




# Construction Estimator

## Quotes and Contracts


Construction estimators analyze costs of and prepare estimates on civil engineering, architectural, structural, electrical and mechanical construction projects. They are employed by residential, commercial and industrial construction companies and major electrical, mechanical and trade contractors, or they may be self-employed. To learn more about this occupation, [click here](#).

### NOC 2234 – Construction estimator

-  Estimate Detail Form
-  Construction Contract
-  Vendor Price List

### Essential Skills Focus

	1	2	3
Document Use	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Measurement and Calculation	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Scheduling or Budgeting and Accounting	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

 Essential Skills - Ontario Curriculum Linkages

## 1. Tasks

**Construction estimators give customers quotes for construction projects and jobs.**

### Task 1

A customer wants to know how much they would save by choosing ceramic tiles instead of porcelain tiles. Porcelain tiles cost \$16.25/sq. ft. and ceramic tiles cost \$4.72/sq. ft. The construction estimator adds 10% to all material amounts to account for waste. Look at the Estimate Detail Form to identify the number of square feet to be tiled. Calculate the cost savings to the client of using ceramic tiles.

*Measurement and Calculation*

# Construction estimator

**Construction estimators write contracts, reports and quotes for construction projects.**

## Task 2

- a) Look at the Construction Contract. Highlight what the owner is responsible for removing.

*Document Use*

- b) Look at the Construction Contract. Highlight what the owner is responsible for supplying.

*Document Use*

**Construction estimators analyze costs of and prepare estimates for construction projects.**

## Task 3

- a) The construction estimator identifies the cost of supplies for the job by vendor. Look at the vendor price list. Which vendor offers the lowest total price for the supplies?

*Document Use*

- b) Next the construction estimator costs the job by finding the lowest prices per item. Look at the vendor price list. Calculate the total cost of materials if each component were purchased from the least expensive source.

*Document Use*

- c) Calculate the savings if the components are purchased at the lowest individual price instead of through the vendor who offers the lowest total price.

*Scheduling or Budgeting and Accounting*



## Estimate Detail Form

Company: \_\_\_\_\_ Estimate #: \_\_\_\_\_ Estimator: \_\_\_\_\_ Date: \_\_\_\_\_

Job: \_\_\_\_\_ Estimate due: \_\_\_\_\_ Checked by: \_\_\_\_\_ Date: \_\_\_\_\_

Address: \_\_\_\_\_ Notes: **Wall removal**

Job Description: \_\_\_\_\_ **New ceramic floor**

CSI Division/Account: \_\_\_\_\_

Item or Description	Qty	Unit	Material		Manhours		Labor		Equipment		Subcontract		Total Cost
			Unit \$	Ext \$	MH/Unit	MH Ext	MH\$	Ext \$	Unit \$	Ext \$	Unit \$	Ext \$	
<b>Waste Floor</b>						<b>6</b>		<b>\$25</b> <i>/man hr.</i>					<b>\$150</b>
<b>Prep Floor</b>						<b>2</b>		<b>\$40</b>					<b>\$80</b>
<b>Refinish Wall</b>													
<b>Drywall</b>						<b>1</b>		<b>\$40</b>					<b>\$40</b>
<b>Paint</b>						<b>2</b>		<b>\$40</b>					<b>\$80</b>
<b>Tile</b>	<b>650sq'</b>							<b>\$3/sq'</b>					<b>\$1,950</b>
<b>Grout</b>	<b>650sq'</b>					<b>2 hours</b>		<b>\$40</b>					<b>\$80</b>
<b>Sealer</b>	<b>650sq'</b>					<b>2</b>		<b>\$40</b>					<b>\$80</b>
Total Direct Costs this sheet			Total Material \$		Total Manhours		Total Labor \$		Total Equipment \$		Total Subcontract \$		Total \$



## Todd Hallissey Contracting

Estimate for upper bathroom:

To be removed by owner

- drywall and tile around tub
- all existing flooring materials

Remove and dispose by contractor

- one tub
- vanity
- toilet to be reinstalled

To be supplied by owner installed by contractor

- one two-piece shower unit
- shower faucets
- vanity with faucets
- one-piece vinyl flooring
- all paint done by owner

