

REGINA TO MOOSE JAW AREA SYSTEM REINFORCEMENTS

November 2020

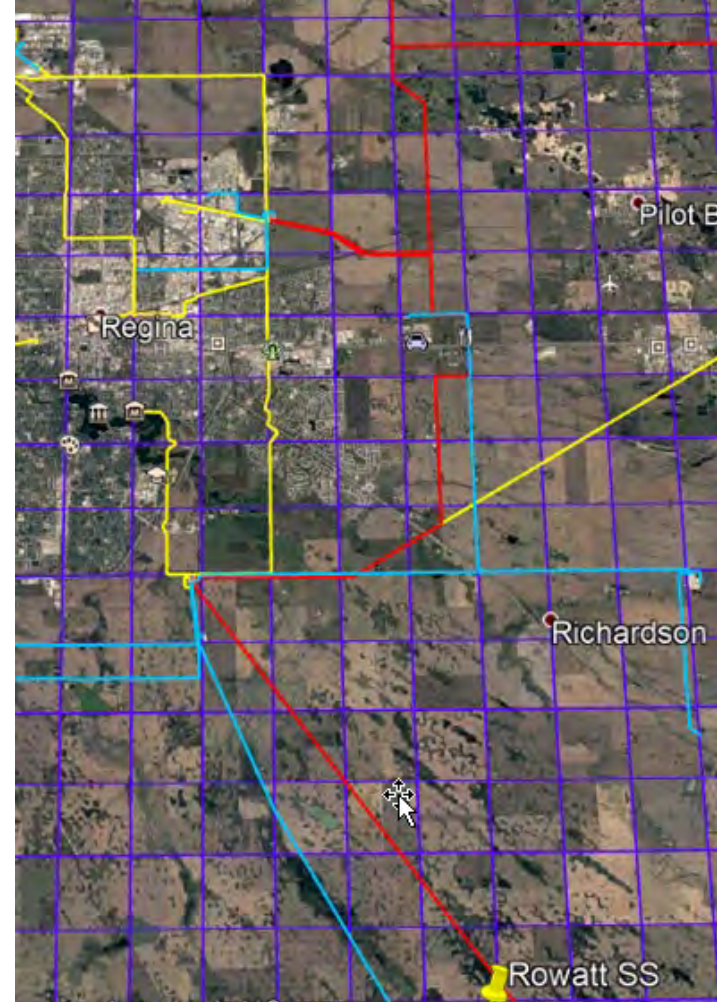
PROJECT DESCRIPTION & NEED

- SaskPower is planning to build new infrastructure and replace/upgrade aging infrastructure in the area to ensure we can continue to provide safe, reliable power to our customers.
- We continue to add new generation in the southwest, including almost 400 megawatts of renewable wind power in 2021. This project will strengthen the power system to ensure we'll have options to move power to where it is needed.
- It'll also ensure we're prepared to meet potential future growth in the City of Regina and along the Regina to Moose Jaw industrial corridor.



