CHARTERED PROFESSIONAL ACCOUNTANTS CANADA

CFE CANDIDATE NUMBER:

Common Final Examination
Capstone 1 Case and Rough-notes
May 25, 2016 – Day 1
(Booklet #2 – CHEI Case Version 1)

Fill in your 7-digit candidate number on the booklets and the USB key. The exam and rough note booklets, the USB key (or paper response as instructed) must be submitted before leaving the writing centre. They must NOT BE REMOVED from the writing centre. If these items are not received, the response may not be accepted.

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Chartered Professional Accountants of Canada
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Toronto, Ontario M5V 3H2

Canada Heavy Engineering Incorporated – Case

Capstone 1

(All dollars are Canadian dollars unless specifically stated otherwise.)

It is May 15, 2016, and it is your second week working as a CPA with Chuck Poisson Smythe (CPS) Management Consultants. You have been assigned to develop a report for the Board of Directors (board) and management of Canada Heavy Engineering Incorporated (CHEI).

CHEI has approached CPS with a request to assist them in strategic analysis and to set a new direction for the company. CHEI is concerned with their ability to meet growth and profitability targets. There are also several operational issues that they would like you to analyze and address.

You have been provided with the following information to review and analyze.

Company background

CHEI is a privately owned Canadian company. Since incorporation, CHEI has only issued common shares. CHEI's organization chart and list of shareholders is provided in Appendix I.

CHEI consists of a head office and two operating divisions: the Heavy Engineering (HE) division and the Homes division. The HE division executes heavy engineering and construction projects both internationally and within Canada. The HE division's projects include the building of bridges, dams, roads and highways. The Homes division develops residential properties of various sizes with a focus on detached homes in the starter to intermediate price range.

CHEI has a December 31 year end. Consolidated financial information is presented in Appendix II. HE's divisional income statement is presented in Appendix III. Homes divisional income statement is presented in Appendix IV. CHEI's head office does not charge costs to the divisions. The head office's 2015 financial information can be found in Appendix V.

CHEI's headquarters, including its divisional headquarters, are located in Hamilton, Ontario. Additionally, the company has local offices in Montreal, Ottawa, Vancouver, New York, Paris, Singapore, Abuja (Nigeria), Colombo (Sri Lanka) and Yangon

(Burma). The head office building and the local Canadian office buildings are owned by CHEI who holds a long-term mortgage on each property. All of CHEI's offices outside of Canada are leased. Temporary offices are set up at all major job sites.

CHEI has several wholly-owned subsidiaries located in the USA, France, Sri Lanka, Nigeria, Singapore and Burma through which it carries on operations in that country, or continent as applicable. The wholly-owned subsidiaries have varying corporate tax rates, with Burma offering the lowest corporate tax rate at 15%. CHEI's head office does not charge costs to its subsidiaries.

CHEI was founded in 1952 by Howard Navire, a civil engineer. CHEI began providing consulting services, and within a decade the company was executing large-scale projects such as the design and construction of dams and bridges. CHEI has received recognition within Canada for the high quality of their work. The company had been family run since its inception until 1999 when the first non-family member CEO was hired.

CHEI's vision statement, adopted by the board in 2001, is:

Our vision is to be the best medium-sized heavy construction and mid-market residential construction and property development firm in Canada.

CHEI's mission statement, adopted by the board in 2007, is:

Canada Heavy Engineering Inc. maintains high standards in completing all customer projects on time and on budget, and in building high-quality homes for first-time buyers and other customers who want competitively priced residences.

CHEI faces several legal risks related to environmental issues, workplace injuries, property damage, project delivery and project quality but the company has never gone to court for reasons related to a contract or a project. CHEI has settled several employee dismissals in court.

CHEI has no corporate environmental policies in place. Historically, CHEI has ensured that it follows all relevant environmental laws in the jurisdiction where it is working. If any issues arise related to the breach of environmental laws, CHEI's customers are expected to deal with these issues.

CHEI's bank requires audited financial statements. Carthy and Younge, LLP (CY) has been appointed as the company's auditor since incorporation because of the close business relationship between Howard and one of CY's founding partners. CHEI has always received an unqualified audit report and the board remains satisfied with CY's service. CY is located in Toronto, Ontario, and because of the significant geographical distance between CY and several of CHEI's subsidiaries, CY's international affiliates audit the larger subsidiaries in the group. CHEI's smaller subsidiaries are generally not audited. CY prepares the corporate income tax returns for CHEI and all of its subsidiaries.

CHEI's stated objective is to earn a 16% margin on revenues and to earn pre-tax profits of 7% of revenues. CHEI's corporate tax rate is 27%.

Company structure

CHEI is primarily a family-owned business. Members of the Navire family own approximately 82% of the company's common shares. Four family friends, who purchased shares in 1990, own the balance of the company's shares. A list of CHEI's current shareholders and key terms from the unanimous shareholder's agreement are provided in Appendix I. CHEI usually pays an annual dividend at the end of April, based on funds available and the outlook for the upcoming year. Over the years, the dividends paid to CHEI's shareholders have been generous.

CHEI's board meets every second month, usually at the company's head office. The board has no committees. Under the terms of the company's Project Approval Policy, all discrete projects or contracts over $40 million must be approved by the board.

According to a recent board decision in January 2014, CHEI's standard pre-tax investment hurdle rate of 15% should be used for all project and investment decisions.

Board members who are neither employees nor stakeholders of CHEI are paid $5,000 per board meeting plus $250 per hour for any work performed for the board.

The board of each of the subsidiaries consists of one person who is the head of that subsidiary.

CHEI's board must consist of six members who meet the following criteria:

- one individual nominated by Cecilia Navire, the wife of CHEI's founder, Howard Navire
- two individuals representing the immediate offspring of Howard and Cecilia Navire
- one individual representing other Navire family shareholders
- two independent non-family members with relevant experience and expertise (These members must be unanimously approved by all of the preceding board members.)

CHEI's board is currently composed of the following individuals:

Penelope Navire is the Chair of the Board and the nominee of her mother, Cecilia. Although Penelope lacks business experience, she is very organized and keeps the board on topic. She drives board members to make decisions at meetings.

Sisi Nagy is a commercial lawyer and represents the immediate offspring of Howard and Cecilia Navire. Sisi is 48 years old and is a partner in a law firm based in Calgary.

John Higman is a retired CEO of an American company that is similar to CHEI. John is 68 years old and alongside Sisi, he represents the children of Howard and Cecilia Navire. By profession, John is a civil engineer.

Frank Cessnik is the son of Rachel Navire, Howard and Cecilia's daughter. Frank is a 38-year-old investment advisor and mutual fund salesperson for a large investment firm. Frank was selected by the other Navire family shareholders under the provisions of the shareholder's agreement.

Independent board member, Kathy Fernandez, is a west coast real estate developer who currently owns more than 70 residential and commercial rental properties through her company, Fernandez West Coast Holdings Inc.

Independent board member, Frederick Dale, is a retired provincial politician. Frederick is 64 years old. Frederick was the Minister of Infrastructure in Alberta, a province in which CHEI has done a lot of business. CHEI approached Frederick and asked him to sit on the board two years after he lost his last election.

Head office

CHEI's corporate management team is composed of the following individuals:

James Johnson is the President and CEO of CHEI. James graduated in 1975 with a degree in civil engineering from the University of Waterloo. CHEI recruited James soon after his graduation. James became the HE division's President in 2004 after assuming increasingly more responsible technical, project management and sales positions in the HE division. James became the President and CEO of CHEI in 2012 and he is the second non-family member in this role. James is supported by two executive assistants and travels extensively. James' base salary is $520,000.

Kelly Mack is the VP, Finance and Systems. Kelly is 39 years old, is based at the head office and holds an American management accounting designation, which she earned after graduating with a BSc in business management from a United States university. Kelly admits that her knowledge of Canadian accounting and tax is weak. Kelly was hired as the Controller for the HE division in 2009. Kelly became the VP, Finance and Systems in 2014. One of Kelly's roles is to lead negotiations for international project financing with the EDC. Both divisional controllers report to Kelly on a dotted line basis.

Zoe Murphy is the VP, Human Resources (HR). Zoe is a 53-year-old Bachelor of Commerce graduate with a major in HR from a Canadian University. Zoe has worked for CHEI for 30 years and began with the company as a junior HR staff person.

Two internal lawyers are based at CHEI's head office. One lawyer works exclusively on the HE division's contracts and related matters, while the other lawyer divides his time between the HE division (60%) and the Homes division (40%). Both internal lawyers are very busy, and any work that they cannot do is outsourced to two law firms located in Hamilton.

Human Resources

CHEI has a stable, well-educated and loyal group of employees. CHEI's employee group has a higher percentage of management than most businesses, since much of the work is contracted out in both the HE and the Homes divisions. Managers do not receive overtime pay but almost all of CHEI's employees are willing to work extra hours when required. CHEI has rarely laid off head office and divisional employees and when the company has, it has paid generous severance packages. The severance packages equal, on average, one month of pay per year of service to a maximum of 20 months.

None of CHEI's employees are unionized in either the HE or the Homes divisions and there has never even been an attempt by CHEI's employees or by outsiders to organize a union. CHEI generally does not hire new graduates because it needs experienced people to execute its complex projects.

The age distribution of the company's work force is as follows:

Age	Senior management	Management	Other*	Total
29 and under	–	1	42	43
30-39	1	46	88	135
40-49	4	130	262	396
50-59	5	220	246	471
60 plus	2	88	66	156
	12	485	704	1,201

* Non-management and contract employees

During the last year, 121 employees retired from the company, including 72 managers.

CHEI pays its employees salaries that are consistent with the salaries paid by industry and its competitors. CHEI's managers earn, on average, $120,000 which includes benefits. CHEI's non-managers earn, on average, $65,000 which includes benefits. CHEI's head office executives, including the CEO and the VP's, are paid a total bonus equal to 0.4% of consolidated net income from operations. The CEO's bonus is determined by the board and any money remaining is allocated by the CEO to the VP, Finance and Systems and the VP, HR based on individual performance.

In the HE and the Homes divisions, the executive team earns a bonus based on the individuals' actual achievements, versus planned targets as per the annual appraisal. The division's executives can earn up to 7% of their base salary as a bonus.

The board believes there is good buy-in to these bonus schemes and they are good motivators of the executives.

