

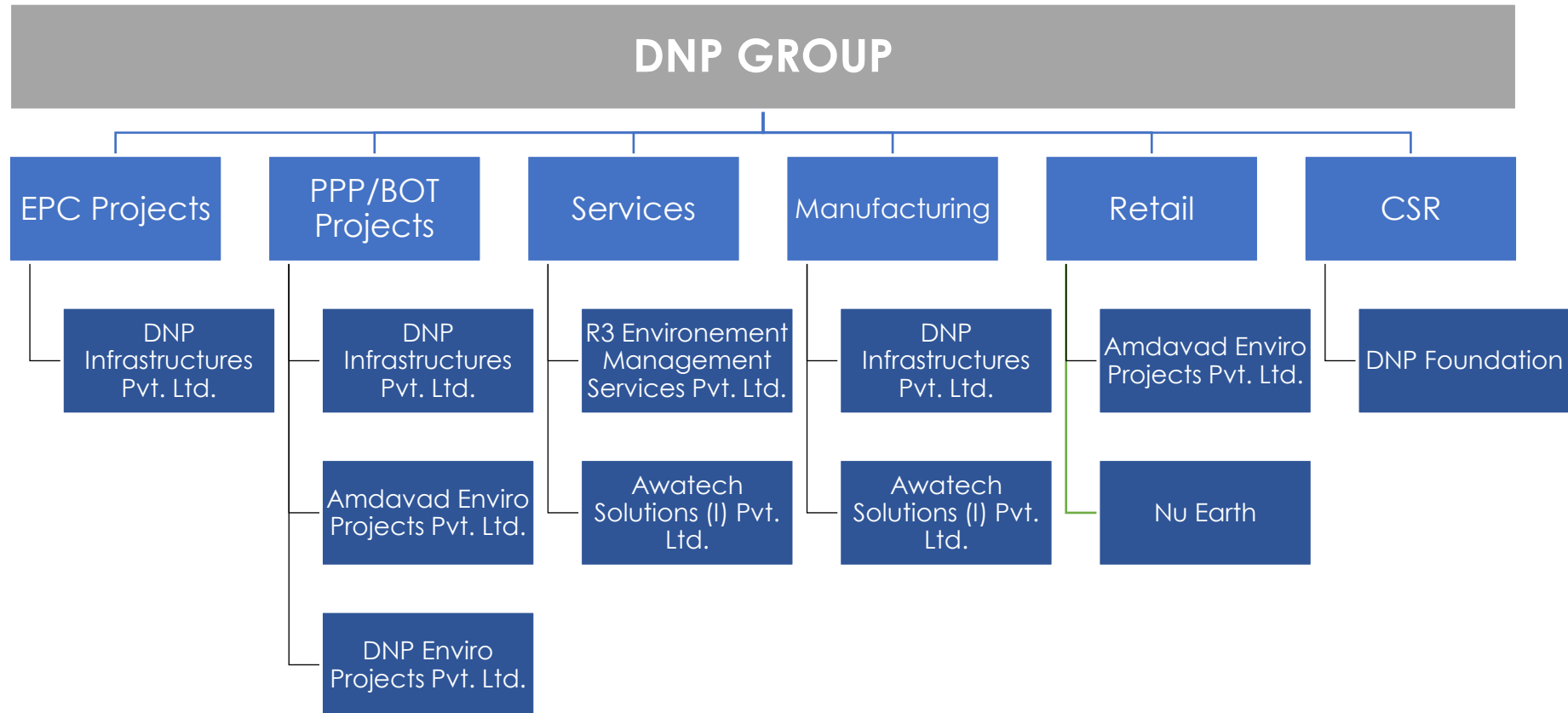
# Construction and Demolition Waste Treatment in Ahmedabad: A Journey

By Amdavad Enviro Projects Pvt. Ltd.



# About The Group

**DNP Group**, is a major business conglomerate based in Gujarat with presence across multiple sectors such as Municipal Waste Management, Water and Waste Water Treatment, Construction and Demolition Waste Management, Organic Waste Management, Urban Infrastructure Developments, Etc. under its subsidiaries.



