

APPENDIX 4B: FREEGOLD ROAD REPORT

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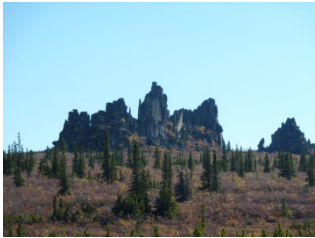
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REPORT

Casino Mining Corporation

Casino Project
Access Overview for Submission to YESAB



November 2013

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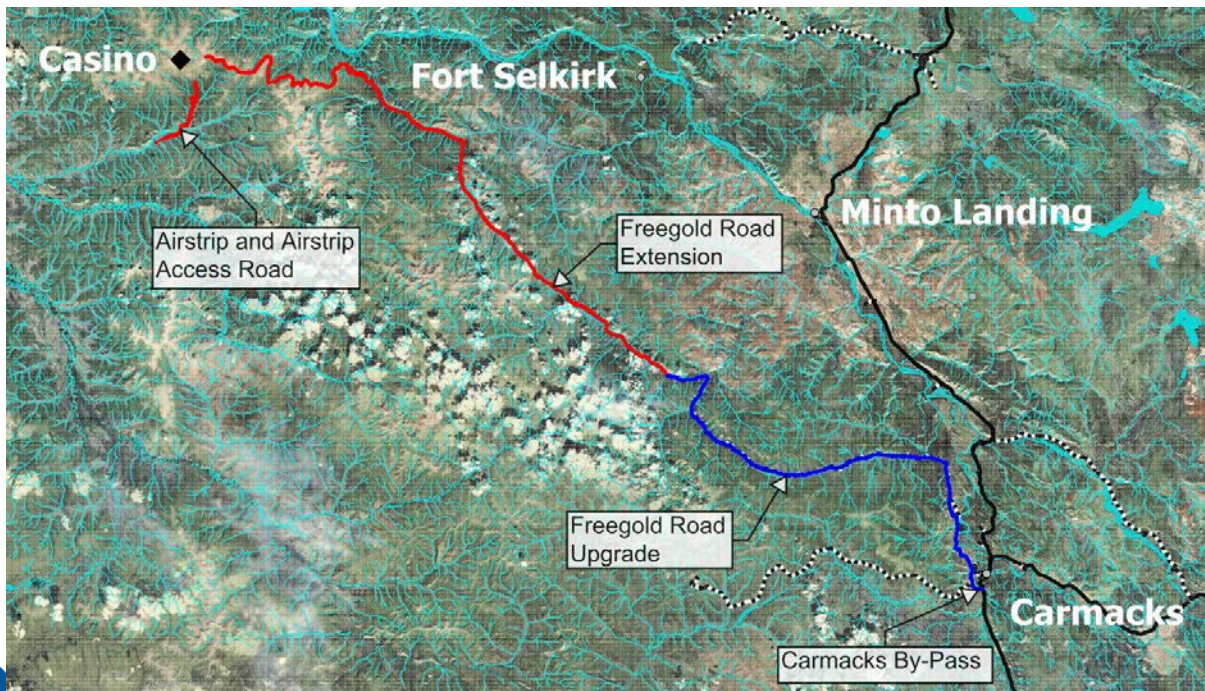
1 Introduction

1.1 PROJECT DESCRIPTION

Casino Mining Corporation (CMC) plans to develop a copper, gold and molybdenum mine at their Casino property located roughly 200 km northwest of the Village of Carmacks, in central Yukon. Currently, the mine site is accessed by small aircraft or by a combination of boat and vehicle via the Yukon River. Several new and upgraded access components are proposed to provide safe, reliable and timely access to the mine site. To improve vehicular access it is proposed to construct the Carmacks Bypass which would connect the Klondike Highway and Freegold Road with 5 km of new gravel roadway and a bridge over the Nordenskiold River. From there, the existing Freegold Road runs north and then west from Carmacks along the Seymour Creek Valley. Upgrades to 83 km of the existing Freegold Road and construction of 120 km of new access road are proposed to extend the route all the way to the mine with a design speed of 70 km/hr throughout. The proposed extension of the Freegold Road generally follows the historic Casino Trail along the Big Creek and Hayes Creek drainages to the Selwyn River where it ascends the north face of the Dawson Range to the mine.

In addition to road access, a new airstrip is proposed to provide access to the mine by air. The airstrip site is located in the Dip Creek valley approximately 12 km southwest of the mine. The airstrip and will provide access for Hawker Sidley 748 or Dash 8 sized aircraft. A new 14 km access road will provide a connection between the airstrip and the mine. Figure 1-1 shows the access study area.

**Figure 1-1
Casino Access Study Area**



1.2 SCOPE OF ACCESS OVERVIEW REPORTING

The purpose of this report is to provide a detailed overview of the Casino Project access components to support the Company's YESAB Project Proposal. The overview includes discussions of the specific design criteria and proposed construction methods for the access roads and airstrip, as well as descriptions of required preconstruction infrastructure and activities. This report also covers the construction plans for temporary camps, borrow pits, bridges, culverts, and early road access. Finally, the report provides an overview of Casino Mining Corporation's intended schedule and sequencing for all required activities related to the access construction. The report is supported by appendices setting out the conceptual designs associated with the facilities described together with traffic projections provided by CMC. Traffic projections are attached in Appendix H.

2 Main Access Road Construction Activities

2.1 FREEGOLD ROAD UPGRADE

Description of Existing Road

The Freegold Road is an existing gravel resource road with a road width of 4.5 - 6.0 m, and a posted speed limit of 40 km/hr. The road starts at the intersection of the Mt. Nansen Road in Carmacks, YT, and runs north and west to the confluence of Seymour and Bow Creeks, providing access to a number of properties along its length. Yukon Government owns and maintains the road on a seasonal basis up to km 60. The road is unmaintained for an additional 23 kilometres until it ends at Big Creek, where the existing bridge crossing has been washed out.

The existing Freegold Road generally follows the contours of the surrounding topography while avoiding areas of poor ground. This has resulted in a narrow, winding road with a rolling vertical profile. Grades in excess of 6% are common, and there are some areas with grades up to 14%. The Freegold Road is largely located on the valley side slope on the north side of Seymour Creek. The valley slopes along the existing road vary between 20 – 60%, with some areas as steep as 85%.

Previous Work by Yukon Government

In the mid-1990s, the Yukon Government selected a route and completed a design for the upgrade and realignment of the Freegold Road from km 0 at the intersection of the Mt. Nansen Road to just beyond km 32 at intersection of the Carmacks Copper Access Road. The design was prepared to an RCU80 classification (rural collector undivided, 80 km/hr). Yukon Government completed a significant amount of fieldwork in support of the road design that includes the following:

- Topographic survey of the right of way from km 0 to km 35 (km's are referenced to the Yukon Government Design Alignment)
- Preliminary geotechnical investigations along the new alignment from km 5 to km 23
- Detailed Geotechnical investigation at km 5 and the production and stockpile of granular material for use on the road upgrade
- Clearing of the right of way from km 3.35 to km 21.3

Based on the engineering work already completed by Yukon Government up to the Carmacks Copper Access Road, Associated Engineering has confirmed that the proposed road upgrades to this point will meet the required design criteria for the Casino Project.

Freegold Road Upgrades – Carmacks Copper Access Road to Big Creek

The discussions on the Freegold Road upgrade contained within this subsection of the report are focussed on the section starting from the Carmacks Copper Access Road to Big Creek. Kilometre references are to the distance along the existing Freegold Road except where otherwise noted; km 0 is located at the intersection of the Mt. Nansen Road. The Freegold Road will be upgraded to meet a 70 km/hr design speed with an 8.2 m wide gravel surface. The maximum grade will be 8%. Sketches of the proposed Freegold Road alignment can be found in Appendix B. From the Carmacks Copper Access Road to the confluence of Seymour and Bow Creek, the existing Freegold Road is particularly winding and narrow and has steep grades. The alignment restricts the actual operating speeds through many areas to less than the posted speed of 40 km/hr. The road is largely located on the north side slopes of Seymour Creek Valley. The proposed upgrades and realignments of the Freegold Road generally relocate the road downslope of the existing road in order to straighten the alignment while minimizing earthworks quantities.

Road construction techniques will be a combination of cut/fill construction, and overlanding on a fill embankment. Overlanding will be used through areas of low lying wet lands, and areas of permafrost and will involve the placement of suitable embankment material over the undisturbed organic material. A layer of geotextile will be placed between the undisturbed ground and subgrade, which will prevent the unsuitable material from mixing with the imported embankment. Cut/fill construction consists of excavating suitable material from areas of cut along the alignment, and placing it to construct the road embankment in areas of fill. Unsuitable material will be disposed of, and not used for embankment construction. Further geotechnical investigations will be required to identify and confirm areas of permafrost, as well as confirm the suitability of road construction material in any cut/fill locations. Borrow pits will also be required as a source for embankment and road surfacing material. Preliminary geotechnical investigations have been completed along the Freegold Road.

The existing Crossing Creek Bridge at km 25.4 will be replaced to accommodate the Yukon Government alignment, and the required traffic loads. The proposed bridge location is approximately 20 m upstream from the existing crossing. The proposed bridge will consist of steel girders and precast concrete deck panels on steel pipe pile abutments. The estimated bridge length is approximately 18.2 m. Contours from the DEM base mapping were used in the development of the Crossing Creek bridge concept. A detailed topographic survey will be required to confirm the 1:100 year flow event elevation and bridge concept.

The area upstream of the existing Seymour Creek bridge has previously been disturbed due to Placer mining activity. There are a number of ponds and braided channels throughout the mine tailings. The proposed road alignment will be located on the north side of the disturbed area, and crosses Seymour Creek upstream of the existing bridge. The bridge approach fills will be elevated and armoured to protect them from erosion during high flows. A bridge concept for Seymour Creek was developed based on the DEM base mapping and aerial photographs. The bridge concept is attached in Appendix F. The proposed concept includes a 27 m steel girder bridge with precast concrete deck panels that will span the main channel, and a 12 m precast concrete slab bridge that will span a side channel. Detailed topographic survey, and additional field investigation and engineering work are required to confirm the 1:100 year flow elevation and bridge concept.

Little Salmon Carmacks First Nation settlement land is located on the south side of the Freegold Road right of way from Blue Ribbon Road (approximate km 48 of the existing road), to nearly the confluence of Seymour and Bow Creek. A roadway alignment that meets the requirements of a 70 km/hr design speed cannot be achieved within the existing right of way adjacent to the settlement lands. To overcome this, a realignment is proposed from km 49 to km 62.6 down the slope through the settlement land in order to achieve the desired design criteria. Realignment upslope is not possible due to steep terrain. A further realignment of the roadway through the settlement land is proposed at km 67.7 for a length of 2.5 km. This portion of the road is located through the previously mined area of Seymour Creek, and is necessary to achieve the design criteria, and reach the proposed bridge crossing location.

Roadway drainage will be managed through ditches and cross-culverts installed at regular intervals and at natural low spots along the road profile.

2.2 FREEGOLD ROAD EXTENSION

The Freegold Road Extension will be a 120 km, two-lane, gravel resource road designed for all weather use by haul trucks with highway legal loads. The road design criteria satisfies the guidelines in the BC Ministry of Forests and Range Forest Road Engineering Guidebook (2nd Edition, 2002) for a 70 km/h design speed with some short 50 km/h sections where road geometry is limited by the terrain. The road will be 8.2 m wide with maximum grades of 8%. The road alignment and vertical profile designs provide adequate stopping sight distance for drivers to identify wildlife or other hazards on the road and stop in time to avoid a collision.

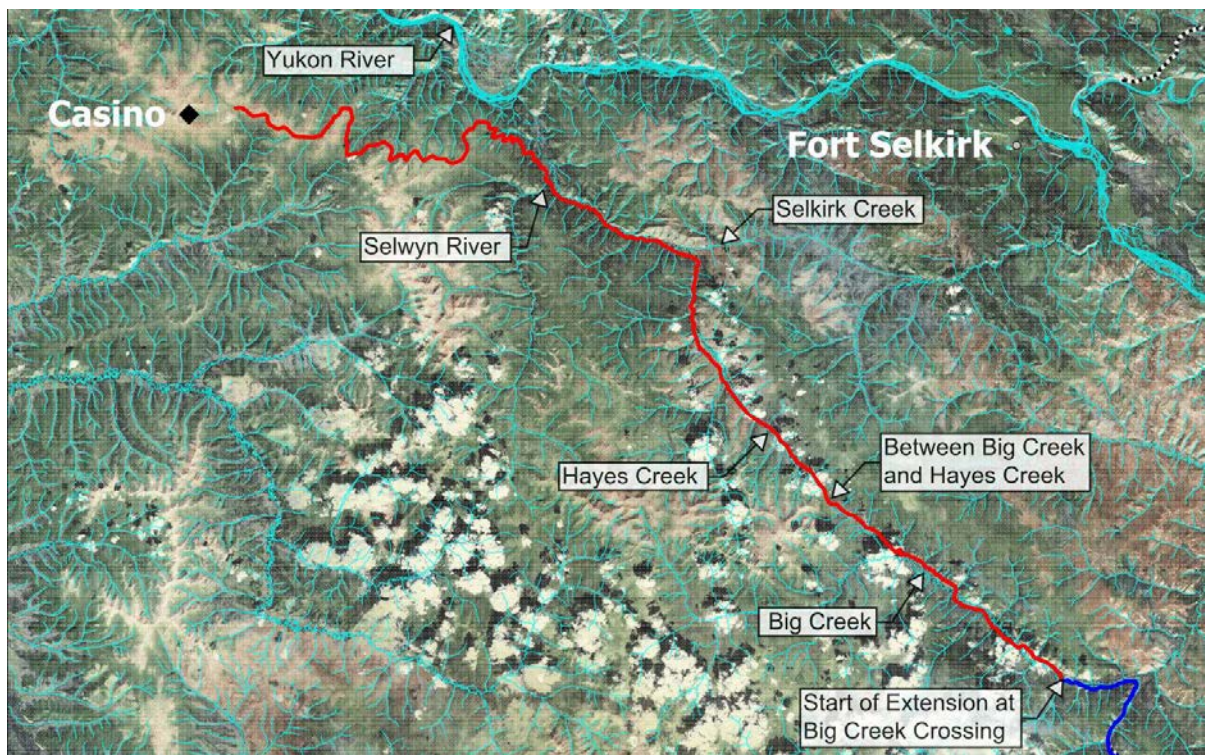
Route Description

The starting point of the Freegold Road Extension is located at end the existing Freegold Road (km 83) near an old washed out bridge on Big Creek. A new bridge crossing is proposed further upstream from where the washout occurred on a more stable section of the creek. After crossing Big Creek another small bridge is required over a side channel before reaching the north side of the valley. The road passes some steep terrain and crosses Big Creek twice more before reaching the height of land between Big Creek and Hayes Creek. Part of the Big Creek valley section of the route passes through Selkirk First Nations settlement lands.

Continuing northwest, the road enters the Hayes Creek Valley and travels along the north edge of the valley bottom. The valley narrows and steepens in sections and bridge crossings are required over Hayes Creek and several of its tributaries. Hayes Creek curves back and forth across the valley bottom before turning to the west where Selkirk Creek runs into the valley. The road continues to follow along the valley bottom to the west, crossing Hayes Creek twice more before arriving at the junction with the Selwyn River valley in the Battle Creek region.

The proposed alignment then diverges from Hayes Creek and crosses the Selwyn River. It follows the Selwyn River valley to the north for a short distance before turning northwest to begin the climb out of the valley. The next section is characterised by steeper grades and tight curves as the road works its way westward in and out of drainage gullies. Once reaching the highpoint, the proposed route passes by several mountaintops and rock outcroppings before making the final descent to the Casino Project site. Figure 2-1 shows the proposed Freegold Road extension alignment.

Figure 2-1
Freegold Road Extension



Design and Construction Methods

Key road design considerations include user safety, truck turn-around times, constructability, capital costs, and environmental and socioeconomic impacts. The preliminary main access road design drawings are shown in Appendix C.

In order to maximize the design speed and avoid unstable terrain, the route is located as much as possible in valley bottoms. Adequate road drainage systems to control runoff and to provide a barrier and storage for snow and falling rocks have also been considered in the road design.

The road surface elevation is designed to be 2.0 m above existing ground in poorly drained areas or where thaw susceptible permafrost is found. The 2.0 m embankment height stabilises the road against washouts and protects against permafrost degradation under the road. Embankment construction will follow the same overlanding methods proposed for the Freegold Road Upgrades where fill material will be placed over a geotextile layer on undisturbed soils.

Disturbance of permafrost is a major concern for road construction in southern and central Yukon, as permafrost related settlements and landslides are often triggered by road construction activities. To reduce the risk of encountering permafrost, the roadway has been located on south facing slopes as much as possible. Excavation has been avoided wherever possible in areas where permafrost is known to be present in order to limit permafrost degradation. Special consideration is required in areas where the road passes over ice-rich, thaw susceptible permafrost. This includes insulation of any unavoidable cut slopes and limiting the time open cuts are exposed to the sun. Other mitigation techniques may involve localised slope flattening or air convection embankments to reduce snow accumulation and allow cold air to propagate into the embankment during the winter.

Where the road climbs out of the valley bottoms, the road construction method will include a combination of cut and fill. Suitable material will be excavated, and placed to construct the road embankment. Unsuitable material will be disposed of adjacent to the road right of way, and not used for embankment construction. Permafrost rich areas with unavoidable cut slopes will require further geotechnical investigation and may require buttressing with a layer of angular rock fill on top of geotextile or other suitable methods to prevent permafrost degradation and improve slope stability.

Most of the fill required for road construction will be developed from borrow pits located along the road alignment and then hauled to where it is needed. The section of road from the Selwyn River to the mine is located in soil that is mainly suitable for road embankment construction and can be utilized for fill. Further soil testing may reveal other locations with borrow suitable for road construction which will result in shorter haul distances, reduced road construction costs, and reduced disturbance to areas outside of the road right of way.

Clearing of trees and stumps will be required along the road right of way. The average width of clearing is 15 m on either side of the alignment. Actual clearing widths will vary, but a minimum cleared width of 3.0 m is required beyond the toe of all cut and fill slopes. It is anticipated that this work will be completed in the winter to prepare the corridor for the summer construction season. Winter clearing will present some challenges including clearing snow cover and removing stumps from frozen ground. However, frozen ground will assist access to clearing areas along temporary winter roads.

Road drainage and surface water runoff is accommodated by ditches and small corrugated steel pipes in 500 mm and 600 mm diameter sizes. The two sizes were selected to reduce shipping costs by shipping one inside the other. Cross culvert spacing will be determined by road gradient, material type, and natural depressions along the route to provide adequate roadway drainage. Road sections located in valley bottoms generally follow the bottom of the valley slope. This creates a ditch on the uphill side of the road to convey runoff to a natural low spot or drainage course. Surface and subsurface drainage for roads located in wet valley bottoms can be partially facilitated through the angular rock that makes up the road prism.

2.3 STRUCTURES

In terms of construction, there are two types of structures required on the Freegold Road Upgrade, Freegold Extension, and Airstrip Access Road; bridges across the 27 major watercourses and short bridges or culverts on the 82 minor stream crossings. It is proposed that the larger structures are built during the winter months as a separate operation to the road construction and their construction is discussed in more detail in Section 4.3 of this report. The structures across the minor stream crossings will be installed as part of road building.

2.3.1 Fish Bearing Stream

There are 66 minor stream crossings required on the Freegold Road extension and 7 minor stream crossings required on the Airstrip Access Road. An additional 9 minor stream crossings require upgrade or relocation on the existing Freegold Road. Fieldwork completed by Palmer Environmental Consulting Group in 2013 identified that many of these streams are fish bearing. A list of all the proposed stream crossings is included in Appendix G.

Two options are proposed for crossing fish bearing streams: short span bridges, and embedded CSP fish passable culverts. Short-span bridges have been proposed as a preferred alternative to embedded culverts in a proactive effort by CMC to protect fish habitat. The bridges will be clear span structures and will be constructed outside of the stream's high water mark. This results in significantly less environmental impact when compared to embedded culverts, which require installation directly in the stream channel.

Selection of the appropriate crossing option will be based on site conditions, environmental and fisheries requirements, geotechnical considerations, constructability, schedule, and cost. It is expected that culverts will be selected where the proposed road geometry such as high fills or sharp curves would require a longer bridge. Stream crossing evaluations and site specific designs will be completed during the detailed design phase of the project. The sections below discuss each option for crossing fish bearing streams.

Short Span Bridges

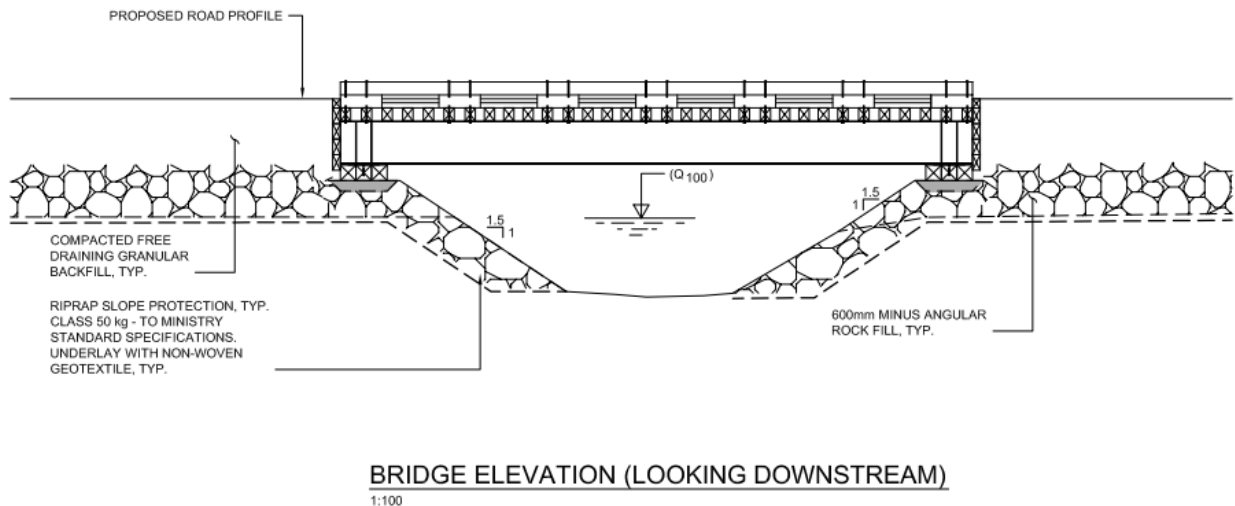
The short span bridges will be designed and constructed to meet the Department of Fisheries Operational Statement for Clear Span Bridges and if all conditions of the Operational Statement are met, the bridge can be constructed without being subject to the DFO review process. All work will occur outside of the high water mark, resulting in reduced environmental impact when compared to embedded culverts. Additional advantages of short-span bridges include straightforward construction methods, rapid construction schedule, robust building materials, and low maintenance requirements.

Two types of short-span bridges are proposed: a steel girder bridge with a timber deck, and a pre-cast concrete slab bridge. The bridges will be single lane, with pullouts constructed at each approach. Typical drawings showing the general arrangement of each bridge option are included in Appendix G. The bridge abutments will be either timber sills for the steel girder bridges, or concrete sills for the pre-cast slab bridges. The sills will be placed on compacted fill or rock. Figure 2-2 shows a typical short span bridge installation.

The steps below outline the general construction procedure for the short-span bridges:

- Step 1: Layout the bridge.
- Step 2: Install erosion and sediment control measures.
- Step 3: Construct embankment/ rock base (All work to be outside of the high water mark).
- Step 4: Compact granular leveling course and install the timber or concrete sills.
- Step 5: Place geotextile and rip rap.
- Step 6: Install steel girders or concrete slab on the sills.
- Step 7: Install timber deck panels.
- Step 8: Construct bridge approaches and pullouts.

Figure 2-2
Typical Short Span Bridge



Embedded Culverts

Results of the stream crossing evaluations will determine whether a short-span bridge is feasible or if a culvert will be required instead. Culverts required on fish bearing streams will typically be 1600 mm or 2400 mm in diameter and embedded by a depth of 40% of the culvert diameter with material replicating the natural streambed. The embedded elevation and grade will match the existing stream channel. To prevent subsurface flow through the embedded material during low flow periods, a watertight sill plate will be installed at the outlet. This sill plate will also prevent the embedded material from washing out during high flows, in addition to forcing the stream to flow at depth above the embedded material. Figures 2-3 and 2-4 show a sample culvert installation and embedment detail. A typical embedded culvert design is included in Appendix G.

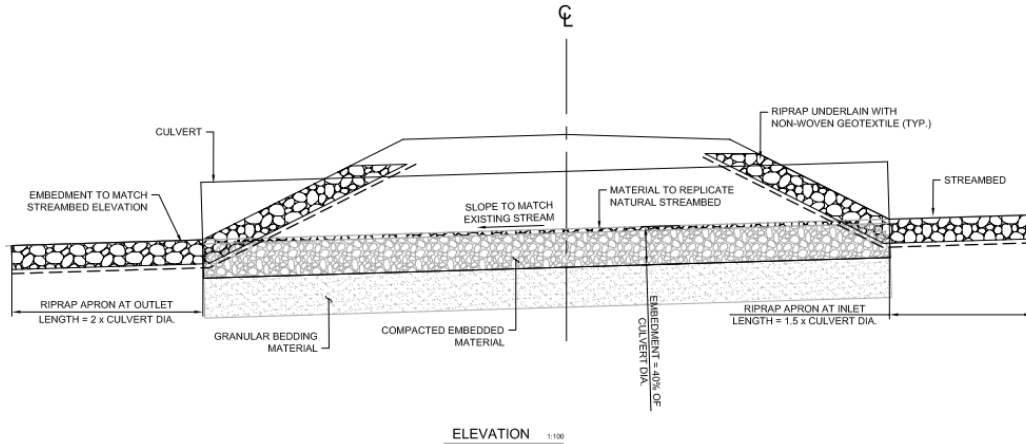
Culverts will be installed in the dry, which will involve isolating the culvert work site. Isolation of the work site may be carried out using cofferdams, or temporary stream channel diversions. Where practical, water can be pumped from the upstream side to the downstream of the work site. If pumping is used to isolate the worksite, fish screens will be placed at all pump intakes.

Alternatively, culverts could be installed adjacent to the existing stream and a new stream channel constructed to divert flow through the new culvert location. This method may have less impact on the natural stream during construction, and be more favourable from a constructability perspective as cofferdams, and pumping of the creek would be avoided.

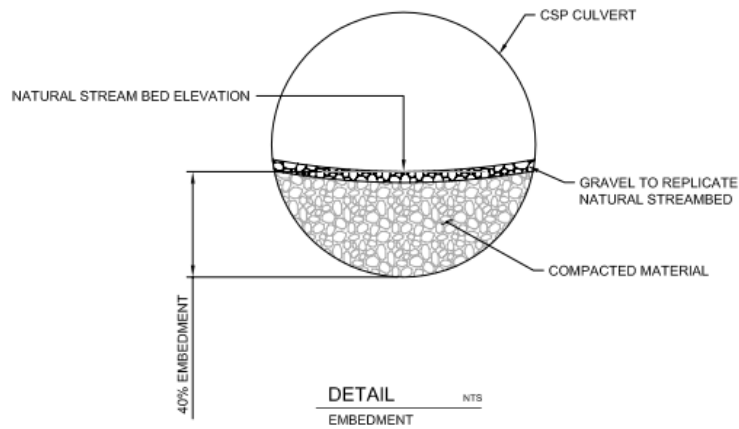
The steps below outline the typical installation of a culvert:

- Step 1: Layout of the culvert and any temporary channel diversions.
- Step 2: Install erosion and sediment control measures.
- Step 3: Isolate work site so the culvert can be installed in a dry condition. This can be done through coffer dams, diversion channels, or pumping of the water from the upstream to the downstream channel.
- Step 4: Excavate the culvert location to the lines and grades shown on the detailed design drawings.
- Step 5: Place and compact the bedding material.
- Step 6: Install culvert and place substrate to replicate the natural streambed in the culvert bottom. Embedment depth will be 40% of the culvert diameter.
- Step 7: Backfill and compact culvert excavation with suitable backfill material.
- Step 8: Install riprap and slope protection at the culvert inlet and outlet.
- Step 9: Allow flow through installed culvert and remove any temporary cofferdams, stream channel diversions, or drainage structures.

**Figure 2-3
Sample Culvert Elevation View**



**Figure 2-4
Sample Embedment Detail**



2.3.2 Non-Fish Bearing Streams

Culverts on non-fish bearing streams will not be embedded. Culvert inverts will be installed at the elevation and grade of the existing stream channel. Non-fish bearing culverts will also be installed in the dry, and will follow the same steps outlined for fish bearing culverts. Without embedding the culverts, a smaller diameter culvert can be used to convey the same flow volume. In some cases, short-span bridges may also be considered on non-fish bearing streams. Evaluation of the appropriate option for each crossing location will be completed during the detailed design phase of the project.

3 Airstrip Construction Activities

3.1 AIRSTRIP, TAXIWAY, APRON AND BUILDINGS

Existing airstrip facilities located at the Casino exploration camp are limited and will be removed at some point during the construction of the new mine. The existing gravel runway does not currently meet any required design standards. Initially, the airstrip was constructed for exploration use only. In order to satisfy aviation demands for the Casino Project, the existing airstrip facility will be replaced with a facility that permits safe and efficient all season operations.

The mine site is remote and personnel access during construction and operation will be best served by aircraft. The workforce is presently projected to be in the order of 1,000 during construction and about 600 during operations. Based on turnaround schedules common in the industry, this would lead to an anticipated workforce departure and arrival of between 300 and 400 per week. Given the size of the workforce it is expected that flights will likely originate from Whitehorse connecting with scheduled flights from Vancouver or other major centres. This will continue for the project duration.

Two possible aircraft are being considered to fly to the mine. These include the Hawker-Sidley HS 748 turbo-prop aircraft which can be configured with 40-58 seats and the Bombardier Dash 8-100 or 200 series turbo-prop aircraft which can be configured with 37-39 seats. These aircraft are well suited to fly in the area due to their slower operating speeds and short takeoff and landing capabilities.

The airstrip engineering and design criteria of the proposed facilities have been developed to conform to the most current version of the Transport Canada Aerodrome Standards and Recommended Practices (TP 312). Pursuant to Canadian Aviation Regulations (CARS), this manual serves as the authoritative document of airport standards for runway dimensions, lighting, markers, pavement markings and signage. Design criteria are dependent on the operational characteristics of the selected design aircraft.

The Hawker Sidley 748 is the limiting design aircraft and will require a runway length of 1,600 m (5,250 ft) and 120 m (394 ft) overrun to satisfy the necessary requirements for Code 3C runway facilities. Runway length requirements and code are specific to the aircraft model as well as specific airspace and terrain characteristics.

The proposed airstrip is located in the Dip Creek Valley and it is aligned in the northeast – southwest direction. It will have a runway length of 1,600 m long and 60 m overruns on either end. At the northeast end of the runway several facilities are proposed including a taxiway, apron, parking area, buildings, and the starting point of the access road. Buildings will consist of a maintenance building and a small terminal building for passengers in transit and temporary storage for luggage and supplies.

Dip Creek is located down the slope to the northwest of the airstrip and several drainage channels drain from the slopes above to the southeast. The mine site is located roughly northeast of the airstrip location. Preliminary design sketches of the proposed airstrip are shown in Appendix D.

Design and Construction Methods

Preventing the degradation of permafrost under the airstrip embankment will be a priority, particularly in areas known to be ice-rich. It is assumed that a minimum embankment height of 1.8 m built above undisturbed ground is sufficient to insulate the permafrost layer. Fill material will be placed over undisturbed soils and any existing vegetative mat. A layer of geotextile will be placed between the undisturbed ground and subgrade, which will prevent the unsuitable material from mixing with the imported embankment. Three borrow sources are proposed near the Dip Creek Valley, and will be the source of fill material required for the airstrip and access road construction.

Drainage control will be required to prevent thawing due to ponding of water on the uphill side of the embankment. This will include measures to intercept water from sub-surface flows and existing drainage channels and then divert water around the airstrip. Additional mitigation techniques may be required for areas with extensive ground ice. These could include localised slope flattening or air convection embankments to reduce snow accumulation and allow cold air to propagate into the embankment during the winter.

The airstrip drainage system consists of two main elements. Firstly, water from existing channels and subsurface flow will be diverted by a diversion channel located approximately 20 m upslope from the airstrip embankment. Secondly, runoff from the airstrip surface and the final 20 m below the diversion channel will be collected by a ditch running along the upslope toe of the Airstrip embankment. To prevent permafrost degradation at the ditch and channel sites, ice rich soil will be removed to a depth of 2 m below the invert and replaced with an insulating layer of thaw stable granular material. Water from both the diversion channel and the ditch will be diverted around the airstrip and into existing channels downslope.

Clearing of trees and stumps will be required on the airstrip site prior to construction. All clearing will be completed during the winter.

3.2 AIRSTRIP ACCESS ROAD

The airstrip will require the construction of an access road to connect it to the mine site. The proposed airstrip access road consists of approximately 14 km of single lane between the airstrip in and the tailings dam access road at the mine site.

The road design satisfies the criteria in the BC Ministry of Forests and Ranges Forest Road Engineering Guidebook (2nd Edition, 2002). This is a private access road not intended for public use. It is a single lane, 5.0m wide, gravel surfaced access road with pullouts. The design speed is 30km/hr with maximum grades of 12%. The road alignment and vertical profile design provides adequate stopping sight distance based on the 30 km/hr design speed.

The Airstrip Access Road originates from a parking area adjacent to the aircraft apron at the northeast end of the proposed airstrip. From here the road heads east along the southeast slope staying above the poorly drained Dip Creek valley bottom. It crosses several small drainage channels before turning north and descending the slope to cross Dip Creek. The route then climbs the northwest slope on the opposite side of the valley and curves in and out of several drainage gullies now travelling north. The road climbs gradually again and then turns left to the northwest into the Brynelson Creek valley. It crosses Brynelson Creek and then turns sharply to the right to begin the steep climb out of the valley. The road switches back left around a ridge top and continues climbing steeply, now traveling north. It then continues parallel to the top of the ridge line until it ties in to the tailings dam access road for the final approach to the mine. Preliminary airstrip access road design drawings are shown in Appendix E.

Design and Construction Methods

In general, the Airstrip Access Road construction methods are similar to those used for the main access roads. In wet areas and where permafrost is present construction will consist of overlanding, where fill material will be placed over a layer of geotextile on top of undisturbed soils and any existing vegetative matt. For cut and fill areas, suitable material will be excavated, and placed to construct the road embankment. Permafrost rich cut areas will require further geotechnical investigation.

The Airstrip Access Road has a lower design speed and narrower cross-section than a main access road, which allows for more flexibility in the alignment and profile. Horizontal and vertical curves with smaller radii and k values along with steeper road grades are used to avoid large cuts and fills especially in areas with permafrost or slope stability concerns.

Clearing of trees and stumps will be required along the road right of way. The average width of clearing is 25m. The actual width will vary, but clearing should extend a minimum of 3.0 m beyond all cut and fill slopes. All clearing is expected to take place during winter.

Drainage for the Airstrip Access Road is managed using similar methods to the main access roads. Surface water drainage is accommodated by small corrugated steel pipes in 500 mm and 600 mm diameter sizes. Spacing is dependent on the road gradient and natural depressions. Ditches on the upslope side of the road convey water to the nearest adjacent cross culvert.

4 Preconstruction Activities

A number of preconstruction activities will need to be completed prior to commencement of construction on the main access roads and airstrip. These include preparation of camps, facilities, and infrastructure to support full construction operations.

Most of the bridge construction, borrow pit preparation and vegetation clearing activities will be completed during the winter months as part of the preconstruction activities. This will prevent construction access delays at bridge crossings and ensure as much time as possible is allocated to the main access construction activities during the short summer construction season. Similarly, the Carmacks by-pass road and bridge over the Nordenskiöld River will be completed as preconstruction activities to provide a suitable access route for construction traffic and deliveries of fuel, supplies, and equipment, to avoid traveling through the Village of Carmacks.

The following sections describe the required preconstruction activities.

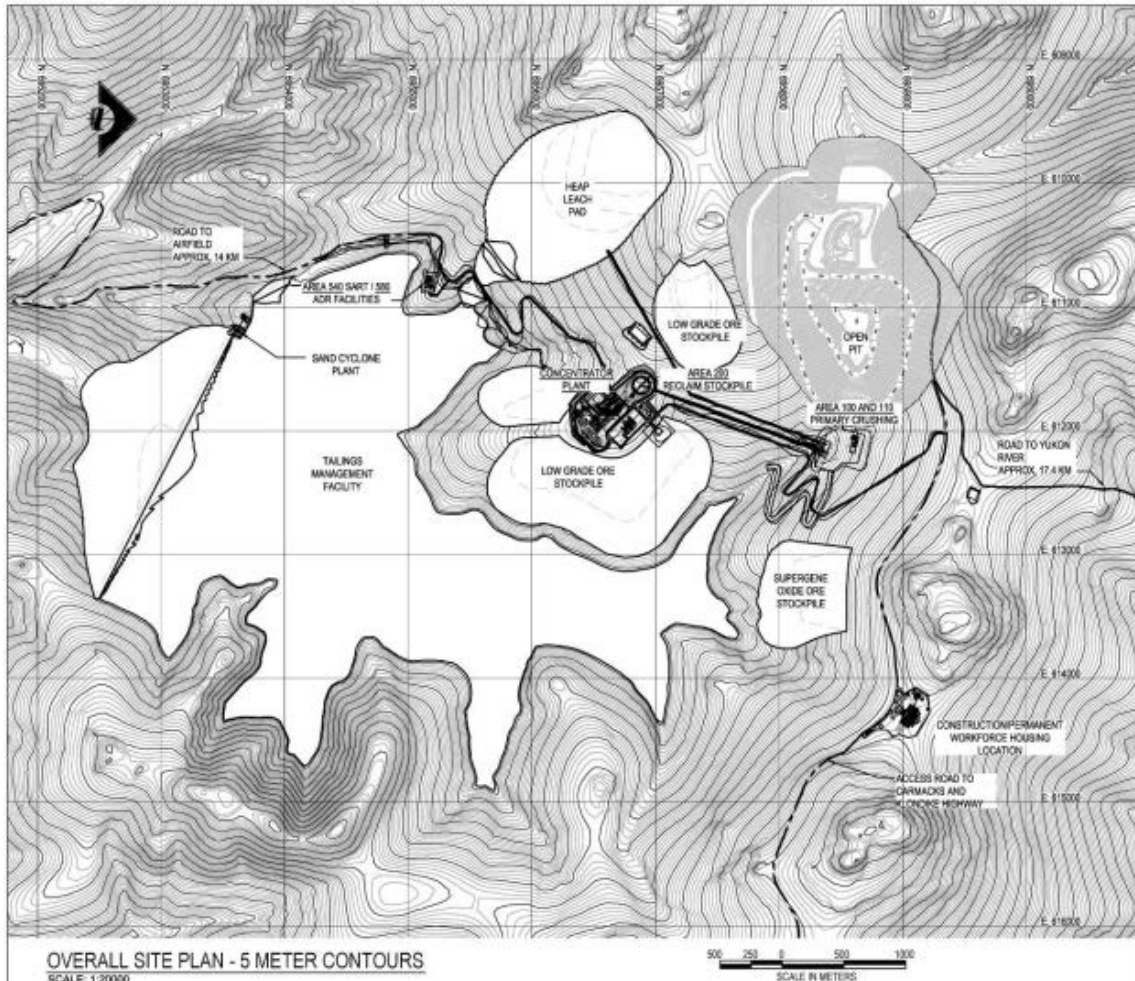
4.1 CONSTRUCTION CAMPS

Mine Camp

A nominal 1000-man capacity camp will be built in stages to support construction of the mine. The camp is located on a ridge top approximately 2 km to the east of the mine site. This mine construction camp will be utilised to support the construction of the access roads and airstrip. The access construction personnel will share the communal camp facilities with the larger mine construction operation. Additional equipment, fuel storage, and materials laydown area will be required to support the access construction, but the incremental increase in camp footprint will be minimal. Starting from the mine camp, construction activities will proceed east along the Freegold Road extension towards the Selwyn River as well as south to complete the airstrip access road and airstrip construction in the Dip Creek Valley.

This construction camp will be converted to serve as residence for the mine operations staff as construction activities wind down. Further details of the camp location and facilities can be found under a separate report discussing construction of the mine. Figure 4-1 shows the overall mine plan and proposed mine camp location.

Figure 4-1
Mine Camp Location



Freegold Road Camp

A temporary construction camp will also be required near the end of the existing Freegold Road. The selected camp location is an open, flat, valley section near the first crossing of Big Creek. Some clearing has already been completed at this site for previous access roads and mining activities. This camp will support construction of the new Freegold Road extension towards the mine and construction of upgrades on the existing Freegold Road back towards Carmacks.

The camp will consist of prefabricated modular trailer units with capacity to accommodate and support up to 84 people. Provided facilities will include bunk houses, kitchen, dining area, recreation space, office space, washrooms, showers, and a camp dry. Other camp infrastructure to support of personnel will include diesel generators for power, heating, water supply, solid waste disposal, and an approved septic tank/field or lagoon sewage treatment system. Solid waste will be incinerated or hauled off site for recycling or disposal.

A laydown area will be required for construction materials and equipment. Parking will be provided for pickups and other vehicles. Construction vehicles and heavy equipment will be serviced in a dedicated shop. Fuel storage and distribution will be required with enough fuel storage capacity to support two weeks of construction. The fuel storage will be enclosed within a lined earthen berm for secondary containment. The berm enclosure will be sized to contain 110% of the fuel tank capacity with a 300 mm freeboard. The fuel storage enclosure will be located a minimum horizontal distance of 30 m from the water's edge of adjacent watercourses and it will be constructed at a height sufficiently above normal high water elevation.

The construction camp will require a footprint of approximately 6 Hectares. Camp preparation will consist of clearing trees from the area, and placing imported granular fill to raise the site above flood elevation. The site embankment will be capped with gravel surfacing to provide adequate site drainage and a suitable driving surface for construction vehicles and heavy equipment. The Freegold temporary construction camp is shown on Figure B-6 attached in Appendix B.

Following the completion of access construction activities, the camp will be decommissioned. As part of decommissioning, all structures, equipment, and facilities will be removed. The original slope angles and drainage patterns will be restored and the area reclaimed.

4.2 CARMACKS BY-PASS AND NORDENSKIOLD BRIDGE

The Carmacks By-Pass will provide a route for construction and mine related traffic to bypass the Village of Carmacks. Yukon Government surveyed the route and prepared a road design in 1997. In 1998-1999 the right of way was cleared, and the first section of By-Pass road was constructed from the Klondike Highway to the east side of the Nordenskiold River.

The route is 5 km long beginning at the Klondike Highway in the Garvice Industrial Subdivision. The route crosses the Nordenskiold River and ascends to join the Mt. Nansen Road. The route is then generally a realignment and upgrade of the Mt. Nansen Road to where it ties into the Freegold Road. The design prepared by Yukon Government is a 9.0 m wide gravel road that meets a 70 km/hr design speed. The Carmacks By-Pass preliminary design drawings are included in Appendix A.

A detailed site survey of the Nordenskiold River crossing was completed in June 2013. A hydro-technical analysis of the crossing was carried out to establish the bridge height and required hydraulic opening. A bridge concept was then developed based on the site conditions, road geometry, geotechnical conditions, and environmental considerations. The Nordenskiold Bridge concept is attached in Appendix F.

The proposed Nordenskiold Bridge is a single lane bridge, with steel girders and precast concrete deck panels. Pullouts are provided at each approach to allow for the safe passing of vehicles. The bridge will have two spans with a pier located in the river channel. Two metres of freeboard above the 1 in 100 year flow elevation is provided to allow clearance of debris during a flood event.

4.3 BRIDGES (WINTER CONSTRUCTION)

Bridge Design

Bridge design criteria is based on British Columbia Ministry of Forests, Lands, and Natural Resource Operations standard L100 vehicular loading. All bridges along the Freegold Upgrade and Freegold Extension are non-composite single lane bridges with pullouts on the approaches to allow safe passing of oncoming vehicles. The Nordenskiold River Bridge will be a composite single lane bridge. For consistency and reduced construction costs, all 27 bridges on the project will consist of prefabricated steel girders and precast concrete deck panels, or precast concrete slabs with timber curbing lining the outsides of the bridge. Rip Rap is required at the bridge abutments to provide scour protection. All bridges are clear span with the exception of the Nordenskiold River crossing as noted earlier, which is a two span structure.

For bridges with a span length of 15 m or more, bridge foundations have assumed to be steel pipe piles and precast concrete pile caps with the steel girders secured to the pile caps. For bridges less than 15 m in length, the foundation will be timber sills placed directly on rock or compacted fill. The timber sill option is faster to construct than driving piles and it allows more flexibility to adjust bridge approach elevations should settlement occur.

There are 27 major bridge crossings identified for the access components. These bridges include:

- 1 bridge crossing Nordenskiold River on the Carmacks By-Pass
- 3 bridges over Crossing Creek, Seymour Creek, and Bow Creek on the Freegold Road upgrade
- 21 bridges on the Freegold Road extension including crossings of Big Creek, Hayes Creek, and Selwyn River, as well as several tributaries and side channels.
- 2 bridges crossing Dip Creek and Brynelson Creek on the airstrip access road

In 2011, Associated Engineering completed detailed field investigations and topographic site surveys for each bridge location along the Freegold Road extension and Airstrip Access Road. Hydro-technical analysis for the waterways at each bridge crossing was also completed in 2011. Conceptual bridge designs have been prepared using the results from the hydro-technical analysis and information gathered in the field. The bridge concept drawings are included in Appendix F and a list of all identified major stream crossings is included in Appendix G.

Bridge lengths and minimum deck elevations are determined from hydro-technical analysis, environmental requirements, geotechnical information and road/stream alignment. The hydro-technical analysis for each crossing consisted of two phases: a hydrologic analysis to estimate the design flow that each crossing structure must accommodate during the 1:100 year return event; and a hydraulic analysis to predict the water surface elevation and water velocity for the design flow. The following presents a description of each phase and a discussion of the results.

During the hydrologic analysis, four additional bridge crossings were identified. This was confirmed through field work completed by Palmer Environmental Consulting Group in the summer of 2013. These crossings are located at 18+900, 61+830, 63+870, and 75+410 on the Freegold Road Extension. Topographic survey and hydraulic analysis is required to develop bridge concepts for these four crossings, and will be carried out in the future design phases of the project.

Hydrologic Analysis

In order to estimate the design flow for each crossing, Associated Engineering performed a regional flood frequency analysis using information from the Water Survey of Canada (WSC) and Yukon Environment – Water Resources Branch. In order to confirm the results, flows were then estimated using the procedures outlined in the Design Flood Estimating Guidelines for the Yukon Territory (INAC, 1989).

Watershed Delineation and GIS Analysis

Watershed delineation and GIS analysis was based on the National Topographic Series (NTS) 1:50,000 scale digital maps. The DEMs used to generate contours and delineate watershed boundaries were the 30 m resolution DEM dataset generated and distributed by Environment Yukon – Geomatics.

Geographic information system (GIS) was used to delineate the upstream watershed boundary for each crossing and calculate the resulting watershed area. Other physiographic parameters such as average overland slope, maximum, minimum and average elevation, and the longest flow path were also obtained. Similar analysis was performed for the WSC and Yukon Environment stream gauge locations in the area.

Hydraulic Analysis

Detailed site surveys were performed by AE personnel in the fall of 2011 at each crossing location and DTMs were developed from the site surveys. This information, along with the estimated flows at each crossing, formed the basis for the hydraulic analysis. The hydraulic analysis was then completed using in-house software to confirm water surface elevation and water velocity through the proposed structures hydraulic opening. A freeboard allowance ranging from 0.6 m to 1.0 m was provided at each crossing based on the typical potential for bedload and debris movement.

Bridge Construction Methods

To avoid the expense of temporary bridges, it is planned that only the permanent structures will be used to cross the major rivers and creeks during the road development. These will be constructed during the winter prior to commencing the road construction in the summer. The bridges will have to be complete to allow continuous construction of the roadway and avoid delays at each crossing while construction is being completed.

Temporary winter access will be required for construction equipment to reach each proposed bridge crossing location and begin construction. The winter access route will be constructed parallel to the proposed final access alignment but will be offset within the cleared right of way. In the spring this will allow proposed access road construction to begin without delays from thawing and decommissioning of the winter road. Temporary ice bridges will need to be constructed to allow equipment to cross the channel and construct each abutment. Ice bridges will be removed in the spring to prevent unnatural ice jamming or flooding from occurring. Temporary winter stream crossings will be constructed to meet the Department of Fisheries Operational Statements for Ice Bridges and Snow Fills.

To the extent possible, the footprint of the bridge construction will be limited to prevent disturbance to riparian areas. Bridges will be designed and constructed to meet the Department of Fisheries Operational Statements for Clear Span Bridges. All work will conform to applicable permits and environmental regulations. Bridge construction methods will involve initial construction of foundations and placement of riprap at both abutments. The superstructure can then be erected. Temporary bridge approach embankments can be constructed to provide access over the structure. The bridge approaches will be finalised as part of the first stage of road construction.

4.4 FIRST STAGE ROAD

The purpose of the first stage road will be to provide the ability to supply fuel and materials for the on-going road development and to support other construction activities for the Casino Project. The road will be a single lane first stage road with pullouts to facilitate early vehicular access to the mine site. The road will have lower operating speeds than the final road. The early establishment of a limited access capability is necessary to support the subsequent road construction and construction activity at the Casino Project site.

The first stage road will be constructed from the end of the Freegold Road and will generally be no more than five metres wide, providing a continuous route from Carmacks to Casino. It will follow the proposed Freegold Road extension alignment and in low lying valley sections embankments will be constructed to nearly full height to protect against high water levels and washouts during flood events. Complete construction of all bridge and culvert stream crossings will be required, with major bridge construction occurring during the winter months prior to road construction and short span bridge and culvert construction occurring at the same time as road construction in the summer. The road will be widened at stream culvert locations to insulate the culverts and provide pullouts and turnarounds for construction traffic. Where permafrost is located at stream culvert crossings, further investigation is required to determine the extent of mitigation that may be required. Suitable roadway drainage, consisting of ditches and cross culverts, will be installed to meet required standards. Additional ditches and cross culverts will be added later as required during final stage road construction.

4.5 BORROW PIT PREPARATION AND ACCESS

Most of the fill and surfacing material required for road and airstrip embankment construction will be developed from borrow pits and then hauled to where it is required. The chosen borrow sites are located as close to the road alignment and fill areas as possible to reduce haul distances and impact on the environment. Any areas in close proximity to flood plains, watercourses, unstable terrain, and environmentally sensitive features have been avoided. Other areas have been avoided because they are known or suspected to be ice-rich or acid generating.

Sources of bedrock and granular material are proposed along the Freegold Road extension at an average spacing of 3.8 km. The estimated volume of material available from these sources far exceeds the anticipated 1,300,000 m³ of borrow required for road construction. As a result, only a portion of some borrow pit areas will be required. On the Freegold Road upgrades, preliminary geotechnical investigations have been carried out, and material types identified. However further geotechnical field testing is required to determine the suitability and volume of material available.

Development of borrow pit areas will require clearing of trees and stripping of organic material. Granular borrow source material will be excavated and stockpiled for hauling. Road building material from bedrock sources will be prepared using a combination of ripping, blasting, and crushing. Drainage ditches will be constructed to divert runoff around the borrow pits and prevent erosion and transport of sediment into nearby watercourses to comply with applicable legislation. Borrow pit slope angles will be limited to the natural angle of repose for the material in each pit, but may be steeper for active excavation slopes.

Construction of temporary borrow pit access roads will be required to connect the pits to construction areas. Borrow pit access roads will be 5.0 m wide and will be gravel surfaced on an embankment designed to stabilise the road over poorly drained soils and organic material. Road grades will be limited to 15%. The borrow pit access roads will follow the natural topography as closely as possible while still maintaining the minimum standards for safe operations of a construction haul road.

Winter preparation of the borrow pit areas is proposed as part of the preconstruction activities. Winter activities would likely be limited to clearing and grubbing of the borrow pit areas and associated access roads, but some material will need to be produced in the winter for rip rap and temporary bridge end fills. By developing borrow pit areas early, it will minimise the delay before production of material can begin at the start of the summer road construction season. Borrow material production will primarily occur at the same time as road construction. The rate of borrow production will depend on road construction progress and the demand for material within each segment of the road.

Borrow pits will be progressively decommissioned when they are no longer needed or suitable material has been used up. Decommissioning will include re-vegetation, slope grading, and restoration of natural drainage patterns.

5 Construction Schedule and Sequencing

Casino Mining Corporation's intention is to complete the construction of the access road and all airstrip components within three years. CMC have set a target to complete the first stage road access by the end of the first year. Several preconstruction activities will need to be completed prior to the commencement of the access road construction. Preconstruction activities will include procurement of materials and equipment, setup of temporary construction camps, construction of bridges, and preparation of borrow pits. The Carmacks By-pass will also be required early in the construction process to provide construction access. This will ensure construction and mine related traffic through Carmacks is limited.

Construction of the Carmacks By-Pass and upgrades to the Freegold road will be supported from staging areas near Carmacks. Being a Territorially owned road, development of this section of the access is expected fall under the purview of the Yukon Territorial Government.

Construction of the new Freegold Road extension will proceed from the end of the Freegold Road towards the mine supported by a temporary construction camp located near the confluence of Seymour Creek and Bow Creek. The main construction camp near the mine will support two additional construction fronts. One front proceeding eastward to meet construction originating from the Freegold Road, and the other proceeding south to construct the new airstrip access road and airstrip.

An initial single lane first stage road will be constructed as early as possible to facilitate the transportation of supplies and construction equipment to the mine site. The first stage road will follow the proposed Freegold Road extension alignment and provide a continuous route for slow moving vehicles all the way to the mine.

The construction sequence of the access components is envisaged as follows:

1. Issue tenders for the provision of construction materials, including fuel, equipment, and supplies for road construction. The successful contractor(s) will be responsible for securing all licenses and authorisations in the provision and delivery of these services.
2. Setup temporary construction camps to support construction activities
3. Construct Carmacks By-Pass Road and bridge over Nordenskiold River
4. Commence winter construction activities including bridge construction, borrow pit preparation, and right of way clearing.
5. Commence summer road construction starting from Carmacks for the upgrade of the existing Freegold Road.
6. Commence summer road construction starting from the western limit of the existing Freegold Road moving westward towards Casino for the Freegold Road extension.
7. Commence summer road construction starting from Casino in a generally easterly direction to meet the construction front originating from the Freegold Road, and heading south to construct the Airstrip Access Road and Airstrip.

8. CMC's objective in the first year of road construction is to develop a limited access road that will provide a continuous route from Carmacks to Casino. The purpose of the limited access road is to provide the ability to supply fuel, equipment, and materials for the mine construction activities and on-going road development.
9. To the extent practical, permanent stream and river crossings will be constructed to provide a limited access road capability within the first two construction years. In some instances it may be necessary to employ temporary (leased) bridges until the permanent bridges and culverts can be constructed.
10. CMC intends to have the Airstrip Access Road and Airstrip completed by the end of the second year.
11. CMC intends to complete the construction of the existing Freegold Road upgrade and new Freegold Road extension within three years.
12. The Summer Construction season is assumed to be 4 months long operating with two shifts of 10 hours each.
13. The Winter Construction season is assumed to be a maximum of 6 months long operating with a single 10 hour shift per day.
14. There is expected to be at least 1 month in the spring and 1 month in the fall where construction activities will be limited due to freeze-thaw activities.

6 Road Decommissioning

Following the completion of mining and the active phase of closure activities, a decision could be made, with the agreement of all stakeholders, to decommission the Freegold Road Extension. Decommissioning of the road will ensure that future vehicular access will not be possible. The public portion of the existing Freegold Road will remain open for public use under the ownership and maintenance of Yukon Highways and Public Works.

The proposed road decommissioning will extend from the south side of Big Creek at the end of the existing Freegold Road to the mine site. The purpose of road decommissioning will be to stabilize the road footprint and restore natural drainage patterns while maintaining water quality and reducing the risk of landslides. The level of decommissioning activities that are required to achieve these objectives will vary depending on characteristics of each road segment. Factors such as slope failure risks, safety hazards, erosion potential, water quality, water quantity, and fish habitat proximity will all influence the chosen mitigation strategies. Typically the road decommissioning will include most, if not all of the following activities.

All bridges, stream culverts, and surface drainage cross-culverts along the road will be carefully removed. Removal of stream culverts and bridges may require restoration of the natural stream channel width and gradient, and armoring of the stream banks with rock. Work in fish-bearing streams will occur during timing windows that minimize fish impacts as prescribed by the Department of Fisheries. Cross-culverts will be removed and replaced with cross-ditches to move surface runoff from the road top and roadside ditches to non-erodible soils downslope. Cross-ditches located on longitudinal grades will require ditch blocks installed

to intercept ditch runoff. Cross-ditches located at natural low spots will not require ditch blocks and will be broader with gentler slopes to capture the converging runoff. Rock armouring will be placed at all cross-ditch outlets. Cross-ditches will be prepared for natural revegetation and may be planted or seeded with local species to prevent erosion of exposed fine grained soils.

Along the entire length of the road, the top surface will be scarified and left in a condition that promotes natural revegetation. Any available local windrowed topsoil may be re-used on the surface and seeding or planting of local species may be completed along the road where appropriate.

Where the road is located on steep side slopes or potentially unstable terrain, slopes angles may need to be restored by pulling back side cast material on select sections of road to reduce the risk of slope failure. Any retaining walls and potentially unstable fills will be removed. Waterbars, berms or outslipping of the remaining road structure may also be required in some areas to intercept water running down the road and divert it to the stable slopes below. Steep slopes will be revegetated to improve slope stability and re-establish natural vegetation successional pathways.

Where the road is located in valley bottoms or on stable terrain with gentler side slopes, road fills are expected to be stable and will remain in place. Re-sloping of the road top will be completed in select locations to control surface run-off, limit erosion of fine grained soils, and facilitate the removal of culverts and bridges.

Further details of road decommissioning will be developed as part of the detailed project decommissioning planning and in accordance with the requirements of an approved road management plan.

Prepared by: _____

Reviewed by: _____

Patrick Stancombe, P.Eng.
Project Engineer

Ray Korpela
Group Manager – Resource Infrastructure

PS/RK/af



Appendix A - Preliminary Carmacks By-Pass Design



1097
115 I/1
LSC C-16B
84369 CLSR

1099
115 I/1
LSC C-34B
84369 CLSR

- CARMACKS BY-PASS ROAD
- CONTINUOUS ROAD STATION OF PROPOSED ROUTE. 0+000 REFERENCED AT INTERSECTION OF KLONDIKE HIGHWAY.
- EXISTING FREEGOLD ROAD ALIGNMENT
- PROPOSED FREEGOLD ROAD ALIGNMENT
- SETTLEMENT LAND

FOR DISCUSSION ONLY

DRAFT

CASINO MINE PROJECT
FIGURE A-1
CARMACKS BY-PASS ROAD

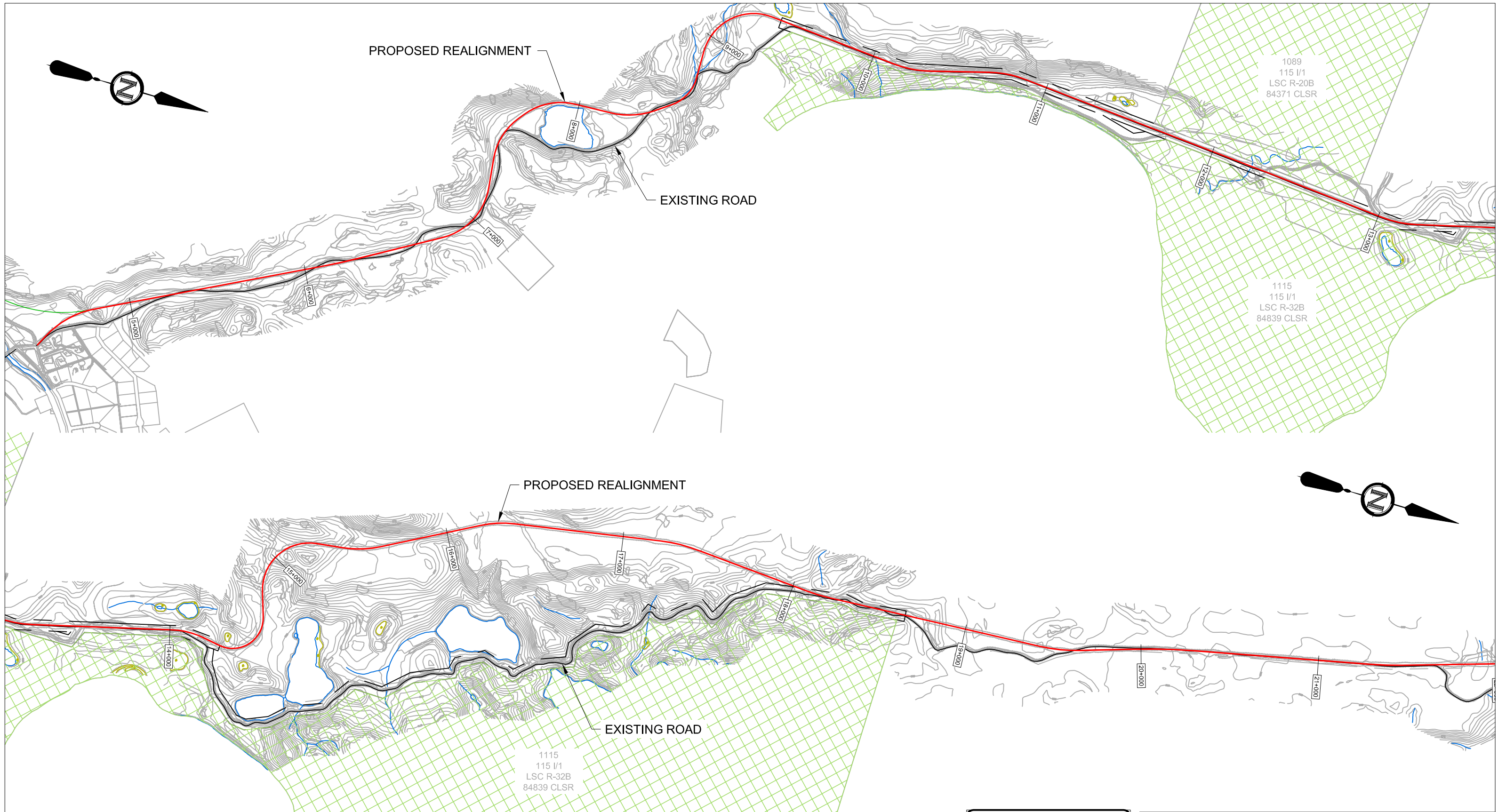
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Scale: 1:10,000



REPORT

Appendix B - Preliminary Freegold Road Upgrade Design





- 68+000 CONTINUOUS ROAD STATION OF PROPOSED ROUTE. 0+000 REFERENCED AT INTERSECTION OF KLONDIKE HIGHWAY.
- EXISTING FREEGOLD ROAD ALIGNMENT
- PROPOSED FREEGOLD ROAD ALIGNMENT
- XXXX SETTLEMENT LAND

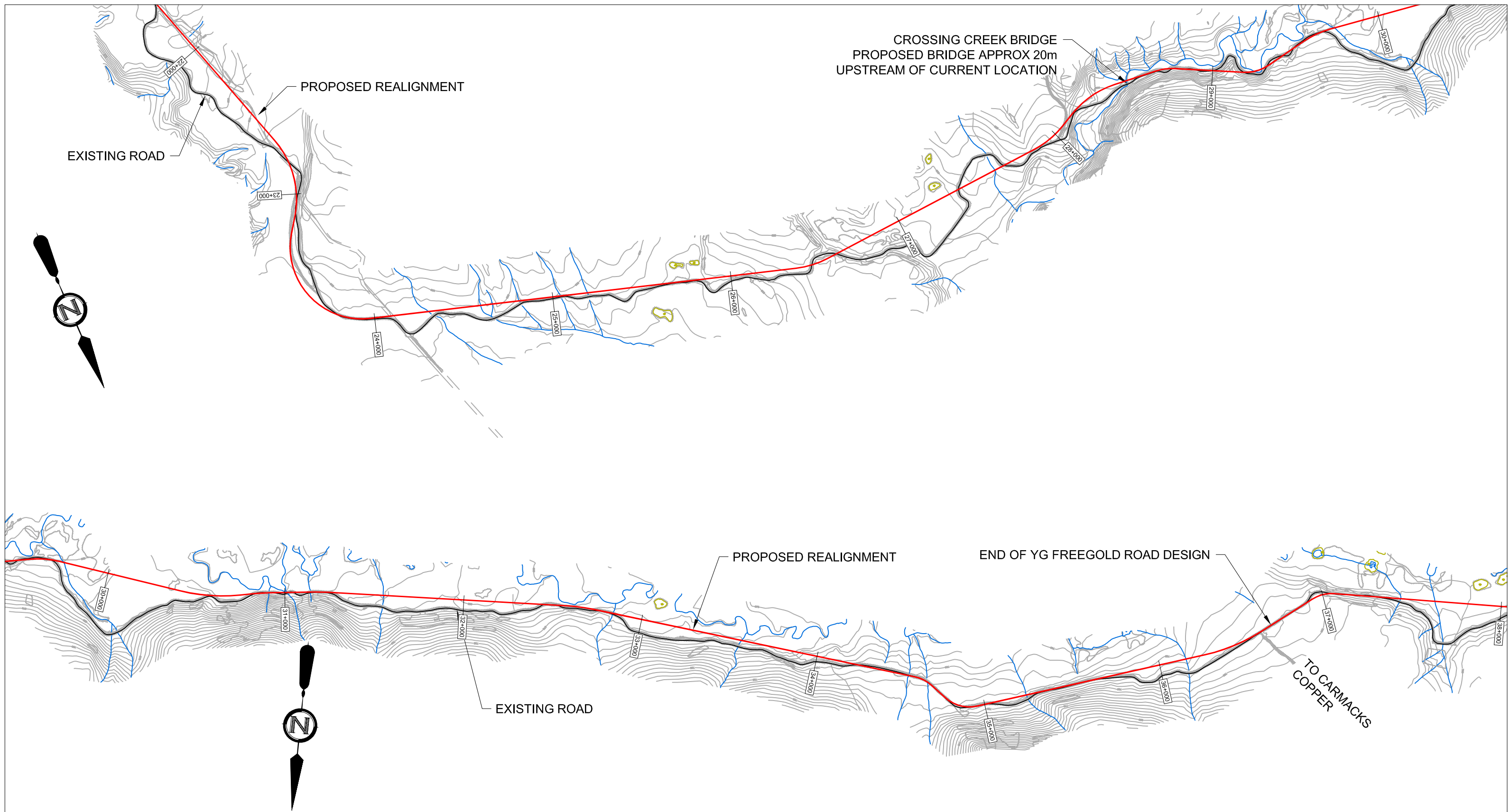
FOR DISCUSSION ONLY

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CASINO MINE PROJECT
Figure B-1
Existing Freegold Road Upgrade

Date: Sept 12, 2013
Scale: 1:20,000





- 68+000
 CONTINUOUS ROAD STATION OF PROPOSED ROUTE. 0+000 REFERENCED AT INTERSECTION OF KLONDIKE HIGHWAY.
- EXISTING FREEGOLD ROAD ALIGNMENT
- PROPOSED FREEGOLD ROAD ALIGNMENT
- SETTLEMENT LAND

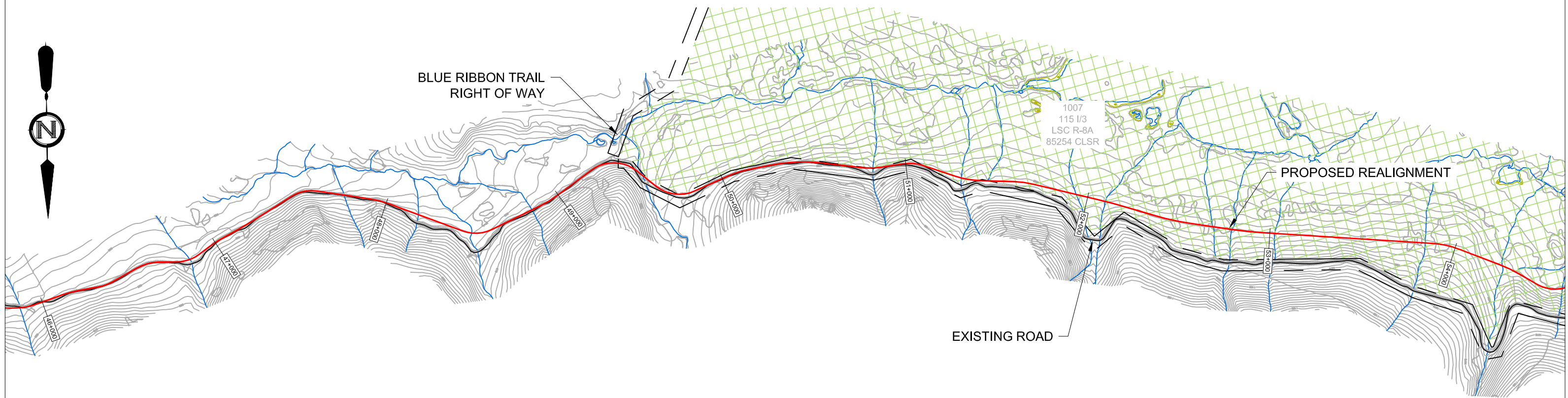
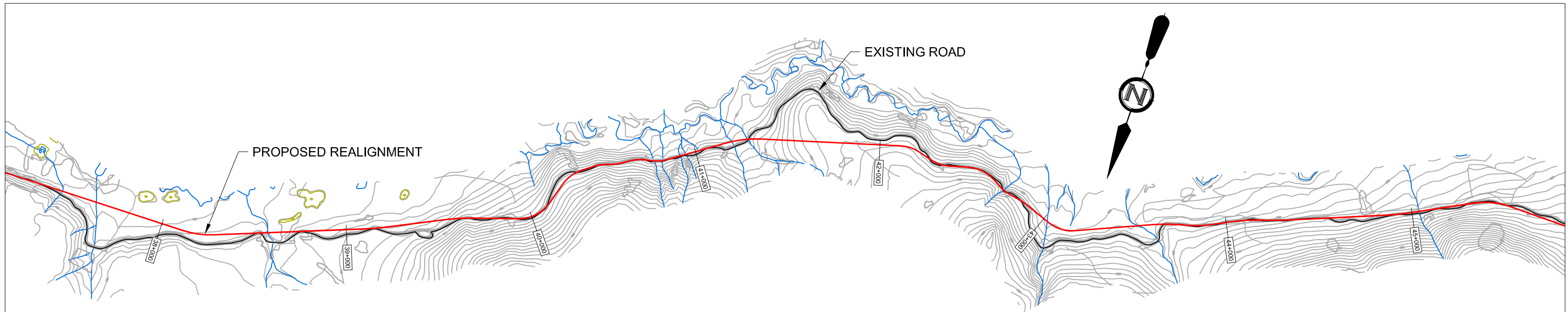
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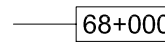



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CASINO MINE PROJECT
 Figure B-2
 Existing Freegold Road Upgrade

Date: Sept 12, 2013
 Scale: 1:20,000





-  CONTINUOUS ROAD STATION OF PROPOSED ROUTE. 0+000 REFERENCED AT INTERSECTION OF KLONDIKE HIGHWAY
-  EXISTING FREEGOLD ROAD ALIGNMENT
-  PROPOSED FREEGOLD ROAD ALIGNMENT
-  SETTLEMENT LAND

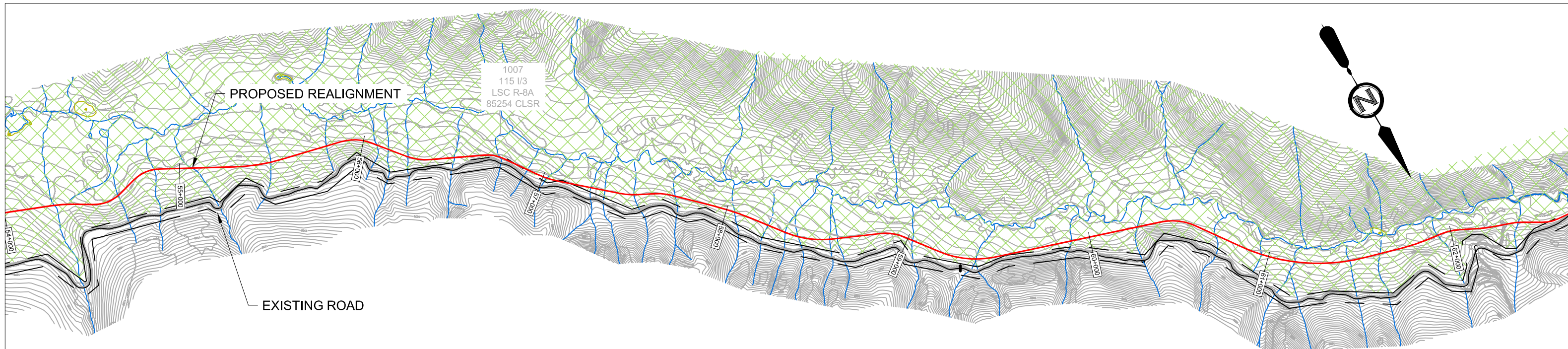
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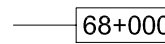



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CASINO MINE PROJECT
 Figure B-3
 Existing Freegold Road Upgrade

Date: Sept 12, 2013
 Scale: 1:20,000





-  CONTINUOUS ROAD STATION OF PROPOSED ROUTE. 0+000 REFERENCED AT INTERSECTION OF KLONDIKE HIGHWAY
-  EXISTING FREEGOLD ROAD ALIGNMENT
-  PROPOSED FREEGOLD ROAD ALIGNMENT
-  SETTLEMENT LAND

