Technical Detail Form No. 1

"क" बर्ग र "ख" बर्गको भबनको लागि

(A) NBC Code 206: 2003 - Architectural Design Requirements.

(To be filled by concerned Architect or Consultant)

Type of Building……

Building Elements	As per Submitted Design	Remarks
1.0 Staircase		
1.1 Min. tread width of staircase	…… mm excluding nosing	
1.2 Riser height of staircase	….mm	
1.3 Clear width of staircase for		
a) Hospital	….mm	
b) Auditorium		
- below 500 capacity		
- Above 500 capacity		
c) Others	……mm	
1.4 Height of handrail	….mm	
1.5 Max. no of riser in one Single flight	……Nos.	
1.6 Max. head room under staircase from the nosing of the tread	…..mm	
2.0 Exit		
2.1 Max. travel distance to exit point in each floor	…..mm	
2.2 Min. width of exit door including frame	….mm	
2.2Min. height of exit door including frame	….mm	
2.3 Shutter opening of exit door to staircase & public Passage	Inside/Outside	
2.4 Total width of exit door	…..mm	
3.0 Light and Ventilation		
3.1 Min. opening area of window for lighting largest habitable room from external wall	……..sq. m.	
3.2 Min. opening area of natural ventilator for largest habitable room from external wall	……sq.m.	
3.3 Min. size of ventilator for water closets and bathroom	……sq.m.	

4.0 Lifts		
4.1 Total height of building	…..mm	
4.2 Provision of lift.	Yes/No	
4.3 No. of lift per bank	…….nos.	
5.0 Requirement for the physically disabled		
5.1 Is there a provision of separate entrance for disable people next to the primary entrance of a building	Yes/No	
5.2 Max. gradient for wheel chair ramp at entrance of building		
5.3 Min. width of wheel chair ramp at entrance of building.	…….mm	
6.0 Parapet heights		
6.1 The height of parapet wall & balcony handrail	……mm	

Technical Detail Form No. 1

(B) NBC 208: 2003- Sanitary and Plumbing Design Requirements

(To be filled by concerned Engineer or Consultant)

Description	Design Capacity	Water consumption per capita per day as per submitted design	Water Storage Capacity	Remarks
Underground Water Tank.				
1. Type of building				
1.2) Auditorium	…….. Nos.	……. Litres		
A.1.2) Hospital including laundry per bed				
a) Number of beds< 100 bed	…..Bed.	…….. Litres.		
b) Number of beds>100 bed	….. Bed.	……Litres.		
1.3) Office building	…..Nos.	……..Litres.		
2. Overhead water tank for Lavatory				
a) Auditorium/Office Building	….(nos of w.c).	…… Litres.		
b) Hospital	….(nos. of urinal.)	…..Litres.		
	…(nos of w.c).	….Litres.		
Description	**Design Capacity**	**Fixtures provided as per submitted design**	**Total**	**Remarks**
2.1 Fire Hydrant System. Hospital/ Auditorium (Indoor)				
2.2) No of floors	….Nos. of floor	….Nos. of wet risers		
2.3) Floor area	M^2	…. Nos. of wet risers		
2.4) Capacity of wet riser for underground water tank	-	……Litres.		
2.2 Type of buildings				
Office building				

Gents Toilet: Nos of users--…….					
a)	Water closet	-	……Nos.		
b)	Urinal	-	…..Nos.		
c)	Basin	-	……Nos.		
Ladies Toilet:- Nos of users--……					
a)	Water closet	-	……..Nos.		
Auditorium					
Public toilet (Gents Toilet): Nos of users--…….					
a)	Water closet	-	…..Nos.		
b)	Urinal	-	…..Nos.		
c)	Basin	-	……Nos.		
Ladies Toilet:-- Nos of users--….					
a)	Water closet	-	……Nos.		
Staff toilet (Ladies/Gents Toilet): Nos. of users--……					
a)	Water closet	-	…..Nos.		
Hospital indoor patient ward (For Ladies and Gents Toilet):-- Nos. of users--……..					
a)	Water closet	-	……Nos.		
b)	Wash basin	-	…..Nos.		
c)	Bath (Shower)	-	….Nos.		
d)	Cleaner sink (Kitchen sink)	-	……Nos.		

