NEW RIVER REGIONAL WATER AUTHORITY

AUSTINVILLE
WATER TREATMENT PLANT
(DIVISION I)

NEW RIVER REGIONAL WATER AUTHORITY BOARD MEMBERS

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RONALD NEWMAN VICE-CHAIRMAN
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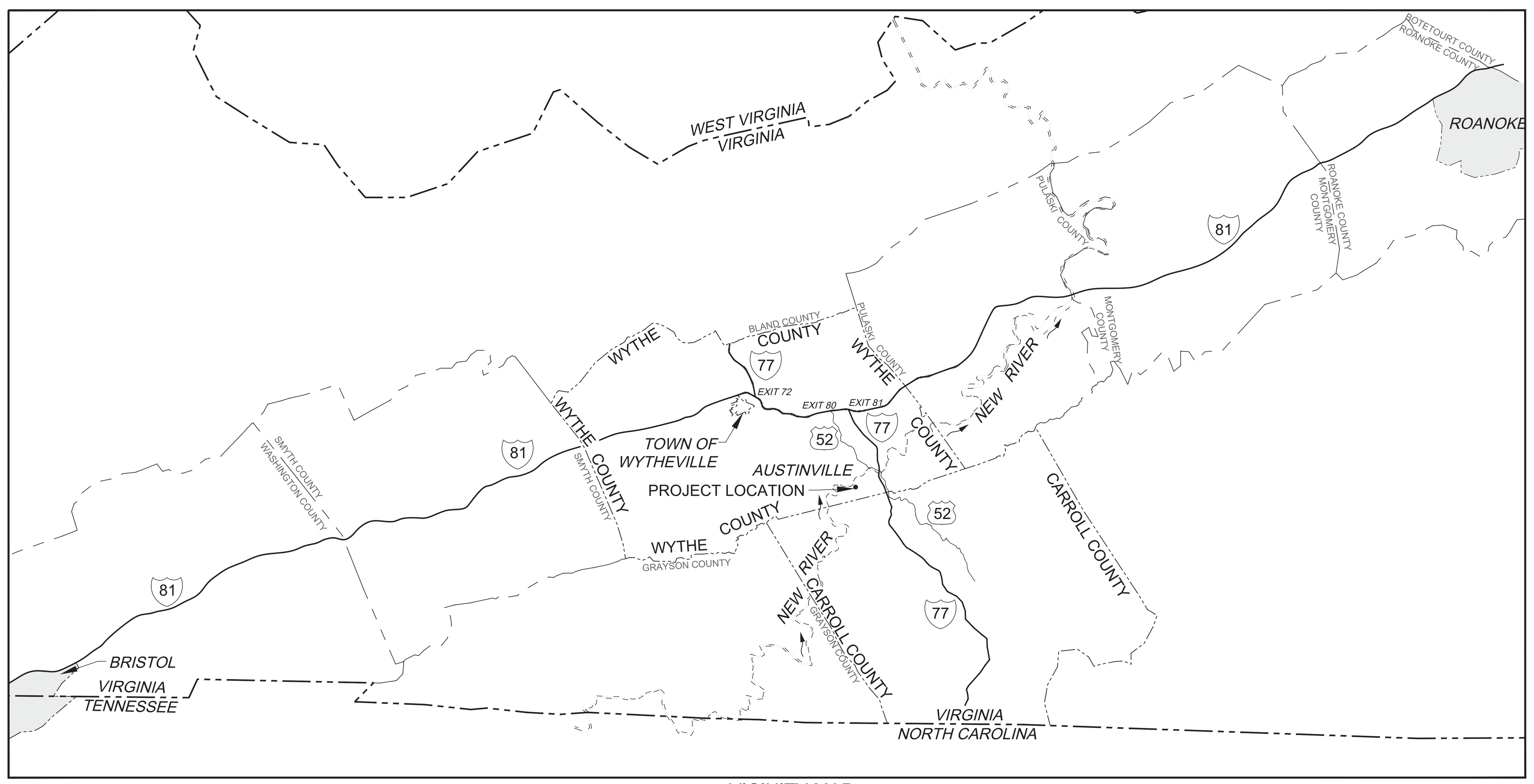
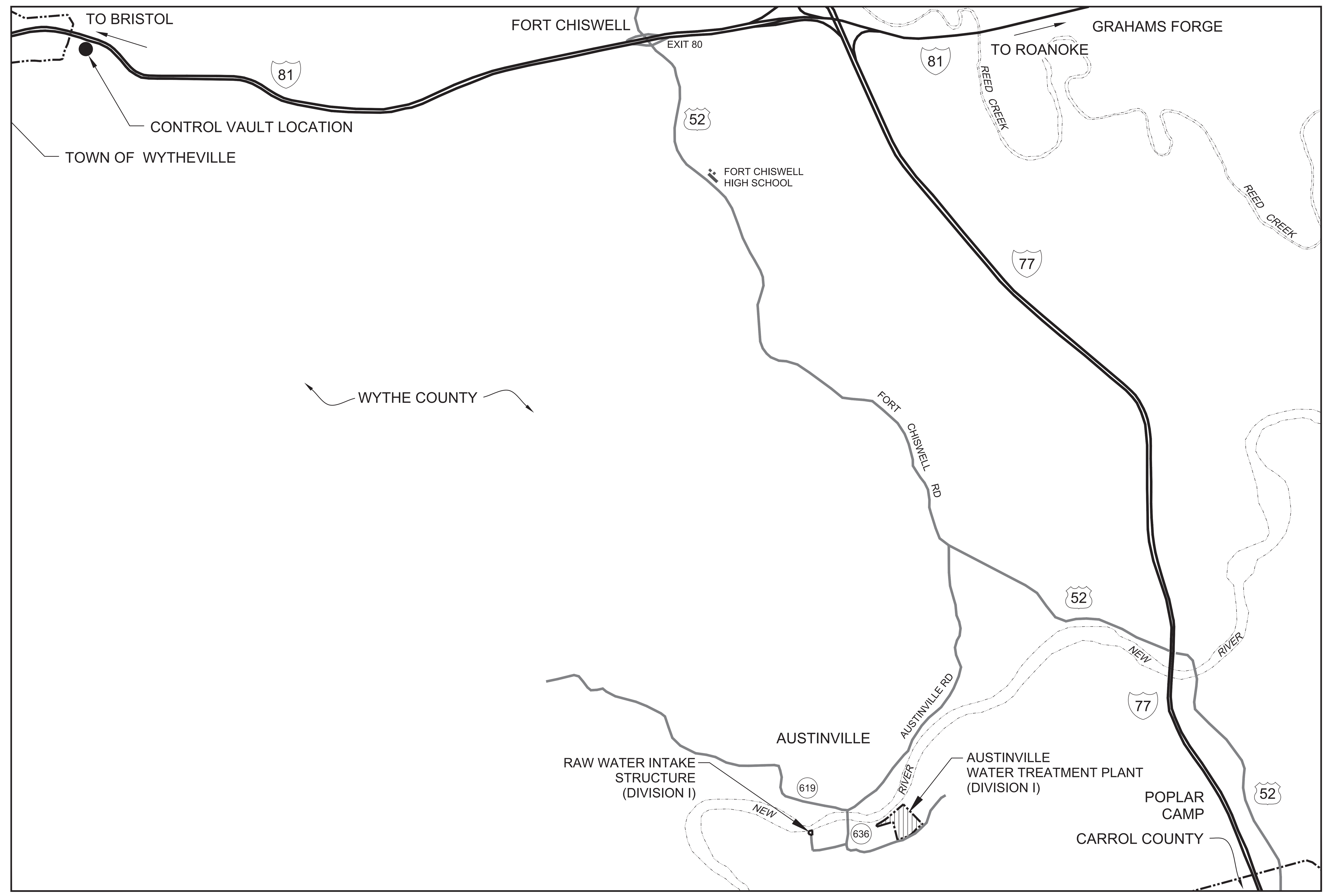


VICINITY MAP
SCALE: 1" = 30 000'



LOCATION MAP
SCALE: 1" = 3 000'

Reed & Bortz, L.L.C.
CIVIL & ENVIRONMENTAL ENGINEERS
20 MIDWAY PLAZA DRIVE - SUITE 100
CHRISTIANSBURG, VIRGINIA 24073
PHONE: (540) 394 - 3214 FAX: (540) 394 - 3215

SEAL

AUSTINVILLE WATER TREATMENT PLANT (DIVISION I)
AUSTINVILLE VIRGINIA

DRAWN BY: A. SQUIRES
REVIEW BY: C.E. PEED
DATE: 20 OCTOBER 2006
REVISION:
DWG DESCRIPTION: TITLE SHEET

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2	SHEET INDEX & GENERAL NOTES
3	PROJECT LAYOUT

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C02	RAW WATER INTAKE - DEMOLITION PLAN
C03	RAW WATER INTAKE - PLAN
C04	RAW WATER INTAKE - SECTIONS & DETAILS
C05	TREATMENT PLANT - OVERALL TREATMENT PLANT SITE PLAN
C06	TREATMENT PLANT - WEST SITE PLAN
C07	TREATMENT PLANT - SOUTH CENTRAL SITE PLAN
C08	TREATMENT PLANT - NORTH CENTRAL SITE PLAN
C09	TREATMENT PLANT - SOUTH EAST SITE PLAN
C10	TREATMENT PLANT - WEST SITE GRADING & DRAINAGE PLAN
C11	TREATMENT PLANT - SOUTH CENTRAL GRADING & DRAINAGE SITE PLAN
C12	TREATMENT PLANT - NORTH CENTRAL GRADING & DRAINAGE SITE PLAN
C13	TREATMENT PLANT - SOUTH EAST SITE GRADING & DRAINAGE SITE PLAN
C14	PROCESS GRAVITY OUTFALL SEWER PLAN□PROFILE & DECHLORINATION FACILITY
C15	WATER LINE & GRAVITY SEWER PROFILES
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C17	FLOCCULATION BASIN - PLAN
C18	FLOCCULATION BASIN - SECTIONS & DETAILS
C19	SEDIMENTATION BASIN - PLAN
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C21	FILTER BUILDING - FIRST & SECOND FLOOR PLAN
C22	FILTER BUILDING - SECTIONS
C23	FILTER BUILDING - SECTIONS AND DETAILS
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C26	MAIN BUILDING - SECTIONS & DETAILS
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C28	MAIN BUILDING - TANK ROOM DETAIL
C29	HIGH SERVICE PUMP STATION - PLAN & SECTIONS
C30	FINISHED WATER TANKS PLAN□PUMP PIPING PLAN & SECTION
C31	FINISHED WATER TANK SECTIONS & PIPING DETAILS
C32	FINISHED WATER TANK DETAILS
C33	FINISHED WATER TANK BAFFLE DETAILS
C34	SOLIDS HANDLING FACILITY - PLAN & DETAILS
C35	SOLIDS HANDLING FACILITY - SECTIONS & DETAILS
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C39	STANDARD WATER DETAILS
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A03	RAW WATER INTAKE BUILDING - ELEVATIONS & SECTIONS
A04	RAW WATER INTAKE BUILDING - DETAILS
A05	MAIN BUILDING - 1ST FLOOR PLAN
A06	MAIN BUILDING - 2ND FLOOR PLAN
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A17	MIAN BUILDING - STAIR & RAILING DETAILS
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A22	SIGNAGE DETAILS
A23	SOLIDS HANDLING FACILITY

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S3	SECOND FLOOR FRAMING PLAN
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S7	FLOCCULATION BASIN PLAN & DETAILS
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S11	SOLIDS HANDLING FACILITY
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SHEET	TITLE
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SHEET	TITLE
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M02	COVER SHEET = MECHANICAL SCHEDULES
M03	TREATMENT BUILDING FIRST FLOOR - MECHANICAL PLANS
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M05	TREATMENT BUILDING ROOF - MECHANICAL PLAN
M06	RAW WATER INTAKE/ FINISHED WATER PUMP STATION - MECHANICAL PLANS
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SHEET	TITLE
E01	ELECTRICAL COVER SHEET
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E08	TREATMENT BUILDING FIRST FLOOR - MECHANICAL POWER & SYSTEMS PLAN
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E11	TREATMENT BUILDING FIRST FLOOR - INSTRUMENTATION CONDUIT AND WIRING PLAN
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FP02	TREATMENT BUILDING SECOND FLOOR FIRE PROTECTION PLAN
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SHEET	TITLE
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I02	PIPING & INSTRUMENTATION DIAGRAM - TREATMENT PLANT
I03	PIPING & INSTRUMENTATION DIAGRAM - DISTRIBUTION SYSTEM
I04	PIPING & INSTRUMENTATION DIAGRAM - CHEMICAL FEED
I05	NETWORK ARCHITECTURE DIAGRAM

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SHEET	TITLE
R01	INTAKE BUILDING CONSTRUCTION DRAWING
R02	INTAKE BUILDING CONSTRUCTION DRAWING

GENERAL NOTES:

1. THE NEW RIVER REGIONAL WATER AUTHORITY PROVIDES POTABLE WATER TO CARROLL COUNTY, WYTHE COUNTY, AND THE TOWN OF WYTHEVILLE.

2. THE AUSTINVILLE WATER TREATMENT PLANT(WTP) IS A 4.0 MILLION GALLON PER DAY(MGD) FACILITY. THE ULTIMATE PLANT CAPACITY AT THIS SITE IS 16.0 MGD. MANY FACILITIES WERE DESIGNED FOR THIS FUTURE EXPANSION. THE RAW WATER INTAKE CAPACITY IS LIMITED TO 10 MGD.

3. THE AUSTINVILLE WATER TREATMENT PLANT SITE CONSISTS OF TWO PARCELS OWNED BY THE AUTHORITY. THE RAW WATER INTAKE PARCEL WAS OBTAINED FROM WYTHE COUNTY. THE CONTRACTOR SHALL KEEP ALL WORK ACTIVITIES ON THE WTP AND THE INTAKE SITES UNLESS WRITTEN PERMISSION IS OBTAINED FROM THE PROPERTY OWNERS BY THE CONTRACTOR TO WORK OUTSIDE THESE BOUNDARIES. THE PROCESS AND SANITARY SEWER OUTFALLS ARE LOCATED ON PROPETY OWNED BY WYTHE COUNTY AND AN EASEMENT HAS BEEN OBTAINED FOR THIS CONSTRUCTION ACTIVITY.

4. THE AUSTINVILLE WATER TREATMENT PLANT SHALL MEET THE REQUIREMENTS OF THE "WATER WORKS REGULATIONS".

5. THIS PROJECT IS DIVIDED INTO THREE DIVISIONS DESCRIBED AS FOLLOWS:
   DIVISION I – AUSTINVILLE WATER TREATMENT PLANT
   DIVISION II – RAW & FINISHED WATERLINES
   DIVISION III – BRIDGE CROSSING

6. PROPERTY INFORMATION:
   OWNER: NEW RIVER REGIONAL WATER AUTHORITY
   FEMA FLOOD MAP: 510180 0150 A
   TOPOGRAPHIC INFORMATION PROVIDED BY: PILLAR ENGINEERING
   HORIZONTAL COORDINATE SYSTEM: VIRGINIA GRID, SOUTH ZONE, NAD–83 (86), IN U.S. SURVEY FOOT UNITS
   VERTICAL DATUM: NGVD–29 VERTICAL DATUM

7. CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL NECESSARY CONSTRUCTION PERMITS TO WORK ON THE SITE INCLUDING BUT NOT LIMITED TO WYTHE COUNTY.

8. THE CONTRACTOR IS RESPONSIBLE FOR ARRANGING ALL POTABLE WATER REQUIRED FOR THE WORK.

9. BENCHMARKS FOR HORIZONTAL AND VERTICAL CONTROL ARE SHOWN ON THE PROJECT LAYOUT.

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SEAL
CLEMENT E. PEED No. 7101
COMMONWEALTH OF VIRGINIA
CERTIFIED PROFESSIONAL ENGINEER

AUSTINVILLE
WATER TREATMENT PLANT
(DIVISION I)
AUSTINVILLE VIRGINIA

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RECORD DRAWINGS
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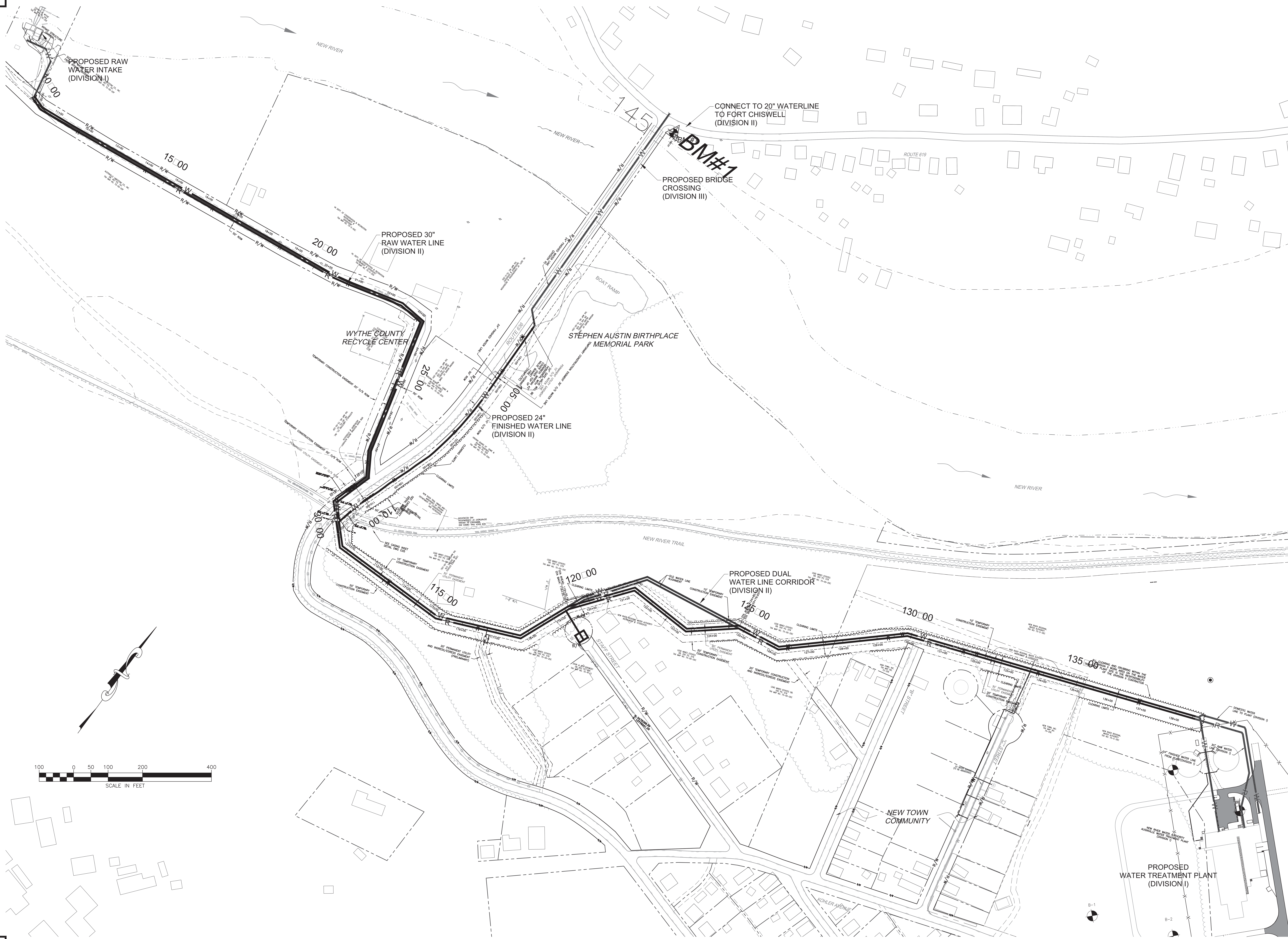

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AUSTINVILLE WATER TREATMENT PLANT (DIVISION I)

AUSTINVILLE VIRGINIA

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DWG DESCRIPTION: PROJECT LAYOUT

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CIVIL GENERAL NOTES:

1. THE CIVIL DRAWINGS INCLUDE SITE IMPROVEMENTS, TREATMENT EQUIPMENT, PROCESS PIPING, CHEMICAL FEED EQUIPMENT, AND PUMPING EQUIPMENT. PLEASE REFER TO THE OTHER APPROPRIATE DISCIPLINES FOR OTHER CONSTRUCTION INFORMATION AND DETAILS.
2. ALL DISTURBED AREAS NOT PAVED OR GRAVELED WILL BE GRASSED WITH PERMANENT SEEDING AS DEFINED ON THE DRAWINGS AND SPECIFICATIONS.
3. HORIZONTAL AND VERTICAL CONTROL IS PROVIDED ON THE DRAWINGS.
4. THE CONTRACTOR INSTALL ALL EROSION AND CONTROL MEASURES PRIOR TO STARTING CONSTRUCTION.
5. THE CONTRACTOR SHALL SEAL THE EXISTING MINE VENTS AS IF THEY WERE POTABLE WATER WELLS. THIS WORK SHALL BE PERFORMED IN ACCORDANCE WITH AWWA A100 AND VIRGINIA DEPARTMENT OF HEALTH REGULATIONS.
6. THE CONTRACTOR SHALL CLEAR ONLY THE AREAS TO BE DISTURBED, LEAVING AS MANY TREES AS POSSIBLE. THE TREES CAN BE BURNED IN ACCORDANCE WITH THE CLEARING AND GRUBBING SPECIFICATION AND THE STUMPS BURIED ON SITE AT A LOCATION APPROVED BY THE OWNER.
7. THE FORMER CONCESSION STAND LOCATED ON THE SOUTHWEST CORNER OF THE WTP SITE SHALL NOT BE DISTURBED.
8. WALL PIPES SHALL BE PROVIDED AT ALL WALL AND FLOOR PIPE PENETRATIONS.

GENERAL CONSTRUCTION NOTES

1. ALL PAVEMENT AND DRAINAGE STRUCTURES SHALL BE IN ACCORDANCE WITH THE STANDARDS SET FORTH IN THE VIRGINIA DEPARTMENT OF TRANSPORTATION STANDARDS AND SPECIFICATIONS.
2. CALL "MISS UTILITY" 48 HOURS PRIOR TO THE START OF EXCAVATION. VERIFY LOCATION AND ELEVATION OF ALL UNDERGROUND UTILITIES IN AREA OF CONSTRUCTION PRIOR TO STARTING WORK. CONTACT THE ARCHITECT/ENGINEER IMMEDIATELY IF LOCATION OR ELEVATION IS DIFFERENT FROM THAT INDICATED. IF THERE APPEARS TO BE A CONFLICT, AND UPON DISCOVERY OF ANY UTILITY NOT INDICATED, CALL "MISS UTILITY" AT 1-800-257-7777 (TOLL FREE).
3. ACQUIRE ANY AND ALL NECESSARY CONSTRUCTION PERMITS REQUIRED TO COMPLETE THE SITEWORK, AND FURNISH COPIES TO THE OWNER AND ENGINEER. ANY WORK DONE WITHIN THE RIGHT-OF-WAY REQUIRES A PERMIT FROM VDOT.
4. ALL DIMENSIONS ARE TO FACE OF CURB OR EDGE OF PAVEMENT UNLESS OTHERWISE NOTED.
5. ALL EROSION AND SEDIMENT CONTROL SHALL BE SUBJECT TO INSPECTION BY DESIGNATED WYTHE COUNTY OFFICIALS. NOTIFY PLANNING AND ENGINEERING 48 HOURS PRIOR TO START OF WORK.
6. PROVIDE ALL UTILITY LINES SUCH AS ELECTRIC, TELEPHONE, CATV, OR OTHER SIMILAR LINES UNDERGROUND UNLESS OTHERWISE SPECIFIED.
7. IN ACCORDANCE WITH HANDICAP ACCESSIBILITY REQUIREMENTS, COMPLY WITH ALL APPLICABLE CODES AND REQUIREMENTS FOR ACCESSIBILITY FOR DISABLED PERSONS.
8. DRAIN ALL DISTURBED AREAS TO APPROVED SEDIMENT CONTROL MEASURES AT ALL TIMES DURING LAND DISTURBING ACTIVITIES AND DURING SITE DEVELOPMENT UNTIL FINAL STABILIZATION IS ACHIEVED.
9. ALL PIPE LENGTHS ARE MEASURED FROM CENTER OF STRUCTURES.
10. A SMOOTHING GRADE SHALL BE MAINTAINED FROM THE CENTERLINE OF THE EXISTING ROAD TO THE CURB AND GUTTER, TO PRECLUDE THE FORMING OF FALSE GUTTERS AND/OR THE PONDING OF ANY WATER ON THE ROADWAY.
11. THE APPROVAL OF THESE PLANS SHALL IN NO WAY RELIEVE THE OWNER OF COMPLYING WITH ANY OTHER APPLICABLE LOCAL, STATE AND FEDERAL REQUIREMENTS.
12. ALL AREAS WITHIN AND ADJACENT TO THE BUILDING FOOTPRINT WILL BE PERMANENTLY STABILIZED WITH STONE WITHIN 7 DAYS OF COMPLETION OF MASS EARTHWORK OPERATIONS.

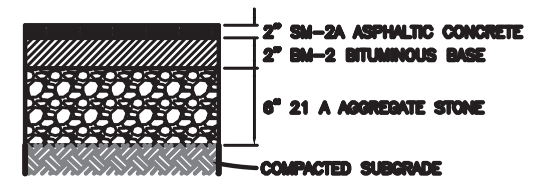
ROOF DRAIN NOTES

1. ALL INDIVIDUAL BUILDING DOWNSPOUTS ARE TO BE TIED INTO THE ROOF DRAIN COLLECTOR SYSTEM, DIRECTLY INTO THE STORM SEWER SYSTEM, OR INTO A DEFINED CHANNEL. ALL DAYLIGHT DISCHARGES WILL BE ADEQUATELY PROTECTED WITH A CONCRETE COLLAR OR OTHER ENGINEER APPROVED METHOD.
2. THE ROOF DRAIN COLLECTOR SYSTEM SHALL BE SMOOTH-LINED, CORRUGATED POLYETHYLENE PIPE (HANCOR HI-Q OR APPROVED EQUAL) LAID AT A MINIMUM SLOPE OF 1.04%.
3. PIPES CONNECTING TO INDIVIDUAL DOWNSPOUTS SHALL BE 4". ALL OTHER DRAIN PIPES SHALL BE SIZED AS INDICATED.
4. CLEANOUTS SHALL BE PROVIDED AS SHOWN ON THE PLANS AND AS REQUIRED BY THE LOCAL BUILDING CODE. CLEANOUTS SHALL BE PLACED AFTER EACH DOWNSPOUT CONNECTION.
5. CONNECTIONS INTO CONCRETE PIPES SHALL BE MADE WITH "INSERTA TEE" TYPE CONNECTORS.
6. CONTRACTOR SHALL MAKE PROVISIONS TO MAINTAIN ADEQUATE OUTFALL FOR EXISTING ROOF DRAINS DURING CONSTRUCTION.
7. CORRUGATED PLASTIC PIPE (SMOOTH-BORED) FOR ROOF DRAINS SHALL BE ASTM F 405 OR AASHTO M 252 FOR 10" AND SMALLER, AND ASTM F 667 OR AASHTO M 294 FOR 12" AND LARGER. REFER TO VDOT STD. PB-1 FOR BEDDING DETAILS FOR CORRUGATED PLASTIC PIPE.

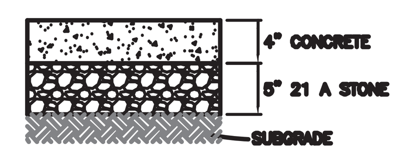
CIVIL ABBREVIATIONS

ADJ	ADJACENT	MTL	METAL
BC	BACK OF CURB	N	NORTHING
BLDG	BUILDING	NIC	NOT IN CONTRACT
BM	BENCHMARK	NO.	NUMBER
BSMT	BASEMENT	NTS	NOT TO SCALE
CF	CUBIC FOOT	O/C	ON CENTER
CI	CAST IRON	O/S	OFFSET
CL	CENTERLINE	OD	OUTSIDE DIAMETER
CLR	CLEAR	PE	POLYETHYLENE
CMP	CORRUGATED METAL PIPE	PERF	PERFORATED
CMU	CONCRET MASONRY UNIT	PL	PROPERTY LINE
CO	CLEANOUT	PSI	POUNDS PER SQUARE INCH
CONC	CONCRETE	PVC	POLYVINYL CHLORIDE , POINT OF VERTICAL CURVE
COR	CORNER	PVMT	PAVEMENT
CULV	CULVERT	R	RADIUS
CY	CUBIC YARD	ROW	RIGHT OF WAY
D	DEPTH, DEGREE OF CURVE	RCP	REINFORCED CONCRETE PIPE
DEPT	DEPARTMENT	RD	ROAD, ROOF DRAIN
DI	DUCTILE IRON, DROP INLET	REINF	REINFORCE, REINFORCEMENT
DIA	DIAMETER	REQ'D	REQUIRED
DIP	DUCTILE IRON PIPE	REV	REVISION
DIV.	DIVISION	RMV	REMOVE
DR	DRIVE	ROW	RIGHT OF WAY
DWG	DRAWING	RR	RAILROAD
DWL	DWELLING	RT	RIGHT
E	EASTING	RTE	ROUTE
EP	EDGE OF PAVEMENT	S	SOUTH
EOP	EDGE OF PAVEMENT	SAN	SANITARY
EA	EACH	SD	STORM DRAIN
EG	EXISTING GRADE	SDWK	SIDEWALK
ELEV	ELEVATION	SMH	SANITARY MANHOLE
EP	EDGE OF PAVEMENT	SPEC	SPECIFICATION
ESMT	EASEMENT	SQ	SQUARE
EW	END WALL	SS	SANITARY SEWER
EX.	EXISTING	ST	STREET
EXIST.	EXISTING	STA	STATION
EXT	EXTERIOR	STD	STANDARD
FC	FACE OF CURB	STL	STEEL
FF	FINISHED FLOOR	STM	STORM
FG	FINISHED GRADE	STY	STORY
FNC	FENCE	SUR	SURVEY
FT	FOOT	SWR	SEWER
GAL	GALLON(S)	TC	TOP OF CURB
GALV	GALVANIZED	TEL	TELEPHONE
GND	GROUND	TEMP	TEMPORARY
GOVT	GOVERNMENT	TMP	TEMPORARY
HDPE	HIGH DENSITY POLYETHYLENE PIPE	TYP.	TYPICAL
HYD	HYDRANT	UE	UNDERGROUND ELECTRIC
ID	INSIDE DIAMETER	UG	UNDERGROUND
IN	INCH	VDOT	VIRGINIA DEPARTMENT OF TRANSPORTATION
INV	INVERT	VERT	VERTICAL
JB	JUNCTION BOX	W/	WITH
L	LENGTH	W/I	WITHIN
L.F.	LINEAR FOOT	W/O	WITHOUT
LT	LEFT	WL	WATERLINE
MAX	MAXIMUM	WWF	WOVEN WIRE FABRIC
MFR	MANUFACTURER	XING	CROSSING
MH	MANHOLE	XFMR	TRANSFORMER
MIN	MINIMUM	UE	UNDERGROUND ELECTRIC
MJ	MECHANICAL JOINT	Z	ELEVATION
MON	MONUMENT		

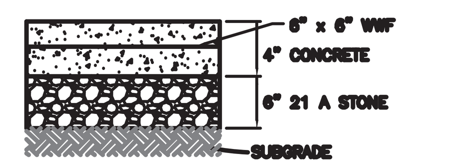
PAVEMENT SECTIONS



HEAVY DUTY ASPHALT PAVEMENT SECTION
(MAIN DRIVEWAYS AND DRIVE AISLES)
NO SCALE
DENOTES HEAVY DUTY ASPHALT PAVEMENT ON PLANS

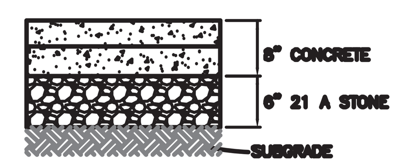


SIDEWALK PAVEMENT SECTION
NO SCALE
DENOTES SIDEWALK PAVEMENT ON PLANS

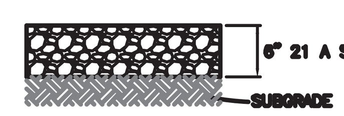


CONCRETE SERVICE AREA PAVEMENT SECTION
NO SCALE
DENOTES CONCRETE SERVICE AREA PAVEMENT ON PLANS

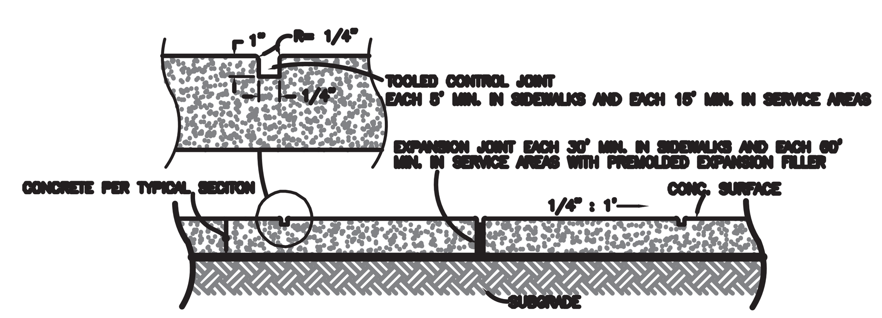
INCLUDES ALL CONCRETE APRONS, EMERGENCY GENERATOR PADS, AND ANY OTHER CONCRETE SUPPORTING A STRUCTURE OR PIECE OF EQUIPMENT UNLESS OTHERWISE SPECIFIED IN THE PLANS.



DUMPSTER PAD PAVEMENT SECTION
NO SCALE
DENOTES CONCRETE SERVICE AREA PAVEMENT ON PLANS

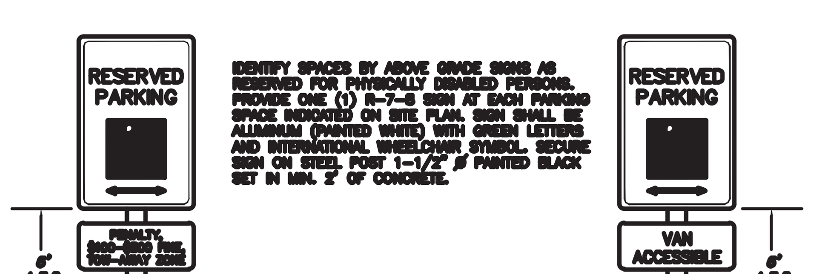


GRAVEL PAVEMENT SECTION
NO SCALE
DENOTES GRAVEL PAVEMENT ON PLANS



CONCRETE EXPANSION AND CONTROL JOINTS

NOTES:
1. REFER TO CIVIL DRAWINGS FOR SIDEWALK SCORING PATTERN.



IDENTIFY SPACES BY ABOVE GRADE SIGNS AS RESERVED FOR PHYSICALLY DISABLED PERSONS. PROVIDE ONE (1) R-7-8 SIGN AT EACH PARKING SPACE INDICATED ON SITE PLAN. SIGN SHALL BE ALUMINUM (PAINTED WHITE) WITH GREEN LETTERS AND INTERNATIONAL WHEELCHAIR SYMBOL. SECURE SIGN ON STEEL POST 1-1/2" Ø PAINTED BLACK SET IN MIN. 2' OF CONCRETE.

PARKING SIGNS FOR THE DISABLED
NO SCALE

PIPING LEGEND

NUMBER	ITEM DESCRIPTION
**-01*	PIPE
**-02	90° FLANGED ELBOW
**-03	45° FLANGED ELBOW
**-04	FLANGED TEE
**-05	FLANGED CROSS
**-06	FLANGED WYE
**-07	FLANGED FLARE
**-08	BLIND FLANGE
**-09	FLANGED GATE VALVE WITH WHEEL OPERATOR
**-10	FLANGED GATE VALVE WITH NUT OPERATOR
**-11	FLANGED BUTTERFLY VALVE WITH ELECTRONIC ACTUATOR
**-12	FLANGED CHECK VALVE
**-13	90° MJ ELBOW
**-14	MJ TEE
**-15	MJ GATE VALVE WITH WHEEL OPERATOR
**-16	MJ GATE VALVE WITH NUT OPERATOR
**-17	MUD VALVE, EXTENSION WITH WHEEL OPERATOR
**-18	MUD VALVE, EXTENSION WITH NUT OPERATOR
**-19	SLUICE GATE WITH NUT OPERATOR
**-20	DISMANTLING JOINT
**-21	MAG METER
**-22	WASTE VALVE WITH ELECTRONIC ACTUATOR
**-23	24"x16" FLANGED REDUCER
**-24	45° MJ BEND
**-25	MJ WYE
**-26	30"x24"x30" FLANGED BRANCH REDUCING TEE
**-27	16"x6"x16" FLANGED BRANCH REDUCING TEE
**-28	12"x10"x12" MJ BRANCH REDUCING TEE
**-29	18"x12" FLANGED REDUCING BASE ELBOW
**-30	16"x12" FLANGED CONCENTRIC REDUCER
**-31	16"x10" FLANGED REDUCER
**-32	30"x16" MJ REDUCER
**-33	STATIC MIXER
**-34	SURGE RELIEF VALVE
**-35	ORIFICE PLATE
**-36	16"x12"x12"x16" FLANGED BRANCH REDUCING CROSS
**-37	24"x12" FLANGED REDUCING ELBOW
**-38	SURGE RELIEF VALVE
**-39	SLUICE GATE
**-40	24"x6" FLANGED REDUCER
**-41	12"x6" FLANGED REDUCER
**-42	12"x10" MJ REDUCER
**-43	24"x12"x24" FLANGED BRANCH REDUCING TEE
**-44	PVC BALL VALVE
**-45	16"x12" FLANGED ECCENTRIC REDUCER
**-46	90° FLANGED BASE ELBOW

*NOTE: FIRST TWO DIGITS DENOTES SIZE OF ITEM
SECOND TWO DIGITS DENOTES ITEM DESCRIPTION

SEEDING MIXTURES AND SCHEDULE

SITE SEEDING MIXTURES FOR ALL GRASSED AREAS EXCEPT SLOPES 3:1 OR STEEPER

SEED TYPE	(POUND PER ACRE)	PLANTING SOIL AMENDMENTS
KENTUCKY 31 OR TALL TURF TYPE FESCUE	200-250	2000 lbs. STRAW MULCH/ACRE
IMPROVED PERENNIAL RYEGRASS	0-25	1000 lbs. 5-10-10 FERTILIZER/ACRE
KENTUCKY BLUEGRASS	0-25	2 TONS AGRICULTURAL LIMESTONE/ACRE

SITE SEEDING MIXTURES FOR 3:1 SLOPES OR STEEPER (lbs/ac)

DATE / SEED TYPE	3/1-5/15	5/16-8/15	8/16-10/31	11/1-2/28
KENTUCKY 31 FESCUE	108	108	108	108
RED TOP GRASS	2	2	2	2
ANNUAL RYE	20		20	
FOXTAIL MILLET		20		
WINTER RYE				20
CROWN VETCH	20	20	20	20

TEMPORARY SEEDING MIXTURES (lbs/ac)

DATE / SEED TYPE	3/1-4/30	5/1-8/15	8/16-11/1
OATS	50-100		
RYE	50-110		50-110
GERMAN MILLET		50	
ANNUAL RYEGRASS	60		60
WEEPING LOVEGRASS		15	
KOREAN LESPEDEZA	25	25	

SITE LEGEND

- DITCHLINE/SWALE
- SANITARY SEWER AND STRUCTURE NUMBERS
- DOMESTIC SANITARY SEWER AND STRUCTURE NUMBERS
- POTABLE WATER LINE
- BACKWASH WATER LINE
- FILTERED WATER LINE
- RAW WATER LINE
- WATER HYDRANT
- EDGE OF PAVEMENT ROAD
- PROPOSED CONTOUR LINE (2080)
- STORM CULVERT (A1)
- SPOT SHOT (FG 2120.0)
- BORE LOCATION/TEST PIT (TP)
- EXISTING UTILITY POLE
- EXISTING TREE/SHRUB
- EXISTING TREELINE
- EXISTING DITCH
- EXISTING FENCE
- EXISTING BUILDING (1 STORY FRAME BLDG)
- EXISTING CULVERT
- EXISTING GRAVEL/DIRT DRIVE
- EXISTING PROPERTY BOUNDARY
- EXISTING RIGHT OF WAY (R/W)
- EXISTING CONTOUR LINE (2180)
- EXISTING SPOT ELEVATION (2180.2)
- EXISTING WATERLINE
- EXISTING EDGE OF PAVEMENT EXISTING ROAD
- EXISTING SANITARY SEWER AND STRUCTURE NUMBERS

BUILDING LEGEND

- NORTH CUT BUILDING SECTION LABELS (1, C02, C03)
  *TOP NUMBER DENOTES SECTION NUMBER
  LEFT NUMBER DENOTES SHEET OF CUT
  RIGHT NUMBER DENOTES SHEET OF SECTION DISPLAY
- WEST CUT BUILDING SECTION LABELS (2, C02, C03)
  *TOP NUMBER DENOTES SECTION NUMBER
  LEFT NUMBER DENOTES SHEET OF CUT
  RIGHT NUMBER DENOTES SHEET OF SECTION DISPLAY
- INSTRUMENTATION LABEL - SEE SHEETS I01 - I04 (NIT 1105)
- BUILDING SPOT ELEVATIONS (2120.0)
- ABANDONMENT
- ABOVE GROUND/ABOVE SLAB PIPING
- BELOW GROUND/BELOW SLAB PIPING
- FLOW DIRECTION
- WALLS/SLABS - PER ARCHITECTURAL SPECIFICATIONS
- WALLS/SLABS - PRECAST OR CAST IN PLACE CONCRETE - PER STRUCTURAL SPECIFICALTIONS

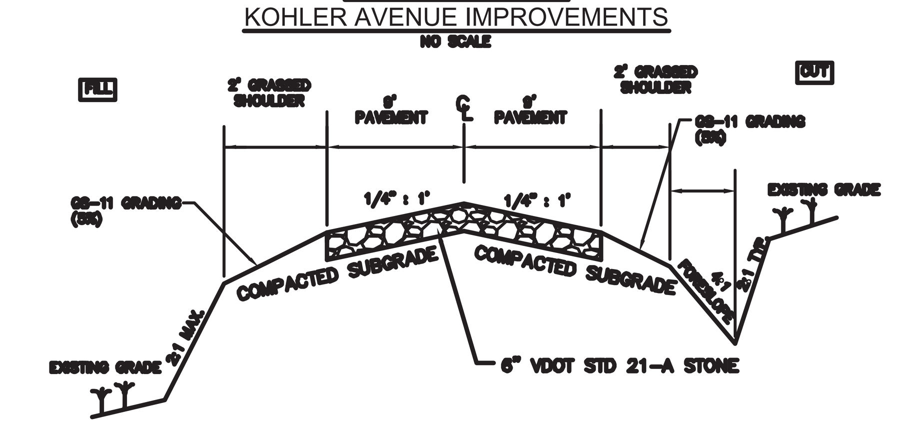
EROSION CONTROL LEGEND

NO.*	TITLE	KEY	SYMBOL
3.02	CONSTRUCTION ENTRANCE	CE	
3.05	SILT FENCE	SF	
3.13	SEDIMENT TRAP	ST	
3.14	SEDIMENT BASIN	SB	SB
3.20	CHECK DAM	CD	
3.09	DIVERSION DIKE	DD	
3.07	INLET PROTECTION	IP	
3.18	OUTLET PROTECTION	OP	

* NUMBER REFERS TO THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK SYMBOLS

TYPICAL SECTION
KOHLER AVENUE IMPROVEMENTS

NO SCALE



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No. 7101
PROFESSIONAL ENGINEER

AUSTINVILLE WATER TREATMENT PLANT
(DIVISION I)
AUSTINVILLE VIRGINIA

DRAWN BY: A. SQUIRES
REVIEW BY: C.E. PEED
DATE: 20 OCTOBER 2006
REVISION:
DWG DESCRIPTION: CIVIL GENERAL NOTES, CIVIL ABBREVIATIONS, AND LEGENDS

C00

JN: 04 - 02

RECORD DRAWINGS

NOTES:

1. THE INTAKE STRUCTURE IS CURRENTLY BEING USED BY WYTHE COUNTY AS A RAW WATER SUPPLY FOR THE EXISTING AUSTINVILLE WATER TREATMENT PLANT.

