PLUMBING

The general conditions and general requirements sections shall apply directly to this section as though printed herein.

1. SCOPE

- 1. Sanitary soil, waste and vent system. Combination

- 1. Sonitory soil, waste and vent system, commission, waste and vent system.
 2. Domestic hot and cold water systems.
 3. Condensate drain system.
 4. Plumbing fixtures, equipment, trim.
 6. Rough-in and final connections of water and drain not included in this Section or as to equipment, furnished by
- Gas system
- 7. Excavation and backfilling. 8. Testing.

EXAMINATION OF THE SITE
Examine the site and all conditions thereon or therein. Take
into consideration all conditions that may affect the work
under this Contract. Lack of this information will not be
considered as justification for extra cost or allowances to the

- A. Ordinances and Regulations: In addition to complying with the specified requirements, comply with pertinent regulations of governmental agencies having jurisdiction.
- B. Permits and inspections: Apply and pay for all permits for the installation or construction of the plumbing work required and furnish all necessary drawings required for same. Arrange for inspections and examinations as required, and deliver certificates of all inspections to the Owner.
- 4. DRAWINGS AND SPECIFICATIONS
- A. The Drawings are in part diagrammatic and are intended to convey the scope of the work; they indicate the general arrangement and approximate sizes of equipment, piping, continued to the province of the
- B. Verify all clearances in areas where Work will be installed and coordinate the Work with that of the other trades and other Sections of the Specifications.
- C. Where job conditions, or the Architect require reasonable changes in indicated locations and arrangement, make such changes without additional charge.
- D. It is the intent of the Drawings and Specifications to provide complete operating systems, unless specifically noted to the of any minor details of construction, installation, motorials, o specialities necessary for a safely operable system shall not relieve the Contractor from furnishing the such items in place, complete.

5 SUBSTITUTIONS

- A. Whenever a product is specified by trade name or manufacturer's name, either in the Specifications or a Drawings, such designation is intended to establish a of merit and design.
- B. Submit written requests for substitutions in triplicate. Include Submit written requests for substitutions in triplicate. Include catalog numbers, capacities, ratings and the cuts of products specified as well as products to be substituted. Also include accurate cost data on the proposed substitution in comparison with the products specified and whether or not modification of the Contract amount is to be considered.
- C. Substitutions of unlisted manufacturers will not be allowed after the Contract is signed.
- A Product Data: Submit material list of items proposed to be provided under this Section. Include Manufacturers' specifications, catalog cuts, and other data needed to comply with the specified requirements. Submit all product data atone time, bound between covers. Partial submittals will not
- B. Shop Drawings or other data as required to indicate method of installation and attachment of piping, and equipment, except where such details are fully shown on the Drawings.
- C. Record Drawings and Manuals: Provide and keep at job site or complete record set of blueline prints, corrected daily to Specifications. Firints for this purpose may be obtained from the Architect. Deliver the set to the Architect. Pay for the purpose may be obtained from the Architect. Deliver the set to the Architect. Pay for the purpose may be project. Record Drawings.

7. OPENINGS

- A. Openings or holes for piping or equipment will not be allowed in any structural members without consent of the Architect.
- B. Framed openings have been indicated on the Architectural and Structural Drawings. At a time in advance of the work, verify the location and size of openings or furnish new Should the furnishing of this information be neglected, delayed or incorrect, and additional cutting, notching, or boring is found to be required, the work shall be done as directed by the Architect of no additional cost to the Owner.
- c. make absolutely watertight any openings through waterproofed construction caused by the penetration of piping in a manner approved by the architect.

- 8. QUALITY ASSURANCE AND PRODUCT HANDLING
- A. Use all means necessary to protect plumbing materials before, during and after installation and to protect the installed work and materials of all other trades.
- B. In the event of damage, immediately make all repairs and replacements necessary to the satisfaction of the Architect and at no additional cost to the Owner.

It is the specific intent of these Specifications and design conditions that the entire system including equipment, conditions that the entire system including equipment, and the system of the syste

Be responsible for all work under this Section, adjust all valves, controls, would breakers and other incidental valves, controls, would be received the received by the section of the section of ecological projections with commonly materials, and equipment which may become apparent within more year after the date of the final acceptance of the Work, at no additional cost to the Owner. Furnish the Owner all manufacturer's written warranties of materials and equipment.

Provide all new materials, in proper condition, of the best quality for the purpose intended, clearly marked or stamped with the manufacturer's name and/or stamp and rating.

- A. Soil,waste and vent: SCH 40 ABS pipe and fittings with stainless steel clamp.
- B. Domestic Water(above ground): Type L hard drawn copper ASTM B88.and wrought copper fittings.
- C. Domestic Water(below ground;%%uinside building%%U): Type K soft drawn copper.
- D. Domestic Water(below ground;%%uoutside building, 3" and smaller%%U): type k hard drawn copper.
- E. Domestic Water(below ground:%Xuoutside building 4" and larger/XXU): ductile iron class 51. conform to AWWA standard C-151. pipe and fittings shall be cement limed in accordance with AWWA standards C-104. fittings shall conform to AWWA standard C-110, 250 pip pressure rating, standard co-110, 250 pip pressure rating, standard outside coaling and cement mortar liming, joint shall conform to AWWA standard C-11, mechanical or push-on-joints.
- F. Indirect drain: Type L hard drawn copper tubing ASTM B.88 with wrought copper fittings.

11R PIPE FITTINGS

- Provide fittings for cast iron soil pipe of the same material, weight and quality specified for pipe.
- Provide for copper water pipes, wrought copper solder joint fittings. Cast fittings will not be permitted.
- Provide for exposed fixture connections, 85% cast red brass, polished and chromium plated fittings.

1. Ceneral: Non rising stem may be used only where there is insufficient clearance. Solder joint or screwed type volves of the same manufacturer, NISCO or approved equal VALYES SCHEDULE (SOLD NO. SE-11) Cote volve. NISCO S-11) Check volve. NISCO S-11) Check volve. NISCO S-11) Check volve. NISCO S-15-S-S0 2. Pressure and femperature Relief Valve: McDonnel and Miller, MucHeller, or Watts.

11F PIPE SUPPORTS

FEE MASON or approved equal

Provide Elcen "E-Z Crete" rust-proof sleeves of the size required.

11G ACCESS PANELS & BOXES

Provide access panels as manufactured by J.R.Smith Elmdor or equal in quality and style . Provide access panels with the sme fire rating as the wall or ceiling in which they are

- PLASTER WALL AND CEILING: ELMDOR PW SERIES AKL HINGED PRIME COATED STEEL TRIMLESS ACCESS PANEL WITH PLASTER
- TILE, DRYWALL AND CEILING: ELMDOR PW SERIES AKL HINGED STAINLESS STEEL FLANGED ACCESS PANEL WITH BRIGHT FINISHE FOR TILE WALLS, PRIME COATED STEEL FOR PAINTED WALLS.

- Acoustical tile: Elmdor AT Series AKL hinged prime coated steel flanged access panel.
- 4. Fire rated Wall and Ceiling: Elmdor FR Series AKL with

Provide for each pipe passing through the roof 3 LBS. seam—less lead flashing assembly,flashing to have steel reinforced conical boot and counterflashed with hooded cast iron counter—flashing sheet lead turned down to the pipe and seeled to the pipe, Monufactured by stonemon or equal.

