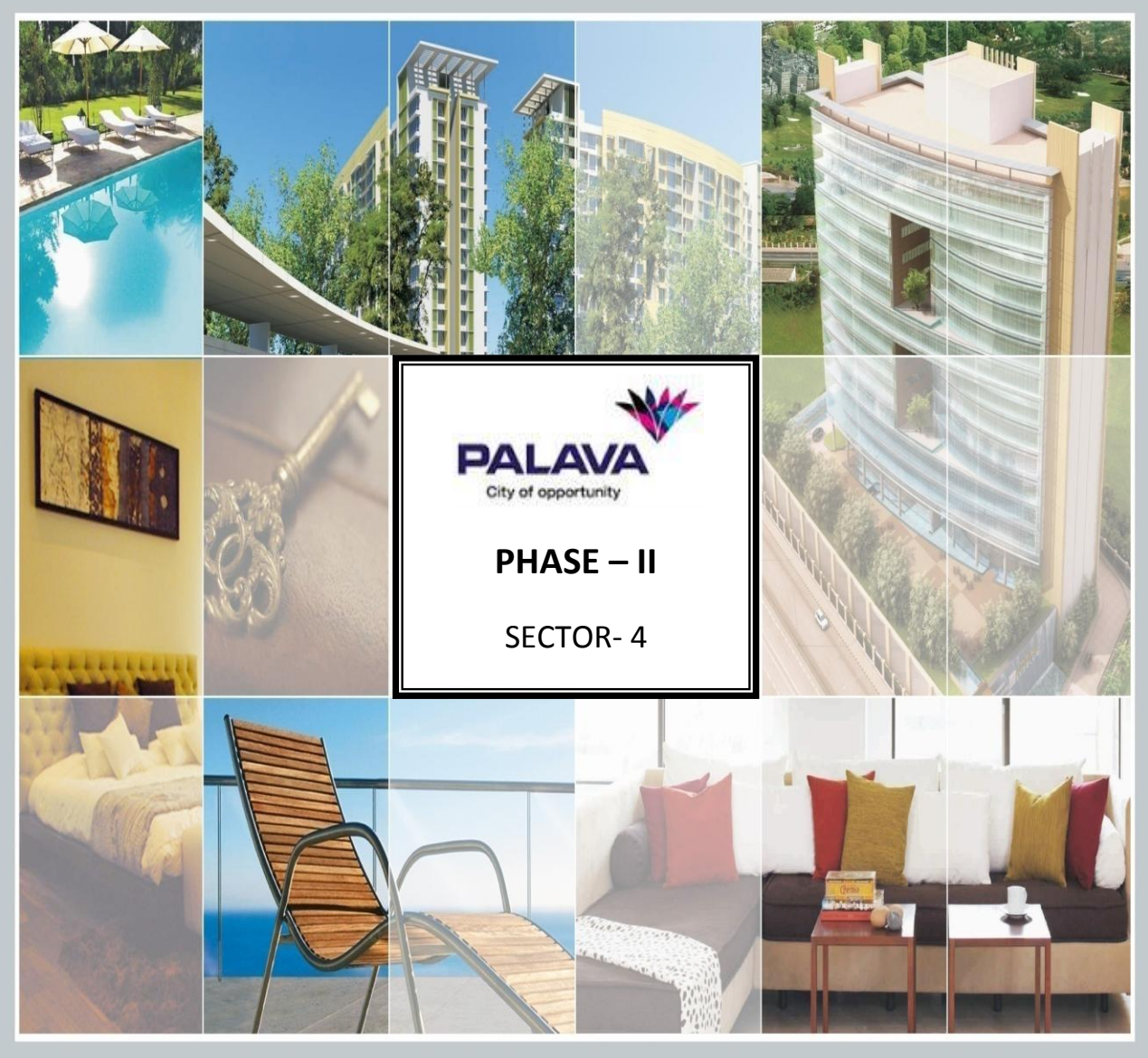


PALAVA – PHASE II LAKE FRONT CLUSTER

PROJECT EXECUTION STRATEGY

24th July 18

Version History

Version No.	Description of Change	Date	Updated by	Approved by
V 1.0	Project Execution strategy – Lake Front Cluster			

Execution Strategy Acceptance

Sign off authority	Date	Signature
Anirban R – Ops Strategy		
Shaishav Dharia - Reg. CEO		
P Ramakrishnan – COO		

Document Access Control

Palava II, Lake Front Cluster Project Execution strategy document will be available in electronic version only to MD, COO, CEO and Construction head (CH).