2. THE INTAKE SCREEN AND EXISTING RAW WATER PUMP SHALL REMAIN OPERABLE AT ALL TIMES. THE CONTRACTOR SHALL MAINTAIN THE EXISTING ELECTRICAL SERVICE TO THE PUMPS AND ELECTRICAL EQUIPMENT.

3. THE EXISTING 8" RAW WATERLINE WILL BE DISTURBED AS PART OF THE BUILDING IMPROVEMENTS. THE CONTRACTOR SHALL PROVIDE A TEMPORARY RAW WATERLINE DURING CONSTRUCTION IN ORDER TO KEEP THE EXISTING AUSTINVILLE WATER TREATMENT PLANT OPERABLE.

4. THE 24" SPIRAL WELD PIPE IS NO LONGER IN SERVICE.

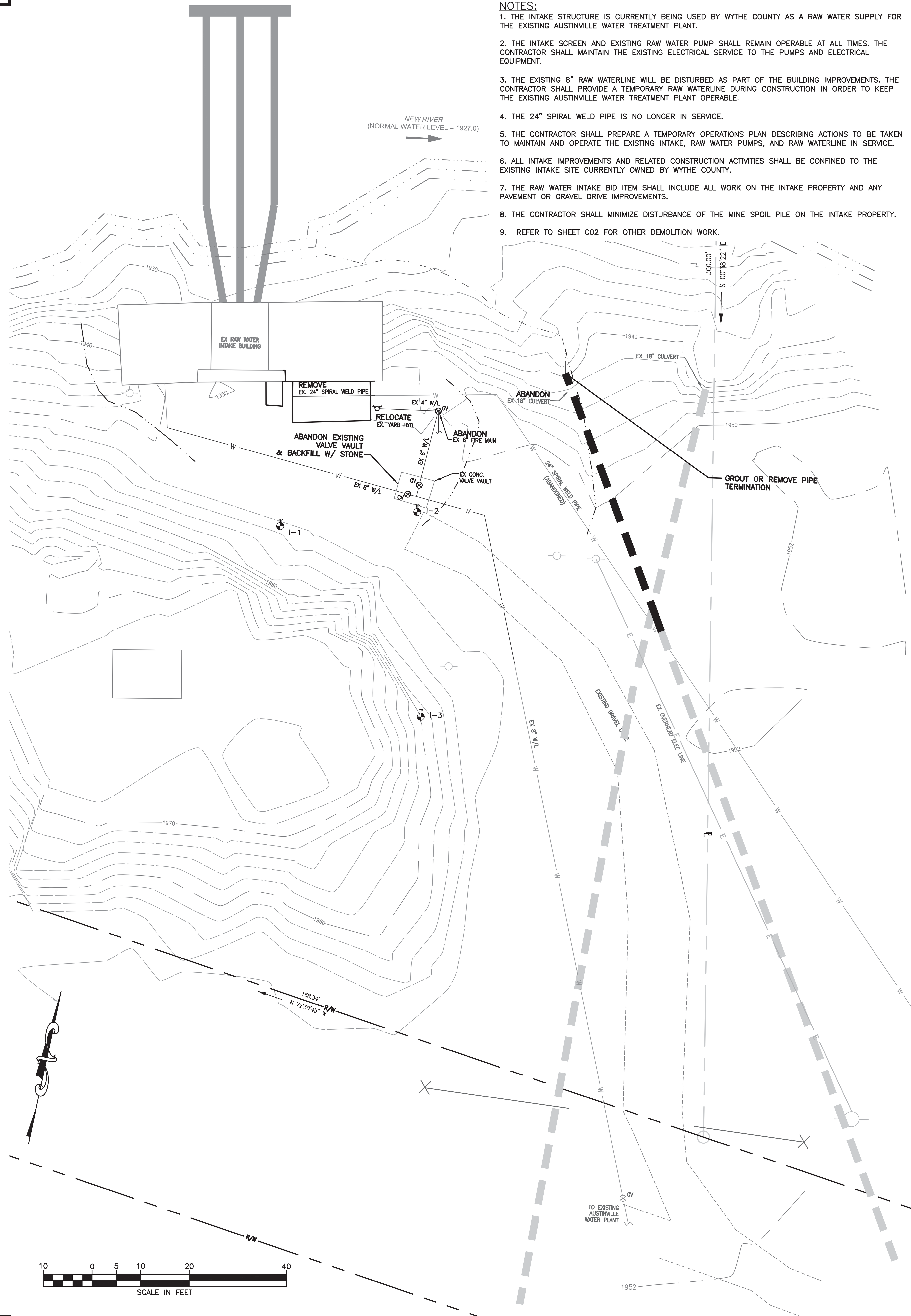
5. THE CONTRACTOR SHALL PREPARE A TEMPORARY OPERATIONS PLAN DESCRIBING ACTIONS TO BE TAKEN TO MAINTAIN AND OPERATE THE EXISTING INTAKE, RAW WATER PUMPS, AND RAW WATERLINE IN SERVICE.

6. ALL INTAKE IMPROVEMENTS AND RELATED CONSTRUCTION ACTIVITIES SHALL BE CONFINED TO THE EXISTING INTAKE SITE CURRENTLY OWNED BY WYTHE COUNTY.

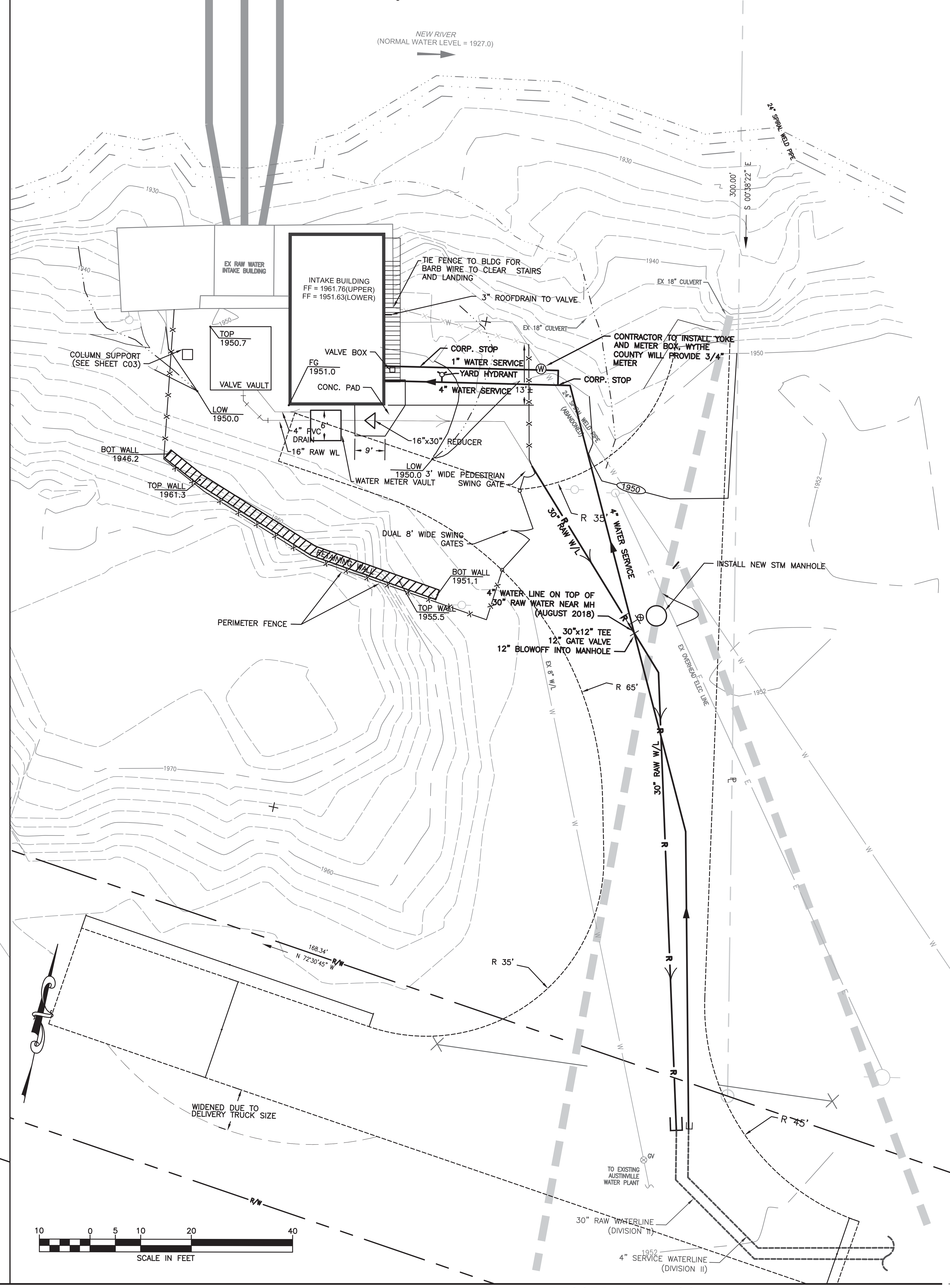
7. THE RAW WATER INTAKE BID ITEM SHALL INCLUDE ALL WORK ON THE INTAKE PROPERTY AND ANY PAVEMENT OR GRAVEL DRIVE IMPROVEMENTS.

8. THE CONTRACTOR SHALL MINIMIZE DISTURBANCE OF THE MINE SPOIL PILE ON THE INTAKE PROPERTY.

9. REFER TO SHEET C02 FOR OTHER DEMOLITION WORK.



The existing storm sewer invert elevations are: Western storm pipe invert out= 1938.5', 18" terra–cotta pipe. Eastern storm pipe invert out= 1940.6', 18" terra–cotta pipe. Invert in location and elevations were unable to be determined in the field. Contractor is responsible for installing VDOT and MH–2 storm manhole with frame and cover as shown on the Contract Documents. Diameter of MH–2 will be determined by the size of the pipes and the angle at which they intersect. Contractor will excavate intersection prior to ordering manhole to determine actual angles and elevations.



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AUSTINVILLE WATER TREATMENT PLANT
(DIVISION I)

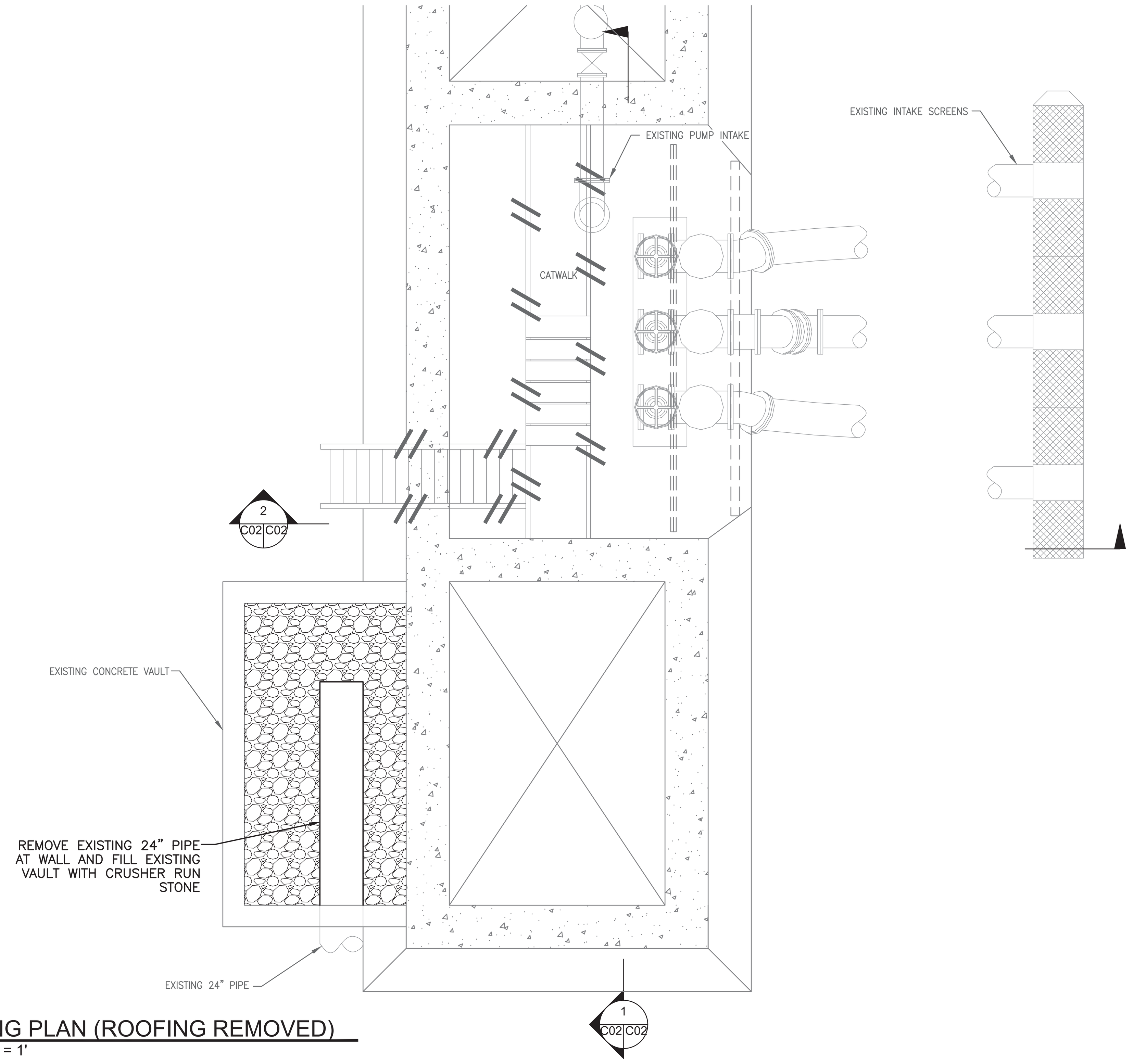
AUSTINVILLE VIRGINIA

DRAWN BY: A. SQUIRES
REVIEW BY: C.E. PEED
DATE: 20 OCTOBER 2006
REVISION:
DWG DESCRIPTION: RAW WATER INTAKE EXISTING CONDITIONS & SITE PLAN

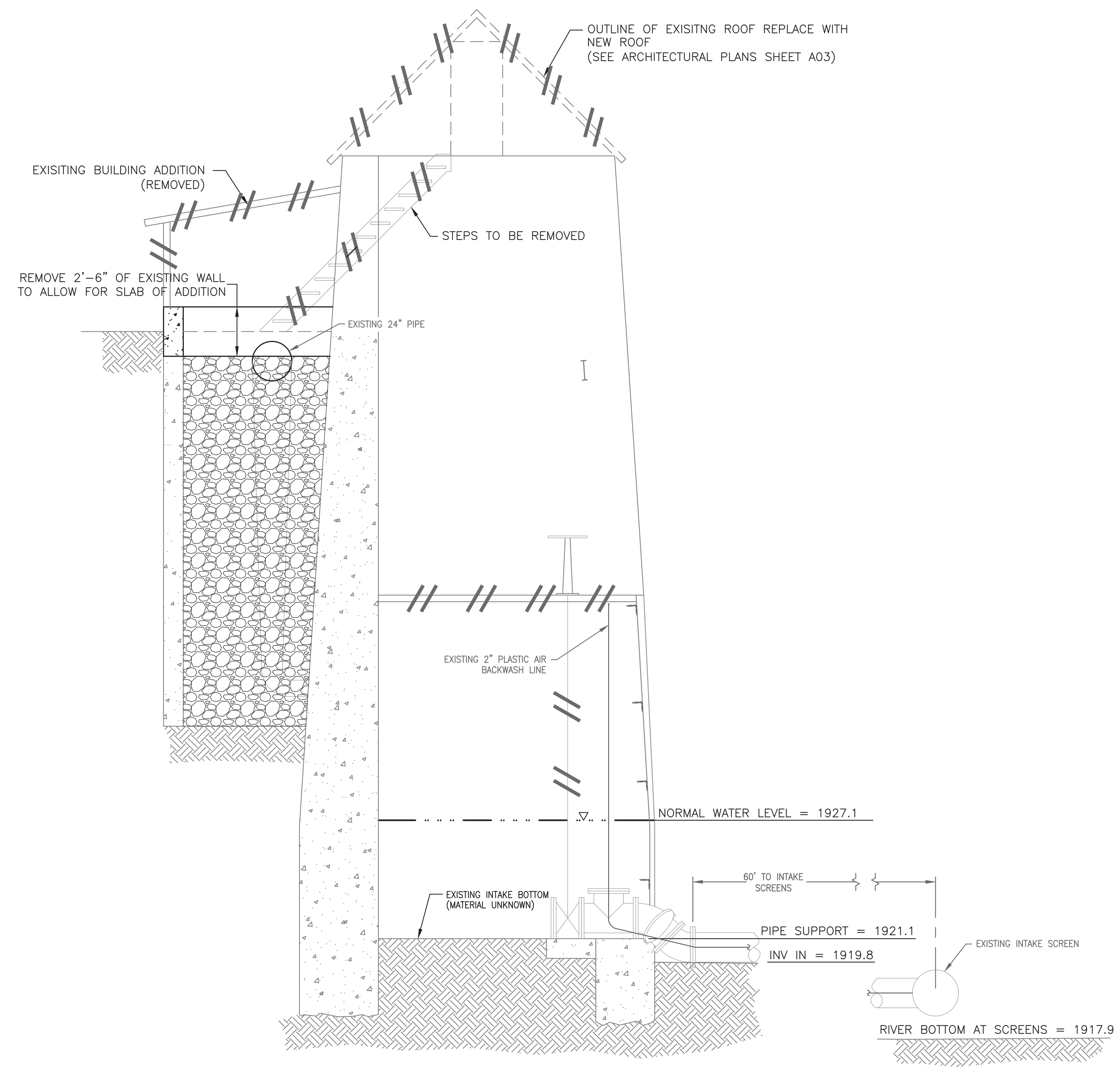
C01

JN: 04 - 02

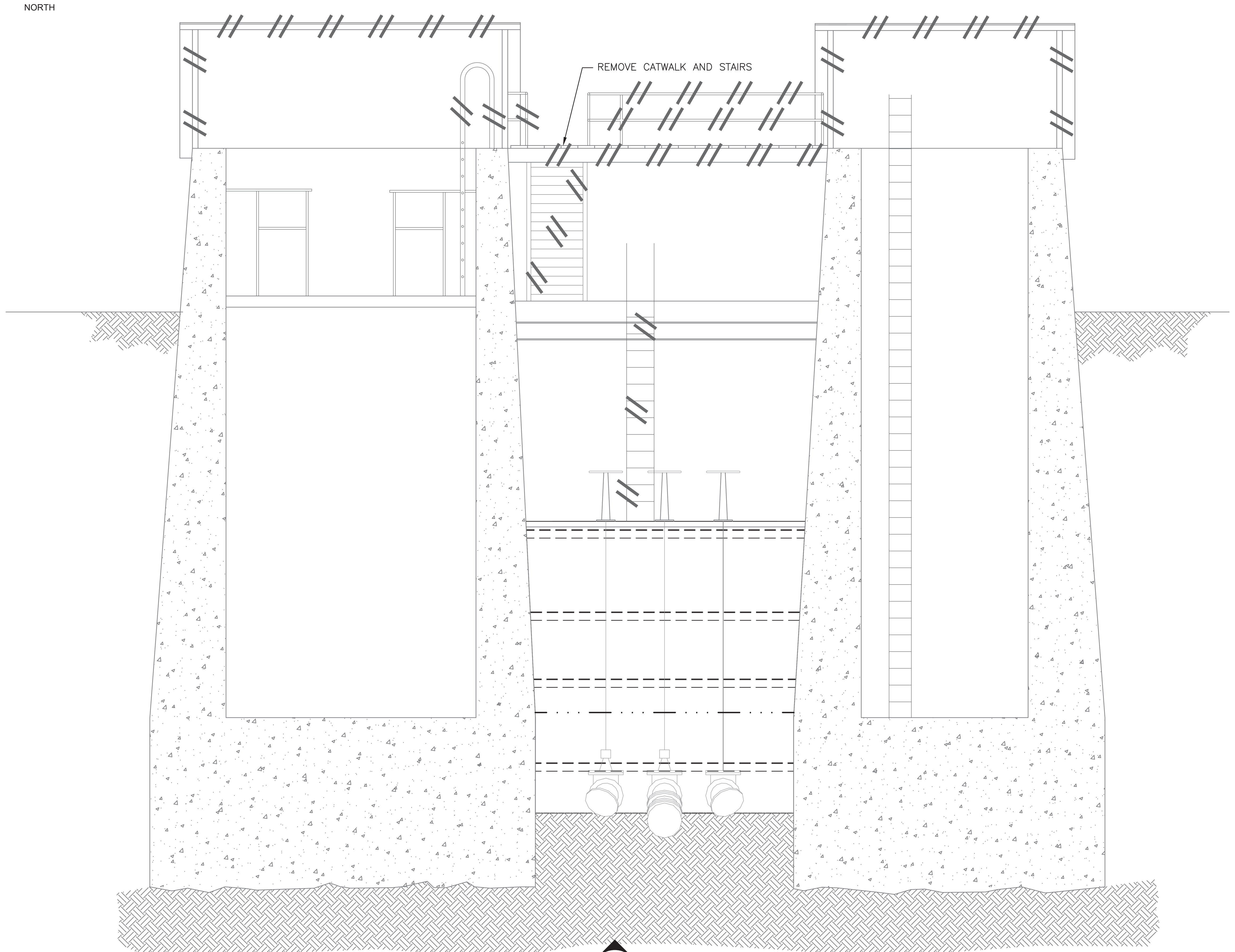
RECORD DRAWINGS



BUILDING PLAN (ROOFING REMOVED)
SCALE: 1/4" = 1'



2 C02 C02 SECTION
SCALE: 1/4" = 1'



1 C02 C02 SECTION
SCALE: 1/4" = 1'

NOTES:

1. CONTRACTOR SHALL REMOVE FROM THE EXISTING INTAKE STRUCTURE ALL EQUIPMENT, STRUCTURAL MEMBERS, AND OTHER MATERIALS THAT ARE SHOWN ON THE DRAWINGS OR CONFLICT WITH THE PROPOSED IMPROVEMENTS. THE CONTRACTOR IS RESPONSIBLE FOR THE DISPOSAL OF THESE MATERIALS OFF SITE.

2. PART OF THE EXISTING CONCRETE VAULT SHALL BE REMOVED TO ALLOW FLUSH PLACEMENT OF ADDITION SLAB. THE ABANDONED 24" SPIRAL WELD WATERLINE SHALL REMOVED IN THE VAULT. THE VAULT SHALL BE FILLED WITH VDOT STD #56 STONE.

3. NO CONSTRUCTION ACTIVITIES SHALL BE PERMITTED IN THE RIVER BELOW THE ORDINARY HIGH WATERLINE.

4. SEE CONSTRUCTION DRAWINGS R01 AND R02 FOR EXISTING INTAKE.

5. 100 YR FLOOD ELEVATION IS 1957.0

RECORD DRAWINGS

RECORD DRAWINGS

RECORD DRAWINGS

RECORD DRAWINGS

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AUSTINVILLE WATER TREATMENT PLANT (DIVISION I)

AUSTINVILLE VIRGINIA

DRAWN BY:	A. SQUIRES
REVIEW BY:	C.E. PEED
DATE:	20 OCTOBER 2006
REVISION:	
DWG DESCRIPTION:	RAW WATER INTAKE DEMOLITION PLAN

C02

JN: 04 - 02

RECORD DRAWINGS

RECORD DRAWINGS

NOTES:

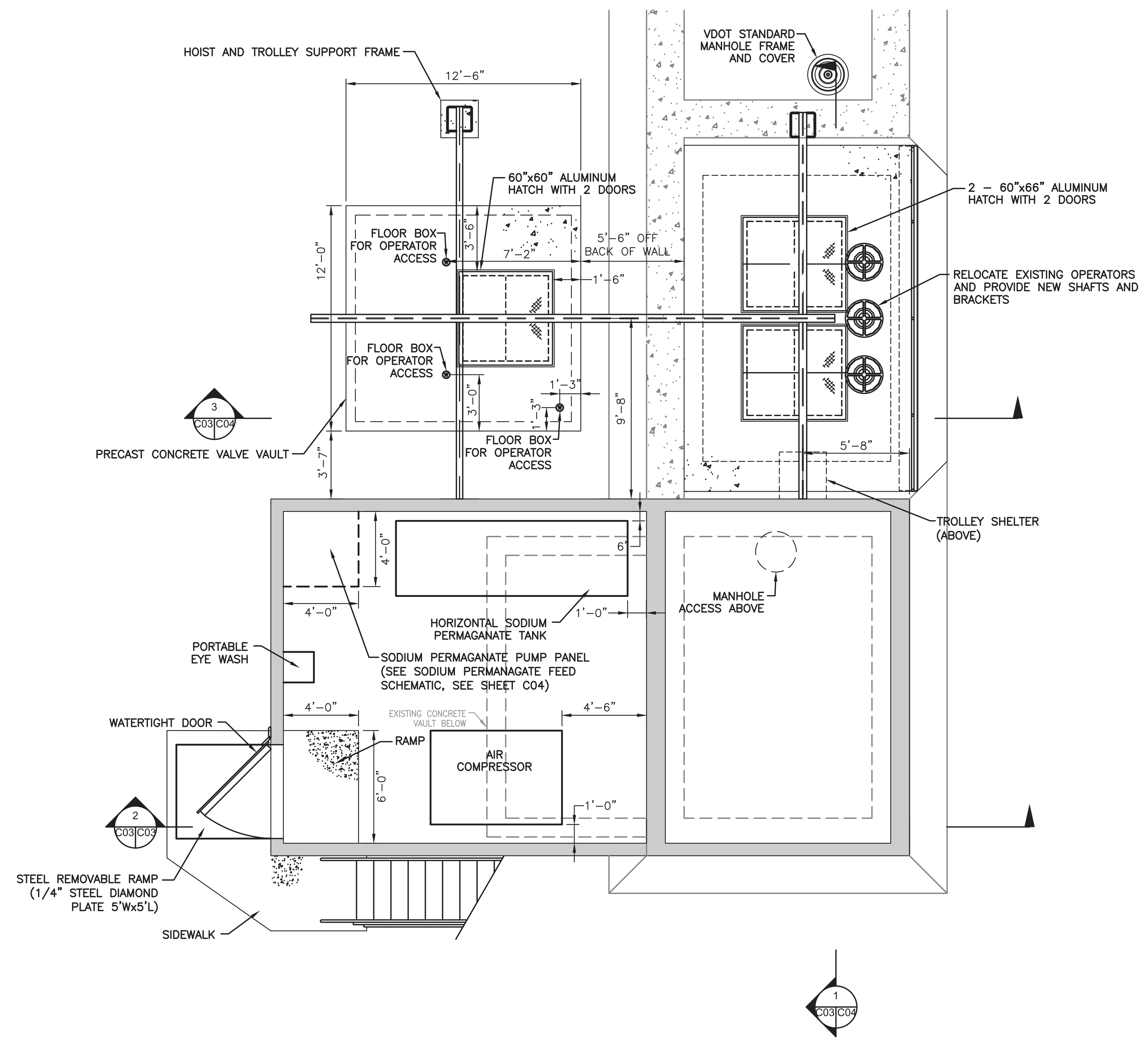
1. THE EXISTING INTAKE WAS CONSTRUCTED IN 1933. DRAWINGS R01 AND R02 PROVIDE INTAKE CONSTRUCTION DETAILS. THE INTAKE BOTTOM IS BELIEVED TO BE EITHER ROCK OR CONCRETE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR LOWERING THIS BOTTOM TO THE ELEVATIONS SHOWN ON THE DRAWINGS

2. NO CONSTRUCTION ACTIVITIES SHALL BE PERMITTED IN THE RIVER BELOW THE ORDINARY HIGH WATERLINE.

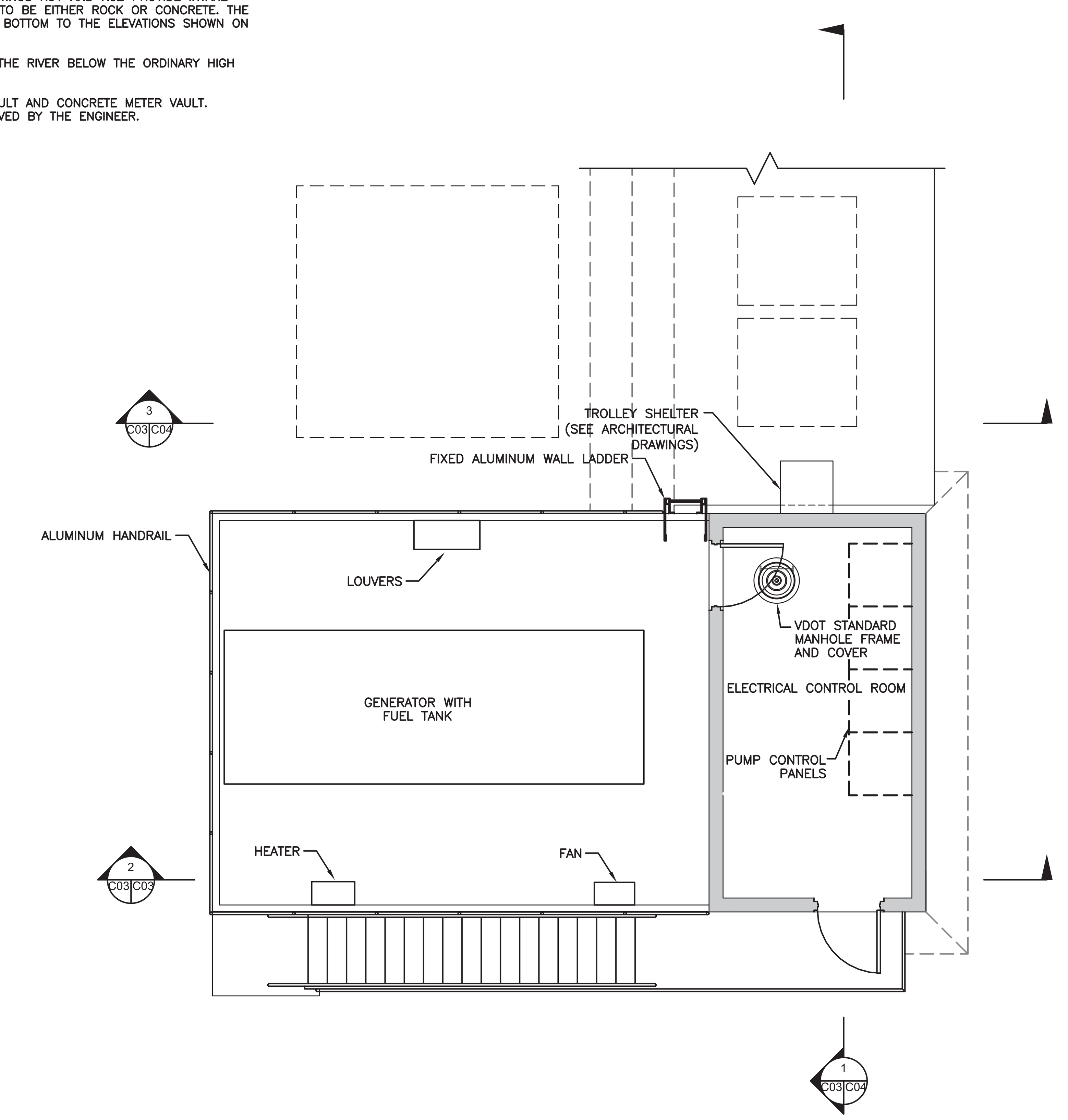
3. CONTRACTOR MAY CAST IN PLACE, CONCRETE VALVE VAULT AND CONCRETE METER VAULT. CONCRETE THICKNESS AND REINFORCING SHALL BE APPROVED BY THE ENGINEER.

4. INSULATE ALL PIPING IN VAULTS LESS THAN 4".

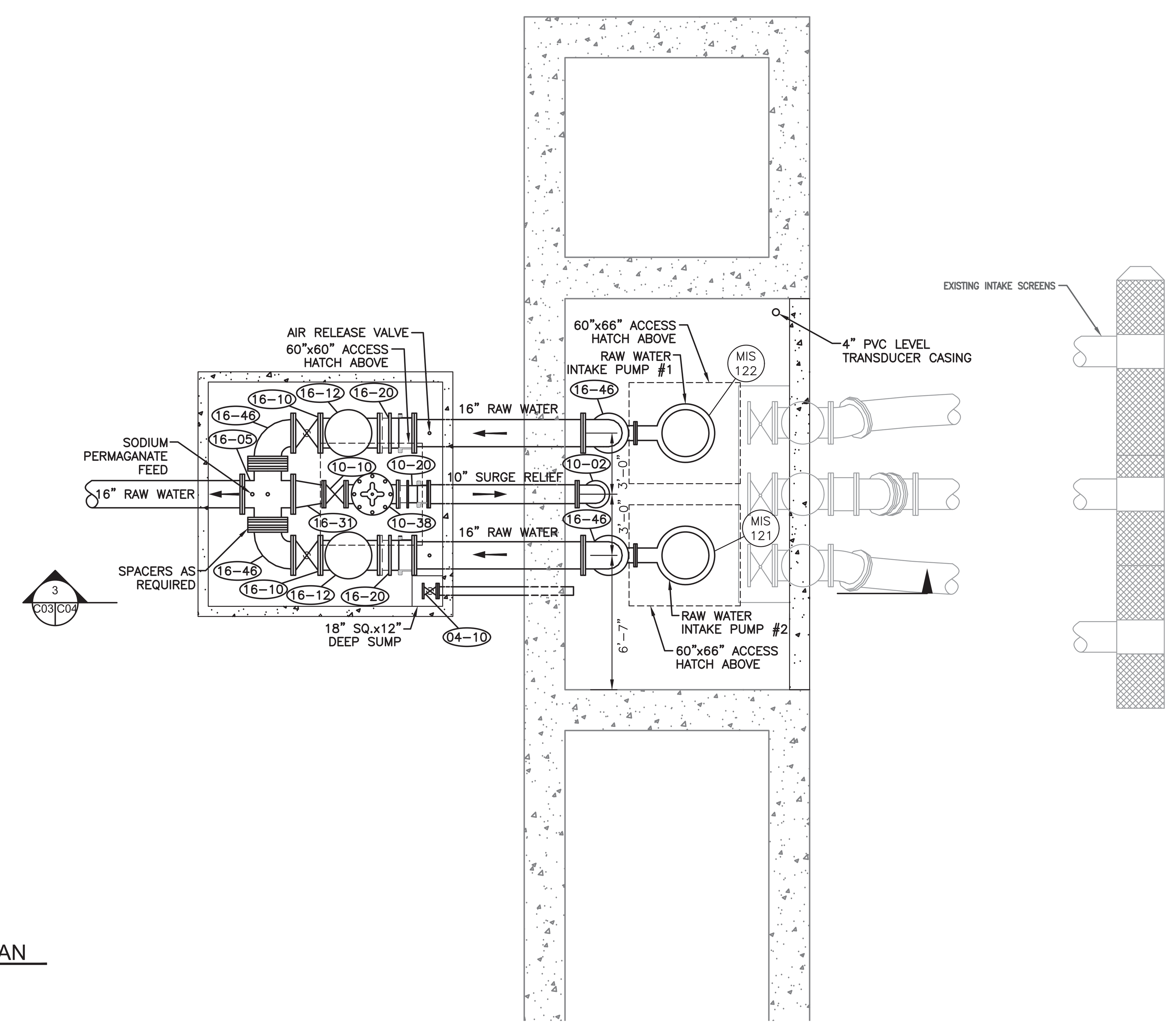
5. 100 YR FLOOD ELEVATION IS 1957.0



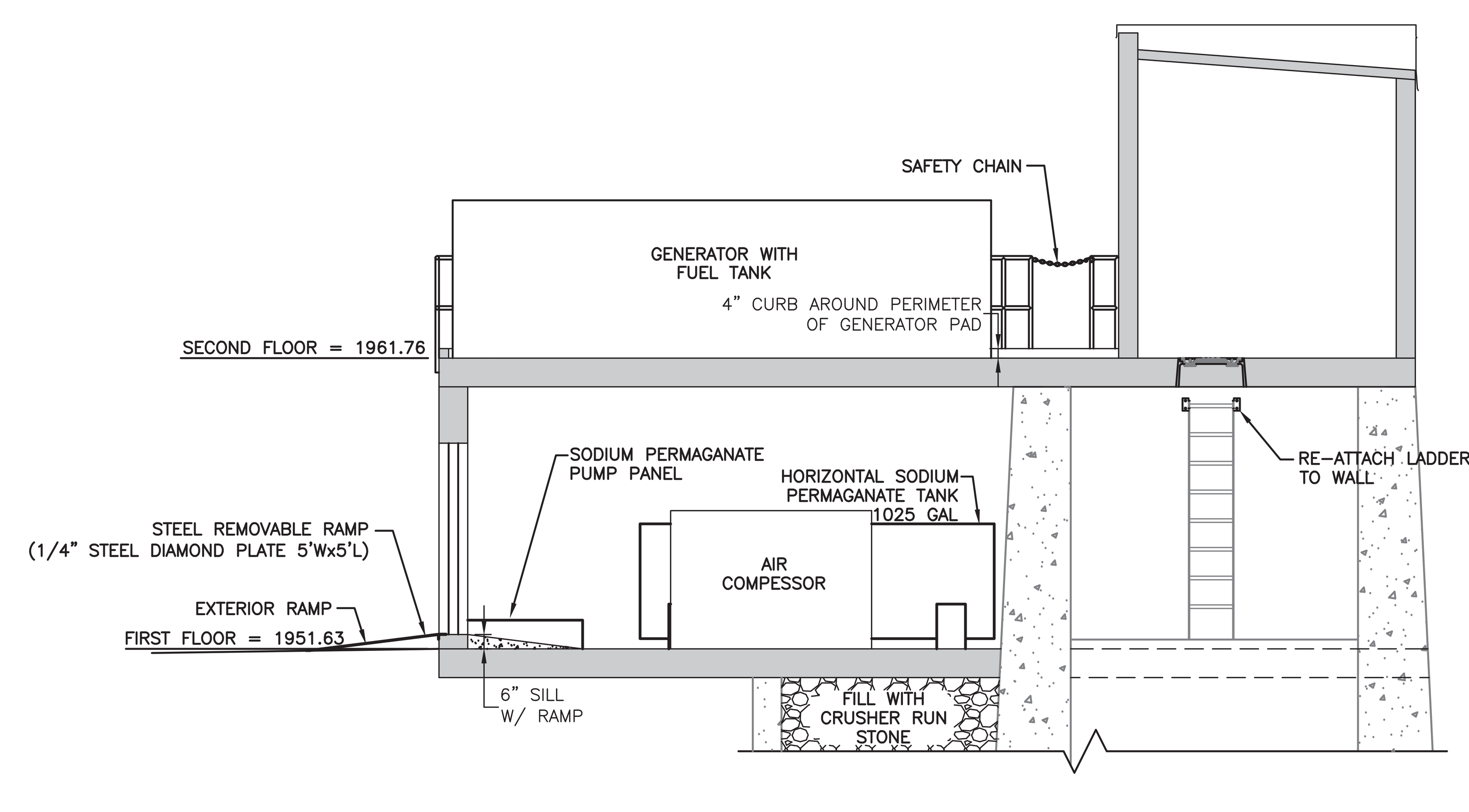
RAW WATER INTAKE FIRST FLOOR
SCALE: 1/4" = 1'
NORTH



RAW WATER INTAKE BUILDING SECOND FLOOR
SCALE: 1/4" = 1'
NORTH



PIPING PLAN
SCALE: 1/4" = 1'
NORTH



SECTION
SCALE: 1/4" = 1'

CROSS REFERENCE LEGEND		
SEE SHEETS		
ARCHITECTURAL	A02	A04
STRUCTURAL		S14
PLUMBING		P07
MECHANICAL		M06
ELECTRICAL		E06
FIRE PROTECTION		FP03

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AUSTINVILLE WATER TREATMENT PLANT (DIVISION I)