CHEI provides a benefit plan that is slightly better than the average industry benefit plan and includes health and dental coverage, accidental death and dismemberment insurance, life insurance, and disability insurance. CHEI also provides its employees a generous group Registered Retirement Savings Plan (RRSP). Under the group RRSP plan, CHEI will match its employees' contributions to a total contribution equal to 15% of the employee's salary. Many of CHEI's employees have retired by 60 years of age even though the mandatory retirement age is 65. This is primarily due to the generous RRSP plan offered by CHEI.

All of CHEI's employees in North America are paid via direct deposit using a major outside payroll service. Employees who are located outside of North America are paid by local independent payroll providers. CHEI's employees who are located in countries with emerging economies are paid via bank wire.

Over the past three years, many of CHEI's Canadian employees have complained about the uncertainty of their take-home pay when they have been posted overseas for more than a year. They have also complained about other aspects of living abroad including, but not limited to, relocation costs and international housing.

Heavy Engineering division

Industry

The Canadian construction industry is estimated to be worth approximately $168 billion per year and includes heavy, residential and general commercial construction contracts. There are more than 265,000 firms in the industry with approximately 150,000 of those being private trade contractors.[1] The Canadian heavy construction industry is worth approximately $40 billion of this total. The Canadian heavy construction industry is dominated by large domestic and international companies. The industry's key success factors include the creation and maintenance of strong government and customer relationships, accurate estimation of project costs, reliable project management, smooth project execution, and good management of risk.

In the United States (U.S.), the construction industry is much larger and is estimated to be worth $1.73 trillion in U.S. dollars. Of this total, heavy civil engineering amounts to US$260 billion.[2]

In both Canada and the U.S., the majority of the construction spending is made by governments on infrastructure. The industry is impacted by recessions and other economic crises, although, as a means of stimulating the economy, many governments increase infrastructure spending during periods of recession.

[1] Source: http://www.careersinconstruction.ca/industry, accessed May 2, 2014.
[2] Source: http://www.statisticbrain.com/construction-industry-statistics/, accessed May 2, 2014.

Export Development Canada (EDC) is a federally owned crown corporation whose role is to offer "financial and risk management solutions to help Canadian businesses expand into the U.S. and other international markets."[3] The EDC provides loans, bank guarantees and other financing assistance to help Canadian companies win contracts. It also provides Canadian companies with assistance related to foreign project insurance, bonding and other guarantees. Historically, CHEI has limited its projects to $100 million in countries where there is EDC support or where there is relative stability, with a few exceptions.

Various pieces of legislation impact the construction industry in Canada including the *Corruption of Foreign Public Officials Act* and the *Workers Compensation Act.* The *Corruption of Foreign Public Officials Act* prohibits bribery of foreign public officials. When hired, all of CHEI's employees in sales outside of Canada sign a no bribery pledge as part of their employment contract. CHEI has never been charged or investigated under this Act.

The *Workers Compensation Act* protects employees from financial hardships due to work-related injuries and occupation induced diseases. HE's safety record is slightly above the industry average.

CHEI has a number of large and small competitors. Many on the international contracts are European companies. DNC Maverick Inc. (DNC) is a publicly traded Canadian company that has been in direct competition with CHEI as a rival bidder on many of its projects. DNC has grown, on average, by 14% per year over the last five years. In the 17 years since it was started, DNC's reputation has grown as they expanded around the world. It is now the biggest Canadian company in the industry.

History of the division

Until recently, the HE division's core business involved building dams, bridges, roads and highways. A breakdown of the HE division's 2015 projects is provided in Appendix VI. Since 2011, the HE division has successfully constructed several concrete-steel composite arch bridges and concrete arch dams. Since 2012, the HE division has acted as the project manager for the building of several natural gas co-generation plants. Natural gas co-generation plants generate electricity economically from natural gas with low levels of pollution. Prior to its work on the natural co-generation plants, CHEI had consulted on more than a dozen projects in this sector. This year, the HE division has also been involved in the refurbishment of a mine. This is the first time that CHEI has taken on a project of this type.

In 2014, CHEI realized significant losses on three projects. The Mylark dam project losses were due to blasting costs that were significantly over budget while the other two project's losses were due to poor cost estimation.

[3] Source: http://www.edc.ca/en/Pages/default.aspx, accessed April 25, 2014.

Operations

The HE division enters into two basic types of construction contracts with its customers:

1. fixed price, where CHEI assumes most, or all, of the risk (For certain projects, risk premiums are built into the bid.)
2. cost-plus, where CHEI is paid for qualifying costs, plus a fixed mark-up

When determining the price for a fixed price construction contract, CHEI will make a number of assumptions. These assumptions include, but are not limited to, the productivity and performance of employees, the ability to obtain necessary environmental permits and approvals, and the availability of labour. All of these assumptions increase risk to CHEI as they may impact the project's cost or the project's schedule. Where an added cost is realized that was not anticipated in the original fixed price construction contract, CHEI will attempt to change the price by way of a "change order."

The majority of the HE division's projects are fixed price construction contracts. Larger projects can take years to complete and involve many small and large subcontractors who perform project tasks such as excavation, earth moving, drilling and blasting, lighting, drainage, and landscaping. Subcontractors may also be hired to install entire hydro-electric or gas-electric generation systems.

For most construction contracts, CHEI is the main contractor. All construction contracts define the project requirements and technical specifications that are written up in a master contract agreement. Where the customer does not insist on using their own standard documentation, CHEI uses a contract template.

CHEI negotiates billings with its customers and defines the billing arrangements in its construction contracts. CHEI prefers to base its billings on pre-determined dates, rather than project milestones, in case the project falls behind schedule. This is always a negotiating point with the customer.

CHEI's construction contracts usually contain a holdback amount of approximately 10% which is industry standard. The holdbacks reduce the contract billings and are released to CHEI one year after the project is completed and CHEI has confirmed that all of its subcontractors have been paid. The holdback provides assurance to CHEI's customers that there won't be any liens taken against their property by unpaid subcontractors.

Each contract details the warranty period with respect to workmanship, materials and major structural defects. At completion of each project, a maintenance bond is provided to the customer. The maintenance bond functions as an insurance policy on a construction project by ensuring that CHEI will correct any defects identified in the warranty period.

CHEI’s consulting contracts typically result in lower profit margins as they bear lower risk. An example of a consulting contract is the authoring of a well-defined and accurate request for proposal (RFP) for a client. CHEI will rarely enter into consulting contracts for projects that they would like to construct since this type of involvement can result in CHEI being ineligible to bid on the project.

CHEI’s maintenance contracts are typically fixed-price, multi-year contracts that require the company to meet pre-defined maintenance standards. To improve their competitive advantage and reduce future maintenance costs, CHEI has developed certain predictive algorithms for concrete and asphalt wear and ice and frost damage.

Project execution

Some of CHEI’s projects are located in, or close to, urban centres while other projects, such as dams and bridges, are in remote locations. Concrete, asphalt and structural steel tend to be the largest material inputs for projects.

Larger or more complex projects have a project director who is accountable for project execution. Smaller projects have a project manager. The project director or manager is supported by a team of employees and contractors who may be on-site full-time, off-site, or back and forth from the site as needed. Typically, the design and planning employees work at the head office, while the supervisory employees are on-site.

Contractors are hired by CHEI to fill in the gaps in a project’s staffing complement. Contractors are also hired by CHEI when they have specific skills that are needed for certain projects.

CHEI will often staff its international subsidiaries in developing countries with long-term Canadian employees and local employees who have experience working on large construction projects. Local employees are often paid significantly less than their Canadian counterparts which causes some resentment. Where labour is very cheap and is difficult to get equipment to a job site, a large number of manual labourers may be employed for certain tasks.

Subcontractors own and operate most of the heavy equipment needed for CHEI’s projects. The HE division owns portable site offices and housing, light trucks, trailers, and various measuring and monitoring devices for construction management.

Sales, marketing and bidding

The HE division has 27 sales and customer relations employees who report to the division’s VP, Sales and Customer Relations. Their objective is to ensure that CHEI wins as many profitable project bids as possible. These employees identify bidding opportunities both in Canada and internationally. Representatives from the sales team always attend key trade shows in the industry, both in Canada and the main geographic markets.

Once an opportunity to bid has been identified, the Bidding and Estimation Department becomes involved. The Bidding and Estimation Department consists of 38 employees who work closely with the project execution and design personnel to prepare accurate bids. Generally, international bids are quoted in U.S. dollars while bids in Canada are quoted in Canadian dollars. Since many of CHEI's expenses are in U.S. dollars, the company has a natural hedge to most foreign exchange exposure.

The majority of bids that CHEI enters into are highly competitive with many other companies bidding. Occasionally, when CHEI is bidding in a foreign jurisdiction, they will hire a local sales agent to advise them. CHEI's sales agent in Burma is an ex-employee who has been very helpful in securing contracts for the company. This employee has developed strong relationships with the Burmese government and while the commissions paid to him are high, he has been able to obtain construction contracts within Burma at overall high margins.

Customers often require that bidders submit a bid bond. A bid bond, usually worth 10% of the construction contract's value, is submitted for the purpose of providing a guarantee that, if selected, the successful bidder will take on the project. If the contract is awarded, CHEI would provide a performance bond to their customer. A performance bond provides assurance that CHEI will complete the contract. Some contracts also require that a maintenance bond be submitted. The HE division has a long relationship with an insurance company that provides bid, performance and maintenance bonds at a modest cost, given CHEI's history of completing projects in a timely manner to the satisfaction of the customer.

CHEI entered into a major rework of its website in early 2016. The new website, which launched in March of 2016, has increased the number of site visits and it is estimated that the new site has resulted in at least $5 million of new construction contracts.

Divisional management team

Issa Chewani is the President of the HE division. He has spent his career in heavy engineering. Issa's area of expertise is in dam construction. Issa has worked for CHEI for 28 years, where he began as a design intern. Issa has completed 17 international projects and he speaks Arabic, French and some Hindi. Issa's wife Janni works for the Homes division.

Jordan Alexander is the VP, Project Execution of the HE division. Jordan has been identified as the next President of the HE division and he is both creative and methodical. Jordan is a dedicated employee, often working more than 80 hours a week. Jordan meets with each one of the individuals who report directly to him either in person or by video conference.

Eva Jones is the VP, Sales and Customer Relations for the HE division. Eva is focused on ensuring that CHEI's customers are satisfied with the work performed by the HE division and, in case of a dispute, that the customer is in agreement with the resolution. Eva is very good at her job and has successfully negotiated resolutions to several customer disputes. She is evaluated on total revenues of the division and customer satisfaction surveys.

