AMS ENGINEERING CONSULTANTS

St. George's Elementary School Exterior Redesign

ENGI 8700 Civil Design Project Plan

February 4th, 2013

Instructor: Dr. Stephen Bruneau
Prepared for: Darlene Spracklin-Reid, Susan Caines, Laura Pittman

Prepared by:

AMS Engineering Consultants
Samantha Batstone
Melissa Collins
Amanda Curnew
Adam Drover

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D. Spracklin-Reid, S. Caines, L. Pittman
St. George's Elementary School Council
234 Conception Bay Highway
Conception Bay South, NL
A1W 3J1

February 4th, 2013

Dear Ms. Spracklin-Reid, Ms. Caines, & Ms. Pittman,

Please find enclosed the Project Plan for the redesign of the exterior to St. George's Elementary School in Long Pond, Conception Bay South. This work plan has been compiled by AMS Engineering Consultants to aid in the progression of the project and to ensure that critical deadlines are met.

The enclosed project plan outlines the deliverables for this project, tasks to be completed throughout the course of the design process, and the outcomes we hope to achieve in our chosen design. We have also included a project schedule demonstrating how we plan to divide our time throughout the term to meet all prescribed deadlines.

If you have any questions regarding our plan for the project, we would be happy to discuss them with you at your convenience.

Sincerely,

_____

Amanda Curnew
Team Leader
AMS Engineering Consultants

Encl: St. George's Elementary School Exterior Redesign Project Plan
CC: Dr. Stephen Bruneau

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1.0 Project Description

AMS Engineering Consultants (AMS) has been tasked with the project of redesigning the exterior of St. George's Elementary School in Conception Bay South (CBS), Newfoundland. CBS is located 26.7 km west of St. John's on the Avalon Peninsula, as illustrated in Figure 1 and is the fastest growing town in the province.

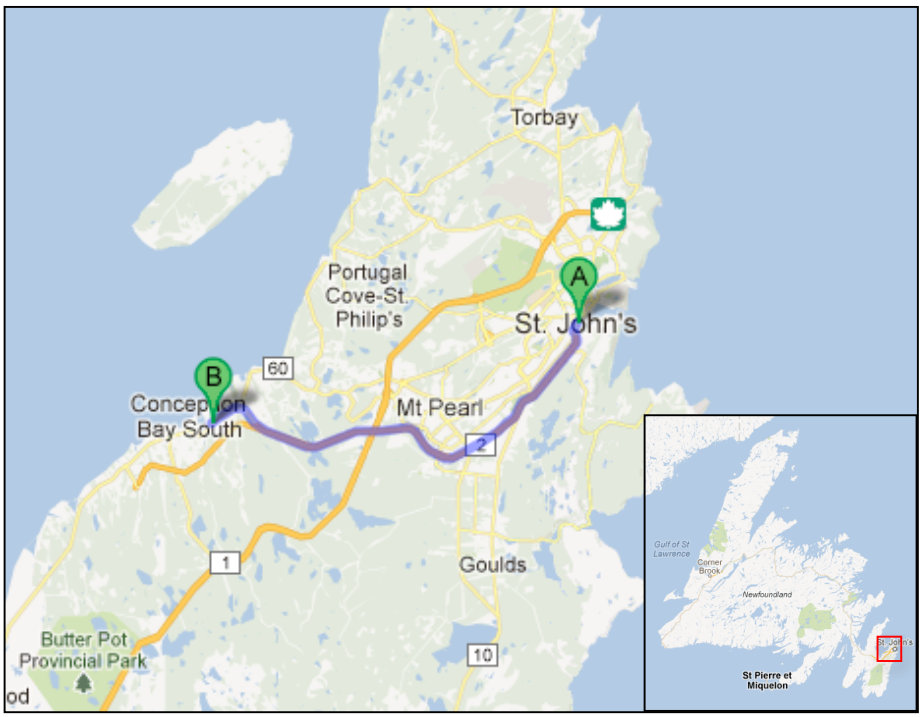

Figure 1 - Location of CBS

St. George's Elementary is located in the community of Long Pond and services Kindergarten to Grade 6 students from the communities of Manuels to Foxtrap. The school has the capacity for 365 students with a current enrolment for the 2012-2013 school year of 307 students.