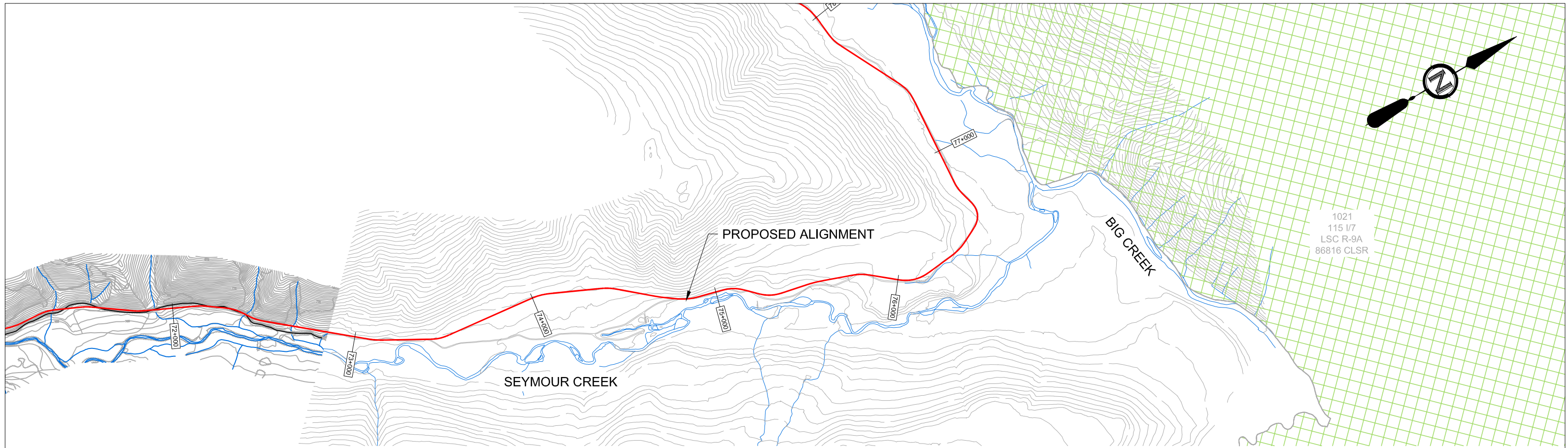
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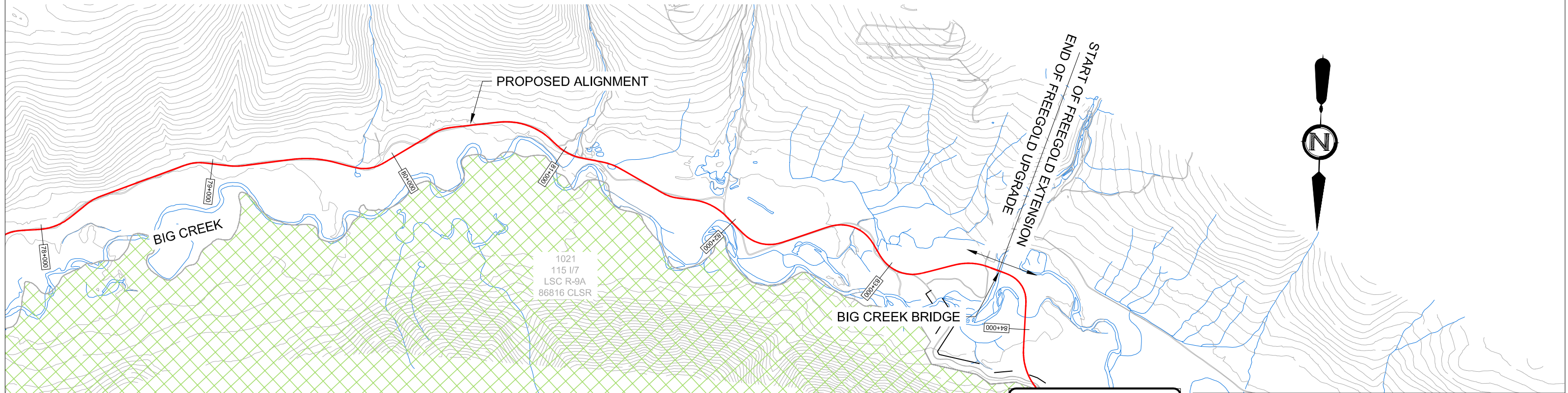
CASINO MINE PROJECT
 Figure B-4
 Existing Freegold Road Upgrade

Date: Sept 12, 2013
 Scale: 1:20,000

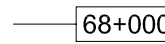







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LSC R-9A
86816 CLSR



1021
115 I/7
LSC R-9A
86816 CLSR

-  68+000 CONTINUOUS ROAD STATION OF PROPOSED ROUTE. 0+000 REFERENCED AT INTERSECTION OF KLONDIKE HIGHWAY
-  EXISTING FREEGOLD ROAD ALIGNMENT
-  PROPOSED FREEGOLD ROAD ALIGNMENT
-  SETTLEMENT LAND

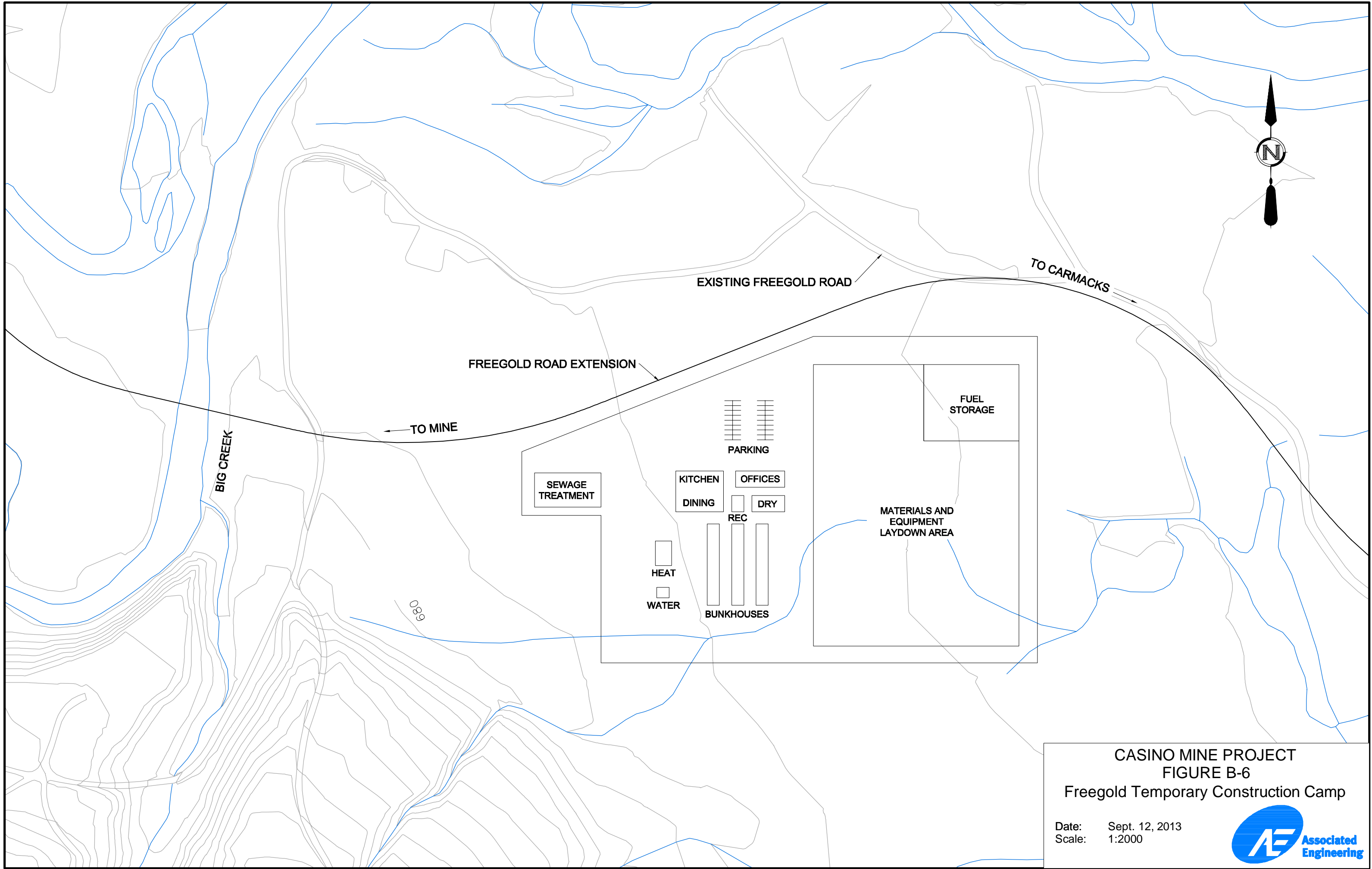
FOR DISCUSSION ONLY

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CASINO MINE PROJECT
Figure B-5
Existing Freegold Road Upgrade


Date: Sept 12, 2013
Scale: 1:20,000





CASINO MINE PROJECT
FIGURE B-6
Freegold Temporary Construction Camp

Date: Sept. 12, 2013
Scale: 1:2000



REPORT

Appendix C - Preliminary Freegold Road Extension Design



WESTERN COPPER AND GOLD CORPORATION

CASINO MINE PROJECT

DRAWING LIST			
DRAWING NUMBER	DESCRIPTION	REV.	DATE
20092374-00-1-100	KEY PLAN	1	2011/02/25
20092374-00-1-101 TO 117	PLAN / PROFILE	2	2012/04/20
20092374-00-1-118	ROAD DESIGN CRITERIA	1	2011/02/25
20092374-00-1-200 TO 231	CROSS SECTIONS	1	2012/04/20

TRANSPORTATION ROUTE PRELIMINARY ROAD DESIGN

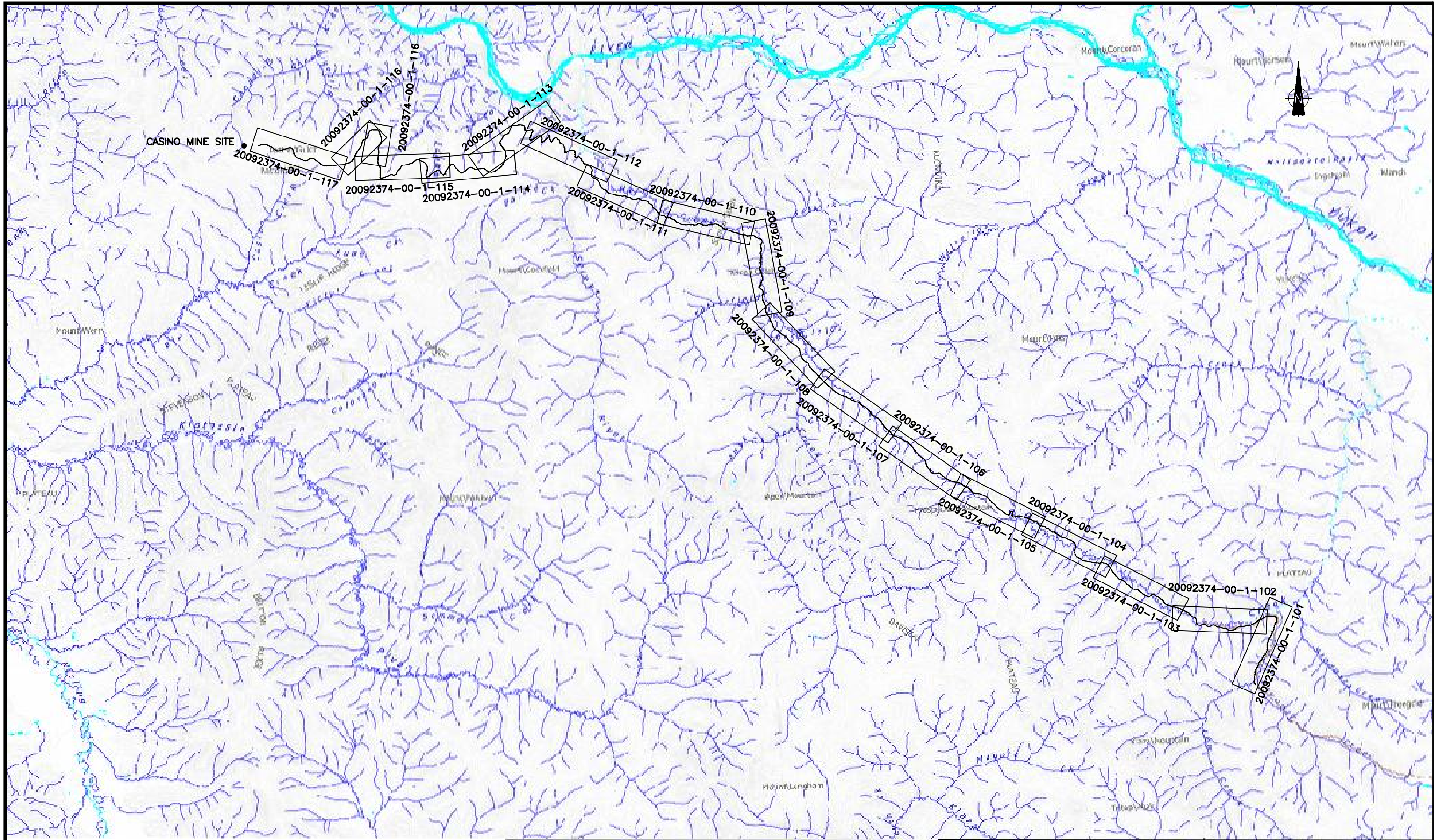
AE Project Number: 20092374



**Associated
Engineering**

*GLOBAL PERSPECTIVE.
LOCAL FOCUS.*

This Drawing Is For The Use Of The Client And Project Indicated
No Representations Of Any Kind Are Made To Other Parties



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DATE: 3/15/2012 2:32:45 PM User: JN

NO.	DATE	ENG.	BY	SUBJECT
1	2011/02/25	PS		UPDATED ALIGNMENT STA. 6+400 TO 14+400
REVISIONS				

**PRELIMINARY
NOT FOR CONSTRUCTION**

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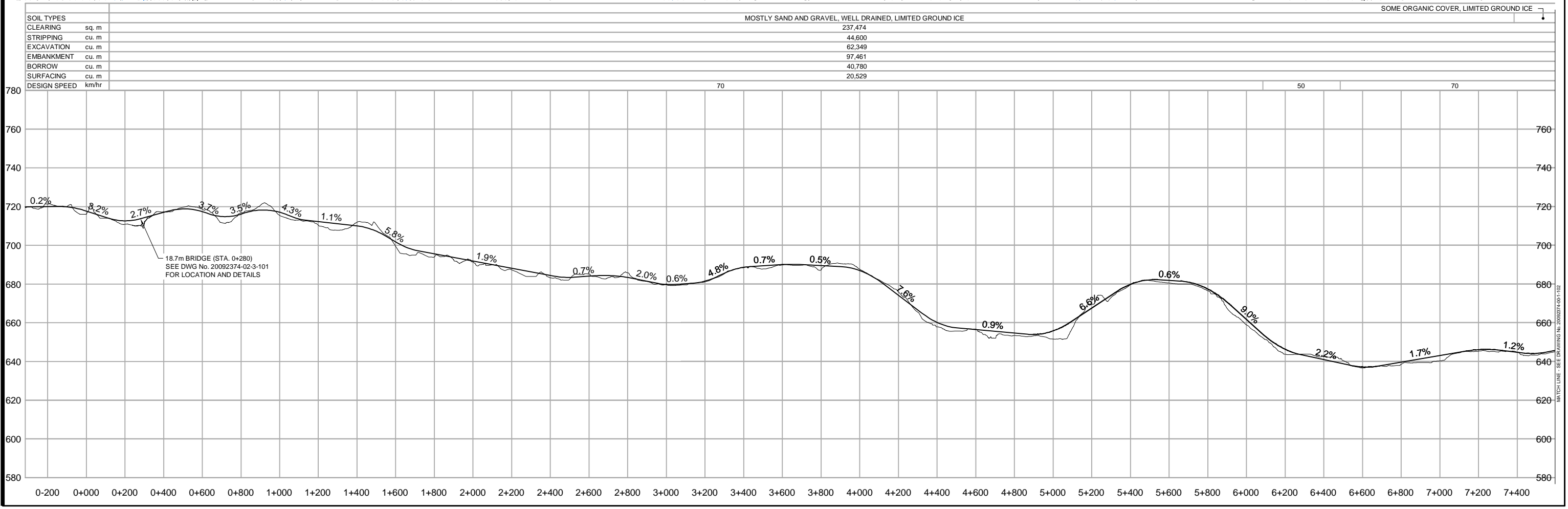
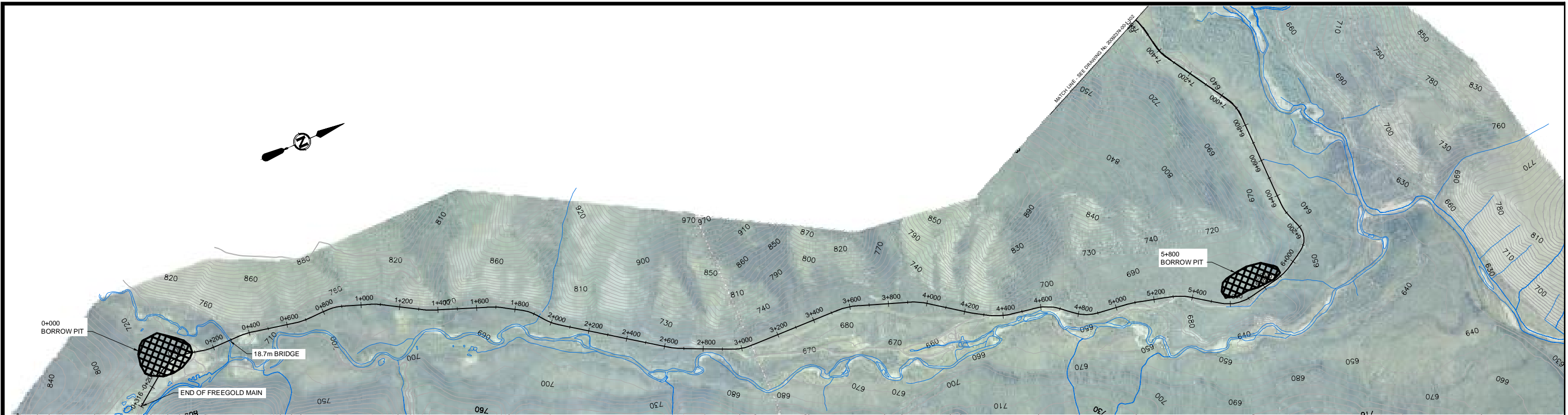
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SCALE	1:150,000
DRAWN	MIKE ERICKSON
DESIGNED	P. STANCOMBE
CHECKED	
APPROVED	
DATE	
	INITIAL

WESTERN COPPER AND GOLD CORPORATION

KEY PLAN

CASINO MINE PROJECT TRANSPORTATION ROUTE PRELIMINARY ROAD DESIGN		
DRAWING NUMBER	REV. NO.	SHEET
-	2	

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No Representations Of Any Kind Are Made To Other Parties



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NO.	DATE	ENG.	BY	SUBJECT
2	2012/04/20		PS	UPDATED ALIGNMENT, PROFILE, QUANTITIES, AND BRIDGE CROSSINGS
1	2011/02/25		PS	UPDATED ALIGNMENT/PROFILE STA. 6+400 TO 14+400, SOIL TYPES AND QUANTITIES
REVISIONS				

**PRELIMINARY
NOT FOR CONSTRUCTION**

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PROJECT No.	20092374
SCALE	H=1:10,000, V=1:1,000
DRAWN	H. YIN
DESIGNED	P. STANCOMBE
CHECKED	R. KORPELA
APPROVED	
DATE	

**WESTERN COPPER AND GOLD
CORPORATION**

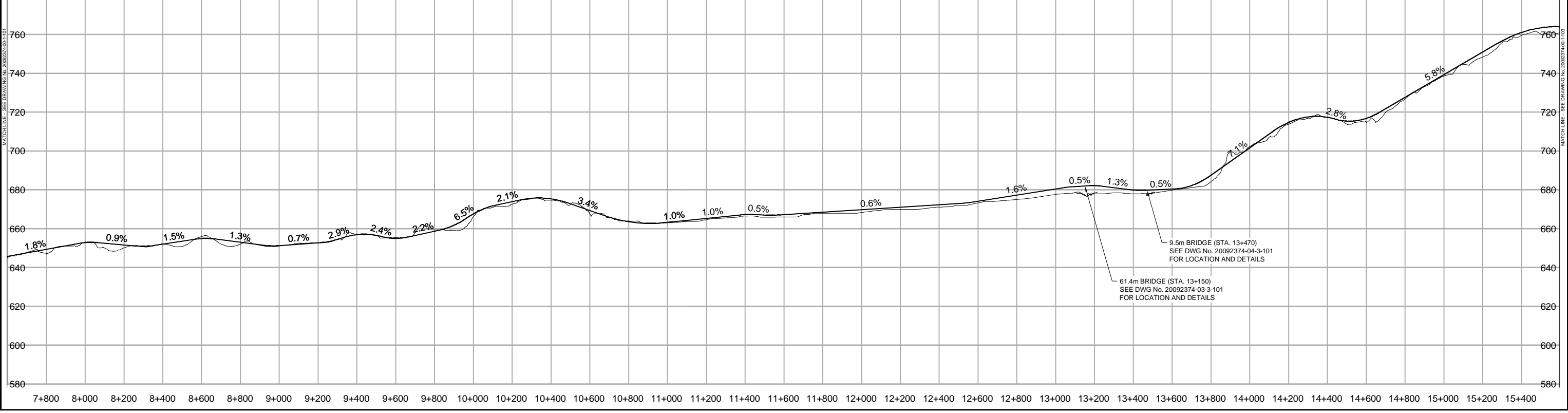
PLAN / PROFILE

CASINO MINE PROJECT TRANSPORTATION ROUTE PRELIMINARY ROAD DESIGN		
DRAWING NUMBER	REV. NO.	SHEET
20092374-00-1-101	2	2

This Drawing Is For The Use Of The Client And Project Indicated
No Representations Of Any Kind Are Made To Other Parties



SOIL TYPES	SOME ORGANIC COVER, LIMITED GROUND ICE	SOME ORGANIC COVER, GROUND ICE, PERMAFROST <0.5m BELOW SURFACE	MOSTLY SAND AND GRAVEL, WELL DRAINED, LIMITED GROUND ICE	SOME ORGANIC COVER, LIMITED GROUND ICE	SAND AND GRAVEL OVER BEDROCK, WELL DRAINED, LIMITED GROUND ICE
CLEARING sq. m				240,000	
STRIPPING cu. m				41,969	
EXCAVATION cu. m				29,406	
EMBANKMENT cu. m				102,384	
BORROW cu. m				75,650	
SURFACING cu. m				20,696	
DESIGN SPEED km/hr				70	



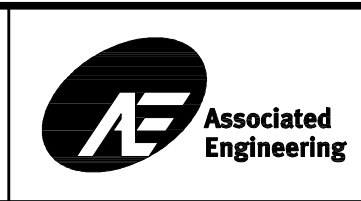
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NO.	DATE	ENG.	BY	SUBJECT
2	2012/04/20	PS		UPDATED ALIGNMENT, PROFILE, QUANTITIES, AND BRIDGE CROSSINGS
1	2011/02/25	PS		UPDATED ALIGNMENT/PROFILE STA. 6+400 TO 14+400, SOIL TYPES, AND QUANTITIES

REVISIONS

**PRELIMINARY
NOT FOR CONSTRUCTION**

BAR IS 20mm ON ORIGINAL DRAWING
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IF NOT 20mm ON THIS SHEET, ADJUST SCALES ACCORDINGLY



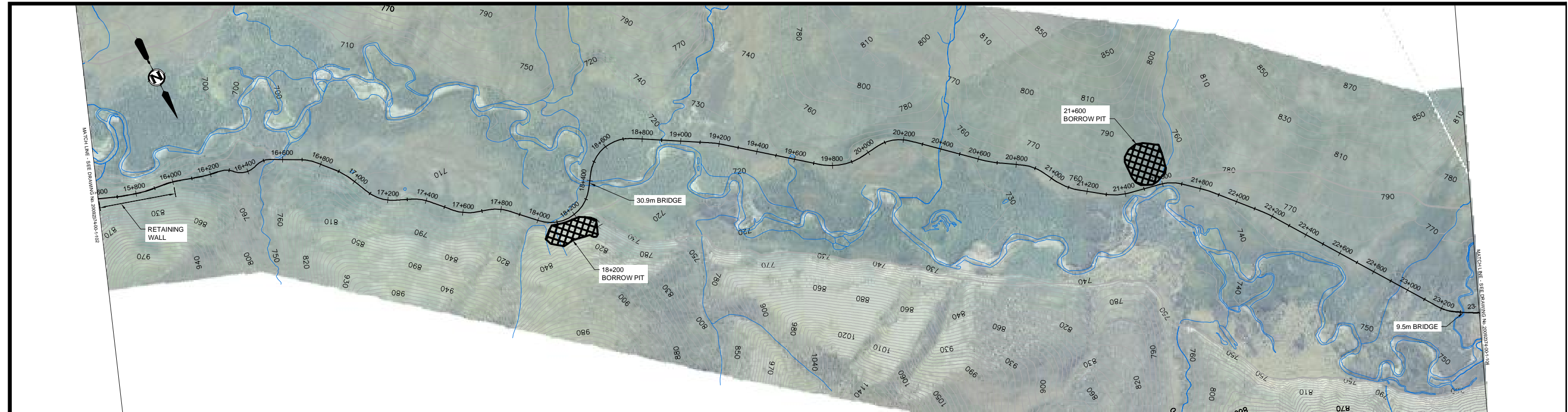
PROJECT No.	20092374
SCALE	H=1:10,000, V=1:1,000
DRAWN	H. YIN
DESIGNED	P. STANCOMBE
CHECKED	R. KORPELA
APPROVED	
DATE	

WESTERN COPPER AND GOLD CORPORATION

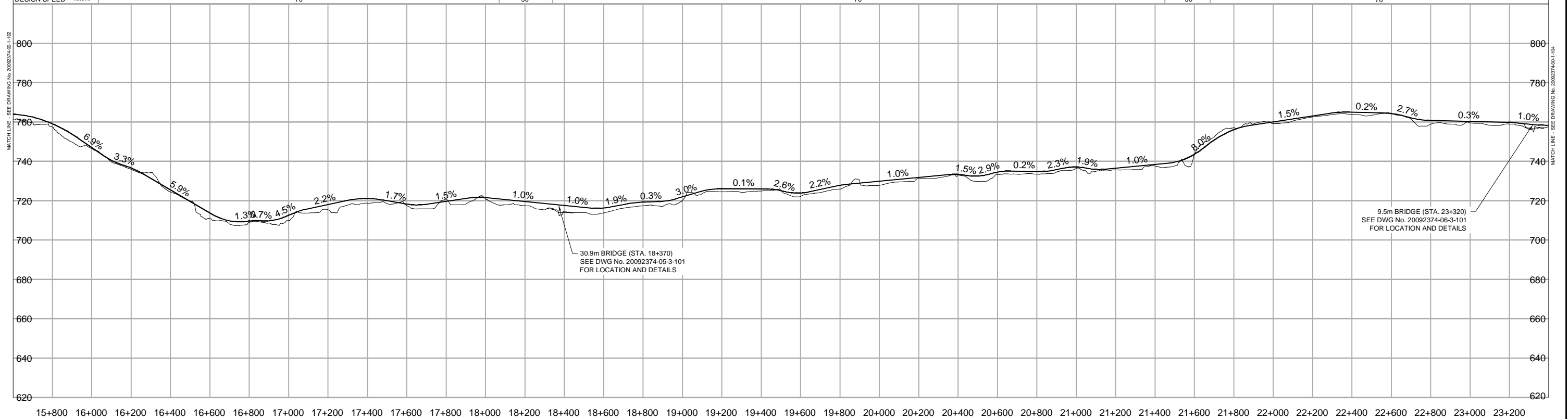
PLAN / PROFILE

CASINO MINE PROJECT TRANSPORTATION ROUTE PRELIMINARY ROAD DESIGN		
DRAWING NUMBER	REV. NO.	SHEET
20092374-00-1-102	2	

This Drawing is For The Use Of The Client And Project Indicated
No Representations Of Any Kind Are Made To Other Parties



SOIL TYPES	>1.0m ORGANICS, POORLY DRAINED, PERMAFROST APPROX. 1.0m BELOW SURFACE	MOSTLY SILT, SAND AND GRAVEL, WELL DRAINED, LIMITED GROUND ICE	>0.5m ORGANICS, PERMAFROST 0.5-1.0m BELOW SURFACE	MOSTLY SILT, SAND AND GRAVEL, WELL DRAINED, LIMITED GROUND ICE	>1.0m ORGANICS, POORLY DRAINED, PERMAFROST APPROX. 1.0m BELOW SURFACE
CLEARING	sq. m		234,000		
STRIPPING	cu. m		26,123		
EXCAVATION	cu. m		27,906		
EMBANKMENT	cu. m		138,514		
BORROW	cu. m		113,145		
SURFACING	cu. m		20,176		
DESIGN SPEED	km/hr	70	50	70	50



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DATE: 06/26/2013 3:38:46 PM, Heini Yin

NO.	DATE	ENG.	BY	SUBJECT
2	2012/04/20	PS		UPDATED ALIGNMENT, PROFILE, QUANTITIES, AND BRIDGE CROSSINGS
1	2011/02/25	PS		UPDATED SOIL TYPES AND QUANTITIES

REVISIONS

**PRELIMINARY
NOT FOR CONSTRUCTION**

BAR IS 20mm ON ORIGINAL DRAWING
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IF NOT 20mm ON THIS SHEET, ADJUST SCALES ACCORDINGLY

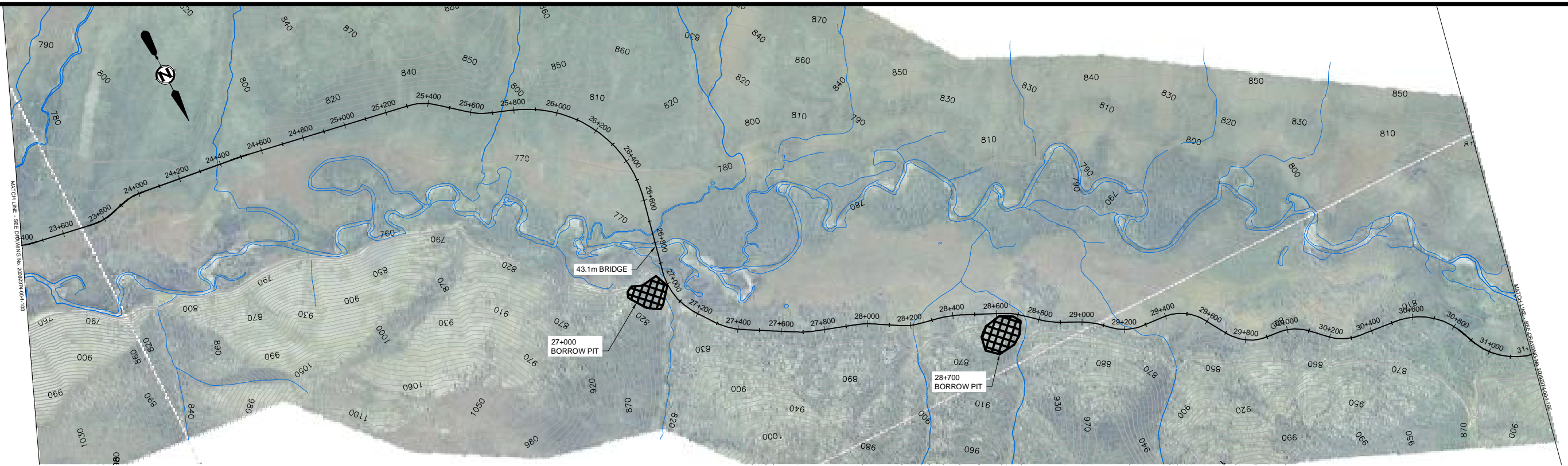


PROJECT No.	20092374
SCALE	H=1:10,000, V=1:1,000
DRAWN	H. YIN
DESIGNED	P. STANCOMBE
CHECKED	R. KORPELA
APPROVED	
DATE	

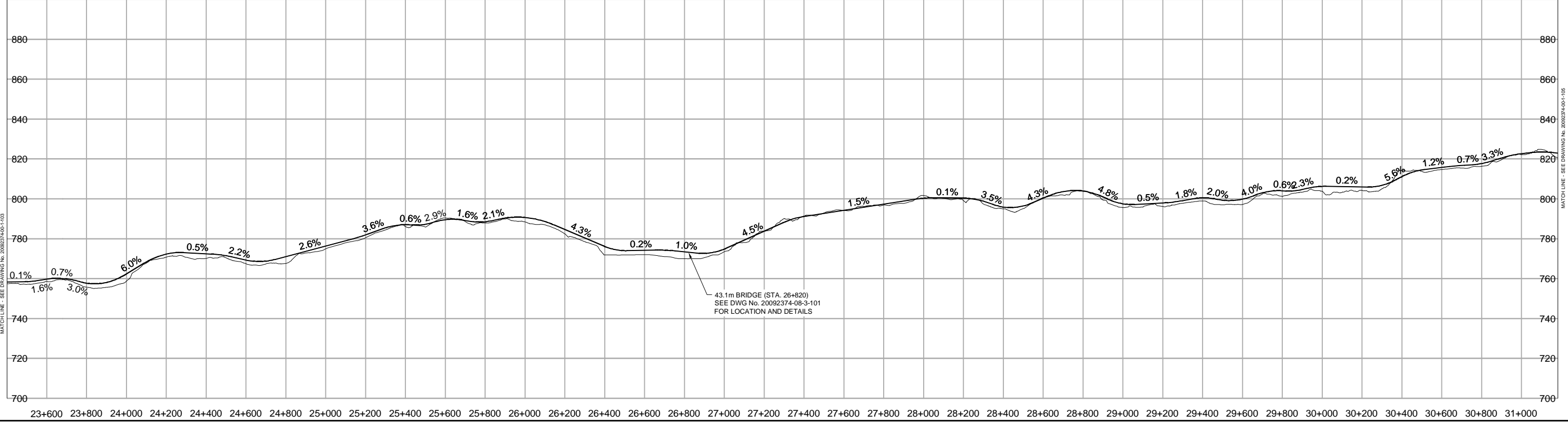
WESTERN COPPER AND GOLD CORPORATION
PLAN / PROFILE

CASINO MINE PROJECT TRANSPORTATION ROUTE PRELIMINARY ROAD DESIGN		
DRAWING NUMBER	REV. NO.	SHEET
20092374-00-1-103	2	

This Drawing is For The Use Of The Client And Project Indicated
No Representations Of Any Kind Are Made To Other Parties



SOIL TYPES	>1.0m ORGANICS, POORLY DRAINED, PERMAFROST APPROX. 1.0m BELOW SURFACE	>1.0m ORGANICS, POORLY DRAINED, PERMAFROST <1.0m BELOW SURFACE	MOSTLY SILT, SAND AND GRAVEL, WELL DRAINED, PERMAFROST <0.5m BELOW SURFACE	>1.0m ORGANICS, POORLY DRAINED, PERMAFROST <1.0m BELOW SURFACE
CLEARING	sq. m		234,000	
STRIPPING	cu. m		28,259	
EXCAVATION	cu. m		27,685	
EMBANKMENT	cu. m		137,228	
BORROW	cu. m		112,060	
SURFACING	cu. m		20,124	
DESIGN SPEED	km/hr		70	



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NO.	DATE	ENG.	BY	SUBJECT
2	2012/04/20		PS	UPDATED ALIGNMENT, PROFILE, QUANTITIES, AND BRIDGE CROSSINGS
1	2011/02/25		PS	UPDATED SOIL TYPES AND QUANTITIES

REVISIONS

**PRELIMINARY
NOT FOR CONSTRUCTION**

BAR IS 20mm ON ORIGINAL DRAWING
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IF NOT 20mm ON THIS SHEET, ADJUST SCALES ACCORDINGLY



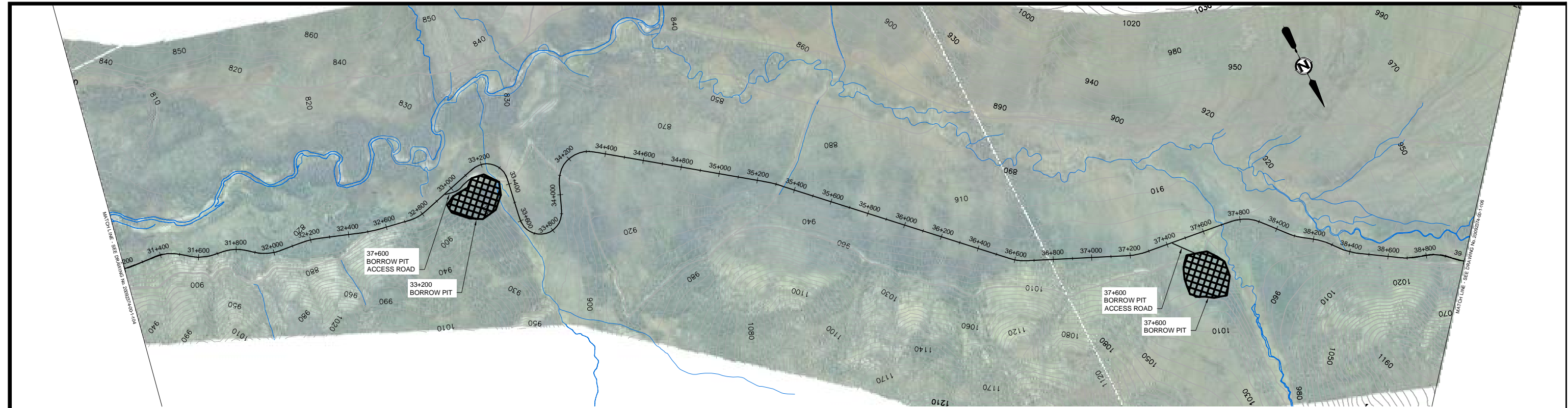
PROJECT No.	20092374
SCALE	H=1:10,000, V=1:1,000
DRAWN	H. YIN
DESIGNED	P. STANCOMBE
CHECKED	R. KORPELA
APPROVED	
DATE	

WESTERN COPPER AND GOLD CORPORATION

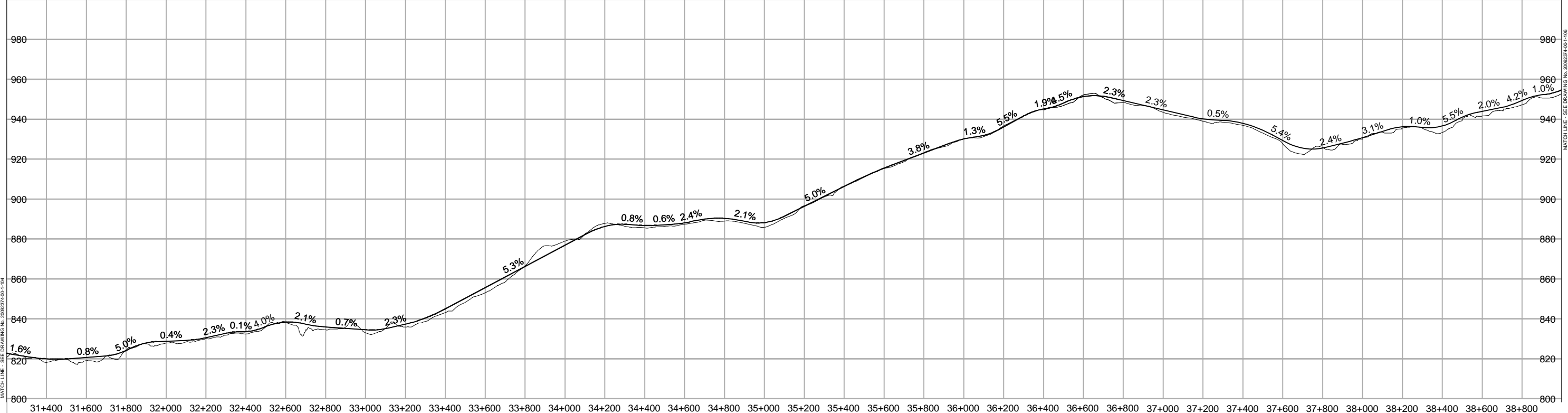
PLAN / PROFILE

CASINO MINE PROJECT TRANSPORTATION ROUTE PRELIMINARY ROAD DESIGN		
DRAWING NUMBER	REV. NO.	SHEET
20092374-00-1-104	2	

This Drawing is For The Use Of The Client And Project Indicated
No Representations Of Any Kind Are Made To Other Parties



SOIL TYPES	>0.5m ORGANICS, PERMAFROST APPROX. 1.0m BELOW SURFACE	>0.5m ORGANICS, POORLY DRAINED, PERMAFROST 1.0m BELOW SURFACE	>1.0m ORGANICS, V. POORLY DRAINED, PERMAFROST 1.0m BELOW SURFACE
CLEARING sq. m		234,000	
STRIPPING cu. m		31,875	
EXCAVATION cu. m		38,703	
EMBANKMENT cu. m		94,508	
BORROW cu. m		59,323	
SURFACING cu. m		20,280	
DESIGN SPEED km/hr	70	50	70



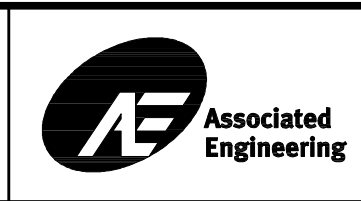
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NO.	DATE	ENG.	BY	SUBJECT
2	2012/04/20	PS		UPDATED ALIGNMENT, PROFILE, QUANTITIES, AND BRIDGE CROSSINGS
1	2011/02/25	PS		UPDATED SOIL TYPES AND QUANTITIES

REVISIONS

**PRELIMINARY
NOT FOR CONSTRUCTION**

BAR IS 20mm ON ORIGINAL DRAWING
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IF NOT 20mm ON THIS SHEET, ADJUST SCALES ACCORDINGLY



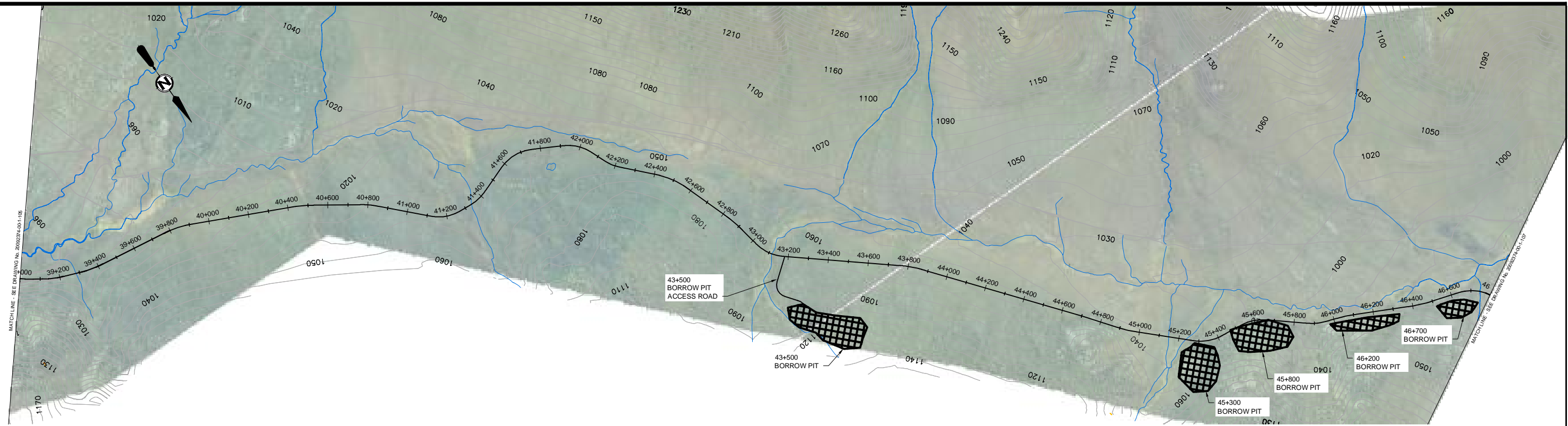
PROJECT No.	20092374
SCALE	H=1:10,000, V=1:1,000
DRAWN	H. YIN
DESIGNED	P. STANCOMBE
CHECKED	R. KORPELA
APPROVED	
DATE	

WESTERN COPPER AND GOLD CORPORATION

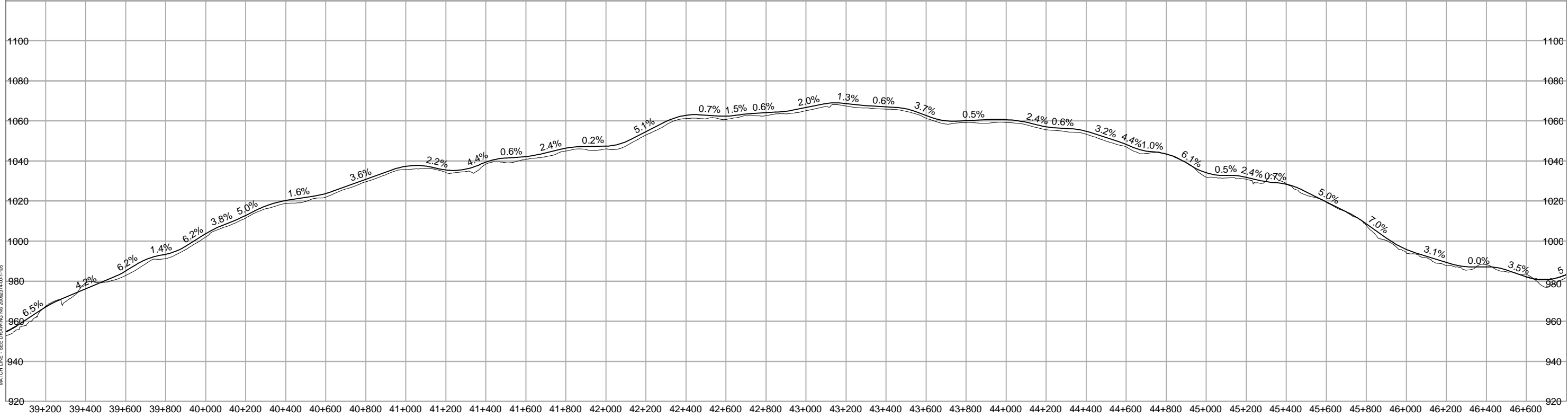
PLAN / PROFILE

CASINO MINE PROJECT TRANSPORTATION ROUTE PRELIMINARY ROAD DESIGN		
DRAWING NUMBER	REV. NO.	SHEET
20092374-00-1-105	2	

This Drawing is For The Use Of The Client And Project Indicated
No Representations Of Any Kind Are Made To Other Parties



SOIL TYPES	>0.5m ORGANICS, FORESTED, PERMAFROST APPROX. 1.0m BELOW SURFACE	THIN ORGANICS, PERMAFROST 1.0m BELOW SURFACE	>0.5m ORGANICS, WET SPOTS, PERMAFROST 1.0m BELOW SURFACE	THIN ORGANICS OVER MOSTLY ROCK, MODERATELY WELL DRAINED, PERMAFROST >1.0m BELOW SURFACE WHERE PRESENT
CLEARING	sq. m		234,000	
STRIPPING	cu. m		30,982	
EXCAVATION	cu. m		18,749	
EMBANKMENT	cu. m		121,560	
BORROW	cu. m		104,515	
SURFACING	cu. m		20,280	
DESIGN SPEED	km/hr		70	



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NO.	DATE	ENG.	BY	SUBJECT
2	2012/04/20	PS		UPDATED ALIGNMENT, PROFILE, QUANTITIES, AND BRIDGE CROSSINGS
1	2011/02/25	PS		UPDATED SOIL TYPES AND QUANTITIES

REVISIONS

**PRELIMINARY
NOT FOR CONSTRUCTION**

BAR IS 20mm ON ORIGINAL DRAWING
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IF NOT 20mm ON THIS SHEET, ADJUST SCALES ACCORDINGLY



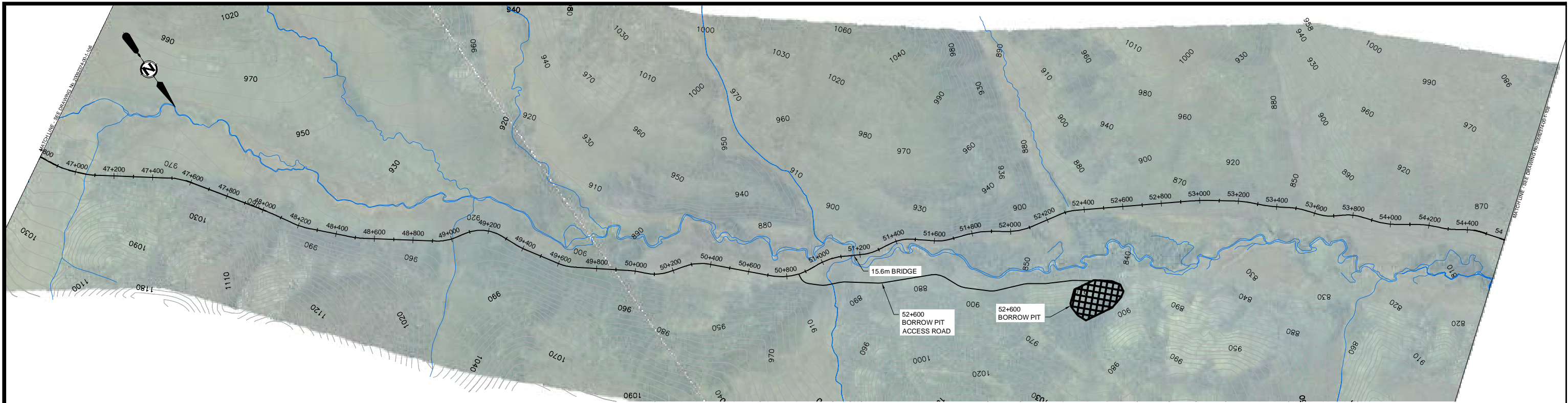
PROJECT No.	20092374
SCALE	H=1:10,000, V=1:1,000
DRAWN	H. YIN
DESIGNED	P. STANCOMBE
CHECKED	R. KORPELA
APPROVED	
DATE	

WESTERN COPPER AND GOLD CORPORATION

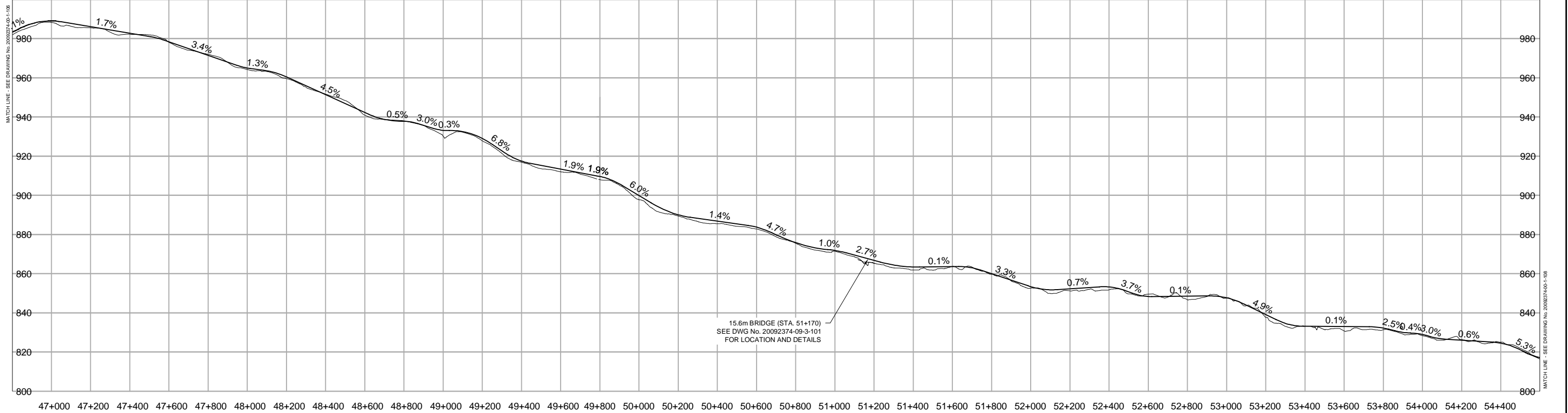
PLAN / PROFILE

CASINO MINE PROJECT TRANSPORTATION ROUTE PRELIMINARY ROAD DESIGN		
DRAWING NUMBER	REV. NO.	SHEET
20092374-00-1-106	2	

This Drawing is For The Use Of The Client And Project Indicated. No Representations Of Any Kind Are Made To Other Parties.



SOIL TYPES	THIN ORGANICS OVER MOSTLY ROCK, MODERATELY WELL DRAINED, PERMAFROST >1.0m BELOW SURFACE WHERE PRESENT	THIN ORGANICS OVER SILT, SAND AND GRAVEL, WELL DRAINED, PERMAFROST APPROX. 0.5m BELOW SURFACE
CLEARING sq. m	234,000	
STRIPPING cu. m	43,898	
EXCAVATION cu. m	40,830	
EMBANKMENT cu. m	82,941	
BORROW cu. m	45,823	
SURFACING cu. m	20,280	
DESIGN SPEED km/hr	70	



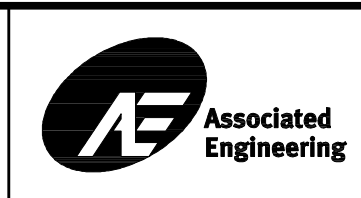
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NO.	DATE	ENG.	BY	SUBJECT
2	2012/04/20	PS		UPDATED ALIGNMENT, PROFILE, QUANTITIES, AND BRIDGE CROSSINGS
1	2011/02/25	PS		UPDATED SOIL TYPES AND QUANTITIES

REVISIONS

**PRELIMINARY
NOT FOR CONSTRUCTION**

BAR IS 20mm ON ORIGINAL DRAWING
0 20mm
IF NOT 20mm ON THIS SHEET, ADJUST SCALES ACCORDINGLY



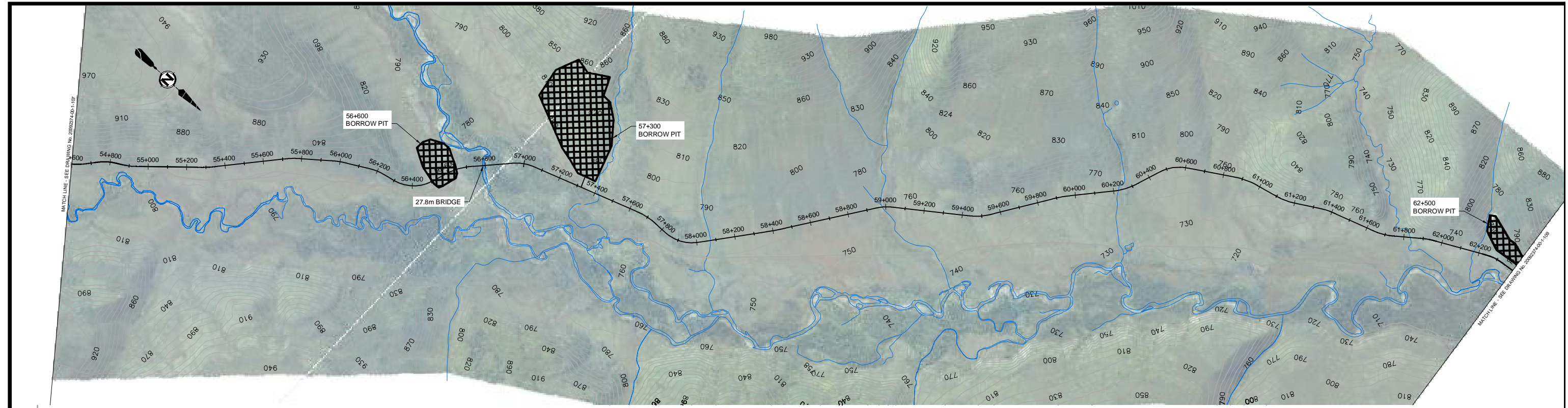
PROJECT No.	20092374
SCALE	H=1:10,000, V=1:1,000
DRAWN	H. YIN
DESIGNED	P. STANCOMBE
CHECKED	R. KORPELA
APPROVED	
DATE	

WESTERN COPPER AND GOLD CORPORATION

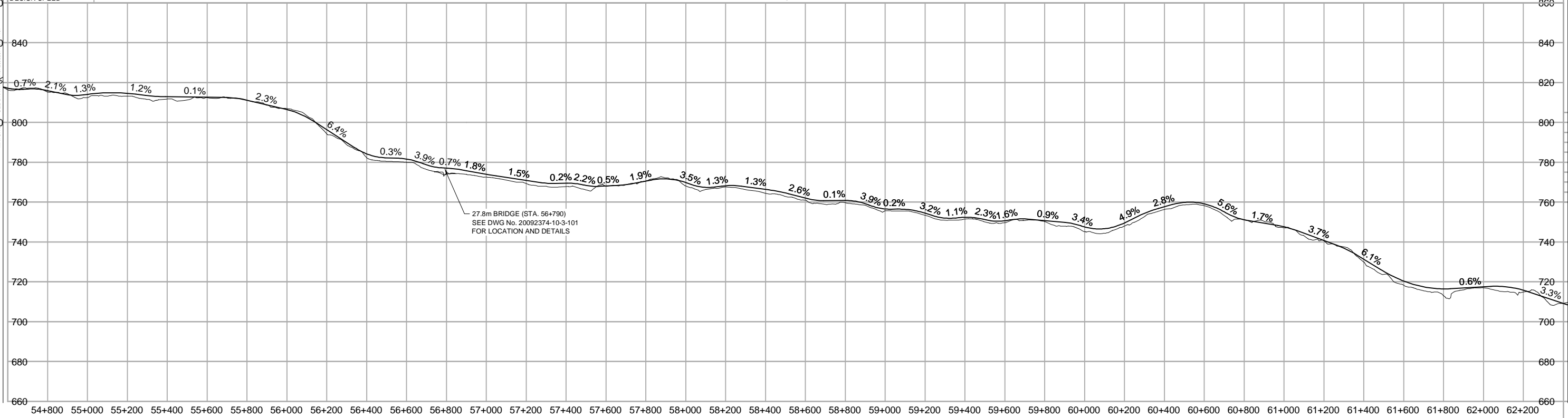
PLAN / PROFILE

CASINO MINE PROJECT TRANSPORTATION ROUTE PRELIMINARY ROAD DESIGN		
DRAWING NUMBER	REV. NO.	SHEET
20092374-00-1-107	2	

This Drawing is For The Use Of The Client And Project Indicated
No Representations Of Any Kind Are Made To Other Parties



SOIL TYPES	THIN ORGANICS OVER SILT, SAND, AND GRAVEL, FORESTED, STEEP, WELL DRAINED	>0.5m ORGANICS, PONDED WATER, PERMAFROST APPROX. 0.5m BELOW SURFACE	THIN ORGANICS, MODERATELY WELL DRAINED, PERMAFROST APPROX. 0.5m BELOW SURFACE
CLEARING	sq. m	234,000	
STRIPPING	cu. m	30,960	
EXCAVATION	cu. m	24,733	
EMBANKMENT	cu. m	113,578	
BORROW	cu. m	91,093	
SURFACING	cu. m	20,176	
DESIGN SPEED	km/hr	70	



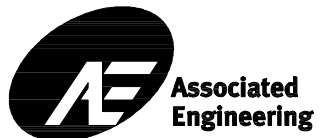
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NO.	DATE	ENG.	BY	SUBJECT
2	2012/04/20	PS		UPDATED ALIGNMENT, PROFILE, QUANTITIES, AND BRIDGE CROSSINGS
1	2011/02/25	PS		UPDATED SOIL TYPES AND QUANTITIES

REVISIONS

**PRELIMINARY
NOT FOR CONSTRUCTION**

BAR IS 20mm ON ORIGINAL DRAWING
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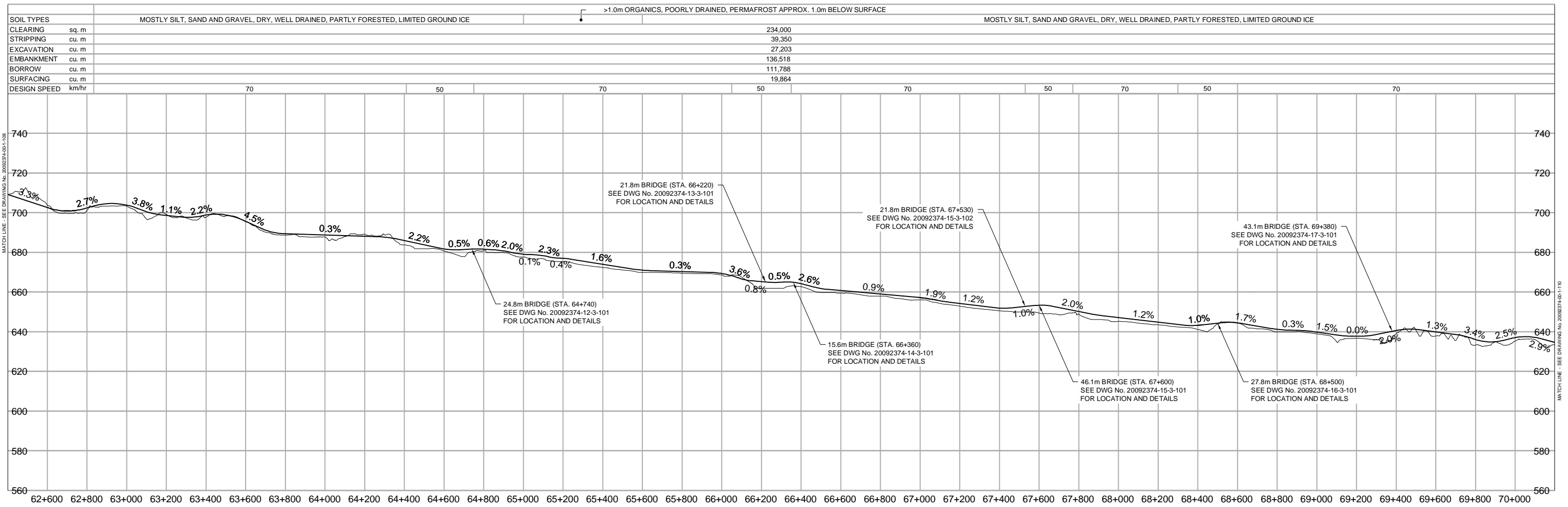
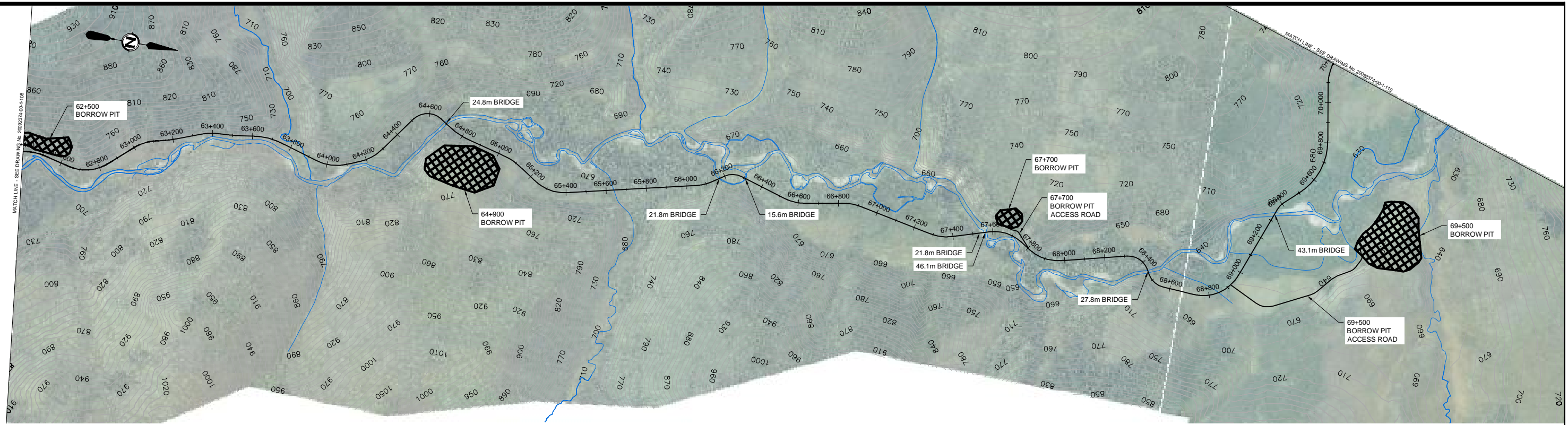
PROJECT No.	20092374
SCALE	H=1:10,000, V=1:1,000
DRAWN	H. YIN
DESIGNED	P. STANCOMBE
CHECKED	R. KORPELA
APPROVED	
DATE	

**WESTERN COPPER AND GOLD
CORPORATION**

PLAN / PROFILE

CASINO MINE PROJECT TRANSPORTATION ROUTE PRELIMINARY ROAD DESIGN		
DRAWING NUMBER	REV. NO.	SHEET
20092374-00-1-108	2	

This Drawing is For The Use Of The Client And Project Indicated
No Representations Of Any Kind Are Made To Other Parties



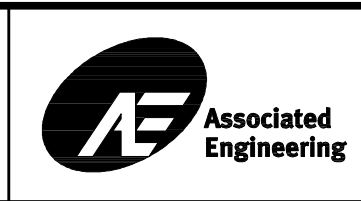
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NO.	DATE	ENG.	BY	SUBJECT
2	2012/04/20		PS	UPDATED ALIGNMENT, PROFILE, QUANTITIES, AND BRIDGE CROSSINGS
1	2011/02/25		PS	UPDATED SOIL TYPES AND QUANTITIES

REVISIONS

**PRELIMINARY
NOT FOR CONSTRUCTION**

BAR IS 20mm ON ORIGINAL DRAWING
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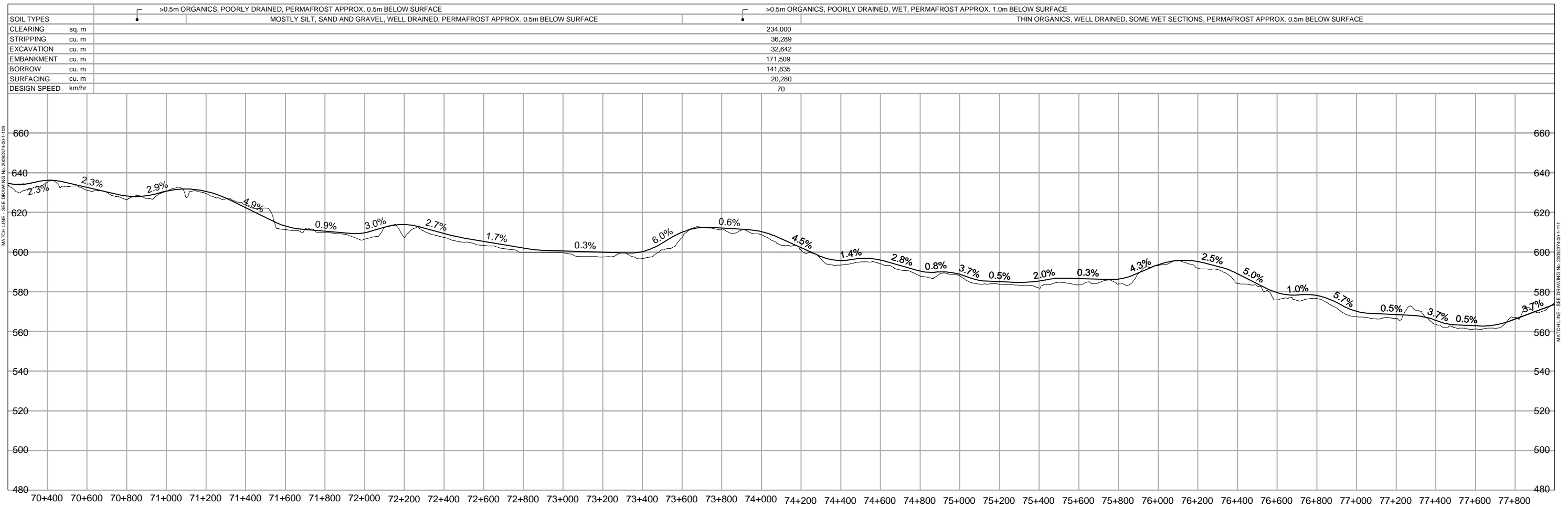
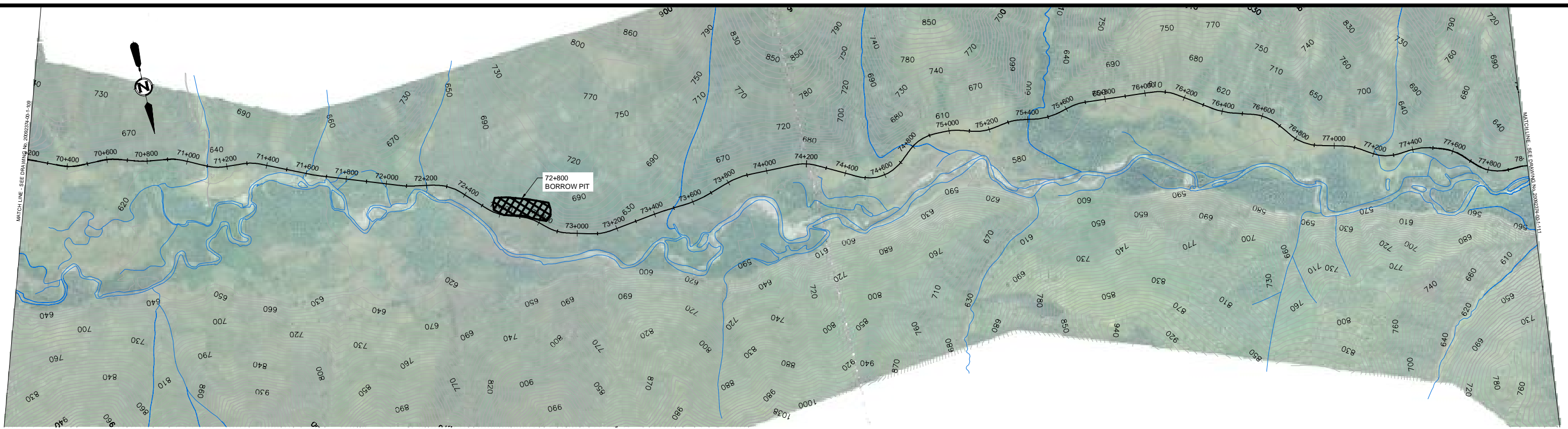
PROJECT No.	20092374
SCALE	H=1:10,000, V=1:1,000
DRAWN	H. YIN
DESIGNED	P. STANCOMBE
CHECKED	R. KORPELA
APPROVED	
DATE	

**WESTERN COPPER AND GOLD
CORPORATION**

PLAN / PROFILE

CASINO MINE PROJECT TRANSPORTATION ROUTE PRELIMINARY ROAD DESIGN		
DRAWING NUMBER	REV. NO.	SHEET
20092374-00-1-109	2	1

This Drawing is For The Use Of The Client And Project Indicated. No Representations Of Any Kind Are Made To Other Parties.



