

STATE PROJECT NO. 590-2001-125

WATER FILTRATION SYSTEM MONTGOMERY DEVELOPMENTAL CENTER

7650 TIMBERCREST DRIVE
HUBER HEIGHTS, OHIO 45424

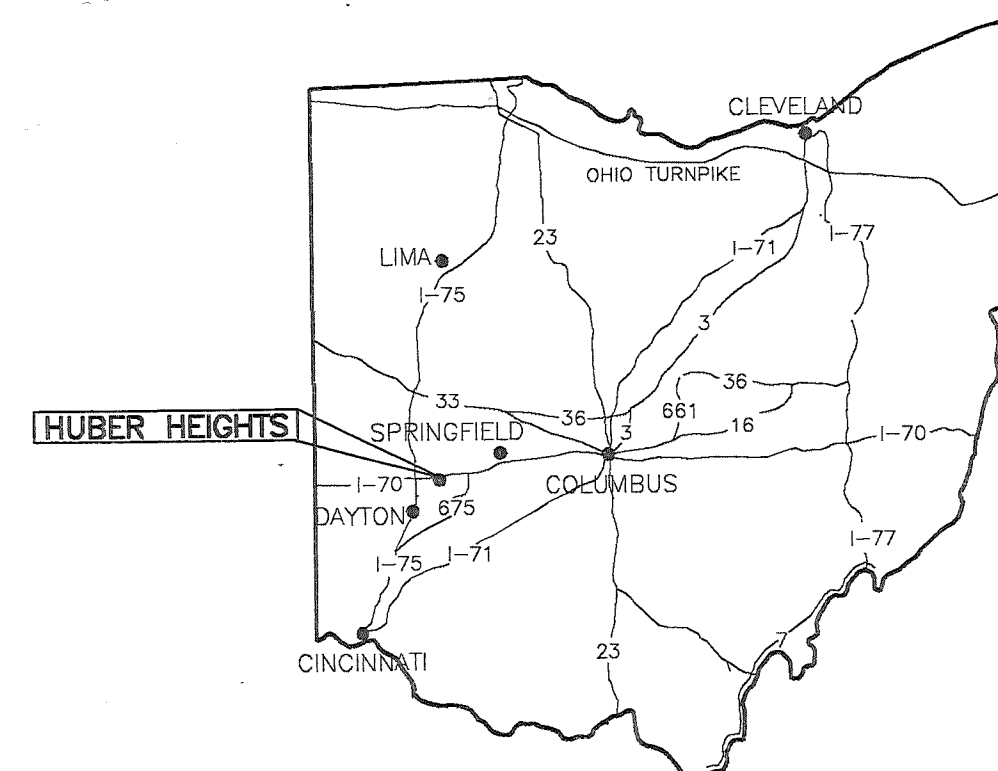
PREPARED FOR

STATE OF OHIO DEPARTMENT OF MENTAL RETARDATION AND DEVELOPMENTAL DISABILITIES

BOB TAFT, GOVERNOR

KENNETH W. RITCHEY, DIRECTOR

CONSTRUCTION DOCUMENTS SET
DATE: AUGUST 29, 2002



PREPARED BY

GOLIVER AND ASSOCIATES, INC.
2040 BRICE ROAD SUITE 120 ~ REYNOLDSBURG, OHIO 43068

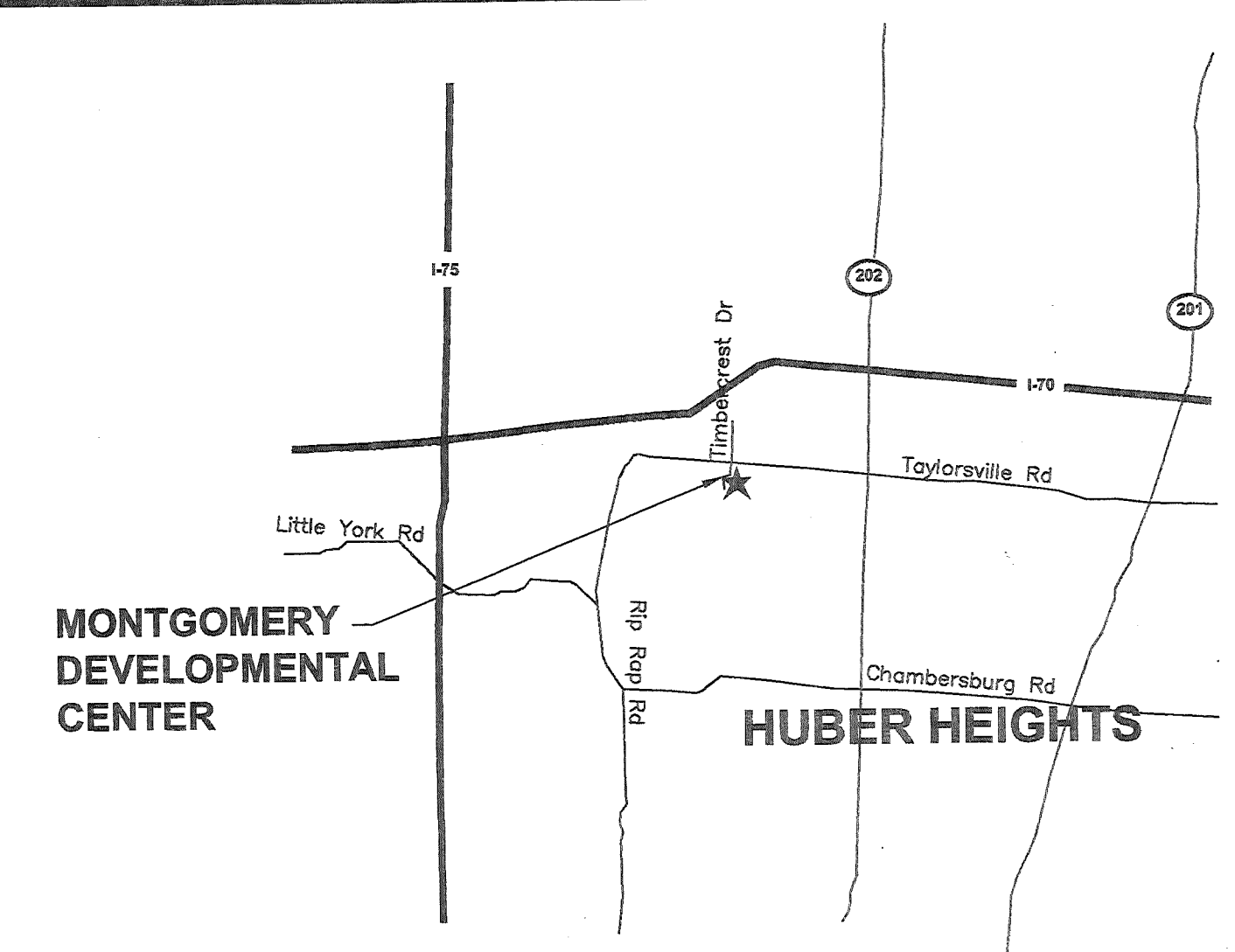
ELECTRICAL / MECHANICAL ENGINEER

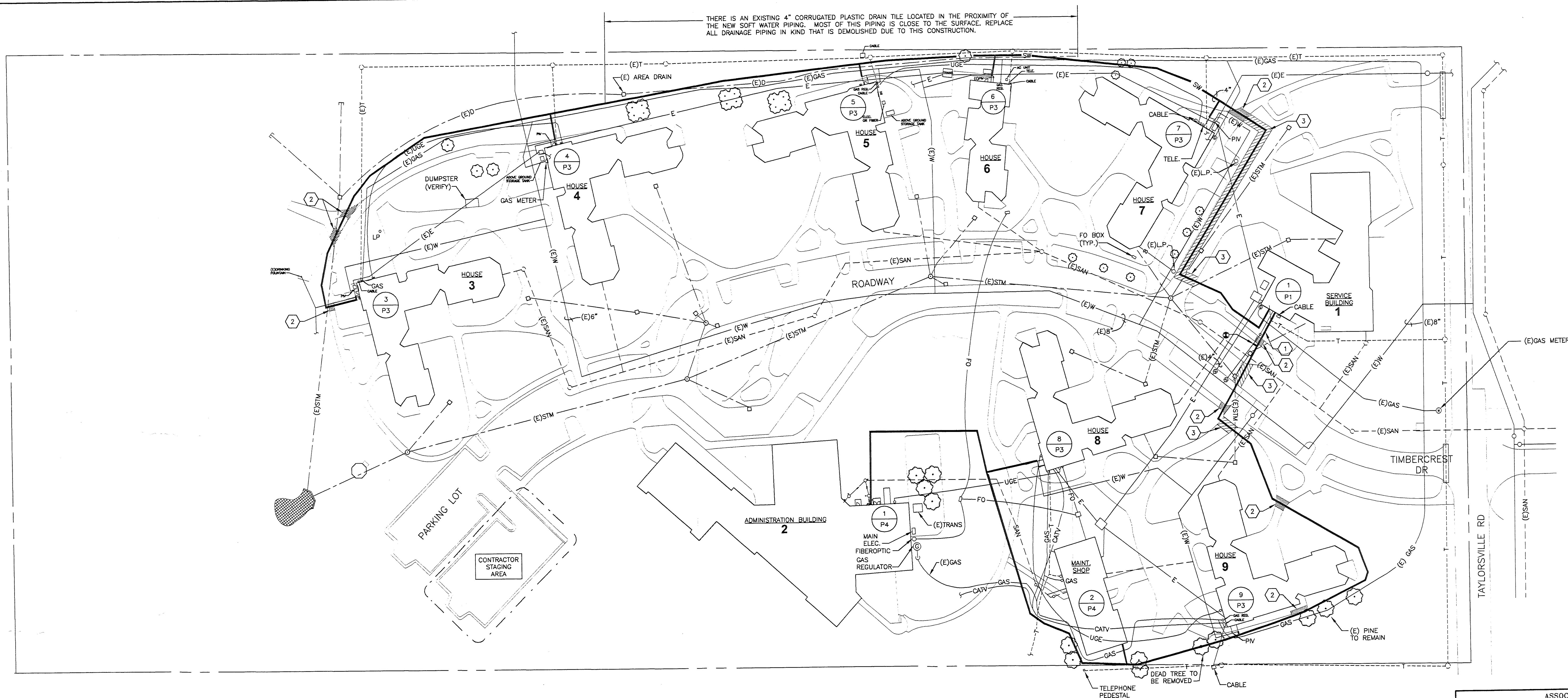
DRAWING LIST:

- | | |
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| | COVER SHEET |
| SU1 | SITE UTILITY PLAN |
| P1 | SERVICE BUILDING FLOOR PLAN |
| P2 | SERVICE BUILDING PARTIAL PLAN AND DETAILS |
| P3 | PARTIAL HOUSE MECHANICAL ROOM PLANS |
| P4 | PARTIAL ADMIN. AND MAINTENANCE BUILDING |
| | FLOOR PLANS |
| P5 | PLUMBING DETAILS |

DESCRIPTION OF WORK:

PROJECT INCLUDES INSTALLATION OF A NEW 4" WATER SERVICE, WATER METER AND BACKFLOW PREVENTION AND WATER SOFTENING EQUIPMENT IN THE SERVICE BUILDING. THE NEW SOFT WATER DISTRIBUTION PIPING TO 10 BUILDINGS ON THE MONTGOMERY DEVELOPMENTAL CAMPUS WILL CONNECT TO THE EXISTING DOMESTIC WATER PIPING AT EACH BUILDING. THE EXISTING WATER METERS, BACKFLOW PREVENTION AND PRESSURE REDUCING VALVES IN EACH BUILDING WILL BE REMOVED AND PIPING RECONNECTED.





