VISUAL IMPACT ASSESSMENT

Tenth Concession & Sideroad 26/27 Reconstruction

TOWNSHIP OF CLEARVIEW

Revised: August 07, 2015

ETi File ET114013

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1 Introduction

Envision-Tatham Inc. (ETi) is retained by the project engineers, R.J. Burnside Ltd., on behalf of the Township of Clearview, to conduct a Visual Impact Assessment (VIA) of the proposed improvements to Sideroad 26/27 Nottawasaga (SR 26/27) and the unpaved portion of Concession 10 North Nottawasaga (Tenth Concession). Both roads are located within Niagara Escarpment Plan (NEP) boundaries and the VIA has been prepared in support of the development application to the Niagara Escarpment Commission (NEC).

The purpose of this Visual Impact Assessment (VIA) is to review the pre and post development conditions for the Tenth Concession and SR 26/27 related to landscape character and scenic quality, and to confirm the compatibility of the proposed works with the Niagara Escarpment Planning and Development Act (NEPDA) and the NEP policies, objectives and development criteria.

The Tenth Concession and SR 26/27 are located west of Duntroon, in the Township of Clearview, Ontario (**Figure 1**). Currently the Tenth Concession is a two lane road, paved along its length, except for the section extending between County Road 91 and Sideroad 30/31 Nottawasaga (SR 30/31). The objective of the proposed improvements to the Tenth Concession is to pave the gravel section, while improving grades, sightlines, and surface water conveyance.



Figure 1: Location Map - Proposed road improvements to Tenth Concession & SR 26/27. (maps.google.ca)

The proposed improvements to SR 26/27, which extends from the Osprey-Clearview Townline to the Tenth Concession, are to facilitate year round use of the road. The road is presently gravel, varying in width from narrow but passable to a single rutted lane. Washouts and deposition of granular material in adjacent forests and wetlands are recurring problems due to inadequate surface water conveyance.

The following VIA has been prepared in accordance with the NEC Visual Assessment Guidelines and the associated draft supplementary 'Photographic Simulations'. The VIA includes the following additional report Sections:

- Section 2 identifies policy objectives and definitions governing the protection and enhancement of visual character
- Section 3 provides a summary of the existing landscape character and site context
- Section 4 provides a brief overview of the proposed road improvements for the Tenth Concession and SR 26/27
- Section 5 provides the methodology behind the annotated photo inventory, photographic simulations and zone of influence visual mapping used to demonstrate the proposed road improvements and assess any changes or impacts
- Section 6 provides a detailed site-specific assessment of the proposed changes to the Tenth Concession, of the visual impacts in context of the Landscape Evaluation Study (1976), and recommendations for mitigation and enhancement
- Section 7 provides a detailed site-specific assessment of the proposed changes to SR 26/27, of the visual impacts in context of the Landscape Evaluation Study (1976), and recommendations for mitigation and enhancement
- Section 8 summarizes the report and overall study findings and provides conclusions in context of NEP Policy objectives, development criteria, and the intent of the NEC's Landscape Evaluation Study (1976)

2 Policy Context

This section describes the policies that provide justification, objectives and development criteria to be considered in the VIA and to guide the design of the road improvements.

It is noted that the Tenth Concession and SR 26/27 are existing roads and there are no proposed changes to their respective road allowance boundaries or existing hydro and utility infrastructure.

2.1 Niagara Escarpment Plan

Both SR 26/27 and the unpaved section of the Tenth Concession are within the Niagara Escarpment Plan (NEP) area and as such, they are subject to the land use policies and development criteria outlined in the NEP. The Tenth Concession is located mainly within the Escarpment Protection Area land use designation, however the road allowance crosses into the Escarpment Natural Area designation in one location where the road intersects with a watercourse. SR 26/27 crosses through the following three NEP land use designations: Escarpment Natural Area, Escarpment Protection Area, and Escarpment Rural Area. **Figure 2** provides an excerpt of the Niagara Escarpment Development Control Area mapping, identifying their locations.

The sections of the NEP relevant to the assessment of landscape character and development impacts on the visual and scenic resources are as follows (*provided with NEP section references, where appropriate*):

2.1.1 NEP Purpose and Objectives

"The purpose of this Plan is to provide for the maintenance of the Niagara Escarpment and land in its vicinity substantially as a continuous natural environment, and to ensure only such development occurs as is compatible with that natural environment."

The relevant objectives related to landscape character are:

- *To maintain and enhance the open landscape character of the Niagara Escarpment in so far as possible, by such means as compatible farming or forestry and by preserving the natural scenery.*
- *To provide for adequate public access to the Niagara Escarpment.*
- *To ensure that all new development is compatible with the purpose of the Plan.*

2.1.2 Escarpment Natural Area

"Escarpment features which are in a relatively natural state and associated stream valleys, wetlands and forests which are relatively undisturbed are included within this designation. These contain important plant and animal habitats and geological features and cultural heritage features and are the most significant natural and scenic areas of the Escarpment. The policy aims to maintain these natural areas." (NEP 1.3)

The relevant objectives related to landscape character are:

- *To maintain the most natural Escarpment features, stream valleys, wetlands and related significant natural areas and associated cultural heritage features. (NEP 1.3.1)*
- *To maintain and enhance the landscape quality of Escarpment features. (NEP 1.3.3)*

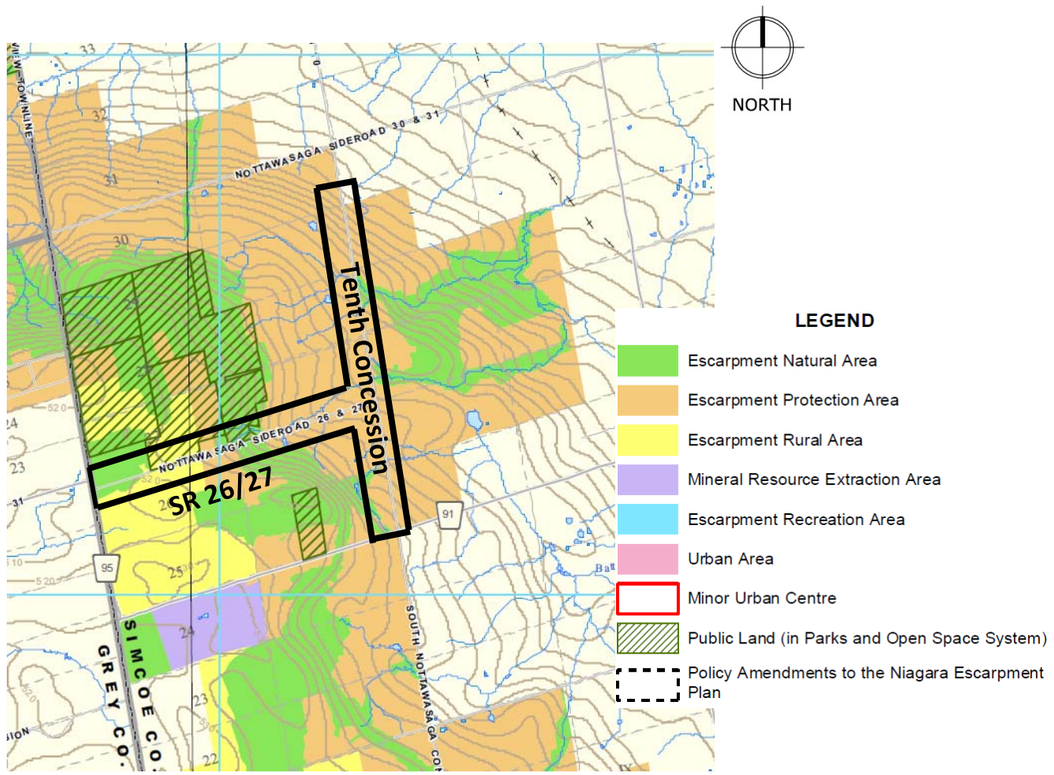


Figure 2: NEP Land Use Designation – Excerpt from the Niagara Escarpment Development Control Area – Map 5

2.1.3 Escarpment Protection Area

"Escarpment Protection Areas are important because of their visual prominence and their environmental significance. They are often more visually prominent than Escarpment Natural Areas. Included in this designation are Escarpment features that have been significantly modified by land use activities such as agriculture or residential development, land needed to buffer prominent Escarpment Natural Areas, and natural areas of regional significance." (NEP 1.4)

The policy aims to maintain the remaining natural features and the open, rural landscape character of the Escarpment and lands in its vicinity."

The relevant objectives related to landscape character are:

- *To maintain and enhance the open landscape character of Escarpment features. (NEP 1.4.1)*
- *To provide a buffer to prominent Escarpment features. (NEP 1.4.2)*

2.1.4 Escarpment Rural Area

"Escarpment Rural Areas are an essential component of the Escarpment corridor, including portions of the Escarpment and lands in its vicinity. They provide a buffer to the more ecologically sensitive areas of the Escarpment."

The relevant objectives related to landscape character are:

- *To maintain scenic values of lands in the vicinity of the Escarpment. (NEP 1.5.1)*
- *To maintain the open landscape character by encouraging the conservation of the traditional cultural landscape and cultural heritage features. (NEP 1.5.2)*
- *To provide a buffer for the more ecologically sensitive areas of the Escarpment. (NEP 1.5.4)*

2.1.5 General Development Criteria

"The objective is to permit reasonable enjoyment by the owners of all lots that can sustain development."

The relevant objectives related to landscape character are:

- *Permitted uses may be allowed provided that the long term capacity of the site can support the use without a substantial negative impact on Escarpment environmental features such as contours, water quality, water quantity, natural vegetation, soil, wildlife, population, visual attractiveness and cultural heritage features.(NEP 2.2.1.a)*
- *The cumulative impact of development will not have serious detrimental effects on the Escarpment environment (e.g. water quality, vegetation, soil, wildlife, and landscape). (NEP 2.2.1.b)*
- *Any development permitted should be designed and located in such a manner as to preserve the natural, visual and cultural characteristics of the area. (NEP 2.2.4)*
- *Where development involves new roads, road improvements or service corridors, their designation and alignment should be in harmony with the Escarpment landscape. (NEP 2.2.5)*
- *New Development Within Wooded Areas (NEP 2.7)*

  The objective is to ensure that new development should preserve as much as possible of wooded areas.

  - *Disturbance of treed areas should be minimized, and proposed developments in heavily treed areas shall have site plan agreements containing specific management details regarding the protection of existing trees.(NEP 2.7.1)*
  - *Trees to be retained should be protected by means of snow fencing, wrapping, or other acceptable means during construction (e.g. tree wells). (NEP 2.7.2)*
  - *Existing tree cover or other stabilizing vegetation will be maintained on slopes in excess of 25 per cent (1 in 4 slope). (NEP 2.7.3)*
- *Transportation and Utilities (NEP 2.15)*

  The objective is to design and locate new and expanded transportation and utility facilities so the least possible change occurs in the environment and the natural and cultural landscape.

  All new and reconstructed transportation and utility facilities shall be designed and located to minimize the impact on the Escarpment environment and be consistent with the objectives of this Plan. Examples of such site and design guidelines include the following (NEP 2.15.1):

  a) Blasting, grading and tree removal should be minimized where possible through realignment and utilization of devices such as curbs and gutters, retaining walls and tree wells.

  b) Finished slopes should be graded to a 2 to 1 slope minimum and planted; large cuts should be terraced to minimize surface erosion and slope failure.

  c) Site rehabilitation should use native species of vegetation and blend into the surrounding landscape.

  d) Vegetation screens should be used where feasible.

  e) Transportation and utility structures should be sited and designed to minimize visual impact.

  i) Transportation and utility facilities should be sited and designed to avoid or minimize the impacts on parks, open space and the Bruce Trail. Where Trail impacts cannot be avoided the objective will be to provide for an acceptable, safe alternative.

  - *New transportation and utility facilities should avoid Escarpment Natural Areas. (NEP 2.15.2)*
  - *Agricultural areas, especially prime agricultural and specialty crop areas should be avoided where possible and protected when new transportation and utility facilities are being considered and developed. (NEP 2.15.3)*

2.1.6 NEP Definitions

The following terms within the VIA are used in accordance with NEP definitions (NEP Appendix 2) and are provided for reference:

Areas of Natural and Scientific Interest (ANSIs) - areas of land and water containing natural landscapes or features which have been identified as having values related to natural heritage protection, scientific study, or education. Depending upon the features of particular areas, they may be referred to as Life Science or Earth Science sites, depending on whether they are ecological or geological features. These areas vary in their level of significance and their vulnerability to environmental impacts. They are identified by the Ministry of Natural Resources and Forestry and are classified as being either of "provincial", "regional" or "local" significance (see also definition of "Regionally Significant Areas of Natural and Scientific Interest").

Bruce Trail - a continuous footpath from Queenston to Tobermory on which users can experience on foot the scenic, natural, wooded, pastoral and culturally significant areas of the Niagara Escarpment.

Compatible – where the building, structure, activity or use blends, conforms or is harmonious with the Escarpment's ecological, physical, visual or cultural environment.

Conservation - the wise management of the environment in a way which will maintain, restore, enhance and protect its quality and quantity for sustained benefit to humans and the environment.

Cultural Landscape – a cultural landscape is the product of human activity over time in modifying the landscape for their own purpose, and is an aggregation of human-made features such as village, farmland, waterways, transportation corridors, and other artifacts.

Escarpment Brow (Edge) - the uppermost point of the Escarpment slope or face. It may be the top of a rock cliff, or where the bedrock is buried, the most obvious break in slope associated with the underlying bedrock.

Escarpment Environment - the physical, natural, visual and cultural heritage features associated with the Escarpment landscape.

Escarpment Slope (Face) - the area between the brow and toe of the Escarpment and usually characterized by a steep gradient. Where the rise occurs in the form of a series of steps, the slope also includes the terraces between the steps.

Escarpment Toe (Base) - the lowest point on the Escarpment slope or face determined by the most obvious break in slope associated with the bedrock or landforms overlying the bedrock.

Essential - that which is deemed necessary to the public interest after all alternatives have been considered.

Open Landscape Character – the system of rural features, both natural and human-made which makes up the rural environment, including forests, slopes, streams and stream valleys, hedgerows, agricultural fields, etc.

Preservation – the maintenance of natural of cultural heritage features in their current or original form, and the maintenance of the natural environment to allow processes to continue undisturbed by human intervention.

Protection – ensuring that human activities are not allowed to occur which will result in the unacceptable degradation of the quality of an environment

Regionally Significant Areas of Natural and Scientific Interest – Life Science or Earth Science ANSIs that are identified and classified by the Ministry of Natural Resources and Forestry as non-essential to achievement of provincial objectives.

Stream/Watercourse – is a feature having defined bed and banks, through which water flows at least part of the year.

Utility – a water supply; storm or sanitary sewage system; gas or oil pipeline; the generation, transmission and distribution of electric power, including renewable energy projects as defined in the Green Energy Act, 2009, commercial or otherwise, and all associated infrastructure; the generation, transmission and distribution of steam or hot water; telegraph and telephone lines and other cabled services; a public transportation system; licensed broadcasting, receiving and transmitting facilities; or any other similar works or systems necessary to the public interest, but does not include:

- the establishment of a new waste disposal site;
- any expansion or alteration to an existing waste disposal site from what has been approved under the applicable legislation (including any expansion in area or height of a landfill site or any change in the type of waste material being disposed);
- incineration facilities (including energy from waste facilities); or
- large scale packer and/or recycling plants or similar uses.

Wetlands – lands that are seasonally or permanently covered by shallow water, as well as lands where the water table is close to or at the surface. In either case the presence of abundant water has caused the formation of hydric soils and has favoured the dominance of either hydrophytic or water tolerant plants. The four major types of Wetlands are swamps, marshes, bogs, and fens. Lands being used for agricultural purposes, that are periodically "soaked" or "wet", are not considered to be wetlands in this definition. Such lands, whether or not they were wetlands at one time are considered to have been converted to alternate uses.

2.2 Landscape Evaluation Study

A Landscape Evaluation Study (LES) was completed by the NEC in conjunction with the Ministry of Natural Resources (MNR) in 1976. Its purpose was to evaluate the landscape quality and assign relative scenic rankings based on set scoring criteria (landform, vegetative cover, land use, special features and views) for the Niagara Escarpment Plan Area. The LES provides a baseline for comparison to determine whether the proposed road improvements would alter the scenic ranking.

SR 26/27 crosses three LES units, as depicted in **Figure 3,** which are rated as Average, Attractive, and Very Attractive. Within the project boundary, the Tenth Concession is rated 'Very Attractive'. The applicable 1976 LES scoring sheet comments and scores are as follows, amended to include additional considerations which may not have been identified in the 1976 report but are relevant in this assessment:

LES Unit 182, Duntroon Slopes (15km^2) - VERY ATTRACTIVE	
Landform (6 pts) - *buried escarpment slope, varied slope pattern* - *landform type: hilly* Vegetative cover (5 pts) - *density = 20-25%* - *small woodlots scattered throughout much of unit, mainly wooded fencerows* - *vegetation type: mixed cover pattern*	Landuse (2 pts) - *numerous excellent traditional buildings* Special features (0 points) - *n.a.* Views (4 pts) - *numerous, very good but not dramatic*
Additional considerations: unevaluated wetlands	

LES Unit 183, Rob Roy – Singhampton Uplands (30 km2) - AVERAGE

Landform (2 pts)
- *moderately rolling upland area*
- *landform type: hilly*

Vegetative cover (4 pts)
- *density = 35-40%*
- *woodland scattered throughout unit, some large woodlots in eastern area*
- *vegetation type: mixed cover pattern*

Landuse (1 pt)
- *enormous silos at farm just north of Edward Lake*
- *hamlets*

Special features (1 pt)
- *some small creeks plus small ponds and small lakes*

Views (0 pts)
- *n.a.*

Additional considerations: Rob Roy Provincially Significant Wetland, unevaluated wetlands, Nottawasaga Lookout Escarpment Access Park

LES Unit 186, Pretty River Valley Moraine Edge (4 km2) – VERY ATTRACTIVE

Landform (9 pts)
- *moderately steep buried escarpment slope and moraine edge*
- *landform type: edge*

Vegetative cover (4 pts)
- *density = 35-40%*
- *forested areas, primarily medium to small woodlots, some very open areas*
- *vegetation type: mixed cover pattern*

Landuse (0 pts)
- *n.a.*

Special features (0 pts)
- *n.a.*

Views (4 pts)
- *considerable numbers of viewpoints in open areas*
- *very good views outside of unit*
- *lacks impact of very dramatic edge unit*

Additional considerations: n.a.

LES Unit 425, Duntroon Edge (1km2) - ATTRACTIVE

Landform (6 pts)
- *small, moderately steep edge unit*
- *landform type: edge*

Vegetative cover (2 pts)
- *density = 60%*
- *edge generally heavily wooded*
- *vegetation type: woods and fields*

Landuse (0 pts)
- *n.a.*

Special features (1 pt)
- *cliffs, several sheer cliffs*

Views (3 pts)
- *several good viewpoints, good views to Simcoe Plain and Nottawasaga Bay*

Additional considerations: ANSI, Nottawasaga Lookout Nature Reserve

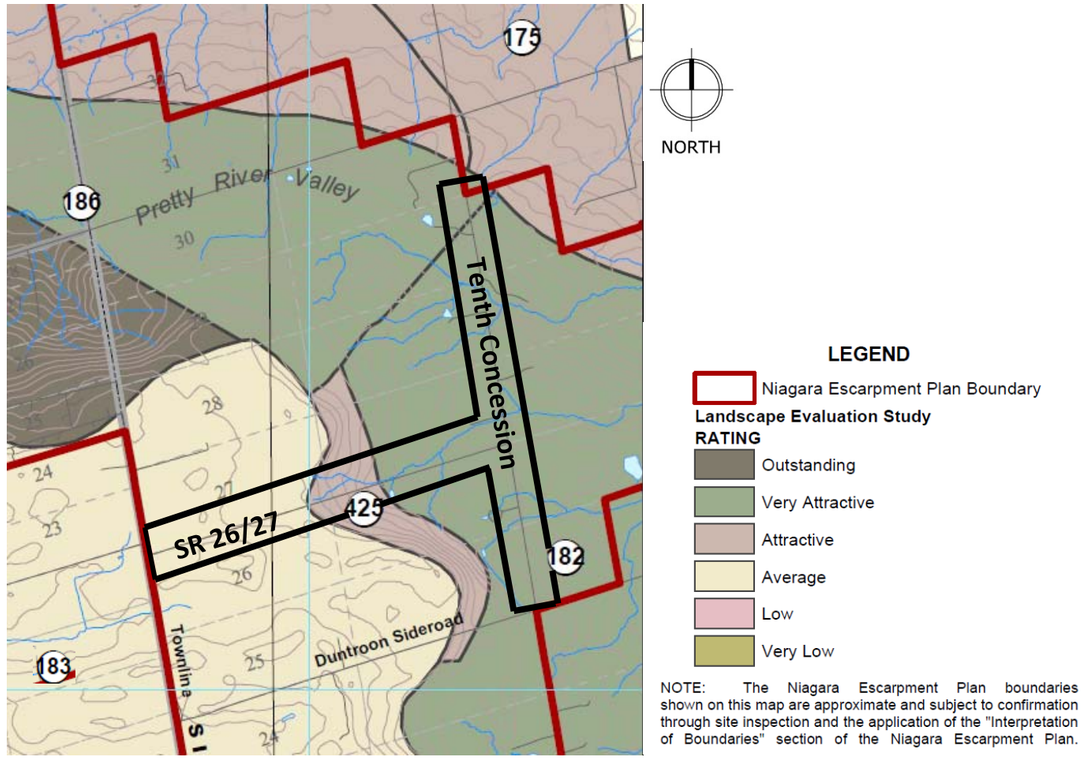


Figure 3: LES Scenic Quality Rating - Excerpt from the Niagara Escarpment Plan Landscape Evaluation Study Map 6 (2005).

2.2.1 LES Definitions

The following terms within the VIA are used in accordance with LES definitions and are provided for reference:

Diversity – the variety achieved by dimensional (vertical and longitudinal contrast), special pattern (distribution) numbers, and types of landscape components.

Landform – one of the many natural physical features making up the surface of the earth and the landscape e.g. a moraine, valley or ridge.

Landscape – the visual perception of the interaction between natural landforms, vegetation and cultural land use patterns.

Landscape character – the intrinsic nature of a unit or location.

Landscape quality – the relative nature or character of a unit of landscape.

Naturalness – a condition applying to landscapes in which both landforms and vegetation remain largely undisturbed by human activity.

Ranking – an arrangement according to relative position or merit.

Scenery – see landscape.

Scenic – pertains to scenery; implication of picturesque scenery.

View – a broad landscape or panorama that is looked towards or kept in sight: the act of looking towards and object or scene.

Vista – a confined view, especially one seen through a long passage as between rows of trees. (A vista is often towards, or focused upon, a specific feature in the landscape.)

3 Site Context and Visual Character

To assess any change in visual character resulting from road improvements, the road corridors need to be understood in context of their relationships with the surrounding road networks and landscapes.

Although significant ecological features are noted for context in this report, a detailed summary and assessment is provided in the Environmental Impact Studies prepared by R.J. Burnside & Associates for SR 26/27 (dated August, 2014, addendum dated June 30, 2015) and the Tenth Concession (September, 2014).

3.1 Tenth Concession

For reference, **Figure 4** provides a key plan identifying the location and direction of each view presented along the Tenth Concession in **Figure 5** through **Figure 8**.

3.1.1 Context

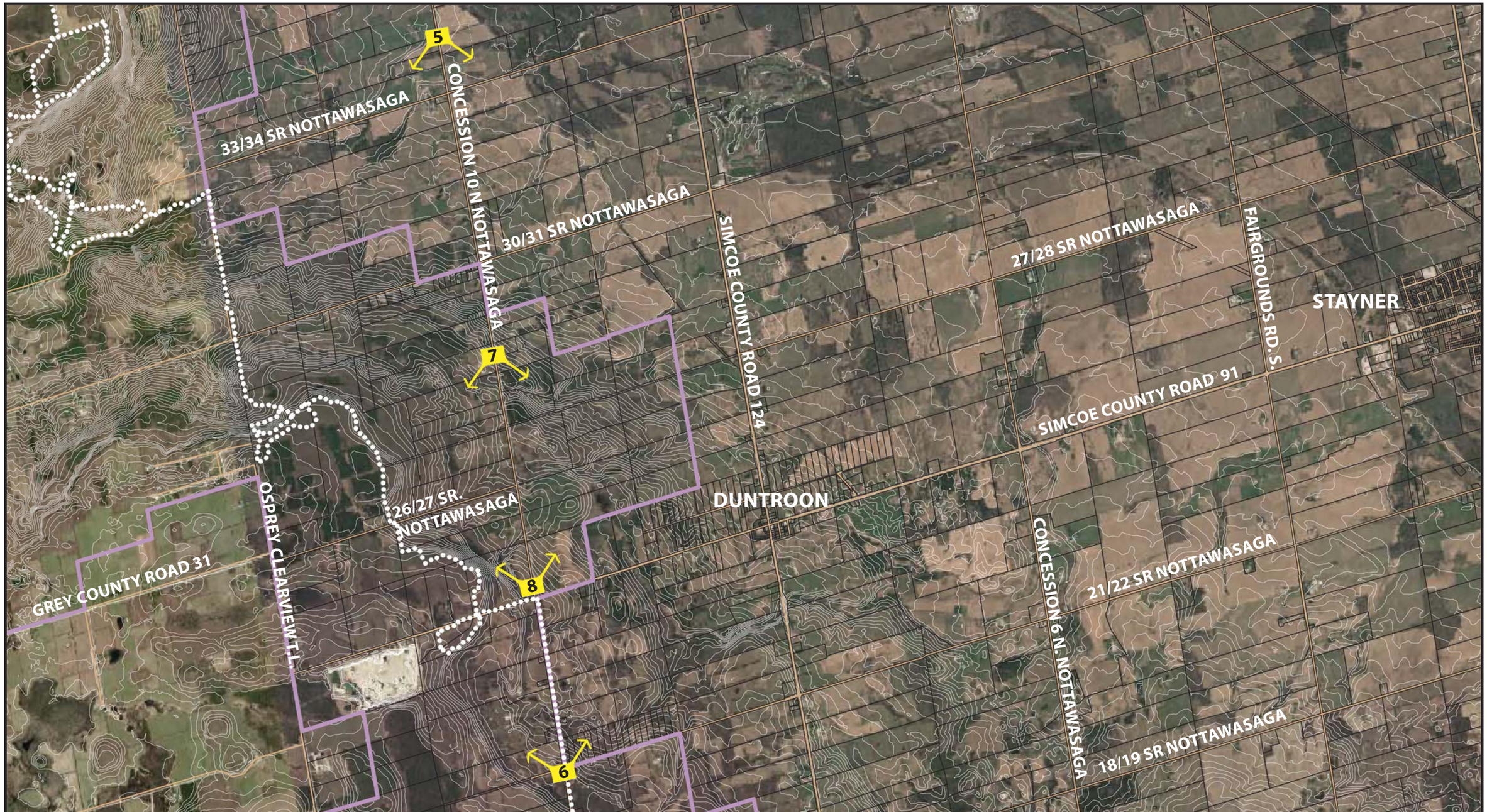
The Tenth Concession extends from Collingwood Landfill Site #2, south to County Road 124, near Singhampton. The road is paved, with the exception of the section within the project scope: roughly from Nottawasaga SR 30/31 to County Road 91.

Generally the land use and character adjacent to the Tenth Concession corridor varies between rural and estate residential. Exceptions to this are found in the Town of Collingwood portion of the road corridor where suburban, park, and industrial land uses are found. Within the rural areas, vegetation adjacent to the corridor consists primarily of agricultural fields, lawns, hedgerows, plantations, and forests.

The topography of the road is undulating and increases in elevation from north to south. The study area, as viewed from the Tenth Concession, is visible from the north, as demonstrated in **Figure 5**. The study area is not visible from the south as a crest in the road obscures visibility of the site (**Figure 6**). It is noted that except at intersections, the study area is not visible from other public roads.

3.1.2 Landscape Character

Within the study area, the Tenth Concession may be loosely divided into two sections: north and south of SR 26/27. The northern section is heavily treed and views tend to be confined to the road corridor (**Figure 7**). South of SR 26/27, while still well treed, the corridor is more open and agricultural, offering views of the escarpment (**Figure 8**). The study area is almost exclusively within LES Study Unit 182, Duntroon Slopes (Very Attractive) with a small section at the north end crossing into LES Study Unit 186, Pretty River Valley Morraine Edge (Very Attractive).



LEGEND:

NEP Boundary

Bruce Trail

21 View Point Location and Figure Number

Base information from Simcoe County GIS (2010 ortho image, contours, lot fabric, NEP boundary and Bruce Trail).

SCALE 1:40,000

NORTH

ENVISION TATHAM

CLEARVIEW

TENTH CONCESSION

SITE CONTEXT - VIEWPOINT LOCATIONS

July 31, 2015

Figure 4



Figure 5: Tenth Concession study area, north boundary - seen in the distance. (Viewpoint: 560607 E, 4921567 N – NAD 17)



Figure 6: Tenth Concession study area, south boundary - the south limit of work is not visible from the south as a crest in the road obscures visibility. (Viewpoint: 561954 E, 4913747 N – NAD 17)



Figure 7: Tenth Concession, north of SR 26/27 - the landscape is typically enclosed by forest and views are confined to the road corridor. (Viewpoint: 561202 E, 4918181 N – NAD 17)



Figure 8: Tenth Concession, south of SR 26/27 - the landscape is more open and provides views of the escarpment and surrounding landscape. (Viewpoint: 561618 E, 4915737 N – NAD 17)

3.2 Sideroad 26 / 27

For reference, **Figure 9** provides a key plan identifying the location and direction of each view presented along SR 26/27 in **Figure 10** through **Figure 25**.

3.2.1 Context

The full length of SR 26/27 is within the study area. It is bounded on the west by the Osprey-Clearview Townline and on the east by the Tenth Concession. Due to topography and existing forest cover, these intersections are not visible until the viewer is in close proximity (**Figure 10** to **Figure 16**).

The Rob Roy Swamp, a provincially significant wetland, occurs adjacent to the intersection of SR 26/27 and the Osprey-Clearview Townline (**Figure 14**) at the edge of the NEP area.

It is noted that there is currently a communication tower on the Osprey-Clearview Townline, located approximately 210m south of the intersection of SR 26/27 and the Osprey-Clearview Townline (**Figure 16**) (558779 E, 4915767 N – NAD 17). The tower serves to approximate the location of the road from more distant locations.

The SR 26/27 corridor climbs up the edge of the escarpment, however, the road surface is generally not detectable from adjacent roads due to topography and vegetation.

3.2.2 Landscape Character

The SR 26-27 corridor is characterized by three areas which correspond to the three Units identified in the 1976 LES Study:

- LES Study Unit 183, Rob Roy - Singhampton Uplands (scenic ranking Average)
- LES Study Unit 425, Duntroon Edge (scenic ranking Attractive)
- LES Study Unit 182, Duntroon Slopes (scenic ranking Very Attractive)

The characteristics of the road corridor within these three areas are as follows:

3.2.3 LES Unit 183, Rob Roy - Singhampton Uplands (scenic ranking Average)

Within LES Unit 183, Rob Roy - Singhampton Uplands (scenic ranking Average), the road is gently undulating and the surrounding landscape is enclosed by a conifer plantation, hedgerows, and forest. There is an opening at the eastern end of the uplands, on the north side of the road, because of an adjacent agricultural field.

The visual character of the road corridor within LES Unit 183, Rob Roy - Singhampton Uplands (scenic ranking Average) can be considered enclosed, offering no notable views (**Figure 17**).

The western terminus of the road is flanked on both sides by the Rob Roy Swamp, a provincially significant wetland. About midway through this section of SR 26/27, along the north edge of the road, the White Pine plantation forms part of the Nottawasaga Lookout Escarpment Access Park, a component of the Niagara Escarpment Parks and Open Space System (NEPOSS). There are no official trails running through the plantation and views of the road (from the park) are limited except at the very edge of the plantation (**Figure 18**).

3.2.4 LES Unit 425, Duntroon Edge (scenic ranking Attractive)

SR 26/27 changes noticeably as it transitions into LES Unit 425, Duntroon Edge (scenic ranking Attractive). The grade becomes steep and the forest on either side of the roadway creates an overhead canopy. This section of road is unmaintained during the winter and narrows to one deeply rutted lane in some areas.

The Nottawasaga Lookout Earth Science and Life Science ANSIs and the Nottawasaga Lookout Provincial Nature Reserve are located on the north side of the road corridor.

The Bruce Trail crosses SR 26/27 however walkers are required to travel down a steep embankment and through the road ditch before crossing. The crossing is not easily detected from the road (**Figure 19**), particularly when trees are in leaf. It is noted that a parking symbol exists on the Bruce Trail mapping near the crossing, however it was never formally authorized by the Township. Through discussions with the Township and the project engineers, we understand that this location is not safe for parking under existing or proposed conditions.

Generally, the Bruce Trail is surrounded by forest and views of SR 26/27 from the trail are only available as the hiker approaches the road allowance boundary (**Figure 20**). There is one exception on the north side, where the trail skirts along the boundary between and existing field and a forest (**Figure 21**). From this vantage point, there are a few areas where SR 26/27 is visible (**Figure 22** and **Figure 23**).

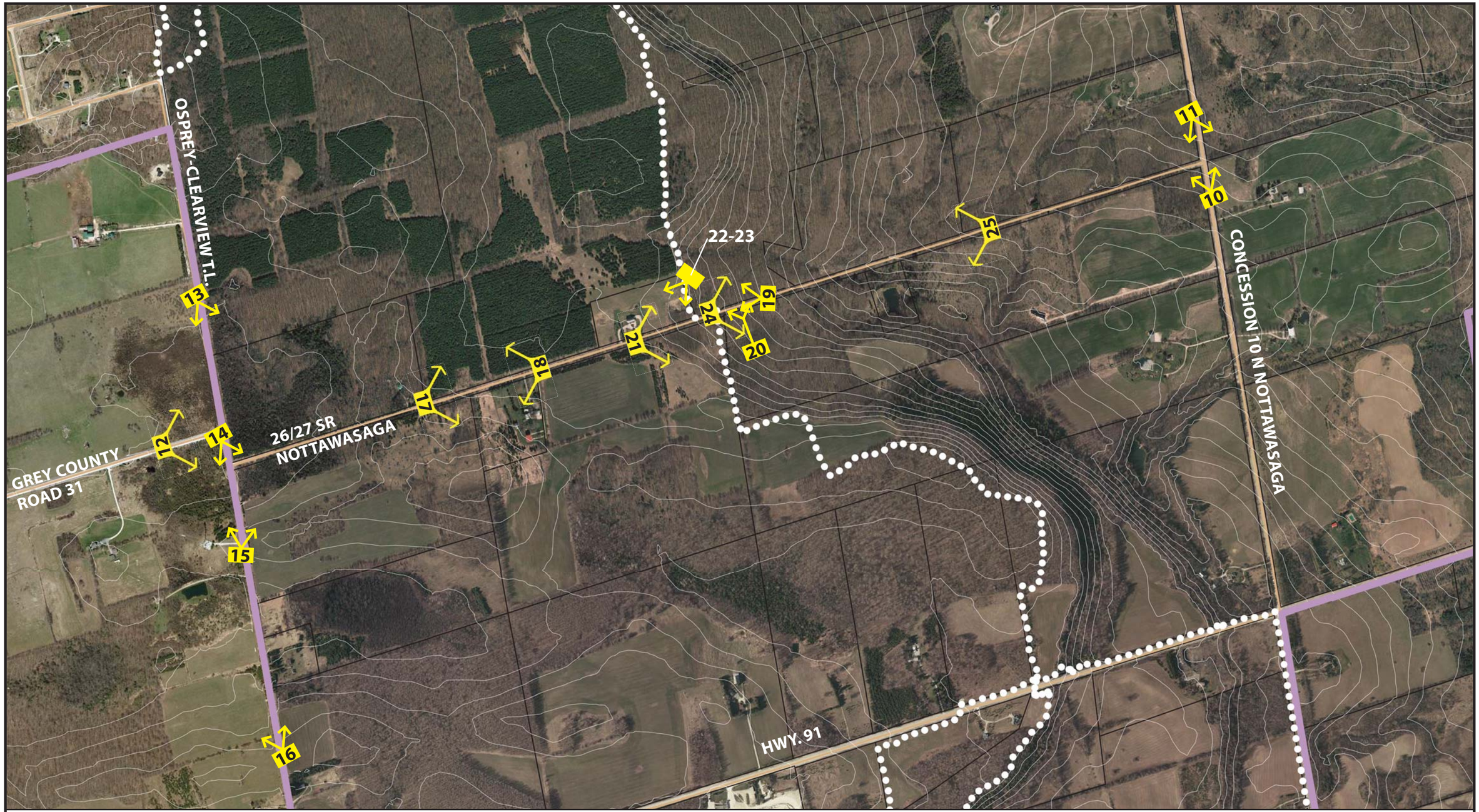
Within the LES Unit 425, Duntroon Edge (scenic ranking Attractive), the visual character of the road is tunnel-like because of the overhanging canopy and the banks of the adjacent forest are up to two metres higher than the existing road. The ditches are very deep, particularly the one on the south side. When trees are leafless there is some visibility down the road corridor, however when trees are in leaf, all views are eliminated (**Figure 24**).

3.2.5 LES Unit 182, Duntroon Slopes (scenic ranking Very Attractive)

Within LES Unit 182, Duntroon Slopes (scenic ranking Very Attractive), the topography of SR 26/27 is moderately undulating and the roadway is typically flanked by young regenerating forest. Given the age of the vegetation, we surmise that much of this area was likely agricultural field in the past, which would have offered more views. There is now only one active field and one pasture (recently decommissioned field), partially screened by a berm and some regenerating trees located south of the road at the eastern end (**Figure 25**).

Small watercourses (tributaries to the Pretty River) travel within or cross portions of the road corridor. Washouts and deposition of granular material in adjacent forests and wetlands are recurring problems due to inadequate surface water conveyance.

The visual character of the road can be considered enclosed except in proximity to the agricultural field where gaps in the trees provide limited views of the field and Niagara Escarpment, particularly in the winter (**Figure 25**).



LEGEND:

NEP Boundary

Bruce Trail

21 View Point Location and Figure Number

Base information from Simcoe County GIS (2010 ortho image, contours, lot fabric, NEP boundary and Bruce Trail).

SCALE 1:1,000

NORTH

ENVISION TATHAM

CLEARVIEW

SR 26 / 27

SITE CONTEXT - VIEWPOINT LOCATIONS

July 31, 2015

Figure 9



Figure 10: Looking north along the Tenth Concession - SR 26/27 is seen on the left, at the utility pole. (Viewpoint: 561461 E, 4917245 N – NAD 17)



Figure 11: Looking south along the Tenth Concession - SR 26/27 is seen on the right, just before the crest of the hill. (Viewpoint: 561419 E, 4916906 N – NAD 17)

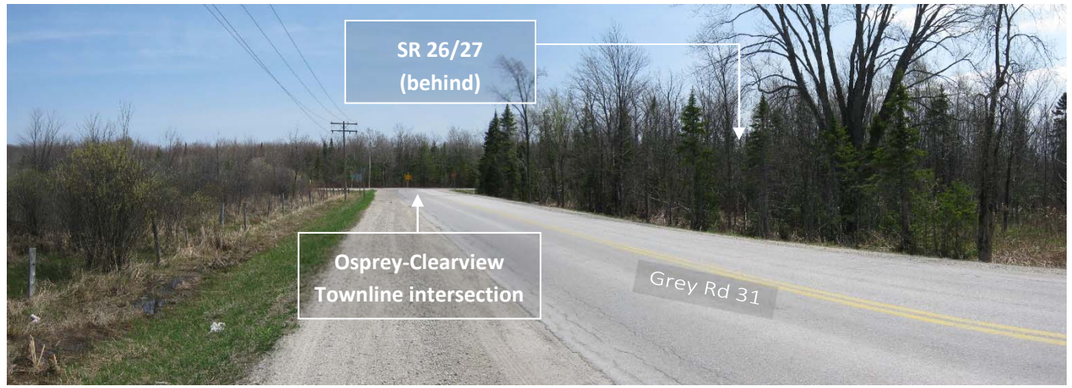


Figure 12: Looking east along Grey County Road 31 – toward the Osprey-Clearview Townline. SR 26/27 would be to the right of this intersection but is not visible due to existing vegetation in the Rob-Roy PSW. (Viewpoint: 558690 N, 4916040 N – NAD 17)

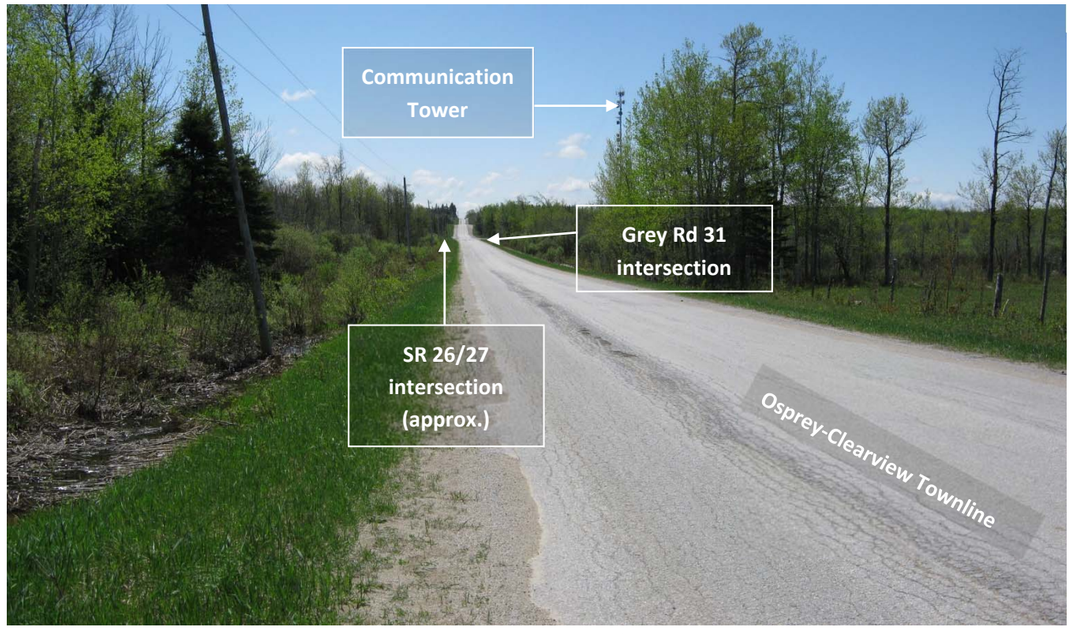


Figure 13: Looking south along the Osprey-Clearview Townline - SR 26/27 is on the left (not visible) and the communication tower is seen on the right in the distance. County Road 31 is on the right. (Viewpoint: 558690 E, 4916040 N – NAD 17)



Figure 14: Looking south along the Osprey-Clearview Townline - SR 26/27 is seen on the left and the Rob Roy Swamp is seen in the foreground and middle ground on both sides of the Townline. (Viewpoint: 558814 E, 4916045 N – NAD 17)



Figure 15: Looking north along the Osprey-Clearview Townline - the intersection with SR 26/27 is first visible in the distance on the right (just past the second hydro pole). (Viewpoint: 558866 E, 4915781 N – NAD 17)

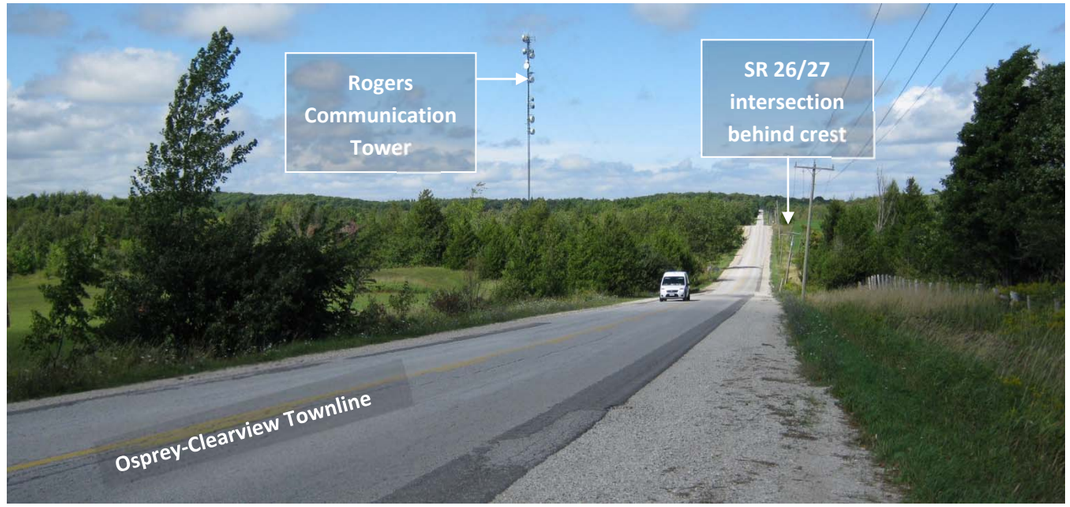


Figure 16: Looking north along the Osprey-Clearview Townline - the intersection with SR 26/27 is behind the crest in the distance on the right. The Rogers Communication tower can be seen on the left (located approximately 210m south of the intersection of SR 26/27 with the Townline). (Viewpoint: 558951 E, 4915284 N – NAD 17)



Figure 17: Rob Roy-Singhampton Uplands (LES Unit 183, scenic ranking Average) – looking east along SR 26/27. The corridor is generally treed along its boundaries and there are no notable views. (Viewpoint: 559371 E, 4916146 N – NAD 17)



Figure 18: NEPOSS Views of SR 26/27 – views into and from the Nottawasaga Lookout Escarpment Access Park are limited by the White Pine plantation. Openings in the plantation are being colonized by deciduous and coniferous trees. (Viewpoint: 559667 E, 4916243 N – NAD 17)



Figure 19: Bruce Trail crossing – pedestrian visibility is poor due to existing vegetation and the requirement to walk down into the ditch before crossing the road. (Viewpoint: 560156 E, 4916394 N – NAD 17)



Figure 20: Bruce Trail crossing (south side of road, looking west) SR 26/27 road becomes visible as the viewer approaches the road allowance boundary. (Viewpoint: 560145 E, 4916378 N – NAD 17)



Figure 21: Bruce Trail as seen from SR 26/27, looking east: trail runs along the back of the field then becomes obscured by vegetation. (Viewpoint: 559934 E, 4916323 N – NAD 17)



Figure 22: Bruce Trail – view looking south toward SR 26/27, where the road is first visible (travelling south toward the road). (Viewpoint: 560039 E, 4916503 N – NAD 17)



Figure 23: Bruce Trail – looking south toward SR 26/27, the road becomes obscured as the trail begins to turn back into the forest. (Viewpoint: 560050 E, 4916442 N – NAD 17)



Figure 24: Duntroon Edge (LES Unit 425, scenic ranking Attractive) – looking east along SR 26/27 (spring above, summer below). The tunnel-like visual character of the road corridor is accentuated when trees are in leaf. (Viewpoint above: 560256 E, 4916432 N – NAD 17; below: 560257 E, 4916426 N)



Figure 25: Duntroon Slopes (LES Unit 182, scenic ranking Very Attractive) - looking west along SR 26/27 (spring above, summer below). The agricultural field and the Niagara Escarpment to the left may be partially seen when trees are leafless, but the view is nearly obscured in the summer. (Viewpoint above: 560877 E, 4916627 N – NAD 17; below: 560879 E, 4916619 N)

4 Proposed Road Improvements

This section describes the improvements to the Tenth Concession and SR 26/27 proposed by R. J. Burnside and Associates Limited (RJB). For reference, engineering drawings are provided in **Appendix C**. We note that there are no proposed changes to hydro or utility infrastructure as a component of this work. For a more detailed description of the proposed works, our assessment of visual impacts, and our recommendations, refer to **Sections 6** and **7** of this report.

4.1 Tenth Concession

The gravel portion of the Tenth Concession will be paved to match the road treatment on either side of the work limits and the proposed improvements will result in two 3.5m asphalt travels lanes and 1.5m gravel shoulders on each side, for a total width of 10.0m. The work will also include adjustments to ditches and the replacement of culverts. In the future it is the intent of the Township to pave 1.0m of each shoulder, leaving a 0.5m gravel edge on either side of the road. We note that the existing gravel road typically varies between 9.5m and 10.0m in width. The proposed road profile is similar to the existing road, with some modifications to vertical curves to address sight line hazards and to moderate steep slopes. There are five watercourse crossings (culverts) along the road which will be replaced. Guardrails will be installed, where required for safety. There are no proposed changes to the width of the existing road allowance.

4.2 Sideroad 26 / 27

The proposed road improvements generally consist of widening SR 26/27 which will result in two 3.5m gravel travel lanes and 1.25m gravel shoulders on each side, for a total width of 9.5m. The work will also include establishment of ditches and the replacement of culverts. The Township is considering paving the travel lanes and 1.0m of the shoulders in the future. We note that the width of the existing gravel road typically varies between 4.0 and 5.5m in the section of road with winter maintenance, while it is approximately 4.0m for the unmaintained section. With a wider road footprint and establishment of drainage ditches, the propose road corridor improvements will require removal of vegetation. It is noted that the existing gravel road is not centered on the road allowance and as a result, much of the vegetation removal will occur south of the existing road. There are no proposed changes to the width of the existing road allowance.

There are two watercourse crossings (culverts) along the road which will be replaced. Furthermore there is a trout stream that travels parallel to the road in the vicinity of road station 6+160 (Figure 26). Much of the stream and associated vegetation will be undisturbed, however, a 22m length of this watercourse will be realigned as a component of the proposed construction. The EIS prepared by R.J. Burnside & Associates addresses the ecological impacts of this realignment.

The proposed road will generally be higher than the existing road (approx. 1.0m, on average) to address inadequate surface water conveyance and associated washouts and erosion. Near the brow of the escarpment, the road grade will be lower than the existing road to improve sightlines and moderate the steep slope.

The Bruce Trail crossing will be improved as the road centerline will be brought closer to the grade of the trail and adjacent forest on the south side (**Figure 27**). Culverts will be provided to facilitate pedestrian movement across the road ditches thus improving user safety. We understand that on-road parking next to the Bruce Trail is not being considered due to Township safety concerns.



Figure 26: Trout stream along SR 26/27 (looking east) that will be realigned to accommodate the proposed works. (Viewpoint: 560877 E, 4916627 N).

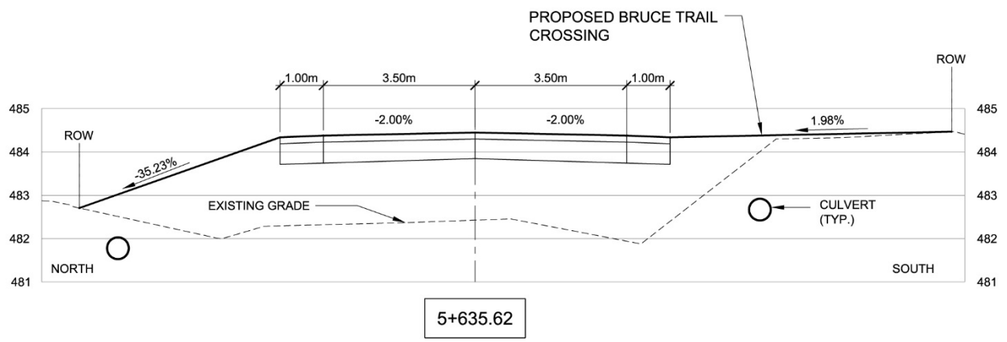


Figure 27: Proposed Bruce Trail Crossing on SR 26/27 – based on proposed engineering drawings.

5 Methodology

This section describes the methodology used to prepare the annotated photo inventory, photographic simulations and zone of visual influence mapping. We note that a Terms of Reference describing the approach and methodology for the simulations was submitted to the NEC on June 24, 2014 and comments received from the NEC have been incorporated into this report.

5.1 Annotated Photo Inventory

To provide context and a baseline condition, a photographic inventory of each road was prepared from several viewpoints within the study area. At each viewpoint and in each direction along the road corridor, a series of photographs were taken and later assembled into panoramic images. At selected viewpoints (Bruce Trail crossing, SR 26/27 intersections with Tenth Concession and the Osprey-Clearview Townline), photographs reflect only one view direction, as they demonstrate a view of significance.

To demonstrate the general extent of the proposed work, these panoramic images were annotated to show the property limits and proposed road corridor improvements. The methodology for preparation of the inventories and annotations is described below.

Panoramic Images

Each photograph in the inventory was taken with a Canon A480 camera, at an eye level of 1.5m (on a tripod), with a 7mm lens focal length. The Canon A480 has a 1/2.3" CCD image sensor with a 5.62x image conversion factor, providing an equivalent focal length of 39mm relative to a 35mm film camera. This falls within the normal standard lens range that provides a field of view roughly equivalent to what the unaided human eye sees.

To create the panoramic image, the individual photographs were overlapped with the adjacent photo by 50% and digitally stitched together with Panoweaver 8.6 Standard Edition. This software uses algorithms to link and adjust each photograph to present a continuous field of view that provides an important sense of context for the reference locations.

It is noted that photographs were taken at two stages in the growing season. The initial image set was taken in May 2014 prior to leaf break and the second set in July 2014 in the middle of the growing season. Additional photographs of SR 26/27 and the Bruce Trail Crossing were taken in the spring of 2015 as leaf expansion was occurring. We acknowledge the NEC's preference for imagery in a non-leaf condition and as such we relied upon the non-leaf photographs as much as possible. The additional July 2014 and spring 2015 photographs were required to provide additional reference points to ensure relative accuracy of the annotated photo inventory and post-construction simulations. This was accomplished by placing stakes at known surveyed locations prior to taking the photographs. The July 2014 images were utilized in these instances.

Annotations

The panoramic images were annotated to graphically identify the proposed limit of work, ditches, edge of gravel shoulder, and edge of pavement obtained from the engineering drawings. For accuracy, existing surveyed features, such as stakes, hydro poles, and the edge of existing gravel were used to provide a horizontal scale. Photographs were then compared to engineering drawings to ensure that the depictions of proposed changes are accurate.

Additional information related to NEP land designations, significant wetlands, ANSIs and parks within the Niagara Escarpment Parks and Open Space System were also noted to provide context. Finally, written descriptions of proposed works, such as culverts, guard rails, and anticipated changes to vegetation were also provided.

5.2 Photographic Simulations

Given the sensitivity of the proposed improvements to SR 26/27, additional graphics were prepared to provide a comparison of pre and post-construction conditions.

Viewshed Reference Points

Three vantage points were selected along SR 26/27, representing the three landscape typologies identified in the LES: Unit 183, Rob Roy-Singhampton Uplands (scenic ranking Average), Unit 425, Duntroon Edge (scenic ranking Attractive), and Unit 182, Duntroon Slopes (scenic ranking Very Attractive).

Pre-Development Photographs

Due to the inherent distortion of panoramic images, they are not suitable to use as an accurate base condition for a pre and post-construction comparison. As such, raw photos from the panoramic series were used to provide the pre-construction images of each viewshed. Where more than one raw image was required to capture the extent of the development within a viewshed, then multiple images were used to demonstrate the pre and post-construction condition of each relevant frame in the panoramic series.

Post-Development Images (Photographic Simulations)

Preparing reasonably accurate post-construction representations of the road corridor is required to provide the appropriate visual tools to assess compatibility with viewshed objectives. The road corridor was created in AutoCAD Civil 3D by R.J. Burnside & Associates (the project engineers.) Trimble Sketch-up Pro Version 2014 was then utilized to generate perspective images and to render the road corridor.

Images of the proposed road were created using virtual cameras within the model and positioned at the same reference points and orientations as the photographs taken on-site. Once established, a height adjustment was made on the virtual camera to ensure the post-construction image was taken at 1.5m above the proposed road surface. These post-construction images were then merged into the existing photographs as an overlay using Abobe Photoshop software (latest version). Where it would be retained, the existing vegetation of each photograph was maintained, however, assumptions had to be made as to the kind of vegetation behind proposed removal areas.

To ensure accuracy of the insertions, the locations of existing hydro poles, signs, surveyors stakes, and existing gravel edges were modelled in the 3-dimensional environment, relative to the proposed road. During the photographic insertions, these markers provided grid-like references for horizontal control. These markers offered multiple reference options for aligning post-construction images, ensuring that a least three points were used.

Quality Control, Information Accuracy & Assumptions

As with any visualization process, inaccuracy and subjectivity needs to be reasonably minimized. We have undertaken all possible measures to create defendable post-construction representations that are comparable to the pre-construction reference photographs.

To ensure accuracy of the post-construction imagery, the 3D model of the roads is based on accurate topographic surveys and digital base plans prepared and compiled by R.J. Burnside and Associates Limited. Surveys were prepared by Better Measures using GPS surveying equipment. The compilation of this information was utilized to prepare the engineering design submission and we are confident in their accuracy for the purposes of the VIA.

The various GPS photographic reference points that create the basis for the pre and post-development comparisons were incorporated into the topographic survey. This created a direct relationship between the reference points and the road elevations (both existing and proposed) and ensured relative accuracy.

5.3 Zone of Visual Influence

During pre-consultation, the NEC requested an assessment of the visibility of the road improvements from the surrounding public land. We refer to this as the Zone of Visual Influence.

To determine the extent of visibility and establish a study boundary, the roads were approached from all directions and potential viewpoints selected, using the communication tower as a local marker when the road itself was not visible. The limits of the study area were determine by the following observations:

- As previously demonstrated in **Figure 10** to **Figure 16**, SR 26/27 is not visible from the Osprey-Clearview Townline or from the Tenth Concession until the viewer is in close proximity. There are no distant views of SR 26/27 from the west, as the vegetation in the Rob Roy Swamp obscures long views aligned with the road corridor (**Figure 12**). Additionally, much of the road travels down the east face of the escarpment and therefore is not visible from the west.
- From the east, travelling along County Road 91, the communication tower (used as reference) is not visible until the viewer is approximately at Fairgrounds Road (**Figure 28**). This marks the point where the landscape becomes more open and views of the Niagara Escarpment become more prominent. Fairgrounds Road was therefore chosen as the east boundary for the assessment of zone of visual influence.
- From the north, travelling on County Road 124, the tower is intermittently visible but is generally obscured by topography and vegetation. It was therefore determined that the proposed improvements to SR 26/27 may be visible from County Road 124, potentially as far north as Nottawasaga SR 30/31. Therefore, Nottawasaga SR 30/31 was chosen as the north boundary for this assessment.
- Views of SR 26/27 are obscured from the south by a projection of the Escarpment. County Road 91 was therefore chosen as the south boundary for this assessment.

AutoCAD Civil 3-D was used to generate a landscape model to demonstrate the visibility of the SR 26/27 road surface. The landscape model was based on County GIS mapping, consisting of 2m contours, roads, and wooded areas. The contours were used to create a ground surface and the roads were draped onto that surface. The polygons for wooded areas were simplified and each vertex was placed on the contoured surface of the ground plane. To replicate the tree clearing required to construct the proposed road, the opening for the SR 26/27 corridor was modified to be the full width of the road allowance (20m) to simulate the worst possible clearing condition. The vegetation polygons were then vertically extruded 15m to represent average tree height, as recommended by the NEC.

With the model complete, the visibility of the simulated post-construction road condition was tested using the Zone of Influence Tool in Civil 3D. This tool identifies the visibility of a vertical object within a specified radius and assigns a coloured hatch to indicate the level of visibility (visible, partially visible, not visible). We note that if only a portion of the vertical object is visible, it is assigned a ‘partially visible’ hatch. To adjust for the increased elevation of the proposed road, the selected objects were assigned heights of 1.5m above the existing model’s surface. We note that on average, the proposed road is 1.0m above the existing surface and the additional 0.5m was added to provide an acceptable tolerance.

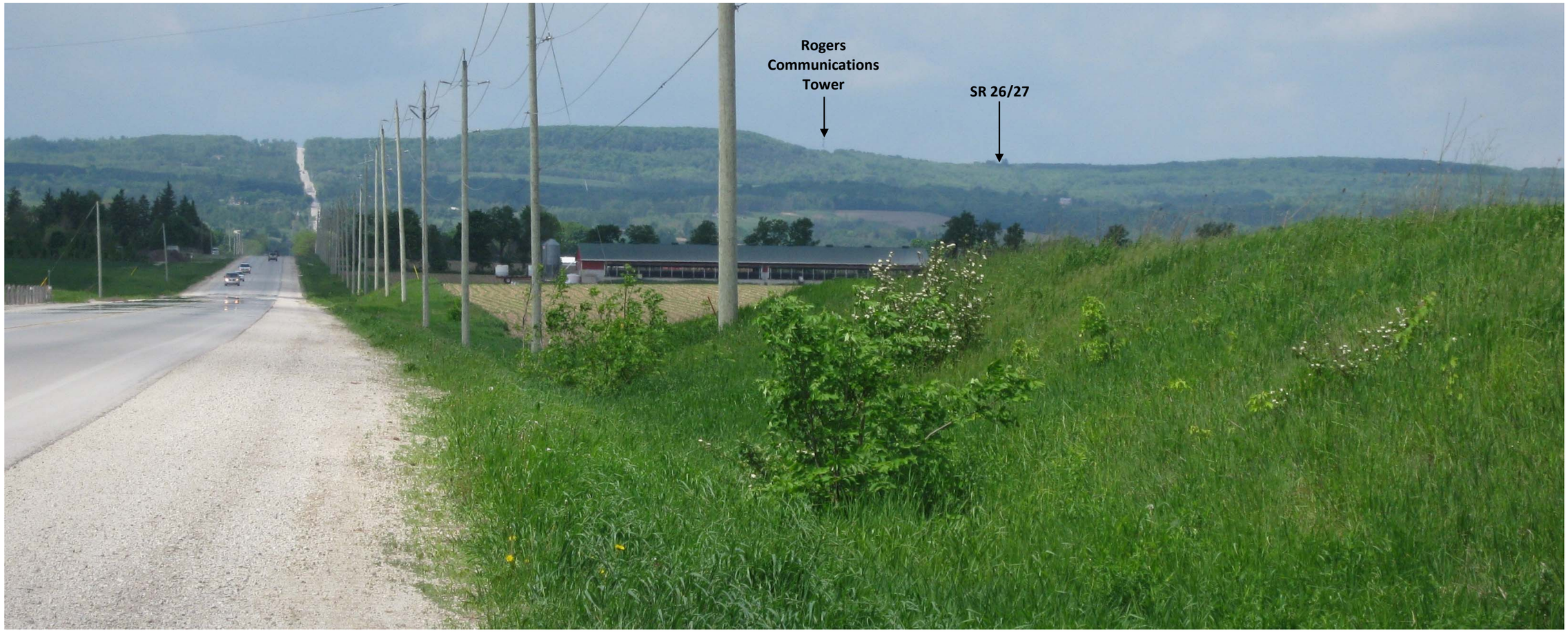


Figure 28: Location of SR 26/27 as seen from County Road 91 – looking west. The Communications tower (used as reference) first becomes visible near the intersection with Fairgrounds Road (Viewpoint: 569189 E, 4917922 N, 277 MASL).

6 Tenth Concession Visual Assessment & Recommendations

This section provides an assessment of the visual impacts resulting from the proposed works for the Tenth Concession, whether positive, negative or neutral and provides recommendations for mitigation of negative impacts and enhancements, where possible.

We note that the LES considers landform, vegetation, land use, special features and views to define the visual quality and character of large landscape zones (LES Units) within the NEP area. For the purpose of our assessment, these same categories have been used to analyze characteristic areas along the road corridor in order to assess the visual impact of the proposed works and derive recommendations.

Although it is unlikely that improvements to a single area along the Tenth Concession will impact the overall scenic quality of the broader landscape, our assessment examines the cumulative changes along the road corridors in each scoring category to determine whether the proposed works would alter the overall scenic ranking of the respective LES Units.

6.1 Assessment Overview

Within the project limits, the Tenth Concession is almost entirely within LES Unit 182, Duntroon Slopes (scenic ranking Very Attractive). A small section at the north end is within LES Unit 186, Pretty River Valley Moraine Edge (scenic ranking Very Attractive). Given that both LES Units result in a 'Very Attractive' rating, we note that they have similar LES category observations and scoring.

To conduct our assessment, the Tenth Concession was divided into characteristic road segments (identified by road station points) that are typified by common contextual characteristics, proposed works and associated impacts. For each road segment, the associated LES Unit, NEP Land Use Designation and proposed works were identified. Furthermore, an assessment of the perceived visual impact of the proposed works is extrapolated and recommendations are provided to either minimize or mitigate any negative impacts, or to provide enhancements where appropriate. The assessment and recommendations for the Tenth Concession can be found in **Table 1** through **Table 12 (Appendix A)**.

To support the Assessment Tables, 27 panoramic images (14 viewpoints) along the Tenth Concession were annotated to identify property boundaries, the extent of road paving, shoulders, ditch centerlines and embankments. Written descriptions of additional features (such as culverts, guiderails and changes to vegetation) are also included in the annotations. Viewpoints 1 to 14 are demonstrated in **Figure 44** to **Figure 57** (**Appendix A**) and accompany the Assessment Tables to provide a visual reference and contextual orientation.

We note that the assessment of visual impacts related to the intersection of the Tenth Concession and SR 26/27 is addressed in **Section 7**.

6.2 LES Summary & Recommendations

The following provides a summary of the overall visual impacts resulting from the proposed Tenth Concession works, as they relate to the documented landscape characteristics of LES Unit 182, Duntroon Slopes (scenic ranking Very Attractive) and LES Unit 186, Pretty River Valley Moraine Edge (scenic ranking Very Attractive).

The summary is provided in terms of the cumulative impacts of all characteristic road segments along the Tenth Concession in context of the LES scoring categories: Landform, Vegetation, Land Use, Special Features and Views. The assessment and recommendations outlined in **Table 1** through **Table 12 (Appendix A)** are summarized below and are graphically described **Figure 29**, demonstrating the recommendations and approximate locations.

Landform

Grade changes to the Tenth Concession road surface are proposed within the project scope to improve sightlines and public safety. Grade alterations are most notable at the crest of the hills and in the valleys, generally associated with the watercourse crossings. Grading to accommodate the proposed road and ditches is typically confined to the road allowance, with the exception of isolated areas where encroachment onto private lands is necessary to transition watercourse crossings or blend with existing grades.

Recommendations: nil

Conclusion: These grade alternations are seen as neutral in context of the overall landform scoring of the associated LES Units.

Vegetation

To facilitate the proposed grading, some vegetation removal is required. The proposed removals are typically confined to the road allowance, with the exception of grading encroachments onto private lands required to transition watercourse crossings. Generally, the vegetation removed within the road allowance is predominantly regenerating shrubs and trees that are subject to routine removal during hydro, utility and ditch maintenance operations. Such vegetation is considered temporary and was not considered in our assessment.

In a few areas adjacent to maturing woodlots, the proposed improvements will require removal of more mature trees. The removal of these edge trees will not alter the overall aesthetic or sense of enclosure created by the woodlot.

Cultural landscape features such as hedgerows are important in preserving the overall landscape character within the project area. Wide hedgerows along sections of the Tenth Concession (on the west side between road stations 0+450 to 0+600) will generally not be impacted by grading. Between road stations 0+760 to 0+900 (east side), we note that grading is required under the canopy driplines of existing hedgerow trees, which may create stress on this vegetation.

We note that in the time that lapsed between the preparation of the topographic survey and our photographic inventory, considerable portions of hedgerow were removed by private landowners. As a result there are discrepancies between actual hedgerows and the vegetation depicted on the engineering drawings. The areas of

discrepancy are found between road stations 0+680 to 0+740 (east side), 0+920 to 1+030 (east side), and 0+930 to 1+025 (west side), where hedgerows no longer exist.

Recommendations:

- To protect hedgerows from grading and construction operations, provide enhanced tree protection utilizing fencing, root and canopy pruning and other mitigation strategies along all existing hedgerows, in locations depicted on **Figure 29** (at the end of this section).
- Install tree protection stakes at 10m intervals to define grading and tree protection limits adjacent to forested areas in locations depicted on **Figure 29**.

Conclusion: Provided that the existing hedgerows are appropriately protected and remain following construction, the character and aesthetic of the road corridor will be similar to the current condition. The minor amount of vegetation and tree removal required along the Tenth Concession would have a neutral effect in context of the overall vegetation scoring of the associated LES Units.

Landuse

There will be no changes to the land use, as the Tenth Concession is an existing road that will maintain its current function and purpose. The proposed improvements complete the road paving to provide a uniform surface treatment and improve public safety (sight lines, vertical curves and guiderails).

Recommendations: nil

Conclusion: There is no change to the land use scoring of the associated LES Units.

Special Features

Watercourses - The existing culverts for the watercourse crossings will be replaced and the transition portion of the watercourse channels will be re-graded. While there may be removal of vegetation in these areas, through remediation and enhancement planting, the visual impact is considered temporary.

Recommendations:

- We recommend that vegetation remediation and enhancement of disturbed watercourse areas be in accordance with the recommendations of the Environmental Impact Study (EIS), in locations depicted on **Figure 29**.
- We recommend installation of enhanced tree protection measures utilizing fencing, root and canopy pruning and other mitigation strategies along all watercourses to reduce impacts to watercourse vegetation, in locations depicted on **Figure 29**.

Conclusion: Given the temporary nature of the disturbance to the watercourses, the alterations are seen as minor in context of the overall special features scoring of the associated LES Study Units.

Views

There are notable views of agricultural fields and hedgerows along the Tenth Concession which form part of the cultural/ historic landscape. Since re-grading and vegetation removals are minor and existing hedgerows are remaining, the existing views will be maintained as per the current condition.

Recommendations: nil

Conclusion: There is no change to the view scoring of the associated LES Units.

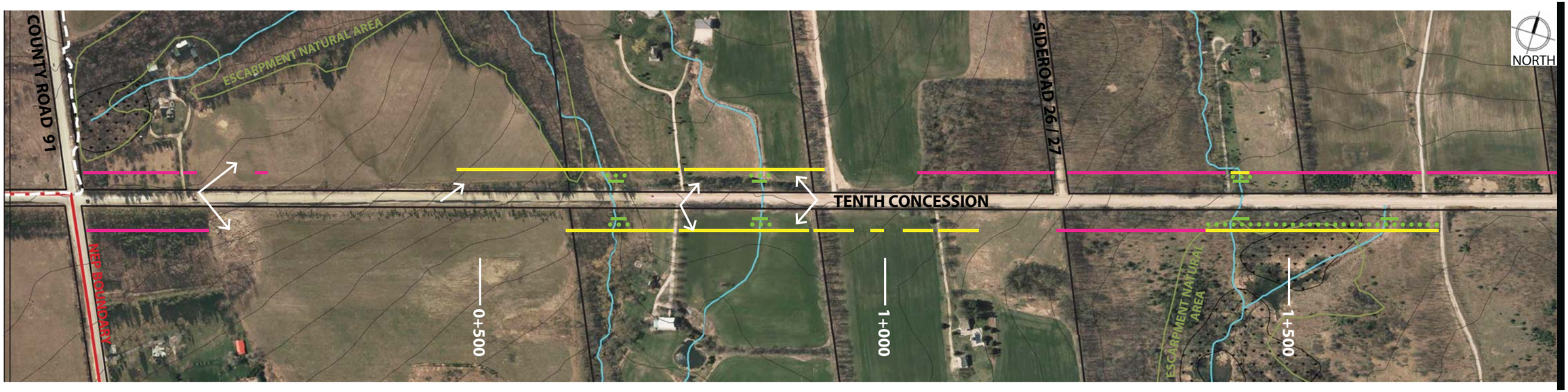
6.3 Summary

Vegetation removal along the Tenth Concession will be relatively minimal and we believe that the loss is not significant enough to alter views or landscape character. The road footprint will be generally unaltered and the paving of the road surface and the addition of guiderails will provide the most notable visible change.

We do not believe that the gravel surface in this section of the Tenth Concession is a defining character feature. In context of the Tenth Concession as a whole, the gravel is out of character and compromises driving conditions. The proposed improvements seek to improve these conditions by normalizing the road surfacing, addressing vertical curves and sight lines, reducing erosion by improving ditch and culvert function, and (ultimately) adding paved shoulders to improve cyclist safety. Given the minimal effect on existing vegetation, we conclude that the Tenth Concession road improvements are seen as positive, in terms of safety, landscape character, and aesthetics.

Based on our assessment, it is determined that LES scoring categories (Landform, Vegetation, Land Use, Special Features and Views) are either unchanged by the proposed improvements to the Tenth Concession, or have a neutral impact where alterations are required.

As such, we determine that the overall scenic rankings of LES Unit 182, Duntroon Slopes (scenic ranking Very Attractive) and LES Unit 186, Pretty River Valley Moraine Edge (scenic ranking Very Attractive), would remain unchanged by this project.





Base information from Simcoe County GIS (2010 ortho image, contours, lot fabric, watercourses, NEP boundary and Bruce Trail). Station points from R.J. Burnside & Associates Limited.

LEGEND:

- Enhanced Tree Protection*[1]
- Tree Protection *[2]
- Naturalization/ Enhancement Planting*
- Native Seeding
- NEP Boundary
- Stream (from GIS, location approx.)
- Bruce Trail
- Wetland
- Views to be maintained
- Escarpment Natural Area

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CLEARVIEW

TENTH CONCESSION
RECOMMENDATIONS

August 7, 2015

* Recommendations are shown offset from road allowance for clarity. Locations to be verified during detailed tree preservation and planting design.

[1] Enhanced Tree Protection: tree protection fencing and other mitigation measures.

[2] Tree Protection: tree protection stakes at 10m intervals to define tree protection limits.

SCALE: 1:5,000

Figure 29

7 Sideroad 26/27 Visual Assessment and Recommendations

This section provides an assessment of the visual impacts resulting from the proposed works for SR 26/27, whether positive, negative or neutral and provides recommendations for mitigation of negative impacts and enhancements, where possible.

We note that the LES considers landform, vegetation, land use, special features and views to define the visual quality and character of large landscape zones (LES Units) of the NEP area. For the purpose of our assessment, these same categories have been used to analyze characteristic areas along the road corridor in order to assess the visual impact of the proposed works and derive recommendations.

Although it is unlikely that improvements to a single area along SR 26/27 will impact the overall scenic quality of the broader landscape, our assessment examines the cumulative changes in each scoring category to determine whether the proposed works would alter the overall scenic ranking of the respective LES Units.

7.1 Assessment Overview

Within the project limits, Sideroad 26/27 traverses three LES Units as follows: LES Unit 183, Rob Roy – Singhampton Uplands (scenic ranking Average), LES Unit 425, Duntroon Edge (scenic ranking Attractive) and LES Unit 182, Duntroon Slopes (scenic ranking Very Attractive).

During pre-consultation, the NEC expressed concern regarding the possible increased visibility of SR 26/27 from County Road 91 and County Road 124 after the proposed improvements. To explore this concern, Zone of Visual Influence Mapping was created to determine the extent of visibility of SR 26/27 from adjacent public roads. Based on the rationale established in **Section 5**, the study area for the Zone of Visual Influence Mapping is bound by County Road 91 to the south, the Osprey- Clearview Townline to the west, Fairgrounds Road to the east, and Sideroad 30/31 to the north. As the AutoCAD Civil 3D Zone of Influence tool tests the visibility of a single vertical object, several 'targets' were chosen along the SR 26/27 corridor to test the visibility of specific locations along the road centerline. Results of this modelling are presented in **Figure 30** to **Figure 32** and discussed in **Section 7.2**.

Further to distant views, the landscape character of Sideroad 26/27 was also analyzed from within the road allowance. To conduct this assessment, Sideroad 26/27 was divided into characteristic road segments (identified by road station points) that are typified by common contextual characteristics, proposed works and associated impacts. For each road segment, the associated LES Unit, NEP Land Use Designation and proposed works were identified. Furthermore, an assessment of the perceived visual impact of the proposed works is extrapolated and recommendations were provided to either minimize or mitigate any negative impacts, or to provide enhancements where appropriate. The assessment and recommendations for Sideroad 26/27 can be found in **Table 13** through **Table 26** (**Appendix B)**.

To support the Assessment Tables, 26 panoramic images (13 viewpoints) along Sideroad 26/27 were annotated to identify property boundaries, the extent of road paving, shoulders, ditch centerlines and embankments. Written descriptions of additional features (such as culverts, guiderails and changes to vegetation) are also included in the annotations. Viewpoints 15 to 27 are demonstrated in **Figure 58** to **Figure 70** and accompany the Assessment Tables in **Appendix B** to provide a visual reference and contextual orientation.

As requested by the NEC, photographic simulations of the proposed roadway have also been prepared for each of the characteristic landscapes represented by the three LES Units (**Figure 71** to **Figure 76** in **Appendix B**).

7.2 Zone of Visual Influence

Through review of the Zone of Visual Influence Mapping it was determined that only the LES Unit 182 - Duntroon Edge (scenic ranking Attractive) section of Sideroad 26/27 would be visible within the study area, as the lower and upper sections of the road are obscured by existing topography and vegetation. Zone of Visual Influence Mapping for the target areas corresponding to the top, middle, and bottom of the Duntroon Edge portion of the road corridor are presented in **Figure 30** to **Figure 32**.

Based on the mapping, SR 26/27 will not be visible from County Road 91 or from County Road 124. Visibility of the road surface will be limited to areas that are almost in direct alignment with SR 26/27, including sections of SR 27/28, Fairgrounds Road, and the Sixth Concession. The results of the model were ground-truthed to confirm sightlines toward the escarpment face where SR 26/27 is located. As a point of orientation, the communications tower near SR 26/27 was used as a reference point. The results of our ground-truthing exercise are as follows:

SR 27/28

SR 27/28 is almost aligned with SR 26/27 and therefore road users are most likely to notice the road cut while travelling west along this road. Visibility is limited to views across open agricultural fields when the viewpoint is far enough back that trees and buildings do not create a visual obstruction (**Figure 33** and **Figure 34**).

County Road 91

Through field confirmation, we confirm that SR 26/27 will not be visible from County Road 91 (**Figure 35**), as it is obscured by the forest that flanks the road. Based on the mapping and our observations, the wider road cut resulting from improvements to SR 26/27 will not alter the view from such a broad angle.

Fairgrounds Road

From Fairgrounds Road there is visibility of SR 26/27 at the point along the road corridor where the perpendicular view is aligned with the centerline of SR 26/27. The model appears to accurately predict post-construction visibility, except where foreground and mid-ground buildings or trees obscure the view (**Figure 36** to **Figure 38**).

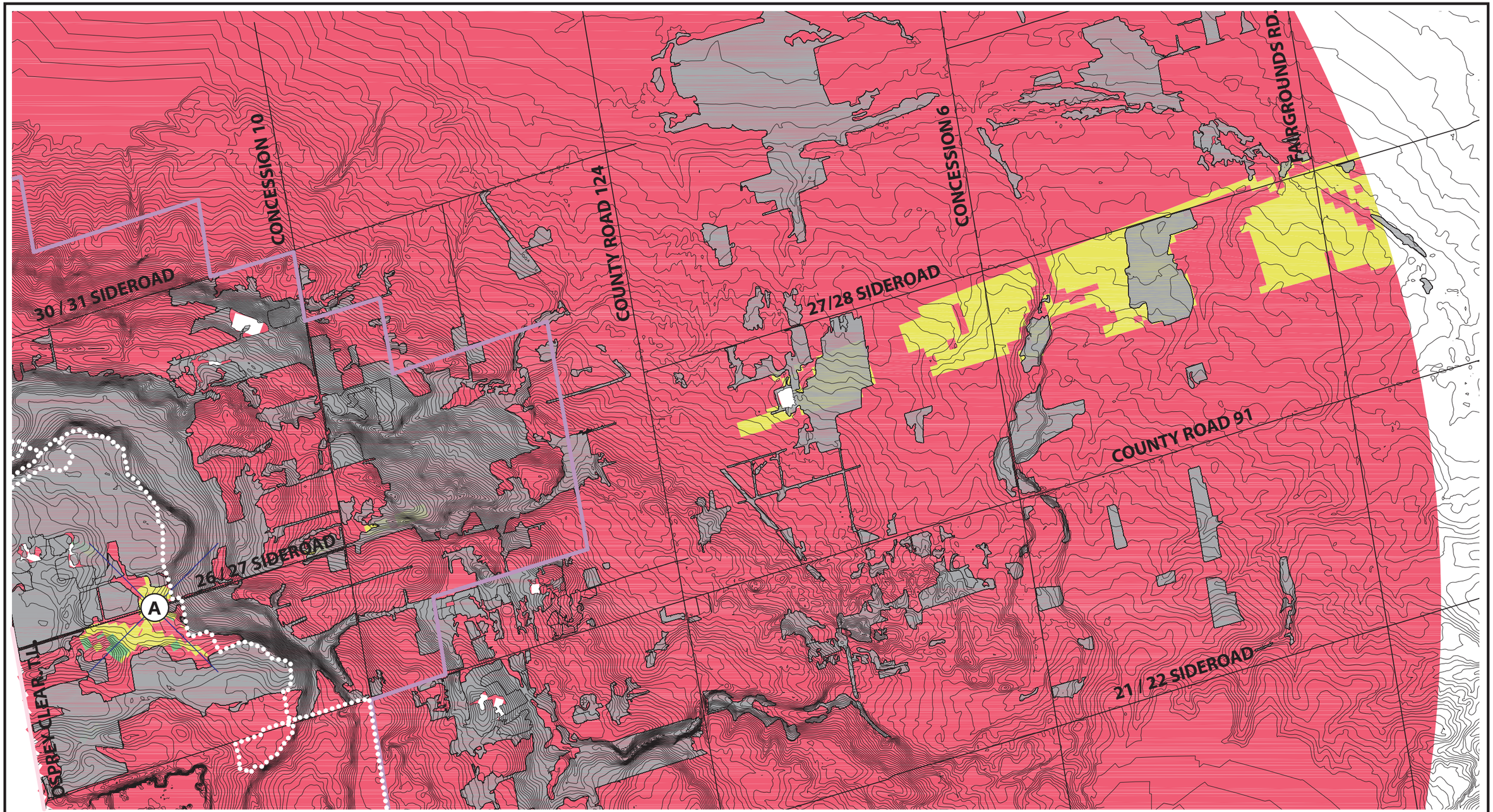
Sixth Concession

From the Sixth Concession, there is also visibility of SR 26/27 at the point along the road corridor where the perpendicular view is aligned with the centerline of SR 26/27 (**Figure 39** to **Figure 41**). These are the closest distant views of SR 26/27 from publically accessible lands.

<u>Conclusions:</u> Supported by the Zone of Visual Influence Mapping and our field observations, we conclude that the widened road surface and the associated canopy cut for the SR 26/27 improvements will not be visible from

County Road 91 or from County Road 124. Furthermore, we conclude that distant views of SR 26/27 will only be visible from isolated locations along SR 27/28, Fairgrounds Road and the Sixth Concession. The visibility from these distant viewpoints is minimized as the road corridor does not travel down the entire edge of the escarpment face (in contrast to County Road 91) and the base of the road is obscured. As such only a short section of SR 26/27 will be visible from isolated locations of these less travelled road corridors.

Based on the above findings, we conclude that SR 26/27 will present minimal visual impact from the surrounding road corridors and as such the proposed improvements are considered neutral in context of the scenic rankings of surrounding LES Units.



LEGEND:

- Wooded Area
- Visible Area
- Partially Visible Area
- Not Visible Area
- A — Target Point
- Bruce Trail
- NEP Boundary

Visibility indicates whether a 1.5m tall line on the road centerline would be visible, partially visible or not visible based on line of sight.

SCALE 1:30,000

NORTH

ENVISION TATHAM

CLEARVIEW

NOTTAWASAGA SIDEROAD 26/27

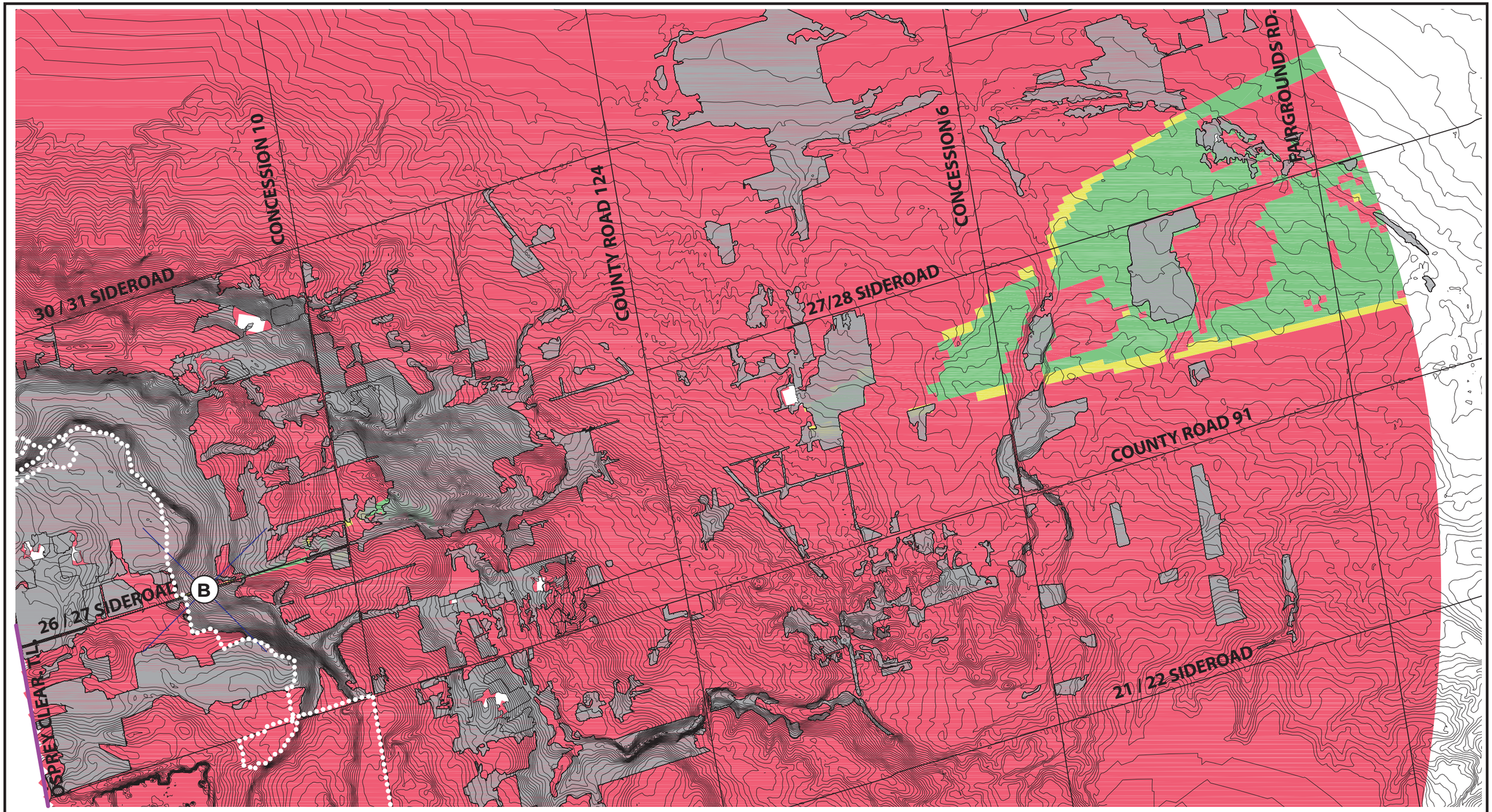
ZONE OF VISUAL INFLUENCE

August 7, 2015

Figure 30

STATION 5+400

TARGET A



LEGEND:

- Wooded Area
- Visible Area
- Partially Visible Area
- Not Visible Area
- Target Point
- Bruce Trail
- NEP Boundary

Visibility indicates whether a 1.5m tall line on the road centerline would be visible, partially visible or not visible based on line of sight.

