



KARACHI NEIGHBORHOOD IMPROVEMENT PROJECT (KNIP)

REHABILITATION & UPGRADATION OF BOAT BASIN TO SCHON CHOWRANGI WITH PEDESTRIAN TRAIL & GIZRI SPORTS GROUND

PUBLIC HEALTH TENDER DRAWINGS

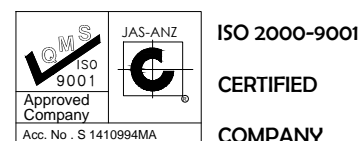
VOL-III

AUGUST - 2021




G3 ENGINEERING CONSULTANTS (PVT.) LTD.

Consulting Engineers – Architects – Planners



**PUBLIC HEATH DRAWINGS
MASTER PLAN**

CLIENT:



PROJECT
IMPLEMENTATION
UNIT (PIU) KNIP



CONSULTANTS:
**G3 ENGINEERING
CONSULTANTS (PVT) LTD.**
House No.57-M Gulberg-III, Lahore, Pakistan



Tel : (92-42) 35441641, 35441642
Fax : (92-42) 35441645
E-mail : info@g3ec.com
URL : www.g3ec.com

PROJECT:

REHABILITATION & UPGRADATION OF
BOAT BASIN TO SCHON CHOWRANGI WITH
PEDESTRIAN TRAIL



NOTES:

1. ALL DIMENSIONS ARE IN FEET UNLESS
OTHERWISE SPECIFIED.
2. THIS DRAWING IS AN INTELLECTUAL PROPERTY
OF G3 ENGINEERING CONSULTANTS (PVT.) LTD.
AND CANNOT BE REPRINTED OR REPRODUCED
WITHOUT PRIOR APPROVAL OF G3.

REVISIONS:

No.	DESCRIPTION	DATE

TENDER DRAWINGS

DRAWING TITLE:

LIST OF DRAWINGS

DRAWN BY:
M. Imran

DATE:
AUG. 2021

WATER SUPPLY & SEWERAGE ENGINEER
Engr.Wasif Ali

APPROVED BY:
Syed Ali Abbas Gillani

DRAWING NO:
0249/WATER/LD-00

REV:
4

SCALE (A3):
N.T.S

SHEET:
1 / 4

LEGEND:

PROPOSED WATER SUPPLY	
DISTANCE	(126')
PIPE DIA	125mmØ
SLUICE VALVE	S.V
FIRE HYDRANT	F.H
WASHOUT	W.O
AIR RELEASE VALVE	A.R.V

CENTRAL PIAZZA WITH GUITAR PLAYING AREA,
LANDSCAPE SITTING & PUBLIC TOILET BLOCKS

CLIENT:



PROJECT
IMPLEMENTATION
UNIT (PIU) KNIP



CONSULTANTS:

**G3 ENGINEERING
CONSULTANTS (PVT) LTD.**
House No.57-M Gulberg-III, Lahore, Pakistan

Tel : (92-42) 35441641, 35441642
Fax : (92-42) 35441645
E-mail : info@g3ec.com
URL : www.g3ec.com

PROJECT:

REHABILITATION & UPGRADATION OF
BOAT BASIN TO SCHON CHOWRANGI WITH
PEDESTRIAN TRAIL



NOTES:

1. ALL DIMENSIONS ARE IN FEET UNLESS OTHERWISE SPECIFIED.
2. THIS DRAWING IS AN INTELLECTUAL PROPERTY OF G3 ENGINEERING CONSULTANTS (PVT.) LTD. AND CANNOT BE REPRINTED OR REPRODUCED WITHOUT PRIOR APPROVAL OF G3.

REVISIONS:

No.	DESCRIPTION	DATE

TENDER DRAWINGS

DRAWING TITLE:

**PROPOSED WATER
SUPPLY SYSTEM**

DRAWN BY: M. Imran DATE: AUG. 2021

WATER SUPPLY & SEWERAGE ENGINEER

Engr. Wasif Ali

APPROVED BY:

Syed Ali Abbas Gillani

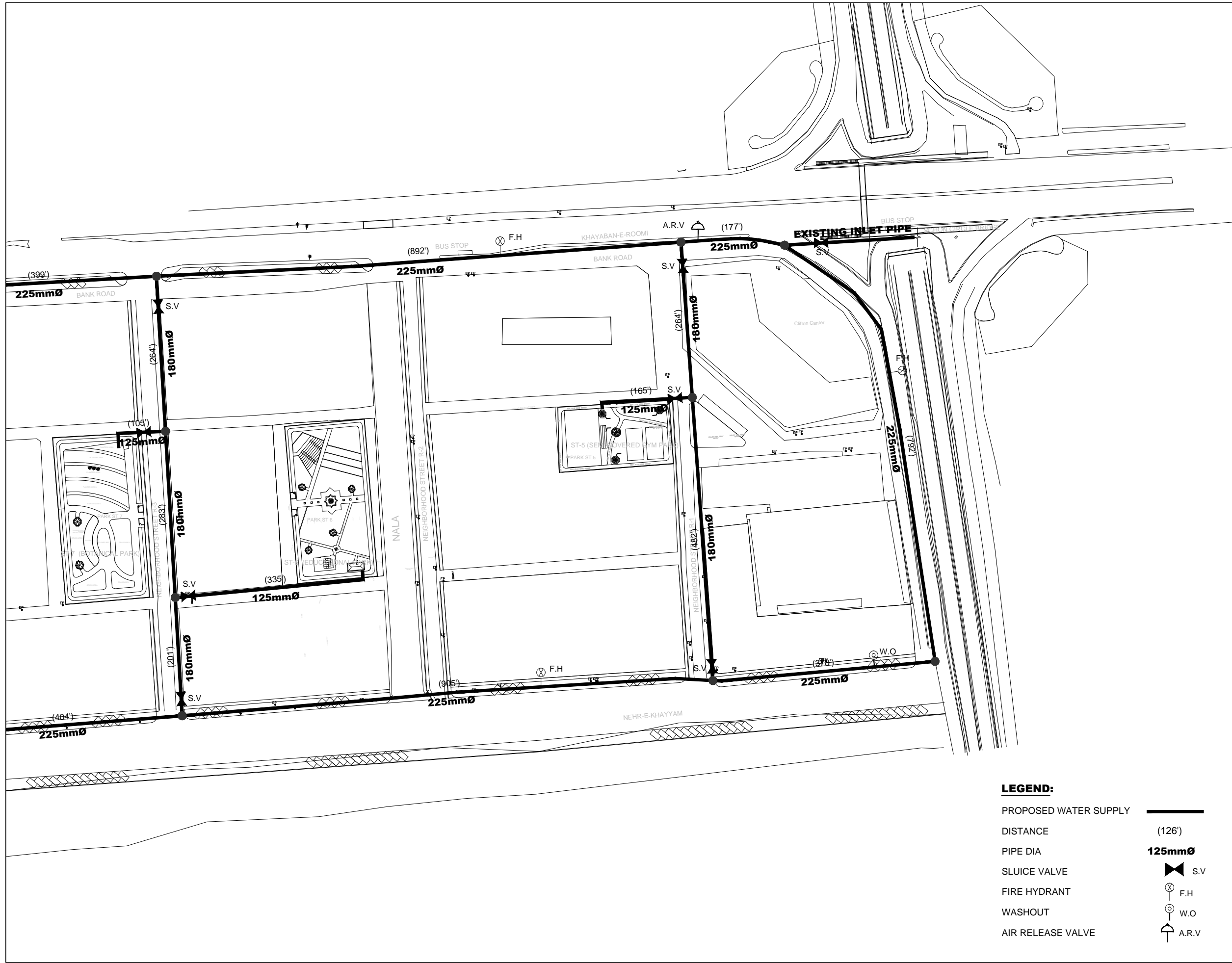
DRAWING NO: 0249/WATER/WS-01

REV: 4


SCALE (A3):

SHEET: 2 / 4


N.T.S



CLIENT:



PROJECT
IMPLEMENTATION
UNIT (PIU) KNIP




CONSULTANTS:

**G3 ENGINEERING
CONSULTANTS (PVT) LTD.**
House No.57-M Gulberg-III, Lahore, Pakistan
Tel : (92-42) 35441641, 35441642
Fax : (92-42) 35441645
E-mail : info@g3ec.com
URL : www.g3ec.com

PROJECT:

REHABILITATION & UPGRADATION OF
BOAT BASIN TO SCHON CHOWRANGI WITH
PEDESTRIAN TRAIL



NOTES:
1. ALL DIMENSIONS ARE IN FEET UNLESS
OTHERWISE SPECIFIED.
2. THIS DRAWING IS AN INTELLECTUAL PROPERTY
OF G3 ENGINEERING CONSULTANTS (PVT.) LTD.
AND CANNOT BE REPRINTED OR REPRODUCED
WITHOUT PRIOR APPROVAL OF G3.

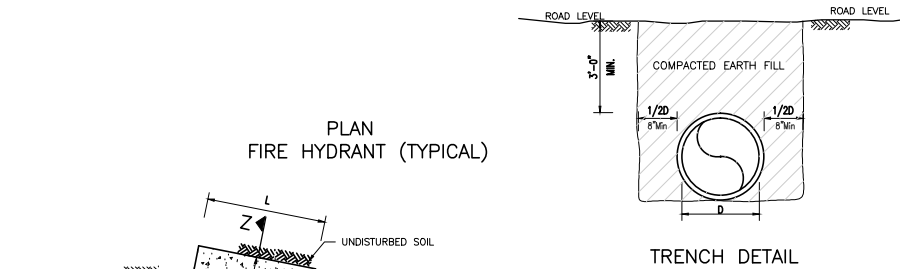
REVISIONS:

No.	DESCRIPTION	DATE

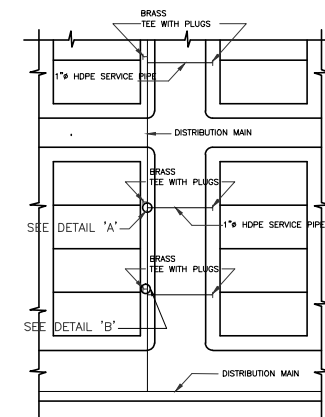
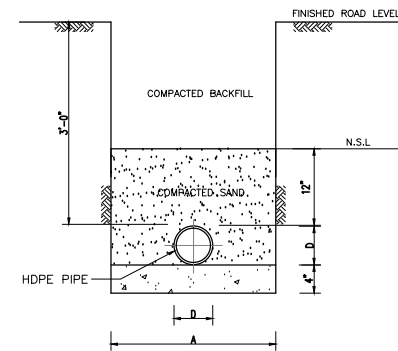
TENDER DRAWINGS

DRAWING TITLE:
**PROPOSED WATER
SUPPLY SYSTEM**

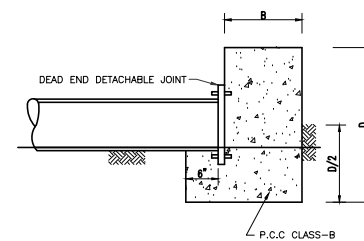
DRAWN BY: M. Imran	DATE: AUG. 2021
WATER SUPPLY & SEWERAGE ENGINEER Engr.Wasif Ali	
APPROVED BY: Syed Ali Abbas Gillani	
DRAWING NO: 0249/WATER/WS-02	REV: 4
SCALE (A3): N.T.S	SHEET: 3 / 4



TRENCH WIDTH SCHEDULE	
NOMINAL INTERNAL DIA OF PIPE IN INCHES (D)	TRENCH WIDTH (A)
3"	24"
4"	24"
6"	30"
8"	30"
10"	36"
12"	36"



WATER SUPPLY SERVICE CONNECTION
(TYPICAL)

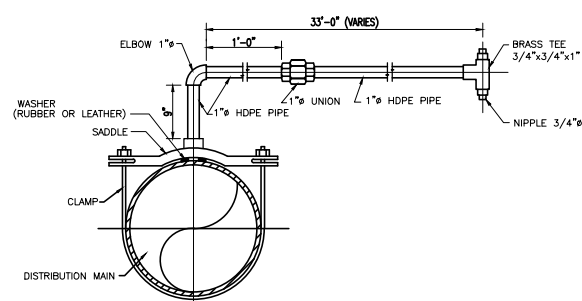


SECTION Y-Y

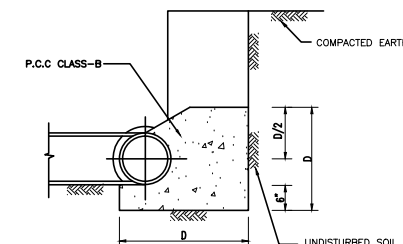
- NOTES
- 1: THE HEIGHT OF CHAMBERS TO BE DETERMINED BY THE SITE ENGINEER.
 - 2: WALL THICKNESS OF CHAMBER IS 9" UPTO 3'-6" FOR DEPTH MORE THAN 3'-6" WALL THICKNESS WILL BE 13 1/2" (BELOW 3'-6" DEPTH)
 - 3: THRUST BLOCKS SHALL BE OF CONCRETE (CLASS-B)
 - 4: THE WORDS F.H, G.V, A.V, AND W.O ON INDICATION PLATE SHALL BE WRITTEN IN WHITE BAKED ENAMEL PAINT SHALL REPRESENT FIRE HYDRANT, GATE VALVE, AIR VALVE AND WASHOUT RESPECTIVELY.
 - 5: READ THIS DRAWING IN CONJUNCTION WITH ALL OTHER RELEVANT DRAWINGS.
 - 6: EXACT LOCATION OF AIR VALVES AND WASHOUTS SHALL BE CONFIRMED AT SITE BY THE ENGINEER

ANCHOR BLOCK DIMENSIONS FOR PIPE FITTINGS																
DIA IN INCHES	AT TEES AND DEAD ENDS				AT 90° BENDS				AT 45° BENDS				AT 22 1/2° BENDS			
	C	B	D	L	C	B	D	L	C	B	D	L	C	B	D	L
3	4	12	12	12	2	12	24	12	4	12	12	12	6	12	12	12
4	6	12	12	12	2	12	24	18	4	12	12	12	6	12	12	12
6	8	12	15	24	2	18	24	30	4	12	18	18	6	12	18	12
8	12	12	18	33	6	18	27	36	12	12	21	24	18	12	18	21
10	12	12	24	42	8	27	27	48	14	12	27	30	18	12	24	21
12	21	12	30	48	10	30	33	60	16	15	30	36	21	12	27	24

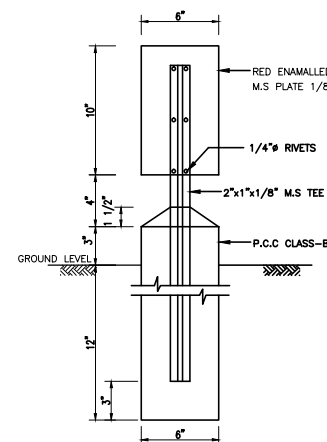
NOTE:- ALL DIMENSIONS ARE IN INCHES.



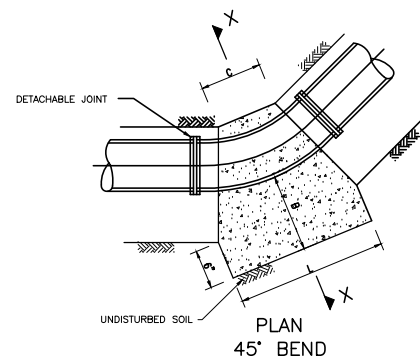
HOUSE CONNECTION (DETAIL 'A')



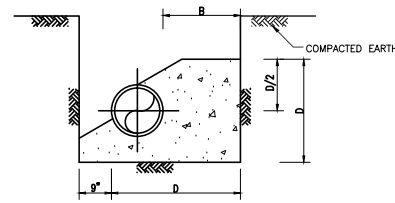
SECTION K-K



POST MOUNTED
RED ENAMELLED COATING M.S. 10"x6"x1/8" PLATE
(INDICATION PLATES FOR GATE VALVE, FIRE HYDRANT, AIR VALVE AND WASHOUT.)



PLAN 45° BEND



SECTION X-X

CLIENT:



PROJECT
IMPLEMENTATION
UNIT (PIU) KNIP



CONSULTANTS:

G3 ENGINEERING CONSULTANTS (PVT) LTD.
House No.57-M Gulberg-III, Lahore, Pakistan
Tel : (92-42) 35441641, 35441642
Fax : (92-42) 35441645
E-mail : info@g3ec.com
URL : www.g3ec.com

PROJECT:

REHABILITATION & UPGRADATION OF
BOAT BASIN TO SCHON CHOWRANGI WITH
PEDESTRIAN TRAIL



NOTES:

1. ALL DIMENSIONS ARE IN FEET UNLESS OTHERWISE SPECIFIED.
2. THIS DRAWING IS AN INTELLECTUAL PROPERTY OF G3 ENGINEERING CONSULTANTS (PVT.) LTD. AND CANNOT BE REPRINTED OR REPRODUCED WITHOUT PRIOR APPROVAL OF G3.

REVISIONS:

No.	DESCRIPTION	DATE

TENDER DRAWINGS

DRAWING TITLE:

MISCELLANEOUS
DETAILS

DRAWN BY: M. Imran DATE: AUG. 2021

WATER SUPPLY & SEWERAGE ENGINEER

Engr.Wasif Ali

APPROVED BY: Syed Ali Abbas Gillani

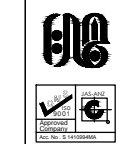
DRAWING NO: 0249/WATER/WS-03 REV: 4

SCALE (A3): N.T.S SHEET: 4 / 4

CLIENT:



PROJECT
IMPLEMENTATION
UNIT (PIU) KNIP



CONSULTANTS:
**G3 ENGINEERING
CONSULTANTS (PVT) LTD.**
House No.57-M Gulberg-III, Lahore, Pakistan
Tel : (92-42) 35441641, 35441642
Fax : (92-42) 35441645
E-mail : info@g3ec.com
URL : www.g3ec.com

PROJECT:

REHABILITATION & UPGRADATION OF
BOAT BASIN TO SCHON CHOWRANGI WITH
PEDESTRIAN TRAIL



NOTES:

1. ALL DIMENSIONS ARE IN FEET UNLESS OTHERWISE SPECIFIED.
2. THIS DRAWING IS AN INTELLECTUAL PROPERTY OF G3 ENGINEERING CONSULTANTS (PVT.) LTD. AND CANNOT BE REPRINTED OR REPRODUCED WITHOUT PRIOR APPROVAL OF G3.

REVISIONS:

No.	DESCRIPTION	DATE

TENDER DRAWINGS

DRAWING TITLE:

LIST OF DRAWING

DRAWN BY: M. Imran	DATE: AUG. 2021
WATER SUPPLY & SEWERAGE ENGINEER Engr. Wasif Ali	
APPROVED BY: Syed Ali Abbas Gillani	
DRAWING NO: 0249/SEWER/LD-00	REV: 4
SCALE (A3): N.T.S	SHEET: 01 /05

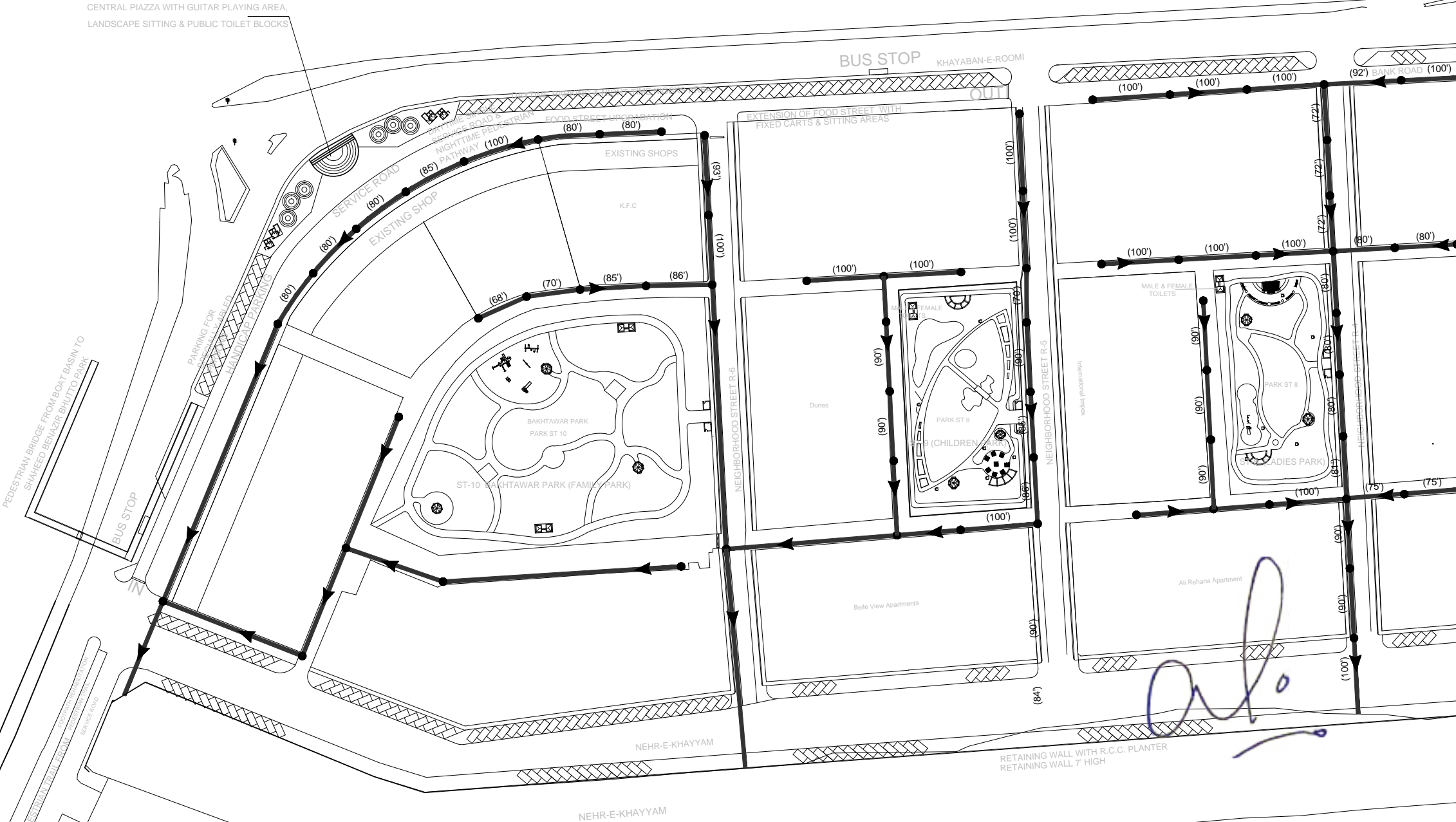
LIST OF DRAWINGS

S.NO	DESCRIPTION	DRG.NO:
SEWERAGE SYSTEM		
01	LIST OF DRAWING (01 / 05)	LD-00
02	SEWERAGE SYSTEM LAYOUT PLAN (02 / 05)	SW-01
03	SEWERAGE SYSTEM LAYOUT PLAN (03 / 05)	SW-02
04	TRENCH AND R.C.C. PIPE DETAIL (04 / 05)	SW-03
05	MANHOLE & MISCELLANEOUS (05 / 05)	SW-04

LEGEND:

PROPOSED SEWERAGE SYSTEM (50')
DISTANCE
SEWER DIA
MANHOLE
MANHOLE NUMBER 11.2

CENTRAL PIAZZA WITH GUITAR PLAYING AREA,
LANDSCAPE SITTING & PUBLIC TOILET BLOCKS



CLIENT:



PROJECT
IMPLEMENTATION
UNIT (PIU) KNIP



CONSULTANTS:

G3 ENGINEERING
CONSULTANTS (PVT) LTD.
House No.57-M Gulberg-III, Lahore, Pakistan

Tel : (92-42) 35441641, 35441642
Fax : (92-42) 35441645
E-mail : info@g3ec.com
URL : www.g3ec.com

PROJECT:

REHABILITATION & UPGRADATION OF
BOAT BASIN TO SCHON CHOWRANGI WITH
PEDESTRIAN TRAIL



NOTES:

1. ALL DIMENSIONS ARE IN FEET UNLESS OTHERWISE SPECIFIED.
2. THIS DRAWING IS AN INTELLECTUAL PROPERTY OF G3 ENGINEERING CONSULTANTS (PVT.) LTD. AND CANNOT BE REPRINTED OR REPRODUCED WITHOUT PRIOR APPROVAL OF G3.

REVISIONS:

No.	DESCRIPTION	DATE

TENDER DRAWINGS

DRAWING TITLE:
**PROPOSED
SEWERAGE SYSTEM**

DRAWN BY: M. Imran DATE: AUG. 2021

WATER SUPPLY & SEWERAGE ENGINEER

Engr. Wasif Ali

APPROVED BY:

Syed Ali Abbas Gillani

DRAWING NO:

0249/SEWER/SW-01

SCALE (A3):

N.T.S

REV:

4

SHEET:

02 /05

LEGEND:

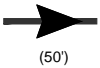
PROPOSED SEWERAGE SYSTEM

DISTANCE

SEWER DIA

MANHOLE

MANHOLE NUMBER



(50')



11.2

CLIENT:



PROJECT IMPLEMENTATION UNIT (PIU) KNIP



CONSULTANTS:

**G3 ENGINEERING
CONSULTANTS (PVT)LTD.**
House No.57-M Gulberg-III, Lahore, Pakistan

Tel : (92-42) 35441641, 35441642
Fax : (92-42) 35441645
E-mail : info@g3ec.com
URL : www.g3ec.com

PROJECT:

REHABILITATION & UPGRADATION OF
BOAT BASIN TO SCHON CHOWRANGI WITH
PEDESTRIAN TRAIL

NOTES:

1. ALL DIMENSIONS ARE IN FEET UNLESS OTHERWISE SPECIFIED.
2. THIS DRAWING IS AN INTELLECTUAL PROPERTY OF G3 ENGINEERING CONSULTANTS (PVT.) LTD. AND CANNOT BE REPRINTED OR REPRODUCED WITHOUT PRIOR APPROVAL OF G3.

REVISIONS:

[illegible]

TENDER DRAWINGS

DRAWING TITLE:
**PROPOSED
SEWERAGE SYSTEM**

DRAWN BY: M. Imran	DATE: AUG. 2021
-----------------------	--------------------

WATER SUPPLY & SEWERAGE ENGINEER

Engr. Wasif Ali

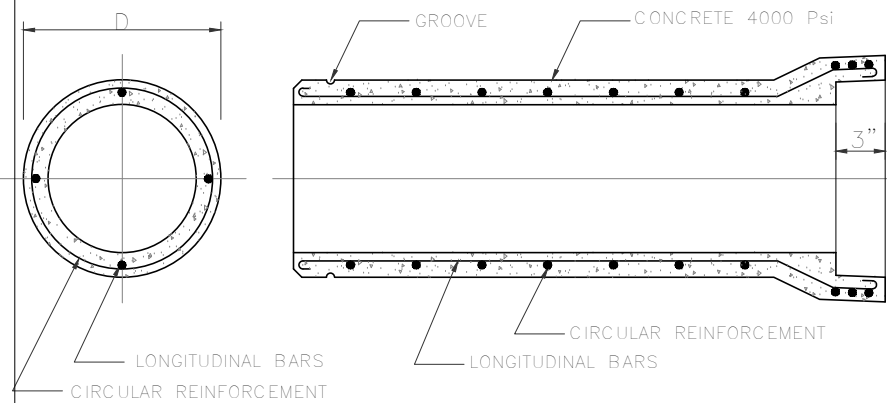
APPROVED BY:
Syed Ali Abbas Gillani

DRAWING NO:	REV:
-------------	------

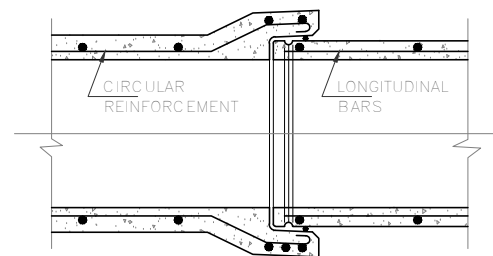
0249/SEWER/SW-02	4
------------------	---

SCALE (A3):	SHEET:
-------------	--------

N.T.S	03 /05
-------	--------



PIPE REINFORCEMENT DETAIL



THE DIMENSIONS OF WALL THICKNESS, PIPE DIAS REINFORCEMENT DETAILS ETC REFER TABLE:1

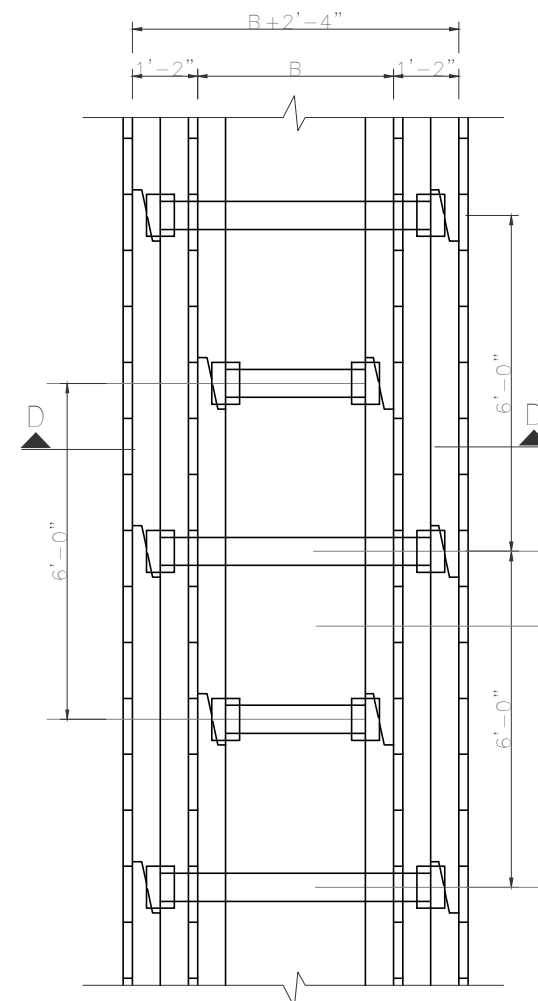
SPECIFIC SOCKET AND SPIGOT JOINT AND REINFORCEMENT DETAIL

NOTE:-

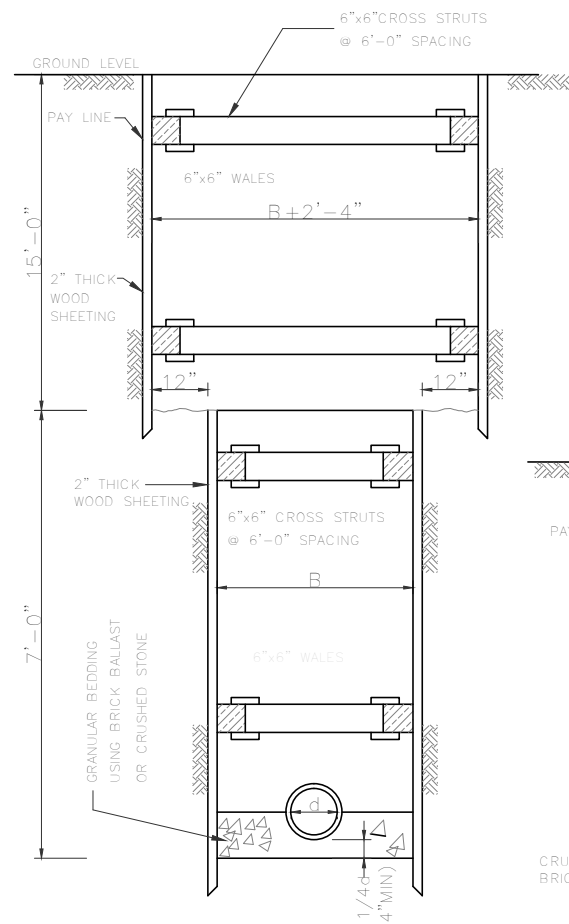
THE WEIGHT OF THE STEEL CAGE TO BE APPROVED BY THE SITE ENGINEER BASED UPON THE NUMBER OF BAR AS MENTIONED IN THE ABOVE TABLE.

TABLE :1									
RECOMMENDED R.C.C PIPES OF 8ft. BARREL LENGTH									
WALL THICKNESS AND REINFORCEMENT DETAILS (CLASS III WALL 'B')									
SR. NO.	PIPE INNER DIA.	WALL THICKNESS	SIZE OF RING BARS	NOS.OF CIRCULAR RINGS		NO.OF RINGS FOR BELL	STRAIGHT BARS		
				INNER GAUGE	OUTER GAUGE		DIA.	NO.OF BARS	
1	6" **	1"	3/16"	25	-	2	3/16"	4	-
2	9" **	1"	3/16"	25	-	2	3/16"	4	-
3	12" *	2"	3/16"	25	-	2	3/16"	4	-
4	15" *	2 1/4"	3/16"	25	-	2	3/16"	4	-
5	18" *	2 1/2"	3/16"	25	-	2	3/16"	4	-
6	21" *	2 3/4"	3/16"	25	-	3	3/16"	4	-
7	24" *	3"	3/16"	25	-	2	3/16"	4	-
8	27" *	3 1/4"	1/4"	25	-	3	3/16"	4	-
9	30" *	3 1/2"	1/4"	27	-	3	1/4"	8	-
10	36" *	4"	1/4"	45	27	3	1/4"	8	8
11	42" *	4 1/2"	1/4"	52	33	3	1/4"	8	8
12	48" *	5"	1/4"	60	38	3	1/4"	8	8
13	54" *	5 1/2"	1/4"	66	45	3	1/4"	8	8

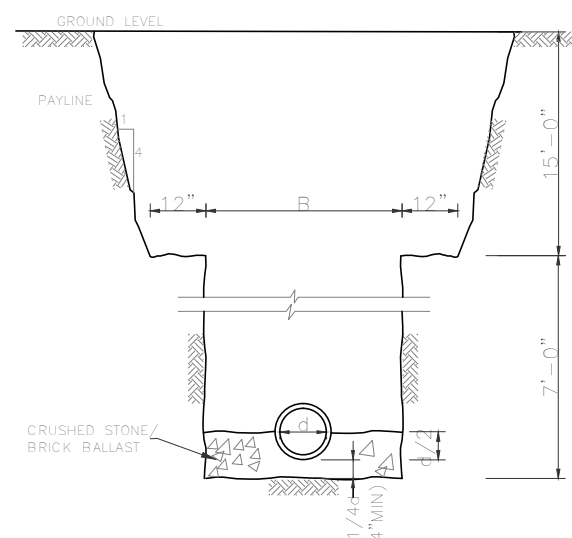
** BSS 5911 PART 1 1981 CLASS 'L'
* ASTM C76/90 CLASS III WALL 'B' PIPES



TRENCH WITH TIMBERING AND BRACING



SECTION D-D



SECTION OF TRENCH WITHOUT TIMBERING AND BRACING

SEHEDULE OF TRENCH

SR. NO.	PIPE INSIDE DIA. ("d")	TRENCH (B) WITH TIMBERING	WIDTH (B) WITHOUT TIMBERING
1	9"	27"	36"
2	12"	32"	36"
3	15"	36"	42"
4	18"	39"	46"
5	21"	43"	50"
6	24"	46"	54"
7	30"	53"	62"
8	36"	68"	67"
8	42"	76"	72"
9	48"	83"	88"
10	54"	86"	98"

CLIENT:



PROJECT IMPLEMENTATION UNIT (PIU) KNIP



CONSULTANTS:
G3 ENGINEERING CONSULTANTS (PVT) LTD.
House No.57-M Gulberg-III, Lahore, Pakistan
Tel : (92-42) 35441641, 35441642
Fax : (92-42) 35441645
E-mail : info@g3ec.com
URL : www.g3ec.com

PROJECT:

REHABILITATION & UPGRADATION OF BOAT BASIN TO SCHON CHOWRANGI WITH PEDESTRIAN TRAIL



NOTES:

1. ALL DIMENSIONS ARE IN FEET UNLESS OTHERWISE SPECIFIED.
2. THIS DRAWING IS AN INTELLECTUAL PROPERTY OF G3 ENGINEERING CONSULTANTS (PVT.) LTD. AND CANNOT BE REPRINTED OR REPRODUCED WITHOUT PRIOR APPROVAL OF G3.

REVISIONS:

No.	DESCRIPTION	DATE

TENDER DRAWINGS

DRAWING TITLE:
TRENCH AND R.C.C. PIPE DETAIL

DRAWN BY: M. Imran DATE: AUG. 2021
WATER SUPPLY & SEWERAGE ENGINEER

Engr. Wasif Ali
APPROVED BY: Syed Ali Abbas Gillani

DRAWING NO: 0249/SEWER/SW-03 REV: 4
SCALE (A3): N.T.S SHEET: 04 /05

CLIENT:

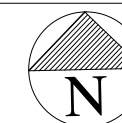


PROJECT
IMPLEMENTATION
UNIT (PIU) KNIP



CONSULTANTS:
G3 ENGINEERING
CONSULTANTS (PVT) LTD.
House No 57-M Gulberg-II, Lahore, Pakistan
Tel : (92-42) 35441641, 35441642
Fax : (92-42) 35441645
E-mail : info@g3ec.com
URL : www.g3ec.com

PROJECT:
REHABILITATION & UPGRADATION OF
BOAT BASIN TO SCHON CHOWRANGI WITH
PEDESTRIAN TRAIL



NOTES:
1. ALL DIMENSIONS ARE IN FEET UNLESS OTHERWISE SPECIFIED.
2. THIS DRAWING IS AN INTELLECTUAL PROPERTY OF G3 ENGINEERING CONSULTANTS (PVT) LTD. AND CANNOT BE REPRINTED OR REPRODUCED WITHOUT PRIOR APPROVAL OF G3.

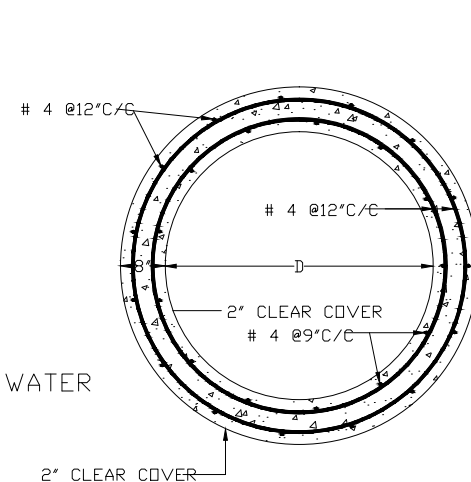
REVISIONS:

No.	DESCRIPTION	DATE

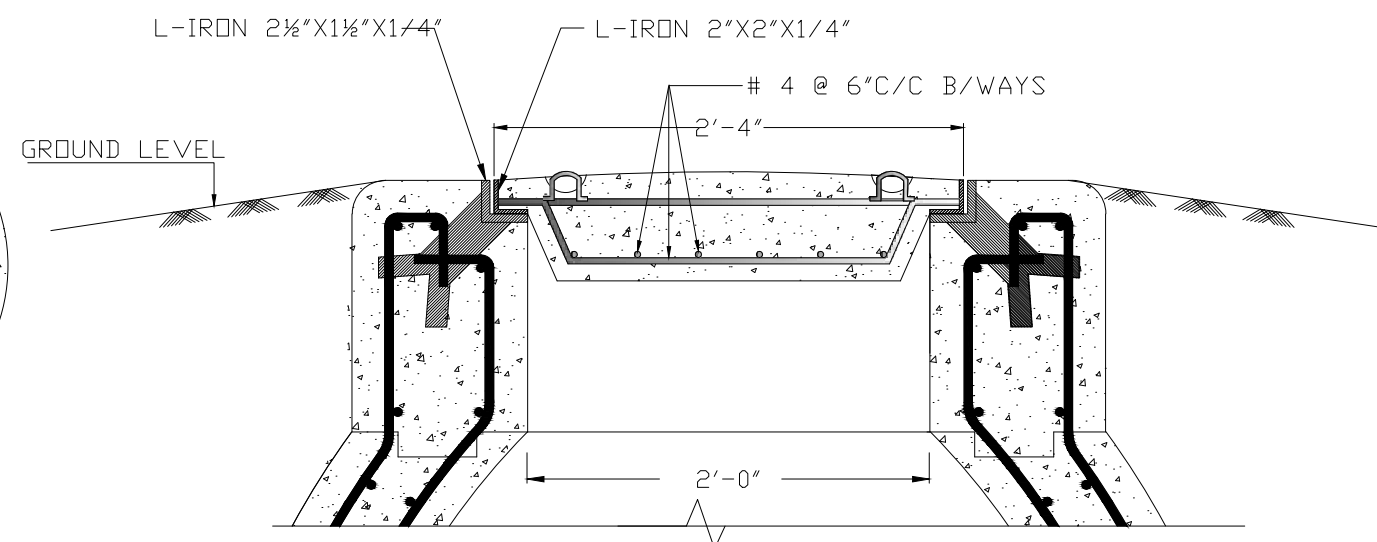
TENDER DRAWINGS

DRAWING TITLE:
MANHOLE DETAIL

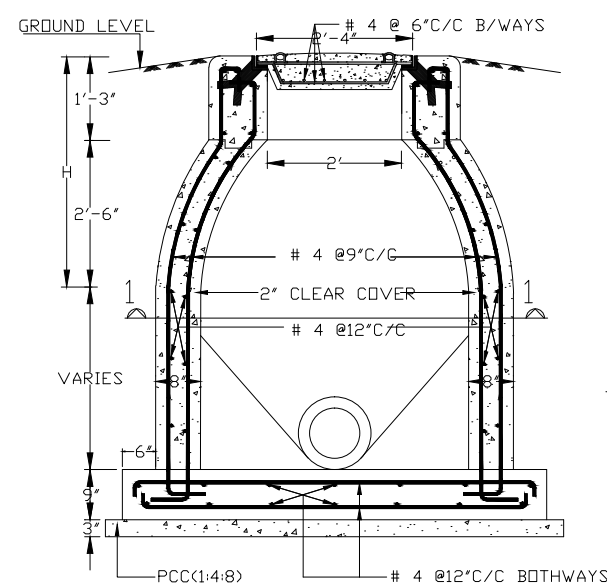
DRAWN BY: M.K.A	DATE: AUG 2021
CHECKED BY: Engr.WASIF ALI	
APPROVED BY: SYED ALI ABBAS GILLANI	
DRAWING NO: 0249/SEWER/SW-04	REV: 4
SCALE (A3): N.T.S	SHEET: 1 / 2



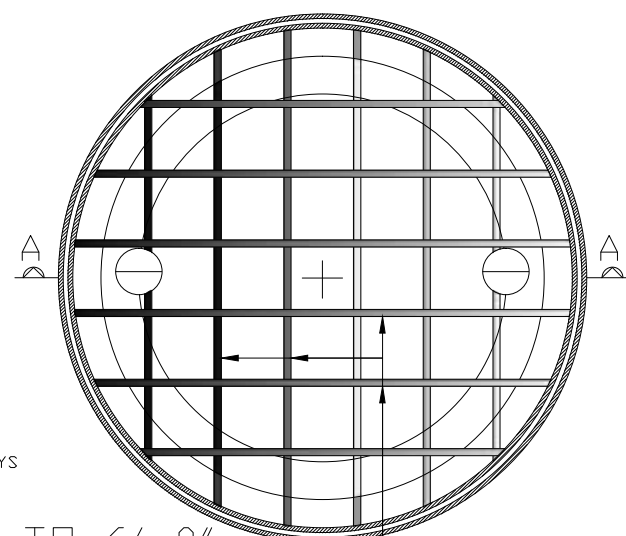
PLAN AT3-3



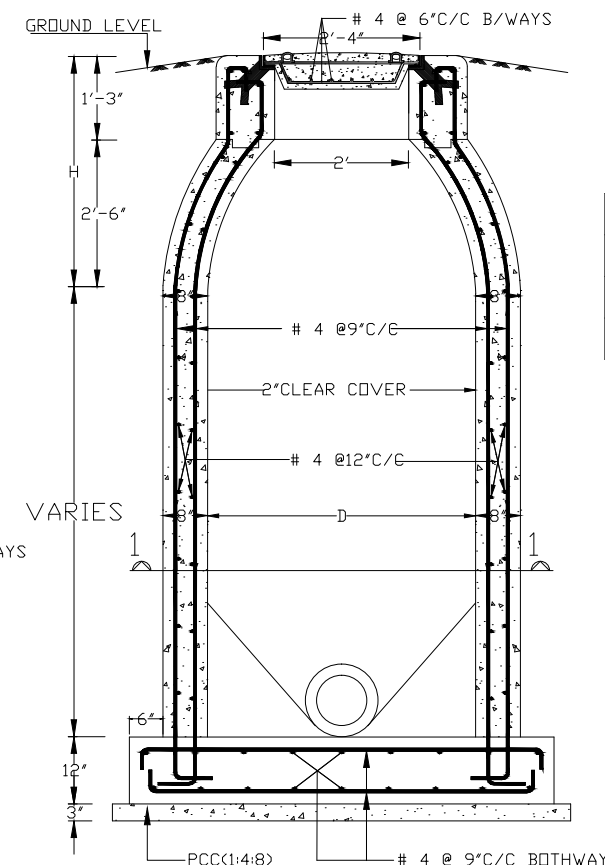
DETAIL AT X



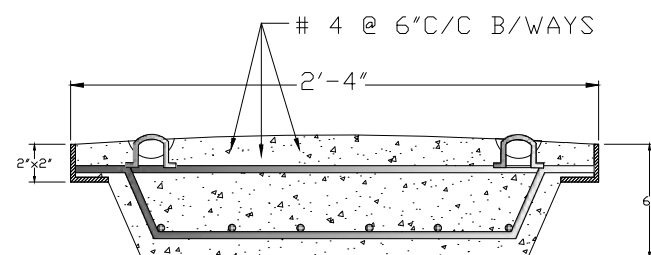
DEPTH OF INVERT UP TO 6'-0"



MANHOLE COVER



DEPTH OF INVERT EXCEEDING 6'-0"
BUT NOT EXCEEDING 10'-0"



SECTION AT A-A

VARIABLE DIMENSIONS FOR
SEWER MANHOLES

S/NO	DIA OF PIPE	D	H
1	9" TO 15"	4' - 0"	3' - 9"
2	18" TO 30"	5' - 0"	4' - 0"
3	33" TO 56"	6' - 0"	5' - 0"

NOTES

- REINFORCING STEEL**
INTERMEDIATE GRADE STEEL SHALL BE DEFORMED BARS CONFORMING TO ASTM 615-82 GRADE 40 OR EQUIVALENT AS APPROVED BY THE ENGINEER HAVING A MIN YIELD STRENGTH OF 40,000 PSI.
- REINFORCING CONCRETE**
CONCRETE HAVING 28-DAYS CYLINDER STRENGTH NOT LESS THEN 3500 PSI SHALL BE USED.
- SR CEMENT SHALL BE USED IN R.C.C WORK IF SOIL HAS HIGHER SULPHATE CONTENTS
- FOR DEPTH OF M H EXCEEDING 10'-0", 9" WIDE P.V.C WATER STOPPER BE USED AT CONSTRUCTION JOINT.

CLIENT:



PROJECT
IMPLEMENTATION
UNIT (PIU) KNIP



CONSULTANTS:

**G3 ENGINEERING
CONSULTANTS (PVT) LTD.**
House No.57-M Gulberg-III, Lahore, Pakistan



Tel : (92-42) 35441641, 35441642
Fax : (92-42) 35441645
E-mail : info@g3ec.com
URL : www.g3ec.com

PROJECT:

REHABILITATION & UPGRADATION OF
BOAT BASIN TO SCHON CHOWRANGI WITH
PEDESTRIAN TRAIL



NOTES:

1. ALL DIMENSIONS ARE IN FEET UNLESS OTHERWISE SPECIFIED.
2. THIS DRAWING IS AN INTELLECTUAL PROPERTY OF G3 ENGINEERING CONSULTANTS (PVT.) LTD. AND CANNOT BE REPRINTED OR REPRODUCED WITHOUT PRIOR APPROVAL OF G3.

REVISIONS:

No.	DESCRIPTION	DATE

TENDER DRAWINGS

DRAWING TITLE:

LIST OF DRAWING

DRAWN BY: M. Imran	DATE: AUG. 2021
WATER SUPPLY & SEWERAGE ENGINEER Engr. Wasif Ali	
APPROVED BY: Syed Ali Abbas Gillani	
DRAWING NO: 0249/SEWER/LD-00	REV: 4
SCALE (A3): N.T.S	SHEET: 01 / 04


LIST OF DRAWINGS

S.NO	DESCRIPTION	DRG.NO:
DRAINAGE SYSTEM		
01	LIST OF DRAWING (01 / 04)	LD-00
02	DRAINAGE SYSTEM LAYOUT PLAN (02 / 04)	DR-01
03	DRAINAGE SYSTEM LAYOUT PLAN (03 / 04)	DR-02
04	DRAIN DETAILS (04 / 04)	DR-03

LEGEND:

PROPOSED DRAINAGE SYSTEM

CLIENT:



PROJECT
IMPLEMENTATION
UNIT (PIU) KNIP



CONSULTANTS:

**G3 ENGINEERING
CONSULTANTS (PVT) LTD.**
House No.57-M Gulberg-III, Lahore, Pakistan

Tel : (92-42) 35441641, 35441642
Fax : (92-42) 35441645
E-mail : info@g3ec.com
URL : www.g3ec.com

PROJECT:

**REHABILITATION & UPGRADATION OF
BOAT BASIN TO SCHON CHOWRANGI
WITH
PEDESTRIAN TRAIL**



NOTES:

1. ALL DIMENSIONS ARE IN FEET UNLESS OTHERWISE SPECIFIED.

2. THIS DRAWING IS AN INTELLECTUAL PROPERTY OF G3 ENGINEERING CONSULTANTS (PVT.) LTD. AND CANNOT BE REPRINTED OR REPRODUCED WITHOUT PRIOR APPROVAL OF G3.

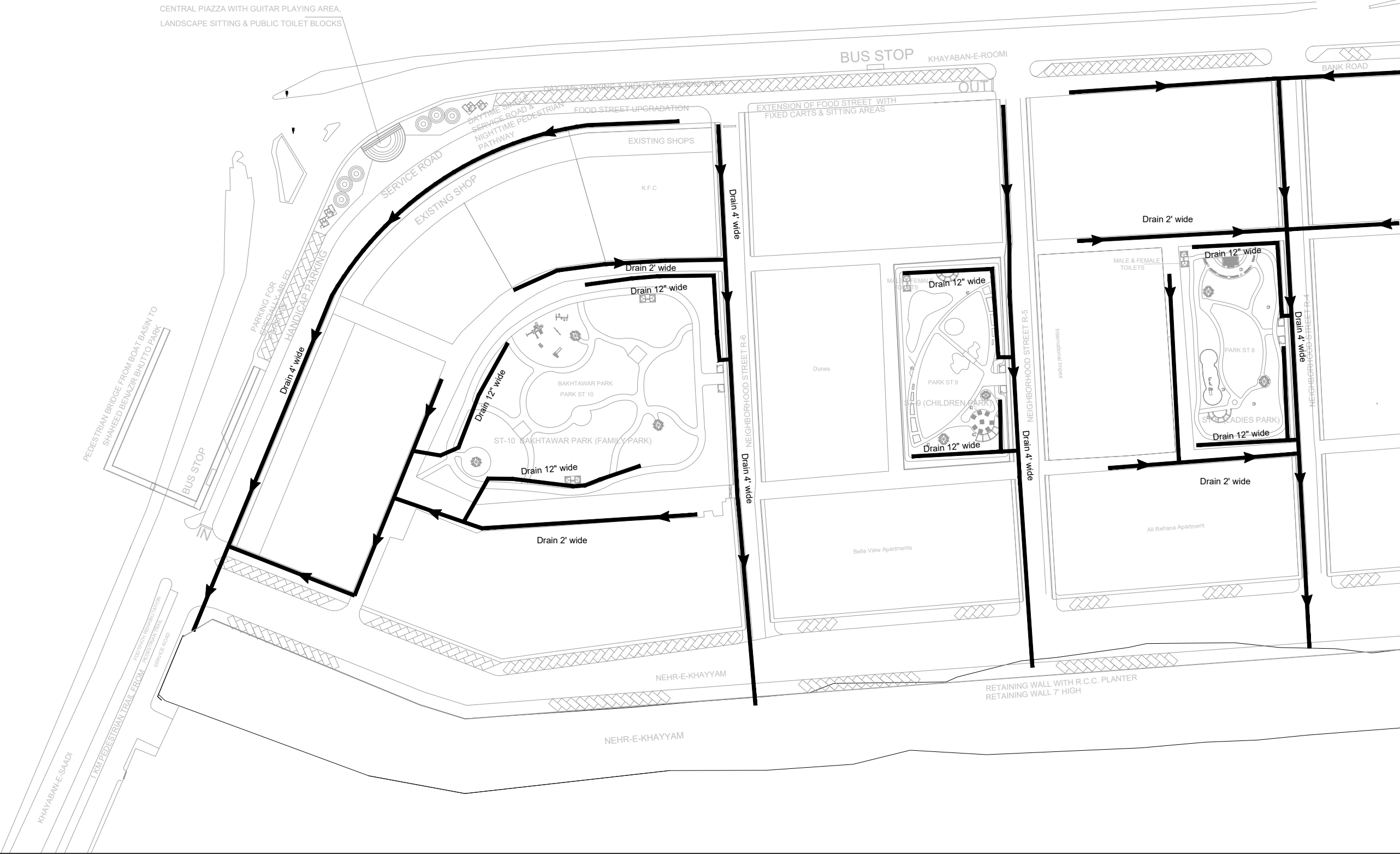
REVISIONS:		
No.	DESCRIPTION	DATE

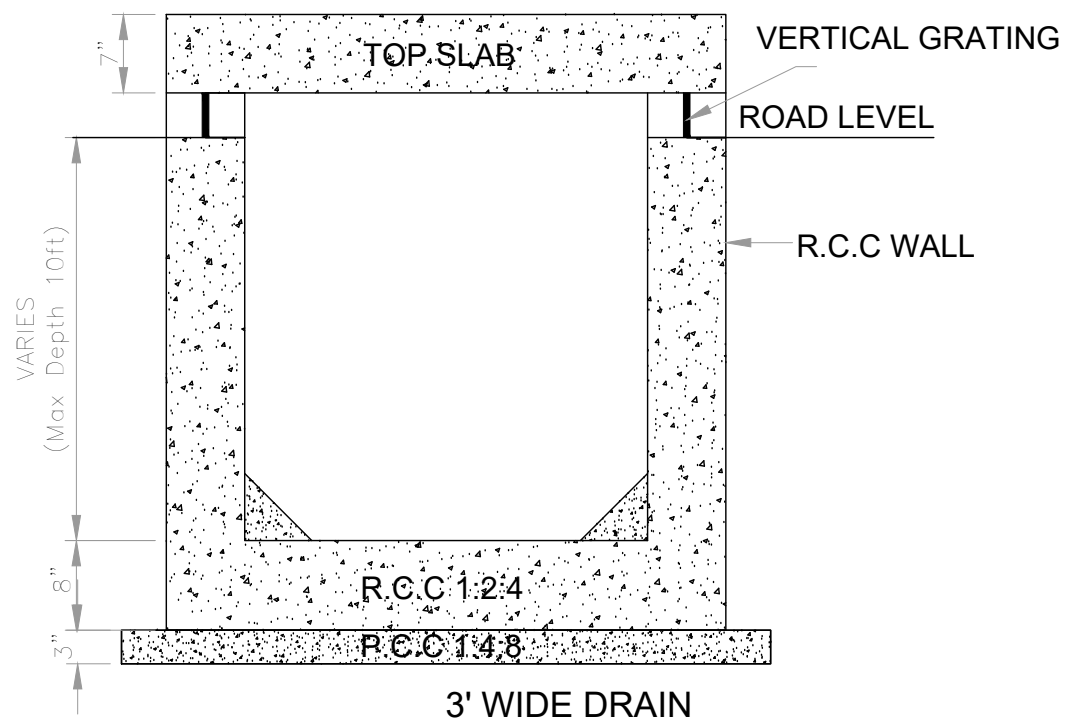
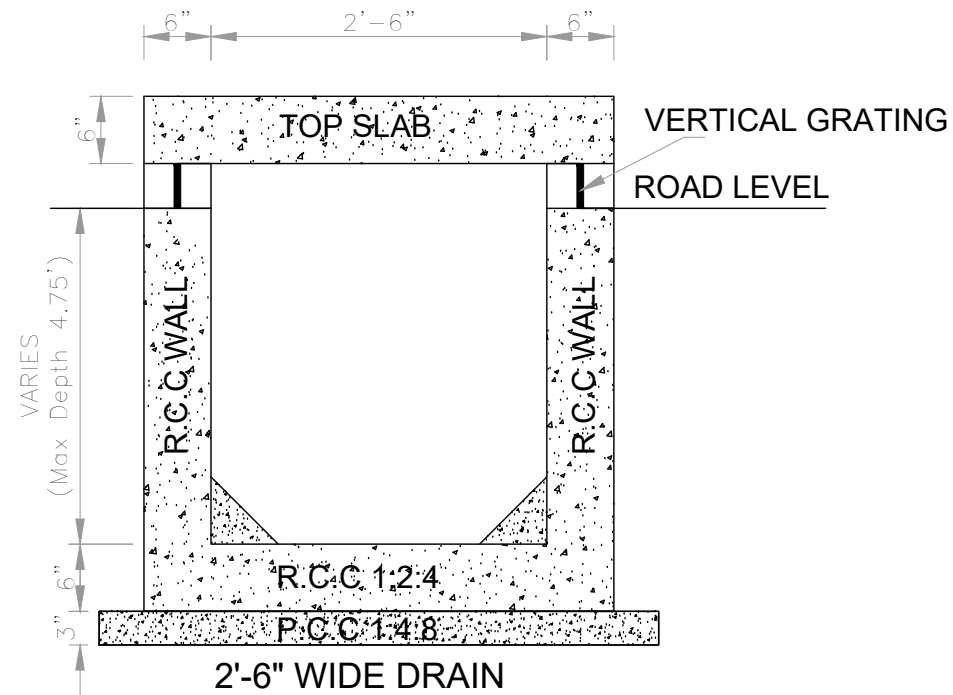
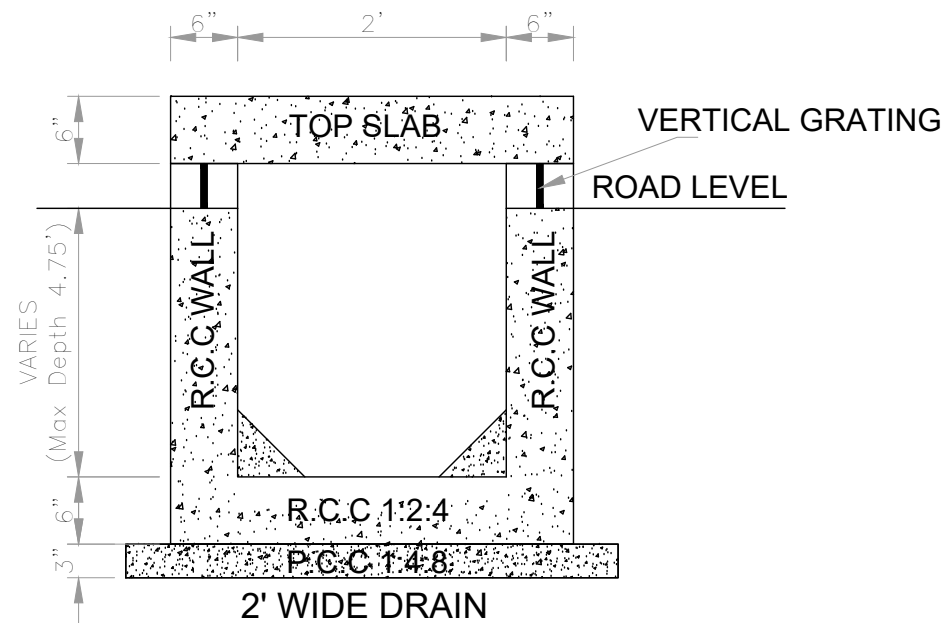
TENDER DRAWINGS

DRAWING TITLE:

**PROPOSED DRAINAGE
SYSTEM**

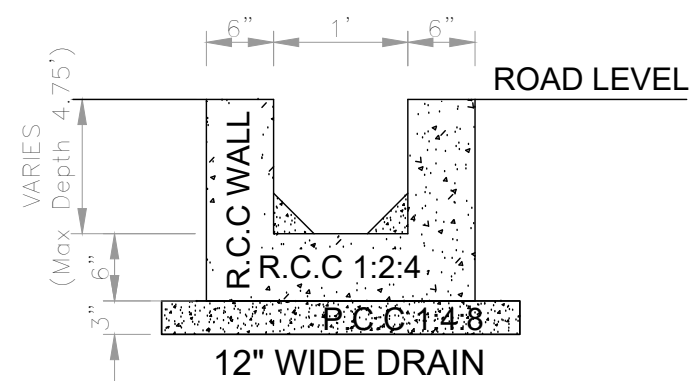
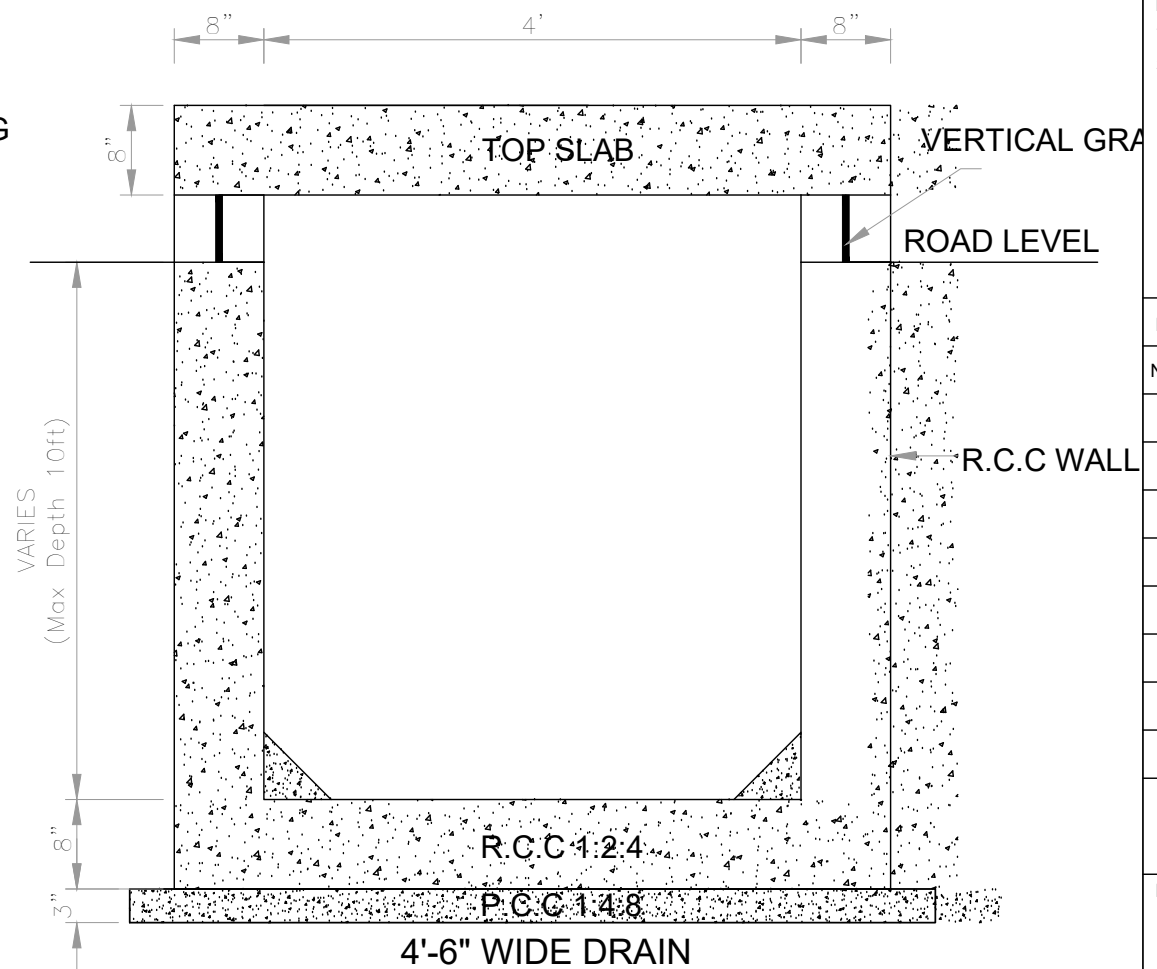
DRAWN BY: Basim	DATE: June 2021
APPROVED BY: Syed Ali Abbas Gillani	
DRAWING NO: 0249/Drain/DR-01	REV: 4
SCALE (A3): N.T.S	SHEET: 1 / 2





VERTICAL GRATING

R.C.C. WALL



CLIENT:



PROJECT
IMPLEMENTATION
UNIT (PIU) KNIP



CONSULTANTS:

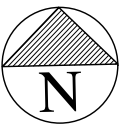
**G3 ENGINEERING
CONSULTANTS (PVT.) LTD.**
House No.57-M Gulberg-III, Lahore, Pakistan



Tel : (92-42) 35441641, 35441642
Fax : (92-42) 35441645
E-mail : info@g3ec.com
URL : www.g3ec.com

PROJECT:

REHABILITATION & UPGRADATION OF
BOAT BASIN TO SCHON CHOWRANGI
WITH
PEDESTRIAN TRAIL



NOTES:

1. ALL DIMENSIONS ARE IN FEET UNLESS OTHERWISE SPECIFIED.
2. THIS DRAWING IS AN INTELLECTUAL PROPERTY OF G3 ENGINEERING CONSULTANTS (PVT.) LTD. AND CANNOT BE REPRINTED OR REPRODUCED WITHOUT PRIOR APPROVAL OF G3.

REVISIONS:

No.	DESCRIPTION	DATE

TENDER DRAWINGS

DRAWING TITLE:

DRAIN DETAILS

DRAWN BY: Basim	DATE: June 2021
APPROVED BY: Syed Ali Abbas Gillani	REV: 4
DRAWING NO: 0249/DR-03	SHEET: 2 / 2
SCALE (A3): N.T.S	

**PUBLIC HEATH DRAWING
FOOD STREET TOILET BLOCK**

LIST OF DRAWINGS

Sr.#	DESCRIPTION	DRG. #
01	LIST OF DRAWINGS	0249/PH-00
02	GENERAL NOTES	0249/PH-01
WATER SUPPLY SYSTEM		
03	WATER SUPPLY SYSTEM (GROUND FLOOR PLAN)	0249/PH-02
04	WATER SUPPLY SYSTEM (ROOF PLAN)	0249/PH-03
SEWERAGE & DRAINAGE SYSTEM		
05	SEWERAGE SYSTEM (GROUND FLOOR PLAN)	0249/PH-04
06	DRAINAGE SYSTEM (ROOF PLAN)	0249/PH-05
MISCELLANEOUS DETAILS		
07	TYPICAL SEPTIC TANK PLAN, PIPE & SECTIONAL DETAILS	0249/PH-06
08	TYPICAL GULLY TRAP & MANHOLE PLAN, PIPE & SECTIONAL DETAILS	0249/PH-07
09	MISCELLANEOUS DETAILS-01	0249/PH-08
10	MISCELLANEOUS DETAILS-02	0249/PH-09
11	MISCELLANEOUS DETAILS-03	0249/PH-10

CLIENT:



PROJECT
IMPLEMENTATION
UNIT (PIU) KNIP



CONSULTANTS:

**G3 ENGINEERING
CONSULTANTS (PVT) LTD.**
House No.57-M Gulberg-III, Lahore, Pakistan

Tel : (92-42) 35441641, 35441642
Fax : (92-42) 35441645
E-mail : info@g3ec.com
URL : www.g3ec.com

PROJECT:

REHABILITATION & UPGRADATION OF
BOAT BASIN TO SCHON CHOWRANGI WITH
PEDESTRIAN TRAIL

NOTES:

1. ALL DIMENSIONS ARE IN FEET UNLESS OTHERWISE SPECIFIED.
2. THIS DRAWING IS AN INTELLECTUAL PROPERTY OF G3 ENGINEERING CONSULTANTS (PVT.) LTD. AND CANNOT BE REPRINTED OR REPRODUCED WITHOUT PRIOR APPROVAL OF G3.

REVISIONS:

No.	DESCRIPTION	DATE

TENDER DRAWINGS

DRAWING TITLE:

LIST OF DRAWINGS

DRAWN BY:
M. Imran

DATE:
AUG. 2021

WATER SUPPLY & SEWERAGE ENGINEER

Engr. Wasif Ali

APPROVED BY:
Syed Ali Abbas Gillani

DRAWING NO:
0249/PH-00

REV:
4

SCALE (A3):
N.T.S

SHEET:

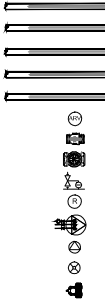
PUBLIC HEALTH GENERAL NOTES

1. THESE GENERAL NOTES ARE PROVIDED TO SUPPLEMENT THE WRITTEN SPECIFICATION FOR THIS PROJECT. REFER TO THE SPECIFICATIONS FOR MORE DETAILED REQUIREMENTS OF THIS PROJECT.
2. PERFORM ALL WORK IN A WORKMAN LIKE MANNER, IN COMPLIANCE WITH THE LATEST ADOPTED EDITIONS OF ALL GOVERNING CODES AND STANDARDS. IF CONFLICTS ARISE, REQUEST RESOLUTION FROM THE ARCHITECT. IF REQUIRED INFORMATION IS MISSING FROM THIS DRAWING (I.E, DUCT SIZE OR PIPE SIZE), REQUEST WRITTEN CLARIFICATION FROM THE ARCHITECT PRIOR TO THE EXECUTION.
3. PROVIDE ALL MINOR INCIDENTAL ITEMS SUCH AS OFFSETS, FITTINGS, ETC, REQUIRED AS PART OF THE WORK EVEN THOUGH NOT SPECIFICALLY SHOWN ON DRAWINGS. THE CONTRACTOR SHALL PROVIDE AND INSTALL THE NUMBER OF ITEMS OF EQUIPMENT AS INDICATED ON THE DRAWINGS AND AS REQUIRED FOR COMPLETE SYSTEMS.
4. THE PLUMBING DRAWINGS SHOW THE GENERAL ARRANGEMENT OF ALL PIPING, DUCT WORK. MECHANICAL EQUIPMENT AND APPURTENANCES, AND SHALL BE FOLLOWED AS CLOSELY AS ACTUAL BUILDING CONSTRUCTION AND THE WORK OF THEIR TRADES WILL PERMIT. BECAUSE OF THE SMALL SCALE OF THE PLUMBING DRAWINGS, IT IS NOT POSSIBLE TO INDICATE ALL OFFSETS, FITTINGS AND ACCESSORIES WHICH MAY BE REQUIRED. INVESTIGATE THE STRUCTURAL AND FINISH CONDITIONS AFFECTING THE WORK AND PROVIDE SUCH FITTINGS, VALVES AND ACCESSORIES AS MAY BE REQUIRED TO MEET SUCH CONDITIONS.
5. VERIFY DIMENSIONS GOVERNING PLUMBING WORK AT THE BUILDING. DO NOT SCALE THE PLUMBING DRAWINGS FOR DIMENSIONS. TAKE DIMENSIONS, MEASUREMENTS, LOCATIONS, LEVELS, ETC. FROM THE ACTUAL FIELD CONDITIONS AND ARCHITECTURAL DRAWINGS.
6. EXAMINE ALL ADJOINING WORK ON WHICH THE PLUMBING WORK IS DEPENDENT OF MAXIMUM EFFICIENCY AND REPORT DESIGN CONFLICTS WHICH MUST BE CORRECTED PRIOR TO EXECUTION. NO WAIVER OF RESPONSIBILITY SHALL BE CLAIMED OR ALLOWED DUE TO FAILURE TO REPORT UNFAVORABLE CONDITIONS AFFECTING THE PLUMBING WORK.
7. CONTRACTOR SHALL FURNISH AND INSTALL ALL PIPING, VALVES, CONTROLS, INSULATION ETC. TO ALL PLUMBING EQUIPMENT SCHEDULED OR INDICATED ON PLANS REGARDLESS OF WHETHER PIPING, VALVES, CONTROLS, INSULATION ETC. ARE SPECIFICALLY SHOWN OR NOT PLUMBING EQUIPMENT INSTALLATION SHALL BE 100% COMPLETE FOR PROPER EQUIPMENT FUNCTION AND/OR OPERATION AT COMPLETION OF PROJECT.
8. THE ARCHITECTURAL AND ENGINEERING DRAWINGS ARE COMPLEMENTARY. CONTRACTORS SHALL ACKNOWLEDGE THE ARCHITECTURAL AS WELL AS ALL THE ENGINEERING DRAWINGS AND INCLUDE ALL WORK NECESSARY TO ACHIEVE A COMPLETE WORKING. INSTALLATION FOR ANY DEVICE OR EQUIPMENT WHICH MAY BE SHOWN ON ONE DRAWING BUT NOT SHOWN ON ANOTHER.

9. LOCATION OF PIPES, DUCTS, SWITCHES, PANELS, EQUIPMENT AND FIXTURES SHALL BE ADJUSTED TO ACCOMMODATE THE WORK OR INTERFERENCES ANTICIPATED AND ENCOUNTERED. DETERMINE THE EXACT ROUTE AND LOCATION OF EACH PIPE AND DUCT PRIOR TO FABRICATION.
- 10.LOCATION OF EXISTING UTILITIES AND EXISTING UNDERGROUND PLUMBING ARE BASED ON THE SITE INFORMATION AVAILABLE. CONTRACTOR SHALL VERIFY EXACT LOCATIONS OF ALL UTILITIES AND EXISTING UNDERGROUND PLUMBING PRIOR TO FABRICATION AND ERECTION OF WORK TO AVOID ALL INTERFERENCES. VERIFICATION SHALL BE BY SITE INSPECTION, EXCAVATION, OR WHATEVER MEANS NECESSARY TO DETERMINE EXACT LOCATIONS.
- 11.CONTRACTOR SHALL OBTAIN BUILDING PERMIT AND ARRANGE ALL REQUIRED INSPECTIONS WITH THE APPROPRIATE REGULATORY AGENCY. ALERT CONSULTANT OF ALL ITEMS NOT DEPICTED ON DRAWINGS. DO NOT PROCEED WITH FURTHER WORK UNTIL WRITTEN RESPONSE IS RECEIVED FROM CONSULTANT.
- 12.CONTRACTOR SHALL VERIFY GAS PRESSURE DELIVERED BY METER AT BUILDING.
13. TEST THREADED NATURAL GAS PIPING AT 20 PSIG FOR A TEST PERIOD OF 2 HOURS. TEST PRESSURE SHALL NOT FALL OVER 5% DURING TEST PERIOD TO PASS. IF PIPING FAILS TEST, INVESTIGATE AND REPAIR THE SOURCE OF
- 14.PROVIDE SLEEVES AT ALL PIPING PENETRATIONS OF CONCRETE OR MASONRY FLOOR, WALL OR ROOF CONSTRUCTION.
- 15.PROVIDE GLASS WOOL INSULATION TO ALL HOT WATER (EXPOSED) AND COLD WATER (AT ROOF) PIPE LINE INCLUDING PROTECTIVE COATINGS.
- 16.USE NEAREST FLOOR TRAP FOR THE AC DRAINAGE.
17. TEST ALL PIPING SYSTEMS IN WHICH ANY ALTERATIONS HAVE BEEN MADE FOR COMPLIANCE WITH THE LATEST EDITION OF GOVERNING BUILDING CODE. DOMESTIC HOT AND COLD WATER PIPING SHALL BE SUBJECT TO 100 PSIG FOR A MINIMUM 2 HOURS, DOMESTIC WASTE AND VENT PIPING SHALL BE TESTED AT 10' STATIC HEAD FOR A PERIOD GREATER THAN 15 MINUTES. IF REQUIRED PRESSURE DROPS BY MORE THAN 3% DURING ITS TEST DURATION, INVESTIGATE THE SOURCE OF LEAK, REPAIR THE LEAK, AND RETEST THE SYSTEM FOR THE REQUIRED TEST PERIOD. INSPECT ALL W & V JOINTS WHILE UNDER PRESSURE AND REPAIR ALL LEAKS.
- 18.INSTALL ALL PLUMBING EQUIPMENT IN COMPLETE COMPLIANCE WITH MANUFACTURER'S STANDARD INSTALLATION INSTRUCTIONS. ARRANGE ALL EQUIPMENT TO PERMIT EASY REMOVAL OF COILS, MOTORS, FILTERS AND ALL OTHER PARTS WHICH REQUIRE PERIODIC REPLACEMENT OR MAINTENANCE.
- 19.COORDINATE ALL ELECTRICAL VOLTAGE CHARACTERISTICS WITH ELECTRICAL CONTRACTOR PRIOR TO ORDERING PLUMBING EQUIPMENT.