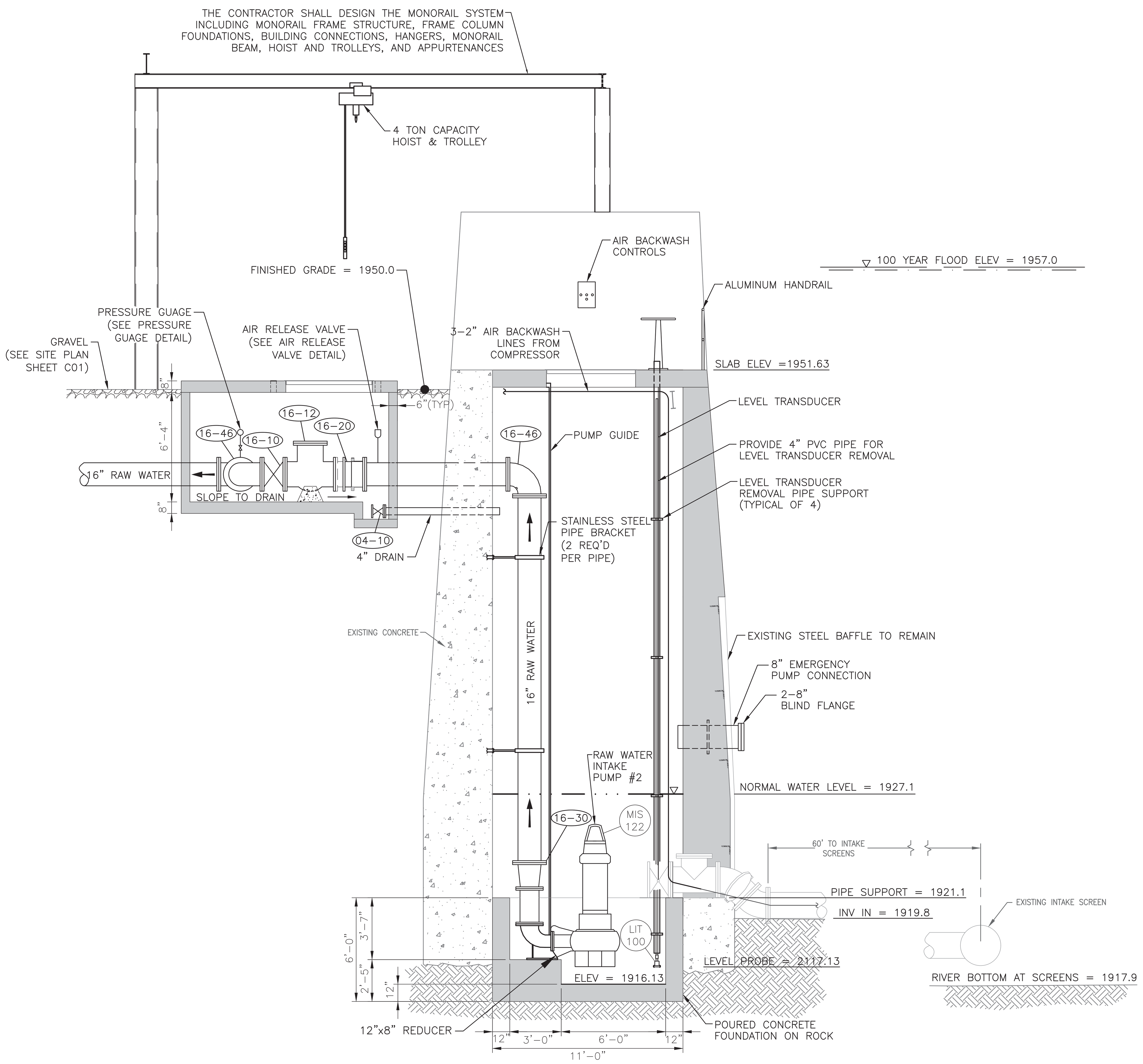
AUSTINVILLE VIRGINIA

DRAWN BY: A. SQUIRES
REVIEW BY: C.E. PEED
DATE: 20 OCTOBER 2006
REVISION:
DWG DESCRIPTION: RAW WATER INTAKE - PLAN

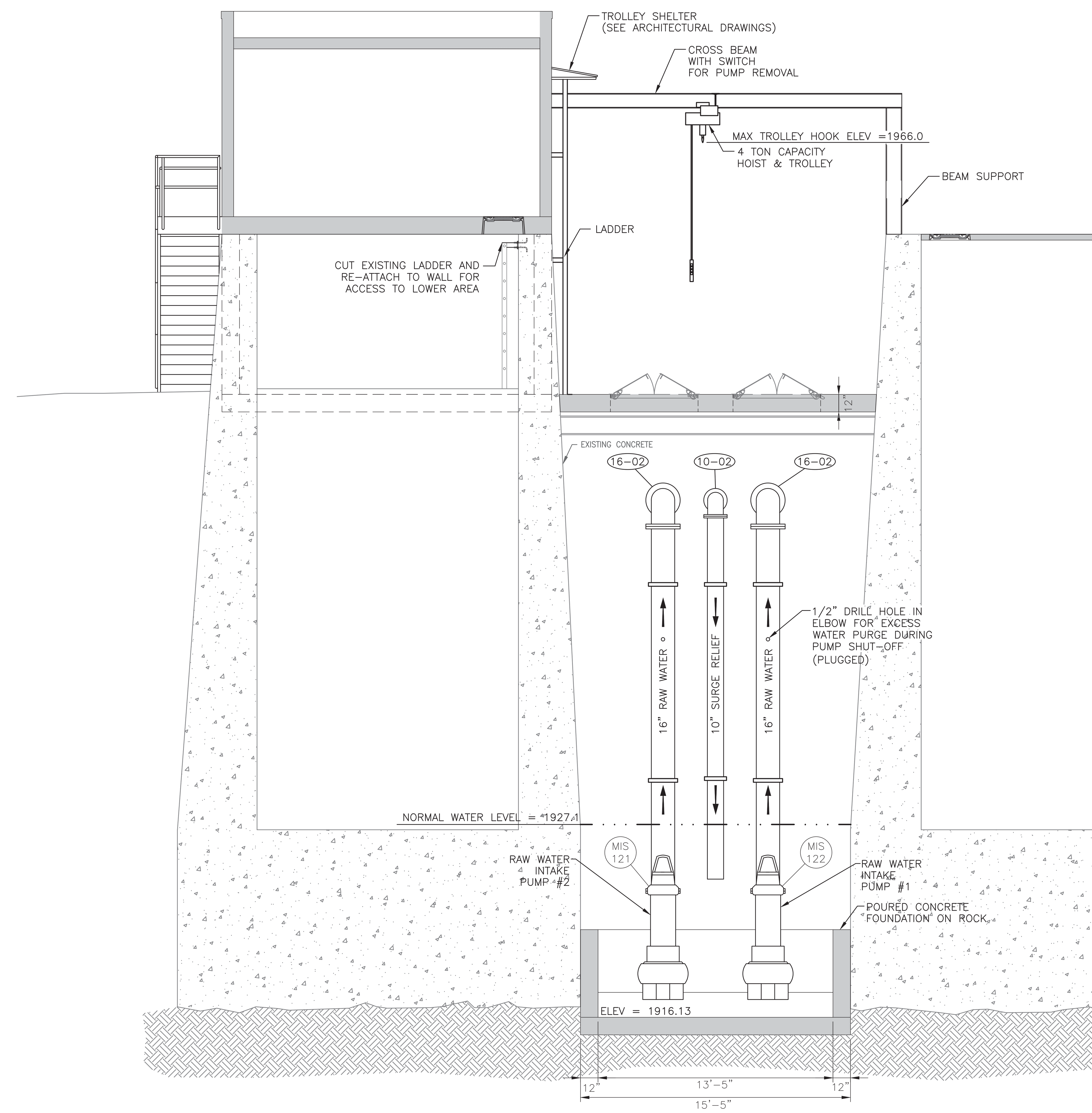
C03

JN: 04 - 02

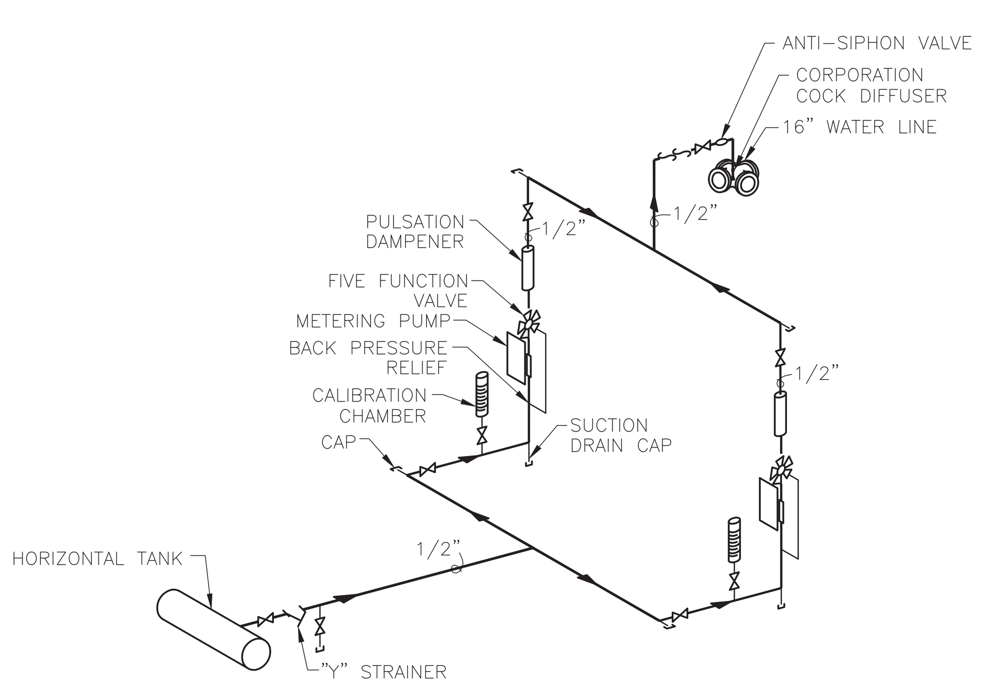
RECORD DRAWINGS



3 C03 C04 SECTION
SCALE: 1/4" = 1'

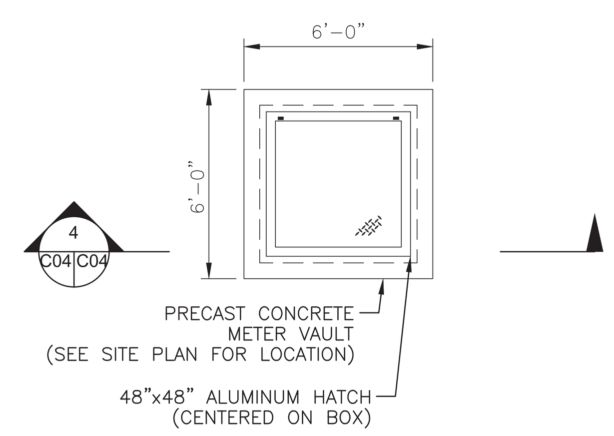


1 C03 C04 SECTION
SCALE: 1/4" = 1'

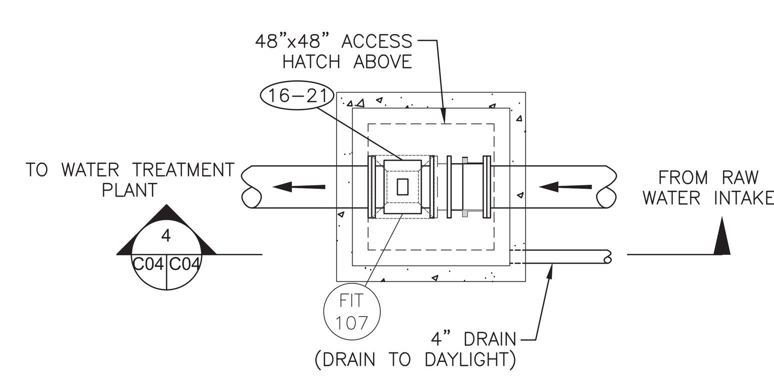


NOTE:
SCHEMATICS ARE DIAGRAMMATICAL. PLEASE REFER TO SHEET C03 FOR INSTRUMENTATION PLACEMENT AND ARCHITECTURAL DRAWINGS FOR EXACT BUILDING DIMENSION. CHEMICAL PIPING NOT SHOWN ON PLANS.

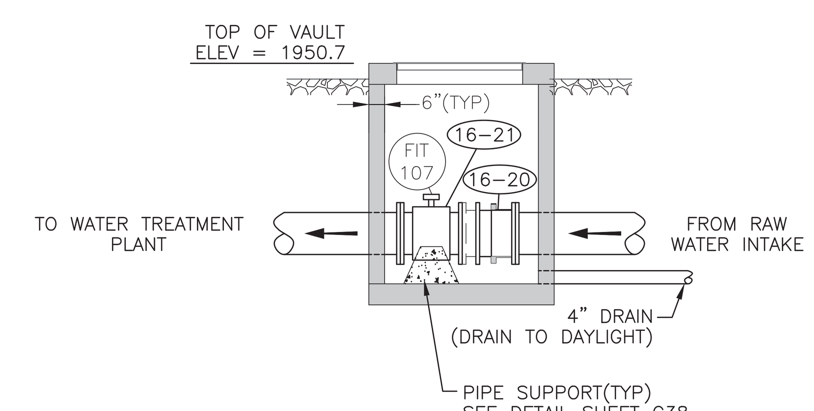
SODIUM PERMAGANATE FEED
NOT TO SCALE



WATER METER VAULT PLAN
SCALE: 1/4" = 1'



WATER METER VAULT PIPING PLAN
SCALE: 1/4" = 1'



4 C04 C04 SECTION
SCALE: 1/4" = 1'

NOTES:
1. THE CONTRACTOR SHALL RUN AIR LINES BETWEEN COMPRESSOR AND CONTROL PANEL AND BETWEEN CONTROL PANEL AND BETWEEN EACH EXISTING INTAKE SCREEN. AIR LINES SHALL BE SIZED BY SCREEN EQUIPMENT MANUFACTURER ANS ENCLOSED IN SCHEDULE 80 PVC CONDUIT. THE CONTRACTOR SHALL CONNECT AIR LINES FROM CONTROL PANEL TO EXISTING 2" AIR BACKWASH LINE.

2. NO CONSTRUCTION ACTIVITIES SHALL BE PERMITTED IN THE RIVER BELOW THE ORDINARY HIGH WATERLINE.

3. 100 YR FLOOD ELEVATION IS 1957.0

CROSS REFERENCE LEGEND

SEE SHEETS		
ARCHITECTURAL	A02	A04
STRUCTURAL		S14
PLUMBING		P07
MECHANICAL		M06
ELECTRICAL		E06
FIRE PROTECTION		FP03

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AUSTINVILLE WATER TREATMENT PLANT (DIVISION I)
AUSTINVILLE VIRGINIA

DRAWN BY: A. SQUIRES
REVIEW BY: C.E. PEED
DATE: 20 OCTOBER 2006
REVISION:
DWG DESCRIPTION: RAW WATER INTAKE -SECTIONS & DETAILS

C04

JN: 04 - 02

RECORD DRAWINGS
RECORD DRAWINGS
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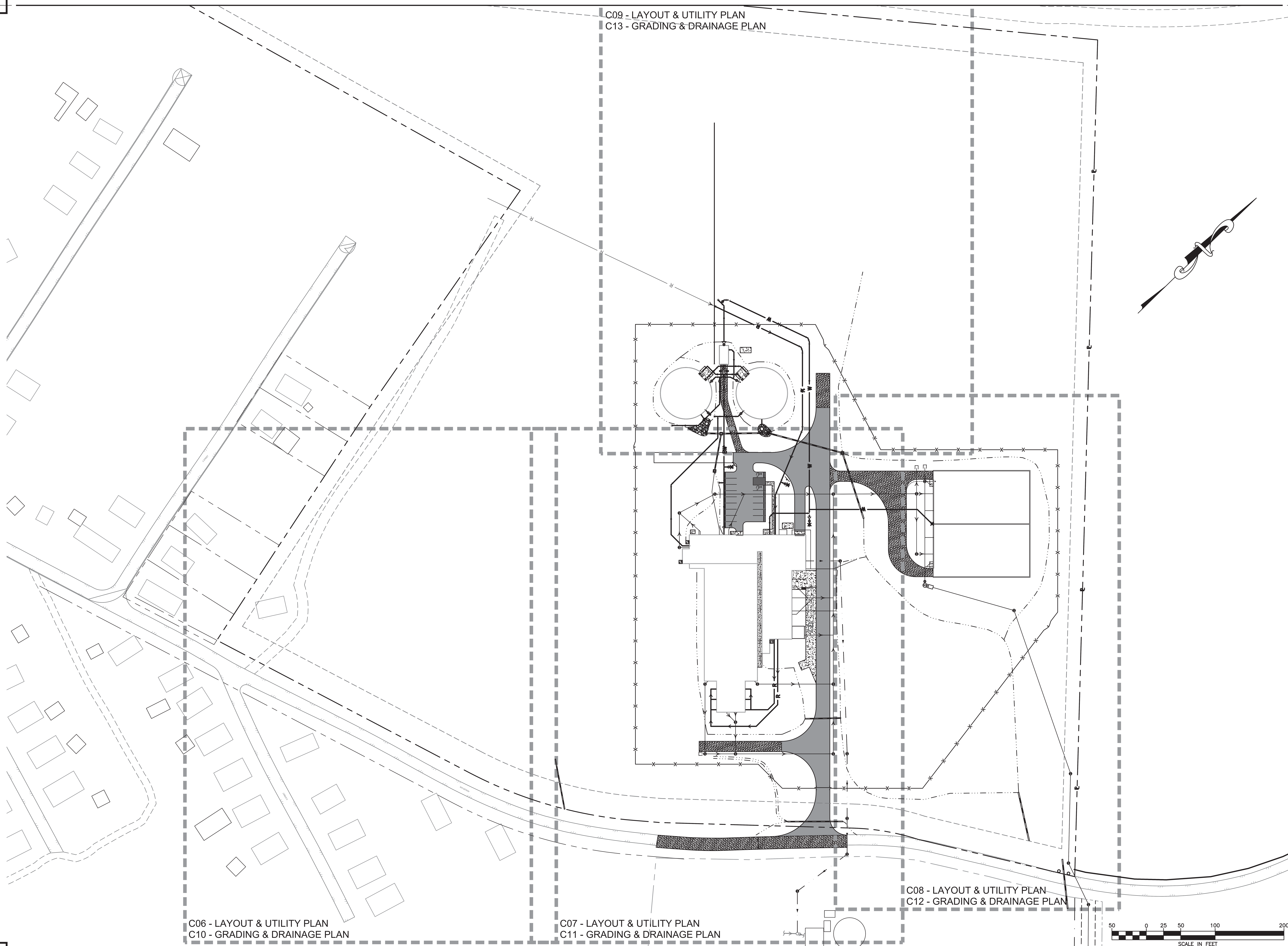
RECORD DRAWINGS



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AUSTINVILLE WATER TREATMENT PLANT
(DIVISION I)

AUSTINVILLE VIRGINIA

DRAWN BY: A. SQUIRES
REVIEW BY: C.E. PEED
DATE: 20 OCTOBER 2006
REVISION:

DWG DESCRIPTION: OVERALL TREATMENT PLANT SITE PLAN

C05

JN: 04 - 02

RECORD DRAWINGS

Reed & Bortz, L.L.C.
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AUSTINVILLE WATER TREATMENT PLANT

(DIVISION I)

AUSTINVILLE VIRGINIA

DRAWN BY:
A. SQUIRES

REVIEW BY:
C.E. PEED

DATE:
20 OCTOBER 2006

REVISION:

DWG DESCRIPTION:
WEST
SITE PLAN

C06

JN: 04 - 02

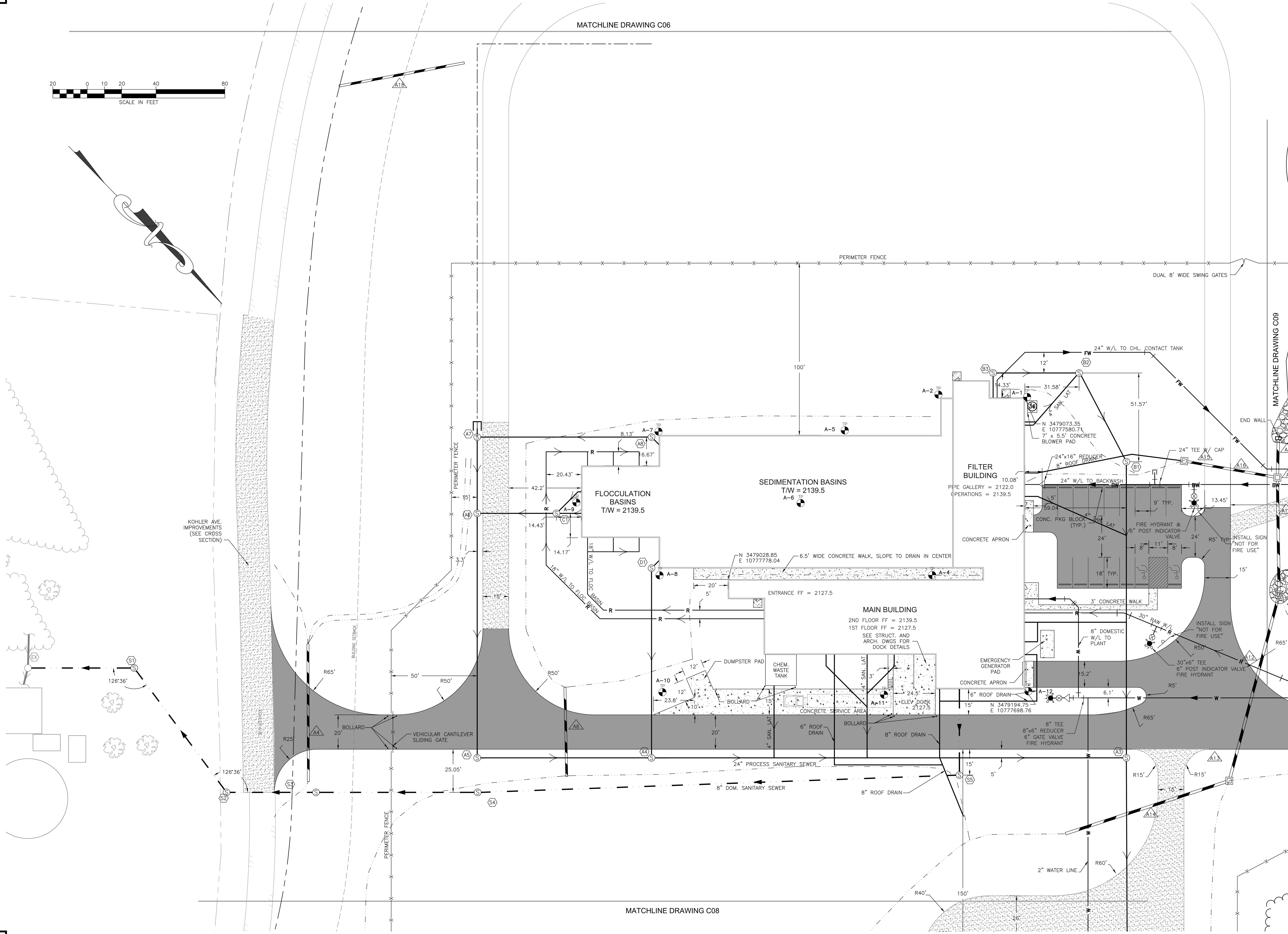
RECORD DRAWINGS

RECORD DRAWINGS

RECORD DRAWINGS

RECORD DRAWINGS

RECORD DRAWINGS



RECORD DRAWINGS

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SEAL

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AUSTINVILLE WATER TREATMENT PLANT (DIVISION I)

AUSTINVILLE VIRGINIA

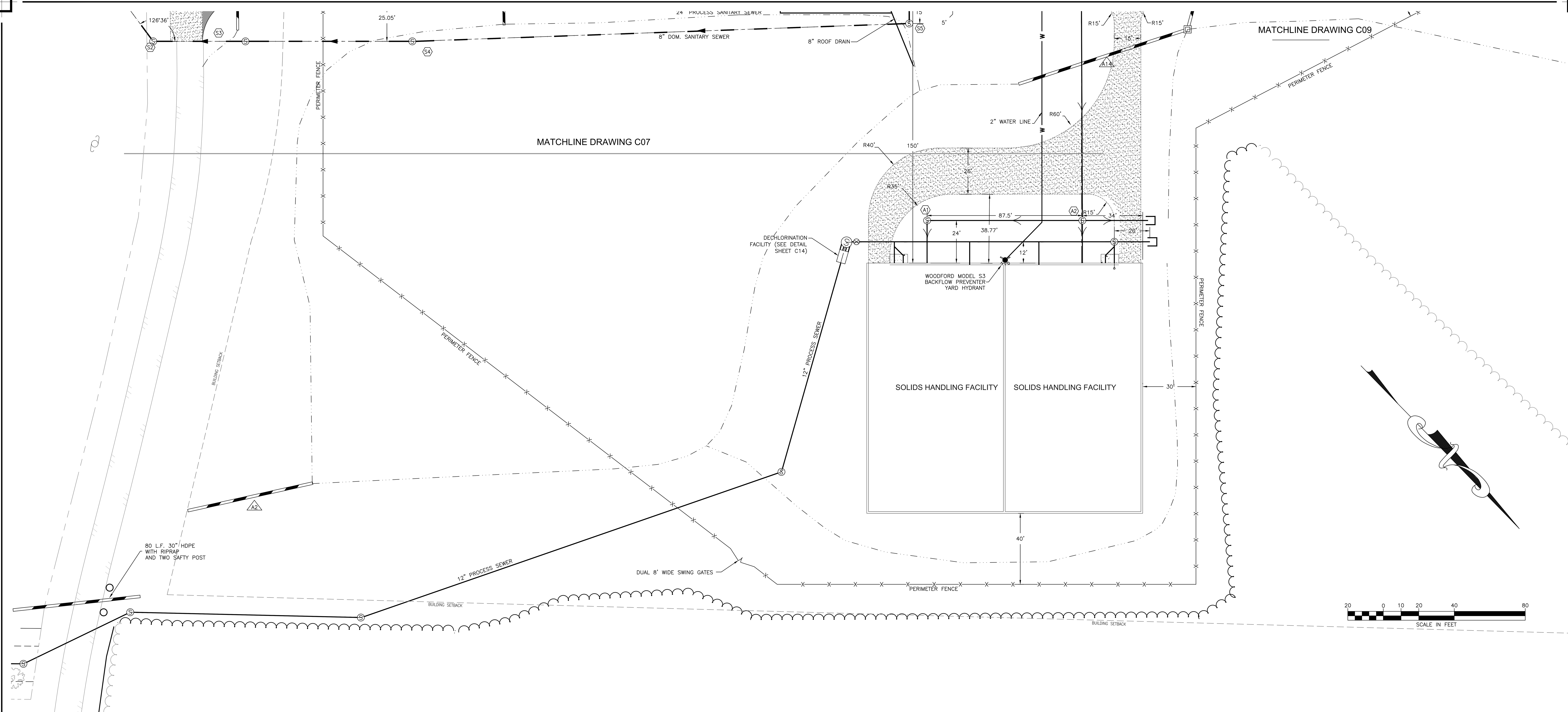
DRAWN BY: A. SQUIRES
REVIEW BY: C.E. PEED
DATE: 20 OCTOBER 2006
REVISION:

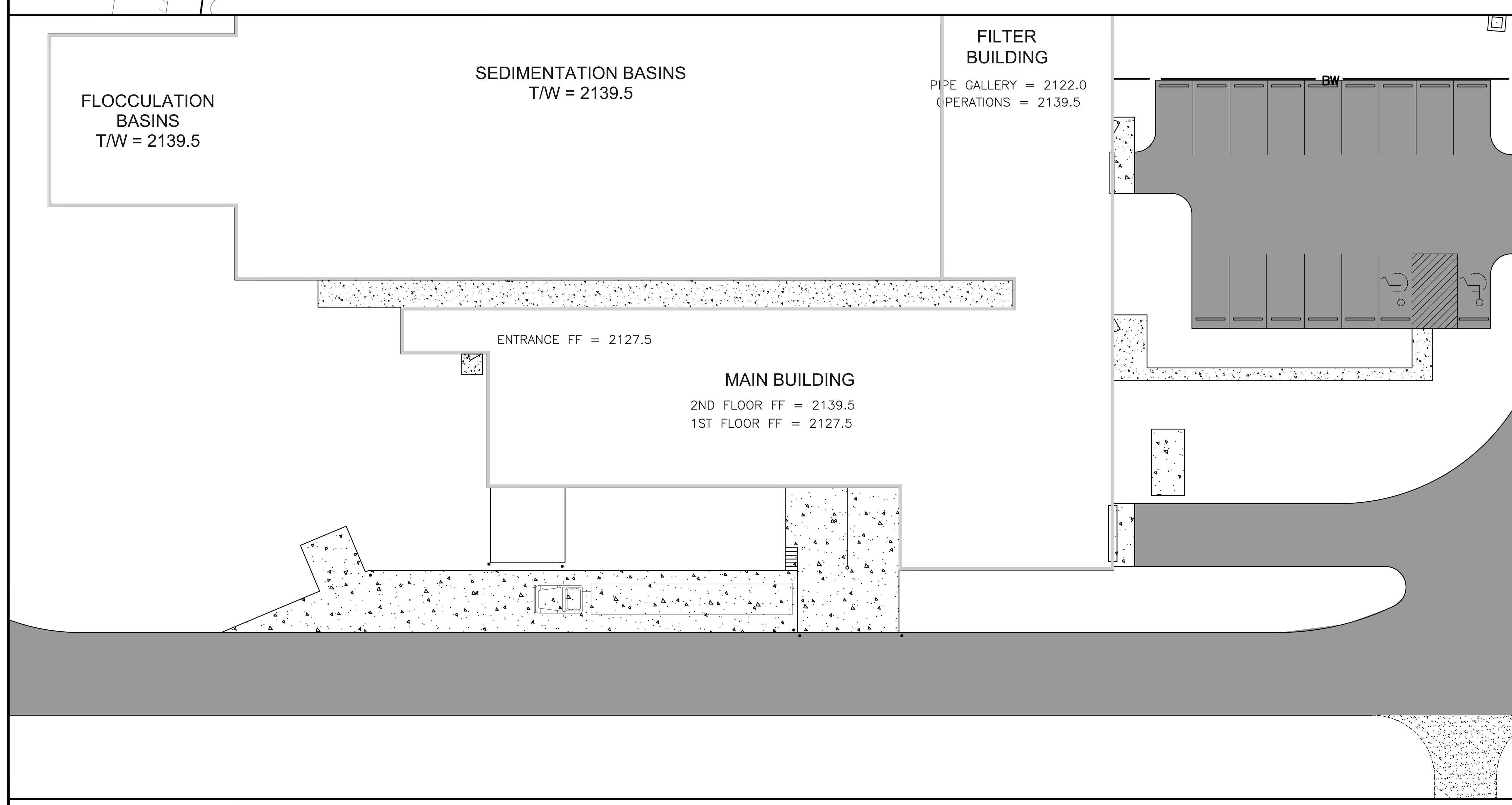
DWG DESCRIPTION: SOUTH CENTRAL SITE PLAN

C07

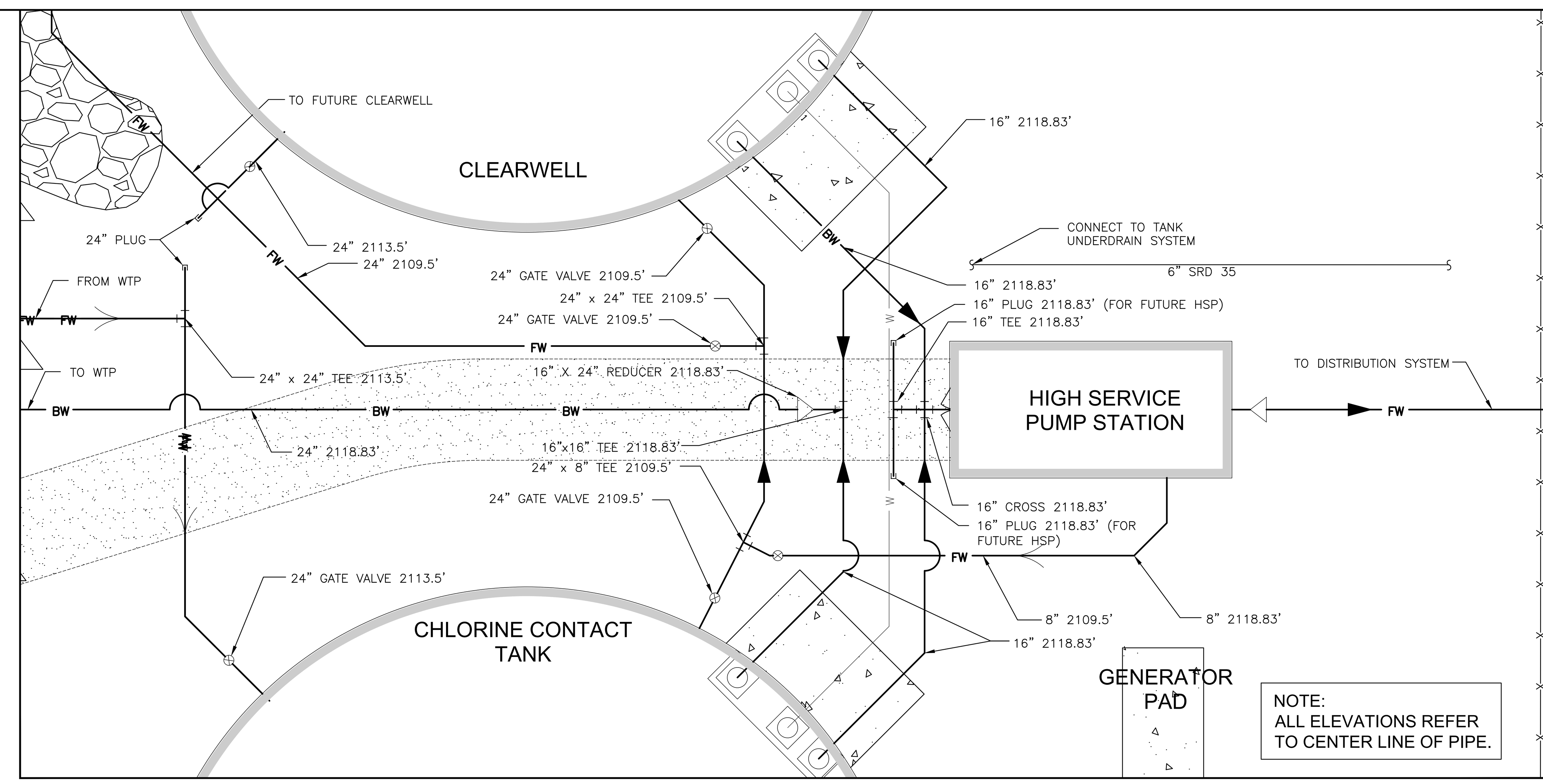
JN: 04 - 02

RECORD DRAWINGS





CONCRETE SCORING PATTERN
SCALE:
20'



HIGH SERVICE PUMP STATION AND TANK PIPING DETAIL
SCALE:
8'

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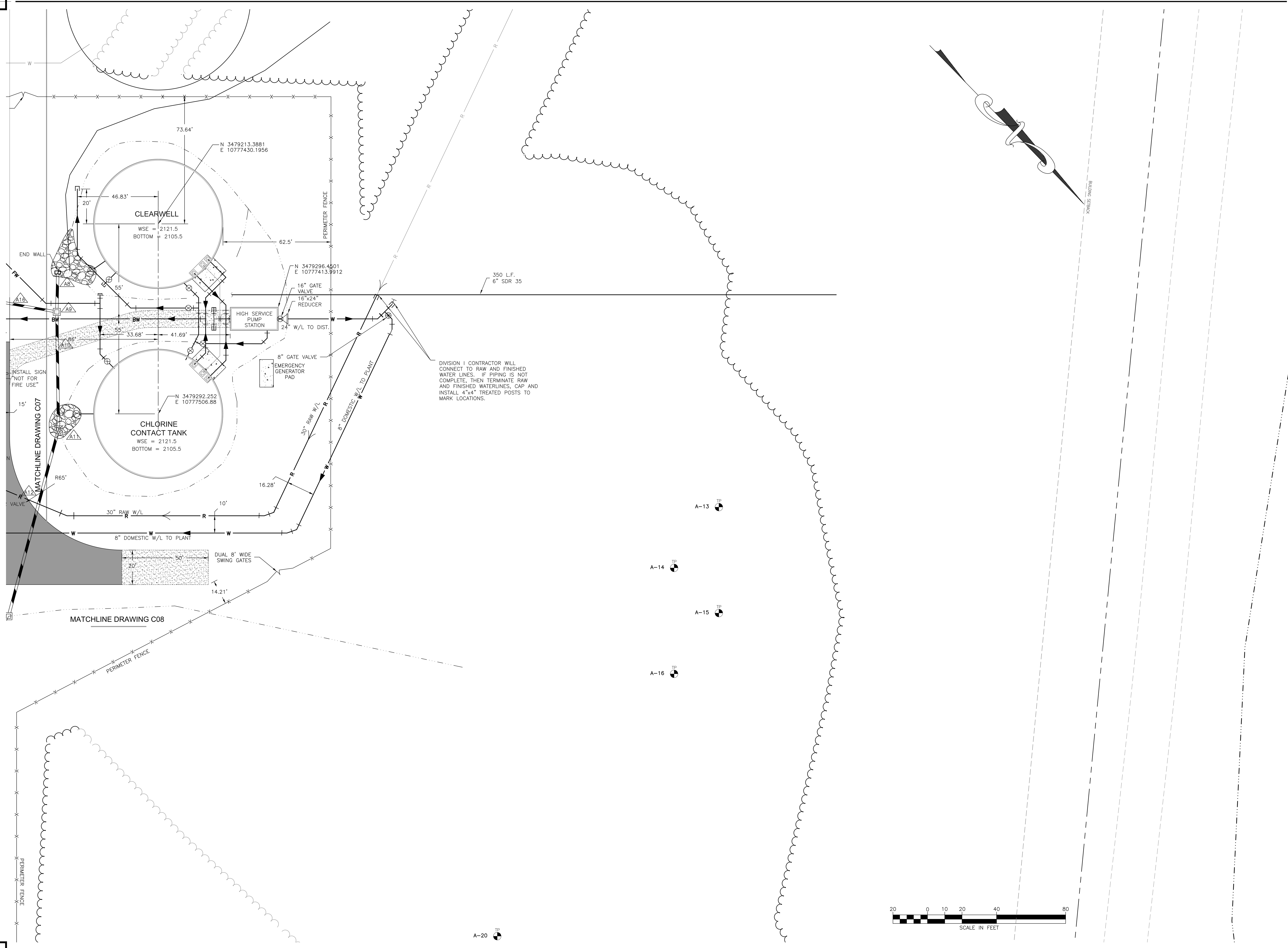
(DIVISION I)
AUSTINVILLE VIRGINIA

DRAWN BY: A. SQUIRES
REVIEW BY: C.E. PEED
DATE: 20 OCTOBER 2006
REVISION:
DWG DESCRIPTION: NORTH CENTRAL SITE PLAN

C08



Peed & Bortz, L.L.C.
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SEAL

COMMONWEALTH OF VIRGINIA
CLEMENT E. PEED
No. 7101
CERTIFIED PROFESSIONAL ENGINEER

AUSTINVILLE WATER TREATMENT PLANT (DIVISION I)

AUSTINVILLE VIRGINIA

DRAWN BY: A. SQUIRES
REVIEW BY: C.E. PEED
DATE: 20 OCTOBER 2006
REVISION:
DWG DESCRIPTION: SOUTH EAST SITE PLAN

C09

JN: 04 - 02

RECORD DRAWINGS
RECORD DRAWINGS
RECORD DRAWINGS
RECORD DRAWINGS
RECORD DRAWINGS
RECORD DRAWINGS

Reed & Bortz, L.L.C.
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AUSTINVILLE WATER TREATMENT PLANT (DIVISION I)

AUSTINVILLE VIRGINIA

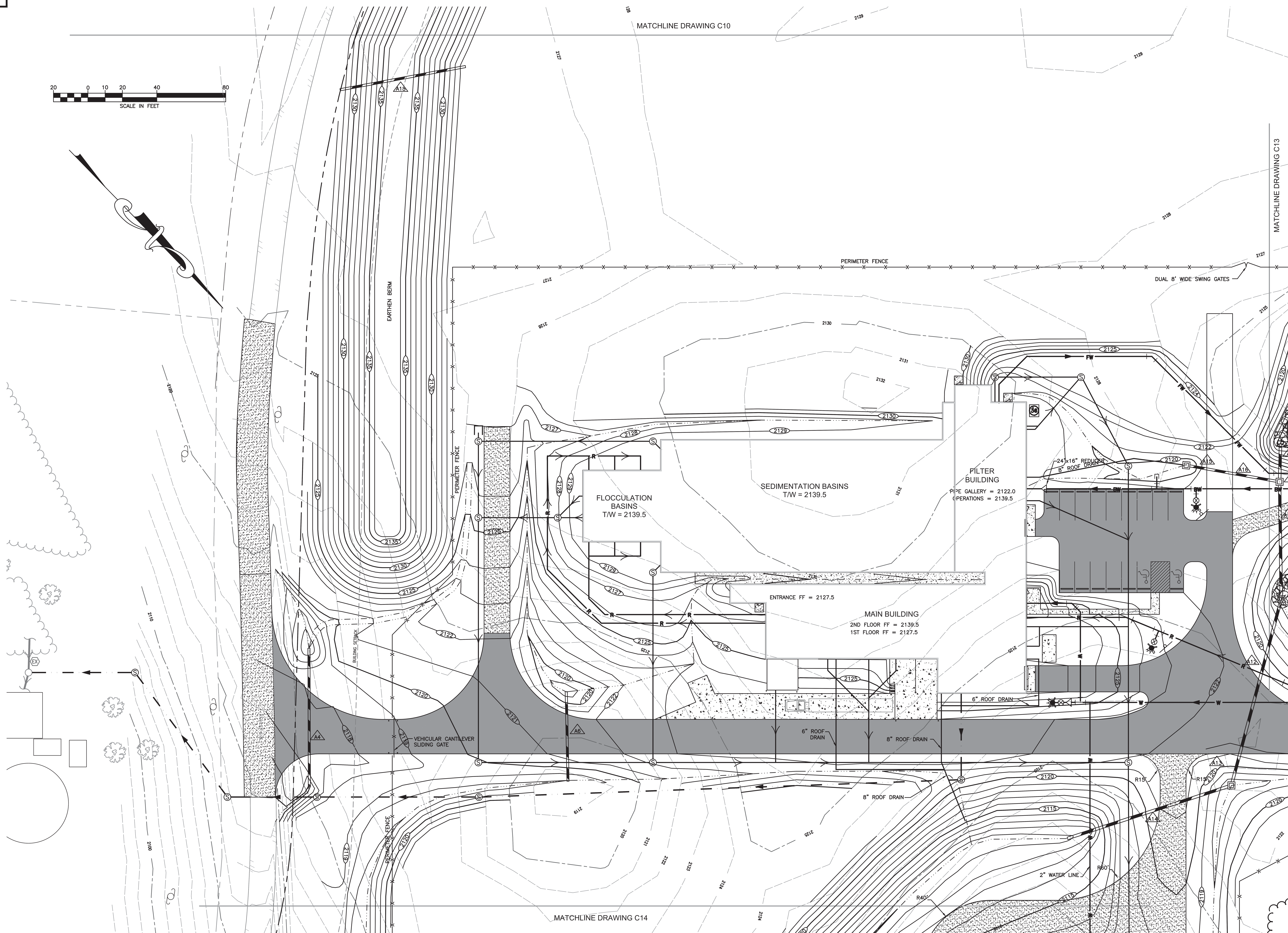
DRAWN BY: A. SQUIRES
REVIEW BY: C.E. PEED
DATE: 20 OCTOBER 2006
REVISION:

DWG DESCRIPTION:
WEST
SITE GRADING
AND DRAINAGE PLAN

C10

JN: 04 - 02

RECORD DRAWINGS
RECORD DRAWINGS
RECORD DRAWINGS
RECORD DRAWINGS



Reed & Bortz, L.L.C.
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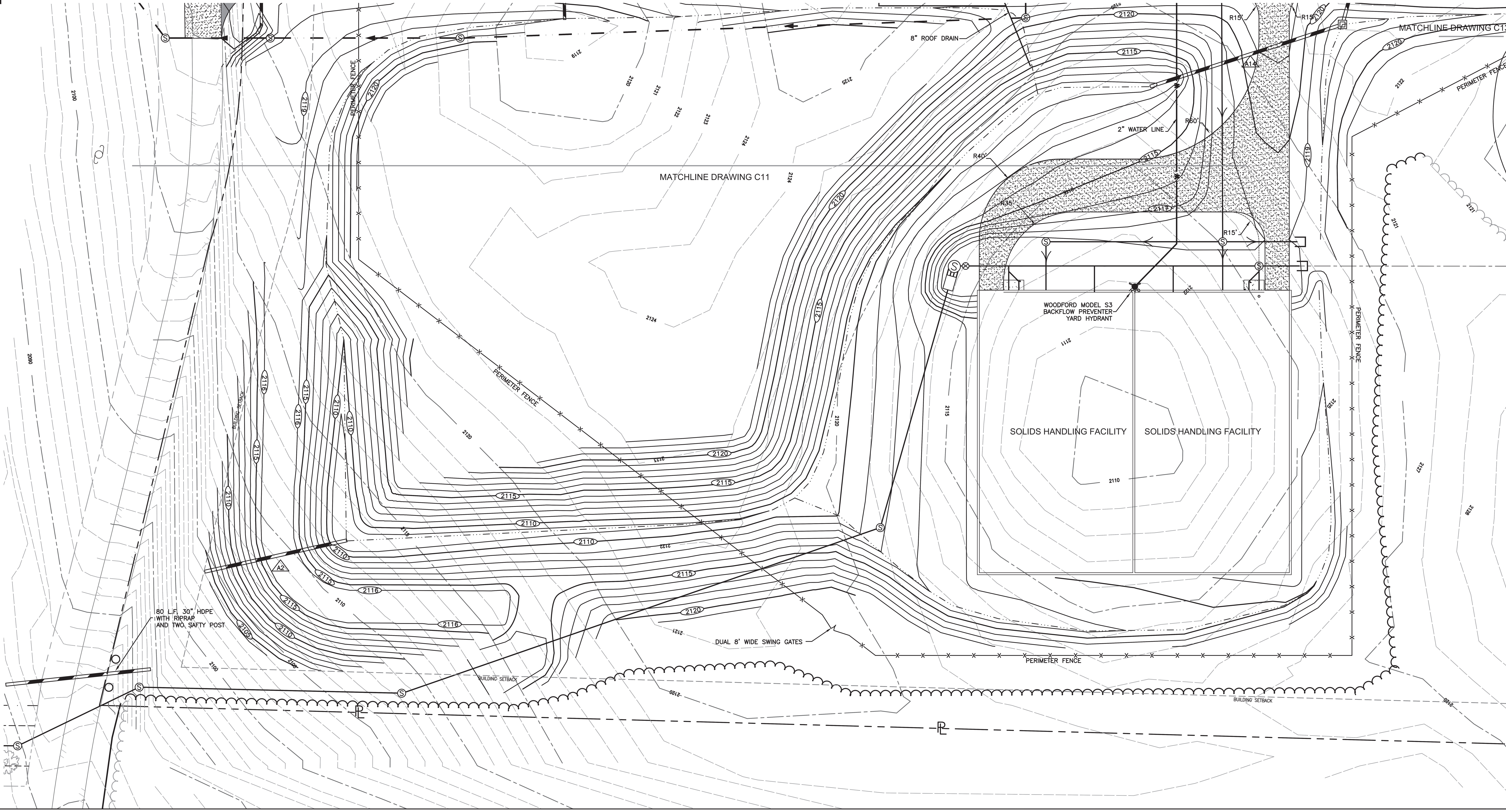
AUSTINVILLE WATER TREATMENT PLANT
(DIVISION I)
AUSTINVILLE VIRGINIA