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Document will be updated on six monthly basis for any major changes identified. CH will be responsible for coordinating the version changes in the electronic form with respective section owners, and maintaining updated physical hard copies.

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Department	Roles (Current names)
Design	Chief Architect (Ajay Gandhewar)
Planning	Planning HOD (Ajay Choudhary) Planning – Sagar Thakur
Cost Management	TBD (TBD)
Procurement	Procurement HOD -Tikam Jain
Construction Management	Col Ajay Singh (Head Construction Management)
Ops. Strategy	Anirban Roychowdhury

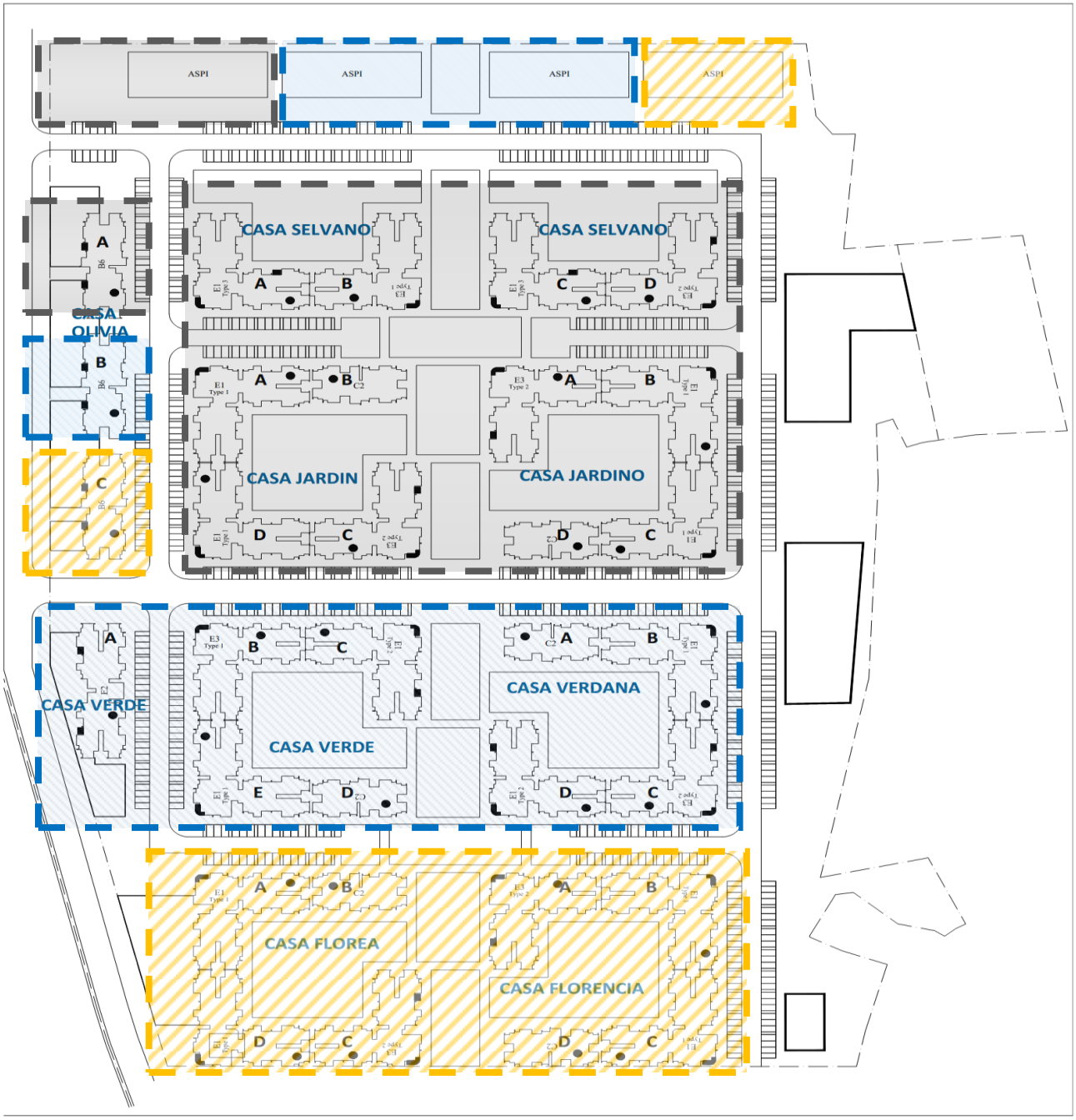
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PROJECT DESCRIPTION

The Lake Front Cluster comprises of 36 buildings in total (32 Casa, 4 Aspi) and retail on the central avenue front of the cluster.

