

1 **REFERENCE:**

2

3 **QUESTION:**

4

5 1. What are the normal line losses (%) for a 34.5 kV distribution power line?

6

7 **ANSWER:**

8

9 In Yukon, 34.5 kV lines (and 25 kV) are utilized more for transmission, not distribution.

10

11 There is no normal value for line losses for any line of a particular voltage. Losses are  
12 subject to many variables, including conductor size, line loading, temperature and  
13 length.

14

15 Lines of different voltages and construction will have different capital costs and different  
16 levels of losses for service to a given load or system. Voltages are selected for any  
17 particular project based on achieving a minimum consolidated cost for both constructing  
18 and operating the line.

19

20 Also see exhibit B-21 from the 2006 Resource Plan hearings in regards to YEC's  
21 transmission line losses.



1 **REFERENCE:**

2

3 **QUESTION:**

4

5 1. What are the normal line losses (%) for a 138 kV transmission power line?

6

7 **ANSWER:**

8

9 Please see PWP-YEC-1-1.



1 **REFERENCE:**

2

3 **QUESTION:**

4

5 1. What % of YEC's current transmission lines are at 34.5 kV?

6

7 **ANSWER:**

8

9 Yukon Energy has almost no 34.5 kV transmission (lower voltage transmission on YEC's  
10 system is primarily 25 kV comprising the Haines Junction line and the Ross River line).

11 Most of the 34.5 kV lines in Yukon are owned by YECL.



1 **REFERENCE:**

2

3 **QUESTION:**

4

5 1. Provide information from other adjacent jurisdictions' electric utilities that would  
6 support YEC' classification of a 34.5 kV power line as a transmission line rather  
7 than a distribution line.

8

9 **ANSWER:**

10

11 Transmission versus distribution is a definition of function, not voltage. Please see  
12 PWP-YEC-1-6.



1 **REFERENCE:**

2

3 **QUESTION:**

4

5 1. What % of other adjacent jurisdictions' electric utilities' transmission (not  
6 distribution) systems are 34.5 kV verses other higher voltages?

7

8 **ANSWER:**

9

10 In terms of northern jurisdictions, NTPC has 34.5 kV transmission on the Taltson system  
11 for service to Fort Resolution; however, the bulk of their transmission is 115 kV. YEC  
12 does not have percentages available for NTPC.

13

14 In Nunavut, there is no transmission.

15

16 YEC does not have statistics on transmission in Alaska.



1 **REFERENCE:**

2

3 **QUESTION:**

4

5 1. At what line lengths and at what electrical base loads do other jurisdictions'  
6 utilities on average normally switch from distribution at 34.5 kV to transmission at  
7 69 or 138 kV?

8

9 **ANSWER:**

10

11 The question is not clear. Transmission and distribution serve two different functions  
12 that are not substitutes. Distribution relates to lower voltage systems that typically feed  
13 many customers in a given area. Transmission is typically higher voltage (in Yukon 25  
14 kV or greater) related to moving power between generation and load centres.

15

16 The factors related to choice of voltage, or the decision to undertake a voltage  
17 conversion of a system, are discussed in PWP-YEC-1-1.



1 **REFERENCE:**

2

3 **QUESTION:**

4

5 1. Will the Mine Spur line follow the mine access road corridor fairly closely or will it  
6 follow a more direct route cross country? What is (or are) the anticipated  
7 length(s) of the Spur Line route(s) from the Minto Landing substation to the point  
8 of delivery at the Mine?

9

10 **ANSWER:**

11

12 The selected route for the 35 kV MS transmission line as described in Schedule A to the  
13 PPA generally follows the mine access road corridor rather than a more direct route  
14 cross country. The preferred route is approximately 27 km in length and will start at the  
15 Minto Landing substation, follow close to the access road through the community of  
16 Minto Landing to the existing barge landing site, cross the Yukon River close to, or  
17 slightly south of, the barge landing site, and then generally follow the mine access road  
18 from the southern shore of the Yukon River, to the mine site.



1 **REFERENCE:**

2

3 **QUESTION:**

4

5 1. What is the current preliminary design length of the main 138kV transmission line  
6 from the Carmacks substation to the Minto Landing substation?

7

8 **ANSWER:**

9

10 The current preliminary design length of the main 138kV transmission line from the  
11 Carmacks substation to the Minto Landing substation, as described in Schedule B to the  
12 PPA, is 69 km.



1 **REFERENCE:**

2

3 **QUESTION:**

4

- 5 1. Please provide, in a table format, the detailed preliminary cost estimates to  
6 construct the Mine Spur 34.5 kV distribution power line. The table to show the  
7 costs and quantities for each of: the major materials components (poles/support  
8 structures, conductors/cables, cross arms, insulators, anchors, transformers,  
9 other supplies, etc); freight costs; the costs and quantities (hours) for each piece  
10 of equipment to be employed; all labour cost components; mobilization costs;  
11 camp costs; and, the costs for each of the following: planning, design,  
12 engineering, surveying, construction supervision, quality control inspection,  
13 environmental monitoring, etc and administrative overheads; plus details of any  
14 and all other costs which may be significant.

15  
16 **ANSWER:**

17  
18 Detailed preliminary engineering and related cost estimates have not yet been prepared  
19 (this work is targeted to be done by the engineering consultant currently being selected  
20 as part of the initial work to be completed in May 2007).

