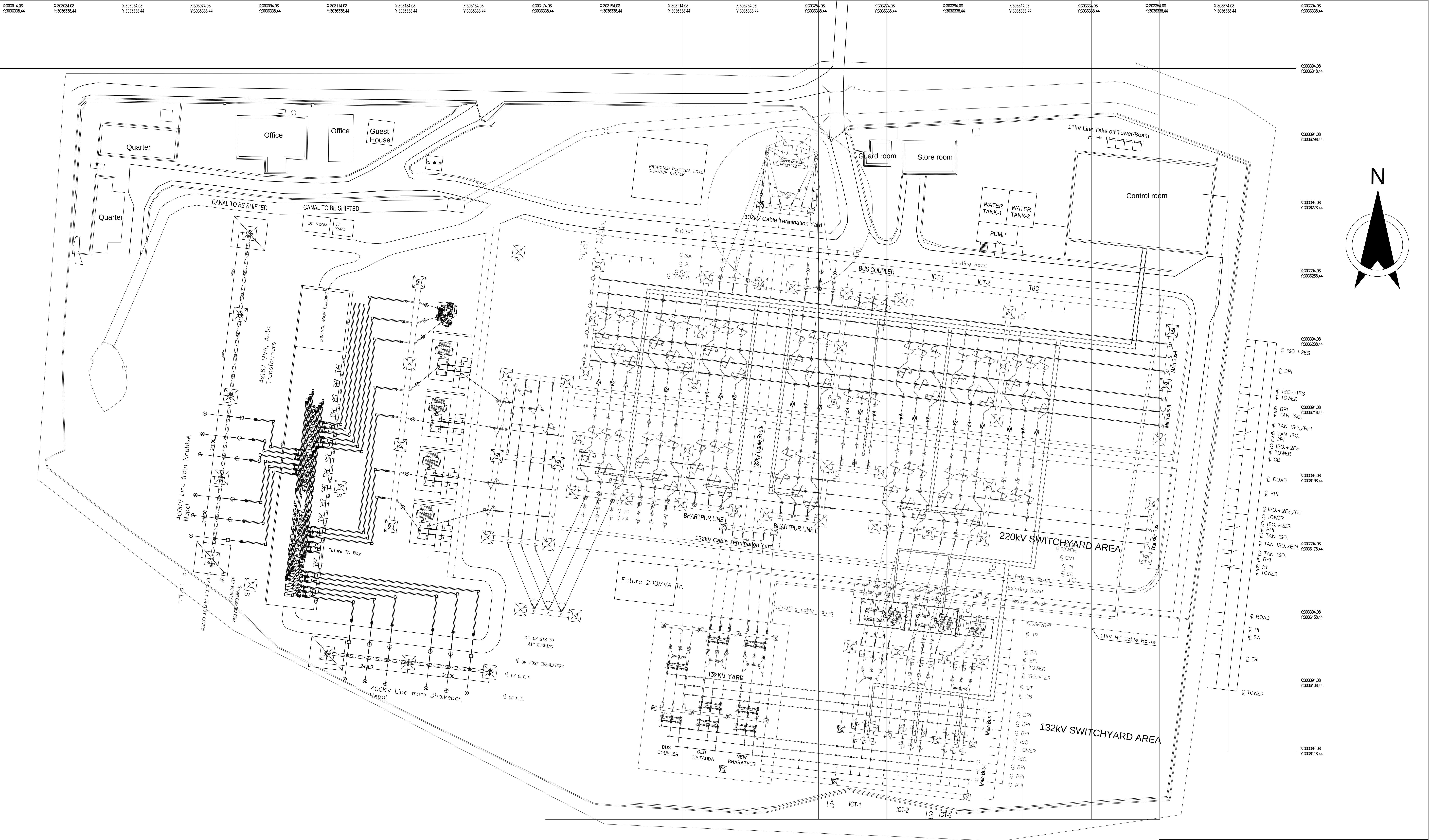
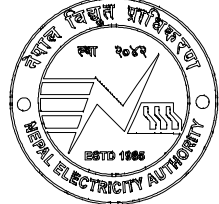




—— Under present scope
—— Existing/Future

Note:
This Layout drawing is tentative, and shall be finalized during detail engineering.



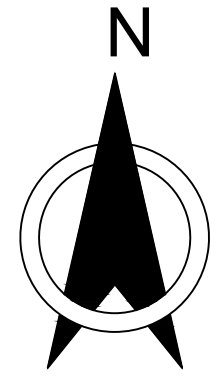
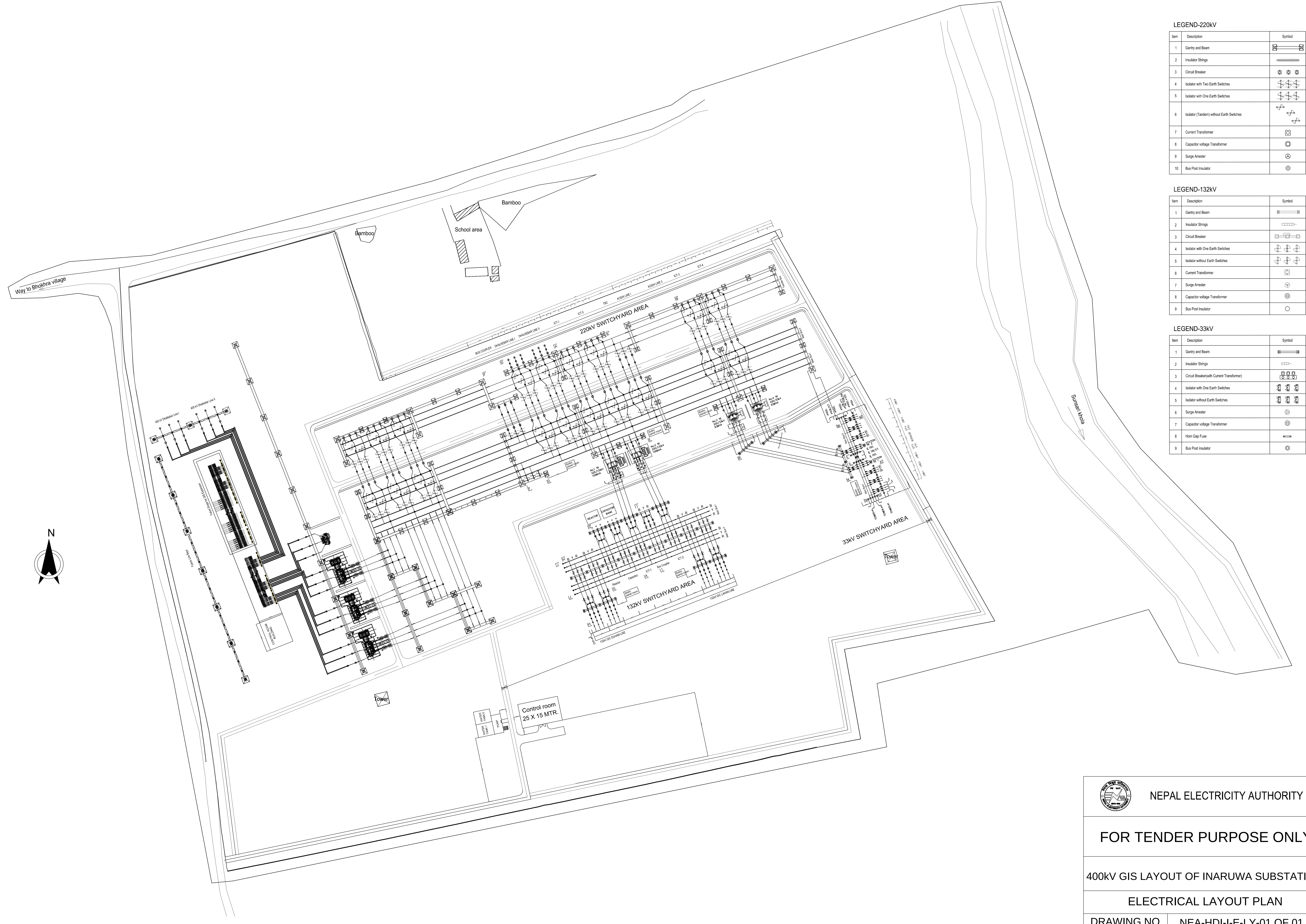
NEPAL ELECTRICITY AUTHORITY

FOR TENDER PURPOSE ONLY

400kV GIS LAYOUT OF HETAUDA SUBSTATION

ELECTRICAL LAYOUT PLAN

DRAWING NO.	NEA-HDI-H-E-LY-01 OF 01
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LEGEND-220kV		
Item	Description	Symbol
1	Gantry and Beam	
2	Insulator Strings	
3	Circuit Breaker	
4	Isolator with Two Earth Switches	
5	Isolator with One Earth Switches	
6	Isolator (Tandem) without Earth Switches	
7	Current Transformer	
8	Capacitor voltage Transformer	
9	Surge Arrester	
10	Bus Post Insulator	

LEGEND-132kV		
Item	Description	Symbol
1	Gantry and Beam	
2	Insulator Strings	
3	Circuit Breaker	
4	Isolator with One Earth Switches	
5	Isolator without Earth Switches	
6	Current Transformer	
7	Surge Arrester	
8	Capacitor voltage Transformer	
9	Bus Post Insulator	

LEGEND-33kV		
Item	Description	Symbol
1	Gantry and Beam	
2	Insulator Strings	
3	Circuit Breaker(with Current Transformer)	
4	Isolator with One Earth Switches	
5	Isolator without Earth Switches	
6	Surge Arrester	
7	Capacitor voltage Transformer	
8	Hom Gap Fuse	
9	Bus Post Insulator	



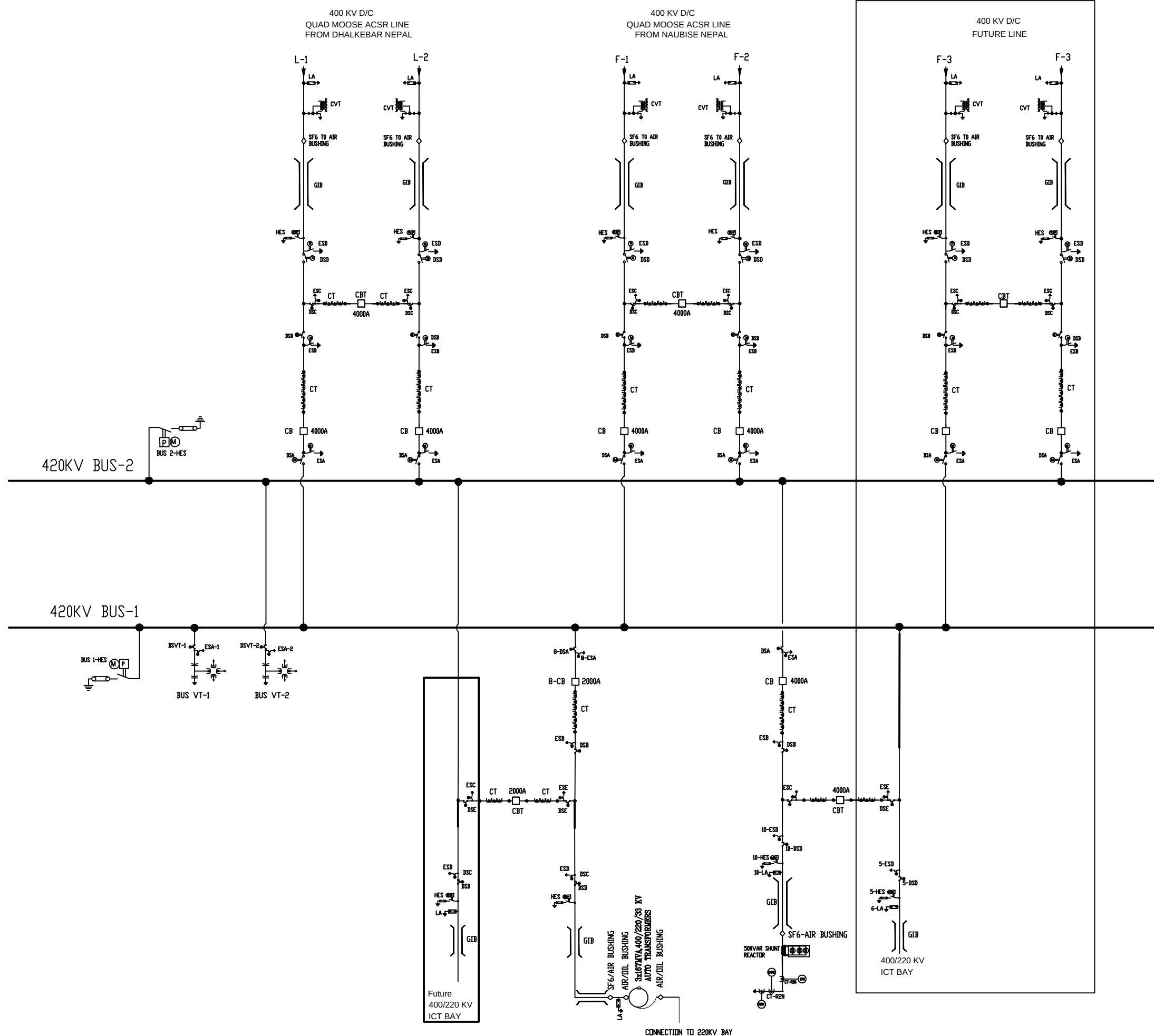
NEPAL ELECTRICITY AUTHORITY

FOR TENDER PURPOSE ONLY

400kV GIS LAYOUT OF INARUWA SUBSTATION

ELECTRICAL LAYOUT PLAN

DRAWING NO. NEA-HDI-I-E-LY-01 OF 01



LEGEND:-

	GAS INSULATED BUS DUCT(GIB)
	HIGH SPEED GROUNDING SWITCH
	LIGHTENING ARRESTOR(LA)
	BUSHINGS(SF6/AIR AND OIL/AIR)
	EARTHING SWITCH
	GROUNDING SWITCH
	DISCONNECTOR
	AUTO TRANSFORMER
	CURRENT TRANSFORMER
	CIRCUIT BREAKER
	CAPCITIVE VOLTAGE TRANSFORMER
	SHUNT REACTOR
	BUS VT

GENERAL NOTES

1. THIS DRAWING INDICATES A SINGLE LINE DIAGRAM FOR 420 KV GAS INSULATED SUBSTATION.
2. BAYS INDICATED INSIDE DOTTED LINE BOX ARE FOR FUTURE SCOPE.
3. THIS DRAWING IS INDICATIVE ONLY. THE BIDDER SHALL SUBMIT DETAILED DRAWING INDICATING LOCATION OF CIRCUIT BREAKERS, CVT, LA, CTS, HIGH SPEED GROUNDING SWITCHES, DISCONNECTORS ETC. ALONGWITH THEIR TECHNICAL PARTICULARS.
4. CT PARAMETER ARE GIVEN IN THE TECHNICAL SPECIFICATION ARE MINIMUM REQUIREMENTS CONSIDERING 4 SQ. MM STRANDED COPPER CABLES FOR CT CIRCUITS WIRING. HOWEVER, THE CT PARAMETERS WILL BE REVIEWED DURING DETAILED ENGINEERING.