SCALE 1:30,000

NORTH

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CLEARVIEW

NOTTAWASAGA SIDEROAD 26 / 27

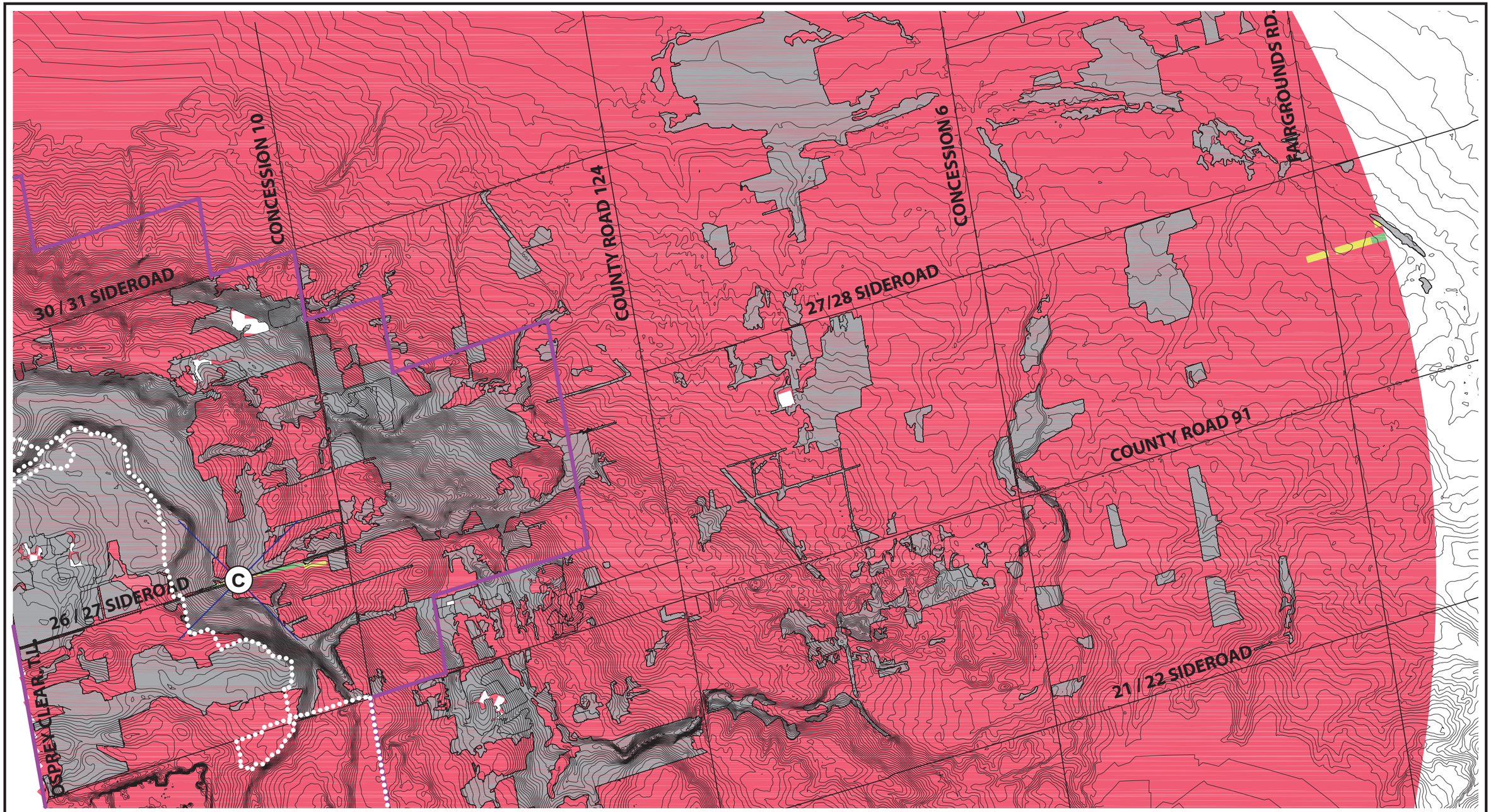
ZONE OF VISUAL INFLUENCE

August 7, 2015

Figure 31

STATION 5+800

TARGET B



LEGEND:

- Wooded Area
- Visible Area
- Partially Visible Area
- Not Visible Area
- A — Target Point
- Bruce Trail
- NEP Boundary

Visibility indicates whether a 1.5m tall line on the road centerline would be visible, partially visible or not visible based on line of sight.

SCALE 1:30,000

NORTH

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CLEARVIEW

NOTTAWASAGA SIDEROAD 26 / 27

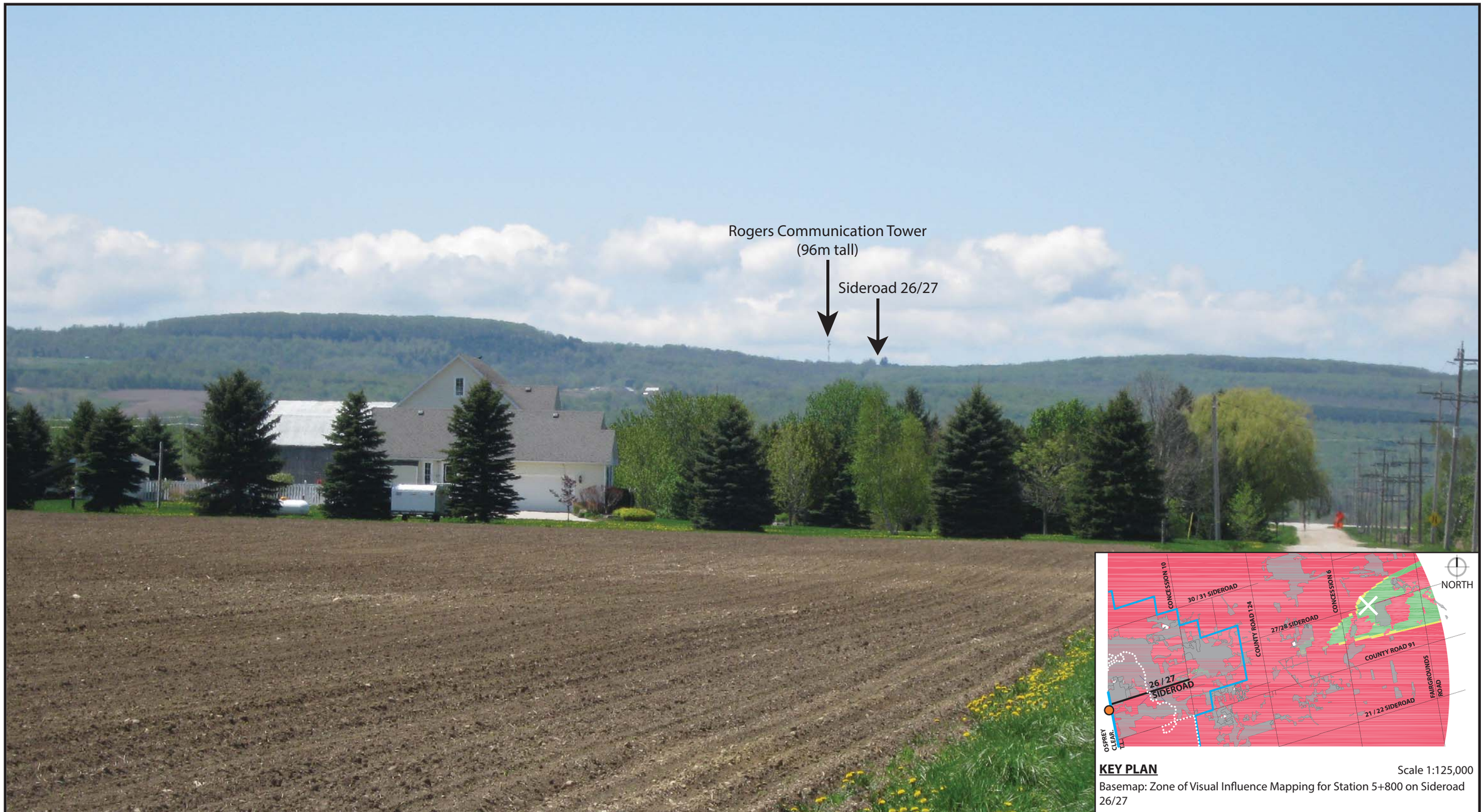
ZONE OF VISUAL INFLUENCE

August 7, 2015

Figure 32

STATION 6+100

TARGET C



KEY PLAN Scale 1:125,000

Basemap: Zone of Visual Influence Mapping for Station 5+800 on Sideroad 26/27

KEY PLAN LEGEND:

- Wooded Area
- Visible*
- Partially Visible*
- Not Visible*
- Rogers Communication Tower
- View Point
- NEP Boundary
- Bruce Trail

*Visibility of 1.5m high line located at Station 5+800 on SR 26/27 - See Zone of Influence Mapping

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CLEARVIEW

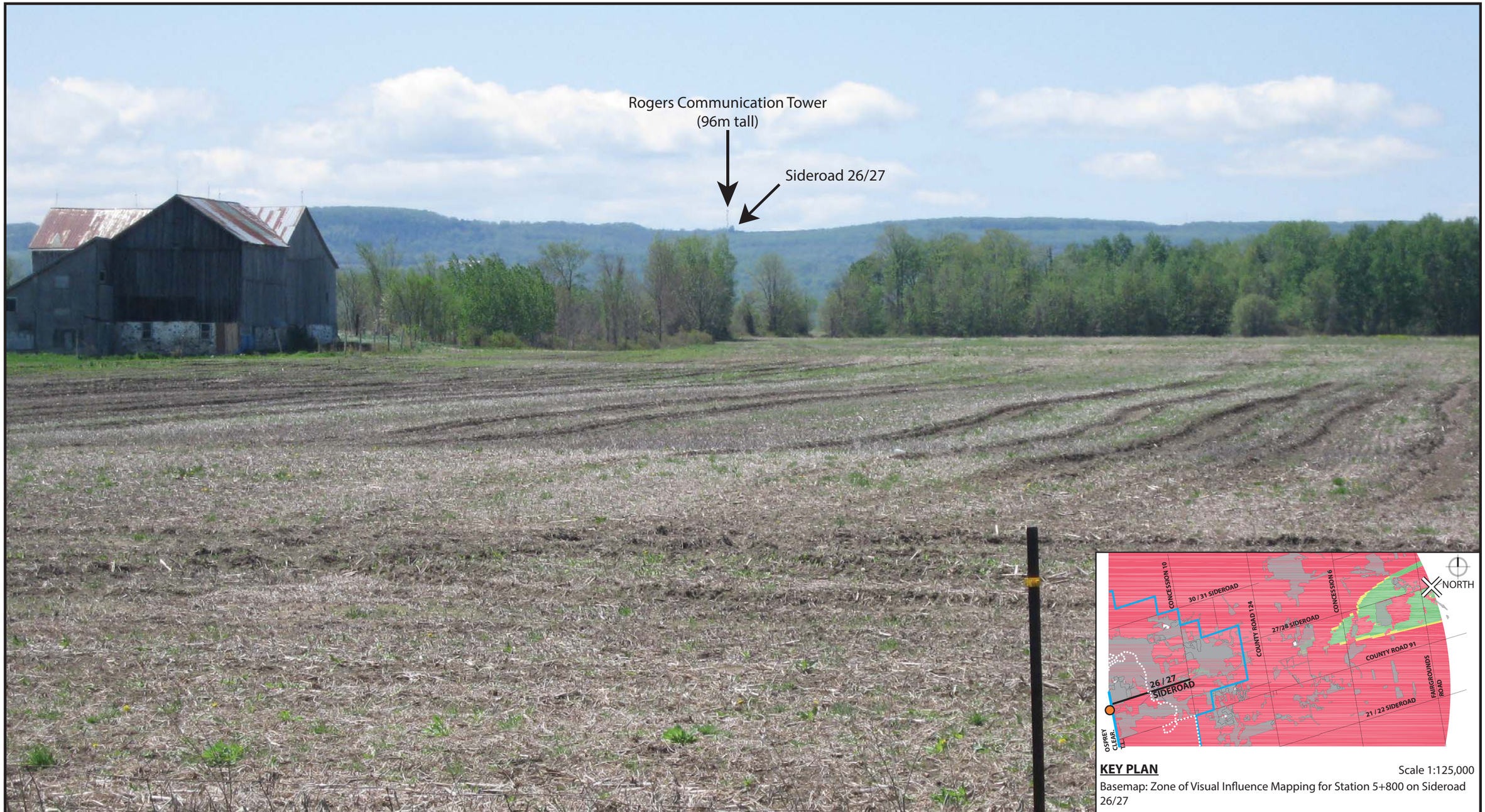
SIDEROAD 26/27

DISTANT VIEWS - Sideroad 27/28

August 7, 2015

VISIBILITY OF SR. 26/27*	**VISIBLE**
DISTANCE TO TOWER	**9.3 km**
LOCATION OF TOWER	**558779E, 4915767N, 508 MASL (NAD 17)**
LOCATION OF VIEWPOINT	**567431E, 4919269N, 271 MASL (NAD 17)**

Figure 33



KEY PLAN Scale 1:125,000

Basemap: Zone of Visual Influence Mapping for Station 5+800 on Sideroad 26/27

KEY PLAN LEGEND:

- Wooded Area
- Visible*
- Partially Visible*
- Not Visible*
- Rogers Communication Tower
- View Point
- NEP Boundary
- Bruce Trail

*Visibility of 1.5m high line located at Station 5+800 on SR 26/27 - See Zone of Influence Mapping

ENVISION TATHAM

CLEARVIEW

SIDEROAD 26/27

DISTANT VIEWS - Sideroad 27/28

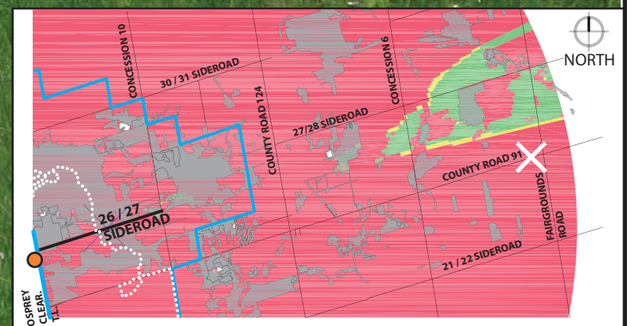
August 7, 2015

VISIBILITY OF SR. 26/27*	**VISIBLE**
DISTANCE TO TOWER	**11.5 km**
LOCATION OF TOWER	**558779E, 4915767N, 508 MASL (NAD 17)**
LOCATION OF VIEWPOINT	**569017E, 4920679N, 259 MASL (NAD 17)**

Figure 34

Rogers Communication Tower
(96m tall)

Sideroad 26/27



KEY PLAN Scale 1:125,000

Basemap: Zone of Visual Influence Mapping for Station 5+800 on Sideroad 26/27

KEY PLAN LEGEND:

- Wooded Area
- Visible*
- Partially Visible*
- Not Visible*
- Rogers Communication Tower
- View Point
- NEP Boundary
- Bruce Trail

*Visibility of 1.5m high line located at Station 5+800 on SR 26/27 - See Zone of Influence Mapping

ENVISION TATHAM

CLEARVIEW

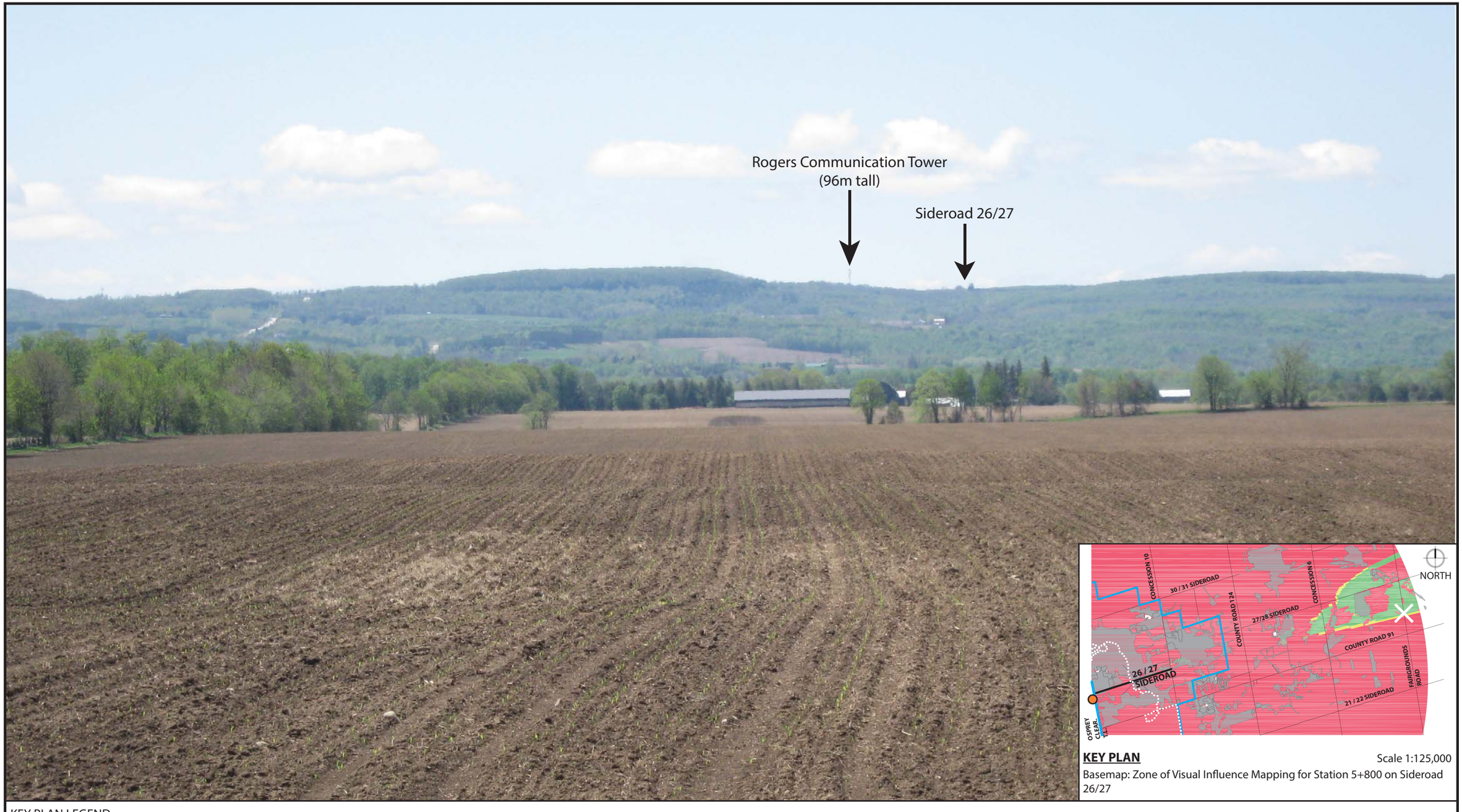
SIDEROAD 26/27

DISTANT VIEWS - County Road 91

August 7, 2015

VISIBILITY OF SR. 26/27*	**NOT VISIBLE**
DISTANCE TO TOWER	**10.6 km**
LOCATION OF TOWER	**558779E, 4915767N, 508 MASL (NAD 17)**
LOCATION OF VIEWPOINT	**569189E, 4917922N, 277 MASL (NAD 17)**

Figure 35



KEY PLAN Scale 1:125,000

Basemap: Zone of Visual Influence Mapping for Station 5+800 on Sideroad 26/27

KEY PLAN LEGEND:

- Wooded Area
- Visible*
- Partially Visible*
- Not Visible*
- Rogers Communication Tower
- View Point
- NEP Boundary
- Bruce Trail

*Visibility of 1.5m high line located at Station 5+800 on SR 26/27 - See Zone of Influence Mapping

ENVISION TATHAM

CLEARVIEW

SIDEROAD 26/27

DISTANT VIEWS - Fairgrounds Road

August 7, 2015

VISIBILITY OF SR. 26/27*	**VISIBLE**
DISTANCE TO TOWER	**10.9 km**
LOCATION OF TOWER	**558779E, 4915767N, 508 MASL (NAD 17)**
LOCATION OF VIEWPOINT	**569327E, 4918683N, 273 MASL (NAD 17)**

Figure 36



KEY PLAN Scale 1:125,000

Basemap: Zone of Visual Influence Mapping for Station 5+800 on Sideroad 26/27

KEY PLAN LEGEND:

- Wooded Area
- Visible*
- Partially Visible*
- Not Visible*
- Rogers Communication Tower
- View Point
- NEP Boundary
- Bruce Trail

*Visibility of 1.5m high line located at Station 5+800 on SR 26/27 - See Zone of Influence Mapping

ENVISION TATHAM

CLEARVIEW

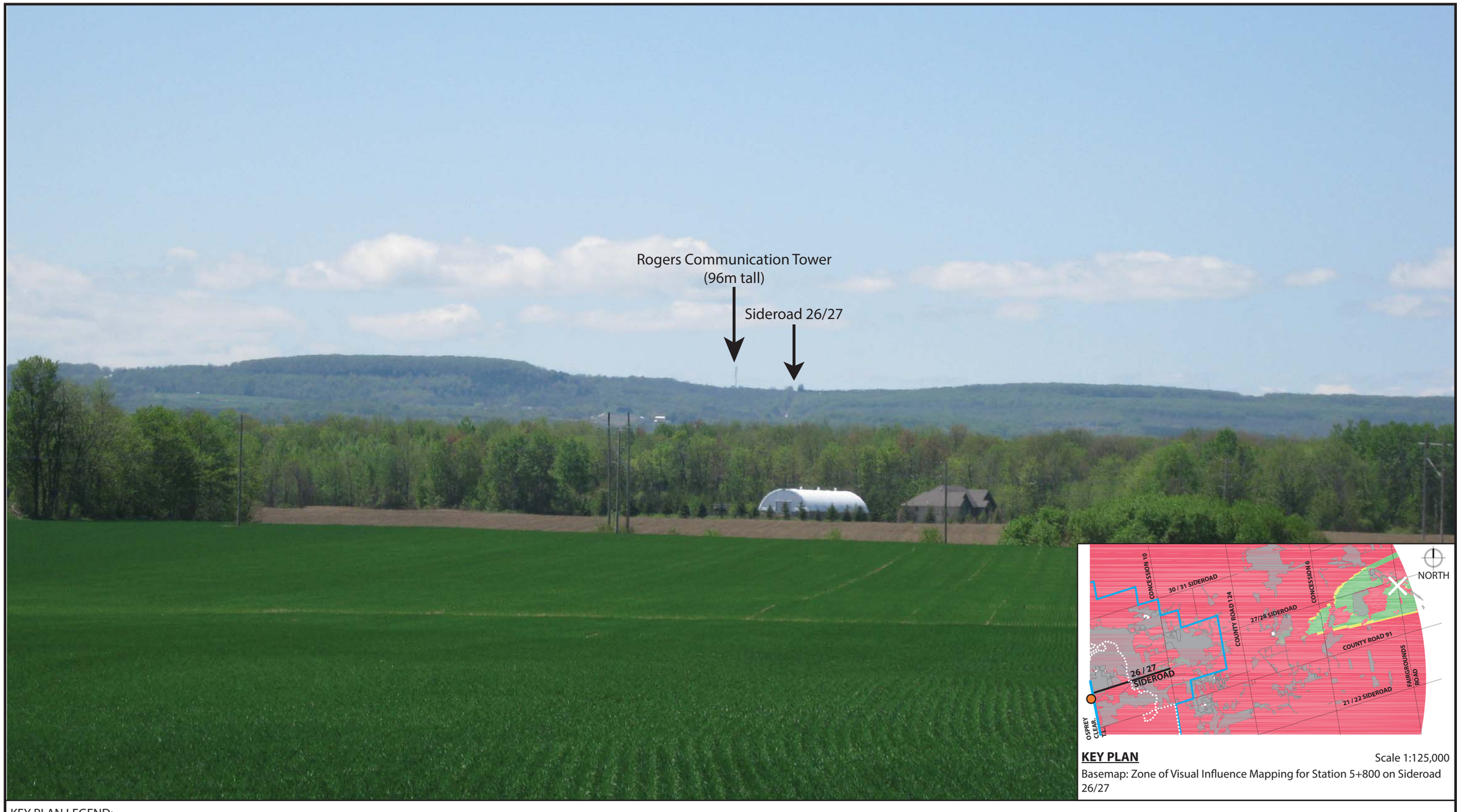
SIDEROAD 26/27

DISTANT VIEWS - Fairgrounds Road

August 7, 2015

VISIBILITY OF SR. 26/27*	**VISIBLE**
DISTANCE TO TOWER	**11.0 km**
LOCATION OF TOWER	**558779E, 4915767N, 508 MASL (NAD 17)**
LOCATION OF VIEWPOINT	**569270E, 4919029N, 268 MASL (NAD 17)**

Figure 37



KEY PLAN Scale 1:125,000

Basemap: Zone of Visual Influence Mapping for Station 5+800 on Sideroad 26/27

KEY PLAN LEGEND:

- Wooded Area
- Visible*
- Partially Visible*
- Not Visible*
- Rogers Communication Tower
- View Point
- NEP Boundary
- Bruce Trail

*Visibility of 1.5m high line located at Station 5+800 on SR 26/27 - See Zone of Influence Mapping

ENVISION TATHAM

CLEARVIEW

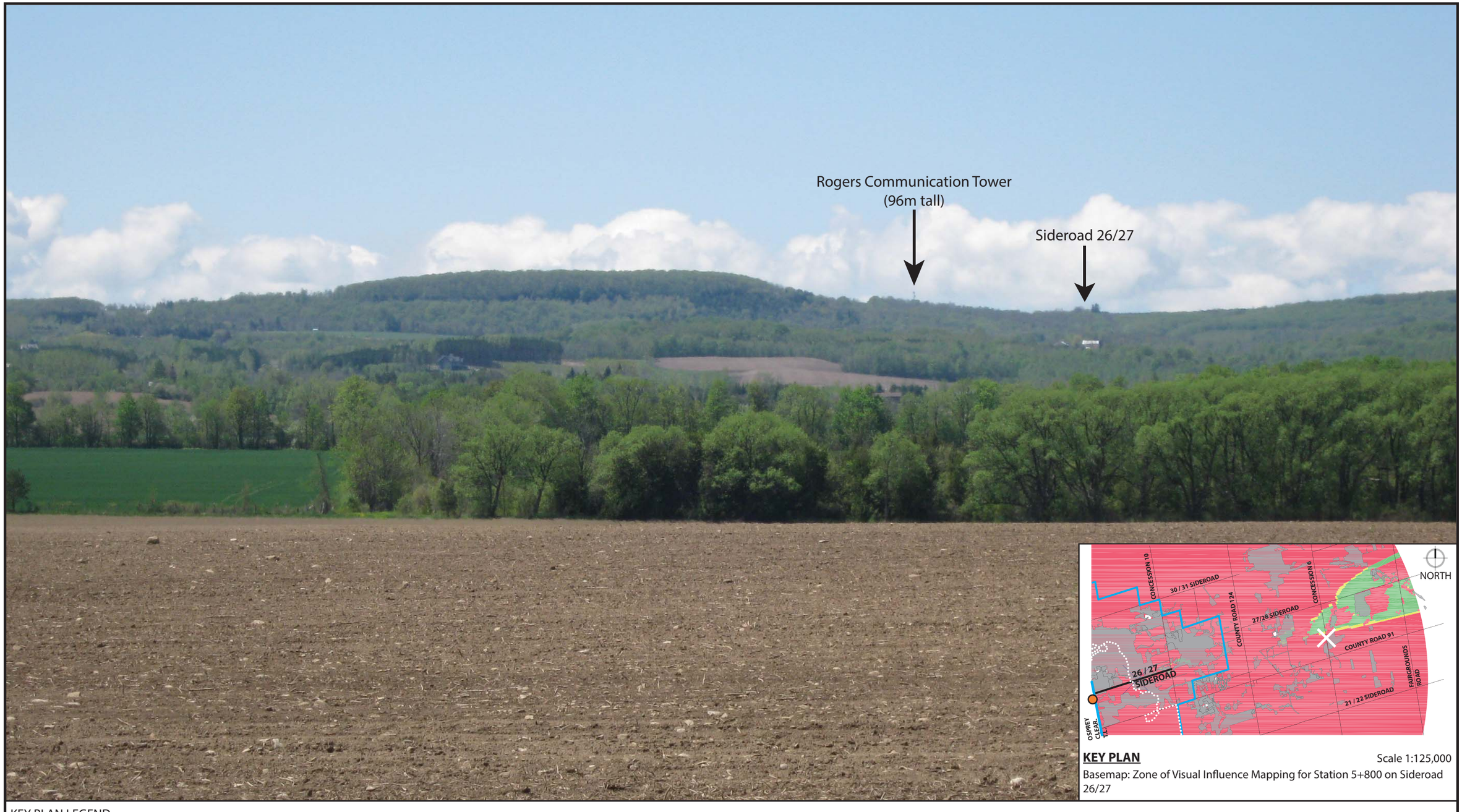
SIDEROAD 26/27

DISTANT VIEWS - Fairgrounds Road

August 7, 2015

VISIBILITY OF SR. 26/27*	**VISIBLE**
DISTANCE TO TOWER	**11.0 km**
LOCATION OF TOWER	**558779E, 4915767N, 508 MASL (NAD 17)**
LOCATION OF VIEWPOINT	**569180E, 4919607N, 266 MASL (NAD 17)**

Figure 38



KEY PLAN Scale 1:125,000

Basemap: Zone of Visual Influence Mapping for Station 5+800 on Sideroad 26/27

KEY PLAN LEGEND:

- Wooded Area
- Visible*
- Partially Visible*
- Not Visible*
- Rogers Communication Tower
- View Point
- NEP Boundary
- Bruce Trail

*Visibility of 1.5m high line located at Station 5+800 on SR 26/27 - See Zone of Influence Mapping

ENVISION TATHAM

CLEARVIEW

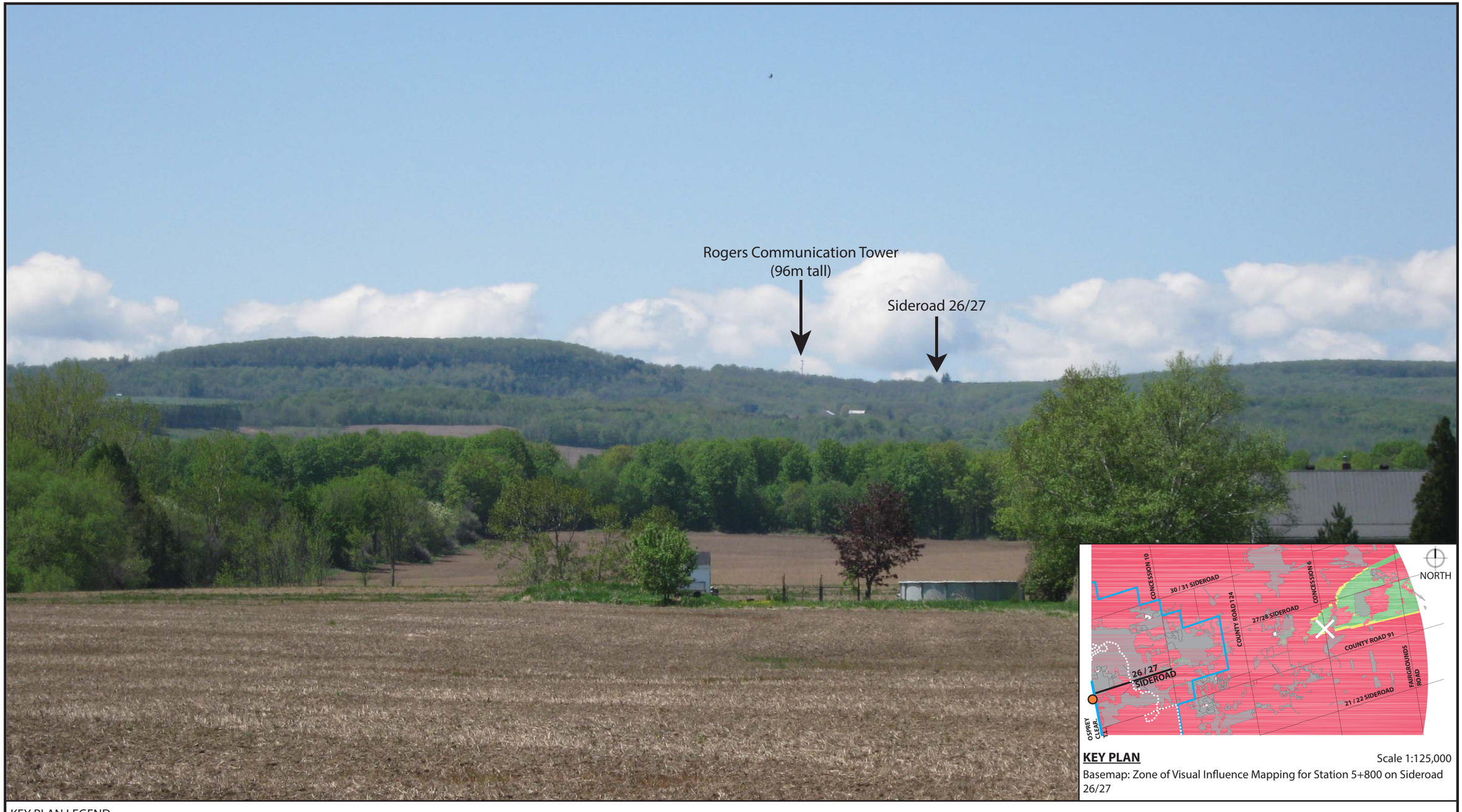
SIDEROAD 26/27

DISTANT VIEWS - Concession 6

August 7, 2015

VISIBILITY OF SR. 26/27*	NOT VISIBLE
DISTANCE TO TOWER	8.0 km
LOCATION OF TOWER	558779E, 4915767N, 508 MASL (NAD 17)
LOCATION OF VIEWPOINT	566707E, 4917860N, 292 MASL (NAD 17)

Figure 39



KEY PLAN Scale 1:125,000

Basemap: Zone of Visual Influence Mapping for Station 5+800 on Sideroad 26/27

KEY PLAN LEGEND:

- Wooded Area
- Visible*
- Partially Visible*
- Not Visible*
- Rogers Communication Tower
- View Point
- NEP Boundary
- Bruce Trail

*Visibility of 1.5m high line located at Station 5+800 on SR 26/27 - See Zone of Influence Mapping

ENVISION TATHAM

CLEARVIEW

SIDEROAD 26/27

DISTANT VIEWS - Concession 6

August 7, 2015

VISIBILITY OF SR. 26/27*	VISIBLE
DISTANCE TO TOWER	8.2 km
LOCATION OF TOWER	558779E, 4915767N, 508 MASL (NAD 17)
LOCATION OF VIEWPOINT	566654E, 4918175N, 290 MASL (NAD 17)

Figure 40



KEY PLAN Scale 1:125,000

Basemap: Zone of Visual Influence Mapping for Station 5+800 on Sideroad 26/27

KEY PLAN LEGEND:

- Wooded Area
- Visible*
- Partially Visible*
- Not Visible*
- Rogers Communication Tower
- View Point
- NEP Boundary
- Bruce Trail

*Visibility of 1.5m high line located at Station 5+800 on SR 26/27 - See Zone of Influence Mapping

ENVISION TATHAM

CLEARVIEW

SIDEROAD 26/27

DISTANT VIEWS - Concession 6

August 7, 2015

VISIBILITY OF SR. 26/27*	**VISIBLE**
DISTANCE TO TOWER	**8.3 km**
LOCATION OF TOWER	**558779E, 4915767N, 508 MASL (NAD 17)**
LOCATION OF VIEWPOINT	**566606E, 4918460N, 285 MASL (NAD 17)**

Figure 41

7.3 LES Summary & Recommendations

The following provides a summary of the overall visual impacts resulting from the proposed SR 26/27 works, as they relate to the documented landscape characteristics of LES Unit 183, Rob Roy – Singhampton Uplands (scenic ranking Average), LES Unit 425, Duntroon Edge (scenic ranking Attractive) and LES Unit 182, Duntroon Slopes (scenic ranking Very Attractive).

The summary is provided in terms of the cumulative impacts of all characteristic road segments along SR 26/27 in context of the LES scoring categories: Landform, Vegetation, Land Use, Special Features and Views. The assessment and recommendations outlined in Table 13 to Table 26 are summarized below and are graphically described in **Figure 43** (at the end of this Section), demonstrating the recommendations and approximate locations.

7.3.1 LES Unit 183, Rob Roy – Singhampton Uplands (scenic ranking Average)

For a detailed assessment of LES Unit 183 – Singhampton Uplands (scenic ranking Average), refer to viewpoints 15 to 18 (**Figure 58** to **Figure 61**) and **Table 13** to **Table 18** in **Appendix B**.

Landform

The landform within LES Unit 183, Rob Roy – Singhampton Uplands (scenic ranking Average) is not anticipated to change noticeably as a result of the proposed road improvements, except that the road will typically be higher than existing grade to address surface water conveyance. As the road approaches the Escarpment Brow, it will drop below existing grade to address safety concerns related to sightlines and vertical curves.

Recommendations: nil

Conclusion: While localized grading will alter the appearance of the current road environment in this LES Unit, the changes fall within expected aesthetic norms typical for local rural roads. As such, these grade alternations are seen as neutral in context of the overall landform scoring of this LES Unit.

Vegetative Cover

Widening of the roadway necessitates removal of vegetation in various areas along the road allowance boundaries. We note that the road corridor will still benefit from a continuous vegetated edge through this section (following removals). The result will be a more open corridor with a slightly reduced sense of enclosure. In some areas, removal of existing deciduous trees will expose coniferous hedgerows or, where vegetation is sparser, it will provide views of regenerating fields.

Further to the rehabilitation of disturbed areas in the Rob-Roy PSW, naturalization enhancements are proposed along the road boundary in proximity to the Nottawasaga Lookout Provincial Nature Reserve and Bruce Trail crossing (which are both located in LES Unit 425, Duntroon Edge, scenic ranking Attractive). The plantings will improve screening of the road from the trail and will stabilize and enhance steep embankments disturbed by construction.

Recommendations:

- Provide enhanced tree protection measures utilizing fencing, root and canopy pruning and other mitigation strategies along sensitive hedgerows, the Rob Roy PSW, and Escarpment Natural Areas in locations depicted on **Figure 43**.
- Install tree protection stakes to define grading and tree protection limits adjacent to woodlots in locations depicted on **Figure 43**.
- Naturalize and enhance disturbed areas with woody vegetation in locations depicted on **Figure 43**. Planting should be native and salt tolerant.
- Seed all disturbed areas adjacent to the Rob Roy PSW and Escarpment Natural Areas with native, salt tolerant herbaceous species, in locations depicted on **Figure 43**.

Conclusion: Although the decreased sense of enclosure may be perceived as negative in a localized context, the minor reduction in edge vegetation is not significant enough along this section of SR 26/27 to alter the road's overall landscape character. As such, the proposed vegetation removal will have a neutral effect in context of the overall vegetation scoring of this LES Unit.

Landuse

Although there will be an increase in traffic, there will be no change to the land use in this LES Unit, as SR 26/27 will continue to provide year-round access to the public and existing residences.

Recommendations: nil

Conclusion: There is no change to the land use scoring of this LES Unit.

Special Features

Rob-Roy Provincially Significant Wetland (PSW) – There are no anticipated tree/shrub removals proposed along the north side of SR 26/27 adjacent to the Rob-Roy PSW. The absence of existing woody vegetation can be attributed to routine maintenance (pruning, removals) associated with ditches and hydro/ utility infrastructure. On the south side of the road adjacent to the Rob Roy PSW, removal of edge vegetation is proposed. We note that the impacts on the vegetation have been minimized through engineering design modifications in this area.

Nottawasaga Lookout Escarpment Access Park – There are no proposed changes within the Nottawasaga Lookout Escarpment Access Park and the plantation and stone piles running along the front of the plantation will remain.

Intersection with Osprey-Clearview Townline – There are no tree or shrub removals proposed in proximity to the Osprey-Clearview Townline and as such, the trees surrounding the intersection will remain. SR 26/27 will widen toward the south, however, this paved intersection will appear much as it does today. No work is proposed within the Osprey-Clearview Townline road allowance and there are no anticipated visual impacts associated with the proposed road improvements at this intersection. As a result, annotated images were not prepared from viewpoints on the Osprey-Clearview Townline.

Recommendations:

- Provide enhanced tree protection measures utilizing fencing, root and canopy pruning and other mitigation strategies along both sides of the road adjacent to the Rob Roy PSW in locations depicted on **Figure 43**.
- Naturalize and enhance disturbed areas adjacent to the Rob Roy PSW in areas where there is no conflict with ditch function or hydro/utility maintenance operations, as depicted on **Figure 43**. Planting shall be in accordance with the recommendations of the EIS and should be native and salt tolerant.

Conclusion: Provided that the remaining vegetation is appropriately protected and remains following construction, the character and aesthetic of the Special Features will be similar to the current condition. The minor amount of vegetation and tree removal required along SR 26/27 in this section of road would have a neutral effect in context of the overall Special Features scoring of this LES Unit.

Views

Generally, there are no notable views along this section of SR 26/27, as the adjacent treed boundaries create a sense of enclosure and direct the view along the road corridor. Although in some isolated areas removal of trees will open intermittent views toward regenerating fields, the added diversity of experience can be considered positive. While the Rob Roy PSW and the Nottawasaga Lookout Access Park are located within this LES Unit, there are no notable views from or into either area. As such, the proposed road improvements will not affect the quality of views.

We note that at the east end of the LES Unit, at the escarpment brow, there is an opportunity to create an impressive view toward the Simcoe Plain. This would provide a strong transition into LES Unit 425, Duntroon Edge (scenic ranking Attractive) and would add diversity to the viewshed experience, as the rest of the road corridor is typically enclosed. We note that this view would be in character with the open landscapes described in 1976 through the LES.

Recommendations:

- During tree clearing required for the roadway widening, ensure that views are opened up to provide a view toward the Simcoe Plain in the location depicted on **Figure 43**.

Conclusion: There is no change to the view scoring of this LES Unit.

7.3.2 LES Unit 425, Duntroon Edge (scenic ranking Attractive)

For a detailed assessment of LES Unit 425 – Duntroon Edge (scenic ranking Attractive), refer to Viewpoints 19 to 22 (**Figure 62** to **Figure 65**) and **Table 18** to **Table 22** in **Appendix B.**

Landform

The landform within LES Unit 425, Duntroon Edge (scenic ranking Attractive) will change as a result of the proposed road improvements. There will be improvements to the vertical alignment to address sight lines, vertical curves, and water conveyance but the most noticeable change will be the wider road platform. The embankments that flank the road will be further apart, reducing the tunnel-like sense of enclosure. We understand that there is no surface bedrock in this section of road and there are no anticipated changes to any underlying bedrock or cliff faces.

Recommendations: nil

Conclusion: While localized grading will alter the appearance of the current road environment in this LES Unit, the changes fall within expected aesthetic norms typical for local rural roads. As such, these grade alternations are seen as neutral in context of the overall landform scoring of this LES Unit.

Vegetative Cover

Widening of the roadway necessitates removal of vegetation along the road allowance boundaries. We note that the road corridor will still benefit from a continuous vegetated edge through this section (following removals) but much of the overhead canopy will be removed. The clearing width will also be noticeably wider and will result in a more open corridor than the current condition.

Recommendations:

- Provide enhanced tree protection measures utilizing fencing, root and canopy pruning and other mitigation strategies along both sides of the road, in locations depicted on **Figure 43**.
- Where planting will not conflict with ditch maintenance, naturalize and enhance disturbed areas with woody vegetation, in locations depicted on **Figure 43**. Planting should be native and salt tolerant.
- Seed all disturbed areas with native, salt tolerant herbaceous species, in locations depicted on **Figure 43**.

Conclusion: At a localized level, the decrease in enclosure may be perceived as negative, as it reflects a reduction in forest cover ('naturalness' as described in the LES). In context of the overall vegetation scoring of the LES Unit, the proportion of forest proposed to be removed is not significant. The 1976 LES describes a vegetation type of 'woods and fields' with a density of 60%. The vegetation removals will maintain cover notably above that density that ranked that LES Unit as 'Attractive'. For these reasons, the vegetation and tree removal required along SR 26/27 in this section of road would have a neutral effect in context of the overall Vegetative Cover scoring of this LES Unit.

Landuse

There will be no changes to the landuse as SR 26/27 will continue to provide vehicular and pedestrian access to the Niagara Escarpment and existing residences. The wider road footprint required to safely provide two-way traffic will allow the Township to maintain the road year-round, thereby changing the road from a three-season road to a four-season road, which can be considered a change in the road type.

Recommendations: nil

Conclusion: As landuse was given a score of 0 points in the 1976 LES, this change in road type will have no change to the overall landuse scoring of this LES Unit.

Special Features

Nottawasaga Lookout Provincial Nature Reserve – There are no proposed changes within the Nottawasaga Lookout Provincial Nature Reserve as all work is proposed outside the park boundary.

Earth Science and Life Science ANSIs – The proposed work will affect the landform and vegetation on the edge of the ANSIs where they intersect with the road allowance, however, these areas have historically been altered, as the road is typically lower than surrounding grades and there are steep embankments along the edges of the road corridor. There are no proposed changes to bedrock. We note that the impacts on the vegetation and landform have been minimized through engineering design modifications in this area and are confined to the road corridor.

Bruce Trail – As discussed in **Section 4**, the grades for the Bruce Trail crossing will be improved with the provision of ditch culverts and a less abrupt crossing on the south side due to raised road grades. Views of the Simcoe Plain will be revealed at the crossing due to the removal of vegetation (**Figure 62**). Additionally, with a wider clearing width and improved vertical curves on the road, it will be a more visible crossing (i.e., better/safer access to the Bruce Trail and the Niagara Escarpment).

As the road in the vicinity of the Bruce Trail crossing will be raised to be similar to surrounding grades outside the road allowance, we anticipate greater visibility of SR 26/27 from the Bruce Trail when trees are not in leaf. The distance from which the road will be visible is impossible to determine as even leafless trees and shrubs will provide screening. We note that the road will be similar to or higher than the grades at the road allowance boundary from approximately road station 5+480 to 5+740.

As demonstrated in **Section 3.2.4**, SR 26/27 is currently visible from the Bruce Trail, north of SR 26/27 where the trail skirts an agricultural field. The proposed changes to SR 26/27 will place this segment of road lower than existing grade and therefore we anticipate that the road will be less visible than it is today from this vantage point.

Recommendations:

- To reduce impacts to the ANSIs, the Nottawsaga Lookout Provincial Nature Reserve, and other Escarpment Natural Areas, provide enhanced tree protection measures utilizing fencing, root and canopy pruning and other mitigation strategies along both sides of the road, in locations depicted on **Figure 43**.
- Where planting will not conflict with ditch maintenance, naturalize and enhance disturbed areas with woody vegetation, in locations depicted on **Figure 43**. Planting should be native and salt tolerant.
- Seed all disturbed areas with native, salt tolerant herbaceous species, in locations depicted on **Figure 43**.

Conclusion: Provided that the remaining vegetation is appropriately protected and remains following construction, the character and aesthetic of the Special Features will be similar to the current condition. The minor amount of vegetation and tree removal required along SR 26/27 in this section of road would have a neutral effect in context of the overall Special Features scoring of this LES Unit.

Views

The forest canopy extends over the road within LES Unit 425 Duntroon Edge (scenic ranking Attractive), creating a tunnel-like atmosphere. It is an unusual and positive experience but all views from the Escarpment Edge are obscured.

Vegetation clearing associated with the proposed work will reduce this enclosure, exchanging it for views over the Duntroon Slopes to the Simcoe Plain. We note that the LES noted 'several good viewpoints, good views to Simcoe Plain and Nottawasaga Bay' but most of these views have since been obscured by forest. For Bruce Trail hikers, opening this view would be of benefit, as the current experience of crossing SR 26/27 is incidental. The contrast and diversity provided to hikers by the reintroduction of this view is seen as a positive change.

For road users, the experience of a closed canopy is uncommon and therefore the loss of canopy may be seen as negative, despite the benefit of creating views. We note that this enclosed view occurs on the Escarpment Edge on a narrow road, with deep ditches, a steep grade, gullied road surface and poor sight lines. It is a perilous road that does not encourage lingering.

Recommendations:

- To minimize impacts to the forest and associated overhead canopy, provide enhanced tree protection measures utilizing fencing, root and canopy pruning and other mitigation strategies along both sides of the road, in locations depicted on **Figure 43**.
- Where planting will not conflict with ditch maintenance, naturalize and enhance disturbed areas with woody vegetation, in locations depicted on **Figure 43**. Planting should be native and salt tolerant.

Conclusion: With the 1976 LES assigning 3 points to the 'good views to the Simcoe Plain', reestablishment of these views is positive in context of the overall views scoring of this LES Unit.

7.3.3 LES Unit 182, Duntroon Slopes (scenic ranking Very Attractive)

For a detailed assessment of LES Unit 182 – Duntroon Slopes (scenic ranking Very Attractive), refer to viewpoints 23 to 27 (**Figure 66** to **Figure 70**) and **Table 22** to **Table 26** in **Appendix B.**

Landform

The landform within LES Unit 182, Duntroon Slopes (scenic ranking Very Attractive) is not anticipated to change noticeably as a result of the proposed road improvements, except that the road will typically be higher than existing grade to address surface water conveyance and the road platform will be wider to accommodate travel in both directions. Recurring erosion of the roadway will be addressed.

Recommendations: nil

Conclusion: While localized grading will alter the appearance of the current road environment in this LES Unit, the changes fall within expected aesthetic norms typical for local rural roads. As such, these grade alternations are seen as neutral in context of the overall landform scoring of this LES Unit.

Vegetative Cover

Currently LES Unit 182, Duntroon Slopes (scenic ranking Very Attractive) is enclosed by young regenerating forest along the length of SR 26/27. At the time of the LES, the adjacent land would have had a higher diversity of vegetation types (mixed cover pattern) but since that time, the increased tree cover has notably reduced this visual diversity.

Widening of the roadway necessitates removal of young regenerating forest along the road allowance boundaries. Following removals, generally the road corridor will still benefit from a continuous vegetated edge of regenerating forest, with the exception of a 350m section near the east end of this Unit. In this section, removals will open intermittent views of an agricultural field/pasture and the Niagara Escarpment (**Figure 42**). The perceived increase in diversity of vegetative cover types, as seen from the road corridor, is seen as positive and more reflective of the high ranking for vegetative cover in this LES Unit.

Recommendations:

- Install tree protection stakes to define grading and tree protection limits adjacent to forested areas in locations depicted on **Figure 43**.
- During tree clearing required for the roadway widening, ensure that views are opened up to provide a view toward the Escarpment Face in the locations depicted on **Figure 43**.

Conclusion: The 1976 LES describes vegetative cover as 'small woodlots' and 'mixed cover pattern' with a density of 20-25%. The vegetation removal will maintain cover notably above the density that ranked this LES Unit as 'Very Attractive'. Furthermore, with the reestablishment of views toward the agricultural field (reflective of the mixed cover pattern described in the LES), the vegetation removal will have a positive effect in context of the overall vegetation scoring of this LES Unit.

Landuse

There will be no changes to the landuse as SR 26/27 will continue to provide vehicular and pedestrian access to the Niagara Escarpment and existing residences. The wider road footprint required to safely provide two-way traffic will allow the Township to maintain the road year-round, thereby changing the road from a three-season road to a four-season road, which can be considered a change in the road type.

Recommendations: nil

Conclusion: As the landuse scoring in the 1976 LES Study was related to 'numerous excellent traditional buildings' this change in road type will not change the overall landuse scoring of this LES Unit.

Special Features

Watercourses – As previously discussed, a small trout stream will be realigned as a component of the proposed work. The existing stream alignment runs parallel to the road in this location and we understand that the realigned stream will also be linear. While the short term disturbance will be apparent, provided that the new stream is suitably vegetated as a component of construction, there will be no long term visual impacts.

Wetland – There is one wetland in proximity to the road corridor. There are no proposed impacts to the wetland.

Intersection with the Tenth Concession - The intersection of SR 26/27 and the Tenth Concession will change as a result of the road improvements. The most noticeable changes will be the paving of the intersection, widening of SR 26/27, and the addition of guiderails (for safety.) As presented in Section 6, the Tenth Concession will also be paved and the aesthetic of the two projects will be harmonious.

Recommendations: nil

Conclusion: Provided that the remaining vegetation is appropriately protected and remains following construction, the character and aesthetic of the Special Features will be similar to the current condition. The minor amount of vegetation and tree removal required along SR 26/27 in this section of road would have a neutral effect in context of the overall Special Features scoring of this LES Unit.

Views

Generally, there are no notable views along this section of SR 26/27, as the adjacent treed boundaries create a sense of enclosure and direct the view along the road corridor. This is contrast to the description of this LES Unit which was characterized in 1976 as having "numerous, very good but not dramatic" views. We surmise that the current absence of views has occurred because of successional growth on either side of the road that obscures views of the Escarpment Face to the west/southwest and the Simcoe Plain to the east. Through road widening and associated tree removals, there is an opportunity to reinstate views on the south side of SR 26/27 to expose intermittent views of an agricultural field/pasture in the foreground and the Niagara Escarpment Face in the mid and backgrounds (**Figure 42**).

Recommendations:

- During tree clearing required for the roadway widening, ensure that views are opened up to provide a view toward the Niagara Escarpment in the locations depicted on **Figure 43**.

Conclusion: With four points awarded to views in the 1976 LES, the current absence of views in this section due to regenerating forest identifies an inconsistency with the original scoring. Reinstating a series of views along the eastern end of the road is positive in context of the overall views scoring of this LES Unit.





Figure 42: Duntroon Slopes – view opportunity. Removal of vegetation on the south side of the road will reveal views of the Niagara Escarpment. (Viewpoint: 561286 E, 4916749 N (above) 561226 E, 4916715 N (below) – NAD 17).

7.4 Summary

The existing character of the SR 26/27 corridor is that of an informal gravel roadway cut into a treed landscape. The growth of the adjacent vegetation has closed over the roadway in many areas giving it an almost a trail-like presence. Improving SR 26/27 to a standard paved rural roadway will invariably alter its character, as the road will be wider and the trees along the verges will be cleared to accommodate drainage features and grading. At a localized level, assessment of whether this change is positive or negative is subjective, as judgment is layered within aesthetic, safety, environmental, and maintenance considerations.

In context of the LES, what can easily be assessed is the effect that the removal of vegetation will have on the road's visual character and viewsheds. Along SR 26/27 the road will widen to safely accommodate two-way traffic and additional space will be required to provide drainage features and infrastructure to responsibly convey surface water. This will result in a reduced sense of enclosure and an increased visual permeability to adjacent lands and the Escarpment features beyond. This increased openness and loss of informal character will certainly result in an altered experience of SR 26/27. However, in order to realize the benefits of increased access, improved safety, and reduction of environmental impacts, this change is unavoidable.

In this context, the changes to the character and function of the road have to be looked at as an exchange rather than a loss. Undoubtedly, the existing gravel roadway with its treed enclosure provides a highly pleasurable experience. However, it is important to acknowledge that this sense of enclosure has replaced the sense of openness and access to distant views enjoyed in the past. As adjacent successional forests have matured, views over the Duntroon Slopes to the Simcoe Plain (described in the 1976 LES), have all but disappeared. Similarly along the Bruce Trail, SR 26/27 is currently an incidental obstacle as the character through the road allowance remains similar to the forested trail experience.

Opening up of the road corridor as a result of the road improvements will increase permeability and view opportunities to the Simcoe Plain from the elevated aspects of SR 26/27. This will re-establish a level of diversity to the experience of this road corridor which has been diminished by the maturing successional vegetation. Furthermore, at the Bruce Trail crossing, a sense of contrast will be afforded to hikers walking from the enclosed forest slopes of the Duntroon Edge into an elevated and open view toward the Simcoe Plain.

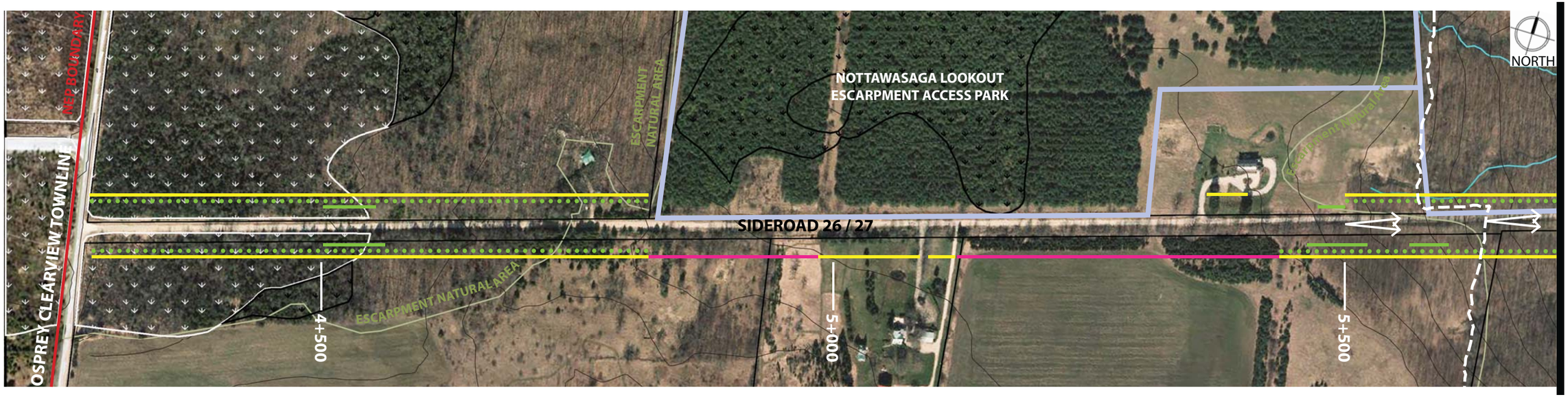
While providing a notably different character, the improved diversity, contrast and viewshed opportunities of the new roadway offer an equally positive, but different user experience. In many ways, the experience of the overall landscape will be similar to the open landscapes and framed views described in the 1976 LES. It is noted that these same contextual factors resulted in assessments of 'Average', 'Attractive' and 'Very Attractive' for the study units that define this roadway during the LES study.

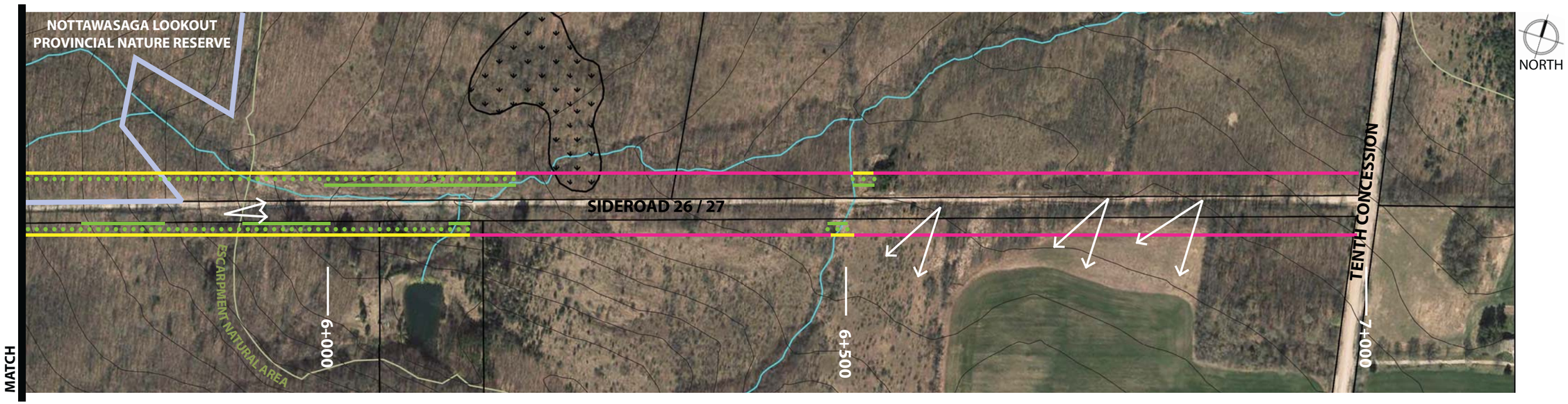
At a localized level, since the pre and post-project roadways are so different, it is impossible to objectively assess whether the changes will be positive, negative or neutral based on landscape character alone. This is particularly true in light of the many other project benefits. What can be stated is that the improvements will result in a different road corridor with different benefits and opportunities.

From a landscape experience perspective, we believe that increased contrast, diversity, and re-established viewsheds provide a fair exchange for enclosure, intimacy, and informality in this context. This is particularly true when considering that under the current condition the experience of enclosure will continue to define SR 26/27, resulting in increased uniformity as vegetation continues to mature.

At a site level, we conclude that while different, the opportunities created by the proposed improvements to SR 26/27 are relatively equal to those which they replace. At a broader landscape level, it is determined that LES scoring categories (Landform, Vegetation, Land Use, Special Features and Views) are either unchanged by the proposed improvements to the SR 26/27, or have a neutral or positive impact where alterations are required.

As such, we determine that the overall scenic rankings of LES Unit 182, Duntroon Slopes (scenic ranking Very Attractive) and LES Unit 186, Pretty River Valley Moraine Edge (scenic ranking Very Attractive), would remain unchanged by this project.





Base information from Simcoe County GIS (2010 ortho image, contours, lot fabric, watercourses, NEP boundary and Bruce Trail). Station points from R.J. Burnside & Associates Limited.

LEGEND:

- Enhanced Tree Protection*[1]
- Tree Protection *[2]
- Naturalization/ Enhancement Planting*
- Native Seeding
- NEP Boundary
- Stream (from GIS, location approx.)
- Bruce Trail
- Provincially Significant Wetland
- Wetland
- Escarpment Natural Area
- View Opportunity

ENVISION TATHAM

CLEARVIEW

SIDEROAD 26 / 27
RECOMMENDATIONS

August 7, 2015

* Recommendations are shown offset from road allowance for clarity. Locations to be verified during detailed tree preservation and planting design.

[1] Enhanced Tree Protection: tree protection fencing and other mitigation measures.

[2] Tree Protection: tree protection stakes at 10m intervals to define tree protection limits.

SCALE: 1:4,000

Figure 43

8 NEP Policy Review & Conclusions

The purpose of this Visual Impact Assessment (VIA) is to review the pre and post development conditions for the Tenth Concession and SR 26/27 related to landscape character and scenic quality, and to confirm the compatibility of the proposed works with the Niagara Escarpment Planning and Development Act (NEPDA) and the NEP policies, objectives and development criteria. A summary of the relevant NEP polices in context of proposed works for the Tenth Concession and SR 26/27 have previously been outlined in **Section 2** of this report.

While alterations to localized areas along the road corridors are expected, determination of the visual impact of the improvements (positive, negative or neutral) depends on the overall NEP development criteria, policy objectives and restrictions established for each NEP land use designation. We note that for the Tenth Concession and SR 26/27 projects, the affected land use areas are Escarpment Natural, Escarpment Rural and Escarpment Protection Areas (**Figure 2**).

We note that both the Tenth Concession and SR 26/27 are existing Township of Clearview roads that are supported by existing hydro and utility infrastructure. All proposed works for both roads generally fall within existing Township road allowances and there are no modifications proposed to either right-of-way boundary. For both Tenth Concession and SR 26/27, the existing hydro and utility infrastructure are not being affected by the proposed work and will remaining in their existing condition. As such NEP policy related to siting of roadways and utility infrastructure were not a component of our policy review.

8.1 LES Review Summary & Conclusion

Prior to confirming NEP policy objectives, it is important to define a structure to assess subjective content such as visual quality and landscape character. To provide this structure, the NEC's Landscape Evaluation Study (LES) was utilized as the basis for our assessment. Although the LES was prepared in 1976, it provides a solid baseline for understanding the LES Units in terms of their boundary designations, scoring criteria and scenic rankings.

The scenic rankings of the LES Units were based on observations and an evaluation of landform, vegetative cover, land use, special features and views. These observations were generalized and each category was scored to rank the scenic quality of the respective LES units as a whole. Intended to describe a broader landscape character, the scenic rankings are not directly applicable to assessing localized sections of the subject road corridors. However, we acknowledge that the aggregate effect of localized improvements along a road corridor could be significant enough to alter the broader landscape quality (i.e., increased road-cut, visual utilities, etc.) and potentially alter the scenic ranking of a given LES unit. As such, our review of the Tenth Concession and SR 26/27 considered the detailed site level of each road, as well as the overall impact of the entire works on the broader landscape (character and quality).

The detailed analysis of the Tenth Concession and SR 26/27 was conducted at a localized level based on characteristic segments of the two roadways. To provide consistency, the same LES scoring categories (landform, vegetative cover, land use, special features and views) were used to analyze and assess the visual impact of the localized improvements and to derive site specific recommendations. The site specific review was conducted in context of relevant NEP land-use policy requirements and appropriate mitigation measures were provided where 'negative' impacts were perceived or where there were enhancement opportunities.

At the conclusion of the localized assessment, the aggregate impact of the road improvements for both the Tenth Concession and SR 26/27 were examined in context of their cumulative effect on the scenic rankings for the respective LES Units.

We note that the LES generally describes a much more open landscape in 1976, with active agricultural fields and open views framed by pockets of forest. A summary of the qualitative landscape descriptions of each LES Unit within the study area is provided in **Section 2** of this report. Since that time, successional growth of retired farm fields, meadows and along the boundaries of the road allowances has occurred, particularly along SR 26/27. In some areas, such as LES Unit 182 Duntroon Slopes (scenic ranking Very Attractive) the "numerous, very good but not dramatic" views are no longer observed, as the current vegetative cover is significantly beyond the 20-25% density identified in the LES. As such, the proposed works will re-establish some of the lost views that weighted heavily in determining the scenic ranking for the LES Unit.

Since the LES and associated scenic rankings are accepted by the NEC as a benchmark for the assessment of scenic quality and landscape character in the NEP, our assessment considers an acceptable range between the 1976 condition and today. Since one of the objectives of the VIA is to assess the impact of the proposed works on the relevant LES Units, we set the 1976 condition as most 'open' condition acceptable in this range.

Based on this interpretation and our detailed visual impacts analysis of the proposed works for the Tenth Concession and SR 26/27 (both near and far), we conclude the following with respect to LES compatibility:

- Although there may be minor localized impacts in portions of the Tenth Concession project area that should be managed at a site level, the overall proposed road improvements will not alter the scenic rankings for the associated LES Units:
  - LES Unit 182, Duntroon Slopes (scenic ranking Very Attractive)
  - LES Unit 186, Pretty River Valley Moraine Edge (scenic ranking Very Attractive)

- Although there may be notable localized impacts in portions of SR 26/27 that should be managed at a site level, the overall proposed road improvements will not alter the scenic rankings for the associated LES Units:
  - LES Unit 182, Duntroon Slopes (scenic ranking Very Attractive)
  - LES Unit 183, Rob Roy - Singhampton Uplands (scenic ranking Average)
  - LES Unit 425, Duntroon Edge (scenic ranking Attractive).

A detailed summary of our assessment, recommendations and conclusions for the Tenth Concession and SR 26/27 are provided in **Section 6** and **Section 7**, respectively.

8.2 NEP Objectives Review

As they relate to visual impact and landscape character, the following provides our conclusions and confirmation that the proposed work for the Tenth Concession and SR 26/27 complies with the NEP Objectives:

1. *NEP Objective: To maintain and enhance the open landscape character of the Niagara Escarpment in so far as possible, by such means as compatible farming or forestry and by preserving the natural scenery.*
   - **Both the proposed changes to the Tenth Concession & SR 26/27 will have a neutral or positive visual impact on the open landscape character and natural scenery. The scenic rankings of the respective LES Units will be unaffected (Section 8.1)**
   - **At a site level, the natural scenery surrounding the Tenth Concession will be generally unaffected.**
   - **At a site level, the natural scenery surrounding SR 26/27 will be noticeably altered as this narrow intimate road will be formalized as a standard rural road, with a widened road surface and ditches to convey water. Although intimacy will be reduced, the retained vegetation along the roadway will generally maintain a sense of enclosure, while new openings will re-establish lost views identified in the LES. Although the experience of the natural scenery will be 'different', the result will better match the definition of 'open landscape character' as defined in the NEP and in Section 2 of this report.**
2. *NEP Objective: To provide for adequate public access to the Niagara Escarpment.*
   - **An improved road crossing/ gateway to the Bruce Trail will be established on SR 26/27.**
   - **Re-establishing views along SR 26/27 will create visual access to the adjacent agricultural lands, the Simcoe Plain, and Escarpment Face that are currently not available.**
3. *NEP Objective: To ensure that all new development is compatible with the purpose of the Plan.*
   - **All proposed works generally falls within the existing Tenth Concession & SR 26/27 road corridors. Although localized alterations to the grades, edge trees, road surfaces and ditches are proposed, the overall impact to the natural environment is nominal and does not compromise the purpose of the NEP as stated in Section 2.**

8.3 NEP General Development Criteria Review

As they relate to visual impact and landscape character, the following provides our conclusions and confirmation that the proposed work for the Tenth Concession and SR 26/27 complies with the NEP Development Criteria:

1. *NEP 2.2.1.a - Permitted uses may be allowed provided that the long term capacity of the site can support the use without a substantial negative impact on Escarpment environmental features such as contours, water quality, water quantity, natural vegetation, soil, wildlife, population, visual attractiveness and cultural heritage features*.
   - **Although the visual attributes of the Tenth Concession & SR 26/27 will be altered locally, both road corridors will offer a diverse experience of both enclosure and open views that exceed the conditions described in the LES in 1976 (when the scenic rankings were defined).**
   - **Improvements to the Tenth Concession & SR 26/27 do not alter the scenic rankings of their respective LES Units (Section 8.1).**
   - **The existing stone pile fencing along the Nottawasaga Lookout Escarpment Access Park on SR 26/27 will be maintained as a cultural heritage feature.**
   - **Through proposed tree protection measures, watercourse restoration and enhancement plantings, there will be a neutral overall impact on the natural environments along the Tenth Concession & SR 26/27.**
2. *NEP 2.2.1.b - The cumulative impact of development will not have serious detrimental effects on the Escarpment environment (e.g. water quality, vegetation, soil*, wildlife, and landscape).
   - **Through proposed tree protection measures, watercourse restoration and enhancement plantings, there will be a neutral overall impact on the natural environments along the Tenth Concession & SR 26/27.**
   - **SR 26/27 will provide proper ditch drainage to better convey storm water and eliminate washouts into sensitive wetland areas (positive cumulative impact on water quality, soil, wildlife and landscape).**
3. *NEP 2.2.4 - Any development permitted should be designed and located in such a manner as to preserve the natural, visual and cultural characteristics of the area.*
   - **Unlike a new roadway cut, the proposed improvements are along existing roadways and result in relatively minor impacts to existing natural, visual and cultural characteristics.**
   - **In some instances, along SR 26/27, notable views identified in the LES will be re-established through the works (see Section 8.1).**
4. *NEP 2.2.5 - Where development involves new roads, road improvements or service corridors, their designation and alignment should be in harmony with the Escarpment lan*dscape.
   - **For the Tenth Concession, the proposed improvements will match the road design standard to the north and south, resulting in a safer and more uniform (harmonious) aesthetic.**
   - **As demonstrated through analysis of the Zone of Influence Mapping for SR 26/27 (Section 7), the widened road-cut is not visible from primary road corridors (County Rd. 124 & County Rd. 91) and only can be observed in very isolated portions of less traveled roadways.**
   - **Improvements to the Tenth Concession & SR 26/27 do not alter the scenic rankings of their respective LES Units (Section 8.1).**
5. *NEP 2.7 - New Development Within Wooded Areas*

   NEP 2.7.1- Disturbance of treed areas should be minimized and proposed developments in heavily treed areas shall have site plan agreements containing specific management details regarding the protection of existing trees.

- **A portion of SR 26/27 is being opened up to year round access, which could be considered a new road type and use. Through an iterative peer review and revision process with the project engineers (R.J. Burnside and Associates Limited), the design has been modified to minimize disturbance to grading and existing roadside vegetation, while maintaining safe engineering standards for roadways.**
- **Not applicable to the Tenth Concession (not a new development or use).**

NEP 2.7.2 - Trees to be retained should be protected by means of snow fencing, wrapping, or other acceptable means during construction (e.g. tree wells)

- **For SR 26/27, enhanced tree protection measures, utilizing fencing, root and canopy pruning and other mitigation strategies, will be utilized along sensitive hedgerows, through watercourse crossing areas, the Rob Roy PSW, Escarpment Natural Areas and other areas of enhancement.**
- **For SR 26/27, in areas where vegetation is less sensitive (e.g. young regenerating successional growth, woodlots, etc.), tree protection stakes will be installed to define the grading and tree protection limits.**
- **Not applicable to Tenth Concession (not a new development or use), however all tree protection measures described for SR 26/27 will also be applied to Tenth Concession.**

NEP 2.7.3 - Existing tree cover or other stabilizing vegetation will be maintained on slopes in excess of 25 per cent (1 in 4 slope).

- **Along SR 26/27, tree removals in areas of steep grades are isolated to areas that are being re-graded to provide the roadway or storm water ditches. No tree removals are proposed beyond the required grading limits and no previously treed slope is being cleared and exposed (25% slope or otherwise).**
- **All new ditches will be hydro-seeded with a roadside seed mix for quick stabilization, except along Escarpment Natural Areas, wetlands and watercourses where native seed mixes will be applied. For erosion control measures refer to engineering drawings (Appendix C).**
- **Not applicable to Tenth Concession (not a new development or road use).**

6. *NEP 2.15 - Transportation and Utilities*

NEP 2.15.1 - All new and reconstructed transportation and utility facilities shall be designed and located to minimize the impact on the Escarpment environment and be consistent with the objectives of this Plan. Examples of such site and design guidelines include the following:

a) Blasting, grading and tree removal should be minimized where possible through realignment and utilization of devices such as curbs and gutters, retaining walls and tree wells.

- **Through an iterative peer review and revision process with the project engineers (R.J. Burnside and Associates Limited), the design for the Tenth Concession and SR 26/27 has been modified to minimize disturbance to grading and existing roadside vegetation, while maintaining safe engineering standards for roadways.**

b) Finished slopes should be graded to a 2 to 1 slope minimum and planted; large cuts should be terraced to minimize surface erosion and slope failure.

- **To reduce the grading footprints in order to preserve existing roadside vegetation along the Tenth Concession and SR 26/27, ditch embankments exceeding 2:1 have been proposed where required.**
- **To stabilize the ditch embankments, Coir Erosion Control blankets and Mac Mats are being utilized as per the engineering drawings (Appendix C).**

c) Site rehabilitation should use native species of vegetation and blend into the surrounding landscape.

- **All restoration and enhancement plantings associated with watercourses, wetlands, and Escarpment Natural Areas along the Tenth Concession & SR 26/27 will be native species and will be compatible with adjacent plant communities and habitats.**
- **All restoration and enhancements shall be in accordance with the EIS recommendations.**

d) Vegetation screens should be used where feasible.

- **Although vegetation is being removed to accommodate the road improvements, the existing vegetative screening along the road allowance boundaries will generally remain along both roadways.**
- **On SR 26/27, screening enhancements are proposed at the escarpment brow, in proximity of the Bruce Trail crossing, to provide screening from the trail towards an exposed section of road.**
- **Due to restricted grading limits and tight tree preservation boundaries, there are limited opportunities to provide additional planting within the Tenth Concession and SR 26/27 road allowances, without conflicting with existing trees, ditches, utility infrastructure or associated maintenance operations.**

e) Transportation and utility structures should be sited and designed to minimize visual impact.

- **Through an iterative peer review and revision process with the project engineers (R.J. Burnside and Associates Limited), the design for the Tenth Concession and SR 26/27 has been modified to minimize disturbance to grading and existing roadside vegetation, while maintaining safe engineering standards for roadways.**

f) Transportation and utility facilities should be sited and designed to avoid or minimize the impacts on parks, open space and the Bruce Trail. Where Trail impacts cannot be avoided the objective will be to provide for an acceptable, safe alternative.

- **On SR 26/27, the limit of work is outside all parks and open space boundaries, leaving them unaffected by the proposed works.**
- **On SR 26/27, the road is being raised to match the Bruce Trail grade on the north side and ditch culverts are being installed at the trial/ ditch crossings to facilitate a safer crossing.**
- **Not applicable to Tenth Concession.**

7. *NEP 2.15.2 - New transportation and utility facilities should avoid Escarpment Natural Areas.*
   - **Encroachment into the Escarpment Natural Area along SR 26/27 currently exists. The proposed disturbances will be minimized through tree protection and restoration planting.**
   - **Not applicable to Tenth Concession (not a new development or road use).**
8. *NEP 2.15.3 - Agricultural areas, especially prime agricultural and specialty crop areas should be avoided where possible and protected when new transportation and utility facilities are being considered and developed.*
   - **The existing SR 26/27 road allowance does not conflict with prime agricultural lands.**
   - **Not applicable to Tenth Concession (not a new development or use).**

8.4 NEP Land-use Designation Policy Objectives Review

As they relate to visual impact and landscape character, the following provides our conclusions and confirmation that the proposed work for the Tenth Concession and SR 26/27 complies with the NEP Land-use Designation Policy Objectives:

8.4.1 Escarpment Natural Area

1. *NEP 1.3.1 - To maintain the most natural Escarpment features, stream valleys, wetlands and related significant natural areas and associated cultural heritage features.*
   - **The Tenth Concession and SR 26/27 currently cross into Escarpment Natural Areas, however, there are no new proposed encroachments into this land-use designation.**
   - **Through an iterative peer review and revision process with the project engineers (R.J. Burnside and Associates Limited), the road design and grading for the Tenth Concession and SR 26/27 has been modified to minimize disturbance through Escarpment Natural Areas, while maintaining safe engineering standards for roadways.**
   - **Enhanced tree protection measures, such as fencing, root and canopy pruning and other mitigation strategies will be utilized along both sides of the road through all Escarpment Natural Areas.**
   - **Although the localized disturbances to the watercourses along both roads will be apparent in the short-term, the proposed rehabilitation and naturalizations will re-establish these crossings to an equivalent or enhanced aesthetic.**
2. *NEP 1.3.3 - To maintain and enhance the landscape quality of Escarpment features.*
   - **Enhancement to visual access and viewshed diversity is created through the opening of the canopy at the escarpment brow on SR 26/27 due to the road widening and associated edge tree removals. Located at the Bruce Trail crossing, this new opening on the uniformly treed escarpment face offers a prospective view to the Simcoe Plain and adjacent farmland for hikers and road users.**
   - **Establishment of and improvements to storm water ditches on SR 26/27 descending down the escarpment face, aids in protecting and enhancing the wetlands at the bottom of the slope, which currently experience sediment and gravel deposition.**

8.4.2 Escarpment Protection Area

1. *NEP 1.4.1 - To maintain and enhance the open landscape character of Escarpment features.*
   - **On the lower portion of SR 26/27, the road widening and associated tree removals create periodic openings that provide attractive views toward the escarpment face, that currently do not exist. This creates visual access to the escarpment face providing an enhanced experience of the open landscape character.**
   - **Enhanced tree protection measures, such as fencing, root and canopy pruning and other mitigation strategies will be utilized along all sensitive hedgerows, wetlands and watercourses within the Escarpment Protection Areas.**
   - **In areas where vegetation is less sensitive (e.g. young regenerating successional growth, woodlots, etc.), tree protection stakes will be installed to define the grading and tree protection limits.**
   - **Although the localized disturbances to the watercourses along both roads will be apparent in the short-term, the proposed rehabilitation and naturalizations will re-establish these crossings to an equivalent or enhanced aesthetic.**
2. *NEP 1.4.2 - To provide a buffer to prominent Escarpment features.*
   - **On both sides of SR 26/27 at the escarpment brow, localized buffer planting is proposed to create a transition into the Escarpment Natural Area and to buffer views toward the road from the Bruce Trail.**

8.4.3 Escarpment Rural Area

1. *NEP 1.5.1 - To maintain scenic values of lands in the vicinity of the Escarpment.*
   - **The portion of SR 26/27 within the Escarpment Rural Area is generally treed along the road allowance boundaries and will remain as such following the proposed improvements. Although widening the road will reduce the intimacy, the retained vegetation along the roadway will generally maintain a sense of enclosure, while new openings will re-establish lost views identified in the LES. Although the experience of the natural scenery will be 'different', the result will better match the definition of 'open landscape character' as defined in the NEP and in Section 2 of this report.**
   - **Views along SR 26/27 toward the Nottawasaga Lookout Escarpment Access Park will be unaffected.**

2. *NEP 1.5.2- To maintain the open landscape character by encouraging the conservation of the traditional cultural landscape and cultural heritage features.*
    - **Existing stone pile fencing along the Nottawasaga Lookout Escarpment Access Park on SR 26/27 will be maintained as a cultural heritage feature.**
3. *NEP 1.5.4 - To provide a buffer for the more ecologically sensitive areas of the Escarpment.*
    - **The buffering function of the Escarpment Rural Area along SR 26/27 will not be altered by the proposed works.**

8.5 Closing

We trust that we have successfully demonstrated that the proposed improvements to the Tenth Concession and SR 26/27 will not comprise the scenic or visual character of the Niagara Escarpment Plan area.

It is Envision-Tatham's opinion that the proposed road improvements comply with the requirements of the Niagara Escarpment Planning and Development Act (NEPDA) and the Niagara Escarpment Plan (NEP) policies, objectives and development criteria as they relate to scenic value and visual character.

Alison Bond
Landscape Architect/ Arborist

David Wood
General Manager/ Senior Landscape Architect

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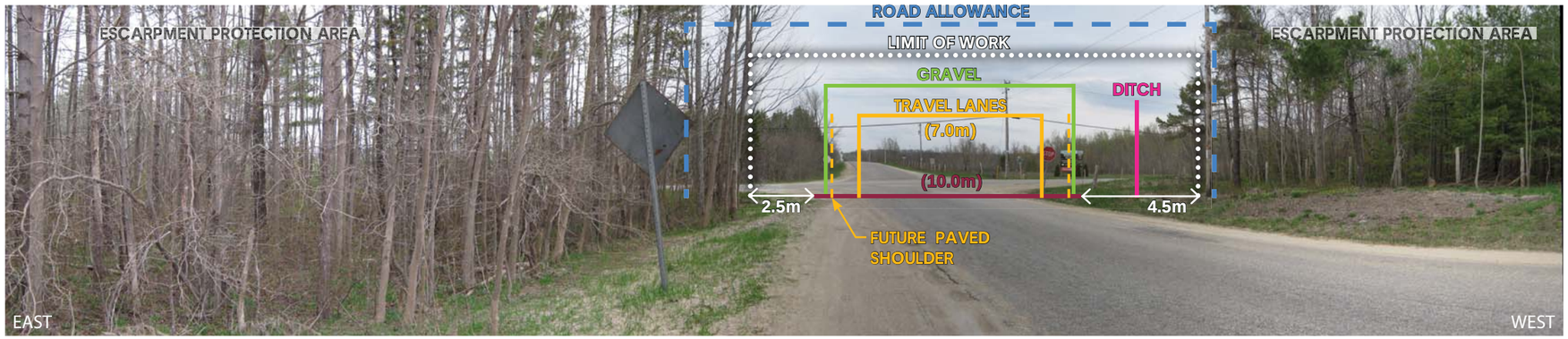
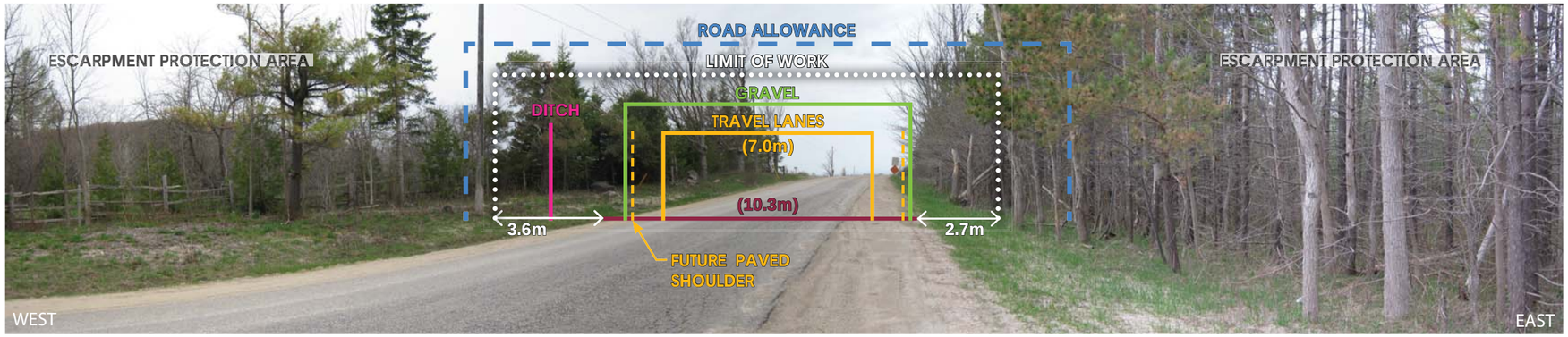
APPENDIX A: TENTH CONCESSION DETAILED ASSESSMENT

Table 1. Tenth Concession Station 0+020 to 0+600 – Analysis and Recommendations

Station Point	LES Unit	CL elev. change	WEST SIDE (left side on eng. cross-section)			EAST SIDE (right side on eng. cross-section)		
			Proposed Work	Visual Impact	Recommendations	Proposed Work	Visual Impact	Recommendations
0+020 – 0+520	**182 DUNTROON SLOPES**	+0.27m	**LES Scenic Ranking - VERY ATTRACTIVE**			**LES Scenic Ranking - VERY ATTRACTIVE**		
ESCARPMENT PROTECTION AREA	Landform		• Ditch (avg. change: -0.61m) • Culvert at driveway (0+122 to 0+140) • Grading extends past ROW at 0+145 by 0.5m.	• Neutral		• No ditch. • Guide rails: 0+260 to 0+360. • Grading extends past ROW near 0+270 and 0+360. • Grading extends 2.2m to 6.0m from edge of ex. gravel. • Erosion control blankets where banks are steeper than 1.5:1.	• Neutral	
	Vegetative Cover		• Impacts to edge vegetation.	• Neutral	• Provide grade stakes at the limit of work from 0+010 to 0+130 and 0+470 to 0+520 to identify grading limits and reduce impacts to existing trees.	• Grading extends up to 2.0m inside forest block. Forest is relatively consistent in character and edge will be similar. • No impact to planted trees in field (well outside the road allowance).	• Neutral	• Provide grade stakes at the limit of work adjacent to the forest to identify grading limits and reduce impacts to existing trees.
	Landuse		• No change	• Neutral		• No change	• Neutral	
	Special Features		• None	• Neutral		• None	• Neutral	
	Views		• No change	• Neutral	• Maintain view of escarpment & hills.	• No change	• None	• Maintain view of escarpment & hills
0+520 – 0+600	**182 DUNTROON SLOPES**	-0.17m	**LES Scenic Ranking - VERY ATTRACTIVE**			**LES Scenic Ranking - VERY ATTRACTIVE**		
ESCARPMENT PROTECTION AREA	Landform		• Ditch (avg. change: -1.07m) • Grading extends approx. 6.0m from edge of ex. gravel.	• Neutral		• Ditch (avg. change: -0.22m) • Culvert at driveway (0+525 – 0+540) • Grading extends approx 1.9 to 4.3m from edge of ex. gravel.	• Neutral	
	Vegetative Cover		• Edge of approx. 10m wide hedgerow (mixed deciduous/ coniferous) may be impacted.	• Neutral	• Provide tree protection fencing and other mitigation measures to reduce impacts to existing trees.	• None	• Neutral	
	Landuse		• No change	• Neutral		• No change	• Neutral	
	Special Features		• None	• Neutral		• None	• Neutral	
	Views		• No change	• Neutral		• No change	• Neutral	



VIEW LOOKING SOUTH



VIEW LOOKING NORTH

CENTERLINE GRADE CHANGE:

+0.36m

NEAREST R.J. BURNSIDE CROSS-SECTION:

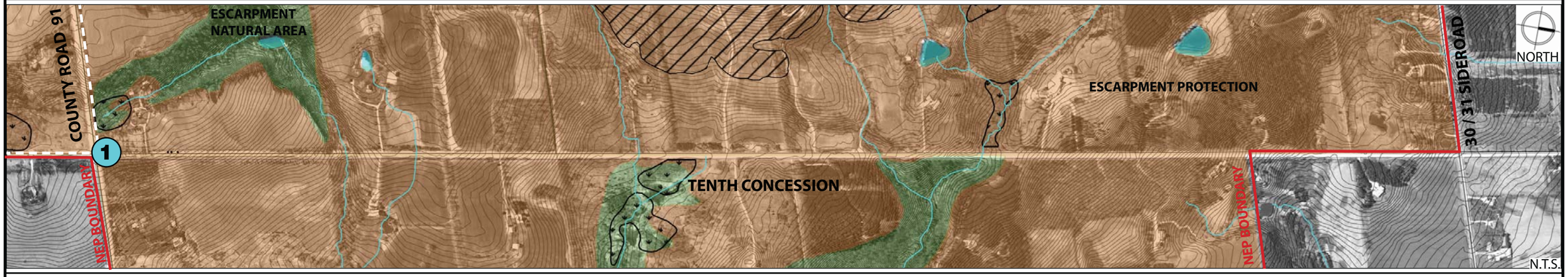
Station 0+040 (RJB Dwg. CS-001)

EAST ROAD ALLOWANCE:

- Escarpment Protection Area
- No ditch
- Impact to edge trees.

WEST ROAD ALLOWANCE:

- Escarpment Protection Area
- Ditch grade change: -0.60m
- Impact to edge trees.