21  
22 The estimated in-service cost for the Mine Spur of \$3.83 million in Section 5.1 of the  
23 PPA was developed as follows:

24  
25 **a) 2005\$ cost estimate**

26 a. Line cost at \$85 k per km (27 km)	\$2.295 million
27 b. Added cost for Yukon River crossing <sup>1</sup>	0.315
28 c. Allowance for substation costs	<u>0.500</u>
29 d. Subtotal	3.110 million
30 e. 10% allowance for permitting/design	<u>0.311</u>
31 f. Total cost estimate (2005\$)	3.421 million

---

<sup>1</sup> Allow added cost of \$900 per metre for 350 metres.

1

2

**b) In-service cost (2008\$)**

3

a. Assume 3rd Quarter 2008 in-service

4

Allow approx. 12% for inflation and IDC

0.410

5

In-service cost estimate

\$3.831 million

1 **REFERENCE:**

2

3 **QUESTION:**

4

5 1. Please provide, in a table format, the detailed preliminary cost estimates as per  
6 9) above to construct the main 138 kV transmission power line from Carmacks to  
7 the Minto Landing Mine Spur substation.

8

9 **ANSWER:**

10

11 Detailed preliminary engineering and related cost estimates have not yet been prepared  
12 (this work is targeted to be done by the engineering consultant currently being selected  
13 as part of the initial work to be completed in May 2007).

14

15 Estimated mid-point costs in 2005\$ per Schedule 1 to the Application assume \$160,000  
16 construction/supervision cost per km, i.e., this cost (2005\$) for the 69 km segment from  
17 Carmacks to Minto Landing equal \$11.04 million excluding any consideration of inflation,  
18 IDC, planning, permitting, design or related substation costs at Carmacks. Escalation of  
19 the cost to in-service quarter 3 of 2008 would equal approximately \$12.4 million.



1 **REFERENCE:**

2

3 **QUESTION:**

4

5 1. What steps and safe guards does YEC plan to institute so as to ensure that the  
6 costs associated with the: planning, design, engineering, surveying, construction  
7 supervision, quality control inspection, environmental monitoring, etc and  
8 administrative overheads are properly allocated to each of the two projects, the  
9 Mine Spur line and the Main Transmission line?

10

11 **ANSWER:**

12

13 The predominant approach to cost allocation will be direct allocation. Where costs are  
14 common and therefore not specifically assignable to one portion of the line versus  
15 another, costs will be allocated using a pro rata calculation with an appropriate base  
16 (e.g. line length, % of cost, etc).



1 **REFERENCE:**

2

3 **QUESTION:**

4

5 1. Please provide further background information on the rationale (what is the  
6 practice of most other electric utilities when establishing and collecting customer  
7 contributions) and the detailed calculations that support how the \$7.2 M customer  
8 contribution was determined.

9

10 **ANSWER:**

11

12 Please see YUB-YEC-1-7 for review of how the total Capital Cost Contribution was  
13 determined, including the \$7.2 million for the CS Project.

14

15 The specific number was derived as follows:

16

- 17 • Carmacks to Minto Landing line length at 69 km (see response to PWP-YEC-1-  
18 8).
- 19 • Assumed cost (2005\$) of 35 kV line per km at \$85k (see response to PWP-YEC-  
20 1-9).
  - 21 – Resulting (2005\$) cost at \$5.865 million for line construction/supervision.
  - 22 – Add 10% for permitting/design - total cost (2005\$) at \$6.45 million.
- 23 • In-service Quarter 3 2008 cost (allow 12 % for inflation and IDC per PWP-YEC-8  
24 and 9) – total cost (2008\$) at \$7.2 million.



1 **REFERENCE:** On page 17 of the Application the last paragraph of Section 5.1.5

2  
3 **QUESTION:**

- 4
- 5 1. On page 17 of the application the last paragraph of section 5.1.5  
6 Decommissioning Costs states "..., Minto will pay to YEC any excess costs  
7 above the Accrued Decommissioning Fund (and YEC will repay to Minto any  
8 excess in the Fund that is not required)." As Minto, its parent and any  
9 subsidiaries may in fact be non existent by the time the Spur is finally  
10 decommissioned, what assurances does YEC have that excess costs can be  
11 recovered other than to ensure that the Fund is in fact over funded?

12  
13 **ANSWER:**

14  
15 The following considerations are noted to support YEC's expectation that there will be no  
16 need to seek recovery of any excess costs at the time when actual decommissioning  
17 occurs:

- 18
- 19 • The PPA sets out procedures and obligations on Minto to ensure that an  
20 adequate Accrued Decommissioning Fund will be established based on a  
21 Decommissioning Cost Payment by Minto during its operating period and prior to  
22 the discharge of the YEC Security.
  - 23 • Further, the Fund will accrue value in excess of the estimated amount if the Mine  
24 Shut Down Date is (as expected) more than three years after the  
25 Decommissioning Cost Payment is provided by Minto.
  - 26 • Finally, YEC anticipates that the Minto Landing substation and most of the Mine  
27 Spur to the east of the Yukon River will be retained for long-term local community  
28 use and thus no decommissioning costs will be incurred or required for this  
29 portion of the Mine Spur.

30  
31 It is intended that the Accrued Decommissioning Fund will cover the costs of  
32 decommissioning the full Mine Spur. This fund is to be established based on the  
33 following procedures and the Decommissioning Cost Payment obligation of Minto (which  
34 is covered under the YEC Security):

- 35
- 36 • Estimated Decommissioning Costs are considered to be an amount equal to 25%  
37 of the Capital Costs incurred by YEC for the Mine Spur.