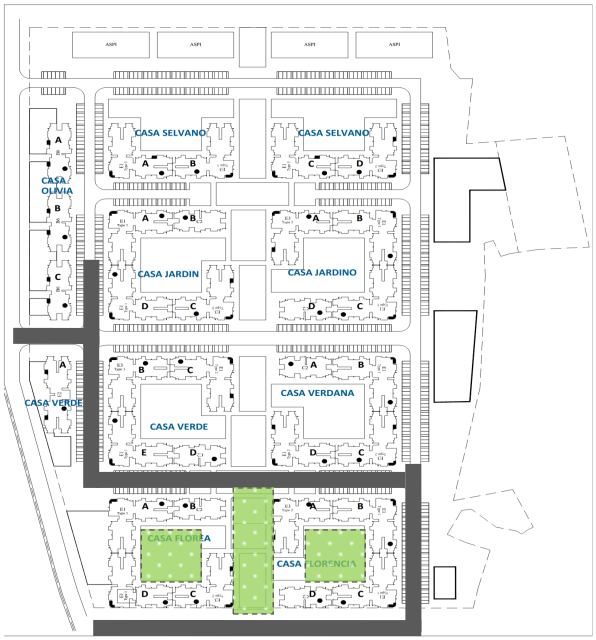
Phasing Plan



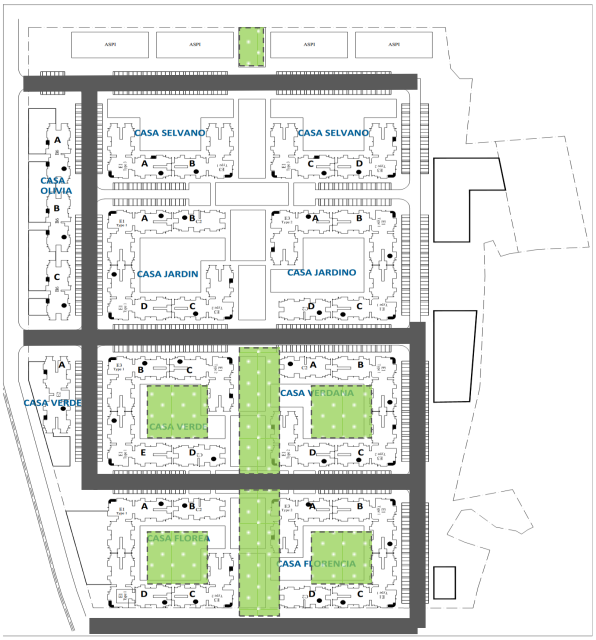
Phase 1 Phase 2 Phase 3

INFRA PHASING PLAN

Infra Phase 1 (Oct'18 –May'19)



Infra Phase 2 (Oct'19 –May'20)



Infra Phase 3 (Oct'20 –May'21)



Building Details:

The Lakefront cluster consists of 36 buildings broadly divided into 3 phases with Phase 1 comprising of 10 (9 Casa +1 Aspi) buildings, Phase 2 comprising of 12(10 Casa +2 Aspi) buildings Phase 3 comprising of 14 (13 Casa + 1 Aspi). Below are the details of buildings in

Lakefront cluster Phase wise.