DRAWN BY: A. SQUIRES
REVIEW BY: C.E. PEED
DATE: 20 OCTOBER 2006
REVISION:
DWG DESCRIPTION: SOUTH CENTRAL SITE GRADING AND DRAINAGE PLAN

C11



Reed & Bortz, L.L.C.
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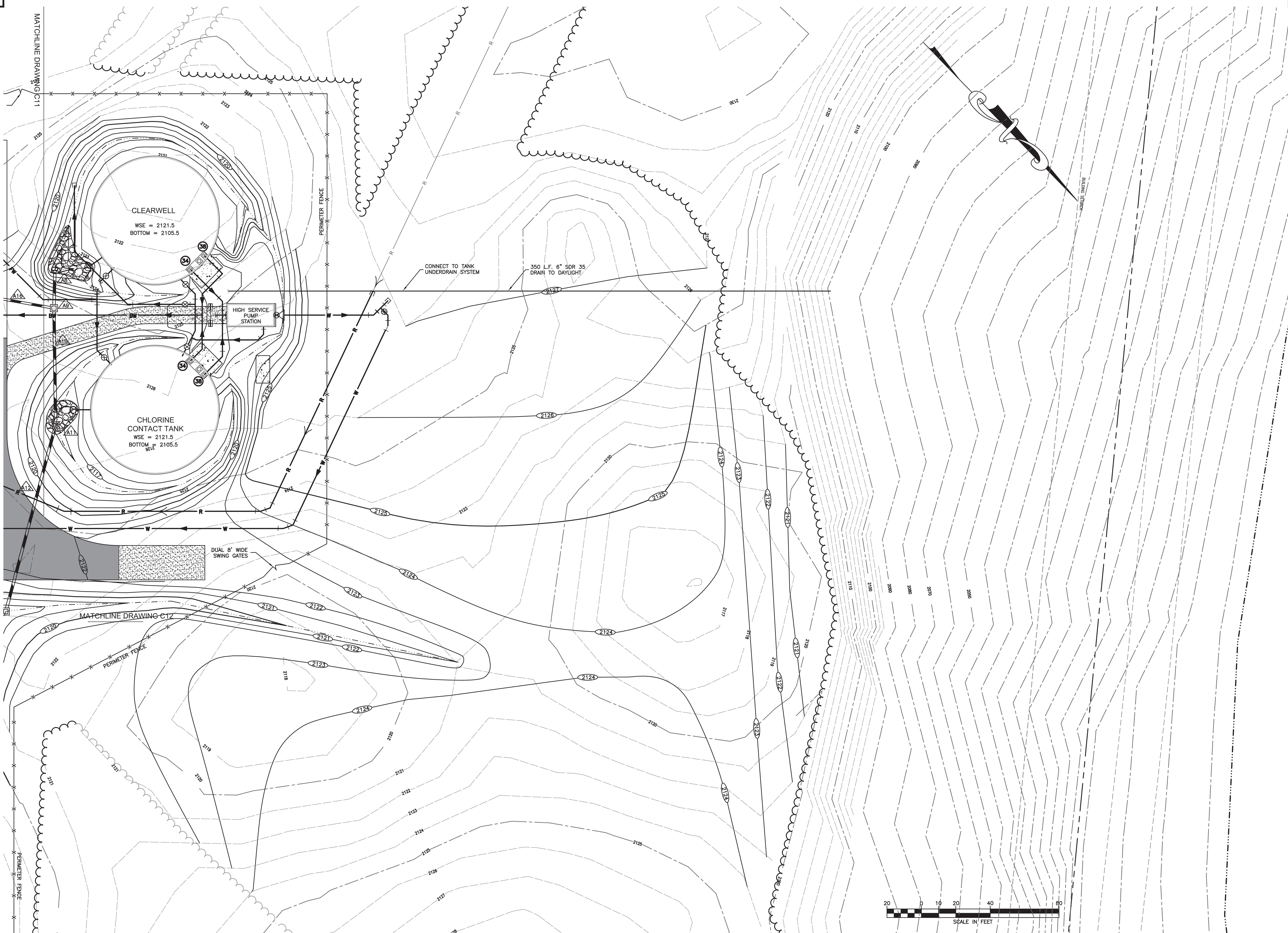
AUSTINVILLE WATER TREATMENT PLANT (DIVISION I)

AUSTINVILLE VIRGINIA

DRAWN BY:
A. SQUIRES
REVIEW BY:
C.E. PEED
DATE:
20 OCTOBER 2006
REVISION:

DWG DESCRIPTION:
NORTH CENTRAL
SITE GRADING
AND DRAINAGE PLAN

C12



Peed & Bortz, L.L.C.
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CHRISTIANSBURG, VIRGINIA 24073
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AUSTINVILLE WATER TREATMENT PLANT
(DIVISION I)

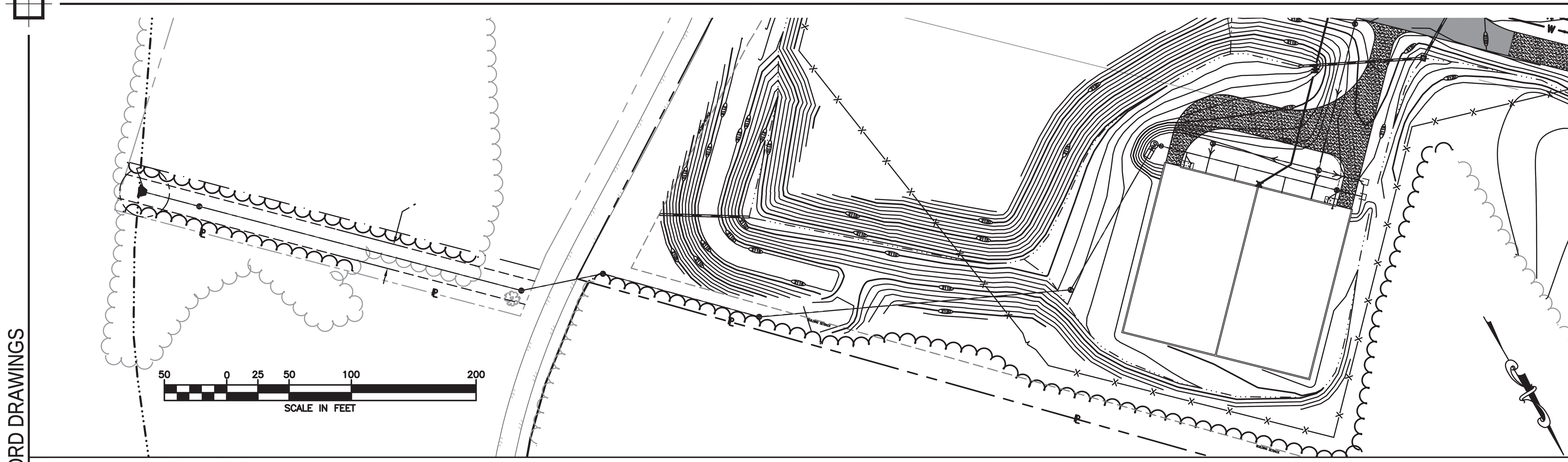
AUSTINVILLE VIRGINIA

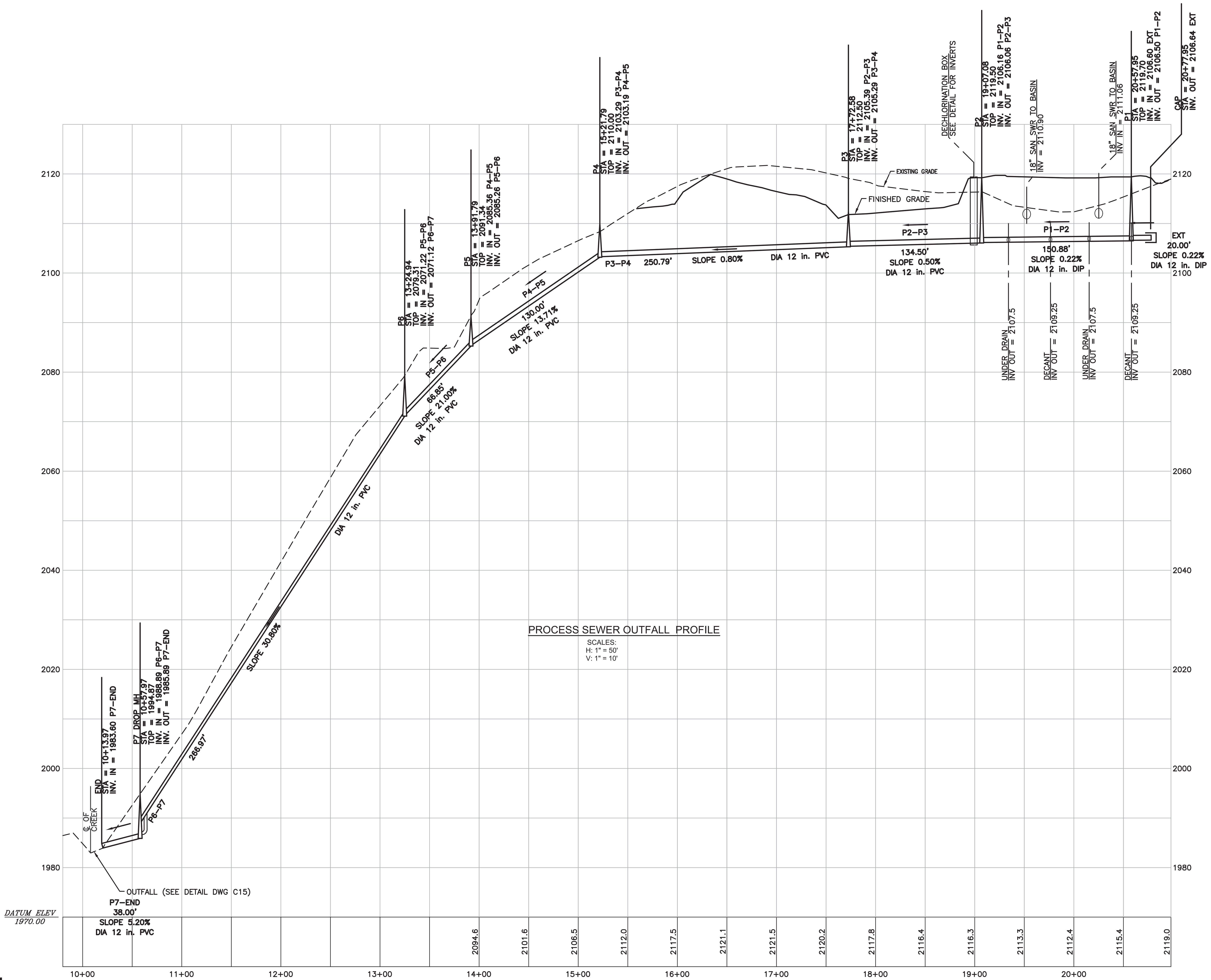
DRAWN BY: A. SQUIRES
REVIEW BY: C.E. PEED
DATE: 20 OCTOBER 2006
REVISION:

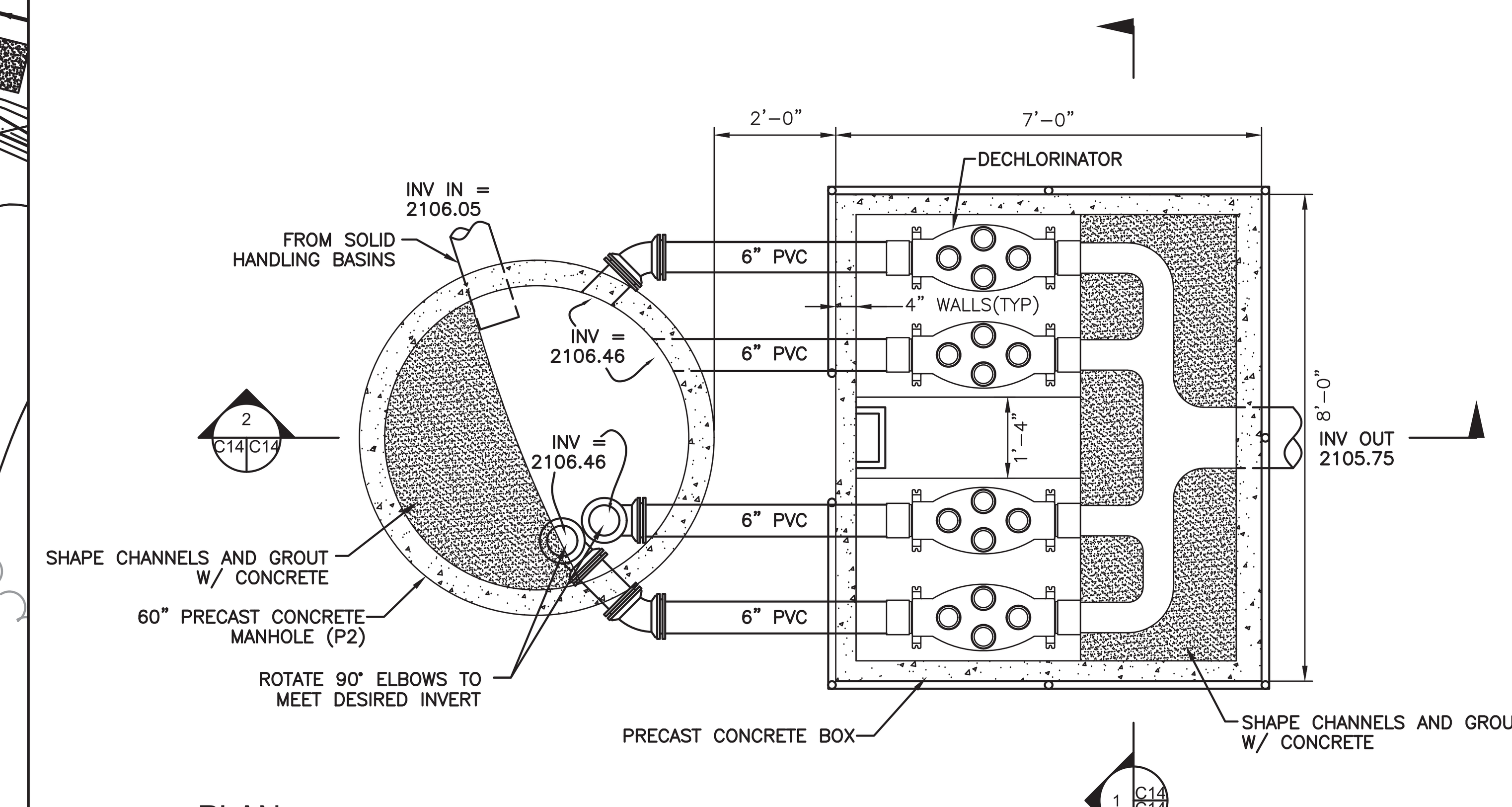
DWG DESCRIPTION: SOUTH EAST SITE GRADING AND DRAINAGE PLAN

C13

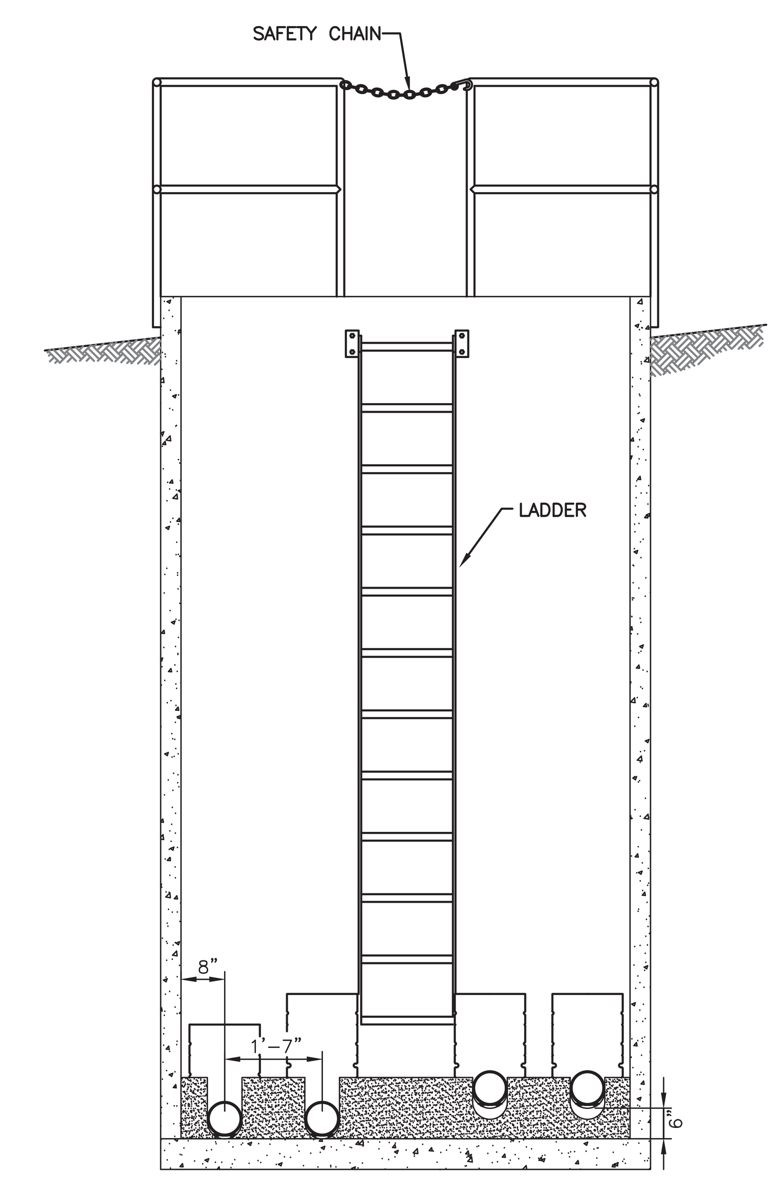
JN: 04 - 02



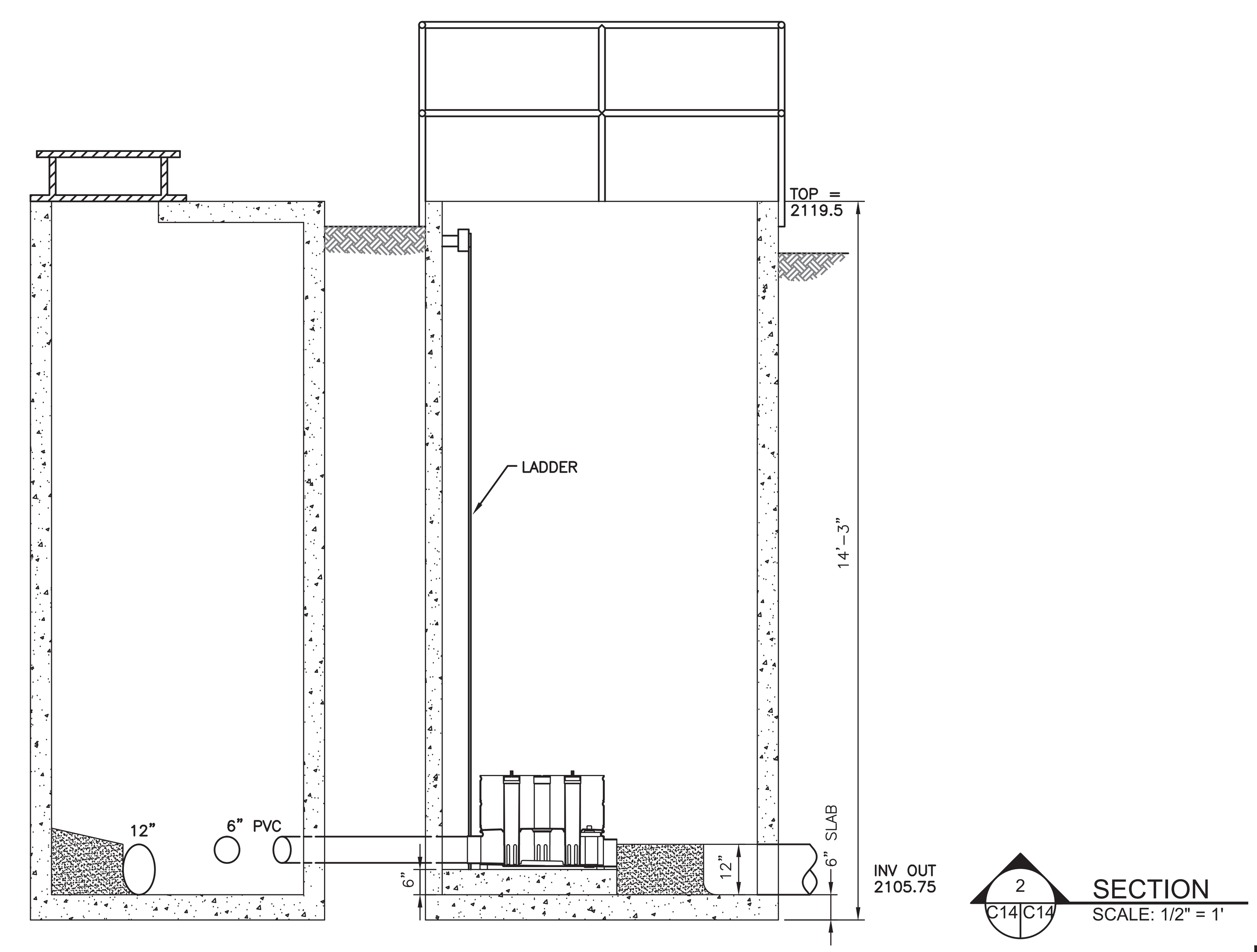




PLAN
SCALE: 1/2" = 1'



SECTION
SCALE: 1/2" = 1'



SECTION
SCALE: 1/2" = 1'

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AUSTINVILLE WATER TREATMENT PLANT (DIVISION I)

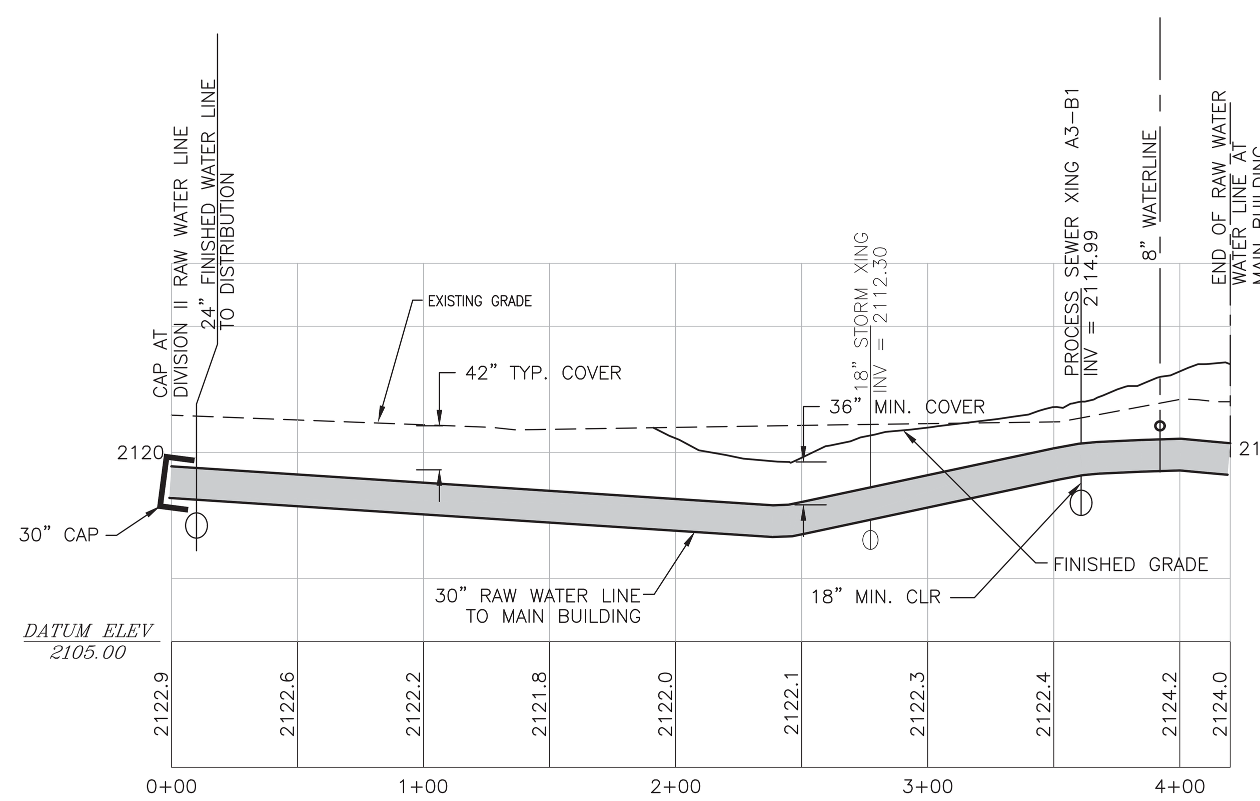
AUSTINVILLE VIRGINIA

DRAWN BY: A. SQUIRES
REVIEW BY: C.E. PEED
DATE: 20 OCTOBER 2006
REVISION:

DWG DESCRIPTION: PROCESS GRAVITY OUTFALL SEWER PLAN, PROFILE & DECHLORINATION FACILITY

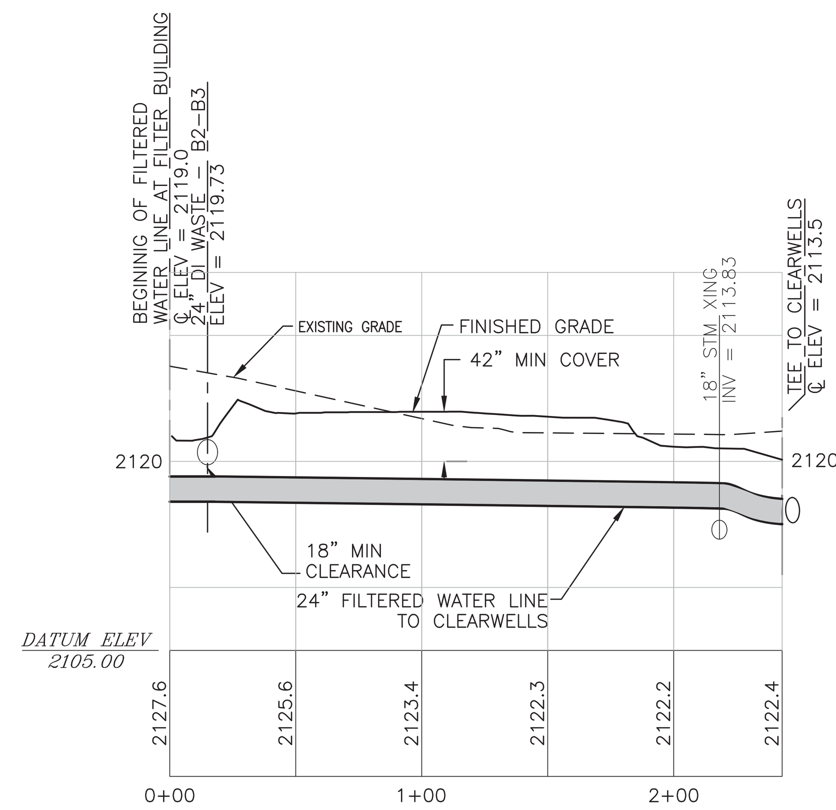
C14

JN: 04 - 02



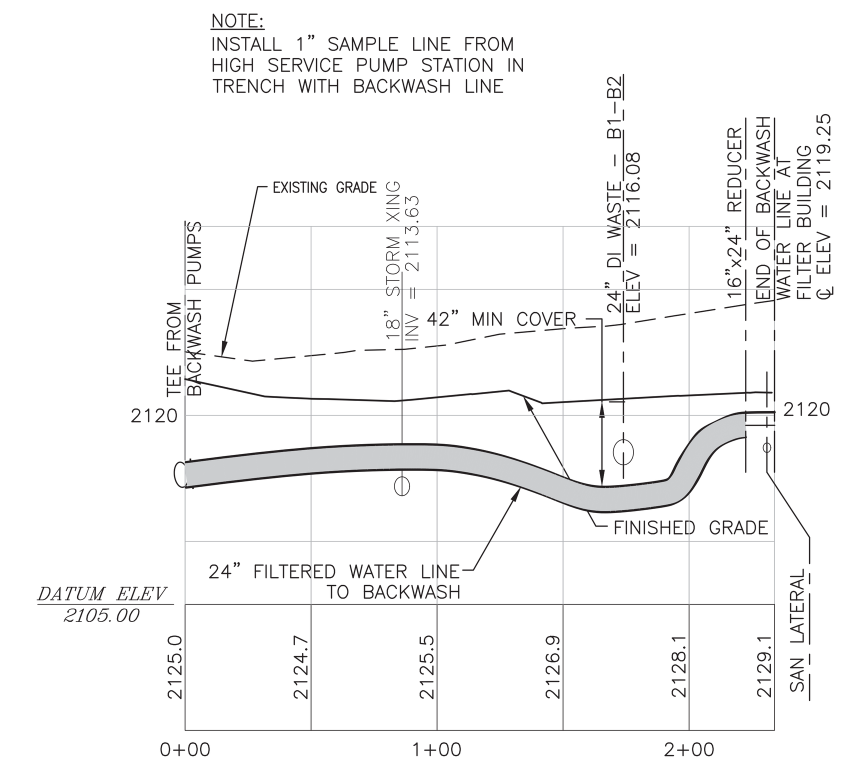
RAW WATER LINE PROFILE

SCALES:
H: 1" = 50'
V: 1" = 10'



FILTERED WATER LINE PROFILE

SCALES:
H: 1" = 50'
V: 1" = 10'



BACKWASH WATER LINE PROFILE

SCALES:
H: 1" = 50'
V: 1" = 10'

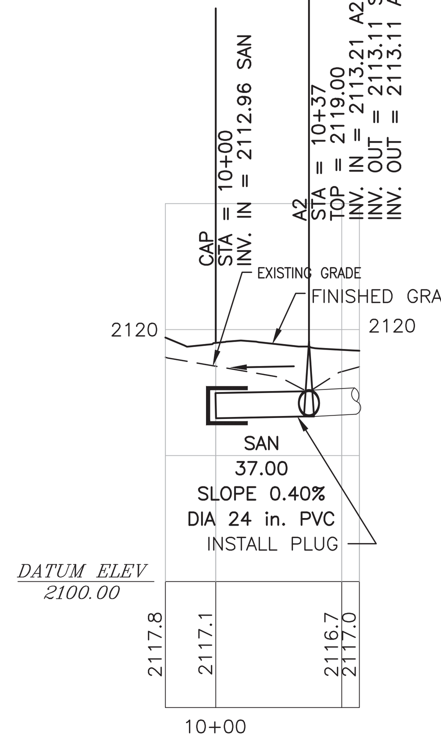
SANITARY SEWER NOTES:

1. SANITARY SEWER PIPE LENGTH IS SHOWN FROM CENTER OF MANHOLE TO CENTER OF MANHOLE.

2. SANITARY SEWER PIPE AND STRUCTURES, MATERIALS AND INSTALLATION METHODS WILL BE IN ACCORDANCE WITH VDOT AND VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY STANDARDS AND SPECIFICATIONS.

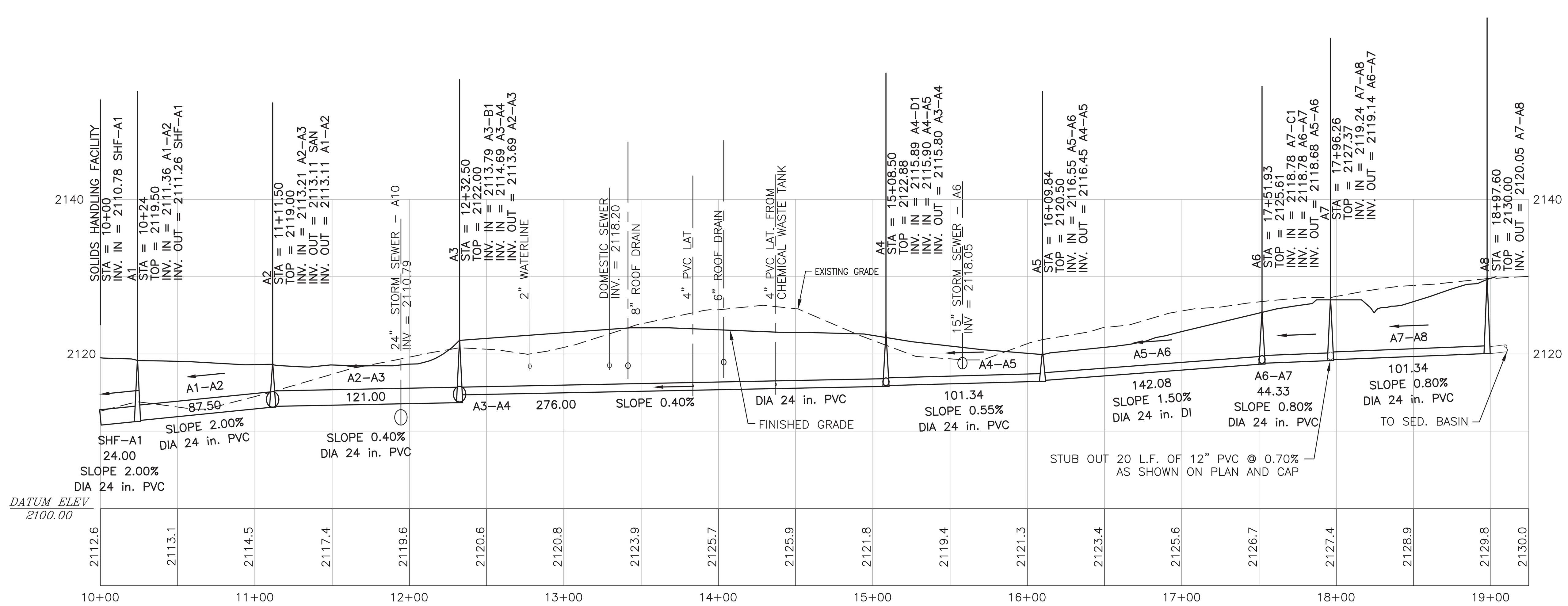
3. CONTRACTOR IS RESPONSIBLE FOR PROTECTING EXISTING PAVEMENT DURING CONTRUCTION ON KOHLER AVENUE. NO TRACKED OR CLEATED EQUIPMENT IS PERMITTED ON THE ASPHALT PAVEMENT WITHOUT PROTECTIVE MEASURES. CONTRACTOR MAY INSTALL SUITABLE PROTECTIVE MEASURES (AT NO ADDITIONAL COST TO THE OWNER) IN ORDER TO USE TRACKED OR CLEATED CONSTRUCTION VEHICLES WITHIN THE PAVEMENT EXTENTS.

4. CONTRACTOR WILL BE REQUIRED TO INSTALL SILT FENCE IN RUNOFF SENSITIVE AREAS (ALONG CREEKS, STEEP SLOPES, ETC.) WITH THE EXTENTS TO BE FIELD DETERMINED BY THE WYTHE COUNTY EROSION CONTROL OFFICIAL.



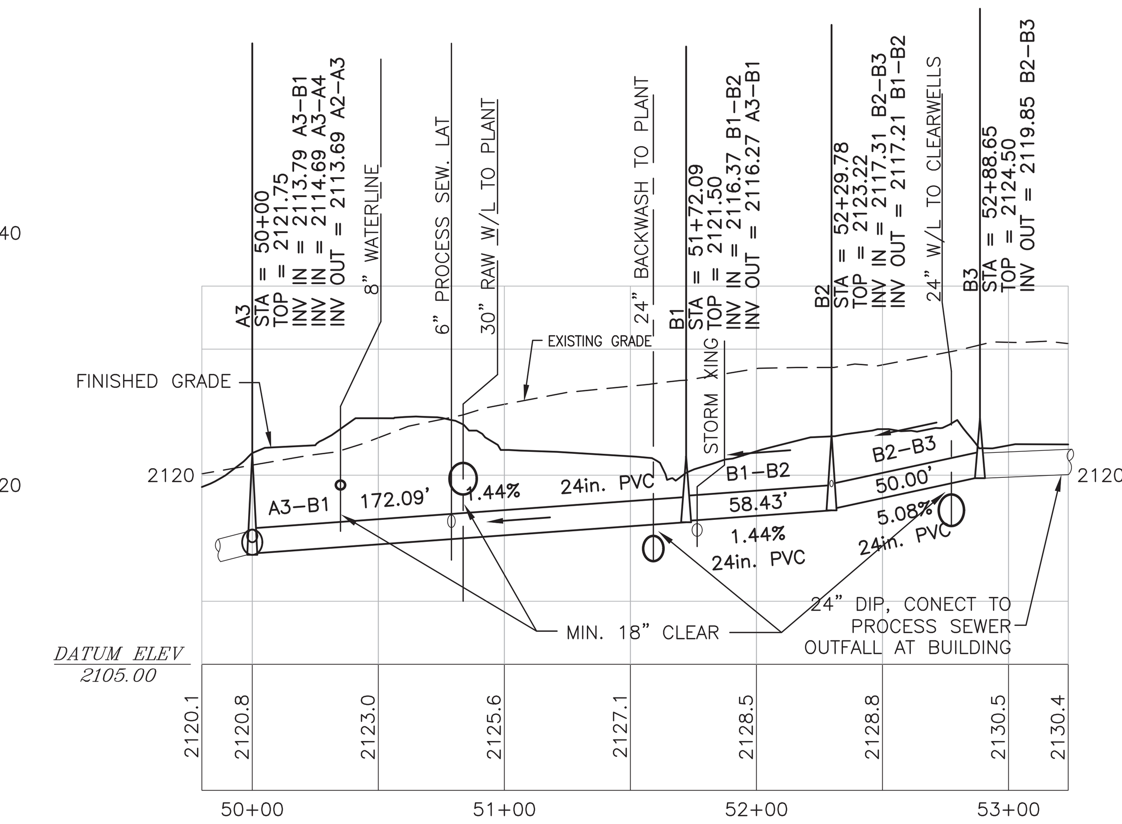
PROCESS SEWER PROFILE CAPPED TO NORTH

SCALES:
H: 1" = 50'
V: 1" = 10'



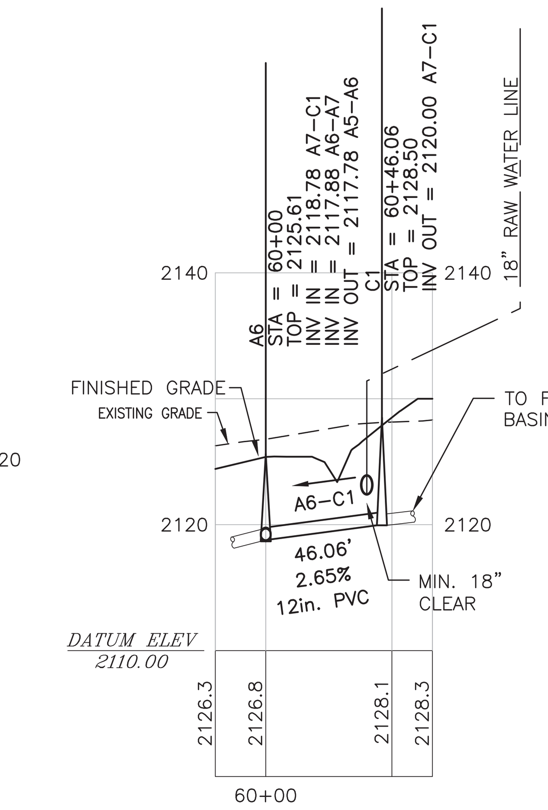
PROCESS SEWER PROFILE LINE "A"

SCALES:
H: 1" = 50'
V: 1" = 10'



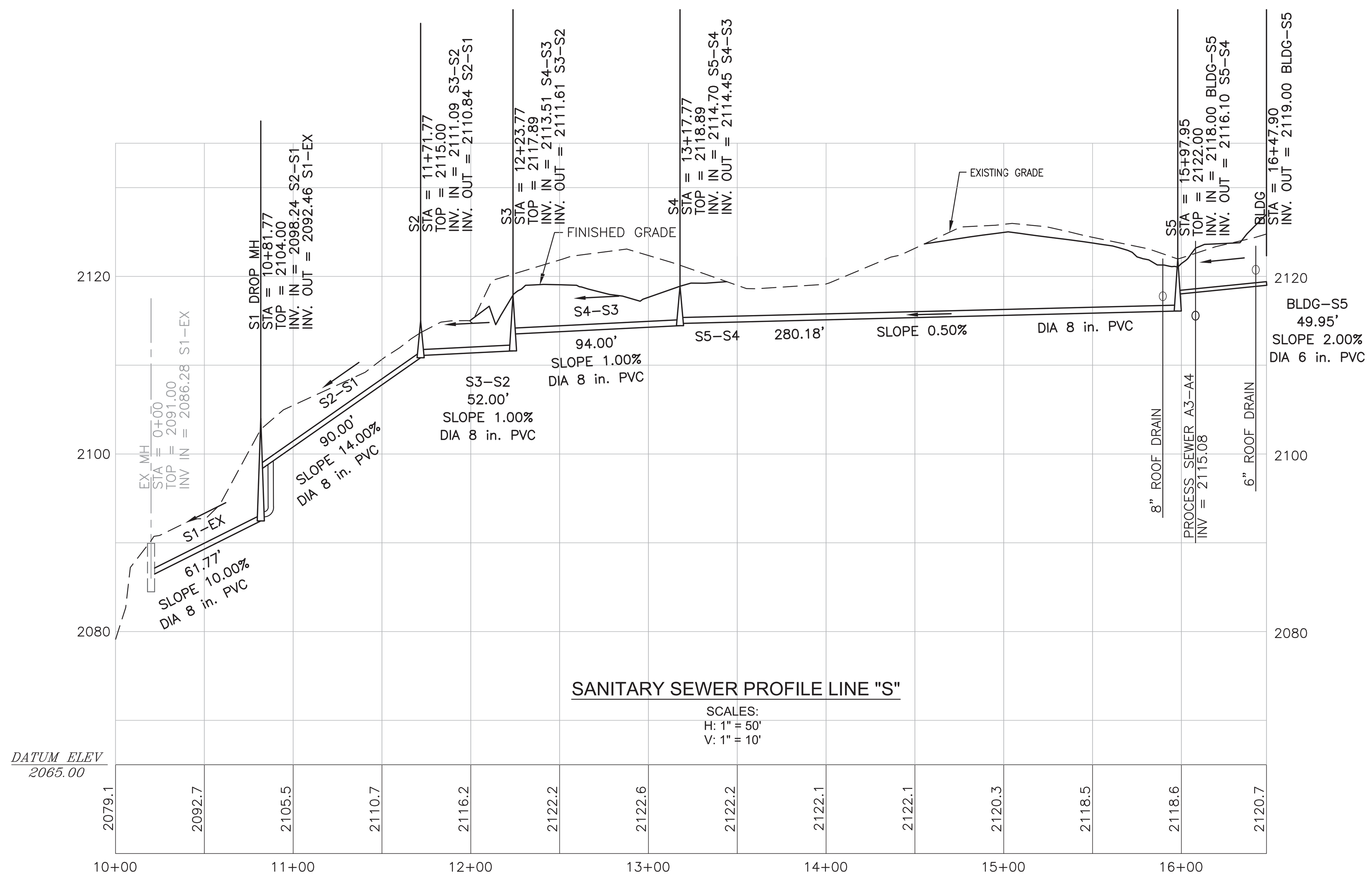
PROCESS SEWER PROFILE LINE "B"

SCALES:
H: 1" = 50'
V: 1" = 10'



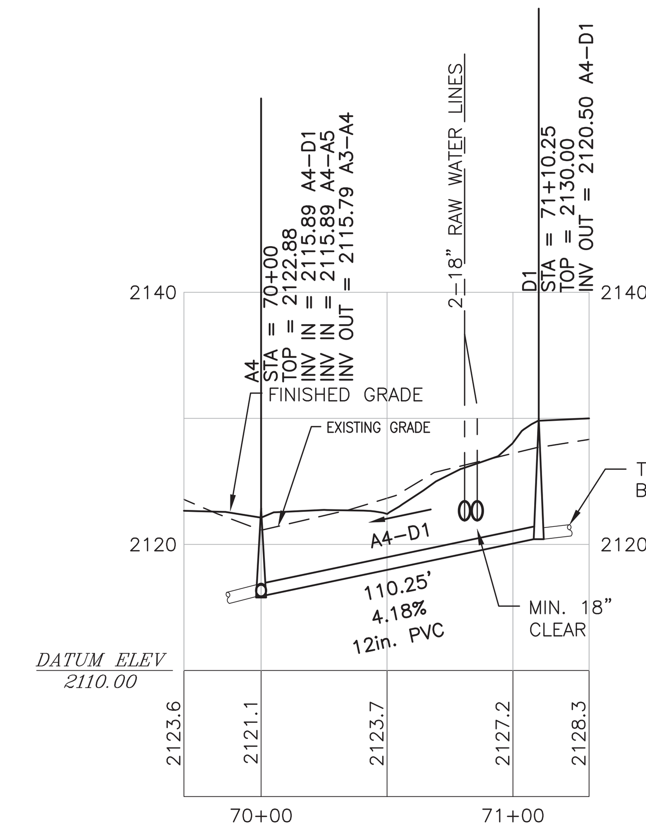
PROCESS SEWER PROFILE LINE "C"

SCALES:
H: 1" = 50'
V: 1" = 10'



SANITARY SEWER PROFILE LINE "S"

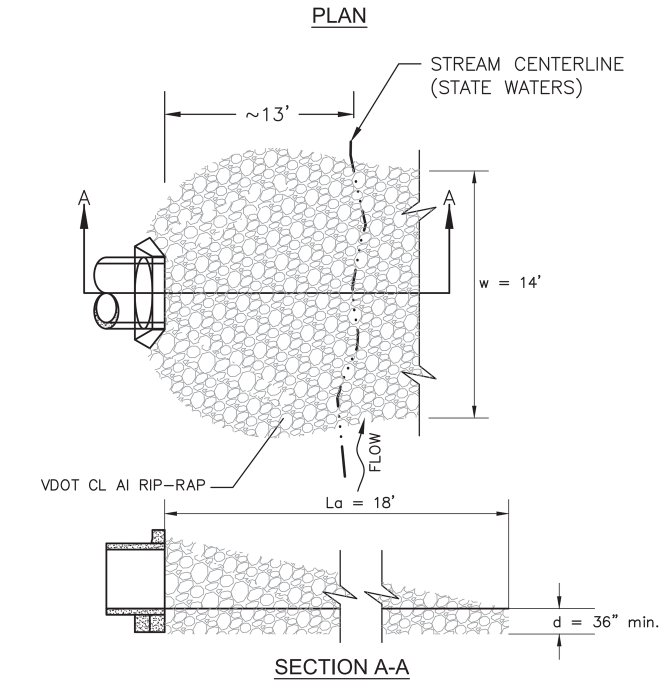
SCALES:
H: 1" = 50'
V: 1" = 10'



PROCESS SEWER PROFILE LINE "D"

SCALES:
H: 1" = 50'
V: 1" = 10'

PLAN



SECTION A-A
PIPE OUTLET TO DEFINED CHANNEL

NOTES
1. APRON LINING MAY BE RIPRAP, OR GROUTED RIPRAP.
2. La IS THE LENGTH OF THE RIPRAP APRON AS CALCULATED USING PLATES 1.36d AND 1.36e.
3. d = 1.5 TIMES THE D50 SIZE.
4. FABRIC UNDERLINER REQUIRED FOR ALL OUTLET PROTECTION AREAS.
5. RIP-RAP SIZED PER VDOT REQUIREMENTS FOR ULTIMATE FLOW.