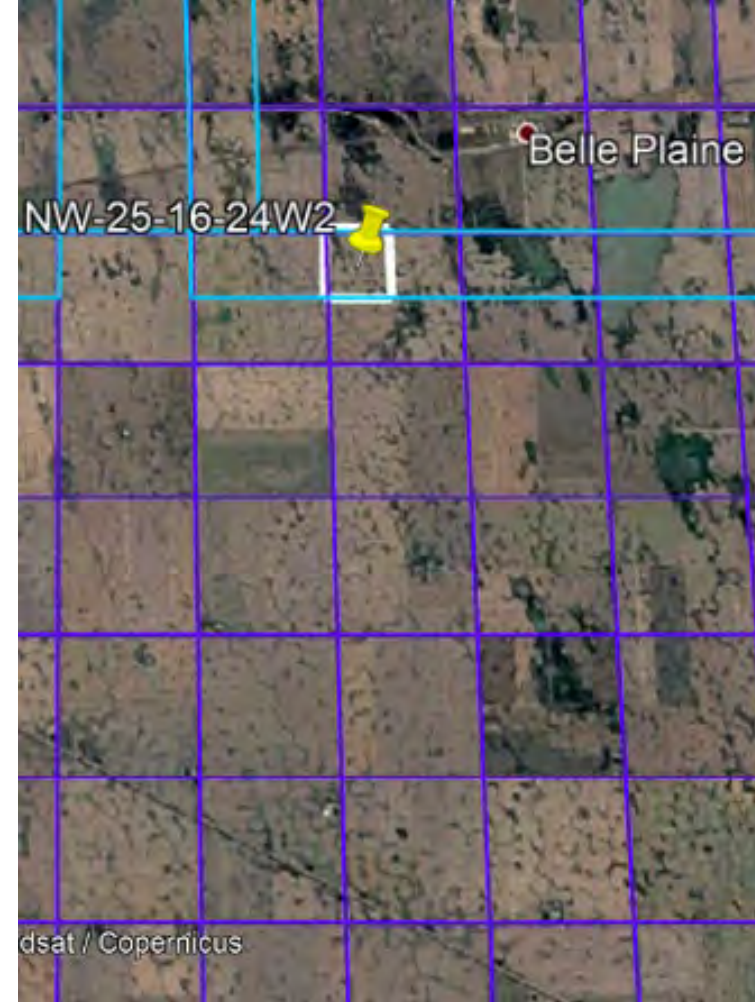
ROWATT SWITCHING STATION

- We'll build a new switching station southeast of Regina (NE36-15-19-W2). The existing switching station serving this area is nearing capacity with limited ability to expand.
- This new switching station will support growth in and around the City of Regina and potential future industrial customers in the area as well.
- Work to upgrade roads to access the site began in Sept 2020. We anticipate construction on the station will begin in 2021 and be completed in 2023. This includes ~2km of modifications to nearby transmission lines to connect them to this new switching station.



BELLE PLAINE SWITCHING STATION

- We've also purchased land for a new switching station near Belle Plaine (NW25-16-24-W2). The nearby Pasqua switching station (near Moose Jaw) is nearing capacity with limited ability to expand.
- A new switching station in this area will support potential future development of the industrial area around Belle Plaine.
- This switching station will likely be built within the next five years.



CONNECTING SWITCHING STATIONS

- We'll also build a new 230kV transmission line to connect the new Rowatt switching station to the existing Pasqua switching station. We'll connect the Belle Plaine switching station too once it is built.
- We'll build the new transmission line using double-circuit structures. This means that when we need another transmission line in this area, we will already have structures in place to accommodate stringing of a future line.



REPLACING AGING INFRASTRUCTURE

- For a portion of the new line, we've identified an opportunity to replace the R1P line built in 1955.
- Before we can replace the existing line, we'll need to modify how we serve several industrial customers. We'll do this by stringing the open circuit on the existing structures built to serve K+S and building about one mile of new line.
- Once these customers are moved over, we can remove the old line and use its 30m right-of-way for the new line.



EXISTING RIGHT-OF-WAY

- Using an existing right-of-way is one strategy to reduce the impact to land use.
- We'll need to expand the right-of-way by 10 meters to accommodate the larger structures.
- We'll consult with impacted landowners to determine the best way to expand the existing right-of-way.



FINDING A ROUTE TO ROWATT

- We'll need to find a route for the new transmission line the rest of the way to the Rowatt switching station.
- Finding an ideal route for a transmission line is never easy. There are pros and cons to every option.
- Our process incorporates many perspectives to better understand potential effects of a transmission line.
- We'll follow our routing process and use our routing considerations as we work with stakeholders to find the best route overall.



ROUTING CONSIDERATIONS



ENVIRONMENT

We consider many factors like land cover, wetlands, waterbodies, and potential archaeology, as well as potential impact on rare and endangered plant and animal species and their habitats.

When avoidance isn't possible, we will work with stakeholders and regulators to find the most responsible way to offset or mitigate effects and impacts. We follow Environmental Beneficial Management Practices.



INDIGENOUS KNOWLEDGE

We engage Indigenous communities to seek invaluable knowledge. Local and Indigenous knowledge refers to the understandings, skills and philosophies developed by societies with long histories of interaction with their natural surroundings like hunting, fishing, trapping, ceremonial and spiritual uses.



LAND USE

We recognize that land and resource use is important to agricultural operations, property owners, communities and resource users like hunters and trappers, commercial operators, nature, environmental organizations and the public.

We consider how resources or access to resources may be affected as well as community land use plans and proximity to communities, residences, habitable buildings, outbuildings.

ROUTING CONSIDERATIONS



SOCIAL

We consider the social value communities place on landscapes, points of interest, economic benefits to local communities, job opportunities and recreation activities.