Lakefront Master Plan - Phasing								
Sl. No.	RERA	Cluster	Wing	Config	Typology	Units	Phasing Plan	Launch Date
1	RERA P1	Florea	A	G + 12	E1	113	Phase 1	Sep-18
2	RERA P1	Florea	B	G + 12	C2	51	Phase 1	Sep-18
3	RERA P1	Florea	C	G + 12	E3	115	Phase 1	Sep-18
4	RERA P1	Florea	D	G + 12	E1	113	Phase 1	Sep-18
5	RERA P1	Florencia	A	G + 12	E3	115	Phase 1	Sep-18
6	RERA P1	Florencia	B	G + 12	E1	115	Phase 1	Sep-18
7	RERA P1	Florencia	C	G + 12	E1	115	Phase 1	Sep-18
8	RERA P1	Florencia	D	G + 12	C2	51	Phase 1	Sep-18
9	RERA P1	Verde	A	G + 12	E2	98	Phase 1/2	Sep-18/Feb-19
10	RERA P1	Verde	B	G + 12	E3	115	Phase 1/2	Sep-18/Feb-19
11	RERA P1	Verde	C	G + 12	E1	115	Phase 1/2	Sep-18/Feb-19
12	RERA P1	Verde	D	G + 12	C2	51	Phase 1/2	Sep-18/Feb-19
13	RERA P1	Verde	E	G + 12	E1	115	Phase 1/2	Sep-18/Feb-19
14	RERA P2	Verdana	A	G + 12	C2	51	Phase 2	Feb-19
15	RERA P2	Verdana	B	G + 12	E1	115	Phase 2	Feb-19
16	RERA P2	Verdana	C	G + 12	E3	115	Phase 2	Feb-19
17	RERA P2	Verdana	D	G + 12	E1	115	Phase 2	Feb-19
18	RERA P3	Jardin	A	G + 12	E1	115	Phase 3	Sep-19
19	RERA P3	Jardin	B	G + 12	C2	51	Phase 3	Sep-19
20	RERA P3	Jardin	C	G + 12	E3	115	Phase 3	Sep-19
21	RERA P3	Jardin	D	G + 12	E1	115	Phase 3	Sep-19
22	RERA P3	Jardino	A	G + 12	E3	115	Phase 3	Sep-19
23	RERA P3	Jardino	B	G + 12	E1	115	Phase 3	Sep-19
24	RERA P3	Jardino	C	G + 12	E1	115	Phase 3	Sep-19
25	RERA P3	Jardino	D	G + 12	C2	51	Phase 3	Sep-19
26	RERA P3	Selvano	A	G + 12	E1	115	Phase 3	Sep-19
27	RERA P3	Selvano	B	G + 12	E3	115	Phase 3	Sep-19
28	RERA P3	Selvano	C	G + 12	E1	115	Phase 3	Sep-19
29	RERA P3	Selvano	D	G + 12	E3	115	Phase 3	Sep-19
30	RERA P3	Olivia	A	G + 12	B6	49	Phase 3	Sep-19
31	RERA P2	Olivia	B	G + 12	B6	49	Phase 2	Feb-19
32	RERA P1	Olivia	C	G + 12	B6	49	Phase 1	Sep-18
33	RERA P1	Aspi 1	D	G + 21	-	84	Phase 1	Sep-18
34	RERA P2	Aspi 2	C	G + 21	-	84	Phase 2	Feb-19
35	RERA P2	Aspi 3	B	G + 21	-	84	Phase 2	Feb-19
36	RERA P3	Aspi 4	A	G + 21	-	84	Phase 3	Sep-19

Formwork Strategy:

All buildings of the phase are to be initiated at the same time and procurement of conventional formwork for foundation to be carried out accordingly by the contractor. A total of 7 new sets of formwork are to be procured. Following is the area statement and the number of new sets required for lakefront cluster Phase 1.

S. No	Building Typology	BUA per Floor (sq.m)	Form work Area (sq.m)	Nos. of Sets
1	E1	660.27	2971.22	4
2	E2	569.83	2564.24	0
3	E3	630.96	2839.32	2
4	C2	329.43	1482.44	0
5	B6	440.54	1982.43	1

Lakefront Formwork Strategy									
Sl. No.	Cluster	Wing	Type	Units	80IAB	Phasing Plan	Launch Date	Formwork	Delivery Req. By
1	Florea	A	E1	113	Yes	Phase 1	Sep-18	New	Nov-18
2	Florea	B	C2	51	Yes	Phase 1	Sep-18	Modified	
3	Florea	C	E3	115	Yes	Phase 1	Sep-18	New	Nov-18
4	Florea	D	E1	113	Yes	Phase 1	Sep-18	New	Nov-18
5	Florencia	A	E3	115	Yes	Phase 1	Sep-18	New	Nov-18
6	Florencia	B	E1	115	Yes	Phase 1	Sep-18	New	Nov-18
7	Florencia	C	E1	115	Yes	Phase 1	Sep-18	New	Nov-18
8	Florencia	D	C2	51	Yes	Phase 1	Sep-18	Modified	
9	Olivia	C	B6	49	No	Phase 1	Sep-18	New	Nov-18

