PNG Civil CAD - Quick Start Guide

Version 2.0 | For PNG Civil Engineers

What is PNG Civil CAD?

PNG Civil CAD is a **free, web-based CAD application** designed specifically for civil engineers working in Papua New Guinea. It includes:

- ✅ **Full 2D CAD tools** - Lines, circles, polylines, rectangles, arcs, polygons
- ✅ **Modify tools** - Trim, extend, offset, mirror, rotate, scale, array
- ✅ **Annotations** - Text, dimensions, hatching
- ✅ **PNG-specific data** - All 22 provinces with seismic zones, climate, flood data
- ✅ **Structural calculations** - Beam, column, footing sizing for PNG conditions
- ✅ **Cost estimation** - Material costs in Kina
- ✅ **Construction sequences** - Step-by-step builder guidance
- ✅ **DXF import/export** - Works with AutoCAD files

How to Download and Install

Step 1: Install Required Software

Before you start, you need two things installed on your computer:

A) Install Node.js

1. Go to: https://nodejs.org/
2. Click the big green button that says **"LTS"** (Long Term Support)
3. Download and run the installer
4. Click "Next" through all the steps, accepting defaults
5. Restart your computer after installation

B) Install Git

1. Go to: https://git-scm.com/downloads
2. Click **"Windows"** (or your operating system)
3. Download and run the installer
4. Click "Next" through all steps, accepting defaults

Step 2: Download PNG Civil CAD

The project is hosted on GitHub. Here's how to get it:

1. **Open Command Prompt**
   - Press `Windows Key + R`
   - Type `cmd` and press Enter
2. **Navigate to where you want to save the project**

   ```
   cd Desktop
   ```

   (This puts it on your Desktop - you can choose another folder)
3. **Clone the repository** (this downloads the project)

   ```
   git clone https://github.com/BruinGrowly/PNG-AutoCad-Software.git
   ```
4. **Go into the project folder**

   ```
   cd PNG-AutoCad-Software
   ```
5. **Install dependencies** (this downloads the required packages)

   ```
   npm install
   ```

   ⏳ This may take a few minutes - wait until it finishes.

Step 3: Run the App

1. **Start the app:**

   ```
   npm run dev
   ```
2. You should see something like:

   ```
   VITE v5.x.x  ready in 500ms

   ➜  Local:   http://localhost:5173/
   ```
3. **Open your web browser** (Chrome, Firefox, or Edge)
4. **Go to this address:**

   ```
   http://localhost:5173
   ```
5. **The app is now running!** 🎉

> **To stop the app:** Press `Ctrl + C` in the Command Prompt window

Step 4: Running Again Later

Next time you want to use the app:

1. Open Command Prompt
2. Navigate to the folder:
   ```
   cd Desktop\PNG-AutoCad-Software
   ```
3. Start the app:
   ```
   npm run dev
   ```
4. Open http://localhost:5173 in your browser

How to Use

Creating a New Project

1. When the app opens, you'll see the **Project Dialog**
2. Enter a project name
3. Select your **province** (this loads local data for seismic, climate, etc.)
4. Click **Create Project**

Drawing Tools

Tool	Shortcut	How to Use
Line	L	Click start, click end
Circle	C	Click center, click radius
Rectangle	R	Click corner, click opposite corner
Polyline	P	Click points, double-click to finish
Arc	A	Click 3 points
Polygon	-	Click points, double-click to close
Text	T	Click placement, type text

Modify Tools

Tool	How to Use
Trim	Click cutting edge, then click part to remove

Tool	How to Use
Extend	Click boundary, then click line to extend
Offset	Select objects → click base → enter distance
Mirror	Select objects → click mirror line
Rotate	Select objects → click center → enter angle
Scale	Select objects → click center → enter factor
Array	Select objects → enter rows/columns/spacing

Keyboard Shortcuts

Press **?** to see all keyboard shortcuts, including:

- **E** - Toggle Project Explorer (see all objects)
- **G** - Toggle grid
- **S** - Toggle snap
- **Escape** - Cancel / Deselect
- **Delete** - Delete selected

PNG-Specific Features

- **Building Parameters Panel** - Enter your province to see:
  - Seismic zone and factors
  - Climate data (rainfall, temperature)
  - Flood risk assessment
  - Material recommendations
- **Structural Calculations** - Size beams, columns, and footings based on PNG conditions
- **Cost Estimation** - Get material quantities with PNG prices

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Sending Feedback & Bug Reports

Your feedback helps us improve the software!

How to Report an Issue

1. Click the 📣 **button** in the bottom-right status bar
2. Choose report type:
   - 🐛 **Bug Report** - Something isn't working
   - 💬 **Feedback** - General comments
   - 💡 **Feature Request** - Ideas for improvement
   - ❓ **Question** - Need help

3. Fill in the title and description
4. **For bugs:** Optionally check "Include error logs" (helps us fix it!)
5. Check both consent boxes
6. Click **"Open Email to Send"**
7. Your email app will open with the report ready - just click Send!

What Gets Sent?

- Only what you choose to include
- We do NOT store any data on servers
- Data goes directly via YOUR email client
- You can review the email before sending

Direct Contact

If the button doesn't work, email us directly: **bruinnecessities@gmail.com**

Troubleshooting

"npm is not recognized"

→ Node.js is not installed. Go back to Step 1A.

"git is not recognized"

→ Git is not installed. Go back to Step 1B.

"npm install" shows errors

→ Try running Command Prompt as Administrator (right-click → Run as administrator)

App won't load in browser

→ Make sure you're going to `http://localhost:5173` (not https)

Need more help?

→ Send us a message using the 📣 button or email bruinnecessities@gmail.com

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Important Notes

> ⚠️ **Disclaimer:** This software provides calculations as a GUIDE ONLY. All designs must be verified and certified by a licensed Professional Engineer before construction.

- Always save your work regularly (Ctrl+S)
- Export important drawings to DXF for backup
- The app works offline once loaded

Quick Reference

Command	What it does
`git clone URL`	Downloads the project
`npm install`	Installs dependencies
`npm run dev`	Starts the app
`Ctrl + C`	Stops the app

Happy designing! PG

GitHub Repository: https://github.com/BruinGrowly/PNG-AutoCad-Software
Support Email: bruinnecessities@gmail.com