# Key Waste Management Projects

**300 TPD Construction and Demolition Waste Treatment Plant on PPP basis with Ahmedabad Municipal Corporation at Ahmedabad, Gujarat**

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**12000 m<sup>3</sup>/day Bio Gas Generation Plant from Sewage Sludge based on Bio Mechanization Process at 180 MLD Sewage Treatment Plant, Ahmedabad, Gujarat**

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**150 TPD MSWM Management Plant in Godhra, Gujarat**





- ❑ Resource Recovery occurs when waste is transformed into a resource and consumed instead of being disposed



India Generates: 716 Million MT of C&D a year

# C&D Waste Transportation Tender



<b>GOVERNMENT OF GUJARAT WATER RESOURCES DEPTT. On line Nivida No. 13 of 2016-17</b>		
Total 5 (Five) works in B-1 tender form are invited by Executive Engineer, Shedhi Irrigation Division, Mission Road, Nadiad-387002. (Details shown as under)		
1	Clearing the debries from various Drains of Kathlal Taluka under Package 1 (Total Drains 3 Nos.)	Rs. 14,43,337.20
2	Clearing the debries from various Drains of Kathlal Taluka under Package-2 (Total Drains 3 Nos.)	Rs. 12,09,447.24
3	Clearing the debries from various Drains of Mahudha Taluka under Package-3 (Total Drains 1 No.)	Rs. 4,86,310.070
4	Clearing the debries from various Drains of Thasra Taluka under Package-4 (Total Drains 2 Nos.)	Rs. 1,54,600.01
5	Clearing the debries from various Drains of Mahudha & Mahemadavad Taluka under Package-5 (Total Drains 7 Nos.)	Rs. 15,59,664.38
Schedule of E-Tendering		
1	Up loading of Tender document Online Submission of Tender on <a href="http://www.nprocure.com">www.nprocure.com</a>	Up to 18:00 Hrs. On 14/03/2017
2	Submission of Tender Fee, EMD and other documents by RPAD or Speed Post	From 15/03/2017 to 20/03/2017 up to 16.00 hrs.
3	Ohline Opening of Tender Price Bid @ Office of the Executive Engineer Shedhi Irrigation Division, Nadiad	On 21/03/2017 @ 12.00 hrs.
<b>Further details can be seen at <a href="http://www.statetender.com">www.statetender.com</a></b>		
<small>NAMANI/NADI/570/16-17</small>		

Total Project Value: Rs. 48,53,358

# Creating a Closed Loop Cycle

- A **circular economy** is one that is restorative and regenerative by design, and which aims to keep products, components and materials at their highest utility and value at all times
- The Economic model revolves around creating economic growth and prosperity and at the same time restoring our ecosystem
- Create a closed loop system in the construction industry
- The circular economy concept decouples growth and prosperity from the use of natural resources and ecosystems





# The Ahmedabad Story

Population(2012): 69 lacs

Largest city in Gujarat and 7<sup>th</sup> Largest city in India

1,00,000 Tonnes of C&D waste per year





## THE PROJECT



- DNP Group has operationalized a **300 TPD C&D plant at Ahmedabad** under a PPP model with Ahmedabad Municipal Corporation for 30 years
- AMC has allotted **22 pick-up zones** in the city to collect C&D waste
- **The plant processes 10 TPD OF C&D waste provided from Gandhinagar Municipal Corporation**
- Spread over an area of 5 acres with an on duty staff of over 35 people
- As Amdavad Enviro Projects we are selling the processed C&D waste products under the brand name **“NU Earth”**




# India Resource Panel: Model Project for C&D Waste Management


**The Project: “ Fostering Resource Efficiency by Securing Sustainable Resource Utilization and Reuse of Secondary Raw Materials”**

Knowledge Partners:






**Resource Efficiency in the Indian Construction Sector**  
Market Evaluation of the Use of Secondary Raw Materials from Construction and Demolition Waste


Implemented by:  Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH


On behalf of:  Federal Ministry for the Environment, Nature Conservation, Building and Nuclear Safety  
of the Federal Republic of Germany

**Market Study on Construction and Demolition Waste Utilisation in Ahmedabad**



Implemented by:  Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH

On behalf of:  Federal Ministry for the Environment, Nature Conservation, Building and Nuclear Safety  
Of the Federal Republic of Germany




सत्यमेव जयते  
Ministry of Environment, Forest & Climate Change

On behalf of



Federal Ministry for the Environment, Nature Conservation and Nuclear Safety

of the Federal Republic of Germany

**giz** Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH

# Green Building Certification: ISO 14021



- **76.2% of our products are made from recovered material**

# Griha Catalogue Registration: Green Building



## IS 383: 2016 Indian Standard Coarse and Fine Aggregate for Concrete

- Scope: This standard covers the requirements for aggregates, crushed or uncrushed, derived from natural sources..... and manufactured aggregates produced from other than natural sources, for use in the production of concrete for normal structural purposes including mass concrete works.
- These manufactured aggregates are of two types namely:
  - Recycled Aggregate (RA) — It is made from C & D waste which may comprise concrete, brick, tiles, stone, etc.
  - Recycled Concrete Aggregate (RCA) – It is derived from concrete after requisite processing.
- **BIS IS: 383** is the principal driver, revised in January, 2016, permitting use of recycled aggregates up to 25% in plain concrete, 20% in reinforced concrete of M-25 or lower grade and up to 100% in lean concretes of grade less than M-15.

