

**Total Project Management (TPM) – Preliminary Design and Environmental Assessment
Rehabilitation / Replacement of the Argyle Street South Bridge
over the Grand River in Caledonia
Meeting with Ministry of Culture**

Purpose: Review Heritage Component of the Bridge Project
Place: 8/F, 400 University Avenue, Toronto
Date: Thursday, July 7, 2005
Time: 10:00 A.M. – 12:00 P.M.

Invitees:	<u>MTO Team</u>		<u>MOC/MCI</u>	
	Tanya Cross	MTO Highways	William Gerrard	MCL
	Susan Wagter	MTO Environmental	Heather Thomson	MCL
	Penny Young	MTO Archaeologist	Eva Salter	MCI
	Edward Li	Consultant, MH		
	Paul Draycott	Consultant, DEI		
	Mary MacDonald	Consultant, ASI		

MEETING AGENDA

- | | | |
|----|---|---------------|
| 1. | Introduction of attendants | All |
| 2. | General Introduction of the Project | Tanya |
| 3. | General Description of Bridge Condition | Edward |
| 4. | Recap of Consultation Process to-date and PIC Responses | Paul / Edward |
| 5. | Recap of Liaison Work with Haldimand County | Edward |
| 6. | General Description of Heritage Study* and CSD Workshop | Mary / Paul |
| 7. | General Discussion | All |
| 8. | Next Step | All |
| 9. | Other Business | All |

(* a copy of the Heritage Bridge Impact Assessment Report will be distributed in the meeting)



Project: Total Project Management (TPM) -- Preliminary Design and Environmental Assessment
 Rehabilitation / Replacement of the Argyle Street South Bridge over the Grand River in Caledonia

Project No.: 1021040.00

Place: Morrison Room, Morrison Hershfield Limited Toronto Office, Suite 600, 235 Yorkland Blvd., Toronto, M2J 1T1

Date: Monday, March 07, 2005

Time: 10:00AM.

Present:

Tanya Cross	MTO Planning and Design (MTO)
Christopher Balasa	MTO Planning and Design (MTO)
Michael Plant	MTO Operational Services (MTO)
Susan Wagter	MTO Environmental(MTO)
Penny Young	MTO Planning and Environmental(MTO)
Donna Hinde	The Planning Partnership (PP)
Bob Birrell	Center for Advances (NC)
Mark Langridge	Du Toit Architects (DTA)
Roger Dorton	Buckland and Tayler (B&T)
Edward Li	Morrison Hershfield Limited (MH)
Jim Weir	Morrison Hershfield Limited (MH)
Josephine Yung	Morrison Hershfield Limited (MH)
Paul Draycott	Draycott Environmental Inc. (DEI)

Purpose: Context Sensitive Design (CSD) Workshop, 2nd Working Meeting

ITEM	MINUTES	ACTION BY
1.0	Introduction	
1.1	Edward introduced the Project briefly and the purposes of the CSD Workshop. He discussed that this meeting is to select the Bridge Alternatives that will be presented in the Workshop. Attendances Introduced themselves to the team members.	Information
1.2	Edward summarized the history about the existing bridge and the issues that are needed to be considered for this project including transferring ownership from the Ministry to Haldimand County, hydraulics, business and Native issues. The main issues that are concerned for this Workshop meeting included 2/3 lanes bridge, one or two sidewalk, heritage and traffic issues.	Information

ITEM	MINUTES	ACTION BY
1.3	Tanya indicated that MTO would like to sidewalk on both sides of the bridge for a balanced structure. She also indicated that due to the Emergency Services and Traffic concerns, a 8 week shut down during the bridge construction is not an option, yet it is needed to be confirmed.	Information
1.4	Mark reinforced the idea of having sidewalk on both sides of the bridge as there is a school nearby, it would be inconvenient for students to cross over the traffic to use sidewalk. Also, a symmetric section can provided a form of arch.	Information
1.5	Edward mentioned that there is some constraints for the new bridge, including minimum shifting the horizontal alignment for safety reasons; maintaining both pedestrian and vehicle traffic during construction; foundation construability; aesthetic and sympathetic design.	Information
2.0	Bridge Alternatives	
2.1	Donna questioned if all the bridge alternatives have the same substructure layout (5-span) and the same vertical profile (raised by hydraulic reason). Mark suggested to open for the 5- or 6-span. 6-span bridge will have a lower arch which may not require cross-tie bracing.	Information
2.2	Chris advised that a 6-span option is needed to be re-estimated, the foundation constructability is considered to be 5-span so far.	MH
2.3	Bob showed samples of 3-D rendering video clips of Peace Bridge.	Information
2.4	Edward distributed the Bridge Alternative Ideas and explained each alternative briefly. <ul style="list-style-type: none"> • Alternative idea 1 is a structural arch bridge with cranked steel floor beams supporting the deck, Substructures (foundations and piers) can be built all at once during Stage 1 since they are all staggered to the existing piers; • Alternative idea 2 is a 4-box steel girder structure with decorative steel lining arch. It is very similar 	

ITEM	MINUTES	ACTION BY
	to the original proposed design and 6-span would be more prominent.	Information
2.5	Tanya requested a cost estimate for the Alternative idea 1. Edward stated it would cost about \$10M which is comparable to the original proposed Bridge Alternatives.	Information
2.6	Roger then introduced the Alternative idea 3, it is a 5-span structure with shorter span at the ends. A 2 m alignment is shift from the existing structure. The deck is supporting on 3 box girders and the pedestrian sidewalks are supported by structural arch. The structural arches will be smaller and lighter than the Alternative idea 1 because they only take the load at the sidewalks. Ties will be provided between the arches. The west side of the bridge will be built in Stage 1 and the rest will be built in Stage 2.	Information
2.7	Mark explained the Alternative idea 4, this idea is very similar to Alternative idea 3, which is composed of 3 box girders and a pair of structural arch bridge. He stated that the original bridge that built in 1800s was a 6-span Iron Arch Bridge and the existing one was built in 1920s for the replacement of the steel arch bridge with 9-span concrete arch bridge. He indicated that this Alternative idea 4 could have the form and repetition of arches which thinking all 3 of the bridge at the same location have the same symbolism and caption the spirit. Mark also indicated that a nice looking railings, lightings can be added to give a better look of the bridge.	Information
2.8	Mike stated that the lightings on the bridge are owned by the Municipality and they wants the new lightings look like the one at approaches, a hooked antique type.	Information
2.9	Mark suggested to put existing arch into the park. The advantage of the Alternative idea 4 is that the arches are closer compare to the Alternative idea 1 and the arches stay at the same location as of the existing arches (between the traffic lane only), which gives a less change of both pedestrian and drivers' experience of how to look at the bridge.	Information

ITEM	MINUTES	ACTION BY
2.10	Tanya asked if the arch is tapered, like the one was built in 1800s.	MH/DTA/B&T
2.11	Donna questioned if the Alternative idea 4 cost about \$10M.	MH
2.12	Paul expressed that the bridge that were built at the location are both arch bridge, but they would just be presenting with the technology of the time. In this point of view, the new bridge would implement the design showing the technology of today.	Information
2.13	Mark stated that no matter what kind of technology they used for the bridges at the location, they still pick up the same form of bridge type and therefore it is better to provide arch shape for the proposed bridge.	Information
2.14	Donna like Mike's freehand sketches with colour. She thought it is better with freehand sketches than engineering Cad drawings because there is a wrong impression that the design has been already be completed if using Cad drawings.	Information
2.15	Susan concerned about the maintenance of the steel arches on the proposed new bridge. Roger stated that the box girders will be fabricated by weathering steel while the structural arches will be fabricated by steel with good painting.	Information
2.16	Mark suggested using grey warm colour on the structural arches.	Information
2.17	Tanya recommended to provide fact sheets of the bridge type regarding to maintenance and function in the workshop package.	PP
2.18	Donna said so far it seems like all 4 alternative ideas are based on one bridge type, a arch bridge with steel girder. Some people may think there is only 1 Option.	Information
2.19	Edward summarized the Bridge Options that have been proposed in this meeting and there are 3 categories: <ul style="list-style-type: none"> • Girders <ul style="list-style-type: none"> ○ Base ○ Decorative arch 	

ITEM	MINUTES	ACTION BY
	<ul style="list-style-type: none"> o Ornamental enhancement o Base + something (lookout, fancy railing, lightings, or stone enhancement on piers). • Arches <ul style="list-style-type: none"> o For full structure o For sidewalk (lighter weight) o No. of spans that have arches, at which locations • Others (may be screened out in the past due to economical or technical reasons) <ul style="list-style-type: none"> o Cable stay (S/W) o Truss structure 	Information
2.20	Mike stated that the base structure without arches, but compensate with other fancy components such as lookout, great railing, lighting, limestone (stone enhancement) by shifting the arch cost to the components is also an option.	Information
2.21	Benay said Heritage Park?	Information
2.22	All the Alternative ideas that have been discussed are worked for 3-lane bridge only except Alternative Idea 2.	Information
2.23	Susan asked if it has been confirmed the proposed bridge is 2-lane or 3-lane and Tanya said there is no confirmation to have 3-lane bridge yet.	Information
2.24	Tanya would like to have the rough estimate of the 5-span bridge + something option and confirm the alignment offset of both the 2-lane and 3-lane bridges.	MH
2.25	The Workshop will be held on April 18 and 19, 2005.	Information
2.26	Mark stated that somebody needs to put the background of the bridge into the presentation and cross section, elevation and photos of materials/ other bridges for the Workshop.	Information
2.27	Paul suggested to go to Museum Archive to get some history of the bridge.	Information

ITEM	MINUTES	ACTION BY
3.0	Deliverables	
3.1	MH to prepare the free hand sketches including elevation and cross section of each option by Friday Mar 11, 2005.	MH
3.2	MH is requested to submit cost estimate of the Options to the Ministry.	MH

These minutes were prepared by Josephine Yung. Please forward any comments and omissions noted to Edward or Josephine.

Distribution: All Present
c.c. Chak Lo

MEMORANDUM

MORRISON HERSHFIELD



- 2 -

TO: File
FROM: Edward Li

ACTION BY:
FOR INFO OF: Nanda Kandiah, MTO
Michael Plant, MTO
Susan Wagter, MTO
Paul Draycott, MH
Jim Weir, MH
Shu Liang He, MH
Phil Bedell, Golder
Alan Winter, WBurnside

PLEASE RESPOND BY:
RE: Argyle Street South Bridge Rehabilitation /
Replacement, Meetings with Six Nations and
the First Nation

PROJECT No.: 1021040.00
DATE: March 4, 2003

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This is some notes of meetings with the Mississaugas of the New Credit First Nation and the Six Nations yesterday (Monday March 3, 2003).

Meeting with the Mississaugas of the New Credit First Nation

Edward Li presented the project at a Regular Council Meeting at 9:15 a.m. with the aid of a handout package. Because they are one of the parties to the Grand River Notification by Council issues such as bridge and meeting were removed from the handout package. Because they are one of the parties to the Grand River Notification by Council issues such as bridge and meeting were removed from the handout package. Because they are one of the parties to the Grand River Notification by Council issues such as bridge and meeting were removed from the handout package.

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CCRC

Meeting with Six Nations of the Grand River

In attendance are Paul General, Director Jo-Ann Greene and Councillor Terry McNaughton of the Six Nations, Nanda Kandiah of the Ministry, and Edward Li and Paul Draycott of Morrison Hershfield. Edward introduced the project with the aid of a handout package and stated that it is the intention of Morrison Hershfield to contact all local councils and municipalities before presentation to the public. The following items were discussed:

1. Concerns including fisheries in the river that may be impacted by the construction work. The eco system of the banks may govern which species would be affected at which part of the river.
2. The dams, one upstream of the subject bridge and another in Dunnville, are apparently built to provide sufficient depth of water for navigation between and upstream of the dams, but in any case the depth of water is not expected to exceed 5'. There is little boat traffic, most fishermen wade. There is also concern with spring spawning in the

river, and that construction in the water may be restricted outside April to June. This will be further investigated and confirmed by Paul Draycott. Additionally Paul will also confirm navigability of river and requirements from the Coast Guard.

3. The flow data should be obtained from GRCA, but Paul General said that floodline has been overtopped a number of times.
4. The Six Nations are well aware of the on-going land dispute, and indicated that to build a bridge anywhere else other than the existing alignment will be a major incidence and will make significant difference in the project.
5. The attendants of the Six Nations indicated that MTO project team has to speak to the Confederacy which is a separate organization of the Six Nations more interested in land and water issues, and with its own councillors. Paul Draycott is to obtain contact information from Paul General to set up meeting as soon as possible.
6. There was also concern with investigation drilling in the river lest leaked oil may lead to contamination. MH stated that the responsibility has been delegated to the specialist subconsultant whose attention is drawn to these issues. Both the Six Nations and the Confederacy will be contacted prior to the drilling works.

Edward Li

MEMORANDUM

MORRISON HERSHFIELD



- 2 -

TO: File
FROM: Edward Li

ACTION BY:
FOR INFO OF: Nanda Kandiah, MTO
Michael Plant, MTO
Susan Wagter, MTO
Paul Draycott, MH
Shu Liang He, MH
Jim Weir, MH

PLEASE RESPOND BY:
RE: Argyle Street South Bridge Rehabilitation /
Replacement, Meetings with Caledonia
Regional Chamber of Commerce (CRCC)

PROJECT No.: 1021040.00
DATE: March 6, 2003

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The following are notes of meeting with the Caledonia Regional Chamber of Commerce today (March 6, 2003). The meeting was held in the Train Station in Caledonia beginning at 3 p.m.:

The meeting was attended by Darren Rezanoff, Barbara Martindale, Carol Ritchie, Darcy Maloney and Scott Cranston of CRCC, Nanda Kandiah of MTO and Edward Li of MH.

1. Nanda briefly described the process of the Preliminary Design and the Public Consultation. The meeting was a series of initial meetings intended to solicit opinions from representative groups to formulate criteria for the design. The first Public Information Centre is scheduled to be held in the last week of May, 2003, and the next one will be held after the Labour Day, when the recommended solution will be presented to the public.
2. Nanda reiterated that it is the intention of the Ministry to pass the ownership of the bridge to the Haldimand County when the agreed construction work has been completed. It is therefore essential that the Haldimand County accepts the recommended action of the Preliminary Design prior to any construction work.
3. Edward described the condition of the bridge and the potential of failure of the bridge if proper maintenance or replacement is not carried out. Depending on the final classification, the bridge can be designed to last up to 120 years according to the bridge code. Modern bridge will address all new requirements and will be much durable than older structures such as the subject structure because of the advancement of materials and knowledge. Inspection and evaluation indicated that the bridge is structurally deficient, and that the lane width and roadside clearances do not meet highway safety standards. Half of the bridge's capacity is to carry itself, therefore even if the bridge is closed, or used by pedestrians only, rehabilitation will still have to be done to prevent collapse.
4. Darren admitted that any replacement bridge will have to remain on Argyle Street. The removal of the connection from its existing location would have devastating impact on the business built around the street, which is the centre of the Town.

5. Barbara will like to see sufficient information to confirm that the bridge cannot be rehabilitated. Edward reminded that the bridge can be rehabilitated but the County would have to invest in recurring expensive rehabilitation, and from previous meeting, the County has expressed reluctance to take over a repaired structure.
6. CRCC members stated clearly their preference is to keep the 9 arch bridge as the symbol of Caledonia. If a new bridge has to be built, they would like to see it to take on the exact look of the existing structure. The erection of a few arches in a nearby park is just not enough. Some opinions went as far as to put up a new modern bridge with the existing arches placed at its edges just for decoration.
7. Edward said that all suitable bridge options will be evaluated and the most appropriate one will be recommended based on criteria which will include heritage. Other factors such as safety, cost, life cycle cost and durability, will all be considered.
8. CRCC members also stated that if the construction of the bridge takes up to 2 years to build, a parallel temporary crossing is definitely needed. To build a temporary crossing for pedestrians only is not enough. The businesses, say on the south, will lose its customers on the north to somewhere elsewhere if the crossing is closed down. The temporary bailey located on the west side of the existing bridge with S-curve connections to connect the detour back to the existing approaches is the preferred solution. The cost may be "throw-away" but there appears no other choice. The use of tight curves will obviously backup the traffic but this is better than no crossing and is acceptable. It could also discourage trucks using the Argyle Street
9. On this subject CRCC members expressed concern that there is no enforcement of the load restriction on the bridge. Nanda will look into this with the Ministry staff. CRCC also suggested that clear signs should be set up at the Bypass and Argyle Street junction.
10. Nanda indicated that this project is related to the rehabilitation of the bypass, which is also in poor condition, due to the need of traffic detours.

Edward Li



DRAFT

Liaison Meeting with Caledonia Business Improvement Association (BIA) and Caledonia Regional Chamber of Commerce (CRCC)

Project: TPM Assignment – Ministry of Transportation of Ontario Southwestern Region, Agreement Number 3005-A-000270 Preliminary Design for the Rehabilitation / Replacement of the Argyle Street South Bridge over Grand River in Caledonia

Project No.: 1021040.00

Place: Train Station, 1 Grand Trunk Lane, Caledonia, Ontario

Date: October 22, 2003

Time: 10:00 a.m.

Present: Michael Read CRCC
 Randy Pierson CRCC
 Darren Rezansoff CRCC
 Don Smith CRCC, BIA
 Bob Chisholm CRCC
 Barbara Martindale CRCC, BIA
 Michael Plant Ministry of Transportation (MTO)
 Susan Wagter MTO
 Nanda Kandiah MTO
 Edward Li Morrison Hershfield Ltd. (MH)

ITEM MINUTES ACTION BY

1.0 Introduction

This is the second meeting the Ministry's project team has met with the CRCC; the last meeting was held on March 6, 2003. Periodic correspondence have been exchanged between the Ministry through Morrison Hershfield with both CRCC and the BIA, and members were notified and invited to attend the first Public Information Centre (PIC) held on June 23, 2003. In the

ITEM

MINUTES

ACTION BY

PIC, the Ministry displayed to the public the proposed bridge replacement and rehabilitation options, and proposed detour schemes during construction of the replacement structure, or during rehabilitation of the existing bridge.

It was intended that the first PIC was to solicit feedbacks from the public on various structural and detour alternatives. The PIC was attended by some 70 people and a total of 43 responses have been received.

Information

2.0

The Position of CRCC & BIA

Representatives of CRCC and BIA provided the following comments:

1. The closure of the Argyle Street Bridge for up to 2 years will have a devastating impact on the business on both sides of the river in Caledonia. Business will be lost to adjacent business areas such as Hamilton. Even after the 2 years of construction it would take at least another 2 years for the businesses to recover.
2. As a result CRCC and BIA support a temporary structure detour in town adjacent to the existing structure. Through various means CRCC and BIA collected some 3,000 signatures in support of this temporary bridge arrangement.
3. In the event that the Ministry decides to use the bypass anyway, and that the bypass becomes the only river crossing, CRCC & BIA suggested that new access points at Stirling Avenue and Hwy 54 would help to reduce the delay. They are also willing to approach the councilors to help to assist in resolving issues if necessary.
4. CRCC and BIA were aware of the impending municipal election on November 10, 2003, and opined that a meeting with the council should not be held prior to the swearing-in of the new council. In fact the closure of the bridge has become a popular question raised to individual candidates in this election campaign.

3.0

The Ministry's Comments

ITEM

MINUTES

ACTION BY

The Ministry stated that the project is still at its consultation stage, and all opinions will be heard. Economic and social environments are both part of the EA process and, when raised, would be properly addressed.

Information

Currently, the Ministry is responding to some questions from the Council, but even after the recent conversations, the Ministry would still like to have an official position of the council, and not from the staff. This will enable the Ministry to move ahead with further discussion and negotiation with the Haldimand County. Similarly the Ministry would like to have an official position of the local business as to their preferred direction of the project.

The Ministry also pointed out that the project would still have to address other important issues such as with the Six Nations. From preliminary discussions, the project would likely invite fewer objections from the Six Nations if the replacement bridge and other detour structures remain at and close to the existing crossing.

The Ministry appreciates the people's concern of keeping the heritage structure and the town's tradition, but engineering assessment, including the deteriorating founding material, and recurring maintenance costs to be borne by the County, make replacement a more favoured alternative.

4.0 Other Discussions

The Ministry inquired whether there are benefits to the businesses and residents if a single lane of traffic could be provided at the bridge controlled by signals, in addition to the bypass detour. The meeting felt that to provide one lane at the existing bridge site is an improvement to complete closure, for at least people would have a choice and would maintain some traffic in downtown Caledonia.

Information

CRCC and BIA will take the initiative to set up a meeting with the newly elected Council to go through all major issues related to this project.

Distribution: All present



Project: Total Project Management (TPM), Preliminary Design Services
G.W.P. No. 3805-01-00, PO# 3005-A-000270
Rehabilitation / Replacement of the Argyle Street South Bridge
over the Grand River in Caledonia

Project No.: 1021040.00

Place: Golder Associates Ltd, Mississauga Office
2390 Argentia Road, Mississauga, On, L5N 5Z7

Date: Wednesday, April 28, 2004

Time: 2:30 PM.