11I.PRESSURE GAUGES AND THERMOMETER

MARSH TRERICE or approved equal 11M.MOTORS AND ELECTRICAL APPARATUS

Provide motors of proper power and speed to suit specified makes of equipment, horsepower and electrical characteristics as indicated on the Drawings.

- A. Do all recessory trench excovations shoring and boxfilling required for the proper laying of all underground piping. Mode of the pipe. Should rock be encountered, excavate same to the depth of one foot below the bottom of the pipe, and fill the space with well tamped sand and pee gravel.
- B. Lay pipe on a bed of sand at least two inches deep. Cover pipe with another two inches of sand.

13.MANUFACTURER'S RECOMMENDATIONS

Install all equipment, material, fixtures, and devices in accordance with the recommendations of the manufacturer and the requirements of the Drawings and Specifications. In the event of conflict, consult the Architect for a decision and perform the Work in accordance with his decision.

14 INSTALLATION OF PIPING

A. General:

- Clean all pipe and remove all scale, sand, dirt, etc., before installation. Use full lengths of pipe whenever possible to minimize the number of couplings.
- Cut pipes accurately to measurements established on the site. Work pipes into place without springing or forcing, and properly clear equipment, doors and openings of buildings.
- Install all piping to run parallel to the building construction and arrange to form neat and symmetrical patterns to insure the best appearance possible.
- Unless otherwise specified, conceal all pipe in walls, partitions or furred spaces.
- Install piping at the exterior of the building, at a minimum depth of 18" below finish grade. Do not expose pipes on the exterior of building.
- 6. Use proper shoring and rigging methods
- 7. Proceed with the rough piping as rapidly as the general construction work will permit and have all of the rough piping in and subbed out to the proper point and tested,in each case, before any loth, plaster or finish work of the ceilings, partitions, walls, or floors are in place.
- Install all pipes with allowances for expansion and contraction. Construct so that strains will be evenly distributed without damage to the system. Avoid building erection stresses into the piping.
- 9. Make connection between copper or brass piping and steel
- Avoid connections and equipment installation that could cause a cross connection between water supply and drainage.
- 11.Cover all exposed connections to plumbing fixtures with polished and chromium plated seamless copper casing.
- Show no tool marks or threads on exposed plated, polished, or enameled connections from fixtures.
- B. Soil, Waste, Vent and Drainage Piping:
- Install piping as straight as possible and make all change in direction with fittings. Make offsets at 45 degrees or less.
- Extend all vent pipes at least 6" above finished roofsurfaces and higher wherever required by local plumbing ordinances.
- C. Water Piping:
- 1. Run level without pockets and as straight as possible.
- 2. Install hot and cold water lines at least 12" apart.
- Isolate all water lines from all parts of the building structure and hangers with 1/2" thick woffle pattern, hair felt strips of a 2" minimum width completely surrounding the pipes. Use pipe isolators to isolate all pipe hangers and supports.
- Install water hammer arrestors in an upright position on hot and cold water piping headers, at each quick closing valves and where indicated on the Drawings.
- Install vacuum breaker on water lines where required by code even if not specifically mentioned in the Specification or indicated on the Drawings.
- Arrange thermometers for easy reading from the floor and install all pressure gauges with shut—off cocks.

15.JOINTS

- Copper Tubing: Cut pine square, using proper tools and remove all burns thoroughly clean and of pine equal to depth of fitting, using sond cloth, sandopper or steel wool for cleaning purposes. Apply a coat of No. 50 Streamine poste to pine and fittings. Liquid flux will not be permitted. Use 95–5 solder-install all piping in accordance with. manufacturer's instruction
- B. Copper or Brass Pipe: Cut threads with new clean dies, full thicknesses of dies. Make joints with friction clamps and friction wrenches. Thoroughly ream each piece of pipe. Apply tape to male threads.

16.UNIONS

Install unions on connections to all equipment on the downstream side of all threaded or soldered valves and elsewhere as indicated on the Drawings.

A. Install shut-off valves in all main services, at fixtures, and Install shut-off valves in all main services, at fatures, and where required to provide complete isolation of all where required to provide complete solation of all regulations of the complete solation of the complete sol

B. Install trap primer with shut-off valve and union. 18.PIPE SUPPORTS

A. Support suspended piping with clevis or trapeze hangers and rods. In concrete slabs support piping from inserts or anchors. Where steel framing is used, attach supports with suitable clamps and to wood framing use suitable bolts or

- B. Support each item independently from other pipes. Do not use wire for hanging or strapping pipes.
- C. Space hangers and supports for horizontal steel pipes according to the following schedule:
- D. All piping which is not isolated from contact with the building by its insulation shall be installed with a manufactured type isolator. Horizontal piping in stud walls may be isolated with hair felt pads securely wired in place.
- E. Isolator shall be Semco Trisolators, Series NO. 100 for I.PS. piping and Series NO. 500 for coppertubing as manufactured piping and Series NO. 500 for coppertubing as manufa by Stoneman Engineering and Mfg. Co. Pipe size: Maximum spacing on center
- 1-1/4" and smaller---- 8'-0" 1-1/2" and larger--- 10'-0" ner locations: Valves, fittings and change in direction.
- F. Space hangers and supports for horizontal copper tubing according to the following schedule:
 Tube size:
 Maximum spacing on centers:
- Maximum spacing on centers: 1-1/2" and smaller--- 6'-0" 2" and larger---- 8'-0" Other locations: Valves, fittings and change in direction.
- G.Provide sway bracing on hangers longer than 18".
- H. Arrange pipe supports to prevent excessive deflection, and to avoid excessive bending stress.
- Support vertical piping with riser clamps secured to the piping and resting on the building structure. Provide at each floor unless otherwise noted.
- J. Support piping independently at pumps, tanks and similar locations, so that weight of pipe will not be supported by the
- K. Hubless piping: Provide hangers on the piping at each side of, and within 6° of, hubless pipe coupling so the coupling will bear no weight. Ministral alignment and prevent sagging of pipe, and make adequate provision to prevent sets are provided by the provided provided to provide the provided hangers on couplings. Hotological spacing: 5°-0° Other locations: Fittings and change in direction.
- L. Support piping on roof on 2" x 4" redwood blocks 12" long at maximum of 8'-0" 0.C. Anchor piping to blocks.
- M. Hanger rads shall conform to the following table: pipe size 2" and smaller: 3/8 inch rod pipe size 2-1/2" and 3": 1/2 inch rod pipe size 4" and 5": 5/8 inch rod 19.

19.INSULATION

- A. Insulate all domestic hot water supply and return piping. Do not cover unions.thickness shall be in accordance with table on P-1 (energy notes), material to be same as specified below in "B".
- 8. Insulate all condensate drain piping with 1/2" thick Armstrong 2000 or elastomeric or Imcoo playdiff from pipe insulation. All joints shall be sealed with Imcoo adhesive. all fittings to be insulated with miler cut pieces. Water pipers run in exterior wall choses are to be covered with 3/4" insulation. Fiberglass insulation is MQT allowed.
- C. Provide insulation continuous through hangers and rollers.
- D. Insulate the tail piece, "P" trap, trap arm and hot water supply piping at each fixture for handicapped use. Handi Lav-Guard Insulation Kits. manufactured by TRUEBRO INC.

