

Appendix E

Information from 115-kV Transmission Line Public Meeting

Northland Power

Welcomes You to the Public Meeting

Information Handout



Northland Power

Northland Power develops and operates clean and green power generation facilities, mainly in the provinces of Ontario and Quebec, with Saskatchewan being added to that list shortly. Our facilities produce about 870 MW of electricity. Northland Power has been in business since 1987 and has been publicly traded since 1997.

Sustainability is a core value at Northland Power. All of our development efforts and operational practices focus on providing long term benefits to our customers, investors, employees, communities and partners.

For Northland Power, sustainability has many dimensions:

Environmental: Northland Power was founded on the belief that clean and green energy sources are vital to the future of our planet. Our construction and operational practices are engineered to meet the highest environmental standards, even in jurisdictions where lower standards are legislated.

Community: Northland Power takes an active interest in its host communities to ensure they remain vibrant, healthy places to live.

Operational: Northland Power maintains and reinvests in their operating assets to achieve maximum efficiency and economic life.

Health and Safety: Ensuring that our staff has the knowledge, tools and time to work safely is Northland's first priority. Our culture of safety, respect and independence helps to ensure we attract and retain the people that we need to perform.

Financial: Northland Power consistently chooses long term success over short term gain. Northland Power only pursues projects that meet strict return thresholds and have creditworthy customers. As a result, we have paid stable monthly dividends since 1997.



Northland Power has retained Hatch Ltd. to undertake the Renewable Energy Approval (REA) process, subject to the provisions of the Environmental Protection Act Part V.0.1 and Ontario Regulation 359/09. Hatch is an Ontario-based consulting, engineering and management company with operations worldwide and a reputation for excellence acquired over 80 years of continuous service to its clients. Hatch will undertake the REA process from its Niagara Falls, Ontario office.



Solar Technology

A solar photovoltaic (PV) module (or panel, as they are often called) transforms the sun's energy into electrical energy. Silicon, a semi-conductor, is the material that transforms a ray of sunshine into electricity. The silicon is located within a grid (commonly made of metal) that conducts electricity. When the sunlight hits the silicon, electrons flow from the silicon into the grid, thereby producing electricity. The silicon and metallic grid are located beneath a layer of glass to provide weather protection. The glass has a special coating applied to maximize the capture of sunlight by the panel, thereby reducing glare.

Advantages of Solar Energy

Solar power has a multitude of advantages compared to most other power generation technologies.

- First and foremost, the fuel is free. As the cost of many fossil fuels is expected to increase in the future, having solar energy on the grid at a set price will give greater stability to future energy prices.
- Another key benefit is the absence of any green house gas emissions and other pollutants. This ensures that the local community will not have to live with poor air quality or noxious odours.
- Solar PV systems are comprised of safe, common materials that will not affect the lands on which they are located, allowing for easy remediation upon decommissioning.
- Most solar PV systems have no moving parts, unlike almost all other power generation technologies. Having no moving parts reduces the environmental impact, maintenance costs, and noise levels of this type of power generation.
- There is a natural supply/demand match that is inherent to solar power, as the sun rises and sets in parallel with society's general daily electricity demand pattern. This helps mitigate the need for the development of other technologies that traditionally meet peak electricity demand.



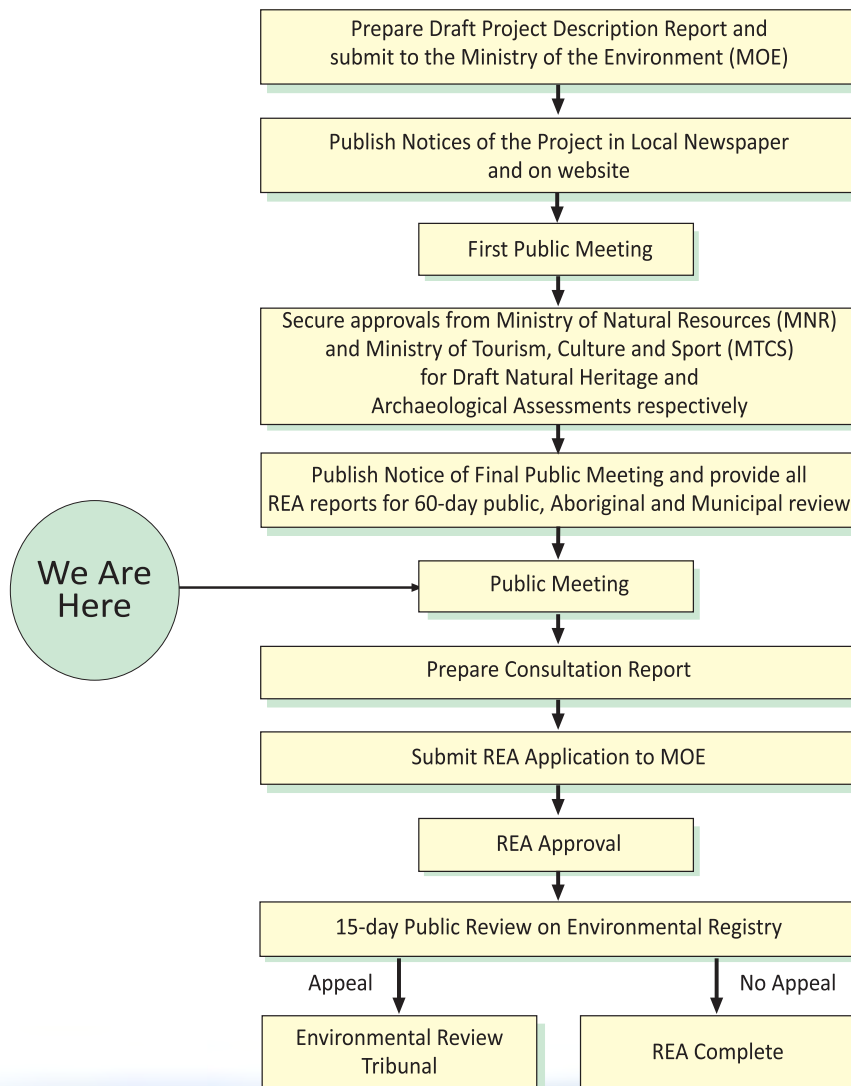
Ontario's Feed-in-Tariff (FIT) program was launched by the Ontario Power Authority on October 1, 2009 to encourage the development of renewable energy resources and to stimulate growth in green technology and renewable power industries.

The Ontario Power Authority awarded 184 FIT contracts to renewable power developers in Ontario on April 8, 2010. Northland Power was awarded a total of 13 contracts for proposed solar ground-mount developments throughout the province. These projects are currently proceeding through the REA process.

Renewable Energy Approval Process

The proposed Project is subject to the (REA) process, subject to the provisions of Part V.0.1 of the Environmental Protection Act and Ontario Regulation 359/09. The REA process entails consideration of environmental aspects, including natural heritage features and water bodies, as well as heritage and archaeological resources. In addition, the REA process includes public, government agency and First Nation consultation.

The main components of the REA process are shown in the flow diagram.



Abitibi, Empire, Martin's Meadows Solar Projects

Project Location

Abitibi Solar Project and Martin's Meadows Solar Project are both located south of Concession 8 and 9 Glackmeyer. Empire Solar Project is located north of Concession 6 and 7 Glackmeyer. The proposed Projects, if approved, will be constructed on privately owned lands.

Project Description

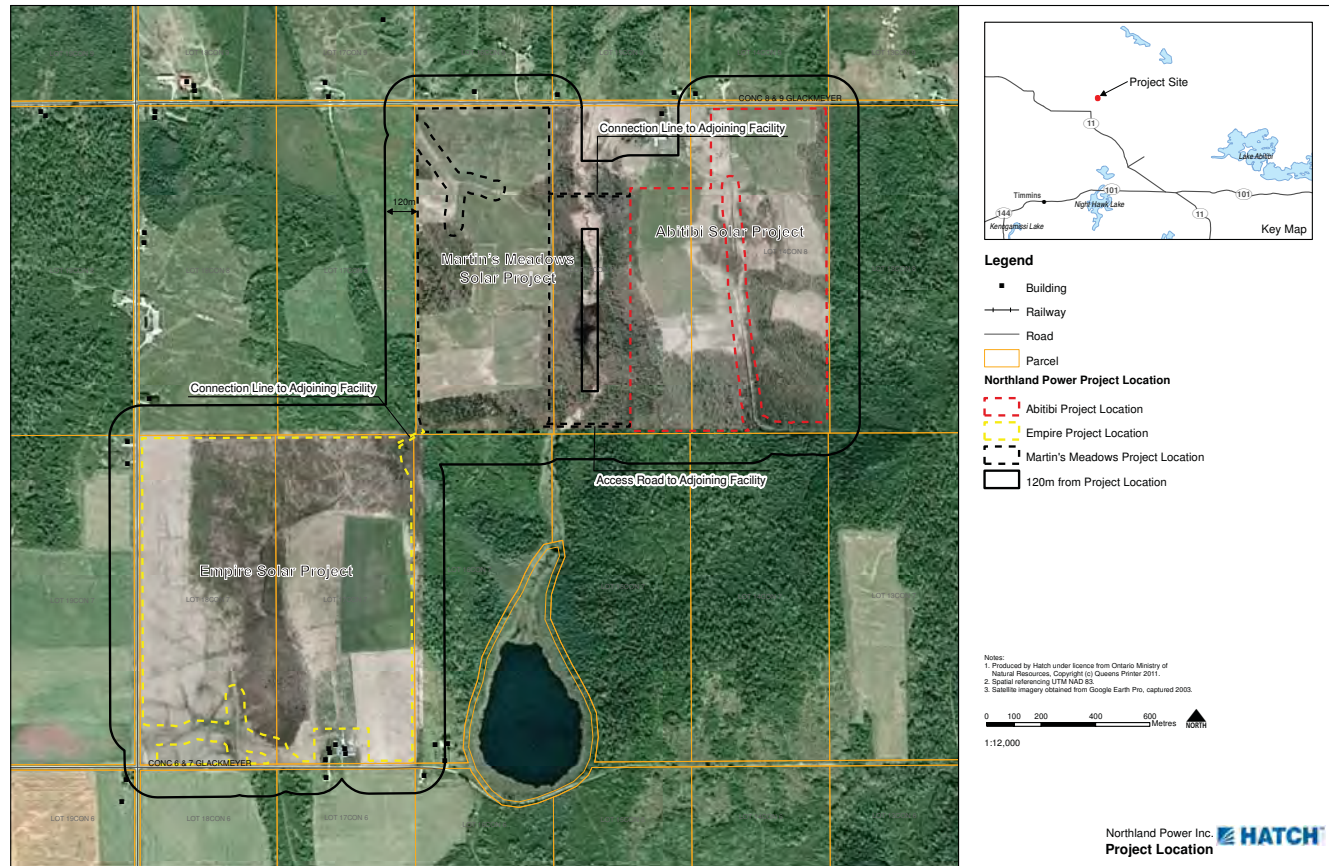
The proposed Abitibi, Empire, Martin's Meadows Solar Projects are considered to be Class 3 solar facilities, as defined under the Environmental Protection Act (Act) Part V.0.1 and Ontario Regulation 359/09. Class 3 solar facilities are defined as having a name plate capacity of 10 kilowatts (kW) or greater and the solar panels are mounted on the ground. Specifically, these proposed Projects have nameplate capacities of 10 MW (ac).

The proposed Projects will use crystalline technology photovoltaic (PV) panels installed on ground-mounted rack structures made of steel and aluminum. The project will consist of approximately 50,000 panels and will be designed to optimize energy production.

Project Schedule – Abitibi, Empire, Martin's Meadows Solar Projects

FIT Application – November 2009
Submission of Project Description to MOE – March 2011
FIT Contract Award – April 2010
First Public Meeting – July 2011
Final Public Meeting – August 2012
REA Application Submission – September 2012
REA Received – February 2013
Start of Construction – Early 2013
Commercial Operation Date – Fall 2013

For more information regarding these Projects please visit the Project website at: northlandpower.ca



Long Lake Solar Project

Project Location

The proposed Project is located on Lot 2 and 3 Concession 8, Calder, northeast of Cochrane. The proposed Project, if approved, will be constructed on privately owned lands.

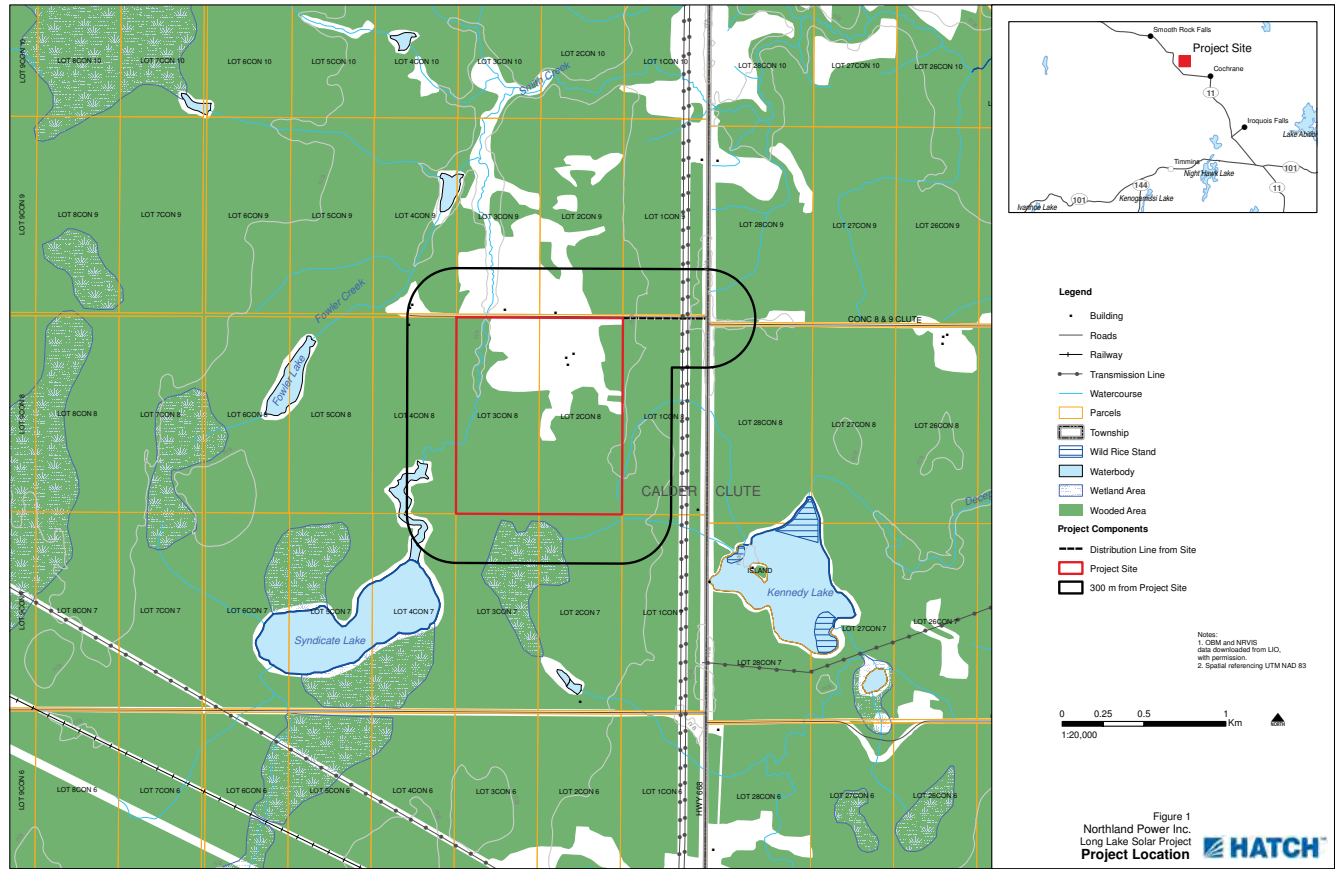
Project Description

The proposed Long Lake Solar Project is considered to be a Class 3 solar facility, as defined under the Environmental Protection Act (Act) Part V.0.1 and Ontario Regulation 359/09. Class 3 solar facilities are defined as having a name plate capacity of 10 kilowatts (kW) or greater and the solar panels are mounted on the ground. Specifically, these proposed Projects have nameplate capacities of 10 MW (ac).

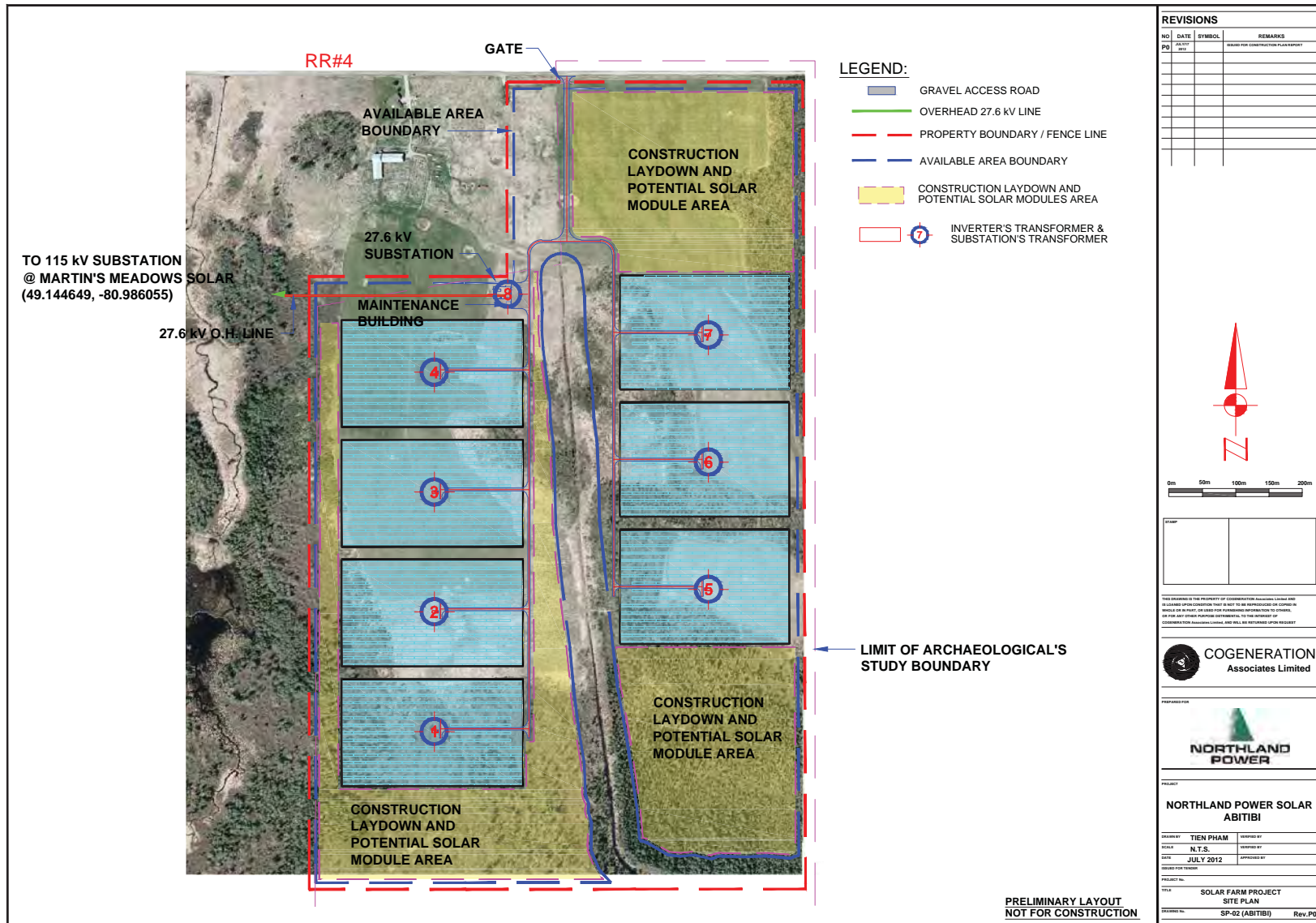
Project Schedule – Long Lake Solar Project