Both parents and teachers at St. George's have expressed concerns with the exterior of the school, including inefficient flow of traffic, lack of parking, and flooding at the main entrance. A group of volunteer professionals with relations to the School Council have joined together with AMS to help alleviate these concerns. As part of the solution, it was requested that the Grade 6 female students participate during the construction phase to stimulate female interest in Engineering.

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2.0 Project Requirements

This project will include two main objectives:

i. To minimize the flooding at the main entrance of the school by the redesign of the entrance sidewalk. This construction is to be completed in the spring of 2013 in a project that will incorporate the Grade 6 girls from the school with the aid of local contractors.

ii. Redevelopment of the parking lot to solve traffic flow and safety concerns and to optimize the space available. This portion of the project will aim to also improve the school playground area to increase safety and aesthetics for the occupants of the school.

Figure 2 shows the areas involved in this project. The red area indicates the location of the main entrance, while the yellow line highlights the parking lot extents.

Figure 2 - Project Extents

2.1 Main Entrance

The main point of access for staff and visitors at St. George's currently has severe drainage issues. Infrastructure, while still intact, suffers from both poor drainage and errors in grading during construction.

As part of our scope we will include:

- Demolition of existing concrete sidewalk and wheelchair access ramps
- Installation of new drainage components
- Re-grading of the east side of the school as required
- Design and construction of new sidewalks and access ramps

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- Final landscaping of refinished grades

2.2 Parking Lot

St. George's existing parking lot and traffic layout is inefficient and has caused safety concerns. Our goal will be to optimize available space, which is limited, and redesign traffic flow routes with a focus on student safety.

As part of our scope we will propose multiple alternatives based on cost and efficiency which will include:

- Determining optimal use of land available
- Physical redesign of the parking lot grading and drainage
- Optimization of parking stalls
- Bus flow paths and parent drop-off points
- Landscaping, including playground area and pedestrian pathways

3.0 Methodology

3.1 Project Approach

To achieve the objectives for this project, AMS will begin by examining the site and observing the current traffic patterns at the school to understand the concerns of the client. This will include meetings with both teacher and parent representatives to discuss the issues and what is required in possible solutions. Preliminary research will also include compiling a list of applicable codes and standards that will need to be implemented in our design. Topographical surveys will be conducted on the east side of the school to aid in the new drainage plan.

Once initial research has been completed, we will begin developing preliminary designs. Because it is the most time-critical issue, we will focus on solutions for the main entrance flooding first. This will include preliminary budgets for each solution. Following the creation of various alternatives, we will complete concept selection based on safety, efficiency, and cost-effectiveness. This process will be repeated for the parking lot redesign.

Following the selection of the optimal solution, we will complete issued-for-construction drawings for the main entrance and high-level drawings for the parking lot redesign. A detailed cost-breakdown will be provided with our main entrance solution and a budget will be given for the parking lot, as requested by the client. This will be presented in both report and oral presentation format, the creation of which will be ongoing throughout the design process.

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Construction for the main entrance sidewalk is expected to occur in the spring of 2013. If any members of the AMS team are available at this time, they will assist during the construction phase.

3.2 Group Organization

All members of AMS contribute equally to the project team by offering their various strengths to achieve common goals. Based on these strengths, each member of the team has been assigned a role for this project that will aid in efficiency during the design process.

Amanda Curnew (Project Lead) – The overall responsibility of the project lead is to ensure the team remains focused, meets deliverables, and works efficiently together. She will chair both team and client meetings.

Adam Drover (Project Controls Lead) – The main responsibility of the project controls lead is to ensure the accuracy of the cost estimates and to offer alternate solutions to maximize cost-efficiency where possible.

Melissa Collins (Communications Lead) – The communications lead is responsible for the preparation of all agendas, meeting minutes, and weekly reports including the issuance of these documents. She also acts as a liaison between the team and the client or other industry members.

Samantha Batstone (Lead Drafter) – The lead drafter is responsible for the preparation and finalization of drawings prior to submittal to the client.

Please see Appendix A for our team's Summary of Qualifications (SOQ).

3.3 Client Interaction and Role

To ensure that the project team remains focused and on track, meetings with the client will be scheduled on a weekly basis. These meetings will take place at Memorial University in a pre-determined room in the Engineering building on a day which best meets the schedule of the client. It is noted that the primary purpose of these meetings will be to inform the client of the progression of the project and to provide an opportunity for questions to be raised. These meetings may not be required every week.