LEGEND:

Road Allowance
Limit of Work
Pavement
Paved Shoulder
Gravel
Ditch
Existing Gravel
NEP Boundary
21 Reference Point
Bruce Trail
ANSI
Wetland
Escarpment Natural Area
Escarpment Protection Area
Escarpment Recreation Area

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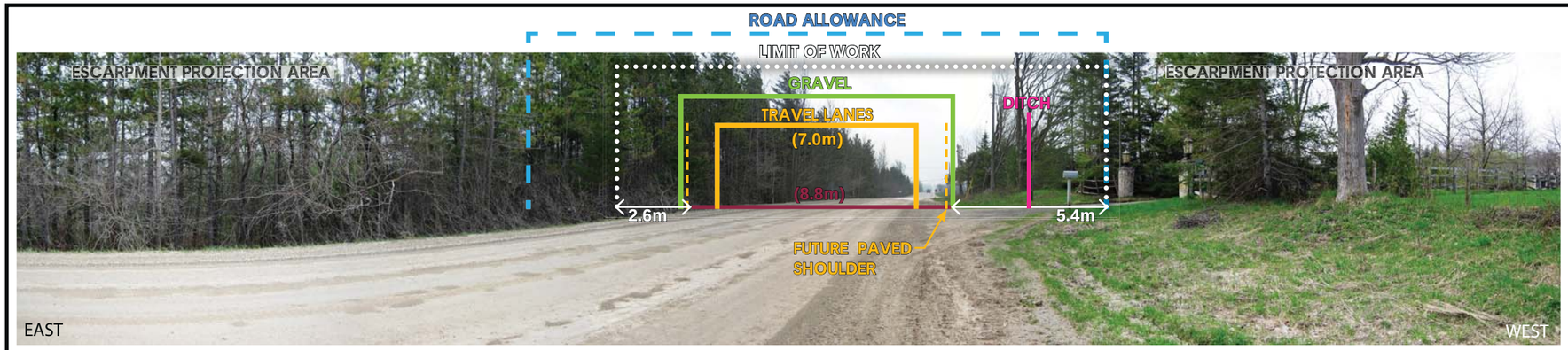
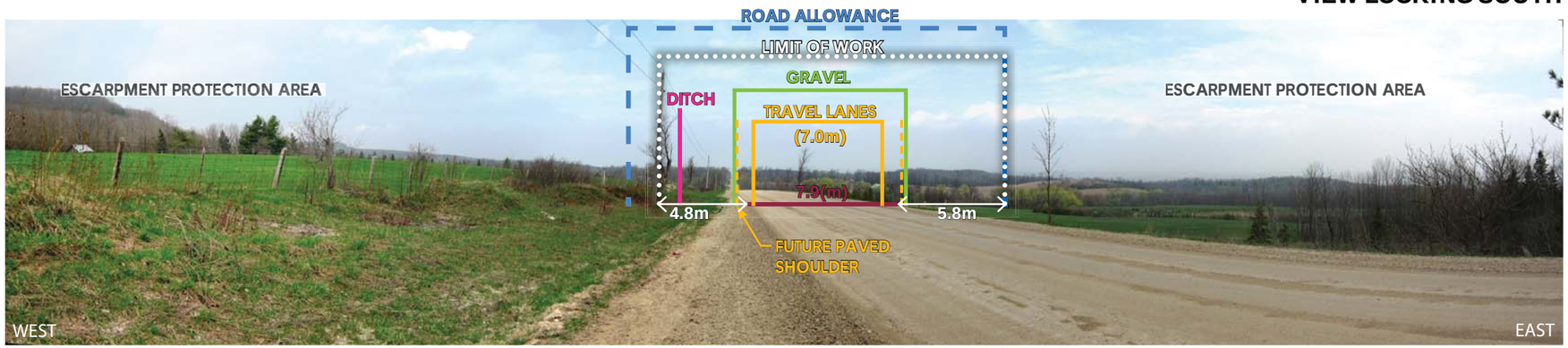
Figure 44

STATION 0+046 **VIEWPOINT 1**



VIEW LOOKING SOUTH



VIEW LOOKING NORTH

CENTERLINE GRADE CHANGE:

-0.09m

NEAREST R.J. BURNSIDE CROSS-SECTION:

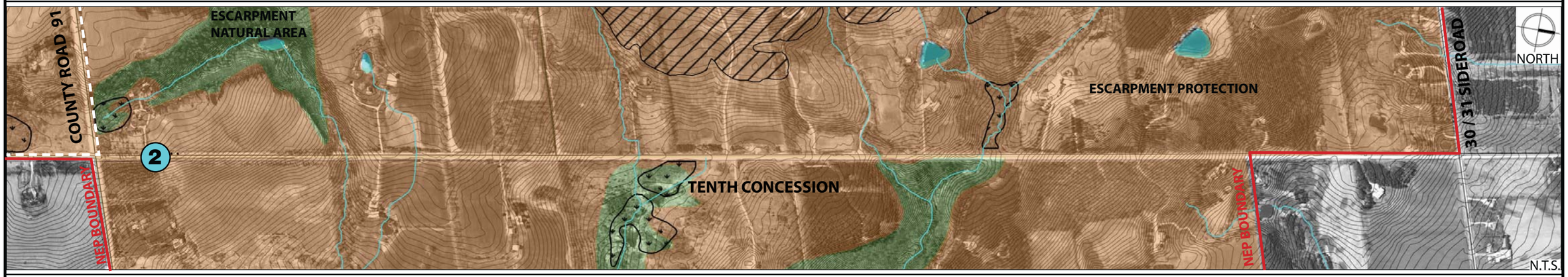
Station 0+140, 0+160 (RJB Dwg. CS-001)

EAST ROAD ALLOWANCE:

- Escarpment Protection Area
- No ditch
- See previous viewpoint for areas south of viewpoint.
- No impacts to vegetation immediately north of viewpoint as trees are set further back from road allowance.

WEST ROAD ALLOWANCE:

- Escarpment Protection Area
- Ditch grade change: -1.18m
- No impacts to vegetation.



LEGEND:

Road Allowance | Limit of Work | Pavement | Paved Shoulder | Gravel | Ditch | Existing Gravel | NEP Boundary | 21 Reference Point | Bruce Trail | ANSI | Wetland | Escarpment Natural Area | Escarpment Protection Area | Escarpment Recreation Area

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Figure 45

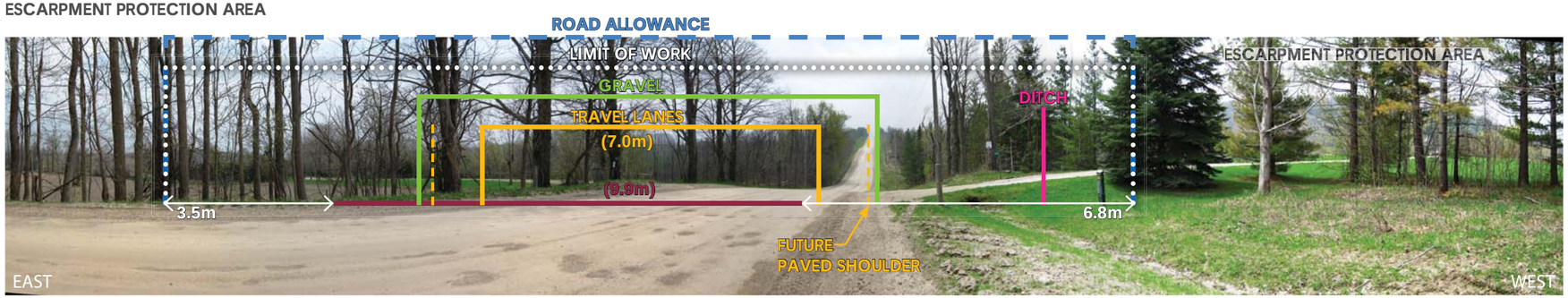
STATION 0+149 **VIEWPOINT 2**

Table 2. Tenth Concession Station 0+600 to 0+720 – Analysis and Recommendations

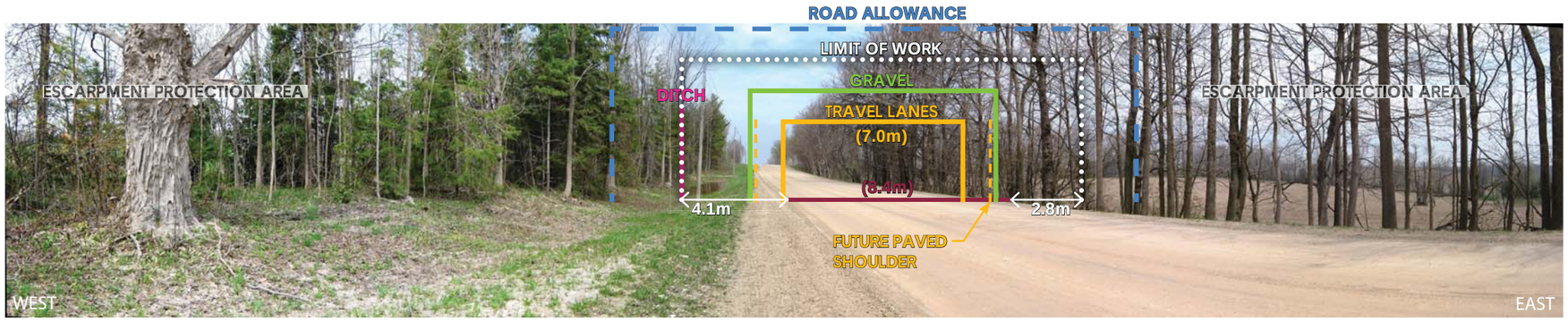
Station Point	LES Unit	CL elev. change	WEST SIDE (left side on eng. cross-section)			EAST SIDE (right side on eng. cross-section)		
			Proposed Work	Visual Impact	Recommendations	Proposed Work	Visual Impact	Recommendations
0+600 – 0+720	**182 DUNTROON SLOPES**	+2.46m	**LES Scenic Ranking - VERY ATTRACTIVE**			**LES Scenic Ranking - VERY ATTRACTIVE**		
Escarpment Protection Area	Landform		• No ditch • Cross-culvert for watercourse at 0+670. • Erosion control blankets where banks are steeper than 1.5:1. • Grading extends past the ROW at the cross-culvert.	• Neutral		• No ditch. • Cross-culvert for watercourse at 0+670. • Guiderails from 0+610 to 0+720. • Erosion control blankets where banks are steeper than 1.5:1. • Grading extends past the ROW at 0+620 and 0+670 (watercourse crossing). • Grading extends 3.0 to 5.7m from edge of ex. gravel.	• Neutral	
	Vegetative Cover		• Vegetation impacts due to cross-culvert replacement.	• Neutral	• Provide tree protection fencing and other mitigation measures to reduce impacts to existing trees. • Plant and seed disturbed areas associated with watercourse crossing as per EIS.	• Vegetation impacts due to cross-culvert replacement. • Vegetation impact to hedgerow (0+705 to 0+740), that is already in decline	• Neutral	• Provide tree protection fencing and other mitigation measures to reduce impacts to existing trees. • Plant and seed disturbed areas associated with watercourse crossing as per EIS.
	Landuse		• No change	• Neutral		• No change	• Neutral	
	Special Features		• Watercourse crossing (cross-culvert) replacement.	• Neutral	• See Vegetative Cover, above.	• Watercourse crossing replacement (cross-culvert).	• Neutral	• See Vegetative Cover, above.
	Views		• No change	• Neutral		• No change	• Neutral	
0+720 – 0+800	**182 DUNTROON SLOPES**	+0.07m	**LES Scenic Ranking - VERY ATTRACTIVE**			**LES Scenic Ranking - VERY ATTRACTIVE**		
Escarpment Protection Area	Landform		• Ditch (avg. change: -1.58m) • Culvert at driveway (0+740 to 0+760) • Grading typically extends to ROW boundary	• Neutral		• Ditch (avg. change: -1.12m) • Culvert at driveway (0+740 – 0+755) • Grading extends 1.2 to 3.8m from edge of ex. gravel.	• Neutral	
	Vegetative Cover		• Edge of hedgerow (approx. 11.0m – 14.0m wide, mixed deciduous/ coniferous) may be impacted by grading.	• Neutral	• Provide tree protection fencing and other mitigation measures to reduce impacts to existing trees.	• Some grading under the dripline of an existing hedgerow that straddles the road allowance.	• Neutral	• Provide tree protection fencing and other mitigation measures to reduce impacts to existing trees.
	Landuse		• No change	• Neutral		• No change	• Neutral	
	Special Features		• None	• Neutral		• None	• Neutral	
	Views		• No change	• Neutral		• No change	• Neutral	

Table 3. Tenth Concession Station 0+800 to 1+000 – Analysis and Recommendations

Station Point	LES Unit	CL elev. change	WEST SIDE (left side on eng. cross-section)			EAST SIDE (right side on eng. cross-section)		
			Proposed Work	Visual Impact	Recommendations	Proposed Work	Visual Impact	Recommendations
0+800 – 0+880	**182 DUNTROON SLOPES**	+0.69m	**LES Scenic Ranking - VERY ATTRACTIVE**			**LES Scenic Ranking - VERY ATTRACTIVE**		
Escarpment Protection Area	Landform		• No ditch. • Cross-culvert at 0+847. • Grading extends 6.5m to 7.0m from edge of ex. gravel.	• Neutral		• No ditch. • Cross-culvert at 0+847. • Grading extends past ROW near watercourse. • Grading extends 3.3m to 5.m from edge of ex. gravel.	• Neutral	
	Vegetative Cover		• Vegetation temporarily impacted near watercourse crossing.	• Neutral	• Provide tree protection fencing and other mitigation measures to reduce impacts to existing trees. • Plant and seed disturbed areas associated with watercourse crossing as per EIS.	• Some grading under the dripline of an existing hedgerow that straddles the road allowance. • Vegetation temporarily impacted near watercourse crossing.	• Neutral	• Provide tree protection fencing and other mitigation measures to reduce impacts to existing trees. • Plant and seed disturbed areas associated with watercourse crossing as per EIS.
	Landuse		• No change	• Neutral		• No change	• Neutral	
	Special Features		• Watercourse crossing (cross-culvert) replacement	• Neutral	• See Vegetative Cover, above.	• Watercourse crossing (cross-culvert) replacement	• Neutral	• See Vegetative Cover, above.
	Views		• No change	• Neutral		• None	• Neutral	• See above (vegetative cover)
0+880 – 1+000	**182 DUNTROON SLOPES**	-0.18m	**LES Scenic Ranking - VERY ATTRACTIVE**			**LES Scenic Ranking - VERY ATTRACTIVE**		
Escarpment Protection Area	Landform		• Ditch (avg. change: -0.94m) • Culvert at driveway (approx. 0+940) • Grading typically extends to the edge of the ROW.	• Neutral		• Ditch (avg. change: -0.95m) • Culvert at driveway (0+904 to 0+915) • Grading extends outside ROW near 0+970. • Grading extends 1.9m to 4.6m from edge of ex. gravel.	• Neutral	
	Vegetative Cover		• None (hedgerow removed in 2014)	• Neutral		• Some grading under driplines of remaining trees (most of hedgerow removed in 2014)	• Neutral	• Provide tree protection fencing and other mitigation measures to reduce impacts to existing trees.
	Landuse		• No change	• Neutral		• No change	• Neutral	
	Special Features		• None	• Neutral		• None	• Neutral	
	Views		• No change	• Neutral	• Maintain view of rolling hills and Niagara Escarpment	• None	• Neutral	



VIEW LOOKING SOUTH



VIEW LOOKING NORTH

CENTERLINE GRADE CHANGE:

-0.64m

NEAREST R.J. BURNSIDE CROSS-SECTION:

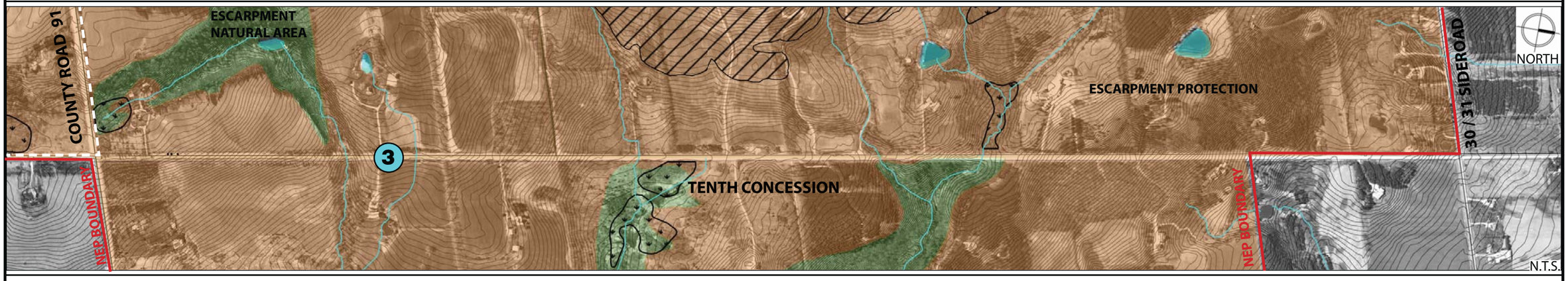
Station 0+780 (RJB Dwg. CS-004)

EAST ROAD ALLOWANCE:

- Escarpment Protection Area
- Ditch grade change: -1.65m
- Hedgerow to remain but grading extends under dripline.

WEST ROAD ALLOWANCE:

- Escarpment Protection Area
- Ditch grade change: -2.48m
- No significant impacts to edge vegetation (may be impacts to individual trees.)



LEGEND:

Road Allowance · Limit of Work · Pavement · Paved Shoulder · Gravel · Ditch · Existing Gravel · NEP Boundary · 21 Reference Point · Bruce Trail · ANSI · Wetland · Escarpment Natural Area · Escarpment Protection Area · Escarpment Recreation Area

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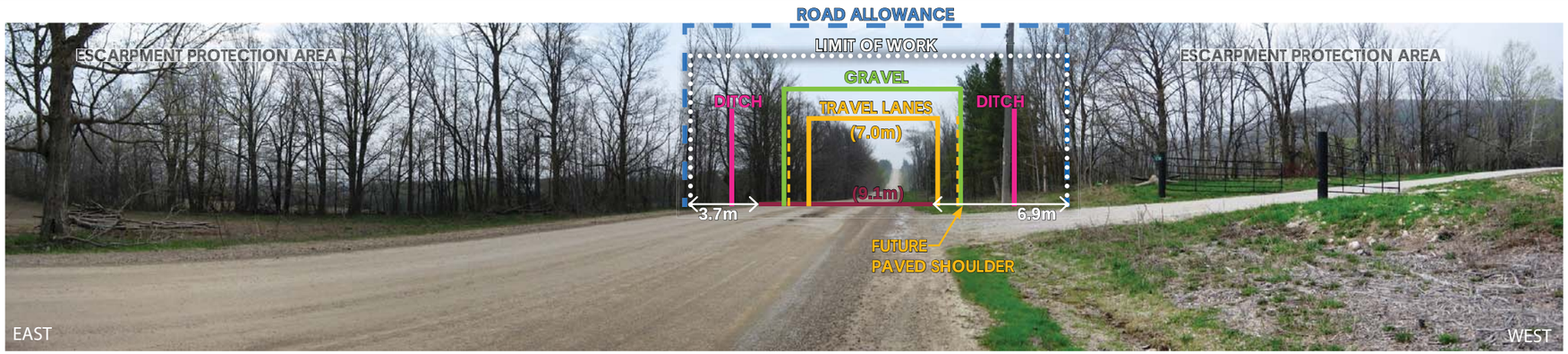
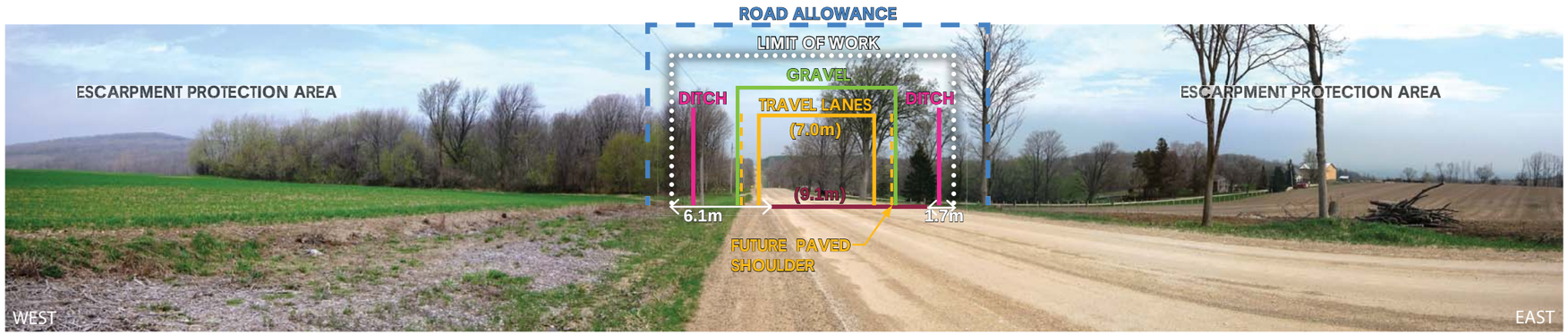
Figure 46

STATION 0+775 **VIEWPOINT 3**



VIEW LOOKING SOUTH



VIEW LOOKING NORTH

CENTERLINE GRADE CHANGE:

-0.81m

NEAREST R.J. BURNSIDE CROSS-SECTION:

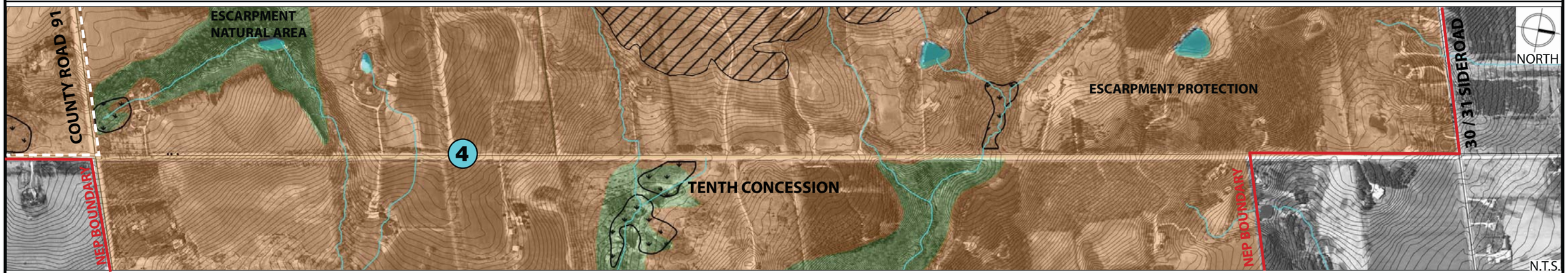
Station 0+960 (RJB Dwg. CS-005)

EAST ROAD ALLOWANCE:

- Escarpment Protection Area
- Ditch grade change: -1.50m
- Removal of much of the hedgerow occurred previously.

WEST ROAD ALLOWANCE:

- Escarpment Protection Area
- Ditch grade change: -2.01m
- Entire removal of the hedgerow occurred previously.



LEGEND:

Road Allowance · Limit of Work · Pavement · Paved Shoulder · Gravel · Ditch · Existing Gravel · NEP Boundary · 21 Reference Point · Bruce Trail · ANSI · Wetland · Escarpment Natural Area · Escarpment Protection Area · Escarpment Recreation Area

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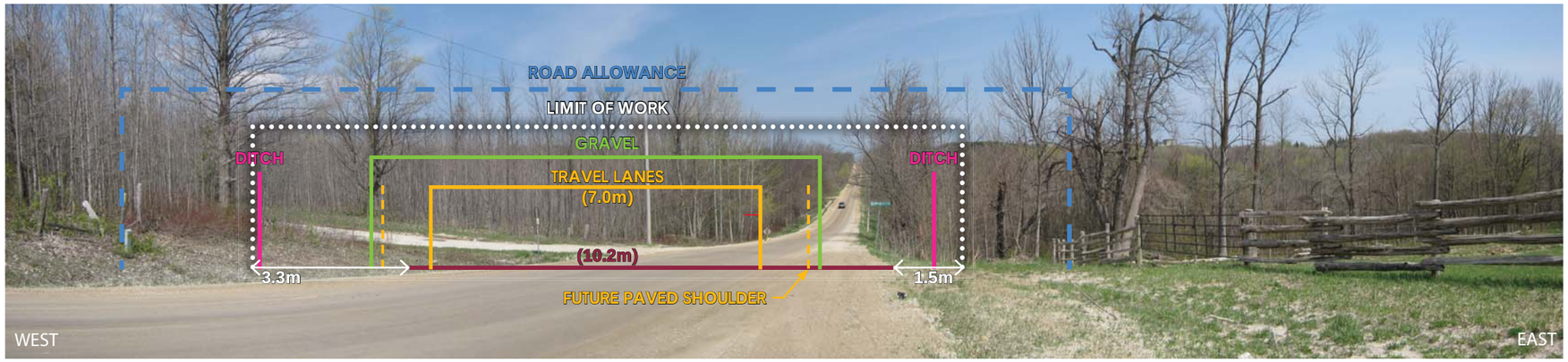
Figure 47

STATION 0+960 **VIEWPOINT 4**

Table 4. Tenth Concession Station 1+000 to 1+200 – Analysis and Recommendations

Station Point	LES Unit	CL elev. change	WEST SIDE (left side on eng. cross-section)			EAST SIDE (right side on eng. cross-section)		
			Proposed Work	Visual Impact	Recommendations	Proposed Work	Visual Impact	Recommendations
1+000 – 1+160	**182 DUNTROON SLOPES**	+0.44m	**LES Scenic Ranking - VERY ATTRACTIVE**			**LES Scenic Ranking - VERY ATTRACTIVE**		
Escarpment Protection Area	Landform		• Ditch (avg. change: -0.49m) • Grading extends 3.8m to 7.6m from edge of ex. gravel.	• Neutral		• No ditch. • Culvert at driveway (near 1+060) • Grading extends 0.9m to 3.7m from edge of ex. gravel.	• Neutral	
	Vegetative Cover		• Forest edge may be impacted (1+040 to 1+160)	• Neutral	• Provide grade stakes at limit of work to identify grading limits and reduce impacts to existing trees.	• May be impacts to remaining trees	• Neutral	• Provide tree protection fencing and other mitigation measures along remaining hedgerow to reduce impacts to existing trees.
	Landuse		• No change	• Neutral		• No change	• Neutral	
	Special Features		• None	• Neutral		• None	• Neutral	
	Views		• No change	• Neutral		• None	• Neutral	• See above (vegetative cover)
1+160 – 1+200	**182 DUNTROON SLOPES**	+0.31m	**LES Scenic Ranking - VERY ATTRACTIVE**			**LES Scenic Ranking - VERY ATTRACTIVE**		
Escarpment Protection Area	Landform		• Ditch (avg. change: -0.31m) • Grading extends 3.8m to 6.2m from existing gravel.	• Neutral		• Ditch (avg. change: -0.46m) • Grading extends 1.6m to 1.8m from edge of ex. gravel.	• Neutral	
	Vegetative Cover		• Grading may impact edge of forest.	• Neutral	• Provide grade stakes at limit of work to identify grading limits and reduce impacts to existing trees.	• None	• Neutral	
	Landuse		• No change	• Neutral		• No change	• Neutral	
	Special Features		• None	• Neutral		• None	• Neutral	
	Views		• No change	• Neutral		• No change	• Neutral	



VIEW LOOKING WEST

CENTERLINE GRADE CHANGE:

+0.26m

NEAREST R.J. BURNSIDE CROSS-SECTION:

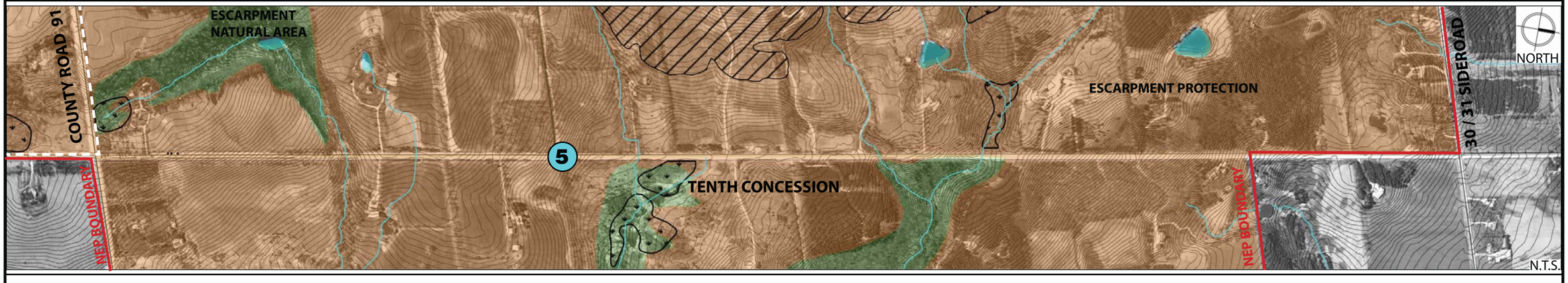
Station 1+180 (RJB Dwg. CS-006)

EAST ROAD ALLOWANCE:

- Escarpment Protection Area
- Ditch: grade change -0.52m
- Guiderails from 1+210 to 1+350.
- Erosion control blankets where banks are steeper than 1.5:1.
- No impacts to trees south of intersection. Impacts to edge trees north of intersection.

WEST ROAD ALLOWANCE:

- Escarpment Protection Area
- Ditch: grade change -0.15m
- Guiderails from intersection to 1+350.
- Erosion control blankets where banks are steeper than 1.5:1.
- Impacts to edge trees.



LEGEND:

- Road Allowance
- Limit of Work
- Pavement
- Paved Shoulder
- Gravel
- Ditch
- Existing Gravel
- NEP Boundary
- 21 Reference Point
- Bruce Trail
- ANSI
- Wetland
- Escarpment Natural Area
- Escarpment Protection Area
- Escarpment Recreation Area

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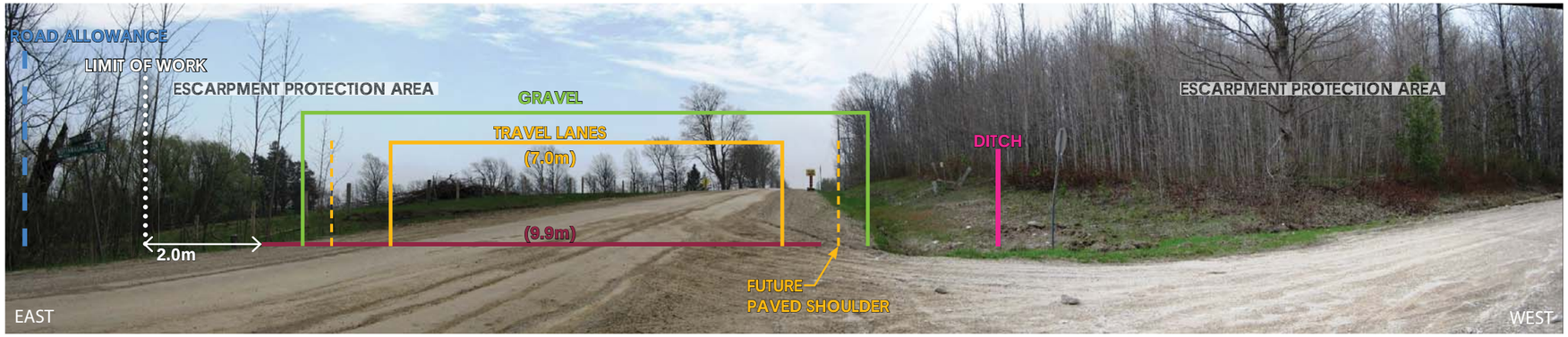
Figure 48

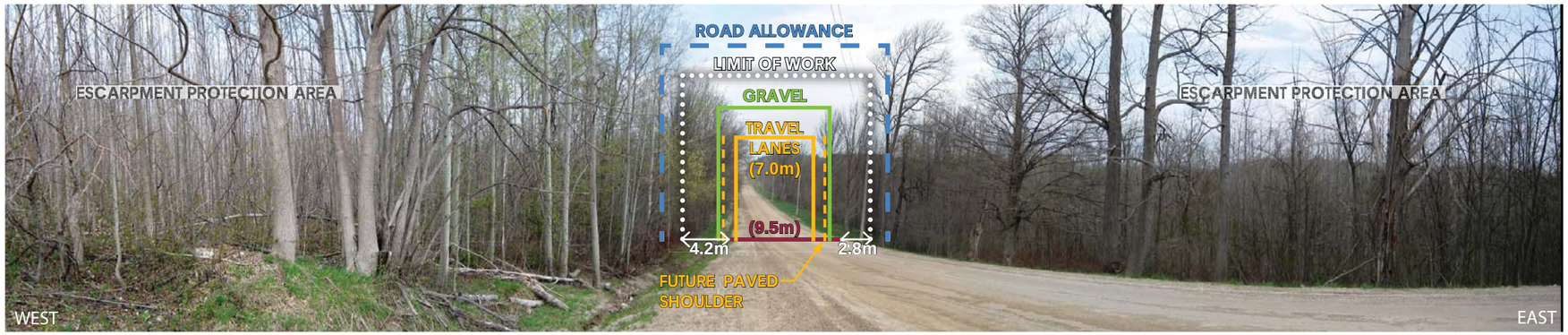
STATION 1+180 **VIEWPOINT 5**

Table 5. Tenth Concession Station 1+200 to 1+420 – Analysis and Recommendations

Station Point	LES Unit	CL elev. change	WEST SIDE (left side on eng. cross-section)			EAST SIDE (right side on eng. cross-section)		
			Proposed Work	Visual Impact	Recommendations	Proposed Work	Visual Impact	Recommendations
1+200 – 1+380	**182 DUNTROON SLOPES**	+1.77m	**LES Scenic Ranking - VERY ATTRACTIVE**			**LES Scenic Ranking - VERY ATTRACTIVE**		
Escarpment Protection Area	Landform		• No ditch. • Intersection with Sideroad 26/27 at approx. 1+220. • Guiderails from intersection to 1+350. • Erosion control blankets where banks are steeper than 1.5:1. • Grading occurs 4.2m to 5.9m from edge of ex. gravel.	• Neutral		• No ditch. • Guiderails from 1+210 to 1+350. • Grading extends outside ROW near 1+230 and 1+350 where it encroaches up to 0.7m past the boundary. • Grading extends 1.6m to 5.2m from edge of ex. gravel. • Erosion control blankets where banks are steeper than 1.5:1.	• Neutral	
	Vegetative Cover		• Grading may impact edge of forest, esp. larger trees.	• Neutral	• Provide grade stakes at limit of work to identify grading limits and reduce impacts to existing trees.	• Grading may impact edge of forest, esp. larger trees.	• Neutral	• Provide grade stakes at limit of work to identify grading limits and reduce impacts to existing trees.
	Landuse		• No change	• Neutral		• No change	• Neutral	
	Special Features		• None	• Neutral		• None	• Neutral	
	Views		• No change	• Neutral		• No change	• Neutral	
1+380 – 1+420	**182 DUNTROON SLOPES**	+0.49m	**LES Scenic Ranking - VERY ATTRACTIVE**			**LES Scenic Ranking - VERY ATTRACTIVE**		
Escarpment Protection Area	Landform		• Ditch (avg. change: -0.31m) • Culvert at driveway (1+420 to 1+430) • Grading extends 3.5m to 4.9m from edge of ex. gravel.	• Neutral		• No ditch. • Grading extends 2.0m to 3.8m from edge of ex. gravel.	• Neutral	
	Vegetative Cover		• Similar to above, and proposed removals may expose sections of the younger forest behind.	• Neutral	• Provide grade stakes at limit of work to identify grading limits and reduce impacts to existing trees.	• Similar to above, and proposed removals may expose sections of the younger forest behind.	• Neutral	• Provide grade stakes at limit of work to identify grading limits and reduce impacts to existing trees.
	Landuse		• No change	• Neutral		• No change	• Neutral	
	Special Features		• None	• Neutral		• None	• Neutral	
	Views		• No change	• Neutral		• No change	• Neutral	



VIEW LOOKING SOUTH



VIEW LOOKING NORTH

CENTERLINE GRADE CHANGE:

+1.82m road centerline change in elevation, -0.02 west ditch change in elevation, 0.00 east ditch change in elevation

NEAREST R.J. BURNSIDE CROSS-SECTION:

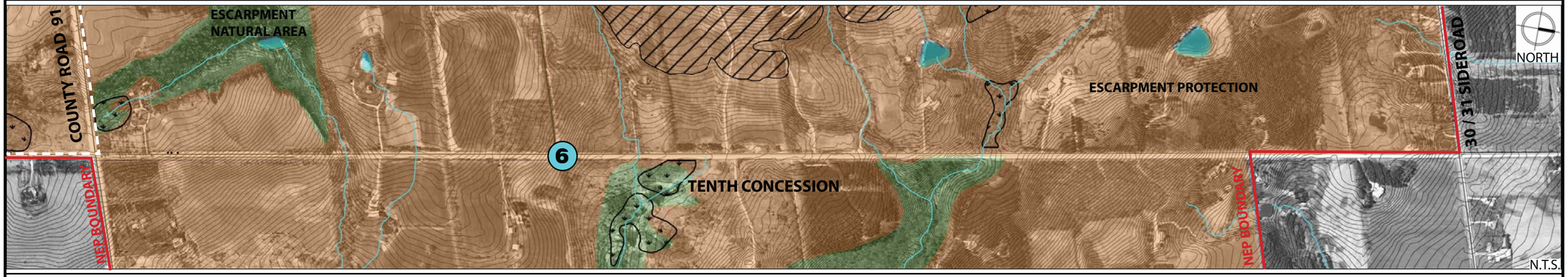
Station 1+240 (RJB Dwg. CS-006)

EAST ROAD ALLOWANCE:

- Escarpment Protection Area
- No ditch
- Impacts to edge trees.

WEST ROAD ALLOWANCE:

- Escarpment Protection Area
- Ditch grade change: -0.02m
- Guiderails are proposed from the intersection to approx. 1+350.
- Impacts to edge trees.



LEGEND:

Road Allowance
Limit of Work
Pavement
Paved Shoulder
Gravel
Ditch
Existing Gravel
NEP Boundary
21 Reference Point
Bruce Trail
ANSI
Wetland
Escarpment Natural Area
Escarpment Protection Area
Escarpment Recreation Area

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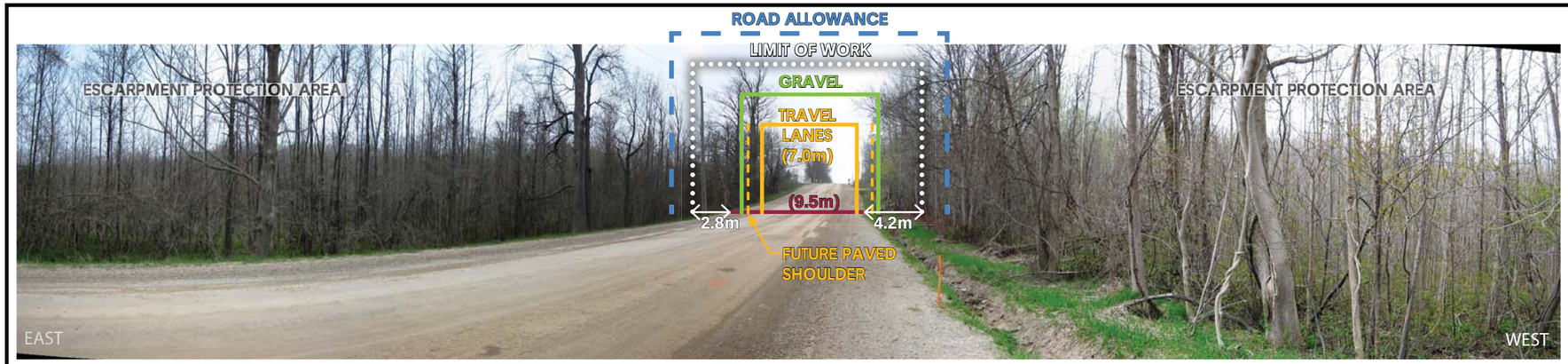
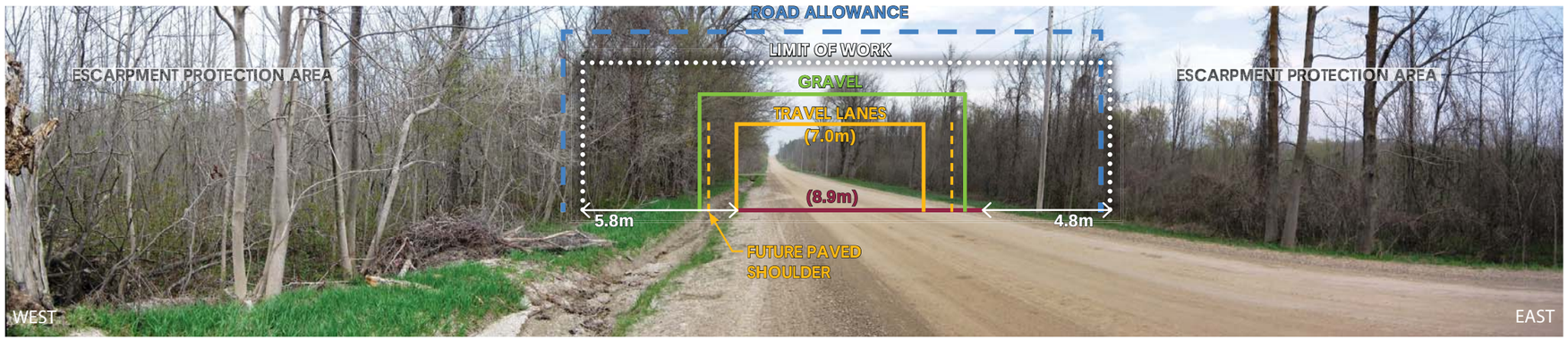
Figure 49

STATION 1+245 **VIEWPOINT 6**



VIEW LOOKING SOUTH



VIEW LOOKING NORTH

CENTERLINE GRADE CHANGE:

+2.41m

NEAREST R.J. BURNSIDE CROSS-SECTION:

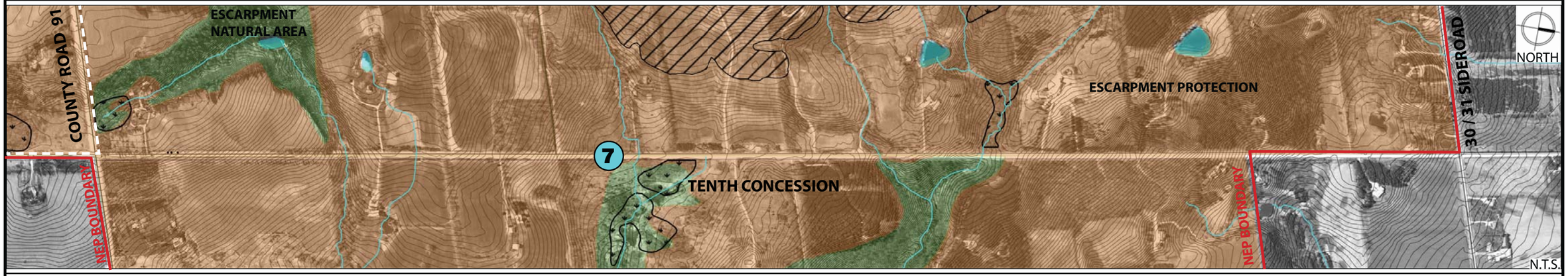
Station 1+320 (RJB Dwg. CS-007)

EAST ROAD ALLOWANCE:

- Escarpment Protection Area
- Ditch grade change: -0.02m
- Impacts to edge trees.

WEST ROAD ALLOWANCE:

- Escarpment Protection Area
- Ditch grade change: +0.01m
- Guiderails are proposed from the intersection with SR 26/27 to approx. 1+350.
- Impacts to edge trees.



LEGEND:

Road Allowance · Limit of Work · Pavement · Paved Shoulder · Gravel · Ditch · Existing Gravel · NEP Boundary · 21 Reference Point · Bruce Trail · ANSI · Wetland · Escarpment Natural Area · Escarpment Protection Area · Escarpment Recreation Area

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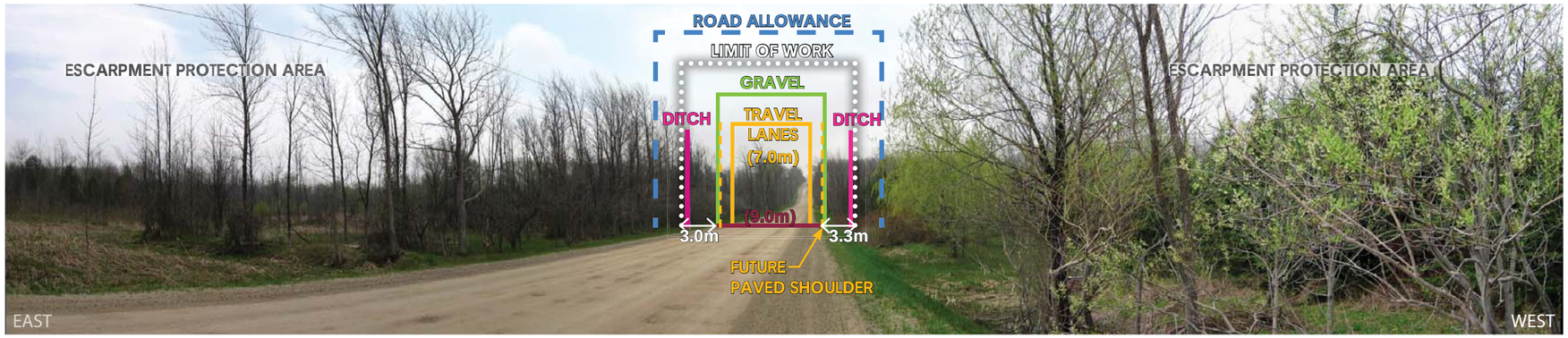
Figure 50

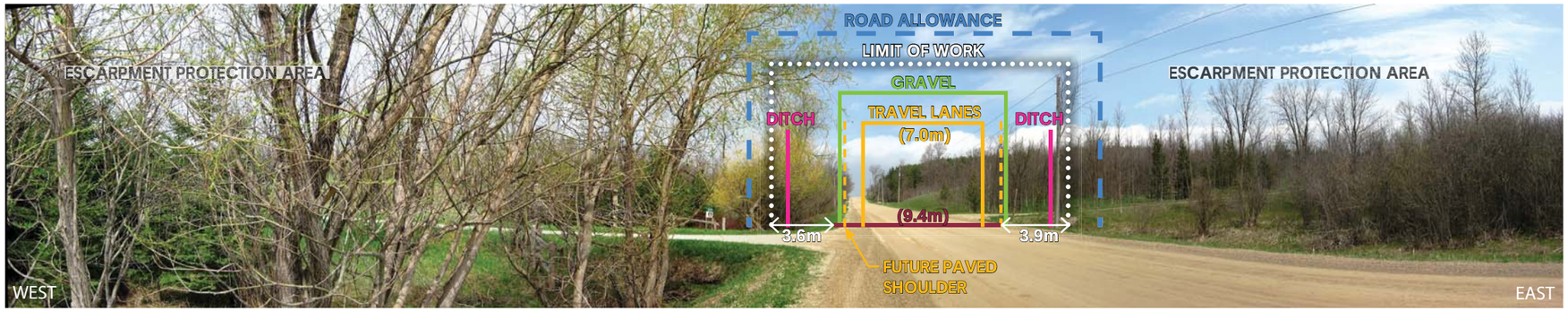
STATION 1+325 **VIEWPOINT 7**

Table 6. Tenth Concession Station 1+420 to 1+960 – Analysis and Recommendations

Station Point	LES Unit	CL elev. change	WEST SIDE (left side on eng. cross-section)			EAST SIDE (right side on eng. cross-section)		
			Proposed Work	**Visual Impact**	**Recommendations**	**Proposed Work**	**Visual Impact**	**Recommendations**
1+420 – 1+960	**182 DUNTROON SLOPES**	-0.08m	**LES Scenic Ranking - VERY ATTRACTIVE**			**LES Scenic Ranking - VERY ATTRACTIVE**		
Escarpment Protection Area	Landform		• Ditch (avg. change: -0.37m) • Culvert at driveways (1+420 to 1+430; 1+660 to 1+684; 1+091 to 1+904) • Cross-culverts for watercourse crossings at approx. 1+440 and 1+623. • Grading extends 3.7m to 5.0m from edge of ex. gravel.	• Neutral		• Ditch (avg. change: -0.37m) • Culvert at driveways (1+683 to 1+693; near 1+820 approx. and 1+833 to 1+844). • Cross-culverts for watercourse crossings at approx. 1+440 and 1+623. • Grading extends beyond the ROW near 1+690 and 1+940. • Grading extends 2.4m to 6.5m from edge of ex. gravel.	• Neutral	
	Vegetative Cover		• Impacts to willow/ ash on road side (1+440 to 1+500 and 1+850 to 2+000), will reveal planted conifers behind. • Similarly, impacts to veg. from 1+850 to 2+000, will partially reveal planted conifers, with mainly deciduous forest behind. • Temporary impacts to vegetation due to cross-culvert replacement.	• Neutral	• Provide tree protection fencing and other mitigation measures near watercourse. • Elsewhere, provide grade stakes at limit of work to identify grading limits and reduce impacts to existing trees. • Plant and seed disturbed areas associated with watercourse crossing as per the EIS.	• Temporary impacts to vegetation due to cross-culvert replacement.	• Neutral	• Provide tree protection fencing and other mitigation measures up to 1+680 (driveway). None required 1+680 to 1+960). • Plant and seed disturbed areas associated with watercourse crossing as per the EIS.
	Landuse		• No change	• Neutral		• No change	• Neutral	
	Special Features		• Watercourse crossing (cross-culvert) replacement	• Neutral	• See Vegetative Cover, above.	• Watercourse crossing (cross-culvert) replacement. • Wetland extends into road allowance but is not impacted.	• Neutral	• See Vegetative Cover, above.
	Views		• No change	• Neutral		• No change	• Neutral	



VIEW LOOKING SOUTH



VIEW LOOKING NORTH

CENTERLINE GRADE CHANGE:

-0.09m

NEAREST R.J. BURNSIDE CROSS-SECTION:

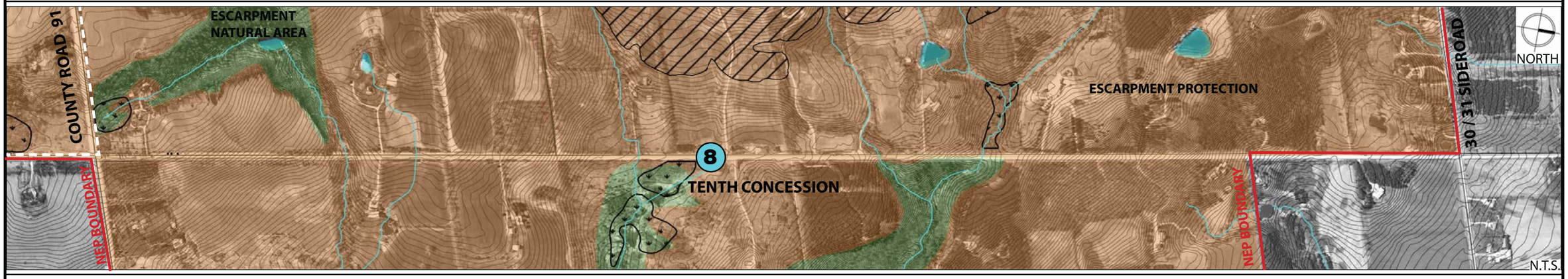
Station 1+640 (RJB Dwg. CS-008)

EAST ROAD ALLOWANCE:

- Escarpment Protection Area
- Ditch grade change: -0.21m
- Culvert at driveway and cross-culvert at watercourse crossing (1+440)
- No impacts to vegetation.

WEST ROAD ALLOWANCE:

- Escarpment Protection Area
- Ditch grade change: -0.33m
- Culvert at driveway
- Impacts to mainly willow shrubs and ash from the road side, exposing the planted coniferous trees behind.



LEGEND:

- Road Allowance
- Limit of Work
- Pavement
- Paved Shoulder
- Gravel
- Ditch
- Existing Gravel
- NEP Boundary
- 21 Reference Point
- Bruce Trail
- ANSI
- Wetland
- Escarpment Natural Area
- Escarpment Protection Area
- Escarpment Recreation Area

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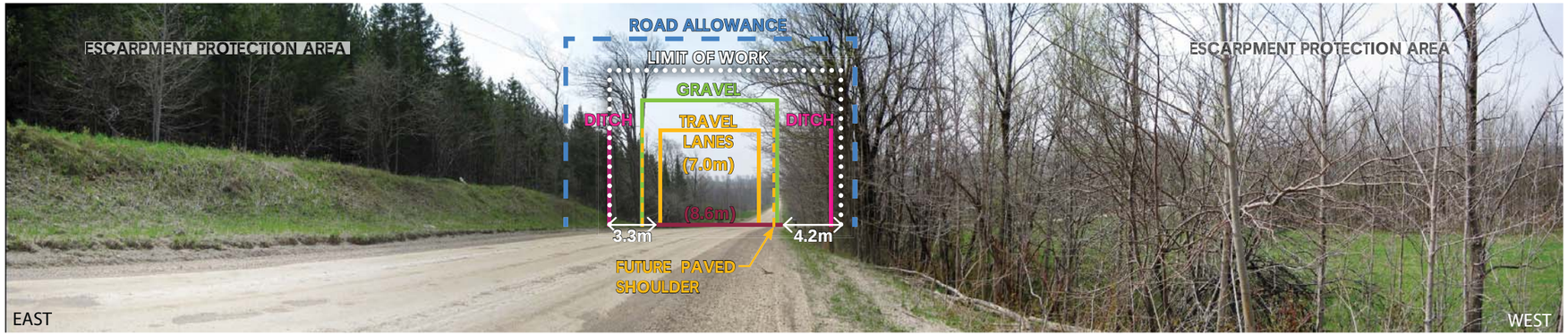
Figure 51

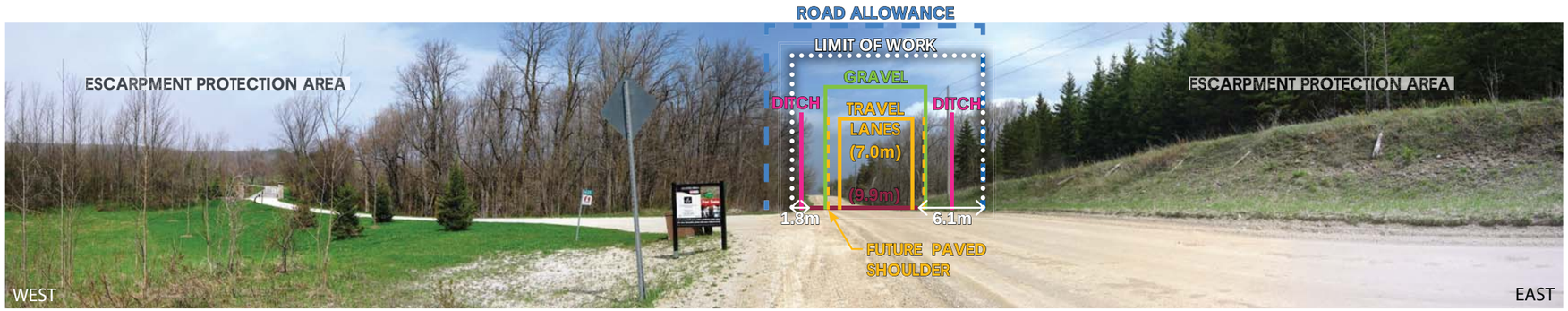
STATION 1+641 **VIEWPOINT 8**

Table 7. Tenth Concession Station 1+960 to 2+160 – Analysis and Recommendations

Station Point	LES Unit	CL elev. change	WEST SIDE (left side on eng. cross-section)			EAST SIDE (right side on eng. cross-section)		
			Proposed Work	Visual Impact	Recommendations	Proposed Work	Visual Impact	Recommendations
1+960 – 2+040	**182 DUNTROON SLOPES**	-0.32m	**LES Scenic Ranking - VERY ATTRACTIVE**			**LES Scenic Ranking - VERY ATTRACTIVE**		
Escarpment Protection Area	Landform		• Ditch (avg. change: -0.90m) • Culvert at driveway (2+000 – 2+040) • Grading extends, 4.0m to 5.4m from the edge of existing gravel.	• Neutral		• No ditch. • Grading extends 2.0m to 6.1m from the edge of existing gravel. • Some embankments will become steeper.	• Neutral	
	Vegetative Cover		• Similar to above, impacts to roadside vegetation will expose a small area of lawn/old field with young, mainly deciduous forest behind.	• Neutral	• Provide grade stakes at limit of work to identify grading limits and reduce impacts to existing trees.	• None	• Neutral	• No tree protection required (trees set back from road allowance).
	Landuse		• No change	• Neutral		• No change	• Neutral	
	Special Features		• None	• Neutral		• None	• Neutral	
	Views		• No change	• Neutral		• No change	• Neutral	
2+040 – 2+160	**182 DUNTROON SLOPES**	+1.36m	**LES Scenic Ranking - VERY ATTRACTIVE**			**LES Scenic Ranking - VERY ATTRACTIVE**		
Escarpment Protection Area	Landform		• No ditch • Cross-culvert at watercourse crossing (approx. 2+083.) • Guiderails from 2+050 to 2+140. • Erosion control blankets where banks are steeper than 1.5:1. • Grading extends 1.4m to 4.5m from edge of ex. gravel.	• Neutral		• Ditch (avg. change: -0.17m) • Cross-culvert at watercourse crossing (approx. 2+083.) • Guiderails from 2+050 to 2+140. • Erosion control blankets where banks are steeper than 1.5:1. • Grading extends outside ROW near 2+130 (1.9m encroachment). • Grading extends 3.3 to 8.3m from edge of ex. gravel.	• Neutral	
	Vegetative Cover		• Temporary impacts to vegetation near watercourse crossing.	• Neutral	• Provide tree protection fencing and other mitigation measures to reduce impacts to existing trees. • Plant and seed disturbed areas associated with watercourse crossing as per EIS.	• Temporary impacts to vegetation near watercourse crossing.	• Neutral	• Provide tree protection fencing and other mitigation measures to reduce impacts to existing trees. • Plant and seed disturbed areas associated with watercourse crossing as per EIS.
	Landuse		• No change	• Neutral		• No change	• Neutral	
	Special Features		• Watercourse crossing (cross-culvert) replacement	• Neutral	• See Vegetative Cover, above.	• Watercourse crossing (cross-culvert) replacement	• Neutral	• See Vegetative Cover, above.
	Views		• No change	• Neutral		• No change	• Neutral	



VIEW LOOKING SOUTH



VIEW LOOKING NORTH

CENTERLINE GRADE CHANGE:

-0.89m

NEAREST R.J. BURNSIDE CROSS-SECTION:

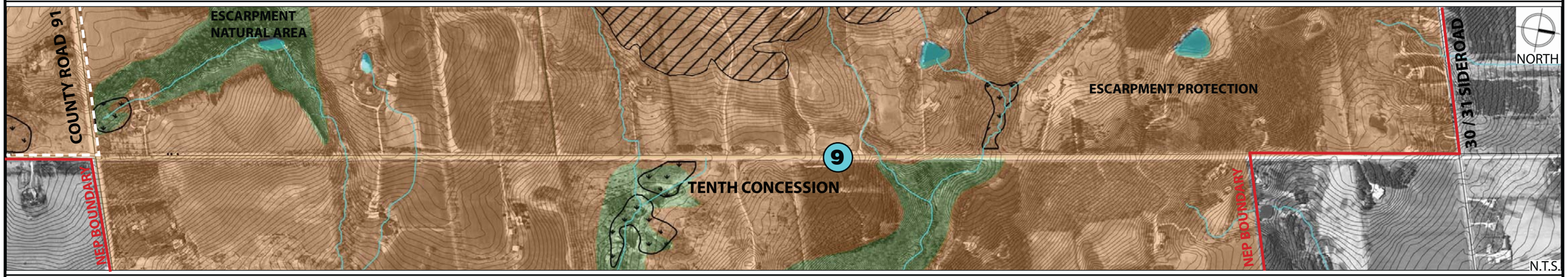
Station 1+980 (RJB Dwg. CS-009)

EAST ROAD ALLOWANCE:

- Escarpment Protection Area
- Ditch grade change: -0.01m
- Culvert at driveways and cross-culvert at watercourse crossing (1+440).
- Erosion control blankets proposed along steep sections of slope.
- No impacts to vegetation.

WEST ROAD ALLOWANCE:

- Escarpment Protection Area
- Ditch grade change: -1.70m
- Similar to previous viewpoints, impacts to ditch vegetation. Removal will expose an area of lawn/ old field with planted conifers and young, mainly deciduous forest behind.



LEGEND:

Road Allowance · Limit of Work · Pavement · Paved Shoulder · Gravel · Ditch · Existing Gravel · NEP Boundary · 21 Reference Point · Bruce Trail · ANSI · Wetland · Escarpment Natural Area · Escarpment Protection Area · Escarpment Recreation Area

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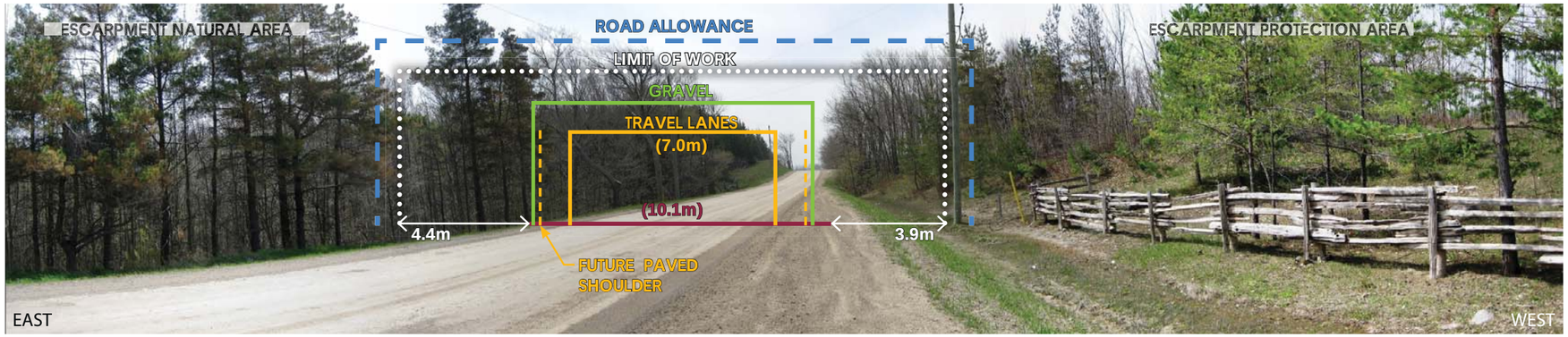
Figure 52

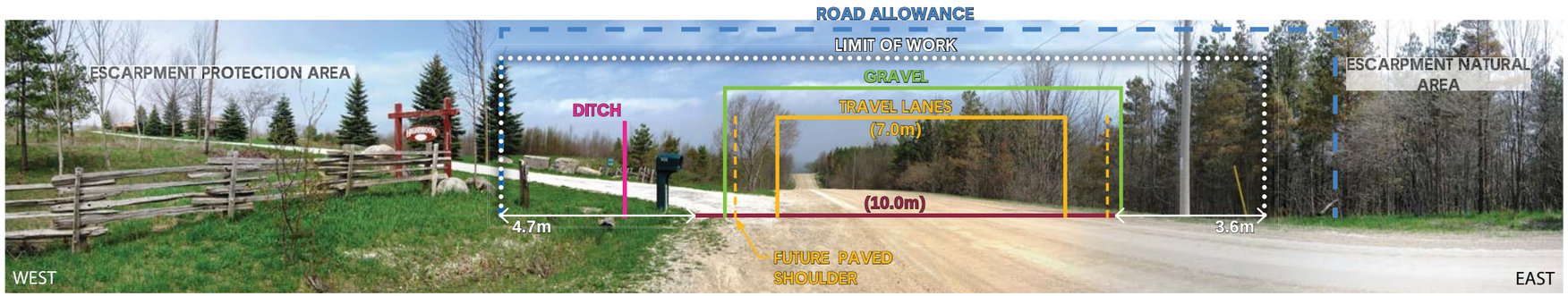
STATION 1+987 **VIEWPOINT 9**

Table 8. Tenth Concession Station 2+160 to 2+420 – Analysis and Recommendations

Station Point		LES Unit	CL elev. change	WEST SIDE (left side on eng. cross-section) Proposed Work	Visual Impact	Recommendations	EAST SIDE (right side on eng. cross-section) Proposed Work	Visual Impact	Recommendations
2+160-2+240		**182 DUNTROON SLOPES**	+0.62m	**LES Scenic Ranking - VERY ATTRACTIVE**			**LES Scenic Ranking - VERY ATTRACTIVE**		
Escarpment Protection Area	**Escarpment Natural Area: 2+193 to 2+418 (east**	Landform		• Ditch (avg. change: -0.42m) • Culvert at driveway (2+180 – 2+200) • Grading extends 2.4m to 5.4m from edge of ex. gravel.	• Neutral		• No ditch. • Guiderails from 2+190 to 2+230. • Erosion control blankets where banks are steeper than 1.5:1. • Grading extends 3.6m to 5.2m from edge of ex. gravel.	• Neutral	
		Vegetative Cover		• Possibly impacts to a few scattered poplars in the regenerating field north of the driveway.	• Neutral	• Provide tree protection fencing and other mitigation measures to reduce impacts to existing trees.	• None	• Neutral	• Provide tree protection fencing and other mitigation measures to reduce impacts to existing trees.
		Landuse		• No change	• Neutral		• No change	• Neutral	
		Special Features		• None	• Neutral		• None	• Neutral	
		Views		• No change	• Neutral		• No change	• Neutral	
2+240 – 2+420		**182 DUNTROON SLOPES**	-0.06m	**LES Scenic Ranking - VERY ATTRACTIVE**			**LES Scenic Ranking - VERY ATTRACTIVE**		
Escarpment Protection Area	**Escarpment Natural Area: 2+193 to 2+418**	Landform		• No ditch. • Cross-culvert for watercourse crossing (2+354) • Guiderails from 2+270 to 2+410. • Erosion control blankets where banks are steeper than 1.5:1. • Grading extends past the ROW near the watercourse.	• Neutral		• No ditch. • Cross-culvert for watercourse crossing (2+354) • Guiderails from 2+270 to 2+410. • Erosion control blankets where banks are steeper than 1.5:1. • Grading extends 2.1m to 5.0m from edge of ex. gravel.	• Neutral	
		Vegetative Cover		• May be impacts to vegetation from 2+310 to 2+370. • Temporary impacts to vegetation near watercourse crossing	• Neutral	• Provide tree protection fencing and other mitigation measures to reduce impacts to existing trees. • Plant and seed disturbed areas associated with watercourse crossing as per EIS.	• Temporary impacts to vegetation near watercourse crossing.	• Neutral	• Provide tree protection fencing and other mitigation measures to reduce impacts to existing trees. • Plant and seed disturbed areas associated with watercourse crossing as per EIS.
		Landuse		• No change	• Neutral		• No change	• Neutral	
		Special Features		• Wetland extends into road allowance. (Not affected). • Watercourse crossing (cross-culvert) replacement	• Neutral	• See Vegetative Cover, above.	• Wetland extends into road allowance. (Not affected). • Watercourse crossing (cross-culvert) replacement	• Neutral	• See Vegetative Cover, above.
		Views		• No change	• Neutral		• No change	• Neutral	



VIEW LOOKING SOUTH



VIEW LOOKING NORTH

CENTERLINE GRADE CHANGE:

+0.82m

NEAREST R.J. BURNSIDE CROSS-SECTION:

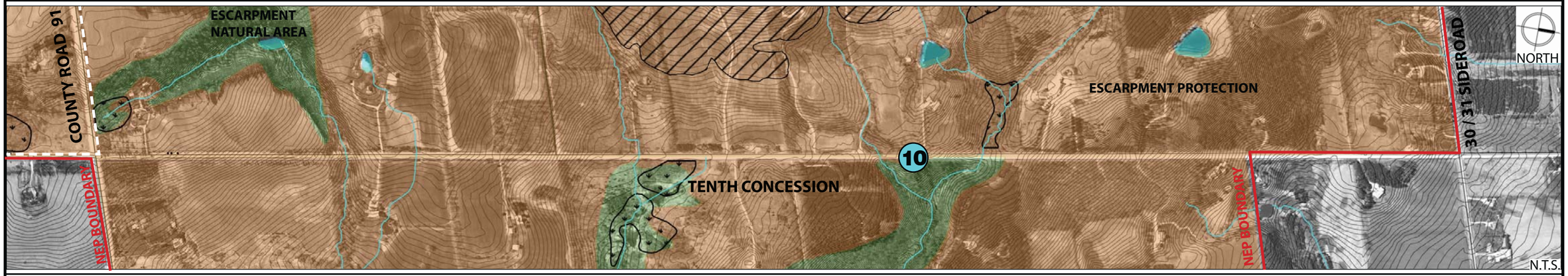
Station 2+160, 2+180 (RJB Dwg. CS-010)

EAST ROAD ALLOWANCE:

- Escarpment Natural Area
- Ditch grade change: +0.01m
- Erosion control blankets proposed along steep sections of slope.
- No impacts to vegetation.

WEST ROAD ALLOWANCE:

- Escarpment Protection Area
- Ditch grade change: +0.01m
- No impacts to vegetation.



LEGEND:

Road Allowance
Limit of Work
Pavement
Paved Shoulder
Gravel
Ditch
Existing Gravel
NEP Boundary
21 Reference Point
Bruce Trail
ANSI
Wetland
Escarpment Natural Area
Escarpment Protection Area
Escarpment Recreation Area

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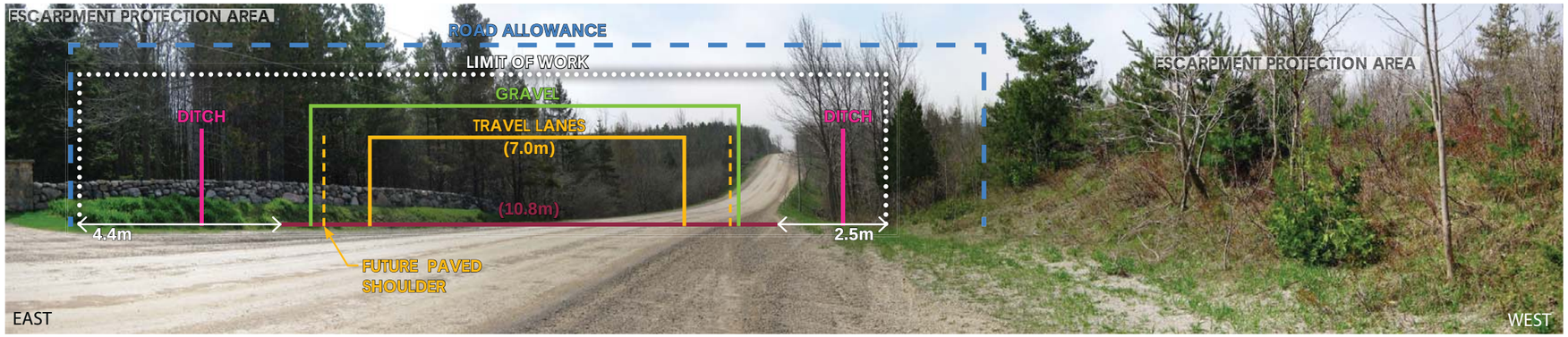
Figure 53

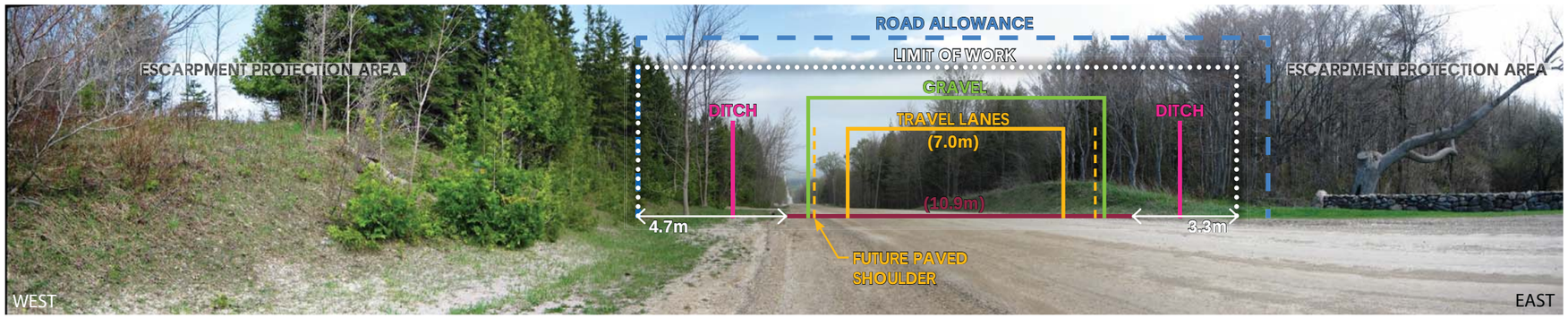
STATION 2+174 **VIEWPOINT 10**

Table 9. Tenth Concession Station 2+420 to 2+640 – Analysis and Recommendations

Station Point	LES Unit	CL elev. change	WEST SIDE (left side on eng. cross-section)			EAST SIDE (right side on eng. cross-section)		
			Proposed Work	Visual Impact	Recommendations	Proposed Work	Visual Impact	Recommendations
2+420 – 2+480	**182 DUNTROON SLOPES**	+0.31m	**LES Scenic Ranking - VERY ATTRACTIVE**			**LES Scenic Ranking - VERY ATTRACTIVE**		
Escarpment Protection Area	Landform		• Ditch (avg. change: -0.52m) • Grading extends past ROW near 2+450. • Grading typically extends 2.8m to 4.9m from edge of ex. gravel.	• Neutral		• Ditch (avg. change: -0.58m) • Culvert 2+425 – 2+440 • Grading extends 1.0m to 4.6m from edge of ex. gravel.	• Neutral	
	Vegetative Cover		• Impacts to scrub (young cedars, very young deciduous trees and meadow).	• Neutral	• Provide grade stakes at limit of work to identify grading limits and reduce impacts to existing trees.	• None	• Neutral	• Provide grade stakes at limit of work to identify grading limits and reduce impacts to existing trees.
	Landuse		• No change	• Neutral		• No change	• Neutral	
	Special Features		• None	• Neutral		• None	• Neutral	
	Views		• No change	• Neutral		• No change	• Neutral	
2+480 – 2+640	**182 DUNTROON SLOPES**	+1.02m	**LES Scenic Ranking - VERY ATTRACTIVE**			**LES Scenic Ranking - VERY ATTRACTIVE**		
Escarpment Protection Area	Landform		• Ditch (avg. change: -0.16m) • Culvert at driveways (2+498 – 2+510; 2+595 2+606) • Grading extends 2.7m to 5.0m from edge of ex. gravel.	• Neutral		• No ditch. • Grading extends 1.5m to 4.6m from edge of ex. gravel.	• Neutral	
	Vegetative Cover		• Impacts to deciduous trees from 2+540 to 2+590 and 2+630 to 2+640 (will expose mature coniferous trees behind)	• Neutral	• Provide grade stakes at limit of work to identify grading limits and reduce impacts to existing trees.	• None	• Neutral	• Provide grade stakes at limit of work to identify grading limits and reduce impacts to existing trees.
	Landuse		• No change	• Neutral		• No change	• Neutral	
	Special Features		• None	• Neutral		• None	• Neutral	
	Views		• No change	• Neutral		• No change	• Neutral	



VIEW LOOKING SOUTH



VIEW LOOKING NORTH

CENTERLINE GRADE CHANGE:

-0.12m

NEAREST R.J. BURNSIDE CROSS-SECTION:

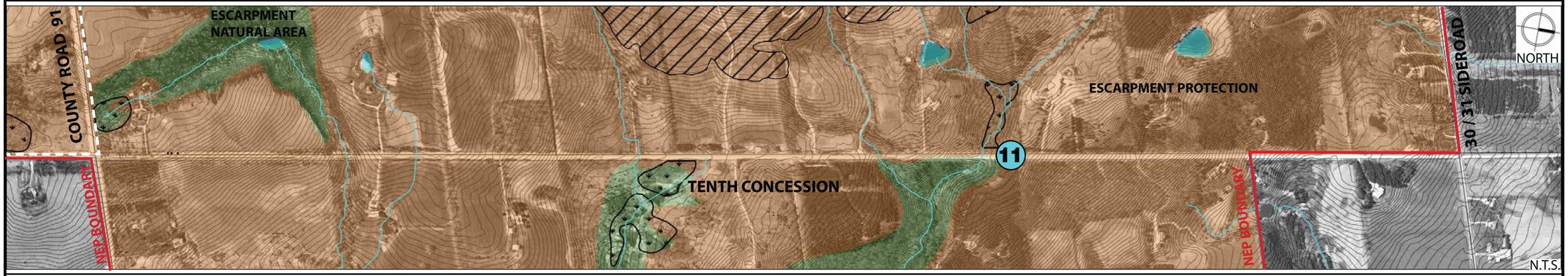
Station 2+440 (RJB Dwg. CS-012)

EAST ROAD ALLOWANCE:

- Escarpment Protection Area
- Ditch grade change: -1.24m
- Culvert 2+425 – 2+440
- No impacts to vegetation.

WEST ROAD ALLOWANCE:

- Escarpment Protection Area
- Ditch grade change: -0.95m
- Grading will impact young cedars, young deciduous trees.



LEGEND:

Road Allowance · Limit of Work · Pavement · Paved Shoulder · Gravel · Ditch · Existing Gravel · NEP Boundary · 21 Reference Point · Bruce Trail · ANSI · Wetland · Escarpment Natural Area · Escarpment Protection Area · Escarpment Recreation Area

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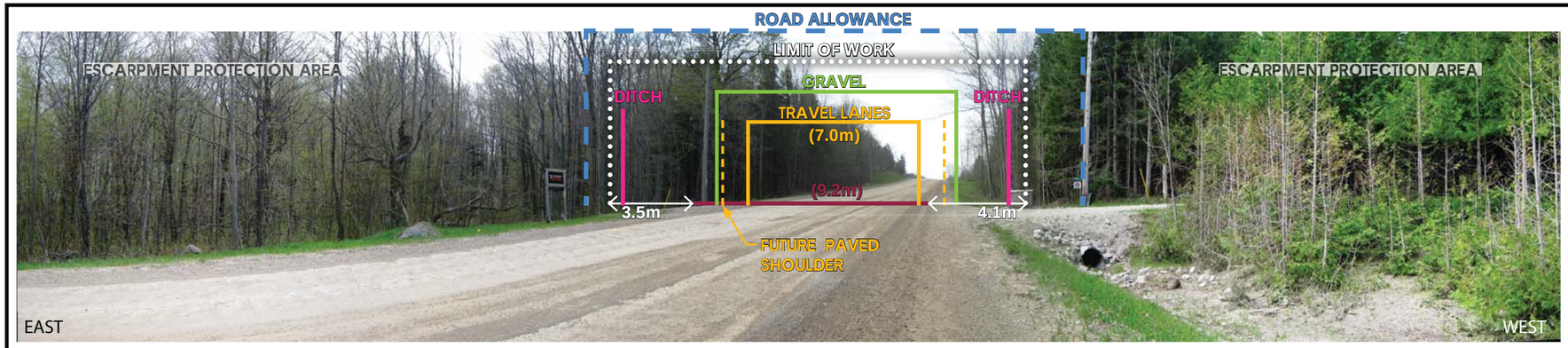
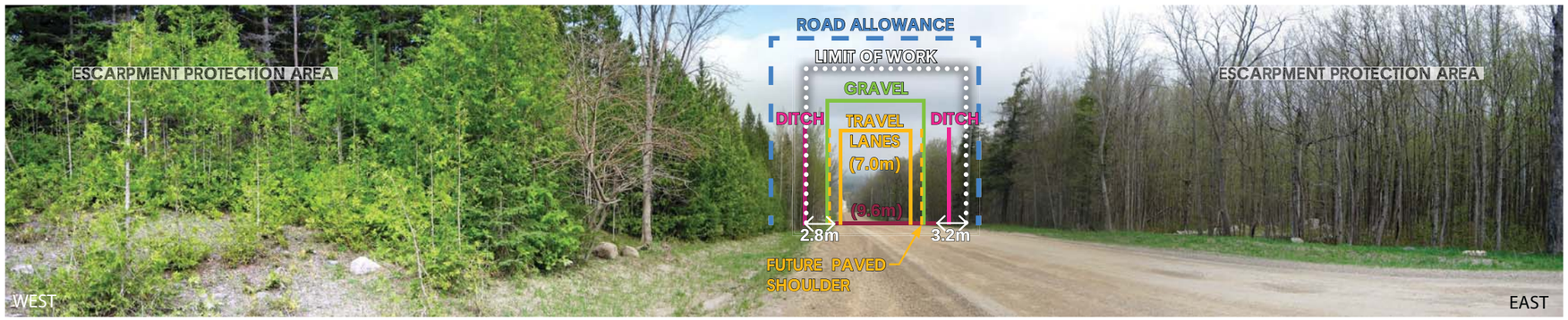
Figure 54

STATION 2+439 **VIEWPOINT11**



VIEW LOOKING SOUTH



VIEW LOOKING NORTH

CENTERLINE GRADE CHANGE:

+0.31m

NEAREST R.J. BURNSIDE CROSS-SECTION:

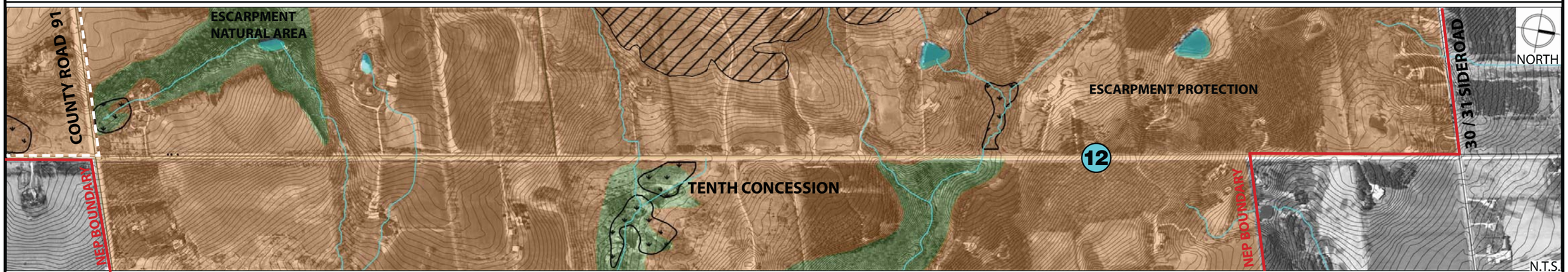
Station 2+620, 2+640 (RJB Dwg. CS-013)

EAST ROAD ALLOWANCE:

- Escarpment Protection Area
- Ditch grade change: -0.23m
- Culvert 2+425 – 2+440
- No impacts to vegetation.

WEST ROAD ALLOWANCE:

- Escarpment Protection Area
- Ditch grade change: -0.41m
- Escarpment Protection Area
- Impacts to edge vegetation.



LEGEND:

Road Allowance · Limit of Work · Pavement · Paved Shoulder · Gravel · Ditch · Existing Gravel · NEP Boundary · 21 Reference Point · Bruce Trail · ANSI · Wetland · Escarpment Natural Area · Escarpment Protection Area · Escarpment Recreation Area

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Figure 55

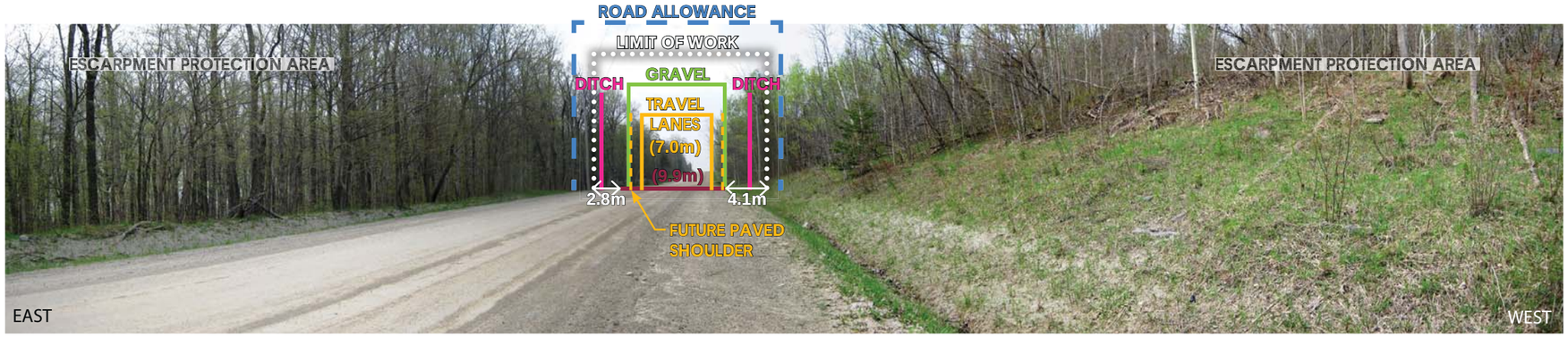
STATION 2+628 **VIEWPOINT 12**

Table 10. Tenth Concession Station 2+640 to 2+840 – Analysis and Recommendations

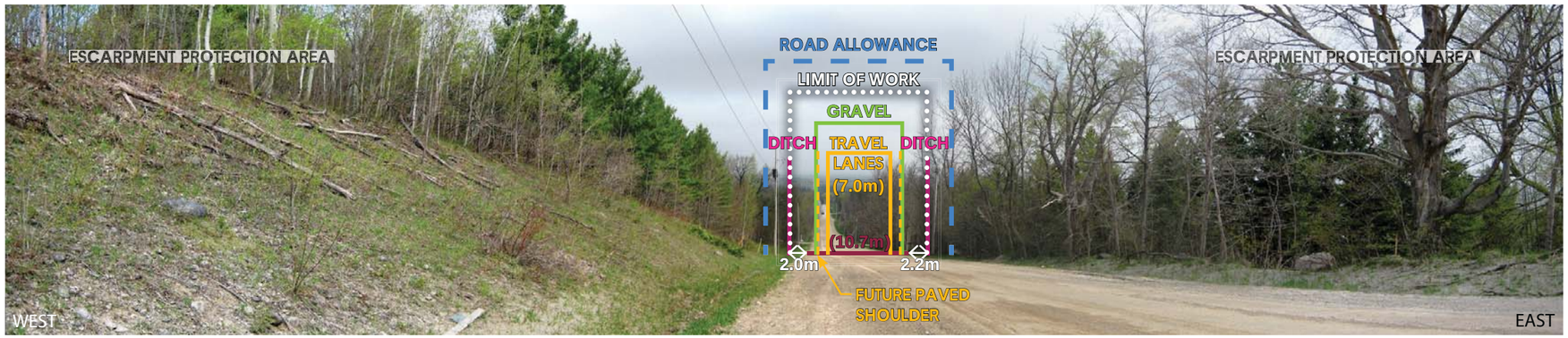
Station Point	LES Unit	CL elev. change	WEST SIDE (left side on eng. cross-section)			EAST SIDE (right side on eng. cross-section)		
			Proposed Work	Visual Impact	Recommendations	Proposed Work	Visual Impact	Recommendations
2+640 – 2+780	**182 DUNTROON SLOPES**	-0.03m	**LES Scenic Ranking - VERY ATTRACTIVE**			**LES Scenic Ranking - VERY ATTRACTIVE**		
Escarpment Protection Area	Landform		• Ditch (avg. change: -0.26m) • Culvert at driveway (2+760 – 2+780) • Grading extends 2.1m to 5.6m from edge of ex. gravel.	• Neutral		• Ditch (avg. change: -0.38m) • Culvert (2+760 – 2+770) • Grading extends 2.0m to 4.4m from edge of ex. gravel.	• Neutral	
	Vegetative Cover		• Grading may affect deciduous trees (mainly ash, poplar with some maple) from 2+630 to 2+660. (will expose mature coniferous trees behind)	• Neutral	• Provide grade stakes at limit of work to identify grading limits and reduce impacts to existing trees.	• None	• Neutral	• Provide grade stakes at limit of work to identify grading limits and reduce impacts to existing trees.
	Landuse		• No change	• Neutral		• No change	• Neutral	
	Special Features		• None	• Neutral		• None	• Neutral	
	Views		• No change	• Neutral		• No change	• Neutral	
2+780 – 2+840	**182 DUNTROON SLOPES**	+0.13m	**LES Scenic Ranking - VERY ATTRACTIVE**			**LES Scenic Ranking - VERY ATTRACTIVE**		
Escarpment Protection Area	Landform		• Ditch (avg. change: -0.29m) • Grading extends 2.5m to 4.3m from the edge of existing gravel.	• Neutral		• No ditch. • Grading extends 1.4m to 4.8m from edge of ex. gravel.	• Neutral	
	Vegetative Cover		• None but surveyed tree line close to limit of grading	• Neutral	• Provide grade stakes at limit of work to identify grading limits and reduce impacts to existing trees.	• None but surveyed tree line close to limit of grading	• Neutral	• Provide grade stakes at limit of work to identify grading limits and reduce impacts to existing trees.
	Landuse		• No change	• Neutral		• No change	• Neutral	
	Special Features		• None	• Neutral		• None	• Neutral	
	Views		• No change	• Neutral		• No change	• Neutral	

Table 11. Tenth Concession Station 2+840 to 3+060 – Analysis and Recommendations

Station Point	LES Unit	CL elev. change	WEST SIDE (left side on eng. cross-section)			EAST SIDE (right side on eng. cross-section)		
			Proposed Work	Visual Impact	Recommendations	Proposed Work	Visual Impact	Recommendations
2+840 – 2+960	**182 DUNTROON SLOPES/ 186 PRETTY RIVER VALLEY MORAINE EDGE**	-0.64m	**LES Scenic Ranking - VERY ATTRACTIVE**			**LES Scenic Ranking - VERY ATTRACTIVE**		
Escarpment Protection Area	Landform		• Ditch (avg. change: -0.43m) • Grading extends 1.2 to 2.4m from edge of ex. gravel.	• Neutral		• Ditch (avg. change: -0.01m) • Grading extends 1.8m to 4.7m from edge of ex. gravel.	• Neutral	
	Vegetative Cover		• None	• Neutral	• Provide grade stakes at limit of work to identify grading limits and reduce impacts to existing trees.	• Grading extends close to existing trees near 2+880 to 2+910.	• Neutral	• Provide grade stakes at limit of work to identify grading limits and reduce impacts to existing trees.
	Landuse		• No change	• Neutral		• No change	• Neutral	
	Special Features		• None	• Neutral		• None	• Neutral	
	Views		• No change	• Neutral		• No change	• Neutral	
2+960 – 3+060	**186 PRETTY RIVER VALLEY MORAINE EDGE**	+0.04m	**LES Scenic Ranking - VERY ATTRACTIVE**			**LES Scenic Ranking - VERY ATTRACTIVE**		
Escarpment Protection Area	Landform		• Ditch (avg. change: -0.29m) • Ditch disappears occasionally due to rolling topography. • Grading extends 2.0m to 3.5m from edge of ex. gravel.	• Neutral		• Ditch (avg. change: 0.00m) • Culvert (2+986 – 3+000) • Grading extends 1.5m to 5.0m from edge of ex. gravel.	• Neutral	
	Vegetative Cover		• None	• Neutral	• Provide grade stakes at limit of work to identify grading limits and reduce impacts to existing trees.	• Edge of existing forest may be impacted.	• Neutral	Provide grade stakes at limit of work to identify grading limits and reduce impacts to existing trees.
	Landuse		• No change	• Neutral		• No change	• Neutral	
	Special Features		• None	• Neutral		• None	• Neutral	
	Views		• No change	• Neutral		• No change	• Neutral	



VIEW LOOKING SOUTH



VIEW LOOKING NORTH

CENTERLINE GRADE CHANGE:

-0.33m

NEAREST R.J. BURNSIDE CROSS-SECTION:

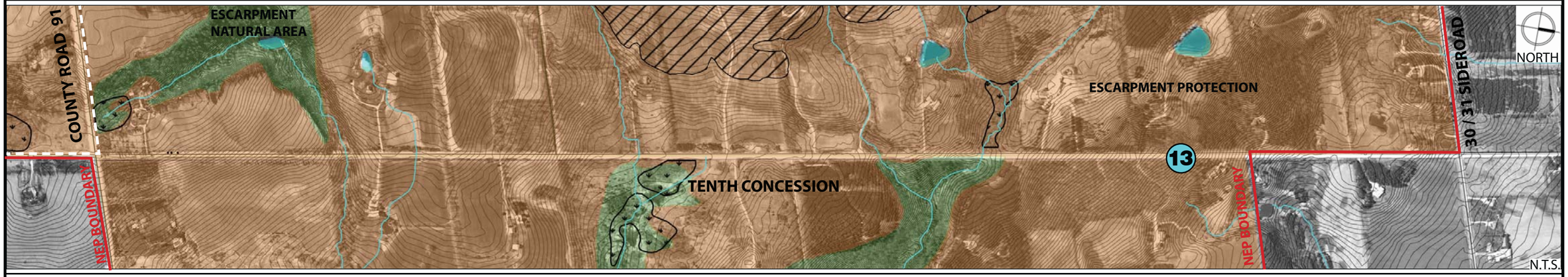
Station 2+900 (RJB Dwg. CS-015)

EAST ROAD ALLOWANCE:

- Escarpment Protection Area
- Ditch grade change: -0.63m
- No impact to vegetation.