Present: Tae Kim MTO Foundations
Anna Piascik MTO Foundations
Philip Bedell Golder Associates
Fintan Heffernan Golder Associates
Shu Liang He MH

Purpose: Preliminary Foundation Investigation and Design Report

ITEM	MINUTES	ACTION BY
1.0	<p>Introduction</p> <p>A. Piascik noted that this meeting is to discuss the latest comments from Ministry Foundations and to finalize the Preliminary Foundation Investigation and Design Report.</p>	Information
2.0	<p>Comments and Discussions</p> <p><u>Bedrock</u></p> <p>T. Kim and A. Piascik questioned the general quality of the bedrock in the area. P. Bedell and F. Heffernan indicated that the poor quality of the bedrock is mainly attributed to gypsum layers in the bedrock leading to karst formation, and this condition was drawn from the very low SCR and RQD recorded on site although no major cavities were found in the available boreholes.</p> <p>It was also agreed that the paragraph "Based on the above, it is considered that SCR is a better indicator of rock quality at this site than RQD." will be eliminated.</p>	Information Information

ITEM	MINUTES	ACTION BY
	<p><u>Existing Bridge Foundations</u></p> <p>A. Piascik disagreed with the statement "The boreholes indicated that the upper 4 to 7 meters of rock is highly weathered and extremely fissured or fractured and there was the potential for problems with solution cavities in the rock mass at the site." P. Bedell and F. Heffernan noted that Golders will revise the wording to present the factual information without drawing a conclusion. The statement is crucial to the interpretation of the report.</p>	Golders
	<p>A. Piascik suggested that the sentence "Based on the borehole drilled at the site, the existing bridge appears to be founded at very shallow depths on the poor quality rock." should be further expended with more details such as specific borehole information at pier locations. P. Bedell and F. Heffernan agreed.</p>	Golders
	<p><u>New Bridge Foundations</u></p> <p>T. Kim questioned the constructability of 6m excavation in water. P. Bedell responded that it is common practice and the contractor should be able to excavate in the river either under wet or dry condition without much difficulty once the cofferdam is set up.</p> <p>A. Piascik asked Golders to review the bearing capacities for both spread footing and caisson foundations and also suggested that only footing widths should be given for the recommendation of bearing capacity. Golders agreed.</p>	Information Golders
3.0	<p>Other Business</p> <p>A. Piascik informed that the spread footing foundation of the Highway 6 By-pass structure was changed to pile foundation during construction, and she is to check the construction records and find out the reasons behind.</p> <p>Possible environmental constraints to the foundation recommendation was also discussed. S. He is to consult with environmental expert to confirm if there are any major environmental constraints dominating the selection of the foundation.</p>	MTO MH

ITEM MINUTES ACTION BY

the management of traffic during construction, foundations and hydraulic. He noted that this meeting is to discuss the concerns with the method of constructing the foundation for the replacement structure, while maintaining traffic on the bridge location over the Grand River during construction. Information

E. Li explained that MH had conducted a thorough study of how the proposed method of staged construction of the bridge to maintain at least one lane of traffic at the existing crossing location while providing sufficient time, access and works areas at each pier and abutment location for the construction of the foundation works. MH has also discussed and met with several contractors, including general contractors and specialist foundation contractors, as well as holding in-house discussions with MH field services personnel to review MH's bridge options and to provide opinions on the proposed work regarding to the constructability. Some notes of discussion were prepared and circulated to all attendees through electronic mailing prior to the meeting to provide some general introduction and recommendations to ensure that useful discussions could be held in the meeting. Most attendees confirmed that they have received and reviewed the report. Information

2.0 Information

Bedrock

MH introduced the problem of gypsum solutioning at the site, which was confirmed through a foundation investigation conducted by Golder Associates in the fall of 2003 and thoroughly discussed with the Ministry's Foundation Section in a number of telephone conversations and a formal meeting on April 28, 2004. Phil indicated that rock recovery was poor, indicating extensive void and cracks occurring immediately below the surface up to 5m below. Information

I. Husain raised the concerns about the unconfirmed tilting of a structure upstream due to the poor bedrock. He questioned if the similar case expected at this site.

ITEM MINUTES ACTION BY

Phil reported that 8 holes had been drilled for foundation investigation and 2 of the samples were performed directly over the existing bridge location. Based on the findings, the existing top 3 - 5 m of bedrock is poor, with small void (few millimeters) at gypsum layers in the bedrock and completely weather rock. However, there is no evidence of large voids found below the existing footings that could result in sudden settlement or collapse of Argyle Street Bridge. Information

A. Piascik stated that the upstream structure originally was designed using pile foundations. However, she understood that the foundations were subsequently changed during construction into spread footing due to difficulty of driving the pile into the bedrock. Information

Constructability

E. Li discussed the constructability of the bridge replacement foundation, which is summarized in the handouts 'Argyle Street Constructability Notes for Discussion'. There were previous concerns with access to piers in the water for construction works, deep excavating rock in close proximity to existing pier footings, and the installation of caissons under restricted headroom below an operating structure. These issues have all been reviewed and feasible solutions have been identified to overcome all these obstacles. All these were confirmed by contractors to ensure that the proposed works are constructable with the conditions of work expected to be encountered at the site. Information

3 types of foundations have been reviewed: spread footings, caissons and micropiles. As it was concluded that the voids and fissures in the rock will unlikely be controlled and significant rock removal work will have to be performed in submerged conditions, MH considered the use of spread footings in conjunction with 3-5 m of rock removal is problem-prone and is not recommended. Piling solution involving the installation of large diameter reinforced concrete caissons through the poor rock layer is a more suitable solution and can be installed without much problem as long as the work is done in stage where unlimited

ITEM	MINUTES	ACTION BY
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headroom will be available. Although it is still feasible to install the caissons under the bridge, the cost of modifying the piling arrangement and the many addition splices in the driving, may render the work financially not feasible. It is suggested that caissons will be embedded 1m into the sound bedrock to provide some lateral resistance.

Information

There were extensive discussions on the use of micropiles as the foundations for the new bridge. Micropiles are small diameter (generally 10" in diameter) friction piles with or without permanent casing and with main load-carrying steel rods encased in concrete. They have the advantage of relatively low requirements for headroom and the mobility of the machine will be more suitable for congested sites like the one the project is dealing with. Additionally the micropiles can penetrate existing footings and may used for underpinning the existing foundations if somehow the existing foundation will need to be reused, such as by altering the span arrangements. MH confirmed that detailed discussions have been held with a specialist micropile contractor and found that the solution is feasible provided that following questions can be answered:

1. The piling system is currently not on the Ministry's approved list and has not been used on MTO projects. MH will further review this with the Ministry to determine whether the system should be adopted for this project as a pilot project.
2. As the micropile penetration system is by using shattering of rock using hammers, the extensive voids and cracks. There were concerns with the interference of adjacent complete piles during driving because of the apparent connection between the piles through these voids. Delay in the piling may be resulted.
3. The group effect of a large number of micropiles at each cap must be evaluated as the piles rely on friction between the pile and the embedded strata.

ITEM	MINUTES	ACTION BY
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4. Cost comparison showed that both caisson and micropile system are very close.

E. Li said the working window at the Grand River is 3 months. W. Young said it might have more than 3 months if the authorities are willing to relax the requirements, in which case it would be very beneficial to the project. In the next round of discussions with Fishery and Ocean and with the Grand River Conservation Authority, when a more definite recommendation for the replacement solution is available, this point will be raised to the authorities.

MH/DEI

Cofferdam for pier construction

Chris Balasa suggested one option to provide dry working space for the construction of the piers is be the use of inflatable cofferdam (Aqua Dam and Superior Dam booklet were passed around in the meeting). The supplier has introduced this method to the Ministry in an earlier occasion and the method basically will dam off the half of the river during any stage of construction, and material, plants and workers can access the piers in the river simply be walking out on the dewatered riverbed. The Conservation Authority appears to express no objection to this type of cofferdam which was engaged in the construction of a similar structure upstream of the Argyle Bridge. MTO suggested MH to investigate and discuss this option with the Conservation Authority.

MH

MH stated their recommended method is to use conventional causeway which appears to be simple and straightforward, easily constructable by local contractors, and have no risk of being damaged by construction machine or vandalism. By installing large diameter temporary CSP below the surface of the causeway, flow can be reinstated over the entire width of the river and fishes will not be trapped. Cofferdam around individual piers will be constructed using open bottom steel boxes anchored to the lake bottom and after a layer of tremie concrete was casted to seal off the infiltrating water a solid and dry working surface will be available for the casting of pile caps on top of the caissons. There is no risk in such method of

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	construction and can be built by Ontario contractors easily.	
	However, MH agreed to discuss with the supplier of the inflatable dams to find out more about this method. In any case MH considered the construction of the piers feasible and there are more than one way to accomplish the task and meet the restriction of in-water construction window.	MH
	Phil advised that infiltration into the cofferdams will be unavoidable and unless the bottom is sealed, extensive dewatering will be necessary to keep the working area in dry.	Information
	P. Draycott recommended that both conventional cofferdam and inflatable cofferdam plans will be discussed with the Conservation Authority to get their input. The Conservation Authority will also need to comment on solutions which proposes that one-third of the river is blocked.	MH & DEI
	I. Husain said more details and studies are required for these 2 types of cofferdams.	MH
	<u>Other Business</u>	
	I. Hassan questioned if it is possible to do the foundation work at night by putting the piling machine on the bridge deck and working through holes drilled on the deck. This would enable the entire foundation work be done in one construction stage. However, there were concerns that the existing deteriorated deck could withstand the loading and only very limited amount of work can be done in one night closure due to the need to reinstate the hole for traffic before the morning rush hour. There is also concern with noise generated in close proximity to residential areas. MH will review this recommendation.	MH
	W. Young said that would a 600 dia. caisson pile may be an option for building the foundation all at once (in one construction year) in order to save the cost of mobilization and demobilization. It is suspected that piling machines for smaller diameter caissons (600mm instead of 1200mm) would be more adaptable to the	

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	restrictive headroom encountered at the site during stage 1 of the work. MH will carry out some study with this issue.	MH
	<u>Abutment</u>	
	E. Li indicated that the caissons are also ideal for use for staged construction of the abutments to address the congested site conditions. During staged construction roadway protection in the form of drilled soldier pile and lagging system with reversible design will have to be installed to enable excavation, pile installation and footing and abutment construction to be done with traffic running adjacent to the work site. This is a practical solution and will not have any impact on traffic on Argyle. The entrance to the parking areas behind the Royal Bank building will have to be closed but alternative accesses are available. Each abutment will be built in 2 parts and inserts will be used to link the new abutments constructed in 2 Stages.	Information
	3.0 Cost Estimates	
	E. Li summarized that the cost estimate for the foundation work is as follows:	
	<ul style="list-style-type: none"> • \$1.5M for foundation • \$0.6M for caissons • \$0.8M for micropile • \$1.4M-\$1.5M for cofferdam and causeway (double handling) 	Information
	MTO informed that causeway method has been used it in the past for the construction of a crossing at the Mississippi River. Hydraulic analysis has to be performed nonetheless for low flow situations during the construction season.	Information
	4.0 Other Issue	
	I. Husain suggested to use steel I-girders for the bridge replacement as it is more aesthetically pleasant. MH opined that the I-girders may provide nesting opportunities for birds and will trap deleterious materials at the bottom flanges. Bathtub girders are	

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also more torsional resistant which is ideal in this situation as, due to stages construction, only one girder may be in place some point in time to carry live loading over the river. MH will however do further evaluation of this two steel options.

MH

These minutes were prepared by Josephine Yung. Please forward any comments and omissions noted to Edward Li or Josephine Yung. Please also relay the minutes to parties you wish to copy the minutes to and let Edward or Josephine know.

Distribution: All Present
Nino D'Alessandro, MTO
Susan Wagter, MTO

**Ministry of Transportation of Ontario, Southwestern Region
Preliminary Design for the Rehabilitation of the Argyle Street South Bridge Over the Grand
River in Caledonia, Group Project No. 3805-01-00**

Presentation to the Haldimand County Council, August 5, 2003

The Ministry of Transportation and Morrison Hershfield Limited are pleased to provide a copy of project displays for the information of the Councilors prior to the upcoming presentation.

Project Description

The existing Argyle Street South Bridge (MTO Site No. 9-002) in Caledonia is a 200 m long structure comprising of 9 bowstring arches with eight concrete supports located in the Grand River. The bridge was constructed in 1927 to replace the original steel arch bridge that collapsed.

The purpose of the Preliminary Design and Environmental Assessment is to investigate and propose solution(s) for the rehabilitation or replacement of the bridge, as well as traffic management during construction.

Public Information Centre(s)

The first Public Information Centre was held in Caledonia on June 23, 2003 in the Legion Hall attended by approximately 70 people. A second PIC will be scheduled in late fall, 2003.

The Ministry's project team has also met with the Haldimand County staff in 2 meetings in January and June, 2003, and will continue to communicate with the County in the course of deriving recommendations for the project.

County Responses

The Ministry thanks the Council for the time and appreciates responses of the Council on various aspects of the project. Members of the Ministry's project team will be pleased to answer any questions pertaining to the work.

Encl. Project Displays



First Liaison Meeting with Haldimand County

Project: TPM Assignment – Ministry of Transportation of Ontario Southwestern Region, Agreement Number Preliminary Design for the Rehabilitation / Replacement of the Argyle Street South Bridge over Grand River in Caledonia

Project No.: 1021040.00

Place: Haldimand County Satellite Office, 282 Argyle Street, Caledonia, Ontario

Date: January 31, 2002

Time: 9:30 a.m.

Present: Dave Anderson Haldimand County (County)
 Lloyd Rollinson Haldimand County
 Daniel Robinson Haldimand County, Fire Chief
 Michael Plant Ministry of Transportation (Ministry)
 Nanda Kandiah Ministry of Transportation
 Edward Li Morrison Hershfield Ltd. (MH)

ITEM MINUTES ACTION BY

1.0 Introduction

The purpose of the Meeting was to initiate general discussion with the Haldimand County with regard to the captioned structure, and to identify concerns and preliminary design considerations relevant to the formulation of the proposed solutions. MH was the Consulting Engineer retained by the Ministry to carry out the investigation and study assignment commencing November, 2002. The field work has temporarily been suspended because of the weather and is expected to resume beginning next spring. External consultation has also started including advertising in local newspapers and letters to interested parties, including the County.

Information

2.0 The Position of the Ministry:

Michael Plant indicated the position of the Ministry is very clear and has been explained in many occasions

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including a presentation to the Haldimand County Council in June 2002. The Argyle Street South Bridge does not connect to any MTO road networks and it is the Ministry's intention to transfer the ownership of the bridge to the Haldimand County when the recommendation of this study has been implemented. Although an amicable solution is desired to satisfy all interested parties, the Ministry will seek a cost-effective and affordable solution following the Ministry's EA process. As part of this EA process, the Ministry is not obligated to improve municipal roads since the Ministry's ownership ends with the bridge.

Information

The Ministry, however, would guarantee that the rehabilitated or replaced bridge at the time of transfer would be a sound structure meeting all current standards.

Information

3.0 The Position of the County

Dave Anderson indicated that his division would recommend to the Council the acceptance of a new bridge to replace the existing structure, designed to meet the new bridge standards. If the Ministry selects to rehabilitate the bridge only, the County will request a cash payment sufficient to build a replacement bridge some 20 years from now. Based on the County's experience the lifespan of any rehabilitated structure would unlikely exceed 20 years.

Information

The County has no doubt that Argyle Street has to be the location for the main river crossing; Caledonia is basically built around Argyle Street. Any new bridge, including the one being investigated at McClung Road, can only be an additional location. MH and MTO admitted that this would narrow down the study alternatives significantly.

All

As for keeping the existing bridge for heritage purpose, the County expected that public opinion would probably be mixed, but agreed that sympathetic measures, such as by removing a typical arch panel for display in a nearby park, could be shown to the public during PIC's.

All

ITEM	MINUTES	ACTION BY
4.0	<p>The Position of MH</p> <p>In addition to all the above-mentioned items, MH will also look at all alternatives based on structural adequacies and public safety. MH stated that based on investigation there are concerns with the condition of some major structural members especially the heavily deteriorated reinforced concrete hangers and the major tying beams. The recent collapse of a MTO bridge of similar construction in Northern Ontario has sounded warning on potential disasters that may occur on all pony truss bridges under extreme weather or loading conditions. Any rehabilitation will be designed to restore structural capacity of the bridge and to meet the new code standards. Any substandard provisions would be pointed out to the Ministry to determine whether the risk would be acceptable, these may include:</p> <ul style="list-style-type: none"> • Substandard freeboard at design flood; • Substandard shoulder widths; and • Substandard barrier protection. 	Information
5.0	<p>Detours and Impacts</p> <p>MH stated that because of the width of the bridge, it would likely have to be closed regardless of whether MH proposed replacement of rehabilitation. Traffic has to be diverted to cross the Grand River either via a new temporary bailey type bridge, or via the Highway 6 Bypass which is located approximately 3 km upstream of the Argyle Street South Bridge.</p> <p>The Ministry stated that the preferred detour is to use the Highway 6 Bypass, but noted that the detour would mean a delay of 15 minutes for the drivers. Additionally pedestrian crossing has to be provided, either by the use of temporary structure, or by use of shuttling vehicles operating at limited hours.</p> <p>The County indicated that the long detour may not be acceptable by the residents, but the delay could be significantly reduced by constructing access ramps at RR54 and Sterling Street, and reconstructing the Sterling Street Overhead bridge which was destroyed a few years ago. The County may even consider cost</p>	Information
		Information

ITEM	MINUTES	ACTION BY
	<p>sharing if the permanent construction represents improvement to the County's road system.</p>	Information
	<p>The Ministry stated that to build 2 new interchanges and a new structure would mean huge cost and complicated land acquisition problems. The proposition may not be feasible at this point of time.</p>	All
	<p>The Fire Chief arrived in the afternoon and provided input on the detours. His opinion is that a delay of 15 minutes in the response time is not acceptable. Currently the Ministry has, despite the load restriction on the Argyle Bridge, allowed the overweight tanker to cross under special operating conditions, and with the Ministry's assistance to install special controlling mechanisms on approach traffic signals. If the bridge is taken out of service and no detour structure is provided in the vicinity of the existing bridge, a separate substation has to be provided on the south side of the river to meet the standard of services required.</p>	Information
	<p>Dan Robinson stated that there is plan to built a substation on the south side of the river, and the issue is currently being discussed in the County Council. If the substation could be constructed in 2005-2006 as planned and fully equipped by then, the concern for the decommissioning of the bridge may not be an issue for the fire department. The number of volunteer fire fighters is quite evenly distributed on 2 sides of the river.</p>	Information
	<p>Ambulances could be coming from the north from Mount Hope, or from the south from Hagersville. All service providers should be properly informed if the bridge is to be put out of service in some point of time.</p>	Information
6.0	Other discussions	
6.1	<p>Both MTO and the County agreed that any "throw-away" costs such as temporary bridges and signals, should be minimized and the money put into permanent provisions for the County instead.</p>	All
6.2	<p>The County recalled recent negotiations with the Six Nation regarding the construction of a watermain, and reminded that the negotiation may take some time.</p>	

ITEM	MINUTES	ACTION BY
	This would apply if the Ministry were to build new temporary or permanent bridges over the river.	Information
6.3	MTO suggested that questionnaire to be distributed during the first PIC should include a question inquiring whether the respondent walks over the bridge and how many times a day.	MH / DEI
6.4	The County said that they have contact CN regarding the alleged problems with the structure tilting during construction of the weir, but CN replied that the bridge is being closely maintained and has no structural concern.	Information
6.5	The County also said that during their recent watermain contract using directional boring, the presence of gypsum in the rock has created some rock shifting when the gypsum dissolved. This may have some impact on the new bridge. MH indicated that even the existing bridge is to remain, the preliminary recommendations from its specialist geotechnical subconsultant is that the existing foundation should still be stabilized by ground treatment methods such as grouting.	Information
6.6	The County confirmed they had plans for watermain and pavement works in the vicinity of the bridge, but these programs will be adjusted to accommodate the bridge work.	Information

Second Liaison Meeting with Haldimand County

Project: TPM Assignment – Ministry of Transportation of Ontario Southwestern Region, Agreement Number 3005-A-000270
 Preliminary Design for the Rehabilitation / Replacement of the Argyle Street South Bridge over Grand River in Caledonia

Project No.: 1021040.00

Place: Haldimand County Satellite Office, 282 Argyle Street, Caledonia, Ontario

Date: June 20, 2003

Time: 1:30 a.m.

Present: Dave Anderson Haldimand County (County)
 Philip Mete Haldimand County
 Daniel Robinson Haldimand County, Fire Chief
 Michael Plant Ministry of Transportation (MTO)
 Nanda Kandiah Ministry of Transportation
 Susan Wagter Ministry of Transportation
 Edward Li Morrison Hershfield Ltd. (MH)

These minutes were prepared by Edward Li, please send all comments and remarks, if any, to the author for updating.

- Distribution: All present
 Paul Draycott, DEI
 Jim Weir, MH
 Shu Liang He, MH
 Susan Wagter, MTO
 Chris Balasa, MTO
 Phil Bedell, Golder

ITEM	MINUTES	ACTION BY
1.0	<p>Introduction</p> <p>This is the second meeting between the MTO/MH Project Team with the County, since the first one held in January, 2003. The purpose of the meeting is to brief the County staff on materials to be presented in the upcoming Public Information Centre (PIC) at the Royal Canadian Legion Hall on June 23, 2003.</p> <p>A number of reduced-size sets of Display Boards for the PIC, 11"x17" fully coloured, were passed to the County for information and discussion.</p>	Information
2.0	<p>Progress of Preliminary Design</p> <p>Edward described the progress to-date. The Preliminary Design has completed its investigation and initial evaluation and has identified a number of potential rehabilitation and replacement solutions, as</p>	Information

ITEM	MINUTES	ACTION BY
	well as detouring of vehicular and pedestrian traffic when the Argyle Street South Bridge is closed for construction. A screening exercise has resulted in a shortlist of only a few of the more prospective options, which would be shown in the PIC for public comments.	Information
	After receiving responses from the public and the agencies, including those from the County, MH will proceed to propose the recommended structural and detour solutions, in conjunction with directions and approvals from the Ministry, and will present to the public again in the 2 nd PIC to be held in the fall, 2003.	Information
	Michael reiterated that it is still the Ministry's position not to continue to own the Argyle Street South Bridge in downtown Caledonia, which is not part of the Ministry's highway system.	Information
	Nanda stated that the Ministry intended to complete the Highway 6 By-pass work in the coming years, including the installation of new signals at the Bypass / Argyle Street intersection to improve the left turning movements at this location. This could help some of the detouring options using the bypass when the Argyle Street Bridge is closed down.	Information
3.0	<p>The County's Opinions</p> <p>Dave reiterated the position of the County's Engineering Division to recommend to Council to accept a new bridge to replace the existing structure designed to meet the new bridge code standards.</p> <p>Subsequent to approval of the staff's recommendation, which will include both from the Engineering and Fire Departments, a formal "Council Response" to the project will be forwarded to the Ministry.</p> <p>The County staff provided some comments to the display boards, including:</p> <ul style="list-style-type: none"> • Highlighting titles for detour alternatives to be eliminated. • High "throw-away" costs for constructing, maintaining and removing temporary crossing structures. 	<p>Information</p> <p>County</p>

ITEM	MINUTES	ACTION BY
	<ul style="list-style-type: none"> • Emphasizing on future discussions to resolve emergency response issues. 	MH
	Dave also discussed possibilities to improve the alignment of the bridge by providing a new curve bridge to eliminate the kink at the bridge, and to introduce roundabouts to eliminate left turning movement on the south side of the bridge.	Information
	Dave mentioned potential Stirling Street Interchange to be done by the County, which is part of the 20 year Development Plan of Caledonia, but it would unlikely be in place at the time of construction of the Argyle Street Bridge work.	Information
	Dan said that the previously described plan to build a new fire hall on the south side of the bridge in and around 2005 has become very unlikely, and some measures have to be in place when the Argyle Street Bridge is close for construction in 2006, if no alternate crossing is to be provided adjacent to the existing structure. Provision of fire services on the south side will be a key issue at the time of construction of the replacement/rehabilitation works. This may be in the form of temporary fire equipments and housing facilities.	All
4.0	<p>Detours</p> <p>It is understood that this would be a controversial issue, but despite potential closure of the bridge, it is stated that the road and access to road will always be open to businesses and residents, except maybe at occasional instances.</p> <p>The Ministry's preference is to use the By-pass as the detour because of large "throw away" costs. The problems to be addressed were only relating to pedestrians and emergency responses.</p> <p>The County noted that there are schools on both sides of the bridge except there is only one high school which is on the south side of the bridge; most facilities, like swimming pools, arenas and library, are on the north side. As a result they expected significant pedestrian traffic, particularly from 6 p.m. to 9:30 p.m. using the bridge crossings on Argyle Street.</p>	<p>Information</p> <p>Information</p>

ITEM	MINUTES	ACTION BY
5.0	<p>Six Nations</p> <p>MH/MTO said that meetings with the Six Nations and the Mississaugas of the New Credit First Nation earlier this year were quite positive, as long as the new replacement bridge is to be placed at its original position.</p> <p>The project team understood that further meetings would be necessary with the Six Nations (as well as the Six Nation Confederates) noting compensations required in previous projects in Caledonia and Brant.</p>	Information MH
6.0	Presentation to the County	
6.1	MH regretted that the PIC has fallen on the same day as the Council Meeting. Although 2 separate sessions have been arranged in the afternoon and the evening of June 23, it was understood that not all Councilors might be able to attend the afternoon session due to their heavy commitments.	Information
6.2	As a result MH proposed to arrange a special presentation to the County Council shortly after they return from the summer break, to introduce the proposed solutions and to solicit comments from the Council.	MH
6.3	At the same time, MH will summarize responses from citizens and agencies, to present to the Councilors.	MH / DEI
6.6	Edward will contact the Council staff to set up the presentation.	MH

Liaison Meeting with Haldimand County, May 27, 2004

Project:	TPM Assignment – Ministry of Transportation of Ontario Southwestern Region, Agreement Number 3005-A-000270 Preliminary Design for the Rehabilitation / Replacement of the Argyle Street South Bridge over Grand River in Caledonia	
Project No.:	1021040.00	
Place:	Haldimand County Office, 282 Argyle Street, Caledonia, Ontario	
Date:	May 27, 2004	
Time:	9:30 a.m.	
Present:	Marie Trainer Betty Matthews-Malone Dave Anderson Lloyd Rollinson Hank Huitema Bill O'Brien Jill Juhlke Michael Plant Nanda Kandiah Susan Wagter Paul Draycott Edward Li	Mayor, Haldimand County (County) Haldimand County Haldimand County Haldimand County Philips Engineering Paradigm Limited Paradigm Limited Ministry of Transportation (MTO) Ministry of Transportation Ministry of Transportation Draycott Environmental Morrison Hershfield Limited. (MH)

These minutes were prepared by Edward Li, please send all comments and remarks, if any, to the author for updating.