Outside of the weekly meetings, the primary method of communication between the client and project team will be via email. Agendas for meetings will be issued in this manner one day prior to each meeting and meeting minutes will be issued within two days following the meeting.

The main role of the client is to clearly relay project requirements and expectations to the project team, to provide any relevant information where possible, and to answer any questions that may arise during the course of the term.

3.4 Design Principles

The project team will comply with municipal and provincial regulations in the design of both the pedestrian pathways and parking lot at St. George's.

3.5 Cost Estimating Strategy and Level of Accuracy

Final quantity takeoffs will be compiled after detailed drawings are completed. Local companies have been recommended by the client and will be contacted for competitive pricing. It is noted that due to the nature of this project and its community involvement, a large majority of labor and equipment costs are expected to be donated by local contractors. This will be taken into account in our cost estimate.

The client for this project has noted that they will be applying for the Angus Bruneau Student Leadership and Innovation Fund in Engineering to help subsidize costs for this project. The project team will aim to keep our solution within the financial constraints of this funding.

3.6 Desired Outcomes

Safety: Throughout our project, an overarching value is safety. The current parking and access area is not ideal and we hope to provide the most safety-conscious solution to our clients to ensure that all students, staff, parents, and visitors are not at risk while visiting St. George's. Through efficient design we will maximize traffic flow and access while minimizing opportunities for vandalism.

Youth Education/Community Outreach: A unique aspect of this project is the opportunity for community involvement. When narrowing down our design, we will keep in mind the intent to have Grade 6 students involved during the construction phase to increase awareness of the benefits of Engineering, particularly to the female students. We also intend to contact local contractors for pricing and to make them aware of the volunteer opportunities associated with this project.

Cost-effectiveness: Due to the not-for-profit nature of this project, there are unique challenges with respect to cost. We intend to provide the most cost-effective solution to fit the needs of our client while focusing on aiding in the recruitment of volunteer, grant, and donation-based funding, labour and equipment. We hope to combine our strong community outreach opportunities with local entrepreneurs to promote our project within the local community.

Efficiency/Accessibility: Due to the high volume of traffic in and out of the school, as well as the rapidly growing enrollment at St. George's, it is imperative that our solution be efficient and allow students, visitors, and staff to access the grounds and building with ease. This is especially true for students with physical disabilities as part of this project involves redesigning the wheelchair access ramps.

Sustainability: Our project team has an invested interest in environmental preservation and consideration. Where possible, we intend to use recyclable materials. We will also take sustainability into account when choosing our design. Any areas where we can maximize green space, in particular for use as playgrounds for the students, will be preferred in our concept selection.

Aesthetically–pleasing: St. George's Elementary is located on the main highway of CBS. It is used not only during school hours but also largely after-hours for extra-curricular and community events. When taking this into account, it will be important that our chosen design maximize the aesthetics of the school grounds for the students, staff, and all community visitors.

3.7 Reporting and Deliverables

Throughout the course of the project, progress information will be relayed both at weekly meetings and via email correspondence. The client will receive updates in the form of meeting agendas, meeting minutes, and continuously updated project schedules.

When forwarding documents to the client, the project team will use consistent Microsoft Word templates throughout the term and present the information in PDF format to ensure accuracy. Final drawing deliverables will be presented in AutoCAD format and all spreadsheets will be presented in Excel files.

3.8 Troubleshooting

Throughout the course of the project, several resources are available and will be of great benefit to the project team if any issues arise. The first point of contact with any questions will be the client representatives who are available via weekly meetings and email correspondence. For technical questions that arise, a number of instructors at Memorial University are available to offer their experience. Any information required from St. George's specifically can be brought to the attention of Paul Edwards, principal, or Chris Butler, teacher representative.

Apart from the many contacts available to us for this project, we will also rely on the resources at the Queen Elizabeth II library and the applicable codes and standards to answer any questions that we may have as we develop our design.

Research will help us obtain the necessary background information to answer many technical questions.