PROCESS SEWER OUTFALL
NO SCALE

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CERTIFIED PROFESSIONAL ENGINEER

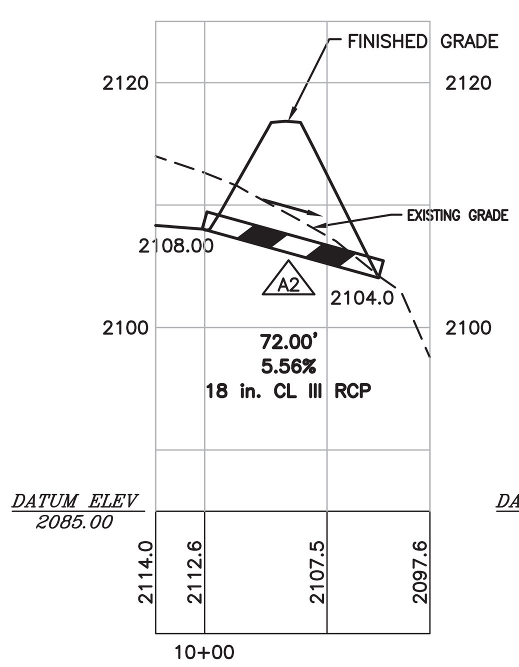
AUSTINVILLE WATER TREATMENT PLANT (DIVISION I)

AUSTINVILLE VIRGINIA

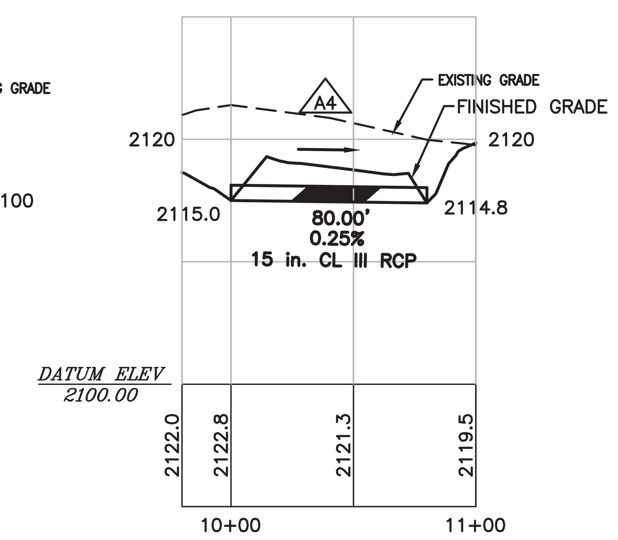
DRAWN BY: A. SQUIRES
REVIEW BY: C.E. PEED
DATE: 20 OCTOBER 2006
REVISION:
DWG DESCRIPTION: WATER LINE & GRAVITY SEWER PROFILES

C15

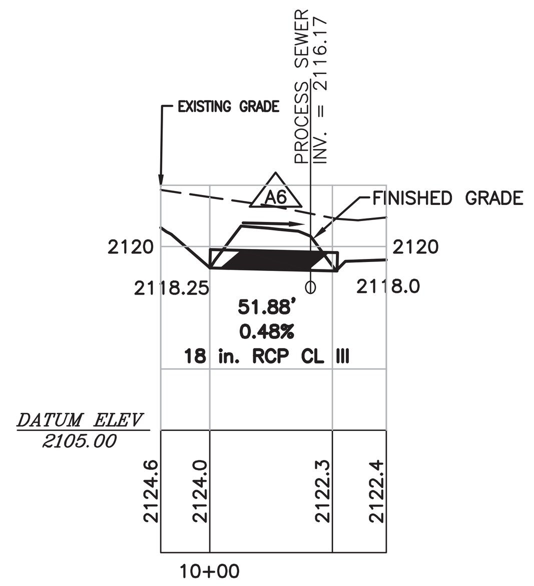
JN: 04 - 02



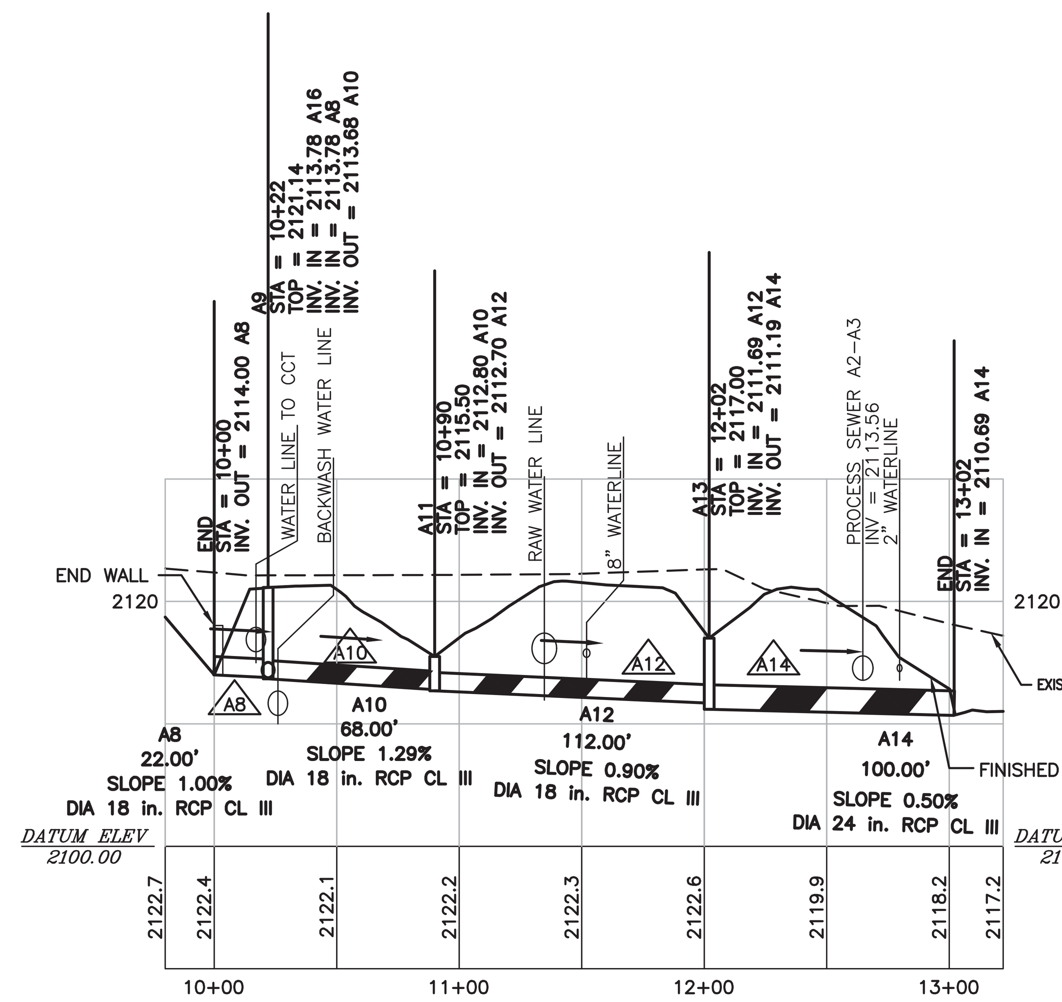
STORM SEWER PROFILE - A2
SCALES:
H: 1" = 50'
V: 1" = 10'



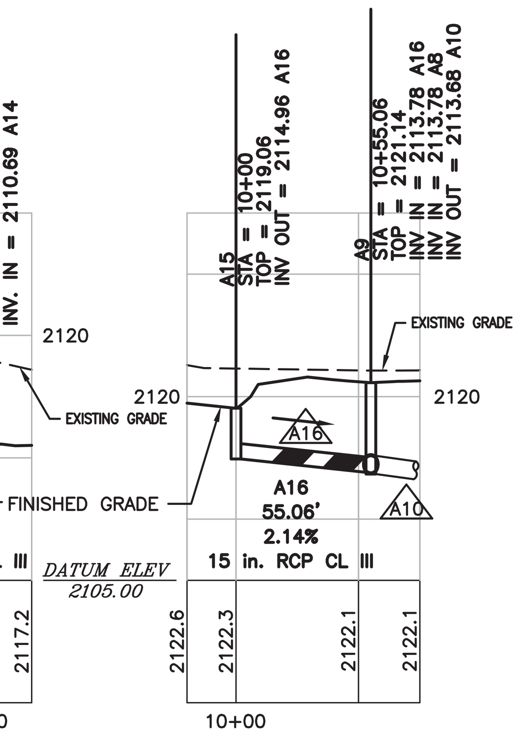
STORM SEWER PROFILE - A4
SCALES:
H: 1" = 50'
V: 1" = 10'



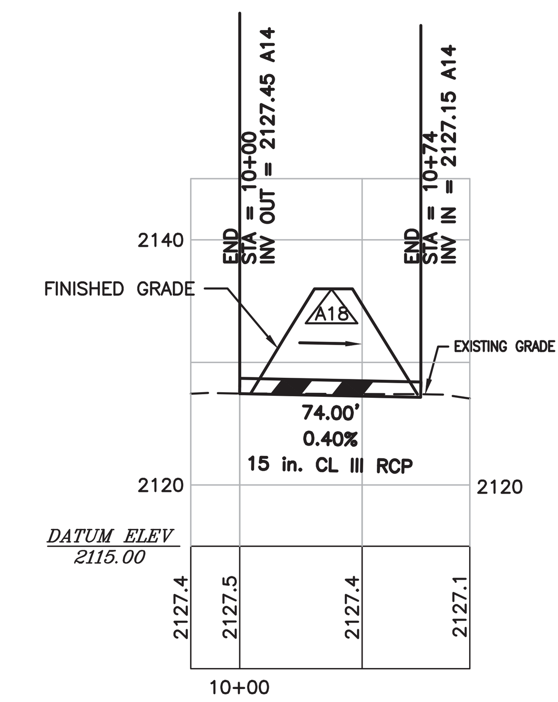
STORM SEWER PROFILE - A6
SCALES:
H: 1" = 50'
V: 1" = 10'



STORM SEWER PROFILE - A8-A14
SCALES:
H: 1" = 50'
V: 1" = 10'



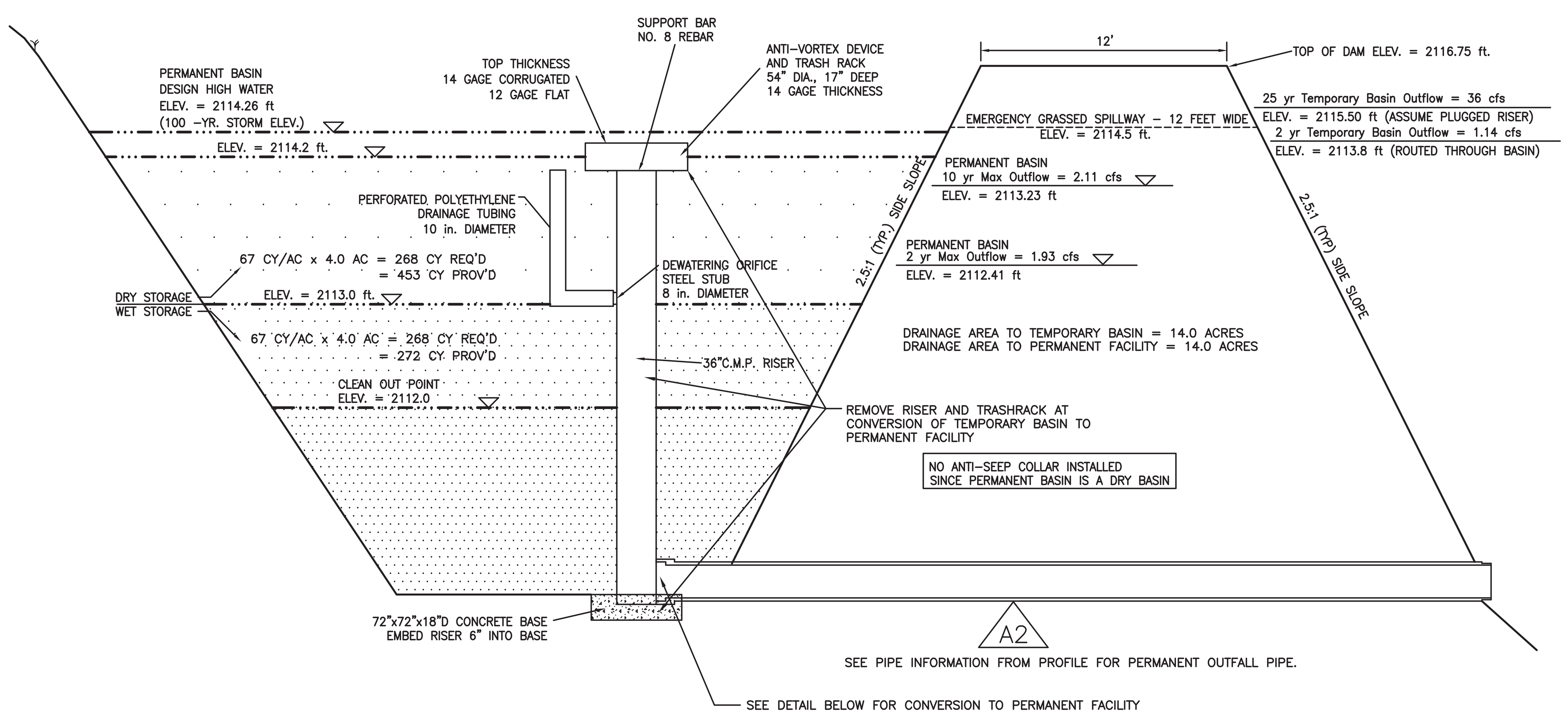
STORM SEWER PROFILE - A15-A10
SCALES:
H: 1" = 50'
V: 1" = 10'



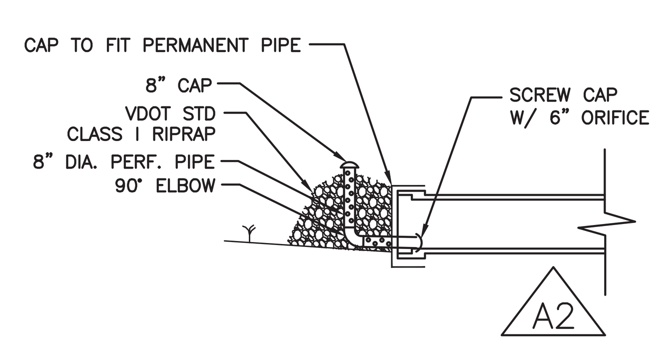
STORM SEWER PROFILE - A18
SCALES:
H: 1" = 50'
V: 1" = 10'

STORMWATER QUANTITY COMPLIANCE

STORM EVENT	PRE DEVELOMENT TO POND (cfs)		PRE DEVELOMENT BYPASS POND (cfs)		TOTAL (cfs)		TOTAL (cfs)		POST DEVELOPMENT POND OUTFLOW (cfs)		POST DEVELOPMENT BYPASS POND (cfs)
2 YR	5.34	+	3.77	=	9.11	≥	5.70	=	1.93	+	3.77
10 YR	7.68	+	5.42	=	13.10	≥	7.53	=	2.11	+	5.42



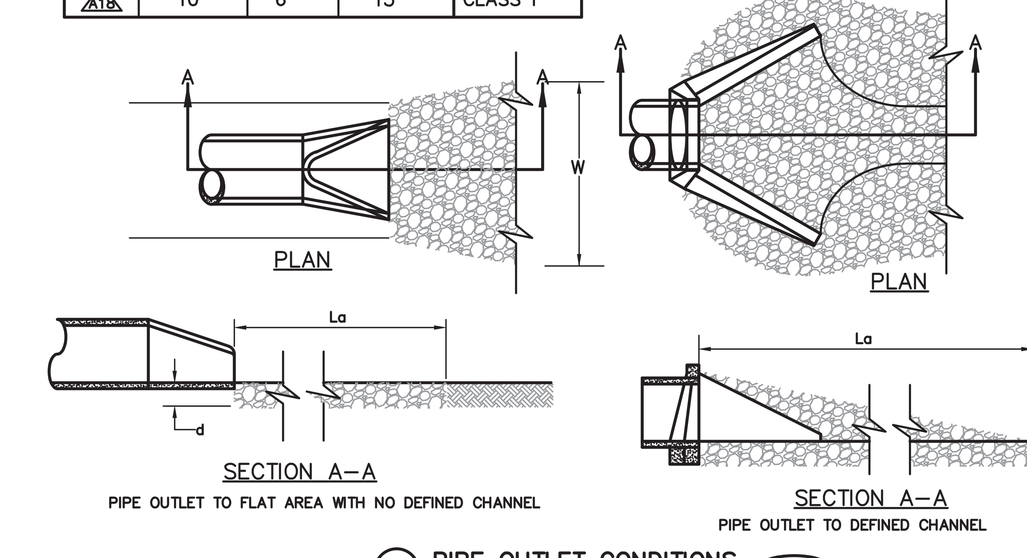
SEDIMENT BASIN / PERMANENT STORM MANAGEMENT FACILITY CROSS SECTION DETAIL
NOT TO SCALE



CONVERSION TO PERMANENT FACILITY DETAIL
NOT TO SCALE

	La	W	d	RIP-RAP
A2	25'	10'	18"	CLASS I
A4	10'	12'	15"	CLASS I
A6	18'	6'	18"	CLASS I
A14	20'	10'	24"	CLASS I
A18	10'	6'	15"	CLASS I

NOTES
1. APRON LINING MAY BE RIPRAP, OR GROUTED RIPRAP.
2. La IS THE LENGTH OF THE RIPRAP APRON AS CALCULATED USING PLATES 1.36d AND 1.36e.
3. d = 1.5 TIMES THE D50 SIZE.
4. FABRIC UNDERLINER REQUIRED FOR ALL OUTLET PROTECTION AREAS.



OP PIPE OUTLET CONDITIONS 3.18-1
NO SCALE

STORM STRUCTURES A9 & A15 WILLL BE VDOT STANDARD DI–1 INLETS. STORM STRUCTURES A11 & A13 WILL BE VDOT STANDARD DI–7 INLETS WITH TYPE I GRATE. DIAMETER WILL BE MINIMUM 48" CLEAR INTERIOR OR SIZED TO FIT PIPE SIZES AND ANGLES SHOWN ON THE CONTRACT DOCUMENTS.

INSTALL VDOT STANDARD EW–1 END WALL TO INVERT IN AT STRUCTURE A8.

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CERTIFIED PROFESSIONAL ENGINEER

AUSTINVILLE WATER TREATMENT PLANT (DIVISION I)

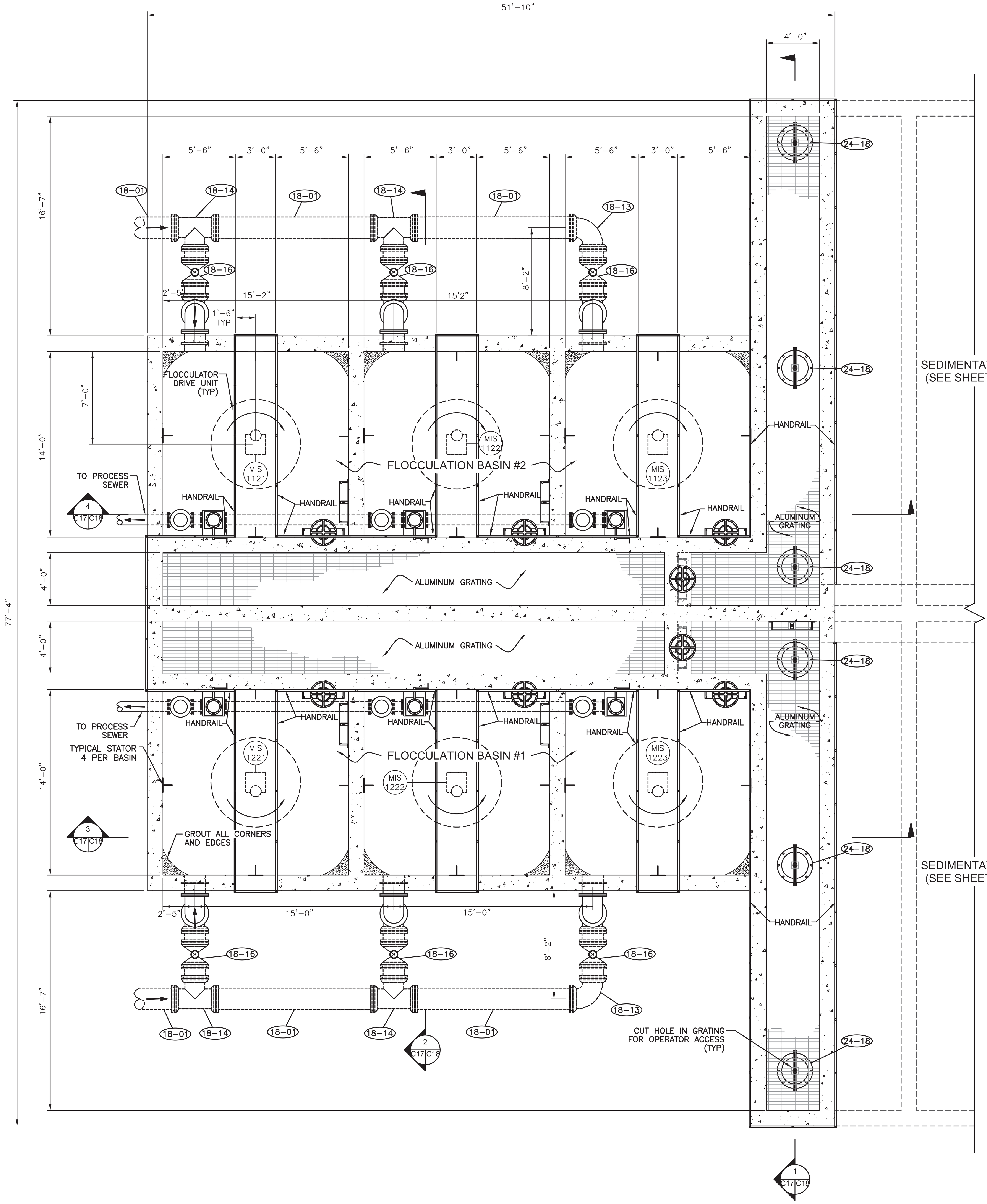
AUSTINVILLE VIRGINIA

DRAWN BY: A. SQUIRES
REVIEW BY: C.E. PEED
DATE: 20 OCTOBER 2006
REVISION:
DWG DESCRIPTION: STORM SEWER PLAN & PROFILE

C16

JN: 04 - 02

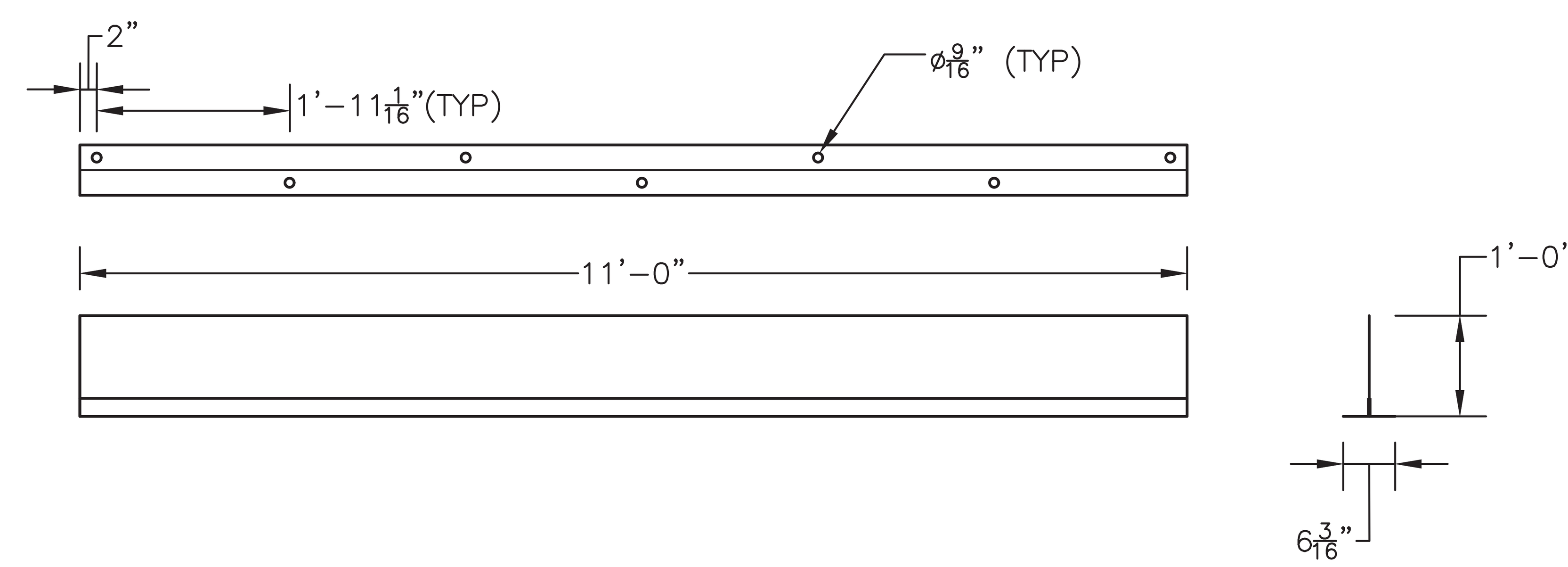
RECORD DRAWINGS
RECORD DRAWINGS
RECORD DRAWINGS
RECORD DRAWINGS



FLOCCULATION BASIN PLAN
SCALE: 1/4" = 1'
NORTH

SLUICE GATE LEGEND

PLAN DESCRIPTION	SIZE	ITEM DESCRIPTION
	30" SQ.	STEEL FABRICATED GATE, NUT OPERATOR
	30" SQ.	STEEL FABRICATED GATE, HANDWHEEL OPERATOR



STATOR DETAIL
N.T.S.

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AUSTINVILLE WATER TREATMENT PLANT (DIVISION I)

AUSTINVILLE VIRGINIA

DRAWN BY: A. SQUIRES
REVIEW BY: C.E. PEED
DATE: 20 OCTOBER 2006
REVISION:
DWG DESCRIPTION: FLOCCULATION BASIN - PLAN

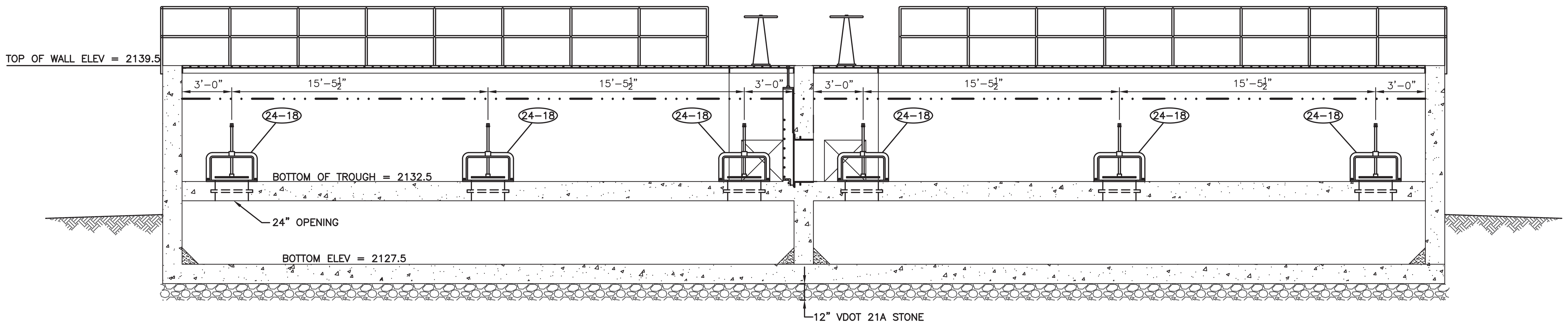
CROSS REFERENCE LEGEND

SEE SHEETS		
STRUCTURAL	S07	S08
PLUMBING		P03
ELECTRICAL		E04

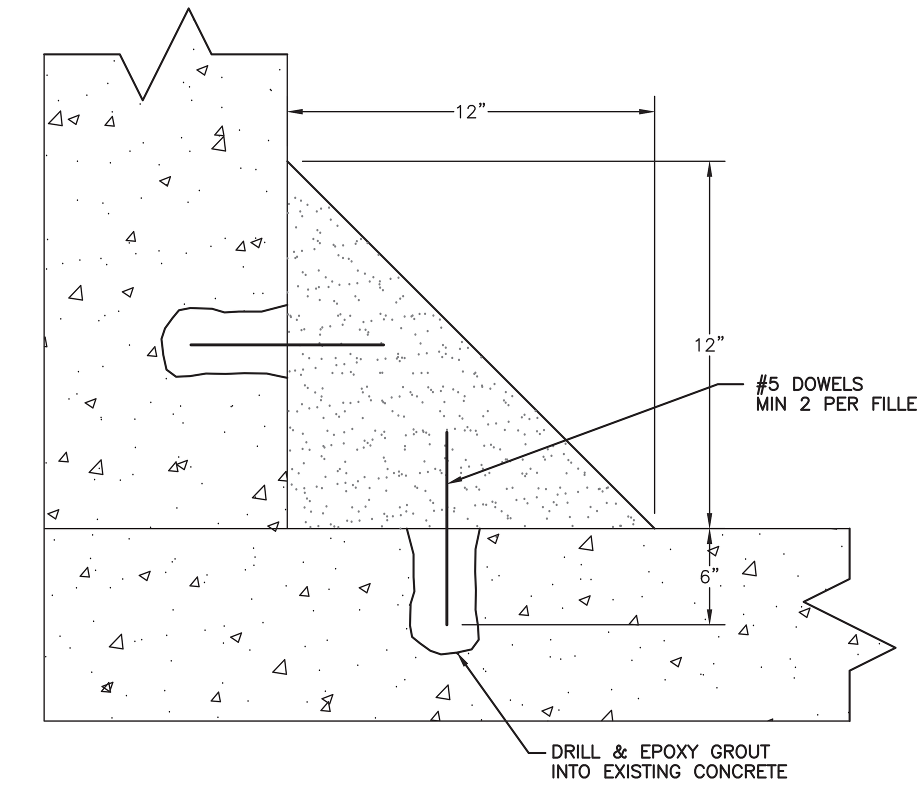
C17

JN: 04 - 02

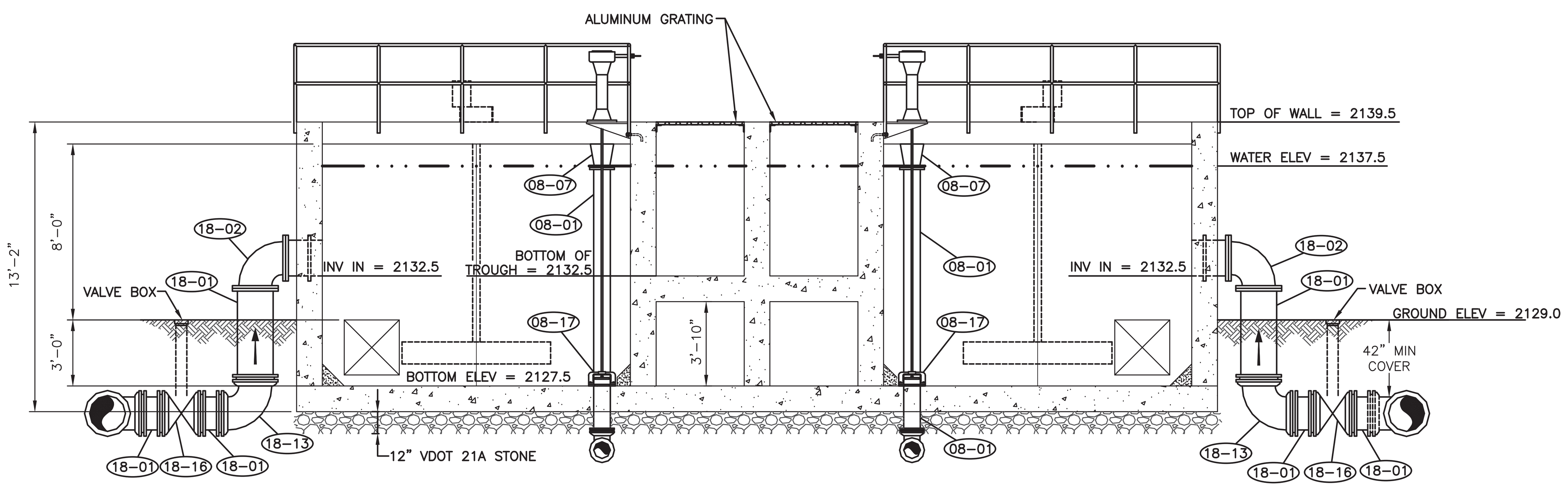
NOTE:
CONTRACTOR SHALL PROVIDE GRATING OPENINGS FOR ACCESS TO NUT OPERATORS



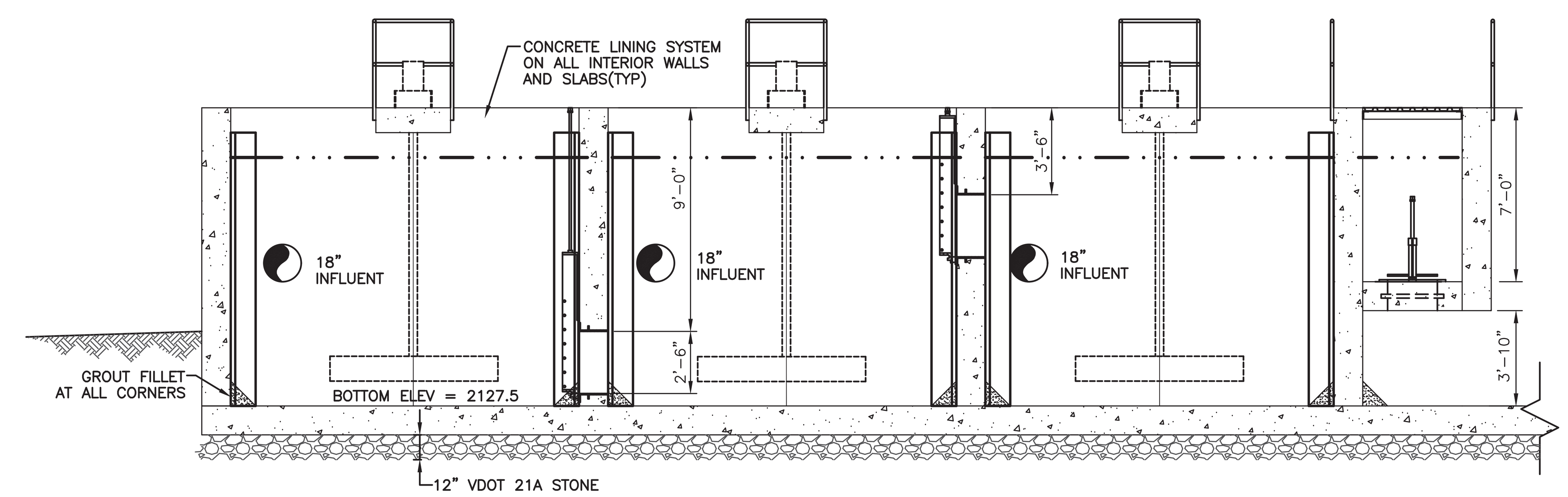
SECTION 1 (C17 | C18)
SCALE: 1/4" = 1'



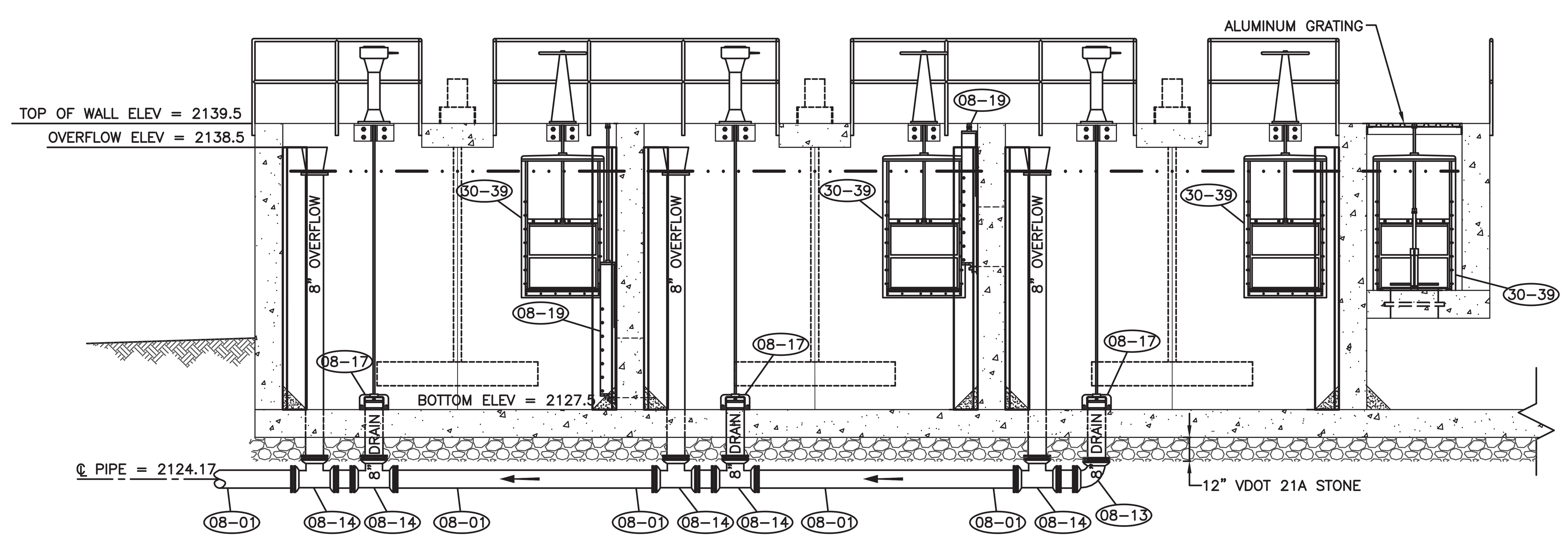
FILLET DETAIL
NOT TO SCALE



SECTION 2 (C17 | C18)
SCALE: 1/4" = 1'



SECTION 4 (C17 | C18)
SCALE: 1/4" = 1'



SECTION 3 (C17 | C18)
SCALE: 1/4" = 1'