CITY OF HUBER HEIGHTS STANDARDS

1. THE CONTRACTOR SHALL BE QUALIFIED TO CONSTRUCT WATER MAINS. ALL WATER LINES AND APPURTENANCES SHALL BE CONSTRUCTED ACCORDING TO CITY OF HUBER HEIGHTS SPECIFICATIONS.
2. WATER MAINS, BENDS AND FITTINGS SHALL BE DUCTILE CAST IRON PIPE AND CONFORM TO ANSI A-21.51 (AWWA C-151), CLASS 53. BENDS AND TEES SHALL BE RESTRAINED USING BOTH MEGA LUGS AND CONCRETE THRUST BLOCKS FOR THE LENGTH DETERMINED BY THE CITY INSPECTOR.
3. ALL WATER MAINS SHALL HAVE 4'-6" MINIMUM COVER.
4. NO SERVICE CONNECTIONS SHALL BE MADE TO THE WATER MAIN UNTIL THE MAIN LINE HAS BEEN INSPECTED, TESTED, DISINFECTED AND RELEASED FOR TAPS.
5. NO CONSTRUCTION SHALL COMMENCE UNTIL ALL PERMITS HAVE BEEN ISSUED.
6. ALL UTILITY TRENCHES WITHIN THE EXISTING OR PROPOSED PAVEMENT OR EASEMENTS SHALL BE BACKFILLED WITH COMPACTED GRANULAR MATERIAL CONFORMING TO ODOT 310 IN ACCORDANCE WITH THE CITY SPECIFICATIONS.
7. NO ADDITIONS, DELETIONS OR REVISIONS TO THE WATER FACILITIES ARE TO BE MADE WITHOUT PRIOR WRITTEN APPROVAL BY THE CITY OF HUBER HEIGHTS.
8. ONLY CITY OF HUBER HEIGHTS OR EARTH TECH PERSONNEL SHALL OPERATE MAIN LINE WATER VALVES.
9. WATER LINES CROSSING ANY AND ALL SEWERS SHALL HAVE A MINIMUM VERTICAL SEPARATION OF 18" BETWEEN THE OUTSIDES OF THE WATER MAIN PIPE AND THE SEWER PIPE. ONE FULL LENGTH OF WATER MAIN PIPE SHALL BE CENTERED AT THE POINT OF CROSSING SUCH THAT BOTH JOINTS WILL BE EQUIDISTANT AND AS FAR FROM THE SEWER AS POSSIBLE. IF WATER CROSSES BELOW SANITARY SEWERS, THE SEWER MUST BE WATER MAIN MATERIAL FOR THAT SPAN.
10. ALL SERVICE LATERALS ARE TO BE INSTALLED FROM MAIN TO RIGHT OF WAY OR EASEMENT BEFORE STREETS ARE SURFACED.
11. THE CONTRACTOR SHALL VERIFY THE LOCATION AND DEPTH OF EXISTING WATER MAINS BEFORE CONSTRUCTION OF NEW WATER MAIN AT PROPOSED CONNECTIONS.
12. ALL GATE VALVES ARE TO BE LOCATED AT TEES OR CROSSES WITH A 1" MAXIMUM NIPPLE BETWEEN TEE OR CROSS AND VALVE. ALL PLUGS ARE TO BE CONNECTED TO VALVES EXCEPT WHERE SHOWN ON PLANS. PLUGS SHALL BE TAPPED WITH A 3/4" SHUT OFF VALVE FOR RELEASE OF AIR AND FOR FLUSHING.
13. ALL VALVES SHALL HAVE RIGHT HAND (CLOCKWISE) OPENING DIRECTION.
14. GATE VALVES SHALL HAVE RESILIENT SEATS RATHER THAN BRASS SEATS. OPERATING RODS SHALL HAVE O-RING WATER SEALS RATHER THAN PACKING GLANDS.
15. WATER SERVICE LINES SHALL BE 1" TYPE K COPPER PER CITY STANDARDS. METER YOKES AND METER VAULTS SHALL BE PER MONTGOMERY STANDARDS.

GENERAL NOTES

1. ALL EXISTING SITE WATER PIPING IS OWNED BY MONTGOMERY DEVELOPMENTAL CENTER. THERE ARE NO KNOWN EASEMENTS ON THIS STATE PROPERTY THAT EFFECTS THIS PROJECT.
2. ALL EXISTING SANITARY SEWER IS VITRIFIED PIPE.
3. WHERE SANITARY SEWER IS DAMAGED DUE TO THIS WORK, ALL PIPE JOINTS REPLACED SHALL CONFORM TO ASTM C-425 FOR VITRIFIED PIPE AND ASTM C-443 FOR CONCRETE PIPE.
4. WHERE THE WATER MAIN AND SANITARY CROSSING IS LESS THAN 18" CLEAR BETWEEN PIPES, SANITARY SEWER SHALL BE ENCLOSED IN 6" OF CONCRETE FOR 10' EACH SIDE OF THE WATER MAIN CENTERLINE.
5. ALL WATER AND SANITARY SEWER APPURTENANCES SHALL BE SUPPLIED AND INSTALLED AS SPECIFIED IN THE MONTGOMERY COUNTY SANITARY DEPARTMENT SPECIFICATIONS DATED JANUARY 1, 1975, AND OHIO SUBURBAN WATER COMPANY.
6. MINIMUM COVER FOR SOFT WATER MAINS SHALL BE 4'-0", UNLESS OTHERWISE NOTED.
7. CONCRETE THRUST BLOCKING SHALL BE USED FOR DEADEND PLUGS OR VALVES AND FOR EACH BEND, TEE OR V CONNECTION WHEN ANCHORING FITTINGS ARE NOT USED. REFER TO SHEET P5 FOR REQUIREMENTS AT ALL BENDS AND TEES IN SITE SOFT WATER PIPING.
8. WHERE EXISTING UNDERGROUND ELECTRIC CROSSES ALL ROADS/SIDEWALKS, THE CABLE IS ENCASED IN CONCRETE.
9. PROVIDE 6" METALLIC DETECTION TAPE FOR ALL UNDERGROUND PLASTIC PIPING. BURY TAPE 18" BELOW GRADE.
10. THIS CONTRACTOR SHALL RECORD ON AS-BUILT DRAWINGS ALL LOCATIONS WHERE THE NEW SOFT WATER PIPING CROSSES EXISTING UTILITIES. AS-BUILT DRAWINGS SHALL INCLUDE DIMENSIONS FROM BUILDINGS OR STRUCTURES TO NEW AND DISCOVERED EXISTING UTILITIES.
11. PRIOR TO START OF WORK, THIS CONTRACTOR SHALL IDENTIFY ALL EXISTING BURIED UTILITIES IN THE AREA OF WORK. EXISTING UTILITIES SHALL BE CLEARLY MARKED ON THE GROUND PRIOR TO ANY EXCAVATION.

CODED NOTES

1. THIS PIPING SHALL BE CONSTRUCTED ACCORDING TO THE CITY OF HUBER HEIGHTS STANDARDS. REFER TO THIS SHEET. PROVIDE DUCTILE IRON PIPING FOR THIS SECTION. NO EXCEPTIONS.
2. REMOVE AND REPLACE CONCRETE SIDEWALK IN THIS LOCATION FOR THE INSTALLATION OF THE NEW SOFT WATER PIPING.
3. REMOVE AND REPLACE ASPHALT ROAD AND CONCRETE CURBS IN THIS LOCATION FOR THE INSTALLATION OF THE NEW SOFT WATER PIPING.

1 SITE UTILITY PLAN
1" = 50'-0"

SYMBOLS

(E)	EXISTING TO REMAIN
W	WATER PIPING
SW	SOFT WATER PIPING
SAN	SANITARY SEWER PIPING
STM	STORM PIPING
GAS	GAS PIPING
E	UNDERGROUND ELECTRIC
T	BURIED TELEPHONE
UGE	UNDERGROUND ELECTRIC FOR BACKUP GENERATOR
D	4" PLASTIC CORRUGATED STORM DRAIN
⊗	CONNECT
□	STORM CATCH BASIN
○	MANHOLE
GR	GAS REGULATOR
CATV	CABLE

PRELIMINARY
NOT FOR CONSTRUCTION

ASSOCIATES
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REVISIONS

NO.	DATE	DESCRIPTION

PROJECT TITLE:
**WATER FILTRATION SYSTEM
MONTGOMERY
DEVELOPMENTAL CENTER**
7650 TIMBERCREST DRIVE
HUBER HEIGHTS, OH 45424