Distribution: All present
 Paul Draycott, DEI
 Jim Weir, MH
 Shu Liang He, MH
 Chris Balasa, MTO

ITEM	MINUTES	ACTION BY
1.0	Introduction	
1.1	Attendance introduced each other.	
1.2	Michael explained that the meeting was held to continue the consultative process to determine the solutions required for the rehabilitation / replacement of the deteriorating structure in Caledonia. The project has been put on hold for a few months due to the Ministry's intention to tender the Caledonia Bypass rehabilitation work in 2004.	Information
1.3	MTO advised that construction of the Bypass project is expected to take place between July until November of	

ITEM	MINUTES	ACTION BY
	2004. The Bypass would be kept open, but occasional lane closures will be inevitable. The rehabilitation of the Grand River crossing has been deleted from this project. This work will represent a holding strategy to maintain the condition of the by-pass to an acceptable level, and may be revisited when the Argyle Street Bridge works have been completed.	Information
1.4	Betty requested that the general plans for the Bypass project be forwarded to the County for their records.	MTO
1.5	Michael explains that he is the Ministry's Municipal Contact for this project, and stated that: <ul style="list-style-type: none"> • The Caledonia Bridge is a unique circumstance to the Ministry as the Ministry owns a crossing that is in the middle of a municipality. • The Ministry is looking to divest itself of this bridge in an amicable fashion. • The MTO Planning & Design Group is responsible for the EA Process. Morrison Hershfield Limited is the Ministry's consultant to undertake all activities under this project. 	Information
2.0	Recapitulation of Project	
2.1	Edward briefly recapped the development of the project to-date.	Information
2.2	The assignment commenced in late October 2002 to perform a Preliminary Design and Environmental Assessment for the Rehabilitation or Replacement of the Argyle Street South Bridge in Caledonia of the Haldimand County. The project began with a number of engineering investigations and initiating of the consultative process, including newspaper advertisements and letter inviting comments and participation of relevant agencies. Meetings were held with the County, Ministry of Culture, the Mississaugas of the New Credit First Nation, Six Nations, Caledonia Regional Chamber of Commerce (CRCC) and the Caledonia BIA.	Information

ITEM	MINUTES	ACTION BY
2.3	MTO said that despite a number of meetings and correspondences, MTO has yet to receive an official position from the BIA and the Chamber of Commerce.	Information
2.4	The first Public Information Centre was held on June 23, 2003 at the Legion Hall in Caledonia, attended by approximately 70 people, with about 45 responses including completed questionnaires, mail and e-mail.	Information
2.5	The results of the PIC were presented to the Haldimand Council on August 5, 2003. A list of concerns was sent to the Ministry by the County in September, 2003. MTO's reply to address the concerns was forwarded on April 19, 2004.	Information
2.6	MH stated that although the consultative process is still on-going, in consideration of various parameters including life cycle costs, bridge durability and future maintenance, traffic safety with regard to bridge dimensions, foundation problems, fisheries, traffic detours and staged construction possibilities, and other factors, the preferred scheme so far agreeable by the project team and general opinion is to replace the bridge with a new 5 span girder structure with decorative arches to simulate the appearance of the existing heritage structure, at more or less the same bridge location. Deck width will provide proper lane, shoulder and sidewalk widths in accordance with the bridge code, and safety to the public road user will be greatly improved. The bridge will be slightly rising from the banks to a higher centre span to provide sufficient freeboard for the river to pass under the middle span. MH specifically drew the meeting's attention of the following: <ul style="list-style-type: none"> • Poor gypsum-impregnated founding materials. Removal of the poor material down to sound bedrock will weigh heavily against bridge rehabilitation and a large number of supporting piers. Additionally the narrow window permitted to work in the water due to fishery problems will favour as little foundation work as possible to reduce construction times. • The bridge is an 80 year old concrete structure exhibiting signs of deterioration and substandard 	

ITEM	MINUTES	ACTION BY
	both dimensionally as well as structurally. The bridge is currently posted (restricting use by heavy vehicles) and even the municipal fire truck cannot use the bridge without proper safety provisions in place.	
	<ul style="list-style-type: none"> Rehabilitation work is not expected to last as long as modern structures designed to the newly adopted bridge code, and a more frequent repair program will be required. It is expected that to replace the bridge with more or less the same footprint as the existing structure would be more acceptable to the First Nation and Six Nations due to their continuing land claim issues with the Federal Government. It is likely that except for the bridge, there is no Right of Way in the vicinity of the bridge owned by the Ministry. 	
2.7	Hank said that the communication of information surrounding the EA process and PIC meetings via advertisement were not effective. Michael admitted that communication of issues to stakeholders such as the public Council could definitely be improved, but wished to move forward and resolve issues to arrive at a preferred alternative that can be presented at the next PIC meeting, which is planned for late fall this year. He also advised that he might include talking with local media to ensure that the public is duly informed of the status of the project.	MTO/Information
2.8	Paul advised that Ministry of Culture is also a stakeholder and that MTO has to provide a plan to mitigate the removal of cultural heritage features. MH has met with the Ministry of Culture regarding the project and understands that the proposed replacement bridge with 5 span girder bridge with decorative arches, though not the most desirable solution (to retain the structure in its entirety) would still represent a sympathetic design with regard to heritage preservation and will satisfy the requirements of MOC. Further meetings will be scheduled in due course.	MH/MTO
2.9	In replying to a question from the Mayor, Edward said that a replacement bridge with nine arch spans is not recommended due to structural in-efficiency, high cost,	

ITEM	MINUTES	ACTION BY
	problems with foundation, problems with flow capacity and operational restrictions in the water. A longer span bridge will work within the existing bridge footprint and piers can be placed between existing piers, which is essential for maintaining traffic on the bridge at all times during construction (see discussion on detour below). Additionally he advised that a girder bridge will allow for simpler widening in the future, if required, which could not be achieved easily if a true arch bridge is used.	Information
2.11	Michael, however, stated that if the County wants to keep the bridge operational MTO will work with the County and Groups to provide for this alternative with the realization that MTO will not provide an additional structure and that the MTO will transfer ownership to the county on completion of the works.	County/Information
3.0	Recent Developments in the County	
3.1	Dave said that the County has installed a Two-Way Left Turn Lane on Argyle Street South from approximately Haddington Street to south of the Argyle Street South Bridge; the purpose is to improve the flow and capacity of this section of Argyle Street. The exercise was primarily a line-repainting project as there was sufficient pavement width here to put in the additional lane. As a result the existing road configuration at the north and south end of the bridge at present will accommodate a 3-lane configuration.	Information
3.2	Dave also indicated that the County has retained the services of Philips Engineering to conduct a Master Servicing Plan in relation to water, sanitary sewer and transportation services in Caledonia. Paradigm Limited is also part of the team dealing with transportation issues, looking at existing and future traffic patterns. Dave stated that Haldimand County's objective is to ensure that the final bridge solution will not provide a traffic "bottle neck" to the long-term growth and projected traffic patterns in Caledonia, and that a bridge solution is not looked at in isolation of the long term needs of the County. The study is scheduled to be completed by the end of 2004, and the first PIC is to be held June 15, 2004. It is expected that the issues	

ITEM	MINUTES	ACTION BY
	concerning the McClung Road bridge crossing will also be reviewed.	Information
3.3	Dave said that Philips Engineering will be providing technical assistance on the bridge issue.	Information
4.0	Liaison with First Nation	
4.1	MH reiterated that meetings with First Nations groups had been conducted and it was suggested that it would only be useful to discuss further with the First Nation groups if a more concrete solution has been arrived, including type, location, dimensions and construction methodology, for the proposed bridge. Although it was acknowledged that the negotiation would likely be extensive, MH would like to have an agreement on the structure and detour approach before taking the plans to the First Nations groups.	Information
4.2	The Mayor reminded the Ministry that there are various levels of authorization within the First Nations groups, including the hereditary chiefs, and that higher levels of authority may have to sign off before MTO can get a final release from these groups. MTO indicated that all parties to the Grand River Notification Agreement were notified.	MH
5.0	Additional Lane on the Bridge	
5.1	The County stated that the County would like to see a 3 rd lane (a 2 way left turn lane) be installed on the replacement bridge.	Information
5.2	Michael stated that the scope of the project is solely for addressing the poor condition of the existing structure. Any improvements to the municipal infrastructure cannot be driven by the Ministry.	Information
5.3	The Ministry, however, did not object to including the County as a partner to the assignment, which has been done in many instances in the past and also in some current projects. In doing so the County would have to undertake the cost on the portion of the work completed as improvement to the County's infrastructure, such as the provision of the left turn lane, or as negotiated. In fact Michael said the partnership had been suggested in previous meeting but was declined by the County. It	

ITEM	MINUTES	ACTION BY
	was stated that if the County wishes to step in this would be an opportune time to do so. Dave said that there were justifications for not partnering with MTO previously.	MTO/County
5.4	There were some discussions concerning whether a Municipal EA would be required for the proposed improvement work (additional lane), as, although for the most of Argyle Street the work was one of line painting only, the situation on the bridge will not be one. This would be reviewed in detail by the County before the next meeting. Dave indicated that the County did not intend to hold a separate EA since the work proposed by the County is merely line painting work and no actual construction was involved.	Information
5.5	Paul explained that the EA jurisdiction of MH's assignment is solely for replacement/rehabilitation of the bridge in its present condition, and if widening is required based on Municipal requirements, a separate Municipal EA may be required, or it can be combined into the EA performed by the Ministry. The confirmation of participation is therefore of high importance.	Information
6.0	Detours During Construction	
6.1	The Ministry was aware of the public's (especially the businesses') concern with closure of the bridge for a prolonged period of time. The original proposed scheme presented in the PIC is to close the bridge completely for replacement work. During construction, vehicular traffic would use the Caledonia Bypass while pedestrians would cross the Grand River via a temporary pedestrian bridge built adjacent to the Argyle Street Bridge. The estimated delay of approximately 14 minutes might also raise concerns with the provision of emergency services (fire and ambulance) in Caledonia. As a result the Ministry and MH have actively explored and evaluated a number of potential alternatives to address these concerns.	Information
6.2	Edward presented 2 tables with accompanying sketches identifying and evaluating alternatives for a "2-lane", and a "3-lane" new bridge scenarios. A total of 7	

ITEM	MINUTES	ACTION BY
	feasible alternatives were listed and analyzed, including preliminary cost estimates for each scheme. (These tables are attached to these minutes for circulation).	Information
6.3	The Ministry will recommend the solution that would effectively and most economically address the traffic problems. It is likely that the use of staged construction of the new girder structure would ensure continuous provision of vehicular and pedestrian access over the Grand River. Some delays would be inevitable but could be managed if bypass vehicles, especially trucks, would be mandated to use the newly rehabilitated Caledonia Bypass.	Information
7.0	Next Steps	
7.1	MTO indicated that the Ministry's intention is still for construction of the work in 2006 (earliest), but this would depend on funding. However, the Ministry would like to meet with the Council at the earliest opportunity. MTO needs a formal position of the County Council or a Council Resolution to proceed with the next step of the design. It is hoped that this can be received prior to the next PIC, when the recommended solution will be presented to the public for comments.	Information
7.2	With reference to the setting up of the Municipal Liaison Committee, it was agreed that the current liaison tools of holding liaison meetings with staff and Council should continue for the time being, but would be reviewed as the project advances.	Information
7.3	Betty indicated that the County should look for clarification on issues surrounding the bridge final solution and that at this point some clarification will have to be provided by MTO so that the project can go from discussion of the problem into a decision making process. Betty also agreed that in order for MTO to proceed to a preferred alternative MTO will require direction and a Council resolution to support the final solution prior to presenting this in a PIC meeting. MTO strongly suggested that the County work with MTO to eliminate options and arrive at a preferred solution.	County/MTO

ITEM	MINUTES	ACTION BY
7.4	MTO asked the County to provide its position on the following 5 issues:	County
	(i) Does the County agree to the replacement bridge at the current position of the existing bridge as proposed by the Ministry;	
	(ii) If the answer to item (i) is positive, does the County agree to the proposed heritage treatment (decorative arches on girder bridge) proposed by the Ministry;	
	(iii) Does the County want a 2-lane or a 3-lane bridge;	
	(iv) Does the County intend to carry out a separate EA to address the related municipal improvement issues with regard to this project, i.e. 3 lanes on the bridge and on the adjoining roads; and	
	(v) What is the position of the County with regard to partnership with the Ministry in this project, and how much would the County be willing to contribute to the 3-laning of the replacement bridge.	
	Additionally MTO would appreciate comments from the County regarding other issues, especially the Ministry's proposed traffic detouring scheme during construction of the replacement bridge.	
7.5	Betty and Dave provided the following schedule for the meeting:	
	(i) The first available date to present a report to Council will be the August 3 rd Council in Committee meeting. To enable this to be done, a report by staff will have to be completed by July 19 th .	
	(ii) The Council in Committee will provide resolution on the issues at the August 3, 2004 meeting;	
	(iii) The Ministry could present their position in the August 30, 2004 Council in Committee meeting.	MH/MTO

ITEM	MINUTES	ACTION BY
7.6	MH intended to meet with the Six Nations after the Council Meeting if an agreed solution can be presented.	MH/MTO
7.7	MH will also prepare a meeting schedule to perform the next round of consultation based on new developments of the project.	MH
8.0	Other Issues	
8.1	Dave Anderson reiterated the County's previous question of what weight Haldimand County and various other stakeholders have to derive the ultimate preferred solution. Michael said that only a qualitative weighting to the various concerns with the stakeholder groups has been used in the study so far.	Information
8.2	The Ministry has reviewed the feasibility of building the Stirling Street and Highway 54 interchanges with Hwy 6 Bypass, and considered that the work would be too complicated and costly due to lack of land to provide the ramps and speed change lanes, and that the condition of Stirling Street has to be improved substantially before it can be made a major connecting link, including the replacement of the CN bridge. The proposed interchanges would also be occurring too close together as generally provided by MTO on highways. Edward also stated that the highway is designed to be a bypass and may be overloaded by in-town traffic; a detail traffic analysis will be required.	Information
8.3	Michael advised that he has recently corresponded with Dan Robinson (Haldimand Fire Chief) regarding an acceptable solution to the delivery of fire tanker truck services to the areas south of the Grand River during the Bypass construction.	Information
8.4	The meeting was adjourned at 1:00 p.m.	

These minutes were prepared by Edward Li, please send all comments and remarks, if any, to the author for updating.

Distribution: All present
 Jim Weir, MH
 Shu Liang He, MH
 Chris Balasa, MTO



Meeting with Haldimand County, January 17, 2005 (Revision 1)

Revisions are highlighted in red.

Project: TPM Assignment – Ministry of Transportation of Ontario Southwestern Region, Agreement Number 3005-A-000270
 Preliminary Design for the Rehabilitation / Replacement of the Argyle Street South Bridge over Grand River in Caledonia

Project No.: 1021040.00

Place: Haldimand County Satellite Office, 282 Argyle Street, Caledonia, Ontario

Date: January 17, 2005

Time: 9:00 a.m.

Present:

Dave Anderson	Haldimand County Engineering (County)
Lloyd Rollinson	Haldimand County Engineering
Ernie Jones	Haldimand County EMS
Dan Robinson	Haldimand County Fire
Hank Huitema	Phillips Engineering
Michael Plant	Ministry of Transportation (MTO)
Tanya Cross	Ministry of Transportation
Susan Wagter	Ministry of Transportation
Paul Draycott	Draycott Environmental
Edward Li	Morrison Hershfield Limited. (MH)
Jim Weir	Morrison Hershfield Limited. (MH)
Josephine Yung	Morrison Hershfield Limited. (MH)

ITEM	MINUTES	ACTION BY
1.0	Introduction	
1.1	Attendance introduced each other.	Information
2.0	Recapitulation of Project	
2.1	Edward briefly recapped the development of the project to-date, as follows:	
	<ul style="list-style-type: none"> The preliminary recommendation to address the problems and deteriorations observed on the 	

ITEM	MINUTES	ACTION BY
	existing Argyle Street Bridge in Caledonia was to replace it with a new 5-span modern structure.	
	<ul style="list-style-type: none"> The problems observed include foundation problem arising from gypsum-solutions of the founding rock, and severe deterioration and under-capacity of the existing bridge, resulting in the currently posted condition of the bridge. There is also problem with hydraulic deficiency such that the new replacement bridge will be slightly raised at the centre span to provide sufficient freeboard above design flood elevations. It is also the intention of the Ministry to handover the bridge to the County at the conclusion of the bridge replacement work. During construction it is expected there would be traffic restrictions and disruption to public, as well as impacts to the Emergency Services. The current design has been improved significantly from the initial plan to use the bypass as the detour, and that at least one lane of traffic will be provided over the river at the bridge location. This will minimize the above-mentioned impacts but the extent would have to be discussed in this meeting and further reviewed within the project team and with the public. The first Public Information Centre was held in summer, 2003 at the Legion Hall in Caledonia, with responses including completed questionnaires, mail and e-mail. A second PIC is scheduled in summer, 2005 to present the recommended solution to the public. Edward also note that the existing bridge is categorized as a heritage structure by the Ministry of Culture. MH and the Ministry have been working closely with the Haldimand Council and staff and in a Council meeting on Aug, 2004, the Council has passed six Council resolutions relating to the Council's preference on various issues of the proposed bridge work, including the Council's 	

ITEM	MINUTES	ACTION BY
	preference to have a new replacement bridge instead of rehabilitating the existing, a third lane on the bridge and implementing on-site detour schemes.	Information
3.0	Discussion	
3.1	<p>Edward stated that a large number of bridge replacement alternatives to address various issues have been developed and prospective ones have been shortlisted for further discussion. These alternatives, including some for 2 lane final configuration and also some for 3 lane final configuration. A couple of drawings tabulating the alternatives and a series of qualitative comparison charts were prepared by MH and distributed to the Ministry and the County in advance of the meeting to prepare for discussion in the meeting. Edward went through the drawings and charts briefly and explained that he hoped that the meeting will be able to discuss and resolve/recommend on the following issues:</p> <ul style="list-style-type: none"> Does the County want a 2-lane or a 3-lane bridge? Traffic staging, 1-lane detour or 2-lane detour. This is particularly relevant to input from EMS and Fire. <p>Lloyd questioned if the Options 1 to 2c are going to be presented in the next Public Information Centre (PIC), Edward explained they would not be shown unless some stakeholders specifically asked for that. It is expected that the Ministry's intention is to scale down the list of the alternatives and present only 3 most favored bridge alternatives to the public in the next PIC.</p> <p>Edward stated that considering the importance of maintaining emergency services over the bridge at all times, traffic safety, impact to local business, it is likely that the preferred options will either have 1-lane or 2-lane crossing over the Grand at the bridge site during construction. Those options requiring any period of full closure of the bridge crossing are unlikely to have favorable evaluation.</p>	Information

ITEM	MINUTES	ACTION BY
	Both MH and MTO have reviewed the "lift-in" type construction at this site, but have decided not to recommend this method due to unresolved details and lacking experience in Canada, high cost of construction, and inevitable full closure of the crossing of up to 8 weeks restricting any sort of vehicular or pedestrian crossing here over the river.	Information
	Edward mentioned that although Option 4b is a feasible alternative, there are permanent sharp double S-curves on the new horizontal alignment on both ends of the bridge and is not a recommended approach for a new bridge.	Information
	Lloyd commented to change the following in "Problem Statements" stated on the comparison charts: <ul style="list-style-type: none"> • Use the term "fire tanker truck" in Item 2. • Change "requested" to "required" in Item 4. 	MH
3.2	Ernie stated that for patients south of Haldibrook Road will be taken to Hagersville hospital, whereas patients north of Haldibrook will be taken to Hamilton, although in emergency cases this is not always the rule. The crossing of the Grand is therefore essential to minimize delay in response times and time to take the patients to the nearest hospital. As the goal of EMS is to serve the public in the most efficient way (fastest and shortest response time), the 2-lane detour is perhaps the most preferable bridge alternatives for the EMS, that is, Option 4d.	Information
3.3	For 1-lane detour scenarios, Jim explained that commuters using the by-pass or waiting at the bridge for the right signal to cross is both about 15 minutes. It will perhaps take 90 second to clear the traffic using signals for the emergency services vehicles to pass.	Information
3.4	EMS did not have a strong objection on the 1-lane detour with signaling. It is expected that with proper signaling, the roads will perhaps fully cleared by the time the emergency services vehicle reaches the bridge.	Information
3.5	Michael indicated that both on-street parking areas at the north side of the bridge would likely be eliminated	