- 1 • The Decommissioning Cost Payment as currently estimated (based on current  
2 Mine Spur cost estimate) will total \$850,000 which is to be deposited into the  
3 Accrued Decommissioning fund account and invested at 6.5% interest per  
4 annum.
- 5 • Section 11.2(c) sets out that this amount is intended to equal the Estimated  
6 Decommissioning Costs within three years after payment into the Accrued  
7 Decommissioning Fund and to that end adjustments will be made to reflect the  
8 amount by which the Mine Spur Revised Estimate is determined to be greater or  
9 less than the current estimated Capital Cost of the Mine Spur of \$3,830,000 and  
10 after determination of the Capital Costs of the Mine Spur, the amount by which  
11 the actual Capital Costs for the Mine Spur are determined to be greater or less  
12 than the Mine Spur Revised Estimate.

13  
14 The Decommissioning Costs are covered by the YEC Security. It is anticipated that by  
15 sometime in 2010 the Current Bank Financing will have been paid off and YEC will have  
16 a first charge over Minto's assets. If Minto goes bankrupt the Decommissioning Costs  
17 and other amounts owing may be redeemed through the security provisions pursuant to  
18 section 6.5 of the PPA.

19  
20 If the Mine life runs its course Part 11 of the PPA provides that Minto must provide YEC  
21 with 6 months prior written notice of the Mine Shut Down Date, and after the Mine Shut  
22 Down Date the Accrued Decommissioning Fund Amount will be used to pay the actual  
23 Decommissioning Costs. YEC is to exercise commercially reasonable efforts to carry  
24 out and complete such decommissioning as soon as reasonably feasible. Any excess  
25 costs over and above that in the Accrued Decommissioning Fund will be invoiced to  
26 Minto within 10 Business Days of the month in which costs are incurred. Under 11.3  
27 Minto would have to pay the invoiced amount on or before the 15<sup>th</sup> Business Day after  
28 the invoice is received. This establishes a tight timeline within which final costs must be  
29 determined and any adjusted costs paid to YEC.

1 **REFERENCE:**

2

3 **QUESTION:**

4

5 1. It appears that the Mine Net Revenue Account (MNRA) is really an entirely  
6 internal accounting procedure that YEC is seeking approval from the YUB to  
7 establish. Nowhere under section 3.6 on page 17 of the PPA does the Minto  
8 Mine have any obligations to or within the MNRA! So why pray tell is this  
9 Account included in the PPA? Why should this section not be removed from the  
10 PPA in keeping with the KISS principle - to keep it simple!

11

12 **ANSWER:**

13

14 The Mine Net Revenue Account is integral to the PPA as one of the agreed upon  
15 measures determined as between the Parties to ensure that per page 1, provision C of  
16 the PPA, "other ratepayers in the Yukon Territory will not be adversely impacted by the  
17 costs of the Transmission Project required to provide Grid Electricity to the Mine."

18

19 Section 3.6 provides that Mine Net Revenue cannot become part of the ongoing revenue  
20 requirement calculations applicable for setting rates for other ratepayers. Since the  
21 Board has jurisdiction with regard to setting and determining the revenue requirement  
22 and rate base it would have to approve an account which may materially impact how  
23 rates are set for other ratepayers.

24

25 Please see response to YUB-YEC-1-15 for review of the MNRA purpose.



1 **REFERENCE: 3.6 Mine Net Revenue Account (D)**

2

3 **QUESTION:**

4

5 1. Why under **3.6 Mine Net Revenue Account** (d) would each Party provide  
6 independent submissions to the YUB as to how the MNRA should be disposed of  
7 for the benefit of Yukon Territory rate payers? What interest does Minto have in  
8 the disposition of this Account and why?

9

10 **ANSWER:**

11

12 Minto has stipulated that it has an interest in making such presentations. During the life  
13 of the Mine Net Revenue Account Minto will be a YEC ratepayer and like other  
14 ratepayers will be foregoing present benefits during the life of the deferral account to  
15 ensure rate stability for all Yukon ratepayers.



1 **REFERENCE:**

2

3 **QUESTION:**

4

5 1. Please reproduce the Tables B-2 through B-8 on 11" x 17" sheets so that they  
6 can be more easily read and compared.

7

8 **ANSWER:**

9

10 Tables B-2 to B-11 are provided on 11" x 17" sheets in PWP-YEC-1-16 Attachment 1.



1 **REFERENCE:**

2

3 **QUESTION:**

4

5 1. Please reprint the Table D-1 so that it can be more easily read.

6

7 **ANSWER:**

8

9 Table D-1 is provided on an 11" x 17" sheet provided PWP-YEC-1-17 Attachment 1.



1 **REFERENCE: Part 5 Capital Cost Contribution**

2

3 **QUESTION:**

4

5 1. Why in **PART 5 CAPITAL COST CONTRIBUTION** is the \$7.2M amount not  
6 actually stated as being the Carmacks-Minto Landing Capital Cost Contribution?  
7 Why does this \$7.2M figure only appear in the Definitions?

8

9 **ANSWER:**

10

11 This is a contract. The Carmacks-Minto Landing Capital Cost Contribution is a defined  
12 term and is defined as a sum of \$7.2 million, representing Minto's contribution to the  
13 Capital Costs incurred by YEC for the Carmacks-Minto Landing Segment. Legally, there  
14 is no need to repeat the definition throughout the rest of the document.



1 **REFERENCE: Schedule D (1) and (2) c)**

2

3 **QUESTION:**

4

5 1. Please describe in detail and provide draft reporting forms that YEC plans to  
6 employ under **SCHEDULE D (1)** to prove/ensure that “the customer” has  
7 provided “YEC with auditable reporting and controls as reasonably required by  
8 YEC to confirm that all Secondary Energy so provided has been used only to  
9 process Low Grade Ore”. And provide similar details / forms to be used under  
10 (2) c).