TECHNICAL

We consider engineering and construction standards as well as access, terrain, design, system reliability, proximity to required and other existing infrastructure.
SaskPower is committed to ensuring public safety and safe access for construction and maintenance activities.



COST

We consider capital costs (project budget), operating budget (long term maintenance), land acquisition costs and impact on power rates.



What else should we be considering?

WE NEED YOUR INPUT

We're looking for your feedback on:

- How might this project affect you including future roads, zoning, or development plans we should be aware of?
- How we can lessen effects?
- What else we should know as we evaluate potential route options?

We will ensure that concerns and feedback are built into project plans as much as possible.



PROJECT MILESTONE SCHEDULE

- Consultations: Ongoing until April 2021
- Line design: May 2021 to May 2022
- Easement acquisition:* May to August 2022
- Line construction:* September 2022 to March 2023
- Construction Complete / ISD: March 2023

*Easement acquisition and construction along existing right-of-way may begin in 2021.

STRUCTURE TYPE

**230kV Double-Circuit
Galvanized Steel H-Frame
Tangent Structure
(T72/001)**

P4C 24



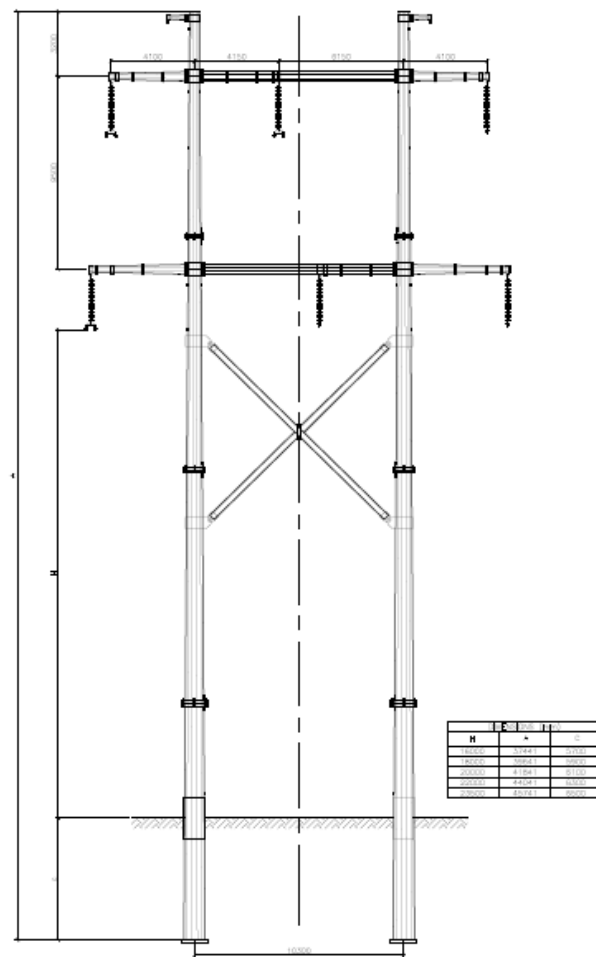
230kV Double-Circuit Galvanized Steel H-Frame Tangent Structure (T72/001)

Pole Spacing: 10.3m (33.8ft)

