

# Design and Construction Report

Street C in Southeast Quadrant of Highway 5/6 Interchange G.W.P. 2112-05-00

### SAVANTA



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Street C in Southeast Quadrant of Highway 5 and 6 Interchange G.W.P. 2112-05-00

#### REPORT PREPARED FOR

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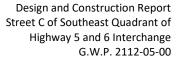
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#### THE PUBLIC RECORD

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#### 1.0 OVERVIEW

In 2004, Ministry of Transportation (MTO) completed a Preliminary Design Study and prepared a Preliminary Design Report (PDR) for improvements to Highway 6, from south of Highway 5 to 5th Concession East, in the City of Hamilton. The PDR was based on a Group "B" Transportation Environmental Assessment Study Report (TESR) completed in 2003 which identified the need for a new interchange to replace the existing at-grade intersection of Highway 5 and Highway 6, to accommodate future traffic demands. It was classified as a Group "B" project under the Class Environmental Assessment for Provincial Transportation Facilities (MTO 2000) because it involved a major improvement to an existing transportation facility, namely the intersection of Highway 5 and Highway 6.

The 2003 TESR outlined the preliminary design components associated with the new interchange at Highway 5/Highway 6. However, no environmental approvals were obtained for the associated municipal roads and commuter parking lot. The TESR was made available in 2003 for a 30 day public review period, and received environmental clearance.

In December of 2013, the MTO completed a Preliminary Design and Transportation Environmental Study Report (TESR) Addendum for the future Highway 5/6 Interchange, Associated Municipal Roads and Commuter Parking Lot at Clappison's Corners in the City of Hamilton. The study area is located in the Cities of Hamilton and Burlington as further described in Section 1.3. The study was completed with MTO as the proponent, in partnership with the City of Hamilton.

The Preliminary Design and TESR Addendum included recommendations for municipal roads in each quadrant of the new Highway 5 and Highway 6 interchange.

#### 1.1 Purpose of the Report

Development planning has advanced since 2013 in the southeast quadrant of the interchange, and design for the municipal road identified as Street C in the Preferred Alternative for the Associated Municipal Roads has advanced to completion of detail design.

Due to the deferral of the detail design for the full Highway 5 and Highway 6 interchange, no update to the December 2013 TESR has been undertaken to date.

In order to document changes made to the preliminary design documented in the 2013 Preliminary Design and Transportation Environmental Study Report (TESR) Addendum, a Design



and Construction Report must be prepared and placed on the public record, in accordance with the Class Environmental Assessment for Provincial Transportation Facilities (MTO 2000).

#### 1.2 Summary Description of the Undertaking

This Design and Construction Report describes the activities undertaken to update the recommended design for the Associated Municipal Road Street C as reflected in the 2013 TESR Addendum based on landowner and City of Hamilton engineering design requirements.

The December 2013 TESR Addendum included an evaluation of options for municipal road connections and relocations associated with the construction of the interchange. In addition to examining north-south options for Street C, it looked at alternatives for the southerly portion, including an alignment along Mountain Brow Road, and a jogged alignment. The jogged alignment was selected as the preferred option. The proposed undertaking described in this DCR is substantially the same as the preferred option in the TESR. Accordingly, there is no requirement to complete a formal Addendum to the 2013 TESR.

#### 2.0 CONSULTATION PROCESS

Consultation took place throughout the detail design with external agencies, stakeholder groups and adjacent landowners. The purpose of this consultation was to provide project information, solicit feedback and identify and address issues associated with the detail design, potential environmental and property impacts and proposed mitigation measures. This consultation has been conducted in compliance with the requirements of a Group 'B' project under the MTO Class EA. Due to the limited scope of the undertaking associated with this DCR, affected landowners were the target of the focused consultation program.

Key components of the consultation plan to date have included:

- Correspondence and meetings with external agencies;
- Correspondence and meetings with affected property owners; and
- Submission of the DCR for public review.