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NO.	DATE	ENG.	BY	SUBJECT
2	2012/04/20		PS	UPDATED ALIGNMENT, PROFILE, QUANTITIES, AND BRIDGE CROSSINGS
1	2011/02/25		PS	UPDATED SOIL TYPES AND QUANTITIES
REVISIONS				

**PRELIMINARY
NOT FOR CONSTRUCTION**

BAR IS 20mm ON ORIGINAL DRAWING
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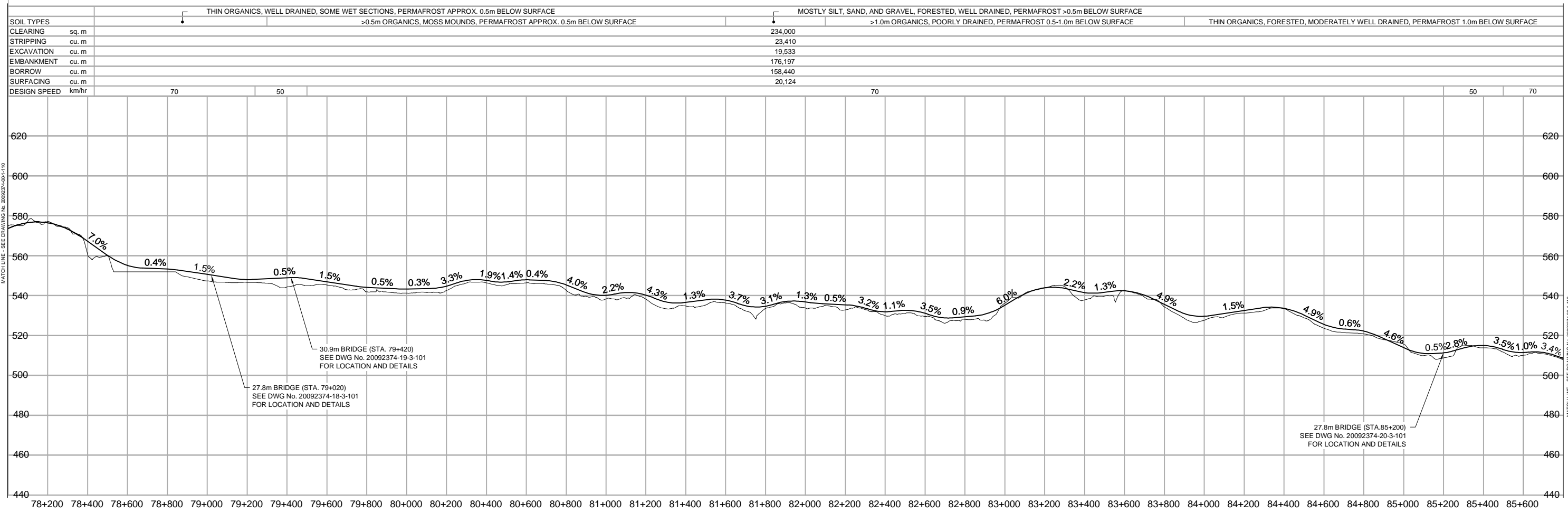
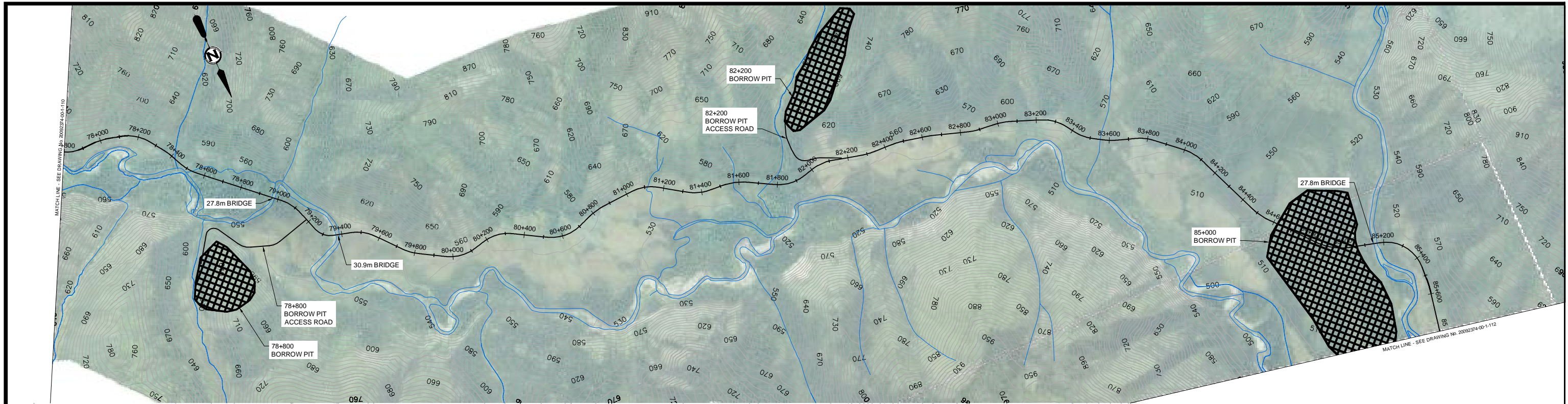
PROJECT No.	20092374
SCALE	H=1:10,000, V=1:1,000
DRAWN	H. YIN
DESIGNED	P. STANCOMBE
CHECKED	R. KORPELA
APPROVED	
DATE	
	INITIAL

**WESTERN COPPER AND GOLD
CORPORATION**

PLAN / PROFILE

CASINO MINE PROJECT TRANSPORTATION ROUTE PRELIMINARY ROAD DESIGN		
DRAWING NUMBER	REV. NO.	SHEET
20092374-00-1-110	2	1

This Drawing is For The Use Of The Client And Project Indicated
No Representations Of Any Kind Are Made To Other Parties



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DATE: 9/8/2012 2:21:43 PM, Helem Yin

NO.	DATE	ENG.	BY	SUBJECT
2	2012/04/20		PS	UPDATED ALIGNMENT, PROFILE, QUANTITIES, AND BRIDGE CROSSINGS
1	2011/02/25		PS	UPDATED SOIL TYPES AND QUANTITIES

REVISIONS

**PRELIMINARY
NOT FOR CONSTRUCTION**

BAR IS 20mm ON ORIGINAL DRAWING
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IF NOT 20mm ON THIS SHEET, ADJUST SCALES ACCORDINGLY



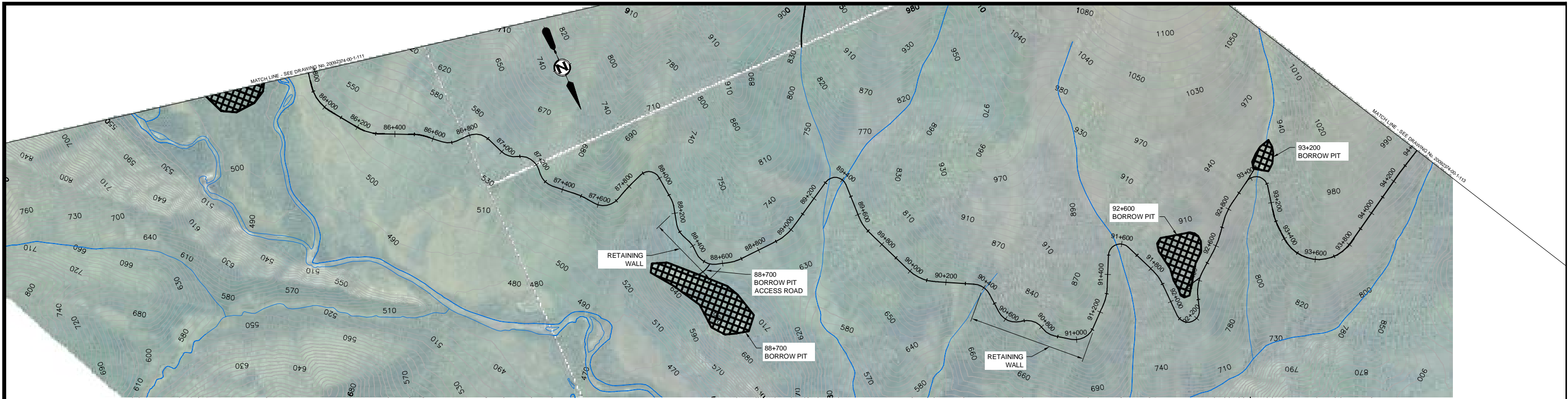
PROJECT No.	20092374
SCALE	H=1:10,000, V=1:1,000
DRAWN	H. YIN
DESIGNED	P. STANCOMBE
CHECKED	R. KORPELA
APPROVED	
DATE	

**WESTERN COPPER AND GOLD
CORPORATION**

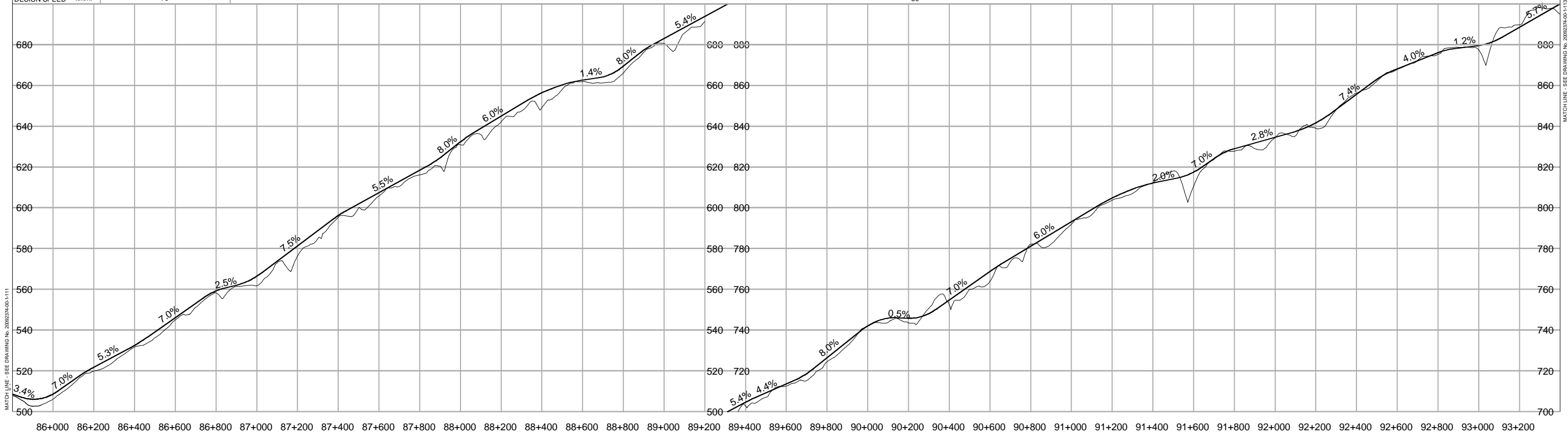
PLAN / PROFILE

CASINO MINE PROJECT TRANSPORTATION ROUTE PRELIMINARY ROAD DESIGN		
DRAWING NUMBER	REV. NO.	SHEET
20092374-00-1-111	2	2

This Drawing is For The Use Of The Client And Project Indicated
No Representations Of Any Kind Are Made To Other Parties



SOIL TYPES	THIN ORGANICS, FORESTED, WELL DRAINED, PERMAFROST >0.5m BELOW SURFACE	SOME ROCK OUTCROPS, FORESTED, STEEP, WELL DRAINED, PERMAFROST 1.0m BELOW SURFACE	SOME ROCK OUTCROPS, FORESTED, STEEP, WELL DRAINED, POSSIBLE PERMAFROST
CLEARING	sq. m	228,000	
STRIPPING	cu. m	55,357	
EXCAVATION	cu. m	71,785	
EMBANKMENT	cu. m	282,342	
BORROW	cu. m	185,476	
SURFACING	cu. m	19,760	
DESIGN SPEED	km/hr	70	50



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DATE: 9/8/2012 2:24:33 PM, Helem Yin

NO.	DATE	ENG.	BY	SUBJECT
2	2012/04/20	PS		UPDATED ALIGNMENT, PROFILE, QUANTITIES, AND BRIDGE CROSSINGS
1	2011/02/25	PS		UPDATED SOIL TYPES AND QUANTITIES

REVISIONS

**PRELIMINARY
NOT FOR CONSTRUCTION**

BAR IS 20mm ON ORIGINAL DRAWING
0 20mm
IF NOT 20mm ON THIS SHEET, ADJUST SCALES ACCORDINGLY



PROJECT No.	20092374
SCALE	H=1:10,000, V=1:1,000
DRAWN	H. YIN
DESIGNED	P. STANCOMBE
CHECKED	R. KORPELA
APPROVED	
DATE	

**WESTERN COPPER AND GOLD
CORPORATION**

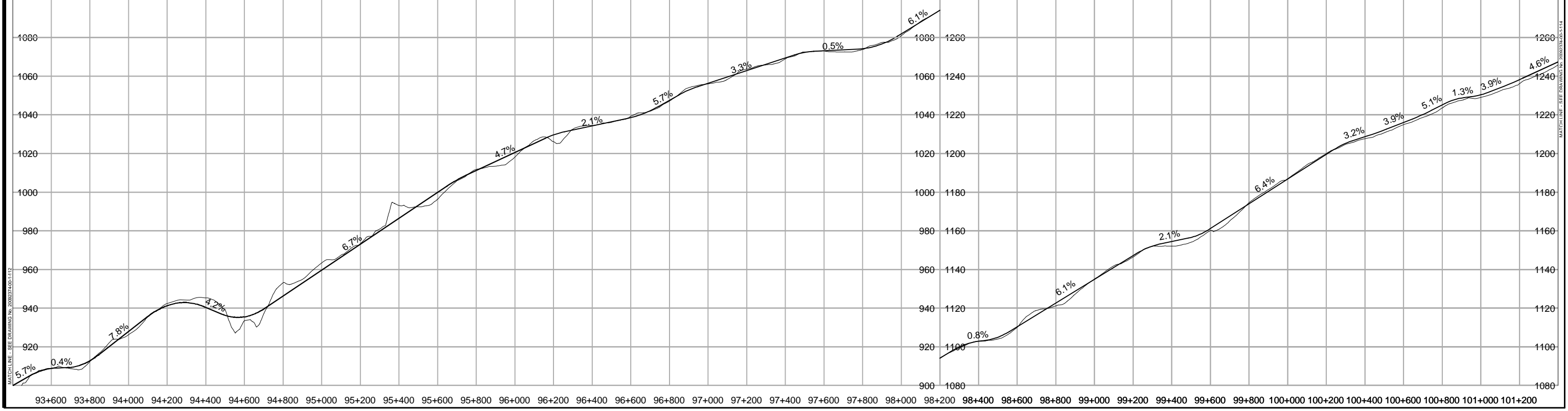
PLAN / PROFILE

CASINO MINE PROJECT TRANSPORTATION ROUTE PRELIMINARY ROAD DESIGN		
DRAWING NUMBER	REV. NO.	SHEET
20092374-00-1-112	2	

This Drawing is For The Use Of The Client And Project Indicated
No Representations Of Any Kind Are Made To Other Parties



SOIL TYPES	SOME ROCK OUTCROPS, FORESTED, STEEP GULLIES, WELL DRAINED, POSSIBLE PERMAFROST	240,000	SOME ROCK OUTCROPS, TORS, NO VEGETATION, HIGH ELEVATION, WELL DRAINED, POSSIBLE PERMAFROST
CLEARING	sq. m	49,903	
STRIPPING	cu. m	113,397	
EXCAVATION	cu. m	106,422	
EMBANKMENT	cu. m	0	
BORROW	cu. m	20,800	
SURFACING	cu. m		
DESIGN SPEED	km/hr	50	70



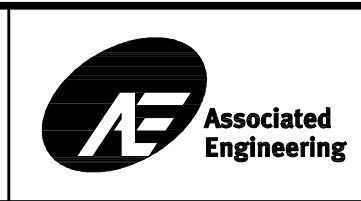
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NO.	DATE	ENG.	BY	SUBJECT
2	2012/04/20	PS		UPDATED ALIGNMENT, PROFILE, QUANTITIES, AND BRIDGE CROSSINGS
1	2011/02/25	PS		UPDATED SOIL TYPES AND QUANTITIES

REVISIONS

**PRELIMINARY
NOT FOR CONSTRUCTION**

BAR IS 20mm ON ORIGINAL DRAWING
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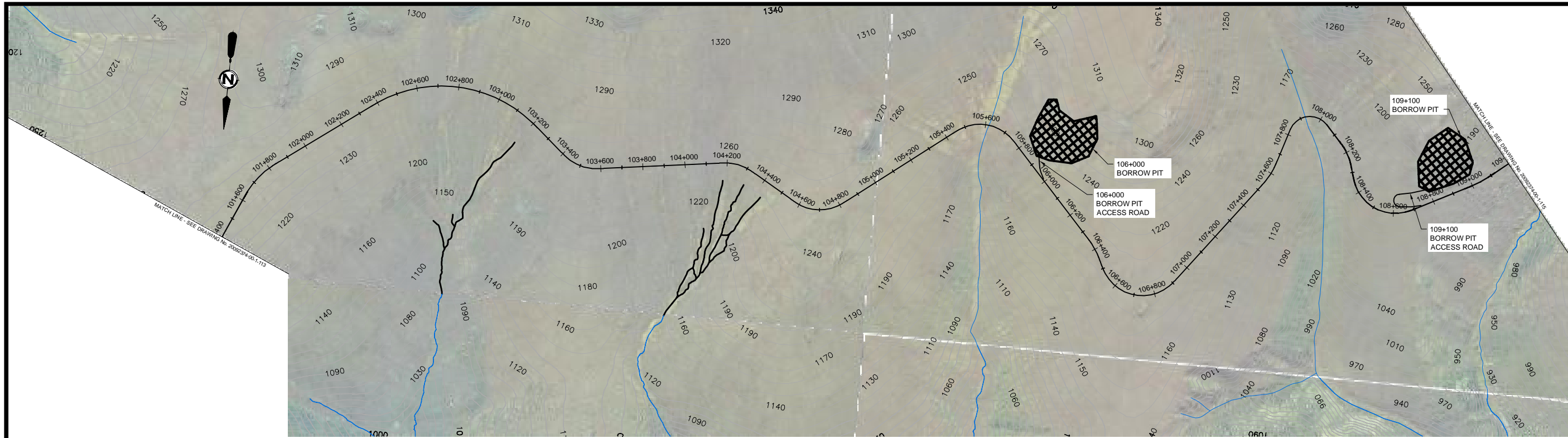
PROJECT No.	20092374
SCALE	H=1:10,000, V=1:1,000
DRAWN	H. YIN
DESIGNED	P. STANCOMBE
CHECKED	R. KORPELA
APPROVED	
DATE	

WESTERN COPPER AND GOLD CORPORATION

PLAN / PROFILE

CASINO MINE PROJECT TRANSPORTATION ROUTE PRELIMINARY ROAD DESIGN		
DRAWING NUMBER	REV. NO.	SHEET
20092374-00-1-113	2	

This Drawing is For The Use Of The Client And Project Indicated
No Representations Of Any Kind Are Made To Other Parties



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DATE: 9/8/2012 2:44:47 PM, Helem Yin

NO.	DATE	ENG.	BY	SUBJECT
2	2012/04/20	PS		UPDATED ALIGNMENT, PROFILE, QUANTITIES, AND BRIDGE CROSSINGS
1	2011/02/25	PS		UPDATED SOIL TYPES AND QUANTITIES

REVISIONS

**PRELIMINARY
NOT FOR CONSTRUCTION**

BAR IS 20mm ON ORIGINAL DRAWING
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IF NOT 20mm ON THIS SHEET, ADJUST SCALES ACCORDINGLY



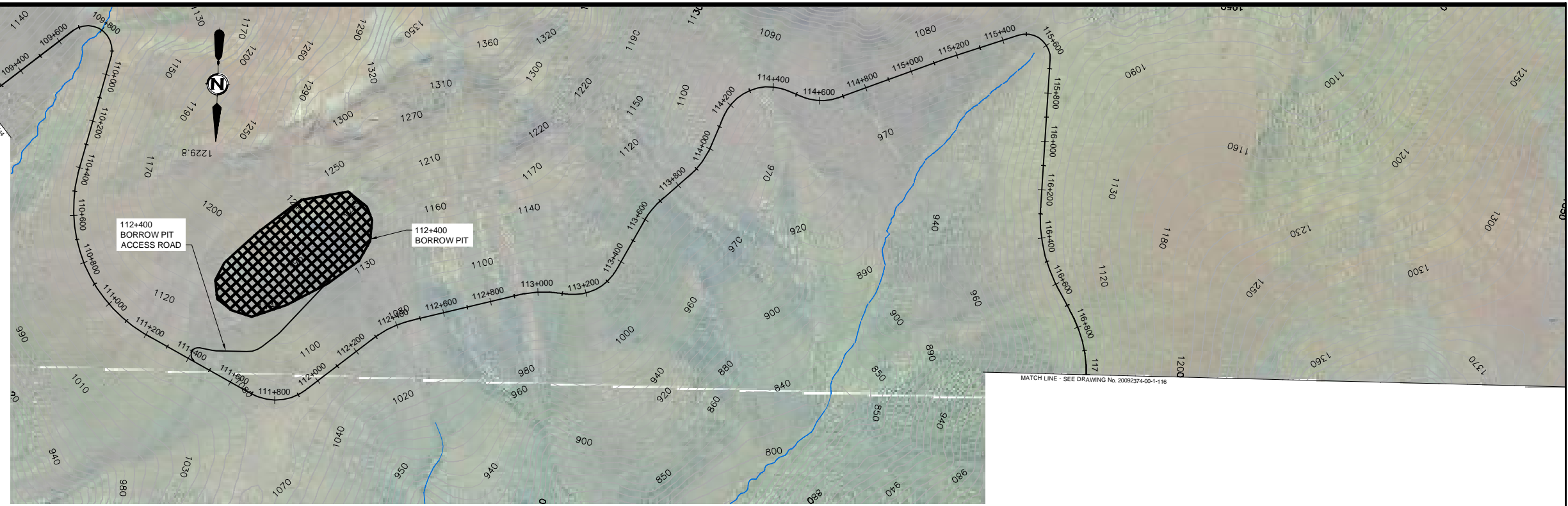
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SCALE	H=1:10,000, V=1:1,000
DRAWN	H. YIN
DESIGNED	P. STANCOMBE
CHECKED	R. KORPELA
APPROVED	
DATE	INITIAL

WESTERN COPPER AND GOLD CORPORATION

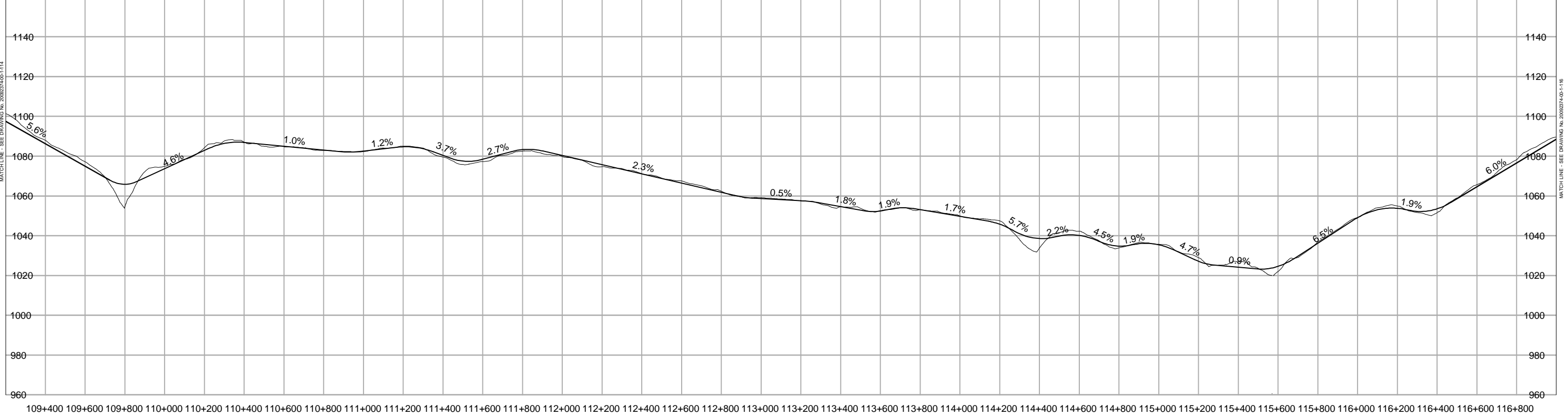
PLAN / PROFILE

CASINO MINE PROJECT TRANSPORTATION ROUTE PRELIMINARY ROAD DESIGN		
DRAWING NUMBER	REV. NO.	SHEET
20092374-00-1-114	2	2

This Drawing is For The Use Of The Client And Project Indicated
No Representations Of Any Kind Are Made To Other Parties



SOIL TYPES	SOME ROCK OUTCROPS, SILT, SAND AND GRAVEL, LITTLE VEGETATION, SHALLOW GULLIES, STREAMS, LOW GROUND ICE		
CLEARING	sq. m		234,000
STRIPPING	cu. m		46,319
EXCAVATION	cu. m		122,216
EMBANKMENT	cu. m		65,640
BORROW	cu. m		0
SURFACING	cu. m		20,280
DESIGN SPEED	km/hr	70	50



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DATE: 08/08/2013 22:21:14 PM, Helem Yin

NO.	DATE	ENG.	BY	SUBJECT
2	2012/04/20		PS	UPDATED ALIGNMENT, PROFILE, QUANTITIES, AND BRIDGE CROSSINGS
1	2011/02/25		PS	UPDATED SOIL TYPES AND QUANTITIES
REVISIONS				

**PRELIMINARY
NOT FOR CONSTRUCTION**

BAR IS 20mm ON ORIGINAL DRAWING
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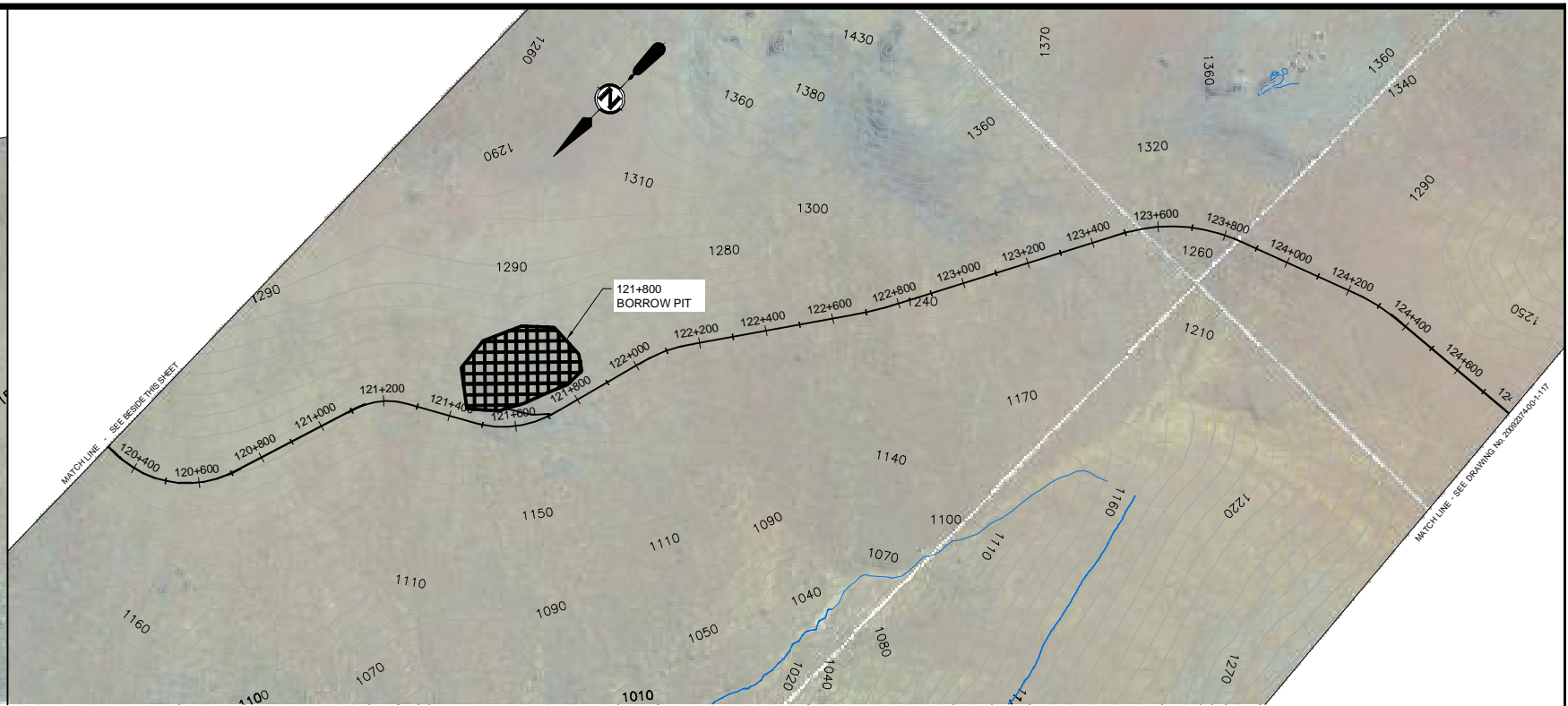
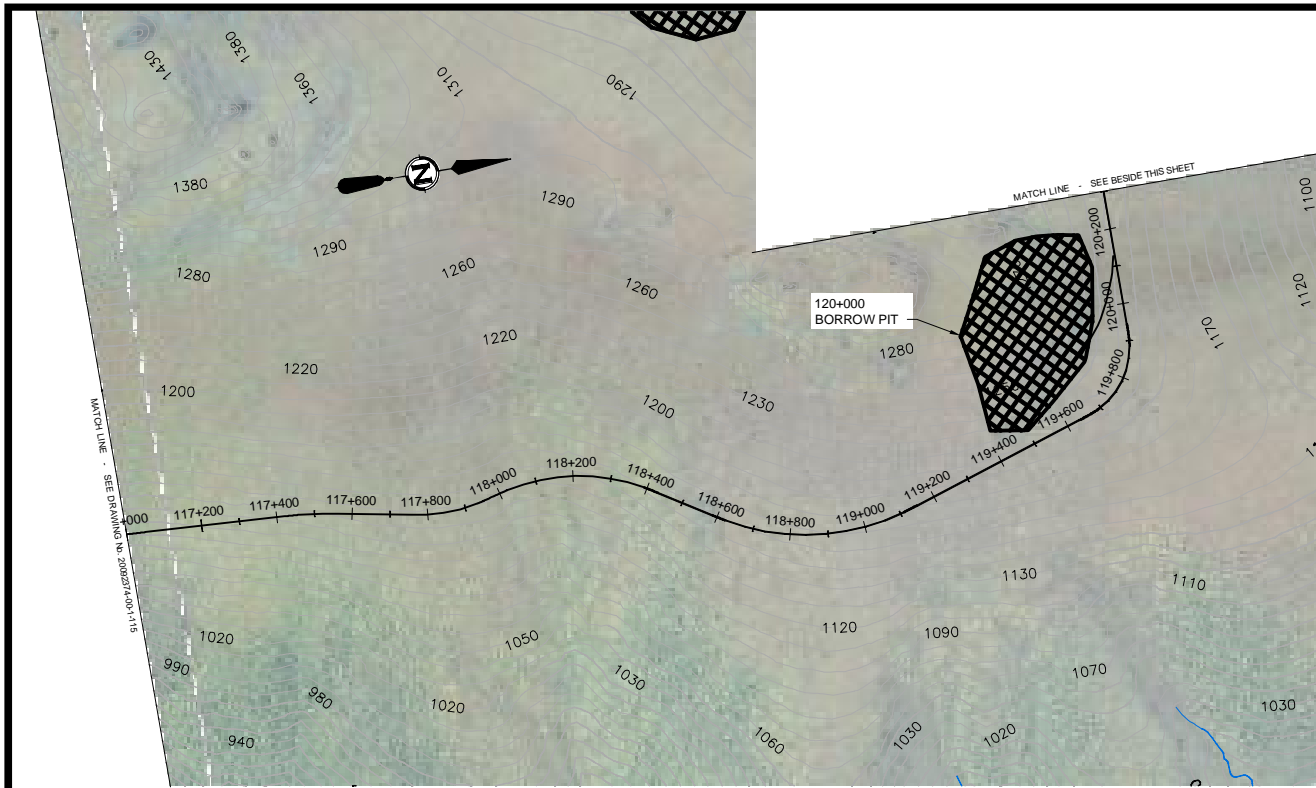
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SCALE	H=1:10,000, V=1:1,000
DRAWN	H. YIN
DESIGNED	P. STANCOMBE
CHECKED	R. KORPELA
APPROVED	
DATE	

WESTERN COPPER AND GOLD CORPORATION

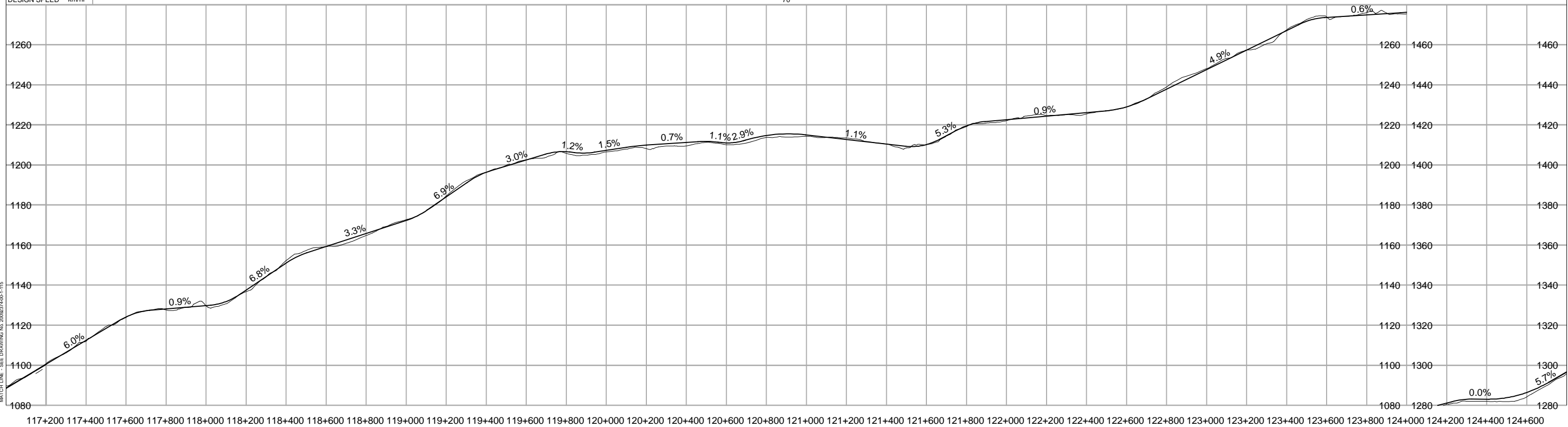
PLAN / PROFILE

CASINO MINE PROJECT TRANSPORTATION ROUTE PRELIMINARY ROAD DESIGN		
DRAWING NUMBER	REV. NO.	SHEET
20092374-00-1-115	2	

This Drawing is For The Use Of The Client And Project Indicated
No Representations Of Any Kind Are Made To Other Parties



SOIL TYPES		FINE MATERIAL OVER BROKEN ROCK AND VANEER, LARGE GULLIES, LOW GROUND ICE	FINE MATERIAL OVER BROKEN ROCK AND VANEER, ROCK OUTCROPS AND TORS, LOW GROUND ICE
CLEARING	sq. m	234,000	
STRIPPING	cu. m	42,130	
EXCAVATION	cu. m	58,949	
EMBANKMENT	cu. m	53,135	
BORROW	cu. m	0	
SURFACING	cu. m	20,280	
DESIGN SPEED	km/hr	70	



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NO.	DATE	ENG.	BY	SUBJECT
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1	2011/02/25	PS		UPDATED SOIL TYPES AND QUANTITIES

REVISIONS

**PRELIMINARY
NOT FOR CONSTRUCTION**

BAR IS 20mm ON ORIGINAL DRAWING
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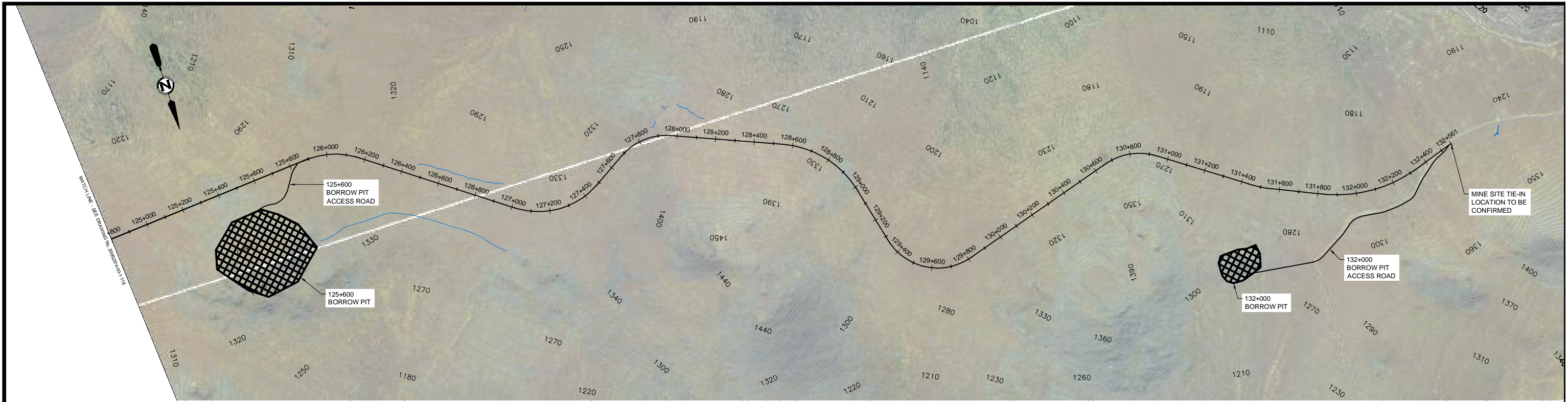
PROJECT No.	20092374
SCALE	H=1:10,000, V=1:1,000
DRAWN	H. YIN
DESIGNED	P. STANCOMBE
CHECKED	R. KORPELA
APPROVED	
DATE	

WESTERN COPPER AND GOLD CORPORATION

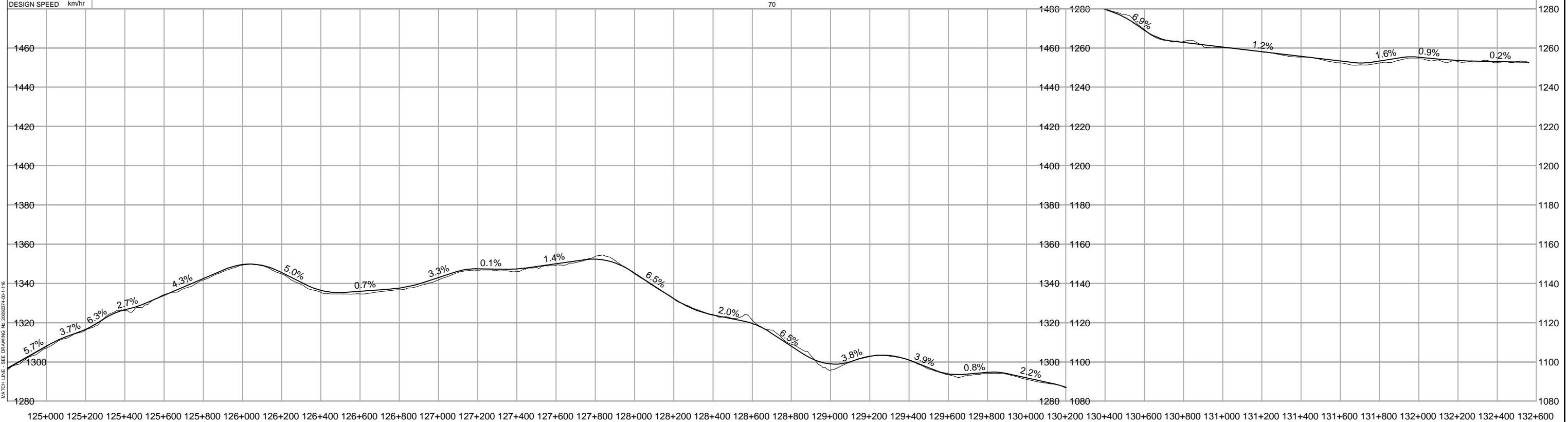
PLAN / PROFILE

CASINO MINE PROJECT TRANSPORTATION ROUTE PRELIMINARY ROAD DESIGN		
DRAWING NUMBER	REV. NO.	SHEET
20092374-00-1-116	2	

This Drawing is For The Use Of The Client And Project Indicated. No Representations Of Any Kind Are Made To Other Parties.



SOIL TYPES	ROCK APRONS, MODERATELY WELL DRAINED, LOW GROUND ICE	ROCK APRONS, TORS, SOME VEGETATION MODERATELY WELL DRAINED, LOW GROUND ICE
CLEARING	sq. m	234,290
STRIPPING	cu. m	39,414
EXCAVATION	cu. m	41,970
EMBANKMENT	cu. m	50,074
BORROW	cu. m	0
SURFACING	cu. m	20,305
DESIGN SPEED	km/hr	70



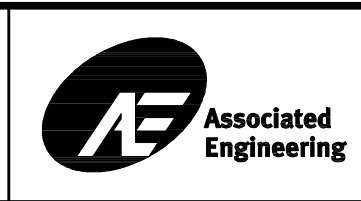
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NO.	DATE	ENG.	BY	SUBJECT
2	2012/04/20	PS		UPDATED ALIGNMENT, PROFILE, QUANTITIES, AND BRIDGE CROSSINGS
1	2011/02/25	PS		UPDATED SOIL TYPES AND QUANTITIES

REVISIONS

**PRELIMINARY
NOT FOR CONSTRUCTION**

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PROJECT No.	20092374
SCALE	H=1:10,000, V=1:1,000
DRAWN	H. YIN
DESIGNED	P. STANCOMBE
CHECKED	R. KORPELA
APPROVED	
DATE	

WESTERN COPPER AND GOLD CORPORATION

PLAN / PROFILE

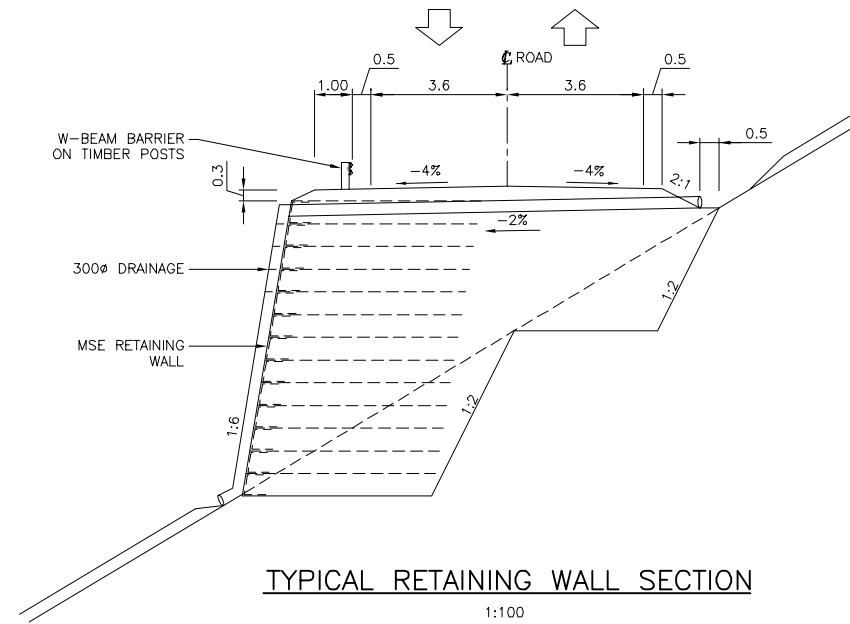
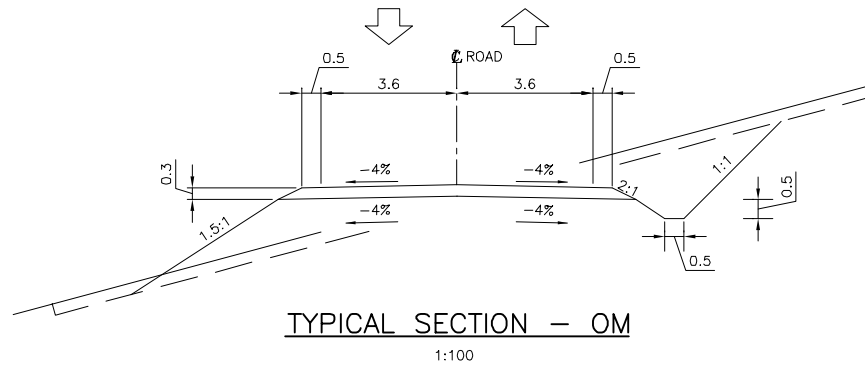
CASINO MINE PROJECT TRANSPORTATION ROUTE PRELIMINARY ROAD DESIGN		
DRAWING NUMBER	REV. NO.	SHEET
20092374-00-1-117	2	

This Drawing Is For The Use Of The Client And Project Indicated
No Representations Of Any Kind Are Made To Other Parties

ROADWAY DESIGN CRITERIA

70 km/hr

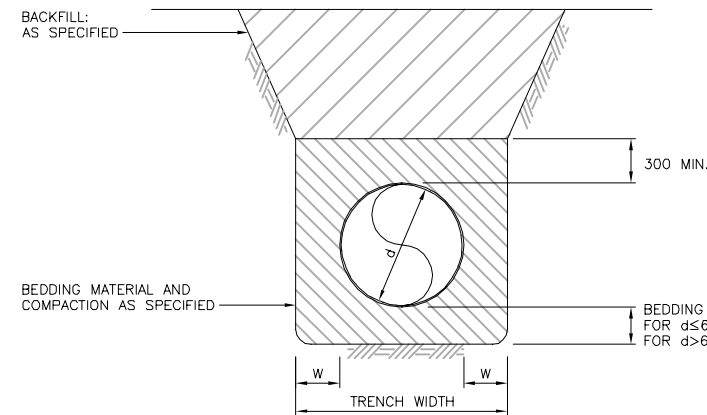
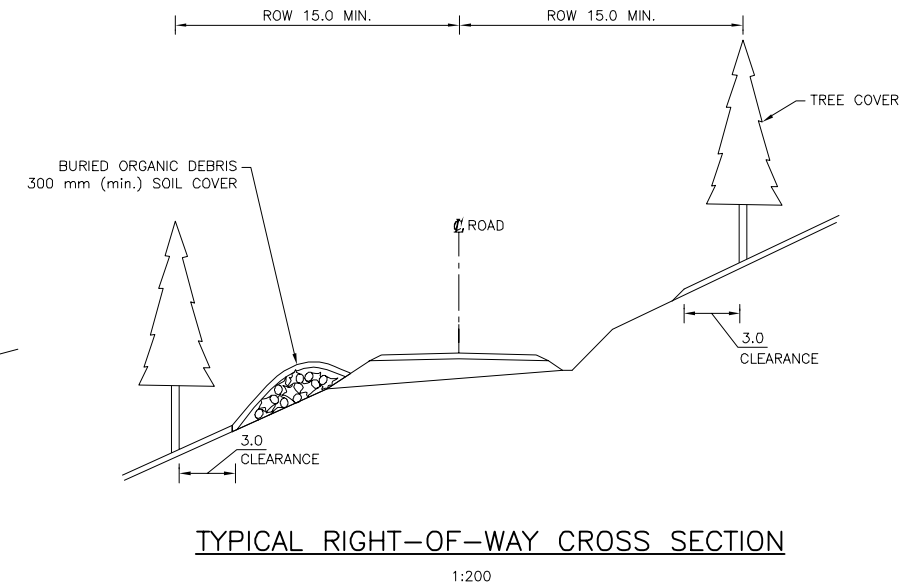
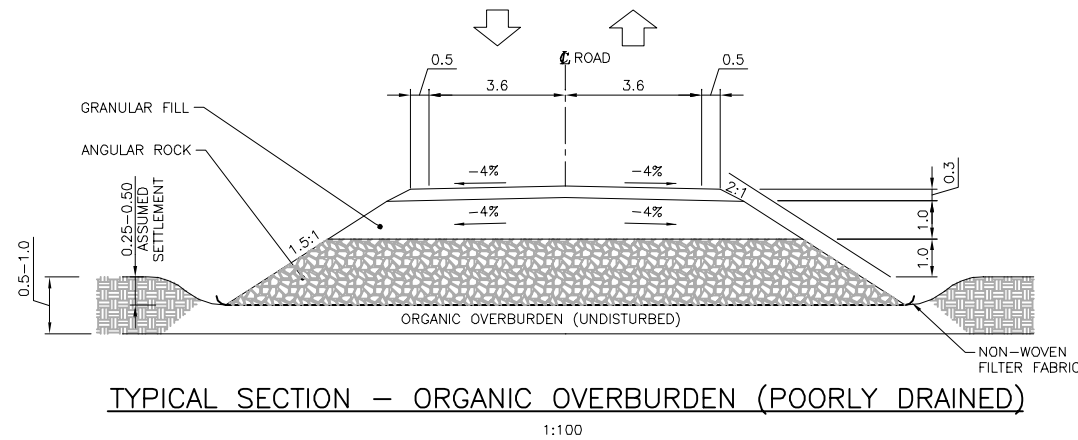
ROAD CLASSIFICATION	RLU 70
POSTED SPEED	70 km/hr
DESIGN SPEED	70 km/hr
DESIGN VEHICLE	BT0
BASIC LANES	2
MINIMUM RADIUS	200 m
MINIMUM K-FACTORS - SAG	25 (HEADLIGHT)
MINIMUM K-FACTORS - CREST	30 (TAIL LIGHT)
MINIMUM STOPPING SIGHT DISTANCE	110.8 m
MAXIMUM GRADE	6% (8% FOR < 100 m)
MAXIMUM SUPERELEVATION	4%
CROSS SLOPE	4%
LANE WIDTH	3.6 m to 4.6 m
SHOULDER WIDTH	0.5 m
CLEAR ZONE	0 m
CLEARED RIGHT-OF-WAY	30 m



ROADWAY DESIGN CRITERIA

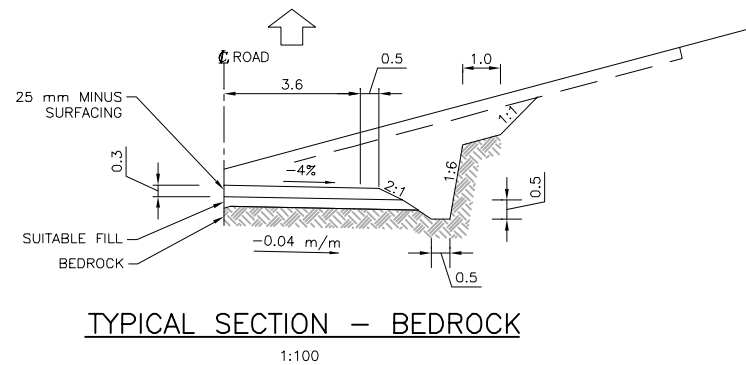
50 km/hr

ROAD CLASSIFICATION	RLU 50
POSTED SPEED	50 km/hr
DESIGN SPEED	50 km/hr
DESIGN VEHICLE	BT0
BASIC LANES	2
MINIMUM RADIUS	100 m
MINIMUM K-FACTORS - SAG	12 (HEADLIGHT)
MINIMUM K-FACTORS - CREST	12 (TAIL LIGHT)
MINIMUM STOPPING SIGHT DISTANCE	62.8 m
MAXIMUM GRADE	8% (10% FOR < 100 m)
MAXIMUM SUPERELEVATION	4%
CROSS SLOPE	4%
LANE WIDTH	3.6 m to 4.1 m
SHOULDER WIDTH	0.5 m
CLEAR ZONE	0 m
CLEARED RIGHT-OF-WAY	30 m



NOTE:

1. d=OUTSIDE DIAMETER OF THE PIPE BELL AT ITS LARGEST SECTION.
2. REFER TO SPECIFICATIONS FOR DEFINITION OF FILL TYPES.
3. REFER TO SPECIFICATIONS FOR DEGREE OF COMPACTION.
4. "W" SAME ON EITHER SIDE OF PIPE.
5. WIDEN TRENCH WIDTH AND DEPTH AS REQUIRED AT PIPE JOINTS TO FACILITATE WELDING OPERATIONS.



TYPICAL CULVERT BEDDING DETAIL

NTS

PRELIMINARY
NOT FOR CONSTRUCTION

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0 20mm
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PROJECT No.	20092374
SCALE	AS SHOWN
DRAWN	E. JOHNSON
DESIGNED	P. STANCOMBE
CHECKED	R. KORPELA
APPROVED	
DATE	

WESTERN COPPER AND GOLD CORPORATION

ROAD DESIGN CRITERIA

**CASINO MINE PROJECT
TRANSPORTATION ROUTE
PRELIMINARY ROAD DESIGN**

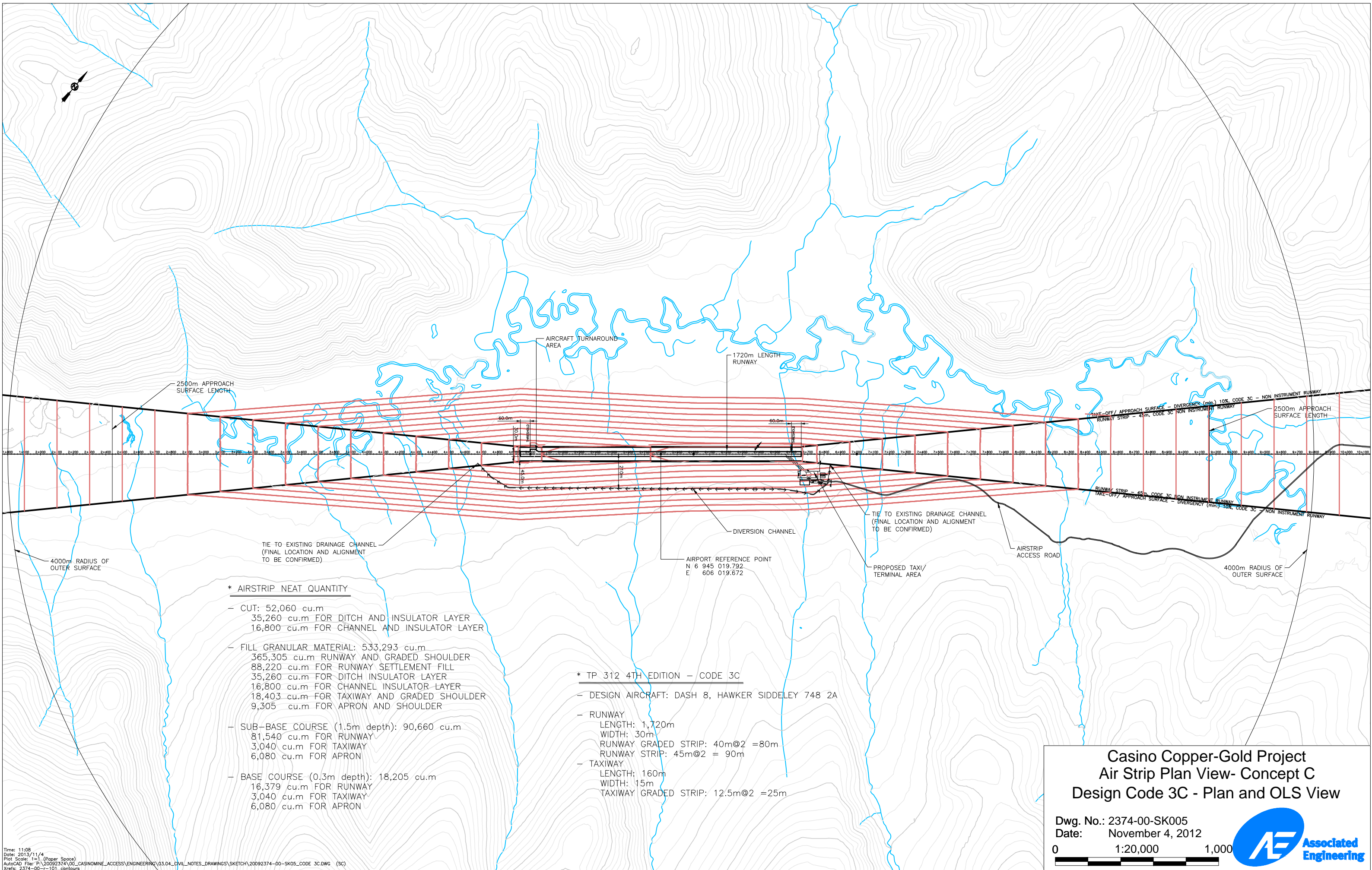
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DATE: 6/4/2012 2:28:59 PM, Heem, YN

NO.	DATE	ENG.	BY	SUBJECT
1	2011/02/25	PS		UPDATED ASSUMED ORGANICS THICKNESS AND SETTLEMENT DEPTHS
REVISIONS				

REPORT

Appendix D - Preliminary Airstrip Design



*** AIRSTRIP NEAT QUANTITY**

- CUT: 52,060 cu.m
 35,260 cu.m FOR DITCH AND INSULATOR LAYER
 16,800 cu.m FOR CHANNEL AND INSULATOR LAYER
- FILL GRANULAR MATERIAL: 533,293 cu.m
 365,305 cu.m RUNWAY AND GRADED SHOULDER
 88,220 cu.m FOR RUNWAY SETTLEMENT FILL
 35,260 cu.m FOR DITCH INSULATOR LAYER
 16,800 cu.m FOR CHANNEL INSULATOR LAYER
 18,403 cu.m FOR TAXIWAY AND GRADED SHOULDER
 9,305 cu.m FOR APRON AND SHOULDER
- SUB-BASE COURSE (1.5m depth): 90,660 cu.m
 81,540 cu.m FOR RUNWAY
 3,040 cu.m FOR TAXIWAY
 6,080 cu.m FOR APRON
- BASE COURSE (0.3m depth): 18,205 cu.m
 16,379 cu.m FOR RUNWAY
 3,040 cu.m FOR TAXIWAY
 6,080 cu.m FOR APRON


*** TP 312 4TH EDITION - CODE 3C**

- DESIGN AIRCRAFT: DASH 8, HAWKER SIDDELEY 748 2A
- RUNWAY
 LENGTH: 1,720m
 WIDTH: 30m
 RUNWAY GRADED STRIP: 40m@2 = 80m
 RUNWAY STRIP: 45m@2 = 90m
- TAXIWAY
 LENGTH: 160m
 WIDTH: 15m
 TAXIWAY GRADED STRIP: 12.5m@2 = 25m

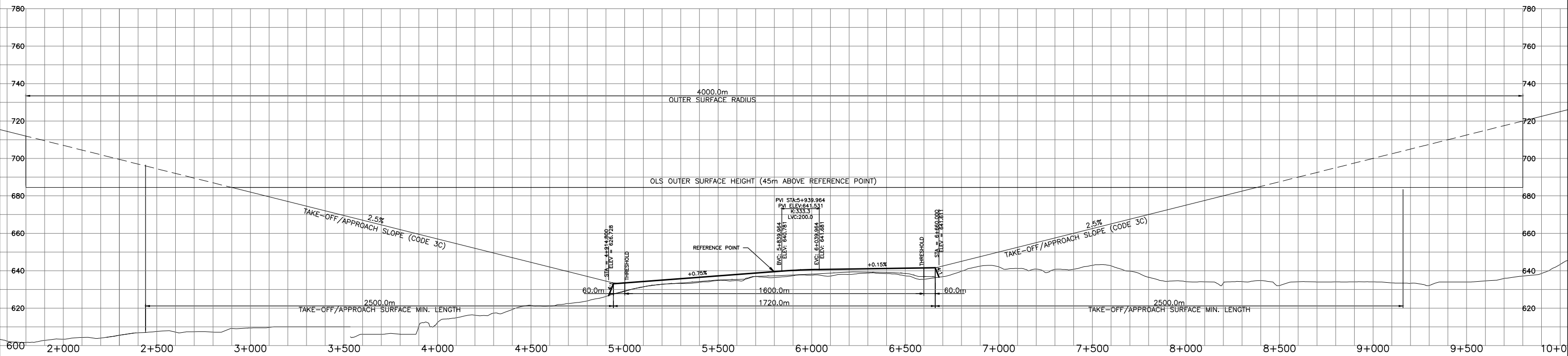
Casino Copper-Gold Project
Air Strip Plan View- Concept C
Design Code 3C - Plan and OLS View

Dwg. No.: 2374-00-SK005
 Date: November 4, 2012

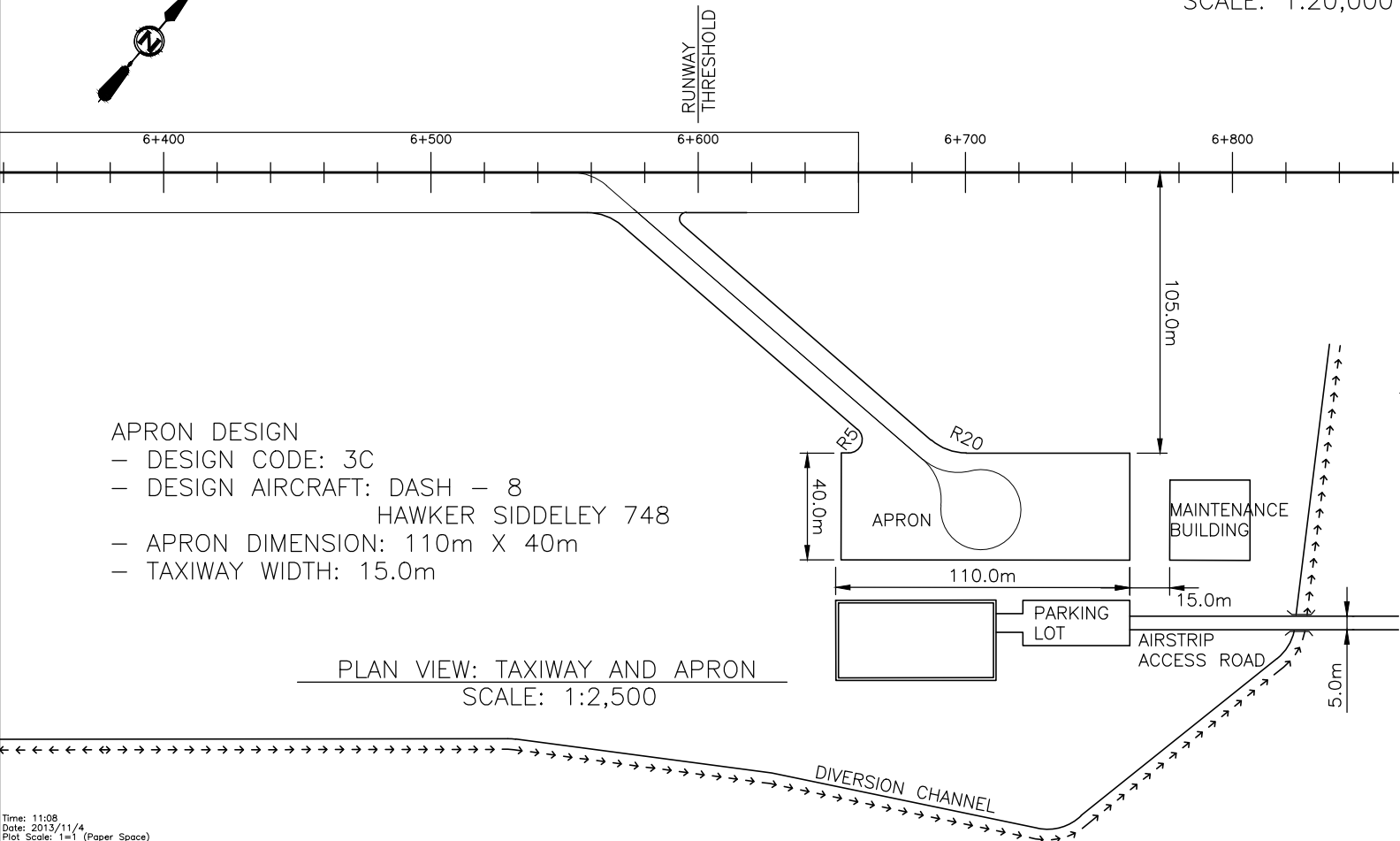
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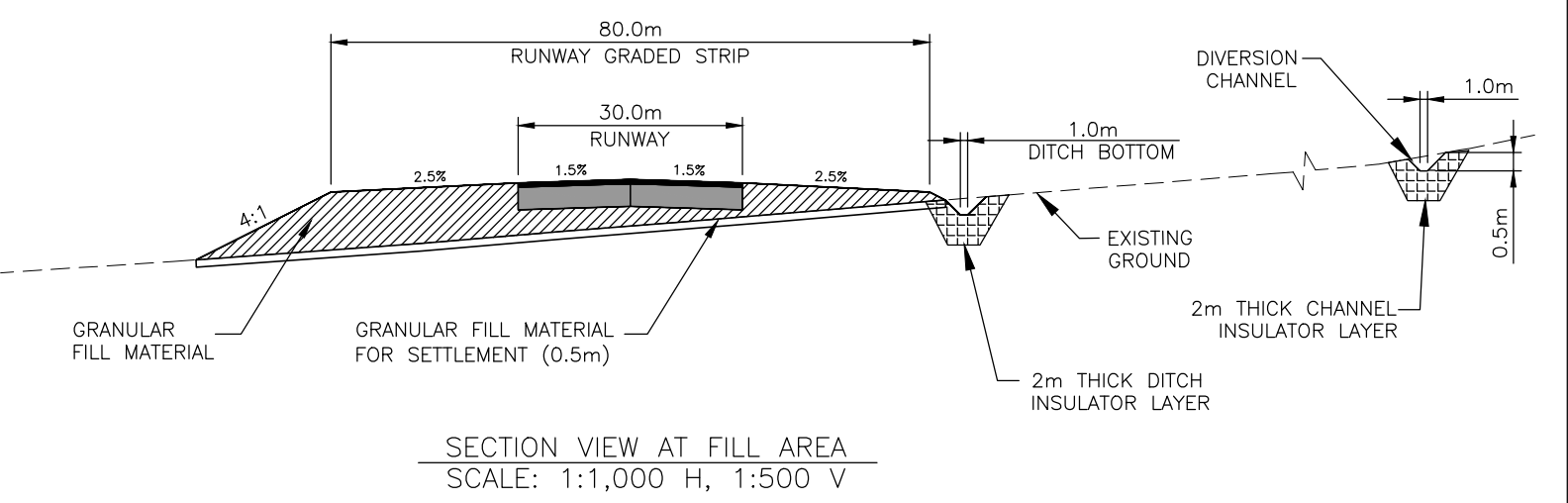


RUNWAY PROFILE AND OBSTACLE LIMITATION SURFACE
SCALE: 1:20,000 H, 1:2,000 V



PLAN VIEW: TAXIWAY AND APRON
SCALE: 1:2,500

- APRON DESIGN
- DESIGN CODE: 3C
 - DESIGN AIRCRAFT: DASH - 8
HAWKER SIDDELEY 748
 - APRON DIMENSION: 110m X 40m
 - TAXIWAY WIDTH: 15.0m



SECTION VIEW AT FILL AREA
SCALE: 1:1,000 H, 1:500 V

- RUNWAY PAVEMENT STRUCTURE:
- CRUSHED BASE COURSE: 300mm
 - GRANULAR SUB BASE COURSE: 1,500mm

Casino Copper-Gold Project
Air Strip Plan View- Concept C
Design Code 3C - Profile and OLS View

Dwg. No.: 2374-00-SK006
Date: November 4, 2013
Scale: As Shown



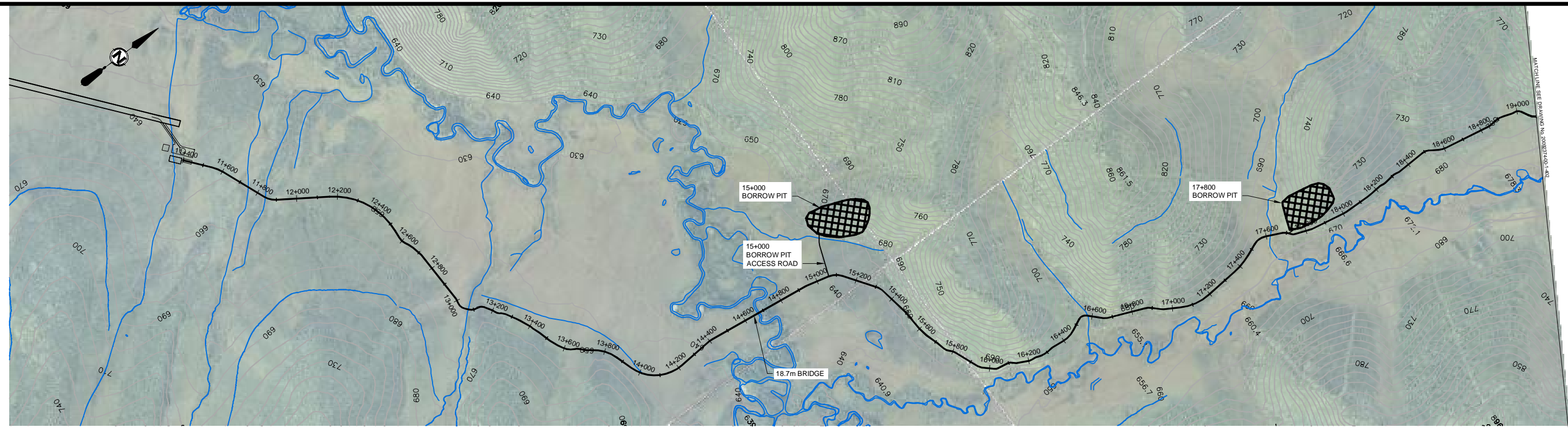
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Xrefs: 2374-00-r-101_contours

REPORT

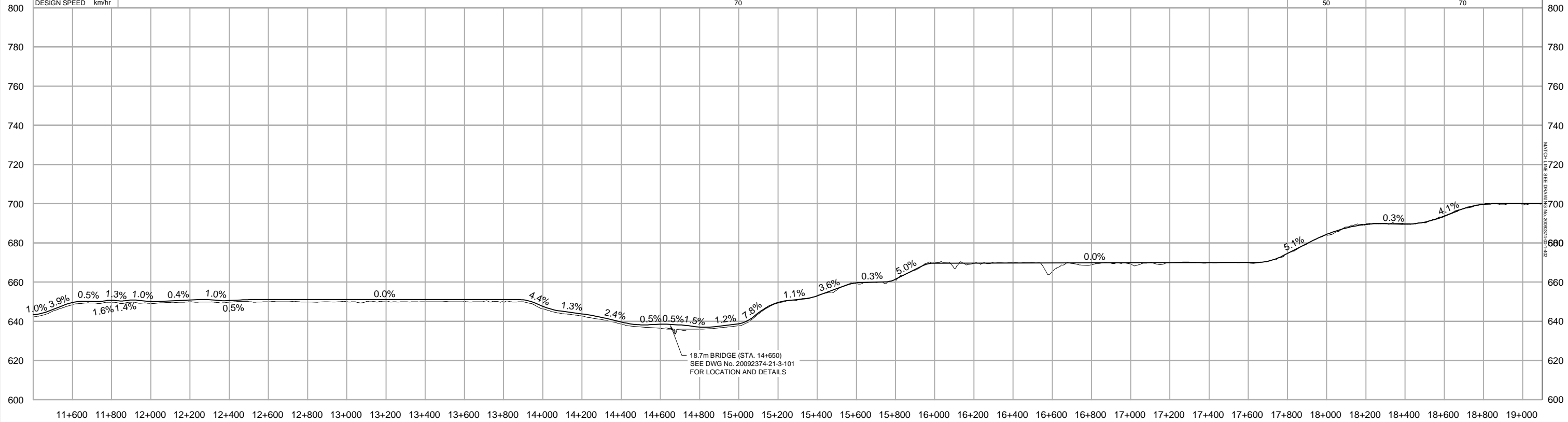
Appendix E - Preliminary Airstrip Access Road Design



This Drawing is For The Use Of The Client And Project Indicated
No Representations Of Any Kind Are Made To Other Parties



SOIL TYPES		MOSTLY SAND AND GRAVEL, WELL DRAINED, LIMITED GROUND ICE	SOME ORGANIC COVER, LIMITED GROUND ICE
CLEARING	sq. m	154,000	
STRIPPING	cu. m	14,814	
EXCAVATION	cu. m	13,332	
EMBANKMENT	cu. m	53,908	
BORROW	cu. m	41,789	
SURFACING	cu. m	12,588	
DESIGN SPEED	km/hr	70	50



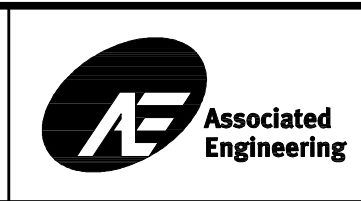
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DATE: 06/16/2013 3:32:16 PM, Helem Yin

NO.	DATE	ENG.	BY	SUBJECT
1	2012/04/20	PS		AIRSTRIPE ACCESS ALIGNMENT AND PROFILE
REVISIONS				

**PRELIMINARY
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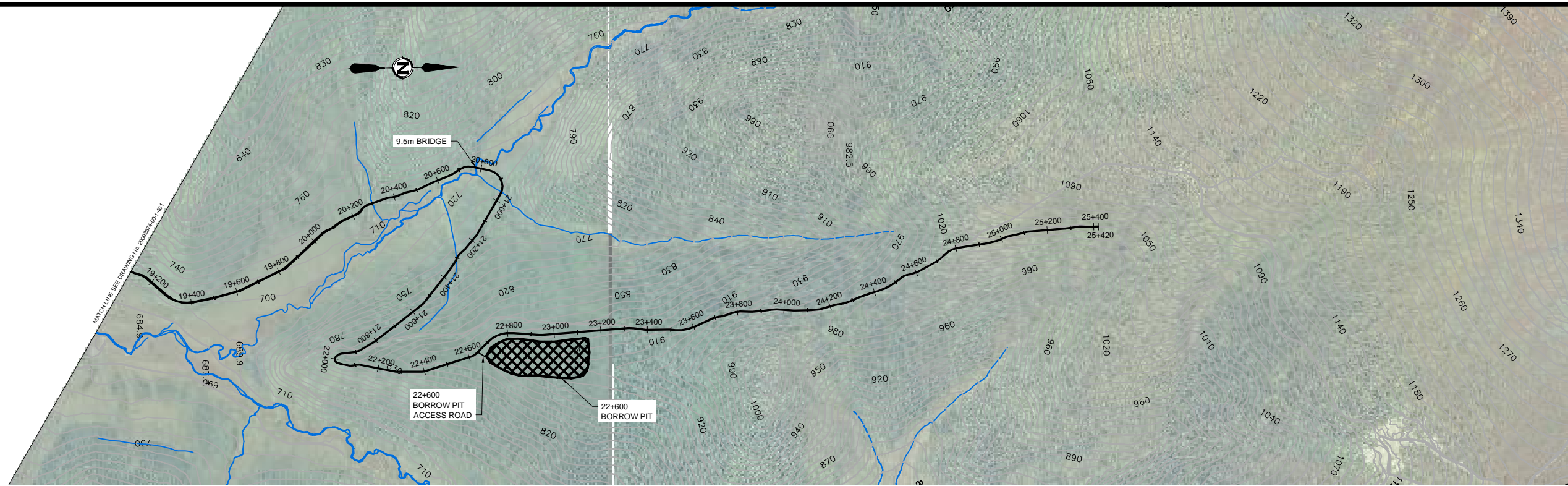
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SCALE	H=1:10,000, V=1:1,000
DRAWN	H. YIN
DESIGNED	P. STANCOMBE
CHECKED	R. KORPELA
APPROVED	
DATE	

WESTERN COPPER AND GOLD CORPORATION

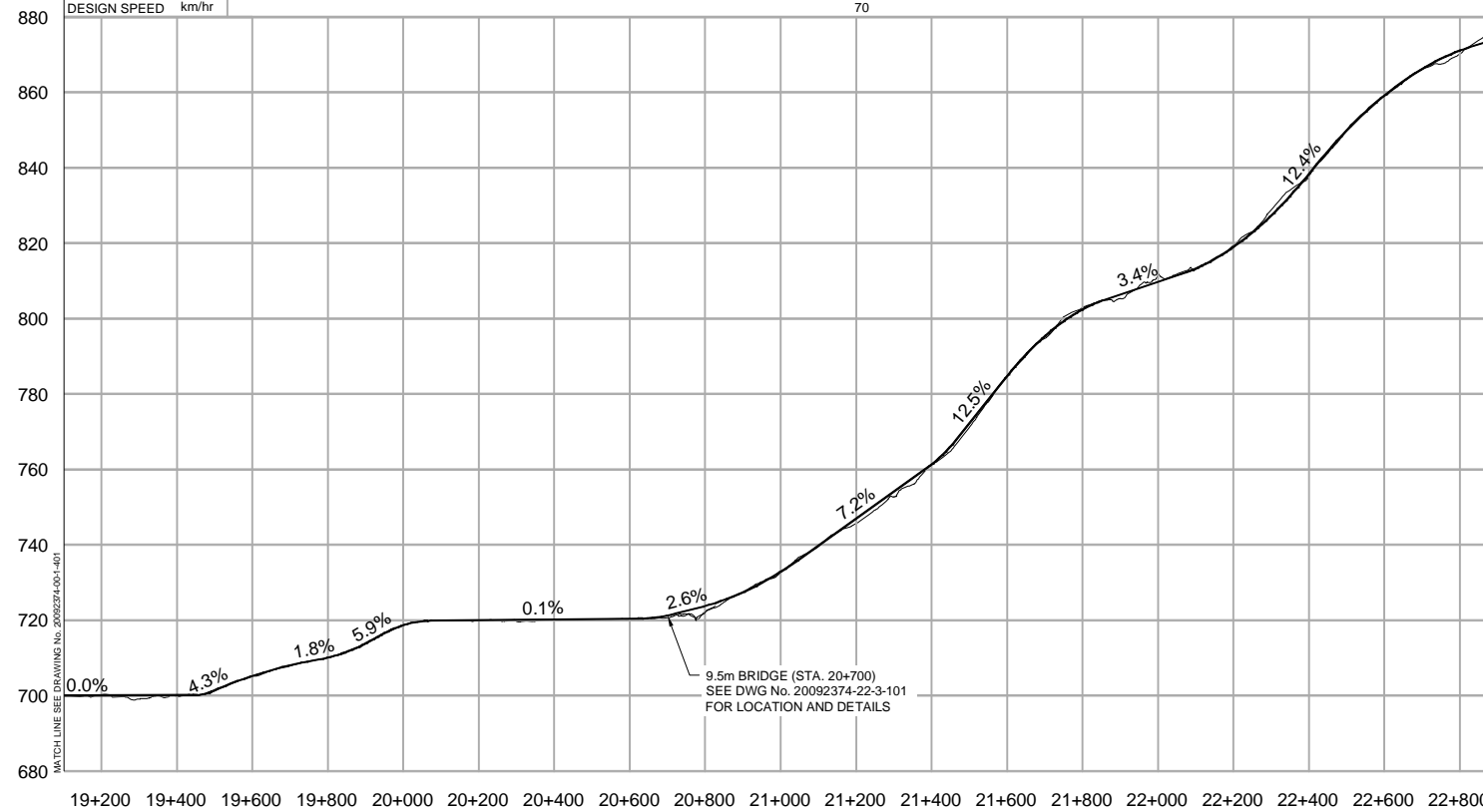
AIRSTRIPE ACCESS PLAN AND PROFILE
1 OF 2

CASINO MINE PROJECT TRANSPORTATION ROUTE PRELIMINARY ROAD DESIGN		
DRAWING NUMBER	REV. NO.	SHEET
20092374-00-1-401	1	

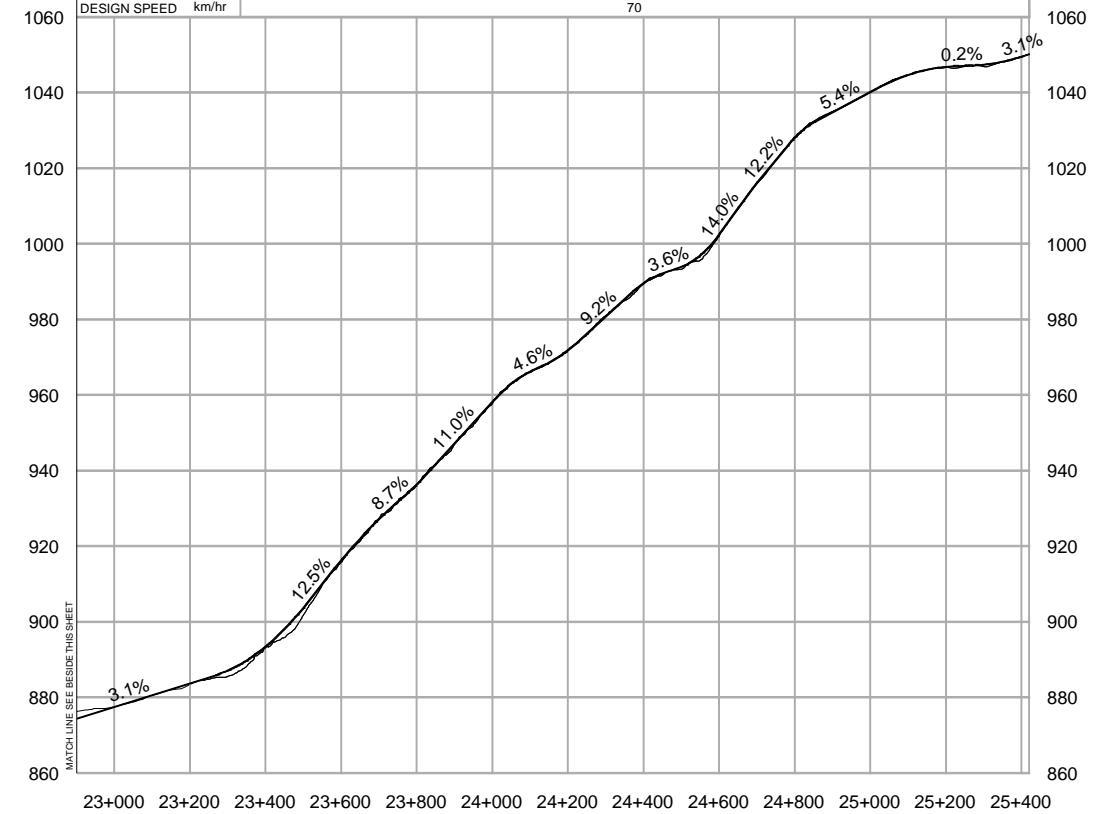
This Drawing is For The Use Of The Client And Project Indicated. No Representations Of Any Kind Are Made To Other Parties.