FOR TENDER PURPOSE ONLY

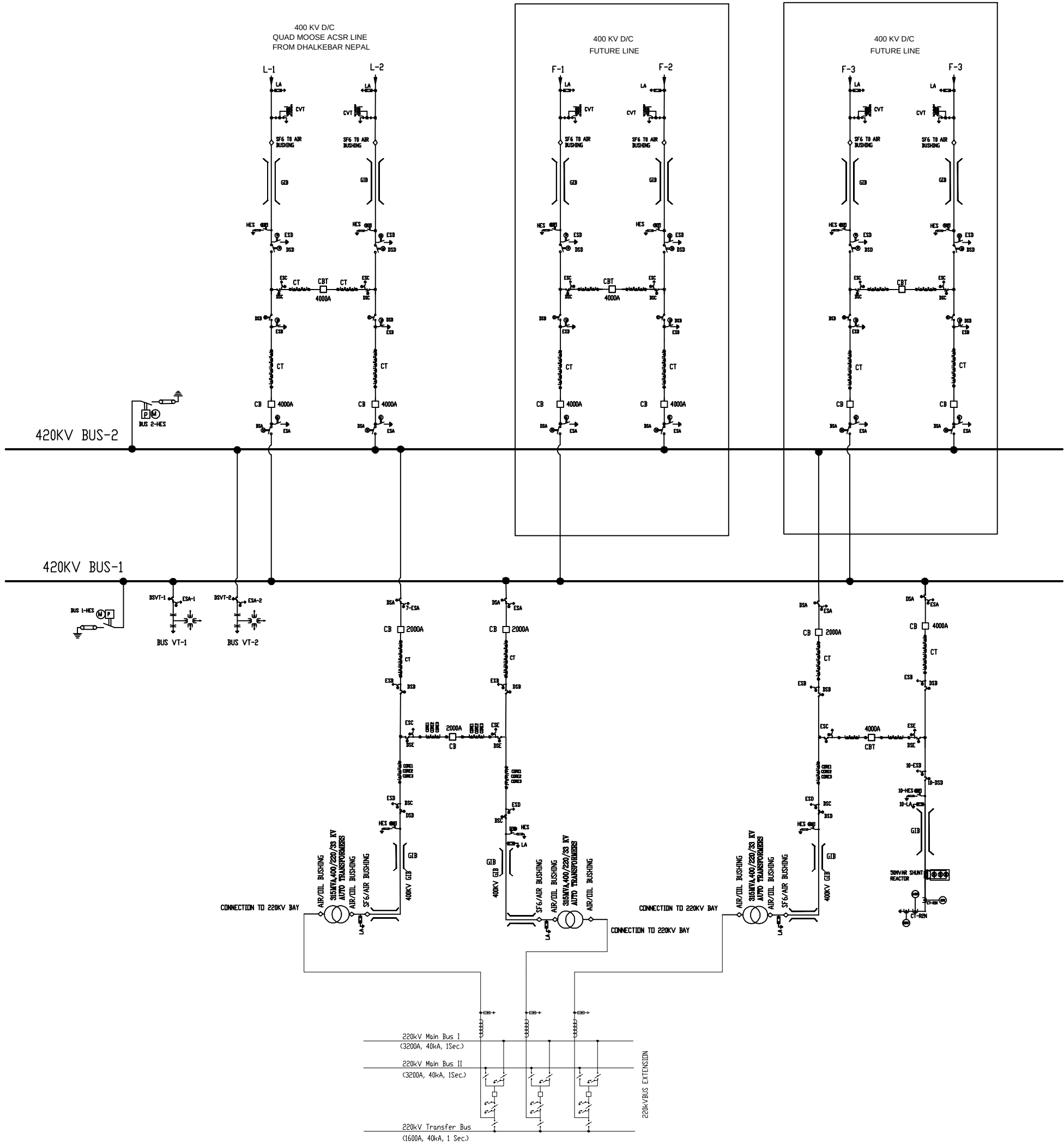


NEPAL ELECTRICITY AUTHORITY

HETAUDA 400/220KV GIS SUBSTATION SLD

SINGLE LINE DIAGRAM

DRAWING NO. NEA-HDI-H-SLD-01 OF 01



LEGEND:-

	GAS INSULATED BUS DUCT(GIB)
	HIGH SPEED GROUNDING SWITCH
	LIGHTENING ARRESTOR(LA)
	BUSHINGS(SF6/AIR AND OIL/AIR)
	EARTHING SWITCH
	GROUNDING SWITCH
	DISCONNECTOR
	AUTO TRANSFORMER
	CURRENT TRANSFORMER
	CIRCUIT BREAKER
	CAPCITIVE VOLTAGE TRANSFORMER
	SHUNT REACTOR
	BUS VT

GENERAL NOTES

1. THIS DRAWING INDICATES A SINGLE LINE DIAGRAM FOR 420 KV GAS INSULATED SUBSTATION.
2. BAYS INDICATED INSIDE DOTED LINE BOX ARE FUR FUTURE SCOPE.
3. THIS DRAWING IS INDICATIVE ONLY. THE BIDDER SHALL SUBMIT DETAILED DRAWING INDICATING LOCATION OF CIRCUIT BREAKERS, CVT, LA, CTS, HIGH SPEED GROUNDING SWITCHES, DISCONNECTORS ETC. ALONGWITH THEIR TECHNICAL PARTICULARS.
4. CT PARAMETER ARE GIVEN IN THE TECHNICAL SPECIFICATION ARE MINIMUM REQUIREMENTS CONSIDERING 4 SQ. MM STRANDED COPPER CABLES FOR CT CIRCUITS WIRING. HOWEVER, THE CT PARAMETERS WILL BE REVIEWED DURING DETAILED ENGINEERING.

FOR TENDER PURPOSE ONLY



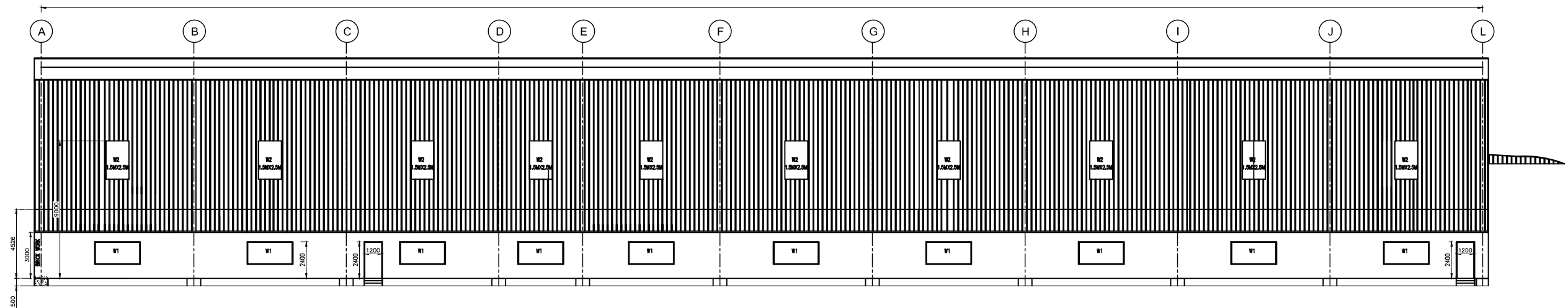
NEPAL ELECTRICITY AUTHORITY

INARUWA 400/220KV GIS SUBSTATION SLD

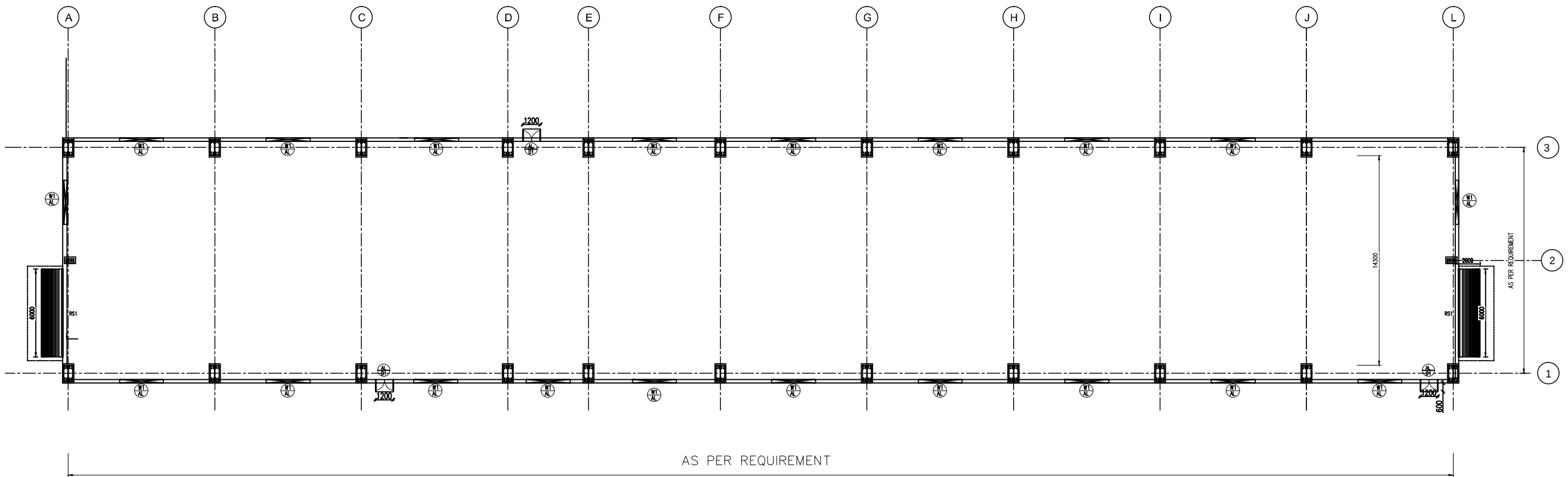
SINGLE LINE DIAGRAM

DRAWING NO. NEA-HDI-I-SLD-01 OF 01

AS PER REQUIREMENT

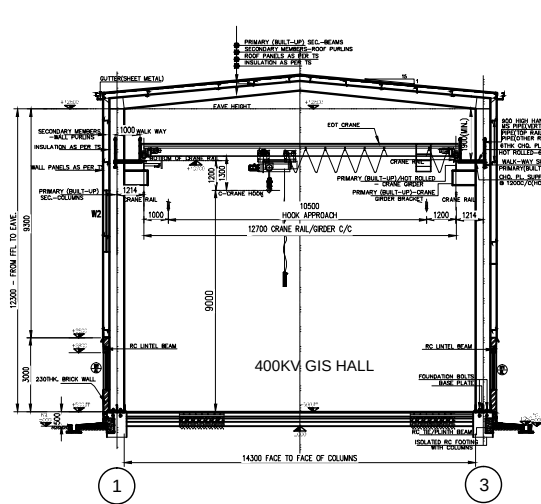


SIDE WALL ELEVATION @ GL 1

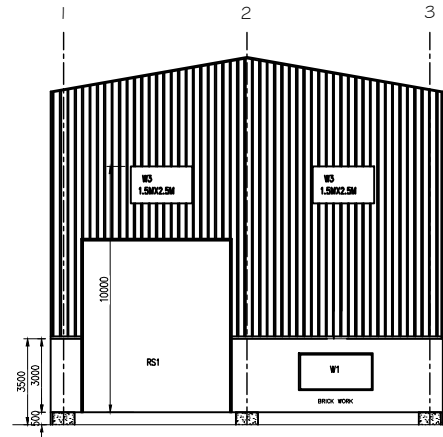


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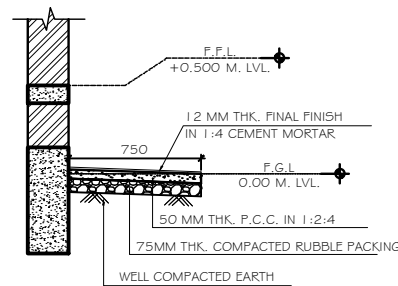
400KV GIS HALL & AHU ROOM – PEB BUILDING – PLAN AT +500 LEVEL



TYP. SECTIONAL DETAILS



SIDE WALL ELEVATION @ GL-L

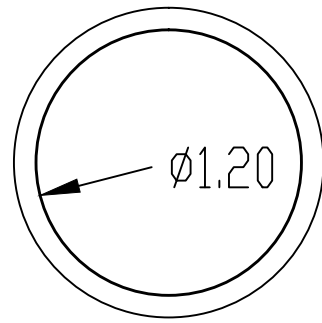


TYP. PLINTH PROTECTION DETAIL :

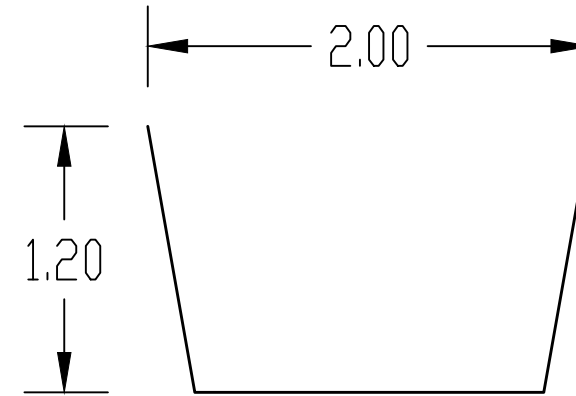
- NOTES**
1. THIS DRAWINGS SHOWS A TYPICAL LAYOUT OF 400/220 KV GIS SUBSTATION, THE BIDDER SHALL SUBMIT THE LAYOUT OF GIS BUILDING AS PER TECHNICAL SPECIFICATION AND THE SAME WOULD BE FINALIZED AFTER THE APPROVAL OF OWNER.
 2. ALL DIMENSION ARE IN MM AND ELEVATION IN METERS
 3. DRAWINGS IS NOT IN SCALE
 4. THE REQUIREMENT OF THE PRE-ENGINEERED BUILDING IS AS PER TS AND BPS