11

12 **ANSWER:**

13

14 Please see YUB-YEC-1-11(2). YEC has not yet developed any specific draft reporting  
15 forms in this regard.



1 **REFERENCE: Schedule D: Interruptions**

2

3 **QUESTION:**

4

5 1. In **SCHEDULE D** under **INTERRUPTIONS:** should the wording “on notice not  
6 exceeding 24 hours” not be changed to read “on notice of not less than 24  
7 hours”?

8

9 **ANSWER:**

10

11 No. The wording limits the extent of notice that Minto is entitled to for an interruption.  
12 The intent of the Parties is to have such notice effective as soon as practicable within the  
13 24 hour period.



1 **REFERENCE: Page 19 of the PPA under 4.4 Point of Delivery**

2

3 **QUESTION:**

4

- 5 1. On page 19 of the PPA under **4.4 Point of Delivery** it states “YEC  
6 may,...establish and maintain the Point of Delivery at the Diesel Plant Site after  
7 YEC having provided written notice to Minto.” Is YEC considering establishing  
8 the Point of Delivery elsewhere? If so where and why? Would it not be to YEC’  
9 and the rest of the electric rate payers’ advantage for YEC to establish the Point  
10 of Delivery with appropriate metering at the Minto Landing substation thereby  
11 having the mine pick up the line losses on the lengthy 34.5 kV distribution line?

12

13 **ANSWER:**

14

15 Under the PPA, the Point of Delivery will be at the Mine Site. Other options are not  
16 provided for in the PPA.

17

18 The Point of Delivery is defined on page 11 as “the point at the Mine Site which YEC’s  
19 service conductors forming part of the Transmission Project are connected to the wires  
20 or apparatus of Minto at the Diesel Plant Site, specifically at the secondary side of the  
21 transformation equipment used to step down from 25 kV or 35 kV to 4.16 kV which will  
22 be the point of metering.” The Diesel Plant Site is defined on page 5 of the PPA as “the  
23 location at the Mine Site where the Diesel Units and any other diesel generator owned or  
24 leased by Minto are situated, and includes any substation facilities used by Minto that  
25 are located in or adjacent to such location.”

26

27 The above-referred section 4.4 sets out that Grid Electricity will be delivered and  
28 received at the Point of Delivery - the above-noted defined term located at the Diesel  
29 Plant Site. YEC may establish and maintain the Point of Delivery at the Diesel Plant Site  
30 after YEC has provided written notice to Minto.



1 **REFERENCE: Schedule F General Security Agreement pp 3; 1.2**

2

3 **QUESTION:**

4

5 1. In Schedule F **GENERAL SECURITY AGREEMENT** pp 3; 1.2 **Collateral** is there  
6 a repeat typo error at the end of the paragraph?

7

8 **ANSWER:**

9

10 This will be corrected with the GSA is executed – the correct reference should be to 1.1  
11 (b).



1 **REFERENCE: Schedule F General Security Agreement pp 4; 1.3 (c)**

2

3 **QUESTION:**

4

5 1. In Schedule F **GENERAL SECURITY AGREEMENT** pp 4; 1.3 (c) **Exclusions**  
6 please explain what “consumer goods” might include.

7

8 **ANSWER:**

9

10 Consumer goods are goods which are used or acquired for use primarily for personal,  
11 family or household purposes. This is a standard exclusion in corporate security  
12 agreements.



1 **REFERENCE: Schedule F General Security Agreement (GSA) pp 4; 1.7**

2

3 **QUESTION:**

4

5 1. In Schedule F **GENERAL SECURITY AGREEMENT (GSA)** pp 4; 1.7 **Floating**  
6 **Charge Not a Fixed Charge** if the PPA and this Security Agreement are to be  
7 governed by the laws of Yukon why is the meaning defined by the *BC Land Title*  
8 *Act*?

9

10 **ANSWER:**

11

12 Minto has an office in Vancouver as well as in the Yukon and this is the reason for the  
13 reference to British Columbia.



1 **REFERENCE: GSA Part 3 pp 6; 3.1(a) (iv)**

2

3 **QUESTION:**

4

5 1. In the GSA PART 3 pp 6; 3.1(a) (iv) Has the Debtor (Minto) obtained the consent  
6 in writing referred to?

7

8 **ANSWER:**

9

10 Yes, the consent is part of the Direct Agreement between Macquarie Bank, YEC and  
11 Minto.



1 **REFERENCE: GSA Part 4 pp 9; 4.1(p)**

2

3 **QUESTION:**

4

5 1. In the **GSA PART 4** pp 9; 4.1(p) Under what circumstances and for what  
6 purposes would the Secured Party (YEC) contemplate advancing money to the  
7 Debtor (Minto) to purchase or acquire anything? Please explain.

8

9 **ANSWER:**

10

11 It is unknown and not contemplated at this time, but this is included in case of such a  
12 contingency. This is a standard term in a commercial general security agreement.



1 **REFERENCE: GSA Schedule 1**

2

3 **QUESTION:**

4

5 1. Regarding the **GSA SCHEDULE 1**: Please provide the dollar amounts for each  
6 and all of the Prior Security Interests.

7

8 **ANSWER:**

9

10 The amounts owing under these prior equipment contracts will be relatively minimal  
11 compared to the amounts owing to Macquarie Bank and all of these charges are for  
12 specific pieces of equipment which relate to the construction or operation of the mine.



1 **REFERENCE:**

2

3 **QUESTION:**

4

5 1. In the Event of Default can YEC elect to only assume the Debtor's collateral  
6 security / assets that do not have liabilities attached to them - i.e. avoid mining  
7 claims to which there may be large out standing environmental remediation work  
8 still required or possibly the acid generating low grade ore stockpile and the site /  
9 claim(s) on which this stockpile is located? Or does the loser take all?