FIT Application – November 2009
 Submission of Project Description to MOE – April 2012
 FIT Contract Award – April 2010
 First Public Meeting – July 2011
 Final Public Meeting – August 2012
 REA Application Submission – September 2012
 REA Received – March 2013
 Start of Construction – Spring 2013
 Commercial Operation Date – October 2013

For more information regarding this Project please visit the Project website at northlandpower.ca/longlake



Abitibi Solar Project - Site Layout



REVISIONS			
NO.	DATE	SYMBOL	REMARKS
PO			BASED FOR CONSTRUCTION PLANNING

0m 50m 100m 150m 200m

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COGENERATION Associates Limited

PREPARED FOR

NORTHLAND POWER

PROJECT

NORTHLAND POWER SOLAR ABITIBI

DESIGNED BY: TIEN PHAM CHECKED BY:

DRAWN BY: N.T.S. APPROVED BY:

DATE: JULY 2012

SCALE FOR PLOTTING

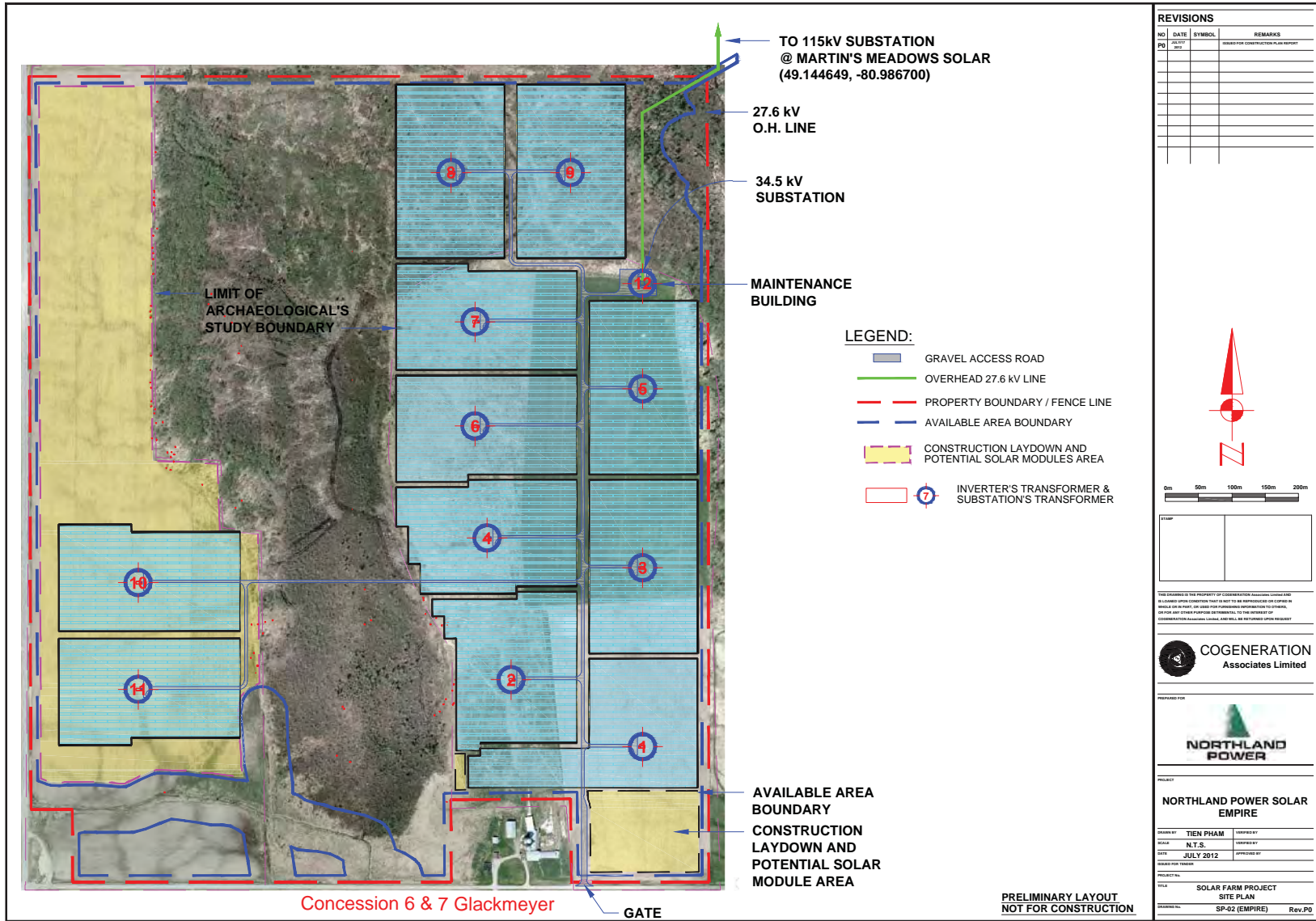
PROJECT NO.

SHEET

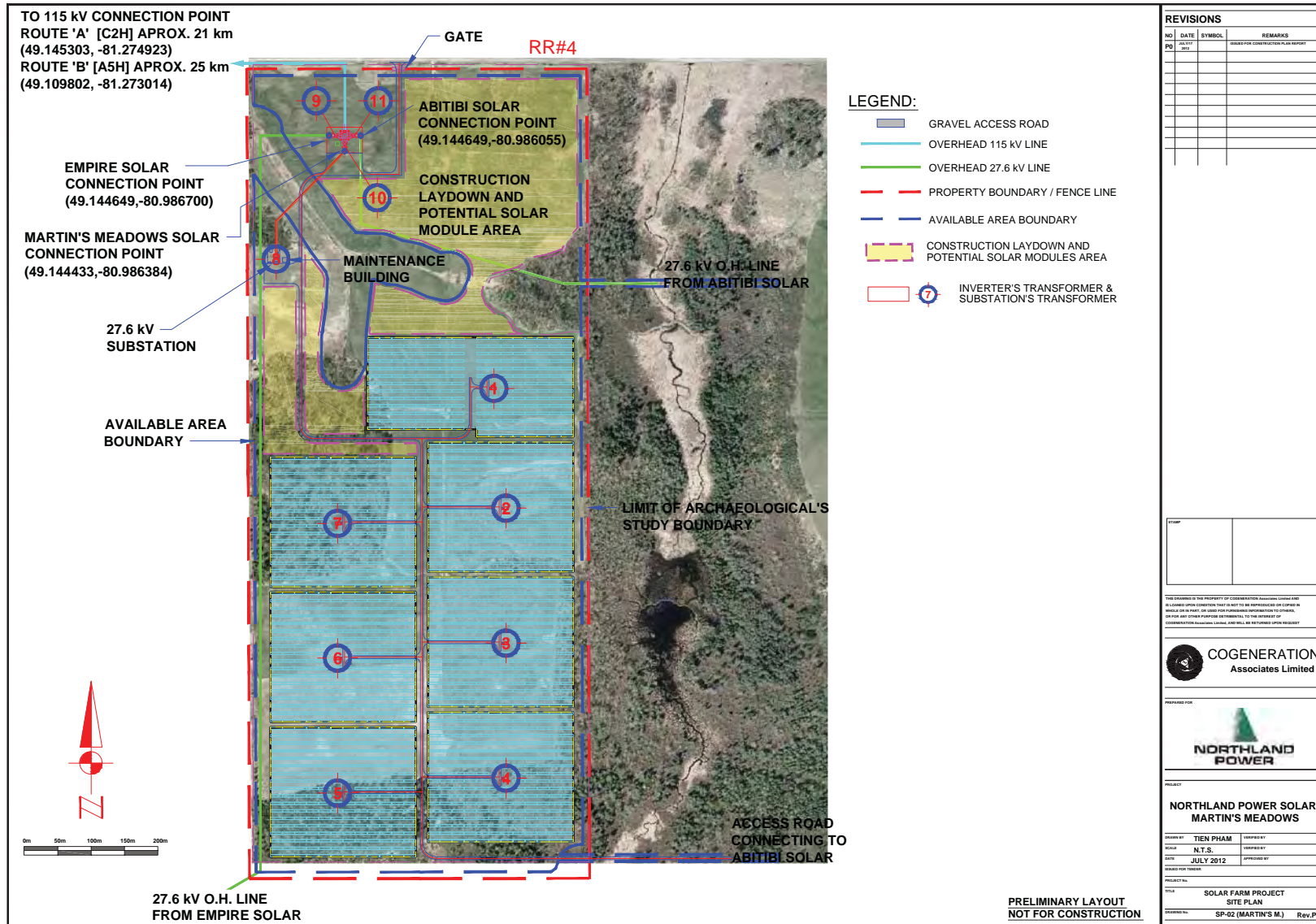
SOLAR FARM PROJECT SITE PLAN

DRAWING NO. SP-02 (ABITIBI) REV. PD

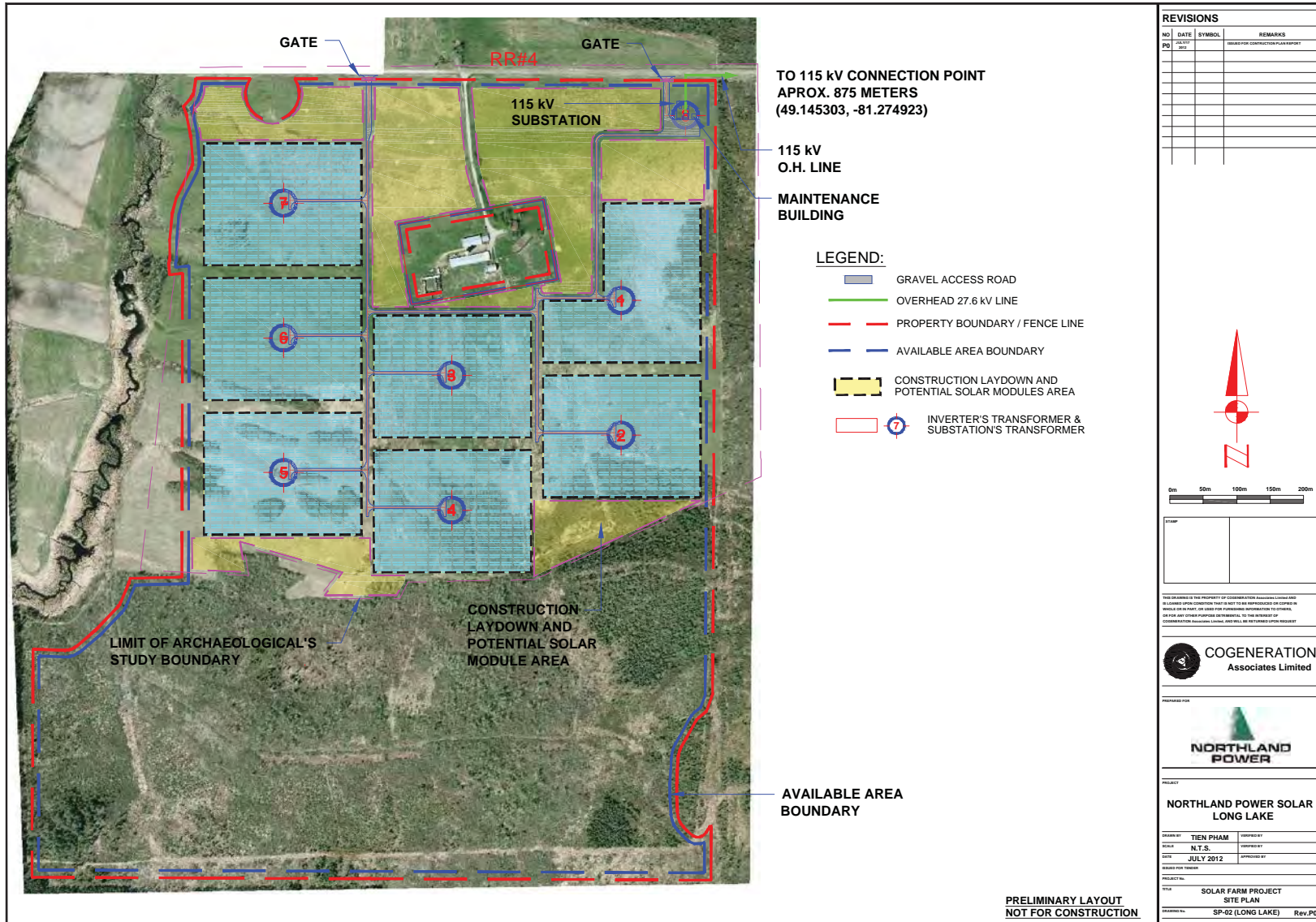
Empire Solar Project - Site Layout



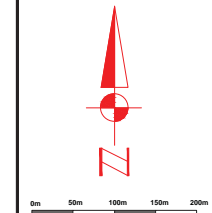
Martin's Meadow Solar Project - Site Layout



Long Lake Solar Project - Site Layout



REVISIONS			
NO.	DATE	SYMBOL	REMARKS
PO	DATE	SYMBOL	ISSUED FOR CONSTRUCTION PLAN REPORT



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NORTHLAND POWER SOLAR LONG LAKE

DESIGNED BY TIEN PHAM	CHECKED BY
DRAWN BY N.T.S.	APPROVED BY
DATE JULY 2012	
ISSUED FOR TENDER	

TITLE: SOLAR FARM PROJECT
SITE PLAN
DRAWING NO.: SP-02 (LONG LAKE) Rev.P0

**PRELIMINARY LAYOUT
NOT FOR CONSTRUCTION**

Construction

Construction of the proposed Project is anticipated to start following the appropriate approvals, in 2013. The construction take approximately 6-9 months and will consist of:

- *Site Preparation*
- *Construction and Installation of the Facility*
- *Testing and Commissioning*
- *Site Restoration*

Each day construction will normally begin at 7:00 am and end at 5:00 pm. If a longer construction day becomes required, the Project will follow local requirements and minimize impacts to the local community.

Site preparation refers to activities such as:

- Surveying/staking, site clearing and grubbing (where required)
- Construction of access roads and drainage systems
- Installation of fencing, and construction of a laydown area

It is anticipated that these activities will require several months to complete

Construction and installation of the facility includes:

- Pouring of the concrete foundations for electrical equipment
- Installation of electrical equipment such as inverters and transformers, interconnection cable trenching
- Installation of PV panel supports and the racking systems
- Placement of PV panels

Testing and commissioning will be performed prior to start-up and connection to the power grid. Solar modules, inverters, collection system, and substation will be checked for system continuity, reliability, and performance standards.

Site restoration following construction the main objective will be to (i) establish ground cover and drainage within the solar panel footprint and (ii) re-instate temporarily disturbed areas to stable conditions. All construction material, equipment, temporary facilities, and waste will be removed from the site. Revegetation will include planting of native plants and hydro-seeding where required.



Operation

Following construction, the operations phase is expected to commence in Fall of 2013. Operations will consist of routine maintenance inspections and general up keep of the Project (e.g., panel cleaning and mowing). Otherwise, no on-site staff will be required.

Visual inspections of the transformers and erosion and sedimentation control measures are to occur monthly. Panel cleaning may or may not be required, depending on weather conditions, and if required, any water used will be brought to the site. No chemicals will be used for cleaning.

Vegetation, including underneath the panels, will be selected to minimize maintenance activities (e.g., mowing) and to provide ground cover to both protect and enhance the soil and to provide wildlife habitat. Presently, a mix of low growing, weed-resistant turf type fescues is proposed. Herbicides will not be used to control vegetation growth during operations.

Site security will consist of fencing and limited lighting near the entrance of the facility. Fencing will consist of a 2 meter high wire fence, with barb wire along the top of the fence.

For more information, please refer to the Project's *Design and Operation Report*



Decommissioning

It is anticipated that the Project will have a useful life of at least 20 years, the length of the existing FIT contract, which can be extended with proper maintenance, component replacement and repowering. Decommissioning will occur at the end of the useful life and consist of:

- *Equipment dismantling and removal*
- *Site restoration*

Equipment dismantling and removal will include the PV modules, electrical equipment, access roads and foundations as well as any other facility equipment. Equipment and material may be salvaged for resale, scrap value or disposal, depending on market conditions.