To be supplied and installed by contractor

- All ABS fittings and pipe
- All copper fittings and pipe
- drywall (dense shield)
- drywall compound and taping
- subflooring (1/4" mahogany)

Costs will be for materials and labor \$3172.43

Terms                    30% down \$951.73                    70% upon completion \$2220.70

Time needed for job – we will require two full weekends,

Starting at 8:00 am finishing at 6:00 pm both Saturdays and Sundays

Start date to be determined between owner and contractor at a later date

Thank you

Todd Hallissey

519-555-0100



## Vendor Price List

Quantity	Part	Description	Pope Electrical		Gerrie Electric		Westburne Ruddy	
			Price	Per	Price	Per	Price	Per
25 m	NMD90	Wire NMD2C#14	21.50	M	31.25	M	26.85	M
1	2 Gang Box	Device Box 2104LLEU2	3.66	each	2.40	each	3.25	each
1	Deep 2104	Device Box 2104LLEU	1.56	each	1.88	each	1.67	each
1	Octagon Box	Octagon Box 54151	2.28	each	1.62	each	1.99	each
1	2 Single Pole Switch	Toggle Switch	2.22	2	1.82	2	1.75	2
1	GFI Receptacle	GFCI Outlet	16.98	each	15.35	each	18.25	each
1	110 CFM Bathroom Fan	QT110CCA	152.50	each	115.00	each	155.90	each
1	4" Pot Light with Shower Trim	4" IC Housing with Shower Trim	45.75	each	49.68	each	42.00	each
1	Vanity Fixture	24" Vanity Fixture White	18.99	each	22.99	each	21.50	each
1	2 Gang Switch Plate	2 Gang Switch Plate White	0.53	each	0.65	each	0.60	each
1	Box Romex Staples	Box of 500	15.00	each	18.25	each	13.95	each
1	Box 1 1/2" #8 Wood Screws	Box of 600	15.98	each	16.25	each	14.90	each
1	Roll of Vapor Barrier		37.85	each	40.99	each	35.40	each
		<b>Total Cost</b>	<b>\$334.80</b>		<b>\$318.13</b>		<b>\$311.16</b>	


## 2. Answer Key

### Task 1

A customer wants to know how much they would save by choosing ceramic tiles instead of porcelain tiles. Porcelain tiles cost \$16.25/sq. ft. and ceramic tiles cost \$4.72/sq. ft. The construction estimator adds 10% to all material amounts to account for waste. Look at the Estimate Detail Form to identify the number of square feet to be tiled. Calculate the cost savings to the client of using ceramic tiles.

### Answer

**\$8,243.95 savings**

 Check **page 8** for one way to get this answer.

Measurement and  
Calculation ③

Document Use ②

### Task 2

- a) Look at the Construction Contract. Highlight what the owner is responsible for removing.
- b) Look at the Construction Contract. Highlight what the owner is responsible for supplying.


### Answer

- a) **The owner will remove:**
- **drywall and tile around tub**
  - **all existing flooring materials**

Document Use ②

- b) **The owner will supply:**
- **one two-piece shower unit**
  - **shower faucets**
  - **vanity with faucets**
  - **one-piece vinyl flooring**
  - **all paint done by owner**

Document Use ②

 Check **page 9** for one way to get this answer.

# Construction estimator

## Essential Skills Focus

### Task 3

- a) The construction estimator identifies the cost of supplies for the job by vendor. Look at the vendor price list. Which vendor offers the lowest total price for the supplies?
- b) Next the construction estimator costs the job by finding the lowest prices per item. Look at the vendor price list. Calculate the total cost of materials if each component were purchased from the least expensive source.
- c) Calculate the savings if the components are purchased at the lowest individual price instead of through the vendor who offers the lowest total price.

### Answer

**a) Westburne Ruddy**

Document Use ②

Scheduling or Budgeting and Accounting ①


**b) \$284.95**

Document Use ②

Measurement and Calculation ②

**c) \$26.21**

Scheduling or Budgeting and Accounting ①

 Check **page 10** for one way to get this answer.

## 3. Answer Steps

### Task 1

A customer wants to know how much they would save by choosing ceramic tiles instead of porcelain tiles. Porcelain tiles cost \$16.25/sq. ft. and ceramic tiles cost \$4.72/sq. ft. The construction estimator adds 10% to all material amounts to account for waste. Look at the Estimate Detail Form to identify the number of square feet to be tiled. Calculate the cost savings to the client of using ceramic tiles.