SOIL TYPES		MOSTLY SAND AND GRAVEL, WELL DRAINED, LIMITED GROUND ICE
CLEARING	sq. m	76,000
STRIPPING	cu. m	14,087
EXCAVATION	cu. m	15,359
EMBANKMENT	cu. m	13,838
BORROW	cu. m	0
SURFACING	cu. m	6,228
DESIGN SPEED	km/hr	70



SOIL TYPES		MOSTLY SAND AND GRAVEL, WELL DRAINED, LIMITED GROUND ICE
CLEARING	sq. m	50,400
STRIPPING	cu. m	8,209
EXCAVATION	cu. m	6,555
EMBANKMENT	cu. m	7,487
BORROW	cu. m	0
SURFACING	cu. m	4,130
DESIGN SPEED	km/hr	70



D:\20092374\00_CasinoMine_Access\Working_Dwg\100_CVA\20092374-00-1-401-402.dwg
DATE: 16/04/2012 3:32:16 PM, Hebin Yin

NO.	DATE	ENG.	BY	SUBJECT
1	2012/04/20	PS		AIRSTrip ACCESS ALIGNMENT AND PROFILE
REVISIONS				

**PRELIMINARY
NOT FOR CONSTRUCTION**

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PROJECT No.	20092374
SCALE	H=1:10,000, V=1:1,000
DRAWN	H. YIN
DESIGNED	P. STANCOMBE
CHECKED	R. KORPELA
APPROVED	
DATE	

WESTERN COPPER AND GOLD CORPORATION

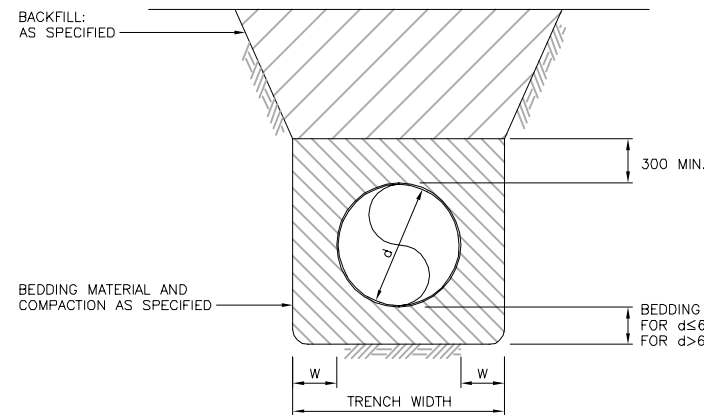
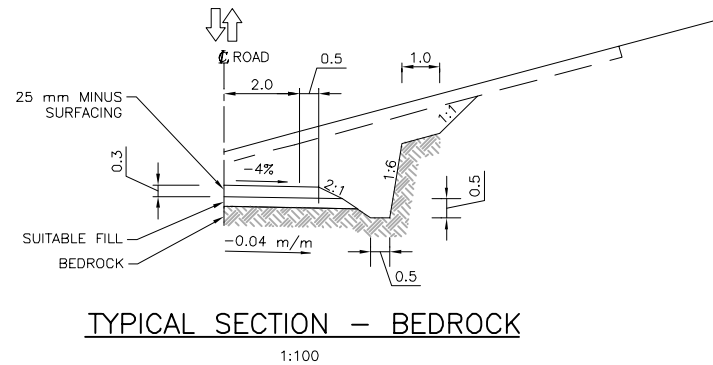
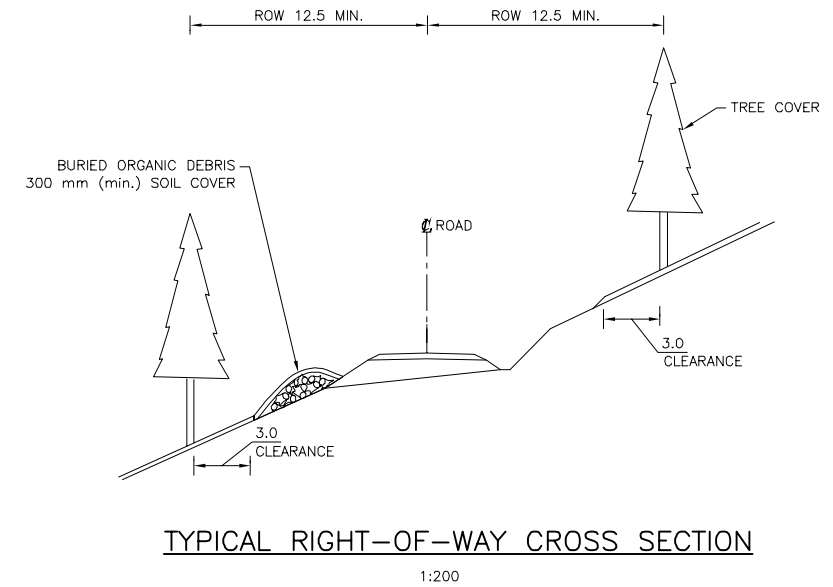
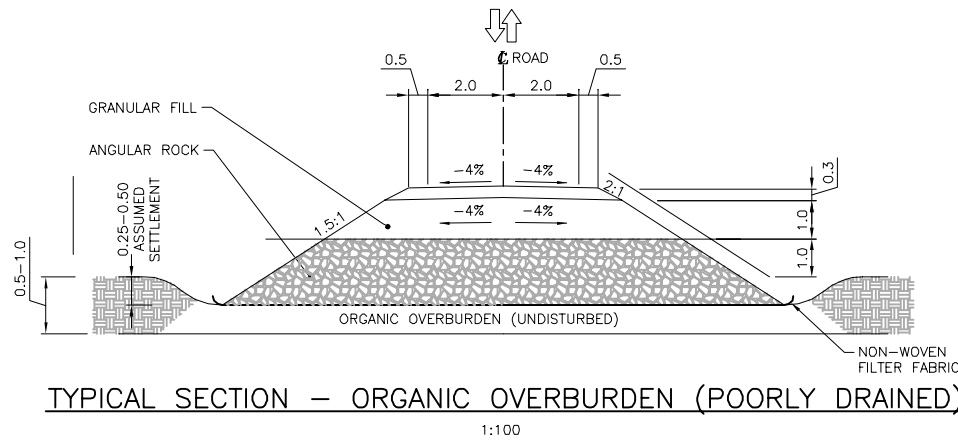
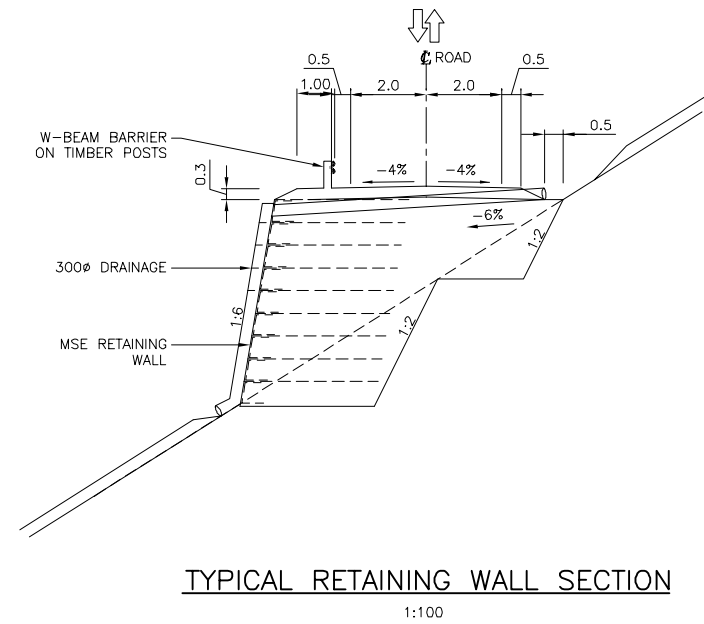
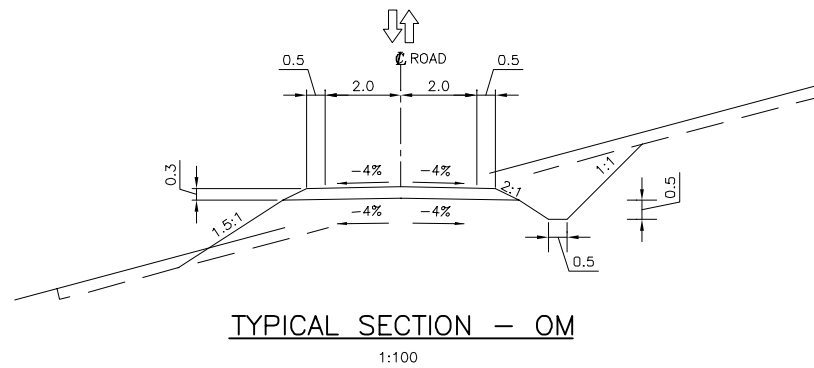
AIRSTrip ACCESS
PLAN AND PROFILE
2 OF 2

CASINO MINE PROJECT TRANSPORTATION ROUTE PRELIMINARY ROAD DESIGN		
DRAWING NUMBER	REV. NO.	SHEET
20092374-00-1-402	1	

This Drawing Is For The Use Of The Client And Project Indicated
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ROADWAY DESIGN CRITERIA 30 km/hr

ROAD CLASSIFICATION	RLU 30
POSTED SPEED	30 km/hr
DESIGN SPEED	30 km/hr
DESIGN VEHICLE	BUS
BASIC LANES	1
MINIMUM RADIUS	35 m
MINIMUM K-FACTORS - SAG	5 (HEADLIGHT)
MINIMUM K-FACTORS - CREST	5 (TAIL LIGHT)
MINIMUM STOPPING SIGHT DISTANCE	65 m
MAXIMUM GRADE	12% (14% FOR < 100 m)
MAXIMUM SUPERELEVATION	4%
CROSS SLOPE	4%
LANE WIDTH	4.0 m
SHOULDER WIDTH	0.5 m
CLEAR ZONE	0 m
CLEARED RIGHT-OF-WAY	25.0 m



NOTE:

1. d = OUTSIDE DIAMETER OF THE PIPE BELL AT ITS LARGEST SECTION.
2. REFER TO SPECIFICATIONS FOR DEFINITION OF FILL TYPES.
3. REFER TO SPECIFICATIONS FOR DEGREE OF COMPACTION.
4. "W" SAME ON EITHER SIDE OF PIPE.
5. WIDEN TRENCH WIDTH AND DEPTH AS REQUIRED AT PIPE JOINTS TO FACILITATE WELDING OPERATIONS.

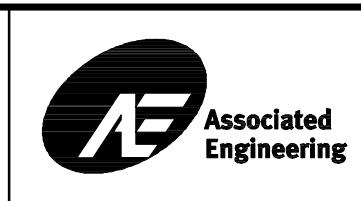
TYPICAL CULVERT BEDDING DETAIL
NTS

P:\20092374\0_Civil\Drawings\Roadway\100_Civil\20092374-00-1-403.dwg
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NO.	DATE	ENG.	BY	SUBJECT
REVISIONS				

**PRELIMINARY
NOT FOR CONSTRUCTION**

BAR IS 20mm ON ORIGINAL DRAWING
0 20mm
IF NOT 20mm ON THIS SHEET, ADJUST SCALES ACCORDINGLY



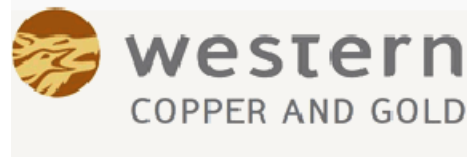
PROJECT No.	20092374
SCALE	AS SHOWN
DRAWN	E. JOHNSON
DESIGNED	P. STANCOMBE
CHECKED	R. KORPELA
APPROVED	
DATE	

WESTERN COPPER AND GOLD CORPORATION

AIRSTRIPE ACCESS
ROAD DESIGN CRITERIA

CASINO MINE PROJECT TRANSPORTATION ROUTE PRELIMINARY ROAD DESIGN		
DRAWING NUMBER	REV. NO.	SHEET
20092374-00-1-403	0	

Appendix F - Conceptual Bridge Designs



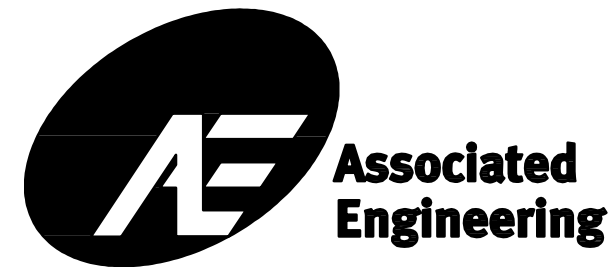
WESTERN COPPER AND GOLD CORPORATION

CASINO MINE ACCESS

DRAWING LIST			
DRAWING NUMBER	DESCRIPTION	REV.	DATE
20092374-02-3-111	GENERAL NOTES - SHEET 1	1	2012/09/04
20092374-02-3-112	GENERAL NOTES - SHEET 2	0	2012/02/20

GENERAL NOTES

AE Project Number: 20092374-02



*GLOBAL PERSPECTIVE.
LOCAL FOCUS.*

DRAWING NUMBER	REV. NO.	SHEET
20092374-02-3-110	1	1

This Drawing Is For The Use Of The Client And Project Indicated. No Representations Of Any Kind Are Made To Other Parties.

GENERAL

- FOR INSTALLATION BY OTHERS; NO RESPONSIBILITY CAN BE ACCEPTED FOR WORK BY OTHERS.
- THE PROVISION OF FABRICATION AND FIELD INSPECTION SERVICES OF THIS BRIDGE/CULVERT IS NOT INCLUDED IN SCOPE OF SERVICES BEING PROVIDED BY ASSOCIATED ENGINEERING (B.C.) LTD.
- DESIGN AND CONSTRUCTION TO CONFORM TO THE MINISTRY'S "FOREST SERVICE BRIDGE DESIGN AND CONSTRUCTION MANUAL" 1999 AND THE "FOREST ROAD ENGINEERING GUIDEBOOK" 2002.
- THE ENGINEERING SEAL APPLIED TO THIS DRAWING REFERS TO THE PREPARATION OF THE CONCEPTUAL DESIGN ONLY. DETAILED DESIGN UNDER A SEPARATE SEAL IS REQUIRED TO COMPLETE THIS ASSIGNMENT.
- ANY DESIGN CHANGES PROPOSED DURING CONSTRUCTION SHALL REQUIRE PRIOR WRITTEN APPROVAL FROM THE COORDINATING REGISTERED PROFESSIONAL.

GEOTECHNICAL

- GEOTECHNICAL ENGINEERING AND TERRAIN STABILITY FIELD ASSESSMENTS ARE NOT INCLUDED WITHIN THE SCOPE OF SERVICES BEING PROVIDED BY ASSOCIATED ENGINEERING (B.C.) LTD. THEREFORE THIS DESIGN HAS BEEN PREPARED WITHOUT THE BENEFIT OF GEOTECHNICAL FIELD INVESTIGATION OR TERRAIN STABILITY FIELD ASSESSMENT ADVICE. GROUND CONDITIONS MAY VARY. THE APPROACH ROAD AND BRIDGE CONCEPT MAY NEED TO BE MODIFIED TO ACCOMMODATE ACTUAL SITE CONDITIONS ENCOUNTERED DURING CONSTRUCTION. ASSOCIATED ENGINEERING (B.C.) LTD. ACCEPTS NO LIABILITY OR RESPONSIBILITY FOR DELAY OR ADDITIONAL COSTS THAT MAY RESULT IF GROUND CONDITIONS VARY FROM THOSE ASSUMED OR THE SUBSEQUENT FAILURE OF THE ROAD EMBANKMENT, BRIDGE EMBANKMENT AND BRIDGE FOUNDATIONS DUE TO UNFORSEEN GROUND CONDITIONS. PLEASE CONTACT ASSOCIATED ENGINEERING (B.C.) LTD. IF GEOTECHNICAL DATA OR A TERRAIN STABILITY FIELD ASSESSMENT AND RECOMMENDATIONS ARE AVAILABLE FOR THIS BRIDGE CROSSING OR IF THE OWNER WISHES TO EXPAND THE ENGINEERING SERVICES TO INCORPORATE THIS EXTRA WORK.

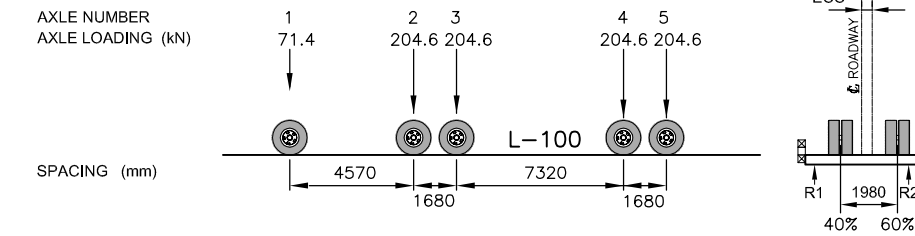
HYDROLOGY AND HYDRAULIC ASSESSMENT

- HYDRAULIC ANALYSIS BASED ON CHANNEL CONDITIONS ON DATE OF SURVEY. HYDRAULIC CONDITIONS COULD VARY OVER TIME.
- ALTHOUGH ADEQUATE CLEARANCE HAS BEEN PROVIDED TO CONVEY THE DESIGN FLOOD, THE FREEBOARD ALLOWANCE MAY NOT BE SUFFICIENT TO CONVEY A DEBRIS FLOW/FLOATING DEBRIS/ICE FLOW EVENT. THEREFORE, A FUTURE DEBRIS FLOW/FLOATING DEBRIS/ICE FLOW MAY RESULT IN DAMAGE TO, OR FAILURE OF THE STRUCTURE. TERRAIN ANALYSIS AND ASSESSMENT OF POTENTIAL DEBRIS FLOWS/FLOATING DEBRIS/ICE FLOWS FROM THE UPPER REACHES OF THE CATCHMENT ARE OUTSIDE OF THE SCOPE OF THIS CONCEPTUAL DESIGN.
- FREEBOARD HEIGHT REQUIREMENT SHOWN REFERS TO UPSTREAM FACE OF BRIDGE.
- THE EXTENT OF THE RIP RAP IS BASED ON AVAILABLE INFORMATION. THE EXTENTS SHOULD BE ADJUSTED IN THE FIELD TO ENSURE ADEQUATE SCOUR PROTECTION IS PROVIDED TO THE BRIDGE SUBSTRUCTURE AND ABUTMENTS.

BRIDGE DESIGN

- CONFORM TO CAN/CSA-S6-06 (MODIFIED) AND THE MINISTRY'S, "FOREST SERVICE BRIDGE DESIGN AND CONSTRUCTION MANUAL", 1999.
- ALL BRIDGE COMPONENTS SHALL GENERALLY CONFORM TO THE MINISTRY'S STANDARD DRAWINGS UNLESS APPROVED BY THE OWNER.
- LOADING: L-100 (BCFS L100) (90 680 KG G.V.W.) ECCENTRICITY IN ACCORDANCE WITH "FOREST SERVICE BRIDGE DESIGN AND CONSTRUCTION MANUAL", 1999.
- FATIGUE: DESIGN TO BE COMPLETED IN ACCORDANCE WITH CAN/CSA-S6-06 - 500,000 CYCLES.

DESIGN TRUCK:



- GIRDERS TO BE FABRICATED AS FRACTURE CRITICAL COMPONENTS IN ACCORDANCE WITH:
CAN/CSA-S6-06
CSA W59
FOREST SERVICE BRIDGE DESIGN AND CONSTRUCTION MANUAL

MATERIALS

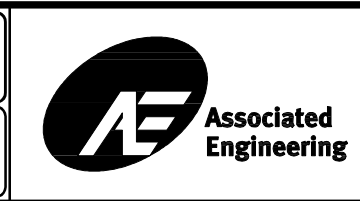
- STEEL: TO CSA G40.21M
PLATE: GRADE 350AT CAT 3 PLATE (FOR STEEL GIRDERS)
GRADE 350A (OTHER STRUCTURAL STEEL)
SECTIONS: GRADE 350A
COLUMN BRACING : GRADE 300W
- PIPE: ASTM A252 GRADE 2 OR BETTER
- STRUCTURAL BOLTS: ASTM A325 TYPE 3 M22 U.N. INSTALLED IN ACCORDANCE WITH CAN/CSA-S6-06
- ANCHOR BOLTS: ASTM A193 TYPE B7 THREADED ROD
- STUDS: ASTM A108 GRADE 1015, 1018, 1020
- STEEL FABRICATION: ALL WELDS TO BE COMPLETED IN ACCORDANCE WITH CSA W59.
ALL BUTT WELDS TO BE INSPECTED BY ULTRASONIC EXAMINATION IN ACCORDANCE WITH CSA W59.
FABRICATOR TO BE CERTIFIED FOR DIVISION 1 OR 2 IN ACCORDANCE WITH CSA W47.1
MIN. 6mm FILLET WELD UNLESS OTHERWISE NOTED.
FIELD WELDING BY COMPANY CERTIFIED TO CSA W47.1, DIVISIONS 1, 2 OR 3.
- PAINTING: COAT STEEL SUBSTRUCTURE WITH ONE COAT BITUMINOUS PAINT PRIOR TO BACKFILLING.
- GALVANIZING: HARDWARE TO BE GALVANIZED TO CSA G164 AS NOTED ON DRAWINGS
- REINFORCING: TO CAN/CSA G30.18M GRADE 400R
- PRECAST CONCRETE: CSA A23.1 EXPOSURE CLASS C1, $f_c = 35$ MPA AT 28 DAYS.
CHAMFER ALL CORNERS 20x20 U.N.O.
PRECAST CONCRETE TO BE FABRICATED IN ACCORDANCE WITH CSA A23.4 BY CSA CERTIFIED PLANT
- GROUT: GROUT MIN $f_c = 35$ MPA AT 28 DAYS TO BE INSTALLED ACCORDING TO MANUFACTURERS INSTRUCTIONS
- BEARINGS: TO CAN/CSA-S6-06: OZONE RESISTING NATURAL RUBBER, (NATURAL POLYISOPRENE)
- TIMBER: TIMBER CURBS: ANY SPECIES, ROUGH SAWN NO. 2 OR BETTER, UNTREATED

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NO.	DATE	ENG.	BY	SUBJECT
0	2013/09/04	R.J.K.	E.F.	ISSUED FOR CLIENT REVIEW
REVISIONS				

**PRELIMINARY
NOT FOR
CONSTRUCTION**

DRAFT



PROJECT No.	20092374-02		
SCALE	AS SHOWN		
DRAWN	WAYNE RILEY		2011/10/17
DESIGNED	WAYNE RILEY		2011/10/17
CHECKED	RAY KORPELA		
APPROVED	JULIEN HENLEY		
DATE		INITIAL	

WESTERN COPPER AND GOLD CORPORATION

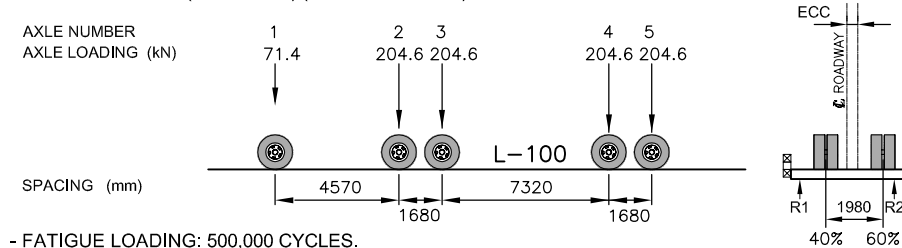
GENERAL NOTES - SHEET 1

CASINO MINE ACCESS GENERAL NOTES		
DRAWING NUMBER	REV. NO.	SHEET
20092374-02-3-111	0	1

CULVERT DESIGN:

- CONFORM TO : - CAN/CSA-S6-00 AS MODIFIED BY THE MINISTRY OF FORESTS AND RANGE IN THE "FOREST SERVICE BRIDGE DESIGN AND CONSTRUCTION MANUAL"
- CANADIAN FOUNDATION AND ENGINEERING MANUAL

- LIVE LOAD: L-100 (BCFS L100) (90 680 KG G.V.W.)



- FATIGUE LOADING: 500,000 CYCLES.
- DESIGN TO BE SEALED BY A PROFESSIONAL ENGINEER REGISTERED WITH THE YUKON TERRITORY.

MATERIALS

- ALL COMPONENTS SHALL GENERALLY CONFORM TO MINISTRY OF FORESTS & RANGE STANDARD REQUIREMENTS UNLESS APPROVED BY THE MINISTRY REPRESENTATIVE.
- CORRUGATED STEEL PIPE: CONFORM TO CSA G40.21M
PLATE: GRADE 350A (OTHER STRUCTURAL STEEL)
- STRUCTURAL BOLTS: AS SPECIFIED BY MANUFACTURER.
- GALVANIZING: HARDWARE TO BE GALVANIZED TO CSA G164.

CULVERT

- THE DESIGN SHOWS THE MINIMUM REQUIRED LENGTH & OPENING SIZE.
- THE CULVERT INSTALLATION, BEDDING & BACKFILL SHALL BE ADEQUATELY PROTECTED TO PREVENT SEEPAGE THAT MAY RESULT IN FAILURE OF THE ROAD EMBANKMENT.
- THE CULVERT INSTALLATION AND BACKFILL IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.
- LOCATION TO BE CONFIRMED IN FIELD WITH COORDINATING REGISTERED PROFESSIONAL.

SITE PREPARATION & INSTALLATION

CLEARING AND GRUBBING

- REMOVE TREES, STUMPS, LOGS, BRUSH, SHRUBS, BUSHES, VINES, UNDERGROWTH, ROTTEN WOOD, DEAD PLANT MATERIAL, EXPOSED BOULDERS AND DEBRIS WITHIN AREAS DESIGNATED ON DRAWINGS.
- REMOVE STUMPS AND TREE ROOTS BELOW FOOTINGS, SLABS, AND PAVING.
- DISPOSE OF CLEARED AND GRUBBED MATERIAL OFF SITE DAILY TO DISPOSAL AREAS ACCEPTABLE TO AUTHORITY HAVING JURISDICTION.

RIPRAP AND GRANULAR MATERIAL

- RIPRAP SHALL BE SUPPLIED AND PLACED IN ACCORDANCE WITH THE MINISTRY'S "FOREST SERVICE BRIDGE DESIGN AND CONSTRUCTION MANUAL" 1999. SOURCES FOR GRAVEL AND RIPRAP SHALL BE APPROVED BY THE COORDINATING REGISTERED PROFESSIONAL PRIOR TO SOURCE DEVELOPMENT. PERMITS FROM OTHER REGULATORY AGENCIES MAY ALSO BE REQUIRED. FOLLOWING THE REMOVAL OF MATERIAL FROM AN APPROVED SITE, SIDE SLOPES MUST BE DRESSED TO THE NATURAL ANGLE OF REPOSE OF THE MATERIAL, BUT IN NO CASE GREATER THAN 45 DEGREES, UNLESS THE MATERIAL IS SOLID ROCK.
- RIPRAP GRADATION AND THICKNESS SHOWN ON DRAWINGS.

BACKFILLING

- INSPECTION: DO NOT COMMENCE BACKFILLING UNTIL FILL MATERIAL AND SPACES TO BE FILLED HAVE BEEN INSPECTED AND APPROVED BY THE DESIGN ENGINEER OR COORDINATING REGISTERED PROFESSIONAL.
- REMOVE SNOW, ICE, CONSTRUCTION DEBRIS, ORGANIC SOIL AND STANDING WATER FROM SPACES TO BE FILLED.
- LATERAL SUPPORT: MAINTAIN EVEN LEVELS OF BACKFILL AROUND STRUCTURES AS WORK PROGRESSES, TO EQUALIZE EARTH PRESSURES.
- BACKFILL MATERIAL: CLEAN SAND AND GRAVEL WITH A MAXIMUM AGGREGATE SIZE OF 100mm AND A MAXIMUM FINES CONTENT (SILTS CLAY PARTICLES) OF 10%.
- PLACING: PLACE BACKFILL, FILL MATERIAL IN 300mm LIFTS. ADD WATER AS REQUIRED TO ACHIEVE SPECIFIED DENSITY.
- COMPACTION OF SUBGRADE: FILL EXCAVATED AREAS WITH SELECTED SUBGRADE MATERIAL. EACH LAYER OF MATERIAL COMPACTED TO 90% ASTM D698. COMPACT EXISTING SUBGRADE UNDER FOOTING AND APPROACHES TO 90% ASTM D698. REINFORCED SOIL TO BE COMPACTED TO A MINIMUM OF 95% MODIFIED PROCTOR (ASTM D-1557).
- SHOT ROCK MATERIAL WILL REQUIRE AN IMPORTED SURFACING LAYER FOR FINAL GRADING.
- BACKFILL TO BE 150mm MINUS WITHIN 1.0 METER OF ABUTMENTS. NO STONES LARGER THAN 200mm DIAMETER TO BE PLACED WITHIN 600mm OF THE BRIDGE SUBSTRUCTURE.

GRADING

- GRADE SO THAT WATER WILL DRAIN AWAY FROM THE BRIDGE APPROACHES TO CATCH BASINS AND OTHER DISPOSAL AREAS APPROVED BY THE DESIGN ENGINEER OR COORDINATING REGISTERED PROFESSIONAL.
- CONSTRUCT APPROACH FILLS TO LINES AND GRADES SHOWN ON DRAWINGS.

SITE CLEANUP

- CLEANUP OF THE SITE MUST BE COMPLETED IMMEDIATELY FOLLOWING CONSTRUCTION. THIS SHALL INCLUDE THE PICKUP AND REMOVAL OF ALL EQUIPMENT, MATERIALS, TRASH, EQUIPMENT REFUSE AND CONSTRUCTION DEBRIS, AND CLEANING THE BRIDGE GIRDERS, DECKS AND BEARINGS TO THE SATISFACTION OF THE COORDINATING REGISTERED PROFESSIONAL

WATER QUALITY AND INSTREAM WORK

- APPROVALS FROM THE REGULATORY AGENCIES (DEPARTMENT OF FISHERIES AND OCEANS AND THE MINISTRY OF ENVIRONMENT) SHALL BE OBTAINED FOR WORKS IN AND ABOUT STREAMS. IN ADDITION TO THE ABOVE APPROVALS, THE FOLLOWING GUIDELINES SHALL BE FOLLOWED.
- CONSTRUCTION SHALL BE CARRIED OUT IN SUCH A MANNER AS TO ENSURE WATER QUALITY IS MAINTAINED BY KEEPING SOIL EROSION AND RUN-OFF TO A MINIMUM DURING INCLEMENT WEATHER AND BY TAKING MEASURES TO PREVENT SEDIMENTATION, LEACHATE, FRESH CONCRETE AND DEMOLITION AND CONSTRUCTION DEBRIS FROM ENTERING THE WETTED PERIMETER, INCLUDING THE FOLLOWING:
 - MACHINES THAT ENTER THE WATER MUST NOT HAVE FLUID LEAKS;
 - BRIDGE GIRDERS AND DECK COMPONENTS SHALL BE THOROUGHLY CLEANED JUST PRIOR TO LAUNCHING OR ERECTION;
 - EXCAVATIONS SHALL BE ISOLATED FROM RUNNING WATER USING TEMPORARY SEDIMENT CONTAINMENT METHODS; SEDIMENT LADEN WATER SHALL BE PUMPED OUT OF THE CONTAINMENT AREAS TO THE BUSH WHERE SEDIMENT WILL SETTLE AND FILTER PRIOR TO ENTERING ANY WATERCOURSE, PRIOR TO BACKFILLING OR REMOVAL OF CONTAINMENT MEASURES. IF NECESSARY, A SETTling AREA SHALL BE CONSTRUCTED TO PREVENT SEDIMENT-LADEN WATER RETURNING TO THE STREAM;
 - ALL CROSSINGS OR ENCROACHMENT BY EQUIPMENT ON THE WETTED PERIMETER SHALL BE APPROVED BY THE REGULATORY AGENCIES;
 - ANY UNDUE DISTURBANCE TO THE STREAM CHANNEL OR BANKS AS A RESULT OF CONSTRUCTION ACTIVITIES SHALL BE CORRECTED TO THE SATISFACTION OF THE REGULATORY AGENCY AND COORDINATING REGISTERED PROFESSIONAL.

NO.	DATE	ENG.	BY	SUBJECT
0	2011/08/15	R.J.K.	W.R.	ISSUED FOR CLIENT REVIEW
REVISIONS				

**PRELIMINARY
NOT FOR
CONSTRUCTION**

DRAFT

PROJECT No.	20092374-02		
SCALE	AS SHOWN		
DRAWN	WAYNE RILEY		2011/10/17
DESIGNED	WAYNE RILEY		2011/10/17
CHECKED	RAY KORPELA		
APPROVED	JULIEN HENLEY		
DATE		INITIAL	

WESTERN COPPER AND GOLD CORPORATION

GENERAL NOTES - SHEET 2

CASINO MINE ACCESS GENERAL NOTES		
DRAWING NUMBER	REV. NO.	SHEET
20092374-02-3-112	0	/



WESTERN COPPER AND GOLD CORPORATION

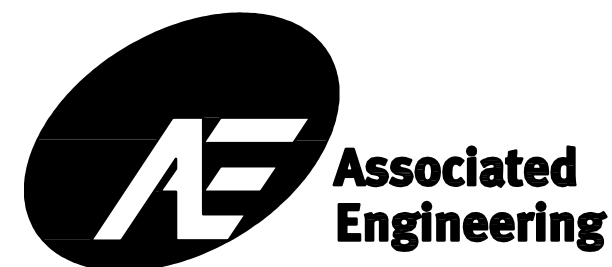
CASINO MINE ACCESS

STRUCTURE: B1
ROAD STATION: 0+280 km
CROSSING NAME: BOW CREEK

AE Project Number: 20092374-02

DRAWING LIST			
DRAWING NUMBER	DESCRIPTION	REV.	DATE
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20092374-02-3-102	SITE PLAN	0	2011/09/02

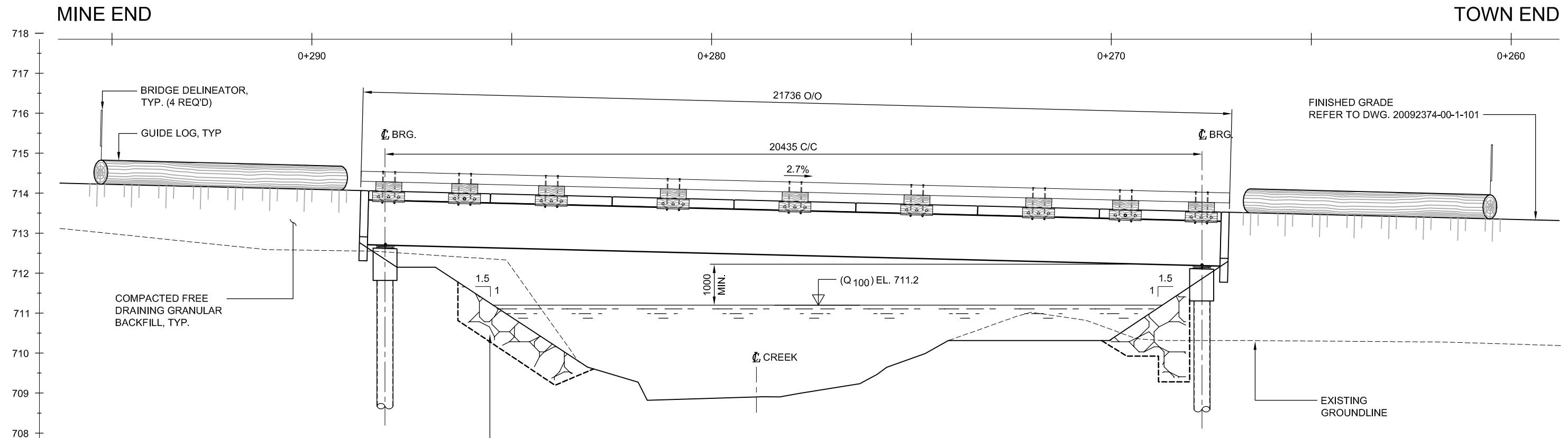
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DRAWING NUMBER	DESCRIPTION	REV.	DATE
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20092374-02-3-111	GENERAL NOTES - SHEET 2	1	2013/09/04
20092374-00-1-101	PLAN/ PROFILE - ROAD DESIGN	1	2011/02/25



*GLOBAL PERSPECTIVE.
LOCAL FOCUS.*

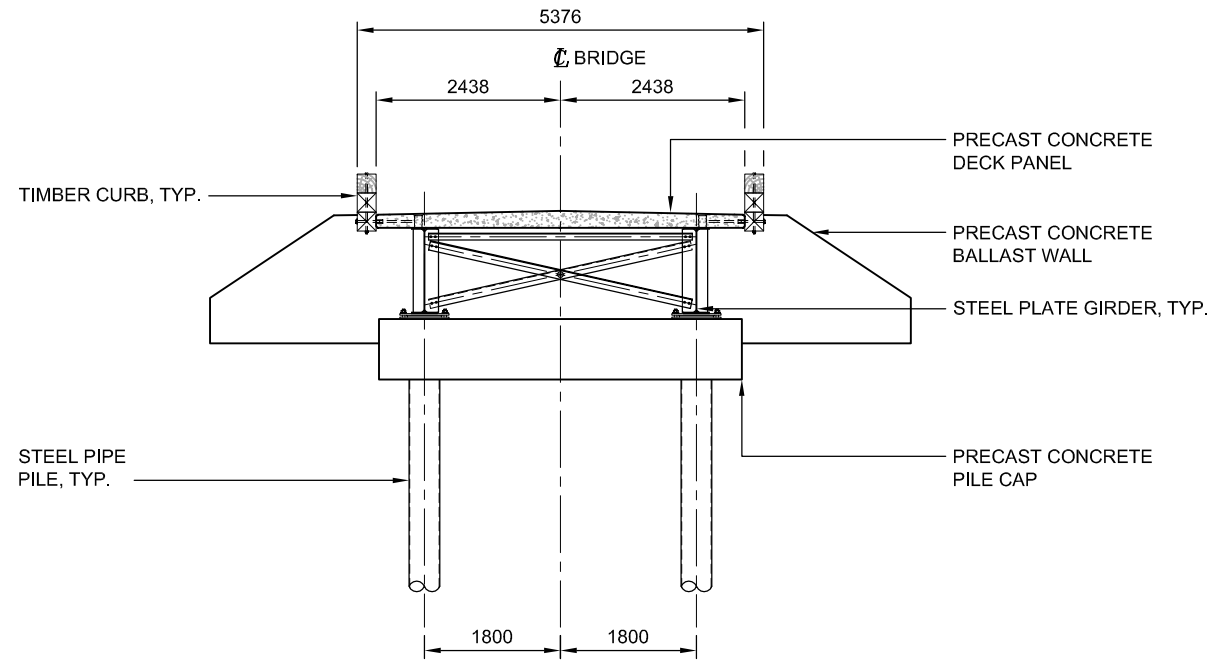
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20092374-02-3-100	1	1

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BRIDGE ELEVATION (LOOKING DOWNSTREAM)
1:100

NOTE:
REMOVE EXISTING TIMBER
SUPERSTRUCTURE.



TYPICAL ABUTMENT ELEVATION
1:100

NO.	DATE	ENG.	BY	SUBJECT
1	2013/09/04	R.J.K.	E.F.	DECK DETAIL REVISED
REVISIONS				

**PRELIMINARY
NOT FOR
CONSTRUCTION**

DRAFT



PROJECT No.	20092374-02	
SCALE	1:100	
DRAWN	WAYNE RILEY	2011/08/29
DESIGNED	WAYNE RILEY	2011/08/29
CHECKED	RAY KORPELA	
APPROVED	JULIEN HENLEY	
DATE		INITIAL

WESTERN COPPER AND GOLD CORPORATION

GENERAL ARRANGEMENT

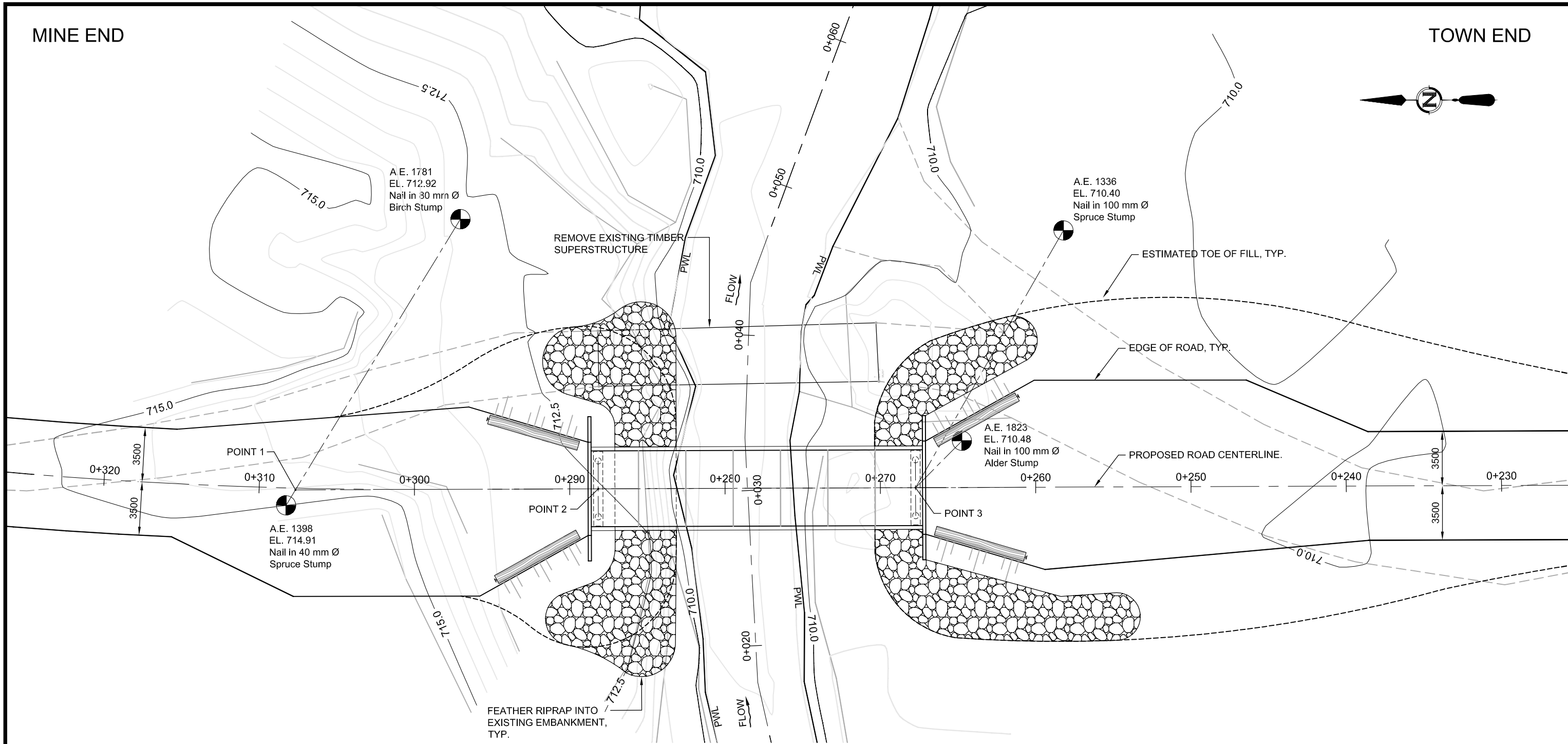
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ROAD STATION: 0+280 km		
CROSSING NAME: BOW CREEK		
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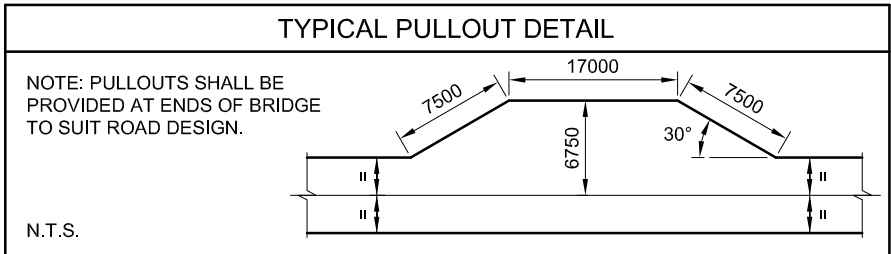
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MINE END

TOWN END



LAYOUT SCHEDULE			
A.E.#1781 TO A.E.#1398	21.56 m	A.E.#1336 TO A.E.#1823	15.03 m
A.E.#1781 TO POINT 1	20.41 m	A.E.#1336 TO POINT 3	19.10 m
A.E.#1398 TO POINT 1	1.15 m	A.E.#1823 TO POINT 3	4.26 m
POINT 1 TO POINT 2	19.50 m		
POINT 2 TO POINT 3	20.43 m		
POINTS 2 & 3 ARE \angle TO BEARING (ALL DISTANCES ARE HORIZONTAL)			

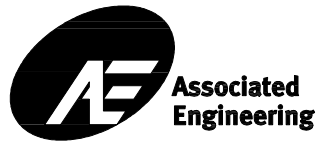


RIPRAP TABLE		ROCK GRADATION: PERCENT LARGER THAN GIVEN ROCK MASS (kg)					
CLASS OF OF RIPRAP (kg)	NOMINAL THICKNESS OF RIPRAP (mm)	85%		50%		15%	
		100	800	10 kg	200 mm	100 kg	450 mm

NO.	DATE	ENG.	BY	SUBJECT
0	2013/09/04	R.J.K.	E.F.	ISSUED FOR CLIENT REVIEW
REVISIONS				



**PRELIMINARY
NOT FOR
CONSTRUCTION**
DRAFT



PROJECT No.	20092374-02		
SCALE	1:250		
DRAWN	WAYNE RILEY		2011/08/29
DESIGNED	WAYNE RILEY		2011/08/29
CHECKED	RAY KORPELA		
APPROVED	JULIEN HENLEY		
DATE		INITIAL	

WESTERN COPPER AND GOLD CORPORATION
SITE PLAN

STRUCTURE: B1
ROAD STATION: 0+280 km
CROSSING NAME: BOW CREEK
DRAWING NUMBER: 20092374-02-3-102
REV. NO.: 0
SHEET: 0

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WESTERN COPPER AND GOLD CORPORATION

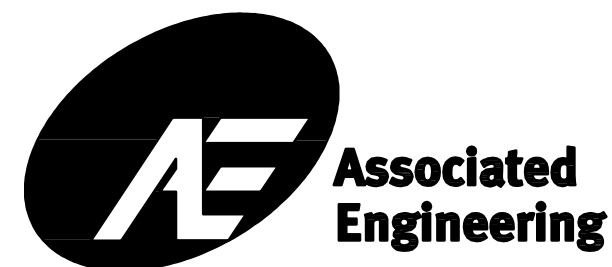
CASINO MINE ACCESS

STRUCTURE: B2
ROAD STATION: 13+150 km
CROSSING NAME: BIG CREEK

AE Project Number: 20092374-03

DRAWING LIST			
DRAWING NUMBER	DESCRIPTION	REV.	DATE
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20092374-03-3-102	SITE PLAN	0	2013/09/04

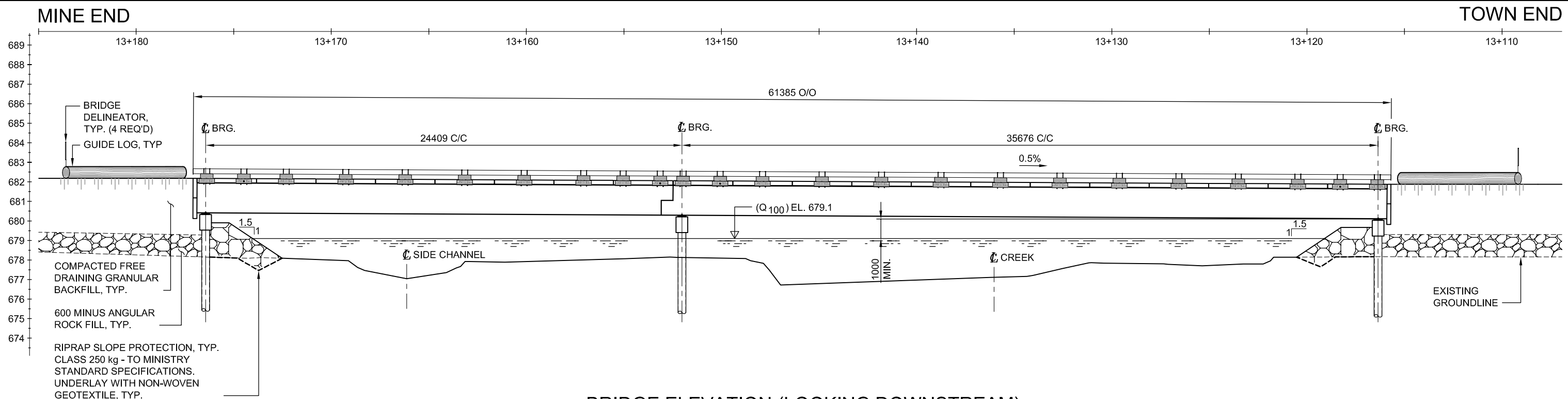
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20092374-02-3-111	GENERAL NOTES - SHEET 1	1	2013/09/04
20092374-02-3-112	GENERAL NOTES - SHEET 2	0	2011/08/12
20092374-00-1-102	PLAN/ PROFILE - ROAD DESIGN	2	2012/04/20



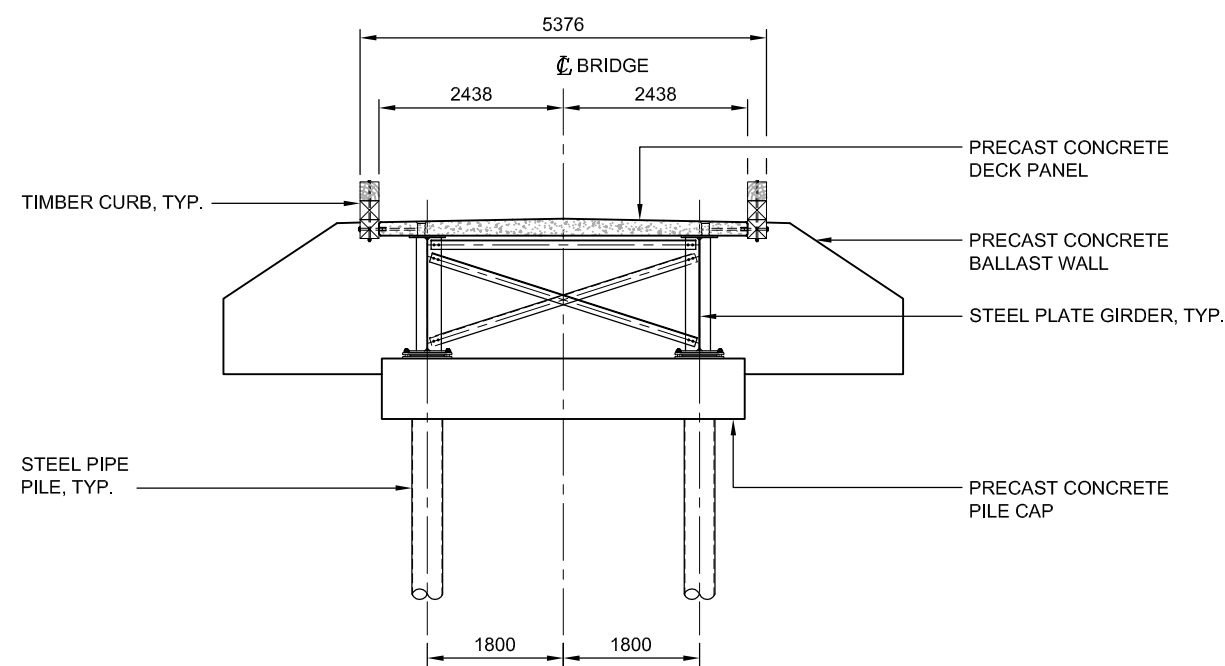
GLOBAL PERSPECTIVE.
LOCAL FOCUS.

DRAWING NUMBER	REV. NO.	SHEET
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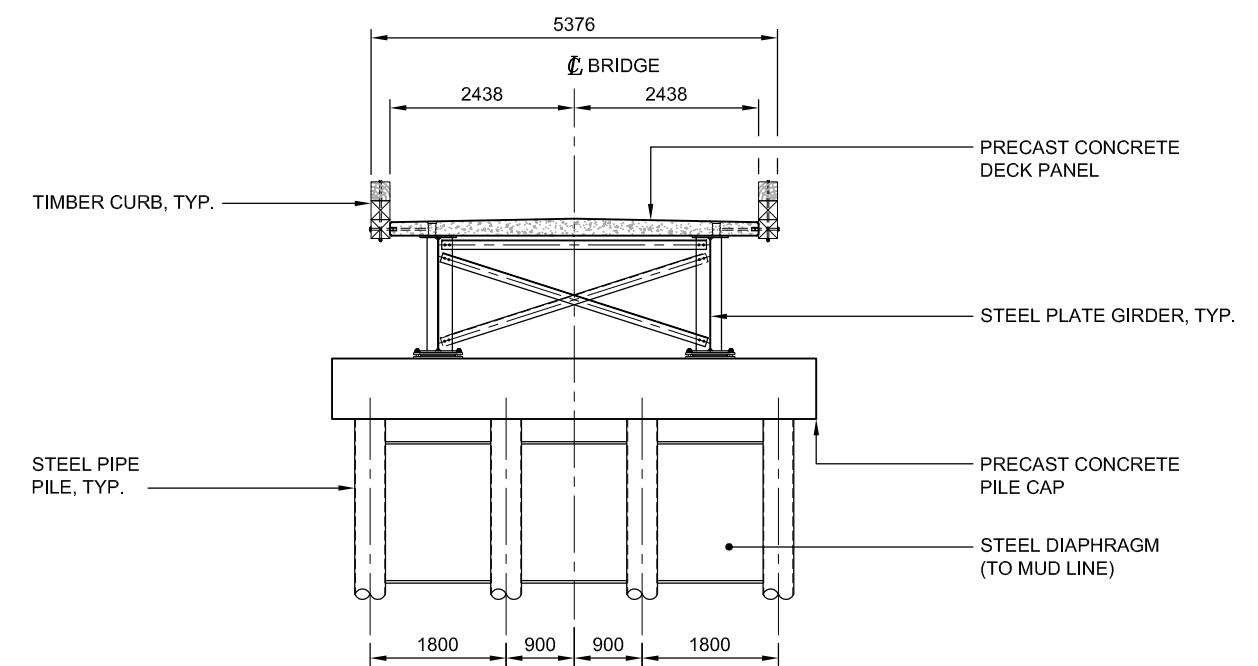
This Drawing Is For The Use Of The Client And Project Indicated
No Representations Of Any Kind Are Made To Other Parties



BRIDGE ELEVATION (LOOKING DOWNSTREAM)
1:200



TYPICAL ABUTMENT ELEVATION
1:100

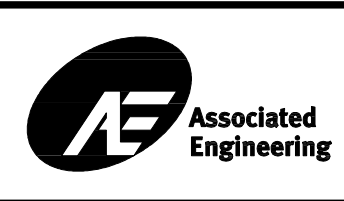


TYPICAL PIER ELEVATION
1:100

NO.	DATE	ENG.	BY	SUBJECT
1	2013/09/04	R.K.	E.F.	DECK DETAILS REVISED
0	2011/10/24	R.K.	W.R.	ISSUED TO CLIENT
REVISIONS				

**PRELIMINARY
NOT FOR
CONSTRUCTION**

DRAFT



PROJECT No.	20092374-03		
SCALE	AS SHOWN		
DRAWN	EVAN JOHNSON		2011/10/24
DESIGNED	WAYNE RILEY		2011/10/24
CHECKED	RAY KORPELA		2011/10/24
APPROVED	JULIEN HENLEY		
DATE		INITIAL	

WESTERN COPPER AND GOLD CORPORATION

GENERAL ARRANGEMENT

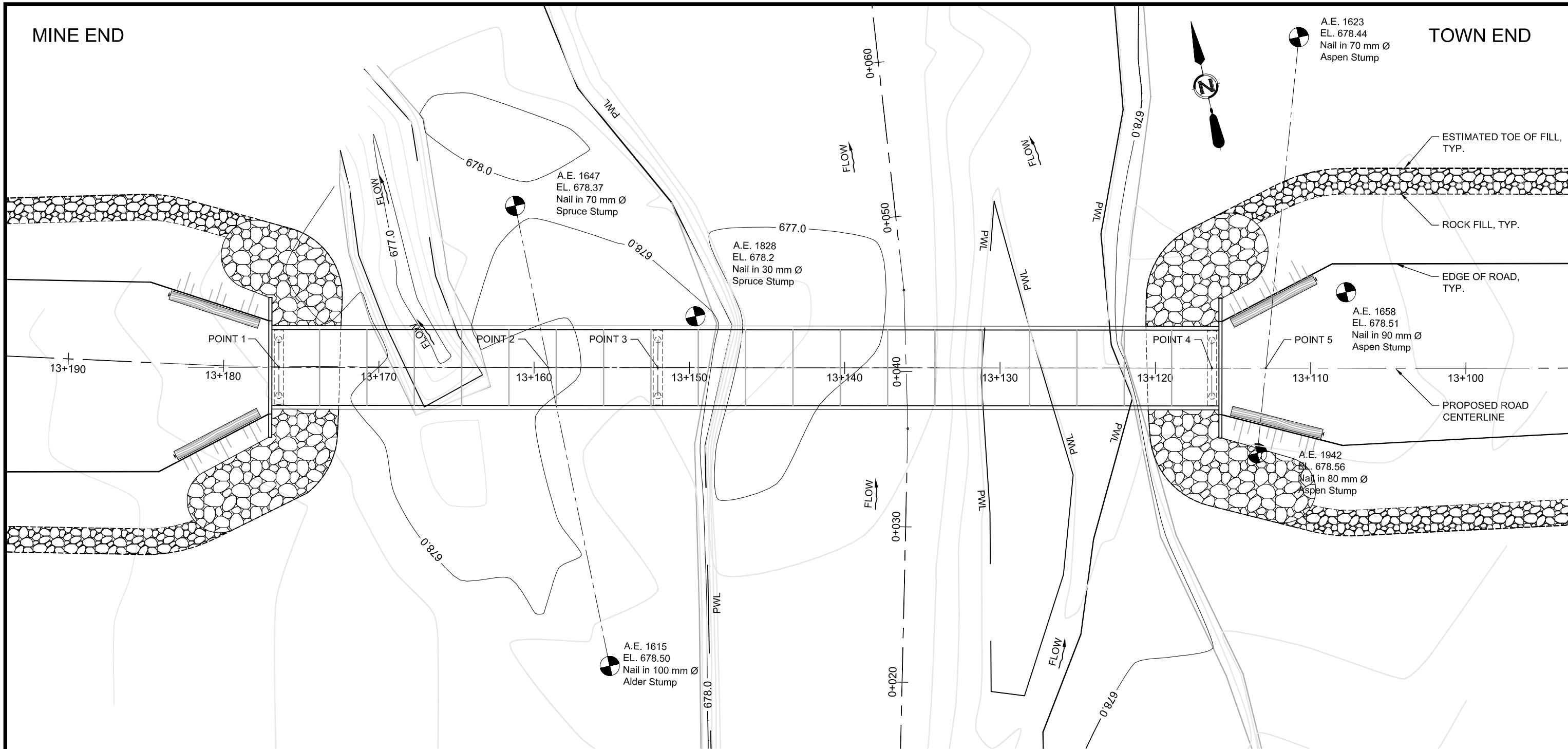
STRUCTURE: B2		
ROAD STATION: 13+150 km		
CROSSING NAME: BIG CREEK		
DRAWING NUMBER	REV. NO.	SHEET
20092374-03-3-101	1	

P:\20092374\03_3_101\wca\Drawings\Structure\20092374_03_3_101.dwg
DATE: 09/02/13 11:48:07 AM Author: EJP06

This Drawing Is For The Use Of The Client And Project Indicated. No Representations Of Any Kind Are Made To Other Parties.

MINE END

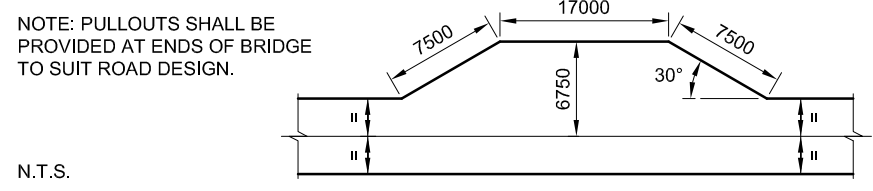
TOWN END



LAYOUT SCHEDULE

POINT 1 TO POINT 2	17.36 m	POINT 3 TO POINT 4	35.67 m
A.E.#1647 TO A.E.#1615	30.25 m	POINT 4 TO POINT 5	3.47 m
A.E.#1647 TO POINT 2	10.64 m	A.E.#1942 TO A.E.#1623	26.93 m
A.E.#1615 TO POINT 2	19.61 m	A.E.#1942 TO POINT 5	5.51 m
POINT 2 TO POINT 3	7.05 m	A.E.#1923 TO POINT 5	21.42 m
POINTS 1, 3, & 4 ARE \odot TO BEARING (ALL DISTANCES ARE HORIZONTAL)			

TYPICAL PULLOUT DETAIL



RIPRAP TABLE

CLASS OF OF RIPRAP (kg)	NOMINAL THICKNESS OF RIPRAP (mm)	ROCK GRADATION: PERCENT LARGER THAN GIVEN ROCK MASS (kg)					
		85%	50%	15%			
250	1050	25 kg	300 mm	250 kg	600 mm	750 kg	900 mm

P:\20092374\03_12\09\wcdm\Drawings\Structure\20092374_03_3_102.dwg
DATE: 09/02/13 11:34:31 AM User: EJP

NO.	DATE	ENG.	BY	SUBJECT
0	2013/09/04	R.J.K.	E.F.	ISSUED FOR CLIENT REVIEW
REVISIONS				

western
COPPER AND GOLD

PRELIMINARY NOT FOR CONSTRUCTION

DRAFT

AE Associated Engineering

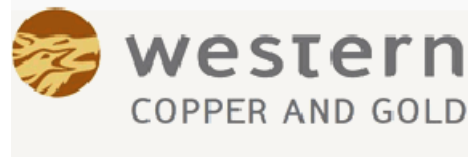
PROJECT No.	20092374-03	
SCALE	1:250	
DRAWN	EVAN JOHNSON	2011/10/24
DESIGNED	WAYNE RILEY	2011/10/24
CHECKED	RAY KORPELA	2011/10/24
APPROVED	JULIEN HENLEY	
DATE		INITIAL

WESTERN COPPER AND GOLD CORPORATION

SITE PLAN

STRUCTURE: B2
ROAD STATION: 13+150 km
CROSSING NAME: BIG CREEK

DRAWING NUMBER	REV. NO.	SHEET
20092374-03-3-102	0	



WESTERN COPPER AND GOLD CORPORATION

CASINO MINE ACCESS

STRUCTURE: B3 ROAD STATION: 13+470 km CROSSING NAME: BIG CREEK TRIBUTARY

AE Project Number: 20092374-04

DRAWING LIST			
DRAWING NUMBER	DESCRIPTION	REV.	DATE
20092374-04-3-101	GENERAL ARRANGEMENT	1	2013/09/04
20092374-04-3-102	SITE PLAN	0	2012/02/20

REFERENCE DRAWING LIST			
DRAWING NUMBER	DESCRIPTION	REV.	DATE
20092374-02-3-111	GENERAL NOTES - SHEET 1	1	2013/09/04
20092374-02-3-112	GENERAL NOTES - SHEET 2	0	2011/08/12
20092374-00-1-102	PLAN/ PROFILE - ROAD DESIGN	2	2012/04/20



**Associated
Engineering**

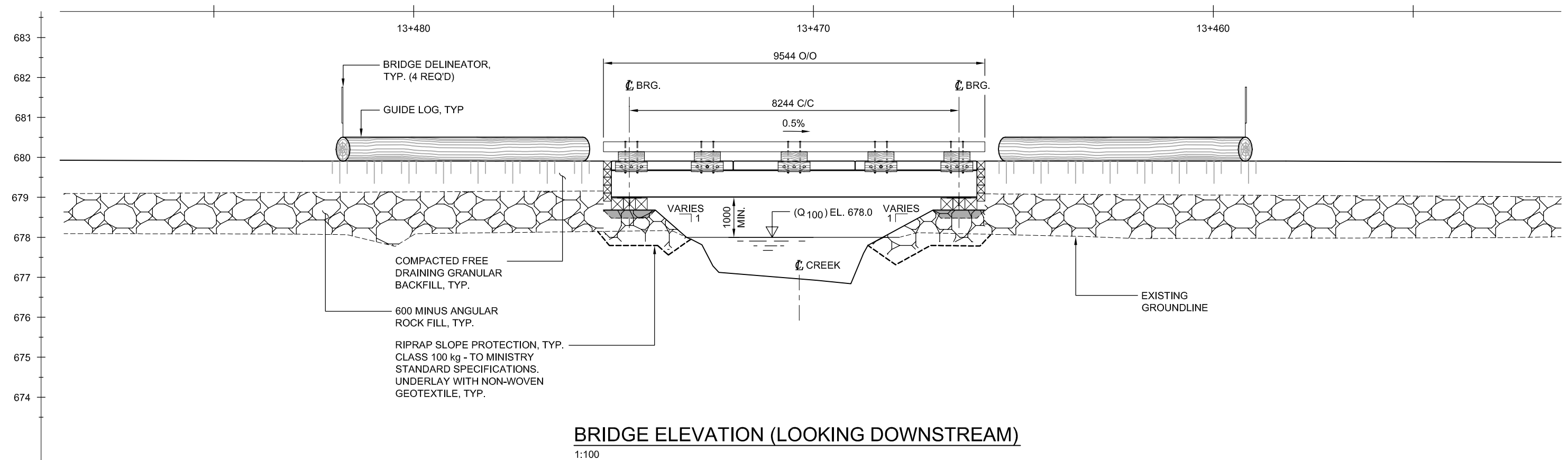
*GLOBAL PERSPECTIVE.
LOCAL FOCUS.*

DRAWING NUMBER	REV. NO.	SHEET
20092374-04-3-100	1	1

This Drawing Is For The Use Of The Client And Project Indicated. No Representations Of Any Kind Are Made To Other Parties.