CROSS REFERENCE LEGEND

SEE SHEETS		
STRUCTURAL	S07	S08
PLUMBING		P03
ELECTRICAL		E04

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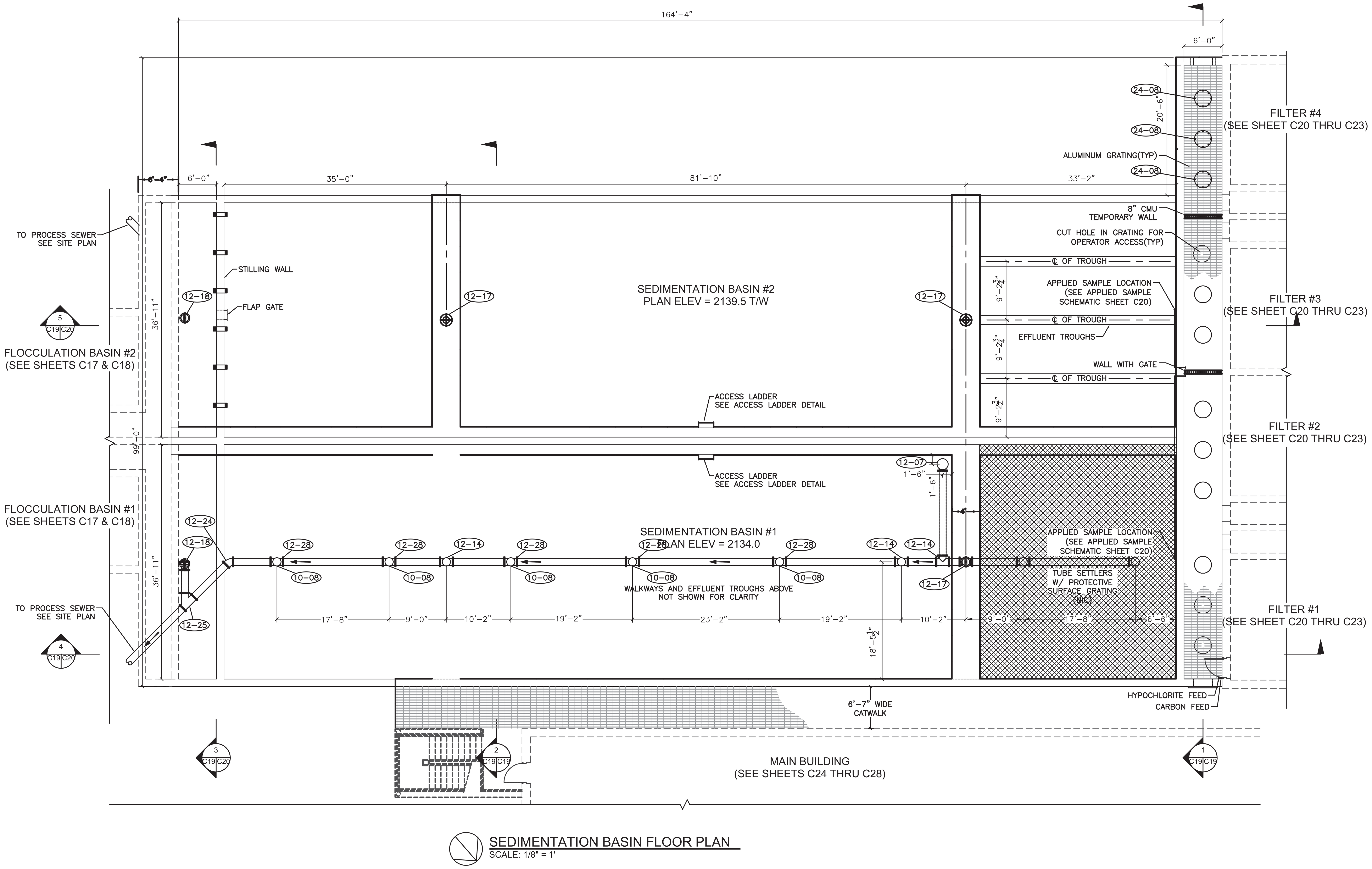
AUSTINVILLE WATER TREATMENT PLANT (DIVISION I)

AUSTINVILLE VIRGINIA

DRAWN BY: A. SQUIRES
REVIEW BY: C.E. PEED
DATE: 20 OCTOBER 2006
REVISION:
DWG DESCRIPTION: FLOCCULATION BASIN - SECTIONS & DETAILS

C18

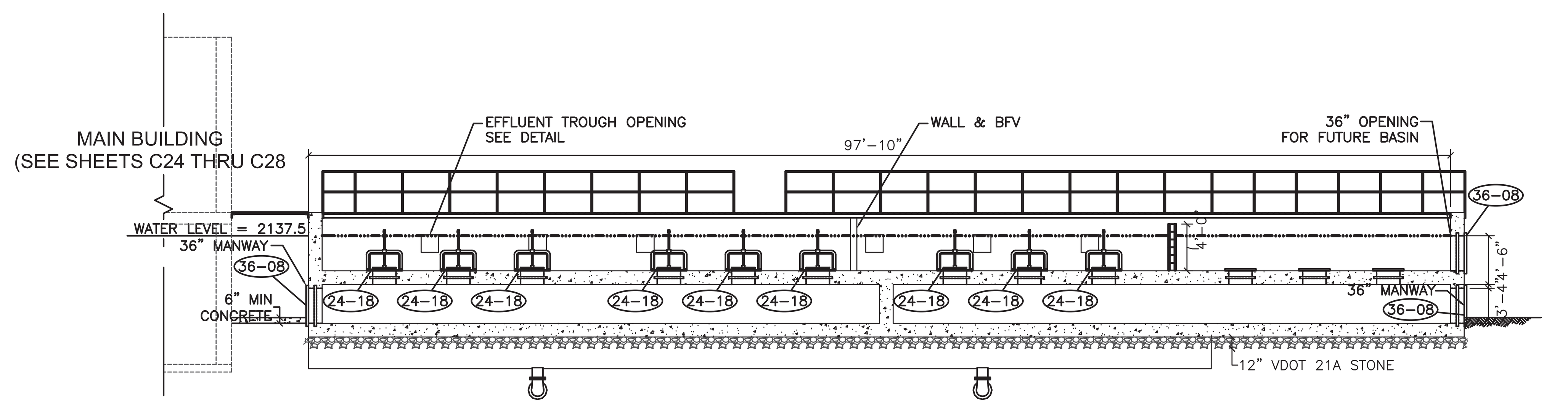
JN: 04 - 02



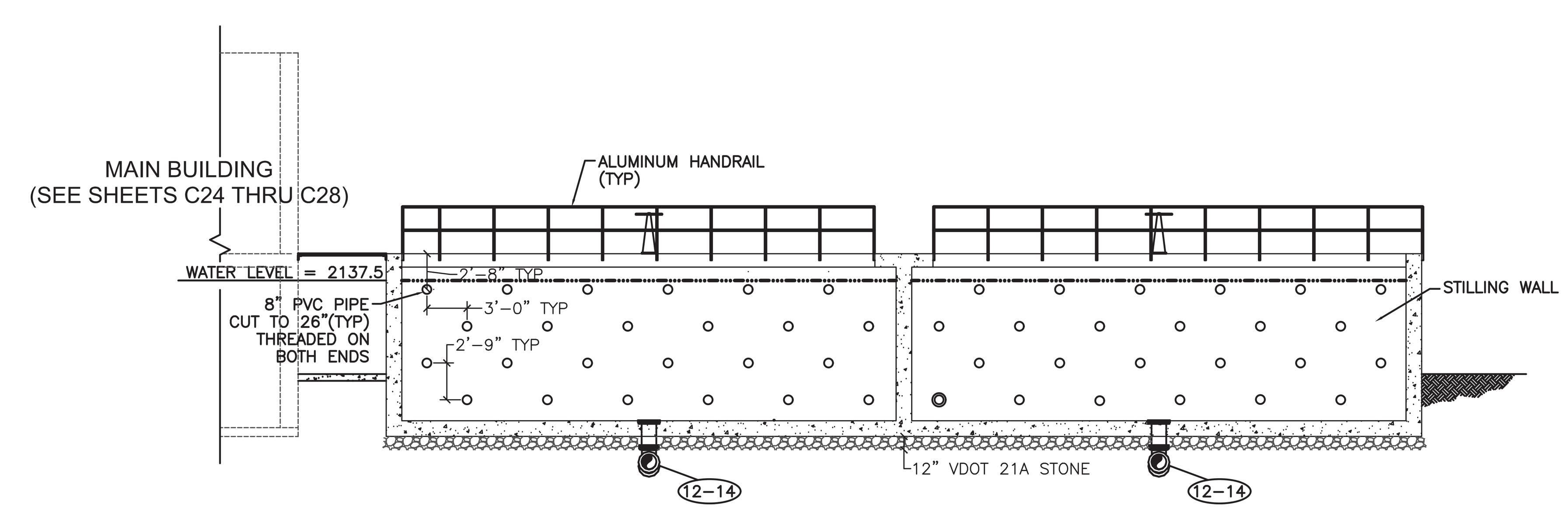
SEDIMENTATION BASIN FLOOR PLAN
SCALE: 1/8" = 1'

NOTES:

1. STATIONARY SLUDGE COLLECTOR SYSTEM DELETED FROM CONTRACT. PIPING BELOW SLAB WAS INSTALLED FOR FUTURE.
2. TUBE SETTLERS WITH PROTECTIVE SURFACE GRATING DELETED FROM CONTRACT.



SECTION
SCALE: 1/8" = 1'



SECTION
SCALE: 1/8" = 1'

CROSS REFERENCE LEGEND

SEE SHEETS		
STRUCTURAL	S09	S10
PLUMBING		P03
ELECTRICAL		E04

Reed & Bortz, L.L.C.
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SEAL
COMMONWEALTH OF VIRGINIA
CLEMENT E. PEED
No. 7101
CERTIFIED PROFESSIONAL ENGINEER

AUSTINVILLE WATER TREATMENT PLANT (DIVISION I)

AUSTINVILLE VIRGINIA

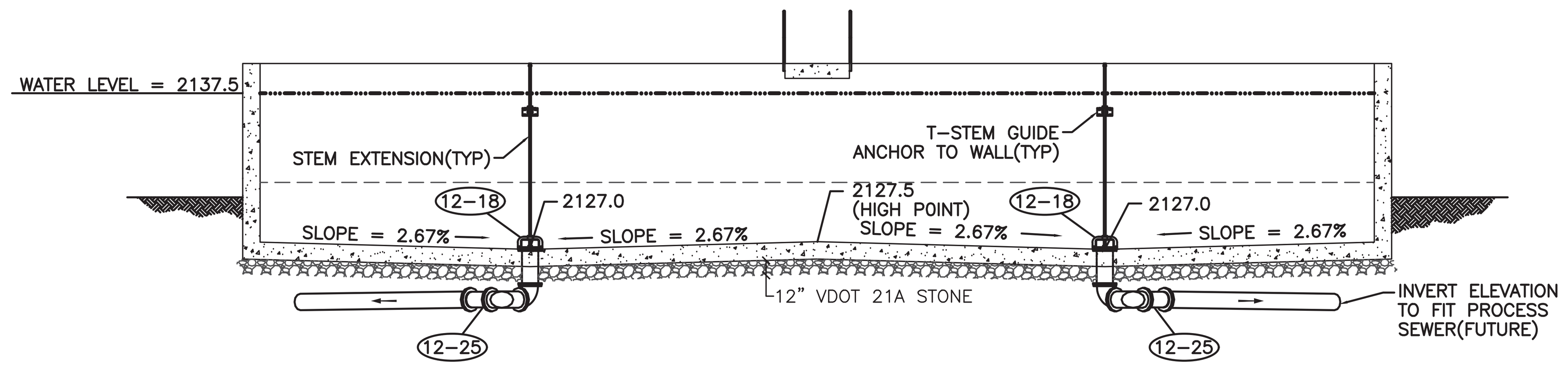
DRAWN BY: A. SQUIRES
REVIEW BY: C.E. PEED
DATE: 20 OCTOBER 2006
REVISION:
DWG DESCRIPTION: SEDIMENTATION BASIN - PLAN

C19

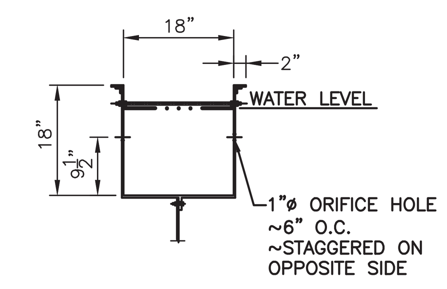
JN: 04 - 02

NOTES:

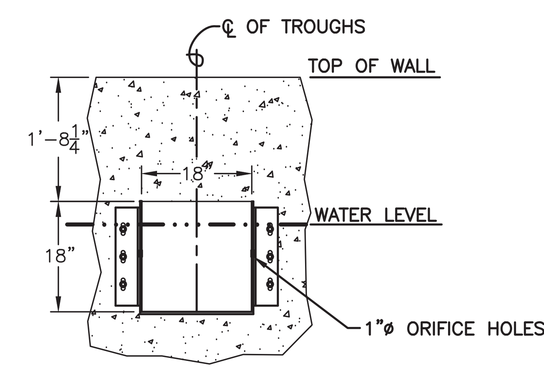
1. STATIONARY SLUDGE COLLECTOR SYSTEM DELETED FROM CONTRACT. PIPING BELOW SLAB WAS INSTALLED FOR FUTURE.
2. TUBE SETTLERS WITH PROTECTIVE SURFACE GRATING DELETED FROM CONTRACT.



SECTION 3 C19 C20
SCALE: 1/8" = 1'

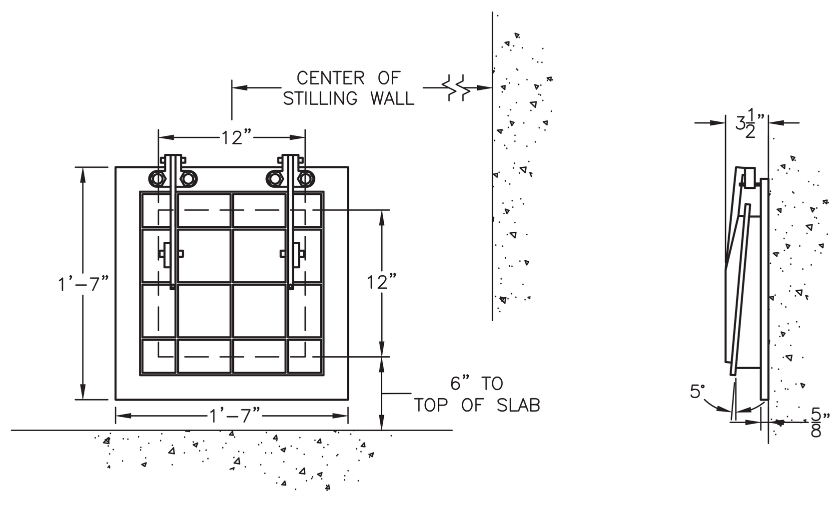


EFFLUENT TROUGH DETAIL
NOT TO SCALE

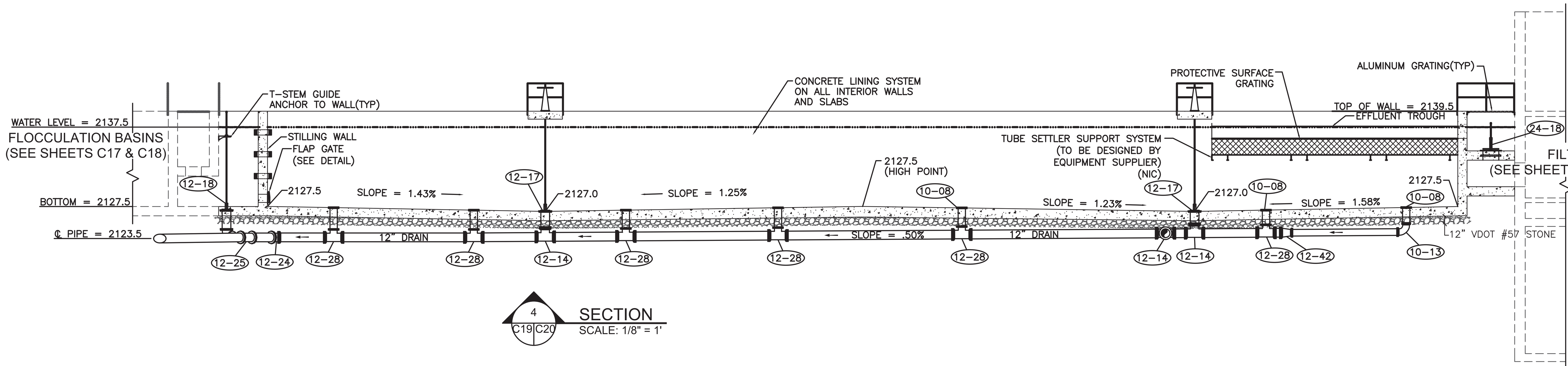


EFFLUENT TROUGH OPENING DETAIL
NOT TO SCALE

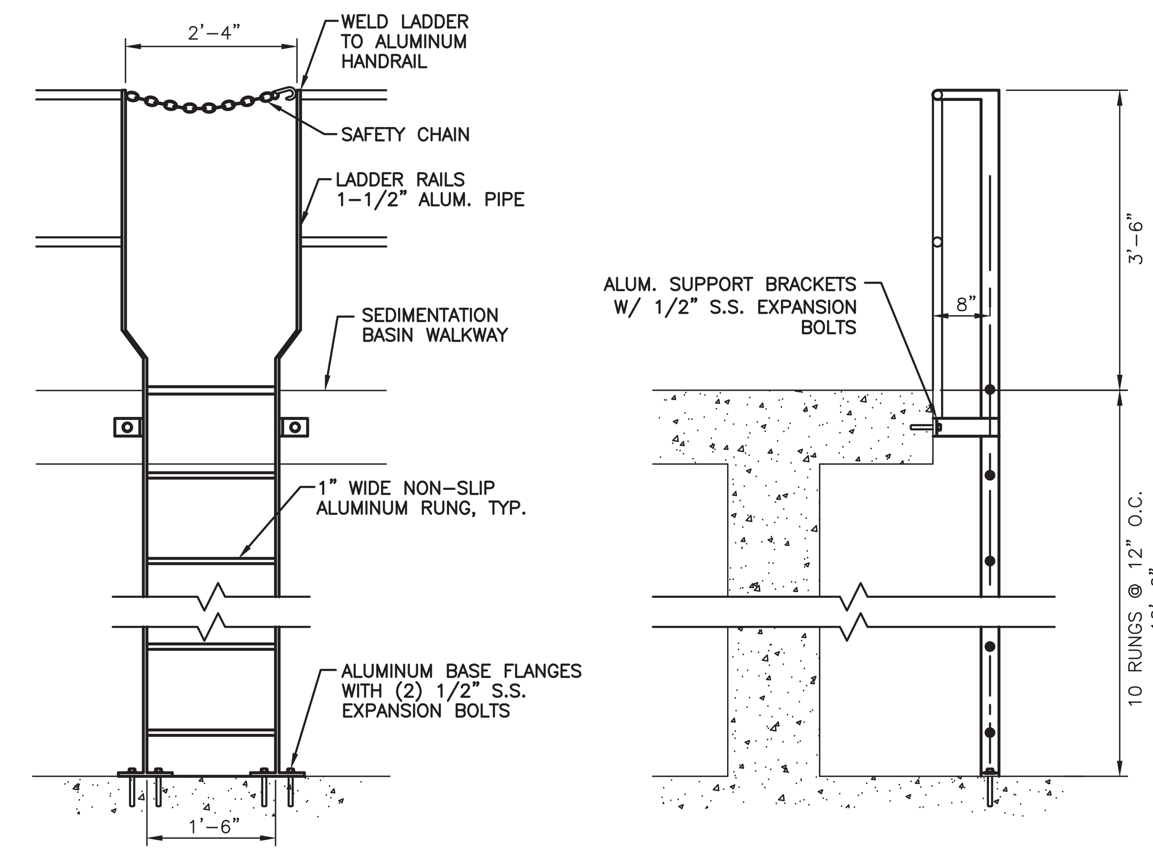
NOTE:
CONTRACTOR SHALL PROVIDE GRATING OPENINGS FOR ACCESS TO NUT OPERATORS



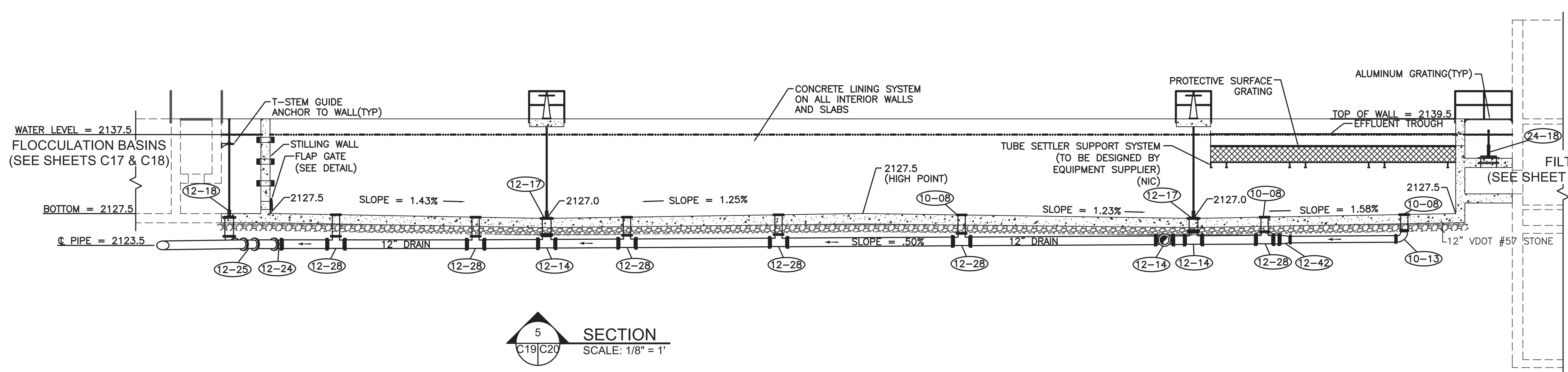
FLAP GATE DETAIL
NOT TO SCALE



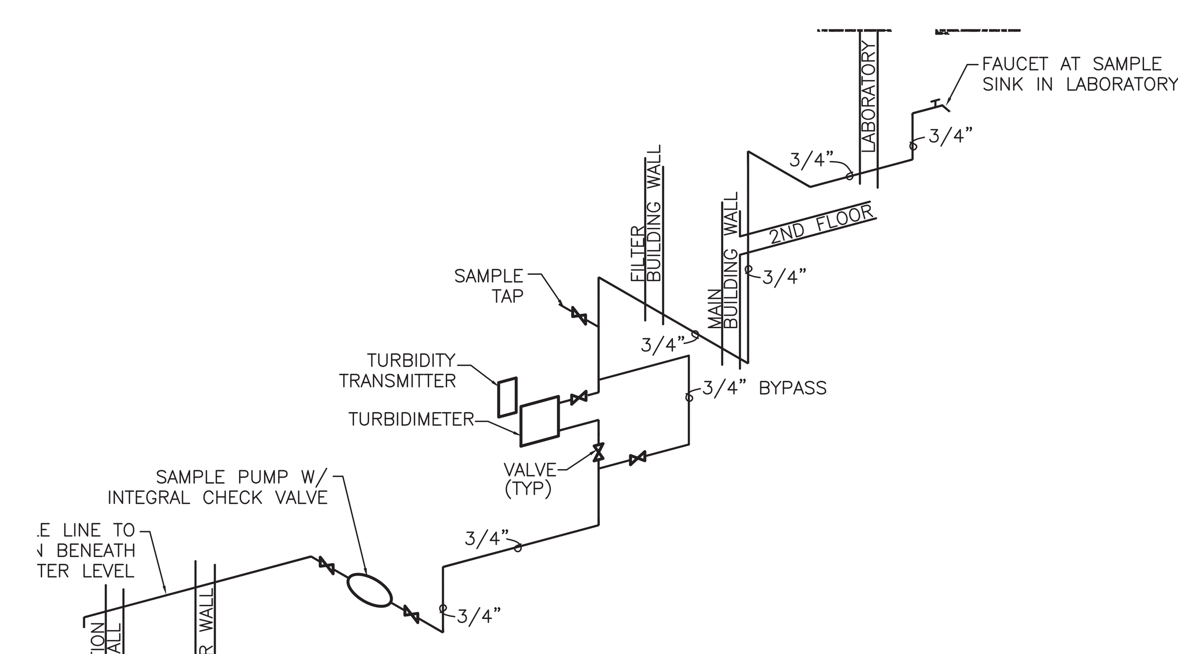
SECTION 4 C19 C20
SCALE: 1/8" = 1'



ACCESS LADDER DETAIL
NOT TO SCALE



SECTION 5 C19 C20
SCALE: 1/8" = 1'



NOTE:
SCHEMATICS ARE DIAGRAMMATICAL. PLEASE REFER TO SHEET C37 FOR INSTRUMENTATION PLACEMENT AND ARCHITECTURAL DRAWINGS FOR EXACT BUILDING DIMENSION

APPLIED SAMPLE SCHEMATIC(2 REQ'D)
NOT TO SCALE

CROSS REFERENCE LEGEND		
SEE SHEETS		
STRUCTURAL	S09	S10
PLUMBING		P03
ELECTRICAL		E04

Reed & Bortz, L.L.C.
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CERTIFIED PROFESSIONAL ENGINEER

AUSTINVILLE WATER TREATMENT PLANT (DIVISION I)

AUSTINVILLE VIRGINIA

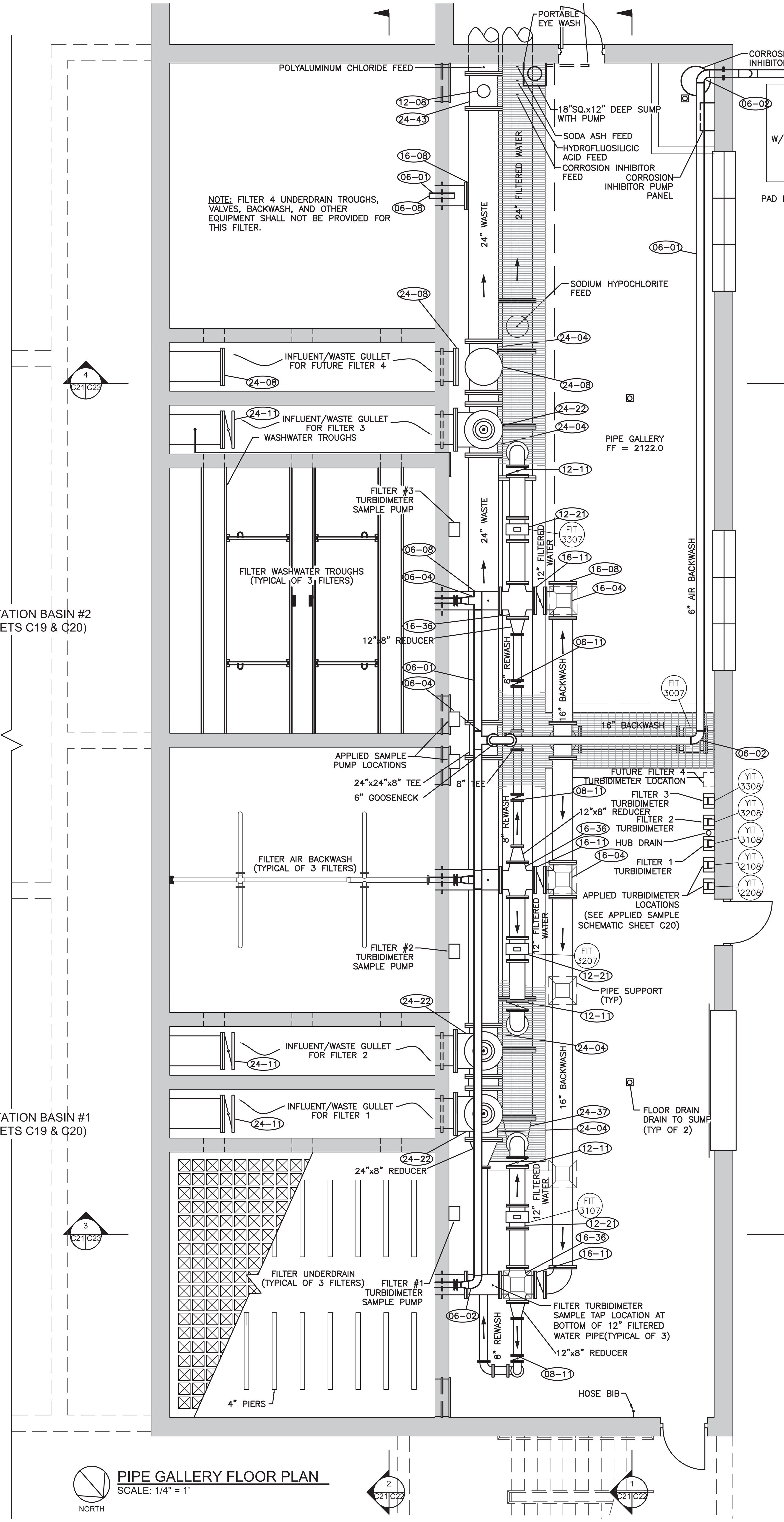
DRAWN BY: A. SQUIRES
REVIEW BY: C.E. PEED
DATE: 20 OCTOBER 2006
REVISION:
DWG DESCRIPTION: SEDIMENTATION BASIN - SECTIONS

C20

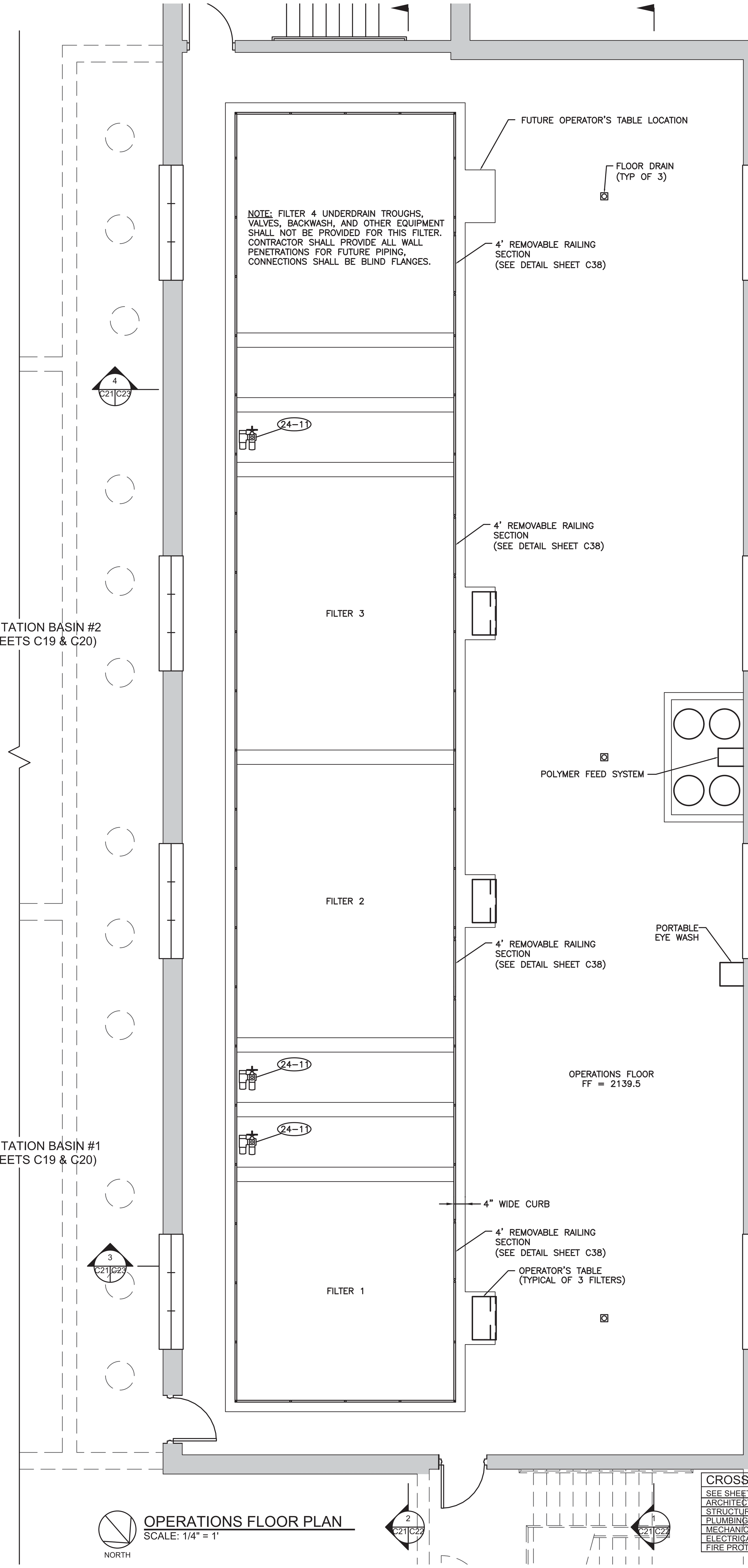
JN: 04 - 02

RECORD DRAWINGS
RECORD DRAWINGS
RECORD DRAWINGS
RECORD DRAWINGS

RECORD DRAWINGS



PIPE GALLERY FLOOR PLAN
SCALE: 1/4" = 1'



OPERATIONS FLOOR PLAN
SCALE: 1/4" = 1'

CROSS REFERENCE LEGEND

SEE SHEETS		
ARCHITECTURAL	A05	A17
STRUCTURAL	S02	S06
PLUMBING	P03	P05
MECHANICAL	M03	M05
ELECTRICAL	E04	E10
FIRE PROTECTION	FP01	FP02

Reed & Bortz, L.L.C.
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AUSTINVILLE WATER TREATMENT PLANT (DIVISION I)

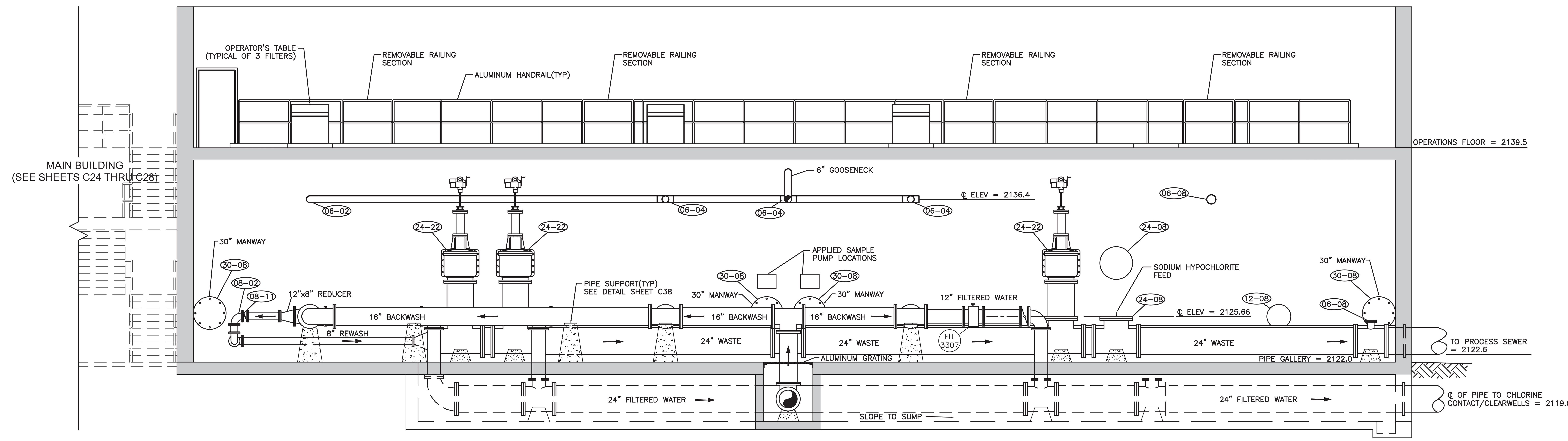
AUSTINVILLE VIRGINIA

DRAWN BY: A. SQUIRES
REVIEW BY: C.E. PEED
DATE: 20 OCTOBER 2006
REVISION:
DWG DESCRIPTION: FILTER BUILDING - FIRST & SECOND FLOOR PLAN

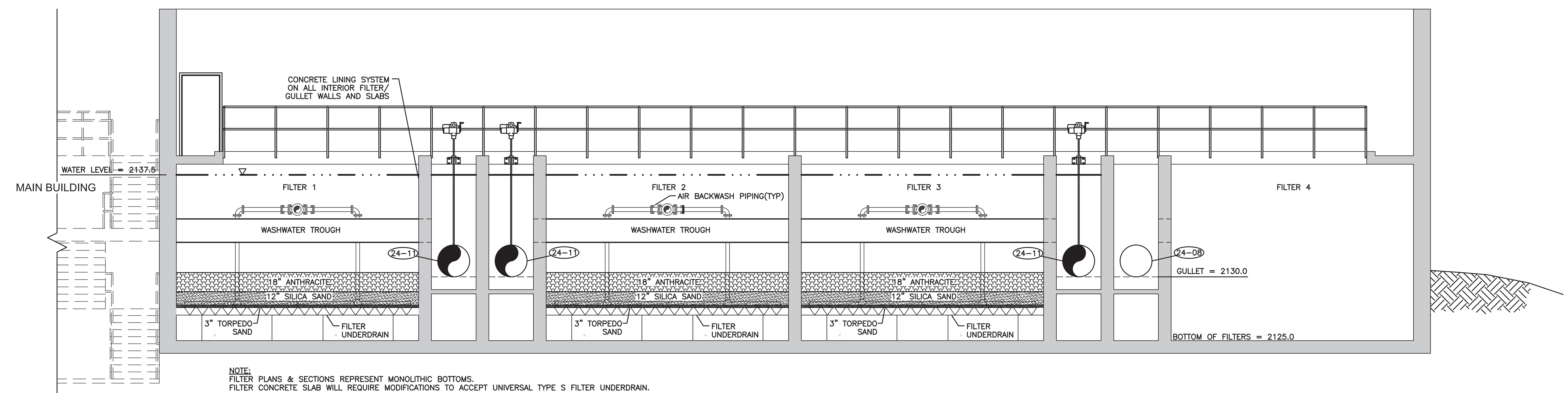
C21

JN: 04 - 02

RECORD DRAWINGS



1 C21 C22 SECTION
SCALE: 1/4" = 1'



NOTE:
FILTER PLANS & SECTIONS REPRESENT MONOLITHIC BOTTOMS.
FILTER CONCRETE SLAB WILL REQUIRE MODIFICATIONS TO ACCEPT UNIVERSAL TYPE S FILTER UNDERDRAIN.

2 C21 C22 SECTION
SCALE: 1/4" = 1'

NOTE: CONTRACTOR SHALL PROVIDE A 4" WIDE LEDGE AROUND FILTER PERIPHERY WITH L-SHAPED #5 REBAR AT 12" ON CENTER, IF USING MONOLITHIC WHEELER BOTTOM FILTER UNDER DRAIN.