Manuel Pele is the VP, Bidding and Estimation of the HE division. Manuel's role is critical to the success of the projects that the HE division undertakes. If Manuel's project bids are too low and are accepted, CHEI could lose a significant amount of money. Conversely, if Manuel increases his project bids, CHEI will not be successful on the bids and lose business. He is evaluated primarily on customer margin earned. Eva and Manuel often disagree over the amount to bid. Manuel, who has final authority on the bids, consistently pushes for higher bids than Eva.

Abisher Dagger is the Controller of the HE division. Abisher maintains the HE division's financial records. Abisher is new to his role, coming to CHEI from the retail industry. Abisher is contemplating pursuing the Chartered Professional Accountant designation.

Homes division

Industry

The Canadian housing industry is large. Home building and home renovation represent approximately $128 billion of the Canadian economy.[4]

The majority of residential construction companies are small, privately held and family owned. Some of these companies build a wide range of residential housing from starter homes to large, deluxe dwellings, while other companies are involved in industrial land development and commercial real estate in addition to residential construction. There are very few residential construction companies that are owned by foreign parties.

Federal, provincial and municipal governments have an important role in the housing industry. For larger home-building projects, provincial and municipal approval must be obtained. Municipalities charge development cost charges (DCCs) and other fees for each new housing unit.

Home sales are driven by economic cycles and interest rates, which have been low for several years. In addition, a greater proportion of home sales tend to close in the spring and summer, given the seasonal nature of the housing industry. The average annual price increase of homes in Canada over the last six years has been approximately 4.4%.

[4] Source: http://www.thestar.com/business/real_estate/2014/04/16/canadian_real_estate_and_housing_boom_may_be_ending_scotiabank_warns.html, accessed May 3, 2014.

The following table represents actual and forecasted Canadian new housing starts from 2012 to 2017:

2012	*217,550*	
2013	*188,400*	
2014	*188,500*	
2015	*184,300*	
2016	*187,470*	*forecast*
2017	*188,450*	*forecast*

History of the division

The Homes division was founded in 1968 after Howard identified an opportunity to develop residential properties of various sizes with a focus on detached, starter and intermediate homes.

Historically, the Homes division's projects have been located in the Maritimes, Quebec, Ontario and British Columbia. Many of the Homes division's projects have been award winning and include the 1998 MacArthur Park development of starter detached homes in Brampton, Ontario and the Homes division's largest project, the 2008 Mountain Black development of 271 units in Montreal, Quebec. The Homes division's smallest project consisted of 11 homes.

For economic and market-driven reasons, not all of the Homes division's projects have been financially successful. For example, during the 1989 slow-down of the Toronto housing market, a loss of more than $10 million was realized.

Operations

The Homes division carries on business under the brand Advantaj Homes (Advantaj) which has a good reputation and an average safety record in an industry where many builders' homes have significant construction quality issues. The Homes division is a member of several home-builder associations at the national, provincial and the local levels.

A key success factor for the Homes division is obtaining high-quality, reasonably priced land and developing it when the market is strong, using cost effective construction techniques. A key challenge for the Homes division is the decreasing supply of land available for housing development. The Homes division tries to hold onto acquired land for a short period of time to minimize carrying costs such as interest and property tax. Land transfer tax must also be paid on purchased land.

In addition to minimizing the carrying cost on acquired land, the Homes division focuses on minimizing expenses related to government DCCs. These charges are one-time fees paid by developers and collected by governments at the time of building permit acquisition. DCCs are collected to offset the costs related to roads, drainage and parkland.[5]

In some cases, the Homes division buys land that needs to be rezoned. In other cases, the Homes division acquires rezoned, and sometimes serviced, land from speculators or from other developers. Typically, 30 to 80 homes are built on parcels of land between five and 15 acres in size. Approximately five to eight homes will be built per acre, as some of the land must be used for roads and municipally mandated recreation areas. The average number of homes that are built by the Homes division is six per acre. The Homes division has never had to resell land because it could not use it.

The Homes division works with the relevant provincial new home warranty agencies, and there have been no claims against CHEI by any of the agencies.

Home design

The Homes division offers nine basic plans for homes: five plans for starter homes and four plans for intermediate homes. With the basic designs there are a number of variations that can be selected, such as enclosed versus open front entrances, sun rooms, etc. The division contracts out all architectural work, but designs do not need to be updated very often.

Customers are offered a selection of trim, flooring, carpet, cabinetry, cabinet hardware and countertops to choose from. Appliances are offered with every purchase, since most customers are first-time buyers.

Construction

For each development, CHEI must decide whether to build finished homes, partially finished homes (foundation and frame only) and close to finished homes, in which the buyer selects the final finishing options before construction is complete.

Generally, CHEI is conservative and doesn't like to pre-build finished homes as the carrying costs associated with these homes can be significant if they don't sell right away. Conversely, if CHEI has an inventory of finished homes, sales can be made to buyers immediately.

Subcontractors, also known as sub-trades, carry out most of the home building. A few of the division's subcontractors are unionized. Subcontractors are often hired to perform services such as surveying, excavation, bricklaying, paving, plumbing, landscaping, installing windows and installing heating/ventilation/air conditioning (HVAC) systems. All CHEI's subcontractors supply their own equipment. Only some subcontractors supply their own raw materials.

[5] http://www.housing.gov.bc.ca/MarketHousing/dcc.htm, accessed July 29, 2015.

Generally, it takes five or six months for the Homes division to build a finished home and one of the largest single inputs are various types of wood. The time taken to build a finished home can be reduced, but at an additional cost as it is expensive to expedite the sub-trades. Normally, house foundations cannot be dug during the winter but work can be done in the enclosed spaces of the home during any season.

The Homes division offers buyers a contractual warranty period of three years for workmanship and materials and a warranty period of six years for major structural defects. Historically, 0.4% of home sales revenue has been used to estimate warranty costs and estimates have generally been accurate.

Sales and marketing

CHEI typically sells its homes to middle-income married couples in their late 20s or early 30s, purchasing homes for the first or second time, although sales are also made outside this demographic. CHEI provides initial financial advice and will refer serious buyers to financial institutions and mortgage brokers for further assistance. CHEI's home buyers pay cash for the home on day of contract completion which is also the possession date. Funds come directly from the home buyers in the form of a down payment, with the remainder of the funds being transferred from the home buyers' financial institution.

CHEI markets its homes through the use of media, print, billboard and Internet advertising. CHEI has also set up a referral program where past buyers of Advantaj homes are paid a $1,000 referral fee for every friend or relative who buys a home. The referral program has worked quite well as evidenced by the recent sale of 17 units (in a 62 unit development) through the referral program.

CHEI builds at least one model home per development that potential home buyers can tour. There are on-site sales people staffed at the model homes to answer questions as necessary. When the project is finished, the model homes are sold at a small discount.

Divisional management team

Kirk Reilly is the President of the Homes division. As a promising director of the HE division, the company decided to broaden Kirk's experience by moving him to the Homes division. Kirk is seen as a potential future CEO of CHEI. Kirk is a civil engineer with a wide variety of experience including project management, environmental consulting and defence industry infrastructure work. Kirk has been with CHEI for 11 years, is a hard worker and is known to motivate his employees to meet targets.

Jean Taylor is the VP, Construction of the Homes division. Jean ensures that CHEI's homes are built to company standards. Jean is also in charge of land acquisition for the Homes division, although with the pressure of day to day decisions, this area does not always get his full attention. Jean started his career as a carpenter, but has taken college courses in drafting, estimation and customer relations. Between four and five project directors and managers report to Jean who has final approval authority on all project expenditures, once the Homes division's President has approved the project.

Elspeth Mark is the VP, Sales and Customer Relations of the Homes division. Elspeth was a residential interior designer for nearly 30 years before moving into sales. After being pushed by the Homes division's President, Elspeth has slowly adopted new media to promote CHEI and the Homes division.

Sindi Singh is the division's controller, whose team compiles weekly and monthly project reports. The finance team works closely with the project managers and directors. Sindi is studying to be a Chartered Professional Accountant and has always worked for project companies.

Key divisional statistics:

	Fiscal years ended December 31			
	2015	**2014**	**2013**	**2012**
Active development projects at year end	6	5	8	4
Land inventory in acres at end of year	198	205	222	231
Homes started in year	561	602	572	599
Homes sold in year	580	583	590	611
Homes backlog at end of year	143	162	143	161
Revenues	131,943,620	127,769,114	132,993,080	134,899,635
Gross profit	19,659,599	16,482,216	22,874,810	18,616,150
Avg revenue/unit	227,489	219,158	225,412	220,785
Gross profit %	14.9%	12.9%	17.2%	13.8%
SG&A as % of revenue	5.8%	5.6%	5.7%	4.8%

Homes Division Employees	
Function	**Number**
Executives	4
Sales people	22
Project Directors	24
Supervisors	61
Purchasing	19
Others	58
	188

Information systems

CHEI uses the SAPPY™ web-based enterprise system (SAPPY) for all of its financial reporting, human resources, payroll and purchasing functions. SAPPY was implemented by CHEI on January 1, 2013, and has met the company's expectations.

Since SAPPY is a web-based system and has mobile applications, the system works in the foreign subsidiaries and at remote job sites. For example, a project manager, using a hand-held device at a job site, can submit a purchase requisition to the system for approval. SAPPY confirms that the employee has the authority to approve the transaction before applying a unique digital signature to the purchase requisition. Once the purchase requisition has been approved, it is sent directly to the supplier.

A clerk recently informed Abisher, the HE division's controller, that in the Singapore office, a manager was able to approve a purchase requisition using his digital signature, even though the manager did not have the appropriate authority to approve the purchase requisition. No other such cases have been identified at the Singapore office.

Over the past 18 months, Kelly has implemented a decentralized payment methodology after identifying that it costs significantly less in bank fees to process a cheque in an emerging market. Per CHEI's head office policy, amounts under $40,000 Canadian, including expense claims, can be paid from the subsidiaries' local bank by cheque. The U.S. office is an exception.

Most local office heads have credit cards with significant limits. Some local offices have developed their own accounting forms and processes.