Site restoration will consist of the following, subject to environmental requirements and the wishes of the landowner:

- Any damage to existing tile drainage system, if applicable, will be repaired/restored
- Any excavation and/or trench will be backfilled and graded to existing contours
- Should the subsoil be negatively affected and compromise the future productive use of the land, the following will be implemented: first the topsoil will be removed and stockpiled; then the subsoil may be ripped and tilled prior to grading it; topsoil will then be replaced and revegetated
- Should the soil be negatively affected and compromise the future productive use of the land, nutrients may be added or fertilizers deployed
- Topsoil and compost will be blended where required, spread and replaced to original depth
- Hydroseeding with approved seed mixture and mulching during the appropriate seasonal conditions

For more information, please refer to the Project's *Decommissioning Plan Report*



Noise - Abitibi Solar Project

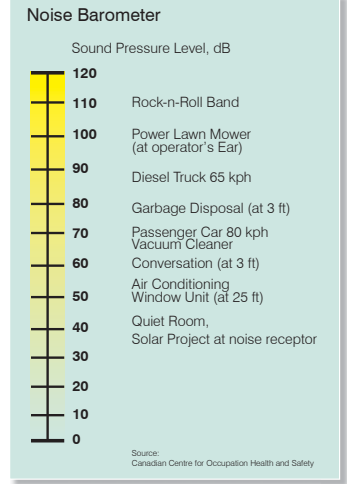
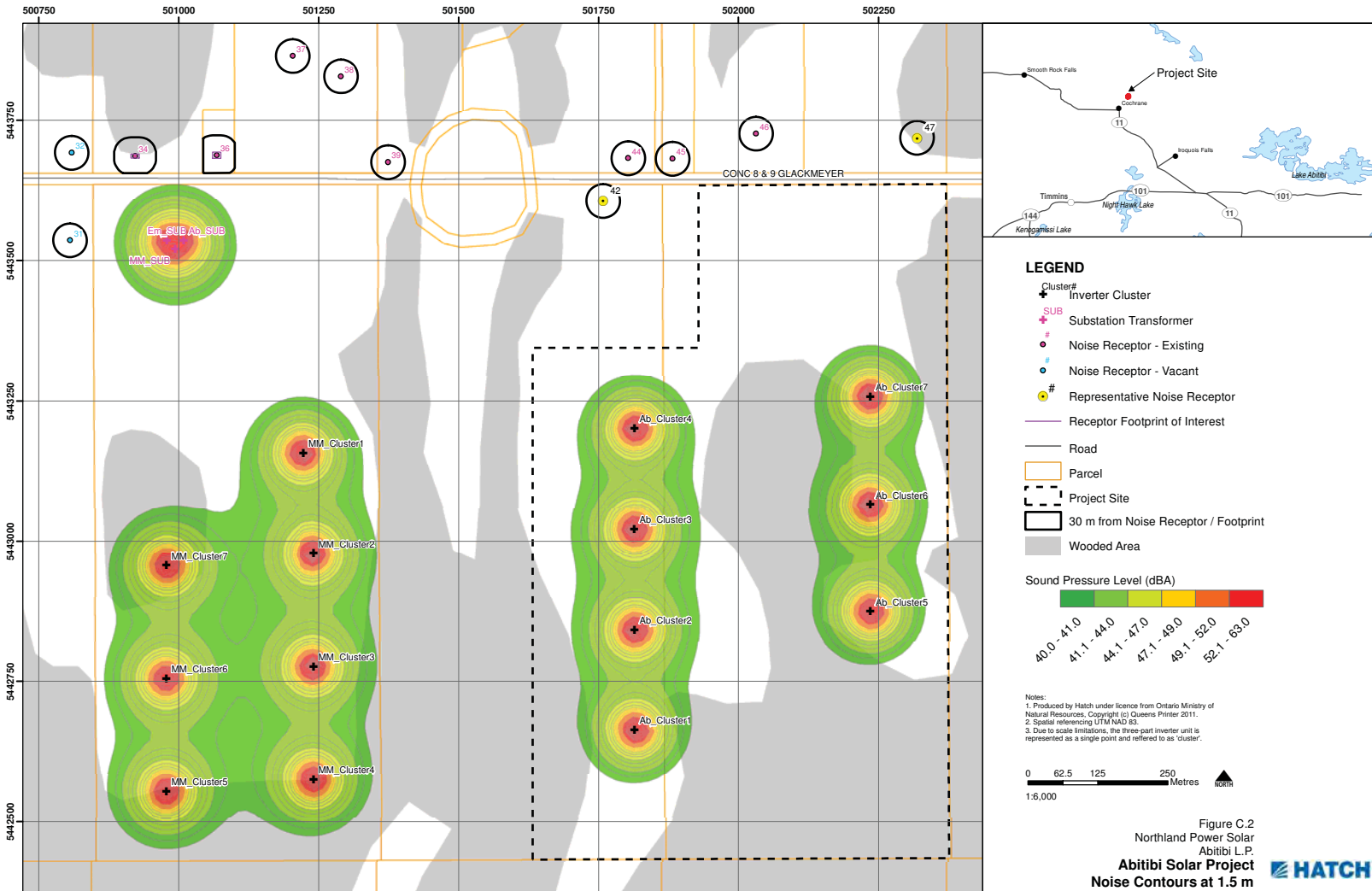
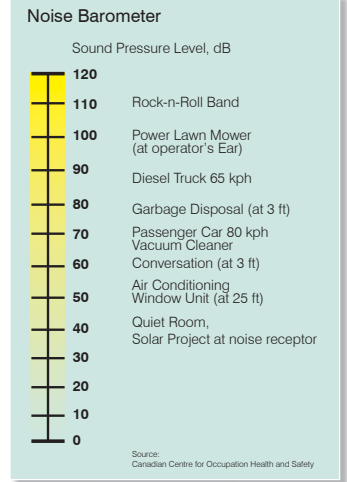
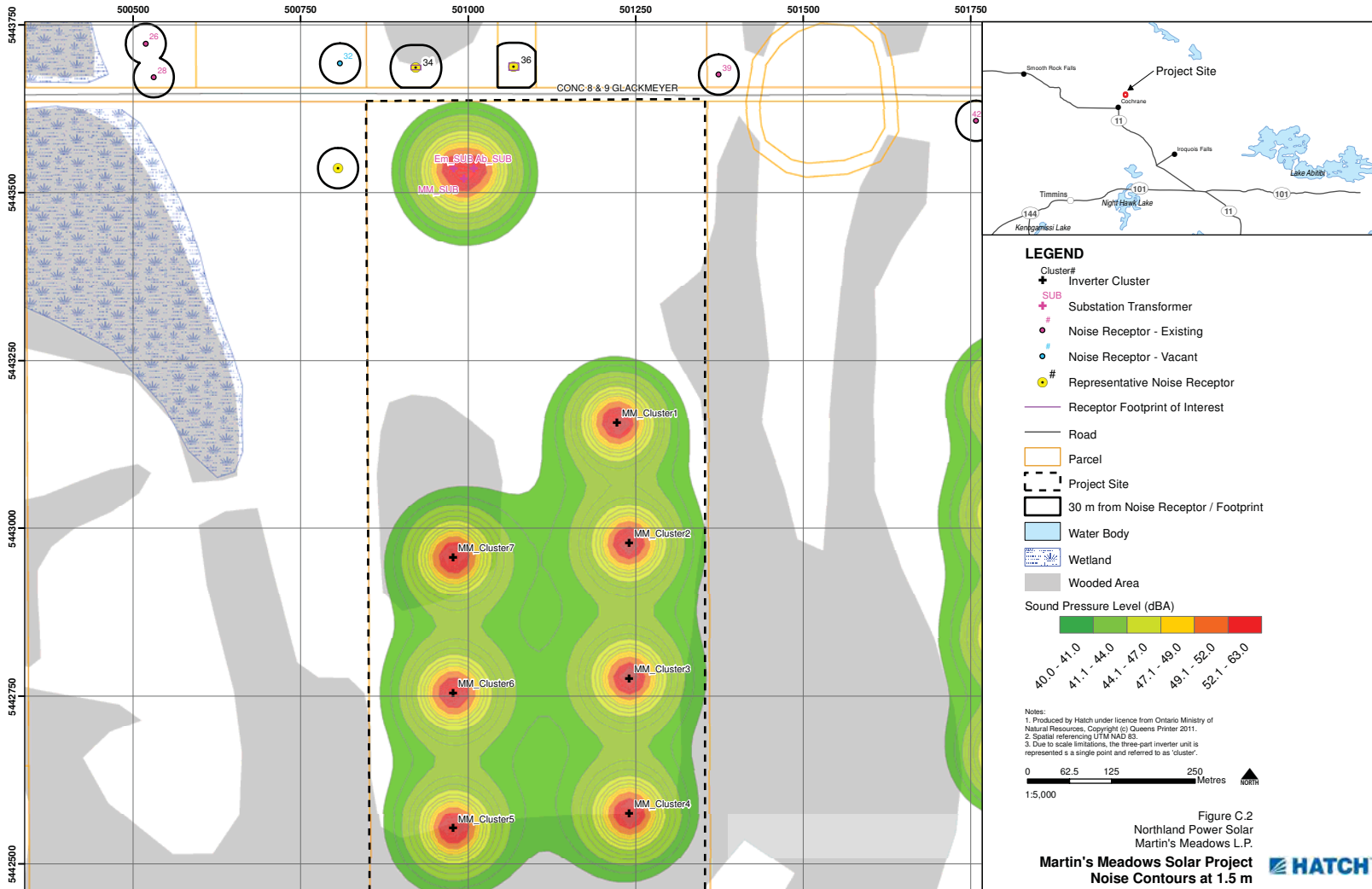


Figure C.2
Northland Power Solar
Abitibi L.P.
Abitibi Solar Project
Noise Contours at 1.5 m



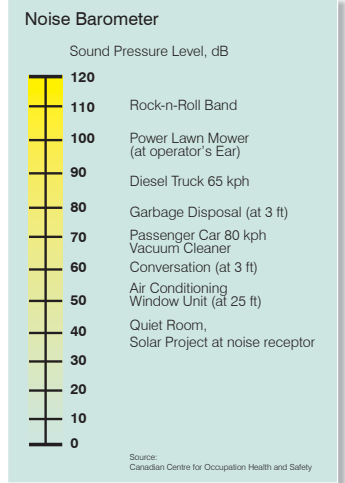
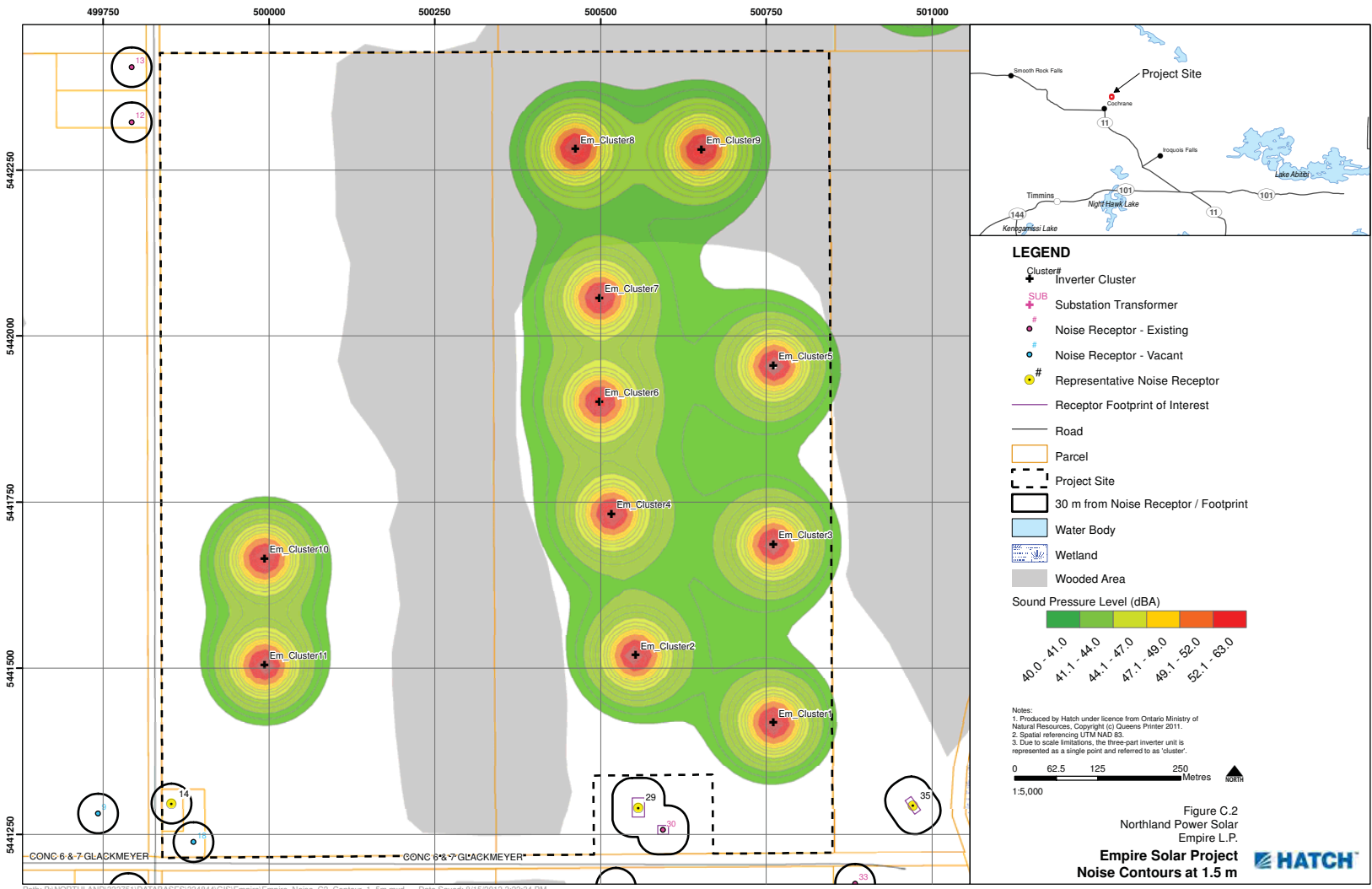
Noise - Martin's Meadows Solar Project



Path: P:\NORTHLAND\333751\DATABASES\334844\GIS\MartinM\MartinM_Noise_C2_Contour_1.5m.mxd Date Saved: 8/15/2012 8:43:12 AM



Noise - Empire Solar Project



Notes:

1. Produced by Hatch under licence from Ontario Ministry of Natural Resources, Copyright (c) Queens Printer 2011.
2. Spatial referencing UTM NAD 83.
3. Due to scale limitations, the three-part inverter unit is represented as a single point and referred to as 'cluster'.

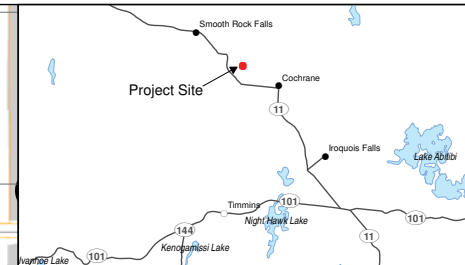
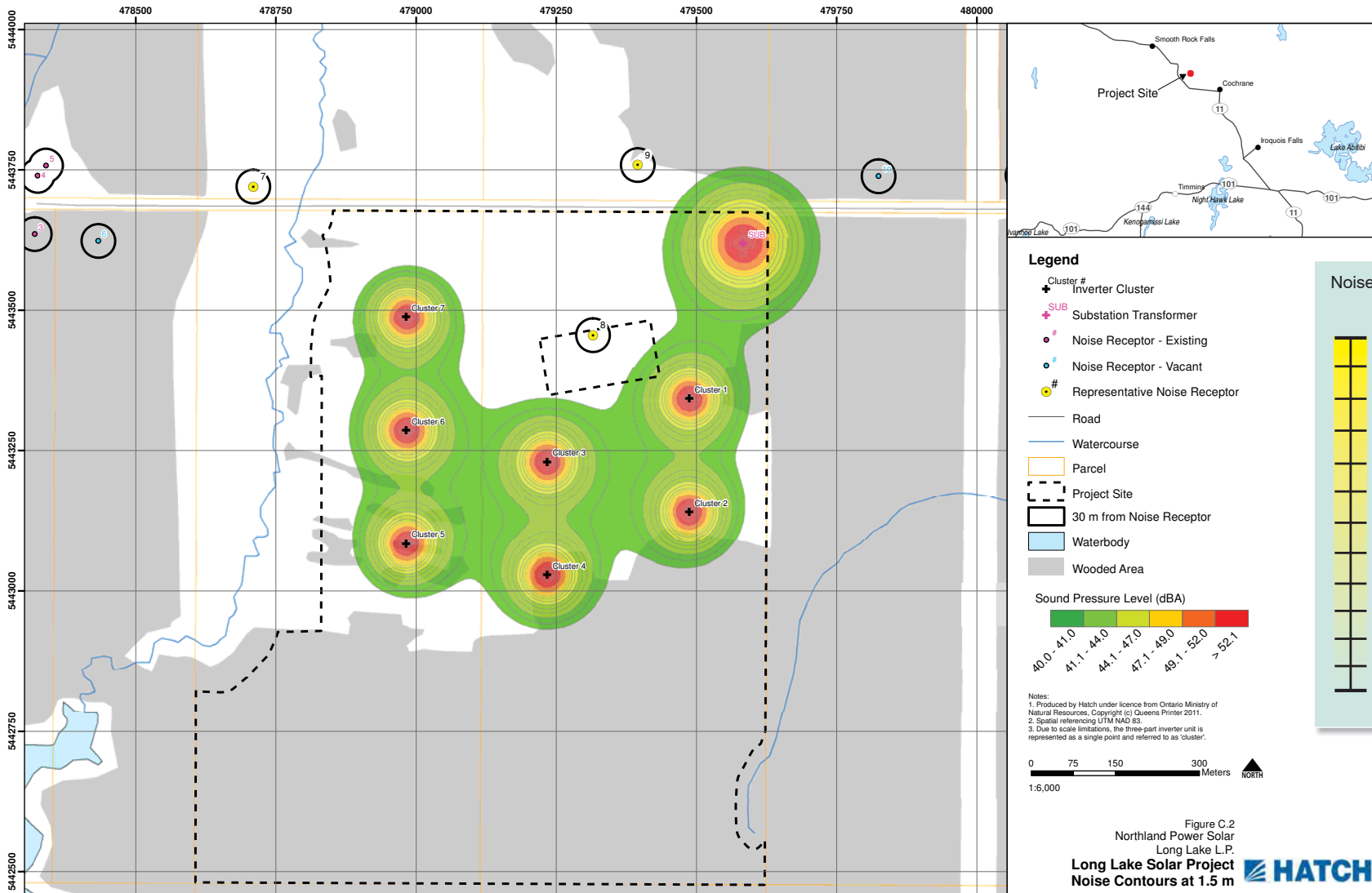
0 62.5 125 250 Metres north

1:5,000

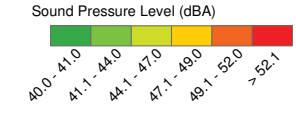
Figure C.2
Northland Power Solar
Empire L.P.
Empire Solar Project
Noise Contours at 1.5 m



Noise - Long Lake Solar Project



- Legend**
- Cluster # Inverter Cluster
 - SUB Substation Transformer
 - Noise Receptor - Existing
 - Noise Receptor - Vacant
 - # Representative Noise Receptor
 - Road
 - Watercourse
 - Parcel
 - Project Site
 - 30 m from Noise Receptor
 - Waterbody
 - Wooded Area



Notes:
 1. Produced by Hatch under licence from Ontario Ministry of Natural Resources, Copyright (c) Queens Printer 2011.
 2. Spatial referencing UTM NAD 83.
 3. Due to scale limitations, the three-part inverter unit is represented as a single point and referred to as 'cluster'.

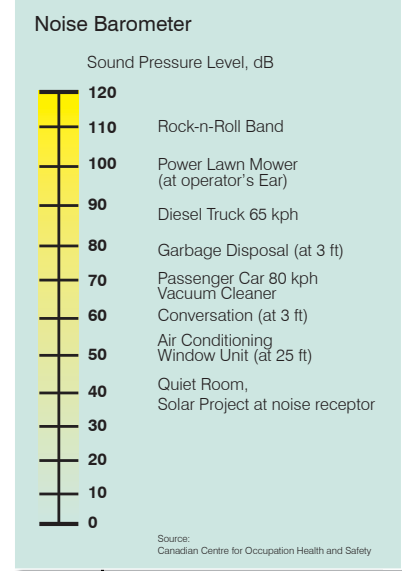
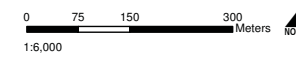


Figure C.2
 Northland Power Solar
 Long Lake L.P.
**Long Lake Solar Project
 Noise Contours at 1.5 m**



Abitibi, Empire, Martin's Meadows Solar Projects

Natural Heritage Assessment for Solar Panel Locations

Abitibi Solar Project

- Project location is composed of mainly agricultural fields with occurrences of provincially significant wetlands communities on and within 120 m.
- Significant wildlife habitat for waterfowl nesting habitat and wetlands providing amphibian breeding habitat are located on and within 120 m.
- Significant animal movement corridor is associated with Monroe Creek and its riparian habitat.