WEST ROAD ALLOWANCE:

- Escarpment Protection Area
- Ditch grade change: -1.12m
- No impact to vegetation.



LEGEND:

Road Allowance
Limit of Work
Pavement
Paved Shoulder
Gravel
Ditch
Existing Gravel
NEP Boundary
21 Reference Point
Bruce Trail
ANSI
Wetland
Escarpment Natural Area
Escarpment Protection Area
Escarpment Recreation Area

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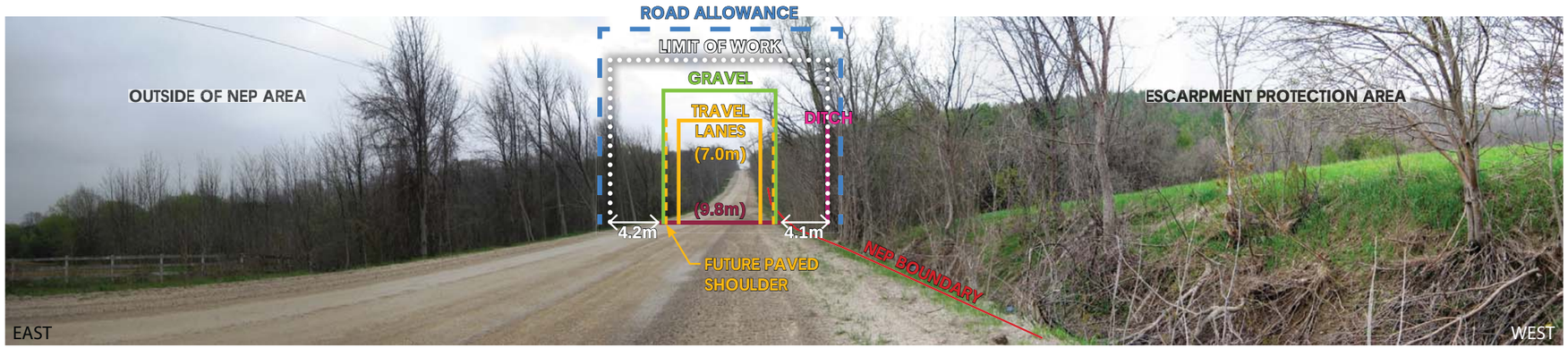
Figure 56

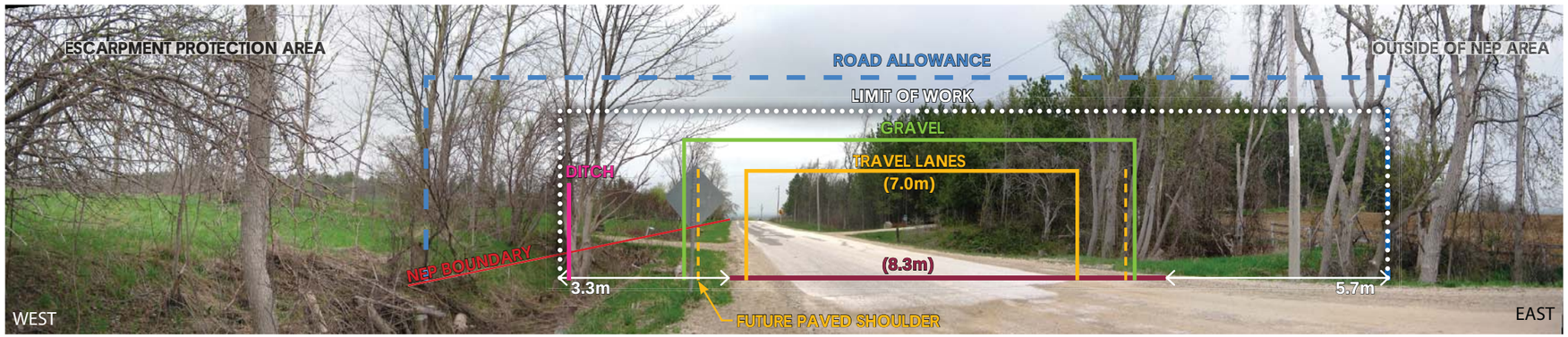
STATION 2+891 **VIEWPOINT13**

Table 12. Tenth Concession Station 3+060 to 3+350 – Analysis and Recommendations

Station Point	LES Unit	CL elev. change	WEST SIDE (left side on eng. cross-section)			EAST SIDE (right side on eng. cross-section)		
			Proposed Work	Visual Impact	Recommendations	Proposed Work	Visual Impact	Recommendations
3+060 – 3+350	**186 PRETTY RIVER VALLEY MORAINE EDGE**	-0.11m	**LES Scenic Ranking - VERY ATTRACTIVE**			**LES Scenic Ranking - VERY ATTRACTIVE**		
Outside of NEP Boundary	Landform		• Ditch (avg. change: -0.15m) • Cross-culvert at 3+313. • Culvert at driveway (3+076 – 3+090). • Grading extends 2.5m – 4.7m from edge of ex. gravel.	• Neutral		• No ditch. • Guiderails from 3+069 to 3+270. • Cross-culvert at 3+313. • Culvert at driveway (near 3+070). • Erosion control blankets where banks are steeper than 1.5:1. • Grading occurs 2.9m to 5.0m from edge of ex. gravel.	• Neutral	
	Vegetative Cover		• Ditch will be deepened, thereby impacting existing vegetation. Behind the ditch is old field/ lawn with a coniferous forest behind.	• Neutral	• Provide grade stakes at limit of work to identify grading limits and reduce impacts to existing trees.	• Edge of existing forest may be impacted. • Cross-culvert installation will impact existing trees.	• Neutral	
	Landuse		• No change	• Neutral		• No change	• Neutral	
	Special Features		• None	• Neutral		• None	• Neutral	
	Views		• No change	• Neutral		• No change	• Neutral	



VIEW LOOKING SOUTH



VIEW LOOKING NORTH

CENTERLINE GRADE CHANGE:

+0.02m

NEAREST R.J. BURNSIDE CROSS-SECTION:

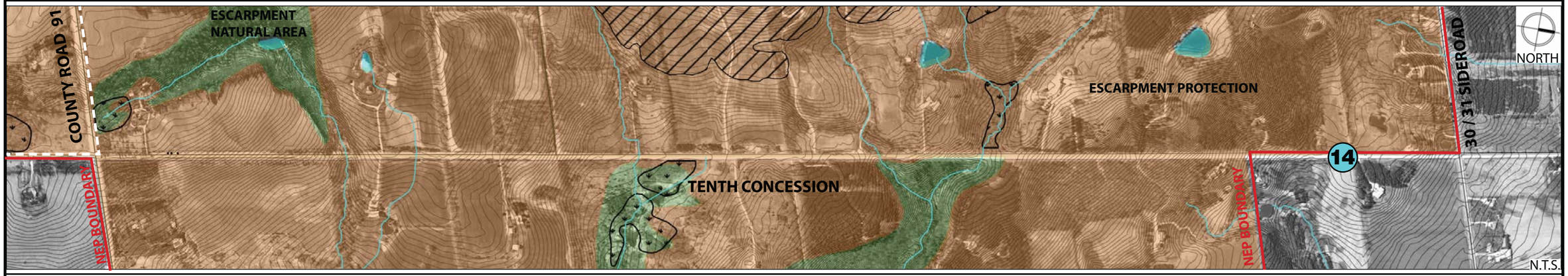
Station 3+300 (RJB Dwg. CS-016)

EAST ROAD ALLOWANCE:

- Outside of NEP Area
- Ditch grade change: 0.00m
- Guiderails from 3+069 to 3+270.
- Cross-culvert at 3+313.
- Erosion control blankets.
- Impacts to edge trees, especially near cross-culvert.

WEST ROAD ALLOWANCE:

- Escarpment Protection Area
- Ditch grade change: -0.32m
- Existing ditch will be deepened and will require removal of existing vegetation, exposing the lawn beyond.



LEGEND:

Road Allowance · Limit of Work · Pavement · Paved Shoulder · Gravel · Ditch · Existing Gravel · NEP Boundary · 21 Reference Point · Bruce Trail · ANSI · Wetland · Escarpment Natural Area · Escarpment Protection Area · Escarpment Recreation Area

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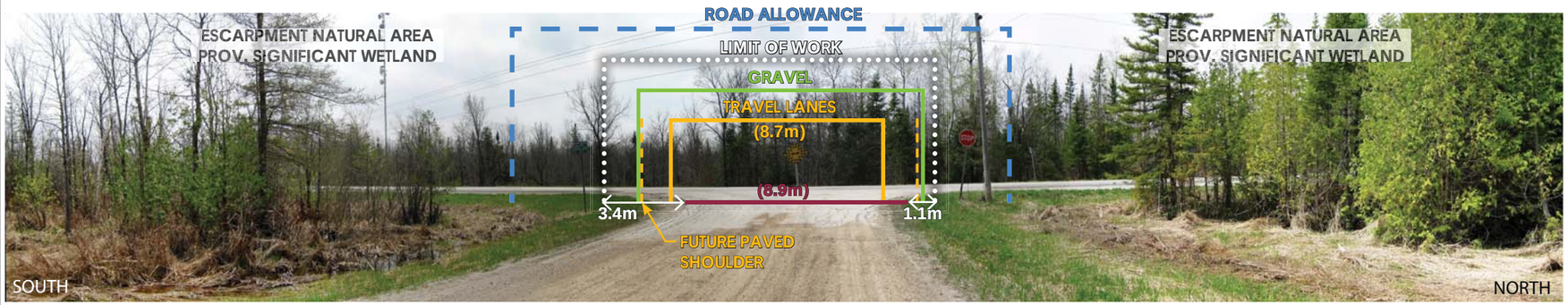
Figure 57

STATION 3+297 **VIEWPOINT 14**

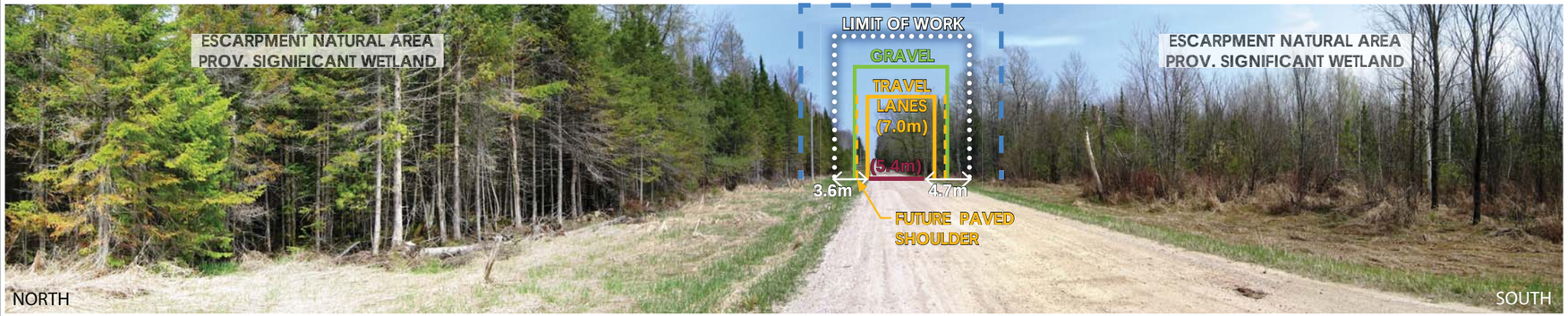
APPENDIX B: SIDEROAD 26/27 DETAILED ASSESSMENT

Table 13. Sideroad 26/27 Station 4+280 to 4+680 – Analysis and Recommendations

Station Point	LES Unit	CL elev. change	NORTH SIDE (left side on eng. cross-section)			SOUTH SIDE (right side on eng. cross-section)		
			Proposed Work	Visual Impact	Recommendations	Proposed Work	Visual Impact	Recommendations
4+280 – 4+600	**183 ROB ROY-SINGHAMPTON UPLANDS**	+1.07m	**LES Scenic Ranking - AVERAGE**			**LES Scenic Ranking - AVERAGE**		
ESCARPMENT NATURAL AREA	Landform		• No ditch. • Grading extends 2.2m to 5.5m from edge of ex. gravel.	• Neutral		• No ditch. • Grading extends 5.0m from edge of ex. gravel; increases to approx. 7.0m from 4+500 to 4+580.	• Neutral	
	Vegetative Cover		• No impacts to ex. vegetation. • Opportunity to plant woody species at base of embankment from 4+500 to 4+580.	• Neutral	• Provide tree protection fencing and other mitigation measures to reduce impacts to existing trees. • Plant native, salt tolerant shrubs/trees at base of embankment from 4+500 to 4+580 (approx.) where not in conflict with hydro as per EIS. • Seed disturbed areas with native seed mix.	• Removal of vegetation to accommodate road and ditch (will leave a similar edge). • Opportunity to plant woody species at base of embankment from 4+500 to 4+560.	• Neutral	• Provide tree protection fencing and other mitigation measures to reduce impacts to existing trees. • Plant native salt tolerant shrubs/trees at base of embankment from 4+500 to 4+560 (approx.) as per EIS. • Seed disturbed areas with native seed mix.
	Landuse		• No changes	• Neutral		• No changes	• Neutral	
	Special Features		• No impacts to Provincially Significant Wetland (approx. 4+280 – 4+547)	• Neutral	• See above (vegetative cover)	• Impacts to edge of Provincially Significant Wetland (approx. 4+280 – 4+547) but will leave a similar edge.	• Neutral	• See above (vegetative cover)
	Views		• No changes	• Neutral		• No changes	• Neutral	
4+600 – 4+680	**183 ROB ROY-SINGHAMPTON UPLANDS**	+0.53m	**LES Scenic Ranking - AVERAGE**			**LES Scenic Ranking - AVERAGE**		
ESCARPMENT NATURAL AREA	Landform		• Ditch (avg. change: -0.63m) • Grading extends 5.7m to 6.7m from edge of ex. gravel.	• Neutral		• Ditch (avg. change: -0.70m) • Grading extends up to 6.8m from edge of ex. gravel.	• Neutral	
	Vegetative Cover		• Some localized tree removal near 4+660 to address small hill obstructing ditch. • No opportunity to plant woody vegetation (woody species would obstruct proposed ditch and hydro line).	• Neutral	• Provide tree protection fencing and other mitigation measures to reduce impacts to existing trees. • Seed disturbed areas with native seed mix.	• Removal of vegetation (mainly coniferous) to accommodate road and ditch. Will expose mainly deciduous forest behind. • No opportunity to plant woody vegetation (woody species would obstruct proposed ditch).	• Neutral	• Provide tree protection fencing and other mitigation measures to reduce impacts to existing trees. • Seed disturbed areas with native seed mix.
	Landuse		• No changes	• Neutral		• No changes	• Neutral	
	Special Features		• None	• Neutral		• None	• Neutral	
	Views		• No changes	• Neutral		• No changes	• Neutral	



VIEW LOOKING WEST



VIEW LOOKING EAST

CENTERLINE GRADE CHANGE:

+0.44m

NEAREST R.J. BURNSIDE CROSS-SECTION:

Station 4+280 (RJB Dwg. CS-01)

NORTH ROAD ALLOWANCE:

- Escarpment Natural Area, Provincially Significant Wetland
- No ditch.
- No impacts to vegetation.

SOUTH ROAD ALLOWANCE:

- Escarpment Natural Area, Provincially Significant Wetland
- No ditch.
- No impacts to vegetation near intersection, some impacts to edge trees/shrubs further away.



LEGEND:

Road Allowance | Pavement | Gravel | Existing Gravel | NEP Boundary | Bruce Trail | Wetland | Escarpment Natural Area | Escarpment Recreation Area

Limit of Work | Paved Shoulder | Ditch | 21 Reference Point | NEPOSS | Provincially Significant Wetland | ANSI | Escarpment Protection Area | Escarpment Rural Area

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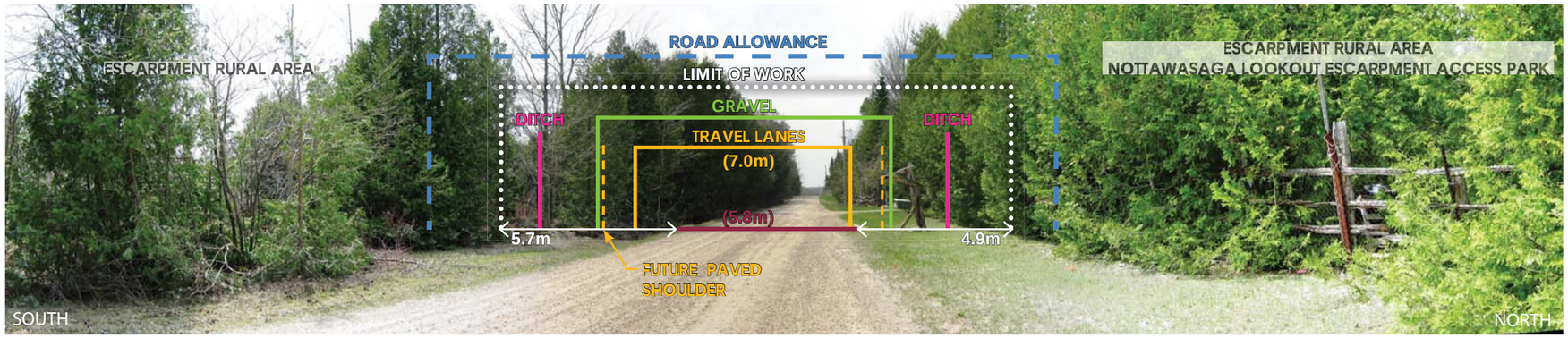
Figure 58

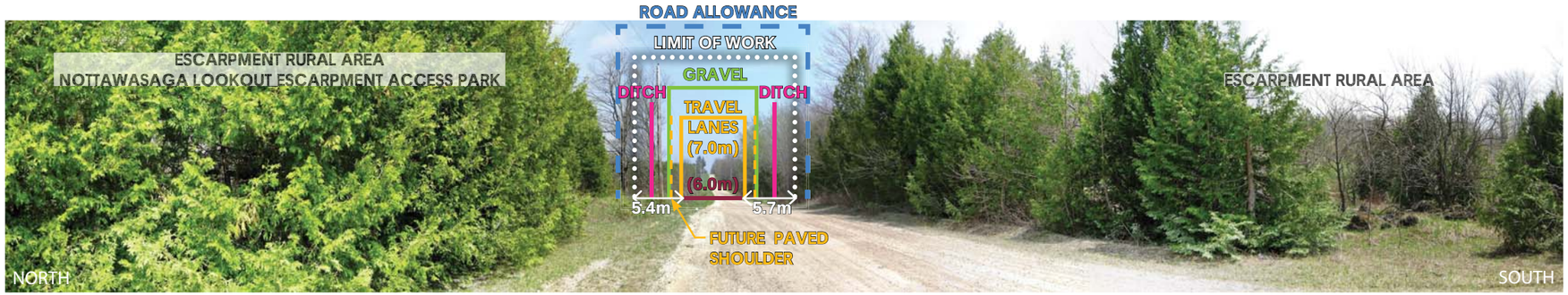
STATION 4+280 **VIEWPOINT 15**

Table 14. SR 26/27 Station 4+680 to 4+860 – Analysis and Recommendations

Station Point	LES Unit	CL elev. change	NORTH SIDE (left side on eng. cross-section)			SOUTH SIDE (right side on eng. cross-section)		
			Proposed Work	**Visual Impact**	**Recommendations**	**Proposed Work**	**Visual Impact**	**Recommendations**
4+680 – 4+740	**183 ROB ROY-SINGHAMPTON UPLANDS**	+0.70m	**LES Scenic Ranking - AVERAGE**			**LES Scenic Ranking - AVERAGE**		
ESCARPMENT NATURAL AREA	Landform		• No ditch • Grading generally extends to edge of surveyed edge of trees.	• Neutral		• Ditch (avg. change: -0.25m) • Grading extends 5.0m to 6.4m from edge of ex. gravel.	• Neutral	
	Vegetative Cover		• Any vegetation removals required would be similar to routine hydro line clearing. • No opportunity to plant woody vegetation (would obstruct proposed ditch).	• Neutral	• Provide tree protection fencing and other mitigation measures to reduce impacts to existing trees. • Seed disturbed areas with native seed mix.	• Impacts to ex. mixed coniferous/ deciduous edge will expose dense coniferous to loosely spaced deciduous/coniferous. • No opportunity to plant woody vegetation (woody species would obstruct proposed ditch).	• Neutral	• Provide tree protection fencing and other mitigation measures to reduce impacts to existing trees. • Seed disturbed areas with native seed mix.
	Landuse		• No changes	• Neutral		• No changes	• Neutral	
	Special Features		• None	• Neutral		• None	• Neutral	
	Views		• No changes	• Neutral		• No changes	• Neutral	
4+740 – 4+860	**183 ROB ROY-SINGHAMPTON UPLANDS**	+0.55m	**LES Scenic Ranking - AVERAGE**			**LES Scenic Ranking - AVERAGE**		
ESCARPMENT RURAL AREA	Landform		• Ditch (avg. change: -0.48m) • Culvert at driveway near 4+760. • Guide rails proposed from 4+850 to 4+940. • East of existing driveway, grading extends to edge of ROW	• Neutral		• Ditch (avg. change: -0.51m) • Grading extends approx. 5.0m from edge of existing gravel.	• Neutral	
	Vegetative Cover		• Impact to edge of existing cedar hedge and at least two large deciduous trees. (Cedar hedge will be thinner, deciduous trees behind will be more apparent)	• Neutral	• Provide tree protection fencing near existing cedars to reduce impacts to existing trees. • No tree protection necessary in front of plantation (plantation set back from ROW)	• Removal of ex. mostly coniferous edge to accommodate road and ditch. Will reveal variable, regenerating forest behind (ranges from dense coniferous to loosely spaced deciduous/ coniferous)	• Neutral	• Provide tree protection fencing and other mitigation measures to reduce impacts to existing trees.
	Landuse		• No changes	• Neutral		• No changes	• Neutral	
	Special Features		• No impact to Nottawasaga Lookout Escarpment Access Area (from approx. 4+790)	• Neutral		• None	• Neutral	
	Views		• No changes	• Neutral		• No changes	• Neutral	



VIEW LOOKING WEST



VIEW LOOKING EAST

CENTERLINE GRADE CHANGE:

-0.08m

NEAREST R.J. BURNSIDE CROSS-SECTION:

Station 4+800 (RJB Dwg. CS-02)

NORTH ROAD ALLOWANCE:

- Escarpment Rural Area, Nottawasaga Lookout Escarpment Access Park
- Ditch: grade change -1.08m
- Guide rails are proposed from 4+850 to 4+940 for safety.
- Removal of coniferous edge vegetation will expose deciduous forest.

SOUTH ROAD ALLOWANCE:

- Escarpment Rural Area
- Ditch: grade change -1.05m
- Removal of the mainly coniferous edge will expose more loosely spaced mixed deciduous/coniferous regenerating forest.



LEGEND:

Road Allowance | Pavement | Gravel | Existing Gravel | NEP Boundary | Bruce Trail | Wetland | Escarpment Natural Area | Escarpment Recreation Area

Limit of Work | Paved Shoulder | Ditch | 21 Reference Point | NEPOSS | Provincially Significant Wetland | ANSI | Escarpment Protection Area | Escarpment Rural Area

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August 7, 2015

Figure 59

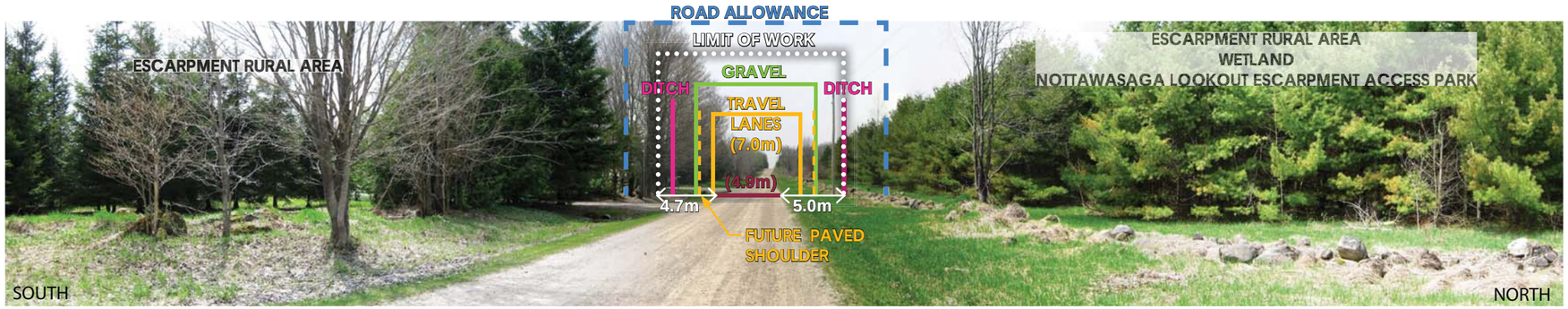
STATION 4+800 **VIEWPOINT 16**

Table 15. SR 26/27 Station 4+860 to 5+000 – Analysis and Recommendations

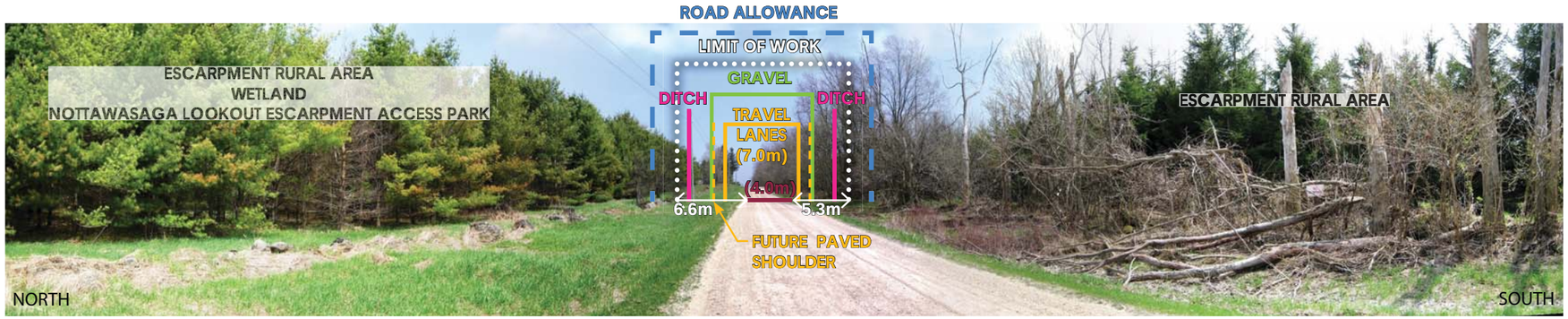
Station Point	LES Unit	CL elev. change	NORTH SIDE (left side on eng. cross-section)			SOUTH SIDE (right side on eng. cross-section)		
			Proposed Work	Visual Impact	Recommendations	Proposed Work	Visual Impact	Recommendations
4+860 – 4+920	**183 ROB ROY-SINGHAMPTON UPLANDS**	+1.65m	**LES Scenic Ranking - AVERAGE**			**LES Scenic Ranking - AVERAGE**		
ESCARPMENT RURAL AREA	Landform		• No ditch. • Erosion control blankets where banks are steeper than 1.5:1. • Guide rails proposed from 4+850 to 4+940.	• Neutral		• Ditch (avg. change: 0.00m) • Grading extends 5.6 to 6.2m from edge of ex. gravel.	• Neutral	
	Vegetative Cover		• Removal of scattered deciduous trees (some dead). Will expose the already very visible coniferous plantation behind.	• Neutral	• No tree protection necessary (plantation set back from ROW)	• Removal of vegetation to accommodate road and ditch. Vegetation is fairly consistent (mainly deciduous trees) and proposed removals will leave a similar edge.	• Neutral	• Provide grade stakes at limit of work to identify grading limits and reduce impacts to existing trees.
	Landuse		• No changes	• Neutral		• No changes	• Neutral	
	Special Features		• No impact to Nottawasaga Lookout Escarpment Access Area	• Neutral		• None	• Neutral	
	Views		• No changes	• Neutral		• No changes	• Neutral	
4+920 – 5+000	**183 ROB ROY-SINGHAMPTON UPLANDS**	+1.13m	**LES Scenic Ranking - AVERAGE**			**LES Scenic Ranking - AVERAGE**		
ESCARPMENT RURAL AREA	Landform		• No ditch. • Guide rails proposed from 4+850 to 4+940.	• Neutral		• Ditch (avg. change: -0.06m) • Grading extends approx. 5m from edge of existing gravel.	• Neutral	
	Vegetative Cover		• Removal of scattered deciduous trees (some dead). Will expose the already very visible coniferous plantation behind.	• Neutral	• No tree protection necessary (plantation set back from ROW)	• Removal of scattered deciduous trees will expose mainly coniferous plantings behind, except between 4+920 to 4+940 where it is a regenerating, mainly deciduous, loosely spaced forest.	• Neutral	• Provide tree protection fencing in proximity to the coniferous plantings. • Elsewhere, provide grade stakes at limit of work to identify grading limits and reduce impacts to existing trees.
	Landuse		• No changes	• Neutral		• No changes	• Neutral	
	Special Features		• No impact to Nottawasaga Lookout Escarpment Access Area	• Neutral		• None	• Neutral	
	Views		• No changes	• Neutral		• No changes	• Neutral	

Table 16. SR 26/27 Station 5+000 to 5+300 – Analysis and Recommendations

Station Point	LES Unit	CL elev. change	NORTH SIDE (left side on eng. cross-section)			SOUTH SIDE (right side on eng. cross-section)		
			Proposed Work	Visual Impact	Recommendations	Proposed Work	Visual Impact	Recommendations
5+000 – 5+280	**183 ROB ROY-SINGHAMPTON UPLANDS**	+0.43m	**LES Scenic Ranking - AVERAGE**			**LES Scenic Ranking - AVERAGE**		
ESCARPMENT RURAL AREA	Landform		• Ditch (avg. change: -0.51m) • Grading extends 4.8m to 8.6m from edge of ex. gravel.	• Neutral		• Ditch (avg. change: -0.58m) • Culverts at driveways, 5+060 to 5+100 and 5+108 to 5+124. • Grading extends to ROW boundary.	• Neutral	
	Vegetative Cover		• One proposed tree removal (apple).	• Neutral	• No tree protection necessary (plantation set back from ROW)	• Vegetation removals proposed from approx. 5+180 to 5+280. • Removal of deciduous trees will exposed the existing coniferous plantings (up to 5 rows) behind.	• Neutral	• Provide tree protection fencing near coniferous plantings on residential property to reduce impacts to existing trees. • Elsewhere, provide grade stakes at limit of work to identify grading limits and reduce impacts to existing trees.
	Landuse		• No changes	• Neutral		• No changes	• Neutral	
	Special Features		• No impacts to Nottawasaga Lookout Escarpment Access Area • No encroachment on unevaluated wetland (crosses road allowance at 5+160)	• Neutral	• No tree protection necessary (plantation set back from ROW)	• None	• Neutral	
	Views		• No changes	• Neutral		• No changes	• Neutral	
5+280 – 5+300	**183 ROB ROY-SINGHAMPTON UPLANDS**	-0.91m	**LES Scenic Ranking - AVERAGE**			**LES Scenic Ranking - AVERAGE**		
ESCARPMENT RURAL AREA	Landform		• Ditch (avg. change: -2.34m) • Erosion control blankets where banks are steeper than 1.5:1. • Grading extends to ROW boundary.	• Neutral		• Ditch (avg. change: -2.32m) • Erosion control blankets where banks are steeper than 1.5:1. • Grading extends to ROW boundary.	• Neutral	
	Vegetative Cover		• None	• Neutral	• No tree protection necessary (plantation set back from ROW)	• Removal of deciduous trees will exposed the existing coniferous trees (5 rows) behind.	• Neutral	• Provide grade stakes at limit of work to identify grading limits and reduce impacts to existing trees.
	Landuse		• No changes	• Neutral		• No changes	• Neutral	
	Special Features		• No impacts to Nottawasaga Lookout Escarpment Access Area	• Neutral		• None	• Neutral	
	Views		• No changes	• Neutral		• No changes	• Neutral	



VIEW LOOKING WEST



VIEW LOOKING EAST

CENTERLINE GRADE CHANGE:

+0.56m

NEAREST R.J. BURNSIDE CROSS-SECTION:

Station 5+140 (RJB Dwg. CS-04)

NORTH ROAD ALLOWANCE:

- Escarpment Rural Area, Wetland, Nottawasaga Lookout Escarpment Access Park
- Ditch: grade change -0.05m
- No impacts to vegetation.

SOUTH ROAD ALLOWANCE:

- Escarpment Rural Area
- Ditch: grade change -0.19m
- Removal of the deciduous hedgerow will expose the planted conifers behind.



LEGEND:

Road Allowance | Pavement | Gravel | Existing Gravel | NEP Boundary | Bruce Trail | Wetland | Escarpment Natural Area | Escarpment Recreation Area

Limit of Work | Paved Shoulder | Ditch | 21 Reference Point | NEPOSS | Provincially Significant Wetland | ANSI | Escarpment Protection Area | Escarpment Rural Area

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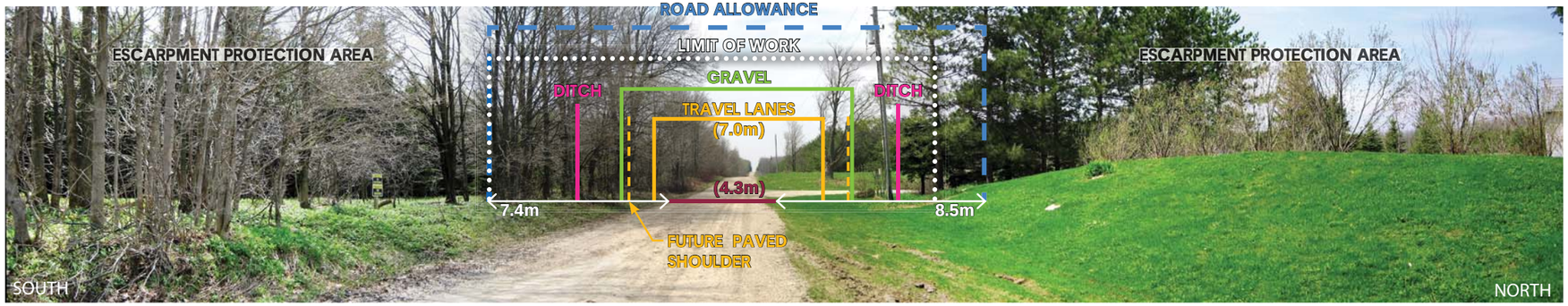
Figure 60

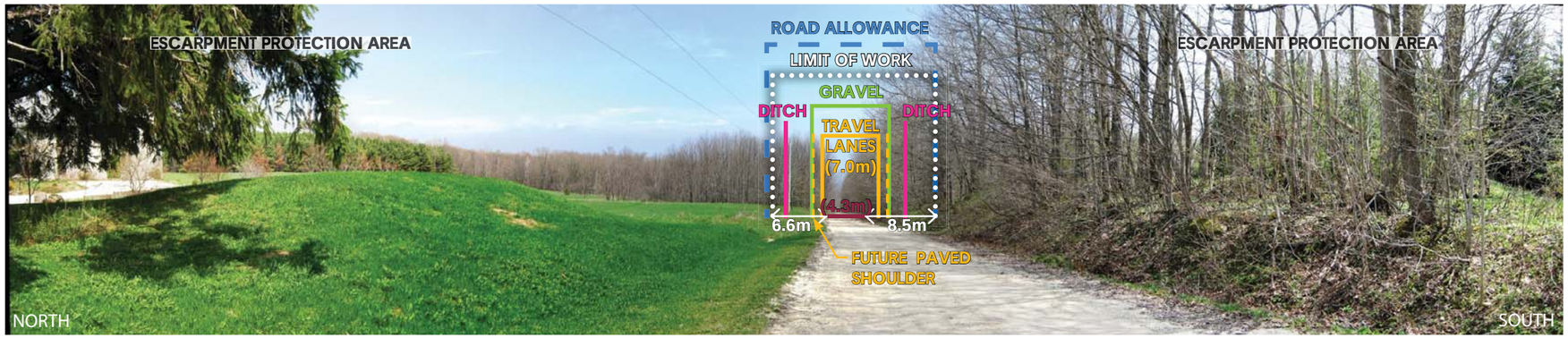
STATION 5+140 **VIEWPOINT 17**

Table 17. SR 26/27 Station 5+300 to 5+460 – Analysis and Recommendations

Station Point	LES Unit	CL elev. change	NORTH SIDE (left side on eng. cross-section)			SOUTH SIDE (right side on eng. cross-section)		
			Proposed Work	Visual Impact	Recommendations	Proposed Work	Visual Impact	Recommendations
5+300 – 5+380	**183 ROB ROY-SINGHAMPTON UPLANDS**	-1.23m	**LES Scenic Ranking - AVERAGE**			**LES Scenic Ranking - AVERAGE**		
ESCARPMENT PROTECTION AREA	Landform		• Ditch (avg. change: -1.29m) • Culvert extends across driveway and lawn, from 5+348 to 5+425. • Grading extends to ROW boundary.	• Neutral		• Ditch (avg. change: -2.49m) • Culvert at driveway near 5+310. • Erosion control blankets where banks are steeper than 1.5:1. • Grading extends to ROW boundary.	• Neutral	
	Vegetative Cover		• Large proposed grade change may require special measures to protect existing planted conifers near the road allowance.	• Negative	• Explore opportunities to protect roots of trees located on private property. • Provide tree protection fencing and other mitigation measures to reduce impacts to existing trees.	• Removal of deciduous trees will exposed the existing coniferous trees (5 rows) behind.	• Neutral	• Provide grade stakes at the limit of work to reduce impacts to existing trees.
	Landuse		• No changes	• Neutral		• No changes	• Neutral	
	Special Features		• None	• Neutral		• None	• Neutral	
	Views		• No changes	• Neutral		• No changes	• Neutral	
5+380 – 5+460	**183 ROB ROY-SINGHAMPTON UPLANDS**	-1.23m	**LES Scenic Ranking - AVERAGE**			**LES Scenic Ranking - AVERAGE**		
ESCARPMENT PROTECTION AREA	Landform		• Ditch (avg. change: -0.61m) • Culvert extends across driveway and lawn area, from 5+348 to 5+425.	• Neutral		• Ditch (avg. change: -3.13m) • Erosion control blankets where banks are steeper than 1.5:1.	• Neutral	
	Vegetative Cover		• Proposed grade change may require special measures to protect existing planted conifers near the road allowance.	• Negative	• Explore opportunities to protect roots of trees on private property. • Provide tree protection fencing and other mitigation measures to reduce impacts to existing trees.	• Removal of the deciduous trees will exposed the existing coniferous trees (5 rows) behind.	• Neutral	• Provide grade stakes at the limit of work to reduce impacts to existing trees.
	Landuse		• No changes	• Neutral		• No changes	• Neutral	
	Special Features		• None	• Neutral		• None	• Neutral	
	Views		• No changes	• Neutral		• None	• Neutral	



VIEW LOOKING WEST



VIEW LOOKING EAST

CENTERLINE GRADE CHANGE:

-2.12m (To provide better safety and site lines going over the crest of the hill, the road grade will be considerably lower than existing grade. Vegetation on either side of the road will appear taller. This section of road will also be less visible from the Bruce Trail (west side of the road)).

NEAREST R.J. BURNSIDE CROSS-SECTION:

Station 5+400 (RJB Dwg. CS-05)

NORTH ROAD ALLOWANCE:

- Escarpment Protection Area
- Ditch: grade change -3.08m
- Culvert at driveway and in front of berm
- No tree/shrub removals.
- Protection of the Pines and Norway Spruce may require special consideration.

SOUTH ROAD ALLOWANCE:

- Escarpment Protection Area
- Ditch: grade change -3.61m
- Removal of the deciduous hedgerow will expose the planted conifers behind.



LEGEND:

Road Allowance | Pavement | Gravel | Existing Gravel | NEP Boundary | Bruce Trail | Wetland | Escarpment Natural Area | Escarpment Recreation Area

Limit of Work | Paved Shoulder | Ditch | 21 Reference Point | NEPOSS | Provincially Significant Wetland | ANSI | Escarpment Protection Area | Escarpment Rural Area

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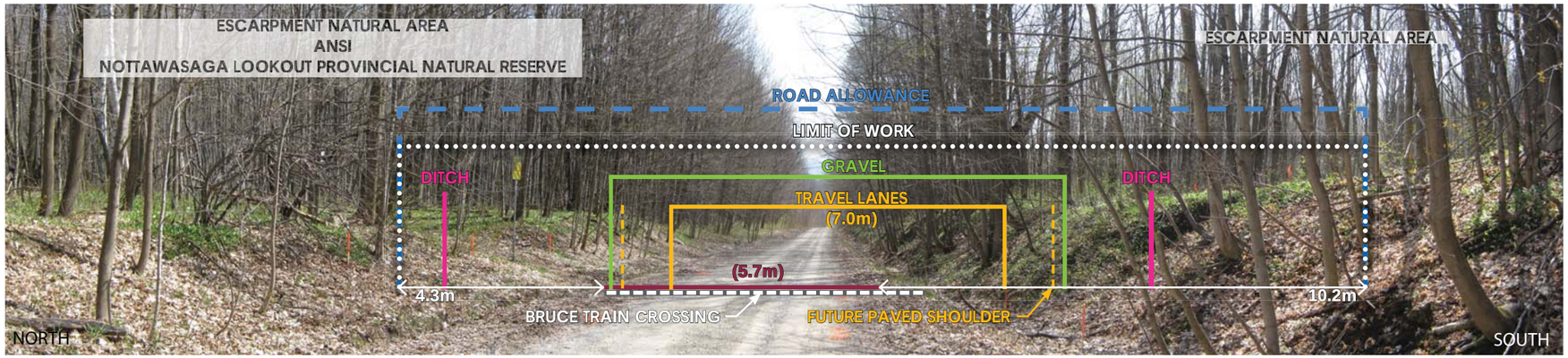
Figure 61

STATION 5+395 **VIEWPOINT 18**

Table 18. SR 26/27 Station 5+460 to 5+620 – Analysis and Recommendations

Station Point	LES Unit	CL elev. change	NORTH SIDE (left side on eng. cross-section)			SOUTH SIDE (right side on eng. cross-section)		
			Proposed Work	**Visual Impact**	**Recommendations**	**Proposed Work**	**Visual Impact**	**Recommendations**
5+460 – 5+520	**183 ROB ROY-SINGHAMPTON UPLANDS**	+0.66m	**LES Scenic Ranking - AVERAGE**			**LES Scenic Ranking - AVERAGE**		
ESCARPMENT PROTECTION AREA	Landform		• Ditch (avg. change: -0.76m) • Grading will require removal of existing regenerating vegetation near 5+500.	• Neutral		• Ditch (avg. change: -1.47m) • Grading extends to road allowance boundary.	• Neutral	
	Vegetative Cover		• Slight reduction in screening of road from Bruce Trail (leaf on-season). • Opportunity to plant ditch backslope (approx. 5+470 to 5+500)	• Neutral	• Provide tree protection fencing and other mitigation measures to reduce impacts to existing trees. • Plant woody species along ditch backslope from approx. 5+470 to 5+500 and seed disturbed areas with native seed mix.	• Removal of deciduous forest edge and overhead canopy. • Opportunity to plant ditch backslope from approx. 5+460 to 5+480.	• Neutral	• Provide tree protection fencing and other mitigation measures to reduce impacts to existing trees. • Plant shrubs at top of ditch backslope to improve the edge condition and seed disturbed areas with native seed mix.
	Landuse		• No changes	• Neutral		• No changes	• Neutral	
	Special Features		• None	• Neutral		• None	• Neutral	
	Views		• Small impact to regenerating area that screens road from Bruce Trail	• Neutral	• See vegetative cover, above.	• Creates view down the road corridor near 5+500.	• Positive	• Provide view
5+520 – 5+620	**425 DUNTROON EDGE**	+1.57m	**LES Scenic Ranking - ATTRACTIVE**			**LES Scenic Ranking - ATTRACTIVE**		
ESCARPMENT PROTECTION AREA	Landform		• Ditch (avg. change: -0.14m) • Base of ditch will be lined with riprap to prevent scouring. • Grading typically extends 4m from edge of ex. gravel.	• Neutral		• Ditch (avg. change: -0.85m) • Base of ditch will be lined with riprap to prevent scouring. • Grading extends to road allowance boundary.	• Neutral	
	Vegetative Cover		• Impact to edge of forest but only a few smaller trees will be removed, leaving a similar edge. • No opportunity to plant woody vegetation (would obstruct proposed ditch).	• Neutral	• Provide tree protection fencing and other mitigation measures to reduce impacts to existing trees. • Seed disturbed areas with native seed mix.	• Loss of overhead canopy/ forest to accommodate road and ditch. • Opportunity to plant woody species at the top of the ditch backslope from approx. 5+560 to 5+600.	• Negative	• Provide tree protection fencing and other mitigation measures to reduce impacts to existing trees. • Plant shrubs at top of the ditch backslope from 5+560 to 5+600 and seed disturbed areas with native seed mix.
	Landuse		• No changes	• Neutral		• No changes	• Neutral	
	Special Features		• No impacts to Nottawasaga Lookout Provincial Park Nature Reserve	• Neutral		• None	• Neutral	
	Views		• No changes	• Neutral		• Creates view down the road corridor (looking east).	• Positive	• Provide view



VIEW LOOKING EAST

CENTERLINE GRADE CHANGE:

+2.18m (The grade on the road will be raised in the vicinity of the Bruce Trail crossing (5+635) to minimize impacts to the ANSIs, provide better safety and site lines for drivers, and improve the Bruce Trail crossing so that it is less abrupt.

NEAREST R.J. BURNSIDE CROSS-SECTION:

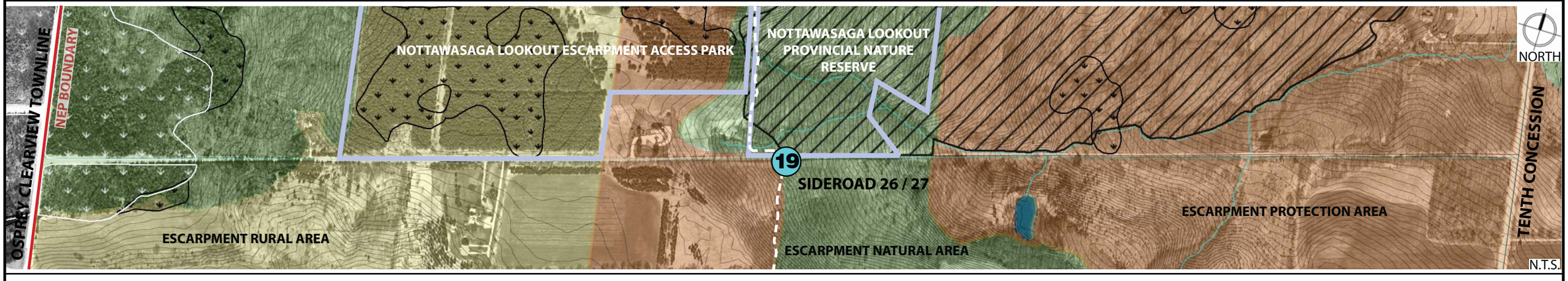
Station 5+620 (RJB Dwg. CS06)

NORTH ROAD ALLOWANCE:

- Escarpment Natural Area, ANSI, Nottawasaga Lookout Provincial Nature Reserve
- Ditch: grade change 0.00m
- Base of ditch will be lined with riprap to reduce scouring.
- Culvert at Bruce Trail Crossing
- Removal of edge vegetation (mainly young trees).

SOUTH ROAD ALLOWANCE:

- Escarpment Natural Area
- Ditch: grade change -0.27m
- Base of ditch will be lined with riprap to reduce scouring.
- Culvert at Bruce Trail Crossing
- Removal of forest vegetation past top of bank and removal of overhead canopy.
- Views down the road corridor (looking east) will be created.



LEGEND:

Road Allowance | Pavement | Gravel | Existing Gravel | NEP Boundary | Bruce Trail | Wetland | Escarpment Natural Area | Escarpment Recreation Area

Limit of Work | Paved Shoulder | Ditch | 21 Reference Point | NEPOSS | Provincially Significant Wetland | ANSI | Escarpment Protection Area | Escarpment Rural Area

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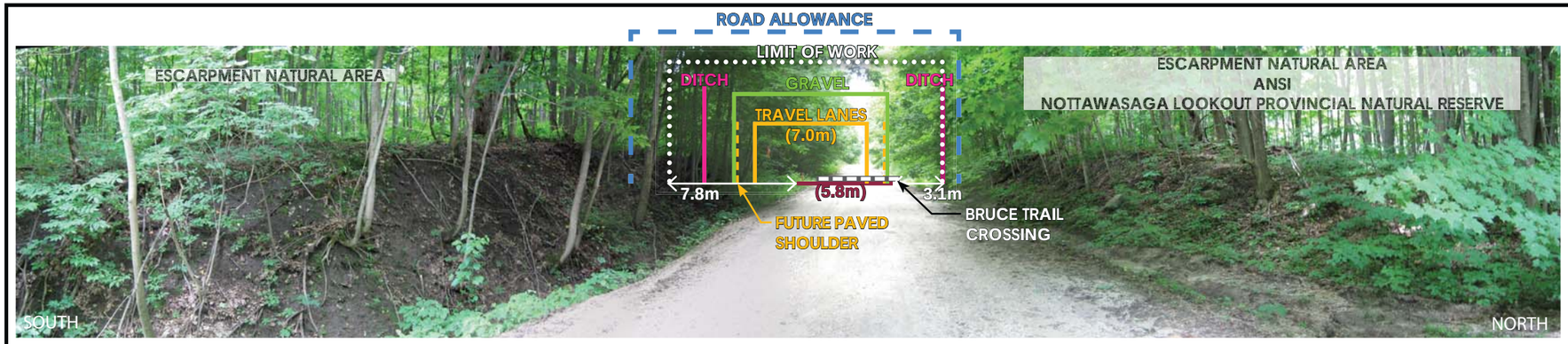
Figure 62

STATION 5+620 **VIEWPOINT 19**

Table 19. SR 26/27 Station 5+620 to 5+760 – Analysis and Recommendations

Station Point	LES Unit	CL elev. change	NORTH SIDE (left side on eng. cross-section)			SOUTH SIDE (right side on eng. cross-section)		
			Proposed Work	**Visual Impact**	**Recommendations**	**Proposed Work**	**Visual Impact**	**Recommendations**
5+620 – 5+760	**425 DUNTROON EDGE**	+1.42m	**LES Scenic Ranking - ATTRACTIVE**			**LES Scenic Ranking - ATTRACTIVE**		
ESCARPMENT NATURAL AREA	Landform		• Ditch (avg. change: -0.02m) • Culverts proposed (parallel to road) at Bruce Trail Crossing. • Base of ditch will be lined with riprap to prevent scouring. • Grading typically extends 3m from edge of ex. gravel.	• Neutral		• Ditch (avg. change: -0.83m) • Culverts proposed (parallel to road) at Bruce Trail Crossing. • Base of ditch will be lined with riprap to prevent scouring. • Grading extends past ROW (max. 1.0m) from 5+650 to 5+675 because road allowance shifts alignment in this area.	• Neutral	
	Vegetative Cover		• Typically, backside of proposed ditch will not be graded, thereby protecting roots of existing trees. • Impact to edge of forest but only a few smaller trees will be removed, leaving a similar edge. • No opportunity to plant woody vegetation (would obstruct proposed ditch).	• Neutral	• Provide tree protection fencing and other mitigation measures to reduce impacts to existing trees. • Seed disturbed areas with native seed mix.	• Impacts to overhead canopy and forest. • No opportunity to plant woody vegetation (would obstruct proposed ditch).	• Negative	• Provide tree protection fencing and other mitigation measures to reduce impacts to existing trees. • Seed disturbed areas with native seed mix.
	Landuse		• No changes	• Neutral		• No changes	• Neutral	
	Special Features		• No impacts to Nottawasaga Lookout Provincial Park Nature Reserve. • Minor impacts to ANSIs (starts at 5+645) in an area that has been heavily modified (embankments). • Improved Bruce Trail crossing at 5+635 (creation of views).	• Neutral (Park and ANSIs) • Positive (Bruce Trail Crossing)	• See above for Vegetative Cover	• Improved Bruce Trail crossing @ 5+635 (creation of views)	• Positive	• See above for Vegetative Cover
	Views		• No changes	• Neutral		• Creates view down the road corridor (looking east) from the Bruce Trail.	• Positive	• Provide view



VIEW LOOKING WEST



VIEW LOOKING EAST



LEGEND:

- Road Allowance
- Limit of Work
- Pavement
- Paved Shoulder
- Gravel
- Ditch
- Existing Gravel
- 21 Reference Point
- NEP Boundary
- NEPOSS
- Bruce Trail
- Provincially Significant Wetland
- Wetland
- ANSI
- Escarpment Natural Area
- Escarpment Protection Area
- Escarpment Recreation Area
- Escarpment Rural Area

CENTERLINE GRADE CHANGE:

+1.88m (The grade on the road will be raised in the vicinity of the Bruce Trail crossing (5+635) to minimize impacts to the ANSIs, provide better safety and site lines for drivers, and improve the Bruce Trail crossing so that it is less abrupt.

NEAREST R.J. BURNSIDE CROSS-SECTION:

Station 5+680 and 5+660 (RJB Dwg. CS06)

NORTH ROAD ALLOWANCE:

- Escarpment Natural Area, ANSI, Nottawasaga Lookout Provincial Nature Reserve
- Ditch: grade change 0.00m
- Base of ditch will be lined with riprap to reduce scouring.
- Culvert at Bruce Trail Crossing
- Removal of edge vegetation (young trees).

SOUTH ROAD ALLOWANCE:

- Escarpment Natural Area
- Ditch: grade change -1.17m
- Culvert at Bruce Trail Crossing
- Base of ditch will be lined with riprap to reduce scouring.
- Removal of forest vegetation past top of bank and removal of overhead canopy.
- Views down the road corridor (looking east) will be created.

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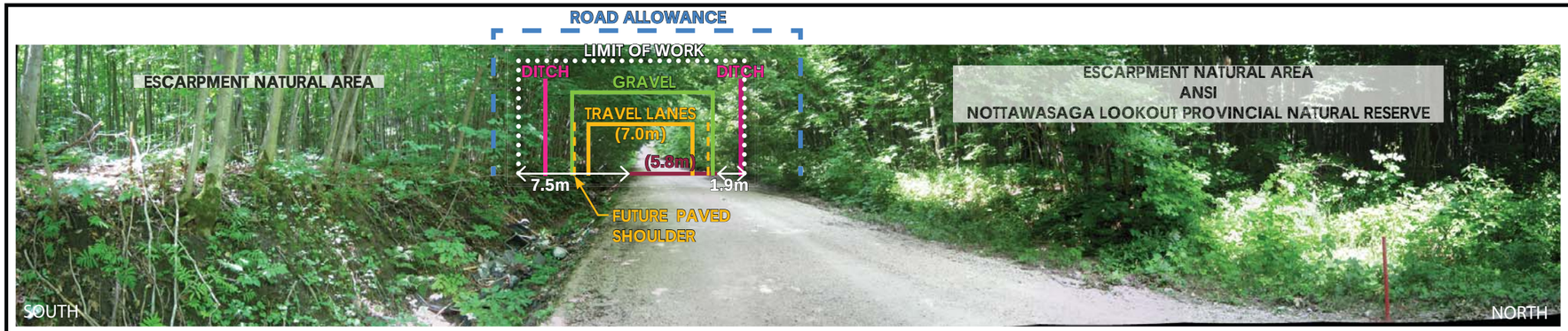
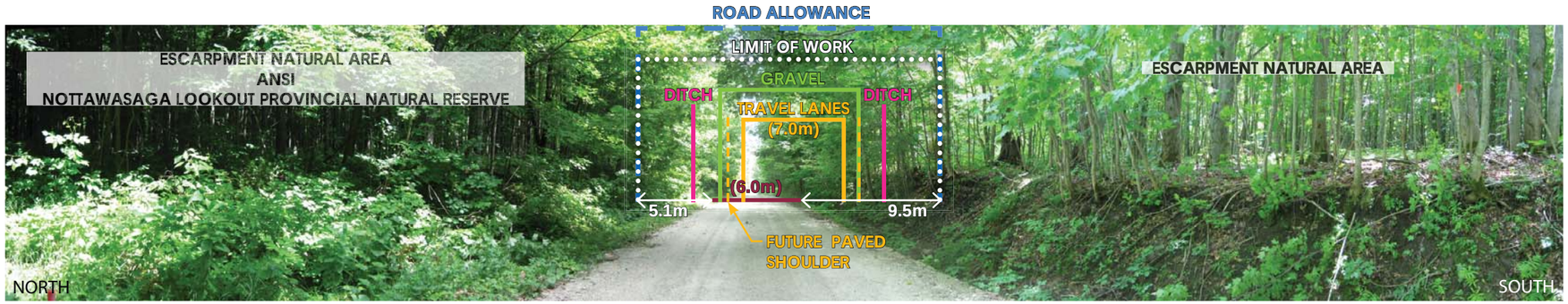
Figure 63

STATION 5+670 **VIEWPOINT 20**



VIEW LOOKING WEST



VIEW LOOKING EAST

CENTERLINE GRADE CHANGE:

+0.37m

NEAREST R.J. BURNSIDE CROSS-SECTION:

Station 5+760 (RJB Dwg. CS-06)

NORTH ROAD ALLOWANCE:

- Escarpment Natural Area, ANSI, Nottawasaga Lookout Provincial Nature Reserve
- Ditch: grade change -0.17m
- Base of ditch will be lined with riprap to reduce scouring.
- Removal of edge vegetation (mainly younger trees.)

SOUTH ROAD ALLOWANCE:

- Escarpment Natural Area
- Ditch: grade change -1.93m
- Base of ditch will be lined with riprap to reduce scouring.
- Larger trees (likely an old hedgerow) will be removed and the overhead tree canopy will be reduced and/or removed.
- Views down the road corridor (looking east) will be created.



LEGEND:

Road Allowance | Pavement | Gravel | Existing Gravel | NEP Boundary | Bruce Trail | Wetland | Escarpment Natural Area | Escarpment Recreation Area

Limit of Work | Paved Shoulder | Ditch | 21 Reference Point | NEPOSS | Provincially Significant Wetland | ANSI | Escarpment Protection Area | Escarpment Rural Area

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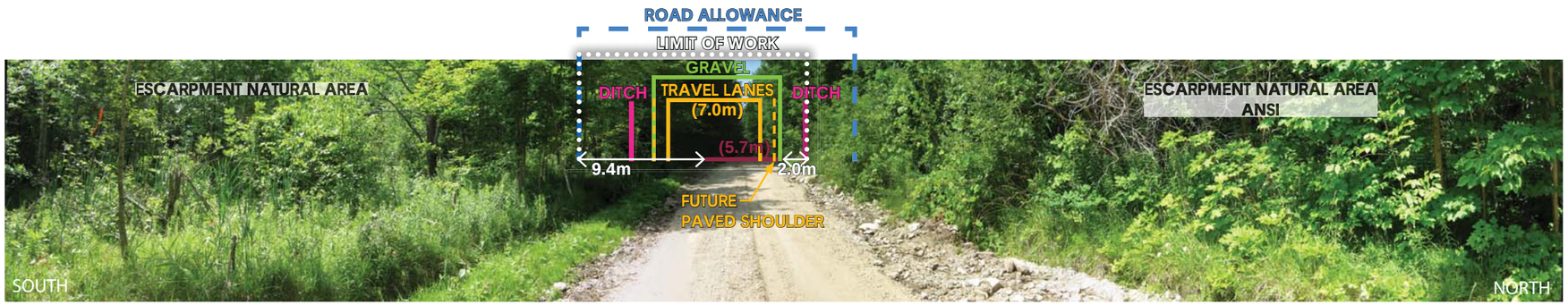
Figure 64

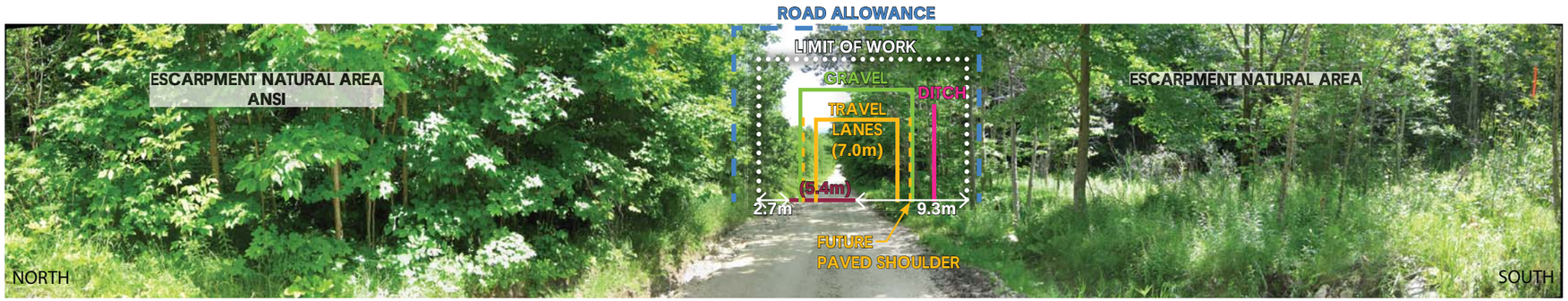
STATION 5+760 **VIEWPOINT 21**

Table 20. SR 26/27 Station 5+760 to 5+880 – Analysis and Recommendations

Station Point	LES Unit	CL elev. change	NORTH SIDE (left side on eng. cross-section)			SOUTH SIDE (right side on eng. cross-section)		
			Proposed Work	Visual Impact	Recommendations	Proposed Work	Visual Impact	Recommendations
5+760 – 5+880	**425 DUNTROON EDGE**	+0.69m	**LES Scenic Ranking - ATTRACTIVE**			**LES Scenic Ranking - ATTRACTIVE**		
ESCARPMENT NATURAL AREA	Landform		• Ditch (similar in location & elevation to current condition) (avg. change: -0.22m). • Base of ditch will be lined with riprap to prevent scouring. • Grading extends 1.9m to 2.4m from edge of ex. gravel.	• Neutral		• Ditch (avg. change: -2.05m) • Base of ditch will be lined with riprap to prevent scouring. • Existing steep slope is being shifted further south to accommodate road. • Erosion control blankets where banks are steeper than 1.5:1.	• Neutral	
	Vegetative Cover		• Typically, backside of proposed ditch will not be graded, thereby protecting roots of existing trees. • Overhead canopy will generally be maintained. • No opportunity to plant woody vegetation (would obstruct proposed ditch).	• Neutral	• Provide tree protection fencing and other mitigation measures to reduce impacts to existing trees. • Seed disturbed areas with native seed mix.	• Taller deciduous trees along the road allowance boundary will be removed, leaving a younger deciduous forest behind. • Opportunity to plant woody species at top of ditch backslope from approx. 5+760 to 5+840.	• Negative	• Provide tree protection fencing and other mitigation measures to reduce impacts to existing trees. • Plant shrubs at top of the ditch backslope from 5+760 to 5+840 to create an edge and protect the forest and seed disturbed areas with native seed mix.
	Landuse		• No changes	• Neutral		• No changes	• Neutral	
	Special Features		• No impacts to Nottawasaga Lookout Provincial Park Nature Reserve • Minor impacts to ANSIs in an area that has been heavily modified (embankments)	• Neutral	• See Vegetative Cover, above	• None	• Neutral	
	Views		• No changes	• Neutral		• Creates view down the road corridor (looking east).	• Positive	• Provide view



VIEW LOOKING WEST



VIEW LOOKING EAST

CENTERLINE GRADE CHANGE:

+1.79m

NEAREST R.J. BURNSIDE CROSS-SECTION:

Station 5+880 (RJB Dwg. CS-07)

NORTH ROAD ALLOWANCE:

- Escarpment Natural Area
- Ditch: grade change 0.00m
- Base of ditch will be lined with riprap to reduce scouring.
- Removal of young edge vegetation.

SOUTH ROAD ALLOWANCE:

- Escarpment Natural Area
- Ditch: grade change 0.00m
- Base of ditch will be lined with riprap to reduce scouring.
- Removal of young vegetation.



LEGEND:

Road Allowance | Pavement | Gravel | Existing Gravel | NEP Boundary | Bruce Trail | Wetland | Escarpment Natural Area | Escarpment Recreation Area

Limit of Work | Paved Shoulder | Ditch | 21 Reference Point | NEPOSS | Provincially Significant Wetland | ANSI | Escarpment Protection Area | Escarpment Rural Area

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Figure 65

STATION 5+880 **VIEWPOINT 22**

Table 21. SR 26/27 Station 5+880 to 5+920 – Analysis and Recommendations

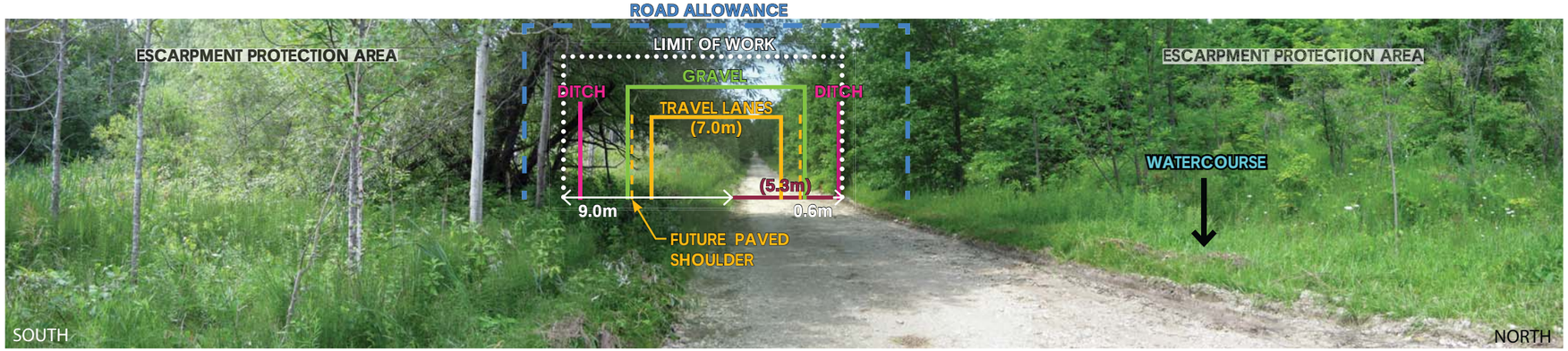
Station Point	LES Unit	CL elev. change	NORTH SIDE (left side on eng. cross-section)			SOUTH SIDE (right side on eng. cross-section)		
			Proposed Work	Visual Impact	Recommendations	Proposed Work	Visual Impact	Recommendations
5+880 – 5+920	**425 DUNTROON EDGE**	+1.81m	**LES Scenic Ranking - ATTRACTIVE**			**LES Scenic Ranking - ATTRACTIVE**		
ESCARPMENT NATURAL AREA	Landform		• No ditch. • Grading typically extends 3m from edge of ex. gravel. • Reduction in surface erosion and washouts.	• Positive		• Ditch (avg. change: -0.33m) • Base of ditch will be lined with riprap to prevent scouring. • Grading extends 7-10m from edge of ex. gravel, extending to road allowance boundary near 5+920. • Reduction in surface erosion and washouts.	• Positive	
	Vegetative Cover		• Impacts to very young trees on edge. • No opportunity to plant woody vegetation.	• Neutral	• Provide tree protection fencing and other mitigation measures to reduce impacts to existing trees. • Seed disturbed areas with native seed mix.	• Impacts to very young trees on edge • Opportunity to plant woody species at top of ditch backslope near 5+920.	• Neutral	• Provide tree protection fencing and other mitigation measures to reduce impacts to existing trees. • Plant shrubs at top of the ditch backslope near 5+920 and seed disturbed areas with native seed mix.
	Landuse		• No changes	• Neutral		• No changes	• Neutral	
	Special Features		• None	• Neutral		• None	• Neutral	
	Views		• No changes	• Neutral		• Creates view down the road corridor (looking east).	• Positive	• Provide view

Table 22. SR 26/27 Station 5+920 to 6+060 – Analysis and Recommendations

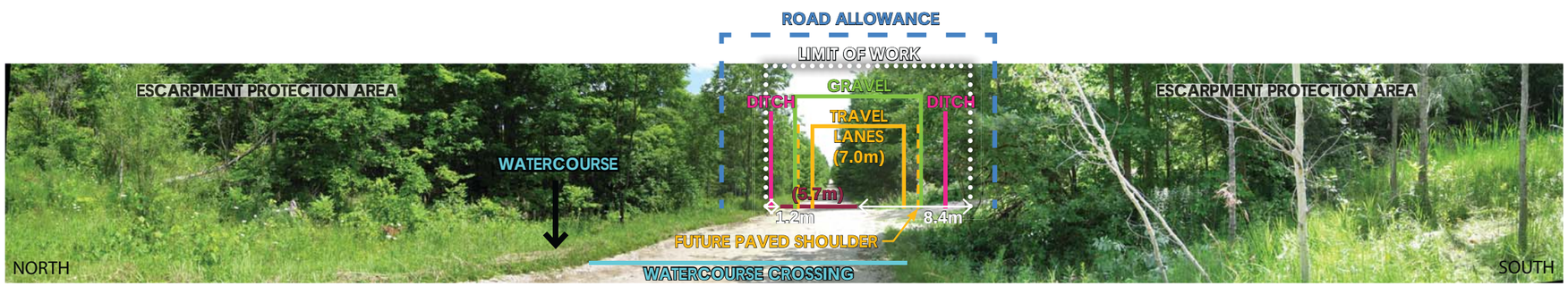
Station Point	LES Unit	CL elev. change	NORTH SIDE (left side on eng. cross-section)			SOUTH SIDE (right side on eng. cross-section)		
			Proposed Work	**Visual Impact**	**Recommendations**	**Proposed Work**	**Visual Impact**	**Recommendations**
5+920 – 6+060	**425 DUNTROON EDGE**	+1.58m	**LES Scenic Ranking - ATTRACTIVE**			**LES Scenic Ranking - ATTRACTIVE**		
ESCARPMENT PROTECTION AREA	Landform		• No ditch. • Cross-culvert proposed at about 5+947. • Grading extends approx. 3m beyond ex. gravel at 5+920 and tapers to 0.5m near 6+060. • Reduction in surface erosion and washouts.	• Positive		• Ditch (avg. change: -0.77m) • Base of ditch will be lined with riprap to prevent scouring. • Erosion control blankets where banks are steeper than 1.5:1. • Typically, grading extends to ROW (approx. 10.5m from ex. gravel). • Reduction in surface erosion and washouts.	• Positive	
	Vegetative Cover		• Removal of edge of successional forest. • No opportunity to plant woody vegetation.	• Neutral	• Provide tree protection fencing and other mitigation measures to reduce impacts to existing trees. • Seed disturbed areas with native seed mix.	• Removal of very young vegetation, leaving more mature forest behind. • Opportunities to plant woody species at top of embankment from 5+940 to 6+000.	• Neutral	• Provide tree protection fencing and other mitigation measures to reduce impacts to existing trees. • Plant shrubs at top of the ditch backslope from 5+940 to 6+000 and seed disturbed areas with native seed mix..
	Landuse		• No changes	• Neutral		• No changes	• Neutral	
	Special Features		• Brook trout stream loosely parallels road (beyond the road allowance) near 6+000 and eastward. To protect the stream, there will be a 2.3m to 5.0m wide vegetation protection area along the stream.	• Neutral	• See above for Vegetative Cover.	• None	• Neutral	
	Views		• No changes	• Neutral		• No changes	• Neutral	

Table 23. SR 26/27 Station 6+060 to 6+240 – Analysis and Recommendations

Station Point	LES Unit	CL elev. change	NORTH SIDE (left side on eng. cross-section)			SOUTH SIDE (right side on eng. cross-section)		
			Proposed Work	Visual Impact	Recommendations	Proposed Work	Visual Impact	Recommendations
6+060 – 6+180	**182 DUNTROON SLOPES**	+0.94m	**LES Scenic Ranking - VERY ATTRACTIVE**			**LES Scenic Ranking – VERY ATTRACTIVE**		
ESCARPMENT PROTECTION AREA	Landform		• Ditch (avg. change: -0.13m) • Culvert at watercourse crossing near 6+127 • Base of ditch will be lined with riprap to prevent scouring up to Grading extends 1.0m from ex. gravel, except from 6+150 to 6+180 where it is extends 2.0m.	• Positive		• Ditch (avg. change: -0.69m) • Culverts at driveway and watercourse crossing near 6+137. • Base of ditch will be lined with riprap to prevent scouring up to approx. 6+140. • Grading extends from 6.3m to 10.0m from edge of ex. gravel.	• Positive	
	Vegetative Cover		• Vegetation impacts due to cross-culvert replacement and stream realignment. • Removal of edge of successional forest.	• Neutral	• Provide tree protection fencing and other mitigation measures to reduce impacts to existing trees. • Plant and seed disturbed areas associated with the watercourse realignment and watercourse crossing, as per the EIS.	• Removal of very young, more loosely spaced vegetation will expose more mature, denser forest behind.	• Neutral	• Provide tree protection fencing and other mitigation measures to reduce impacts to existing trees. • Plant and seed disturbed areas associated with the watercourse crossing, as per the EIS.
	Landuse		• No changes	• Neutral		• No changes	• Neutral	
	Special Features		• Stream realignment proposed near 6+156 • Watercourse crossing (cross-culvert) replacement	• Neutral	• See Vegetative Cover, above	• Watercourse crossing (cross-culvert) replacement	• Neutral	• See Vegetative Cover, above
	Views		• No changes	• Neutral		• No changes	• Neutral	
6+180 – 6+240	**182 DUNTROON SLOPES**	+1.14m	**LES Scenic Ranking - VERY ATTRACTIVE**			**LES Scenic Ranking – VERY ATTRACTIVE**		
ESCARPMENT PROTECTION AREA	Landform		• Ditch (avg. change: -0.09m) • Grading extends 2.0m to 3.0m from edge of ex. gravel.	• Neutral		• Ditch (avg. change: -0.56m) • Grading extends 6.2 to 8m from edge of existing gravel (approx. 1.5m from property boundary).	• Neutral	
	Vegetative Cover		• Removal of edge of successional forest.	• Neutral	• Provide grade stakes at the limit of work to reduce impacts to existing trees.	• Removal of young successional vegetation	• Positive	• Provide grade stakes at the limit of work to reduce impacts to existing trees.
	Landuse		• No changes	• Neutral		• No changes	• Neutral	
	Special Features		• None	• Neutral		• None	• Neutral	
	Views		• No changes	• Neutral		• No changes	• Neutral	



VIEW LOOKING WEST



VIEW LOOKING EAST

CENTERLINE GRADE CHANGE:

+1.07m

NEAREST R.J. BURNSIDE CROSS-SECTION:

Station 6+120 (RJB Dwg. CS-09)

NORTH ROAD ALLOWANCE:

- Escarpment Protection Area
- Ditch: grade change -0.26m
- Base of ditch will be lined with riprap to reduce scouring to 6+140.
- Watercourse parallels road.
- Cross-culvert at watercourse crossing.
- Realignment of watercourse
- Removal of successional forest edge.

SOUTH ROAD ALLOWANCE:

- Escarpment Protection Area
- Ditch: grade change -0.38m
- Base of ditch will be lined with riprap to reduce scouring to 6+140.
- Culverts at driveway and watercourse crossing.
- Removal of successional forest.



LEGEND:

Road Allowance | Pavement | Gravel | Existing Gravel | NEP Boundary | Bruce Trail | Wetland | Escarpment Natural Area | Escarpment Recreation Area

Limit of Work | Paved Shoulder | Ditch | 21 Reference Point | NEPOSS | Provincially Significant Wetland | ANSI | Escarpment Protection Area | Escarpment Rural Area

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Figure 66

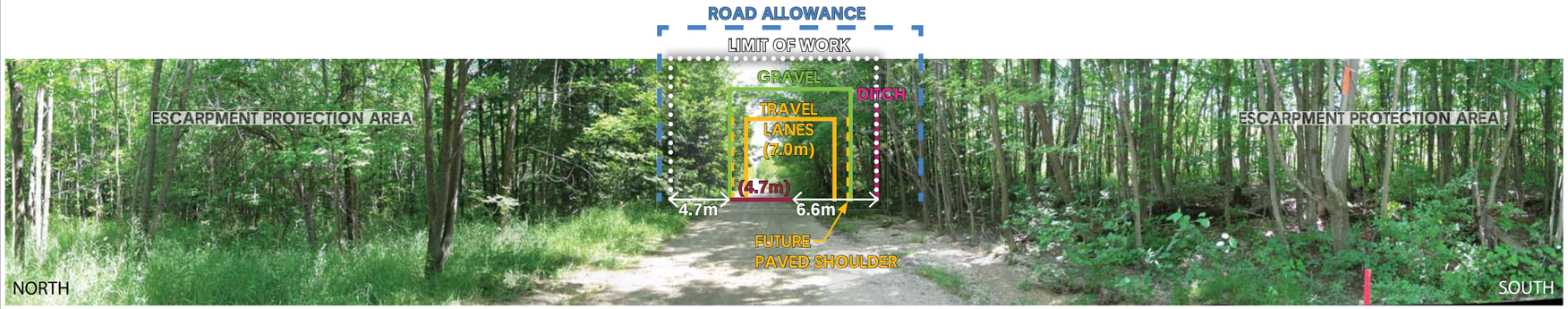
STATION 6+120 **VIEWPOINT 23**

Table 24. SR 26/27 Station 6+240 to 6+620 – Analysis and Recommendations

Station Point	LES Unit	CL elev. change	NORTH SIDE (left side on eng. cross-section)			SOUTH SIDE (right side on eng. cross-section)		
			Proposed Work	Visual Impact	Recommendations	Proposed Work	Visual Impact	Recommendations
6+240 – 6+540	**182 DUNTROON SLOPES**	+1.76m	**LES Scenic Ranking - VERY ATTRACTIVE**			**LES Scenic Ranking – VERY ATTRACTIVE**		
ESCARPMENT PROTECTION AREA	Landform		• No ditch. • Culvert at watercourse crossing near 6+510. • Grading extends 3.2m to 4.8m from edge of ex. gravel.	• Neutral		• Ditch (avg. change: -0.08m) • Culvert at watercourse crossing near 6+510. • Grading extends 6.2 to 8.8m from edge of ex. gravel.	• Neutral	
	Vegetative Cover		• Removal of young successional vegetation (reveals more of same) • Removal of vegetation at watercourse crossing	• Neutral	• Provide tree protection fencing and other mitigation measures near watercourse crossing to reduce impacts to existing trees. • Elsewhere, provide grade stakes at the limit of work to reduce impacts to existing trees. • Plant and seed disturbed areas associated with the watercourse crossing, as per the EIS.	• Removal of young successional vegetation (reveals more of same) • Removal of vegetation at watercourse crossing	• Neutral	• Provide tree protection fencing and other mitigation measures near watercourse crossing to reduce impacts to existing trees. • Elsewhere, provide grade stakes at the limit of work to reduce impacts to existing trees. • Plant and seed disturbed areas associated with the watercourse crossing, as per the EIS.
	Landuse		• No changes	• Neutral		• No changes	• Neutral	
	Special Features		• Watercourse crossing (cross-culvert) replacement	• Neutral	• See Vegetative Cover, above	• Watercourse crossing (cross-culvert) replacement	• Neutral	• See Vegetative Cover, above
	Views		• No changes	• Neutral		• None	• Neutral	
6+540 – 6+620	**182 DUNTROON SLOPES**	+0.58m	**LES Scenic Ranking - VERY ATTRACTIVE**			**LES Scenic Ranking – VERY ATTRACTIVE**		
ESCARPMENT PROTECTION AREA	Landform		• Ditch (avg. change: -0.54m) • Grading extends 1.0m to 4.0m from edge of ex. gravel.	• Neutral		• Ditch (avg. change: -0.80m) • Grading extends 8.2 to 10.9m from edge of ex. gravel.	• Neutral	
	Vegetative Cover		• Removal of young successional vegetation (to reveal more of same)	• Neutral	• Provide grade stakes at the limit of work to reduce impacts to existing trees.	• Removal of young successional vegetation (to reveal more of same and agricultural field = diversity in vegetation)	• Positive	• Provide grade stakes at the limit of work to reduce impacts to existing trees.
	Landuse		• No changes	• Neutral		• No changes	• Neutral	
	Special Features		• None	• Neutral		• None	• Neutral	
	Views		• No changes	• Neutral		• Vegetation removal will open views to Niagara Escarpment to the SW	• Positive	



VIEW LOOKING WEST



VIEW LOOKING EAST

CENTERLINE GRADE CHANGE:

+1.93m

NEAREST R.J. BURNSIDE CROSS-SECTION:

Station 6+400, 6+420 (RJB Dwg. CS-10)

NORTH ROAD ALLOWANCE:

- Escarpment Protection Area
- No ditch.
- Removal of successional forest edge.

SOUTH ROAD ALLOWANCE:

- Escarpment Protection Area
- Ditch: grade change +0.02m
- Removal of successional vegetation provides intermittent views to Escarpment and agricultural field.



LEGEND:

Road Allowance | Pavement | Gravel | Existing Gravel | NEP Boundary | Bruce Trail | Wetland | Escarpment Natural Area | Escarpment Recreation Area

Limit of Work | Paved Shoulder | Ditch | 21 Reference Point | NEPOSS | Provincially Significant Wetland | ANSI | Escarpment Protection Area | Escarpment Rural Area

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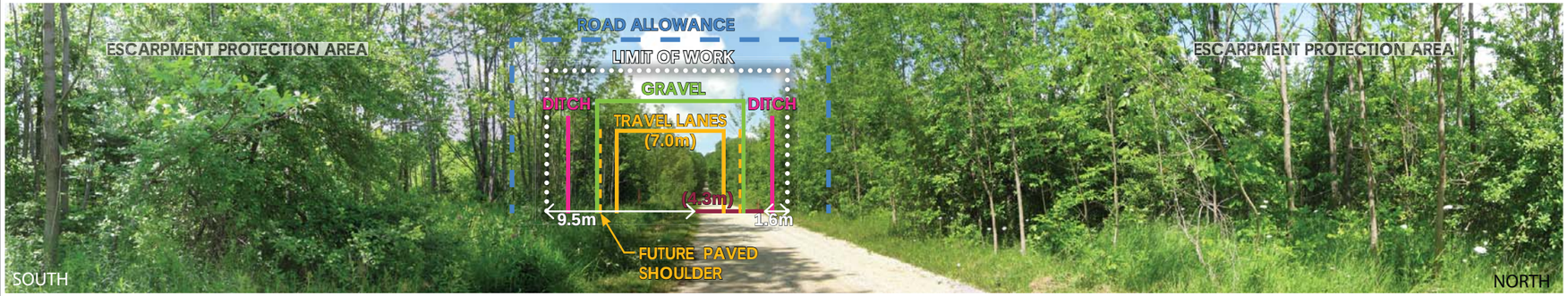
Figure 67

STATION 6+410 **VIEWPOINT 24**



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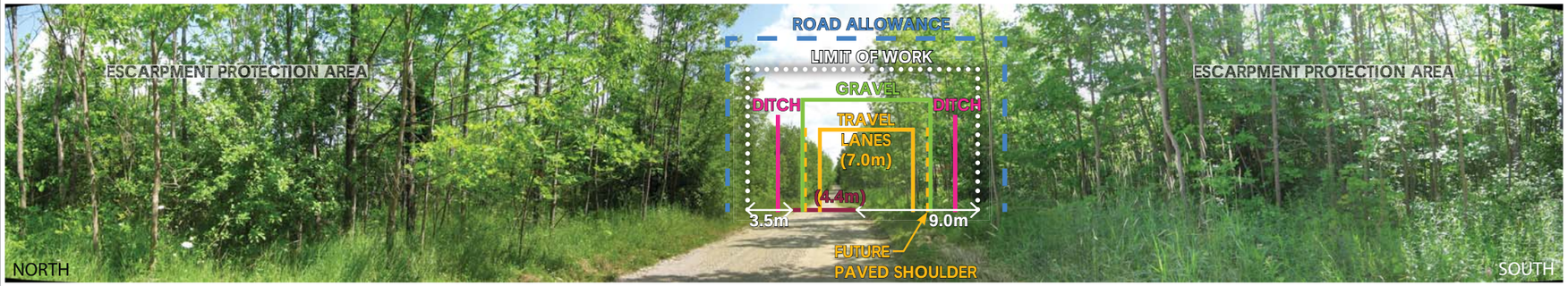

VIEW LOOKING EAST

CENTERLINE GRADE CHANGE:

+0.14m

NEAREST R.J. BURNSIDE CROSS-SECTION:

Station 6+600 (RJB Dwg. CS-11)

NORTH ROAD ALLOWANCE:

- Escarpment Protection Area
- Ditch: grade change -1.02m
- Removal of successional forest edge.

SOUTH ROAD ALLOWANCE:

- Escarpment Protection Area
- Ditch: grade change -1.67m
- Removal of successional vegetation provides views to Escarpment and agricultural field.