Financial reporting and budgeting

CHEI follows Accounting Standards for Private Enterprises (ASPE) Part II of the CPA Handbook and CHEI has elected to use the taxes payable method of accounting for income taxes. For ease of consolidation, CHEI's international subsidiaries report under ASPE, and if required, CHEI uses the local accounting standards for tax return reporting.

The audit report accompanying CHEI's December 31, 2015, consolidated financial statements was signed by CY on February 27, 2016.

In addition to its annual consolidated financial statements, CHEI prepares monthly internal divisional income statements that are reviewed by the executives of head office, the HE division and the Homes division.

The finance team prepares internal divisional income statements by:

- continent
- road/highway/bridge/dam
- other project type

The CEO and the presidents of the HE and the Homes divisions also review a dashboard consisting of the following key measures:

- major project status
- highlight of very over/under projects (budget)
- billings
- total backlog – work under contract but not yet completed

The CEO and division presidents have commented that they are looking for ideas on additional key measures they could review.

CHEI's annual budget is a challenge to compile as the number and type of projects carried out by the company can vary dramatically from year to year. The annual budget is prepared in the fall and is primarily used to predict and control overhead costs. For the HE and the Homes divisions, total revenues are forecast in dollars and margins are forecast in percentages, based on the latest available estimate of the projects to be carried out in the following year.

Project budgeting is critical to both the HE and the Homes divisions and budget updates, per project, are generally prepared every two months.

For the HE division, budgeting is particularly difficult as the division focuses on current projects instead of working towards bidding and securing future projects. Since 2013, the amount of project revenue not yet recognized (equal to the difference between the value of the contracts signed and the revenue recognized to date on those contracts) has fallen. Some of CHEI's construction contracts have been cancelled, resulting, in part, to the reduction in the amount of project revenue not yet recognized.

For the Homes division, the amount of revenue not yet recognized (equal to the sales price of the homes that have been contracted to be sold but whose contracts have not yet completed) has increased.

	HE	**Homes**	**$thousands**
Year	**Revenue not yet recognized (value of construction contracts signed less revenue recognized to date on the contracts)**	**Revenue not yet recognized (sales price of homes contracted for sale but not yet completed)**	**Total**
2015	484,255	35,504	519,759
2014	508,425	32,234	540,659
2013	604,525	35,546	640,071

The 2016 budget is as follows:

	$thousands		
	HE	Homes	Total
Revenues	420,000	135,000	555,000
Margin	56,700	21,600	78,300
Pre-tax income	18,900	10,800	29,700

Banking, financing and insurance

CHEI has banked with the same major Canadian bank for 12 years and the company carries out transactions in both Canada and the U.S. CHEI's foreign subsidiaries outside of North America bank with the foreign branches of this bank.

At the time of issuance, the bank granted CHEI a $50-million operating line of credit based on 75% of good consolidated receivables and 50% of the cost of Canadian inventory, excluding land. The bank has a General Security Agreement over all the company's assets, except the buildings, which are separately mortgaged with different financial institutions.

CHEI uses the operating line of credit when there is negative cash flow during certain stages of large projects. The interest rate is prime plus 0.25%. There is a cross-default clause in the loan agreement, which triggers immediate repayment of all bank debt if there is a default on any other loan.

The bank is willing to lend an additional $80 million to CHEI to finance new projects, based on 30% of the cost of vacant land, if it has been appraised or purchased from an arm's length party in the last six months. If the land will be developed within two years, this goes up to 50%. When land has been zoned and serviced (i.e., electricity and water connected), lending can be increased to 75% of cost, which is also the percentage applied to loans for home construction cost. The bank is secured by the land and the construction in progress. Typically, interest rates vary from 5% to 6%, which are higher than normal commercial rates due to the risk. Repayments start when units start selling, or two years from the date of the loan, whichever is earlier.

The company maintains professional liability insurance with a limit of $50 million and a $2-million deductible, as well as general liability insurance with the same limit and deductible. Professional liability insurance, also known as Errors and Omissions insurance, deals with the issue of a professional error. General liability insurance covers damage to third parties. Project subcontractors are required by CHEI to carry similar insurance commensurate with the value and risk of their piece of the whole project.

Other information

CHEI works extensively with the provincial government of Saskatchewan, Canada. Saskatchewan's government has run an increasing fiscal deficit for the past seven years. The government must face the electorate in September 2017.

In 2007, a customer felt that CHEI did not deliver the exact specifications on a road-building contract and threatened to sue the company. CHEI was able to take the matter to binding arbitration and the dispute was settled to the reasonable satisfaction of both parties for less than the initial claim by the customer.

Engineers working for CHEI's Burmese subsidiary have found a way to strengthen bridge footings in special conditions. The methodology is now used on all CHEI projects where similar conditions are found.

In March 2015, CHEI won a $7.22-million bid to build a bridge over the River Nigh in northern Canada. The customer is a municipality and the project has received a great deal of media attention despite the project's comparatively small size. In early 2016, dynamite blasting shattered nearby rocks which were needed for the bridge's footings, so alternate footings had to be constructed at a significant cost to CHEI. There were also issues with the project's major subcontractors. As a result, the project is only 28.2% complete and the work in progress is worth $202,000. The client has paid all of their bills to date and the next billing will occur after another $2.2 million of costs are incurred. The total estimated loss on the project equals $4.95 million. Under the terms of the contract, at the current point in the project, if CHEI returns all funds paid to date to the client, plus forfeits the performance bond, CHEI can terminate the contract, with no further financial commitment. The penalty to forfeit the performance bond is 10% of the contract bid amount. James is frustrated with the project and wants an independent opinion on what CHEI should do in these circumstances.

The Manami office in Africa was opened in late 2014 and was set up as a sales office to seek business in the area. Two business development executives work at the Manami office. Their estimated operating costs are funded through a transfer to the sales office bank account twice a year.

On a recent visit to the Sri Lankan office, the accounting manager from head office noticed that a bill for concrete pouring of 8,201,403 rupees was split into two cheques paid on the same date. The Canada-rupee exchange rate at the time was $0.008344 to the rupee.

Board meeting dialogue

The board met on March 14, 2016. Prior to the meeting, a briefing was distributed to the board members on the four new projects recently presented to CHEI: the Awani dam project (Appendix VII and VIII), the Klang Bridge project (Appendix IX and X), the

Highway 507 project (Appendix XI, XII and XIII) and a land development opportunity called Bellman Tract (Appendix XIV).

Alongside all of CHEI's board members, James Johnson was in attendance with Kelly Mack, Zoe Murphy, Kirk Reilly and Issa Chewani. The meeting's agenda was announced as follows:

1. Approve the opening of a new Euro bank account for the Canadian company.
2. Consider the four new projects.
3. Discuss ways of making the company more profitable.
4. Any other business.

Excerpts from the discussion that took place at the meeting appear below.

Kathy: I am concerned that CHEI hasn't spent enough time planning ahead and discussing new types of projects prior to bidding on them. The company's financial results have been inconsistent and I don't see this improving any time soon. The Klang Bridge and the Highway 507 projects may help the situation. It would be beneficial to develop a good reputation for successful public-private partnerships (P3) in Canada; however, the risks from these projects should be separated from the rest of the business if one, or both, of these projects are accepted.

James: I agree that we want to consider working on some P3 projects but I have some concerns with the Highway 507 project. I recently heard of a P3 toll highway that is experiencing significant toll system collection issues. If we are considering the Highway 507 project, I would like an outside review of the toll system. A good understanding of any potential issues will be important for the successful operation of the highway.

John: Continuous bidding is the nature of this business but I agree that we should start to turn our focus towards planning ahead as best we can. If we bid competitively on projects and always meet our contractual obligations, we will develop and retain a loyal customer base. That being said, after reviewing the Klang Bridge and the Highway 507 projects, I am not very comfortable with either of them.

Sisi: I really like both of these projects, but I question whether the HE division has the ability to work on both projects at the same time.

Frederick: The Awani dam project appears to be very profitable and may offer CHEI the opportunity to generate more profit on one project than the company made in the last three fiscal years. However, given the risk I expect a target pre-tax margin of at least 32% on the Awani bid.

Issa: Yes, that is correct.

Frank: The last valuation of our shares was two years ago, and it was $16,000 per share. I am intrigued by these projects but because they are higher risk, I want to earn at least 20% return on my shares instead of the usual 15%.

Other board members: We agree.

Sisi: I am concerned that the Highway 507 project will take too long to complete.

Frederick: I don't think that we should let the length of the project stop us. We need to earn a strong return in the first 20 to 30 years of the project after which point many of the variables will change.

Penelope: That is beside the point. I am concerned with the political and social environment in Bamadia where the Awani dam project will take place. If we pursue this project, we are breaking away from our past practice of avoiding projects in unstable countries.

Sisi: I would like a discussion of the ethical issues associated with a project taking place in Bamadia. We can't put the lives of any of our people at risk working on this project.

Frederick: None of our employees would be forced to go and we must remember that there is an inherent risk to working on any project in a developing country where heavy equipment and travel is involved.

Zoe: In my view, we would take steps to reduce the risks to acceptable levels.

Frank: I would like to add a new topic to our discussion. My friend works for a large private company who manufactures automobile parts. The company has recently hired an internal auditor. My friend is not able to tell me what the internal auditor does but he says that the company is realizing significant value since hiring the internal auditor.

John: We should consider hiring an internal auditor. Before I retired, I used to work in a large public company and we benefited greatly from the presence of an internal audit group.

But back to business. We have to win the Awani dam bid. This project would be a huge benefit to CHEI.

Kelly: I have approached the EDC for some risk-sharing or financial support on the Awani dam bid, but they have declined to assist CHEI without providing a reason. I think that politics might be impacting their decision.

Kathy: I am not even sure if we should get involved with the Awani dam bid.

Sisi: I agree. Does anyone have any other topics or business to raise before we close?

Penelope: Yes, thanks Sisi. I would like to sell my shares in the next two years, but I want them to be worth more. Carpe Navire is also anxious to sell, as he wants to invest in a natural gas generation project.

Kathy: I've been thinking that we should purchase and develop that Bellman Tract land that is available north of Toronto. Land is in short supply and it is too good of an opportunity to pass up, especially given that the land around Toronto is becoming scarce.

Penelope: The cost of the land is approximately $70 million. We will need to evaluate all opportunities considering the company's board approved mission and vision statements, although maybe it is time that they are updated. I propose that we engage a team from Chuck Poisson Smythe (CPS) Management Consultants to advise us. Does anyone remember what a great job they did for us on an advisory engagement a few years ago? They are CPAs who think very broadly.