4.0 Tasks

The requirements for this project can be defined in six primary tasks: preliminary research, preliminary designs for the main entrance and the parking lot, concept selection, detailed designs for both components, a detailed cost breakdown, and the completion of the physical deliverables for this project. Within these six primary tasks are various subtasks to be completed. The allocation of resources for each of these subtasks is shown in Table 1.

4.1 Preliminary Research

To begin this project, we first must compile necessary background information on both the site and applicable codes and standards. This includes obtaining available site information from the client, completing required site surveys, observing the traffic and access issues at St. George's, and meeting with representatives at the school. To aid in starting our preliminary designs, we will also research previous cases with similar issues to help in recognizing the aspects of a successful solution.

4.2 Preliminary Design

After obtaining required background information, we will begin to create preliminary design ideas for the main entrance as it is the most time-sensitive part of this project. The design of this entranceway will first begin with a drainage and grading plan for the east side of the building to direct water away from where it is currently pooling around the front door. After this plan is complete we must redesign the current layout of this area including the pedestrian walkways and the access ramps to the main entrance to ensure that this area is still accessible for students with disabilities. This will also include some landscaping around the east extent of the playground.

Redesign of the parking lot includes changes to the bus routes, parent pick-up and drop-off points, and teacher and visitor parking stalls. There is room for creativity in this design in terms of parking lot and green space extents, and entry and exit points for the grounds. Because of this flexibility, we plan on creating three possible design concepts for the parking lot. We will determine a drainage and grading plan for the lot, extents of both pavement and green space, and pedestrian pathways as necessary. Also included will be the traffic and parking plan for the lot.

4.3 Concept Selection

The three concepts for both the main entrance and the parking lot will be assessed based on various criteria which we will outline in a selection rubric. This will include such factors as safety, efficiency of design, ease of construction, and cost effectiveness. The final chosen solution for each component will be one determined by the team, with client input, as the best design to meet the needs of student, staff, and visitors at St. George's.

4.4 Detailed Design

After a concept is selected for the main entrance to the school, we will begin detailing the design and drafting issued-for-construction drawings in AutoCAD. These will be reviewed by members of industry. As per the client's requirements, high level drawings will be produced of the final parking lot redesign.

4.5 Cost

Once final drawings are complete, an accurate quantity takeoff will be produced and local companies in CBS will be contacted for competitive material and equipment pricing. From this, we will produce a final detailed cost breakdown for the main entrance and parking lot redesigns.

It is noted that the other parking lot design concepts will be presented with a high-level cost budget as requested by the client to aid in the pursuit of funding.

4.6 Administrative Deliverables

Ongoing throughout the design process will be the completion of various physical deliverables for this course. This includes weekly progress reports, agendas and meeting minutes for weekly client meetings, and the completion of the final project report and oral presentation.

Primary Tasks	Subtasks	Personnel Responsible	Duration (days)	Resource Requirements
Preliminary Research	- Research applicable codes and standards	Project Team	7	
	- Site visit	Project Team	1	
	- Review background information from client	Project Team	7	
	- Conduct topographic survey for the main entrance	Adam	3	
Preliminary Design	- Generate main entrance concept 1	Adam	2	AutoCAD
	- Generate main entrance concept 2	Melissa	2	AutoCAD
	- Generate main entrance concept 3	Samantha	2	AutoCAD
	- Generate parking lot concept 1 (including strategy for drainage, grading and layout)	Amanda	2	AutoCAD
	- Generate parking lot concept 2 (including strategy for drainage, grading and layout)	Samantha	2	AutoCAD
	- Generate parking lot concept 3 (including strategy for drainage, grading and layout)	Melissa	2	AutoCAD
	- High level cost estimate for main entrance concepts	Adam	2	Excel
	- High level cost estimate for parking lot concepts	Adam	3	Excel
Concept Selection	- Complete concept evaluation matrix for main entrance: Select one concept	Project Team	1	Excel

