BRICK CITY METALS

ESTIMATING

FROM HAND-TYPED TO AI

Shane Clark · Operations Manager

A complete takeoff used to take

~~WEEKS~~ ~~DAYS~~ HOURS

Now it takes hours with the new AI tools.

Every item. Every flag. Every job the same way.

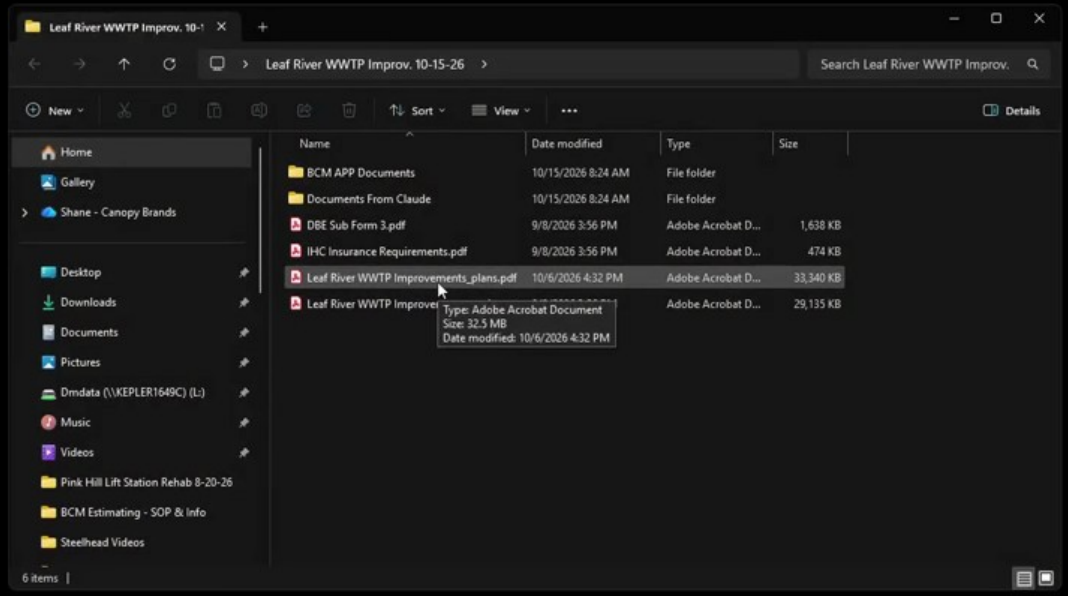
BRICK CITY METALS

ESTIMATING

SECTION 01 OF 04

PRE-AI TOOLS ESTIMATING

Hand-typed Excel sheets and Word proposals



SECTION 01 · HOW WE ESTIMATE

THE BID PACKAGE


DIXIE METAL PRODUCTS, INC.
Estimate
Project : OTTAWA WTP
Location : #VALUE!
Description : #VALUE!
Finishing : #VALUE!
Scope No. : RN-26-1129
Date : 03/12/26
Plans / Sect.: #VALUE!
Details : #VALUE!
Item No. :
template
Total Qty. : ###### ####
Lbr. 1 - METALS Mbr. Code Qty. Len Wd Net Qty. Stck Gross U/W Net/W Gross/W U/$ Ext.
=LOOKUP(VALUE(AL3),Scope_Item,Scope_Drawings)
SECTION 01 · HOW WE ESTIMATE TODAY
TYPING THE TAKEOFF BY HAND

QUOTATION

We propose to supply the following items as listed below, all F.O.B. job site. (Site Installation is excluded). Terms: Net 30 days. All orders subject to acceptance by our Credit Department. We cannot be responsible for delayed installation or delivery due to strikes, delays of carriers, or other causes beyond our control. All quotations are made for prompt acceptance. All prices are subject for review. ***Please refer to Note "C" below.***

October 16 2026

ATTENTION: ESTIMATING

RE: OTTAWA WTP
DAYTON, OH

WE PROPOSE BUDJET PRICING FOR THE FOLLOWING SCOPE OF WORK FOR FABRICATION AND DELIVERY (ONLY) BASED ON THE 90% BID DOCUMENT DRAWING SETS: GENERAL, MECHANICAL, AND STRUCTURAL, AS WELL AS THE 90% SPECIFICATIONS:

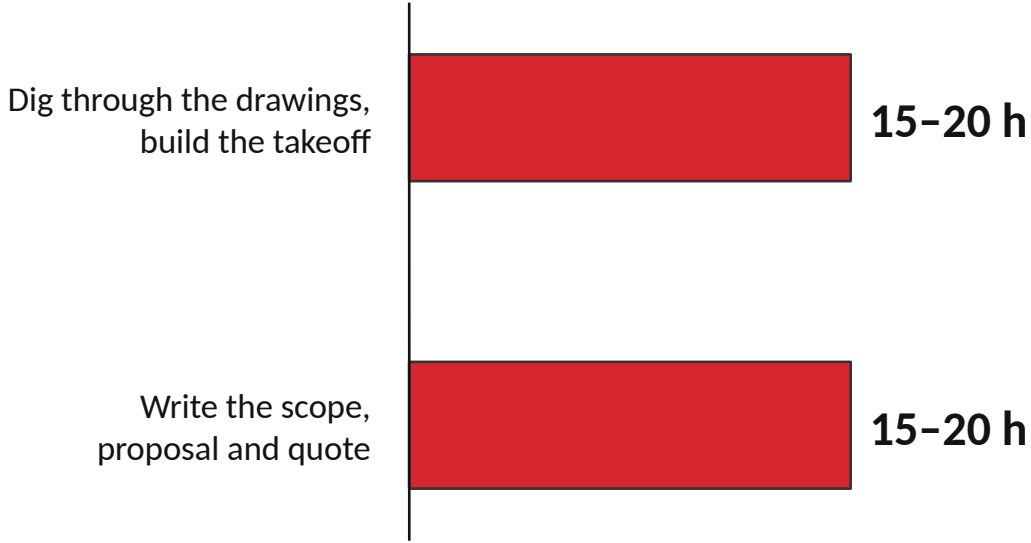
05120-STRUCTURAL STEEL FRAMING
05500-METAL FABRICATIONS
05520-METAL STAIRS AND PLATFORMS
05521-PIPE AND TUBE RAILINGS

DATED: July 2026 90% Drawings & Specs ADDENDA: 9 REVISIONS: 2

PAGE#	ITEM#	DESCRIPTION	QTY	DEL/INST
		SITE		
C-0502	1	STEEL PIPE BOLLARDS 3" SCH 80 X 6'6" **(GALVANIZED)** *DETAIL: 1/C-9901*	40 REQ	DEL
C-0502	2	STEEL PIPE BOLLARDS 3" SCH 80 X 6'6" **(GALVANIZED)** *DETAIL: 1/C-9901*	22 REQ	DEL
		CLARIFIERS 1-4		

SECTION 01 · HOW WE ESTIMATE TODAY
TYPING THE SCOPE BY HAND

Where the hours go on one bid



30–40 h

per bid, a 30 to 50 item job

15–20 h

of that just digging through drawings

From our estimators: a typical 30 to 50 item job. 15–20 h to dig through the drawings and build the takeoff, another 15–20 h for scope, proposal and quote.

BRICK CITY METALS

ESTIMATING

SECTION 02 OF 04

AI TAKEOFF USING COWORK

Drop the bid in, get the takeoff out

How I asked for it

WHAT I TYPED

"I'm an estimator at a misc. metals shop. I want a folder where I can drop in a set of drawings and specs and you do the takeoff the way I would. I'm going to tell you how I do a takeoff, step by step. Write that down as a rule book and follow it every time. Only use the prices in the price file I give you. If you're not sure about something, flag it. Don't guess."

No code. That's the first message. Everything after it was me explaining how I read a set of drawings, and Claude writing it down as the rule book.

What's in the takeoff folder

THE BRAIN

what it knows

`SKILL.md`
The rulebook. Everything we've learned about how to read a set of drawings. This is the big one.

`BCM_ESTIMATING_REFERENCE.md`
Our dictionary. Makes it name things the way our estimators name them.

`BCM_IMPORT_FORMAT.md`
The format rules so the file drops into the pricing app clean.

THE TOOLS

what it does

`ocr_drawings.py`
Reads flat drawings. Turns a picture of a dimension into a number the computer can read.

`export_bcm_import_csv.py`
Builds the file that feeds the pricing app.