LEGEND:

Road Allowance | Pavement | Gravel | Existing Gravel | NEP Boundary | Bruce Trail | Wetland | Escarpment Natural Area | Escarpment Recreation Area

Limit of Work | Paved Shoulder | Ditch | 21 Reference Point | NEPOSS | Provincially Significant Wetland | ANSI | Escarpment Protection Area | Escarpment Rural Area

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PHOTO INVENTORY & VISUAL IMPACTS

August 7, 2015

Figure 68

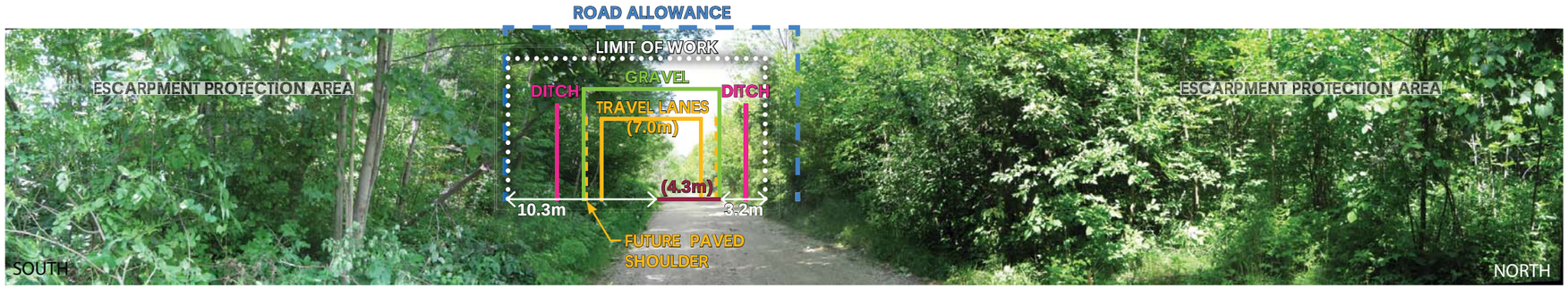
STATION 6+595 **VIEWPOINT 25**

Table 25. SR 26/27 Station 6+620 to 6+760 – Analysis and Recommendations

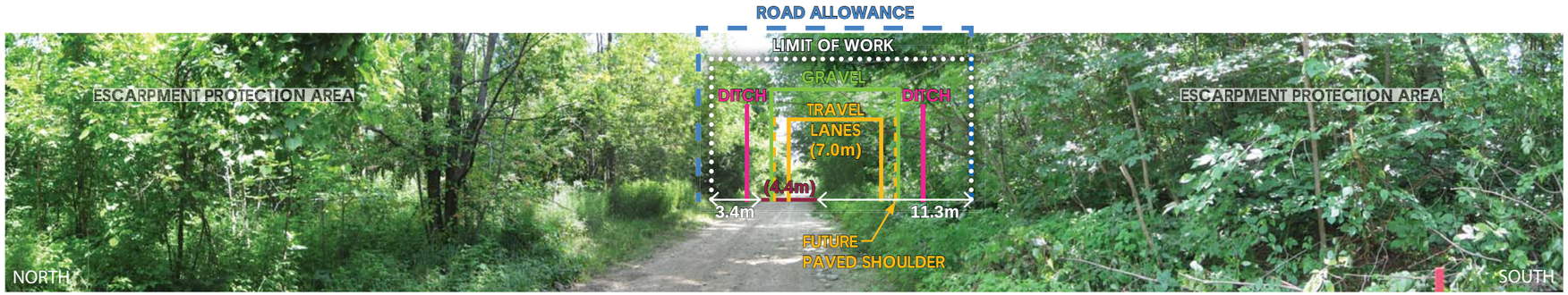
Station Point	LES Unit	CL elev. change	NORTH SIDE (left side on eng. cross-section)			SOUTH SIDE (right side on eng. cross-section)		
			Proposed Work	Visual Impact	Recommendations	Proposed Work	Visual Impact	Recommendations
6+620 – 6+760	**182 DUNTROON SLOPES**	+1.37m	**LES Scenic Ranking - VERY ATTRACTIVE**			**LES Scenic Ranking – VERY ATTRACTIVE**		
ESCARPMENT PROTECTION AREA	Landform		• No ditch. • Guide rails proposed from 6+710 to 6+770. • Grading extends past ROW near 6+730 (1.7m encroachment) to address a localized depression. • Erosion control blankets where banks are steeper than 1.5:1	• Neutral		• Ditch (avg. change: -0.37m) • Grading extends up to 9.5m from edge of ex. gravel.	• Neutral	
	Vegetative Cover		• Removal of young successional vegetation (reveals more of same)	• Neutral	• Provide grade stakes at the limit of work to reduce impacts to existing trees.	• Removal of young successional vegetation (to reveal agricultural field = diversity in vegetation)	• Positive	• Provide grade stakes at the limit of work to reduce impacts to existing trees.
	Landuse		• No changes	• Neutral		• No changes	• Neutral	
	Special Features		• None	• Neutral		• None	• Neutral	
	Views		• No changes	• Neutral		• Vegetation removal will open views to Niagara Escarpment to the SW	• Positive	
6+760 – 6+860	**182 DUNTROON SLOPES**	+0.29m	**LES Scenic Ranking - VERY ATTRACTIVE**			**LES Scenic Ranking – VERY ATTRACTIVE**		
ESCARPMENT PROTECTION AREA	Landform		• Ditch (avg. change: -0.70m) • Grading extends 2.4 to 6.5m from edge of ex. gravel. • Erosion control blankets where banks are steeper than 1.5:1.	• Neutral		• Ditch (avg. change: -1.60m) • Grading extends 8.1m to 11.6m from edge of ex. gravel.	• Neutral	
	Vegetative Cover		• Removal of young successional vegetation (reveals more of same)	• Neutral	• Provide grade stakes at the limit of work to reduce impacts to existing trees.	• Removal of young successional vegetation (to reveal agricultural field = diversity in vegetation)	• Positive	• Provide grade stakes at the limit of work to reduce impacts to existing trees.
	Landuse		• No changes	• Neutral		• No changes	• Neutral	
	Special Features		• None	• Neutral		• None	• Neutral	
	Views		• No changes	• Neutral		• Removal/thinning of vegetation from 6+760 to 6+855 may open attractive views to the escarpment slope, particularly in leaf-off season.	• Positive	

Table 26. SR 26/27 Station 6+760 to 6+980 – Analysis and Recommendations

Station Point	LES Unit	CL elev. change	NORTH SIDE (left side on eng. cross-section)			SOUTH SIDE (right side on eng. cross-section)		
			Proposed Work	Visual Impact	Recommendations	Proposed Work	Visual Impact	Recommendations
6+860 – 6+980	**182 DUNTROON SLOPES**	+0.21m	**LES Scenic Ranking - VERY ATTRACTIVE**			**LES Scenic Ranking – VERY ATTRACTIVE**		
ESCARPMENT PROTECTION AREA	Landform		• Ditch (avg. change: -0.83m) • Grading extends 3.5m to 4.5m from the edge of existing gravel. • Guiderail at the intersection.	• Neutral		• Ditch (avg. change: -1.80m) • Erosion control blankets where banks are steeper than 1.5:1. • Grading extends 3.5m to 4.7m from edge of ex. gravel.	• Neutral	
	Vegetative Cover		• Removal of young successional vegetation (reveals more of same)	• Neutral	• Provide grade stakes at the limit of work to reduce impacts to existing trees.	• Removal of edge of woodlot block	• Neutral	• Provide grade stakes at the limit of work to reduce impacts to existing trees.
	Landuse		• No changes	• Neutral		• No changes	• Neutral	
	Special Features		• None	• Neutral		• None	• Neutral	
	Views		• No changes	• Neutral		• No changes	• Neutral	



VIEW LOOKING WEST



VIEW LOOKING EAST

CENTERLINE GRADE CHANGE:

-0.02m

NEAREST R.J. BURNSIDE CROSS-SECTION:

Station 6+840 (RJB Dwg. CS-12)

NORTH ROAD ALLOWANCE:

- Escarpment Protection Area
- Ditch: grade change -1.03m
- Guide rails proposed from 6+710 to 6+770 and they are consistent with a rural aesthetic.
- Removal of successional forest edge.

SOUTH ROAD ALLOWANCE:

- Escarpment Protection Area
- Ditch: grade change -1.75m
- Removal of successional forest edge.



LEGEND:

Road Allowance | Pavement | Gravel | Existing Gravel | NEP Boundary | Bruce Trail | Wetland | Escarpment Natural Area | Escarpment Recreation Area

Limit of Work | Paved Shoulder | Ditch | 21 Reference Point | NEPOSS | Provincially Significant Wetland | ANSI | Escarpment Protection Area | Escarpment Rural Area

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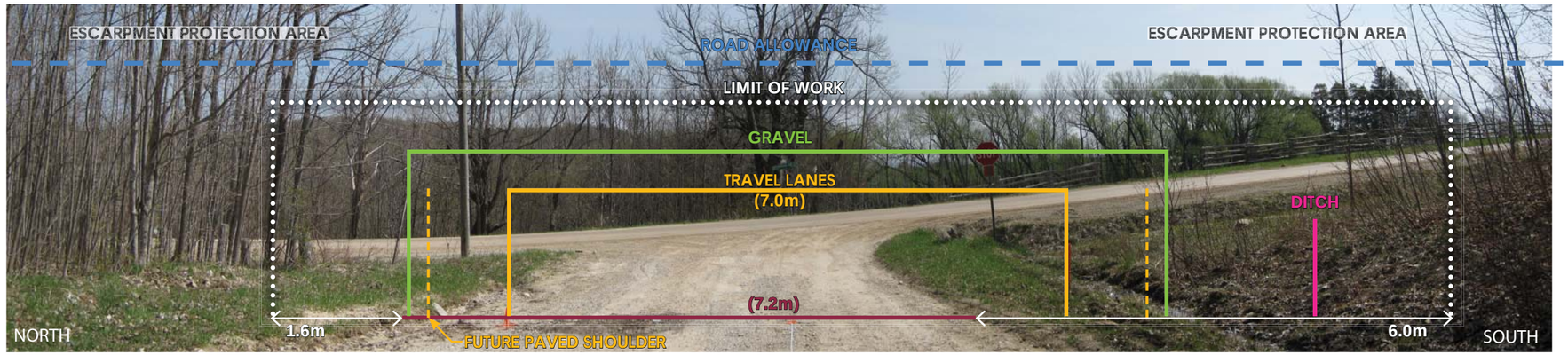
Figure 69

STATION 6+840 **VIEWPOINT 26**



VIEW LOOKING EAST

CENTERLINE GRADE CHANGE:

+0.43m

NEAREST R.J. BURNSIDE CROSS-SECTION:

Station 6+960, 6+980 (RJB Dwg. CS-12)

NORTH ROAD ALLOWANCE:

- Escarpment Protection Area
- Ditch: grade change 0.00m
- Cross-culvert at 6+983
- No impacts to vegetation.

SOUTH ROAD ALLOWANCE:

- Escarpment Protection Area
- Ditch: grade change 0.00m
- Cross-culvert at 6+983
- No impacts to vegetation.



LEGEND:

- Road Allowance
- Limit of Work
- Pavement
- Paved Shoulder
- Gravel
- Ditch
- Existing Gravel
- 21 Reference Point
- NEP Boundary
- NEPOSS
- Bruce Trail
- Provincially Significant Wetland
- Wetland
- ANSI
- Escarpment Natural Area
- Escarpment Protection Area
- Escarpment Recreation Area
- Escarpment Rural Area

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Figure 70

STATION 6+970 **VIEWPOINT 27**



EXISTING PANORAMIC

VIEW LOOKING WEST



EXISTING CONDITION



POST CONSTRUCTION



KEY MAP N.T.S.

ENVISION TATHAM

CLEARVIEW

SIDEROAD 26 / 27 - Rob Roy-Singhampton Uplands

PHOTOGRAPHIC SIMULATION

August 7, 2015

Figure 71

STATION 4+800 **VIEWPOINT 16**



EXISTING PANORAMIC

VIEW LOOKING EAST



EXISTING CONDITION





POST CONSTRUCTION





KEY MAP N.T.S.

ENVISION TATHAM
CLEARVIEW

SIDEROAD 26/27 - Rob Roy-Singhampton Uplands

PHOTOGRAPHIC SIMULATION

August 7, 2015

Figure 72

STATION 4+800 **VIEWPOINT 16**

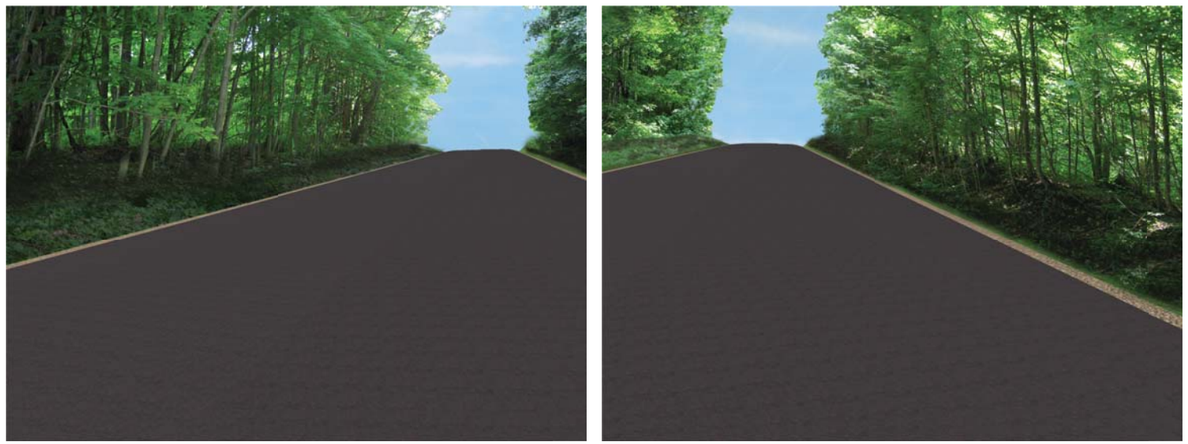


EXISTING PANORAMIC

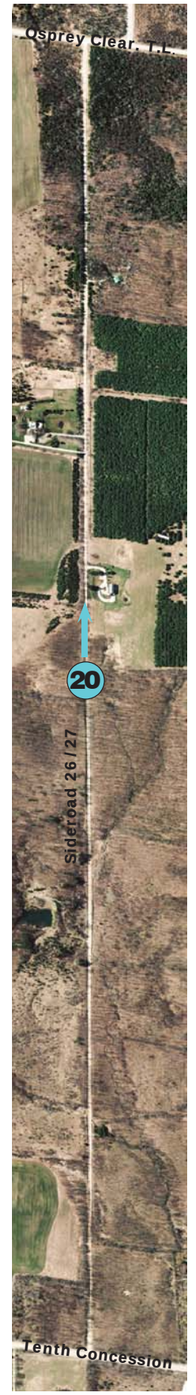
VIEW LOOKING WEST



EXISTING CONDITION



POST CONSTRUCTION



KEY MAP N.T.S.

ENVISION TATHAM

CLEARVIEW

SIDEROAD 26/27 - Duntroon Edge

PHOTOGRAPHIC SIMULATION

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Figure 73

STATION 5+760 **VIEWPOINT 20**



EXISTING PANORAMIC

VIEW LOOKING EAST



EXISTING CONDITION



POST CONSTRUCTION



KEY MAP N.T.S.

ENVISION TATHAM

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SIDEROAD 26/27 - Duntroon Edge

PHOTOGRAPHIC SIMULATION

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Figure 74

STATION 5+760 **VIEWPOINT 20**



EXISTING PANORAMIC

VIEW LOOKING WEST



EXISTING CONDITION



POST CONSTRUCTION



KEY MAP N.T.S.

ENVISION TATHAM

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SIDEROAD 26/27 - Duntroon Slopes

PHOTOGRAPHIC SIMULATION

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Figure 75

STATION 6+410 **VIEWPOINT 23**



EXISTING PANORAMIC

VIEW LOOKING EAST



EXISTING CONDITION



POST CONSTRUCTION



NORTH

KEY MAP N.T.S.

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SIDEROAD 26/27 - Duntroon Slopes

PHOTOGRAPHIC SIMULATION

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Figure 76

STATION 6+410 **VIEWPOINT 23**

APPENDIX C: ENGINEERING DRAWINGS

TOWNSHIP OF CLEARVIEW

CLEARVIEW CONCESSION 10 RECONSTRUCTION

CONTRACT No.



BURNSIDE

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CLEARVIEW

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Burnside Project No. 300034586

DESIGN REVISION - 2015/07/30

BURNSIDE

TOWNSHIP OF CLEARVIEW - CLEARVIEW CONCESSION 10 RECONSTRUCTION - CONTRACT No.
Burnside Project No. 300034586 - DESIGN REVISION - 2015/07/30

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LEGEND

EXISTING

SIB	STD IRON BAR
IB	IRON BAR
RIB	ROUND IRON BAR
HP	HYDRO POLE
THP	HYDRO POLE WITH TRANSFORMER
HPLS	UTILITY POLE WITH LIGHT STD
THPLS	UTILITY POLE WITH LIGHT STD AND TRANSFORMER
	BELL PED
BHP	BELL/HYDRO POLE
LS	LIGHT STD
400mm	DECIDUOUS TREE
300mm	CONIFEROUS TREE
MB	MAIL BOX
X	FENCE
B	U/G BELL
TV	ROGER'S CABLE
BC	U/G BELL & ROGER'S CABLE (SHARED TRENCH)
216.10	GROUND ELEVATION

REMOVALS

	CLEARING & GRUBBING
	TREE REMOVAL
X	FENCE REMOVAL
	CULVERT REMOVAL

NEW CONSTRUCTION

	GRADING LIMIT (FILL)
	GRADING LIMIT (CUT)
	DITCH WITH FLOW DIRECTION
	STEEL BEAM GUIDE RAIL
	LIGHT-DUTY SILT FENCE (OPSD 219.110)
	HEAVY-DUTY SILT FENCE (OPSD 219.130)
	GRAVEL DRIVEWAY
	ASPHALT DRIVEWAY
	CONCRETE DRIVEWAY
	INTERLOCKING BRICK DRIVEWAY
	BOREHOLE

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2	ISSUED FOR APPROVAL AGENCY REVIEW	2014/01/31	
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5	DESIGN REVISION	2015/07/24	
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Client

TOWNSHIP OF CLEARVIEW
217 GIDEON STREET
STAYNER, ONTARIO
L0M 1S0

Drawing Title

CLEARVIEW CONCESSION 10 RECONSTRUCTION

DRAWING LIST, LEGEND AND GENERAL NOTES

Drawn	Checked	Designed	Checked	Date	Drawing No.
JSE	JKV	JSE/JKV	JKV	2015/07/30	C000
Scale		Project No.		Revision No.	
N.T.S.		300034586		6	

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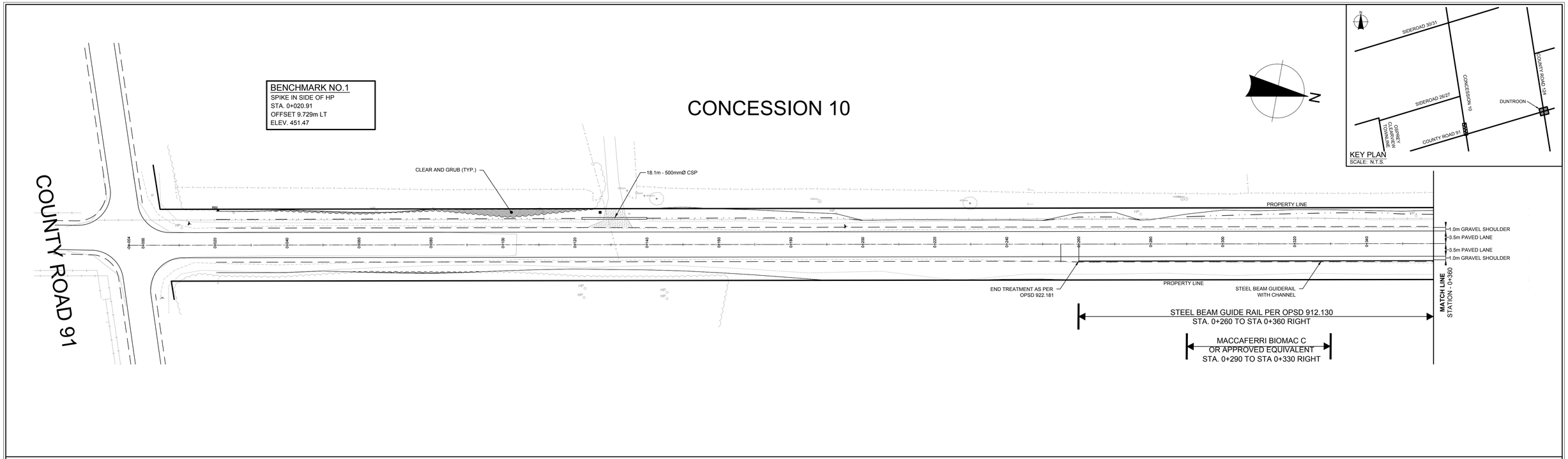

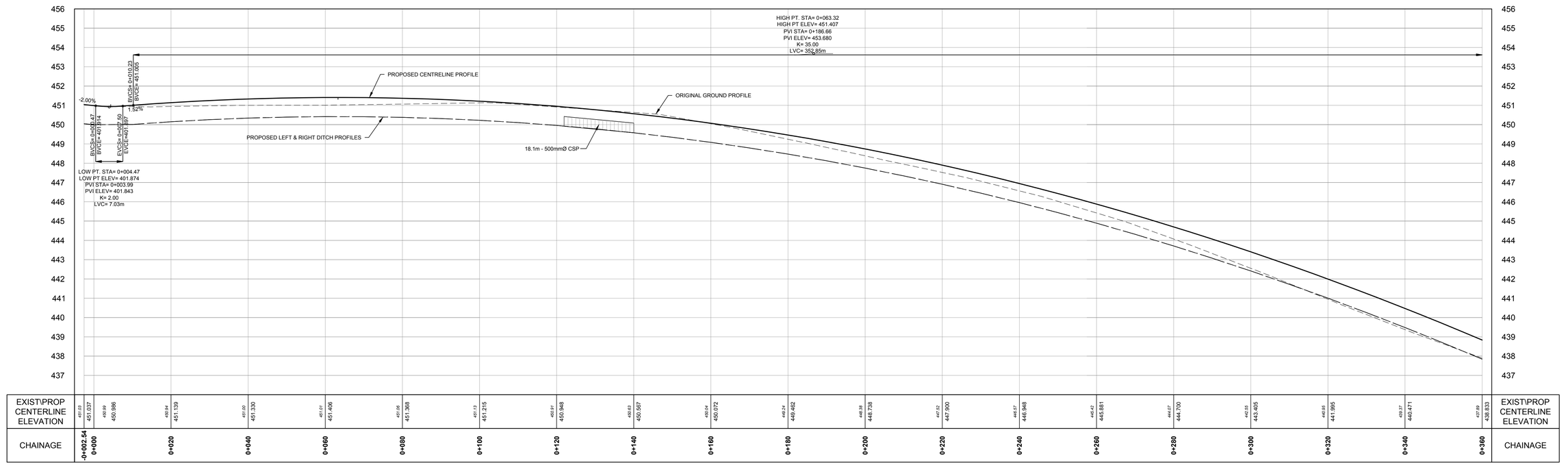

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6	DESIGN REVISION	2015/07/30	

0 2.0 4.0 6.0 8.0
Metres
Vertical: 1:100

0 5.0 10.0 20.0 30.0 40.0
Metres
Horizontal: 1:500

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L0M 1S0

Drawing Title
CLEARVIEW CONCESSION 10 RECONSTRUCTION

PLAN & PROFILE
CONCESSION 10
-0+002.54 to 0+360

Drawn	Checked	Designed	Checked	Date	Drawing No.
JSE	JKV	JSE/JKV	JKV	2015/07/30	C001
Scale		Project No.		Revision No.	
H 1:500 V 1:100		300034586		6	

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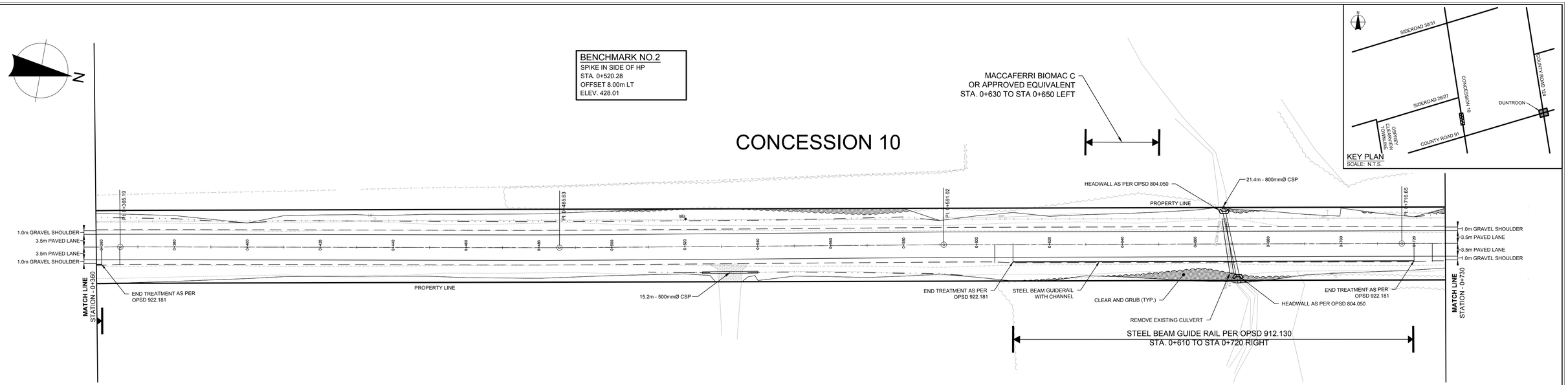

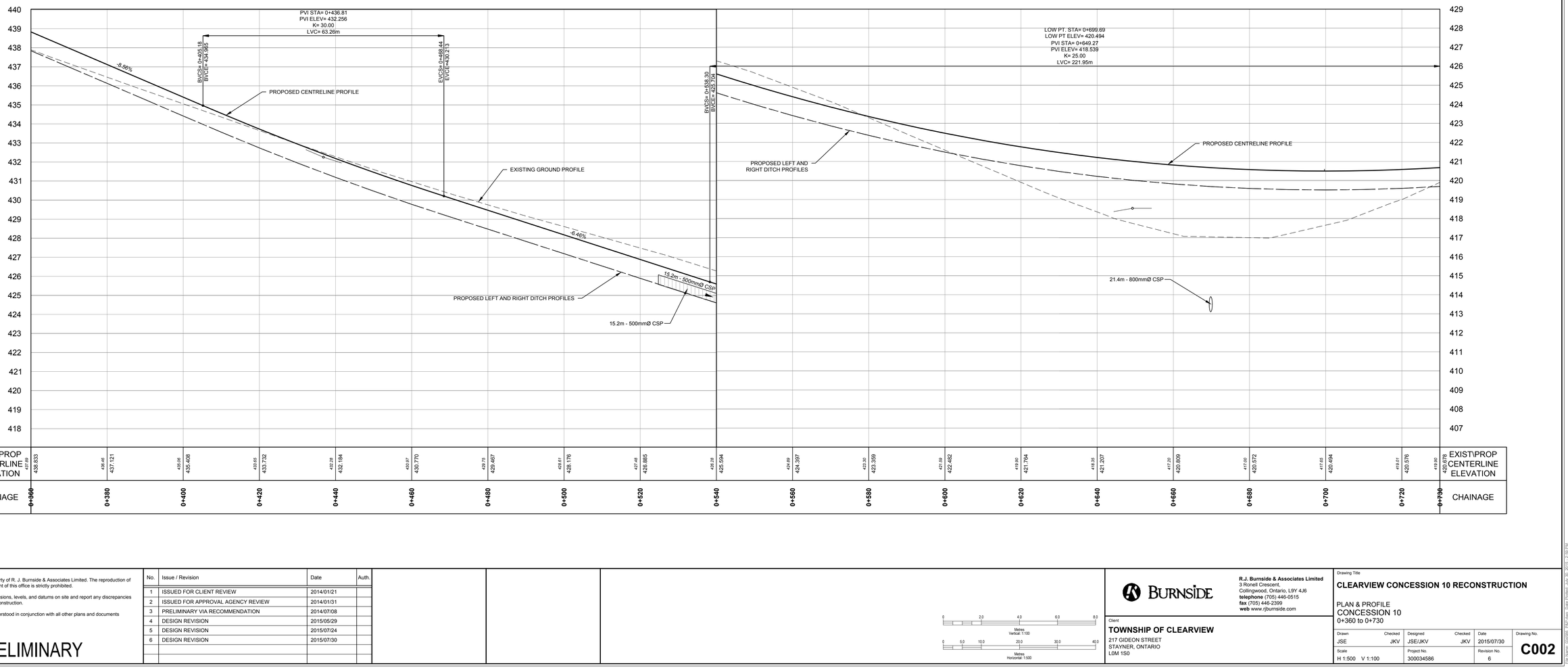

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Metres
Vertical 1:100
Metres
Horizontal 1:500

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Drawing Title
CLEARVIEW CONCESSION 10 RECONSTRUCTION

PLAN & PROFILE
CONCESSION 10
0+360 to 0+730

Drawn	Checked	Designed	Checked	Date	Drawing No.
JSE	JKV	JSE/JKV	JKV	2015/07/30	**C002**
Scale		Project No.		Revision No.	
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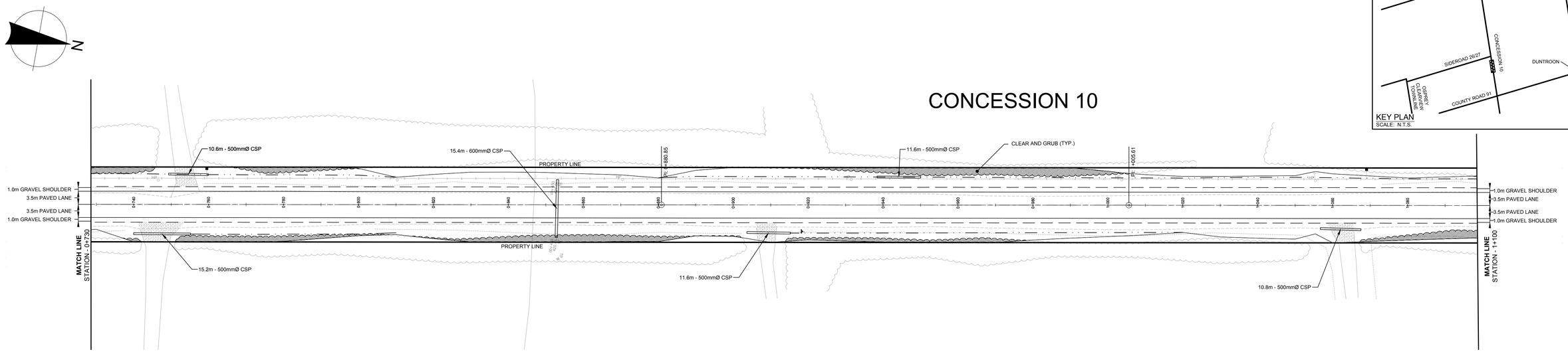
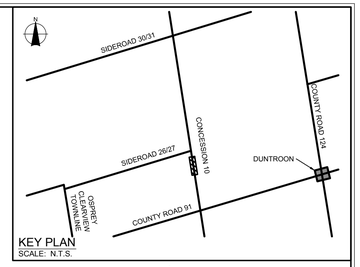
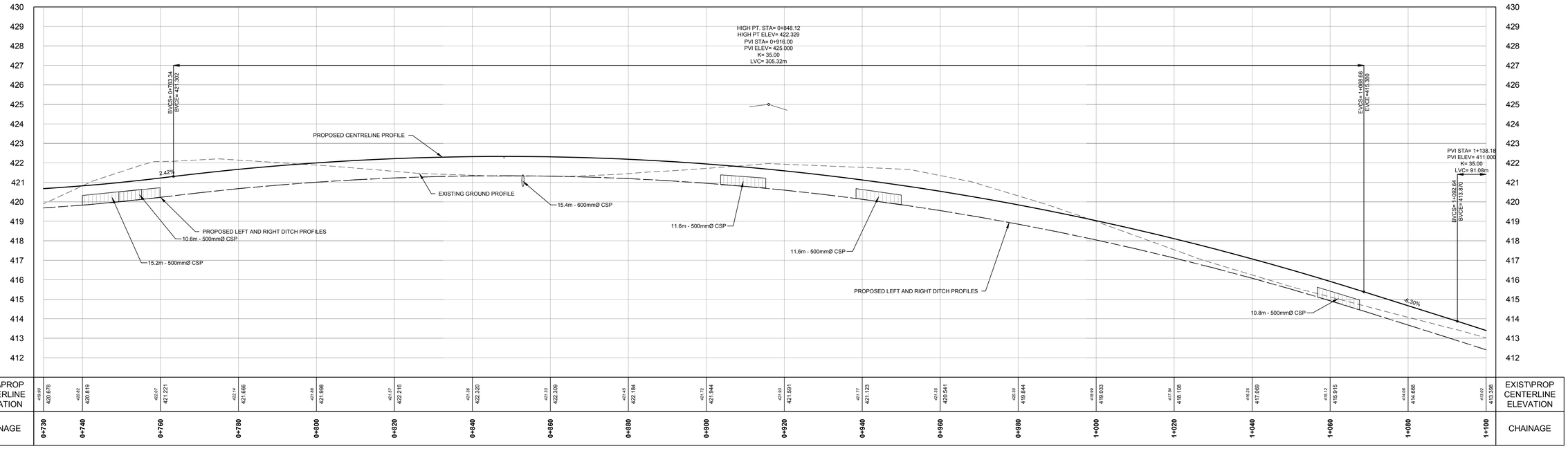




KEY PLAN
SCALE: N.T.S.



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CHAINAGE	0+730		0+740		0+760		0+780		0+800		0+820		0+840		0+860		0+880		0+900		0+920		0+940		0+960		0+980		1+000		1+020		1+040		1+060		1+080		1+100		CHAINAGE

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0 2.0 4.0 6.0 8.0
Metres
Vertical: 1:100

0 5.0 10.0 20.0 30.0 40.0
Metres
Horizontal: 1:500

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Drawing Title
CLEARVIEW CONCESSION 10 RECONSTRUCTION

PLAN & PROFILE
CONCESSION 10
0+730 to 1+100

Drawn	Checked	Designed	Checked	Date	Drawing No.
JSE	JKV	JSE/JKV	JKV	2015/07/30	C003
Scale		Project No.		Revision No.	
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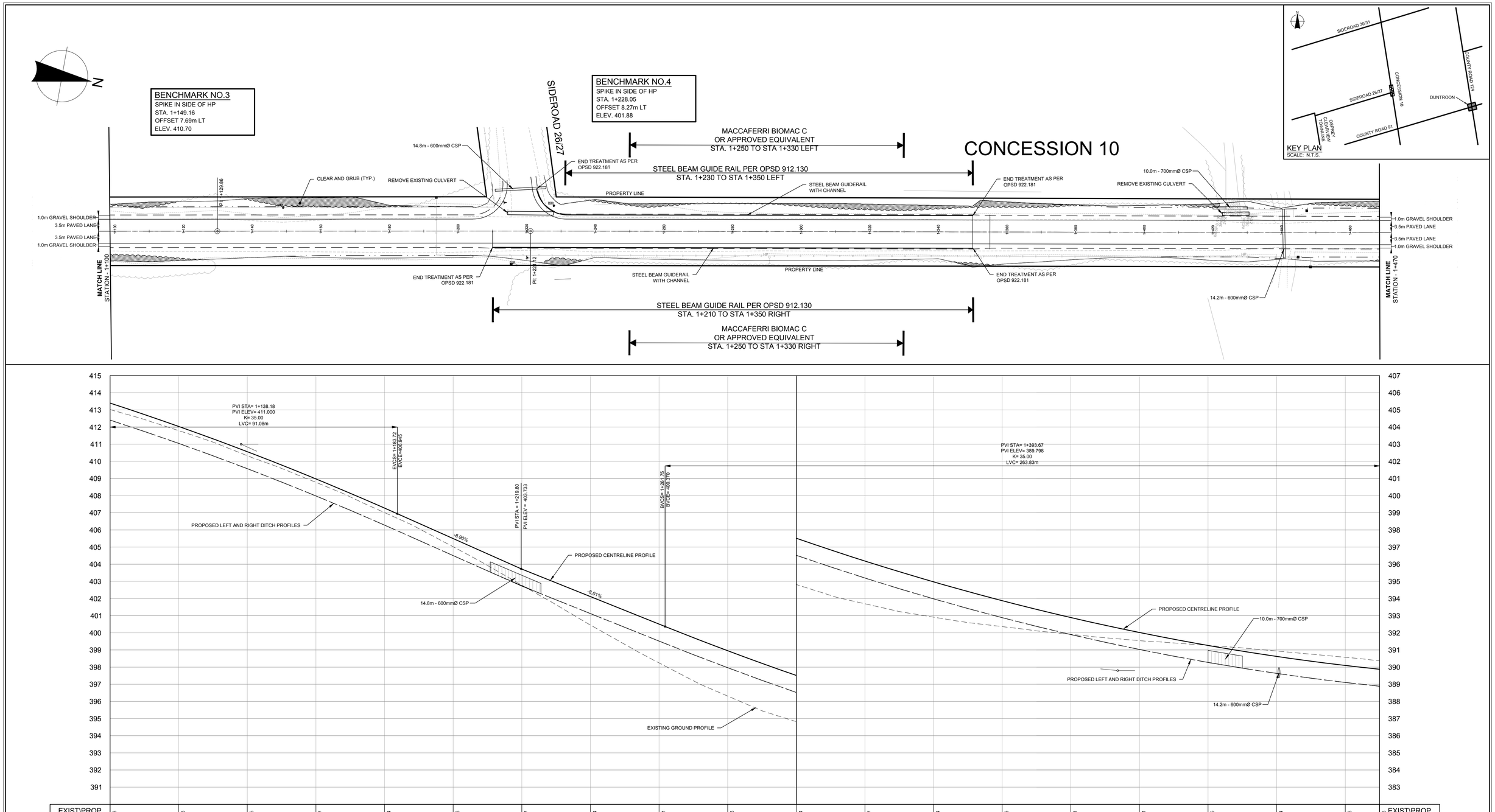

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0 2.0 4.0 6.0 8.0
Metres
Vertical: 1:100

0 5.0 10.0 20.0 30.0 40.0
Metres
Horizontal: 1:500

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Drawing Title
CLEARVIEW CONCESSION 10 RECONSTRUCTION

PLAN & PROFILE
CONCESSION 10
1+100 to 1+470

Drawn	Checked	Designed	Checked	Date	Drawing No.
JSE	JKV	JSE/JKV	JKV	2015/07/30	C004
Scale		Project No.		Revision No.	
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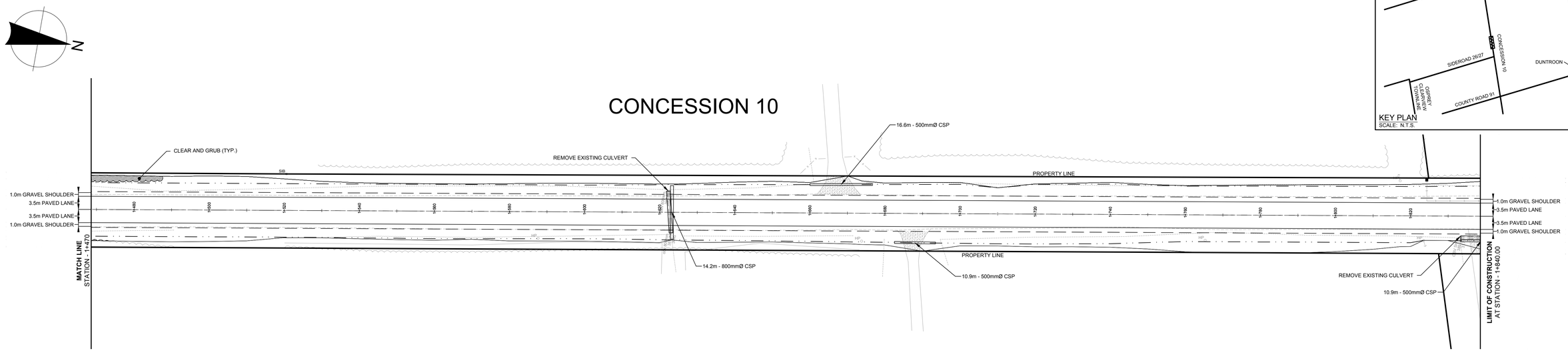
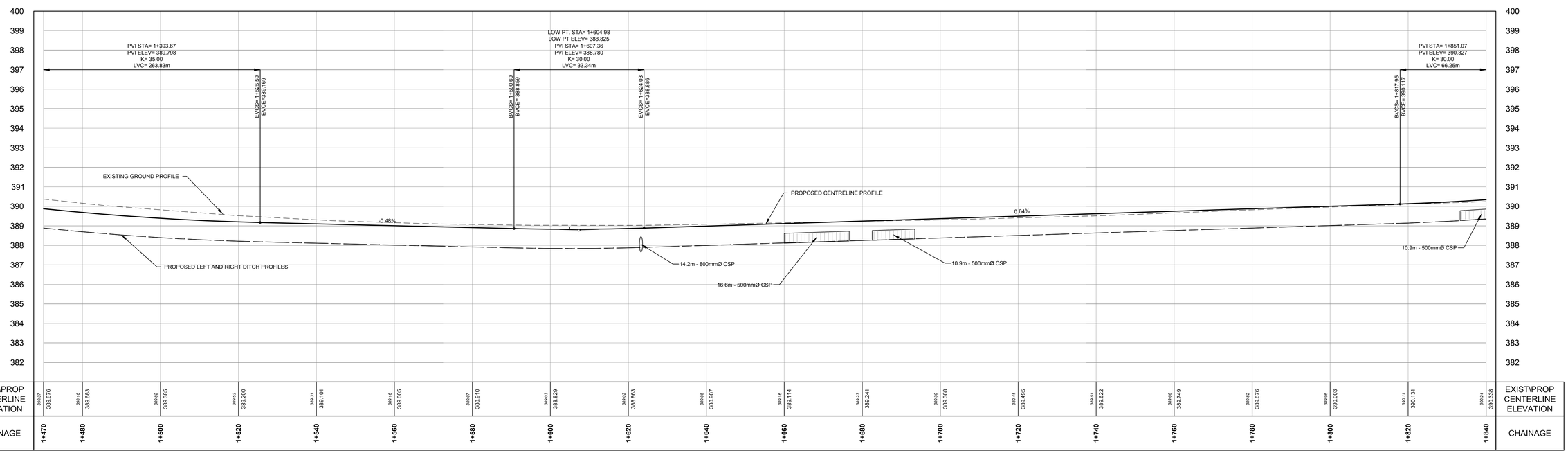
CONCESSION 10





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CHAINAGE	1+470		1+480		1+500		1+520		1+540		1+560		1+580		1+600		1+620		1+640		1+660		1+680		1+700		1+720		1+740		1+760		1+780		1+800		1+820		1+840		CHAINAGE

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6	DESIGN REVISION	2015/07/30	

Metres
Vertical 1:100

Metres
Horizontal 1:500

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217 GIDEON STREET
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L0M 1S0

Drawing Title

CLEARVIEW CONCESSION 10 RECONSTRUCTION

PLAN & PROFILE
CONCESSION 10
1+470 to 1+840

Drawn	Checked	Designed	Checked	Date	Drawing No.
JSE	JKV	JSE/JKV	JKV	2015/07/30	C005
Scale		Project No.		Revision No.	
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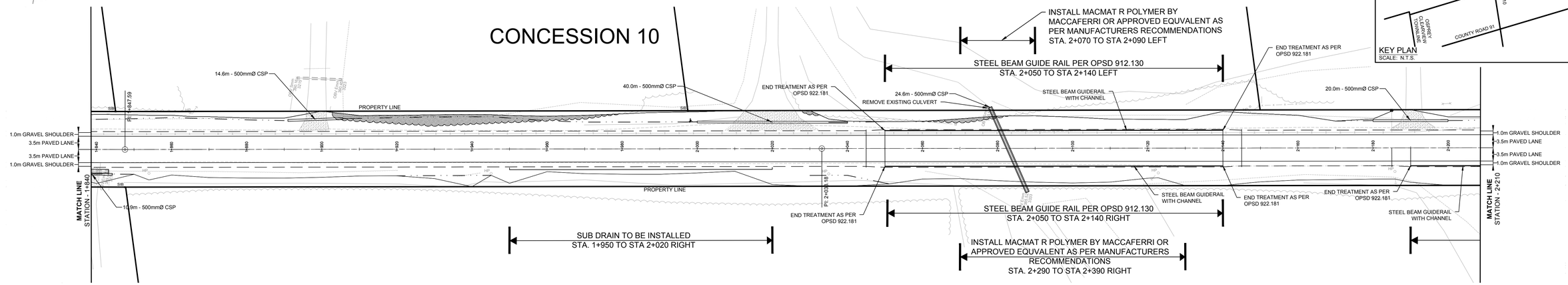
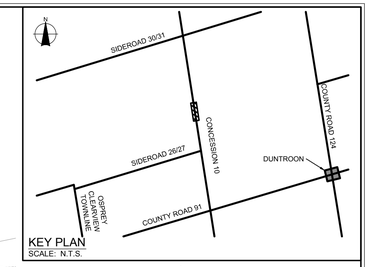
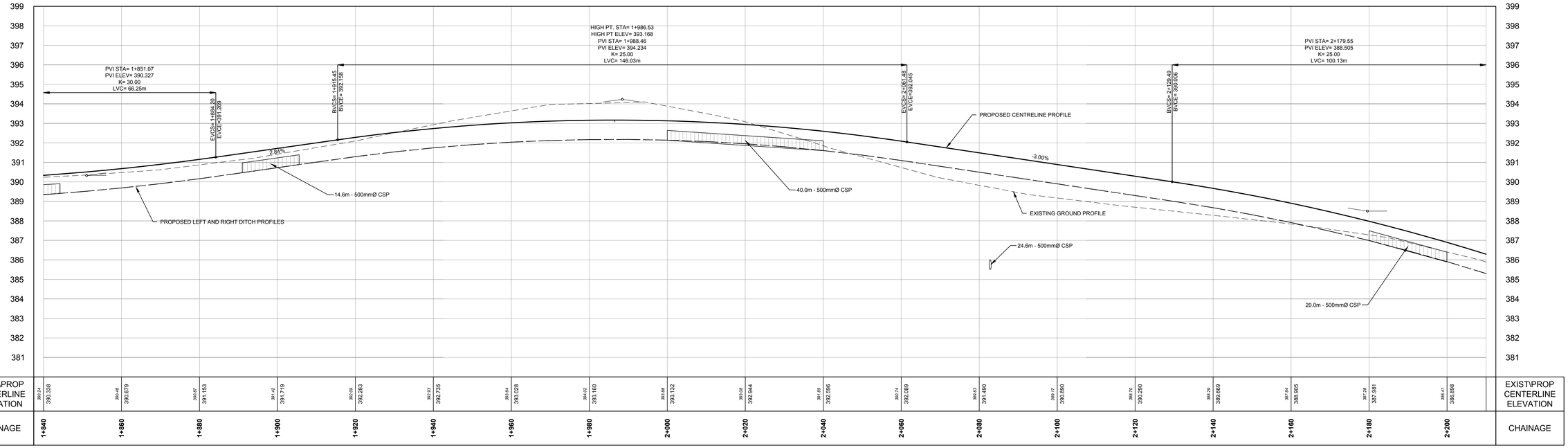
CONCESSION 10







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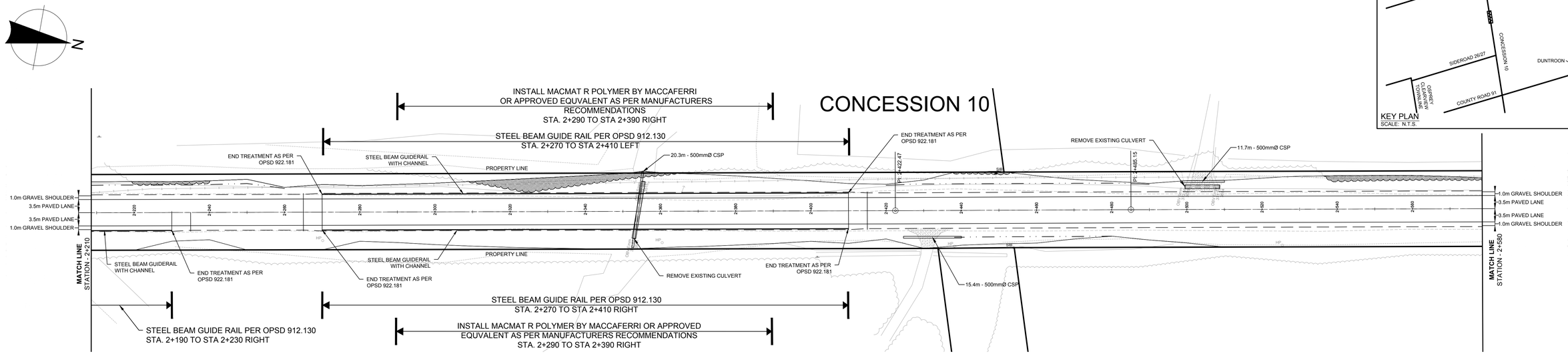

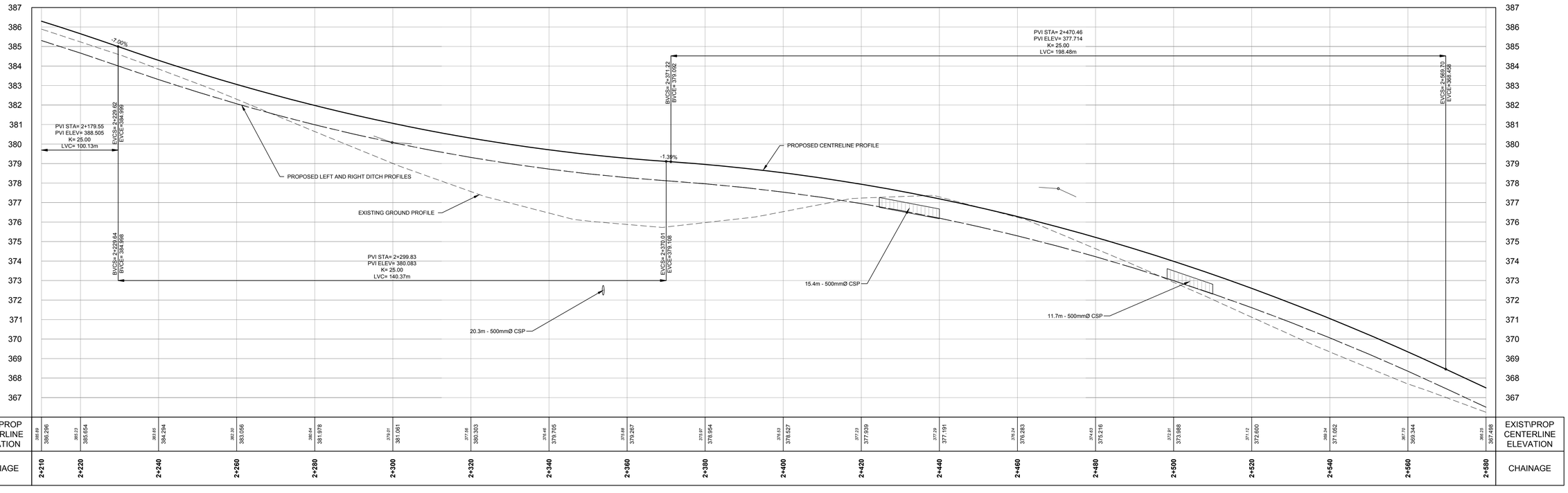

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0 2.0 4.0 6.0 8.0
Metres
Vertical: 1:100

0 5.0 10.0 20.0 30.0 40.0
Metres
Horizontal: 1:500

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L0M 1S0

Drawing Title

CLEARVIEW CONCESSION 10 RECONSTRUCTION

PLAN & PROFILE
CONCESSION 10
2+210 to 2+580

Drawn	Checked	Designed	Checked	Date	Drawing No.
JSE	JKV	JSE/JKV	JKV	2015/07/30	**C007**
Scale		Project No.		Revision No.	
H 1:500 V 1:100		300034586		6	

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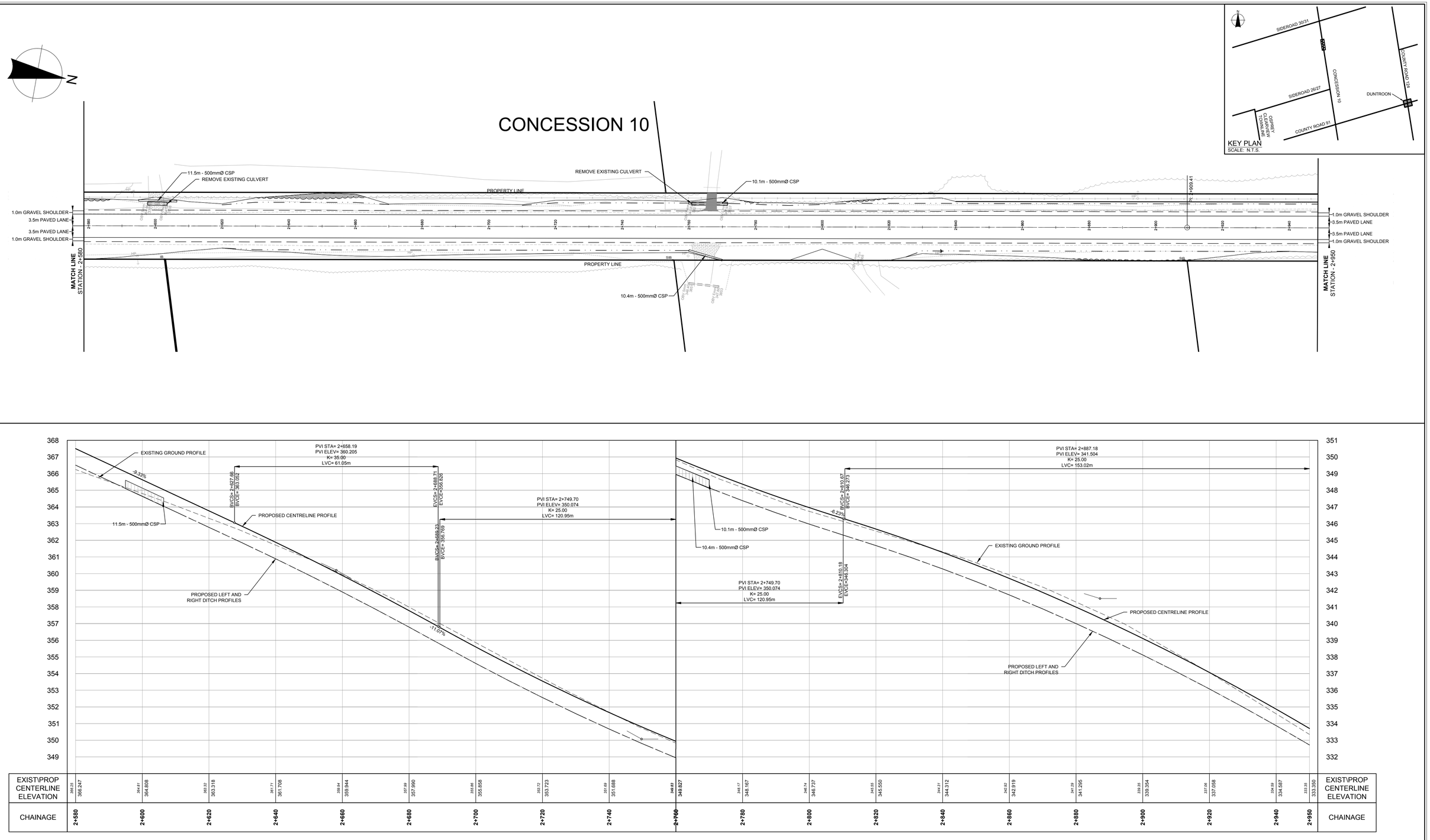

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0 2.0 4.0 6.0 8.0
Metres
Vertical: 1:100

0 5.0 10.0 20.0 30.0 40.0
Metres
Horizontal: 1:500

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Client

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217 GIDEON STREET
STAYNER, ONTARIO
L0M 1S0

Drawing Title

CLEARVIEW CONCESSION 10 RECONSTRUCTION

PLAN & PROFILE
CONCESSION 10
2+580 to 2+950

Drawn	Checked	Designed	Checked	Date	Drawing No.
JSE	JKV	JSE/JKV	JKV	2015/07/30	C008
Scale		Project No.		Revision No.	
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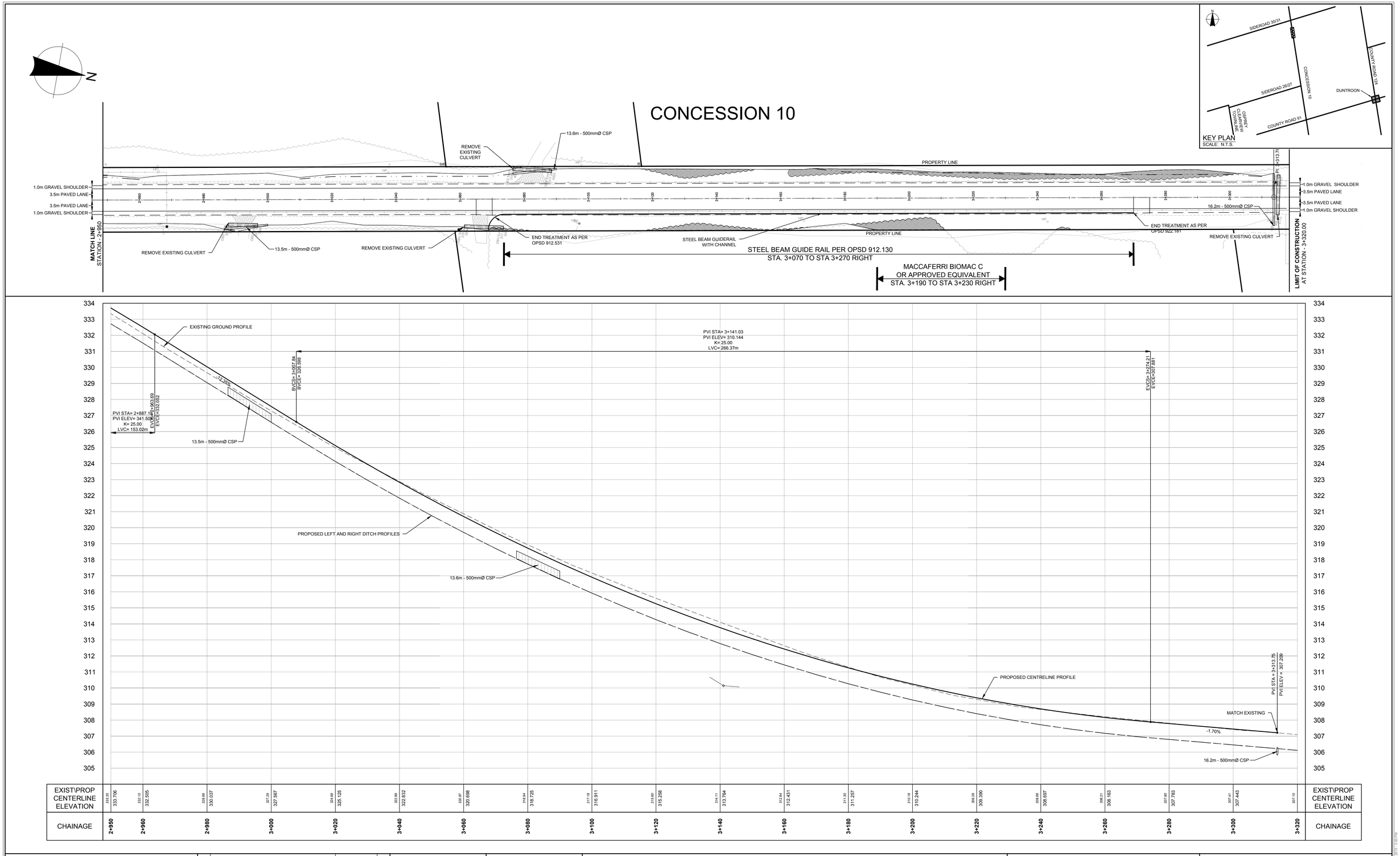

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Metres
Vertical: 1:100

0 5.0 10.0 20.0 30.0 40.0
Metres
Horizontal: 1:500

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L0M 1S0

Drawing Title
CLEARVIEW CONCESSION 10 RECONSTRUCTION

PLAN & PROFILE
CONCESSION 10
2+950 to 3+320

Drawn	Checked	Designed	Checked	Date	Drawing No.
JSE	JKV	JSE/JKV	JKV	2015/07/30	C009
Scale		Project No.		Revision No.	
H 1:500 V 1:100		300034586		6	

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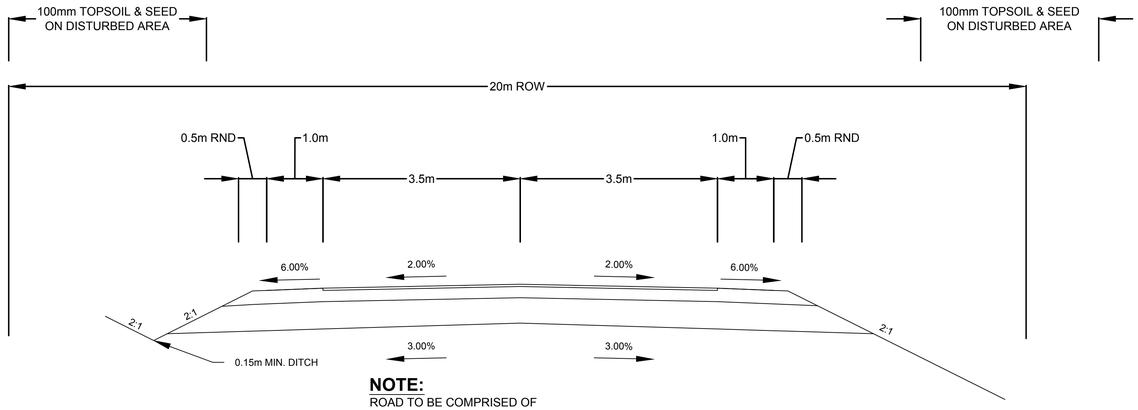
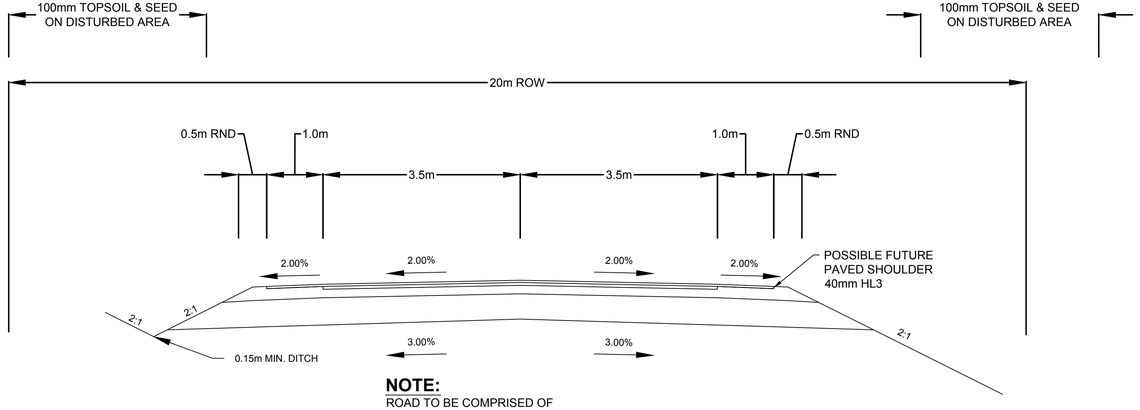


NOTE:
ROAD TO BE COMPRISED OF
- 50mm HL8
- 150mm GRANULAR A
- 450mm GRANULAR B

INTERIM TYPICAL CROSS-SECTION

SCALE 1:50



NOTE:
ROAD TO BE COMPRISED OF
- 40mm HL3
- 50mm HL8
- 150mm GRANULAR A
- 450mm GRANULAR B

ULTIMATE TYPICAL CROSS-SECTION

SCALE 1:50

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PRELIMINARY

No.	Issue / Revision	Date	Auth.
1	ISSUED FOR CLIENT REVIEW	2014/01/21	
2	ISSUED FOR APPROVAL AGENCY REVIEW	2014/01/31	
3	PRELIMINARY VIA RECOMMENDATION	2014/07/08	
4	DESIGN REVISION	2015/05/29	
5	DESIGN REVISION	2015/07/24	
6	DESIGN REVISION	2015/07/30	

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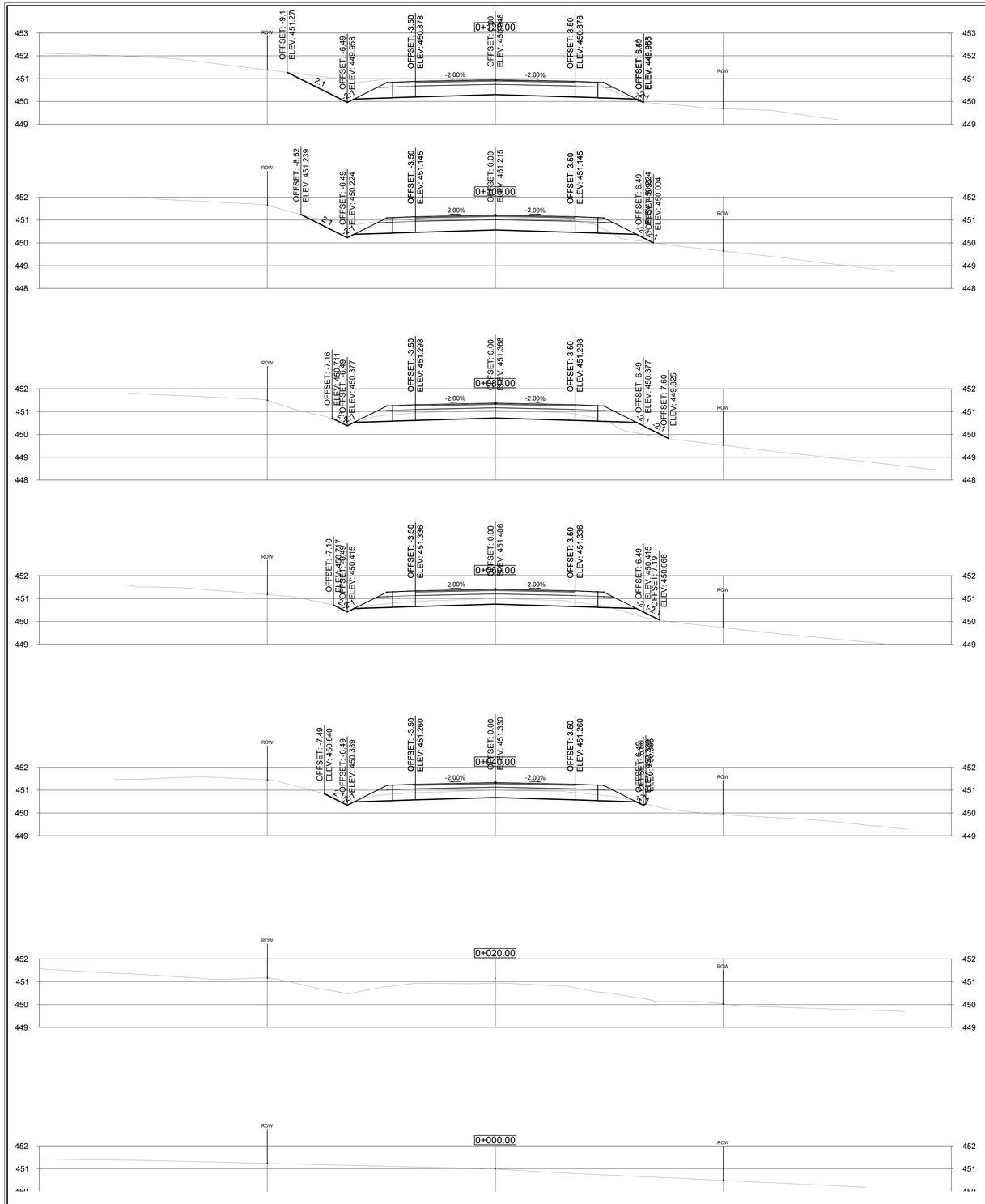
TOWNSHIP OF CLEARVIEW
217 GIDEON STREET
STAYNER, ONTARIO
L0M 1S0

Drawing Title
CLEARVIEW CONCESSION 10 RECONSTRUCTION
TYPICAL SECTIONS AND DETAILS

Drawn	Checked	Designed	Checked	Date	Drawing No.
JSE	JKV	JSE/JKV	JKV	2015/07/30	C010
Scale		Project No.		Revision No.	
AS NOTED		300034586		6	

File Name: 034586_COVER.dwg Date Plotted: July 30, 2015 - 3:01 PM



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Drawing Title

CLEARVIEW CONCESSION 10 RECONSTRUCTION

CROSS SECTIONS
CONCESSION 10

Drawn	Checked	Designed	Checked	Date	Drawing No.
JSE	JKV	JSE/JKV	JKV	2015/07/30	**CS001**
Scale		Project No.		Revision No.	
1:100		300034586		6	

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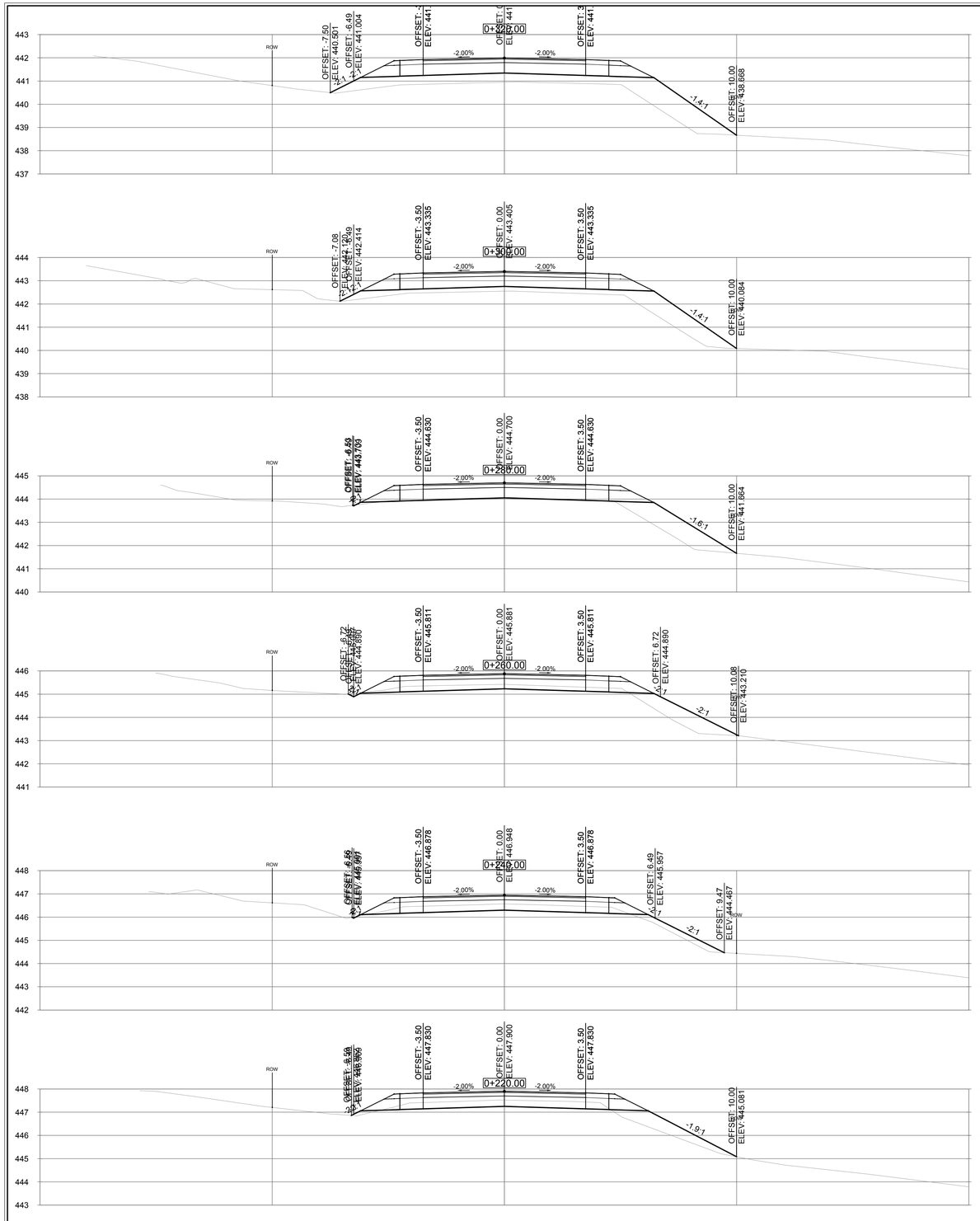

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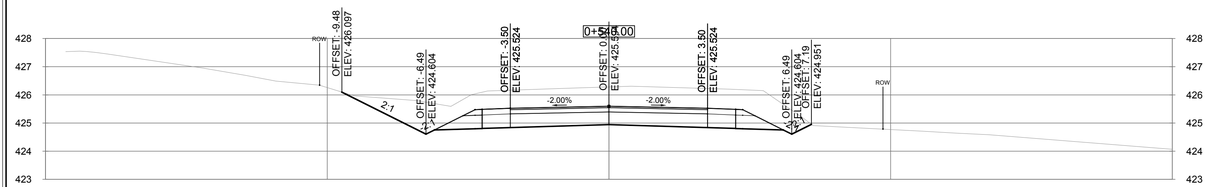
Drawing Title

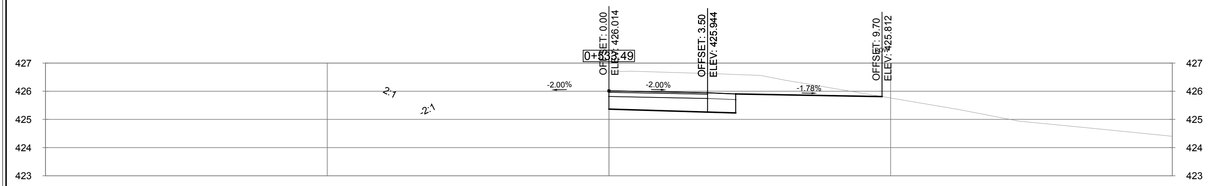
CLEARVIEW CONCESSION 10 RECONSTRUCTION

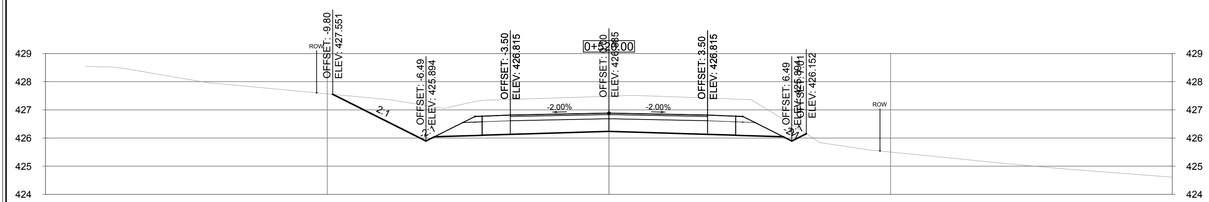
CROSS SECTIONS
CONCESSION 10

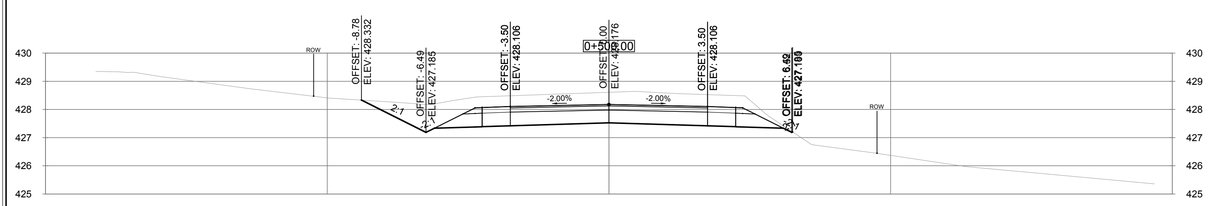
Drawn	Checked	Designed	Checked	Date	Drawing No.
JSE	JKV	JSE/JKV	JKV	2015/07/30	**CS002**
Scale		Project No.		Revision No.	
1:100		300034586		6	

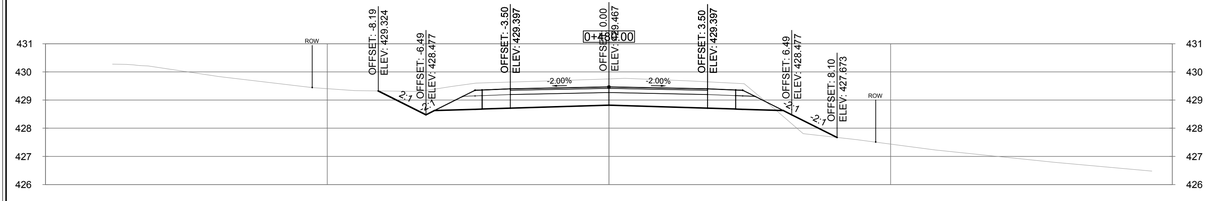
File Name: 300034586_SECTIONS.dwg Date Plotted: July 31, 2015 - 10:57 AM

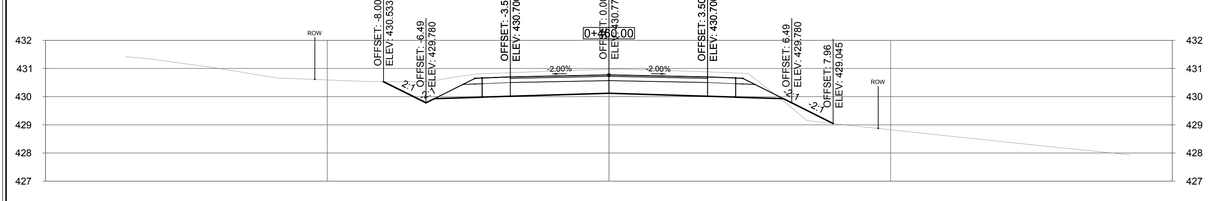


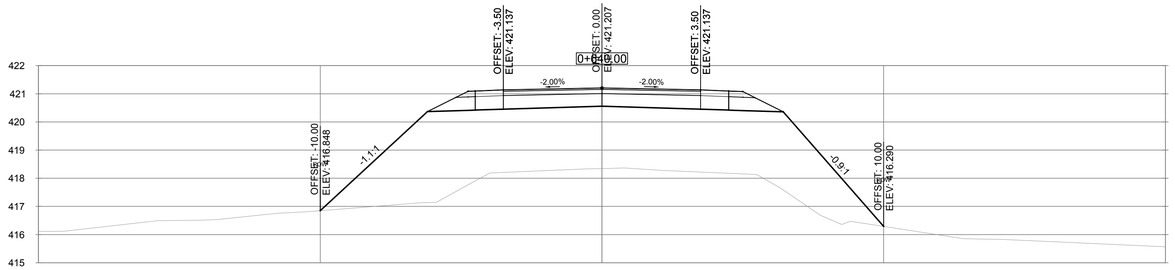


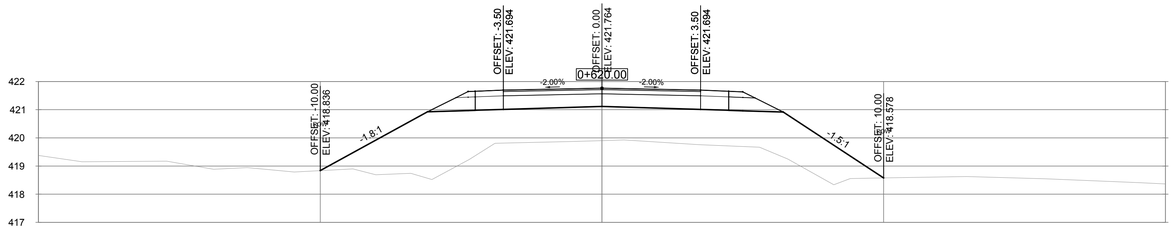


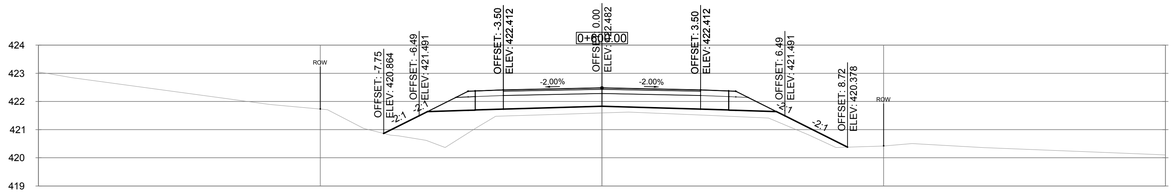


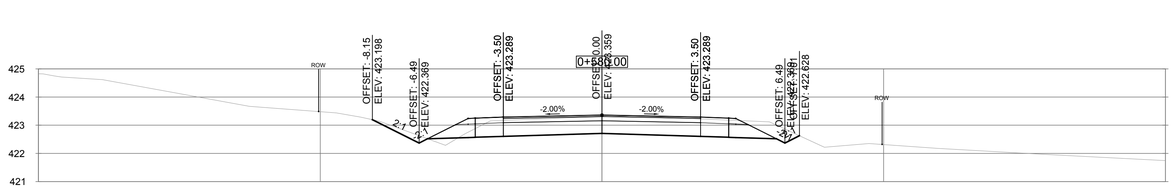


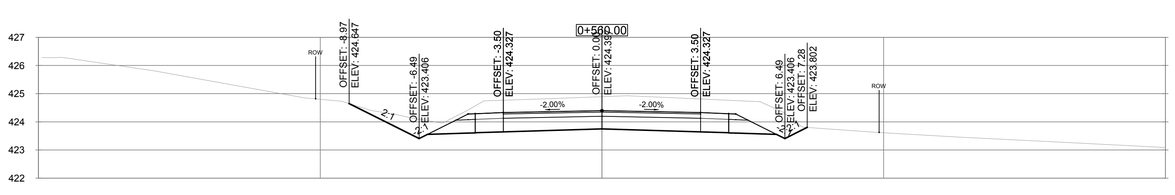


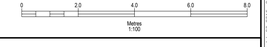












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Drawing Title

CLEARVIEW CONCESSION 10 RECONSTRUCTION

CROSS SECTIONS
CONCESSION 10

Drawn	Checked	Designed	Checked	Date	Drawing No.
JSE	JKV	JSE/JKV	JKV	2015/07/30	**CS003**
Scale		Project No.		Revision No.	
1:100		300034586		6	

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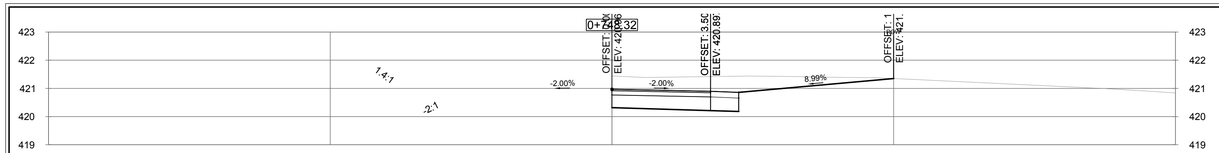

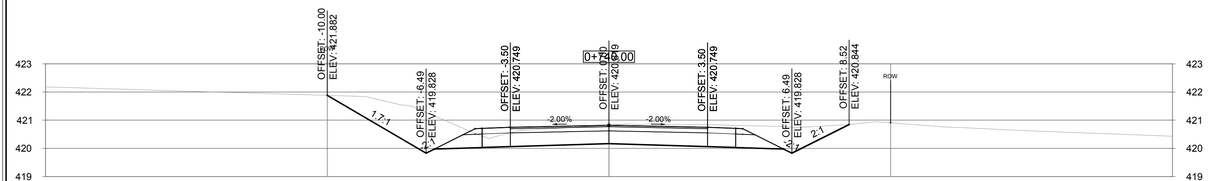

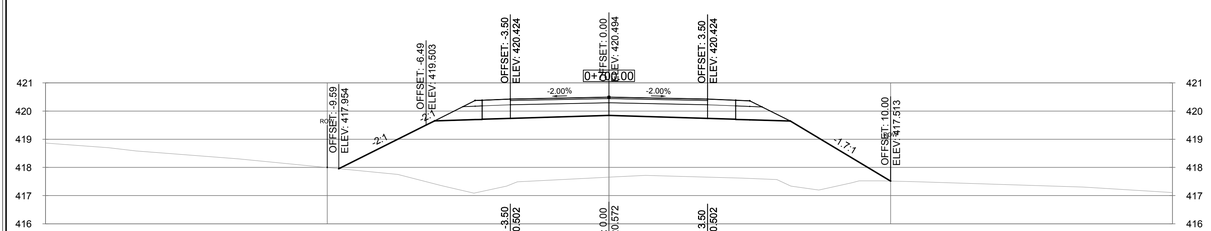

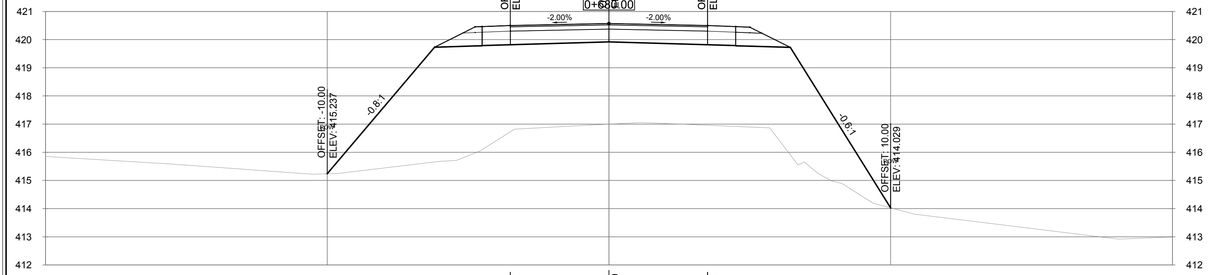

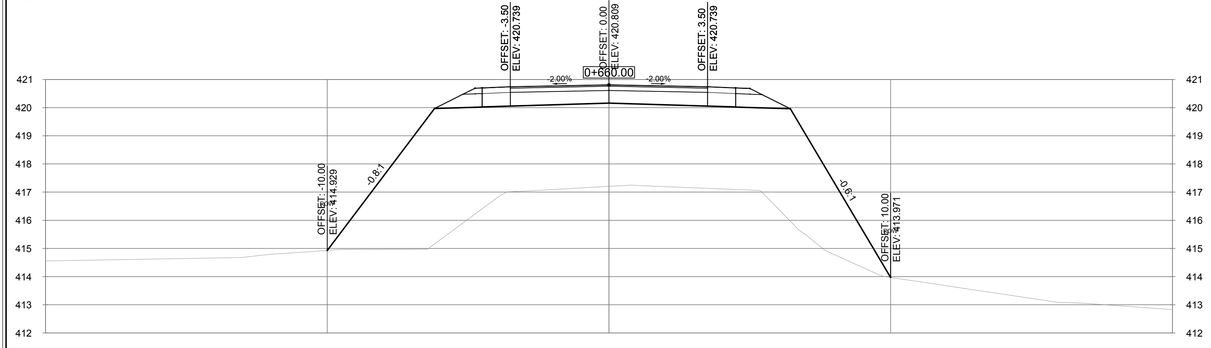

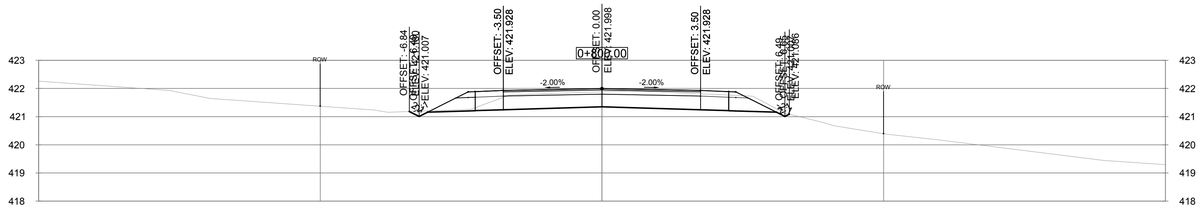

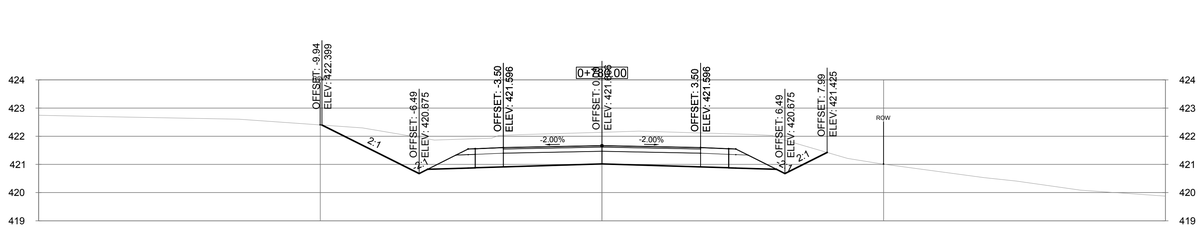

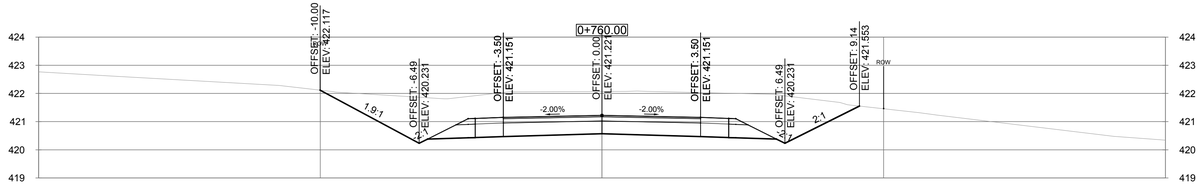

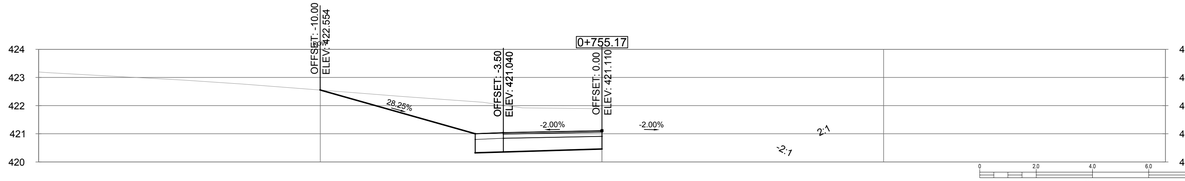

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L0M 1S0

Drawing Title

CLEARVIEW CONCESSION 10 RECONSTRUCTION

CROSS SECTIONS
CONCESSION 10

Drawn	Checked	Designed	Checked	Date	Drawing No.
JSE	JKV	JSE/JKV	JKV	2015/07/30	**CS004**
Scale		Project No.		Revision No.	
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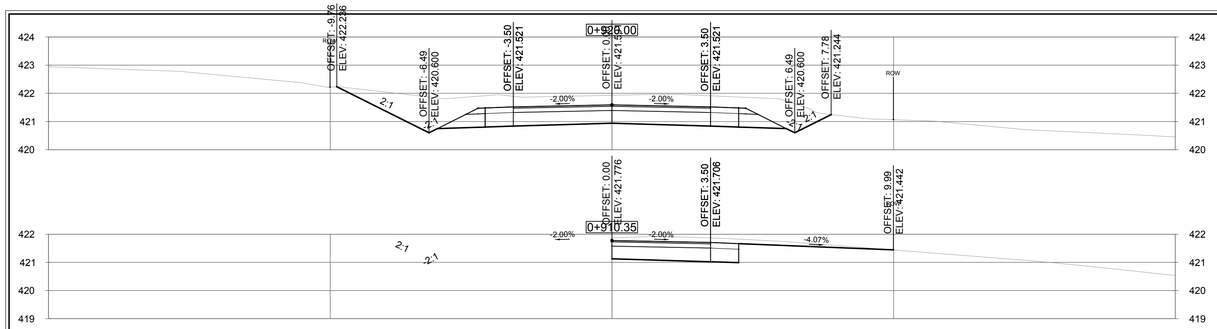
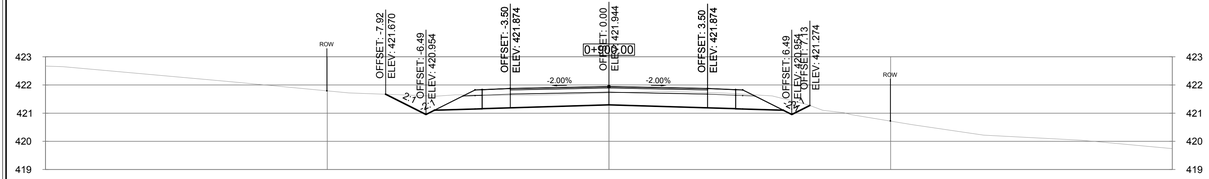
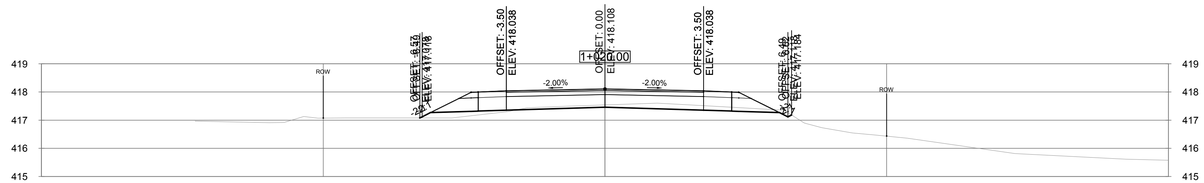
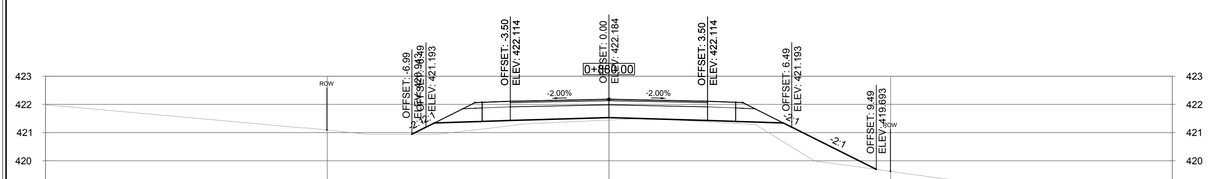
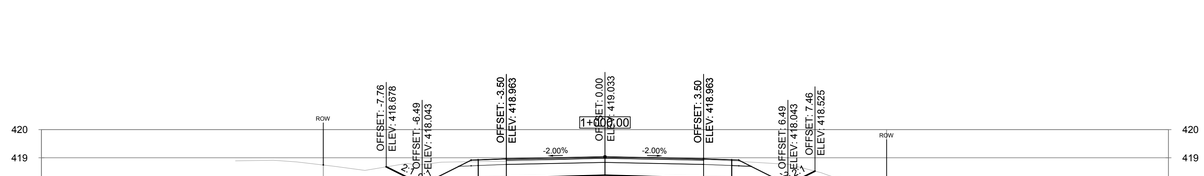
M:\Active\300034586_DETAILDESIGN\Dwg\ Date Plotted: July 31, 2015 - 3:56 PM