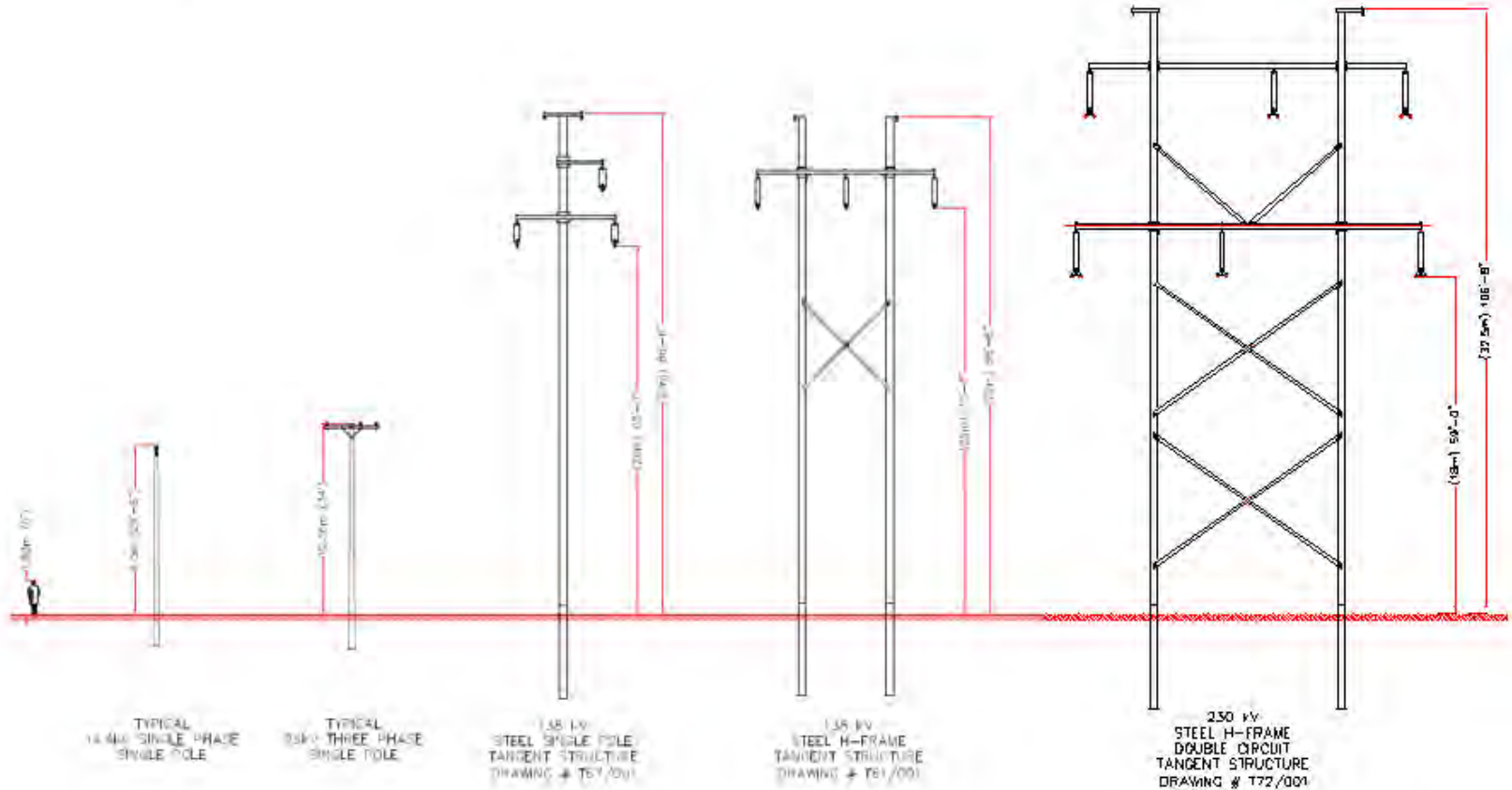
Structure Height: 31.7-39.2m (104-128.6ft)

Average Span: ~300m (984.3ft)

Deflection Structures: Guy-anchored



SIZE COMPARISON OF DISTRIBUTION & TRANSMISSION LINES



230 KV MINIMUM CLEARANCE OF CONDUCTOR

| | |
|--------------------------|--------------------------|
| Over Farmland/Highway | 8.1 metres (26.6 feet) |
| Over High load Corridors | 11.25 metres (36.9 feet) |
| Over Railways | 9.3 metres (30.5 feet) |