Critical milestones	Start	Finish	Remarks
Formwork Vendor Appointment	9-Aug-18	9-Sep-18	including PO issuance
Issuance of drawings to formwork vendor	9-Aug-18	15-Sep-18	
Shell plan approval	16-Sep-18	15-Oct-18	
Delivery of Formwork	16-Oct-18	30-Dec-18	Delivery of 1st batch must start from 15th Dec onwards and close out all 7 new sets by 30th Dec
Civil vendor appointment	14-Aug-18	15-Sep-18	Design to issue Architectural layouts +Steel & concrete coef. + area statements by 14-Aug-18
Excavation VFC		25-Aug-18	
Upto Plinth VFC		25-Sep-18	
Excavation Start	27-Aug-18		
Foundation Start	1-Oct-18		
Plinth Initiation (Launch +100 days)	10-Dec-18		
Work front for Formwork Vendor	30-Dec-18		

Design Delivery Schedule :

Buildings DDS		External Release	
Building Name		**As per rev DMS (no of weeks)**	**Florea, Florencia & Olivia**
Typology			**E1, E3,C2, B6**
Building Height			**<= 30-50 m**
DDS Status			**Closed**
Project Start Date (Email from AML)		0	4-May-18
Concept Finalization		12	27-Jul-18
Excavation Tender & VFC (upto 1 m above final depth)		2	14-Aug-18
Civil Tender		6	28-Sep-18
Shoring Tender & VFC + final (upto) 1 m excavation		10	
Raft/Piling/Foundation VFC		14	5-Oct-18
MEP IFC (Input for Construction)		16	12-Oct-18
Issue of Formwork GA set to vendor/contractor			25-Sep-18
Finalization of Formwork GA set by vendor/contractor (shell plan)			25-Oct-18
Structural VFC upto Ground*		18	2-Nov-18
MEP IFC (Input for Construction)		20	9-Nov-18
Structural VFC for first 5-10 floors above ground**		24	1-Dec-18
MEP IFC (Input for Construction)		26	8-Dec-18
Structural VFC for balance structure (100%)***		28	12-Mar-19
MEP IFC (Input for Construction)		30	19-Mar-19
Facade tender (including windows and external painting) Attachment		36	30-Mar-19
Electrical Tender Attachment		42	7-Nov-18
Plumbing Tender		42	8-Mar-19
HVAC Tender		42	15-Mar-19
Fire fighting Tender		42	23-Mar-19
Interiors Tender		42	20-Feb-19

Fitouts Tender		42	14-Jun-19
Lifts Tender		42	26-Jun-19
ELV, BMS & Security System Tender		46	23-Mar-19
All other tenders related to the building		46	14-Jun-19
Electrical VFC			22-Dec-18
Plumbing VFC			22-Apr-19
HVAC VFC			29-Apr-19
Fire fighting VFC			7-May-19
Interiors VFC			6-Apr-19
Fitouts VFC		38	29-Jul-19
ELV, BMS & Security System Tender			7-May-19
VFC for all other tenders related to the building		50	29-Jul-19
100% MEP Shop Drawings (part interim approvals shall be done)		58	
Completion		**101**	
Infra DDS		**External Release**	
Concept Finalization		0	27-Jul-18
Master Plan with Road Levels (Concept)			27/Jul/18
Landscape Concept			27/Jul/18
MEP External Services Schematic		8	15/Nov/18
Architecture + Landscape FDD		14	28-Mar-19
Services Package FDD		20	21-Apr-19
External Services Tender		24	6-Jun-19
Architecture + Landscape VFC		24	27-May-19
External Services VFC		30	20-Jun-19

Construction Milestones

MILESTONE SCHEDULE (For Florea, Florencia & Olivia C)		
Construction schedule	Start	End
Excavation	17-Jul-18	16-Aug-18
Foundation	10-Oct-18	19-Nov-18
Plinth	10-Nov-18	10-Dec-18
1st Slab (Conventional)	31-Dec-18	4-Feb-19
2nd Slab	5-Feb-19	7-Mar-19
3rd Slab	8-Mar-19	26-Mar-19
Blockwork	27-Mar-19	18-Jul-19
4th Slab	27-Mar-19	6-Apr-19
Electrical work	7-Apr-19	2-Aug-19
5th Slab	7-Apr-19	17-Apr-19
Plumbing work	7-May-19	1-Sep-19
6th Slab	18-Apr-19	28-Apr-19
7th Slab	29-Apr-19	9-May-19
Finishing work	16-Sep-19	1-Oct-19
8th Slab	10-May-19	20-May-19
9th Slab	21-May-19	31-May-19
10th Slab	1-Jun-19	11-Jun-19
11th Slab	12-Jun-19	22-Jun-19
Terrace Slab	23-Jun-19	3-Jul-19
Above Terrace	4-Jul-19	18-Aug-19
External Plaster	1-Sep-19	1-Oct-19
External painting	2-Oct-19	1-Nov-19