ITEM	MINUTES	ACTION BY
	during the 1-lane detour during construction as the location will be busy with construction activities and ingress and egress of site vehicles at the north end of the bridge. The County said that they would expect that to be the case and has no objections for doing this.	Information
3.6	Ernie stated that there is a difference between EMS and fire services, as fire response will only be critical to arrive at the scene, while for the EMS will require speedy access both to pick up the patient and to return to the hospital/station.	Information
3.7	Ernie also expressed that generally neighbouring municipalities will work together in major emergency situations, or when services cannot be provided at a particular location usually served by a particular EMS, and at those situations, the closest EMS/Fire crews will respond to the scene.	Information
3.8	On responding to the question of whether it would be feasible to provide another station on the north side of the Grand River if the crossing is cut, Ernie stated that it may cost over \$1.0M for 2 years by providing additional one permanent vehicle and staff on a 24/7 basis.	Information
3.9	Tanya stated that the cost is still much cheaper than an additional lane of detour (2-lane detour) of \$1.4M.	Information
3.10	However Ernie is concerned with the availability of highly skill/trained Staff of EMS to work as a double operation shifts only for 9 months.	Information
3.11	MTO advised that construction of the Argyle Street Bridge Replacement is expected to take place in 2007 for the first construction stage and will be carry through to 2008 for the second construction stage.	Information
3.12	Dan stated that the current fire station is located on the north of the river and if the 1-lane detour is signaled full time southbound there is no problem but it would create delay to them if the 1-way detour is signaled full time northbound.	Information
3.13	Dave explained the need for a 3 rd lane on the Argyle Street bridge to accommodate the population and trip growth in the next 10 years, and confirmed that the	

ITEM	MINUTES	ACTION BY
	County has submitted a traffic report in late November to the Ministry to justify this.	Information
3.14	He also indicated that the Option 4c with one sidewalk on the west side is not a preferable option.	Information
3.15	EMS stated that most emergency calls are on evenings and weekends. Depending on the type of illness patients will be taken to different hospitals.	Information
3.16	MTO said that they are planning to hold a Context Sensitive Design workshop to finalize with citizens and stakeholders a number of design issues. One of the main purposes of the CSD workshop is to inform the stakeholders of the various impacts during construction for various alternative, including elimination of on-street parking.	Information
3.17	County stated that the County will share the cost to build the third lane on the new bridge, and the work will be funded by development charge. However, the cost of providing additional facilities for emergency service may not be funded by the same source as these are considered as services.	County
3.18	A separate meeting will be held between EMS and Fire within the next month to review the discussions in the meeting, work out the details, and assess costs to minimize the impacts to the response time. Summaries of the discussion in the meeting will be relayed to the Ministry to be incorporated into the design.	EMS/Fire
3.19	Dan said the fund provided by MTO investing in new equipment in the last project was found to be useful.	Information
3.20	He also suggested that it would be essential to have proper signaling system for both construction years (2007 & 2008) if the 1-lane detour is used for bridge construction.	MH
3.21	Edward clarified that there will be load restriction on the existing bridge during the construction Stage 1, and no load restriction on the new bridge or any part of it as it will be built in accordance with the Current Bridge Code.	Information

ITEM	MINUTES	ACTION BY
3.22	Susan asked both EMS and Fire what impact it would on their services if a 8-weeks full closure of the bridge, such as those described in Options 5a and 5b, is implemented. If this is not acceptable to the emergency services, these alternatives will be eliminated.	EMS/Fire
3.22a	<i>It is necessary to provide for some kind of traffic management during Stage 1 construction, as the existing bridge will be opened to 2-lane traffic during the Stage 1 construction, it is anticipated that the traffic may have the potential to gridlock during peak traffic hours and thereby affecting the emergency services. A prevention may be provided by a traffic management strategy such as lights on the south end of the bridge.</i>	Information
3.23	EMS left the meeting at 11:00am and the rest of attendances had a short break.	Information
4.0	Other Issues	
4.1	Dave confirmed the left turn lane restriction is utilized in Alternative C at the Traffic Study Report.	Information
4.2	The Ministry said it will provide comments on the Traffic Study Report to the County.	MTO
4.3	County stated that the analysis used to prepare the Traffic Study Report is based on the MTO Geometric Standards and the conclusion of the report showed that there is a need to widen the Bridge to a 3-lane configuration. Therefore, The County stated that the County would like to see a 3 rd lane be installed on the replacement bridge.	Information
4.4	It was noted that the Context Sensitive Design Workshop would not discuss some issues which are considered firm such as the substructure layout (5-span with 4 piers, 2 abutments).	Information
4.5	There is no watermain or sewage line mounted on the existing bridge; the only utility mounted on the bridge soffit is a cable bank.	Information
4.6	Tanya stated that the focus of the Workshop will include:	

ITEM	MINUTES	ACTION BY
	<ul style="list-style-type: none"> Bringing out the voice from the public, not from the Council only. Addressing the need to provide a sympathetic design for the heritage element of the existing bridge. Providing technical advice by the facilitator, and the experts invited on bridge aesthetics. 	Information
4.7	The selected facilitator of the workshop is expected to use innovative processes to reach out to the the interested public and to invite representative to participate in the workshop.	MH/Information
4.8	Lloyd will check if the County would allow the Ministry to post MTO information on the County Official website.	County
4.9	A total of 3 agreed feasible alternatives would be picked and presented in the next PIC.	MH/MTO/Information
4.10	Edward stated that MH will assist the facilitator to find the right people for the workshop.	Information
4.11	Paul suggested that bridge heritage should be tackled in line with the prioritized process developed by the MOC but the project team should also look at the broader scale of the heritage issue, i.e. the Grand River heritage, rather than just concentrating on the bridge. This has to be resolved by the involvement of the public.	MH/MTO/Information
4.12	The PIC #2 will combine all the information of the bridge alternatives together with the Workshop feedback.	MH/MTO/Information
4.13	MH will investigate acceptable types of approved handrails details for the context sensitive workshop.	MH
4.14	It was suggested that using the fish-hook shape lighting pole (existing light pole on the Argyle Street at the south side of the Grand River) on the new bridge as a mitigation of the heritage issue.	MH
4.15	County questioned if the hump at the north side of the bridge approach will be fixed at the replacement of the bridge. MH will address this together with the Ministry.	MH/MTO/Information

ITEM	MINUTES	ACTION BY
4.16	All the participation of relevant agencies will be invited/notified as a stakeholder to the Workshop and they include Fishery and Oceans, Ministry of Culture, MOE, Caledonia Regional Chamber of Commerce (CRCC) and the Caledonia BIA, etc. All documents will be carbon copy to Paul General of the Six Nation. The County suggested that the local Councilor, Craig Ashbaugh, should also be invited to the Workshop.	MH/Information
4.17	Lloyd stated that Haldimand County has no objection/care on the substructure layout. The MTO would appreciate sign offs from the County regarding the 5-span substructure.	County
5.0	Upcoming Meetings	
5.1	The next council meeting will be on February 28, 2005. It was suggested that the Ministry submit a memo to the Council by February 15, 2005 (1.5 weeks prior to the meeting) to brief the recent development of the project. Formal presentation is not considered required at this stage.	MH/MTO
5.2	The CSD workshop will be expected to be held in April, 2005. The County suggested the following date: 12, 13, 14 or 19 of April at the afternoon/evening in order to attract more people to attend.	Information
5.3	Both County and the Ministry agreed that the next PIC would be held at the new arena in Caledonia.	Information
5.4	MH will prepare a meeting schedule and will notify County for all meetings in a month in advance.	MH
5.5	Michael said the County would contact EMS and Fire for the following meetings.	County/EMS/Fire
5.6	It is tentatively scheduled that the senior management presentation will be held on June 6, 2005 and the presentation at the Council Committee meeting will be on June 13, 2005.	MH/MTO/Information
5.7	MH will prepare draft memo for the Council and submit it to the Ministry by February 11, 2005. The memo should include the request local Council representative to attend the meeting.	MH/MTO

ITEM	MINUTES	ACTION BY
	<p>seasons. During the first year of construction, only one pedestrian sidewalk will be removed and 2 lanes of traffic will continue to use the existing structure as in the current situation, pedestrians will use the remaining sidewalk. During the 2nd construction season, only one traffic lane will be available at the crossing and will be dedicated to southbound traffic only. The section of Argyle Street between Caithness and Renfrew will not be available for northbound vehicles except for local traffic, and vehicles cannot cross the river at the bridge site. Vehicles from the south of the river will have to go south on Argyle first to get to the bypass then go north in order to cross the river in a northbound direction.</p> <p>In order to facilitate the emergency service vehicles (ambulances and fire trucks) to cross the river, it was proposed that the signals at Caithness and Kinross be modified such that they could be activated by a transponder mounted on the emergency service vehicles to an "all red" phase to enable the vehicles to go north and use the bridge to cross the river without being impeded by other traffic. The current system used by the Ministry is the "Optic-com" system.</p> <p>The above were extensively discussed in the last meeting, but the Ministry and the emergency services were requested to review various issues and report to the meeting their resolutions pertaining to these issues, as described below.</p>	
2.0	Optic-com	
2.1	MTO advised that the Ministry's review to permit more than one emergency services to use a single system is still on-going.	MTO
2.2	There is a question of whether Optic-com should be put in place in year 1 as well. This will be reviewed when the Ministry has finalized its review as stated above, or whether the single lane southbound concept will be put in place in year 1 irrespective of whether one or 2 lanes will be available at this stage (see discussion below).	All
2.3	Ernie confirmed that all 7 ambulances should be equipped with Optic-com. Dan said fire needs 5	

ITEM	MINUTES	ACTION BY
	transponders for all 5 pieces of equipment owned by his department.	Information
2.4	There were questions on how far away the operators could activate the Optic-com controlled signals, and how long the activated signals will stay red after being triggered.	MTO
3.0	Ambulance Services	
3.1	Ernie said that if an extra ambulance and a crew is required to be in place on the north side of the of the river during construction, as discussed in last meeting, it would incur a cost of approximately \$340K for each year of extra service (comprising a crew of 3) plus the cost of an extra ambulance valuing about \$150K. However, if one additional bay is constructed to expand the accommodation capacity of their existing Kinross base to house one set of equipment for the fire services, then he would not foresee any problem of providing ambulance service in Caledonia using the Ministry's proposed method of traffic management (1 SB lane on bridge with Optic-com signal control), and that the provision of extra ambulance on the north side, as mentioned above, would not be necessary.	MTO
4.0	Fire Services	
4.1	Dan indicated the proposed traffic management strategy is acceptable if he could relocated one set of his equipments into proper facilities south of the river, such as at the Kinross base, as discussed in 3.0 above. However, there would still be cost associated with such move though, and will include approximately \$50K for new equipments, and approximately \$3-5K to equip each of the estimated 5 new volunteer fire fighters to attend to the south side equipments.	MTO
4.2	Dan said that there are proposals to upgrade his current fleet to add vehicles and tankers, and the like, but may not be soon enough to be in place for 07/08 construction of this bridge.	Information
4.3	Michael said that since it appears that the EMS (both fire and ambulance) concerns could be resolved if the Kinross facilities could be expanded to provide one	

ITEM	MINUTES	ACTION BY
	extra bay, he proposed that a visit to the Kinross site should be made after the meeting to check out the feasibility of doing this.	
	<i>(Post-Meeting Note: a visit to the site indicated that sufficient space should be available for the proposed expansion. MTO will obtain an estimate to build the expansion from a contractor whom MTO has worked with previously on similar situations).</i>	MTO/County
5.0	Ontario Provincial Police	
5.1	Mike said that OPP will adapt to the changed situation and will take necessary action to keep the traffic flowing through the construction zone.	Information
5.2	He also suggested that it might be appropriate to implement the single lane traffic right from the beginning to allow the public to get use to this. This was actually mentioned by Lloyd in last meeting.	Information
5.3	MTO suggested that this should be presented to the public in the next PIC to obtain response from the residents and the business on this arrangement. Furthermore, this single lane arrangement has not been discussed in detail with business communities and may have some objections, though it is already a huge improvement from the last PIC.	MTO/MH
6.0	Confirmation	
6.1	Tanya requested that Ernie, Dan and Mike to confirm their agreement to the proposed single lane approach in writing, with the provision as described above, and this recommendation will be carried forward to the detailed design and construction phases of the project.	Ernie/Dan/Mike
6.2	Tanya also requested MH to develop a plan to show how traffic will be detoured and managed based on this arrangement in and around the affected areas, as well as an assessment on the impact resulting. This should be presented in the next meeting.	MH
7.0	Next Meeting	
7.1	Next meeting is scheduled on Monday, May 16, 2005 to be held in the same venue in Caledonia.	

ITEM	MINUTES	ACTION BY
	These minutes were prepared by Edward; please send all comments and remarks, if any, to the author for updating.	
	Distribution: All present	
	Liz Bint	CACC
	David Dungey	Brant Ambulance
	Randy Papple	Brant Ambulance
	Susan Wagter	MTO
	Chris Balasa	MTO
	Conor Byrne	MTO
	Paul Draycott	MH
	Jim Weir	MH
	Josephine Yung	MH
	Heidi Cousineau	MH
	Bassam Hamwi	MH
	Chak Lo	MH



Meeting with Haldimand County, March 28, 2005

Project: TPM Assignment - Ministry of Transportation of Ontario Southwestern Region, Agreement Number 3005-A-000270
 Preliminary Design for the Rehabilitation / Replacement of the Argyle Street South Bridge over Grand River in Caledonia

Project No.: 1021040.00

Place: Haldimand County Satellite Office, 282 Argyle Street, Caledonia, Ontario

Date: March 28, 2005

Time: 1:30 p.m.

Present:

Dave Anderson	Haldimand County (County) Engineering, Manager
Lloyd Rollinson	Haldimand County Engineering
Ernie Jones	Haldimand County Ambulance Service Manager
Daniel Robinson	Haldimand County Fire Chief
Mike McDonnell	OPP Haldimand County Detachment
Liz Bint	Hamilton CACC Operations Manager
David Dungey	Brant County Ambulance
Randy Papple	Brant County Ambulance
Michael Plant	Ministry of Transportation (MTO)
Tanya Cross	Ministry of Transportation
Susan Wagter	Ministry of Transportation
Christopher Balasa	Ministry of Transportation
Conor Byrne	Ministry of Transportation
Paul Draycott	Draycott Environmental
Edward Li	Morrison Hershfield Limited. (MH)
Jim Weir	Morrison Hershfield Limited. (MH)
Josephine Yung	Morrison Hershfield Limited. (MH)

ITEM

MINUTES

ACTION BY

2.1

Edward briefly recapped the development of the project to-date and expressed that impact on traffic during construction is an important issue.

- During construction it is expected there would be traffic restrictions and disruption to public, as well as impacts to the Emergency Services. The current design has been improved significantly from the original intention of closing the bridge and using the bypass for vehicular detour. Currently the plan is to maintain at least one lane of traffic will be provided over the river at the bridge location during construction of the replacement bridge by a staged construction approach. This will minimize the impacts but the extent would have to be discussed in this meeting and further reviewed within the project team and with the public.
- The preliminary design will also evaluation the provision of either one or two traffic lanes to be maintained during construction (for either one or both 2 construction seasons). In fact, it was suggested that the Ministry should implement the S/B traffic only arrangement on stage 1 or even earlier even if it is not required, to allow the public to be familiar with this.
- If a single lane is to be maintained at the bridge crossing, the project team in conjunction with the County staff has recommended that (as in previous meetings) it will be used as a single south bound lane controlled by advance signs and signals. The section of the Argyle Street from Caithness (north of river) to Renfrew (south of river) will be converted to single south bound. Vehicles traveling north on Argyle will have to stop at Renfrew and turn back via side streets, or will only be able to go north as local traffic but not able to cross the river. All vehicles south of the river intending to go to Hamilton will have to go south to hit the bypass at the south end of the village first before turning north onto the bypass.

ITEM	MINUTES	ACTION BY
1.0	Introduction	
1.1	Attendance introduced each other.	Information
2.0	Recapitulation of Project	

Southbound vehicles will have no problem as the Argyle Street will turn from a 2-way street to one way south of Caithness and the bridge will be kept

ITEM	MINUTES	ACTION BY
	<p>open full time for this direction of traffic. However, as discussed below, at the signaled intersection of Caithness and Argyle, the Caithness eastbound right turn will be prohibited, as well as the Caithness westbound left turn as both turning direction may jeopardize or obstruct emergency vehicles in such situations.</p> <p>The use of 2 lane detour, as commented in the previous meetings, would likely create more problems due to the expected congestion at the bridge site. The use of signaled one way, 2 direction traffic was considered not suitable due to the length of the bridge, and the expected serious delay and queuing at both ends of the bridge. Both options will not be further considered unless there were different opinions from the EMS agencies or from the public.</p> <p>One pedestrian sidewalk will be open at all times, pedestrians will have to cross the Argyle to access the sidewalks depending on the year of construction.</p> <p>On street parking adjacent to the bridge site will be prohibited during construction, the extend of which will be determined in due course, and may be affected permanently depending on the final lane configuration agreed between the Ministry and the County, but such arrangements (eliminating on street parking) will be made by the County.</p>	Information
2.2	<p>To enable ambulances to cross the river in a northbound direction in case of emergencies, the proposal is to have the intersection signals be controlled, say at Caithness and Argyle, to be turned into an "all red" pattern by controls at the stations, or by transponders such as the "Optic-com" system installed at the roofs of ambulances. This system is currently used by the Ministry and a number of municipalities.</p> <p>The Caledonia fire station is located on the north side of the Argyle Street Bridge at Caithness and Argyle, and the EMS station is located on the south side of the river, at the intersection of Kinross and Argyle.</p>	Information

ITEM	MINUTES	ACTION BY
2.3	<p>This meeting is intended to invite comments from the OPP, EMS and Fire agencies in the vicinity of the project site on the proposed layout, based on which the MTO and MH project team will proceed to finalize the preliminary design to be presented in the next Public Information Centre (PIC) scheduled in mid June, 2005. All attendees are encouraged to provide suggestions and improvements, and may decide to send in written comments later but hopefully within the next couple of weeks.</p>	Information
3.0	Discussion	
3.1	EMS	
3.1.1	<p>Ernie had a meeting with other EMS (from other adjacent Regions) to discuss the traffic issues during the Argyle Street Construction, but not all the invitees attended.</p>	Information
3.1.2	<p>Optic-Com is used in different communities but some of them have stopped using it because of the cost sharing issue. Some of the systems are actually "all-green" instead of the proposed "all-red" one. The major cost of implementing these systems is the installation of the specially controlled traffic lights.</p>	Information
3.1.3	<p>The meeting noted that under the normal driving speed, it would takes 2 minutes from Kinross Street to the Bridge. As the single lane zone is only about 3 to 400m long, the section should be fully cleared when the ambulances arrive.</p>	Information
3.1.4	<p>Liz stated that the Dispatch Centre will normally direct the closest ambulance to the scene. Areas under the control of the Dispatch Centre include Hamilton, Niagara, Six Nations, etc. If there is sufficient advance notice on the Bridge closure, this will be taken into consideration when a call comes in to determine where the closest ambulance is located and best suited to pick up the patient. This includes using other route to reach the scene without access through the bridge. It was expected that the Caledonia EMS would keep the Dispatch Centre informed of these occurrences.</p>	Information

ITEM	MINUTES	ACTION BY
3.1.5	CACC also make decision on which hospital the patients will be taken to depending on the type of illness. For example, patient who have suffered stroke will go to the Stroke Centre in Hamilton.	Information
3.1.6	Edward asked Liz if the S/B one-way signal is feasible for the EMS. She replied that it is acceptable as long as there is a good communication between EMS and CACC.	Information
3.1.7	Liz also stated that in some cases, two ambulances might be sent to the scene but the first one will control the scene even though the second closer one may transport the patient.	Information
3.1.8	It was agreed that putting an EMS vehicle on the north side of the river is an option but the cost and the availability of experienced staff willing to work short term or as temporary staff may render this option impractical.	All
3.1.9	Mike and Edward indicated that there will be isolated and occasional time when the bridge may be fully closed during construction. These periods, lasting for maybe a couple of hours each, may occur only during some major activities such as erection major bridge components such as arches or girders. Full bridge closure restrictions will be specified in the operational constraints of the future contract and the contractor will be required to make sufficient advance notice and make proper arrangements for these occurrences, including liaising with authorities and agencies, and making proper provisions as required.	All
3.1.10	CACC indicated that they could relocate their resources such as putting extra EMS vehicle or staff near the site during the bridge construction period.	Information
3.1.11	Brant County EMS can help if emergency occurs on the north side of river in Caledonia. The major hospital in the county is Branford General Hospital, which is about 20 minutes from the site. It is however very rare that Brant EMS will need to go on the bridge.	Information
3.1.12	Ernie stated that there is a fee arrangement between different counties in that the adjacent county EMS may	

ITEM	MINUTES	ACTION BY
	bill the county from which it has picked up patients and provided services, and the fee varies from county to county. Currently it is more frequent for the Haldimand County EMS to serve adjacent areas and it is charging relatively higher, such as Hamilton, than the other way round, but if the bridge is restricted or closed, the situation may be reversed. However there has not been any money changed hands in this arrangement, and the project team will not be making decision based on this as it will be impossible to predict what will happen during the 2 years of construction. If in the event that the County is found to incur costs due to the bridge construction, the situation will be monitored and additional costs recorded, and the Ministry will reviewing that in conjunction with the County for partial reimbursement.	Information
3.1.13	Mike asked should all the ambulances have the GPS system. Ernie indicated that they all should.	Information
3.1.14	There is 1 unit of EMS in Mount Hope. Response time is longer there because it is an urban area, it take about 15-20 minutes.	Information
3.2	Ontario Provincial Police	
3.2.1	OPP is doing patrol rather than emergency service, and OPP has staff and vehicles outside of Caledonia, they can use by-pass to cross the Grand River.	Information
3.2.2	There will be some impact on the OPP service, but it should not be a problem.	Information
3.2.3	Since the return time will be affected, the patrol pattern may have to be changed during construction. It is unlikely that help from other detachments, such as Hamilton, will be required.	Information
3.3	Optic-Com	
3.3.1	Conor explained the usage of the Optic-com. Traffic lights are the receivers and there is a transponder in the vehicle which send signal to the traffic light turning the light to red/green. Generally only one emergency service will be assigned an Optic-com system to avoid any conflict. In most cases this would be the Fire	

ITEM	MINUTES	ACTION BY
	Trucks because they are slower and less easy to maneuver.	Information
3.3.2	In this project, it is expected that the ambulances will be equipped with Optic-com if the proposed arrangement is confirmed. All 7 Haldimand County ambulances will be equipped with Optic-com; EMS from other Regions will not be equipped.	Information
3.3.3	Optic-com gives flexibility and can be used to minimize the impact on the response time for the EMS.	Information
3.4	Fire	
3.4.1	Dan opined that the 1 fire truck should be equipped with Optic-com also.	Information
3.4.2	Conor said technically it is possible to provide Optic-com for 2 services (EMS and Fire), but this is not the MTO's practice. Conor will review the rule and will advise the meeting again on this. It is assumed that to have both Fire and EMS equipped with the optic-com is possible.	MTO
3.4.3	Currently only 1 fire station is located in Caledonia, on the north side of the bridge. The proposal for building a second station on the south side of the bridge, has been submitted to the Council, but it is not expected that the new station will be in place before the construction begin, say in 2006-7. When questioned, Dave stated that population growth in Caledonia is not expected to be huge and trip generated is forecasted to be less than 2% growth per year in the next 25 years in Haldimand County.	Information
3.4.4	All firefighters in Haldimand County are volunteers, and they are located almost 50-50 on the north and south sides of the river. When an emergency call arrives, firefighters have to drive to the station to pick up the equipment and drive the engines to the site. It needs to have 6 fire fighters to get on the truck before it heads on the road. If the northbound traffic is stopped, there may be delays to the time the firefighters need to reach the station, unless all firefighters have the Optic-com system installed in their own vehicle, which is impractical and potentially dangerous. No firefighters	

ITEM	MINUTES	ACTION BY
	are allowed to put the equipments in their cars or homes.	Information
3.4.5	Lloyd suggested using small vehicle like golf cart for fire fighters to cross the bridge over the sidewalk to the Fire Station.	Information
3.4.6	As a result, Dan's preference is to have the new facility approval and if that can be fast-tracked with some outside help, such as financially by the Ministry, the above-mentioned concerns can be eliminated. The Ministry is asked to review this proposal.	MTO/MH
3.4.7	The new fire station will likely become the main station of Caledonia, but the existing fire station will not be closed because Caledonia's population is growing and need an expansion for the Fire Service.	Information
3.4.8	Dan expressed that they need to study further before they can confirm to say yes for the option of 1-lane traffic during construction.	Fire
3.4.9	Mike asked if the safety rule can be changed so that fire-fighters can put their own safety gear in their own vehicle in order to save the trip to the Fire Station. Dan confirmed that this is not acceptable.	Information
3.4.10	Tanya also asked if Fire Service could use site trailer rather than fire truck. Dan indicated that it's not an option.	Information
4.0	Conclusions	
4.1	Both Fire and EMS prefer to have Optic-com: one Fire Truck and seven ambulances, for the moment.	Information
4.2	A few details are needed to be worked out to ensure the impact on the Emergency Services will be minimized. A small group meeting with EMS, Fire will be held to solve out any problem.	All
4.3	Tanya would like Fire Service to provide the cost estimate for the additional equipment and suitable location (rent property) at the south side of the Bridge at year 2007. Fire can also provide any ideas/plans that can be discussed in the next meeting.	Fire



ITEM	MINUTES	ACTION BY
4.4	OPP will be able to handle the impact on the service during the construction. OPP would like to be involved in working out the details. When the bridge is partially closed, it is needed to examine the number of patrol, station and staffing required. Currently the station is located next to the Haldimand County Satellite Office.	OPP
5.0	Other Issues	
5.1	County asked for the Bridge Alternatives that have 3-lane, would it be able to reduce the lane width to 3m to provide an extra traffic lane. Mike said it is not preferable because 3m lane is too intimidating and potentially dangerous.	Information
5.2	Ministry explained that the bailey options were discarded now that there are non-bailey options that are cost-effective and could solve the issues. The use of more interchanges on the bypass within the Caledonia areas is not acceptable as the bypass is not designed to pick up in-town traffic, and the cost of land assumption to build the ramps would be enormous. Furthermore, roads such as Stirling would need to be drastically upgraded including rebuilding the burnt-down bridge before they could be transformed into proper connections, and these are beyond the scope of this assignment.	Information
6.0	Upcoming Meeting	
6.1	It is scheduled that the next meeting with EMS & Fire will be held on April 20, 2005, 9:30am at the Haldimand County Satellite Office. Attendees will include, but not limited to: Tanya, Mike, Dave and Edward and other County representatives.	All
6.2	The meeting was adjourned at 3:30 p.m.	

