conserving resources

Burari C&D waste processing plant

India's largest C&D waste processing facility

2,000 TPD

WHY THE PROJECT WAS NEEDED

Delhi generates about 6,500 tonnes of C&D debris each day. Burari processes close to one-third from a single urban site.

Unique at scale: more than 90% feed recycled, 95% process water recycling and recovery of ultrafines as screened soil



Burari project is processing 2000 tonnes per day

Amongst the largest C&D waste recycling plants in the world



Wet Processing Technology

Highest Sand Yield

- Up to 50% of waste is converted to sand for maximizing value
- Sand price is typically 2X of aggregates

IoT Enabled to Ensure Traceability

Eco-friendly Technology

- 95% water used is recycled
- Zero liquid discharge
- Zero dust
- No noise pollution

Tangible environmental benefits

Burari combines high material recovery with a closed water circuit

>90%

of input material effectively recycled

≥540,000 t

diverted from landfill each year at 300 operating days

390,000 t

specified aggregate and sand recovered each year

150,000 t

up to this amount recovered as screened soil each year

95%

process water recycled with zero liquid discharge

2.1 million m³

fresh water avoided annually versus once-through operation

Burari addresses close to one-third of Delhi's daily C&D generation



2,000 of 6,500 TPD

Additional quantified impact

About 19,500 twenty-tonne truckloads of virgin material avoided each year

Intangible benefits

Social, institutional and environmental effects beyond the quantified savings

01	**Reduced illegal dumping**	A formal processing route helps keep C&D debris away from roadsides, drains and open plots.	City Level: Frees up valuable land locked under C&D waste debris.
02	**Lower dust impact**	Wet processing suppresses dust at source, while organised disposal reduces dust from unmanaged debris.	City Level: Helps minimize overall air pollution in city.
03	**Lower water pollution risk**	Zero liquid discharge prevents process wastewater from leaving the plant and reduces dependence on disposal routes.	City Level: Increased capacity and compliance reduces the instances of illegal dumping in water bodies.
04	**Operating capability**	Structured training, IoT monitoring and continuing technical support strengthen specialist plant skills.	
05	**Institutional confidence**	A 2,000 TPD operating reference helps municipalities assess and adopt city-scale C&D recycling.	

Why the Burari model can be replicated

The core process, delivery model and product strategy can be adapted to different city requirements

PROVEN ACROSS CAPACITIES

500 TPD	Jeedimetla, Hyderabad
600 TPD	Kalyan, Mumbai
2,000 TPD	Burari, Delhi

The same modular process family can match local waste volumes without redesigning the complete treatment concept.

Existing footprint

CFlo C&D installations operate in Delhi, Surat, Thane, Hyderabad, Pimpri, Mumbai, Kalyan and Doha.