20. PIPE WRAPPING

SPIRALLY WRAP ALL UNDERGROUND STEEL AND COPPER PIPING WITH PLASTIC TAPE ONE HALF LAPPED TO GOTE DOUBLE THICKNESS. WRAPALF IELD JOINTS AFTER PRESSURE TEST. WHERE SOIL IS CORROSIVE ATTACH ANDRES TO ALL UNDERGROUND STEEL PIPING WITH ISOLATION UNIONS IN ACCORDANCE WITH RECOMMENDATIONS OF A CORROSION ENGINEER.

- A. For insulated pipe, provide sleeves of adequate size to accommodate the full thickness of pipe covering, with clearance for packing and calking.
- B. Calk the space between sleeve and pipe or pipe covering, 1. Calk the space between sleeve and pipe of pipe covering using a non combustible, permanently plastic, waterproof, non-staining compound which leaves a smooth finished appearance, or pack with non combustible insulating rope to within $1/2^{\circ}$ of both wall faces, and provide the waterproof compound described above.

C Finish and escutcheons:

- Smooth up rough edges around sleeves with plaster or spackling compound.
- 2. Provide 1" wide chrome or nickel plated escutcheons held in place with set screw for all pipes exposed to view in finished spaces.

22.CLEANOUTS

- A. Provide cleanouts of same nominal size as the pipes they serve, except where cleanouts are required in pipes 4" and larger provide 4" cleanouts.
- Make cleanouts accessible. After pressure tests are made and approved, thoroughly graphite the cleanout threads.

Label all valves with securely attached metal tags showing the service and valve number. Stamp tags with black filled numbers and letters. Prior to final inspection, submit to Architect two copies of chart showing valve number, service,

24 TESTING

A. Test all work under the supervision of the representative of the Architect and/or Owner and inspected by all authorities having jurisdiction over this work. Deliver four (4) sets of all test charts and reports to the Architect.

B. Pressure Tests:

Test the various parts of the systems before piping is concealed as required by governing authorities and pay all costs for same.

- 1. Entire soil, waste and vent piping shall be tested with minimum of 10 feet head of water for three (3) hours.
- 2. All domestic water piping shall be tested under a hydrostatic pressure of 150 PSI for three (3) hours.

C. Operating Tests:

- Before final acceptance, perform operating tests for a duration of eight hours. Furnish all labor and instruments for tests.
- D. Should the Contractor refuse or neglect to make any tests necessary to satisfy the Owner, or his representative, that he has carried out the true intent and meaning of the Specifications, the Owner may make such tests and charge the expense there of to the Contractor.

- 25.CLEANING A. Thoroughly clean all equipment and piping to remove dust, socials, plaster, or any internal obstructions before any covering is installed or any piping, or equipment is pointed and/or placed in operation. Clean exposed parts of equipment, remove oil and grease, and leave the bright metal parts clean and politiced. Relative linkined surfaces if damages, and deliver entire installation in approved condition.
- B. During the progress of the work, carefully clean up after your men, and leave the premises and all portions of the building in which you are working, free from debris. Upon completion of the work, remove all rubbish, debris and surplus motorials resulting therefrom from the premises, and leave the site in and, clean and acceptable condition as approved by the Architect.
- C. Before being placed in operation, flush clean inside of pipes, etc. Clean all strainers after operational tests. Clean plumbing fixtures of protective materials and clean and polished entire assemblies. Clean floor drain grates and

check each fixture to insure against trap stop 26.WATER SYSTEM STERILIZATION

Before the use of any portion of water system and before final acceptance of the system, the purity of the system. Submit of Certificate from an approved testing laboratory to the water system meets all the purity requirements of the State Board of Health. Obtain written approval from water testing laboratory and submit to general contractor for opproval.

27 CROUTING

Grout behind all wall—hung plumbing fixtures with hard, white durable plaster materials, eliminating all voids and cracks and providing sufficient plane—bearing surfaces for mounting.

Upon completion of and after cleaning of system and equipment, carefully adjust for normal operation the automatic parts of plumbing systems.

29.OPERATION AND MAINTENANCE INSTRUCTIONS Upon completion of the work of this Section and before final acceptance, deliver to the Architect two copies of an operation and maintenance manual



Stitch Studio

Contact: Jorge Escamilla 4082 Pomona Street Ventura, California 93003 Direct: 818.523.7201 aii: stitchstudio3d@gmail.c





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PRAJIN DEVELOPMENT

NEW BUILDING PRAJIN BROTHERS, LLC 5707 PACIFIC BLVD. HUNTINGTON PARK, CA 90255

NOTES

Project numbe Project Number 02-23-17 Drawn by A.N. Checked by

P100.1

Scale

ALL PLUMBING FIXTURE SPECIFICATION AND MODEL NUMBERS SHALL BE APPROVED AND COORDINATED WITH THE ARCHITECT PRIOR TO BID AND ORDER THE FIXTURES.

FIELD VERIFY ALL CONDITIONS

DESIGN DRAWINGS ARE SCHEMATIC. THIS CONTRACTOR SHALL VISIT THE SITE PRIOR TO BIDDING OR AWARD OF CONTRACT TO INSPECT EXISTING FIELD CONDITIONS. THIS CONTRACT SHALL INCLUDE ALL LABOR AND MATERIALS NECESSARY FOR FIELD MODIFICATIONS DUE TO

THE CONTRACTOR SHALL CONTACT THE ARCHITECT, ENGINEER OR OWNER PRIOR TO BIDDING FOR INTERPRETATIONS AND CLARIFICATIONS OF THE DESIGN AND INCLUDE IN HIS BID ALL COSTS TO MEET THE DESIGN INTENT. CLARIFICATIONS MADE BY THE ARCHITECT, ENGINEER OR OWNER AFTER BIDDING WILL BE FIRMLA MOS SHALL BE IMPLEMENTED AT CONTRACTORS COST.

BIDDING CONTRACTORS SHALL HAVE A WORKING KNOWLEDGE OF LOCAL CODES AND ORDINANCES AND SHALL INCLUDE IN THEIR BIDS THE COSTS FOR ALL WORK INSTILLED IN STRICT ACCORDANCE WITH COVERNING CODES. THE PLANS AND SPECIFICATIONS NITHISTANDING. THE CONTRACTOR SHALL ALERT ARCHITECT, ENGINEER OR OWNER OF ANY APPARENT DISCREPANCIES BETWEEN GOVERNING CODES AND DESION INTENT.