These minutes were prepared by Edward and Josephine, please send all comments and remarks, if any, to the author for updating.

Distribution: All present
Chak Lo, Heidi Cousineau, Bassam Hamwi, MH

**Meeting with Haldimand County, May 16, 2005
Emergency Services During Construction**

Project:	TPM Assignment – Ministry of Transportation of Ontario Southwestern Region, Agreement Number 3005-A-000270 Preliminary Design for the Rehabilitation / Replacement of the Argyle Street South Bridge over Grand River in Caledonia	
Project No.:	1021040.00	
Place:	Haldimand County Satellite Office, 282 Argyle Street, Caledonia, Ontario	
Date:	May 16, 2005	
Time:	2:00 p.m.	
Present:	Dave Anderson Ernie Jones Daniel Robinson Mike McDonnell Michael Plant Tanya Cross Tom Christensen Edward Li	Haldimand County (County) Engineering, Manager County Ambulance Service Manager County Fire Chief OPP Haldimand County Detachment Ministry of Transportation (MTO) MTO MTO (part time on phone) Morrison Hershfield Limited. (MH)

ITEM	MINUTES	ACTION BY
1.0	Introduction and Last Meeting	
1.1	Edward indicated that this meeting is a follow-up of the last meeting held April 20, 2005 on a number of issues.	Information
1.2	Ernie wanted to make the following changes to the minutes of last meeting. Paragraph 3.1, the minutes should read: <i>...it would incur a cost of approximately \$340K for each year of extra service (comprising a crew of 2) plus the cost of an extra ambulance and equipment valuing about \$150K.</i>	

ITEM	MINUTES	ACTION BY
1.3	Edward stated that in the last meeting he requested Fire / Ambulance and OPP to confirm in writing their agreement and support for the single lane, southbound direction on the bridge. There is no respond received so far, and as such, he asked that this be done as soon as possible, in order for the project team to propose this in the second PIC and to carry this forward in the next stage of design.	Mike/Dan/Ernie
1.4	Dave confirmed that a letter was sent to the Ministry (Michael) regarding the Council's resolution given on May 9, 2005 regarding cost sharing issues. Michael said that the Ministry will review the letter and will give a reply to the County as soon as possible, however, this letter has allowed the project to move ahead.	MTO
1.5	Edward said that all designs will now be done with a final bridge configuration to accommodate 3 lanes; the 2-lane scenario will be considered removed. Any party with objection to this should come forward now.	All
2.0	Optic-com	
2.1	MTO advised that for a local municipality it is permissible for more than one emergency services to use the optic-com system. As the OPP also requested the use of the system, the Ministry will arrange for the following units be equipped during traffic restriction period for the construction of the replacement bridge: <ul style="list-style-type: none"> • For 7 ambulances operated by Haldimand Ambulance Services; • For 5 equipments (incl. fire engines, water trucks) operated by Haldimand Fire Services; and • For 4 OPP vehicles (incl. area supervisor and 3 designated patrol cars), for a total of 16 units.	Information
2.2	The Ministry will be responsible for the cost of installing the transponders on the vehicles, but will remove and reclaim the units at the end of the project. Each transponder is likely to cost between 1 to 2K.	Information

ITEM	MINUTES	ACTION BY
2.3	MTO has forwarded tentative optic-com layout to MH to address the single southbound lane situation, with the following summary: <ul style="list-style-type: none"> • Existing signals, including those at Caithness and Argyle, will not be affected. • Optic-com controlled signals will be placed on each side of the bridge. The north signal will be located between the Caithness intersection and the bridge. This signal will continuous be green unless triggered by an EMS/OPP vehicle coming northbound, at which instance it will turn red. On the south side, the optic-com signal will be a special signal put right at the bridge entrance, which is a combined all-time "no-entry" cross light and an emergency vehicle signal above, which would only be lit when the optic-com system is activated, i.e. when the bridge-north signal is activated red. This will give northbound EMS/OPP vehicles assurance that there is no car coming in the other direction when they cross the bridge. • It is expected that normally any vehicle running through a red optic-com signal should still clear the bridge before the northbound EMS vehicles reach the bridge from the Kinross station. • Other details of the system will be developed during subsequent design stages. • A temporary signage plan is also being developed to manage traffic in the bridge area. 	MH
2.4	Dan was concerned that right turning vehicles southbound on Argyle may interfere with fire trucks coming out of the station that wish to right turn on Argyle to go onto the bridge in a southbound direction. It was explained that since Argyle is one-way all green southbound south of Caithness there should be plenty of room for vehicle to get out of the way of the fire trucks when the sirens are on. It would not be anything different from the current situation, in fact, because of the all-green lights, there should be an improvement.	Information

ITEM	MINUTES	ACTION BY
2.5	MTO indicated that the optic-com can only be activated within close range, but if that becomes a problem, more than one receivers could be installed at the signals.	MTO
2.6	Edward will distribute a copy of the sketch to all parties after the meeting and each should provide his/her comments to Edward on the proposed layout as soon as possible (<i>hopefully within a week</i>).	All
2.7	The meeting agreed that one lane detour will be shown in the upcoming PIC with the optic-com system.	All
3.0	Additional Bay at the Kinross Station	
3.1	Michael reported that MTO has obtained a quote to add an extra bay at the existing ambulance station to house additional fire equipment, which, according to last meeting discussions, should be able to address the potential problem of reduced service level resulting from the conversion of Argyle Street at the bridge location to a single southbound lane. The cost of \$80K including structure, building enclosure, pavement, heating and necessary modification to the existing structure, but excluding drainage (in case the bay is used for washing), and engineering / architectural costs.	Information
3.2	There was concern that the property has often been trespassed and used by adjacent owners and business for easy access and parking. It was considered by erecting perimeter fences and high curbs, these trespassers could be discouraged to do so. The Ministry would leave any dealings with local residents and business resulting from the proposed extension and fencing works to be resolved by the County.	County
3.3	The property plan was examined and the County confirmed (later reaffirmed in a site visit) that sufficient space should be available to build the extension, provide parking and meet the building code separation requirements.	Information
3.4	Edward said that as this is a Preliminary Design Study, what is needed is an agreeable solution which will be finalized in the detailed design. However, in order to make the 2007 construction, the extension should be built while the detailed design is proceeding.	MTO/County.

ITEM	MINUTES	ACTION BY
3.5	Dan indicated that there is still no fixed plan for the building of the river-south fire hall. He also has reservation regarding building the additional bay at Kinross as this temporary improvement may further delay the permanent solution of having the new fire hall to be built on the south side of the river. Dan will review the proposed solution again and will come back with comments on the proposed additional bay work.	Dan
3.6	On this particular issue, Tanya pointed out that one simpler and more economical solution of having the fire truck temporarily housed in a rented premise should not be discarded without due consideration. This could also help to alleviate Dan's concern mentioned in 3.5 above. Tanya requested Dan to review this option and respond formally whether this is feasible or not.	Dan
3.7	Tanya also requested Dan to review the option of having a temporary response vehicle equipped with an optic-com transponder with a trailer situation on the south side of the bridge so that volunteer fire fighters on the south side of the river could gather, pick up their gears, and be transported to the fire scene to meet up with the other fire fighters to do the work. Dan opined that this is not the usual protocol, as he needs a minimum number of firefighters on the fire truck before it could be rolled off the depot. Tanya requested Dan to respond to this in writing as well, as she has to cover this when she is debriefing her supervisors. This may be cheaper than all other options, even if training more firefighters will be required.	Dan
7.0	Next Meeting	
7.1	A meeting will be arranged if all parties feel it necessary, but MH/MTO would like to have the above-mentioned comments from the County first.	
<p>These minutes were prepared by Edward; please send all comments and remarks, if any, to the author for updating.</p> <p>Distribution: All present Lloyd Rollinson Haldimand County Susan Wagter MTO Chris Balasa MTO Conor Byrne MTO</p>		

ITEM

MINUTES

ACTION BY

Paul Draycott	MH
Jim Weir	MH
Josephine Yung	MH
Heidi Cousineau	MH
Bassam Hamwi	MH
Chak Lo	MH

**Ministry of Transportation of Ontario, Southwestern Region
Preliminary Design for the Rehabilitation of the Argyle Street South Bridge
Over the Grand River in Caledonia, Haldimand County**

Memorandum to the Haldimand County Council, February 28, 2005

The Ministry of Transportation and Morrison Hershfield Limited are pleased to provide this project update to the Haldimand County Council. This memorandum will summarize recent developments of the project since the project team's last presentation to the Council on August 5, 2003 when we reported on the outcome of the first Public Information Centre held on June 23, 2003 at the Legion Hall in Caledonia.

Project Description

The existing Argyle Street South Bridge (MTO Site No. 9-002) in Caledonia is a 200m long structure comprising of 9 bowstring arches with eight concrete supports located in the Grand River and north and south abutment located on the river banks. The bridge was constructed in 1927 to replace the original steel arch bridge that collapsed.

The purpose of the Preliminary Design and Environmental Assessment is to investigate and propose solution(s) for the rehabilitation or replacement of the bridge, as well as traffic management during construction.

The project is driven by the Ministry's concern with the poor condition of the reinforced concrete structure, insufficient structural capacity to carry prescribed highway loads, substandard dimensions and safety provisions, deteriorating supporting rock stratum, as well as insufficient bridge opening dimensions to convey the design flood of the Grand River under the structure. It is also the intention of the Ministry to transfer ownership of the bridge to the Haldimand County at the completion of the proposed improvement works.

The Consultation Process

Consultation has been provided through newspaper advertisements, mailings including electronic mails, meetings, phone discussions, presentation, public information centre, have been conducted with citizen groups, stakeholders, and interested or affected parties, including:

1. The Haldimand County Council and Staff (Council Committees, Engineering, EMS, Fire);
2. Business Organizations (BIA and Caledonia Region Chamber of Commerce);
3. First Nation (Missisaugas of the New Credit and the Six Nations Council and staff);
4. Grand River Conservation Authority;
5. Ministry of Natural Resources; and
6. Ministry of Culture.

The project has planned for a total of up to three public information centres (PIC). The first PIC held in June 2003 was intended to introduce the project to the public and invite public and agency input on a wide range of options. A second PIC is currently planned on June 15, 2005 to introduce not more than 3

recommended alternatives to the public and request for input, comments and endorsement. The third PIC will be optional, but if required, is expected to be held in the Fall 2005 to introduce the recommended engineering solution to the public.

Liaison Work with the County

The MTO/Morrison Hershfield project team has been liaising with the staff and Council and Committees of the County since the commencement of the project in Fall 2002. A number of meetings and council / committee presentations have been made by the project team to introduce the project including various design alternatives, and solicit opinions from the County as to the preferred approach in various aspects of the project including future bridge dimensions, number of lanes, bridge location and alignments, construction staging, and the like.

Subsequent to a meeting with the County attended by Mayor Trainer and engineering staff and consultants of the County, a Council Resolution was passed in the August 3, 2004 Council Meeting, including the following official positions:

1. Haldimand County agrees in principle, based on current information provided by the Ministry of Transportation, to a replacement bridge at the same location as the existing bridge;
2. Haldimand County agrees that the structure should include heritage features if a replacement structure is the Ministry's recommended option;
3. Haldimand County prefers a three lane cross section for the proposed structure if a replacement structure is selected;
4. Haldimand County does not intend to carry out a separate Environmental Assessment (EA) for the project;
5. Haldimand County does not propose to cost share the full cost difference with MTO on a widened structure;
6. The detour alternatives proposed to date are not satisfactory to Haldimand County and MTO should research further options, including utilization of a widened structure as a detour during the construction phase.

To address the Council's resolutions, a number of options were developed by the project team towards the end of 2004 and include solutions to provide a two or three lane bridge, and with on-site detour providing pedestrian and vehicular traffic over the Grand River via staged construction of the replacement structure.

The alternatives were reviewed with Haldimand County staff members from of the Engineering, EMS and Fire on January 17, 2005. The meeting was fruitful in that positive ideas have been exchanged allowing the project to move ahead. Subsequent meetings would be arranged to finalize recommendations and allow the Ministry and Council to review a number of issues including details of cost sharing.

Current Preferred Recommendations

Albeit design and consultation will continue, the current preferred recommendations include the following features:

1. A new bridge designed to meet current structural and highway standards will be built to replace the existing bridge at more or less the existing position. Foundation problems and hydraulic deficiencies will also be corrected along the way.
2. The new bridge will be a 5 span girder bridge with 4 piers in the river and abutments located on the banks of the river. The selection of the bridge span layout was based on cost-effectiveness of the structural system, improved river hydraulics and requirement of staged construction to provide traffic over the river during construction. Subject to outcomes of the workshop (see below) heritage features will be provided on the new bridge.
3. The bridge will carry 2 or 3 traffic lanes, subject to cost sharing agreement between the Ministry and the County.
4. The construction of the bridge will be staged, so that vehicular and pedestrian traffic over the Grand River will be provided at all times during the construction of the replacement bridge. Whether single or two lane detour traffic will be provided will be subject to further discussion with the County engineering and emergency services staff and the outcome of the Context Sensitive Design Workshop (see below).
5. The dimensions and number of sidewalks to be provided on the bridge will also be subject to the outcome of the workshop (see below).

Context Sensitive Design Workshop

Context Sensitive Design is the method of creating public projects that are well accepted by both the users and the community, by integrating the projects into the context or setting in a sensitive manner through careful planning, consideration of different perspectives and tailoring designs to particular project circumstances. Context Sensitive Design uses a collaborative, interdisciplinary approach that includes involvement of key stakeholders to ensure that the project is not only safe and efficient, but is also in harmony with the natural, social, economical and cultural environment.

MTO recognizes that the heritage, cultural and historical values play an important role in shaping a community's identity, such as the village of Caledonia, and would like to ensure that the new bridge does not conflict with the community desires and values.

Participants from a broad spectrum of stakeholders and interested parties will be invited to attend a one-day workshop held in Caledonia to review, discuss and provide cost effective and viable solutions that will address a number of issues, which are,

1. Sidewalk location on the replacement bridge;
2. Heritage, cultural and historical elements of the Argyle Street South Bridge to be considered in the replacement structure; and
3. Structure replacement traffic staging.

The workshop will be facilitated by a professional facilitator and will be joined by experts in various disciplines, including bridge aesthetics, to provide professional opinions from their own specialties.

Workshop participants will include, but not be limited to:

Agencies	MTO Ministry of Culture Grand River Conservation Authority Parks Canada
Municipality	Haldimand County Engineering staff member(s) Haldimand County Planning staff member(s) Grand River Advisory Committee
First Nations	Mississaugas of the New Credit First Nation Six Nations
General	Local Historical Society LACAC Caledonia Chamber of Commerce Caledonia Business Improvement Area 2 citizen representatives
Technical Advisors	Heritage/Aesthetic Architect* Bridge Aesthetics Engineer* MTO's Heritage/Archaeological Planner

We also propose to invite Councillor Craig Ashbaugh to attend the workshop as an observer.

The date of the workshop is tentatively scheduled on April 19, 2005; exact time and venue will be confirmed in due course.

Next Steps

It is expected that the recommendations of the workshop will be developed and incorporated into the preliminary design and environmental assessment process, and selected recommended engineering and detour solutions will be shown to the public in the upcoming second PIC to be held on June 15, 2005. The MTO project team is intending to make a presentation to the County on findings of the workshop and information to be displayed to the public in the second PIC at the June 13, 2005 Council in Committee Meeting.

The Ministry and Morrison Hershfield would like to reserve a time slot in the above-mentioned Council in Committee Meeting to make this presentation.

This project is expected to be completed in the fall, 2005, with the publishing of the Preliminary Design Report, to enable the Ministry to move into the next stage of the design as soon as possible.

Morrison Hershfield Limited
February 9, 2005.

**Ministry of Transportation of Ontario, Southwestern Region
Environmental Assessment and Preliminary Design for the
Replacement of the Argyle Street South Bridge
Over the Grand River in Caledonia, Haldimand County**

Presentation to the Haldimand County Council, June 13, 2005

The Ministry of Transportation and Morrison Hershfield Limited are pleased to provide a copy of project displays for the information of the Councillors prior to the upcoming Public Information Centre (PIC) to be held in the Haldimand County Community Centre in Caledonia. This is the second PIC on this project, the first one was held on June 23, 2003 at the Legion Hall in Caledonia.

Project Description

The existing Argyle Street South Bridge (MTO Site No. 9-002) in Caledonia is a 200m long structure comprising of 9 bowstring arches with eight concrete supports located in the Grand River. The bridge was constructed in 1927 to replace the original steel arch bridge that collapsed.

The project is driven by the Ministry's concern with the poor condition of the reinforced concrete structure, insufficient structural capacity to carry prescribed highway loads, substandard dimensions and safety provisions, deteriorating founding rock stratum, as well as insufficient bridge opening dimensions to convey the design flood of the Grand River under the structure. It is also the intention of the Ministry to transfer ownership of the bridge to the Haldimand County at the completion of the proposed improvement works. The purpose of the Preliminary Design and Environmental Assessment is to investigate and propose solution(s) for the rehabilitation or replacement of the bridge, as well as traffic management during construction.

Liaison with the County

The Ministry's project team has continuously been meeting with elected members as well as staff of various departments of the County including Engineering, Fire, Ambulance and Economic Development. A number of presentations were made to the Council and the South Grand River Advisory Committee. In the August 3, 2004 Council Meeting, the County provided the Ministry with six (6) resolutions related to the project. It is our intention to continue the consultation with the County until the project is completed.

The Public Information Centres

The first PIC in 2003 presents initial recommendations for the bridge and detour options to the public. After the PIC and subsequent to further consultation with stakeholders including the County staff and the public, as well as a Context Sensitive Design Workshop held in Caledonia in April, 2005, the design has been modified to address the concerns. It is the purpose of this upcoming (2nd) PIC to introduce the revised design for the public to provide input.

Morrison Hershfield Limited
June 8, 2005.



Project: Total Project Management (TPM), Preliminary Design Services
G.W.P. No. 3805-01-00, PO# 3005-A-000270
Rehabilitation / Replacement of the Argyle Street South Bridge
over the Grand River in Caledonia

Project No.: 1021040.00

Place: 3rd Floor Boardroom 3A, MTO SW Region, Exeter Road, London

Date: Tuesday, January 14, 2003

Time: 1:30 PM.