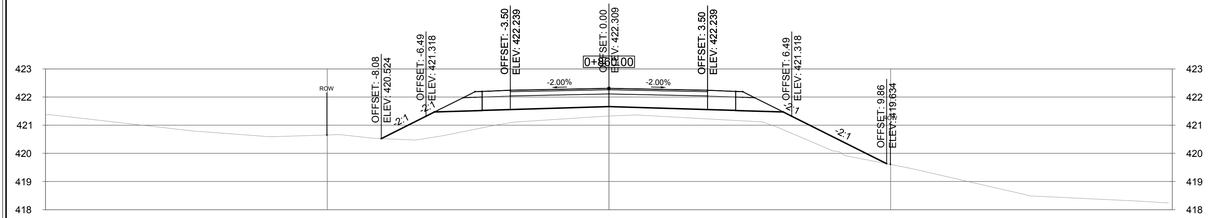


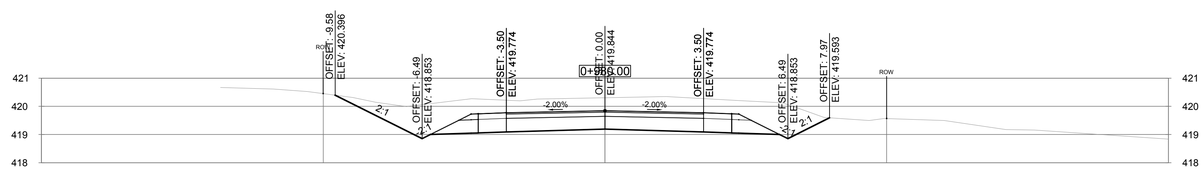


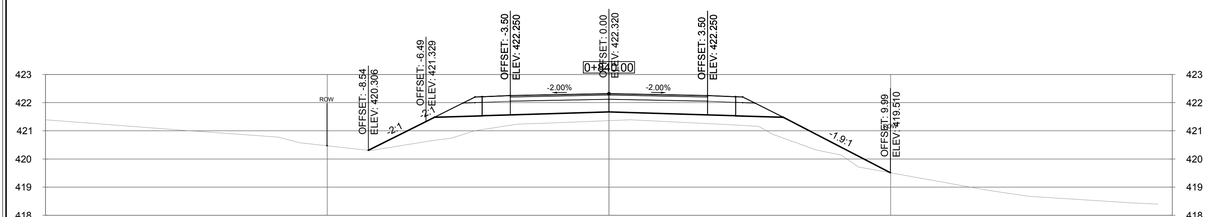


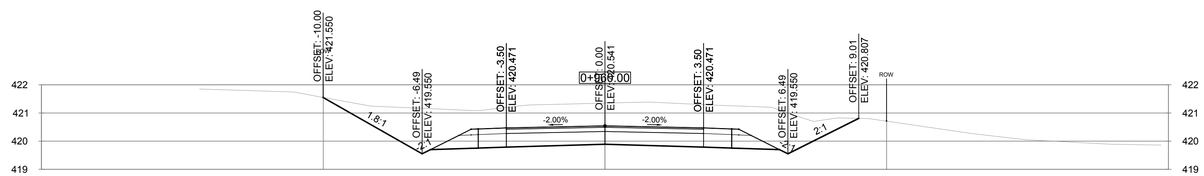


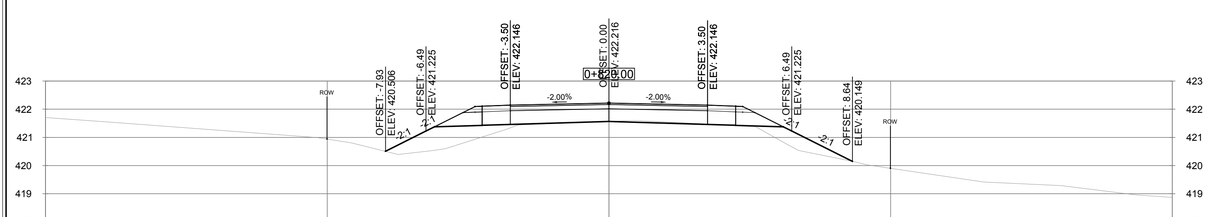


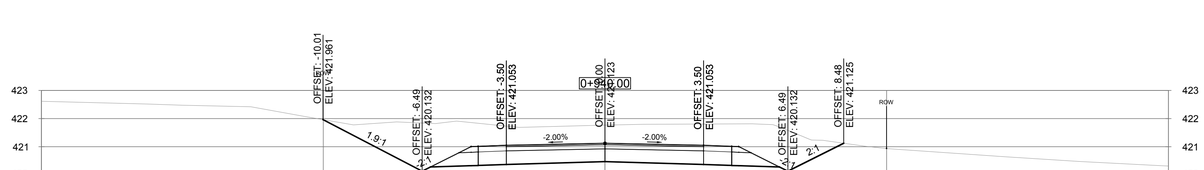












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L0M 1S0

Drawing Title

CLEARVIEW CONCESSION 10 RECONSTRUCTION

CROSS SECTIONS
CONCESSION 10

Drawn	Checked	Designed	Checked	Date	Drawing No.
JSE	JKV	JSE/JKV	JKV	2015/07/30	**CS005**
Scale		Project No.		Revision No.	
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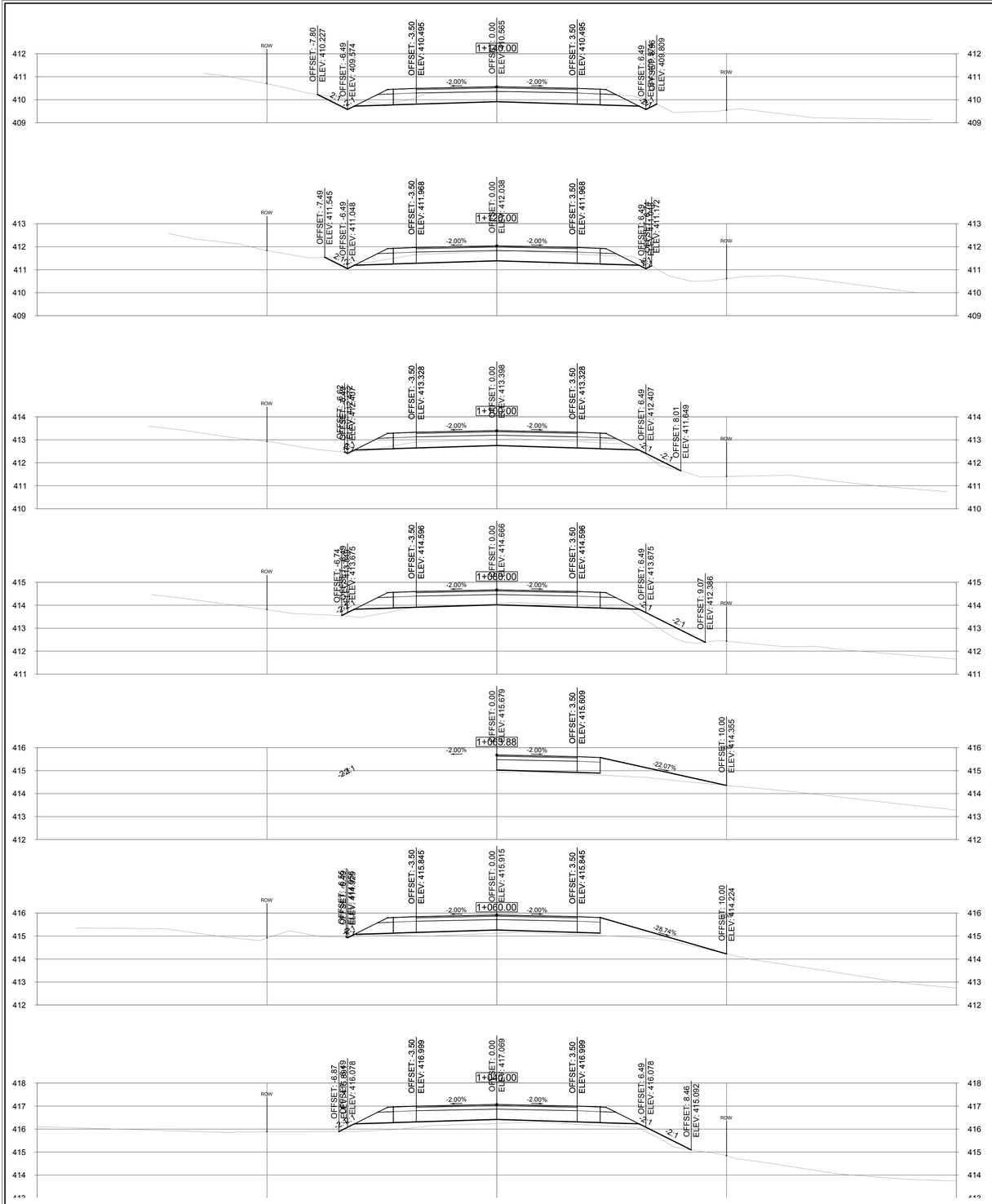

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2	ISSUED FOR APPROVAL AGENCY REVIEW	2014/01/31	
3	PRELIMINARY VIA RECOMMENDATION	2014/07/08	
4	DESIGN REVISION	2015/05/29	
5	DESIGN REVISION	2015/07/24	
6	DESIGN REVISION	2015/07/30	

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217 GIDEON STREET
STAYNER, ONTARIO
L0M 1S0

Drawing Title

CLEARVIEW CONCESSION 10 RECONSTRUCTION

CROSS SECTIONS
CONCESSION 10

Drawn	Checked	Designed	Checked	Date	Drawing No.
JSE	JKV	JSE/JKV	JKV	2015/07/30	**CS006**
Scale		Project No.		Revision No.	
1:100		300034586		6	

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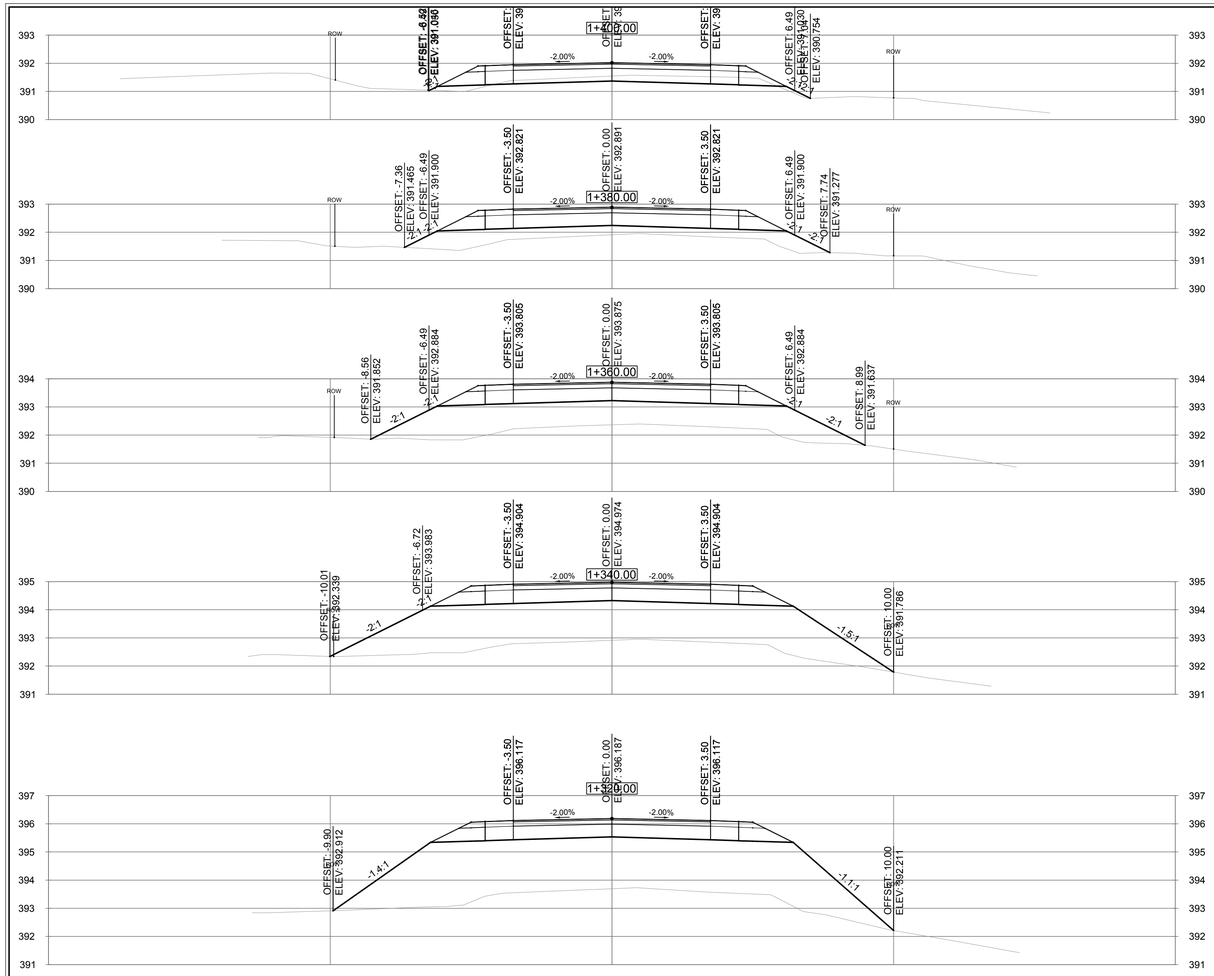

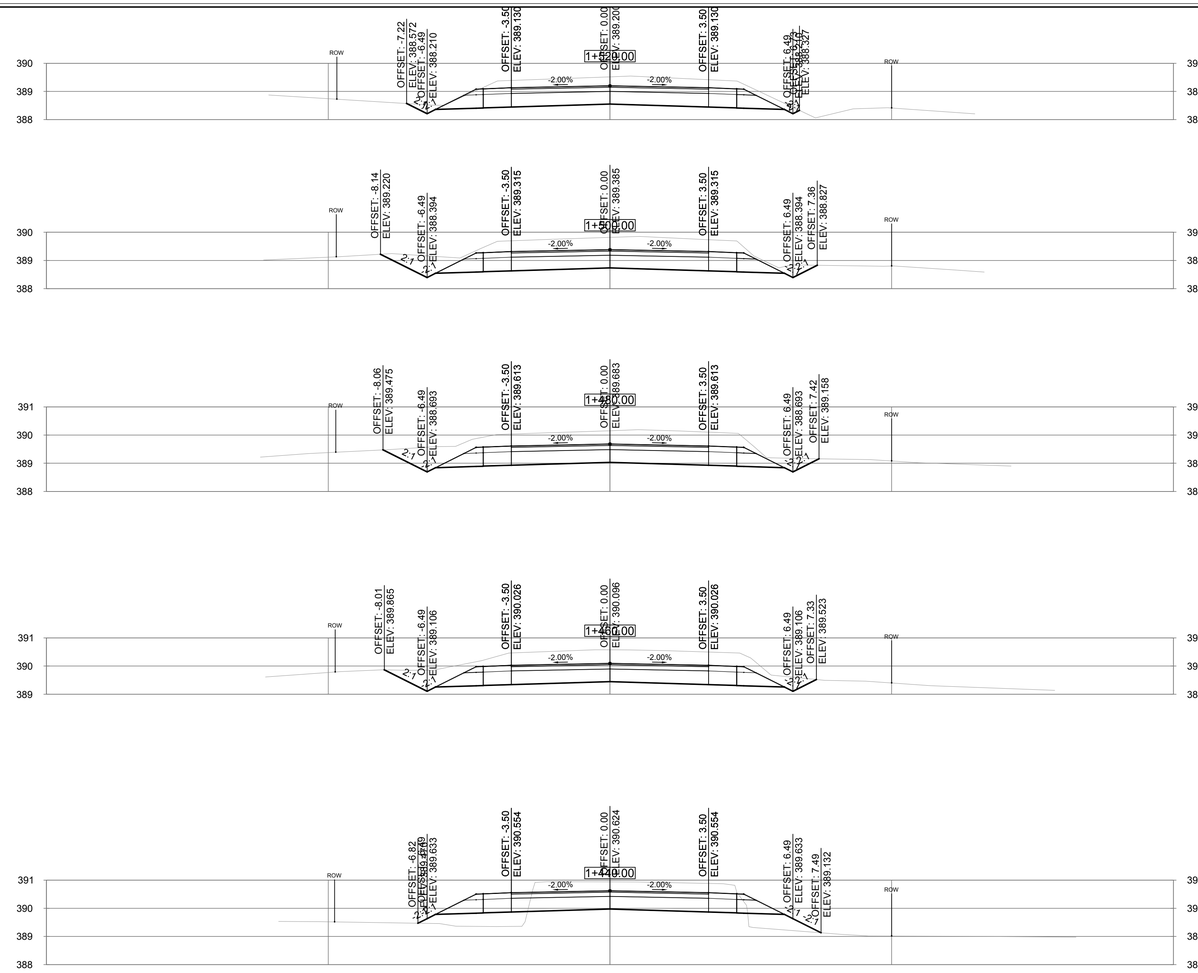

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CLEARVIEW CONCESSION 10 RECONSTRUCTION

CROSS SECTIONS
CONCESSION 10

Drawn	Checked	Designed	Checked	Date	Drawing No.
JSE	JKV	JSE/JKV	JKV	2015/07/30	**CS007**
Scale		Project No.		Revision No.	
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Metres
1:100

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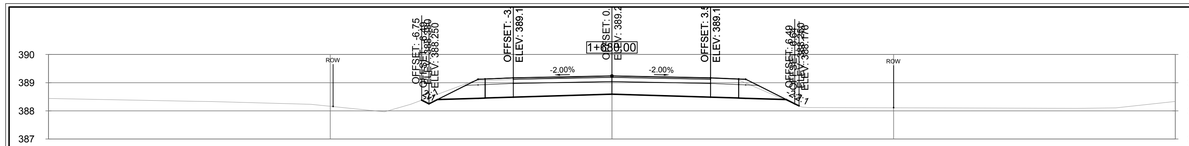

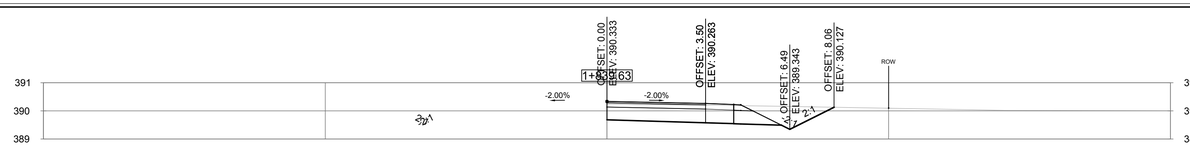

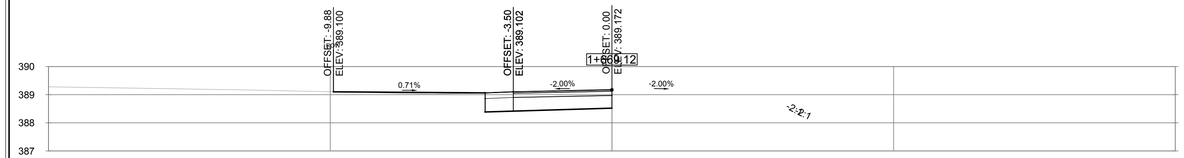

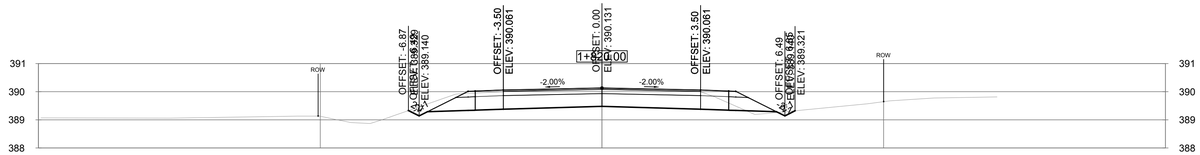

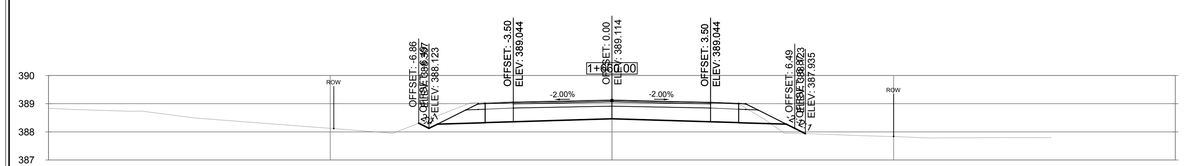

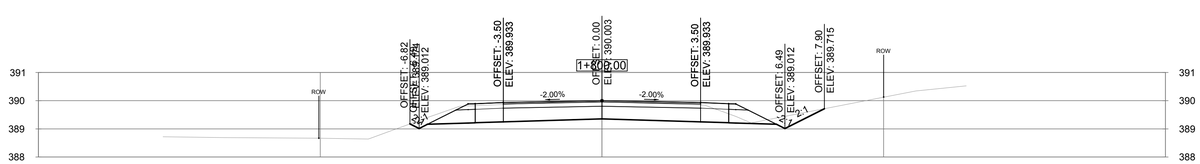

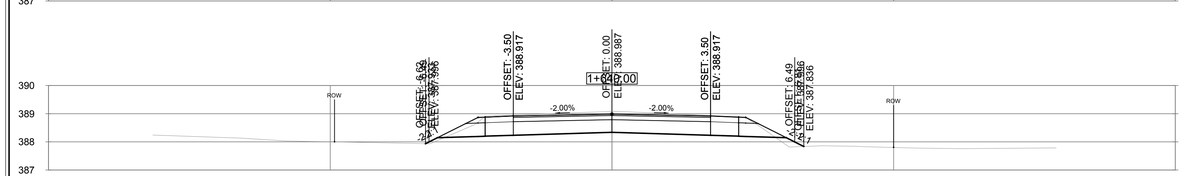

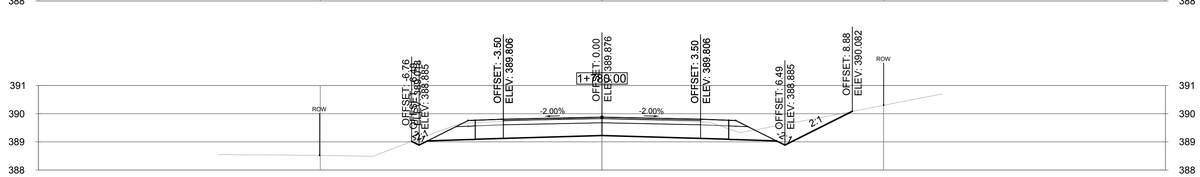

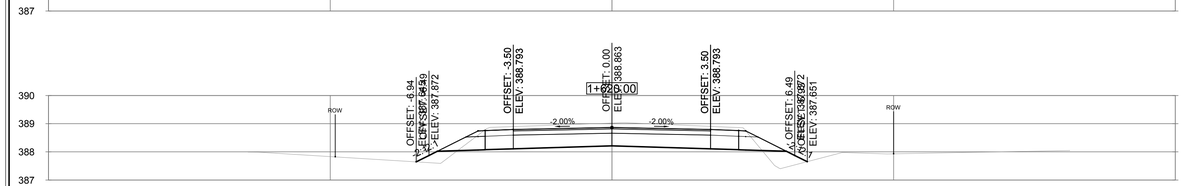

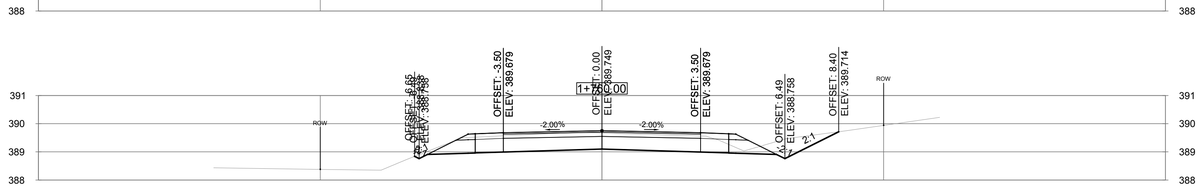

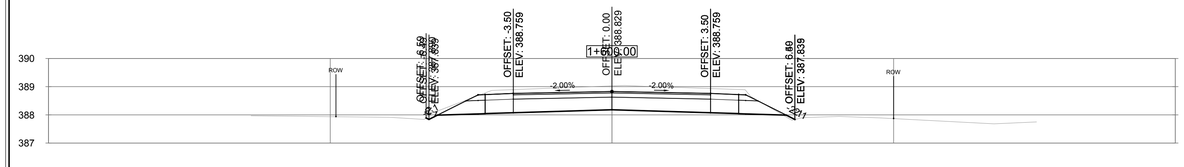

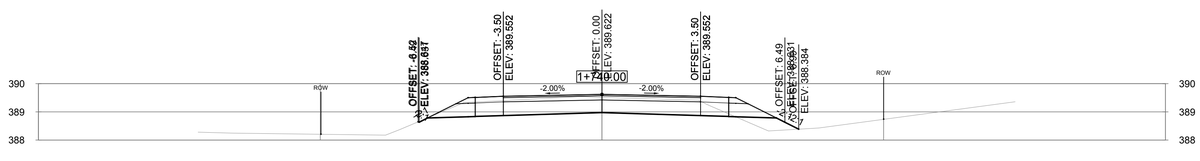

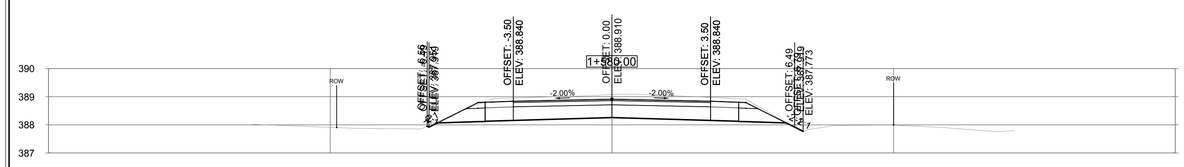

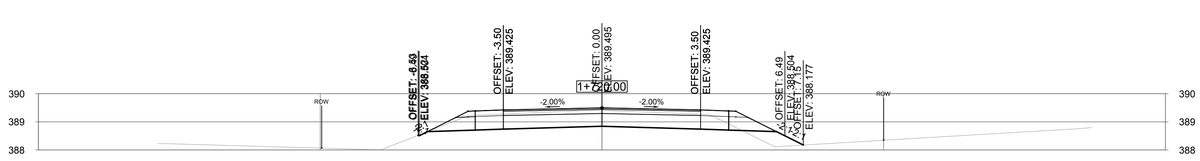

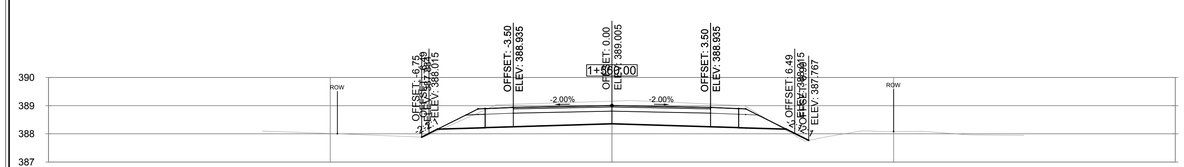

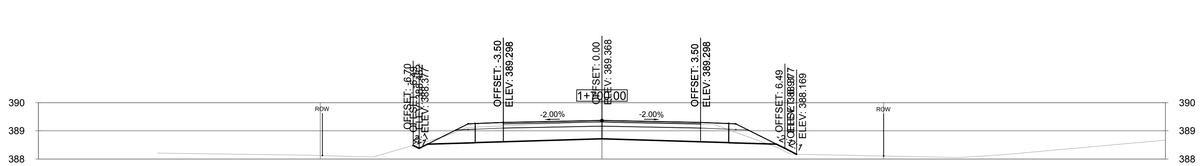

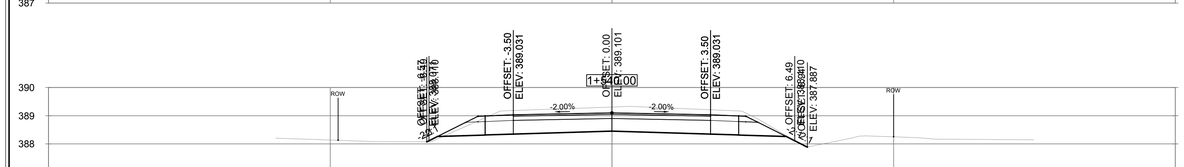

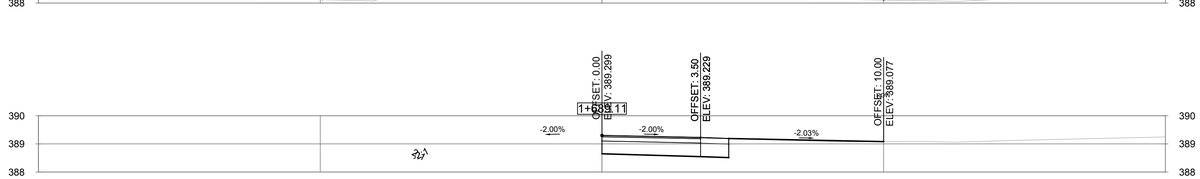

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Drawing Title
CLEARVIEW CONCESSION 10 RECONSTRUCTION

CROSS SECTIONS
CONCESSION 10

Drawn	Checked	Designed	Checked	Date	Drawing No.
JSE	JKV	JSE/JKV	JKV	2015/07/30	**CS008**
Scale		Project No.		Revision No.	
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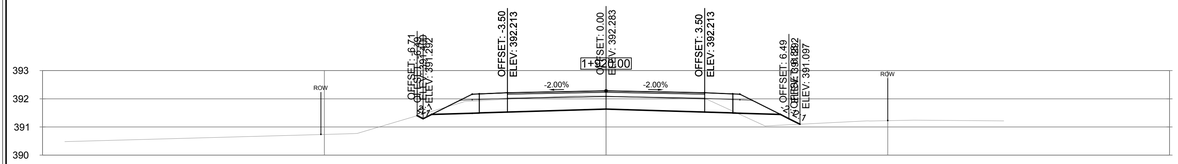

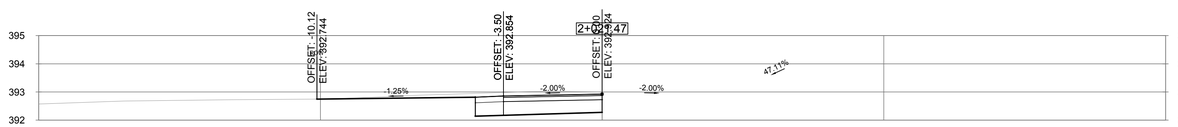

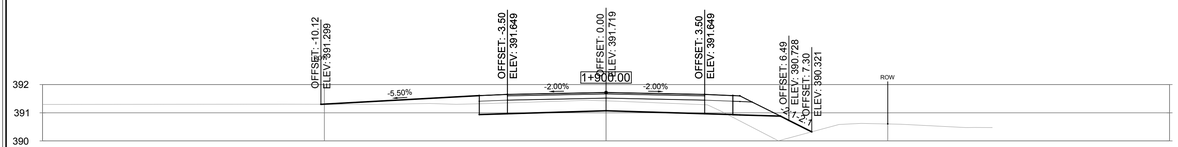

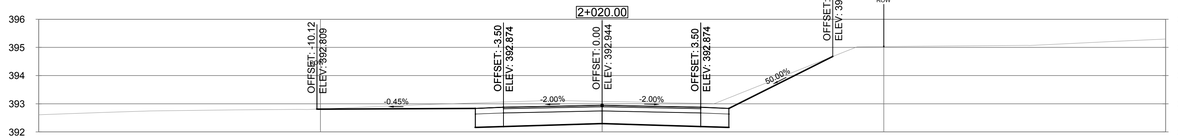

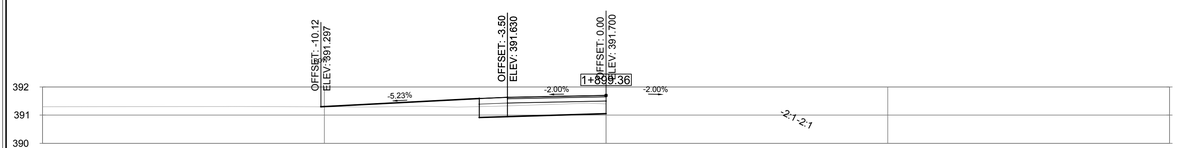

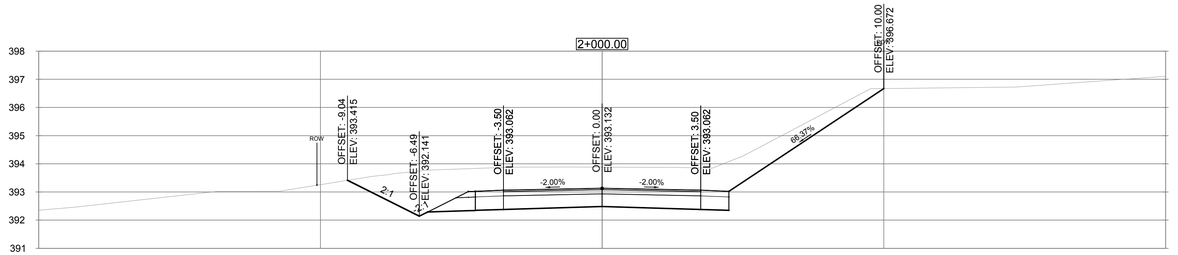

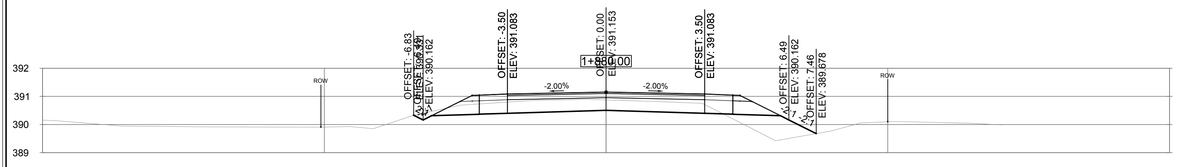

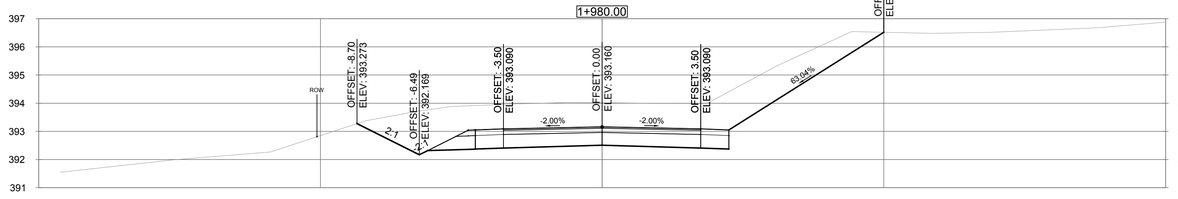

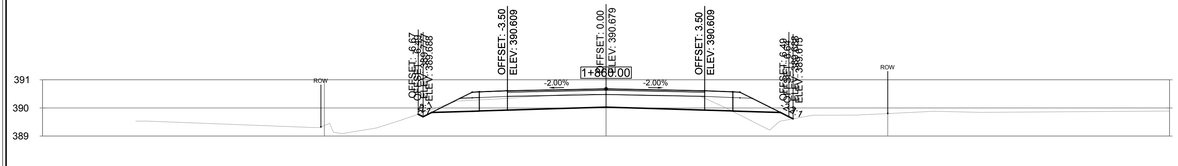

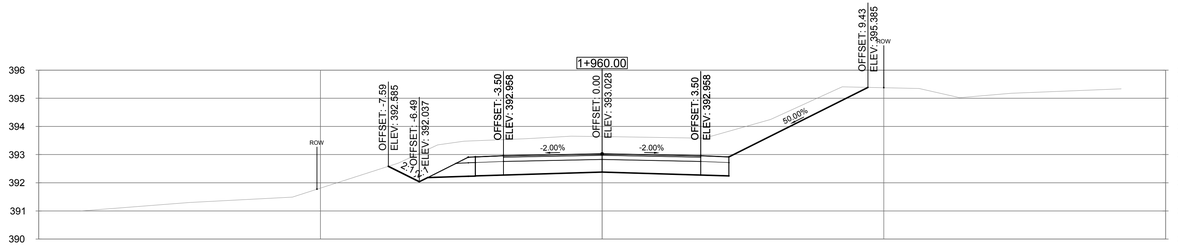

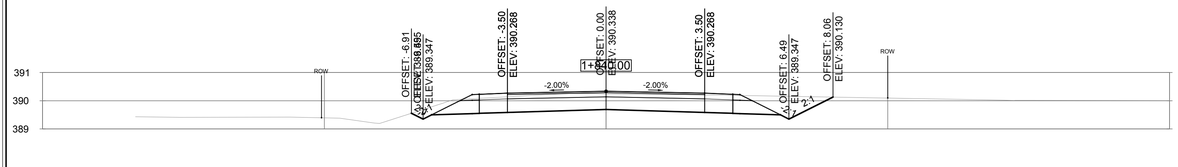

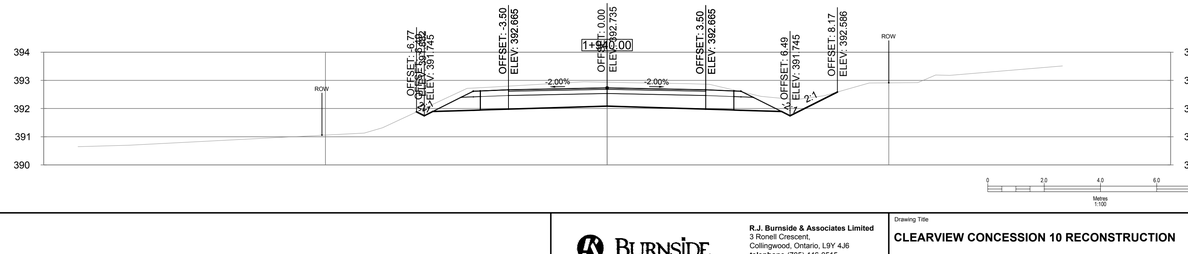

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Drawing Title

CLEARVIEW CONCESSION 10 RECONSTRUCTION

CROSS SECTIONS
CONCESSION 10

Drawn	Checked	Designed	Checked	Date	Drawing No.
JSE	JKV	JSE/JKV	JKV	2015/07/30	**CS009**
Scale		Project No.		Revision No.	
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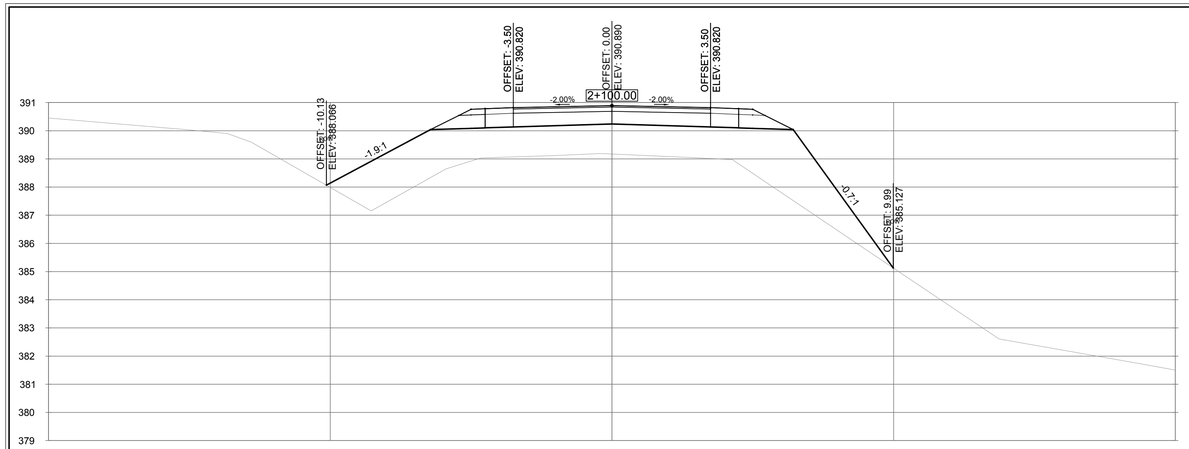

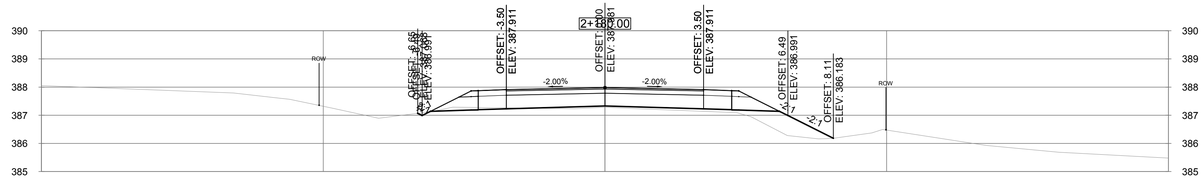

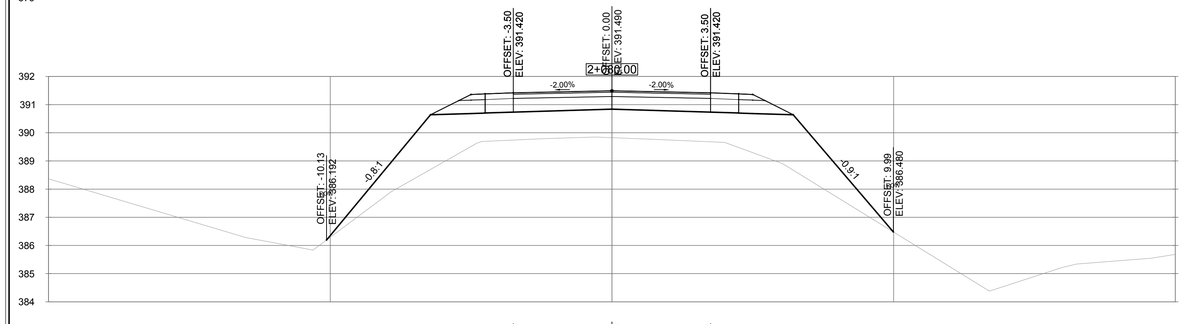

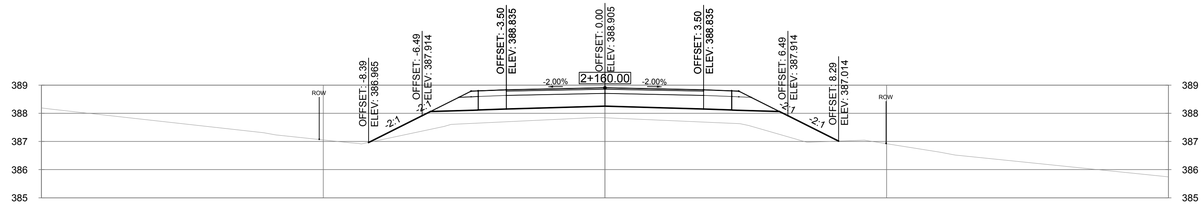

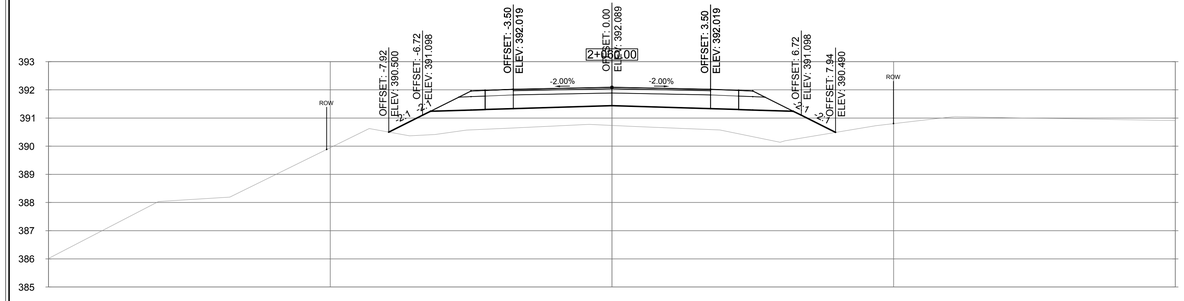

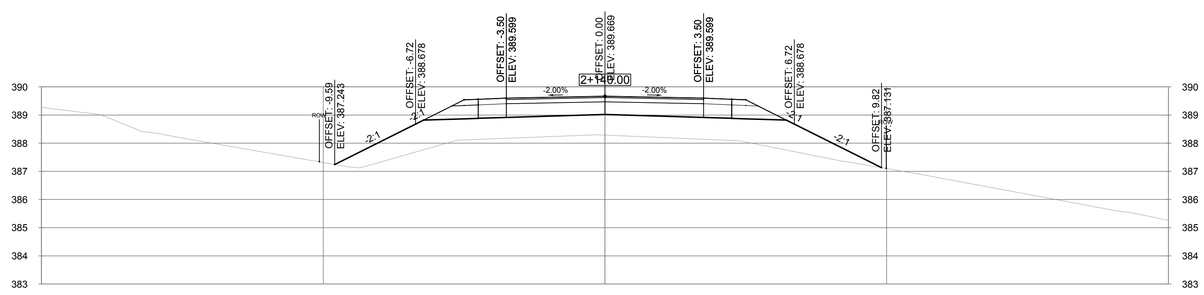

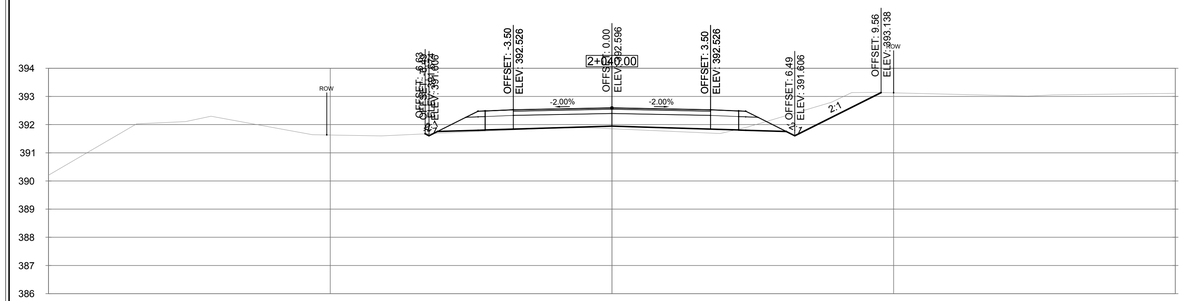

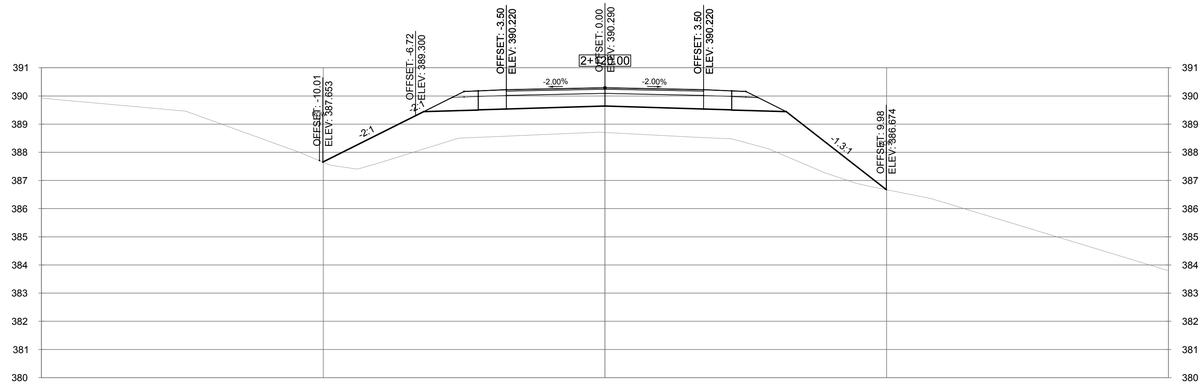

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Metres
1:100

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CONCESSION 10

Drawn	Checked	Designed	Checked	Date	Drawing No.
JSE	JKV	JSE/JKV	JKV	2015/07/30	**CS010**
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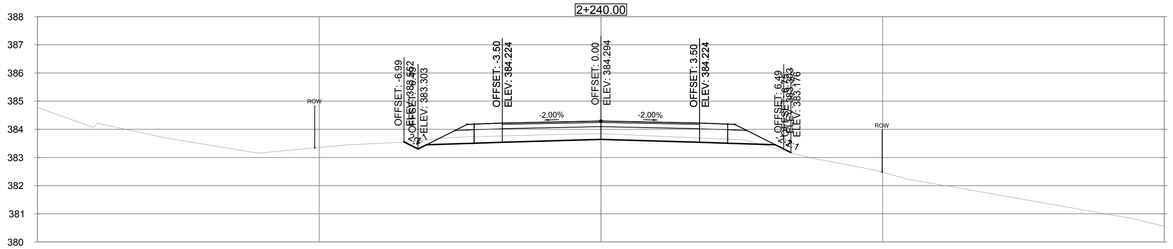

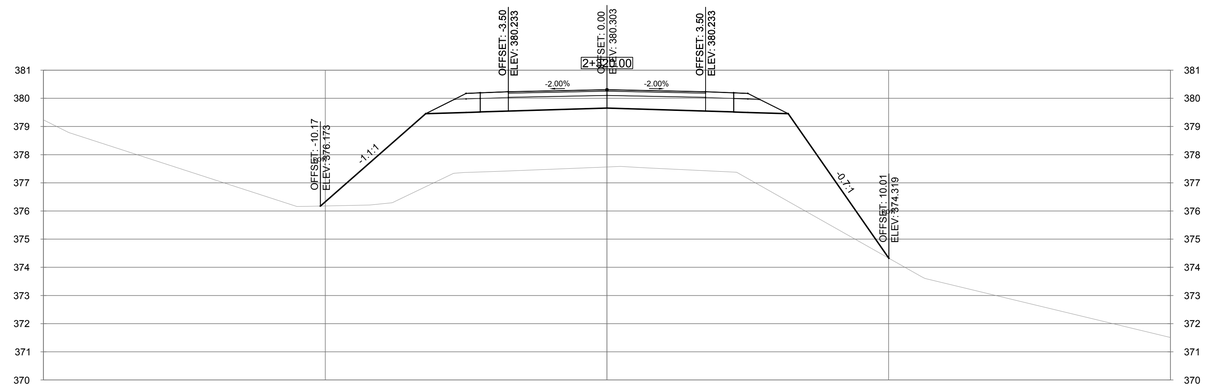

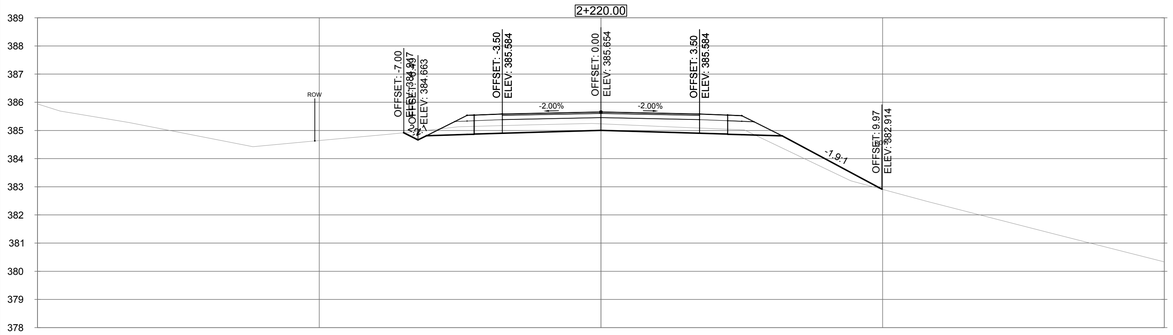

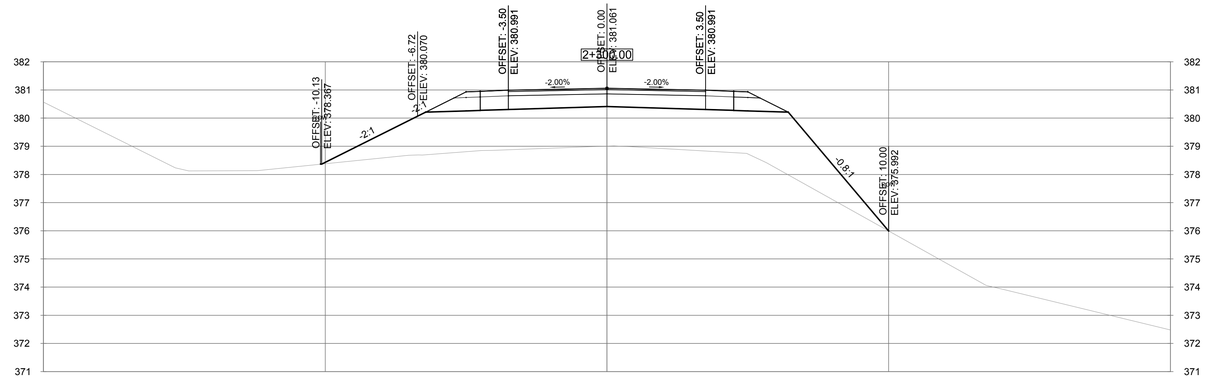

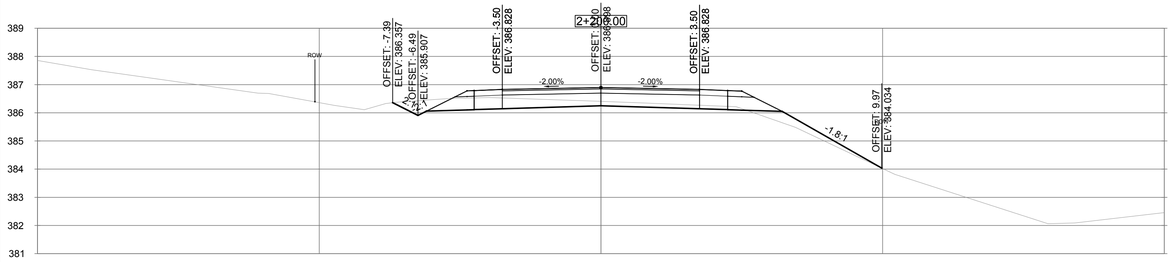

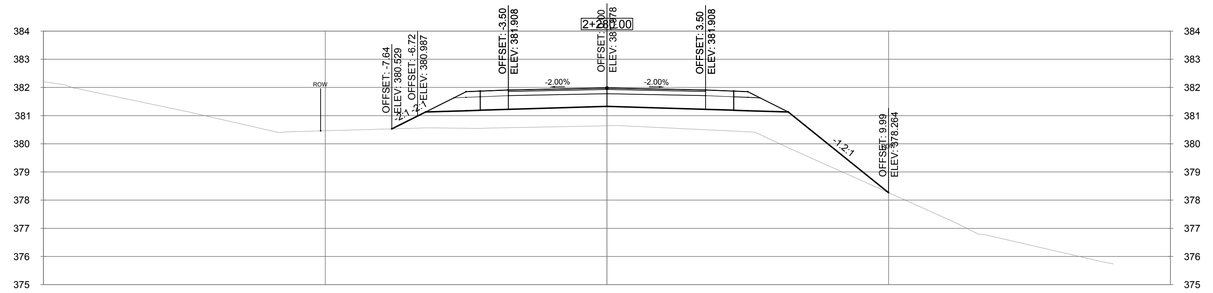

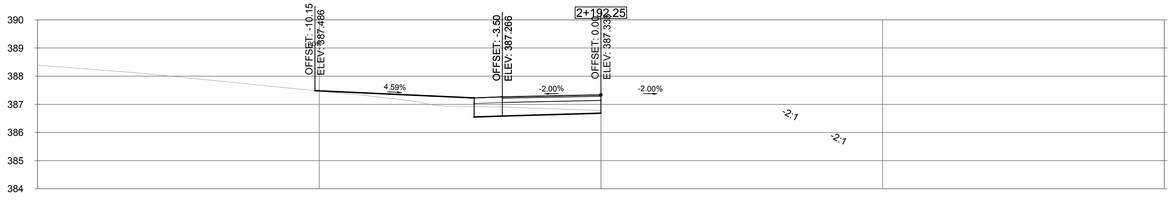

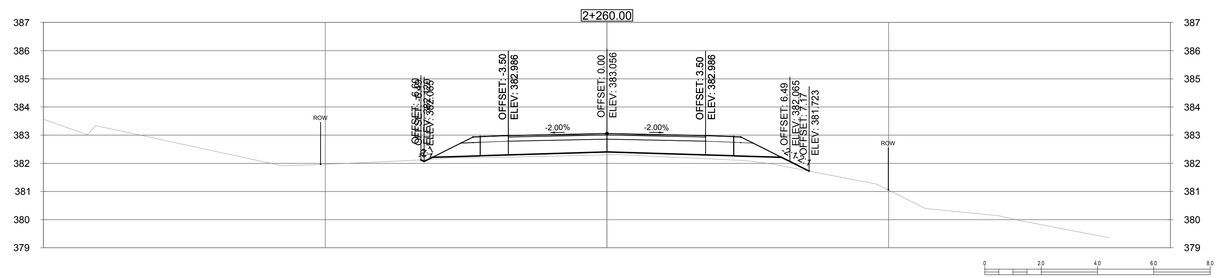

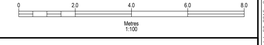

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6	DESIGN REVISION	2015/07/30	

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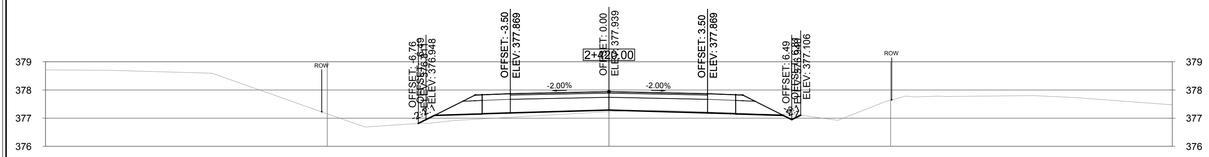
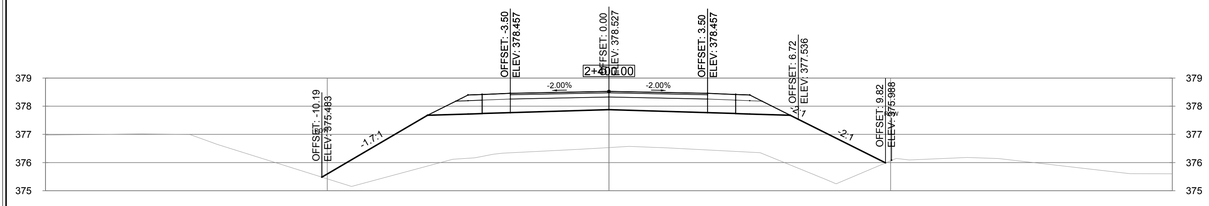
Drawing Title
CLEARVIEW CONCESSION 10 RECONSTRUCTION

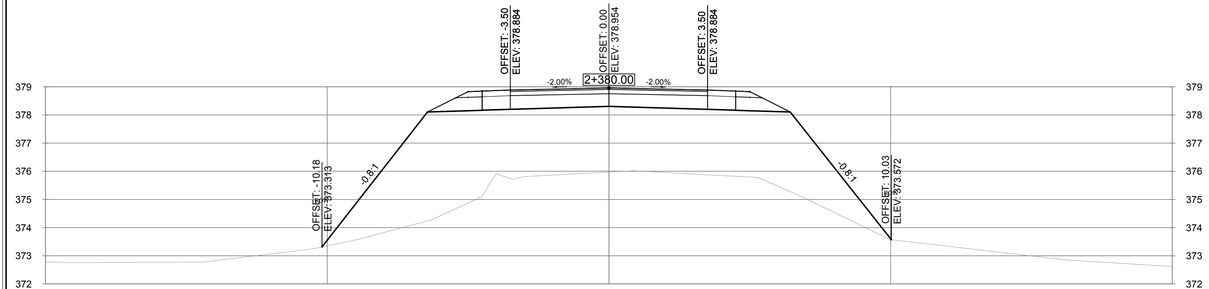
CROSS SECTIONS
CONCESSION 10

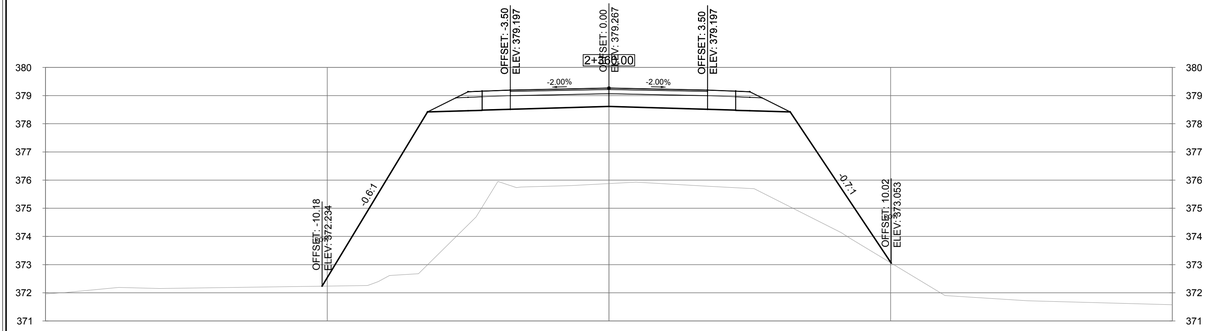
Drawn	Checked	Designed	Checked	Date	Drawing No.
JSE	JKV	JSE/JKV	JKV	2015/07/30	**CS011**
Scale		Project No.		Revision No.	
1:100		300034586		6	

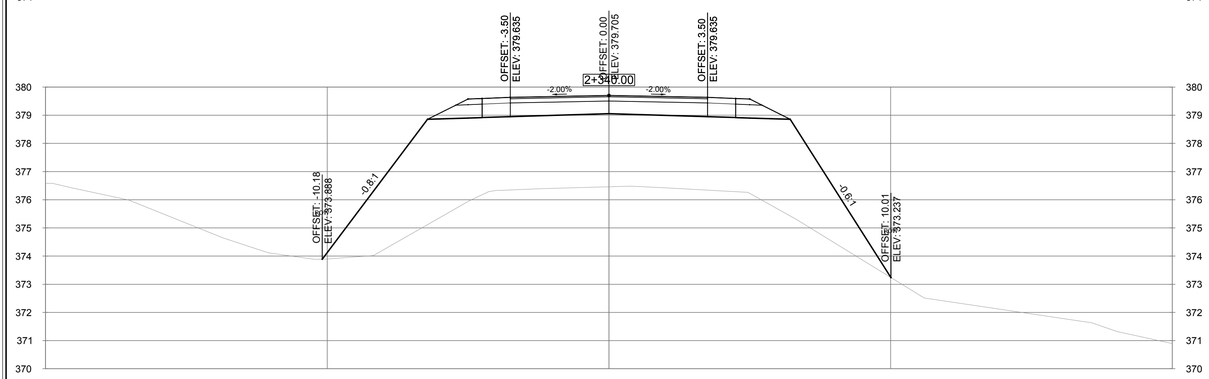
File Name: 300034586_SECTIONS.dwg Date Plotted: July 30, 2015 - 1:14 PM

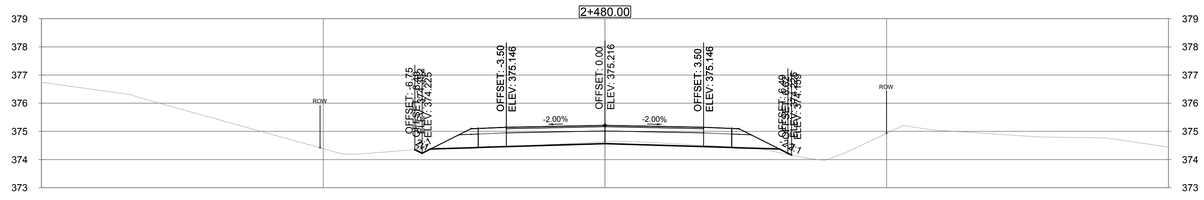


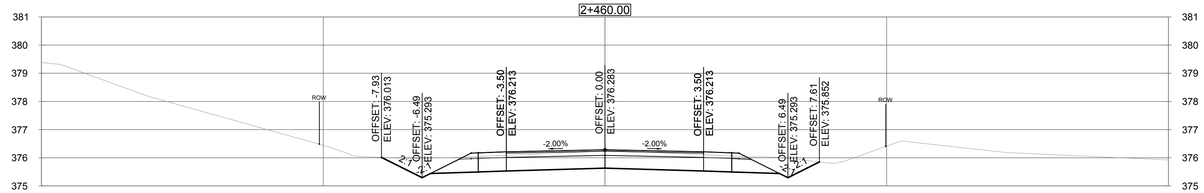


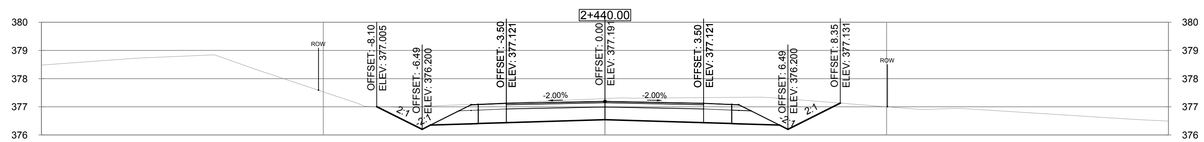


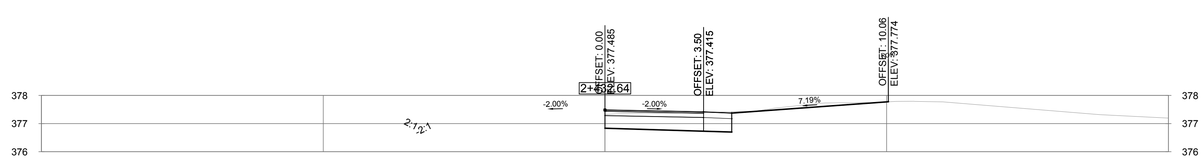












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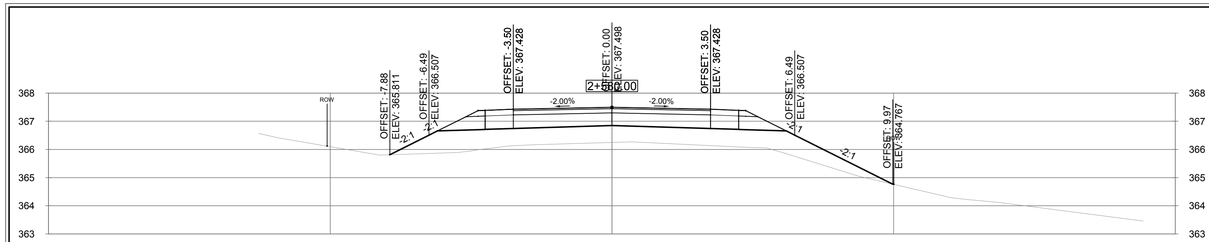
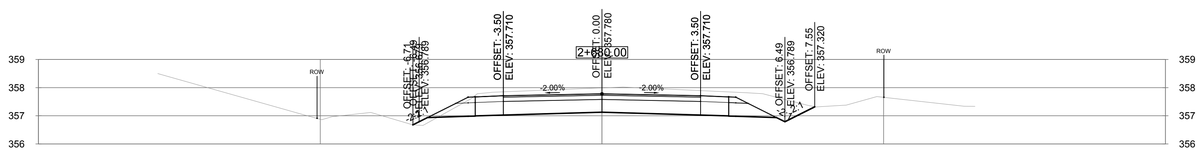
Drawing Title
CLEARVIEW CONCESSION 10 RECONSTRUCTION

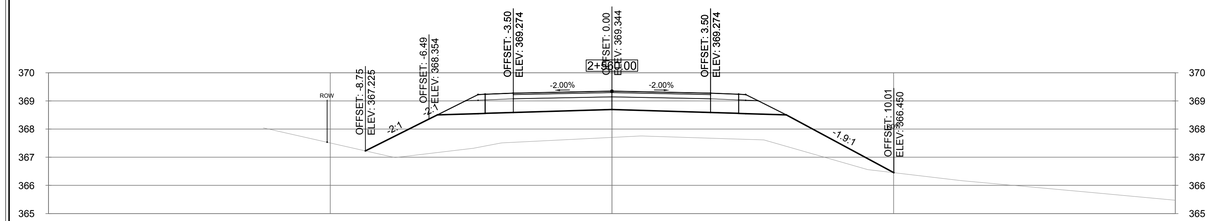
CROSS SECTIONS
CONCESSION 10

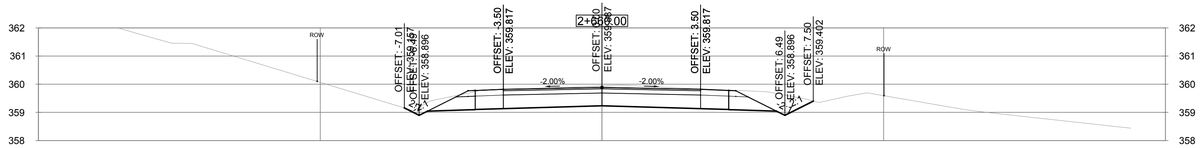
Drawn	Checked	Designed	Checked	Date	Drawing No.
JSE	JKV	JSE/JKV	JKV	2015/07/30	**CS012**
Scale		Project No.		Revision No.	
1:100		300034586		6	

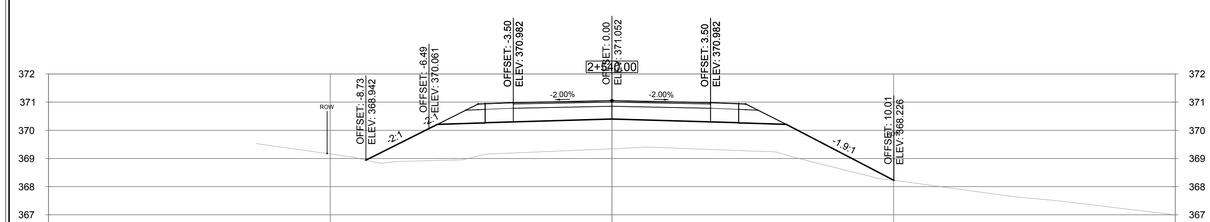
File Name: 034586_SECTIONS.dwg Date Plotted: July 30, 2015 - 5:13 PM

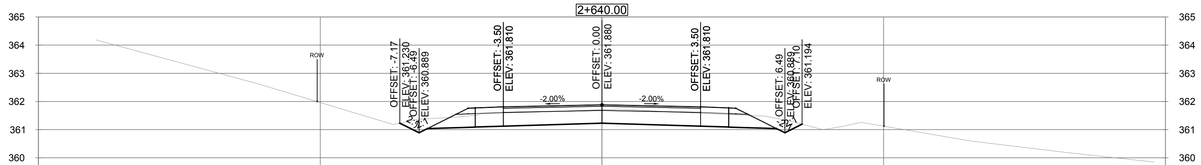


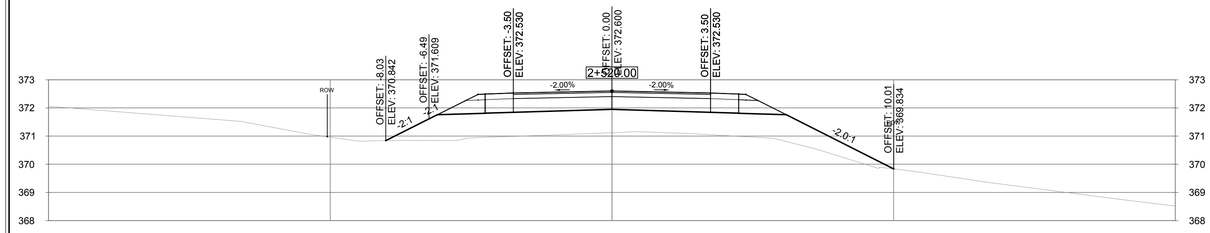


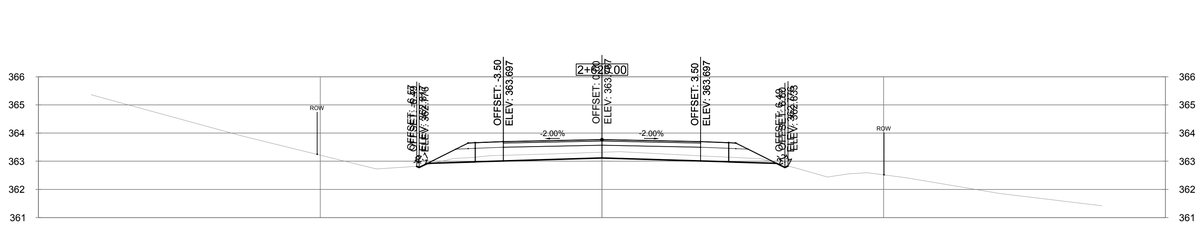


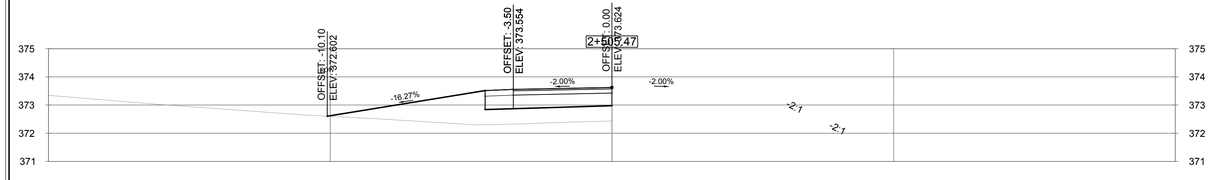


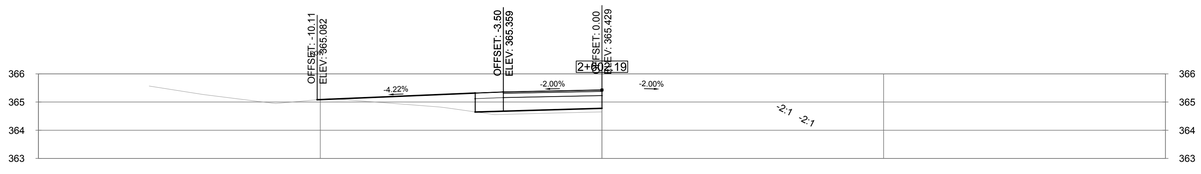


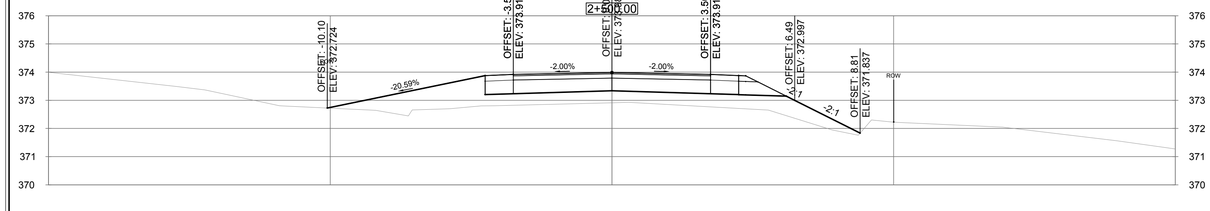


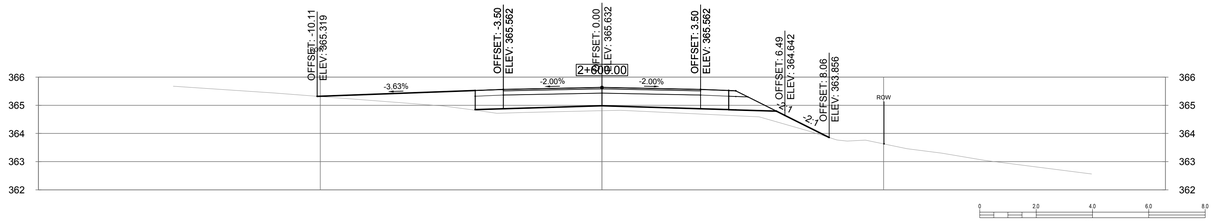












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Metres
1:100

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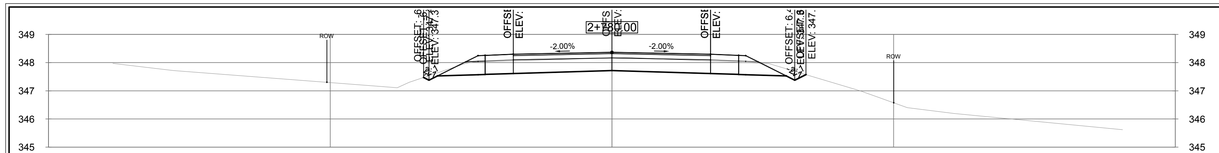
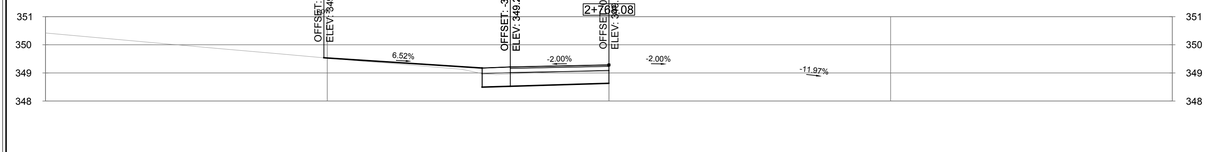
Drawing Title
CLEARVIEW CONCESSION 10 RECONSTRUCTION

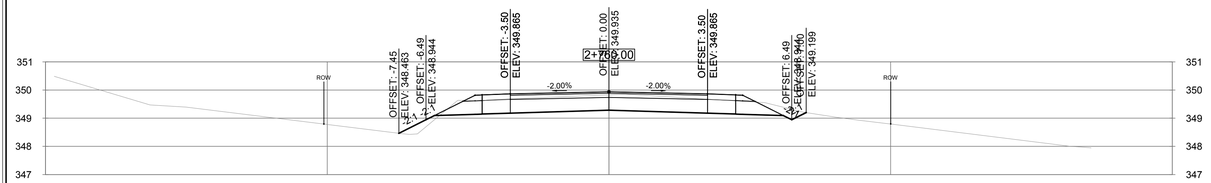
CROSS SECTIONS
CONCESSION 10

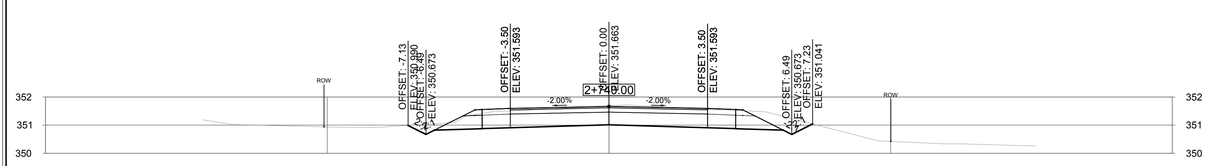
Drawn	Checked	Designed	Checked	Date	Drawing No.
JSE	JKV	JSE/JKV	JKV	2015/07/30	**CS013**
Scale		Project No.		Revision No.	
1:100		300034586		6	

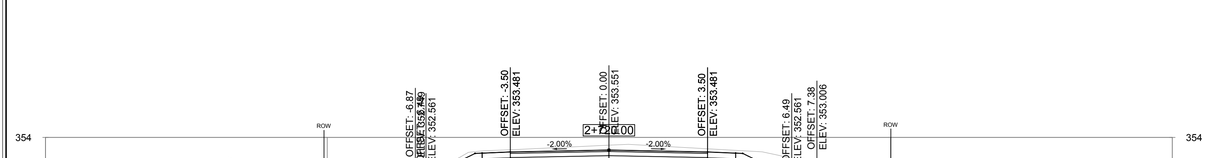
File Name: 300034586_SECTIONS.dwg Date Plotted: July 30, 2015 - 1:19 PM

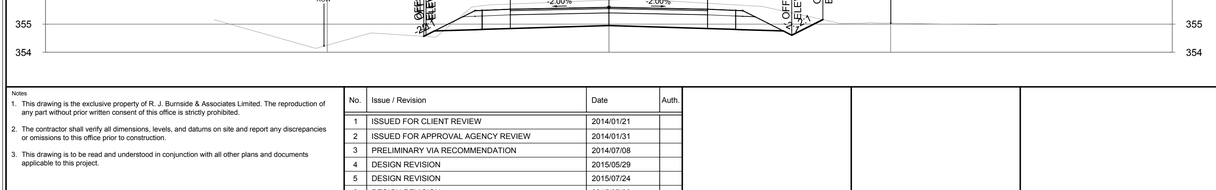


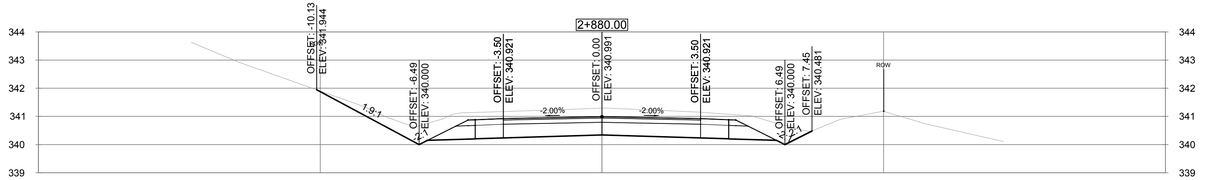


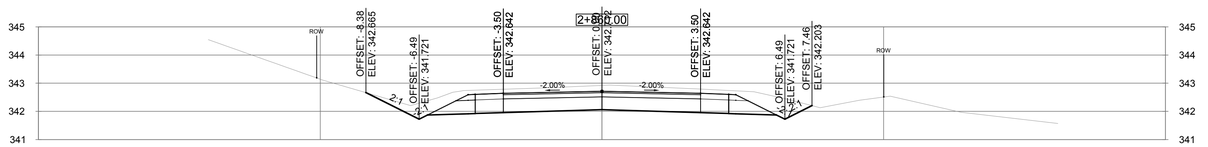


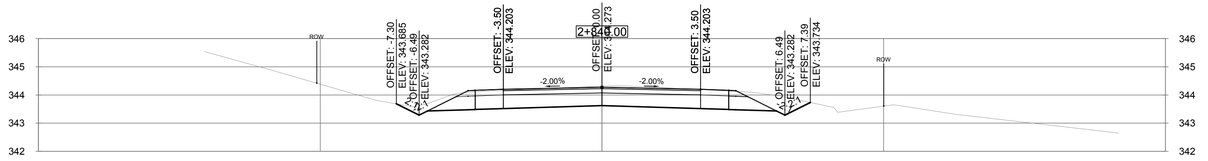


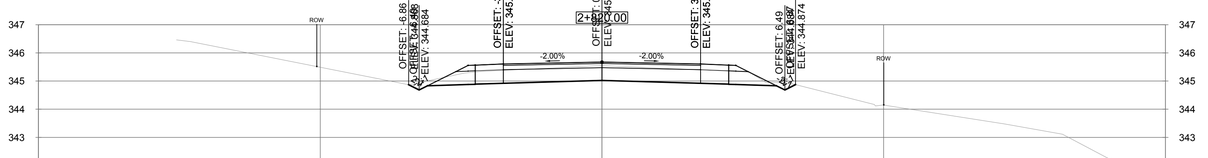


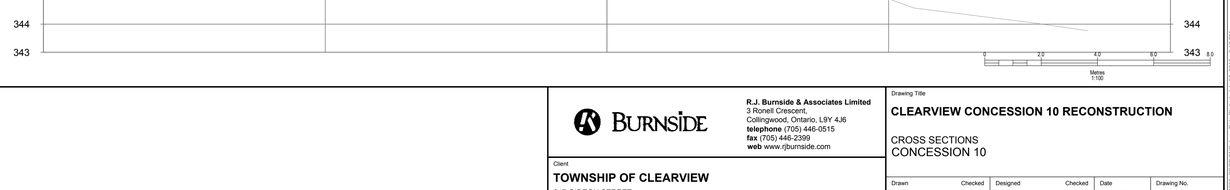












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Metres
1:100

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Drawing Title

CLEARVIEW CONCESSION 10 RECONSTRUCTION

CROSS SECTIONS
CONCESSION 10

Drawn	Checked	Designed	Checked	Date	Drawing No.
JSE	JKV	JSE/JKV	JKV	2015/07/30	**CS014**
Scale		Project No.		Revision No.	
1:100		300034586		6	

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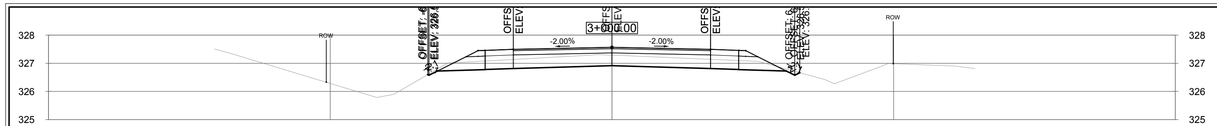