THE INSTRUCTIONS

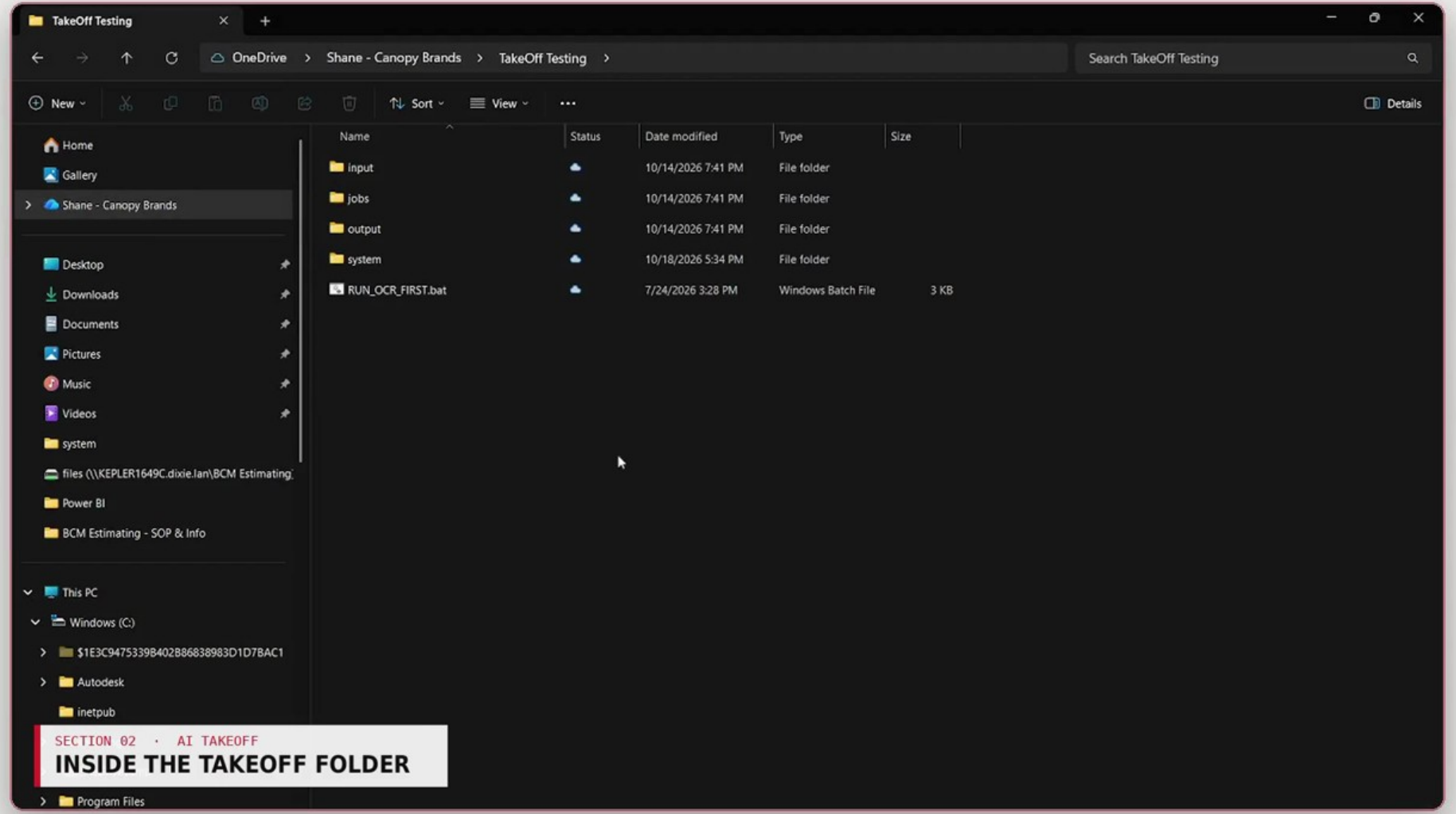
for us, not the computer

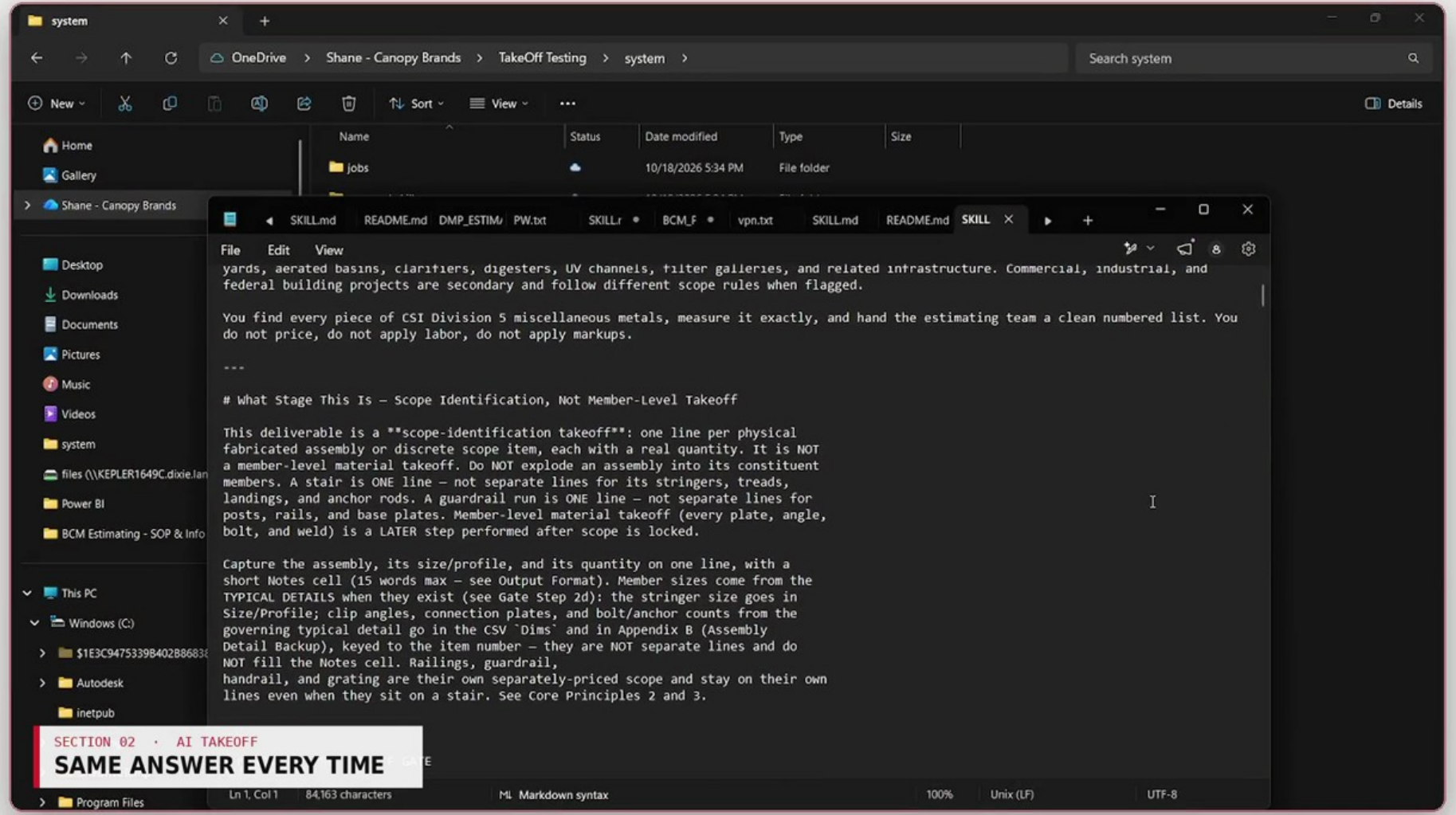
`CHEAT-SHEET.md`
The short how-to.

`README.md`
The long version.

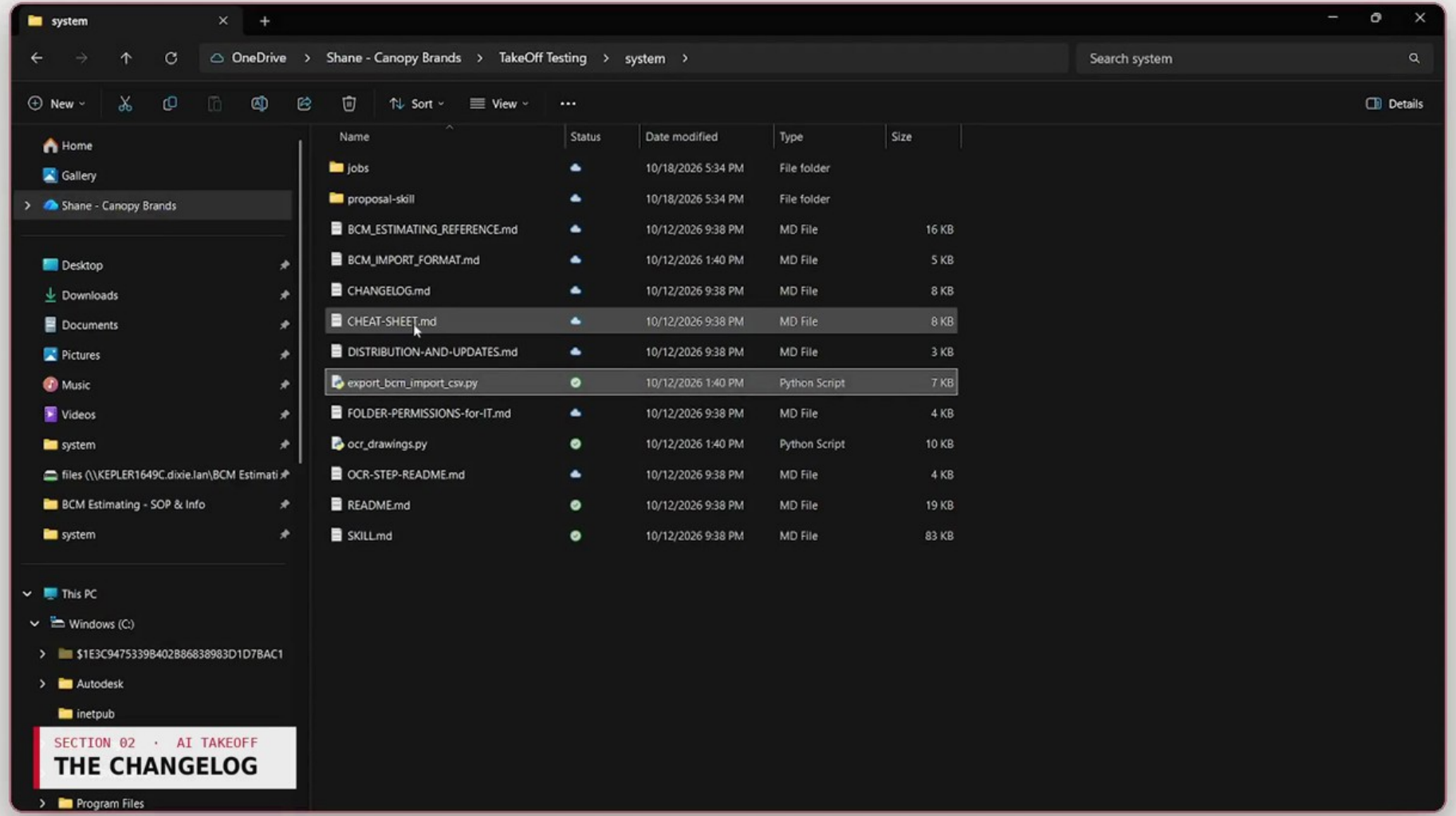
`OCR-STEP-README.md`
How to run the drawing reader.

