

## Civil 3D Land Subdivision and Development Workshop

The shortage of skilled professionals in land subdivision and development is a significant obstacle to addressing the challenges of urbanization, environmental sustainability, and infrastructure development in Africa. To overcome these challenges, investments in training, education, and capacity-building in the AEC sectors are crucial. Nziza Training Academy has planned a workshop as a vital step towards equipping professionals with the necessary skills to tackle these issues effectively.

Since its establishment, Nziza Training Academy has been committed to bridging the gap between academic knowledge and industry demands through practical, project-based training and workshops programs. Our mission is to equip participants with essential skills that seamlessly integrate classroom theory with real-world applications, ensuring they are well-prepared for professional challenges.

We are proudly accredited to represent some of the world's leading technology brands in construction, architecture, and engineering, including Autodesk, Midas, Bentley Systems, and Prota Software to name a few. As the premier training, certification, and software-licensing center in the region, we strive to deliver unparalleled educational and professional development opportunities.

### ABOUT LAND SUBDIVISION AND DEVELOPMENT

Our Civil 3D Land Subdivision and Development Workshop is designed to equip engineers, and surveyors with the essential skills required to master Civil 3D. Focusing on land subdivision, site design, and road layout, this 3-day intensive workshop offers hands-on training with real-world projects, providing participants with the tools to excel in land subdivision and development. The lack of skilled professionals in Land Subdivision and Development poses significant challenges for many African countries, affecting urbanization, infrastructure development, and sustainable land use. Here are the key challenges:

- **Rapid Urbanization:** Many African cities are experiencing fast population growth, which leads to unplanned urban sprawl. Without skilled professionals to manage land subdivision effectively, this results in chaotic city layouts and haphazard developments.
- **Proliferation of Informal Settlements:** The lack of expertise in land development planning often leads to informal settlements (slums), where land is divided and developed without proper infrastructure, utilities, or legal recognition. This exacerbates issues like overcrowding, lack of sanitation, and poor housing quality.
- **Poorly Designed Road Networks:** Without skilled planners and engineers, road layouts in subdivisions may be inefficient, leading to traffic congestion, limited accessibility, and increased transportation costs for residents.
- **Lack of Utility Integration:** Inefficient planning for essential services such as water supply, sewerage, electricity, and telecommunications is common. This results in inadequate infrastructure

that cannot support the needs of growing communities, affecting the quality of life and economic opportunities.

- **Insufficient Stormwater Management:** A lack of expertise in subdivision design often leads to poor drainage systems, causing flooding during rainy seasons. This not only damages property but also contributes to erosion, loss of arable land, and environmental degradation.
- **Fragmentation of Agricultural Land:** Poor subdivision practices can lead to the fragmentation of valuable agricultural land, which impacts food production and agricultural sustainability in rural areas.
- **Limited Affordable Housing:** Without professionals to plan and execute well-structured subdivisions, there is a shortage of well-designed, affordable housing. This disproportionately affects low- and middle-income families, contributing to housing crises in many urban centers.
- **High Development Costs:** Inefficient land development can lead to higher costs for infrastructure, services, and construction, which are passed on to consumers. This results in high property prices and rental rates, making housing unaffordable for many.
- **Longer Project Timelines:** In the absence of skilled professionals to manage and oversee land development projects, timelines for completing infrastructure and urban development projects are often extended, which delays the provision of housing, roads, and public services.
- **Substandard Project Outcomes:** The quality of completed projects is compromised when there are not enough trained professionals to ensure that subdivisions are well planned, built to code,

### What will be Trained:

Land Subdivision and Development Workshop, participants will gain knowledge and skills in the following key areas:

1. **Understanding of Land Subdivision:** The basics of land subdivision, including its objectives in urban planning, property development, and infrastructure projects.
2. **Legal and Regulatory Framework:** Understanding the laws and regulations governing land subdivision, including zoning regulations, land-use policies, and environmental considerations.
3. **Site Planning and Assessment**
  - **Feasibility Studies:** Learn how to conduct preliminary investigations such as environmental impact assessments, soil testing, and topographical surveys to assess the viability of a subdivision project.
  - **Site Layout and Design:** Acquire skills in designing effective site layouts, including the allocation of land for roads, public utilities, residential and commercial plots, and recreational areas.

### 3. Utility and Infrastructure Planning:

- **Utility Services Design:** Gaining skills of how to design essential services such as water supply, sewage systems, electrical networks, and telecommunications for subdivided land.
- **Stormwater Management:** Learn strategies for effective stormwater drainage and flood prevention to ensure compliance with environmental regulations and sustainability standards.

### 4. Roads and Public Spaces:

- **Road and Pedestrian Network Design:** Gain insights into the design of road networks, intersections, and pedestrian paths to ensure accessibility and mobility within the subdivision.
- **Open Spaces and Green Areas:** Understand the importance of planning for parks, playgrounds, and green spaces as part of sustainable urban development.

### 5. Land Subdivision Design Using Civil 3D:

- **CAD Design Tools:** Learning how to use Autodesk Civil 3D and other CAD tools to develop precise subdivision designs, from plotting lot boundaries to laying out road networks and utility lines.
- **3D Modeling and Visualization:** Explore the use of 3D modeling for visualizing subdivision plans and presenting them to stakeholders.

