

# MR.ESTIMATOR®

Hypothetical Problem Case – 120 Ft<sup>2</sup> Deck  
All Rights Are Strictly Reserved © 2008 – Sapper Software LTD

## WHY IS DECK CHECK SUCH A VALUABLE TOOL?

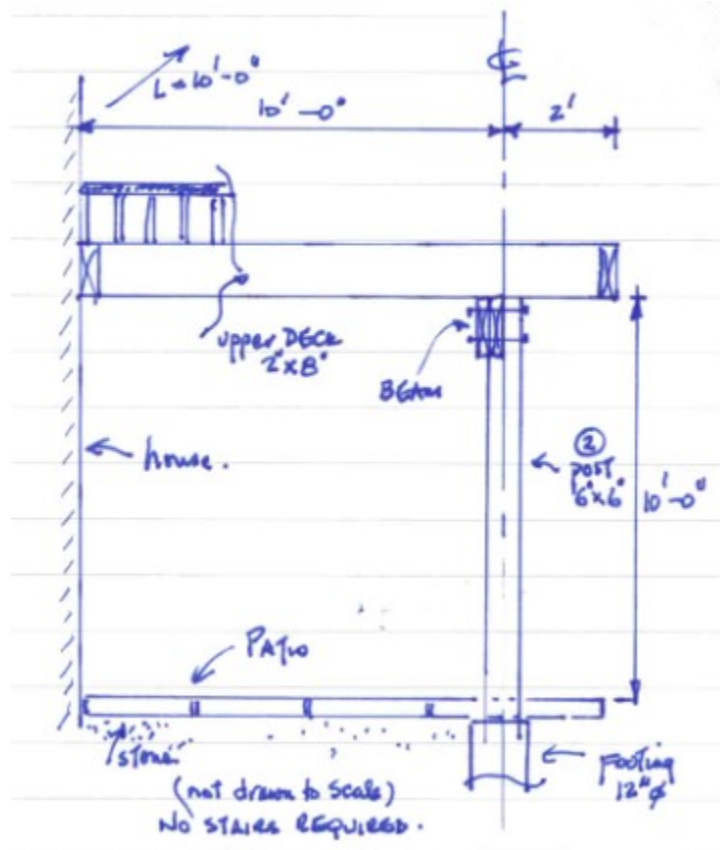
**IT CHECKS THE BEAM, JOISTS, FOOTINGS AND COLUMN + SAVES \$\$\$\$ + TIME**  
**VERY AFFORDABLE FOR THE AVERAGE HOME OWNER – INVALUABLE TO THE CONTRACTOR**  
No spreadsheets, No Auto Cad, No Quantities, No Other Software – Easy, FAST and Accurate And a LOW PRICE.

### THE ESTIMATE + PROMISE

- Let's assume the following *hypothetical problem*. You are a home owner and require an upper deck at the back of the house. You call around and get several quotes. You notice everyone is giving a price per sq foot. Your quotes are: a) \$18/Ft<sup>2</sup> , b) \$28/Ft<sup>2</sup>, and c) \$45/Ft<sup>2</sup>. It seems quite obvious to take the lowest bid, but you decide to take the "middle one" for several reasons. The contractor promised you a few things: a) He will provide a contract. b) He will finish in 5 days with 2 men working 10 hour days. c) He will guarantee you 2 years on all work. He will obtain the permit + do the drawing for you (\$400 Extra).

### YOUR REQUEST – HYPOTHETICAL PROBLEM

120 Ft<sup>2</sup> Proposed Deck – Rough Sketch



- You explained to the contractor that you required the following: a) An upper deck in the backyard approximately 10 ft off of the ground. b) You wanted it to be 10 feet long x 10 feet wide with a 2 foot overhang [this is what your friend has at their house]. c) You wanted only 2 posts, as you **required a**

# MR.ESTIMATOR®

Hypothetical Problem Case – 120 Ft<sup>2</sup> Deck  
All Rights Are Strictly Reserved © 2008 – Sapper Software LTD

patio below on ground level (you expect this as part of the quote). d) You did not want any stairs from the deck (at this time).