#### 2.1 External Agencies and Municipalities

In addition to receiving the Notice of Study Commencement, to date the following meetings have been held with involved external agencies regarding this project:



- June 12, 2020 First Gulf hosts a call between Hamilton, Burlington, Halton Region, NEC, CH and the MTO to discuss Street C revisions;
- July 22, 2020 Call between First Gulf, Cresa and the City of Hamilton to discuss
   Street C and other matters:
- September 21, 2020 Call between First Gulf, Cresa, Krpan and the City of Hamilton to discuss Street C and other matters;
- September 28, 2020 Call between First Gulf, Cresa, Krpan, Wescam/L3 and the City of Hamilton to discuss Street C and other matters;
- October 8, 2020 Call between First Gulf, Cresa, Krpan, Wescam/L3 and the City of Hamilton to discuss Street C and other matters;
- October 20, 2020 Call between First Gulf, Krpan, MTO, and City of Hamilton discuss Street C and related matters; and,
- October 22, 2020 Call between First Gulf, Krpan, and the MTO discuss Street C and related matters.

#### 2.2 Correspondence and Meetings with Property Owners

A number of land owners have been engaged through the development of the design for Street 'C' including Liburdi Engineering Inc. (Liburdi) (400 Hwy. 6 North), 54 Dundas Street East (Waterdown Mini Storage) and the three residents with properties on the portion of Mountain Brow Road within the study area.

Correspondence with land owners included several emails and telephone calls between May 27, 2020 and October 21, 2020. Issues and questions pertaining to the design of Street 'C' by affected and neighbouring land owners were considered and modifications to the street design were made throughout the design development process. In cases of private matters, these are documented outside of this DCR.

Please refer to the detailed list below that provides the details for the exchanges that have occurred from when it was determined that the EA alignment would proceed to current date.

Affected Landowners (Liburdi) Correspondence

- May 27, 2020 Email exchange from First Gulf to Liburdi advising that of a change in radii at the SE and SW corners of the Wescam building, and advising of the obligation to construct the EA approved road;
- June 22, 2020 Call between First Gulf and Liburdi regarding Street C and other matters:
- July 17, 2020 Call between First Gulf and Liburdi regarding Street C and other matters:



- July 29, 2020 Call between First Gulf, Krpan, and Liburdi regarding Street C and other matters;
- August 7, 2020 Call follow up between First Gulf and Liburdi to discuss Liburdi's request of shifting their future driveway access further south and, the City's request of a temporary cul-de-sac at the end of Leavitt Blvd;
- August 14, 2020 Meeting held between First Gulf, Liburdi and the City of Hamilton to discuss Street C and driveway access;
- August 26, 2020 Email coordination between First Gulf and Liburdi regarding Street C, retaining walls and driveway access;
- August 28, 2020 Email exchange between First Gulf and Liburdi regarding driveway access;
- August 27, 2020 Email exchange between First Gulf and Liburdi regarding Street
   C;
- September 1, 2020 First Gulf provides Odan/Detech's 4th Engineering Plans (Street C) to Liburdi; and,
- September 2, 2020 Email exchange between First Gulf and Liburdi regarding Street.

Neighbouring Correspondence, separate from affected landowners:

- June 15, 2020 First Gulf hosts a call with residents to discuss Street C revisions and related matters;
- July 10, 2020 Call between First Gulf, Krpan and Waterdown Mini Storage (54 Dundas Street East) regarding Street C and related matters;
- July 17, 2020 Call between First Gulf, Krpan and Waterdown Mini Storage (54 Dundas Street East) regarding Street C and related matters;
- July 23, 2020 Call between First Gulf, Krpan and Waterdown Mini Storage (54 Dundas Street East) regarding Street C and related matters;
- August 27, 2020 Call between First Gulf and Waterdown Mini Storage (54 Dundas Street East) regarding Street C and related matters;
- October 13, 2020 Call between First Gulf and residents of Mountain Brow Road;
   and,
- October 21, 2020 Email exchange from First Gulf to residents of Mountain Brow Road to discuss Street C and related matters.

In addition to the above correspondence directly related the Street C design, meetings with neighbouring land owners took place throughout 2019. This included an initial meeting on May 30, 2019 hosted by the City and attended by neighbouring residents wherein an overview of the EA process was provided.