# Nu Earth Product Portfolio- Paving Projects



## NuEarth Rubber Mould Paver Blocks



Nu-Paver  
(Rubber)Brick



Nu-Paver  
(Rubber) I-Shape



Nu-Paver  
(Rubber) Damru



Nu-Paver  
(Rubber) ZigZag

## NuEarth Kerb Blocks



Nu-Kerb 75



Nu-Kerb 150

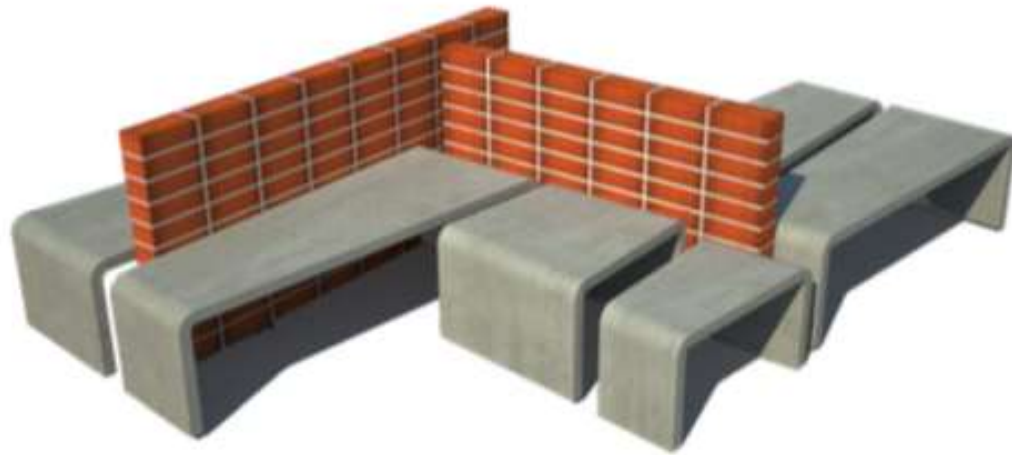
# Nu Earth Product Portfolio- Paving Projects





# Nu Earth Product Portfolio- Paving Projects





## BRIQUE MULTITUDE

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**DIMENSIONS (L X B X H)**  
(2500 x 1000 x 400) x 2

**NO. OF USERS**

2 x  2 x 

**ARRANGEMENTS**

Radial, Back to Back

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# Landscape Development- The Brique Range





# Nu Earth Product Portfolio- Construction Material



10 mm Aggregate



20 mm Aggregate



40 mm Aggregates



Manufactured Sand



The motivation for using modular construction generally arises because of over-riding client requirements for speed of construction, improved quality, and for early return of investment

## Advantages of Nu Earth Modular Eco-Toilets

- Interlocking 'Lego' style design
- Uniformity in design, size, weight and other technical specifications
- Application of green building technology
- Reduced on site labor and machinery requirements
- No on site hot applications (Welding, gas cutting etc.)
- 3 hour build time
- Cost effective to provide, particularly when several new ones are concurrently installed

