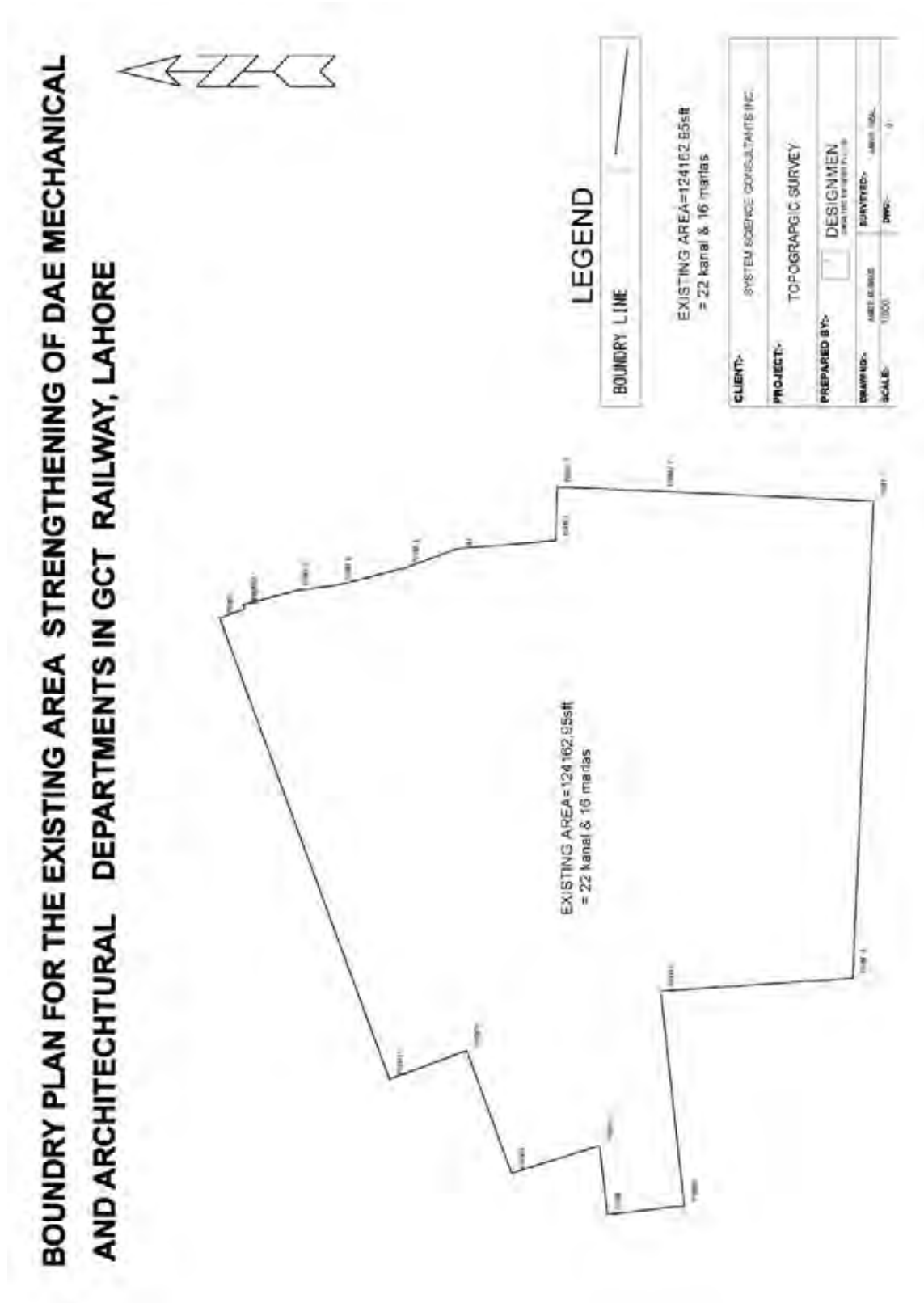
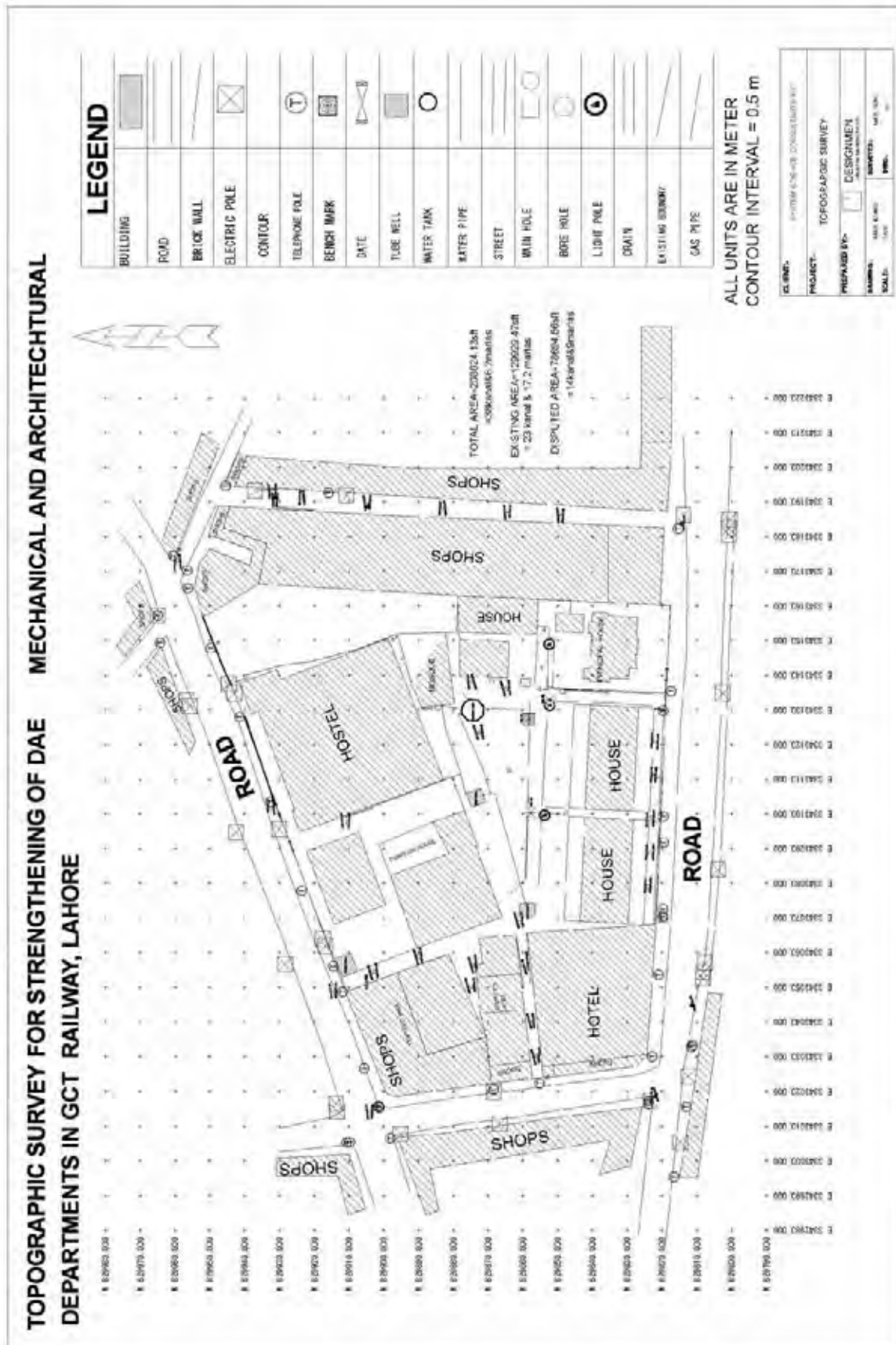


[Appendices-2]

1. Topographic Survey Map
  - (1) Jubilee Campus Boundary

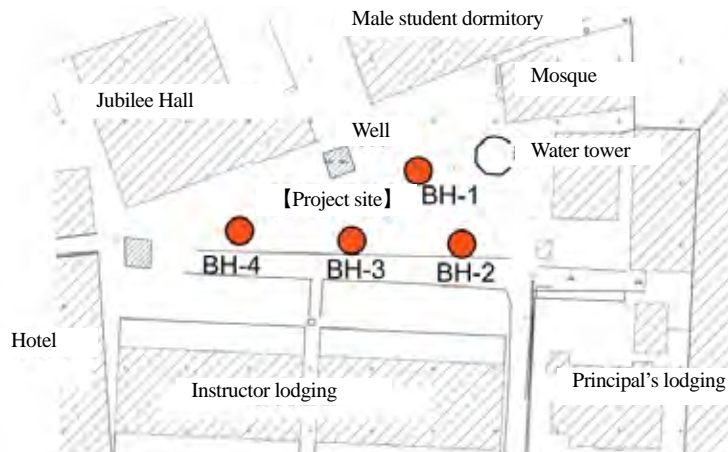


(2) Topographic Survey Map



## 2. Geological Survey Summary

### (1) Location of STP test (Borehole Survey)



### (2) Summary of Soil Investigation

#### SUMMARY OF TEST RESULTS (BORE HOLES)

PROJECT: GEOTECHNICAL INVESTIGATION FOR THE CONSTRUCTION OF GOVT TECHNICAL COLLEGE LAHORE  
LOCATION: RAILWAY ROAD ( LHR)

| S. No. | B.H.# | Depth (m) | Grain Size Analysis (%) Passing |      |            | Atterberg's Limits |      |     | NMC  | UC<br>Kg/cm <sup>2</sup> | Angle of<br>Internal<br>Friction (Φ)<br>(Degree) | Bulk's<br>Density (G/cm <sup>3</sup> ) |       | Specific<br>Gravity |
|--------|-------|-----------|---------------------------------|------|------------|--------------------|------|-----|------|--------------------------|--|--|-------|---------------------|
|        |       |           | Gravel                          | Sand | Silty Clay | LL                 | PL   | P.I |      |                          |  | Wet                                    | Dry   |                     |
|        |       |           | (%)                             | (%)  | (%)        | (%)                | (%)  | (%) |      |                          |  |  |       |                     |
| 1      | 1     | 5         | 1.5                             | 62.5 | 36         | NON PLASTIC        |      |     | 13.0 |                          | 34.94  | 1.704                                  | 1.508 | 2.594               |
| 2      | 1     | 7         |                                 |      |            |                    |      |     |      |                          |  |  |       | 2.611               |
| 3      | 1     | 10        | 0                               | 92   | 8          | NON PLASTIC        |      |     | 17.7 |                          |  | 2.243                                  | 1.905 |                     |
| 4      | 1     | 13        | 0.3                             | 86.3 | 13.4       | NON PLASTIC        |      |     |      |                          |  |  |       |                     |
| 5      | 2     | 5         |                                 |      |            |                    |      |     | 18.7 |                          | 32.60  | 1.626                                  | 1.37  | 2.602               |
| 6      | 2     | 9         |                                 |      |            |                    |      |     |      |                          |  |  |       | 2.588               |
| 7      | 2     | 11        | 1                               | 86   | 13         | NON PLASTIC        |      |     | 20.5 |                          |  | 2.349                                  | 1.949 |                     |
| 8      | 2     | 14        | 0.6                             | 84.4 | 15         | NON PLASTIC        |      |     | 19.8 |                          |  |  |       |                     |
| 9      | 3     | 4         | 15                              | 15   | 70         | 26.7               | 19.5 | 7.2 | 15.3 | 0.75                     |  | 2.391                                  | 2.073 |                     |
| 10     | 3     | 7         |                                 |      |            |                    |      |     | 20.1 |                          | 33.90  | 1.710                                  | 1.424 | 2.597               |
| 11     | 3     | 11        | 0.4                             | 88.6 | 11         | NON PLASTIC        |      |     | 20.4 |                          |  | 2.380                                  | 1.958 |                     |
| 12     | 3     | 14        | 0.3                             | 88   | 11.7       | NON PLASTIC        |      |     | 20.7 |                          |  |  |       |                     |
| 13     | 4     | 5         |                                 |      |            |                    |      |     |      |                          |  |  |       | 2.606               |

|    |   |    |     |      |    |             |  |  |      |  |  |       |       |       |
|----|---|----|-----|------|----|-------------|--|--|------|--|--|-------|-------|-------|
| 14 | 4 | 6  | 7   | 79   | 14 | NON PLASTIC |  |  | 22.6 |  |  | 2.476 | 2.019 |       |
| 15 | 4 | 8  |     |      |    |             |  |  |      |  |  |       |       | 2.571 |
| 16 | 4 | 10 | 0.2 | 87.8 | 12 | NON PLASTIC |  |  | 20.2 |  |  | 2.333 | 1.940 |       |
| 17 | 4 | 15 | 0.7 | 84.3 | 15 | NON PLASTIC |  |  | 21.5 |  |  |       |       |       |

**(BORE HOLE LOG : BH-1, 1/2)**



**DESIGNMEN CONSULTING ENGINEERS (Pvt) Ltd.**

**BORE HOLE LOG**

| Bore Hole No. 1                            |  |        |           |             |                     |    |    |    |    |       |                  |     |     | Sheet No. 1 of 2         |      |           |            |
|--|--|--------|-----------|-------------|---------------------|----|----|----|----|-------|------------------|-----|-----|--------------------------|------|-----------|------------|
| Project Geotechnical Investigation For GCT |  |        |           |             |                     |    |    |    |    |       |                  |     |     | Type of Drilling: Rotary |      |           |            |
| Location: Railway Road Lahore              |  |        |           |             |                     |    |    |    |    |       |                  |     |     | Date Started: 7/10/2010  |      |           |            |
| Depth of Hole 20m                          |  |        |           |             |                     |    |    |    |    |       |                  |     |     | Inspector: Tahir Shahzad |      |           |            |
| Date Completed: 8/10/2010                  |  |        |           |             |                     |    |    |    |    |       |                  |     |     | Ground water Table 16.5m |      |           |            |
| Logged by: Shoib Geologist                 |  |        |           |             |                     |    |    |    |    |       |                  |     |     |                          |      |           |            |
| Depth (M)                                  | Description  | Symbol | Sample No | S.P.T/C.P.T | SPT Curve (N Value) |    |    |    |    | N.M.C | Adairberg Limits |     |     | Gravel                   | Sand | Sil./Clay | Sp.Gravity |
|  |  |        |           |             | 10                  | 20 | 30 | 40 | 50 |       | LL               | P.L | P.I |                          |      |           |            |
| 0.0-2.2m                                   | <b>Filling Material (0.0-2.2m)</b><br>Brownish grey, very soft to soft Silty Sandy Clay with pieces of bricks and gravels. |        |           |             |                     |    |    |    |    |       |                  |     |     |                          |      |           |            |
| 1.0  |  |        | SPT-1     | 7           |                     |    |    |    |    |       |                  |     |     |                          |      |           |            |
| 2.0  |  |        | SPT-2     | 5           |                     |    |    |    |    |       |                  |     |     |                          |      |           |            |
| 2.2-4.5m                                   | <b>Silty Clay:(2.2-4.5m)</b><br>Yellowish brown, firm to stiff, low to medium plastic.                                     |        |           |             |                     |    |    |    |    |       |                  |     |     |                          |      |           |            |
| 3.0  |  |        | UDS-1     |             |                     |    |    |    |    |       |                  |     |     |                          |      |           |            |
| 4.0  |  |        | SPT-3     | 11          |                     |    |    |    |    |       |                  |     |     |                          |      |           |            |
| 4.5-6.0m                                   | <b>Silty Sand: (4.5-6.0m )</b><br>Greyish brown, medium dense to dense, fine grained                                       |        |           |             |                     |    |    |    |    | 13    | NP               | NP  | NP  | 1-3                      | 62.5 | 38        | 2.598      |
| 5.0  |  |        | UDS-2     | 18          |                     |    |    |    |    |       |                  |     |     |                          |      |           |            |
| 6.0  |  |        | SPT-4     | 12          |                     |    |    |    |    |       |                  |     |     |                          |      |           |            |
| 6.0-9.0m                                   | <b>Fine Sand: (6.0-9.0 m)</b><br>Grey, medium dense, fine grained, slightly micaceous                                      |        |           |             |                     |    |    |    |    |       |                  |     |     |                          |      |           | 2.611      |
| 7.0  |  |        | SPT-5     | 15          |                     |    |    |    |    |       |                  |     |     |                          |      |           |            |
| 8.0  |  |        | SPT-6     | 16          |                     |    |    |    |    |       |                  |     |     |                          |      |           |            |
| 9.0  |  |        | SPT-7     | 18          |                     |    |    |    |    |       |                  |     |     |                          |      |           |            |
| 9.0-20.0m                                  | <b>Coarse Sand: (9.0-20.0m)</b><br>Grey, medium dense, coarse grained, slightly  |        |           |             |                     |    |    |    |    |       |                  |     |     |                          |      |           |            |
| 10.0                                       |  |        | UDS-3     |             |                     |    |    |    |    | 17.7  | NP               | NP  | NP  | 0                        | 80   | 8         |            |



(BORE HOLE LOG : BH-1, 2/2)



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BORE HOLE LOG

| BORE HOLE LOG                 |  |  |            |             |                     |    |    |                          |    |                          |                  |    |    |        |      |           |            |  |  |  |
|-------------------------------|--|--|------------|-------------|---------------------|----|----|--------------------------|----|--------------------------|------------------|----|----|--------|------|-----------|------------|--|--|--|
| Bore Hole No. 1               |  | Project Geotechnical Investigation For GCT |            |             |                     |    |    | Type of Drilling: Rotary |    | Sheet No. 2 of 2         |                  |    |    |        |      |           |            |  |  |  |
| Location: Railway Road Lahore |  | Depth of Hole 20m                          |            |             |                     |    |    | Date Started: 7/10/2010  |    | Inspector: Tahir Shahzad |                  |    |    |        |      |           |            |  |  |  |
| Date Completed: 8/10/2010     |  | Logged by: Shoib Geologist                 |            |             |                     |    |    | Ground water Table 16.5m |    |                          |                  |    |    |        |      |           |            |  |  |  |
| Depth (M)                     | Description  | Symbol                                     | Sample No. | S.P.T/C.P.T | SPT Curve (N Value) |    |    |                          |    | N.M.C                    | Atterberg Limits |    |    |        |      |           |            |  |  |  |
|                               |  |  |            |             | 10                  | 20 | 30 | 40                       | 50 |                          | LL               | PL | PI | Gravel | Sand | Silt/Clay | Sp Gravity |  |  |  |
| 11                            | Coarse Sand:<br>Grey, medium dense, coarse grained, slightly micaceous |  | SPT-8      | 20          |                     |    |    |                          |    |                          |                  |    |    |        |      |           |            |  |  |  |
| 12                            |  |  | SPT-9      | 23          |                     |    |    |                          |    |                          |                  |    |    |        |      |           |            |  |  |  |
| 13                            |  |  | SPT-10     | 25          |                     |    |    |                          |    |                          |                  | NP | NP | NP     | 0.3  | 86.3      | 13.4       |  |  |  |
| 14                            |  |  | SPT-11     | 30          |                     |    |    |                          |    |                          |                  |    |    |        |      |           |            |  |  |  |
| 15                            |  |  | SPT-12     | 28          |                     |    |    |                          |    |                          |                  |    |    |        |      |           |            |  |  |  |
| 16                            |  |  | SPT-13     | 28          |                     |    |    |                          |    |                          |                  |    |    |        |      |           |            |  |  |  |
| 17                            |  |  | SPT-14     | 30          |                     |    |    |                          |    |                          |                  |    |    |        |      |           |            |  |  |  |
| 18                            |  |  | SPT-15     | 52          |                     |    |    |                          |    |                          |                  |    |    |        |      |           |            |  |  |  |
| 19                            |  |  | SPT-16     | 33          |                     |    |    |                          |    |                          |                  |    |    |        |      |           |            |  |  |  |
| 20                            |  |  | SPT-17     | 33          |                     |    |    |                          |    |                          |                  |    |    |        |      |           |            |  |  |  |

(BORE HOLE LOG : BH-2, 1/2)



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BORE HOLE LOG

| Bore Hole No. 2                            |  | Sheet No. 1 of 2         |           |             |                     |    |    |    |    |       |                  |    |    |        |      |           |            |
|--|--|--------------------------|-----------|-------------|---------------------|----|----|----|----|-------|------------------|----|----|--------|------|-----------|------------|
| Project Geotechnical Investigation For GCT |  | Type of Drilling: Rotary |           |             |                     |    |    |    |    |       |                  |    |    |        |      |           |            |
| Location: Railway Road Lahore              |  | Date Started: 8/10/2010  |           |             |                     |    |    |    |    |       |                  |    |    |        |      |           |            |
| Depth of Hole 20m                          |  | Inspector: Tahir Shahzad |           |             |                     |    |    |    |    |       |                  |    |    |        |      |           |            |
| Date Completed: 9/10/2010                  |  | Ground water Table 17m   |           |             |                     |    |    |    |    |       |                  |    |    |        |      |           |            |
| Logged by: Shoib Geologist                 |  |                          |           |             |                     |    |    |    |    |       |                  |    |    |        |      |           |            |
| Depth (M)                                  | Description  | Symbol                   | Sample No | S.P.T.C.P.T | SPT Curve (N Value) |    |    |    |    | N.M.C | Atterberg Limits |    |    | Gravel | Sand | Silt/Clay | Sp.Gravity |
|  |  |                          |           |             | 10                  | 20 | 30 | 40 | 50 |       | LL               | PL | PI |        |      |           |            |
| 0.0-2.0                                    | Filling Material (0.0-2m)  |                          |           |             |                     |    |    |    |    |       |                  |    |    |        |      |           |            |
| 1.0  | Brownish grey, very soft to soft Silty Sandy Clay with pieces of bricks and gravels. |                          | SPT-1     | 8           |                     |    |    |    |    |       |                  |    |    |        |      |           |            |
| 2.0  |  |                          | SPT-2     | 8           |                     |    |    |    |    |       |                  |    |    |        |      |           |            |
| 2.0-4.5                                    | Silty Clay: (2.0-4.5m)   |                          |           |             |                     |    |    |    |    |       |                  |    |    |        |      |           |            |
| 3.0  | Yellowish brown to brown, firm to stiff, low to medium plastic.                      |                          | UDS-1     |             |                     |    |    |    |    |       |                  |    |    |        |      |           |            |
| 4.0  |  |                          | SPT-3     | 9           |                     |    |    |    |    |       |                  |    |    |        |      |           |            |
| 4.5-10.0                                   | Fine Sand: (4.5-10m)   |                          |           |             |                     |    |    |    |    |       |                  |    |    |        |      |           |            |
| 5.0  | Grey, medium dense, fine grained, slightly micaceous                                 |                          | UDS-2     |             |                     |    |    |    |    | 18.7  |                  |    |    |        |      |           | 2.602      |
| 6.0  |  |                          | SPT-4     | 10          |                     |    |    |    |    |       |                  |    |    |        |      |           |            |
| 7.0  |  |                          | SPT-5     | 13          |                     |    |    |    |    |       |                  |    |    |        |      |           |            |
| 8.0  |  |                          | SPT-6     | 15          |                     |    |    |    |    |       |                  |    |    |        |      |           |            |
| 9.0  |  |                          | SPT-7     | 17          |                     |    |    |    |    |       |                  |    |    |        |      |           | 2.588      |
| 10.0                                       |  |                          | SPT-8     | 17          |                     |    |    |    |    |       |                  |    |    |        |      |           |            |

(BORE HOLE LOG : BH-2, 2/2)



DESIGNMEN CONSULTING ENGINEERS (Pvt) Ltd.

BORE HOLE LOG

| Bore Hole No. 2                            |   |        |            |             |                     |    |    |    |    |       |                  |    |    | Sheet No. 2 of 2         |      |            |            |  |
|--|---|--------|------------|-------------|---------------------|----|----|----|----|-------|------------------|----|----|--------------------------|------|------------|------------|--|
| Project Geotechnical Investigation For GCT |   |        |            |             |                     |    |    |    |    |       |                  |    |    | Type of Drilling: Rotary |      |            |            |  |
| Location: Railway Road Lahore              |   |        |            |             |                     |    |    |    |    |       |                  |    |    | Date Started: 8/10/2010  |      |            |            |  |
| Depth of Hole 20m                          |   |        |            |             |                     |    |    |    |    |       |                  |    |    | Inspector: Tahir Shahzad |      |            |            |  |
| Date Completed: 9/10/2010                  |   |        |            |             |                     |    |    |    |    |       |                  |    |    | Ground water Table 17m   |      |            |            |  |
| Logged by: Shoib Geologist                 |   |        |            |             |                     |    |    |    |    |       |                  |    |    |                          |      |            |            |  |
| Depth (M)                                  | Description   | Symbol | Sample No. | S P T/C P T | SPT Curve (N Value) |    |    |    |    | N M C | Atterberg Limits |    |    | Gravel                   | Sand | Silt /Clay | Sp Gravity |  |
|  |   |        |            |             | 10                  | 20 | 30 | 40 | 50 |       | LL               | PL | PI |                          |      |            |            |  |
| 11   | <b>Coarse Sand: (10-20m)</b><br>Grey medium dense, coarse grained, slightly micaceous |        | UDS-3      |             |                     |    |    |    |    | 20.5  | NP               | NP | NP | 1                        | 86   | 13         |            |  |
| 12   |   |        | SPT-9      | 22          |                     |    |    |    |    |       |                  |    |    |                          |      |            |            |  |
| 13   |   |        | SPT-10     | 22          |                     |    |    |    |    |       |                  |    |    |                          |      |            |            |  |
| 14   |   |        | SPT-11     | 26          |                     |    |    |    |    |       | 19.6             | NP | NP | NP                       | 0.6  | 84.4       | 15         |  |
| 15   |   |        | SPT-12     | 27          |                     |    |    |    |    |       |                  |    |    |                          |      |            |            |  |
| 16   |   |        | SPT-13     | 30          |                     |    |    |    |    |       |                  |    |    |                          |      |            |            |  |
| 17   |   |        | SPT-14     | 32          |                     |    |    |    |    |       |                  |    |    |                          |      |            |            |  |
| 18   |   |        | SPT-15     | 32          |                     |    |    |    |    |       |                  |    |    |                          |      |            |            |  |
| 19   |   |        | SPT-16     | 34          |                     |    |    |    |    |       |                  |    |    |                          |      |            |            |  |
| 20   |   |        | SPT-17     | 35          |                     |    |    |    |    |       |                  |    |    |                          |      |            |            |  |



(BORE HOLE LOG : BH-3, 1/2)



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BORE HOLE LOG

| Bore Hole No. 3                            |   | Sheet No. 1 of 2         |           |             |                     |    |    |    |    |       |                  |      |    |        |      |           |            |
|--|---|--------------------------|-----------|-------------|---------------------|----|----|----|----|-------|------------------|------|----|--------|------|-----------|------------|
| Project Geotechnical Investigation For GCT |   | Type of Drilling: Rotary |           |             |                     |    |    |    |    |       |                  |      |    |        |      |           |            |
| Location: Railway Road Lahore              |   | Date Started: 9/10/2010  |           |             |                     |    |    |    |    |       |                  |      |    |        |      |           |            |
| Depth of Hole 20m                          |   | Inspector: Tahir Shahzad |           |             |                     |    |    |    |    |       |                  |      |    |        |      |           |            |
| Date Completed: 10/10/2010                 |   | Ground water Table 17m   |           |             |                     |    |    |    |    |       |                  |      |    |        |      |           |            |
| Logged by: Shoib Geologist                 |   |                          |           |             |                     |    |    |    |    |       |                  |      |    |        |      |           |            |
| Depth (m)                                  | Description   | Symbol                   | Sample No | S.P.T/C.P.T | SPT Curve (N Value) |    |    |    |    | N.M.C | Atterberg Limits |      |    |        |      |           |            |
|  |   |                          |           |             | 10                  | 20 | 30 | 40 | 50 |       | L.L.             | P.L. | PI | Gravel | Sand | Silt/Clay | Sp Gravity |
| 0.0-2.0                                    | <b>Filling Material (0.0-2m)</b><br>Brownish grey, very soft to soft Silty Sandy Clay with pieces of bricks and gravels | [Symbol]                 | SPT-1     | 9           |                     |    |    |    |    |       |                  |      |    |        |      |           |            |
| 2.0-5.0                                    | <b>Silty Clay: (2.0-5m)</b><br>Yellowish brown to brown, firm to stiff, low to medium plastic                           | [Symbol]                 | SPT-2     | 8           |                     |    |    |    |    |       |                  |      |    |        |      |           |            |
| 5.0-9.0                                    | <b>Fine Sand: (5.0-9.0 m)</b><br>Grey, medium dense, fine grained, slightly micaceous                                   | [Symbol]                 | SPT-3     | 13          |                     |    |    |    |    |       |                  |      |    |        |      |           |            |
| 9.0-10.0                                   | <b>Coarse Sand: (9.0-10.0 m)</b><br>Grey, medium dense, fine grained, slightly micaceous                                | [Symbol]                 | UIDS-1    |             |                     |    |    |    |    | 15.0  | MP               | MP   | MP | 15     | 15   | 70        |            |
|  |   |                          | SPT-4     | 15          |                     |    |    |    |    |       |                  |      |    |        |      |           |            |
|  |   |                          | SPT-5     | 12          |                     |    |    |    |    |       |                  |      |    |        |      |           |            |
|  |   |                          | UIDS-2    |             |                     |    |    |    |    | 20.1  |                  |      |    |        |      |           | 2.697      |
|  |   |                          | SPT-6     | 15          |                     |    |    |    |    |       |                  |      |    |        |      |           |            |
|  |   |                          | SPT-7     | 18          |                     |    |    |    |    |       |                  |      |    |        |      |           |            |
|  |   |                          | SPT-8     | 20          |                     |    |    |    |    |       |                  |      |    |        |      |           |            |



(BORE HOLE LOG : BH-3, 2/2)



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BORE HOLE LOG

| Bore Hole No. 3                            |  | Sheet No. 2 of 2         |           |             |                      |    |    |    |    |       |                  |    |    |        |      |           |             |  |
|--|--|--------------------------|-----------|-------------|----------------------|----|----|----|----|-------|------------------|----|----|--------|------|-----------|-------------|--|
| Project Geotechnical Investigation For GCT |  | Type of Drilling: Rotary |           |             |                      |    |    |    |    |       |                  |    |    |        |      |           |             |  |
| Location: Railway Road Lahore              |  | Date Started: 9/10/2010  |           |             |                      |    |    |    |    |       |                  |    |    |        |      |           |             |  |
| Depth of Hole 20m                          |  | Inspector: Tahir Shahzad |           |             |                      |    |    |    |    |       |                  |    |    |        |      |           |             |  |
| Date Completed: 10/10/2010                 |  | Ground water Table 17m   |           |             |                      |    |    |    |    |       |                  |    |    |        |      |           |             |  |
| Logged by: Shoib Geologist                 |  |                          |           |             |                      |    |    |    |    |       |                  |    |    |        |      |           |             |  |
| Depth (M)                                  | Description  | Symbol                   | Sample No | S.P.T.C.P.T | SPT Curve (N Values) |    |    |    |    | N.M.C | Atterberg Limits |    |    | Gravel | Sand | Silt/Clay | Sp. Gravity |  |
|  |  |                          |           |             | 10                   | 20 | 30 | 40 | 50 |       | LL               | PL | PI |        |      |           |             |  |
| 11   | Coarse Sand: (10-20m)<br>Grey, medium dense, coarse grained slightly micaceous |                          | UDS-3     |             |                      |    |    |    |    | 20.4  | NP               | NP | NP | 0.4    | 89.6 | 11        |             |  |
| 12   |  |                          | SPT-9     | 23          |                      |    |    |    |    |       |                  |    |    |        |      |           |             |  |
| 13   |  |                          | SPT-10    | 23          |                      |    |    |    |    |       |                  |    |    |        |      |           |             |  |
| 14   |  |                          | SPT-11    | 25          |                      |    |    |    |    |       | 20.7             | NP | NP | NP     | 0.3  | 88        | 11.7        |  |
| 15   |  |                          | SPT-12    | 26          |                      |    |    |    |    |       |                  |    |    |        |      |           |             |  |
| 16   |  |                          | SPT-13    | 30          |                      |    |    |    |    |       |                  |    |    |        |      |           |             |  |
| 17   |  |                          | SPT-14    | 29          |                      |    |    |    |    |       |                  |    |    |        |      |           |             |  |
| 18   |  |                          | SPT-15    | 33          |                      |    |    |    |    |       |                  |    |    |        |      |           |             |  |
| 19   |  |                          | SPT-16    | 36          |                      |    |    |    |    |       |                  |    |    |        |      |           |             |  |
| 20   |  |                          | SPT-17    | 39          |                      |    |    |    |    |       |                  |    |    |        |      |           |             |  |

(BORE HOLE LOG : BH-4, 1/2)



DESIGNMEN CONSULTING ENGINEERS (Pvt) Ltd.

BORE HOLE LOG

| Bore Hole No. 4 |   |                                    |            |             |                     |    |                    |    |               |       |                  |    |    |        |      |           | Sheet No. 2 of 2 |  |
|-----------------|---|------------------------------------|------------|-------------|---------------------|----|--------------------|----|---------------|-------|------------------|----|----|--------|------|-----------|------------------|--|
| Project         |   | Geotechnical Investigation For GCT |            |             |                     |    | Type of Drilling:  |    | Rotary        |       |                  |    |    |        |      |           |                  |  |
| Location:       |   | Railway Road Lahore                |            |             |                     |    | Date Started:      |    | 10/10/2010    |       |                  |    |    |        |      |           |                  |  |
| Depth of Hole   |   | 20m                                |            |             |                     |    | Inspector:         |    | Tahir Shahzad |       |                  |    |    |        |      |           |                  |  |
| Date Completed: |   | 11/10/2010                         |            |             |                     |    | Ground water Table |    | 17.5m         |       |                  |    |    |        |      |           |                  |  |
| Logged by:      |   | Shoib Geologist                    |            |             |                     |    |                    |    |               |       |                  |    |    |        |      |           |                  |  |
| Depth (M)       | Description   | Symbol                             | Sample No. | S.P.T.C.P.T | SPT Curve (N Value) |    |                    |    |               | N.M.C | Atterberg Limits |    |    | Gravel | Sand | Sil./Clay | Sp.Gravity       |  |
|                 |   |                                    |            |             | 10                  | 20 | 30                 | 40 | 50            |       | LL               | PL | PI |        |      |           |                  |  |
| 11              | Coarse Sand: (10-20m)<br>Grey, medium dense, coarse grained, slightly micaceous |                                    | SPT-8      | 20          |                     |    |                    |    |               |       |                  |    |    |        |      |           |                  |  |
| 12              |   |                                    | SPT-9      | 24          |                     |    |                    |    |               |       |                  |    |    |        |      |           |                  |  |
| 13              |   |                                    | SPT-10     | 23          |                     |    |                    |    |               |       |                  |    |    |        |      |           |                  |  |
| 14              |   |                                    | SPT-11     | 25          |                     |    |                    |    |               |       |                  |    |    |        |      |           |                  |  |
| 15              |   |                                    | SPT-12     | 27          |                     |    |                    |    |               |       | 21.5             | NP | NP | NP     | 0.7  | 84.3      | 15               |  |
| 16              |   |                                    | SPT-13     | 30          |                     |    |                    |    |               |       |                  |    |    |        |      |           |                  |  |
| 17              |   |                                    | SPT-14     | 32          |                     |    |                    |    |               |       |                  |    |    |        |      |           |                  |  |
| 18              |   |                                    | SPT-15     | 35          |                     |    |                    |    |               |       |                  |    |    |        |      |           |                  |  |
| 19              |   |                                    | SPT-16     | 37          |                     |    |                    |    |               |       |                  |    |    |        |      |           |                  |  |
| 20              |   |                                    | SPT-17     | 40          |                     |    |                    |    |               |       |                  |    |    |        |      |           |                  |  |

(BORE HOLE LOG : BH-4, 2/2)



DESIGNMEN CONSULTING ENGINEERS (Pvt) Ltd.

BORE HOLE LOG

| Bore Hole No. 4                            |   | Sheet No. 1 of 2         |            |             |                     |    |    |    |    |       |                  |     |     |        |      |           |            |  |       |
|--|---|--------------------------|------------|-------------|---------------------|----|----|----|----|-------|------------------|-----|-----|--------|------|-----------|------------|--|-------|
| Project Geotechnical Investigation For GCT |   | Type of Drilling: Rotary |            |             |                     |    |    |    |    |       |                  |     |     |        |      |           |            |  |       |
| Location: Railway Road Lahore              |   | Date Started: 10/10/2010 |            |             |                     |    |    |    |    |       |                  |     |     |        |      |           |            |  |       |
| Depth of Hole 20m                          |   | Inspector: Tahir Shahzad |            |             |                     |    |    |    |    |       |                  |     |     |        |      |           |            |  |       |
| Date Completed: 11/10/2010                 |   | Ground water Table 17.5m |            |             |                     |    |    |    |    |       |                  |     |     |        |      |           |            |  |       |
| Logged by: Shoib Geologist                 |   |                          |            |             |                     |    |    |    |    |       |                  |     |     |        |      |           |            |  |       |
| Depth (M)                                  | Description   | Symbol                   | Sample No. | S.P.T.C.P.T | SPT Curve (N Value) |    |    |    |    | N.M.C | Atterberg Limits |     |     |        |      |           |            |  |       |
|  |   |                          |            |             | 10                  | 20 | 30 | 40 | 50 |       | L.L              | P.L | P.I | Gravel | Sand | Silt/Clay | Sp/Gravity |  |       |
| 0.0-2.5m                                   | <b>Filling Material (0.0-2.5m)</b><br>Brownish grey, very soft to soft Silty Sandy Clay with pieces of bricks and gravels |                          |            |             |                     |    |    |    |    |       |                  |     |     |        |      |           |            |  |       |
| -1.0                                       |   |                          | SPT-1      | 7           |                     |    |    |    |    |       |                  |     |     |        |      |           |            |  |       |
| -2.0                                       |   |                          | SPT-2      | 20          |                     |    |    |    |    |       |                  |     |     |        |      |           |            |  |       |
| -2.5-4m                                    | <b>Silty Clay: (2.5-4m)</b><br>Yellowish brown to brown, firm to stiff, low to medium plastic.                            |                          | UDS-1      |             |                     |    |    |    |    |       |                  |     |     |        |      |           |            |  |       |
| -4.0                                       |   |                          | SPT-3      | 13          |                     |    |    |    |    |       |                  |     |     |        |      |           |            |  |       |
| -4.0-10.0m                                 | <b>Fine Sand: (4.0-10.0 m)</b><br>Grey, medium dense, fine grained, slightly micaceous                                    |                          | SPT-4      | 15          |                     |    |    |    |    |       |                  |     |     |        |      |           |            |  | 2.600 |
| -5.0                                       |   |                          | UDS-2      |             |                     |    |    |    |    | 22.6  | NP               | NP  | NP  | 7      | 79   | 14        |            |  |       |
| -6.0                                       |   |                          | SPT-5      | 16          |                     |    |    |    |    |       |                  |     |     |        |      |           |            |  |       |
| -7.0                                       |   |                          | SPT-6      | 16          |                     |    |    |    |    |       |                  |     |     |        |      |           |            |  | 2.971 |
| -8.0                                       |   |                          | SPT-7      | 18          |                     |    |    |    |    |       |                  |     |     |        |      |           |            |  |       |
| -9.0                                       |   |                          | UDS-3      |             |                     |    |    |    |    | 20.2  | NP               | NP  | NP  | 0.2    | 87.8 | 12        |            |  |       |
| -10.0                                      |   |                          |            |             |                     |    |    |    |    |       |                  |     |     |        |      |           |            |  |       |

### 3. Curriculum (Former/Present, 2010)

#### (1) Architecture Course

**[Before] Block Diagram of Training Subjects in Architecture, GCT Railway Road, Lahore**

|                   | 1st Year  | 2nd Year   | 3rd Year   |
|-------------------|---|--|--|
| Common Sub.       | Islamiat / Pakistan Study<br>English<br>Applied Mathematics I<br>Applied Physics                      | Islamiat / Pakistan Study<br>Applied Mathematics II  | Islamiat / Pakistan Study  |
| Environment       |   | Environmental Study  |  |
| Planning & Design | Architectural Drawing & Drafting<br>Free hand drawing & Rendering I<br>Basic Computer in Architecture | History of Architecture<br>Architectural Drawing & Design I<br>Free hand drawing & Rendering II<br>AutoCAD I | Architectural Drawing & Design 2<br>Model /Making Project<br>AutoCAD II  |
| Structure         |   | Structural Mechanic R.C.C. Design  |  |
| Construction      | Building Materials & Fabrication<br>Survey & Leveling   | Building Construction I  | Industrial Management and Human Relation<br>Building Construction II<br>Building Economics & Management / Safety Practices<br>Estimation & Specification & by-Laws |

**[Revised]**

|                   | 1st Year   | 2nd Year   | 3rd Year   |
|-------------------|--|--|--|
| Common Sub.       | Islamiat / Pakistan Study<br>English<br>Communication Skills<br>Applied Mathematics I<br>Applied Physics | Islamiat / Pakistan Study<br>Applied Mathematics II  | Islamiat / Pakistan Study  |
| Environment       |  | Environmental Studies I  | Environmental Studies II   |
| Planning & Design | Introduction to Architecture<br>Architectural Graphics I<br>Computer Aided Drafting & Presentation I     | History of Architecture<br>Architectural Drawing & Design I<br>Computer Aided Drafting & Presentation II | Architectural Drawing & Design 2<br>Model Making / Architectural Project               |
| Structure         |  | Structural Mechanics R.C.C. Design   |  |
| Construction      | Building Materials & Construction I  | Building Materials & Construction II<br>Survey & Leveling  | Project Management<br>Building Construction II<br>Estimation & Specification & by-Laws |

Note : 1   show that some modification have done on the old subjects.

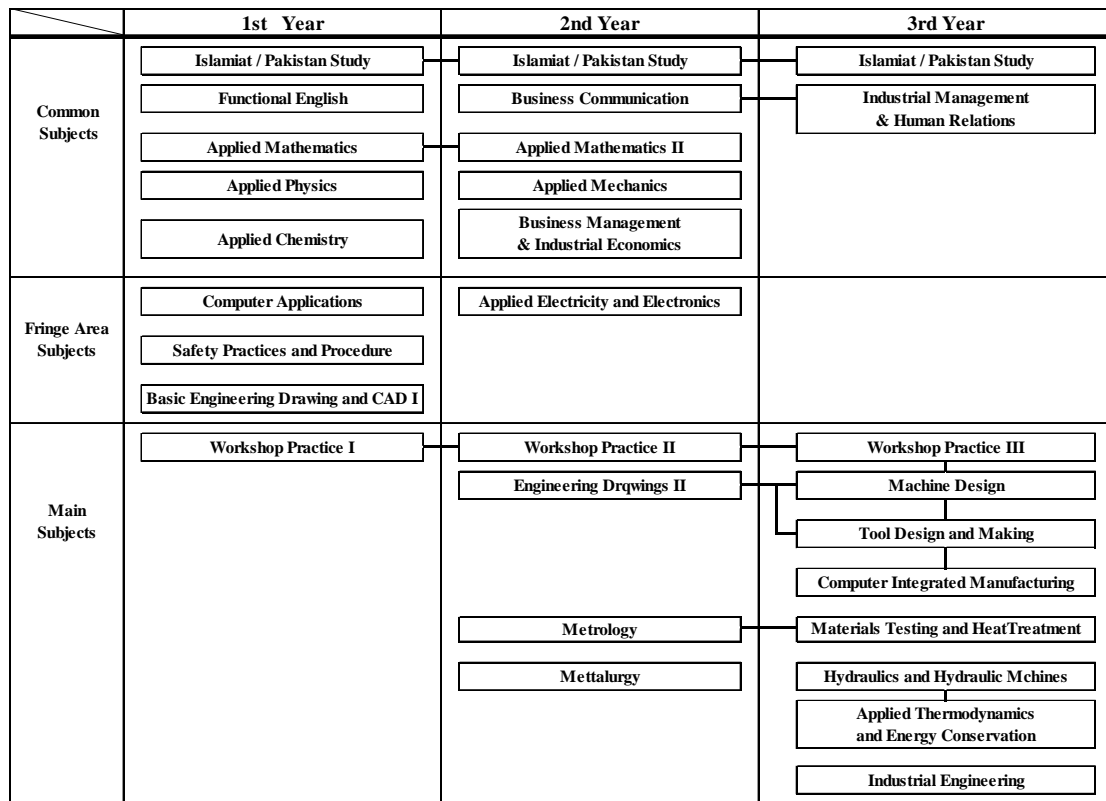
2   show that they are newly developed subjects.

3 Computer Aided subjects are widely introduced.

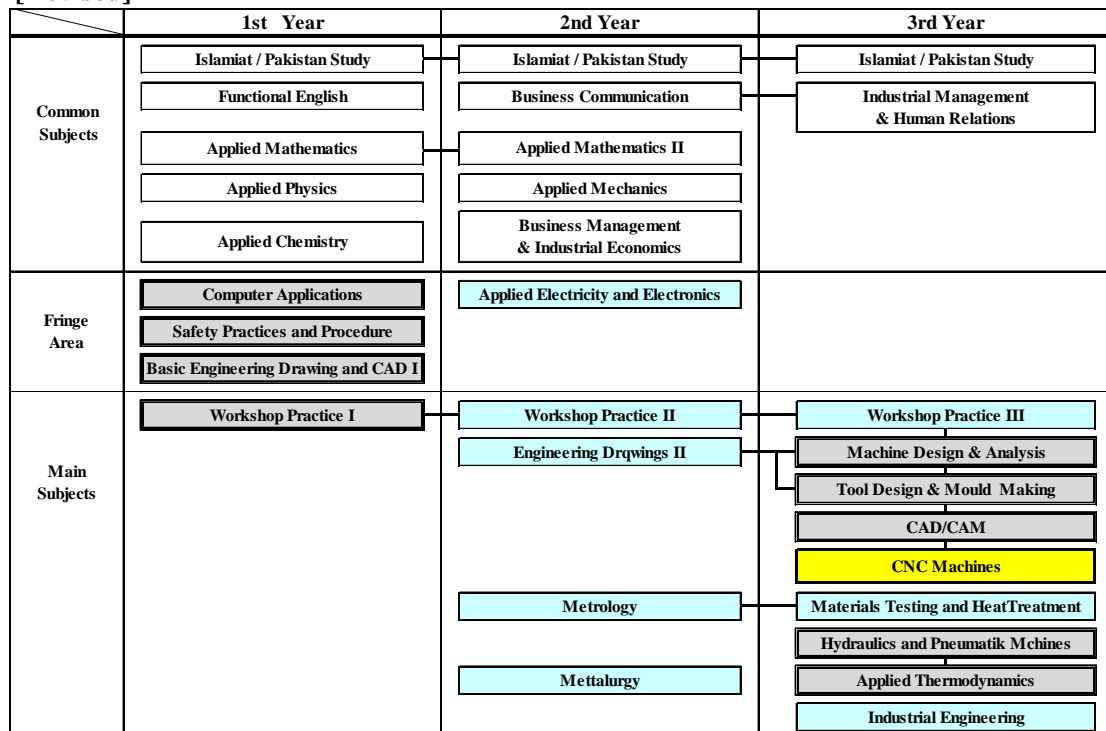


## (2) Mechanical Course

[Before] Block Diagram of Training Subjects in Mechanical Engineering, GCT Railway Road, Lahore



[Revised]



- Note: 1   show that some modification have done on the old subjects without changing code numbers.  
 2   show that they are widely modified subjects with changing their names and code numbers.  
 3   show that newly developed subject.

#### 4. Existing Equipment (Mechanical Course)

##### Existing Equipment List (1/3)

| Item No.                        | Equipment                            | Existing Qty | Origin/Manufacturer     | Model      | Manufactured year | Workable Number | Technical Corp. |
|---------------------------------|--------------------------------------|--------------|-------------------------|------------|-------------------|-----------------|-----------------|
| <b>1. Basic Machine Shop</b>    |                                      |              |                         |            |                   |                 |                 |
| M-1-1                           | Lathe Machine                        | 16           | England/Viceroy         |            | 1972              | 12              |                 |
|                                 | Lathe Machine                        | 4            | Japan/Takahashi         | T-Ls 1000  | 1967              | 3               |                 |
| M-1-2                           | Pillar Drill Machine                 | 1            | England/B.Elliott       |            | 1955              | 1               |                 |
| M-1-3                           | Power Hack Saw                       | 1            | England/B.Elliott       |            | 1955              | 1               |                 |
| M-1-4                           | Tool Grinder                         | 1            | England/B.Elliott       |            | 1956              | 1               |                 |
| M-1-5                           | Tool Grinder                         | 1            | England/B.Elliott       |            | 1957              | 1               |                 |
| <b>2. Advanced Machine Shop</b> |                                      |              |                         |            |                   |                 |                 |
| M-2-3                           | Digital Caliper                      | 2            | China/DIGIMAT           |            | 2009              | 2               |                 |
| M-2-7                           | Shaper                               | 1            | Pakistan/Peco           | SH-460     | 1985              | 1               |                 |
|                                 | Shaper                               | 1            | England/B.Elliott       | ALBA       | 1965              | 1               |                 |
| M-2-8                           | Lathe Machine                        | 3            | Pakistan/Peco           |            | 1985              | 0               |                 |
|                                 | Lathe Machine                        | 1            | England                 |            | 1967              | 0               |                 |
| M-2-9                           | Surface Grinder                      | 1            | Denmark/Suwend Jakobsen |            | 1967              | 1               |                 |
| M-2-10                          | Milling Machine                      | 1            | England/Bridgeboard     |            |                   | 1               |                 |
|                                 | Milling Machine                      | 3            | Pakistan/PAK-MICO       |            | 1989              | 3               |                 |
|                                 | Milling Machine                      | 1            | Cina/Shanghai Machine   |            | 1971              | 1               |                 |
|                                 | Milling Machine                      | 1            | Sweeden/Sajo            |            | 1967              | 1               |                 |
| M-2-12                          | Universal Tool and Cutter<br>Grinder | 1            | England/Jackmill        |            | 2001              | 1               |                 |
|                                 | Drilling Machine                     | 1            | Pakistan/Peco           | PD-20      | 1985              | 1               |                 |
|                                 | Power Hack Saw                       | 1            | Pakistan/AL-HILAL       | HL         | 1985              | 1               |                 |
|                                 | Vertical Milling Machine             | 1            | Pakistan/PMTF-KCH       | V-4        | 1985              | 1               |                 |
|                                 | Arbor Press                          | 1            | Pakistan/AL-HILAL       | A-P        | 1985              | 1               |                 |
|                                 | Surface Table                        | 1            | England                 | N.A.       | 1970              | 1               |                 |
|                                 | Tool Grinder                         | 1            | England                 | MLFORD     | 1955              | 1               |                 |
|                                 | Drilling Machine                     | 1            | Pakistan/Peco           | PD-20      | 1985              | 1               |                 |
|                                 | Cylinder Grinder                     | 1            | Taiwan                  | JMC-600    | 2001              | 1               |                 |
| <b>3. Metrology Lab</b>         |                                      |              |                         |            |                   |                 |                 |
| M-3-1                           | Micrometer                           | 2            | MAHR                    | 40-A       | 2004              | 2               |                 |
|                                 | Micrometer                           | 2            | Japan/Mitutoyo          | 1.350.420  | 2003              | 2               |                 |
| M-3-2                           | Digital Caliper                      | 2            | Japan/Mitutoyo          | CD-6-CS    | 2003              | 2               |                 |
|                                 | Digital Caliper                      | 2            | China/HL-China          | 101259     | 1999              | 2               |                 |
| M-3-3                           | Digital Dial Indicator               | 2            | Japan/Mitutoyo          | Asolute    | 2004              | 2               |                 |
| M-3-4                           | Digital Depth Gauge                  | 1            | Japan/Mitutoyo          | Degimetics | 2004              | 1               |                 |
| M-3-6                           | Digital Height Gauge                 | 1            | Japan/Mitutoyo          | 192-270    | 2003              | 1               |                 |
| M-3-8                           | Dial Caliper                         | 4            | Japan/Mitutoyo          | 505-626-50 | 2003              | 4               |                 |
|                                 | Dial Caliper                         | 1            | China                   | N.A.       | 2001              | 1               |                 |
| M-3-13                          | Sine Bar                             | 1            | Brown & Sharp           | N.A.       | 2003              | 1               |                 |
| M-3-14                          | Small Hole Gauge                     | 1            | Japan/Mitutoyo          | 154-902    | 2004              | 1               |                 |
| M-3-15                          | Dial Protractor                      | 2            | China                   | N.A.       | 2001              | 2               |                 |
| M-3-16                          | Telescoping Gauge                    | 2            | Japan/Mitutoyo          | 155-904    | 2004              | 2               |                 |
| M-3-17                          | Gear Tooth Vernier                   | 4            | China                   | 502        | 2007              | 4               |                 |
| M-3-19                          | Thread Micrometer                    | 4            | Starret                 | 210        | 2004              | 4               |                 |
| M-3-20                          | Mechanical Comparator                | 2            | MAHR                    | Zentimess  | 2004              | 2               |                 |
| M-3-21                          | Electrical Comparator                | 2            | MAHR                    | 1141-SN    | 2004              | 2               |                 |
| M-3-24                          | Engineering Square                   | 2            | Japan/Mitutoyo          | 916-592    | 2003              | 2               |                 |
| M-3-25                          | Engineering Parallel                 | 2            | Starret                 | 384N       | 2004              | 2               |                 |
| M-3-26                          | Inside Micrometer                    | 2            | Japan/Mitutoyo          | 145-185    | 2003              | 2               |                 |
| M-3-27                          | Inside Micrometer                    | 1            | Japan/Mitutoyo          | 145-185    | 2003              | 1               |                 |
| M-3-31                          | Precision Screw Driver Set           | 1            | China/New Wave Line     |            | 2003              | 1               |                 |
| M-3-33                          | Air Conditioner window type          | 2            | China/Split type        | 2 ton      | 2003              | 2               |                 |
| M-3-34                          | Lab Table                            | 6            | Pakistan/Local          | N.A.       | 2003              | 6               |                 |

### Existing Equipment List (2/3)

| Item No.   | Equipment                   | Existing Qty | Origin/Manufacturer    | Model      | Manufactured year | Workable Number | Technical Corp. |
|--|-----------------------------|--------------|------------------------|------------|-------------------|-----------------|-----------------|
| <b>4. Welding Shop</b>                               |                             |              |                        |            |                   |                 |                 |
| M-4-1  | Welding Transformer         | 2            | Pakistan/Decent        |            | 1988              | 2               |                 |
|  | Welding Transformer         | 2            | Pakistan/Malik         |            | 2005              | 0               |                 |
| M-4-2  | Arc Welding Rectifier       | 2            | England/Hobert         |            | 1955              | 1               |                 |
|  | Power Saw                   | 1            | England/Klabger        |            | 1965              | 1               |                 |
|  | Power Saw                   | 1            | Pakistan/Peco          | HS-160     | 2001              | 1               |                 |
| M-4-6  | Oxy-Ace.Gas Cutting Torch   | 1            | England/British Oxygen |            | 1988              | 1               |                 |
| M-4-7  | Oxy-Ace.Gas Welding Torch   | 4            | Switzerland/Gloor      |            | 2001              | 4               |                 |
| M-4-11   | Forge Furnace               | 5            | England/Viceroy        |            | 1968              | 1               |                 |
| M-4-12   | TIG Welding Machine         | 2            | Japan/DAIHEN           |            | 2010              | 2               | ○               |
| M-4-13   | MIG Welding Machine         | 2            | Japan/DAIHEN           |            | 2010              | 2               | ○               |
|  | Spot Welding                | 1            | Japan/DAIHEN           |            | 1965              | 1               |                 |
|  | Spot Welding                | 2            | Zinser                 | N.A.       | 1965              | 2               |                 |
|  | Spot Welding                | 1            | China                  | FN-2S-1-TH | 1974              | 1               |                 |
|  | Welding Generator           | 5            | China                  | AX-7-500   | 1974              | 5               |                 |
|  | Drill Machine               | 1            | England/Elliott Patter |            | 1969              | 1               |                 |
|  | Seam Welding Machine        | 1            | England/Elliott Patter | 11-10-50   | 1969              | 1               |                 |
| <b>5. Foundry Shop</b>                               |                             |              |                        |            |                   |                 |                 |
| M-5-9  | Grinding and Buffer Machine | 1            | England/Telisatti      |            | 1961              | 1               |                 |
|  | Grinding and Buffer Machine | 1            | England/IDH/Tilsat     | NIME       | 1955              | 1               |                 |
| M-5-13   | Pyrometer                   | 1            | USA/Pyrometer Inst.    |            | 1961              | 1               |                 |
|  | Pyrometer                   | 1            | Germany/Pyro Werk      |            | 1961              | 1               |                 |
| M-5-20   | Power Riddle Machine        | 1            | REG.PATOFF             | SNW60-7202 | 1961              | 1               |                 |
| <b>6. Metal Shop</b>                                 |                             |              |                        |            |                   |                 |                 |
| M-6-1  | Bench Vice                  | 42           | England/Record         |            |                   | 42              |                 |
| M-6-4  | Power Saw                   | 1            | England/Klaeger        |            | 1960              | 1               |                 |
| M-6-9  | Pedestal Tool Grinder       | 1            | England/Solid          |            | 1960              | 1               |                 |
|  | Shearing Machine            | 1            | England                |            | 1963              | 1               |                 |
|  | Rolling Machine             | 1            | England                |            | 1966              | 1               |                 |
|  | Bending Machine             | 1            | KAOTANA                |            | 1968              | 1               |                 |
|  | Drill Machine               | 1            | Pakistan/Peco          | PD-20      | 2000              | 1               |                 |
| <b>7. Material Testing &amp; Heat Treatment Lab.</b> |                             |              |                        |            |                   |                 |                 |
| M-7-1  | Brinell Hardness Tester     | 1            | England/Avery          |            |                   | 1               |                 |
| M-7-2  | Rockwell Hardness Tester    | 1            | England/Avery          |            |                   | 1               |                 |
| M-7-3  | Izot Impact Testing Machine | 1            | England/Avery          |            |                   | 1               |                 |
| M-7-4  | Universal Testing Machine   | 1            | England/Avery          | 50T        |                   | 1               |                 |
|  | Universal Testing Machine   | 1            | China/Sai-nan          | 10T        |                   | 1               |                 |
| M-7-5  | Sample Cut-off Machine      | 1            | USA/Buehier Ltd        |            |                   | 1               |                 |
| M-7-6  | Sample Mound Press          | 1            | USA/Buehier Ltd        |            |                   | 1               |                 |
| M-7-7  | Sample Polishing Machine    | 1            | Germany/Jean Wirtz     |            |                   | 1               |                 |
| M-7-8  | Metallurgical Microscope    | 1            | Germany/Reck Kassel    |            |                   | 1               |                 |
| M-7-9  | Pedestal Grinding Machine   | 1            | GREIFE                 |            | 1969              | 1               |                 |
| M-7-10   | Electric Annealing Furnace  | 1            | England/AEW Ltd.       |            |                   | 1               |                 |
| <b>8. Hydraulic Lab.</b>                             |                             |              |                        |            |                   |                 |                 |
| M-8-1  | Fluid Friction Apparatus    | 1            | England/Armfield       |            |                   | 1               |                 |
| M-8-2  | Pelton Wheel                | 1            | England/Armfield       |            |                   | 1               |                 |
| M-8-3  | Reaction Turbine            | 2            | England/TQ             |            |                   | 0               |                 |
| M-8-5  | Centrifugal Pump, Motor     | 1            | England/Gilkes         |            |                   | 1               |                 |
| M-8-6  | Centrifugal Pump, Engine    | 1            | England/Gilkes         |            |                   | 1               |                 |
| M-8-9  | Orifice Flow Meter          | 1            | England/TQ             |            |                   | 1               |                 |
| M-8-11   | Venturi Meter               | 2            | England/TQ             |            |                   | 2               |                 |
|  | Gilkes Water Turbine        | 2            | England/Gilkes         |            | 1969              | 2               |                 |
|  | Hydraulic Bench             | 2            | England/TQ             |            | 1969              | 2               |                 |

### Existing Equipment List (3/3)

| Item No.                    | Equipment                    | Existing Qty | Origin/Manufacturer     | Model        | Manufactured year | Workable Number | Technical Corp. |
|-----------------------------|------------------------------|--------------|-------------------------|--------------|-------------------|-----------------|-----------------|
| <b>9. CNC Lab.</b>          |                              |              |                         |              |                   |                 |                 |
| M-9-10                      | Computer                     | 12           | Japan/Compaq            |              | 2001              | 6               |                 |
| <b>11. Wood Work Shop</b>   |                              |              |                         |              |                   |                 |                 |
| M-11-1                      | Wood Turning Lathe           | 2            | USA/Boicecm             |              | 1961              | 1               |                 |
| M-11-2                      | Band Saw                     | 1            | England/Johns Burton    |              | 1960              | 1               |                 |
| M-11-4                      | Jig Saw                      | 1            | England                 |              | 1960              | 1               |                 |
|                             | Drilling Machine             | 1            | England/POBCO           |              | 1962              | 1               |                 |
|                             | Air Compressor               | 1            | DenMaru                 | STENH01      | 1962              | 1               |                 |
|                             | Planing & Thicknessing M.    | 1            | England/Wilson          |              | 1960              | 1               |                 |
|                             | Circular Saw                 | 1            | England                 |              | 1960              | 1               |                 |
|                             | Surface Planing              | 1            | England/Wadking         | RD1351       | 1960              | 1               |                 |
|                             | Mortise Machine              | 1            | England/Halifax         |              | 1961              | 1               |                 |
|                             | Boring and Recessing Machine | 1            | England/Wadking S/N     |              | 1961              | 1               |                 |
|                             | Disc Sanding Machine         | 1            | England/Power Matic     |              | 1960              | 1               |                 |
|                             | Electric Grinder             | 1            | England/Hoiroyo         |              | 1955              | 1               |                 |
| <b>12. AutoCAD Lab.</b>     |                              |              |                         |              |                   |                 |                 |
| M-12-1                      | Computer                     | 50           | Japan/Dell              | Vosiro220    | 2010              | 50              | ○               |
| M-12-4                      | MultiMedia                   | 1            | Japan                   |              | 2010              | 1               | ○               |
| M-12-5                      | CAD Software                 | 50           | Japan/Autodesk          | Autocad2010  | 2010              | 50              | ○               |
| M-12-6                      | UPS                          | 5            | Pakistan/Local Procured |              | 2010              | 5               | ○               |
| M-12-7                      | Desk                         | 50           | Pakistan/Local Procured |              | 2010              | 50              | ○               |
| M-12-8                      | Chair                        | 50           | Pakistan/Local Procured |              | 2010              | 50              | ○               |
| <b>13. Drawing Halls</b>    |                              |              |                         |              |                   |                 |                 |
| M-13-1                      | Drawing Desks & Stools       | 150          | Pakistan/Local Procured |              |                   | 115             |                 |
| <b>14. Power Lab.</b>       |                              |              |                         |              |                   |                 |                 |
| M-14-3                      | Clamp on/Tngue Tester        | 3            | China/Dong Hai          |              | 1990              | 3               |                 |
| M-14-5                      | Energy Meter                 | 1            | Pakistan/ PEL           |              | 1985              | 1               |                 |
| M-14-8                      | Maagnetic Contactor          | 5            | Pakistan/ PEM           |              | 2006              | 5               |                 |
| M-15-9                      | Induction Motor, 1-Ph.       | 3            | Switcherland/Volkart    |              |                   | 3               |                 |
| M-15-10                     | Induction Motor, 3-Ph.       | 2            | Switcherland/Volkart    |              |                   | 2               |                 |
|                             | AC Generator                 | 1            | England/AEIL            | 48020        | 1980              | 1               |                 |
|                             | Rectifier                    | 2            | Hirbr Electronic        | E5/4817/2    | 1961              | 2               |                 |
|                             | AC Generator                 | 1            | England/AEIL            | 5558         | 1961              | 1               |                 |
|                             | DC Motor Generator           | 1            | England/AEIL            | 59114        | 1961              | 1               |                 |
|                             | DC Motor Comp. Generator     | 2            | England/AEIL            | 59100/49207  | 1960              | 2               |                 |
|                             | AC Motor Generator           | 1            | England/General Motor   |              | 1962              | 1               |                 |
|                             | DC Motor Generator           | 1            | England/General Motor   |              | 1962              | 1               |                 |
|                             | DC Motor Generator           | 6            | England/AEIL            | 59104 etc    | 1961              | 6               |                 |
|                             | AC Motor Generator           | 1            | England/AEIL            | 5152L        | 1961              | 1               |                 |
| <b>15. Electronics Lab.</b> |                              |              |                         |              |                   |                 |                 |
| M-15-8                      | Dual Channel Oscilloscope    | 2            | Japan/Dynascan Corp     | BK Precision |                   | 0               |                 |



## 5. Electrical Distribution Panel Circuit Diagrams for Existing Workshops & Laboratories of Mechanical Course

| LEGEND |       |                                |        |                               |  |
|--------|-------|--------------------------------|--------|-------------------------------|--|
|        | H V B | PHASE INDICATION NEON LAMP     | CL:    | CONNECTED LOAD                |  |
|        | V     | DIGITAL TYPE VOLTMETER         | TCL:   | TOTAL CONNECTED LOAD          |  |
|        | A     | DIGITAL TYPE AMMETER           | CTS:   | CURRENT TRANSFORMERS          |  |
|        | ⊙     | SELECTOR SWITCH                | PT:    | POTENTIAL TRANSFORMER         |  |
|        | ≡     | FUSE                           | KVA:   | KILO VOLT AMPERE              |  |
| MPB:   |       | MAIN PANEL BOARD               | KW:    | KILO WATT                     |  |
| SMPB:  |       | SUB MAIN PANEL BOARD           | KA:    | KILO AMPERE                   |  |
| MCCB:  |       | MOULDED CASE CIRCUIT BREAKER   | RC:    | RUPTURING CAPACITY            |  |
| M/S:   |       | MAIN SWITCH                    | ECP-N: | EARTH CONNECTING POINT-NEURAL |  |
| Adj:   |       | ADJUSTABLE                     | ECP-B: | EARTH CONNECTING POINT-BODY   |  |
| ATP:   |       | AMPERE TRIPLE POLE             | KWH:   | KILO WATT HOUR                |  |
| AFF:   |       | AMPERE FOUR POLE               | ATS:   | AUTO TRANSFER SWITCH          |  |
| PFI:   |       | POWER FACTOR IMPROVEMENT PLANT | AMFP:  | AUTO MAIN FAILURE PANEL       |  |
| SCC:   |       | STRANDED COPPER CONDUCTOR ECP  |        |                               |  |
| ECP:   |       | EARTH CONNECTING POINT         |        |                               |  |

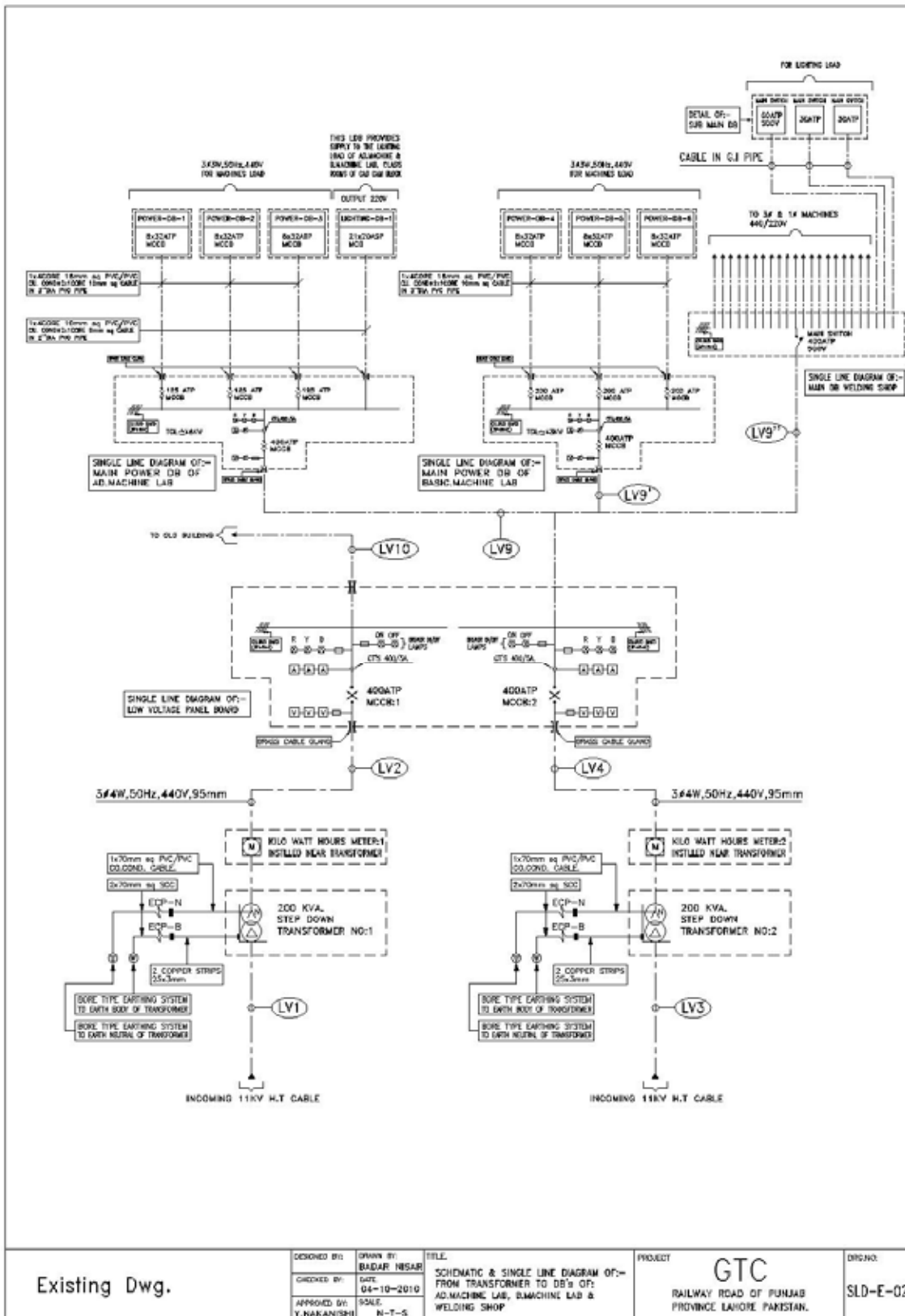
| SCHEDULE OF CABLES |             |                                   |  |            |         |
|--------------------|-------------|-----------------------------------|--|------------|---------|
| CABLE NO:          | CABLE SIZE: | CABLE FROM:                       | CABLE TO:                                  | PIPE SIZE: | REMARKS |
| LV1                | 95mm, 4CORE | LESCO TRANSFORMER, 200KVA         | ENERGY (KWH) METER                         | OPEN AIR   | A.C     |
| LV2                | 95mm, 4CORE | ENERGY (KWH) METER                | MCCB NO:1 IN LOW VOLTAGE PANEL             | OPEN AIR   | A.C     |
| LV3                | 95mm, 4CORE | LESCO TRANSFORMER, 200KVA         | ENERGY (KWH) METER                         | OPEN AIR   | A.C     |
| LV4                | 95mm, 4CORE | ENERGY (KWH) METER                | MCCB NO:2 IN LOW VOLTAGE PANEL             | OPEN AIR   | A.C     |
| LV5                | 95mm, 4CORE | LESCO TRANSFORMER, 200KVA         | ENERGY (KWH) METER                         | OPEN AIR   | A.C     |
| LV6                | 95mm, 4CORE | ENERGY (KWH) METER                | ATS PANEL THROUGH 400ATP, MCCB             | OPEN AIR   | A.C     |
| LV7                | 95mm, 4CORE | GENERATOR 65KVA                   | ATS PANEL                                  | 2" DIA     | A.C     |
| LV8                | 95mm, 4CORE | ATS PANEL                         | ARCH. DEPT./P.OFFICE/CAD CAM/TRAINING ROOM | OPEN AIR   | A.C     |
| LV9                | 95mm, 4CORE | LV PANEL 440V, MCCB NO:2          | MAIN POWER DB OF AD.MACHINE LAB            | OPEN AIR   | A.C     |
| LV9'               | 95mm, 4CORE | JOINT WITH LV9                    | MAIN POWER DB OF B.MACHINE LAB             | OPEN AIR   | A.C     |
| LV9''              | 95mm, 4CORE | JOINT WITH LV9'                   | MAIN POWER DB OF WELDING LAB               | OPEN AIR   | A.C     |
| LV10               | 95mm, 4CORE | LV PANEL 440V, MCCB NO:1          | MAIN POWER DB OF R.A.C DEPARTMENT          | OPEN AIR   | A.C     |
| LV11               | 95mm, 4CORE | MAIN POWER DB OF R.A.C DEPARTMENT | MATERIAL TESTING LAB DB                    | 2" DIA     | A.C     |
| LV12               | 95mm, 4CORE | MATERIAL TESTING LAB DB           | POWER LAB MAIN PANEL BOARD                 | 2" DIA     | A.C     |
| LV12'              | 95mm, 4CORE | JOINT WITH LV12                   | WOOD WORK SHOP MAIN DB                     | 2" DIA     | A.C     |
| LV13               | 2.5mm       | POWER LAB MAIN PANEL BOARD        | METAL LAB                                  | 1" DIA     | A.C     |

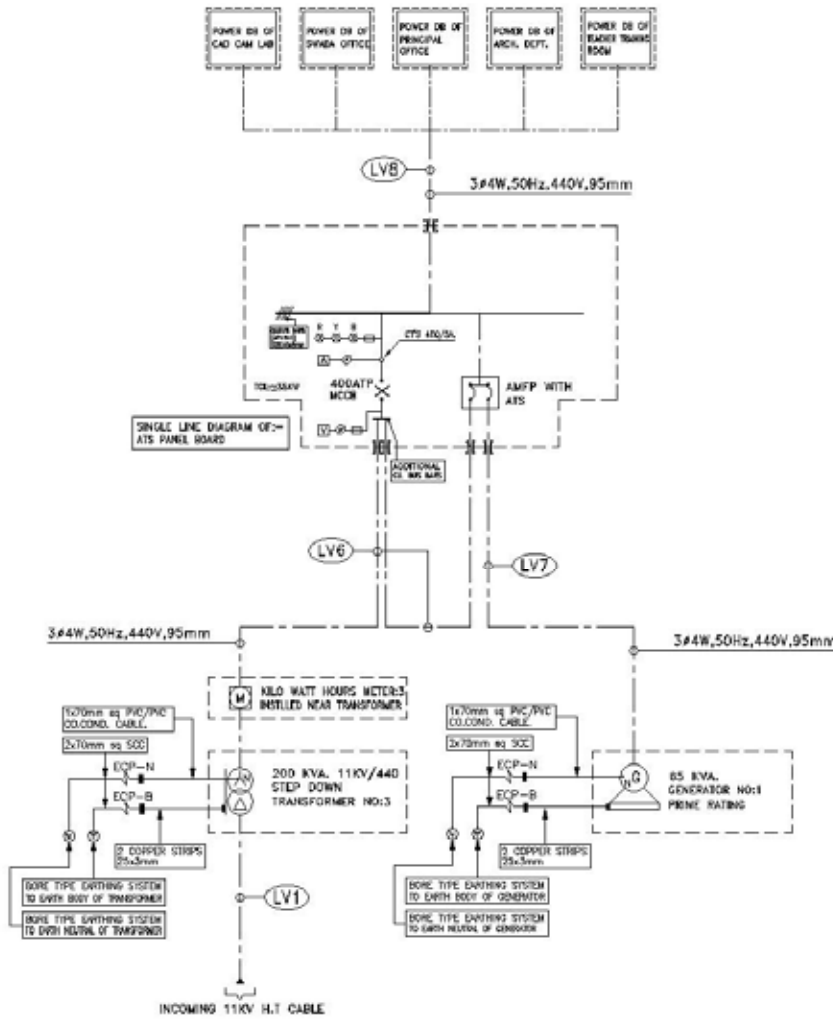
  

| SPECS. TABLE OF LOW VOLTAGE PANEL,<br>AD.MACHINES LAB & B.MACHINES LAB |                      |          |           |
|--|----------------------|----------|-----------|
| S.NO:  | DESCRIPTION:         | BRAND:   | QUANTITY: |
| 1  | 400ATP, MCCB RC:25KA | TERASAKI | 05        |
| 2  | 200ATP, MCCB RC:15KA | TERASAKI | 03        |
| 3  | 125ATP, MCCB RC:15KA | TERASAKI | 03        |
| 4  | 32ATP, MCCB RC:15KA  | TERASAKI | 48        |
| 5  | 20ATP, MCCB RC:15KA  | TERASAKI | 21        |
| 6  | C.T, 15VA, 400/5A    | RIKZEN   | 12        |
|  |                      |          |           |
|  |                      |          |           |
|  |                      |          |           |

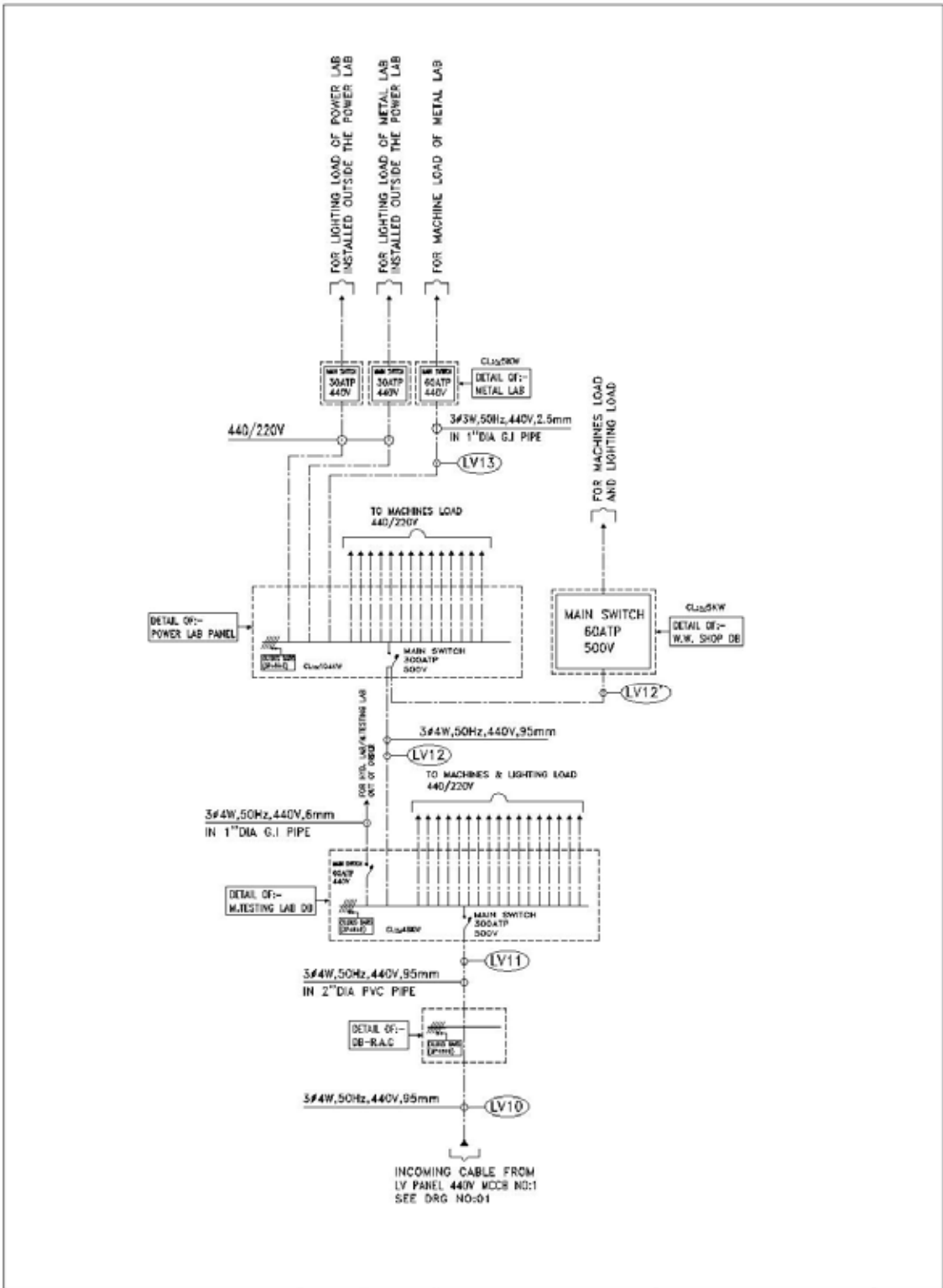
  

|               |              |                   |                     |         |  |          |
|---------------|--------------|-------------------|---------------------|---------|--|----------|
| Existing Dwg. | DESIGNED BY: | DRWN BY:          | TITLE:              | PROJECT | GTC<br>RAILWAY ROAD OF PUNJAB<br>PROVINCE LAHORE PAKISTAN. | DRG.NO.  |
|               | CHECKED BY:  | BADAR HESAR       | -LEGEND             |         |  |          |
|               | APPROVED BY: | SAR<br>04-10-2010 | -SCHEDULE OF CABLES |         |  |          |
|               |              |                   | -SPECS. TABLE       |         |  | SLD-E-01 |



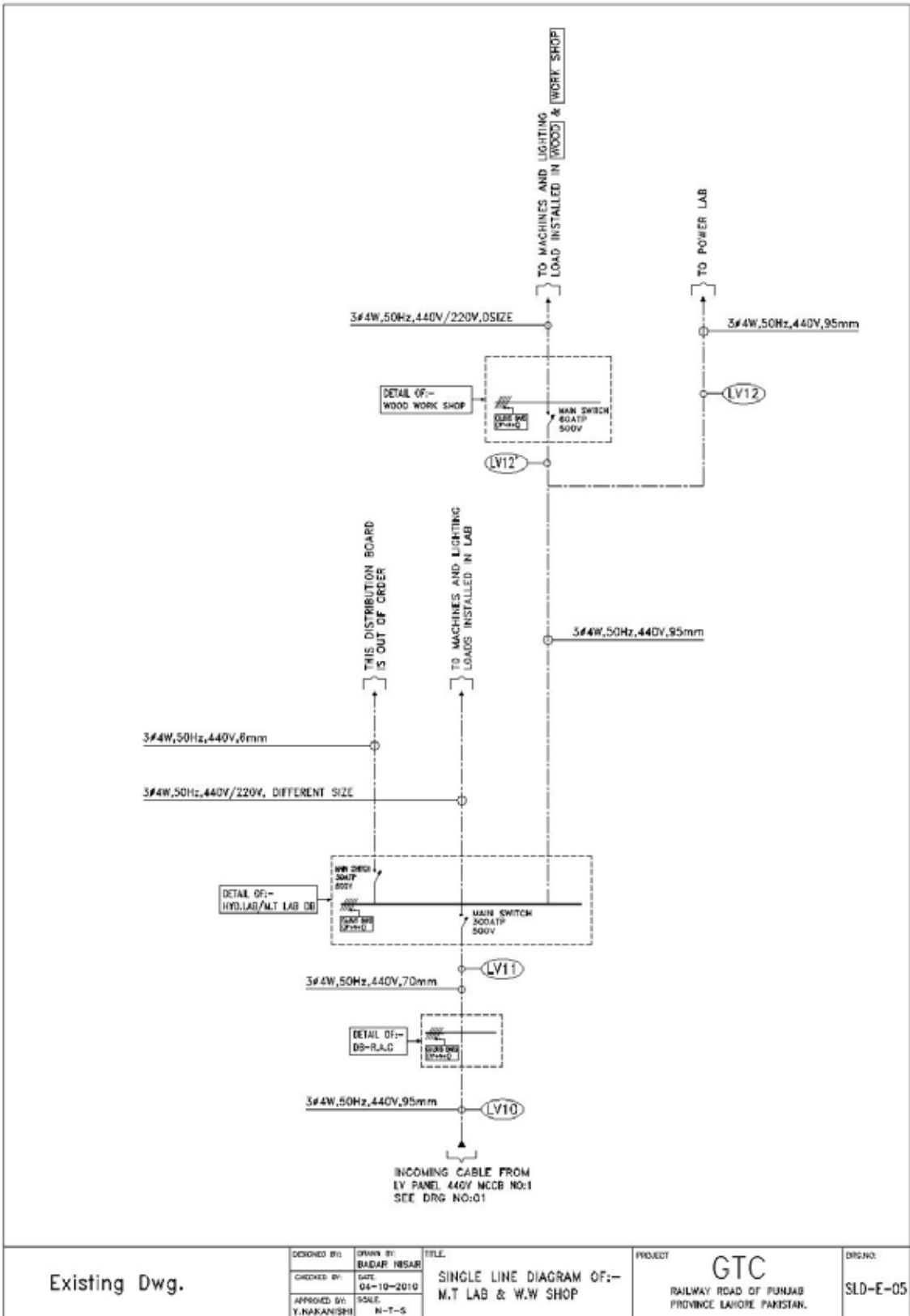


|               |              |           |  |          |  |           |
|---------------|--------------|-----------|--|----------|--|-----------|
| Existing Dwg. | DESIGNED BY: | DRAWN BY: | TITLE<br><b>SINGLE LINE DIAGRAM OF:-<br/>ATS PANEL BOARD</b> | PROJECT: | GTC<br>RAILWAY ROAD OF PUNJAB<br>PROVINCE LAHORE PAKISTAN. | DRG. NO.: |
|               | CHECKED BY:  | DATE:     |  | SLD-E-03 |  |           |
|               | APPROVED BY: | SCALE:    |  |          |  |           |
|               |              | N-T-5     |  |          |  |           |

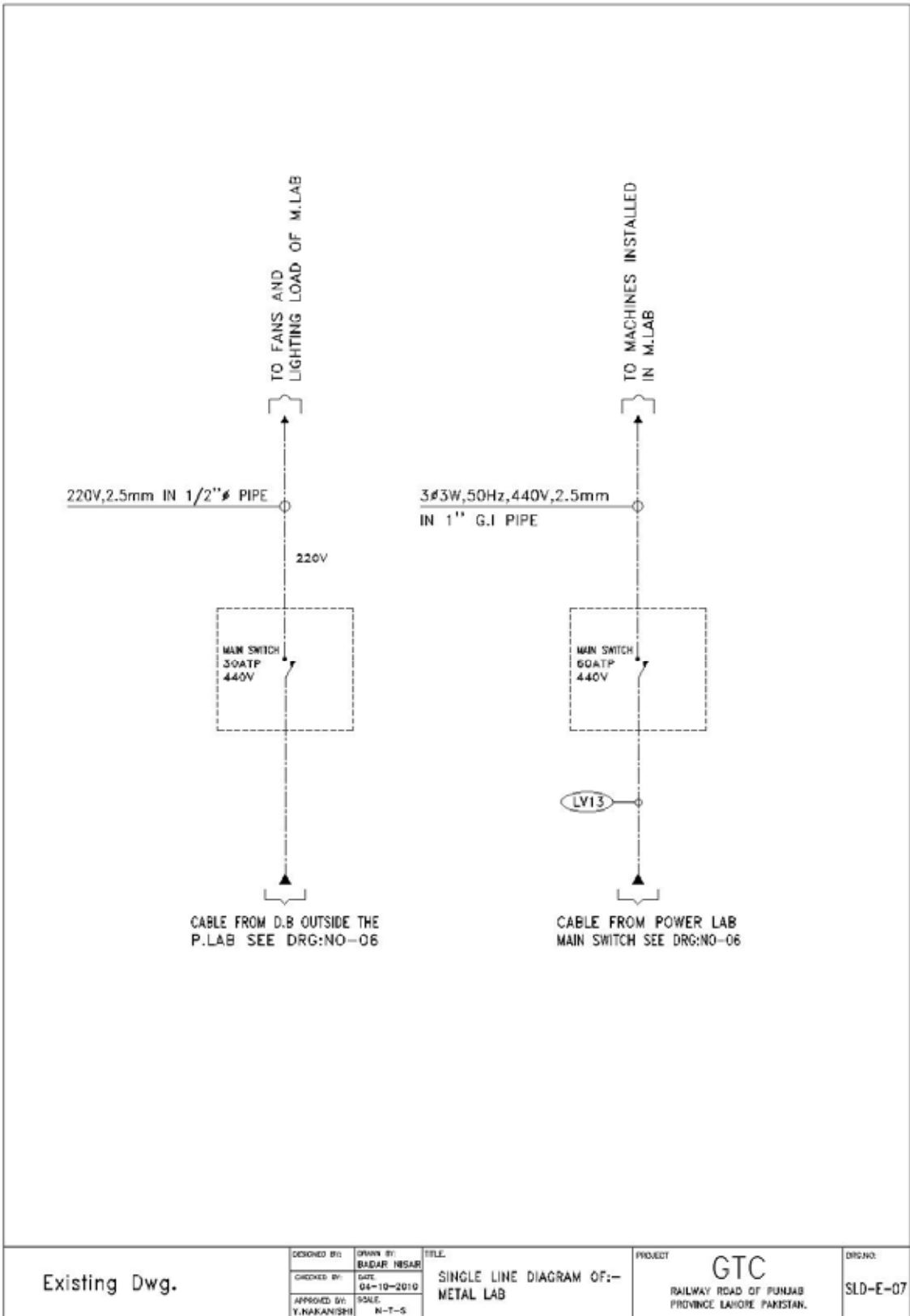


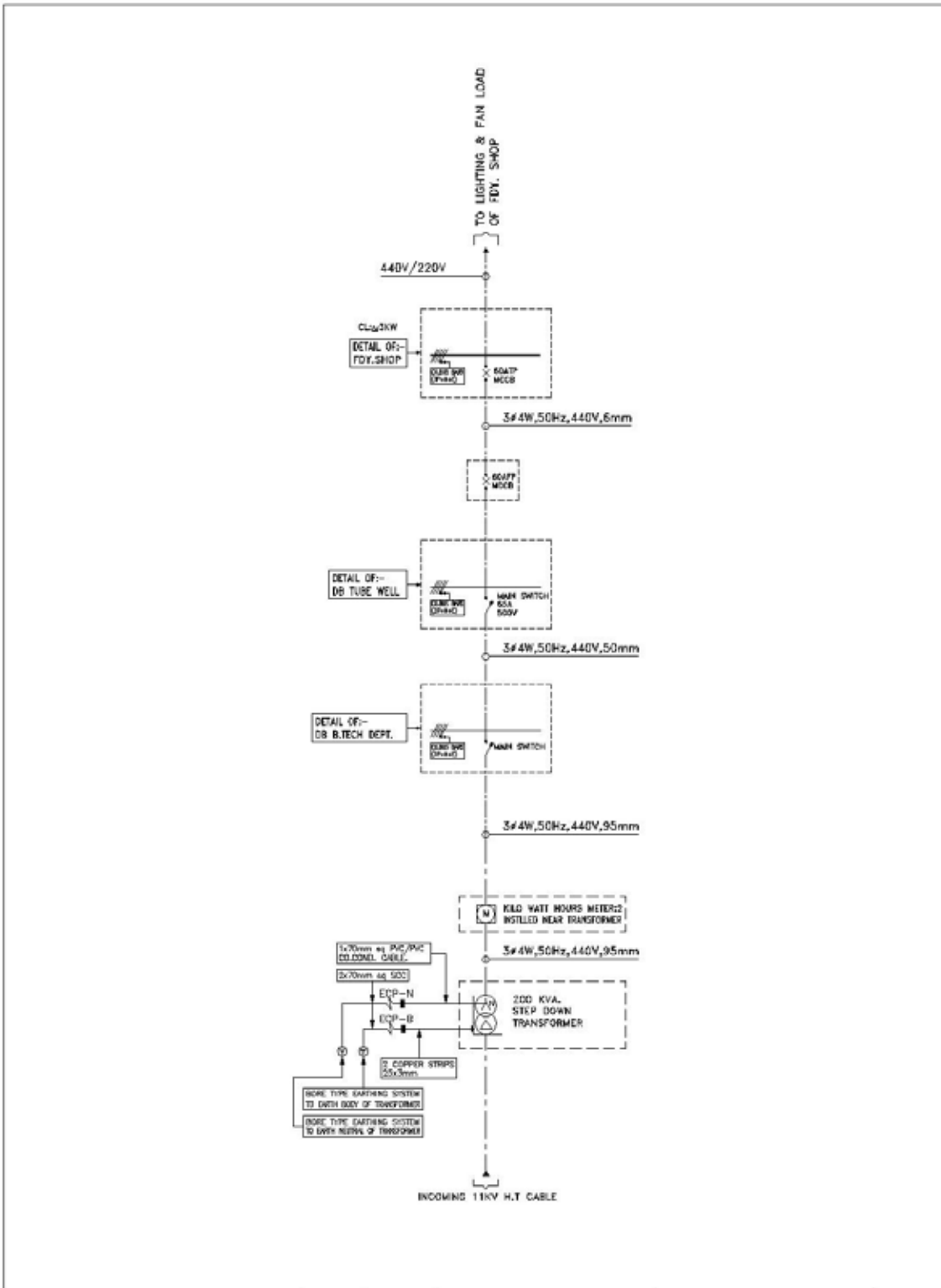
|               |              |           |                                  |         |  |                      |
|---------------|--------------|-----------|----------------------------------|---------|--|----------------------|
| Existing Dwg. | DESIGNED BY: | DRAWN BY: | TITLE:                           | PROJECT | GTC<br>RAILWAY ROAD OF PUNJAB<br>PROVINCE LAHORE PAKISTAN. | DRG. NO:<br>SLD-E-04 |
|               | CHECKED BY:  | DATE:     | DISTRIBUTION DIAGRAM FROM        |         |  |                      |
|               | APPROVED BY: | SCALE:    | LV PANEL 440V (MCCB NO:01) TO    |         |  |                      |
|               |              |           | M.T LAB, W.W.SHOP, POWER & M.LAB |         |  |                      |









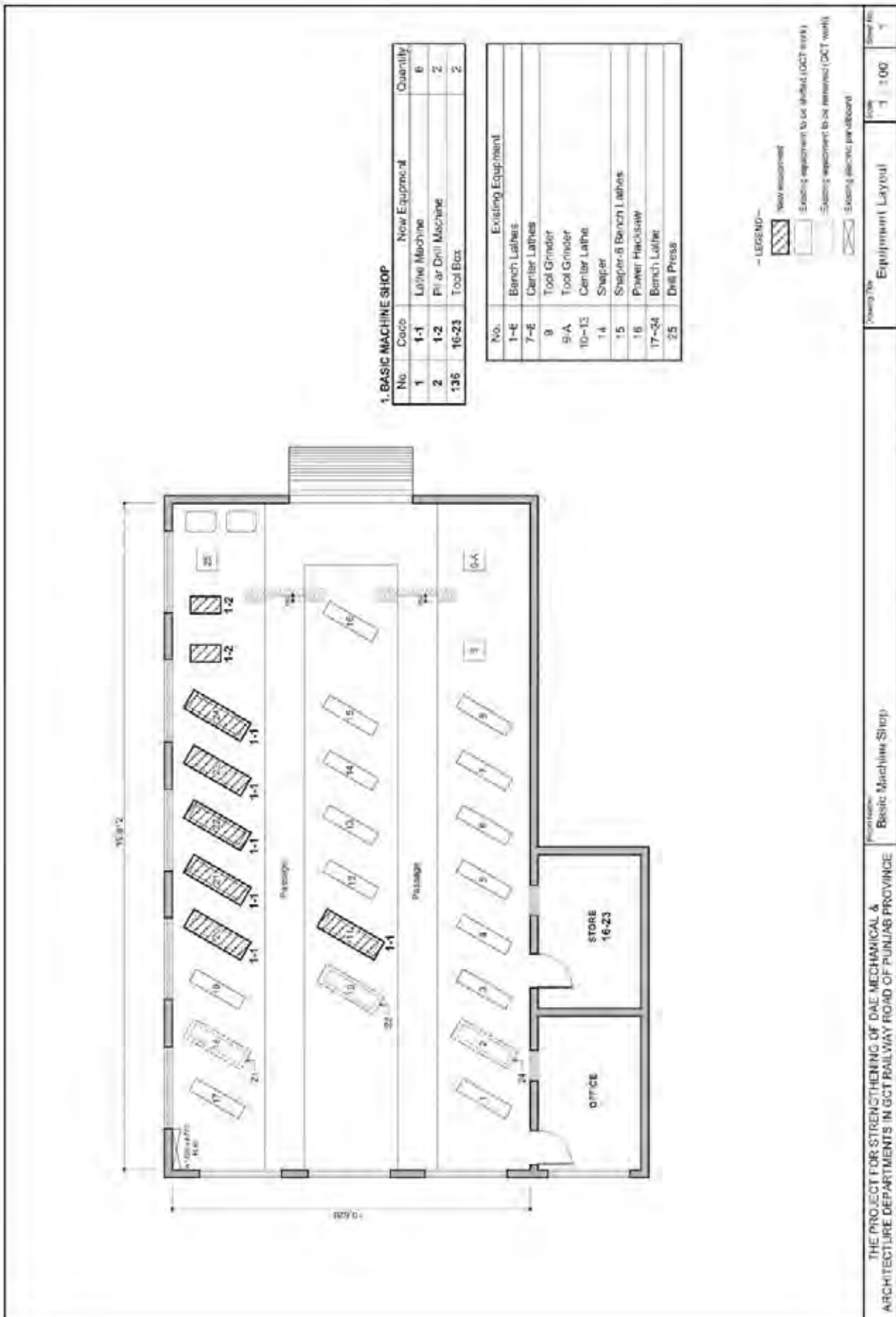


|               |              |             |                                       |  |           |
|---------------|--------------|-------------|---------------------------------------|--|-----------|
| Existing Dwg. | DESIGNED BY: | QMAN BY:    | TITLE:                                | PROJECT:   | DRG. NO.: |
|               | CHECKED BY:  | BADAR NISAR | SINGLE LINE DIAGRAM OF:-<br>FDY. SHOP | GTC<br>RAILWAY ROAD OF PUNJAB<br>PROVINCE LAHORE PAKISTAN. | SLD-E-08  |
|               | APPROVED BY: | DATE:       |                                       |  |           |
|               | Y. NAKANISHI | 04-10-2010  |                                       |  |           |
|               | SCALE:       | N-T-5       |                                       |  |           |





## 6. Equipment Layout Plan





**2. ADVANCE MACHINE SHOP**

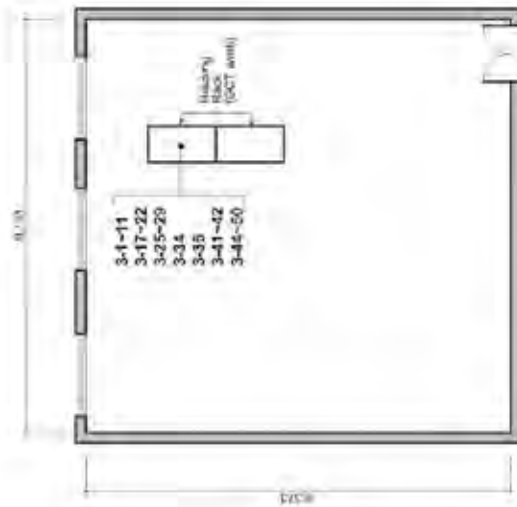
| No. | Code  | New Equipment                     | Quantity |
|-----|-------|-----------------------------------|----------|
| 1   | 2-1   | Lathe Machine                     | 3        |
| 3   | 2-2   | Hobbing Machine                   | 1        |
| 4   | 2-3   | Vertical Milling Machine          | 2        |
| 5   | 2-4   | Shaper                            | 1        |
| 6   | 2-5   | Surface Grinder                   | 1        |
| 7   | 2-6   | Universal Tool and Cutter Grinder | 1        |
| 8   | 2-7   | Micrometer                        | 5        |
| 9   | 2-8   | Digital Caliper                   | 5        |
| 136 | 16-23 | Tool Box                          | 2        |

| No.   | Existing Equipment    | Quantity |
|-------|-----------------------|----------|
| 1-3   | Milling Machine       | 5HP      |
| 4     | Drill Machine         | 2HP      |
| 5-8   | Milling Machine       | 5HP      |
| 9     | Power Hacksaw         | 2HP      |
| 10    | Vertical Milling      | 3HP      |
| 11-13 | Lathe Machine         | 2HP      |
| 14    | Lathe Machine         | 3HP      |
| 15    | Surface Grinder       | 3HP      |
| 16    | Arbor Press           | ---      |
| 17    | Shaper Machine        | 3HP      |
| 18    | Surface Table         | ---      |
| 19    | Shaper Machine        | 3HP      |
| 20    | Tool Grinder          | 2HP      |
| 21    | Drill Machine         | 2HP      |
| 22    | Tool & Cutter Grinder | 2HP      |
| 23    | Cylindrical Grinder   | 7HP      |

- LEGEND -
- :New equipment
  - :Existing equipment to be shifted (GCT work)
  - :Existing equipment to be removed (GCT work)
  - :Existing electric panelboard

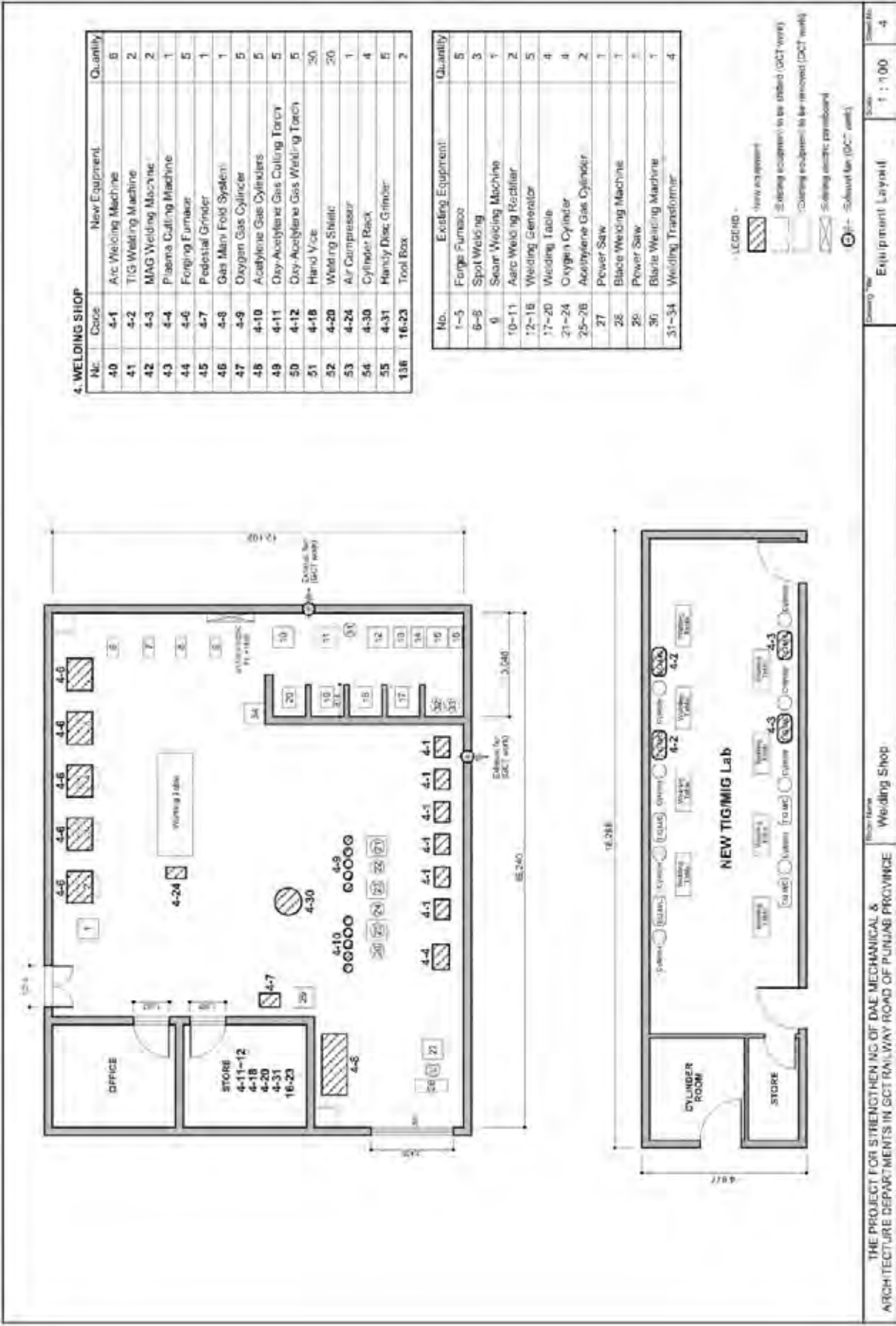
3. METROLOGY LAB.

| No. | Code | New Equipment                       | Quantity |
|-----|------|-------------------------------------|----------|
| 8   | 3-1  | Micrommeter                         | 10       |
| 10  | 3-2  | Anvil Micrometer                    | 5        |
| 9   | 3-3  | Digital Caliper                     | 10       |
| 11  | 3-4  | Digital Pitch Caliper               | 5        |
| 12  | 3-5  | Dial Indicator                      | 10       |
| 13  | 3-6  | Digital Depth Gauge                 | 10       |
| 14  | 3-7  | Digital Height Gauge                | 5        |
| 15  | 3-9  | Dial Caliper                        | 5        |
| 16  | 3-10 | Dial Bore Gauge                     | 3        |
| 17  | 3-11 | Dial Caliper Gauge                  | 3        |
| 18  | 3-17 | Inner Micrometer                    | 3        |
| 19  | 3-18 | Groove Width Caliper                | 3        |
| 20  | 3-19 | Mechanical Comparator               | 2        |
| 21  | 3-20 | Electronic Comparator               | 2        |
| 22  | 3-21 | Engineering Microscope              | 2        |
| 23  | 3-22 | Depth Gauge                         | 10       |
| 24  | 3-25 | Steel Surface Plate                 | 4        |
| 25  | 3-26 | Snub Gauge set                      | 10       |
| 26  | 3-27 | Ring Gauge set                      | 2        |
| 27  | 3-28 | Thread Ring Gauge                   | 5        |
| 28  | 3-29 | Protector                           | 10       |
| 29  | 3-34 | Point Micrometer                    | 5        |
| 30  | 3-36 | Depth Micrometer                    | 4        |
| 31  | 3-41 | Radius Gauge                        | 5        |
| 32  | 3-42 | Screw Fit Gauge                     | 10       |
| 33  | 3-44 | Universal Gear Inspection Equipment | 1        |
| 34  | 3-45 | Digital Gauge Tester                | 1        |
| 35  | 3-46 | Taper Gauge                         | 3        |
| 36  | 3-47 | Parallel Bar                        | 10       |
| 37  | 3-48 | Surface Roughness Standard Piece    | 2        |
| 38  | 3-49 | Dial Gauge                          | 2        |
| 39  | 3-50 | Square V Block                      | 2        |



--- LEGEND ---

- New equipment
- Existing equipment to be added (GCT work)
- Existing equipment to be removed (GCT work)
- Existing work piece/fixture

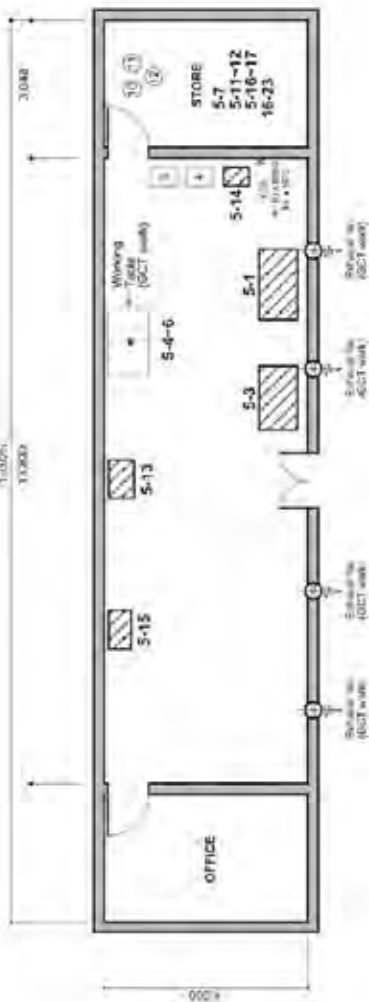


**4. WELDING SHOP**

| No. | Code  | New Equipment                   | Quantity |
|-----|-------|---------------------------------|----------|
| 40  | 4-1   | Arc Welding Machine             | 5        |
| 41  | 4-2   | TIG Welding Machine             | 2        |
| 42  | 4-3   | MAG Welding Machine             | 2        |
| 43  | 4-4   | Plasma Cutting Machine          | 1        |
| 44  | 4-6   | Forging Furnace                 | 5        |
| 45  | 4-7   | Pedestal Grinder                | 1        |
| 46  | 4-8   | Gas Melt Fold System            | 1        |
| 47  | 4-9   | Oxygen Gas Cylinder             | 5        |
| 48  | 4-10  | Acetylene Gas Cylinders         | 5        |
| 49  | 4-11  | Day-Acetylene Gas Cutting Torch | 5        |
| 50  | 4-12  | Day-Acetylene Gas Welding Torch | 5        |
| 51  | 4-18  | Hand Vice                       | 50       |
| 52  | 4-20  | Welding Shield                  | 20       |
| 53  | 4-24  | Air Compressor                  | 1        |
| 54  | 4-30  | Cylinder Rack                   | 4        |
| 55  | 4-31  | Handy Disc Grinder              | 5        |
| 136 | 16-23 | Tool Box                        | 2        |

| No.   | Existing Equipment     | Quantity |
|-------|------------------------|----------|
| 1-3   | Forge Furnace          | 5        |
| 6-8   | Spot Welding           | 3        |
| 9     | Seam Welding Machine   | 1        |
| 10-11 | Arc Welding Rectifier  | 2        |
| 12-18 | Welding Generator      | 5        |
| 17-20 | Welding Table          | 4        |
| 21-24 | Oxygen Cylinder        | 4        |
| 25-28 | Acetylene Gas Cylinder | 2        |
| 27    | Power Saw              | 1        |
| 29    | Blaze Welding Machine  | 1        |
| 30    | Power Saw              | 5        |
| 31    | Blaze Welding Machine  | 1        |
| 31-34 | Welding Transformer    | 4        |

- LEGEND**
- New equipment
  - Existing equipment to be added (GCT work)
  - Existing equipment to be removed (DCT work)
  - Solving electric panelboard
  - Solvent fan (DCT work)

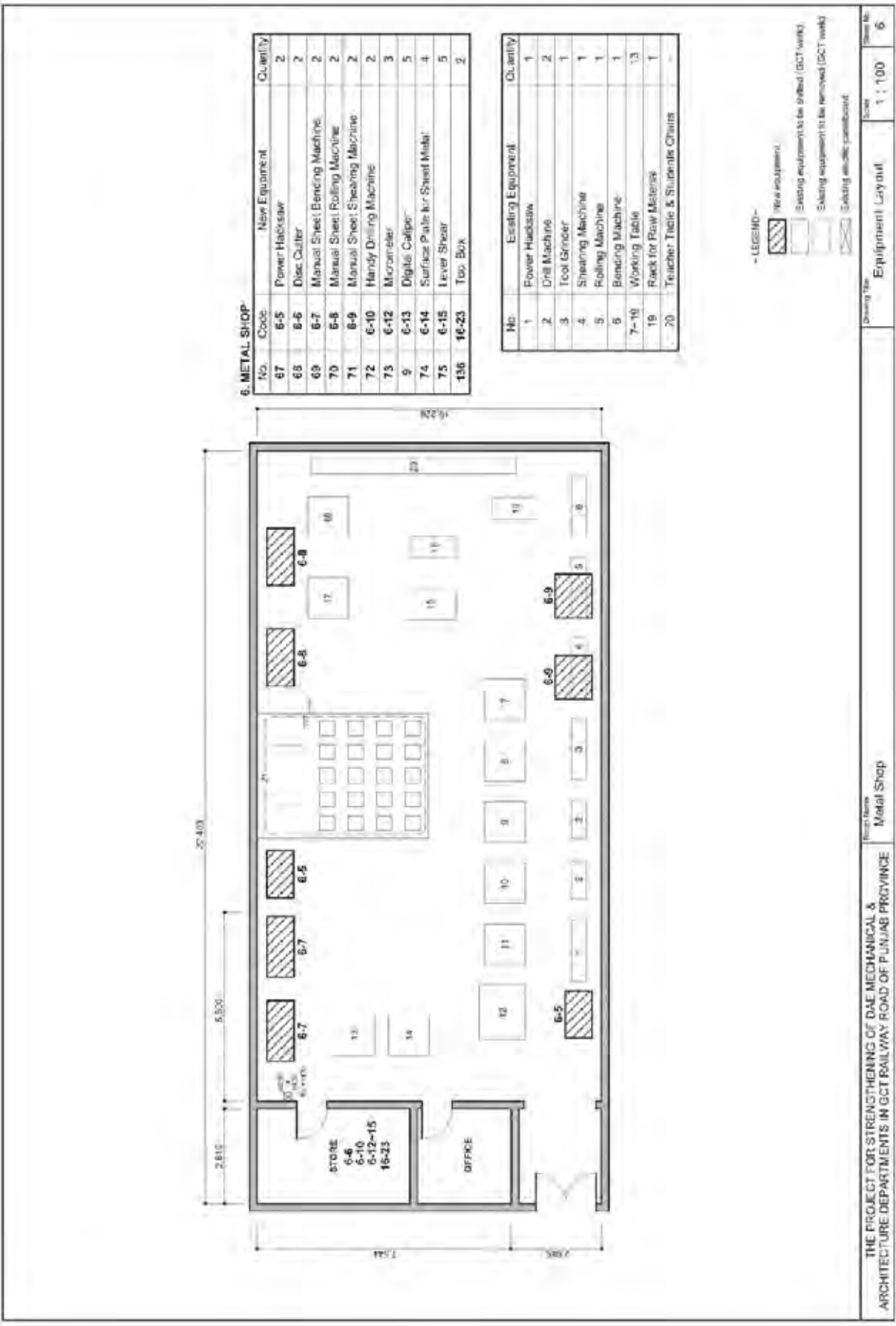


5. FOUNDRY SHOP

| No. | Code  | New Equipment                | Quantity |
|-----|-------|------------------------------|----------|
| 55  | 5-1   | Tilling Crucible Furnace     | 1        |
| 57  | 5-3   | Jett Squeeze Molding Machine | 1        |
| 58  | 5-4   | Sand Milling Machine         | 1        |
| 59  | 5-5   | Permeability Meter           | 1        |
| 60  | 5-6   | Muc Teller                   | 1        |
| 61  | 5-7   | Pyrometer                    | 2        |
| 62  | 5-11  | Crucible                     | 8        |
| 63  | 5-12  | Muc Box                      | 8        |
| 64  | 5-13  | Power Rubble Machine         | 7        |
| 45  | 5-14  | Pedestal Grinder             | 1        |
| 53  | 5-15  | Air Compressor               | 1        |
| 65  | 5-16  | Air Blower                   | 2        |
| 66  | 5-17  | Air Gun                      | 5        |
| 136 | 1B-23 | Tool Box                     | 2        |

| No.   | Existing Equipment                  | Quantity |
|-------|-------------------------------------|----------|
| 3-4   | Combination Grinding and Buffer Mic | 2        |
| 10-11 | Pyrometer                           | 2        |
| 12    | Power Rubble Mic.                   | 1        |

- LEGEND-
- New equipment
  - Existing equipment to be added (DCT work)
  - Existing equipment to be removed (DCT work)
  - Existing electric precast
  - Exhaust fan (60" diam)



**6. METAL SHOP**

| No. | Code  | Name Equipment                | Quantity |
|-----|-------|-------------------------------|----------|
| 67  | 6-5   | Power Hacksaw                 | 2        |
| 68  | 6-6   | Disc Cutter                   | 2        |
| 69  | 6-7   | Manual Sheet Bending Machine  | 2        |
| 70  | 6-8   | Manual Sheet Rolling Machine  | 2        |
| 71  | 6-9   | Manual Sheet Shearing Machine | 2        |
| 72  | 6-10  | Handy Drilling Machine        | 2        |
| 73  | 6-12  | Micrometer                    | 3        |
| 9   | 6-13  | Digital Caliper               | 5        |
| 74  | 6-14  | Surface Plate for Sheet Metal | 4        |
| 75  | 6-15  | Lever Shear                   | 5        |
| 136 | 16-23 | Top Box                       | 2        |

| No.  | Existing Equipment              | Quantity |
|------|---------------------------------|----------|
| 1    | Power Hacksaw                   | 1        |
| 2    | Drill Machine                   | 2        |
| 3    | Tool Grinder                    | 1        |
| 4    | Shearing Machine                | 1        |
| 5    | Rolling Machine                 | 1        |
| 6    | Bending Machine                 | 1        |
| 7-10 | Working Table                   | 13       |
| 19   | Rack for Row Meterick           | 1        |
| 20   | Teacher Table & Students Chairs | -        |

**- LEGEND -**

- New equipment
- Existing equipment to be shifted (DCT work)
- Existing equipment to be removed (DCT work)
- Existing electric panelboard

**7. MATERIAL TESTING AND HEAT TREATMENT LAB.**

| No. | Code  | New Equipment                     | Quantity |
|-----|-------|-----------------------------------|----------|
| 76  | 7-1   | Brinell Hardness Testing Machine  | 1        |
| 77  | 7-2   | Rockwell Hardness Testing Machine | 1        |
| 78  | 7-8   | Metallogical Microscope           | 1        |
| 79  | 7-9   | Torsion Testing Machine           | 1        |
| 80  | 7-10  | Rotation Fatigue Testing Machine  | 1        |
| 81  | 7-11  | Electric Annealing Furnace        | 1        |
| 82  | 7-12  | Hardening and Quenching Bath      | 1        |
| 83  | 7-14  | Pedestal Grinder                  | 1        |
| 136 | 16-23 | Ultrasonic Detecting Equipment    | 1        |
|     |       | Tool Box                          | 2        |

**10. THERMODYNAMICS AND ENERGY CONSERVATION**

| No. | Code  | New Equipment                     | Quantity |
|-----|-------|-----------------------------------|----------|
| 113 | 10-3  | Ignition Point Testing Machine    | 1        |
| 114 | 10-9  | Air Compressor Testing Machine    | 1        |
| 115 | 10-10 | Gas Turbine Testing Machine       | 1        |
| 116 | 10-12 | Steam Boiler Experiment Apparatus | 1        |
| 136 | 16-23 | Tool Box                          | 2        |

**Transfer from existing Material Lab. (GCT work)**

| No. | Existing Equipment           | Quantity |
|-----|------------------------------|----------|
| 1   | Brinell Hardness Testing M/C | 1        |
| 2   | Annealing Furnace            | 1        |
| 3   | Sample Cut-off M/C           | 1        |
| 4   | Isod Impact Testing M/C      | 1        |
| 5   | Universal Testing M/C        | 1        |
| 6   | Sample Moulding Press        | 1        |
| 7   | Sample Polishing M/C         | 1        |
| 8   | Pedestal Grinder             | 1        |
| 9   | Rockwell Testing M/C         | 1        |
| 10  | Universal Testing M/C        | 1        |



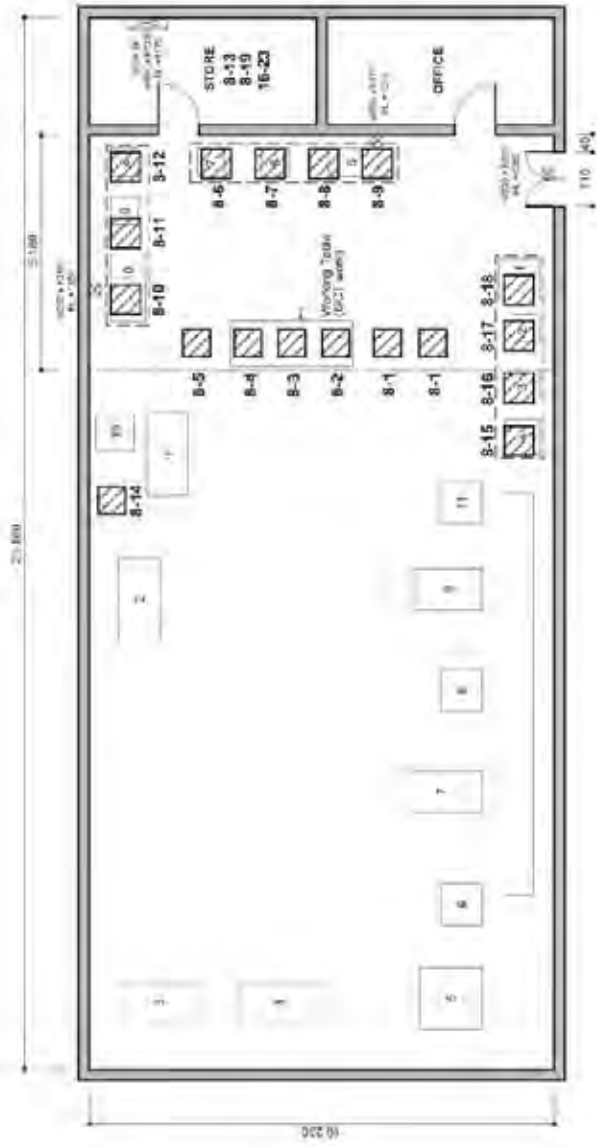
- LEGEND -
- New equipment
- Transfer from existing Material Lab. (GCT work)
- Existing equipment to be removed (GCT work)
- Existing electric panelboard

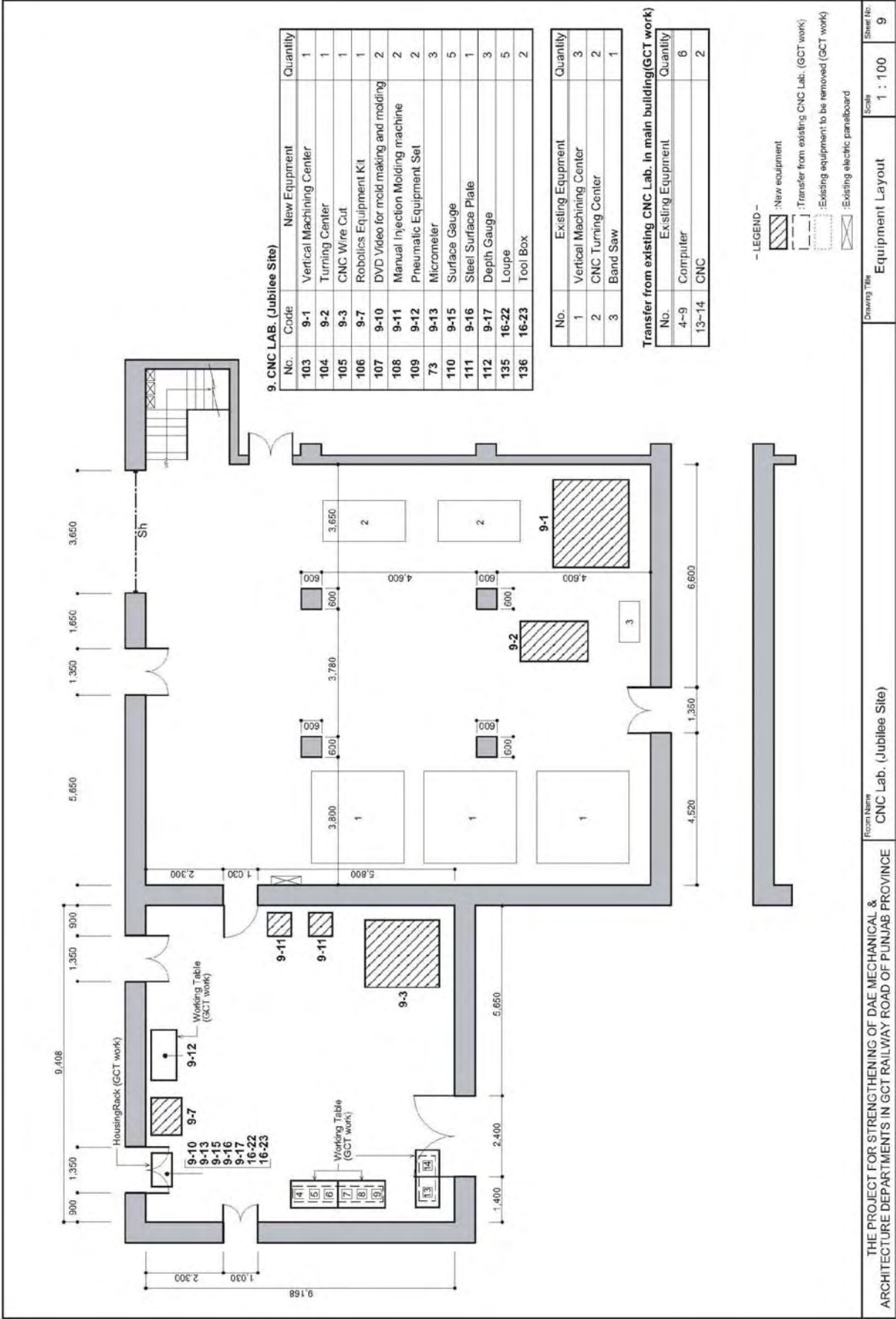


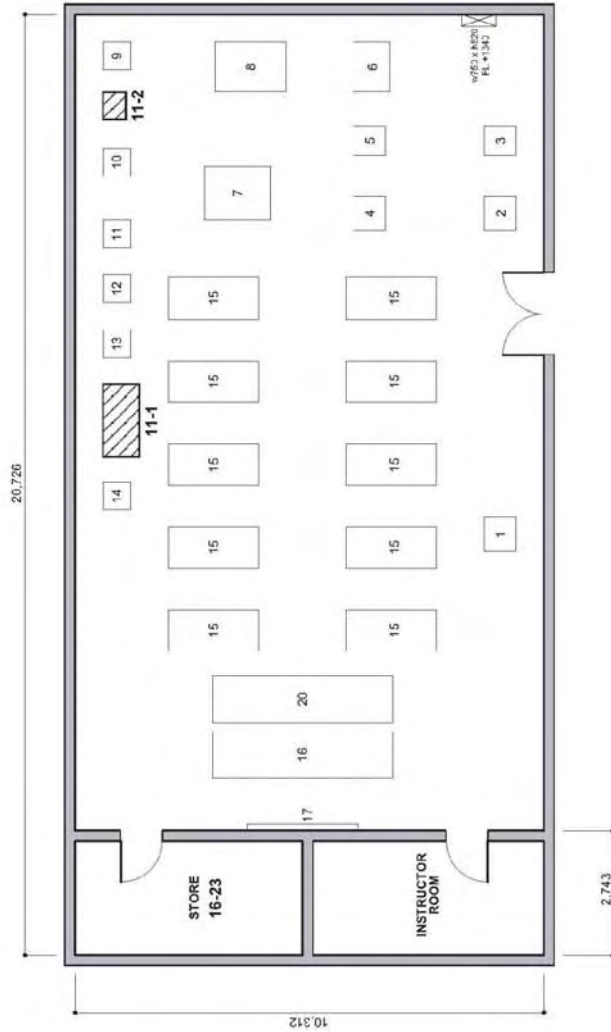
**8. HYDRAULICS LAB.**

| No. Code | New Equipment                                 | Quantity |
|----------|---|----------|
| 84       | 3-1 Fluid Friction Apparatus                  | 2        |
| 85       | 3-2 Venturi Meter Apparatus                   | 1        |
| 86       | 3-3 Bernoulli Theorem Demonstration Apparatus | 1        |
| 87       | 3-4 Orifice Flow Apparatus                    | 1        |
| 88       | 3-5 Apparatus of Energy Losses in Bends       | 1        |
| 89       | 3-6 Centrifugal Pump Apparatus                | 1        |
| 90       | 3-7 Axial Pump Apparatus                      | 1        |
| 91       | 3-8 Piston Pump Apparatus                     | 1        |
| 92       | 3-9 Pelton Turbine                            | 1        |
| 93       | 3-10 Axial Flow Turbine                       | 1        |
| 94       | 3-11 Francis Turbine                          | 1        |
| 95       | 3-12 Radial Flow Turbine                      | 1        |
| 96       | 3-13 Hydraulic Equipment Set                  | 2        |
| 97       | 3-14 Hydraulic Bench                          | 1        |
| 98       | 3-15 Axial Pump (Sectional Cut Model)         | 1        |
| 99       | 3-16 Ball Valve (Sectional Cut Model)         | 1        |
| 100      | 3-17 Valve Pump (Sectional Cut Model)         | 1        |
| 101      | 3-18 Piston Pump (Sectional Cut Model)        | 1        |
| 102      | 3-19 Digital Length Measuring Equipment       | 1        |
| 136      | 16-23 Test Bed                                | 2        |

| No.  | Existing Equipment                        | Quantity |
|------|---|----------|
| 1    | Fluid Friction in Pipes & Bends Apparatus | 1        |
| 2    | Pelton Whirling Pelton Turbine            | 1        |
| 3    | Reaction Turbine (axial flow)             | 1        |
| 4    | Reaction Turbine (radial flow)            | 1        |
| 5-6  | GILLES Water Turbine                      | 2        |
| 7    | Centrifugal Pump with Electric Motor      | 1        |
| 8    | Centrifugal Pump with Petrol Engine Drive | 1        |
| 9-10 | Hydraulics Benches                        | 2        |
| 11   | Reciprocating Pump with Electric Motor    | 1        |





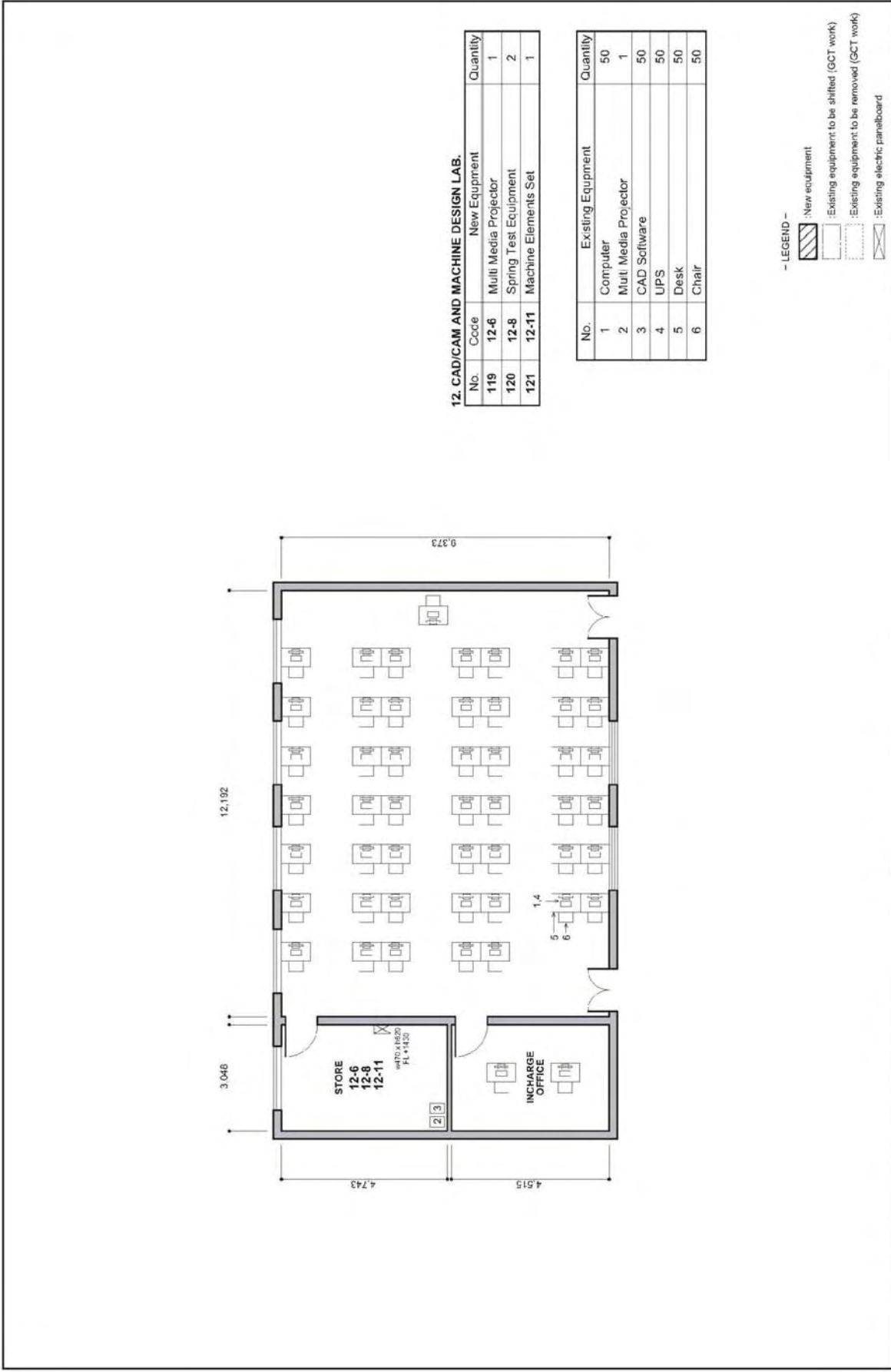


**11. WOOD WORK SHOP**

| No. | Code  | New Equipment      | Quantity |
|-----|-------|--------------------|----------|
| 117 | 11-1  | Wood Turning Lathe | 1        |
| 118 | 11-2  | Band Saw Machine   | 1        |
| 136 | 16-23 | Tool Box           | 2        |

| No. | Existing Equipment            | Quantity |
|-----|-------------------------------|----------|
| 1   | Drill Machine                 | 1        |
| 2   | Jig Saw                       | 1        |
| 3   | Air Compressor                | 1        |
| 4   | Planing & Thickening Machine  | 1        |
| 5   | Circular Saw                  | 1        |
| 6   | Surface Planing with Jointer  | 1        |
| 7   | Mortise Machine               | 1        |
| 8   | Boring & Receiving Machine    | 1        |
| 9   | Wood Turning Lathe            | 1        |
| 10  | Band Saw Machine              | 1        |
| 11  | Wood Turning Lathe            | 1        |
| 12  | Disc Sanding Machine          | 1        |
| 13  | Electric Grincer              | 1        |
| 14  | Surface Plate                 | 1        |
| 15  | Working Table with Bench Vice | 10       |
| 16  | Teacher Table with Bench Vice | -        |
| 17  | White Board                   | 1        |
| 20  | Students Benches              | -        |

- LEGEND -
- :New equipment
  - :Existing equipment to be shifted (GCT work)
  - :Existing equipment to be removed (SCT work)
  - :Existing electric panelboard



**12. CAD/CAM AND MACHINE DESIGN LAB.**

| No. | Code  | New Equipment         | Quantity |
|-----|-------|-----------------------|----------|
| 119 | 12-6  | Multi Media Projector | 1        |
| 120 | 12-8  | Spring Test Equipment | 2        |
| 121 | 12-11 | Machine Elements Set  | 1        |

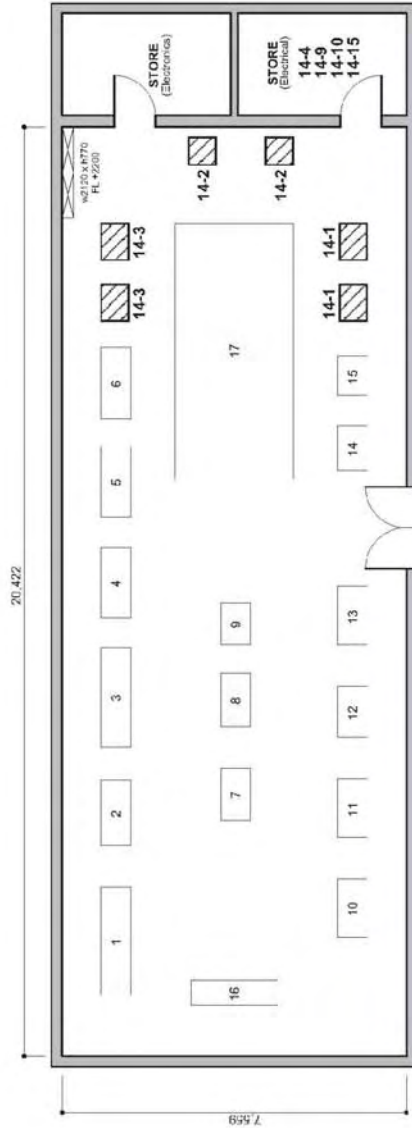
| No. | Existing Equipment    | Quantity |
|-----|-----------------------|----------|
| 1   | Computer              | 50       |
| 2   | Multi Media Projector | 1        |
| 3   | CAD Software          | 50       |
| 4   | UPS                   | 50       |
| 5   | Desk                  | 50       |
| 6   | Chair                 | 50       |

- LEGEND -
- : New equipment
  - : Existing equipment to be shifted (GCT work)
  - : Existing equipment to be removed (SCT work)
  - : Existing electric panelboard

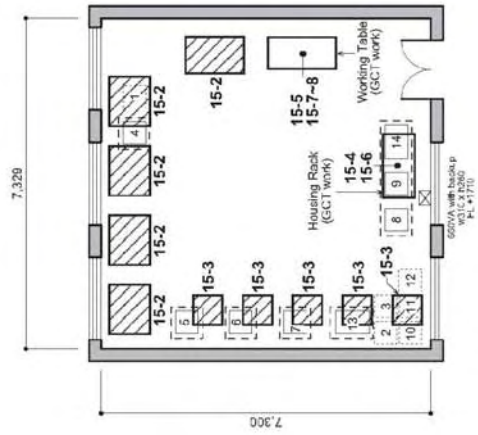
**14. POWER LAB.**

| No. | Code  | New Equipment              | Quantity |
|-----|-------|----------------------------|----------|
| 122 | 14-1  | Electrical Machine Trainer | 2        |
| 123 | 14-2  | Transformer Trainer        | 2        |
| 124 | 14-3  | Circuit Breaker Trainer    | 2        |
| 125 | 14-4  | Volt Meter DC/AC           | 10       |
| 126 | 14-9  | Multi Meter                | 10       |
| 127 | 14-10 | Wire Gauge                 | 20       |
| 128 | 14-15 | Phase Sequence Meter       | 5        |

| No. | Existing Equipment          | Quantity |
|-----|-----------------------------|----------|
| 1   | AC Generator                | 4HP      |
| 2   | Rectifier                   | 20A      |
| 3   | AC Generator                | 5KVA     |
| 4   | DC Motor Generator          | 3KVA     |
| 5-6 | DC Motor Compound Generator | 3HP      |
| 7   | AC Motor Generator          | 5HP      |
| 8   | DC Motor Generator          | 25KW     |
| 9   | DC Motor Generator          | 8KW      |
| 10  | DC Motor Generator          | 5HP      |
| 11  | DC Motor Generator          | 3HP      |
| 12  | DC Motor Generator          | 8HP      |
| 13  | DC Motor Generator          | 4HP      |
| 14  | Brake Pulley Test Machine   | 8HP      |
| 15  | Brake Pulley Test Machine   | 5HP      |
| 16  | Teacher Table               | 1        |
| 17  | Student Table & Chair       | ?        |



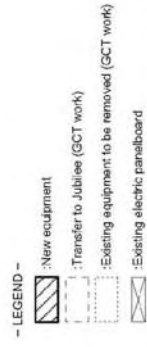
- LEGEND -
- : New equipment
  - : Existing equipment to be shifted (GCT work)
  - : Existing equipment to be removed (SCT work)
  - : Existing electric panelboard



**15. ELECTRONICS LAB.**

| No. | Code | New Equipment                  | Quantity |
|-----|------|--------------------------------|----------|
| 129 | 15-2 | Industrial Electronics Trainer | 5        |
| 130 | 15-3 | PLC Trainer                    | 5        |
| 126 | 15-4 | Multi Meter                    | 10       |
| 131 | 15-5 | Curve Tracer                   | 5        |
| 132 | 15-6 | Regulator Power Supply         | 5        |
| 133 | 15-7 | Oscilloscope                   | 2        |
| 134 | 15-8 | Function generator             | 2        |

| No.   | Existing Equipment | Quantity |
|-------|--------------------|----------|
| 1-12  | Computer           | 12       |
| 13-14 | CNC                | 2        |





**1. PRACTICE WORKSHOP**

| No. | Code | New Equipment                                | Quantity |
|-----|------|--|----------|
| 137 | 3-1  | Portable Compression Testing Machine(1000KN) | 2        |
| 138 | 3-2  | Concrete Test Standard Tool Set              | 1        |
| 139 | 3-3  | Hand Pallet Truck                            | 2        |
| 140 | 3-4  | Pallet                                       | 8        |
| 141 | 3-5  | White Board                                  | 2        |



1<sup>st</sup> FLOOR

- LEGEND -

- New equipment
- Existing equipment to be added (OCT work)
- Existing equipment to be removed (OCT work)