Issues and questions pertaining to the design of Street 'C' by affected and neighbouring land owners were considered and modifications to the street design were made throughout the design development process. In cases of private matters, these are documented outside of this DCR.

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#### 3.0 DETAILED DESCRIPTION OF THE RECOMMENDED DESIGN

#### 3.1 Major Features of the Proposed Work

Minor adjustments to Street C were made during Detail Design to accommodate requests of commercial property tenants in the Southeast Quadrant.

There is no immediate need to disconnect Mountain Brow Road from Highway 6. Therefore, Street C will terminate in a cul-de-sac rather than connect to Mountain Brow Road as per the Preferred Alternative presented in the 2013 TESR Addendum (see **Appendix A**).

Road geometry changes were made to address concerns from the City of Hamilton related to traffic issues.

The cumulative changes for the entire Street C geometry compared to the Preferred Alignment presented in the 2013 TESR Addendum are as follows:

- Alignment of the East West road in front of Future 4-Storey Building was shifted from a right angle with the North-South segment to be on a slight skew. This alignment shift also provides for a larger radius at the intersection of the north-south and east-west road segments;
- Adjusted geometry of entrance into the property to be occupied by Wescam/L3;
- Shift of Street C alignment by 3.5m to the east adjacent to Liburdi Property;
- Shift of the entrance to Liburdi Property from the northeast corner of their property to the southeast corner of the property to accommodate grading; and,
- Installation of a temporary Cul de Sac to allow snow equipment turn around.



#### 3.2 Transportation Environmental Study Report Five Year Review

The MTO Class EA document specifies that a review of the TESR must be carried out if a project has not been constructed within five years of the Notice of Submission for the TESR. The five-year review considers any changes since the submission of the TESR. The changes may include new conditions in the project area, government policies, engineering standards or technologies for mitigation. No significant changes were identified during the five-year review of the "Transportation Environmental Study Report Addendum Highway 5 and Highway 6 Interchange and Associated Municipal Roads G.W.P. 2112-05-00" and therefore, a TESR addendum is not required. The proposed alignment from 2013 for the subject municipal road, Street C, is provided in **Figure 1**. **Table 3-2** describes the changes made to the design of Street C since the submission of the December 2013 TESR.

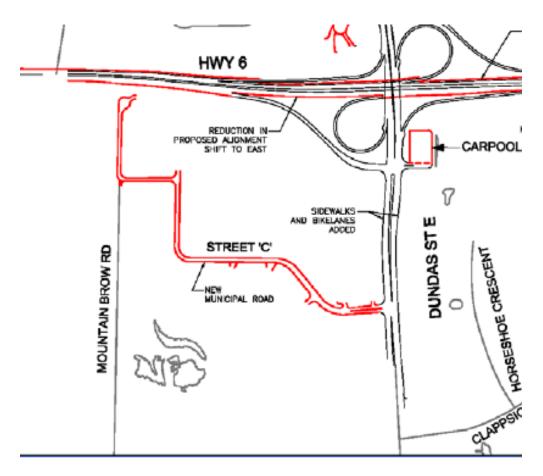


Figure 1. Alignment of Street C Identified as Preferred Alternative in 2013 TESR.



Table 3-2. Summary of Changes to the TESR-recommended Plan for Street C

## DESCRIPTION AND REASON FOR CHANGE

New municipal road additions in the SE Quadrant providing access to Mountain Brow Road were documented in the 2013 TESR Addendum. The Preferred Alternative design eliminated the current temporary Highway 6 northbound access at Mountain Brow Road by connecting the existing road to Dundas Street East to access the existing business and residential properties. The alignment avoided an environmentally sensitive area and was coordinated with future development access.

The connection to Mountain Brow Road will not be constructed at this time, and therefore Mountain Brow Road will continue to be connected to Highway 6. Installation of a temporary Cul de Sac has been requested by the City of Hamilton to allow for snow equipment turn around – temporary until such time as the connection is made to Mountain Brow Road.

Minor geometry changes to the Preferred Alternative to the Street C alignment within the property were made to accommodate tenants requests.