Answer **\$8,243.95 savings**

One way to get this answer...

1. Identify what is required: the cost savings to the client.
2. Find the number of square feet to be tiled.
3. Locate the column "**Item or Description**" in the **Estimate Detail Form**.
4. Scan the column for the key word "**tile**".
5. Decide that 650 SQ' is the number of square feet to be tiled.
6. Identify what is required: 10% for waste allowance on materials.
7. Set up the problem to find the total required including waste allowance: (square feet x waste percentage) + square feet = square feet to be tiled including waste allowance.
8. Calculate:  $(650 \times 10\%) + 650 = 715$  square feet.
9. Identify what is required: the cost for porcelain and ceramic tiles to cover 715 square feet.
10. Set up the problem to find the cost for porcelain tiles: price / sq. ft. coverage x 715 square feet = cost for porcelain tiles to cover 715 square feet.
11. Calculate:  $\$16.25 \times 715 = \$11,618.75$ .
12. Set up problem to find the cost for ceramic tiles: price / sq. ft. coverage x 715 square feet = cost for ceramic tiles to cover 715 square feet.
13. Calculate:  $\$4.72 \text{ sq. ft.} \times 715 = \$3,374.80$ .
14. Identify what is required: the cost savings to the client by using ceramic tiles.
15. Set up the problem to find the cost difference: Total porcelain price for coverage – Total ceramic price for coverage = cost savings.
16. Calculate:  $\$11,618.75 - \$3,374.80 = \$8,243.95$ .
17. Decide the savings to the customer would be \$8,243.95.

### Skill Focus

Measurement and Calculation ③

Additional Skills: Document Use ②



# Construction estimator

## Task 2

- a) Look at the Construction Contract. Highlight what the owner is responsible for removing.
- b) Look at the Construction Contract. Highlight what the owner is responsible for supplying.

## Answer

- a) **The owner will remove:**
  - **drywall and tile around tub**
  - **all existing flooring materials**
- b) **The owner will supply:**
  - **one two-piece shower unit**
  - **shower faucets**
  - **vanity with faucets**
  - **one-piece vinyl flooring**
  - **all paint done by owner**

## One way to get this answer...

Steps for a):

1. Scan the page and headings using the key words "**owner**" and "**remove!**"
2. Locate the "**To be removed by owner**" heading.
3. Decide that "drywall and tile around tub" and "all existing flooring materials" is what the owner is responsible for removing.
4. Highlight the answer.

## Skill Focus Document Use ②

Steps for b):

1. Scan the page and headings using the key words "**owner**" and "**supplied!**"
2. Locate the "**To be supplied by owner installed by contractor**" heading.
3. Decide that "one two-piece shower unit," "shower faucets," "vanity with faucets," "one-piece vinyl flooring," and "all paint done by owner" is what the owner is responsible for supplying.
4. Highlight the answer.

## Skill Focus Document Use ②

# Construction estimator

## Task 3

- a) The construction estimator identifies the cost of supplies for the job by vendor. Look at the vendor price list. Which vendor offers the lowest total price for the supplies?
- b) Next the construction estimator costs the job by finding the lowest prices per item. Look at the vendor price list. Calculate the total cost of materials if each component were purchased from the least expensive source.
- c) Calculate the savings if the components are purchased at the lowest individual price instead of through the vendor who offers the lowest total price.

## Answer

- a) **Westburne Ruddy**
- b) **\$284.95**
- c) **\$26.21**

## One way to get this answer...

Steps for a):

1. Locate the supplier price list.
2. Scan the page for **Total Cost**.
3. Locate the lowest supplier cost (\$311.16).
4. Scan to find the name of the supplier associated with that column.
5. Decide that Westburne Ruddy is the supplier.

## Skill Focus

Document Use ②

Additional Skills: Scheduling or Budgeting and Accounting ①

Steps for b):

1. Locate the Price List
2. Scan the page for **each component** and locate the **lowest supplier price**.
3. Locate the lowest supplier price for each component and add them together ( $21.50 + 2.40 + 1.56 + 1.62 + 1.75 + 15.35 + 115.00 + 42.00 + 18.99 + .53 + 13.95 + 14.90 + 35.40 = 284.95$ ).
4. Decide that the lowest cost for materials is \$284.95.