CROSS REFERENCE LEGEND		
SEE SHEETS		
ARCHITECTURAL	A05	A17
STRUCTURAL	S02	S06
PLUMBING	P03	P05
MECHANICAL	M03	M05
ELECTRICAL	E04	E10
FIRE PROTECTION	FP01	FP02

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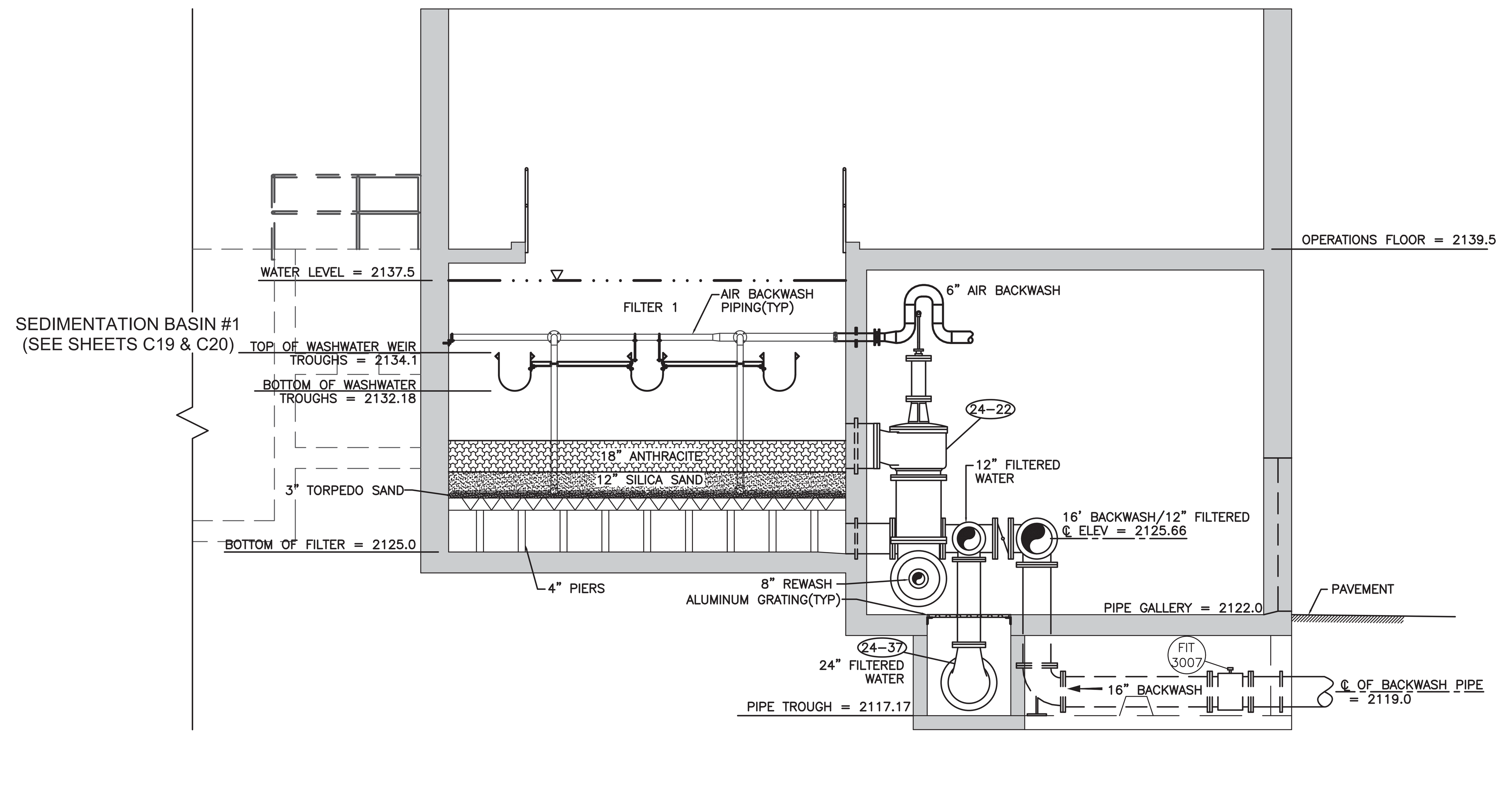
AUSTINVILLE WATER TREATMENT PLANT (DIVISION I)

AUSTINVILLE VIRGINIA

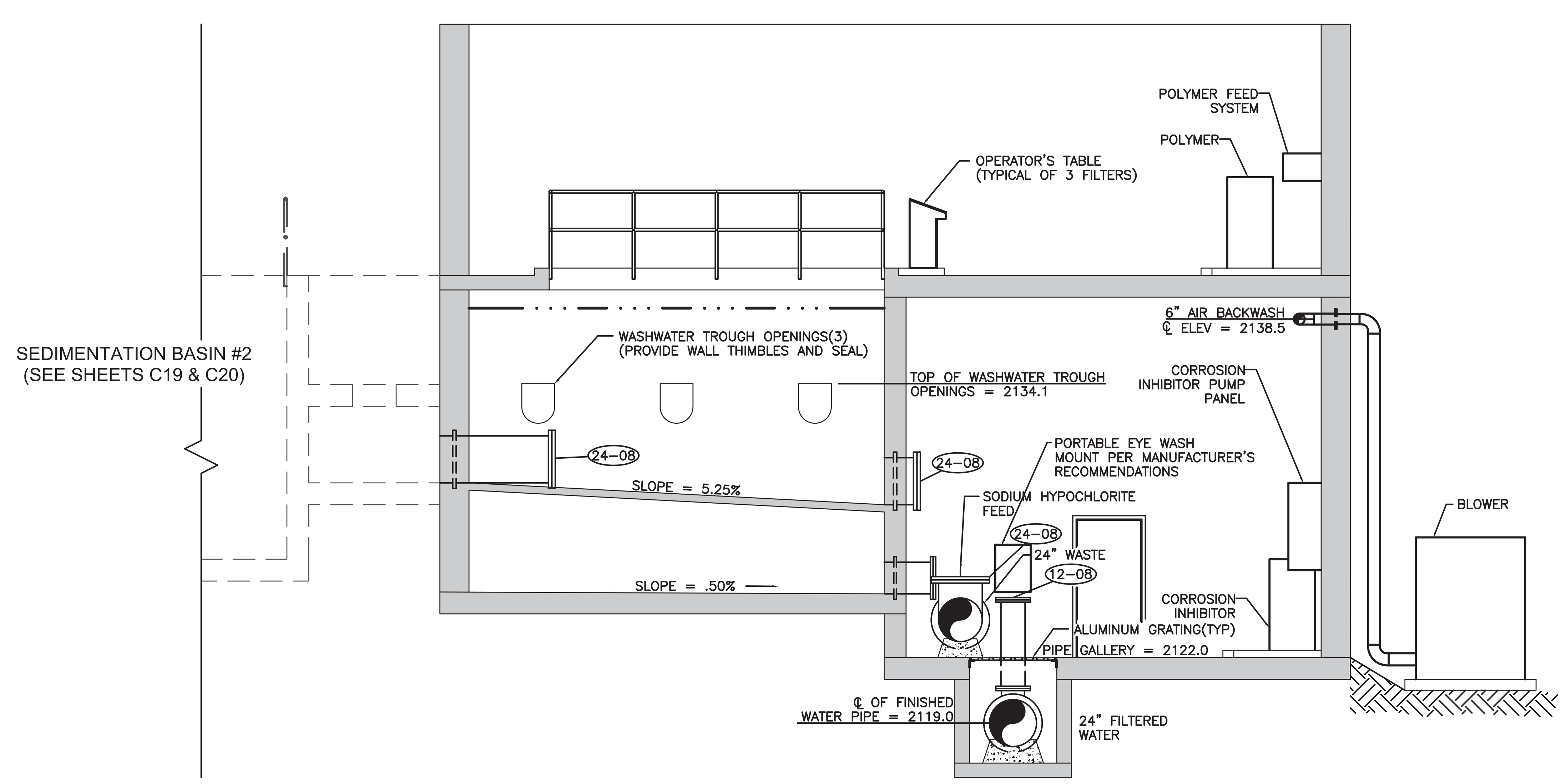
DRAWN BY: A. SQUIRES
REVIEW BY: C.E. PEED
DATE: 20 OCTOBER 2006
REVISION:
DWG DESCRIPTION: FILTER BUILDING - SECTIONS

C22

JN: 04 - 02



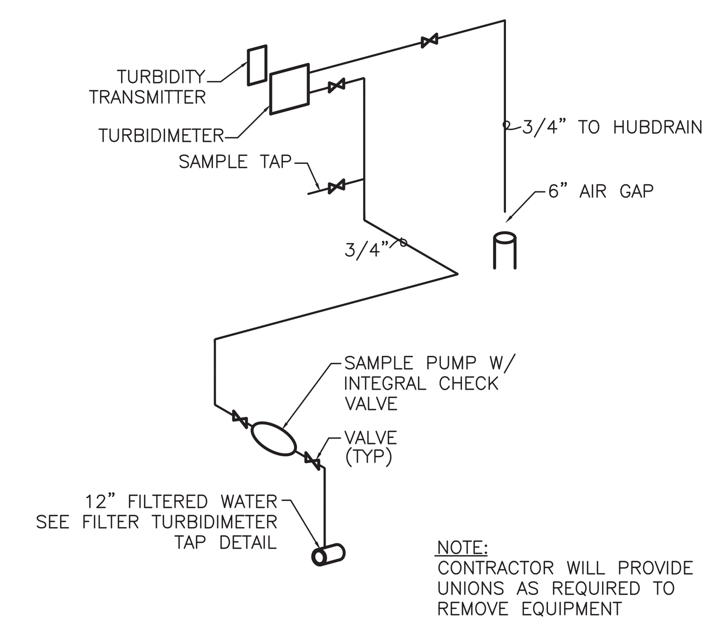
3 C21 C23 SECTION
SCALE: 1/4" = 1'



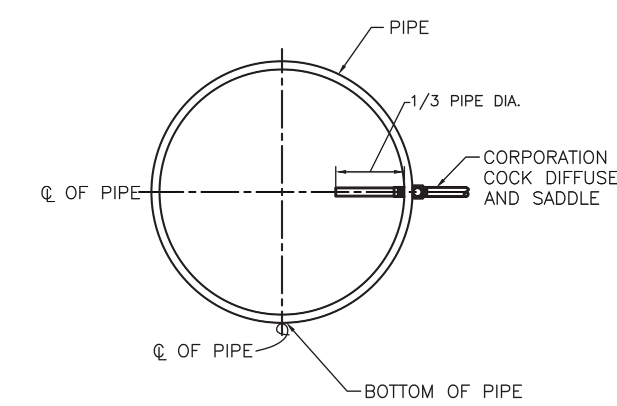
4 C21 C23 SECTION
SCALE: 1/4" = 1'

ELECTRONIC ACTUATOR TABLE			
LOCATION	SIZE	NUMBER	TYPE
MAIN BUILDING - TREATMENT TRAIN #1	12"	VIC-1110	MODULATING
MAIN BUILDING - TREATMENT TRAIN #2	12"	VIC-1210	MODULATING
FILTER BUILDING - FILTER #1 INFLUENT	24"	VIC-3113	OPEN/CLOSE
FILTER BUILDING - FILTER #2 INFLUENT	24"	VIC-3213	OPEN/CLOSE
FILTER BUILDING - FILTER #3 INFLUENT	24"	VIC-3313	OPEN/CLOSE
FILTER BUILDING - FILTER #1 EFFLUENT	12"	VIC-3112	MODULATING
FILTER BUILDING - FILTER #2 EFFLUENT	12"	VIC-3212	MODULATING
FILTER BUILDING - FILTER #3 EFFLUENT	12"	VIC-3312	MODULATING
FILTER BUILDING - FILTER #1 WASTE	24"	VIC-3115	OPEN/CLOSE
FILTER BUILDING - FILTER #2 WASTE	24"	VIC-3215	OPEN/CLOSE
FILTER BUILDING - FILTER #3 WASTE	24"	VIC-3315	OPEN/CLOSE
FILTER BUILDING - FILTER #1 BACKWASH	16"	VIC-3111	MODULATING
FILTER BUILDING - FILTER #2 BACKWASH	16"	VIC-3211	MODULATING
FILTER BUILDING - FILTER #3 BACKWASH	16"	VIC-3311	MODULATING
FILTER BUILDING - FILTER #1 REWASH	6"	VIC-3114	OPEN/CLOSE
FILTER BUILDING - FILTER #2 REWASH	6"	VIC-3214	OPEN/CLOSE
FILTER BUILDING - FILTER #3 REWASH	6"	VIC-3314	OPEN/CLOSE
CONTROL VAULT - SEE SHEET C39	20"	VIC-710	OPEN/CLOSE
CONTROL VAULT - SEE SHEET C39	20"	VIC-711	OPEN/CLOSE
FILTER BUILDING - FILTER #1 AIR BACKWASH	16"	VIC-3110	OPEN/CLOSE
FILTER BUILDING - FILTER #2 AIR BACKWASH	16"	VIC-3210	OPEN/CLOSE
FILTER BUILDING - FILTER #3 AIR BACKWASH	16"	VIC-3311	OPEN/CLOSE

NOTE: CONTRACTOR SHALL PROVIDE A 4" WIDE LEDGE AROUND FILTER PERIPHERY WITH L-SHAPED #5 REBAR AT 12" ON CENTER, IF USING MONOLITHIC WHEELER BOTTOM FILTER UNDER DRAIN.



FILTER EFFLUENT
TURBIDIMETER SCHEMATIC(3 REQ'D)
NOT TO SCALE



FILTER TURBIDIMETER TAP DETAIL
NOT TO SCALE

CROSS REFERENCE LEGEND		
SEE SHEETS		
ARCHITECTURAL	A05	A17
STRUCTURAL	S02	S06
PLUMBING	P03	P05
MECHANICAL	M03	M05
ELECTRICAL	E04	E10
FIRE PROTECTION	FP01	FP02

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AUSTINVILLE WATER TREATMENT PLANT
(DIVISION I)
AUSTINVILLE VIRGINIA

DRAWN BY:
A. SQUIRES
REVIEW BY:
C.E. PEED
DATE:
20 OCTOBER 2006
REVISION:

DWG DESCRIPTION:
FILTER BUILDING
- SECTIONS & DETAILS

C23

JN: 04 - 02

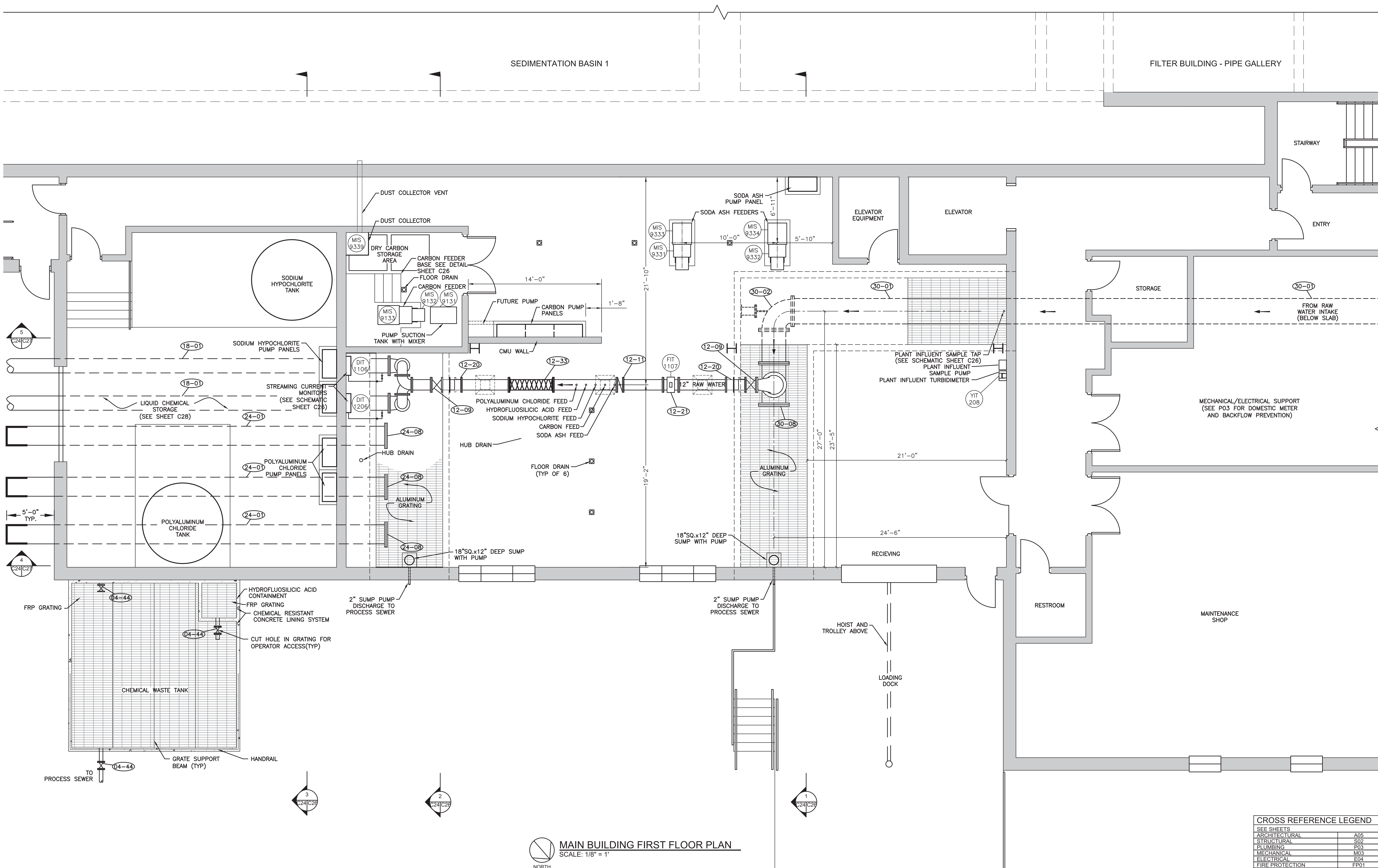
RECORD DRAWINGS
RECORD DRAWINGS
RECORD DRAWINGS
RECORD DRAWINGS

PROCESS PIPING NOTES:

1. ALL PROCESS PIPING SHALL CONFORM TO ALL STATE AND LOCAL CODES, RULES, AND REGULATIONS.

2. ALL PROCESS PIPING SHALL BE DUCTILE IRON PIPE EXCEPT WHEN NOTED OTHERWISE ON THE PLANS.

3. ALL PROCESS PIPING SHALL BE COORDINATED WITH OTHER TRADES TO AVOID ANY CONFLICTS OR INTERFERENCES.



MAIN BUILDING FIRST FLOOR PLAN
SCALE: 1/8" = 1'

CROSS REFERENCE LEGEND		
SEE SHEETS		
ARCHITECTURAL	A05	A17
STRUCTURAL	S02	S06
PLUMBING	P03	P05
MECHANICAL	M03	M05
ELECTRICAL	E04	E10
FIRE PROTECTION	FP01	FP02

Reed & Bortz, L.L.C.
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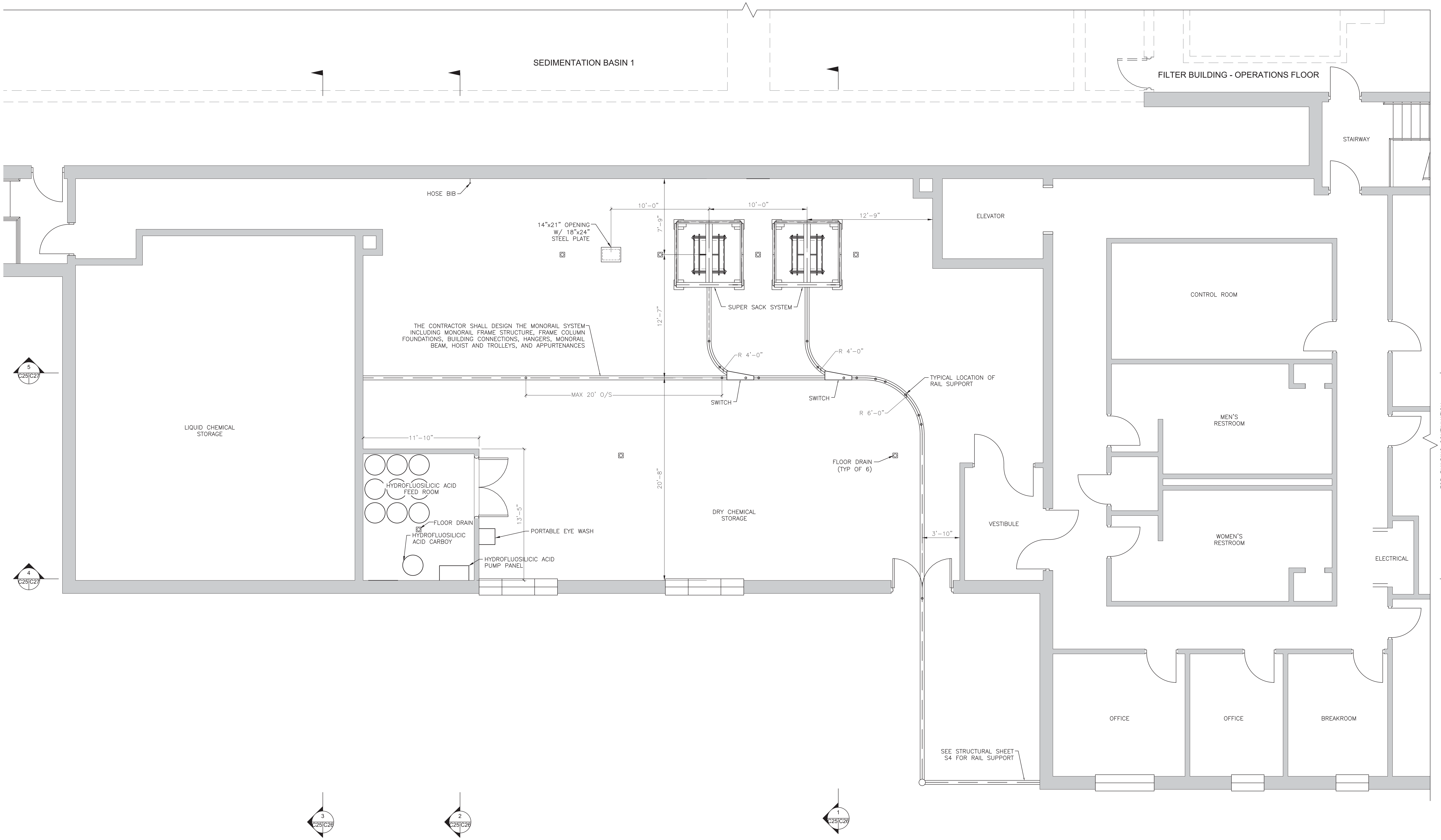
AUSTINVILLE WATER TREATMENT PLANT (DIVISION I)
AUSTINVILLE VIRGINIA

DRAWN BY: A. SQUIRES
REVIEW BY: C.E. PEED
DATE: 20 OCTOBER 2006
REVISION:

DWG DESCRIPTION: MAIN BUILDING - FIRST FLOOR PLAN

C24

JN: 04 - 02



NORTH

MAIN BUILDING SECOND FLOOR PLAN
SCALE: 1/4" = 1'

CROSS REFERENCE LEGEND		
SEE SHEETS		
ARCHITECTURAL	A05	A17
STRUCTURAL	S02	S06
PLUMBING	P03	P05
MECHANICAL	M03	M05
ELECTRICAL	E04	E10
FIRE PROTECTION	FP01	FP02

Reed & Bortz, L.L.C.
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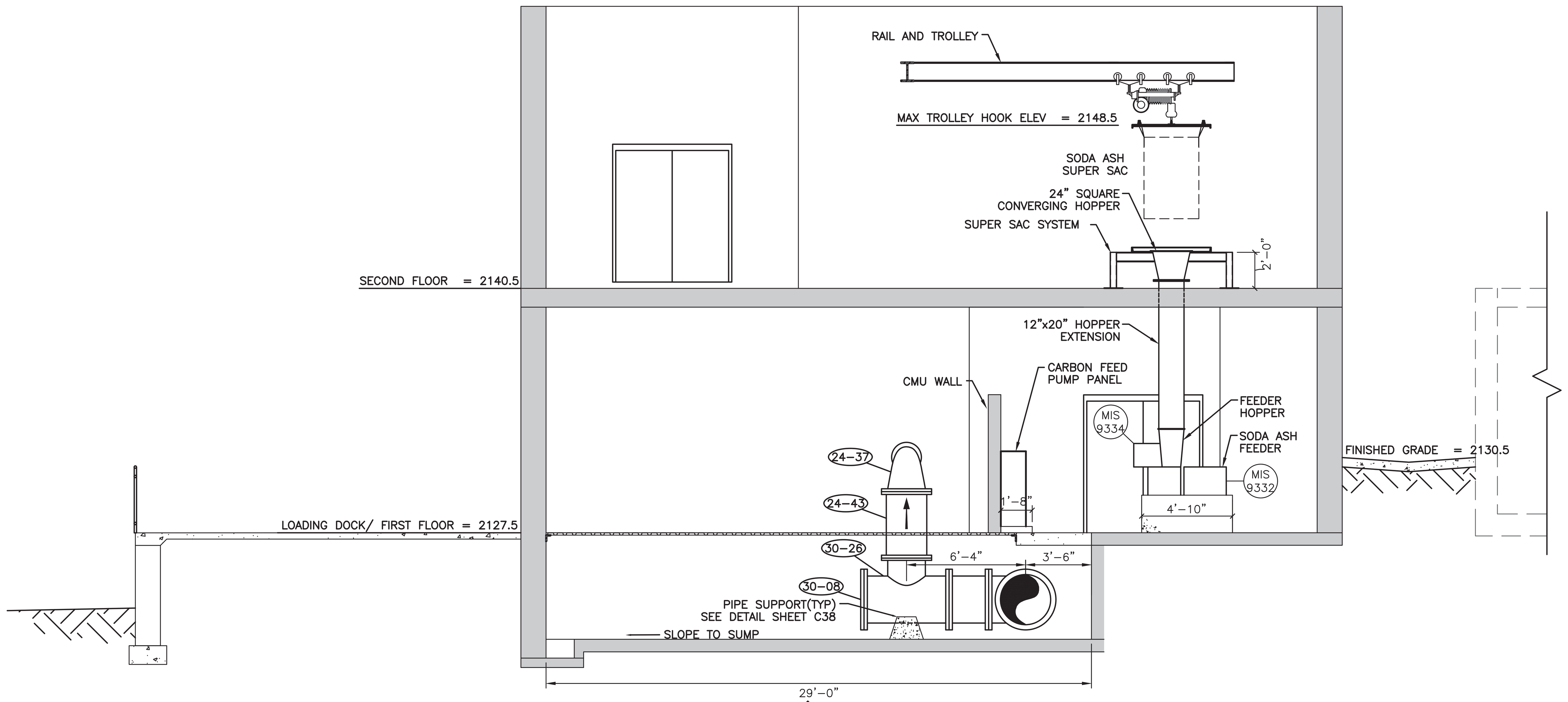
CERTIFIED PROFESSIONAL ENGINEER

AUSTINVILLE WATER TREATMENT PLANT
(DIVISION I)
AUSTINVILLE VIRGINIA

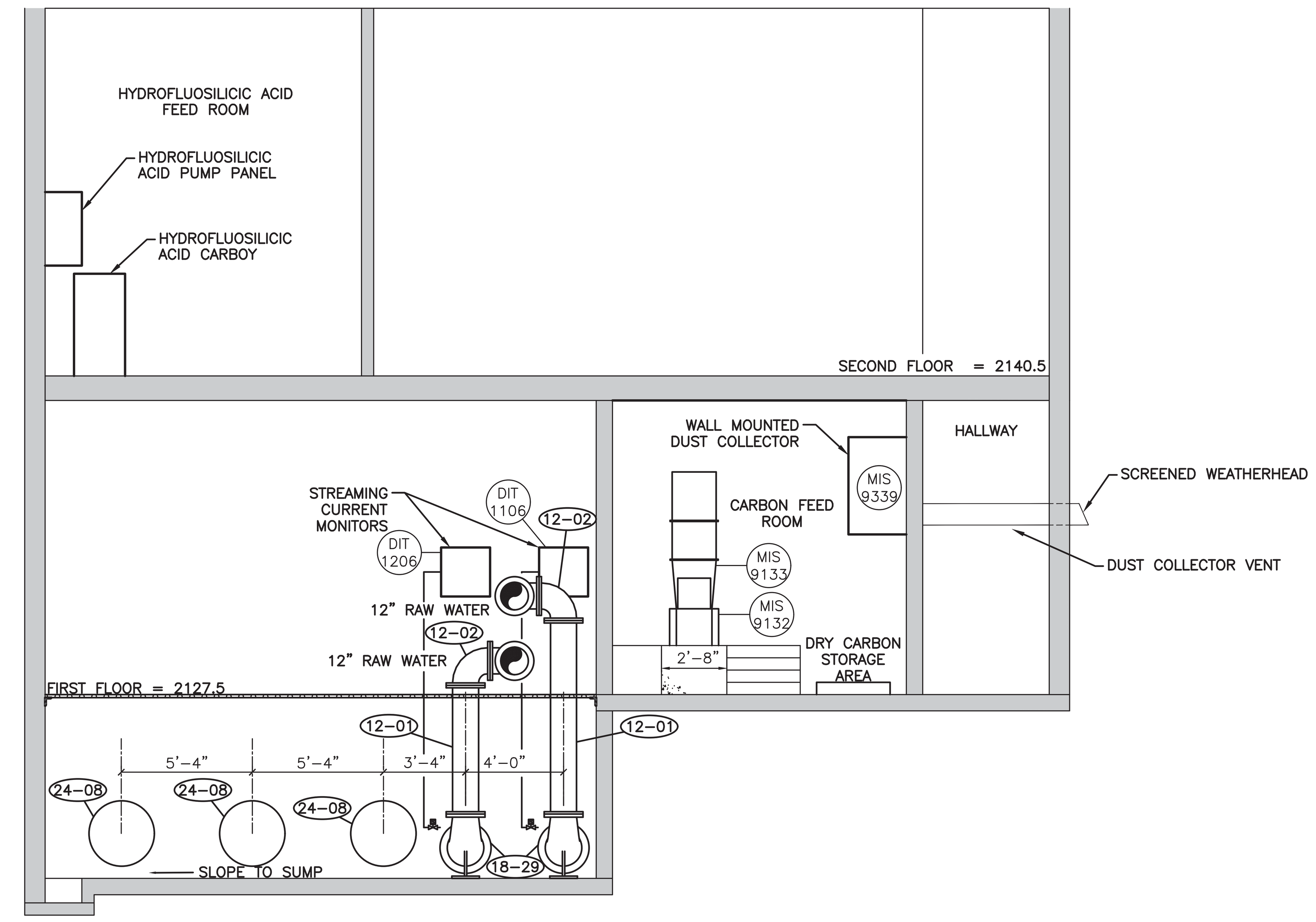
DRAWN BY: A. SQUIRES
REVIEW BY: C.E. PEED
DATE: 20 OCTOBER 2006
REVISION:
DWG DESCRIPTION: MAIN BUILDING - SECOND FLOOR PLAN

C25

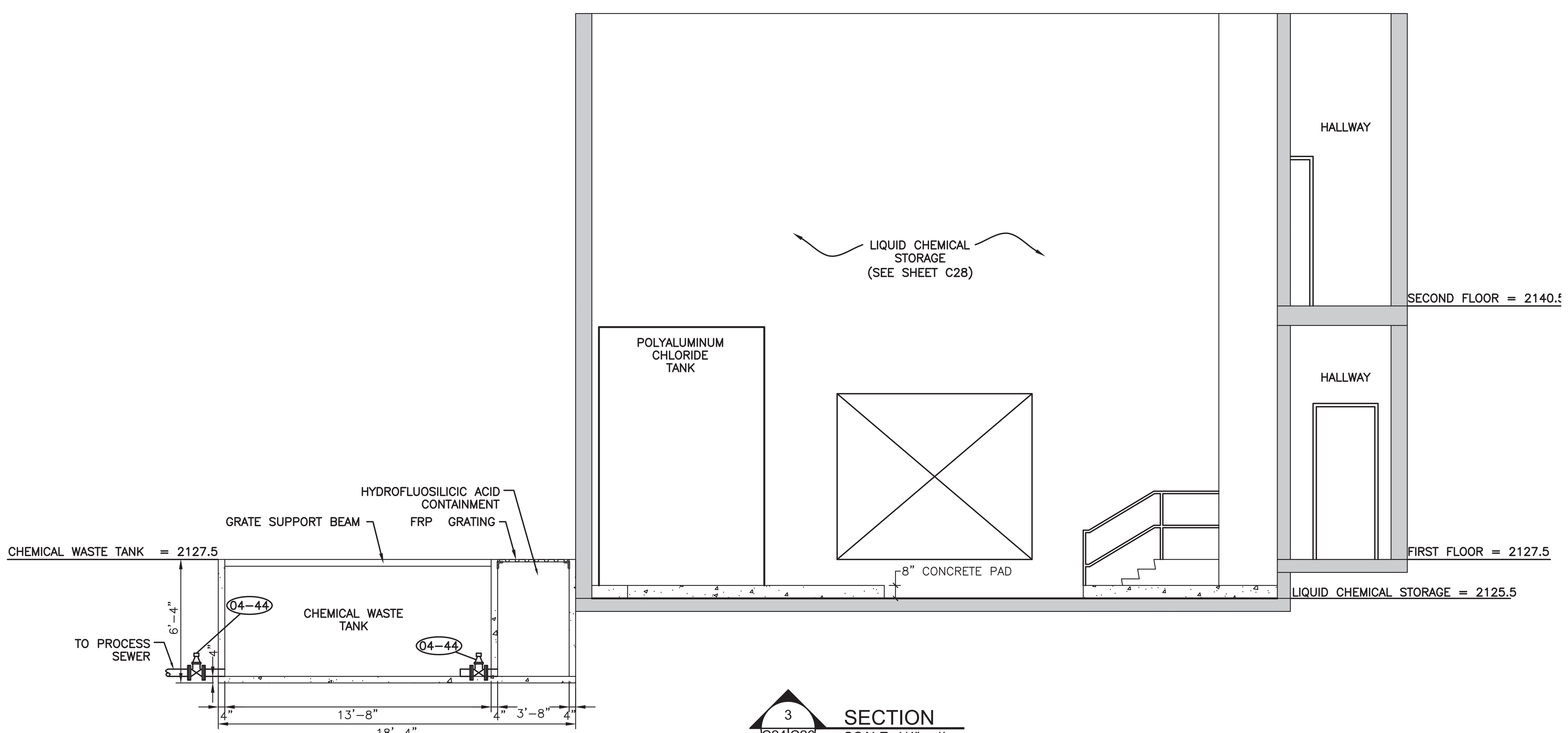
JN: 04 - 02



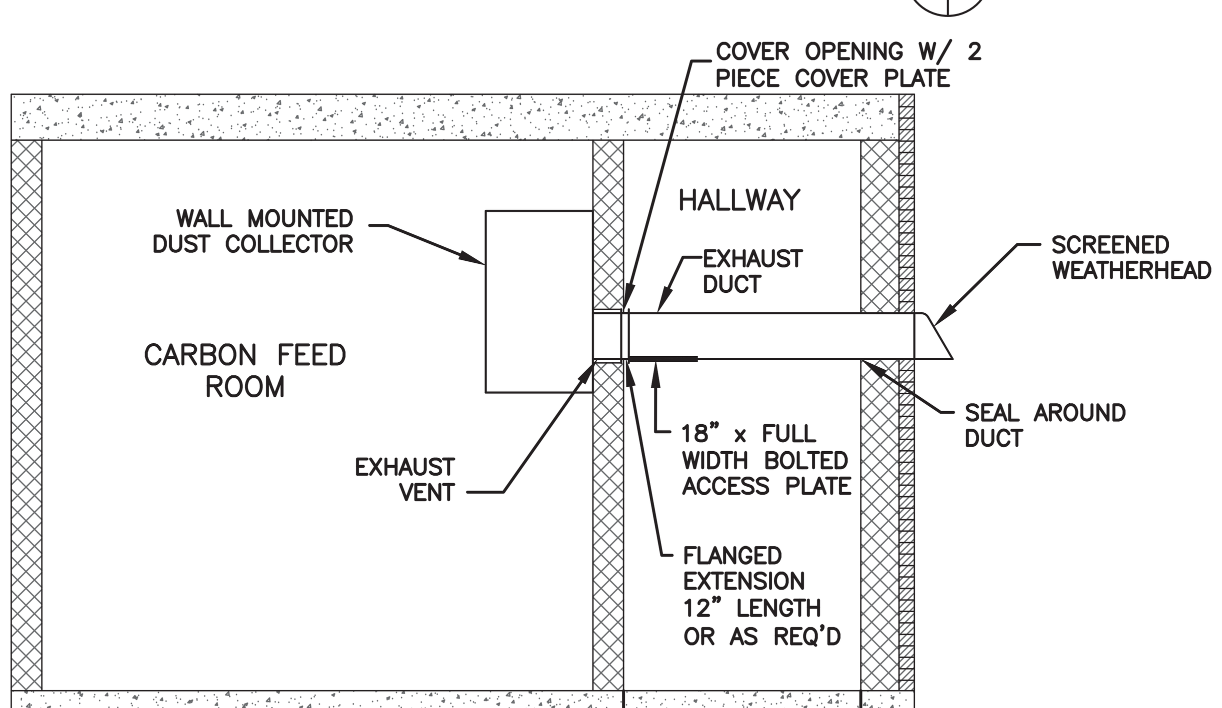
SECTION
SCALE: 1/4" = 1'



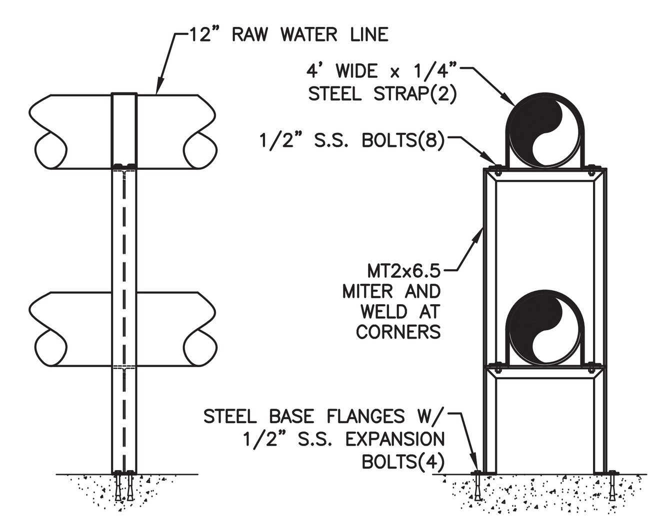
SECTION
SCALE: 1/4" = 1'



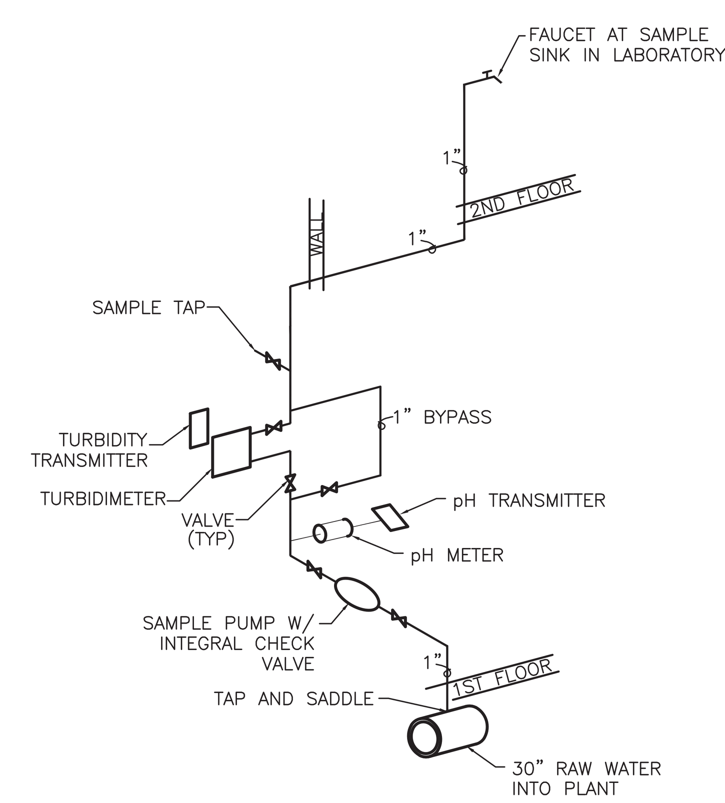
SECTION
SCALE: 1/4" = 1'



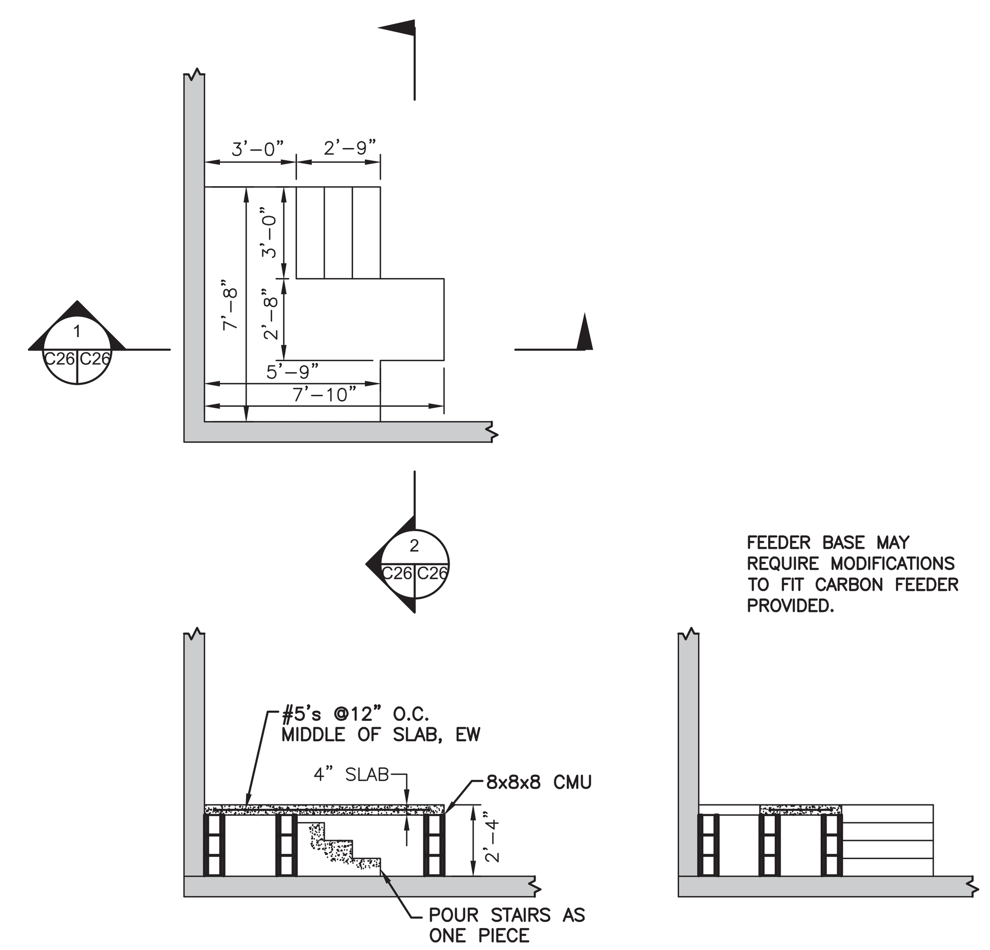
DUST COLLECTOR EXPLOSION VENT DUCT
SCALE: 1/32" =1'



DUAL PIPE
SUPPORT BRACKET
NOT TO SCALE



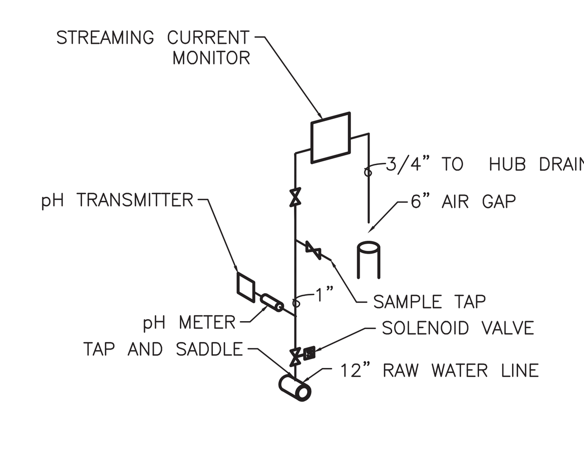
PLANT INFLUENT/RAW WATER
SAMPLE SCHEMATIC(1 REQ'D)
NOT TO SCALE



SECTION
SCALE: 1/4" = 1'

SECTION
SCALE: 1/4" = 1'

CARBON FEEDER BASE



pH METER/ STREAMING
CURRENT MONITOR(2 REQ'D)
NOT TO SCALE

CROSS REFERENCE LEGEND

SEE SHEETS		
ARCHITECTURAL	A05	A17
STRUCTURAL	S02	S06
PLUMBING	P03	P05
MECHANICAL	M03	M05
ELECTRICAL	E04	E10
FIRE PROTECTION	FP01	FP02

Peed & Bortz, L.L.C.
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SEAL

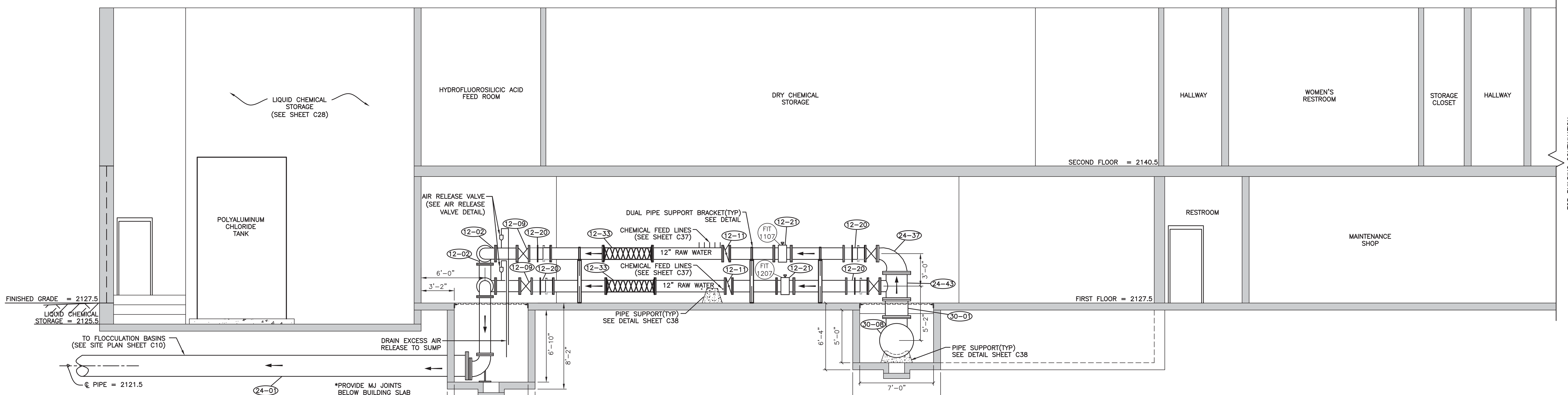
AUSTINVILLE WATER TREATMENT PLANT (DIVISION I)

AUSTINVILLE VIRGINIA

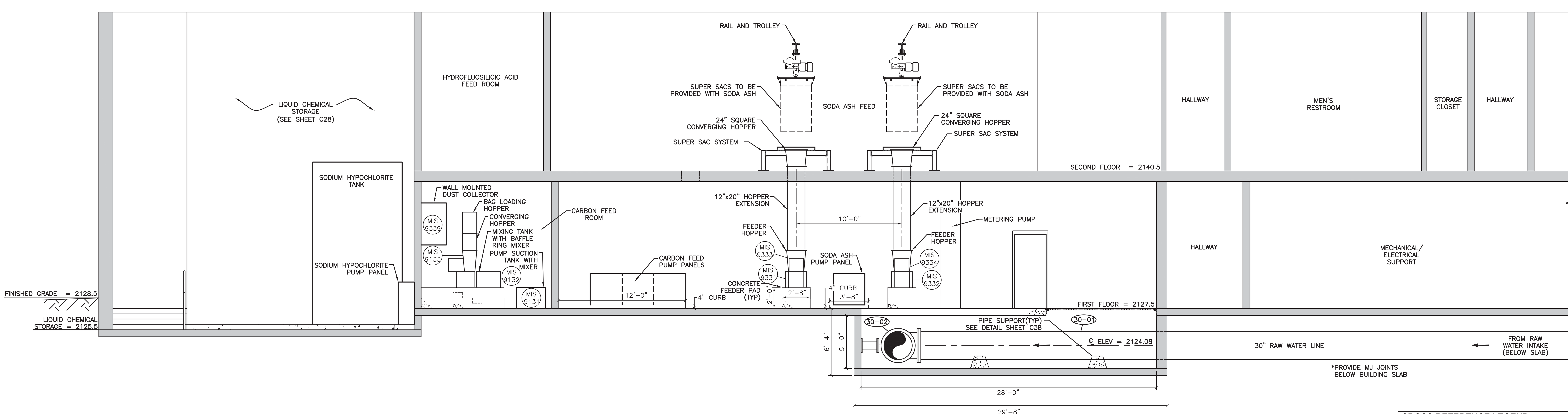
DRAWN BY: A. SQUIRES
REVIEW BY: C.E. PEED
DATE: 20 OCTOBER 2006
REVISION:
DWG DESCRIPTION: MAIN BUILDING - SECTIONS & DETAILS

C26

JN: 04 - 02



4 C24 C27 SECTION
SCALE: 1/4" = 1'



5 C24 C27 SECTION
SCALE: 1/4" = 1'

CROSS REFERENCE LEGEND

SEE SHEETS		
ARCHITECTURAL	A05	A17
STRUCTURAL	S02	S06
PLUMBING	P03	P05
MECHANICAL	M03	M05
ELECTRICAL	E04	E10
FIRE PROTECTION	FP01	FP02