## PAYMENT + EXPLANATION BY CONTRACTOR

- The contractor asked for the money up front when the contract was signed. You paid him **\$3,760** cash. He said he was going to use pressure treated 2 x 8 joists and 2 – 2x 8 beams. He said he required 6 x 6 posts and usually used 10 inch diameter footings – 4 Ft deep. He checked out the soil in the back by digging a small hole. He said you had a “stiff clay” and this footing should be OK. It was only a 10 ft x 12 ft deck and he has done many of them. The sizes used were the same as those quoted by the higher bidder, so you figured you received a bargain.
- The contractor asks for another \$1000 half way through the job. He said he did not anticipate some things. He says he will walk off the job if not paid. You decide to pay what he asked. Your total payment is now **\$4,760** for the Deck, permit + drawing. You now have a concern that maybe more problems will arise.

## FINISHED TWO DAYS LATE + PROBLEM NOTICED

- The deck is finished in seven days and you did not get your patio (There was no rain – so weather was not the problem). The contractor said this patio would cost more money. You did not pursue this further, as you were happy to see the deck finished. You could lay some patio stones yourself. The deck was still “cheaper” than the highest quote. You decide to have a small party on your new deck. You notice the deck to be bouncy and making funny noises. The beam “looked like” it was twisting. You decide to move the party inside. You call the contractor and he said these “sounds” are normal. You mentioned the railing “felt” loose, but he said this is OK and the way all decks are built. Another thing was that NO inspector showed up and you did not see any drawings.

## FRIEND AT PARTY TELLS YOU ABOUT DECK CHECK RESULTS BASED ON DEFAULT SETTINGS IN THE SOFTWARE

### PACKAGE NO.4: Deck Check

- This is “estimation” software, based on 3 Common Projects. This is NOT a “spreadsheet”. The End User does not have to calculate any quantities. The software does it all. It is very simple to use with several levels of HELP available . The software has a very short learning curve associated with it.
- **3 Common Set Projects:** Deck Upper, Lower, Railings, and, Big Foot Foundation.
- Sketches provided for each project and instructions are provided as to what to enter into the software.
- Imperial + Metric Units.
- Software **CHECKS** the deflection for your beams and joists.
- Software **CHECKS KL/R** Ratios for Beam + Joists.
- Software **CHECKS** the Ontario Building Code for any problems + CHECKS if footings are adequate.
- Software calculates: a) **Project Costs** and b) **Items Required**.
- Upgrade: \$30.00 + Taxes – Complete set of solved projects – Step by Step Solutions.
- Upgrade: \$50.00 + Taxes – Approximate Materials Take – Off of Entire Project.
- **NEW FEATURE: CHECK COLUMN** Slenderness and if column load **EXCEEDS** column capacity. It also checks if the overhang length is OK. These are GREAT features for those involved with decks. These features are ONLY AVAILABLE when you purchase the UPGRADES [ solved projects + materials take –

# MR.ESTIMATOR®

Hypothetical Problem Case – 120 Ft<sup>2</sup> Deck  
All Rights Are Strictly Reserved © 2008 – Sapper Software LTD

off]. This feature is available in Deck Check ONLY.

[www.sappersoftware.com](http://www.sappersoftware.com)

- You decide to purchase the FULL upgrade as this “includes” a **column check** as well as **checking the overhang with the OBC**. The cost turns out to be **LESS THAN 6%** of the cost of your deck, but **LESS THAN 2%** if the job has to be completed again (approximately).
- The average 16 x 20 ft deck in the USA is approximately **\$11,294.00** ([http://www.realtor.org/rmoprint.nsf/pages/feature1dec05\\_deck](http://www.realtor.org/rmoprint.nsf/pages/feature1dec05_deck)). At this price the software would be **LESS THAN 2%** of the cost of your deck. (Approximately \$35/Ft – includes labor). *What does this mean in terms of safety?*

## KNOWLEDGE IS POWER. YOU HAVE THE ADVANTAGE!

Contractors and Home Owners Can Benefit From This Software

You check out the dimensions of your deck in the **DECK CHECK** software you purchased, with a 10 ft – 6 x 6 column and find some problems (based on the default settings in the software). You notice there are NO quantities to add and the results are **FAST**: You can do this in a few minutes ! Not bad.