LEGEND FOR WATER SUPPLY SYSTEM

COLD WATER PIPE (C.W)
NORMAL PRESSURE COLD WATER (N.P.C.W)
HOT WATER PIPE (H.W)
RE-CIRCULATION HOT WATER (R.H.W)
GAS PIPE
AIR RELIEF VALVE (A.R.V)
BALL VALVE (B.V)
GATE VALVE SLICE VALVE (G.V / S.V)
PRESSURE REDUCER VALVE (P.R.V)
RE-CIRCULATION PUMP
CONVENTIONAL GEYSER
CHECK VALVE
BOOSTER PUMP
SUBMERSIBLE PUMP
H.W.G = HOT WATER GENERATOR
T.A = TO ABOVE
T.B = TO BELOW
F.A = FROM ABOVE
F.B = FROM BELOW
D-1 = DUCT - 1
M.D = MISCELLANEOUS DETAILS



SCHEDULE OF PIPE DIA

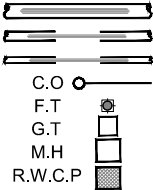
OUTER DIA (mm)	INTERNAL DIA	
	(mm)	INCH
20	13.2	0.52
25	16.4	0.65
32	21.2	0.83
40	26.6	1.05
50	33.2	1.31
63	42	1.65
75	50	1.97
90	60	2.36
110	73.2	2.88

L.D = LIST OF DRAWING
G.N = GENERAL NOTES
W.S = WATER SUPPLY
G.S = GAS SYSTEM
S.W = SEWERAGE SYSTEM
D.R = DRAINAGE SYSTEM
T / W = TUBE WELL

1. ALL WATER SUPPLY PIPE DIAMETERS ARE IN MILLIMETERS AND MENTIONED ARE EXTERNAL DIAMETERS. ALL WATER SUPPLY PIPES ARE OF PPRC UNLESS NOTED OTHERWISE.
2. ALL GAS PIPE DIAMETERS ARE IN MILLIMETERS AND MENTIONED ARE INTERNAL DIAMETERS.
3. ALL WATER SUPPLY PIPES ENTERING THE WALLS SHALL BE PROVIDED WITH ISOLATION VALVES.

LEGEND FOR SEWERAGE & DRAINAGE SYSTEM

SOIL PIPE (S.P)
WASTE PIPE (W.P)
VENT PIPE (V.P)
CLEANOUTS
FLOOR TRAP
GULLY TRAP
MANHOLE
RAIN WATER COLLECTION PIT



PIPE DIA & SLOPE

3" 1:75
4" 1:100
6" 1:150
8" 1:175
10" 1:250
12" 1:300

1. ALL PIPE DIAMETERS ARE IN INCHES UNLESS OTHERWISE MENTIONED.
2. VENT PIPES SHALL BE EXTENDED UP TO ONE FT ABOVE FINISHED ROOF LEVEL.
3. SOIL, WASTE AND VENT PIPES UP TO 6" DIA. ARE uPVC (NON PRESSURIZE) TYPE-B CONFIRMING TO ISO 3633:2002 EXTERNAL SEWER PIPES SHALL BE OF FLOW LINE CONFIRMING TO EN 1401 UNLESS OTHERWISE NOTED
4. SLOPE OF ROOF VALLEY LINE SHOULD BE BETWEEN 0.01 TO 0.02
5. BOTTLE TRAP SHALL BE USED WITH ALL WASH BASIN.
6. R.C.C PIPES SHALL BE SHALIMAR OR EQUIVALENT MAKE.
7. MINIMUM SLOPE OF SOIL AND WASTE PIPES ARE AS UNDER.
4. ALL WATER SUPPLY PIPES ARE PPR (PN 20) UNLESS OTHERWISE MENTIONED.
5. ALL WATER SUPPLY PIPES FITTINGS SUCH AS BENDS, TEES, SOCKETS, ARE PPR (PN 25) UNLESS OTHERWISE MENTIONED.
6. ALL GAS PIPES ARE G.I. UNLESS OTHERWISE MENTIONED.
7. ALL WATER SUPPLY AND GAS PIPES ARE IN DUCTS, OR CONCEALED IN WALL OR BURIED IN FLOORS.
8. ALL PIPING SHALL BE TESTED FOR LEAKAGE BEFORE THE JOINTS ARE COVERED.

CLIENT:



PROJECT
IMPLEMENTATION
UNIT (PIU) KNIP



CONSULTANTS:

**G3 ENGINEERING
CONSULTANTS (PVT)LTD.**
House No.57-M Gulberg-III, Lahore, Pakistan
Tel : (92-42) 35441641, 35441642
Fax : (92-42) 35441645
E-mail : info@g3ec.com
URL : www.g3ec.com

PROJECT:

REHABILITATION & UPGRADATION OF
BOAT BASIN TO SCHON CHOWRANGI WITH
PEDESTRIAN TRAIL

NOTES:

1. ALL DIMENSIONS ARE IN FEET UNLESS OTHERWISE SPECIFIED.
2. THIS DRAWING IS AN INTELLECTUAL PROPERTY OF G3 ENGINEERING CONSULTANTS (PVT.) LTD. AND CANNOT BE REPRINTED OR REPRODUCED WITHOUT PRIOR APPROVAL OF G3.

REVISIONS:

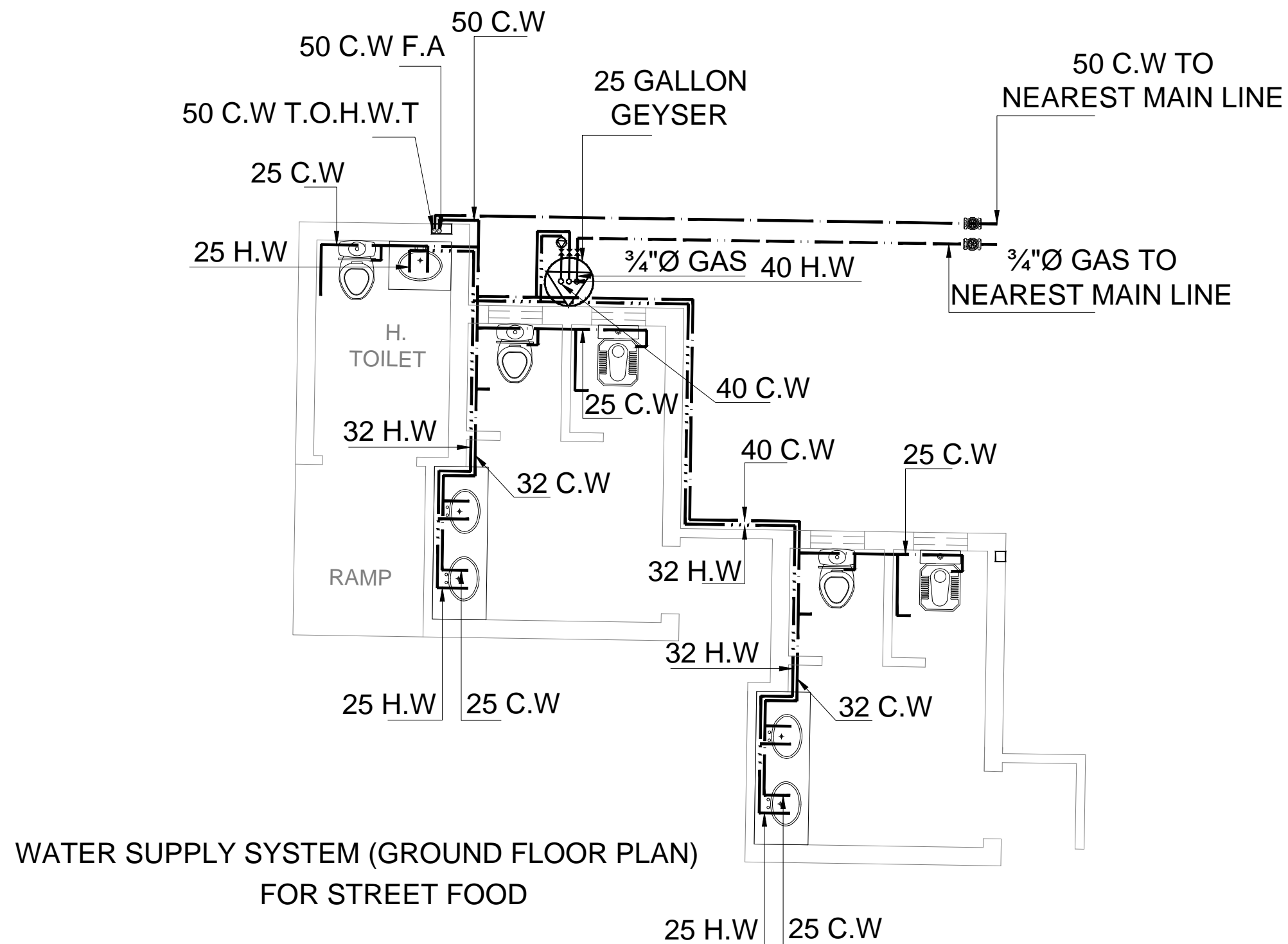
No.	DESCRIPTION	DATE

TENDER DRAWINGS


DRAWING TITLE:

General Notes

DRAWN BY: M. Imran	DATE: AUG. 2021
WATER SUPPLY & SEWERAGE ENGINEER Engr.Wasif Ali	
APPROVED BY: Syed Ali Abbas Gillani	
DRAWING NO: 0249/PH-01	REV: 4
SCALE (A3): N.T.S	SHEET:



CLIENT:

 PROJECT
IMPLEMENTATION
UNIT (PIU) KNIP

CONSULTANTS:

 **G3 ENGINEERING
CONSULTANTS (PVT) LTD.**
House No.57-M Gulberg-III, Lahore, Pakistan

Tel : (92-42) 35441641, 35441642
Fax : (92-42) 35441645
E-mail : info@g3ec.com
URL : www.g3ec.com

PROJECT:

REHABILITATION & UPGRADATION OF
BOAT BASIN TO SCHON CHOWRANGI WITH
PEDESTRIAN TRAIL

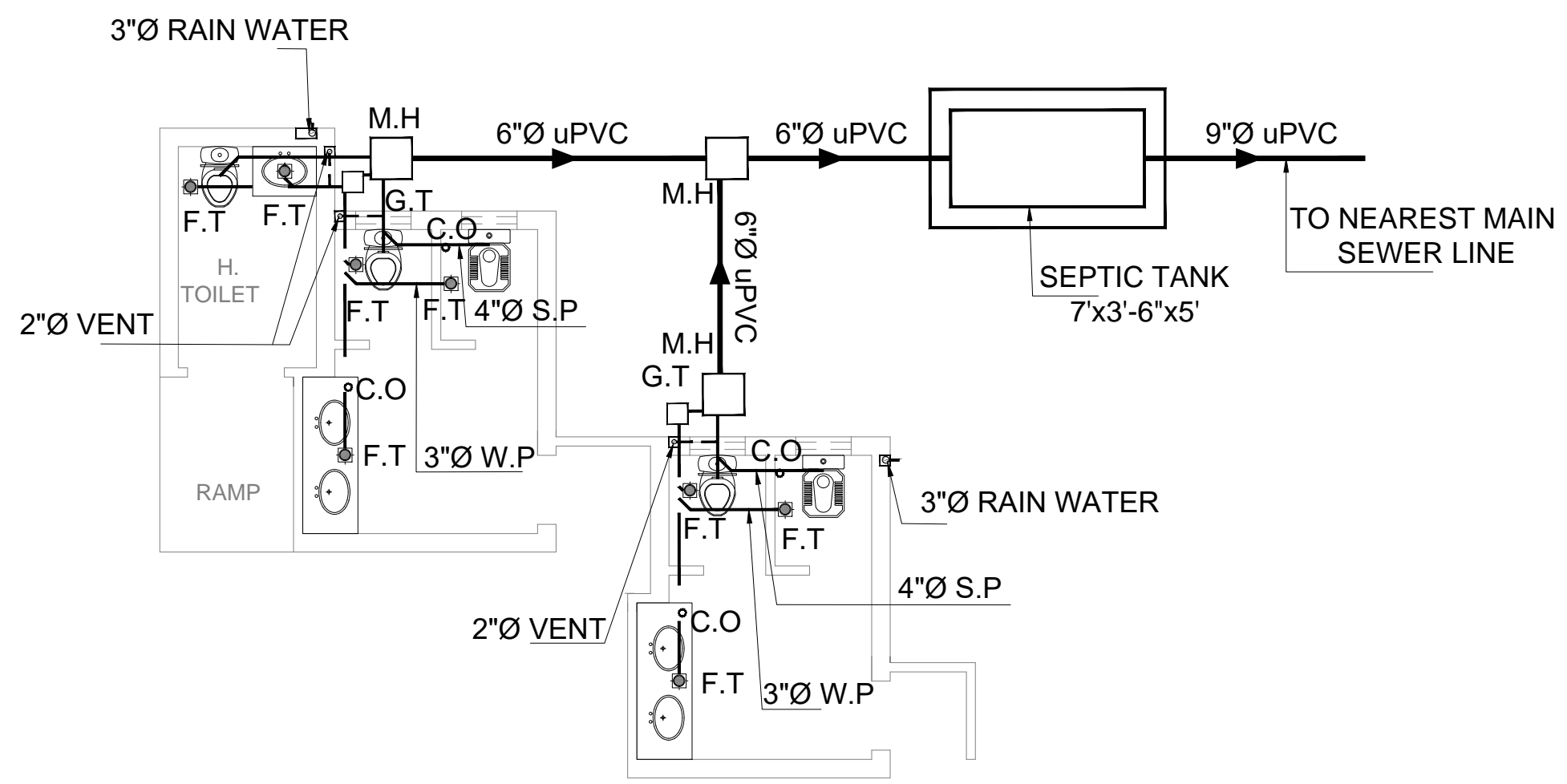


NOTES:


1. ALL DIMENSIONS ARE IN FEET UNLESS OTHERWISE SPECIFIED.
2. THIS DRAWING IS AN INTELLECTUAL PROPERTY OF G3 ENGINEERING CONSULTANTS (PVT.) LTD. AND CANNOT BE REPRINTED OR REPRODUCED WITHOUT PRIOR APPROVAL OF G3.

REVISIONS:		
No.	DESCRIPTION	DATE

TENDER DRAWINGS	
DRAWING TITLE: WATER SUPPLY	
DRAWN BY: M. Imran	DATE: AUG. 2021
WATER SUPPLY & SEWERAGE ENGINEER Engr. Wasif Ali	
APPROVED BY: Syed Ali Abbas Gillani	
DRAWING NO: 0249/PH-02	REV: 4
SCALE (A3): N.T.S	SHEET:

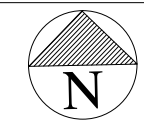


SEWERAGE SYSTEM (GROUND FLOOR PLAN)
FOR STREET FOOD

CLIENT:
 PROJECT IMPLEMENTATION UNIT (PIU) KNIP

 CONSULTANTS:
G3 ENGINEERING CONSULTANTS (PVT) LTD.
House No.57-M Gulberg-III, Lahore, Pakistan
Tel : (92-42) 35441641, 35441642
Fax : (92-42) 35441645
E-mail : info@g3ec.com
URL : www.g3ec.com

PROJECT:
REHABILITATION & UPGRADATION OF BOAT BASIN TO SCHON CHOWRANGI WITH PEDESTRIAN TRAIL

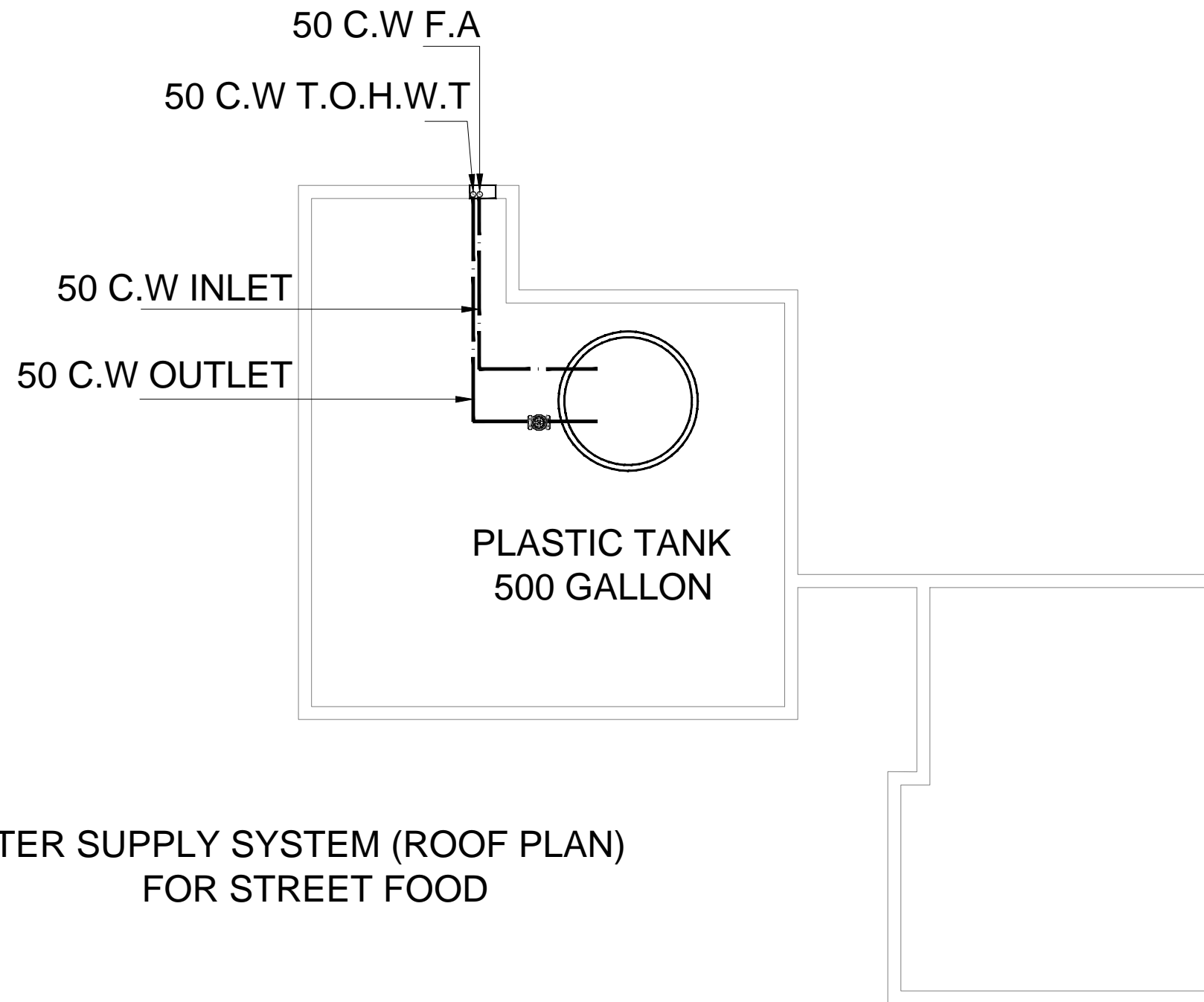


NOTES:
1. ALL DIMENSIONS ARE IN FEET UNLESS OTHERWISE SPECIFIED.
2. THIS DRAWING IS AN INTELLECTUAL PROPERTY OF G3 ENGINEERING CONSULTANTS (PVT.) LTD. AND CANNOT BE REPRINTED OR REPRODUCED WITHOUT PRIOR APPROVAL OF G3.

REVISIONS:		
No.	DESCRIPTION	DATE

TENDER DRAWINGS
DRAWING TITLE:
SEWER SYSTEM

DRAWN BY: M. Imran	DATE: AUG. 2021
WATER SUPPLY & SEWERAGE ENGINEER Engr. Wasif Ali	
APPROVED BY: Syed Ali Abbas Gillani	
DRAWING NO: 0249/PH-03	REV: 4
SCALE (A3): N.T.S	SHEET:



WATER SUPPLY SYSTEM (ROOF PLAN)
FOR STREET FOOD

CLIENT:



PROJECT
IMPLEMENTATION
UNIT (PIU) KNIP



CONSULTANTS:

**G3 ENGINEERING
CONSULTANTS (PVT) LTD.**
House No.57-M Gulberg-III, Lahore, Pakistan



Tel : (92-42) 35441641, 35441642
Fax : (92-42) 35441645
E-mail : info@g3ec.com
URL : www.g3ec.com

PROJECT:

REHABILITATION & UPGRADATION OF
BOAT BASIN TO SCHON CHOWRANGI WITH
PEDESTRIAN TRAIL



NOTES:

1. ALL DIMENSIONS ARE IN FEET UNLESS OTHERWISE SPECIFIED.
2. THIS DRAWING IS AN INTELLECTUAL PROPERTY OF G3 ENGINEERING CONSULTANTS (PVT.) LTD. AND CANNOT BE REPRINTED OR REPRODUCED WITHOUT PRIOR APPROVAL OF G3.

REVISIONS:

No.	DESCRIPTION	DATE

TENDER DRAWINGS

DRAWING TITLE:

**WATER SUPPLY ROOF
PLAN**

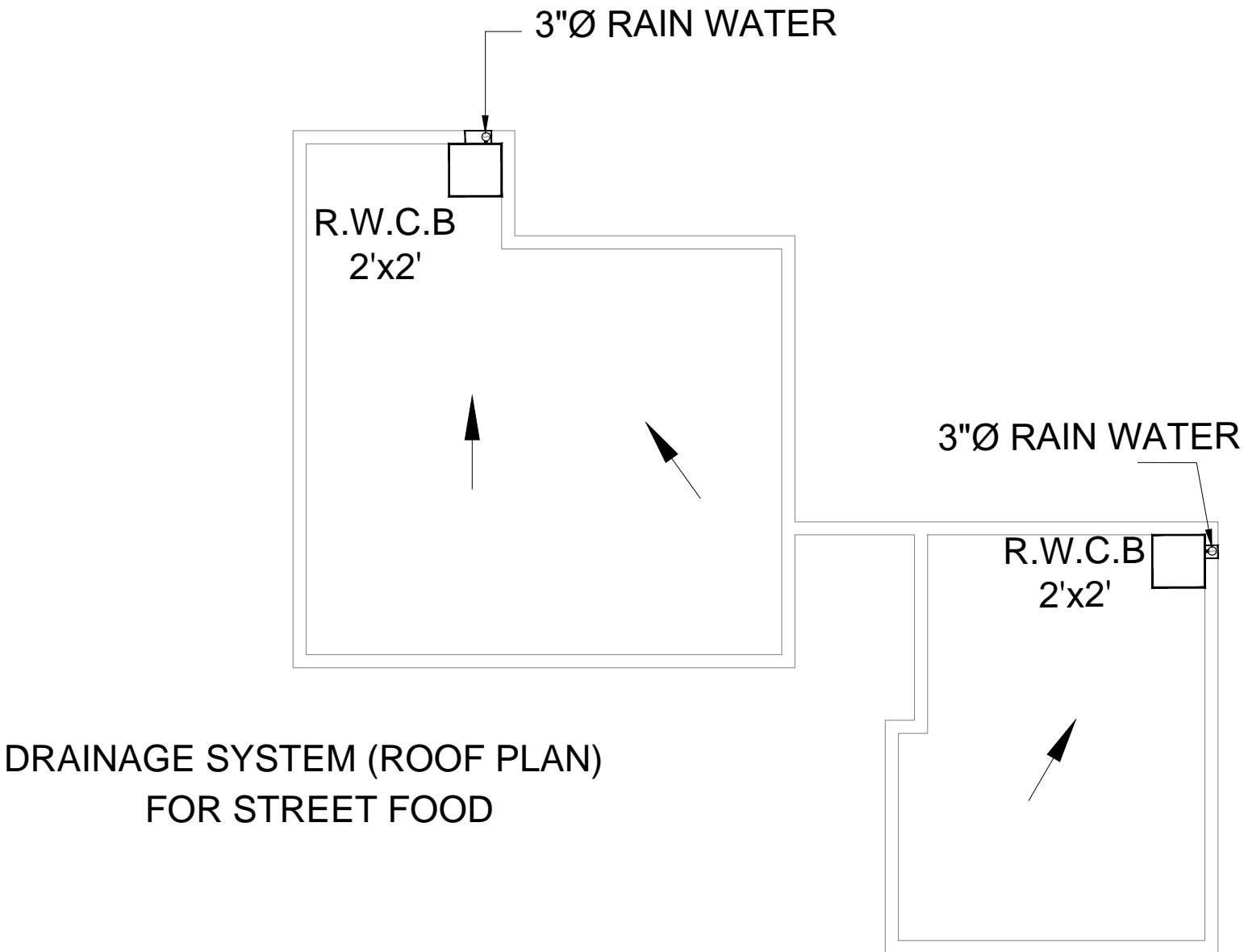
DRAWN BY: M. Imran DATE: AUG. 2021

WATER SUPPLY & SEWERAGE ENGINEER


Engr. Wasif Ali
APPROVED BY: Syed Ali Abbas Gillani

DRAWING NO: 0249/PH-04 REV: 4

SCALE (A3): N.T.S SHEET:



DRAINAGE SYSTEM (ROOF PLAN)
FOR STREET FOOD

CLIENT:
 PROJECT
IMPLEMENTATION
UNIT (PIU) KNIP

 **CONSULTANTS:**
**G3 ENGINEERING
CONSULTANTS (PVT) LTD.**
House No.57-M Gulberg-III, Lahore, Pakistan
Tel : (92-42) 35441641, 35441642
Fax : (92-42) 35441645
E-mail : info@g3ec.com
URL : www.g3ec.com

PROJECT:
REHABILITATION & UPGRADATION OF
BOAT BASIN TO SCHON CHOWRANGI WITH
PEDESTRIAN TRAIL

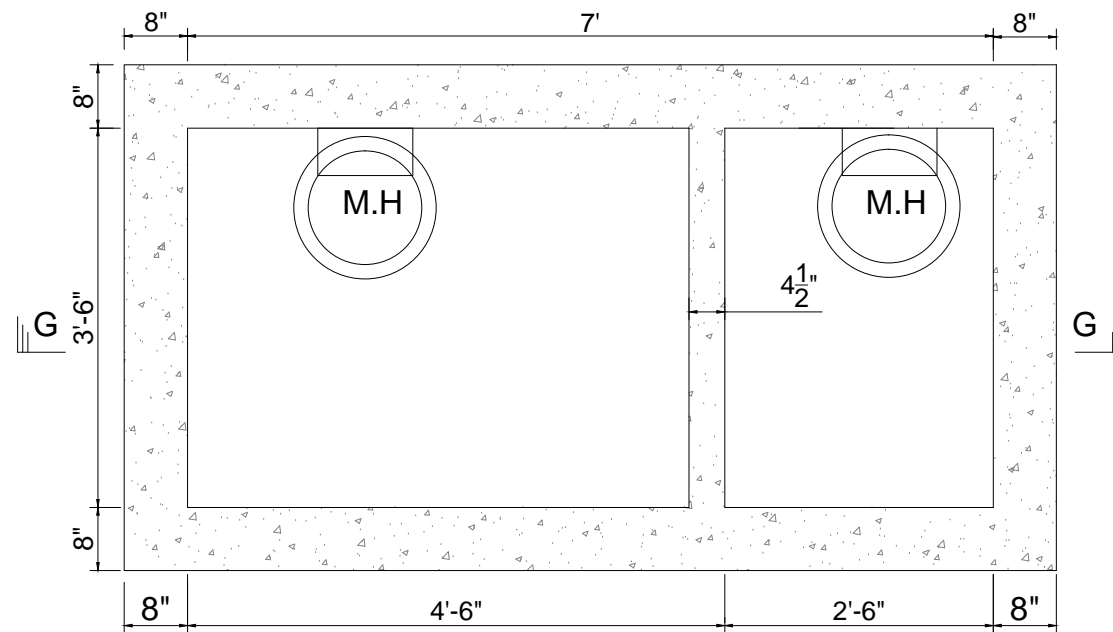


NOTES:
1. ALL DIMENSIONS ARE IN FEET UNLESS
OTHERWISE SPECIFIED.
2. THIS DRAWING IS AN INTELLECTUAL PROPERTY
OF G3 ENGINEERING CONSULTANTS (PVT.) LTD.
AND CANNOT BE REPRINTED OR REPRODUCED
WITHOUT PRIOR APPROVAL OF G3.

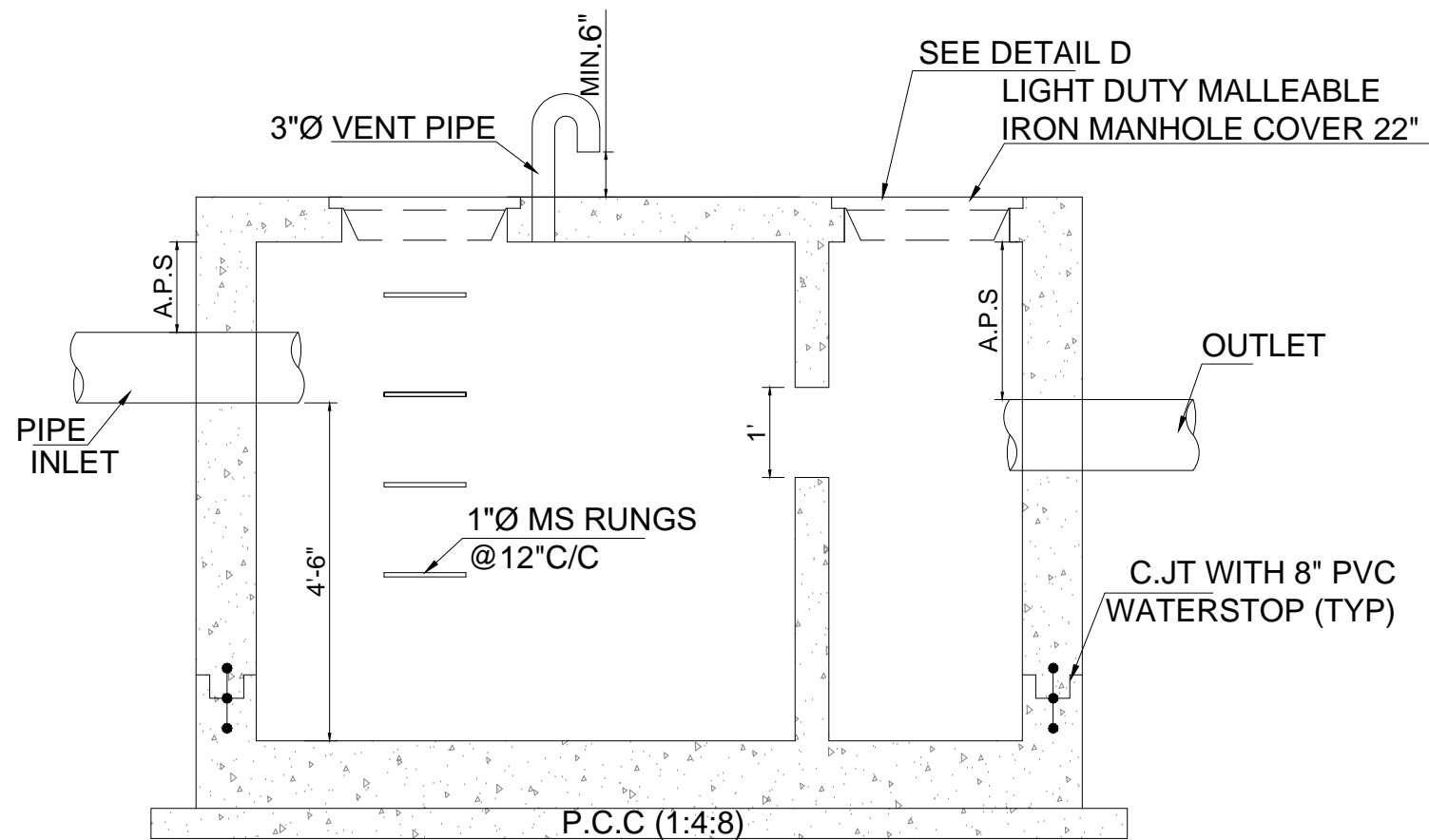
REVISIONS:		
No.	DESCRIPTION	DATE

TENDER DRAWINGS

DRAWING TITLE: DRAINAGE SYSTEM ROOF	
DRAWN BY: M. Imran	DATE: AUG. 2021
WATER SUPPLY & SEWERAGE ENGINEER Engr. Wasif Ali	
APPROVED BY: Syed Ali Abbas Gillani	
DRAWING NO: 0249/PH-05	REV: 4
SCALE (A3): N.T.S	SHEET:



PLAN

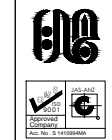


SECTION G-G

CLIENT:



PROJECT
IMPLEMENTATION
UNIT (PIU) KNIP



CONSULTANTS:

G3 ENGINEERING
CONSULTANTS (PVT) LTD.
House No.57-M Gulberg-III, Lahore, Pakistan

Tel : (92-42) 35441641, 35441642
Fax : (92-42) 35441645
E-mail : info@g3ec.com
URL : www.g3ec.com

PROJECT:

REHABILITATION & UPGRADE OF
BOAT BASIN TO SCHON CHOWRANGI WITH
PEDESTRIAN TRAIL

NOTES:

1. ALL DIMENSIONS ARE IN FEET UNLESS OTHERWISE SPECIFIED.
2. THIS DRAWING IS AN INTELLECTUAL PROPERTY OF G3 ENGINEERING CONSULTANTS (PVT.) LTD. AND CANNOT BE REPRINTED OR REPRODUCED WITHOUT PRIOR APPROVAL OF G3.

REVISIONS:

No.	DESCRIPTION	DATE

TENDER DRAWINGS

DRAWING TITLE:

SEPTIC TANK

DRAWN BY: M. Imran DATE: AUG. 2021

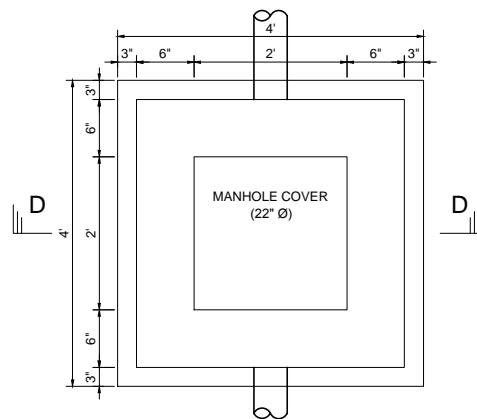
WATER SUPPLY & SEWERAGE ENGINEER

Engr. Wasif Ali

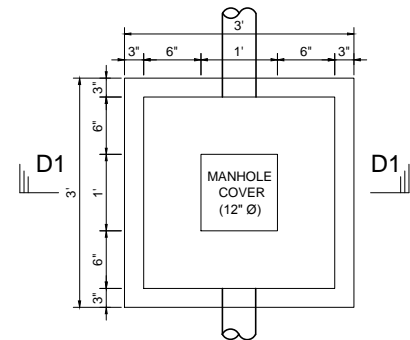
APPROVED BY: Syed Ali Abbas Gillani

DRAWING NO: 0249/PH-06 REV: 4

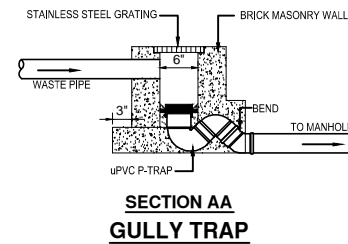
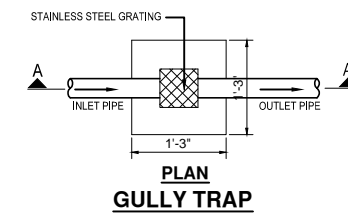
SCALE (A3): N.T.S SHEET:



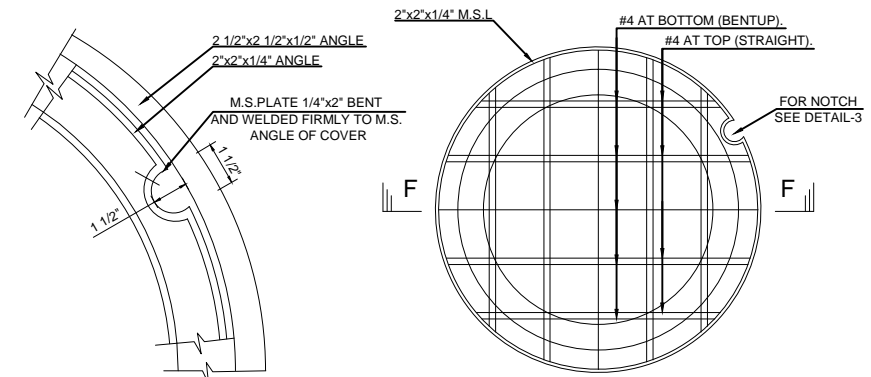
**TYPICAL SEWER MANHOLE PLAN
(UP TO 3' DEPTH)
M.H-A**



**TYPICAL SEWER MANHOLE PLAN
(UP TO 3' DEPTH)
M.H-A
(FOR LIMITED SPACE)**

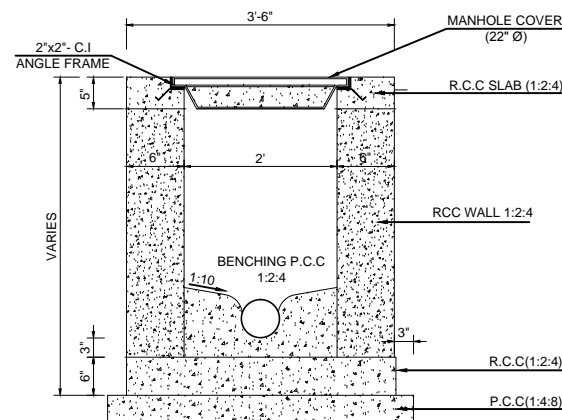


**SECTION AA
GULLY TRAP**

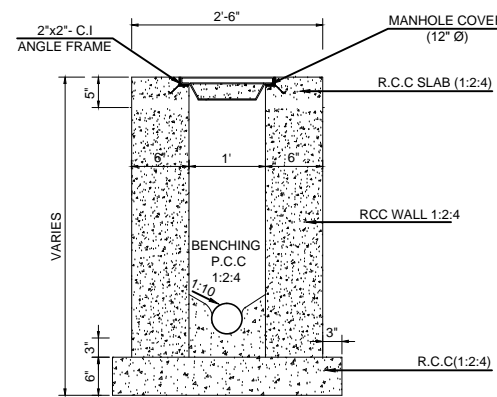


DETAIL-3

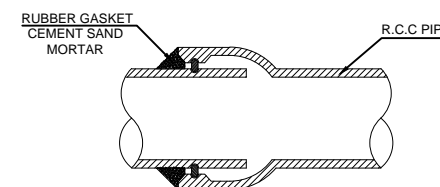
MANHOLE COVER PLAN



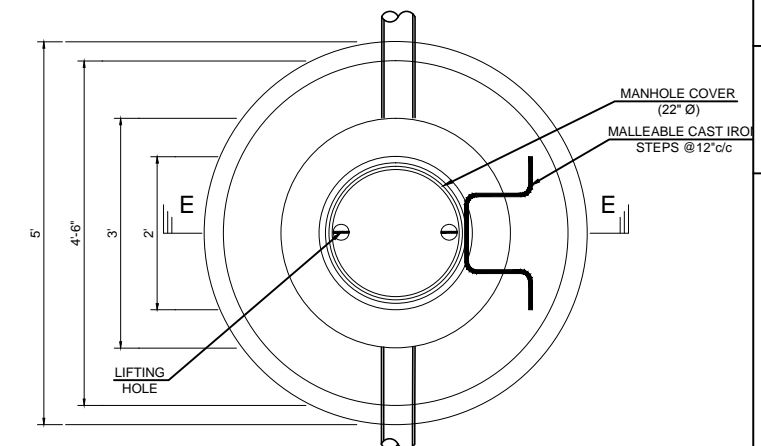
SECTION D-D



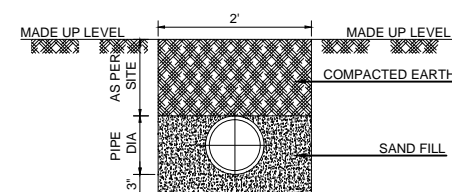
SECTION D1-D1



**TYPICAL R.C.C. PIPE JOINTING
(BELL AND SPIGOT TYPE)**

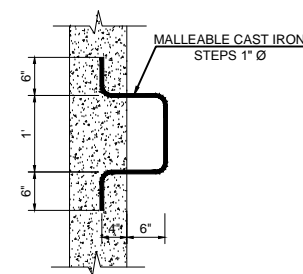


**TYPICAL SEWER MANHOLE PLAN
(FROM 3' TO 6' DEPTH)
M.H-A**

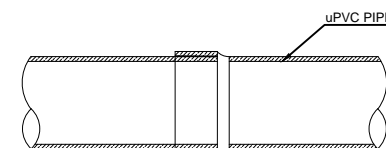


**TYPICAL TRENCH DETAIL
FOR SEWER LINE**

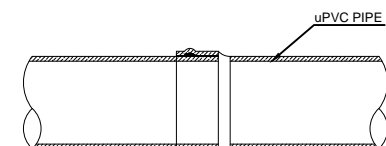
DETAIL-1



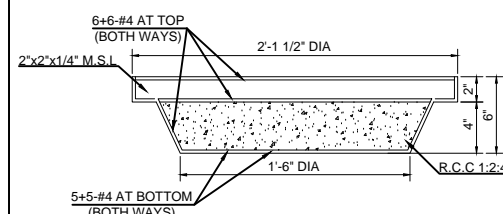
DETAIL-2



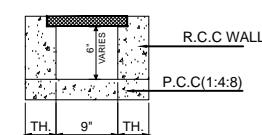
**TYPICAL uPVC PIPE JOINTING
(SOLVENT CEMENT TYPE)**



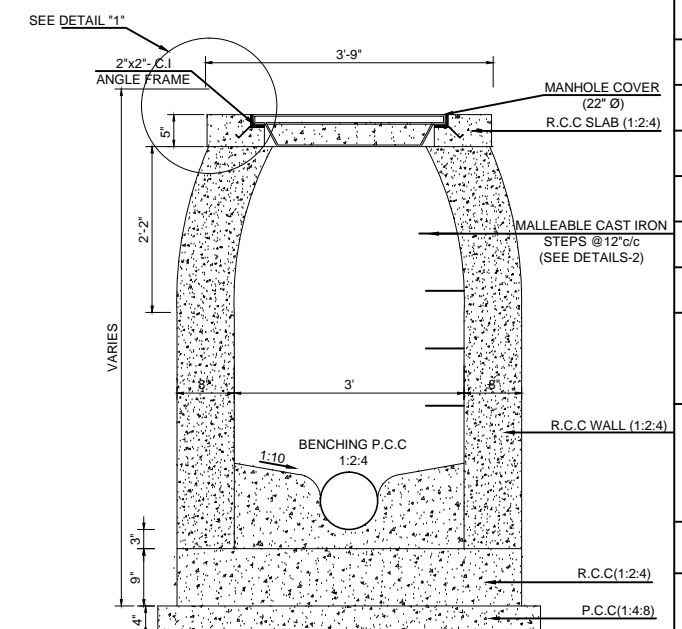
**TYPICAL uPVC PIPE JOINTING
(RUBBER RING TYPE)**



SECTION F-F



TYP. DRAIN (9")

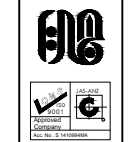


SECTION E-E

CLIENT:



**PROJECT
IMPLEMENTATION
UNIT (PIU) KNIP**



CONSULTANTS:
**G3 ENGINEERING
CONSULTANTS (PVT) LTD.**
House No.57-M Gulberg-III, Lahore, Pakistan
Tel : (92-42) 35441641, 35441642
Fax : (92-42) 35441645
E-mail : info@g3ec.com
URL : www.g3ec.com

PROJECT:

**REHABILITATION & UPGRADATION
OF BOAT BASIN TO SCHON
CHOWRANGI WITH PEDESTRIAN
TRAIL**



NOTES:

1. ALL DIMENSIONS ARE IN FEET UNLESS OTHERWISE SPECIFIED.
2. THIS DRAWING IS AN INTELLECTUAL PROPERTY OF G3 ENGINEERING CONSULTANTS (PVT.) LTD. AND CANNOT BE REPRINTED OR REPRODUCED WITHOUT PRIOR APPROVAL OF G3.

REVISIONS:

No.	DESCRIPTION	DATE

TENDER DRAWINGS

DRAWING TITLE:
MANHOLE DETAIL

DRAWN BY: M.K.A	DATE: AUG 2021
CHECKED BY: Engr.WASIF ALI	
APPROVED BY: SYED ALI ABBAS GILLANI	
DRAWING NO: 0249/PH-07	REV: 4
SCALE (A3): N.T.S	SHEET: 1 / 2

REVISIONS:

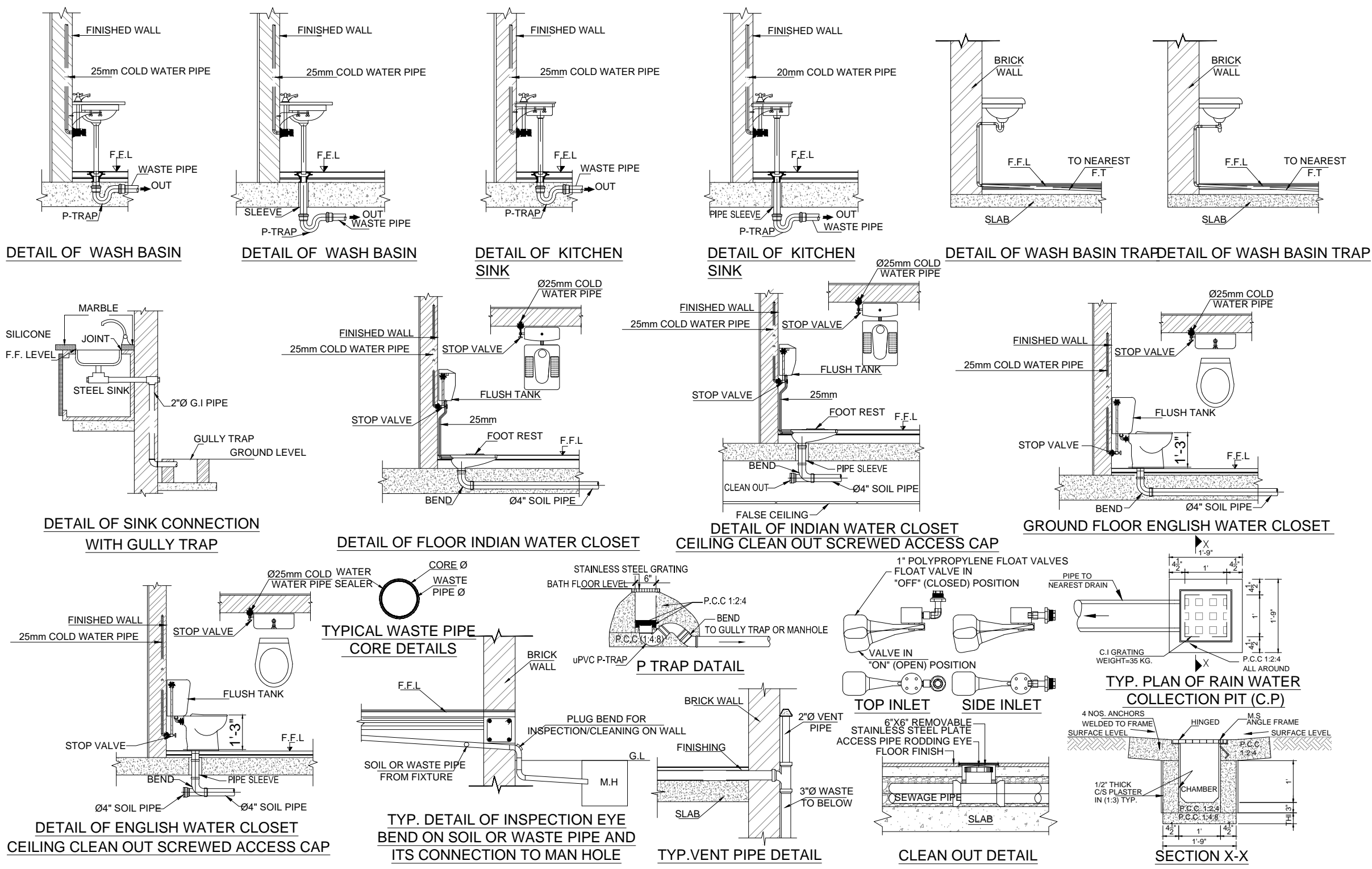
No.	DESCRIPTION	DATE

TENDER DRAWINGS

DRAWING TITLE:

Miscellaneous Details

DRAWN BY: M. Imran	DATE: AUG. 2021
WATER SUPPLY & SEWERAGE ENGINEER Engr.Wasif Ali	
APPROVED BY: Syed Ali Abbas Gillani	
DRAWING NO: 0249/PH-08	REV: 4
SCALE (A3): N.T.S	SHEET:



CLIENT:



PROJECT
IMPLEMENTATION
UNIT (PIU) KNIP



CONSULTANTS:

G3 ENGINEERING
CONSULTANTS (PVT) LTD.

House No.57-M Gulberg-III, Lahore, Pakistan

Tel : (92-42) 35441641, 35441642

Fax : (92-42) 35441645

E-mail : info@g3ec.com

URL : www.g3ec.com

PROJECT:

REHABILITATION & UPGRADATION OF
BOAT BASIN TO SCHON CHOWRANGI WITH
PEDESTRIAN TRAIL

NOTES:

1. ALL DIMENSIONS ARE IN FEET UNLESS OTHERWISE SPECIFIED.
2. THIS DRAWING IS AN INTELLECTUAL PROPERTY OF G3 ENGINEERING CONSULTANTS (PVT.) LTD. AND CANNOT BE REPRINTED OR REPRODUCED WITHOUT PRIOR APPROVAL OF G3.

REVISIONS:

No.	DESCRIPTION	DATE

TENDER DRAWINGS

DRAWING TITLE:

Miscellaneous Details

DRAWN BY:

M. Imran

DATE:

AUG. 2021

WATER SUPPLY & SEWERAGE ENGINEER

Engr. Wasif Ali

APPROVED BY:

Syed Ali Abbas Gillani

DRAWING NO:

0249/PH-09

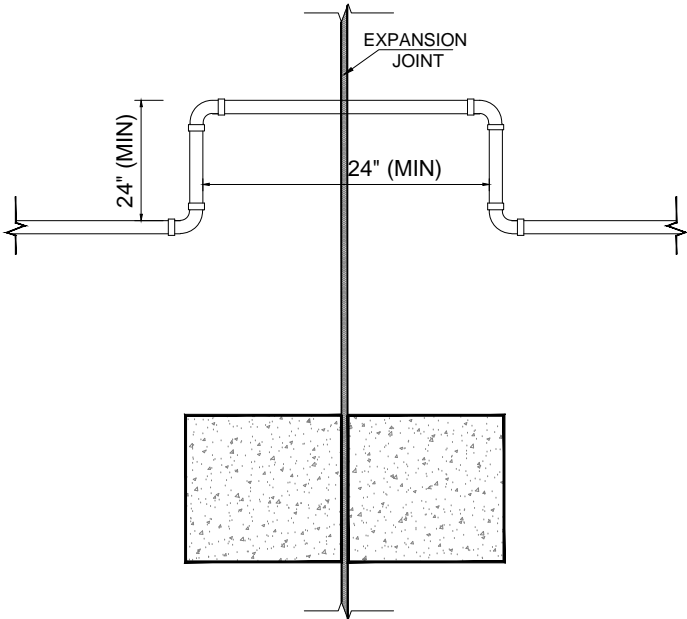
REV:

4

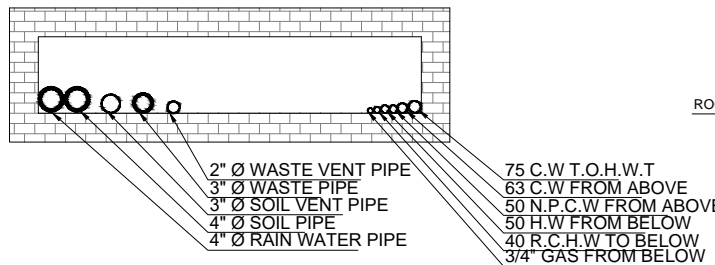
SCALE (A3):

SHEET:

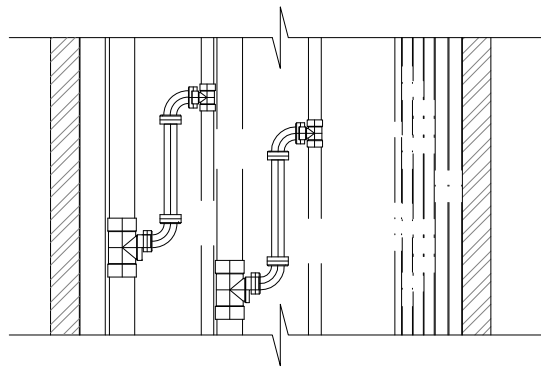
N.T.S



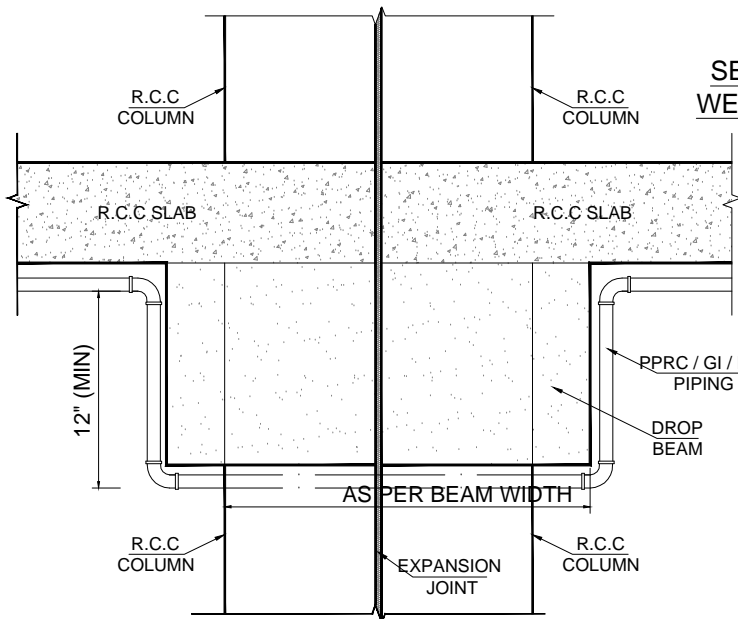
TYPICAL TOP DETAIL OF uPVC WASTE PIPE
AT EXPANSION JOINT



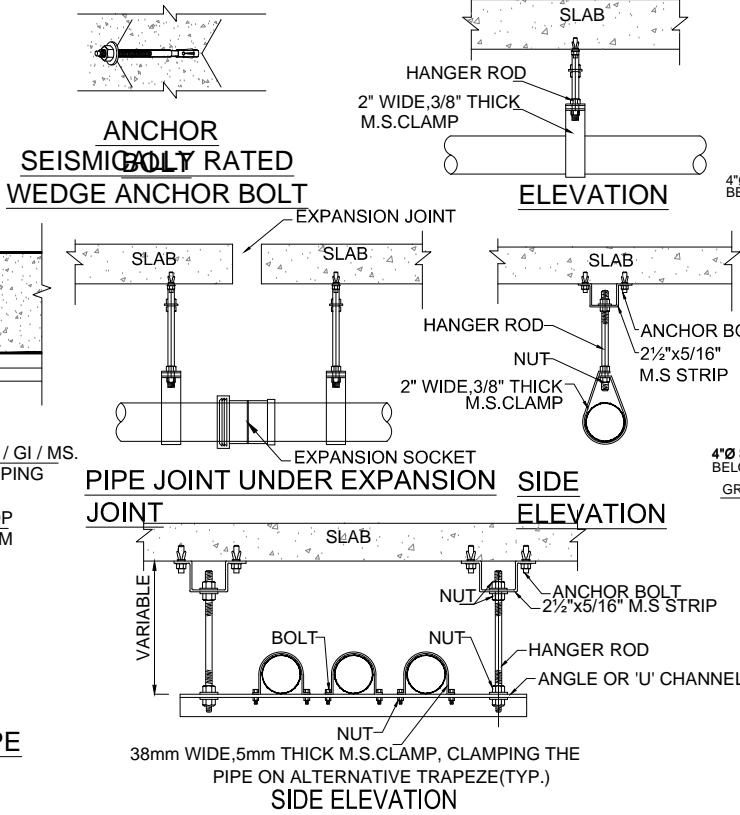
DUCT PLAN



DUCT SECTION

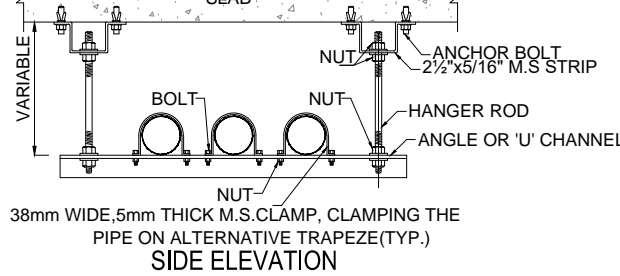


TYPICAL DETAIL OF PPRC WATER SUPPLY PIPE
AT EXPANSION JOINT

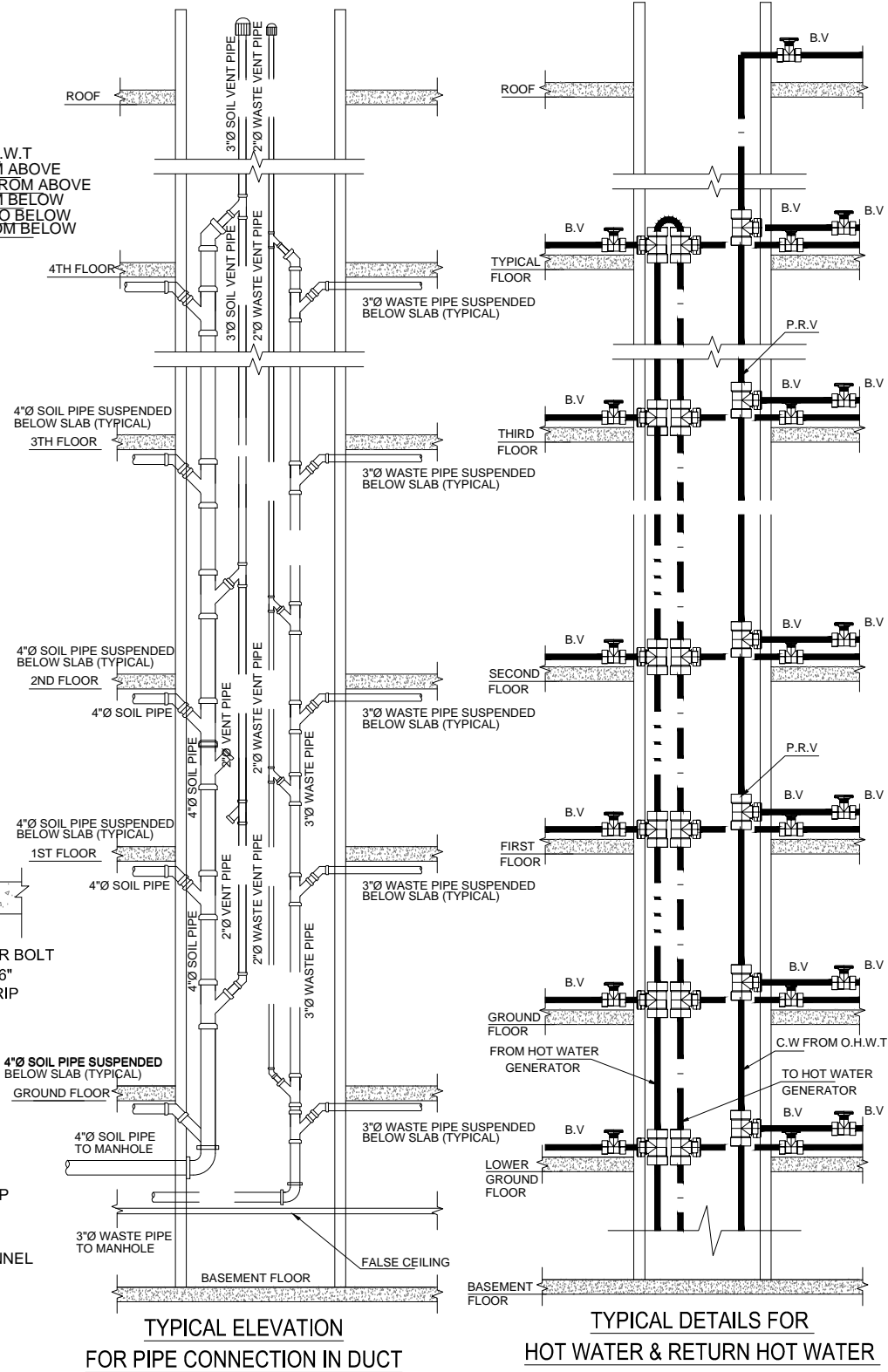


PIPE JOINT UNDER EXPANSION
JOINT

SIDE ELEVATION

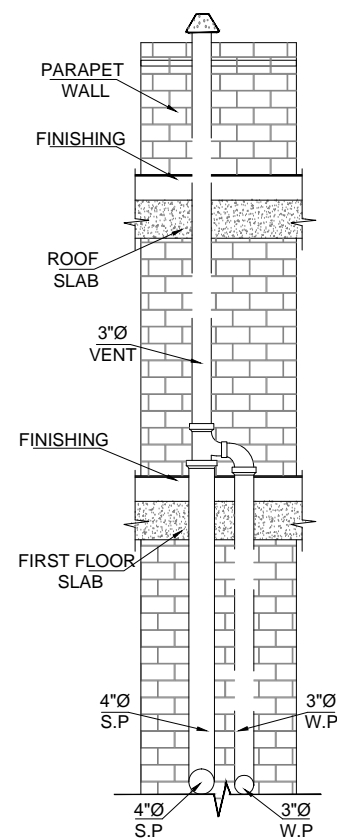


SIDE ELEVATION

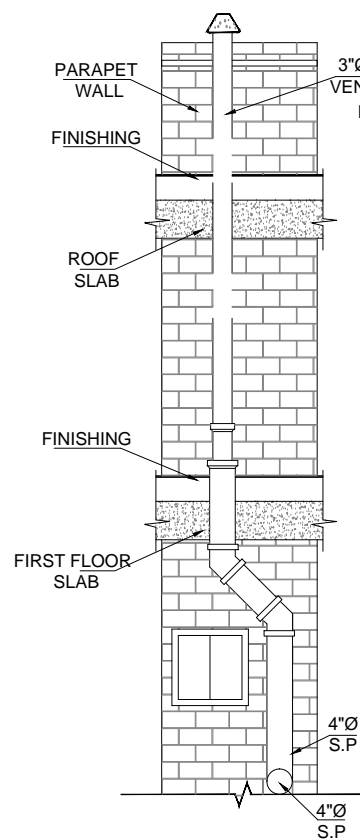


TYPICAL ELEVATION
FOR PIPE CONNECTION IN DUCT

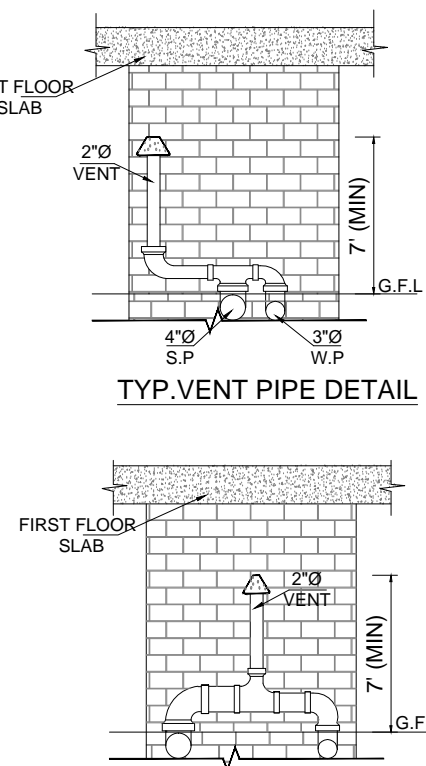
TYPICAL DETAILS FOR
HOT WATER & RETURN HOT WATER



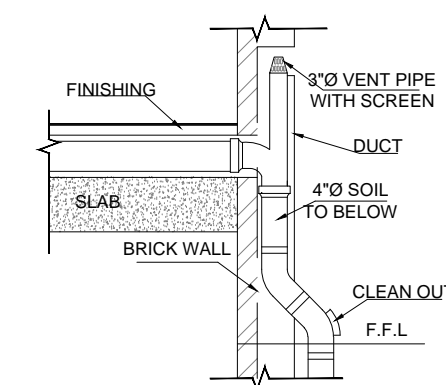
TYP. VENT PIPE DETAIL



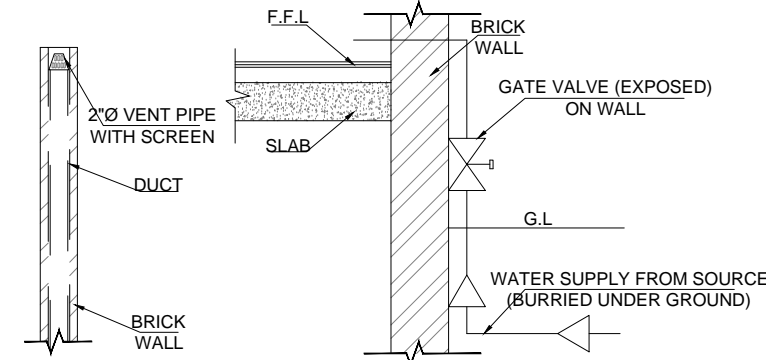
TYP. VENT PIPE DETAIL



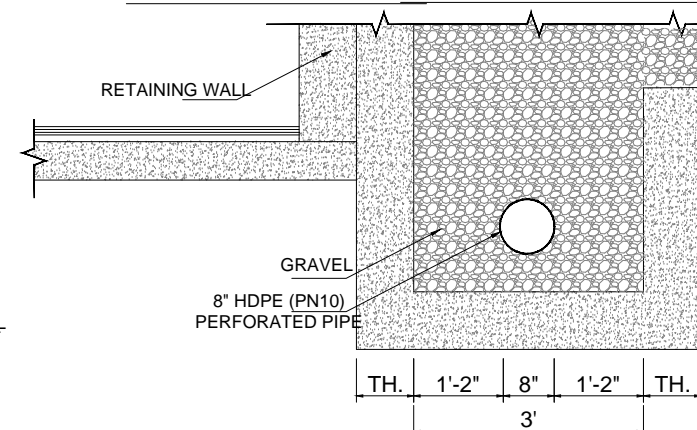
TYP. VENT PIPE DETAIL



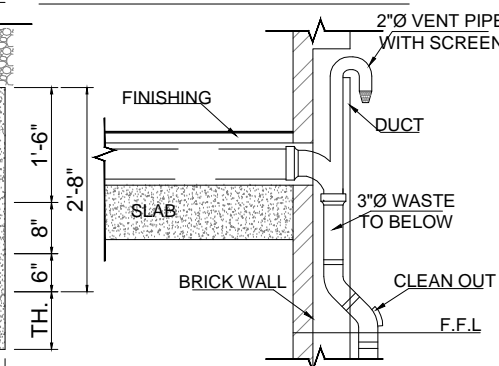
TYP. VENT PIPE DETAIL



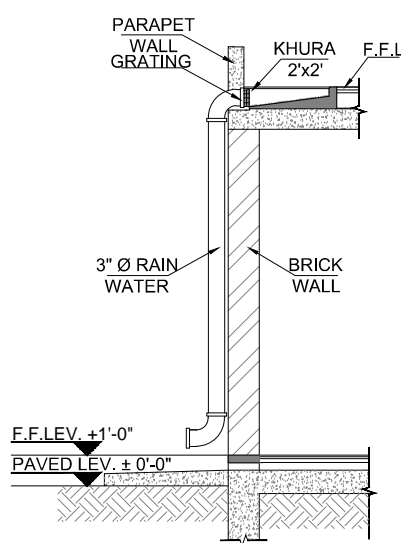
TYP. EXPOSED GATE VALVE



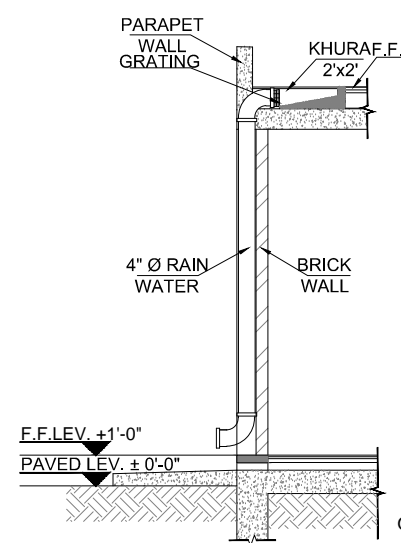
TYP. PERFORATED PIPE TRENCH DETAIL Z-Z



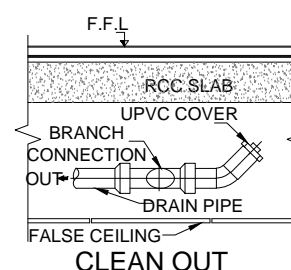
TYP. VENT PIPE DETAIL



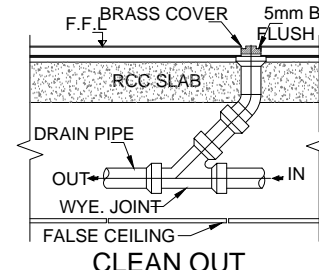
TYP. RAIN WATER PIPE & KHURA DETAIL



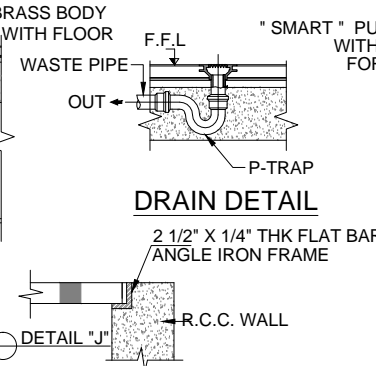
TYP. RAIN WATER PIPE & KHURA DETAIL



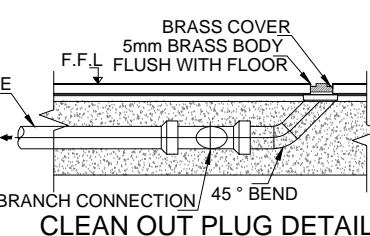
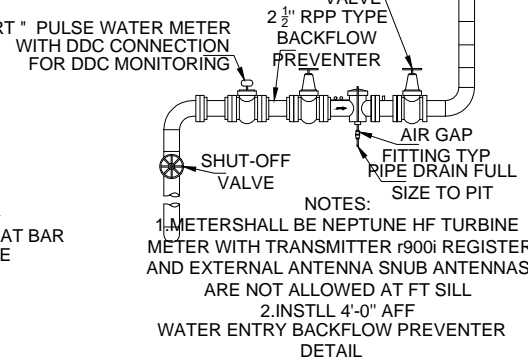
CLEAN OUT



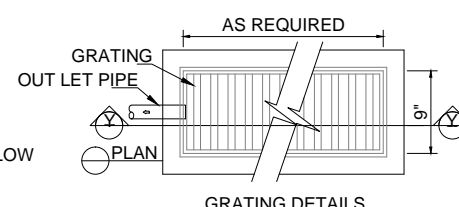
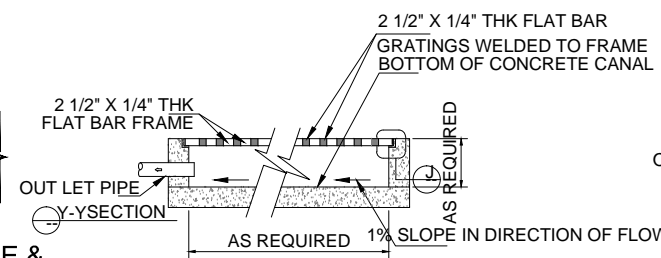
CLEAN OUT



DRAIN DETAIL



CLEAN OUT PLUG DETAIL



GRATING DETAILS

CLIENT:



PROJECT
IMPLEMENTATION
UNIT (PIU) KNIP



CONSULTANTS:
G3 ENGINEERING CONSULTANTS (PVT) LTD.
House No.57-M Gulberg-III, Lahore, Pakistan
Tel : (92-42) 35441641, 35441642
Fax : (92-42) 35441645
E-mail : info@g3ec.com
URL : www.g3ec.com

PROJECT:

REHABILITATION & UPGRADATION OF
BOAT BASIN TO SCHON CHOWRANGI WITH
PEDESTRIAN TRAIL

NOTES:

1. ALL DIMENSIONS ARE IN FEET UNLESS OTHERWISE SPECIFIED.
2. THIS DRAWING IS AN INTELLECTUAL PROPERTY OF G3 ENGINEERING CONSULTANTS (PVT) LTD. AND CANNOT BE REPRINTED OR REPRODUCED WITHOUT PRIOR APPROVAL OF G3.

REVISIONS:

No.	DESCRIPTION	DATE

TENDER DRAWINGS

DRAWING TITLE:

Miscellaneous Details

DRAWN BY:
M. Imran
DATE:
AUG. 2021
WATER SUPPLY & SEWERAGE ENGINEER

Engr. Wasif Ali
APPROVED BY:
Syed Ali Abbas Gillani

DRAWING NO:
0249/PH-10
SCALE (A3):
N.T.S.
REV:
4
SHEET:

PUBLIC HEALTH DRAWING
Park-St-5

LIST OF DRAWINGS

Sr.#	DESCRIPTION	DRG. #
01	LIST OF DRAWINGS	0249/PH-00
02	GENERAL NOTES	0249/PH-01
WATER SUPPLY SYSTEM		
03	WATER SUPPLY SYSTEM (GROUND FLOOR PLAN)	0249/PH-02
04	WATER SUPPLY SYSTEM (ROOF PLAN)	0249/PH-03
SEWERAGE & DRAINAGE SYSTEM		
05	SEWERAGE SYSTEM (GROUND FLOOR PLAN)	0249/PH-04
06	DRAINAGE SYSTEM (ROOF PLAN)	0249/PH-05
MISCELLANEOUS DETAILS		
07	TYPICAL SEPTIC TANK PLAN, PIPE & SECTIONAL DETAILS	0249/PH-06
08	TYPICAL GULLY TRAP & MANHOLE PLAN, PIPE & SECTIONAL DETAILS	0249/PH-07
09	MISCELLANEOUS DETAILS-01	0249/PH-08
10	MISCELLANEOUS DETAILS-02	0249/PH-09
11	MISCELLANEOUS DETAILS-03	0249/PH-10

CLIENT:



PROJECT
IMPLEMENTATION
UNIT (PIU) KNIP



CONSULTANTS:
**G3 ENGINEERING
CONSULTANTS (PVT) LTD.**
House No.57-M Gulberg-III, Lahore, Pakistan
Tel : (92-42) 35441641, 35441642
Fax : (92-42) 35441645
E-mail : info@g3ec.com
URL : www.g3ec.com

PROJECT:

REHABILITATION & UPGRADATION OF
BOAT BASIN TO SCHON CHOWRANGI WITH
PEDESTRIAN TRAIL

NOTES:

1. ALL DIMENSIONS ARE IN FEET UNLESS OTHERWISE SPECIFIED.
2. THIS DRAWING IS AN INTELLECTUAL PROPERTY OF G3 ENGINEERING CONSULTANTS (PVT.) LTD. AND CANNOT BE REPRINTED OR REPRODUCED WITHOUT PRIOR APPROVAL OF G3.