### 6. Project Implementation and Management:

- **Project Management Techniques:** Get skilled on how to manage the implementation phase of a subdivision project, including scheduling, construction supervision, and ensuring adherence to design plans.
- **Budgeting and Financial Planning:** Understanding the financial aspects of land development, including budgeting, cost estimation, and financial management throughout the project lifecycle.

### 7. Legal and Contractual Considerations:

- **Land Ownership and Contracts:** Familiarize yourself with the legal documentation required for land subdivision, including deeds, contracts, and title transfers.
- **Compliance and Permits:** Learn about obtaining necessary permits and ensuring compliance with local building codes and land-use policies.

### 8. Real-World Case Studies and Best Practices:

- **Successful Subdivision Projects:** Analyzing real-world case studies of successful land subdivision projects, drawing lessons and insights that can be applied to future projects.

- **Sustainable Development Practices:** Understanding the importance of sustainability in land development, including energy efficiency, environmental preservation, and community-oriented design.

These workshops offer a comprehensive blend of theoretical knowledge, practical skills, and industry insights, empowering participants to effectively plan, design, and execute land subdivision projects with professional confidence.

### **WHO IS ALLOWED TO ATTEND?**

The Land Subdivision and Development Training is open to a wide range of professionals and individuals interested in land subdivision and development. Those who are allowed to attend include:

1. **Urban Planners:** The professionals responsible for the strategic planning and organization of land use in urban and rural settings.
2. **Civil Engineers:** Engineers involved in designing infrastructure such as roads, drainage, and utility systems for land subdivisions.
3. **Land Surveyors:** Those who are responsible for measuring and mapping land, ensuring accuracy in the division of plots.
4. **Real Estate Developers:** The Individuals or companies involved in property development, interested in understanding the technical and legal aspects of land subdivision.
5. **Construction Managers:** Managers who oversee land development and infrastructure projects.
6. **Government Officials in Urban Development and Planning:** Local government officials and planners involved in land use regulation, zoning, and infrastructure development.
7. **Environmental Consultants:** The interested ones in ensuring that land subdivision projects meet environmental standards and sustainability goals.
8. **Property Owners and Investors:** Individuals or groups looking to develop land or invest in land subdivision projects.
9. **Students and Graduates in Engineering, Urban Planning or Related Fields:** Individuals seeking to build their knowledge and skills in land subdivision and development.

### **ABOUT THE CERTIFICATION**

Upon successful completion of our workshop program, during graduation you will receive internationally recognized Autodesk certificates for land subdivision and development by using AutoCAD Civil 3D. These credentials validate your hands-on experience. Your certification will serve as a proof to your expertise, making you a valuable asset to any organization.

## **WORKSHOP STRUCTURE (12 HOURS):**

**Registration Period (October 20,2024 to November 2,2024)**

### **Day 1: Wednesday, November 6, 2024**

**Time: 4:00 pm – 8:00 pm**

#### **1. Introduction to Land Subdivision**

- **Overview of Land Subdivision:**
  - Understanding its importance in urban planning and infrastructure development.
  - Objectives and goals of land subdivision.

#### **2. Legal and Regulatory Framework**

- **Laws and Regulations Governing Subdivision**
  - Zoning regulations, land-use policies, and environmental considerations.
  - Understanding how local laws influence subdivision projects.

#### **3. Site Planning and Assessment**

- **Site Layout and Design**
  - Allocation of land for roads, utilities, residential, and commercial zones.
- **Utilities and Infrastructure Planning**  
Essential services (water, sewage, electricity, telecommunications).
- **Stormwater Management**
  - Strategies for stormwater drainage and flood prevention.
- **Navigate the user interface of civil 3D**
- **Importing point in civil 3D:**
- **In this part you will learn how:** To create COGO points, specify points parameters, assign point style and point label style, create description keys, rotate point marker and labels, create and assign point style, create and assign point label style, create point groups, change point group display order.

### **Day 2: Thursday, November 7, 2024**

**Time: 4:00 pm – 8:00 pm**

#### **Land Subdivision Design Using Civil 3D**

- **Parcel creation using Civil 3D**
- In this part you will know how to:
- Work with traverse editor and perform check map analysis.

- Create parcel by layout, create parcel from objects, subdivide existing parcel, associate parcel with the site, work with parcels, label parcels, create parcel tables, renumber and rename parcels, create and modify parcel style, create and modify parcel label style and delete parcel.
- Practice exercise.

**Day 3: Friday, November 8, 2024****Time: 4:00 pm – 8:00 pm****Upgrading the site using civil 3D****In this part you will learn how to:**

- Create, display, analyse, and label surfaces, Understand the key characteristics of surfaces, use data and understand its role in surface creation, use parameters to control the displace settings of a surface, create and edit, feature lines and create and modify site using grading creation tools to modify existing surfaces and create a finished surface for plots.
- Practice exercise.

**4. Final Q&A**

- Closing

**PAYMENT DETAILS:****Methods of Payment: One-time payment.**

- ✓ **Nziza Graduates: 60,000 Rwf**
- ✓ **New Students: 70,000 Rwf**

<b>Currency</b>	RWF Account
<b>Bank Name</b>	Equity Bank Rwanda Plc
<b>Account Name</b>	Nziza Training Academy
<b>Account Number</b>	4003200580012
<b>Swift Code</b>	EQBLRWRW XXX

**Notice: Once you have completed your payment, please send the payment proof to our WhatsApp number at +250785568718.**

**CONTACT DETAILS:**

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**End!**