SEISMIC BRACING

ALL SISPENDED UTILITY SYSTEMS WHICH INCLUDE: ELECTRICAL MECHANICAL, AND PLUMBING EQUIPMENT AND ASSOCIATED CODUCT OFFICE OF THE STATE OF

NOTES:

- 1. PRICE TO PIEME FLERICATION, EQUIPMENT INSTALLATION OF PIEC INSTALLATION, PUBLISHEN CONTRECTOR SHALL CORRENATE VIEW HALL COTHER TRUSS AND CELLUM CLEARANCES AND PROVIDE COMPLETE SHOP DRAWNIGS, OFFINN APPROVAL FOR SHOP DRAWNIGS, OFFINN APPROVAL FOR TO MAINTAIN REQUIRED SPACE, VERIFY WITH ENGINEER, NO EXTRA COST IS ALLOWABLE FOR LACK OF COORDINATION AFTER SHOP DRAWNIGS. ARE SUBMITTED.
- 2. SIE INSPECTION: CONTRACTORS SHALL VISIT THE SITE OF WORK PRIOR TO SUBMISSION OF HIS BIG AND THOUGHLY FAMILIARIZE THEMSELVES WITH THE SUBMISSION OF HIS PROPOSITION OF THE STATE OF THE SUBMISSION OF THE SUBMISSION OF THE SUBMISSION OF AUGUST OF ACCOMMODATE OR ALLOW EXTRA FUNDS FOR ANY SUBMISSION WHICH SESULTS FROM A FAILURE TO THOROUGHLY MAKE THE EXAMINATION.
- CONTRACTOR SHALL PROVIDE SHOP DRAWING FOR BEAM PENETRATION FOR STRUCTURE ENGINEER APPROVAL PRIOR TO ANY PIPE FABRICATION AND INSTALLATION.
- CONTRACTOR SHALL COORDINATE WITH GAS COMPANY FOR EXACT LOCATION OF GAS METERS AND CLEARANCE COMPLIANCE ASSOCIATED WITH LOCATION, PRIOR TO PIPE INSTALLATION.
- 5. NOT USED.
- INSULATION MATERIAL SHALL MEET THE CALIFORNIA QUALITY STANDARD PER SECTION 118 ENERGY EFFICIENCY STANDARDS (E.E.S.)
- 7. PROVIDE VACUUM BREAKERS AT HOSE BIBBS
- 8. FAUCETS TO BE MAXIMUM 1.8 G.P.M.
- CROSS CONNECTION PROTECTION SHALL BE PROVIDED AT ALL POTABLE WATER SUPPLIED APPLIANCES AND EQUIPMENT. (OTHER THAN THOSE LISTED IN INFORMATION BULLETIN 103). 10 COORDINATE WITH ARCHITECT FOR FIXTURES SPECIFICATION.

GENERAL NOTES

- ALL REQUIRED CLEANOUTS SHALL BE INSTALLED AS PER SECTION 707.0 AND 719.0 OF PLUMBING CODE. NEW OR REPAIRED PORTABLE WATER SYSTEMS SHALL BE DISINFECTED PRIOR TO USE ACCORDING TO THE METHOD SET IN SECTION 609.9 OF THE PLUMBING CODE.

	COLD WATER DESIGN REQUIREMENTS	
(A)	PRESSURE AVAILABLE MAXIMUM 83 PSI,MINIMUM 75 PSI	
(B)	TOTAL FIXTURE UNIT FLUSH TANK 81 F.U.	
(C)	WATER DEMAND: 1. DOMESTIC	39
	2. MAKE UP AIR UNITS.	5
	3. TOTAL	44
(E)	RESIDUAL PRESSURE REQUIRED AT FARTHEST OUTLET:	25
(F)	PRESSURE LOSS DUE TO HEIGHT 20 FT, X .433	8.66
(G)	PRESSURE LOSS THRU WATER SOFTNER: (IF REQUIRED)	N/A
(H)	PRESSURE LOSS THRU BACK FLOW PREVENTER	13
0)	PRESSURE LOSS THRU 2" METER:	0.8
(J)	PRESSURE LOSS THRU 2" PRESSURE REDUCING STATION:	5
(K)	TOTAL PRESSURE LOSS FROM ABOVE (ITEMS E THRU G):	52.
(L)	PRESSURE AVAILABLE: (PRV SET @ 75 PSI)	75
(M)	PRESSURE AVAILABLE FOR FRICTION LOSS (L MINUS K):	22.5
(N)	DEVELOPED PIPE LENGTH:	
	1. LENGTH OF RUN (MAIN/PRV TO LAST FIXTURE):	200
	2. EQUIVALENT LENGTH FOR FITTINGS 25%	50
	3. TOTAL DEVELOPED LENGTH:	250
(0)		
	22.54 X 100 DIVIDED BY 250 = 9	

FIXTURE	FU	TOTAL FU
		TOTAL TO
WC (TANK) L FUTURE FIXTURE	2.5 1 60	15 6 60
		TAL= 81 FU PM= 39
	L	L 1 FUTURE FIXTURE 60

WATER SIZING CHART PIPE SIZES BASED ON TYPE "L" COPPER @ 5 PSI/100 FT. VELOCITY NOT TO EXCEED 8 FT. PER SECOND FOR COLD WATER AND 5 FRET PER SECOND FOR HOT WATER

	FIXTURE UNITS				
PIPE SIZE	HOT WATER	FLUSH TANK	FLUSH VALVE		
1/2"	1	1	0		
3/4"	7	7	0		
1"	16	18	0		
1 1/4"	28	34	5		
1 1/2"	46	66	20		
2"	119	245	124		
2 1/2"	245	455	329		
3"	406	719	666		

EQUIPMENT SCHEDULE

SYMBOL	
	INSTANTANEOUS WATER HEATER CHRONOMITE MODEL SR-20L, 208 VOLTS, 1 PHASE, 4160 WATTS

ENERGY NOTES 1. SERVICE WATER HEATING STREEM SHALL BE EQUIPMED WITH FROM THE LOWEST TO THE HIGHEST ACCEPTABLE TEMPERATURE FROM THE LOWEST TO THE HIGHEST ACCEPTABLE TEMPERATURE SETTING FOR THE INTENDED USES. AS USED IN TABLE 3, CHAPTER 54 OF THE 1887 ASHRAE HANDBOOK, HANC SYSTEMS & APPLICATIONS YOULDE.

LAWATORY FAUCETS AND SINK (NOT INCLUDING SERVICE SINK FAUCET) SHALL MEET MEET THE FLOW REQUIREMENTS OUTLINED IN THE APPLIANCE EFFICIENCY STANDARDS. LAVATORIES IN PUBLIC RESTROOMS SHALL HAVE HOT WATER CONTROLS THAT

3) MAXIMUM OUTLET TEMPERATURE: 110' F.