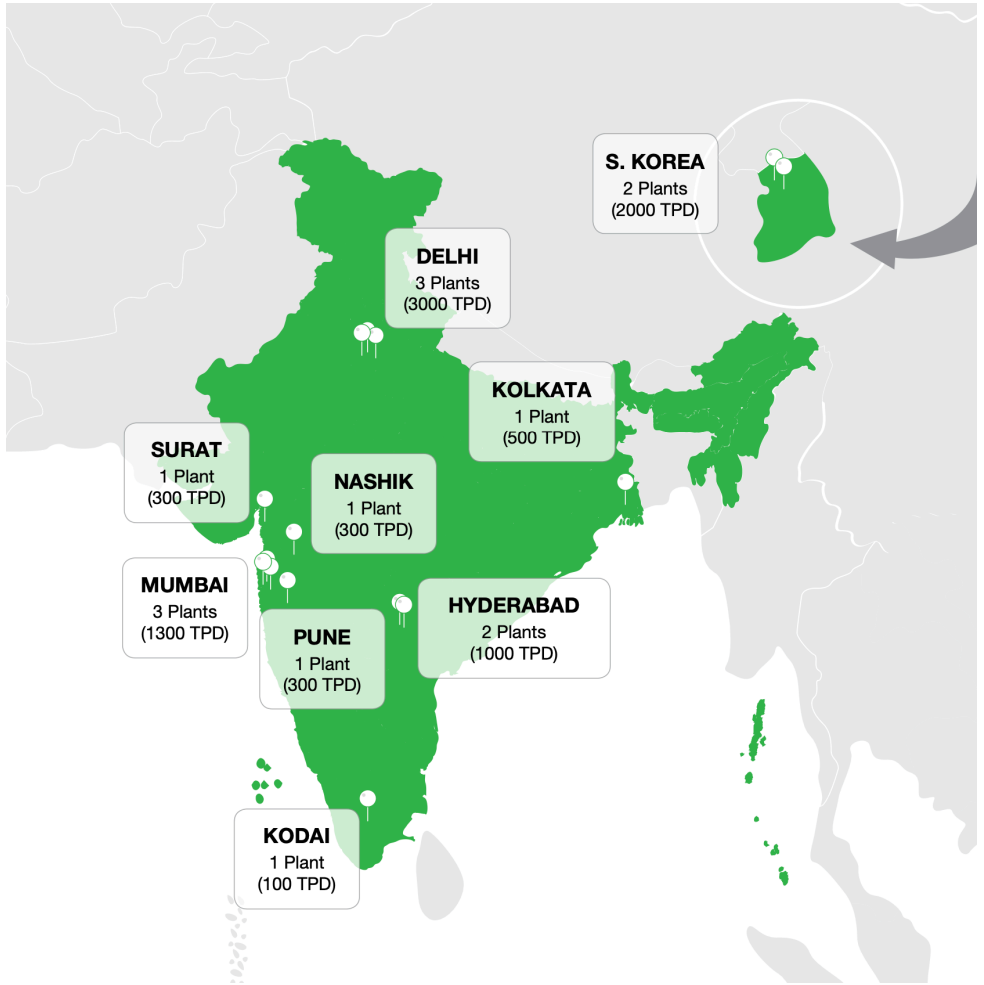
TRANSFERABLE PROJECT MODEL

Process	Characterise local feed, then configure contaminant removal, scrubbing, classification and fines recovery.
Delivery	Use modular, pre-assembled equipment to reduce civil work and shorten implementation. Burari was completed in 24 weeks.
Partnership	Adapt the MCD public-private partnership structure to local collection, land and operating responsibilities.
Offtake	Link aggregate, manufactured sand and screened soil to defined municipal and construction applications.
Operations	Train plant teams and support performance through IoT monitoring and remote technical input.

Few of our projects in India

Pioneered C&D Waste Recycling in India creating a capacity of +10000 tons per day

Burari, North Delhi Municipal Corporation	2000 TPD
Surat, Surat Municipality Corporation	300 TPD
Jeedimetla, Greater Hyderabad Municipality Corporation	500 TPD
Daighar, Thane Municipal Corporation	300 TPD
Shastri Park, East Delhi Municipal Corporation	500 TPD
Bakkarwala, South Delhi Municipal Corporation	500 TPD
Fatehgouda, Greater Hyderabad Municipality Corporation	500 TPD
Nashik Municipal Corporation	300 TPD
Pune, Pimpri Chinchwad Municipal Corporation (PCMC)	300 TPD
New Town, Kolkata Municipal Corporation	500 TPD
Kodiakanal, Hindustan Unilever Remediation Project	100 TPD
Thane, Brihanmumbai Municipal Corporation	500 TPD
Dahisar, Brihanmumbai Municipal Corporation	500 TPD



Regulation strengthens the replication case

The targets apply to specific recycling and recycled-content obligations, not to Burari's plant performance

Requirement	Timeline under the 2025 Rules	What it means
Recycling by obligated entities	25% in 2025–26 50% in 2026–27 75% in 2027–28 100% in 2028–29	The required share of the applicable C&D waste obligation increases each year. Cities need collection, processing and reuse capacity to comply.
Recycled content in buildings	5% from 2026–27 10% from 2027–28 15% from 2028–29 20% from 2029–30 25% from 2030–31	Building projects must progressively use more recycled material, creating demand for compliant aggregate and sand.
Recycled content in road projects	Minimum requirement increases to 15% by 2030–31	Road works provide a high-volume outlet for recycled aggregate, including granular sub-base applications.