Empire Solar Project

- Project location is composed of mainly agricultural fields with occurrences of significant wetlands and woodlands located on and within 120 m.
- Provincially significant wetland complex has been identified on and within 120 m of the Project location, which extends for several hundred metres from the Project location.

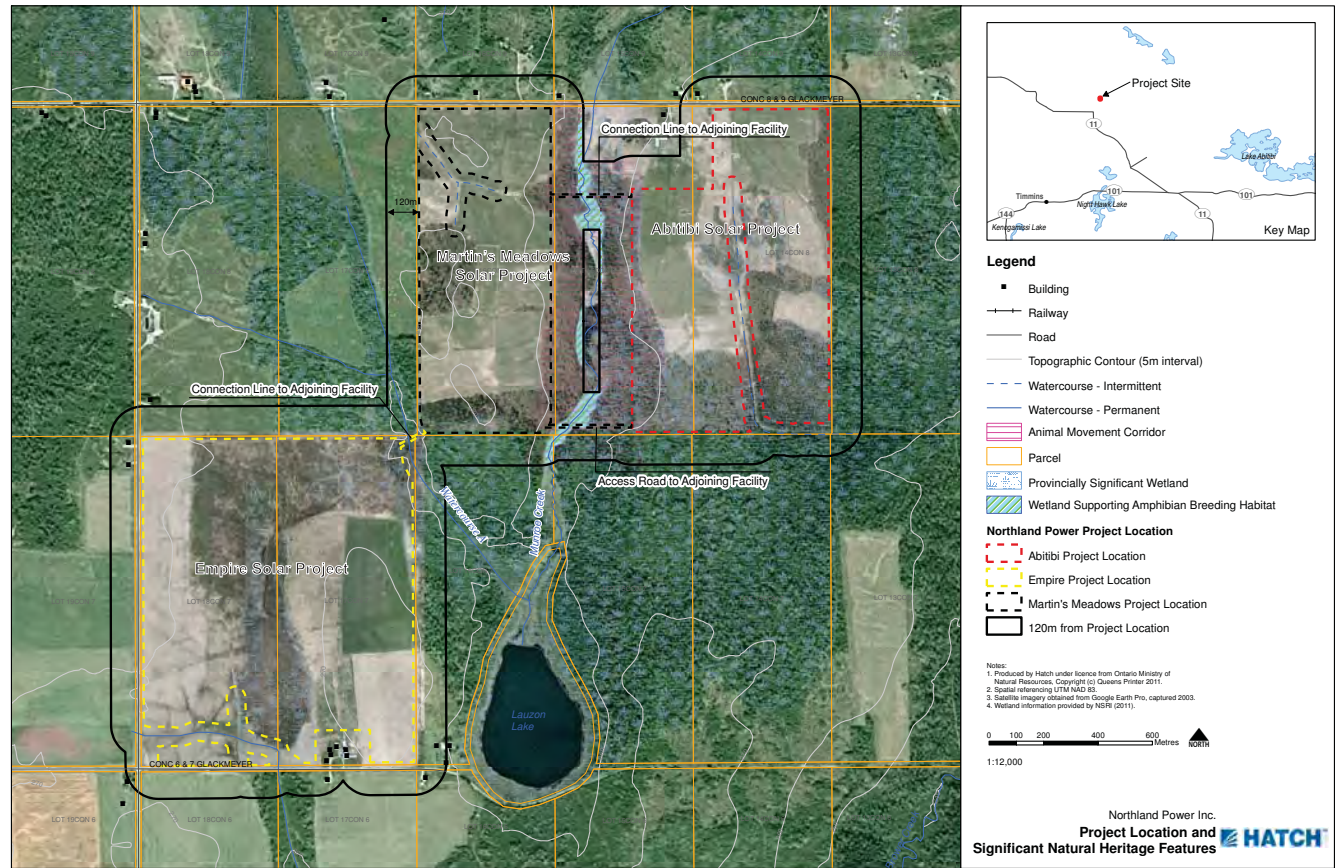
Martin's Meadow's Solar Project

- Project location is composed of mainly agricultural fields with occurrences of provincially significant wetlands and woodlands located on and within 120 m.
- Significant wildlife habitat providing amphibian breeding habitat are located around Monroe Creek.
- Animal movement corridor associated with the creek and riparian habitat.

Mitigation Measures for Natural Heritage Features

- Avoidance of encroachment, and provision of setbacks, from many of the significant features.
- Demarcation of work areas to prevent encroachment beyond designated sites.
- Construction outside of bird breeding season, where possible.
- Visual search following completion of fence for trapped animals.
- Visual monitoring of work areas, equipment and access roads prior to start of each work day to search for wildlife species.

There will be no change to the existing environment outside of the Project location.



Abitibi, Empire, Martin's Meadows Solar Projects

Water Body Assessment for Solar Panel Locations

Abitibi Solar Project

- Munroe Creek is a permanent water body located within 120 m west of the Project that flows through wetland communities (i.e., narrow leaved emergent marsh, tall shrub swamp) and woodlands dominated by trembling aspen, black spruce and balsam fir.
- Watercourse A is both an intermittent (for the initial 100 m) and permanent stream that originates in an agricultural field on the north-central portion of the Project.

Empire Solar Project

- An unnamed water body originates in the open field approximately 30 m west of the Project and flows in an easterly direction.
- A tributary of Monroe Creek originates to the north of the Project location in an agricultural field and drains through a wooded area in the northeast corner of the property, before draining into Lauzon Lake, approximately 350 m east of the Project.

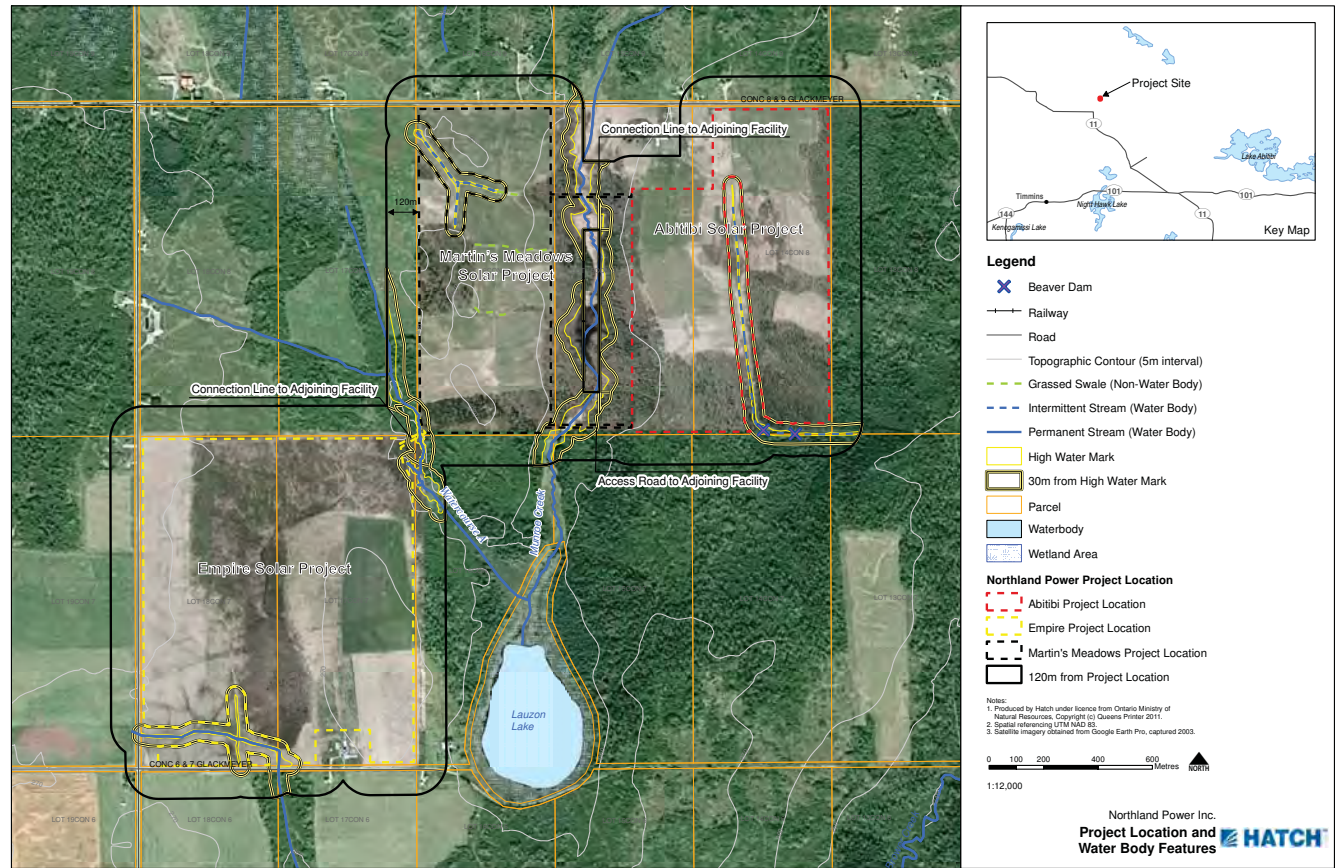
Martin's Meadow's Solar Project

- Munroe Creek is a permanent stream located in a relatively wide, low lying valley, with abundant wetland vegetation, surrounding by wooded areas adjacent to the agricultural fields east of the Project.
- An intermittent tributary of Munroe Creek passes within 30 m of the southwest corner of the Project.

Mitigation Measures for Natural Heritage Features

- Sediment and erosion controls (e.g., silt fencing, site stabilization and construction phasing).
- Stormwater management plans (e.g., site re-vegetation, enhanced vegetated swales).
- Spill prevention and response measures (e.g., handling protocols, secured storage areas, clean up materials on hand).
- Dust control measures (e.g., watering of access roads, tarping of stock piles).

There will be no change to the existing environment outside of the Project location.



Long Lake Solar Project

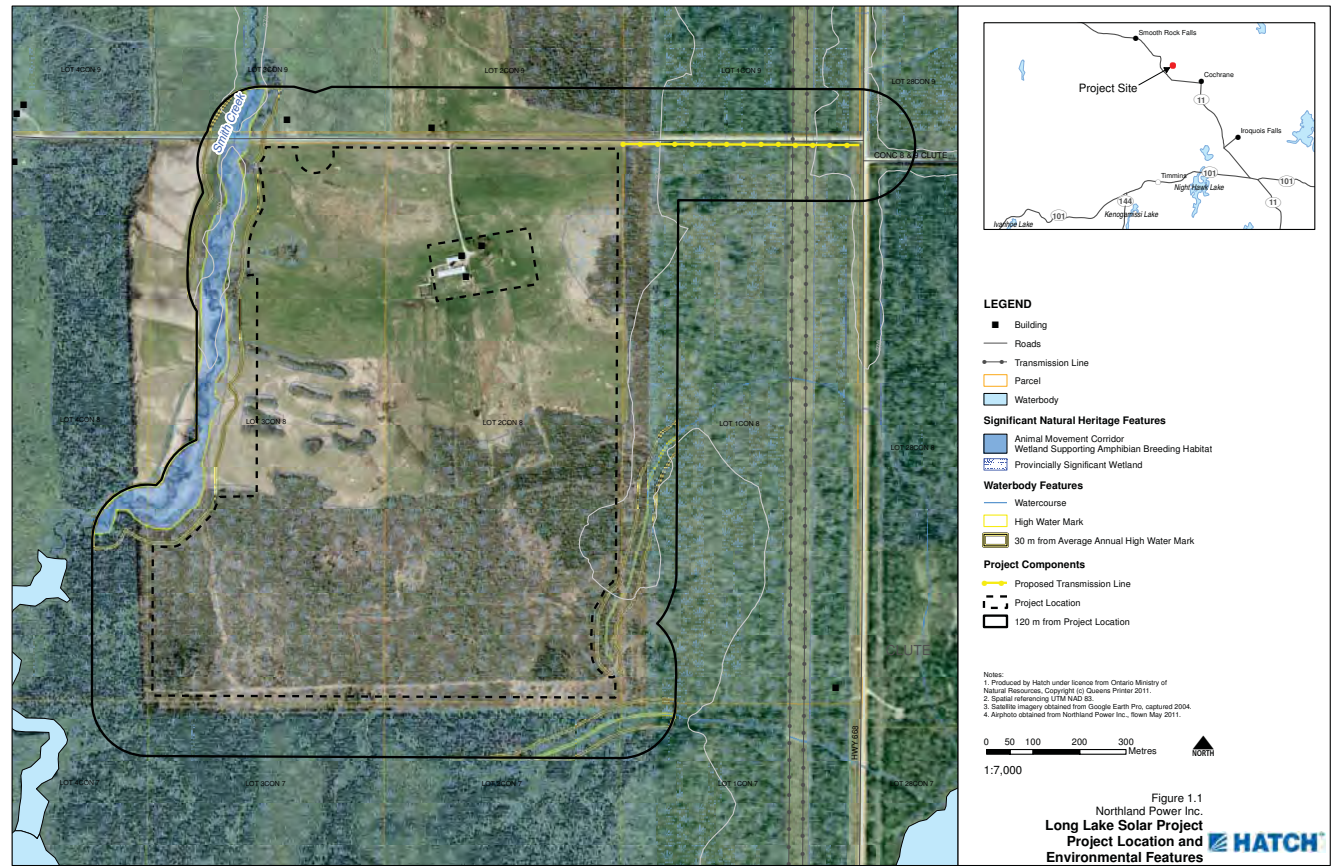
Natural Heritage and Water Body Assessment

Natural Environment:

- The Project location is made up of agricultural fields, with occurrences of non-significant woodlands and wetlands.
- Significant wildlife habitat includes wetlands supporting amphibian breeding habitat and animal movement corridors.
- There are 3 water bodies present on and within 120 m of the Project, including Smith Creek.

Mitigation Measures for Natural Heritage Features

- 30 m setbacks from all water bodies and from the amphibian breeding habitat.
- Demarcation of work areas to prevent encroachment beyond designated site.
- Use of best management practices for sediment and erosion control.



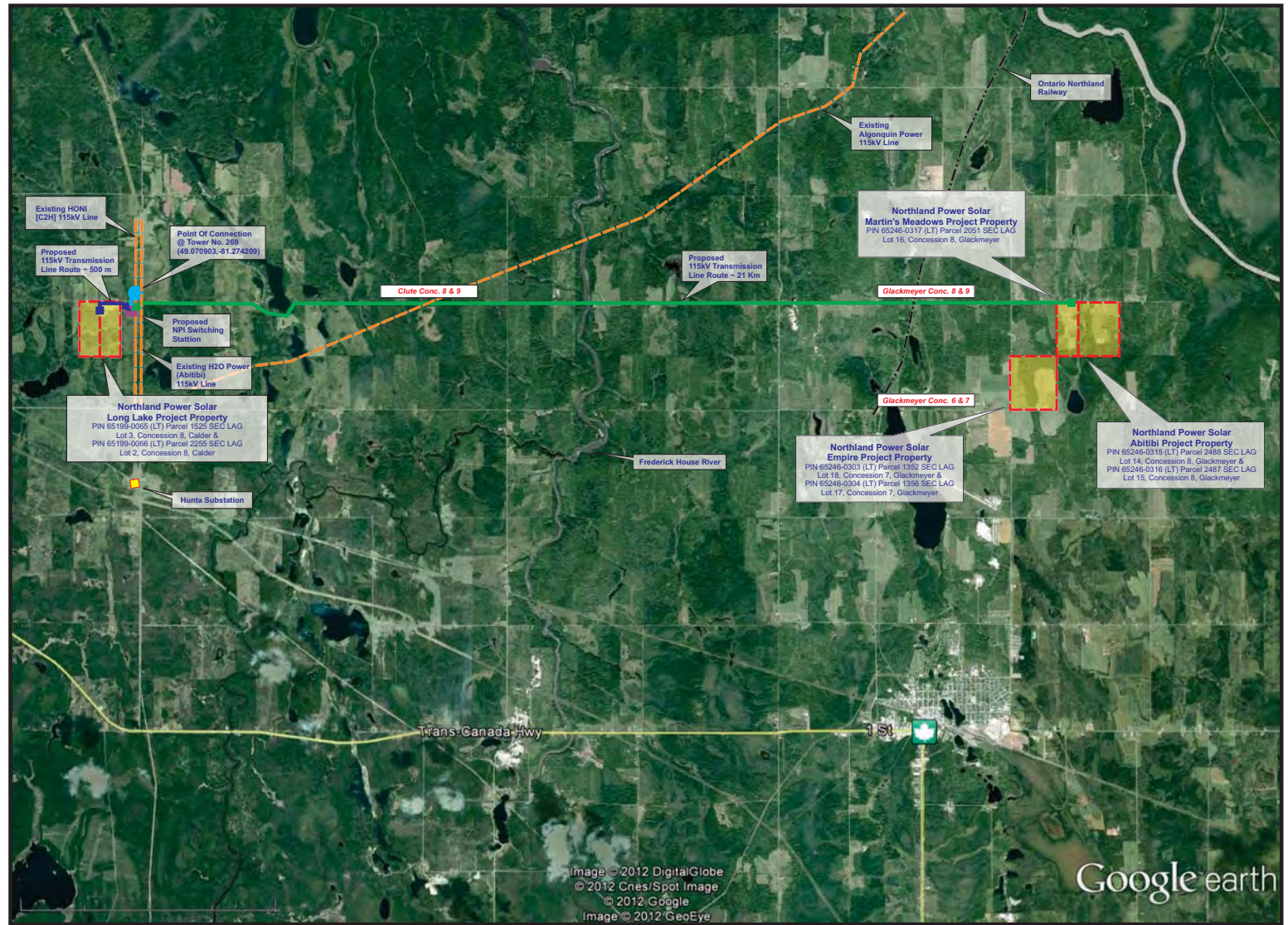
115kV Transmission Line

In order to connect the Abitibi, Empire and Martin's Meadows Solar proposed Projects to the existing Hydro One transmission system circuit (C2H), Northland will construct an approximately 22 km 115 kV single-circuit transmission line. The line will run from the three step up transformers located on the Martin's Meadows Project location to the connection point located near the intersection of Highway 688 and Clute Concession 8 & 9 that is located north of Hunta. In addition, there will be an approximately 800 metre section of 115 kV line to connect the Long Lake Solar Project to tie in this project.

Additional information on the transmission line is provided below:

- There will be a small switch station (approximately 75m x 75 m) on either privately owned or Crown (MNR) land at the connection point
- The line will be above ground, except where it crosses the existing Hydro One and H2O transmission lines, where it will be buried underground
- The 115 kV transmission line will be supported through either single or double poles.
- The transmission will be largely contained within municipal road rights-of-way, but some private property will be crossed. Northland may approach some private landowners for small easements for guy wires.
- The transmission line will also cross the Ontario Northland Railway (ONR), an existing Algonquin Power transmission line, and several watercourses including the Frederick House River.

Northland is also permitting the transmission line through parallel process with the Ontario Energy Board (such as "Leave to Construct") and Ministry of Natural Resources (such as land use permits, easements, and work permits under the Public Lands Act; a Forest Resource License will be required for removal of trees from Crown Land, if needed).