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	- Complete concept evaluation matrix for parking lot	Project Team	1	Excel
Detailed Design	- Drainage plan for main entrance	Adam	5	AutoCAD
	- Grading plan for main entrance	Samantha	5	AutoCAD
	- Concrete design for main entrance	Melissa	3	AutoCAD
	- Landscaping design for main entrance	Amanda	2	AutoCAD
	- Parking lot extents	Project Team	2	AutoCAD
	- Analyze parking lot traffic flow	Amanda, Samantha	2	
	- Analyze sidewalk and curb layout for parking lot	Adam, Melissa	2	
	- Demolition plan for parking lot	Melissa	1	
	- Drainage plan for parking lot	Adam	4	
	- Grading plan for parking lot	Amanda	4	AutoCAD
	- Paving plan for parking lot	Samantha	1	AutoCAD
Cost Estimate	- Detailed cost estimate for main entrance concept	Adam	5	Excel
	- Detailed cost estimate for parking lot concepts	Adam	5	Excel
Administrative Deliverables	- Weekly meeting agendas and minutes	Project Team		
	- Progress updates	Project Team		
	- Project plan	Project Team	9	
	- Final report/presentation submission	Project Team	6	

Table 1 - Task Breakdown

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5.0 Schedule

A detailed project schedule created in Microsoft Project can be found in Appendix B. This schedule shows that the preliminary research for the project including the initial definition of requirements began on January 24th. Preliminary design work will commence on the 7th of February after a topographical survey of the grounds takes place. Once three designs have been developed for both the main entrance and the parking lot, we will begin concept selection. This is shown to be scheduled for February 15th. Once we have chosen a design for both parts of the project, detailed design including cost estimates will begin and be ongoing throughout February up until mid-March. The last two weeks of March will be used to finish the project and complete course deliverables including the final report and presentation.

This schedule will be reviewed at team meetings each week and updated as necessary. The client will be informed of the progression of the project at each weekly meeting, or by email correspondence when meetings are not held.

6.0 Costs

Costs incurred by the project team will be limited to those required for printing and binding services and travel to and from St. George's Elementary in CBS. The costs incurred thus far in the project are shown in Table 2.

Item	Total Cost
SOQ Printing/Binding Services (5 Color Copies)	$40.00
Travel to/from Site	$20.00

Table 2 - Costs Incurred to Date

It is noted that all costs incurred have been evenly distributed amongst team members, as will all future costs.

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7.0 Deliverables

Upon completion of this project, the following items will be submitted to both the client and instructor:

- Issued-for-construction drawings for the main entrance design in both a hard and soft copy
- High level drawings for the parking lot redesign in both a hard and soft copy
- Detailed cost estimate
- Final project report in both a hard copy (bound) and a soft copy
- Project presentation in both a hard copy and a soft copy

It is noted that the soft copies of all documents will be submitted via email.

8.0 Risks

AMS intends to take a proactive approach to this project and plan ahead to mitigate risks during the design process. Currently the only issue that we foresee which may hinder the progression of our work is the completion of a topographical survey at St. George's. This survey is dependant on the weather and must be coordinated with the schedules of both the Geomatics instructor and students at the College of the North Atlantic. Completing this work in a timely manner is essential to the progression of our design work.

APPENDIX A – SUMMARY OF QUALIFICATIONS

AMS Engineering Consultants

STATEMENT OF QUALIFICATIONS

Winter 2013

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Innovators of Today,
Leaders of Tomorrow

Contact Information

Samantha Batstone
Melissa Collins
Amanda Curnew
Adam Drover

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Mission Statement

AMS Engineering Consultants is committed to providing sustainable, feasible, and innovative solutions. We are focused on developing trusting relationships with our clients so that we may understand their needs and work diligently to provide deliverables of the highest quality.

About Us

AMS Engineering Consultants was established in 2009 and has developed a diverse skill set and strong academic background in civil engineering through the co-operative program at Memorial University. Throughout the past four years we have worked both individually and as a team on projects that have allowed us to become knowledgeable in the areas of:

- Project Management
- Cost Estimating
- Project Scheduling
- Structural Design and Analysis
- Environmental Analysis
- Socially-Responsible Engineering

Our Values

INTEGRITY

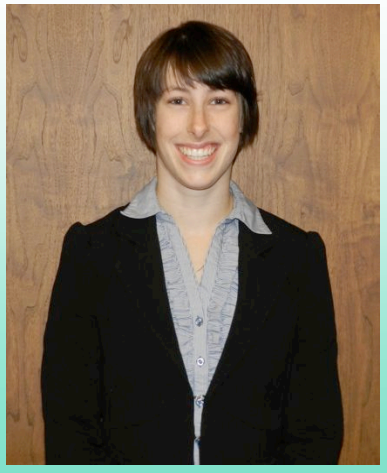
TEAMWORK

RESPECT

EXCELLENCE

PROJECT TEAM

Samantha Batstone



Samantha is a senior civil engineering student at Memorial University. Her strongest attributes include her organizational skills and past research experience. Samantha has been noted as a result oriented individual by all work term employers and is comfortable with keeping even the largest tasks on track. Samantha is a self-starter who has developed professional work relationships with both peers and superiors. Notable areas of experience include:

- Industrial effluent monitoring
- Research on down-hole vibrations during drilling
- Road quality testing
- Highway design
- Lab testing of concrete specimens and daily record keeping

Melissa Collins

Melissa is a civil engineering student in her last term of study at Memorial University. Her five co-operative work term experiences have allowed her to gain valuable skills in the field of project management, especially as it pertains to the commercial construction industry. Melissa is a well-rounded individual who is known for her willingness to take on new challenges using her time management, organization and logical-thinking skills. Notable areas of experience include:

- Estimating for commercial construction projects
- As-built drawing creation onsite
- Quality control/quality assurance
- Sub-contractor relations/management
- Safety assurance/monitoring onsite

PROJECT TEAM

Amanda Curnew

Amanda is a fifth year civil engineering student at Memorial University. Throughout her co-operative education program, she has completed five work terms in the local oil and gas industry, with a focus in development projects. Amanda is an asset to the engineering team given her extensive project management experience for various civil-related work scopes. Amanda's strengths include her communication skills, organizational abilities and leadership qualities. Notable areas of experience include:

- Client/contractor management
- Reviewing technical drawings
- Field engineering
- Graving dock design
- Civil site investigations

Adam Drover

As a term 8 civil engineering student at Memorial University, Adam brings a variety of experience and skills to the team. With a focus on heavy civil and industrial construction, he has the hands-on experience to assertively manage field work and contracting while minimizing costs. With experience as both client and contractor in the field and as a controller, he can effectively manage the many challenges that arise in even the most difficult projects. Notable areas of experience include:

- Management of large earthworks and concrete projects
- Field safety and work planning
- Contract and cost control
- Estimating/quantity surveying
- Lease, lean, and equipment procurement

WORK EXPERIENCE

- Advanced Drilling Group – Research: Down-hole Vibrations during Drilling
- C-CORE – Ice Engineering
- Department of Environment and Conservation – Industrial Effluent: Regulatory Compliance Review
- Department of Transportation and Works
  - Bridge Design
  - Highway Design
  - Hurricane Igor Relief Effort
  - Materials Engineering
  - RNC Headquarters Redevelopment
- ExxonMobil
  - Hebron Project
  - Hibernia Project
- Fluor Canada Ltd. – Long Harbour Processing Plant Project
- Husky Energy – Wellhead Platform Project
- Nalcor Energy
  - Concept Evaluation: White Rose Extension Project
  - Parsons Pond Project
  - Upper Churchill Hydro Project
- PCL Construction Management
  - Edmonton Clinic North
  - Estimating Services
- Rio Tinto – Mine Operations Projects
- Stantec Consulting Ltd. – Laboratory Services
- Syncrude Canada Ltd. – Aurora Expansion Project

Software Capabilities

AutoCAD
AutoCAD Civil 3D
ArcGIS
Finite Element Analysis
HEC-RAS
Microsoft Office
On-Screen Takeoff
Que$tor
S-Frame