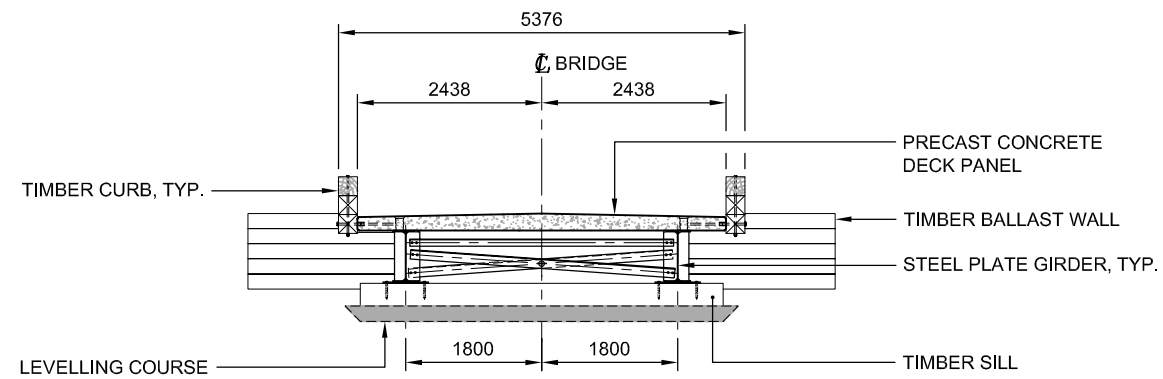
MINE END

TOWN END



BRIDGE ELEVATION (LOOKING DOWNSTREAM)

1:100



TYPICAL ABUTMENT ELEVATION

1:100

P:\20092374\04_13_2009\dwg\03_Site\030202374_04_3_101.dwg
DATE: 09/02/13 11:46:03 AM User: RJP

NO.	DATE	ENG.	BY	SUBJECT
1	2013/09/04	R.K.	E.F.	DECK AND ABUTMENT DETAILS REVISED
0	2011/08/15	R.K.	R.W.	ISSUED FOR CLIENT REVIEW
REVISIONS				

**PRELIMINARY
NOT FOR
CONSTRUCTION**

DRAFT

PROJECT No.	20092374-04		
SCALE	AS SHOWN		
DRAWN	EVAN JOHNSON		2011/09/02
DESIGNED	WAYNE RILEY		2011/09/02
CHECKED	RAY KORPELA		
APPROVED	JULIEN HENLEY		
DATE		INITIAL	

WESTERN COPPER AND GOLD CORPORATION

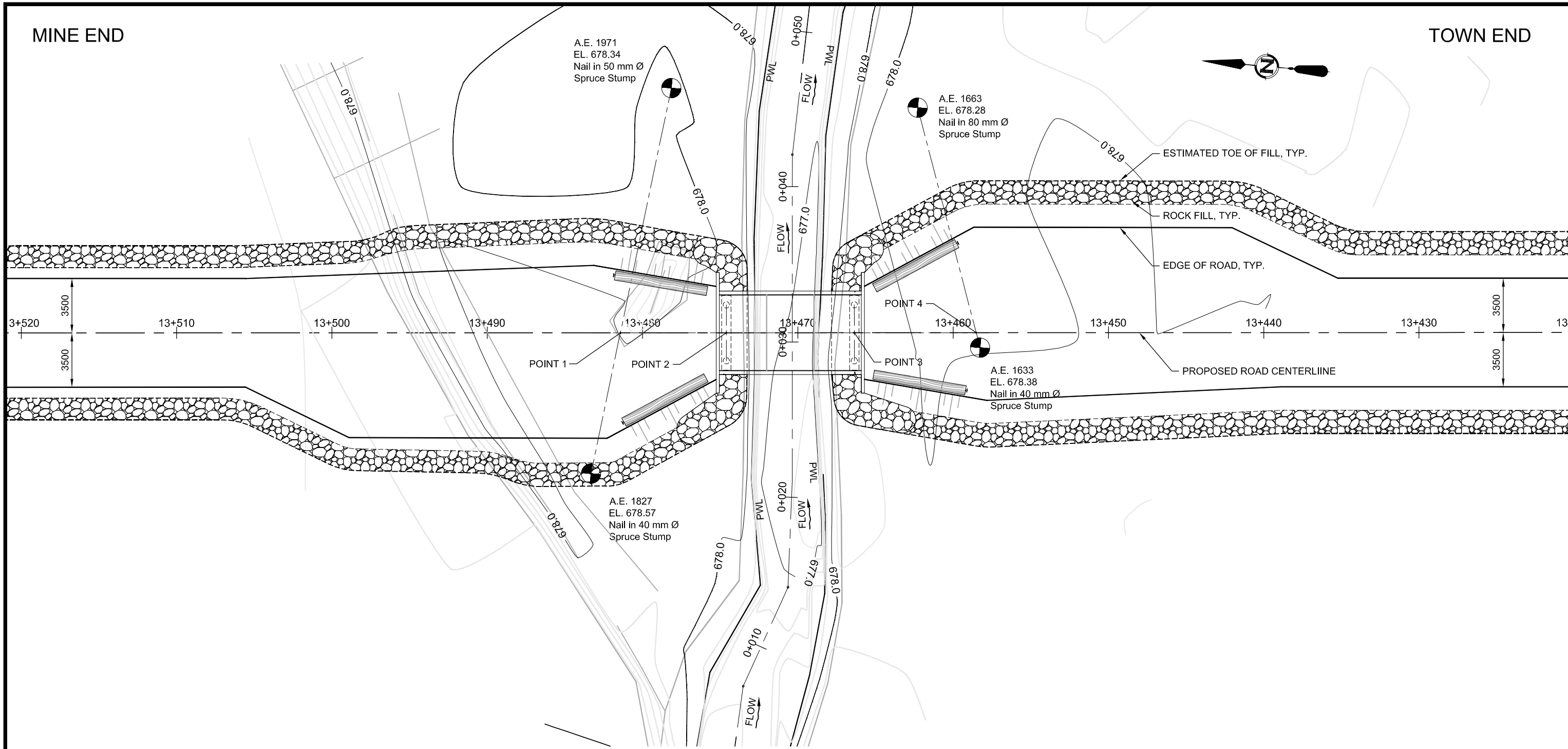
GENERAL ARRANGEMENT

STRUCTURE: B3		
ROAD STATION: 13+470 km		
CROSSING NAME: BIG CREEK TRIBUTARY		
DRAWING NUMBER	REV. NO.	SHEET
20092374-04-3-101	1	

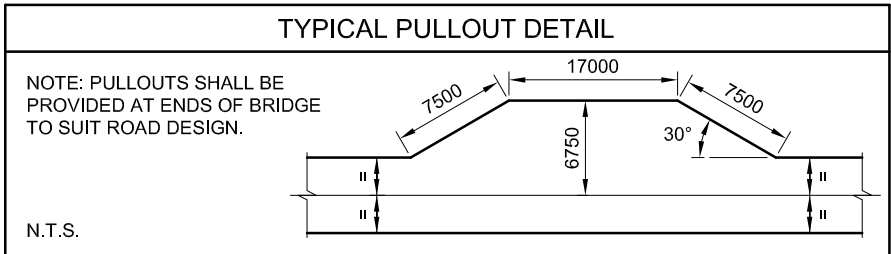
This Drawing Is For The Use Of The Client And Project Indicated. No Representations Of Any Kind Are Made To Other Parties.

MINE END

TOWN END



LAYOUT SCHEDULE			
A.E.#1971 TO A.E.#1827	25.35 m	POINT 3 TO POINT 4	7.85 m
A.E.#1971 TO POINT 1	16.10 m	A.E.#1663 TO A.E.#1633	15.96 m
A.E.#1827 TO POINT 1	9.25 m	A.E.#1663 TO POINT 4	14.96 m
POINT 1 TO POINT 2	6.82 m	A.E.#1633 TO POINT 4	1.00 m
POINT 2 TO POINT 3	8.24 m		
POINTS 2 & 3 ARE \perp TO BEARING (ALL DISTANCES ARE HORIZONTAL)			

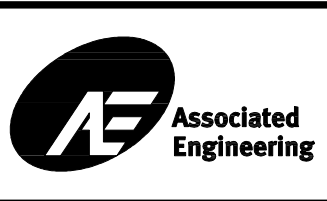


RIPRAP TABLE		ROCK GRADATION: PERCENT LARGER THAN GIVEN ROCK MASS (kg)					
CLASS OF OF RIPRAP (kg)	NOMINAL THICKNESS OF RIPRAP (mm)	85%		50%		15%	
		100	800	10 kg	200 mm	100 kg	450 mm

NO.	DATE	ENG.	BY	SUBJECT
0	2011/09/02	R.J.K.	W.R.	ISSUED TO CLIENT
REVISIONS				

**PRELIMINARY
NOT FOR
CONSTRUCTION**

DRAFT



PROJECT No.	20092374-04	
SCALE	1:250	
DRAWN	EVAN JOHNSON	2011/09/02
DESIGNED	WAYNE RILEY	2011/09/02
CHECKED	RAY KORPELA	
APPROVED	JULIEN HENLEY	
DATE		INITIAL

WESTERN COPPER AND GOLD CORPORATION

SITE PLAN

STRUCTURE: B3		
ROAD STATION: 13+470 km		
CROSSING NAME: BIG CREEK TRIBUTARY		
DRAWING NUMBER	REV. NO.	SHEET
20092374-04-3-102	0	

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WESTERN COPPER AND GOLD CORPORATION

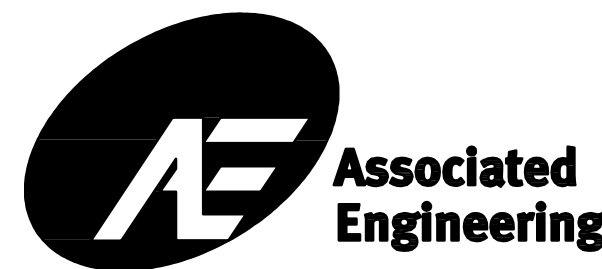
CASINO MINE ACCESS

STRUCTURE: B4 ROAD STATION: 18+370 km CROSSING NAME: BIG CREEK

AE Project Number: 20092374-05

DRAWING LIST			
DRAWING NUMBER	DESCRIPTION	REV.	DATE
20092374-05-3-101	GENERAL ARRANGEMENT	1	2013/09/04
20092374-05-3-102	SITE PLAN	0	2012/02/20

REFERENCE DRAWING LIST			
DRAWING NUMBER	DESCRIPTION	REV.	DATE
20092374-02-3-110	GENERAL NOTES - SHEET 1	1	2013/09/04
20092374-02-3-111	GENERAL NOTES - SHEET 2	0	2011/08/12
20092374-00-1-103	PLAN/ PROFILE - ROAD DESIGN	2	2012/04/20



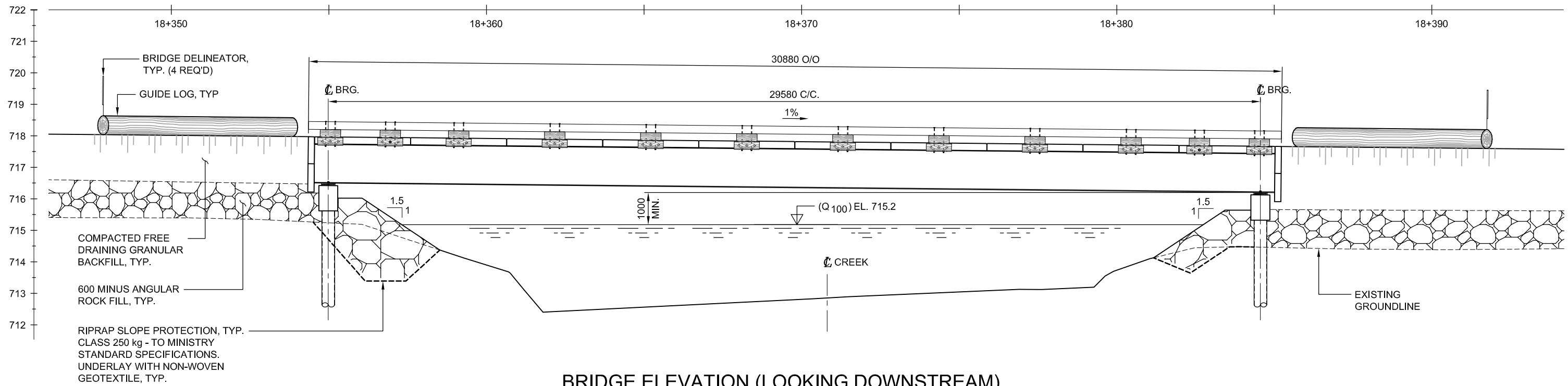
GLOBAL PERSPECTIVE.
LOCAL FOCUS.

DRAWING NUMBER	REV. NO.	SHEET
20092374-05-3-100	1	1

This Drawing Is For The Use Of The Client And Project Indicated
No Representations Of Any Kind Are Made To Other Parties

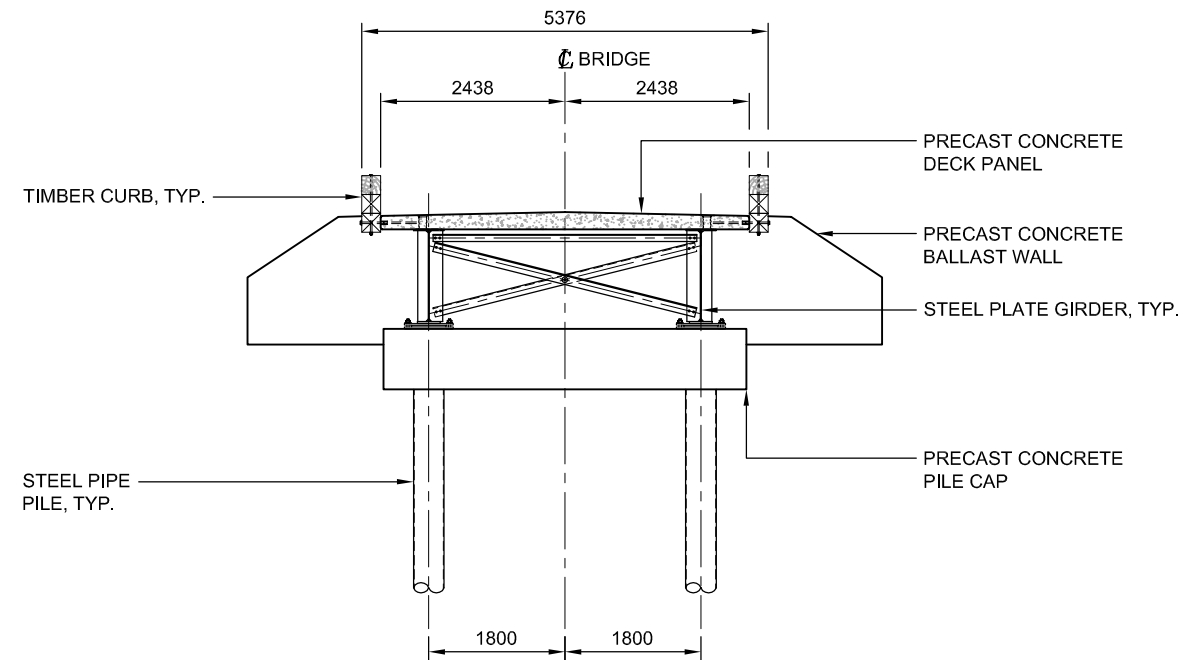
TOWN END

MINE END



BRIDGE ELEVATION (LOOKING DOWNSTREAM)

1:125



TYPICAL ABUTMENT ELEVATION

1:100

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DATE: 09/02/13 11:48:02 AM E:\DWG\EP09

NO.	DATE	ENG.	BY	SUBJECT
1	2013/09/04	R.J.K.	E.F.	DECK DETAIL REVISED
REVISIONS				


**PRELIMINARY
NOT FOR
CONSTRUCTION**
DRAFT


**Associated
Engineering**

PROJECT No.	20092374-05		
SCALE	1:100		
DRAWN	EVAN JOHNSON		2011/10/17
DESIGNED	RYAN VEITCH		2011/10/17
CHECKED	RAY KORPELA		
APPROVED	JULIEN HENLEY		
DATE			INITIAL

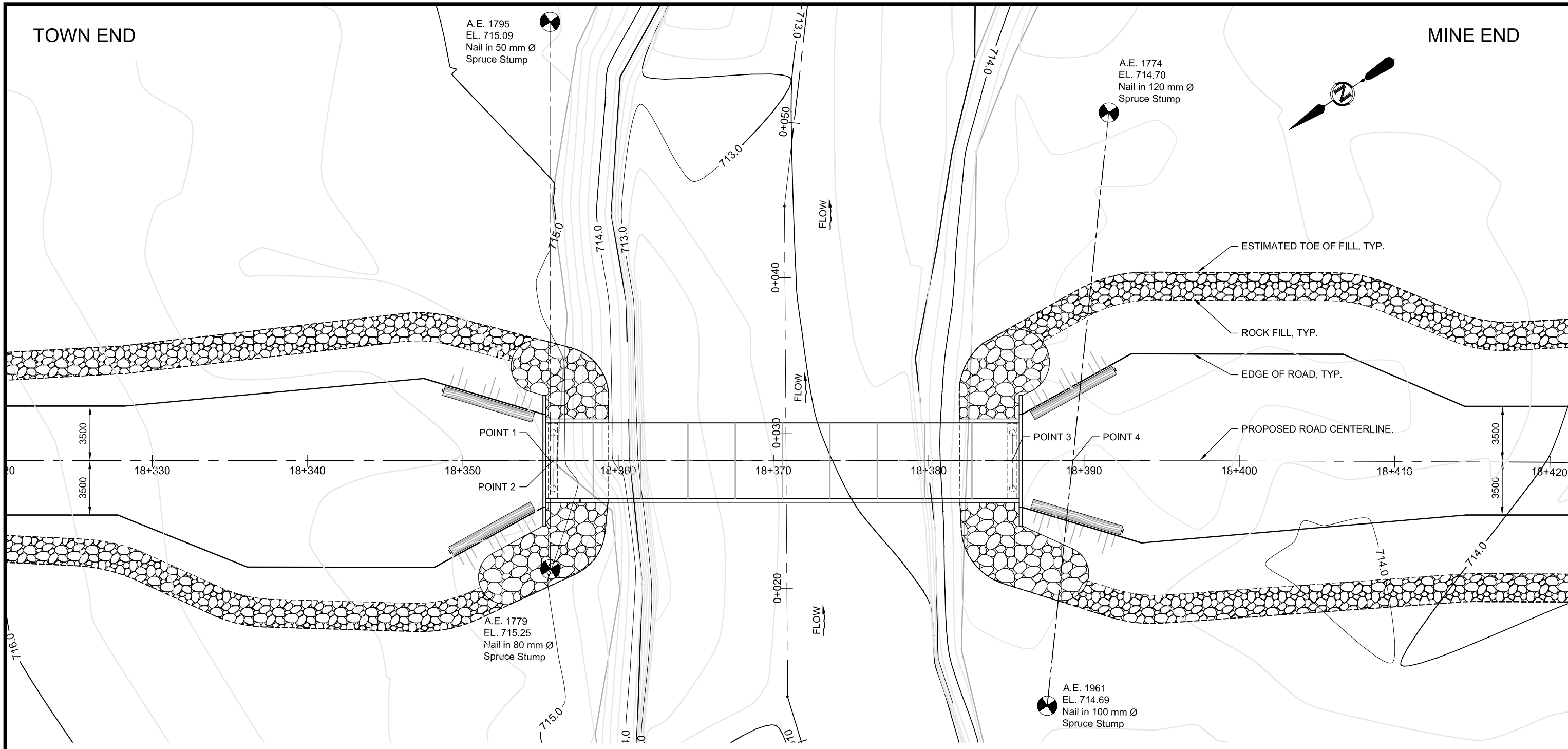
**WESTERN COPPER AND GOLD
CORPORATION**
 GENERAL ARRANGEMENT

STRUCTURE: B4		
ROAD STATION: 18+370 km		
CROSSING NAME: BIG CREEK		
DRAWING NUMBER	REV. NO.	SHEET
20092374-05-3-101	1	

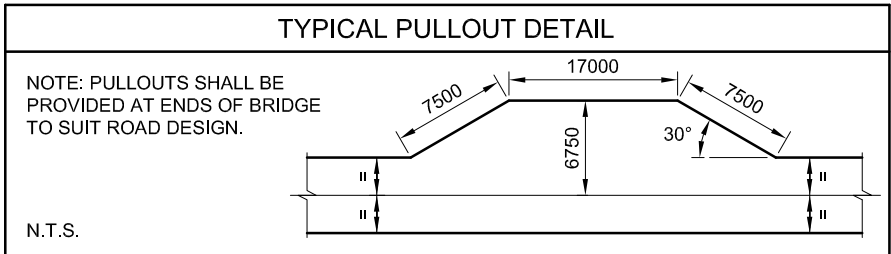
This Drawing Is For The Use Of The Client And Project Indicated. No Representations Of Any Kind Are Made To Other Parties.

TOWN END

MINE END



LAYOUT SCHEDULE			
A.E.#1795 TO A.E.#1779	35.24 m	POINT 3 TO POINT 4	3.89 m
A.E.#1795 TO POINT 1	28.25 m	A.E.#1774 TO A.E.#1961	38.40 m
A.E.#1779 TO POINT 1	6.99 m	A.E.#1774 TO POINT 4	22.54 m
POINT 1 TO POINT 2	0.17 m	A.E.#1961 TO POINT 4	15.86 m
POINT 2 TO POINT 3	29.58 m		
POINTS 2 & 3 ARE \angle TO BEARING (ALL DISTANCES ARE HORIZONTAL)			



RIPRAP TABLE							
CLASS OF OF RIPRAP (kg)	NOMINAL THICKNESS OF RIPRAP (mm)	ROCK GRADATION: PERCENT LARGER THAN GIVEN ROCK MASS (kg)					
		85%		50%		15%	
250	1050	25 kg	300 mm	250 kg	600 mm	750 kg	900 mm

NO.	DATE	ENG.	BY	SUBJECT
0	2013/09/04	R.J.K.	E.F.	ISSUED FOR CLIENT REVIEW
REVISIONS				

**PRELIMINARY
NOT FOR
CONSTRUCTION**

DRAFT



PROJECT No.	20092374-05	
SCALE	1:250	
DRAWN	EVAN JOHNSON	2011/10/17
DESIGNED	RYAN VEITCH	2011/10/17
CHECKED	RAY KORPELA	
APPROVED	JULIEN HENLEY	
DATE		INITIAL

WESTERN COPPER AND GOLD CORPORATION

SITE PLAN

STRUCTURE: B4
ROAD STATION: 18+370 km
CROSSING NAME: BIG CREEK

DRAWING NUMBER	REV. NO.	SHEET
20092374-05-3-102	0	

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WESTERN COPPER AND GOLD CORPORATION

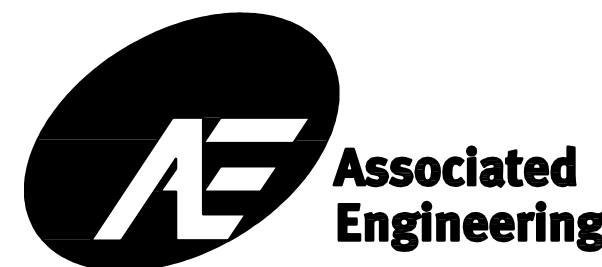
CASINO MINE ACCESS

STRUCTURE: B5 ROAD STATION: 23+320 km CROSSING NAME: BIG CREEK TRIBUTARY

AE Project Number: 20092374-06

DRAWING LIST			
DRAWING NUMBER	DESCRIPTION	REV.	DATE
20092374-06-3-101	GENERAL ARRANGEMENT	1	2013/09/04
20092374-06-3-102	SITE PLAN	0	2012/02/20

REFERENCE DRAWING LIST			
DRAWING NUMBER	DESCRIPTION	REV.	DATE
20092374-02-3-110	GENERAL NOTES - SHEET 1	1	2013/09/04
20092374-02-3-111	GENERAL NOTES - SHEET 2	0	2011/08/12
20092374-00-1-103	PLAN/ PROFILE - ROAD DESIGN	2	2012/04/20



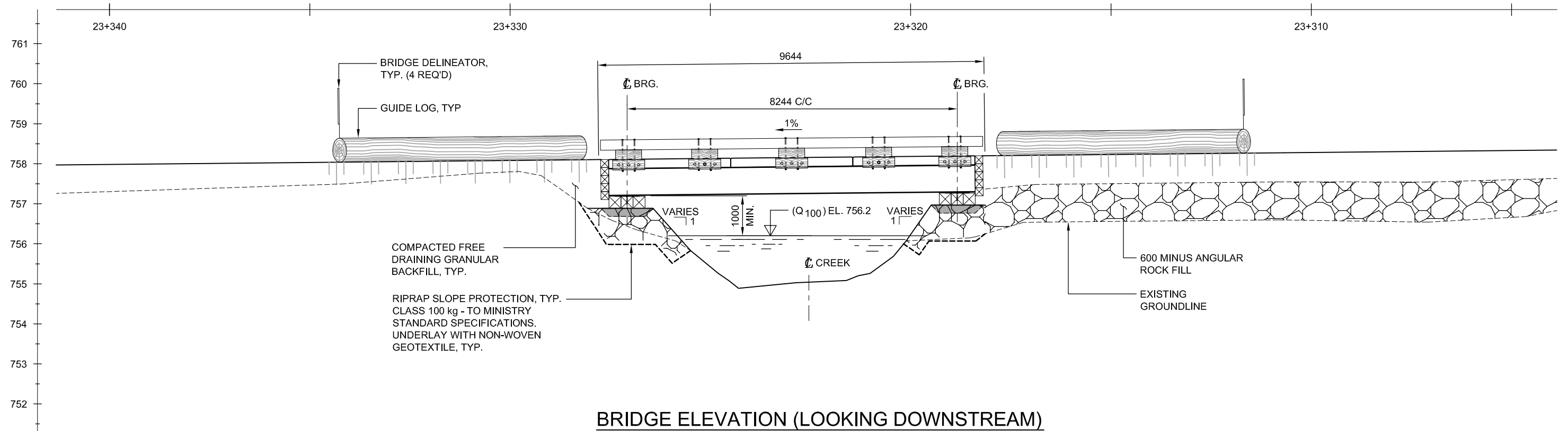
GLOBAL PERSPECTIVE.
LOCAL FOCUS.

DRAWING NUMBER	REV. NO.	SHEET
20092374-06-3-100	1	1

This Drawing Is For The Use Of The Client And Project Indicated
No Representations Of Any Kind Are Made To Other Parties

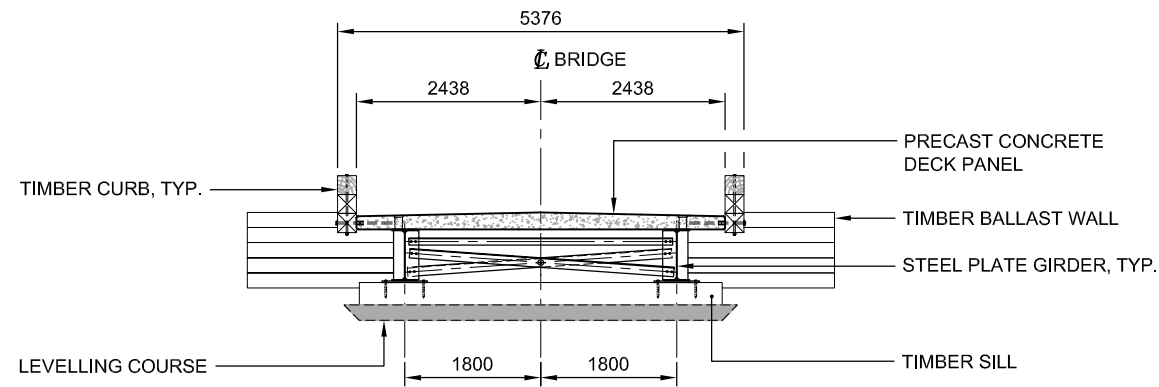
MINE END

TOWN END



BRIDGE ELEVATION (LOOKING DOWNSTREAM)

1:100



TYPICAL ABUTMENT ELEVATION

1:100

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DATE: 09/02/11 11:26:03 AM E:\wdr\p1906

NO.	DATE	ENG.	BY	SUBJECT
1	2013/09/04	R.J.K.	E.F.	DECK AND ABUTMENT DETAILS REVISED
REVISIONS				

**PRELIMINARY
NOT FOR
CONSTRUCTION**

DRAFT

PROJECT No.	20092374-06	
SCALE	AS SHOWN	
DRAWN	EVAN JOHNSON	2011/08/12
DESIGNED	WAYNE RILEY	2011/08/12
CHECKED	RAY KORPELA	
APPROVED	JULIEN HENLEY	
DATE		INITIAL

WESTERN COPPER AND GOLD CORPORATION

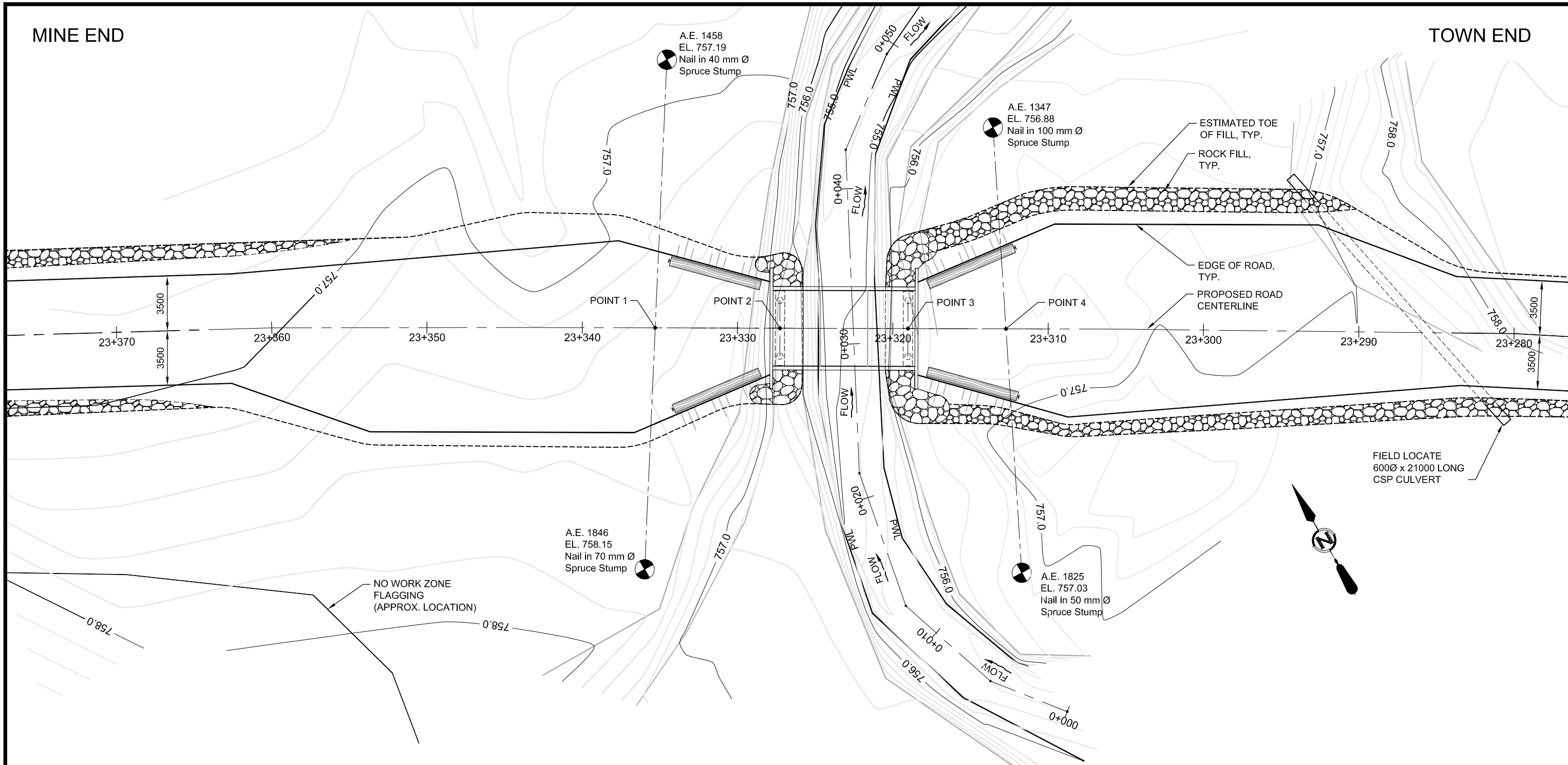
GENERAL ARRANGEMENT

STRUCTURE: B5		
ROAD STATION: 23+320 km		
CROSSING NAME: BIG CREEK TRIBUTARY		
DRAWING NUMBER	REV. NO.	SHEET
20092374-06-3-101	1	

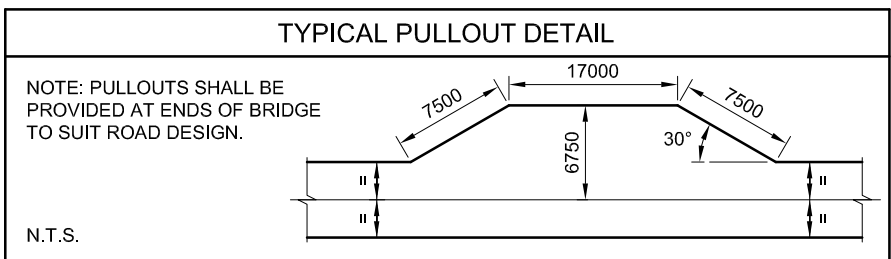
This Drawing Is For The Use Of The Client And Project Indicated. No Representations Of Any Kind Are Made To Other Parties.

MINE END

TOWN END



LAYOUT SCHEDULE			
A.E.#1458 TO A.E.#1846	32.86 m	POINT 3 TO POINT 4	6.31 m
A.E.#1458 TO POINT 1	17.29 m	A.E.#1347 TO A.E.#1825	28.74 m
A.E.#1846 TO POINT 1	15.57 m	A.E.#1347 TO POINT 4	13.00 m
POINT 1 TO POINT 2	8.03 m	A.E.#1825 TO POINT 4	15.74 m
POINT 2 TO POINT 3	8.24 m		
POINTS 2 & 3 ARE \angle TO BEARING (ALL DISTANCES ARE HORIZONTAL)			



RIPRAP TABLE		ROCK GRADATION: PERCENT LARGER THAN GIVEN ROCK MASS (kg)					
CLASS OF OF RIPRAP (kg)	NOMINAL THICKNESS OF RIPRAP (mm)	85%		50%		15%	
		250	1050	25 kg	300 mm	250 kg	600 mm

NO.	DATE	ENG.	BY	SUBJECT
0	2013/09/04	R.J.K.	E.F.	ISSUED FOR CLIENT REVIEW
REVISIONS				

**PRELIMINARY
NOT FOR
CONSTRUCTION**

DRAFT

PROJECT No.	20092374-06		
SCALE	1:250		
DRAWN	EVAN JOHNSON		2011/08/12
DESIGNED	WAYNE RILEY		2011/08/12
CHECKED	RAY KORPELA		
APPROVED	JULIEN HENLEY		
DATE		INITIAL	

WESTERN COPPER AND GOLD CORPORATION

SITE PLAN

STRUCUTRE: B5
ROAD STATION: 23+320 km
CROSSING NAME: BIG CREEK TRIBUTARY

DRAWING NUMBER	REV. NO.	SHEET
20092374-06-3-102	0	

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WESTERN COPPER AND GOLD CORPORATION

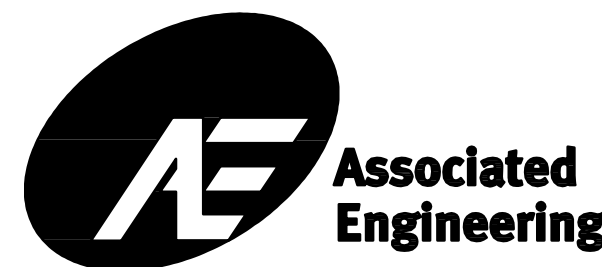
CASINO MINE ACCESS

STRUCTURE: B6
ROAD STATION: 26+820 km
CROSSING NAME: BIG CREEK

AE Project Number: 20092374-08

DRAWING LIST			
DRAWING NUMBER	DESCRIPTION	REV.	DATE
20092374-08-3-101	GENERAL ARRANGEMENT	1	2013/09/04
20092374-08-3-102	SITE PLAN	0	2012/02/20

REFERENCE DRAWING LIST			
DRAWING NUMBER	DESCRIPTION	REV.	DATE
20092374-02-3-110	GENERAL NOTES - SHEET 1	1	2013/09/04
20092374-02-3-111	GENERAL NOTES - SHEET 2	0	2011/08/12
20092374-00-1-104	PLAN/ PROFILE - ROAD DESIGN	2	2012/04/20



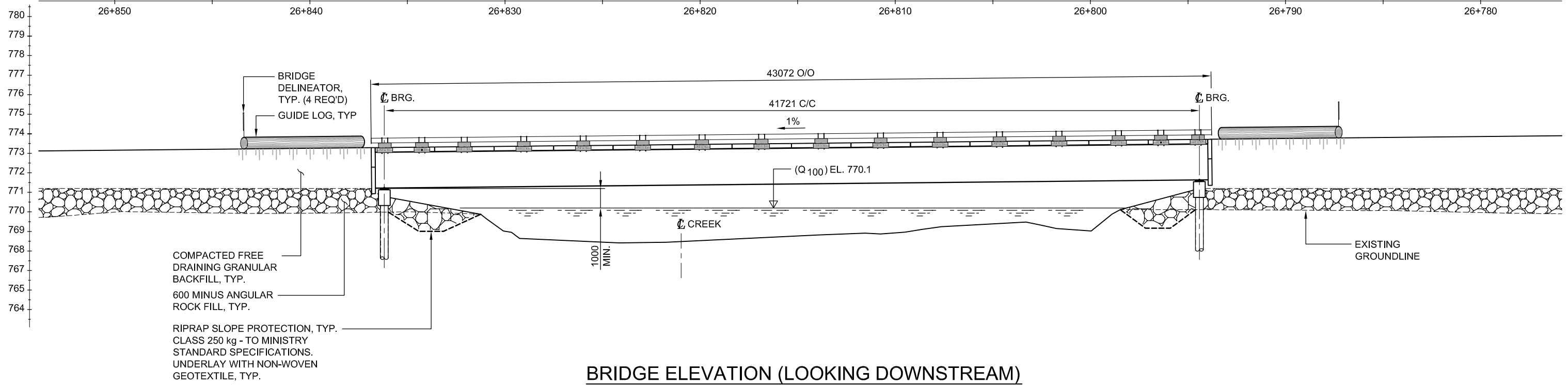
*GLOBAL PERSPECTIVE.
LOCAL FOCUS.*

DRAWING NUMBER	REV. NO.	SHEET
20092374-08-3-100	1	1

This Drawing Is For The Use Of The Client And Project Indicated
No Representations Of Any Kind Are Made To Other Parties

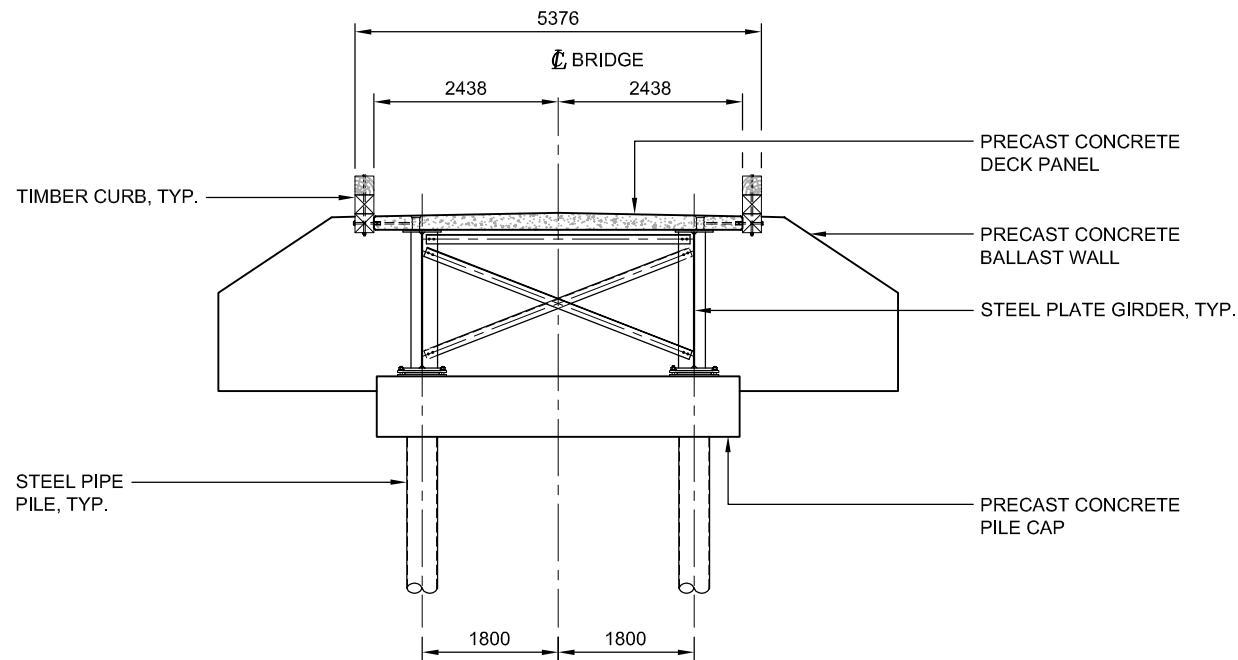
MINE END

TOWN END



BRIDGE ELEVATION (LOOKING DOWNSTREAM)

1:200



TYPICAL ABUTMENT ELEVATION

1:100

P:\20092374-08_26_09\09\04\Drawings\03_Schematic\020227_08_3_111.dwg
DATE: 09/02/11 12:26:05 PM Author: RJP

NO.	DATE	ENG.	BY	SUBJECT
1	2013/09/04	R.J.K.	E.F.	DECK DETAIL REVISED
REVISIONS				

**PRELIMINARY
NOT FOR
CONSTRUCTION**

DRAFT

PROJECT No.	20092374-08		
SCALE	AS SHOWN		
DRAWN	EVAN JOHNSON		2011/10/31
DESIGNED	WAYNE RILEY		2011/10/31
CHECKED	RAY KORPELA		2011/10/31
APPROVED	JULIEN HENLEY		
DATE		INITIAL	

WESTERN COPPER AND GOLD CORPORATION

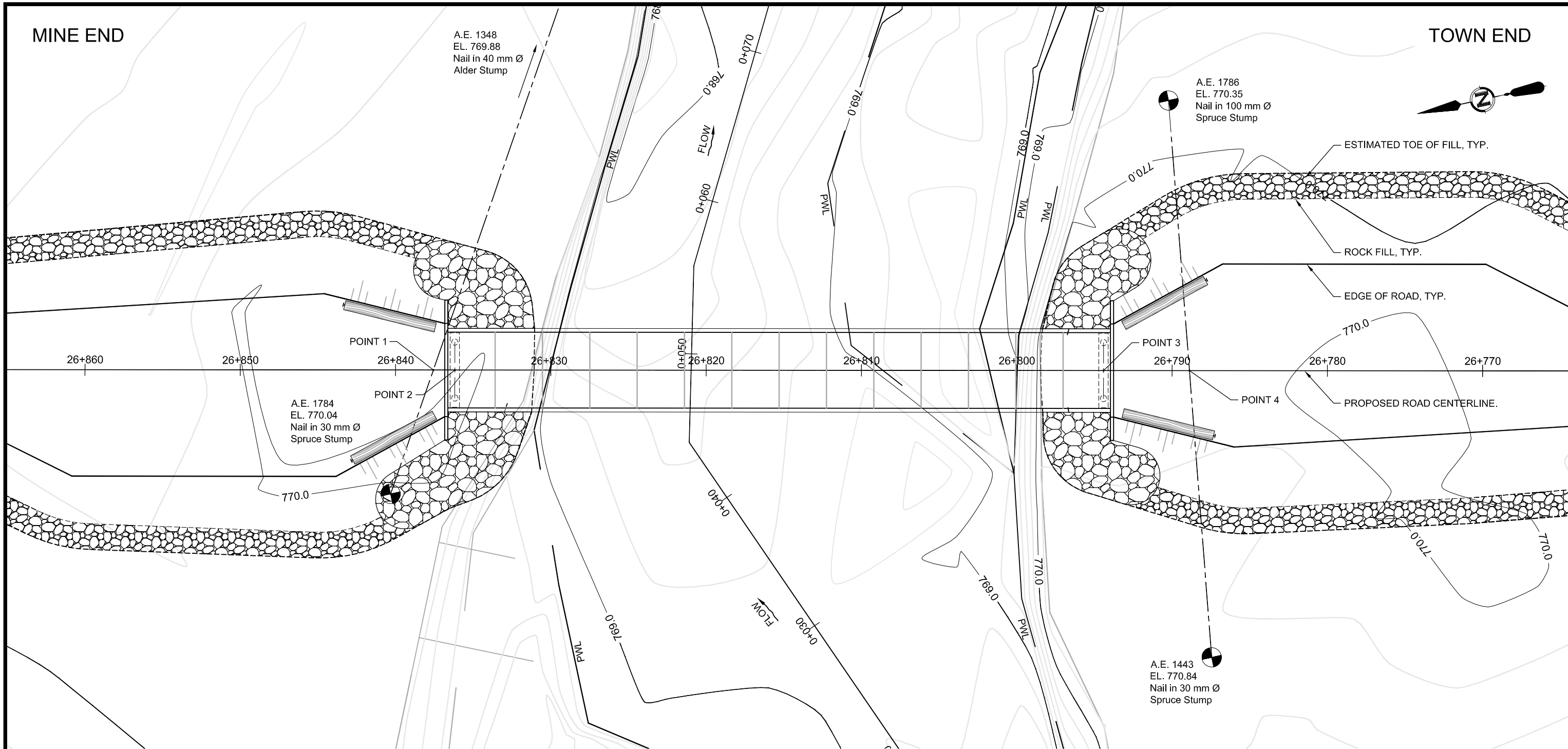
GENERAL ARRANGEMENT

STRUCTURE: B6		
ROAD STATION: 26+840 km		
CROSSING NAME: BIG CREEK		
DRAWING NUMBER	REV. NO.	SHEET
20092374-08-3-101	1	

This Drawing Is For The Use Of The Client And Project Indicated. No Representations Of Any Kind Are Made To Other Parties.

MINE END

TOWN END

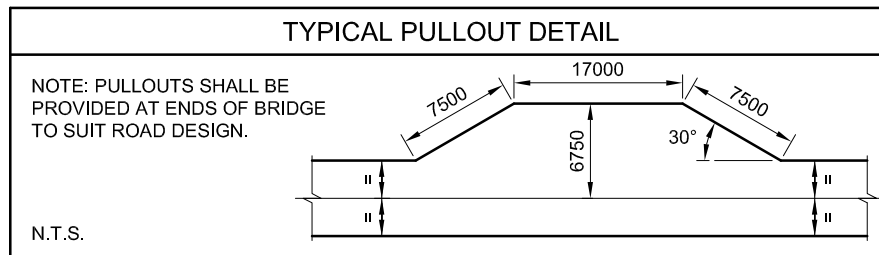


LAYOUT SCHEDULE

A.E.#1348 TO A.E.#1784	58.57 m	POINT 3 TO POINT 4	5.54 m
A.E.#1348 TO POINT 1	50.13 m	A.E.#1942 TO A.E.#1623	35.96 m
A.E.#1784 TO POINT 1	8.44 m	A.E.#1942 TO POINT 4	17.44 m
POINT 1 TO POINT 2	1.39 m	A.E.#1623 TO POINT 4	18.52 m
POINT 2 TO POINT 3	41.72 m		

POINTS 2 & 3 ARE \angle TO BEARING (ALL DISTANCES ARE HORIZONTAL)

TYPICAL PULLOUT DETAIL



RIPRAP TABLE

CLASS OF OF RIPRAP (kg)	NOMINAL THICKNESS OF RIPRAP (mm)	ROCK GRADATION: PERCENT LARGER THAN GIVEN ROCK MASS (kg)					
		85%	50%	15%			
250	1050	25 kg	300 mm	250 kg	600 mm	750 kg	900 mm

NO.	DATE	ENG.	BY	SUBJECT
0	2013/09/04	R.J.K.	E.F.	ISSUED FOR CLIENT REVIEW
REVISIONS				

western
COPPER AND GOLD

PRELIMINARY NOT FOR CONSTRUCTION

DRAFT

AE Associated Engineering

PROJECT No.	20092374-08		
SCALE	1:250		
DRAWN	EVAN JOHNSON		2011/10/31
DESIGNED	WAYNE RILEY		2011/10/31
CHECKED	RAY KORPELA		2011/10/23/1
APPROVED	JULIEN HENLEY		
DATE		INITIAL	

WESTERN COPPER AND GOLD CORPORATION

SITE PLAN

STRUCTURE: B6		
ROAD STATION: 26+840 km		
CROSSING NAME: BIG CREEK		
DRAWING NUMBER	REV. NO.	SHEET
20092374-08-3-102	0	

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WESTERN COPPER AND GOLD CORPORATION

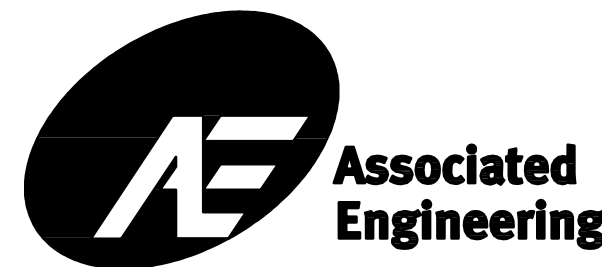
CASINO MINE ACCESS

STRUCTURE: B7 ROAD STATION: 51+170 km CROSSING NAME: HAYES CREEK

AE Project Number: 20092374-09

DRAWING LIST			
DRAWING NUMBER	DESCRIPTION	REV.	DATE
20092374-09-3-101	GENERAL ARRANGEMENT	1	2013/09/04
20092374-09-3-102	SITE PLAN	0	2012/02/20

REFERENCE DRAWING LIST			
DRAWING NUMBER	DESCRIPTION	REV.	DATE
20092374-02-3-110	GENERAL NOTES - SHEET 1	1	2013/09/04
20092374-02-3-111	GENERAL NOTES - SHEET 2	0	2011/08/12
20092374-00-1-107	PLAN/ PROFILE - ROAD DESIGN	2	2012/04/20



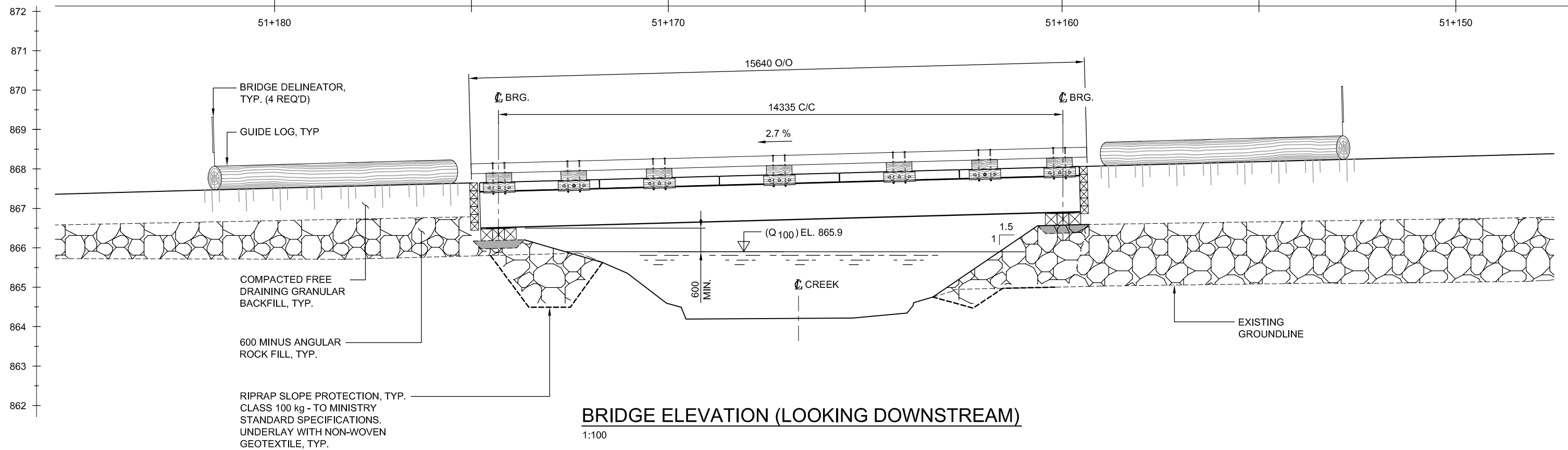
GLOBAL PERSPECTIVE.
LOCAL FOCUS.

DRAWING NUMBER	REV. NO.	SHEET
20092374-09-3-100	1	1

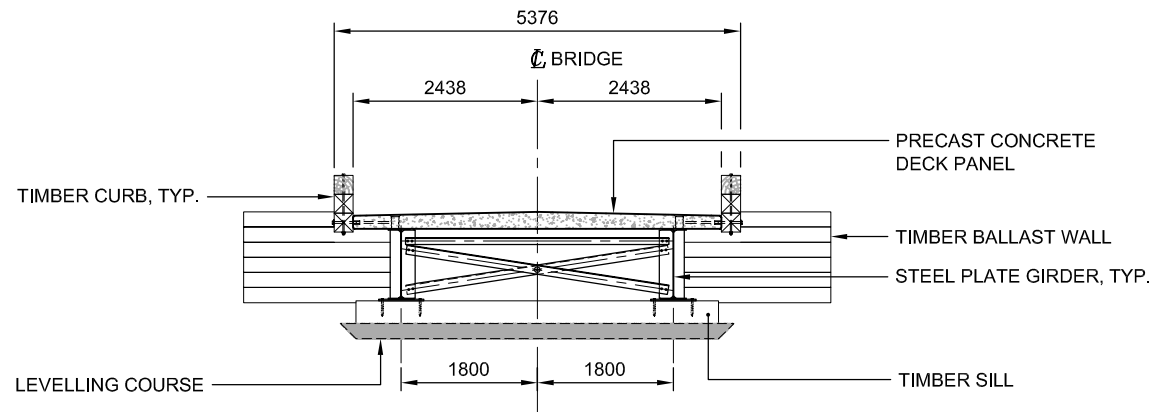
This Drawing Is For The Use Of The Client And Project Indicated
No Representations Of Any Kind Are Made To Other Parties

MINE END

TOWN END



BRIDGE ELEVATION (LOOKING DOWNSTREAM)
1:100



TYPICAL ABUTMENT ELEVATION
1:100

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DATE: 09/02/13 11:30 AM E:\an\p\p

NO.	DATE	ENG.	BY	SUBJECT
1	2013/09/04	R.J.K.	E.F.	DECK AND ABUTMENT DETAILS REVISED
REVISIONS				

**PRELIMINARY
NOT FOR
CONSTRUCTION**

DRAFT

PROJECT No.	20092374-09		
SCALE	AS SHOWN		
DRAWN	EVAN JOHNSON		2011/08/12
DESIGNED	WAYNE RILEY		2011/08/12
CHECKED	RAY KORPELA		
APPROVED	JULIEN HENLEY		
DATE		INITIAL	

WESTERN COPPER AND GOLD CORPORATION

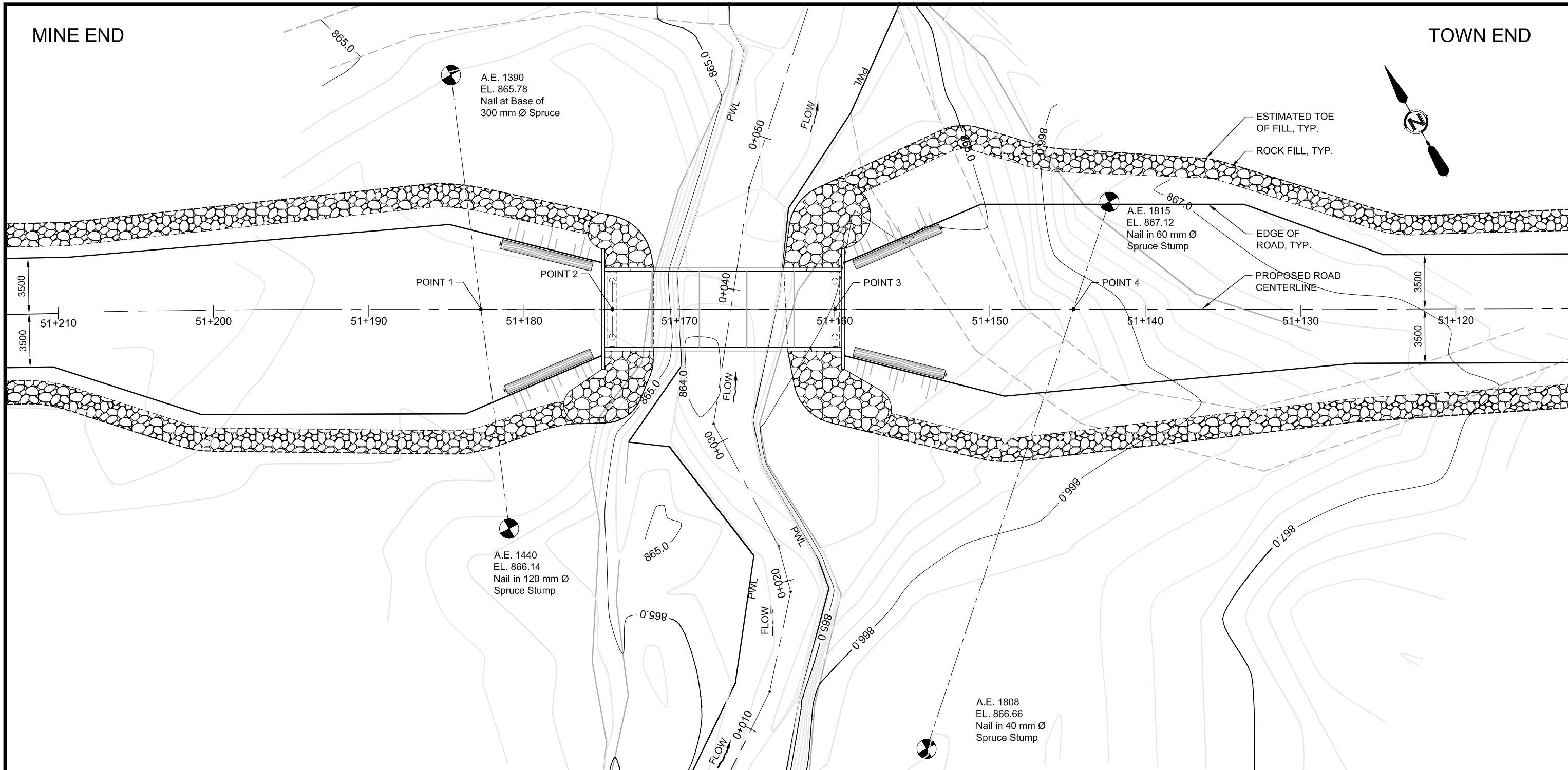
GENERAL ARRANGEMENT

STRUCTURE: B7		
ROAD STATION: 51+170 km		
CROSSING NAME: HAYES CREEK		
DRAWING NUMBER	REV. NO.	SHEET
20092374-09-3-101	1	

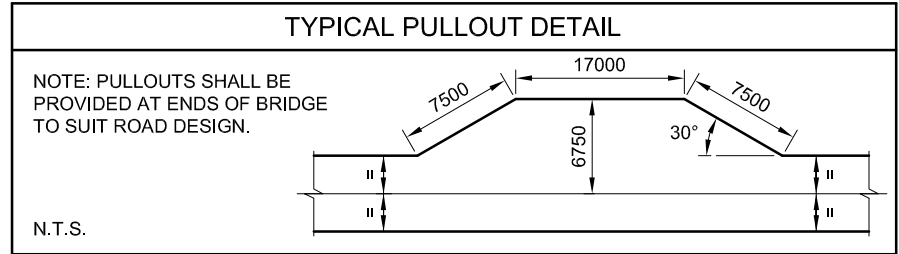
This Drawing Is For The Use Of The Client And Project Indicated. No Representations Of Any Kind Are Made To Other Parties.

MINE END

TOWN END



LAYOUT SCHEDULE			
A.E.#1390 TO A.E.#1440	29.46 m	POINT 3 TO POINT 4	15.36 m
A.E.#1390 TO POINT 1	15.21 m	A.E.#1815 TO A.E.#1808	37.15 m
A.E.#1440 TO POINT 1	14.25 m	A.E.#1815 TO POINT 4	7.29 m
POINT 1 TO POINT 2	8.46 m	A.E.#1808 TO POINT 4	29.86 m
POINT 2 TO POINT 3	14.34 m		
POINTS 2 & 3 ARE \angle TO BEARING (ALL DISTANCES ARE HORIZONTAL)			



RIPRAP TABLE						
CLASS OF OF RIPRAP (kg)	NOMINAL THICKNESS OF RIPRAP (mm)	ROCK GRADATION: PERCENT LARGER THAN GIVEN ROCK MASS (kg)				
		85%	50%	15%		
100	800	10 kg	200 mm	100 kg	450 mm	300 kg 640 mm

NO.	DATE	ENG.	BY	SUBJECT
0	2011/08/15	R.J.K.	W.R.	ISSUED TO CLIENT
REVISIONS				

**PRELIMINARY
NOT FOR
CONSTRUCTION**

DRAFT

PROJECT No.	20092374-09	
SCALE	1:250	
DRAWN	EVAN JOHNSON	2011/08/12
DESIGNED	WAYNE RILEY	2011/08/12
CHECKED	RAY KORPELA	
APPROVED	JULIEN HENLEY	
DATE		INITIAL

WESTERN COPPER AND GOLD CORPORATION

SITE PLAN

STRUCTURE: B7
ROAD STATION: 51+170 km
CROSSING NAME: HAYES CREEK

DRAWING NUMBER	REV. NO.	SHEET
20092374-09-3-102	0	

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WESTERN COPPER AND GOLD CORPORATION

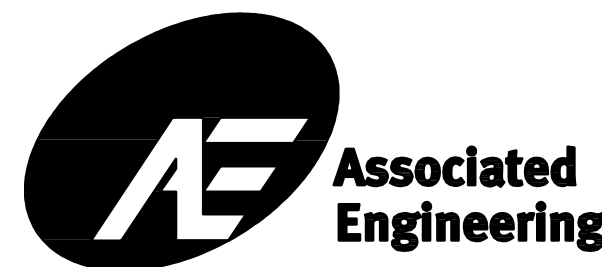
CASINO MINE ACCESS

STRUCTURE: B8 ROAD STATION: 56+790 km CROSSING NAME: HAYES CREEK

AE Project Number: 20092374-10

DRAWING LIST			
DRAWING NUMBER	DESCRIPTION	REV.	DATE
20092374-10-3-101	GENERAL ARRANGEMENT	1	2013/09/04
20092374-10-3-102	SITE PLAN	0	2012/02/20

REFERENCE DRAWING LIST			
DRAWING NUMBER	DESCRIPTION	REV.	DATE
20092374-02-3-110	GENERAL NOTES - SHEET 1	1	2013/09/04
20092374-02-3-111	GENERAL NOTES - SHEET 2	0	2011/08/12
20092374-00-1-108	PLAN/ PROFILE - ROAD DESIGN	2	2012/04/20



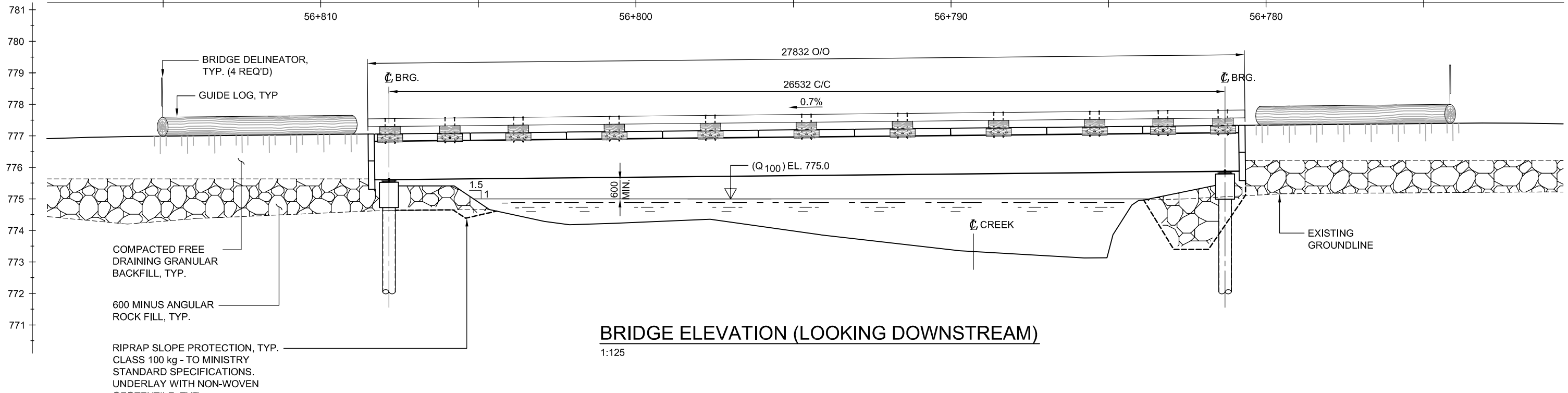
GLOBAL PERSPECTIVE.
LOCAL FOCUS.

DRAWING NUMBER	REV. NO.	SHEET
20092374-10-3-100	1	1

This Drawing Is For The Use Of The Client And Project Indicated
No Representations Of Any Kind Are Made To Other Parties

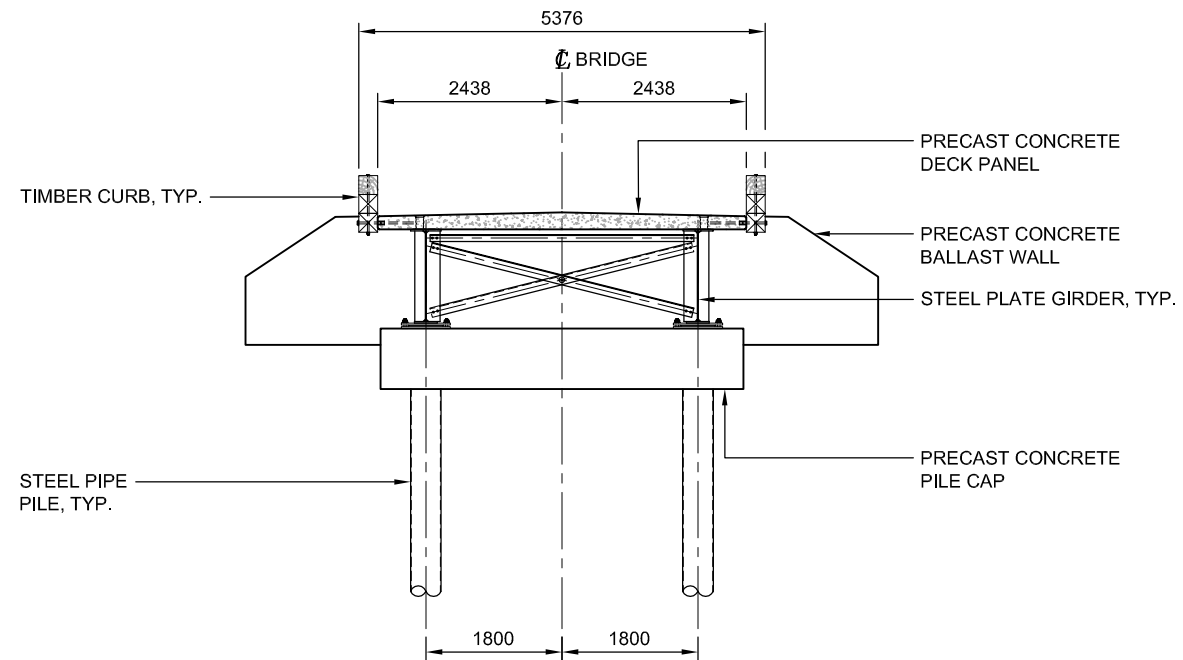
MINE END

TOWN END



BRIDGE ELEVATION (LOOKING DOWNSTREAM)

1:125



TYPICAL ABUTMENT ELEVATION

1:100

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DATE: 09/02/13 12:54 PM E:\an\p\p

NO.	DATE	ENG.	BY	SUBJECT
1	2013/09/04	R.K.	E.F.	DECK DETAIL REVISED
REVISIONS				

**PRELIMINARY
NOT FOR
CONSTRUCTION**

DRAFT

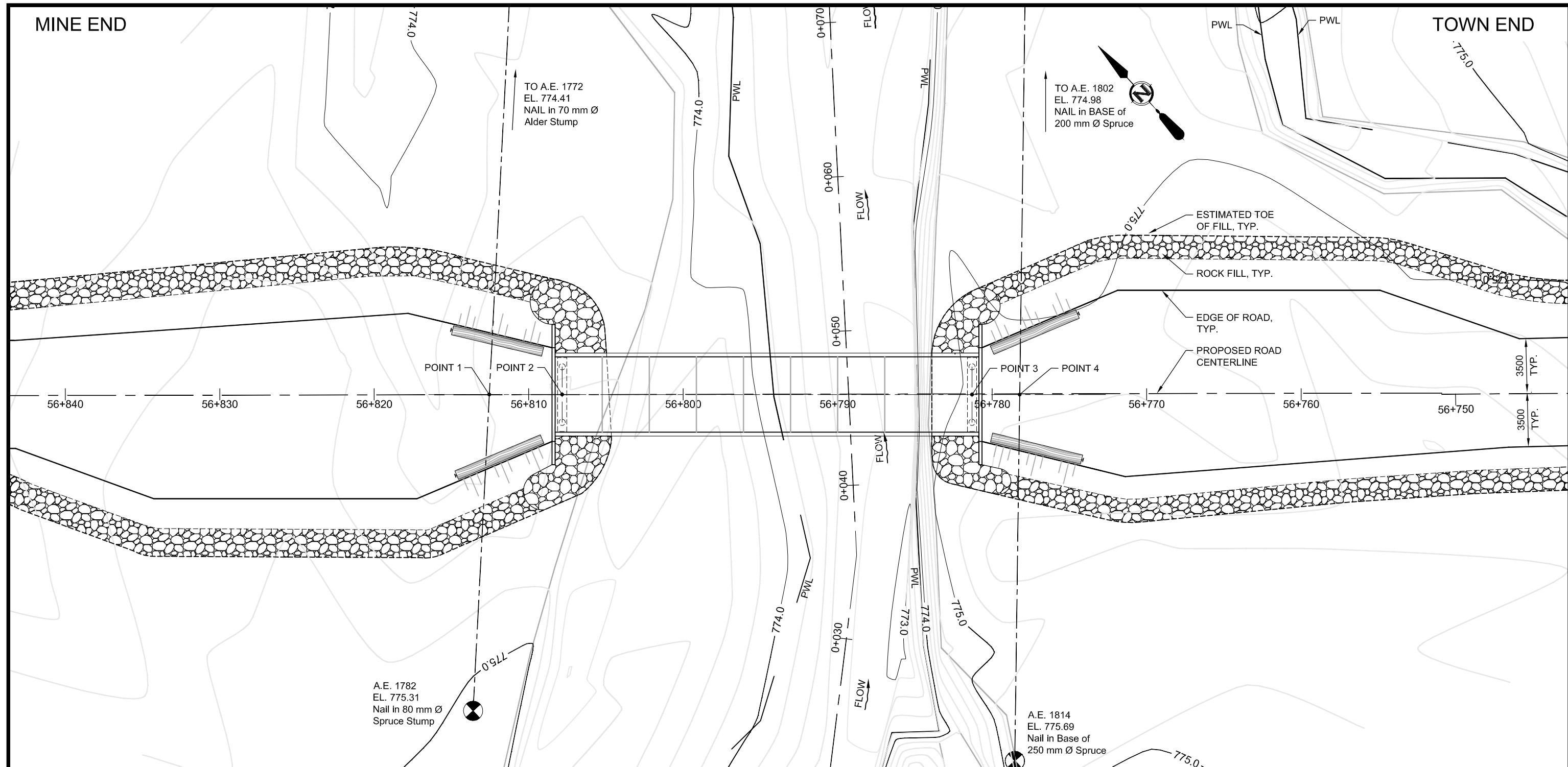
PROJECT No.	20092374-10		
SCALE	AS SHOWN		
DRAWN	EVAN JOHNSON		2011/08/12
DESIGNED	WAYNE RILEY		2011/08/12
CHECKED	RAY KORPELA		
APPROVED	JULIEN HENLEY		
DATE			INITIAL

WESTERN COPPER AND GOLD CORPORATION

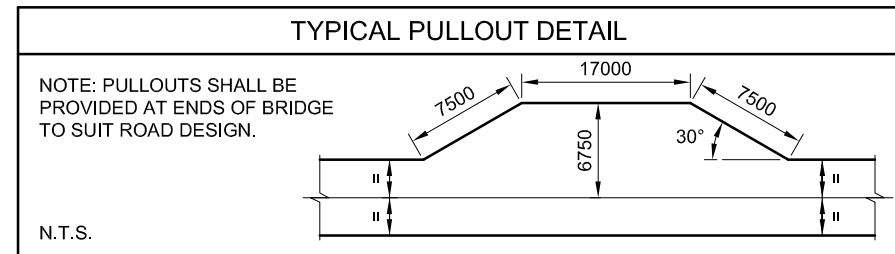
GENERAL ARRANGEMENT

STRUCTURE: B8		
ROAD STATION: 56+790 km		
CROSSING NAME: HAYES CREEK		
DRAWING NUMBER	REV. NO.	SHEET
20092374-10-3-101	1	

This Drawing Is For The Use Of The Client And Project Indicated. No Representations Of Any Kind Are Made To Other Parties.