GENER

- CONTRACTOR SHALL YERFY EXACT LOCATIONS AND DEPTH OF EXISTING LINES, LATERALS AND WYES BEFORE STARTING. SHOULD IT BE INCESSEART TO REPOUTE LINES DUE TO CONDITIONS FOUND ON THE SITE OF IT ROUGATED POINTS OF CONNICTIONS CONNOT BE MADE TO THE LINES AS FOUND, THE CONTRACTOR SHALL, BEFORE CONTRIUNING, NOTIFY THE ARCHITECT PRIOR TO INSTALLING MAY MORK WHICH AM THE AFFECTION.
- PULIERNO DRAWNIS AND LAYOUTS ARE DASPAMMATIC TO SHOW DESIGN INTENT AND FINISHED CONTROL OF THE PROPERTY OF THE
- 3. INSTALL SHUT-OFF VALVES AT EACH COLD AND HOT WATER SUPPLY BRANCH RISER. . INSTALL WATER HAMMER ARRESTERS ON EACH COLD AND HOT WATER FIXTURE BRANCH AS RECOMMENDED BY PLUMBING AND DRAINAGE INSTITUTE WH-210 STAIDARD. DEVICES SHALL BE FACTORY MADE WITH PERMANENT CUSHION OF GAS OR MR. PROVIDE ACCESS PINAL
- 5. o) SEWER, WASTE, STORM DRAIN AND VENT PIPES TO BE SCH. 40 ABS, AND AS SPECIFIED.
 b) HOT AND COLD WATER TO BE COPPER TYPE "L" FOR ABOVE GRADE AND TYPE "K" FOR BELOW GRADE AND AS SPECIFIED. GRACE AND AS SPECIFIES.

 CONDENSATE PHET DISE COPPER TUBING TYPE "M" FOR AIR CONDITIONING INNTS WITH 1/8" SLOPE PER FOOT.

 OUTE VALVE SHALL BE BRONZE WITH ENDS TO SUITE PIPE, NON-RISING STEM FOR 150 PSI WORKAGE PRESSURE.

 OF KOR PIPE TO BE BLACK STEEL. SCHEDULE 40
- LAVATORY FAUCETS AND SINK FAUCETS (NOT INCLUDING SERVICE SINK FAUCETS) SHALL MEET THE FLOW REQUIREMENTS PER CITY OF LONG BEACH REQUIREMENTS.
- ALL APPLIANCES INSTALLED INCLUDING WATER HEATERS, LAWATORY FAUCETS, SINK FAUCETS, SHALL BE CERTIFIED TO THE CITY OF LONG BEACH BY ITS MANUFACTURER TO COMPLY WITH THE EFFICIENCY STANDARDS FOR SUCH APPLIANCES.
- THE STREET INTEREST ADMINISTRATION OF AN OFFICE AND ADMINISTRATION OF THE FLIGHT CONTINUES OF A PRINCIPLE AND ADMINISTRATION OF AN OFFICE ADMINISTRATION OF THE STREET OF THE STREET OF A PRINCIPLE OF A
- 10. VENTS SHALL BE 10'-0" MAKY OR 3'-0" ABOVE A/C AIR INTAKES, WINDOW OR DOOR OPENINGS AND OSA INTAKE. PROVIDE ACCESS PANELS IN WALLS OR CELLING FOR SHUT-OFF VALVES, TRAP PRIMERS AND WATER HAMMER ARRESTERS, CONTRACTOR & JOVISED THAT ITEMS REQUIRING ACCESSINGLY NOT BE LOCATED ABOVE AREAS OF OTHER BOARD CELLING WITHOUT CONSENT OF ARCHITECT, COORDINATE ACCESS.
- 12. ALL PIPING SYSTEMS SHALL BE PRESSURE TESTED.
- 13. PROVIDE 1" THICK INSULATION FOR ALL CONDENSATE DRAIN LINES LOCATED ABOVE CEILING. 14. HORIZONTAL SEWER DRAINAGE PIPING SHALL HAVE A UNIFORM SLOPE OF NOT LESS THAN 2% TOWARD THE POINT OF DISPOSAL, UNLESS OTHERWISE NOTED ON PLANS/RISER DIAGRAMS.
- 15 ALL CLEANOUTS SHALL BE ACCESSIBLE AND INSTALLED DEPLIES SECTION 707.0 AND 719.0
- , resting:

 All sewers and water piping shall be properly tested to the satisfaction of the architect and the local building inspector.
- 18. EXCAVATION AND BACK FILLING TRENCHES SHALL BE BACK FILLED IN 6" LIFTS & COMPACTED TO 30% MIN. DENSITY PER SOLLS REPORT RECOMMENDATIONS, NO PIPE SHALL BE LESS THAN 12" BELOW FINISH GRADE.
- 19. THESE DRAWINGS ARE FOR BIDDING PURPOSE ONLY. THEY ARE ESSINIVALLY DIAGRAMMATIC TO THE EXTENT THAT MANY OFFSETS, BONDS, UNIONS, SPECIFIC FITTINGS AND EXACT LOCATIONS ARE NOT INDICATED. 20 SENTES NO SIGNATURE SELECTION OF STREET SELECTION OF SERVICE SELECTIO

21. PLIMBING CONTRACTOR SHALL VISIT THE JOB SITE PROR TO BASE BID. HE/SHE SHALL FAMILWAZE THEMSELVES WITH ALL DISTING COMMITIONS AND PUTUNE MORE TO BE ONCE, HE/SHE SHALL INCLUDE ALL THEIR SITE INFORMATION AND CONTRIONS WITHIN THEIR BASE BID. HE/SHE SHALL BE RESPONSIBLE FOR COMPILE AND FULLY FUNCTIONING PLUMBING SYSTEMS.

- 22. PLUMBING CONTRACTOR SHALL COORDINATE COMPLETE PLUMBING INSTALLATION AND REQUIREMENTS PRICE TO BUSE BID WITH ALL LOCAL DISTRICTS AND COMPINION AUTHORITIES. INCLUDE ALL PARTIES WITHIN THE BUSE BID.
- 23. ALL PLUMBING SHALL BE INSTALLED SO AS TO AVOID INTERFERENCE WITH ELECTRICAL AND MECHANICAL EQUIPMENT AND STRUCTURAL FRAMING.
- 24. THE CONTRACTOR SHALL COORDINATE THE LOCATION OF ALL CEILING ACCESS PANELS WITH THE ARCHITECTURAL REPLICATION CHAINS PLAN. 25. CONNECTION BETWEEN INCOMPATIBLE MATERIALS ABOVE GRADE AND INSIDE BUILDING SHALL BE MADE WITH TWO DIELECTRIC UNIONS SEPARATED BY A 12" SECTION OF RED BRASS PIPE.
- 26. CONTRACTOR SHALL PROVIDE ALL VALVES, GAS COCKS, BACKFLOW PREVENTION DEVICES AND NORECT WASTE LINES AS REQUIRED.
- 27. ALL CLEANOUTS, SHALL BE INSTALLED WHERE READILY ACCESSIBLE. THE CONTRACTOR SHALL COORDINATE ALL
- "CLANDIT COUNTS OF COMMENT, YOBER!" THE, "WHIT THE ANA-INECT PRIOR NO "AN" RESILLIDIST.