FOR TENDER PURPOSE ONLY

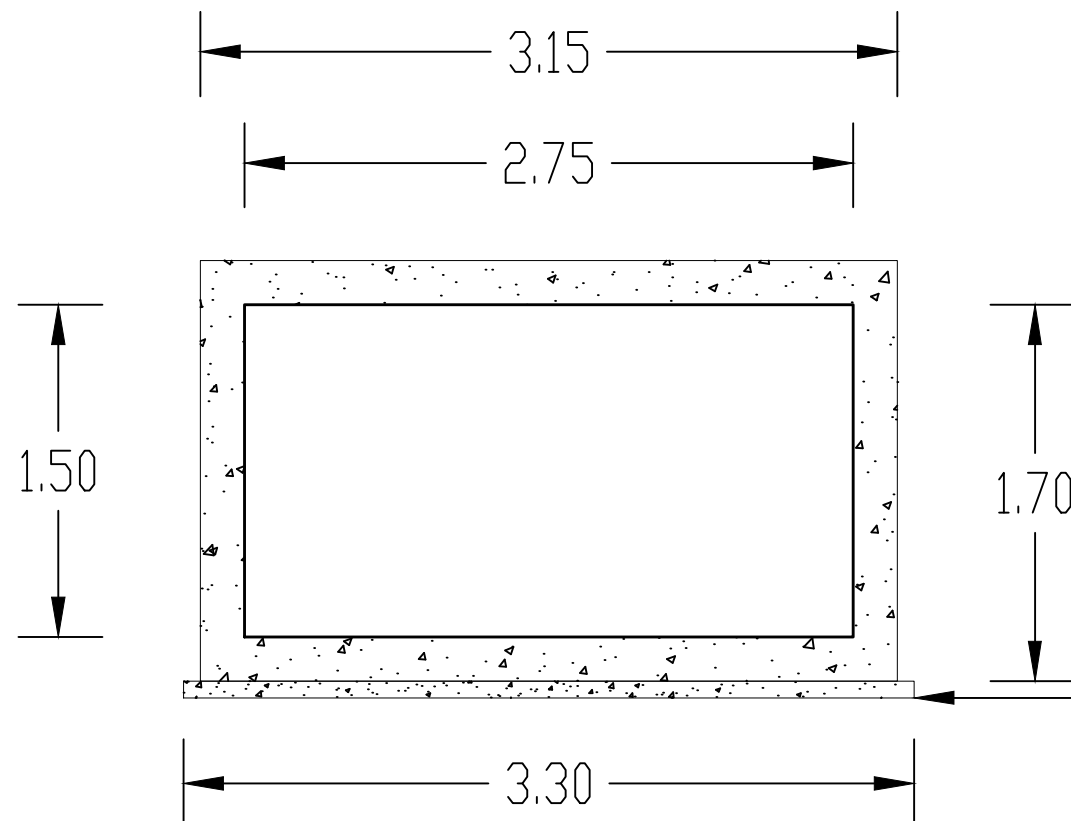
REV	DATE	REV
 NEPAL ELECTRICITY AUTHORITY		
GIS BUILDING GENRAL LAYOUT		
DRAWING NO:	NEA-HDI-H/I -PEB-01 OF 01	



A1=1.130m²
Existing hume pipe



1.58
A2=2.145m²
Existing trapezoidal open drain

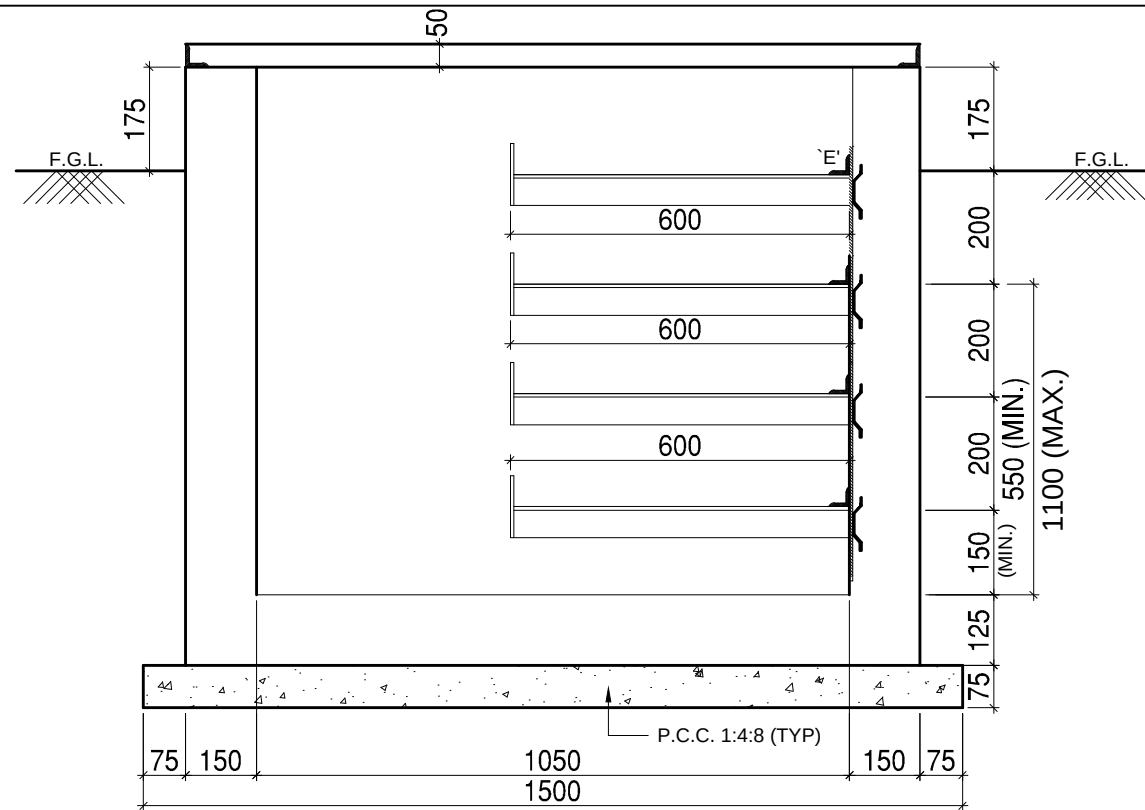


Proposed rectangular rcc closed drain

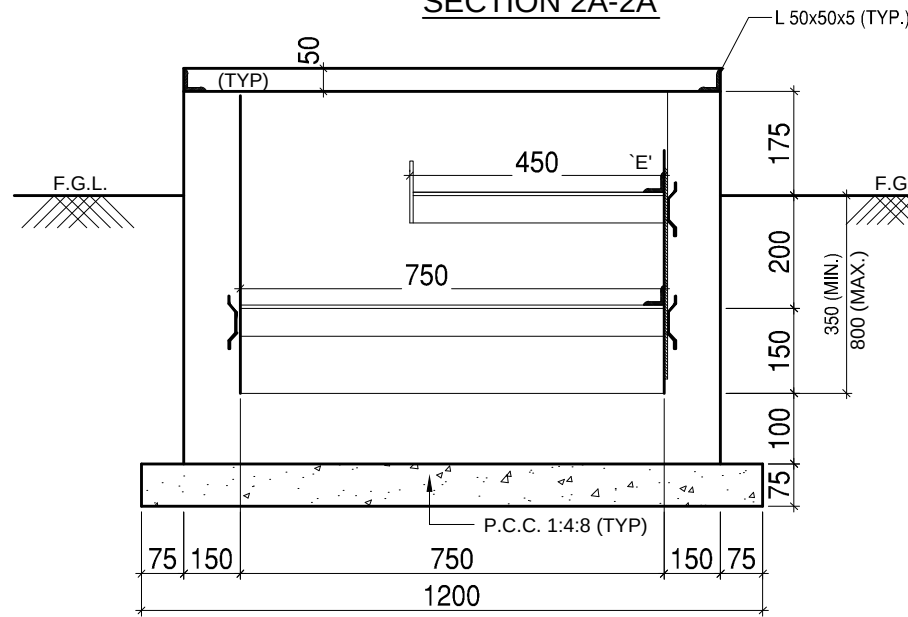
75mm thick lean
concrete in 1:4:8

FOR TENDER PURPOSE ONLY

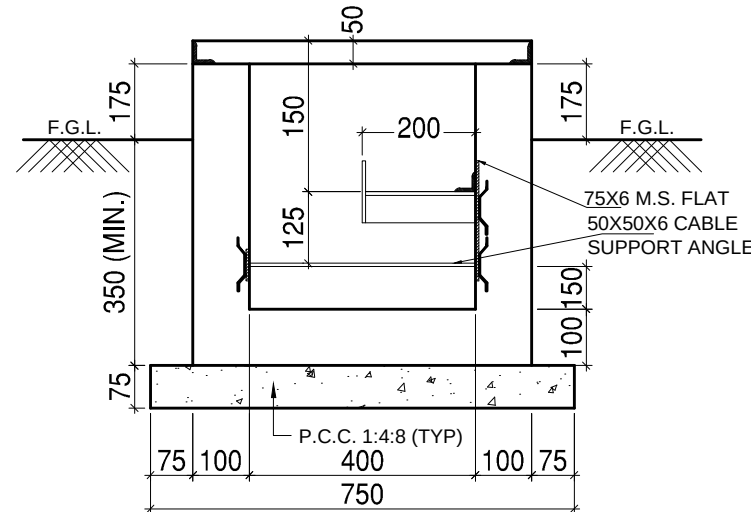
REV	DATE	REV
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EXISTING RCC DRAIN, HUME PIPE AND PURPOSED RCC DRAIN FOR HETAUDA SUBSTATION		
NEA-HDI-H -RCC-DR-01 OF 01		



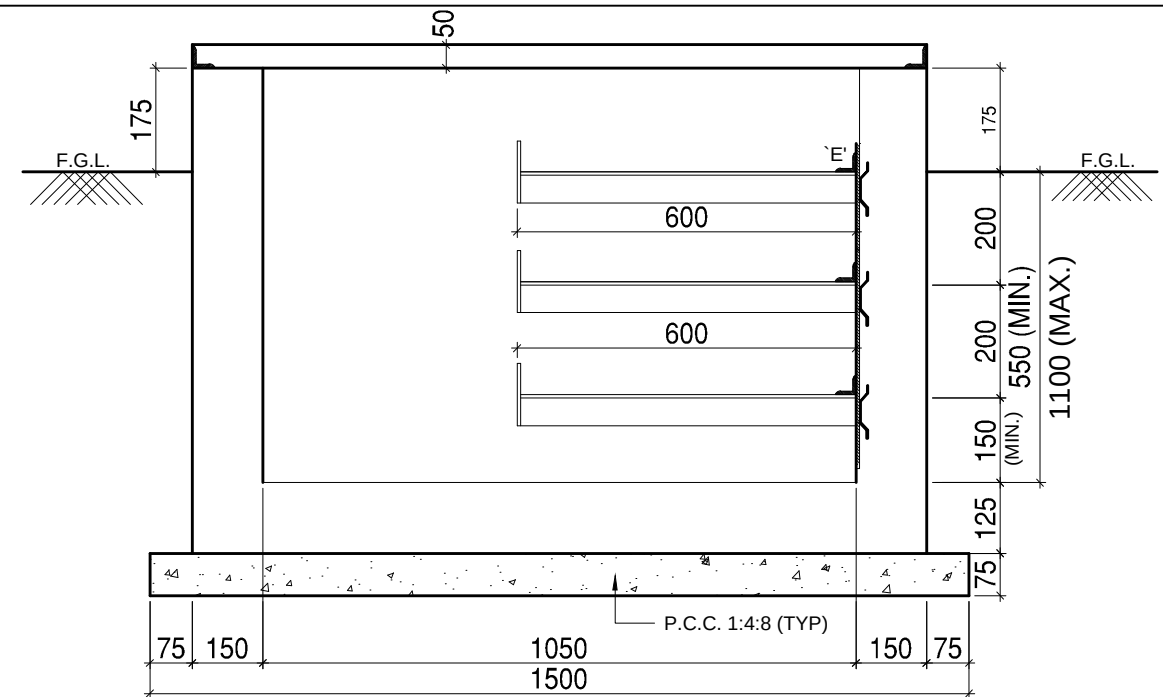
SECTION 2A-2A



SECTION 3-3



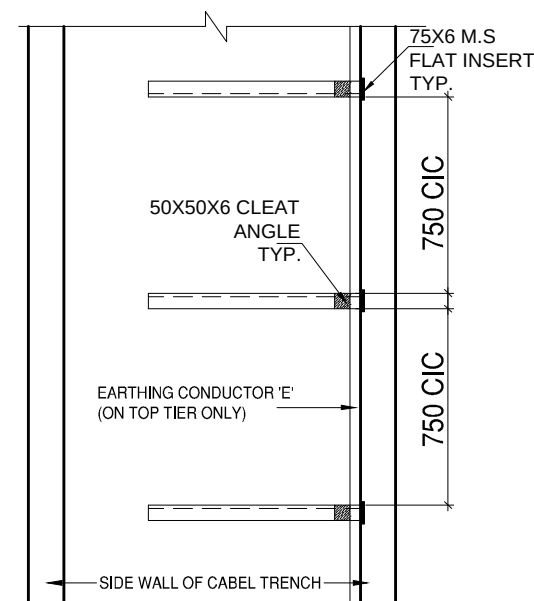
SECTION 4-4



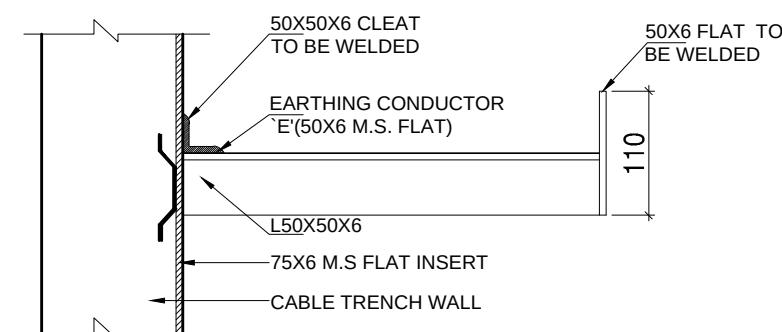
SECTION 2-2

General Notes

1. ALL DIMENSIONS ARE IN MM. UNLESS NOTED OTHERWISE.
2. DO NOT SCALE THE DRAWING, ONLY WRITTEN DIMENSIONS TO BE FOLLOWED.
3. LAP LENGTH SHALL BE 47 TIMES DIA OF BAR.
4. PROVIDE CLEAR COVER TO REINF. AS UNDER. *25mm FOR TOP SIDE OF BOTTOM SLAB. *50mm FOR OUTER SIDE OF WALL.
5. ALL R.C.C SHALL BE OF GRADE AS PER BPS ITEM.
6. LIFTING HOOK SHALL BE PROVIDED IN EVERY TENTH COVER SLAB.
7. NECESSARY OPENINGS SHALL BE PROVIDED AT APPROPRIATE LOCATIONS TO TAKE OUT CABLES.
8. FOR ACTUAL DEPTH OF TRENCHES REFER APPROVED CABLE TRENCH LAYOUT.
9. F.G.L. DENOTES FINISHED GROUND LEVEL.
10. ALL CABLE TRENCHES SHALL HAVE A SLOPE OF 1:1000 IN THE DIRECTION OF MAIN RUN AWAY FROM THE BUILDING.
11. EARTHING CONDUCTOR 'E' 50x6 M.S. FLAT SHALL BE WELDED TO THE CABLE SUPPORTING STRUCTURE BEFORE INSTALLATION OF CABLE. EARTHING CONDUCTOR SHALL BE PROVIDED ON TOP TIER.
12. ALL STEEL STRUCTURES PLATES SHALL BE PAINTED WITH ANTI-CORROSIVE PAINT OVER A COAT OF SUITABLE PRIMER BEFORE INSTALLATION OF CABLES, EARTHING CONDUCTOR SHALL BE PAINTED RED.
13. CONSTRUCTION JOINT SHALL BE PROVIDED AT 30M OR AS PER SITE REQUIREMENT BUT NOT EXCEEDING 30M.
14. ALL SUPPORT ANGLES SHALL BE 50x50x6.
15. ANCHORING FLAT (75x6) SHALL BE PROVIDED AT EACH SUPPORT ANGLE POINT.
16. EARTHING CONDUCTOR 'E' SHALL BE PROVIDED ON THE TOP TIER OF EACH CABLE TRENCH SECTION.
17. ALL REINFORCEMENT STEEL BARS (ϕ) SHALL CONFORM TO IS:1786-1985 OF GRADE Fe500.