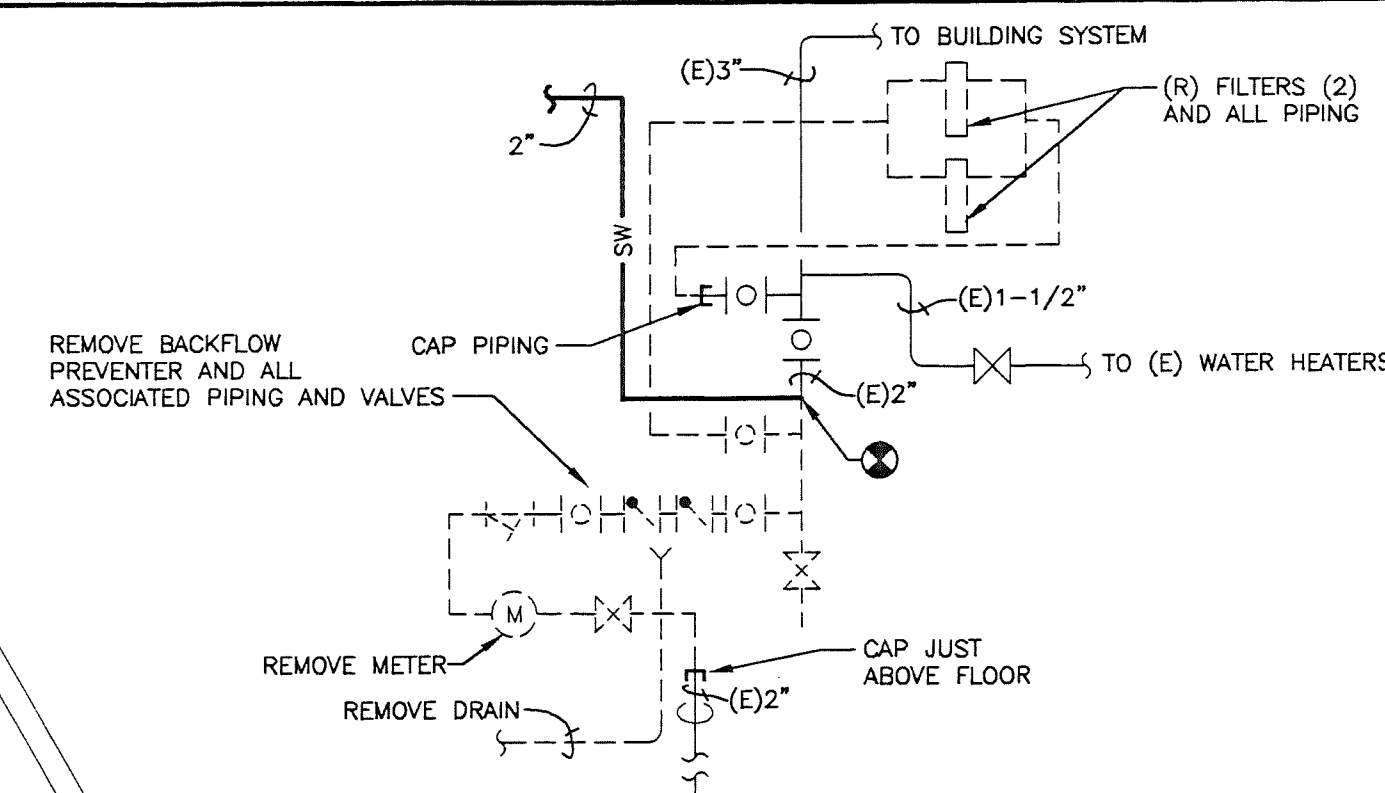
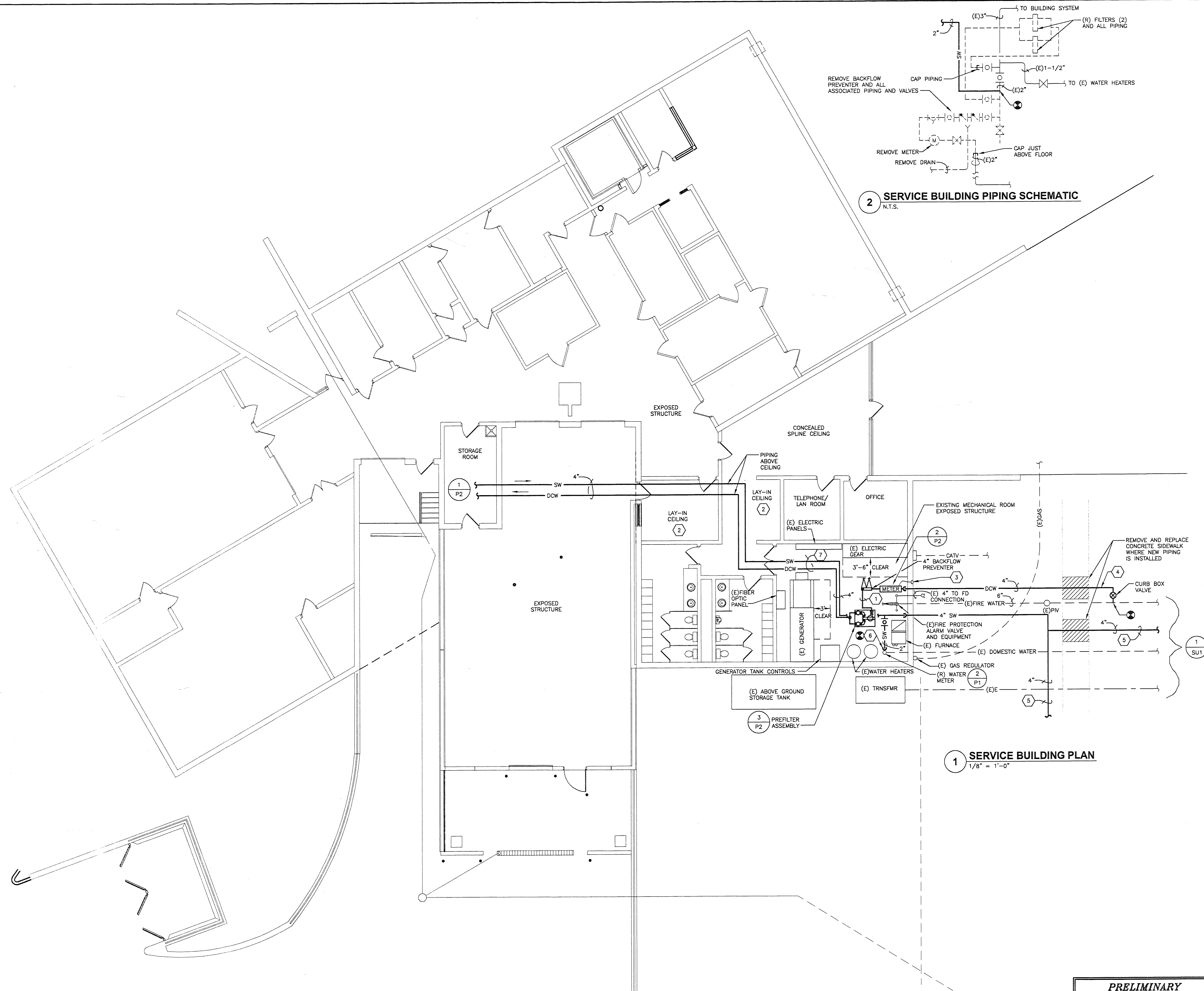
FOR
**OHIO DEPARTMENT OF
MENTAL RETARDATION
AND
DEVELOPMENTAL DISABILITIES**

SHEET TITLE
SITE UTILITY PLAN

STATE PROJECT NO. 590-2001-125
GAI PROJECT NO. 02011

PREPARED FOR
STATE OF OHIO
DEPARTMENT OF ADMINISTRATIVE SERVICES
GENERAL SERVICES DIVISION
OFFICE OF THE STATE ARCHITECT

PLOT DATE DATE SHEET NO.
08/29/02 **SU1**



- GENERAL NOTES:**
1. PRIOR TO ALL EXCAVATING, THIS CONTRACTOR SHALL LOCATE ALL EXISTING UTILITIES.
 2. DO NOT LOCATE NEW PIPING OVER ELECTRICAL EQUIPMENT OR AREA DESIGNATED AS "CLEAR" IN FRONT OF ELECTRICAL EQUIPMENT.
- CODED NOTES:**
1. LOCATE NEW PIPING AS HIGH AS POSSIBLE IN MECHANICAL ROOM, MINIMUM 8'-0" A.F.F.
 2. REMOVE AND REPLACE CEILING TILE AS REQUIRED TO INSTALL PIPING. THIS CONTRACTOR SHALL REPLACE IN KIND ALL CEILING TILE DAMAGED DURING THIS PROJECT.
 3. REMOTE REGISTER FOR WATER METER.
 4. THIS PIPING SHALL BE DUCTILE IRON AND SHALL BE CONSTRUCTED ACCORDING TO CITY OF HUBER HEIGHTS STANDARDS. REFER TO SHEET SU1.
 5. REFER TO THE SPECIFICATION FOR PIPING MATERIAL OPTIONS.
 6. CONNECT NEW SOFT WATER PIPING TO EXISTING DOMESTIC WATER PIPING AFTER WATER METER, BACKFLOW PREVENTER AND FILTER ARE REMOVED. SEE PIPING SCHEMATIC THIS SHEET.
 7. LOCATE NEW PIPING AT 10' A.F.F. MINIMUM.

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FOR
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 MENTAL RETARDATION
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SHEET TITLE
**SERVICE BUILDING
 FLOOR PLAN**

STATE PROJECT NO. 590-2001-125
 GAI PROJECT NO. 02011

PREPARED FOR
STATE OF OHIO
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	08/29/02	P1

**PRELIMINARY
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WS	<p>WATER SOFTENERS WS1, WS2, WS3, WITH BRINE TANK; MANUFACTURED BY LAKESIDE WATER TREATMENT, INC. MODEL LWS7 750-3. TRIPLE TANK SOFTENER SYSTEM. SEE THE SPECIFICATION EQUIPMENT REQUIREMENTS AND CONTROL SYSTEM DETAILS. EACH SOFTENER TANK IS RATED FOR:</p> <ul style="list-style-type: none"> 140 GPM CONTINUOUS FLOW AT 15 PSI DROP 180 GPM PEAK FLOW AT 24 PSI DROP 25 CUFT RESIN 500,000-750,000 GRAINS EXCHANGE CAPACITY TANK SIZE: 36" x 72" 3" SERVICE INLET/OUTLET DIAPHRAGM CONTROL VALVES 1" BACKWASH INLET AND OUTLET DIAPHRAGM CONTROL VALVES 1" RINSE OUTLET DIAPHRAGM CONTROL VALVES <p>BRINE TANK</p> <ul style="list-style-type: none"> SELF-PRIMING BRINE PUMP WITH CHECK VALVE AND ISOLATION VALVES PUMP: 3/4 HP, 30 GPM @ 10 FT.HD., 115V, 1 PHASE FLOAT IN PVC PIPE WITH CONTROL FOR FILL VALVE SOLENOID FILL VALVE BRINE FILTER SALT 1630 LBS TANK SIZE: 39" x 60" PROVIDE A MINIMUM OF 2000 LBS OF SALT FOR INITIAL BRINE TANK FILL AND START UP.
PREFILTER ASSEMBLY	<p>PACKAGED WATER TREATMENT PREFILTER MANUFACTURED BY FLOWMAD MODEL # F2F5FS-200-C. FOR A 200 GPM CONTINUOUS FLOW AND 280 GPM PEAK FLOW. THE SYSTEM SHALL BE SKID MOUNTED AND INCLUDE A CENTRIFUGAL SEPARATOR WITH AUTOMATIC PURGE BLOW DOWN, TWO STAINLESS STEEL JUMBO CARTRIDGE FILTER HOUSINGS WITH 20 MICRON CARTRIDGES PIPED IN PARALLEL, AND A NEMA 4 CONTROL PANEL.</p>



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- ## **CODED NOTES:**
1. VALVES/PIPING PROVIDED BY THIS CONTRACTOR.
 2. FURNISHED AS PART OF A COMPLETE SOFTNER SYSTEM BY EQUIPMENT MANUFACTURER. INSTALLED BY THIS CONTRACTOR.
 3. ALL INTERCONNECTING PIPING TO VALVES, EQUIPMENT AND CONTROLS SHALL BE PROVIDED BY THIS CONTRACTOR. FOLLOW MANUFACTURER INSTRUCTIONS FOR ALL PIPING CONNECTIONS.
 4. MOUNT CONTROLLER ON WALL. PROVIDE 4 CONDUITS FROM PLC CONTROLLER TO EACH CYCLE CONTROLLER AND ONE TO BRINE PUMP.

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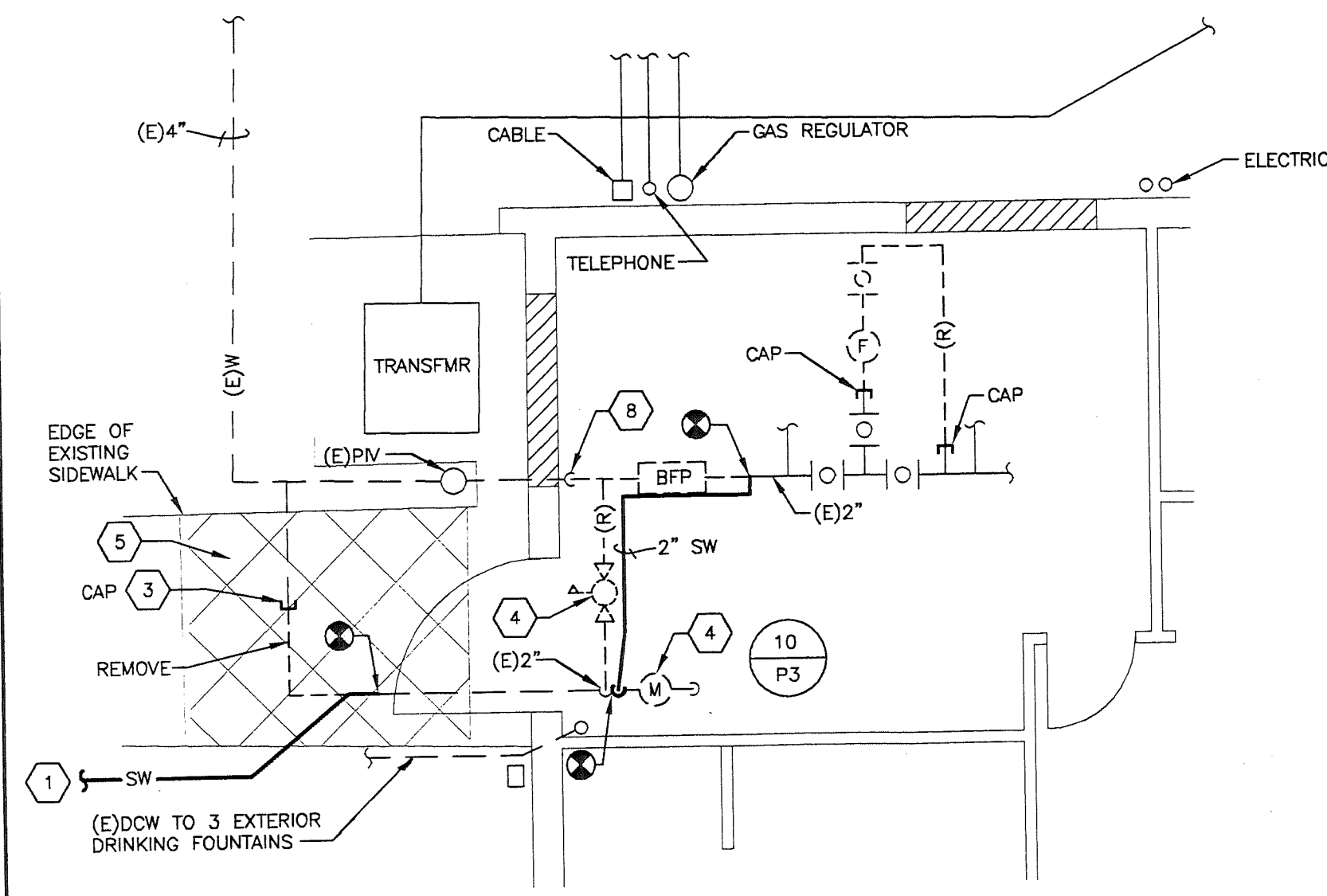
FOR
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AND
DEVELOPMENTAL DISABILITIES