 22. MENODE 1" THESE SHALL ER PRESSENE TESTED.

 23. PROVIDE 1" THESE SHALLIDAY FOR ALL CONCIDENTE DRAIN LIKE.

 30. AT 1" MITTER PRESILLATION MISTER ERSED ON INSLATION OF R VALUES BETWEEN 4.0 AND 4.6.

 30. AT 1" OR SHALLER PRES, 1" RISULATION THOCHESS.

 30. AT 1" A" OF PPES, 1, 1" SHALLATION THOCHESS.

 30. AT 1" A" OF PPES, 1, 1" SHALLATION THOCHESS.

31. CONTRACTOR SHA	ALL COORDINATE WITH	GAS COMPANY FOR	LOCATION OF GAS METERS.
			IT REQUIREMENTS, OBTAIN A
			OWNER PRIOR TO BID.
	EVERY 100' AND AT EVE		
34. PROVIDE CLEANOUT LINE.	WHERE THE PIPE SIZE IN	CREASES IN THE HORI	ZONTAL SEWER & STORM DRAIN

PIPE MATERIAL SCHEDULE PIPF FITTINGS LOCATION REMARKS SERVICE WASTE & VENT SCH. 40 ABS DWV SCH. 40 ABS DWV COPPER TYPE "L" WROUGHT COPPER ABOVE GRADE HARD DRAWN COPPER TYPE "K" BELOW GRADE WROUGHT COPPER HARD DRAWN CONDENSATE DRAIN COPPER TYPE "M" HARD DRAWN STORM DRAIN ABOVE GRADE BELOW GRADE GAS BLACK STEEL SCH. 40 MALLABLE IRON

RAL NOTES	PLU	JMBIN (G LEGEND
ATIONS AND DEPTH OF EXISTING LINES, LATERALS AND WYES	CAMBOI	ADDDEV	DESCRIPTION

SYMBOL	ABBREV.	DESCRIPTION
	S. OR W.	SOIL OR WASTE ABOVE FLOOR
	S. OR W.	SOIL OR WASTE BELOW FLOOR
— SD—	S.D.	STORM DRAIN
— OD—	O.D.	OVERFLOW DRAIN
	٧.	VENT
	C.W.	COLD WATER
	H.W.	HOT WATER
	H.W.R.	HOT WATER RETURN
— IW —	I.W.	INDIRECT WASTE
- ICW	I.C.W.	INDUSTRIAL COLD WATER
-scw-	S.C.W.	SOFT COLD WATER
WSP	W.S.P.	WET STANDPIPE
— DSP—	D.S.P.	DRY STANDPIPE
—CSP—	C.S.P.	COMBINATION STANDPIPE
— F —	F.	FIRE LINE
<u> </u>	G.	GAS LINE LOW PRESSURE
<u> </u>	F.C.O.	FLOOR CLEANOUT
\vdash	W.C.O.	WALL CLEANOUT
+-	H.B.	HOSE BIBB
—₩—	S.O.V.	SHUT-OFF VALVE
	G.L.V.	GLOBE VALVE
	B.C.	BALANCING COCK
~	CH.V.	CHECK VALVE
	P.R.V.	PRESSURE REDUCING VALVE
- 6	P.REL.V.	PRESSURE RELIEF VALVE
4	P.T.R.V.	PRESS. TEMP. RELIEF VALVE
	G.C.	GAS COCK
·	DN.	DOWN
		RISE
CD		CONDENCATE DONN

CAST IRON
CEILING
CONTINUATION
CLEANOUT TO GRADE

FIRE HOSE CABINET

F.H.C. FIRE HOSE CABINET FLR. FLOOR FINSHED FLOOR FINGER. FINISHED FLOOR FLOOR

MANHOLE MANHOLE
NOT IN CONTRACT
POINT OF CONNECTION
PLUGGED TEE
PLUGGED WYE

P.Y. PLUGGED WYE.
R.I. & C. ROUGH-IN & CONNECT
U.O.S. UNDER OTHER SEC. OF SPECS.
V.C.P. WIRRIED CLAY PIPE
V.O. VENT OFFSET
V.R. VENT TISE
V.T.R. VENT THRU ROOF

GREASE WASTE

PLANTER DRAIN

OVERFLOW DRAI

STORM DRAIN

ROOF DRAIN GREASE WASTE

PLUMBING CONTRACTOR

WATER HAMMER ARRESTER YARD BOX

AWERICANS WITH DISABILITIES ACT

POINT OF CONNECTION BETWEEN NEW AND EXISTING

DOWNSPOUT PREFIX E DENOTES EXIST. E. PREFIX E UENDISS EXIST.

EXIST. EXISTING

E.H.C.I. EXTRA HEAVY CAST IRON

F.E. FIRE EXTINGUISHER

F.E. & C. FIRE EXTINGUISHER & CABINET

F.H. FIRE HYDRANT

F.H.C.

I.E. M.H.

ADA

P.C

PD

OD

SD

RD

P.O.C.

--GW--- GW

_	P.REL.V.	PRESSURE RELIEF VALVE	
	P.T.R.V.	PRESS. TEMP. RELIEF VALVE	
=	G.C.	GAS COCK	A & N DESIGN GROU
-	DN.	DOWN	
-		RISE	MECHANICAL · PLUMBING · ELECTRICAL
=		CONDENSATE DRAIN	19126 HAYNES STREET #2
_	A.B.	ACCESS BOX	RESEDA, CA 91335
	A.P.	ACCESS PANEL	TEL: (818) 288-4361 FAX: (818) 758-0087
_	A.C.P.	ASBESTOS CEMENT PIPE	1100 (010) 100 0001
	BEL.	BELOW	
	B.F.P.	BACKFLOW PREVENTER	
_	C.F.H.	CUBIC FEET PER HOUR	

Stitch

Contact: Jorge Escamilla 4082 Pomona Street Ventura, California 93003 Direct: 818.523,7201 aii: stitchstudio3di@amaila

Studio



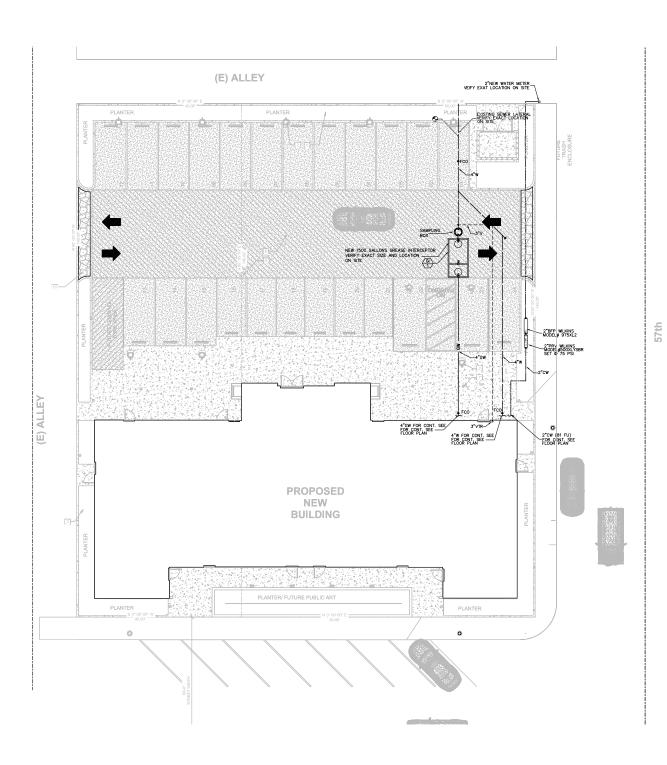
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PRAJIN DEVELOPMENT

NEW BUILDING PRAJIN BROTHERS, LLC 5707 PACIFIC BLVD. HUNTINGTON PARK, CA 90255

> LEGENDS. NOTES & SCHEDULES

Project number	Project Number
Date	02-23-17
Drawn by	A.N.
Checked by	A.N.