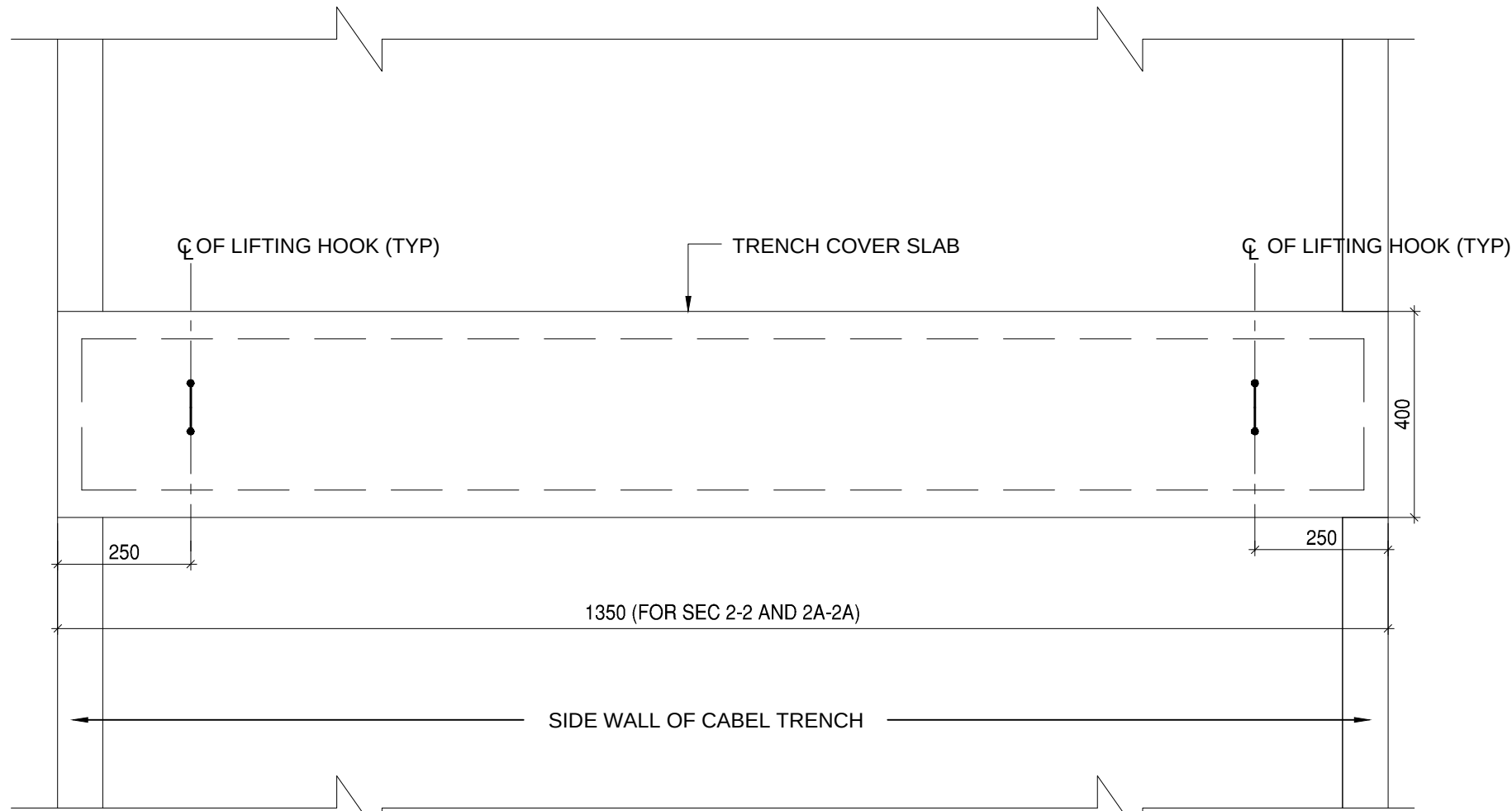
PLAN CABLE TRAY SUPPORT FOR
SECTION 2-2, 2A-2A, 3-3 AND 4-4



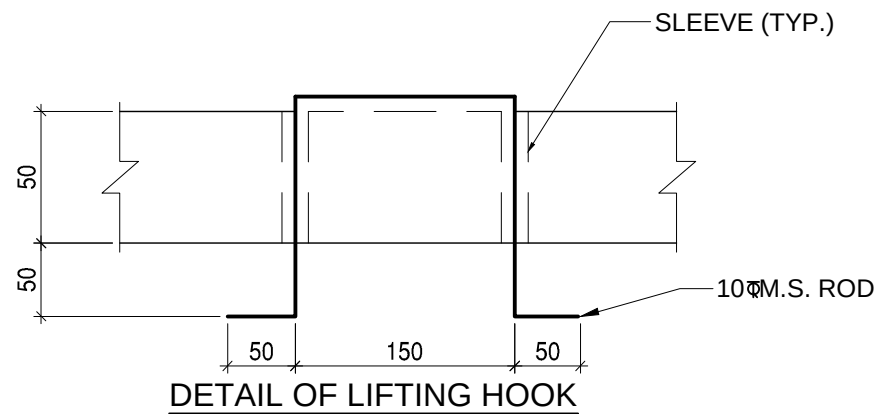
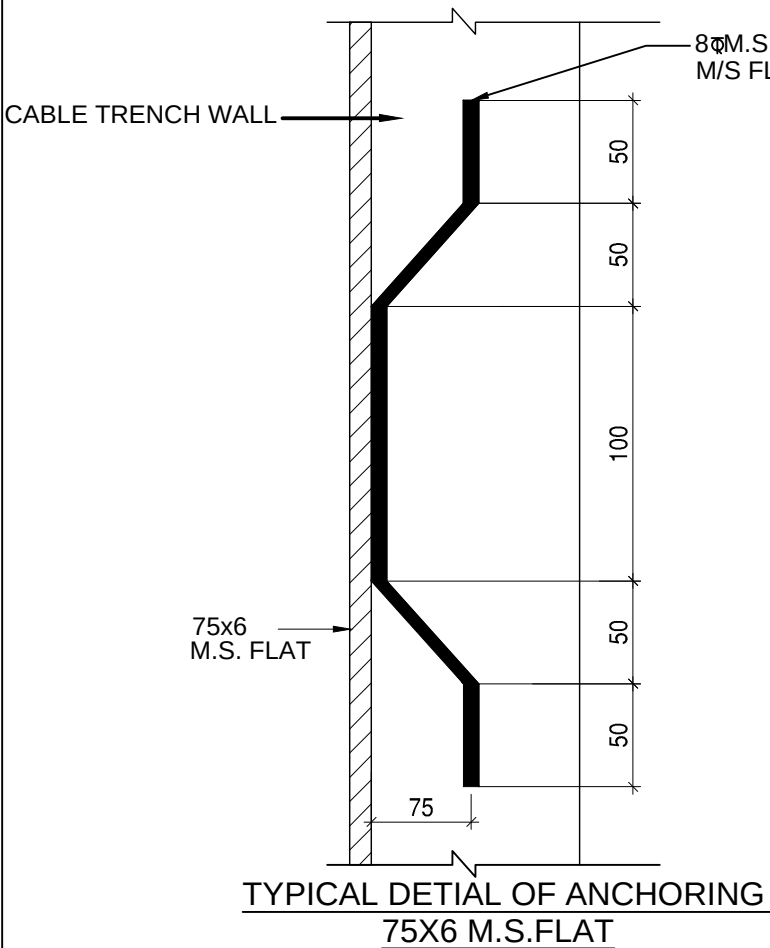
TYPICAL CABLE SUPPORT

FOR TENDER PURPOSE ONLY

REV	DATE	REV
 NEPAL ELECTRICITY AUTHORITY		
CABLE TRENCHES DETAIL OF CABLE TRENCH SECTIONS		
NEA-HDI-H/I -CT-01 OF 05		

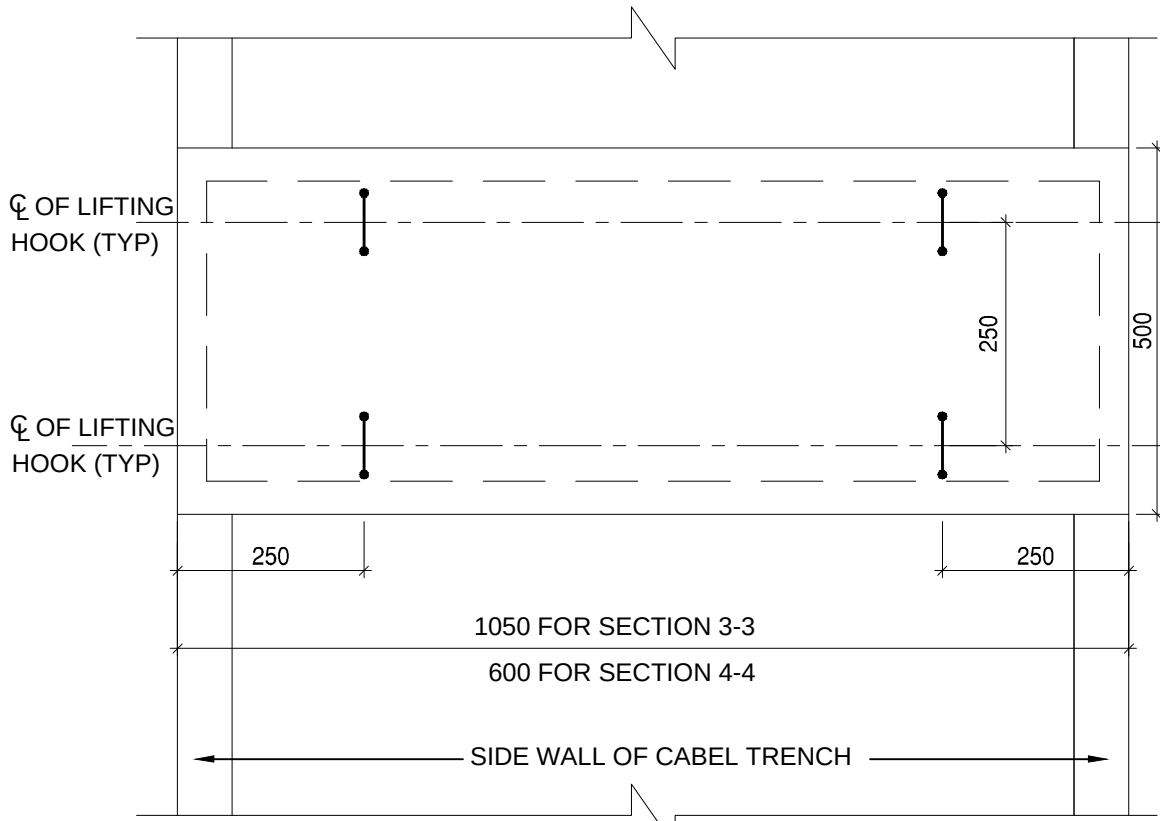


DETAIL OF TRENCH COVER SLAB
FOR SECTION (2-2,2A-2A)



General Notes

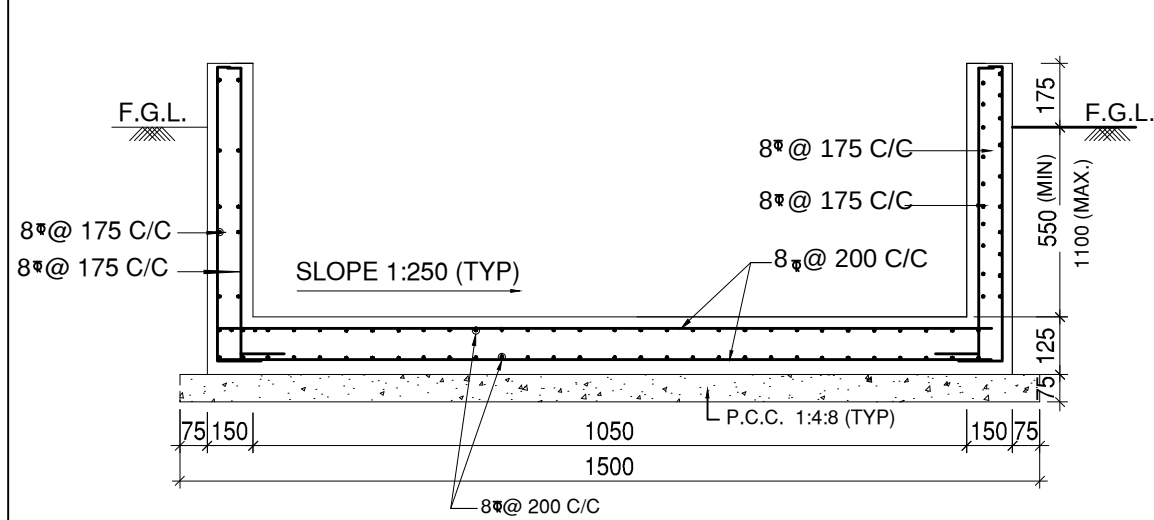
1. ALL DIMENSIONS ARE IN MM. UNLESS NOTED OTHERWISE.
2. DO NOT SCALE THE DRAWING, ONLY WRITTEN DIMENSIONS TO BE FOLLOWED.
3. LAP LENGTH SHALL BE 47 TIMES DIA OF BAR.
4. PROVIDE CLEAR COVER TO REINF. AS UNDER. *25mm FOR TOP SIDE OF BOTTOM SLAB. *50mm FOR OUTER SIDE OF WALL.
5. ALL R.C.C SHALL BE OF GRADE AS PER BPS ITEM.
6. LIFTING HOOK SHALL BE PROVIDED IN EVERY TENTH COVER SLAB.
7. NECESSARY OPENINGS SHALL BE PROVIDED AT APPROPRIATE LOCATIONS TO TAKE OUT CABLES.
8. FOR ACTUAL DEPTH OF TRENCHES REFER APPROVED CABLE TRENCH LAYOUT.
9. F.G.L. DENOTES FINISHED GROUND LEVEL.
10. ALL CABLE TRENCHES SHALL HAVE A SLOPE OF 1:1000 IN THE DIRECTION OF MAIN RUN AWAY FROM THE BUILDING.
11. EARTHING CONDUCTOR 'E' 50x6 M.S. FLAT SHALL BE WELDED TO THE CABLE SUPPORTING STRUCTURE BEFORE INSTALLATION OF CABLE. EARTHING CONDUCTOR SHALL BE PROVIDED ON TOP TIER.
12. ALL STEEL STRUCTURES PLATES SHALL BE PAINTED WITH ANTI-CORROSIVE PAINT OVER A COAT OF SUITABLE PRIMER BEFORE INSTALLATION OF CABLES, EARTHING CONDUCTOR SHALL BE PAINTED RED.
13. CONSTRUCTION JOINT SHALL BE PROVIDED AT 30M OR AS PER SITE REQUIREMENT BUT NOT EXCEEDING 30M.
14. ALL SUPPORT ANGLES SHALL BE 50x50x6.
15. ANCHORING FLAT (75x6) SHALL BE PROVIDED AT EACH SUPPORT ANGLE POINT.
16. EARTHING CONDUCTOR 'E' SHALL BE PROVIDED ON THE TOP TIER OF EACH CABLE TRENCH SECTION.
17. ALL REINFORCEMENT STEEL BARS (ϕ) SHALL CONFORM TO IS:1786-1985 OF GRADE Fe500.