I would like to engage CPS to analyze CHEI in its current state, identifying the issues facing the company and making useful recommendations where needed. CPS can report to the board and management at the next board meeting. We can ask CPS to also give us some input on hiring an internal auditor. Is it a good idea to hire an internal auditor right now? If so, who should be hired and what should they do? Perhaps a couple of intelligent people from finance or engineering would be interested in a two-year secondment as an internal auditor.

Can I have someone second the motion to engage CPS Management Consultants?

Kelly: I would also like advice on any important financial reporting and tax implications for the Klang bridge and Highway 507. Additionally, prepare an assessment of whether CHEI should adopt International Financial Reporting Standards. I am also interested in their general thoughts regarding the proprietary nature of our and asphalt maintenance wear and ice/frost damage predictor algorithms

James: As long as they are working on analyzing our business, I would like to have them take a look at our current dashboard reporting and propose a way to update it. Additionally, I recently heard that companies our size utilize a performance measurement and management tools. I would like to see what they would recommend for CHEI.

Zoe: I would be interested in hearing CPS' thoughts on some of our tax concerns.

Frederick: Good thoughts. I second the motion. Sounds like CPS will have a lot to discuss.

Penelope: All in favour, please say yes.

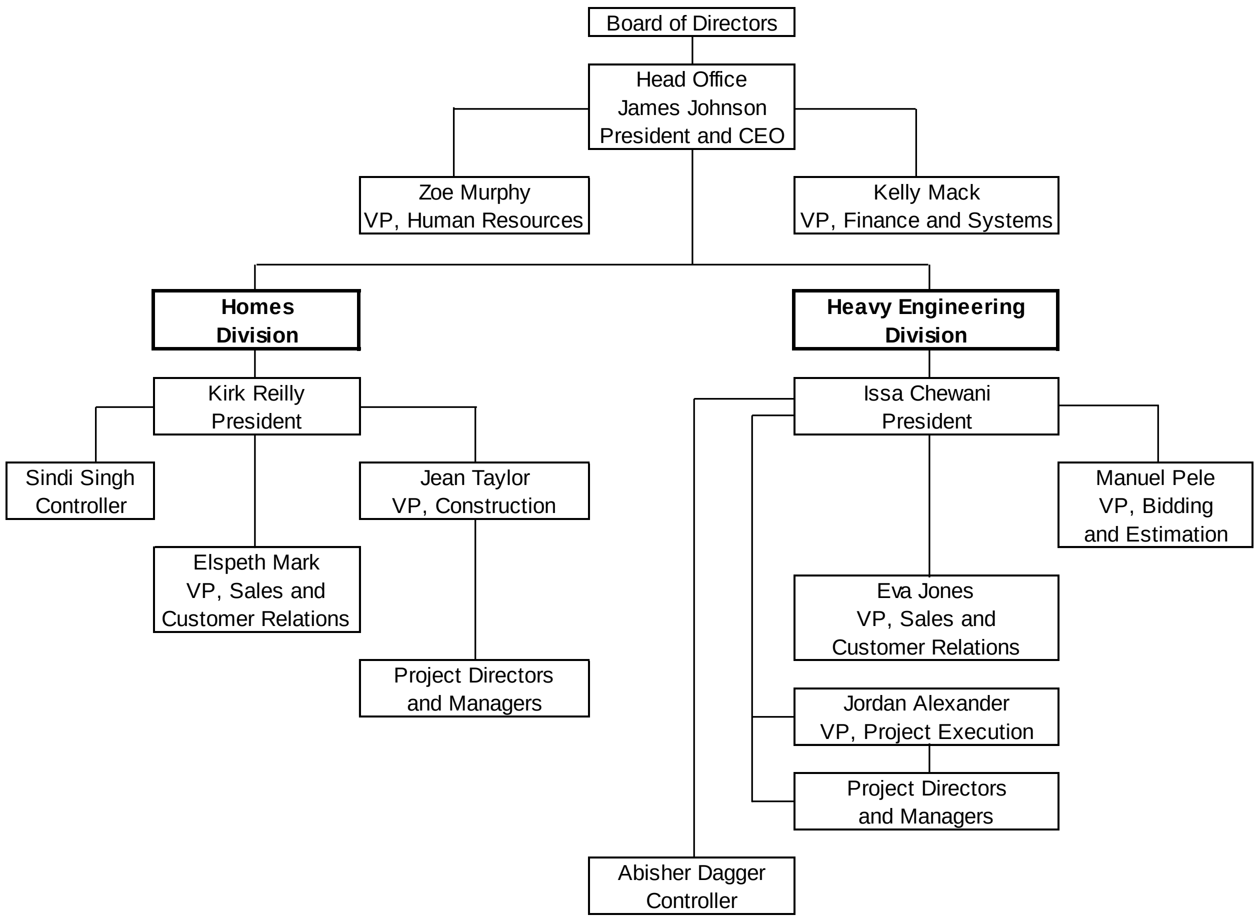
Remaining board members: Yes.

Penelope: The motion is passed and the meeting is adjourned.

Table of Appendices

Appendix I
CHEI's Organization Chart, List of Current Shareholders and Key Terms from the Shareholders' Agreement

Organizational Chart



List of Current Shareholders

Name	**Common shares**	**% of shares**
Family members		
Cecilia Navire	8,000	34.63%
Penelope Navire	2,000	8.66%
Rachel Navire	2,000	8.66%
The Len Navire Trust	2,000	8.66%
Carpe Navire	1,000	4.33%
JC Notelle	1,000	4.33%
Frank Cessnik	1,000	4.33%
Suzanne Jones	1,000	4.33%
Willard Clinton	1,000	4.33%
Family friends		
Benoit Mousse	1,025	4.44%
Agnes Arkansas	1,025	4.44%
Jude Clintchuck	1,025	4.44%
Ollie Carcillo	1,025	4.44%
	23,100	100.00%

Shareholders' Agreement (SA)

The key terms of CHEI's unanimous Shareholders' Agreement (SA), dated August 12, 1989, are as follows:

1. No shareholder can sell their shares, except to an existing shareholder.
2. Any shareholder can force the remaining shareholders to buy their shares pro rata, at a quoted price with a buy/sell clause, if they refuse to buy. *No such sales have taken place since the SA was approved.*
3. Shares from treasury can only be sold to new shareholders who agree to abide by the SA, at fair market value, and with approval of 100% of the existing shareholders.

Appendix II
Consolidated Financial Statements
Prepared by Kelly Mack, VP, Finance and Systems

Canada Heavy Engineering Incorporated
Consolidated Income Statement
For the Year Ending December 31
Audited (in '000s)

	2015	2014	2013	2012
Revenues	$ 569,569	549,355	564,248	571,097
Direct cost of activities	487,067	503,783	483,369	504,652
	82,502	45,572	80,879	66,445
Expenses				
Selling, general and administrative	47,880	46,417	40,255	44,382
Interest	1,627	1,768	1,888	2,078
Amortization	1,536	1,622	1,678	1,539
	51,043	49,807	43,821	47,999
Income before taxes	31,459	- 4,235	37,058	18,447
Income taxes	8,494	$ (1,160)	10,028	5,054
Net income	$ 22,965	$ (3,076)	$ 27,030	$ 13,392

Appendix II (cont'd)
Consolidated Financial Statements
Prepared by Kelly Mack, VP, Finance and Systems

Canada Heavy Engineering Incorporated
Consolidated Balance Sheet
At December 31
Audited (in '000s)

	2015	2014	2013	2012	
Assets					
Current assets					
Cash	$ 6,542	$ -	$ 4,921	$ 5,456	
Accounts receivable	56,617	56,057	55,866	55,446	**Note 1**
Inventory	58,319	60,306	69,133	67,688	**Note 2**
Work in progress	42,152	31,485	39,458	40,145	
Prepaid expenses	201	149	148	182	
	163,831	147,997	169,526	168,917	
Property, plant, equipment and land (net)	40,629	40,013	39,987	40,125	**Note 3**
Total assets	$ 204,460	$ 188,010	$ 209,513	$ 209,042	
Liabilities and shareholders' equity					
Current liabilities					
Operating line of credit	$ -	$ 4,011	$ -	$ 6,975	
Accounts payable and accrued liabilities	51,943	45,749	46,969	51,428	**Note 4**
Deferred revenue	13,789	17,549	13,452	11,425	
Land loans	19,632	19,049	22,539	23,339	
Current portion of mortgages	962	944	902	875	
	86,326	87,302	83,862	94,042	
Land loans	8,475	10,052	8,975	9,452	
Mortgages payable	7,207	8,169	9,113	10,015	
Total liabilities	102,008	105,523	101,950	113,509	
Shareholders' equity					
Common shares	10,105	10,105	10,105	10,105	
Retained earnings	92,347	72,382	97,458	85,428	
	102,452	82,487	107,563	95,533	
	$ 204,460	$ 188,010	$ 209,513	$ 209,042	

Appendix II (cont'd)
Consolidated Financial Statements
Prepared by Kelly Mack, VP, Finance and Systems

Canada Heavy Engineering Incorporated
Consolidated Statement of Cash Flows
For the Year Ending December 31
Audited (in '000s)

Cash provided by (used in):				
Operations				
Net income	$ 22,965	$ (3,076)	$ 27,030	$ 13,392
Amortization	1,536	1,622	1,678	1,539
Change in non-cash working capital				
Accounts receivable	(561)	(190)	(420)	(667)
Inventory	1,987	8,827	(1,445)	1,025
Work in progress	(10,667)	7,973	687	1,001
Prepaid expenses	(52)	(1)	34	(50)
Operating line of credit	(4,011)	4,011	(6,975)	-
Accounts payable and accrued liabilities	6,194	(1,220)	(4,459)	(2,152)
Deferred revenue	(3,760)	4,097	2,027	(1,245)
Land loans	583	(3,490)	(801)	(1,050)
Current portion of mortgages	18	42	27	22
	14,233	18,594	17,383	11,815
Financing				
Land loans	(1,577)	1,077	(477)	(476)
Mortgages payable	(962)	(944)	(902)	(800)
Dividends paid	(3,000)	(22,000)	(15,000)	(20,000)
	(5,539)	(21,867)	(16,379)	(21,276)
Investments				
Purchase of property, plant and equipment	(2,152)	(1,648)	(1,539)	(1,455)
Increase (decrease) in cash	6,542	(4,921)	(535)	(10,916)
Cash at beginning of year	-	4,921	5,456	16,372
Cash at end of year	$ 6,542	$ 0	$ 4,921	$ 5,456

Appendix II (cont'd)
Consolidated Financial Statements
Prepared by Kelly Mack, VP, Finance and Systems

Notes

Note 1
The outstanding 10% project holdbacks are included in accounts receivable.