*a) the 2 - 2 x 8 beams used appear not to be adequate for deflection?*

This means the deflection is GREATER than the default setting of L/240 (or approx 0.5 inches). This was set to reduce **BOUNCE** in the beam. The Beam Diagrams Module will display the “equations” and values calculated for this member, so a Licensed Professional can check the **shear, deflection and moments** for that member. *You can re-set to L/360, or higher for better bounce control.*

**NOTE:** *The connection design at the ledger board is of “critical” concern, as this is a point where frequent failures occur. This is where a Licensed Professional will be of great help.*

Search the internet for “**Deck Failures**” to read up on the problems that can cause failure to a typical deck. You will also notice that deck failures “seem” to be on the rise based on some reports.

*b) the overhang may be in violation of the OBC (Ontario Building Code) , which is the law in Ontario.*

This means the overhang may be too long, as specified generally in OBC 9.23.9.9. This part of the code refers to floor joists. The deck **can be** “interpreted” as a cantilevered floor joist (depends on the interpretation by the inspector).

*c) the 10 inch diameter footing is also not adequate?*

This means the footing diameter is not large enough (based on a Safety Factor of 2.5, as a default setting in the software) and the probability of the footing “sinking” is high. Some contractors are using a 12 inch diameter footing and this may be OK when the columns are closer together, but even a 12 inch diameter footing is not adequate in this case (with these default settings). The software will indicate this. Check with a Licensed professional if this is to be changed. *Safety Factor can be REDUCED if required.*

*d) the column seems adequate for deflection at the default wind load @ 100 MPH (or a gale force storm)* You also notice the deck is **NOT** braced in both directions, as explained in the software.

# MR.ESTIMATOR®

Hypothetical Problem Case – 120 Ft<sup>2</sup> Deck  
All Rights Are Strictly Reserved © 2008 – Sapper Software LTD

This means the probability of the column “failing” in a wind storm is possible, as the deck should be adequately braced in both directions. This bracing detail is best handled by a Licensed Professional. This is only a “guess” to aid in estimation purposes. If the **Codes, Statutes, or Laws in your area** stipulate that a Licensed Professional is required, then you must ensure that this individual approves of the output from this software.

NOTE: The software provides for these “approximate” corrections so that a “reasonable” estimate can be obtained for the homeowner, or client (if used by a contractor).

## e) the deck railing is loose?

This could be a problem. What if someone leaned against it, or fell against it? This could be a potential hazard, as someone could get hurt.

- If the contractor had this software, he would have had a “better” estimate and would have been **aware** of these problems, so a “Licensed Professional” could have been called. The contractor could use this software to give quotes over the phone. A great advantage!
- This deck would **generally** require a Licensed Professional, drawings and a Permit. Your contractor offered to get this permit + provide you with a drawing. This drawing should be prepared and sealed by a Licensed Professional (ensure you check with the local governing body if this individual is licensed in that area). This seal means your deck is “safe”.