Environmental Features

Waterbodies

A total of 38 water bodies are crossed by the transmission line, including 14 permanent waterbodies and 24 intermittent waterbodies.

Mitigation Measures

Mitigation measures outlined in the Ontario Operational Statement for Overhead Line Construction, will be used, mitigation measures include:

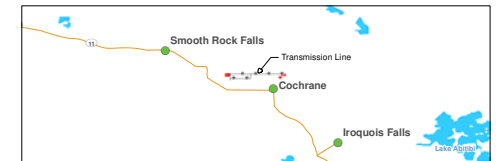
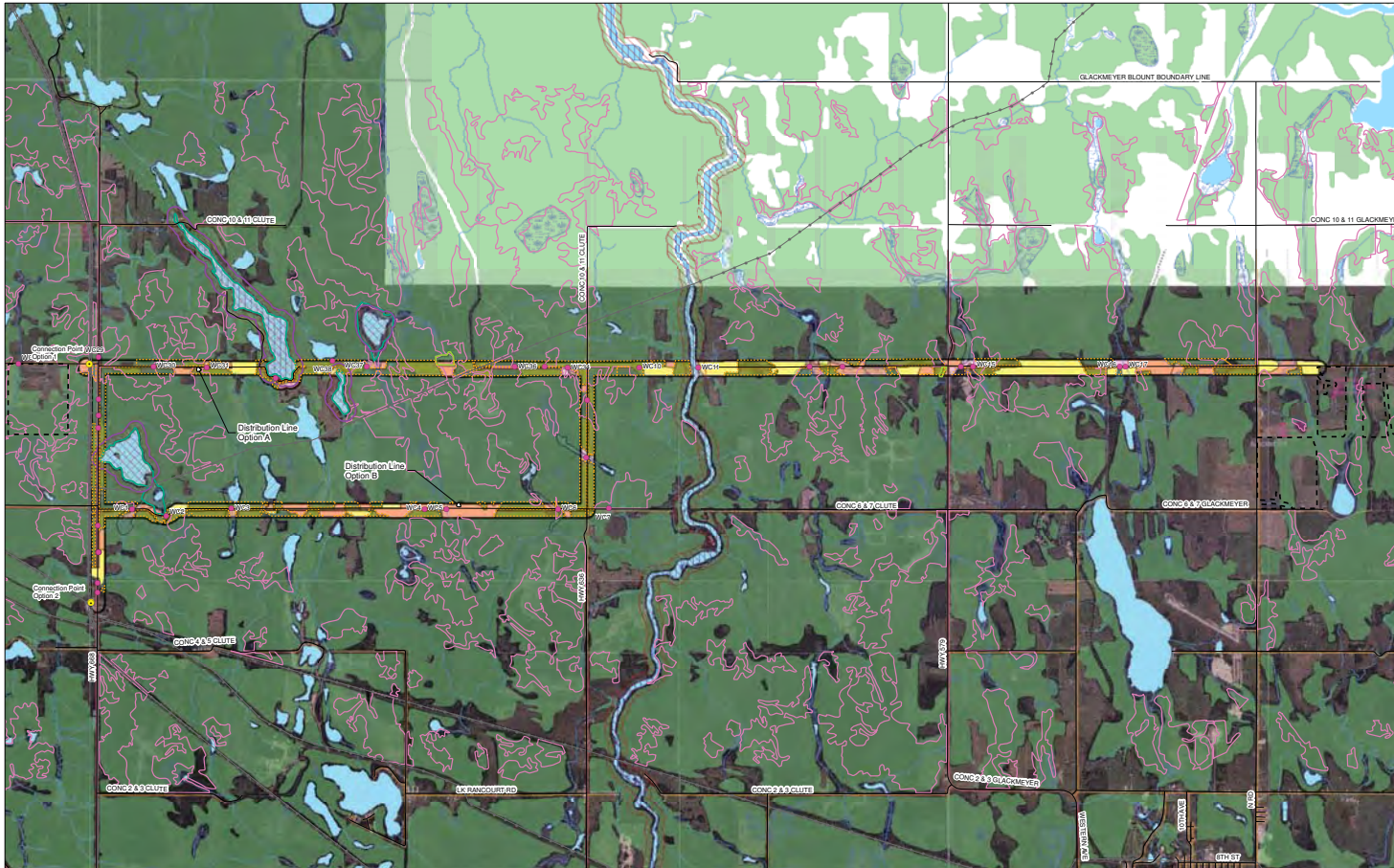
- timing machinery fording to avoid sensitive reproductive periods, including those of cold water species such as Brook Trout, which may be present in the small watercourses along the proposed transmission line route
- operating heavy equipment from outside the watercourse and minimizing disturbance to the watercourse banks
- avoid working during wet or rainy conditions
- stabilizing waste materials (e.g., stripped topsoil, grubbed material) above the high water mark

Natural Heritage

The proposed transmission line contains a variety of wildlife habitats as well as occurrences of significant wetlands, animal movement corridors are associated with several waterbodies.

Mitigation Measures

- Construction to be timed to occur outside of the breeding wildlife period (May through July), with preference for construction to occur within the winter months to minimize potential impact to vegetation communities within the right of way.
- Trees will be felled into previously cleared areas, and cleared and grubbed material will be piled away from remnant vegetation prior to removal.
- When waterbodies are crossed measures outlined in the "Ontario Operational Statement for Overhead Line Construction" (e.g., transmission poles or other structures to not be placed below the normal high water mark, heavy equipment to be operated from outside the watercourse to minimize disturbance to the watercourse banks) is to be used.

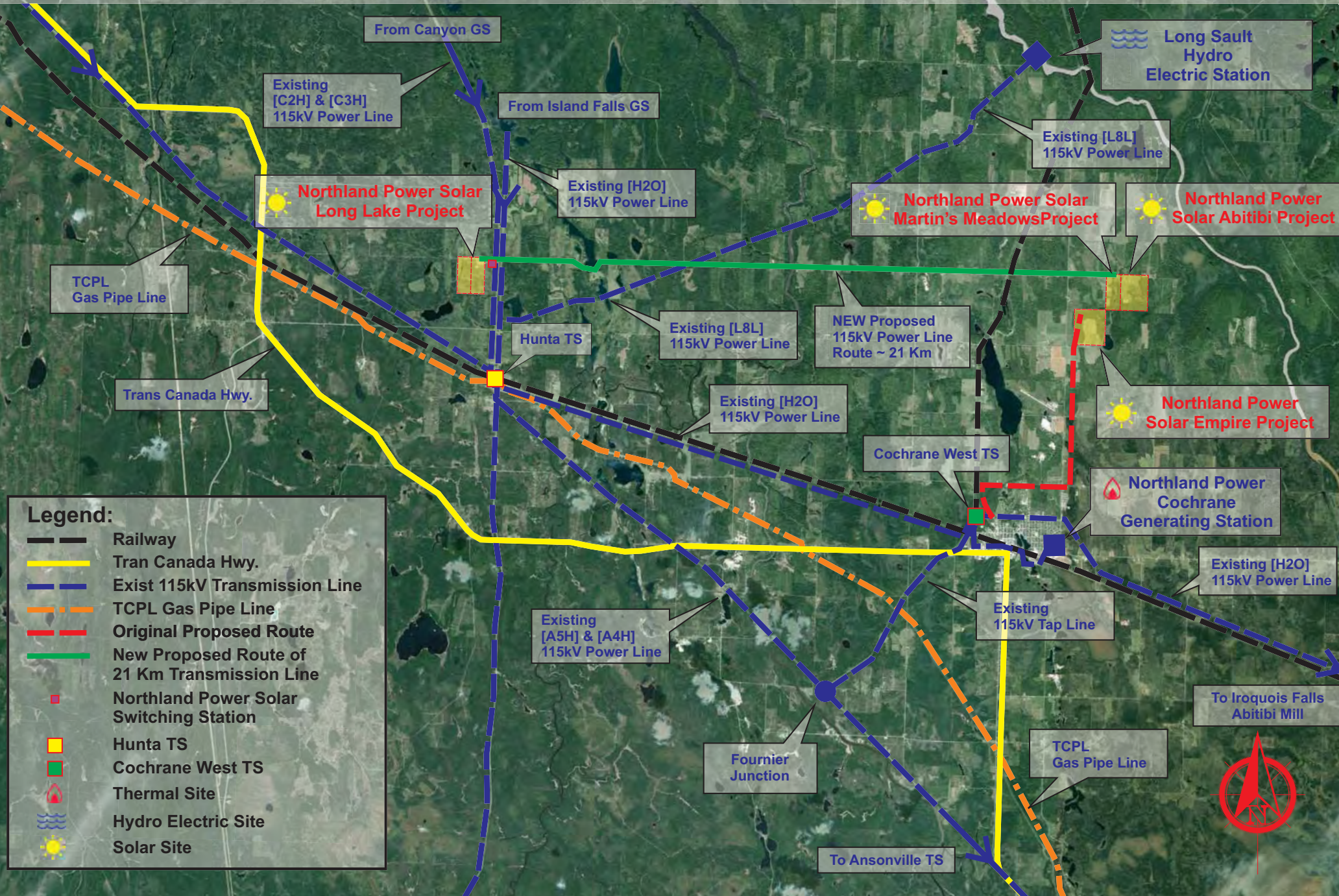


Legend

- Road
 - Utility Line
 - Area Sensitive Grassland Habitat / Short-eared Owl Habitat
 - Area Sensitive Shrubland Habitat / *Carex Wiegandii* Habitat
 - Area Sensitive Woodland / Canada Warbler / Olive-sided Flycatcher / *Vaccinium ovalifolium* Habitat
 - Bald Eagle Habitat
 - *Carex haydenii* Habitat
 - *Carex loliacea* Habitat
 - Common Nighthawk Habitat
 - Old Growth or Mature Forest / Northern Long-eared Bat and Specialized Raptor Nesting Habitat
 - Mink, Otter, Marten, and Fisher Denning Site
 - Moose Aquatic Feeding Area
 - Moose Late Winter Habitat / Winter Deer Yard
 - *Scirpus heterochaetus* Habitat
 - Seeps and Springs / *Carex tetanica* Habitat
 - Red-necked Grebe Habitat
 - Waterfowl Stopover and Staging Area
 - Waterfowl Nesting Habitat
 - Wetland Area
 - Wetlands Supporting Amphibian Breeding Ponds
- Waterbody Features**
- Watercrossing (Hatch)
 - Watercourse (LIO Mapping)
 - Waterbody
- Project Infrastructure**
- Connection Point
 - Northland Power Project Location
 - 120 m from Distribution Line
- Notes:
 1. Produced by Hatch under licence from Ontario Ministry of Natural Resources, Copyright (c) Queens Printer 2011.
 2. Spatial referencing UTM NAD 83.
 3. Satellite imagery from Ministry of Natural Resources.

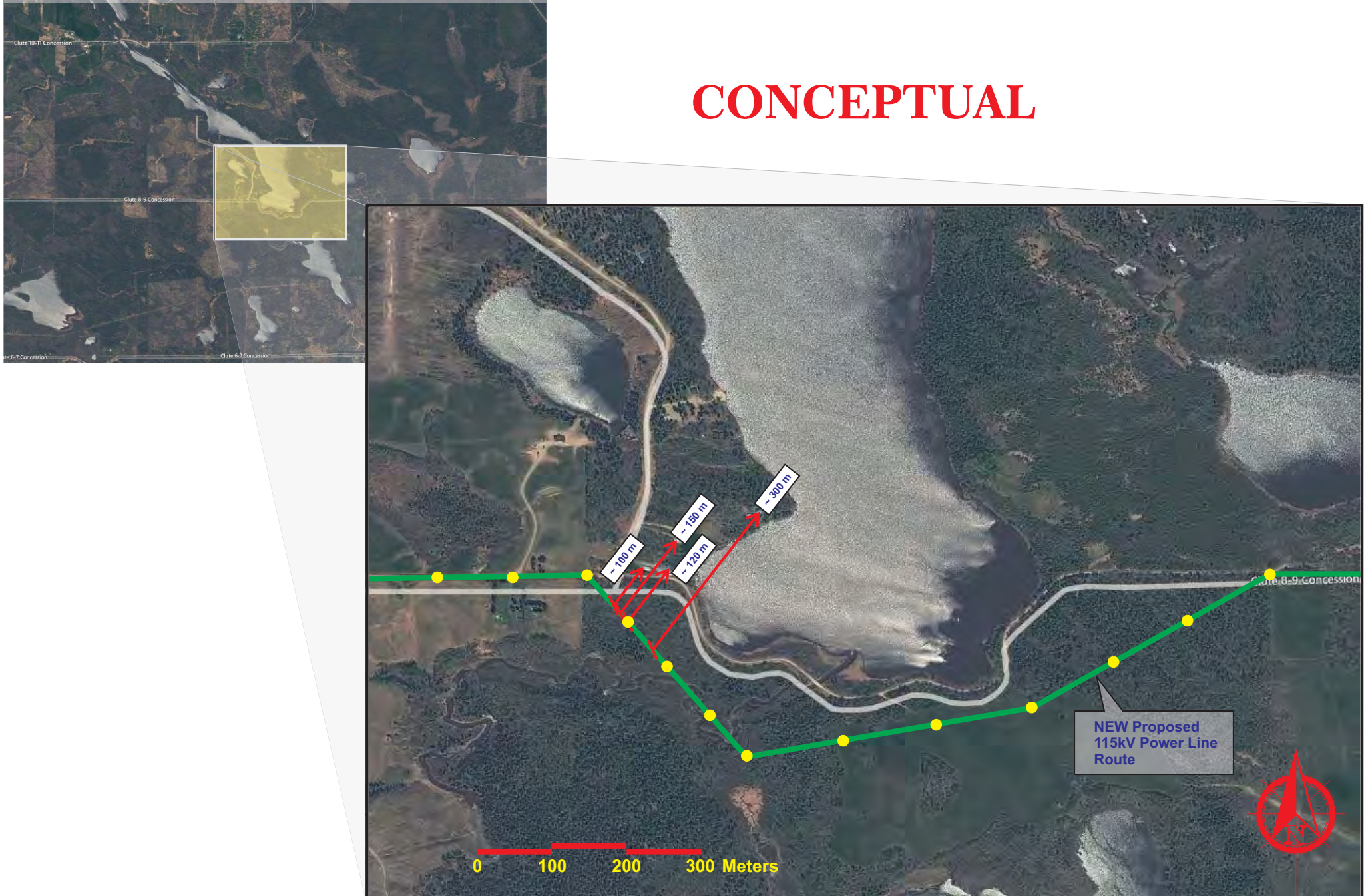


NORTHLAND POWER SOLAR PROJECTS TRANSMISSION LINE

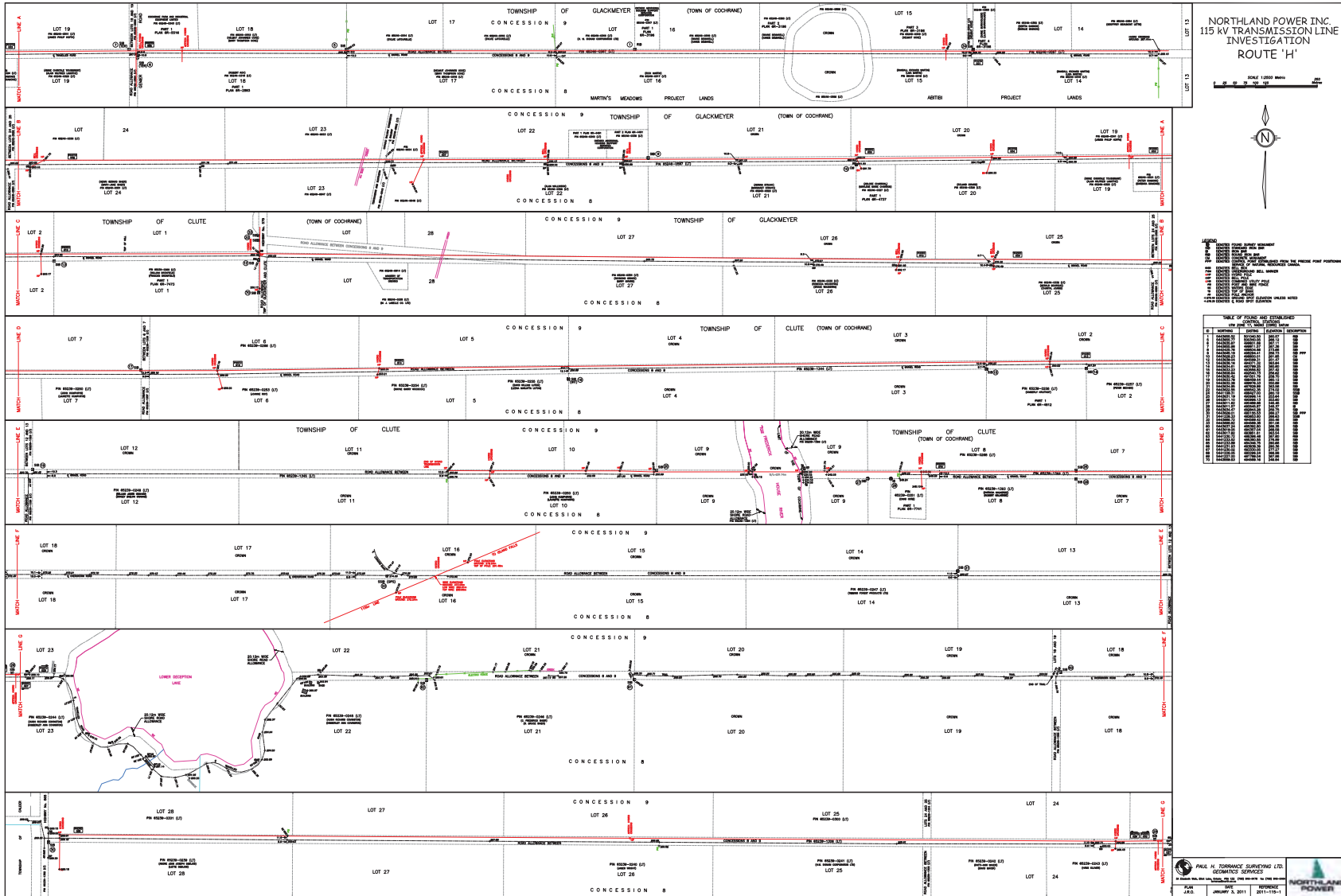


CONCEPTUAL TRANSMISSION LINE ROUTE

CONCEPTUAL



Transmission Line – Legal Survey



Please Sign In

(PLEASE USE BLOCK LETTERS)

Northland Power – Public Meeting

Tim Horton's Event Centre, 7 Tim Horton's Drive, Cochrane, ON

Date: October 4, 2012

Name	Complete Mailing Address			Phone (Please include area code)
	Street	City	Postal Code	
Helmut Uchse	B, R 3	Cochrane	POLICO	705-272-4017
CHAD COTE	Malherbe	Cochrane	POLICO	705-272-5159
Laureth Humphrey	180-12 AVE	Cochrane	POLICO	705-272-4628
John Humphrey	180-12 AVE	Cochrane	POLICO	705-272-4628
Jennifer Telford	MNR			
Rick MARTIN	Con 8, 9	COCHRANE	POLICO	705-282-7826
Risa Martin	Con 8, 9	Cochrane	POLICO	705-849-8038

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Comment Sheet

Public Meeting: Thursday October 4, 2012

Northland Power –Abitibi, Empire, Martin's Meadows and Long Lake
Solar Projects and associated 115kV Transmission Line

1. Please indicate whether your interest is pertinent to a proposed Project(s) by circling Project(s) of interest:

Abitibi Empire Long Lake Martin's Meadows 115kV Transmission Line

2. Please describe where you reside in relation to the Project location(s)?

Lower Deception Lake

3. Please provide any relevant information related to the Project location(s) which, in your opinion, should be considered in assessing the potential effects of the Project(s)?