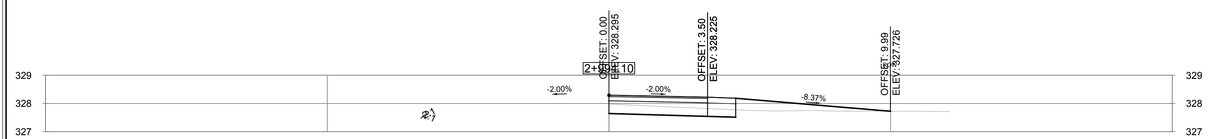

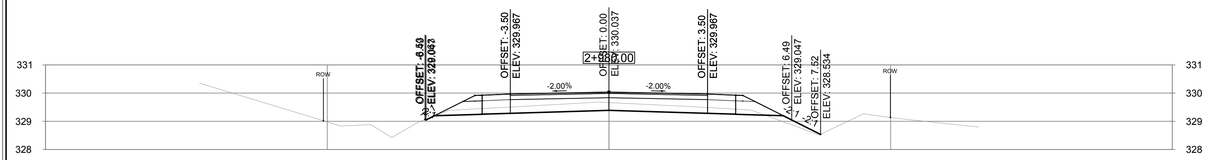

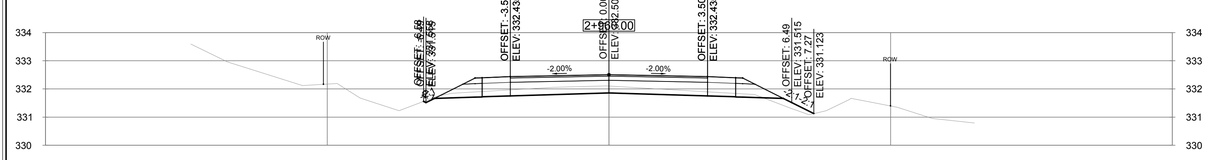

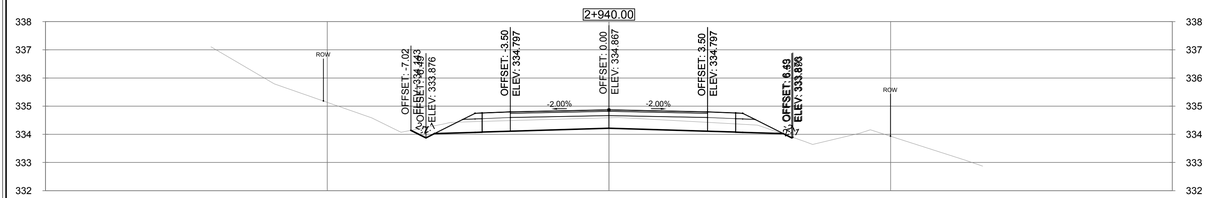

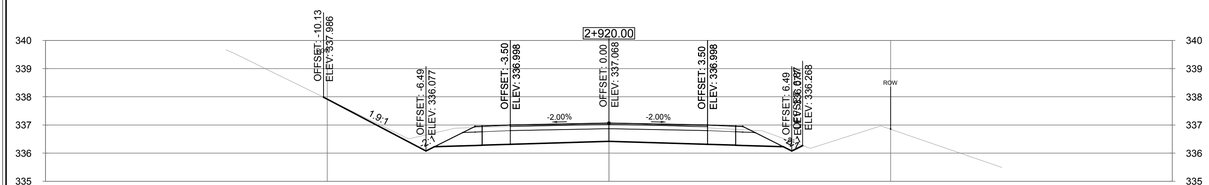

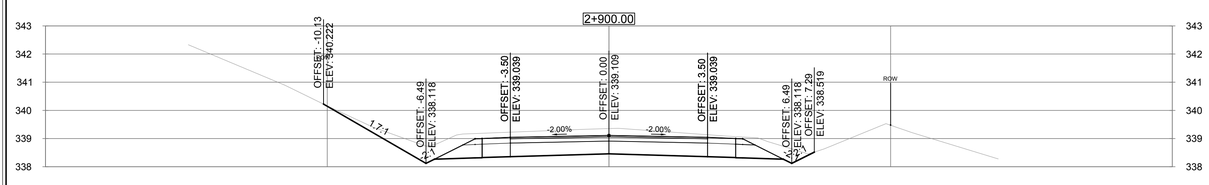

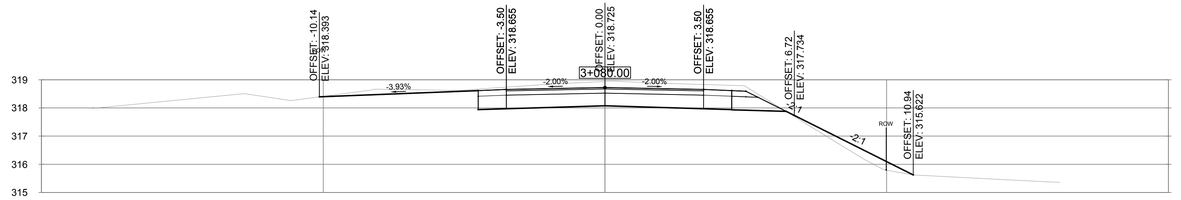

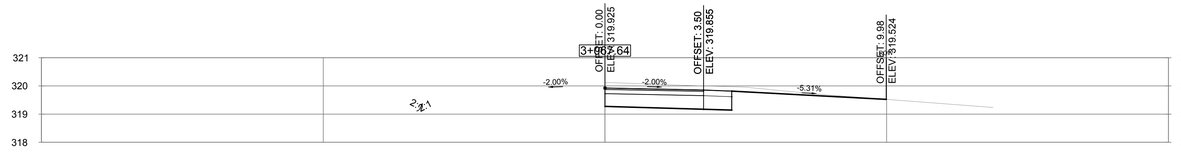

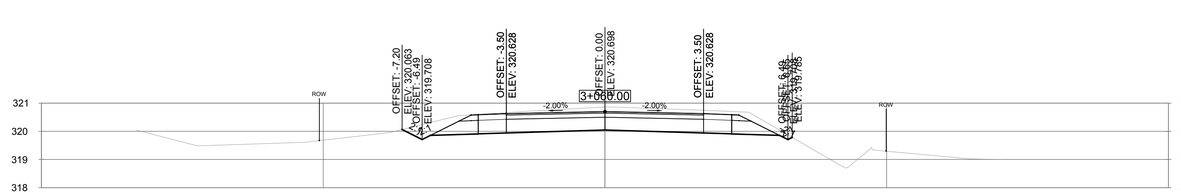

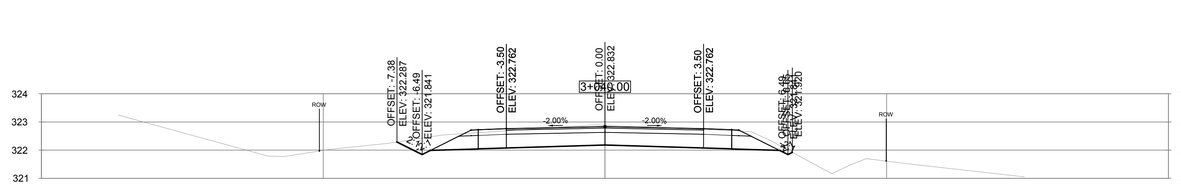

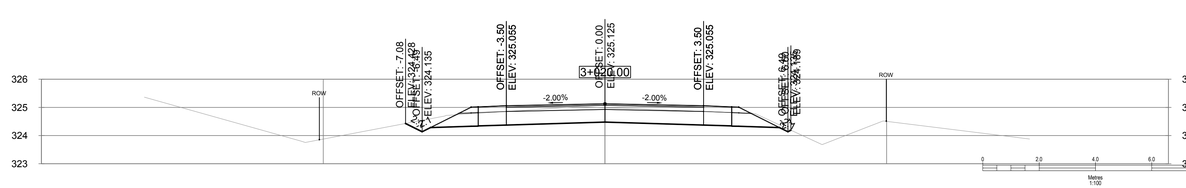

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5	DESIGN REVISION	2015/07/24	
6	DESIGN REVISION	2015/07/30	

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217 GIDEON STREET
STAYNER, ONTARIO
L0M 1S0

Drawing Title

CLEARVIEW CONCESSION 10 RECONSTRUCTION

CROSS SECTIONS
CONCESSION 10

Drawn	Checked	Designed	Checked	Date	Drawing No.
JSE	JKV	JSE/JKV	JKV	2015/07/30	**CS015**
Scale		Project No.		Revision No.	
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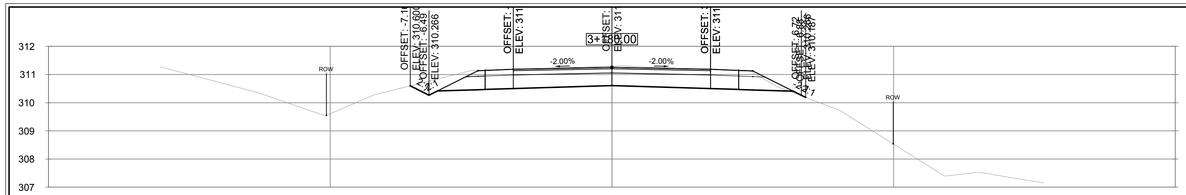

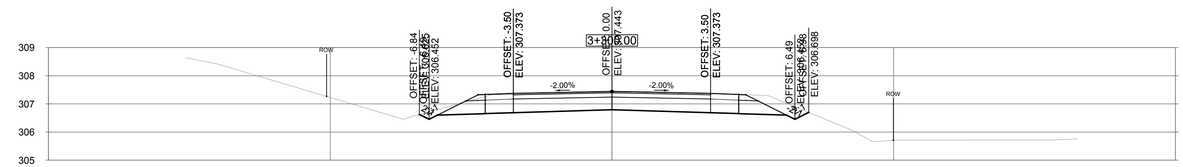

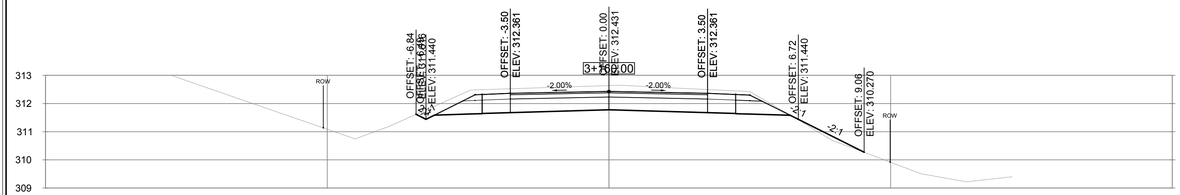

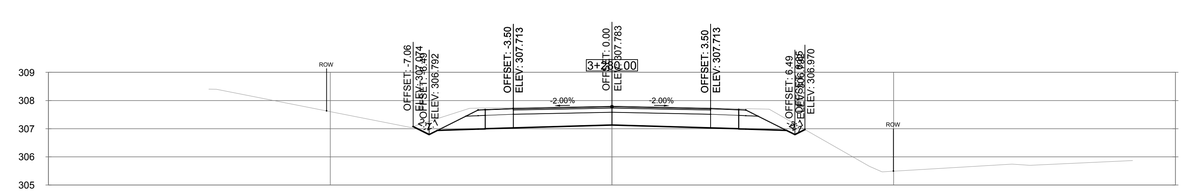

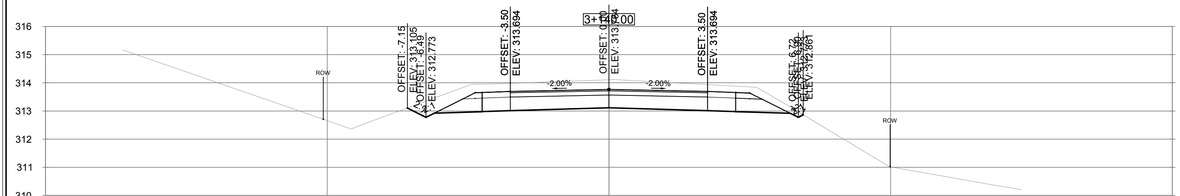

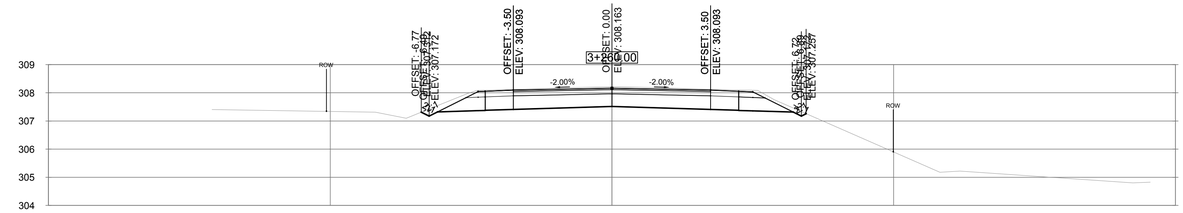

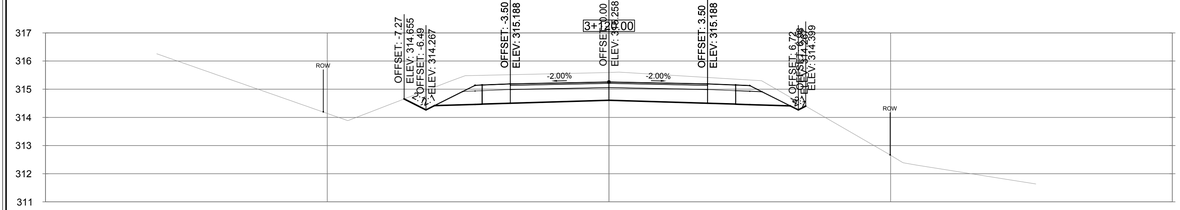

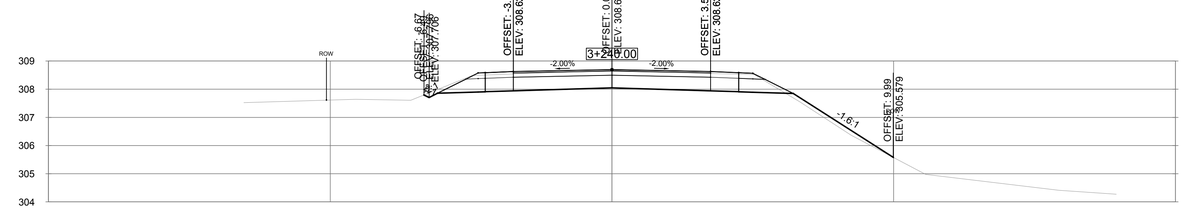

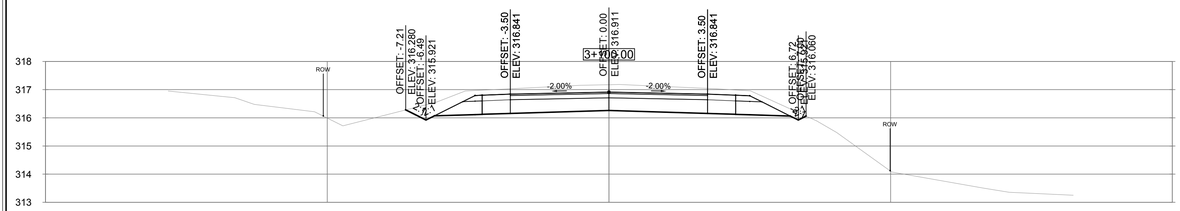

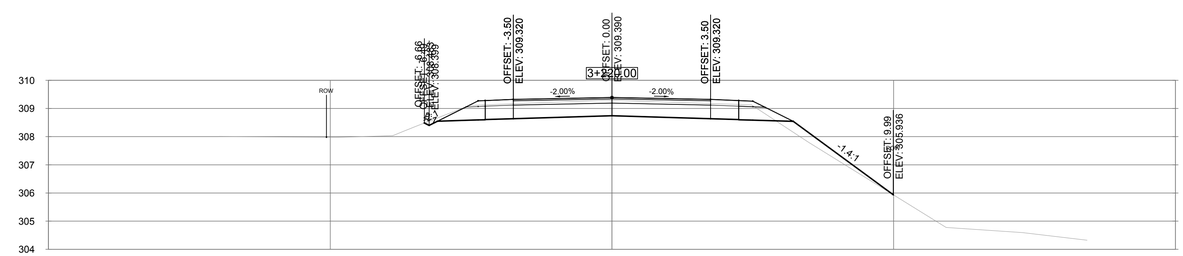

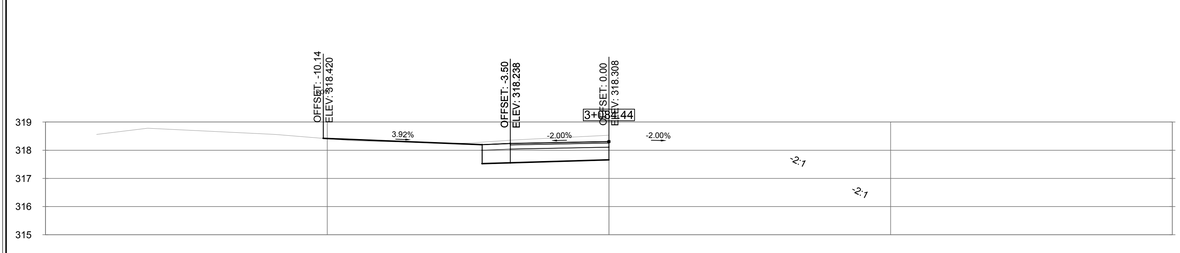

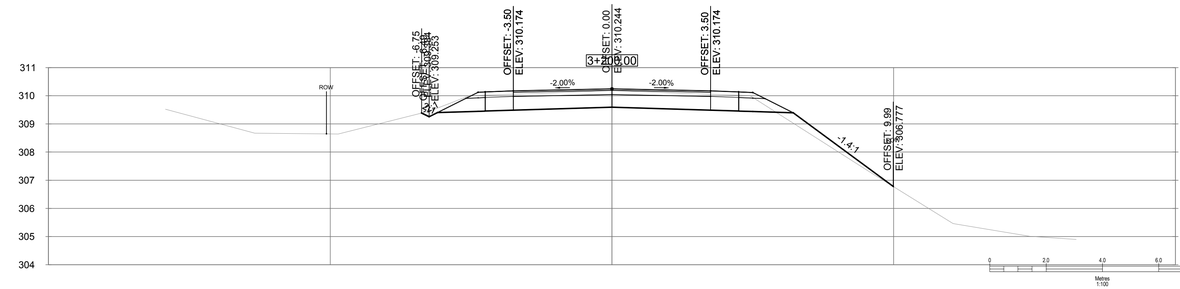

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6	DESIGN REVISION	2015/07/30	

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Drawing Title
CLEARVIEW CONCESSION 10 RECONSTRUCTION

CROSS SECTIONS
CONCESSION 10

Drawn	Checked	Designed	Checked	Date	Drawing No.
JSE	JKV	JSE/JKV	JKV	2015/07/30	**CS016**
Scale		Project No.		Revision No.	
1:100		300034586		6	

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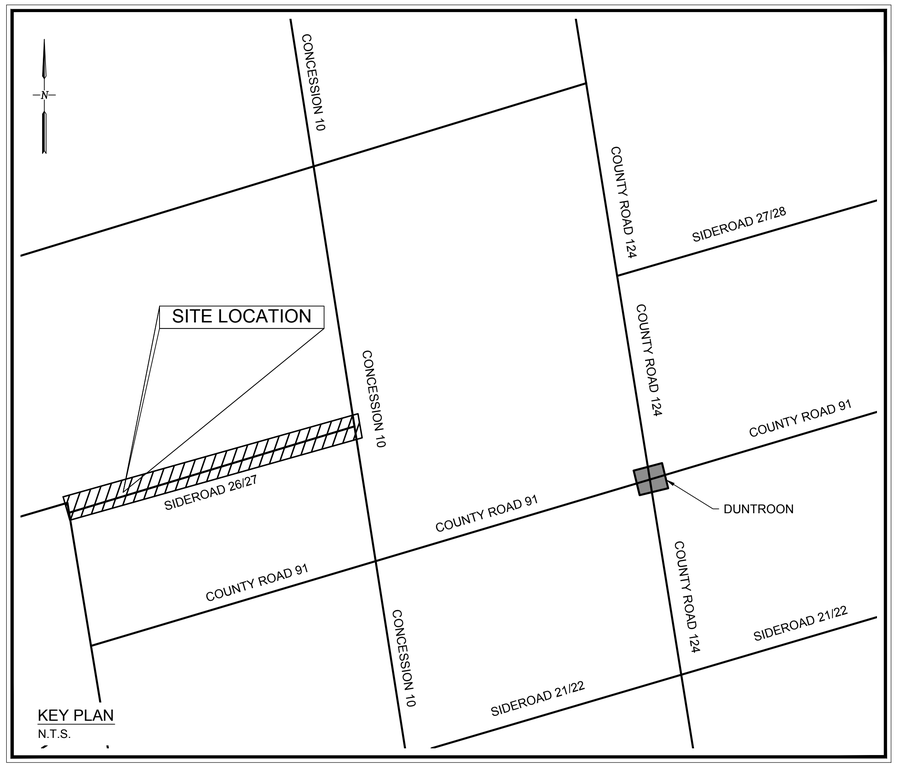
TOWNSHIP OF CLEARVIEW

CLEARVIEW SIDEROAD 26/27 RECONSTRUCTION

CONTRACT No.



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CLEARVIEW

TOWNSHIP OF CLEARVIEW
217 GIDION STREET
STAYNER, ONTARIO
L0M 1S0

Burnside Project No. 300034587

DESIGN REVISION - 2015/07/30

BURNSIDE

TOWNSHIP OF CLEARVIEW - CLEARVIEW SIDEROAD 26/27 RECONSTRUCTION - CONTRACT No.
Burnside Project No. 300034587 - DESIGN REVISION - 2015/07/30

File Name: 034587_COVER.dwg Date Plotted: July 30, 2015 - 3:49 PM

INDEX

C000	DRAWING LIST, LEGEND AND GENERAL NOTES	SIDEROAD 26/27	
C001	PLAN & PROFILE	SIDEROAD 26/27	4+247 to 4+610
C002	PLAN & PROFILE	SIDEROAD 26/27	4+610 to 4+980
C003	PLAN & PROFILE	SIDEROAD 26/27	4+980 to 5+350
C004	PLAN & PROFILE	SIDEROAD 26/27	5+350 to 5+720
C005	PLAN & PROFILE	SIDEROAD 26/27	5+720 to 6+090
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C007	PLAN & PROFILE	SIDEROAD 26/27	6+460 to 6+830
C008	PLAN & PROFILE	SIDEROAD 26/27	6+830 to 7+000
C009	TYPICAL SECTIONS AND DETAILS	SIDEROAD 26/27	

LEGEND

EXISTING

- SIB — STD IRON BAR
- IB — IRON BAR
- RIB — ROUND IRON BAR
- HP — HYDRO POLE
- THP — HYDRO POLE WITH TRANSFORMER
- HPLS — UTILITY POLE WITH LIGHT STD
- THPLS — UTILITY POLE WITH LIGHT STD AND TRANSFORMER
- BELL PED
- BHP — BELL/HYDRO POLE
- LS — LIGHT STD
- 400mm — DECIDUOUS TREE
- 300mm — CONIFEROUS TREE
- MB — MAIL BOX
- X — FENCE
- B — U/G BELL
- TV — ROGER'S CABLE
- BC — U/G BELL & ROGER'S CABLE (SHARED TRENCH)
- 216.10 — GROUND ELEVATION

REMOVALS

- CLEARING & GRUBBING
- TREE REMOVAL
- FENCE REMOVAL
- CULVERT REMOVAL

NEW CONSTRUCTION

- GRADING LIMIT (FILL)
- GRADING LIMIT (CUT)
- DITCH WITH FLOW DIRECTION
- STEEL BEAM GUIDE RAIL
- LIGHT-DUTY SILT FENCE (OPSD 219.110)
- HEAVY-DUTY SILT FENCE (OPSD 219.130)
- GRAVEL DRIVEWAY
- ASPHALT DRIVEWAY
- CONCRETE DRIVEWAY
- INTERLOCKING BRICK DRIVEWAY
- BOREHOLE

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5	DESIGN REVISION	2015/05/08	
6	DESIGN REVISION	2015/05/29	
7	DESIGN REVISION	2015/07/30	

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Drawing Title
CLEARVIEW SIDEROAD 26/27 RECONSTRUCTION

DRAWING LIST, LEGEND AND GENERAL NOTES
SIDEROAD 26/27

Drawn	Checked	Designed	Checked	Date	Drawing No.
AES	JKV/DM	AES	JKV/DM	2015/07/30	**C000**
Scale: N.T.S.		Project No.: 300034587		Revision No.: 7	

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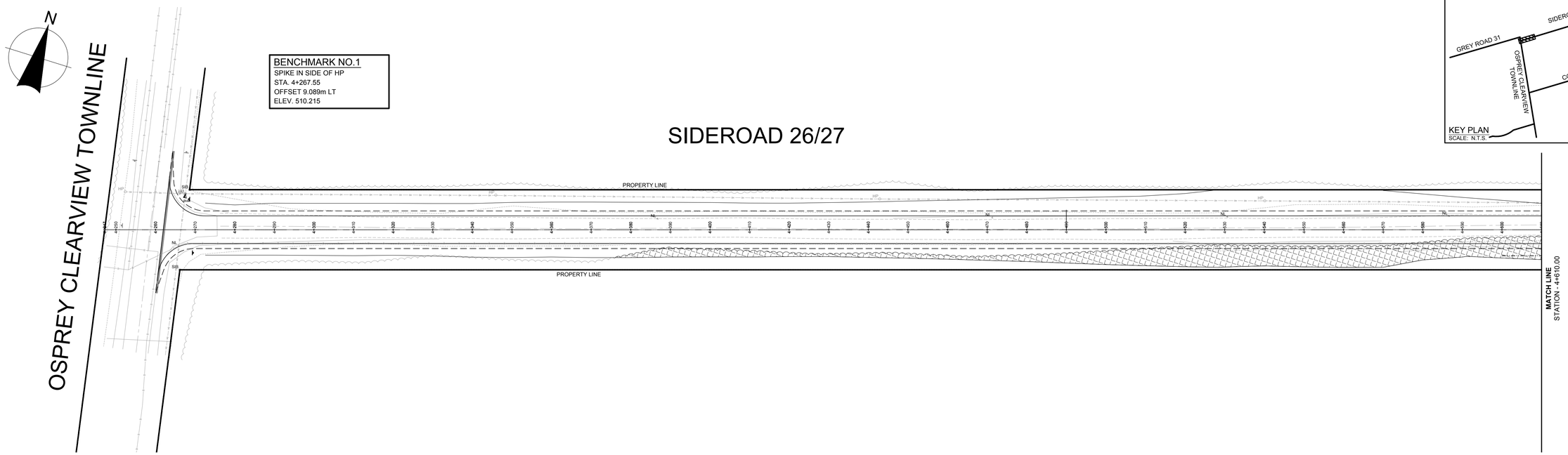

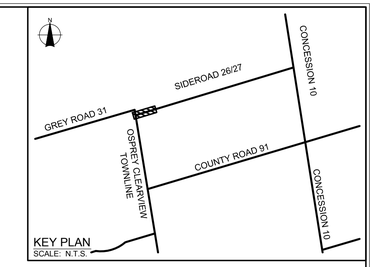

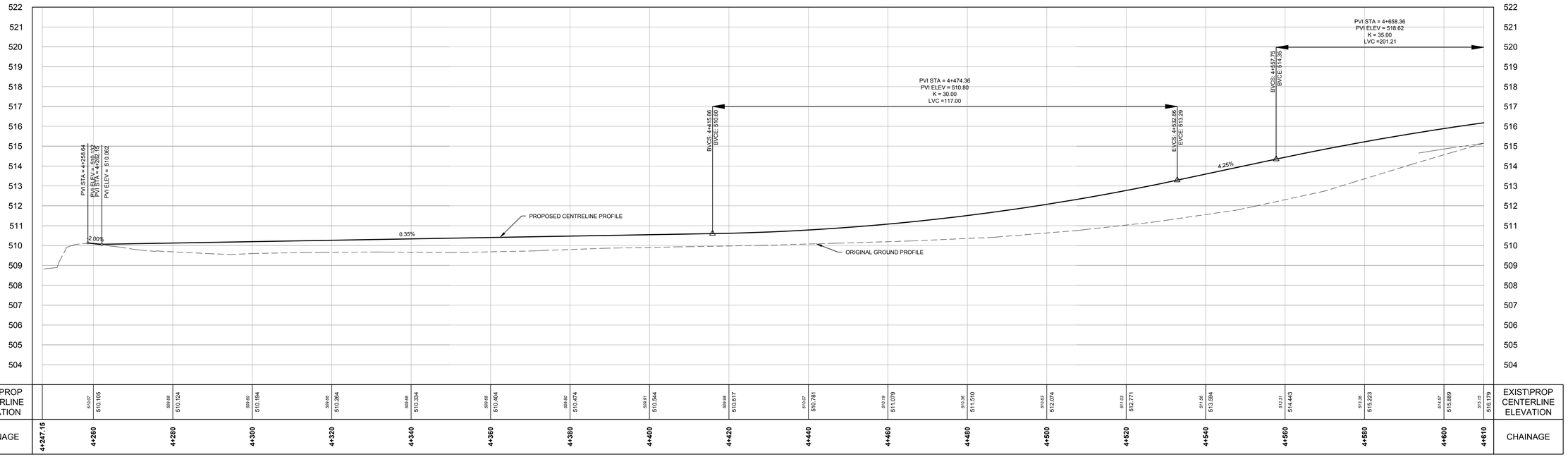

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7	DESIGN REVISION	2015/07/30	

0 2.0 4.0 6.0 8.0
Metres
Vertical: 1:100

0 5.0 10.0 20.0 30.0 40.0
Metres
Horizontal: 1:500

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L0M 1S0

Drawing Title

CLEARVIEW SIDEROAD 26/27 RECONSTRUCTION

PLAN & PROFILE
SIDEROAD 26/27
4+247 to 4+610

Drawn	Checked	Designed	Checked	Date	Drawing No.
AES/JSE	JKV	AES	JKV	2015/07/30	C001
Scale		Project No.		Revision No.	
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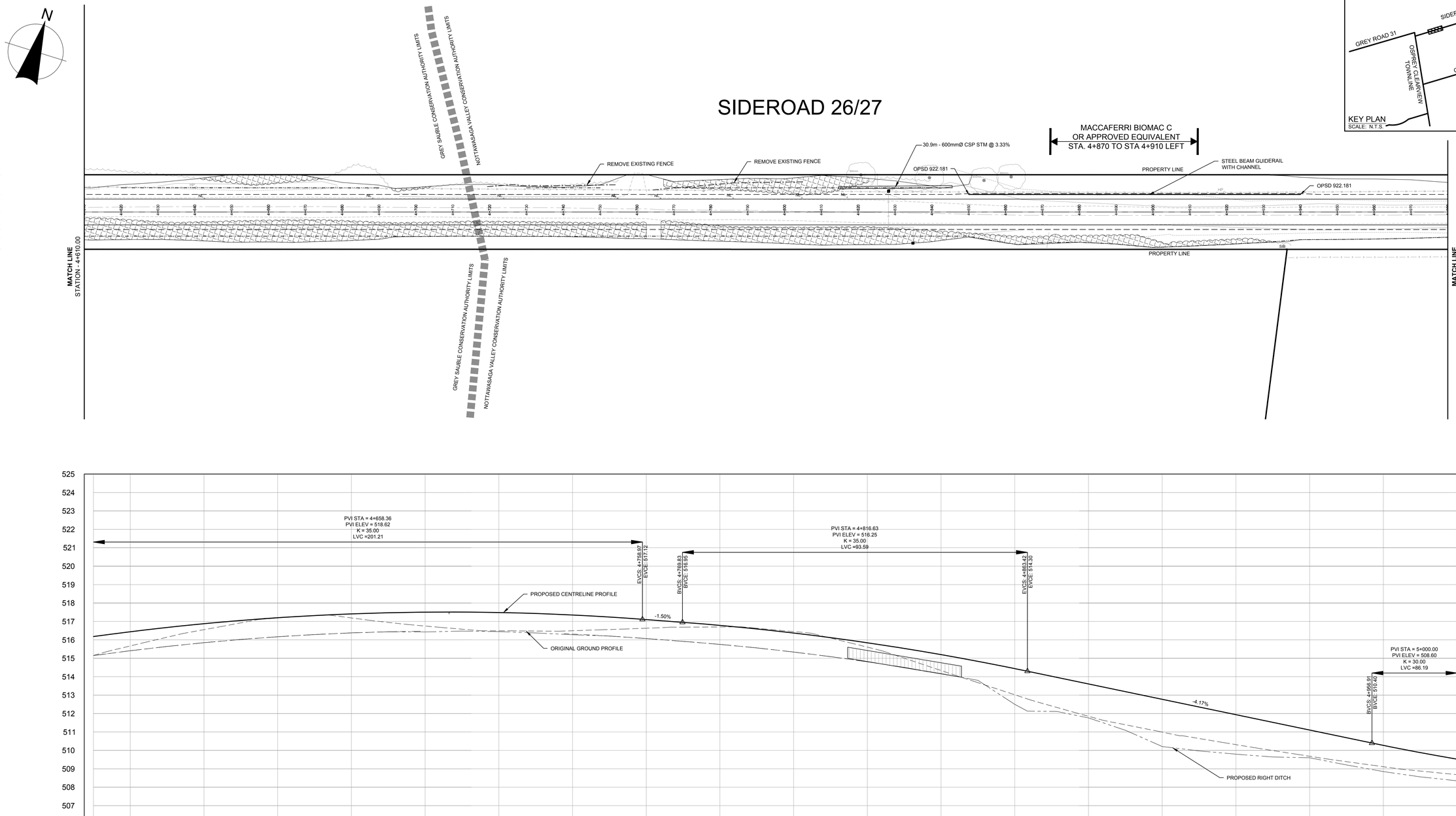

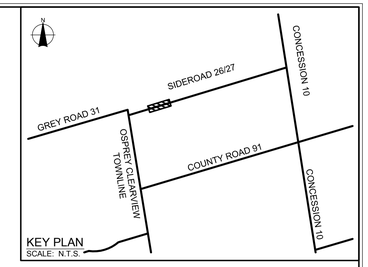

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0 2.0 4.0 6.0 8.0
Metres
Vertical: 1:100

0 5.0 10.0 20.0 30.0 40.0
Metres
Horizontal: 1:500

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L0M 1S0

Drawing Title

CLEARVIEW SIDEROAD 26/27 RECONSTRUCTION

PLAN & PROFILE
SIDEROAD 26/27
4+610 to 4+980

Drawn	Checked	Designed	Checked	Date	Drawing No.
AES/JSE	JKV	AES	JKV	2015/07/30	C002
Scale		Project No.		Revision No.	
H 1:500 V 1:100		300034587		7	

File Name: 300034587_PP_2x4x27.dwg Date Plotted: July 30, 2015 - 3:49 PM



BENCHMARK NO.2
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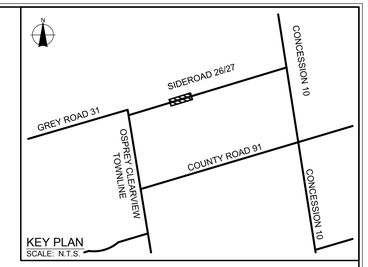
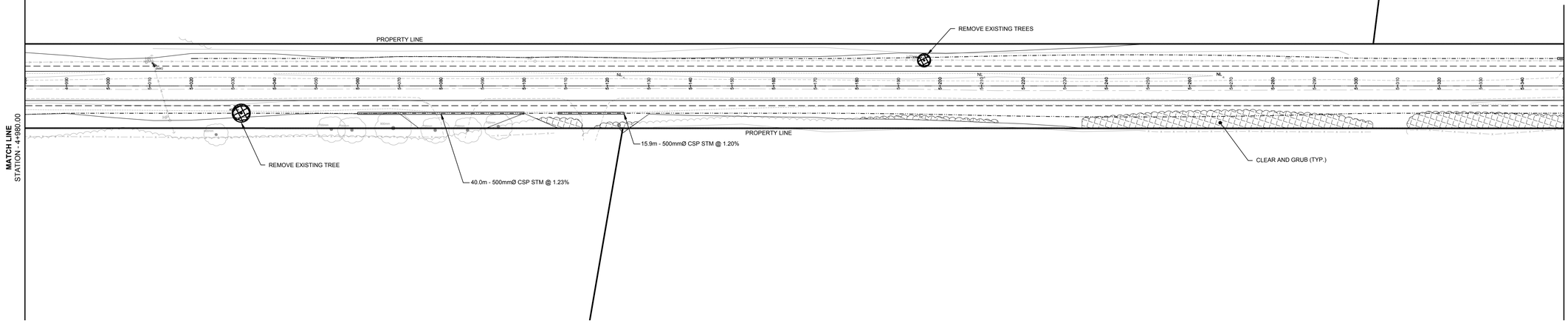
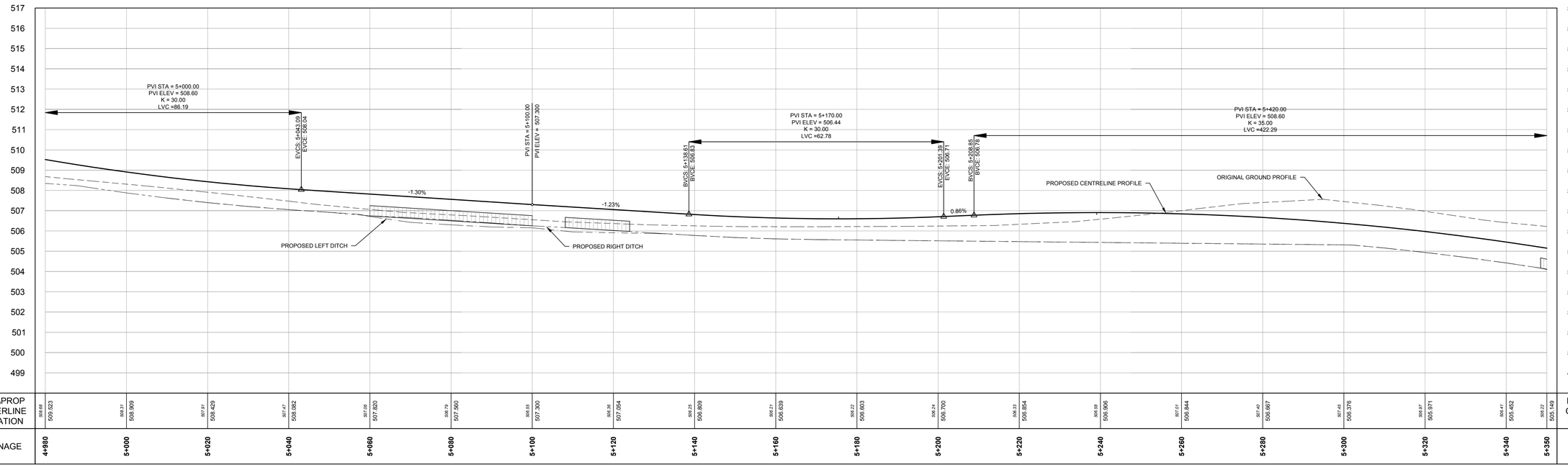
STA. 5+010.66
OFFSET 5.492m LT
ELEV. 508.468

SIDEROAD 26/27



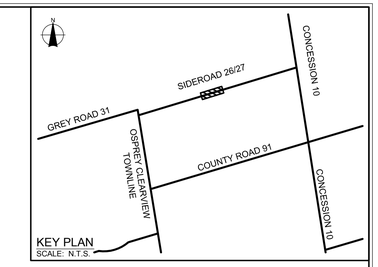




| | | |

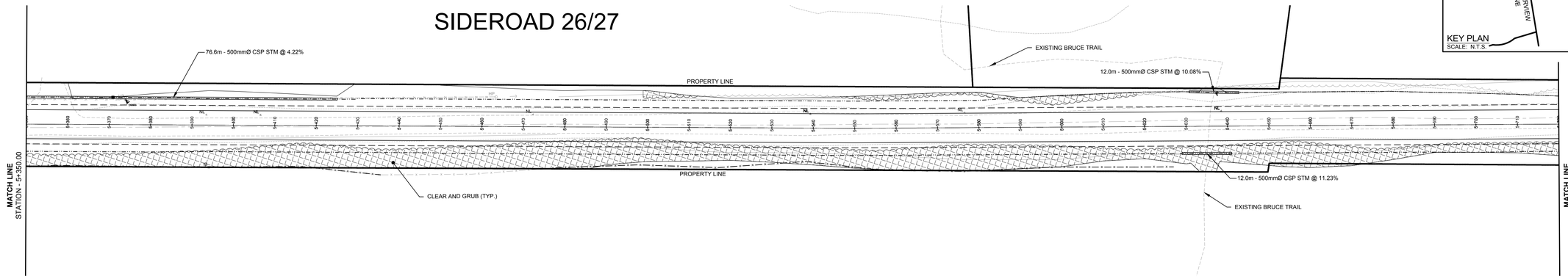


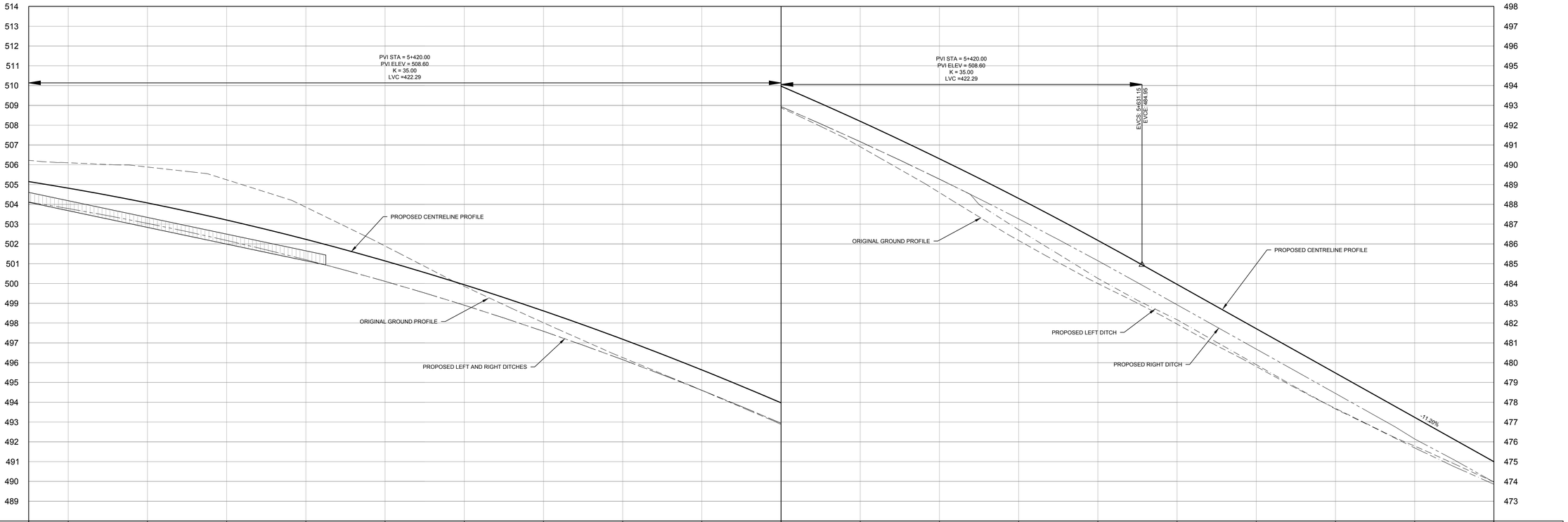
BENCHMARK NO.3
SPIKE IN SIDE OF HP
STA. 5+373.91
OFFSET 6.070m LT
ELEV. 506.428



KEY PLAN
SCALE: N.T.S.

SIDEROAD 26/27





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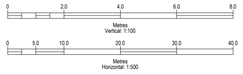
PRELIMINARY

No.	Issue / Revision	Date	Auth.
1	ISSUED FOR CLIENT REVIEW	2014/01/22	
2	ISSUED FOR APPROVAL AGENCY REVIEW	2014/01/31	
3	PRELIMINARY VIA RECOMMENDATION	2014/07/08	
4	DESIGN REVISION	2015/04/10	
5	DESIGN REVISION	2015/05/08	
6	DESIGN REVISION	2015/05/29	
7	DESIGN REVISION	2015/07/30	



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L0M 1S0

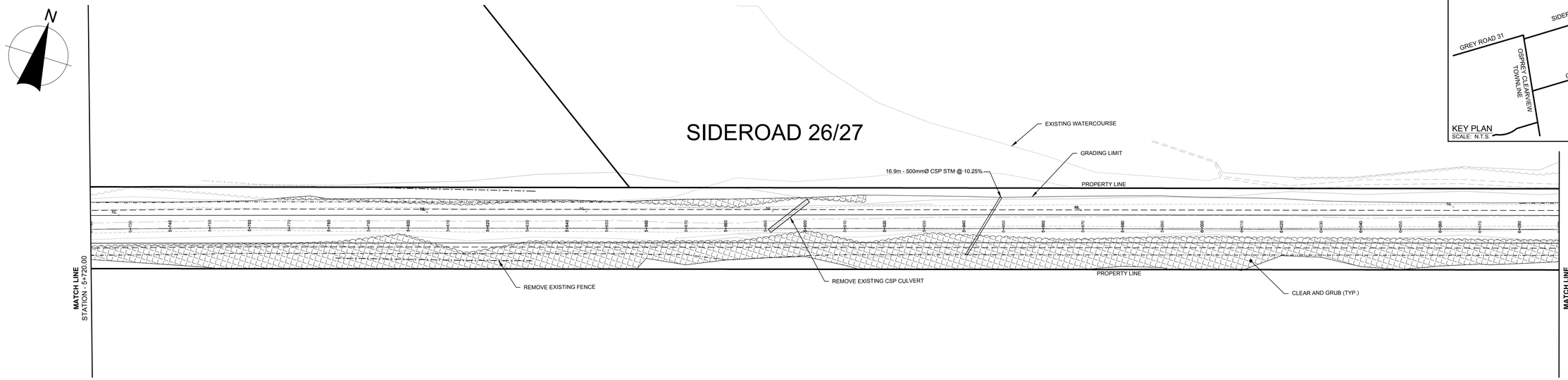
Drawing Title
CLEARVIEW SIDEROAD 26/27 RECONSTRUCTION

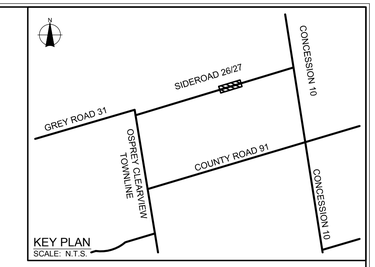
PLAN & PROFILE
SIDEROAD 26/27
5+350 to 5+720

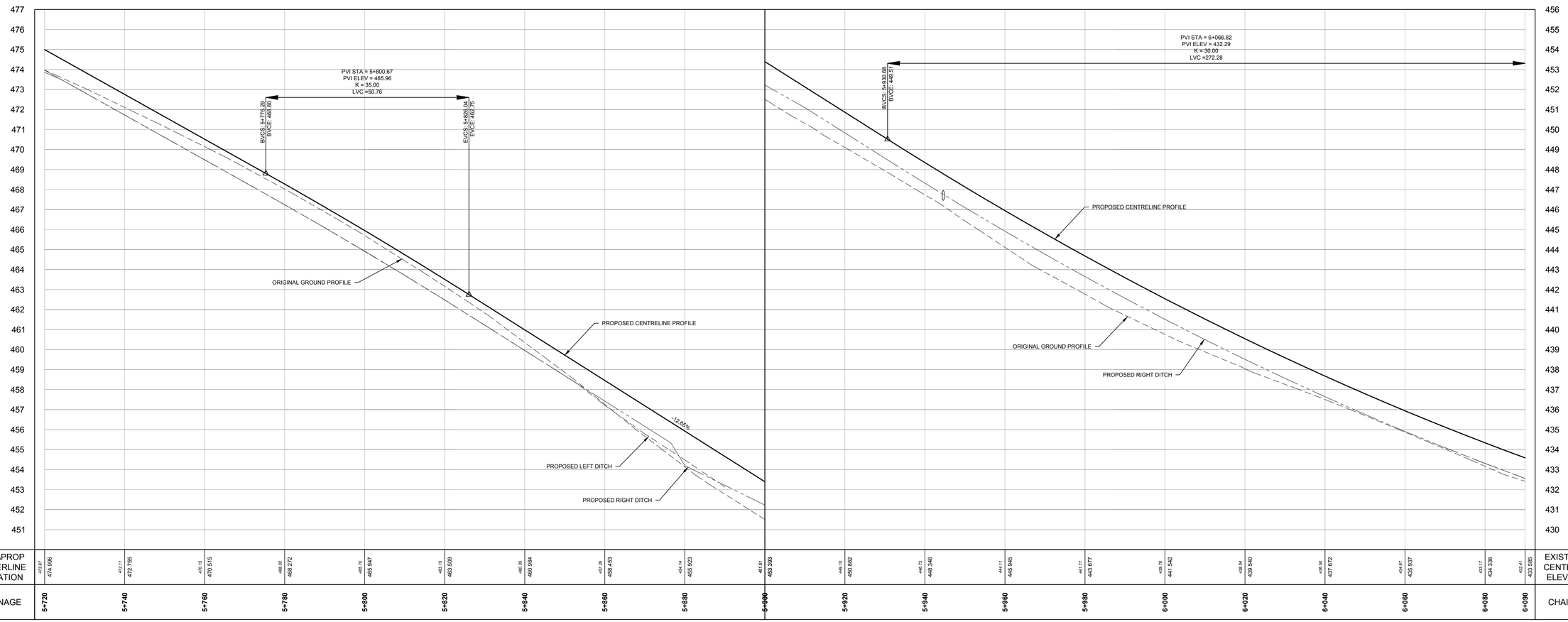
Drawn	Checked	Designed	Checked	Date	Drawing No.
AES/JSE	JKV	AES	JKV	2015/07/30	C004
Scale		Project No.		Revision No.	
H 1:500 V 1:100		300034587		7	

File Name: 300034587_PP_2015-07-29.dwg Date Plotted: July 30, 2015 - 3:59 PM

SIDEROAD 26/27







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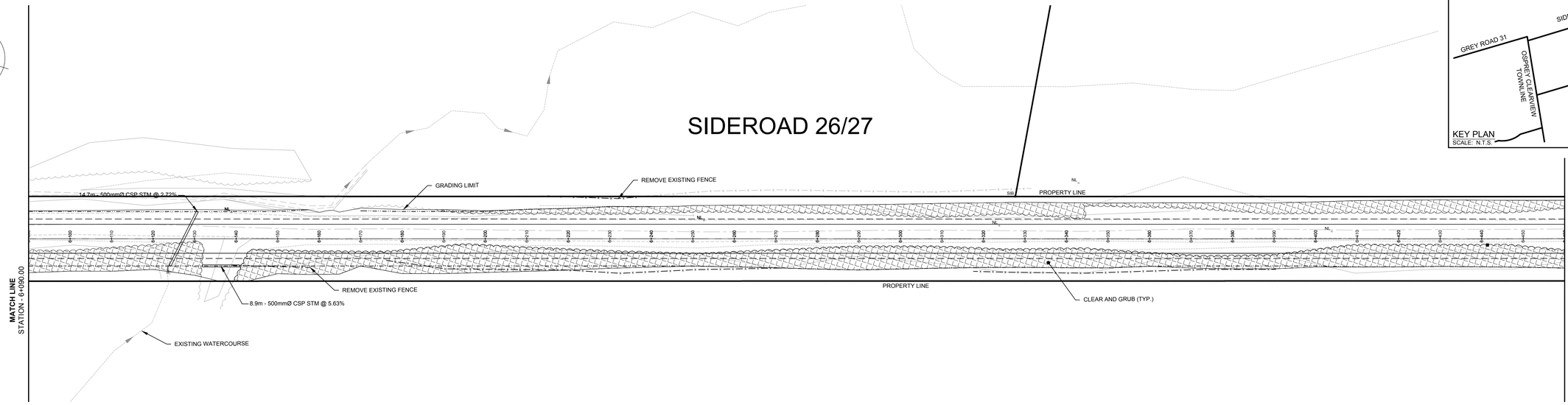
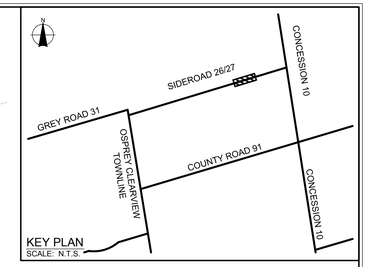
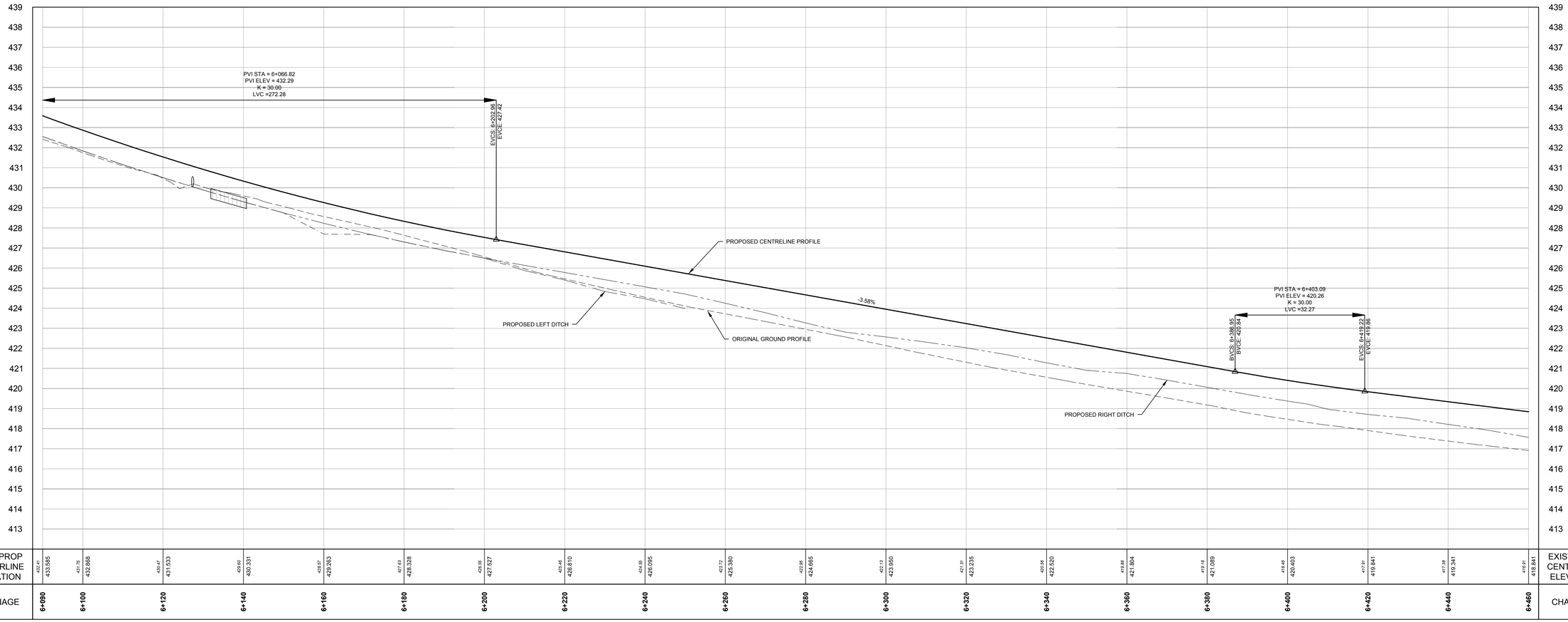
SIDEROAD 26/27







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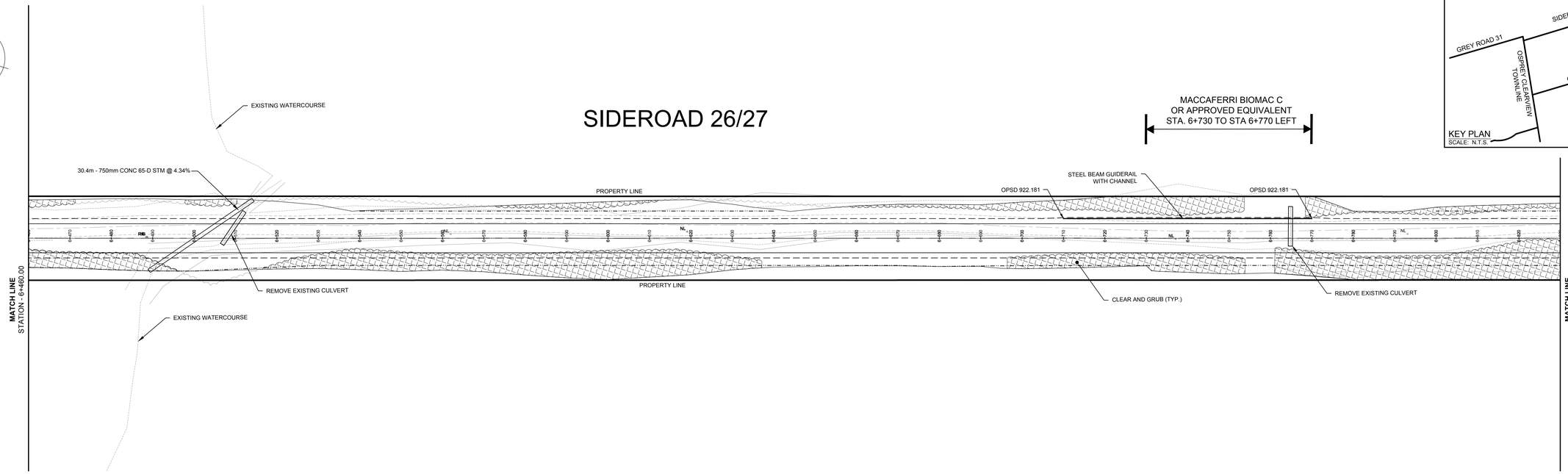
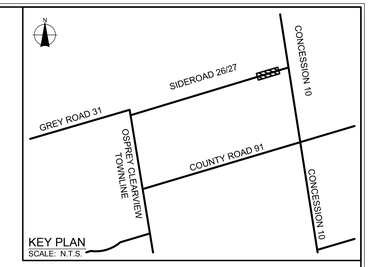
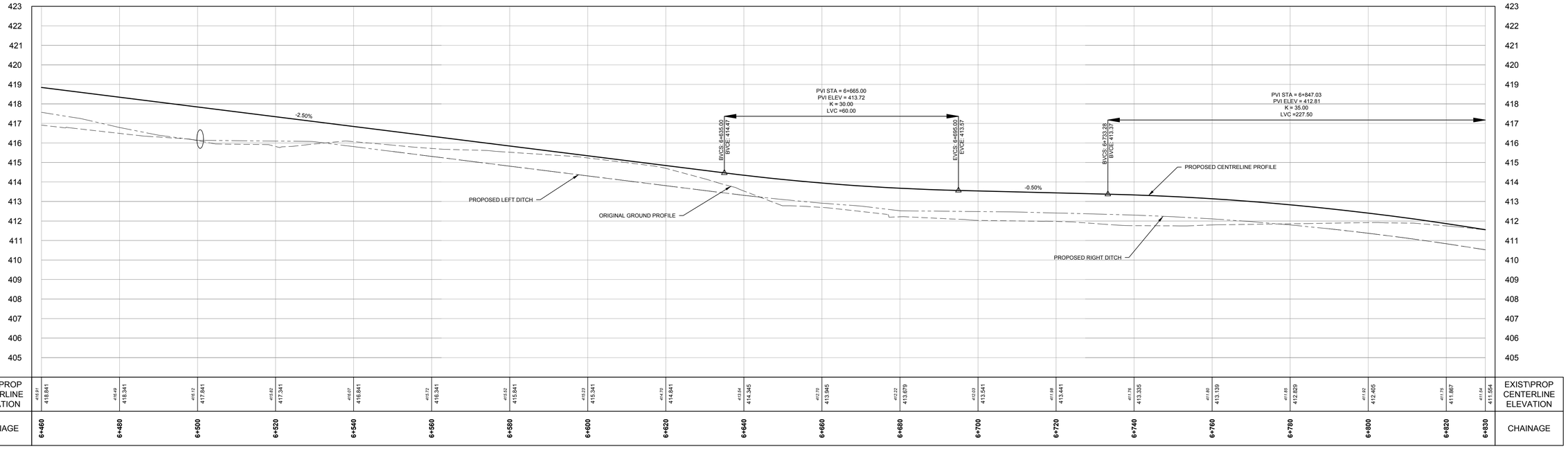
SIDEROAD 26/27







CHAINAGE	EXIST\PROP CENTERLINE ELEVATION
6+460	418.891 / 418.841
6+480	418.491 / 418.341
6+500	418.121 / 417.841
6+520	417.821 / 417.341
6+540	417.671 / 416.841
6+560	416.721 / 416.341
6+580	415.821 / 415.841
6+600	415.231 / 415.341
6+620	414.701 / 414.841
6+640	413.541 / 414.345
6+660	412.701 / 413.945
6+680	412.221 / 413.679
6+700	412.031 / 413.541
6+720	411.981 / 413.441
6+740	411.761 / 413.335
6+760	411.801 / 413.139
6+780	411.851 / 412.829
6+800	411.921 / 412.405
6+820	411.751 / 411.987
6+830	411.541 / 411.554

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4	DESIGN REVISION	2015/04/10	
5	DESIGN REVISION	2015/05/08	
6	DESIGN REVISION	2015/05/29	
7	DESIGN REVISION	2015/07/30	

Metres
Vertical 1:100
0 2.0 4.0 6.0 8.0

Metres
Horizontal 1:500
0 5.0 10.0 20.0 30.0 40.0

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STAYNER, ONTARIO
L0M 1S0

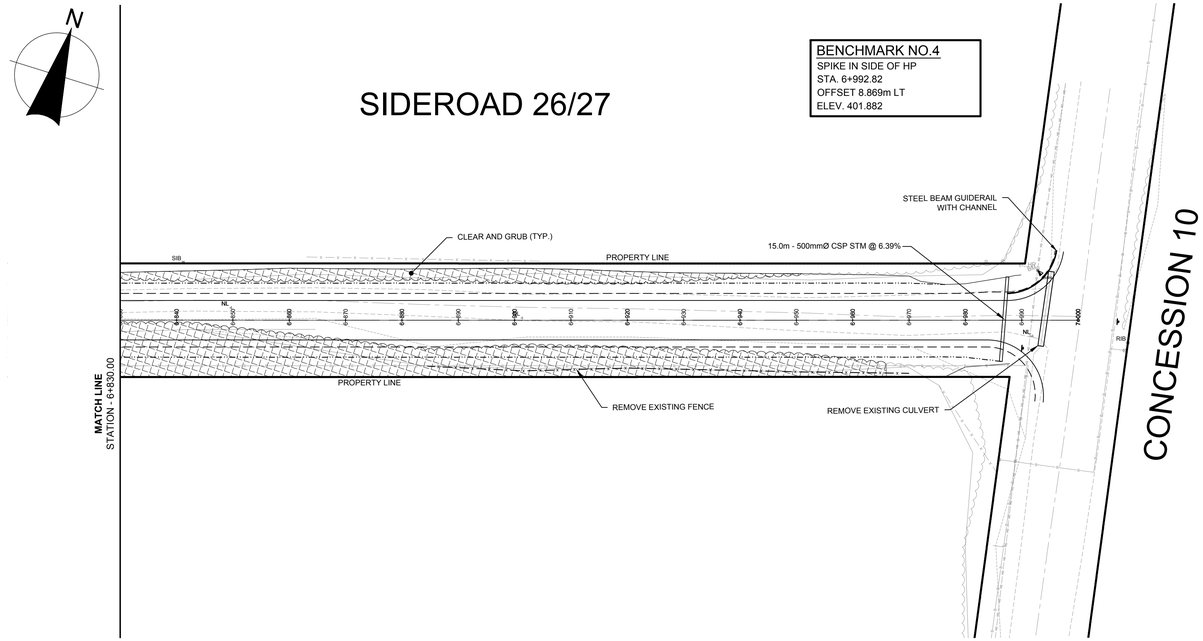
Drawing Title

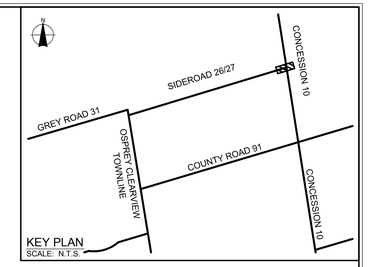
CLEARVIEW SIDEROAD 26/27 RECONSTRUCTION

PLAN & PROFILE
SIDEROAD 26/27
6+460 to 6+830

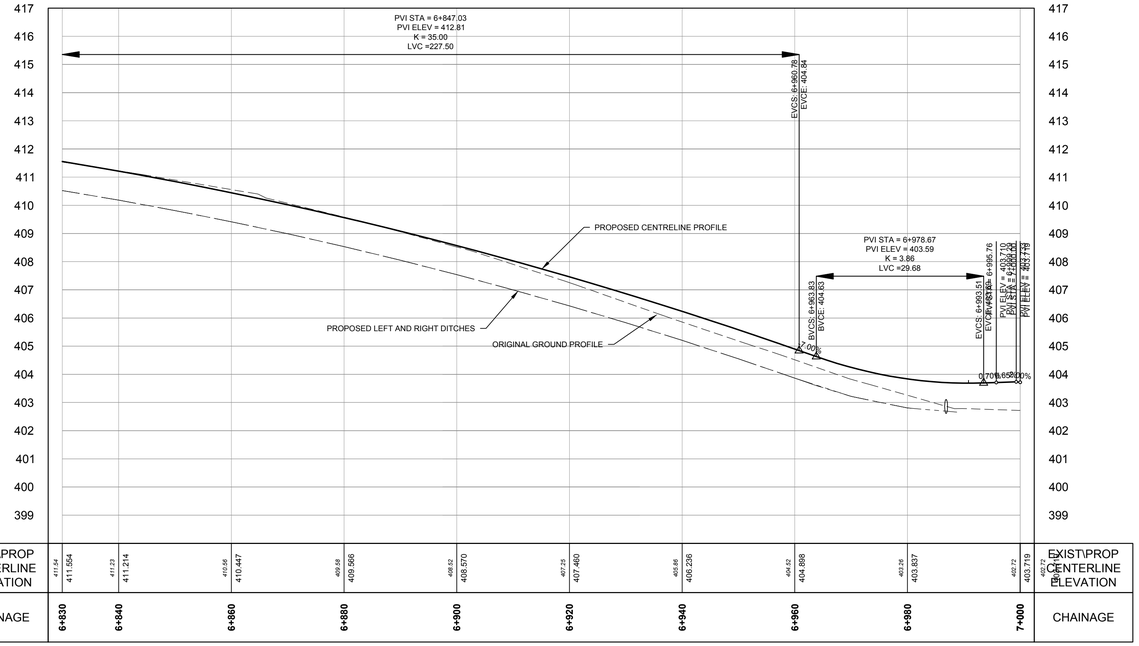
Drawn	Checked	Designed	Checked	Date	Drawing No.
AES/JSE	JKV	AES	JKV	2015/07/30	C007
Scale		Project No.		Revision No.	
H 1:500 V 1:100		300034587		7	

File Name: 300034587_PP_SHEET.dwg Date Plotted: July 30, 2015 - 12:53 PM





KEY PLAN
SCALE: N.T.S.



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5	DESIGN REVISION	2015/05/08	
6	DESIGN REVISION	2015/05/29	
7	DESIGN REVISION	2015/07/30	

Metres
Vertical: 1:100

Metres
Horizontal: 1:500

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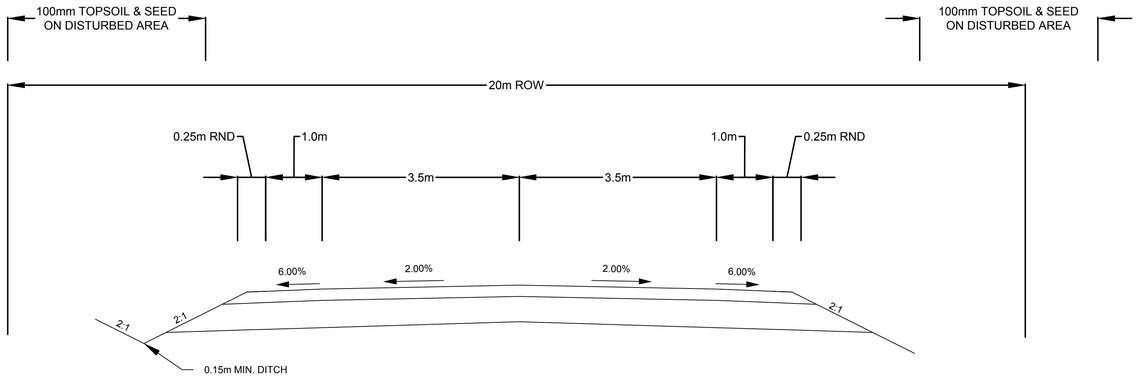
L0M 1S0

Drawing Title
CLEARVIEW SIDEROAD 26/27 RECONSTRUCTION

PLAN & PROFILE
SIDEROAD 26/27
6+830 to 7+000

Drawn	Checked	Designed	Checked	Date	Drawing No.
AES/JSE	JKV	AES	JKV	2015/07/30	C008
Scale		Project No.		Revision No.	
H 1:500 V 1:100		300034587		7	

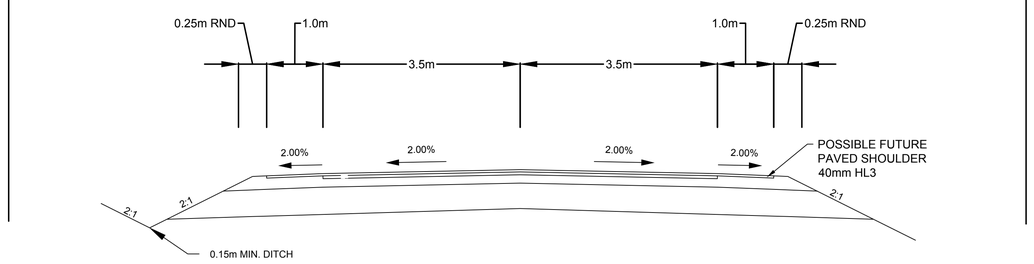
File Name: 300034587_PP_26&27.dwg Date Plotted: July 30, 2015 - 3:51 PM



NOTE:
ROAD TO BE COMPRISED OF
- 150mm GRANULAR A
- 450mm GRANULAR B

INTERIM TYPICAL ROAD CROSS-SECTION

SCALE 1:50



NOTE:
ROAD TO BE COMPRISED OF
- 40mm HL3 (FUTURE)
- 50mm HL8 (FUTURE)
- 150mm GRANULAR A
- 450mm GRANULAR B

ULTIMATE TYPICAL ROAD CROSS-SECTION

SCALE 1:50

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6	DESIGN REVISION	2015/05/29	
7	DESIGN REVISION	2015/07/30	

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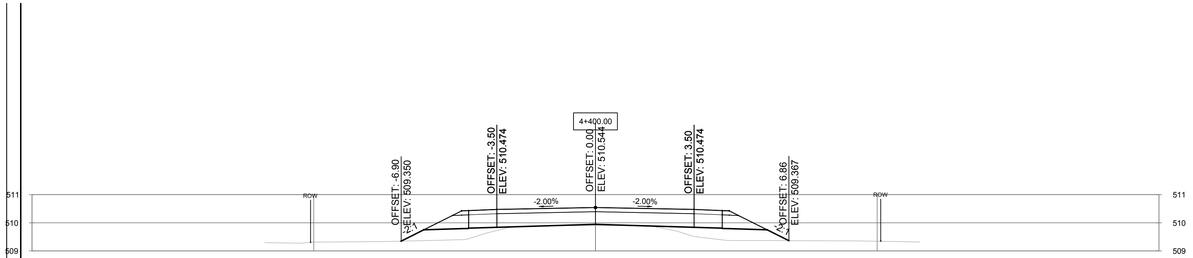
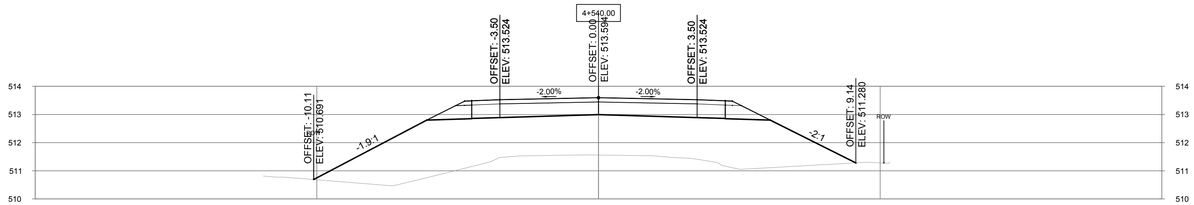
Drawing Title
CLEARVIEW SIDEROAD 26/27 RECONSTRUCTION

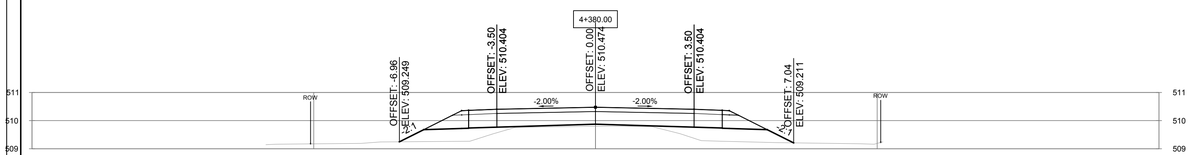
TYPICAL SECTIONS AND DETAILS
SIDEROAD 26/27

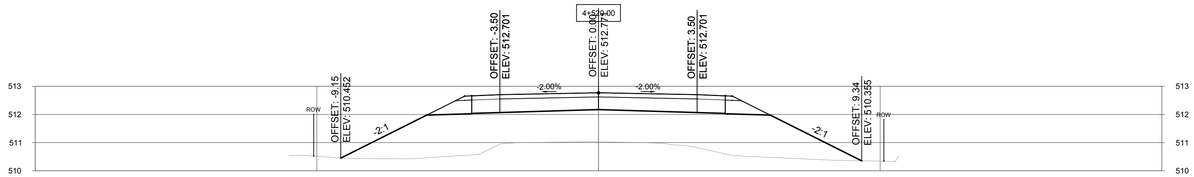
Drawn	Checked	Designed	Checked	Date	Drawing No.
AES/JSE	JKV	AES	JKV	2015/07/30	**C009**
Scale		Project No.		Revision No.	
N.T.S.		300034587		7	

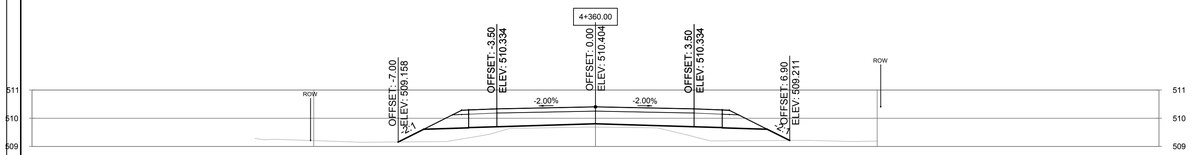
File Name: 154587-DCVSD-Hwy 26 Sheet Key.dwg Date Plotted: July 30, 2015 - 3:51 PM

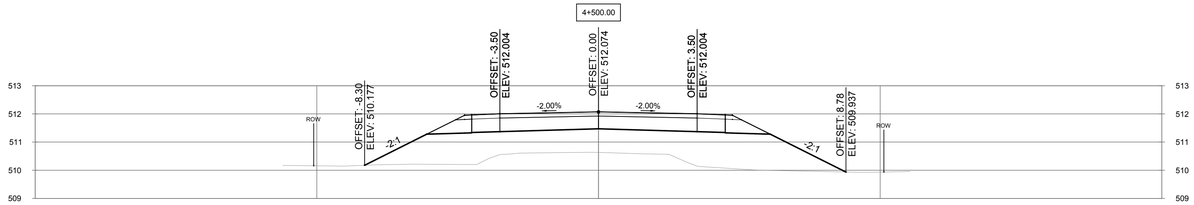


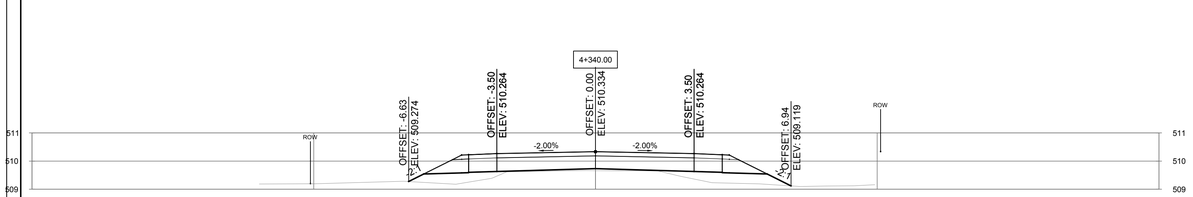


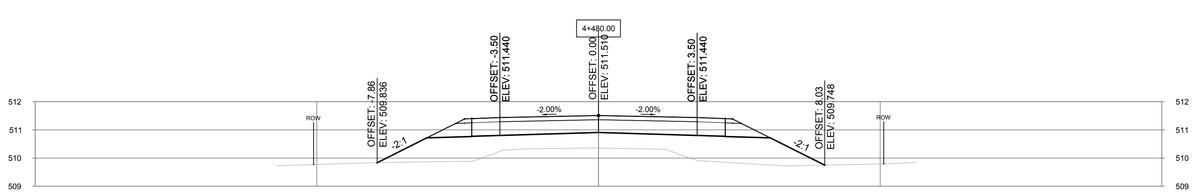


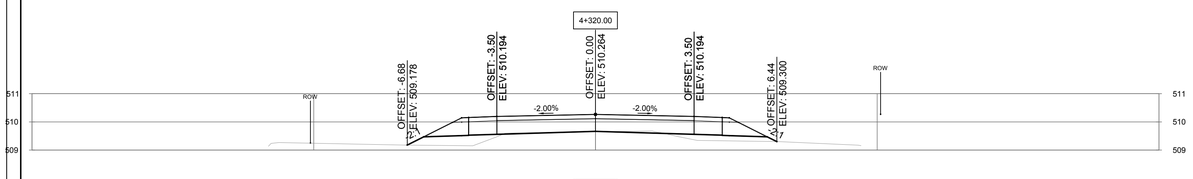


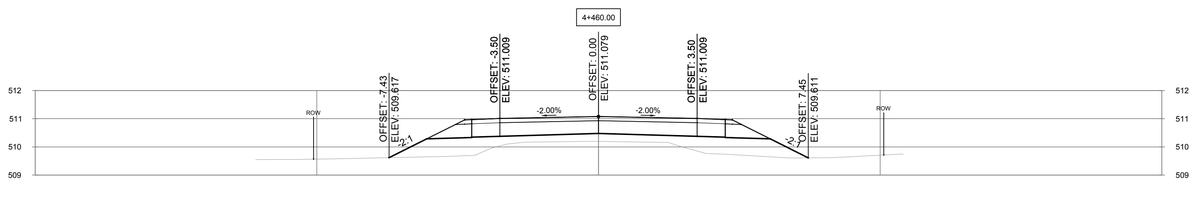


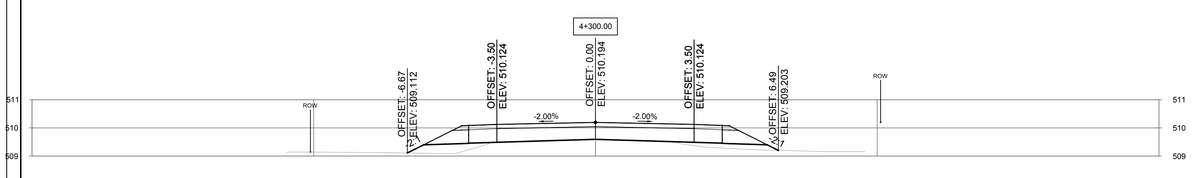


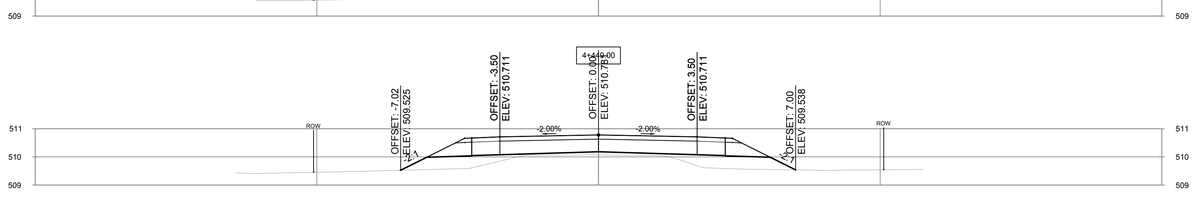


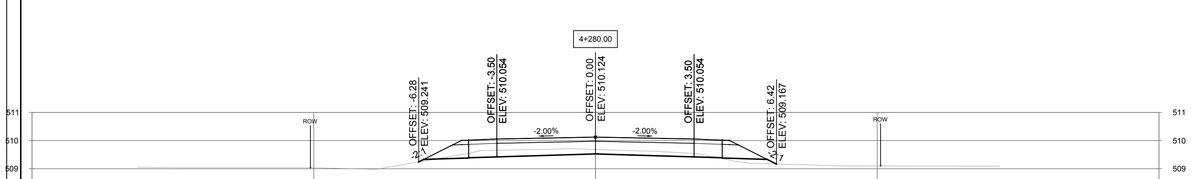














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5	DESIGN REVISION	2015/05/08	
6	DESIGN REVISION	2015/05/29	
7	DESIGN REVISION	2015/07/30	

0 2.0 4.0 6.0 8.0
Metres
1:100

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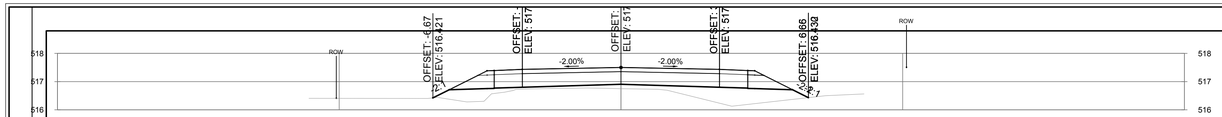
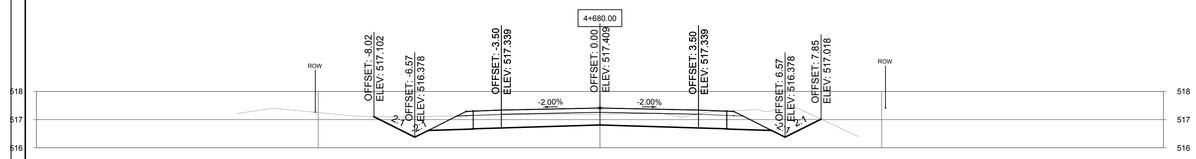
L0M 1S0

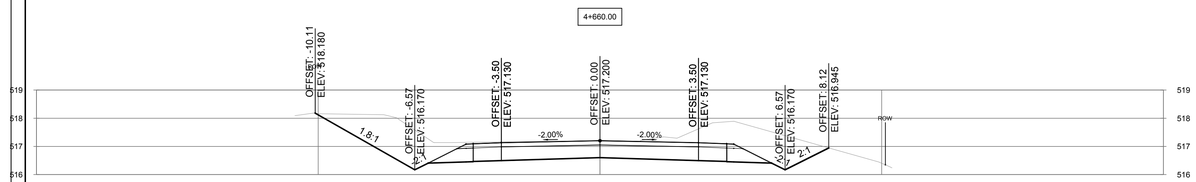
Drawing Title
CLEARVIEW SIDEROAD 26/27 RECONSTRUCTION
CROSS SECTIONS

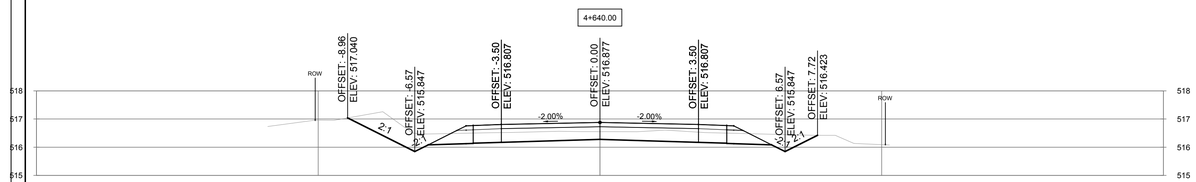
Drawn	Checked	Designed	Checked	Date	Drawing No.
AES/JSE	JKV/DM	AES	JKV/DM	2015/07/30	**CS01**
Scale		Project No.		Revision No.	
H 1:500 V 1:50		300034587		7	

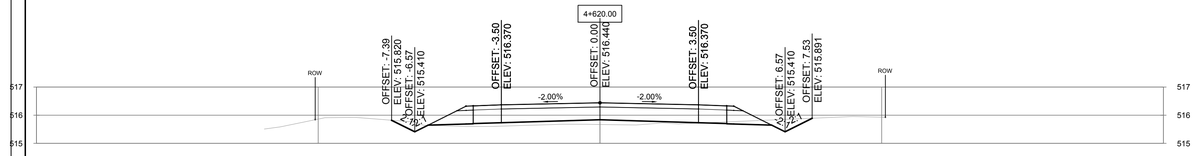
File Name: 300034587_SECTIONS.dwg Date Plotted: July 30, 2015 - 1:52 PM

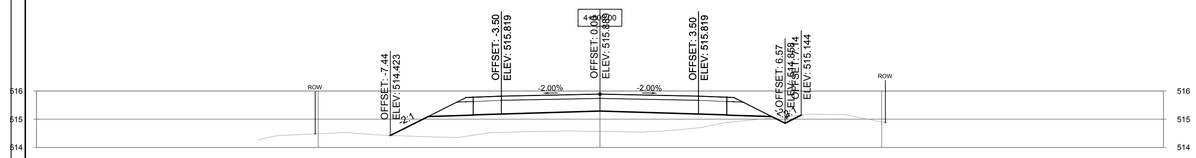


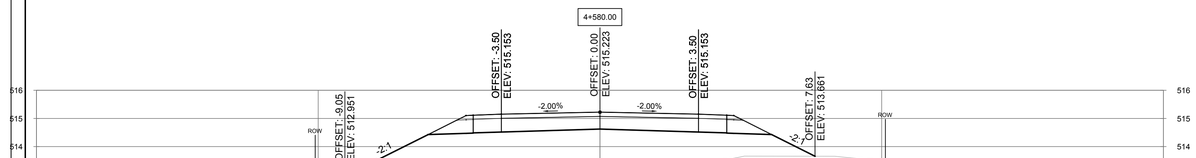


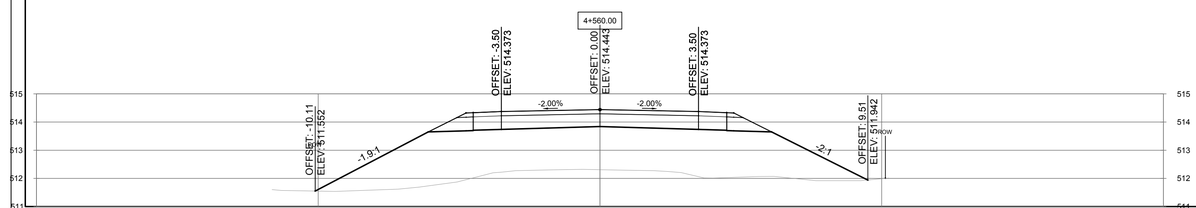


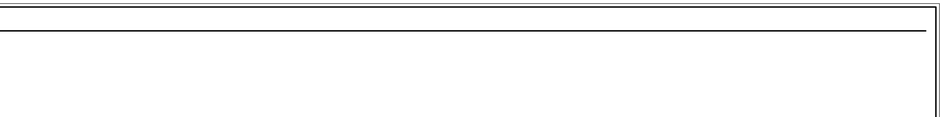


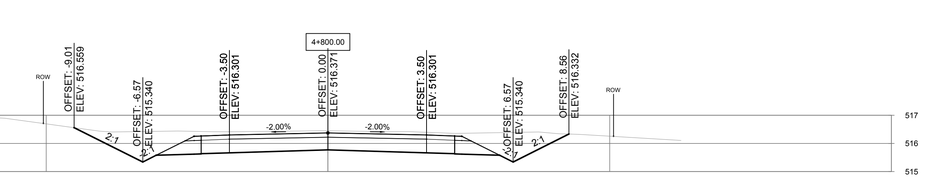


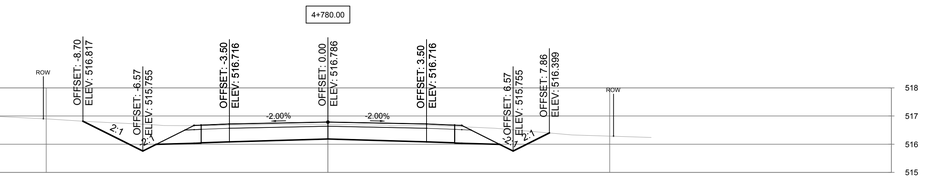


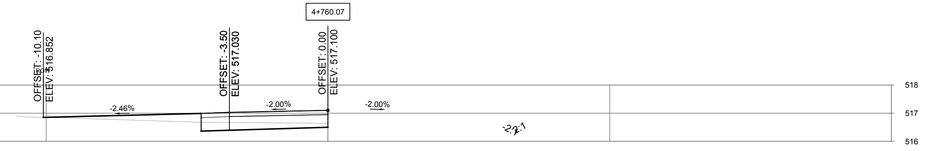


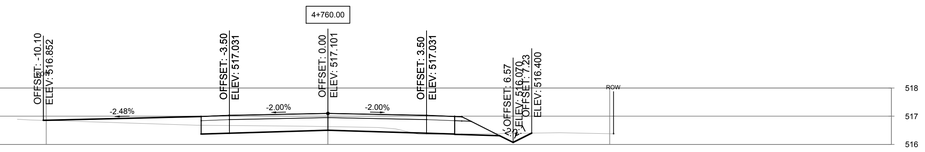












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5	DESIGN REVISION	2015/05/08	
6	DESIGN REVISION	2015/05/29	
7	DESIGN REVISION	2015/07/30	

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Metres
1:100

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Drawing Title
CLEARVIEW SIDEROAD 26/27 RECONSTRUCTION
CROSS SECTIONS

Drawn	Checked	Designed	Checked	Date	Drawing No.
AES/JSE	JKV/DM	AES	JKV/DM	2015/07/30	**CS02**
Scale		Project No.		Revision No.	
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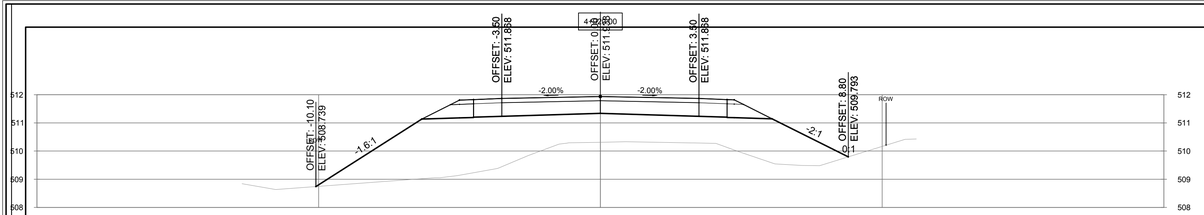