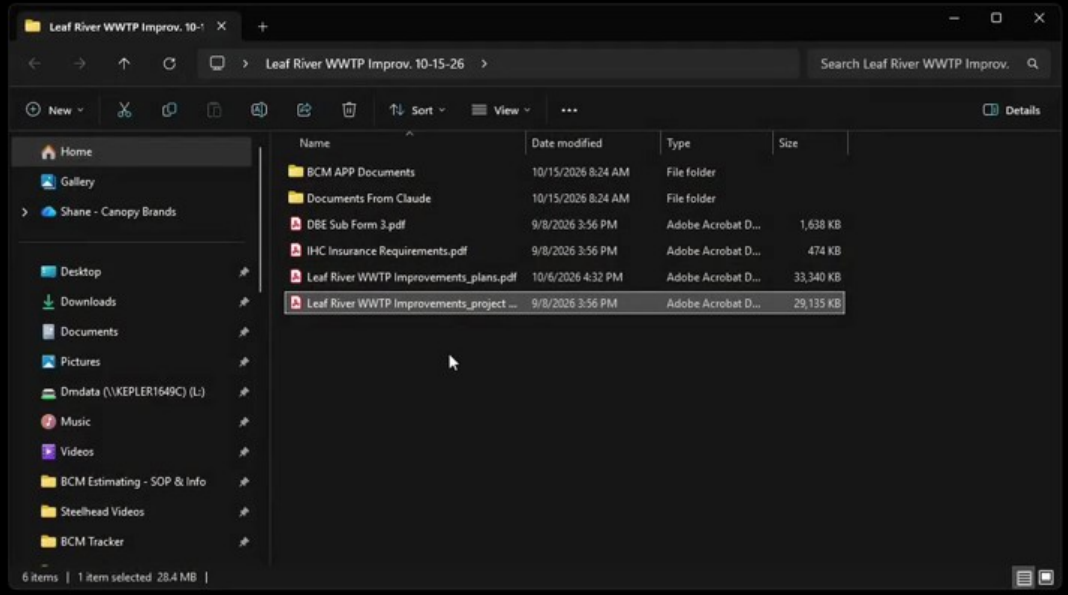
`DISTRIBUTION-AND-UPDATES.md`
How updates get pushed to everybody.


TakeOff Testing
OneDrive
Shane - Canopy Brands
TakeOff Testing
Search TakeOff Testing
New
Sort
View
Details
Home
Gallery
Shane - Canopy Brands
Desktop
Downloads
Documents
Pictures
Music
Videos
system
files (\\KEPLER1649C.dixie.lan\BCM Estimating
Power BI
BCM Estimating - SOP & Info
This PC
Windows (C:)
$1E3C9475339B402B86838983D1D7BAC1
Autodesk
inetpub
Program Files
Name
Status
Date modified
Type
Size
input
10/14/2026 7:41 PM
File folder
jobs
10/14/2026 7:41 PM
File folder
output
10/14/2026 7:41 PM
File folder
system
10/18/2026 5:34 PM
File folder
RUN_OCR_FIRST.bat
7/24/2026 3:28 PM
Windows Batch File
3 KB
SECTION 02 · AI TAKEOFF
INSIDE THE TAKEOFF FOLDER


system
OneDrive
Shane - Canopy Brands
TakeOff Testing
system
Search system
New
Sort
View
Details
Home
Gallery
Shane - Canopy Brands
Desktop
Downloads
Documents
Pictures
Music
Videos
system
files (\\KEPLER1649C.dixie.lan
Power BI
BCM Estimating - SOP & Info
This PC
Windows (C:)
Autodesk
inetpub
Program Files
Name
Status
Date modified
Type
Size
jobs
10/18/2026 5:34 PM
File folder
SKILL.md
README.md
DMP_ESTIM
PW.txt
SKILL.r
BCM_F
vpn.txt
SKILL.md
README.md
SKILL
File
Edit
View
yards, aerated basins, clarifiers, digesters, UV channels, filter galleries, and related infrastructure. Commercial, industrial, and federal building projects are secondary and follow different scope rules when flagged.
You find every piece of CSI Division 5 miscellaneous metals, measure it exactly, and hand the estimating team a clean numbered list. You do not price, do not apply labor, do not apply markups.

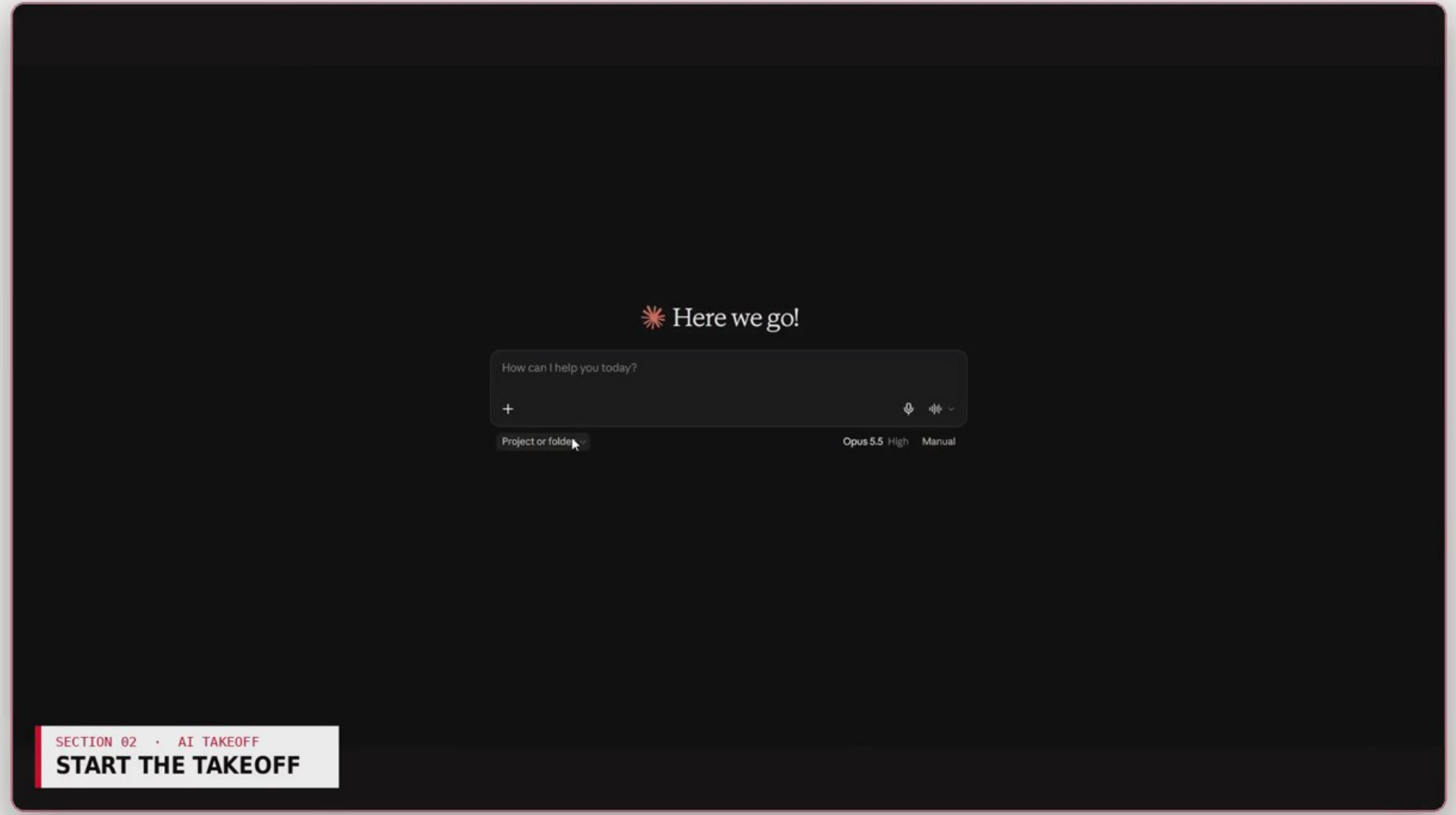
What Stage This Is — Scope Identification, Not Member-Level Takeoff
This deliverable is a **scope-identification takeoff**: one line per physical fabricated assembly or discrete scope item, each with a real quantity. It is NOT a member-level material takeoff. Do NOT explode an assembly into its constituent members. A stair is ONE line — not separate lines for its stringers, treads, landings, and anchor rods. A guardrail run is ONE line — not separate lines for posts, rails, and base plates. Member-level material takeoff (every plate, angle, bolt, and weld) is a LATER step performed after scope is locked.
Capture the assembly, its size/profile, and its quantity on one line, with a short Notes cell (15 words max — see Output Format). Member sizes come from the TYPICAL DETAILS when they exist (see Gate Step 2d): the stringer size goes in Size/Profile; clip angles, connection plates, and bolt/anchor counts from the governing typical detail go in the CSV `Dims` and in Appendix B (Assembly Detail Backup), keyed to the item number — they are NOT separate lines and do NOT fill the Notes cell. Railings, guardrail, handrail, and grating are their own separately-priced scope and stay on their own lines even when they sit on a stair. See Core Principles 2 and 3.
Ln 1, Col 1
84,163 characters
Markdown syntax
100%
Unix (LF)
UTF-8
SECTION 02 · AI TAKEOFF
SAME ANSWER EVERY TIME