## Ice Factory - Maktampura



# Key Success Factors for C&D Projects in India

## AHMRDABAD MUNICIPAL CORPORATION (NORTH ZONE) MEMORANDUM OF WORK

નોંધ	ભીડરો ટેન્ડરમાં તેમના ભરેલ ભાવ અંકડા તથા શબ્દોમાં બંનેમાં ભરવાના રહેશે. શબ્દોમાં ભાવ ભરેલ ન હોય તેવા ટેન્ડરો આપો આપ રદ ગણવામાં આવશે. તથા આવેલ અન્ય ભીડરો પૈકી સૌથી ઓછા આવેલ ભાવના ટેન્ડરની મંજૂરી માંગવામાં આવશે.
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NO	DETAILS	
1	NAME OF WORK	<i>Labour work of Laying / Fixing Paver Block and kerb and carting from Enviro Projects site (AEPPL) to different places, chali and T.P road in BAPUNAGAR Ward of North Zone.</i>
2	TOTAL ESTIMATE COST	Rs. 4,99,795.00
3	TENDER FEE	Rs. 600.00
4	EARNEST MONEY	Rs. 4,998.00
5	SECURITY DEPOSITE	5 % Of Tender Amount Sanctioned
6	RETANTION MONEY	2 % From Each running bill will be retained and will be released at time of final bill. ( For the Tender Amounting More than Rs.10 Lakhs)
7	VALIDITY PERIOD	120 Days
8	TIME LIMIT FOR THE COMPLETION OF THE WORK	Twelve Month (ARC) - (Excluding Monsoon)
9	CONTRACTOR NAME	
10	CONTRACTOR ADDRESS PHONE NO.	
11	CONTRACTOR REGISTRATION NO/ RENEUL YEAR/CLASS	
12	CONTRACTORE BANK NAME	
13	BRANCH ADDRESS	
14	BANK ACCOUNT NUMBER	
15	MICR NUMBER	
15	PAN NO.	

NORTH DELHI MUNICIPAL CORPORATION  
OFFICE OF THE ENGINEER-IN-CHIEF  
6<sup>TH</sup> FLOOR : E-WING : DR. S.P.M. CIVIC CENTRE  
MINTO ROAD : NEW DELHI - 02

No. *J.E. Amu. / NDMC/2017/ 35*

Dated: *04.05.2017*

### OFFICE ORDER

**Subject: Levy of C&D waste generation / malba generation charges on sanction of building plan or unauthorized construction notice by the Jr. Engineer.**

Construction & Demolition waste Rules 2016 have been recently notified by the Ministry of Environment, Govt. of India and made applicable to all concerned. Accordingly, every waste generator has to pay relevant charges for collection, transportation, processing and disposal as notified by the concerned authorities.

In compliance of provisions of the foresaid Act, Corporation vide its Resolution No. 674 dated 14.03.2017 has resolved that at the time of sanction of building plan, charges for C&D waste @ Rs. 215/- per Sq.mtr. of plot size, irrespective of new construction or re-construction or addition/alteration, shall be levied for the current financial year and an increase of 10% after every two years. The above charges are inclusive of lifting from designated dumping ground and its subsequent handling. Further, payment of these charges will not absolve the owner / occupier to dump the malba / C&D Waste to the already designated dumping locations/ sites.

In case of any unauthorized construction noticed by the Zonal Building Deptt., charges @ 1.5 times of these charges shall be recovered from the owner/occupier.

A separate Escrow account has to be maintained by the Finance Deptt. for such charges.

The aforesaid procedure / guidelines shall be adhered by all concerned.

Engineer-in-Chief  
North D.M.C.

#### distribution:

1. All Chief Engineers- North DMC
2. All Zonal Dy. Commissioner- North DMC
3. All SEs- North DMC
4. S.E.(Bldg.)HQ/SDMC
5. DCA (HQ)
5. All DCA of Zones