SHEET TITLE SERVICE BUILDING
PARTIAL PLAN AND DETAILS

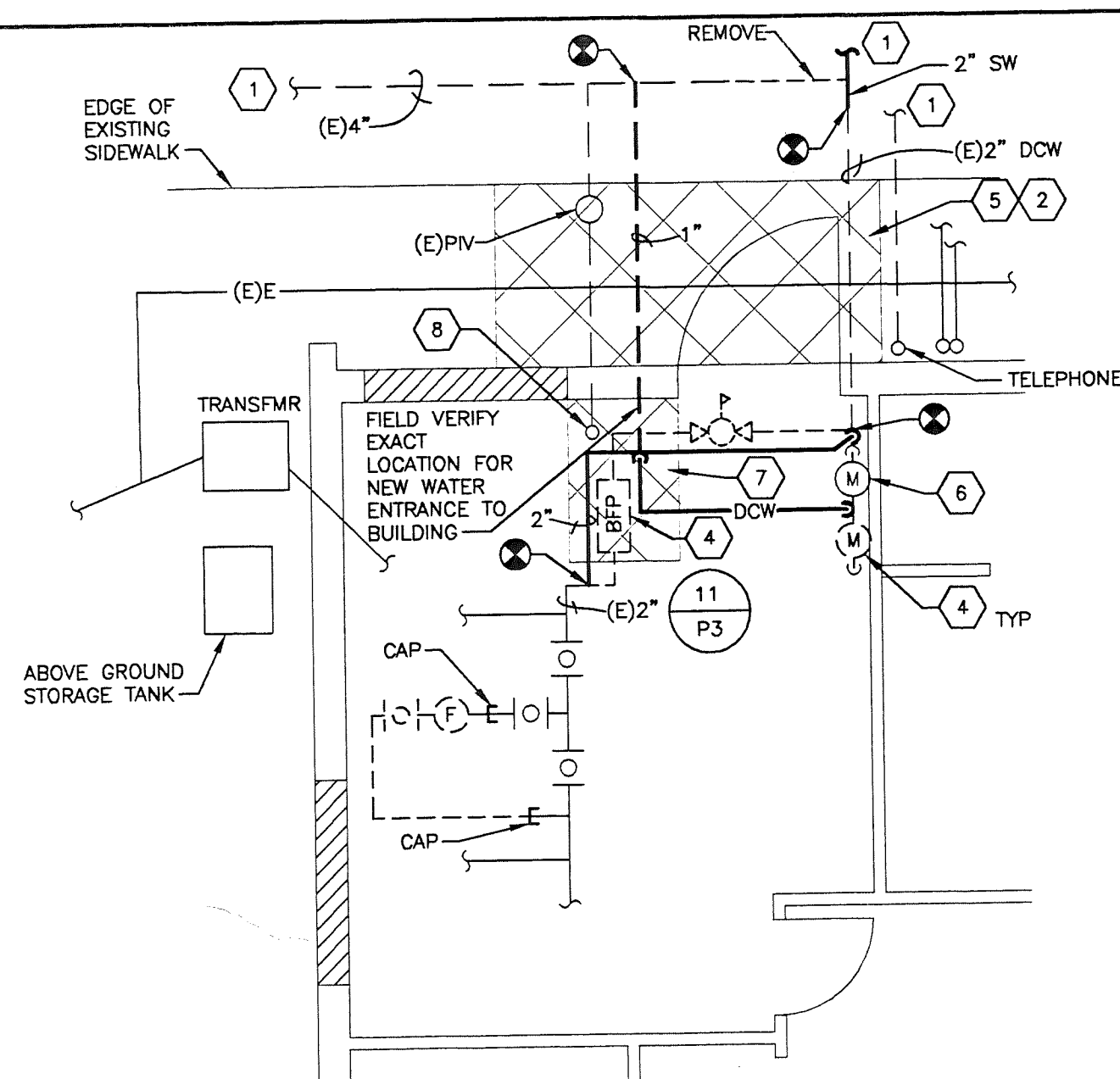
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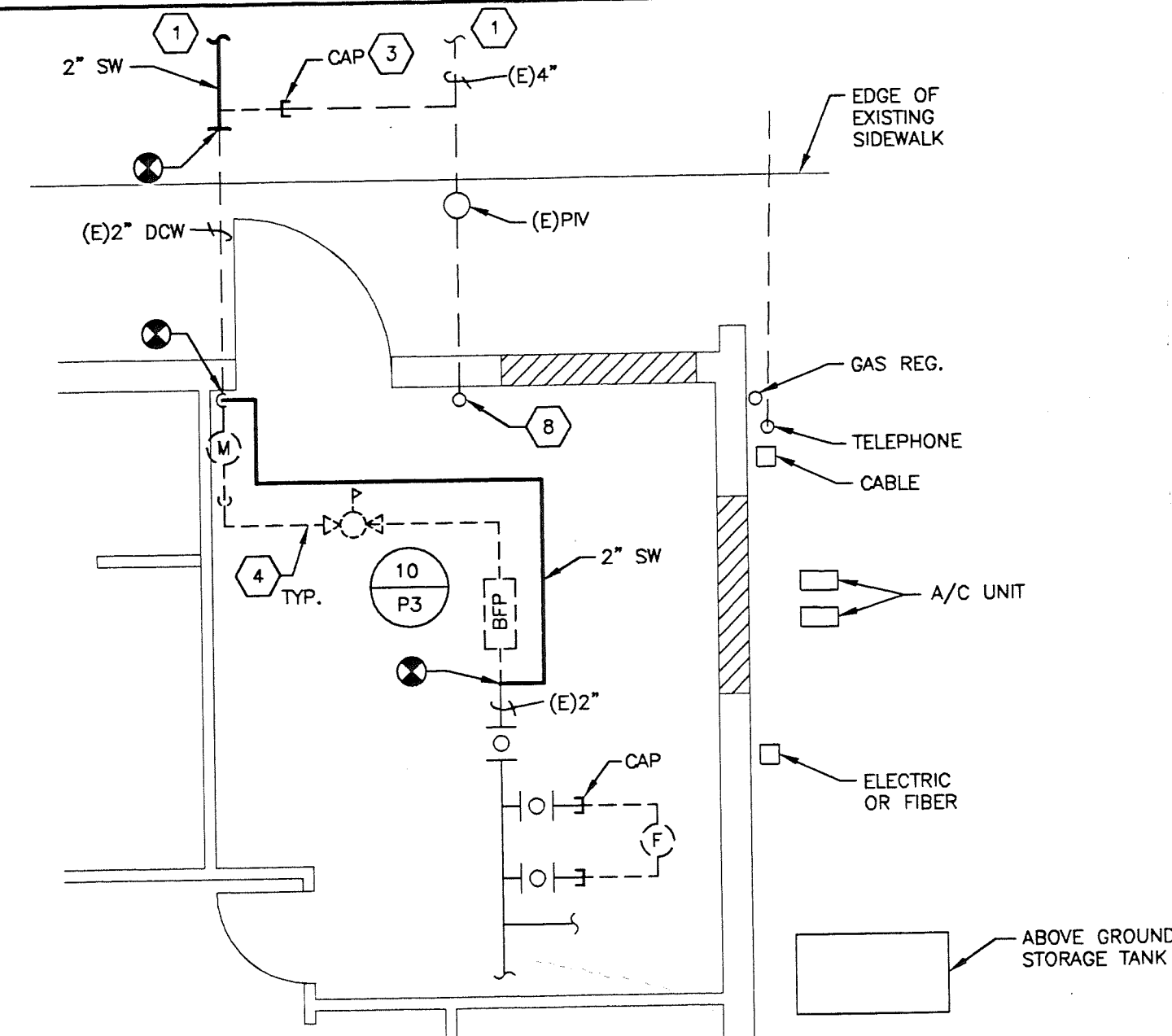
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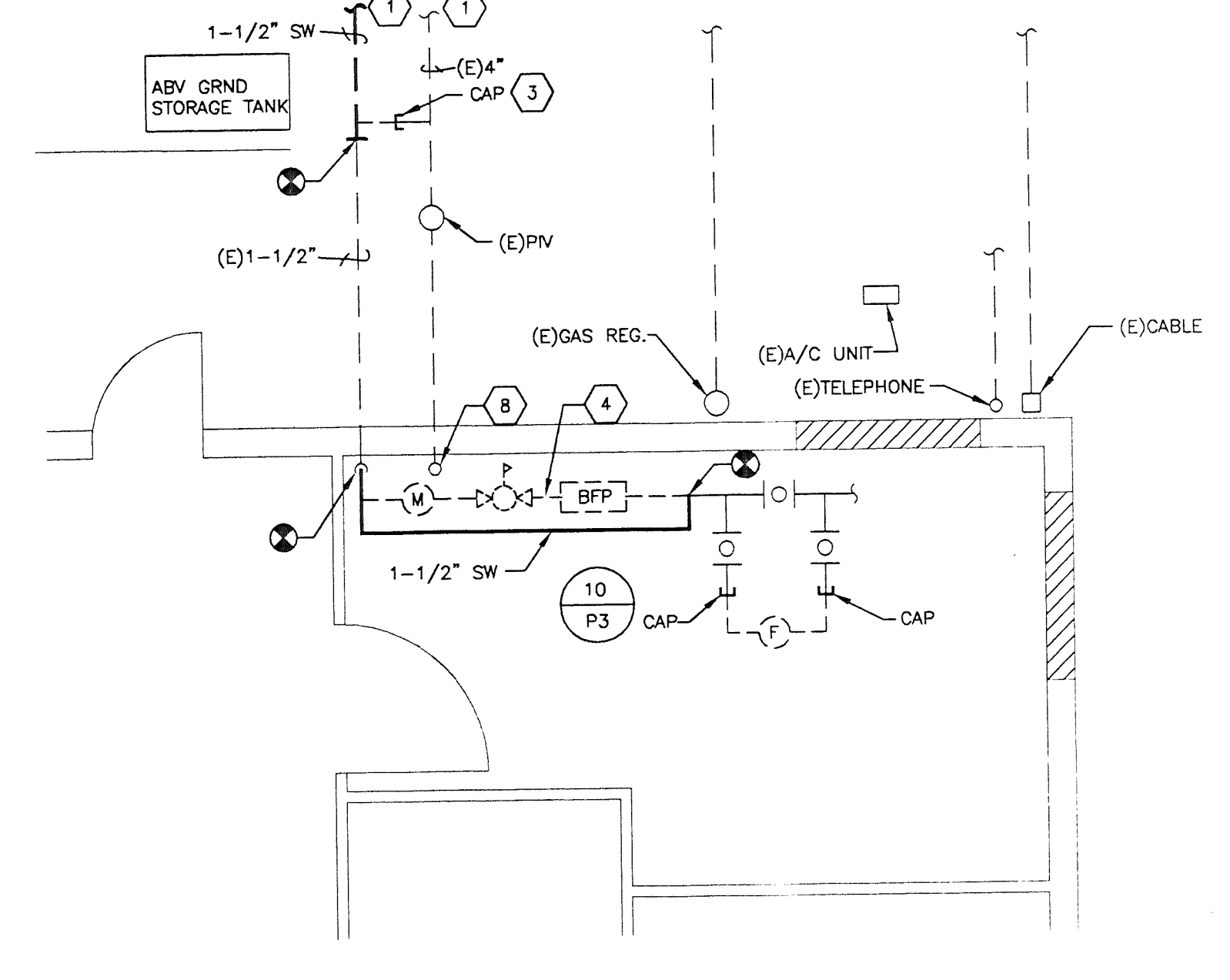
3 HOUSE 3 - MECHANICAL ROOM PLAN
1/4" = 1'-0"