Technical Detail Form No. 1

(C) NBC 207: 2003-- Electrical Design Requirements

(To be filled by concerned Engineer or Consultant)

S. No.	Electrical Elements	As per Submitted Design
1. Rating and sizes		
1.1.	Minimum size (sq. mm.) of copper cable for light circuit	
1.2	Minimum size (sq. mm.) of copper cable for power circuit	
1.3	Wattage of ordinary power socket (2 pin) estimated as	
1.4	Wattage of power socket outlet (3 pin) estimated as	
1.5	Wall thickness of cast iron switch or regulator boxes	
1.6	Wall thickness of mild steel sheet switch or regulator boxes for upto 20cm.x 30cm.	
1.7	Wall thickness of mild steel sheet switch or regulator boxes for above 20cm.x 30cm.	
1.8	Depth of the switch or regulator boxes	
2. Maximum number of cables in a conduit		
2.1	No. of 2.5 sq. mm. cross-sectional area cable in 20mm. dia conduit	
2.2	No. of 4 sq. mm. cross-sectional area cable in 20mm. dia conduit	
2.3	No. of 6 sq. mm. cross-sectional area cable in 20mm. dia conduit	
2.4	No. of 2.5 sq. mm. cross-sectional area cable in 25mm. dia conduit	
2.5	No. of 4 sq. mm. cross-sectional area cable in 25mm. dia conduit	
2.6	No. of 6 sq. mm. cross-sectional area cable in 25mm. dia conduit	
2.7	No. of 2.5 sq. mm. cross-sectional area cable in 32mm. dia conduit	
2.8	No. of 4 sq. mm. cross-sectional area cable in 32mm. dia conduit	
2.9	No. of 6 sq. mm. cross-sectional area cable in 32mm. dia conduit	

3. Earthing		
3.1	The value of any earth system resistance unless otherwise specified	
3.2	Diameter of rod electrodes of steel or galvanized iron	
3.3	Diameter of rod electrodes of copper	
3.4	Internal diameter of pipe electrodes of galvanized iron or steel	
3.5	Internal diameter of pipe electrodes of cast iron	
3.6	The length of the rod & pipe electrodes	
3.7	Thickness of plate electrodes of galvanized iron or steel	
3.8	Thickness of plate electrodes of copper	
3.9	Size of plate electrodes of galvanized iron or steel or copper	
3.10	Depth of the top edge of plate electrodes buried from ground	

4. Testing

4.1	Insulation resistance (Mohm) between earth and the whole system of conductor or any section thereof	
4.2	Insulation resistance (Mohm) between the metallic case and all live part of each rheostat, appliance and sign when they are disconnected,	
4.3	Insulation resistance (Mohm) between all the conductors connected to one pole or phase conductor and all the conductor connected to the middle wire or to the neutral or to the other pole of the phase conductor	
4.4	The applied dc voltage (Volt) of mejgering	
4.5	Each switch is placed in phase or neutral?	

Note:

1. When substation and external electrical works are required, designer must comply NBC 207: 2003 or/ a relevant international electrical codes.
2. Designer is advised to consider lightning protection designated by international electrical codes.