system
OneDrive
Shane - Canopy Brands
TakeOff Testing
system
Search system
New
Sort
View
Details
Home
Gallery
Shane - Canopy Brands
Desktop
Downloads
Documents
Pictures
Music
Videos
system
files (\\KEPLER1649C.dixie.lan\BCM Estimati
BCM Estimating - SOP & Info
system
This PC
Windows (C:)
$1E3C9475339B402B86838983D1D7BAC1
Autodesk
inetpub
Program Files
Name
Status
Date modified
Type
Size
jobs 10/18/2026 5:34 PM File folder
proposal-skill 10/18/2026 5:34 PM File folder
BCM_ESTIMATING_REFERENCE.md 10/12/2026 9:38 PM MD File 16 KB
BCM_IMPORT_FORMAT.md 10/12/2026 1:40 PM MD File 5 KB
CHANGELOG.md 10/12/2026 9:38 PM MD File 8 KB
CHEAT-SHEET.md 10/12/2026 9:38 PM MD File 8 KB
DISTRIBUTION-AND-UPDATES.md 10/12/2026 9:38 PM MD File 3 KB
export_bcm_import_csv.py 10/12/2026 1:40 PM Python Script 7 KB
FOLDER-PERMISSIONS-for-IT.md 10/12/2026 9:38 PM MD File 4 KB
ocr_drawings.py 10/12/2026 1:40 PM Python Script 10 KB
OCR-STEP-README.md 10/12/2026 9:38 PM MD File 4 KB
README.md 10/12/2026 9:38 PM MD File 19 KB
SKILL.md 10/12/2026 9:38 PM MD File 83 KB
SECTION 02 · AI TAKEOFF
THE CHANGELOG