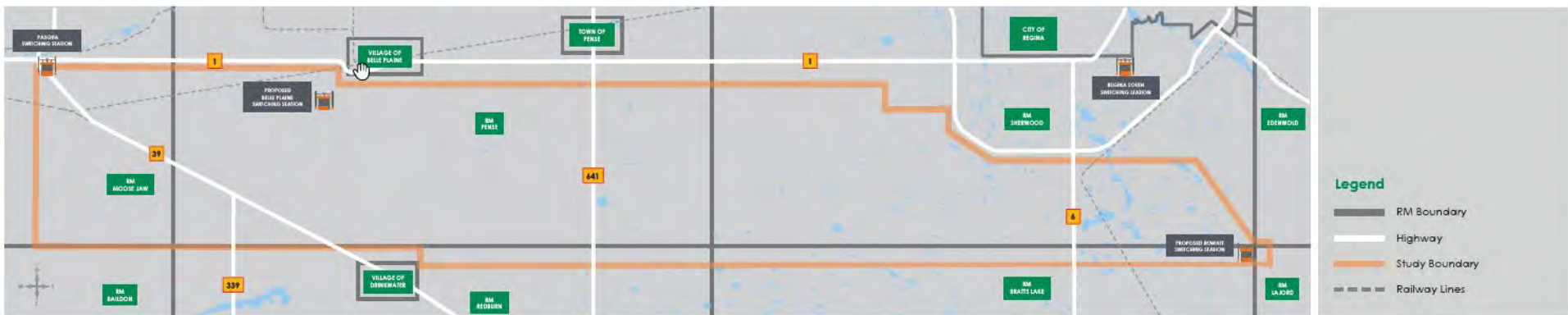
TYPICAL 230 KV RIGHT-OF-WAY WIDTH

| | |
|------------------------|------------------------|
| H-Frame Standard Width | 40 metres (131.2 feet) |
|------------------------|------------------------|