DELHI SHOWS THE SCALE OF THE OFFTAKE GAP

9.85 lakh tonnes

Delhi's processed C&D material utilisation target for 2025–26

52,000 tonnes

Actual utilisation cited in the submission

Why Burari matters

Large processing plants provide the supply needed to meet rising recycling and recycled-content obligations.

Implementation challenges and responses

The process design addressed feed variability, water stress and urban operating constraints

Challenge	Response
Clay and cement adhered to feed	Intensive scrubbing and a dual-wash sand circuit classify at a 75-micron silt cut.
Up to 25% ultrafines and silt	The sludge bay manager dewaters the fraction into screened soil for gardening, embankment and filling.
Zero liquid discharge at 170 TPH	A closed settlement and polymer-dosing circuit recycles 95% of process water and limits fresh top-up to about 32 m^3/hour.
Risk of low-value output	The flowsheet produces graded aggregate, manufactured sand and feedstock for on-site precast products.
Rapid delivery at city scale	A modular, pre-assembled design enabled completion in 24 weeks on a footprint of about 100 m × 80 m.

C&D waste dump



Recycled products: Green aggregates









Innovative value-added products



Paver Block



Kerb Stone



Tile



Jalli



Wall Cladding



Bollard



Fence Post



Pre-cast
Compound Wall



Planter



Park Bench



Drain Cover



Concrete Block

Performance against sector benchmarks

Burari moves beyond conventional dry crushing and residue-heavy recovery

Measure	Sector reference	Burari performance
C&D recovery	India historically recovered under 1%	More than 90% of input material effectively recycled
Process route	Dry crushing commonly produces low-grade fill	Five-stage dry and wet circuit produces aggregate, manufactured sand and screened soil
Water management	Open circuits, settling ponds or discharge	95% recycling, zero liquid discharge and about 0.19 m^3 fresh water per tonne
Fines and silt	Often discarded as unusable residue	Up to 25% of feed recovered as screened soil
Delivery	Conventional civil-led construction	Designed and built in 24 weeks

Standards and operating controls

IS 383:2016 applications, IS 2386 test methods, DPCC consent and IoT monitoring

Priority plan for the next two years

Proposed actions derived from Burari's operating priorities and replication potential

NEXT 12 MONTHS

- Document recovery, water and product performance across seasonal feed variability
- Expand application evidence for manufactured sand, aggregate and screened soil
- Strengthen preventive maintenance through IoT data and remote specialist review
- Build a structured visitor and knowledge programme for municipalities

MONTHS 13–24

- Use Burari as the reference design for high-capacity urban facilities
- Standardise operator training and performance dashboards across large installations
- Support capacity additions aligned with the national 75% recycling target
- Deepen offtake partnerships for road, building and precast applications

Ten best practices from Burari

Technical and operating practices that support recovery at city scale

conserving resources

01 Characterise the real feed before fixing the flowsheet

02 Remove contaminants before size reduction and washing

03 Use intensive scrubbing to liberate mortar and clay

04 Control hydraulics to retain valuable fine material

05 Recover ultrafines as screened soil instead of residue

06 Recycle process water in a closed loop

07 Design product grades around defined applications

08 Convert recovered material into precast products on site

09 Use IoT monitoring with continuing specialist support

10 Train operators for variable feed and disciplined maintenance

Major learnings from Burari

What the project demonstrates for the next generation of city-scale C&D plants

01	**Fines recovery determines total recovery**	Recovering screened soil prevents up to a quarter of the feed from becoming residue and lifts effective recycling above 90%.
02	**Water recovery enables wet processing at scale**	A 95% closed-loop circuit keeps fresh water near 0.19 m^3 per tonne while supporting high-quality washing.
03	**Several product routes support viability**	Graded aggregate, manufactured sand, screened soil and precast products reduce dependence on a single market.
04	**Modularity compresses delivery time**	Pre-assembled systems enabled a 2,000 TPD facility to be designed and built in 24 weeks.
05	**Specialist support protects performance**	Operator training, IoT monitoring and remote technical input help maintain output on a variable waste stream.

Burari shows that high recovery, controlled water use and market-ready products can coexist at municipal scale.