REVISIONS:

No.	DESCRIPTION	DATE

TENDER DRAWINGS

DRAWING TITLE:

LIST OF DRAWINGS

DRAWN BY: M. Imran	DATE: AUG .2021
WATER SUPPLY & SEWERAGE ENGINEER Engr. Wasif Ali	
APPROVED BY: Syed Ali Abbas Gillani	
DRAWING NO: 0249/PH-00	REV: 4
SCALE (A3): N.T.S	SHEET:

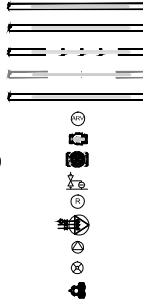
PUBLIC HEALTH GENERAL NOTES

1. THESE GENERAL NOTES ARE PROVIDED TO SUPPLEMENT THE WRITTEN SPECIFICATION FOR THIS PROJECT. REFER TO THE SPECIFICATIONS FOR MORE DETAILED REQUIREMENTS OF THIS PROJECT.
2. PERFORM ALL WORK IN A WORKMAN LIKE MANNER, IN COMPLIANCE WITH THE LATEST ADOPTED EDITIONS OF ALL GOVERNING CODES AND STANDARDS. IF CONFLICTS ARISE, REQUEST RESOLUTION FROM THE ARCHITECT. IF REQUIRED INFORMATION IS MISSING FROM THIS DRAWING (I.E, DUCT SIZE OR PIPE SIZE), REQUEST WRITTEN CLARIFICATION FROM THE ARCHITECT PRIOR TO THE EXECUTION.
3. PROVIDE ALL MINOR INCIDENTAL ITEMS SUCH AS OFFSETS, FITTINGS, ETC, REQUIRED AS PART OF THE WORK EVEN THOUGH NOT SPECIFICALLY SHOWN ON DRAWINGS. THE CONTRACTOR SHALL PROVIDE AND INSTALL THE NUMBER OF ITEMS OF EQUIPMENT AS INDICATED ON THE DRAWINGS AND AS REQUIRED FOR COMPLETE SYSTEMS.
4. THE PLUMBING DRAWINGS SHOW THE GENERAL ARRANGEMENT OF ALL PIPING, DUCT WORK. MECHANICAL EQUIPMENT AND APPURTENANCES, AND SHALL BE FOLLOWED AS CLOSELY AS ACTUAL BUILDING CONSTRUCTION AND THE WORK OF THEIR TRADES WILL PERMIT. BECAUSE OF THE SMALL SCALE OF THE PLUMBING DRAWINGS, IT IS NOT POSSIBLE TO INDICATE ALL OFFSETS, FITTINGS AND ACCESSORIES WHICH MAY BE REQUIRED. INVESTIGATE THE STRUCTURAL AND FINISH CONDITIONS AFFECTING THE WORK AND PROVIDE SUCH FITTINGS, VALVES AND ACCESSORIES AS MAY BE REQUIRED TO MEET SUCH CONDITIONS.
5. VERIFY DIMENSIONS GOVERNING PLUMBING WORK AT THE BUILDING. DO NOT SCALE THE PLUMBING DRAWINGS FOR DIMENSIONS. TAKE DIMENSIONS, MEASUREMENTS, LOCATIONS, LEVELS, ETC. FROM THE ACTUAL FIELD CONDITIONS AND ARCHITECTURAL DRAWINGS.
6. EXAMINE ALL ADJOINING WORK ON WHICH THE PLUMBING WORK IS DEPENDENT OF MAXIMUM EFFICIENCY AND REPORT DESIGN CONFLICTS WHICH MUST BE CORRECTED PRIOR TO EXECUTION. NO WAIVER OF RESPONSIBILITY SHALL BE CLAIMED OR ALLOWED DUE TO FAILURE TO REPORT UNFAVORABLE CONDITIONS AFFECTING THE PLUMBING WORK.
7. CONTRACTOR SHALL FURNISH AND INSTALL ALL PIPING, VALVES, CONTROLS, INSULATION ETC. TO ALL PLUMBING EQUIPMENT SCHEDULED OR INDICATED ON PLANS REGARDLESS OF WHETHER PIPING, VALVES, CONTROLS, INSULATION ETC. ARE SPECIFICALLY SHOWN OR NOT PLUMBING EQUIPMENT INSTALLATION SHALL BE 100% COMPLETE FOR PROPER EQUIPMENT FUNCTION AND/OR OPERATION AT COMPLETION OF PROJECT.
8. THE ARCHITECTURAL AND ENGINEERING DRAWINGS ARE COMPLEMENTARY. CONTRACTORS SHALL ACKNOWLEDGE THE ARCHITECTURAL AS WELL AS ALL THE ENGINEERING DRAWINGS AND INCLUDE ALL WORK NECESSARY TO ACHIEVE A COMPLETE WORKING. INSTALLATION FOR ANY DEVICE OR EQUIPMENT WHICH MAY BE SHOWN ON ONE DRAWING BUT NOT SHOWN ON ANOTHER.

9. LOCATION OF PIPES, DUCTS, SWITCHES, PANELS, EQUIPMENT AND FIXTURES SHALL BE ADJUSTED TO ACCOMMODATE THE WORK OR INTERFERENCES ANTICIPATED AND ENCOUNTERED. DETERMINE THE EXACT ROUTE AND LOCATION OF EACH PIPE AND DUCT PRIOR TO FABRICATION.
- 10.LOCATION OF EXISTING UTILITIES AND EXISTING UNDERGROUND PLUMBING ARE BASED ON THE SITE INFORMATION AVAILABLE. CONTRACTOR SHALL VERIFY EXACT LOCATIONS OF ALL UTILITIES AND EXISTING UNDERGROUND PLUMBING PRIOR TO FABRICATION AND ERECTION OF WORK TO AVOID ALL INTERFERENCES. VERIFICATION SHALL BE BY SITE INSPECTION, EXCAVATION, OR WHATEVER MEANS NECESSARY TO DETERMINE EXACT LOCATIONS.
- 11.CONTRACTOR SHALL OBTAIN BUILDING PERMIT AND ARRANGE ALL REQUIRED INSPECTIONS WITH THE APPROPRIATE REGULATORY AGENCY. ALERT CONSULTANT OF ALL ITEMS NOT DEPICTED ON DRAWINGS. DO NOT PROCEED WITH FURTHER WORK UNTIL WRITTEN RESPONSE IS RECEIVED FROM CONSULTANT.
- 12.CONTRACTOR SHALL VERIFY GAS PRESSURE DELIVERED BY METER AT BUILDING.
13. TEST THREADED NATURAL GAS PIPING AT 20 PSIG FOR A TEST PERIOD OF 2 HOURS. TEST PRESSURE SHALL NOT FALL OVER 5% DURING TEST PERIOD TO PASS. IF PIPING FAILS TEST, INVESTIGATE AND REPAIR THE SOURCE OF
- 14.PROVIDE SLEEVES AT ALL PIPING PENETRATIONS OF CONCRETE OR MASONRY FLOOR, WALL OR ROOF CONSTRUCTION.
- 15.PROVIDE GLASS WOOL INSULATION TO ALL HOT WATER (EXPOSED) AND COLD WATER (AT ROOF) PIPE LINE INCLUDING PROTECTIVE COATINGS.
- 16.USE NEAREST FLOOR TRAP FOR THE AC DRAINAGE.
17. TEST ALL PIPING SYSTEMS IN WHICH ANY ALTERATIONS HAVE BEEN MADE FOR COMPLIANCE WITH THE LATEST EDITION OF GOVERNING BUILDING CODE. DOMESTIC HOT AND COLD WATER PIPING SHALL BE SUBJECT TO 100 PSIG FOR A MINIMUM 2 HOURS, DOMESTIC WASTE AND VENT PIPING SHALL BE TESTED AT 10' STATIC HEAD FOR A PERIOD GREATER THAN 15 MINUTES. IF REQUIRED PRESSURE DROPS BY MORE THAN 3% DURING ITS TEST DURATION, INVESTIGATE THE SOURCE OF LEAK, REPAIR THE LEAK, AND RETEST THE SYSTEM FOR THE REQUIRED TEST PERIOD. INSPECT ALL W & V JOINTS WHILE UNDER PRESSURE AND REPAIR ALL LEAKS.
- 18.INSTALL ALL PLUMBING EQUIPMENT IN COMPLETE COMPLIANCE WITH MANUFACTURER'S STANDARD INSTALLATION INSTRUCTIONS. ARRANGE ALL EQUIPMENT TO PERMIT EASY REMOVAL OF COILS, MOTORS, FILTERS AND ALL OTHER PARTS WHICH REQUIRE PERIODIC REPLACEMENT OR MAINTENANCE.
- 19.COORDINATE ALL ELECTRICAL VOLTAGE CHARACTERISTICS WITH ELECTRICAL CONTRACTOR PRIOR TO ORDERING PLUMBING EQUIPMENT.

LEGEND FOR WATER SUPPLY SYSTEM

COLD WATER PIPE (C.W)
NORMAL PRESSURE COLD WATER (N.P.C.W)
HOT WATER PIPE (H.W)
RE-CIRCULATION HOT WATER (R.H.W)
GAS PIPE
AIR RELIEF VALVE (A.R.V)
BALL VALVE (B.V)
GATE VALVE SLICE VALVE (G.V / S.V)
PRESSURE REDUCER VALVE (P.R.V)
RE-CIRCULATION PUMP
CONVENTIONAL GEYSER
CHECK VALVE
BOOSTER PUMP
SUBMERSIBLE PUMP
H.W.G = HOT WATER GENERATOR
T.A = TO ABOVE
T.B = TO BELOW
F.A = FROM ABOVE
F.B = FROM BELOW
D-1 = DUCT - 1
M.D = MISCELLANEOUS DETAILS



SCHEDULE OF PIPE DIA

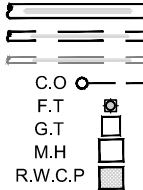
OUTER DIA (mm)	INTERNAL DIA	
	(mm)	INCH
20	13.2	0.52
25	16.4	0.65
32	21.2	0.83
40	26.6	1.05
50	33.2	1.31
63	42	1.65
75	50	1.97
90	60	2.36
110	73.2	2.88

L.D = LIST OF DRAWING
G.N = GENERAL NOTES
W.S = WATER SUPPLY
G.S = GAS SYSTEM
S.W = SEWERAGE SYSTEM
D.R = DRAINAGE SYSTEM
T / W = TUBE WELL

1. ALL WATER SUPPLY PIPE DIAMETERS ARE IN MILLIMETERS AND MENTIONED ARE EXTERNAL DIAMETERS. ALL WATER SUPPLY PIPES ARE OF PPRC UNLESS NOTED OTHERWISE.
2. ALL GAS PIPE DIAMETERS ARE IN MILLIMETERS AND MENTIONED ARE INTERNAL DIAMETERS.
3. ALL WATER SUPPLY PIPES ENTERING THE WALLS SHALL BE PROVIDED WITH ISOLATION VALVES.

LEGEND FOR SEWERAGE & DRAINAGE SYSTEM

SOIL PIPE (S.P)
WASTE PIPE (W.P)
VENT PIPE (V.P)
CLEANOUTS
FLOOR TRAP
GULLY TRAP
MANHOLE
RAIN WATER COLLECTION PIT



PIPE DIA & SLOPE	
3"	1:75
4"	1:100
6"	1:150
8"	1:175
10"	1:250
12"	1:300

1. ALL PIPE DIAMETERS ARE IN INCHES UNLESS OTHERWISE MENTIONED.
2. VENT PIPES SHALL BE EXTENDED UP TO ONE FT ABOVE FINISHED ROOF LEVEL.
3. SOIL, WASTE AND VENT PIPES UP TO 6" DIA. ARE uPVC (NON PRESSURIZE) TYPE-B CONFIRMING TO ISO 3633:2002 EXTERNAL SEWER PIPES SHALL BE OF FLOW LINE CONFIRMING TO EN 1401 UNLESS OTHERWISE NOTED
4. SLOPE OF ROOF VALLEY LINE SHOULD BE BETWEEN 0.01 TO 0.02
5. BOTTLE TRAP SHALL BE USED WITH ALL WASH BASIN.
6. R.C.C PIPES SHALL BE SHALIMAR OR EQUIVALENT MAKE.
7. MINIMUM SLOPE OF SOIL AND WASTE PIPES ARE AS UNDER.
4. ALL WATER SUPPLY PIPES ARE PPR (PN 20) UNLESS OTHERWISE MENTIONED.
5. ALL WATER SUPPLY PIPES FITTINGS SUCH AS BENDS, TEES, SOCKETS, ARE PPR (PN 25) UNLESS OTHERWISE MENTIONED.
6. ALL GAS PIPES ARE G.I. UNLESS OTHERWISE MENTIONED.
7. ALL WATER SUPPLY AND GAS PIPES ARE IN DUCTS, OR CONCEALED IN WALL OR BURIED IN FLOORS.
8. ALL PIPING SHALL BE TESTED FOR LEAKAGE BEFORE THE JOINTS ARE COVERED.

CLIENT:



PROJECT
IMPLEMENTATION
UNIT (PIU) KNIP



CONSULTANTS:

G3 ENGINEERING
CONSULTANTS (PVT)LTD.
House No.57-M Gulberg-III, Lahore, Pakistan

Tel : (92-42) 35441641, 35441642
Fax : (92-42) 35441645
E-mail : info@g3ec.com
URL : www.g3ec.com

PROJECT:

REHABILITATION & UPGRADATION OF
BOAT BASIN TO SCHON CHOWRANGI WITH
PEDESTRIAN TRAIL

NOTES:

1. ALL DIMENSIONS ARE IN FEET UNLESS OTHERWISE SPECIFIED.
2. THIS DRAWING IS AN INTELLECTUAL PROPERTY OF G3 ENGINEERING CONSULTANTS (PVT.) LTD. AND CANNOT BE REPRINTED OR REPRODUCED WITHOUT PRIOR APPROVAL OF G3.

REVISIONS:

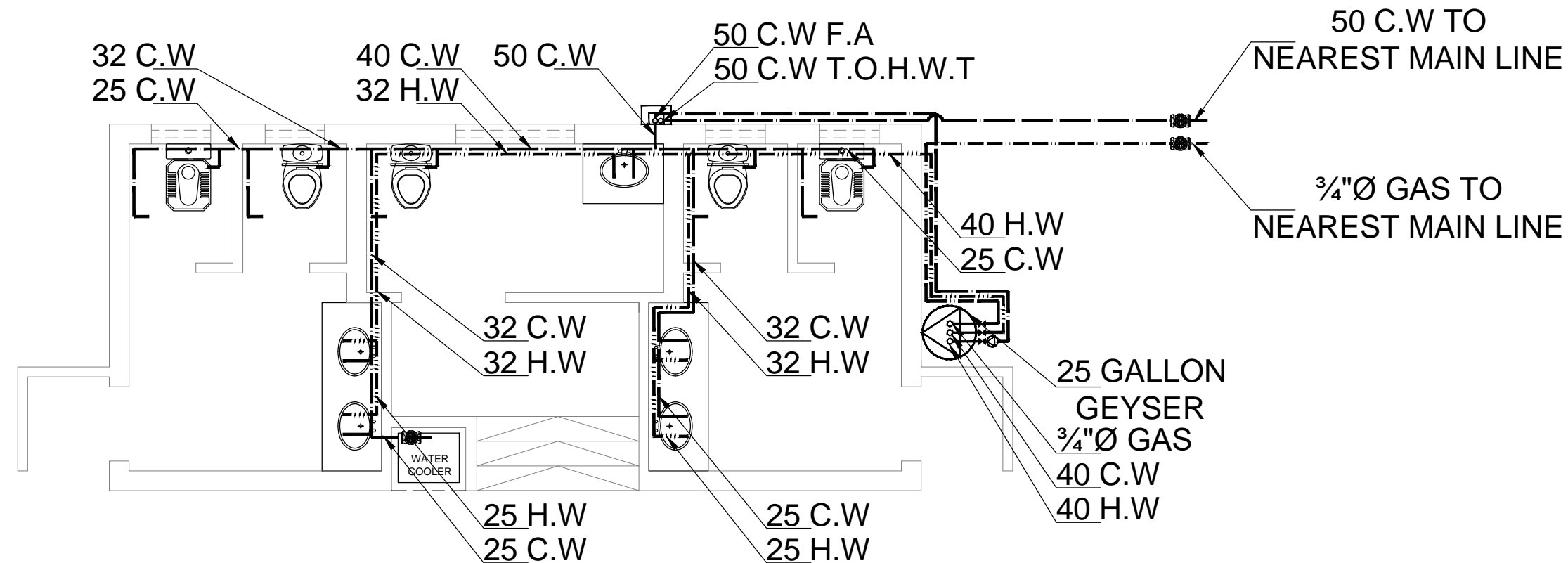
No.	DESCRIPTION	DATE

TENDER DRAWINGS

DRAWING TITLE:

GENERAL NOTES

DRAWN BY: M. Imran	DATE: AUG .2021
WATER SUPPLY & SEWERAGE ENGINEER Engr.Wasif Ali	
APPROVED BY: Syed Ali Abbas Gillani	
DRAWING NO: 0249/PH-01	REV: 4
SCALE (A3): N.T.S	SHEET:



WATER SUPPLY SYSTEM (GROUND FLOOR PLAN)
FOR PARK 05

CLIENT:



PROJECT
IMPLEMENTATION
UNIT (PIU) KNIP



CONSULTANTS:

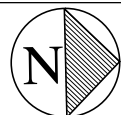
**G3 ENGINEERING
CONSULTANTS (PVT) LTD.**
House No.57-M Gulberg-III, Lahore, Pakistan



Tel : (92-42) 35441641, 35441642
Fax : (92-42) 35441645
E-mail : info@g3ec.com
URL : www.g3ec.com

PROJECT:

REHABILITATION & UPGRADATION OF
BOAT BASIN TO SCHON CHOWRANGI WITH
PEDESTRIAN TRAIL



NOTES:

1. ALL DIMENSIONS ARE IN FEET UNLESS OTHERWISE SPECIFIED.
2. THIS DRAWING IS AN INTELLECTUAL PROPERTY OF G3 ENGINEERING CONSULTANTS (PVT.) LTD. AND CANNOT BE REPRINTED OR REPRODUCED WITHOUT PRIOR APPROVAL OF G3.

REVISIONS:

No.	DESCRIPTION	DATE

TENDER DRAWINGS

DRAWING TITLE:

WATER SUPPLY

DRAWN BY: M. Imran DATE: AUG .2021

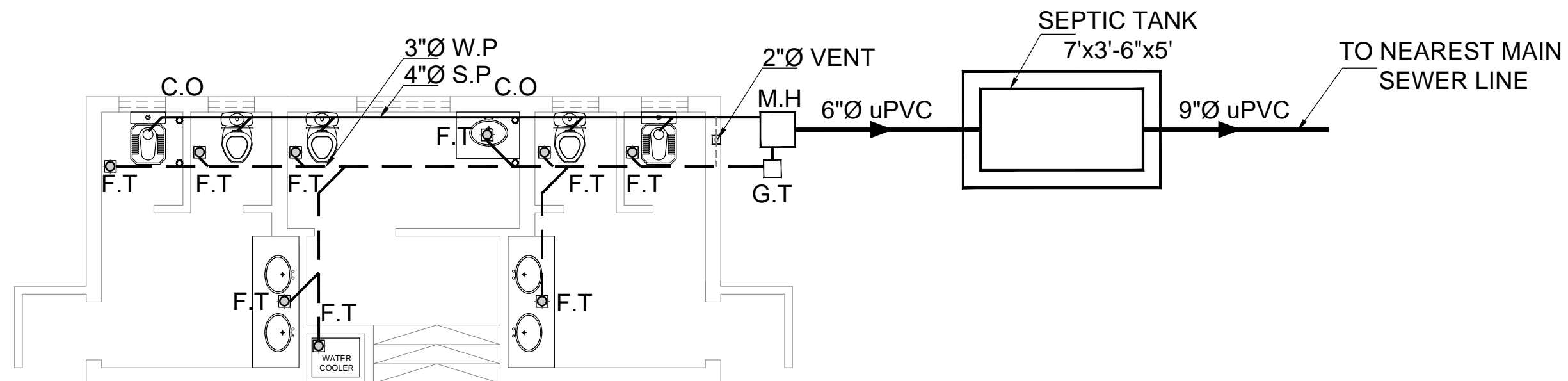
WATER SUPPLY & SEWERAGE ENGINEER

Engr. Wasif Ali

APPROVED BY: Syed Ali Abbas Gillani

DRAWING NO: 0249/PH-02 REV: 4

SCALE (A3): N.T.S SHEET:



SEWERAGE SYSTEM (GROUND FLOOR PLAN)
FOR PARK 05

CLIENT:



PROJECT
IMPLEMENTATION
UNIT (PIU) KNIP



CONSULTANTS:

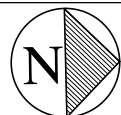
**G3 ENGINEERING
CONSULTANTS (PVT) LTD.**
House No.57-M Gulberg-III, Lahore, Pakistan



Tel : (92-42) 35441641, 35441642
Fax : (92-42) 35441645
E-mail : info@g3ec.com
URL : www.g3ec.com

PROJECT:

REHABILITATION & UPGRADATION OF
BOAT BASIN TO SCHON CHOWRANGI WITH
PEDESTRIAN TRAIL



NOTES:

1. ALL DIMENSIONS ARE IN FEET UNLESS OTHERWISE SPECIFIED.
2. THIS DRAWING IS AN INTELLECTUAL PROPERTY OF G3 ENGINEERING CONSULTANTS (PVT.) LTD. AND CANNOT BE REPRINTED OR REPRODUCED WITHOUT PRIOR APPROVAL OF G3.

REVISIONS:

No.	DESCRIPTION	DATE

TENDER DRAWINGS

DRAWING TITLE:

SEWER SYSTEM

DRAWN BY: M. Imran DATE: AUG .2021

WATER SUPPLY & SEWERAGE ENGINEER

Engr.Wasif Ali

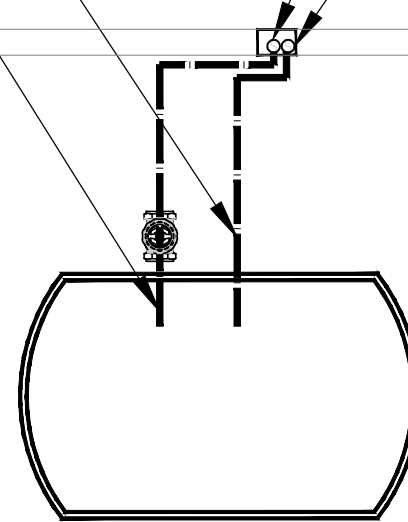
APPROVED BY: Syed Ali Abbas Gillani

DRAWING NO: 0249/PH-03 REV: 4

SCALE (A3): N.T.S SHEET:

50 C.W INLET
50 C.W OUTLET

50 C.W T.B
50 C.W T.O.H.W.T



PLASTIC TANK
500 GALLON

WATER SUPPLY SYSTEM (ROOF PLAN)
FOR PARK 05

CLIENT:



PROJECT
IMPLEMENTATION
UNIT (PIU) KNIP



CONSULTANTS:

G3 ENGINEERING
CONSULTANTS (PVT) LTD.
House No.57-M Gulberg-III, Lahore, Pakistan

Tel : (92-42) 35441641, 35441642
Fax : (92-42) 35441645
E-mail : info@g3ec.com
URL : www.g3ec.com

PROJECT:

REHABILITATION & UPGRADATION OF
BOAT BASIN TO SCHON CHOWRANGI WITH
PEDESTRIAN TRAIL

NOTES:

1. ALL DIMENSIONS ARE IN FEET UNLESS OTHERWISE SPECIFIED.
2. THIS DRAWING IS AN INTELLECTUAL PROPERTY OF G3 ENGINEERING CONSULTANTS (PVT.) LTD. AND CANNOT BE REPRINTED OR REPRODUCED WITHOUT PRIOR APPROVAL OF G3.

REVISIONS:

No.	DESCRIPTION	DATE

TENDER DRAWINGS

DRAWING TITLE:

WATER SUPPLY ROOF
PLAN

DRAWN BY:

M. Imran

DATE:

AUG .2021

WATER SUPPLY & SEWERAGE ENGINEER

Engr. Wasif Ali

APPROVED BY:

Syed Ali Abbas Gillani

DRAWING NO:

0249/PH-04

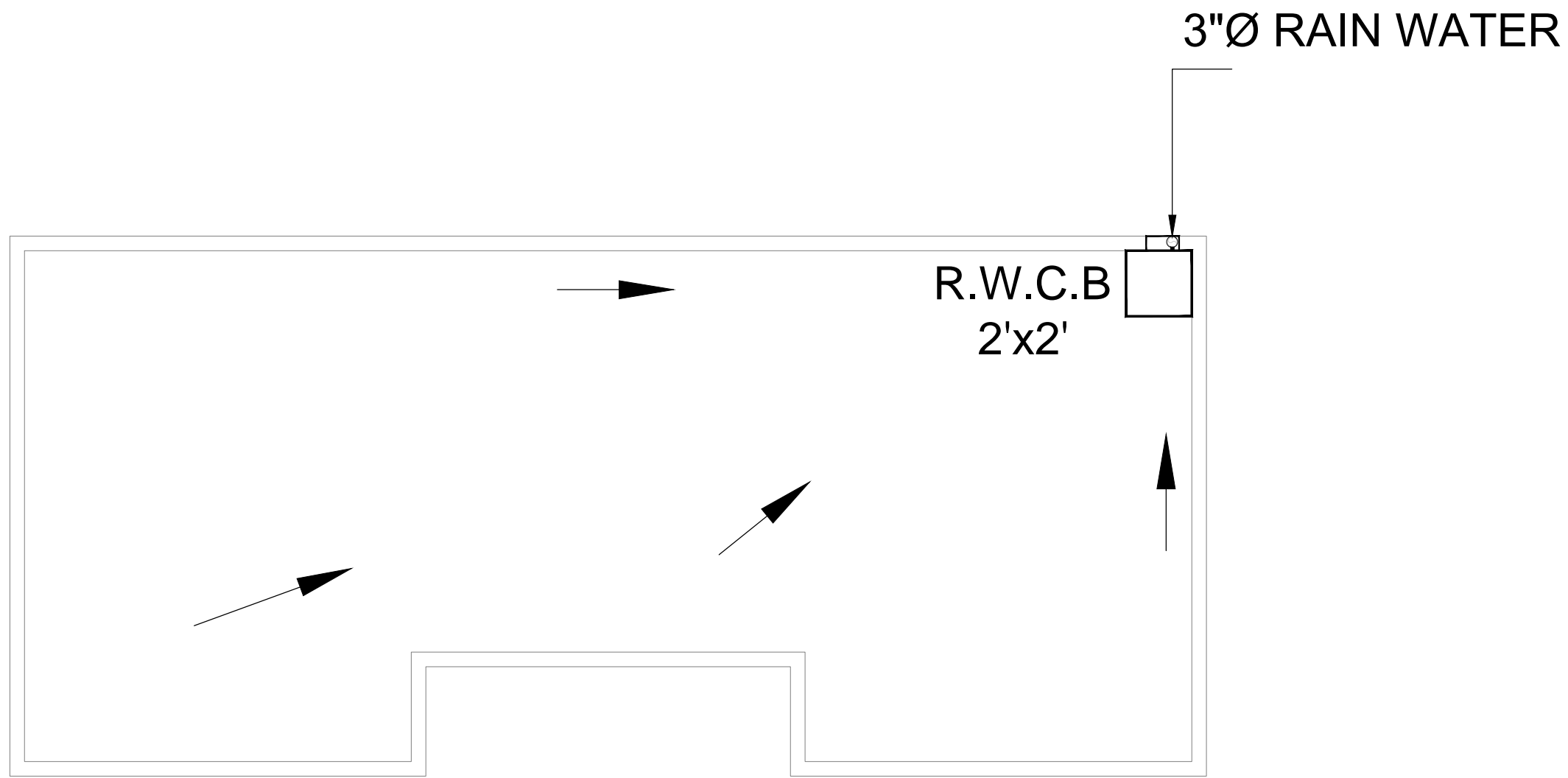
REV:

4

SCALE (A3):


N.T.S

SHEET:




**DRAINAGE SYSTEM (ROOF PLAN)
FOR PARK 05**

CLIENT:



**PROJECT
IMPLEMENTATION
UNIT (PIU) KNIP**



CONSULTANTS:
**G3 ENGINEERING
CONSULTANTS (PVT) LTD.**
House No.57-M Gulberg-III, Lahore, Pakistan

Tel : (92-42) 35441641, 35441642
Fax : (92-42) 35441645
E-mail : info@g3ec.com
URL : www.g3ec.com

PROJECT:
REHABILITATION & UPGRADATION OF
BOAT BASIN TO SCHON CHOWRANGI WITH
PEDESTRIAN TRAIL

NOTES:
1. ALL DIMENSIONS ARE IN FEET UNLESS
OTHERWISE SPECIFIED.
2. THIS DRAWING IS AN INTELLECTUAL PROPERTY
OF G3 ENGINEERING CONSULTANTS (PVT.) LTD.
AND CANNOT BE REPRINTED OR REPRODUCED
WITHOUT PRIOR APPROVAL OF G3.

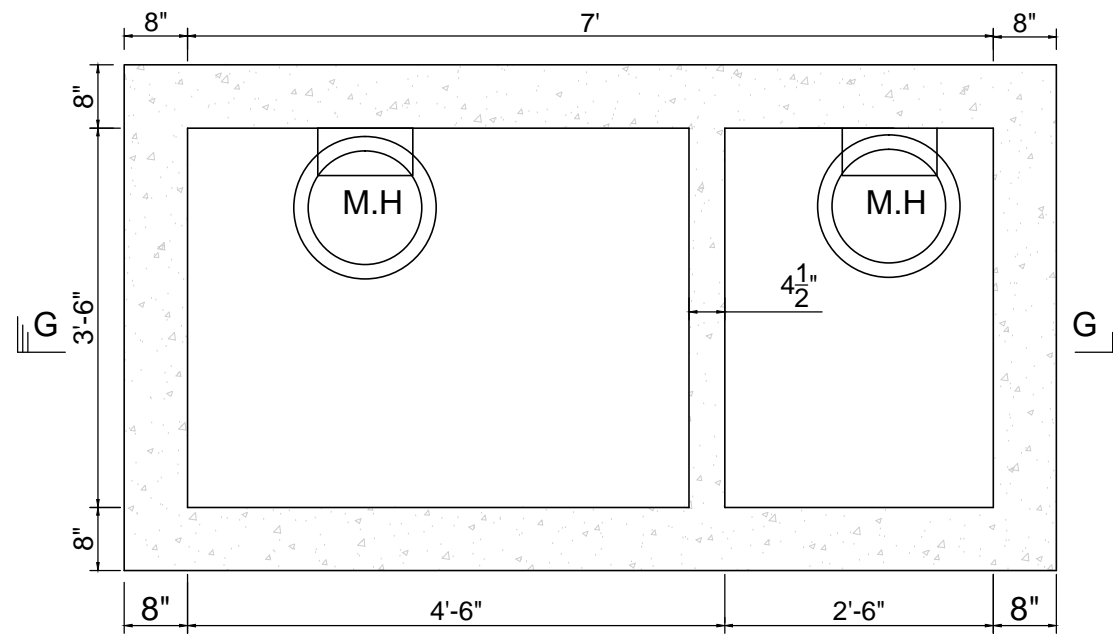
REVISIONS:

No.	DESCRIPTION	DATE

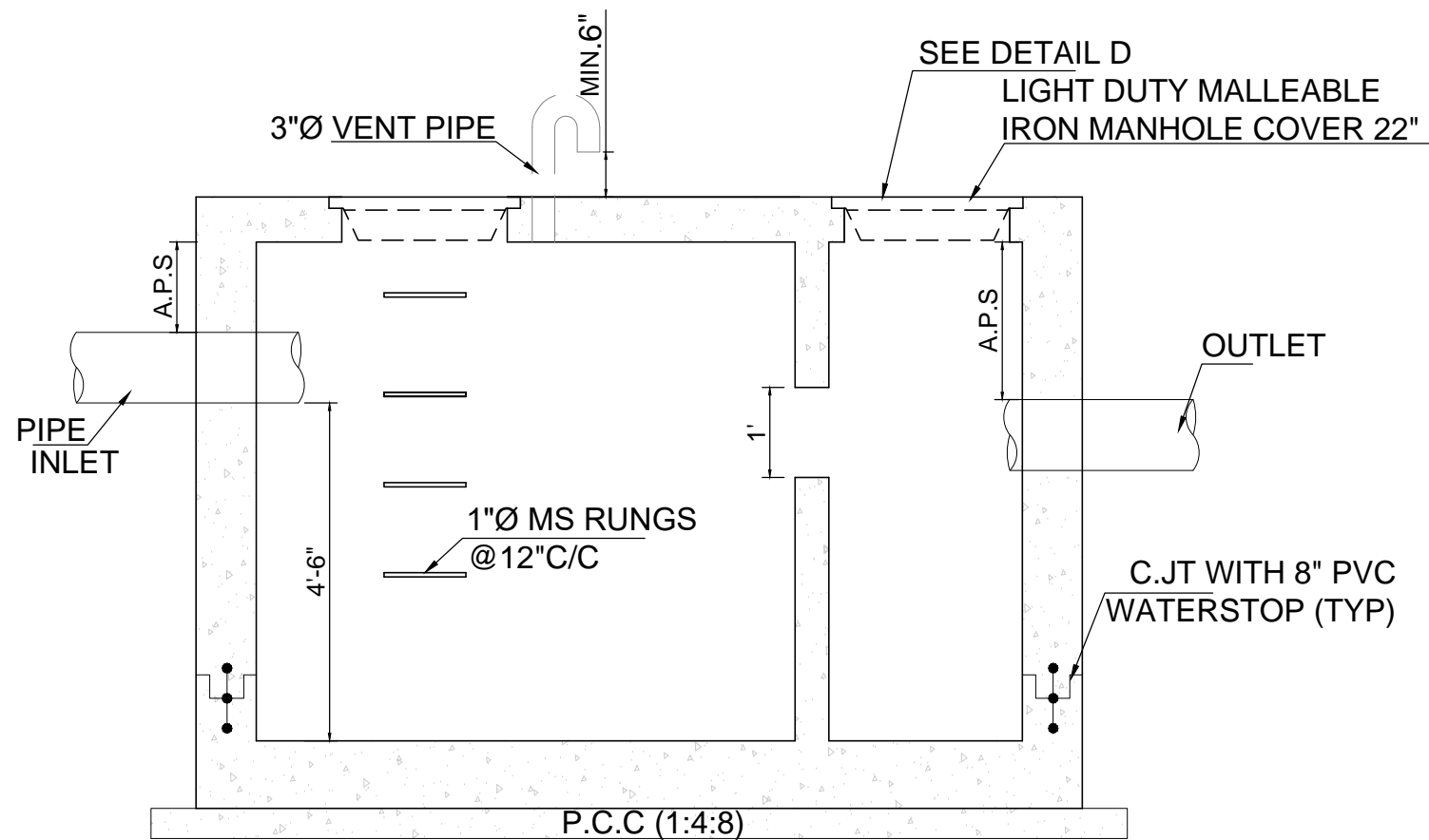
TENDER DRAWINGS

DRAWING TITLE:
**DRAINAGE SYSTEM
ROOF**

DRAWN BY: M. Imran	DATE: AUG .2021
WATER SUPPLY & SEWERAGE ENGINEER Engr. Wasif Ali	
APPROVED BY: Syed Ali Abbas Gillani	
DRAWING NO: 0249/PH-05	REV: 4
SCALE (A3): N.T.S	SHEET:



PLAN



SECTION G-G

CLIENT:



PROJECT
IMPLEMENTATION
UNIT (PIU) KNIP



CONSULTANTS:
**G3 ENGINEERING
CONSULTANTS (PVT) LTD.**
House No.57-M Gulberg-III, Lahore, Pakistan
Tel : (92-42) 35441641, 35441642
Fax : (92-42) 35441645
E-mail : info@g3ec.com
URL : www.g3ec.com

PROJECT:

REHABILITATION & UPGRADATION OF
BOAT BASIN TO SCHON CHOWRANGI WITH
PEDESTRIAN TRAIL

NOTES:

1. ALL DIMENSIONS ARE IN FEET UNLESS OTHERWISE SPECIFIED.
2. THIS DRAWING IS AN INTELLECTUAL PROPERTY OF G3 ENGINEERING CONSULTANTS (PVT.) LTD. AND CANNOT BE REPRINTED OR REPRODUCED WITHOUT PRIOR APPROVAL OF G3.

REVISIONS:

No.	DESCRIPTION	DATE

TENDER DRAWINGS

DRAWING TITLE:

SEPTIC TANK

DRAWN BY: M. Imran DATE: AUG .2021

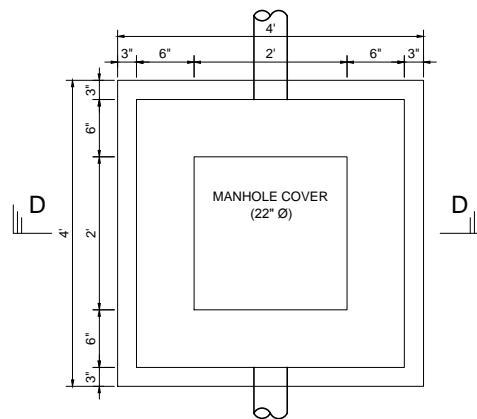
WATER SUPPLY & SEWERAGE ENGINEER

Engr.Wasif Ali

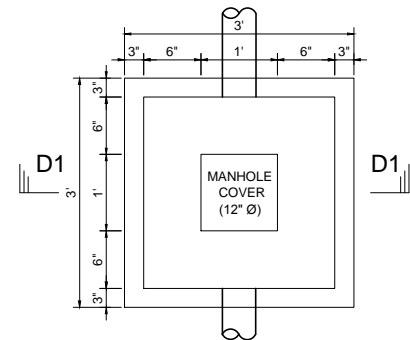
APPROVED BY:
Syed Ali Abbas Gillani

DRAWING NO: 0249/PH-06 REV: 4

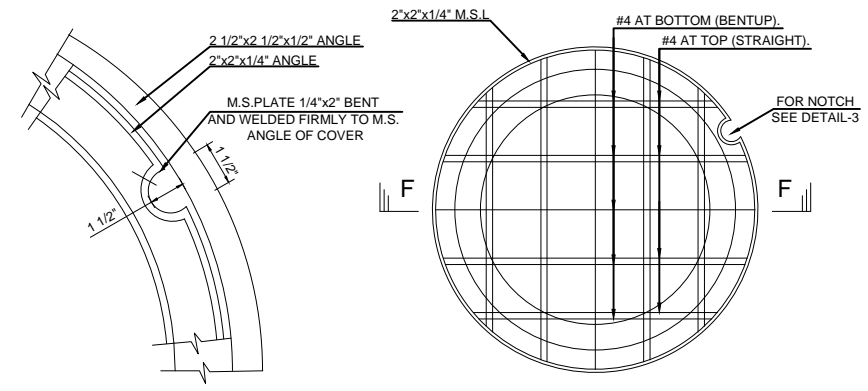
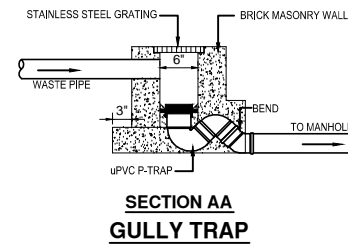
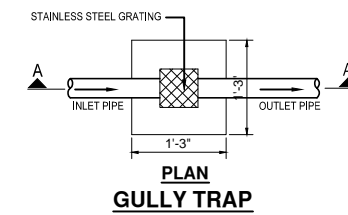
SCALE (A3): N.T.S SHEET:



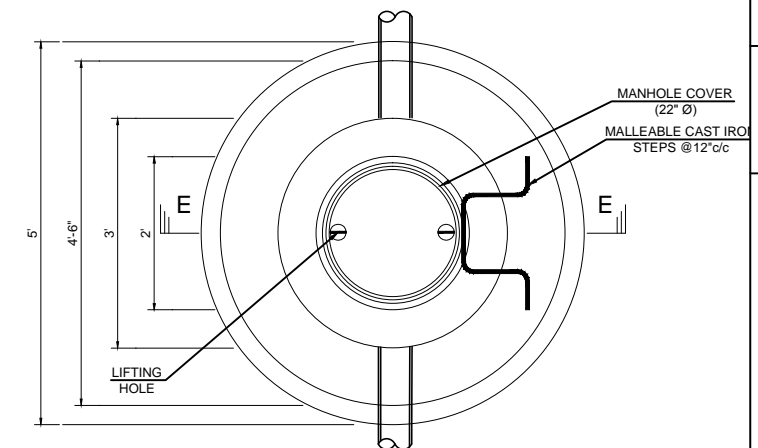
**TYPICAL SEWER MANHOLE PLAN
(UP TO 3' DEPTH)
M.H-A**



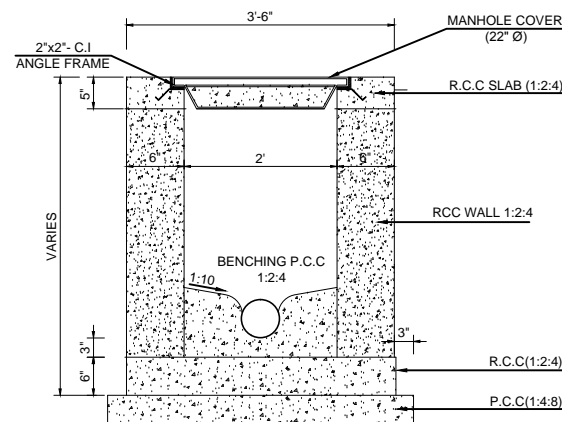
**TYPICAL SEWER MANHOLE PLAN
(UP TO 3' DEPTH)
M.H-A
(FOR LIMITED SPACE)**



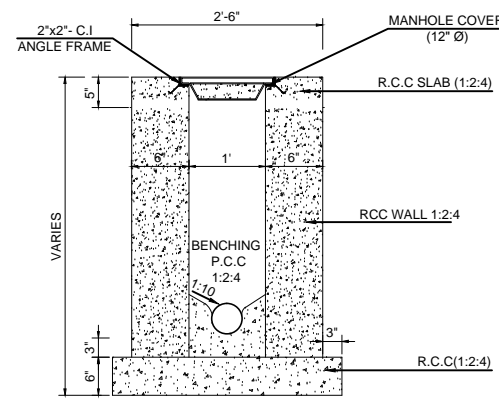
DETAIL-3



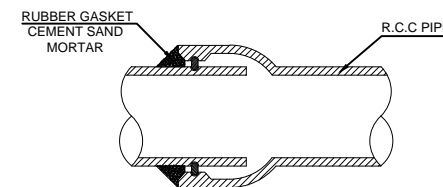
**TYPICAL SEWER MANHOLE PLAN
(FROM 3' TO 6' DEPTH)
M.H-A**



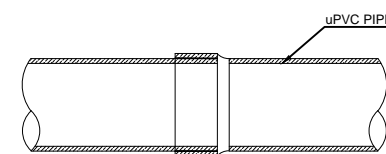
SECTION D-D



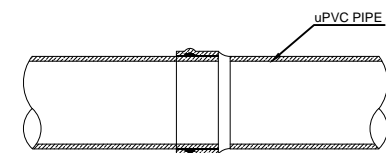
SECTION D1-D1



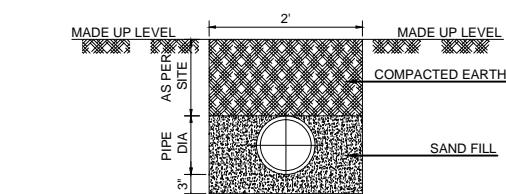
**TYPICAL R.C.C PIPE JOINTING
(BELL AND SPIGOT TYPE)**



**TYPICAL uPVC PIPE JOINTING
(SOLVENT CEMENT TYPE)**

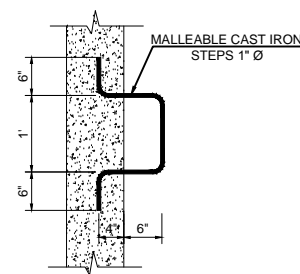


**TYPICAL uPVC PIPE JOINTING
(RUBBER RING TYPE)**

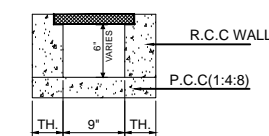


**TYPICAL TRENCH DETAIL
FOR SEWER LINE**

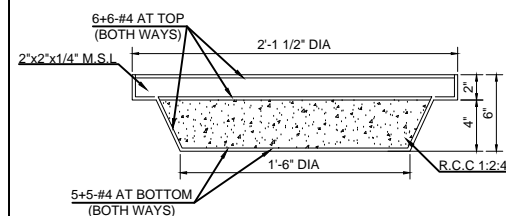
DETAIL-1



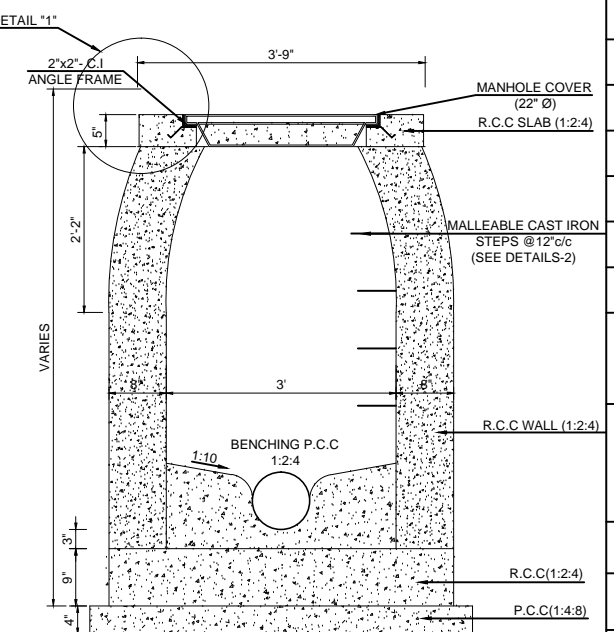
DETAIL-2



TYP. DRAIN (9")



SECTION F-F

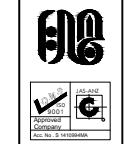


SECTION E-E

CLIENT:



**PROJECT
IMPLEMENTATION
UNIT (PIU) KNIP**



CONSULTANTS:
G3 ENGINEERING
CONSULTANTS (PVT) LTD.
House No.57-M Gulberg-III, Lahore, Pakistan
Tel : (92-42) 35441641, 35441642
Fax : (92-42) 35441645
E-mail : info@g3ec.com
URL : www.g3ec.com

PROJECT:

**REHABILITATION & UPGRADATION
OF BOAT BASIN TO SCHON
CHOWRANGI WITH PEDESTRIAN
TRAIL**



NOTES:

1. ALL DIMENSIONS ARE IN FEET UNLESS OTHERWISE SPECIFIED.
2. THIS DRAWING IS AN INTELLECTUAL PROPERTY OF G3 ENGINEERING CONSULTANTS (PVT.) LTD. AND CANNOT BE REPRINTED OR REPRODUCED WITHOUT PRIOR APPROVAL OF G3.

REVISIONS:

No.	DESCRIPTION	DATE

TENDER DRAWINGS

**DRAWING TITLE:
MANHOLE DETAIL**

DRAWN BY: M.K.A	DATE: AUG 2021
CHECKED BY: Engr. WASIF ALI	
APPROVED BY: SYED ALI ABBAS GILLANI	
DRAWING NO: 0249/PH-07	REV: 4
SCALE (A3): N.T.S	SHEET: 1 / 2

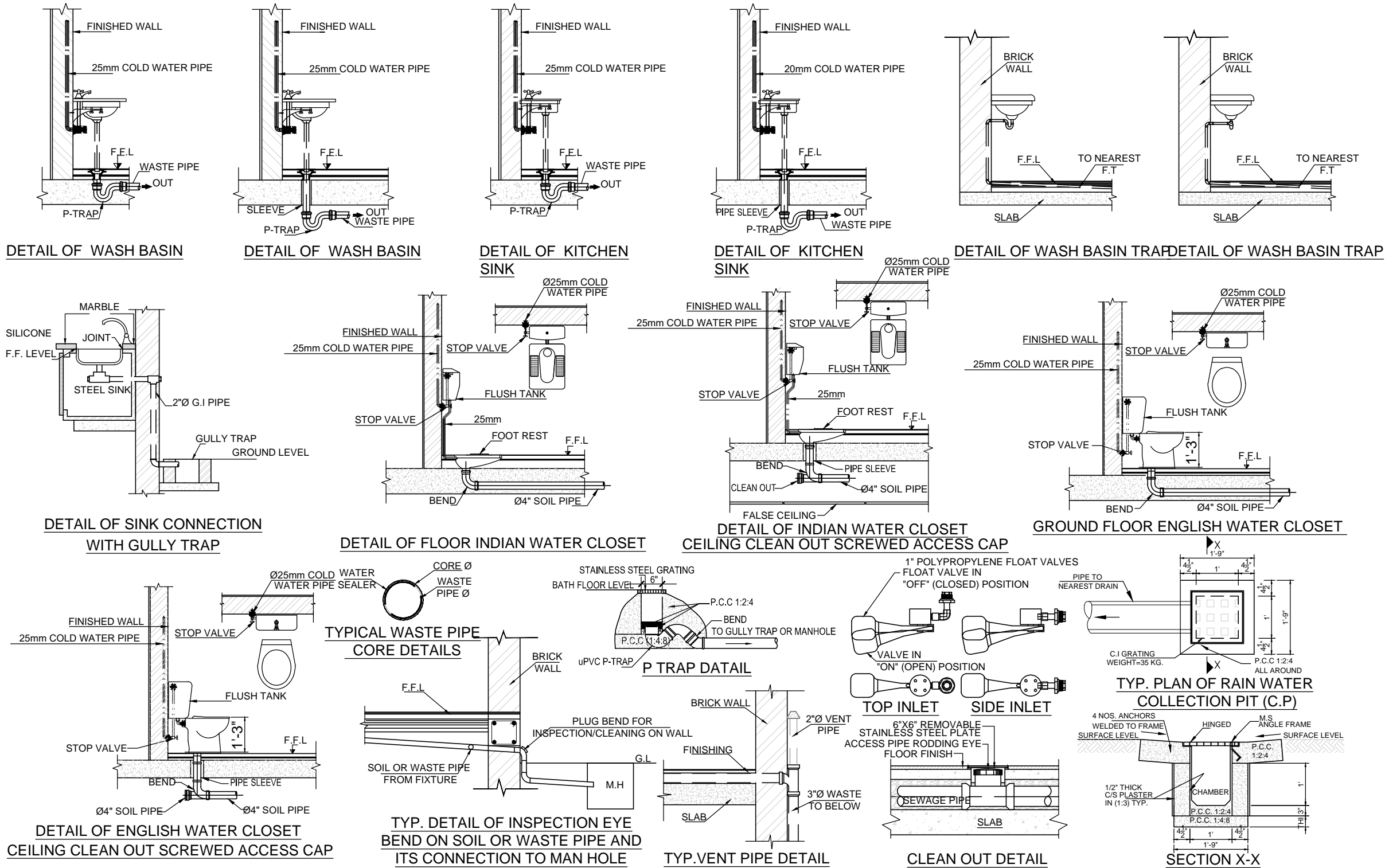
REVISIONS:		
No.	DESCRIPTION	DATE

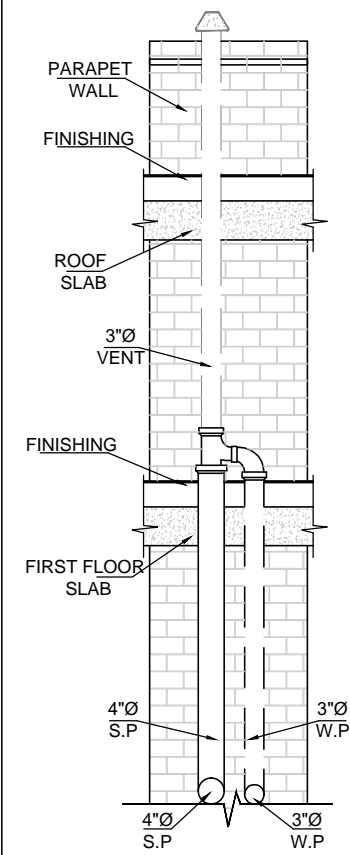
TENDER DRAWINGS

DRAWING TITLE:

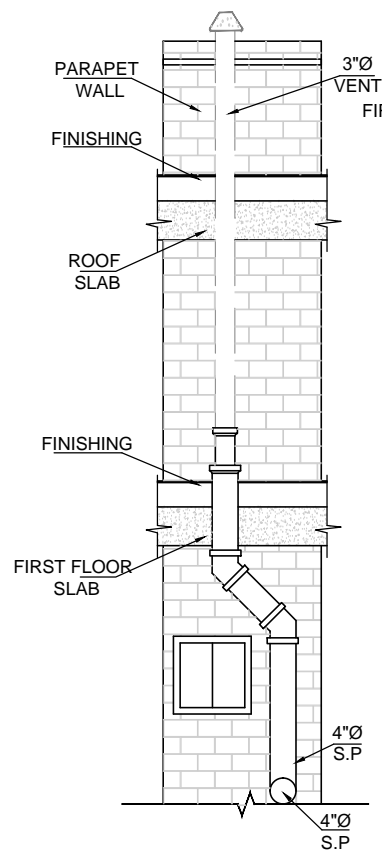
Miscellaneous Details

DRAWN BY: M. Imran	DATE: AUG. 2021
WATER SUPPLY & SEWERAGE ENGINEER	
Engr. Wasif Ali	
APPROVED BY: Syed Ali Abbas Gillani	
DRAWING NO: 0249/PH-08	REV: 4
SCALE (A3): N.T.S	SHEET:

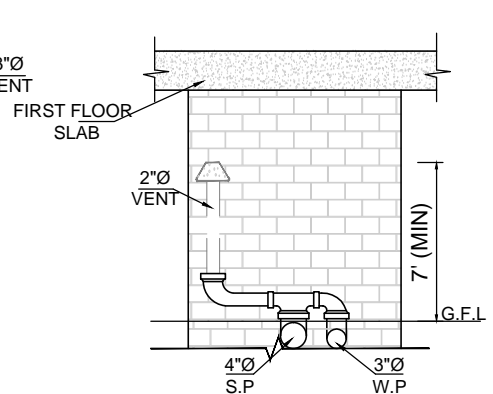




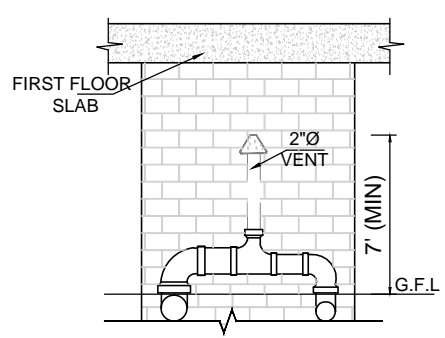
TYP. VENT PIPE DETAIL



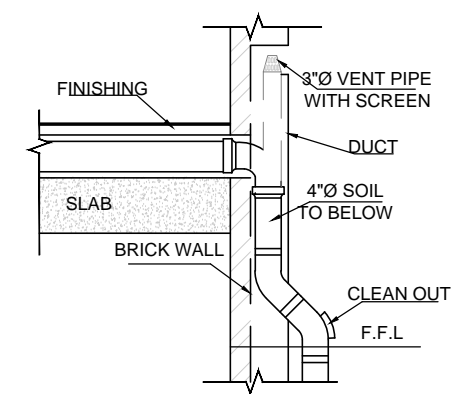
TYP. VENT PIPE DETAIL



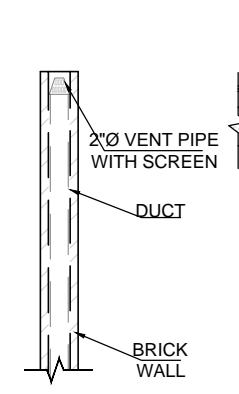
TYP. VENT PIPE DETAIL



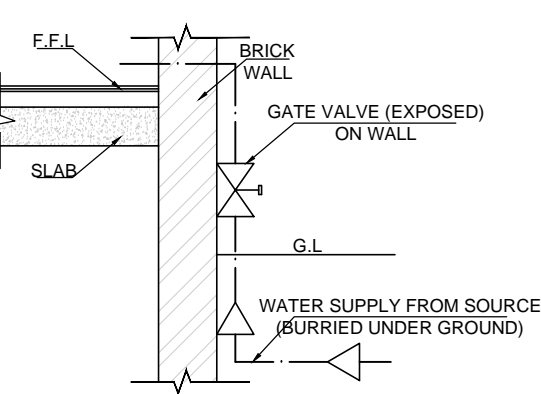
TYP. VENT PIPE DETAIL



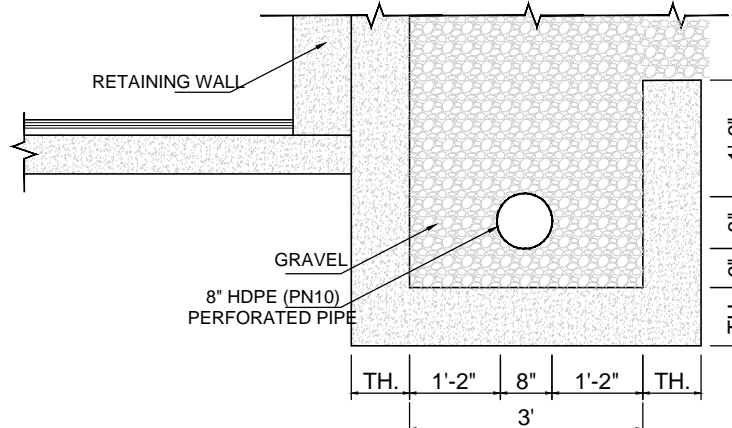
TYP. VENT PIPE DETAIL



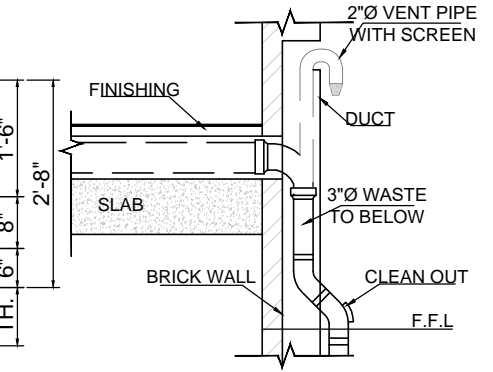
TYP. VENT PIPE DETAIL



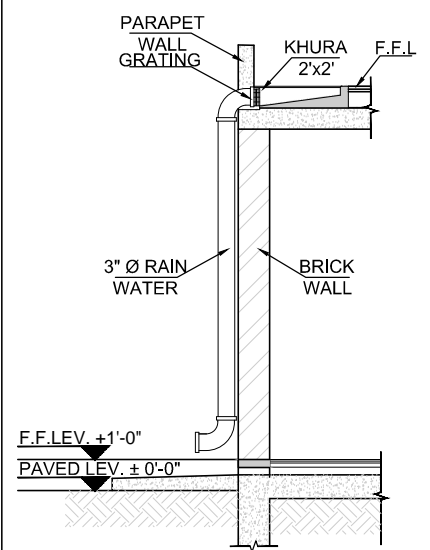
TYP. EXPOSED GATE VALVE



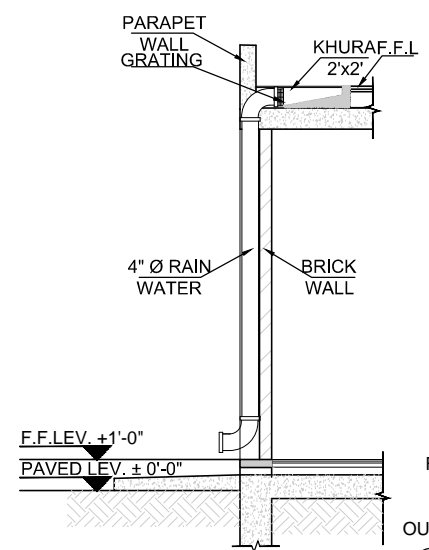
TYP. PERFORATED PIPE TRENCH DETAIL Z-Z



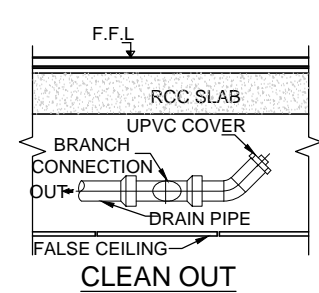
TYP. VENT PIPE DETAIL



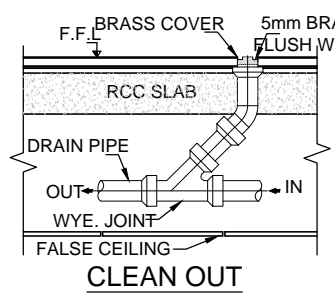
TYP. RAIN WATER PIPE & KHURA DETAIL



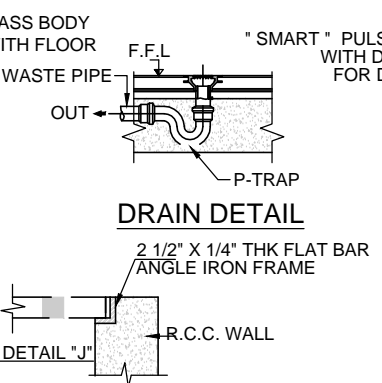
TYP. RAIN WATER PIPE & KHURA DETAIL



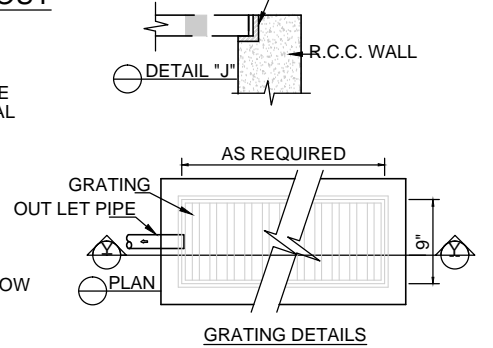
CLEAN OUT



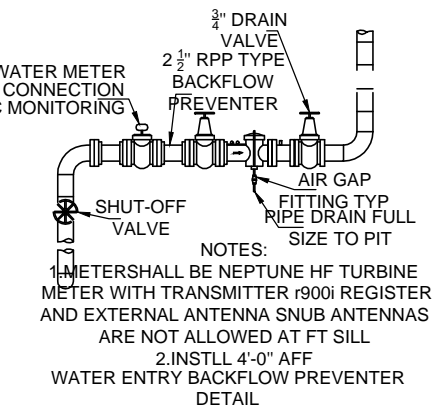
CLEAN OUT



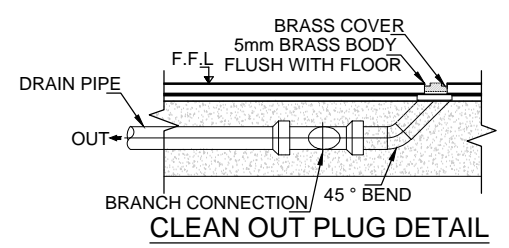
DRAIN DETAIL



GRATING DETAILS



WATER ENTRY BACKFLOW PREVENTER DETAIL



CLEAN OUT PLUG DETAIL

CLIENT:



PROJECT
IMPLEMENTATION
UNIT (PIU) KNIP



CONSULTANTS:
G3 ENGINEERING CONSULTANTS (PVT) LTD.
House No.57-M Gulberg-III, Lahore, Pakistan
Tel : (92-42) 35441641, 35441642
Fax : (92-42) 35441645
E-mail : info@g3ec.com
URL : www.g3ec.com

PROJECT:

REHABILITATION & UPGRADATION OF
BOAT BASIN TO SCHON CHOWRANGI WITH
PEDESTRIAN TRAIL

NOTES:

1. ALL DIMENSIONS ARE IN FEET UNLESS OTHERWISE SPECIFIED.
2. THIS DRAWING IS AN INTELLECTUAL PROPERTY OF G3 ENGINEERING CONSULTANTS (PVT.) LTD. AND CANNOT BE REPRINTED OR REPRODUCED WITHOUT PRIOR APPROVAL OF G3.

REVISIONS:

No.	DESCRIPTION	DATE

TENDER DRAWINGS

DRAWING TITLE:

Miscellaneous Details

DRAWN BY: M. Imran	DATE: AUG. 2021
WATER SUPPLY & SEWERAGE ENGINEER	
Engr. Wasif Ali	
APPROVED BY: Syed Ali Abbas Gillani	
DRAWING NO: 0249/PH-09	REV: 4
SCALE (A3): N.T.S	SHEET:

CLIENT:



PROJECT
IMPLEMENTATION
UNIT (PIU) KNIP



CONSULTANTS:

G3 ENGINEERING
CONSULTANTS (PVT) LTD.

House No.57-M Gulberg-III, Lahore, Pakistan

Tel : (92-42) 35441641, 35441642
Fax : (92-42) 35441645
E-mail : info@g3ec.com
URL : www.g3ec.com

PROJECT:

REHABILITATION & UPGRADATION OF
BOAT BASIN TO SCHON CHOWRANGI WITH
PEDESTRIAN TRAIL

NOTES:

1. ALL DIMENSIONS ARE IN FEET UNLESS OTHERWISE SPECIFIED.
2. THIS DRAWING IS AN INTELLECTUAL PROPERTY OF G3 ENGINEERING CONSULTANTS (PVT.) LTD. AND CANNOT BE REPRINTED OR REPRODUCED WITHOUT PRIOR APPROVAL OF G3.

REVISIONS:

No.	DESCRIPTION	DATE

TENDER DRAWINGS

DRAWING TITLE:

Miscellaneous Details

DRAWN BY:

M. Imran

DATE:

AUG. 2021

WATER SUPPLY & SEWERAGE ENGINEER

Engr. Wasif Ali

APPROVED BY:

Syed Ali Abbas Gillani

DRAWING NO: 0249/PH-10

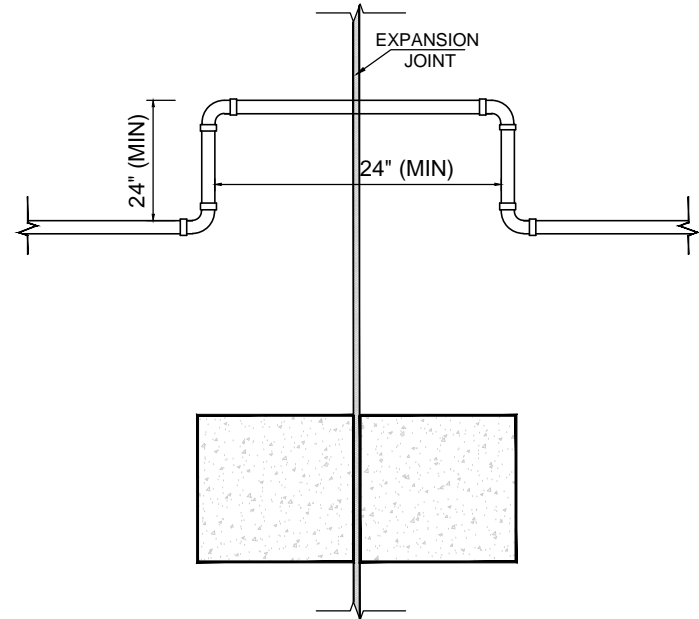
SCALE (A3):

REV:

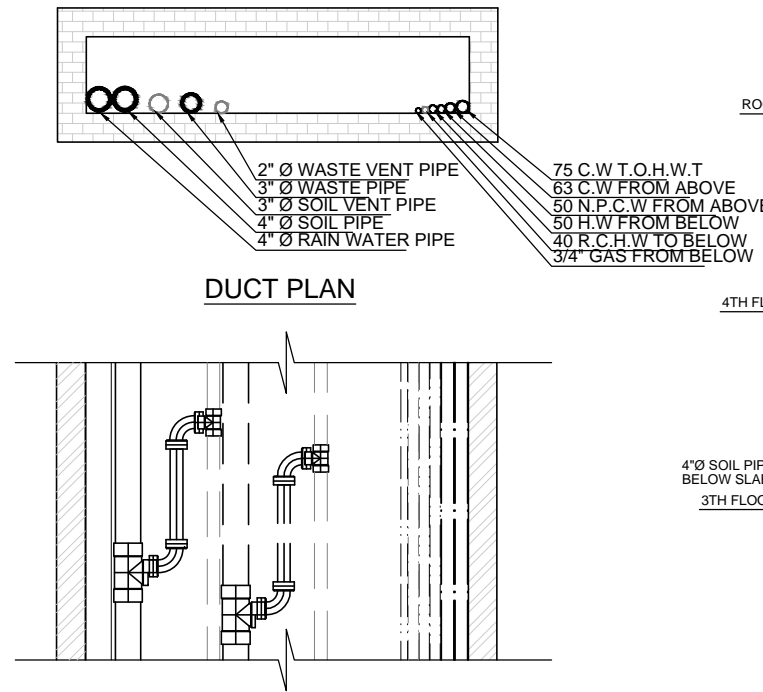
4

SHEET:

N.T.S

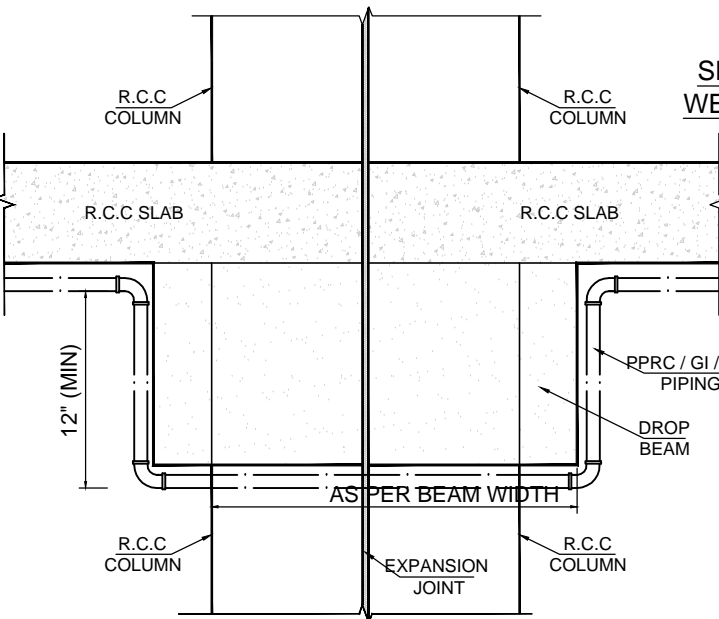


TYPICAL TOP DETAIL OF uPVC WASTE PIPE
AT EXPANSION JOINT

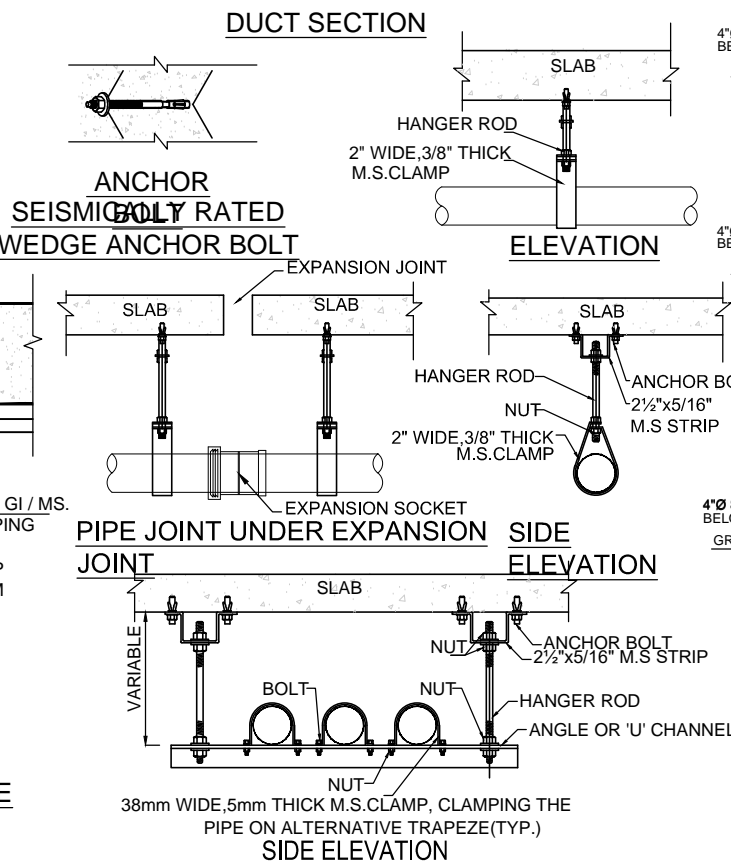


DUCT PLAN

DUCT SECTION

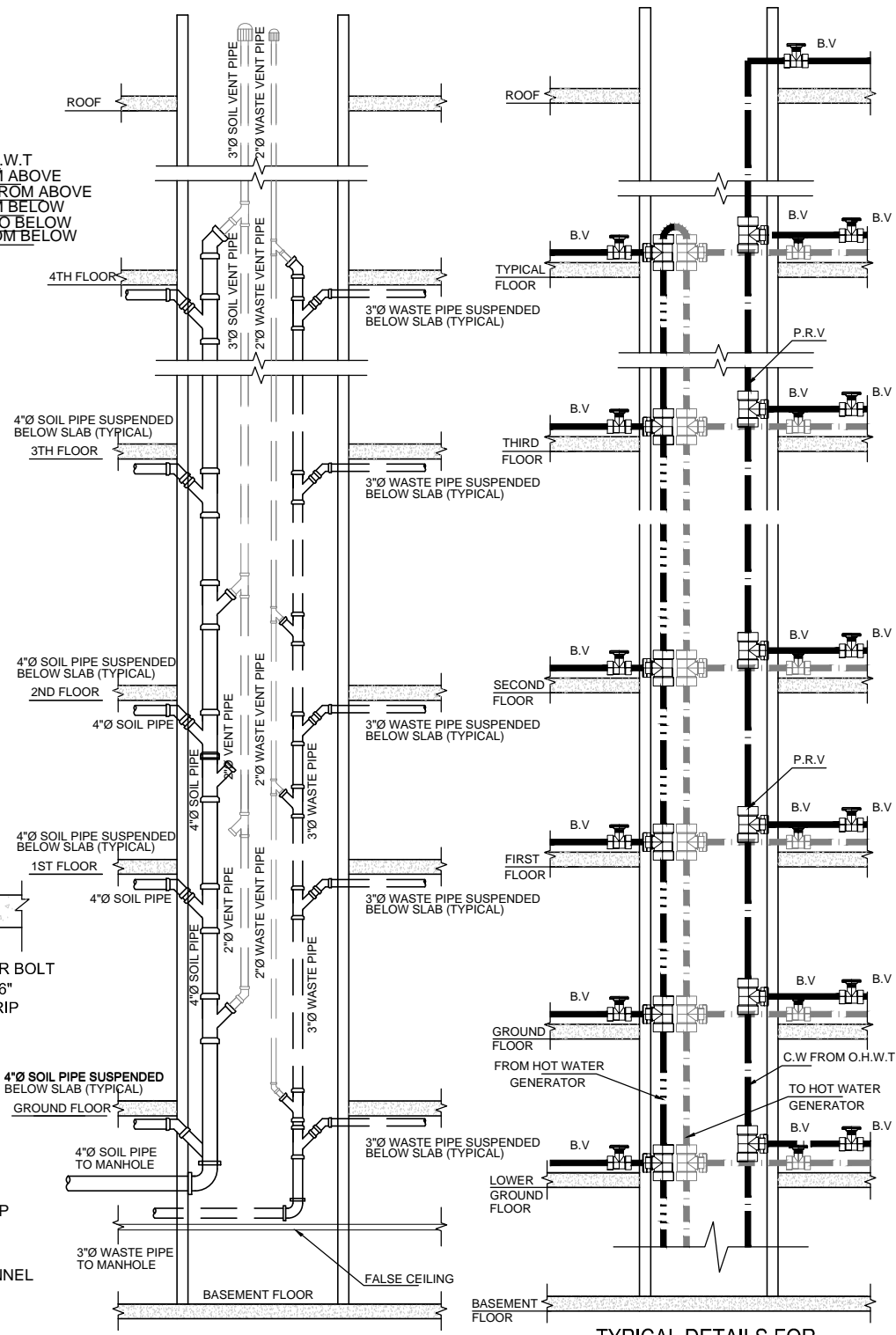


TYPICAL DETAIL OF PPRC WATER SUPPLY PIPE
AT EXPANSION JOINT

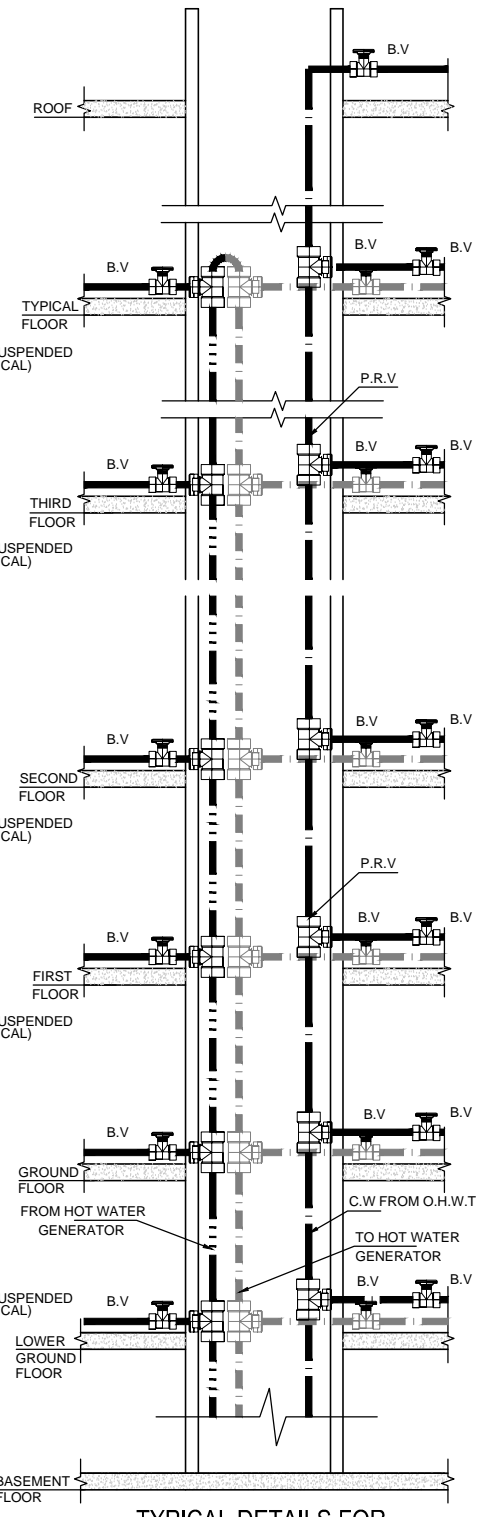


ELEVATION

SIDE ELEVATION



TYPICAL ELEVATION
FOR PIPE CONNECTION IN DUCT



TYPICAL DETAILS FOR
HOT WATER & RETURN HOT WATER

PUBLIC HEALTH DRAWING
Park-St-6

LIST OF DRAWINGS

Sr.#	DESCRIPTION	DRG. #
01	LIST OF DRAWINGS	0249/PH-00
02	GENERAL NOTES	0249/PH-01
WATER SUPPLY SYSTEM		
03	WATER SUPPLY SYSTEM (GROUND FLOOR PLAN)	0249/PH-02
04	WATER SUPPLY SYSTEM (ROOF PLAN)	0249/PH-03
SEWERAGE & DRAINAGE SYSTEM		
05	SEWERAGE SYSTEM (GROUND FLOOR PLAN)	0249/PH-04
06	DRAINAGE SYSTEM (ROOF PLAN)	0249/PH-05
MISCELLANEOUS DETAILS		
07	TYPICAL SEPTIC TANK PLAN, PIPE & SECTIONAL DETAILS	0249/PH-06
08	TYPICAL GULLY TRAP & MANHOLE PLAN, PIPE & SECTIONAL DETAILS	0249/PH-07
09	MISCELLANEOUS DETAILS-01	0249/PH-08
10	MISCELLANEOUS DETAILS-02	0249/PH-09
11	MISCELLANEOUS DETAILS-03	0249/PH-10

CLIENT:



PROJECT
IMPLEMENTATION
UNIT (PIU) KNIP



CONSULTANTS:
**G3 ENGINEERING
CONSULTANTS (PVT) LTD.**
House No.57-M Gulberg-III, Lahore, Pakistan
Tel : (92-42) 35441641, 35441642
Fax : (92-42) 35441645
E-mail : info@g3ec.com
URL : www.g3ec.com

PROJECT:

REHABILITATION & UPGRADE OF
BOAT BASIN TO SCHON CHOWRANGI WITH
PEDESTRIAN TRAIL

NOTES:

1. ALL DIMENSIONS ARE IN FEET UNLESS OTHERWISE SPECIFIED.
2. THIS DRAWING IS AN INTELLECTUAL PROPERTY OF G3 ENGINEERING CONSULTANTS (PVT.) LTD. AND CANNOT BE REPRINTED OR REPRODUCED WITHOUT PRIOR APPROVAL OF G3.