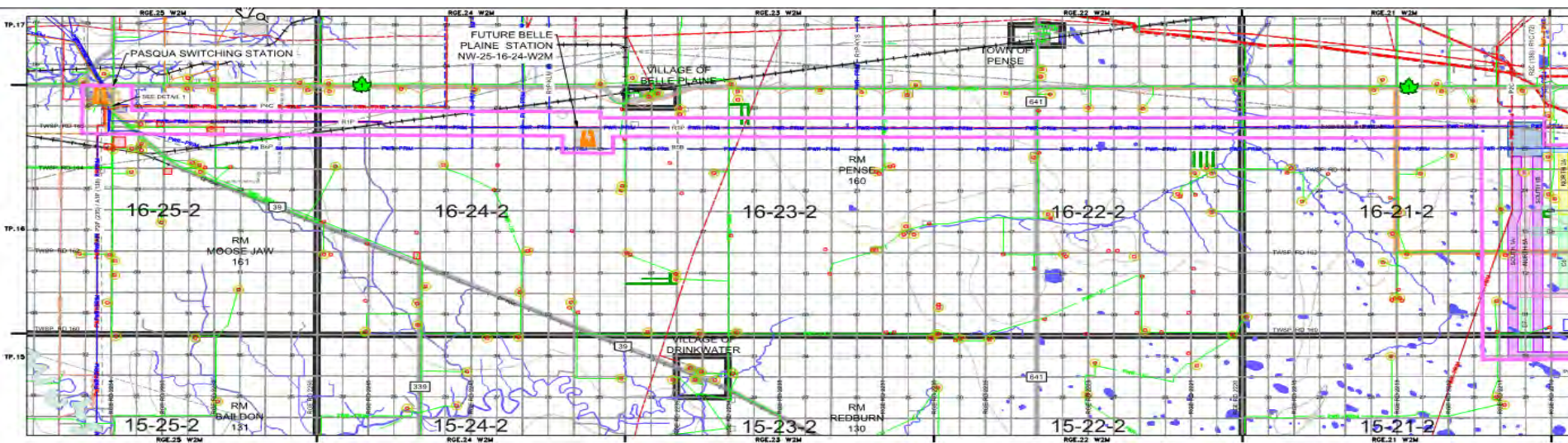
PROJECT STUDY AREA

City of Moose Jaw

City of Regina








































EXISTING RIGHT-OF-WAY



PLAN VIEW
SCALE 1/50,000

EXISTING KNOWN FACILITIES

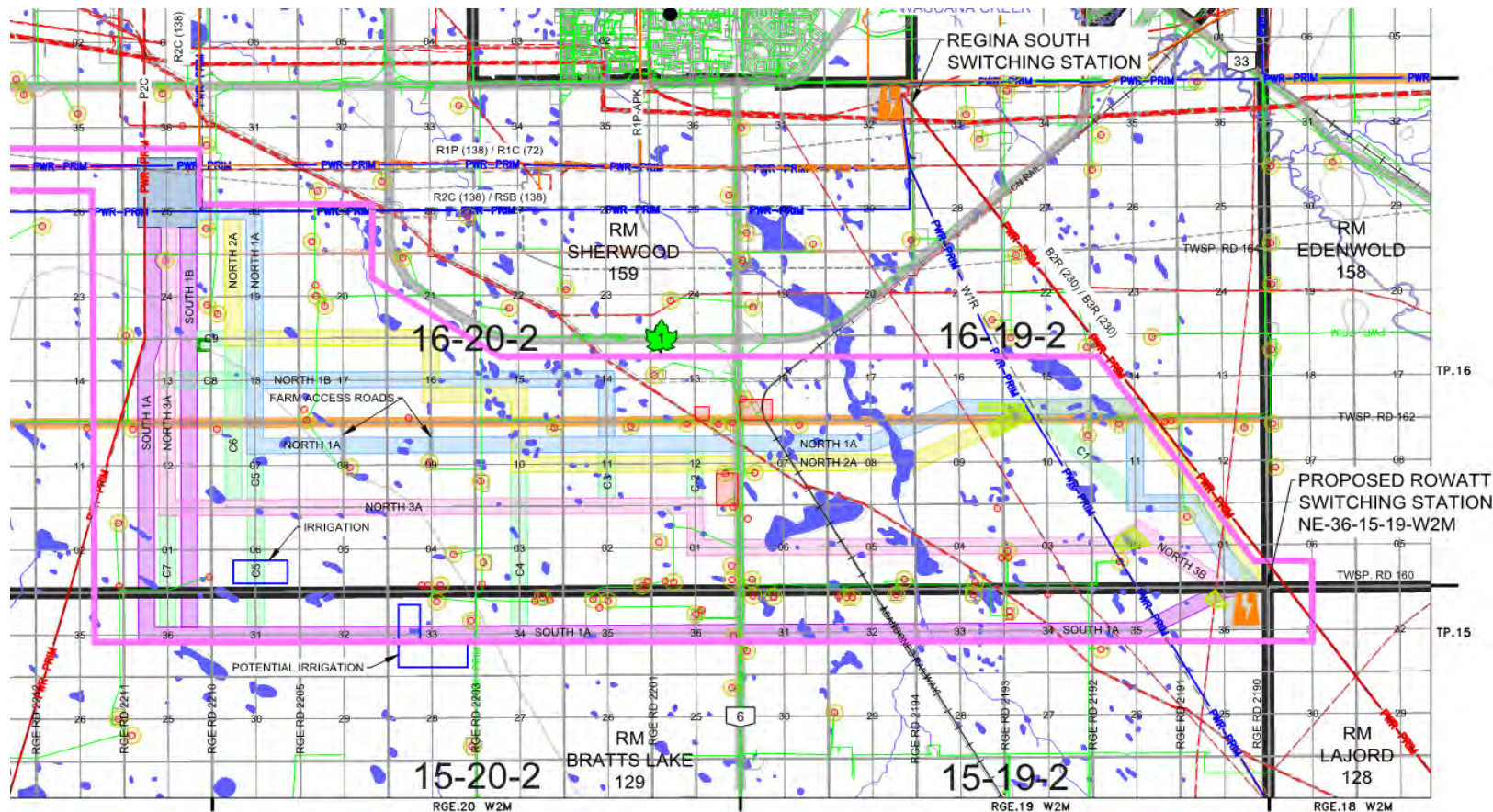
-  **PINK DASH** EXISTING 230KV OVERHEAD TRANSMISSION LINE
 **BLUE DASH** EXISTING 138KV OVERHEAD TRANSMISSION LINE
 **GREEN DASH** EXISTING 23KV OVERHEAD TRANSMISSION LINE
 **PINK SOLID** EXISTING OVERHEAD DISTRIBUTION LINE
 **BLUE SOLID** EXISTING UNDERGROUND DISTRIBUTION LINE
 **PINK DOTTED** EXISTING SPC FIBRE OPTIC CABLE
 **BLACK SOLID** EXISTING OPEN PAC CIRCUIT WITH 138KV DRAVE CONDUCTOR
 **BLACK DASH** EXISTING RAILWAY
 **PINK DASH WITH CROSS-TICKS** EXISTING RAILWAY BOUNDARY
 **BLUE DASH WITH CROSS-TICKS** EXISTING RURAL/URBAN/INDUSTRIAL BOUNDARY
 **BLUE DASH WITH CROSS-TICKS** OPEN DRAINAGE/STIPES TRUCK ROUTE
 **BLUE DASH WITH CROSS-TICKS** EXISTING WATERWAY
 **PINK DASH WITH CROSS-TICKS** EXISTING WATER DRAINAGE
 **PINK DASH WITH CROSS-TICKS** EXISTING TREE LINE/AREA
 **PINK DASH WITH CROSS-TICKS** STUDY AREA
 **PINK DASH WITH CROSS-TICKS** OCCUPIED RURAL RESIDENCE
 **PINK DASH WITH CROSS-TICKS** (SEE DEFINED 50M MINIMUM AVERAGE BUFFER)
 **PINK DASH WITH CROSS-TICKS** (SEE DEFINED 150M AVERAGE BUFFER)
 **PINK DASH WITH CROSS-TICKS** (SEE DEFINED 300M AVERAGE BUFFER)
 **PINK DASH WITH CROSS-TICKS** (SEE DEFINED 500M AVERAGE BUFFER)
 **PINK DASH WITH CROSS-TICKS** (SEE DEFINED 750M AVERAGE BUFFER)
 **PINK DASH WITH CROSS-TICKS** (SEE DEFINED 1000M AVERAGE BUFFER)
 **PINK DASH WITH CROSS-TICKS** (SEE DEFINED 1250M AVERAGE BUFFER)
 **PINK DASH WITH CROSS-TICKS** (SEE DEFINED 1500M AVERAGE BUFFER)
 **PINK DASH WITH CROSS-TICKS** (SEE DEFINED 1750M AVERAGE BUFFER)
 **PINK DASH WITH CROSS-TICKS** (SEE DEFINED 2000M AVERAGE BUFFER)
 **PINK DASH WITH CROSS-TICKS** (SEE DEFINED 2250M AVERAGE BUFFER)
 **PINK DASH WITH CROSS-TICKS** (SEE DEFINED 2500M AVERAGE BUFFER)
 **PINK DASH WITH CROSS-TICKS** (SEE DEFINED 2750M AVERAGE BUFFER)
 **PINK DASH WITH CROSS-TICKS** (SEE DEFINED 3000M AVERAGE BUFFER)
 **PINK DASH WITH CROSS-TICKS** (SEE DEFINED 3250M AVERAGE BUFFER)
 **PINK DASH WITH CROSS-TICKS** (SEE DEFINED 3500M AVERAGE BUFFER)
 **PINK DASH WITH CROSS-TICKS** (SEE DEFINED 