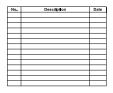




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A & N DESIGN GROUP
MECHANICAL PLUMBING ELECTRICAL
19126 HAVNES STREET #2
RESEDA, CA 91335
FEL: (818)-288-4981
FAX: (818)-788-6987





PRAJIN DEVELOPMENT

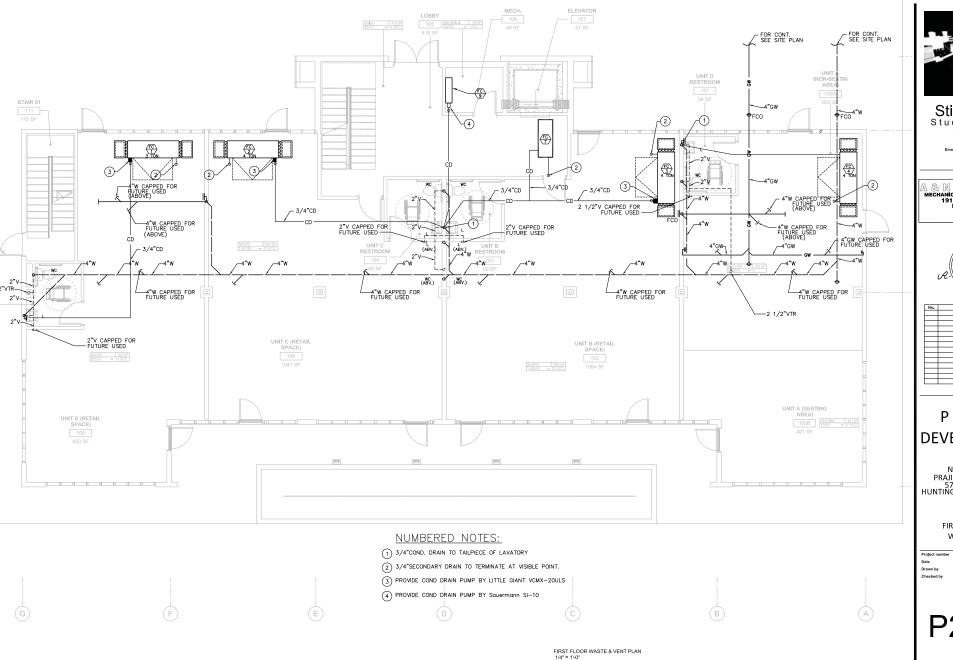
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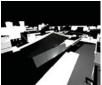
> PLUMBING SITE PLAN

et number Project Number
02-23-17
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P101

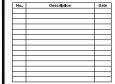
ale 1/8" = 1'-0"





A 後 N DESIGN GKOU MECHANICAL PLUMBING ELECTRICAL 19126 HAYNES STREET #2 RESEDA, CA 91335 TEL: (818)-288-4361 FAX: (818)-758-6087





PRAJIN **DEVELOPMENT**

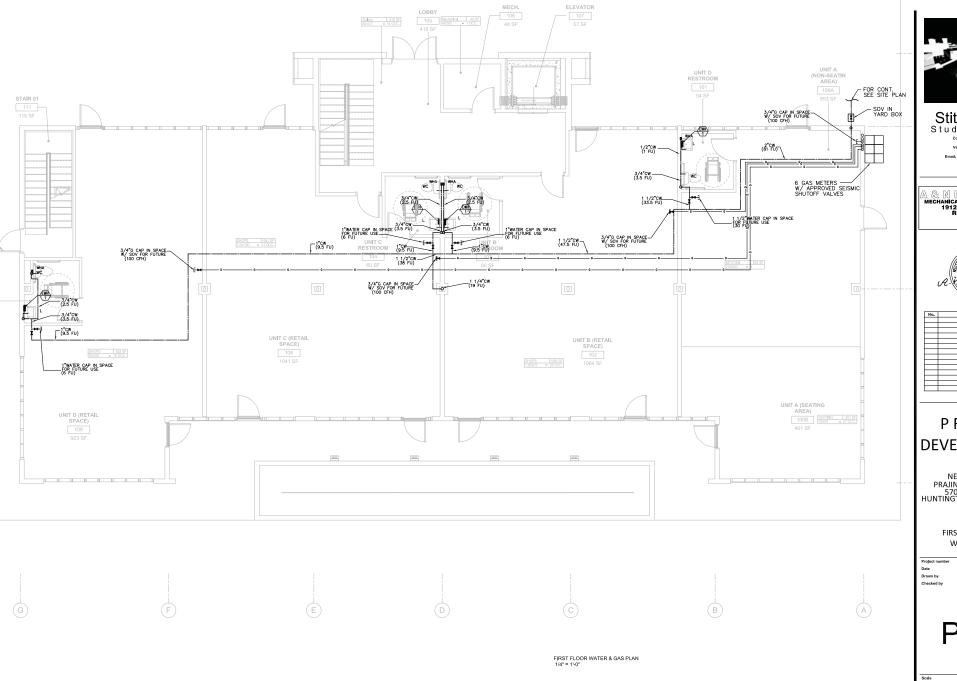
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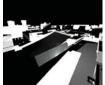
> FIRST FLOOR PLAN WASTE & VENT

Project number	Project Number
Date	02-23-17
Drawn by	A.N.
Checked by	A.N.

P201.1

1/8" = 1'-0"

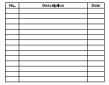




Contact: Jorge Escamilla 4082 Pomona Street Ventura, California 93003 Direct: 818.523.7201

A & N DESIGN GROUP MECHANICAL PLUMBING ELECTRICAL 19126 HAVNES STREET #2 HESEDA, CA 91335 TEL (819)-986-4981 TEL (819)-986-4981





PRAJIN **DEVELOPMENT**

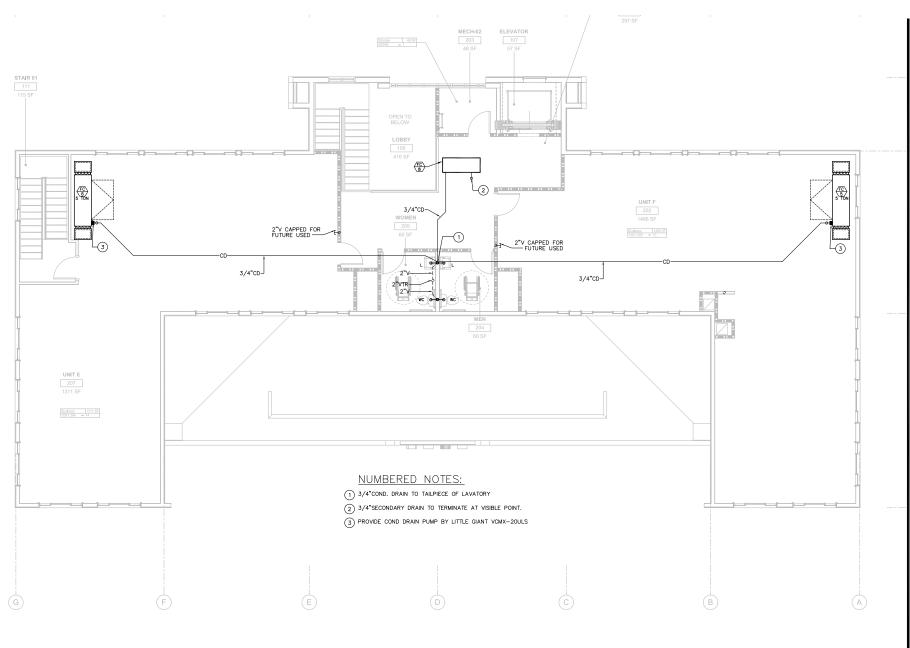
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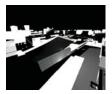
> FIRST FLOOR PLAN WATER & GAS

Project number	Project Number
Date	02-23-17
Drawn by	A.N.
Checked by	A.N.