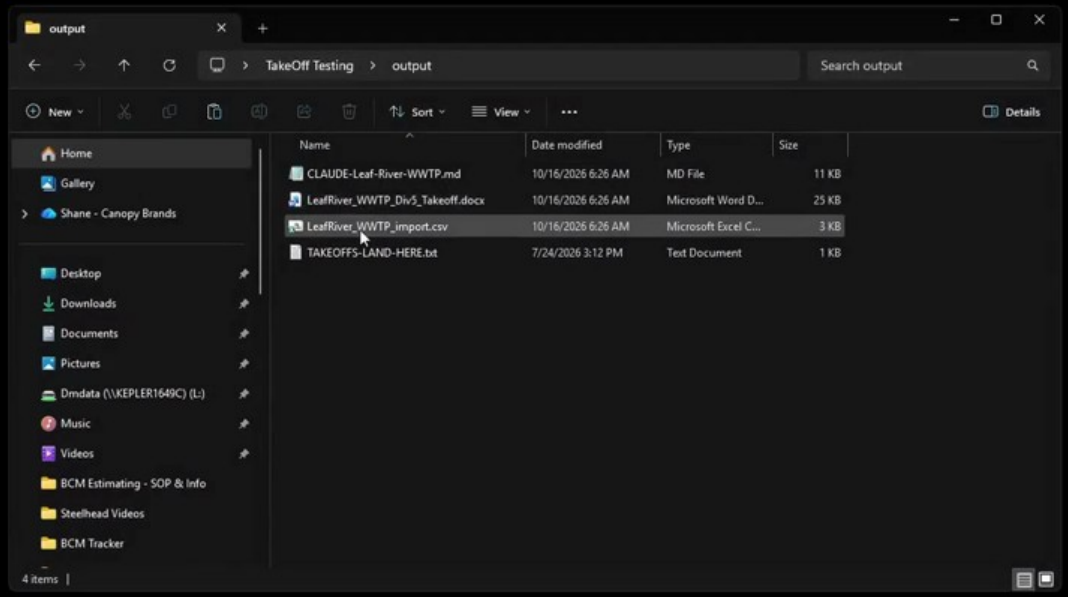
SECTION 02 · AI TAKEOFF

DROP IT IN THE TAKEOFF FOLDER



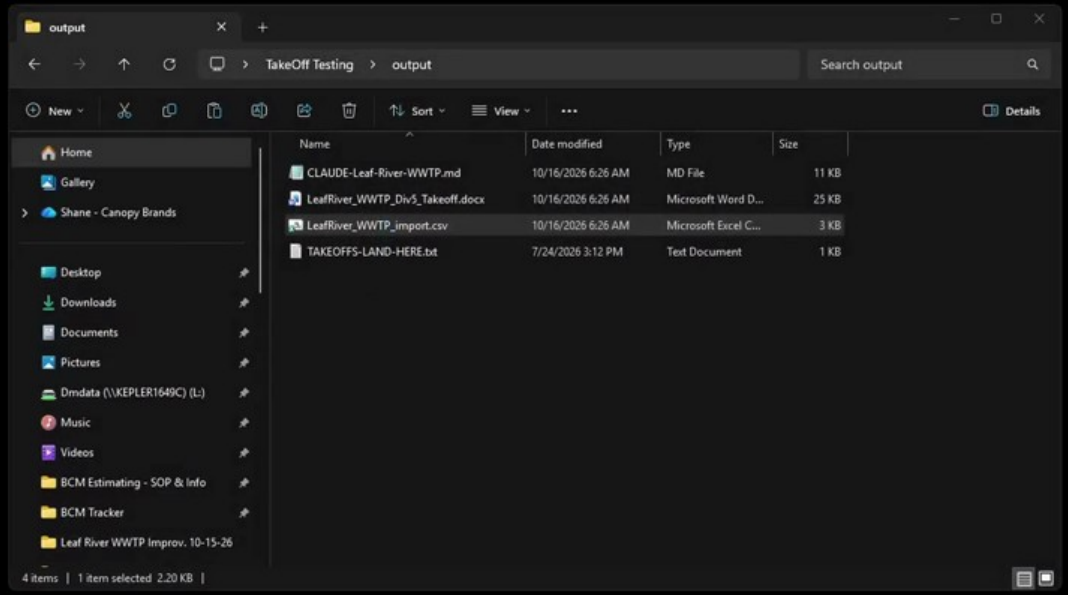
SECTION 02 · AI TAKEOFF

START THE TAKEOFF



SECTION 02 · AI TAKEOFF

THE TAKEOFF REPORT



SECTION 02 · AI TAKEOFF

EXCEL IMPORT FILE

BRICK CITY METALS

ESTIMATING

SECTION 03 OF 04

THE ESTIMATING APP

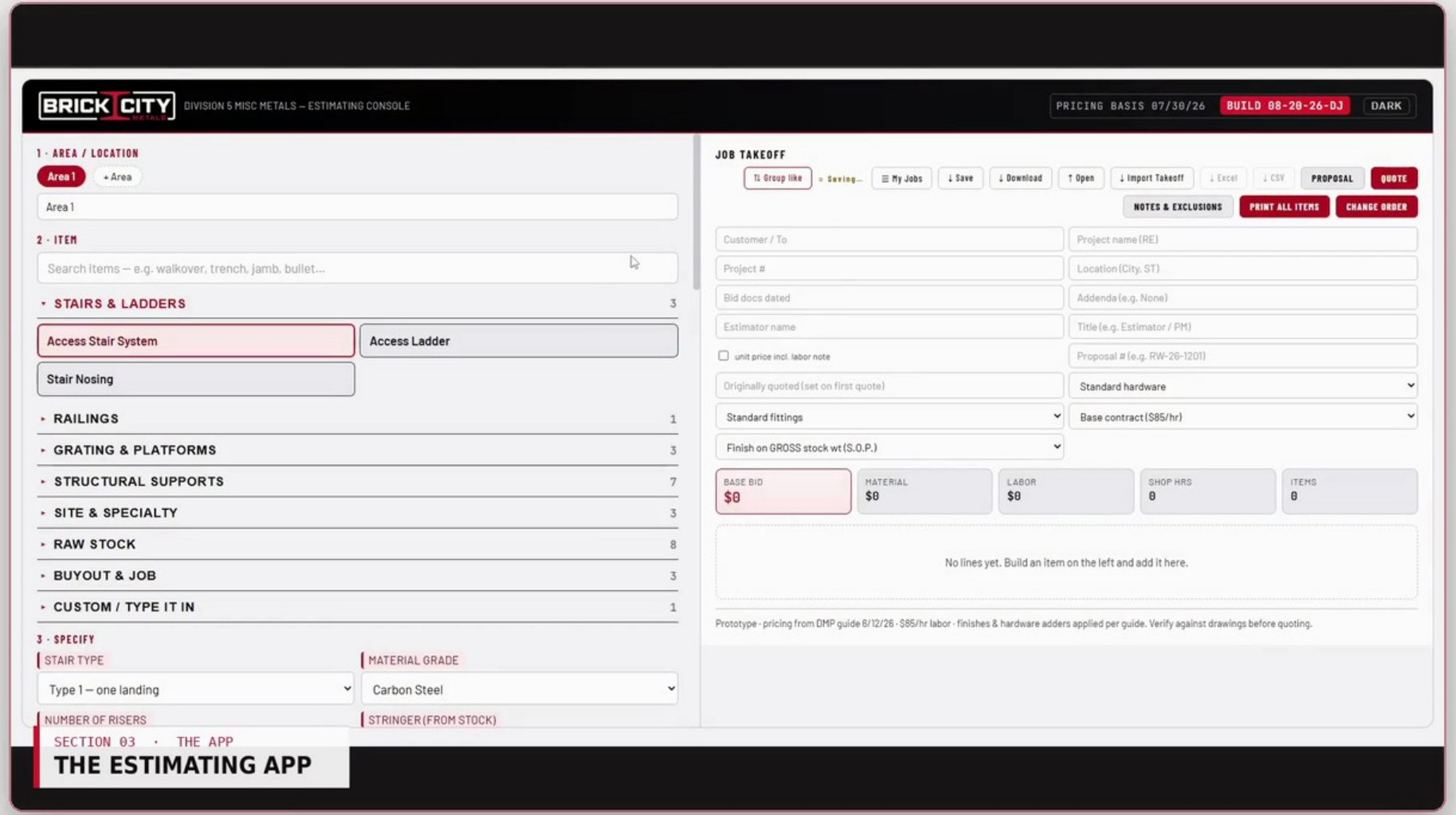
From takeoff to quote in one place

How I asked for it

WHAT I TYPED

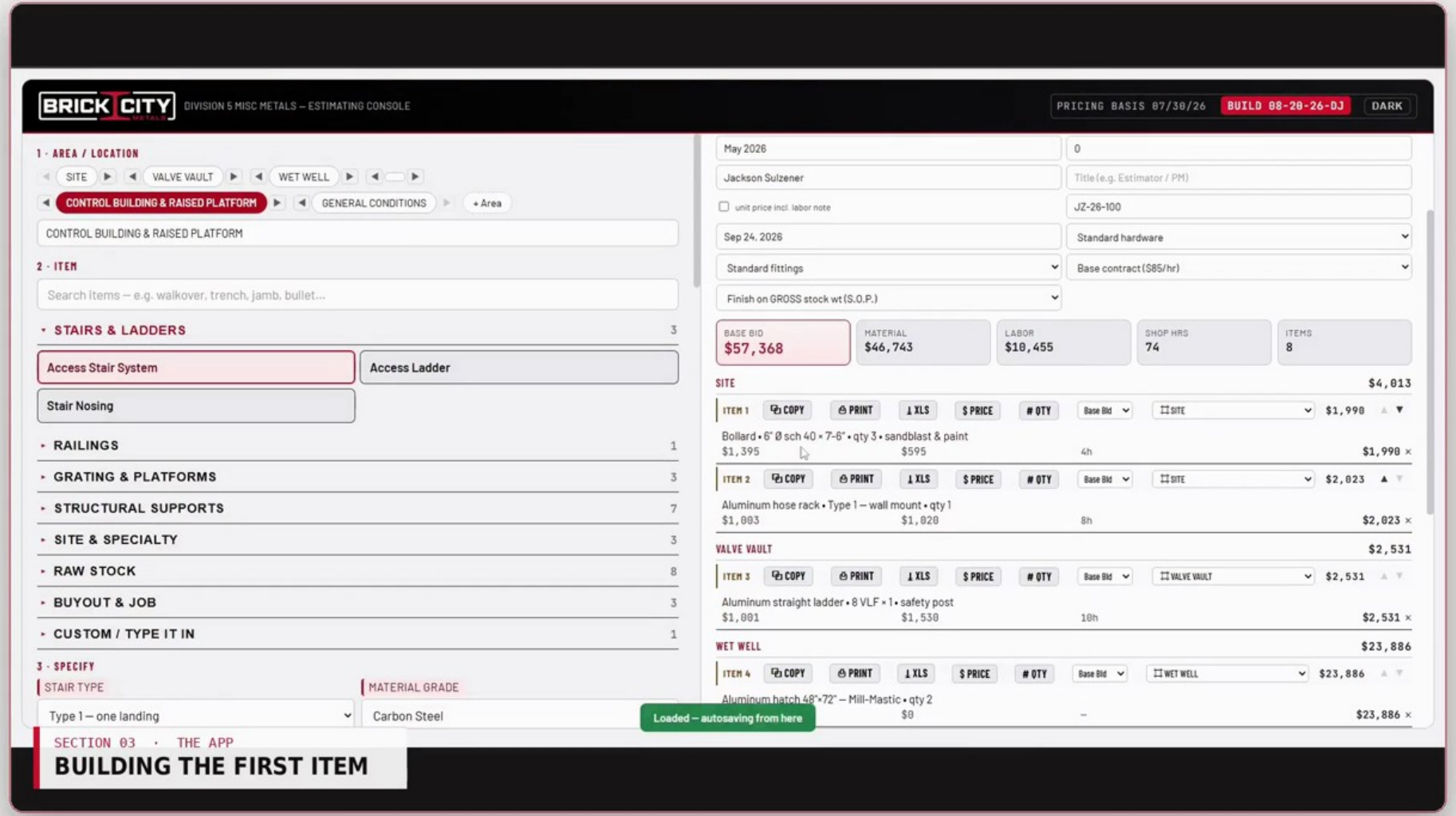
"I want to build an estimating app for our shop. Before you write anything, ask me 50 questions about how I want it to work. One at a time. When I've answered all 50, turn my answers into the prompt to build it."

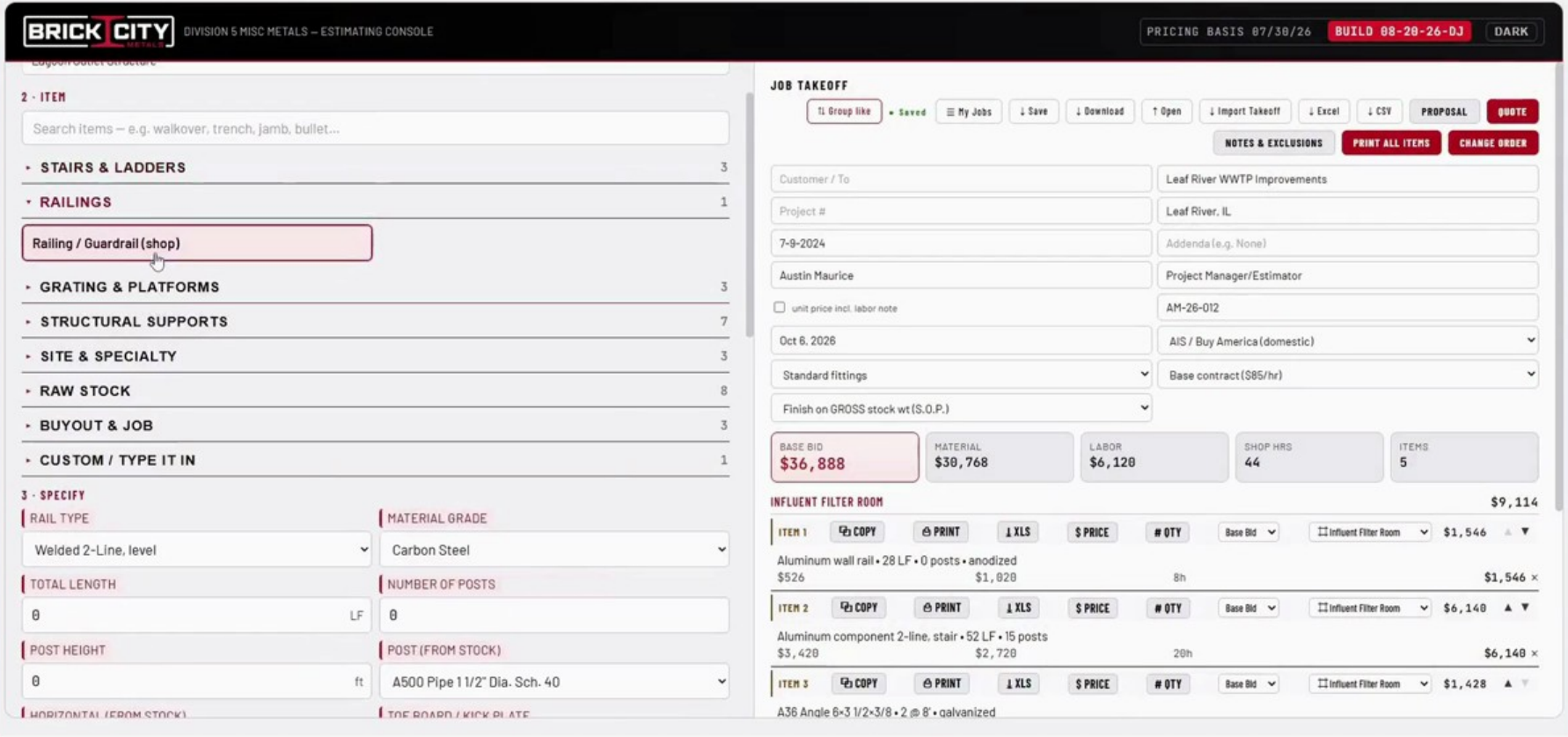
It asked. I answered. It wrote the build prompt from my 50 answers, and we built the app from that. Every feature since has been one more plain-English ask.