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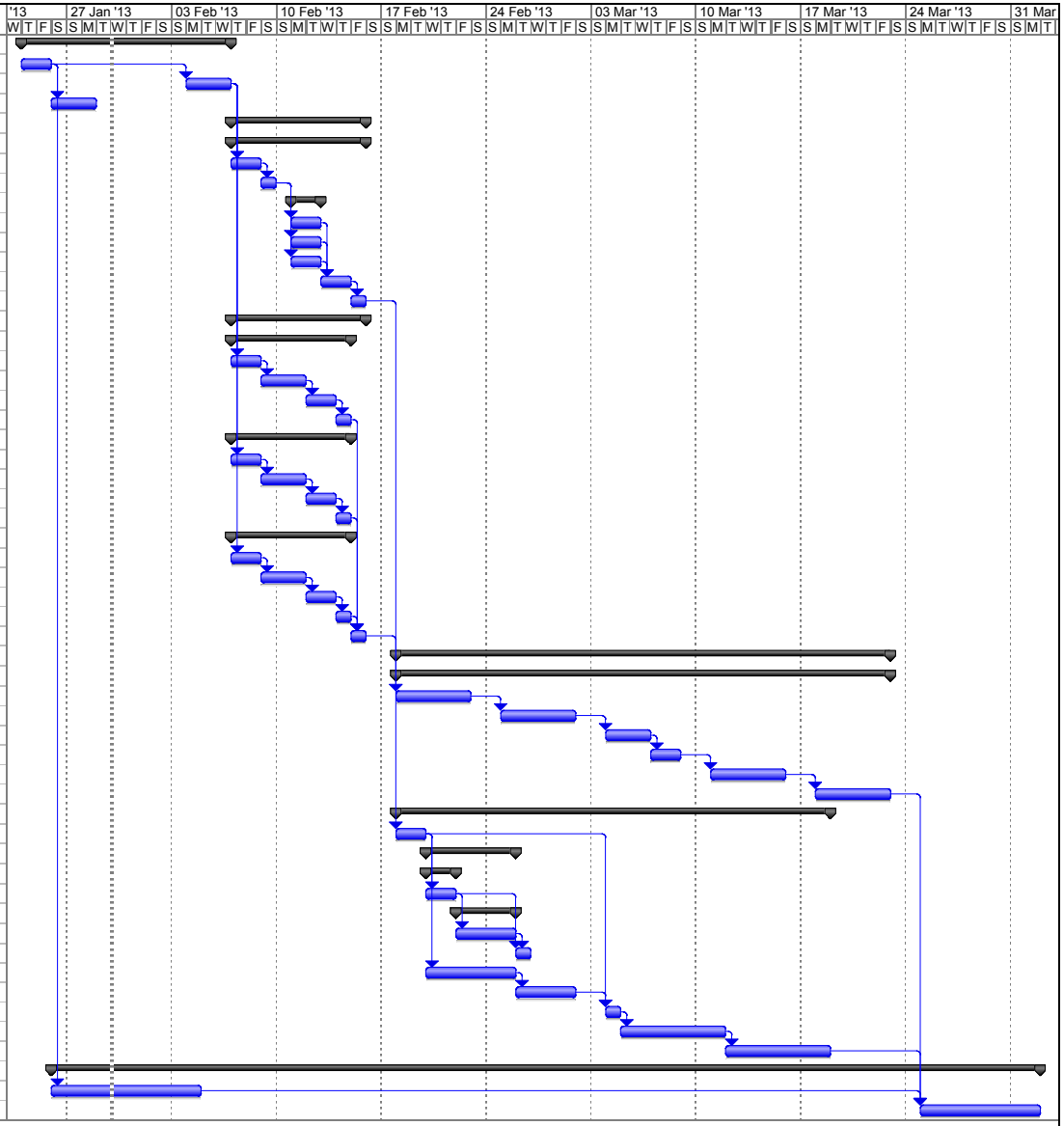
APPENDIX B – PROJECT SCHEDULE