REVISIONS:

No.	DESCRIPTION	DATE

TENDER DRAWINGS

DRAWING TITLE:

LIST OF DRAWINGS

DRAWN BY: M. Imran	DATE: AUG .2021
WATER SUPPLY & SEWERAGE ENGINEER Engr. Wasif Ali	
APPROVED BY: Syed Ali Abbas Gillani	
DRAWING NO: 0249/PH-00	REV: 4
SCALE (A3): N.T.S	SHEET:

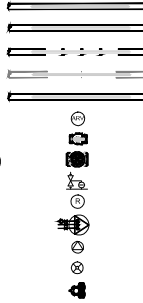
PUBLIC HEALTH GENERAL NOTES

1. THESE GENERAL NOTES ARE PROVIDED TO SUPPLEMENT THE WRITTEN SPECIFICATION FOR THIS PROJECT. REFER TO THE SPECIFICATIONS FOR MORE DETAILED REQUIREMENTS OF THIS PROJECT.
2. PERFORM ALL WORK IN A WORKMAN LIKE MANNER, IN COMPLIANCE WITH THE LATEST ADOPTED EDITIONS OF ALL GOVERNING CODES AND STANDARDS. IF CONFLICTS ARISE, REQUEST RESOLUTION FROM THE ARCHITECT. IF REQUIRED INFORMATION IS MISSING FROM THIS DRAWING (I.E, DUCT SIZE OR PIPE SIZE), REQUEST WRITTEN CLARIFICATION FROM THE ARCHITECT PRIOR TO THE EXECUTION.
3. PROVIDE ALL MINOR INCIDENTAL ITEMS SUCH AS OFFSETS, FITTINGS, ETC, REQUIRED AS PART OF THE WORK EVEN THOUGH NOT SPECIFICALLY SHOWN ON DRAWINGS. THE CONTRACTOR SHALL PROVIDE AND INSTALL THE NUMBER OF ITEMS OF EQUIPMENT AS INDICATED ON THE DRAWINGS AND AS REQUIRED FOR COMPLETE SYSTEMS.
4. THE PLUMBING DRAWINGS SHOW THE GENERAL ARRANGEMENT OF ALL PIPING, DUCT WORK. MECHANICAL EQUIPMENT AND APPURTENANCES, AND SHALL BE FOLLOWED AS CLOSELY AS ACTUAL BUILDING CONSTRUCTION AND THE WORK OF THEIR TRADES WILL PERMIT. BECAUSE OF THE SMALL SCALE OF THE PLUMBING DRAWINGS, IT IS NOT POSSIBLE TO INDICATE ALL OFFSETS, FITTINGS AND ACCESSORIES WHICH MAY BE REQUIRED. INVESTIGATE THE STRUCTURAL AND FINISH CONDITIONS AFFECTING THE WORK AND PROVIDE SUCH FITTINGS, VALVES AND ACCESSORIES AS MAY BE REQUIRED TO MEET SUCH CONDITIONS.
5. VERIFY DIMENSIONS GOVERNING PLUMBING WORK AT THE BUILDING. DO NOT SCALE THE PLUMBING DRAWINGS FOR DIMENSIONS. TAKE DIMENSIONS, MEASUREMENTS, LOCATIONS, LEVELS, ETC. FROM THE ACTUAL FIELD CONDITIONS AND ARCHITECTURAL DRAWINGS.
6. EXAMINE ALL ADJOINING WORK ON WHICH THE PLUMBING WORK IS DEPENDENT OF MAXIMUM EFFICIENCY AND REPORT DESIGN CONFLICTS WHICH MUST BE CORRECTED PRIOR TO EXECUTION. NO WAIVER OF RESPONSIBILITY SHALL BE CLAIMED OR ALLOWED DUE TO FAILURE TO REPORT UNFAVORABLE CONDITIONS AFFECTING THE PLUMBING WORK.
7. CONTRACTOR SHALL FURNISH AND INSTALL ALL PIPING, VALVES, CONTROLS, INSULATION ETC. TO ALL PLUMBING EQUIPMENT SCHEDULED OR INDICATED ON PLANS REGARDLESS OF WHETHER PIPING, VALVES, CONTROLS, INSULATION ETC. ARE SPECIFICALLY SHOWN OR NOT PLUMBING EQUIPMENT INSTALLATION SHALL BE 100% COMPLETE FOR PROPER EQUIPMENT FUNCTION AND/OR OPERATION AT COMPLETION OF PROJECT.
8. THE ARCHITECTURAL AND ENGINEERING DRAWINGS ARE COMPLEMENTARY. CONTRACTORS SHALL ACKNOWLEDGE THE ARCHITECTURAL AS WELL AS ALL THE ENGINEERING DRAWINGS AND INCLUDE ALL WORK NECESSARY TO ACHIEVE A COMPLETE WORKING. INSTALLATION FOR ANY DEVICE OR EQUIPMENT WHICH MAY BE SHOWN ON ONE DRAWING BUT NOT SHOWN ON ANOTHER.

9. LOCATION OF PIPES, DUCTS, SWITCHES, PANELS, EQUIPMENT AND FIXTURES SHALL BE ADJUSTED TO ACCOMMODATE THE WORK OR INTERFERENCES ANTICIPATED AND ENCOUNTERED. DETERMINE THE EXACT ROUTE AND LOCATION OF EACH PIPE AND DUCT PRIOR TO FABRICATION.
- 10.LOCATION OF EXISTING UTILITIES AND EXISTING UNDERGROUND PLUMBING ARE BASED ON THE SITE INFORMATION AVAILABLE. CONTRACTOR SHALL VERIFY EXACT LOCATIONS OF ALL UTILITIES AND EXISTING UNDERGROUND PLUMBING PRIOR TO FABRICATION AND ERECTION OF WORK TO AVOID ALL INTERFERENCES. VERIFICATION SHALL BE BY SITE INSPECTION, EXCAVATION, OR WHATEVER MEANS NECESSARY TO DETERMINE EXACT LOCATIONS.
- 11.CONTRACTOR SHALL OBTAIN BUILDING PERMIT AND ARRANGE ALL REQUIRED INSPECTIONS WITH THE APPROPRIATE REGULATORY AGENCY. ALERT CONSULTANT OF ALL ITEMS NOT DEPICTED ON DRAWINGS. DO NOT PROCEED WITH FURTHER WORK UNTIL WRITTEN RESPONSE IS RECEIVED FROM CONSULTANT.
- 12.CONTRACTOR SHALL VERIFY GAS PRESSURE DELIVERED BY METER AT BUILDING.
13. TEST THREADED NATURAL GAS PIPING AT 20 PSIG FOR A TEST PERIOD OF 2 HOURS. TEST PRESSURE SHALL NOT FALL OVER 5% DURING TEST PERIOD TO PASS. IF PIPING FAILS TEST, INVESTIGATE AND REPAIR THE SOURCE OF
- 14.PROVIDE SLEEVES AT ALL PIPING PENETRATIONS OF CONCRETE OR MASONRY FLOOR, WALL OR ROOF CONSTRUCTION.
- 15.PROVIDE GLASS WOOL INSULATION TO ALL HOT WATER (EXPOSED) AND COLD WATER (AT ROOF) PIPE LINE INCLUDING PROTECTIVE COATINGS.
- 16.USE NEAREST FLOOR TRAP FOR THE AC DRAINAGE.
17. TEST ALL PIPING SYSTEMS IN WHICH ANY ALTERATIONS HAVE BEEN MADE FOR COMPLIANCE WITH THE LATEST EDITION OF GOVERNING BUILDING CODE. DOMESTIC HOT AND COLD WATER PIPING SHALL BE SUBJECT TO 100 PSIG FOR A MINIMUM 2 HOURS, DOMESTIC WASTE AND VENT PIPING SHALL BE TESTED AT 10' STATIC HEAD FOR A PERIOD GREATER THAN 15 MINUTES. IF REQUIRED PRESSURE DROPS BY MORE THAN 3% DURING ITS TEST DURATION, INVESTIGATE THE SOURCE OF LEAK, REPAIR THE LEAK, AND RETEST THE SYSTEM FOR THE REQUIRED TEST PERIOD. INSPECT ALL W & V JOINTS WHILE UNDER PRESSURE AND REPAIR ALL LEAKS.
- 18.INSTALL ALL PLUMBING EQUIPMENT IN COMPLETE COMPLIANCE WITH MANUFACTURER'S STANDARD INSTALLATION INSTRUCTIONS. ARRANGE ALL EQUIPMENT TO PERMIT EASY REMOVAL OF COILS, MOTORS, FILTERS AND ALL OTHER PARTS WHICH REQUIRE PERIODIC REPLACEMENT OR MAINTENANCE.
- 19.COORDINATE ALL ELECTRICAL VOLTAGE CHARACTERISTICS WITH ELECTRICAL CONTRACTOR PRIOR TO ORDERING PLUMBING EQUIPMENT.

LEGEND FOR WATER SUPPLY SYSTEM

COLD WATER PIPE (C.W)
NORMAL PRESSURE COLD WATER (N.P.C.W)
HOT WATER PIPE (H.W)
RE-CIRCULATION HOT WATER (R.H.W)
GAS PIPE
AIR RELIEF VALVE (A.R.V)
BALL VALVE (B.V)
GATE VALVE SLICE VALVE (G.V / S.V)
PRESSURE REDUCER VALVE (P.R.V)
RE-CIRCULATION PUMP
CONVENTIONAL GEYSER
CHECK VALVE
BOOSTER PUMP
SUBMERSIBLE PUMP
H.W.G = HOT WATER GENERATOR
T.A = TO ABOVE
T.B = TO BELOW
F.A = FROM ABOVE
F.B = FROM BELOW
D-1 = DUCT - 1
M.D = MISCELLANEOUS DETAILS



SCHEDULE OF PIPE DIA

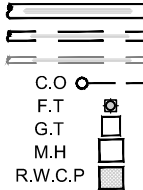
OUTER DIA (mm)	INTERNAL DIA	
	(mm)	INCH
20	13.2	0.52
25	16.4	0.65
32	21.2	0.83
40	26.6	1.05
50	33.2	1.31
63	42	1.65
75	50	1.97
90	60	2.36
110	73.2	2.88

L.D = LIST OF DRAWING
G.N = GENERAL NOTES
W.S = WATER SUPPLY
G.S = GAS SYSTEM
S.W = SEWERAGE SYSTEM
D.R = DRAINAGE SYSTEM
T / W = TUBE WELL

1. ALL WATER SUPPLY PIPE DIAMETERS ARE IN MILLIMETERS AND MENTIONED ARE EXTERNAL DIAMETERS. ALL WATER SUPPLY PIPES ARE OF PPRC UNLESS NOTED OTHERWISE.
2. ALL GAS PIPE DIAMETERS ARE IN MILLIMETERS AND MENTIONED ARE INTERNAL DIAMETERS.
3. ALL WATER SUPPLY PIPES ENTERING THE WALLS SHALL BE PROVIDED WITH ISOLATION VALVES.

LEGEND FOR SEWERAGE & DRAINAGE SYSTEM

SOIL PIPE (S.P)
WASTE PIPE (W.P)
VENT PIPE (V.P)
CLEANOUTS
FLOOR TRAP
GULLY TRAP
MANHOLE
RAIN WATER COLLECTION PIT



PIPE DIA & SLOPE		
3"	1:75	
4"	1:100	
6"	1:150	
8"	1:175	
10"	1:250	
12"	1:300	

1. ALL PIPE DIAMETERS ARE IN INCHES UNLESS OTHERWISE MENTIONED.
2. VENT PIPES SHALL BE EXTENDED UP TO ONE FT ABOVE FINISHED ROOF LEVEL.
3. SOIL, WASTE AND VENT PIPES UP TO 6" DIA. ARE uPVC (NON PRESSURIZE) TYPE-B CONFIRMING TO ISO 3633:2002 EXTERNAL SEWER PIPES SHALL BE OF FLOW LINE CONFIRMING TO EN 1401 UNLESS OTHERWISE NOTED
4. SLOPE OF ROOF VALLEY LINE SHOULD BE BETWEEN 0.01 TO 0.02
5. BOTTLE TRAP SHALL BE USED WITH ALL WASH BASIN.
6. R.C.C PIPES SHALL BE SHALIMAR OR EQUIVALENT MAKE.
7. MINIMUM SLOPE OF SOIL AND WASTE PIPES ARE AS UNDER.
4. ALL WATER SUPPLY PIPES ARE PPR (PN 20) UNLESS OTHERWISE MENTIONED.
5. ALL WATER SUPPLY PIPES FITTINGS SUCH AS BENDS, TEES, SOCKETS, ARE PPR (PN 25) UNLESS OTHERWISE MENTIONED.
6. ALL GAS PIPES ARE G.I. UNLESS OTHERWISE MENTIONED.
7. ALL WATER SUPPLY AND GAS PIPES ARE IN DUCTS, OR CONCEALED IN WALL OR BURIED IN FLOORS.
8. ALL PIPING SHALL BE TESTED FOR LEAKAGE BEFORE THE JOINTS ARE COVERED.

CLIENT:



PROJECT
IMPLEMENTATION
UNIT (PIU) KNIP



CONSULTANTS:

G3 ENGINEERING
CONSULTANTS (PVT)LTD.
House No.57-M Gulberg-III, Lahore, Pakistan

Tel : (92-42) 35441641, 35441642
Fax : (92-42) 35441645
E-mail : info@g3ec.com
URL : www.g3ec.com

PROJECT:

REHABILITATION & UPGRADATION OF
BOAT BASIN TO SCHON CHOWRANGI WITH
PEDESTRIAN TRAIL

NOTES:

1. ALL DIMENSIONS ARE IN FEET UNLESS OTHERWISE SPECIFIED.
2. THIS DRAWING IS AN INTELLECTUAL PROPERTY OF G3 ENGINEERING CONSULTANTS (PVT.) LTD. AND CANNOT BE REPRINTED OR REPRODUCED WITHOUT PRIOR APPROVAL OF G3.

REVISIONS:

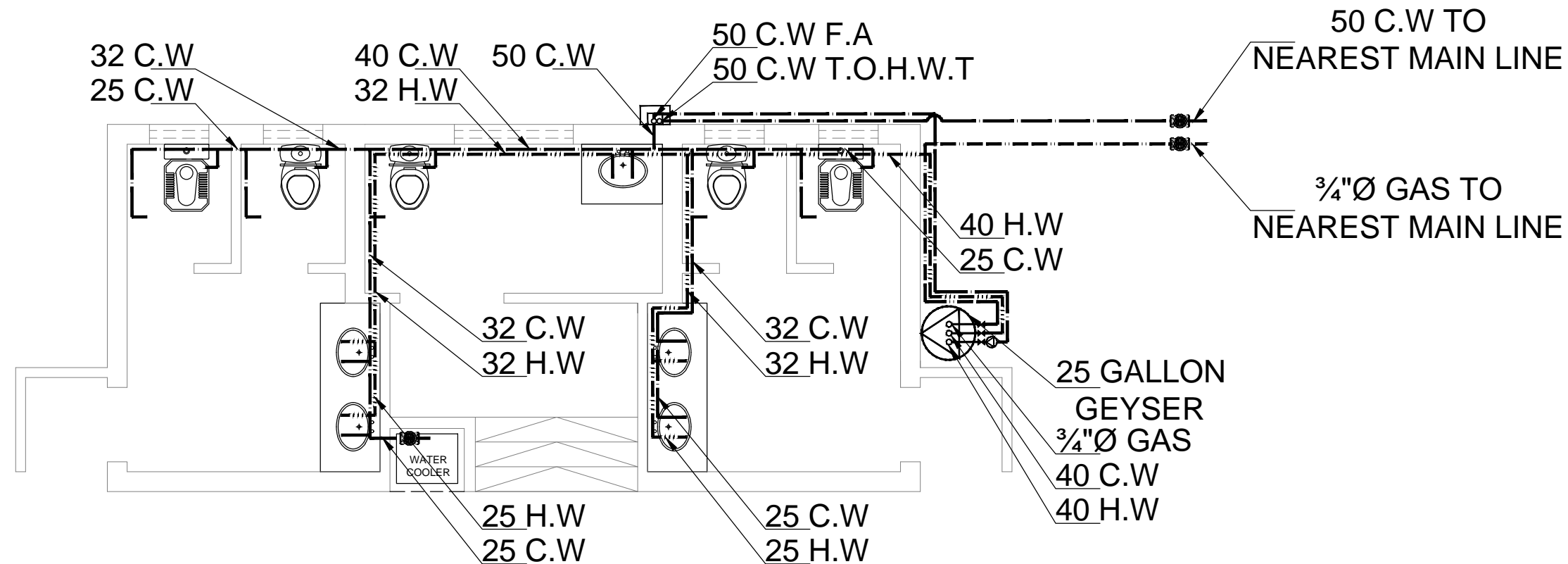
No.	DESCRIPTION	DATE

TENDER DRAWINGS

DRAWING TITLE:

GENERAL NOTES

DRAWN BY: M. Imran	DATE: AUG .2021
WATER SUPPLY & SEWERAGE ENGINEER Engr.Wasif Ali	
APPROVED BY: Syed Ali Abbas Gillani	
DRAWING NO: 0249/PH-01	REV: 4
SCALE (A3): N.T.S	SHEET:



WATER SUPPLY SYSTEM (GROUND FLOOR PLAN)
FOR PARK 06

CLIENT:



PROJECT
IMPLEMENTATION
UNIT (PIU) KNIP



CONSULTANTS:

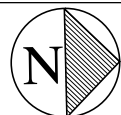
**G3 ENGINEERING
CONSULTANTS (PVT) LTD.**
House No.57-M Gulberg-III, Lahore, Pakistan



Tel : (92-42) 35441641, 35441642
Fax : (92-42) 35441645
E-mail : info@g3ec.com
URL : www.g3ec.com

PROJECT:

REHABILITATION & UPGRADATION OF
BOAT BASIN TO SCHON CHOWRANGI WITH
PEDESTRIAN TRAIL



NOTES:

1. ALL DIMENSIONS ARE IN FEET UNLESS OTHERWISE SPECIFIED.
2. THIS DRAWING IS AN INTELLECTUAL PROPERTY OF G3 ENGINEERING CONSULTANTS (PVT.) LTD. AND CANNOT BE REPRINTED OR REPRODUCED WITHOUT PRIOR APPROVAL OF G3.

REVISIONS:

No.	DESCRIPTION	DATE

TENDER DRAWINGS

DRAWING TITLE:

WATER SUPPLY

DRAWN BY: M. Imran DATE: AUG .2021

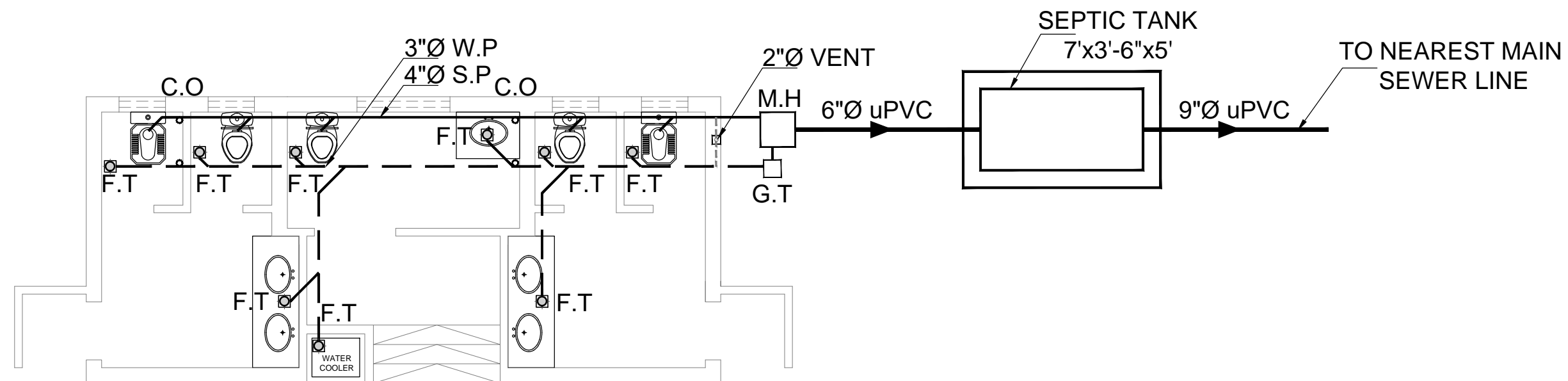
WATER SUPPLY & SEWERAGE ENGINEER

Engr. Wasif Ali

APPROVED BY: Syed Ali Abbas Gillani

DRAWING NO: 0249/PH-02 REV: 4

SCALE (A3): N.T.S SHEET:



SEWERAGE SYSTEM (GROUND FLOOR PLAN)
FOR PARK 06

CLIENT:



PROJECT
IMPLEMENTATION
UNIT (PIU) KNIP



CONSULTANTS:

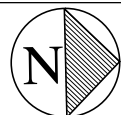
**G3 ENGINEERING
CONSULTANTS (PVT) LTD.**
House No.57-M Gulberg-III, Lahore, Pakistan



Tel : (92-42) 35441641, 35441642
Fax : (92-42) 35441645
E-mail : info@g3ec.com
URL : www.g3ec.com

PROJECT:

REHABILITATION & UPGRADE OF
BOAT BASIN TO SCHON CHOWRANGI WITH
PEDESTRIAN TRAIL



NOTES:

1. ALL DIMENSIONS ARE IN FEET UNLESS OTHERWISE SPECIFIED.
2. THIS DRAWING IS AN INTELLECTUAL PROPERTY OF G3 ENGINEERING CONSULTANTS (PVT.) LTD. AND CANNOT BE REPRINTED OR REPRODUCED WITHOUT PRIOR APPROVAL OF G3.

REVISIONS:

No.	DESCRIPTION	DATE

TENDER DRAWINGS

DRAWING TITLE:

SEWER SYSTEM

DRAWN BY: M. Imran DATE: AUG .2021

WATER SUPPLY & SEWERAGE ENGINEER

Engr. Wasif Ali

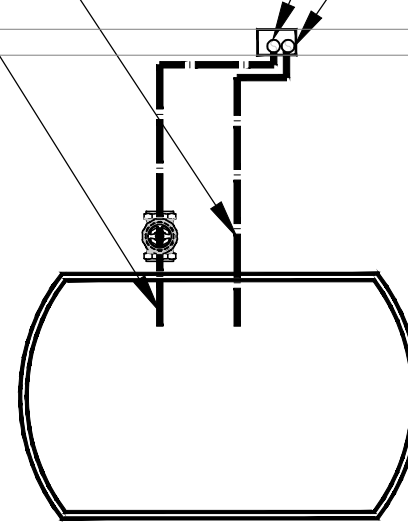
APPROVED BY: Syed Ali Abbas Gillani

DRAWING NO: 0249/PH-03 REV: 4

SCALE (A3): N.T.S SHEET:

50 C.W INLET
50 C.W OUTLET

50 C.W T.B
50 C.W T.O.H.W.T



PLASTIC TANK
500 GALLON

WATER SUPPLY SYSTEM (ROOF PLAN)
FOR PARK 06

CLIENT:



PROJECT
IMPLEMENTATION
UNIT (PIU) KNIP



CONSULTANTS:

G3 ENGINEERING
CONSULTANTS (PVT) LTD.
House No.57-M Gulberg-III, Lahore, Pakistan

Tel : (92-42) 35441641, 35441642
Fax : (92-42) 35441645
E-mail : info@g3ec.com
URL : www.g3ec.com

PROJECT:

REHABILITATION & UPGRADATION OF
BOAT BASIN TO SCHON CHOWRANGI WITH
PEDESTRIAN TRAIL

NOTES:

1. ALL DIMENSIONS ARE IN FEET UNLESS OTHERWISE SPECIFIED.
2. THIS DRAWING IS AN INTELLECTUAL PROPERTY OF G3 ENGINEERING CONSULTANTS (PVT.) LTD. AND CANNOT BE REPRINTED OR REPRODUCED WITHOUT PRIOR APPROVAL OF G3.

REVISIONS:

No.	DESCRIPTION	DATE

TENDER DRAWINGS

DRAWING TITLE:

WATER SUPPLY ROOF
PLAN

DRAWN BY:

M. Imran

DATE:

AUG .2021

WATER SUPPLY & SEWERAGE ENGINEER

Engr. Wasif Ali

APPROVED BY:

Syed Ali Abbas Gillani

DRAWING NO:

0249/PH-04

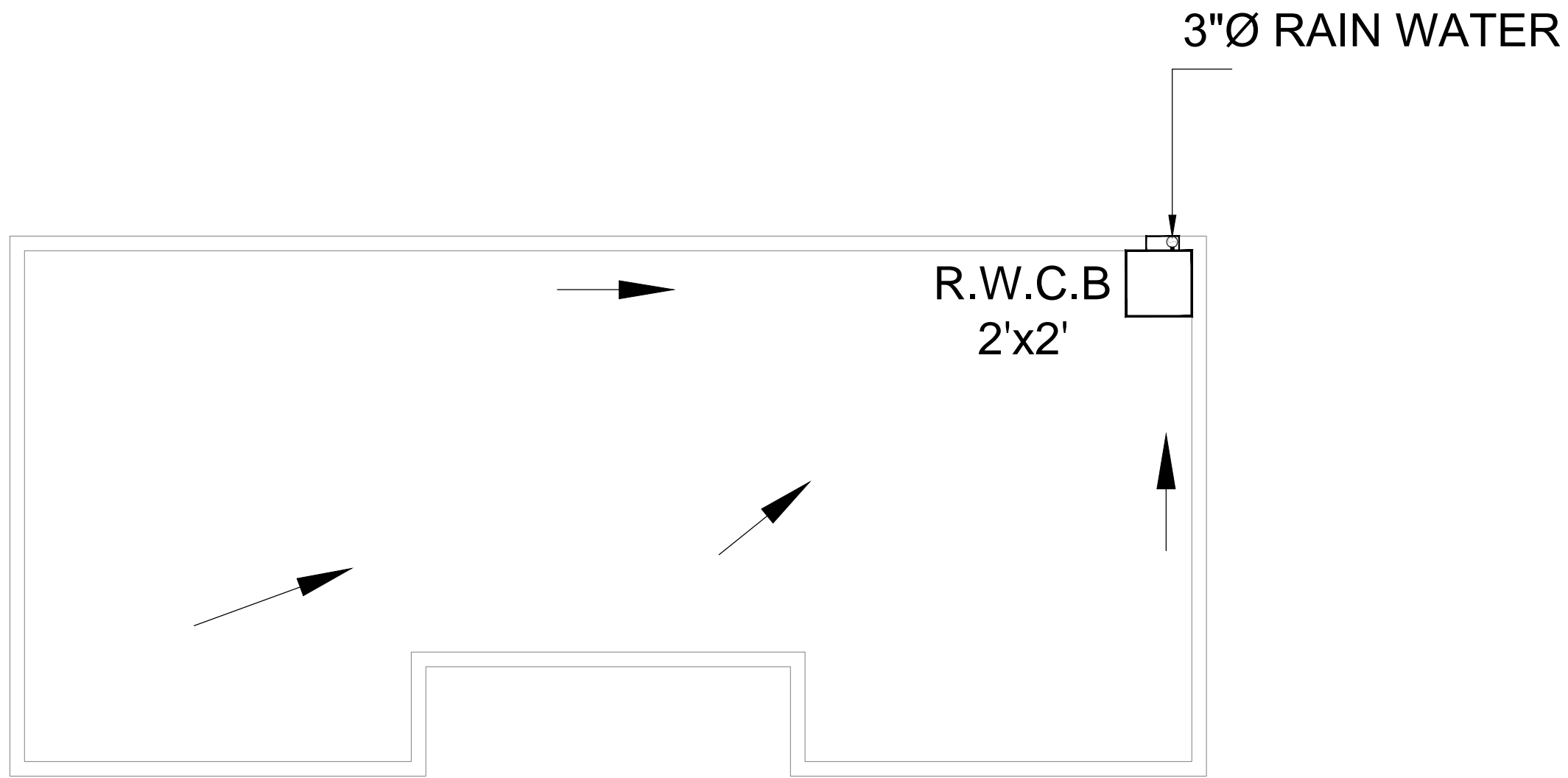
REV:

4

SCALE (A3):

N.T.S

SHEET:



DRAINAGE SYSTEM (ROOF PLAN) FOR PARK 06

CLIENT:
PROJECT
IMPLEMENTATION
UNIT (PIU) KNIP

CONSULTANTS:
G3 ENGINEERING CONSULTANTS (PVT) LTD.
House No.57-M Gulberg-III, Lahore, Pakistan
Tel : (92-42) 35441641, 35441642
Fax : (92-42) 35441645
E-mail : info@g3ec.com
URL : www.g3ec.com

PROJECT:
REHABILITATION & UPGRADATION OF
BOAT BASIN TO SCHON CHOWRANGI WITH
PEDESTRIAN TRAIL

NOTES:
1. ALL DIMENSIONS ARE IN FEET UNLESS
OTHERWISE SPECIFIED.
2. THIS DRAWING IS AN INTELLECTUAL PROPERTY
OF G3 ENGINEERING CONSULTANTS (PVT.) LTD.
AND CANNOT BE REPRINTED OR REPRODUCED
WITHOUT PRIOR APPROVAL OF G3.

REVISIONS:		
No.	DESCRIPTION	DATE

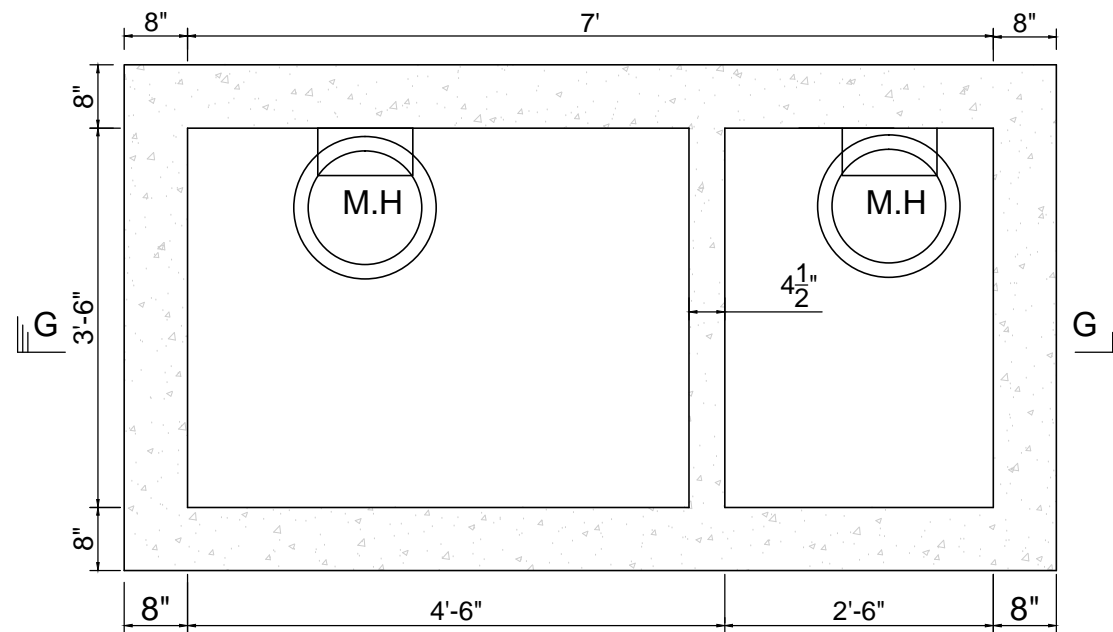
TENDER DRAWINGS

DRAWING TITLE:
**DRAINAGE SYSTEM
ROOF**

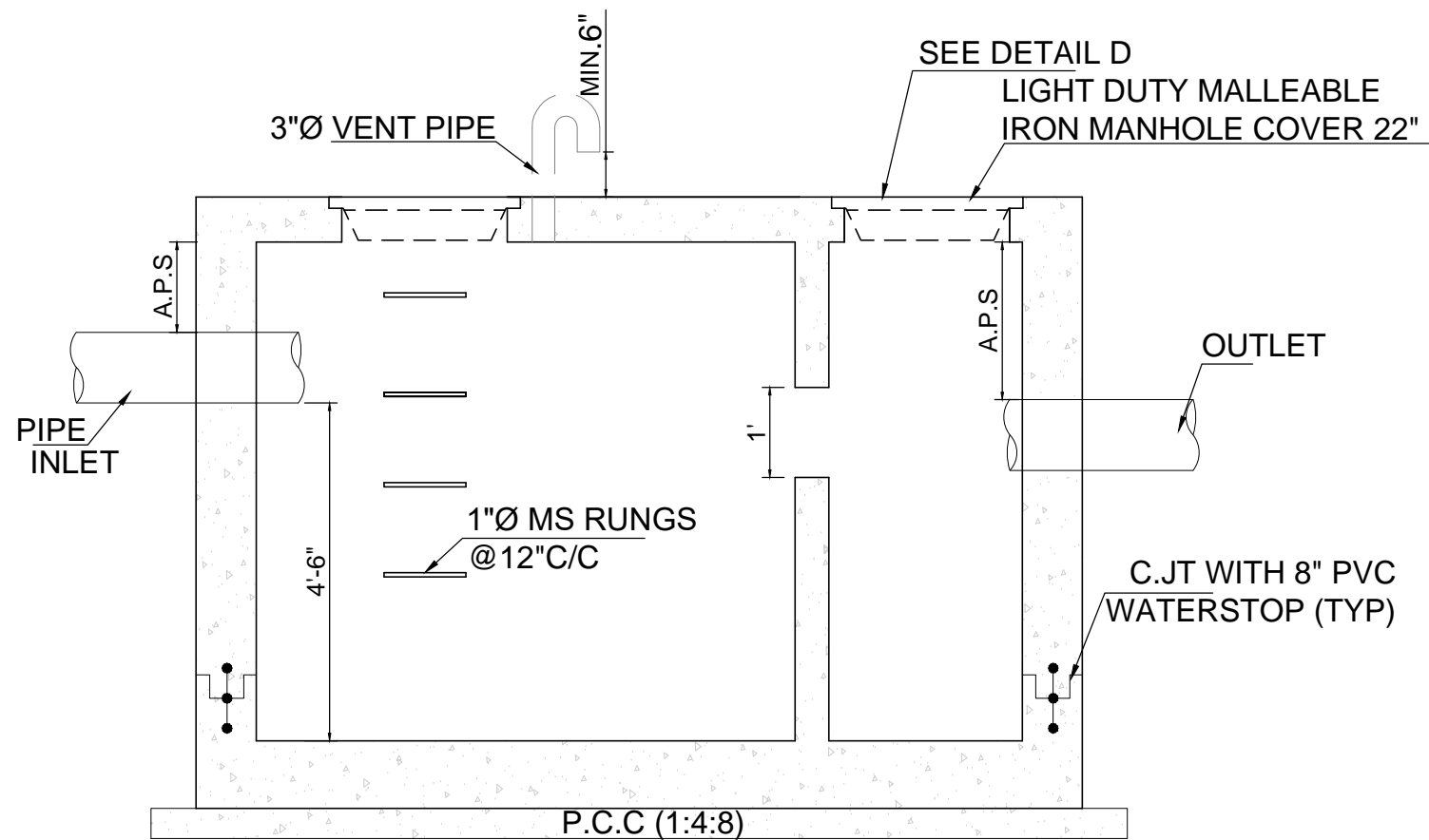
DRAWN BY:
M. Imran
DATE:
AUG .2021
WATER SUPPLY & SEWERAGE ENGINEER

Engr. Wasif Ali
APPROVED BY:
Syed Ali Abbas Gillani

DRAWING NO:
0249/PH-05
SCALE (A3):
N.T.S
REV:
4
SHEET:



PLAN



SECTION G-G

CLIENT:



PROJECT
IMPLEMENTATION
UNIT (PIU) KNIP



CONSULTANTS:

**G3 ENGINEERING
CONSULTANTS (PVT) LTD.**
House No.57-M Gulberg-III, Lahore, Pakistan



Tel : (92-42) 35441641, 35441642
Fax : (92-42) 35441645
E-mail : info@g3ec.com
URL : www.g3ec.com

PROJECT:

REHABILITATION & UPGRADATION OF
BOAT BASIN TO SCHON CHOWRANGI WITH
PEDESTRIAN TRAIL

NOTES:

1. ALL DIMENSIONS ARE IN FEET UNLESS OTHERWISE SPECIFIED.
2. THIS DRAWING IS AN INTELLECTUAL PROPERTY OF G3 ENGINEERING CONSULTANTS (PVT.) LTD. AND CANNOT BE REPRINTED OR REPRODUCED WITHOUT PRIOR APPROVAL OF G3.

REVISIONS:

No.	DESCRIPTION	DATE

TENDER DRAWINGS

DRAWING TITLE:

SEPTIC TANK

DRAWN BY:
M. Imran

DATE:
AUG .2021

WATER SUPPLY & SEWERAGE ENGINEER

Engr.Wasif Ali

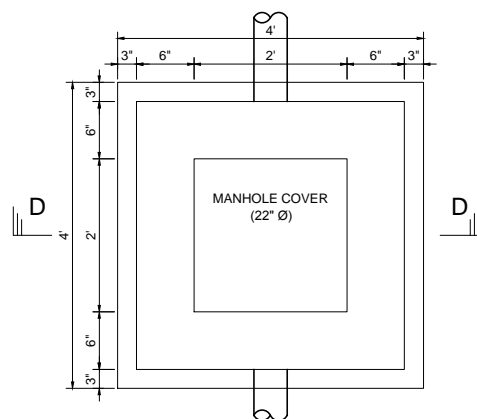
APPROVED BY:
Syed Ali Abbas Gillani

DRAWING NO:
0249/PH-06

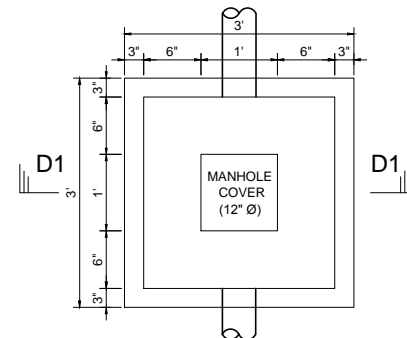
REV:
4

SCALE (A3):
N.T.S

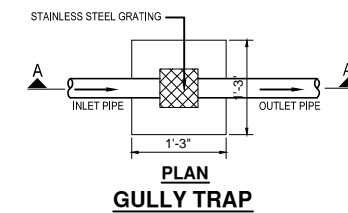
SHEET:



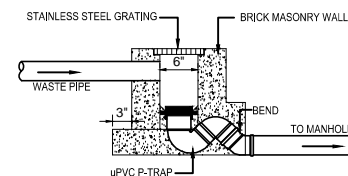
**TYPICAL SEWER MANHOLE PLAN
(UP TO 3' DEPTH)
M.H-A**



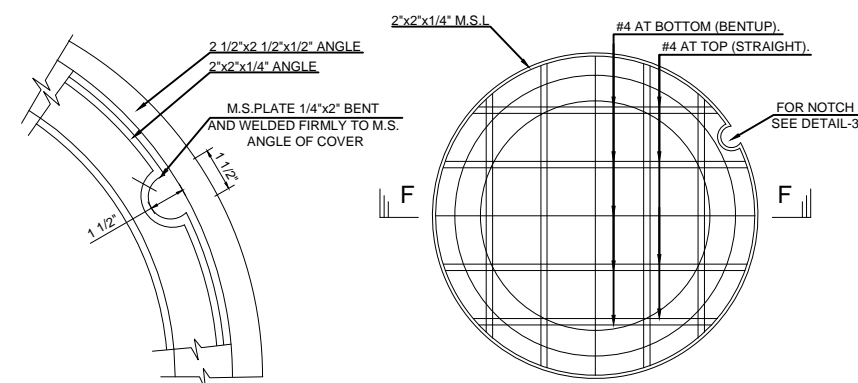
**TYPICAL SEWER MANHOLE PLAN
(UP TO 3' DEPTH)
M.H-A
(FOR LIMITED SPACE)**



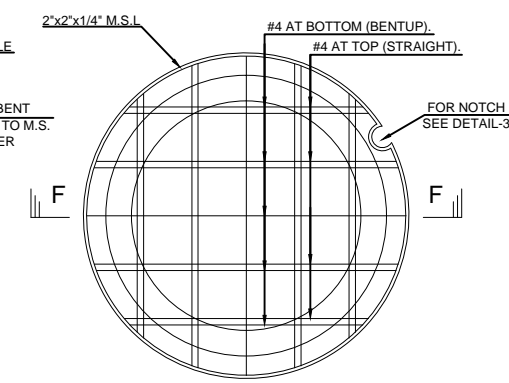
**PLAN
GULLY TRAP**



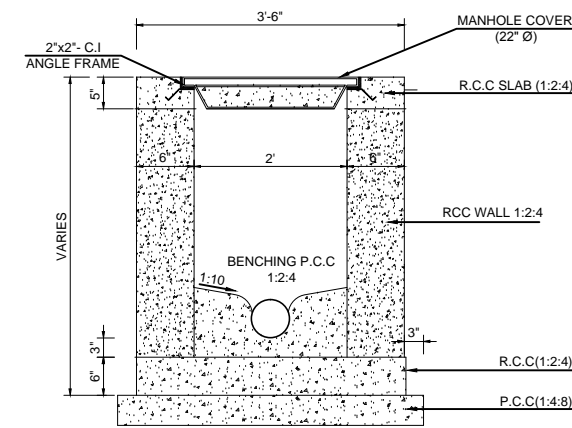
**SECTION AA
GULLY TRAP**



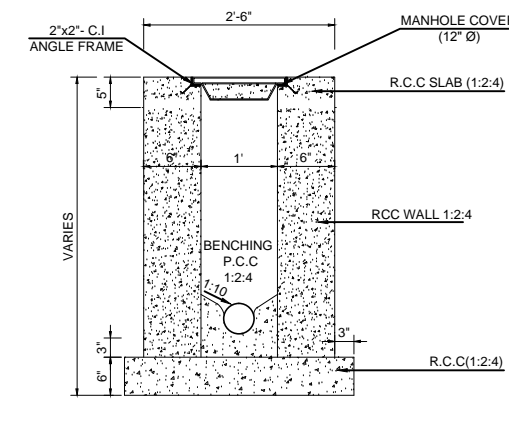
DETAIL-3



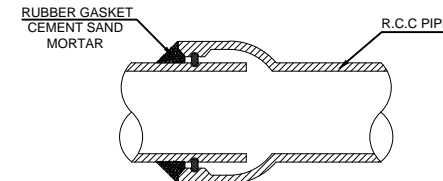
MANHOLE COVER PLAN



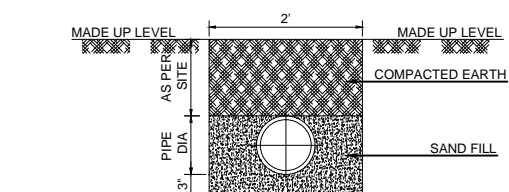
SECTION D-D



SECTION D1-D1

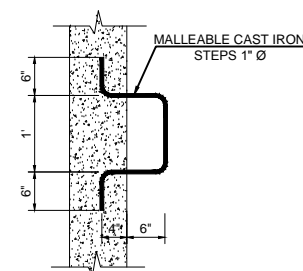


**TYPICAL R.C.C. PIPE JOINTING
(BELL AND SPIGOT TYPE)**

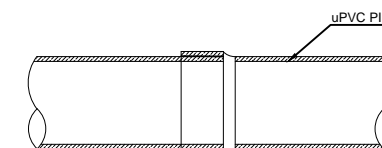


**TYPICAL TRENCH DETAIL
FOR SEWER LINE**

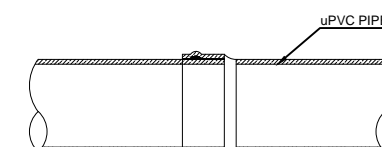
DETAIL-1



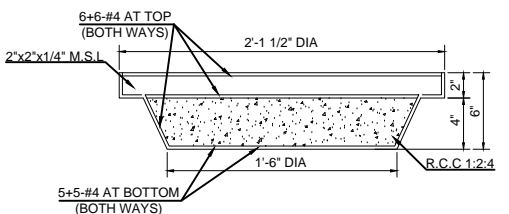
DETAIL-2



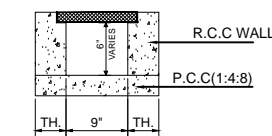
**TYPICAL uPVC PIPE JOINTING
(SOLVENT CEMENT TYPE)**



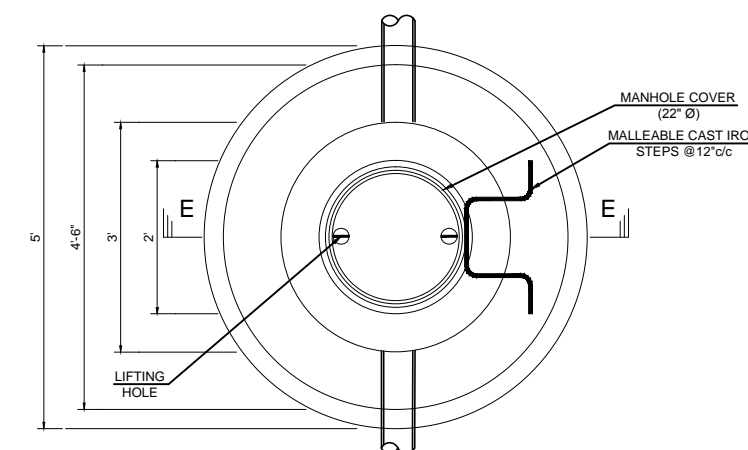
**TYPICAL uPVC PIPE JOINTING
(RUBBER RING TYPE)**



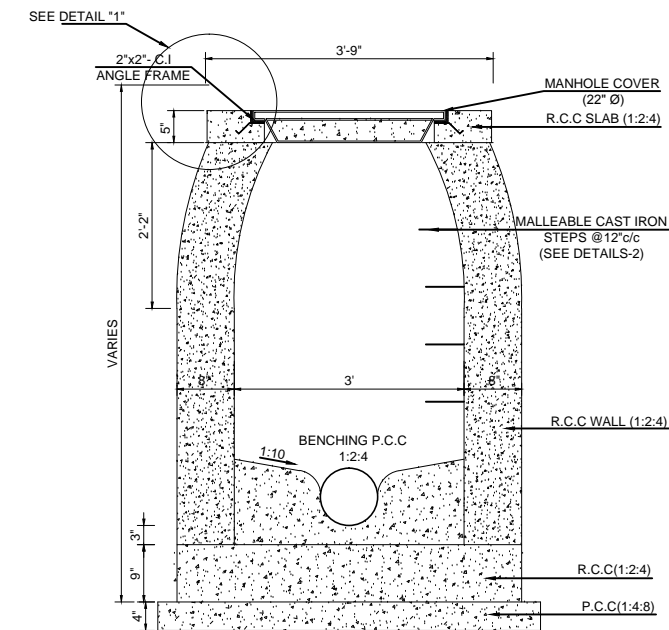
SECTION F-F



TYP. DRAIN (9")



**TYPICAL SEWER MANHOLE PLAN
(FROM 3' TO 6' DEPTH)
M.H-A**



SECTION E-E

CLIENT:



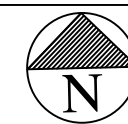
**PROJECT
IMPLEMENTATION
UNIT (PIU) KNIP**



CONSULTANTS:
G3 ENGINEERING
CONSULTANTS (PVT) LTD.
House No. 57-M Gulberg-III, Lahore, Pakistan
Tel : (92-42) 35441641, 35441642
Fax : (92-42) 35441645
E-mail : info@g3ec.com
URL : www.g3ec.com

PROJECT:

**REHABILITATION & UPGRADATION
OF BOAT BASIN TO SCHON
CHOWRANGI WITH PEDESTRIAN
TRAIL**



NOTES:

1. ALL DIMENSIONS ARE IN FEET UNLESS OTHERWISE SPECIFIED.
2. THIS DRAWING IS AN INTELLECTUAL PROPERTY OF G3 ENGINEERING CONSULTANTS (PVT.) LTD. AND CANNOT BE REPRINTED OR REPRODUCED WITHOUT PRIOR APPROVAL OF G3.

REVISIONS:

No.	DESCRIPTION	DATE

TENDER DRAWINGS

DRAWING TITLE:

MANHOLE DETAIL

DRAWN BY: M.K.A	DATE: AUG 2021
CHECKED BY: Engr. WASIF ALI	
APPROVED BY: SYED ALI ABBAS GILLANI	
DRAWING NO: 0249/PH-07	REV: 4
SCALE (A3) N.T.S	SHEET: 1 / 2

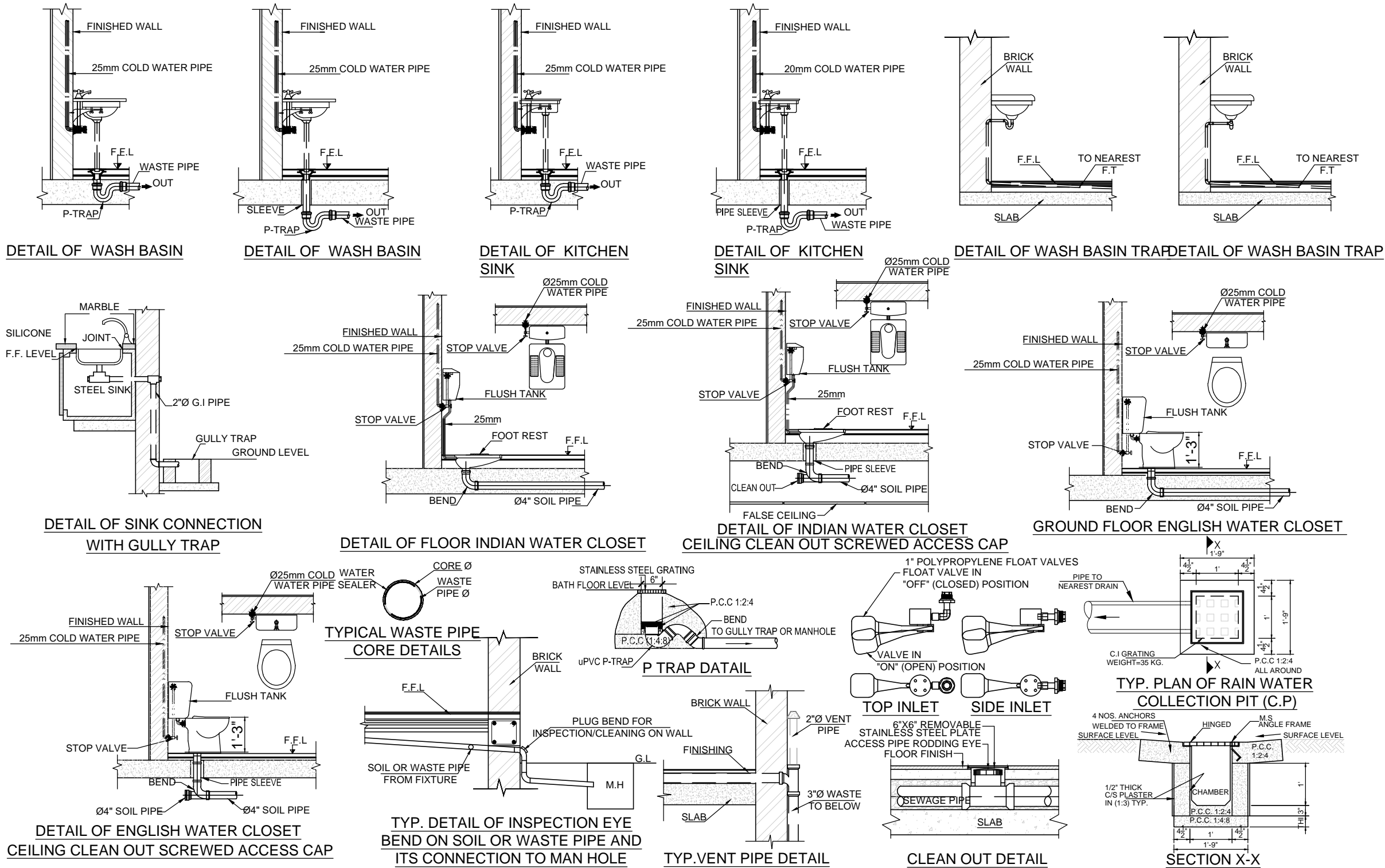
No.	DESCRIPTION	DATE

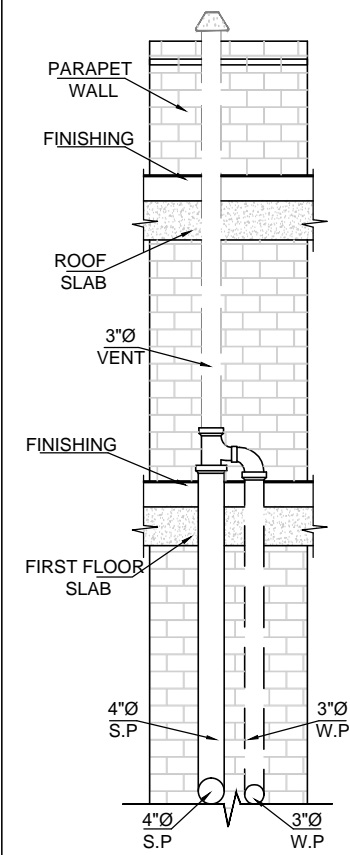
TENDER DRAWINGS

DRAWING TITLE:

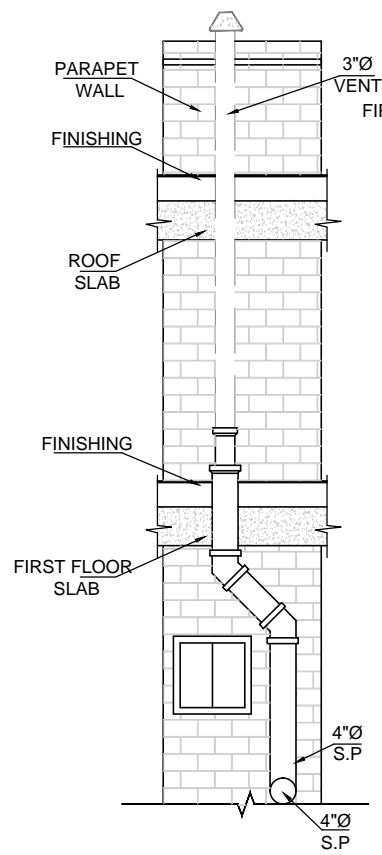
Miscellaneous Details

DRAWN BY: M. Imran	DATE: AUG. 2021
WATER SUPPLY & SEWERAGE ENGINEER	
Engr. Wasif Ali	
APPROVED BY: Syed Ali Abbas Gillani	
DRAWING NO: 0249/PH-08	REV: 4
SCALE (A3): N.T.S	SHEET:

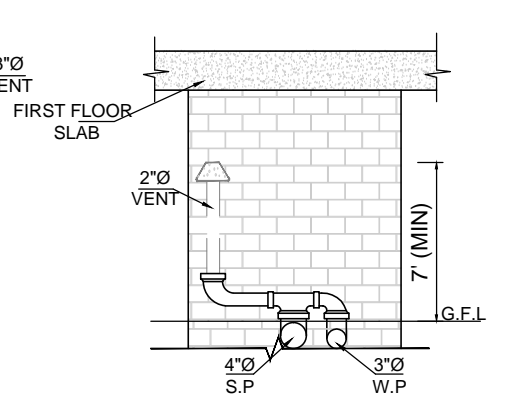




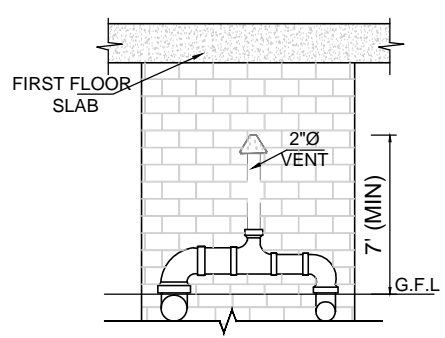
TYP. VENT PIPE DETAIL



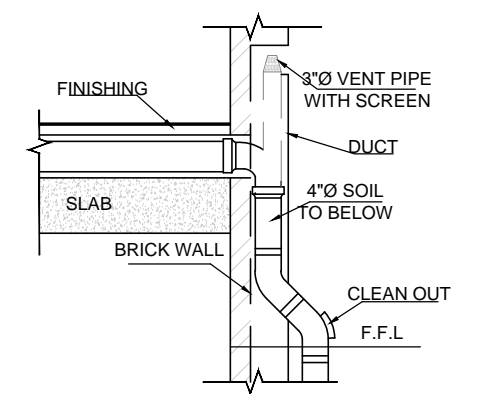
TYP. VENT PIPE DETAIL



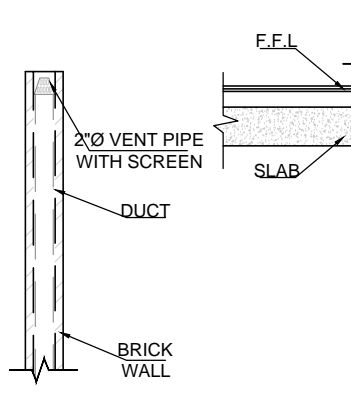
TYP. VENT PIPE DETAIL



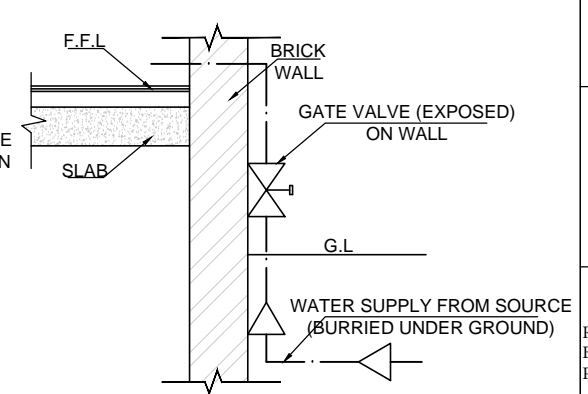
TYP. VENT PIPE DETAIL



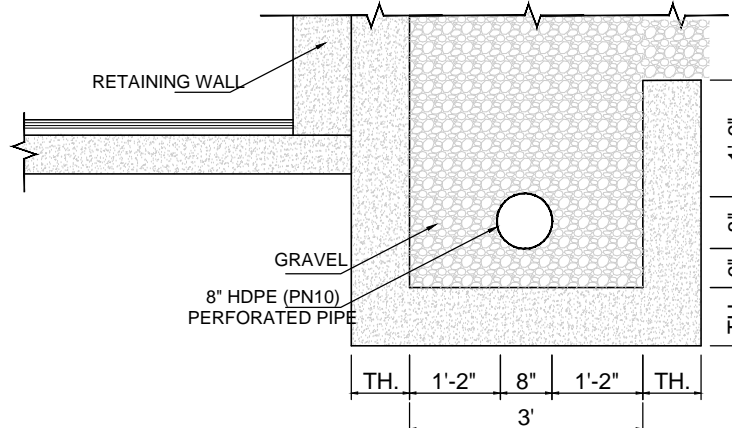
TYP. VENT PIPE DETAIL



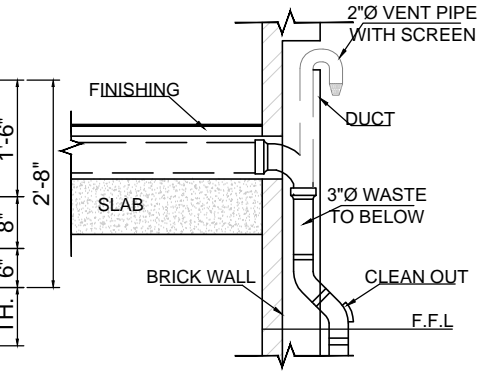
TYP. VENT PIPE DETAIL



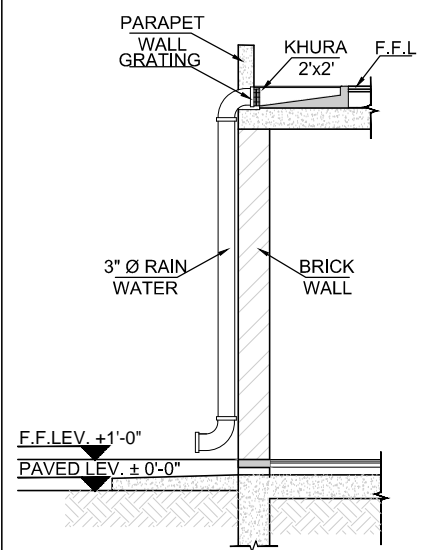
TYP. EXPOSED GATE VALVE



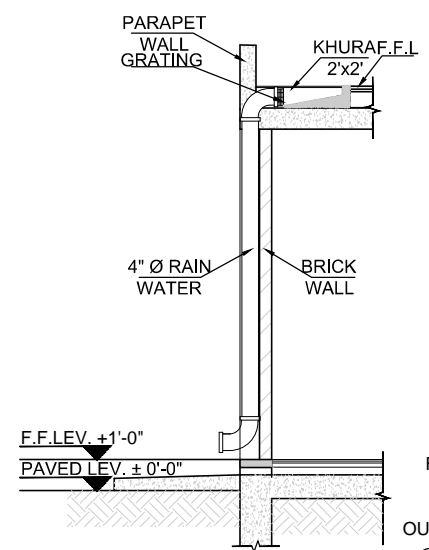
TYP. PERFORATED PIPE TRENCH DETAIL Z-Z



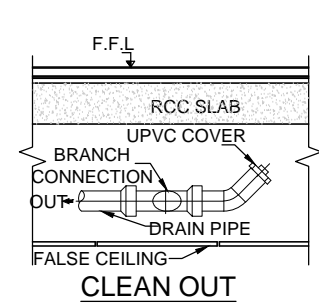
TYP. VENT PIPE DETAIL



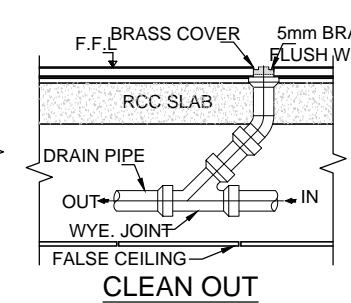
TYP. RAIN WATER PIPE & KHURA DETAIL



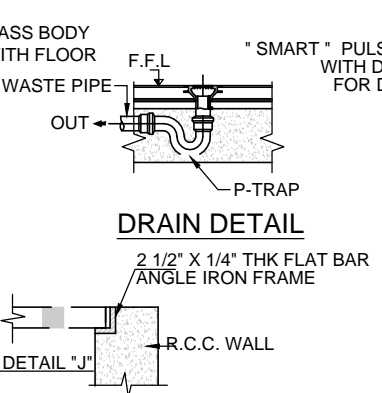
TYP. RAIN WATER PIPE & KHURA DETAIL



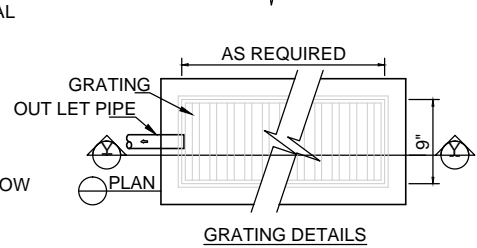
CLEAN OUT



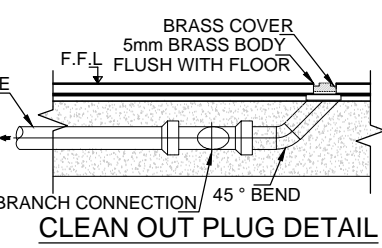
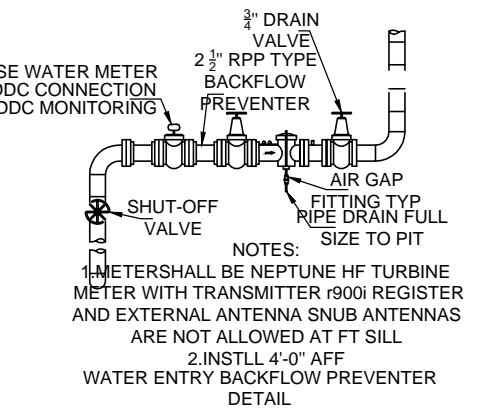
CLEAN OUT



DRAIN DETAIL



GRATING DETAILS



CLEAN OUT PLUG DETAIL

CLIENT:



PROJECT
IMPLEMENTATION
UNIT (PIU) KNIP



CONSULTANTS:
G3 ENGINEERING CONSULTANTS (PVT) LTD.
House No.57-M Gulberg-III, Lahore, Pakistan
Tel : (92-42) 35441641, 35441642
Fax : (92-42) 35441645
E-mail : info@g3ec.com
URL : www.g3ec.com

PROJECT:

REHABILITATION & UPGRADATION OF
BOAT BASIN TO SCHON CHOWRANGI WITH
PEDESTRIAN TRAIL

NOTES:

1. ALL DIMENSIONS ARE IN FEET UNLESS OTHERWISE SPECIFIED.
2. THIS DRAWING IS AN INTELLECTUAL PROPERTY OF G3 ENGINEERING CONSULTANTS (PVT) LTD. AND CANNOT BE REPRINTED OR REPRODUCED WITHOUT PRIOR APPROVAL OF G3.

REVISIONS:

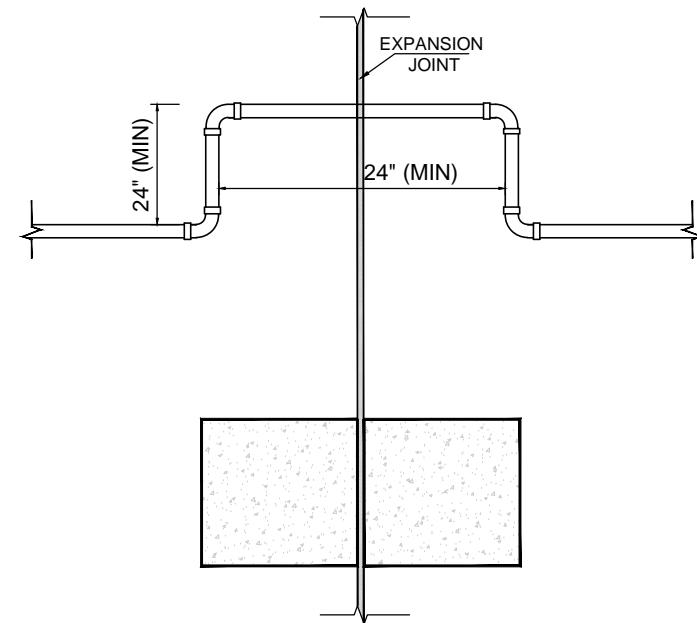
No.	DESCRIPTION	DATE

TENDER DRAWINGS

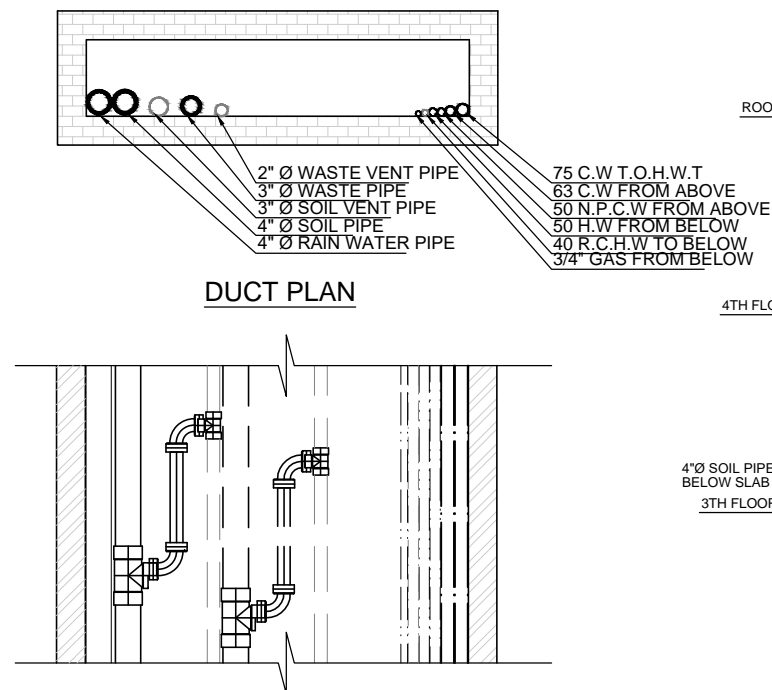
DRAWING TITLE:

Miscellaneous Details

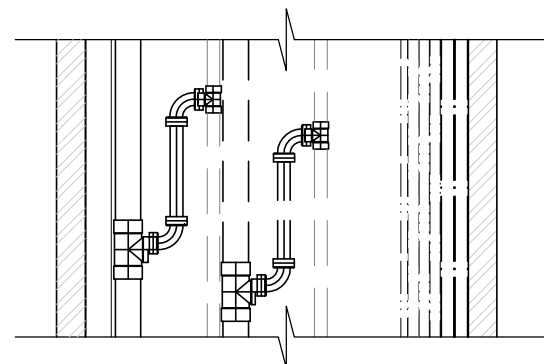
DRAWN BY: M. Imran	DATE: AUG. 2021
WATER SUPPLY & SEWERAGE ENGINEER	
Engr. Wasif Ali	
APPROVED BY: Syed Ali Abbas Gillani	
DRAWING NO: 0249/PH-09	REV: 4
SCALE (A3): N.T.S	SHEET:



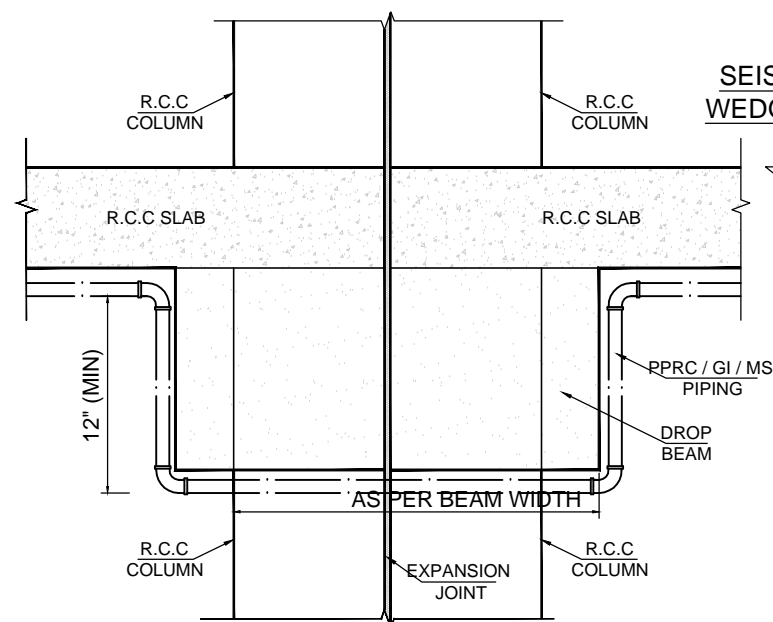
TYPICAL TOP DETAIL OF uPVC WASTE PIPE
AT EXPANSION JOINT



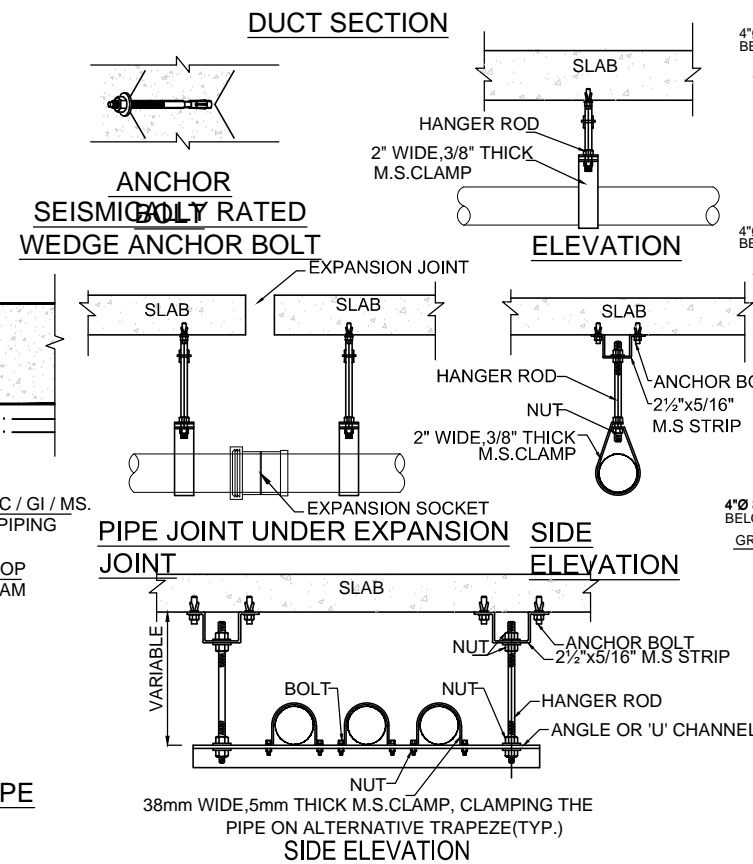
DUCT PLAN



DUCT SECTION



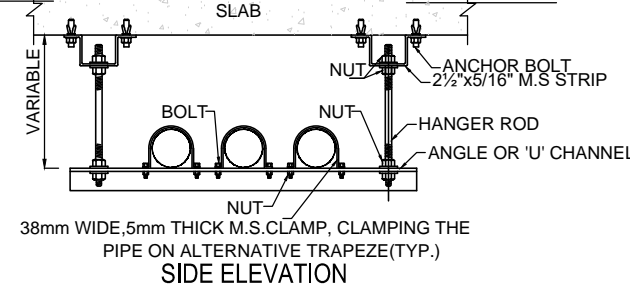
TYPICAL DETAIL OF PPRC WATER SUPPLY PIPE
AT EXPANSION JOINT



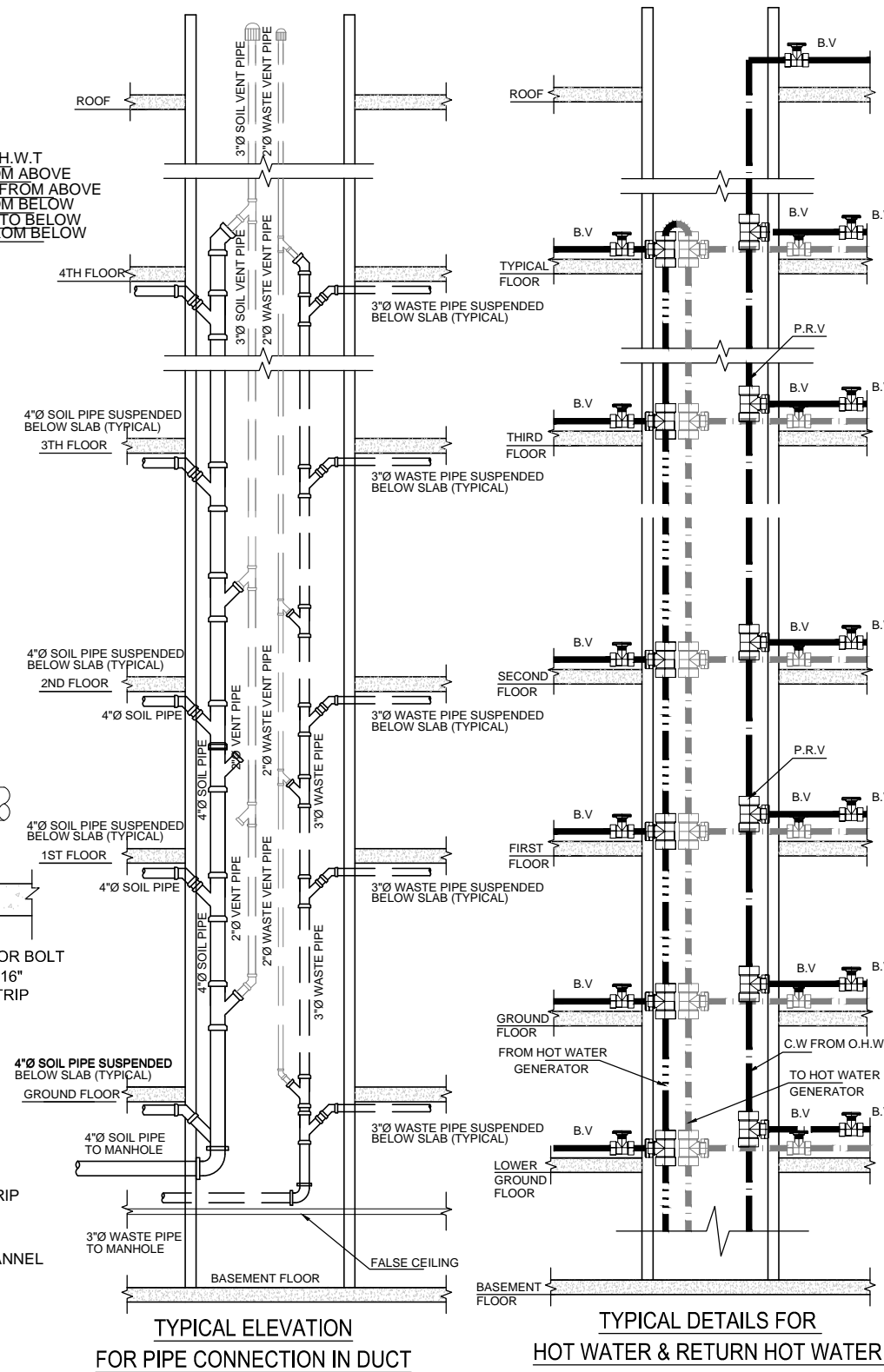
ELEVATION

PIPE JOINT UNDER EXPANSION
JOINT

SIDE
ELEVATION



38mm WIDE, 5mm THICK M.S. CLAMP, CLAMPING THE
PIPE ON ALTERNATIVE TRAPEZE (TYP.)
SIDE ELEVATION



TYPICAL ELEVATION
FOR PIPE CONNECTION IN DUCT

TYPICAL DETAILS FOR
HOT WATER & RETURN HOT WATER

CLIENT:



PROJECT
IMPLEMENTATION
UNIT (PIU) KNIP



CONSULTANTS:

**G3 ENGINEERING
CONSULTANTS (PVT) LTD.**
House No.57-M Gulberg-III, Lahore, Pakistan
Tel : (92-42) 35441641, 35441642
Fax : (92-42) 35441645
E-mail : info@g3ec.com
URL : www.g3ec.com

PROJECT:

REHABILITATION & UPGRADATION OF
BOAT BASIN TO SCHON CHOWRANGI WITH
PEDESTRIAN TRAIL

NOTES:

1. ALL DIMENSIONS ARE IN FEET UNLESS OTHERWISE SPECIFIED.
2. THIS DRAWING IS AN INTELLECTUAL PROPERTY OF G3 ENGINEERING CONSULTANTS (PVT.) LTD. AND CANNOT BE REPRINTED OR REPRODUCED WITHOUT PRIOR APPROVAL OF G3.