# The Indore EPC Success Story

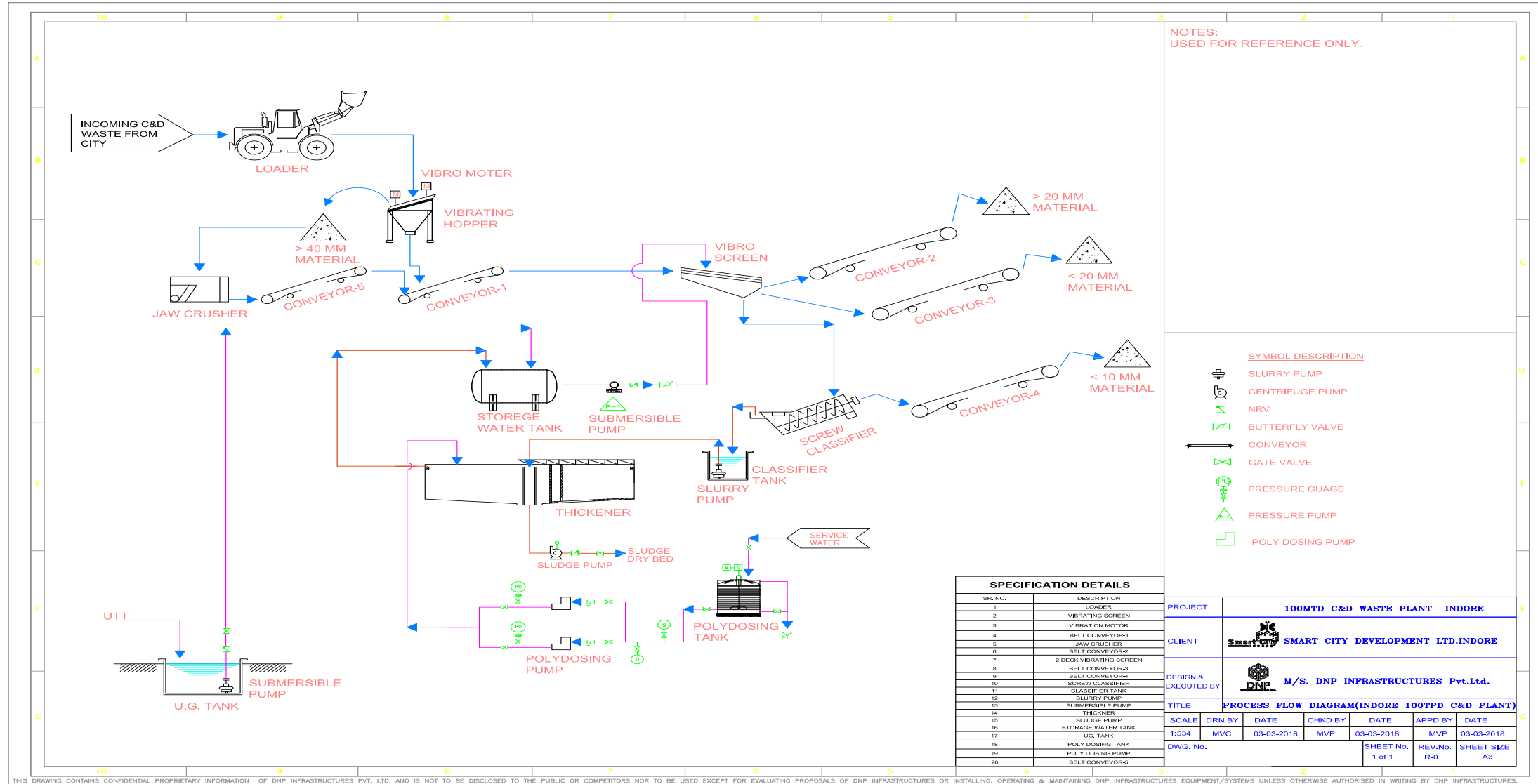
Our Company has received WO from Indore Smart City Development Ltd to set up C&D Waste Management Plant

- ❖ Population(2012): 20 lacs
- ❖ No. 1 City in Swachh Bharat Survey
- ❖ Largest City in Madhya Pradesh
- ❖ 30,000 Tonnes of C&D waste per year

- DNP to supply and install 100 TPD C&D plant at Indore with Indore Municipal Corporation and Indore Smart City Development Limited
- IMC has allotted 4 acres of land to DNP under Smart City Development Scheme