## Skill Focus

Document Use ②

Additional Skills: Measurement and Calculation ②

## Construction estimator

Steps for c):

1. Locate the **lowest total price by supplier** (\$311.16)
2. Locate the **total by lowest individual item price** (\$284.95)
3. Decide that **savings** means **the difference in cost between the two total prices**.
4. Calculate the difference between the two prices ( $311.16 - 284.95 = 26.21$ ).
5. Decide that the savings is \$26.21.

**Skill Focus**      Scheduling or Budgeting and Accounting ①

# Essential Skills - Ontario Curriculum Linkages: Construction Estimator

The course and curriculum expectations linked to each Essential Skills task are shown below. Students who meet the curriculum expectations below will also have demonstrated the Essential Skills at the level indicated. If students do not meet the curriculum expectations below, teachers can prepare students by scaffolding learning.

Course(s)	Curriculum Expectations	Essential Skills Tasks
Grade 11, Mathematics for Work and Everyday Life, Workplace Preparation (MEL3E)	<b>A3.8</b> compare the unit prices of related items to help determine the best buy.	<p><b>Task 1</b> A customer wants to know how much they would save by choosing ceramic tiles instead of porcelain tiles. Porcelain tiles cost \$16.25/sq. ft. and ceramic tiles cost \$4.72/sq. ft. The construction estimator adds 10% to all material amounts to account for waste. Look at the Estimate Detail Form to identify the number of square feet to be tiled. Calculate the cost savings to the client of using ceramic tiles.</p> <p><b>Measurement and Calculation</b> ③</p> <p><b>Document Use</b> ②</p>
Grade 12, Mathematics for Work and Everyday Life, Workplace Preparation (MEL4E)	<b>C3.2</b> identify situations in which it is useful to make comparisons using unit rates, and solve problems that involve comparisons of unit rates.	
English, Grade 11, Workplace Preparation (ENG3E)	<p><b>Reading and Literature Studies</b></p> <p><b>1.3</b> identify the important ideas and supporting details in both simple and complex texts.</p>	
Construction Engineering Technology, Grade 11, College Preparation (TCJ3C)	<b>B4.3</b> prepare detailed, accurate estimates of quantities and costs of materials for construction projects, using appropriate metric and/or imperial units ( <i>e.g., metres, square metres, litres, board feet, linear feet, square feet, cubic yards</i> );	
Construction Technology, Grade 11, Workplace Preparation (TCJ3E)	<b>A4.3</b> estimate the quantities and costs of materials for construction projects, using appropriate metric and imperial units.	
Construction Engineering Technology, Grade 12, College Preparation (TCJ4C)	<b>B5.4</b> prepare detailed, accurate estimates of the quantities and costs of materials required for construction projects ( <i>e.g., concrete, aggregate, reinforcing steel, asphalt, lumber, roofing, interior and exterior finishes</i> ).	
Construction Technology, Grade 12, Workplace Preparation (TCJ4E)	<b>A4.4</b> prepare detailed estimates of quantities and costs of materials for construction projects ( <i>e.g., concrete, lumber, roofing, millwork, finishes</i> ), and of labour costs for these projects;	