3750M AVERAGE BUFFER)
 **PINK DASH WITH CROSS-TICKS** (SEE DEFINED 4000M AVERAGE BUFFER)
 **PINK DASH WITH CROSS-TICKS** (SEE DEFINED 4250M AVERAGE BUFFER)
 **PINK DASH WITH CROSS-TICKS** (SEE DEFINED 4500M AVERAGE BUFFER)
 **PINK DASH WITH CROSS-TICKS** (SEE DEFINED 4750M AVERAGE BUFFER)
 **PINK DASH WITH CROSS-TICKS** (SEE DEFINED 5000M AVERAGE BUFFER)
 **PINK DASH WITH CROSS-TICKS** (SEE DEFINED 5250M AVERAGE BUFFER)
 **PINK DASH WITH CROSS-TICKS** (SEE DEFINED 5500M AVERAGE BUFFER)
 **PINK DASH WITH CROSS-TICKS** (SEE DEFINED 5750M AVERAGE BUFFER)
 **PINK DASH WITH CROSS-TICKS** (SEE DEFINED 6000M AVERAGE BUFFER)
 PINK DASH WITH CROSS-TICKS (SEE DEFINED 6250M AVERAGE BUFFER)
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 PINK DASH WITH CROSS-TICKS (SEE DEFINED 6750M AVERAGE BUFFER)
 PINK DASH WITH CROSS-TICKS (SEE DEFINED 7000M AVERAGE BUFFER)
 PINK DASH WITH CROSS-TICKS (SEE DEFINED 7250M AVERAGE BUFFER)
 PINK DASH WITH CROSS-TICKS (SEE DEFINED 7500M AVERAGE BUFFER)
 PINK DASH WITH CROSS-TICKS (SEE DEFINED 7750M AVERAGE BUFFER)
 PINK DASH WITH CROSS-TICKS (SEE DEFINED 8000M AVERAGE BUFFER)
 PINK DASH WITH CROSS-TICKS (SEE DEFINED 8250M AVERAGE BUFFER)
 PINK DASH WITH CROSS-TICKS (SEE DEFINED 8500M AVERAGE BUFFER)
 PINK DASH WITH CROSS-TICKS (SEE DEFINED 8750M AVERAGE BUFFER)
 PINK DASH WITH CROSS-TICKS (SEE DEFINED 9000M AVERAGE BUFFER)
 PINK DASH WITH CROSS-TICKS (SEE DEFINED 9250M AVERAGE BUFFER)
 PINK DASH WITH CROSS-TICKS (SEE DEFINED 9500M AVERAGE BUFFER)
 PINK DASH WITH CROSS-TICKS (SEE DEFINED 9750M AVERAGE BUFFER)
 PINK DASH WITH CROSS-TICKS (SEE DEFINED 10000M AVERAGE BUFFER)
 PINK DASH WITH CROSS-TICKS (SEE DEFINED 10250M AVERAGE BUFFER)
 PINK DASH WITH CROSS-TICKS (SEE DEFINED 10500M AVERAGE BUFFER)
 PINK DASH WITH CROSS-TICKS (SEE DEFINED 10750M AVERAGE BUFFER)
 PINK DASH WITH CROSS-TICKS (SEE DEFINED 11000M AVERAGE BUFFER)
 PINK DASH WITH CROSS-TICKS (SEE DEFINED 11250M AVERAGE BUFFER)
 PINK DASH WITH CROSS-TICKS (SEE DEFINED 11500M AVERAGE BUFFER)
 PINK DASH WITH CROSS-TICKS (SEE DEFINED 11750M AVERAGE BUFFER)
 PINK DASH WITH CROSS-TICKS (SEE DEFINED 12000M AVERAGE BUFFER)
 PINK DASH WITH CROSS-TICKS (SEE DEFINED 12250M AVERAGE BUFFER)
 PINK DASH WITH CROSS-TICKS (SEE DEFINED 12500M AVERAGE BUFFER)