Present:

Nanda Kandiah	MTO SW Planning and Design
Ivan Dencev	MTO SW Planning and Design
Chris Balasa	MTO SW Structural
Susan Wagter	MTO SW Environmental
Michael Plant	MTO SW Operations
Mark Sture	MTO SW Traffic
Anna Piascik	MTO SW Foundations
Bruce Parker	MTO SW Surveys and Plans
Philip Bedell	Golder Associates
Paul Draycott	Draycott Environmental
Edward Li	MH
Jim Weir	MH
Shu Liang He	MH

Purpose: Progress Meeting #1

ITEM	MINUTES	ACTION BY
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2.0	<p>Site Investigation and Unsolved Issues</p> <p>E. Li summarized the current status of the site investigation as the following:</p> <ul style="list-style-type: none"> • Since the start-up meeting, different disciplines have carried out site investigations to obtain design information and constraints. • Detailed deck condition survey was completed except the deck soffit investigation, which has to be postponed to next spring due to the availability of the MTO Bridgemaster. <p>J. Weir summarized the existing traffic condition in the vicinity of the project. The observations were made when MH bridge crew was working on the deck, with one lane closed and the remaining lane converted to "single lane, 2 direction" mode controlled by the hand-held signals. During the lane closure, traffic over the bridge was delayed by approximately 12 minutes during the busy lunchtime while waiting to pass the bridge. Jim also measured the time taken to travel from the north side of the bridge to the south side of the bridge by using Highway 6 by-pass. The time to complete this alternative route was 12 minutes provided there is no other traffic delay</p> <p>P. Draycott visited the site to inspect park areas, trails, and commercial areas in the vicinity of the project. He noted that it is pre-mature to conduct a detailed environmental investigation before alternate locations of the potential new bridge have been identified.</p> <p>P. Draycott confirmed that the existing bridge and the tollhouse are registered heritage structures. According to his research, there are a number of heritage issues that need to be followed and covered before a decision could be made to replace the bridge. He also added that there are other historic structures along the full stretch of Grand River, and in the case of replacement, the type of the new structure used should adopt similar design to enhance consistency.</p>	<p>Information</p> <p>MH</p> <p>Information</p> <p>Information</p> <p>Information</p> <p>Draycott Environmental</p>
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ITEM	MINUTES	ACTION BY
1.0	<p>Introduction</p> <p>E. Li noted that this meeting is the first progress meeting for the Preliminary Design Services of Rehabilitation / Replacement of the Argyle Street South Bridge over the Grand River in Caledonia since the Start-Up Meeting. The primary purpose of this meeting is to go through the current status of the project with MTO staff and to understand more about the problems and expectation of Ministry for this project. The agenda of the meeting and the minutes of the project start-up meeting were distributed to the team members in advance.</p>	<p>Information</p>

ITEM	MINUTES	ACTION BY
	M. Plant indicated that the local municipality prefers a brand new bridge. He was concerned that how the local business in the downtown Caledonia could survive if a new bridge is to be built somewhere else other than at the existing location. At the end of the project, probably MTO senior management has to get involved to make the final decision.	All
	E. Li added that the recommendation of the final solution of this project will be determined by a comparison between the best rehabilitation and replacement options, and will include address all concerns, if feasible, from different parties including the Ministry, Grand River Conservation Authority, Haldimand County, Six Nations, local people and businesses, etc.	MH
	M. Plant asked that whether the existing bridge can be rehabilitated based on MH's observation, and if so, how long service life the rehabilitation can extend.	Information
	E. Li answered that the scope of the rehabilitation depends on the results of the detailed condition survey, and a comprehensive rehabilitation would provide the bridge another 30-50 years of service life without major repairs. He also added that even the existing bridge is to be kept for pedestrian uses only, a comprehensive rehabilitation is still required as the dead load of the structure comprises a major portion of the loading to be carried.	MH
	P. Bedell summarized the general rock conditions between the existing dam and the CN railway bridge based on the information he received from different authorities. He noted that there is a 4 to 6 m layer of highly fractured limestone impregnated with gypsum in the vicinity of the bridge site. He was concerned with the rock quality and the development of the cavity in the bedrocks as there are reports indicating that CN bridge was tilted due to the development of cavity. Therefore, he suggested that grouting the existing foundation might be required for the rehabilitation option while the foundation material should be replaced with mass concrete for a replacement option.	Golder Associates

ITEM	MINUTES	ACTION BY
3.0	Revised Schedule E. Li distributed the revised schedule of work, and noted that the dates of PICs had been adjusted based on a late start and remarks received in the Start Up Meeting. This is to provide a large gap between the 2 PIC's to make it more meaningful and provides more time for public feedback. The revised schedule will result in five-month delay of the completion of the project, and MH requested MTO to endorse the revised schedule.	All
	N. Kandiah asked when the foundation investigation would be carried out. P. Bedell suggested that the investigation should be carried out after the first PIC but before the 2 nd PIC in order to drill the holes in the prospective new bridge locations.	Golder Associates
	N. Kandiah also added that TESR has to be approved before the commencement of Stage 2 work according to MTO policy.	All
4.0	Meeting Schedule with Agencies E. Li indicated that the meetings with agencies have to be set up as soon as possible in order to meet the milestones in the schedule.	All
	P. Draycott will set up meeting with First Nations as soon as possible. He also noted that the agreements with Six Nations are already in place, the project team will need to know their concerns and the impacts to their traditional activities for the alternative evaluation.	Draycott Environmental
	B. Parker will be the MTO representative of external consultation in the future meetings with different parties of the Agreement. M. Plant suggested that dealings with Six Nations and New Mississauga Credit should be carried out separately in the future.	All
5.0	Potential Solutions and Key Design Issues J. Weir presented five alternatives of the potential construction detours and distributed an evaluation table with initial evaluation criteria for discussion.	All

ITEM	MINUTES	ACTION BY
	E. Li explained the tentative construction staging for Alternative-4.	
	M. Plant indicated that there is a public school on the south side of the river adjacent to the location of Alternative-5. He also added that no matter which route the project team is to choose, a pedestrian crossing appears to be required at a location near the existing bridge.	MH
	P. Draycott suggested that more items should be added to the evaluation criteria. Although from brainstorming a large number of alternatives may be identified, only the selected alternatives should be presented to the public in the first PIC.	All
	S. He introduced six structural alternatives for the bridge replacement option. He explained that the main consideration for choosing these alternatives is to provide a landmark for the area, which the local residents and businesses could be associated with. He also gave a rough cost range for each structural alternative.	All
	E. Li indicated that during the construction of the Hwy 6 By-pass in 1980s, Ministry apparently paid 1.8 M to the Six Nations to buy the right to build the bridge. It is expected that if a bridge is to be built now on a different location other than the existing bridge structure, there will be a potential claim from the First Nations. Consequently, the compensation cost should be added into the evaluation.	MH
	C. Balasa promised to find out the cost of the Hwy 6 By-pass structure to have a rough idea of how much Ministry would pay for the claim in order to build a new bridge at a different location.	MTO
	E. Li summarized the discussion by adding that the detour and the structural alternatives are only preliminary at this stage and other new ideas and concerns will be constructive to the final solution.	All

These minutes were prepared by Shu L. He. Please forward any comments and omissions noted to Shu.

ITEM	MINUTES	ACTION BY
Distribution:	All Present Jim Jones, MIE Engineering Martin Cooper, ASI Scott Quach, MH Bassam Hamwi, MH Kevin Pask, MH	Bob Bee, Landtech Mary MacDonald, ASI Nino D'Alessandro, MTO Joan Hutchinson, MTO, H & S Terry Dietz, Callon Dietz

ITEM	MINUTES	ACTION BY
	the whole stretch of the Grand River heritage zone. This should be included in the study and a number of steps as prescribed in the Ministry of Culture's publication should be followed before a decision could be made to replace the bridge. Paul and Susan will set up meeting with the Ministry of Culture shortly to identify alternative solutions that may be acceptable to MOC.	DEI/MTO
	N. Kandiah suggested that a heritage evaluation criteria should be set up regarding the weight of each portion of the existing bridge in order to put heritage value in the evaluation of all the alternatives.	DEI
	C. Balasa added that as a reference, a heritage structure has been replaced recently in another area of the province.	Information
	M. Plant indicated that the project study should also ensure that opinions of other residents through the PIC's should be heard to have a better picture of the majority wish of the local residents and businesses.	Information
	P. Draycott requested all previous structural inspection reports, contract books and drawings of the existing bridge in order to file final report to Ministry of Culture. C. Balasa agreed to provide all the existing documents.	MTO
4.0	<p>Traffic and Highway Issues</p> <p>J. Weir summarized the traffic and collision study results. He indicated that although there were several accidents along Argyle Street and Highway 6 Bypass, the study area is not consider a hot spot in terms of traffic and roadway safety issues.</p> <p>J. Weir presented four selected detour alternatives for discussion. The following are the alternatives and the associated comments from Ministry:</p> <p>Alternative-A: Overbuilding existing bridge for detour for both traffic and pedestrian.</p> <p>N. Kandiah expressed the concerns of vibration impact to the existing toll house due to the passing trucks. This</p>	Information

ITEM	MINUTES	ACTION BY
	comments would also apply to other alternative that permits vehicles, particularly trucks, to run too close to the toll house.	
	E. Li explained that there is still a certain distance between the toll house and the traffic lane, and truck traffic would also be diverted to Hwy 6 Bypass to minimize the vibration impact. Additionally protective shoring for this building will be mandatory in the construction contract. P. Draycott also suggested to use height-limit-bar to eliminate truck traffic.	MH
	Alternative-1: Hwy 6 Bypass for traffic detour and a temporary pedestrian bridge on the west side of the existing bridge.	
	M. Plant expressed his concerns with emergency services being delayed by this alternative. This impact should be included in the detour evaluation unless the local municipality confirms the construction and operation of the new fire hall on the south side of the river prior to the bridge work to address the needs for this part of Caledonia.	MH
	P. Draycott added that Ministry of Health requested unrestricted access to the hospital on the north side of the river from Cayuga, and to the south side from Hamilton. E. Li suggested that the hospitals should be informed of the possible delay, and comments from hospital emergency services should be obtained for the evaluation.	MH
	Alternative-2: Full detour structure for traffic and pedestrians through existing parking lot with improvement of approaches on both sides of the river.	
	N. Kandiah expressed concerns about the existing elevations at the riverbank to accommodate the construction of the temporary bridge. E. Li agreed to take some initial measurements for the elevations in the vicinity.	MH
	Alternative-4: Full detour structure for traffic and pedestrian on the immediate west side of the existing bridge with improvement of approaches on both sides of the river. Jim indicated that temporary easement	

ITEM	MINUTES	ACTION BY
	may be required through the piece of vacant land located on the southwest corner of the bridge. As the land is currently on sale, it may be prudent to identify this condition to potential future owners. As such the County should be pre-warned of this possibility.	MH
5.0	<p>Bridge Hydraulics</p> <p>A. Winter indicated that the field survey elevations do not agree with the elevations received from Grand River Conservation Authority, which is not uncommon as hydraulic analysis often obtained data from large scale contour maps, and are usually very rough. WB's calculations were based on actual elevations provided by Callon Dietz's field survey. He summarized the investigation findings and the results of the hydraulic analysis as follows:</p> <ul style="list-style-type: none"> GRCA requested that the replacement of the bridge should not increase the flood area in the area. For the 100 year storm event, the existing bridge has only 0.1m free board compared to 1.0 m MTO requirement. All replacement alternatives provide no free board. Areas of local scour observed at some bridge pier locations indicated that some consideration in pier protection should be provided or reinstated at replacement and rehabilitation alternatives respectively. Grand River is considered navigable under the Navigable Waters Protection Act, and the Canadian Coast Guard Navigation Standard requires a minimum clearance of 2.0 m under the bridge during normal summer water conditions. The clearance under the bridge for both rehabilitation and replacement alternatives were found more than 4.5m, using flood level of the 2 year storm event. This is due to lack of information on normal summer water levels of the Grand River. <p>E. Li suggested to raise the profile at the center of the bridge to have the minimum 1.0m free board at least for</p>	<p>Information</p> <p>Information</p> <p>Information</p> <p>Information</p>

ITEM	MINUTES	ACTION BY
	the center span of the bridge. The resulting approach slopes of approximately 1% is considered minor. A. Winter also suggested to revisit the design criteria of the 100 year storm event as the bridge may be transferred to local municipality after completion, and municipal structures only have to comply with a 50 year design storm.	All
6.0	<p>Structural Rehabilitation and Replacement Alternatives</p> <p>S. He presented five rehabilitation alternatives and ten replacement alternatives for discussion, including advantages, disadvantages and life-cycle costs together with all traffic detours in a summary table. A handout package was distributed in the meeting</p> <p>He also described the dimensional and structural deficiencies of the existing structure as per the CHBDC, the Geometric Design Standards for Ontario Highways and the Roadside Safety Manual.</p> <p>After some deliberation, the following alternatives have been initially selected for the next step of the project:</p> <p>Rehabilitation Alternatives:</p> <ul style="list-style-type: none"> Rehabilitation Alternative-2: Rehabilitation of the Existing Bridge. Rehabilitation Alternative-3: Rehabilitation of the Center Portion of the Existing Bridge and Widen the Bridge on Both Sides. Rehabilitation Alternative-5: Substructure Rehabilitation and Construct New Continuous Deck with Decorative Arches. <p>Replacement Alternatives:</p> <ul style="list-style-type: none"> Replacement Alternative -1: Existing Bridge Reconstruction with New Dimensions. Replacement Alternative -2: Six Span Post-tensioned Deck Bridge with V-shape Piers. 	<p>Information</p> <p>Information</p> <p>Information</p>

ITEM MINUTES ACTION BY

- Replacement Alternative -5: Five Span Arch Bridge without Spandrels.
- Replacement Alternative -6: Five Span Arch Bridge with Spandrels.
- Replacement Alternative -7: Five Span Post-tensioned Box Girder Bridge with Concrete Arches.

The 2 long span bridge alternatives using cable stayed deck, were proposed to be dropped due to the prohibitive costs.

(Post-Meeting Note: Ministry has requested to include the two long span structural options for a submission to the Senior Executive).

MH

7.0 Foundations

P. Bedell summarized the findings in the foundation investigation. From his discussion with the chief engineer in CN, he learned that two or three piers of the existing CN structure located upstream of the Argyle Street South Bridge have tilted. CN however provided no clear reasons for the problem. P. Bedell suspected that there might be four to five meters of poor quality rock above the good quality rock, which contains voids resulting from gypsum solutioning. Therefore, he recommended that special foundation treatments should be applied in both rehabilitation and replacement alternatives. For rehabilitation alternatives, comprehensive grouting might be used to slow down the development of the cavity underneath the foundation. For replacement alternatives, replacement of the poor quality rock should be more appropriate. An initial recommendation report including costs will be prepared by Golder to assist in the evaluation of the structural alternatives.

Golder

8.0 PIC Preliminary Arrangement

The project team discussed the preliminary arrangement for the first PIC.

N. Kandiah requested that MH should provide a set of presentation material for MTO senior management to approve

ITEM MINUTES ACTION BY

before going to PIC in the middle of June. E. Li agreed to provide.

All

(Post Meeting Notes: The draft presentation materials were forwarded to Nanda on April 27, 2003.)

9.0 Other Business

E. Li confirmed that Ministry has received the surveying deliverables, and would appreciate comments as soon as possible in order to finalize this part of the assignment.

These minutes were prepared by Shu He. Please forward any comments and omissions noted to Shu or Edward.

Distribution: All Present

- Jim Jones, MIE Engineering
- Mary MacDonald, ASI
- Martin Cooper, ASI
- Bassam Hamwi, MH
- Kevin Pask, MH
- Bob Bee, Landtech
- Terry Dietz, Callon Dietz

- Anna Piascik, MTO
- Jennifer Graham-Harkness, MTO
- Susan Wagter, MTO
- Bruce Parker, MTO



Project: Total Project Management (TPM), Preliminary Design Services
G.W.P. No. 3805-01-00, PO# 3005-A-000270
Rehabilitation / Replacement of the Argyle Street South Bridge
over the Grand River in Caledonia

Project No.: 1021040.00

Place: 3rd Floor Executive Boardroom, MTO SW Region, Exeter Road, London

Date: Wednesday, September 3, 2003

Time: 1:30 PM.

Present:

Nanda Kandiah	MTO SW Planning and Design
Jennifer Graham-Harkness	MTO SW Planning and Design
Nino D'Alessandro	MTO SW Planning and Design
Ivan Dencev	MTO SW Planning and Design
Michael Plant	MTO SW Operations
Chris Balasa	MTO SW Structural
Susan Wagter	MTO SW Environmental
Frank Lucente	MTO SW Contracts
Anna Piacik	MTO Foundations
Philip Bedell	Golder Associates
Paul Draycott	Draycott Environmental Inc. (DEI)
Edward Li	Morrison Hershfield Limited (MH)
Jim Weir	MH
Shu Liang He	MH

Purpose: Progress Meeting #3

ITEM	MINUTES	ACTION BY
1.0	<p>Introduction</p> <p>E. Li noted that this meeting is the third progress meeting for the above-mentioned project although there have been a number of meetings involving a smaller group of the team held in advance of Senior Executive presentations and preparation for the Public Information Centre since the second progress meeting. He summarized the process of this preliminary design and the general status of the project to-date, including the first PIC held on June 23, 2003 in Caledonia and the presentation to the Haldimand County Council on August 5, 2003.</p>	Information

ITEM	MINUTES	ACTION BY
	<p>The primary purpose of this meeting is to review and discuss the comments from the County and to finalize the structural and detour recommendations for the next step of the project such as foundation investigation.</p>	Information
	<p>The agenda of the meeting and the minutes of the second process meeting were distributed to the team members in advance.</p>	Information
2.0	<p>Review of the Comments from the County</p> <p>The draft comments from Haldimand County were received by the project team on August 28th, 2003. These responses were subsequently approved by the county council on September 2, 2003.</p> <p>The following were discussions in the meeting with reference to the comments from the County, and MH is to draft a response letter for Ministry's review:</p> <p><i>1. What contingency plans has MTO developed or considered to deal with the disruption to services provided by the municipality?</i></p> <p>E. Li indicated that the project team had a number of discussions with the county fire department and understands that the County initially proposed to build a substation on the south side of the river, which would then resolve the response time problem. In a recent discussion with the County, the Chief then informed MH and MTO that this plan has been suspended. If the delay of using the bypass as a detour during construction (approximately 14 min according to MH timing), then a solution has to be worked out between the Ministry and the County to resolve the problem. Edward also noted that ambulances to response to emergencies in Caledonia could be coming from the north from Mount Hope, or from the south from Hagersville, plus the use of the bypass if necessary, and as a result, there should be no impact on hospital response times. All agencies should be properly informed and in advance if the bridge is to be put out of service in some point of time during construction which may take up to 2 construction season to build.</p>	Information

ITEM	MINUTES	ACTION BY
	<p>J. Harkness questioned how winter maintenance could be addressed in the design. M. Plant indicated that in light of the fact that the construction will cut the town into half and there is a twelve-minute service delay to route the equipment through the by-pass, more equipment might potentially be needed to provide the service for the town on both sides of the Grand River. He also noted that the Ministry should reiterate to the County that the entire project was initiated by the poor condition of the bridge. MTO as the owner of the bridge will only address the issues of the bridge urgently and would handle the associated construction detours using the most cost-effective manner. E. Li pointed out that some disruption is inevitable to all construction projects and there is no exception for this one.</p>	Information
	<p>J. Harkness concluded that the Ministry has a clear goal and work scope in this project and is not willing to provide any additional service unrelated to the bridge replacement / rehabilitation. Regarding municipal issues, the County is always welcome to actively work together with the Ministry to achieve an optimum outcome from this project.</p>	Information/MH
	<p><i>2. What contingency plans has MTO developed should the load limit have to be reduced even further, prior to the time that the improvements are undertaken?</i></p> <p>C. Balasa noted that the load limit is usually reviewed every 5 years unless there is an emergency. The Ministry will continue to monitor the bridge up to the time of construction. In terms of the service delay problem, it may not be necessarily caused by the load posting and also can be mitigated by a lot of different ways. E. Li pointed out that there are many strengthening and shoring methods to keep the bridge operational, but they are temporary and expense, and are all "throw-away" monies. It is therefore preferred to complete the replacement work as soon as possible.</p>	Information
	<p><i>3. What consideration and review has been given to detour alternatives? Has any consideration been given to alternate accesses off of the By-pass and is there</i></p>	

ITEM	MINUTES	ACTION BY
	<p><i>associated information? Have temporary accesses to the roads intersecting the By-pass been reviewed?</i></p> <p>N. Kandiah explained that a number of detour alternatives have been evaluated during the initial detour selection and screening process including the possibility of improving the intersections at Highway 54 and Sterling Street. J. Weir also added that all potential detour alternatives were presented to the Ministry earlier in the design.</p>	Information
	<p>J. Harkness indicated that accesses to Highway 6 by-pass are not part of this project as the by-pass is primarily for Highway 6 traffic not for local traffic.</p>	Information
	<p>It was noted that the detour alternatives presented in the PIC has already been screened when a number of less desirable schemes have been dropped. P. Draycott suggested that the County might want to know the detour screening process.</p>	Information
	<p>E. Li reminded the meeting that a follow up meeting with the Six Nations will be necessary once a final structural scheme and detour scheme (involving temporary structure(s)), and from past experience and earlier meeting, it is likely that as part of the on-going land claim issue, the Ministry would be requested to compensate the Six Nations to construct the replacement bridge and the detour(s). E. Li added that depending on the bridge type selected, the bridge might be built in stages so that the existing bridge piers could be utilized to support the pedestrian bridge. This could be developed after a solution has been confirmed, but for the structural solution recommended (replacement with option 6B), this is quite possible and could effect a major saving both in construction and land claim compensation.</p>	Information
	<p><i>4. Have any studies or analysis been undertaken to determine the impact to the downtown core in terms of the increased access time during the bridge outage?</i></p> <p>J. Weir answered that an economic analysis was carried out following a traffic delay study for the access into the downtown area. However, no business impact</p>	

ITEM	MINUTES	ACTION BY
	<p>study has been conducted. M. Plant said that the Haldimand County Council has mentioned in more than one situation regarding compensation to businesses affected by the construction, but indicated that the Ministry is not in the position to compensate the business losses caused by the construction activity, in particular no roadside access will be denied to the businesses, only the bridge is being taken out.</p> <p>E. Li added that the future bridge would actually save access time to the downtown core area.</p> <p><i>5. What will be the final cross-section and geometry of the finished product if a replacement structure is the preferred alternative? Is there an opportunity to include traffic issues and potential future alignment considerations in the design phase?</i></p> <p>M. Plant reiterated that this assignment is to address the deficiencies of the bridge only. The County was given the opportunity at the beginning of the assignment to carry out the preliminary design considering both the bridge and county road planning together and shares the cost with the Ministry. It was then denied by the County. Alternatively, in order to address the potential future alignment issues, a detailed planning should be provided by the County to finalize the bridge cross-section and the County would commit to paying an appropriate part of the cost of the new crossing. S. Wagter and P. Draycott added that if the County wishes to add this to the assignment now, a separate EA would be required (Municipal Class EA). In this case, there would be 2 options, namely, either the County would carry out their EA separately by another engineering firm, then the current MTO project would have to be suspended waiting for the result of the municipal EA to catch up, or if the current MTO EA is to add the Municipal element, then the current study would basically have to be restart from the beginning. Either of the 2 cases, a decision has to be made by the County urgently otherwise there would be significant delay to this assignment and, noting the poor condition of the existing bridge, a separately emergency contract may have to be implemented to allow the existing bridge to extend its life a bit longer.</p>	<p>Information</p> <p>Information</p> <p>Information</p>