- sensitive area (wetland) at
South end of lake.

- Visual - site of power line at
end of lake

- follow Algouquin Power

Continued on back



4. Please provide any comments, questions or concerns related to the Project(s).

— Power Influence on telephone lines
will affect my service (internet speeds).
— Require fiber connection which is not
affected.
— Thank you for second meeting in
Huntsville @ 7:30 PM.
L.M.

If you would you like to be included on the Project mailing list, please provide your name and full mailing address below:

Name: Lucy Meyer
Mailing Address (including your postal code):
P.O. Box 2511
Cochrane Ont
POC 1C0

WE WELCOME YOUR INPUT. PLEASE COMPLETE AND SUBMIT THIS COMMENT SHEET BEFORE LEAVING - THANK YOU

Alternatively, if you prefer to send your response in at a later time, please use the contact information provided below:

Sean Male, Environmental Coordinator
4342 Queen St, Suite 500, Niagara Falls, Ontario, L2E 7J7
Phone: 905-374-5200 Fax: 905-374-1157 Email: smale@hatch.ca

PLEASE NOTE: THOUGH RESPONSES WILL BE WELCOMED AND RESPONDED TO AT ANY TIME, ONLY RESPONSES RECEIVED BY OCTOBER 11, 2012, WILL BE INCLUDED IN THE CONSULTATION REPORT TO BE SUBMITTED AS PART OF THE RENEWABLE ENERGY APPROVAL APPLICATION TO THE MINISTRY OF THE ENVIRONMENT.

For more information regarding the Projects please refer to northlandpower.ca

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Please Sign In
 (PLEASE USE BLOCK LETTERS)
 Northland Power – Public Meeting

Hunta Mennonite Church, Hunta, ON

Date: October 4, 2012

Name	Complete Mailing Address			Phone (Please include area code)
	Street	City	Postal Code	
Daniel Desjardins	Lot 21	cochrane	Pol 1C0	(705) 272-6076
Liz Harden	Lot 16	Hunta	POL 1P0	705-272-6531

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Please Sign In
 (PLEASE USE BLOCK LETTERS)
 Northland Power – Public Meeting

Hunta Mennonite Church, Hunta, ON

Date: October 4, 2012

Name	Complete Mailing Address			Phone (Please include area code)
	Street	City	Postal Code	
HANS KLIVER	CONE 8E9 LUTE	PO BOX 1955 COCHRANE	POLICO	705-272-2290
Helmut Ucker	R.R. 3	Cochrane	POLICO	705-272-4017
TINA SHIER		HUNTA	POLICO	705-272-6388
WAYNE SHIEL		HUNTA	POLICO	705-272-6388
KARREN WRIGHT	RR#4 coll Box 2 Clute 8:9	HUNTA	POLICO	705-272-6309
Bob Lacoursiere	RR#4	HUNTA	POLICO	705-272-4100
Patti Mayer		Hunta	POLICO	705-272-3789
David Mayer		Hunta	POLICO	"
Lee Mayer	lot 8 lower Deception	Clute	POLICO	705-272-4597
Umy Kundace	Concession 9	Hunta	POLICO	705-272-2939
John Lacoursiere	RD 4	Hunta	POLICO	705-272-7400

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Please Sign In
 (PLEASE USE BLOCK LETTERS)
 Northland Power – Public Meeting

Hunta Mennonite Church, Hunta, ON

Date: October 4, 2012

Name	Complete Mailing Address			Phone (Please include area code)
	Street	City	Postal Code	
Laura Connie	119 Birch South	Timmins	P4N 2A8	705-358-2618
(Mother) Mavor	119 Birch South	Timmins	P4N 2A8	705-363-6295
Clifford Blackburn	Lot 27 Con VI	Hunta	POL 1P0	705 272-6354
Olga Blackburn	Lot 27 Con 10	Hunta	POL 1P0	705 272-6304
Erleen Shier	Lot 28 Con 5	Hunta	POL 1P0	705-272-6214
Paul Mavor	RR#4 North	Hunta	POL 1P0	272-6743
Tom Bailor	RR4 Hunta	Hunta	POL 1P0	717-964-2195 705 272-3460
Devin Landis	^{DV⁹} Hunta	Hunta	POL-1P0	
Cathy Shier	6 Central Court Apt. 202	KAPUSKATIUNG	PSN 3C9	705-335-3251
Licette deBlois	LOT 28 Con 8	Cochrane	POL 1C0	705-272-4949
Andre deBlois	"	"	"	"

* Please note that all information provided on this form will become part of the formal record and will be published in Project reports that will be available for public review

Welcome to the Public Meeting for the
115-kV Transmission Line to Interconnect the
Long Lake Solar, Empire, Abitibi, and Martin's Meadows
Projects



Thursday October 4, 2012

Public Information Centre #3 (PIC#3)



Agenda

Cochrane 5:00 – 7:00 and Hunta 7:30 – 9:30

1) Presentation (approx. 30 minutes)

- Introduction – Northland and Panel
- Purpose of the Meeting
- Permitting Process and Schedule
- Transmission Line
- Next Steps

2) Question and Answer Period (approx. 30 minutes)

3) Open House – Display Boards (approx. 60 minutes)

Northland Power Inc.

Northland Power develops and operates clean and green power generation facilities, mainly in the provinces of Ontario and Quebec. Our facilities produce about 1,000 MW of electricity. Northland Power has been in business since 1987 and has been publicly traded since 1997.

Sustainability is a core value of Northland Power Inc. Sustainability has many dimensions including:

- Environmental
- Community
- Health and Safety
- Financial
- Operational

Presenters

- Northland Power
 - Rob Miller, M.Sc., P.Eng., Manager Solar Development
 - Luke Kupczyk, M.Eng, P.Eng., Project Engineer, Engineering Department
- Hatch
 - Sean Male, M.Sc., Terrestrial Ecologist, Environmental Assessment & Management
- Intrinsic Environmental Sciences Inc.
 - Dr. Chris Ollson, PhD., Environmental Health Scientist

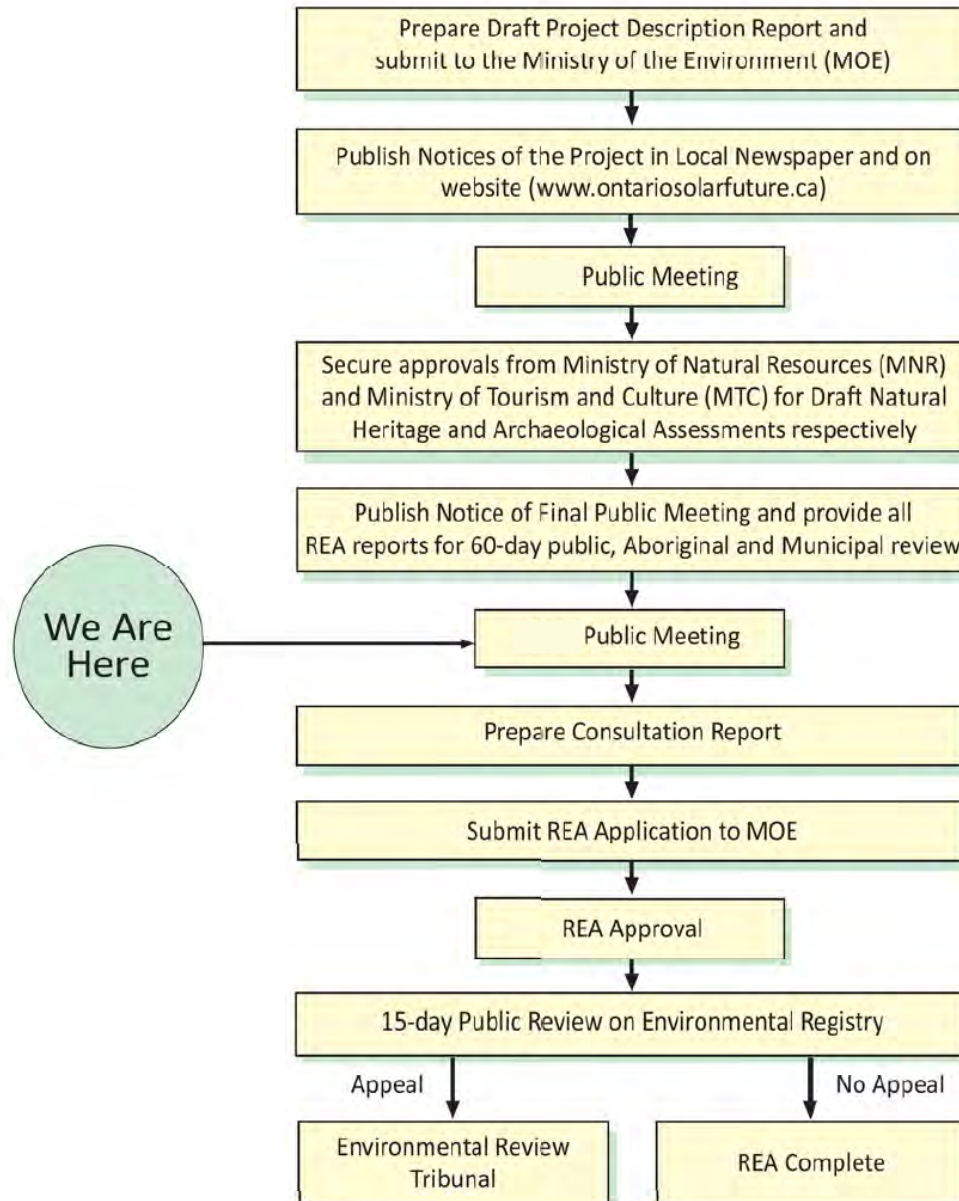
Purpose of this Public Meeting

- To communicate project details and to solicit stakeholder input, with a focus on the transmission line
- You Can:
 - Ask Questions
 - Obtain information
 - Gain a greater understanding of the Project and the REA process
 - Express any comments or concern
- Comments or Concerns can be provided:
 - In a comment form
 - Through discussions with the representatives in attendance
 - Or contact the Environmental Coordinator, Sean Male, after the meeting

Benefits of Solar Energy

- Advantages of solar energy include:
 - Fuel is free
 - No pollutants or green house gases
 - Components are safe and non-toxic
 - Low environmental impact - most benign form of power generation
 - Low maintenance costs, no moving parts
 - Power production matches supply and demand patterns
 - Ontario has a summer peaking utility due to air conditioning loads

Renewable Energy Approval (REA) Process



Anticipated Project Schedule

- Submission of Renewable Energy Approval (REA) Documents to MOE – October 2012
- Renewable Energy Approval Received – April 2013
- Construction Begins – Spring 2013
- Construction Complete – Fall 2013, but could stretch to 2014

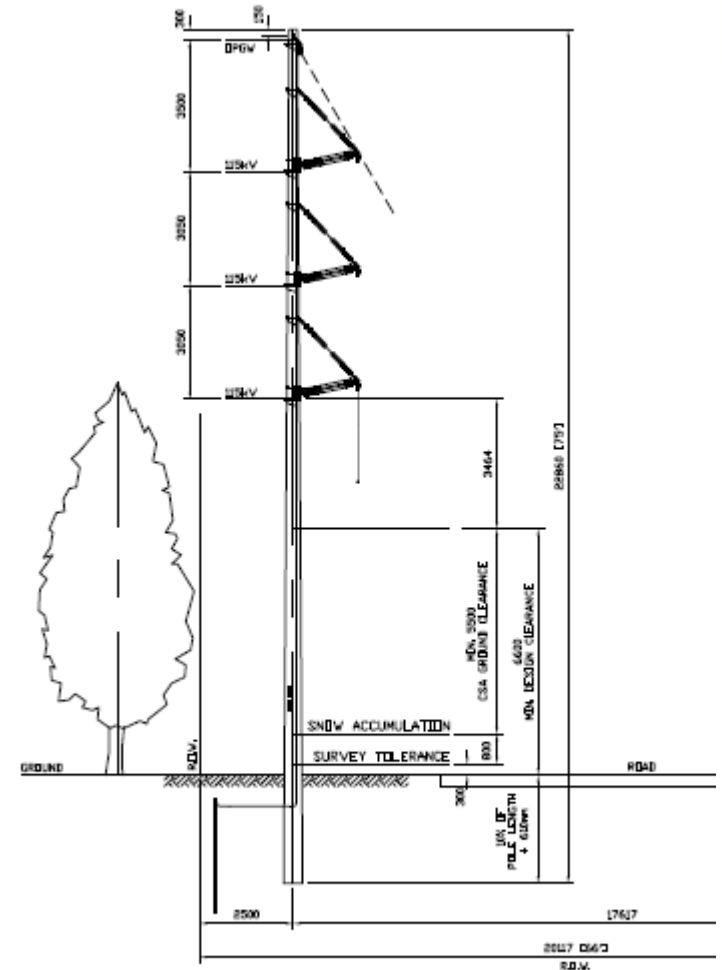
Northland

115 kV Transmission Line



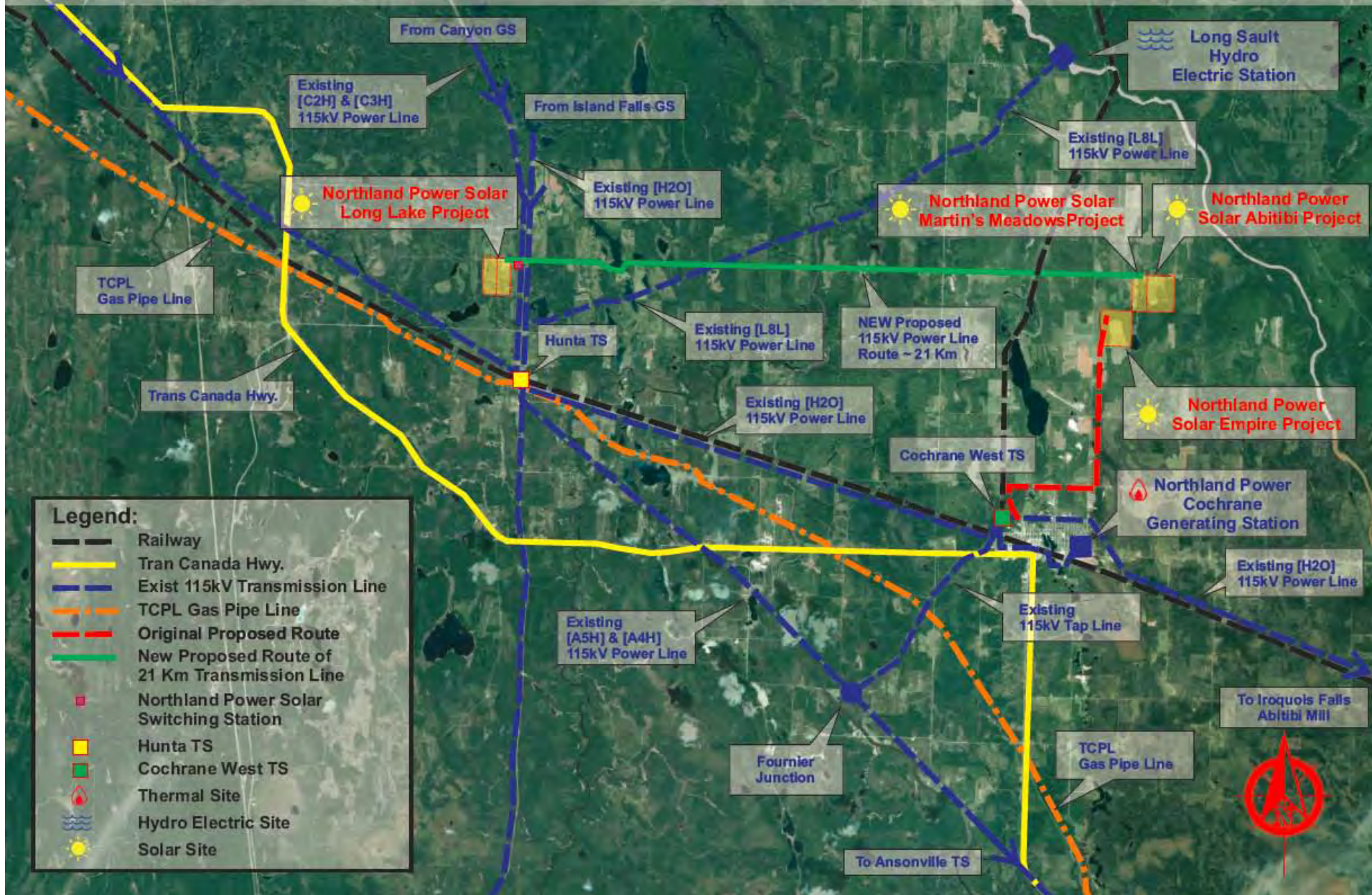
115 kV Transmission Line

- A 20 km long transmission line will be constructed
- Located within municipal road right-of-way along Concession 8&9
- Several crossings will be required (i.e. Frederick House River, Ontario Northland Railway, existing transmission lines)
- In the unorganized townships, line will be on Crown Land
- Permitting of the transmission line is also going through an Ontario Energy Board “Leave to Construct” and other Ministry of Natural Resources permitting (such as work permits).















