

PLUMBING NOTES

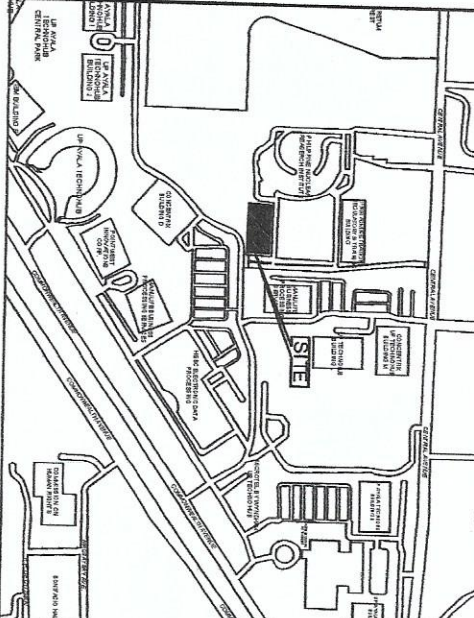
1. IT IS NOT INTENDED THAT THE DRAWINGS SHALL SHOW EVERY PIPE FITTING, VALVE AND APPURTENANCE. ALL SUCH ITEMS WHETHER SPECIFICALLY MENTIONED OR NOT, OR INDICATED ON THE DRAWINGS SHALL BE FURNISHED AND INSTALLED IF NECESSARY TO COMPLETE THE SYSTEM TO THE SATISFACTION OF THE OWNER.
2. ALL PLUMBING WORKS SHALL BE INSTALLED IN ACCORDANCE WITH THE PROVISIONS OF THE NATIONAL PLUMBING CODE OF THE PHILIPPINES, THE REQUIREMENTS OF THE LOCAL PLUMBING INSPECTION OFFICE, PERTINENT PROVISIONS OF THE UNIFORM BUILDING CODE AND UNIFORM PLUMBING CODE.
3. ALL PLUMBING INSTALLATION SHALL BE COORDINATED WITH OTHER TRADES. ANY REVISION IN THE PIPING LAYOUT REQUIRED FOR PROPER EXECUTION OF OTHER TRADES SHALL BE WITH PRIOR APPROVAL OF THE ENGINEER.
4. HORIZONTAL SANITARY SEWER PIPING SHALL BE RUN IN PRACTICAL ALIGNMENT AT A MINIMUM SLOPE OF 1% FOR PIPES 100MM Ø AND LARGER AND 2% FOR 75MM Ø AND SMALLER.
5. ALL VENT PIPES SHALL BE FREE FROM DROPS OR SAGS AND SHALL BE SLOPED OR GRADED AS TO DRIP BACK BY GRAVITY TO THE DRAINAGE PIPE IT SERVES.
6. THE CONTRACTOR SHALL VERIFY ALL EXISTING UTILITIES AT SITE THAT IS THE ACTUAL PIPE SIZES, LOCATIONS, DEPTHS, TOP & INVERT ELEVATIONS OF ALL EXISTING PIPES AND RELATED STRUCTURES. THE CONTRACTOR SHALL PROVIDE THE NECESSARY EXCAVATIONS, BACKFILLING & SURFACE RESTORATION OF THE AFFECTED AREAS IN THE LAYING OF SEWER & WATER SUPPLY LINES.
7. THE WATER DISTRIBUTION LINE SHALL HAVE A MINIMUM COVER OF 750MM. PROVIDE CONCRETE ENCASUREMENT FOR LESS THAN 750MM PIPE COVER.
8. CONCRETE THRUST BLOCKS SHALL BE PROVIDED IN ACCORDANCE WITH THE STANDARD DETAIL DRAWINGS AT ALL BENDS, TEES, VALVES, REDUCERS & FLUGS EXCEPT WHERE WELDED JOINTS ARE SHOWN OR SPECIFIED.
9. PROVIDE VALVE BOX FOR EACH EMBEDDED GATE VALVE.
10. ALL DIMENSIONS & PIPE SIZES ARE IN MILLIMETERS UNLESS OTHERWISE SHOWN.
11. ALL PIPE SIZES SHOWN ON PLAN WERE SIZED ACCORDING TO THEIR INSIDE DIAMETER.
12. ALL PIPE MATERIALS THAT PASSES TO RESERVE OSMOSIS PURIFIER WILL BE 316L STAINLESS STEEL PIPE.

LEGEND, SYMBOLS & ABBREVIATION

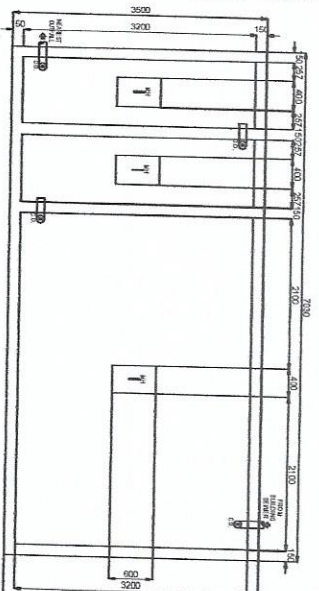
|     |   |                       |   |
|-----|---|-----------------------|---|
| WTR | — | VENT STACK THRU ROOF  | A |
| SVR | — | STACK VENT THRU ROOF  | X |
| SS  | — | SOIL STACK            | ⊙ |
| VS  | — | VENT STACK            | ⊙ |
| FD  | — | FLOOR DRAIN           | ⊙ |
| FOO | — | FLOOR CLEAN OUT       | ⊙ |
| LAV | — | LAVATORY              | ⊙ |
| WC  | — | WATER CLOSET          | ⊙ |
| SHO | — | SHOWER                | ⊙ |
| DP  | — | DRAIN PORT            | ⊙ |
| AC  | — | AIR CHAMBER           | ⊙ |
| DS  | — | DOWNSPOUT             | ⊙ |
| GV  | — | GATE VALVE            | ⊙ |
| EHM | — | ELECTRIC WATER HEATER | ⊙ |
| RD  | — | ROOF DRAIN            | ⊙ |
| CB  | — | CATCH BASIN           | ⊙ |
| RED | — | REDUCER               | ⊙ |

MINIMUM FIXTURE BRANCH PIPE SIZE

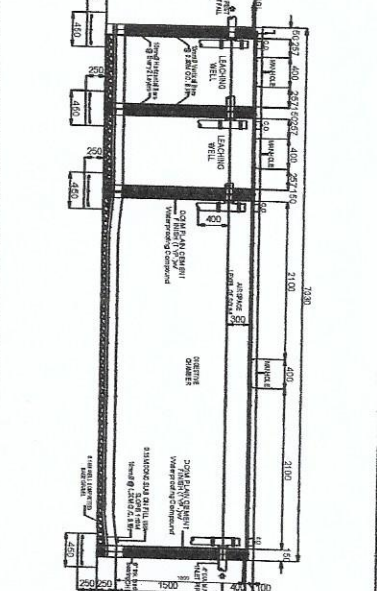
| FIXTURE TYPE               | WATER SUPPLY   | SANITARY DRAINAGE |
|----------------------------|----------------|-------------------|
| WATER CLOSET (FLUSH VALVE) | 25 MM Ø (1")   | 100 MM Ø (4")     |
| WATER CLOSET (FLUSH TANK)  | 20 MM Ø (1/2") | 100 MM Ø (4")     |
| URINAL (FLUSH VALVE)       | 20 MM Ø (3/4") | 50 MM Ø (3")      |
| LAVATORY                   | 20 MM Ø (1/2") | 50 MM Ø (3")      |
| SHOWER                     | 20 MM Ø (1/2") | 50 MM Ø (3")      |
| KITCHEN / PANTRY SINK      | 20 MM Ø (1/2") | 50 MM Ø (3")      |
| SINK (FLUSHING RIM CLINIC) | 20 MM Ø (1/2") | 75 MM Ø (3")      |
| SERVICE / SLOP SINK        | 20 MM Ø (1/2") | 75 MM Ø (3")      |



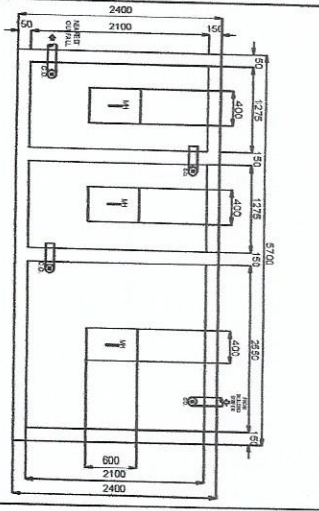
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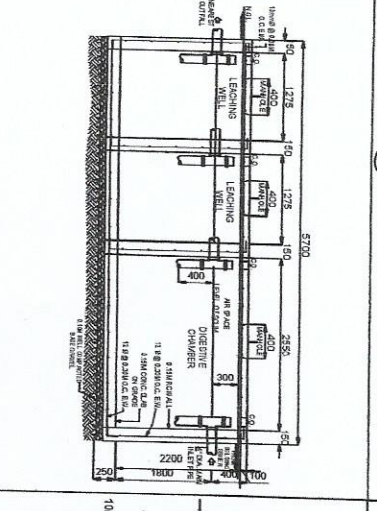
2 SEPTIC TANK PLAN  
SCALE: 1:100



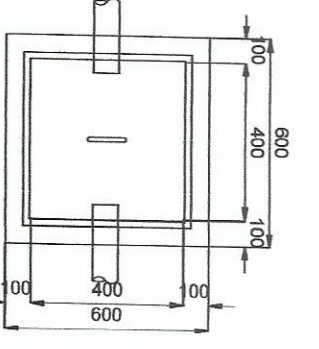
3 SEPTIC TANK DETAIL  
SCALE: 1:50



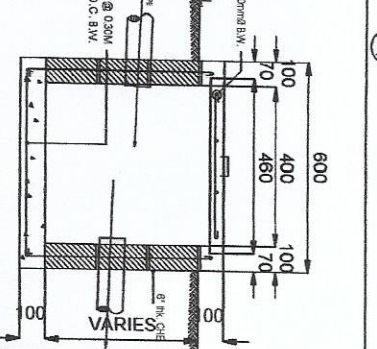
4 SEPTIC TANK PLAN  
SCALE: 1:100



5 SEPTIC TANK DETAIL  
SCALE: 1:50



6 CATCH BASIN PLAN  
SCALE: 1:100



7 CATCH BASIN DETAIL  
SCALE: 1:50



Republic of the Philippines  
DEPARTMENT OF SCIENCE AND TECHNOLOGY  
PHILIPPINE NUCLEAR RESEARCH INSTITUTE  
CORPORATE AVENUE, CALAMANG, QUEZON CITY

PROJECT: Innovating Nuclear Medicine Research and  
Services: Development of Emerging PET  
Radioisotopes for Early Cancer Staging  
and Assessment of Biologic Functions in  
Cancer Cell (CY 2022 (Phase 3))

BRIEF CONTENT: SEPTIC TANK PLAN  
AND DETAILS

DESIGNED BY: Engr. ROSEALYN REYES  
CHECKED BY: Engr. ARNOLD F. SALA  
APPROVED BY: Engr. ARNOLD F. SALA  
Engr. ARNOLD F. SALA  
Engr. ARNOLD F. SALA

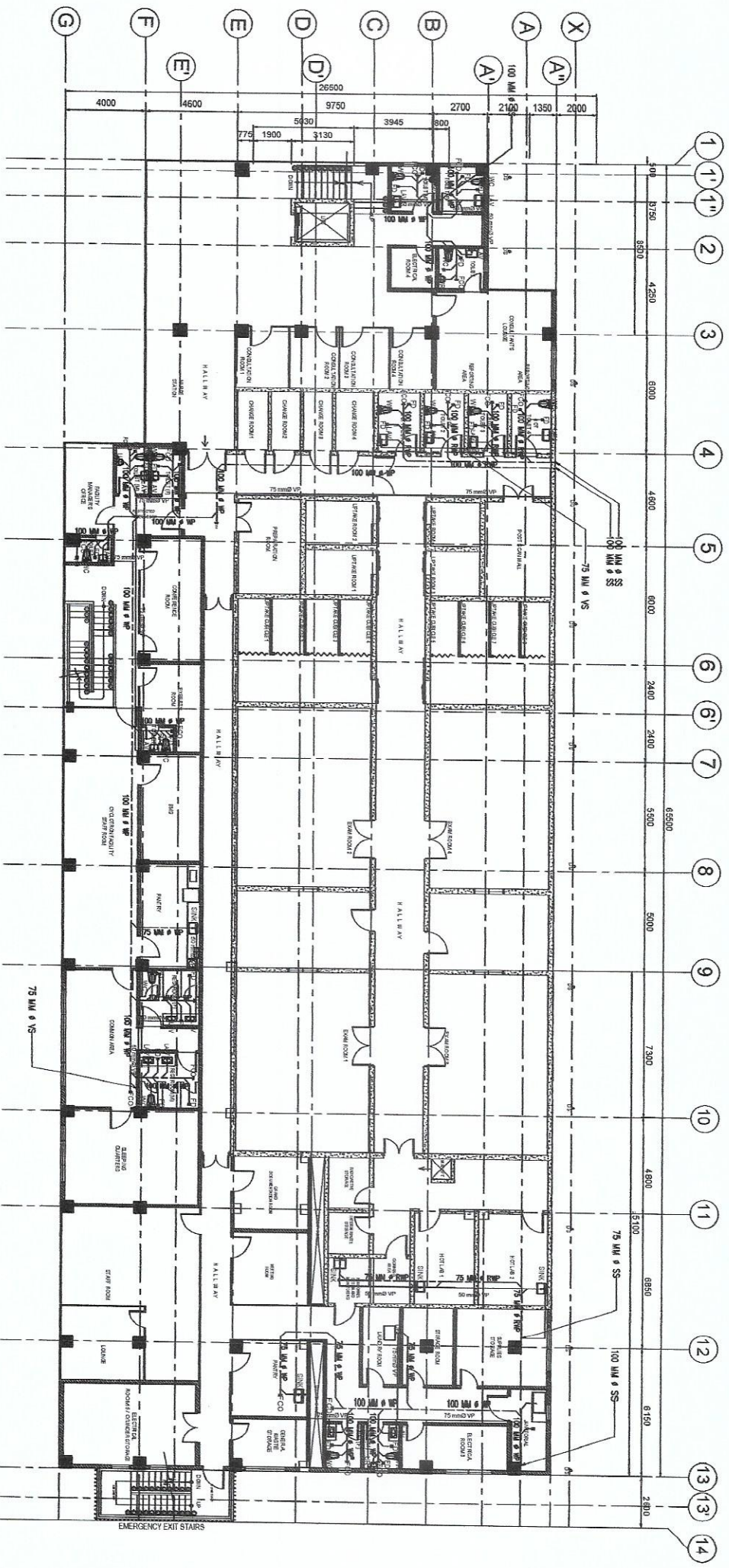
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APPROVED BY: Engr. ARNOLD F. SALA  
Engr. ARNOLD F. SALA  
Engr. ARNOLD F. SALA

DATE: 10/10/2023  
PAGE NO.: P-1





SECOND FLOOR SEWER LINE LAYOUT

| LEGENDS |            |      |                      |
|---------|------------|------|----------------------|
| WP      | WASTE PIPE | DP   | DEADPIPE             |
| WL      | WATER LINE | RWP  | RADIATIVE WASTE PIPE |
| DS      | DOWN GROUT | PWL  | PURIFIED WATER LINE  |
| RD      | ROOF DRAIN | SVTR | SOLVENT THROUGH      |
|         |            | CB   | CATCH BASIN          |



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SHEET CONTENT: SECOND FLOOR SEWER LINE LAYOUT

PREPARED BY: Engr. ROSEANNE REYES

Engr. ROSEANNE REYES  
Senior Research Scientist  
Signature: [Signature]

RECOMMENDED APPROVAL: Engr. ARDOLFO SANTIAGO

Engr. ARDOLFO SANTIAGO  
Senior Research Scientist  
Signature: [Signature]

APPROVED BY: CARLO ARCELA, Ph.D.

CARLO ARCELA, Ph.D.  
Director  
Signature: [Signature]

CHECKED BY: DATE: [Blank]

SHEET NO: P-3



**Innovating Nuclear Medicine Research and Services: Development of Emerging PET Radiopharmaceutical for Early Cancer Staging and Assessment of Biologic Functions in Cancer Cell CY 2022 (Phase 3)**

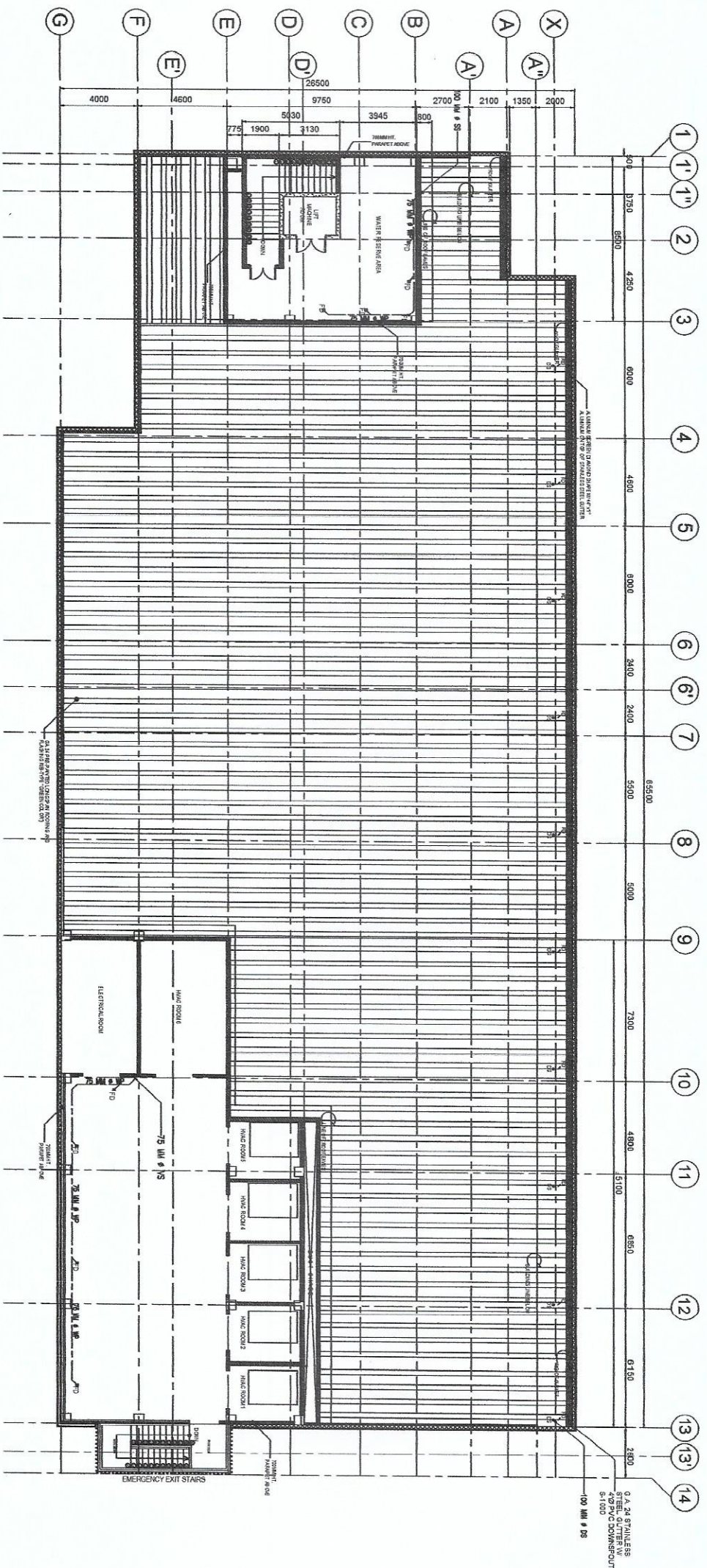
## ROOF DECK SEWER LINE LAYOUT

Engr. ROSALINO B. REYES  
Department of Health Services  
Engr. ANDREW C. BARRIDA

PRECEDENT CRYSTALON B, PAPER 04, Ph. D. VALERIE ANN SAMSON, Ph. D.

CHLO. ARCILLA, Ph.D.

|             |  |            |  |
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| LEGENDS |            | DP   | DRAIN PIPE             |  |
|---------|------------|------|------------------------|--|
| WP      | WASTE PIPE | RWP  | RADIANT WASTE PIPE     |  |
| WL      | WATER LINE | PWL  | PURIFIED WATER LINE    |  |
| DS      | DOWN SPOUT | SVTR | SOIL VENT THROUGH ROOF |  |
| PD      | POOF DRAIN | CB   | CATCH BASIN            |  |



## STORM DRAINAGE LAYOUT

Engr. ROSALINDO B. RELAS  
Surrendering. Nabua, Cebu  
Engr. ANDREW C. BARRIDA

MARIA TERESA L BORGOS  
E-mail: mteresa@rednet.it

INGR ANTONIO STAMM  
O.C. after BA

CLODIA CERRAZON B PABROA, Ph.D.  
One year

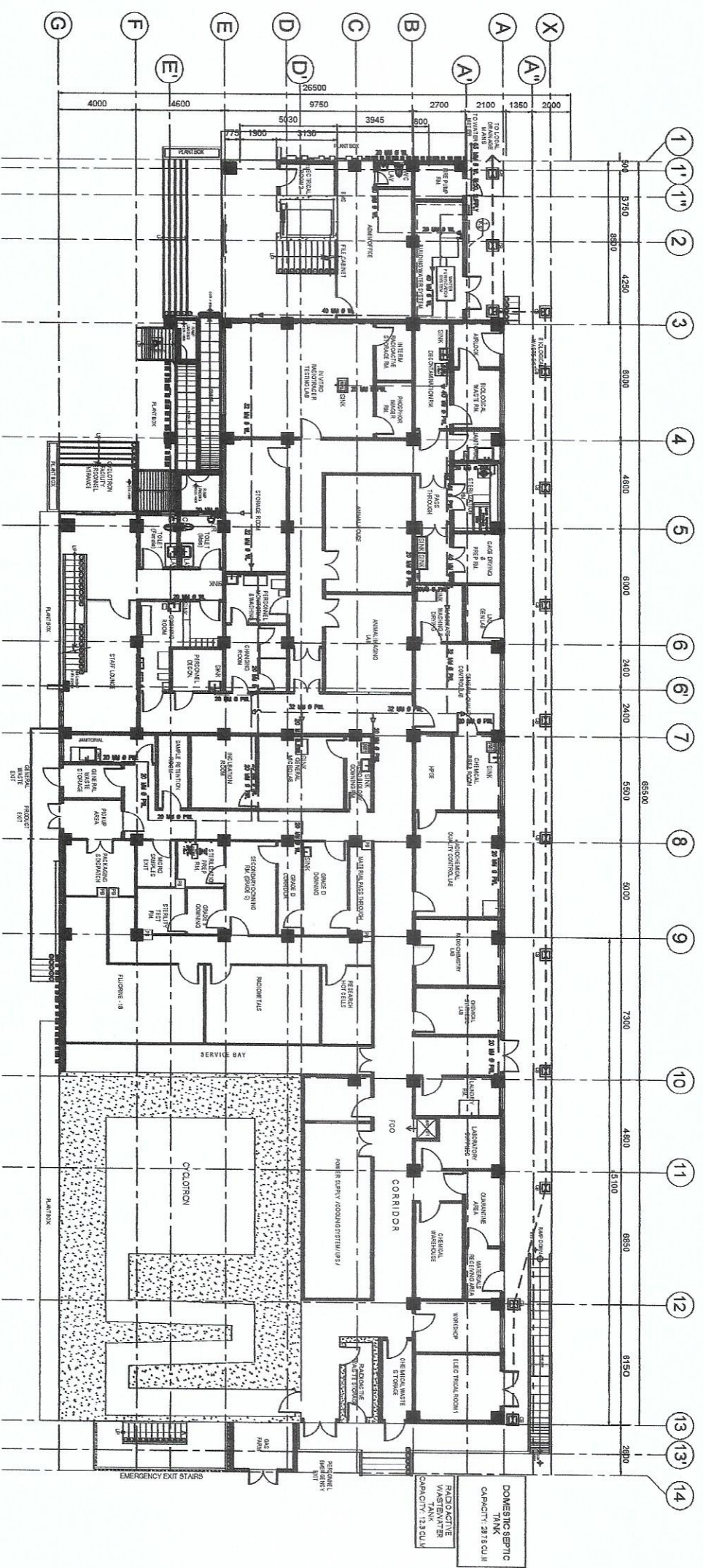
VALLERIE JANE SAMSON, Ph.D.  
Three Points

CARLO A. ACCIETTA, Ph. D.  
Director

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| LEGENDS |            |      |                     |
|---------|------------|------|---------------------|
| WP      | WASTE PIPE | DP   | DRAIN PIPE          |
| WL      | WATER LINE | RWP  | RADIANT WASTE PIPE  |
| DS      | DOWN SPOUT | PML  | PURIFIED WATER LINE |
| RD      | ROOF DRAIN | SVTR | SOLVENT THRU ROOF   |
|         |            | CB   | CATCH BASIN         |



GROUND FLOOR WATER LINE LAYOUT

| LEGENDS |            |      |                      |
|---------|------------|------|----------------------|
| WP      | WASTE PIPE | DP   | DRAIN PIPE           |
| WL      | WATER LINE | RWP  | RADIATIVE WASTE PIPE |
| DG      | DOWN SPOUT | PWL  | PURIFIED WATER LINE  |
| RD      | ROOF DRAIN | SVTR | SOL. VENT THRU ROOF  |
|         |            | CB   | CATCH BASIN          |

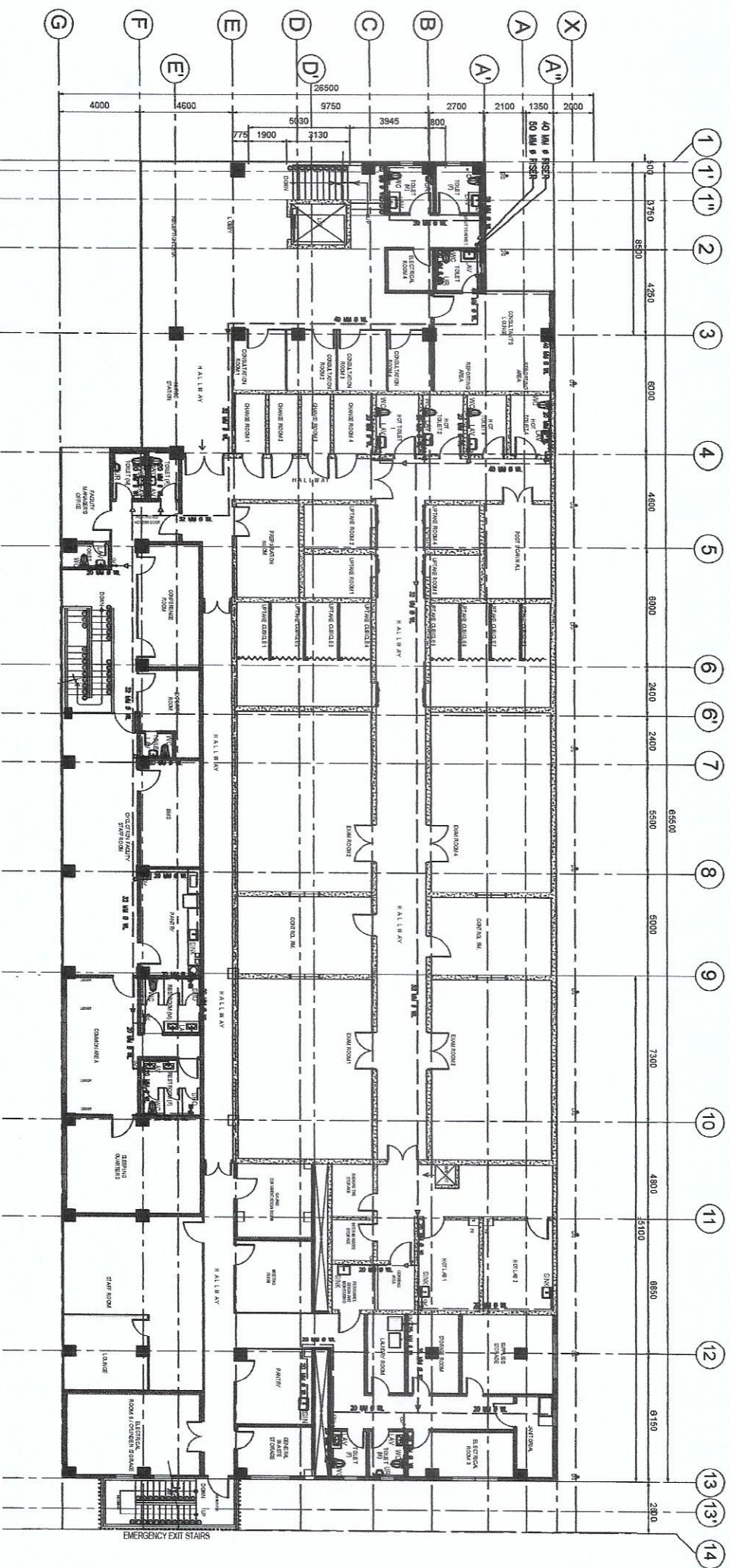


## SECOND FLOOR WATER LINE LAYOUT

MARIA TERESA L. BORRAS  
 Executive Director  
 501.546.6378  
 EGY ARUNDZ-SAH  
 501.546.6378

**CARLO A. ROLLA, Ph.D.**  
Director

P-7



1  
P-7  
SECOND FLOOR WATER LINE LAYOUT  
11/00/15

| LEGENDS |            |                                                                                     | DP  | DRAIN PIPE         |
|---------|------------|-------------------------------------------------------------------------------------|-----|--------------------|
| WP      | WASTE PIPE |  | RAP | RADIANT WASTE PIPE |
| WL      | WATER LINE |  | PL  | PIPED LINE         |
| DG      | DOWN SPOUT |  | GR  | GRAVEL             |
| FD      | FOOT DRAIN |  | CB  | CATCH BASIN        |





### SCHEMATIC DIAGRAM OF WATER SUPPLY

Engr. ROSALYN B. REJAS  
Deputy Division Engineer in Charge  
Engr. ANDREW C. BARID

MARIA TERESA L. BORRERO  
E-54747698, 1183  
PRECOSA CORAZON E. PABRO

ERIC ARONOFF, General  
Dir., 887-3356  
VALLERIE ANN SAMSON, Ph.D.

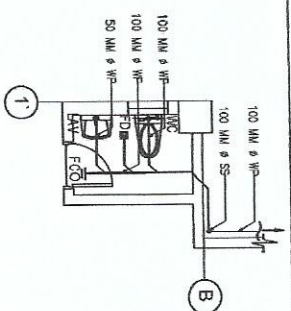
**CARLO A. ARCILLA, Ph.D.**  
Director

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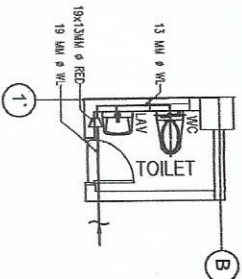
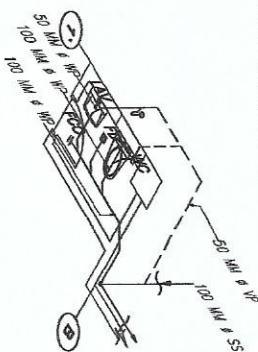
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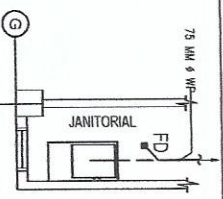
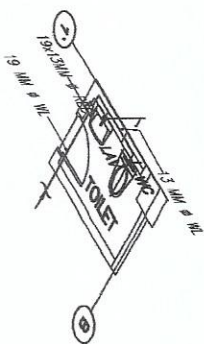
| LEGENDS |             |  |     |  |                   |
|---------|-------------|--|-----|--|-------------------|
| WP      | GATE VALVE  |  | WL  |  | WATER LINE        |
| WL      | CHECK VALVE |  | AC  |  | PURGED WATER LINE |
| DS      | FLOAT VALVE |  | RED |  | AIR CHAMBER       |
| RD      | PUMP        |  | GM  |  | REDUCER           |
|         |             |  |     |  | SUB METER         |
|         |             |  |     |  | (SM)              |



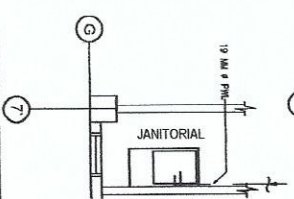
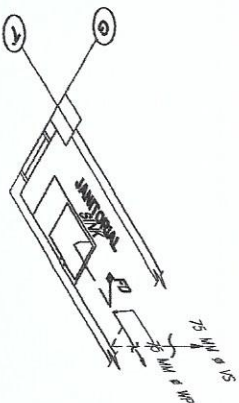
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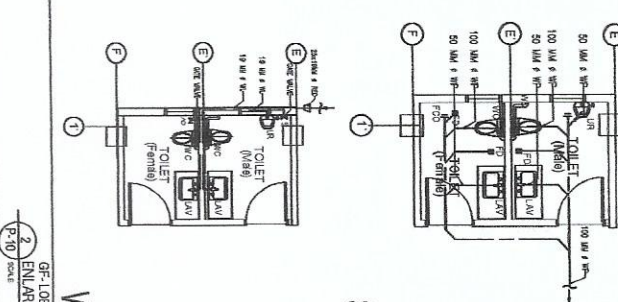
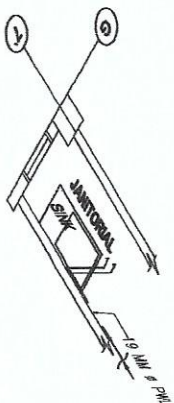
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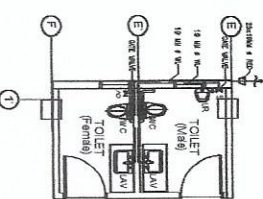
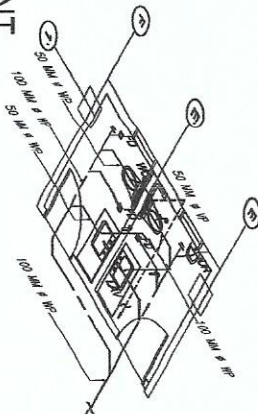
## SOIL & VENT



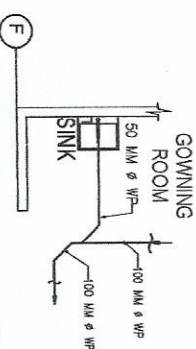
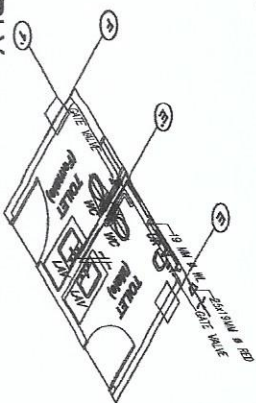
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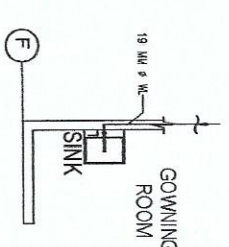
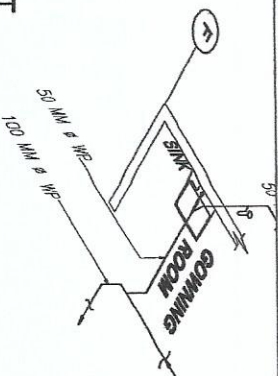
## SOIL & VENT



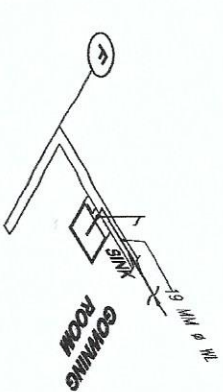
## WATER SUPPLY



## SOIL & VENT

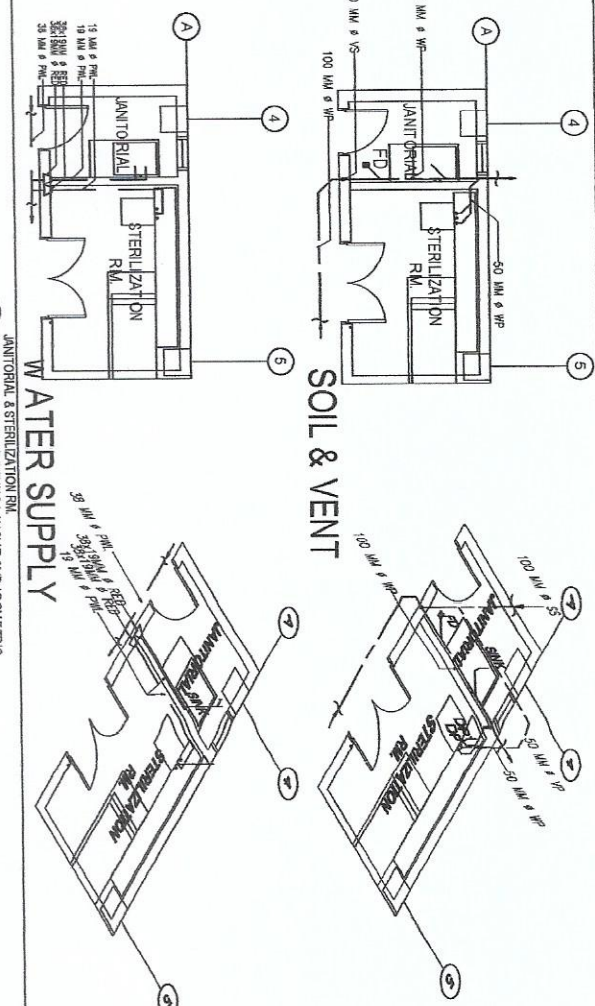
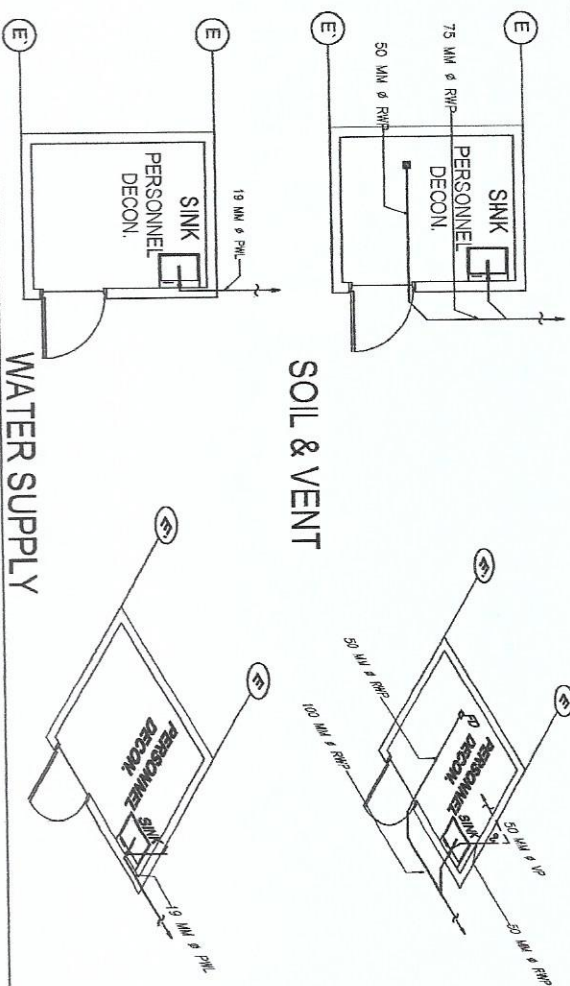


## WATER SUPPLY



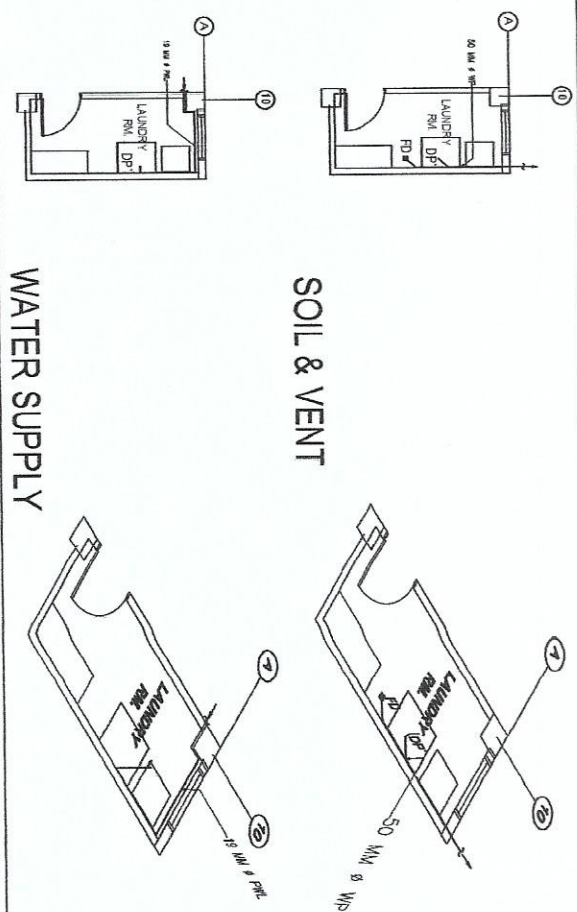
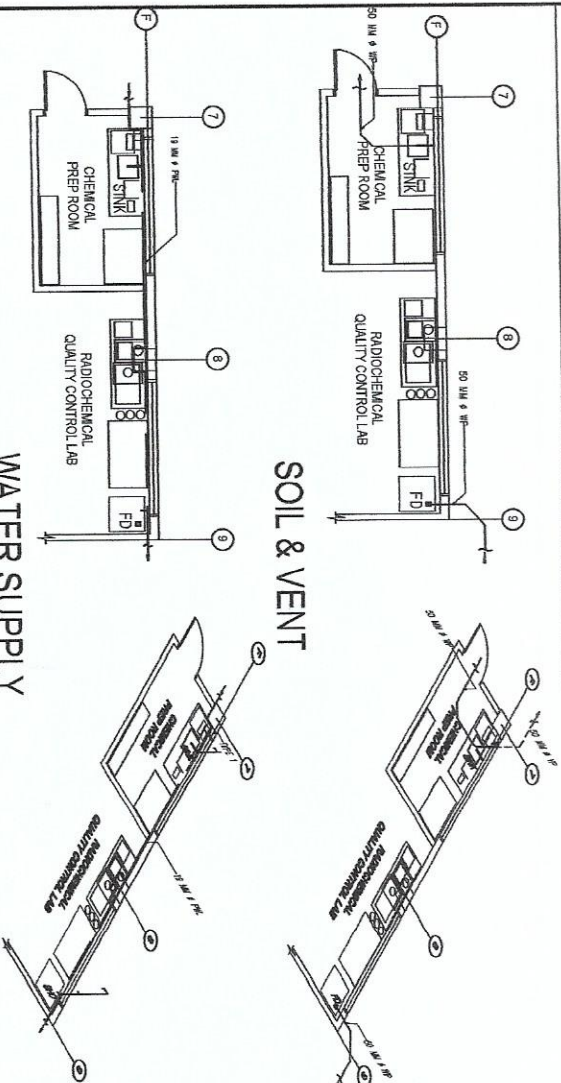
# ENLARGED PLAN OF PIPING LAYOUT AND ISOMETRIC





1 ENLARGED PLAN OF PIPING LAYOUT AND ISOMETRIC  
P-11 SCALE

2 ENLARGED PLAN OF PIPING LAYOUT AND ISOMETRIC  
P-11 SCALE



3 ENLARGED PLAN OF PIPING LAYOUT AND ISOMETRIC  
P-11 SCALE

4 ENLARGED PLAN OF PIPING LAYOUT AND ISOMETRIC  
P-11 SCALE

ENLARGED PLAN OF PIPING LAYOUT AND ISOMETRIC  
P-11 SCALE



Republic of the Philippines  
DEPARTMENT OF SCIENCE AND TECHNOLOGY  
PHILIPPINE NUCLEAR RESEARCH INSTITUTE  
CANDARAWAT-HABIGAL, DAVAO CITY

PROJECT: Improving Nuclear Medicine Research and  
Scientific Development of Emerging PET  
Radioisotopes for Early Cancer Staging  
and Assessment of Biologic Functions in  
Cancer Cell CV 2022 (Phase 3)

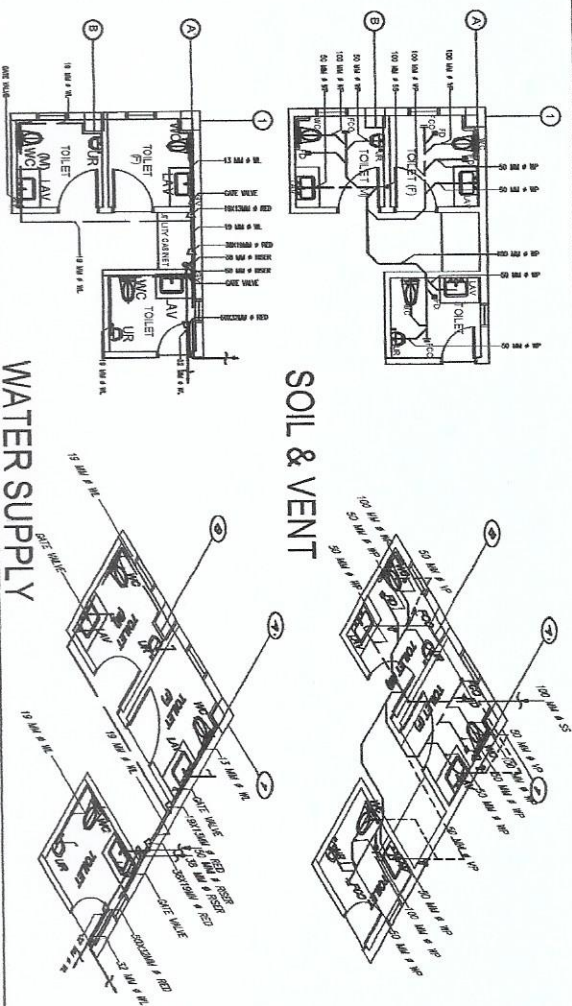
ENLARGE PLAN OF  
PIPING LAYOUT AND  
ISOMETRIC

PREPARED BY:  
Engr. ROSALYN B. REJAS  
Engr. ANDREW C. PARROJA  
Engr. JESSEL BARRAS  
Engr. ARTHUR LOAN  
Engr. CARLOS A. ARCOLLA, Ph.D.  
Engr. SAMSON, Ph.D.  
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Engr. ARTHUR LOAN  
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Engr. SAMSON, Ph.D.

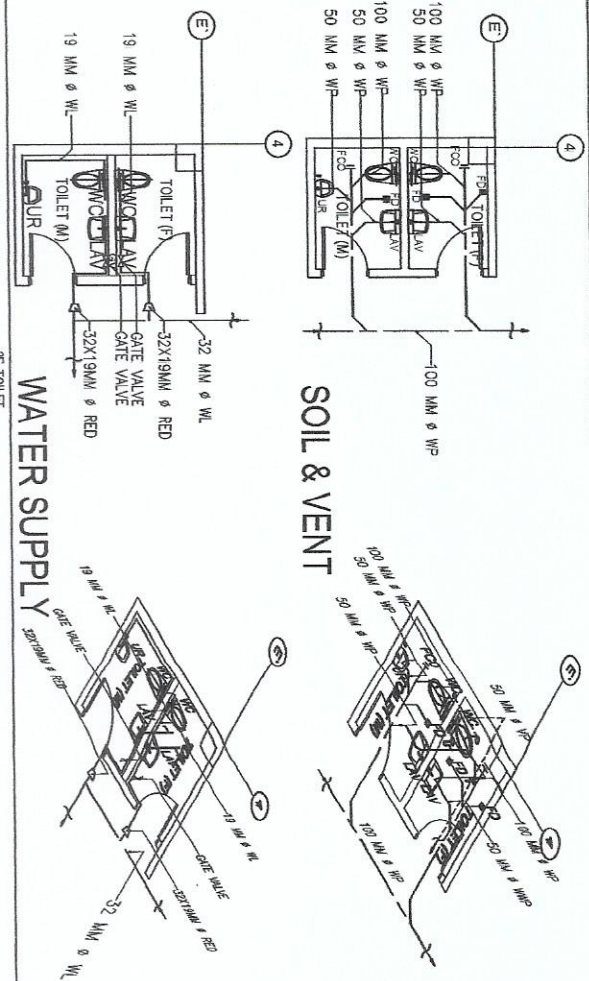
REVIEWED BY:  
Engr. JESSEL BARRAS  
Engr. ARTHUR LOAN  
Engr. CARLOS A. ARCOLLA, Ph.D.  
Engr. SAMSON, Ph.D.

APPROVED BY:  
CARLOS A. ARCOLLA, Ph.D.  
Director

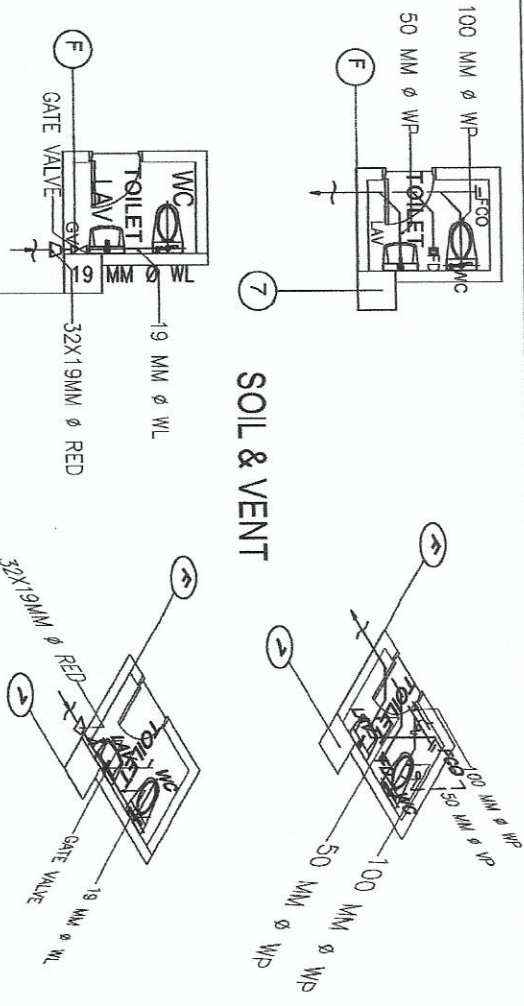
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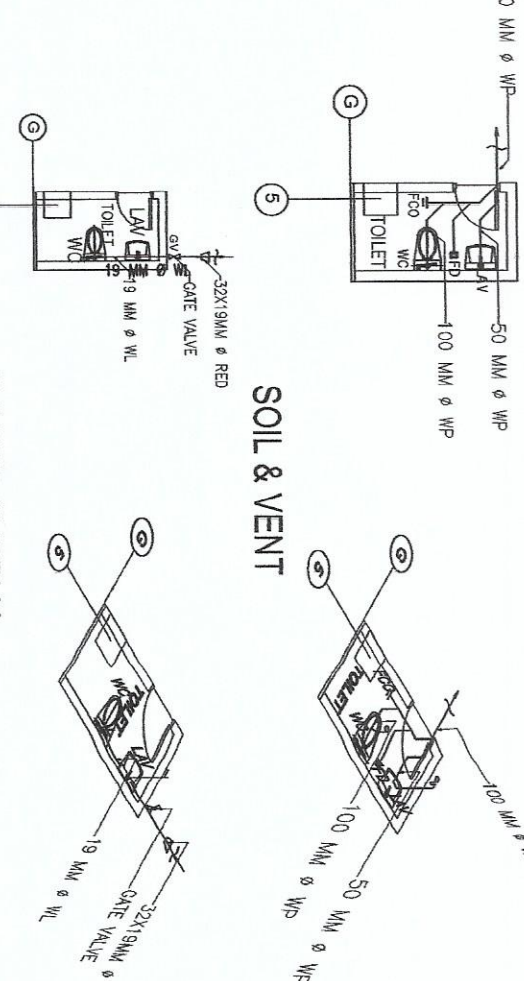
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ENLARGED PLAN OF PIPING LAYOUT AND ISOMETRIC  
P-12 SCALE 1:300 INTS



2. TOILET  
ENLARGED PLAN OF PIPING LAYOUT AND ISOMETRIC  
P-12 SCALE 1:300 INTS



3. EXPERT'S RM TOILET  
ENLARGED PLAN OF PIPING LAYOUT AND ISOMETRIC  
P-12 SCALE 1:300 INTS



4. FACILITY MANAGER'S OFFICE TOILET  
ENLARGED PLAN OF PIPING LAYOUT AND ISOMETRIC  
P-12 SCALE 1:300 INTS

ENLARGED PLAN OF PIPING LAYOUT AND ISOMETRIC  
P-12 SCALE 1:300 INTS



Republic of the Philippines  
DEPARTMENT OF SCIENCE AND TECHNOLOGY  
PHILIPPINE NUCLEAR RESEARCH INSTITUTE  
CAMPUS WALKER, AVENUE, CALAPAN, SOUTHERN CEBU

PROJECT: Innovating Nuclear Medicine Research and Services; Development of Emerging RTT Radiopharmaceutical for Early Imaging Staging and Assessment of Cancer; Facilities in Calicut City 2022 (Phase 3)

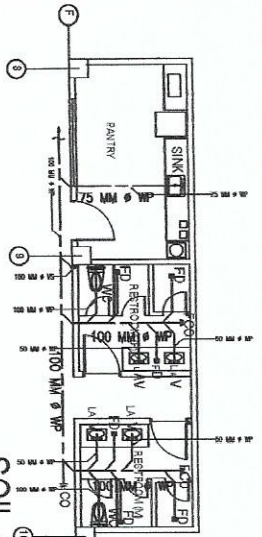
BRIEF CONTENT: ENLARGE PLAN OF PIPING LAYOUT AND ISOMETRIC

PREPARED BY: Engr. ROYAL AND B. REAG, Engr. ANDREW C. GERRIDA, Engr. ARNOLD F. BARRAS

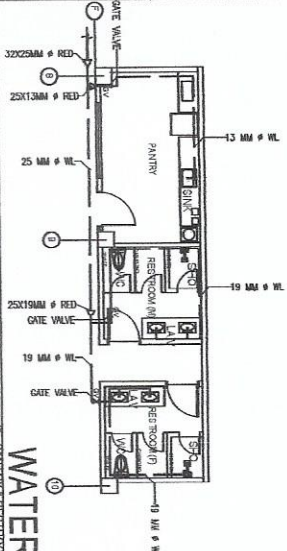
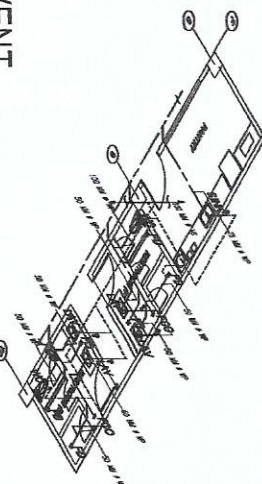
APPROVED BY: MARIA TERESA L. BARRAS, Engr. ARNOLD F. BARRAS, PRECIOUS COLLADO B. PABLOA, Ph.D., VALERIE ANN SAMSON, Ph.D.

CARLOA ARQUILA, Ph.D., Engr.

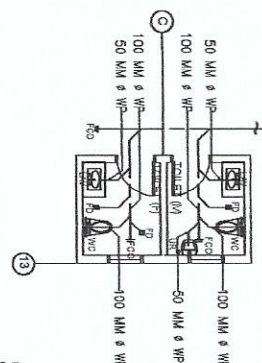
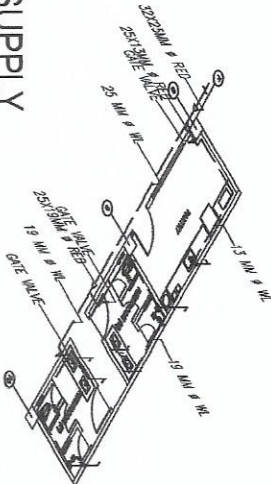
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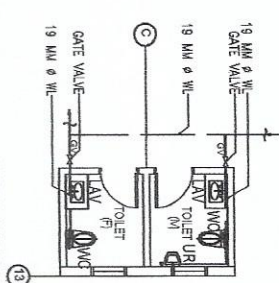
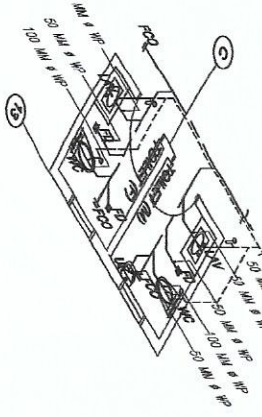
SOIL & VENT



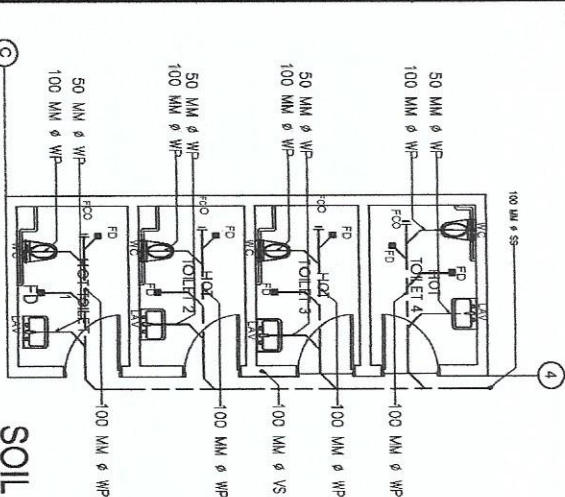
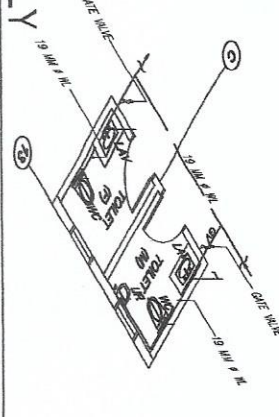
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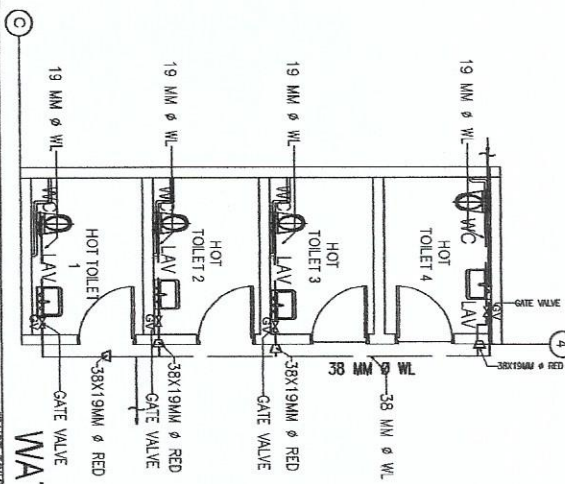
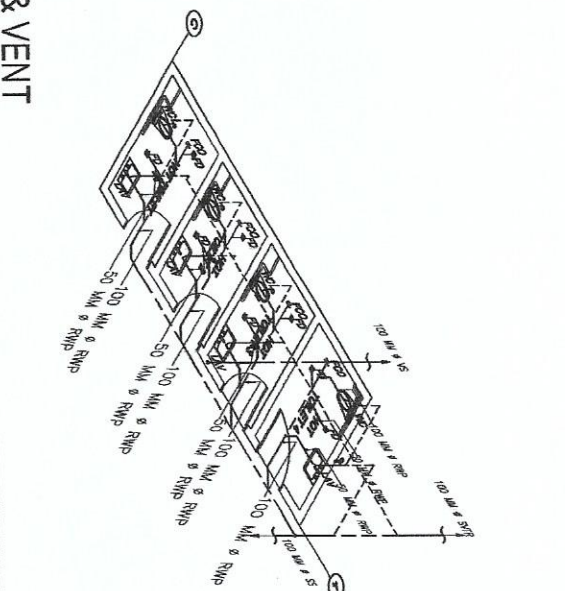
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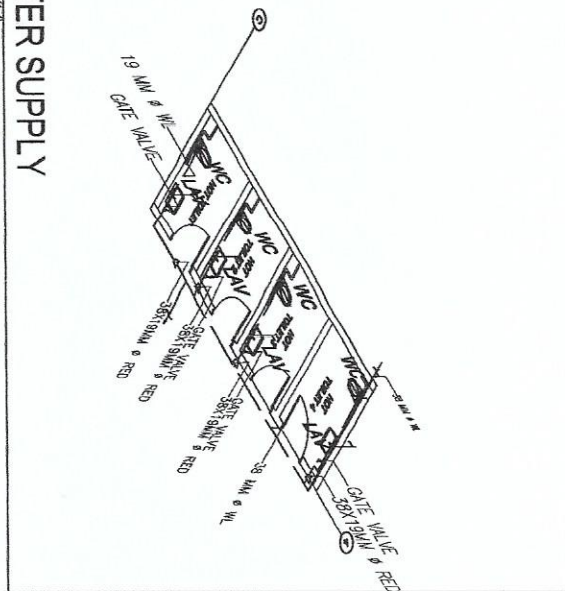
WATER SUPPLY



SOIL & VENT



WATER SUPPLY



3 ENLARGED PLAN OF PIPING LAYOUT AND ISOMETRIC

3 ENLARGED PLAN OF PIPING LAYOUT AND ISOMETRIC

ENLARGED PLAN OF PIPING LAYOUT AND ISOMETRIC



Republic of the Philippines  
DEPARTMENT OF SCIENCE AND TECHNOLOGY  
PHILIPPINE NUCLEAR RESEARCH INSTITUTE  
CAMPUS/AVENUE, DUMAGUITE, CEBU CITY

PROJECT: Involving Nuclear Medicine Research and Services; Development of Emerging PET Radiopharmaceutical for Early Cancer Staging and Assessment of Biologic Functions in Cancer Cell (2022 (Phase 3))

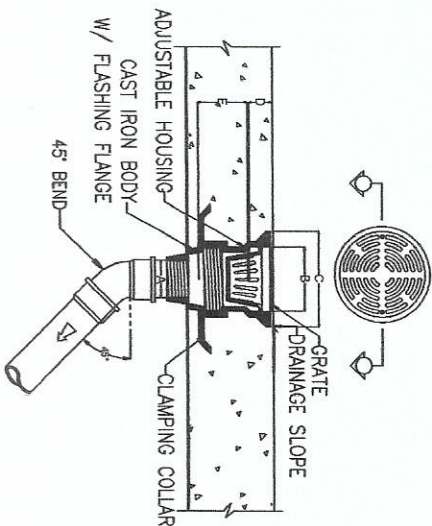
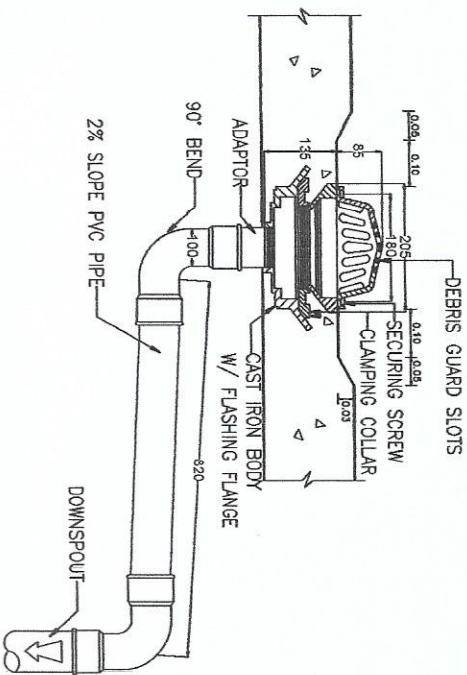
SHEET CONTENT: ENLARGE PLAN OF PIPING LAYOUT AND ISOMETRIC

PREPARED BY: Engr. ROBINSON B. REYES  
Engr. ARNOLD C. BARTIDA  
Engr. JAMES

REVIEWING APPROVAL: Engr. ROBINSON B. REYES  
Engr. ARNOLD C. BARTIDA  
Engr. JAMES

APPROVED BY: CARLO A. ROLLA, Ph.D.  
Engr. ARNOLD C. BARTIDA  
Engr. JAMES

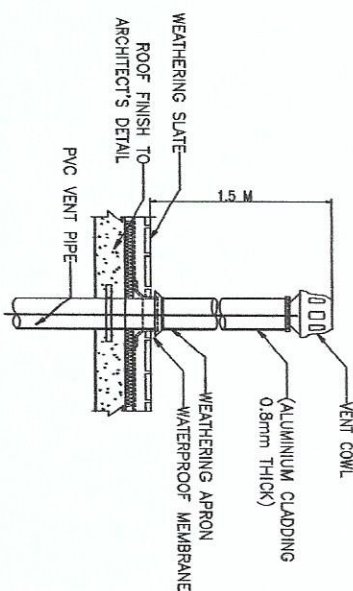
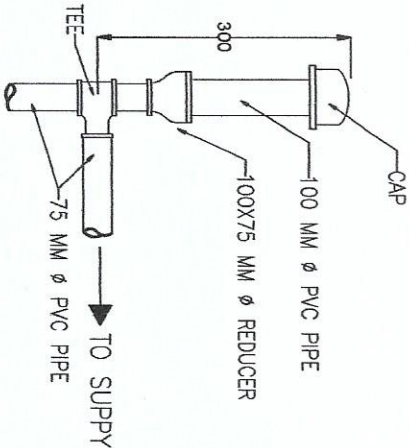
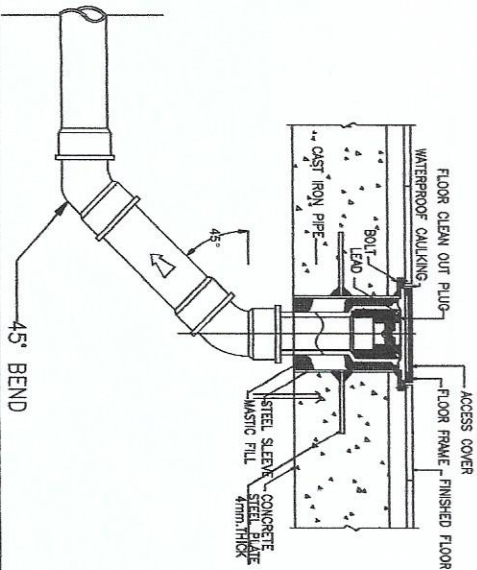
DATE: SHEET NO. P-13



| PIPE SIZE | DIMENSION (MM) |     |    |     |   |
|-----------|----------------|-----|----|-----|---|
|           | A              | B   | C  | D   | E |
| 75 Ø MM   | 255            | 345 | 68 | 145 |   |
| 100 Ø MM  | 255            | 345 | 68 | 145 |   |

1 ROOF DRAIN  
P-14 NOT TO SCALE

2 FLOOR DRAIN  
P-14 NOT TO SCALE



3 FLOOR CLEAN OUT  
P-14 NOT TO SCALE

2 AIR CHAMBER  
P-14 NOT TO SCALE

5 VENT STACK THRU ROOF  
P-14 NOT TO SCALE

MISCELLANEOUS STANDARD DETAILS  
P-14 NOT TO SCALE



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PROJECT: Innovating Nuclear Medicine Research and Services; Development of Emerging PET Radiopharmaceutical for Early Cancer Staging and Assessment of Biologic Functions in Cancer Cell CY 2022 (Phase 3)

MISCELLANEOUS  
STANDARD DETAILS

PREPARED BY: Engr. ROSALIND B. REYES  
Lead Structural Engineer

REVIEWED AND APPROVAL: MARIA TERESA B. BORDAS  
Chief Engineer

DESIGNED BY: Engr. ARTURO B. SAKIN  
Structural Engineer

APPROVED BY: CARLO A. ARILLA, Ph.D.  
Director

SHEET NO. P-14