#### IMPACT AND SIGNIFICANCE OF CHANGE

During detail design of the associated municipal road in the SE Quadrant, it was determined that minor alignment changes were warranted to accommodate access requirements. Additionally, Mountain Brow Road will not be closed at this time, and therefore the connection of Street C to Mountain Brow Road will not be made. Thus, Street C will end in a cul-de-sac to allow for snow removal equipment turnaround.

There are no significant impacts as a result of these minor changes.

The slight shift in alignment of the east-west roadway to be on a skew as it relates to the access for 54 Dundas Street West was considered in the design of the roadway, with the driveway for 54 Dundas Street West being accommodated on the corner radius.

The shifting of the driveway for the Liburdi site from the northerly part of the site to the southerly part was part of the design development process and consideration for impacts to the existing parking, grading, and drainage were part of that process.

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#### 3.3 Description of the Study Area

The municipal road identified as Street C, is located in the southeast quadrant of the intersection of Dundas Street East (Highway 5) and Highway 6. The study area is bounded on the south by Mountain Brow Road, and in the east by existing commercial and vacant land. Currently the site is stripped and graded.

#### 3.3.1 Summary of Environmental Sensitivity / Significance

Information in **Table 3-3** summarizes the site conditions within the Street C study area and highlights environmental sensitivity and areas of significance associated with each environmental value.

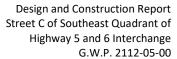
Table 3-3. Summary of Environmental Sensitivity and Significance of Environmental Features in the Street C Study Area

ITEM	ENVIRONMENTAL SENSITIVITY / SIGNIFICANCE
Physiography and Soils	Soils are well-drained or imperfectly drained with gently sloping topography. Erosion and sedimentation control strategies will be employed during construction.
Groundwater	Groundwater impacts from the municipal road construction were not expected to be significant as per the <i>Groundwater Assessment</i> report prepared by Golder Associates (January 2013).
Fish and Fish Habitat	No fish habitat exists within the vicinity of Street C.
Vegetation and Vegetation Communities	The Fresh Moist Lowland Deciduous Forest (FOD7b and c) vegetation communities, and the Butternut tree and its 25 m buffer are avoided by Street C.
Wildlife and Wildlife Habitat	No wildlife or wildlife habitat is present in the vicinity of Street C, and no suitable structures for nesting by Barn Swallow or Chimney Swift are proposed for removal

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ITEM	ENVIRONMENTAL SENSITIVITY / SIGNIFICANCE
	during construction. No impacts to Species at Risk are anticipated.
Existing and Planned Land Use	Land use in the Street C vicinity continues to be planned for, and used by, commercial purposes and coordination with the development community in this vicinity has been ongoing throughout the planning process for Street C.
Residences and Communities	Impacts to residents along Mountain Brow Road have been minimized due to the proposed cul-de-sac terminus for Street C, and no increased traffic along Mountain Brown Road is anticipated. Potential disturbances due to construction activities, dust, noise and emission of pollutants will be minimized using best management practices.
Businesses	Potential disturbances to businesses in the vicinity of Street C may occur due to construction activities; dust, noise and emission of pollutants will be minimized using best management practices.
Community and Recreational Facilities	No community or recreational facilities exist in the vicinity of Street C.
Agriculture	It is not anticipated that any disturbance to agricultural practices will occur as a result of construction of Street C.
Noise	Noise mitigation is not warranted for Street C design and construction.





ITEM	ENVIRONMENTAL SENSITIVITY / SIGNIFICANCE
Archaeology	Stage 2 Archaeological assessments were completed by AMICK Consultants Inc. in 2018 and 2019 for the properties along the Street C alignment. The findings of the Stage 2 assessment indicated that no archaeological resources were encountered and the area has been cleared of any archaeological concern.
Built Heritage and Cultural Heritage Landscapes	There are no cultural or built heritage resources in the Street C vicinity.
Aesthetics, Existing Vegetation and Landscape Planting Assessment	There is no existing vegetation in the vicinity of Street C.
Air Quality	The Street C alignment will have negligible effects on air quality due to the low traffic volume anticipated.