REVISIONS:

No.	DESCRIPTION	DATE

TENDER DRAWINGS

DRAWING TITLE:

Miscellaneous Details

DRAWN BY:
M. Imran
WATER SUPPLY & SEWERAGE ENGINEER

DATE:
AUG. 2021

Engr. Wasif Ali
APPROVED BY:
Syed Ali Abbas Gillani

DRAWING NO:
0249/PH-10
SCALE (A3):
N.T.S

REV:
4
SHEET:

**PUBLIC HEALTH
DRAWING Park-St-8**

LIST OF DRAWINGS

Sr.#	DESCRIPTION	DRG. #
01	LIST OF DRAWINGS	0249/PH-00
02	GENERAL NOTES	0249/PH-01
WATER SUPPLY SYSTEM		
03	WATER SUPPLY SYSTEM (GROUND FLOOR PLAN)	0249/PH-02
04	WATER SUPPLY SYSTEM (ROOF PLAN)	0249/PH-03
SEWERAGE & DRAINAGE SYSTEM		
05	SEWERAGE SYSTEM (GROUND FLOOR PLAN)	0249/PH-04
06	DRAINAGE SYSTEM (ROOF PLAN)	0249/PH-05
MISCELLANEOUS DETAILS		
07	TYPICAL SEPTIC TANK PLAN, PIPE & SECTIONAL DETAILS	0249/PH-06
08	TYPICAL GULLY TRAP & MANHOLE PLAN, PIPE & SECTIONAL DETAILS	0249/PH-07
09	MISCELLANEOUS DETAILS-01	0249/PH-08
10	MISCELLANEOUS DETAILS-02	0249/PH-09
11	MISCELLANEOUS DETAILS-03	0249/PH-10

CLIENT:



PROJECT
IMPLEMENTATION
UNIT (PIU) KNIP



CONSULTANTS:
**G3 ENGINEERING
CONSULTANTS (PVT) LTD.**
House No.57-M Gulberg-III, Lahore, Pakistan
Tel : (92-42) 35441641, 35441642
Fax : (92-42) 35441645
E-mail : info@g3ec.com
URL : www.g3ec.com

PROJECT:

REHABILITATION & UPGRADE OF
BOAT BASIN TO SCHON CHOWRANGI WITH
PEDESTRIAN TRAIL

NOTES:

1. ALL DIMENSIONS ARE IN FEET UNLESS OTHERWISE SPECIFIED.
2. THIS DRAWING IS AN INTELLECTUAL PROPERTY OF G3 ENGINEERING CONSULTANTS (PVT.) LTD. AND CANNOT BE REPRINTED OR REPRODUCED WITHOUT PRIOR APPROVAL OF G3.

REVISIONS:

No.	DESCRIPTION	DATE

TENDER DRAWINGS

DRAWING TITLE:

LIST OF DRAWINGS

DRAWN BY: M. Imran	DATE: AUG .2021
WATER SUPPLY & SEWERAGE ENGINEER Engr. Wasif Ali	
APPROVED BY: Syed Ali Abbas Gillani	
DRAWING NO: 0249/PH-00	REV: 4
SCALE (A3): N.T.S	SHEET:

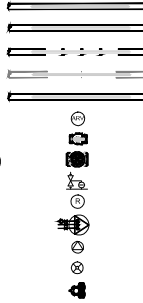
PUBLIC HEALTH GENERAL NOTES

1. THESE GENERAL NOTES ARE PROVIDED TO SUPPLEMENT THE WRITTEN SPECIFICATION FOR THIS PROJECT. REFER TO THE SPECIFICATIONS FOR MORE DETAILED REQUIREMENTS OF THIS PROJECT.
2. PERFORM ALL WORK IN A WORKMAN LIKE MANNER, IN COMPLIANCE WITH THE LATEST ADOPTED EDITIONS OF ALL GOVERNING CODES AND STANDARDS. IF CONFLICTS ARISE, REQUEST RESOLUTION FROM THE ARCHITECT. IF REQUIRED INFORMATION IS MISSING FROM THIS DRAWING (I.E, DUCT SIZE OR PIPE SIZE), REQUEST WRITTEN CLARIFICATION FROM THE ARCHITECT PRIOR TO THE EXECUTION.
3. PROVIDE ALL MINOR INCIDENTAL ITEMS SUCH AS OFFSETS, FITTINGS, ETC, REQUIRED AS PART OF THE WORK EVEN THOUGH NOT SPECIFICALLY SHOWN ON DRAWINGS. THE CONTRACTOR SHALL PROVIDE AND INSTALL THE NUMBER OF ITEMS OF EQUIPMENT AS INDICATED ON THE DRAWINGS AND AS REQUIRED FOR COMPLETE SYSTEMS.
4. THE PLUMBING DRAWINGS SHOW THE GENERAL ARRANGEMENT OF ALL PIPING, DUCT WORK. MECHANICAL EQUIPMENT AND APPURTENANCES, AND SHALL BE FOLLOWED AS CLOSELY AS ACTUAL BUILDING CONSTRUCTION AND THE WORK OF THEIR TRADES WILL PERMIT. BECAUSE OF THE SMALL SCALE OF THE PLUMBING DRAWINGS, IT IS NOT POSSIBLE TO INDICATE ALL OFFSETS, FITTINGS AND ACCESSORIES WHICH MAY BE REQUIRED. INVESTIGATE THE STRUCTURAL AND FINISH CONDITIONS AFFECTING THE WORK AND PROVIDE SUCH FITTINGS, VALVES AND ACCESSORIES AS MAY BE REQUIRED TO MEET SUCH CONDITIONS.
5. VERIFY DIMENSIONS GOVERNING PLUMBING WORK AT THE BUILDING. DO NOT SCALE THE PLUMBING DRAWINGS FOR DIMENSIONS. TAKE DIMENSIONS, MEASUREMENTS, LOCATIONS, LEVELS, ETC. FROM THE ACTUAL FIELD CONDITIONS AND ARCHITECTURAL DRAWINGS.
6. EXAMINE ALL ADJOINING WORK ON WHICH THE PLUMBING WORK IS DEPENDENT OF MAXIMUM EFFICIENCY AND REPORT DESIGN CONFLICTS WHICH MUST BE CORRECTED PRIOR TO EXECUTION. NO WAIVER OF RESPONSIBILITY SHALL BE CLAIMED OR ALLOWED DUE TO FAILURE TO REPORT UNFAVORABLE CONDITIONS AFFECTING THE PLUMBING WORK.
7. CONTRACTOR SHALL FURNISH AND INSTALL ALL PIPING, VALVES, CONTROLS, INSULATION ETC. TO ALL PLUMBING EQUIPMENT SCHEDULED OR INDICATED ON PLANS REGARDLESS OF WHETHER PIPING, VALVES, CONTROLS, INSULATION ETC. ARE SPECIFICALLY SHOWN OR NOT PLUMBING EQUIPMENT INSTALLATION SHALL BE 100% COMPLETE FOR PROPER EQUIPMENT FUNCTION AND/OR OPERATION AT COMPLETION OF PROJECT.
8. THE ARCHITECTURAL AND ENGINEERING DRAWINGS ARE COMPLEMENTARY. CONTRACTORS SHALL ACKNOWLEDGE THE ARCHITECTURAL AS WELL AS ALL THE ENGINEERING DRAWINGS AND INCLUDE ALL WORK NECESSARY TO ACHIEVE A COMPLETE WORKING. INSTALLATION FOR ANY DEVICE OR EQUIPMENT WHICH MAY BE SHOWN ON ONE DRAWING BUT NOT SHOWN ON ANOTHER.

9. LOCATION OF PIPES, DUCTS, SWITCHES, PANELS, EQUIPMENT AND FIXTURES SHALL BE ADJUSTED TO ACCOMMODATE THE WORK OR INTERFERENCES ANTICIPATED AND ENCOUNTERED. DETERMINE THE EXACT ROUTE AND LOCATION OF EACH PIPE AND DUCT PRIOR TO FABRICATION.
- 10.LOCATION OF EXISTING UTILITIES AND EXISTING UNDERGROUND PLUMBING ARE BASED ON THE SITE INFORMATION AVAILABLE. CONTRACTOR SHALL VERIFY EXACT LOCATIONS OF ALL UTILITIES AND EXISTING UNDERGROUND PLUMBING PRIOR TO FABRICATION AND ERECTION OF WORK TO AVOID ALL INTERFERENCES. VERIFICATION SHALL BE BY SITE INSPECTION, EXCAVATION, OR WHATEVER MEANS NECESSARY TO DETERMINE EXACT LOCATIONS.
- 11.CONTRACTOR SHALL OBTAIN BUILDING PERMIT AND ARRANGE ALL REQUIRED INSPECTIONS WITH THE APPROPRIATE REGULATORY AGENCY. ALERT CONSULTANT OF ALL ITEMS NOT DEPICTED ON DRAWINGS. DO NOT PROCEED WITH FURTHER WORK UNTIL WRITTEN RESPONSE IS RECEIVED FROM CONSULTANT.
- 12.CONTRACTOR SHALL VERIFY GAS PRESSURE DELIVERED BY METER AT BUILDING.
13. TEST THREADED NATURAL GAS PIPING AT 20 PSIG FOR A TEST PERIOD OF 2 HOURS. TEST PRESSURE SHALL NOT FALL OVER 5% DURING TEST PERIOD TO PASS. IF PIPING FAILS TEST, INVESTIGATE AND REPAIR THE SOURCE OF
- 14.PROVIDE SLEEVES AT ALL PIPING PENETRATIONS OF CONCRETE OR MASONRY FLOOR, WALL OR ROOF CONSTRUCTION.
- 15.PROVIDE GLASS WOOL INSULATION TO ALL HOT WATER (EXPOSED) AND COLD WATER (AT ROOF) PIPE LINE INCLUDING PROTECTIVE COATINGS.
- 16.USE NEAREST FLOOR TRAP FOR THE AC DRAINAGE.
17. TEST ALL PIPING SYSTEMS IN WHICH ANY ALTERATIONS HAVE BEEN MADE FOR COMPLIANCE WITH THE LATEST EDITION OF GOVERNING BUILDING CODE. DOMESTIC HOT AND COLD WATER PIPING SHALL BE SUBJECT TO 100 PSIG FOR A MINIMUM 2 HOURS, DOMESTIC WASTE AND VENT PIPING SHALL BE TESTED AT 10' STATIC HEAD FOR A PERIOD GREATER THAN 15 MINUTES. IF REQUIRED PRESSURE DROPS BY MORE THAN 3% DURING ITS TEST DURATION, INVESTIGATE THE SOURCE OF LEAK, REPAIR THE LEAK, AND RETEST THE SYSTEM FOR THE REQUIRED TEST PERIOD. INSPECT ALL W & V JOINTS WHILE UNDER PRESSURE AND REPAIR ALL LEAKS.
- 18.INSTALL ALL PLUMBING EQUIPMENT IN COMPLETE COMPLIANCE WITH MANUFACTURER'S STANDARD INSTALLATION INSTRUCTIONS. ARRANGE ALL EQUIPMENT TO PERMIT EASY REMOVAL OF COILS, MOTORS, FILTERS AND ALL OTHER PARTS WHICH REQUIRE PERIODIC REPLACEMENT OR MAINTENANCE.
- 19.COORDINATE ALL ELECTRICAL VOLTAGE CHARACTERISTICS WITH ELECTRICAL CONTRACTOR PRIOR TO ORDERING PLUMBING EQUIPMENT.

LEGEND FOR WATER SUPPLY SYSTEM

COLD WATER PIPE (C.W)
NORMAL PRESSURE COLD WATER (N.P.C.W)
HOT WATER PIPE (H.W)
RE-CIRCULATION HOT WATER (R.H.W)
GAS PIPE
AIR RELIEF VALVE (A.R.V)
BALL VALVE (B.V)
GATE VALVE SLICE VALVE (G.V / S.V)
PRESSURE REDUCER VALVE (P.R.V)
RE-CIRCULATION PUMP
CONVENTIONAL GEYSER
CHECK VALVE
BOOSTER PUMP
SUBMERSIBLE PUMP
H.W.G = HOT WATER GENERATOR
T.A = TO ABOVE
T.B = TO BELOW
F.A = FROM ABOVE
F.B = FROM BELOW
D-1 = DUCT - 1
M.D = MISCELLANEOUS DETAILS



SCHEDULE OF PIPE DIA

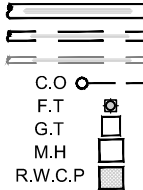
OUTER DIA (mm)	INTERNAL DIA	
	(mm)	INCH
20	13.2	0.52
25	16.4	0.65
32	21.2	0.83
40	26.6	1.05
50	33.2	1.31
63	42	1.65
75	50	1.97
90	60	2.36
110	73.2	2.88

L.D = LIST OF DRAWING
G.N = GENERAL NOTES
W.S = WATER SUPPLY
G.S = GAS SYSTEM
S.W = SEWERAGE SYSTEM
D.R = DRAINAGE SYSTEM
T / W = TUBE WELL

1. ALL WATER SUPPLY PIPE DIAMETERS ARE IN MILLIMETERS AND MENTIONED ARE EXTERNAL DIAMETERS. ALL WATER SUPPLY PIPES ARE OF PPRC UNLESS NOTED OTHERWISE.
2. ALL GAS PIPE DIAMETERS ARE IN MILLIMETERS AND MENTIONED ARE INTERNAL DIAMETERS.
3. ALL WATER SUPPLY PIPES ENTERING THE WALLS SHALL BE PROVIDED WITH ISOLATION VALVES.

LEGEND FOR SEWERAGE & DRAINAGE SYSTEM

SOIL PIPE (S.P)
WASTE PIPE (W.P)
VENT PIPE (V.P)
CLEANOUTS
FLOOR TRAP
GULLY TRAP
MANHOLE
RAIN WATER COLLECTION PIT



PIPE DIA & SLOPE		
3"	1:75	
4"	1:100	
6"	1:150	
8"	1:175	
10"	1:250	
12"	1:300	

1. ALL PIPE DIAMETERS ARE IN INCHES UNLESS OTHERWISE MENTIONED.
2. VENT PIPES SHALL BE EXTENDED UP TO ONE FT ABOVE FINISHED ROOF LEVEL.
3. SOIL, WASTE AND VENT PIPES UP TO 6" DIA. ARE uPVC (NON PRESSURIZE) TYPE-B CONFIRMING TO ISO 3633:2002 EXTERNAL SEWER PIPES SHALL BE OF FLOW LINE CONFIRMING TO EN 1401 UNLESS OTHERWISE NOTED
4. SLOPE OF ROOF VALLEY LINE SHOULD BE BETWEEN 0.01 TO 0.02
5. BOTTLE TRAP SHALL BE USED WITH ALL WASH BASIN.
6. R.C.C PIPES SHALL BE SHALIMAR OR EQUIVALENT MAKE.
7. MINIMUM SLOPE OF SOIL AND WASTE PIPES ARE AS UNDER.
4. ALL WATER SUPPLY PIPES ARE PPR (PN 20) UNLESS OTHERWISE MENTIONED.
5. ALL WATER SUPPLY PIPES FITTINGS SUCH AS BENDS, TEES, SOCKETS, ARE PPR (PN 25) UNLESS OTHERWISE MENTIONED.
6. ALL GAS PIPES ARE G.I. UNLESS OTHERWISE MENTIONED.
7. ALL WATER SUPPLY AND GAS PIPES ARE IN DUCTS, OR CONCEALED IN WALL OR BURIED IN FLOORS.
8. ALL PIPING SHALL BE TESTED FOR LEAKAGE BEFORE THE JOINTS ARE COVERED.

CLIENT:



PROJECT
IMPLEMENTATION
UNIT (PIU) KNIP



CONSULTANTS:

G3 ENGINEERING
CONSULTANTS (PVT)LTD.
House No.57-M Gulberg-III, Lahore, Pakistan

Tel : (92-42) 35441641, 35441642
Fax : (92-42) 35441645
E-mail : info@g3ec.com
URL : www.g3ec.com

PROJECT:

REHABILITATION & UPGRADATION OF
BOAT BASIN TO SCHON CHOWRANGI WITH
PEDESTRIAN TRAIL

NOTES:

1. ALL DIMENSIONS ARE IN FEET UNLESS OTHERWISE SPECIFIED.
2. THIS DRAWING IS AN INTELLECTUAL PROPERTY OF G3 ENGINEERING CONSULTANTS (PVT.) LTD. AND CANNOT BE REPRINTED OR REPRODUCED WITHOUT PRIOR APPROVAL OF G3.

REVISIONS:

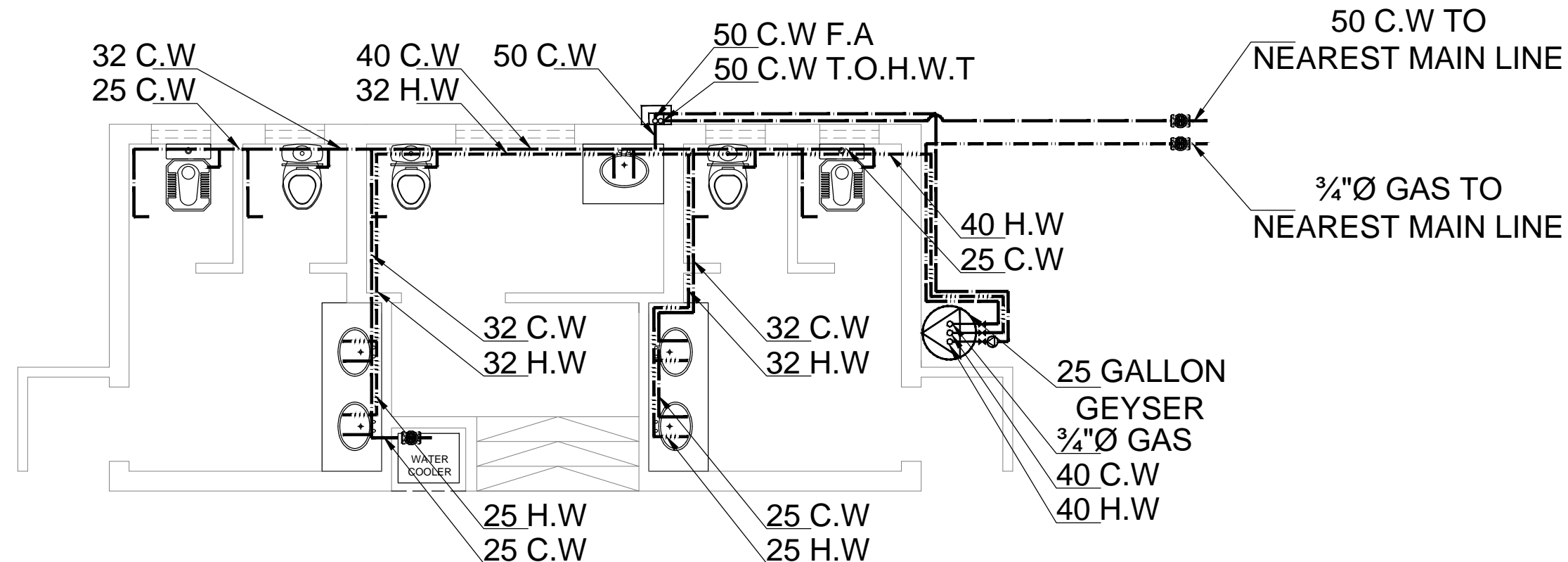
No.	DESCRIPTION	DATE

TENDER DRAWINGS

DRAWING TITLE:

GENERAL NOTES

DRAWN BY: M. Imran	DATE: AUG .2021
WATER SUPPLY & SEWERAGE ENGINEER Engr.Wasif Ali	
APPROVED BY: Syed Ali Abbas Gillani	
DRAWING NO: 0249/PH-01	REV: 4
SCALE (A3): N.T.S	SHEET:



WATER SUPPLY SYSTEM (GROUND FLOOR PLAN)
FOR PARK 08

CLIENT:



PROJECT
IMPLEMENTATION
UNIT (PIU) KNIP



CONSULTANTS:

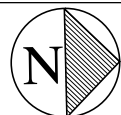
**G3 ENGINEERING
CONSULTANTS (PVT) LTD.**
House No.57-M Gulberg-III, Lahore, Pakistan



Tel : (92-42) 35441641, 35441642
Fax : (92-42) 35441645
E-mail : info@g3ec.com
URL : www.g3ec.com

PROJECT:

REHABILITATION & UPGRADATION OF
BOAT BASIN TO SCHON CHOWRANGI WITH
PEDESTRIAN TRAIL



NOTES:

1. ALL DIMENSIONS ARE IN FEET UNLESS OTHERWISE SPECIFIED.
2. THIS DRAWING IS AN INTELLECTUAL PROPERTY OF G3 ENGINEERING CONSULTANTS (PVT.) LTD. AND CANNOT BE REPRINTED OR REPRODUCED WITHOUT PRIOR APPROVAL OF G3.

REVISIONS:

No.	DESCRIPTION	DATE

TENDER DRAWINGS

DRAWING TITLE:

WATER SUPPLY

DRAWN BY: M. Imran DATE: AUG .2021

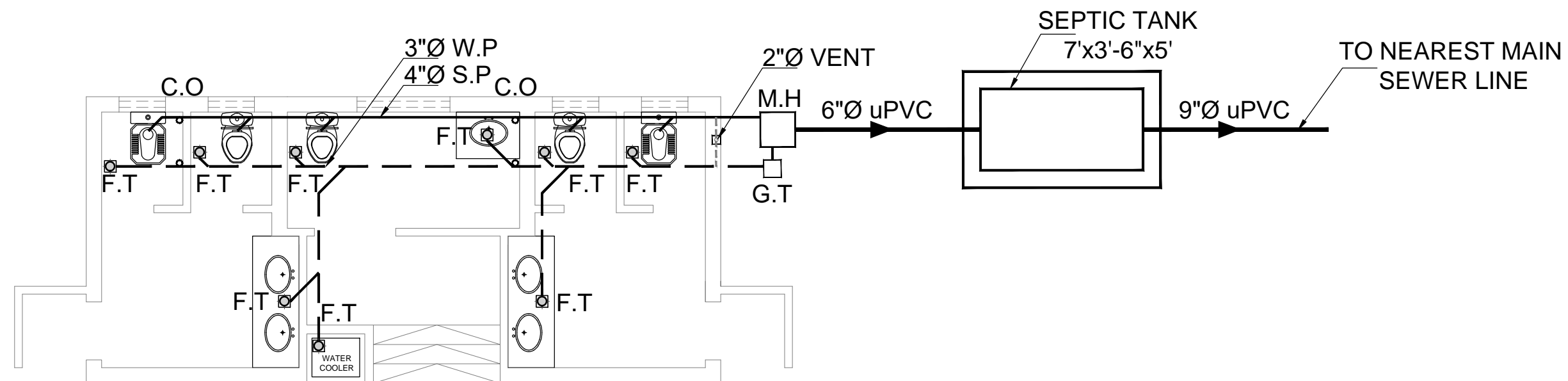
WATER SUPPLY & SEWERAGE ENGINEER

Engr. Wasif Ali

APPROVED BY: Syed Ali Abbas Gillani

DRAWING NO: 0249/PH-02 REV: 4

SCALE (A3): N.T.S SHEET:



SEWERAGE SYSTEM (GROUND FLOOR PLAN)
FOR PARK 08

CLIENT:



PROJECT
IMPLEMENTATION
UNIT (PIU) KNIP



CONSULTANTS:

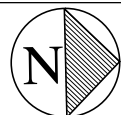
**G3 ENGINEERING
CONSULTANTS (PVT) LTD.**
House No.57-M Gulberg-III, Lahore, Pakistan



Tel : (92-42) 35441641, 35441642
Fax : (92-42) 35441645
E-mail : info@g3ec.com
URL : www.g3ec.com

PROJECT:

REHABILITATION & UPGRADATION OF
BOAT BASIN TO SCHON CHOWRANGI WITH
PEDESTRIAN TRAIL



NOTES:

1. ALL DIMENSIONS ARE IN FEET UNLESS OTHERWISE SPECIFIED.
2. THIS DRAWING IS AN INTELLECTUAL PROPERTY OF G3 ENGINEERING CONSULTANTS (PVT.) LTD. AND CANNOT BE REPRINTED OR REPRODUCED WITHOUT PRIOR APPROVAL OF G3.

REVISIONS:

No.	DESCRIPTION	DATE

TENDER DRAWINGS

DRAWING TITLE:

SEWER SYSTEM

DRAWN BY: M. Imran DATE: AUG .2021

WATER SUPPLY & SEWERAGE ENGINEER

Engr. Wasif Ali

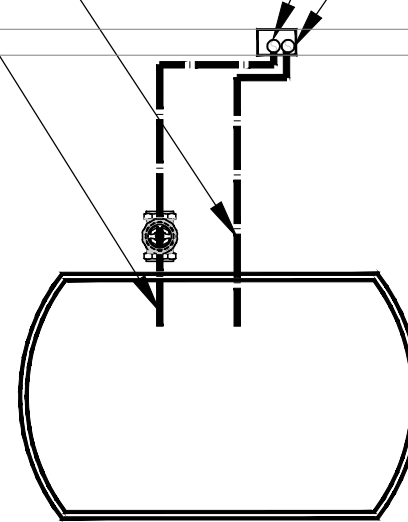
APPROVED BY: Syed Ali Abbas Gillani

DRAWING NO: 0249/PH-03 REV: 4

SCALE (A3): N.T.S SHEET:

50 C.W INLET
50 C.W OUTLET

50 C.W T.B
50 C.W T.O.H.W.T



PLASTIC TANK
500 GALLON

WATER SUPPLY SYSTEM (ROOF PLAN)
FOR PARK 08

CLIENT:



PROJECT
IMPLEMENTATION
UNIT (PIU) KNIP



CONSULTANTS:

G3 ENGINEERING
CONSULTANTS (PVT) LTD.
House No.57-M Gulberg-III, Lahore, Pakistan

Tel : (92-42) 35441641, 35441642
Fax : (92-42) 35441645
E-mail : info@g3ec.com
URL : www.g3ec.com

PROJECT:

REHABILITATION & UPGRADATION OF
BOAT BASIN TO SCHON CHOWRANGI WITH
PEDESTRIAN TRAIL

NOTES:

1. ALL DIMENSIONS ARE IN FEET UNLESS OTHERWISE SPECIFIED.
2. THIS DRAWING IS AN INTELLECTUAL PROPERTY OF G3 ENGINEERING CONSULTANTS (PVT.) LTD. AND CANNOT BE REPRINTED OR REPRODUCED WITHOUT PRIOR APPROVAL OF G3.

REVISIONS:

No.	DESCRIPTION	DATE

TENDER DRAWINGS

DRAWING TITLE:

WATER SUPPLY ROOF
PLAN

DRAWN BY:

M. Imran

DATE:

AUG .2021

WATER SUPPLY & SEWERAGE ENGINEER

Engr. Wasif Ali

APPROVED BY:

Syed Ali Abbas Gillani

DRAWING NO:

0249/PH-04

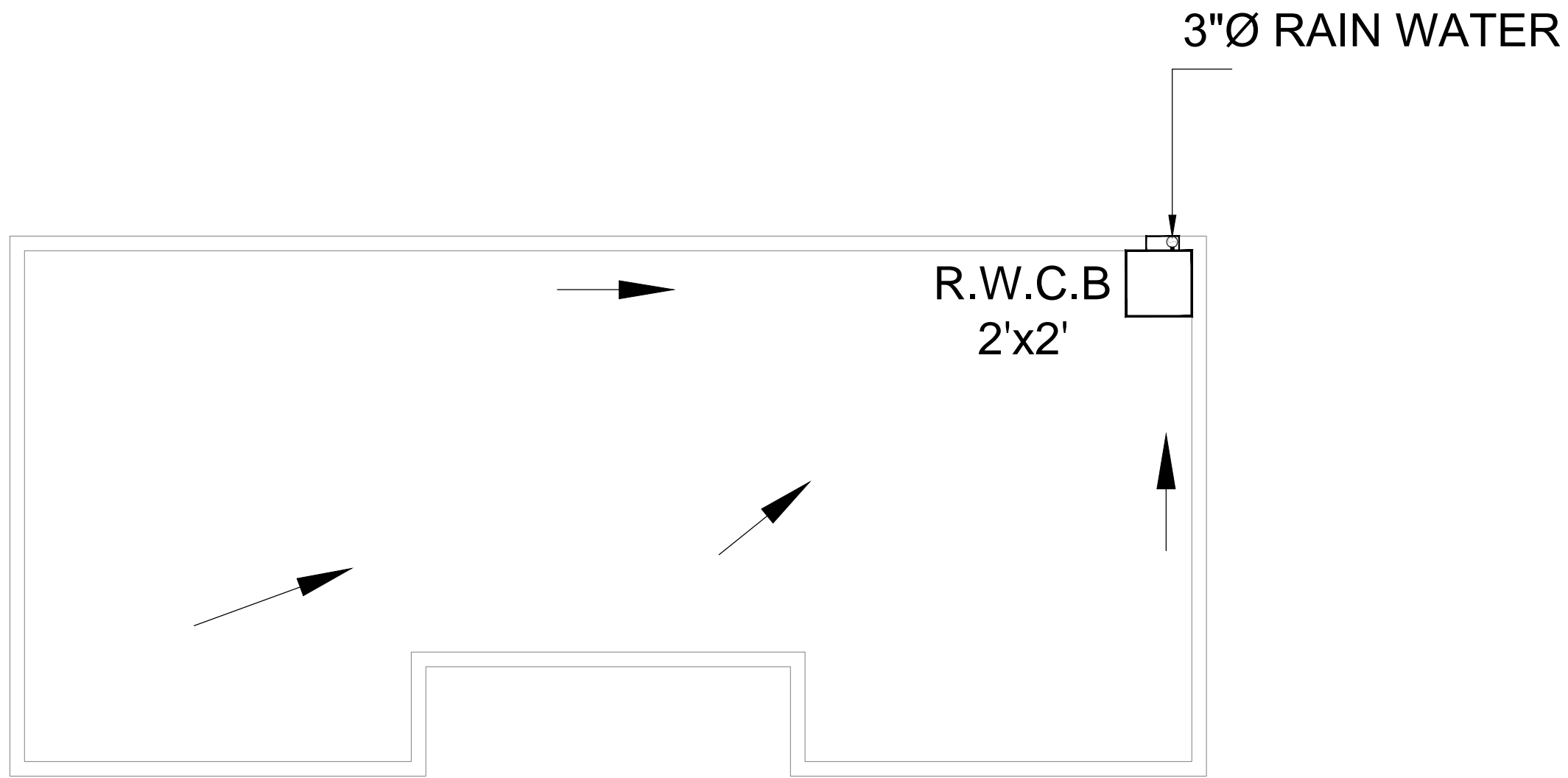
REV:

4



SCALE (A3):

N.T.S

SHEET:

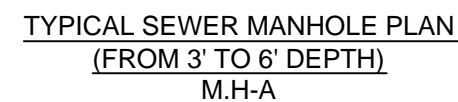
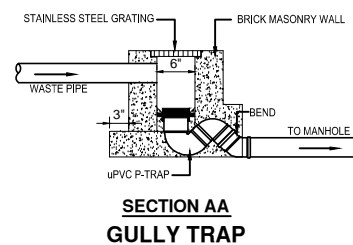
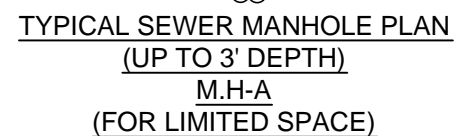
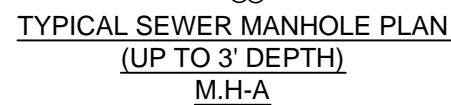


DRAINAGE SYSTEM (ROOF PLAN) FOR PARK 08

CLIENT:  PROJECT IMPLEMENTATION UNIT (PIU) KNIP																																
CONSULTANTS:  G3 ENGINEERING CONSULTANTS (PVT) LTD. House No.57-M Gulberg-III, Lahore, Pakistan Tel : (92-42) 35441641, 35441642 Fax : (92-42) 35441645 E-mail : info@g3ec.com URL : www.g3ec.com																																
PROJECT: REHABILITATION & UPGRADATION OF BOAT BASIN TO SCHON CHOWRANGI WITH PEDESTRIAN TRAIL																																
NOTES: 1. ALL DIMENSIONS ARE IN FEET UNLESS OTHERWISE SPECIFIED. 2. THIS DRAWING IS AN INTELLECTUAL PROPERTY OF G3 ENGINEERING CONSULTANTS (PVT.) LTD. AND CANNOT BE REPRINTED OR REPRODUCED WITHOUT PRIOR APPROVAL OF G3.																																
REVISIONS: <table border="1"> <thead> <tr> <th>No.</th> <th>DESCRIPTION</th> <th>DATE</th> </tr> </thead> <tbody> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> </tbody> </table>			No.	DESCRIPTION	DATE																											
No.	DESCRIPTION	DATE																														
TENDER DRAWINGS																																
DRAWING TITLE: DRAINAGE SYSTEM ROOF																																
DRAWN BY: M. Imran	DATE: AUG .2021																															
WATER SUPPLY & SEWERAGE ENGINEER Engr. Wasif Ali																																
APPROVED BY: Syed Ali Abbas Gillani																																
DRAWING NO: 0249/PH-05	REV: 4																															
SCALE (A3): N.T.S	SHEET:																															



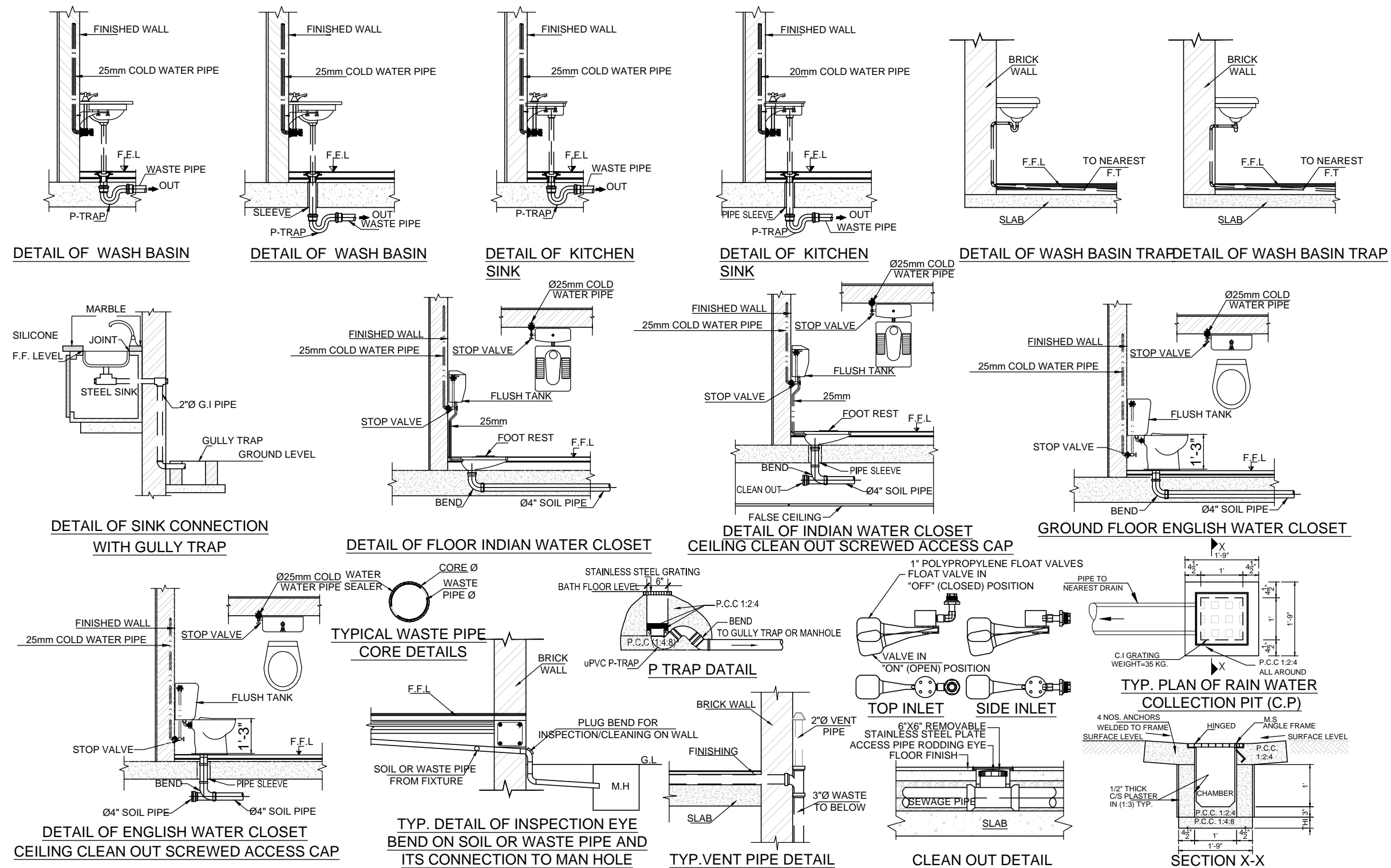
0249/PH-06	4
SCALE (A3): N.T.S	SHEET:



DETAIL-1



SCALE (A3): N.T.S	SHEET: 1 / 2
----------------------	-----------------



CLIENT:



PROJECT
IMPLEMENTATION
UNIT (PIU) KNIP



PROJECT:
REHABILITATION & UPGRADATION OF
BOAT BASIN TO SCHON CHOWRANGI WITH
PEDESTRIAN TRAIL


NOTES:

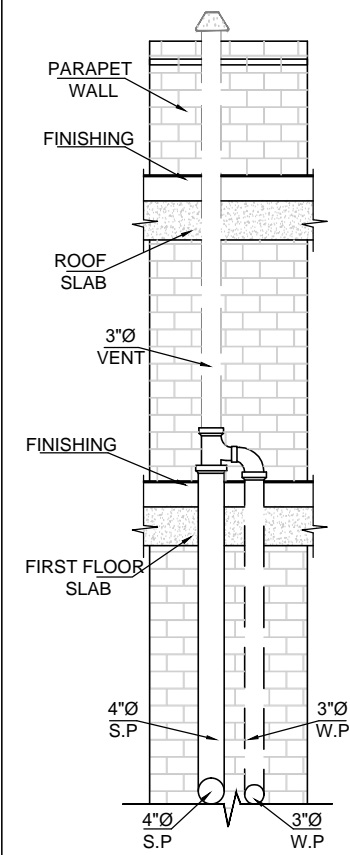
1. ALL DIMENSIONS ARE IN FEET UNLESS OTHERWISE SPECIFIED.
2. THIS DRAWING IS AN INTELLECTUAL PROPERTY OF G3 ENGINEERING CONSULTANTS (PVT.) LTD. AND CANNOT BE REPRINTED OR REPRODUCED WITHOUT PRIOR APPROVAL OF G3.

[illegible]

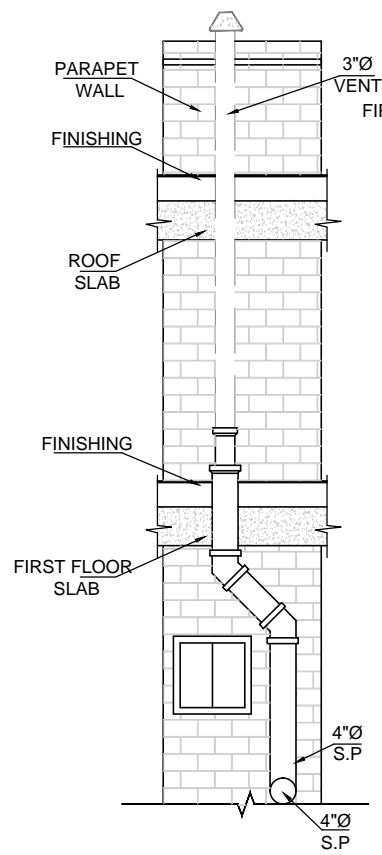
DRAWING TITLE:

Miscellaneous Details

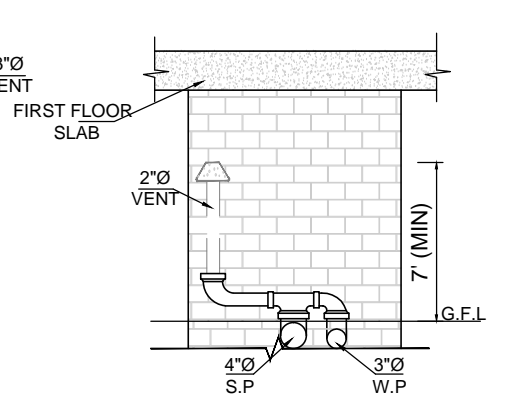
DRAWN BY: M. Imran	DATE: AUG .2021
WATER SUPPLY & SEWERAGE ENGINEER	
Engr. Wasif Ali	
APPROVED BY: Syed Ali Abbas Gillani	
DRAWING NO: 0249/PH-08	REV: 4
SCALE (A3): N.T.S	SHEET:



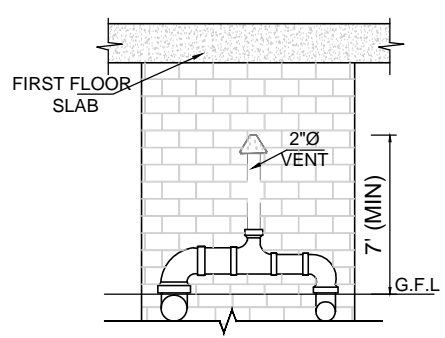
TYP. VENT PIPE DETAIL



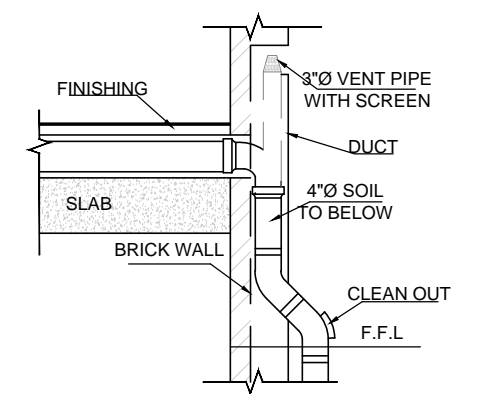
TYP. VENT PIPE DETAIL



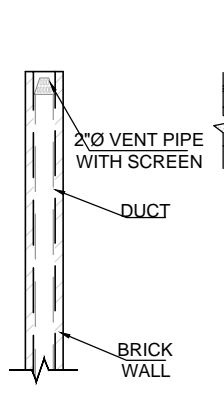
TYP. VENT PIPE DETAIL



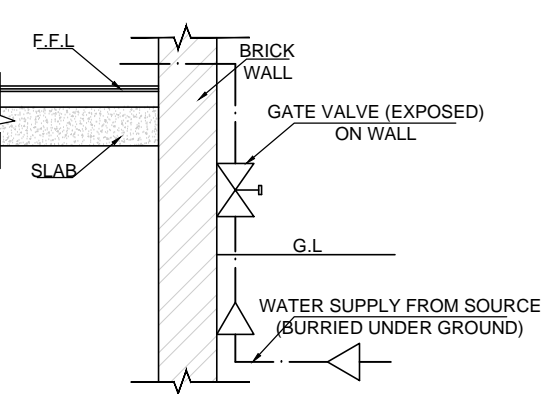
TYP. VENT PIPE DETAIL



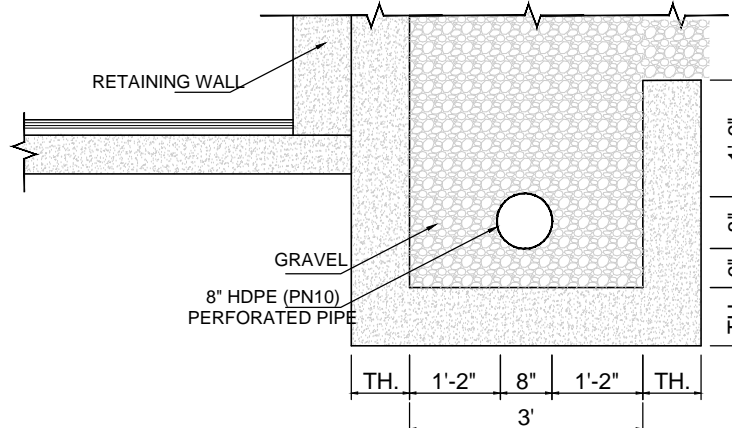
TYP. VENT PIPE DETAIL



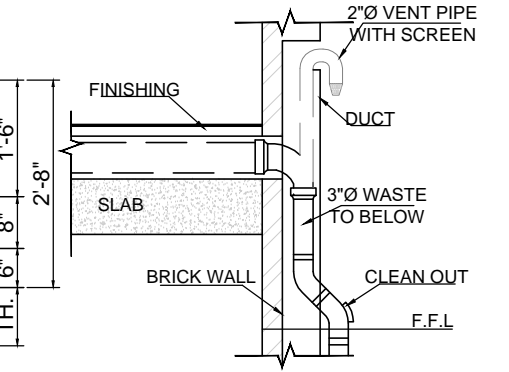
TYP. VENT PIPE DETAIL



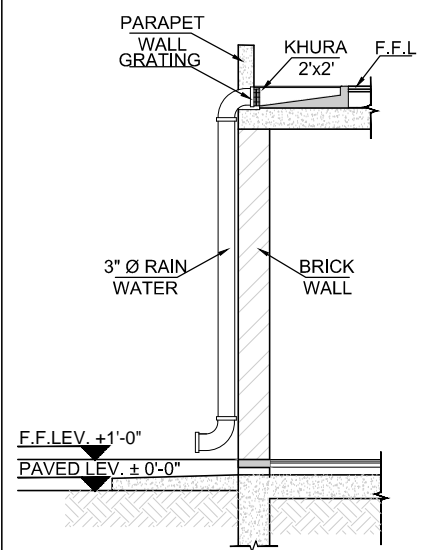
TYP. EXPOSED GATE VALVE



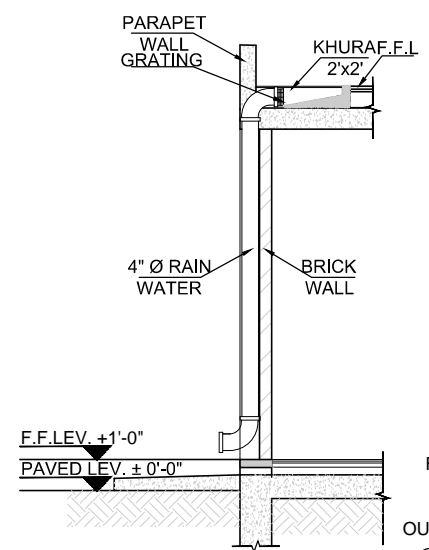
TYP. PERFORATED PIPE TRENCH DETAIL Z-Z



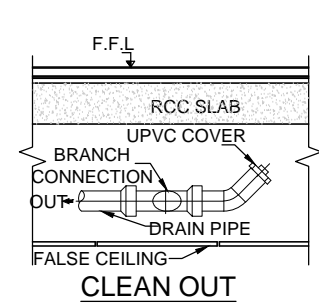
TYP. VENT PIPE DETAIL



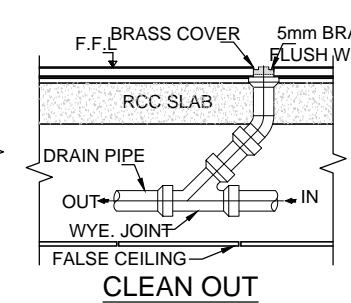
TYP. RAIN WATER PIPE & KHURA DETAIL



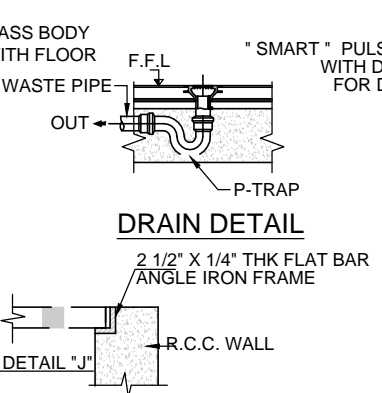
TYP. RAIN WATER PIPE & KHURA DETAIL



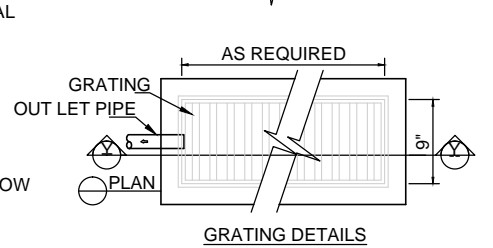
CLEAN OUT



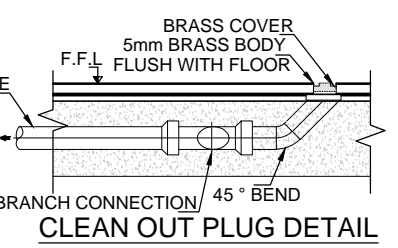
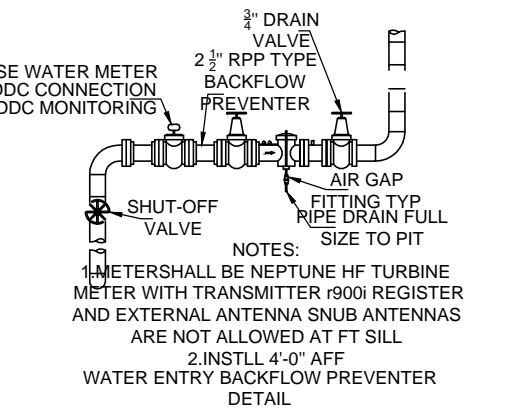
CLEAN OUT



DRAIN DETAIL



GRATING DETAILS



CLEAN OUT PLUG DETAIL

CLIENT:



PROJECT IMPLEMENTATION UNIT (PIU) KNIP



CONSULTANTS:
G3 ENGINEERING CONSULTANTS (PVT) LTD.
House No.57-M Gulberg-III, Lahore, Pakistan
Tel : (92-42) 35441641, 35441642
Fax : (92-42) 35441645
E-mail : info@g3ec.com
URL : www.g3ec.com

PROJECT:

REHABILITATION & UPGRADATION OF BOAT BASIN TO SCHON CHOWRANGI WITH PEDESTRIAN TRAIL

NOTES:

1. ALL DIMENSIONS ARE IN FEET UNLESS OTHERWISE SPECIFIED.
2. THIS DRAWING IS AN INTELLECTUAL PROPERTY OF G3 ENGINEERING CONSULTANTS (PVT.) LTD. AND CANNOT BE REPRINTED OR REPRODUCED WITHOUT PRIOR APPROVAL OF G3.

REVISIONS:

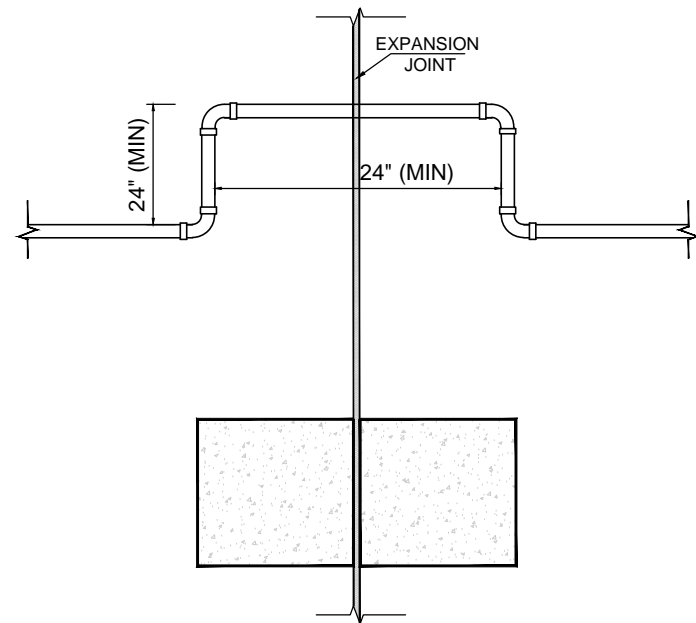
No.	DESCRIPTION	DATE

TENDER DRAWINGS

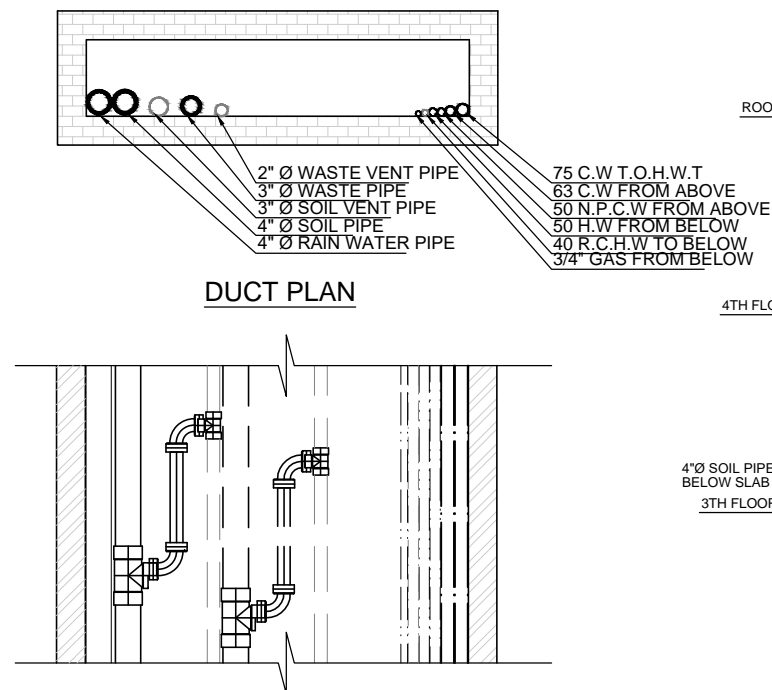
DRAWING TITLE:

Miscellaneous Details

DRAWN BY: M. Imran	DATE: AUG. 2021
WATER SUPPLY & SEWERAGE ENGINEER	Engr. Wasif Ali
APPROVED BY: Syed Ali Abbas Gillani	REV: 4
DRAWING NO: 0249/PH-09	SHEET: 4
SCALE (A3): N.T.S	

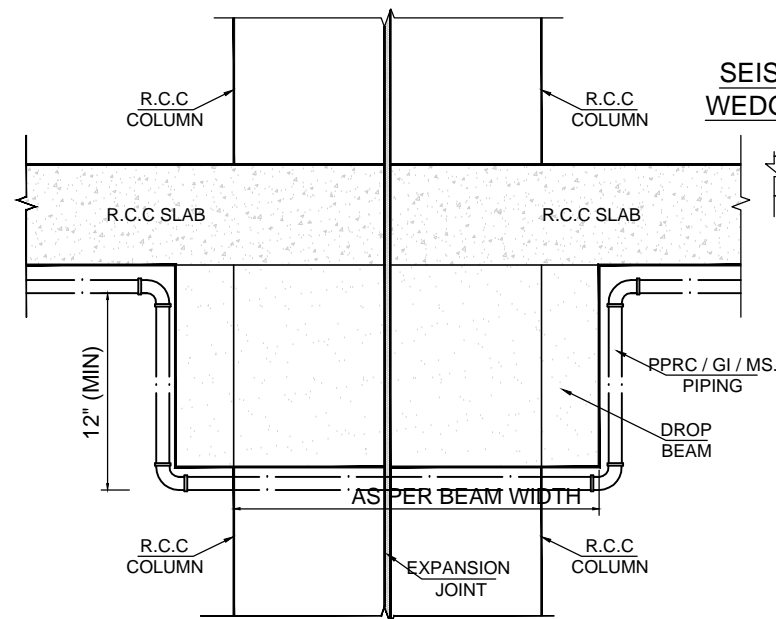


TYPICAL TOP DETAIL OF uPVC WASTE PIPE
AT EXPANSION JOINT

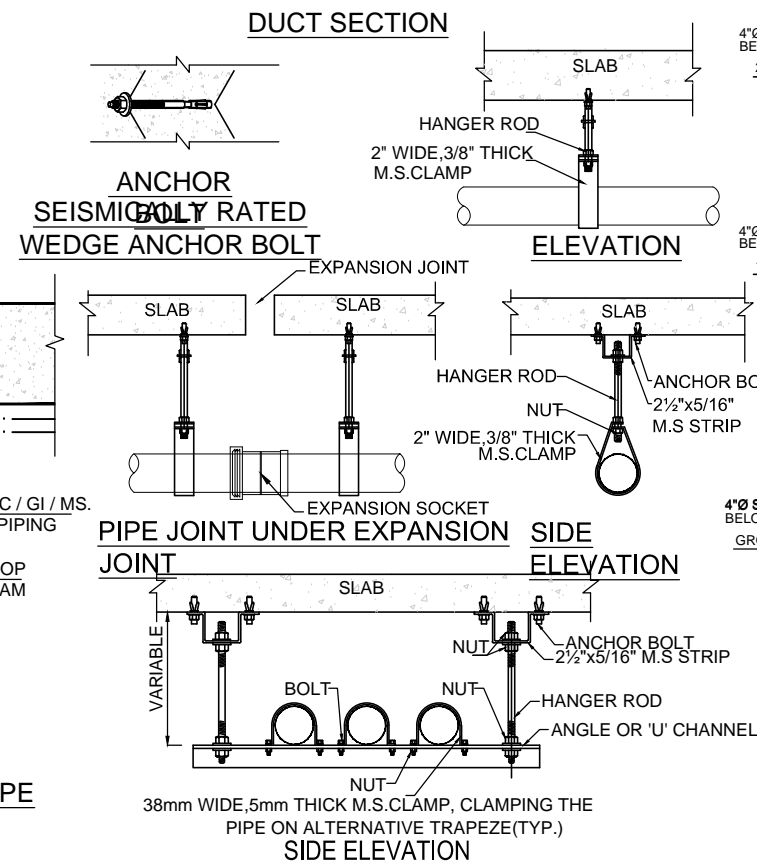


DUCT PLAN

DUCT SECTION



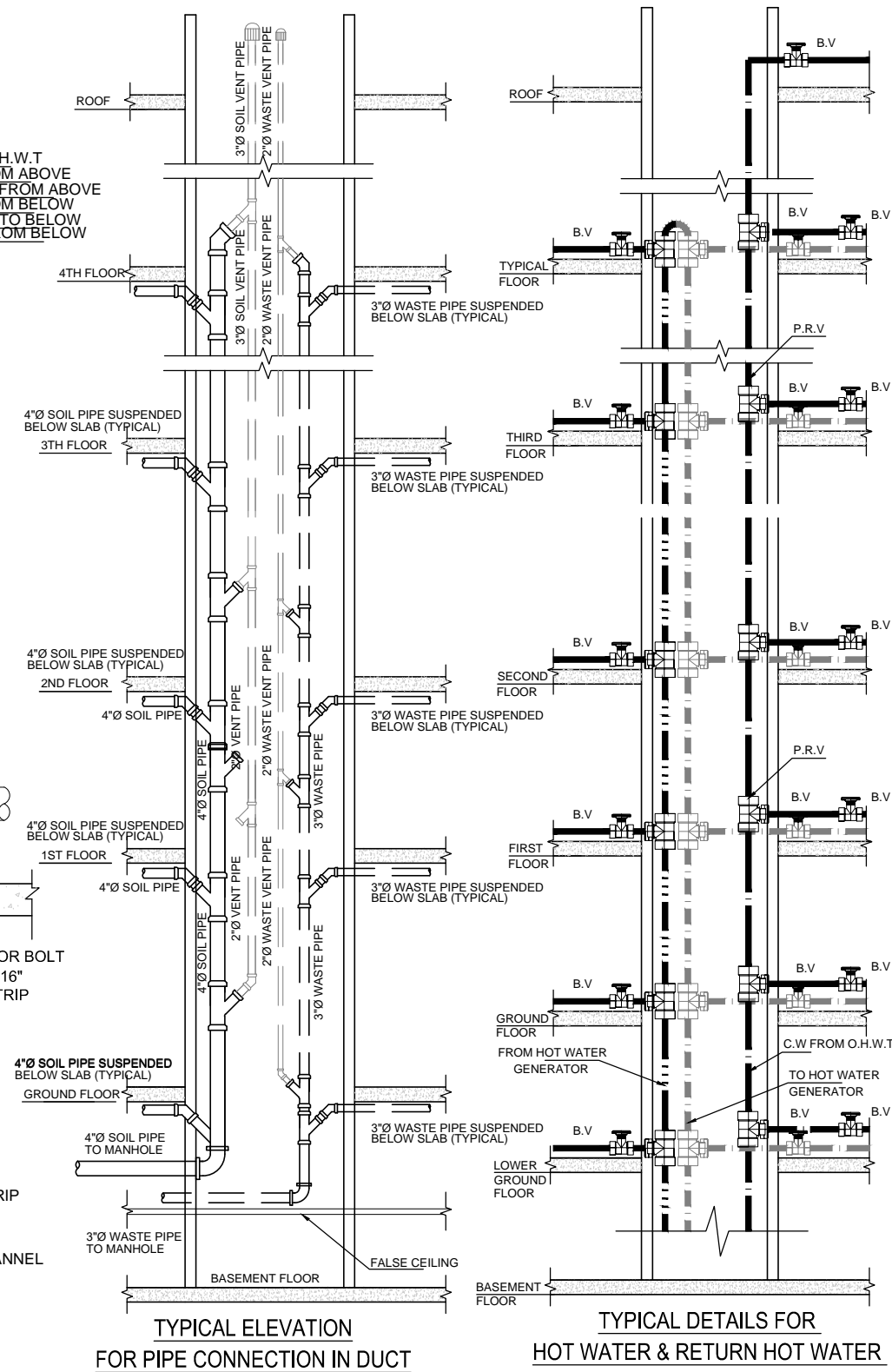
TYPICAL DETAIL OF PPRC WATER SUPPLY PIPE
AT EXPANSION JOINT



ELEVATION

SIDE ELEVATION

38mm WIDE, 5mm THICK M.S. CLAMP, CLAMPING THE
PIPE ON ALTERNATIVE TRAPEZE (TYP.)
SIDE ELEVATION



TYPICAL ELEVATION
FOR PIPE CONNECTION IN DUCT

TYPICAL DETAILS FOR
HOT WATER & RETURN HOT WATER

CLIENT:



PROJECT
IMPLEMENTATION
UNIT (PIU) KNIP



CONSULTANTS:
**G3 ENGINEERING
CONSULTANTS (PVT) LTD.**
House No.57-M Gulberg-III, Lahore, Pakistan
Tel : (92-42) 35441641, 35441642
Fax : (92-42) 35441645
E-mail : info@g3ec.com
URL : www.g3ec.com

PROJECT:

REHABILITATION & UPGRADATION OF
BOAT BASIN TO SCHON CHOWRANGI WITH
PEDESTRIAN TRAIL

NOTES:

1. ALL DIMENSIONS ARE IN FEET UNLESS OTHERWISE SPECIFIED.
2. THIS DRAWING IS AN INTELLECTUAL PROPERTY OF G3 ENGINEERING CONSULTANTS (PVT.) LTD. AND CANNOT BE REPRINTED OR REPRODUCED WITHOUT PRIOR APPROVAL OF G3.

REVISIONS:

No.	DESCRIPTION	DATE

TENDER DRAWINGS

DRAWING TITLE:

Miscellaneous Details

DRAWN BY:
M. Imran
WATER SUPPLY & SEWERAGE ENGINEER

DATE:
AUG. 2021
Engr. Wasif Ali

APPROVED BY:
Syed Ali Abbas Gillani

DRAWING NO:
0249/PH-10
SCALE (A3):
N.T.S

REV:
4
SHEET:

**PUBLIC HEALTH
DRAWING Park-St-9**

LIST OF DRAWINGS

Sr.#	DESCRIPTION	DRG. #
01	LIST OF DRAWINGS	0249/PH-00
02	GENERAL NOTES	0249/PH-01
WATER SUPPLY SYSTEM		
03	WATER SUPPLY SYSTEM (GROUND FLOOR PLAN)	0249/PH-02
04	WATER SUPPLY SYSTEM (ROOF PLAN)	0249/PH-03
SEWERAGE & DRAINAGE SYSTEM		
05	SEWERAGE SYSTEM (GROUND FLOOR PLAN)	0249/PH-04
06	DRAINAGE SYSTEM (ROOF PLAN)	0249/PH-05
MISCELLANEOUS DETAILS		
07	TYPICAL SEPTIC TANK PLAN, PIPE & SECTIONAL DETAILS	0249/PH-06
08	TYPICAL GULLY TRAP & MANHOLE PLAN, PIPE & SECTIONAL DETAILS	0249/PH-07
09	MISCELLANEOUS DETAILS-01	0249/PH-08
10	MISCELLANEOUS DETAILS-02	0249/PH-09
11	MISCELLANEOUS DETAILS-03	0249/PH-10

CLIENT:



PROJECT
IMPLEMENTATION
UNIT (PIU) KNIP



CONSULTANTS:
**G3 ENGINEERING
CONSULTANTS (PVT) LTD.**
House No.57-M Gulberg-III, Lahore, Pakistan
Tel : (92-42) 35441641, 35441642
Fax : (92-42) 35441645
E-mail : info@g3ec.com
URL : www.g3ec.com

PROJECT:

REHABILITATION & UPGRADE OF
BOAT BASIN TO SCHON CHOWRANGI WITH
PEDESTRIAN TRAIL

NOTES:

1. ALL DIMENSIONS ARE IN FEET UNLESS OTHERWISE SPECIFIED.
2. THIS DRAWING IS AN INTELLECTUAL PROPERTY OF G3 ENGINEERING CONSULTANTS (PVT.) LTD. AND CANNOT BE REPRINTED OR REPRODUCED WITHOUT PRIOR APPROVAL OF G3.

REVISIONS:

No.	DESCRIPTION	DATE

TENDER DRAWINGS

DRAWING TITLE:

LIST OF DRAWINGS

DRAWN BY: M. Imran	DATE: AUG .2021
WATER SUPPLY & SEWERAGE ENGINEER Engr. Wasif Ali	
APPROVED BY: Syed Ali Abbas Gillani	
DRAWING NO: 0249/PH-00	REV: 4
SCALE (A3): N.T.S	SHEET:

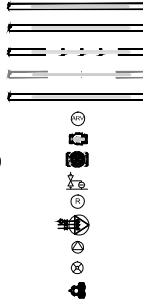
PUBLIC HEALTH GENERAL NOTES

1. THESE GENERAL NOTES ARE PROVIDED TO SUPPLEMENT THE WRITTEN SPECIFICATION FOR THIS PROJECT. REFER TO THE SPECIFICATIONS FOR MORE DETAILED REQUIREMENTS OF THIS PROJECT.
2. PERFORM ALL WORK IN A WORKMAN LIKE MANNER, IN COMPLIANCE WITH THE LATEST ADOPTED EDITIONS OF ALL GOVERNING CODES AND STANDARDS. IF CONFLICTS ARISE, REQUEST RESOLUTION FROM THE ARCHITECT. IF REQUIRED INFORMATION IS MISSING FROM THIS DRAWING (I.E, DUCT SIZE OR PIPE SIZE), REQUEST WRITTEN CLARIFICATION FROM THE ARCHITECT PRIOR TO THE EXECUTION.
3. PROVIDE ALL MINOR INCIDENTAL ITEMS SUCH AS OFFSETS, FITTINGS, ETC, REQUIRED AS PART OF THE WORK EVEN THOUGH NOT SPECIFICALLY SHOWN ON DRAWINGS. THE CONTRACTOR SHALL PROVIDE AND INSTALL THE NUMBER OF ITEMS OF EQUIPMENT AS INDICATED ON THE DRAWINGS AND AS REQUIRED FOR COMPLETE SYSTEMS.
4. THE PLUMBING DRAWINGS SHOW THE GENERAL ARRANGEMENT OF ALL PIPING, DUCT WORK. MECHANICAL EQUIPMENT AND APPURTENANCES, AND SHALL BE FOLLOWED AS CLOSELY AS ACTUAL BUILDING CONSTRUCTION AND THE WORK OF THEIR TRADES WILL PERMIT. BECAUSE OF THE SMALL SCALE OF THE PLUMBING DRAWINGS, IT IS NOT POSSIBLE TO INDICATE ALL OFFSETS, FITTINGS AND ACCESSORIES WHICH MAY BE REQUIRED. INVESTIGATE THE STRUCTURAL AND FINISH CONDITIONS AFFECTING THE WORK AND PROVIDE SUCH FITTINGS, VALVES AND ACCESSORIES AS MAY BE REQUIRED TO MEET SUCH CONDITIONS.
5. VERIFY DIMENSIONS GOVERNING PLUMBING WORK AT THE BUILDING. DO NOT SCALE THE PLUMBING DRAWINGS FOR DIMENSIONS. TAKE DIMENSIONS, MEASUREMENTS, LOCATIONS, LEVELS, ETC. FROM THE ACTUAL FIELD CONDITIONS AND ARCHITECTURAL DRAWINGS.
6. EXAMINE ALL ADJOINING WORK ON WHICH THE PLUMBING WORK IS DEPENDENT OF MAXIMUM EFFICIENCY AND REPORT DESIGN CONFLICTS WHICH MUST BE CORRECTED PRIOR TO EXECUTION. NO WAIVER OF RESPONSIBILITY SHALL BE CLAIMED OR ALLOWED DUE TO FAILURE TO REPORT UNFAVORABLE CONDITIONS AFFECTING THE PLUMBING WORK.
7. CONTRACTOR SHALL FURNISH AND INSTALL ALL PIPING, VALVES, CONTROLS, INSULATION ETC. TO ALL PLUMBING EQUIPMENT SCHEDULED OR INDICATED ON PLANS REGARDLESS OF WHETHER PIPING, VALVES, CONTROLS, INSULATION ETC. ARE SPECIFICALLY SHOWN OR NOT PLUMBING EQUIPMENT INSTALLATION SHALL BE 100% COMPLETE FOR PROPER EQUIPMENT FUNCTION AND/OR OPERATION AT COMPLETION OF PROJECT.
8. THE ARCHITECTURAL AND ENGINEERING DRAWINGS ARE COMPLEMENTARY. CONTRACTORS SHALL ACKNOWLEDGE THE ARCHITECTURAL AS WELL AS ALL THE ENGINEERING DRAWINGS AND INCLUDE ALL WORK NECESSARY TO ACHIEVE A COMPLETE WORKING. INSTALLATION FOR ANY DEVICE OR EQUIPMENT WHICH MAY BE SHOWN ON ONE DRAWING BUT NOT SHOWN ON ANOTHER.

9. LOCATION OF PIPES, DUCTS, SWITCHES, PANELS, EQUIPMENT AND FIXTURES SHALL BE ADJUSTED TO ACCOMMODATE THE WORK OR INTERFERENCES ANTICIPATED AND ENCOUNTERED. DETERMINE THE EXACT ROUTE AND LOCATION OF EACH PIPE AND DUCT PRIOR TO FABRICATION.
- 10.LOCATION OF EXISTING UTILITIES AND EXISTING UNDERGROUND PLUMBING ARE BASED ON THE SITE INFORMATION AVAILABLE. CONTRACTOR SHALL VERIFY EXACT LOCATIONS OF ALL UTILITIES AND EXISTING UNDERGROUND PLUMBING PRIOR TO FABRICATION AND ERECTION OF WORK TO AVOID ALL INTERFERENCES. VERIFICATION SHALL BE BY SITE INSPECTION, EXCAVATION, OR WHATEVER MEANS NECESSARY TO DETERMINE EXACT LOCATIONS.
- 11.CONTRACTOR SHALL OBTAIN BUILDING PERMIT AND ARRANGE ALL REQUIRED INSPECTIONS WITH THE APPROPRIATE REGULATORY AGENCY. ALERT CONSULTANT OF ALL ITEMS NOT DEPICTED ON DRAWINGS. DO NOT PROCEED WITH FURTHER WORK UNTIL WRITTEN RESPONSE IS RECEIVED FROM CONSULTANT.
- 12.CONTRACTOR SHALL VERIFY GAS PRESSURE DELIVERED BY METER AT BUILDING.
13. TEST THREADED NATURAL GAS PIPING AT 20 PSIG FOR A TEST PERIOD OF 2 HOURS. TEST PRESSURE SHALL NOT FALL OVER 5% DURING TEST PERIOD TO PASS. IF PIPING FAILS TEST, INVESTIGATE AND REPAIR THE SOURCE OF
- 14.PROVIDE SLEEVES AT ALL PIPING PENETRATIONS OF CONCRETE OR MASONRY FLOOR, WALL OR ROOF CONSTRUCTION.
- 15.PROVIDE GLASS WOOL INSULATION TO ALL HOT WATER (EXPOSED) AND COLD WATER (AT ROOF) PIPE LINE INCLUDING PROTECTIVE COATINGS.
- 16.USE NEAREST FLOOR TRAP FOR THE AC DRAINAGE.
17. TEST ALL PIPING SYSTEMS IN WHICH ANY ALTERATIONS HAVE BEEN MADE FOR COMPLIANCE WITH THE LATEST EDITION OF GOVERNING BUILDING CODE. DOMESTIC HOT AND COLD WATER PIPING SHALL BE SUBJECT TO 100 PSIG FOR A MINIMUM 2 HOURS, DOMESTIC WASTE AND VENT PIPING SHALL BE TESTED AT 10' STATIC HEAD FOR A PERIOD GREATER THAN 15 MINUTES. IF REQUIRED PRESSURE DROPS BY MORE THAN 3% DURING ITS TEST DURATION, INVESTIGATE THE SOURCE OF LEAK, REPAIR THE LEAK, AND RETEST THE SYSTEM FOR THE REQUIRED TEST PERIOD. INSPECT ALL W & V JOINTS WHILE UNDER PRESSURE AND REPAIR ALL LEAKS.
- 18.INSTALL ALL PLUMBING EQUIPMENT IN COMPLETE COMPLIANCE WITH MANUFACTURER'S STANDARD INSTALLATION INSTRUCTIONS. ARRANGE ALL EQUIPMENT TO PERMIT EASY REMOVAL OF COILS, MOTORS, FILTERS AND ALL OTHER PARTS WHICH REQUIRE PERIODIC REPLACEMENT OR MAINTENANCE.
- 19.COORDINATE ALL ELECTRICAL VOLTAGE CHARACTERISTICS WITH ELECTRICAL CONTRACTOR PRIOR TO ORDERING PLUMBING EQUIPMENT.