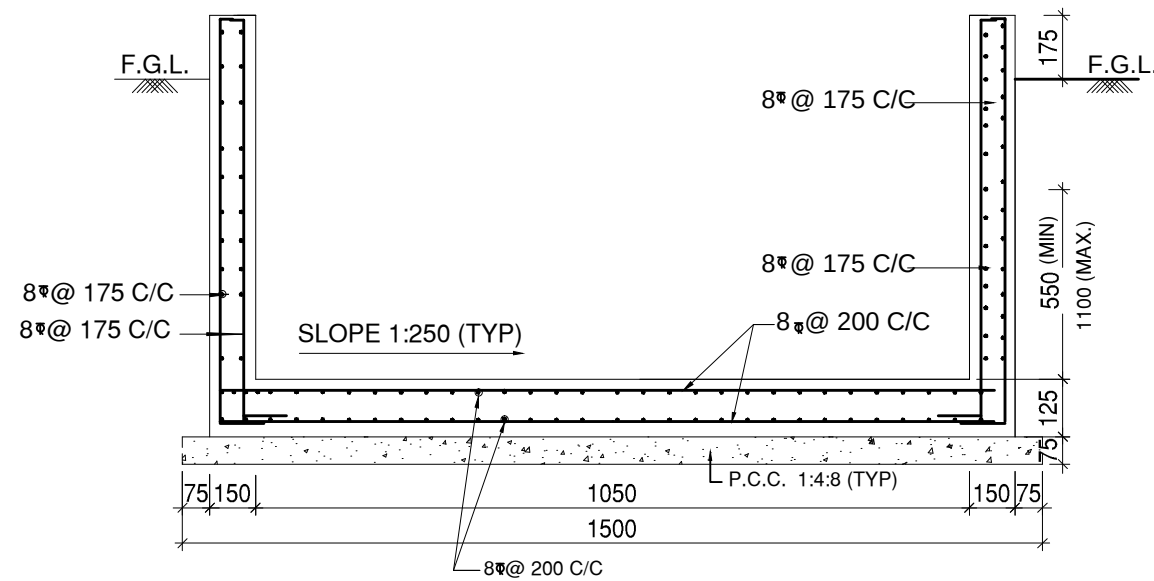
DETAIL OF TRENCH COVER SLAB
FOR SECTION (3-3),(4-4)

FOR TENDER PURPOSE ONLY

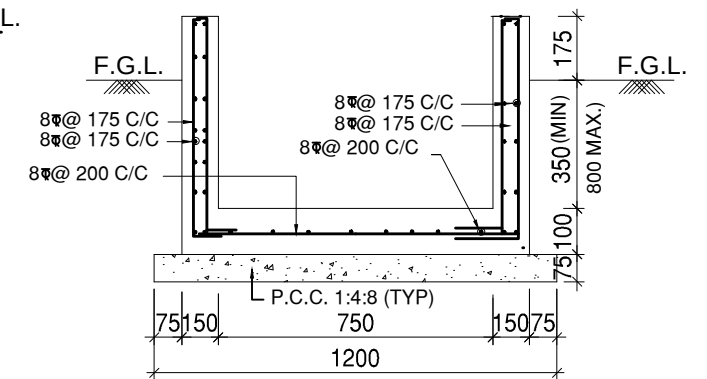
REV	DATE	REV
 NEPAL ELECTRICITY AUTHORITY		
CABLE TRENCHES DETAIL OF CABLE TRENCH SECTIONS		
NEA-HDI-H/I -CT-02 OF 05		



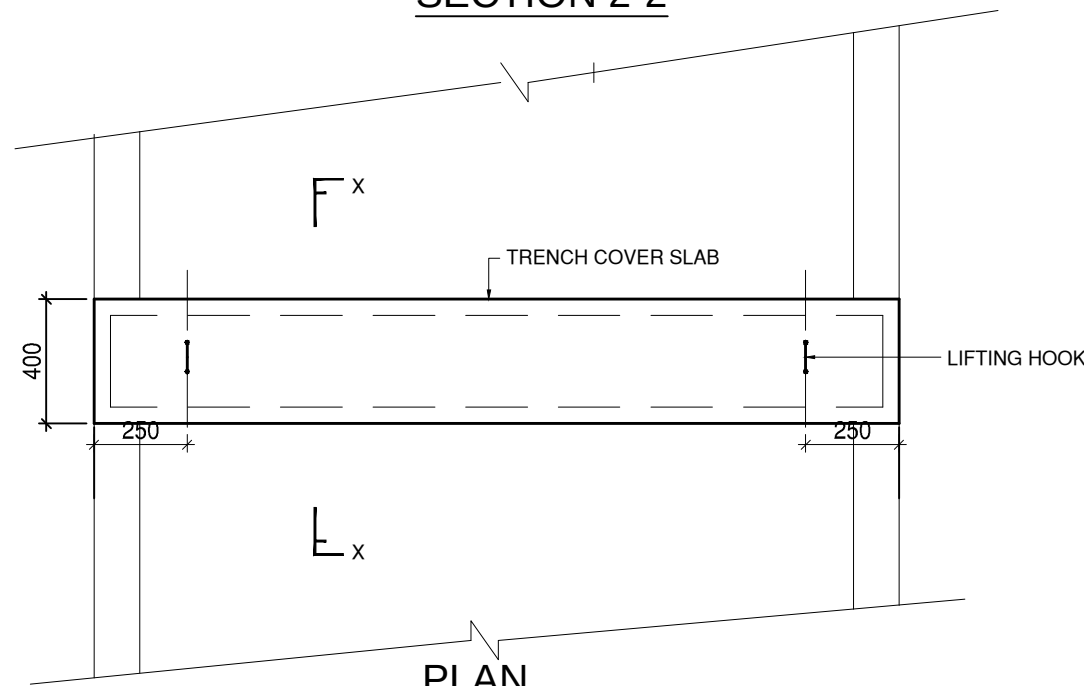
SECTION 2-2



SECTION 2A-2A

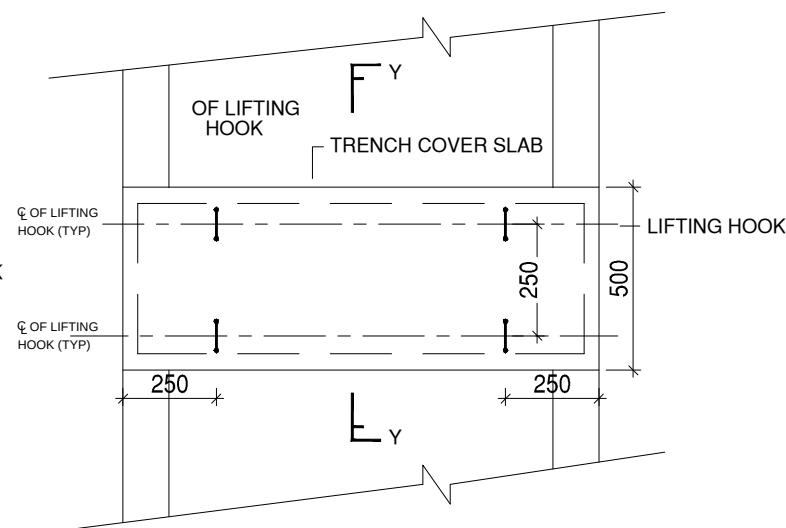


SECTION 3-3

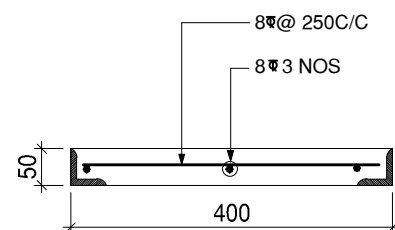


PLAN

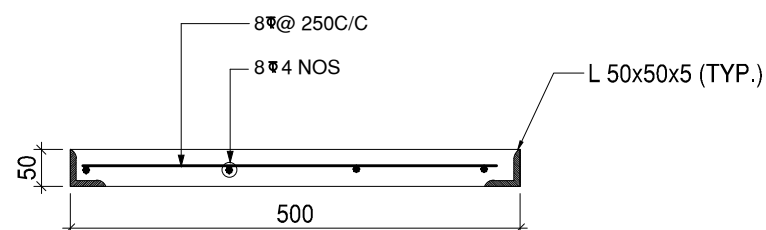
(DETAIL OF TRENCH COVER FOR SECTION A-A)



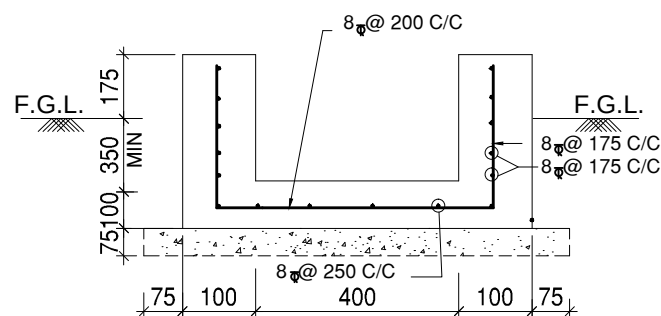
(DETAIL OF TRENCH COVER FOR SECTION B-B, C-C & D-D)