#### 4.0 ENVIRONMENTAL ISSUES AND COMMITMENTS

This Section focuses on the specific direct and indirect effects on environmental features and highlights the environmental protection/mitigation measures proposed to manage adverse environmental effects related to natural sciences, socioeconomic and cultural resources. Environmental effects are identified based on issues/concerns raised by the public, external agencies and the study team.

The intent of environmental mitigation best management practices is to seek to avoid potential adverse environmental effects where possible. For situations where avoidance is not environmentally, technically or economically feasible, environmental protection/mitigation measures have been developed, or adopted, that are incorporated into construction contracts to bind the contractor to implement such measures during construction. The mitigation measures described below represent a combination best management practices, and commitments made during detail design and construction phases of the project.

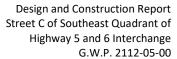
# 4.1 Summary of Environmental Effects, Proposed Mitigation, Commitments to Further Work

A summary of environmental concerns/potential effects, associated mitigation and monitoring requirements is included in **Table 4-1**.

**Table 4-1. Summary of Environmental Effects, Mitigation and Commitments** 

ID	ENVIRONMENTAL ISSUES/CONCERNS/ POTENTIAL EFFECTS		MITIGATION/PROTECTION/COMMITMENTS/
	ISSUES/ CONCERNS/ POTENTIAL EFFECTS	AGENCIES	MONITORING REQUIREMENTS
1.	Soils, Surface Water, Erosion and Sedimentation	Study Team, MECP	Implement standard erosion and sedimentation control practices and minimize the duration that soils are exposed during construction.

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ID	ENVIRONMI ISSUES/CONCERNS EFFECT	S/ POTENTIAL	MITIC ATION/DDOTECTION/COMMITMENTS/
	ISSUES/ CONCERNS/ POTENTIAL EFFECTS	AGENCIES	MITIGATION/PROTECTION/COMMITMENTS/ MONITORING REQUIREMENTS
2.	Groundwater Resources	MECP, Study Team	No groundwater resources are anticipated to be affected by the proposed Street C design and associated construction activities. No PTTW are required.
3.	Fish and Fish Habitat	DFO, MNRF	No fish habitat is present in the Street C vicinity.
4.	Vegetation and Vegetation Communities	HCA, CH, Study Team, MNRF	No vegetation is present within the Street C alignment as the site is stripped and graded.
5.	Wildlife and Wildlife Habitat	MNRF, MECP, HCA, CH, and Study Team	To comply with the requirements of the Migratory Birds Convention Act (MBCA), vegetation clearing should not be permitted between April 1 to August 31 to avoid the breeding season for the majority of the bird species, unless a pre-clearing nest search is undertaken to confirm the absence of bird nests;  Monitor measures during construction to ensure their effectiveness.
6.	Existing and Planned Land Use	City of Hamilton and Study Team	Undertake standard tree protection and erosion and sedimentation control measures;  Monitor measures during construction to ensure their effectiveness.

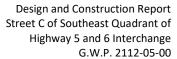
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ID	ENVIRONME ISSUES/CONCERNS EFFECT	S/ POTENTIAL	MITIGATION/PROTECTION/COMMITMENTS/
	ISSUES/ CONCERNS/ POTENTIAL EFFECTS	AGENCIES	MONITORING REQUIREMENTS
7.	Residences, Businesses, Community and Recreational Facilities	City of Hamilton and Study Team	Changes to Access:  No changes to access for residents will occur, as the Highway 6 connection to Mountain Brow Road will remain open at this time.  Noise Impacts (Temporary)  • Equipment used for construction will be in good state of repair with all noise muffling devices in good working order;  • Idling of equipment will be restricted to the minimum necessary to perform the specified work;  • Should night time construction be required in order to minimize impacts to traffic operations a noise bylaw exemption permit will be obtained from the local municipalities.  Air Quality Construction Emissions (Temporary)  Dust impacts should be mitigated through the use of proper controls, such as:  • Periodic watering of unpaved (non-vegetated) areas;  • Periodic watering of material stockpiles;  • Limiting the speed of construction vehicular travel;  • Use of water sprays during the loading, unloading of materials; and,  • Sweeping and/or water flushing of the entrances to the construction zones.