LEGEND FOR WATER SUPPLY SYSTEM

COLD WATER PIPE (C.W)
NORMAL PRESSURE COLD WATER (N.P.C.W)
HOT WATER PIPE (H.W)
RE-CIRCULATION HOT WATER (R.H.W)
GAS PIPE
AIR RELIEF VALVE (A.R.V)
BALL VALVE (B.V)
GATE VALVE SLICE VALVE (G.V / S.V)
PRESSURE REDUCER VALVE (P.R.V)
RE-CIRCULATION PUMP
CONVENTIONAL GEYSER
CHECK VALVE
BOOSTER PUMP
SUBMERSIBLE PUMP
H.W.G = HOT WATER GENERATOR
T.A = TO ABOVE
T.B = TO BELOW
F.A = FROM ABOVE
F.B = FROM BELOW
D-1 = DUCT - 1
M.D = MISCELLANEOUS DETAILS



SCHEDULE OF PIPE DIA

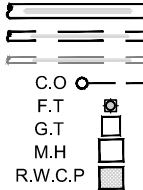
OUTER DIA (mm)	INTERNAL DIA	
	(mm)	INCH
20	13.2	0.52
25	16.4	0.65
32	21.2	0.83
40	26.6	1.05
50	33.2	1.31
63	42	1.65
75	50	1.97
90	60	2.36
110	73.2	2.88

L.D = LIST OF DRAWING
G.N = GENERAL NOTES
W.S = WATER SUPPLY
G.S = GAS SYSTEM
S.W = SEWERAGE SYSTEM
D.R = DRAINAGE SYSTEM
T / W = TUBE WELL

1. ALL WATER SUPPLY PIPE DIAMETERS ARE IN MILLIMETERS AND MENTIONED ARE EXTERNAL DIAMETERS. ALL WATER SUPPLY PIPES ARE OF PPRC UNLESS NOTED OTHERWISE.
2. ALL GAS PIPE DIAMETERS ARE IN MILLIMETERS AND MENTIONED ARE INTERNAL DIAMETERS.
3. ALL WATER SUPPLY PIPES ENTERING THE WALLS SHALL BE PROVIDED WITH ISOLATION VALVES.

LEGEND FOR SEWERAGE & DRAINAGE SYSTEM

SOIL PIPE (S.P)
WASTE PIPE (W.P)
VENT PIPE (V.P)
CLEANOUTS
FLOOR TRAP
GULLY TRAP
MANHOLE
RAIN WATER COLLECTION PIT



PIPE DIA & SLOPE		
3"	1:75	
4"	1:100	
6"	1:150	
8"	1:175	
10"	1:250	
12"	1:300	

1. ALL PIPE DIAMETERS ARE IN INCHES UNLESS OTHERWISE MENTIONED.
2. VENT PIPES SHALL BE EXTENDED UP TO ONE FT ABOVE FINISHED ROOF LEVEL.
3. SOIL, WASTE AND VENT PIPES UP TO 6" DIA. ARE uPVC (NON PRESSURIZE) TYPE-B CONFIRMING TO ISO 3633:2002 EXTERNAL SEWER PIPES SHALL BE OF FLOW LINE CONFIRMING TO EN 1401 UNLESS OTHERWISE NOTED
4. SLOPE OF ROOF VALLEY LINE SHOULD BE BETWEEN 0.01 TO 0.02
5. BOTTLE TRAP SHALL BE USED WITH ALL WASH BASIN.
6. R.C.C PIPES SHALL BE SHALIMAR OR EQUIVALENT MAKE.
7. MINIMUM SLOPE OF SOIL AND WASTE PIPES ARE AS UNDER.
4. ALL WATER SUPPLY PIPES ARE PPR (PN 20) UNLESS OTHERWISE MENTIONED.
5. ALL WATER SUPPLY PIPES FITTINGS SUCH AS BENDS, TEES, SOCKETS, ARE PPR (PN 25) UNLESS OTHERWISE MENTIONED.
6. ALL GAS PIPES ARE G.I. UNLESS OTHERWISE MENTIONED.
7. ALL WATER SUPPLY AND GAS PIPES ARE IN DUCTS, OR CONCEALED IN WALL OR BURIED IN FLOORS.
8. ALL PIPING SHALL BE TESTED FOR LEAKAGE BEFORE THE JOINTS ARE COVERED.

CLIENT:



PROJECT
IMPLEMENTATION
UNIT (PIU) KNIP



CONSULTANTS:

G3 ENGINEERING
CONSULTANTS (PVT)LTD.
House No.57-M Gulberg-III, Lahore, Pakistan

Tel : (92-42) 35441641, 35441642
Fax : (92-42) 35441645
E-mail : info@g3ec.com
URL : www.g3ec.com

PROJECT:

REHABILITATION & UPGRADATION OF
BOAT BASIN TO SCHON CHOWRANGI WITH
PEDESTRIAN TRAIL

NOTES:

1. ALL DIMENSIONS ARE IN FEET UNLESS OTHERWISE SPECIFIED.
2. THIS DRAWING IS AN INTELLECTUAL PROPERTY OF G3 ENGINEERING CONSULTANTS (PVT.) LTD. AND CANNOT BE REPRINTED OR REPRODUCED WITHOUT PRIOR APPROVAL OF G3.

REVISIONS:

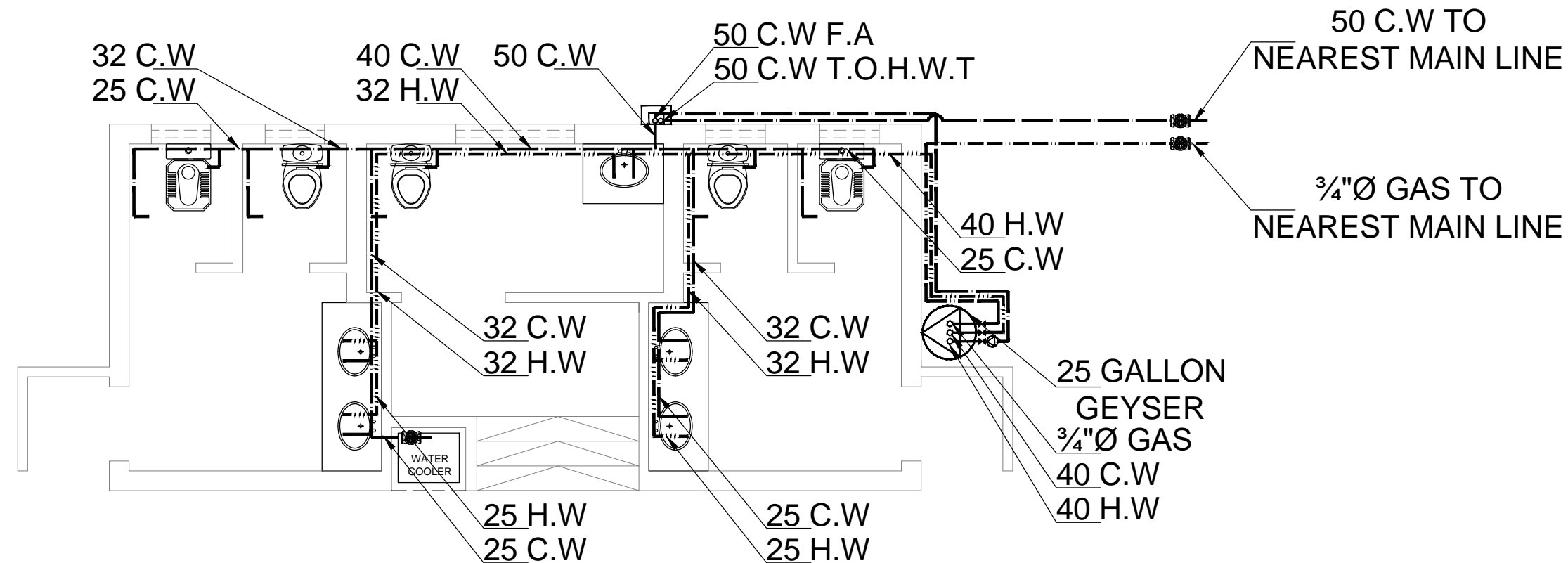
No.	DESCRIPTION	DATE

TENDER DRAWINGS

DRAWING TITLE:

GENERAL NOTES

DRAWN BY: M. Imran	DATE: AUG .2021
WATER SUPPLY & SEWERAGE ENGINEER Engr.Wasif Ali	
APPROVED BY: Syed Ali Abbas Gillani	
DRAWING NO: 0249/PH-01	REV: 4
SCALE (A3): N.T.S	SHEET:



WATER SUPPLY SYSTEM (GROUND FLOOR PLAN)
FOR PARK 09

CLIENT:



PROJECT
IMPLEMENTATION
UNIT (PIU) KNIP



CONSULTANTS:

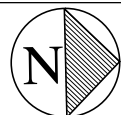
**G3 ENGINEERING
CONSULTANTS (PVT) LTD.**
House No.57-M Gulberg-III, Lahore, Pakistan



Tel : (92-42) 35441641, 35441642
Fax : (92-42) 35441645
E-mail : info@g3ec.com
URL : www.g3ec.com

PROJECT:

REHABILITATION & UPGRADATION OF
BOAT BASIN TO SCHON CHOWRANGI WITH
PEDESTRIAN TRAIL



NOTES:

1. ALL DIMENSIONS ARE IN FEET UNLESS OTHERWISE SPECIFIED.
2. THIS DRAWING IS AN INTELLECTUAL PROPERTY OF G3 ENGINEERING CONSULTANTS (PVT.) LTD. AND CANNOT BE REPRINTED OR REPRODUCED WITHOUT PRIOR APPROVAL OF G3.

REVISIONS:

No.	DESCRIPTION	DATE

TENDER DRAWINGS

DRAWING TITLE:

WATER SUPPLY

DRAWN BY: M. Imran DATE: AUG .2021

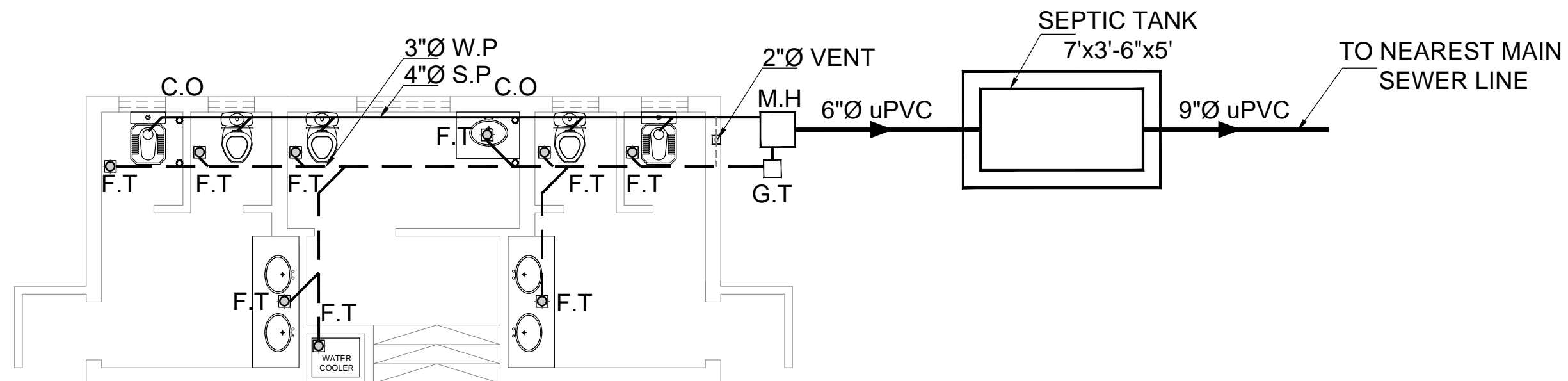
WATER SUPPLY & SEWERAGE ENGINEER

Engr. Wasif Ali

APPROVED BY: Syed Ali Abbas Gillani

DRAWING NO: 0249/PH-02 REV: 4

SCALE (A3): N.T.S SHEET:



SEWERAGE SYSTEM (GROUND FLOOR PLAN)
FOR PARK 09

CLIENT:



PROJECT
IMPLEMENTATION
UNIT (PIU) KNIP



CONSULTANTS:

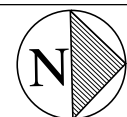
**G3 ENGINEERING
CONSULTANTS (PVT) LTD.**
House No.57-M Gulberg-III, Lahore, Pakistan



Tel : (92-42) 35441641, 35441642
Fax : (92-42) 35441645
E-mail : info@g3ec.com
URL : www.g3ec.com

PROJECT:

REHABILITATION & UPGRADATION OF
BOAT BASIN TO SCHON CHOWRANGI WITH
PEDESTRIAN TRAIL



NOTES:

1. ALL DIMENSIONS ARE IN FEET UNLESS OTHERWISE SPECIFIED.
2. THIS DRAWING IS AN INTELLECTUAL PROPERTY OF G3 ENGINEERING CONSULTANTS (PVT.) LTD. AND CANNOT BE REPRINTED OR REPRODUCED WITHOUT PRIOR APPROVAL OF G3.

REVISIONS:

No.	DESCRIPTION	DATE

TENDER DRAWINGS

DRAWING TITLE:

SEWER SYSTEM

DRAWN BY: M. Imran DATE: AUG .2021

WATER SUPPLY & SEWERAGE ENGINEER

Engr. Wasif Ali

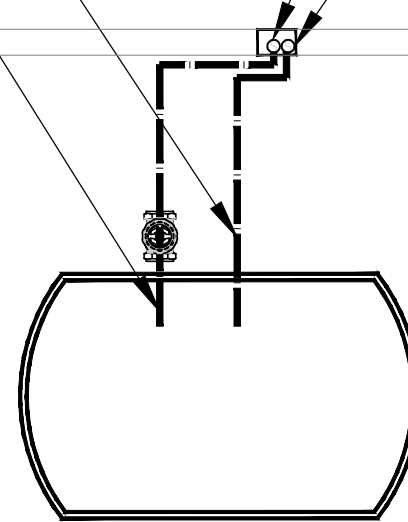
APPROVED BY: Syed Ali Abbas Gillani

DRAWING NO: 0249/PH-03 REV: 4

SCALE (A3): N.T.S SHEET:

50 C.W INLET
50 C.W OUTLET

50 C.W T.B
50 C.W T.O.H.W.T



PLASTIC TANK
500 GALLON

WATER SUPPLY SYSTEM (ROOF PLAN)
FOR PARK 09

CLIENT:



PROJECT
IMPLEMENTATION
UNIT (PIU) KNIP



CONSULTANTS:

G3 ENGINEERING
CONSULTANTS (PVT) LTD.
House No.57-M Gulberg-III, Lahore, Pakistan

Tel : (92-42) 35441641, 35441642
Fax : (92-42) 35441645
E-mail : info@g3ec.com
URL : www.g3ec.com

PROJECT:

REHABILITATION & UPGRADATION OF
BOAT BASIN TO SCHON CHOWRANGI WITH
PEDESTRIAN TRAIL

NOTES:

1. ALL DIMENSIONS ARE IN FEET UNLESS OTHERWISE SPECIFIED.
2. THIS DRAWING IS AN INTELLECTUAL PROPERTY OF G3 ENGINEERING CONSULTANTS (PVT.) LTD. AND CANNOT BE REPRINTED OR REPRODUCED WITHOUT PRIOR APPROVAL OF G3.

REVISIONS:

No.	DESCRIPTION	DATE

TENDER DRAWINGS

DRAWING TITLE:

WATER SUPPLY ROOF
PLAN

DRAWN BY:

M. Imran

DATE:

AUG .2021

WATER SUPPLY & SEWERAGE ENGINEER

Engr. Wasif Ali

APPROVED BY:

Syed Ali Abbas Gillani

DRAWING NO:

0249/PH-04

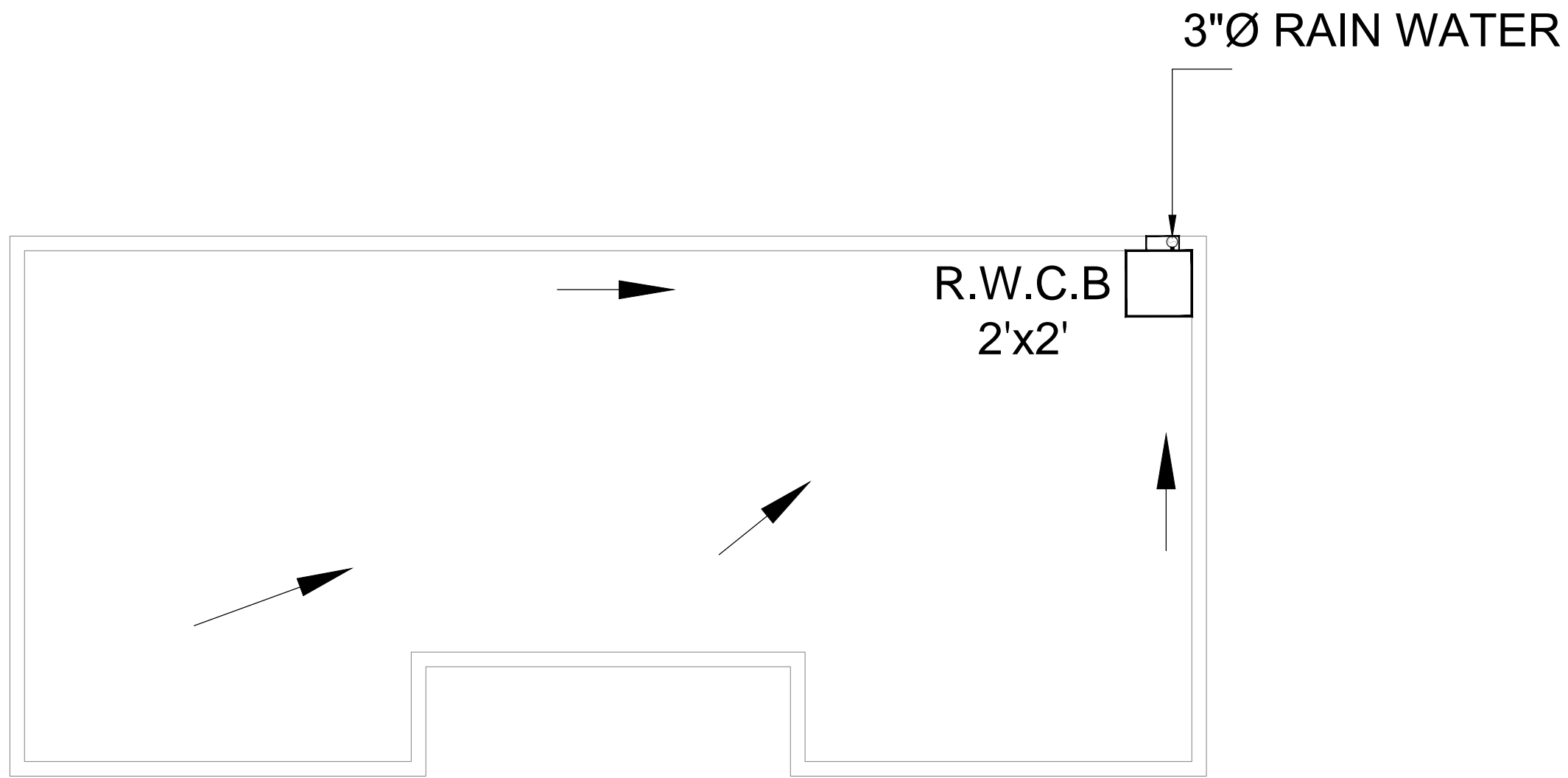
REV:

4


SCALE (A3):

N.T.S


SHEET:



CLIENT:



PROJECT
IMPLEMENTATION
UNIT (PIU) KNIP



CONSULTANTS:
**G3 ENGINEERING
CONSULTANTS (PVT) LTD.**
House No.57-M Gulberg-III, Lahore, Pakistan

Tel : (92-42) 35441641, 35441642
Fax : (92-42) 35441645
E-mail : info@g3ec.com
URL : www.g3ec.com

PROJECT:

REHABILITATION & UPGRADATION OF
BOAT BASIN TO SCHON CHOWRANGI WITH
PEDESTRIAN TRAIL

NOTES:

1. ALL DIMENSIONS ARE IN FEET UNLESS
OTHERWISE SPECIFIED.

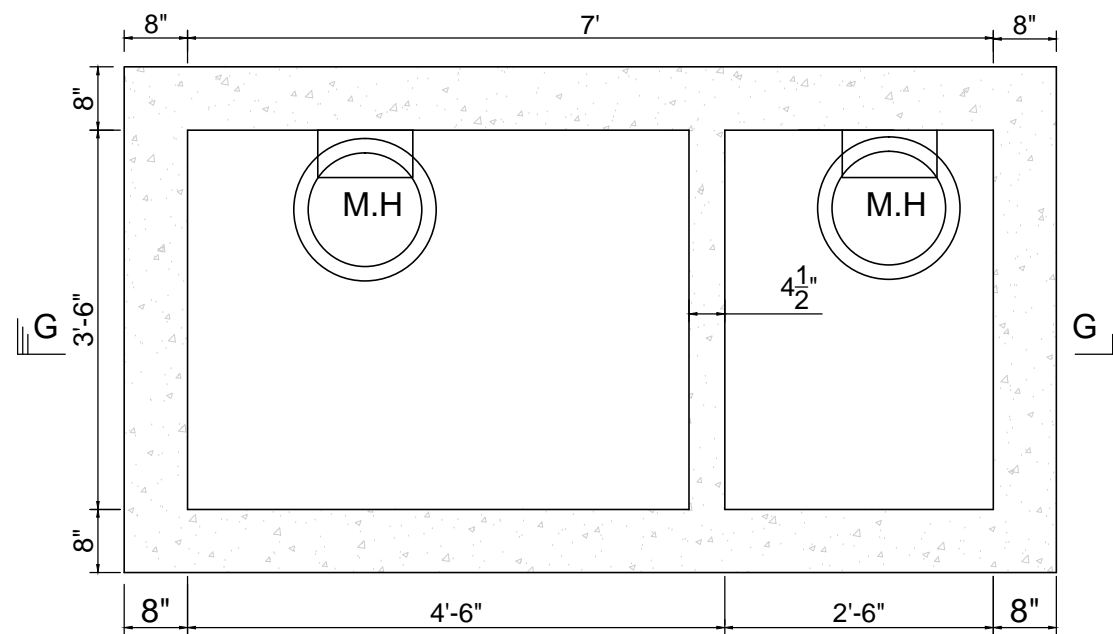
2. THIS DRAWING IS AN INTELLECTUAL PROPERTY
OF G3 ENGINEERING CONSULTANTS (PVT.) LTD.
AND CANNOT BE REPRINTED OR REPRODUCED
WITHOUT PRIOR APPROVAL OF G3.

REVISIONS:		
No.	DESCRIPTION	DATE

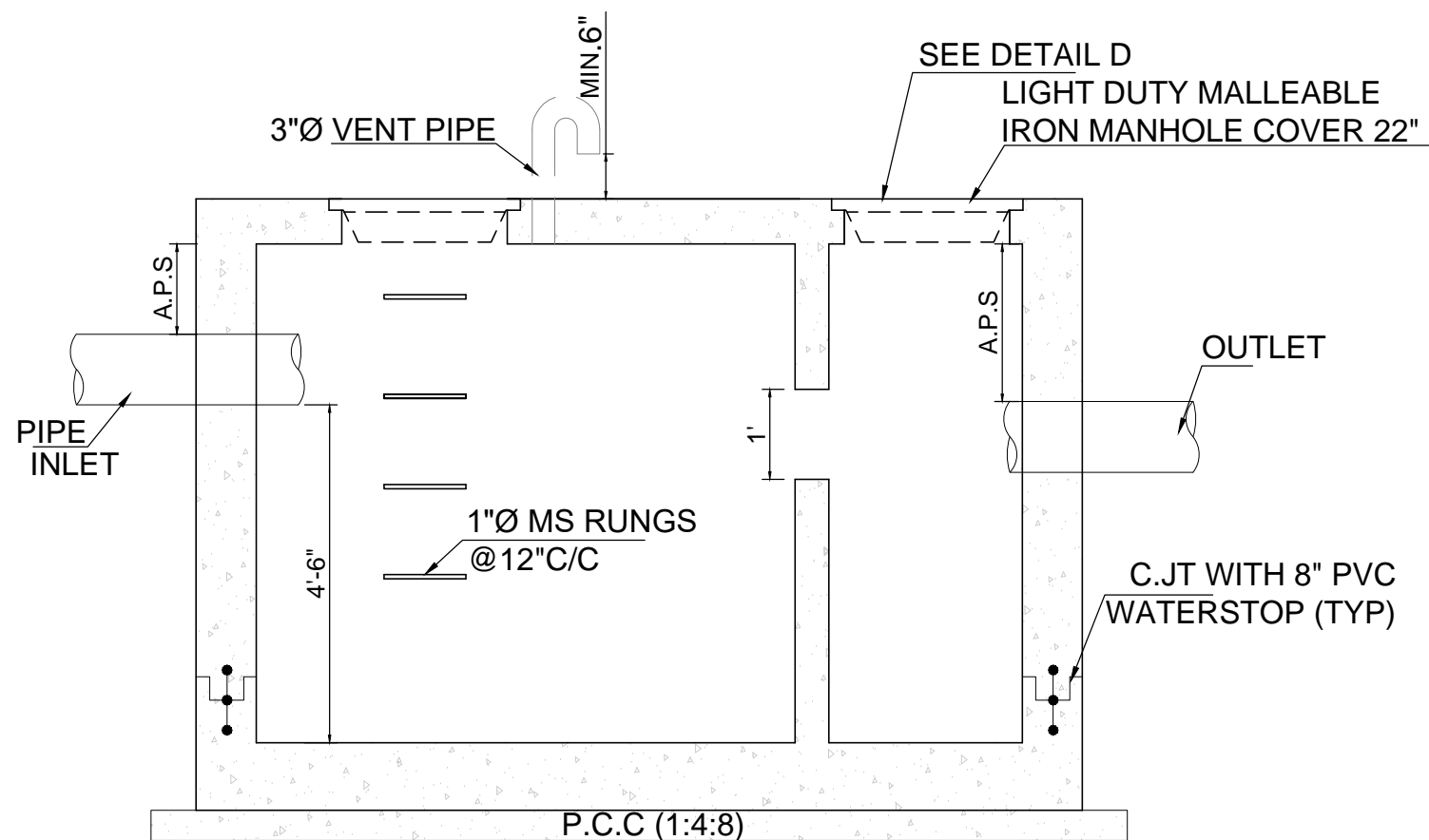
TENDER DRAWINGS

DRAWING TITLE:
**DRAINAGE SYSTEM
ROOF**

DRAWN BY: M. Imran	DATE: AUG .2021
WATER SUPPLY & SEWERAGE ENGINEER Engr. Wasif Ali	
APPROVED BY: Syed Ali Abbas Gillani	
DRAWING NO: 0249/PH-05	REV: 4
SCALE (A3): N.T.S	SHEET:



PLAN



SECTION G-G

CLIENT:



PROJECT
IMPLEMENTATION
UNIT (PIU) KNIP



CONSULTANTS:

**G3 ENGINEERING
CONSULTANTS (PVT) LTD.**
House No.57-M Gulberg-III, Lahore, Pakistan



Tel : (92-42) 35441641, 35441642
Fax : (92-42) 35441645
E-mail : info@g3ec.com
URL : www.g3ec.com

PROJECT:

REHABILITATION & UPGRADATION OF
BOAT BASIN TO SCHON CHOWRANGI WITH
PEDESTRIAN TRAIL

NOTES:

1. ALL DIMENSIONS ARE IN FEET UNLESS OTHERWISE SPECIFIED.
2. THIS DRAWING IS AN INTELLECTUAL PROPERTY OF G3 ENGINEERING CONSULTANTS (PVT.) LTD. AND CANNOT BE REPRINTED OR REPRODUCED WITHOUT PRIOR APPROVAL OF G3.

REVISIONS:

No.	DESCRIPTION	DATE

TENDER DRAWINGS

DRAWING TITLE:

SEPTIC TANK

DRAWN BY:
M. Imran

DATE:
AUG .2021

WATER SUPPLY & SEWERAGE ENGINEER

Engr.Wasif Ali

APPROVED BY:
Syed Ali Abbas Gillani

DRAWING NO:

0249/PH-06

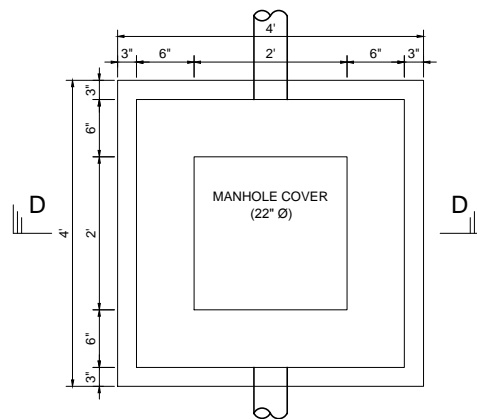
REV:

4

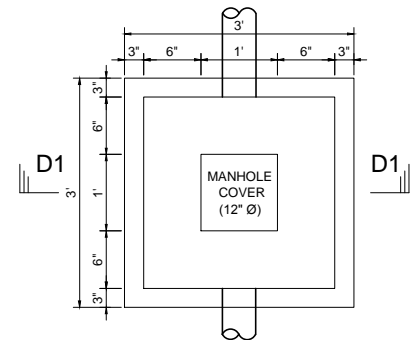
SCALE (A3):

N.T.S

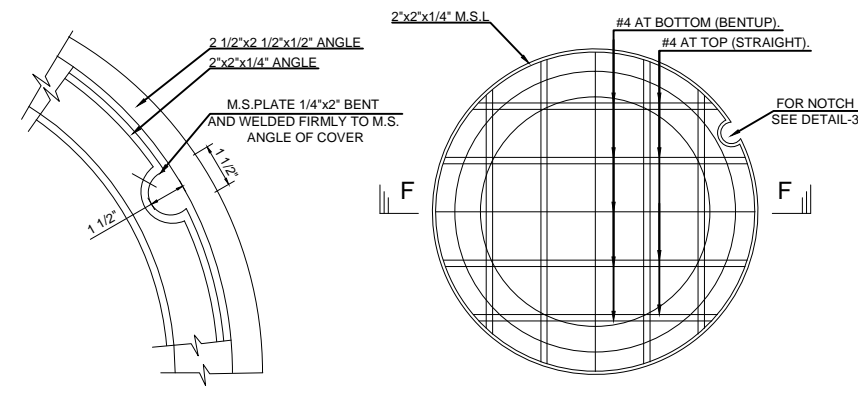
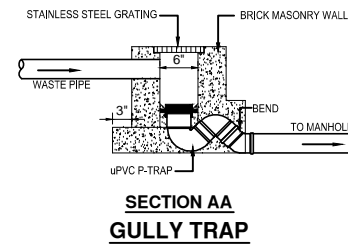
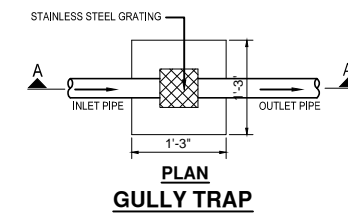
SHEET:



**TYPICAL SEWER MANHOLE PLAN
(UP TO 3' DEPTH)
M.H-A**

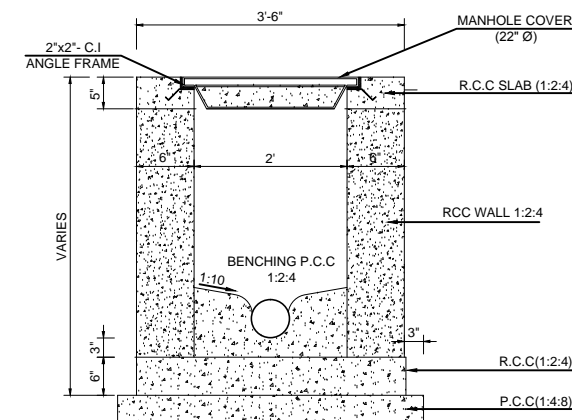


**TYPICAL SEWER MANHOLE PLAN
(UP TO 3' DEPTH)
M.H-A
(FOR LIMITED SPACE)**

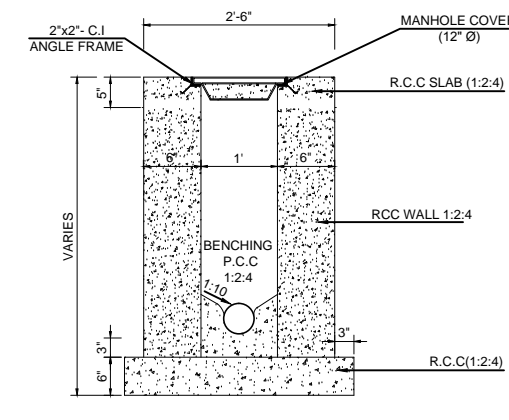


MANHOLE COVER PLAN

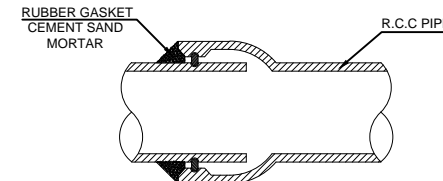
DETAIL-3



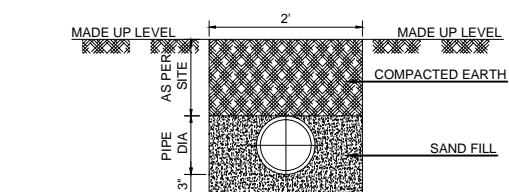
SECTION D-D



SECTION D1-D1

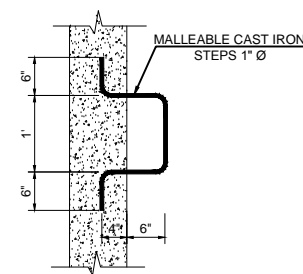


**TYPICAL R.C.C PIPE JOINTING
(BELL AND SPIGOT TYPE)**

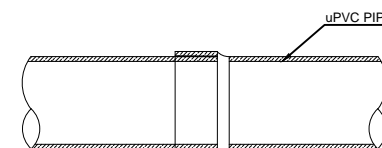


**TYPICAL TRENCH DETAIL
FOR SEWER LINE**

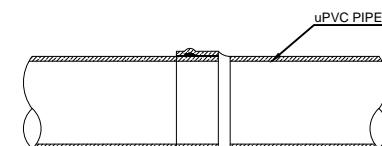
DETAIL-1



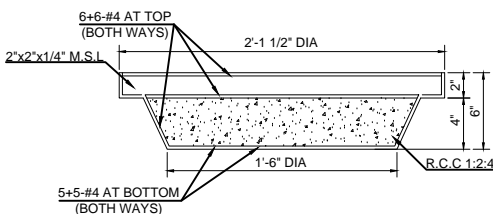
DETAIL-2



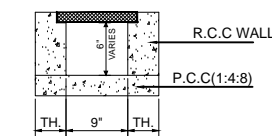
**TYPICAL uPVC PIPE JOINTING
(SOLVENT CEMENT TYPE)**



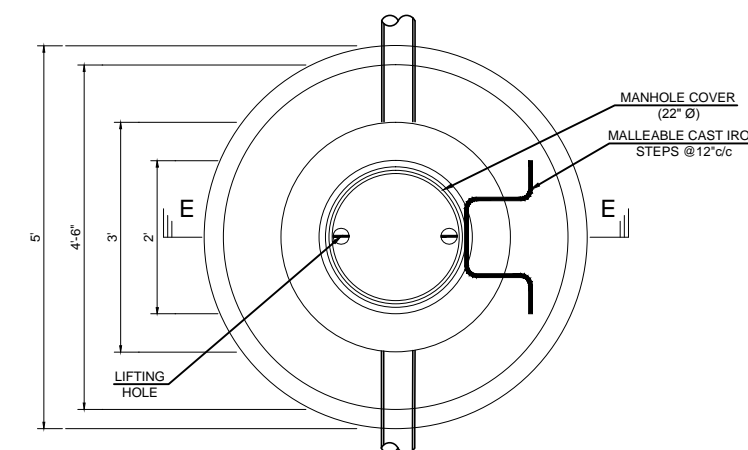
**TYPICAL uPVC PIPE JOINTING
(RUBBER RING TYPE)**



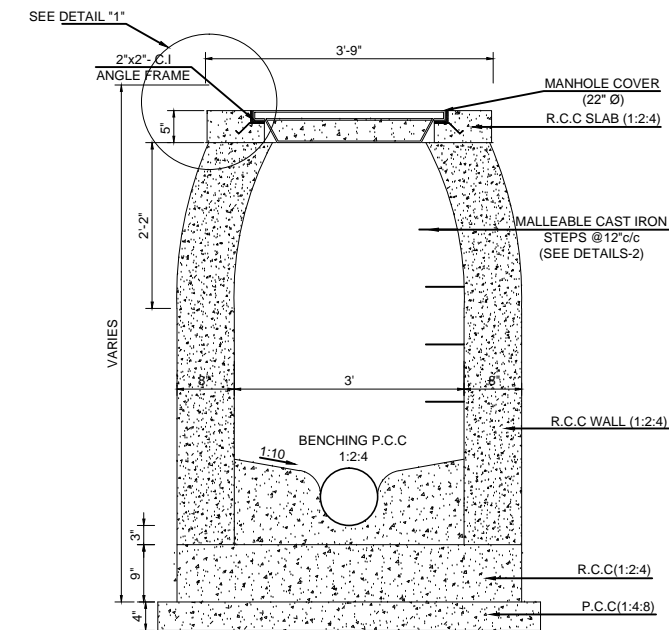
SECTION F-F



TYP. DRAIN (9")



**TYPICAL SEWER MANHOLE PLAN
(FROM 3' TO 6' DEPTH)
M.H-A**

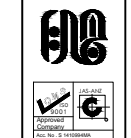


SECTION E-E

CLIENT:



**PROJECT
IMPLEMENTATION
UNIT (PIU) KNIP**



CONSULTANTS:
G3 ENGINEERING
CONSULTANTS (PVT) LTD.
House No. 57-M Gulberg-III, Lahore, Pakistan
Tel : (92-42) 35441641, 35441642
Fax : (92-42) 35441645
E-mail : info@g3ec.com
URL : www.g3ec.com

PROJECT:

**REHABILITATION & UPGRADATION
OF BOAT BASIN TO SCHON
CHOWRANGI WITH PEDESTRIAN
TRAIL**



NOTES:

1. ALL DIMENSIONS ARE IN FEET UNLESS OTHERWISE SPECIFIED.
2. THIS DRAWING IS AN INTELLECTUAL PROPERTY OF G3 ENGINEERING CONSULTANTS (PVT.) LTD. AND CANNOT BE REPRINTED OR REPRODUCED WITHOUT PRIOR APPROVAL OF G3.

REVISIONS:

No.	DESCRIPTION	DATE

TENDER DRAWINGS

DRAWING TITLE:
MANHOLE DETAIL

DRAWN BY: M.K.A	DATE: AUG 2021
CHECKED BY: Engr. WASIF ALI	
APPROVED BY: SYED ALI ABBAS GILLANI	
DRAWING NO: 0249/PH-07	REV: 4
SCALE (A3): N.T.S	SHEET: 1 / 2

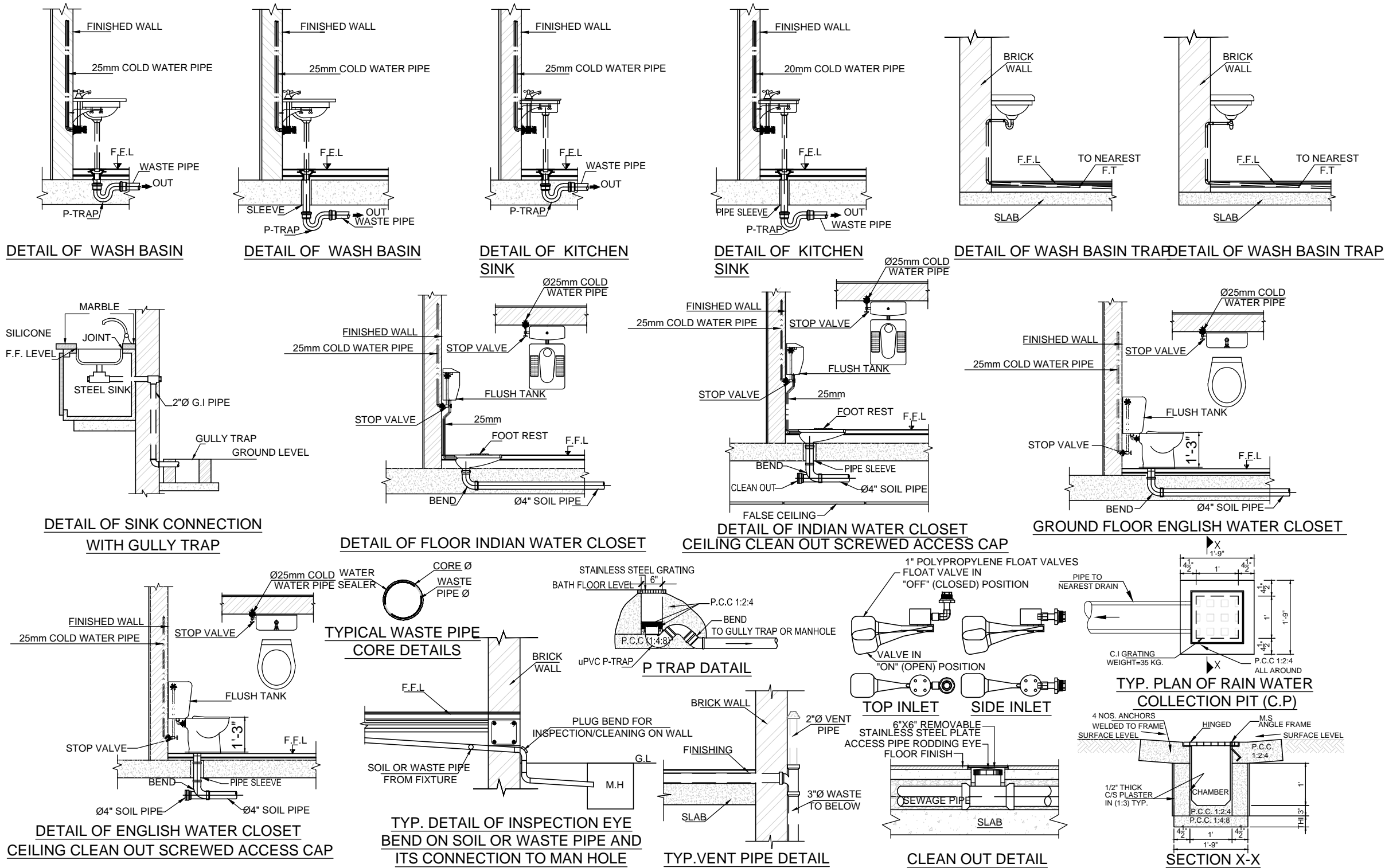
REVISIONS:		
No.	DESCRIPTION	DATE

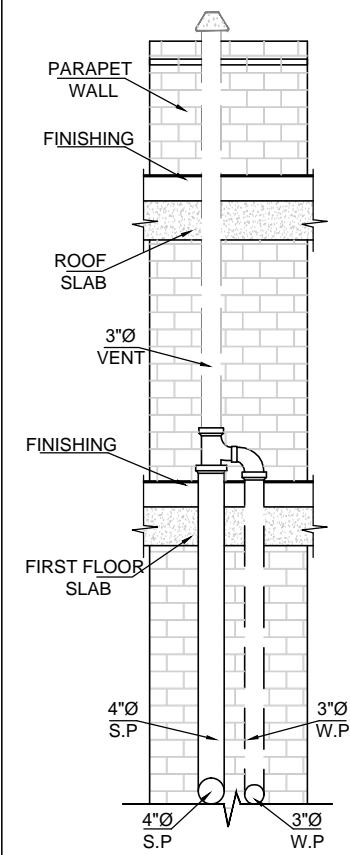
TENDER DRAWINGS

DRAWING TITLE:

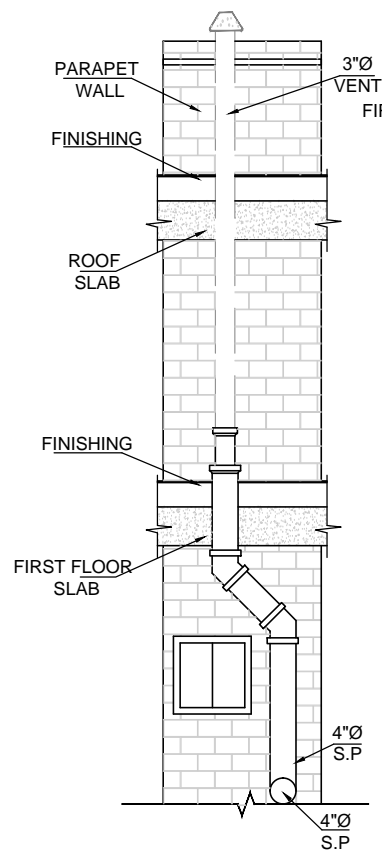
Miscellaneous Details

DRAWN BY: M. Imran	DATE: AUG. 2021
WATER SUPPLY & SEWERAGE ENGINEER	
Engr. Wasif Ali	
APPROVED BY: Syed Ali Abbas Gillani	
DRAWING NO: 0249/PH-08	REV: 4
SCALE (A3): N.T.S	SHEET:

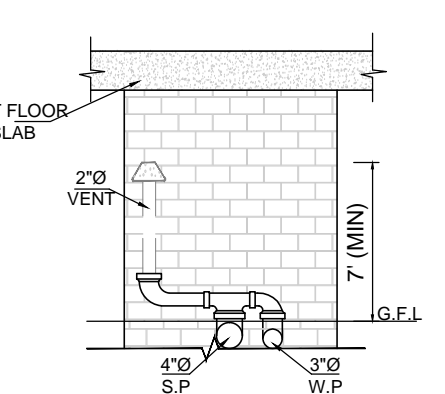




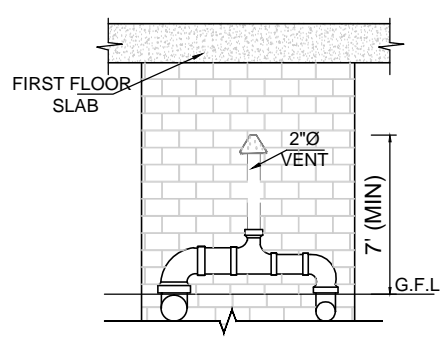
TYP. VENT PIPE DETAIL



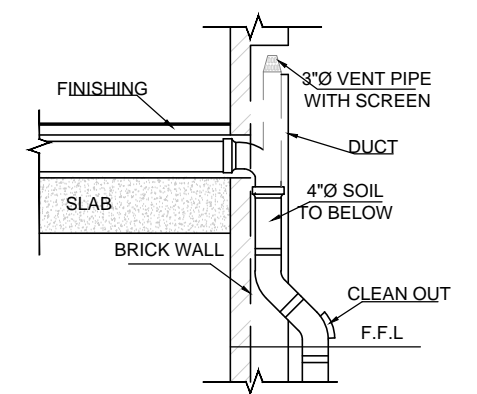
TYP. VENT PIPE DETAIL



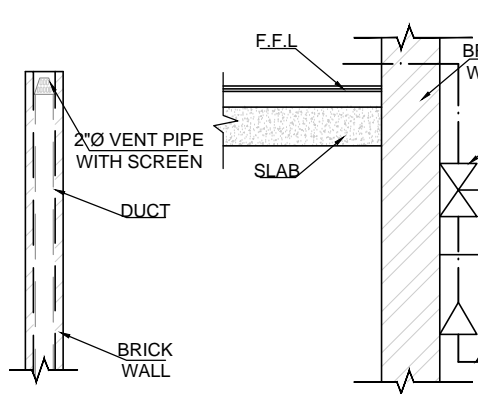
TYP. VENT PIPE DETAIL



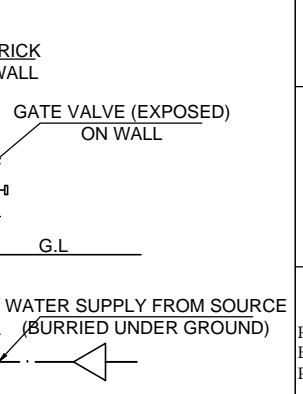
TYP. VENT PIPE DETAIL



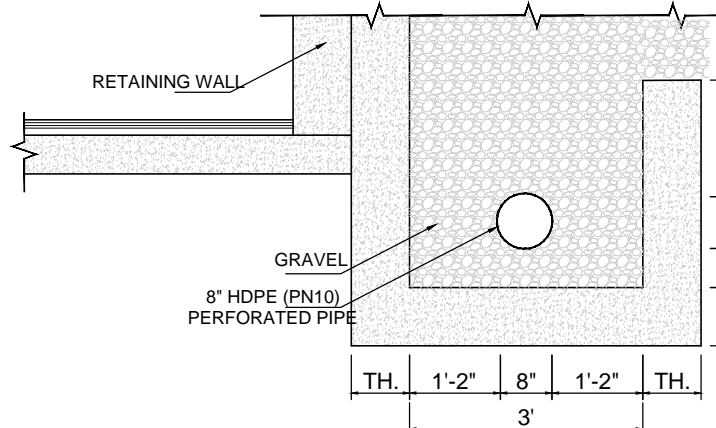
TYP. VENT PIPE DETAIL



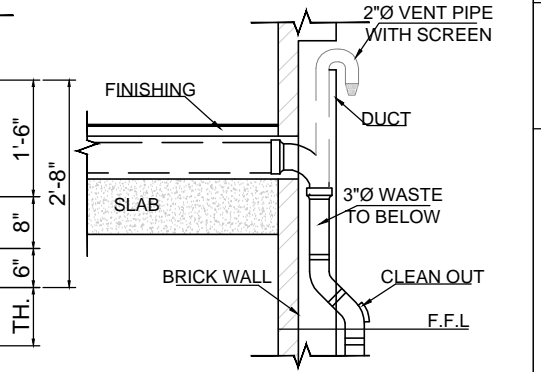
TYP. VENT PIPE DETAIL



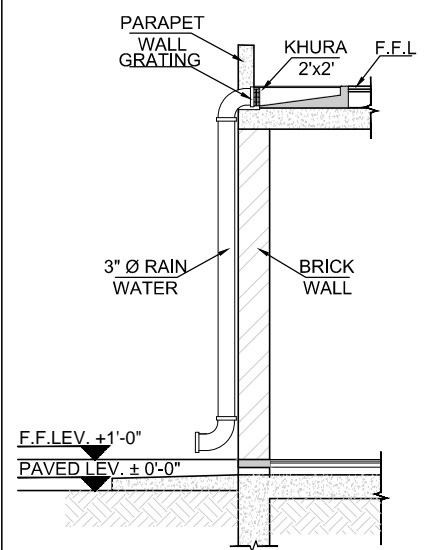
TYP. EXPOSED GATE VALVE



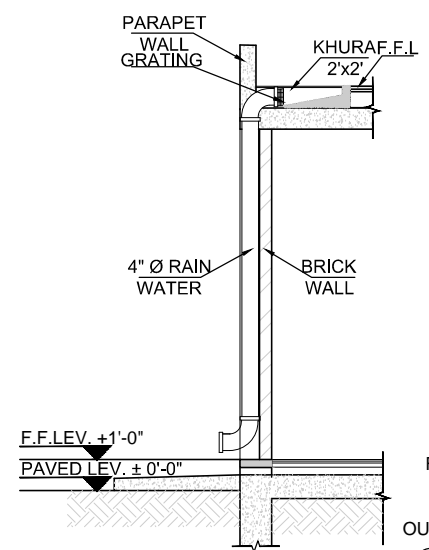
TYP. PERFORATED PIPE TRENCH DETAIL Z-Z



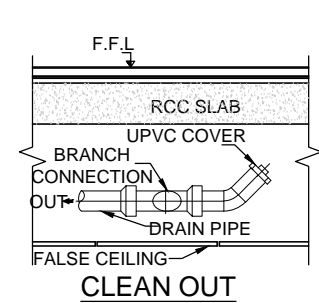
TYP. VENT PIPE DETAIL



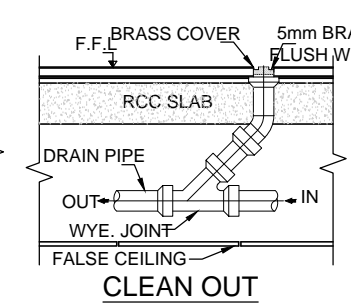
TYP. RAIN WATER PIPE & KHURA DETAIL



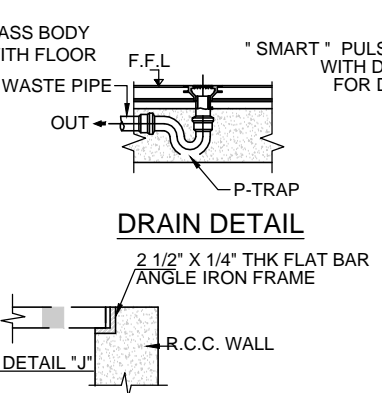
TYP. RAIN WATER PIPE & KHURA DETAIL



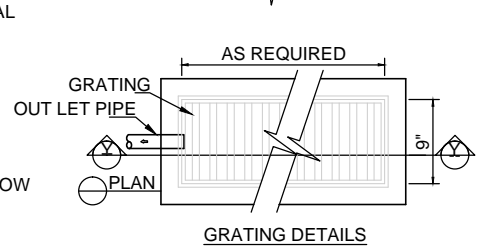
CLEAN OUT



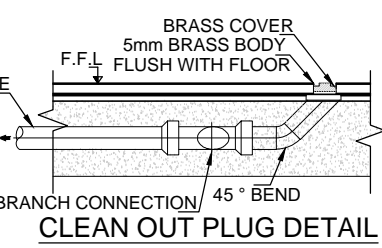
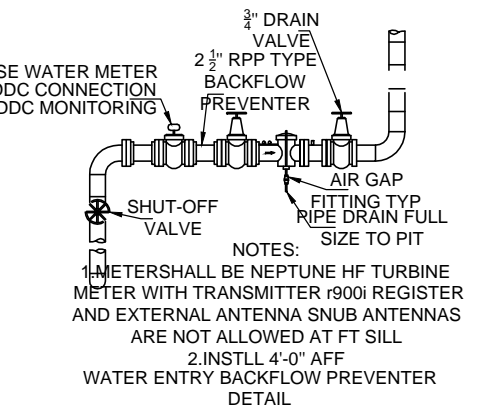
CLEAN OUT



DRAIN DETAIL



GRATING DETAILS



CLEAN OUT PLUG DETAIL

CLIENT:



PROJECT IMPLEMENTATION UNIT (PIU) KNIP



CONSULTANTS:
G3 ENGINEERING CONSULTANTS (PVT) LTD.
House No.57-M Gulberg-III, Lahore, Pakistan
Tel : (92-42) 35441641, 35441642
Fax : (92-42) 35441645
E-mail : info@g3ec.com
URL : www.g3ec.com

PROJECT:

REHABILITATION & UPGRADATION OF BOAT BASIN TO SCHON CHOWRANGI WITH PEDESTRIAN TRAIL

NOTES:

1. ALL DIMENSIONS ARE IN FEET UNLESS OTHERWISE SPECIFIED.
2. THIS DRAWING IS AN INTELLECTUAL PROPERTY OF G3 ENGINEERING CONSULTANTS (PVT.) LTD. AND CANNOT BE REPRINTED OR REPRODUCED WITHOUT PRIOR APPROVAL OF G3.

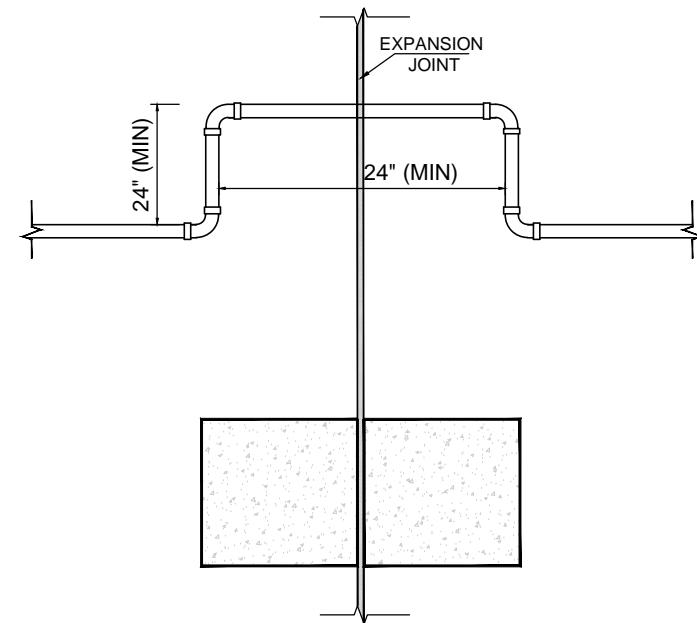
REVISIONS:

No.	DESCRIPTION	DATE

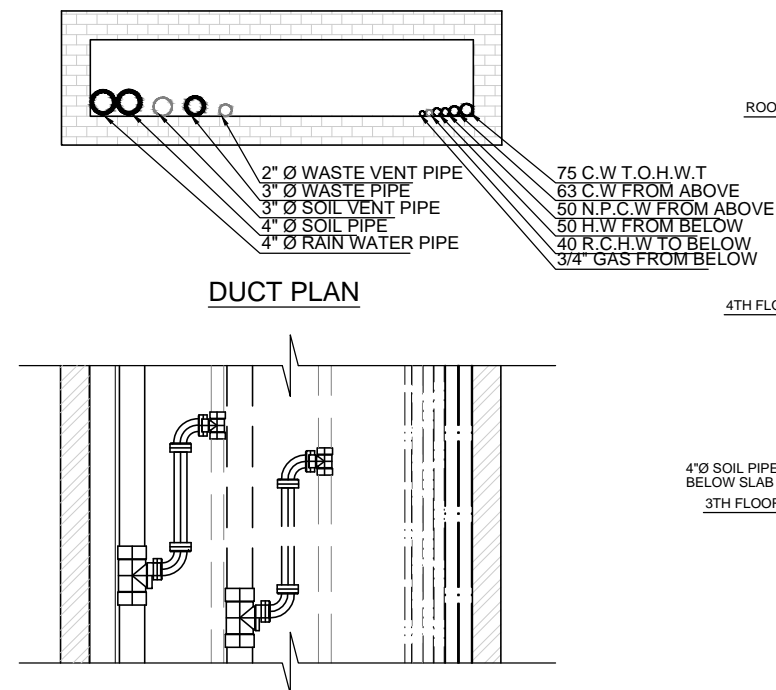
TENDER DRAWINGS

DRAWING TITLE:
Miscellaneous Details

DRAWN BY: M. Imran	DATE: AUG. 2021
WATER SUPPLY & SEWERAGE ENGINEER Engr. Wasif Ali	
APPROVED BY: Syed Ali Abbas Gillani	
DRAWING NO: 0249/PH-09	REV: 4
SCALE (A3): N.T.S	SHEET:

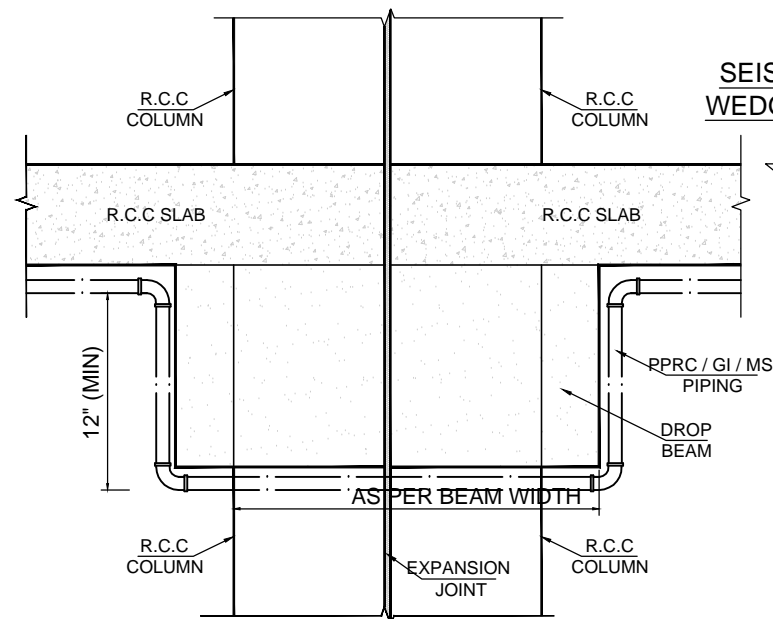


TYPICAL TOP DETAIL OF uPVC WASTE PIPE
AT EXPANSION JOINT

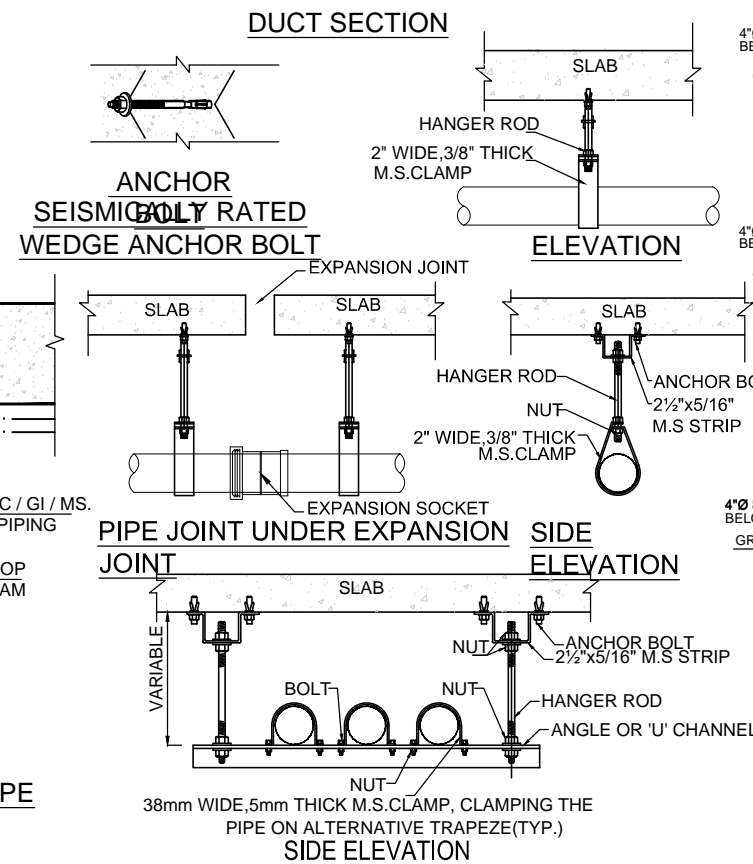


DUCT PLAN

DUCT SECTION



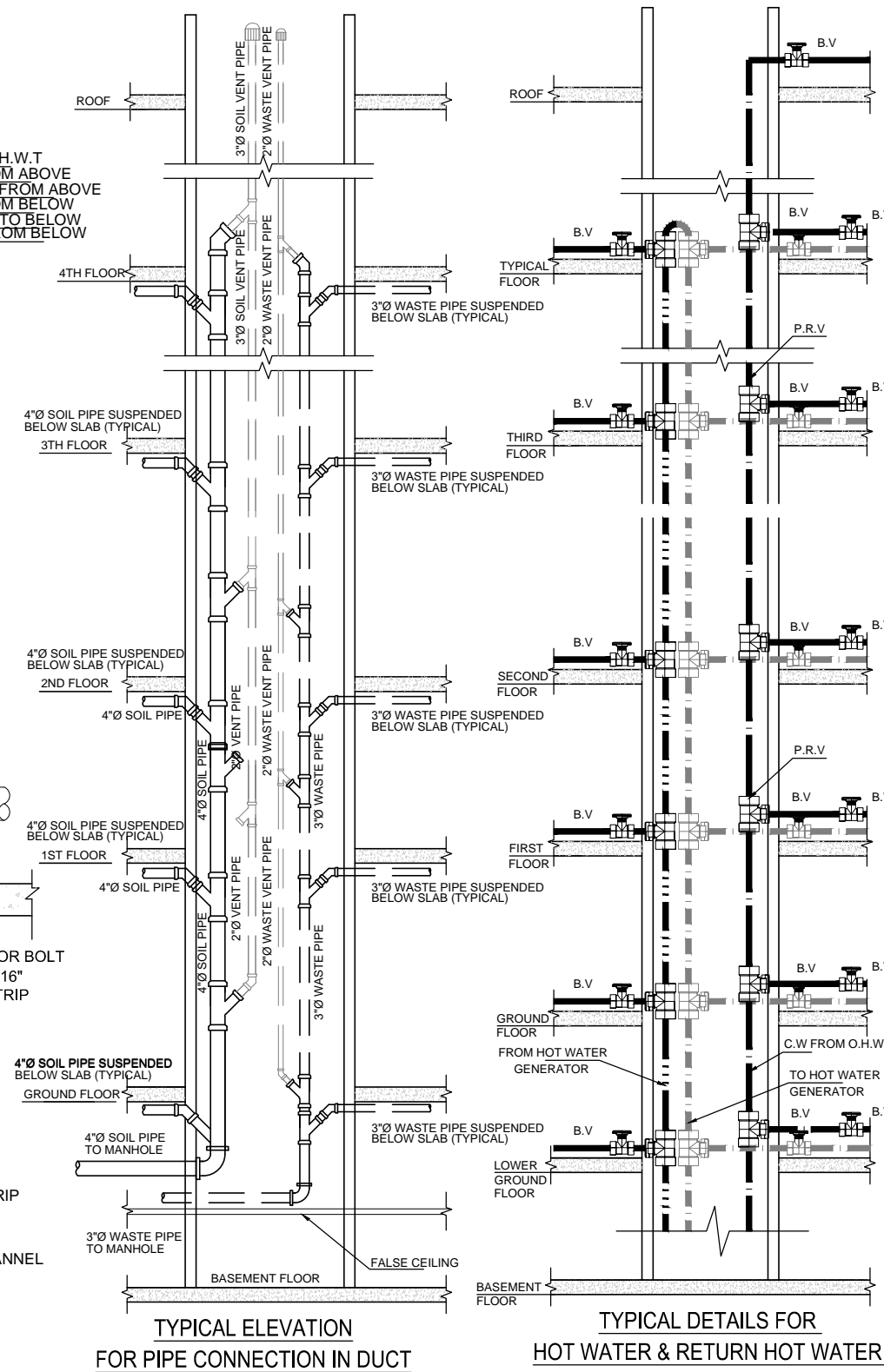
TYPICAL DETAIL OF PPRC WATER SUPPLY PIPE
AT EXPANSION JOINT



ELEVATION

SIDE ELEVATION

38mm WIDE, 5mm THICK M.S. CLAMP, CLAMPING THE
PIPE ON ALTERNATIVE TRAPEZE (TYP.)
SIDE ELEVATION



TYPICAL ELEVATION
FOR PIPE CONNECTION IN DUCT

TYPICAL DETAILS FOR
HOT WATER & RETURN HOT WATER

CLIENT:



PROJECT
IMPLEMENTATION
UNIT (PIU) KNIP



CONSULTANTS:

**G3 ENGINEERING
CONSULTANTS (PVT) LTD.**
House No.57-M Gulberg-III, Lahore, Pakistan
Tel : (92-42) 35441641, 35441642
Fax : (92-42) 35441645
E-mail : info@g3ec.com
URL : www.g3ec.com

PROJECT:

REHABILITATION & UPGRADATION OF
BOAT BASIN TO SCHON CHOWRANGI WITH
PEDESTRIAN TRAIL

NOTES:

1. ALL DIMENSIONS ARE IN FEET UNLESS OTHERWISE SPECIFIED.
2. THIS DRAWING IS AN INTELLECTUAL PROPERTY OF G3 ENGINEERING CONSULTANTS (PVT.) LTD. AND CANNOT BE REPRINTED OR REPRODUCED WITHOUT PRIOR APPROVAL OF G3.

REVISIONS:

No.	DESCRIPTION	DATE

TENDER DRAWINGS

DRAWING TITLE:

Miscellaneous Details

DRAWN BY:
M. Imran
WATER SUPPLY & SEWERAGE ENGINEER

DATE:
AUG. 2021

Engr. Wasif Ali
APPROVED BY:
Syed Ali Abbas Gillani

DRAWING NO:
0249/PH-10
SCALE (A3):
N.T.S

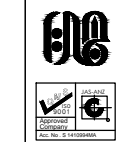
REV:
4
SHEET:

**PUBLIC HEATH DRAWINGS
MASTER PLAN
REHABILITATION AND UPGRADATION
OF GIZRI SPORTS GROUND**

CLIENT:



PROJECT
IMPLEMENTATION
UNIT (PIU) KNIP



CONSULTANTS:
**G3 ENGINEERING
CONSULTANTS (PVT) LTD.**
House No.57-M Gulberg-III, Lahore, Pakistan
Tel : (92-42) 35441641, 35441642
Fax : (92-42) 35441645
E-mail : info@g3ec.com
URL : www.g3ec.com

PROJECT:

REHABILITATION & UPGRADATION OF
GIZRI SPORTS GROUND



NOTES:

1. ALL DIMENSIONS ARE IN FEET UNLESS OTHERWISE SPECIFIED.
2. THIS DRAWING IS AN INTELLECTUAL PROPERTY OF G3 ENGINEERING CONSULTANTS (PVT.) LTD. AND CANNOT BE REPRINTED OR REPRODUCED WITHOUT PRIOR APPROVAL OF G3.

REVISIONS:

No.	DESCRIPTION	DATE

TENDER DRAWINGS

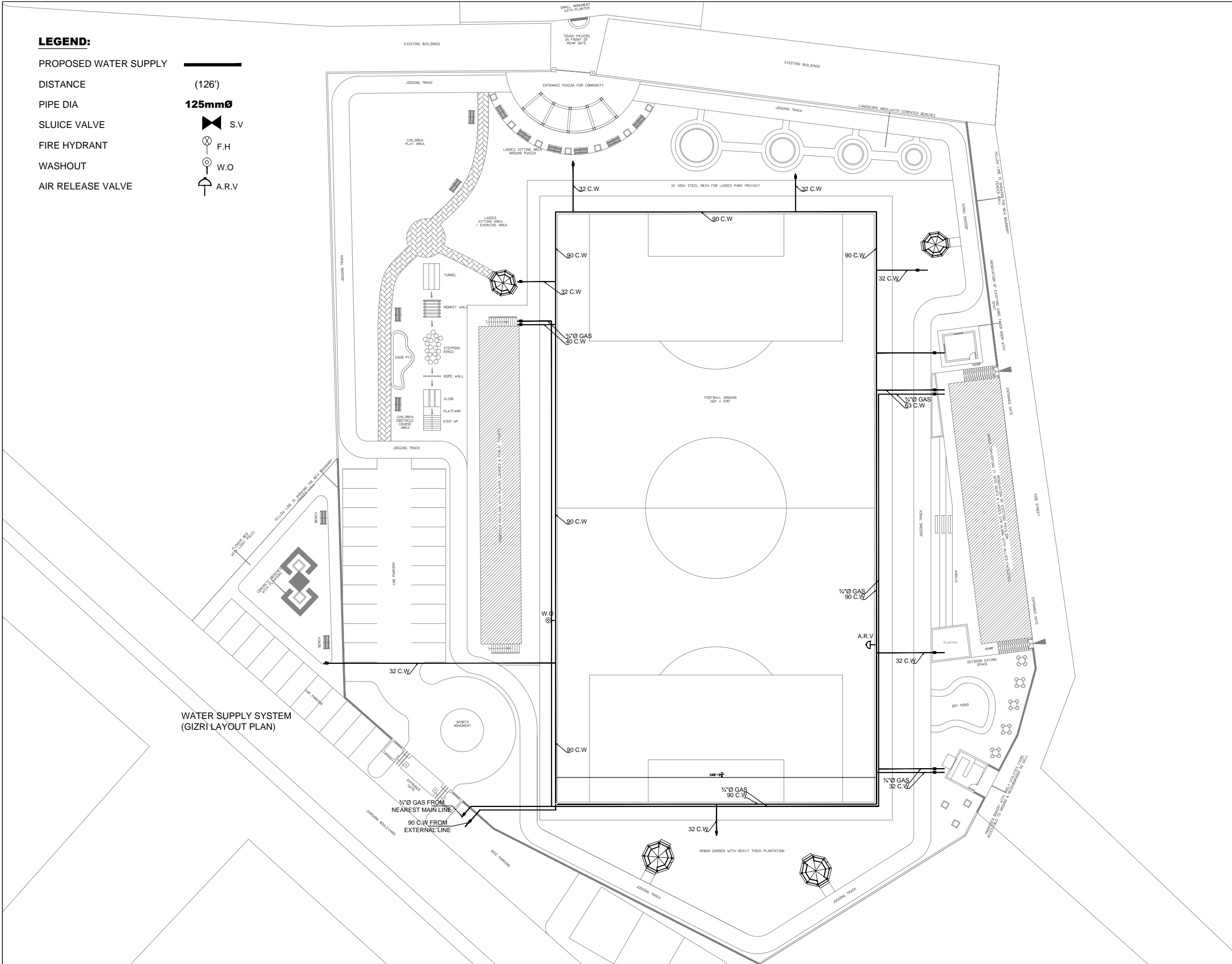
DRAWING TITLE:

LIST OF DRAWINGS

DRAWN BY: M.K.A	DATE: AUG .2021
WATER SUPPLY & SEWERAGE ENGINEER	
Engr.Wasif Ali	
APPROVED BY: SYED ALI ABBAS GILLANI	
DRAWING NO: 0249/WATER/WS-00	REV: 4
SCALE (A3): N.T.S	SHEET: 1 / 3

LIST OF DRAWINGS

S.NO	DESCRIPTION	DRG.NO:
WATER SUPPLY SYSTEM		
01	WATER SYSTEM LAYOUT PLAN (01 / 2)	WS-01
02	MISCELLANEOUS DETAILS	WS-02



CLIENT:



PROJECT
IMPLEMENTATION
UNIT (PIU) KNIP



CONSULTANTS:

**G3 ENGINEERING
CONSULTANTS (PVT) LTD.**
House No.57-M Gulberg-III, Lahore, Pakistan

Tel : (92-42) 35441641, 35441642
Fax : (92-42) 35441645
E-mail : info@g3ec.com
URL : www.g3ec.com

PROJECT:

REHABILITATION & UPGRADATION OF
GIZRI SPORTS GROUND



NOTES:

1. ALL DIMENSIONS ARE IN FEET UNLESS OTHERWISE SPECIFIED.
2. THIS DRAWING IS AN INTELLECTUAL PROPERTY OF G3 ENGINEERING CONSULTANTS (PVT.) LTD. AND CANNOT BE REPRINTED OR REPRODUCED WITHOUT PRIOR APPROVAL OF G3.