115kV TRANSMISSION LINE
TANGENT STRUCTURES
CONCEPTUAL RIGHT OF WAY DESIGN

NORTHLAND POWER SOLAR PROJECTS TRANSMISSION LINE



Legend:

-  Railway
-  Tran Canada Hwy.
-  Exist 115kV Transmission Line
-  TCPL Gas Pipe Line
-  Original Proposed Route
-  New Proposed Route of 21 Km Transmission Line
-  Northland Power Solar Switching Station
-  Hunta TS
-  Cochrane West TS
-  Thermal Site
-  Hydro Electric Site
-  Solar Site



CONCEPTUAL TRANSMISSION LINE ROUTE

CONCEPTUAL



Why This Route Was Selected

- Learned / told by Hydro One we could not connect to the tap line servicing Cochrane.
 - It is not big enough, i.e. conductor is too small.
 - Need to connect to main circuit, for example C2H
 - Spur line capacity of 59 MVA. This is not enough to carry the output of the 30 MW solar plus Cochrane NP plant
- Northland, Hydro One and IESO want to minimize connections to the grid.
 - This is easier to monitor and control and it is less expensive

Why This Route Was Selected (cont'd)

- The proposed route is the most direct
- Least number of landowners, predominantly the Town and MNR.
- Utilities are typically or best located in municipal road ROW's, and not cross country – less environmental impacts, better for O&M, compatible with intended use of land
- Optimizes use of existing linear severances (i.e. roads)
- Takes advantage of areas that have already been cut and disturbed
- Relatively flat gentle topography

Private Algonquin and H2O Lines

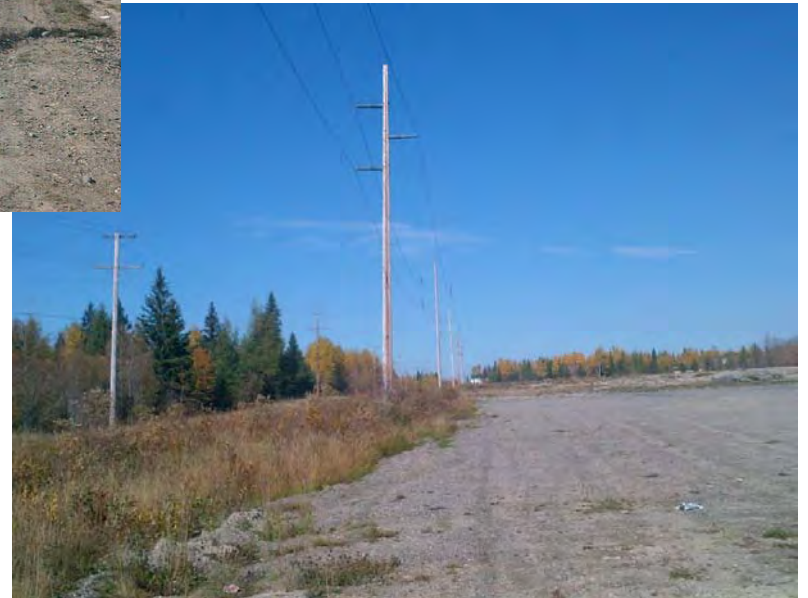
- Approached Algonquin, and cannot connect to their line because it is already limited in terms of capacity and there are other technical and commercial reasons why we cannot.
 - It does not make sense environmentally, or from a cost perspective, to parallel the Algonquin line
- Same reason we cannot connect to H2O's line running through Cochrane

Existing 115 kV Line in Cochrane

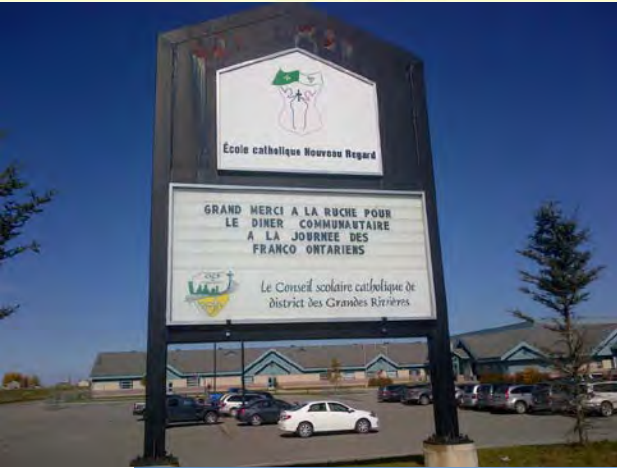


This is what Northland is proposing.

Northland will not use large metal lattice towers.



H2O Line Along 8th Street Next to School



H2O Line Along 8th Street

Looking West



Looking East

H2O Line Next to Minto Health Centre



Health Canada on EMF from Power Lines

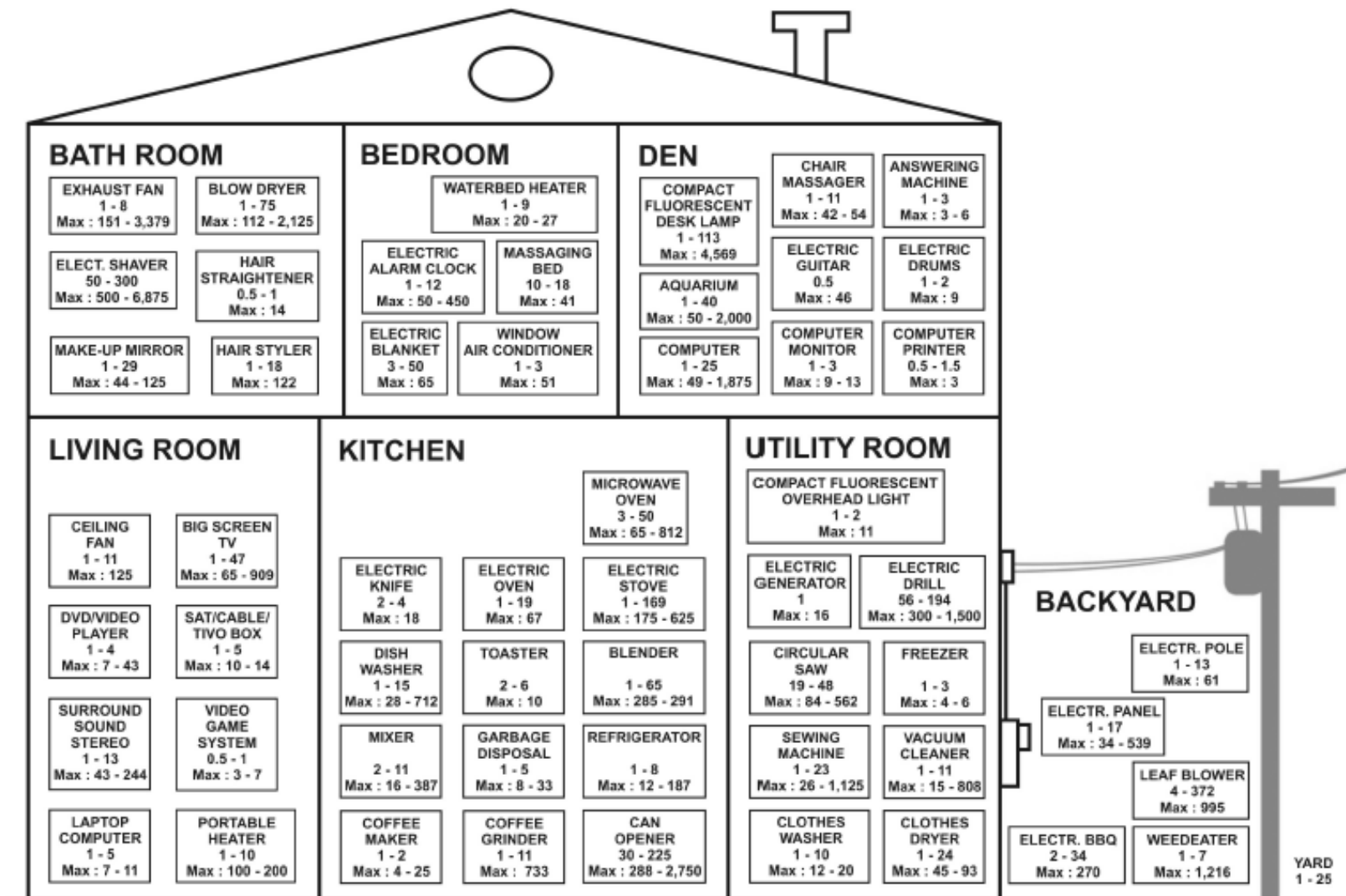
“There is no conclusive evidence of any harm caused by exposures at levels found in Canadian homes and schools, including those located just outside the boundaries of power line corridors.”

“Health Canada does not consider guidelines for the Canadian public necessary because the scientific evidence is not strong enough to conclude that exposures cause health problems for the public.”

IEEE - EMF In The Environment

MAGNETIC FIELD ENVIRONMENT

Units: milliGauss (mG)



Typical EMF Levels for Power Transmission Lines*

115 kV



Approx. Edge
of Right-of-Way

15 m
(50 ft)

30 m
(100 ft)

61 m
(200 ft)

91 m
(300 ft)

Electric Field (kV/m)	1.0	0.5	0.07	0.01	0.003
Mean Magnetic Field (mG)	29.7	6.5	1.7	0.4	0.2

230 kV



Approx. Edge
of Right-of-Way

15 m
(50 ft)

30 m
(100 ft)

61 m
(200 ft)

91 m
(300 ft)

Electric Field (kV/m)	2.0	1.5	0.3	0.05	0.01
Mean Magnetic Field (mG)	57.5	19.5	7.1	1.8	0.8

500 kV



Approx. Edge
of Right-of-Way

20 m
(65 ft)

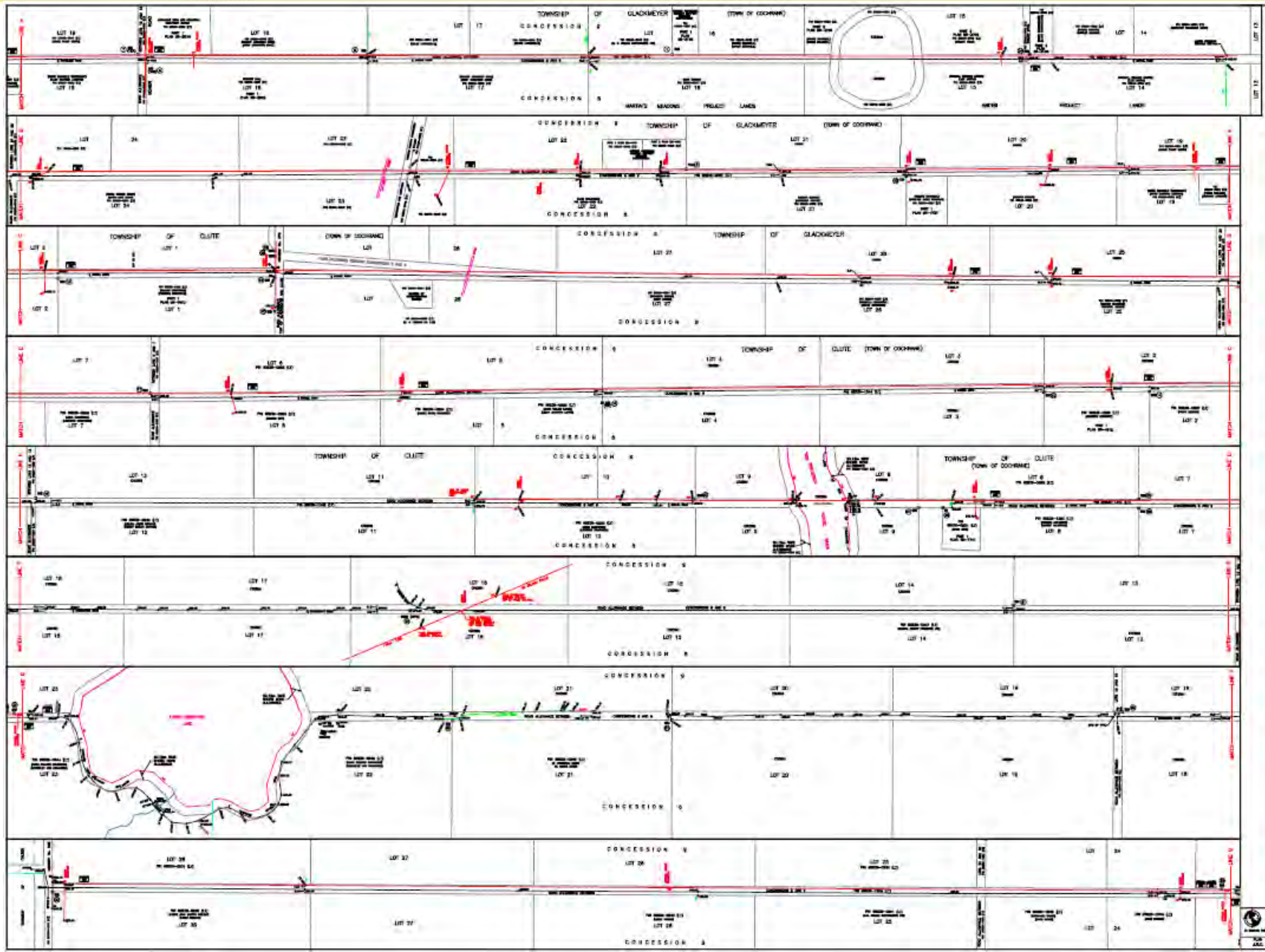
30 m
(100 ft)

61 m
(200 ft)

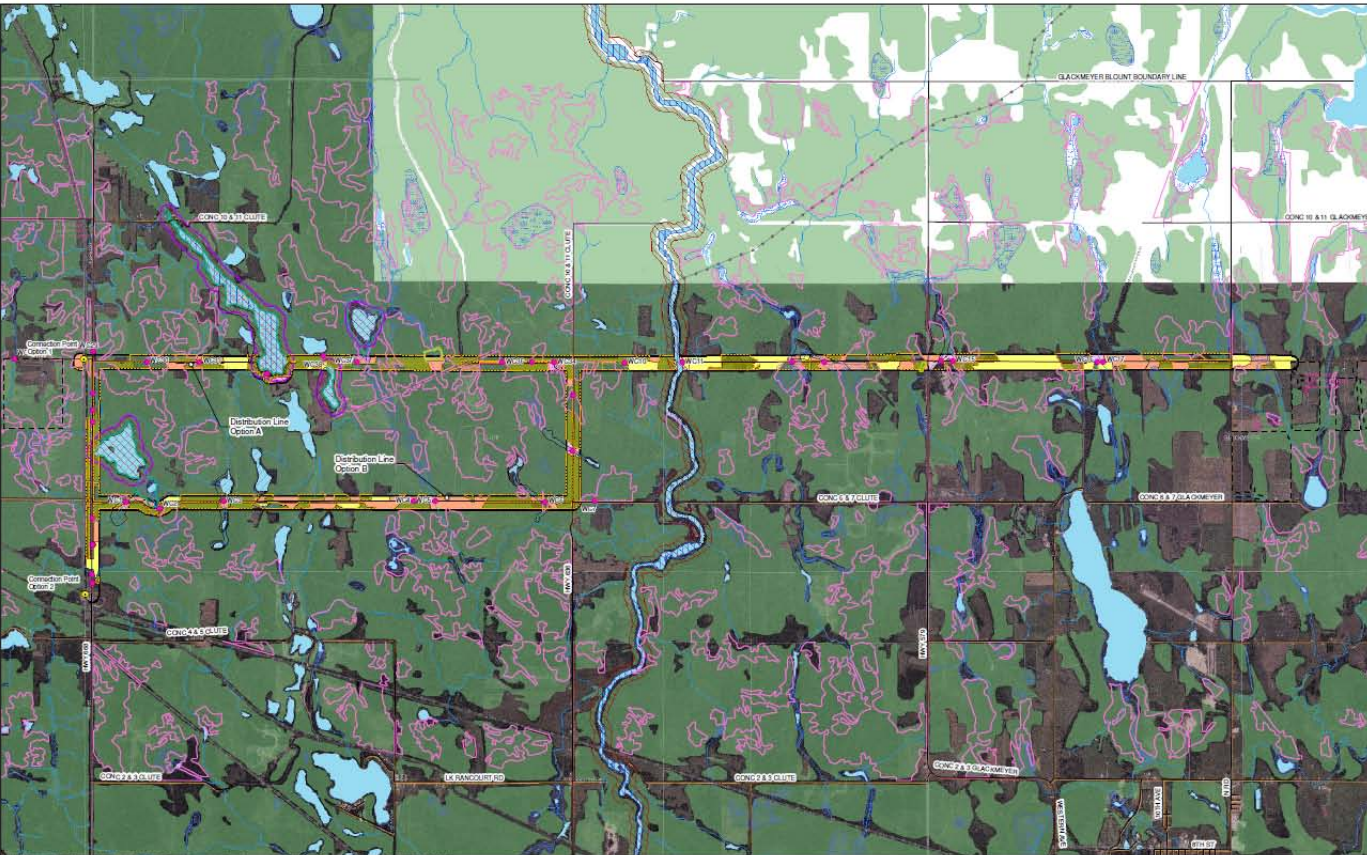
91 m
(300 ft)

Electric Field (kV/m)	7.0	3.0	1.0	0.3	0.1
Mean Magnetic Field (mG)	86.7	29.4	12.6	3.2	1.4

115 kV Transmission Line – Legal Survey



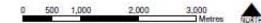
115kV Transmission Line – Environmental Features



Legend

- Road
 - Utility Line
 - Area Sensitive Grassland Habitat / Short-eared Owl Habitat
 - Area Sensitive Shrubland Habitat / *Carex Wiegandii* Habitat
 - Area Sensitive Woodland / Canada Warbler / Olive-sided Flycatcher / *Vaccinium ovalifolium* Habitat
 - Bald Eagle Habitat
 - Carex haydenii* Habitat
 - Carex liliacea* Habitat
 - Common Nighthawk Habitat
 - Old Growth or Mature Forest / Northern Long-eared Bat and Specialized Mink, Otter, Marten, and Fisher Denning Site Raptor Nesting Habitat
 - Moose Aquatic Feeding Area
 - Moose Late Winter Habitat / Winter Deer Yard
 - Scirpus heterochaetus* Habitat
 - Seeps and Springs / *Carex tetanica* Habitat
 - Red-necked Grebe Habitat
 - Waterfowl Stopover and Staging Area
 - Waterfowl Nesting Habitat
 - Wetland Area
 - Wetlands Supporting Amphibian Breeding Ponds
- Waterbody Features**
- Watercrossing (Hatch)
 - Watercourse (LIO Mapping)
 - Waterbody
- Project Infrastructure**
- Connection Point
 - Northland Power Project Location
 - 120 m from Distribution Line

Notes:
 1. Produced by Hatch under license from Ontario Ministry of Natural Resources. Copyright © Queens Printer 2011.
 2. Spatial referencing UTM NAD 83.
 3. Satellite Imagery from Ministry of Natural Resources.



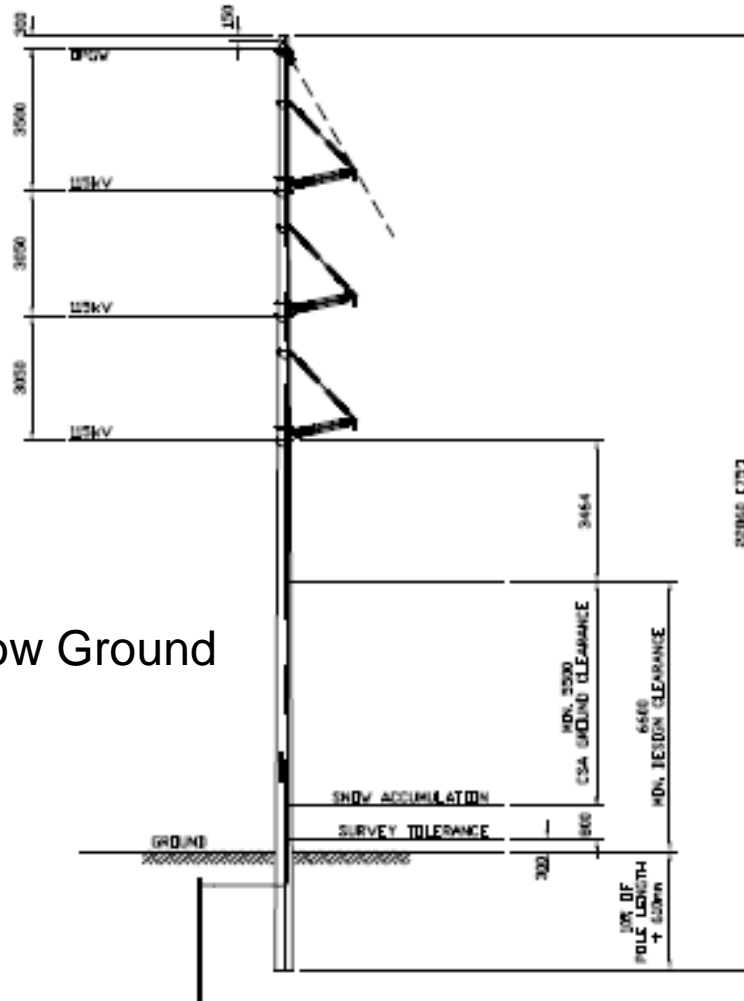
Northland Power Inc.
 Distribution Line Project Location
 Generalized Candidate
 Significant Natural Heritage / Waterbody Features **HATCH**

115kV Transmission Line – Typical Pole

Typical 75' Pole

9' Embedment or Below Ground

66' Aboveground



10CT 115kV TRANSMISSION LINE
TANGENT (0 - 2°) FRAMING

Northland

Next Steps

A large-scale solar farm with rows of blue photovoltaic panels under a clear blue sky. The panels are arranged in neat, parallel rows that recede into the distance. The sky is a uniform, bright blue, and the overall scene is brightly lit, suggesting a clear day. The perspective is from a low angle, looking across the rows of panels towards the horizon.