ID	ENVIRONMENTAL ISSUES/CONCERNS/ POTENTIAL EFFECTS		MITIGATION/PROTECTION/COMMITMENTS/	
	ISSUES/ CONCERNS/ POTENTIAL EFFECTS	AGENCIES	MONITORING REQUIREMENTS	
			Traffic/Access Modifications during Construction (Temporary)	
			Construct proposed access roads to existing business/residences prior to closure of existing commercial or private driveway;	
			Provide signage and temporary traffic signals to maintain traffic flow;	
			Monitor traffic flows during construction to prevent undue delays; and	
			Limit the duration and frequency of closures to the extent possible.	
8.	Agricultural Resources	Study Team	Stage road improvements to avoid closure, or reduce the duration of closures, of entrances/exits within the commercial block;	
			Provide alternate access to commercial properties where feasible to maintain access/egress; and,	
			Provide signage and temporary traffic signals to maintain traffic flow, where appropriate.	
9.	Aesthetics, Existing Vegetation and Landscape Planting	Study Team	Landscaping to restore disturbed areas.	

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ID	ENVIRONMENTAL ISSUES/CONCERNS/ POTENTIAL EFFECTS		/ POTENTIAL	
	ISSUES/ CONCERNS/ POTENTIAL EFFECTS	AGENCIES	MONITORING REQUIREMENTS	
10.	Property Waste and Contamination	Study Team	Manage excess materials (e.g. asphalt, concrete, earth, rock, etc.) in accordance with the appropriate OPSS.	
11.	Illumination	Study Team	Provide high mast illumination. Luminaries in close proximity to residential dwellings will be shielded, and any further impacts will be investigated during detail design;  New municipal roads will be provided with illumination as per City of Hamilton standards and practices.	
12.	Archaeology	MTCS and Study Team	Should previously undocumented archaeological resources be discovered, they may be a new archaeological site and therefore subject to Section 48 (1) of the Ontario Heritage Act. The proponent or person discovering the archaeological resources must cease alteration of the site immediately and engage a licensed consultant archaeologist to carry out archaeological fieldwork, in compliance with sec. 48 (1) of the Ontario Heritage Act; and,	
			The Cemeteries Act, R.S.O. 1990 c. C.4 and the Funeral, Burial and Cremation Services Act, 2002, S.O. 2002, c.33 (when proclaimed in force) require that any person discovering human remains must notify the police or coroner and the Registrar of Cemeteries at the Ministry of Consumer Services.	
13.	Built Heritage and Cultural Heritage Landscapes	MTCS and Study Team	No Built Heritage or Cultural Heritage Landscapes exist in the vicinity of the Street C alignment.	

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#### 5.0 MONITORING

An emphasis will be placed on erosion and sediment control measure effectiveness during monitoring activities. Consultant environmental staff will be available to provide site-specific monitoring and corrections, where required. Following construction, the contractor will monitor the effectiveness and performance of newly seeded areas, rip-rap installations, and vegetation plantings, as applicable and will take remedial actions where necessary. Work performed by contractors is warranted for a certain period following construction to ensure that seeding, and other restoration measures, become established.

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#### REFERENCES

Ministry of Transportation Ontario by IBI Group December 2013. Transportation Environmental Study Report Addendum for Highway 5 and Highway 6 Interchange and Associated Municipal Roads, City of Hamilton (Clappison's Corners) G.W.P. 2112-05-00.

Ministry of Transportation Ontario by Earth Tech April 2003. Transportation Environmental Study Report, Highway 6 – 500m South of Highway 5 to 5th Concession East, W.O. 00-23011.

AMICK Consultants Inc. February 2018. Stage 1-2 Archaeological Property Assessment Flamborough Power Centre, Part of Lot 13, Concession 3 (Geographic Township of East Flamborough, County of Wentworth) City of Hamilton.

AMICK Consultants Inc. February 2019. Stage 1-2 Archaeological Property Assessment Mountain Brow Road, Part of Lot 13, Concession 3 (Geographic Township of East Flamborough, County of Wentworth), City of Hamilton.



Appendix A – Figures