REVISIONS:

No.	DESCRIPTION	DATE

TENDER DRAWINGS

DRAWING TITLE:

**PROPOSED WATER
SUPPLY SYSTEM**

DRAWN BY:
M.K.A

DATE:
AUG .2021

WATER SUPPLY & SEWERAGE ENGINEER

Engr.Wasif Ali

APPROVED BY:

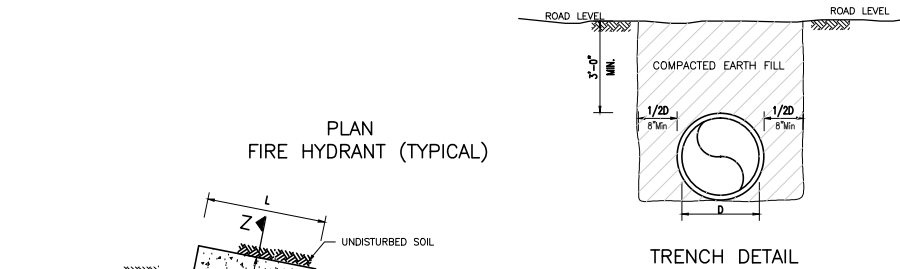
SYED ALI ABBAS GILLANI

DRAWING NO:
0249/WATER/WS-01

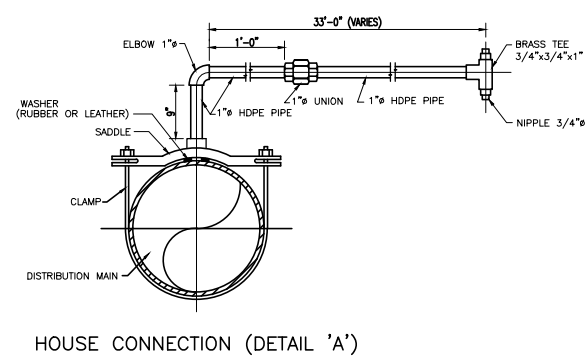
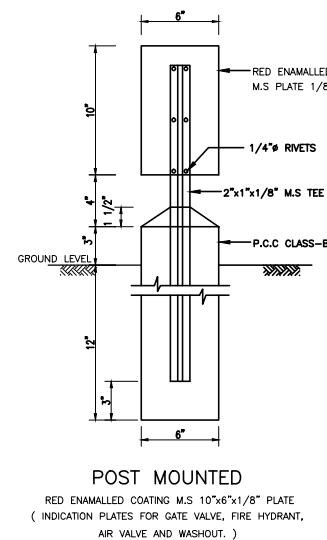
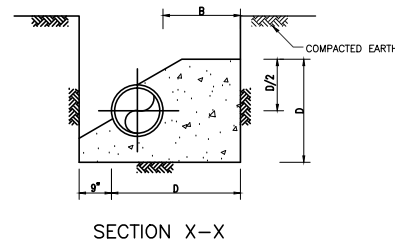
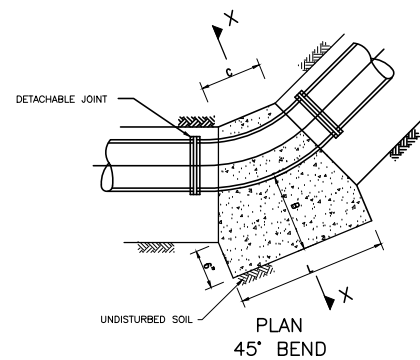
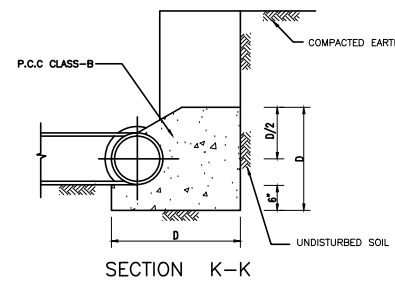
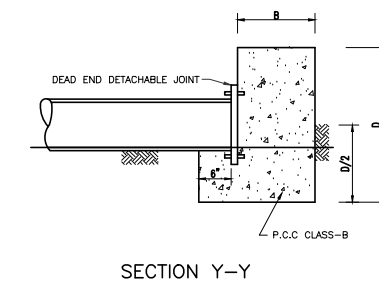
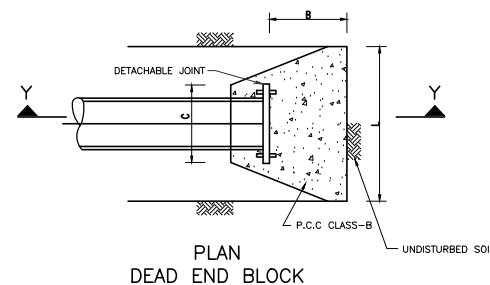
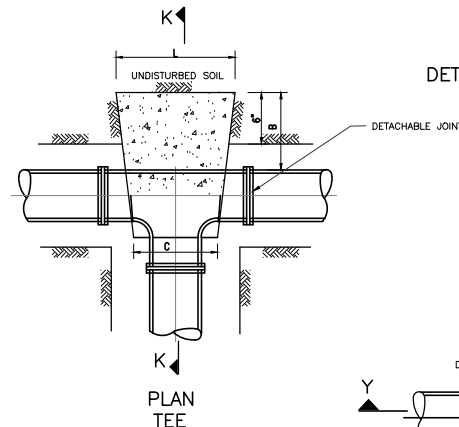
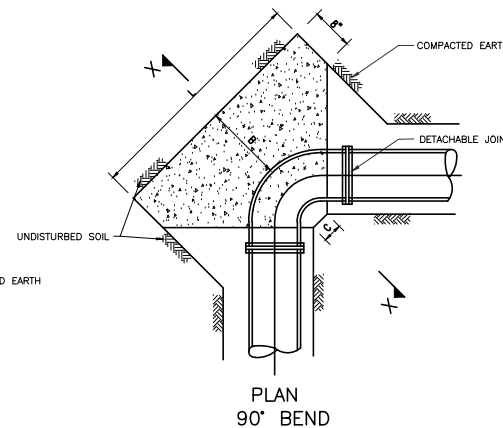
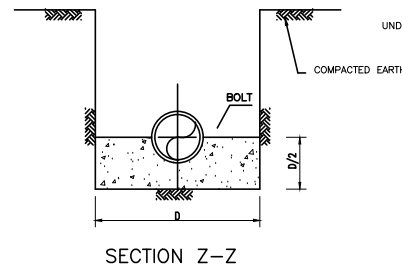
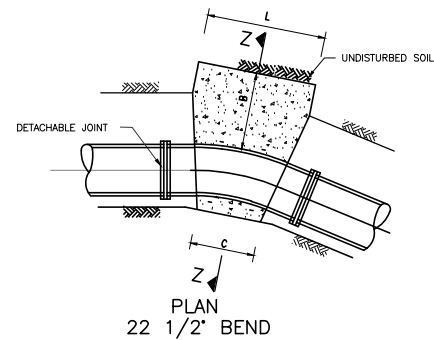
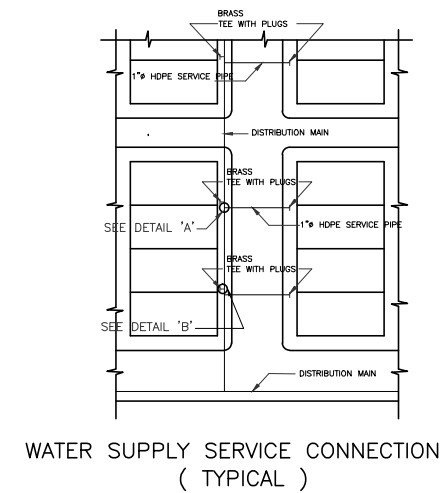
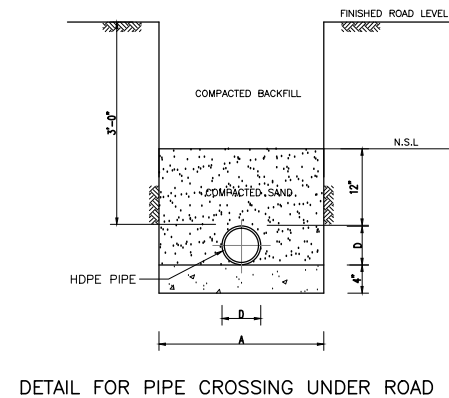
REV:
4

SCALE (A3):
N.T.S

SHEET:
2 / 3



TRENCH WIDTH SCHEDULE	
NOMINAL INTERNAL DIA OF PIPE IN INCHES (D)	TRENCH WIDTH (A)
3"	24"
4"	24"
6"	30"
8"	30"
10"	36"
12"	36"



- NOTES
- 1: THE HEIGHT OF CHAMBERS TO BE DETERMINED BY THE SITE ENGINEER.
 - 2: WALL THICKNESS OF CHAMBER IS 9" UPTO 3'-6" FOR DEPTH MORE THAN 3'-6" WALL THICKNESS WILL BE 13 1/2" (BELOW 3'-6" DEPTH)
 - 3: THRUST BLOCKS SHALL BE OF CONCRETE (CLASS-B)
 - 4: THE WORDS F.H, G.V, A.V, AND W.O ON INDICATION PLATE SHALL BE WRITTEN IN WHITE BAKED ENAMEL PAINT SHALL REPRESENT FIRE HYDRANT, GATE VALVE, AIR VALVE AND WASHOUT RESPECTIVELY.
 - 5: READ THIS DRAWING IN CONJUNCTION WITH ALL OTHER RELEVANT DRAWINGS.
 - 6: EXACT LOCATION OF AIR VALVES AND WASHOUTS SHALL BE CONFIRMED AT SITE BY THE ENGINEER

ANCHOR BLOCK DIMENSIONS FOR PIPE FITTINGS																
DIA IN INCHES	AT TEES AND DEAD ENDS				AT 90° BENDS				AT 45° BENDS				AT 22 1/2° BENDS			
	C	B	D	L	C	B	D	L	C	B	D	L	C	B	D	L
3	4	12	12	12	2	12	24	12	4	12	12	12	6	12	12	12
4	6	12	12	12	2	12	24	18	4	12	12	12	6	12	12	12
6	8	12	15	24	2	18	24	30	4	12	18	18	6	12	18	12
8	12	12	18	33	6	18	27	36	12	12	21	24	18	12	18	21
10	12	12	24	42	8	27	27	48	14	12	27	30	18	12	24	21
12	21	12	30	48	10	30	33	60	16	15	30	36	21	12	27	24

NOTE:- ALL DIMENSIONS ARE IN INCHES.

CLIENT:



PROJECT
IMPLEMENTATION
UNIT (PIU) KNIP



CONSULTANTS:
**G3 ENGINEERING
CONSULTANTS (PVT) LTD.**
House No.57-M Gulberg-III, Lahore, Pakistan
Tel : (92-42) 35441641, 35441642
Fax : (92-42) 35441645
E-mail : info@g3ec.com
URL : www.g3ec.com

PROJECT:

REHABILITATION & UPGRADATION OF
GIZRI SPORTS GROUND



NOTES:

1. ALL DIMENSIONS ARE IN FEET UNLESS OTHERWISE SPECIFIED.
2. THIS DRAWING IS AN INTELLECTUAL PROPERTY OF G3 ENGINEERING CONSULTANTS (PVT.) LTD. AND CANNOT BE REPRINTED OR REPRODUCED WITHOUT PRIOR APPROVAL OF G3.

REVISIONS:

No.	DESCRIPTION	DATE

TENDER DRAWINGS

DRAWING TITLE:
**MISCELLANEOUS
DETAILS**

DRAWN BY:
M.K.A

DATE:
AUG .2021

WATER SUPPLY & SEWERAGE ENGINEER

Engr.Wasif Ali

APPROVED BY:

SYED ALI ABBAS GILLANI

DRAWING NO:

0249/WATER/WS-02


SCALE (A3):

N.T.S

REV: 4

SHEET: 3 / 3

CLIENT:



PROJECT
IMPLEMENTATION
UNIT (PIU) KNIP



CONSULTANTS:
**G3 ENGINEERING
CONSULTANTS (PVT) LTD.**
House No.57-M Gulberg-III, Lahore, Pakistan



Tel : (92-42) 35441641, 35441642
Fax : (92-42) 35441645
E-mail : info@g3ec.com
URL : www.g3ec.com

PROJECT:
REHABILITATION & UPGRADATION OF
GIZRI SPORTS GROUND



NOTES:
1. ALL DIMENSIONS ARE IN FEET UNLESS
OTHERWISE SPECIFIED.
2. THIS DRAWING IS AN INTELLECTUAL PROPERTY
OF G3 ENGINEERING CONSULTANTS (PVT.) LTD.
AND CANNOT BE REPRINTED OR REPRODUCED
WITHOUT PRIOR APPROVAL OF G3.

REVISIONS:		
No.	DESCRIPTION	DATE

TENDER DRAWINGS

DRAWING TITLE:
LIST OF DRAWING

DRAWN BY: M.K.A	DATE: AUG .2021
WATER SUPPLY & SEWERAGE ENGINEER	
Engr.Wasif Ali	
APPROVED BY: SYED ALI ABBAS GILLANI	
DRAWING NO: 0249/SEWER/LD-00	REV: 4
SCALE (A3): N.T.S	SHEET: 1 / 4

LIST OF DRAWINGS

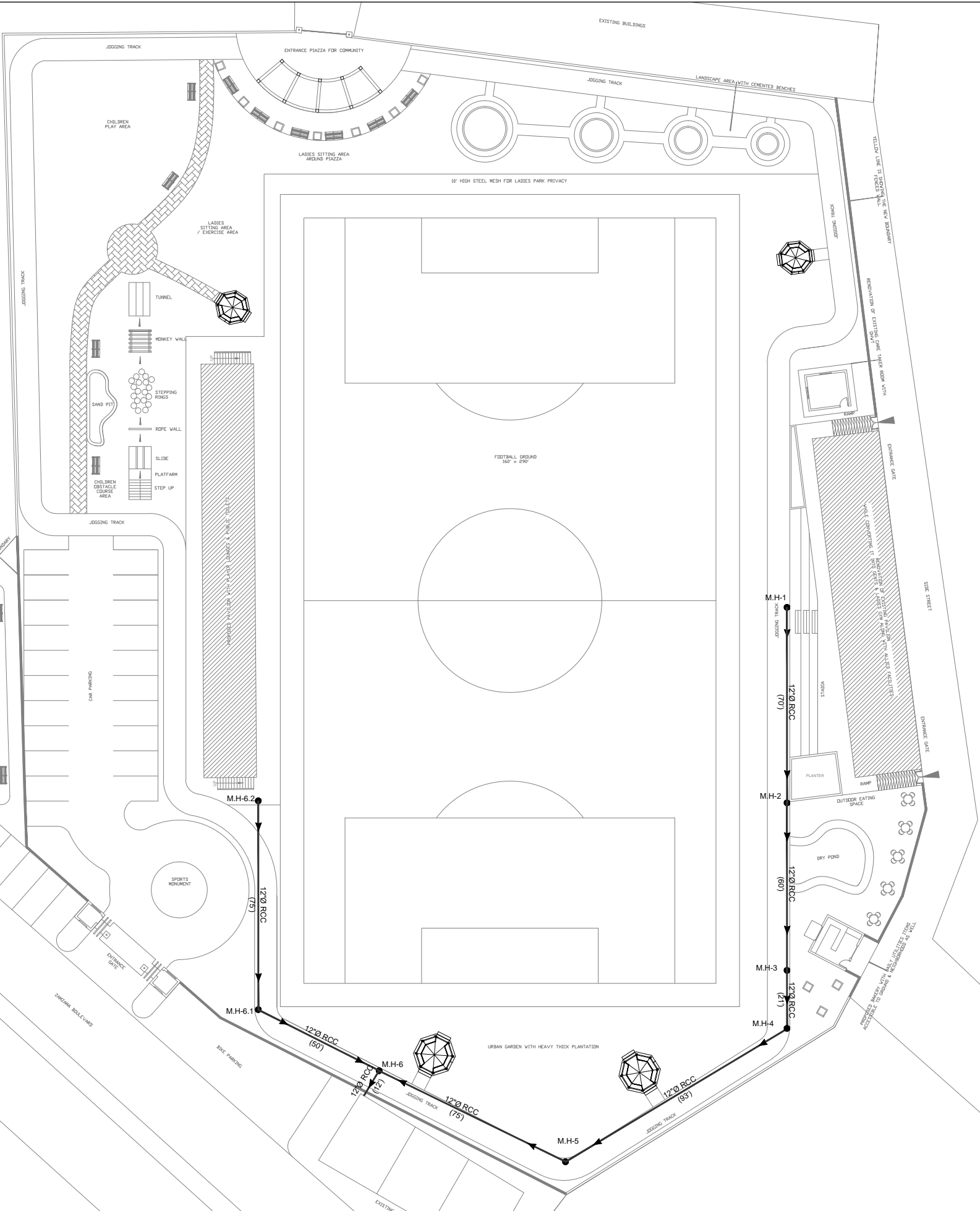
S.NO	DESCRIPTION	DRG.NO:
SEWERAGE SYSTEM		
01	SEWERAGE SYSTEM LAYOUT PLAN	SW-01
02	TRENCH AND R.C.C. PIPE DETAIL	SW-02
03	MANHOLE & MISCELLANEOUS	SW-03

LEGEND:

PROPOSED SEWERAGE SYSTEM
DISTANCE
SEWER DIA
MANHOLE
MANHOLE NUMBER

(50')
11.2

SEWERAGE SYSTEM
(GIZRI LAYOUT PLAN)



CLIENT:

**PROJECT
IMPLEMENTATION
UNIT (PIU) KNIP**



CONSULTANTS:

**G3 ENGINEERING
CONSULTANTS (PVT) LTD.**
House No.57-M Gulberg-III, Lahore, Pakistan

Tel : (92-42) 35441641, 35441642
Fax : (92-42) 35441645
E-mail : info@g3ec.com
URL : www.g3ec.com

PROJECT:

REHABILITATION & UPGRADATION OF
GIZRI SPORTS GROUND



NOTES:

1. ALL DIMENSIONS ARE IN FEET UNLESS OTHERWISE SPECIFIED.
2. THIS DRAWING IS AN INTELLECTUAL PROPERTY OF G3 ENGINEERING CONSULTANTS (PVT.) LTD. AND CANNOT BE REPRINTED OR REPRODUCED WITHOUT PRIOR APPROVAL OF G3.

REVISIONS:

No.	DESCRIPTION	DATE

TENDER DRAWINGS

DRAWING TITLE:

**PROPOSED
SEWERAGE SYSTEM**

DRAWN BY:

M.K.A

DATE:

AUG .2021

WATER SUPPLY & SEWERAGE ENGINEER

Engr. Wasif Ali

APPROVED BY:

SYED ALI ABBAS GILLANI

DRAWING NO:

0249/SEWER/SW-01

REV:

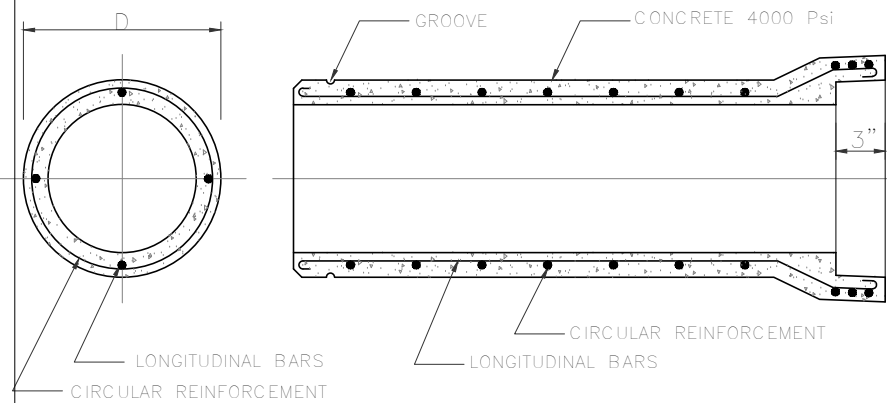
4

SCALE (A3):

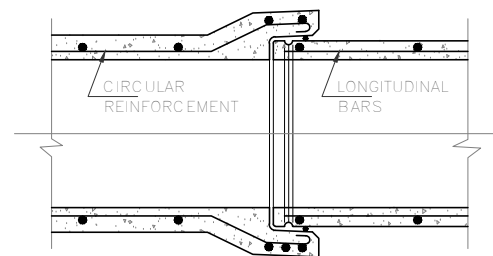
N.T.S

SHEET:

2 / 4



PIPE REINFORCEMENT DETAIL



THE DIMENSIONS OF WALL THICKNESS, PIPE DIAS REINFORCEMENT DETAILS ETC REFER TABLE:1

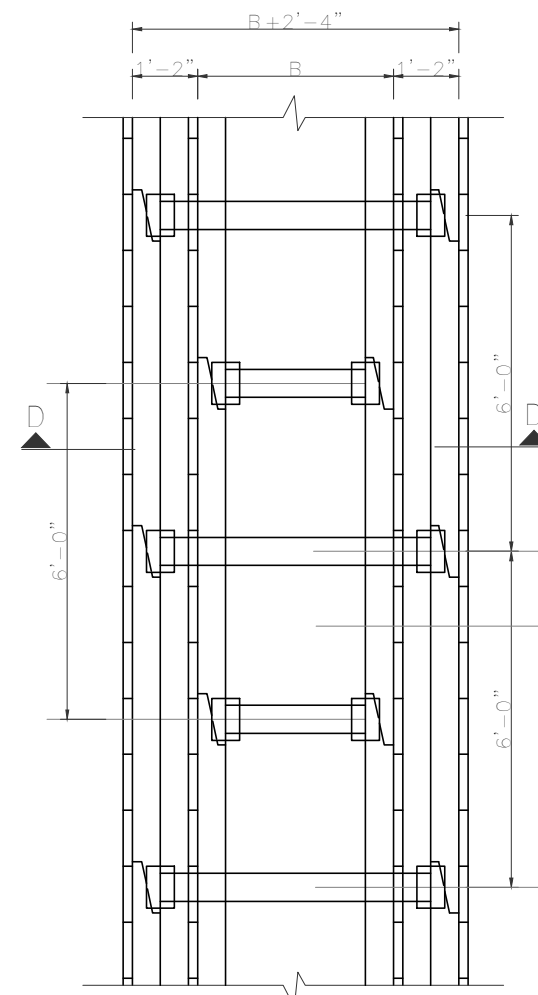
SPECIFIC SOCKET AND SPIGOT JOINT AND REINFORCEMENT DETAIL

NOTE:-

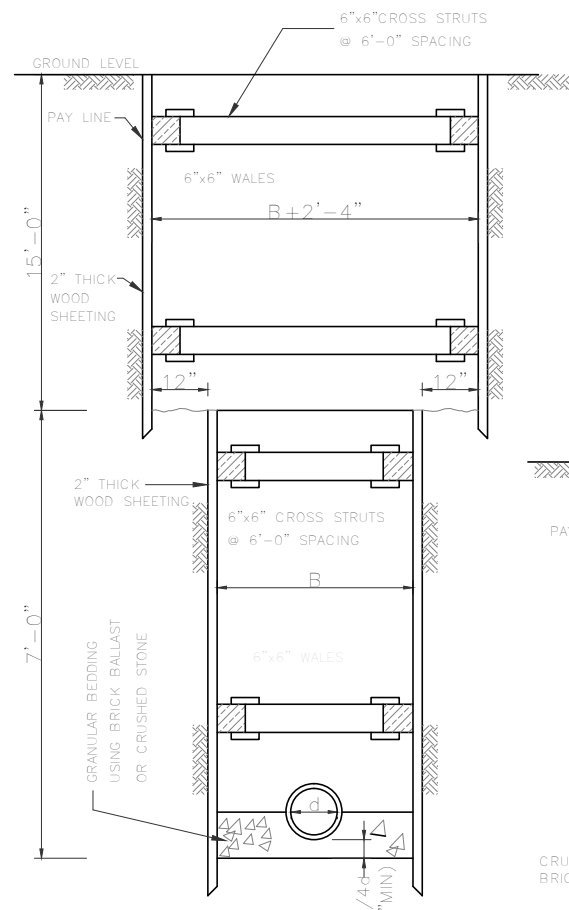
THE WEIGHT OF THE STEEL CAGE TO BE APPROVED BY THE SITE ENGINEER BASED UPON THE NUMBER OF BAR AS MENTIONED IN THE ABOVE TABLE.

TABLE :1									
RECOMMENDED R.C.C PIPES OF 8ft. BARREL LENGTH									
WALL THICKNESS AND REINFORCEMENT DETAILS (CLASS III WALL 'B')									
SR. NO.	PIPE INNER DIA.	WALL THICKNESS	SIZE OF RING BARS	NOS.OF CIRCULAR RINGS		NO.OF RINGS FOR BELL	STRAIGHT BARS		
				INNER CAUGE	OUTER CAUGE		DIA.	INNER CAUGE	OUTER CAUGE
1	6" **	1"	3/16"	25	-	2	3/16"	4	-
2	9" **	1"	3/16"	25	-	2	3/16"	4	-
3	12" *	2"	3/16"	25	-	2	3/16"	4	-
4	15" *	2 1/4"	3/16"	25	-	2	3/16"	4	-
5	18" *	2 1/2"	3/16"	25	-	2	3/16"	4	-
6	21" *	2 3/4"	3/16"	25	-	3	3/16"	4	-
7	24" *	3"	3/16"	25	-	2	3/16"	4	-
8	27" *	3 1/4"	1/4"	25	-	3	3/16"	4	-
9	30" *	3 1/2"	1/4"	27	-	3	1/4"	8	-
10	36" *	4"	1/4"	45	27	3	1/4"	8	8
11	42" *	4 1/2"	1/4"	52	33	3	1/4"	8	8
12	48" *	5"	1/4"	60	38	3	1/4"	8	8
13	54" *	5 1/2"	1/4"	66	45	3	1/4"	8	8

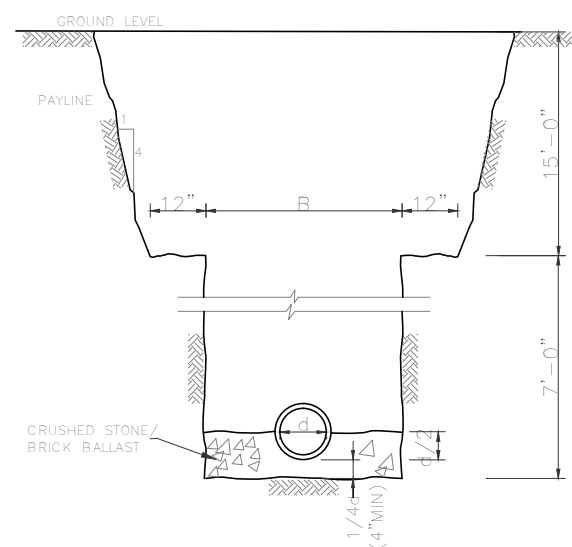
** BSS 5911 PART 1 1981 CLASS 'L'
* ASTM C76/90 CLASS III WALL 'B' PIPES



TRENCH WITH TIMBERING AND BRACING



SECTION D-D



SECTION OF TRENCH WITHOUT TIMBERING AND BRACING

SEHEDULE OF TRENCH

SR. NO.	PIPE INSIDE DIA. ("d")	TRENCH (B) WITH TIMBERING	WIDTH (B) WITHOUT TIMBERING
1	9"	27"	36"
2	12"	32"	36"
3	15"	36"	42"
4	18"	39"	46"
5	21"	43"	50"
6	24"	46"	54"
7	30"	53"	62"
8	36"	68"	67"
8	42"	76"	72"
9	48"	83"	88"
10	54"	86"	98"

CLIENT:



PROJECT IMPLEMENTATION UNIT (PIU) KNIP



CONSULTANTS:
G3 ENGINEERING CONSULTANTS (PVT) LTD.
House No.57-M Gulberg-III, Lahore, Pakistan
Tel : (92-42) 35441641, 35441642
Fax : (92-42) 35441645
E-mail : info@g3ec.com
URL : www.g3ec.com

PROJECT:

REHABILITATION & UPGRADATION OF GIZRI SPORTS GROUND



NOTES:

1. ALL DIMENSIONS ARE IN FEET UNLESS OTHERWISE SPECIFIED.
2. THIS DRAWING IS AN INTELLECTUAL PROPERTY OF G3 ENGINEERING CONSULTANTS (PVT.) LTD. AND CANNOT BE REPRINTED OR REPRODUCED WITHOUT PRIOR APPROVAL OF G3.

REVISIONS:

No.	DESCRIPTION	DATE

TENDER DRAWINGS

DRAWING TITLE:
TRENCH AND R.C.C. PIPE DETAIL

DRAWN BY: M.K.A. DATE: AUG. 2021
WATER SUPPLY & SEWERAGE ENGINEER

Engr. Wasif Ali
APPROVED BY: SYED ALI ABBAS GILLANI

DRAWING NO: 0249/SEWER/SW-02 REV: 4
SCALE (A3): N.T.S SHEET: 3/4

CLIENT:

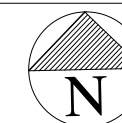


PROJECT
IMPLEMENTATION
UNIT (PIU) KNIP



CONSULTANTS:
G3 ENGINEERING
CONSULTANTS (PVT) LTD.
House No 57-M Gulberg-II, Lahore, Pakistan
Tel : (92-42) 35441641, 35441642
Fax : (92-42) 35441645
E-mail : info@g3ec.com
URL : www.g3ec.com

PROJECT:
REHABILITATION & UPGRADE OF
GIZRI SPORTS GROUND



NOTES:
1. ALL DIMENSIONS ARE IN FEET UNLESS OTHERWISE SPECIFIED.
2. THIS DRAWING IS AN INTELLECTUAL PROPERTY OF G3 ENGINEERING CONSULTANTS (PVT) LTD. AND CANNOT BE REPRINTED OR REPRODUCED WITHOUT PRIOR APPROVAL OF G3.

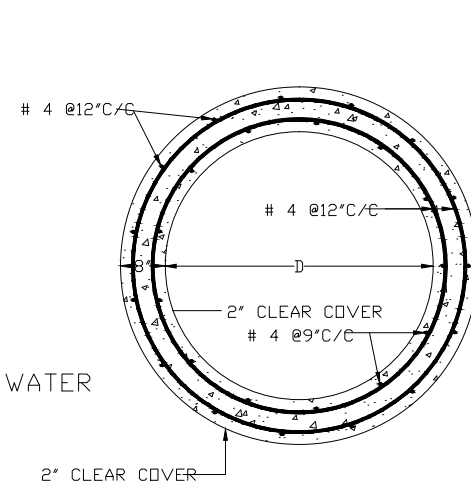
REVISIONS:

No.	DESCRIPTION	DATE

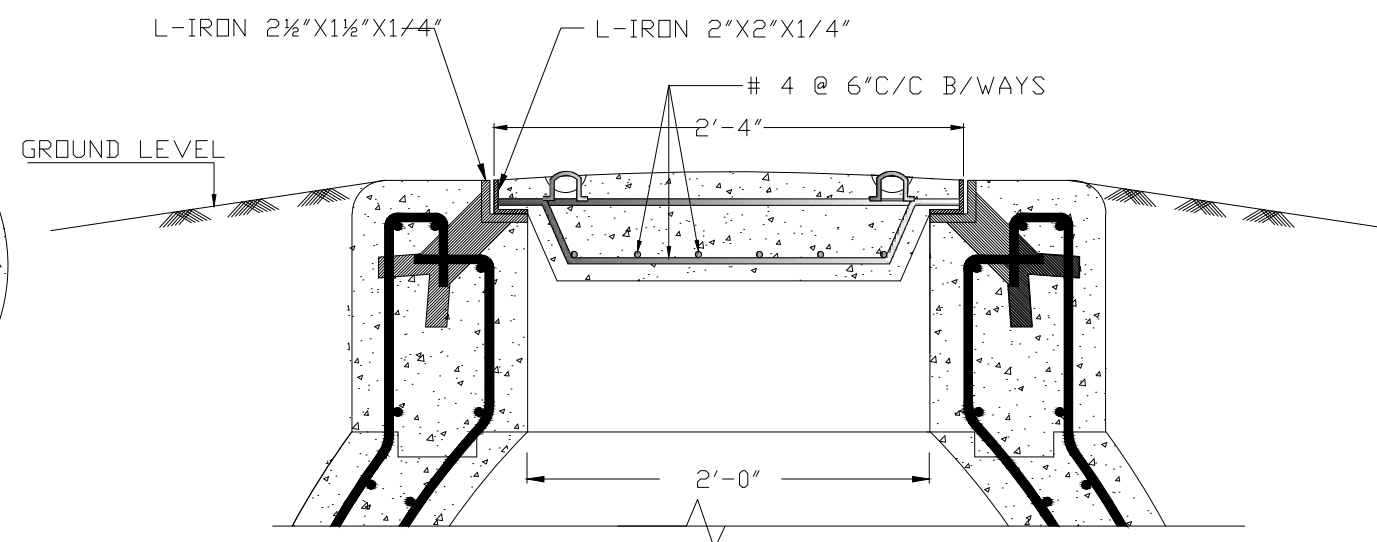
TENDER DRAWINGS

DRAWING TITLE:
MANHOLE DETAIL

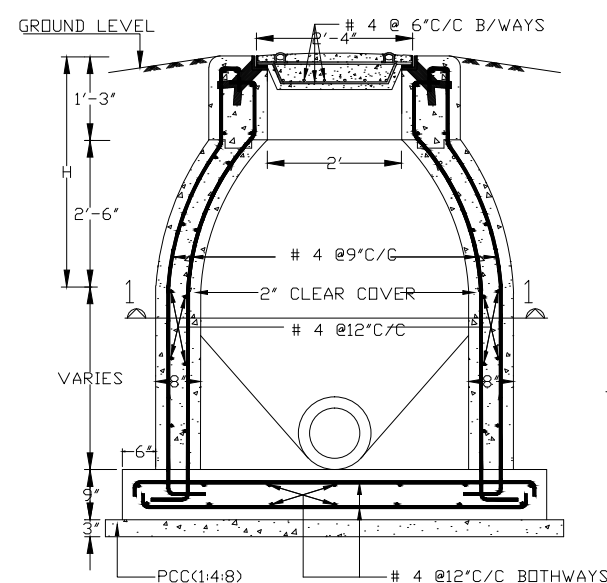
DRAWN BY: M.K.A	DATE: AUG 2021
CHECKED BY: Engr.WASIF ALI	
APPROVED BY: SYED ALI ABBAS GILLANI	
DRAWING NO: 0249/SEWER/SW-04	REV: 4
SCALE (A3): N.T.S	SHEET: 1 / 2



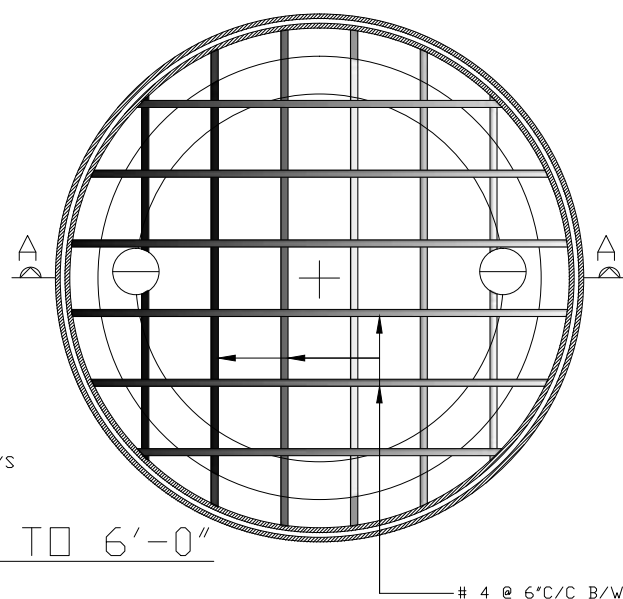
PLAN AT3-3



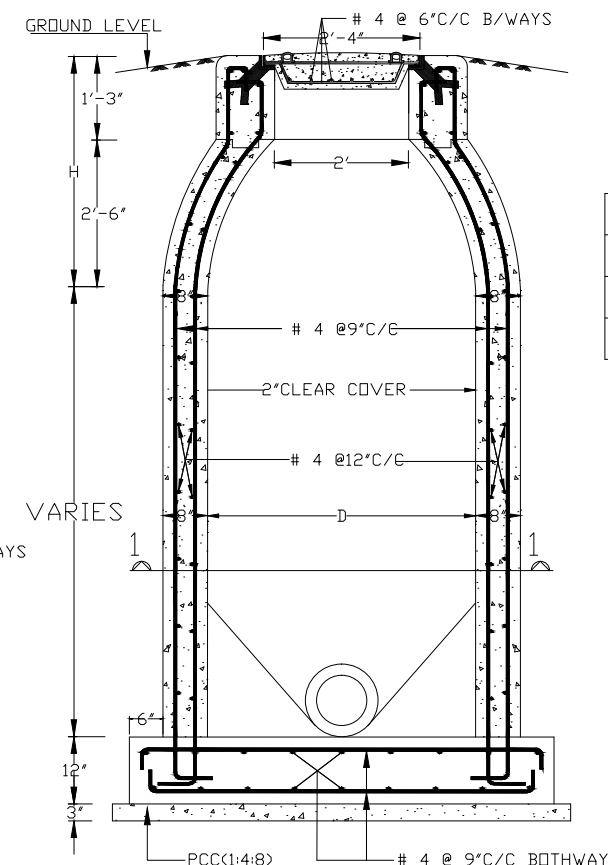
DETAIL AT X



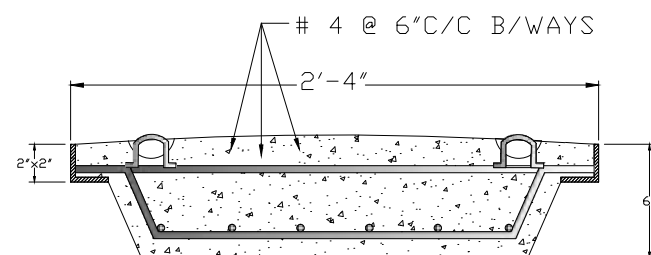
DEPTH OF INVERT UP TO 6'-0"



MANHOLE COVER



DEPTH OF INVERT EXCEEDING 6'-0"
BUT NOT EXCEEDING 10'-0"



SECTION AT A-A

VARIABLE DIMENSIONS FOR
SEWER MANHOLES

S/NO	DIA OF PIPE	D	H
1	9" TO 15"	4' - 0"	3' - 9"
2	18" TO 30"	5' - 0"	4' - 0"
3	33" TO 56"	6' - 0"	5' - 0"

NOTES

- REINFORCING STEEL**
INTERMEDIATE GRADE STEEL SHALL BE DEFORMED BARS CONFORMING TO ASTM 615-82 GRADE 40 OR EQUIVALENT AS APPROVED BY THE ENGINEER HAVING A MIN YIELD STRENGTH OF 40,000 PSI.
- REINFORCING CONCRETE**
CONCRETE HAVING 28-DAYS CYLINDER STRENGTH NOT LESS THEN 3500 PSI SHALL BE USED.
- SR CEMENT SHALL BE USED IN R.C.C WORK IF SOIL HAS HIGHER SULPHATE CONTENTS
- FOR DEPTH OF M H EXCEEDING 10'-0", 9" WIDE P.V.C WATER STOPPER BE USED AT CONSTRUCTION JOINT.

CLIENT:



PROJECT
IMPLEMENTATION
UNIT (PIU) KNIP



CONSULTANTS:
**G3 ENGINEERING
CONSULTANTS (PVT) LTD.**
House No.57-M Gulberg-III, Lahore, Pakistan
Tel : (92-42) 35441641, 35441642
Fax : (92-42) 35441645
E-mail : info@g3ec.com
URL : www.g3ec.com

PROJECT:

REHABILITATION & UPGRADATION OF
GIZRI SPORTS GROUND



NOTES:

1. ALL DIMENSIONS ARE IN FEET UNLESS OTHERWISE SPECIFIED.
2. THIS DRAWING IS AN INTELLECTUAL PROPERTY OF G3 ENGINEERING CONSULTANTS (PVT.) LTD. AND CANNOT BE REPRINTED OR REPRODUCED WITHOUT PRIOR APPROVAL OF G3.

REVISIONS:

No.	DESCRIPTION	DATE

TENDER DRAWINGS

DRAWING TITLE:

LIST OF DRAWING

DRAWN BY: M.K.A	DATE: AUG .2021
WATER SUPPLY & SEWERAGE ENGINEER Engr.Wasif Ali	
APPROVED BY: SYED ALI ABBAS GILLANI	
DRAWING NO: 0249/SEWER/LD-00	REV: 4
SCALE (A3): N.T.S	SHEET: 1 / 4

LIST OF DRAWINGS

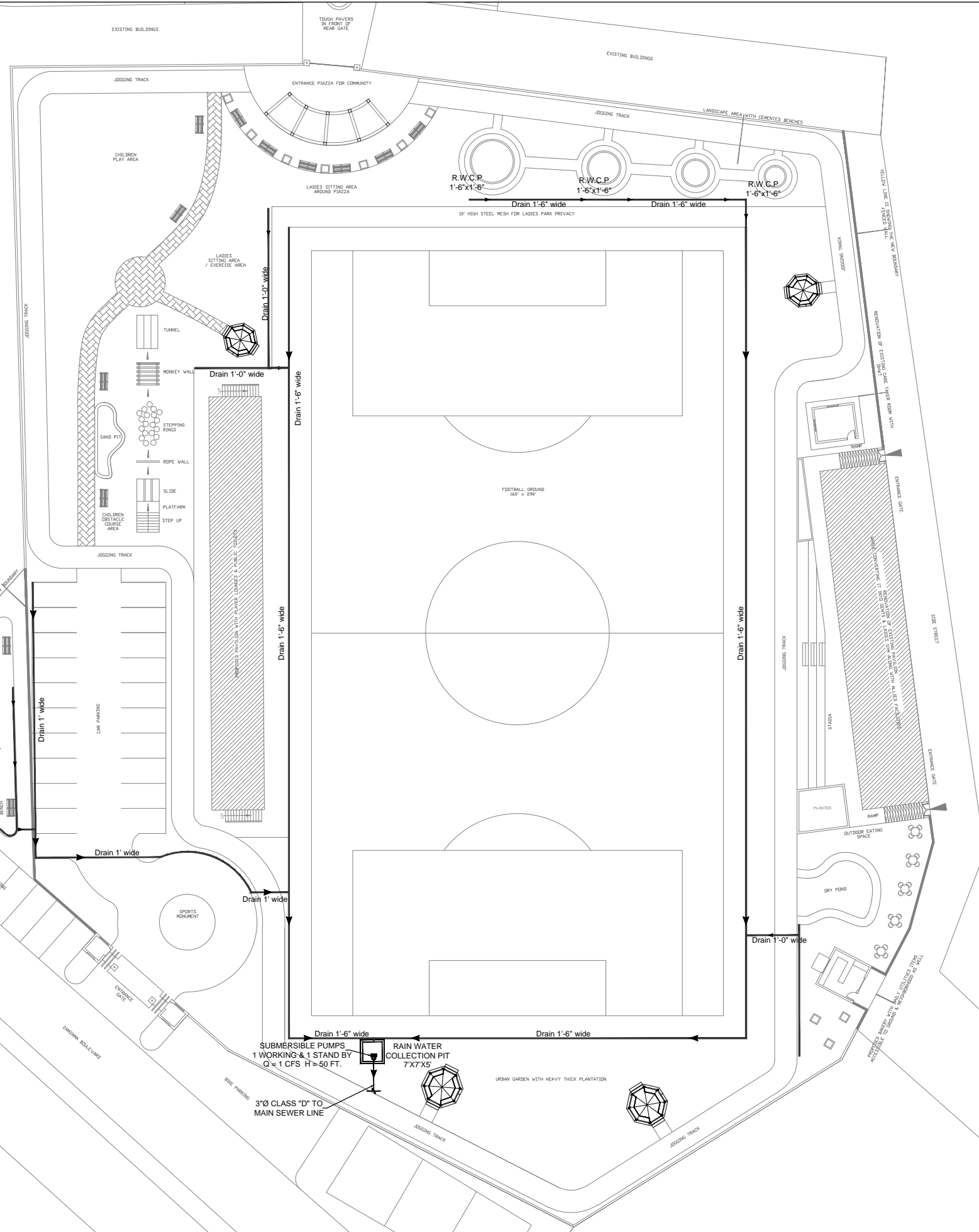
S.NO	DESCRIPTION	DRG.NO:
DRAINAGE SYSTEM		
01	DRAINAGE SYSTEM LAYOUT PLAN (01 / 2	DR-01
02	RAIN WATER COLLECTION PIT PLAN & DETAIL	DR-02
03	DRAIN DETAILS	DR-03

LEGEND:

PROPOSED DRAINAGE SYSTEM



DRAINAGE SYSTEM
(GIZRI LAYOUT PLAN)



CLIENT:



PROJECT
IMPLEMENTATION
UNIT (PIU) KNIP



CONSULTANTS:

**G3 ENGINEERING
CONSULTANTS (PVT) LTD.**
House No.57-M Gulberg-III, Lahore, Pakistan

Tel : (92-42) 35441641, 35441642
Fax : (92-42) 35441645
E-mail : info@g3ec.com
URL : www.g3ec.com

PROJECT:

REHABILITATION & UPGRADATION OF
GIZRI SPORTS GROUND



NOTES:

1. ALL DIMENSIONS ARE IN FEET UNLESS OTHERWISE SPECIFIED.
2. THIS DRAWING IS AN INTELLECTUAL PROPERTY OF G3 ENGINEERING CONSULTANTS (PVT.) LTD. AND CANNOT BE REPRINTED OR REPRODUCED WITHOUT PRIOR APPROVAL OF G3.

REVISIONS:

No.	DESCRIPTION	DATE

TENDER DRAWINGS

DRAWING TITLE:
**PROPOSED DRAINAGE
SYSTEM**

DRAWN BY:
M.K.A

DATE:
AUG .2021

WATER SUPPLY & SEWERAGE ENGINEER

Engr.Wasif Ali

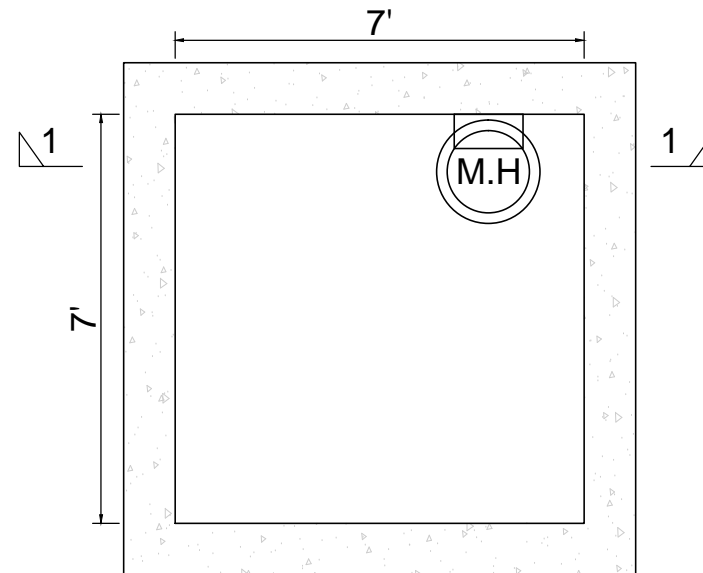
APPROVED BY:
SYED ALI ABBAS GILLANI

DRAWING NO:
0249/Drain/DR-01

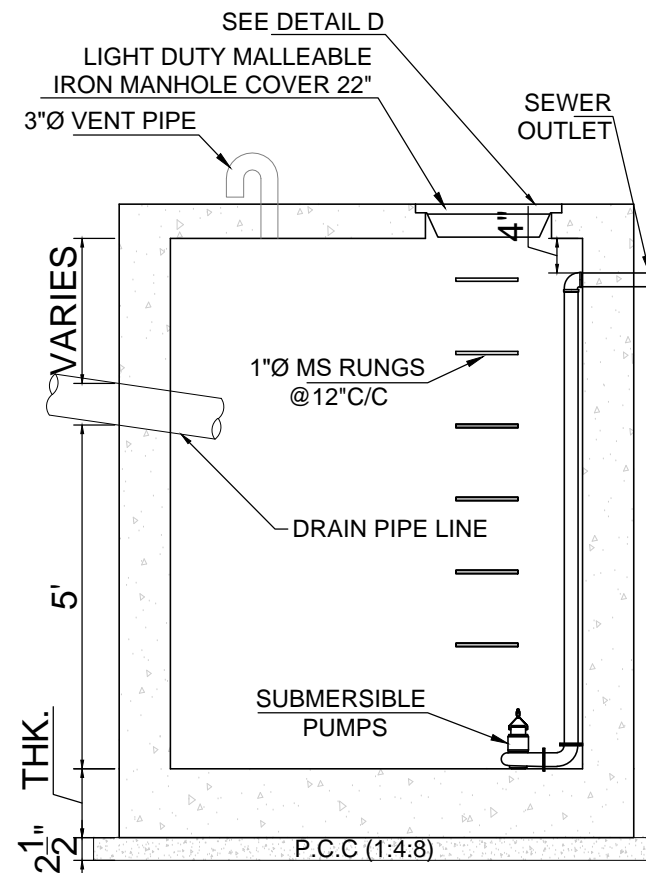
REV:
4

SCALE (A3):
N.T.S

SHEET:
2 / 4



RAIN COLLECTION WATER PIT PLAN



SECTION 1-1
TYP. RAIN COLLECTION WATER PIT DETAIL

CLIENT:



PROJECT
IMPLEMENTATION
UNIT (PIU) KNIP



CONSULTANTS:
**G3 ENGINEERING
CONSULTANTS (PVT) LTD.**
House No.57-M Gulberg-III, Lahore, Pakistan
Tel : (92-42) 35441641, 35441642
Fax : (92-42) 35441645
E-mail : info@g3ec.com
URL : www.g3ec.com

PROJECT:

REHABILITATION & UPGRADATION OF
GIZRI SPORTS GROUND



NOTES:

1. ALL DIMENSIONS ARE IN FEET UNLESS OTHERWISE SPECIFIED.
2. THIS DRAWING IS AN INTELLECTUAL PROPERTY OF G3 ENGINEERING CONSULTANTS (PVT.) LTD. AND CANNOT BE REPRINTED OR REPRODUCED WITHOUT PRIOR APPROVAL OF G3.

REVISIONS:

No.	DESCRIPTION	DATE

TENDER DRAWINGS

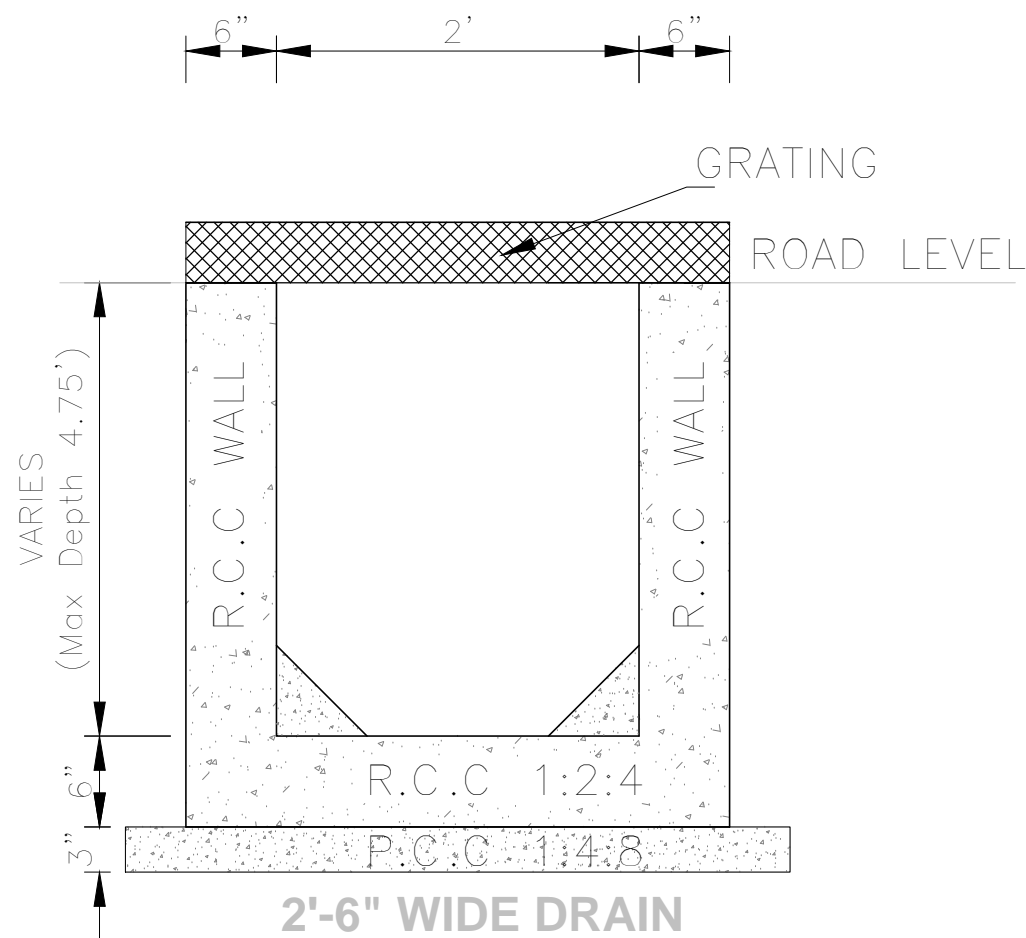
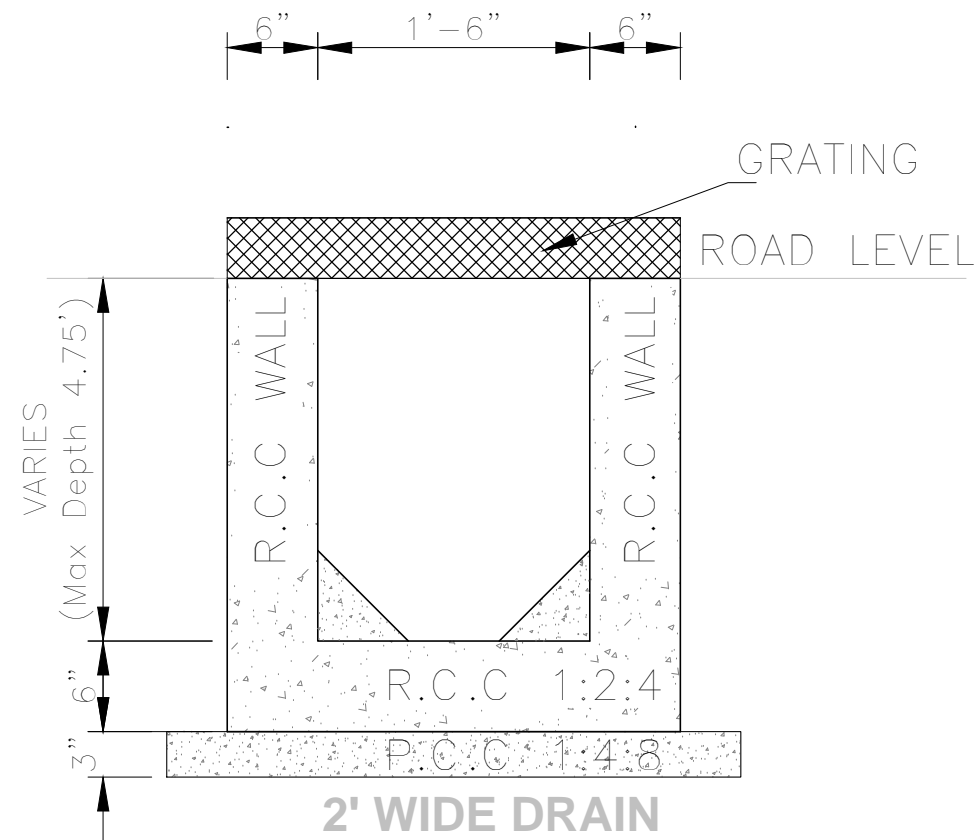
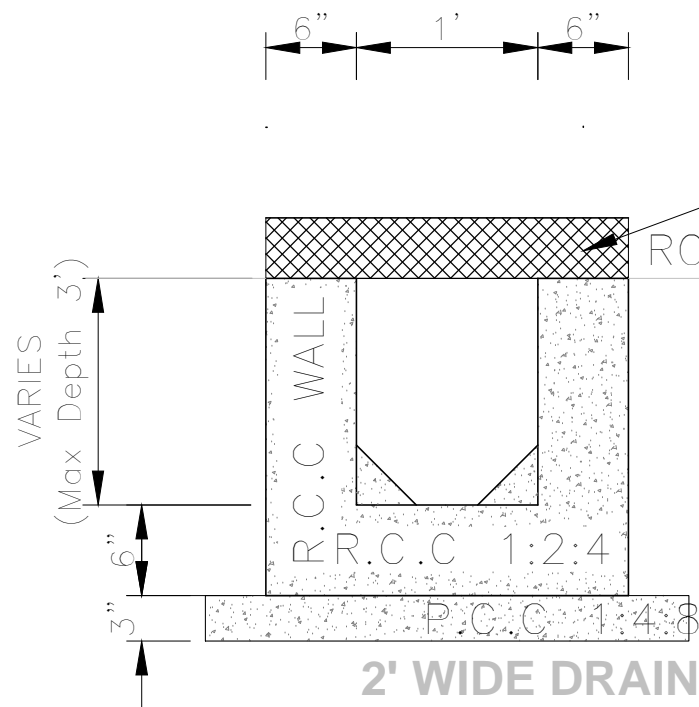
DRAWING TITLE:

**RAIN WATER COLLECTION
PIT PLAN & DETAIL**

DRAWN BY: M.K.A DATE: AUG .2021
WATER SUPPLY & SEWERAGE ENGINEER

Engr.Wasif Ali
APPROVED BY:
SYED ALI ABBAS GILLANI

DRAWING NO: 0249/DR-03 REV: 4
SCALE (A3): N.T.S SHEET: 3 / 4



CLIENT:



PROJECT
IMPLEMENTATION
UNIT (PIU) KNIP



CONSULTANTS:

**G3 ENGINEERING
CONSULTANTS (PVT.) LTD.**
House No.57-M Gulberg-III, Lahore, Pakistan
Tel : (92-42) 35441641, 35441642
Fax : (92-42) 35441645
E-mail : info@g3ec.com
URL : www.g3ec.com

PROJECT:

REHABILITATION & UPGRADATION OF
GIZRI SPORTS GROUND



NOTES:

1. ALL DIMENSIONS ARE IN FEET UNLESS OTHERWISE SPECIFIED.
2. THIS DRAWING IS AN INTELLECTUAL PROPERTY OF G3 ENGINEERING CONSULTANTS (PVT.) LTD. AND CANNOT BE REPRINTED OR REPRODUCED WITHOUT PRIOR APPROVAL OF G3.

REVISIONS:

No.	DESCRIPTION	DATE

TENDER DRAWINGS

DRAWING TITLE:

DRAIN DETAILS

DRAWN BY: M.K.A. DATE: AUG .2021
WATER SUPPLY & SEWERAGE ENGINEER

Engr.Wasif Ali
APPROVED BY: SYED ALI ABBAS GILLANI

DRAWING NO: 0249/DR-04 REV: 4
SCALE (A3): N.T.S SHEET: 4 / 4

**PUBLIC HEATH DRAWING
REHABILITATION AND UPGRADATION
OF GIZRI SPORTS GROUND**

LIST OF DRAWINGS

Sr.#	DESCRIPTION	DRG. #
01	LIST OF DRAWINGS	0249/PH-01
02	GENERAL NOTES	0249/PH-02
WATER SUPPLY SYSTEM		
03	WATER SUPPLY SYSTEM (LEVEL-1)(EXISTING PAVILION)	0249/PH-03
04	WATER SUPPLY SYSTEM (LEVEL-1)(PROPOSED PAVILION)	0249/PH-04
05	WATER SUPPLY SYSTEM (LEVEL-1)(PROPOSED PAVILION)	0249/PH-05
SEWERAGE & DRAINAGE SYSTEM		
06	SEWERAGE SYSTEM (LEVEL-1)(EXISTING PAVILION)	0249/PH-06
07	SEWERAGE SYSTEM (LEVEL-1)(PROPOSED PAVILION)	0249/PH-07
08	SEWERAGE SYSTEM (LEVEL-1)(PROPOSED PAVILION)	0249/PH-08
MISCELLANEOUS DETAILS		
09	TYPICAL SEPTIC TANK PLAN, PIPE & SECTIONAL DETAILS	0249/PH-09
10	TYPICAL GULLY TRAP & MANHOLE PLAN, PIPE & SECTIONAL DETAILS	0249/PH-10
11	MISCELLANEOUS DETAILS-01	0249/PH-11
12	MISCELLANEOUS DETAILS-02	0249/PH-12
13	MISCELLANEOUS DETAILS-03	0249/PH-13

CLIENT:



**PROJECT
IMPLEMENTATION
UNIT (PIU) KNIP**



CONSULTANTS:

**G3 ENGINEERING
CONSULTANTS (PVT) LTD.**
House No.57-M Gulberg-III, Lahore, Pakistan

Tel : (92-42) 35441641, 35441642
Fax : (92-42) 35441645
E-mail : info@g3ec.com
URL : www.g3ec.com

PROJECT:

REHABILITATION & UPGRADATION OF
GIZRI SPORTS GROUND



NOTES:

- ALL DIMENSIONS ARE IN FEET UNLESS OTHERWISE SPECIFIED.
- THIS DRAWING IS AN INTELLECTUAL PROPERTY OF G3 ENGINEERING CONSULTANTS (PVT.) LTD. AND CANNOT BE REPRINTED OR REPRODUCED WITHOUT PRIOR APPROVAL OF G3.

REVISIONS:

No.	DESCRIPTION	DATE

TENDER DRAWINGS

DRAWING TITLE:

LIST OF DRAWINGS

DRAWN BY: M.K.A **DATE:** AUG .2021

WATER SUPPLY & SEWERAGE ENGINEER

Engr. Wasif Ali

APPROVED BY: SYED ALI ABBAS GILLANI

DRAWING NO: 0249/PH-01 **REV:** 4

SCALE (A3): N.T.S **SHEET:** 1 / 2

PUBLIC HEALTH GENERAL NOTES

1. THESE GENERAL NOTES ARE PROVIDED TO SUPPLEMENT THE WRITTEN SPECIFICATION FOR THIS PROJECT. REFER TO THE SPECIFICATIONS FOR MORE DETAILED REQUIREMENTS OF THIS PROJECT.
2. PERFORM ALL WORK IN A WORKMAN LIKE MANNER, IN COMPLIANCE WITH THE LATEST ADOPTED EDITIONS OF ALL GOVERNING CODES AND STANDARDS. IF CONFLICTS ARISE, REQUEST RESOLUTION FROM THE ARCHITECT. IF REQUIRED INFORMATION IS MISSING FROM THIS DRAWING (I.E, DUCT SIZE OR PIPE SIZE), REQUEST WRITTEN CLARIFICATION FROM THE ARCHITECT PRIOR TO THE EXECUTION.
3. PROVIDE ALL MINOR INCIDENTAL ITEMS SUCH AS OFFSETS, FITTINGS, ETC, REQUIRED AS PART OF THE WORK EVEN THOUGH NOT SPECIFICALLY SHOWN ON DRAWINGS. THE CONTRACTOR SHALL PROVIDE AND INSTALL THE NUMBER OF ITEMS OF EQUIPMENT AS INDICATED ON THE DRAWINGS AND AS REQUIRED FOR COMPLETE SYSTEMS.
4. THE PLUMBING DRAWINGS SHOW THE GENERAL ARRANGEMENT OF ALL PIPING, DUCT WORK. MECHANICAL EQUIPMENT AND APPURTENANCES, AND SHALL BE FOLLOWED AS CLOSELY AS ACTUAL BUILDING CONSTRUCTION AND THE WORK OF THEIR TRADES WILL PERMIT. BECAUSE OF THE SMALL SCALE OF THE PLUMBING DRAWINGS, IT IS NOT POSSIBLE TO INDICATE ALL OFFSETS, FITTINGS AND ACCESSORIES WHICH MAY BE REQUIRED. INVESTIGATE THE STRUCTURAL AND FINISH CONDITIONS AFFECTING THE WORK AND PROVIDE SUCH FITTINGS, VALVES AND ACCESSORIES AS MAY BE REQUIRED TO MEET SUCH CONDITIONS.
5. VERIFY DIMENSIONS GOVERNING PLUMBING WORK AT THE BUILDING. DO NOT SCALE THE PLUMBING DRAWINGS FOR DIMENSIONS. TAKE DIMENSIONS, MEASUREMENTS, LOCATIONS, LEVELS, ETC. FROM THE ACTUAL FIELD CONDITIONS AND ARCHITECTURAL DRAWINGS.
6. EXAMINE ALL ADJOINING WORK ON WHICH THE PLUMBING WORK IS DEPENDENT OF MAXIMUM EFFICIENCY AND REPORT DESIGN CONFLICTS WHICH MUST BE CORRECTED PRIOR TO EXECUTION. NO WAIVER OF RESPONSIBILITY SHALL BE CLAIMED OR ALLOWED DUE TO FAILURE TO REPORT UNFAVORABLE CONDITIONS AFFECTING THE PLUMBING WORK.
7. CONTRACTOR SHALL FURNISH AND INSTALL ALL PIPING, VALVES, CONTROLS, INSULATION ETC. TO ALL PLUMBING EQUIPMENT SCHEDULED OR INDICATED ON PLANS REGARDLESS OF WHETHER PIPING, VALVES, CONTROLS, INSULATION ETC. ARE SPECIFICALLY SHOWN OR NOT PLUMBING EQUIPMENT INSTALLATION SHALL BE 100% COMPLETE FOR PROPER EQUIPMENT FUNCTION AND/OR OPERATION AT COMPLETION OF PROJECT.
8. THE ARCHITECTURAL AND ENGINEERING DRAWINGS ARE COMPLEMENTARY. CONTRACTORS SHALL ACKNOWLEDGE THE ARCHITECTURAL AS WELL AS ALL THE ENGINEERING DRAWINGS AND INCLUDE ALL WORK NECESSARY TO ACHIEVE A COMPLETE WORKING. INSTALLATION FOR ANY DEVICE OR EQUIPMENT WHICH MAY BE SHOWN ON ONE DRAWING BUT NOT SHOWN ON ANOTHER.

9. LOCATION OF PIPES, DUCTS, SWITCHES, PANELS, EQUIPMENT AND FIXTURES SHALL BE ADJUSTED TO ACCOMMODATE THE WORK OR INTERFERENCES ANTICIPATED AND ENCOUNTERED. DETERMINE THE EXACT ROUTE AND LOCATION OF EACH PIPE AND DUCT PRIOR TO FABRICATION.
- 10.LOCATION OF EXISTING UTILITIES AND EXISTING UNDERGROUND PLUMBING ARE BASED ON THE SITE INFORMATION AVAILABLE. CONTRACTOR SHALL VERIFY EXACT LOCATIONS OF ALL UTILITIES AND EXISTING UNDERGROUND PLUMBING PRIOR TO FABRICATION AND ERECTION OF WORK TO AVOID ALL INTERFERENCES. VERIFICATION SHALL BE BY SITE INSPECTION, EXCAVATION, OR WHATEVER MEANS NECESSARY TO DETERMINE EXACT LOCATIONS.
- 11.CONTRACTOR SHALL OBTAIN BUILDING PERMIT AND ARRANGE ALL REQUIRED INSPECTIONS WITH THE APPROPRIATE REGULATORY AGENCY. ALERT CONSULTANT OF ALL ITEMS NOT DEPICTED ON DRAWINGS. DO NOT PROCEED WITH FURTHER WORK UNTIL WRITTEN RESPONSE IS RECEIVED FROM CONSULTANT.
- 12.CONTRACTOR SHALL VERIFY GAS PRESSURE DELIVERED BY METER AT BUILDING.
13. TEST THREADED NATURAL GAS PIPING AT 20 PSIG FOR A TEST PERIOD OF 2 HOURS. TEST PRESSURE SHALL NOT FALL OVER 5% DURING TEST PERIOD TO PASS. IF PIPING FAILS TEST, INVESTIGATE AND REPAIR THE SOURCE OF
- 14.PROVIDE SLEEVES AT ALL PIPING PENETRATIONS OF CONCRETE OR MASONRY FLOOR, WALL OR ROOF CONSTRUCTION.
- 15.PROVIDE GLASS WOOL INSULATION TO ALL HOT WATER (EXPOSED) AND COLD WATER (AT ROOF) PIPE LINE INCLUDING PROTECTIVE COATINGS.
- 16.USE NEAREST FLOOR TRAP FOR THE AC DRAINAGE.
17. TEST ALL PIPING SYSTEMS IN WHICH ANY ALTERATIONS HAVE BEEN MADE FOR COMPLIANCE WITH THE LATEST EDITION OF GOVERNING BUILDING CODE. DOMESTIC HOT AND COLD WATER PIPING SHALL BE SUBJECT TO 100 PSIG FOR A MINIMUM 2 HOURS, DOMESTIC WASTE AND VENT PIPING SHALL BE TESTED AT 10' STATIC HEAD FOR A PERIOD GREATER THAN 15 MINUTES. IF REQUIRED PRESSURE DROPS BY MORE THAN 3% DURING ITS TEST DURATION, INVESTIGATE THE SOURCE OF LEAK, REPAIR THE LEAK, AND RETEST THE SYSTEM FOR THE REQUIRED TEST PERIOD. INSPECT ALL W & V JOINTS WHILE UNDER PRESSURE AND REPAIR ALL LEAKS.
- 18.INSTALL ALL PLUMBING EQUIPMENT IN COMPLETE COMPLIANCE WITH MANUFACTURER'S STANDARD INSTALLATION INSTRUCTIONS. ARRANGE ALL EQUIPMENT TO PERMIT EASY REMOVAL OF COILS, MOTORS, FILTERS AND ALL OTHER PARTS WHICH REQUIRE PERIODIC REPLACEMENT OR MAINTENANCE.
- 19.COORDINATE ALL ELECTRICAL VOLTAGE CHARACTERISTICS WITH ELECTRICAL CONTRACTOR PRIOR TO ORDERING PLUMBING EQUIPMENT.

LEGEND FOR WATER SUPPLY SYSTEM

- COLD WATER PIPE (C.W)
- NORMAL PRESSURE COLD WATER (N.P.C.W)
- HOT WATER PIPE (H.W)
- RE-CIRCULATION HOT WATER (R.H.W)
- GAS PIPE
- AIR RELIEF VALVE (A.R.V)
- BALL VALVE (B.V)
- GATE VALVE SLICE VALVE (G.V / S.V)
- PRESSURE REDUCER VALVE (P.R.V)
- RE-CIRCULATION PUMP
- CONVENTIONAL GEYSER
- CHECK VALVE
- BOOSTER PUMP
- SUBMERSIBLE PUMP

- H.W.G = HOT WATER GENERATOR
- T.A = TO ABOVE
- T.B = TO BELOW
- F.A = FROM ABOVE
- F.B = FROM BELOW
- D-1 = DUCT - 1
- M.D = MISCELLANEOUS DETAILS

SCHEDULE OF PIPE DIA

OUTER DIA (mm)	INTERNAL DIA	
	(mm)	INCH
20	13.2	0.52
25	16.4	0.65
32	21.2	0.83
40	26.6	1.05
50	33.2	1.31
63	42	1.65
75	50	1.97
90	60	2.36
110	73.2	2.88

- L.D = LIST OF DRAWING
- G.N = GENERAL NOTES
- W.S = WATER SUPPLY
- G.S = GAS SYSTEM
- S.W = SEWERAGE SYSTEM
- D.R = DRAINAGE SYSTEM
- T / W = TUBE WELL

1. ALL WATER SUPPLY PIPE DIAMETERS ARE IN MILLIMETERS AND MENTIONED ARE EXTERNAL DIAMETERS. ALL WATER SUPPLY PIPES ARE OF PPRC UNLESS NOTED OTHERWISE.
2. ALL GAS PIPE DIAMETERS ARE IN MILLIMETERS AND MENTIONED ARE INTERNAL DIAMETERS.
3. ALL WATER SUPPLY PIPES ENTERING THE WALLS SHALL BE PROVIDED WITH ISOLATION VALVES.

LEGEND FOR SEWERAGE & DRAINAGE SYSTEM

- SOIL PIPE (S.P)
- WASTE PIPE (W.P)
- VENT PIPE (V.P)
- CLEANOUTS
- FLOOR TRAP
- GULLY TRAP
- MANHOLE
- RAIN WATER COLLECTION PIT

PIPE DIA & SLOPE		
3"	1:75	
4"	1:100	
6"	1:150	
8"	1:175	
10"	1:250	
12"	1:300	

1. ALL PIPE DIAMETERS ARE IN INCHES UNLESS OTHERWISE MENTIONED.
2. VENT PIPES SHALL BE EXTENDED UP TO ONE FT ABOVE FINISHED ROOF LEVEL.
3. SOIL, WASTE AND VENT PIPES UP TO 6" DIA. ARE uPVC (NON PRESSURIZE) TYPE-B CONFIRMING TO ISO 3633:2002 EXTERNAL SEWER PIPES SHALL BE OF FLOW LINE CONFIRMING TO EN 1401 UNLESS OTHERWISE NOTED
4. SLOPE OF ROOF VALLEY LINE SHOULD BE BETWEEN 0.01 TO 0.02
5. BOTTLE TRAP SHALL BE USED WITH ALL WASH BASIN.
6. R.C.C PIPES SHALL BE SHALIMAR OR EQUIVALENT MAKE.
7. MINIMUM SLOPE OF SOIL AND WASTE PIPES ARE AS UNDER.
4. ALL WATER SUPPLY PIPES ARE PPR (PN 20) UNLESS OTHERWISE MENTIONED.
5. ALL WATER SUPPLY PIPES FITTINGS SUCH AS BENDS, TEES, SOCKETS, ARE PPR (PN 25) UNLESS OTHERWISE MENTIONED.
6. ALL GAS PIPES ARE G.I. UNLESS OTHERWISE MENTIONED.
7. ALL WATER SUPPLY AND GAS PIPES ARE IN DUCTS, OR CONCEALED IN WALL OR BURIED IN FLOORS.
8. ALL PIPING SHALL BE TESTED FOR LEAKAGE BEFORE THE JOINTS ARE COVERED.

CLIENT:



PROJECT
IMPLEMENTATION
UNIT (PIU) KNIP



CONSULTANTS:

G3 ENGINEERING CONSULTANTS (PVT) LTD.
House No.57-M Gulberg-III, Lahore, Pakistan

Tel : (92-42) 35441641, 35441642
Fax : (92-42) 35441645
E-mail : info@g3ec.com
URL : www.g3ec.com

PROJECT:

REHABILITATION & UPGRADATION OF
GIZRI SPORTS GROUND



NOTES:

1. ALL DIMENSIONS ARE IN FEET UNLESS OTHERWISE SPECIFIED.
2. THIS DRAWING IS AN INTELLECTUAL PROPERTY OF G3 ENGINEERING CONSULTANTS (PVT.) LTD. AND CANNOT BE REPRINTED OR REPRODUCED WITHOUT PRIOR APPROVAL OF G3.

REVISIONS:

No.	DESCRIPTION	DATE

TENDER DRAWINGS

DRAWING TITLE:

GENERAL NOTES

DRAWN BY: M.K.A	DATE: AUG .2021
WATER SUPPLY & SEWERAGE ENGINEER Engr.Wasif Ali	
APPROVED BY: SYED ALI ABBAS GILLANI	
DRAWING NO: 0249/PH-02	REV: 4
SCALE (A3): N.T.S	SHEET: 1 / 2

CLIENT:



PROJECT
IMPLEMENTATION
UNIT (PIU) KNIP



CONSULTANTS:

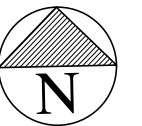
**G3 ENGINEERING
CONSULTANTS (PVT) LTD.**
House No.57-M Gulberg-III, Lahore, Pakistan



Tel : (92-42) 35441641, 35441642
Fax : (92-42) 35441645
E-mail : info@g3ec.com
URL : www.g3ec.com

PROJECT:

REHABILITATION & UPGRADATION OF
GIZRI SPORTS GROUND



NOTES:

1. ALL DIMENSIONS ARE IN FEET UNLESS OTHERWISE SPECIFIED.
2. THIS DRAWING IS AN INTELLECTUAL PROPERTY OF G3 ENGINEERING CONSULTANTS (PVT.) LTD. AND CANNOT BE REPRINTED OR REPRODUCED WITHOUT PRIOR APPROVAL OF G3.

REVISIONS:

No.	DESCRIPTION	DATE

TENDER DRAWINGS

DRAWING TITLE:

**WATER SUPPLY
SYSTEM (EXISTING)**

DRAWN BY: M.K.A	DATE: AUG .2021
--------------------	--------------------

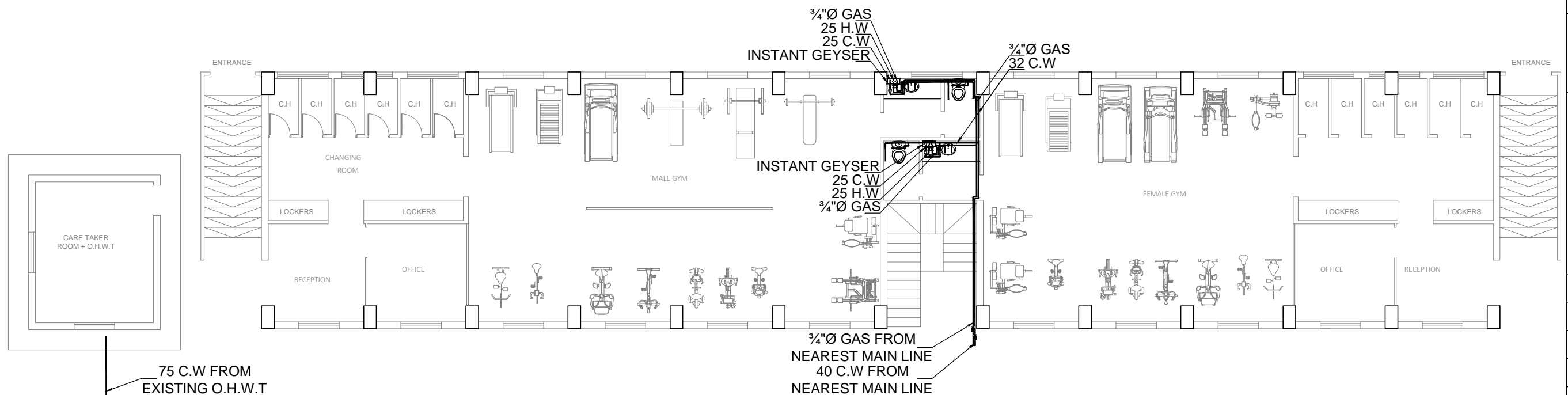
WATER SUPPLY & SEWERAGE ENGINEER

Engr.Wasif Ali

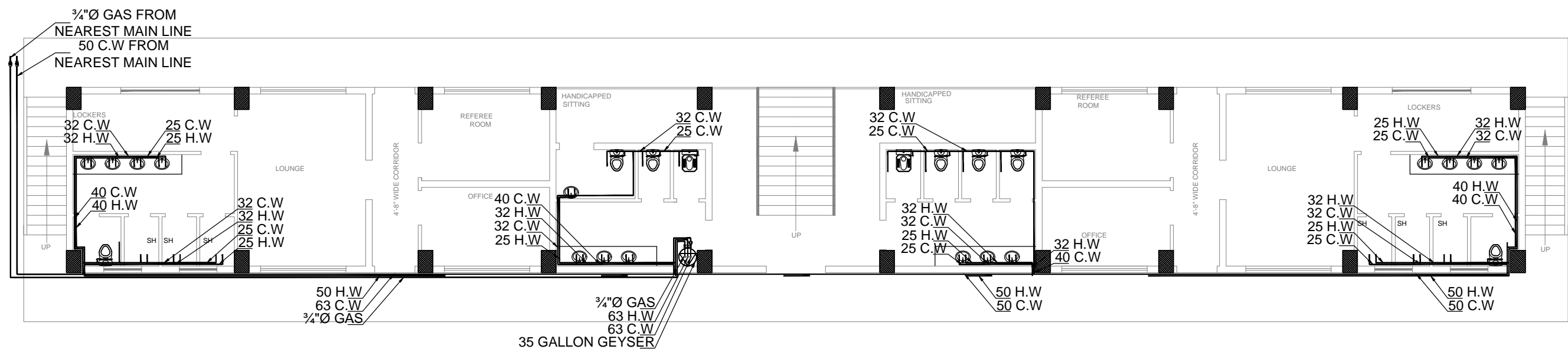
APPROVED BY: SYED ALI ABBAS GILLANI	
--	--

DRAWING NO: 0249/PH-03	REV: 4
---------------------------	-----------

SCALE (A3): N.T.S	SHEET: 1 / 2
----------------------	-----------------



WATER SUPPLY SYSTEM (LEVEL-1)(EXISTING PAVILION)(GIZRI GROUND)



WATER SUPPLY SYSTEM (LEVEL-1)(PROPOSED PAVILION)(GIZRI GROUND)

CLIENT:



PROJECT
IMPLEMENTATION
UNIT (PIU) KNIP



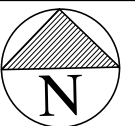
CONSULTANTS:

**G3 ENGINEERING
CONSULTANTS (PVT.) LTD.**
House No.57-M Gulberg-III, Lahore, Pakistan

Tel : (92-42) 35441641, 35441642
Fax : (92-42) 35441645
E-mail : info@g3ec.com
URL : www.g3ec.com

PROJECT:

REHABILITATION & UPGRADATION OF
GIZRI SPORTS GROUND



NOTES:

1. ALL DIMENSIONS ARE IN FEET UNLESS OTHERWISE SPECIFIED.
2. THIS DRAWING IS AN INTELLECTUAL PROPERTY OF G3 ENGINEERING CONSULTANTS (PVT.) LTD. AND CANNOT BE REPRINTED OR REPRODUCED WITHOUT PRIOR APPROVAL OF G3.