Note 2
Inventory is recorded at the lower of cost and realizable value. The HE Division rarely carries inventory as most of the raw materials are purchased specifically for projects that are currently underway, and no stock is kept on hand. The Homes Division carries an inventory of land and a small inventory of finished homes awaiting sale.

Note 3
Land acquisition costs, land improvements, DCCs, interest expense and property taxes are capitalized by the Homes Division to the land account during development. When homes are sold, these costs are recorded to the "direct costs of activities."

CHEI amortizes property, plant and equipment over the estimated useful life of the asset using the straight-line method.

The Homes Division operates close to $3,000,000 of vehicles and equipment.

CHEI's Canadian real property was appraised in December 2014. The total appraised value of the properties was $28.2 million. This balance excludes the Homes Division's land and homes held for resale.

Note 4
CHEI's accounts payable were higher at the end of 2015 due to intentional payment delays.

Appendix III
Income Statement for the HE Division
Prepared by Abisher Dagger, Controller of the HE Division

Canada Heavy Engineering Incorporated
Heavy Engineering Divisional Income Statement
For the Year ending December 31
Audited (in '000s)

	2015	2014	2013	2012	
Revenues	$ 437,625	$ 421,586	$ 431,255	$ 441,645	**Note 1**
Direct cost of activities	374,783	392,497	373,251	393,064	**Note 2**
	62,842	29,089	58,004	48,581	
Expenses					
Selling, general and administrative	33,456	32,458	25,892	31,458	**Note 3**
Interest	95	88	78	101	
Amortization	712	726	724	713	
	34,263	33,272	26,694	32,272	
Income before taxes	$ 28,579	$ (4,183)	$ 31,310	$ 16,309	

Appendix III (cont'd)
Income Statement for the HE Division
Prepared by Abisher Dagger, Controller of the HE Division

Notes

Note 1: The recognition of revenue on all fixed price construction contracts is based on the percentage of job costs that have been incurred to date. This percentage is then multiplied by the project value to determine the amount of revenue to recognize at the reporting date. To the extent that revenue recognized is higher than billings made by CHEI, a work-in-progress asset is recorded. If billings made by CHEI exceed the revenue recognized, deferred revenue equal to the difference is recorded.

Revenue on cost-plus contracts is recognized as costs are incurred.

Note 2: Estimated project warranty costs are included in the direct cost of activities.

Successful bidding costs are included in the direct cost of activities. These costs include the salaries of the sales agents and project-related travel costs.

Note 3: Unsuccessful bidding costs and the cost of project employees who have no project work are included in selling, general and administrative costs.

The premiums for five insurance policies, which were due to be paid in December 2015, were financed by a third party at a cost of 7.8% per annum.

Appendix IV
Income Statement for the Homes Division
Prepared by Sindi Singh, Controller of the Homes Division

Canada Heavy Engineering Incorporated
Homes Divisional Income Statement
For the Year Ending December 31
Audited (in '000s)

	2015	2014	2013	2012	
Revenues	$ 131,944	$ 127,769	$ 132,993	$ 129,452	**Note 1**
Cost of homes sold	112,284	111,287	110,118	111,588	**Note 2**
	19,660	16,482	22,875	17,864	
Expenses					
Selling, general and administrative	7,653	7,155	7,581	6,214	
Interest	1,430	1,602	1,702	1,790	
Amortization	412	470	530	413	
	9,495	9,227	9,813	8,417	
Income before taxes	$ 10,165	$ 7,255	$ 13,062	$ 9,448	

Notes

Note 1: Revenue on the sale of homes is recognized at the point of sale, when the title of the home passes from CHEI to the buyer.

Note 2: Estimated home warranty costs are included in the cost of homes sold.

Note 3: Key Divisional Statistics from 2012-2015

	Fiscal years ended December 31			
	2015	**2014**	**2013**	**2012**
Active development projects at year end	6	5	8	4
Land inventory in acres at end of year	198	205	222	231
Homes started in year	561	602	572	599
Homes sold in year	580	583	590	611
Incomplete homes at end of year	143	162	143	161

Appendix V

Head Office Financial Information
Prepared by Kelly Mack, VP, Finance and Systems

Canada Heavy Engineering Incorporated
Head Office Expenses
For the Year Ending December 31
Audited (in '000s)

Expenses				
Selling, general and administrative	$ 6,771	$ 6,804	$ 6,782	$ 6,710
Interest	102	78	108	187
Amortization	412	426	424	413
Total	$ 7,285	$ 7,308	$ 7,314	$ 7,310

Appendix VI
Breakdown of HE Division Jobs
Prepared by Abisher Dagger, Controller of the HE Division

Canada Heavy Engineering Incorporated
Project Summary
For the Year Ending December 31, 2015

Division summary:

	Totals
Contract value	$ 900,686
Revenue	437,625
Costs	
Labour	77,577
Materials	114,042
Subcontracts	165,224
Bidding	17,940
Total	374,783
Margin	$ 62,842
Margin %	14.4%

Appendix VI (cont'd)
Breakdown of HE Division Jobs
Prepared by Abisher Dagger, Controller of the HE Division

Details by project:

Project type	Bridge	Hwy	Dam	Hwy	Bridge	Hwy	Mine refurbishment
Location	Stockville	Nipawin	Perch	Cashan	Flagstaff	Echo	Gin Lake
Country	Canada	Canada	Canada	Burma	USA	Canada	Canada
Province	BC	Saskatchewan	Alberta	Not applicable	Not applicable	NB	NWT
Government or private	Gov	Private	Gov	Gov	Private	Private	Private
Special notes							
Contract value	$ 44,010	$ 48,955	$ 16,458	$ 27,858	$ 16,645	$ 26,458	$ 39,458
Revenue	$ 31,247	$ 16,425	$ 9,012	$ 7,421	$ 2,045	$ 6,452	$ 13,458
Costs							
Labour	2,001	3,012	4,512	2,001	985	564	3,452
Materials	5,001	8,402	2,012	-	602	459	7,425
Subcontracts	21,292	3,015	400	3,558	48	4,402	20
Bidding	141	32	560	452	101	316	902
Total	28,435	14,461	7,484	6,011	1,736	5,741	11,799
Margin	$ 2,812	$ 1,964	$ 1,528	$ 1,410	$ 309	$ 711	$ 1,659
Margin %	9.0%	12.0%	17.0%	19.0%	15.1%	11.0%	12.3%

Appendix VI (cont'd)
Breakdown of HE Division Jobs
Prepared by Abisher Dagger, Controller of the HE Division

Details by project:

Project type	Dam	Bridge	Bridge	Gas plant	Consult	Dam	
Location	Chikli	Solomon	Abay	Montreal	Cashan	Los Dos	
Country	Canada	Nigeria	Burma	Canada	Burma	Brazil	
Province	Saskatchewan	Not applicable	Not applicable	Quebec	Not applicable	Not applicable	
Government or private	Gov	Gov	Private	Private	Gov	Gov	
Special notes		EDC support	Sole bidder				
							Total
Contract value	$ 16,001	$ 28,425	$ 26,412	$ 68,425	$ 4,525	$ 28,458	$ 392,088
Revenue	$ 10,050	$ 28,425	$ 5,425	$ 56,428	$ 3,012	$ 11,525	$ 200,925
Costs							
Labour	1,052	11,452	1,252	5,458	1,402	1,225	38,368
Materials	3,152	7,805	720	13,499	10	6,458	55,545
Subcontracts	3,050	4,002	221	27,502	201	1,010	68,721
Bidding	55	88	1,978	1,189	645	686	7,145
Total	7,309	23,347	4,171	47,648	2,258	9,379	169,779
Margin	$ 2,741	$ 5,078	$ 1,254	$ 8,780	$ 754	$ 2,146	$ 31,146
Margin %	27.3%	17.9%	23.1%	15.6%	25.0%	18.6%	15.5%

Appendix VI (cont'd)
Breakdown of HE Division Jobs
Prepared by Abisher Dagger, Controller of the HE Division

Project type	Consult	Maintenance	Dam	Gas plant	Maintenance	Hwy	Hwy
Location	Gimlin	Various	Nevada	Pinto	St. Moo	Ushire	North
Country	Canada	USA	USA	Burma	Canada	UK	France
Province	Quebec	Not applicable	Not applicable	Not applicable	Quebec	Not applicable	Not applicable
Government or private	Gov	Gov	Gov	Gov	Gov	Gov	Gov
Special notes			EDC support				
Contract value	$ 54,777	$ 31,452	$ 26,785	$ 28,458	$ 29,455	$ 64,585	$ 13,482
Revenue	$ 46,856	$ 16,425	$ 9,452	$ 4,589	$ 18,489	$ 31,425	$ 8,845
Costs							
Labour	4,562	4,202	3,689	902	848	2,452	2,245
Materials	-	5,045	3,158	890	7,301	16,488	2,152
Subcontracts	36,202	4,895	1,568	360	7,850	6,548	3,050
Bidding	78	405	105	1,401	45	189	96
Total	40,842	14,547	8,520	3,553	16,044	25,677	7,543
Margin	$ 6,014	$ 1,878	$ 932	$ 1,036	$ 2,445	$ 5,748	$ 1,302
%	12.8%	11.4%	9.9%	22.6%	13.2%	18.3%	14.7%

Appendix VI (cont'd)
Breakdown of HE Division Jobs
Prepared by Abisher Dagger, Controller of the HE Division

Project type	Bridge	Maintenance	Bridge	Consult	Under $2M	Under $2M	
Location	Nigh	Klicka	Jipa	Nairobi	Various	Various	
Country	Canada	USA	India	Kenya	Various	Various	
Province	NWT	Not applicable	Not applicable	Not applicable			
Government or private	Gov	Gov	Gov	Private	Private	Gov	
Special notes	Cancel?		EDC support				
							Total
Contract value	$ 7,220	$ 19,458	$ 16,458	$ 6,452	$ 98,558	$ 111,458	$ 508,598
Revenue	$ 1,083	$ 19,458	$ 14,586	$ 5,642	$ 28,425	$ 31,425	$ 236,700
Costs							
Labour	220	3,154	456	3,402	4,602	8,475	39,209
Materials	401	6,458	5,020	-	2,002	9,582	58,497
Subcontracts	421	5,648	5,456	299	14,001	10,205	96,503
Bidding	15	1,245	402	1,311	5,001	502	10,795
Total	1,057	16,505	11,334	5,012	25,606	28,764	205,004
Margin	$ 26	$ 2,953	$ 3,252	$ 630	$ 2,819	$ 2,661	$ 31,696
%	2.4%	15.2%	22.3%	11.2%	9.9%	8.5%	13.4%
							(0.13)

Appendix VII
Extracts from Request for Proposal for the Awani Dam dated October 31, 2015
Prepared by the Government of Bamadia

Summary

The Government of Bamadia invites interested parties to bid on the construction of a hydro-electric power plant and a 422-metre wide concrete arch dam on the Awani River. The Government of Bamadia will define the technical specification of both the power plant and the dam.