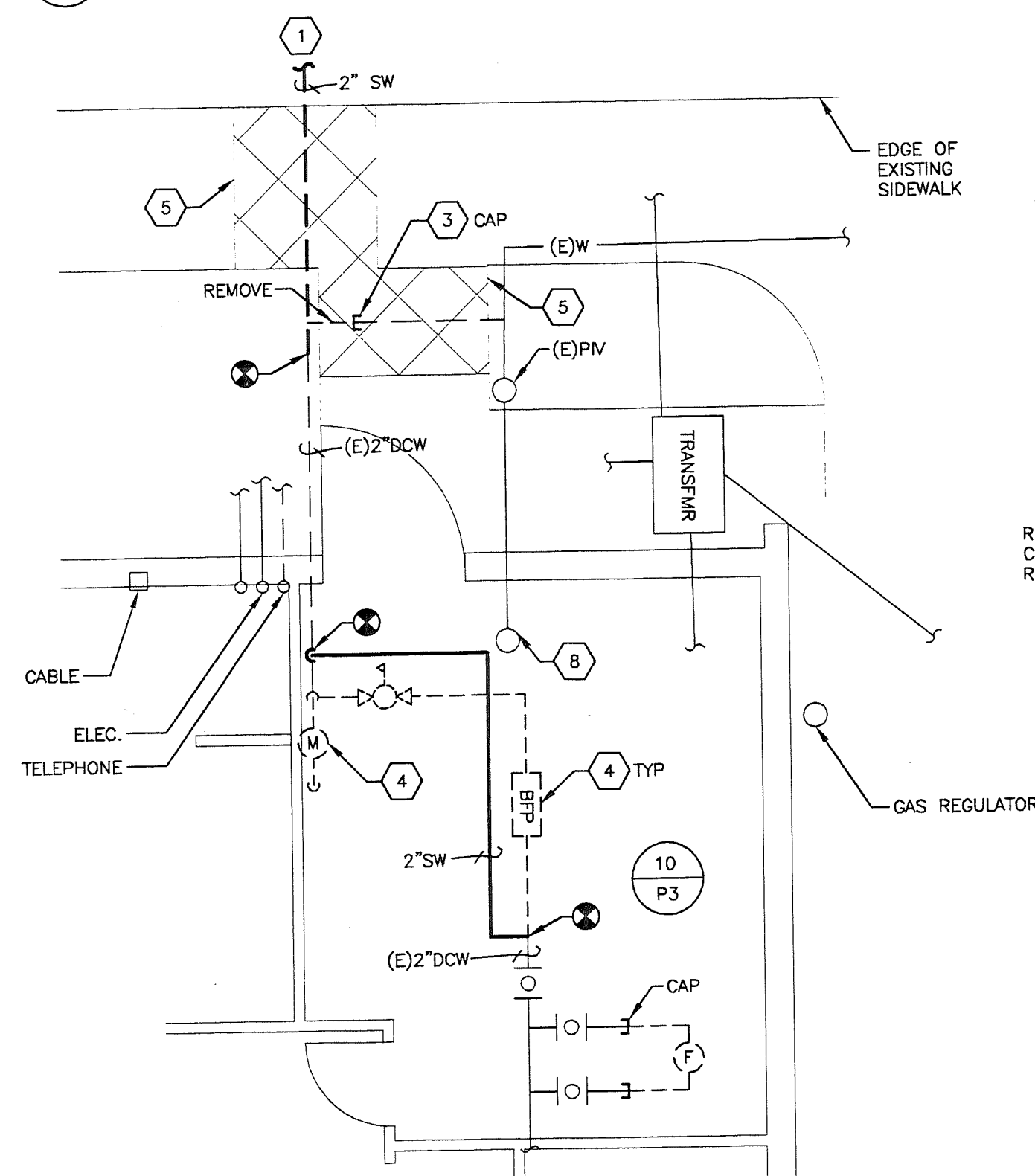
4 HOUSE 4 - MECHANICAL ROOM PLAN
1/4" = 1'-0"



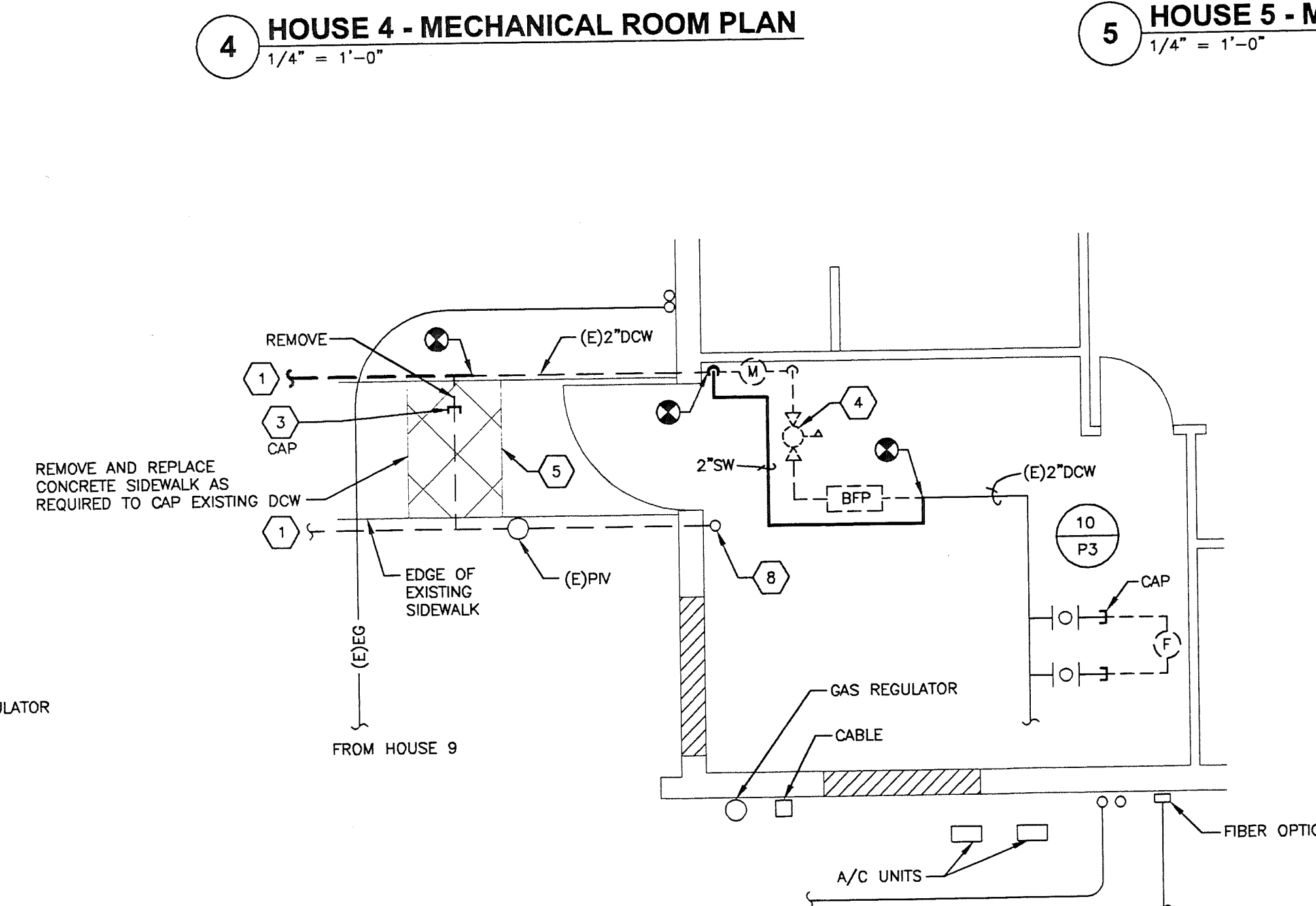
5 HOUSE 5 - MECHANICAL ROOM PLAN
1/4" = 1'-0"



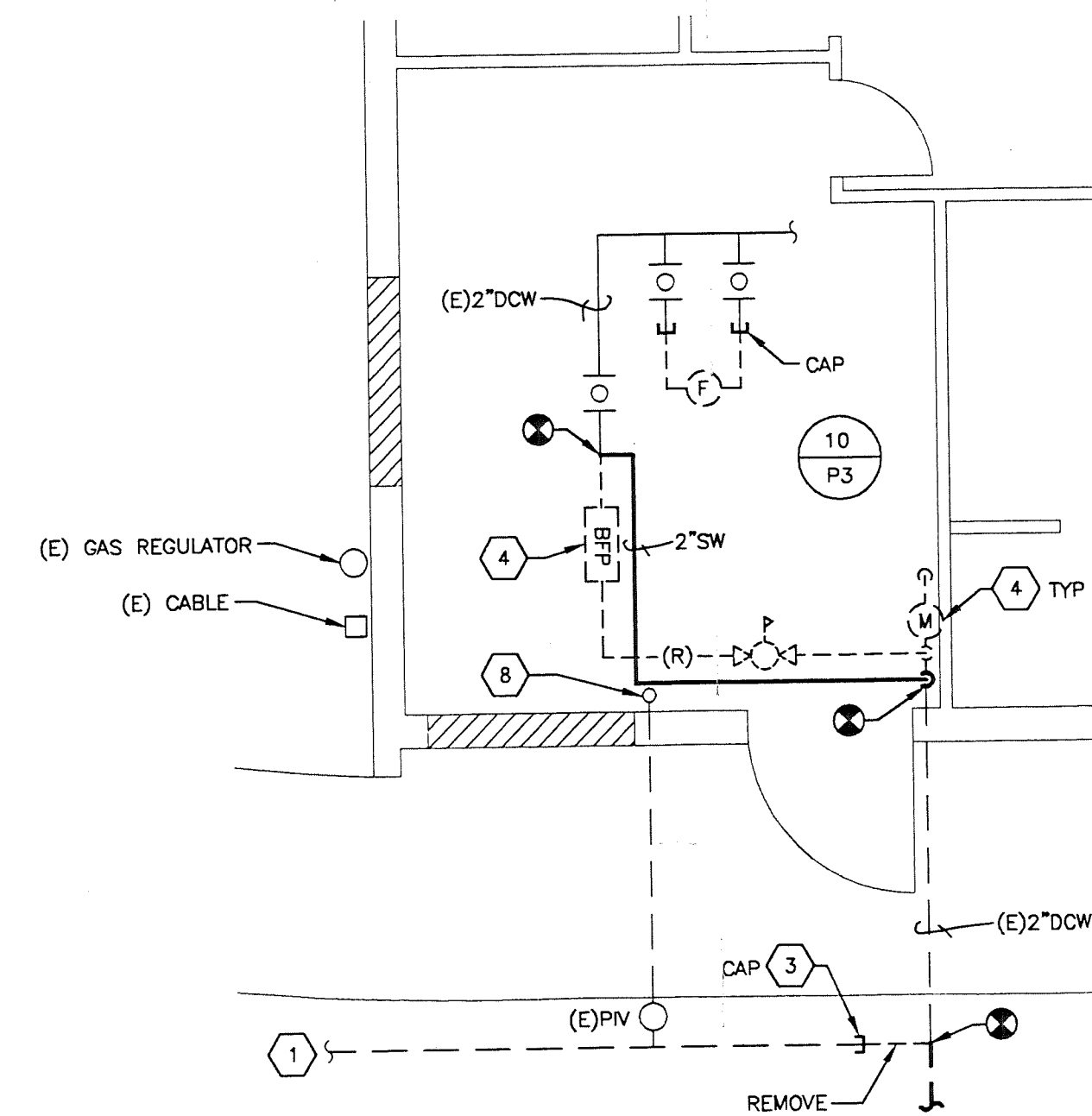
6 HOUSE 6 - MECHANICAL ROOM PLAN
1/4" = 1'-0"