10

11 **ANSWER:**

12

13 In an enforcement scenario, YEC will always have the option whether or not to take  
14 possession or control of a specific asset of the debtor. Merely because a secured party  
15 holds a security interest in an asset does not mean that the secured party will have  
16 responsibility for it.



1 **REFERENCE: Maps of Schedule A & B**

2

3 **QUESTION:**

4

5 1. Please reproduce all the maps of SCHEDULE A & B on 11"x17" at a suitable  
6 scale so that they can be seen by the naked eye.

7

8 **ANSWER:**

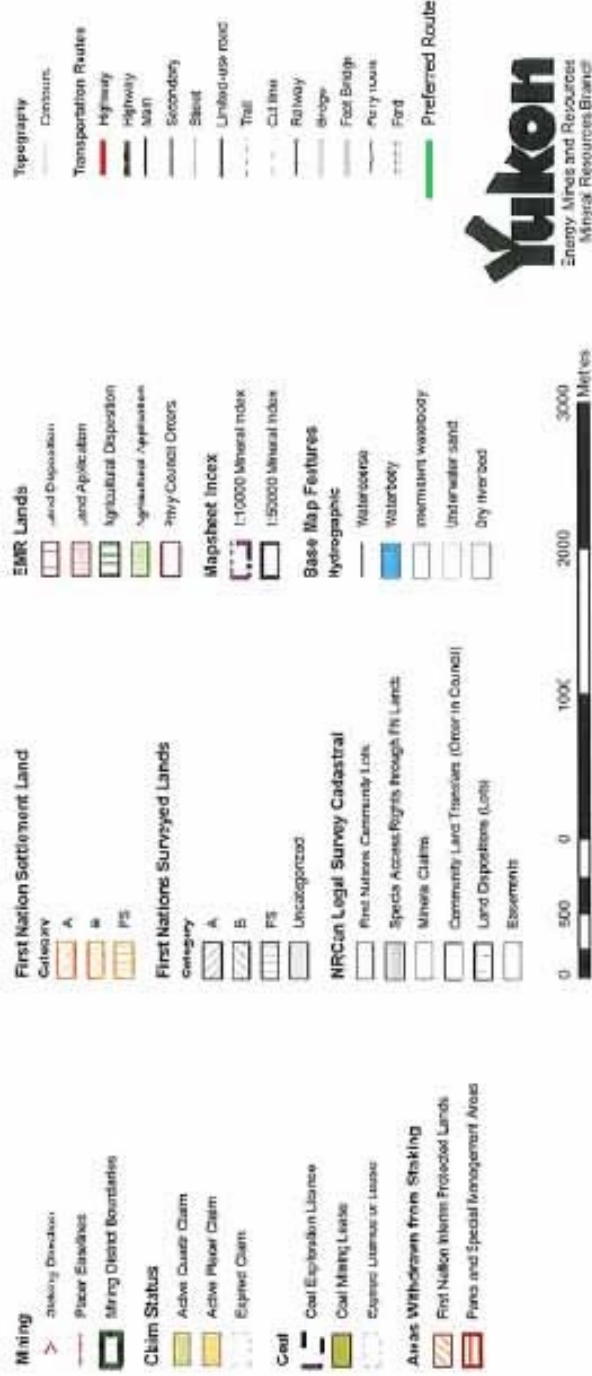
9

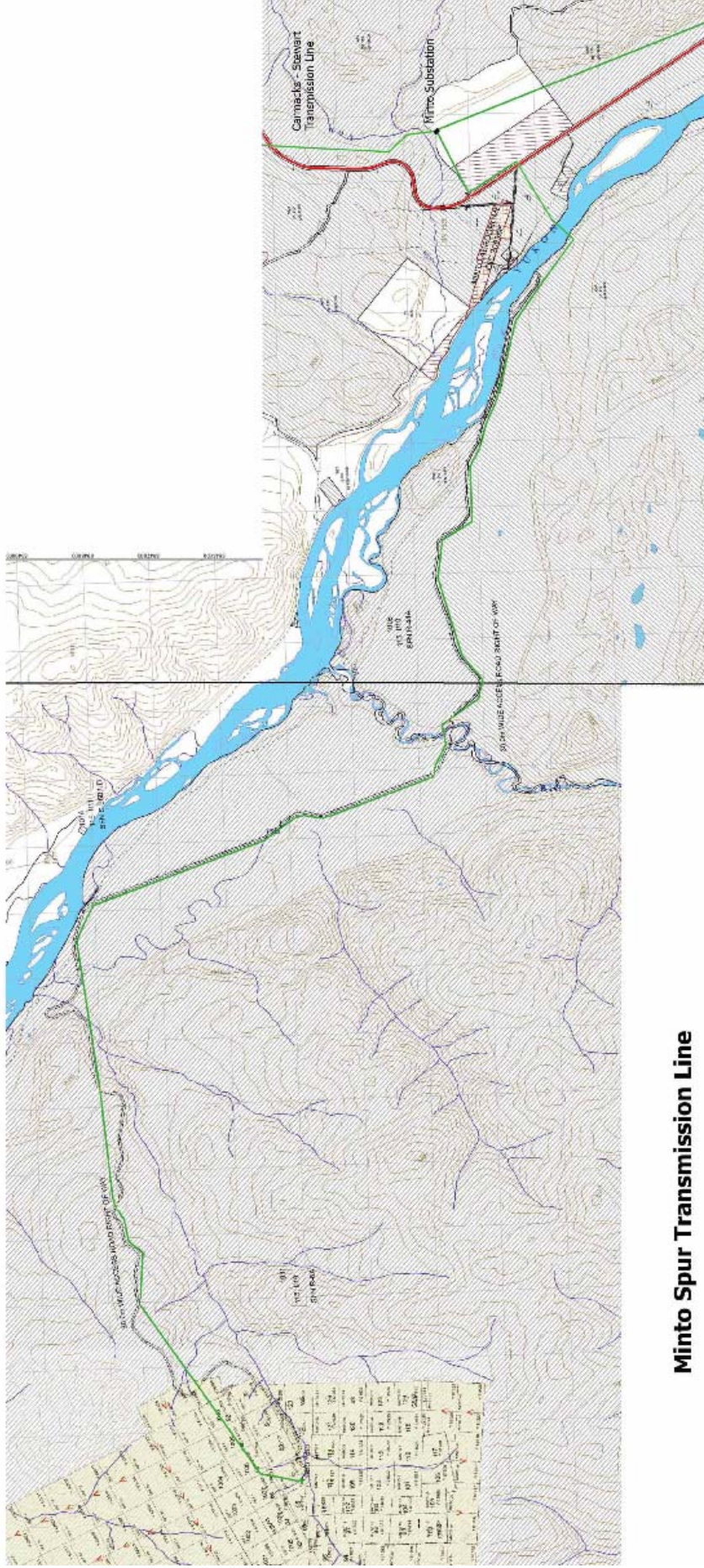
10 SCHEDULE A & B are provided on 11" x 17" sheets in PWP-YEC-1-29 Attachment 1.