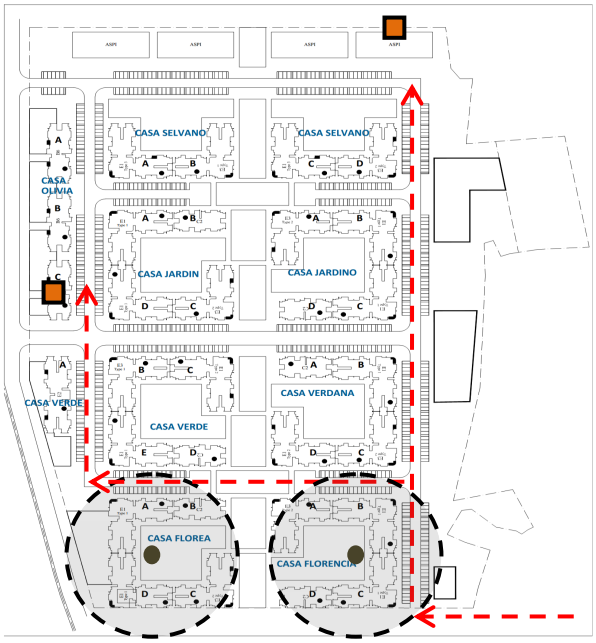
Procurement Strategy

Civil Vendor Procurement:

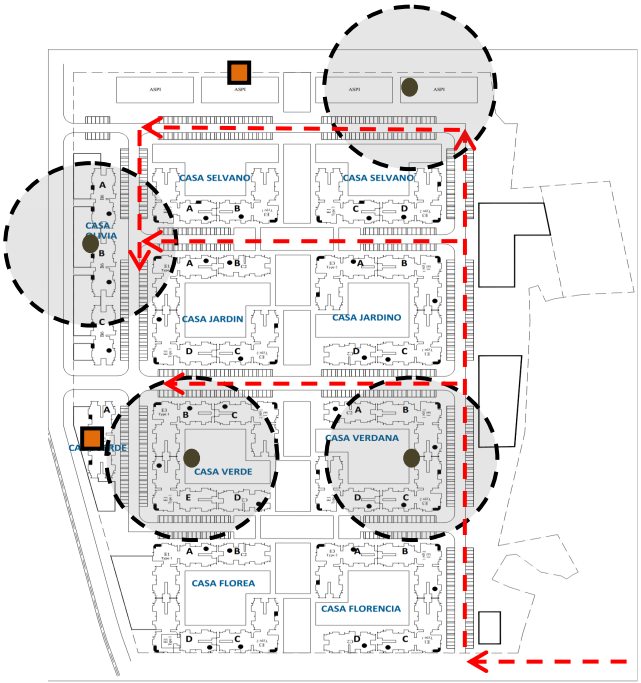
A total of 3 vendors are to be appointed to carry out civil work for Phase 1. Cluster Florea and Florencia will have one vendor and tower crane each. For building Olivia a separate vendor and use of man material hoist is suggested. The movement of construction vehicles will be through the new planned entry exit point so as to minimize the interference with handovers in sector 3&4.