The Awani dam will provide a reservoir for irrigation of a 410 square kilometre area below the dam and for flood protection for the area east of the dam during the May monsoon season.

Prior to construction, 44 kilometres of the Tongan Valley will be flooded. The Government of Bamadia will be responsible for removing all residents and buildings from the Tongan Valley.

Timeline

1. The bid is due on June 30, 2016, and the successful bidder will be selected by July 31, 2016, at the sole discretion of the Government of Bamadia.
2. Construction must commence by September 1, 2016, and the project must be completed by August 31, 2019.

Bid inclusions

1. A fixed price bid, with assumptions clearly stated, in Bamadian dollars or U.S. dollars.
2. A proposal on how to deal with the magnaceous rock on the east side of the river, where deep dam footings will be required.
3. A proposed payment schedule for payment in no more than six installments, with no milestone greater than 20% of the project value. The last payment of at least 10% must be due one year after completion of the project.
4. A five-year warranty against cracks in the dam.
5. A list of other clauses. Other clauses will be considered but could disqualify the bid, at the sole discretion of the Government of Bamadia.

Appendix VIII
Notes on the Awani Dam Project
Prepared by Issa Chewani

Through private discussions with the Bamadian Minister of Infrastructure and Development (Minister), the Government of Bamadia is impressed with CHEI and they have confirmed that they are willing to pay a good price for the dam.

The residents living in the Awani flood zone strongly support the dam because they are exposed to an extreme risk of a monsoon flood every May. On the other hand, there are approximately 36,000 residents of the Tongan Valley who will lose their land and their homes if the construction of the dam takes place. Bamadia's neighbouring country, Riger, is on record as opposing the Awani dam.

The Minister has confirmed that work will have to be conducted through a Bamadian corporation that will pay taxes at the rate of 24.6%.

The country of Bamadia

Because CHEI knows very little about the country of Bamadia, I engaged a business intelligence firm to perform extensive research on the country. Their findings are as follows:

Bamadia is a country of 6.2 million people. The country's main export and chief government revenue source is the mineral stockite. Stockite PBC, a company which is owned by the government of Bamadia, has sole rights to mine the stockite. Bamadia is a country that is in need of electricity and that has several rivers that are suitable for hydro-electric development.

The unemployment rate in Bamadia is approximately 11.2%. The annual GDP per capita is equal to US$540. Over the last five years, the Bamadian dollar has fluctuated by up to 60% in value per year. There is no forward exchange hedging market for the Bamadian dollar.

Bamadia has three bonds with three years to maturity. The bonds trade on the international markets and yield a return of 15.6%.

Corporal Toonia (Toonia), the self-proclaimed President of Bamadia, has been in office for five years following the overthrow of Halvador Bennie, the previous President. Toonia has abolished free elections.

There is a growing movement to bring democracy to Bamadia but for the most part, its proponents live outside the country. A group of 400,000 rebels are in armed opposition to Toonia's government and have warned the Bamadian government that they will oppose all of Toonia's infrastructure projects.

The Bamadian government is at war with the rebels. Fighting is on foot and the jungle terrain is difficult to traverse. The rebel line is 162 kilometres from the proposed dam site. Our security and intelligence advisor has confirmed that a group of mercenary soldiers may be provided by the Bamadian government to protect the dam site. A fleet of helicopters could also be kept on-site for repatriation of Canadian staff to a peaceful neighbouring country if the need arises. The Bamadian government will cover the costs of the mercenary soldiers and the helicopters.

Opposition to the Awani dam project

There has been a growing movement around the world opposing the Awani dam for both environmental and human rights reasons. The spokesperson for People of the World against the Awani Dam (PWAAD), based in the United States, says that it is the organization's belief that the residents of the Tongan Valley will not be given any kind of fair expropriation compensation. They are basing this belief on what happened to the residents of Aalani when the new port of Emboke was constructed four years ago by Toonia.

A recent press release from the environmental group Green Planet condemned the proposed dam stating that, "the dam will flood the eco-sensitive Tongan Valley and will most certainly render the rare Balai monkey extinct, a monkey whose sole habitat is in this valley." This monkey's only known habitat is in this valley, because it feeds primarily on the Bollwill grasshopper, also unique to the valley and in danger. "The monkey is exceptionally cute and friendly and should be protected…."

CHEI research

CHEI's Awani bid team has spent more than two months assessing the Awani dam project at a cost in excess of $5.2 million. With 95% certainty, the bid team has stated that with an additional expenditure of between $2.5 million and $4.5 million, they will be able to overcome the magnaceous rock footing issue. This research and development work can be done in Canada or Bamadia. The drilling costs will equal $500,000.

A firm quote of $84.21 million for the construction of the hydro-electric power plant has been obtained from a reliable United States subcontractor who has worked on many dams with CHEI. Excavation of the site will cost between $42.13 million $44.13 million. The cost of erecting a temporary dam during construction equals $3.60 million.

The bid team estimates that 152 company employees will be involved with the project for an average term of 2.5 years. The average annual payroll and benefits costs, per employee, will equal $90,000. The cost to house CHEI employees in Bamadia will equal $4.24 million per year and annual travel costs are expected to equal $4.15 million.

Local fixed price contracts are estimated to total $16.42 million but to be conservative, the bid team recommends forecasting a $1 million overage. Contracts awarded to Canadian subcontractors will range from $57 to $64 million, while the cost of the concrete for the project will be anywhere from $10 to $11 million.

The bid team believes that a $5-million contingency is appropriate for the construction of the project. Warranty costs are estimated at $5 million to $7 million.

Appendix IX
Klang Bridge Request for Tender
Prepared by the Province of Saskatchewan

Tender #: T-664-2016

Tender closing date: June 30, 2016, 2:00:00 p.m. local time. *Late bids will not be accepted.*

Executive summary

Qualified bidders are invited to submit bids on the P3 project for a four lane, concrete-steel composite arch bridge spanning the Klang River at the intersection of Damper Cross and Ford Creek. The current route between Yellow Lake and Dustman North is a distance of 162 kilometres, via Highway 606. The Klang Bridge will connect these two communities.

Bidders will submit a bid of a single annual dollar amount equal to the payment to be made by the province of Saskatchewan to the successful bidder for 30 years, commencing July 1, 2019. Payments will be made at the end of each year.

A $15-million bid bond must be posted. A $150-million performance bond, expiring on completion of the bridge, must be posted by the successful bidder. The Klang Bridge cannot be used as security for financing. Should the successful bidder become insolvent, the province of Saskatchewan has a veto right on the sale of the bridge to any party.

The bridge is to be completed, and in operation, by July 1, 2018, failing which there is a $25,000 per day charge to be paid by the successful bidder to the province of Saskatchewan.

The successful bidder will own, operate and maintain the Klang Bridge for a period of 30 years from completion, at which time the province of Saskatchewan will buy the bridge for $1. The successful bidder will sign a master agreement with the province of Saskatchewan that will define the maintenance and refurbishment standards.

The successful bidder will plant trees and flowers around the bridge to the province of Saskatchewan's satisfaction. A full refurbishment of the bridge will be required and the successful bidder will refurbish the bridge in the 25th year of ownership per the province of Saskatchewan's specifications.

Appendix X
Notes on the Klang Bridge Project
Per Discussion with Kelly Mack, VP, Finance and Systems

Preliminary project costs

The Klang Bridge bid team estimates that $3 million will need to be spent preparing the bid. The team has calculated some preliminary estimates for project costs:

Materials: $54.28 million
Site preparation: $26.42 million
CHEI labour: $6.45 million
Trees and flowers: $1.9 million

The bid team believes that a 5% contingency is appropriate for the construction of the project.

The estimated annual costs to maintain the bridge include:

Sand blasting and painting: $840,000
Maintenance and repairs: $292,000
Miscellaneous: $240,000
Accounting and administration: $117,000

The bridge must be resurfaced every three years at a cost of $1.24 million each time. It is expected that the refurbishment of the bridge in Year 25 will cost approximately $12 million, in today's dollars.

Project financing

Due to the size of the investment, we will require financing. I have discussed financing alternatives for the Klang Bridge with our bank and unfortunately, they are unwilling to extend themselves further than the current operating agreement and real estate loans that are outstanding with CHEI.

After canvassing 11 other lending institutions who are all concerned with the lack of security, I can say with confidence that the best offer is with the Project Bank of Canada (Project Bank) who is focusing on the government's cash stream. Project Bank has come up with two financing options:

Option 1

Project Bank will provide financing based on 30% of the government's cash stream, discounted at a rate of 3.8%, which approximates the provincial government's 30-year bond rate. This Option 1 4% loan will be repayable over 30 years in annual blended payments.

There are no covenants but CHEI must remain in compliance with the master agreement signed with the province of Saskatchewan. If CHEI is not in compliance with the master agreement at all times, the loan becomes due and payable immediately. CHEI may not exceed their current bank borrowings without the prior written approval of Project Bank.

Option 2

Project Bank will provide financing in a two-stage loan.

The first loan is based on 30% of the government's cash stream, discounted at a rate of 3.8%, which approximates the provincial government's 30-year bond rate. This is equivalent to the loan in Option 1. This Option 2 8% loan will not require principal or interest payments until the bridge is built and approved by the province of Saskatchewan.