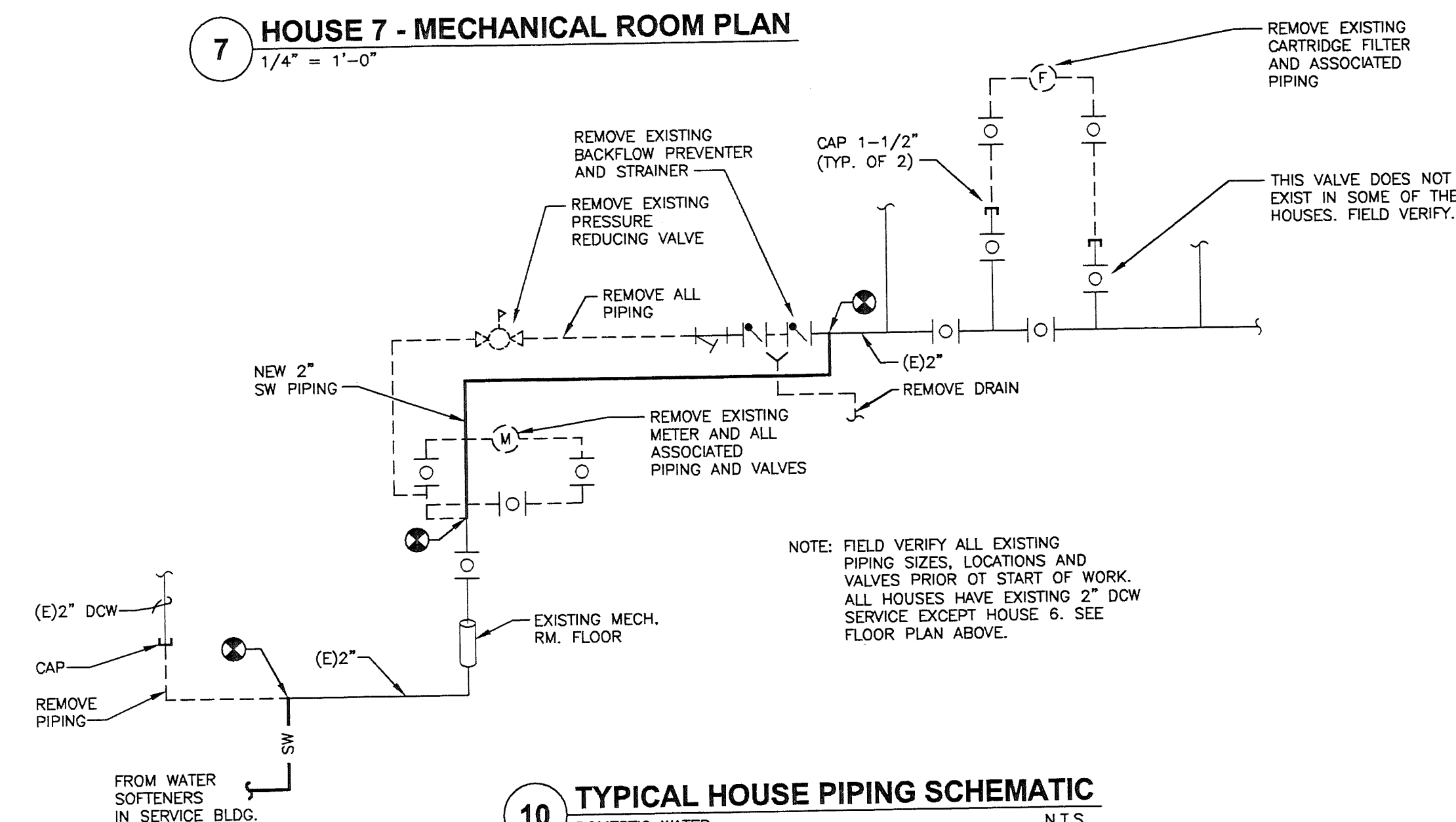
7 HOUSE 7 - MECHANICAL ROOM PLAN
1/4" = 1'-0"



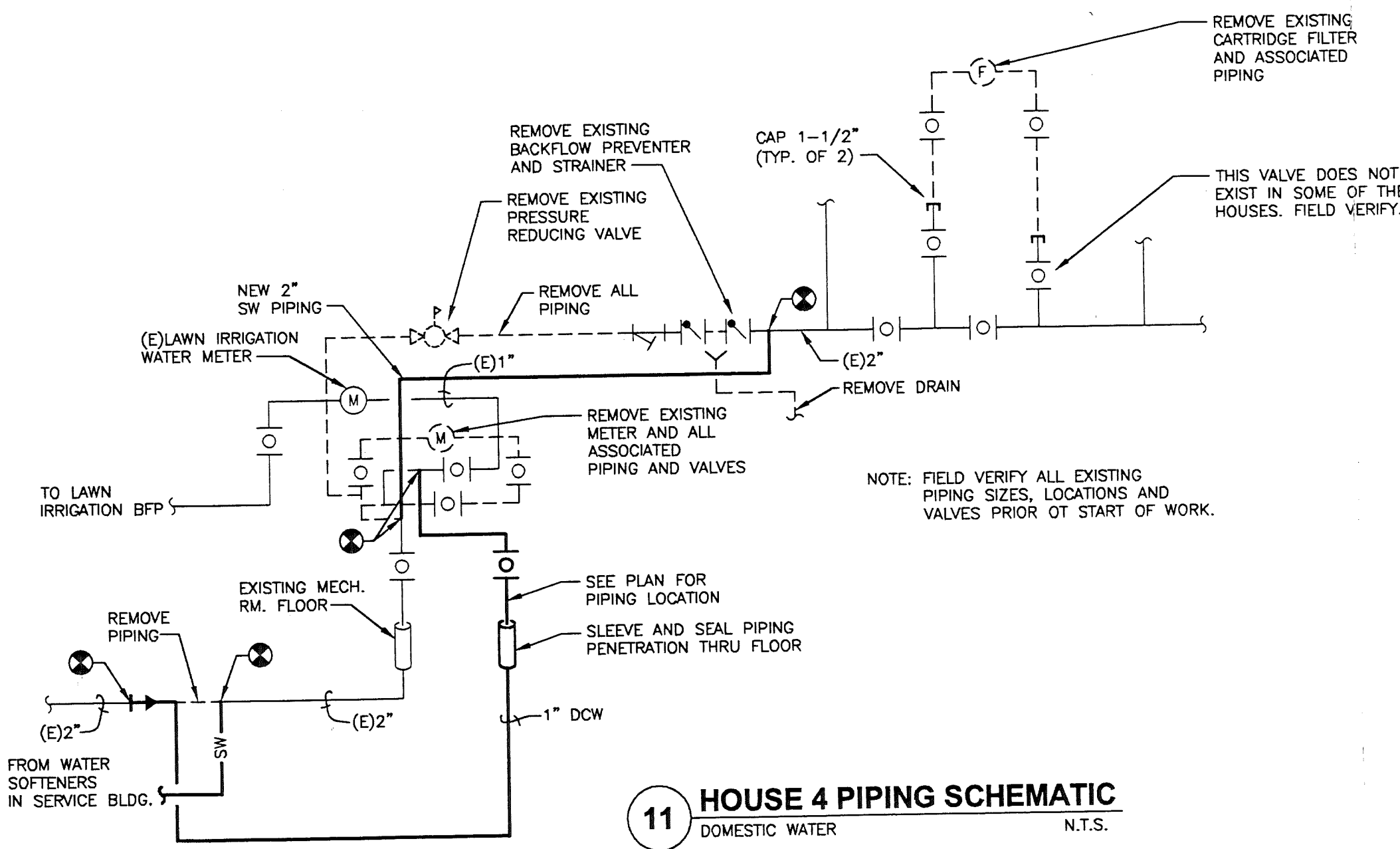
8 HOUSE 8 - MECHANICAL ROOM PLAN
1/4" = 1'-0"