Tower crane and MMH arrangement for clusters Phase wise :

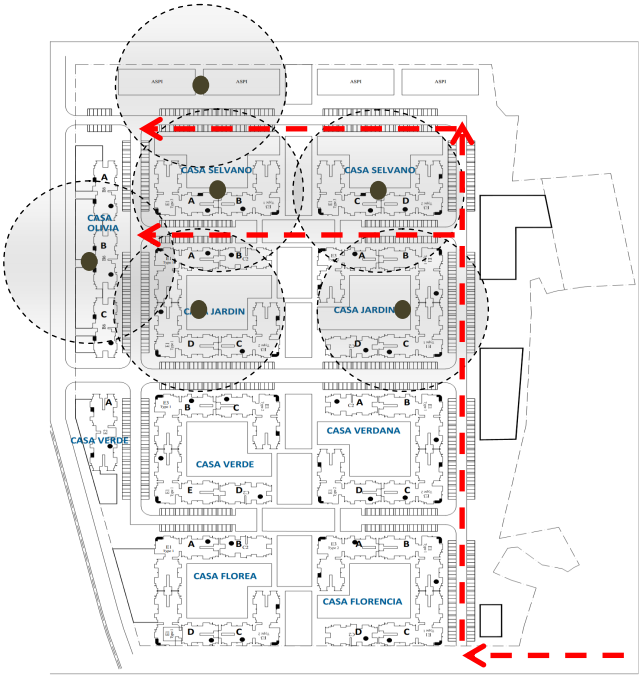
Construction Flow Phase 1



Construction Flow Phase 2



Construction Flow Phase 3



M.M8H Tower <- - - - Construction Vehicular

Package Strategy

Sr.no.	Package	Sub package	Brief Scope of work	Proc. Route	LSM	No. of Vendors
	Building Civil					
1	Building Civil Package	RCC structure	Complete RCC frame, external walls and plaster	FLO		3
			Civil works for UGT			
			Internal walls and plaster			
			RCC chajjas and miscellaneous structures.			
2	Waterproofing Package	Waterproofing	Waterproofing of Toilets, decks and utility areas	FML		4
			Waterproofing of Terraces			
2	Boundary/Fencing package	Fencing	Supply and installation of fencing for GF units and cluster boundary	FML		1
	Façade					
1	Façade Package #1	External paint	External Painting and texture of building façade including scaffolding supply & installation	FML		2
2	Façade Package #2	Aluminium windows and shutters	Supply and installation of Aluminium windows, doors and duct shutters.	FML		2
3	Façade Package #3	MS Railing & Railing painting	Fabrication, supply and installation of MS railing in balconies. Railing painting as per approved shade.	FML		2
4	Façade Package #4	MS Railing painting	Railing painting with PU paint.	FML		3
	Finishing					
1	Finishing Package #1	Flooring - Tile&Stone	Includes all flooring for flats, lobbies and staircases. All door & window frames and kitchen platforms.	PMFL	Stone and tile including skirting material	4

Sr.no.	Package	Sub package	Brief Scope of work	Proc. Route	LSM	No. of Vendors
2	Finishing Package #2	Carpentry	Installation of door frames and shutter, fixing of wooden panelling on the walls, production and installation of loose furniture as per design specifications	FLO	Door frame, door shutter and hinges.	4
3	Finishing Package #3	FRD	Fixing of FRD door frames, installation of door shutters with hinges.	PMFL	panic bar, handle , door closure	2
4	Finishing Package #4	Gypsum	Gypsum for walls in all flats, entrance and typical lobbies and Security cabin	FML		4
5	Finishing Package #5	False Ceiling	Flase ceiling works for entrance lobby and typical lobbies	FML		4
6	Finishing Package #6	Internal Painting	Internal painting for all flats, entrance and typical lobbies.	FML		4
7	Finishing Package #7	Integrated Finishing	Integrated finishing vendor for Lobbies and Security Cabin	FML		2
	MEP					
1	Building Services Package #1	Electrical	All electrical network downstream from meter room including laying and termination of the outgoing table and Lightning Protection system. Installation of Electric wiring, rising main, MCCB boxes, Reducer, tap off boxes, conduits, trays, DB, Meters,etc. Inclusive of low voltage and earthing provisions.	PMFL	DB, switch plate, Back box, common area light fittings	4