Technical Detail Form No. 1

(D) NBC 000: 1994 to NBC 114: 1994 Structural Design Requirements

(To be filled by concerned Engineer or Consultant)

S.N.	Description	As per submitted design	Remarks
1. General:			
	Number of Storey		
	Total height of structure		
	Structure system	☐ Frame ☐ Load bearing ☐ Other	
	If Computer Aided Design (CAD) is used, please state the name of the package		
2. Requirements of NEPAL NATIONAL BUILDING CODE (NBC)			
2.1 NBC-000-1994 Requirements for State-of-the Art Design: An Introduction			
	Level of design:	☐ International State-of-the-art ☐ Professionally Engineered Structures ☐ Mandatory Rule of thumb ☐ Guidelines to rural building	
2.2 NBC 101: 1994 Materials Specifications			
	Tick the listed materials that will be used in the construction	☐ Cement ☐ Coarse Aggregates ☐ Fine Aggregates (Sand) ☐ Building Lime ☐ Natural building stones ☐ Bricks ☐ Tiles ☐ Timber ☐ Metal frames ☐ Structural steel…..*	
	In what manner/ way have you used		
2.3 NBC 102-1994 Unit Weight of Materials			
	Where do you plan to apply NBC 102 ? Specify the design unit weight of materials Steel Brick RCC Brick Masonry	☐ Specifications ☐ Design Calculation ☐ Bill of Quantity	
Note:* If any materials other than specified in NBC 102-1994, the designer should take responsibility that such materials are according to international standard.			

2.4 NBC 103-1994 Occupancy load (Imposed Load)				
	Proposed occupancy type (fill in only concerning occupancy type)	Occupancy load		
		Uniformly Distributed load (kN/m2)	Concentrated Load (kN)	
	<u>For Residential Buildings</u>			
	Rooms and Kitchen			
	Corridors, Staircase, store			
	Balcony			
	<u>For Hotels, Hostels, Dormitories</u>			
	Living, Bed and dormitories			
	Kitchen, Corridors, Staircase			
	Store rooms			
	Dining, restaurants			
	Office rooms			
	……			
	<u>For Educational Buildings</u>			
	Class rooms, Dining rooms			
	Kitchen			
	Stores			
	Libraries and archives			
	Balconies			
	……			
	<u>For Institutional Buildings</u>			
	Bed rooms, wards, dressing rooms			
	Kitchen			
	X-ray rooms, operating rooms			
	Corridors and Staircase			
	Balconies			
	……			
	<u>For Assembly Buildings</u>			
	Assembly areas			

	Projection rooms			
	Stages			
	Corridors, Passage and Staircase			
	Balconies			
	……..			
	For Business and Office Buildings			
	Rooms with separate storage			
	Rooms without separate storage			
	File rooms and storage rooms			
	Stair and passage			
	Balconies			
	……..			
	Mercantile Buildings			
	Retail shops			
	Wholesale shops			
	Office			
	Staircase and passage			
	Balconies			
	……..			
	Industrial Buildings			
	Work area without machinery			
	With machinery: Light duty			
	Medium duty			
	Heavy duty			
	Boiler			
	Staircase, Passage			
	Storage buildings			
	Storage rooms			
	Cold storage			
	Corridor and Passage			
	Boiler rooms			
2.5 NBC 104-1994 Wind load				
	Wind zone			

	Basic wind velocity	m/s	
2.6 NBC 105-1994 Seismic Design of Buildings in Nepal			
	Method of earthquake analysis:	☐ Seismic Coefficient method ☐ Model Response Spectrum method ☐ …….	
	Subsoil category		
	Fundamental transactions period		
	Basic seismic coefficient		
	Seismic zoning factor		
	Importance factor		
	Structural performance factor		
2.7 NBC 106: 1994 Snow load			
	Snowfall area	☐ Perennial ☐ Occasional ☐ No snowfall	
	Elevation		
	Design Depth		
	Design Density		
2.8 NBC 107: 1994 Provisional Recommendation on Fire Safety			
	Where do you plan to apply the fire safety requirements specified in NBC 107 and NBC 206-1994?	☐ Specifications ☐ Design Calculation ☐ Bill of quantity	
2.9 NBC 108: 1994 Site Consideration for Seismic Hazards			
	Distance from toe/beginning of downward slope	m	
	Distance from river bank		
	Soil type in footing		
	Adopted safe bearing capacity		
	Type of foundation		
	Depth of foundation		
	Soil test report available?	☐ Yes ☐ No	
Note: Soil test is advisable for all professional engineered structures. In case, soil test is not carried out, the designer should take responsibility for assumed data concerning site consideration.			
2.10 NBC 109: 1994 Masonry: Unreinforced			