POTENTIAL ROUTE CORRIDORS (300m CORRIDORS)

- | | |
|---------------------------------|-----------------|
| NORTH 1A | = 28.4m |
| NORTH 1B | = 28.44m |
| NORTH 2A | = 27.9m |
| NORTH 3A | = 28.1m |
| NORTH 3B | = 28.1m |
| SOUTH 1A | = 29.7m |
| SOUTH 1B | = 29.3m |
| DIAGONAL | = 33.5m |
| RIP EXISTING ROW (80% CORRIDOR) | = 45.3m |
| RIP ROW TO PASSAGE | = 1.3m |
| CROSSOVER LOCATIONS | |
| RIP AND P2C TIE-IN AREA | |
| RIP TO P4C | = 300m CORRIDOR |



POTENTIAL ROUTE OPTIONS



ROUTE COMPARISONS – PROXIMITY TO RESIDENCES

| Route Alternative | Residences within 300 m | Residences within 160 m | Residences within 60 m |
|-------------------|-------------------------|-------------------------|------------------------|
| North 1A | 2 | 1 | 0 |
| North 1B | 2 | 1 | 0 |
| North 2A | 3 | 2 | 0 |
| North 3A | 3 | 3 | 0 |
| North 3B | 3 | 3 | 0 |
| South 1A | 3 | 1 | 0 |
| South 1B | 2 | 1 | 0 |

ROUTE COMPARISONS – LINE LENGTH & LAND USE

| Route Alternative | Total Length (km) | Percentage on boundary lines |
|-------------------|----------------------|---------------------------------|
| North 1A | 28.4 | 36% |
| North 1B | 28.4 | 58% |
| North 2A | 27.9 | 54% |
| North 3A | 28.1 | 82% |
| North 3B | 28.1 | 82% |
| South 1A | 29.7 | 64% |
| South 1B | 29.3 | 63% |

ROUTE COMPARISONS – ESTIMATED COSTS

| Route Alternative | Estimated Cost (Capital Costs Only) |
|-------------------|--|
| North 1A | 1.6%* |
| North 1B | 1.6%* |
| North 2A | Lowest Cost |
| North 3A | 0.6%* |
| North 3B | 0.6%* |
| South 1A | 5.6%* |
| South 1B | 4.4%* |

*Percentage premium over lowest cost option

COMMENTS, QUESTIONS AND SUGGESTIONS

EMAIL: PublicConsultation@saskpower.com

BY PHONE: 1-855-566-1008 (toll free)

IN PERSON: By appointment only.
Site Office locations, dates & times TBD

BY WEBEX: Available by request

WEBSITE: www.saskpower.com/reinforcements

QUESTIONS & DISCUSSION