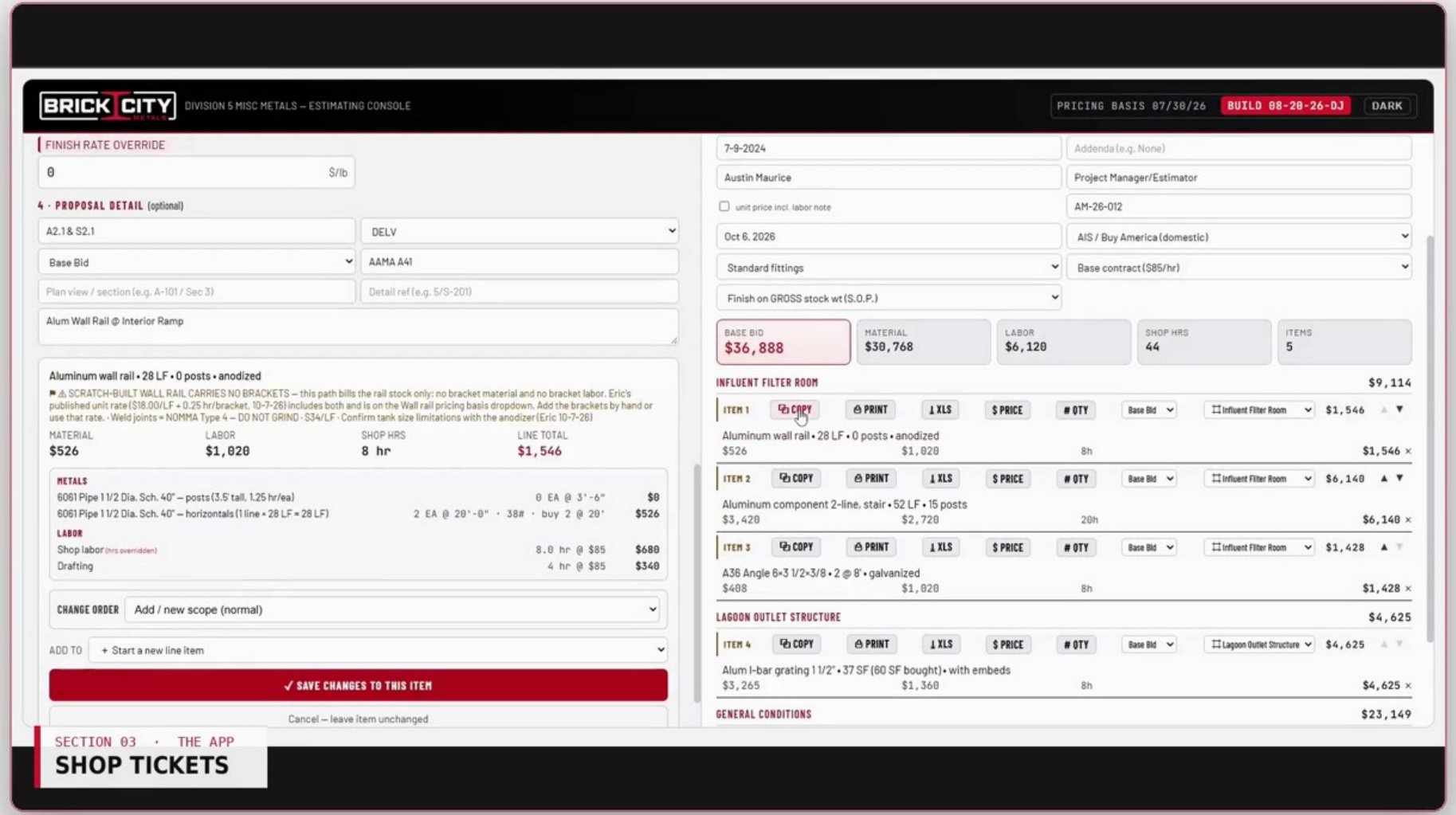


SECTION 03 · THE APP

THE ESTIMATING APP

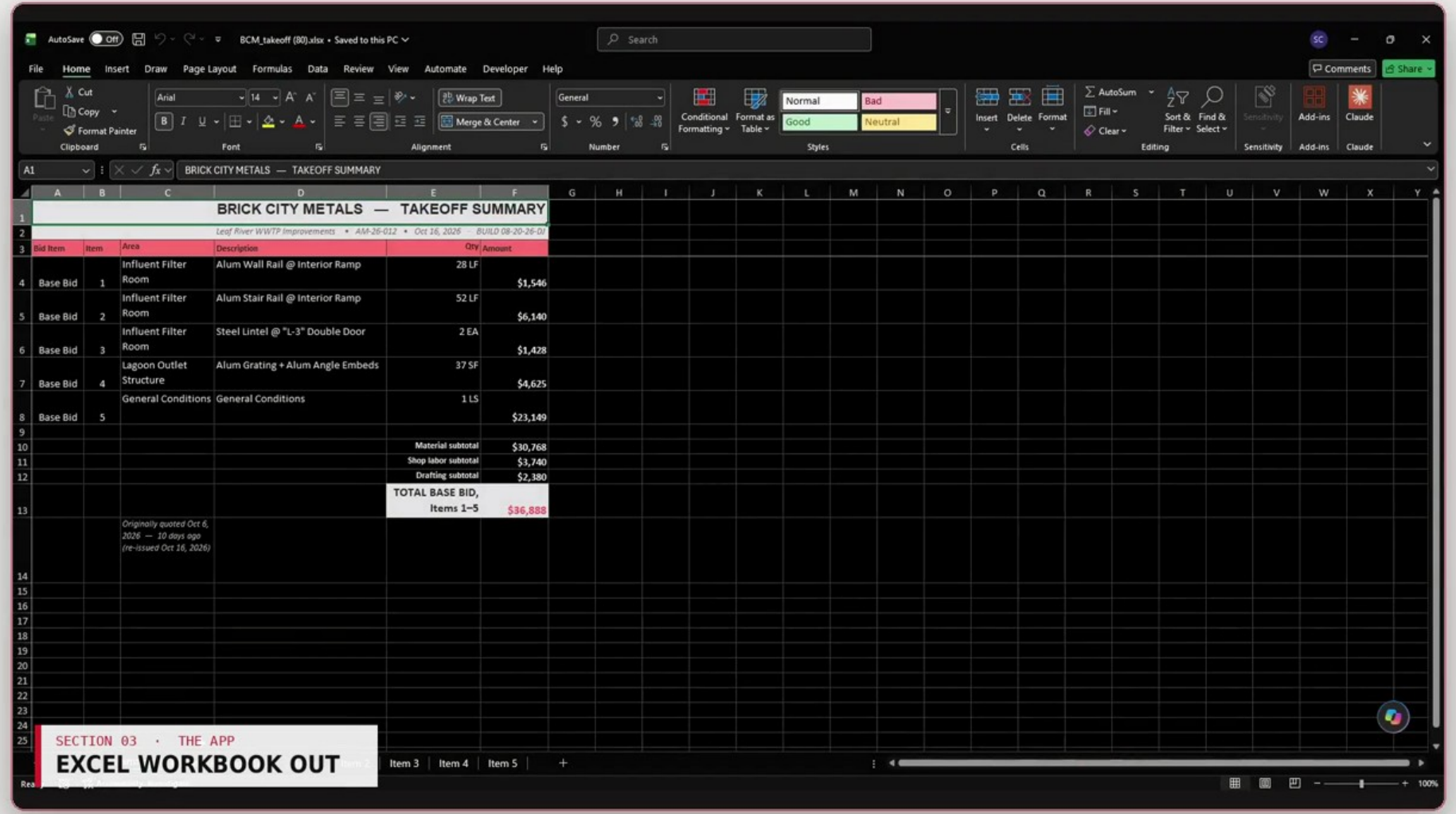

BRICK CITY METALS
DIVISION 5 MISC METALS — ESTIMATING CONSOLE
PRICING BASIS 07/30/26
BUILD 08-20-26-DJ
DARK
1 · AREA / LOCATION
SITE
VALVE VAULT
WET WELL
CONTROL BUILDING & RAISED PLATFORM
GENERAL CONDITIONS
+ Area
CONTROL BUILDING & RAISED PLATFORM
2 · ITEM
Search items — e.g. walkover, trench, jamb, bullet...
STAIRS & LADDERS 3
Access Stair System
Access Ladder
Stair Nosing
RAILINGS 1
GRATING & PLATFORMS 3
STRUCTURAL SUPPORTS 7
SITE & SPECIALTY 3
RAW STOCK 8
BUYOUT & JOB 3
CUSTOM / TYPE IT IN 1
3 · SPECIFY
STAIR TYPE
Type 1 — one landing
MATERIAL GRADE
Carbon Steel
May 2026
0
Jackson Sulzener
Title (e.g. Estimator / PM)
unit price incl. labor note
JZ-26-100
Sep 24, 2026
Standard hardware
Standard fittings
Base contract ($85/hr)
Finish on GROSS stock wt (S.O.P.)
BASE BID
$57,368
MATERIAL
$46,743
LABOR
$10,455
SHOP HRS
74
ITEMS
8
SITE
$4,013
ITEM 1
COPY
PRINT
XLS
$ PRICE
# QTY
Base Bld
SITE
$1,990
Bollard • 6" Ø sch 40 × 7'-6" • qty 3 • sandblast & paint
$1,395
$595
4h
$1,990
ITEM 2
COPY
PRINT
XLS
$ PRICE
# QTY
Base Bld
SITE
$2,023
Aluminum hose rack • Type 1 — wall mount • qty 1
$1,003
$1,020
8h
$2,023
VALVE VAULT
$2,531
ITEM 3
COPY
PRINT
XLS
$ PRICE
# QTY
Base Bld
VALVE VAULT
$2,531
Aluminum straight ladder • 8 VLF × 1 • safety post
$1,001
$1,530
10h
$2,531
WET WELL
$23,886
ITEM 4
COPY
PRINT
XLS
$ PRICE
# QTY
Base Bld
WET WELL
$23,886
Aluminum hatch 48"×72" — Mill-Mastic • qty 2
$0
–
$23,886
Loaded — autosaving from here
SECTION 03 · THE APP
BUILDING THE FIRST ITEM