P201

1/8" = 1'-0"

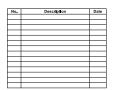




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PRAJIN DEVELOPMENT

NEW BUILDING PRAJIN BROTHERS, LLC 5707 PACIFIC BLVD. HUNTINGTON PARK, CA 90255

> SECOND FLOOR PLAN WASTE & VENT

 Project number
 Project Number

 Date
 02-23-17

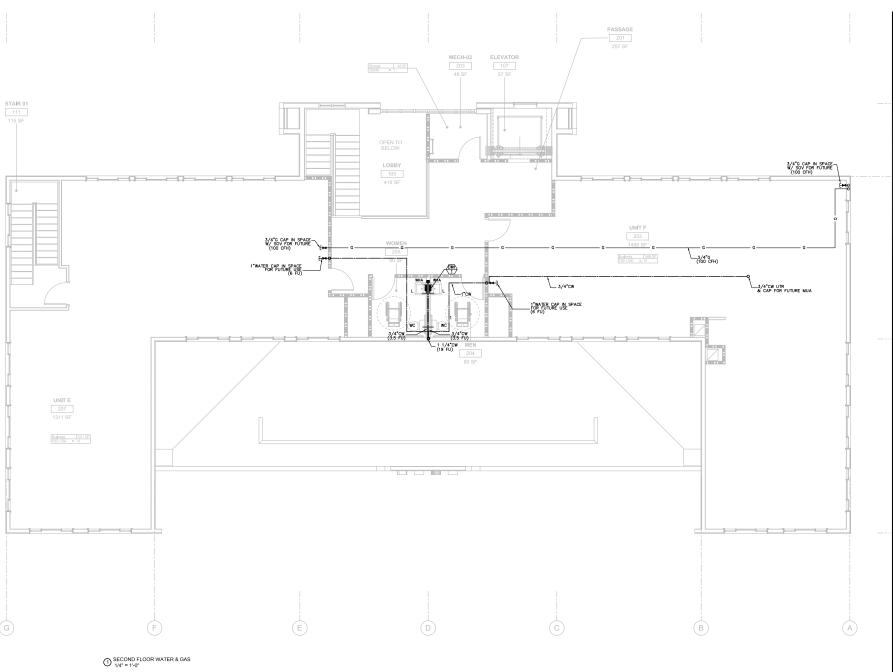
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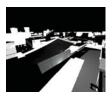
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1/8" = 1'-0"

O SECOND FLOOR WASTE & VENT

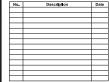




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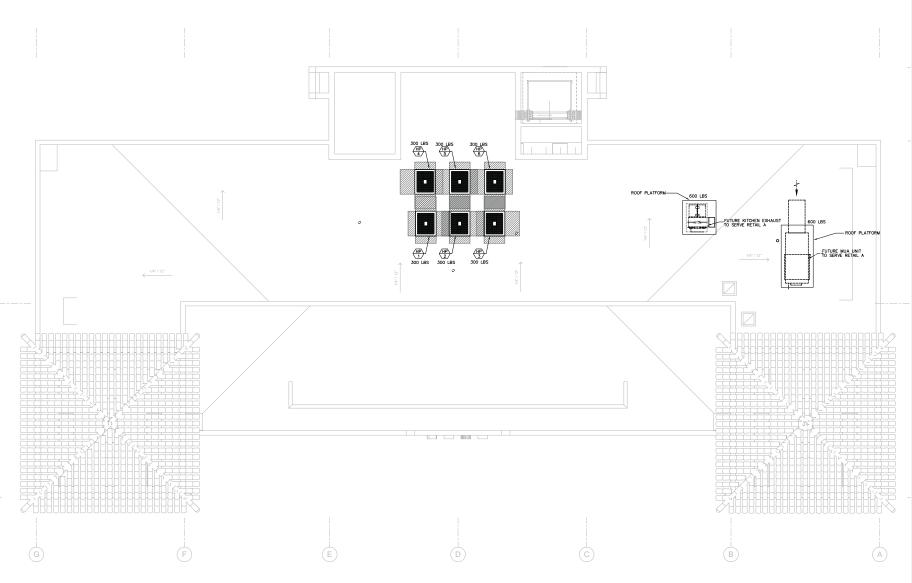
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> SECOND FLOOR PLAN WATER & GAS

oject number	Project Number
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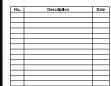


Stitch Studio

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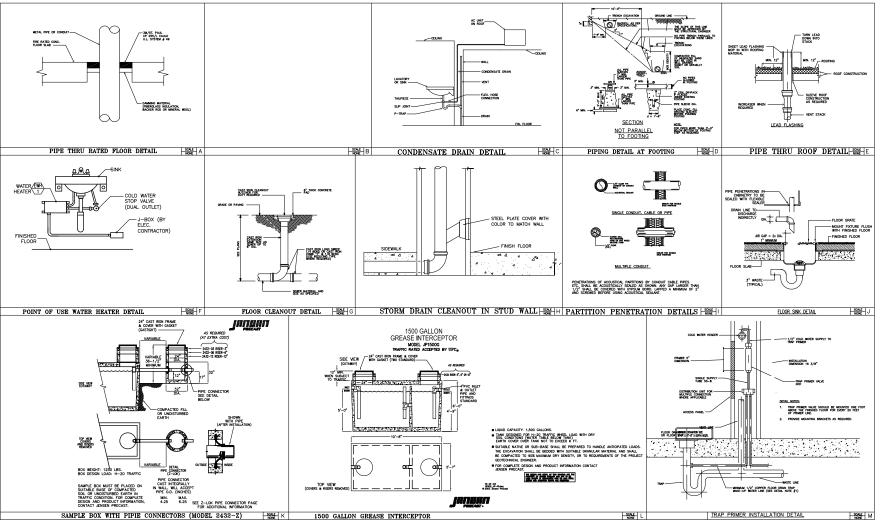
> PLUMBING ROOF PLAN

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A.N.
A.N.

P301

• 1/8" = 1'-0" §

O SECOND FLOOR WASTE & VENT

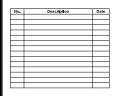




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PRAJIN DEVELOPMENT

NEW BUILDING PRAJIN BROTHERS, LLC 5707 PACIFIC BLVD. HUNTINGTON PARK, CA 90255

PLUMBING DETAILS

Project number	Project Number
Date	02-23-17
Drawn by	A.N.
Checked by	A.N.

P400

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