LAYOUT SCHEDULE			
A.E.#1772 TO A.E.#1782	54.66 m	POINT 3 TO POINT 4	3.08 m
A.E.#1772 TO POINT 1	34.27 m	A.E.#1802 TO A.E.#1814	55.63 m
A.E.#1782 TO POINT 1	20.39 m	A.E.#1802 TO POINT 4	32.02 m
POINT 1 TO POINT 2	4.72 m	A.E.#1814 TO POINT 4	23.61 m
POINT 2 TO POINT 3	26.53 m		
POINTS 2 & 3 ARE \perp TO BEARING (ALL DISTANCES ARE HORIZONTAL)			

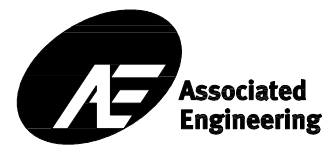


RIPRAP TABLE						
CLASS OF OF RIPRAP (kg)	NOMINAL THICKNESS OF RIPRAP (mm)	ROCK GRADATION: PERCENT LARGER THAN GIVEN ROCK MASS (kg)				
		85%	50%	15%		
100	800	10 kg	200 mm	100 kg	450 mm	300 kg 640 mm

NO.	DATE	ENG.	BY	SUBJECT
0	2013/09/04	R.J.K.	E.F.	ISSUED FOR CLIENT REVIEW
REVISIONS				

**PRELIMINARY
NOT FOR
CONSTRUCTION**

DRAFT



PROJECT No.	20092374-10	
SCALE	1:250	
DRAWN	EVAN JOHNSON	2011/08/12
DESIGNED	WAYNE RILEY	2011/08/12
CHECKED	RAY KORPELA	
APPROVED	JULIEN HENLEY	
DATE		INITIAL

WESTERN COPPER AND GOLD CORPORATION

SITE PLAN

STRUCTURE: B8
ROAD STATION: 56+790 km
CROSSING NAME: HAYES CREEK

DRAWING NUMBER	REV. NO.	SHEET
20092374-10-3-102	0	

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WESTERN COPPER AND GOLD CORPORATION

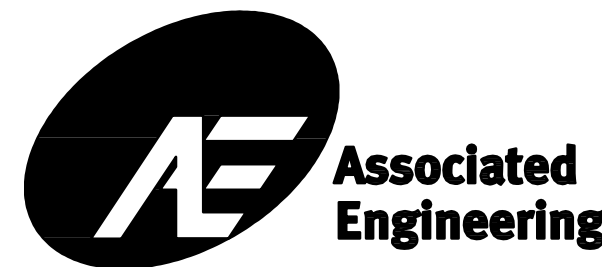
CASINO MINE ACCESS

STRUCTURE: B9
ROAD STATION: 64+740 km
CROSSING NAME: HAYES CREEK

AE Project Number: 20092374-12

DRAWING LIST			
DRAWING NUMBER	DESCRIPTION	REV.	DATE
20092374-12-3-101	GENERAL ARRANGEMENT	1	2013/09/04
20092374-12-3-102	SITE PLAN	0	2012/02/20

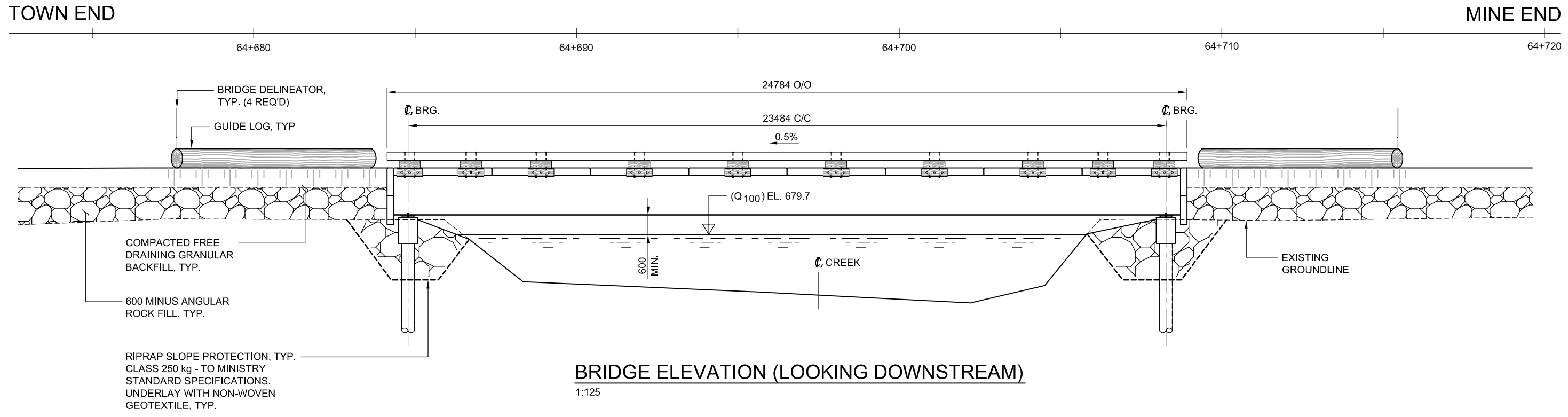
REFERENCE DRAWING LIST			
DRAWING NUMBER	DESCRIPTION	REV.	DATE
20092374-02-3-110	GENERAL NOTES - SHEET 1	1	2013/09/04
20092374-02-3-111	GENERAL NOTES - SHEET 2	0	2011/08/12
20092374-00-1-109	PLAN/ PROFILE - ROAD DESIGN	2	2012/04/20



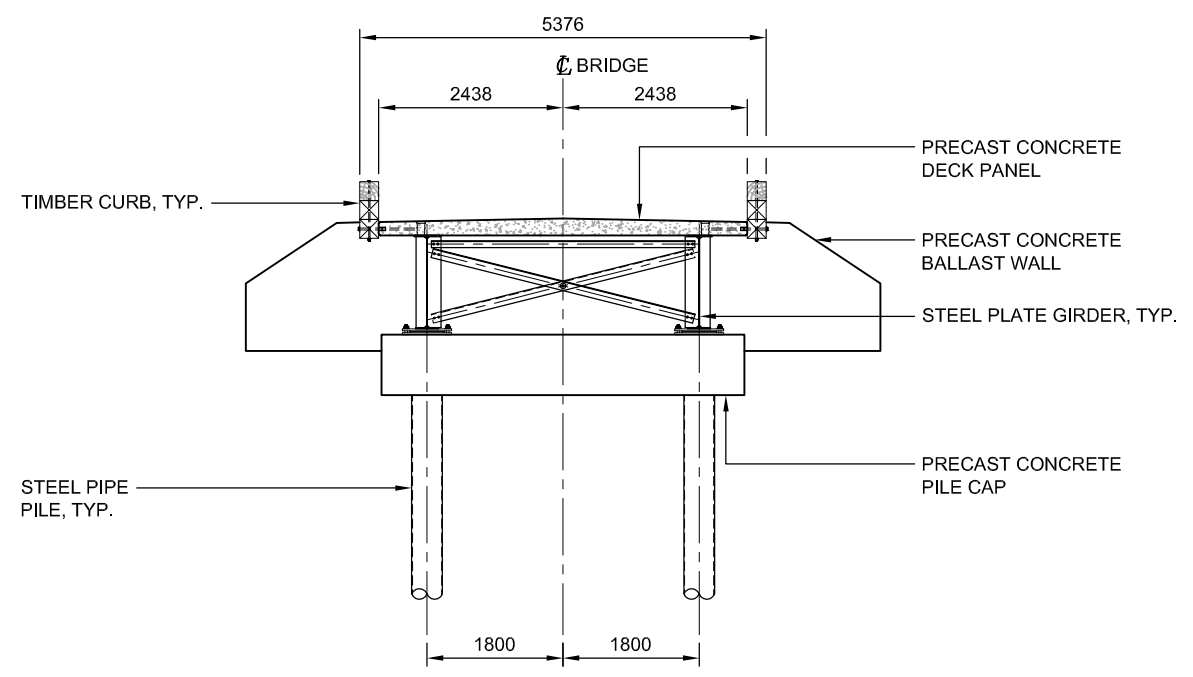
*GLOBAL PERSPECTIVE.
LOCAL FOCUS.*

DRAWING NUMBER	REV. NO.	SHEET
20092374-12-3-100	1	1

This Drawing Is For The Use Of The Client And Project Indicated
No Representations Of Any Kind Are Made To Other Parties



BRIDGE ELEVATION (LOOKING DOWNSTREAM)
1:125

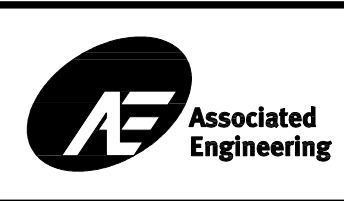


TYPICAL ABUTMENT ELEVATION
1:100

NO.	DATE	ENG.	BY	SUBJECT
1	2013/09/04	R.K.	E.F.	DECK DETAIL REVISED
REVISIONS				

**PRELIMINARY
NOT FOR
CONSTRUCTION**

DRAFT



PROJECT No.	20092374-12	
SCALE	AS SHOWN	
DRAWN	EVAN JOHNSON	2011/08/12
DESIGNED	WAYNE RILEY	2011/08/12
CHECKED	RAY KORPELA	
APPROVED	JULIEN HENLEY	
DATE		INITIAL

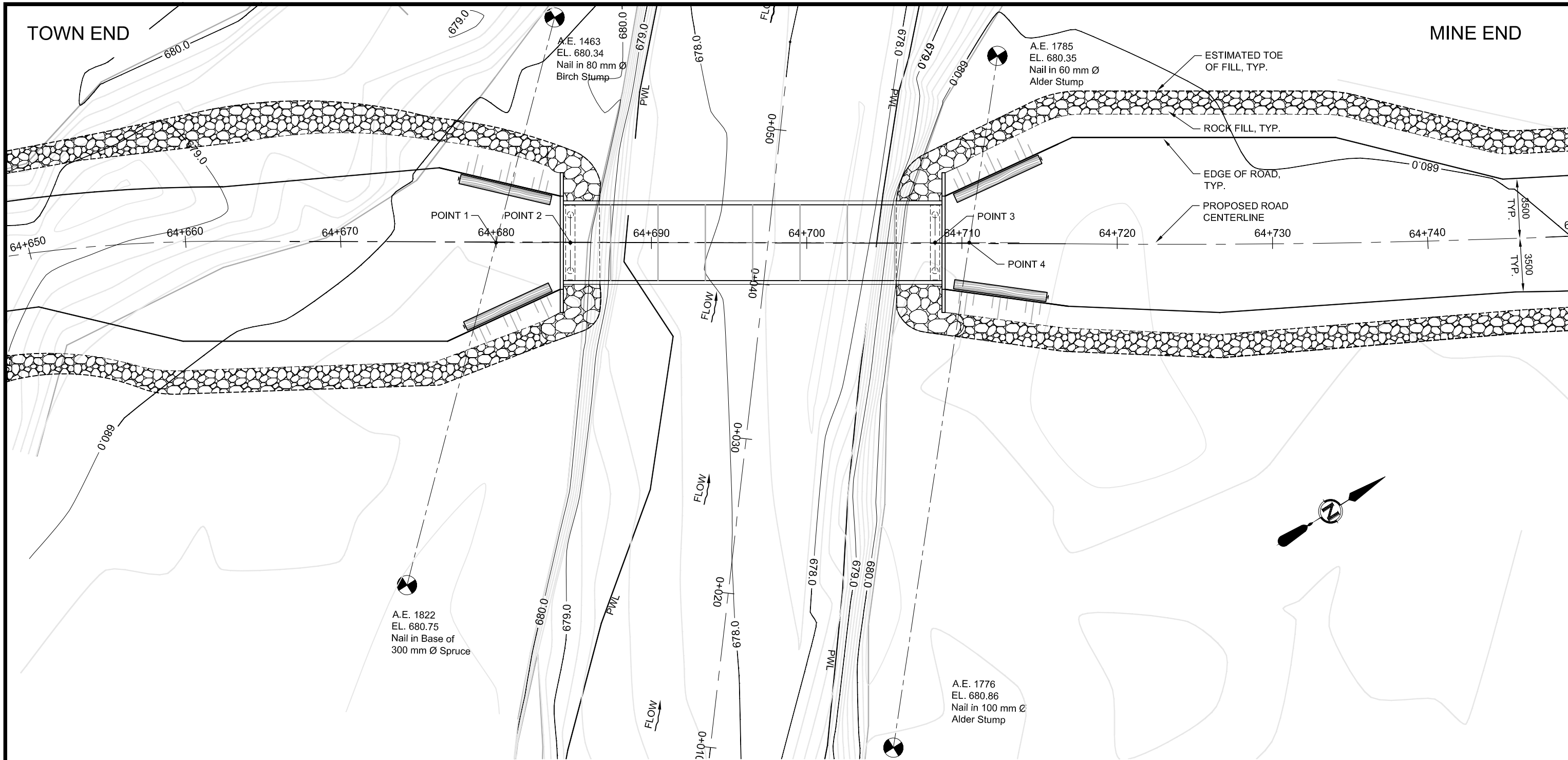
WESTERN COPPER AND GOLD CORPORATION

GENERAL ARRANGEMENT

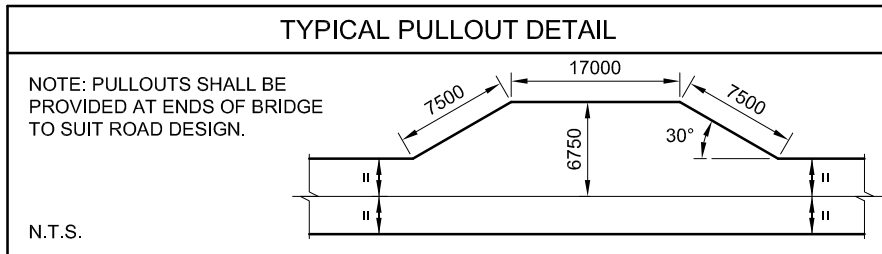
STRUCTURE: B9		
ROAD STATION: 64+740 km		
CROSSING NAME: HAYES CREEK		
DRAWING NUMBER	REV. NO.	SHEET
20092374-12-3-101	1	

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DATE: 2013/09/04 10:44 AM E:\an\efp

This Drawing Is For The Use Of The Client And Project Indicated. No Representations Of Any Kind Are Made To Other Parties.



LAYOUT SCHEDULE			
A.E.#1463 TO A.E.#1822	37.76 m	POINT 3 TO POINT 4	2.21 m
A.E.#1463 TO POINT 1	14.98 m	A.E.#1785 TO A.E.#1776	45.03 m
A.E.#1822 TO POINT 1	22.78 m	A.E.#1785 TO POINT 4	12.16 m
POINT 1 TO POINT 2	4.79 m	A.E.#1776 TO POINT 4	32.87 m
POINT 2 TO POINT 3	23.48 m		
POINTS 2 & 3 ARE ϕ TO BEARING (ALL DISTANCES ARE HORIZONTAL)			



RIPRAP TABLE							
CLASS OF OF RIPRAP (kg)	NOMINAL THICKNESS OF RIPRAP (mm)	ROCK GRADATION: PERCENT LARGER THAN GIVEN ROCK MASS (kg)					
		85%		50%		15%	
250	1050	25 kg	300 mm	250 kg	600 mm	750 kg	900 mm

NO.	DATE	ENG.	BY	SUBJECT
0	2013/09/04	R.J.K.	E.F.	ISSUED FOR CLIENT REVIEW
REVISIONS				

**PRELIMINARY
NOT FOR
CONSTRUCTION**

DRAFT

PROJECT No.	20092374-12		
SCALE	1:250		
DRAWN	EVAN JOHNSON		2011/08/12
DESIGNED	WAYNE RILEY		2011/08/12
CHECKED	RAY KORPELA		
APPROVED	JULIEN HENLEY		
DATE		INITIAL	

WESTERN COPPER AND GOLD CORPORATION

SITE PLAN

STRUCTURE: B9 ROAD STATION: 64+740 km HAYES CREEK		
DRAWING NUMBER	REV. NO.	SHEET
20092374-12-3-102	0	

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WESTERN COPPER AND GOLD CORPORATION

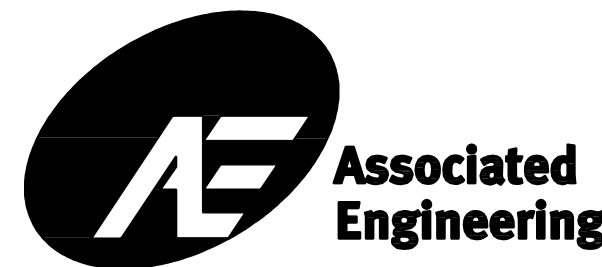
CASINO MINE ACCESS

STRUCTURE: B10
ROAD STATION: 66+220 km
CROSSING NAME: HAYES CREEK SIDE CHANNEL

AE Project Number: 20092374-13

DRAWING LIST			
DRAWING NUMBER	DESCRIPTION	REV.	DATE
20092374-13-3-101	GENERAL ARRANGEMENT	1	2013/09/04
20092374-13-3-102	SITE PLAN	0	2012/02/20

REFERENCE DRAWING LIST			
DRAWING NUMBER	DESCRIPTION	REV.	DATE
20092374-02-3-110	GENERAL NOTES - SHEET 1	1	2013/09/04
20092374-02-3-111	GENERAL NOTES - SHEET 2	0	2011/08/12
20092374-00-1-109	PLAN/ PROFILE - ROAD DESIGN	2	2012/04/20



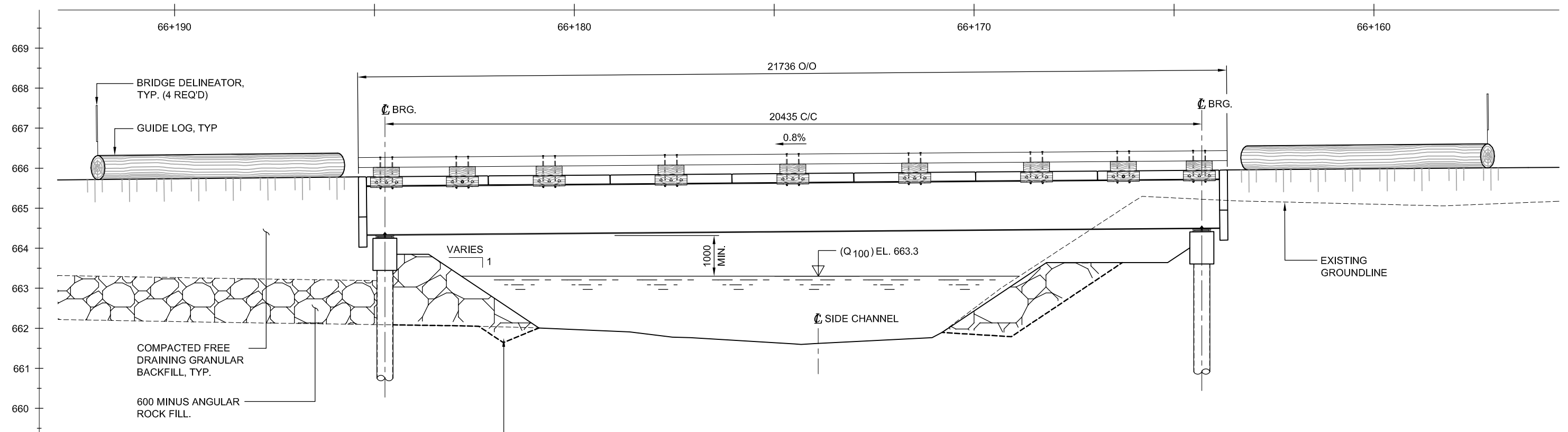
*GLOBAL PERSPECTIVE.
LOCAL FOCUS.*

DRAWING NUMBER	REV. NO.	SHEET
20092374-13-3-100	1	1

This Drawing Is For The Use Of The Client And Project Indicated. No Representations Of Any Kind Are Made To Other Parties.

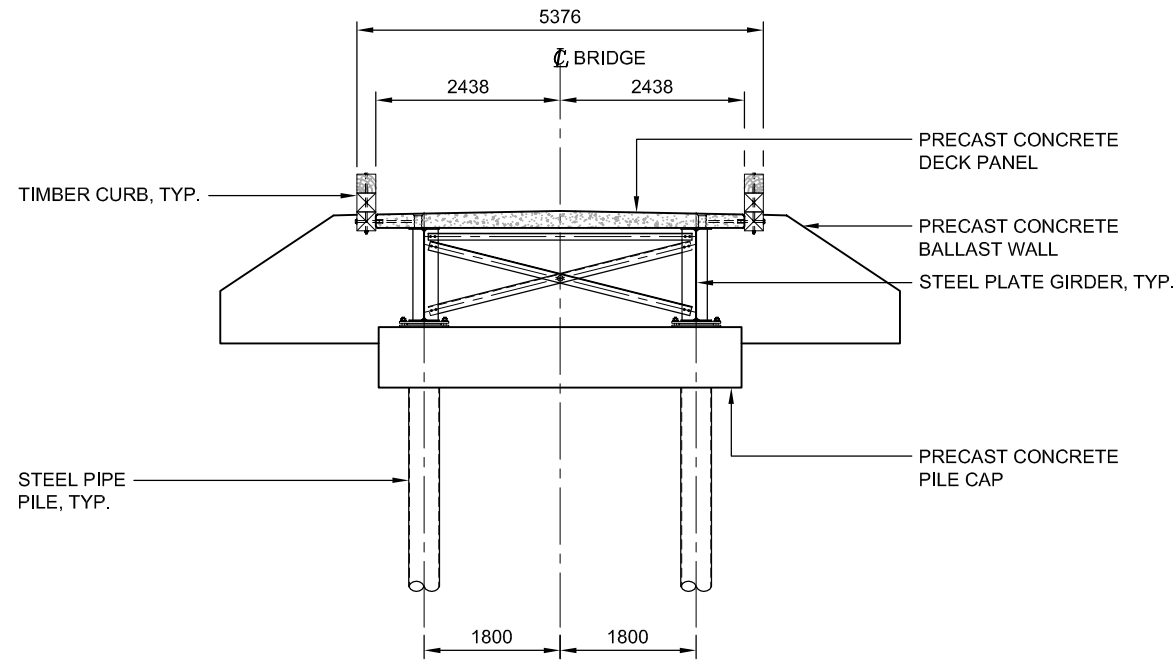
MINE END

TOWN END



BRIDGE ELEVATION (LOOKING DOWNSTREAM)

1:100



TYPICAL ABUTMENT ELEVATION

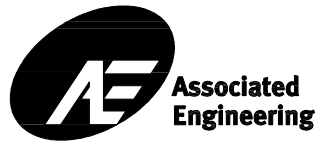
1:100

NO.	DATE	ENG.	BY	SUBJECT
1	2013/09/04	R.J.K.	E.F.	DECK DETAIL REVISED
REVISIONS				

western
COPPER AND GOLD

**PRELIMINARY
NOT FOR
CONSTRUCTION**

DRAFT



PROJECT No.	20092374-13		
SCALE	AS SHOWN		
DRAWN	EVAN JOHNSON		2011/11/03
DESIGNED	WAYNE RILEY		2011/11/03
CHECKED	RAY KORPELA		
APPROVED	JULIEN HENLEY		
DATE		INITIAL	

WESTERN COPPER AND GOLD CORPORATION

GENERAL ARRANGEMENT

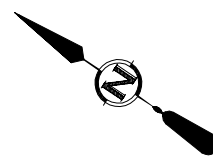
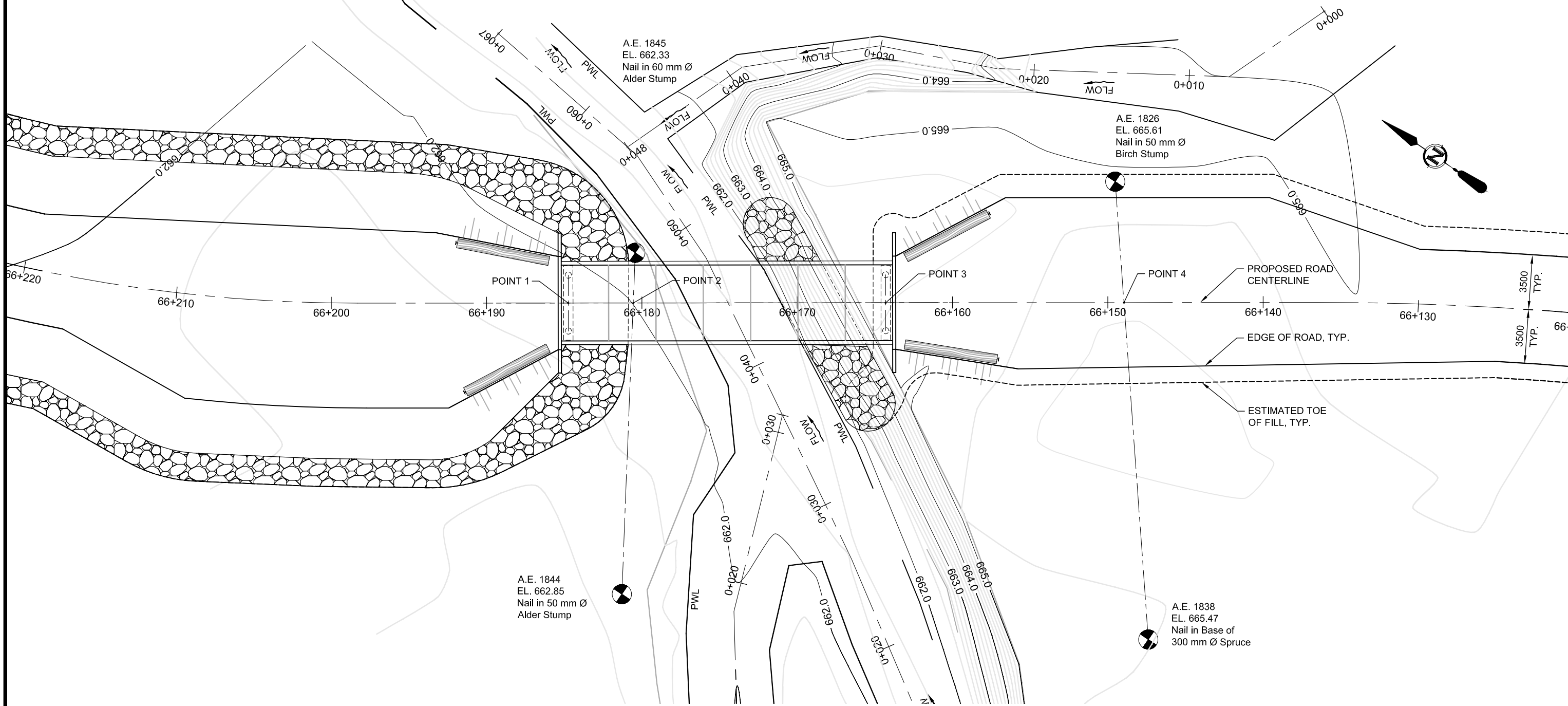
STRUCTURE: B10		
ROAD STATION: 66+220 km		
CROSSING NAME: HAYES CREEK SIDE CHANNEL		
DRAWING NUMBER	REV. NO.	SHEET
20092374-13-3-101	1	

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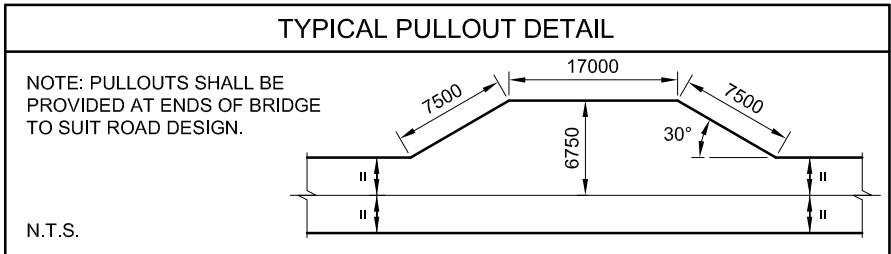
This Drawing Is For The Use Of The Client And Project Indicated. No Representations Of Any Kind Are Made To Other Parties.

MINE END

TOWN END



LAYOUT SCHEDULE			
A.E.#1845 TO A.E.#1844	21.99 m	POINT 3 TO POINT 4	15.34 m
A.E.#1845 TO POINT 2	3.23 m	POINT 1 TO POINT 3	20.44 m
A.E.#1844 TO POINT 2	18.76 m	A.E.#1826 TO A.E.#1838	29.54 m
POINT 1 TO POINT 2	4.18 m	A.E.#1826 TO POINT 4	7.80 m
POINT 2 TO POINT 3	16.26 m	A.E.#1838 TO POINT 4	21.74 m
POINTS 1 & 3 ARE \perp TO BEARING (ALL DISTANCES ARE HORIZONTAL)			

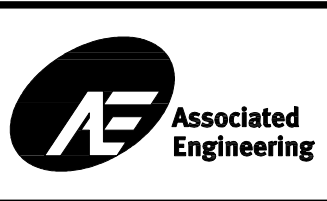


CLASS OF OF RIPRAP (kg)		NOMINAL THICKNESS OF RIPRAP (mm)		ROCK GRADATION: PERCENT LARGER THAN GIVEN ROCK MASS (kg)			
				85%		50%	
100	800	10 kg	200 mm	100 kg	450 mm	300 kg	640 mm

NO.	DATE	ENG.	BY	SUBJECT
0	2013/09/04	R.J.K.	E.F.	ISSUED FOR CLIENT REVIEW
REVISIONS				

western
COPPER AND GOLD

PRELIMINARY NOT FOR CONSTRUCTION DRAFT



PROJECT No.	20092374-13	
SCALE	1:250	
DRAWN	EVAN JOHNSON	2011/11/03
DESIGNED	WAYNE RILEY	2011/11/03
CHECKED	RAY KORPELA	
APPROVED	JULIEN HENLEY	
DATE		INITIAL

WESTERN COPPER AND GOLD CORPORATION

SITE PLAN

STRUCTURE: B10
ROAD STATION: 66+220 km
CROSSING NAME: HAYES CREEK SIDE CHANNEL

DRAWING NUMBER	REV. NO.	SHEET
20092374-13-3-102	0	

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WESTERN COPPER AND GOLD CORPORATION

CASINO MINE ACCESS

STRUCTURE: B11

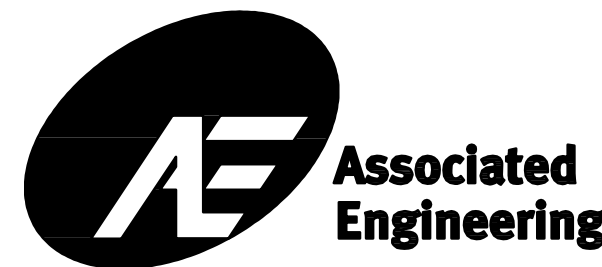
ROAD STATION: 66+360 km

CROSSING NAME: HAYES CREEK SIDE CHANNEL

AE Project Number: 20092374-14

DRAWING LIST			
DRAWING NUMBER	DESCRIPTION	REV.	DATE
20092374-14-3-101	GENERAL ARRANGEMENT	1	2013/09/04
20092374-14-3-102	SITE PLAN	0	2012/02/20

REFERENCE DRAWING LIST			
DRAWING NUMBER	DESCRIPTION	REV.	DATE
20092374-02-3-110	GENERAL NOTES - SHEET 1	1	2013/09/04
20092374-02-3-111	GENERAL NOTES - SHEET 2	0	2011/08/12
20092374-00-1-109	PLAN/ PROFILE - ROAD DESIGN	2	2012/04/20



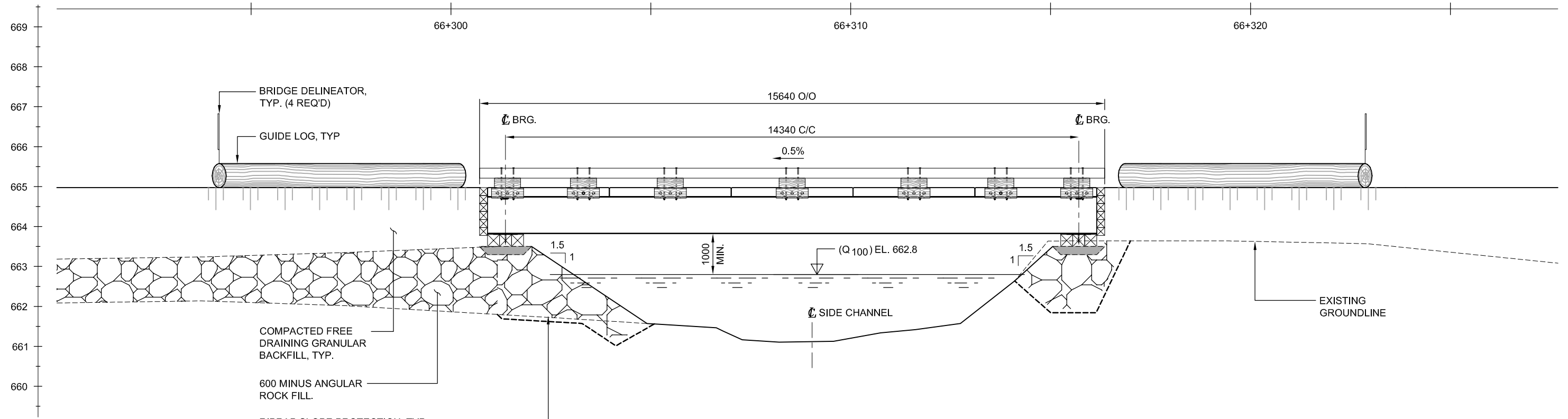
GLOBAL PERSPECTIVE.
LOCAL FOCUS.

DRAWING NUMBER	REV. NO.	SHEET
20092374-14-3-100	1	1

This Drawing Is For The Use Of The Client And Project Indicated. No Representations Of Any Kind Are Made To Other Parties.

TOWN END

MINE END

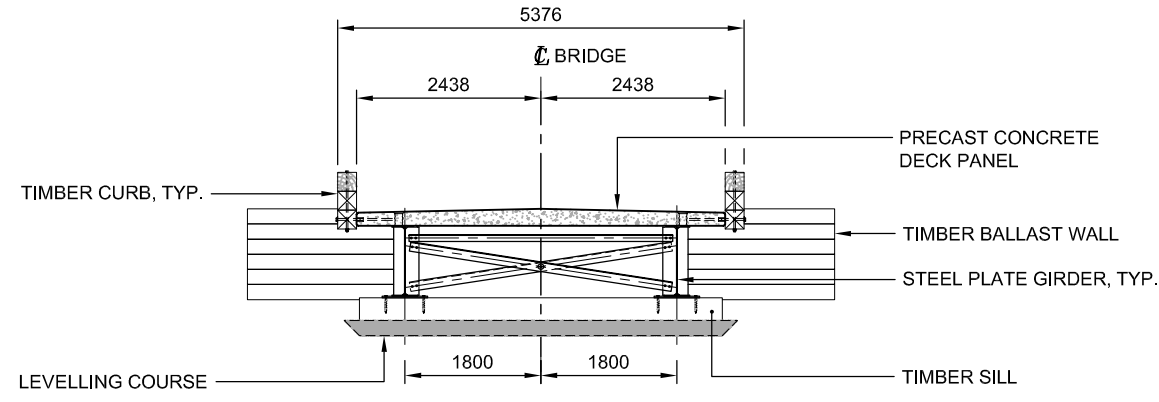


COMPACTED FREE DRAINING GRANULAR BACKFILL, TYP.

600 MINUS ANGULAR ROCK FILL.

RIPRAP SLOPE PROTECTION, TYP. CLASS 100 kg - TO MINISTRY STANDARD SPECIFICATIONS. UNDERLAY WITH NON-WOVEN GEOTEXTILE, TYP.

BRIDGE ELEVATION (LOOKING DOWNSTREAM)
1:100



TYPICAL ABUTMENT ELEVATION
1:100

P:\20092374\14_3009\4444_Ch03\03_Schematic\20092374_14_3_111.dwg
DATE: 09/02/13 11:50:03 AM, E:\an\14300

NO.	DATE	ENG.	BY	SUBJECT
1	2013/09/04	R.J.K.	E.F.	DECK AND ABUTMENT DETAIL REVISED
REVISIONS				

**PRELIMINARY
NOT FOR
CONSTRUCTION**

DRAFT



PROJECT No.	20092374-14		
SCALE	AS SHOWN		
DRAWN	EVAN JOHNSON		2011/11/03
DESIGNED	WAYNE RILEY		2011/11/03
CHECKED	RAY KORPELA		
APPROVED	JULIEN HENLEY		
DATE			INITIAL

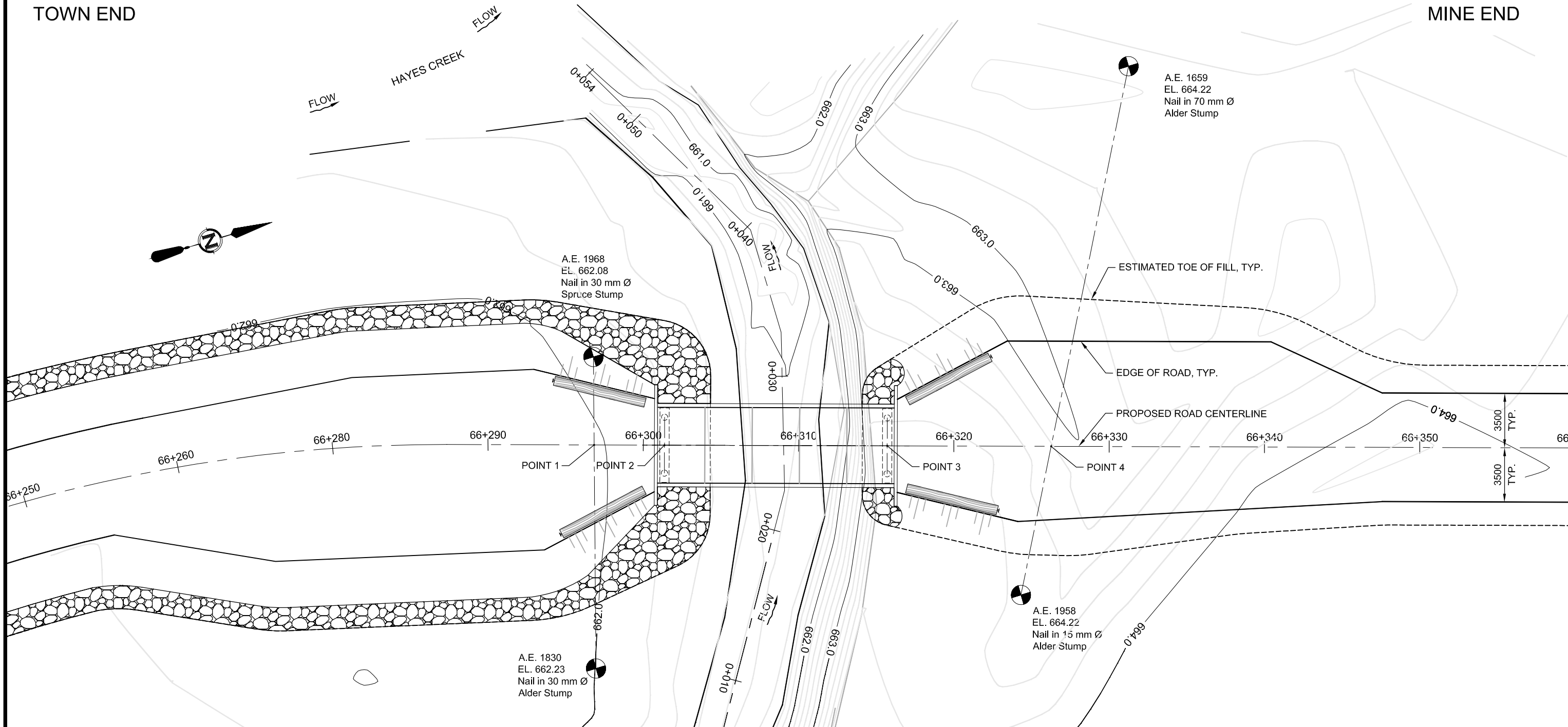
WESTERN COPPER AND GOLD CORPORATION	GENERAL ARRANGEMENT		
	DRAWING NUMBER	REV. NO.	SHEET
	20092374-14-3-101	1	

STRUCTURE: B11		
ROAD STATION: 66+360 km		
CROSSING NAME: HAYES CREEK SIDE CHANNEL		
DRAWING NUMBER	REV. NO.	SHEET
20092374-14-3-101	1	

This Drawing Is For The Use Of The Client And Project Indicated. No Representations Of Any Kind Are Made To Other Parties.

TOWN END

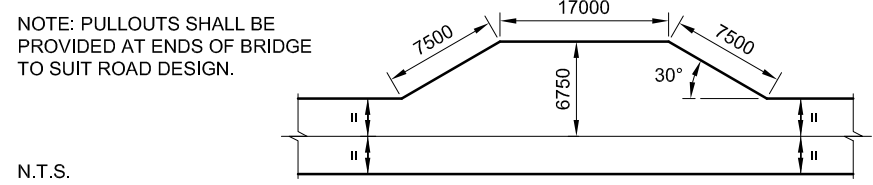
MINE END



LAYOUT SCHEDULE

A.E.#1968 TO A.E.#1830	20.07 m	POINT 3 TO POINT 4	10.56 m
A.E.#1968 TO POINT 2	5.67 m	A.E.#1659 TO A.E.#1958	34.76 m
A.E.#1830 TO POINT 2	14.40 m	A.E.#1659 TO POINT 4	24.99 m
POINT 1 TO POINT 2	4.53 m	A.E.#1958 TO POINT 4	9.77 m
POINT 2 TO POINT 3	14.34 m		
POINTS 2 & 3 ARE \perp TO BEARING (ALL DISTANCES ARE HORIZONTAL)			

TYPICAL PULLOUT DETAIL



RIPRAP TABLE

CLASS OF OF RIPRAP (kg)	NOMINAL THICKNESS OF RIPRAP (mm)	ROCK GRADATION: PERCENT LARGER THAN GIVEN ROCK MASS (kg)					
		85%	50%	15%			
100	800	10 kg	200 mm	100 kg	450 mm	300 kg	640 mm

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NO.	DATE	ENG.	BY	SUBJECT
0	2013/09/04	R.J.K.	E.F.	ISSUED FOR CLIENT REVIEW
REVISIONS				

western
COPPER AND GOLD

PRELIMINARY NOT FOR CONSTRUCTION

DRAFT

AE Associated Engineering

PROJECT No.	20092374-14		
SCALE	1:250		
DRAWN	EVAN JOHNSON		2011/11/03
DESIGNED	WAYNE RILEY		2011/11/03
CHECKED	RAY KORPELA		
APPROVED	JULIEN HENLEY		
DATE		INITIAL	

WESTERN COPPER AND GOLD CORPORATION

SITE PLAN

STRUCTURE: B11
ROAD STATION: 66+360 km
CROSSING NAME: HAYES CREEK SIDE CHANNEL

DRAWING NUMBER	REV. NO.	SHEET
20092374-14-3-102	0	



WESTERN COPPER AND GOLD CORPORATION

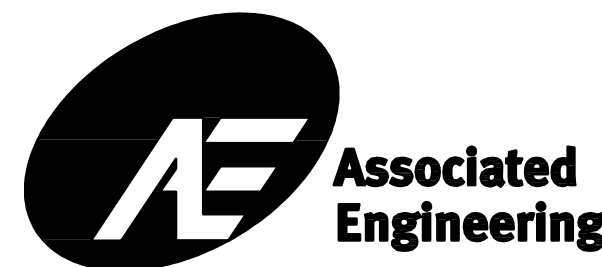
CASINO MINE ACCESS

STRUCTURES: B12a & B12b ROAD STATION: 67+530 km & 67+600 km CROSSING NAME: HAYES CREEK

AE Project Number: 20092374-15

DRAWING LIST			
DRAWING NUMBER	DESCRIPTION	REV.	DATE
20092374-15-3-101	GENERAL ARRANGEMENT - SHEET 1	1	2013/09/04
20092374-15-3-102	GENERAL ARRANGEMENT - SHEET 2	1	2013/09/04
20092374-15-3-103	SITE PLAN - SHEET 1	0	2012/02/20
20092374-15-3-104	SITE PLAN - SHEET 2	0	2012/02/20

REFERENCE DRAWING LIST			
DRAWING NUMBER	DESCRIPTION	REV.	DATE
20092374-02-3-109	GENERAL NOTES - SHEET 1	0	2011/08/12
20092374-02-3-110	GENERAL NOTES - SHEET 2	0	2011/08/12
20092374-00-1-109	PLAN/ PROFILE - ROAD DESIGN	2	2012/04/20



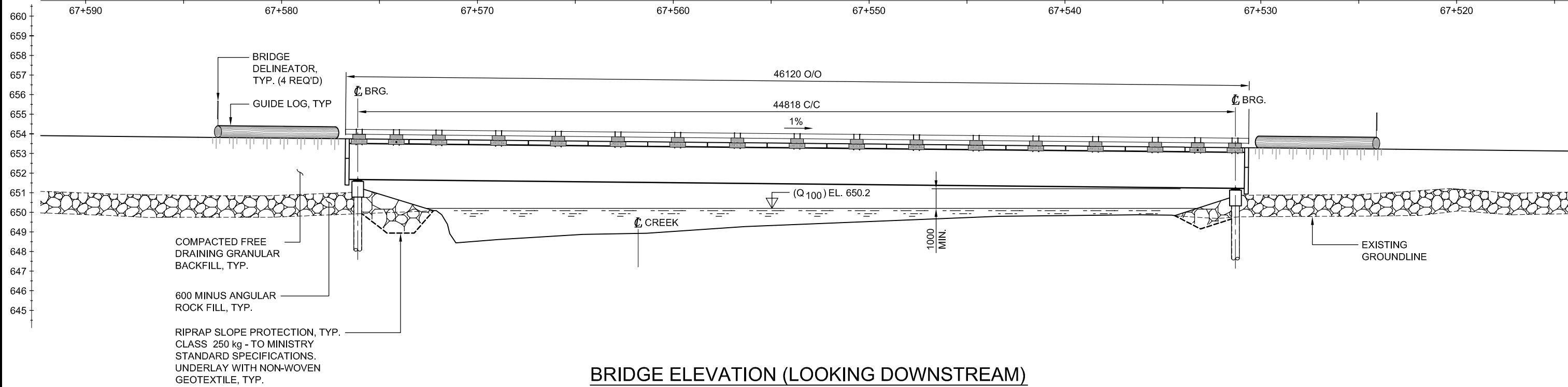
GLOBAL PERSPECTIVE.
LOCAL FOCUS.

DRAWING NUMBER	REV. NO.	SHEET
20092374-15-3-100	1	1

This Drawing Is For The Use Of The Client And Project Indicated
No Representations Of Any Kind Are Made To Other Parties

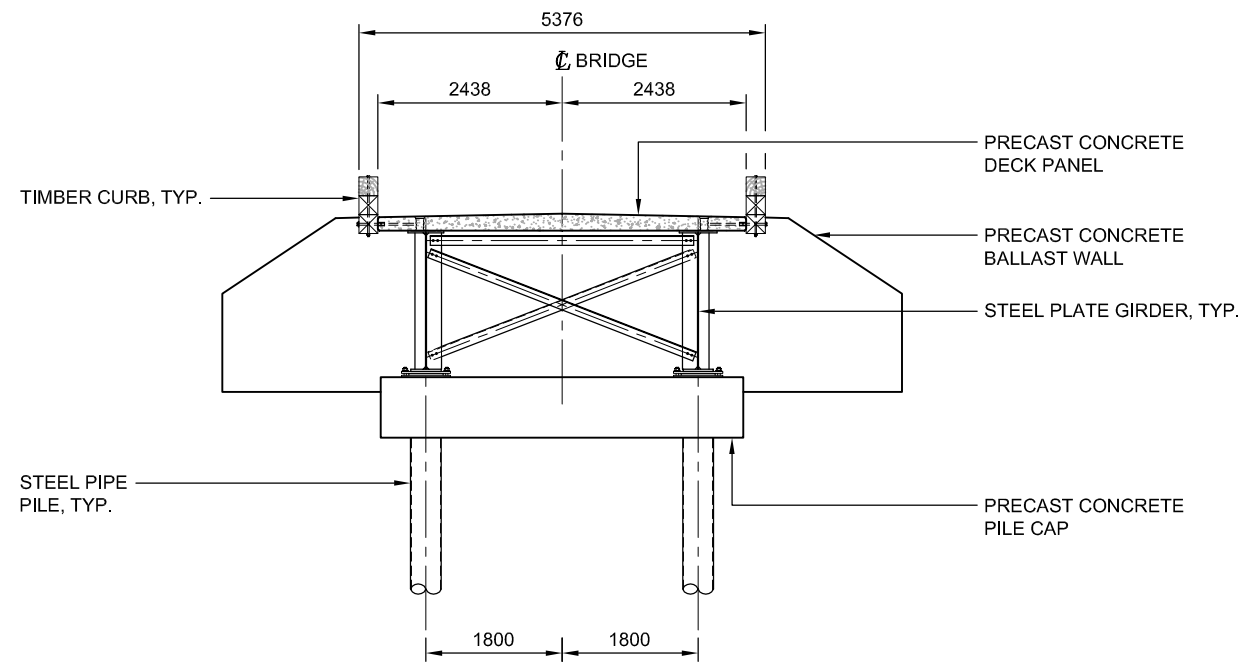
MINE END

TOWN END



BRIDGE ELEVATION (LOOKING DOWNSTREAM)

1:200



TYPICAL ABUTMENT ELEVATION

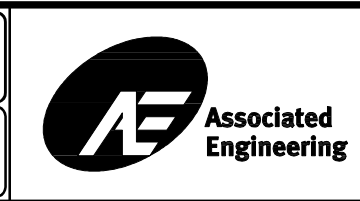
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NO.	DATE	ENG.	BY	SUBJECT
1	2013/09/04	R.J.K.	E.F.	DECK DETAIL REVISED
REVISIONS				

**PRELIMINARY
NOT FOR
CONSTRUCTION**

DRAFT



PROJECT No.	20092374-15		
SCALE	AS SHOWN		
DRAWN	EVAN JOHNSON		2011/10/18
DESIGNED	RYAN VEITCH		2011/10/18
CHECKED	RAY KORPELA		
APPROVED	JULIEN HENLEY		
DATE		INITIAL	

WESTERN COPPER AND GOLD CORPORATION

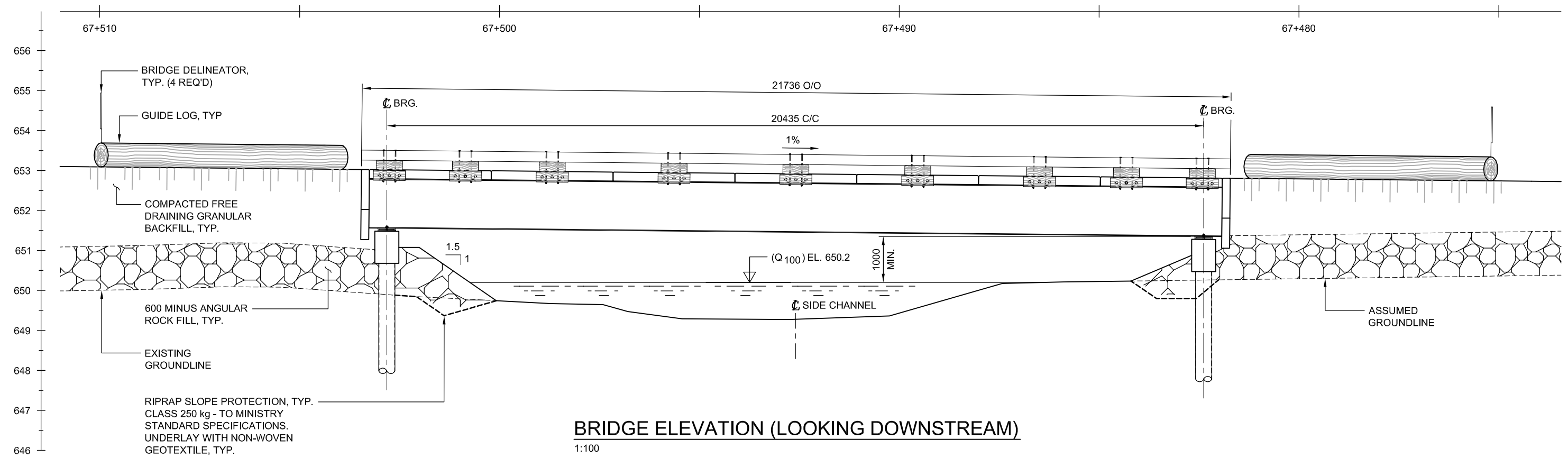
GENERAL ARRANGEMENT - SHEET 1

STRUCTURE: B12b		
ROAD STATION: 67+600 km		
CROSSING NAME: HAYES CREEK		
DRAWING NUMBER	REV. NO.	SHEET
20092374-15-3-101	1	

This Drawing Is For The Use Of The Client And Project Indicated. No Representations Of Any Kind Are Made To Other Parties.

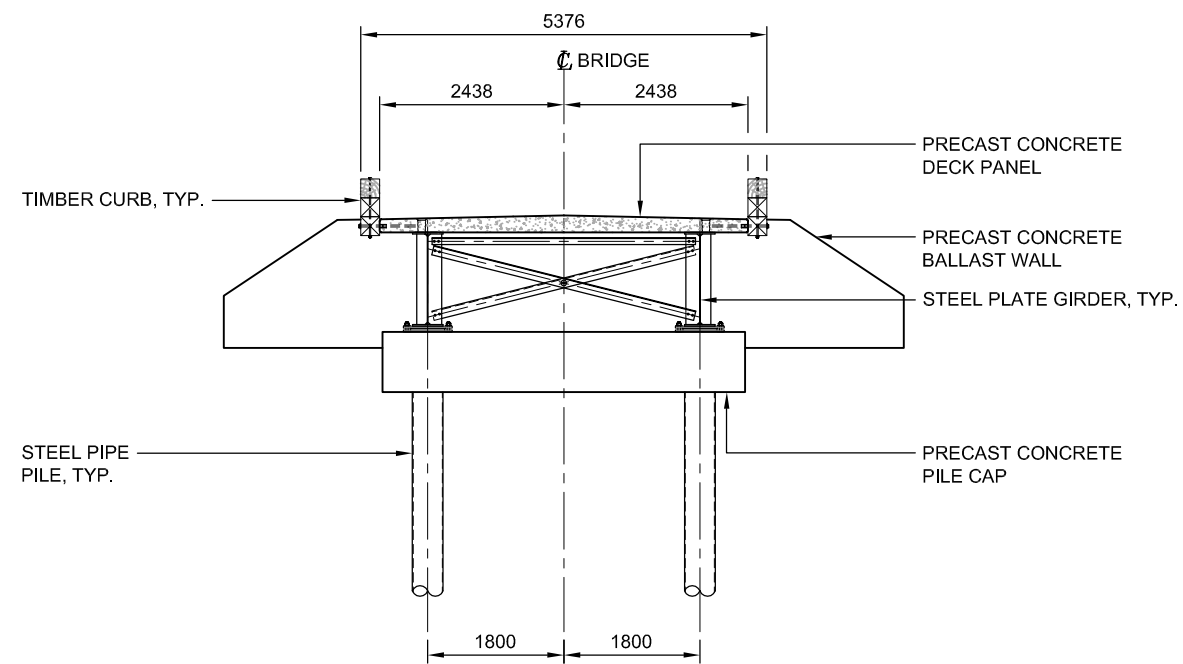
MINE END

TOWN END



BRIDGE ELEVATION (LOOKING DOWNSTREAM)

1:100



TYPICAL ABUTMENT ELEVATION

1:100

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NO.	DATE	ENG.	BY	SUBJECT
1	2013/09/04	R.J.K.	E.F.	DECK DETAIL REVISED
REVISIONS				

**PRELIMINARY
NOT FOR
CONSTRUCTION**

DRAFT

PROJECT No.	20092374-15		
SCALE	AS SHOWN		
DRAWN	EVAN JOHNSON		2011/10/31
DESIGNED	WAYNE RILEY		2011/10/31
CHECKED	RAY KORPELA		
APPROVED	JULIEN HENLEY		
DATE		INITIAL	

WESTERN COPPER AND GOLD CORPORATION

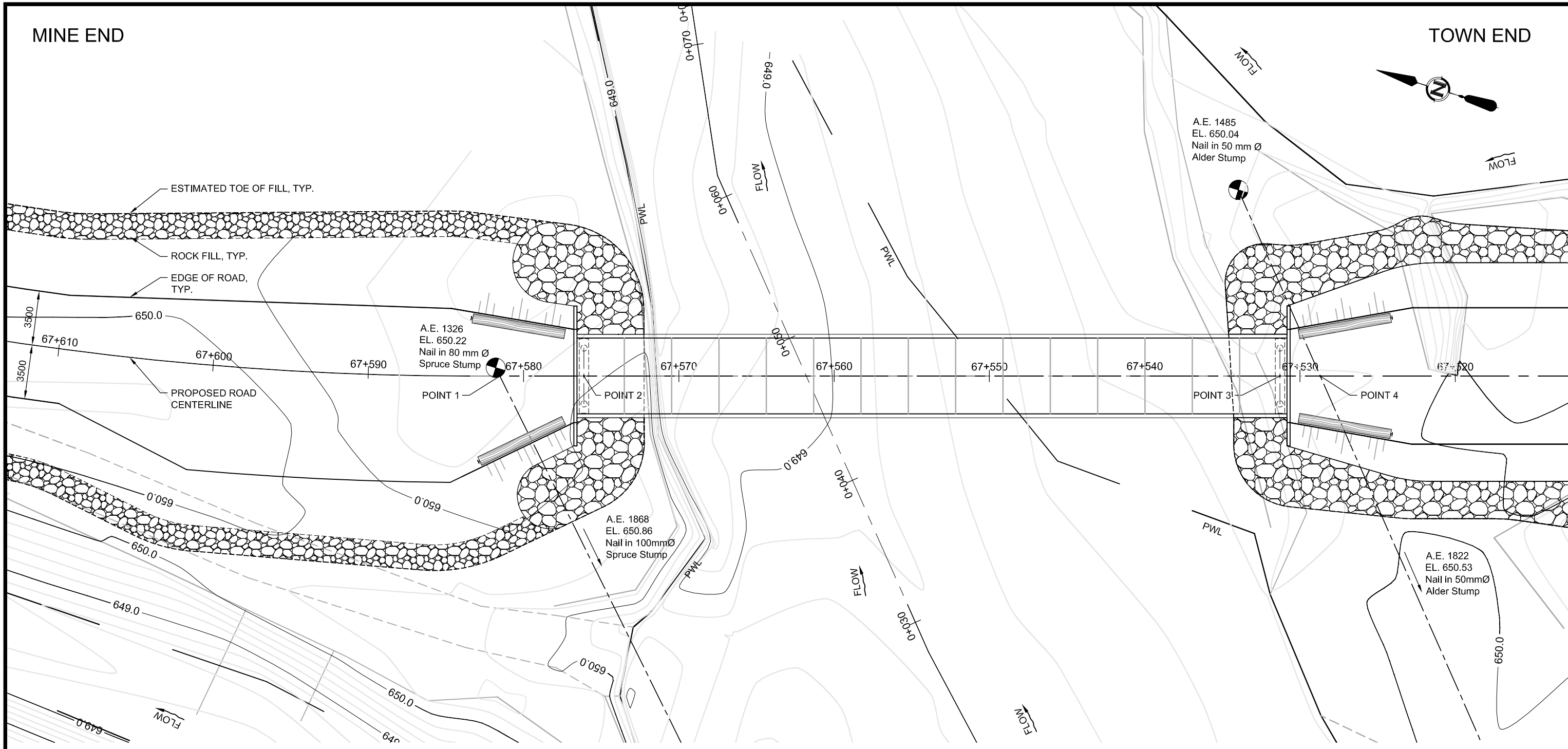
GENERAL ARRANGEMENT - SHEET 2

STRUCTURE: B12a		
ROAD STATION: 67+530 km		
CROSSING NAME: HAYES CREEK		
DRAWING NUMBER	REV. NO.	SHEET
20092374-15-3-102	1	

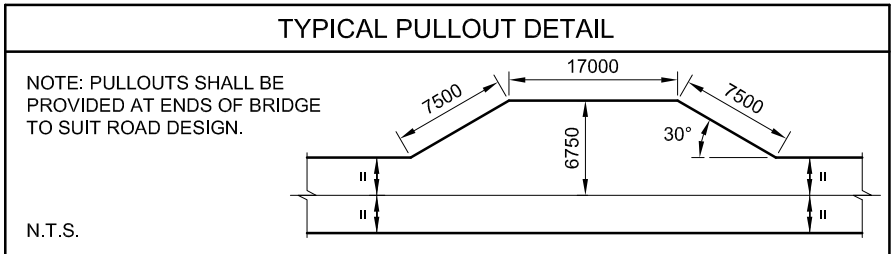
This Drawing Is For The Use Of The Client And Project Indicated. No Representations Of Any Kind Are Made To Other Parties.

MINE END

TOWN END



LAYOUT SCHEDULE			
A.E.#1326 TO A.E.#1868	38.28 m	POINT 3 TO POINT 4	2.59 m
A.E.#1326 TO POINT 1	0.59 m	A.E.#1485 TO A.E.#1322	48.87 m
A.E.#1868 TO POINT 1	37.69 m	A.E.#1485 TO POINT 4	13.08 m
POINT 1 TO POINT 2	5.42 m	A.E.#1322 TO POINT 4	35.79 m
POINT 2 TO POINT 3	44.82 m		
POINTS 2 & 3 ARE \angle TO BEARING (ALL DISTANCES ARE HORIZONTAL)			



CLASS OF OF RIPRAP (kg)		NOMINAL THICKNESS OF RIPRAP (mm)		ROCK GRADATION: PERCENT LARGER THAN GIVEN ROCK MASS (kg)			
				85%	50%	15%	
250	1050	25 kg	300 mm	250 kg	600 mm	750 kg	900 mm

NO.	DATE	ENG.	BY	SUBJECT
0	2013/09/04	R.J.K.	E.F.	ISSUED FOR CLIENT REVIEW
REVISIONS				

**PRELIMINARY
NOT FOR
CONSTRUCTION**

DRAFT

PROJECT No.	20092374-15	
SCALE	1:250	
DRAWN	EVAN JOHNSON	2011/10/18
DESIGNED	RYAN VEITCH	2011/10/18
CHECKED	RAY KORPELA	
APPROVED	JULIEN HENLEY	
DATE		INITIAL

WESTERN COPPER AND GOLD CORPORATION

SITE PLAN - SHEET 1

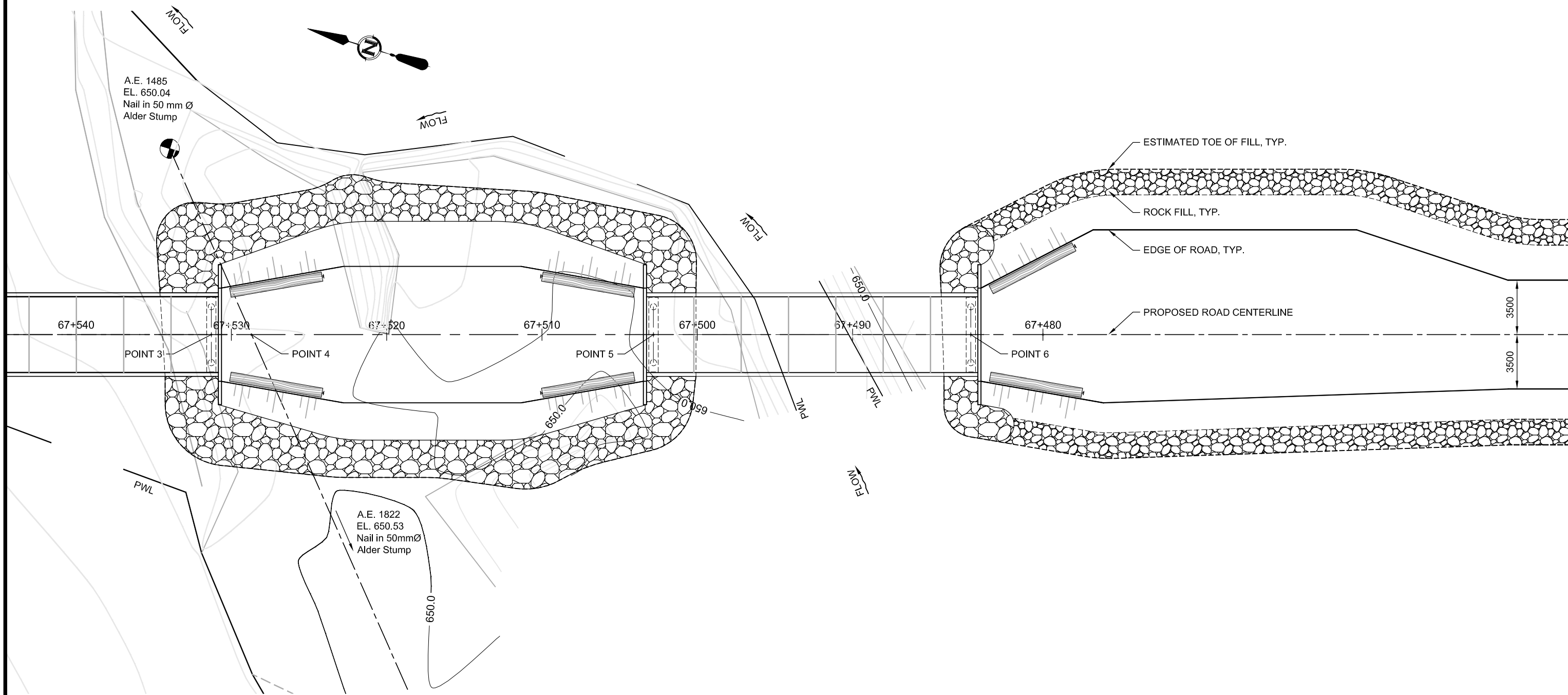
STRUCUTRE: B12b		
ROAD STATION: 67+600 km		
CROSSING NAME: HAYES CREEK		
DRAWING NUMBER	REV. NO.	SHEET
20092374-15-3-103	0	

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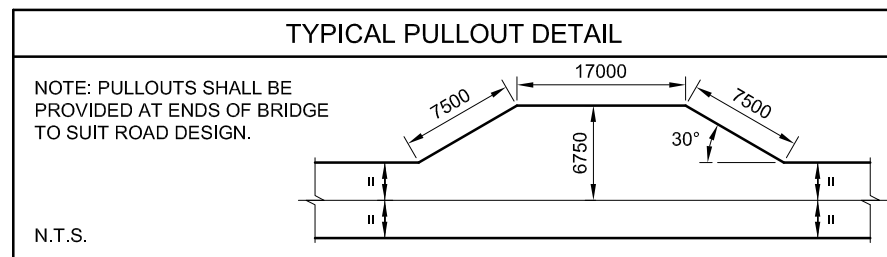
This Drawing Is For The Use Of The Client And Project Indicated. No Representations Of Any Kind Are Made To Other Parties.

MINE END

TOWN END



LAYOUT SCHEDULE			
POINT 3 TO POINT 4	2.59 m	POINT 4 TO POINT 5	25.88 m
A.E.#1485 TO A.E.#1322	48.87 m	POINT 5 TO POINT 6	20.44 m
A.E.#1485 TO POINT 4	13.08 m		
A.E.#1322 TO POINT 4	35.79 m		
POINTS 2 & 3 ARE \angle TO BEARING (ALL DISTANCES ARE HORIZONTAL)			



RIPRAP TABLE		ROCK GRADATION: PERCENT LARGER THAN GIVEN ROCK MASS (kg)					
CLASS OF OF RIPRAP (kg)	NOMINAL THICKNESS OF RIPRAP (mm)	85%		50%		15%	
		25 kg	300 mm	250 kg	600 mm	750 kg	900 mm
250	1050						

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NO.	DATE	ENG.	BY	SUBJECT
0	2013/09/04	R.J.K.	E.F.	ISSUED FOR CLIENT REVIEW
REVISIONS				

**PRELIMINARY
NOT FOR
CONSTRUCTION**

DRAFT

PROJECT No.	20092374-15	
SCALE	1:250	
DRAWN	EVAN JOHNOSN	2011/10/28
DESIGNED	WAYNE RILEY	2011/10/28
CHECKED	RAY KORPELA	
APPROVED	JULIEN HENLEY	
DATE		INITIAL

WESTERN COPPER AND GOLD CORPORATION

SITE PLAN - SHEET 2

STRUCTURE: B12a		
ROAD STATION: 67+530 km		
CROSSING NAME: HAYES CREEK		
DRAWING NUMBER	REV. NO.	SHEET
20092374-15-3-104	0	



WESTERN COPPER AND GOLD CORPORATION

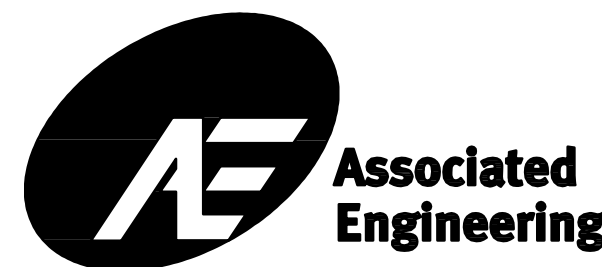
CASINO MINE ACCESS

STRUCTURE: B13 ROAD STATION: 68+500 km CROSSING NAME: HAYES CREEK

AE Project Number: 20092374-16

DRAWING LIST			
DRAWING NUMBER	DESCRIPTION	REV.	DATE
20092374-16-3-101	GENERAL ARRANGEMENT	1	2013/09/04
20092374-16-3-102	SITE PLAN	0	2011/08/12

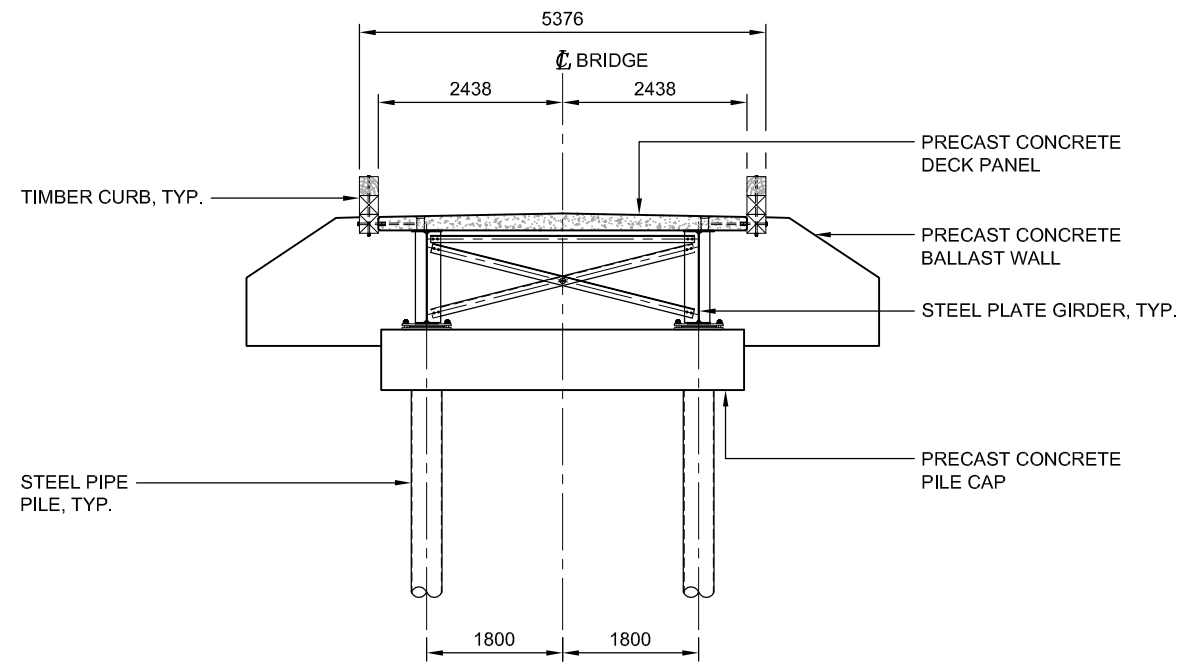
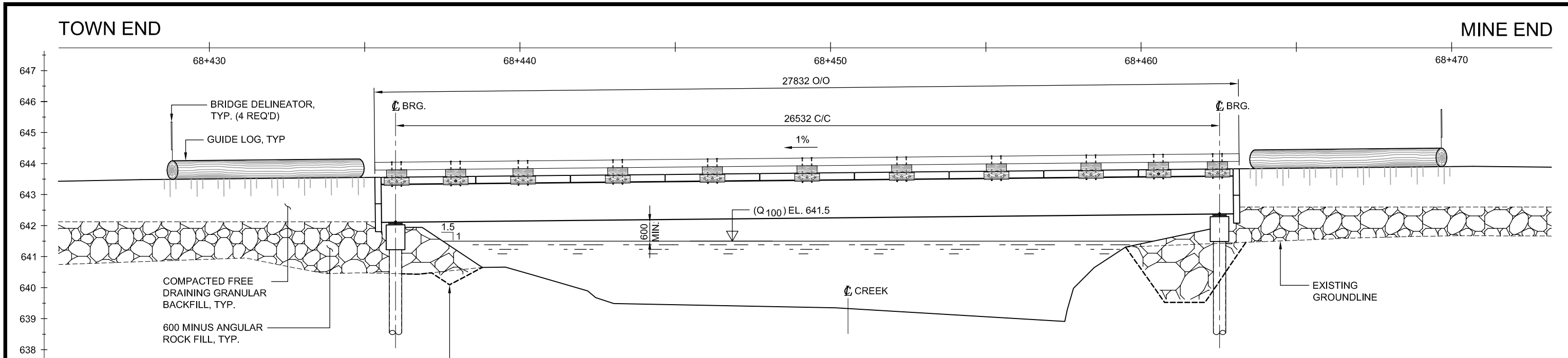
REFERENCE DRAWING LIST			
DRAWING NUMBER	DESCRIPTION	REV.	DATE
20092374-02-3-110	GENERAL NOTES - SHEET 1	1	2013/09/04
20092374-02-3-111	GENERAL NOTES - SHEET 2	0	2011/08/12
20092374-00-1-109	PLAN/ PROFILE - ROAD DESIGN	2	2012/04/20



GLOBAL PERSPECTIVE.
LOCAL FOCUS.