BRICK CITY METALS
DIVISION 5 MISC METALS — ESTIMATING CONSOLE
PRICING BASIS 07/30/26
BUILD 08-20-26-DJ
DARK
2 · ITEM
Search items — e.g. walkover, trench, jamb, bullet...
STAIRS & LADDERS 3
RAILINGS 1
Railing / Guardrail (shop)
GRATING & PLATFORMS 3
STRUCTURAL SUPPORTS 7
SITE & SPECIALTY 3
RAW STOCK 8
BUYOUT & JOB 3
CUSTOM / TYPE IT IN 1
3 · SPECIFY
RAIL TYPE
Welded 2-Line, level
MATERIAL GRADE
Carbon Steel
TOTAL LENGTH
0 LF
NUMBER OF POSTS
0
POST HEIGHT
0 ft
POST (FROM STOCK)
A500 Pipe 1 1/2" Dia. Sch. 40
HORIZONTAL (FROM STOCK)
TOE BOARD / KICK PLATE
JOB TAKEOFF
Group like
Saved
My Jobs
Save
Download
Open
Import Takeoff
Excel
CSV
PROPOSAL
QUOTE
NOTES & EXCLUSIONS
PRINT ALL ITEMS
CHANGE ORDER
Customer / To
Leaf River WWTP Improvements
Project #
Leaf River, IL
7-9-2024
Addenda (e.g. None)
Austin Maurice
Project Manager/Estimator
unit price incl. labor note
AM-26-012
Oct 6, 2026
AIS / Buy America (domestic)
Standard fittings
Base contract ($85/hr)
Finish on GROSS stock wt (S.O.P.)
BASE BID
$36,888
MATERIAL
$30,768
LABOR
$6,120
SHOP HRS
44
ITEMS
5
INFLUENT FILTER ROOM
$9,114
ITEM 1
COPY
PRINT
XLS
$ PRICE
# QTY
Base Bid
Influent Filter Room
$1,546
Aluminum wall rail • 28 LF • 0 posts • anodized
$526
$1,020
8h
$1,546
ITEM 2
COPY
PRINT
XLS
$ PRICE
# QTY
Base Bid
Influent Filter Room
$6,140
Aluminum component 2-line, stair • 52 LF • 15 posts
$3,420
$2,720
20h
$6,140
ITEM 3
COPY
PRINT
XLS
$ PRICE
# QTY
Base Bid
Influent Filter Room
$1,428
A36 Angle 6×3 1/2×3/8 • 2 @ 8' • galvanized