REVISIONS:

No.	DESCRIPTION	DATE

TENDER DRAWINGS

DRAWING TITLE:

**WATER SUPPLY
SYSTEM (PROPOSED)**

DRAWN BY: M.K.A	DATE: AUG .2021
--------------------	--------------------

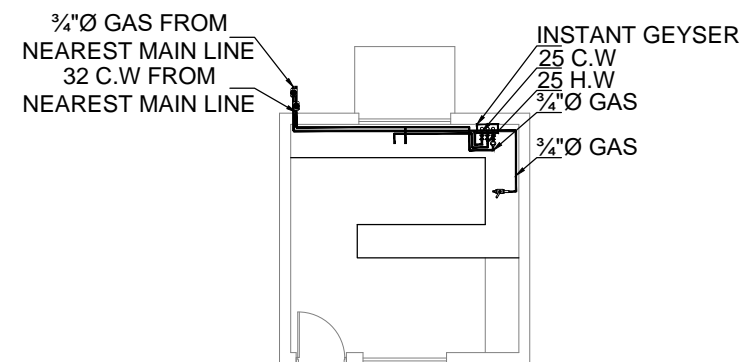
WATER SUPPLY & SEWERAGE ENGINEER

Engr.Wasif Ali

APPROVED BY:
SYED ALI ABBAS GILLANI

DRAWING NO: 0249/PH-04	REV: 4
---------------------------	-----------

SCALE (A3): N.T.S	SHEET: 1 / 2
----------------------	-----------------



WATER SUPPLY SYSTEM
(PROPOSED TUCK SHOP)(GIZRI
GROUND)

CLIENT:



PROJECT
IMPLEMENTATION
UNIT (PIU) KNIP



CONSULTANTS:

**G3 ENGINEERING
CONSULTANTS (PVT)LTD.**
House No.57-M Gulberg-III, Lahore, Pakistan

Tel : (92-42) 35441641, 35441642
Fax : (92-42) 35441645
E-mail : info@g3ec.com
URL : www.g3ec.com

PROJECT:

REHABILITATION & UPGRADATION OF
GIZRI SPORTS GROUND



NOTES:

1. ALL DIMENSIONS ARE IN FEET UNLESS OTHERWISE SPECIFIED.
2. THIS DRAWING IS AN INTELLECTUAL PROPERTY OF G3 ENGINEERING CONSULTANTS (PVT.) LTD. AND CANNOT BE REPRINTED OR REPRODUCED WITHOUT PRIOR APPROVAL OF G3.

REVISIONS:

No.	DESCRIPTION	DATE

TENDER DRAWINGS

DRAWING TITLE:

**WATER SUPPLY
SYSTEM (TUCKSHOP)**

DRAWN BY: M.K.A	DATE: AUG .2021
--------------------	--------------------

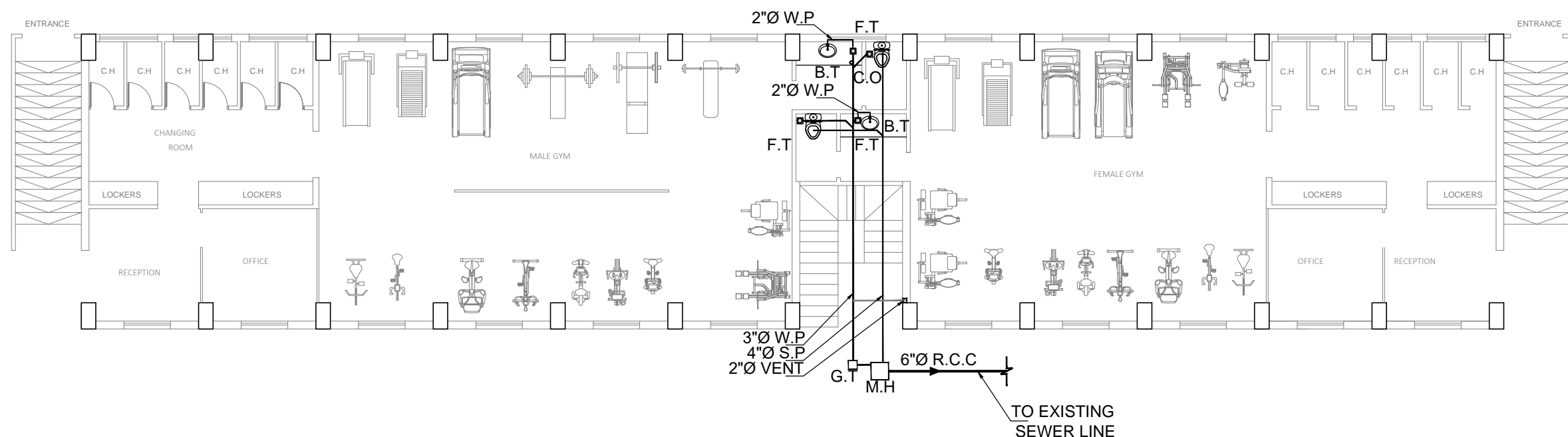
WATER SUPPLY & SEWERAGE ENGINEER

Engr.Wasif Ali

APPROVED BY:
SYED ALI ABBAS GILLANI

DRAWING NO: 0249/PH-05	REV: 4
---------------------------	-----------

SCALE (A3): N.T.S	SHEET: 1 / 2
----------------------	-----------------



SEWERAGE SYSTEM (LEVEL-1)(EXISTING PAVILION)(GIZRI GROUND)

CLIENT:



PROJECT
IMPLEMENTATION
UNIT (PIU) KNIP



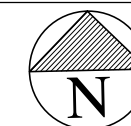
CONSULTANTS:

**G3 ENGINEERING
CONSULTANTS (PVT) LTD.**
House No.57-M Gulberg-III, Lahore, Pakistan

Tel : (92-42) 35441641, 35441642
Fax : (92-42) 35441645
E-mail : info@g3ec.com
URL : www.g3ec.com

PROJECT:

REHABILITATION & UPGRADATION OF
GIZRI SPORTS GROUND



NOTES:

1. ALL DIMENSIONS ARE IN FEET UNLESS OTHERWISE SPECIFIED.
2. THIS DRAWING IS AN INTELLECTUAL PROPERTY OF G3 ENGINEERING CONSULTANTS (PVT.) LTD. AND CANNOT BE REPRINTED OR REPRODUCED WITHOUT PRIOR APPROVAL OF G3.

REVISIONS:

No.	DESCRIPTION	DATE

TENDER DRAWINGS

DRAWING TITLE:

**SEWERAGE SYSTEM
(EXISTING)**

DRAWN BY: M.K.A	DATE: AUG .2021
--------------------	--------------------

WATER SUPPLY & SEWERAGE ENGINEER

Engr.Wasif Ali

APPROVED BY:

SYED ALI ABBAS GILLANI

DRAWING NO: 0249/PH-06	REV: 4
---------------------------	-----------

SCALE (A3): N.T.S	SHEET: 1 / 2
----------------------	-----------------

CLIENT:



PROJECT
IMPLEMENTATION
UNIT (PIU) KNIP



CONSULTANTS:

**G3 ENGINEERING
CONSULTANTS (PVT.) LTD.**
House No.57-M Gulberg-III, Lahore, Pakistan

Tel : (92-42) 35441641, 35441642
Fax : (92-42) 35441645
E-mail : info@g3ec.com
URL : www.g3ec.com

PROJECT:

REHABILITATION & UPGRADATION OF
GIZRI SPORTS GROUND



NOTES:

1. ALL DIMENSIONS ARE IN FEET UNLESS OTHERWISE SPECIFIED.
2. THIS DRAWING IS AN INTELLECTUAL PROPERTY OF G3 ENGINEERING CONSULTANTS (PVT.) LTD. AND CANNOT BE REPRINTED OR REPRODUCED WITHOUT PRIOR APPROVAL OF G3.

REVISIONS:

No.	DESCRIPTION	DATE

TENDER DRAWINGS

DRAWING TITLE:

**SEWERAGE SYSTEM
(PROPOSED)**

DRAWN BY: M.K.A. DATE: AUG .2021

WATER SUPPLY & SEWERAGE ENGINEER

Engr.Wasif Ali

APPROVED BY:

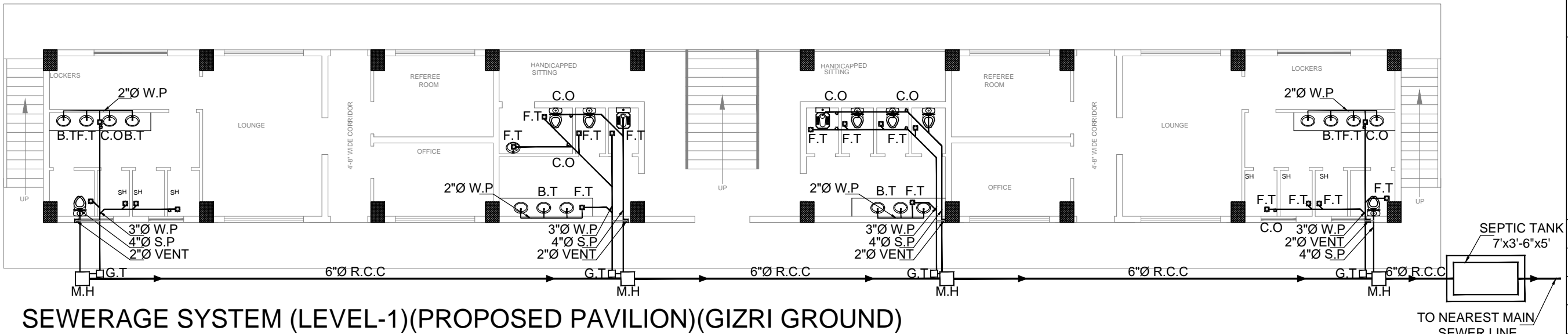
SYED ALI ABBAS GILLANI

DRAWING NO:
0249/PH-07

REV:
4


SCALE (A3):

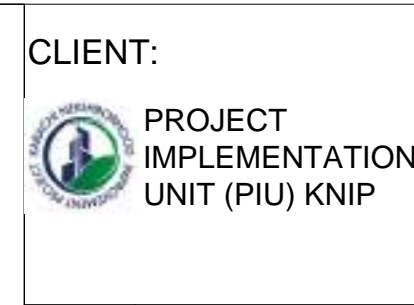
SHEET:
1 / 2




SEWERAGE SYSTEM (LEVEL-1)(PROPOSED PAVILION)(GIZRI GROUND)

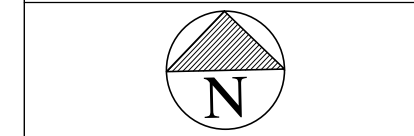
CLIENT:

 PROJECT
IMPLEMENTATION
UNIT (PIU) KNIP



CLIENT:

 PROJECT
IMPLEMENTATION
UNIT (PIU) KNIP



NOTES:

1. ALL DIMENSIONS ARE IN FEET UNLESS OTHERWISE SPECIFIED.
2. THIS DRAWING IS AN INTELLECTUAL PROPERTY OF G3 ENGINEERING CONSULTANTS (PVT.) LTD. AND CANNOT BE REPRINTED OR REPRODUCED WITHOUT PRIOR APPROVAL OF G3.

- NOTES:**
1. ALL DIMENSIONS ARE IN FEET UNLESS OTHERWISE SPECIFIED.
 2. THIS DRAWING IS AN INTELLECTUAL PROPERTY OF G3 ENGINEERING CONSULTANTS (PVT.) LTD. AND CANNOT BE REPRINTED OR REPRODUCED WITHOUT PRIOR APPROVAL OF G3.

REVISIONS:

[illegible]

TENDER DRAWINGS

DRAWING TITLE:
**SEWERAGE SYSTEM
(TUCK SHOP)**

DRAWING TITLE:
**SEWERAGE SYSTEM
(TUCK SHOP)**

DRAWN BY: M.K.A	DATE: AUG .2021
--------------------	--------------------

DRAWN BY: M.K.A	DATE: AUG .2021
--------------------	--------------------

WATER SUPPLY & SEWERAGE ENGINEER
Engr. Wasif Ali

WATER SUPPLY & SEWERAGE ENGINEER
Engr. Wasif Ali

WATER SUPPLY & SEWERAGE ENGINEER
Engr. Wasif Ali

APPROVED BY:
SYED ALI ABBAS GILLANI

WATER SUPPLY & SEWERAGE ENGINEER
Engr. Wasif Ali

APPROVED BY:
SYED ALI ABBAS GILLANI

WATER SUPPLY & SEWERAGE ENGINEER
Engr. Wasif Ali

APPROVED BY:
SYED ALI ABBAS GILLANI

WATER SUPPLY & SEWERAGE ENGINEER
Engr. Wasif Ali

APPROVED BY:
SYED ALI ABBAS GILLANI

WATER SUPPLY & SEWERAGE ENGINEER
Engr. Wasif Ali

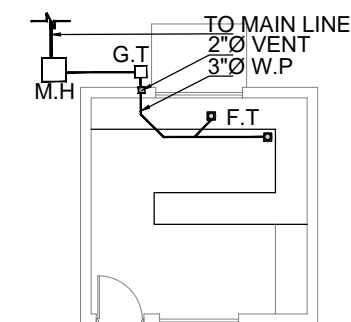
APPROVED BY:
SYED ALI ABBAS GILLANI

DRAWING NO: 0249/PH-08	REV: 4
---------------------------	-----------

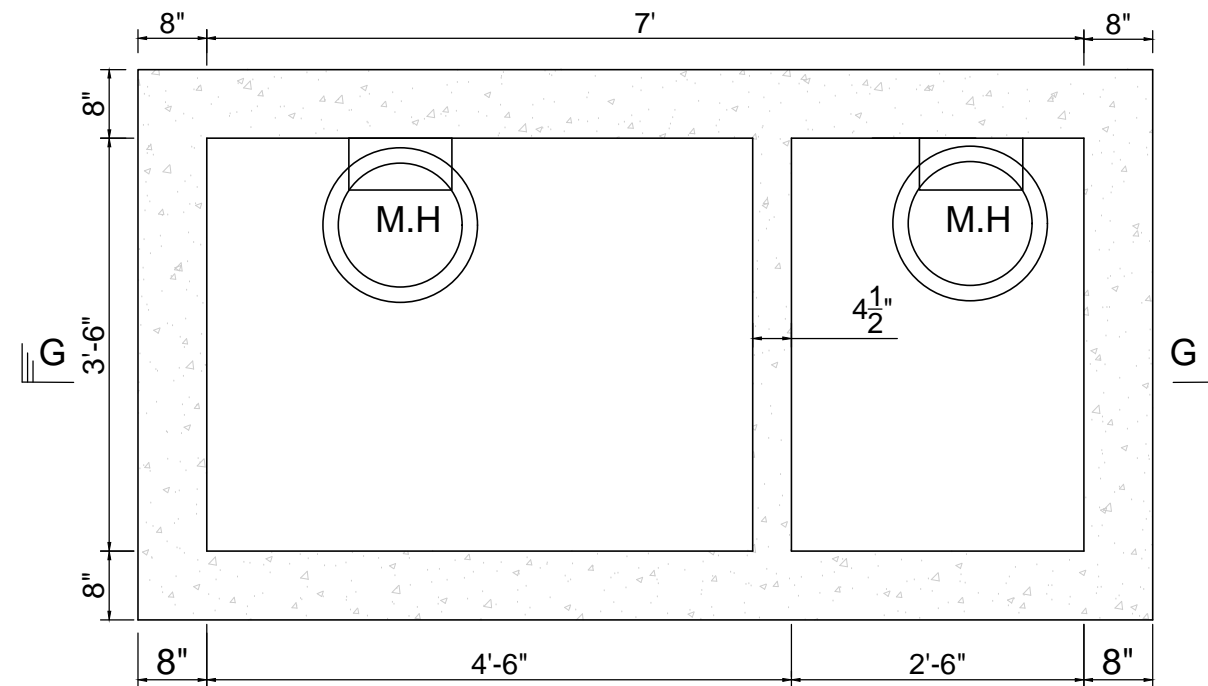
DRAWING NO: 0249/PH-08	REV: 4
---------------------------	-----------

DRAWING NO: 0249/PH-08	REV: 4
---------------------------	-----------

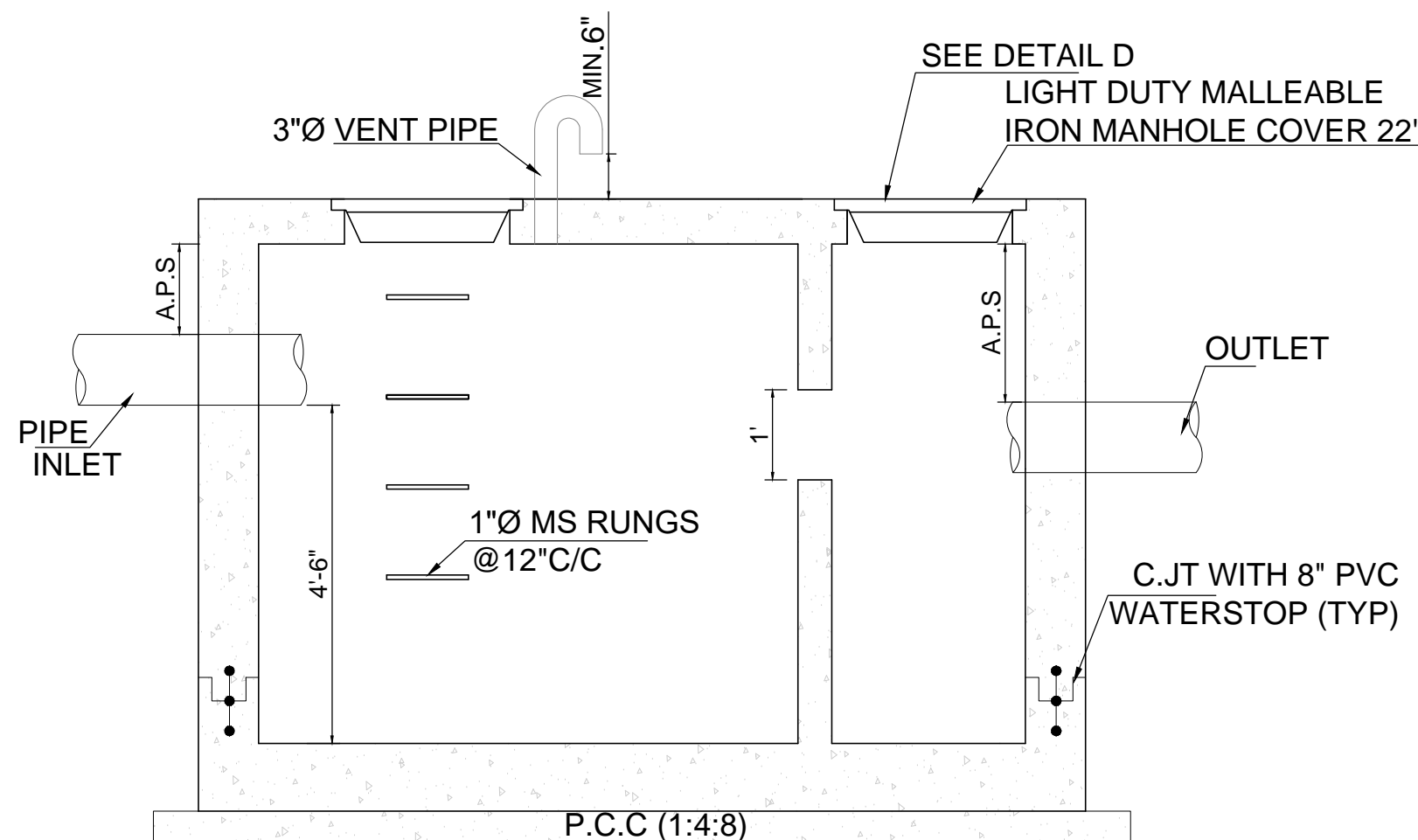
DRAWING NO: 0249/PH-08	REV: 4
---------------------------	-----------



SEWERAGE SYSTEM (PROPOSED TUCK SHOP)(GIZRI GROUND)



PLAN

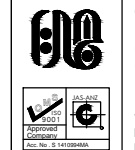


SECTION G-G

CLIENT:



PROJECT
IMPLEMENTATION
UNIT (PIU) KNIP



CONSULTANTS:

**G3 ENGINEERING
CONSULTANTS (PVT.) LTD.**
House No.57-M Gulberg-III, Lahore, Pakistan

Tel : (92-42) 35441641, 35441642
Fax : (92-42) 35441645
E-mail : info@g3ec.com
URL : www.g3ec.com

PROJECT:

REHABILITATION & UPGRADATION OF
GIZRI SPORTS GROUND



NOTES:

1. ALL DIMENSIONS ARE IN FEET UNLESS OTHERWISE SPECIFIED.
2. THIS DRAWING IS AN INTELLECTUAL PROPERTY OF G3 ENGINEERING CONSULTANTS (PVT.) LTD. AND CANNOT BE REPRINTED OR REPRODUCED WITHOUT PRIOR APPROVAL OF G3.

REVISIONS:

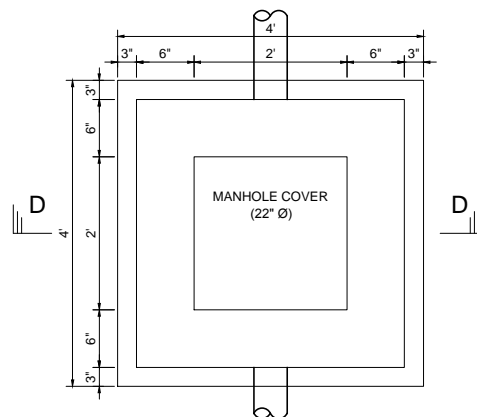
No.	DESCRIPTION	DATE

TENDER DRAWINGS

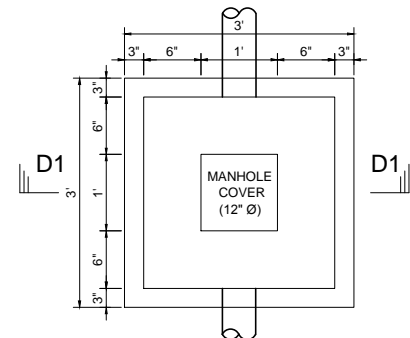
DRAWING TITLE:

SEPTIC TANK

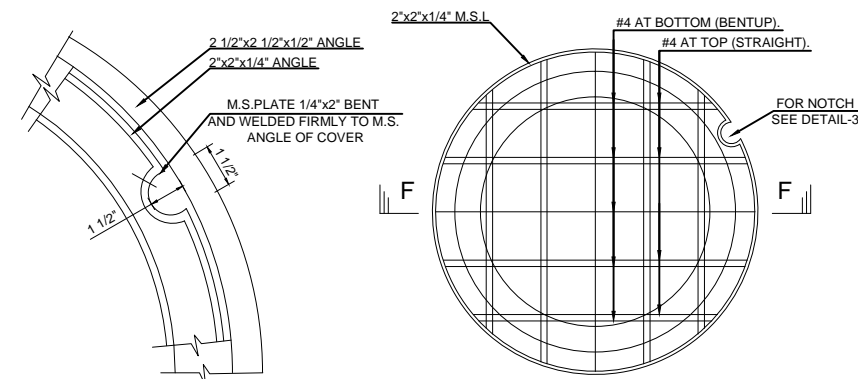
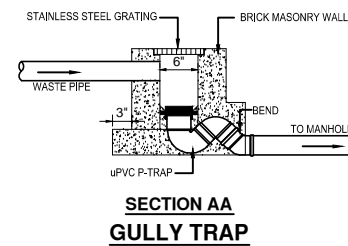
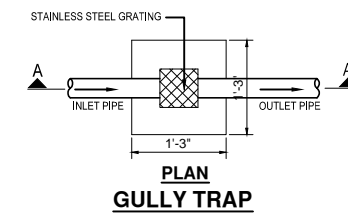
DRAWN BY: M.K.A	DATE: AUG .2021
WATER SUPPLY & SEWERAGE ENGINEER Engr.Wasif Ali	
APPROVED BY: SYED ALI ABBAS GILLANI	
DRAWING NO: 0249/PH-09	REV: 4
SCALE (A3): N.T.S	SHEET: 1 / 2



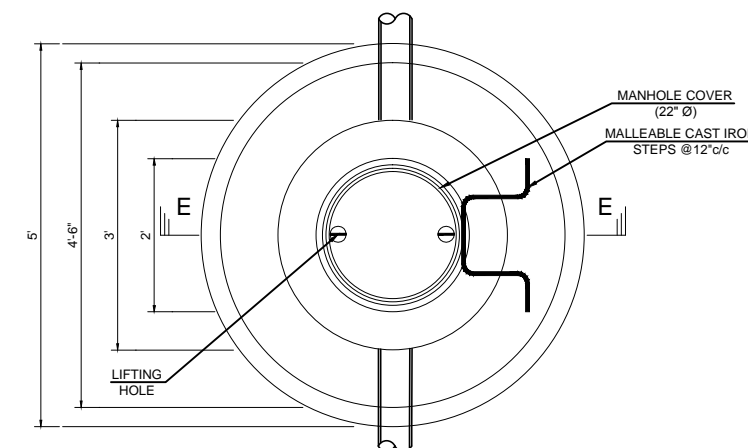
TYPICAL SEWER MANHOLE PLAN
(UP TO 3' DEPTH)
M.H-A



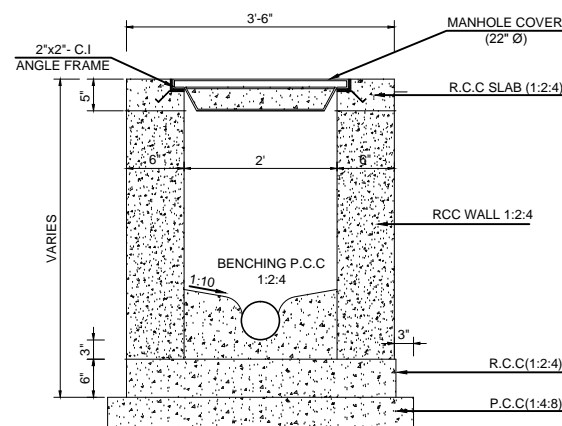
TYPICAL SEWER MANHOLE PLAN
(UP TO 3' DEPTH)
M.H-A
(FOR LIMITED SPACE)



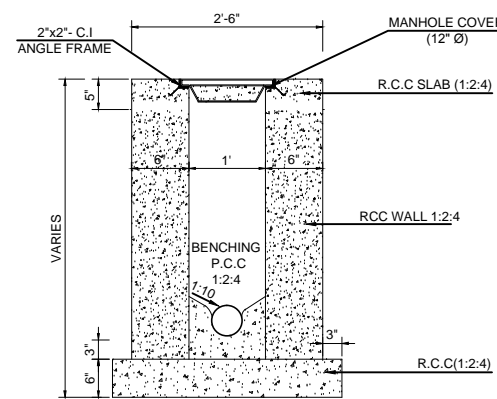
DETAIL-3



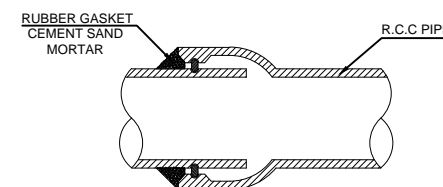
TYPICAL SEWER MANHOLE PLAN
(FROM 3' TO 6' DEPTH)
M.H-A



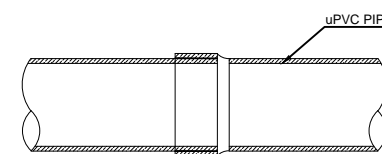
SECTION D-D



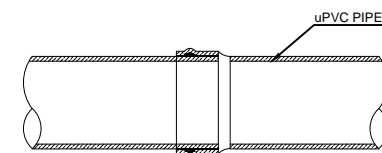
SECTION D1-D1



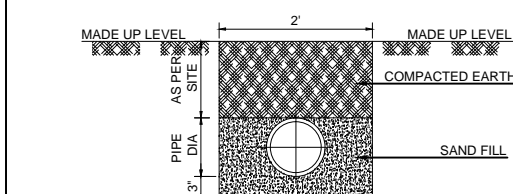
TYPICAL R.C.C PIPE JOINTING
(BELL AND SPIGOT TYPE)



TYPICAL uPVC PIPE JOINTING
(SOLVENT CEMENT TYPE)

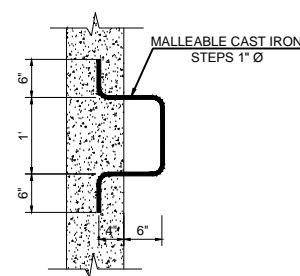


TYPICAL uPVC PIPE JOINTING
(RUBBER RING TYPE)

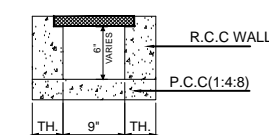


TYPICAL TRENCH DETAIL
FOR SEWER LINE

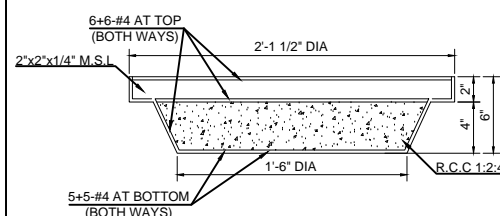
DETAIL-1



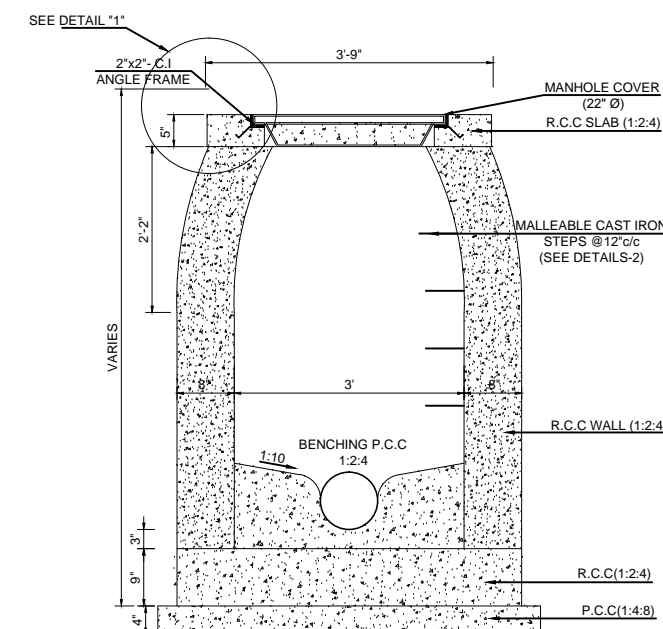
DETAIL-2



TYP. DRAIN (9")



SECTION F-F

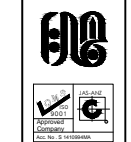


SECTION E-E

CLIENT:



PROJECT
IMPLEMENTATION
UNIT (PIU) KNIP



CONSULTANTS:
G3 ENGINEERING
CONSULTANTS (PVT) LTD.
House No.57-M Gulberg-III, Lahore, Pakistan
Tel : (92-42) 35441641, 35441642
Fax : (92-42) 35441645
E-mail : info@g3ec.com
URL : www.g3ec.com

PROJECT:

REHABILITATION & UPGRADATION
OF GIZIRI SPORTS GROUND



NOTES:

1. ALL DIMENSIONS ARE IN FEET UNLESS OTHERWISE SPECIFIED.
2. THIS DRAWING IS AN INTELLECTUAL PROPERTY OF G3 ENGINEERING CONSULTANTS (PVT.) LTD. AND CANNOT BE REPRINTED OR REPRODUCED WITHOUT PRIOR APPROVAL OF G3.

REVISIONS:

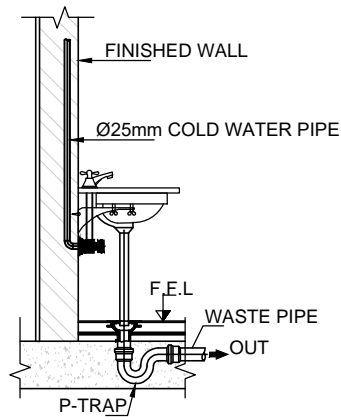
No.	DESCRIPTION	DATE

TENDER DRAWINGS

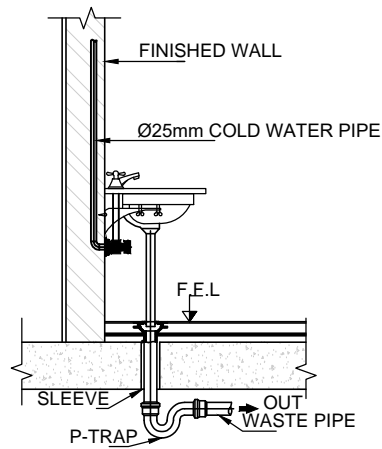
DRAWING TITLE:

MANHOLE DETAIL

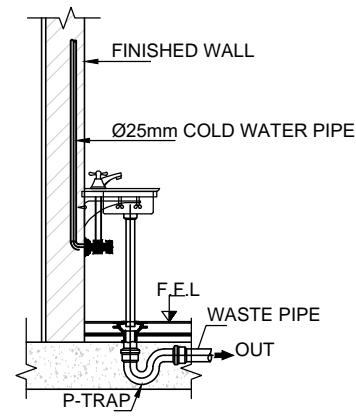
DRAWN BY: M.K.A	DATE: AUG 2021
CHECKED BY: Engr. WASIF ALI	
APPROVED BY: SYED ALI ABBAS GILLANI	
DRAWING NO: 0249/PH-10	REV: 4
SCALE (A3): N.T.S	SHEET: 1 / 2



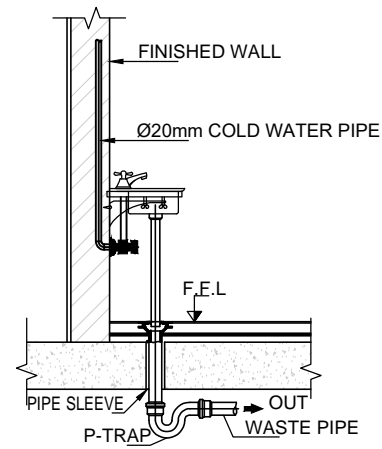
DETAIL OF WASH BASIN



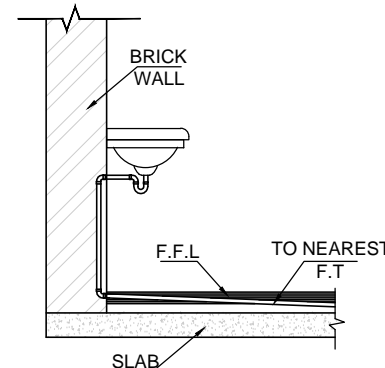
DETAIL OF WASH BASIN



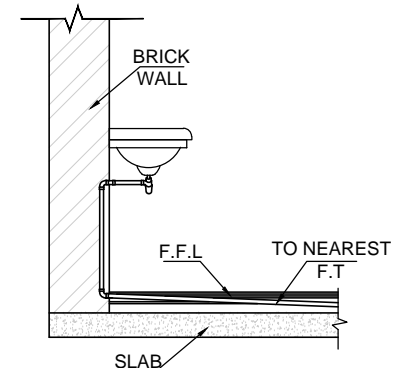
DETAIL OF KITCHEN SINK



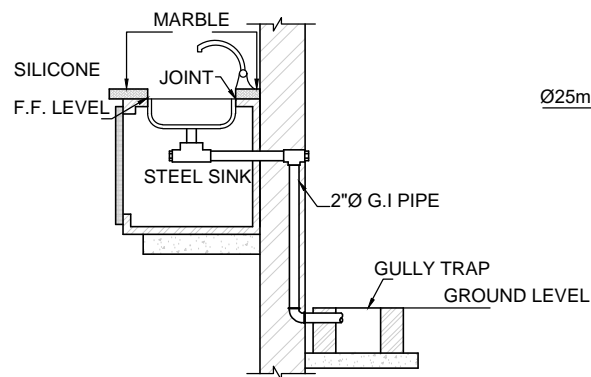
DETAIL OF KITCHEN SINK



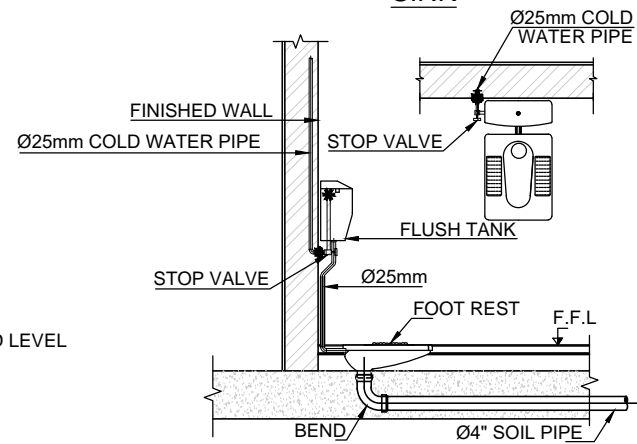
DETAIL OF WASH BASIN TRAP



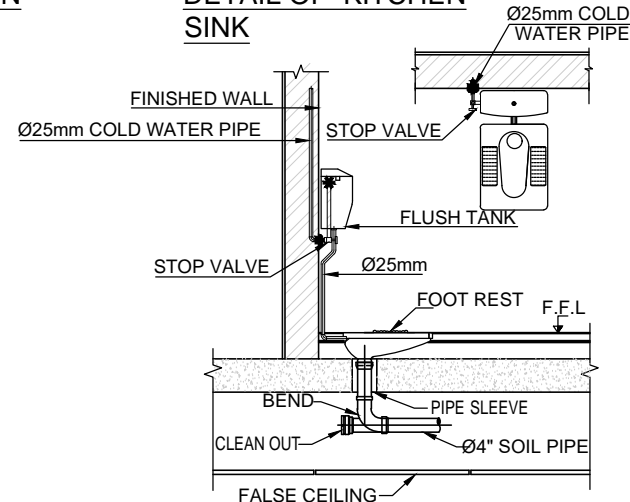
DETAIL OF WASH BASIN TRAP



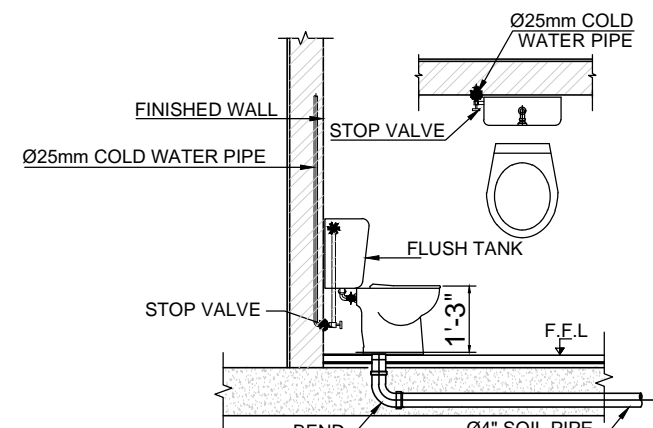
DETAIL OF SINK CONNECTION WITH GULLY TRAP



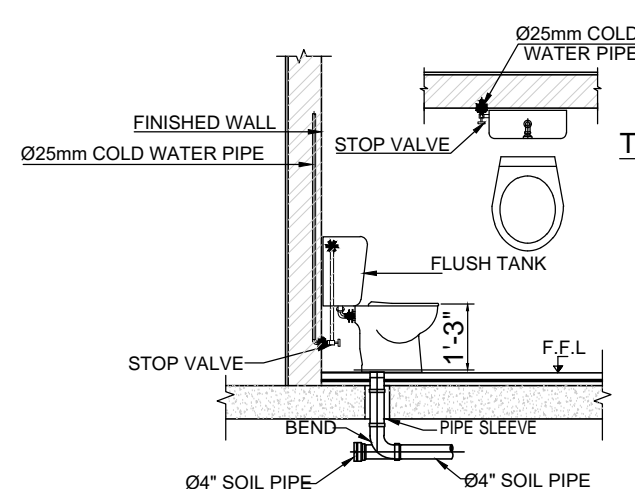
DETAIL OF FLOOR INDIAN WATER CLOSET



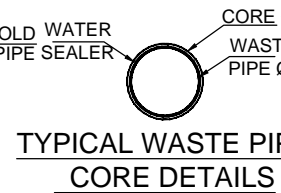
DETAIL OF INDIAN WATER CLOSET CEILING CLEAN OUT SCREWED ACCESS CAP



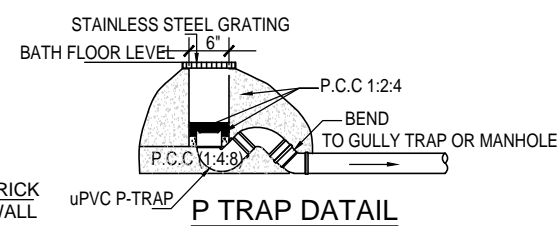
GROUND FLOOR ENGLISH WATER CLOSET



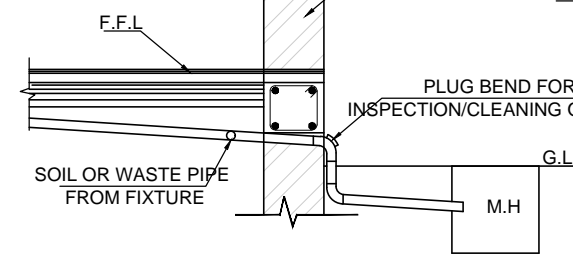
DETAIL OF ENGLISH WATER CLOSET CEILING CLEAN OUT SCREWED ACCESS CAP



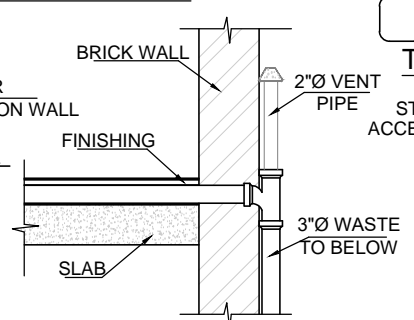
TYPICAL WASTE PIPE CORE DETAILS



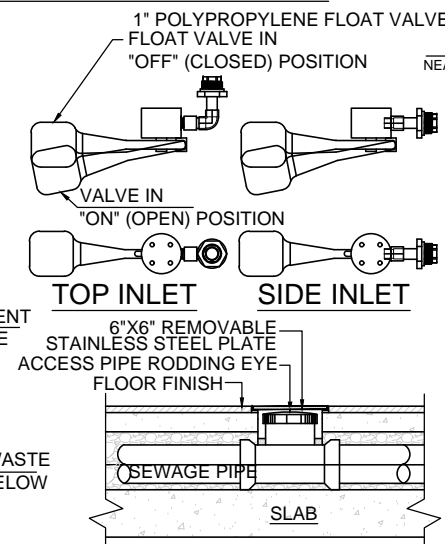
P TRAP DETAIL



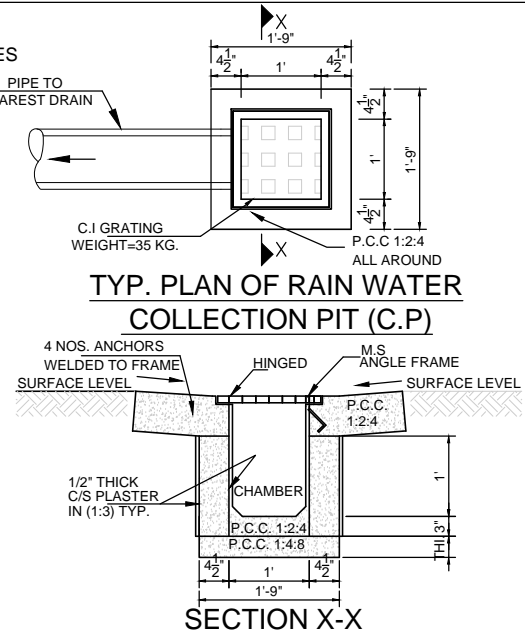
TYP. DETAIL OF INSPECTION EYE BEND ON SOIL OR WASTE PIPE AND ITS CONNECTION TO MAN HOLE



TYP. VENT PIPE DETAIL



CLEAN OUT DETAIL



TYP. PLAN OF RAIN WATER COLLECTION PIT (C.P)

SECTION X-X

CLIENT:



PROJECT
IMPLEMENTATION
UNIT (PIU) KNIP



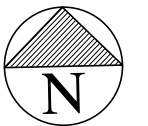
CONSULTANTS:

G3 ENGINEERING
CONSULTANTS (PVT.) LTD.
House No.57-M Gulberg-III, Lahore, Pakistan

Tel : (92-42) 35441641, 35441642
Fax : (92-42) 35441645
E-mail : info@g3ec.com
URL : www.g3ec.com

PROJECT:

REHABILITATION & UPGRADATION OF
GIZRI SPORTS GROUND



NOTES:

1. ALL DIMENSIONS ARE IN FEET UNLESS OTHERWISE SPECIFIED.
2. THIS DRAWING IS AN INTELLECTUAL PROPERTY OF G3 ENGINEERING CONSULTANTS (PVT.) LTD. AND CANNOT BE REPRINTED OR REPRODUCED WITHOUT PRIOR APPROVAL OF G3.

REVISIONS:

No.	DESCRIPTION	DATE

TENDER DRAWINGS

DRAWING TITLE:

Miscellaneous Details

DRAWN BY:

M.K.A

DATE:

AUG .2021

WATER SUPPLY & SEWERAGE ENGINEER

Engr.Wasif Ali

APPROVED BY:

SYED ALI ABBAS GILLANI

DRAWING NO:

0249/PH-11

REV:

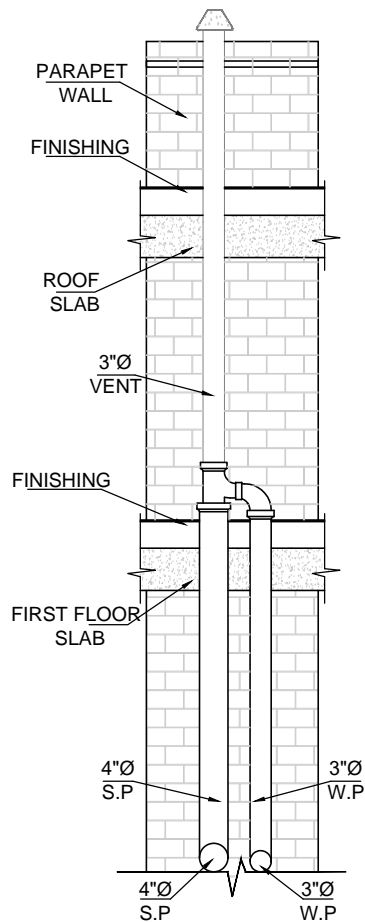
4

SCALE (A3):

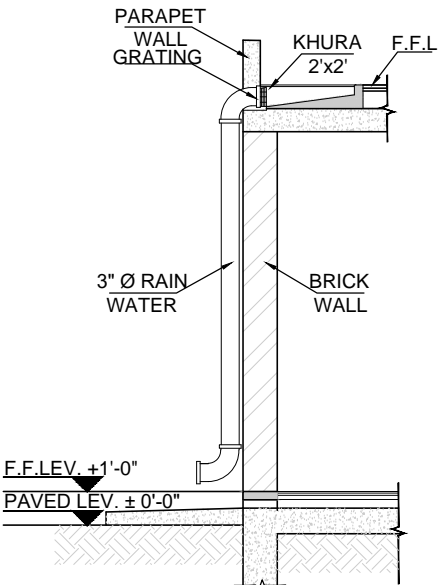
N.T.S

SHEET:

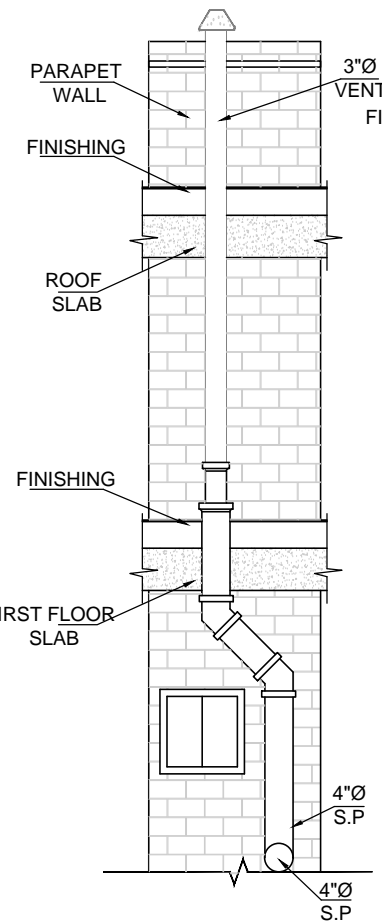
1 / 2



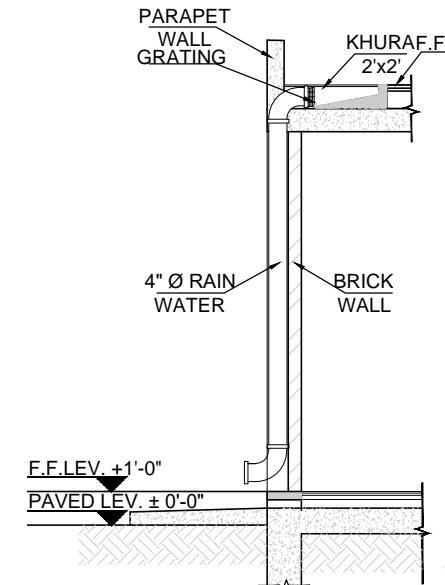
TYP. VENT PIPE DETAIL



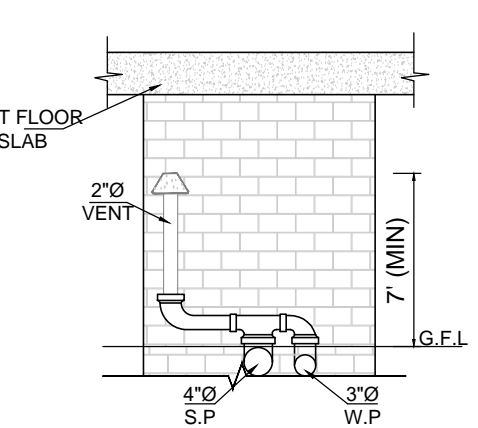
TYP. RAIN WATER PIPE & KHURA DETAIL



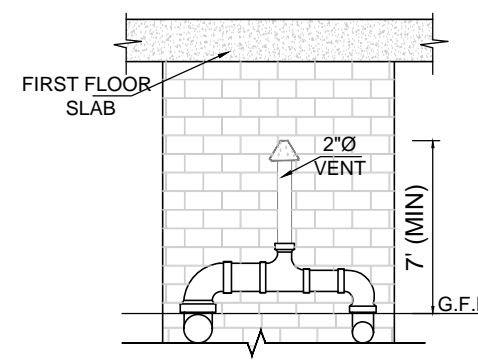
TYP. VENT PIPE DETAIL



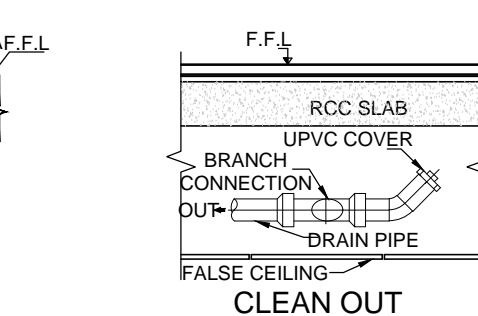
TYP. RAIN WATER PIPE & KHURA DETAIL



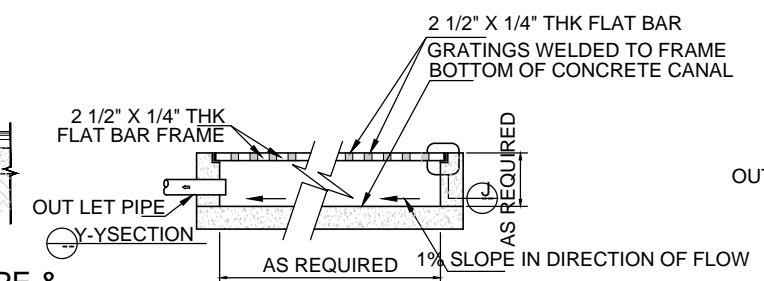
TYP. VENT PIPE DETAIL



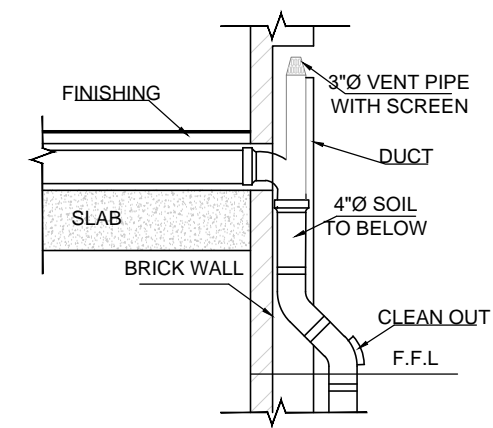
TYP. VENT PIPE DETAIL



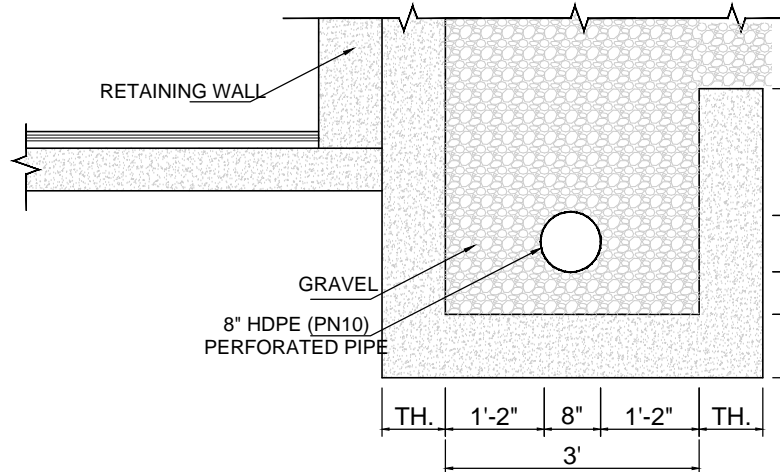
CLEAN OUT



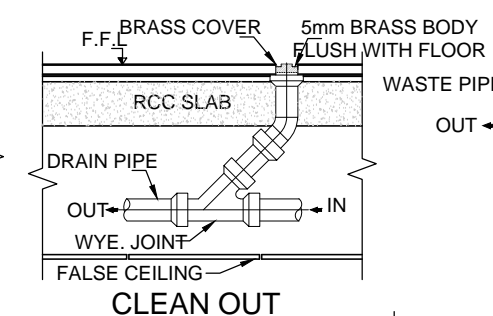
Y-Y SECTION



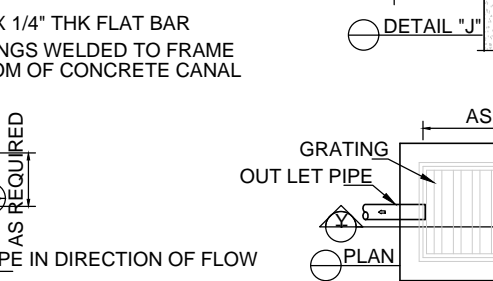
TYP. VENT PIPE DETAIL



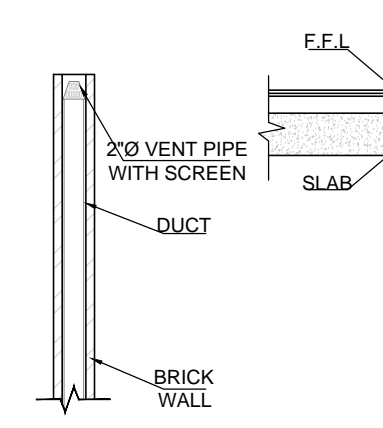
TYP. PERFORATED PIPE TRENCH DETAIL Z-Z



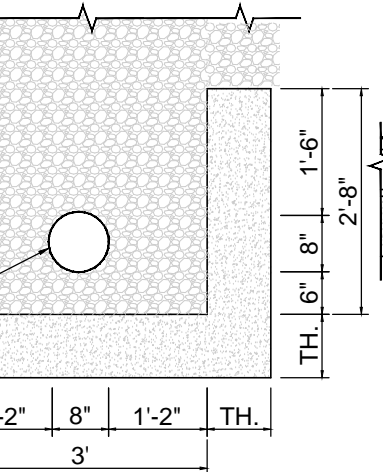
CLEAN OUT



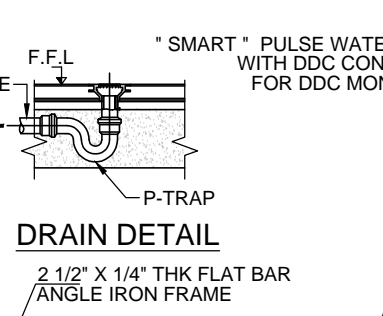
GRATING DETAILS



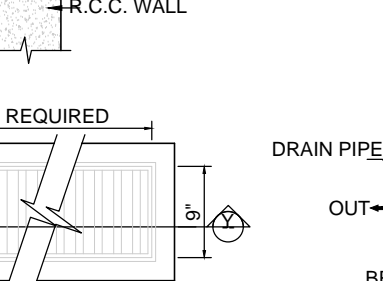
TYP. VENT PIPE DETAIL



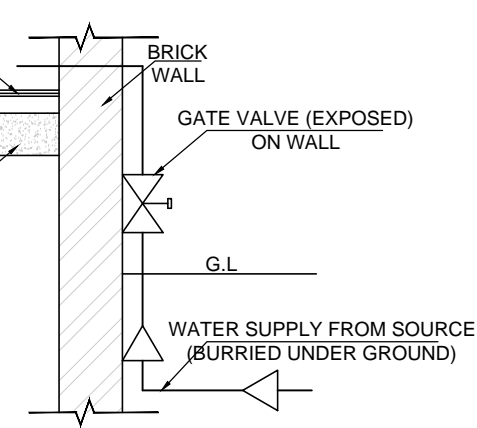
TYP. PERFORATED PIPE TRENCH DETAIL Z-Z



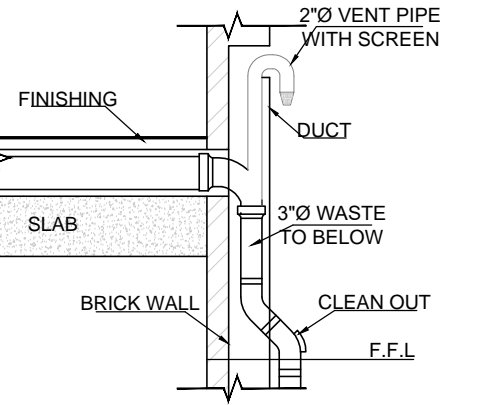
DRAIN DETAIL



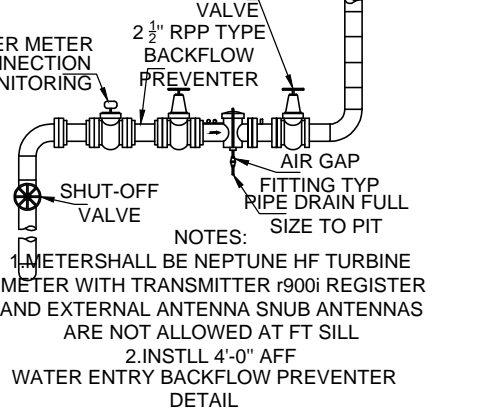
GRATING DETAILS



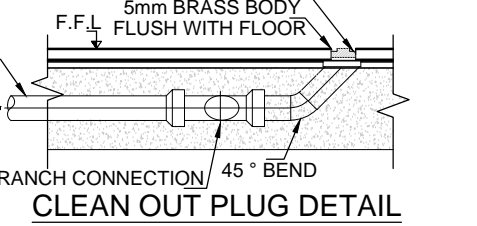
TYP. EXPOSED GATE VALVE



TYP. VENT PIPE DETAIL



CLEAN OUT PLUG DETAIL



CLEAN OUT PLUG DETAIL

CLIENT:



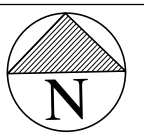
PROJECT
IMPLEMENTATION
UNIT (PIU) KNIP



CONSULTANTS:
G3 ENGINEERING CONSULTANTS (PVT.) LTD.
House No.57-M Gulberg-III, Lahore, Pakistan
Tel : (92-42) 35441641, 35441642
Fax : (92-42) 35441645
E-mail : info@g3ec.com
URL : www.g3ec.com

PROJECT:

REHABILITATION & UPGRADATION OF
GIZRI SPORTS GROUND



NOTES:

1. ALL DIMENSIONS ARE IN FEET UNLESS OTHERWISE SPECIFIED.
2. THIS DRAWING IS AN INTELLECTUAL PROPERTY OF G3 ENGINEERING CONSULTANTS (PVT.) LTD. AND CANNOT BE REPRINTED OR REPRODUCED WITHOUT PRIOR APPROVAL OF G3.

REVISIONS:

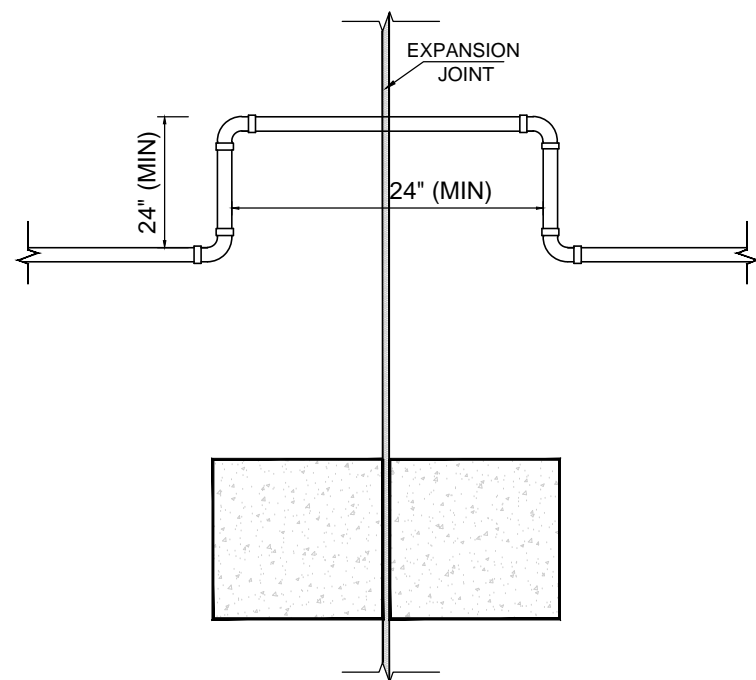
No.	DESCRIPTION	DATE

TENDER DRAWINGS

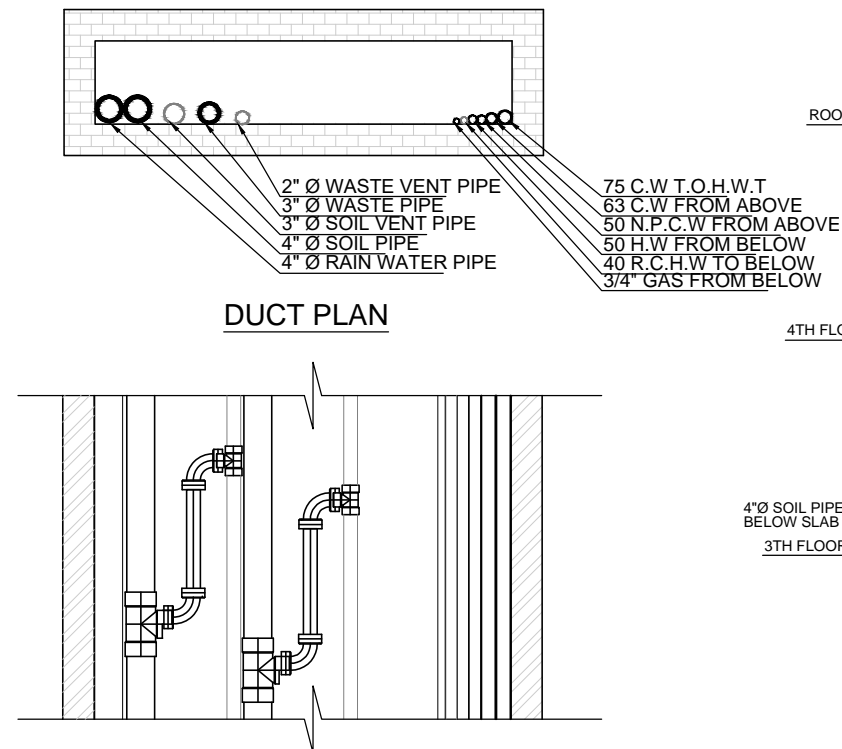
DRAWING TITLE:

Miscellaneous Details

DRAWN BY: M.K.A	DATE: AUG .2021
WATER SUPPLY & SEWERAGE ENGINEER Engr.Wasif Ali	
APPROVED BY: SYED ALI ABBAS GILLANI	
DRAWING NO: 0249/PH-12	REV: 4
SCALE (A3): N.T.S	SHEET: 1 / 2

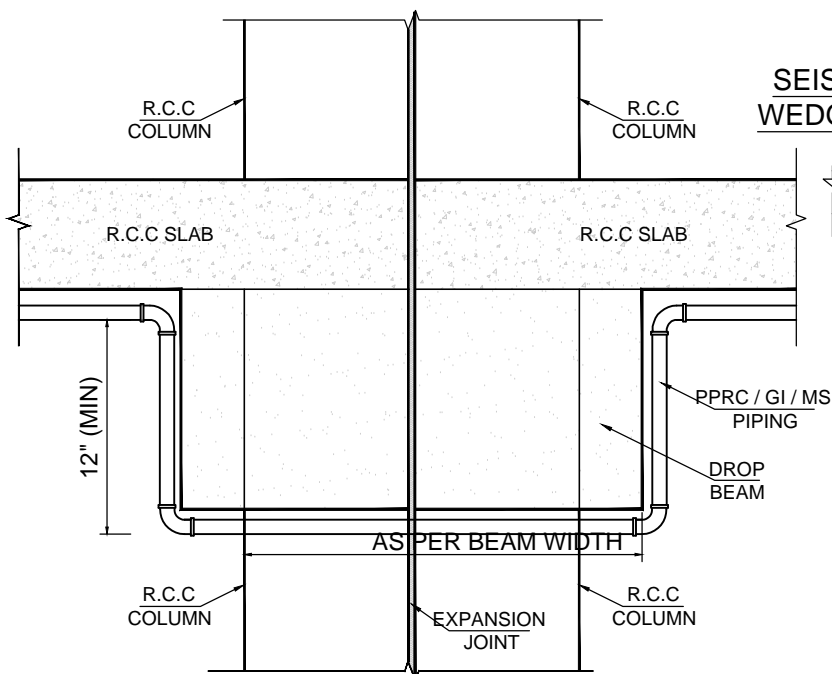


TYPICAL TOP DETAIL OF uPVC WASTE PIPE AT EXPANSION JOINT

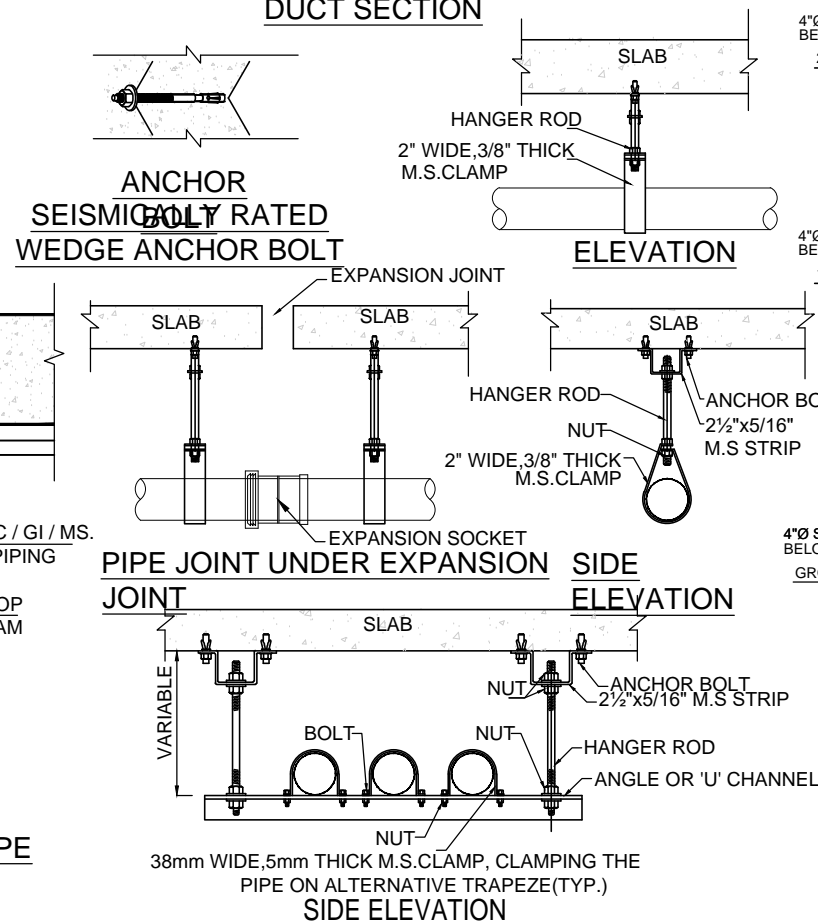


DUCT PLAN

DUCT SECTION

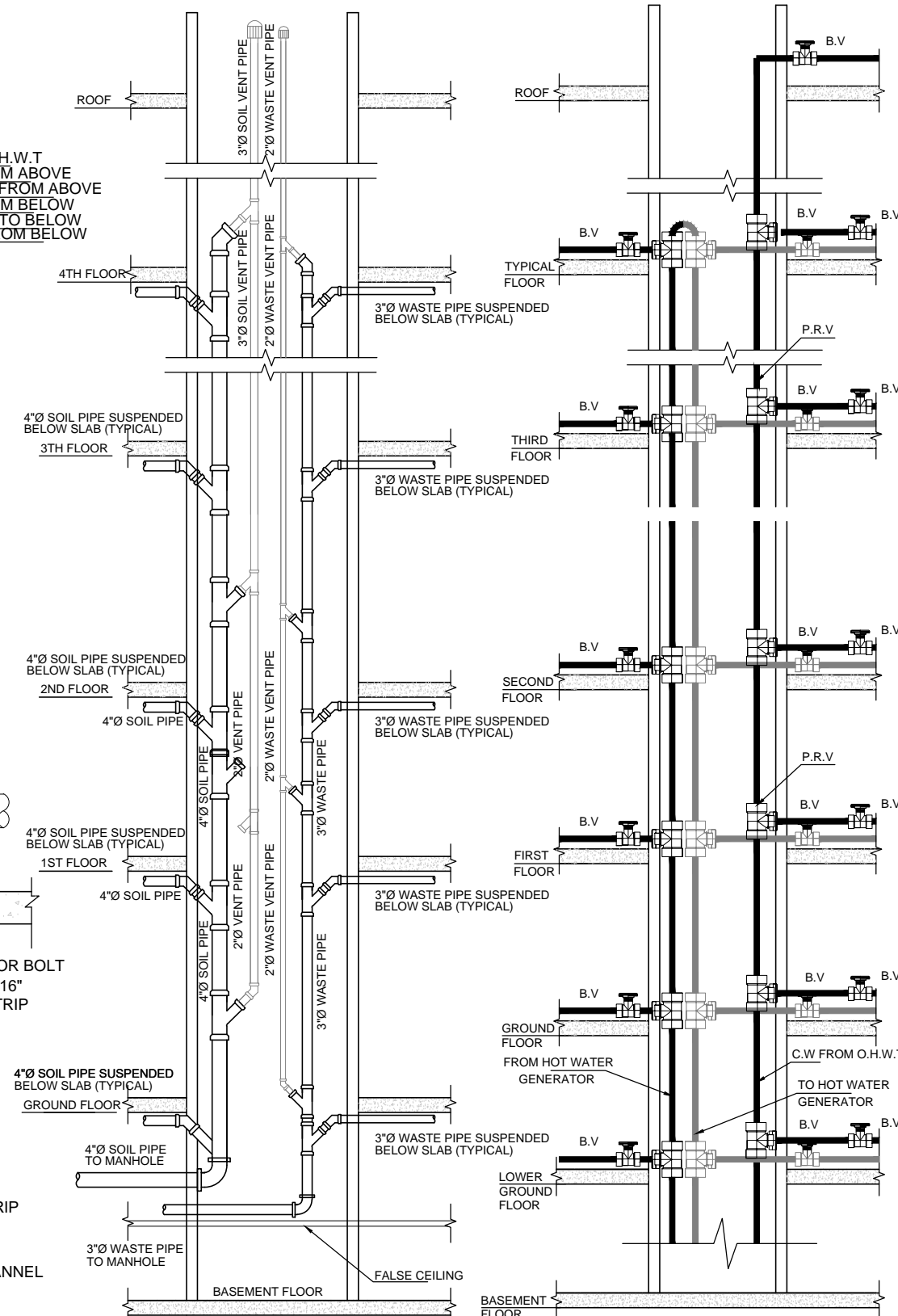


TYPICAL DETAIL OF PPRC WATER SUPPLY PIPE AT EXPANSION JOINT



ELEVATION

SIDE ELEVATION



TYPICAL ELEVATION FOR PIPE CONNECTION IN DUCT

TYPICAL DETAILS FOR HOT WATER & RETURN HOT WATER

CLIENT:



PROJECT IMPLEMENTATION UNIT (PIU) KNIP



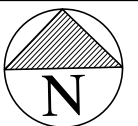
CONSULTANTS:

G3 ENGINEERING CONSULTANTS (PVT.) LTD.
House No.57-M Gulberg-III, Lahore, Pakistan

Tel : (92-42) 35441641, 35441642
Fax : (92-42) 35441645
E-mail : info@g3ec.com
URL : www.g3ec.com

PROJECT:

REHABILITATION & UPGRADATION OF GIZRI SPORTS GROUND



NOTES:

1. ALL DIMENSIONS ARE IN FEET UNLESS OTHERWISE SPECIFIED.
2. THIS DRAWING IS AN INTELLECTUAL PROPERTY OF G3 ENGINEERING CONSULTANTS (PVT.) LTD. AND CANNOT BE REPRINTED OR REPRODUCED WITHOUT PRIOR APPROVAL OF G3.

REVISIONS:

No.	DESCRIPTION	DATE

TENDER DRAWINGS

DRAWING TITLE:

Miscellaneous Details

DRAWN BY: M.K.A DATE: AUG .2021

WATER SUPPLY & SEWERAGE ENGINEER

Engr.Wasif Ali

APPROVED BY:

SYED ALI ABBAS GILLANI

DRAWING NO: 0249/PH-13

REV: 4

SCALE (A3): N.T.S

SHEET: 1 / 2