# Indore C&D Process Flow



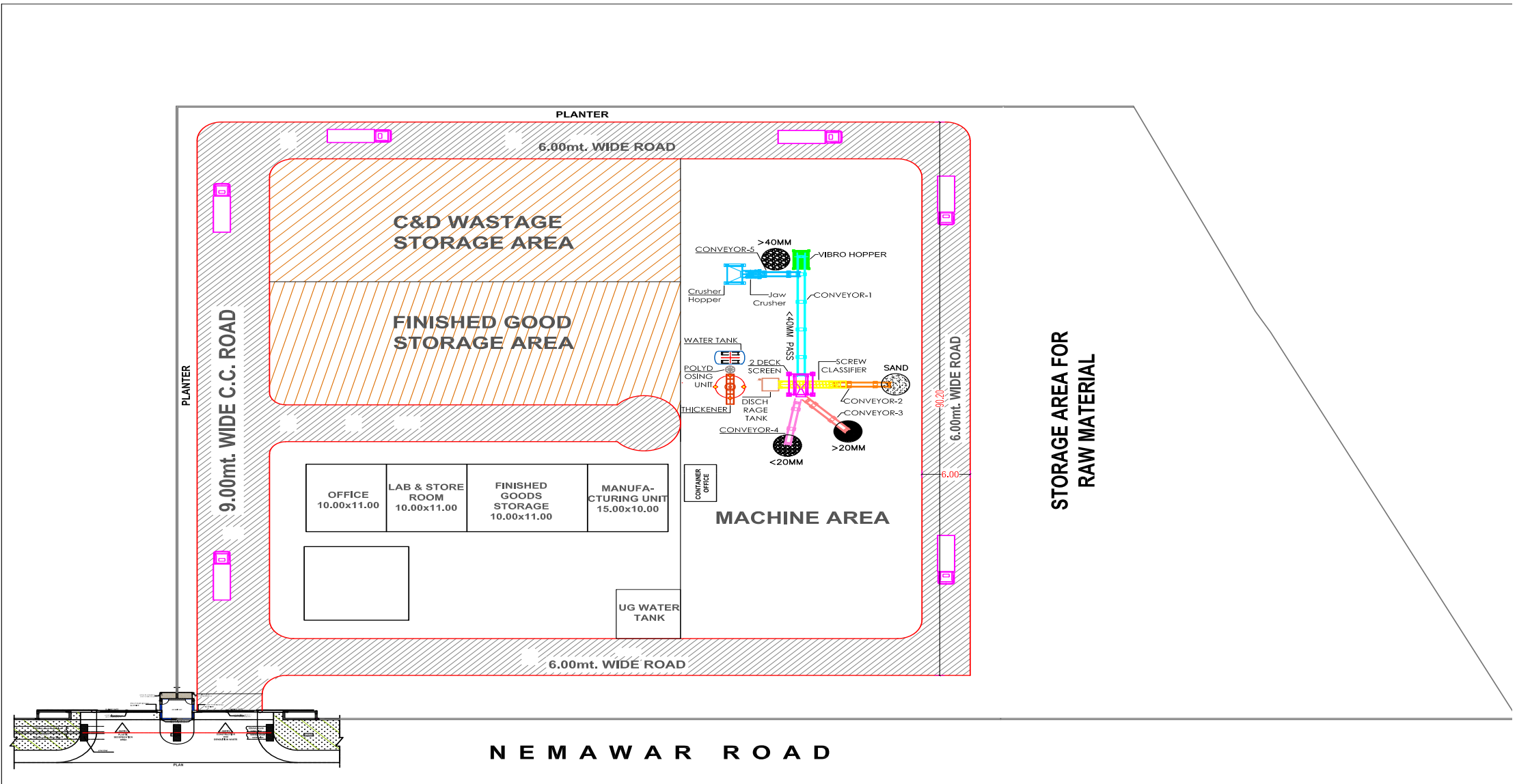
NOTES:  
USED FOR REFERENCE ONLY.

- SYMBOL DESCRIPTION
- SLURRY PUMP
  - CENTRIFUGE PUMP
  - NRV
  - BUTTERFLY VALVE
  - CONVEYOR
  - GATE VALVE
  - PRESSURE GAUGE
  - PRESSURE PUMP
  - POLY DOSING PUMP

SPECIFICATION DETAILS	
SR. NO.	DESCRIPTION
1	LOADER
2	VIBRATING SCREEN
3	VIBRATION MOTOR
4	BELT CONVEYOR-1
5	JAW CRUSHER
6	BELT CONVEYOR-2
7	2 DECK VIBRATING SCREEN
8	BELT CONVEYOR-3
9	BELT CONVEYOR-4
10	SCREW CLASSIFIER
11	CLASSIFIER TANK
12	SLURRY PUMP
13	SUBMERSIBLE PUMP
14	THICKNER
15	SLUDGE PUMP
16	STORAGE WATER TANK
17	U.G. TANK
18	POLY DOSING TANK
19	POLY DOSING PUMP
20	BELT CONVEYOR-5

PROJECT	100MTD C&D WASTE PLANT INDORE					
CLIENT	SMART CITY DEVELOPMENT LTD.INDORE					
DESIGN & EXECUTED BY	M/S. DNP INFRASTRUCTURES Pvt.Ltd.					
TITLE	PROCESS FLOW DIAGRAM(INDORE 100TPD C&D PLANT)					
SCALE	DRN.BY	DATE	CHKD.BY	DATE	APPD.BY	DATE
1:534	MVC	03-03-2018	MVP	03-03-2018	MVP	03-03-2018
DWG. No.				SHEET No.	REV.No.	SHEET SIZE
				1 of 1	R-0	A3

# Indore C&D Plant Layout





# Our Clientele



Gandhinagar Municipal Corporation



M.V. OMNI PROJECTS (INDIA) LTD.

ISO 9001:2008 CERTIFIED



Wholly owned by Cooperatives

adani



AUDA

Ahmedabad Urban Development Authority





EMPOWERNG TECHNOLOGY FOR BETTERMENT

THANK YOU.

**REGISTERED OFFICE**

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Gujarat, India.

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