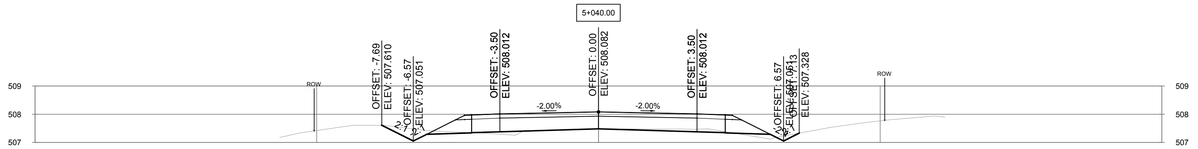

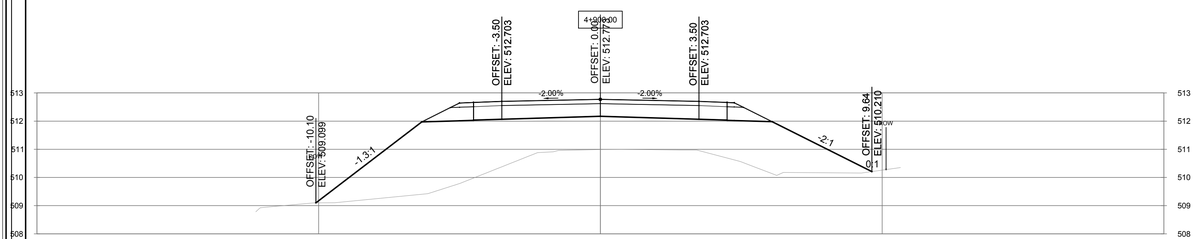

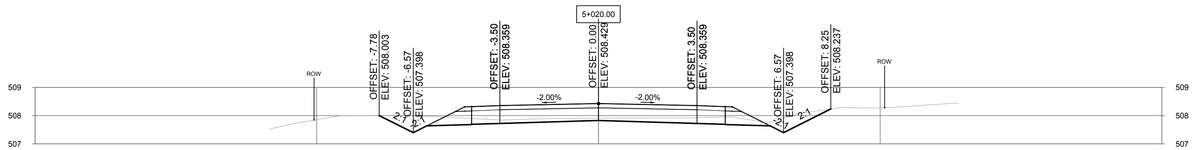

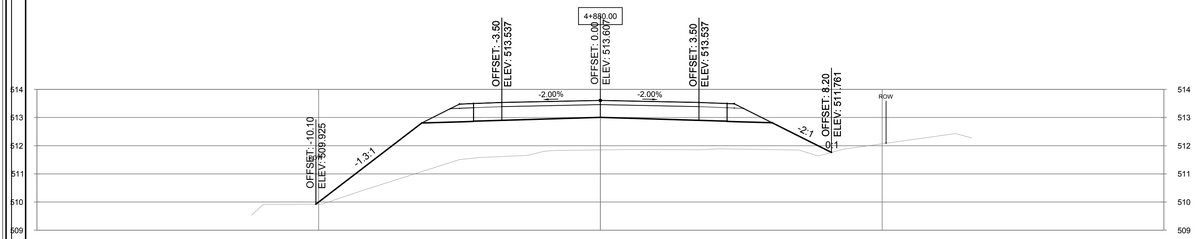

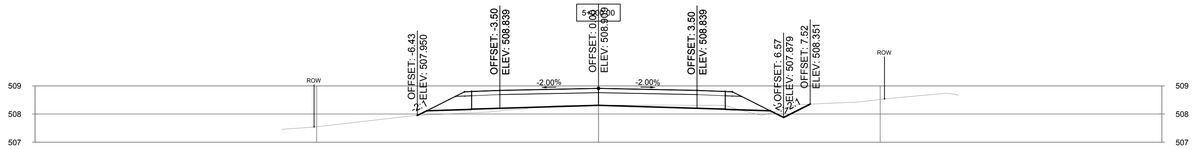

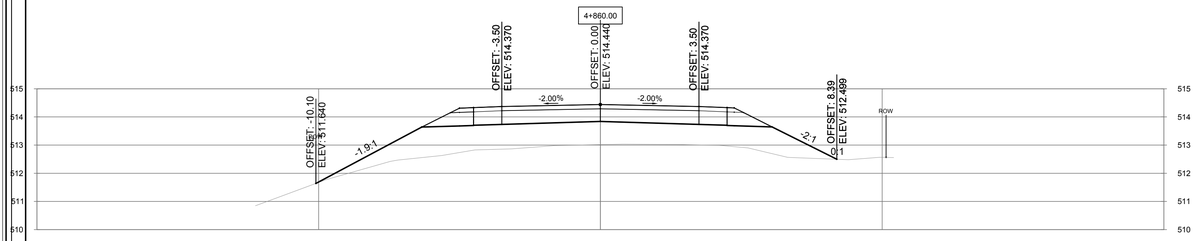

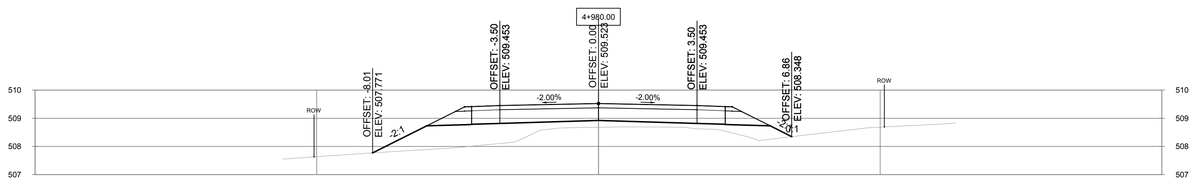

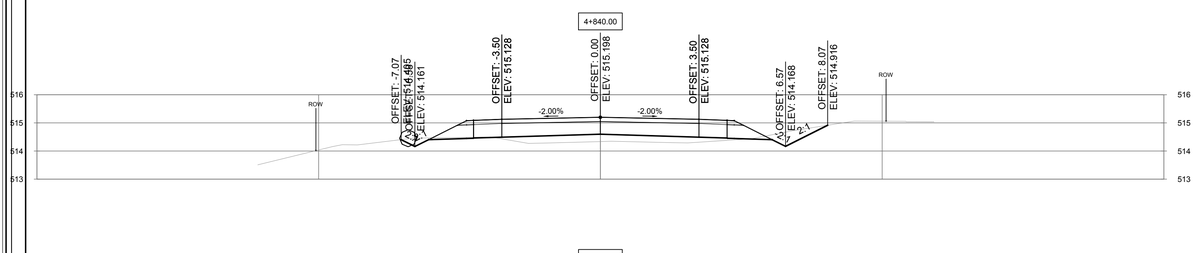

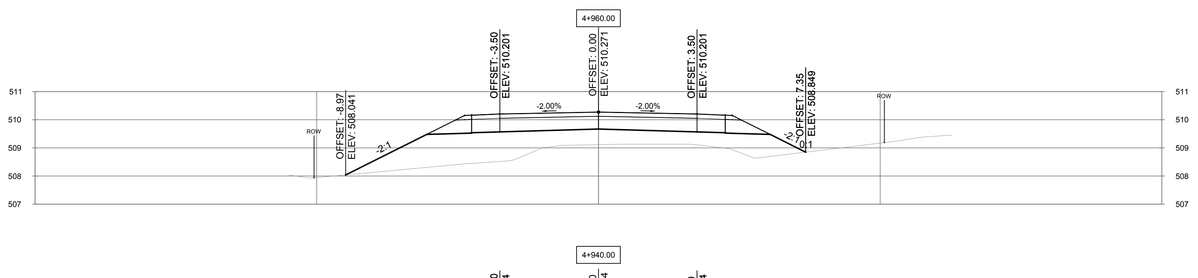

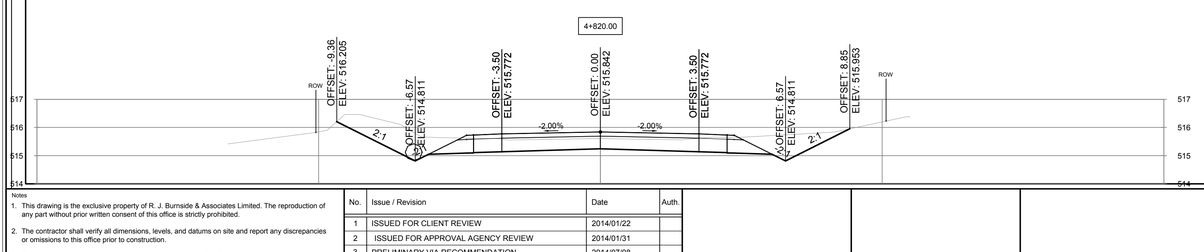

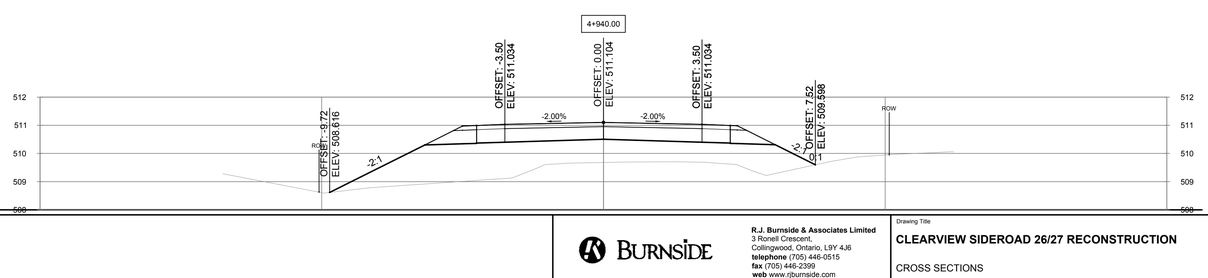

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7	DESIGN REVISION	2015/07/30	

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Metres
1:100

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Drawing Title

CLEARVIEW SIDEROAD 26/27 RECONSTRUCTION

CROSS SECTIONS

Drawn	Checked	Designed	Checked	Date	Drawing No.
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Scale		Project No.		Revision No.	
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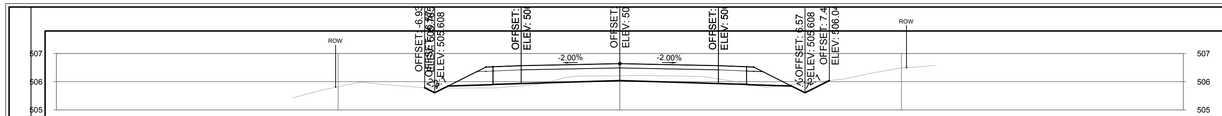

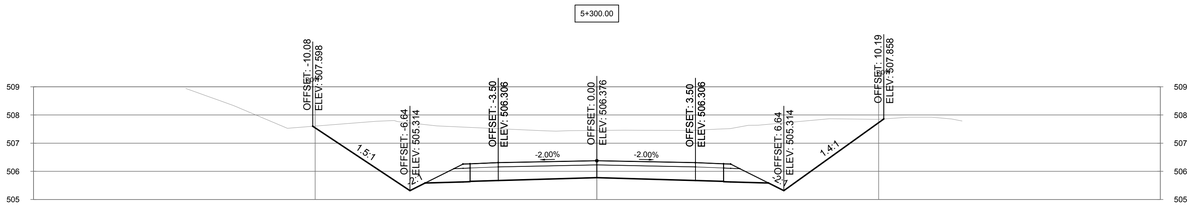

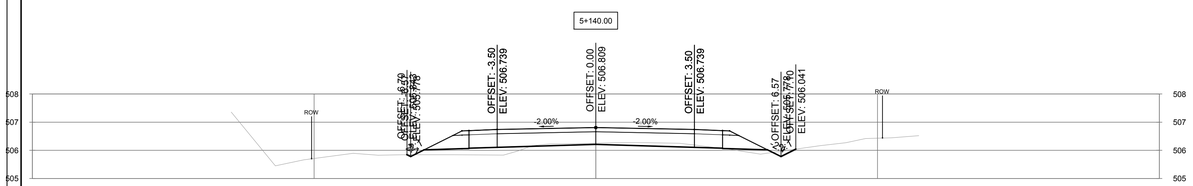

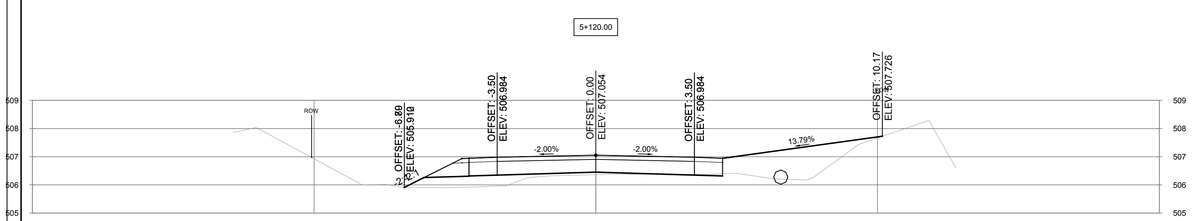

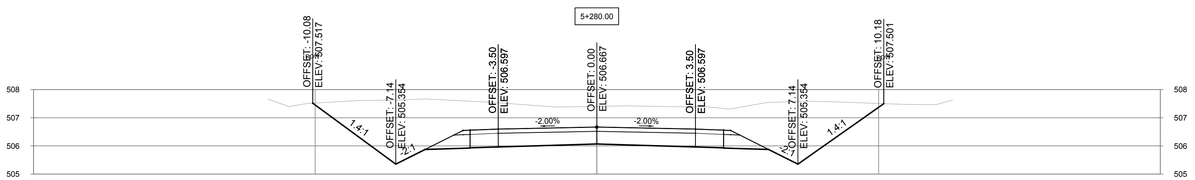

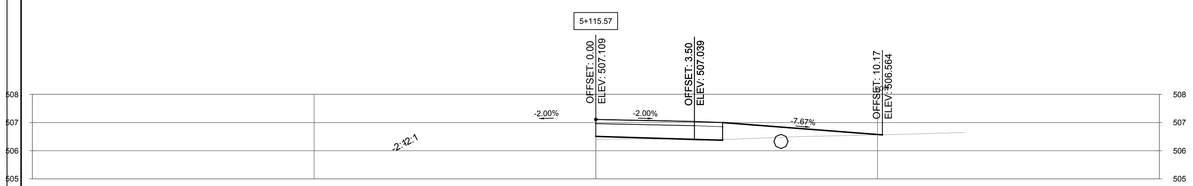

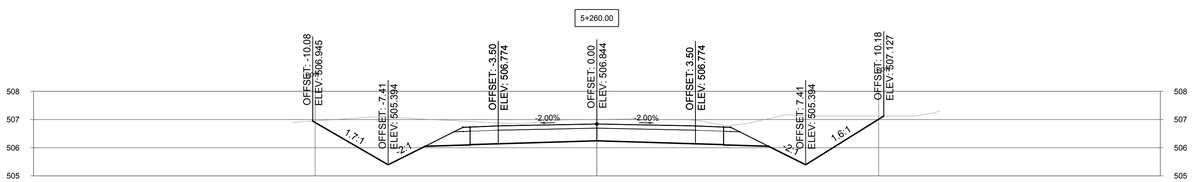

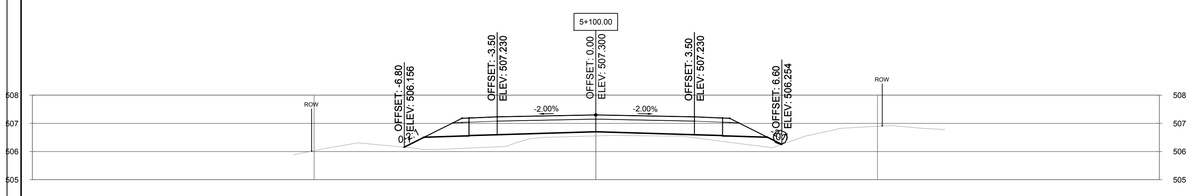

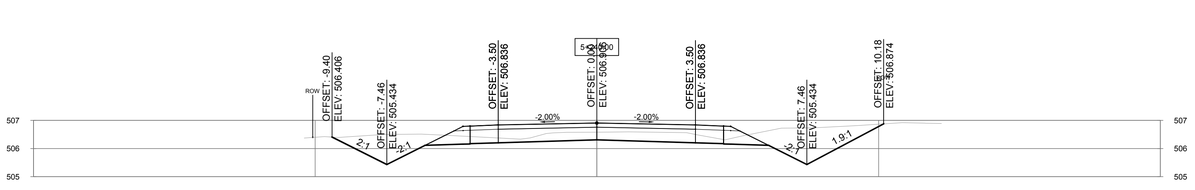

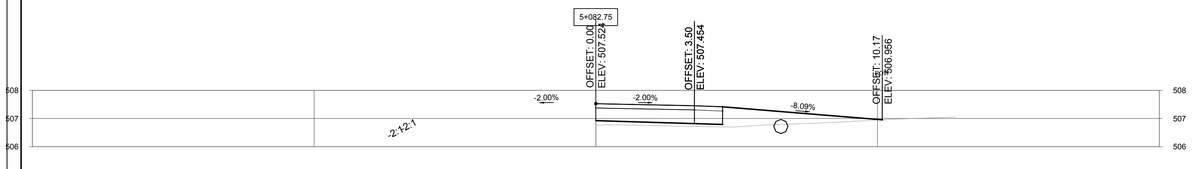

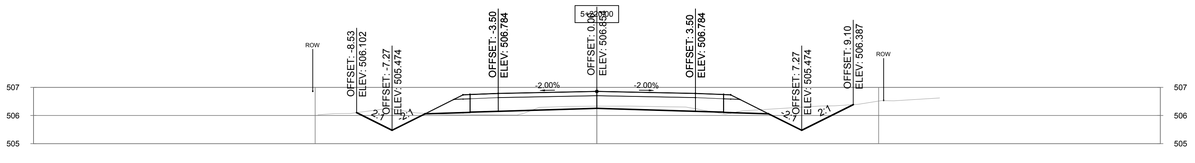

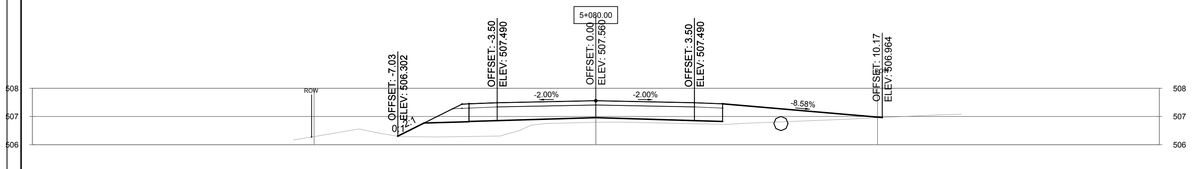

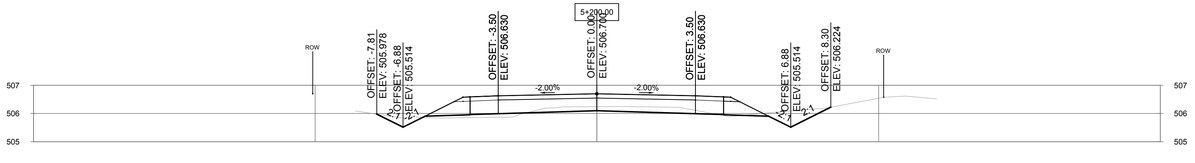

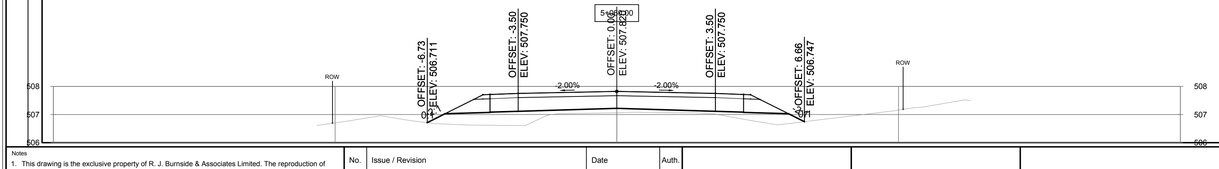

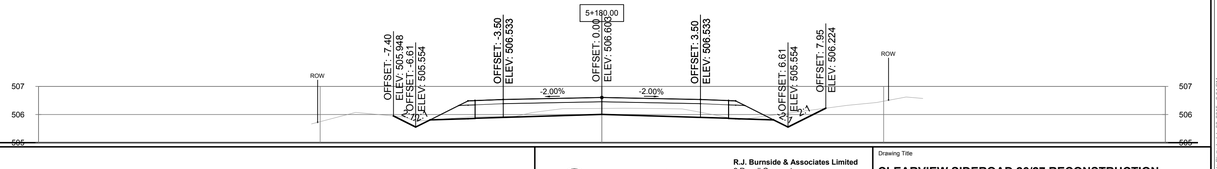

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6	DESIGN REVISION	2015/05/29	
7	DESIGN REVISION	2015/07/30	

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Metres
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Drawing Title
CLEARVIEW SIDEROAD 26/27 RECONSTRUCTION

CROSS SECTIONS

Drawn	Checked	Designed	Checked	Date	Drawing No.
AES/JSE	JKV/DM	AES	JKV/DM	2015/07/30	**CS04**

Scale	Project No.	Revision No.
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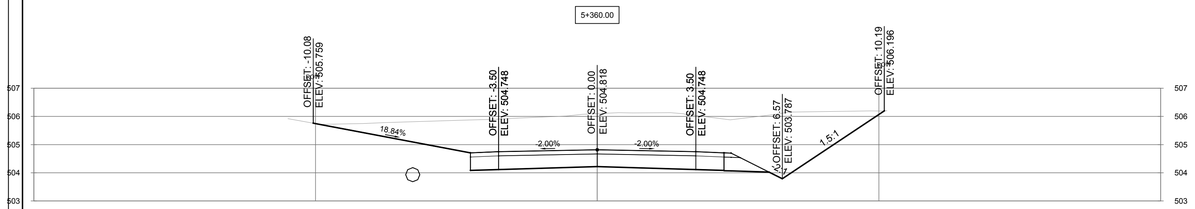

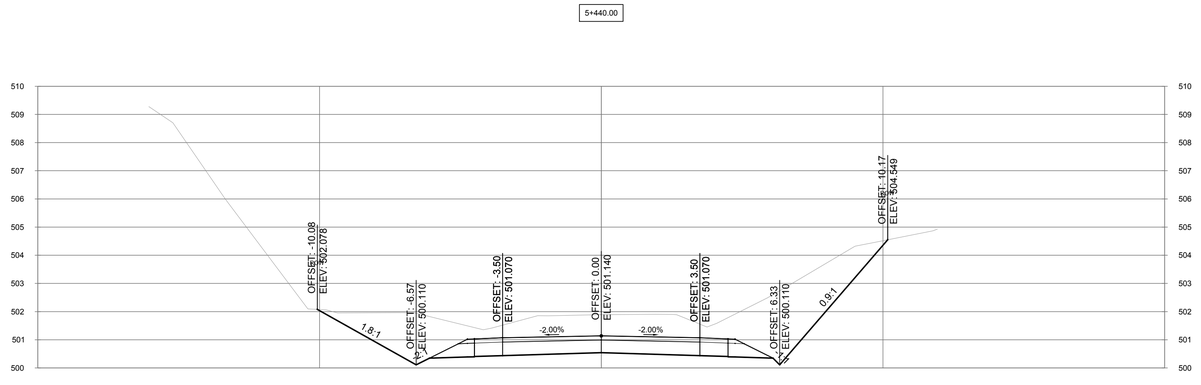

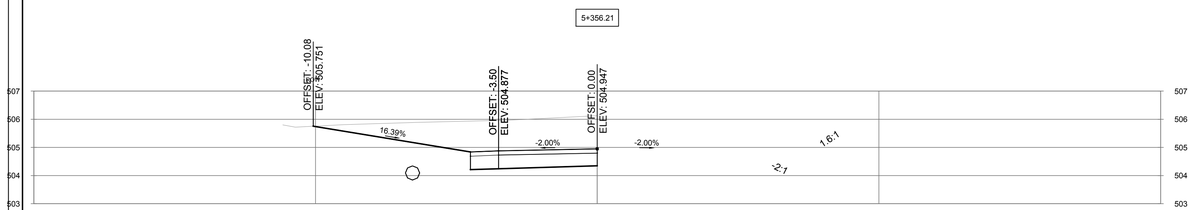

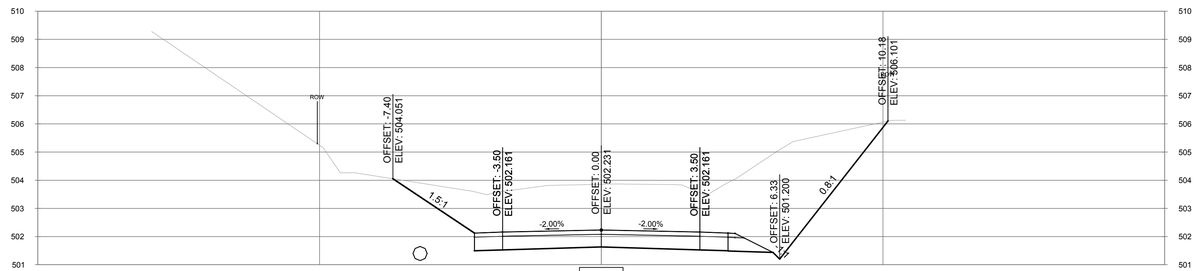

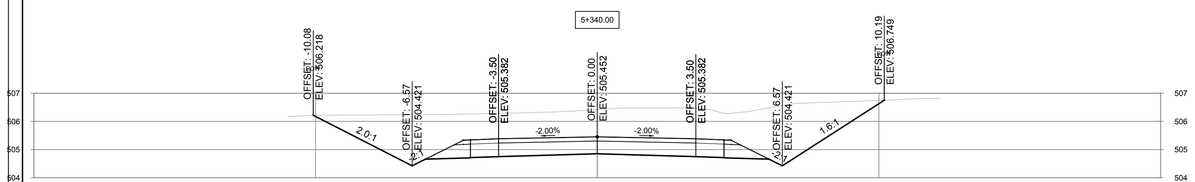

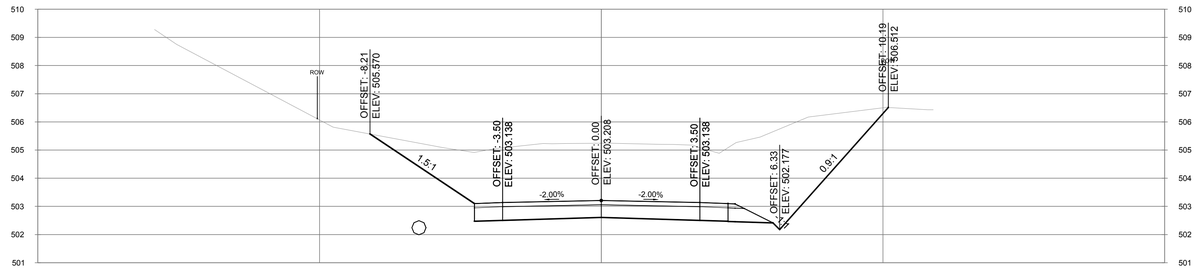

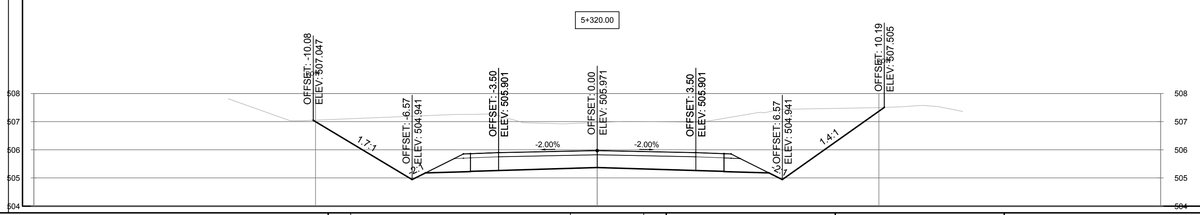

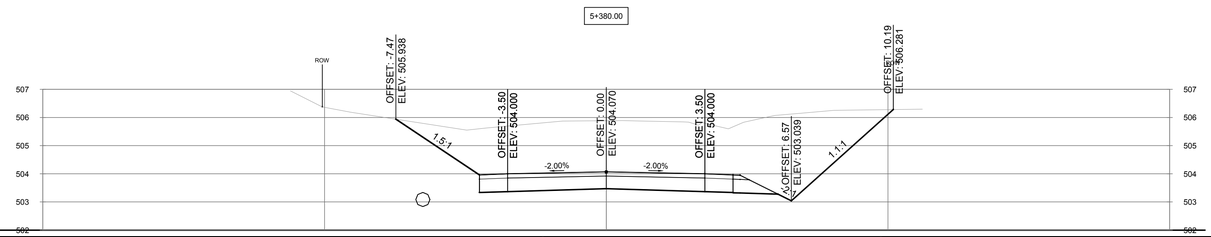

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Metres
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Drawing Title
CLEARVIEW SIDEROAD 26/27 RECONSTRUCTION
CROSS SECTIONS

Drawn	Checked	Designed	Checked	Date	Drawing No.
AES/JSE	JKV/DM	AES	JKV/DM	2015/07/30	**CS05**
Scale		Project No.		Revision No.	
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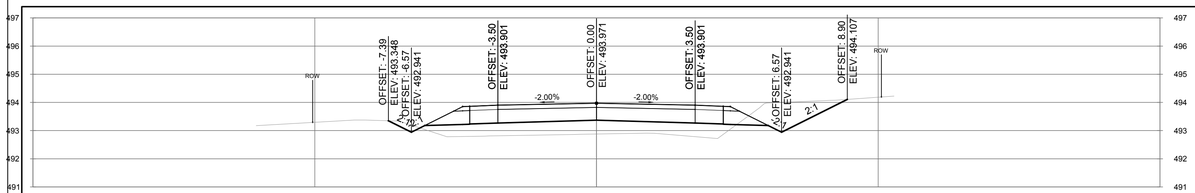

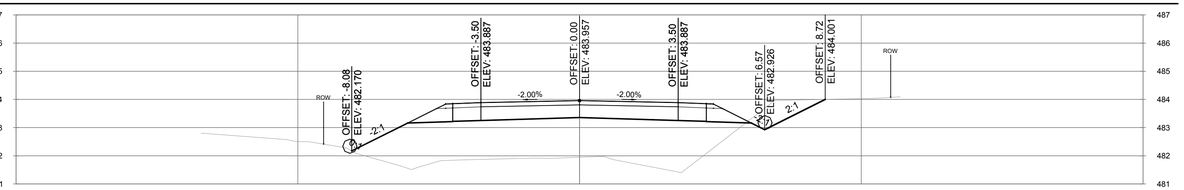

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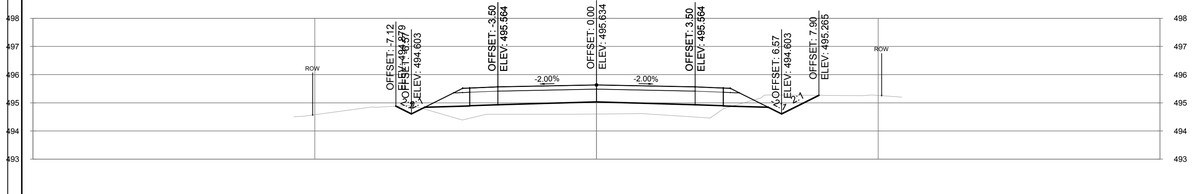

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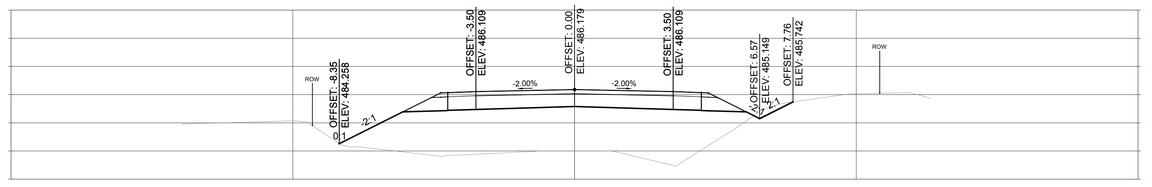

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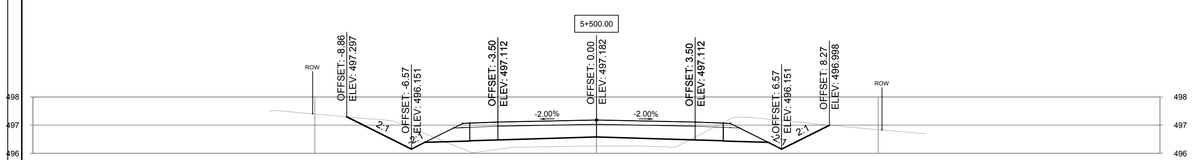

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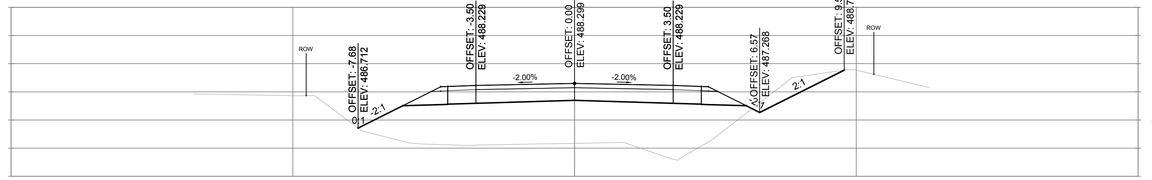

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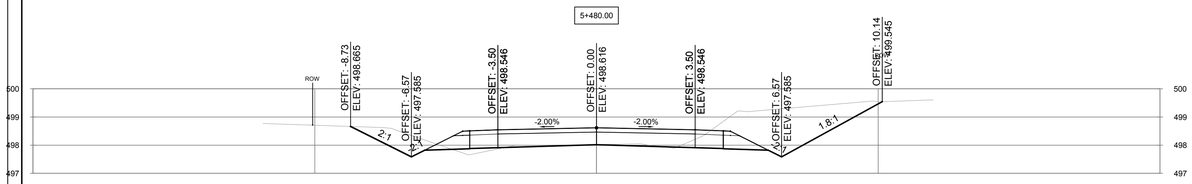

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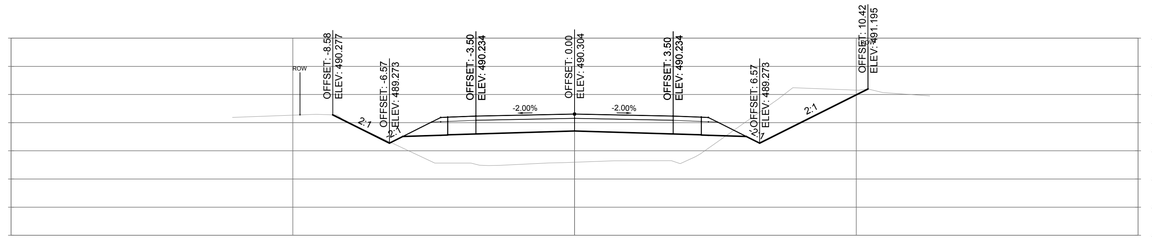

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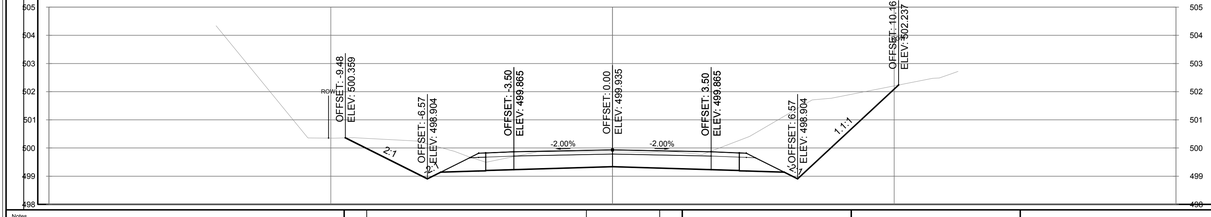

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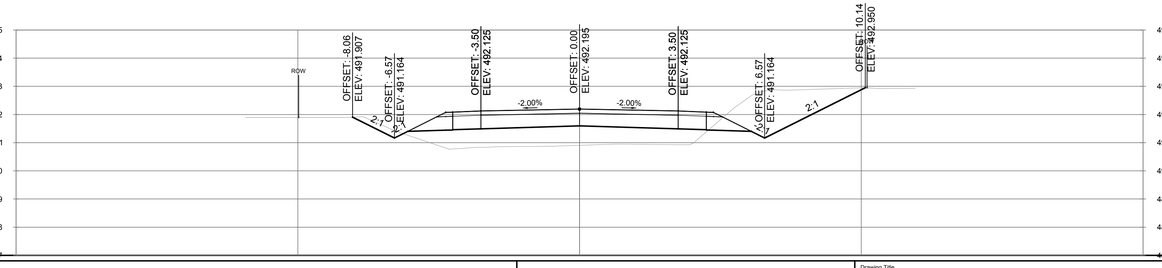

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PRELIMINARY

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4	DESIGN REVISION	2015/04/10	
5	DESIGN REVISION	2015/05/08	
6	DESIGN REVISION	2015/05/29	
7	DESIGN REVISION	2015/07/30	

0 2.0 4.0 6.0 8.0
Metres
1:100

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L0M 1S0

Drawing Title
CLEARVIEW SIDEROAD 26/27 RECONSTRUCTION

CROSS SECTIONS

Drawn	Checked	Designed	Checked	Date	Drawing No.
AES/JSE	JKV/DM	AES	JKV/DM	2015/07/30	**CS06**
Scale		Project No.		Revision No.	
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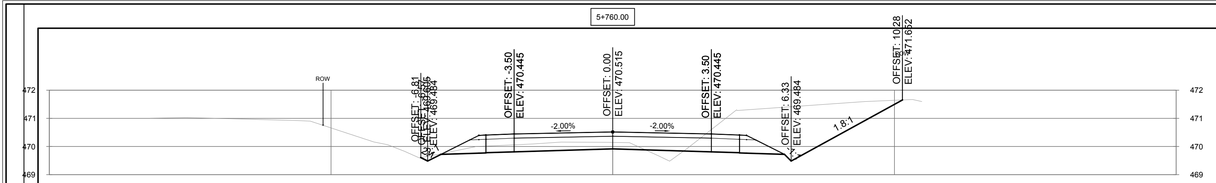

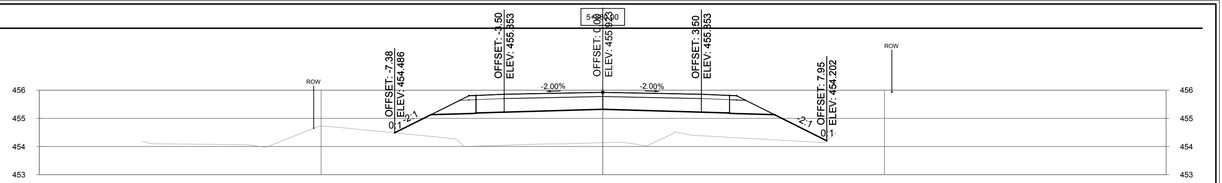

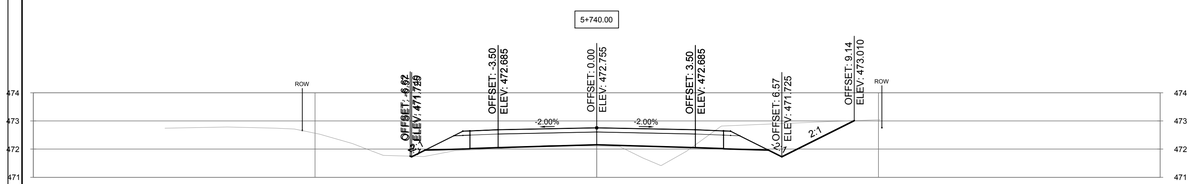

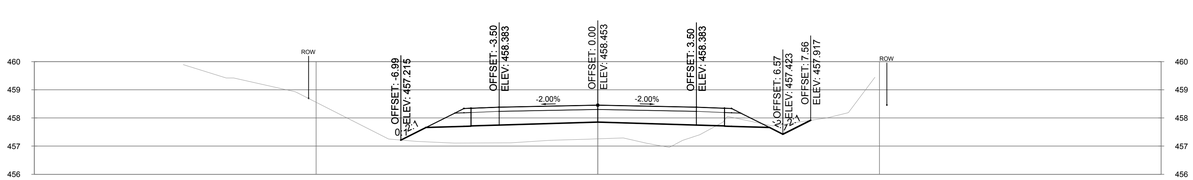

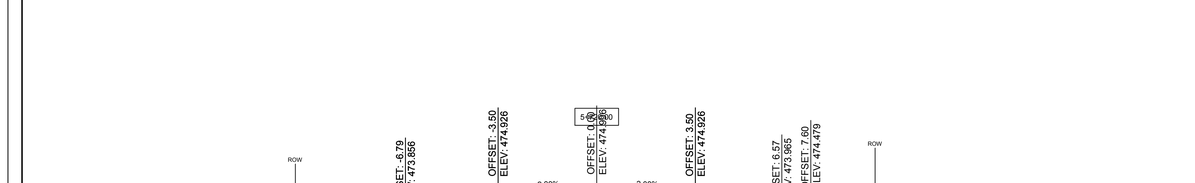

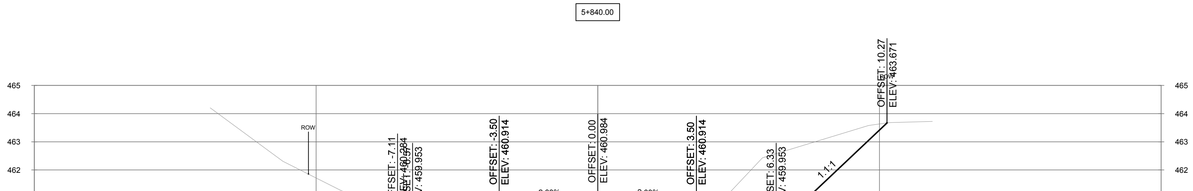

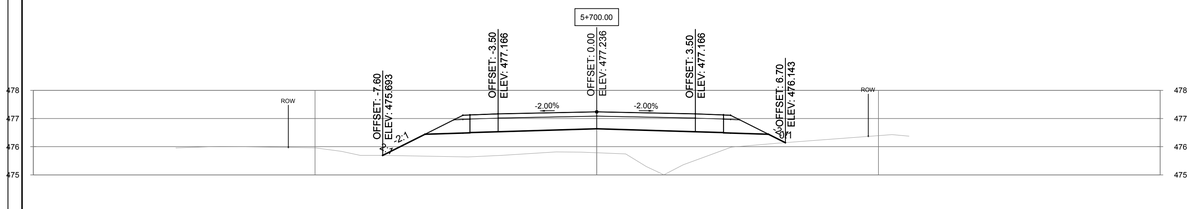

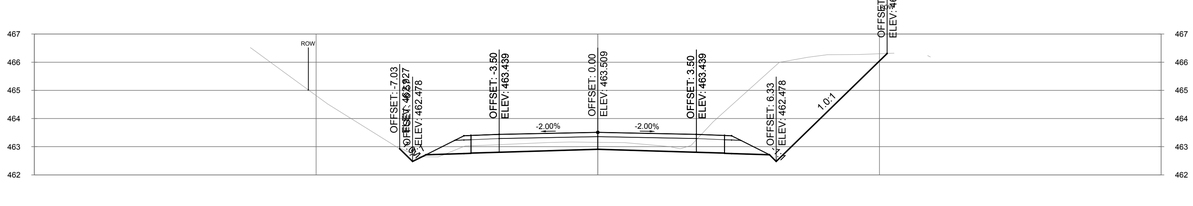

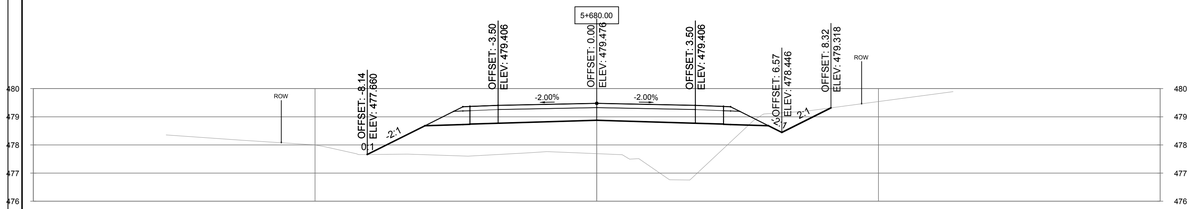

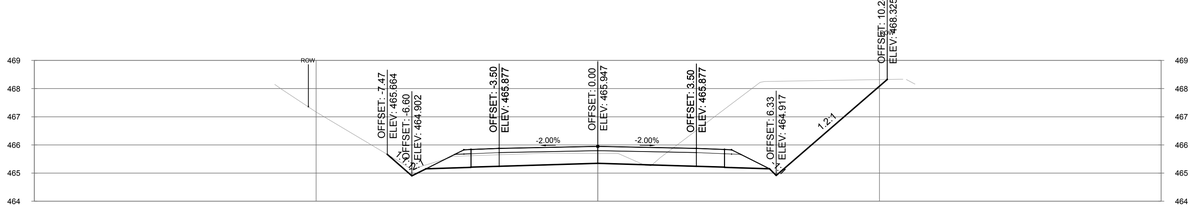

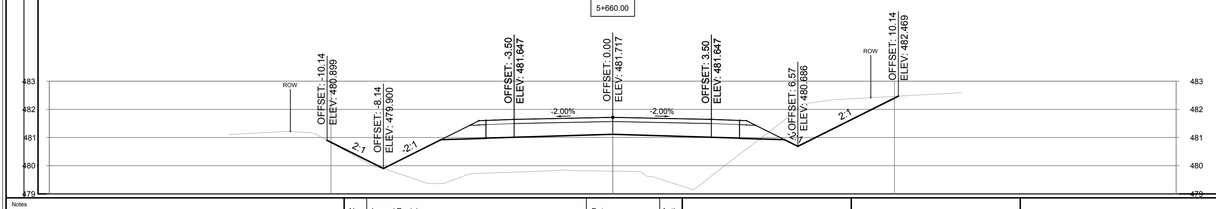

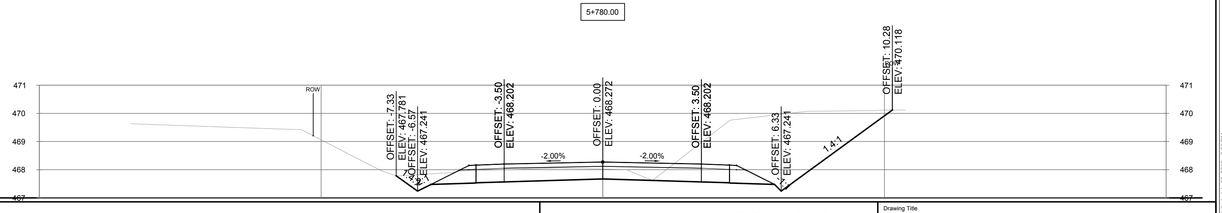

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6	DESIGN REVISION	2015/05/29	
7	DESIGN REVISION	2015/07/30	

0 2.0 4.0 6.0 8.0
Metres
1:100

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Drawing Title
CLEARVIEW SIDEROAD 26/27 RECONSTRUCTION

CROSS SECTIONS

Drawn	Checked	Designed	Checked	Date	Drawing No.
AES/JSE	JKV/DM	AES	JKV/DM	2015/07/30	**CS07**
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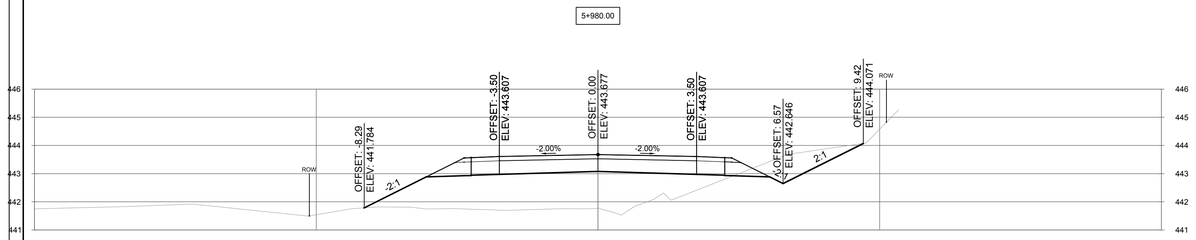

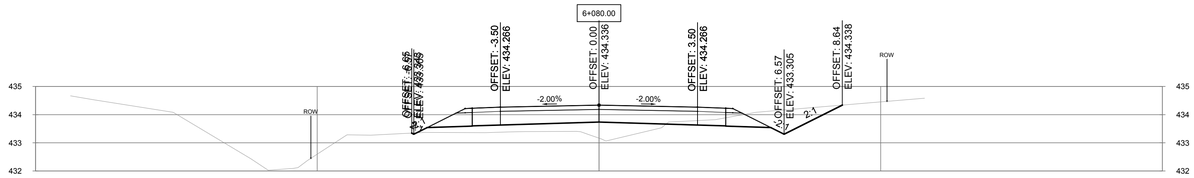

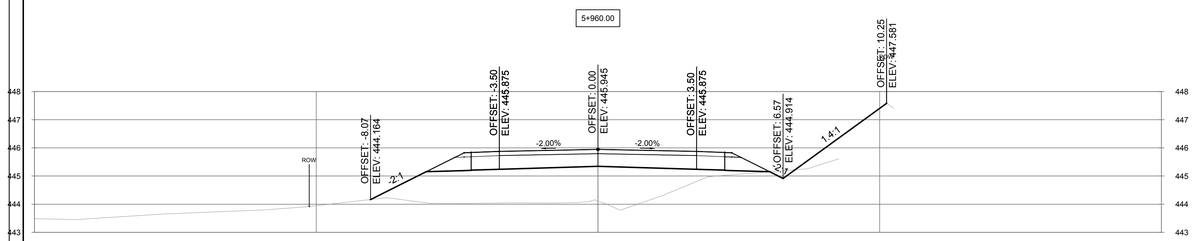

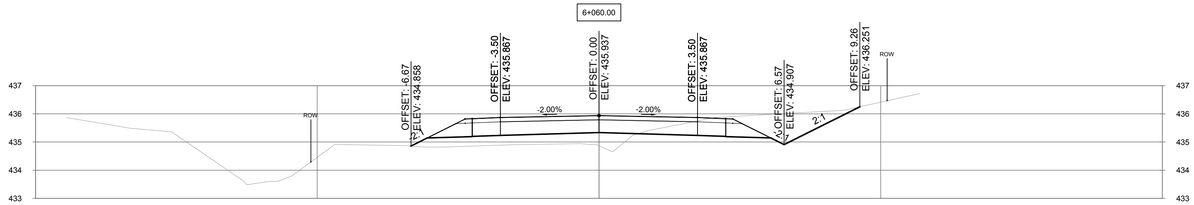

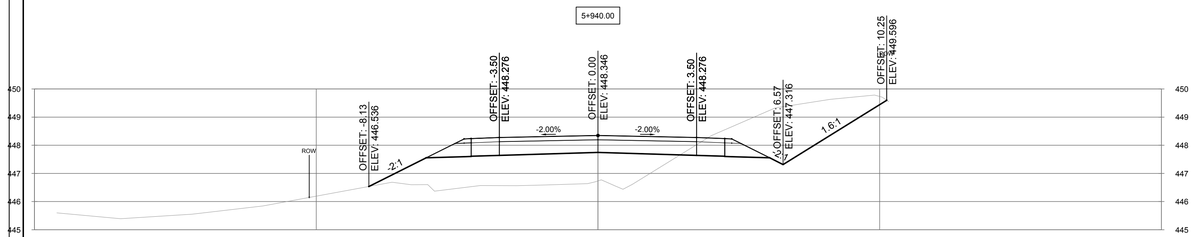

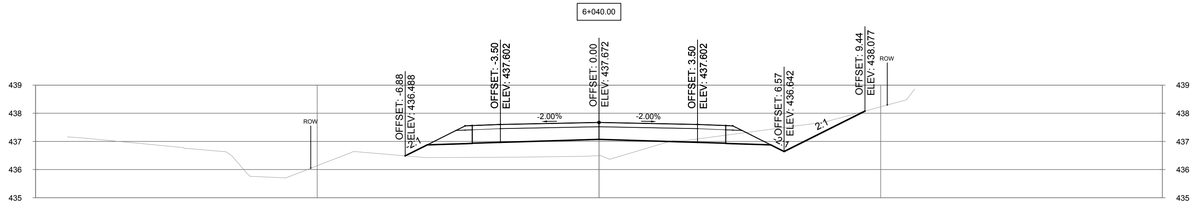

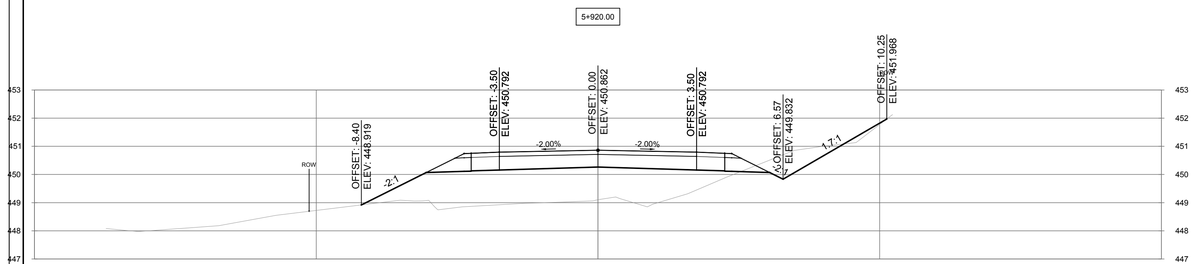

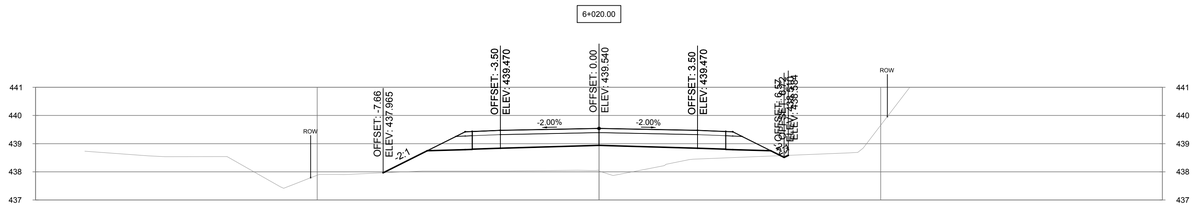

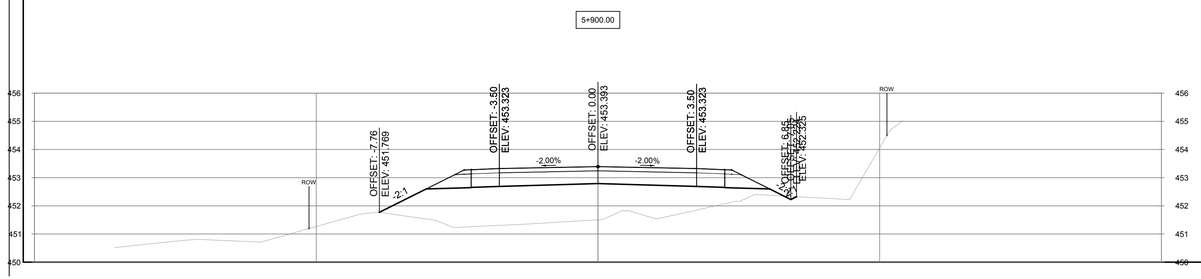

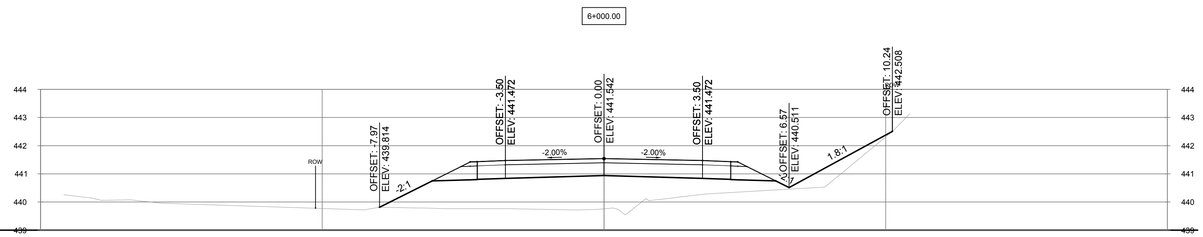

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Metres
1:100

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Drawing Title
CLEARVIEW SIDEROAD 26/27 RECONSTRUCTION
CROSS SECTIONS

Drawn	Checked	Designed	Checked	Date	Drawing No.
AES/JSE	JKV/DM	AES	JKV/DM	2015/07/30	**CS08**
Scale		Project No.		Revision No.	
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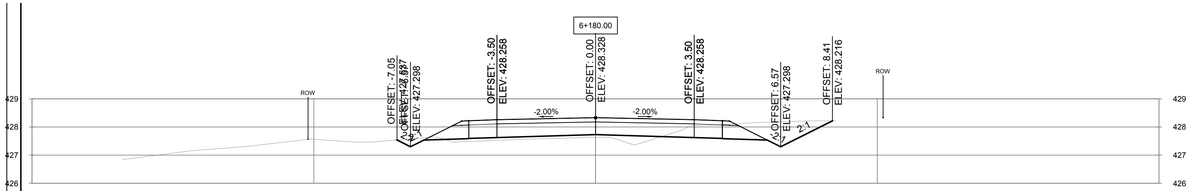
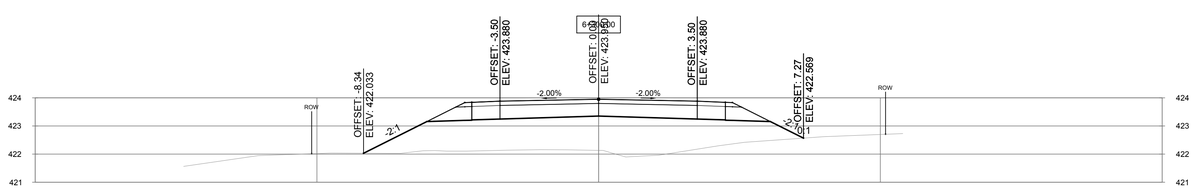
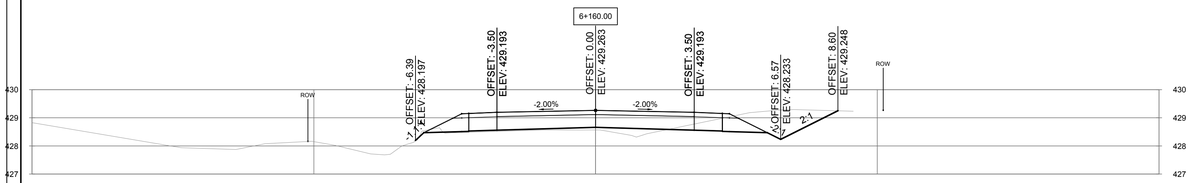
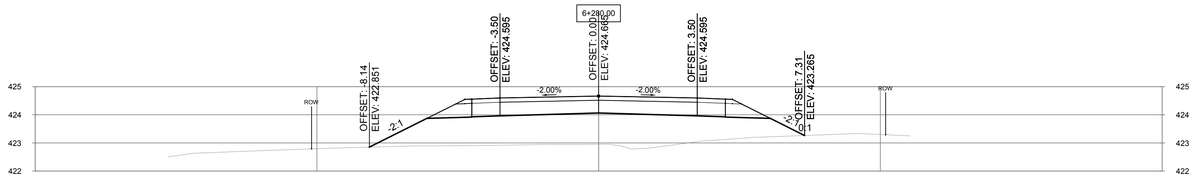
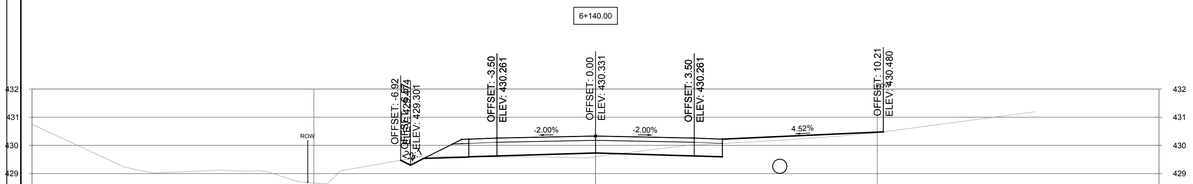
File Name: 300034587_DETAILCAD.dwg Date Plotted: July 30, 2015 - 1:37 PM

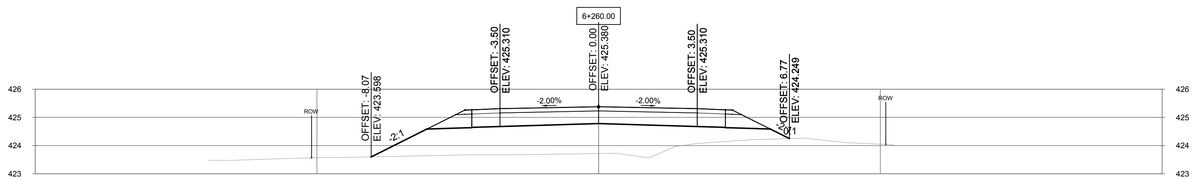


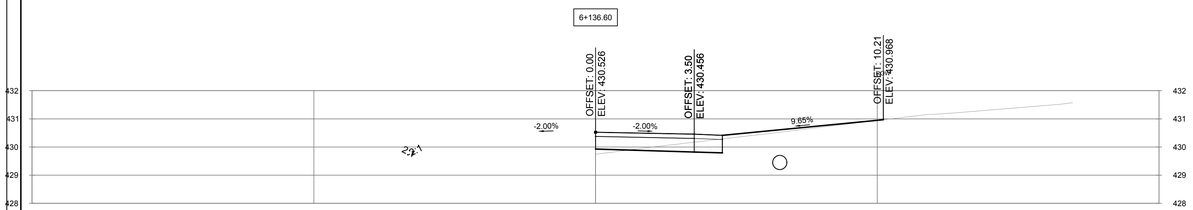


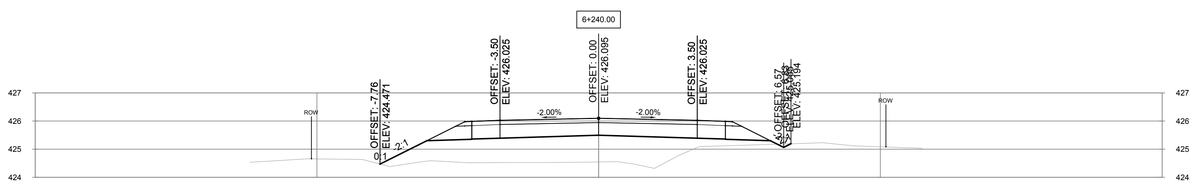


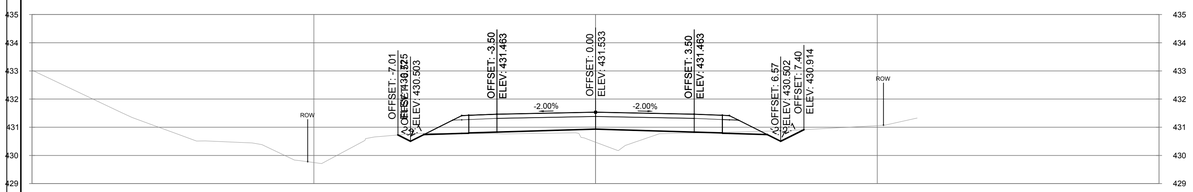


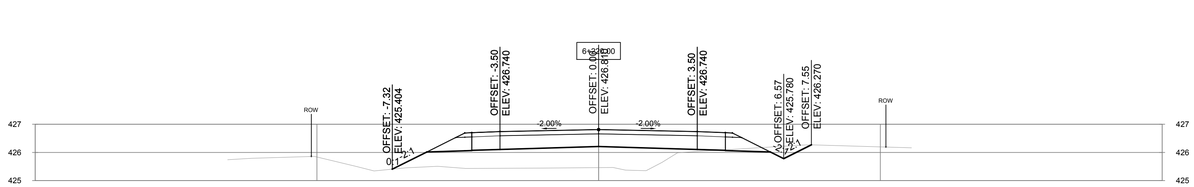


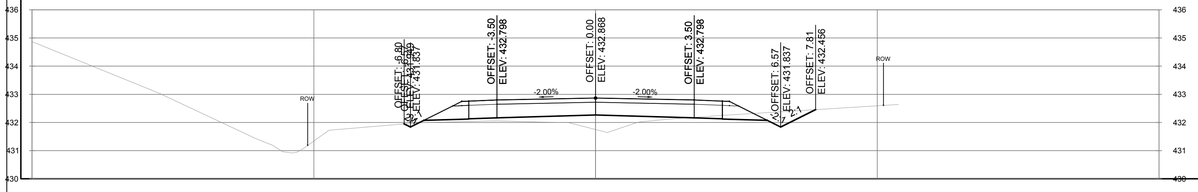


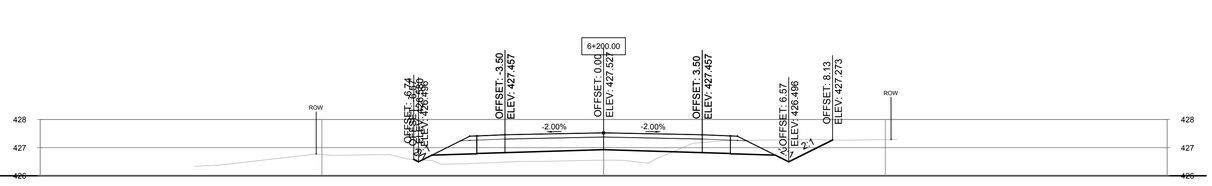












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7	DESIGN REVISION	2015/07/30	

0 2.0 4.0 6.0 8.0
Metres
1:100

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L0M 1S0

Drawing Title

CLEARVIEW SIDEROAD 26/27 RECONSTRUCTION

CROSS SECTIONS

Drawn	Checked	Designed	Checked	Date	Drawing No.
AES/JSE	JKV/DM	AES	JKV/DM	2015/07/30	**CS09**
Scale		Project No.		Revision No.	
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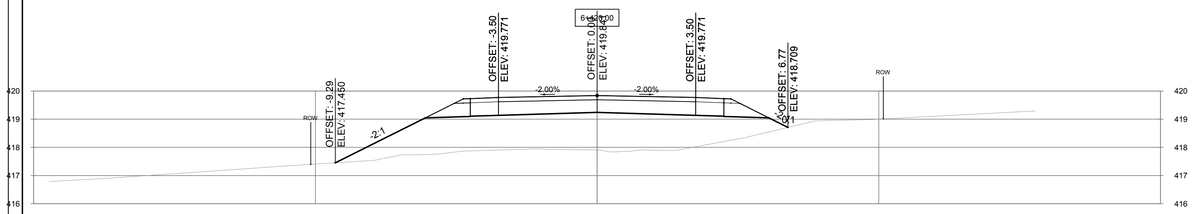

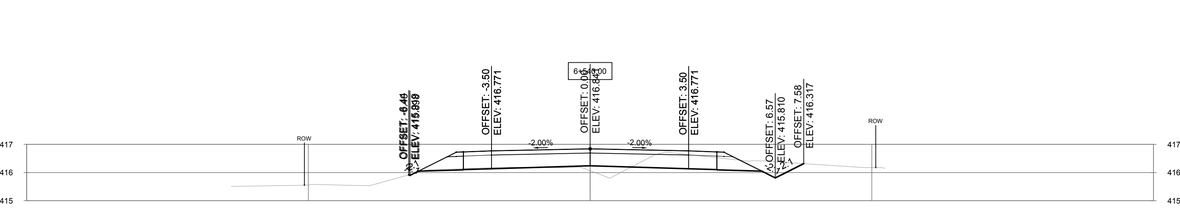

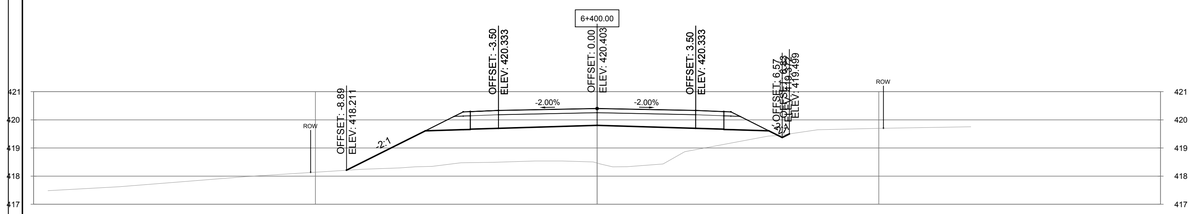

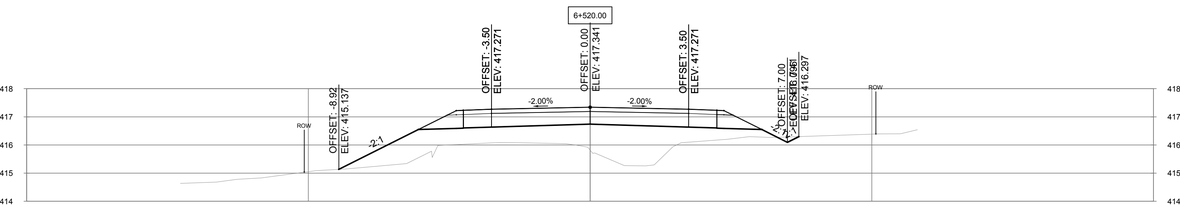

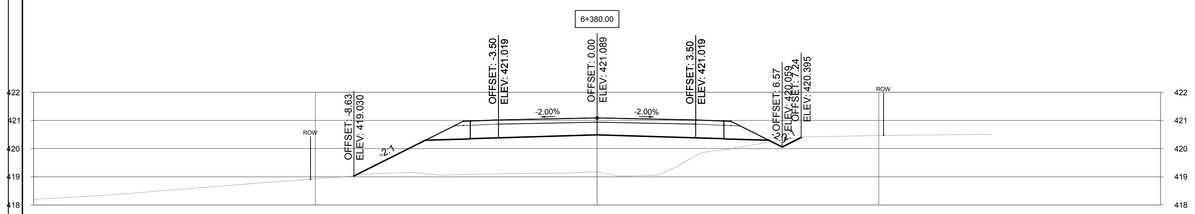

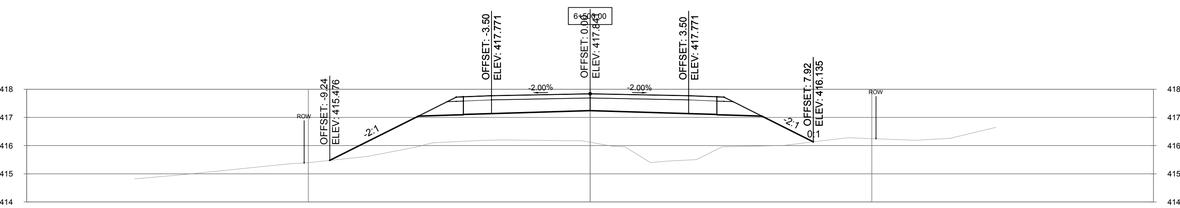

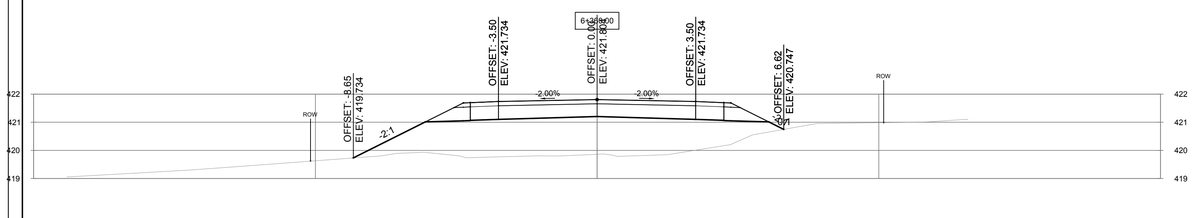

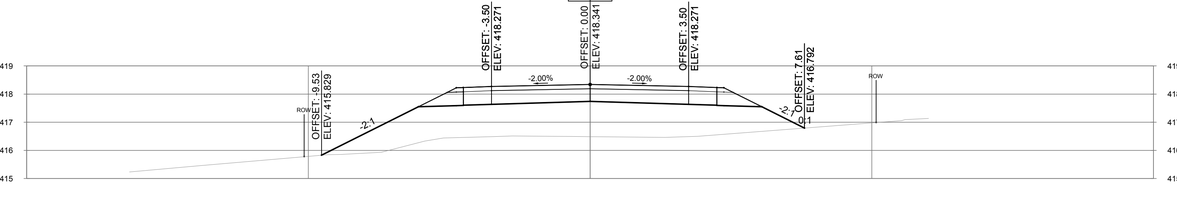

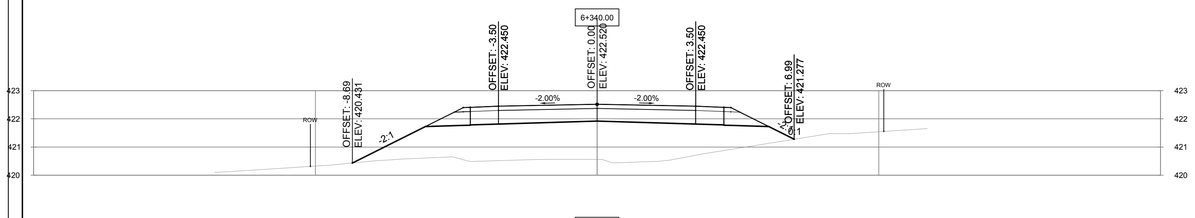

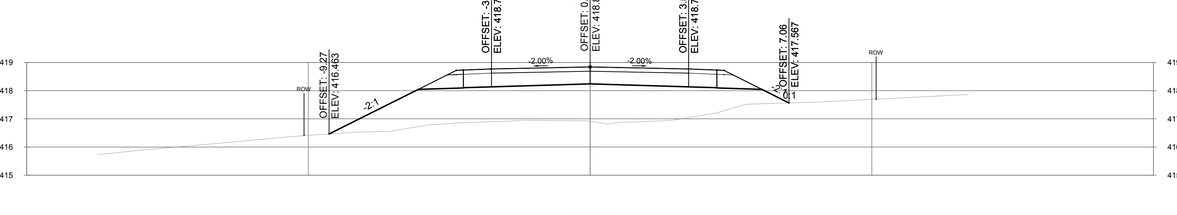

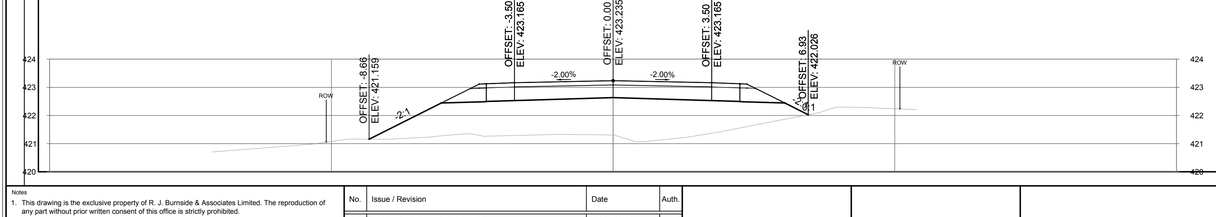

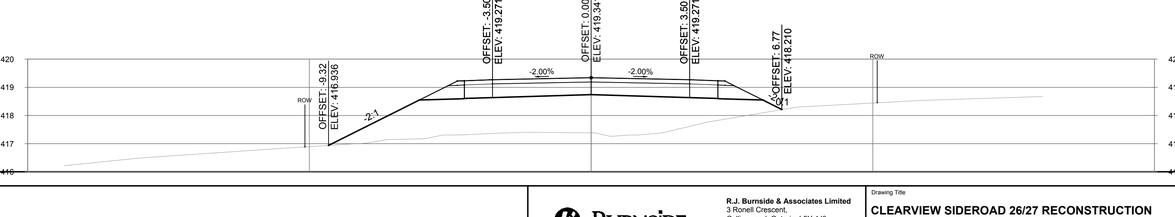

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PRELIMINARY

No.	Issue / Revision	Date	Auth.
1	ISSUED FOR CLIENT REVIEW	2014/01/22	
2	ISSUED FOR APPROVAL AGENCY REVIEW	2014/01/31	
3	PRELIMINARY VIA RECOMMENDATION	2014/07/08	
4	DESIGN REVISION	2015/04/10	
5	DESIGN REVISION	2015/05/08	
6	DESIGN REVISION	2015/05/29	
7	DESIGN REVISION	2015/07/30	

0 2.0 4.0 6.0 8.0
Metres
1:100

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TOWNSHIP OF CLEARVIEW
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STAYNER, ONTARIO
L0M 1S0

Drawing Title
CLEARVIEW SIDEROAD 26/27 RECONSTRUCTION

CROSS SECTIONS

Drawn	Checked	Designed	Checked	Date	Drawing No.
AES/JSE	JKV/DM	AES	JKV/DM	2015/07/30	**CS10**
Scale		Project No.		Revision No.	
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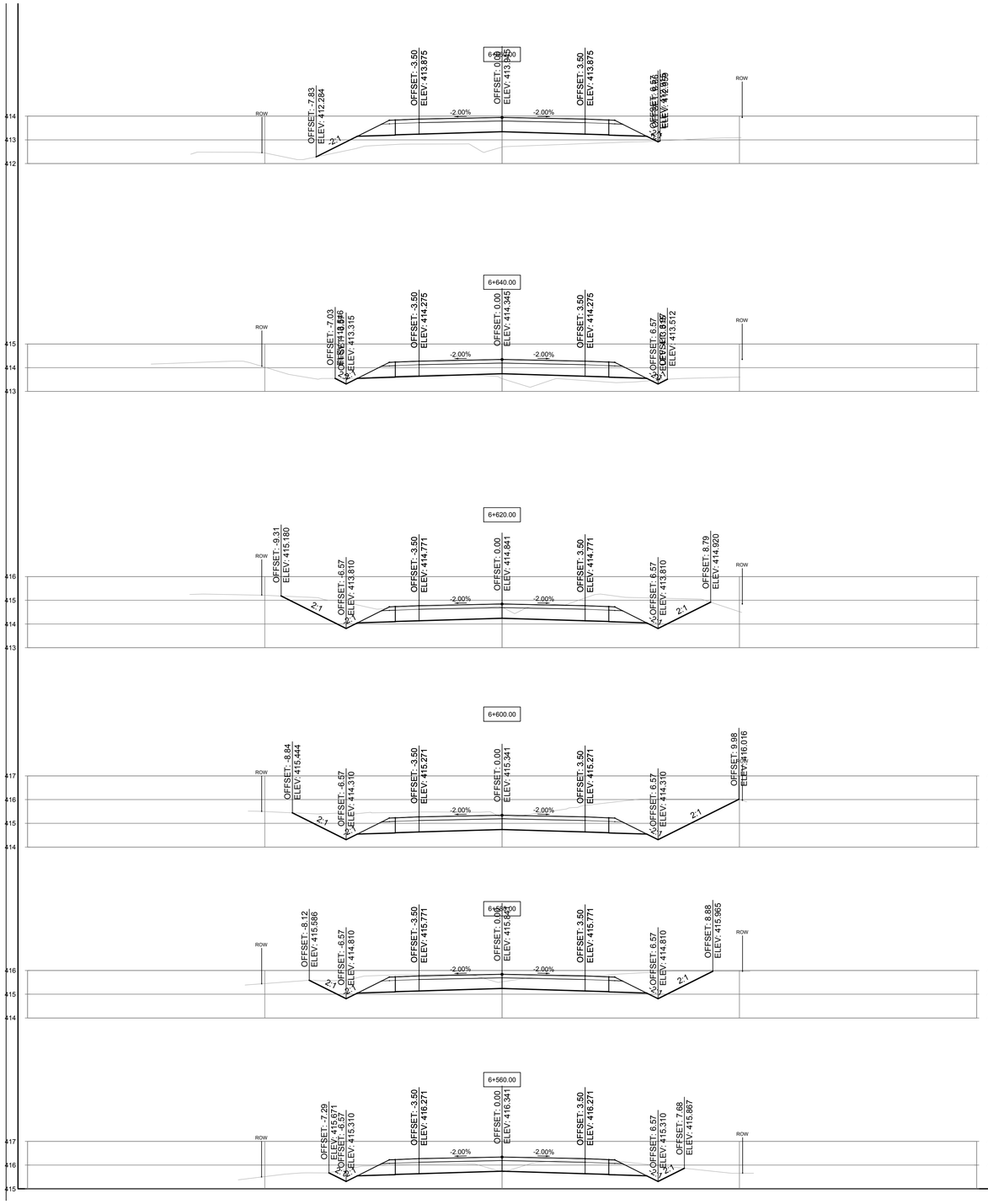

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Drawing Title

CLEARVIEW SIDEROAD 26/27 RECONSTRUCTION

CROSS SECTIONS

Drawn	Checked	Designed	Checked	Date	Drawing No.
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Scale		Project No.		Revision No.	
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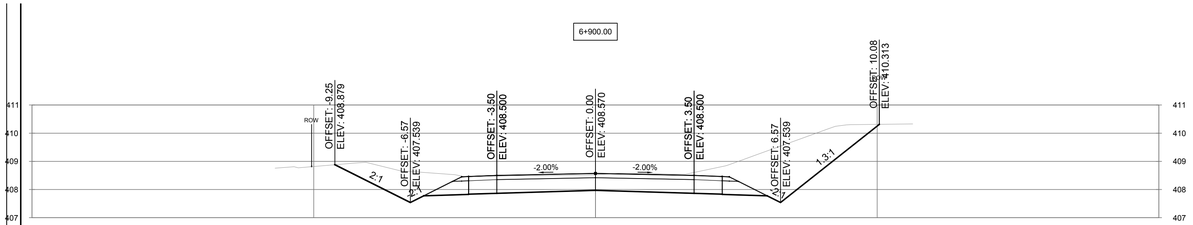

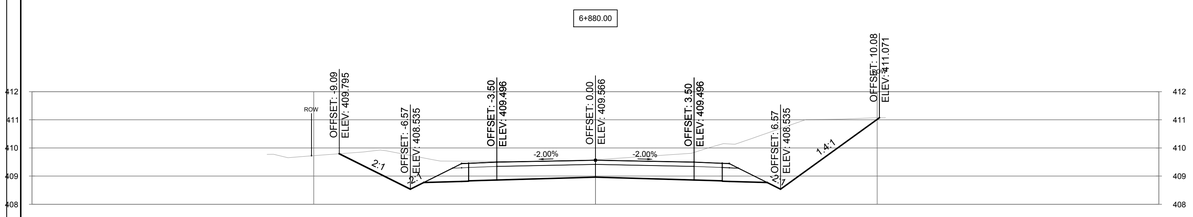

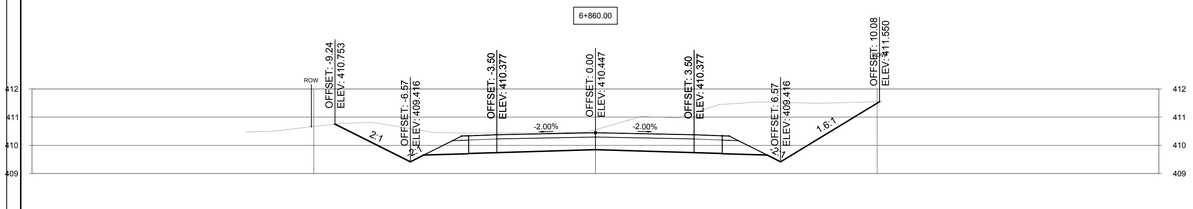

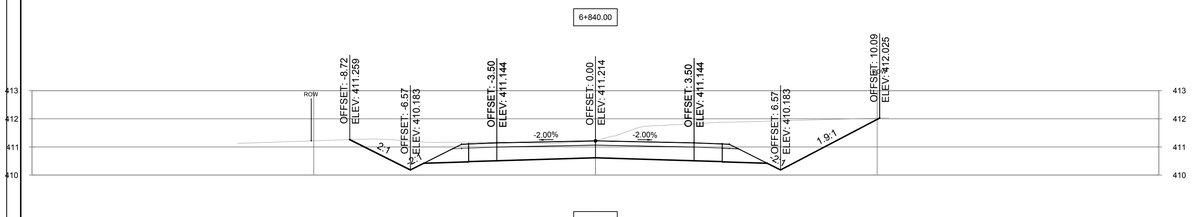

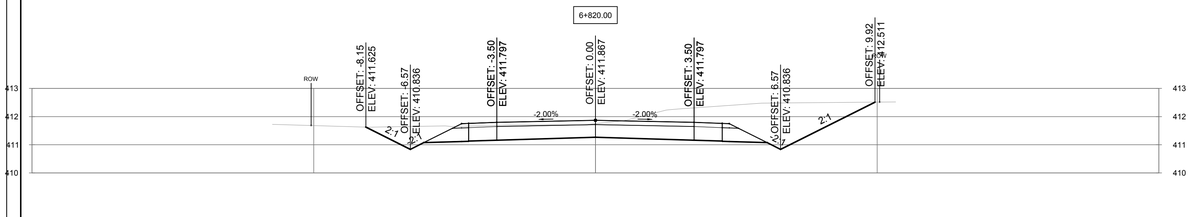

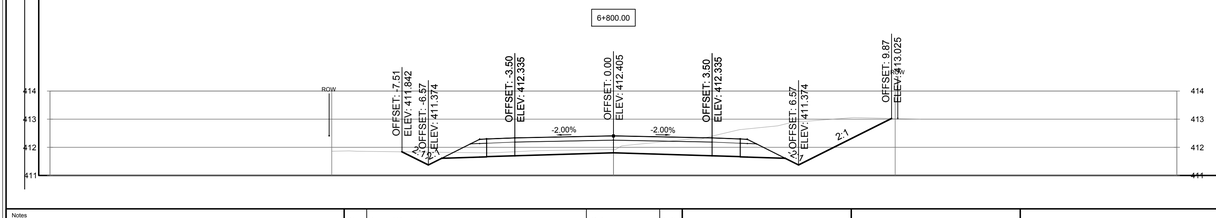

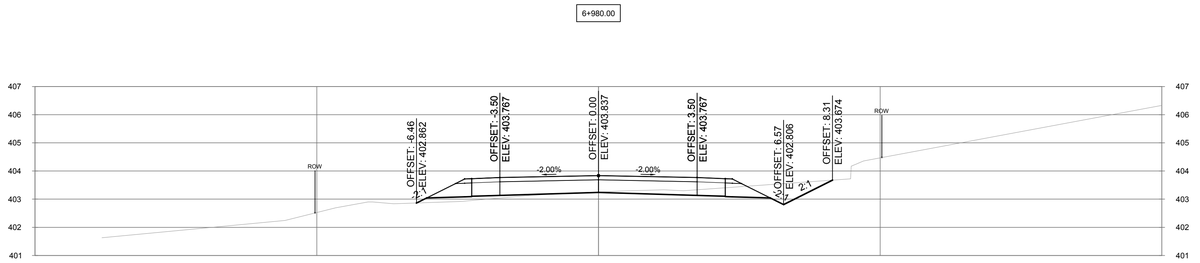

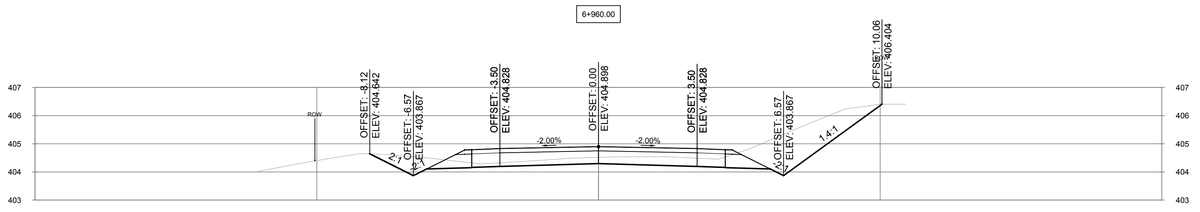

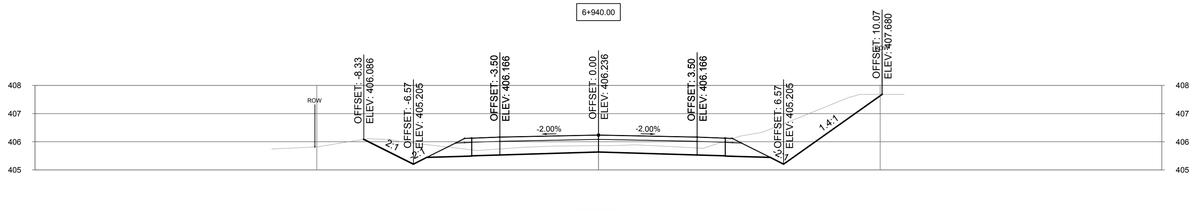

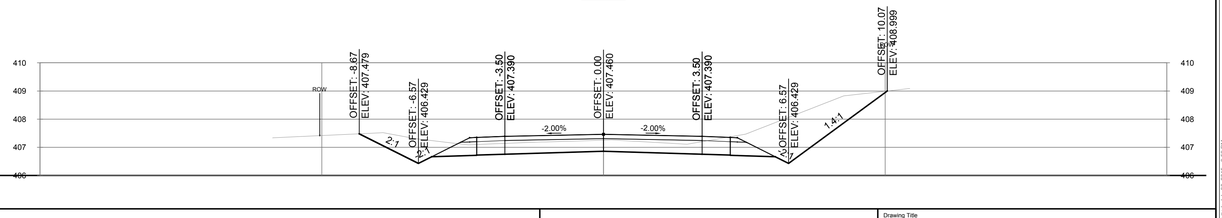

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Drawing Title
CLEARVIEW SIDEROAD 26/27 RECONSTRUCTION

CROSS SECTIONS

Drawn	Checked	Designed	Checked	Date	Drawing No.
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