement followed by single bored crossing of Whitemud Drive and 215 th Street, then building between existing Whitemud Drive and proposed Whitemud Drive upgrade (construction of new road is several years out) continuing westerly across open farm land before bending north to rejoin the existing TMPL right-of-way. Numerous conflicts with proposed upgrades to Whitemud Drive have made this route non-viable.	Bored crossing of Whitemud Drive followed by congested area between subdivision to the north and Whitemud Drive, bored crossing of 215 th Street then building between 215 th Street and subdivision to the west, joining TMPL then working westerly within the existing TMPL right-of-way through new subdivision and open farm land to west.
Estimated Construction Cost (\$ millions)	6.4	7.8

The previously proposed pipeline corridor does not follow the existing TMPL right-of-way for any of its length. However, the proposed revised pipeline corridor follows the existing TMPL right-of-way for 2.0 km. The previously proposed pipeline corridor traverses 0.2 km of residential land use zone and the proposed revised pipeline corridor traverses 0.6 km of residential land use zone. Private land is traversed by the previously proposed pipeline corridor and the proposed revised pipeline corridor for 1.6 km and 2.1 km, respectively.

TABLE 2.2-2

ENGAGEMENT SUMMARY – WHITEMUD EXTENSION (RK 43.1 TO RK 45.9)

Organization or Group	Previously Proposed Pipeline Corridor		Proposed Revised Pipeline Corridor	
	Supportive Comments	Concerns Raised	Supportive Comments	Concerns Raised
Public Consultation				
City of Edmonton, various events	<p>Meeting on June 9, 2014:</p> <ul style="list-style-type: none"> City of Edmonton indicated it preferred this alternative as it does not interfere with expansion plans at the Whitemud interchange at 215th Street. 	<p>Application to Participate:</p> <ul style="list-style-type: none"> City of Edmonton indicated if TMEP were to exit the TUC following the existing right-of-way, it would go through three mature neighbourhoods, where approximately 70 homes back onto the right-of-way. They also noted that if this were to be the selected alternative, Trans Mountain would have to address concerns of residents. <p>Routing Update Workshop on March 25, 2014:</p> <ul style="list-style-type: none"> City of Edmonton noted residents of West Edmonton communities around Lewis Estates and Rosenthal would be concerned about construction going through their community. 	<ul style="list-style-type: none"> None received 	<p>Meeting on June 9, 2014:</p> <ul style="list-style-type: none"> City of Edmonton indicated this alternative would interfere with the City's expansion plans at the Whitemud interchange at 215th Street. <p>Meeting on February 3, 2014:</p> <ul style="list-style-type: none"> City of Edmonton confirmed Trans Mountain was aware of an ongoing concept planning study for Whitemud Drive and the existing road would be upgraded and realigned horizontally and vertically as it is upgraded to a freeway. City of Edmonton indicated interchanges will be constructed at 215th Street, 231st Street and possibly 207th Street and the vertical alignment of Whitemud Drive will be depressed at those locations. The City of Edmonton also noted Trans Mountain's timing may not align well with the Whitemud Drive expansion. City of Edmonton also noted the Whitemud Drive option would result in some residences being situated between the two pipelines.
Participants at Edmonton West Community Routing Workshops May 7 and 8, 2013	<ul style="list-style-type: none"> None received. 	<ul style="list-style-type: none"> None received. 	<ul style="list-style-type: none"> None received. 	<ul style="list-style-type: none"> None received.
General Public - Online Engagement following Workshops on May 7 and 8, 2013	<ul style="list-style-type: none"> None received. 	<ul style="list-style-type: none"> None received. 	<ul style="list-style-type: none"> None received. 	<ul style="list-style-type: none"> None received.
Participants at Edmonton Public Information Session May 16, 2013	<ul style="list-style-type: none"> None received. 	<ul style="list-style-type: none"> None received. 	<ul style="list-style-type: none"> None received. 	<ul style="list-style-type: none"> None received.
General Public - Online Engagement following Information Session on May 16, 2013	<ul style="list-style-type: none"> None received. 	<ul style="list-style-type: none"> None received. 	<ul style="list-style-type: none"> None received. 	<ul style="list-style-type: none"> None received.
Participants at Edmonton Routing Update Workshop March 25, 2014	<ul style="list-style-type: none"> None received. 	<ul style="list-style-type: none"> This alternative goes through a golf course and residential communities; would have impacts on local traffic. 	<ul style="list-style-type: none"> This alternative would reduce the impact on residential communities and on the Lewis Estates Golf Course. 	<ul style="list-style-type: none"> None received.