SECTION X-X



SECTION Y-Y



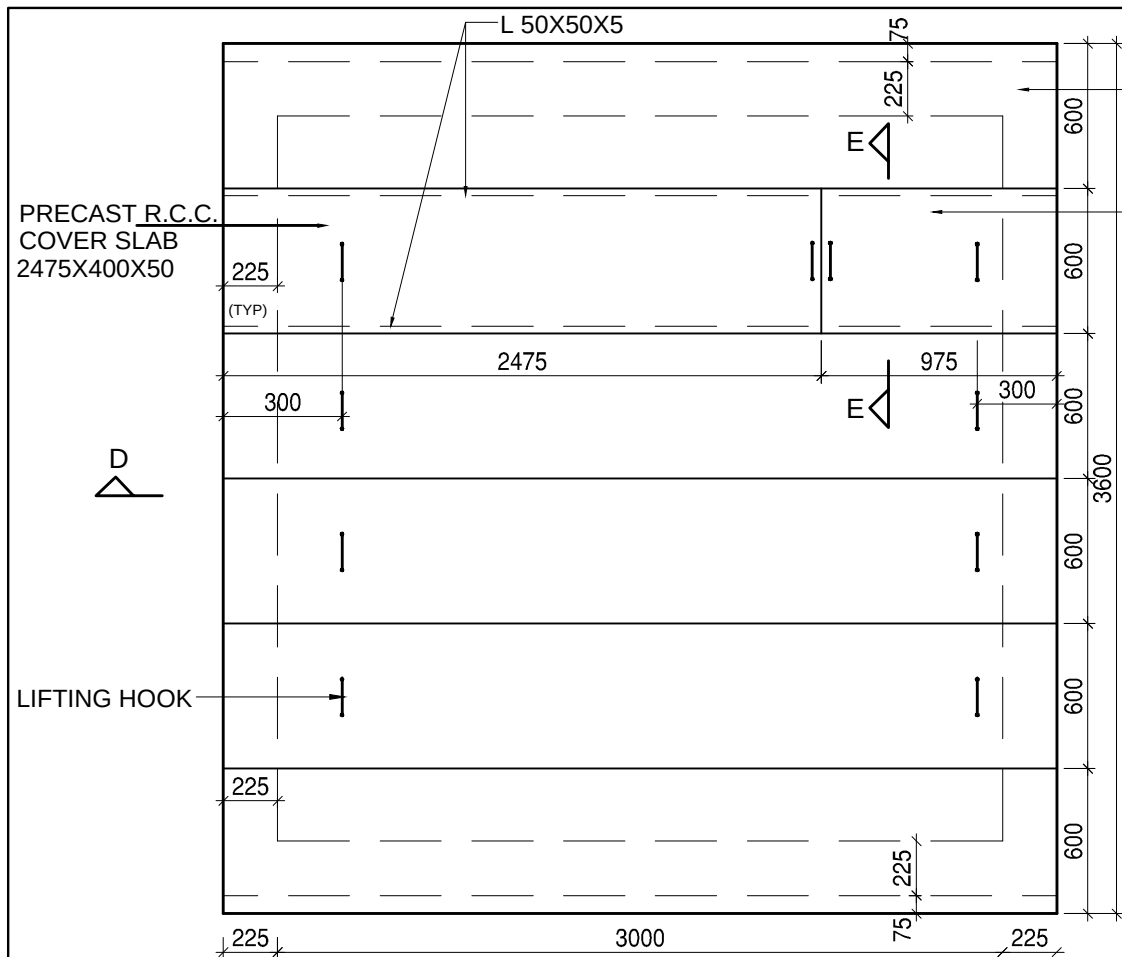
SECTION 4-4

General Notes

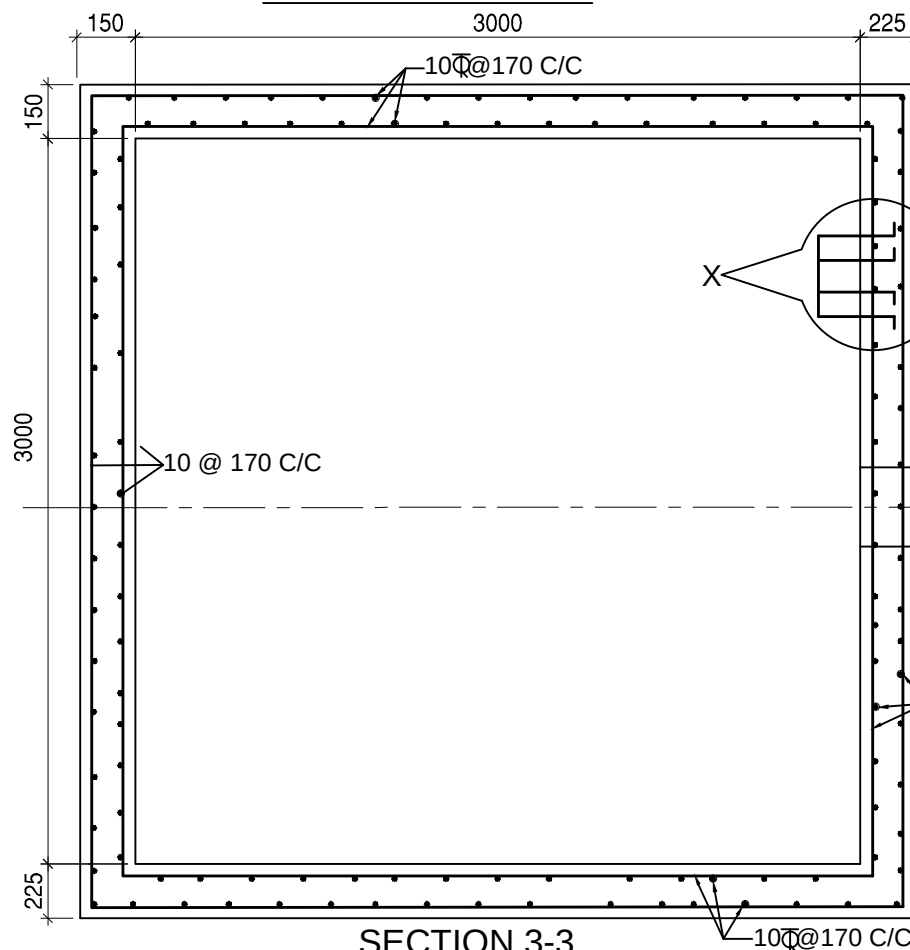
1. ALL DIMENSIONS ARE IN MM. UNLESS NOTED OTHERWISE.
2. DO NOT SCALE THE DRAWING, ONLY WRITTEN DIMENSIONS TO BE FOLLOWED.
3. LAP LENGTH SHALL BE 47 TIMES DIA OF BAR.
4. PROVIDE CLEAR COVER TO REINF. AS UNDER. *25mm FOR TOP SIDE OF BOTTOM SLAB. *50mm FOR OUTER SIDE OF WALL.
5. ALL R.C.C SHALL BE OF GRADE AS PER BPS ITEM.
6. LIFTING HOOK SHALL BE PROVIDED IN EVERY TENTH COVER SLAB.
7. NECESSARY OPENINGS SHALL BE PROVIDED AT APPROPRIATE LOCATIONS TO TAKE OUT CABLES.
8. FOR ACTUAL DEPTH OF TRENCHES REFER APPROVED CABLE TRENCH LAYOUT.
9. F.G.L. DENOTES FINISHED GROUND LEVEL.
10. ALL CABLE TRENCHES SHALL HAVE A SLOPE OF 1:1000 IN THE DIRECTION OF MAIN RUN AWAY FROM THE BUILDING.
11. EARTHING CONDUCTOR 'E' 50x6 M.S. FLAT SHALL BE WELDED TO THE CABLE SUPPORTING STRUCTURE BEFORE INSTALLATION OF CABLE. EARTHING CONDUCTOR SHALL BE PROVIDED ON TOP TIER.
12. ALL STEEL STRUCTURES PLATES SHALL BE PAINTED WITH ANTI-CORROSIVE PAINT OVER A COAT OF SUITABLE PRIMER BEFORE INSTALLATION OF CABLES, EARTHING CONDUCTOR SHALL BE PAINTED RED.
13. CONSTRUCTION JOINT SHALL BE PROVIDED AT 30M OR AS PER SITE REQUIREMENT BUT NOT EXCEEDING 30M.
14. ALL SUPPORT ANGLES SHALL BE 50x50x6.
15. ANCHORING FLAT (75x6) SHALL BE PROVIDED AT EACH SUPPORT ANGLE POINT.
16. EARTHING CONDUCTOR 'E' SHALL BE PROVIDED ON THE TOP TIER OF EACH CABLE TRENCH SECTION.
17. ALL REINFORCEMENT STEEL BARS (ϕ) SHALL CONFORM TO IS:1786-1985 OF GRADE Fe500.
18. COVER TO REINFORCEMENT SHALL BE 40 MM FROM OUT SIDE AND 25MM FROM INSIDE OF CABLE TRENCH.
19. BAR BENDING SCHEDULE SUBMITTED FOR APPROVAL OF SITE IN CHARGE PRIOR TO INSTALLATION.

FOR TENDER PURPOSE ONLY

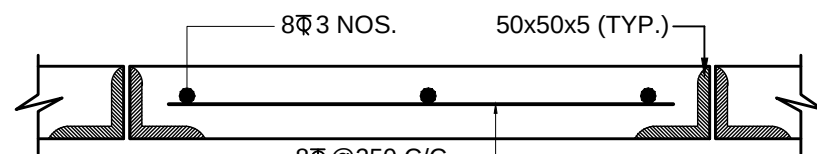
REV	DATE	REV
 NEPAL ELECTRICITY AUTHORITY		
CABLE TRENCHES DETAIL OF CABLE TRENCH SECTIONS		
NEA-HDI-H/I -CT-03 OF 05		



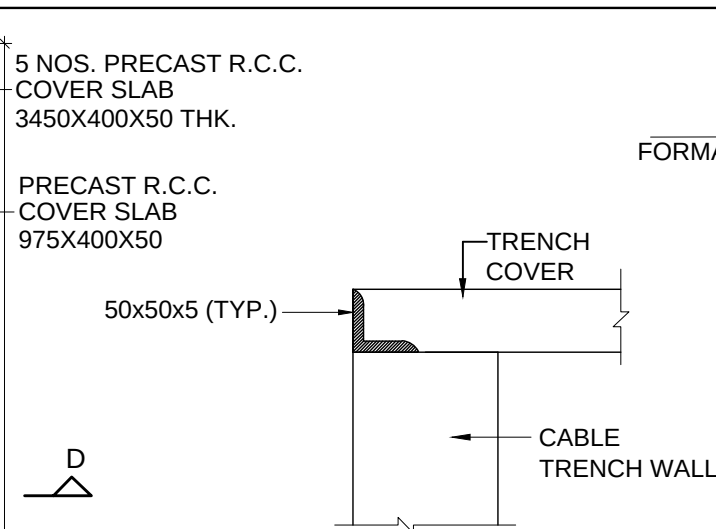
TOP PLAN OF SUMP PIT



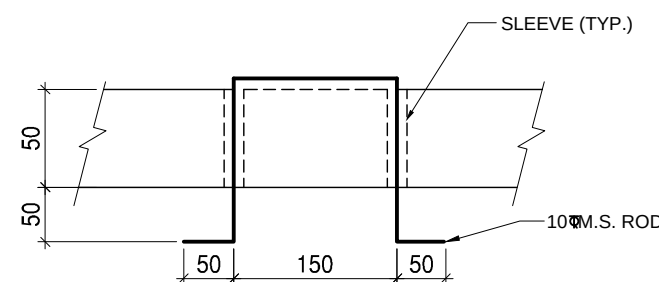
SECTION 3-3



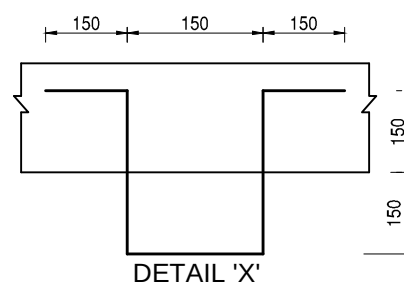
SECTION E-E



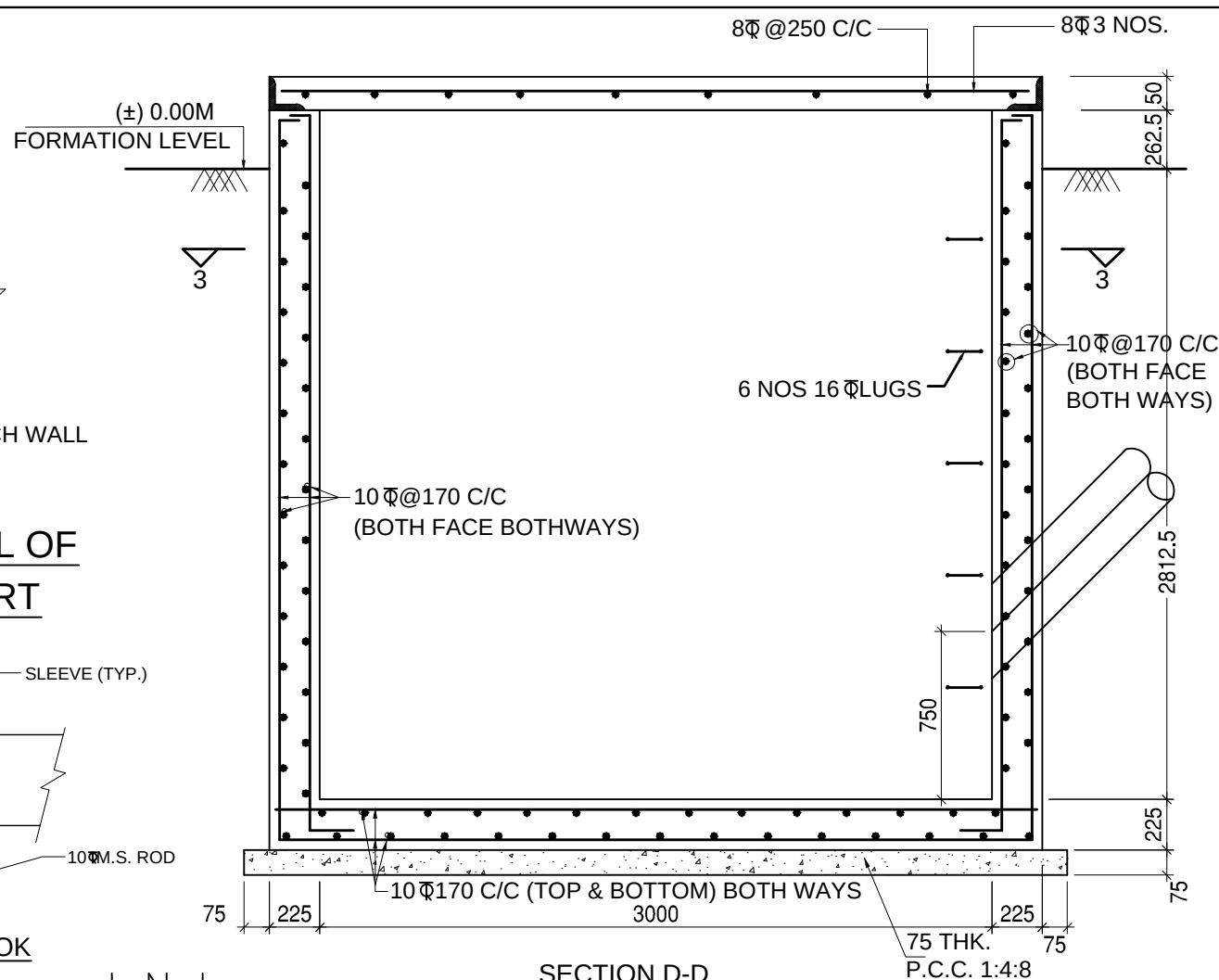
TYPICAL DETAIL OF
SLAB SUPPORT



DETAIL OF LIFTING HOOK



DETAIL 'X'