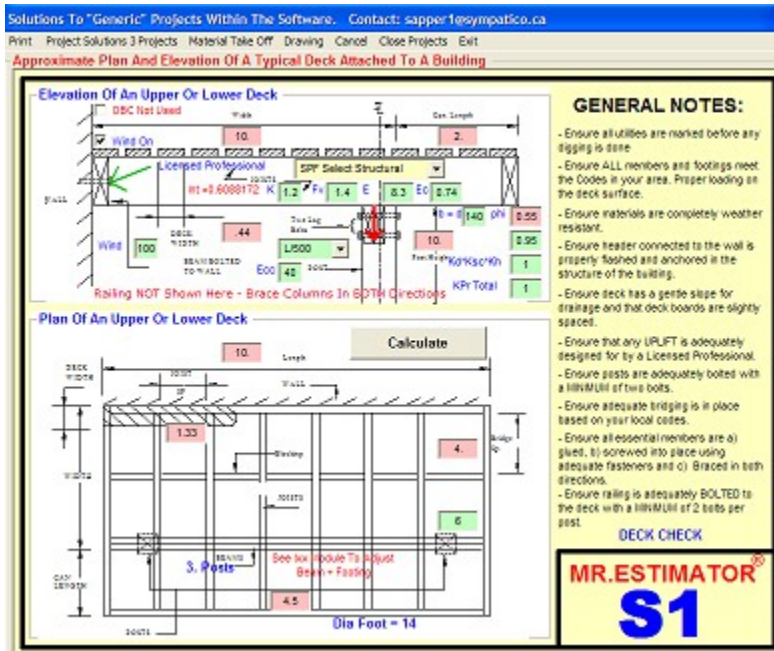
DECK RAILING		Labour + Expenses		
No of Posts:	8.5	Labour Cost:	N/A	\$2,900.00
No of Posts:	8.5	Expenses:	N/A	\$600.00
No of Posts:	19			
Length of Rails:	88			
No of Caps:	8.5			
No of Brackets:	34	No of Screws:	315.5	
No of Spindles:	59.5	Required Items:		\$151.62
TOTAL PRICE RAILING:				\$572.43
UPPER /LOWER DECK		Lower Deck		
<b>Upper Deck Not Used</b>		Length of Headers + BU:	40	\$80.00
Length of Headers + BU:		No of Hangers:	6.5	
No of Hangers:		Length of Joists:	102	\$204.00
Length of Joists:		Length of Bridging:	22	\$40.00
Length of Bridging:		Length of Deck Boards:	76.7	\$153.40
Length of Deck Boards:		No of Screws:	237	
No of Screws:		Required Items:		\$91.63
Length of Posts Used:		Stairs - Best Guess:		
TOTAL PRICE DECK:	\$537.4			
FOOTING		TOTAL SCREWS REQUIRED: 552.5		
No of Footings Required:	3			
Depth of Footing:	1			
Diameter of Footing:	.83			
Volume of Concrete:	7.45			
No of Saddles on Top of Footing:	3			
Required Items:				
TOTAL PRICE FOOTING:	\$25.9			
		<b>\$4,424.15</b>		

- You begin to ask yourself the following questions: Shouldn't the contractor know these things? He said he has built many decks. Why did you pay the **\$4,760, without checking about potential problems first?** What would you have received at the lower bid? Knowing this before the deck was built would have been a great negotiating tool. This is a GREAT benefit of the software. You did sign a contract and was “expecting” a **safe deck** for this price. The contractor gave you a 2 year guarantee, but says there is nothing wrong with my deck. Now, you may have to hire a “Licensed Professional” and obtain a report to find out where you really stand. You could also try calling the city for an inspection.
- The software is “approximating” **\$4,424.15** and this is without any other expenses than mentioned, etc....so your \$4,760 is in the ballpark, but the contractor quoted **\$28/Ft (including labor) on the signed contract.** You paid the extra \$400 to get the permit + drawing. Therefore, you **OVER PAID \$1000 (before being aware of the potential problems that the software pointed out).**

# MR.ESTIMATOR®

Hypothetical Problem Case – 120 Ft<sup>2</sup> Deck  
 All Rights Are Strictly Reserved © 2008 – Sapper Software LTD