Once the province of Saskatchewan approves the Klang Bridge, a second loan will be provided based on the original amount of the financing plus interest accrued on the first loan. This second loan is repayable over 20 years at a rate of 3%. The annual payments are blended. There are no covenants but CHEI must remain in compliance with the master agreement signed with the province of Saskatchewan. If CHEI is not in compliance with the master agreement at all times, the loan becomes due and payable immediately.

Appendix XI
Highway 507 Announcement of Sale
Prepared by the Province of Ontario

The province of Ontario is selling Highway 507, a six lane 110 km/hour maximum speed, 142-kilometre asphalt highway. Highway 507 was built between 1998 and 2005 and cost over $300 million to build (in today's dollars), including the cost of the interchanges and bridges and excluding the cost of the land. The highway connects Oakville, Oshawa and Toronto.

The Purchaser will own and operate the highway into perpetuity and will earn income via user tolls that it will be permitted to charge.

The key points on the P3 arrangement are:

1. For purpose of this announcement, vehicle means any motorized method of transportation.

2. Bids are solicited from interested parties bidding a definite amount. All bids must be submitted in Canadian dollars by November 30, 2016.

3. The highway includes the shoulder, pavement, signs and lights. Title will transfer on January 1, 2017.

4. The province of Ontario will own, and be responsible for, maintenance of all 32 bridges and 29 interchanges (off/on ramps).

5. The province of Ontario will pay for new interchanges, lanes and bridges that may be required in the future.

6. The Purchaser will be responsible for snow removal, maintenance and resurfacing of the highway to Ministry of Transport for the Province of Ontario standards. This responsibility cannot be contracted out.

7. The province of Ontario will lease the land under the highway to the Purchaser, for a nominal payment of $1.00 (one dollar) into perpetuity. The lease will lapse if the Purchaser defaults on any terms of the sale and is not transferable.

8. The Purchaser can charge a toll of $0.85 per highway section. Each highway section is defined as the distance between consecutive interchanges, which averages 4.9 kilometres. For example, if a vehicle enters the highway at one interchange and passes two interchanges, the owner will be charged 3 x $0.85 = $2.55. Annual toll increases are limited to inflation, projected at 2% annually.

9. The province of Ontario will send monthly toll bills to licensed vehicles that drive on Highway 507, based on data from the Purchaser's "toll vehicle identification system." The province of Ontario must approve the Purchaser's "toll vehicle identification system" and the system cannot require the use of any kind of device in the vehicle. The province of Ontario will collect fees for a charge of 3.4% and will remit the net amount to the Purchaser on a monthly basis. Where a vehicle's fees are unpaid for more than three months after the date of travel, the vehicle's license will be suspended. No bad debts are expected.

10. To minimize the impact on commerce in the province of Ontario, large trucks and commercial vehicles will pay the same toll as non-commercial vehicles. To encourage tourism, out-of-province vehicles will travel for free.

11. At its discretion, the Purchaser can charge an annual or monthly toll fee or other volume discount arrangement to Ontario residents. It is expected that market factors will ensure that an excessive toll cannot be charged.

12. The Purchaser can resell the highway to a third party as long as the third party is majority Canadian-owned. The province of Ontario must approve the purchase.

13. The highway can be used as security for debt.

14. In order to assist bidders in developing a fair bid, the province of Ontario has provided an extract from the 2015 Highway 507 traffic data report on traffic volume (Appendix XII). The traffic study was performed by Mark Transportation Consultants Inc. who has consulting experience in highway toll implementation for 32 highways around the world.

Appendix XII
Extract from the Highway 507 Traffic Data Report
Prepared by Mark Transportation Consultants Inc.

Based on an exhaustive study conducted by Mark Transportation Consultants Inc. (Mark Transportation), the 2015 Highway 507 traffic volumes are projected to be as follows:

	Ontario	Average sections	Out-of-Ontario	Average sections
Large trucks	1,253,673	21.2	123,378	28.1
Smaller trucks and vans	1,890,785	4.2	109,670	6.7
Cars and motorcycles	17,407,553	3.9	1,290,141	6.4
	20,552,011		1,523,189	

Traffic volumes in 2016 are expected to be the same as those in 2015.

It is anticipated that Highway 507 volumes will reduce by 10 to 15% in the first year, based on the toll levels set, and that this reduction in traffic volume will reverse by the second year as motorists realize the benefits of highway travel, including both time savings and improved gas mileage.

Appendix XIII
Notes on the Highway 507 Project
Per Discussion with Kelly Mack, VP, Finance and Systems

Toll vehicle identification system

As you know, if CHEI is the successful bidder on the Highway 507 project, we will need to implement a toll vehicle identification system to capture information about the vehicles that drive on Highway 507. This information will be used to calculate the toll amounts billed to vehicle owners by the province of Ontario. James has asked me to investigate the different toll vehicle identification systems available in today's market. I have determined that we will have to use a license plate identification system, as the province of Ontario has clearly stated that the system we choose cannot require the use of any kind of identification device in the user's vehicle.

We can choose to buy an off the shelf system or create our own system. Please find my notes on both options below:

Option 1

The best off the shelf commercial license plate identification system that I could find is the TollCollector™ system (TollCollector). The TollCollector is used in six major highways around the world including a new US$3-billion highway in the southern United States.

The TollCollector photographs a vehicle's license plate three times as the vehicle both enters, and exits the highway. Vehicles do not have to slow down to be photographed. The TollCollector has a 98.9% plate recognition factor per pass.

Once the TollCollector has captured a vehicle's license plate image, the system translates the image captured into the alpha-numeric vehicle license plate number and calculates the billing amount by matching the vehicles' highway entry and exit points. Billing data is then transmitted to the province of Ontario over a dedicated line, using XBC protocol which Ontario can decode. XBC protocol is a form of encryption used by the Ontario government.

The costs associated with the TollCollector system are as follows:

Capital – still cameras and recognition system	$1,405,000
Capital – posts for cameras	696,000
Capital – installation	85,000
Dedicated line – annual fee	4,000
Other annual costs	16,000
	$2,206,000

Option 2

I believe that we can build our own in-house license plate identification system. Personally, I favour this option. The system will use closed circuit TV technology, not intended for this purpose, to capture a stream of images of both vehicles and their license plates. Images of the vehicles will be useful if they are ever needed for security reasons. The closed circuit TV technology will have a 99.7% plate recognition factor per pass.

We will incorporate third party alpha-numeric recognition software to translate the image captured into the alpha-numeric vehicle license plate number. The system will also be able to track the vehicle's highway entry and exit points and calculate the amount of the toll. This information will be sent to the government via the Internet using TNI protocol. This protocol is a form of encryption. The Ontario government does not currently use TNI protocol.

The costs associated with the in-house system are as follows:

Internal labour to integrate	$ 184,000
Contractor costs for integration	2,345,000
Capital – TV cameras	346,560
Capital – posts for cameras	696,000
Capital – installation	85,000
Recognition software license	420,000
Recognition software maintenance – annual	42,000
Web transfer – annual	5,000
	$4,123,560

Preliminary project costs

The Highway 507 bid team has calculated some preliminary estimates for project costs:

Repair costs: $10,792,000 per annum
Maintenance costs: $48,000 per kilometre per annum
Snow clearing: $3,598,848 per annum
Resurfacing: $1,621,460 per annum
Legal transaction costs: $482,000
Accounting and administration costs: $825,000 per annum

Project financing

Two financial institutions are willing to finance the Highway 507 project. The details of each offer are below:

Infrastructure Financing Corporation (IFC)

If CHEI has equity of at least $80 million and its total debt-to-equity ratio is no more than 3:1, IFC, a United States lender, will provide financing in the amount of 90% of the highway's purchase price, to a maximum of $370 million. The loan will be secured by Highway 507.

The repayment term of the loan will be 40 years. Monthly payments are blended. The interest rate is 3.2%

Failure to maintain the covenants will result in default and the outstanding balance of the loan must be repaid immediately. Intangibles are excluded from the definition of equity.

Galt Bank

Conditional on becoming CHEI's banker, Galt will provide financing in the amount of 85% of the highway's purchase price, to a maximum of $390 million. Galt is also willing to take over CHEI's current bank loans.

The repayment of the loan will be 50 years. Monthly payments are blended. The interest rate is 3.0%

Financing is subject to approval of CHEI's cash flow projections and minimum equity of $125 million.

Appendix XIV
Notes on the Bellman Tract Land Opportunity
Per Discussion with Jean Taylor, VP, Construction of the Homes Division

I am excited to report that through a realtor, I have found a 292-acre piece of land for sale. The land is called the Bellman tract and it is located north of Toronto. The sale price is $241,100 per acre. Land transfer tax of $1.404 million would be applicable and $1.8 million of consulting fees and $1.1 million in site clearing and demolition costs will be incurred.

The plot of land is less than 55 kilometres from the CN Tower. The land has four farmhouses, three derelict buildings, a creek, a small marsh and good road access. It is also within a five minute drive of a GO Transit station, with 50 minute access to downtown Toronto. Our realtor considers the land to be an excellent deal and he worries that the land may be purchased by a competitor in the near future. Our realtor is confident that changing the municipal zoning should be an easy process.

The vendor is willing to finance 60% of the purchase price at a rate of 8% per annum if the debt is secured by the land. The vendor is willing to finance 40% of the purchase price at a rate of 10% per annum if the debt is unsecured. The loan will be repayable in full upon the earlier of the sale of the land for development or five years.

Tentative development plan

Kirk believes that the land will support a housing density of 6.5 homes per acre. The key points in his development plan are as follows:

60% of the homes will be starter homes expected to sell for $330,000. 40% of the homes will be intermediate homes, expected to sell for $390,000. The construction cost of the homes will equal 71% of the sale price. Government fees and development charges will equal $26,000 per home.

One year after the purchase of the land for rezoning, site preparation and construction, houses will begin to sell. It is expected that in Year 2, the first 520 homes will sell. In Year 3, 520 homes will sell with the balance selling in the following year. Staff costs for the project that are not included in the cost of the homes will equal $1.5 million per annum in Years 2 and 3. These costs will double in Year 4.

Site preparation will be a significant cost in Year 2 at $4.9 million, $5.1 million in Year 3, and $7.4 million in Year 4. The company’s guide for development property taxes for this project is 0.48% of revenue realized in the first year of sales and in each year thereafter: 0.96% in Year 2, 1.44% in the third year and so on.

Fixed sales costs will equal $2.85 million in the first year and $1.5 million in the two years thereafter. Variable sales costs will equal 0.3% of the sale price.