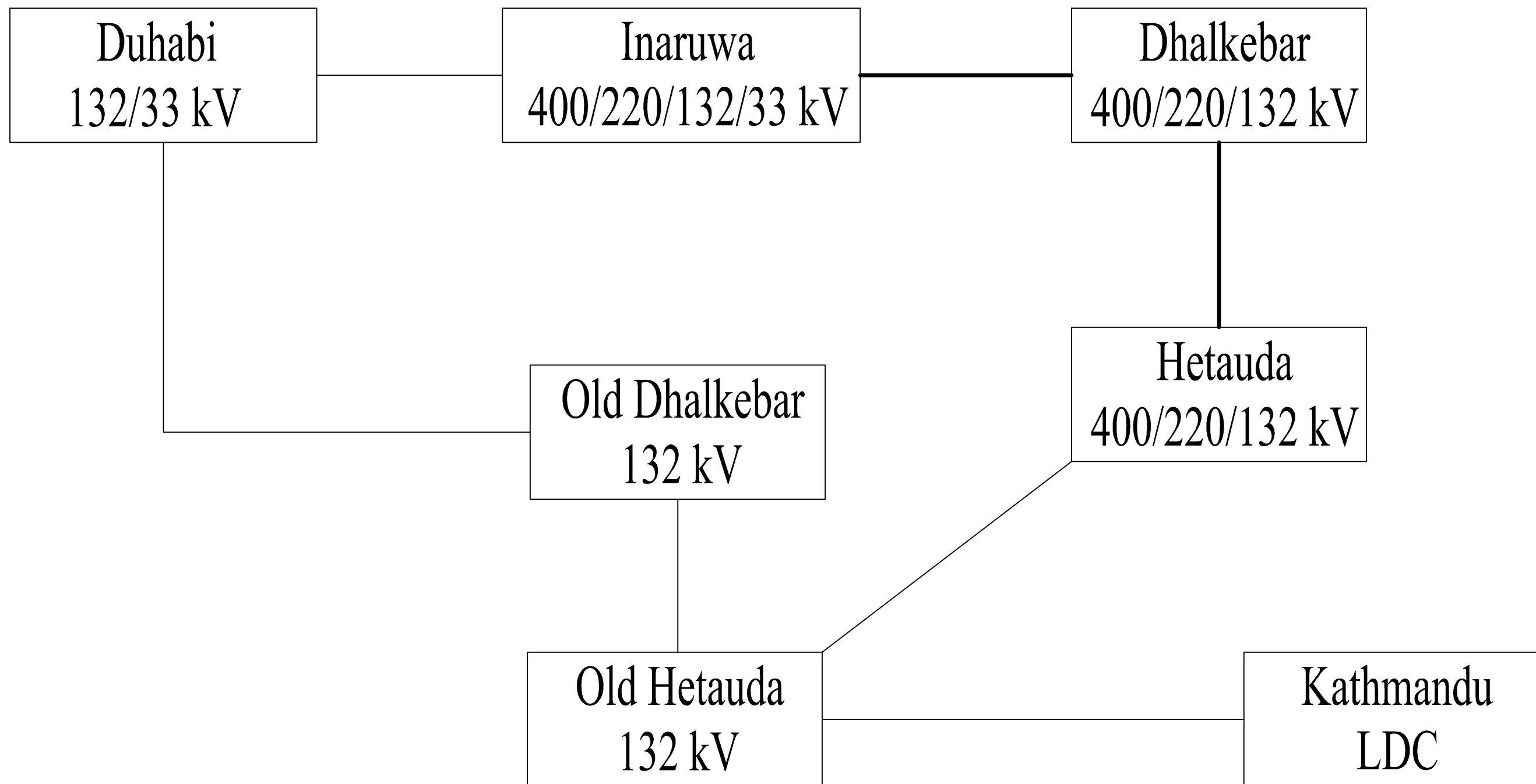
SECTION D-D

General Notes

1. ALL DIMENSIONS ARE IN MM. UNLESS NOTED OTHERWISE.
2. DO NOT SCALE THE DRAWING, ONLY WRITTEN DIMENSIONS TO BE FOLLOWED.
3. LAP LENGTH SHALL BE 47 TIMES DIA OF BAR.
4. PROVIDE CLEAR COVER TO REINF. AS UNDER. *25mm FOR TOP SIDE OF BOTTOM SLAB. *50mm FOR OUTER SIDE OF WALL.
5. ALL R.C.C SHALL BE OF GRADE AS PER BPS ITEM.
6. LIFTING HOOK SHALL BE PROVIDED IN EVERY TENTH COVER SLAB.
7. NECESSARY OPENINGS SHALL BE PROVIDED AT APPROPRIATE LOCATIONS TO TAKE OUT CABLES.
8. FOR ACTUAL DEPTH OF TRENCHES REFER APPROVED CABLE TRENCH LAYOUT.
9. F.G.L. DENOTES FINISHED GROUND LEVEL.
10. ALL CABLE TRENCHES SHALL HAVE A SLOPE OF 1:1000 IN THE DIRECTION OF MAIN RUN AWAY FROM THE BUILDING.
11. EARTHING CONDUCTOR 'E' 50x6 M.S. FLAT SHALL BE WELDED TO THE CABLE SUPPORTING STRUCTURE BEFORE INSTALLATION OF CABLE.
12. ALL STEEL STRUCTURES PLATES SHALL BE PAINTED WITH ANTI-CORROSIVE PAINT OVER A COAT OF SUITABLE PRIMER BEFORE INSTALLATION OF CABLES, EARTHING CONDUCTOR SHALL BE PAINTED RED.
13. CONSTRUCTION JOINT SHALL BE PROVIDED AT 30M OR AS PER SITE REQUIREMENT BUT NOT EXCEEDING 30M.
14. ALL SUPPORT ANGLES SHALL BE 50x50x6.
15. ANCHORING FLAT (75x6) SHALL BE PROVIDED AT EACH SUPPORT ANGLE POINT.
16. EARTHING CONDUCTOR 'E' SHALL BE PROVIDED ON THE TOP TIER OF EACH CABLE TRENCH SECTION.
17. INCASE EXPANSIVE SOIL IS ENCOUNTERED AT FOUNDING LEVEL, IT SHALL BE REMOVED TO A MINIMUM DEPTH OF 300 MM AND SHALL BE REPLACED BY WELL COMPACTED LOCALLY AVAILABLE C.N.S. MATERIAL/SAND.
18. ALL REINFORCEMENT STEEL BARS (ϕ) SHALL CONFORM TO IS:1786-1985 OF GRADE Fe500.

FOR TENDER PURPOSE ONLY

REV	DATE	REV
 NEPAL ELECTRICITY AUTHORITY		
CABLE TRENCHES GA AND RC DETAIL OF SUMP PIT		
NEA-HDI-H/I -CT-04 OF 05		

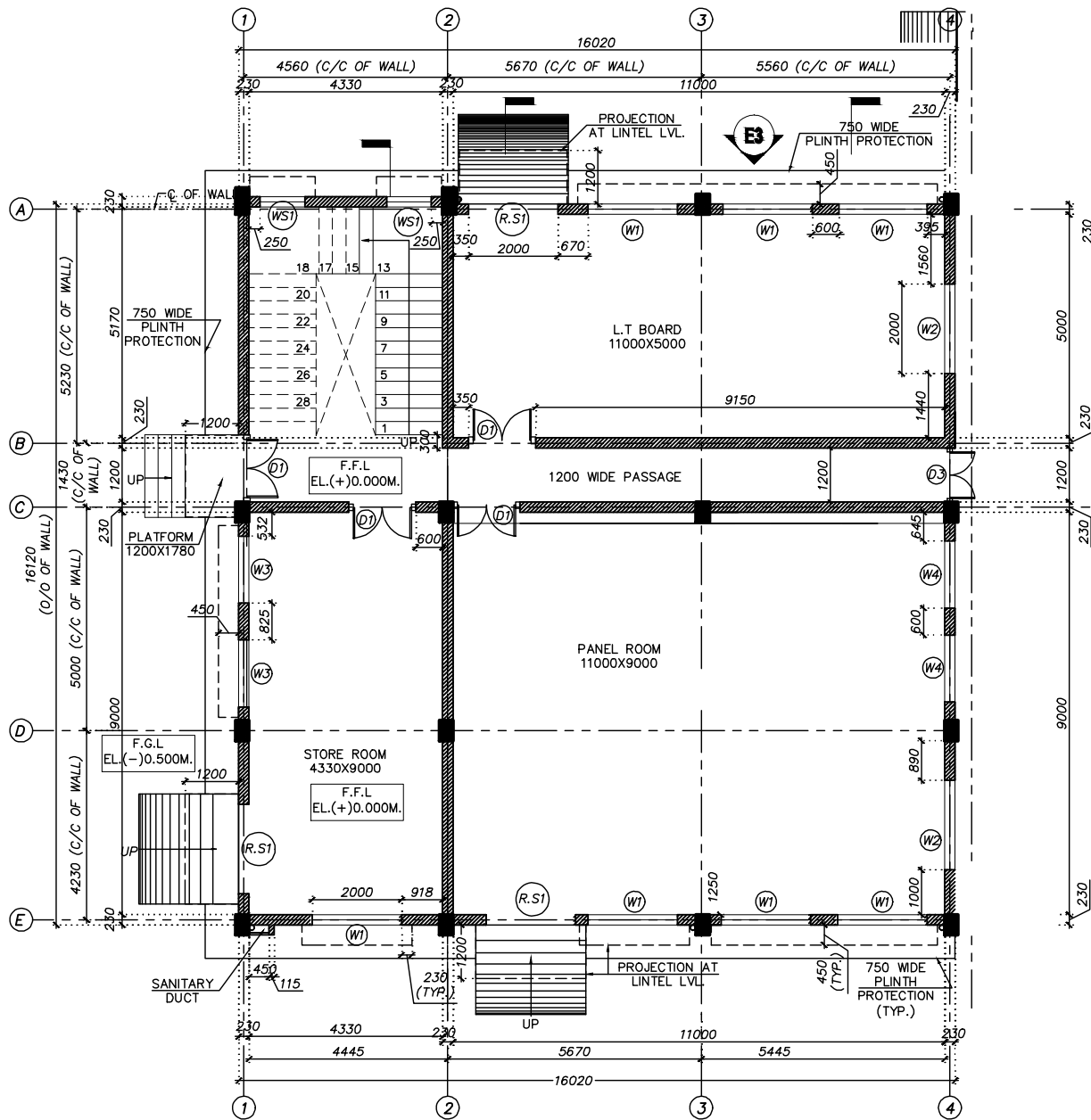


Legend

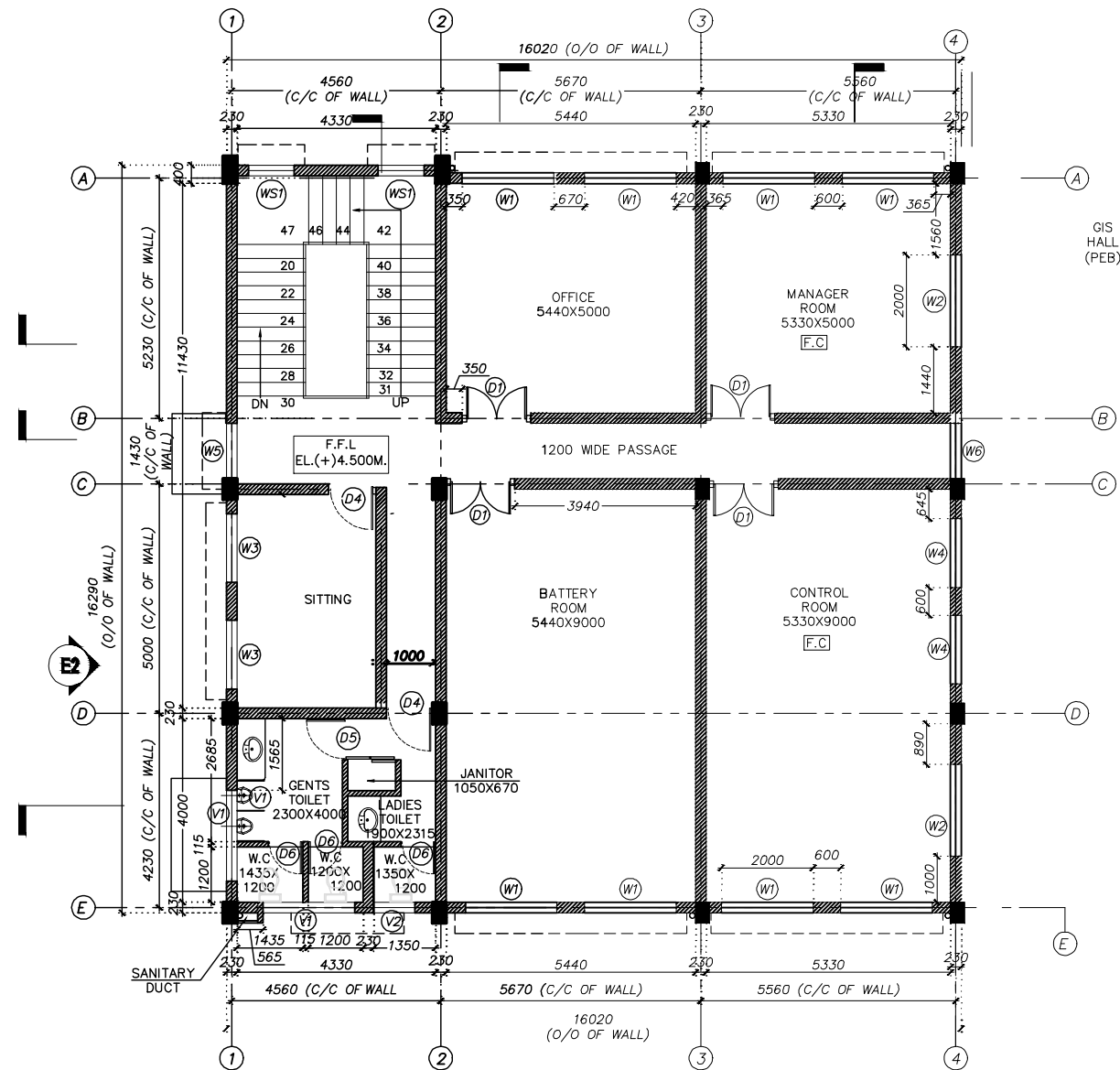
New Fibers

Fiber Patching

FOR TENDER PURPOSE ONLY		
REV	DATE	REV
NEPAL ELECTRICITY AUTHORITY		
COMMUNICATION CONNECTIVITY DIAGRAM		
NEA-HDI-H/I-CM-01 OF 01		



GROUND FLOOR PLAN



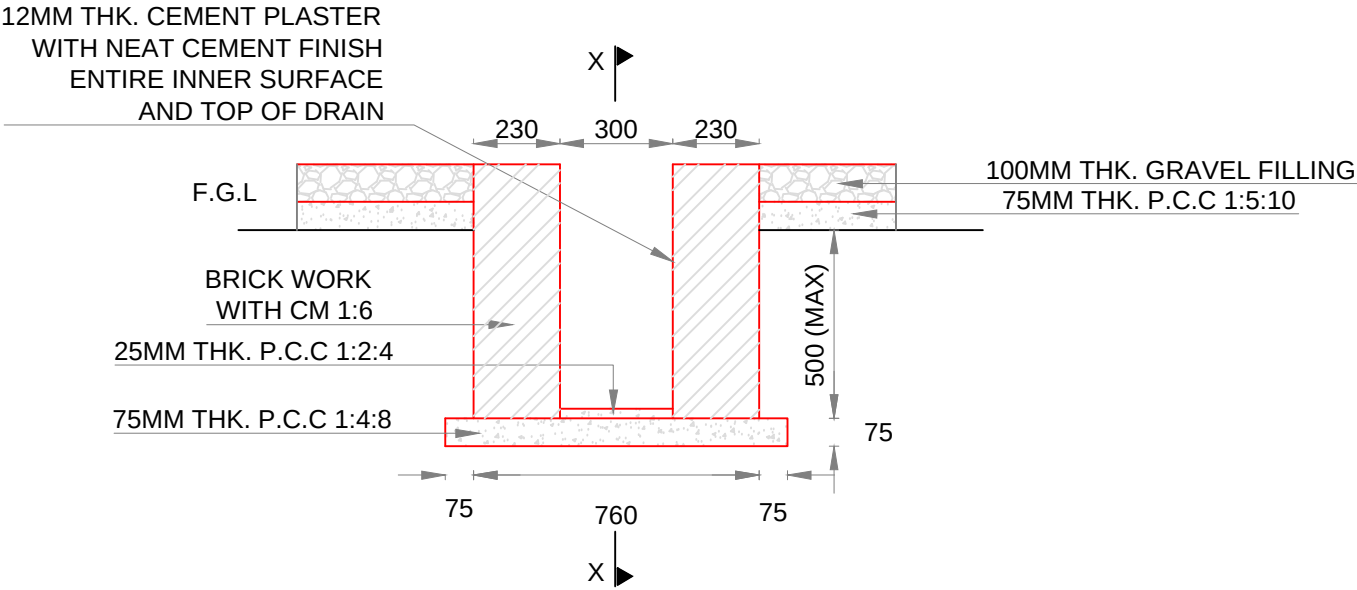
FIRST FLOOR PLAN

Note:

1.All dimension of building are tentative,final dimension shall be decided by contractor and approved by employer.