# Essential Skills - Ontario Curriculum Linkages: Construction Estimator

Course(s)	Curriculum Expectations	Essential Skills Tasks
English, Grade 11, Workplace Preparation (ENG3E)	<b>Reading and Literature Studies</b> <b>1.3</b> identify the important ideas and supporting details in both simple and complex texts.	<b>Task 2 a)</b> Look at the Construction Contract. Highlight what the owner is responsible for removing.
Construction Technology, Grade 11, Workplace Preparation (TCJ3E)	<b>C1.4</b> communicate construction information verbally and graphically ( <i>e.g., through written instructions, sketches, and/or detail drawings</i> ).	<b>Task 2 b)</b> Look at the Construction Contract. Highlight what the owner is responsible for supplying. <b>Document Use</b> ②
Grade 11, Mathematics for Work and Everyday Life, Workplace Preparation (MEL3E)	<b>A3.8</b> compare the unit prices of related items to help determine the best buy.	<b>Task 3 a)</b> The construction estimator identifies the cost of supplies for the job by vendor. Look at the vendor price list. Which vendor offers the lowest total price for the supplies?
English, Grade 11, Workplace Preparation (ENG3E)	<b>Reading and Literature Studies</b> <b>1.3</b> identify the important ideas and supporting details in both simple and complex texts.	<b>Document Use</b> ② <b>Scheduling or Budgeting and Accounting</b> ①
Construction Engineering Technology, Grade 11, College Preparation (TCJ3C)	<b>B4.3</b> prepare detailed, accurate estimates of quantities and costs of materials for construction projects, using appropriate metric and/or imperial units ( <i>e.g., metres, square metres, litres, board feet, linear feet, square feet, cubic yards</i> );	
Construction Technology, Grade 11, Workplace Preparation (TCJ3E)	<b>A4.3</b> estimate the quantities and costs of materials for construction projects, using appropriate metric and imperial units.	
Construction Engineering Technology, Grade 12, College Preparation (TCJ4C)	<b>B5.4</b> prepare detailed, accurate estimates of the quantities and costs of materials required for construction projects ( <i>e.g., concrete, aggregate, reinforcing steel, asphalt, lumber, roofing, interior and exterior finishes</i> ).	
Construction Technology, Grade 12, Workplace Preparation (TCJ4E)	<b>A4.4</b> prepare detailed estimates of quantities and costs of materials for construction projects ( <i>e.g., concrete, lumber, roofing, millwork, finishes</i> ), and of labour costs for these projects;	

# Essential Skills - Ontario Curriculum Linkages: Construction Estimator

Course(s)	Curriculum Expectations	Essential Skills Tasks
Grade 11, Mathematics for Work and Everyday Life, Workplace Preparation (MEL3E)	<b>A3.8</b> compare the unit prices of related items to help determine the best buy.	<p><b>Task 3 b)</b> Next the construction estimator costs the job by finding the lowest prices per item. Look at the vendor price list. Calculate the total cost of materials if each component were purchased from the least expensive source.</p> <p><b>Document Use</b> ②</p> <p><b>Measurement and Calculation</b> ②</p>
Construction Engineering Technology, Grade 11, College Preparation (TCJ3C)	<b>B4.3</b> prepare detailed, accurate estimates of quantities and costs of materials for construction projects, using appropriate metric and/or imperial units ( <i>e.g., metres, square metres, litres, board feet, linear feet, square feet, cubic yards</i> );	
Construction Technology, Grade 11, Workplace Preparation (TCJ3E)	<b>A4.3</b> estimate the quantities and costs of materials for construction projects, using appropriate metric and imperial units.	
Construction Engineering Technology, Grade 12, College Preparation (TCJ4C)	<b>B5.4</b> prepare detailed, accurate estimates of the quantities and costs of materials required for construction projects ( <i>e.g., concrete, aggregate, reinforcing steel, asphalt, lumber, roofing, interior and exterior finishes</i> ).	
Construction Technology, Grade 12, Workplace Preparation (TCJ4E)	<b>A4.4</b> prepare detailed estimates of quantities and costs of materials for construction projects ( <i>e.g., concrete, lumber, roofing, millwork, finishes</i> ), and of labour costs for these projects;	
Grade 11, Mathematics for Work and Everyday Life, Workplace Preparation (MEL3E)	<b>A3.8</b> compare the unit prices of related items to help determine the best buy.	<p><b>Task 3 c)</b> Calculate the savings if the components are purchased at the lowest individual price instead of through the vendor who offers the lowest total price.</p> <p><b>Scheduling or Budgeting and Accounting</b> ①</p>
Construction Engineering Technology, Grade 11, College Preparation (TCJ3C)	<b>B4.3</b> prepare detailed, accurate estimates of quantities and costs of materials for construction projects, using appropriate metric and/or imperial units ( <i>e.g., metres, square metres, litres, board feet, linear feet, square feet, cubic yards</i> );	
Construction Technology, Grade 11, Workplace Preparation (TCJ3E)	<b>A4.3</b> estimate the quantities and costs of materials for construction projects, using appropriate metric and imperial units.	