ITEM	MINUTES	ACTION BY
	<p><i>6. What is the decision making process?</i></p> <p>E. Li confirmed that the process of the study of identifying and evaluation alternatives using a set list of criteria is a standard procedure of the Ministry. The use of life cycle cost analysis is an accepted tool frequently used by the Ministry to evaluate the "real" cost of various engineering solutions. The rating is currently qualitative, which is considered sufficient and appropriate by the Project Team. M. Plant stated that because the Ministry is to transfer the bridge to the County after the replacement / rehabilitation of the bridge, the County is always welcome to join the investigation and to provide valuable inputs for the final decision making. E. Li added that the project team had a number of meetings with the County staff, and initially a meeting has been set up with the Mayor but it was eventually cancelled by the Mayor, stating that she had been provided with enough information and knowledge on the project.</p> <p><i>7. Will there be an opportunity for municipal or public input on the assessment weighting structure for decision-making?</i></p> <p>P. Draycott explained that the purpose of the first PIC is to allow the public to submit their weighting on some major factors. If the County wants to add comments they are always welcome to but hopefully not too late.</p> <p><i>8. Has any thought been given to a Municipal Liaison Committee through this process?</i></p> <p>S. Wagter noted that the consultation is still on-going and opinions of the County would always be considered as a major agency in the EA consultation process, and there are many channels through telephone, e-mail and correspondence that ideas can be communicated to the MTO project team. A Municipal Liaison Committee is not considered needed but this may change if the County thinks that this could facilitate the work, or if the County decides to participate in the study, but this request has to come from the County. J. Harkness added that the Ministry would like to invite the Council to attend to meetings if they are interested.</p>	<p>Information</p> <p>Information</p> <p>Information</p>

ITEM	MINUTES	ACTION BY
	<p>9. <i>Is there a geotechnical report available on the bearing capacity of the existing founding surface?</i></p> <p>No. The geotechnical investigation will be carried out in the next stage of the design.</p>	Golder
	<p>10. <i>Can a copy of the deck condition survey/structural report be provided?</i></p> <p>C. Balasa is to check why the County requests the deck condition survey report and to respond accordingly.</p>	MTO
	<p>11. <i>Please clarify the life cycle cost information.</i></p> <p>S. He is to provide the summary of the life cycle cost analysis for the rehabilitation and replacement alternatives.</p>	MH
	<p>12. <i>Please provide copies of the actual feedback responses from the public. Contact with the BIA must be made.</i></p> <p>P. Draycott suggested that the Ministry should only provide a copy of the summary of the first PIC responses to the County instead of the actual feedbacks from the public. These feedback sheets contain personal information that should be kept confidential.</p>	MTO, DEI
	<p>13. <i>What will the County's 'weight' be in assessing the preferred solution?</i></p> <p>The County's "weight" will be included in the process of assessing the preferred solution.</p>	Information
	<p>MH is to prepare a draft reply to the official response of the Haldimand County Council for review by the Ministry.</p>	MH
3.0	<p>Review of Structural Recommendations</p> <p>C. Balasa suggested that Alternative-6B should be recommended by the project team as it is most cost effective and consistent with many of the critical issues in this preliminary design, including constructability, pedestrian crossing, aesthetics, heritage and perhaps might more appropriately address potential land claim</p>	

ITEM	MINUTES	ACTION BY
	<p>issue and compensations with the Six Nation. This recommendation was agreed by the meeting.</p>	Information
	<p>E. Li added that the final cross-section of the bridge would be subject to discussion with the County and outcome of the potential addition work.</p>	Information
4.0	<p>Review of Detour Recommendations</p> <p>N. Kandiah indicated the project team should maintain the recommendation of Detour Alternative-1A, which recommended that vehicular traffic should be diverted to Highway 6 by-pass while the pedestrian will be using a pedestrian crossing located on the west side of the bridge. This recommendation was agreed in the meeting.</p>	Information
5.0	<p>Foundation Investigation</p> <p>P. Bedell stated that Golder Associates had submitted a work plan including the methodology, the locations of the boreholes as well as the revised scope of work for the preliminary foundation investigation to the Ministry, based on the recommended Alternative-6B. He also explained that employing the drilling method proposed in the plan with the drilling machine sitting on the bridge sidewalk instead of rolling that out into the river, a permit from the conservation authority is not required. P. Bedell also stated that there will be additional cost for the revised investigation plan resulting from additional concrete drilling and rock coring and it will be submitted via MH to the Ministry.</p> <p>E. Li noted that it is the time for the project team to proceed with the foundation investigation as the structural and detour recommendations have been accepted. Further, it is important to provide more evidence and extent of impact of the problem of gypsum solutioning. The Ministry agreed. P. Bedell also added that the borehole information in the plan would be able to cover different structural solutions, even if some changes may occur in the future.</p> <p>F. Lucente suggested that two additional boreholes drilled through the existing footings be added to identify the depth of the footings. A. Piacik also noted</p>	MH/MTO
		Information

ITEM	MINUTES	ACTION BY
	(i) Investigation and Evaluations;	
	(ii) Consultation Works and Meetings, especially with the Haldimand County staff and Council;	
	(iii) First PIC (June 23, 2003) and summary of public responses;	
	(iv) Preliminary Design on Engineering solution selection as well as recommended detour scheme to be adopted during construction.	
2.2	Paul described findings on environmental issues as follows:	Information
	(i) The Grand River is sensitive water, with the presence of 5 of the 6 "rare" cold water fish species found in the water;	
	(ii) Working window in the water is likely for the cold water fishery scenario, i.e. 3 months only from July 1 to September 30 every year. At times an additional extension period of 2 week may be granted by DFO.	
	(iii) As a result all foundations possibly in form of islands in the stream must be constructed within 3 months. During these months as the water is normally low, construction is not expected to cause any problem in navigation.	
	(iv) Paul also met with Marilyn Miller of MOC regarding heritage issues, and she was satisfied that the proposed sympathetic design using decorative arches to simulate the existing bridge would help to preserve some heritage of the original structure. She would like to obtain some public opinions on the design when they are available especially during the detailed design stage.	MH/MTO
	(v) Preliminary discussions with the Six Nations and the First Nation were fruitful to obtain their initial impression on the project, but further meetings should only be held when the Ministry	

ITEM	MINUTES	ACTION BY
	has reached a recommended solution for the bridge as well as the detouring scheme.	Information
3.0	Detours during Construction	
3.1	From the consultation process, it was clear that the availability of a vehicular crossing at the position of the existing structure would go a long way to satisfy businesses in downtown Caledonia as well as emergency responses. To this end MH has explored various detour options, and have identified and evaluated a number of the more prominent ones to be presented in the meeting.	Information
3.2	Edward presented 2 tables, each with 7 detour alternatives supported with sketches, one for a 2-lane permanent replacement bridge configuration, the other for a 3-lane permanent replacement bridge. Each alternative at each table has been evaluated based on construction timing, lengths of periods when the bridge would not be available for public vehicles and pedestrians, cost of the detour, as well as other impacts.	
3.3	One option, using staged construction for the new girder bridge, would provide a single lane of vehicular traffic and one pedestrian sidewalk on the bridge location at all times during construction, looked most promising with a nominal cost of less the 0.5M, which is one of the lowest cost option amongst all the alternatives. It was recognized that a more sophisticated signaling system has to be developed during detailed design to minimize queuing and rapid clearing of long lineup to make way for emergency vehicles. Truck traffic would definitely be banned from using the temporary crossing. Noting that vehicles can still use the Caledonia Bypass which could then relieve some pressure downtown, this option was strongly favoured.	
3.4	As for the 3 lane options, it was recognized that the significant cost increase of some 2M for the wider bridge should be borne by the Haldimand County if they decide to support the additional lane on the bridge.	

ITEM	MINUTES	ACTION BY
3.5	The meeting agreed that the newly developed solutions would be able to address most concerns regarding traffic detour and should be sufficient to be presented to the Haldimand County for further discussion.	All
4.0	Foundation Issues	
4.1	Anna listed a number of foundation options to overcome the poor founding material problems, as follows: <ul style="list-style-type: none"> (i) Grouting to seal voids and gaps in the gypsum-impregnated rock. Paul suggested that this method may have serious environmental repercussions and must be used very carefully. (ii) Footings, to be founded at 2 - 6.m below the surface rock. (iii) Caissons, large diameter ones, to be advance to fresh rock. (iv) Micropiles, which can be drilled through the existing footings if necessary, say, for underpinning purposes. 	
4.2	Edward promised to review each of the 4 foundation options before making recommendations in the PDR. Currently only (ii) and (iii) are actively pursued.	MH
5.0	Other Issues	
5.1	The meeting agreed that the County's decision whether to participate in the project or not is of utmost importance and should be confirmed as soon as possible. This could have major impact on the final layout of the replacement bridge. Issues relating to Municipal works such as connections to the Bypass from Stirling and Caithness, should not be included in this assignment.	All
6.0	Next Meeting	
6.1	To be confirmed.	

ITEM	MINUTES	ACTION BY
	These minutes were prepared by Edward Li. Please forward any comments and omissions noted to Edward.	
	Distribution: All Present Jim Weir, MH Shu Liang He, MH Phil Bedell, Golder Bassam Hamwi, MH	



Project: Total Project Management (TPM), Preliminary Design Services
G.W.P. No. 3805-01-00, PO# 3005-A-000270
Rehabilitation / Replacement of the Argyle Street South Bridge
over the Grand River in Caledonia

Project No.: 1021040.00

Place: 3rd Floor Boardroom 3A, MTO SW Region, Exeter Road, London

Date: Thursday, August 12, 2004

Time: 9:30 AM.

Present:

Michael Plant	MTO SW Operational Services
Nino D'Alessandro	MTO SW Planning and Design
Ivan Dencev	MTO SW Planning and Design
Chris Balasa	MTO SW Structural
Susan Wagter	MTO SW Environmental
Conor Byrne	MTO SW Traffic
Tae Kim	MTO Foundations
Philip Bedell	Golder Associates (GA)
Paul Draycott	Draycott Environmental Inc. (DEI)
Edward Li	Morrison Hershfield Limited (MH)
Jim Weir	Morrison Hershfield Limited (MH)
Shu Liang He	Morrison Hershfield Limited (MH)

Purpose: Progress Meeting #5

ITEM

MINUTES

ACTION BY

ITEM MINUTES ACTION BY

1.0 Introduction

1.1 E. Li summarized the latest development of the project, noting that the Haldimand County Council Meeting had review the proposed bridge replacement alternatives and the detour alternatives and the County's position on the issues raised by MTO is as follows:

- Haldimand County agrees in principle, based on current information provided by the Ministry of Transportation, to a replacement bridge at the same location as the existing bridge;
- Haldimand County agrees that the structure should include heritage features if a replacement structure is the Ministry's recommended option;

- Haldimand County prefers a three lane cross section for the proposed structure if a replacement structure is selected;
- Haldimand County dos not intend to carry out a separate Environmental Assessment (EA) for the project;
- Haldimand County does not propose to cost share the full cost difference with MTO on a widened structure;
- The detour alternatives proposed to date are not satisfactory to Haldimand County and MTO should research further options.

E. Li indicated that this resolution was based on PIC presentation and have been amended in the Council meeting to address possible solution to carry traffic over the river at the bridge site.

Information

Proposed Bridge Plan and Staged Construction Principles

Based on the County's response to the proposed bridge and detour plan by the project team, S. He presented three alternatives of the new bridge deck and construction staging along with cost breakdowns of each alternative for discussion, namely:

- (i) A three-lane bridge with signal lane detour during construction by offsetting the bridge alignment 1.625 m to the west;
- (ii) A three-lane bridge with two lane detour during construction by offsetting the bridge alignment 3.01m to the west;
- (iii) A three-lane bridge with two lane detour during construction by offsetting the bridge alignment 1.625m to the west as well as widening the bridge deck by 1.73m in total.

She also indicated that the basic design consideration for the first two alternatives is to match the edge of the southbound lane with the curb of the existing west sidewalk at north approach while there will be a kink at

2.0

ITEM MINUTES ACTION BY

the north approach due to larger offset of the alignment for the last option.

Information

Regarding the third alternative, M. Plant suggested that the east sidewalk on the new bridge might be eliminated if a 3.7m wide sidewalk is to be provided on the west side of the bridge. MH is to investigate and add this alternative.

MH

For a comparison purpose, the basic two-lane bridge without decorative arches (By-pass to be used for detour) should be added in the comparison table.

MH

(Post meeting notes: A telephone meeting was held between MH and Ministry on August 13, 2004 regarding the structural and detour alternatives. As a result, the following alternatives will also be included in the overall comparison table:

- 2-lane structure with 1.5m center line offset to the west to accommodate one-lane on-site detour with sidewalks on both sides.
- 2-lane structure with 1.5m overbuild to both west and east sides to accommodate one-lane on-site detour; the bridge is 3.0m wider with sidewalks on both sides.
- 2-lane structure with 1.5m overbuild to the west to accommodate one-lane on-site detour; the bridge is 1.5m wider with 3.0m west sidewalk and no east sidewalk.
- 3-lane structure with 1.7m overbuild to the west and no side walk on east; the bridge is 3.25m wider with 3.7m wide west sidewalk and no east sidewalk.

Information was sent to MTO for review on August 18, 2004, including a summary and comparison table. MTO will provide comments before finalization and discussion with the County).

ITEM MINUTES ACTION BY

3.0 Traffic, Detours as well as the Effect of the 3rd Lane Requested by the County

J. Weir presented three alternatives of alignments at the bridge approaches to accommodate the above-mentioned bridge and construction detour requirements. He also noted that in order to make these three alternatives possible, the existing west side on-street parking would have to be eliminated to provide space for the alignment shift.

Information

M. Plant indicated that Ministry has no intention to deal with on-street parking, the project team should discuss the need with the County and ask them to take the lead on this issue.

All

In terms of the third lane on the proposed new bridge, it was understood that the justification should be provided by the County instead of Ministry although it can also help construction staging of the bridge. For instance, intersection improvement at the north approach of the bridge may result in a longer left turn lane which may extend into the bridge. This has to be addressed in the future discussion with the County.

All

4.0 Foundation Design

Regarding the proposed caisson and spread footing foundation for the new bridge, constructability and potential risks of both foundations was discussed among the team members. MH is to further discuss this issue with specialized contractors to have a better grasp of the constructability in the vicinity of the existing piers with a 5m headroom.

MH

A separate foundation design meeting will be arranged to discuss and finalize the recommended foundation types.

MTO/GA/MH

5.0 Impact to EA Process due to the Newly Added Structure and Detour Alternatives

P. Draycott reiterated that the project team should have something concrete before going to any government



Project: Total Project Management (TPM), Preliminary Design Services
G.W.P. No. 3805-01-00, PO# 3005-A-000270
Rehabilitation / Replacement of the Argyle Street South Bridge
over the Grand River in Caledonia

Project No.: 1021040.00

Place: Basement, Field Staff Room, MTO SW Region, Exeter Road, London

Date: Tuesday, November 2, 2004

Time: 1:30 PM.

Present:

Tanya Cross	MTO Planning and Design
Nino D'Alessandro	MTO Planning and Design
Steve Killaire	MTO Planning and Design
Christopher Balasa	MTO Planning and Design
Ivan Dencev	MTO Planning and Design
Wade Young	MTO Structural
Andrew Turnbull	MTO Structural
Michael Plant	MTO Operational Services
Frank Lucente	MTO Construction
Gord Arthur	MTO Contracts
Susan Wagter	MTO SW Environmental
Anna Piascik	MTO Foundations
Philip Bedell	Golder Associates
Paul Draycott	Draycott Environmental Inc. (DEI)
Edward Li	Morrison Hershfield Limited (MH)
Chak Lo	Morrison Hershfield Limited (MH)
Josephine Yung	Morrison Hershfield Limited (MH)
Heidi Cousineau	Morrison Hershfield Limited (MH)

Purpose: Progress Meeting #6

ITEM	MINUTES	ACTION BY
1.0	Introduction	
1.1	New members were introduced to the project team.	Information
1.2	Edward briefly recap the project developed to the date of the meeting. The project involved extensive public consultation and stakeholders' input. Meetings and discussions were held with various department and Council of the local municipality, business organizations (BIA and Chamber of Commerce), Grand River Conservation Authority, Ministry of Culture,	

ITEM	MINUTES	ACTION BY
	agency for consultation. He was also concerned about attendees' responses to the newly added alternatives in the next PIC, although it was fully understood by the project team members that the new alternatives were generated based on the alternatives in the last PIC to address the public comments and are better solutions.	Information
	E. Li further explained that the project team will continually keep all the stakeholders and public representatives informed of the latest development of the project, the final alternatives and recommendation presented in the second PIC will be refined based on the comments from public representatives from different groups.	All
	M. Plant added that the County is not just one of the many stakeholders, in fact their opinions are of major importance to the project. The project team has to obtain their blessing before presenting any recommendation to public and government agencies.	Information
	Regarding the possible third PIC, Nino is to advise after a internal Ministry meeting for the next PIC.	MTO
6.0	Project Schedule	
	To be revised by the MTO project manager in the middle of September.	
	These minutes were prepared by Shu He. Please forward any comments and omissions noted to Edward or Shu.	
	Distribution: All Present	
	Nanda Kandiah	MTO SW Planning and Design
	Anna Piascik	MTO Foundations

ITEM	MINUTES	ACTION BY
	<ul style="list-style-type: none"> The detour alternatives proposed to date are not satisfactory to Haldimand County and MTO should research further options. <p>A presentation to the County's South Grand River Advisory Board 2 days from the meeting.</p>	Information
1.3	Michael stated although the traffic study report requested from the County to justify the need for the 3 rd Lane on the bridge is still outstanding (promised October 31, 2004), it was expected that this would be available and the Ministry has to work on the assumption that the 3 rd Lane has been justified and has to be incorporated in the design in due course. Michael would continue his liaison with the County. (Michael started liaising with the County since 2001) and follow up on the availability of the study report.	MTO & MH
2.0	Proposed Bridge Plan and Staged Construction Principles	
2.1	MH confirmed that a discussion package has been forwarded to the Ministry earlier including a summary drawing laying out all potential alternatives reviewed including a base solution for comparison purposes, and various alternative showing 2 or 3 lane final layout built in various staging schemes to provide vehicular and pedestrian traffic over the Grand River during construction of the replacement bridge. Edward carried out a brief presentation of various alternatives with the aid of a drawing, and invited the meeting for comments.	Information
2.2	Previously, MTO requested has MH to develop a few more alternatives to address the following possible configurations and arrangements: <ul style="list-style-type: none"> (i) Modification of 2b, a two-lane bridge with decorative arches and a single lane bailey bridge to accommodate one-lane traffic and pedestrians. This was shown as alternative 2c in the new plan. (ii) Modification of 3b, a two-lane bridge but without decorative arches and similar staged 	

ITEM	MINUTES	ACTION BY
	<p>First Nation including the Mississaugas of the New Credit and the Six Nations Council and staff, etc. Notices of project and invitation for comments and input were also widely distributed, and some responses were received. The First PIC was held in June 2003 and results of the occasion were summarized and incorporated into the design.</p> <p>Preliminary Design of the bridge alternatives has also been more or less completed noting the various design and construction constraints and traffic requirements.</p> <p>Edward indicated that recently there were a series of liaison activities being handled with the Haldimand County Council and Staff. These include exchange of correspondence, meetings and council presentations. In a meeting held with the County Mayor and staff in May, the Ministry had introduced new ideas of proposed traffic staging during construction of the replacement bridge, proposed structural shape and dimensions, and has distributed information package for input of the attendees. Although no response was received, the Haldimand County Council has responded to a number of questions raised by the Ministry in the form of Council Resolutions, as follows:</p> <ul style="list-style-type: none"> Haldimand County agrees in principle, based on current information provided by the Ministry of Transportation, to a replacement bridge at the same location as the existing bridge; Haldimand County agrees that the structure should include heritage features if a replacement structure is the Ministry's recommended option; Haldimand County prefers a three lane cross section for the proposed structure if a replacement structure is selected; Haldimand County does not intend to carry out a separate Environmental Assessment (EA) for the project; Haldimand County does not propose to cost share the full cost difference with MTO on a widened structure; 	

ITEM	MINUTES	ACTION BY
	MTO would make a decision on this in due course, after all revisions incorporating today's discussion have been made.	MTO/MH
2.8	In addition, MTO engineers opined that structural arches appear to be more reasonable than spending money on decorative arches bridge if the cost of the structural arch bridge is not excessively expensive. The Ministry would like to spend the money on functional components, not for those which are purely aesthetic. MH will investigate structural arch bridge alternative.	MH
	Wade questioned that whether a off-site fabrication and "lift-in" or "roll-in" option for the bridge replacement has been investigated. He understood that a short period of full closure of about 8 weeks might be required to do this but that would open up more structural options such as structural arches and using of heavy lifting. This would also eliminate the potential traffic impact during stage 2 of the work when only 1 lane is available over the Grand for one full construction season. Construction time on the site will also likely be shortened. Edward answered that these options have been reviewed in the past and have been included in the package distributed to the Haldimand County in the above-mentioned meeting in May 2004. These options, however, were ruled out based on cost (up to 3.2M required for the heavy lifting option, based on input of experience or specialist contractors), and the 8 weeks of complete shutdown will unlikely be rejected by the local business and the downtown facilities, as evident from previous discussions and meetings, as well as from the first PIC. Michael also echoed this by stating his knowledge that the Haldimand County did not allow the upstream by-pass to have six-week full closure in a past incidence. MH will however reinsert this options in the overall comparison matrix, but would not recommend the adoption of this scheme.	MH
	<i>(Post-Meeting note, Alternatives 5 was added to the drawing and distributed)</i>	
2.9	Michael also reiterated that the Haldimand County has indicated their desire for a sympathetic design for the new bridge.	Information

ITEM	MINUTES	ACTION BY
	construction. This was shown as alternative 3d in the new plan.	
	(iii) Modification of 4a, a three-lane bridge but without decorative arches and staged construction similar to 4a. This was shown as alternative 4a-1 in the new plan.	
	(iv) Modification of 4a, a three-lane bridge with structural arches which is to be built in one single stage, and to provide a single lane bailey bridge to accommodate one-lane traffic and pedestrians. This alternative was shown as alternative 4a-2 in the new plan.	Information
2.3	These alternatives were studied to compare the differences in cost between the cost of decorative arches, no arches and structural arches.	Information
2.4	In response to Frank's question, Edward advised that the \$2M estimate of decorative arch included both arch construction and the deck widening, to accommodate the arches, \$1.4M and \$0.6M respectively.	Information
2.5	Tanya questioned that the summation of the cost of Alternative 3d did not appear correct. MH will revise the cost on the in due course.	MH
2.6	Chris suggested that if the decorative arches were moved to the edge of the structure, the barriers adjacent to the decorative arches could be eliminated and some cost savings could be effected due to a narrower bridge. MH would add more options to reflect these scenarios.	MH
	<i>(Post-Meeting note, Alternatives 3e and 4e were added to the drawing and distributed)</i>	
2.7	It was recognized that in order to proceed the work for this bridge replacement study, a suitable alternative should be selected and carried forward to the next round of consultation. In view of requirements of various stakeholders, MTO suggested it might be appropriate to go for an alternative with 3 ultimate lanes on the bridge, no overbuilding of deck, and providing a single lane detour during construction. Apparently, either Alternative 4a or 4a-1, or some modifications of these will be the ultimate choice.	