9 HOUSE 9 - MECHANICAL ROOM PLAN
1/4" = 1'-0"



10 TYPICAL HOUSE PIPING SCHEMATIC
N.T.S.



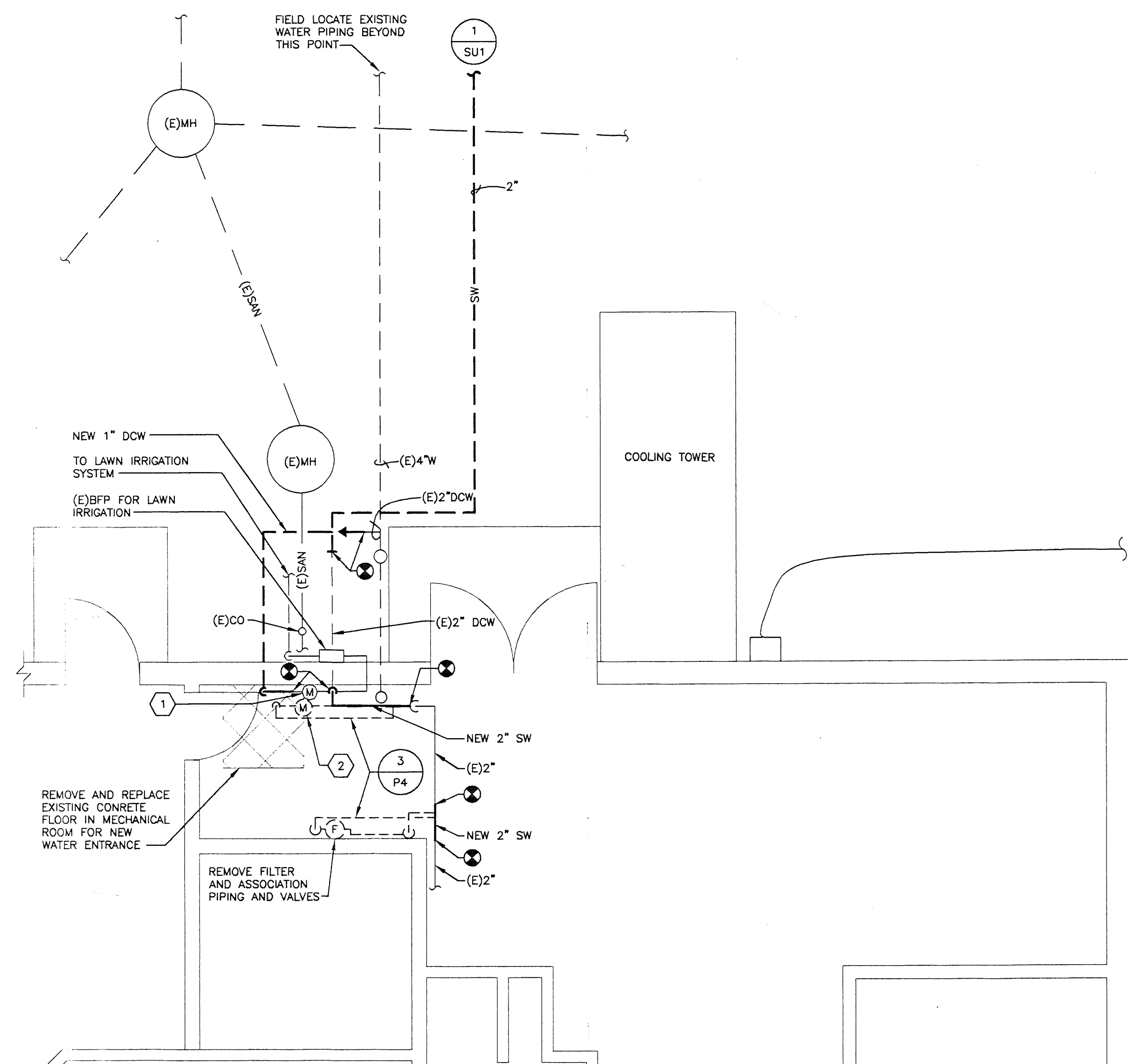
11 HOUSE 4 PIPING SCHEMATIC
N.T.S.

CODED NOTES

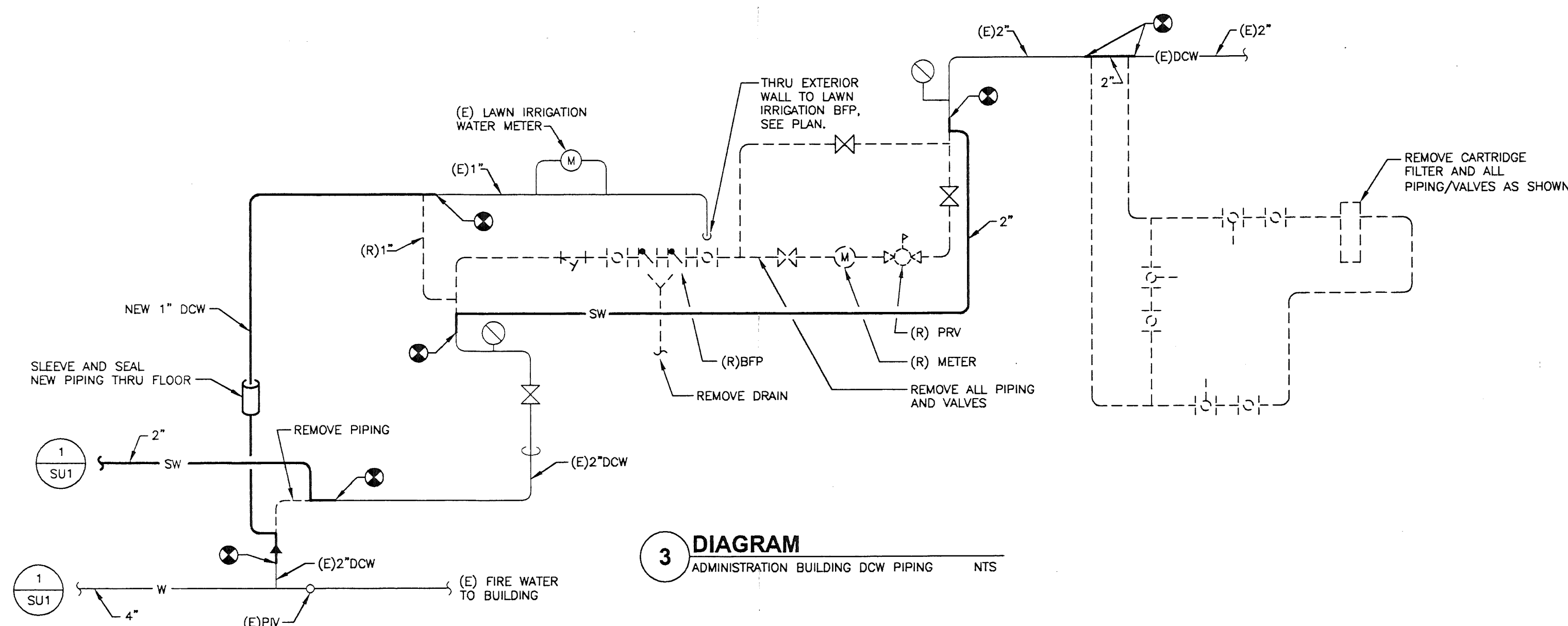
- SEE SITE PLAN SU1, FOR CONTINUATION.
- REMOVE AND REPLACE CONCRETE SIDEWALK TO CONNECT NEW SOFT WATER PIPING TO EXISTING BURIED DCW.
- FIELD VERIFY EXACT LOCATION OF EXISTING WATER PIPING. CITY INSPECTOR REQUIRED TO APPROVE WORK AFTER EXISTING PIPING IS CAPPED AND SEALED PRIOR TO BACKFILLING TRENCH.
- REMOVE METER, PRV, BACKFLOW PREVENTER, INLINE CARTRIDGE FILTER AND ALL ASSOCIATED PIPING.
- APPROXIMATE LOCATION OF CONCRETE TO BE REMOVED. CONTRACTOR SHALL SAW CUT CONCRETE PRIOR TO REMOVAL. EXACT QUANTITY OF CONCRETE TO BE REMOVED AND REPLACED SHALL BE FIELD DETERMINED.
- LAWN IRRIGATION METER TO REMAIN. CONNECT NEW DCW PIPING TO METER.
- REMOVE AND REPLACE MECHANICAL ROOM CONCRETE FLOOR FOR NEW WATER ENTRANCE.
- EXISTING FIRE LINE RISER TO ALARM VALVE.

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REVISIONS <table border="1"> <thead> <tr> <th>NO.</th><th>DATE</th><th>DESCRIPTION</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.	DATE	DESCRIPTION																											
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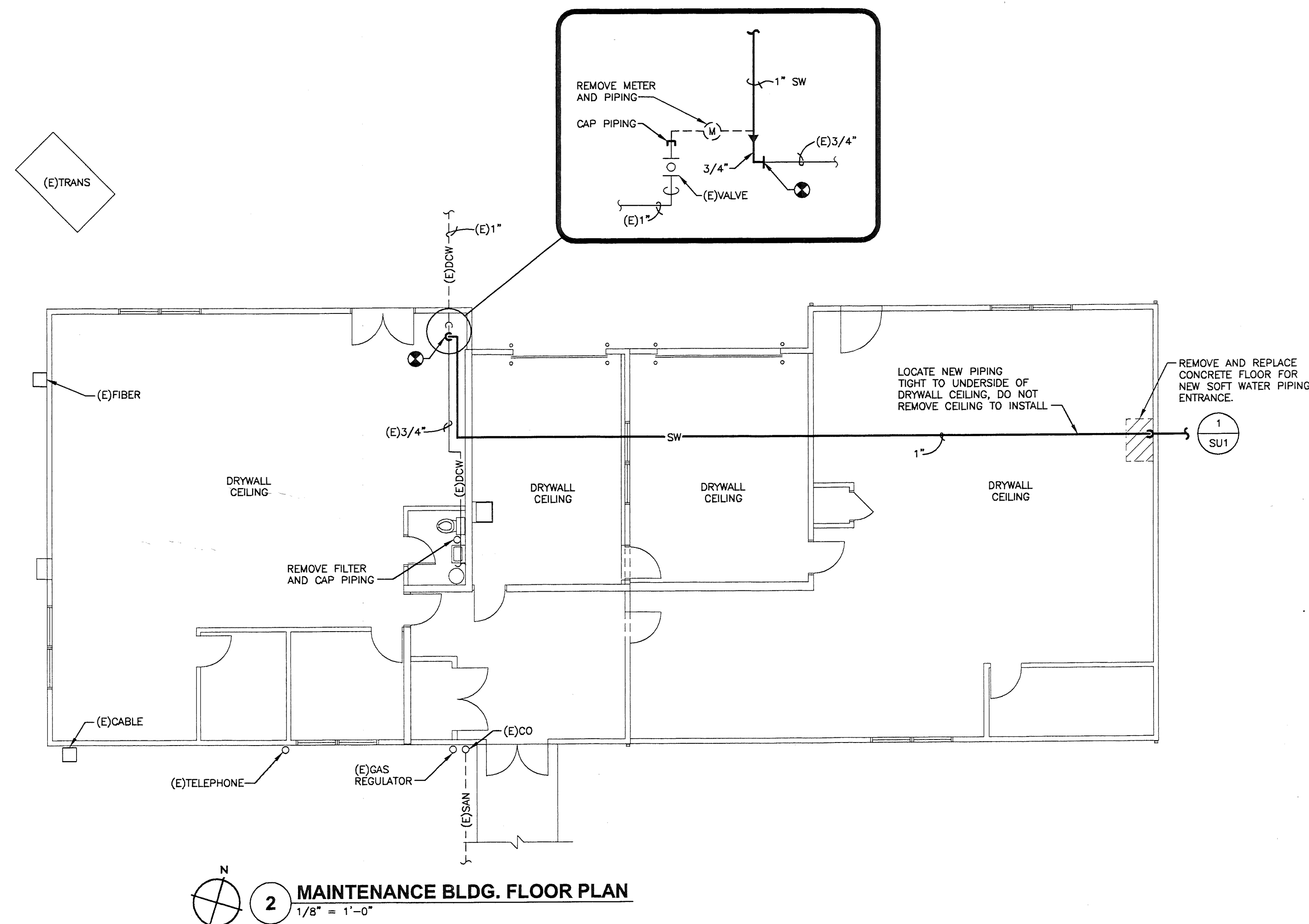
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1 PARTIAL FLOOR PLAN - ADMINISTRATION BLDG.
1/4" = 1'-0"



3 DIAGRAM
ADMINISTRATION BUILDING DCW PIPING NTS



2 MAINTENANCE BLDG. FLOOR PLAN
1/8" = 1'-0"

CODED NOTES:

1. LAWN IRRIGATION METER TO REMAIN.
2. WATER METER AND ALL ASSOCIATED VALVES AND PIPING TO BE REMOVED.

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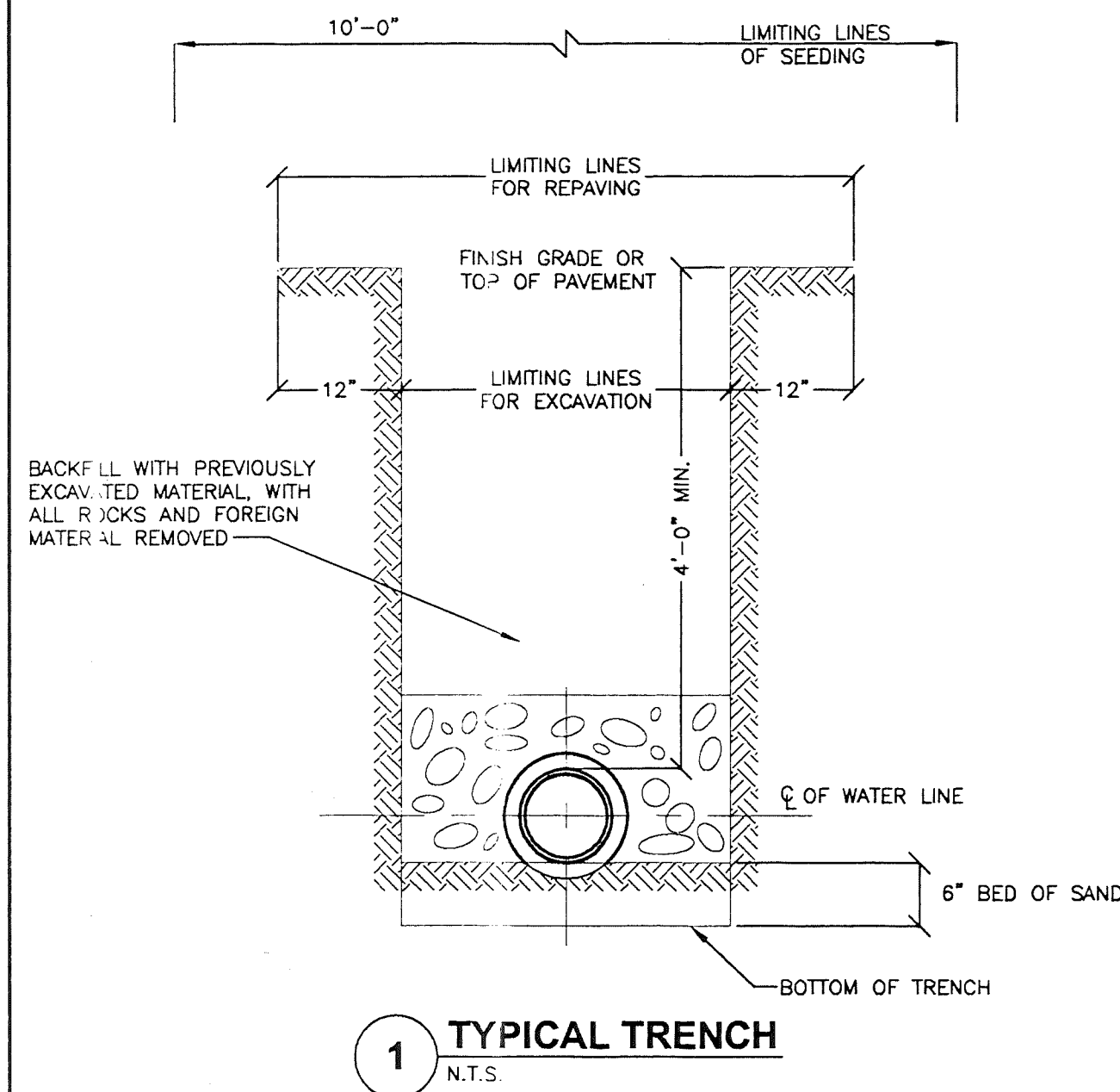
SHEET TITLE
**PARTIAL ADMIN. AND MAINTENANCE
BUILDING FLOOR PLANS**

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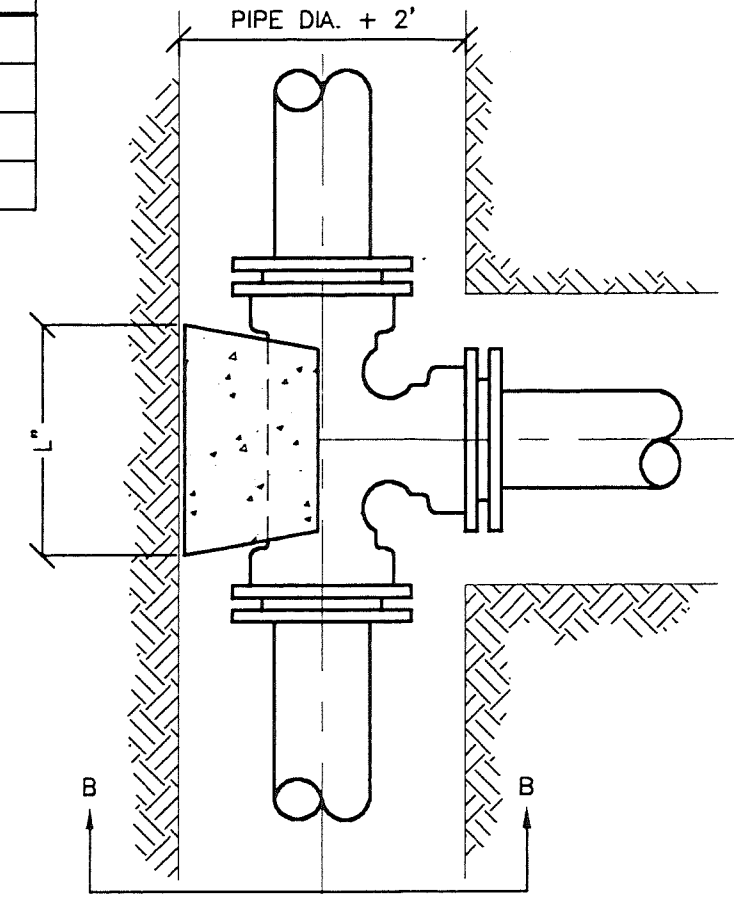
PLOT DATE DATE SHEET NO.
08/29/02 **P4**

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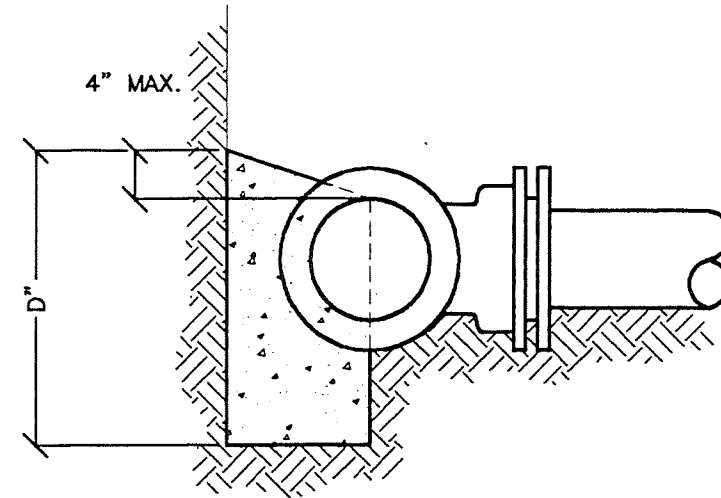
BACKING FOR TEES											
R U N	BRANCH										
	2" AND 3"	4"	6"	8"	10"	12"	14"	16"	18"	20"	24"
L"	D"	Vc.f.	L"	D"	Vc.f.	L"	D"	Vc.f.	L"	D"	Vc.f.
3"	12	5	0.5								
4"	10	6	0.5	11	8	0.8					
6"	9	7	0.5	11	8	0.8	18	12	1.9		
8"											
10"											
12"											
16"											

STEEL WILL BE USED AS REQUIRED BY THE ENGINEER



NOTES

1. BACKER DESIGNED FOR 3000 PSF SOIL BEARING.
2. CONCRETE SHALL BE PLACED AGAINST UNDISTURBED EARTH.
3. PROVIDE CLEARANCE FOR REMOVAL OF BOLTS.
4. USE PLANT MIXED CONCRETE ONLY—PRE-MIXED BAGS NOT ALLOWED.



SECTION B-B

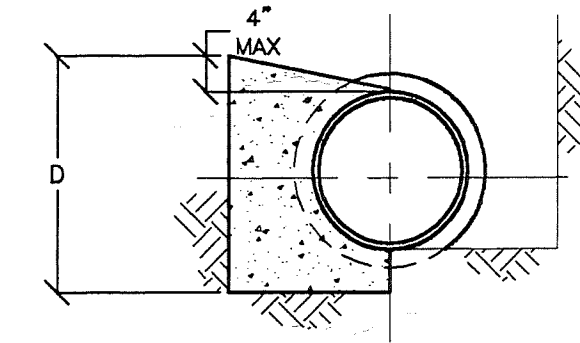
P I P E	DEGREE OF BEND											
	11-1/4°			22-1/2°			45°			90°		
	L"	D"	Vc.f.	L"	D"	Vc.f.	L"	D"	Vc.f.	L"	D"	Vc.f.
3"	4	3	0.1	6	4	0.2	10	4	0.3	10	4	0.3
4"	5	4	0.2	9	5	0.4	14	5	0.6	14	5	0.6
6"	8	6	0.5	12	7	0.7	20	8	1.4	18	9	1.7
8"	9	8	0.7	16	9	1.4	24	12	2.7	25	11	4.0

STEEL WILL BE USED AS REQUIRED BY THE ENGINEER

STEEL WILL BE USED AS REQUIRED BY THE ENGINEER

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1. BACKER DESIGNED FOR 3000 PSF SOIL BEARING.
2. CONCRETE TO BE PLACED AGAINST UNDISTURBED EARTH.
3. USE PLANT MIXED CONCRETE ONLY—PRE-MIXED BAGS NOT ALLOWED.



SECTION A-A

GENERAL NOTES

1. PIPING SHALL MEET AWWA STANDARDS.
2. PIPING SHALL BE CLEANED AND STERILIZED PER AWWA STANDARDS.

PLUMBING SYMBOLS & ABBREVIATIONS

— W —	EXISTING WATER LINE, REMAINS
— SW —	NEW SOFT WATER LINE
— UGE —	UNDERGROUND ELECTRIC
→	DIRECTION OF FLOW
⊗	CONNECT TO EXISTING
(E)	EXISTING
(R)	REMOVE
MH	MAN HOLE
C/C	CENTER TO CENTER
W/	WITH
TYP	TYPICAL
OS&Y	OUTSIDE SCREW AND YOKE
PSF	POUNDS PER SQUARE FOOT
BFP	BACKFLOW PREVENTER
⊗	PRESSURE REDUCING VALVE
Vc.f.	VOLUME IN CUBIC FEET

**PRELIMINARY
NOT FOR CONSTRUCTION**

ASSOCIATES GOLIVER AND ASSOCIATES, INC. 2040 Brice Road Suite 120 Reynoldsburg, Ohio 43068 TELEPHONE 614-861-0442 FAX 614-861-6453 INTERNET gol@goliverengineering.com																																
REVISIONS <table border="1"> <tr> <th>NO.</th> <th>DATE</th> <th>DESCRIPTION</th> </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> <tr><td> </td><td> </td><td> </td></tr> </table>			NO.	DATE	DESCRIPTION																											
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PROJECT TITLE: WATER FILTRATION SYSTEM MONTGOMERY DEVELOPMENTAL CENTER 7650 TIMBERCREST DRIVE HUBER HEIGHTS, OH 45424																																
FOR OHIO DEPARTMENT OF MENTAL RETARDATION AND DEVELOPMENTAL DISABILITIES																																
SHEET TITLE PLUMBING DETAILS																																
STATE PROJECT NO. 590-2001-125 GAI PROJECT NO. 02011																																
PREPARED FOR STATE OF OHIO DEPARTMENT OF ADMINISTRATIVE SERVICES GENERAL SERVICES DIVISION OFFICE OF THE STATE ARCHITECT																																
PLOT DATE 08/29/02	DATE 08/29/02	SHEET NO. P5																														