DRAWING NUMBER	REV. NO.	SHEET
20092374-16-3-100	1	1

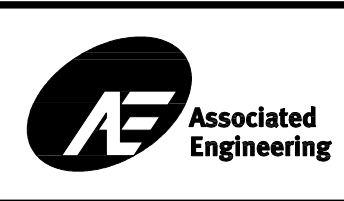
This Drawing Is For The Use Of The Client And Project Indicated. No Representations Of Any Kind Are Made To Other Parties.



NO.	DATE	ENG.	BY	SUBJECT
1	2013/09/04	R.J.K.	E.F.	DECK DETAIL REVISED
REVISIONS				

**PRELIMINARY
NOT FOR
CONSTRUCTION**

DRAFT



PROJECT No.	20092374-16	
SCALE	AS SHOWN	
DRAWN	EVAN JOHNSON	2011/08/12
DESIGNED	WAYNE RILEY	2011/08/12
CHECKED	RAY KORPELA	
APPROVED	JULIEN HENLEY	
DATE		INITIAL

WESTERN COPPER AND GOLD CORPORATION

GENERAL ARRANGEMENT

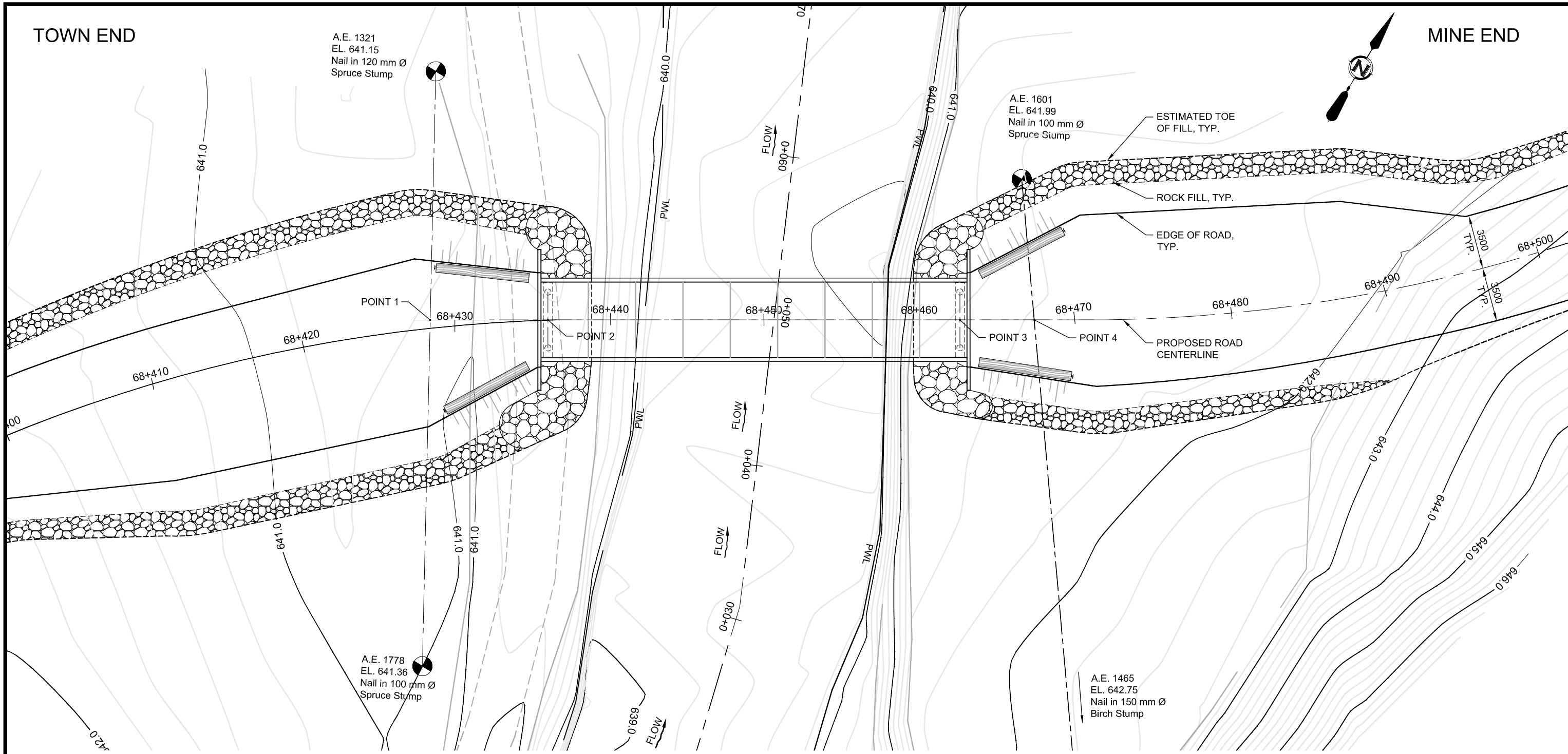
STRUCTURE: B13		
ROAD STATION: 68+500 km		
CROSSING NAME: HAYES CREEK		
DRAWING NUMBER	REV. NO.	SHEET
20092374-16-3-101	1	

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This Drawing Is For The Use Of The Client And Project Indicated. No Representations Of Any Kind Are Made To Other Parties.

TOWN END

MINE END

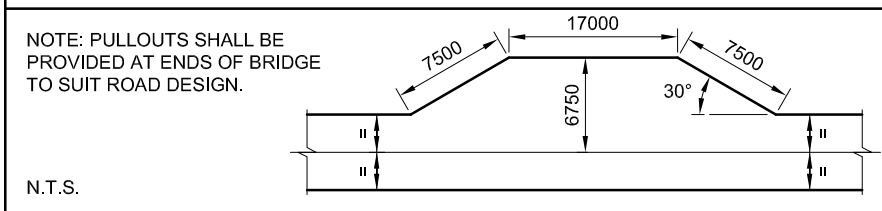


LAYOUT SCHEDULE

A.E.#1321 TO A.E.#1778	38.33 m	POINT 3 TO POINT 4	4.78 m
A.E.#1321 TO POINT 1	16.02 m	A.E.#1601 TO A.E.#1465	42.90 m
A.E.#1778 TO POINT 1	22.31 m	A.E.#1601 TO POINT 4	9.09 m
POINT 1 TO POINT 2	7.58 m	A.E.#1465 TO POINT 4	33.81 m
POINT 2 TO POINT 3	26.53 m		

POINTS 2 & 3 ARE \perp TO BEARING (ALL DISTANCES ARE HORIZONTAL)

TYPICAL PULLOUT DETAIL



RIPRAP TABLE

CLASS OF OF RIPRAP (kg)	NOMINAL THICKNESS OF RIPRAP (mm)	ROCK GRADATION: PERCENT LARGER THAN GIVEN ROCK MASS (kg)					
		85%	50%	15%			
250	1050	25 kg	300 mm	250 kg	600 mm	750 kg	900 mm

NO.	DATE	ENG.	BY	SUBJECT
0	2013/09/04	R.J.K.	E.F.	ISSUED FOR CLIENT REVIEW
REVISIONS				

western
COPPER AND GOLD

PRELIMINARY NOT FOR CONSTRUCTION

DRAFT

AE Associated Engineering

PROJECT No.	20092374-16		
SCALE	1:250		
DRAWN	EVAN JOHNSON		2011/08/12
DESIGNED	WAYNE RILEY		2011/08/12
CHECKED	RAY KORPELA		
APPROVED	JULIEN HENLEY		
DATE		INITIAL	

WESTERN COPPER AND GOLD CORPORATION

SITE PLAN

STRUCTURE: B13
ROAD STATION: 68+500 km
CROSSING NAME: HAYES CREEK

DRAWING NUMBER	REV. NO.	SHEET
20092374-16-3-102	0	

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WESTERN COPPER AND GOLD CORPORATION

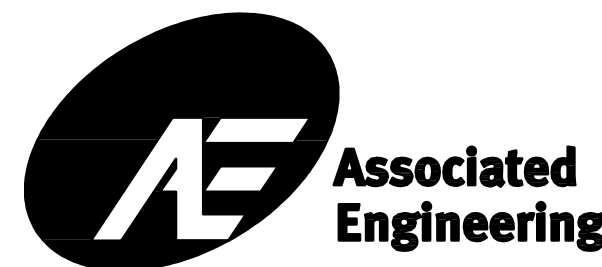
CASINO MINE ACCESS

STRUCTURE: B14 ROAD STATION: 69+380 km CROSSING NAME: HAYES CREEK

AE Project Number: 20092374-17

DRAWING LIST			
DRAWING NUMBER	DESCRIPTION	REV.	DATE
20092374-17-3-101	GENERAL ARRANGEMENT	1	2013/09/04
20092374-17-3-102	SITE PLAN	0	2012/02/20

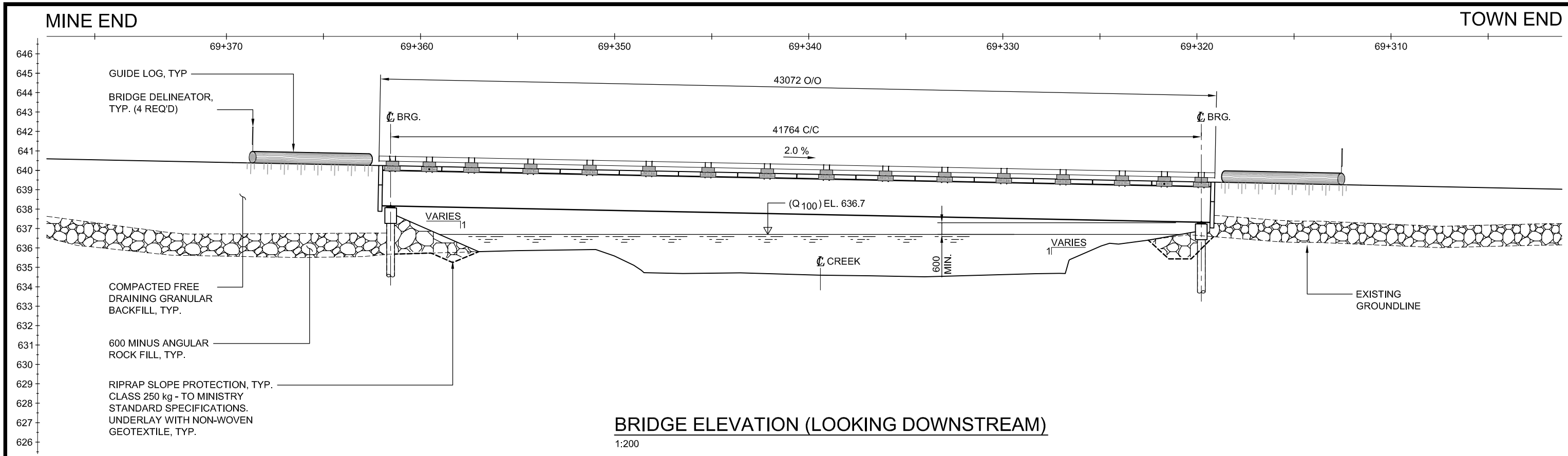
REFERENCE DRAWING LIST			
DRAWING NUMBER	DESCRIPTION	REV.	DATE
20092374-02-3-110	GENERAL NOTES - SHEET 1	1	2013/09/04
20092374-02-3-111	GENERAL NOTES - SHEET 2	0	2011/10/17
20092374-00-1-109	PLAN/ PROFILE - ROAD DESIGN	2	2012/04/20



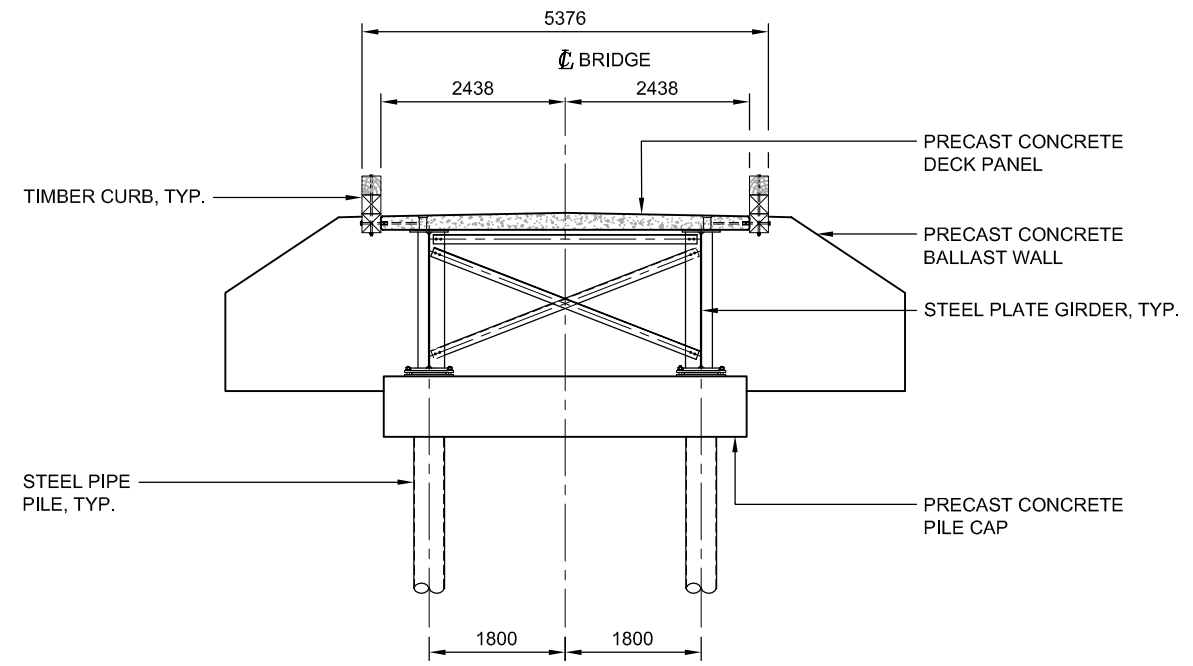
*GLOBAL PERSPECTIVE.
LOCAL FOCUS.*

DRAWING NUMBER	REV. NO.	SHEET
20092374-17-3-100	1	1

This Drawing Is For The Use Of The Client And Project Indicated
No Representations Of Any Kind Are Made To Other Parties



BRIDGE ELEVATION (LOOKING DOWNSTREAM)
1:200



TYPICAL ABUTMENT ELEVATION
1:100

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NO.	DATE	ENG.	BY	SUBJECT
1	2013/09/04	R.J.K.	E.F.	DECK DETAIL REVISED
REVISIONS				

**PRELIMINARY
NOT FOR
CONSTRUCTION**

DRAFT

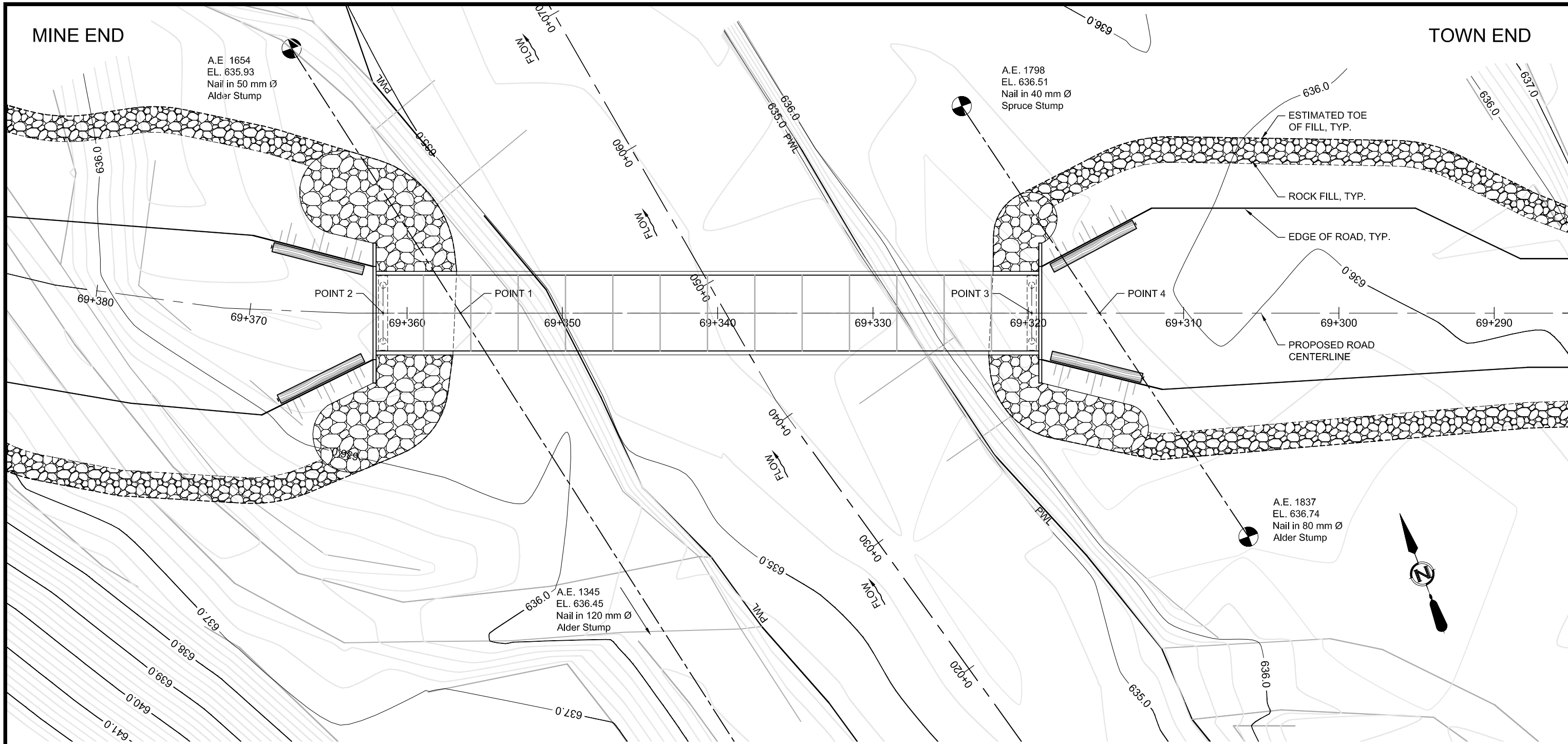
PROJECT No.	20092374-17		
SCALE	AS SHOWN		
DRAWN	EVAN JOHNSON		2011/10/17
DESIGNED	WAYNE RILEY		2011/10/17
CHECKED	RAY KORPELA		
APPROVED	JULIEN HENLEY		
DATE		INITIAL	

WESTERN COPPER AND GOLD CORPORATION

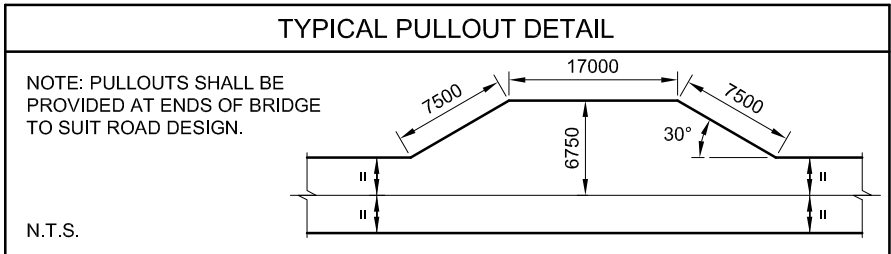
GENERAL ARRANGEMENT

STRUCTURE: B14		
ROAD STATION: 69+380 km		
CROSSING NAME: HAYES CREEK		
DRAWING NUMBER	REV. NO.	SHEET
20092374-17-3-101	1	

This Drawing Is For The Use Of The Client And Project Indicated. No Representations Of Any Kind Are Made To Other Parties.



LAYOUT SCHEDULE			
A.E.#1654 TO A.E.#1345	63.43 m	POINT 3 TO POINT 4	4.36 m
A.E.#1654 TO POINT 1	20.21 m	POINT 1 TO POINT 3	36.78 m
A.E.#1345 TO POINT 1	43.22 m	A.E.#1798 TO A.E.#1837	33.30 m
POINT 1 TO POINT 2	4.98 m	A.E.#1798 TO POINT 4	16.00 m
POINT 2 TO POINT 3	41.76 m	A.E.#1837 TO POINT 4	17.30 m
POINTS 2 & 3 ARE \perp TO BEARING (ALL DISTANCES ARE HORIZONTAL)			



RIPRAP TABLE							
CLASS OF OF RIPRAP (kg)	NOMINAL THICKNESS OF RIPRAP (mm)	ROCK GRADATION: PERCENT LARGER THAN GIVEN ROCK MASS (kg)					
		85%		50%		15%	
250	1050	25 kg	300 mm	250 kg	600 mm	750 kg	900 mm

NO.	DATE	ENG.	BY	SUBJECT
0	2013/09/04	R.J.K.	E.F.	ISSUED FOR CLIENT REVIEW
REVISIONS				

western
 COPPER AND GOLD

**PRELIMINARY
NOT FOR
CONSTRUCTION**
DRAFT

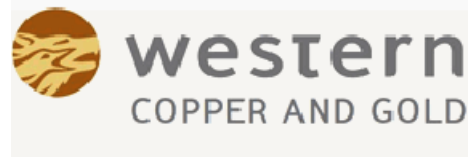
**Associated
Engineering**

PROJECT No.	20092374-17		
SCALE	1:250		
DRAWN	EVAN JOHNSON		2011/10/17
DESIGNED	WAYNE RILEY		2011/10/17
CHECKED	RAY KORPELA		
APPROVED	JULIEN HENLEY		
DATE		INITIAL	

**WESTERN COPPER AND GOLD
CORPORATION**
 SITE PLAN

STRUCTURE: B14		
ROAD STATION: 69+380 km		
CROSSING NAME: HAYES CREEK		
DRAWING NUMBER	REV. NO.	SHEET
20092374-17-3-102	0	

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WESTERN COPPER AND GOLD CORPORATION

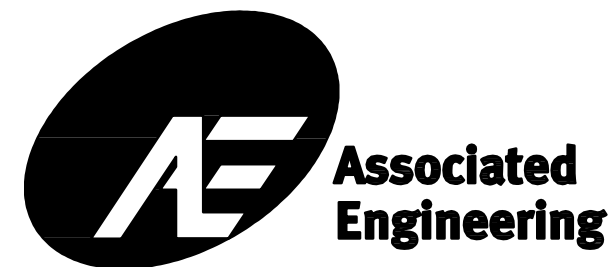
CASINO MINE ACCESS

STRUCTURE: B15 ROAD STATION: 79+020 km CROSSING NAME: HAYES CREEK

AE Project Number: 20092374-18

DRAWING LIST			
DRAWING NUMBER	DESCRIPTION	REV.	DATE
20092374-18-3-101	GENERAL ARRANGEMENT	1	2013/09/04
20092374-18-3-102	SITE PLAN	0	2012/02/20

REFERENCE DRAWING LIST			
DRAWING NUMBER	DESCRIPTION	REV.	DATE
20092374-02-3-110	GENERAL NOTES - SHEET 1	1	2013/09/04
20092374-02-3-111	GENERAL NOTES - SHEET 2	0	2011/08/12
20092374-00-1-111	PLAN/ PROFILE - ROAD DESIGN	2	2012/04/20



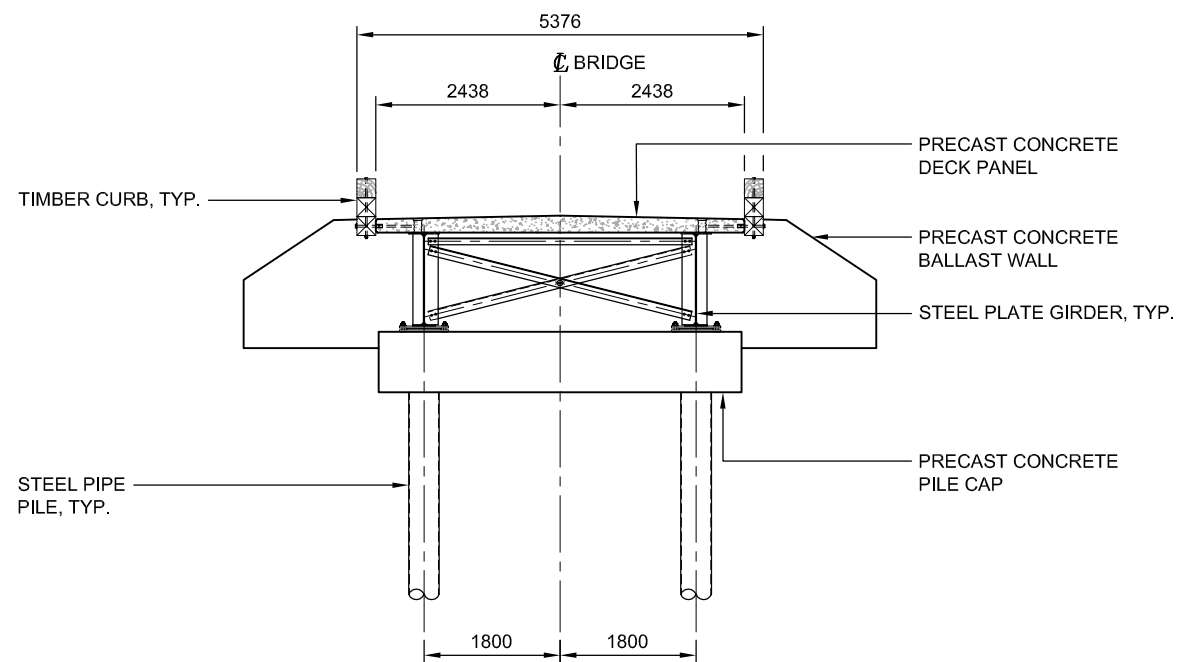
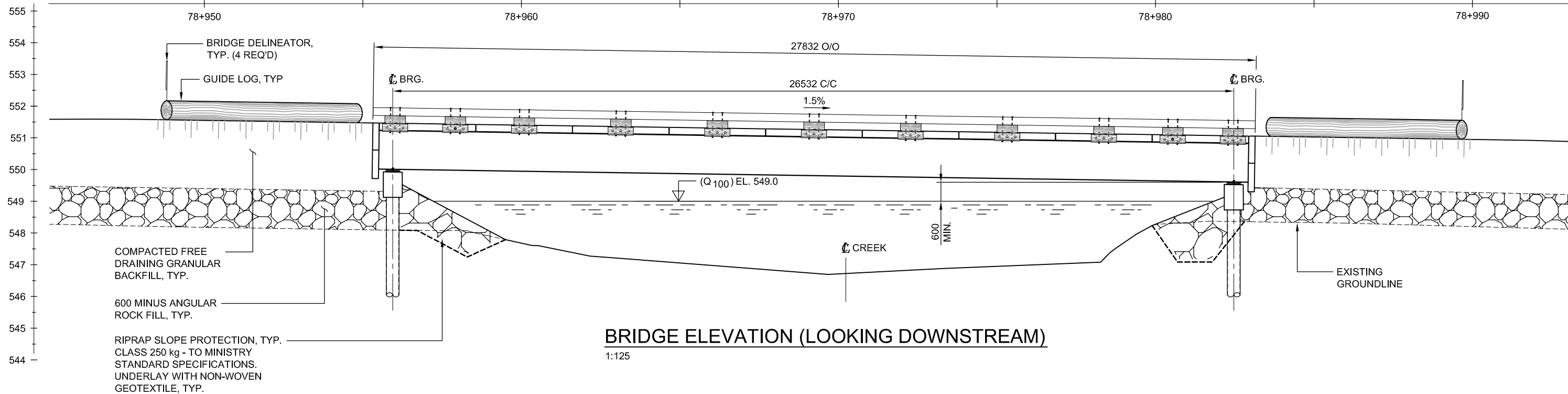
GLOBAL PERSPECTIVE.
LOCAL FOCUS.

DRAWING NUMBER	REV. NO.	SHEET
20092374-18-3-100	1	1

This Drawing Is For The Use Of The Client And Project Indicated. No Representations Of Any Kind Are Made To Other Parties.

TOWN END

MINE END



P:\20092374\18_3_009\4444_Crossing\Drawings\Structure\20092374_18_3_101.dwg
DATE: 09/09/13 10:20:52 PM, E:\an\p490

NO.	DATE	ENG.	BY	SUBJECT
1	2013/09/04	R.J.K.	E.F.	DECK DETAIL REVISED
REVISIONS				


**PRELIMINARY
NOT FOR
CONSTRUCTION**
DRAFT

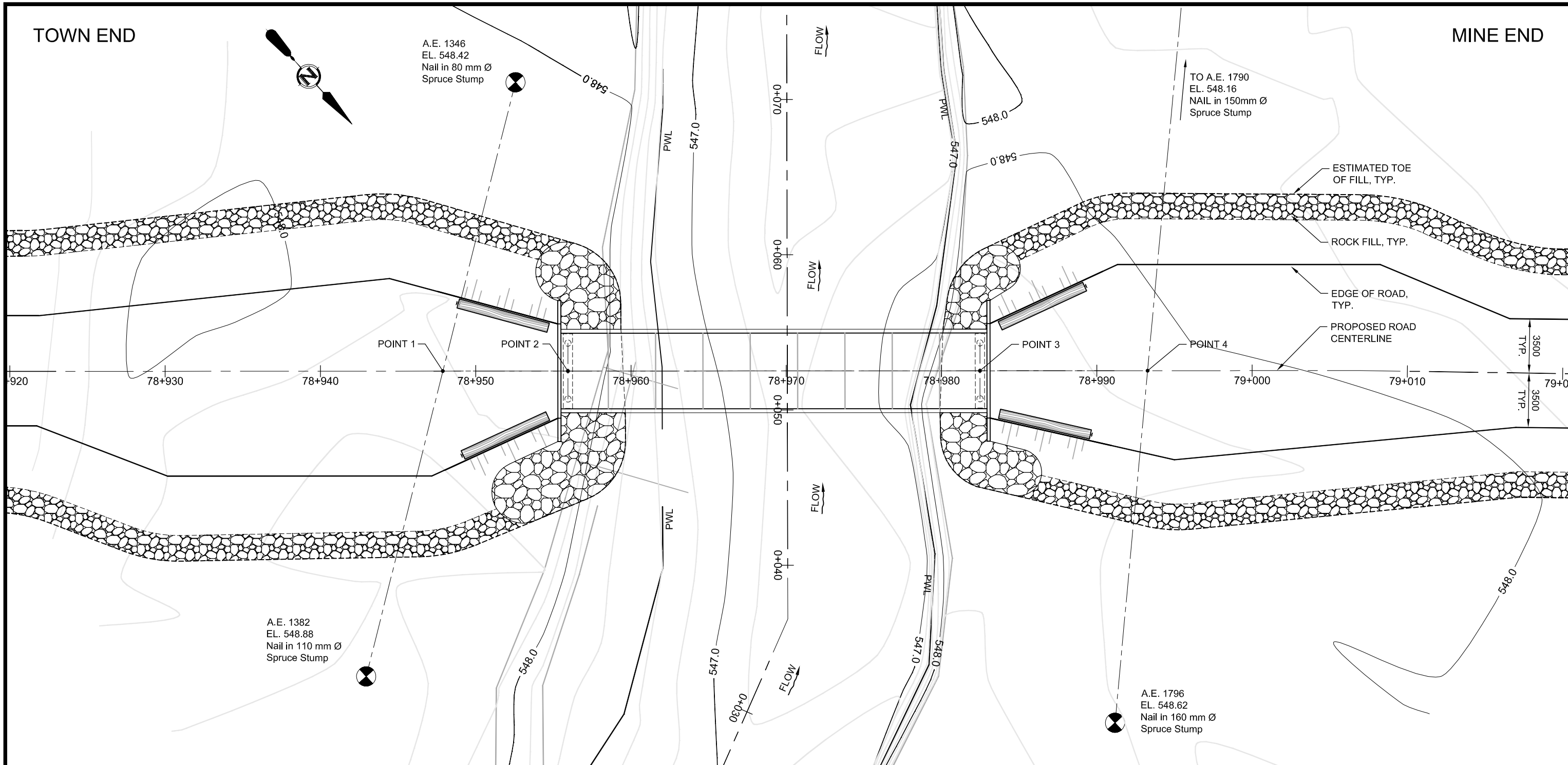

**Associated
Engineering**

PROJECT No.	20092374-18		
SCALE	AS SHOWN		
DRAWN	EVAN JOHNSON		2011/08/12
DESIGNED	WAYNE RILEY		2011/08/12
CHECKED	RAY KORPELA		
APPROVED	JULIEN HENLEY		
DATE			INITIAL

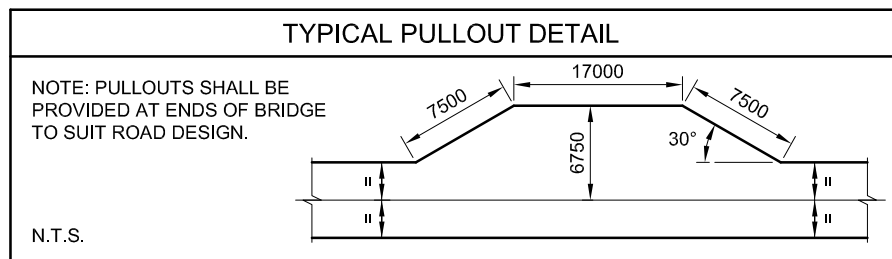
**WESTERN COPPER AND GOLD
CORPORATION**
 GENERAL ARRANGEMENT

STRUCTURE: B15		
ROAD STATION: 79+020 km		
CROSSING NAME: HAYES CREEK		
DRAWING NUMBER	REV. NO.	SHEET
20092374-18-3-101	1	

This Drawing Is For The Use Of The Client And Project Indicated. No Representations Of Any Kind Are Made To Other Parties.



LAYOUT SCHEDULE			
A.E.#1346 TO A.E.#1382	39.46 m	POINT 3 TO POINT 4	10.80 m
A.E.#1346 TO POINT 1	19.18 m	A.E.#1790 TO A.E.#1796	51.22 m
A.E.#1382 TO POINT 1	20.28 m	A.E.#1790 TO POINT 4	28.45 m
POINT 1 TO POINT 2	8.05 m	A.E.#1796 TO POINT 4	22.77 m
POINT 2 TO POINT 3	26.53 m		
POINTS 2 & 3 ARE \odot TO BEARING (ALL DISTANCES ARE HORIZONTAL)			



RIPRAP TABLE		ROCK GRADATION: PERCENT LARGER THAN GIVEN ROCK MASS (kg)					
CLASS OF OF RIPRAP (kg)	NOMINAL THICKNESS OF RIPRAP (mm)	85%		50%		15%	
		25 kg	300 mm	250 kg	600 mm	750 kg	900 mm
250	1050						

NO.	DATE	ENG.	BY	SUBJECT
0	2013/09/04	R.J.K.	E.F.	ISSUED FOR CLIENT REVIEW
REVISIONS				

**PRELIMINARY
NOT FOR
CONSTRUCTION**

DRAFT

PROJECT No.	20092374-18	
SCALE	1:250	
DRAWN	EVAN JOHNSON	2011/08/12
DESIGNED	WAYNE RILEY	2011/08/12
CHECKED	RAY KORPELA	
APPROVED	JULIEN HENLEY	
DATE		INITIAL

WESTERN COPPER AND GOLD CORPORATION

SITE PLAN

STRUCTURE: B15
ROAD STATION: 79+020 km
CROSSING NAME: HAYES CREEK

DRAWING NUMBER	REV. NO.	SHEET
20092374-18-3-102	0	

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DATE: 09/04/13 12:50 PM, E:\an\efp



WESTERN COPPER AND GOLD CORPORATION

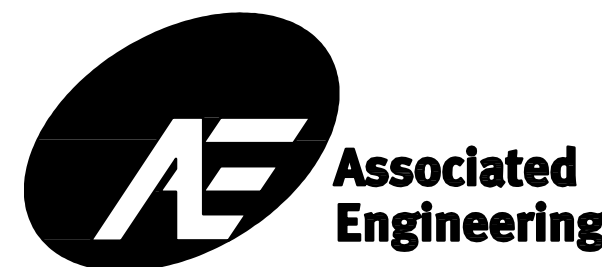
CASINO MINE ACCESS

STRUCTURE: B16 c/w SCC
ROAD STATION: 79+420 km
CROSSING NAME: HAYES CREEK

AE Project Number: 20092374-19

DRAWING LIST			
DRAWING NUMBER	DESCRIPTION	REV.	DATE
20092374-19-3-101	GENERAL ARRANGEMENT - SHEET 1	1	2013/09/04
20092374-19-3-102	GENERAL ARRANGEMENT - SHEET 2	0	2012/02/20
20092374-19-3-103	SITE PLAN	0	2012/02/20

REFERENCE DRAWING LIST			
DRAWING NUMBER	DESCRIPTION	REV.	DATE
20092374-02-3-110	GENERAL NOTES - SHEET 1	1	2013/09/04
20092374-02-3-111	GENERAL NOTES - SHEET 2	0	2011/10/17
20092374-00-1-111	PLAN/ PROFILE - ROAD DESIGN	2	2012/04/20



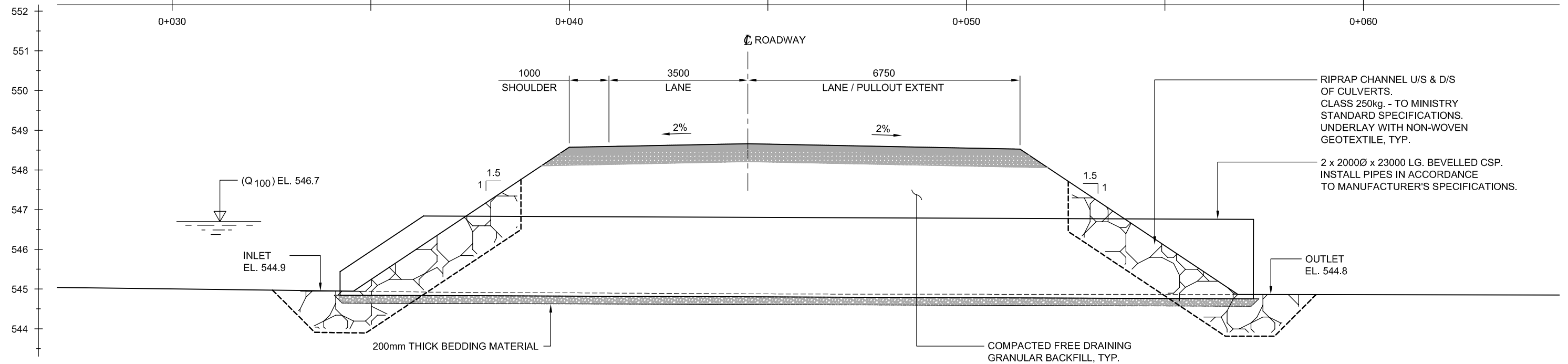
*GLOBAL PERSPECTIVE.
LOCAL FOCUS.*

DRAWING NUMBER	REV. NO.	SHEET
20092374-19-3-100	1	1

This Drawing Is For The Use Of The Client And Project Indicated. No Representations Of Any Kind Are Made To Other Parties.

UPSTREAM

DOWNSTREAM

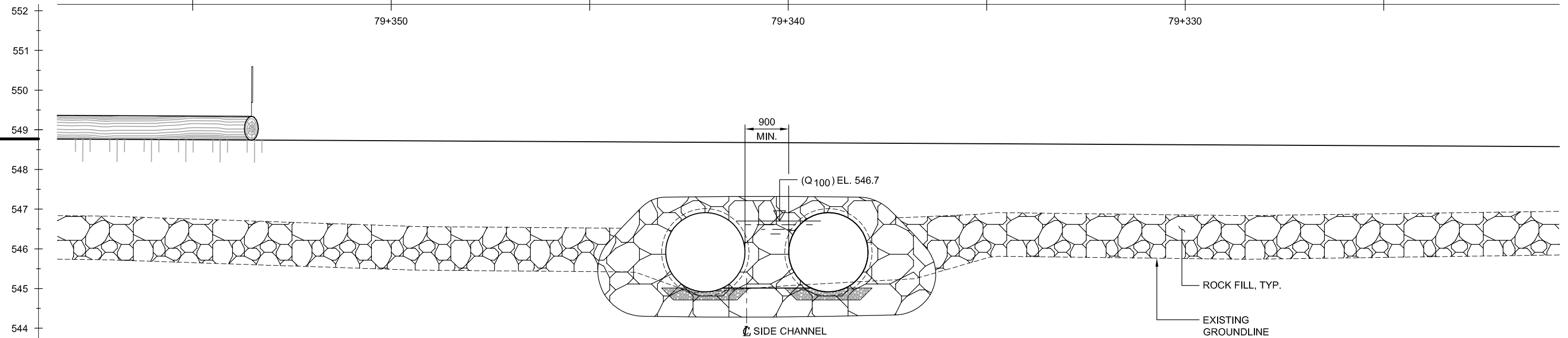


SIDE CHANNEL CULVERT ELEVATION (LOOKING TOWARDS MINE END)

1:100

MINE END

TOWN END



SIDE CHANNEL CULVERT ELEVATION (LOOKING DOWNSTREAM)

1:100

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DATE: 2011/10/17 10:30 AM E:\an\afp

NO.	DATE	ENG.	BY	SUBJECT
0	2013/09/04	R.J.C.	E.F.	ISSUED FOR CLIENT REVIEW
REVISIONS				

western
COPPER AND GOLD

**PRELIMINARY
NOT FOR
CONSTRUCTION**

DRAFT

AE **Associated
Engineering**

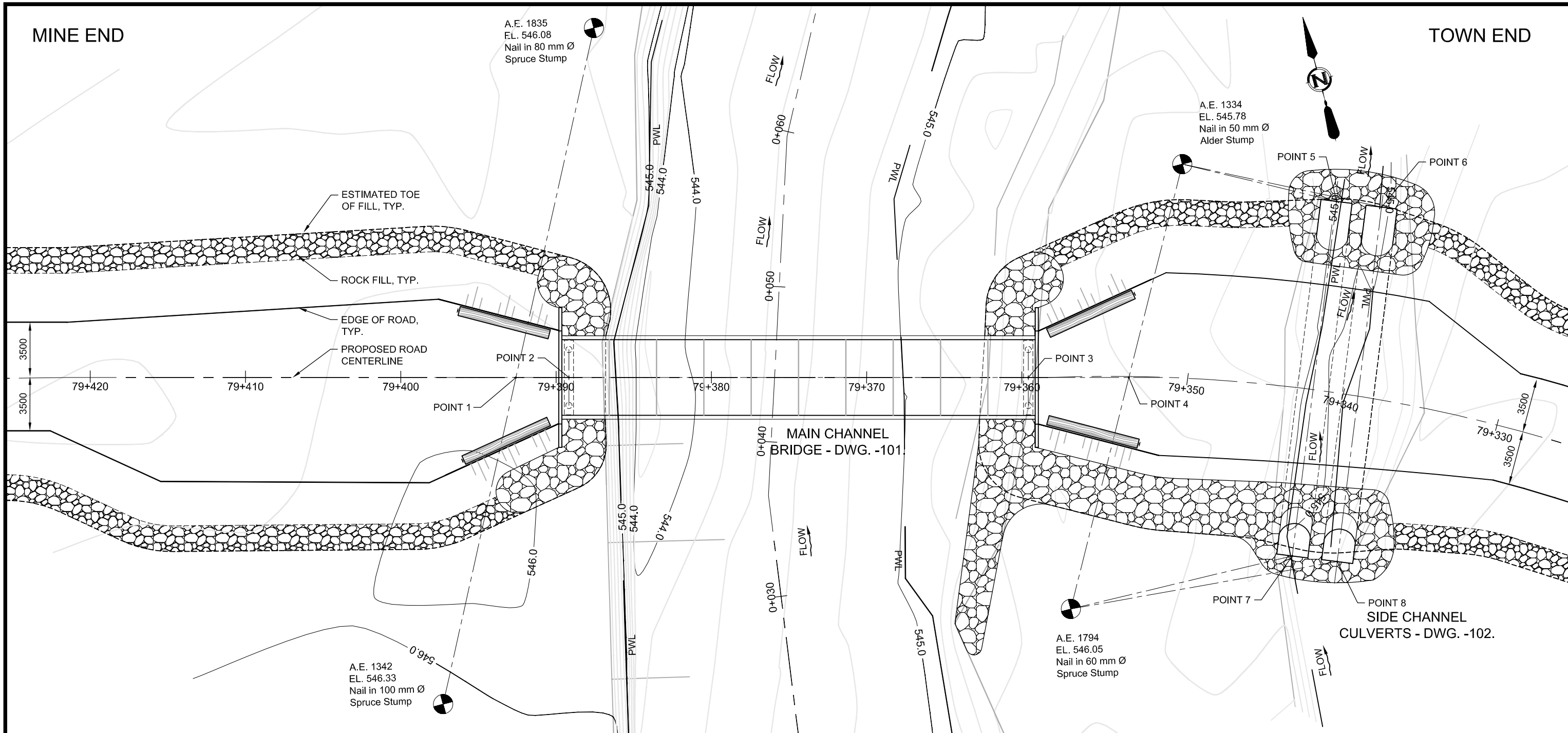
PROJECT No.	20092374-19		
SCALE	AS SHOWN		
DRAWN	EVAN JOHNSON		2011/10/17
DESIGNED	WAYNE RILEY		2011/10/17
CHECKED	RAY KORPELA		
APPROVED	JULIEN HENLEY		
DATE		INITIAL	

**WESTERN COPPER AND GOLD
CORPORATION**

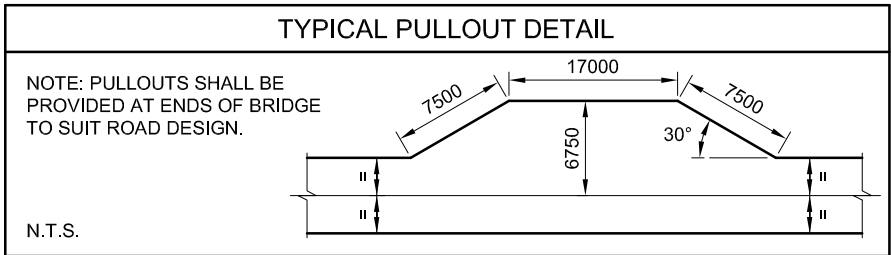
GENERAL ARRANGEMENT - SHEET 2
SIDE CHANNEL CULVERTS

STRUCTURE: SCC		
ROAD STATION: 79+420 km		
CROSSING NAME: HAYES CREEK		
DRAWING NUMBER	REV. NO.	SHEET
20092374-19-3-102	0	

This Drawing Is For The Use Of The Client And Project Indicated. No Representations Of Any Kind Are Made To Other Parties.



LAYOUT SCHEDULE			
A.E.#1835 TO A.E.#1342	44.60 m	A.E.#1334 TO POINT 4	14.17 m
A.E.#1835 TO POINT 1	23.02 m	A.E.#1794 TO POINT 4	15.36 m
A.E.#1342 TO POINT 1	21.58 m	A.E.#1334 TO POINT 5	10.22 m
POINT 1 TO POINT 2	3.41 m	A.E.#1334 TO POINT 6	13.12 m
POINT 2 TO POINT 3	29.58 m	A.E.#1794 TO POINT 7	14.67 m
POINT 3 TO POINT 4	6.48 m	A.E.#1794 TO POINT 8	17.43 m
A.E.#1334 TO A.E.#1794	29.53 m		
POINTS 2 & 3 ARE \angle TO BEARING (ALL DISTANCES ARE HORIZONTAL)			



RIPRAP TABLE		ROCK GRADATION: PERCENT LARGER THAN GIVEN ROCK MASS (kg)					
CLASS OF OF RIPRAP (kg)	NOMINAL THICKNESS OF RIPRAP (mm)	85%		50%		15%	
		250	1050	25 kg	300 mm	250 kg	600 mm

NO.	DATE	ENG.	BY	SUBJECT
0	2013/09/04	R.J.K.	E.F.	ISSUED FOR CLIENT REVIEW
REVISIONS				

**PRELIMINARY
NOT FOR
CONSTRUCTION**

DRAFT

PROJECT No.	20092374-19		
SCALE	1:250		
DRAWN	EVAN JOHNSON		2011/10/17
DESIGNED	WAYNE RILEY		2011/10/17
CHECKED	RAY KORPELA		
APPROVED	JULIEN HENLEY		
DATE		INITIAL	

WESTERN COPPER AND GOLD CORPORATION

SITE PLAN

STRUCUTRE: B16 c/w SCC
ROAD STATION: 79+420 km
CROSSING NAME: HAYES CREEK

DRAWING NUMBER	REV. NO.	SHEET
20092374-19-3-103	0	

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WESTERN COPPER AND GOLD CORPORATION

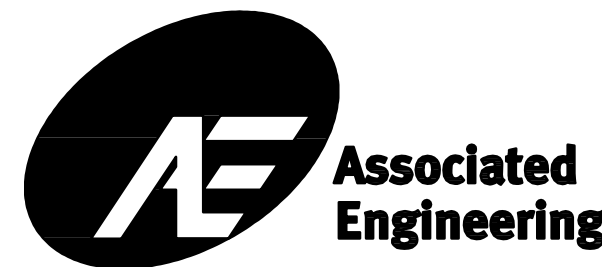
CASINO MINE ACCESS

STRUCTURE: B17
ROAD STATION: 85+200 km
CROSSING NAME: SELWYN RIVER

AE Project Number: 20092374-20

DRAWING LIST			
DRAWING NUMBER	DESCRIPTION	REV.	DATE
20092374-20-3-101	GENERAL ARRANGEMENT	1	2013/09/04
20092374-20-3-102	SITE PLAN	0	2012/02/20

REFERENCE DRAWING LIST			
DRAWING NUMBER	DESCRIPTION	REV.	DATE
20092374-02-3-110	GENERAL NOTES - SHEET 1	1	2013/09/04
20092374-02-3-111	GENERAL NOTES - SHEET 2	0	2011/08/12
20092374-00-1-111	PLAN/ PROFILE - ROAD DESIGN	2	2012/04/20



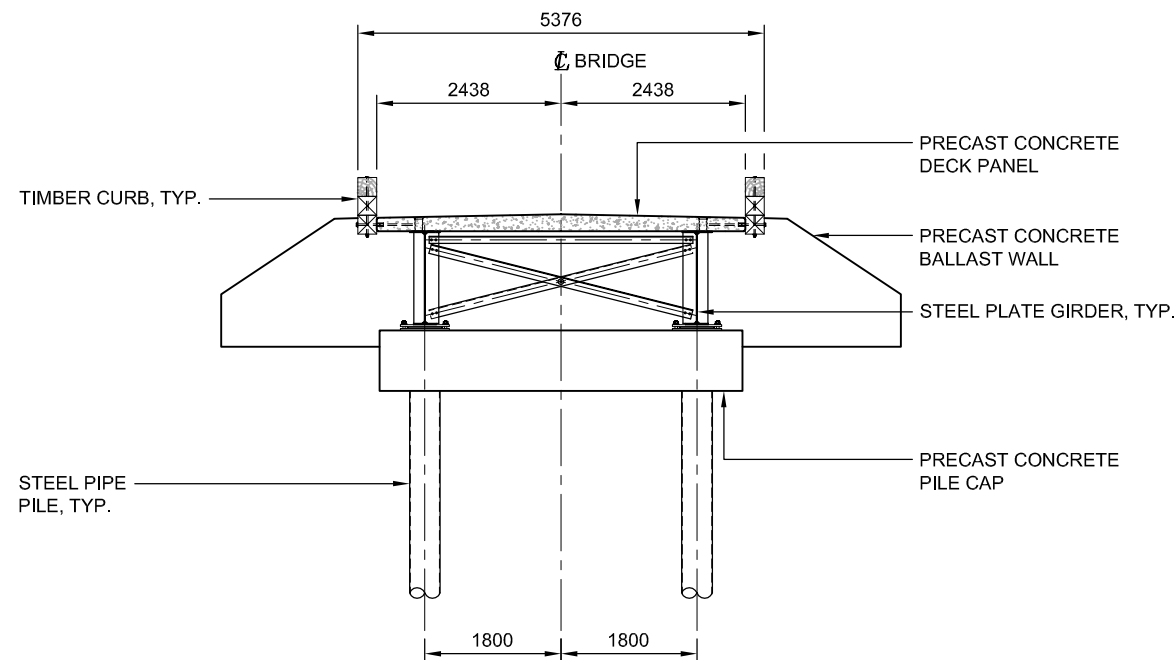
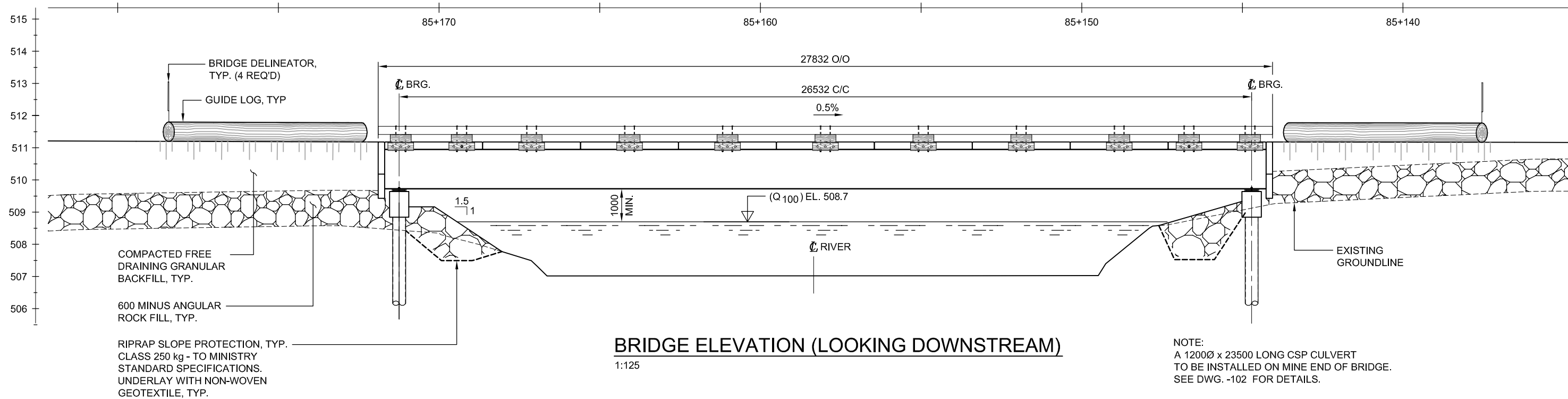
*GLOBAL PERSPECTIVE.
LOCAL FOCUS.*

DRAWING NUMBER	REV. NO.	SHEET
20092374-20-3-100	1	1

This Drawing Is For The Use Of The Client And Project Indicated
No Representations Of Any Kind Are Made To Other Parties

MINE END


TOWN END



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NO.	DATE	ENG.	BY	SUBJECT
1	2013/09/04	R.J.K.	E.F.	DECK DETAIL REVISED
REVISIONS				


**PRELIMINARY
NOT FOR
CONSTRUCTION**
DRAFT


**Associated
Engineering**

PROJECT No.	20092374-20		
SCALE	AS SHOWN		
DRAWN	EVAN JOHNSON		2011/08/12
DESIGNED	WAYNE RILEY		2011/08/12
CHECKED	RAY KORPELA		
APPROVED	JULIEN HENLEY		
DATE		INITIAL	

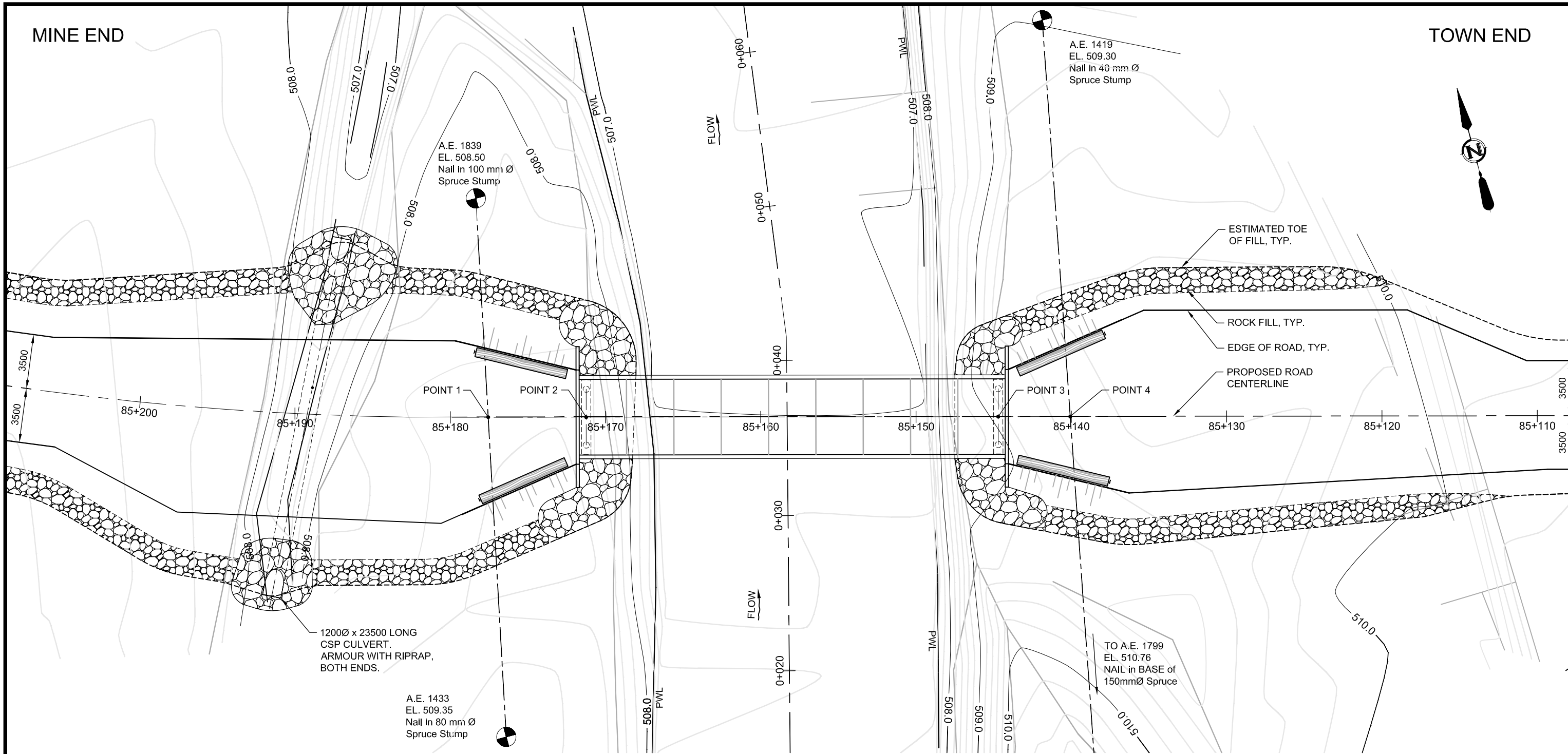
**WESTERN COPPER AND GOLD
CORPORATION**
 GENERAL ARRANGEMENT

STRUCTURE: B17		
ROAD STATION: 85+200 km		
CROSSING NAME: SELWYN RIVER		
DRAWING NUMBER	REV. NO.	SHEET
20092374-20-3-101	1	

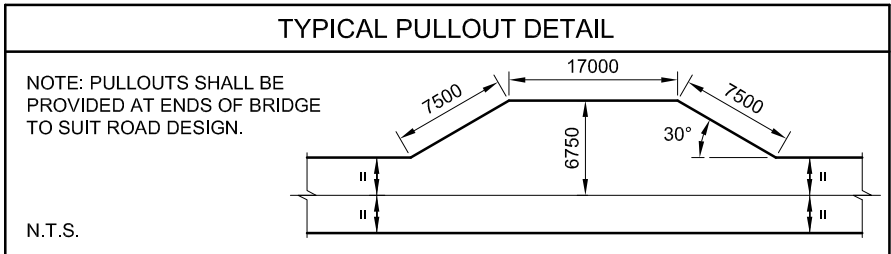
This Drawing Is For The Use Of The Client And Project Indicated. No Representations Of Any Kind Are Made To Other Parties.

MINE END

TOWN END



LAYOUT SCHEDULE			
A.E.#1839 TO A.E.#1433	34.75 m	POINT 3 TO POINT 4	4.64 m
A.E.#1839 TO POINT 1	14.12 m	A.E.#1419 TO A.E.#1799	50.87 m
A.E.#1839 TO POINT 1	20.63 m	A.E.#1419 TO POINT 4	25.60 m
POINT 1 TO POINT 2	6.31 m	A.E.#1799 TO POINT 4	25.27 m
POINT 2 TO POINT 3	26.53 m		
POINTS 2 & 3 ARE \angle TO BEARING (ALL DISTANCES ARE HORIZONTAL)			

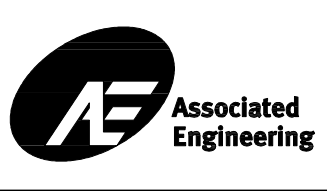


CLASS OF OF RIPRAP (kg)	NOMINAL THICKNESS OF RIPRAP (mm)	ROCK GRADATION: PERCENT LARGER THAN GIVEN ROCK MASS (kg)					
		85%	50%	15%			
250	1050	25 kg	300 mm	250 kg	600 mm	750 kg	900 mm

NO.	DATE	ENG.	BY	SUBJECT
0	2013/09/04	R.J.K.	E.F.	ISSUED FOR CLIENT REVIEW
REVISIONS				

**PRELIMINARY
NOT FOR
CONSTRUCTION**

DRAFT



PROJECT No.	20092374-20	
SCALE	1:250	
DRAWN	EVAN JOHNSON	2011/08/12
DESIGNED	WAYNE RILEY	2011/08/12
CHECKED	RAY KORPELA	
APPROVED	JULIEN HENLEY	
DATE		INITIAL

WESTERN COPPER AND GOLD CORPORATION

SITE PLAN

STRUCTURE: B17		
ROAD STATION: 85+200 km		
CROSSING NAME: SELWYN RIVER		
DRAWING NUMBER	REV. NO.	SHEET
20092374-20-3-102	0	

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WESTERN COPPER AND GOLD CORPORATION

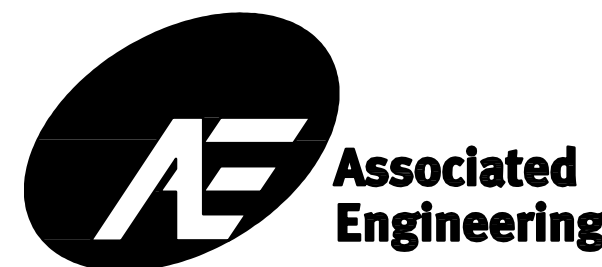
CASINO MINE ACCESS

STRUCTURE: A1
AIRSTRIP ROAD STATION: 14+650 km
CROSSING NAME: DIP CREEK

AE Project Number: 20092374-21

DRAWING LIST			
DRAWING NUMBER	DESCRIPTION	REV.	DATE
20092374-21-3-101	GENERAL ARRANGEMENT	1	2013/09/04
20092374-21-3-102	SITE PLAN	0	2012/02/20

REFERENCE DRAWING LIST			
DRAWING NUMBER	DESCRIPTION	REV.	DATE
20092374-02-3-110	GENERAL NOTES - SHEET 1	1	2013/09/04
20092374-02-3-111	GENERAL NOTES - SHEET 2	0	2011/08/12
20092374-00-01-401	PLAN/ PROFILE - ROAD DESIGN	1	2012/04/20



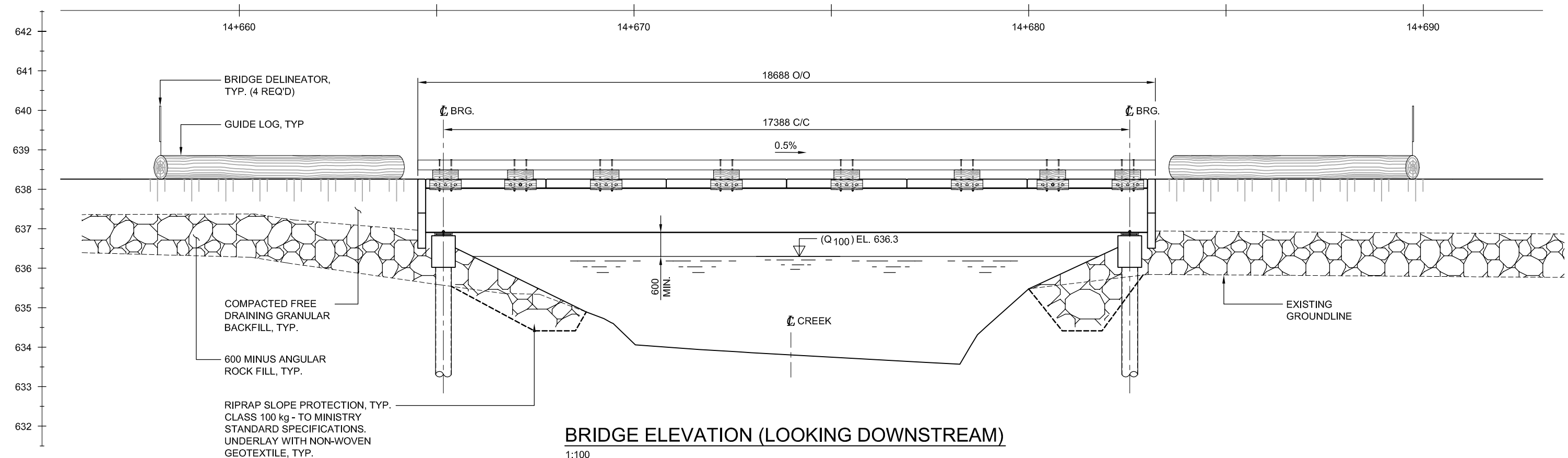
*GLOBAL PERSPECTIVE.
LOCAL FOCUS.*

DRAWING NUMBER	REV. NO.	SHEET
20092374-21-3-100	1	1

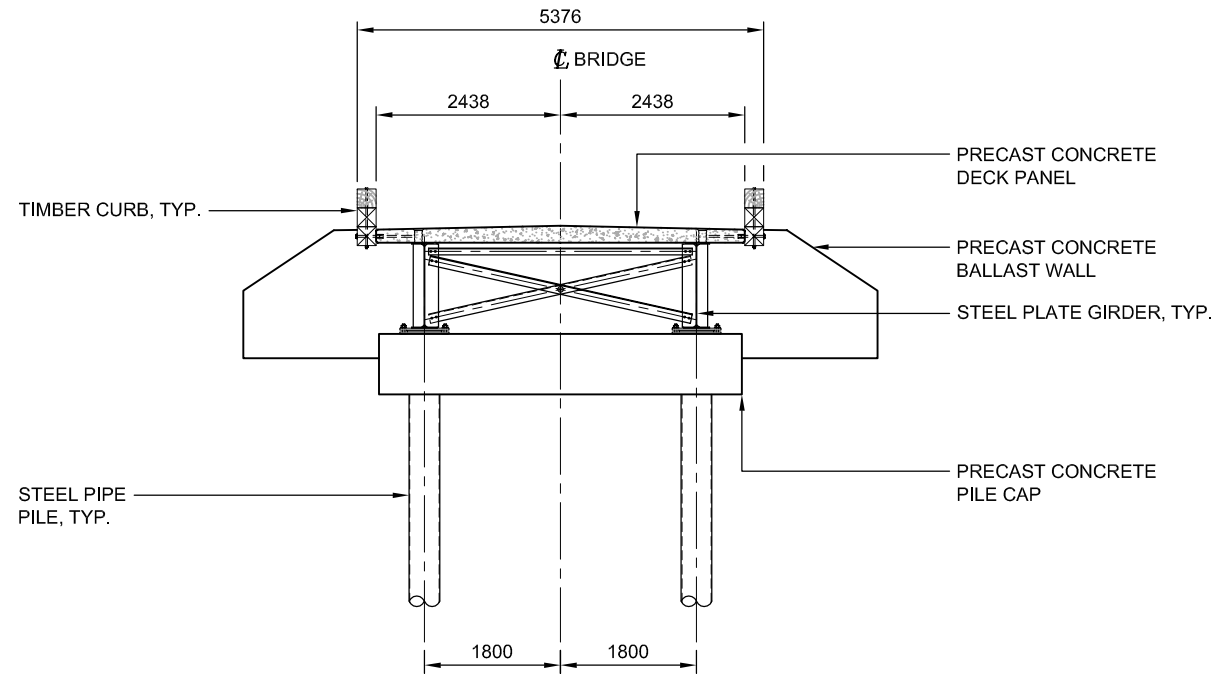
This Drawing Is For The Use Of The Client And Project Indicated. No Representations Of Any Kind Are Made To Other Parties.

AIRSTrip END

MINE END



BRIDGE ELEVATION (LOOKING DOWNSTREAM)
1:100



TYPICAL ABUTMENT ELEVATION
1:100

NO.	DATE	ENG.	BY	SUBJECT
1	2013/09/04	R.J.K.	E.F.	DECK DETAIL REVISED
REVISIONS				

western
COPPER AND GOLD

PRELIMINARY NOT FOR CONSTRUCTION

DRAFT



PROJECT No.	20092374-21	
SCALE	AS SHOWN	
DRAWN	EVAN JOHNSON	2011/08/12
DESIGNED	EVAN JOHNSON	2011/08/12
CHECKED	RAY KORPELA	
APPROVED	JULIEN HENLEY	
DATE		INITIAL

WESTERN COPPER AND GOLD CORPORATION

GENERAL ARRANGEMENT

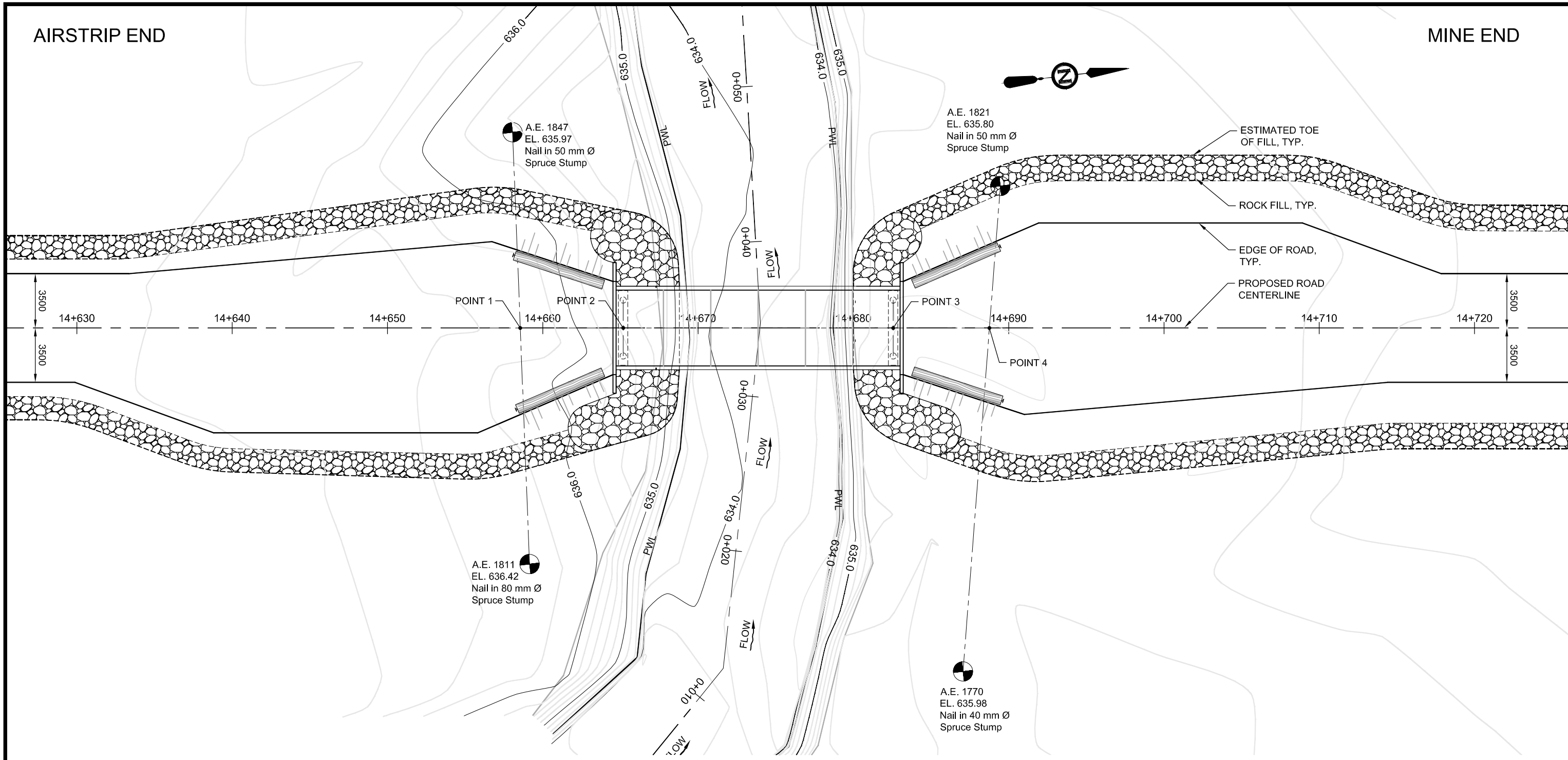
STRUCTURE: A1		
AIRSTrip ROAD STATION: 14+650 km		
CROSSING NAME: DIP CREEK		
DRAWING NUMBER	REV. NO.	SHEET
20092374-21-3-101	1	

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This Drawing Is For The Use Of The Client And Project Indicated. No Representations Of Any Kind Are Made To Other Parties.