ITEM	MINUTES	ACTION BY
2.14	Paul reiterated that the project team should have something concrete before going to any government agency for consultation. In addition, the next PIC should only be arranged after meeting and consulting with the local business sectors and the six nations.	MTO/MH
2.15	Michael suggested that for the next PIC, only a maximum of 3 alternatives should be selected.	MH
3.0	Further Discussion <i>(A smaller group met after the meeting and the following are notes of the discussions.)</i>	
3.1	The Ministry further explained that the Bailey bridge is a throw away cost and they preferred a new bridge that is aesthetically pleasing, but not necessary an arch (either decorative/ structural) bridge.	Information
3.2	Haldimand County needs to make decision on if they want a third lane or an on-street parking. <ul style="list-style-type: none"> If the Haldimand County does not wish to cost share the 3rd lane, MTO will likely go for Alternative 3b as both on-street parking can be maintained. If the Haldimand County decides to cost share the third lane, Alternative 4a-1 appears to be the preferred option. Alternative 4a-1 (no decorative arches) is obviously more cost effective because the width originally destined to accommodate the arch can be used to carry traffic instead, therefore it is much cheaper. 	Information
3.3	E. Li explained the 1.5m raise at the centre span of the new bridge is required to comply with the bridge code's requirement for freeboard although only one span of the entire bridge will satisfy this criteria, as the bridge end elevations are fixed.	Information
3.6	Regarding the possible 3-span arch bridge, E. Li advised that the time to lift-in and out, placing pre-assembled arch bridge and pre-cast deck will require 2 months full closure.	Information

ITEM	MINUTES	ACTION BY
2.10	For a one-lane on-site detour, traffic signaling should be used for emergency response in both directions. All emergency services shall be notified in regards to the one-lane detour to prepare a contingency plan. This should be incorporated into the report (PDR).	MH
2.11	Edward stated that in order to make progress, the project team should confirm the direction for the follows and select the proper alternatives as soon as possible, as some stakeholders, such as the Federal Fisheries and Oceans would not normally carry out review until a prominent solution has been chosen by the owner department, including: <ul style="list-style-type: none"> Detour 3-lane new bridge sympathetic "arch" bridge 	All
2.12	Susan suggested revising the comparison chart distributed by MH reformatted to show how each alternative is scored against a list of critical parameters. This would ensure the most promising alternative to stand out easily. In addition, she also suggested MH to include some eliminated alternatives that have been considered, evaluated but not recommended in the chart to indicate how those alternatives have been scored against others.	MH
2.13	Anna questioned if the number of span of the new bridge can be reduced from 5 to 3 in order to save the substructure cost. Tanya also questioned if MH has considered an alternative of 3-span structural arch bridge (3 small arched inside a big arch which span over the full length of a span). Edward advised that MH had considered and evaluated all different types of alternatives in the early stage of this project, including the jacking and lifting bridge option and 3 and single span bridges including arches. But those alternatives have been eliminated due to the high construction cost. He also stated that these alternatives were rated by residents during the PIC and the box girder type deck with decorative arch bridge as proposed as their favourable bridge type, agreeing with what has been shown in the meeting.	MH
		Information



ITEM	MINUTES	ACTION BY
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4.0 Next Meeting

4.1	The date, time and venue for the next meeting will be advised in due course.	All
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These minutes were prepared by Josephine Yung. Please forward any comments and omissions noted to Edward or Josephine.

Distribution: All Present
Jim Weir, MH
Bassam Hamwi, MH

Project: Total Project Management (TPM), Preliminary Design Services
G.W.P. No. 3805-01-00, PO# 3005-A-000270
Rehabilitation / Replacement of the Argyle Street South Bridge
over the Grand River in Caledonia

Project No.: 1021040.00

Place: 2nd Floor, Board Room, MTO SW Region, Exeter Road, London

Date: Wednesday, December 29, 2004

Time: 9:30 PM.

Present:	Tanya Cross	MTO Planning and Design
	Christopher Balasa	MTO Planning and Design
	Michael Plant	MTO Operational Services
	Edward Li	Morrison Hershfield Limited (MH)
	Jim Weir	Morrison Hershfield Limited (MH)
	Josephine Yung	Morrison Hershfield Limited (MH)

Purpose: Progress Meeting #7

ITEM	MINUTES	ACTION BY
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1.0 Introduction

1.1	Tanya indicated that MTO would like to have proposal for the workshop facilitator, 3-D rendering and architect by Jan 17, 2005. The purpose of the workshop is to get input from the public, community representatives and stakeholders who express interest for this project.	Information
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1.2 The Traffic Study Report that was prepared by the County was discussed briefly. Option C is the County's preferred configuration of the Argyle Street at the Grand River, with 2 through lane across the intersection of Caithness and Argyle, with the curb lane potentially used as an ahead/right turn lane. This option involved taking out on-street parking at the west side of Argyle Street, as well as some parking spots on the east side near the intersection.

MTO observed some discrepancies with the recommendations and information shown on the drawings contained in the report, such as the proposed banning the left turn lanes at the Caithness and Argyle intersection in the Option C, and would like to confirm that with the County. MTO will also confirm with the

ITEM	MINUTES	ACTION BY
	Haldimand when they would like to implement the restriction, preferably not until the bridge has been handed over.	Information
1.3	<p>MTO has the following comments on the bridge alternatives drawings and charts that were prepared by MH:</p> <ul style="list-style-type: none"> Tanya wanted to prepare a separate drawing and chart for the based options (Option 1, 2a, 2b and 2c) which were not carried through to the next stages, as a back-up; Michael suggested it may be useful to add the unit cost in the charts for each option; Tanya mentioned that these drawings will be shown to the County in an upcoming meeting with them; Tanya proposed that in the drawing, change the red color description to black, and add the statement "alternative established for comparative cost only" in red for Options 1, 2a, 2b, 2c, 3d and 4a(1); Chris questioned that the width of Option 3e should be reduced to 16.1m minimum since the barriers has been eliminated as compared to Option 3b. Edward explained that it is the intention is to keep the existing alignment in Option 3e to avoid elimination of on-street parking; Tanya advised that for Options 4a(2) and 5, move the \$2.2M arch cost to the Arch Column in the drawing. Edward explained the \$2.2M arch cost is for structural arch, it is part of the structure. Tanya agreed to keep it unchanged; Tanya stated that there are discrepancies of the offset between the sketch and the alternative of Option 4e, MH will address and make the revision; Change Option 5 to 5a for 2-lane heavy lifting and add Option 5b for 3-lane heavy lifting; both options have no bailey bridge and stated that both EMS and pedestrian crossing cost is not covered in the total cost. 	MH
1.4	Tanya stated that the impact on Emergency Services is the one of the major issues in choosing the best suitable	

ITEM	MINUTES	ACTION BY
	bridge alternative. It is expected that Emergency Services may asked for a 2-lane detour during construction period.	
	Michael indicated that for Option 5 where there will be an eight weeks full closure, a solution is required to minimize the impacts on the emergency services, this may be done by providing an ambulance in the fire hall on the south side of the bridge. These costs may need to be included in the detour cost.	
	For a one-lane on-site detour during construction, traffic signaling with time programming and transponder is required to provide right of way to emergency responses. All emergency services shall be notified of the one-lane detour to prepare a contingency plan.	
	Michael expressed that it is necessary to meet with the emergency services to provide alternatives prior to presenting the options to the Haldimand County.	
	Michael stated that one lane detour still need to be justified and has to be incorporated in the design in due course.	
	Michael suggested that it may eventually be required to keep one existing span of the bridge for public display as a mitigation for losing the bridge through removal.	MTO & MH
1.5	The Ministry further explained that all stakeholders and the Haldimand County should be notified that the substructure is going to have 5 spans with 4 piers. This design will not be changed because this is the most optimum solution for the substructure layout in terms of economy and constructability issues. All the bridge alternatives have the same substructure layout.	Information
1.6	<p>MH will prepare a schedule with the following activities:</p> <ul style="list-style-type: none"> Workshop – sometimes in March/April, but consider not to coincide with the reading week of the public school and Easter holiday. Finalize workshop. 	

ITEM	MINUTES	ACTION BY
	<ul style="list-style-type: none"> Presentations to the Haldimand Council. 	MH
1.7	E. Li clarified that each construction season may include a period of approximately nine months.	Information
2.0	Deliverables	
4.1	MH is requested to submit the revised drawings and charts to the Ministry by January 7, 2005.	All

These minutes were prepared by Josephine Yung. Please forward any comments and omissions noted to Edward or Josephine.

Distribution: All Present
c.c. Susan Wagter
Chak Lo
Paul Draycott

Project: Total Project Management (TPM), Preliminary Design Services
G.W.P. No. 3805-01-00, PO# 3005-A-000270
Rehabilitation / Replacement of the Argyle Street South Bridge
over the Grand River in Caledonia

Project No.: 1021040.00

Place: 3rd Floor, Board Room, MTO SW Region, Exeter Road, London

Date: Monday, May 2, 2005

Time: 9:30 PM.

Present:

Tanya Cross	Ministry of Transportation (MTO)
Andrew Turnbull	MTO
Michael Plant	MTO
Wade Young	MTO
Susan Wagter	MTO
Anna Piascik	MTO
Gord Arthur	MTO
Danuta Mahabir	MTO
Donna Hinde	The Planning Partnership (TPP)
Ray Natale	TPP
George Harris	Centre for Advanced Visualization (CAV)
David Medlyn	CAV
Paul Draycott	Draycott Environmental Inc. (DEI)
Edward Li	Morrison Hershfield Limited (MH)
Jim Weir	MH
Josephine Yung	MH

Purpose: Progress Meeting #8

ITEM	MINUTES	ACTION BY
1.0	Introduction	
1.1	Attendance introduced each other.	Information
2.0	Recapitulation of Project	
2.1	Edward briefly recapped the development of the project to-date, as follows: <ul style="list-style-type: none"> Three meetings were held with Haldimand County including EMS, Fire and OPP (Jan 17th, Mar 28th, April 20th) to discuss the emergency services impacts, including issues relating to the use of the Optic-Com remote controlled traffic 	Information

ITEM	MINUTES	ACTION BY
	signaling system by emergency services, third lane options, on-street parking, traffic arrangement and construction period.	
	<ul style="list-style-type: none"> A CSD Workshop was held on April 18 and 19 to provide new information of the Bridge to the local people. The second PIC will be held in June 15, 2005. The Preparation work for the PIC was being started. 	
2.2	Tanya showed the powerpoint presentation about the CSD Workshop that she had prepared and she briefly went through the presentation.	Information
3.0	CSD Workshop	
3.1	Donna stated a wide range of invitees including all major stakeholders and 3 members from the public were invited to the Workshop.	Information
3.2	She has contacted all the invitees over the phone prior to the workshop and most showed significant interests in the workshop, and provided remarks for consideration in the workshop.	Information
3.3	Staff was able to share all technical information to the local people in the workshop but communicated in a non-technical way to the participants, including planning, environmental and structural issues. This has a significant effect allowing the general public to understand the rationale behind the derivation and evaluation of the alternatives.	Information
3.4	Tanya explained that 14 bridge alternatives were developed by the working group (which can be roughly grouped into 3 categories) in the workshop. Critique and discussions were also performed in the workshop.	Information
3.5	The 3 categories of alternative include repeating arch bridge, haunched-beam bridge and signature bridges with a single arch. All these alternatives should be provided with scenic look-out points and heritage lightings to be installed on the bridge in line with approach roads.	Information

ITEM	MINUTES	ACTION BY
3.6	The workshop provided an opportunity for the local people to understand of staging requirement, existing structural deficiency and environmental concern, and has allowed them participation in the development of the alternatives.	Information
3.7	The next big task is to prepare the materials for the 2 nd PIC. The 14 bridge alternatives will be evaluated by MH and 3 of these alternatives will be chosen to prepare a 3-D rendering of the option.	MH/CFAV
3.8	Tanya said that if necessary, a 3 rd PIC may need to be held in Fall, 2005. It is expected that the completion of Preliminary design and TESP will be in the late fall this year and the detailed design will be done in the winter 2006. Construction will commence in year 2007.	Information
3.9	There will be a formal presentation to the MTO senior management to show the PIC boards, the rendering and the results of the CSD workshop.	MTO
3.10	Edward stated that the CSD Workshop had a positive impact on the project as far as public consultation is concerned, as it changed the attitude of some of the participants in the workshop. People now realized the tremendous effort that the MTO/MH have invested and continue to put into the project to reach the best solution for all, and that this team is trying to share the information with them, rather than trying to force a solution on them. The public now understand that a new replacement bridge would provide the best benefit to the community and the local residents and businesses.	Information
3.11	Wade recalled that Marilyn of the MOC appeared to want to ensure that there is sound technical support for a replacement scheme based on a thorough structural review. She also wanted to have the culture heritage shown in the 3-D rendering, instead of just in the bridge location.	Information
3.12	Wade indicated that these information to compare and choose between rehabilitation and replacement, should include code requirements, presence of the gypsum solutioning problem, and the difficulty of maintaining	

ITEM	MINUTES	ACTION BY
	of traffic on the bridge crossing if the rehabilitation option were selected.	MH
4.0	Traffic Staging	
4.1	Michael expressed that Haldimand County was presented a scheme from the Ministry regarding the method of cost sharing for the widening portion of the bridge, and the agreement is still waiting to be finalized. The County Council is going to review and approve the agreement in the next meeting in May.	Information
4.2	Michael also stated that Haldimand Fire agreed to split their equipment to be stationed on both sides of the river. The plan is to build a 4 th bay at the existing EMS depot at Kinross to house this equipment and MTO will likely pick up the cost to do so. In this case all EMS services will be agreeable to the proposed traffic layout proposed by MH to have Argyle to be turned into a single lane, single direction (Southbound) between Caithness and Renfrew. However, the cost to fix the driveway, to remove trees and to improve the fence, etc. will not be provided by MTO.	Information
4.3	MTO noted that the Optic com cost \$26,000, this cost does not include the construction and installation cost.	Information
4.4	MTO agreed that it is preferred to have 1-lane traffic on bridge at both construction years.	Information
4.5	Jim explained the preliminary traffic-signing sketch that has been prepared and distributed in the meeting. Upon receipt of comments, a revised sketch showing the proposed layout will be brought to the meeting with the EMS on May 16, 2005.	MH
4.6	The impact of the layout would be a reduction of the level of service. However, as the current LOS is already at a low scale, the impact will not be easily noticeable. During the construction season of the bridge, the single lane SB traffic could even proved to be an improvement of the LOS. There is no prescribed level of service specified on the Argyle Street, but MH will check and confirm again. Proper traffic assessment will be conducted by MH.	Information/MH

ITEM	MINUTES	ACTION BY
4.7	Advance signing and newspaper advertisement will be used to notify the public about the impending impact on Highway 6 for bridge construction.	Information
4.8	During construction, there will be no turning traffic on Caithness Street and Argyle Street during bridge construction. On-street parking will likely be eliminated partly or wholly on Argyle Street during bridge construction, but there should be enough parking at the back of the Scotia Bank building near the north bridge approach. Stirling Street could be used to ease traffic during the construction seasons to allow traffic to go round the site on the south side of the bridge. The County is putting signals at the Haddington and Argyle intersection this year.	Information
4.7	Jim also expressed that there should be enough time to clear the bridge so that ambulances and fire trucks could have a smooth ride from the Kinross yard going northbound.	Information
4.8	Public may want 2 traffic lanes in the first construction season especially from downtown businesses despite MH/MTO recommendations and preferences expressed by the EMS as well as the County engineering staff.	Information
4.9	To avoid aggravating the traffic conditions during construction, the MTO may specify restriction on the delivery time of the Contractor to the works areas.	MH/MTO
5.0	Structural Engineering Issues	
5.1	Three families of solution: <ul style="list-style-type: none"> No. 1- 5 or 6 span bridge (6 span repetitive arches) No. 2 - Girder structure (no fake arch, with parabolic deck) No. 3 - Single prominent arch in the mid-span (60-70 m) 	Information
5.2	There is 2 methods of building the new bridge: <ul style="list-style-type: none"> No. A - To build out on the west side at the first construction season to carry 2nd year traffic, and 	Information

ITEM	MINUTES	ACTION BY
	then demolish the rest of the existing bridge and build the rest of the bridge.	
	<ul style="list-style-type: none"> No. B - To build cranked beams just underneath the existing bridge and built both sides of the sections adjacent of the existing bridge first. One or both of the 2 side portions could then be used to carry the 2nd year traffic. 	
5.3	The advantages of the No. B construction method is the potential of providing 2 traffic lanes at all times. However additional provisions will need to be installed to deal with pedestrians, likely using temporary structure hanging over the sides of the deck, or at a lower level using the existing piers as supports.	Information
5.4	There are 2 types of Arch structures: one type is to have smaller arches to support the sidewalks only and the deck on girder type to take the traffic loading; while the other type is to have bigger and main structural arches to support the whole structure.	Information
5.5	Tanya suggested arches at the inside of the bridge might facilitate the provision of better lookout areas at the outside of the bridge.	Information
5.6	Edward said that concrete barrier walls meeting bridge code requirements have to be erected for protection of the arches if the arches are going to be placed at the inside of the bridge.	Information
6.0	3-D Rendering	
6.1	George said that it is straightforward to change the proportion of the arch size, but it would take more time and work to render if the location changes.	Information
6.2	It was questioned if there is a need to do a 3-D rendering for the Bridge Alternative No. 2 (refer to page 5) as for a cost comparison with other Arch bridges, since all the attendances in the second PIC wants Arch bridges.	Information
6.3	MH will evaluate all 14 bridge alternatives that developed from the CSD workshop by quick screening to eliminate some option that are not suitable at the site.	MH

ITEM	MINUTES	ACTION BY
6.4	George advised that the time to generate the arch or girder bridge should be the same. Images are built by from AutoCad drawings together with photos using 3-D Studio and AutoDesk software. All colour of the bridge and surroundings and layout needed to be confirmed with the project team.	Information
6.5	The difference of the 3-D rendering of the CSD Workshop bridge alternatives No. 5 & 8 is to take out the arches at the end spans. It would also be straightforward to do that.	Information
6.6	MH will get the rendering fee for doing an additional set of 3-D rendering of the bridge alternative from the CFAV.	CFAV/MH
6.7	It is important to ensure the culture heritage view will be identified in the 3-D Rendering in the driving view. The limit of the culture view along the Grand River needed to be identified.	Information
6.8	Except for the selected 3 bridge alternatives (may be 4) that will be shown by using 3-D rendering, all other bridge alternatives will be shown by the photos of the similar type of bridges in the PIC, if available.	Information
6.9	George said that if the photo is done digitally, they could lay the bridge photo on top of the background already created for the named 3 (or 4) bridges.	Information
7.0	Deliverables	
7.1	A full package of the 3-D rendering for all selected bridge alternatives will be submitted to MTO by May 31, 2005. Meanwhile CFAV will submit completed 3-D renderings perhaps one at a time to speed up the review process.	CFAV
7.2	Draft boards for the second PIC will be submitted to the Ministry by May 24, 2005.	MH/DEI
7.3	June 6 date has been set for the Ministry's executive meeting to review this project.	MH/MTO
7.4	View shed should be available by the end of this week, May 6, 2005 so as not to delay the rendering work.	Information

ITEM	MINUTES	ACTION BY
7.5	Mary cannot finish the work of the addendum before the PIC in June. However, it is hoped that part of her work required for the 2 nd PIC could be completed by then.	Information
7.6	The Ministry agreed to have Donna to do the view shed photos. It was reiterated that all personnel carrying out any field works must follow proper Occupational and Health Safety procedures especially for in-water work.	TPP
7.7	Donna will submit her additional fee for doing the view shed to Edward and he will forward it to Susan and copied to Tanya and Michael.	TPP
7.8	Paul said that Mary has to talk to Penny in regards to the requirement of the work listed in the addendum. She also needs to identify with Penny that which components of the work needs to be done in rush.	Information
8.0	Second PIC	
8.1	PIC will be held in the Haldimand County Community Centre in Caledonia. Advertisements of the PIC shall be put in the newspaper in advance. Signs shall be rented to bring it to the public's attention. There is no questionnaire for this PIC but comment sheets would continue to be used to solicit public input on the project. The Haldimand County web site should also be made used of to promote the PIC and to attract a higher attendance.	Information
8.2	Evaluations (such as cost and replica of the structure) of all the 14 bridge alternatives that developed from the CSD Workshop shall be shown in the PIC. There is also a need to explain the reason of replacement rather than rehabilitation of the existing bridge and the elimination of the replica of the structure option. A brief description of the last PIC material in this upcoming PIC.	MH/ Information
8.3	A dry-run of the PIC material will be performed in the next progress meeting on May 31, 2005.	MH/MTO
8.4	It was agreed that no special presentation session will be done in the PIC. A number of TV's or monitors will be used to show the 3-D rendering instead.	Information

ITEM	MINUTES	ACTION BY
9.0	DFO & GRCA	
9.1	Edward indicated MH is currently endeavouring to discuss and set up meeting with GRCA, MNR and MOE. Edward and Paul will continue to call up representative of these agencies and will notify MTO members on the progress of this.	Information
These minutes were prepared by Josephine Yung. Please forward any comments and omissions noted to Edward or Josephine.		
Distribution: All Present c.c. Christopher Balasa Chak Lo		

**Total Project Management (TPM) – Preliminary Design and Environmental Assessment
Rehabilitation / Replacement of the Argyle Street South Bridge
over the Grand River in Caledonia
Context Sensitive Design (CSD) Workshop, Working Meeting**

Purpose: CSD Workshop Working Meeting
Place: Britnell Room, 5/F, Morrison Hershfield, 235 Yorkland Boulevard, Toronto, Ste 600
Date: Tuesday, February 22, 2005
Time: 1:30 P.M.

Invitees:	<u>Ministry Staff</u>	<u>Section</u>	<u>Consultant Staff</u>	<u>Responsibility</u>
	Tanya Cross	Highway Eng.	Edward Li	Project Manager
	Chris Balasa	Structural	Jim Weir	Highways, Traffic
	Susan Wagter	Environmental	Chak Lo	Structural
	Charlton Carscallen	Highway Eng.	Josephine Yung	Structural
	Michael Plant	Operations	Paul Draycott	Environmental
			Bob Birrell	Graphics
			Mark Langridge	Architect
			Roger Dorton	Bridge Aesthetics
			Donna Hinde	CSD Facilitator

MEETING AGENDA

The Ministry has authorized MH to proceed with the holding of a Context Sensitive Design Workshop to address a number of issues including the heritage component of the existing bridge. The workshop is tentatively scheduled on April 14, 2005 (note that this is already a change to the original schedule due to availability of the venue, but may be further revised in due course) in Caledonia. Information and potential options may have to be introduced in the workshop, and this meeting will discuss these options.

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|----|---|----------------|
| 1. | Introduction of various team members | All |
| 2. | General Introduction of the Project and purposes of the CSD | Edward / Tanya |
| 3. | Review MTO Terms of Reference | All |
| 4. | Description of CSD Work Plan and Schedule. | Donna |
| 5. | Introduction and Discussion of Heritage Issue, current method to address this component (decorative arches) | Paul / All |
| 6. | Bridge Aesthetics Considerations | Roger / Mark |
| 7. | Brainstorming of ideas (please prepare) | All |
| 8. | Follow Up | All |
| 9. | Other Business. | All |