## SCHEDULE A

### PLANNED ROUTE FOR MINE SPUR





**Minto Spur Transmission Line**

**Preferred Route**

**SCHEDULE B**

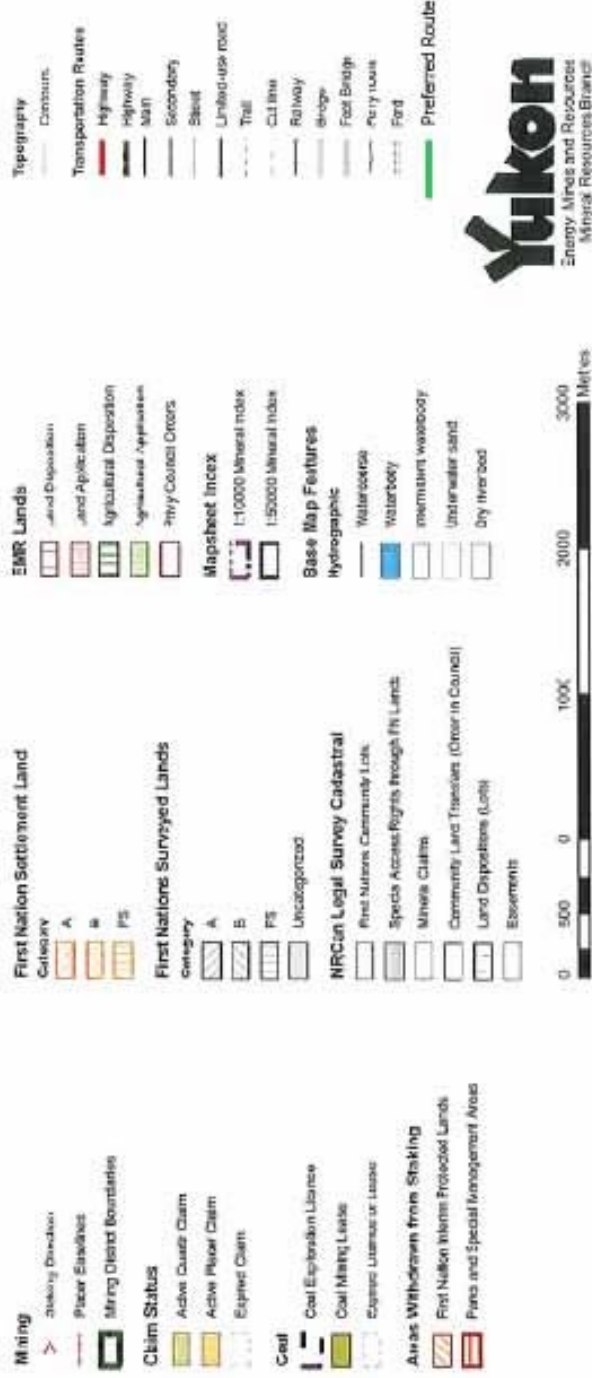
**PLANNED ROUTE FOR CARMACKS-MINTO LANDING SEGMENT**

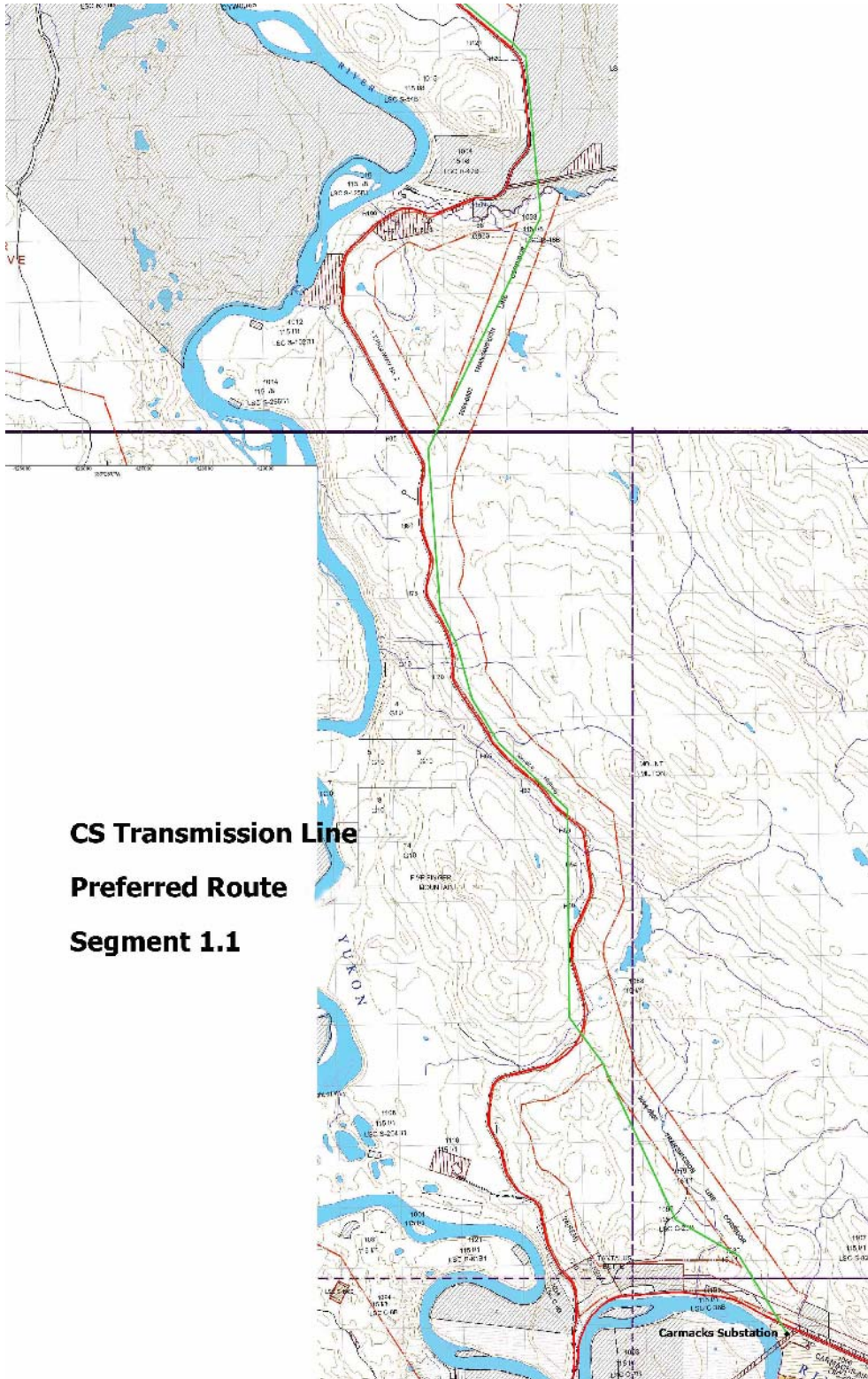
**Segment 1**

- Map 1 Segment 1.1 Carmacks to Tatchun Creek
- Map 2 Segment 1.2 Tatchun Creek to McGregor Creek