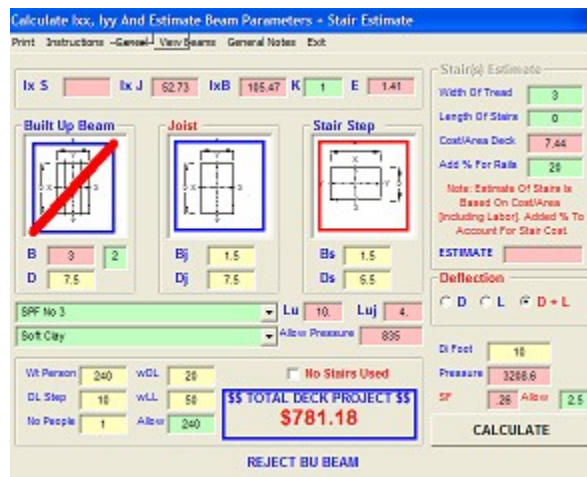
- The software stated that a “Licensed Professional” may be required in your area. This is a Post and Beam construction. So why did the contractor “seem” to have no permit, or drawings for this deck? He said he built many of them, so does this mean he can do this without plans? You did not have the permit displayed in your window, nor did you see an inspector.
- *These are some questions and concerns that “may” go through your mind if you were confronted with this type of hypothetical case. Many contractors are very good and would never allow this to happen, but there are some out there that may have little experience and not be aware of these types of problems, or know the local codes.*



Typical Screen In Deck Check – Defaults Should Be Altered By A Licensed Professional

## HOW IS THE HOME OWNER SUPPOSE TO KNOW WHAT IS RIGHT?

They generally won't. This is where the software helps.



# MR.ESTIMATOR®

Hypothetical Problem Case – 120 Ft<sup>2</sup> Deck  
All Rights Are Strictly Reserved © 2008 – Sapper Software LTD

## Typical Ixx Module In Deck Check – RED Line Indicates A Problem, or Failure

- **NOTE:** The end user can change the following: a) sizes of beam, joist and step, b) timber species used, c) soil type, d) Weight (force) of people on deck + dead load, e) allowable deflection, f) add stairs, or not, g) safety factor for the footing, etc... Some of these defaults should only be altered when they can be verified by a Licensed Professional (where applicable).
- You find out to re-build the deck properly “may” mean the following: a) tear down the old deck, b) have a new set of drawings + another permit. c) have the city inspector check out several aspects of the deck as it is built. This will now take much more time + money to fix. ***Is it not worth knowing about your deck before you start the job?*** What if you had a party and someone was hurt?

Search the internet for “**Deck Failures**” to read up on the problems that can cause failure to a typical deck. You will also notice that deck failures “seem” to be on the rise based on some reports.

- Generally, you would not even be concerned with this deck until something happened. At that time, you would probably find out about the deficiencies found above.
- *The idea of this “hypothetical problem” reflects what some people may experience with some contractors. This is why it is **VERY IMPORTANT** to have an **edge** on what to “expect”, so that you know your estimate is “reasonable” and that you will not have to re-build your deck for deficiencies in the Ontario Building Code.*

## CUSTOMIZATION – FOR DESIGNERS, OR CONTRACTORS

- Our software is great, as it can be customized to ADD projects to the software that you would normally do on a regular basis. The price is “very reasonable”, as most of the core algorithms are already in place. Think about this if you give many FREE estimates per day. Check out our FULL SALES sheet on our website to find software that best meets your needs for customization based on projects that you would normally be involved with.

## DISCLAIMER

### Software Is Used For ESTIMATION Purposes Only

- The material presented in this hypothetical problem and in the software is intended **only for general familiarization with the subject matter** and for educational purposes. The software does not cover *all aspects* of the subject. Use of this material in any manner whatsoever shall only be done with competent professional assistance [where applicable by Laws, Codes, or Statutes, or where application of these techniques may affect any third party]. **The author provides no expressed or implied warranty that this material is suitable for any specific purpose or project and shall not be liable for any damages including but not limited to direct, indirect, incidental, punitive and consequential damages alleged from the use of this material.** This software is not intended to, and shall not be construed as, aiding in professional engineering practice in any jurisdiction.
- The above problem is “hypothetical only” and does not represent any particular situation, or event. It is presented for educational purposes only.

Absolutely No refunds for opened software. “FINAL SALE”. Must Follow End User Agreement.

**PROGRAM CD IS PROVIDED IN GOOD CONDITION.**

**ALL SOFTWARE IS SOLD VIRUS FREE**

[www.sappersoftware.com](http://www.sappersoftware.com)

**HIGH SECURITY AND COPY PROTECTED**