SECTION 03 · THE APP

SHOP TICKETS



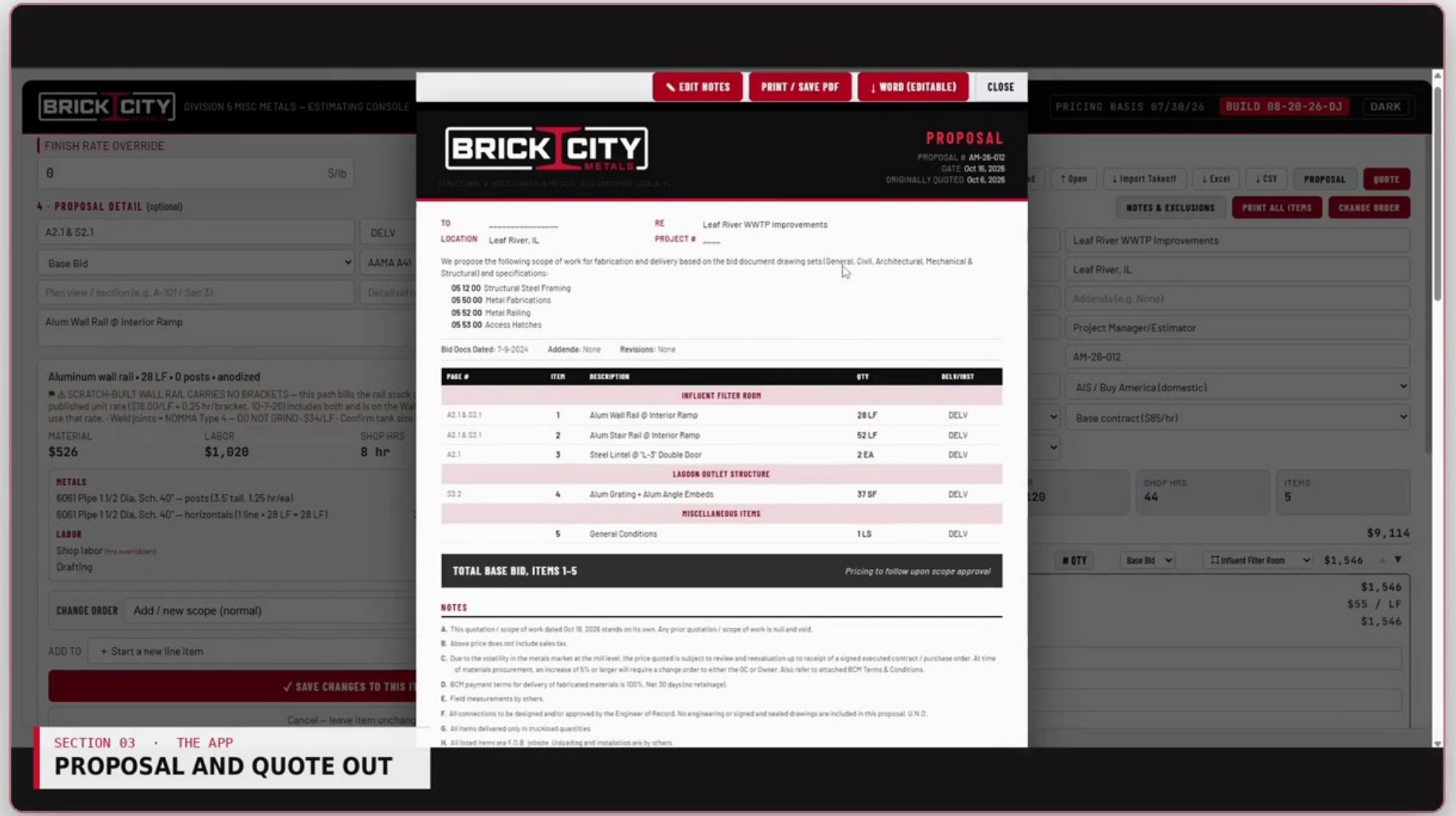
SECTION 03 · THE APP

EXCEL WORKBOOK OUT



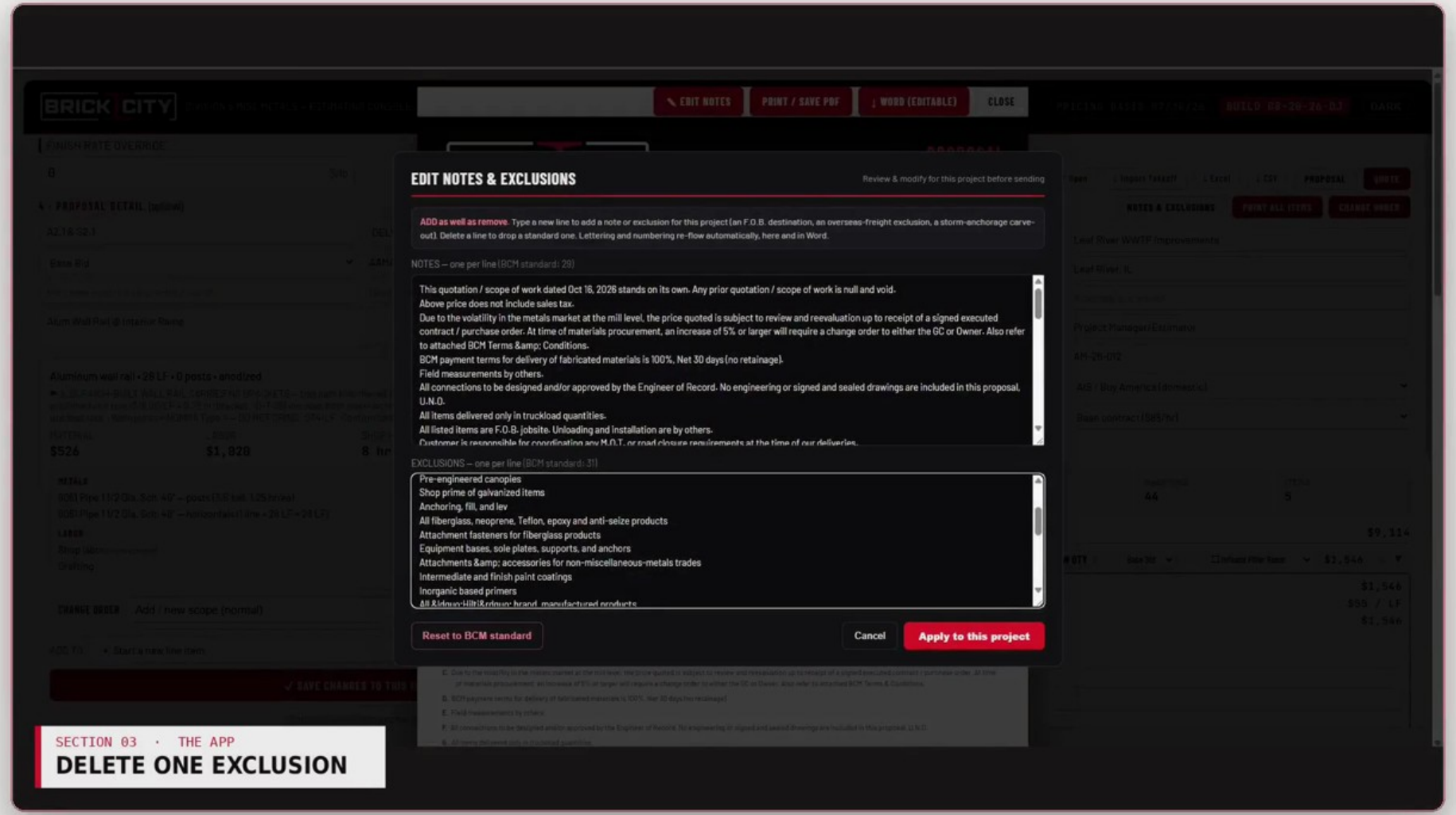
SECTION 03 · THE APP

THE TAKEOFF TAB



SECTION 03 · THE APP

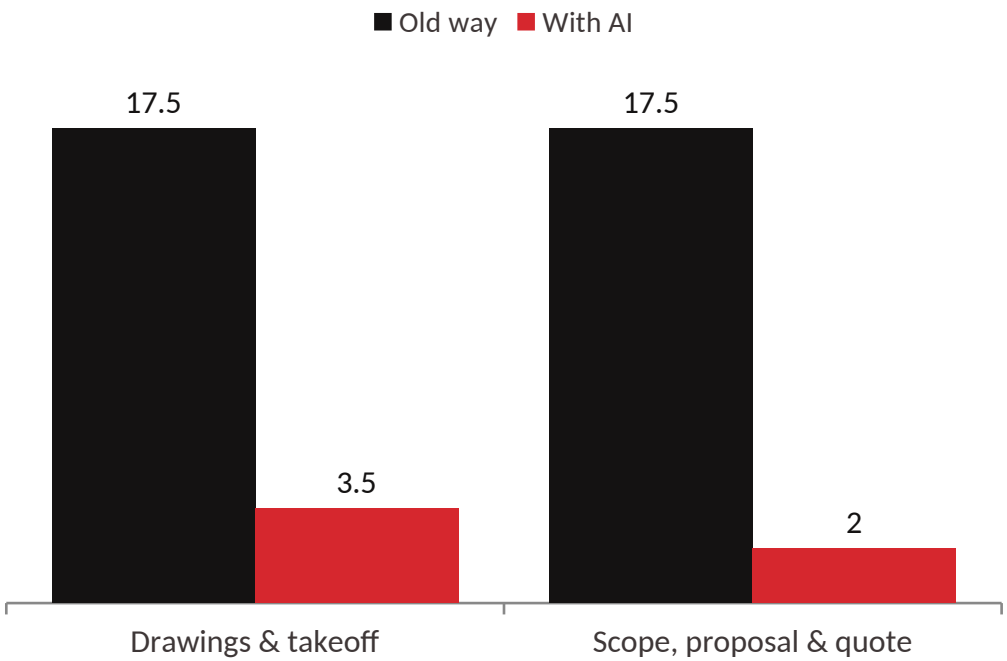
PROPOSAL AND QUOTE OUT



SECTION 03 · THE APP

DELETE ONE EXCLUSION

Hours per bid, old way and new



35 → 5.5

hours per bid

~30 h

back on every bid

Old way is the midpoint of 15–20 h and 15–20 h. With AI: half an hour to run it, 3 h checking flagged items, 2 h pricing. The proposal builds itself as you price.

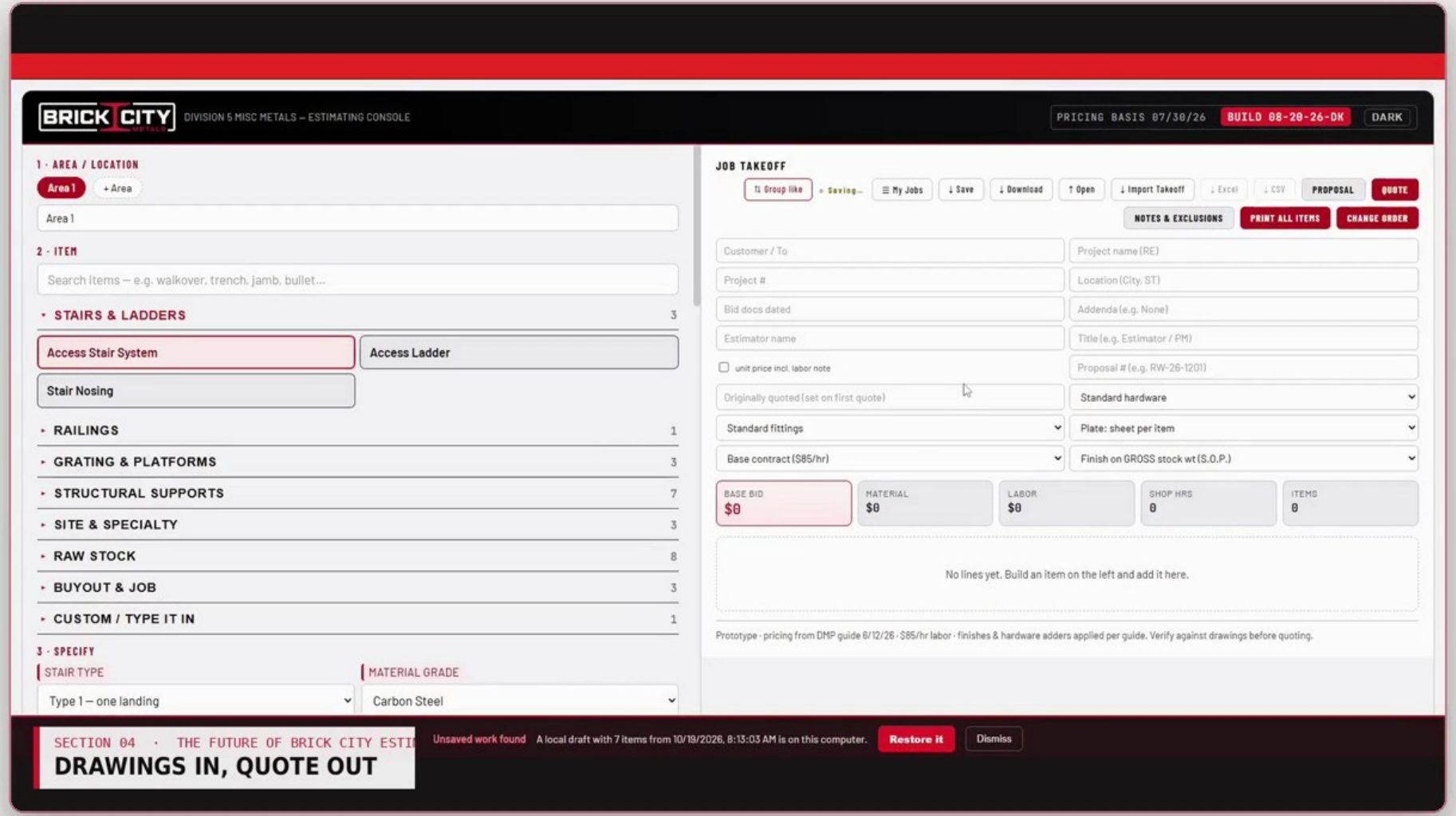
BRICK CITY METALS

ESTIMATING

SECTION 04 OF 04

THE FUTURE OF BRICK CITY ESTIMATING

Drawings in, quote out, nobody retypes a thing


BRICK CITY METALS
DIVISION 5 MISC METALS — ESTIMATING CONSOLE
PRICING BASIS 07/30/26
BUILD 08-20-26-DK
DARK
1 · AREA / LOCATION
Area 1
+ Area
Area 1
2 · ITEM
Search items — e.g. walkover, trench, jamb, bullet...
STAIRS & LADDERS 3
Access Stair System
Access Ladder
Stair Nosing
RAILINGS 1
GRATING & PLATFORMS 3
STRUCTURAL SUPPORTS 7
SITE & SPECIALTY 3
RAW STOCK 8
BUYOUT & JOB 3
CUSTOM / TYPE IT IN 1
3 · SPECIFY
STAIR TYPE
Type 1 — one landing
MATERIAL GRADE
Carbon Steel
JOB TAKEOFF
Group like
Saving...
My Jobs
Save
Download
Open
Import Takeoff
Excel
CSV
PROPOSAL
QUOTE
NOTES & EXCLUSIONS
PRINT ALL ITEMS
CHANGE ORDER
Customer / To
Project name (RE)
Project #
Location (City, ST)
Bid docs dated
Addenda (e.g. None)
Estimator name
Title (e.g. Estimator / PM)
unit price incl. labor note
Proposal # (e.g. RW-26-1201)
Originally quoted (set on first quote)
Standard hardware
Standard fittings
Plate: sheet per item
Base contract ($85/hr)
Finish on GROSS stock wt (S.O.P.)
BASE BID
$0
MATERIAL
$0
LABOR
$0
SHOP HRS
0
ITEMS
0
No lines yet. Build an item on the left and add it here.
Prototype · pricing from DMP guide 6/12/26 · $85/hr labor · finishes & hardware adders applied per guide. Verify against drawings before quoting.
SECTION 04 · THE FUTURE OF BRICK CITY ESTI
DRAWINGS IN, QUOTE OUT
Unsaved work found
A local draft with 7 items from 10/19/2026, 8:13:03 AM is on this computer.
Restore it
Dismiss

BRICK CITY METALS

ESTIMATING

FROM WEEKS AND DAYS PER BID

TO HOURS

Thank you. Questions?

Shane Clark · Operations Manager