	Concrete Grade				
	Brick crushing strength				
	Mortar ratio for load bearing masonry				
	Floor Ground floor First floor Second floor ……..	Wall height	Wall thickness	Maximum Length	
	Opening details:				
	Least distance from inside corner				
	Does the total length of opening in any				
	Wall exceed 50% of its length	☐ Yes	☐ No		
	Does the horizontal distance between any	☐ Yes	☐ No		
	Two opening less than 600 mm or ½ of				
	Height of shorter opening				
	Does the Vertical distance between two	☐ Yes	☐ No		
	Opening less than 600 mm or ½ of width				
	Of smaller opening				
	If any of above mentioned cases do not	☐ Yes	☐ No		
	Comply, do you have provision for				
	Strengthening around opening?				

	Bands provided:	☐ Plinth level ☐ Lintel level ☐ Roof level ☐ Gable band	
	Vertical steel reinforcement diameters at corner/tee joints: Ground floor: First floor: Second floor		
	C/C distance of corner/tee strengthening Horizontal dower bars		
2.11 NBC 110: 1994 Plain and Reinforced Concrete			
	Concrete grade		

	Reinforcement Steel Grade		
	Critical size of slab panel		
	Calculated short span to effective depth		
	Ratio (L/d) for corresponding slab		
	Permissible L/d ratio		
	Effective depth		
	Basic value of L/d		
	Span correction factor		
	Tension reinforcement (A_{st}) Percent		
	A_{st} modification factor		
	Compression reinforcement modification factor		
	Beam Characteristics	Condition of beams	
		Canti-Lever / Simply Supported / One side Continuous / Both side Continuous	
	Maximum span/depth ratio		
	Span of corresponding beam		
	Depth of corresponding beam		
	Width of corresponding beam		
	Maximum slenderness ratio of column Lateral dimension of corresponding column		
	Design Philosophy:	☐ Limit State method ☐ Working Strees method ☐ Ultimate strength method	
	<u>Load Combinations:</u> Working Stress method 1: 2: 3: 4: Limit State method 1: 2:		

	3: 4:				
2.12 NBC: 111-1994 Steel					
	Design assumption:	☐ Simple connection ☐ Semi-rigid connection ☐ Fully rigid connection			
	Yield Stress:				
	Least wall thickness				
	Expose condition	Pipe	Webs of Standard size	Composed section	
	For Exposed Section For not exposed Section				
	Have you used Truss?	☐ Yes	☐ No		
	What is the critical span of purlin				
	Purlin size				
	Have you used steel post?	☐ Yes	☐ No		
	Slenderness ratio of the critical post				
2.13 NBC: 112 Timber					
	Name of structural wood:				
	Modulus of Elasticity:				
	Critical span of the beam element				
	Designed deflection				
	Slenderness ratio of the critical post				
	Joint type:				
2.14 NBC: 113: 1994 Aluminium					
	Have you used aluminium as structure member?	☐ Yes ☐ No			
	If yes, please mention the name of design code.				
2.15 NBC: 114 1994 Construction safety					
	Are you sure that all safety measures will be fulfilled in the construction site as per this code?	☐ Yes ☐ No			
	Safety wares use	☐ Safety hard hat			

		☐ safety goggles ☐ Safety boots ☐ Safety belt ☐ First aid facility	

Affidavit

I / We hereby certify that the proposed design of building and its various components comply all the requirements of prevailing National Building Code of Nepal. I/We also affirm that the submitted design is done by the concerned Engineers and Architects duly registered in Nepal Engineering Council. The data made available in this form are equally valid for all buildings apart from the main building.

Name: NEC No: Post: Name of Consulting Firm: Address: Date:	Seal: