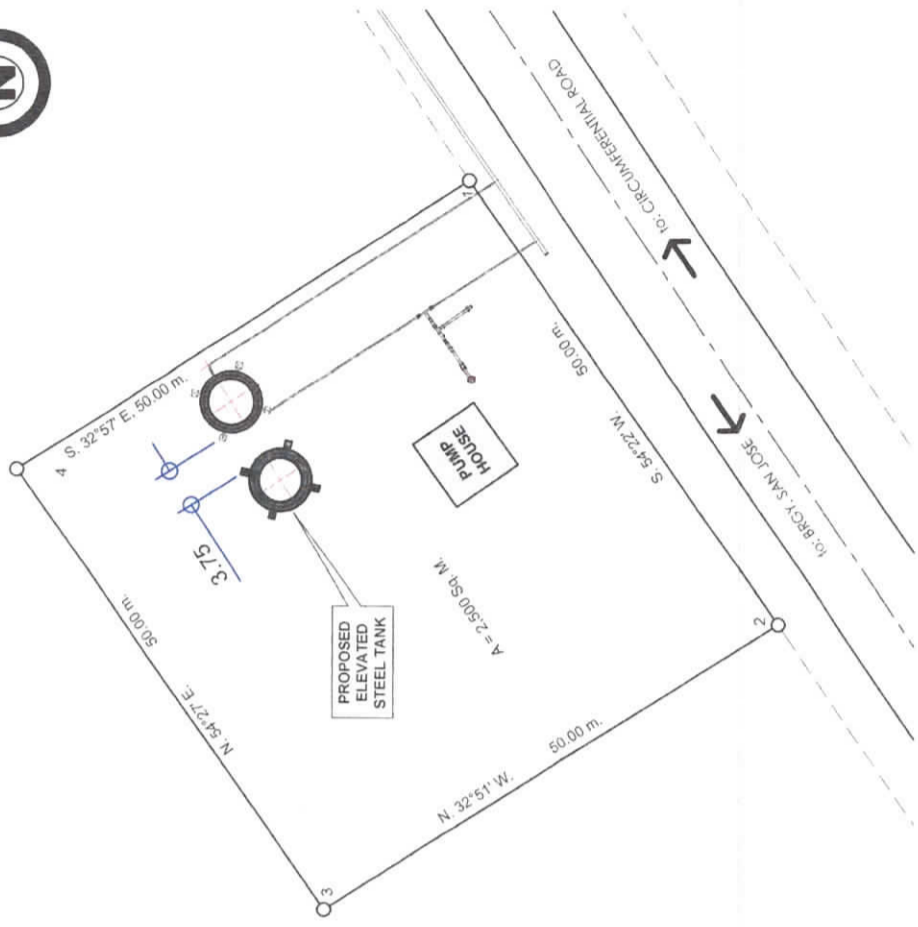




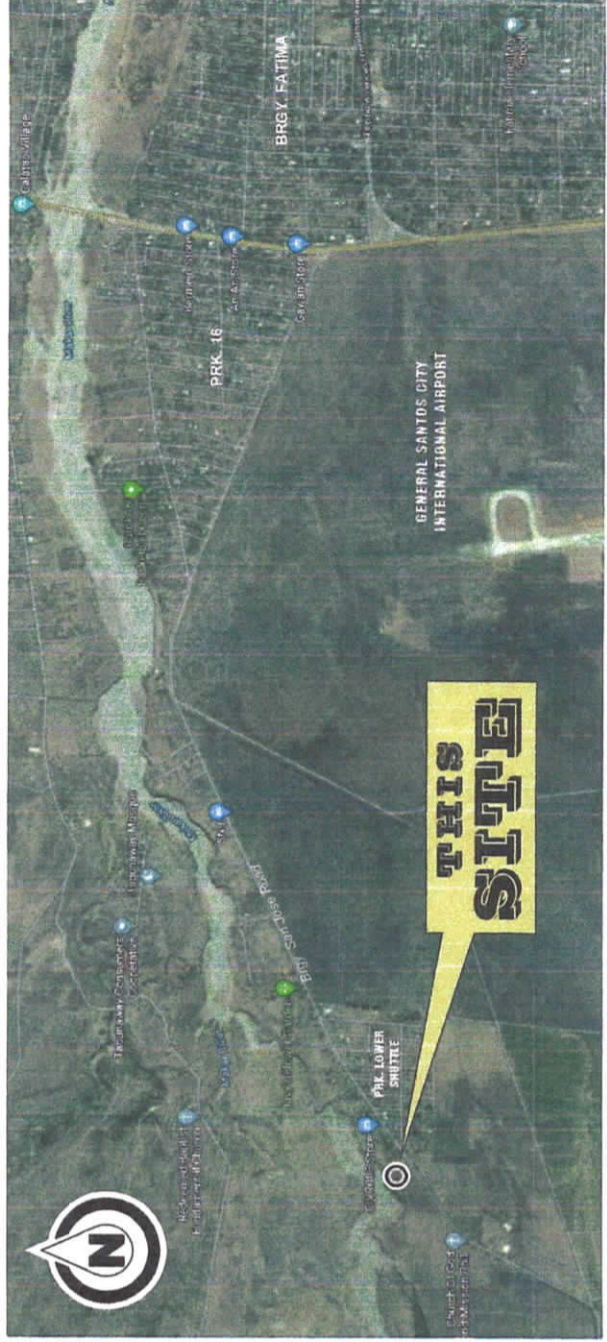
P E R S P E C T I V E







SITE DEVELOPMENT PLAN
SCALE: 1 : 700 M

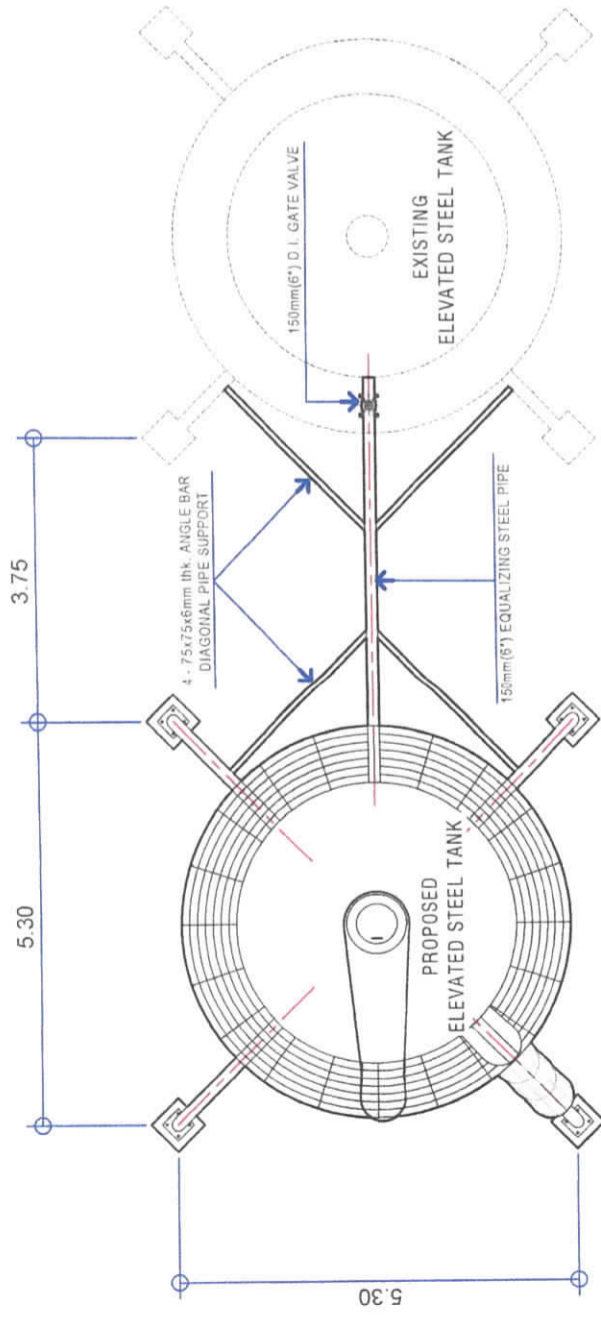


LOCATION PLAN
SCALE: NTS

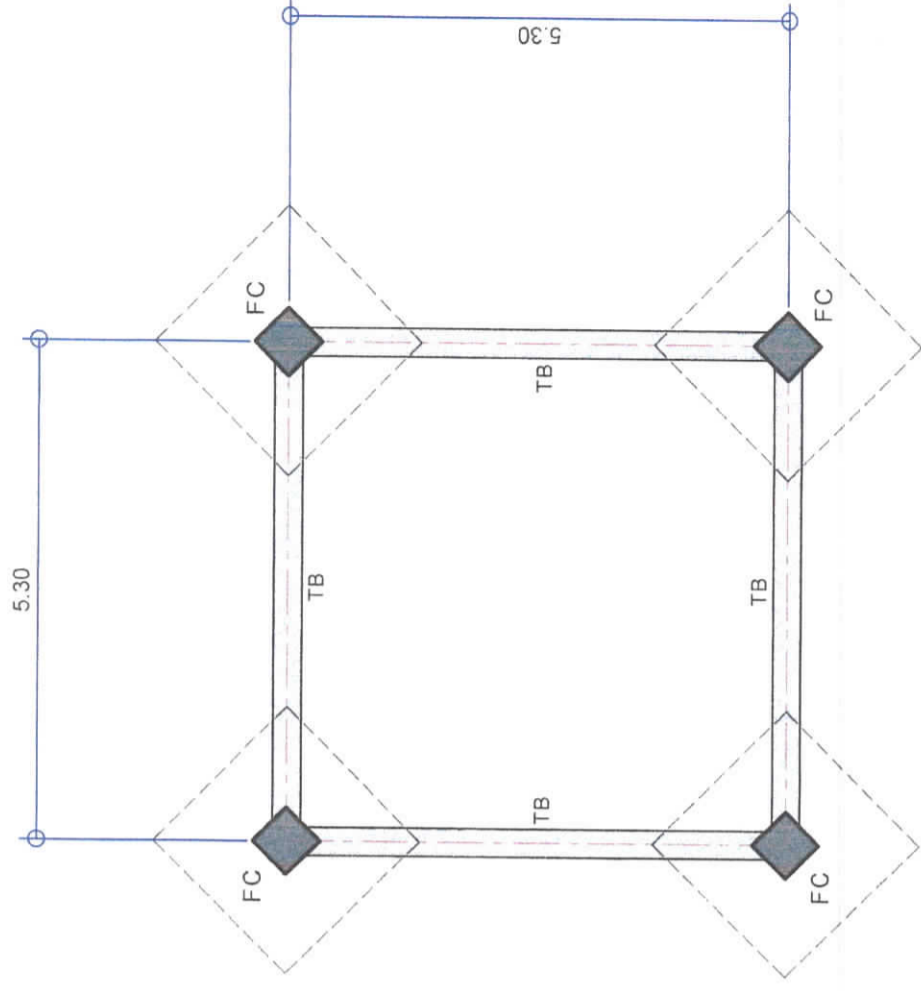


VICINITY MAP
SCALE: NTS

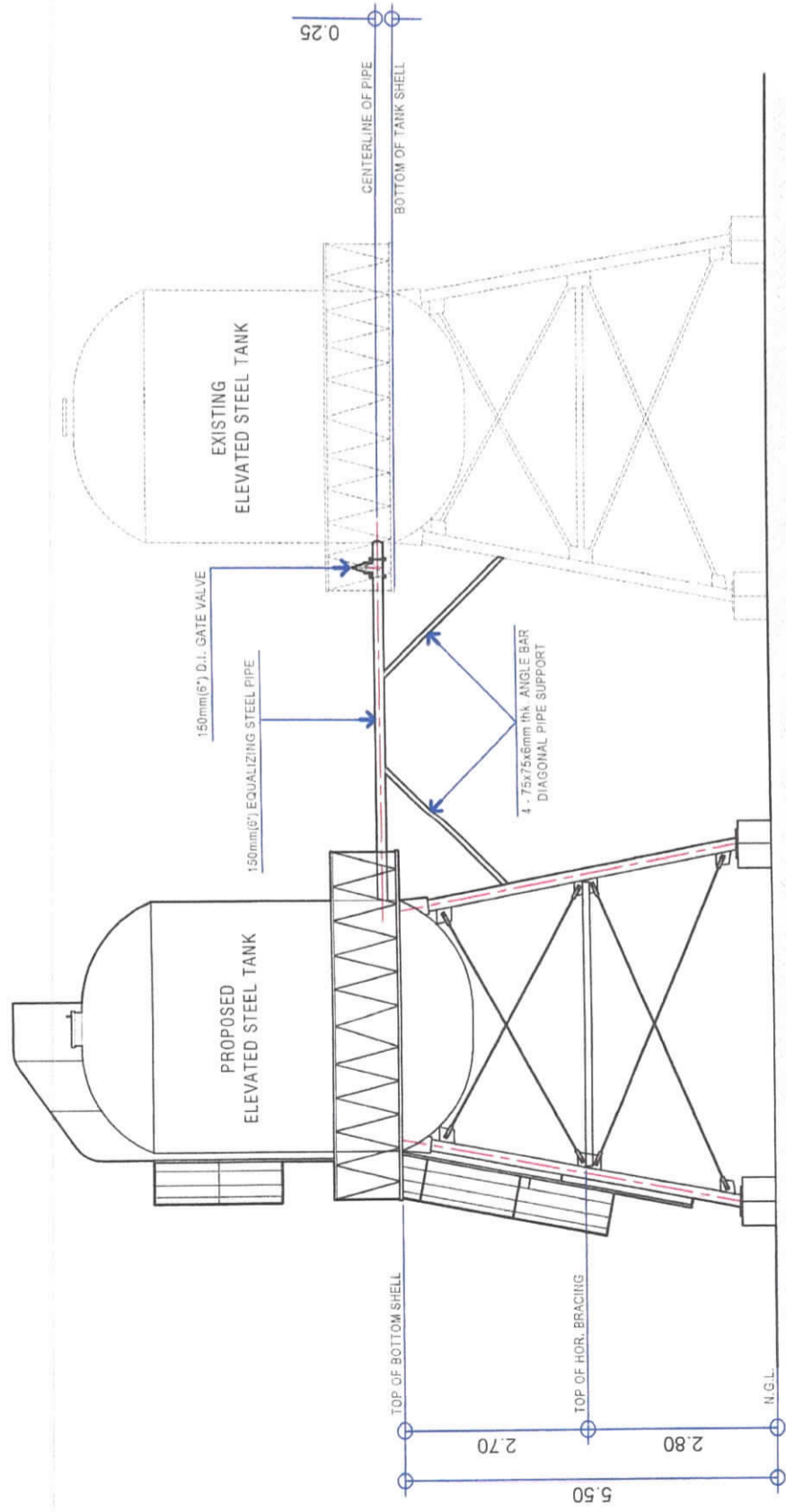
 GENERAL SANTOS CITY WATER DISTRICT E. FERNANDEZ STREET, BRGY. LAGAO, GEN. SANTOS CITY ENGINEERING & CONSTRUCTION DEPARTMENT PLANNING AND DESIGN DIVISION TEL. NO. : (083) 552 - 3824	TITLE:	CONSTRUCTION 50 CU.M. ELEVATED STEEL TANK	CHECKED:	 ENGR. MARIA CELIA N. DANDAN <small>CITY - Planning & Design Division</small>	REVIEWED:	 ENGR. ROGELIO A. BESANA, JR. <small>AGM - Operations & Technical Services</small>	APPROVED:	 ENGR. ARN B. GELLANGARIN <small>General Manager A</small>	CONTENTS:	AS PER PLAN	SHEET 1
									DRAWN BY: ESA CHECKED BY: DMH DATE: 04 / 08 / 2022		



TOP ELEVATION
SCALE: 1 : 100 M



FOUNDATION PLAN
SCALE: 1 : 100 M



TANK ELEVATION
SCALE: 1 : 100 M

GENERAL SANTOS CITY WATER DISTRICT
E. FERNANDEZ STREET, BRGY. LAGAO, GEN. SANTOS CITY
ENGINEERING & CONSTRUCTION DEPARTMENT
PLANNING AND DESIGN DIVISION
TEL. NO.: (083) 552 - 3824

**CONSTRUCTION 50 CU.M.
ELEVATED STEEL TANK**

VARCC PUMPING STATION, BRGY. SAN JOSE, GSC

Maria Celia N. Dandan
ENGR. MARIA CELIA N. DANDAN
P.C. - Planning & Design Division

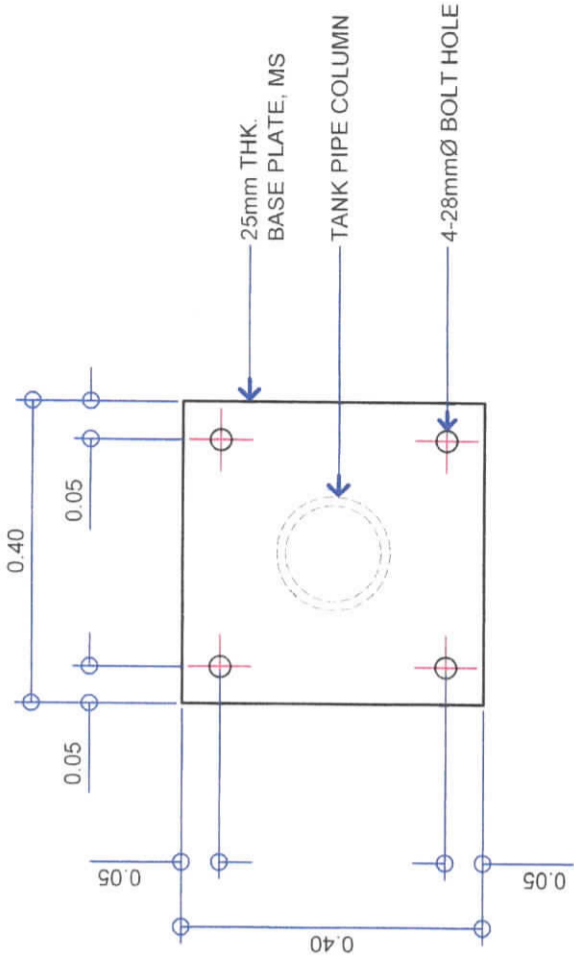
Fogelio A. Besana, Jr.
ENGR. FOGELIO A. BESANA, JR.
AGM - Operations & Technical Services

Arn B. Gellangarin
ENGR. ARN B. GELLANGARIN
General Manager-A

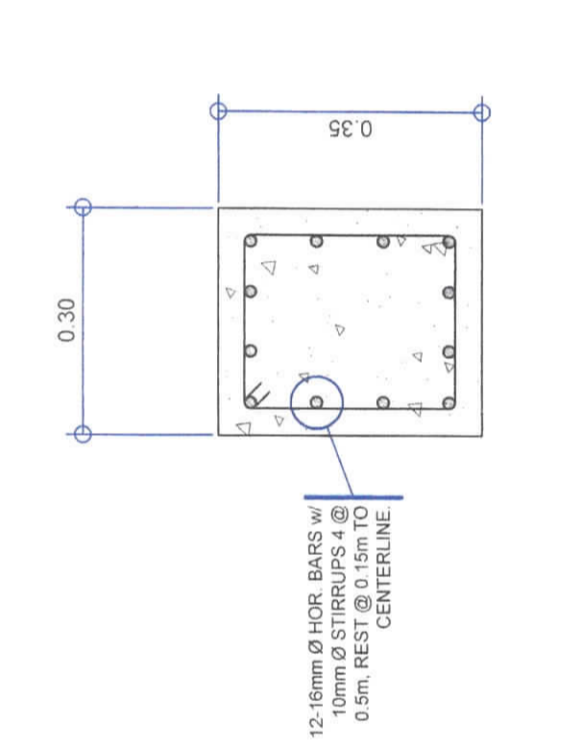
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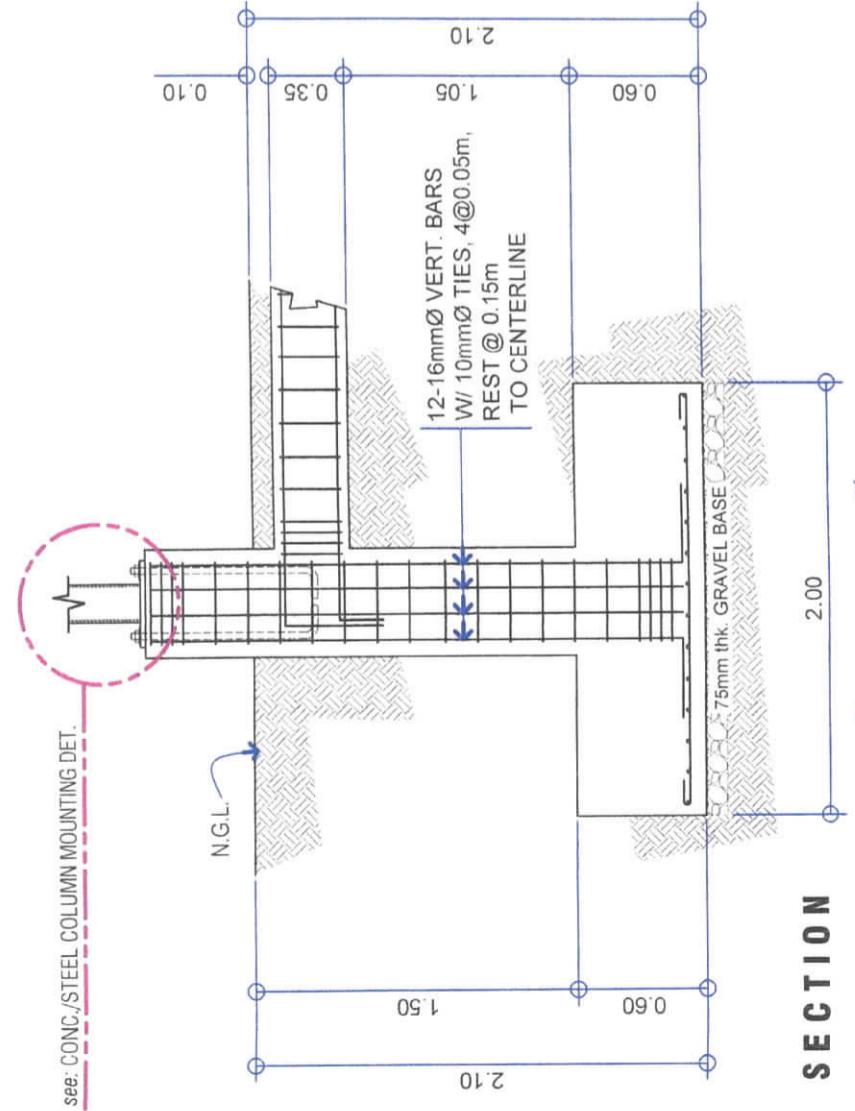
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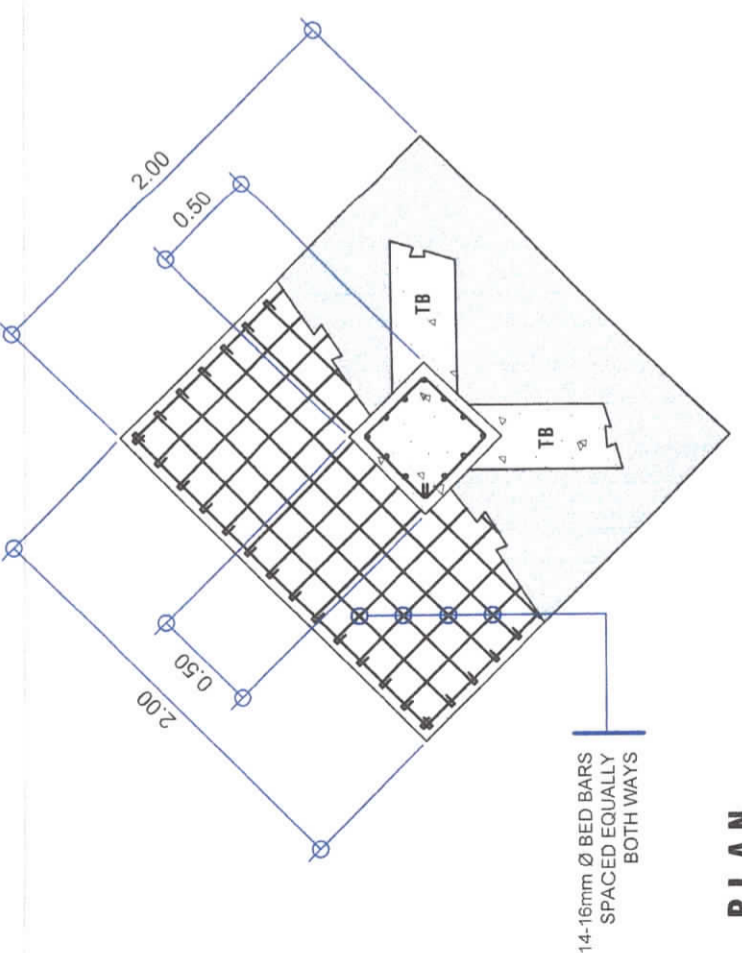
TIE BEAM DETAILS
SCALE: 1:10 M



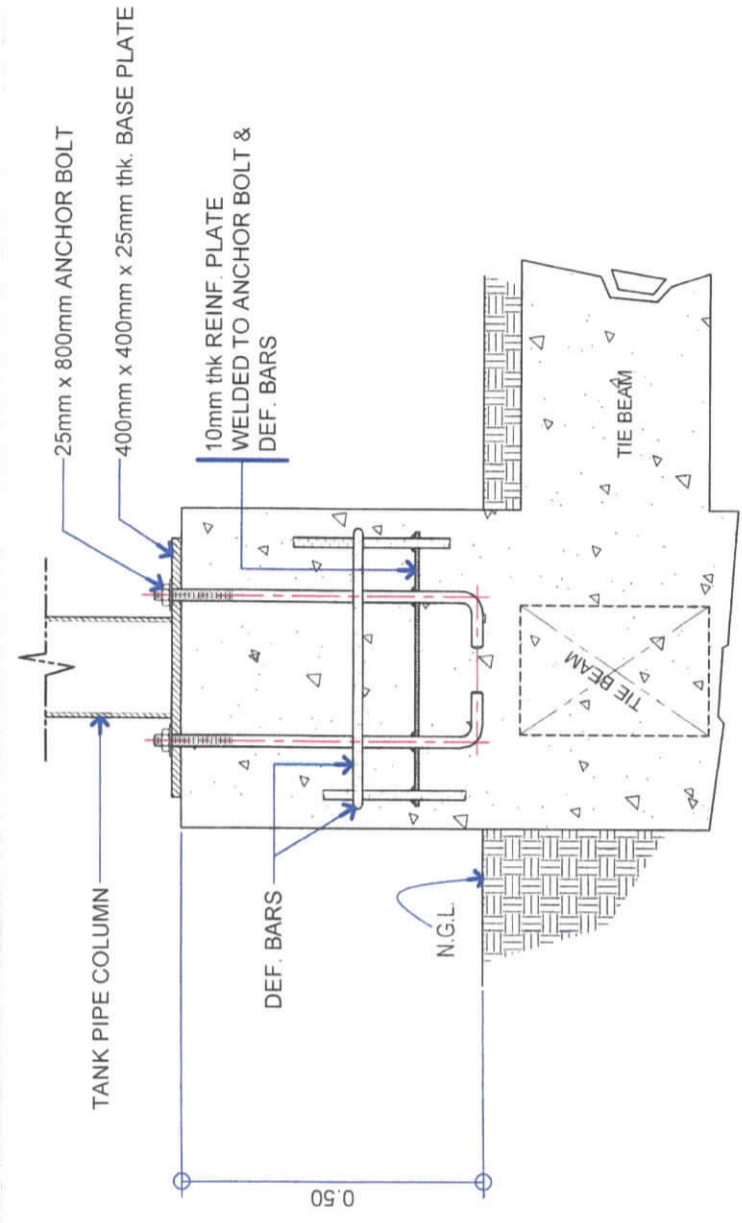
BASE PLATE DETAILS
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SECTION



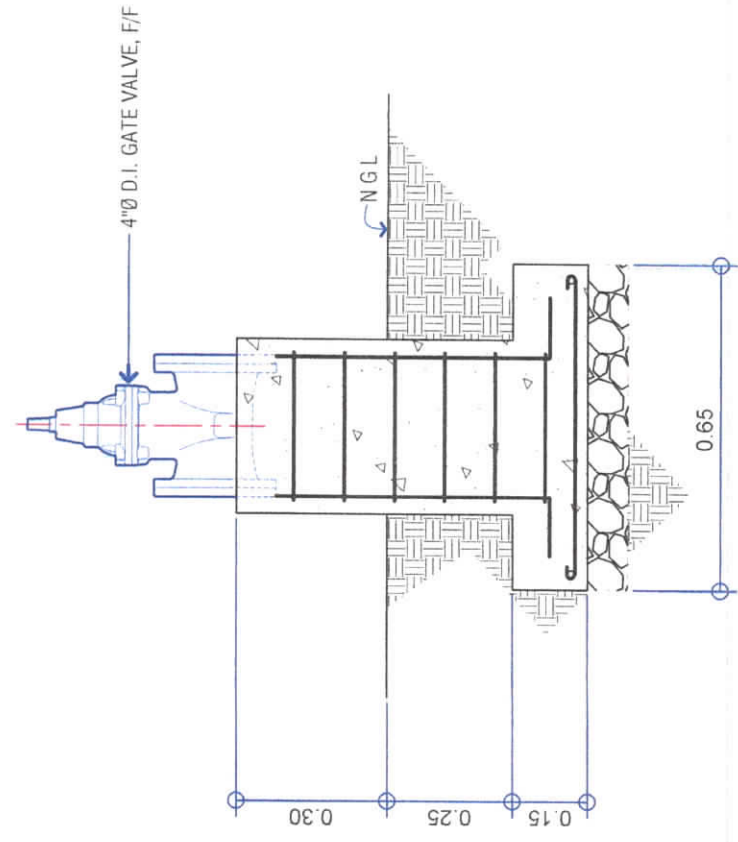
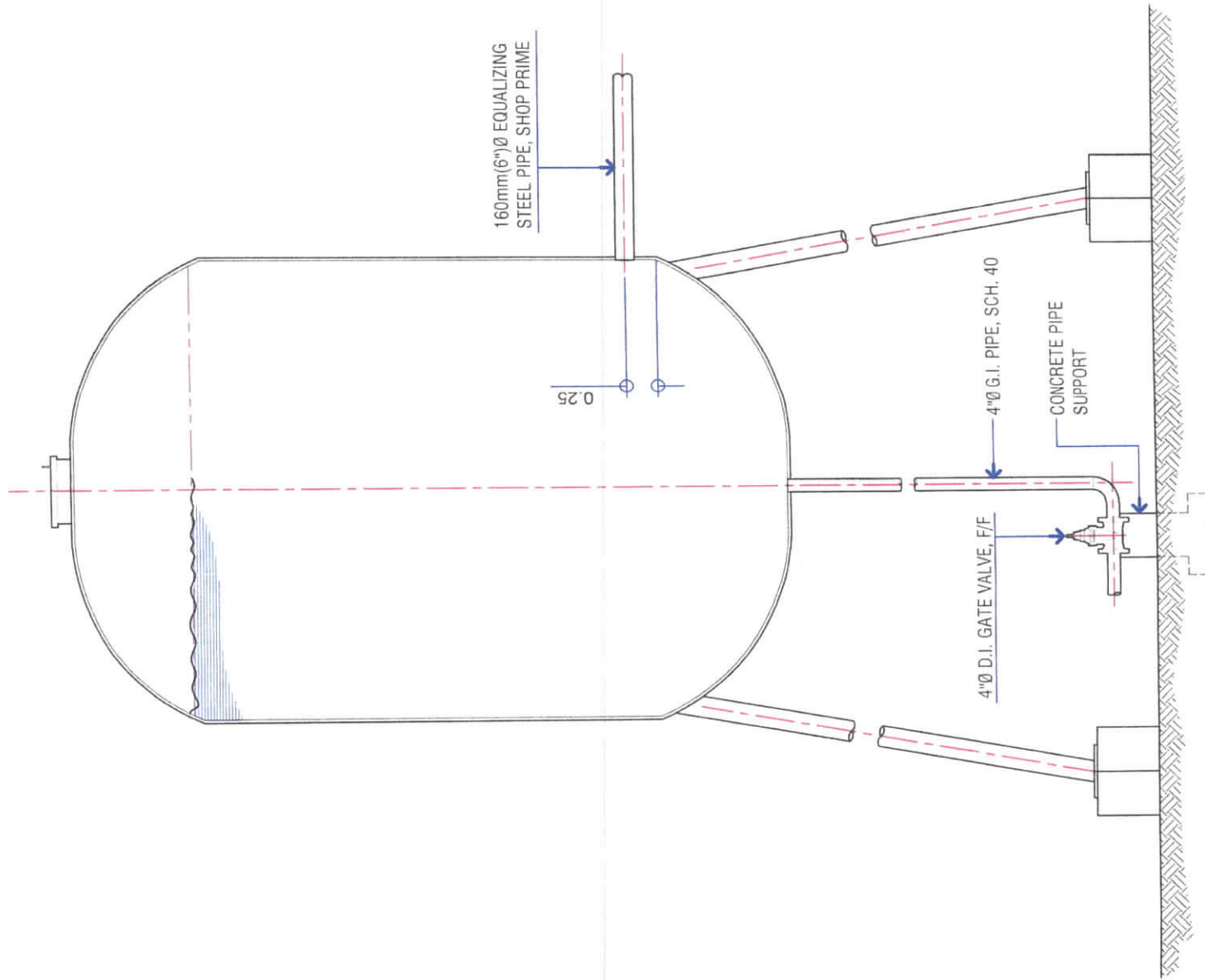
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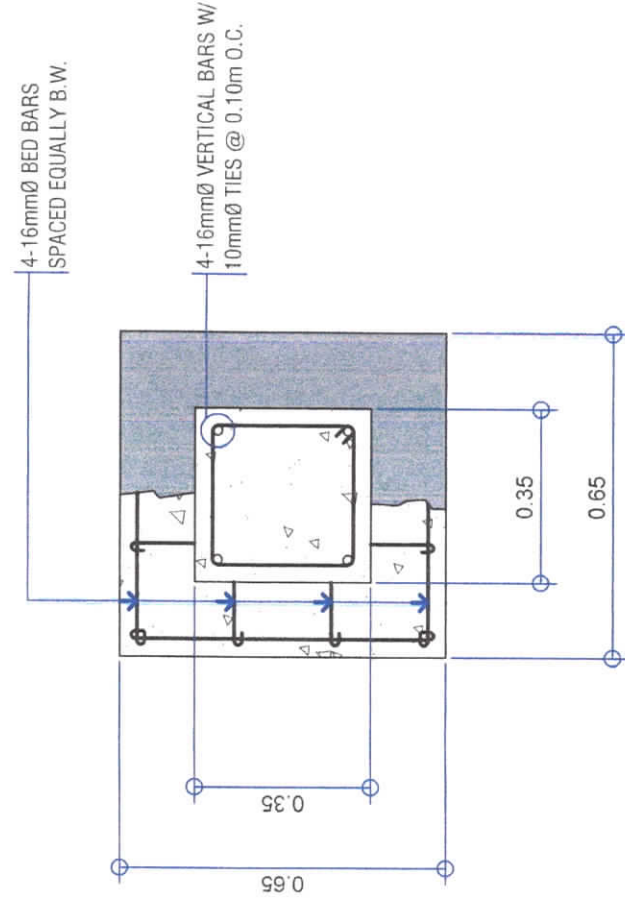
CONC./STEEL COLUMN MOUNTING DETAIL
SCALE: 1:20 M

FC DETAIL
SCALE: 1:40 M

<p>GENERAL SANTOS CITY WATER DISTRICT E. FERNANDEZ STREET, BRGY. LAGAO, GEN. SANTOS CITY ENGINEERING & CONSTRUCTION DEPARTMENT PLANNING AND DESIGN DIVISION TEL. NO.: (083) 552-3824</p>	<p>CONSTRUCTION 50 CU.M. ELEVATED STEEL TANK</p> <p>VARBC PUMPING STATION, BRGY. SAN JOSE, GSC</p>	<p>CHECKED: _____</p> <p>REVIEWED: _____</p> <p>APPROVED: _____</p>	<p>CONTENTS: AS PER PLAN</p> <p>DRAWN BY: ESA</p> <p>CHECKED BY: DMH</p>	<p>SHEET: 3</p>
	<p>ENGR. MARIA CELIA N. DANDAN City - Planning & Design Division</p>	<p>ENGR. ROGELIO A. BESANA, JR. AGM - Operations & Technical Services</p>	<p>ENGR. ARN B. GELLANGARIN General Manager A</p>	<p>REV NO: _____</p> <p>DATE: 04 / 08 / 2022</p>



ELEVATION



PLAN

DRAIN & EQUALIZING PIPE DETAILS
SCALE: 1:10M

DETAIL OF CONCRETE PIPE SUPPORT
SCALE: 1:10M

CONSTRUCTION NOTES

A. GENERAL NOTES

1. IN THE INTERPRETATION OF THESE DRAWINGS INDICATED DIMENSIONS SHALL GOVERN AND DISTANCES OR SIZES SHALL NOT BE SCALED FOR CONSTRUCTION PURPOSES.
2. THE CONTRACTOR SHALL COORDINATE WITH THE RESIDENT ENGINEER FOR THE EXACT SIZE, NUMBER AND LOCATIONS OF ALL CONCRETE PILES AND OTHER STRUCTURE AND ALSO DIMENSIONS.
3. ALL REINFORCED CONCRETE WORK SHALL BE DONE IN ACCORDANCE WITH THE ACI-318-95 BUILDING CODE AND ALL STRUCTURAL STEEL WORK SHALL BE DONE IN ACCORDANCE WITH AISC SPECIFICATIONS (LATEST EDITION) IN SO FAR AS THEY DO NOT CONFLICT WITH THE LOCAL BUILDING CODE REQUIREMENTS.
4. ALL WORKS BUT NOT LIMITED TO STRUCTURAL, MASONRY, STEEL AND OTHER WHICH ARE NOT INDICATED, DETAILED, DESIGNATED OR INADVERTENTLY OMITTED BUT ARE NECESSARY TO BE COORDINATED TO COMPLETE THE WORKS IN ACCORDANCE WITH THE INTENT OF THE PLANS AND SPECIFICATIONS, IT IS UNDERSTOOD THAT THE CONTRACTOR SHALL PROVIDE AND INCLUDE AS IF DEEMED NECESSARY FOR THE COMPLETION OF THE PROJECT.

B. NOTES ON CONCRETE MIX AND PLACING

1. UNLESS OTHERWISE INDICATED IN PLANS OR NOTED IN THE SPECIFICATIONS, THE MINIMUM 28 DAYS CYLINDER COMPRESSIVE STRENGTH OF THE CONCRETE SHALL BE AS FOLLOWS:
 - 1.1. FOUNDATION 21.00 MPa (3000 psi)
 - 1.2. RETAINING WALLS 21.00 MPa (3000 psi)
 - 1.3. PEDESTAL, COLUMNS, RC WALLS 21.00 MPa (3000 psi)
 - 1.4. FLOOR SLABS, BEAMS & GIRDER 21.00 MPa (3000 psi)
 - 1.5. PARAPET WALLS AND OTHER STRUCTURAL ELEMENTS 21.00 MPa (3000 psi)
 - 1.6. LEAN CONCRETE 10.00 MPa (1500 psi)
2. CONCRETE SHALL BE DEPOSITED IN ITS FINAL POSITION WITHOUT SEGREGATION, RE-HANDLING OR FLOWING, PLACING SHALL BE DONE PREFERABLY WITH BUGGIES, BUCKETS OR WHEEL BARROWS. NO CHUTES WILL BE ALLOWED EXCEPT TO TRANSFER CONCRETE FROM HOPPERS TO BUGGIES, WHEEL BARROWS OR BUCKETS. IN WHICH CASE THEY SHALL NOT EXCEED SIX THOUSAND (6000mm) IN AGGREGATES LENGTH.
3. NO DEPOSITING OF CONCRETE SHALL BE ALLOWED WITHOUT THE USE OF VIBRATORS UNLESS AUTHORIZED IN WRITINGS BY THE STRUCTURAL ENGINEER AND ONLY FOR USUAL CONDITIONS WHERE VIBRATION IS EXTREMELY DIFFICULT TO ACCOMPLISH.

C. NOTES ON REINFORCING STEEL BARS

1. ALL REINFORCING STEEL BARS SHALL BE NEW BILLET, HOT ROLLED, WELDABLE DEFORMED BARS CONFORMING TO THE SPECIFICATIONS OF PNS 49: 1986 (ASTM 615)
2. THE SUPPLEMENTARY REQUIREMENTS OF WELDABLE DEFORMED REINFORCING BARS SHALL BE AS FOLLOWS:
 - 2.1. THE MAXIMUM YIELD STRENGTH OF WELDABLE BARS = 540 MPa (FOR GRADE 4).
 - 2.2. THE TENSILE STRENGTH SHALL NOT BE LESS THAN 1.25 TIMES THE ACTUAL YIELD STRENGTH.
3. NO DEPOSITING OF CONCRETE SHALL BE ALLOWED WITHOUT THE USE OF VIBRATORS UNLESS AUTHORIZED IN WRITINGS BY THE STRUCTURAL ENGINEER AND ONLY FOR USUAL CONDITIONS WHERE VIBRATION IS EXTREMELY DIFFICULT TO ACCOMPLISH.
4. ALL REINFORCING BARS SHALL BE CLEANED THOROUGHLY OF ALL LOOSE RUST, SOIL OR OTHER MATERIAL IMMEDIATELY PRIOR TO PLACING CONCRETE.
5. THE REQUIRED LENGTH OF LAP FOR TENSION SPLICES IS BASED ON THE DEVELOPMENT LENGTH, Ld, SHOWN IN THE TABLE 2 AND 3 FOR RC BEAMS AND GIRDER, RESPECTIVELY AND ON THE FOLLOWING CLASSIFICATIONS:

TENSION SPLICES CLASSIFICATION		SPLICE LENGTH	
CLASS A		1.0 Ld	
CLASS B		1.3 Ld	

TENSION SPLICES CLASSIFICATION SPLICE LENGTH
CLASS A 1.0 Ld
CLASS B 1.3 Ld

BAR SIZE (mm)	TABLE - 2 DEVELOPMENT LENGTH, Ld, IN TENSION			
	fc = 28.0 MPa (4000 psi)	fc = 34.5 MPa (5000 psi)	fc = 41.0 MPa (6000 psi)	fc = 47.5 MPa (7000 psi)
16 Ø	350	390	430	470
20 Ø	450	500	550	600
25 Ø	550	610	670	730
32 Ø	650	720	790	860

6. TOP BARS ARE HORIZONTAL BARS WITH AT LEAST 300mm CONCRETE CAST BELOW IT.

BAR SIZE (mm)	TABLE - 3 DEVELOPMENT LENGTH, Ld, IN TENSION FOR R.C. GIRDERS (PRISMATIC & NON-PRISMATIC)			
	fc = 28 MPa	fc = 35 MPa	fc = 41 MPa	fc = 47 MPa
16 Ø	350	390	430	470
20 Ø	450	500	550	600
25 Ø	550	610	670	730
32 Ø	650	720	790	860

NOTE: FOR BUNDLE BARS (3 BUNDLE) MULTIPLY ABOVE TABLE BY 1.3

7. THE REQUIRED LENGTH OF LAP FOR COMPRESSION SPLICES SHALL BE AS SHOWN IN TABLE 4.

BAR SIZE (mm)	TABLE - 4 LENGTH OF LAP COMPRESSION SPLICES (mm)			
	fc = 28.0 MPa (4000 psi)	fc = 34.5 MPa (5000 psi)	fc = 41.0 MPa (6000 psi)	fc = 47.5 MPa (7000 psi)
16 Ø	320	320	320	320
20 Ø	400	400	400	400
25 Ø	500	500	500	500
32 Ø	600	600	600	600

8. CLEAR CONCRETE COVER FOR REINFORCING BARS SHALL BE AS FOLLOWS:

1. CONCRETE CAST AGAINST EARTH - 75mm
 2. CONCRETE EXPOSED TO EARTH - 50mm
 3. CONCRETE NOT EXPOSED TO EARTH OR WEATHER - 40mm
- Slabs, Walls and Joints - 20mm
Beams and Columns - 40mm

D. NOTES ON FOUNDATION

1. FOOTING ARE DESIGNED FOR AN ALLOWABLE SOIL BEARING PRESSURE OF 1200 PSF (57.5 kPa) AT A MINIMUM DEPTH OF 2.0 METERS FROM THE NATURAL GRADE LINE. CONTRACTOR SHALL REPORT IN WRITING TO THE STRUCTURAL ENGINEER ON THE ACTUAL SOIL CONDITIONS UNCOVERED AND CONFIRM ACTUAL BEARING CAPACITY OF SOIL BEFORE DEPOSITING CONCRETE.
2. NO FOOTING SHALL REST ON FILL FOOTINGS FOR CHB WALLS AND OTHER MINOR STRUCTURES SHALL BE EMBEDDED AT LEAST 750 mm FROM THE NATURAL GRADE LEVEL.
3. PROVIDE TEMPORARY REMOVAL OF WATER FROM ANY SOURCE DURING CONSTRUCTION DEWATERING SHALL BE CAREFULLY AND PROPERLY REFORMED TO AVOID DISTURBING THE FOUNDATIONS AND SLAB BEARING SURFACES.

CHECKED:

REVIEWED:

APPROVED:

SHEET:

ENGR. MARIA CELIA N. DANDAN
P.C. - Planning & Design Division

ENGR. ROGELIO A. BESANA, JR.
AGM - Operations & Technical Services

ENGR. ARN B. GELLANGARIN
General Manager A

AS PER PLAN

REV. NO.

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4. CONTRACTOR SHALL DESIGN, INSTALL AND MONITOR EXCAVATIONS RETENTION SYSTEMS, AS REQUIRED FOR PROTECTION OF ADJACENT PROPERTIES AND PROVIDE ALL MEASURES AND PRECAUTIONS NECESSARY TO MINIMIZE SETTLEMENT AND PREVENT DAMAGE TO ADJACENT EXISTING OR NEW CONSTRUCTION.
5. PREPARE CONDITIONS OF CONCRETE SUPPLY AND PLACEMENT OF THE COMPLETE FOUNDATION FOR THE FULL THICKNESS AS A CONTINUOUS MONOLITHIC CASTING.
6. DO NOT BACKFILL AGAINST BASEMENT WALLS UNTIL GROUND FLOOR SLABS HAVE BEEN PLACED AND THE CONCRETE HAS ATTAINED THE REQUIRED STRENGTH.
7. REFER TO ARCHITECTURAL DRAWINGS FOR ADDITIONAL ELEVATOR DETAILS. REFER TO ARCHITECTURAL, MECHANICAL, PLUMBING AND OTHER TRADES FOR SUBSOIL DRAINAGE SYSTEM, MACHINERY, ANCHORS AND OTHER EMBEDDED ITEMS, DEPRESSIONS, FINISHES, DOWELS FOR MASONRY WALLS, CURBS, ETC.
8. SEE TYPICAL DETAIL OF LIMITING SLOPE OF ADJACENT FOOTING AT DIFFERENT ELEVATION. (REFER TO FIGURE 2)

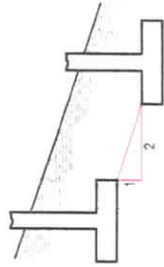


FIGURE 2. DETAIL OF LIMITING SLOPE OF ADJACENT FOOTINGS

E. NOTES ON SLAB-ON-GRADE

1. THE SOIL SUBGRADE AND FILL LAYERS BELOW ALL SLABS ON GRADE, PAVING AND PIT SLAB SHALL BE MECHANICALLY COMPACTED TO A MINIMUM 95 PERCENT OF THE MODIFIED PROCTOR DENSITY, PER ASTM D1557.
2. ALL SLABS-ON-GRADE SHALL BE PROVIDED WITH A MINIMUM OF 100mm THK. COMPACTED CLEAN COARSE SAND BED.
3. UNLESS OTHERWISE NOTED, ALL BEDDED SLABS SHALL BE REINFORCED WITH 10mm BARS AT 250mm O.C. EACHWAYS AT THE CENTER OF SLAB.
4. PLACE CONCRETE FOR ALL SLABS-ON-GRADE IN CHECKERBOARD FASHION BETWEEN CONSTRUCTION JOINTS IN AREAS OF PLACEMENT, CONSTRUCTION JOINTS SHALL NOT BE FARTHER APART THAN 8.00 METERS IN ANY DIRECTION. ALL SLABS-ON-GRADE SHALL BE SAW CUT ON EACH GRID LINE AND MID BAY LINE (IN BOTH DIRECTIONS) WITHIN 24 HOURS AFTER CASTING.

F. SPECIAL PROVISION

1. GATE VALVES AND STEEL PIPES SHALL BE SUPPLIED BY GSCWD. THE CONTRACTOR SHALL INSTALL GATE VALVES AND STEEL PIPES.
2. ALL WORKS, THAT MAY BE CALLED FOR IN THE SPECIFICATIONS AND NOT SHOWN IN THE PLANS OR VICE VERSA, SHALL BE EXECUTED AND FINISHED AS IF DESCRIBED IN BOTH. SHOULD ANY WORK REQUIRED WHICH IS NOT DENOTED ON EITHER PLANS AND SPECIFICATIONS EITHER DIRECTLY OR INDIRECTLY, IT IS UNDERSTOOD THAT SAME SHALL BE IMPLIED AND REQUIRED AND SHALL BE PERFORMED AND FURNISHED SUCH MATERIALS AND LAYOUT AS FULLY AS IF IT HAS BEEN DESCRIBED.
3. THE PLANS AND SPECIFICATIONS SHALL BE CONSIDERED COMPLEMENTARY AND ANY DETAILS MENTIONED IN ONE BUT NOT IN OTHER, OR VICE VERSA, SHALL BE INTERPRETED TO BE APPLICABLE IN BOTH.
4. IF NO NUMERICAL LABEL OF THE DIMENSION(S) OF ANY PART OF DETAILS APPEARED ON THE PLAN, THE DRAWING SHALL BE CAREFULLY FOLLOWED IN ACCORDANCE TO THE SCALE THUS INDICATED, OTHERWISE ALL NUMERICAL DATA OF DIMENSIONS OF DETAILS WHEN SO PROVIDED MUST BE FOLLOWED AND NOT THE SCALE OF THE DRAWING.