FOR TENDER PURPOSE ONLY

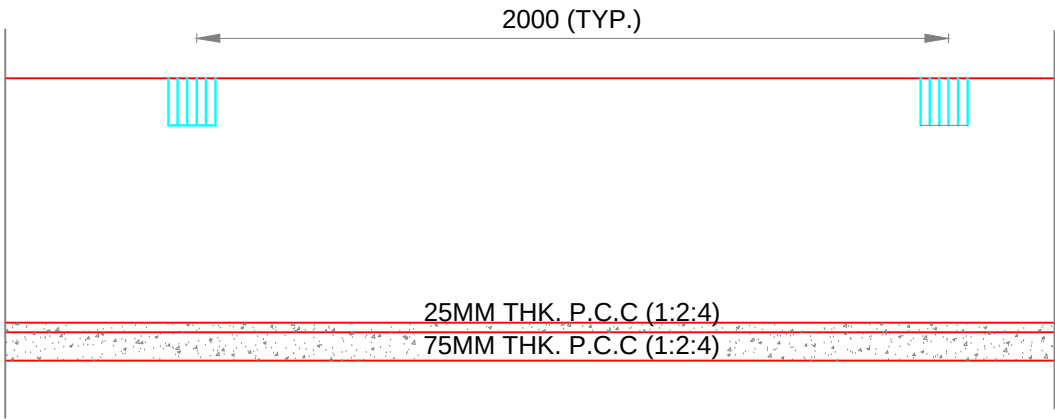
REV	DATE	REV
 NEPAL ELECTRICITY AUTHORITY		
RCC CONTROL BUILDING GENERAL LAYOUT		
DRAWING NO:		NEA-HDI-H-CR-01 OF 01



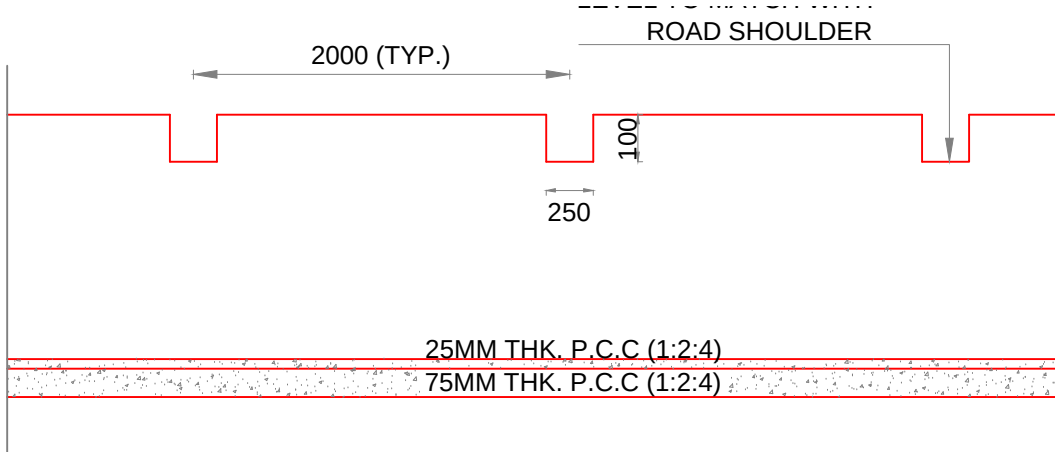
SECTION A-A
(FOR DEPTH UP TO 600MM)
SCALE 1:10

GENERAL NOTES

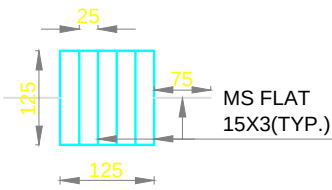
1. ALL DIMENSIONS ARE IN MM AND ELEVATIONS ARE IN METER UNLESS NOTED OTHERWISE.
2. ALL DRAINS SHALL BE GIVEN A MINIMUM SLOPE OF 1:1000 IN THE LONGITUDINAL DIRECTION.
3. MINIMUM DEPTH OF DRAIN SHALL BE 300MM BELOW FGL.
4. WHERE EVER TWO SECTIONS ARE MEETING A TRANSITION ZONE SHALL BE CONSTRUCTED HAVING LENGTH 1000MM.
5. DEPTH OFF DRAIN IS TAKEN AS HEIGHT FROM TOP OF DRAIN TO INVERT OF DRAIN.
6. IN CASE OF FILLING AREA, PROPER COMPACTION OF FILLED SOIL SHALL BE CARRIED OUT AS PER TS PRIOR TO LAYING OF DRAIN.



SECTION X-X
(APPLICABLE FOR GRAVEL SIDE)
SCALE 1:10



SECTION X-X
(APPLICABLE FOR ROAD SIDE)
SCALE 1:10



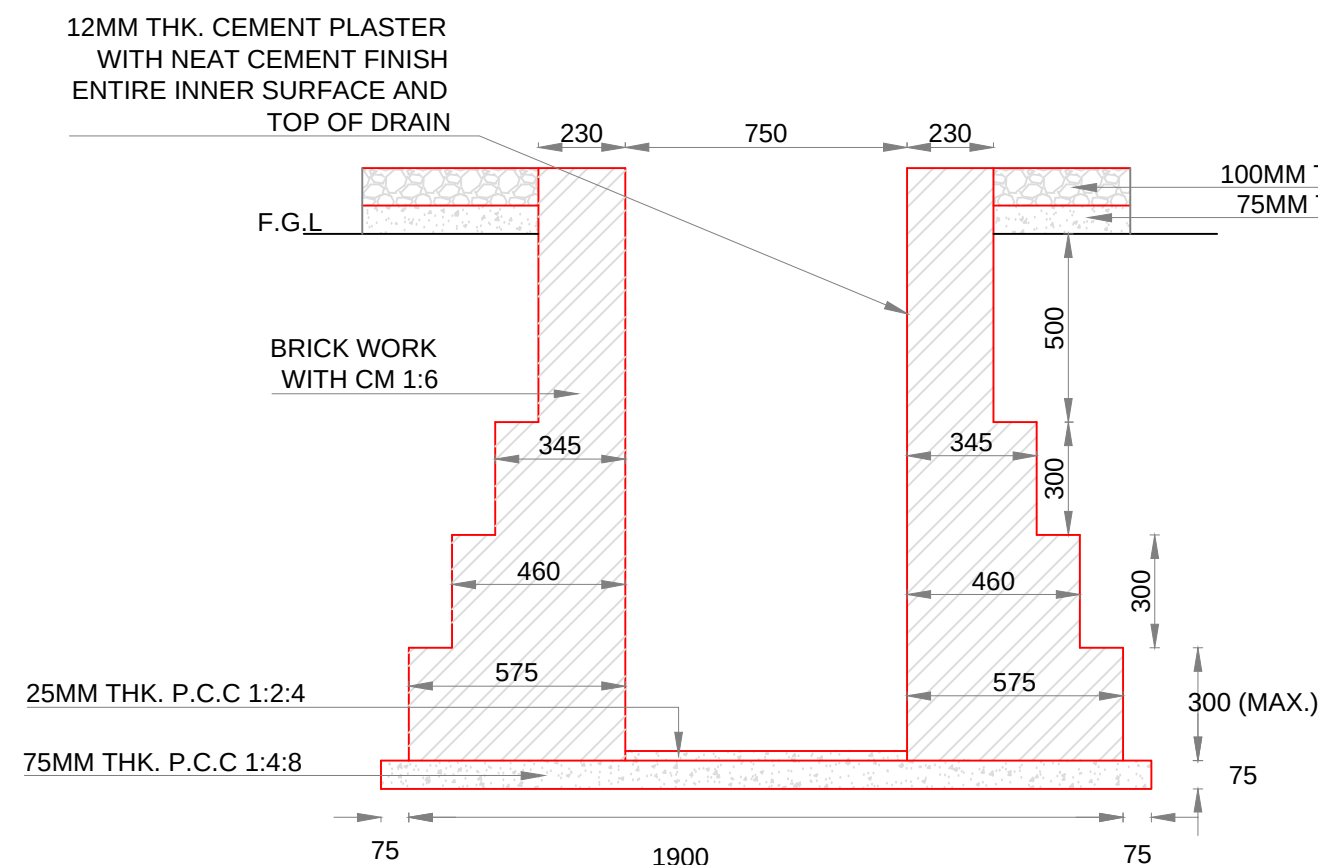
DETAIL A
SCALE 1:5

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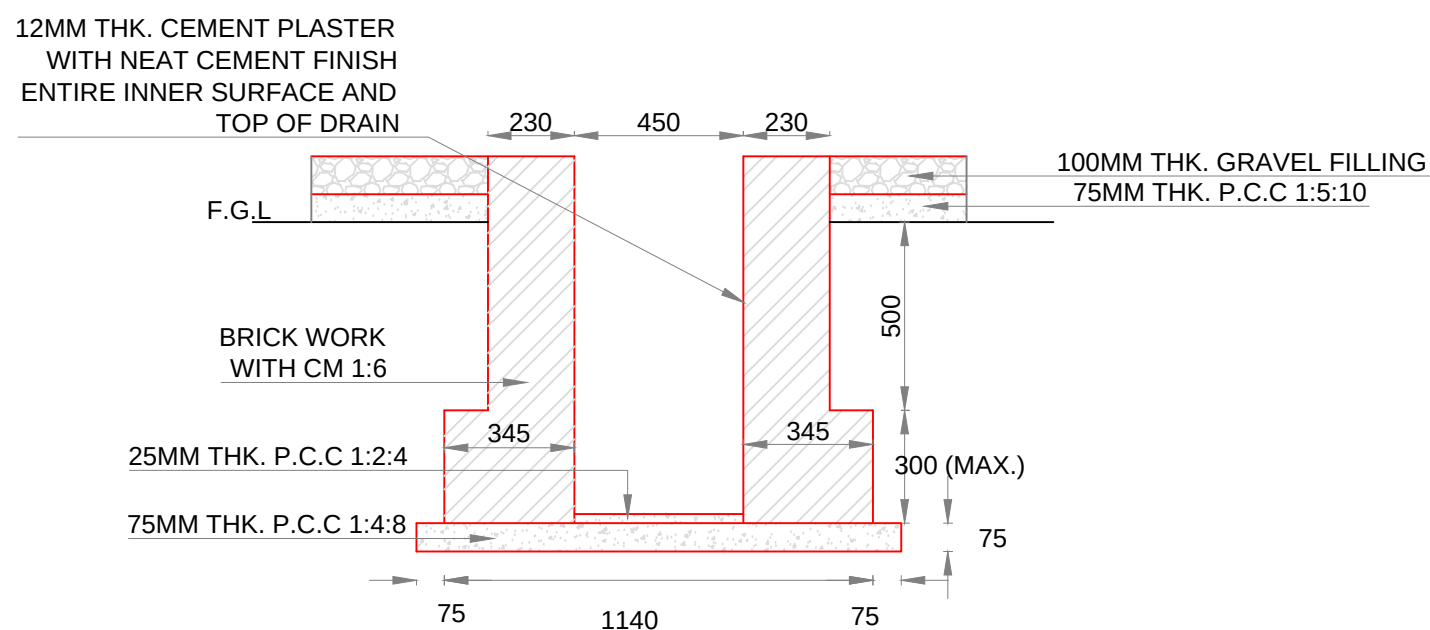
REV	DATE	REV
 NEPAL ELECTRICITY AUTHORITY		

DETAIL FOR DRAIN SECTION

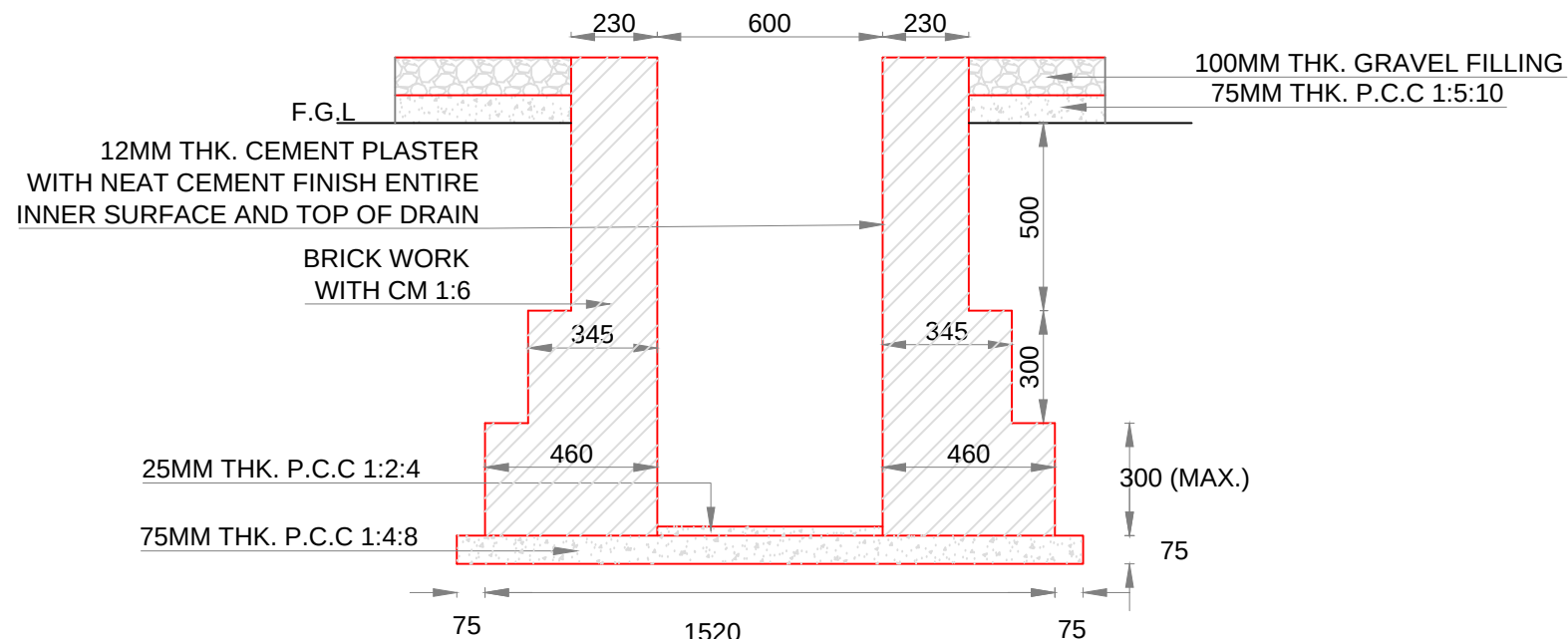
NEA-HDI-H/I -DR-01 OF 02



SECTION D-D
(FOR DEPTH FROM 1200 TO 1500MM)
SCALE 1:10



SECTION B-B
(FOR DEPTH FROM 600 TO 900MM)
SCALE 1:10



SECTION C-C
(FOR DEPTH FROM 900 TO 1200MM)
SCALE 1:10

GENERAL NOTES

1. ALL DIMENSIONS ARE IN MM AND ELEVATIONS ARE IN METER UNLESS NOTED OTHERWISE.
2. ALL DRAINS SHALL BE GIVEN A MINIMUM SLOPE OF 1:1000 IN THE LONGITUDINAL DIRECTION.
3. MINIMUM DEPTH OF DRAIN SHALL BE 300MM BELOW FGL.
4. WHERE EVER TWO SECTIONS ARE MEETING A TRANSITION ZONE SHALL BE CONSTRUCTED HAVING LENGTH 1000MM.
5. DEPTH OFF DRAIN IS TAKEN AS HEIGHT FROM TOP OF DRAIN TO INVERT OF DRAIN
6. IN CASE OF FILLING AREA, PROPER COMPACTION OF FILLED SOIL SHALL BE CARRIED OUT AS PER TS PRIOR TO LAYING OF DRAIN.

FOR TENDER PURPOSE ONLY

REV	DATE	REV
 NEPAL ELECTRICITY AUTHORITY		
DETAIL FOR DRAIN SECTION		
NEA-HDI-H/I -DR-02 OF 02		