TABLE 2.2-2 Cont'd

Organization or Group	Previously Proposed Pipeline Corridor		Proposed Revised Pipeline Corridor	
	Supportive Comments	Concerns Raised	Supportive Comments	Concerns Raised
General Public - Online Engagement following Workshop on March 25, 2014	<ul style="list-style-type: none"> None received. 	<ul style="list-style-type: none"> None received. 	<ul style="list-style-type: none"> None received. 	<ul style="list-style-type: none"> None received.
Participants at West Edmonton Routing Information Session June 9, 2014	<ul style="list-style-type: none"> None received. 	<ul style="list-style-type: none"> This alternative goes through a golf course and residential communities. 	<ul style="list-style-type: none"> This alternative would reduce the impact on residential communities and the Lewis Estates Golf Course. 	<ul style="list-style-type: none"> None received.
General Public - Online Engagement following Information Session on June 9, 2014	<ul style="list-style-type: none"> None received. 	<ul style="list-style-type: none"> None received. 	<ul style="list-style-type: none"> None received. 	<ul style="list-style-type: none"> None received.
Aboriginal Engagement				
<ul style="list-style-type: none"> None received. Previously proposed and proposed revised pipeline corridors are not located on Crown land. 				
Landowner Relations				
Landowners were contacted in May 2013 and again in July 2013	<ul style="list-style-type: none"> None received. 	<ul style="list-style-type: none"> None received. 	<ul style="list-style-type: none"> Support for following the existing TMPL right-of-way for a greater length than the previously proposed pipeline corridor. 	<ul style="list-style-type: none"> None received.

Residents of West Edmonton indicated a preference for the proposed revised pipeline corridor (Whitemud Drive), as it would keep construction out of residential communities and away from the Lewis Estates Golf Course. The City of Edmonton has expressed concern regarding disruption to West Edmonton communities. However, the City of Edmonton has also indicated that the proposed revised pipeline corridor will likely interfere with plans to extend Whitemud Drive and expand the interchange at Whitemud Drive and 215th Street.

The previously proposed alternative pipeline corridor that traversed through the residential area of Lewis Estates is no longer being considered by Trans Mountain. Although this route option would parallel the existing TMPL right-of-way through this community, there would be considerable impacts to many residences during construction of the pipeline. A suitable option was available to route the pipeline corridor to the west by following the existing Whitemud Drive corridor while avoiding Lewis Estates.

Environmental field studies in the Whitemud Extension area were conducted for soils in April and May 2014, aquatics in early and late May as well as in early June 2014, for wetlands in late June 2014, and for vegetation in June and July 2014.

Wabamun Lake Provincial Park (RK 93.3 to RK 99.6)

In the time since Trans Mountain filed its Application with the NEB, Alberta Tourism, Parks and Recreation (ATPR) has indicated that it would support the routing of the TMEP adjacent to the existing TMPL right-of-way through Wabamun Lake Provincial Park, which was designated in 1955, two years after the original TMPL was constructed. Therefore, Trans Mountain has revised the previously proposed pipeline corridor from the Application to the proposed alternative corridor and has made the route option that parallels the existing TMPL right-of-way through Wabamun Lake Provincial Park the proposed revised pipeline corridor. The two alternative corridors are shown on Figure 2.2-3 and evaluated in Table 2.2-3. An engagement summary regarding the Wabamun Lake Provincial Park pipeline corridor selection process is provided in Table 2.2-4.