AIRSTRIp END

MINE END

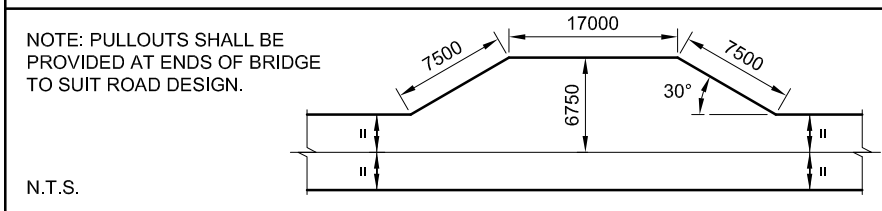


LAYOUT SCHEDULE

A.E.#1847 TO A.E.#1811	27.81 m	POINT 3 TO POINT 4	6.20 m
A.E.#1847 TO POINT 1	12.61 m	A.E.#1821 TO A.E.#1770	31.34 m
A.E.#1811 TO POINT 1	15.20 m	A.E.#1821 TO POINT 4	9.17 m
POINT 1 TO POINT 2	6.63 m	A.E.#1770 TO POINT 4	22.17 m
POINT 2 TO POINT 3	17.39 m		

POINTS 2 & 3 ARE \perp TO BEARING (ALL DISTANCES ARE HORIZONTAL)

TYPICAL PULLOUT DETAIL



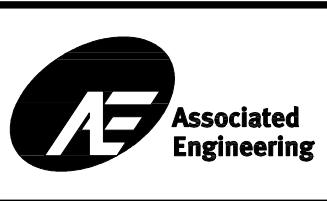
RIPRAP TABLE

CLASS OF OF RIPRAP (kg)	NOMINAL THICKNESS OF RIPRAP (mm)	ROCK GRADATION: PERCENT LARGER THAN GIVEN ROCK MASS (kg)					
		85%	50%	15%			
100	800	10 kg	200 mm	100 kg	450 mm	300 kg	640 mm

NO.	DATE	ENG.	BY	SUBJECT
0	2013/09/04	R.J.K.	E.F.	ISSUED FOR CLIENT REVIEW
REVISIONS				

PRELIMINARY NOT FOR CONSTRUCTION

DRAFT



PROJECT No.	20092374-21		
SCALE	1:250		
DRAWN	EVAN JOHNSON		2011/08/12
DESIGNED	EVAN JOHNSON		2011/08/12
CHECKED	RAY KORPELA		
APPROVED	JULIEN HENLEY		
DATE		INITIAL	

WESTERN COPPER AND GOLD CORPORATION

GENERAL ARRANGEMENT

STRUCTURE: A1
 AIRSTRIP ROAD STATION: 14+650 km
 CROSSING NAME: DIP CREEK

DRAWING NUMBER	REV. NO.	SHEET
20092374-21-3-102	0	

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DATE: 09/04/2013 11:48 AM E:\evan.johnson



WESTERN COPPER AND GOLD CORPORATION

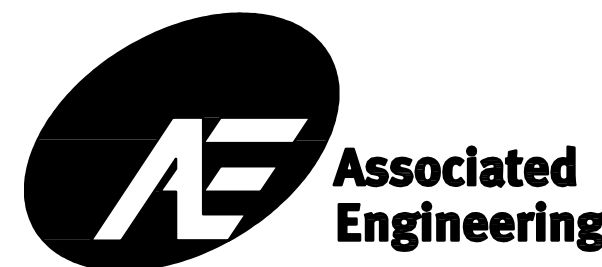
CASINO MINE ACCESS

STRUCTURE: A2 AIRSTRIP ROAD STATION: 20+750 km CROSSING NAME: BRYNELSON CREEK

AE Project Number: 20092374-22

DRAWING LIST			
DRAWING NUMBER	DESCRIPTION	REV.	DATE
20092374-22-3-101	GENERAL ARRANGEMENT	1	2013/09/04
20092374-22-3-102	SITE PLAN	0	2012/02/20

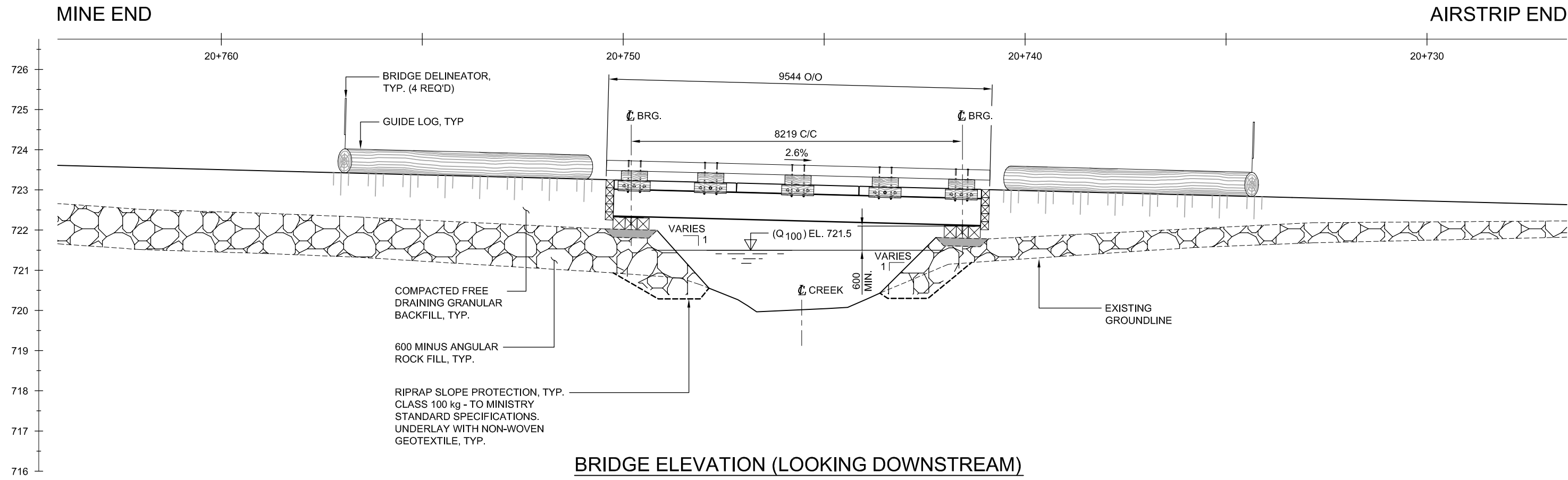
REFERENCE DRAWING LIST			
DRAWING NUMBER	DESCRIPTION	REV.	DATE
20092374-02-3-110	GENERAL NOTES - SHEET 1	1	2013/09/04
20092374-02-3-111	GENERAL NOTES - SHEET 2	0	2011/08/12
20092374-00-01-401	PLAN/ PROFILE - ROAD DESIGN	1	2012/04/20



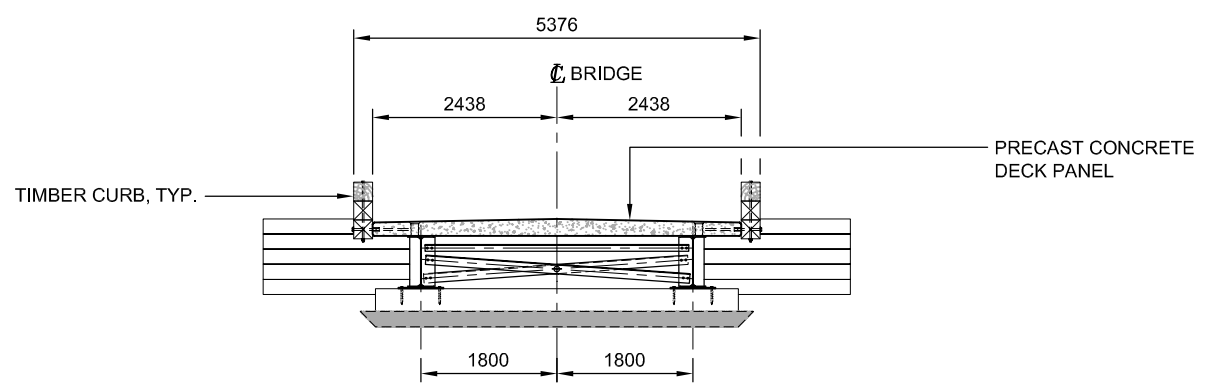
GLOBAL PERSPECTIVE.
LOCAL FOCUS.

DRAWING NUMBER	REV. NO.	SHEET
20092374-22-3-100	1	1

This Drawing Is For The Use Of The Client And Project Indicated. No Representations Of Any Kind Are Made To Other Parties.



BRIDGE ELEVATION (LOOKING DOWNSTREAM)
1:100



TYPICAL ABUTMENT ELEVATION
1:100

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NO.	DATE	ENG.	BY	SUBJECT
1	2013/09/04	R.J.K.	E.F.	DECK AND ABUTMENT DETAILS REVISED
REVISIONS				


western
COPPER AND GOLD

PRELIMINARY
NOT FOR
CONSTRUCTION
DRAFT


Associated
Engineering

PROJECT No.	20092374-22		
SCALE	1:100		
DRAWN	EVAN JOHNSON		2011/08/12
DESIGNED	EVAN JOHNSON		2011/08/12
CHECKED	RAY KORPELA		
APPROVED	JULIEN HENLEY		
DATE		INITIAL	

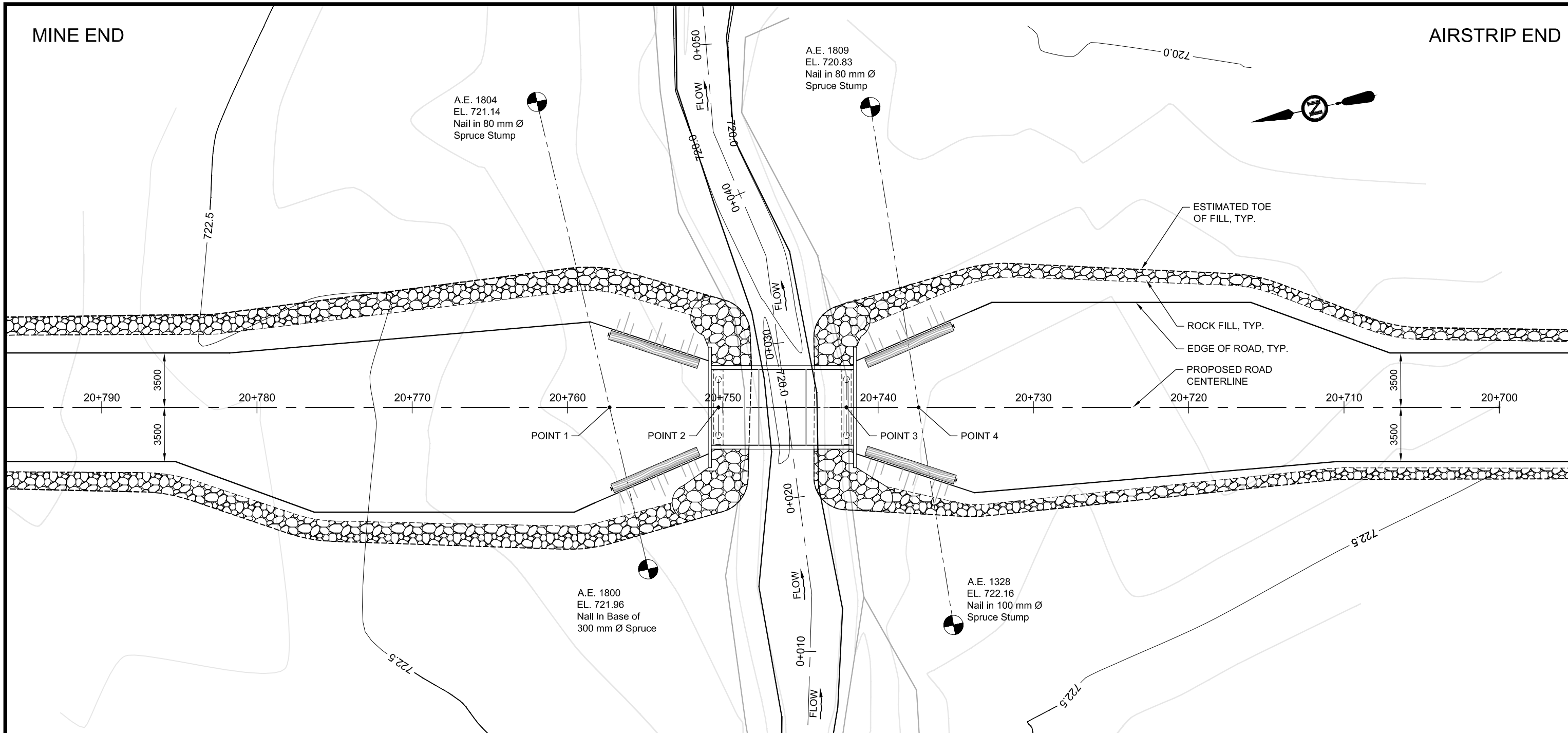
WESTERN COPPER AND GOLD
CORPORATION
 GENERAL ARRANGEMENT

STRUCTURE: A2		
AIRSTRIP ROAD STATION: 20+750 km		
CROSSING NAME: BRYNELSON CREEK		
DRAWING NUMBER	REV. NO.	SHEET
20092374-22-3-101	1	

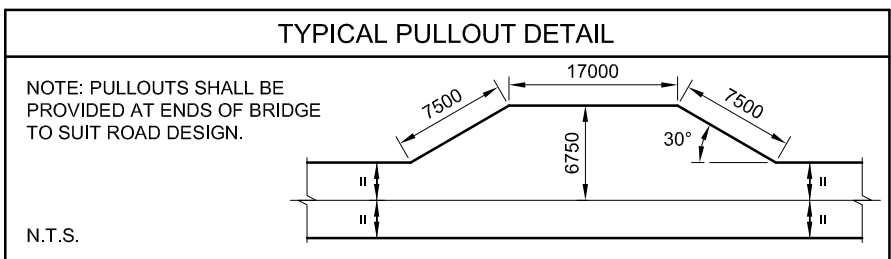
This Drawing Is For The Use Of The Client And Project Indicated. No Representations Of Any Kind Are Made To Other Parties.

MINE END

AIRSTRIp END



LAYOUT SCHEDULE			
A.E.#1804 TO A.E.#1800	30.93 m	POINT 3 TO POINT 4	4.66 m
A.E.#1804 TO POINT 1	20.22 m	A.E.#1809 TO A.E.#1328	33.77 m
A.E.#1800 TO POINT 1	10.71 m	A.E.#1809 TO POINT 4	19.58 m
POINT 1 TO POINT 2	7.02 m	A.E.#1328 TO POINT 4	14.19 m
POINT 2 TO POINT 3	8.22 m		
POINTS 2 & 3 ARE \perp TO BEARING (ALL DISTANCES ARE HORIZONTAL)			



RIPRAP TABLE							
CLASS OF OF RIPRAP (kg)	NOMINAL THICKNESS OF RIPRAP (mm)	ROCK GRADATION: PERCENT LARGER THAN GIVEN ROCK MASS (kg)					
		85%		50%		15%	
100	800	10 kg	200 mm	100 kg	450 mm	300 kg	640 mm

NO.	DATE	ENG.	BY	SUBJECT
0	2013/09/04	R.J.K.	E.F.	ISSUED FOR CLIENT REVIEW
REVISIONS				

western
COPPER AND GOLD

PRELIMINARY NOT FOR CONSTRUCTION

DRAFT

AE Associated Engineering

PROJECT No.	20092374-22		
SCALE	1:250		
DRAWN	EVAN JOHNSON		2011/08/12
DESIGNED	EVAN JOHNSON		2011/08/12
CHECKED	RAY KORPELA		
APPROVED	JULIEN HENLEY		
DATE		INITIAL	

WESTERN COPPER AND GOLD CORPORATION

GENERAL ARRANGEMENT

STRUCUTRE: A2	AIRSTRIp ROAD STATION: 20+750 km		
CROSSING NAME: BRYNELSON CREEK			
DRAWING NUMBER	REV. NO.	SHEET	
20092374-22-3-102	0		

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WESTERN COPPER AND GOLD CORPORATION

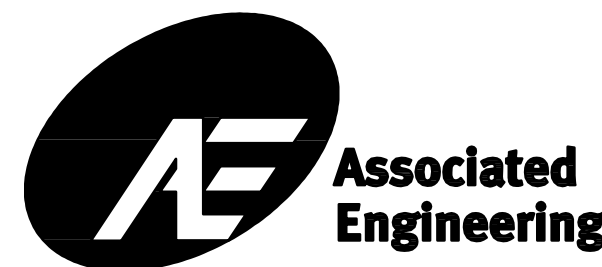
CASINO MINE ACCESS

DRAWING LIST			
DRAWING NUMBER	DESCRIPTION	REV.	DATE
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20092374-23-3-102	SITE PLAN	0	2013/09/12

REFERENCE DRAWING LIST			
DRAWING NUMBER	DESCRIPTION	REV.	DATE
20092374-02-3-110	GENERAL NOTES - SHEET 1	0	2011/08/12
20092374-02-3-111	GENERAL NOTES - SHEET 2	0	2011/08/12

NORDENSKIOLD RIVER BRIDGE NORDENSKIOLD RIVER

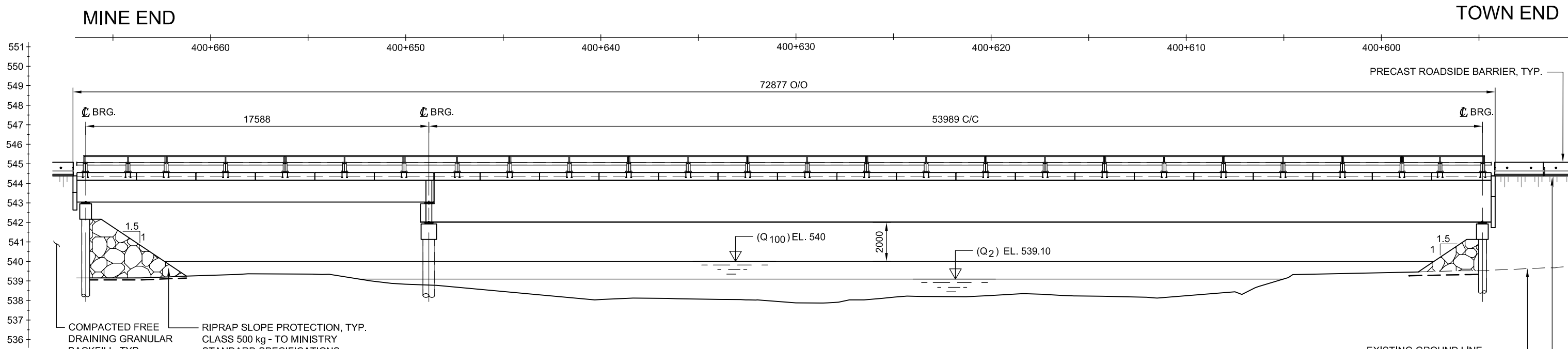
AE Project Number: 20092374-23



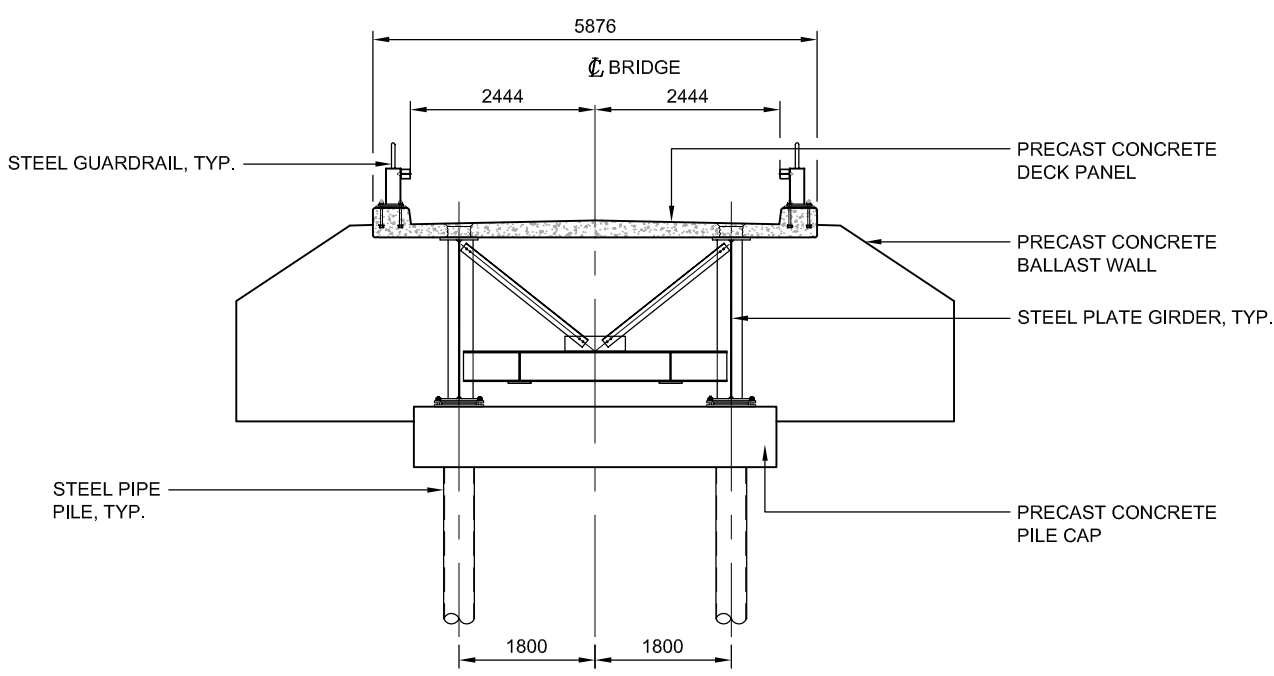
GLOBAL PERSPECTIVE.
LOCAL FOCUS.

DRAWING NUMBER	REV. NO.	SHEET
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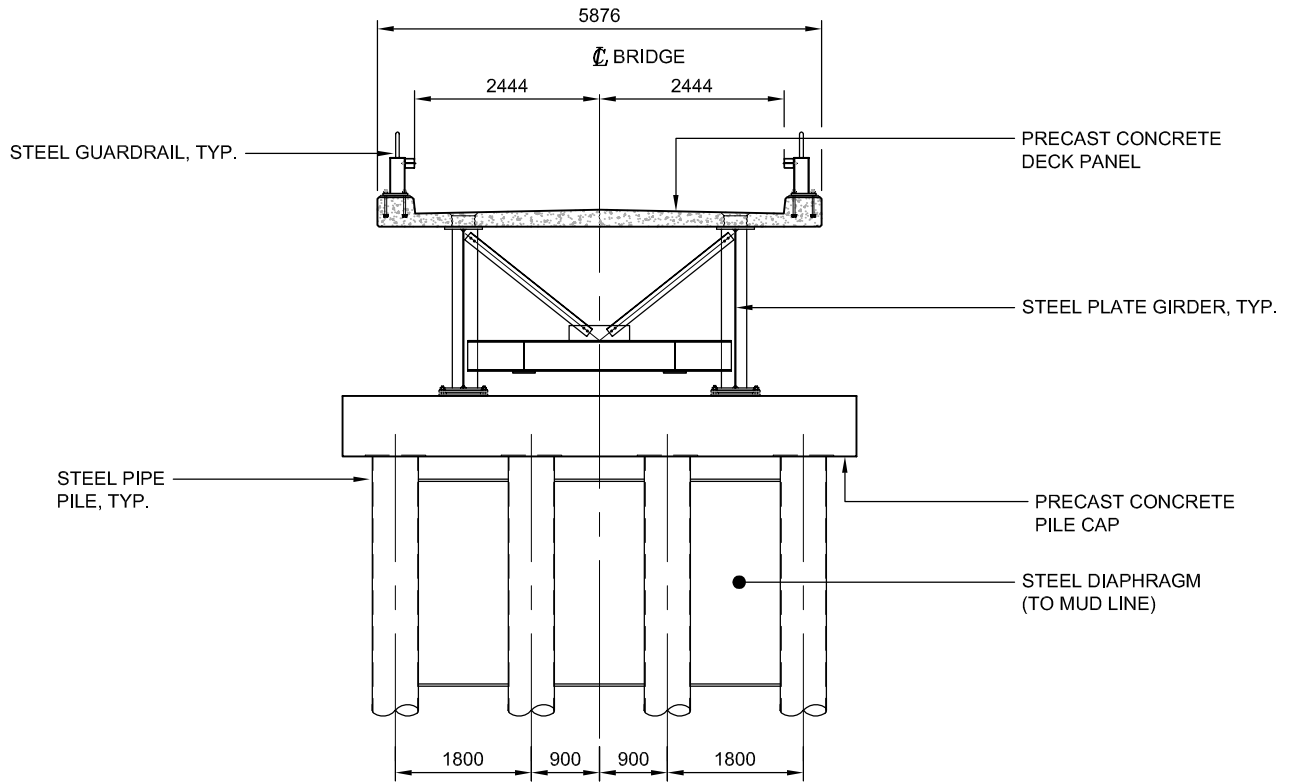
This Drawing Is For The Use Of The Client And Project Indicated. No Representations Of Any Kind Are Made To Other Parties.



ELEVATION (LOOKING DOWNSTREAM)
1:200



TYPICAL ABUTMENT ELEVATION
1:100



TYPICAL PIER ELEVATION
1:100

NO.	DATE	ENG.	BY	SUBJECT
REVISIONS				

PRELIMINARY NOT FOR CONSTRUCTION DRAFT

PROJECT No.	20092374-23		
SCALE	AS SHOWN		
DRAWN	MATTHEW BOWEN		2013/09/12
DESIGNED	MATTHEW BOWEN		2013/09/12
CHECKED	RAY KORPELA		
APPROVED			
DATE		INITIAL	

WESTERN COPPER AND GOLD CORPORATION

GENERAL ARRANGEMENT

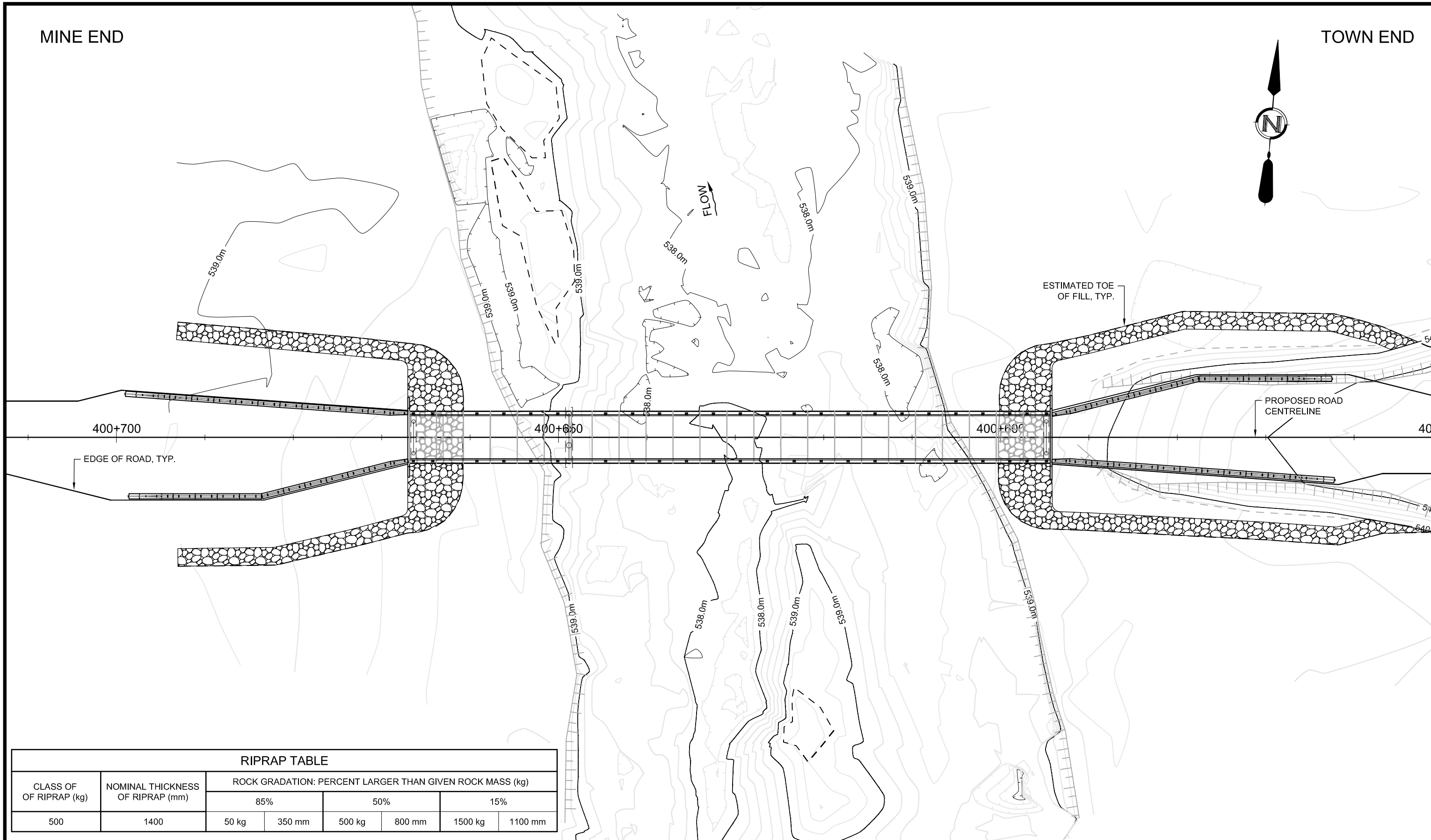
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NORDENSKIÖLD RIVER		
DRAWING NUMBER	REV. NO.	SHEET
20092374-23-3-101	0	

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No Representations Of Any Kind Are Made To Other Parties

MINE END

TOWN END



RIPRAP TABLE

CLASS OF RIPRAP (kg)	NOMINAL THICKNESS OF RIPRAP (mm)	ROCK GRADATION: PERCENT LARGER THAN GIVEN ROCK MASS (kg)					
		85%		50%		15%	
500	1400	50 kg	350 mm	500 kg	800 mm	1500 kg	1100 mm

NO.	DATE	ENG.	BY	SUBJECT
REVISIONS				



**PRELIMINARY
NOT FOR
CONSTRUCTION**

DRAFT



PROJECT No.	20092374-02		
SCALE	1:400		
DRAWN	MATTHEW BOWEN		2013/09/12
DESIGNED	MATTHEW BOWEN		2013/09/12
CHECKED	RAY KORPELA		
APPROVED			
DATE		INITIAL	

WESTERN COPPER AND GOLD CORPORATION
SITE PLAN

NORDENSKIOLD RIVER BRIDGE		
NORDENSKIOLD RIVER		
DRAWING NUMBER	REV. NO.	SHEET
20092374-23-3-102	0	

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WESTERN COPPER AND GOLD CORPORATION

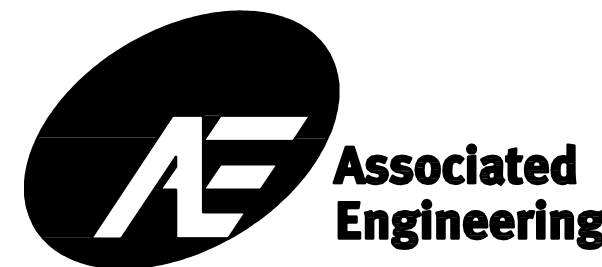
CASINO MINE ACCESS

DRAWING LIST			
DRAWING NUMBER	DESCRIPTION	REV.	DATE
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20092374-24-3-102	SITE PLAN	0	2013/09/12

REFERENCE DRAWING LIST			
DRAWING NUMBER	DESCRIPTION	REV.	DATE
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CROSSING CREEK BRIDGE STATION 223+900 FREEGOLD ROAD CROSSING CREEK

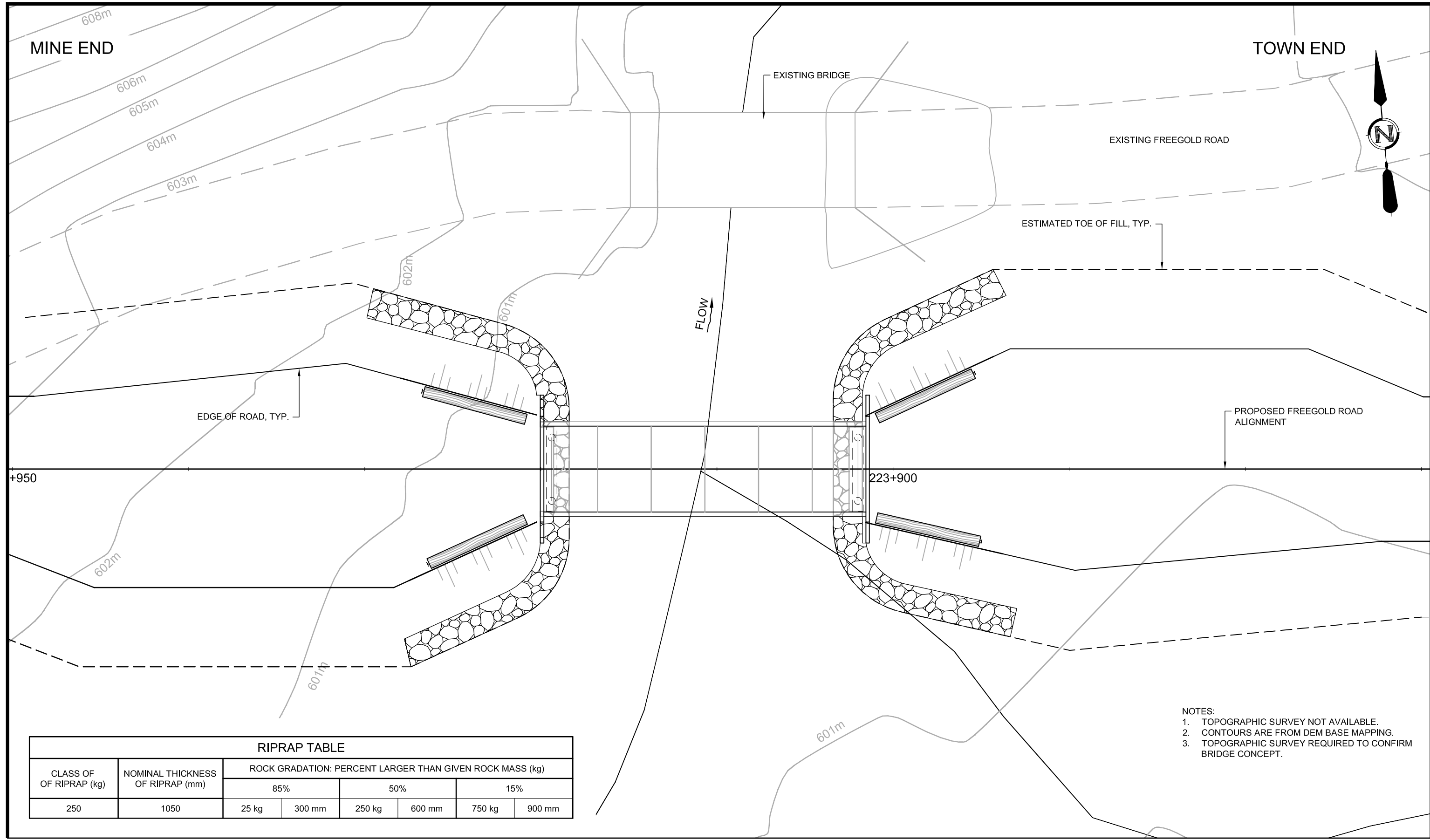
AE Project Number: 20092374-24



GLOBAL PERSPECTIVE.
LOCAL FOCUS.

DRAWING NUMBER	REV. NO.	SHEET
20092374-24-3-100	0	1

This Drawing Is For The Use Of The Client And Project Indicated. No Representations Of Any Kind Are Made To Other Parties.



- NOTES:
1. TOPOGRAPHIC SURVEY NOT AVAILABLE.
 2. CONTOURS ARE FROM DEM BASE MAPPING.
 3. TOPOGRAPHIC SURVEY REQUIRED TO CONFIRM BRIDGE CONCEPT.

RIPRAP TABLE							
CLASS OF RIPRAP (kg)	NOMINAL THICKNESS OF RIPRAP (mm)	ROCK GRADATION: PERCENT LARGER THAN GIVEN ROCK MASS (kg)					
		85%		50%		15%	
250	1050	25 kg	300 mm	250 kg	600 mm	750 kg	900 mm

NO.	DATE	ENG.	BY	SUBJECT
REVISIONS				

**PRELIMINARY
NOT FOR
CONSTRUCTION**

DRAFT

PROJECT No.	20092374-24		
SCALE	1:200		
DRAWN	MATTHEW BOWEN		2013/09/12
DESIGNED	MATTHEW BOWEN		2013/09/12
CHECKED	RAY KORPELA		
APPROVED			
DATE			INITIAL

WESTERN COPPER AND GOLD CORPORATION

SITE PLAN

**CROSSING CREEK BRIDGE
STATION 223+900 FREEGOLD ROAD
CROSSING CREEK**

DRAWING NUMBER	REV. NO.	SHEET
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WESTERN COPPER AND GOLD CORPORATION

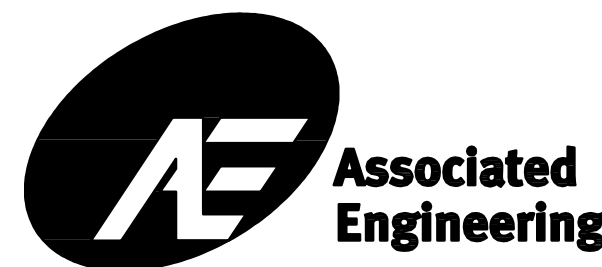
CASINO MINE ACCESS

SEYMOUR CREEK BRIDGE STATION 265+400 SEYMOUR CREEK

AE Project Number: 20092374-25

DRAWING LIST			
DRAWING NUMBER	DESCRIPTION	REV.	DATE
20092374-25-3-101	GENERAL ARRANGEMENT	0	2013/09/12
20092374-25-3-102	SITE PLAN	0	2013/09/12

REFERENCE DRAWING LIST			
DRAWING NUMBER	DESCRIPTION	REV.	DATE
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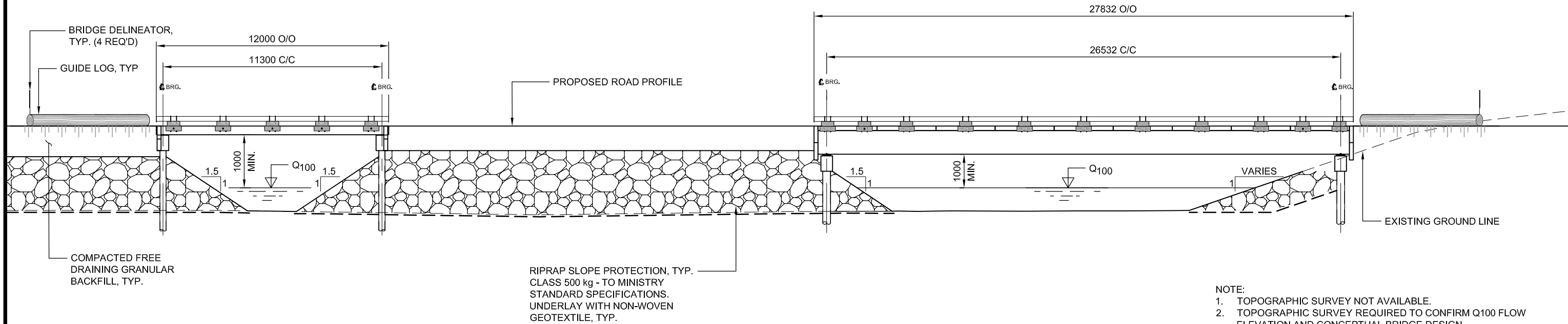
GLOBAL PERSPECTIVE.
LOCAL FOCUS.

DRAWING NUMBER	REV. NO.	SHEET
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This Drawing Is For The Use Of The Client And Project Indicated. No Representations Of Any Kind Are Made To Other Parties.

MINE END

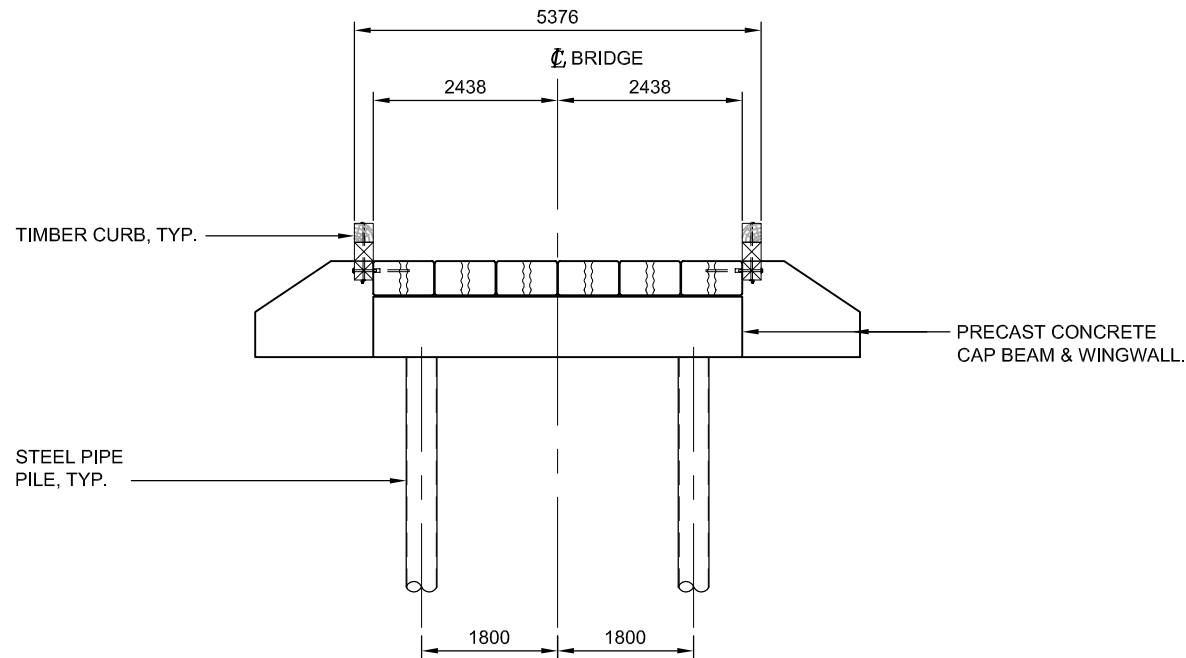
TOWN END



- NOTE:
1. TOPOGRAPHIC SURVEY NOT AVAILABLE.
 2. TOPOGRAPHIC SURVEY REQUIRED TO CONFIRM Q100 FLOW ELEVATION AND CONCEPTUAL BRIDGE DESIGN.
 3. EXISTING GROUND PROFILE DERIVED FROM DEM BASE MAPPING

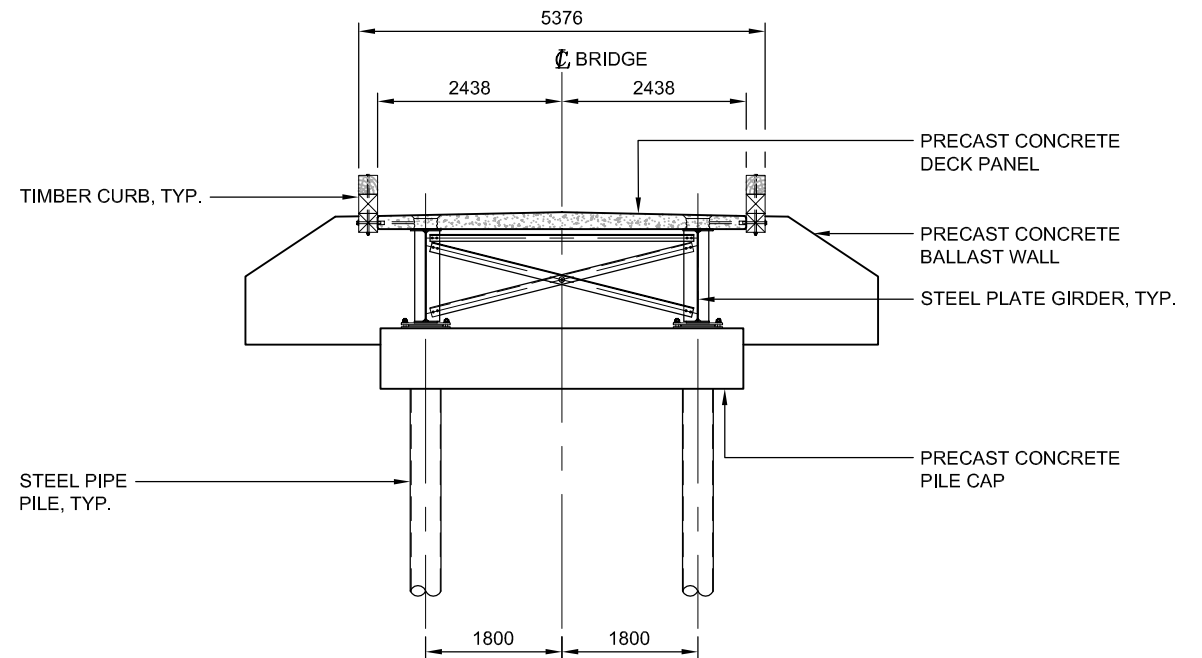
BRIDGE ELEVATION (LOOKING DOWNSTREAM)

1:200



TYPICAL ABUTMENT ELEVATION - SLAB BRIDGE

1:100



TYPICAL ABUTMENT ELEVATION

1:100

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NO.	DATE	ENG.	BY	SUBJECT
REVISIONS				

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COPPER AND GOLD

**PRELIMINARY
NOT FOR
CONSTRUCTION**

DRAFT

AE **Associated
Engineering**

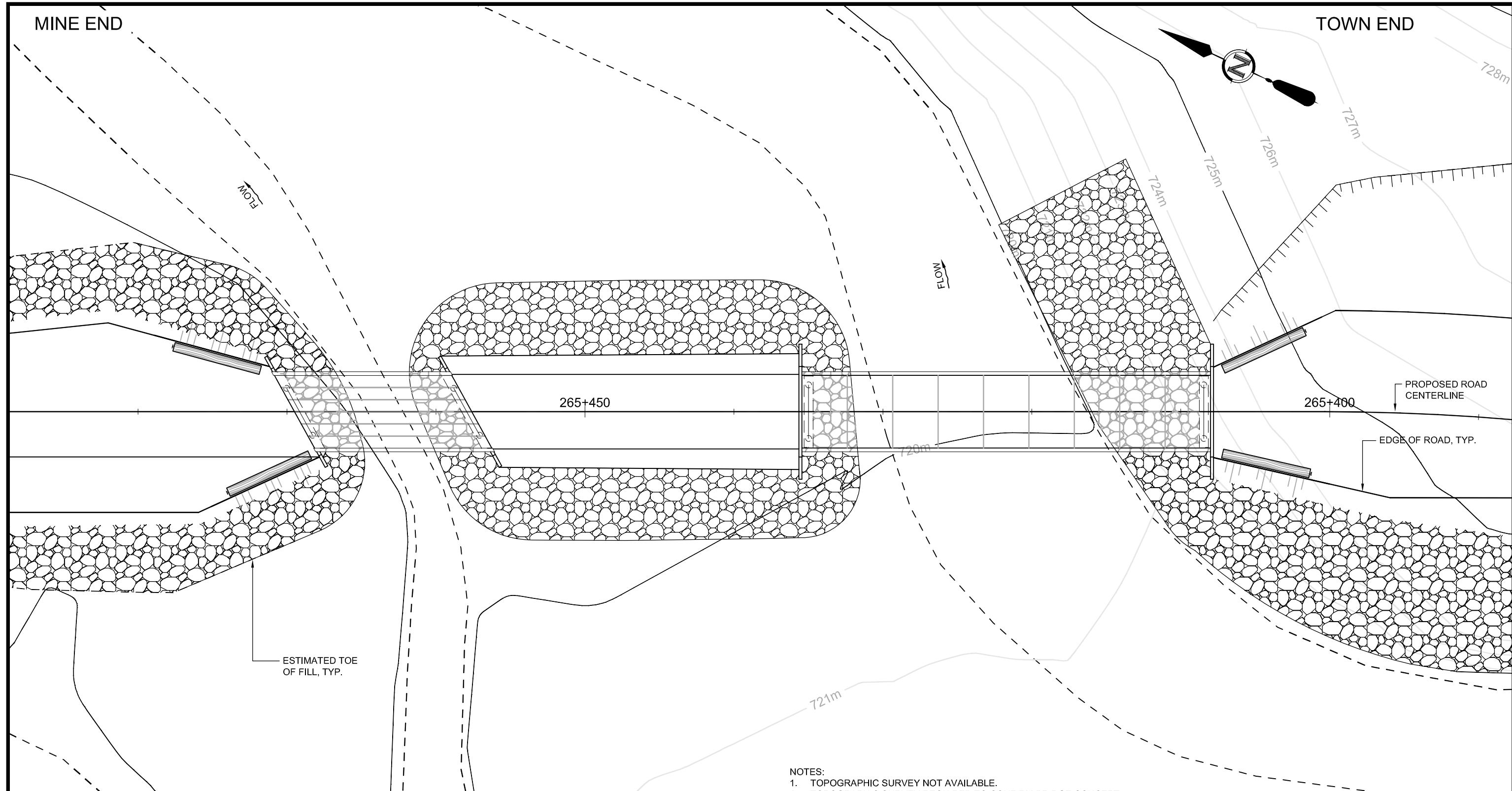
PROJECT No.	20092374-25		
SCALE	AS SHOWN		
DRAWN	MATTHEW BOWEN		2013/09/12
DESIGNED	MATTHEW BOWEN		2013/09/12
CHECKED	RAY KORPELA		
APPROVED			
DATE			INITIAL

**WESTERN COPPER AND GOLD
CORPORATION**

GENERAL ARRANGEMENT

SEYMOUR CREEK BRIDGE		
STATION 265+400		
SEYMOUR CREEK		
DRAWING NUMBER	REV. NO.	SHEET
20092374-25-3-101	0	

This Drawing Is For The Use Of The Client And Project Indicated. No Representations Of Any Kind Are Made To Other Parties.



- NOTES:
 1. TOPOGRAPHIC SURVEY NOT AVAILABLE.
 2. TOPOGRAPHIC SURVEY REQUIRED TO CONFIRM BRIDGE CONCEPT.
 3. CONTOURS DERIVED FROM DEM BASE MAPPING.

RIPRAP TABLE							
CLASS OF RIPRAP (kg)	NOMINAL THICKNESS OF RIPRAP (mm)	ROCK GRADATION: PERCENT LARGER THAN GIVEN ROCK MASS (kg)					
		85%		50%		15%	
500	1400	50 kg	350 mm	500 kg	800 mm	1500 kg	1100 mm

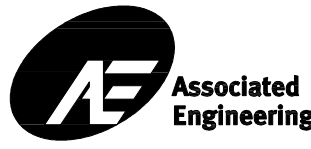
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NO.	DATE	ENG.	BY	SUBJECT
REVISIONS				


western
 COPPER AND GOLD

**PRELIMINARY
NOT FOR
CONSTRUCTION**

DRAFT


**Associated
Engineering**

PROJECT No.	20092374-25		
SCALE	1:250		
DRAWN	MATTHEW BOWEN		2013/09/12
DESIGNED	MATTHEW BOWEN		2013/09/12
CHECKED	RAY KORPELA		
APPROVED			
DATE		INITIAL	

**WESTERN COPPER AND GOLD
CORPORATION**

SITE PLAN

SEYMOUR CREEK BRIDGE STATION 265+400 SEYMOUR CREEK		
DRAWING NUMBER	REV. NO.	SHEET
20092374-25-3-102	0	1

Appendix G - Stream Crossings

Drainage

Nine drainage courses have been identified along the Freegold Road from the Carmacks Copper Access Road to Seymour Creek. These drainage courses and the existing culverts are listed in Table G-1. Kilometre references and coordinates in Table G-1 refer to the Freegold Road existing locations. A hydro technical analysis will be completed for each of the drainage courses at the proposed crossings to determine the design flow. Each crossing will be assessed with respect to flow, ground conditions, environmental sensitivity, constructability, and fish presence. Based on this assessment an appropriate crossing structure will be selected.

Table G-1
List of Major Culverts along the Existing Freegold Road

Km	Northing	Easting	Existing Culvert Diameter (mm)
35.33	6903473	412644	600
36.33	6903130	411763	900
			800
39.15	6901775	409539	600
41.32	6901789	407851	800
41.97	6901558	407284	1000
			1000
			600
45.3	6900527	404285	800
47.05	6900490	402748	1000
			450
48.18	6900132	401842	1500
			1000
53.3	6901100	397332	1000
			600

Casino Project - Casino Mine Roads Crossing Table

Note: The culvert sizes listed are estimated from assumed catchment areas for each crossing.
Hydrological assessments have only been completed for the major bridge crossing sites.

ID	Road Station	Stream Crossing	Crossing Type	Estimated Length (m)	UTM Zone	Northing	Easting
Freegold Road Extension							
1	+280	Bow Creek	B (B1)	18.8	8	6910242	385088
101	1+485	Bow Creek Tributary	CC (1500mm)	TBD	8	6111331	385514
2	1+930	Bow Creek Tributary	CC (1500mm)	16.7	8	6911701	385749
102	3+895	Bow Creek Tributary	CC (2400mm)	TBD	8	6913404	386597
103	7+485	Big Creek Tributary	CC (2400mm)	TBD	8	6915144	385999
104	8+555	Big Creek Tributary	CC (1500mm)	TBD	8	6914780	385023
3	9+320	Big Creek Tributary	CC (2400mm)	14.8	8	6914769	384265
4	10+610	Big Creek Tributary	CC (2400mm)	17.4	8	6914667	383092
105	11+425	Big Creek Tributary	CC (2400mm)	TBD	8	6914919	382326
6	12+260	Big Creek Tributary	CC (2400mm)	14.5	8	6914997	381574
8	13+150	Big Creek	B (B2)	37.0	8	6915200	380797
9	13+470	Big Creek Tributary	B (B3)	9.0	8	6915437	380643
10	15+500	Big Creek Tributary	CC (1500mm)	15.7	8	6916772	379294
11	16+560	Big Creek Tributary	CC (2400mm)	37.5	8	6917122	378313
13	18+080	Big Creek Tributary	CC (1500mm)	18.9	8	6918167	377264
14	18+370	Big Creek	B (B4)	30.0	8	6918095	377007
15	18+900	Big Creek Tributary	Bridge	TBD	8	6918099	376573
17	20+390	Big Creek Tributary	CC (2400mm)	14.5	8	6918907	375373
18	21+580	Big Creek Tributary	CC (2400mm)	34.3	8	6919673	374514
20	23+320	Big Creek Tributary	B (B5)	10.0	8	6921078	373521
21	24+380	Big Creek Tributary	CC (2400mm)	19.5	8	6921290	372497
106	25+695	Big Creek Tributary	CC (1500mm)	TBD	8	6921758	371300
23	26+820	Big Creek	B (B6)	40.0	8	6922687	370986
24	28+210	Big Creek Tributary	CC (2400mm)	19.5	8	6923623	370172
25	28+730	Big Creek Tributary	CC (2400mm)	20.0	8	6923860	369719
26	29+240	Big Creek Tributary	CC (2400mm)	27.2	8	6924178	369328
107	30+860	Big Creek Tributary	CC (2400mm)	TBD	8	6925031	368092
108	31+875	Big Creek Tributary	CC (1500mm)	TBD	8	6925523	367227
27	33+230	Big Creek Tributary	CC (2400mm)	17.1	8	6925798	365959
28	35+340	Big Creek Tributary	CC (1500mm)	16.9	8	6926722	364712
109	36+850	Big Creek Tributary	CC (1500mm)	TBD	8	6927838	363704
29	37+700	Big Creek Tributary	CC (2400mm)	16.2	8	6928102	362891
30	39+280	Big Creek Tributary	CC (1500mm)	18.4	8	6929090	361702
110	40+640	Big Creek Tributary	CC (1500mm)	TBD	8	6929670	360495
31	41+340	Big Creek Tributary	CC (2400mm)	20.8	8	6930102	359971
32	43+110	Hayes Tributary	CC (2400mm)	16.3	8	6931260	358985
34	45+230	Hayes Tributary	CC (2400mm)	19.8	8	6932917	357680
36	47+050	Hayes Tributary	CC (2400mm)	17.6	8	6933948	356254
37	49+000	Hayes Tributary	CC (2400mm)	21.2	8	6935425	355019
38	51+170	Hayes Creek	B (B7)	15.6	8	6936828	353491
39	52+330	Hayes Tributary	CC (2400mm)	16.0	8	6937376	352489
40	53+590	Hayes Tributary	CC (1500mm)	21.0	8	6938195	351534
41	56+790	Hayes Creek	B (B8)	27.8	8	6940628	349556
42	57+420	Hayes Tributary	CC (2400mm)	18.5	8	6941194	349309
43	58+070	Hayes Tributary	CC (2400mm)	15.6	8	6941798	349138
44	58+980	Hayes Tributary	CC (2400mm)	16.4	8	6942396	348450
45	60+220	Hayes Tributary	CC (2400mm)	17.4	8	6943310	347629
111	60+720	Hayes Tributary	CC (2400mm)	TBD	8	6943618	347271

Casino Project - Casino Mine Roads Crossing Table

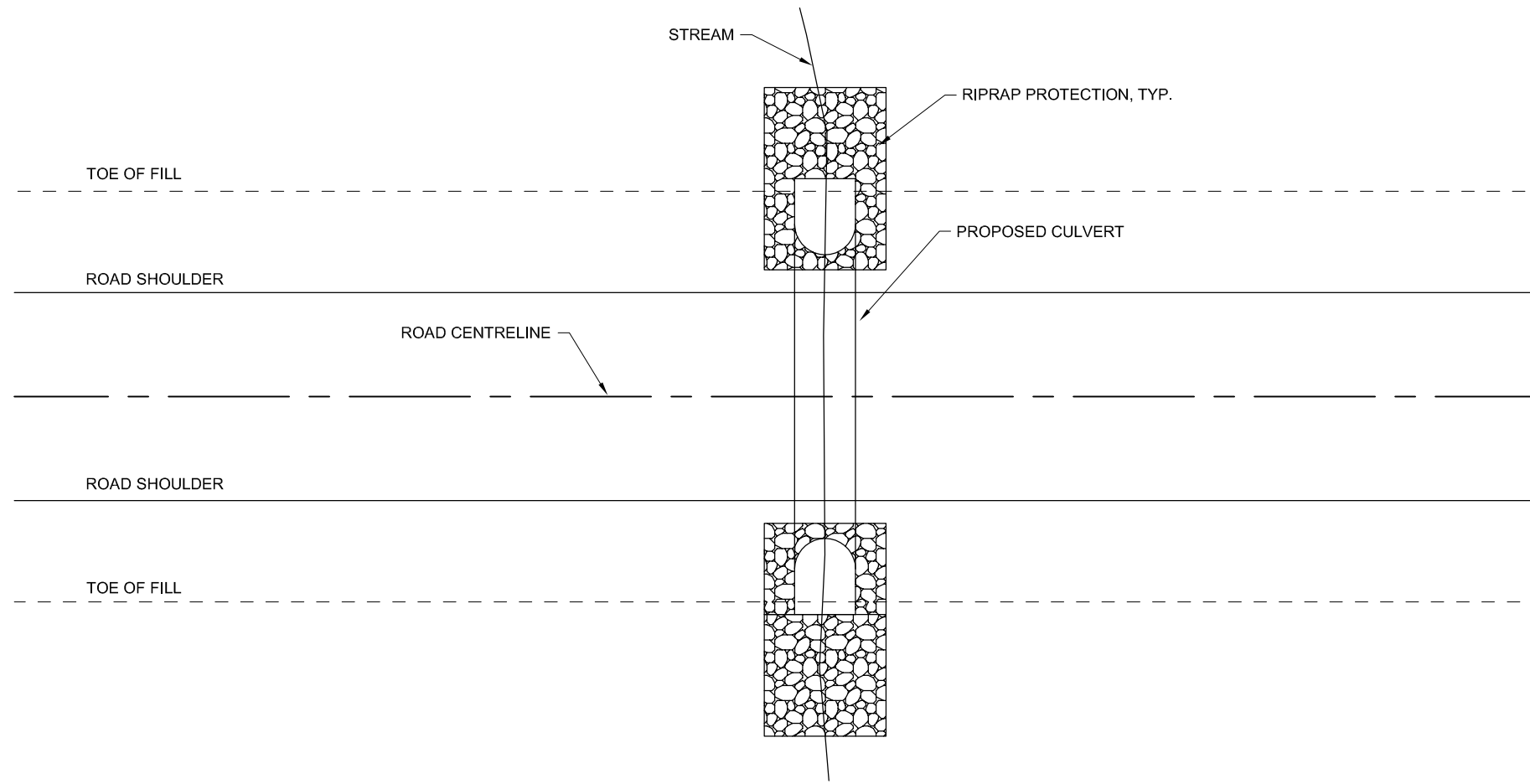
Note: The culvert sizes listed are estimated from assumed catchment areas for each crossing.
Hydrological assessments have only been completed for the major bridge crossing sites.

ID	Road Station	Stream Crossing	Crossing Type	Estimated Length (m)	UTM Zone	Northing	Easting
46	61+830	Hayes Tributary	Bridge	TBD	8	6944654	346888
47	62+170	Hayes Tributary	CC (2400mm)	16.1	8	6944960	346743
48	63+870	Hayes Tributary	Bridge	TBD	8	6946576	346593
49	64+700	Hayes Creek	B (B9)	24.8	8	6947271	346380
51	66+170	Hayes Creek Side Channel	B (B10)	15.6	8	6948653	346537
52	66+310	Hayes Creek Side Channel Tribs	B (B11)	15.6	8	6948781	346529
53	67+500	Hayes Creek Side Channel	B (B12a)	13.0	8	6949915	346712
54	67+570	Hayes Creek	B (B12b)	34.0	8	6949993	346696
55	68+450	Hayes Creek	B (B13)	27.8	8	6950819	346819
56	68+850	Hayes Tributary	CC (1500mm)	14.6	8	6951179	346896
58	69+340	Hayes Creek	B (B14)	33.5	8	6951425	346481
112	70+400	Hayes Tributary	CC (2400mm)	TBD	7	6951671	652858
59	71+100	Hayes Tributary	CC (2400mm)	20.9	7	6951828	652181
60	71+600	Hayes Tributary	CC (2400mm)	16.8	7	6951973	651716
64	72+200	Hayes Tributary	CC (2400mm)	28.7	7	6952170	651145
65	73+500	Hayes Tributary	CC (2400mm)	31.8	7	6952558	649980
66	74+810	Hayes Tributary	CC (1500mm)	21.4	7	6952529	648749
67	75+410	Hayes Tributary	Bridge	TBD	7	6952532	648162
68	77+220	Hayes Tributary	CC (1500mm)	23.0	7	6953097	646520
69	78+420	Hayes Tributary	CC (1500mm)	38.5	7	6953565	645495
71	78+980	Hayes Creek	B (B15)	27.8	7	6953951	645113
72	79+380	Hayes Creek	B (B16)	30.5	7	6954264	644886
73	81+120	Hayes Tributary	CC (1500mm)	20.1	7	6954697	643317
74	81+570	Hayes Tributary	CC (1500mm)	15.3	7	6954859	642903
75	81+750	Hayes Tributary	CC (2400mm)	35.2	7	6954938	642743
113	82+775	Hayes Tributary	CC (2400mm)	TBD	7	6955098	641749
76	83+550	Hayes Tributary	CC (2400mm)	22.3	7	6955434	641077
77	85+160	Selwyn River	B (B17)	27.8	7	6956507	639993
78	87+920	Selwyn Tributary	CC (1500mm)	36.3	7	6958246	638494
79	89+330	Selwyn Tributary	CC (1500mm)	39.1	7	6958668	637646
80	89+410	Selwyn Tributary	CC (1500mm)	21.0	7	6958702	637585
81	90+410	Selwyn Tributary	CC (1500mm)	16.9	7	6959511	637143
82	91+570	Selwyn Tributary	CC (1500mm)	53.5	7	6959588	636430
83	93+040	Selwyn Tributary	CC (1500mm)	41.2	7	6959563	635624
84	94+550	Selwyn Tributary	CC (1500mm)	41.9	7	6959720	634674
85	94+660	Selwyn Tributary	CC (1500mm)	31.3	7	6959780	634592
86	96+190	Yukon Tributary	CC (1500mm)	20.7	7	6960539	634193
87	105+620	Idaho Tributary	CC (1500mm)	24.3	7	6956936	628781
88	107+920	Idaho Tributary	CC (1500mm)	24.4	7	6956753	627290
89	109+800	Idaho Tributary	CC (1500mm)	44.0	7	6956577	625829

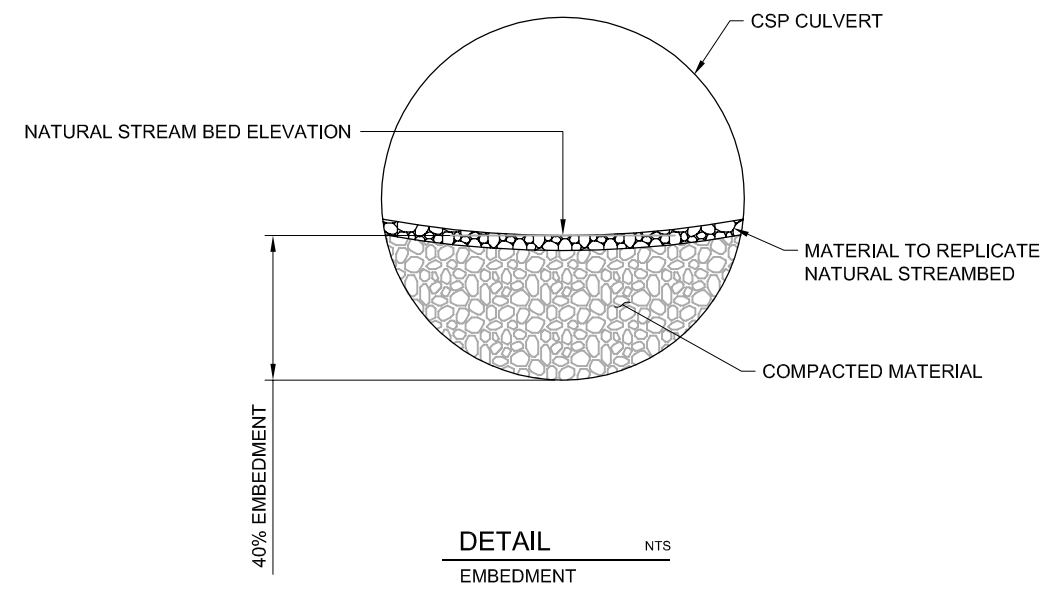
Casino Project - Casino Mine Roads Crossing Table

Note: The culvert sizes listed are estimated from assumed catchment areas for each crossing. Hydrological assessments have only been completed for the major bridge crossing sites.

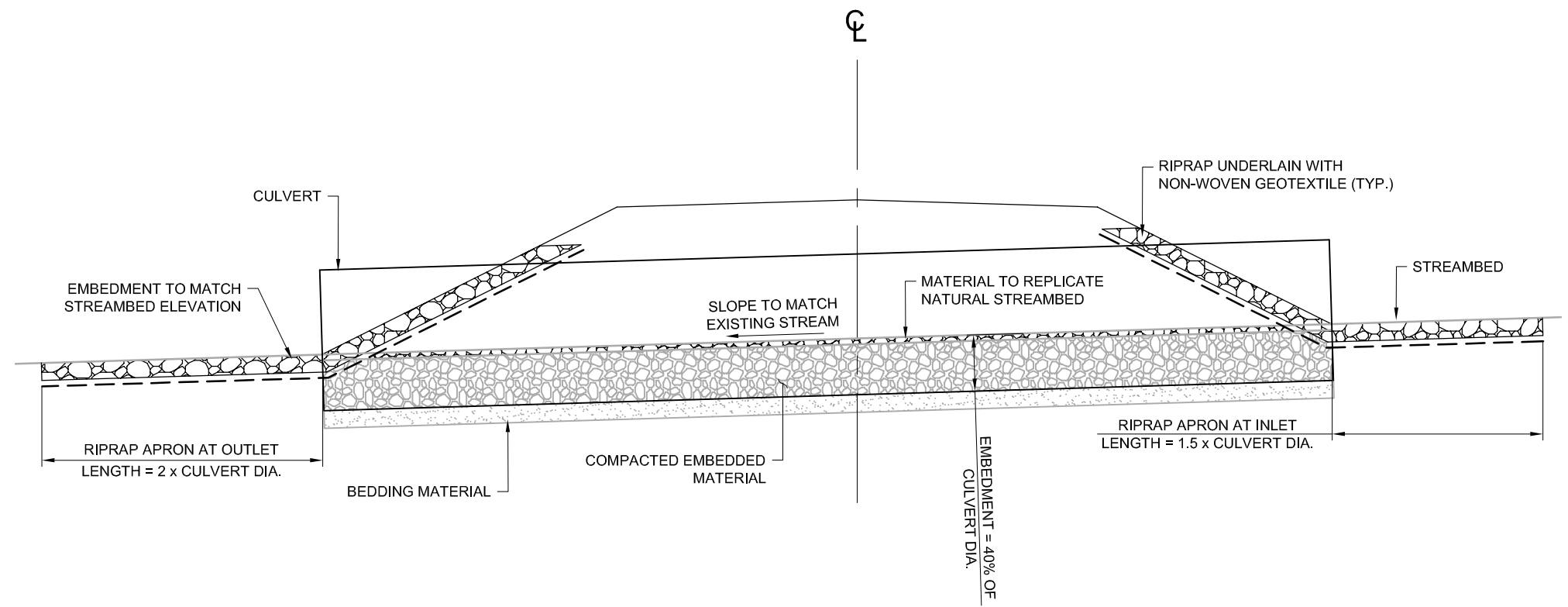
ID	Road Station	Stream Crossing	Crossing Type	Estimated Length (m)	UTM Zone	Northing	Easting
Airstrip Access Road							
90	11+600	Ditch	CC (2400mm)	9.6	7	6945600	606962
92	11+840	Dip Creek Tributary	CC (1500mm)	10.9	7	6945760	607146
93	13+070	Dip Creek Tributary	CC (2400mm)	11.6	7	6946172	608242
94	14+650	Dip Creek	B (A1)	18.3	7	6947303	609094
95	16+580	Dip Creek Tributary	CC (2400mm)	24.8	7	6948592	610055
96	17+620	Austin Creek	CC (2400mm)	10.8	7	6949543	610265
97	20+300	Brynelson Creek Tributary	CC (1500mm)	10.0	7	6951968	610283
98	20+750	Brynelson Creek	B (A2)	9.0	7	6952411	610133
99	20+960	Brynelson Creek Tributary	CC (1500mm)	12.2	7	6952522	610239



PLAN 1:250



DETAIL EMBEDMENT NTS



ELEVATION 1:100

NOTES:

1. CULVERT MUST BE INSTALLED IN THE DRY.
2. ISOLATE CULVERT IN ACCORDANCE WITH APPROVED CONSTRUCTION PLAN, AND COMPLY WITH ALL APPLICABLE PERMITS AND REGULATORY REQUIREMENTS.
3. INSTALL EROSION AND SEDIMENT CONTROL MEASURES IN ACCORDANCE WITH APPROVED ENVIRONMENTAL MANAGEMENT PLAN, AND ALL APPLICABLE PERMITS AND REGULATORY REQUIREMENTS.

DRAFT
FOR INFORMATION ONLY

CASINO MINE PROJECT
FIGURE G-1
Typical Fish Culvert Embedment

Date: Sept. 12, 2013
Scale: AS SHOWN



Appendix H - Traffic Projections

**Casino Traffic Projections
During Operations**

Freight:	Typ Yr. Qty/day	Peak Yr.	Inbound Loads/day	Outbound Loads/day	Peak Outbound Loads/Day
LNG, cubic meters	1,000		11	11	11
Diesel/Lubricants, lots	4		4	4	4
Lime, tonnes, as backhaul	200		6	0	0
Grinding Media via backhaul, tonnes	60		1.5	0	0
Grinding media direct haul, tonnes	60		1.5	0	0
Camp & Catering supplies, lots	2		2	2	2
Copper concentrates, tonnes, wet	840	1220	0	16.8	24.4
Moly concentrates, tonnes	90		0	3.6	0
Other, lots	10		10	10	10
Total Freight loads			36	48	52
Buses, vans, light vehicles	20		20	20	20
Total vehicles per day			56	68	72

Notes:

Daily and seasonal variations will occur.

Peak outbound results from years of higher than life of mine average copper concentrate production

**Casino Traffic Projections
During Construction Phase**

	Mine Construction					Freegold Road Upgrade and Exstension Construction					Total "Heavy" Traffic	Avg./Day "Heavy"		Light Vehicles	All Vehicle Types	Avg./Day "All Types"
	Casino Projection Inland Freight	Casino Mining Equipment	Construction Equip to site	Camp	Supplies incl. fuels, lub, camp	Fuel	Mobilization / Demobilization of Equipment	Construction Camps	Bridges	Culverts & Geotextile						
Distribution of Truckloads by year																
Year -4	50	0	100	20	500	100	180	40	110	100	1,200	3	Note 5	200	1,400	4
Year -3	1,500	54	100	40	1200	720				34	3,648	10		3,000	6,648	18
Year -2	2,500	12	200		1800	550				15	5,077	14	Note 1	5,000	10,077	28
Year -1	950	12	200		1800	320	180	40		15	3,517	10		6,000	9,517	26

- Notes:
- 1) Heap leach in operation
 - 2) Assumes 3 truck loads/piece of mining equipment
 - 3) Assumes 2 truck loads per piece of construction equipment
 - 4) Light vehicles include: autos, light trucks up to 10 ton capacity.
 - 5) Assumes equivalent of 75 truck loads by barge
 - 6) Construction equipment, camp and supplies along road are excluded.
 - 7) Peak traffic may approach 200 -250 % of average values for limited durations.