ID	Task Name	Duration	Start	Finish	Predecessors
1	**Problem Definition and Assessment**	**13 days**	**Thu 24/01/13**	**Wed 06/02/13**	
2	Initial Site Assessment	2 days	Thu 24/01/13	Fri 25/01/13	
3	Surveying	3 days	Mon 04/02/13	Wed 06/02/13	2
4	Traffic Study	2 days	Sat 26/01/13	Mon 28/01/13	2
5	**Concept Generation**	**8 days**	**Thu 07/02/13**	**Fri 15/02/13**	
6	**Entranceway**	**8 days**	**Thu 07/02/13**	**Fri 15/02/13**	
7	Drainage	2 days	Thu 07/02/13	Fri 08/02/13	3
8	Grading	1 day	Sat 09/02/13	Sat 09/02/13	7
9	**Layout**	**2 days**	**Mon 11/02/13**	**Tue 12/02/13**	
10	Concept 1	2 days	Mon 11/02/13	Tue 12/02/13	8
11	Concept 2	2 days	Mon 11/02/13	Tue 12/02/13	8
12	Concept 3	2 days	Mon 11/02/13	Tue 12/02/13	8
13	Preliminary Cost Estimate	2 days	Wed 13/02/13	Thu 14/02/13	10,11,12
14	Selection of Concept for Detailed Design	1 day	Fri 15/02/13	Fri 15/02/13	13
15	**Parking Lot**	**8 days**	**Thu 07/02/13**	**Fri 15/02/13**	
16	**Concept 1**	**7 days**	**Thu 07/02/13**	**Thu 14/02/13**	
17	Drainage	2 days	Thu 07/02/13	Fri 08/02/13	3
18	Grading	2 days	Sat 09/02/13	Mon 11/02/13	17
19	Layout	2 days	Tue 12/02/13	Wed 13/02/13	18
20	Preliminary Cost Estimate	1 day	Thu 14/02/13	Thu 14/02/13	19
21	**Concept 2**	**7 days**	**Thu 07/02/13**	**Thu 14/02/13**	
22	Drainage	2 days	Thu 07/02/13	Fri 08/02/13	3
23	Grading	2 days	Sat 09/02/13	Mon 11/02/13	22
24	Layout	2 days	Tue 12/02/13	Wed 13/02/13	23
25	Preliminary Cost Estimate	1 day	Thu 14/02/13	Thu 14/02/13	24
26	**Concept 3**	**7 days**	**Thu 07/02/13**	**Thu 14/02/13**	
27	Drainage	2 days	Thu 07/02/13	Fri 08/02/13	3
28	Grading	2 days	Sat 09/02/13	Mon 11/02/13	27
29	Layout	2 days	Tue 12/02/13	Wed 13/02/13	28
30	Preliminary Cost Estimate	1 day	Thu 14/02/13	Thu 14/02/13	29
31	Selection of Concept for Detailed Design	1 day	Fri 15/02/13	Fri 15/02/13	20,25,30
32	**Detailed Design**	**25 days**	**Mon 18/02/13**	**Fri 22/03/13**	
33	**Entranceway**	**25 days**	**Mon 18/02/13**	**Fri 22/03/13**	
34	Drainage	5 days	Mon 18/02/13	Fri 22/02/13	14
35	Grading	5 days	Mon 25/02/13	Fri 01/03/13	34
36	Concrete	3 days	Mon 04/03/13	Wed 06/03/13	35
37	Landscaping	2 days	Thu 07/03/13	Fri 08/03/13	36
38	Cost Estimate	5 days	Mon 11/03/13	Fri 15/03/13	37
39	Final Design Report	5 days	Mon 18/03/13	Fri 22/03/13	38
40	**Parking Lot**	**21 days**	**Mon 18/02/13**	**Mon 18/03/13**	
41	Extents	2 days	Mon 18/02/13	Tue 19/02/13	31
42	**Flowpaths**	**4 days**	**Wed 20/02/13**	**Mon 25/02/13**	
43	**Traffic**	**2 days**	**Wed 20/02/13**	**Thu 21/02/13**	
44	Parking and Right Of Way Layout	2 days	Wed 20/02/13	Thu 21/02/13	41
45	**Pedistrian**	**2 days**	**Fri 22/02/13**	**Mon 25/02/13**	
46	Sidewalk and Curb Layout	2 days	Fri 22/02/13	Mon 25/02/13	44
47	Demolition of Existing Infrastructure	1 day	Tue 26/02/13	Tue 26/02/13	44,46
48	Drainage	4 days	Wed 20/02/13	Mon 25/02/13	41
49	Grading	4 days	Tue 26/02/13	Fri 01/03/13	48
50	Paving	1 day	Mon 04/03/13	Mon 04/03/13	41,49
51	Cost Estimate	5 days	Tue 05/03/13	Mon 11/03/13	50
52	Final Design Report	5 days	Tue 12/03/13	Mon 18/03/13	51
53	**Reporting**	**50 days**	**Sat 26/01/13**	**Mon 01/04/13**	
54	Project Plan	9 days	Sat 26/01/13	Mon 04/02/13	2
55	Final Client Design Submission	6 days	Mon 25/03/13	Mon 01/04/13	39,52,54



Project: ProjectSchedule_Rev1
Date: Wed 30/01/13

Task | Progress | Summary | External Tasks | Deadline
Split | Milestone | Project Summary | External Milestone

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