Sr.no.	Package	Sub package	Brief Scope of work	Proc. Route	LSM	No. of Vendors
2	Building Services Package #2	Plumbing	All building internal piping starting from OHT, including Booster pumps, water supply down takes, looping, valves, uptakes, etc. All internal drainage network including down takes and connection from traps on each floor to first Inspection chamber. Including down takes for SWD. Installation of sanitary fixtures including WCs, flushing tanks, valves, taps, cock, tubs, sinks, etc.	PMFL	CP sanitary fittings and fixtures	4
3	Building Services Package #3	Fire fighting	Installation of pumps, piping, valves, hose reel, hose pipe, nozzels and cabinets. Excavation for yard hydrant. Laying of complete network for fire fighting from UGT inlet. SITC of Yard hydrant, UGT pumping system, Fire fighting inlets, etc.	PMFL	Pumps	2
4	Building Services Package #4	HVAC	Lift Pressurization. ITC of Split AC's(including stand for ODU) and installation of exhaust fans. Pump room ventilation.	PMFL	Ac units , exhaust fan	4
5	Building Services Package #5	FAS	SITC of Panels, indicators, detectors, wiring, call points, isolator, speakers, etc.	FML		4
6	Building Services Package #6	ELV / Internal communication	Data cabling, RG6, CAT 5, intercom, EPBAX etc	PMFL	Intercom units	1
7	Building Services Package #7	CCTV, Access control, LAFA & PA.	Access Control doors with magnetic door lock for entrance lobby. SITC of CCTVs. SITC of LAFA & PA.	FML	Readers and controllers for access	1 each
8	Lift Installation Package #1	Lifts	SITC of Lifts	FML		2
9	DG Installation Package #1	DG	SITC of DG	FML		2
10	Solar Package #1	Solar Backup	SITC of PV system	FML		1
11	Signage Package #1	Signage	Supply and Installation of Signage in building	FML		1

Sr.no.	Package	Sub package	Brief Scope of work	Proc. Route	LSM	No. of Vendors
	Infra					
1	Infra Civil Package #1	Roads and SWD	Sub Base, PCC, Soling, edge walls, etc. SWD (catch basin and other civil components) and Compound walls	FML	Precast SWD sections can be considered.	1
2	Infra Services Package #1	Electrical	All cabling network from CSS to meter room including termination of Incoming and outgoing cable at CSS and incoming cable at meter room. Cabling for external lighting bollards etc.	PMFL	Lt & Ht cable, css.	1
3	Infra Services Package #2	Plumbing	Water supply network from UGT to OHT including all mechanical works for UGT. Softscape irrigation line from UGT to outlet in Softscape. Sewer network from first gully trap & first Inspection chamber or the structure to main infra (including connection).SWD connection from first catch basin to the main SWD network.	PMFL	Drain+Man hole cover	1
4	Infra Finishing Package #1	Hardscape	Finishing of all Hardscape and building periphery.	PMFL	Stone, tile, curbs, etc.	2
5	Infra Streetlight Package #1	Streetlight	ITC of Street lights (Base to be casted by infra civil vendor	PMFL	Streetlights	
6	Landscape Package #1	Softscape	All leveling , red soil, and plantation for Softscape .	FML	red soil , plantation	1
7	Infra Signage Package #1	Infra Signage	Supply and Installation of Signage	FML		2

Procurement tracker

Sr.no.	Sub package	Design Closure	Attachment	Vendor Closure	Vendor mobi.	Construction start Dt	Handover	Remarks
	Building Civil							
1	RCC structure							
2	Waterproofing							
	Facade							
1	External paint							
2	Aluminium windows and shutters							
3	MS Railing & Railing painting							
4	MS Railing painting							
	Finishing							
1	Flooring - Tile&Stone							
2	Carpentry							
3	FRD							
4	Gypsum							
5	False Ceiling							
6	Internal Painting							
	MEP							
1	Electrical							
2	Plumbing							
3	Fire fighting							

Sr.no.	Sub package	Design Closure	Attachment	Vendor Closure	Vendor mobi.	Construction start Dt	Handover	Remarks
4	HVAC				`			
5	FAS							
6	ELV / Internal communication							
7	CCTV, Security and Access control							
8	Lifts							
9	DG							
10	Solar Backup							
	Infra							
1	Roads and SWD							
2	Electrical							
3	Plumbing							
4	Hardscape							
5	Softscape							

Logistics plan

Temporary power, water supply for construction and site logistics



Temporary power supply for construction to be tapped from Lake side and cabling to be done along the spine road, connections to be withdraw from this line to the proposed location of temporary substation.

Temporary water supply for construction to be tapped from existing construction water line going from quarry to sector 4 and the same to be connected with proposed locations of UGTs where tanks as per the final scheme are to be constructed for storage.

Overall Completion targets

Sr. no.	Activity	Duration	Expected Fit-out	Target Dates
1.	Complete CFO requirements	60 days before target Date of offer for fitouts	30-Dec-2019	
2.	Completion of other OC requirements	45 days before target Date of offer for fitouts	30-Dec-2019	