Next Steps

- A consultation report will be prepared documenting results of this Public meeting
- An application for a Renewable Energy Approval will be submitted to the Ministry of Environment
- A Notice of Environmental Registry Posting will be published
- A Decision Notice will be issued from the Ministry of Environment

**For more
information, please
visit
northlandpower.ca**

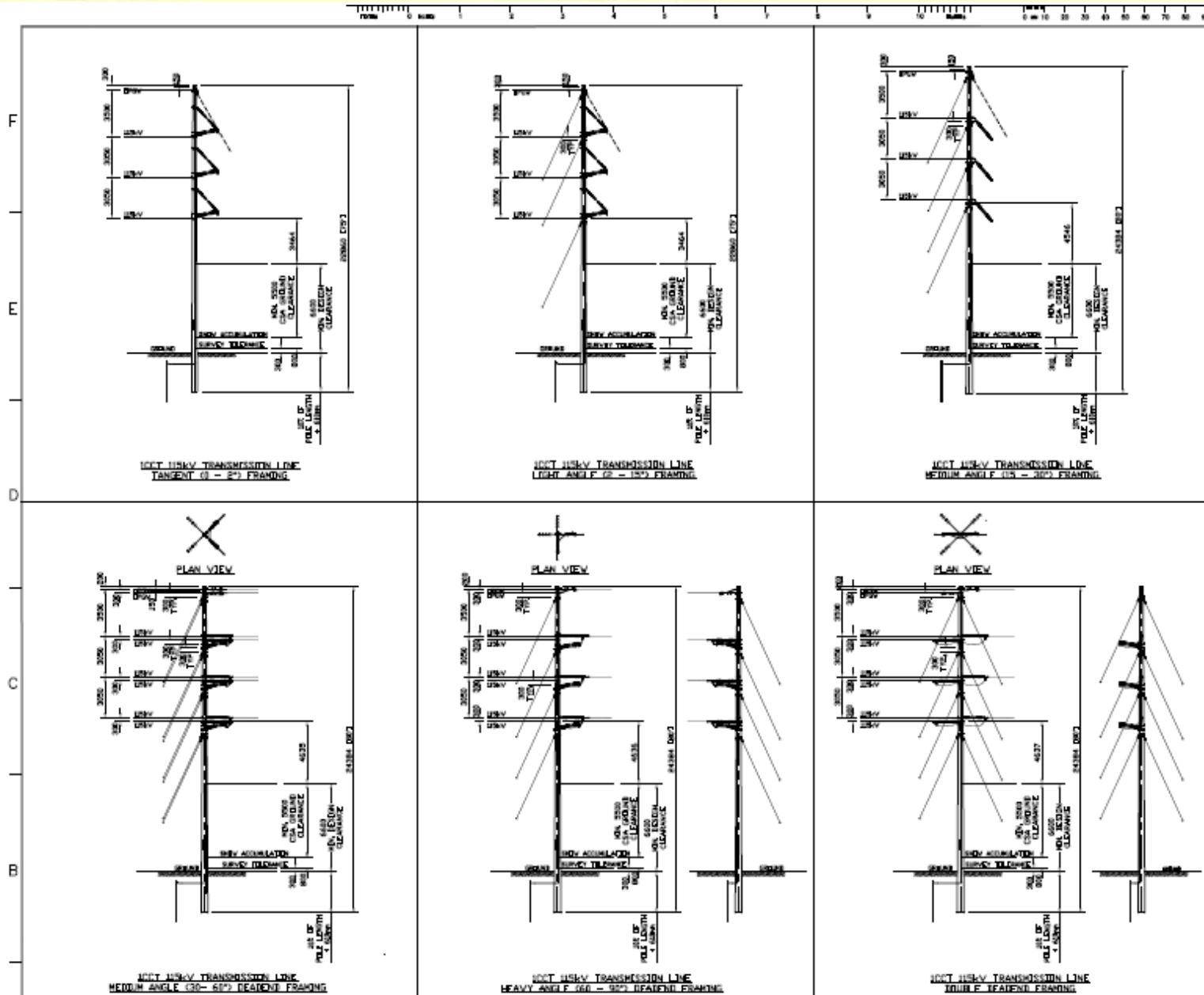
Questions?

Thank You

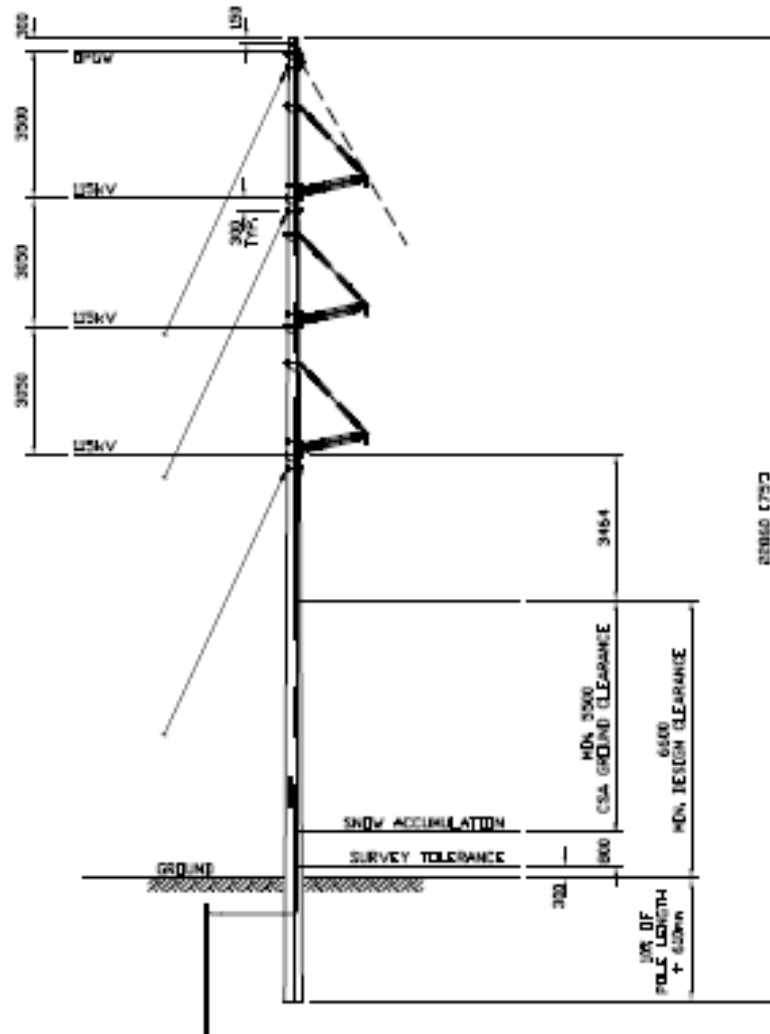
www.northlandpower.ca



115kV Transmission Line – Structure Summary

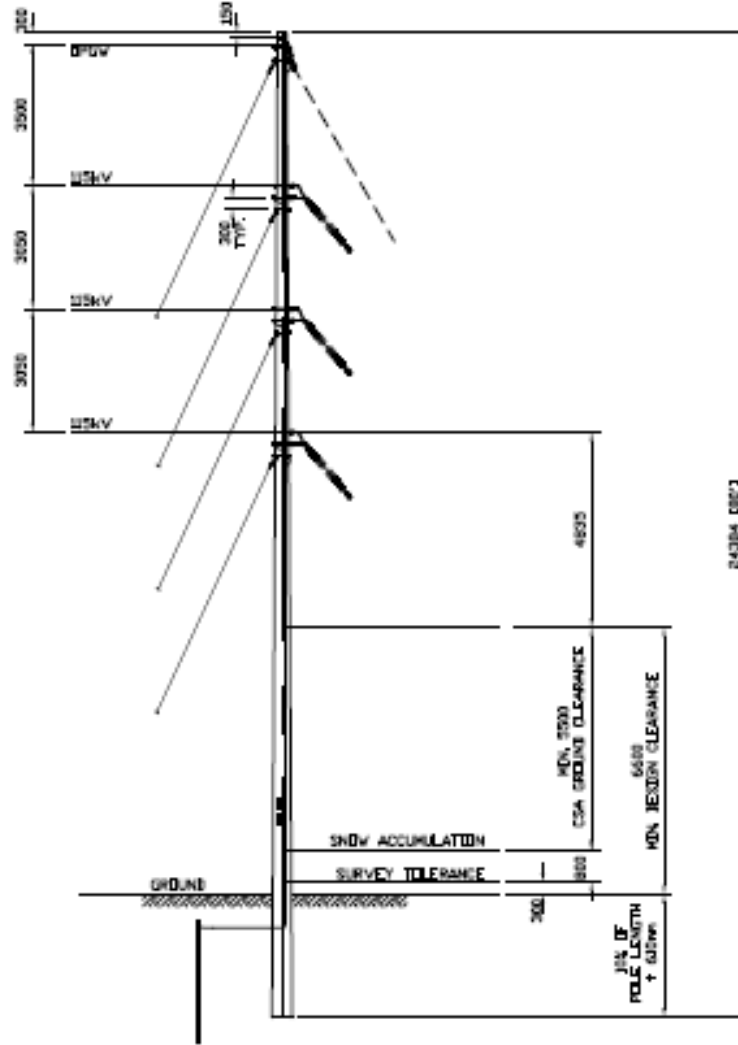


115kV Transmission Line – Design Option



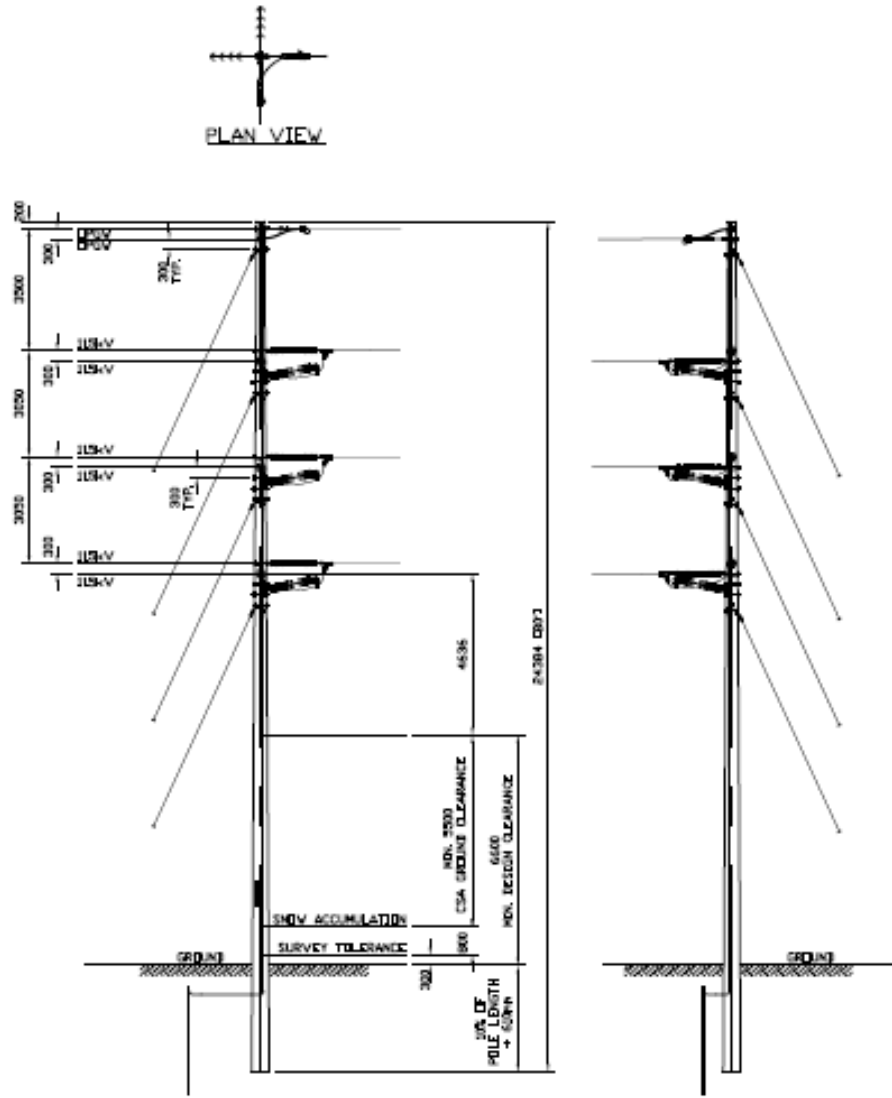
10CT 115KV TRANSMISSION LINE
LIGHT ANGLE (P - 15°) FRAMING

115kV Transmission Line – Design Option



1CCT 115kV TRANSMISSION LINE
MEDIUM ANGLE (15 - 30°) FRAMING

115kV Transmission Line – Design Option

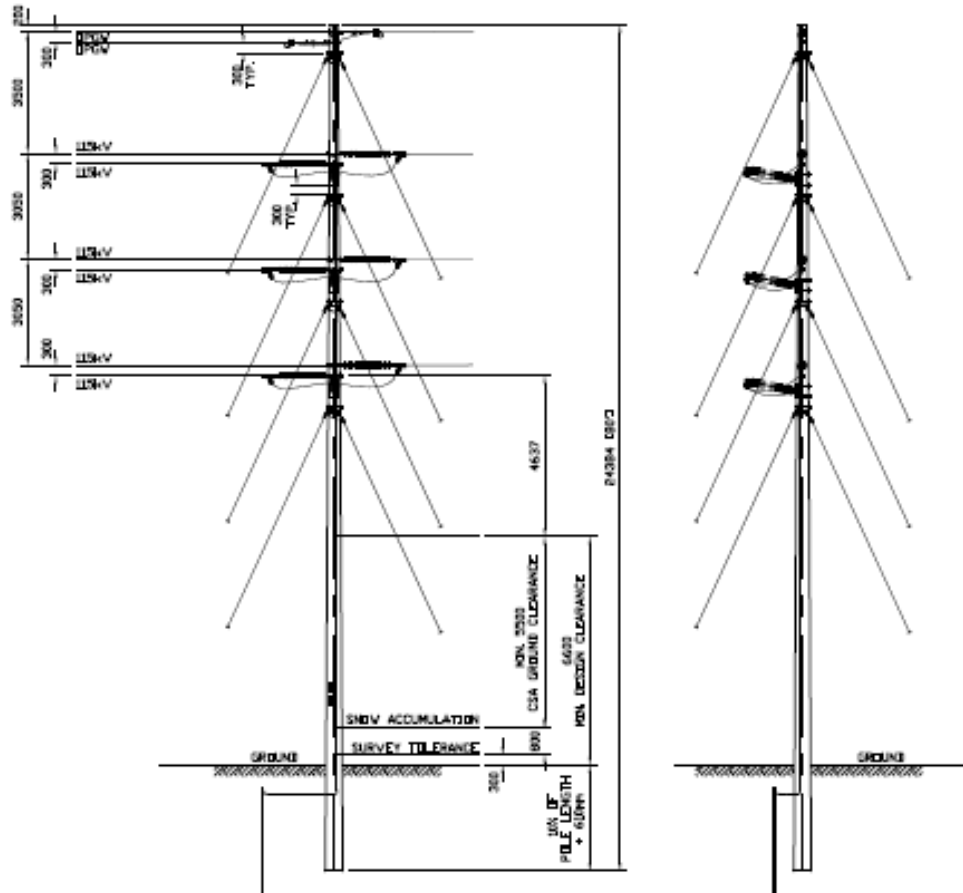


ICCT 115kV TRANSMISSION LINE
HEAVY ANGLE (60 - 90°) DEADEND FRAMING

115kV Transmission Line – Design Option



PLAN VIEW

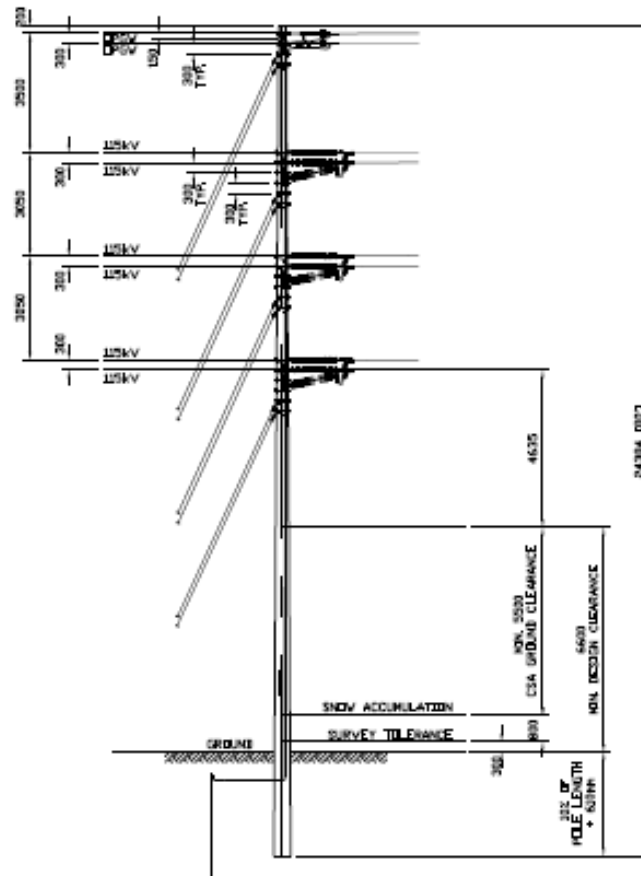


115KV TRANSMISSION LINE
DOUBLE DEADEND FRAMING

115kV Transmission Line – Design Option



PLAN VIEW



ICCT 115kV TRANSMISSION LINE
MEDIUM ANGLE (30 - 60°) DEADEND FRAMING