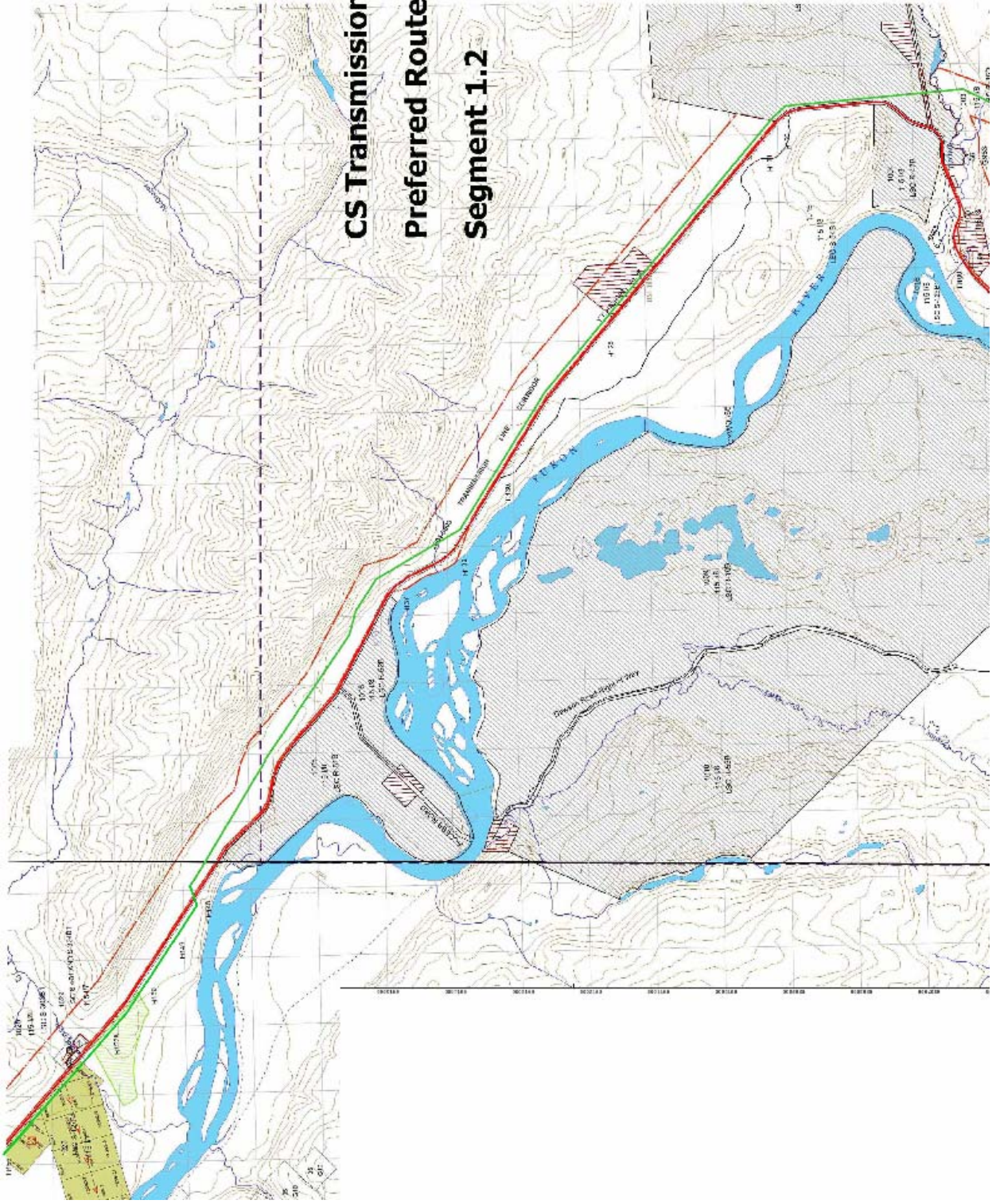
**Segment 2**

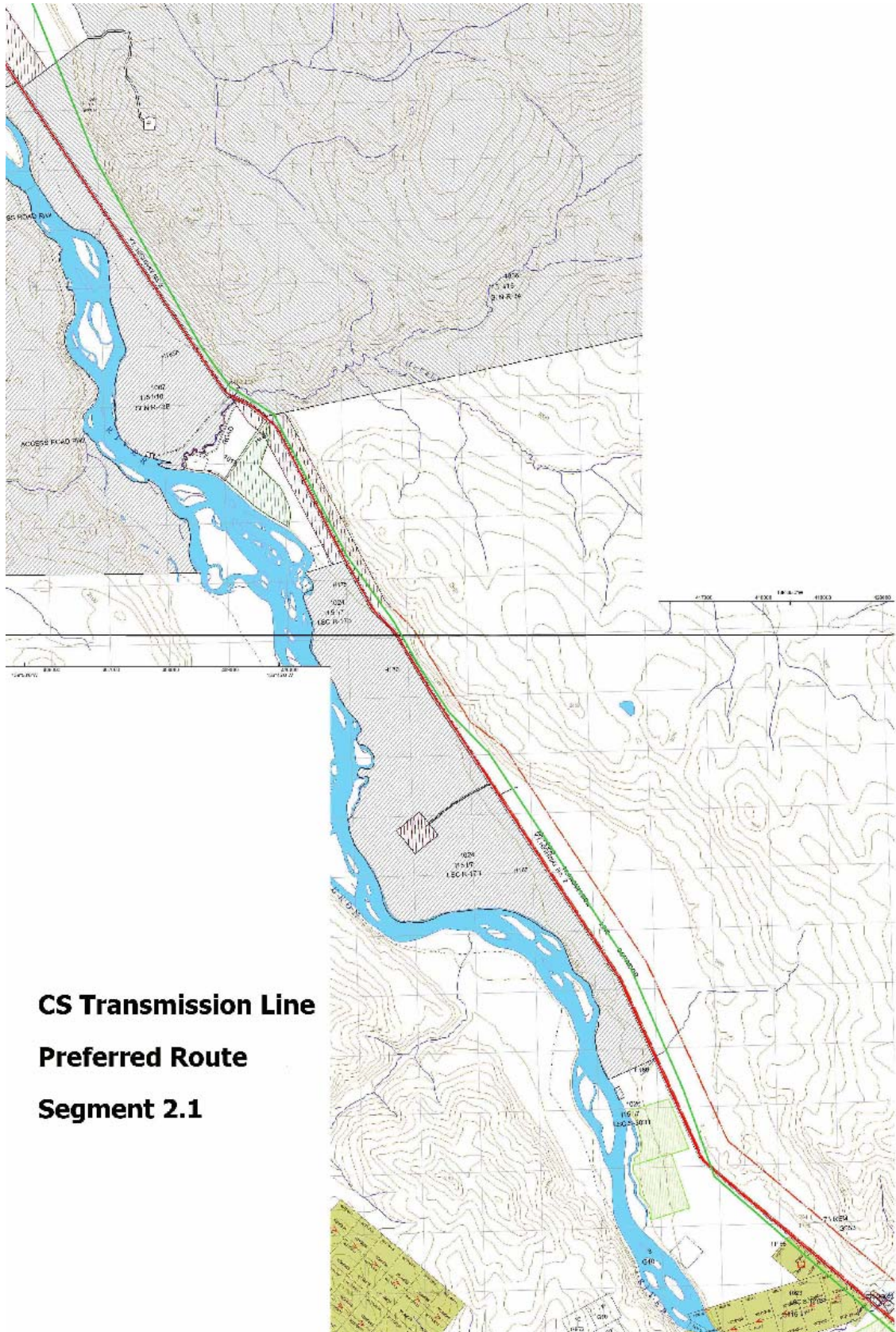
- Map 3 Segment 2.1 McGregor Creek to Minto Landing
- Map 4 Segment 2.2 Minto Landing to Lhutsaw Wetlands





**CS Transmission Line  
Preferred Route  
Segment 1.1**





**CS Transmission Line  
Preferred Route  
Segment 2.1**