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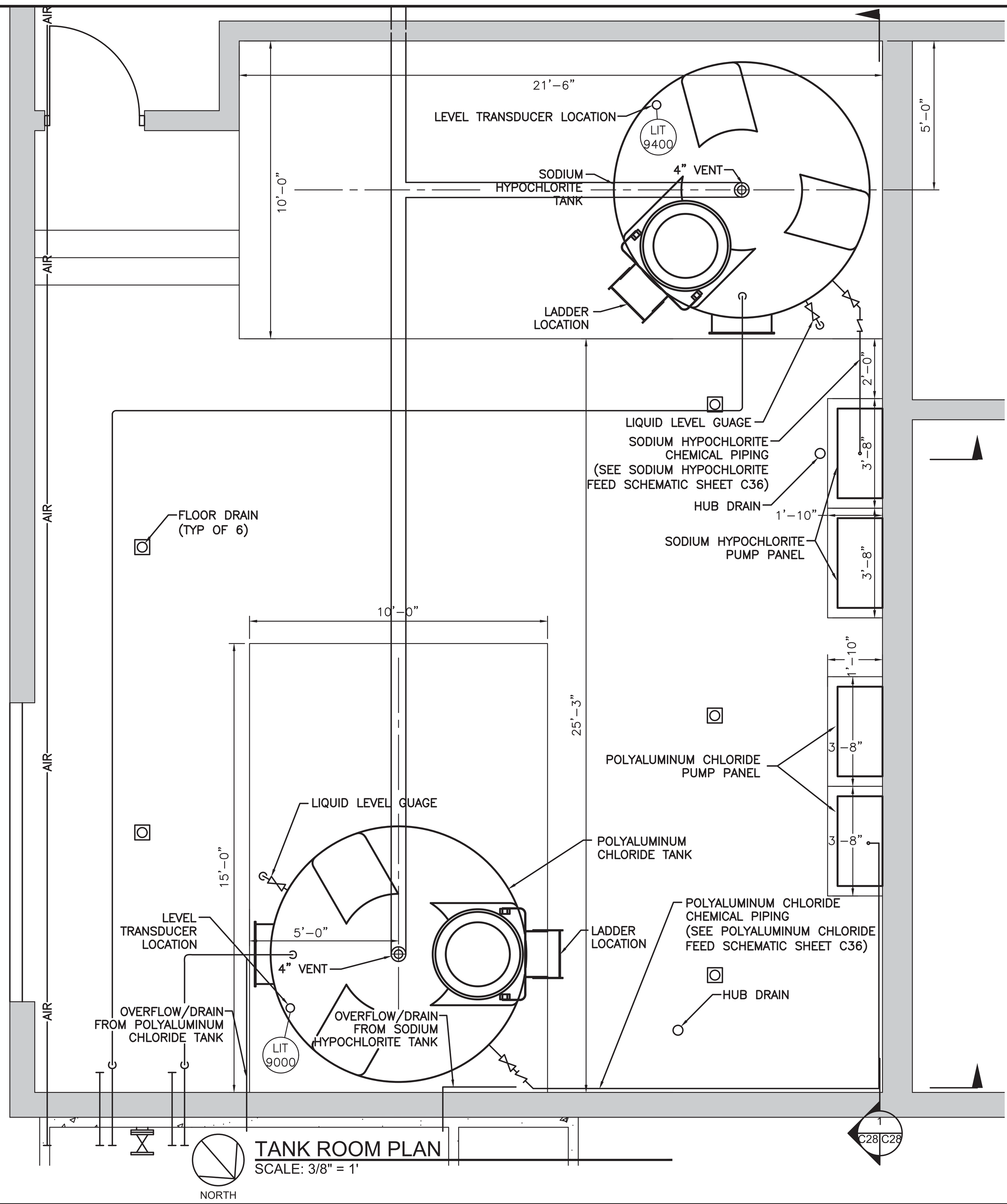
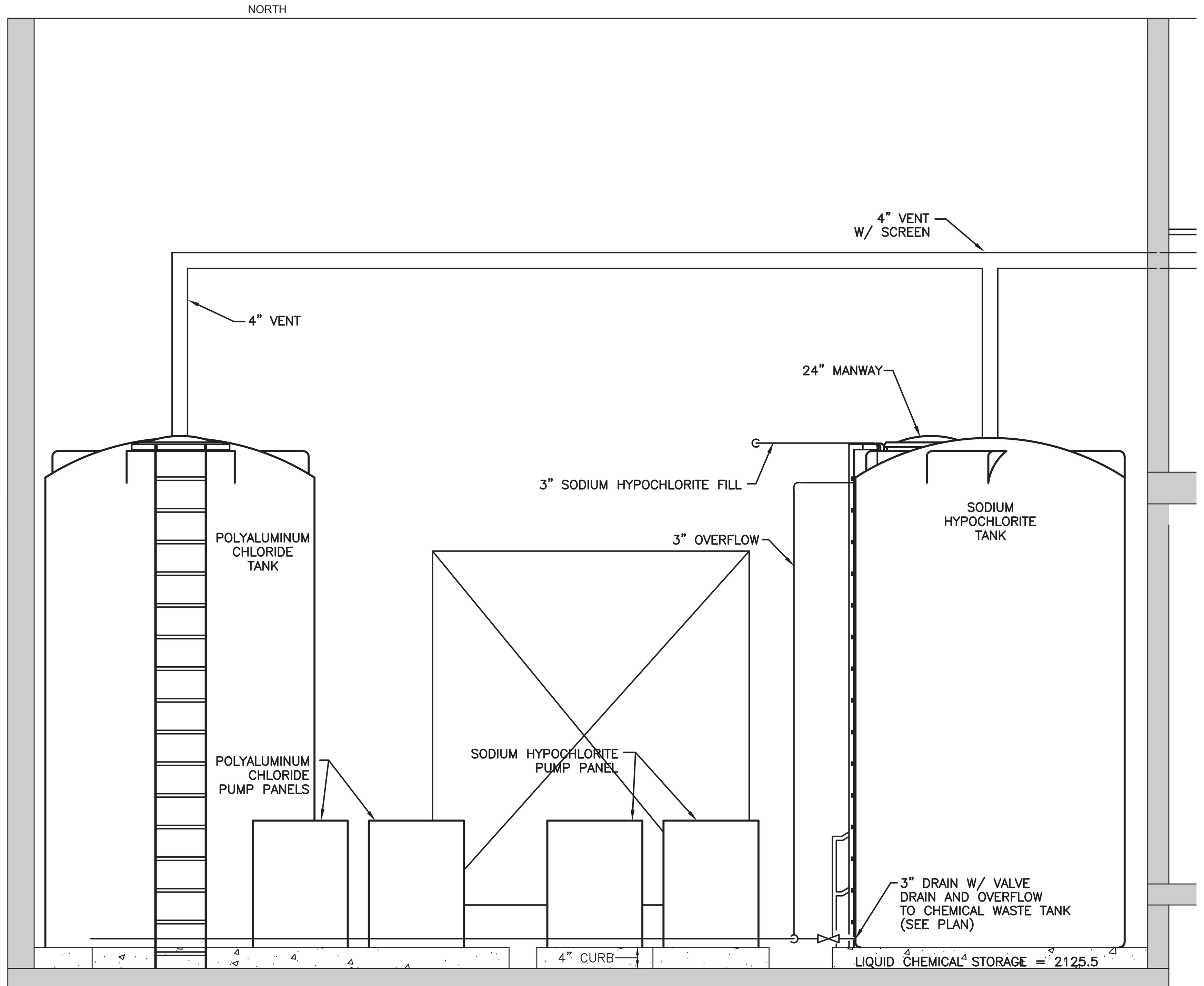
REVIEW BY: C.E. PEED
DATE: 20 OCTOBER 2006
REVISION:
DWG DESCRIPTION: MAIN BUILDING - SECTIONS

C27

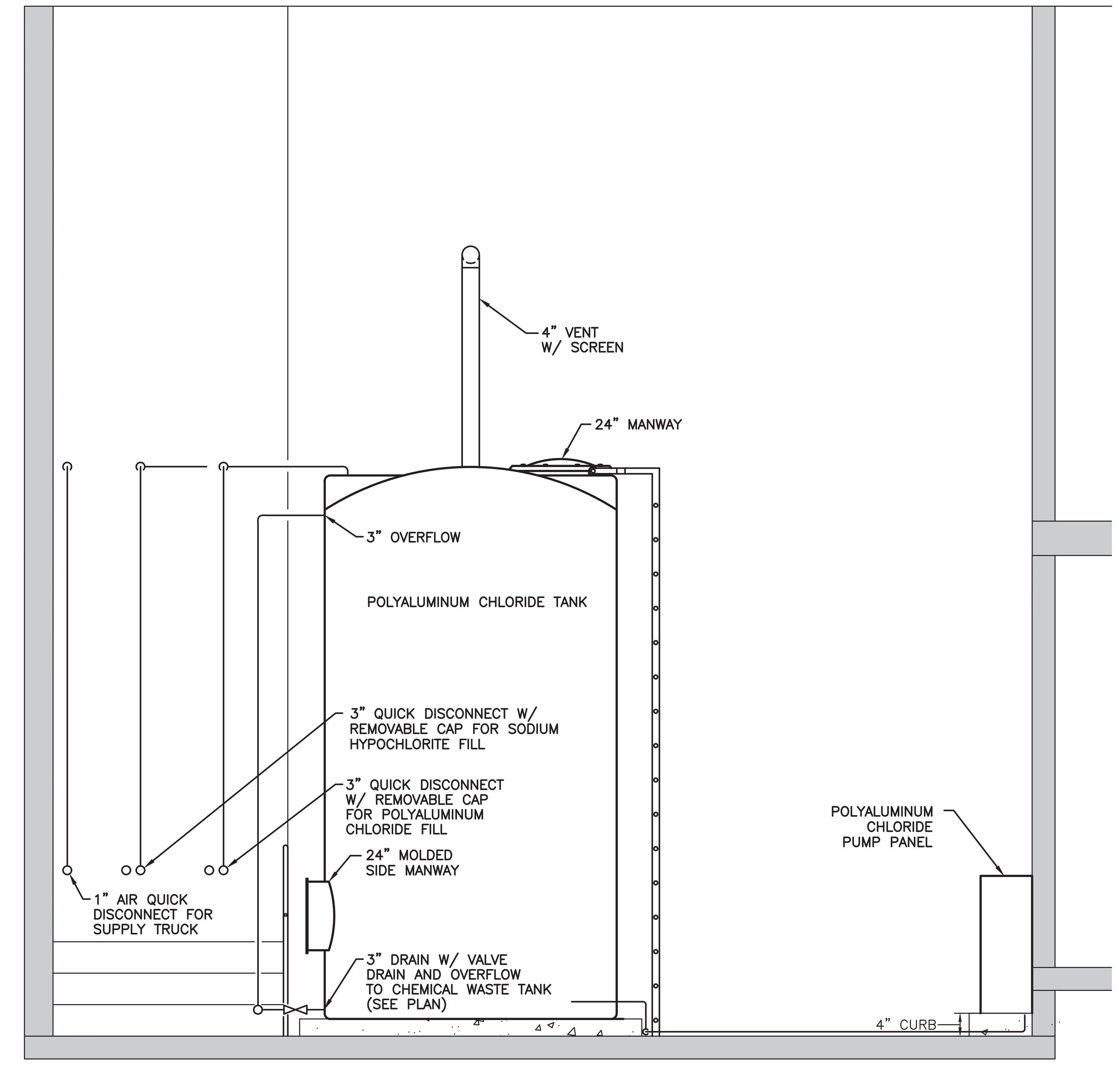
JN: 04 - 02



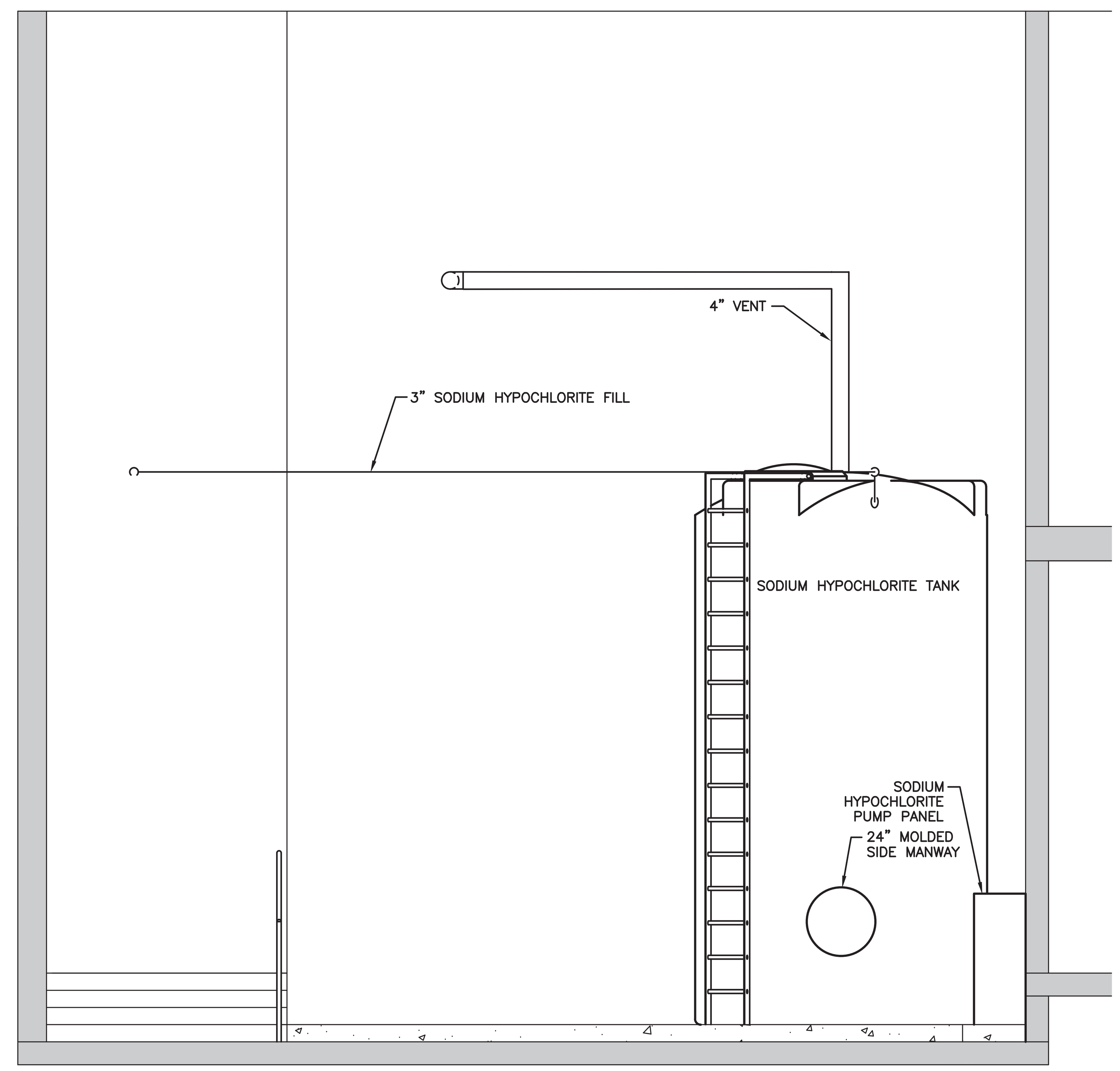
TANK ROOM PLAN
SCALE: 3/8" = 1'



SECTION
1 C28 C28
SCALE: 3/8" = 1'



SECTION
2 C28 C28
SCALE: 3/8" = 1'



SECTION
3 C28 C28
SCALE: 3/8" = 1'

CROSS REFERENCE LEGEND		
SEE SHEETS		
ARCHITECTURAL	A05	A17
STRUCTURAL	S02	S06
PLUMBING	P03	P05
MECHANICAL	M03	M05
ELECTRICAL	E04	E10
FIRE PROTECTION	FP01	FP02

Peed & Bortz, L.L.C.
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SEAL
COMMONWEALTH OF VIRGINIA
CLEMENT E. PEED
No. 7101
CERTIFIED PROFESSIONAL ENGINEER

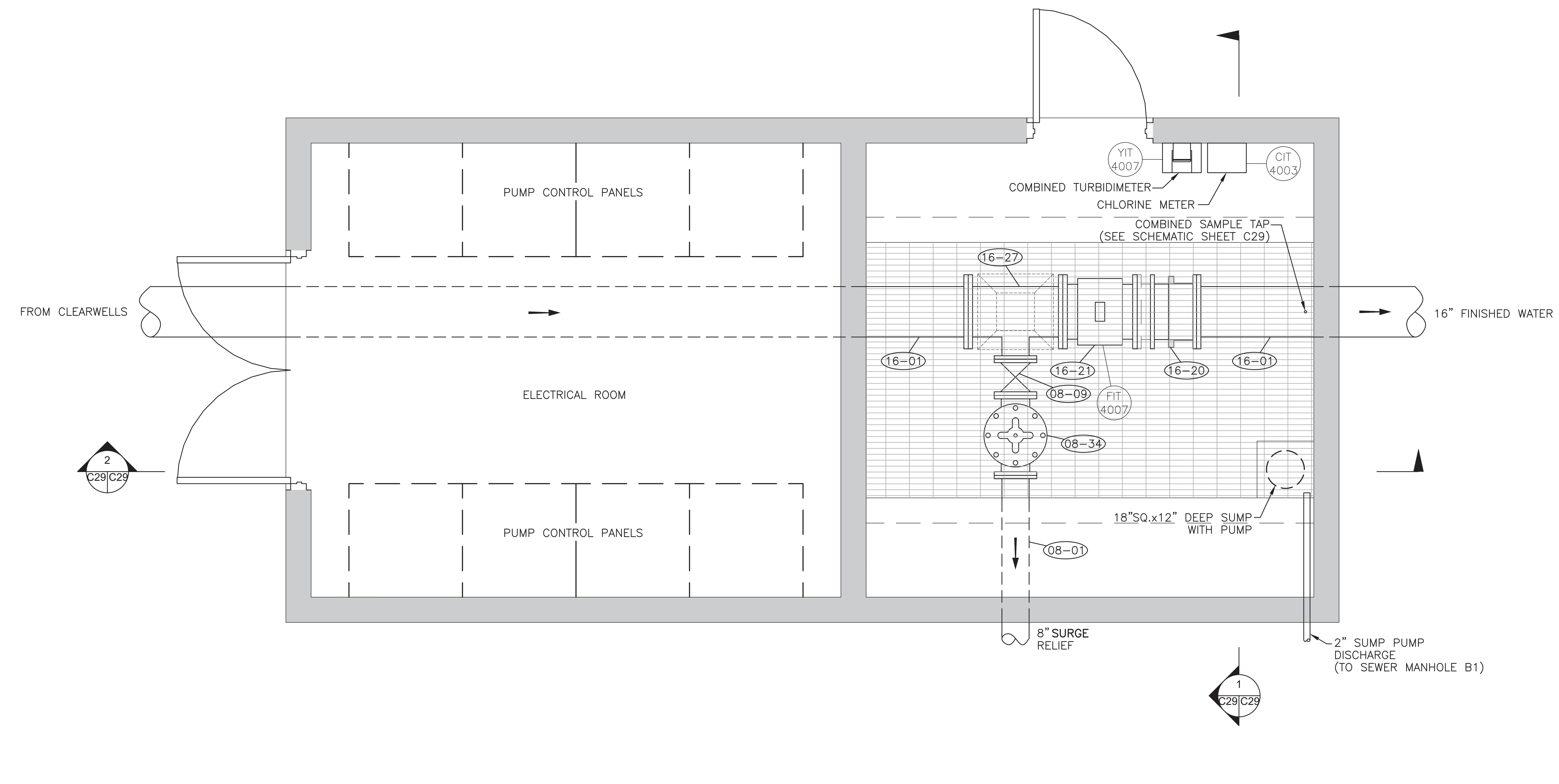
AUSTINVILLE WATER TREATMENT PLANT (DIVISION I)

AUSTINVILLE VIRGINIA

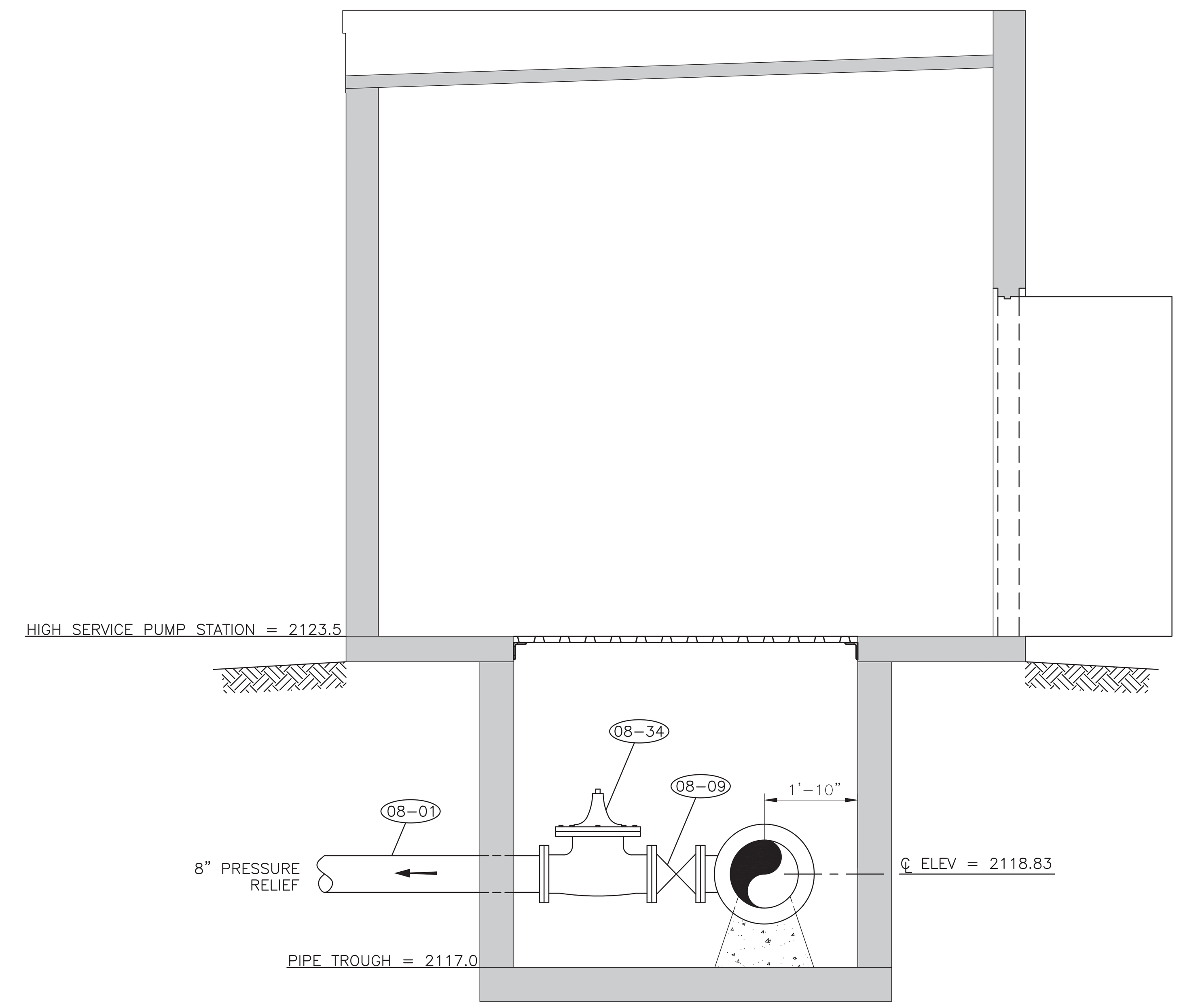
DRAWN BY: A. SQUIRES
REVIEW BY: C.E. PEED
DATE: 20 OCTOBER 2006
REVISION:
DWG DESCRIPTION: MAIN BUILDING - TANK ROOM DETAIL

C28

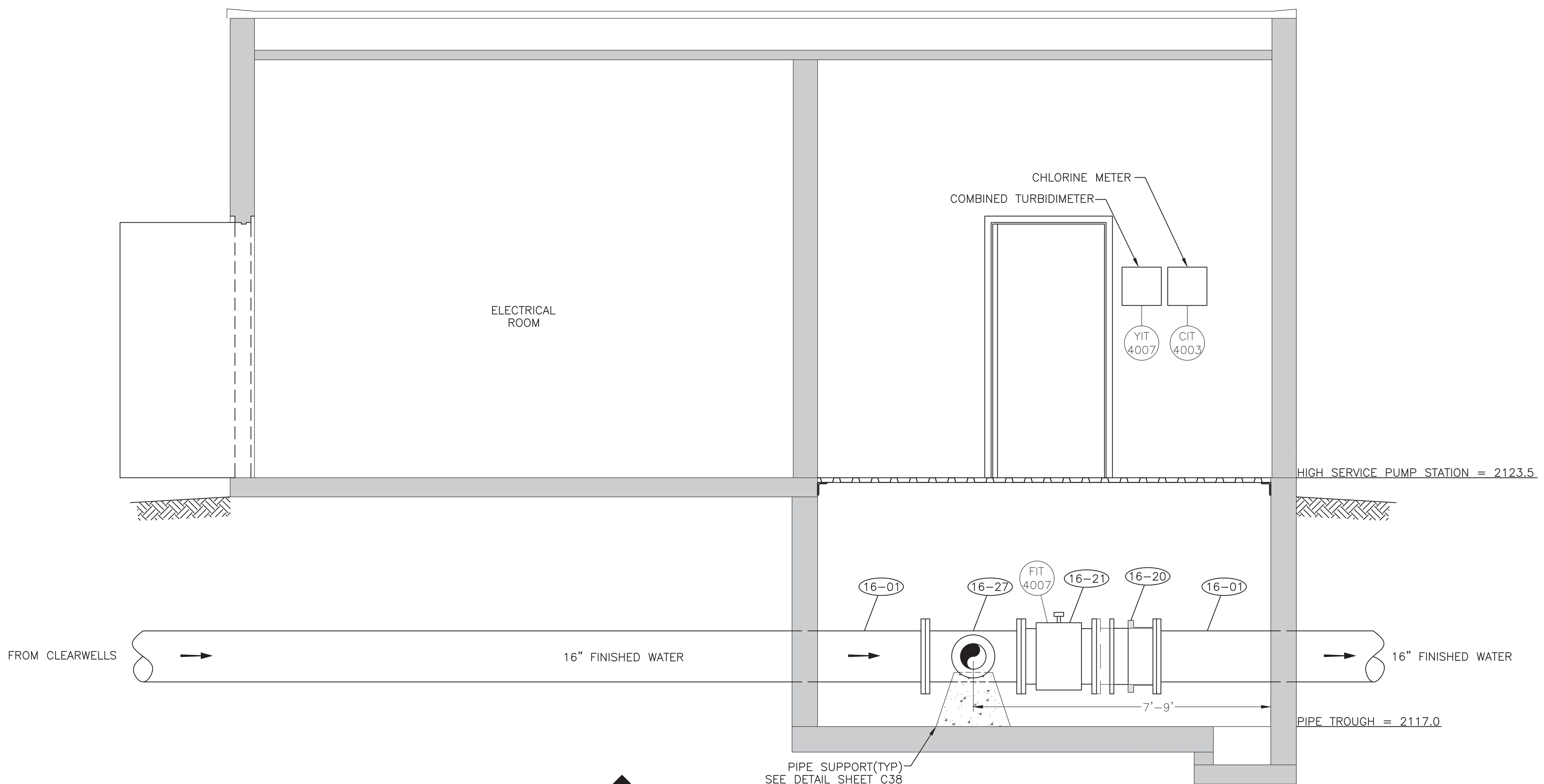
JN: 04 - 02



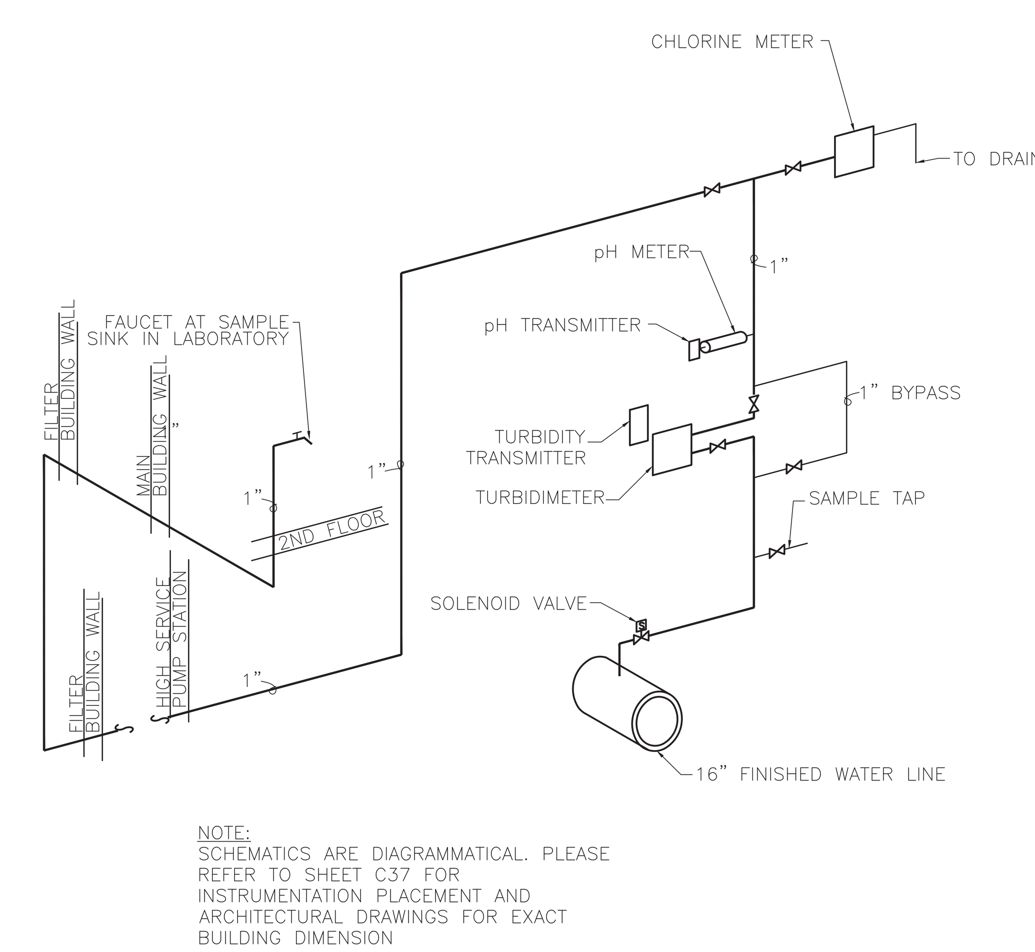
HIGH SERVICE PUMP STATION PLAN
SCALE: 1/2" = 1'
NORTH



1 C29 C29 SECTION
SCALE: 1/2" = 1'

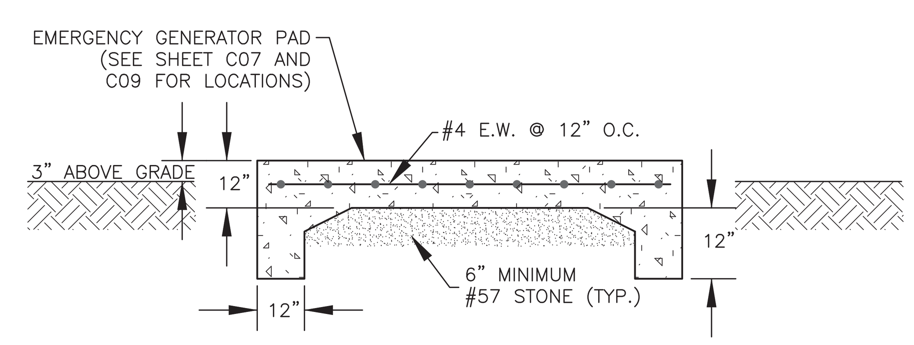


2 C29 C29 SECTION
SCALE: 1/2" = 1'



NOTE:
SCHEMATICS ARE DIAGRAMMATICAL. PLEASE REFER TO SHEET C37 FOR INSTRUMENTATION PLACEMENT AND ARCHITECTURAL DRAWINGS FOR EXACT BUILDING DIMENSION

COMBINED FILTER EFFLUENT
TURBIDIMETER AND SAMPLE SCHEMATIC
NOT TO SCALE



EMERGENCY GENERATOR PAD 192" x 96"
NOT TO SCALE

CROSS REFERENCE LEGEND		
SEE SHEETS		
ARCHITECTURAL		A18
STRUCTURAL		S13
PLUMBING		P07
MECHANICAL		M06
ELECTRICAL		E03

Reed & Bortz, L.L.C.
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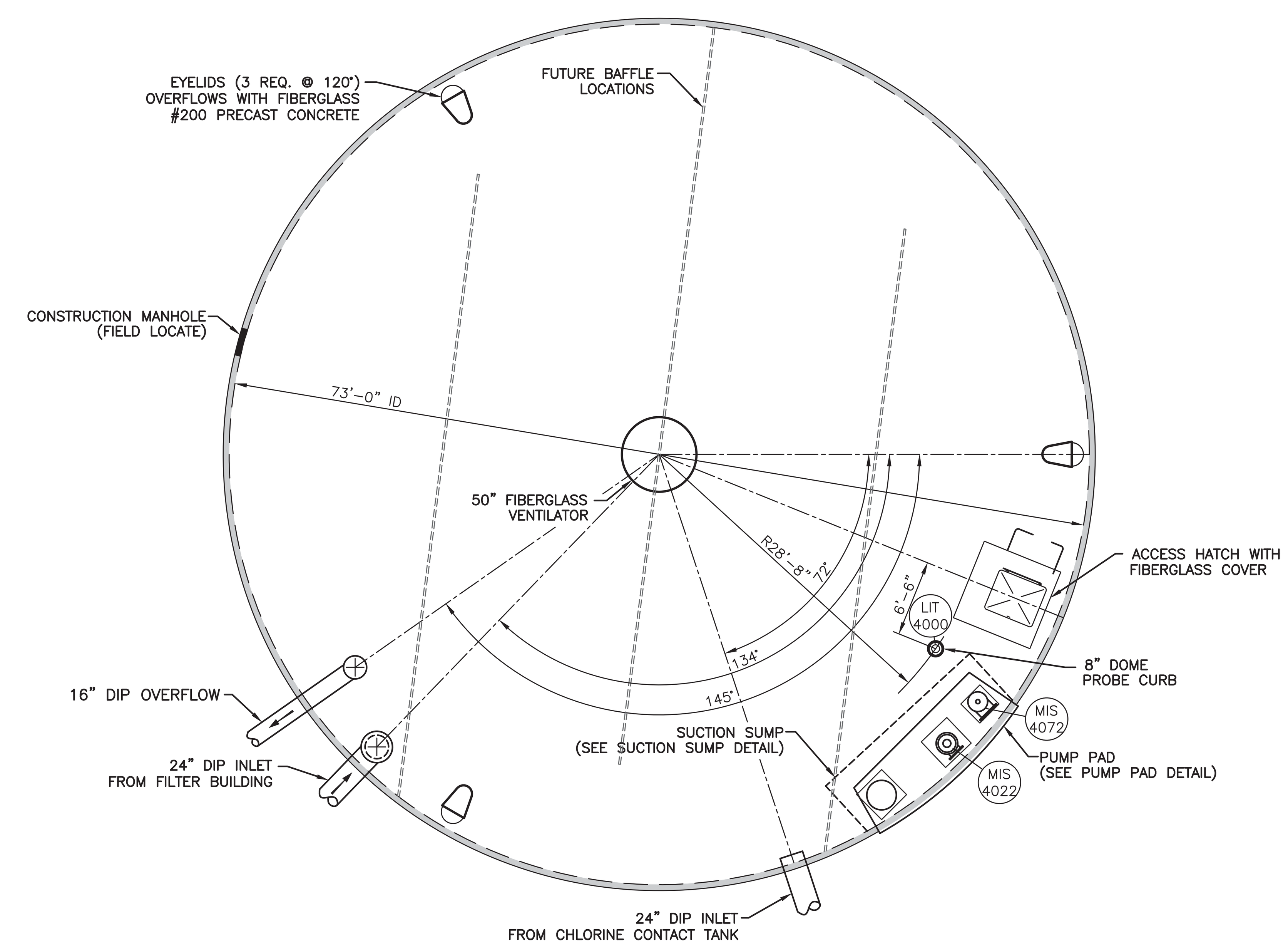
AUSTINVILLE WATER TREATMENT PLANT (DIVISION I)
AUSTINVILLE VIRGINIA

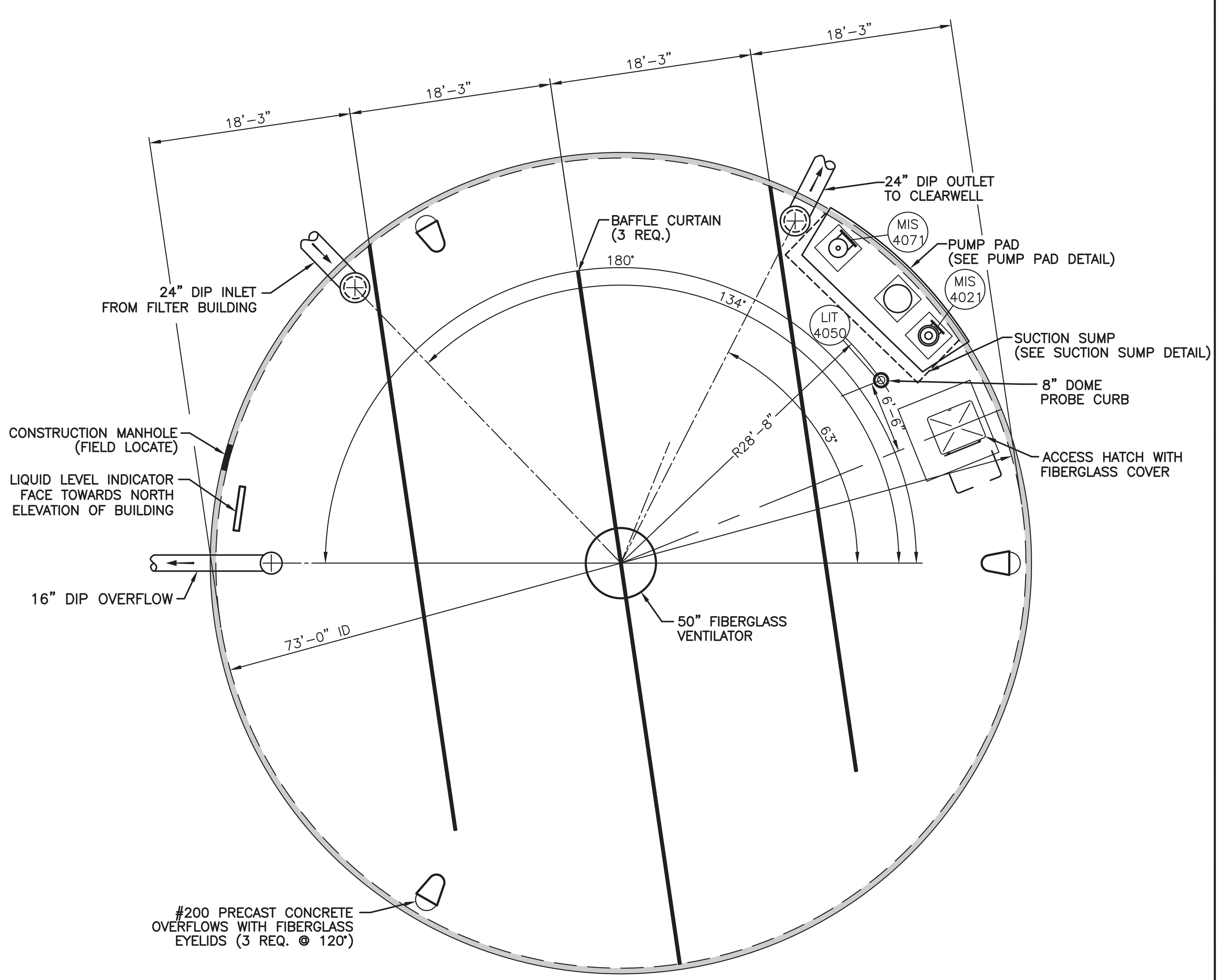
DRAWN BY: A. SQUIRES
REVIEW BY: C.E. PEED
DATE: 20 OCTOBER 2006
REVISION:
DWG DESCRIPTION: HIGH SERVICE PUMP STATION - PLAN & SECTIONS

C29

JN: 04 - 02



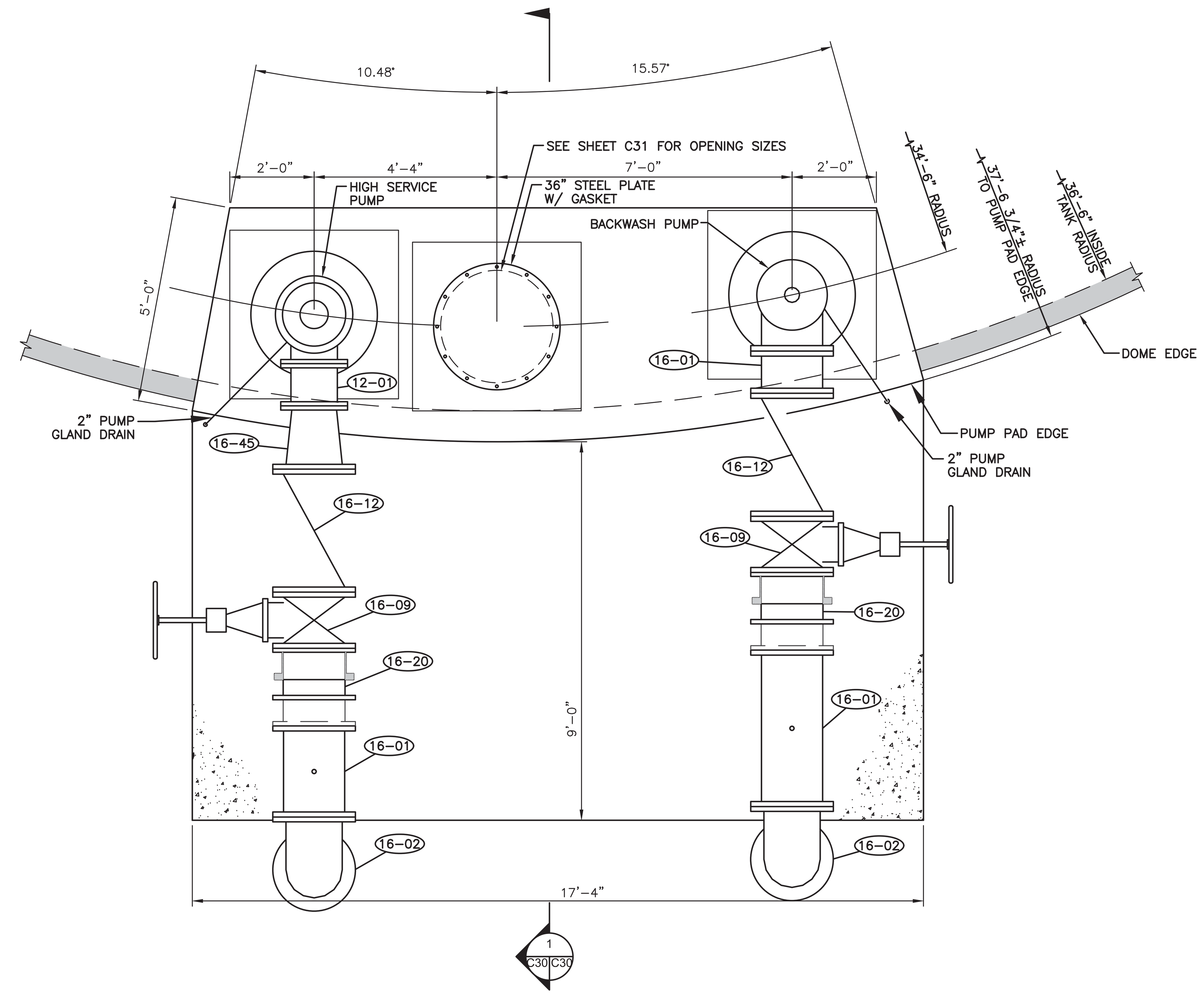
CLEARWELL TANK PLAN
SCALE: 1/8" = 1'



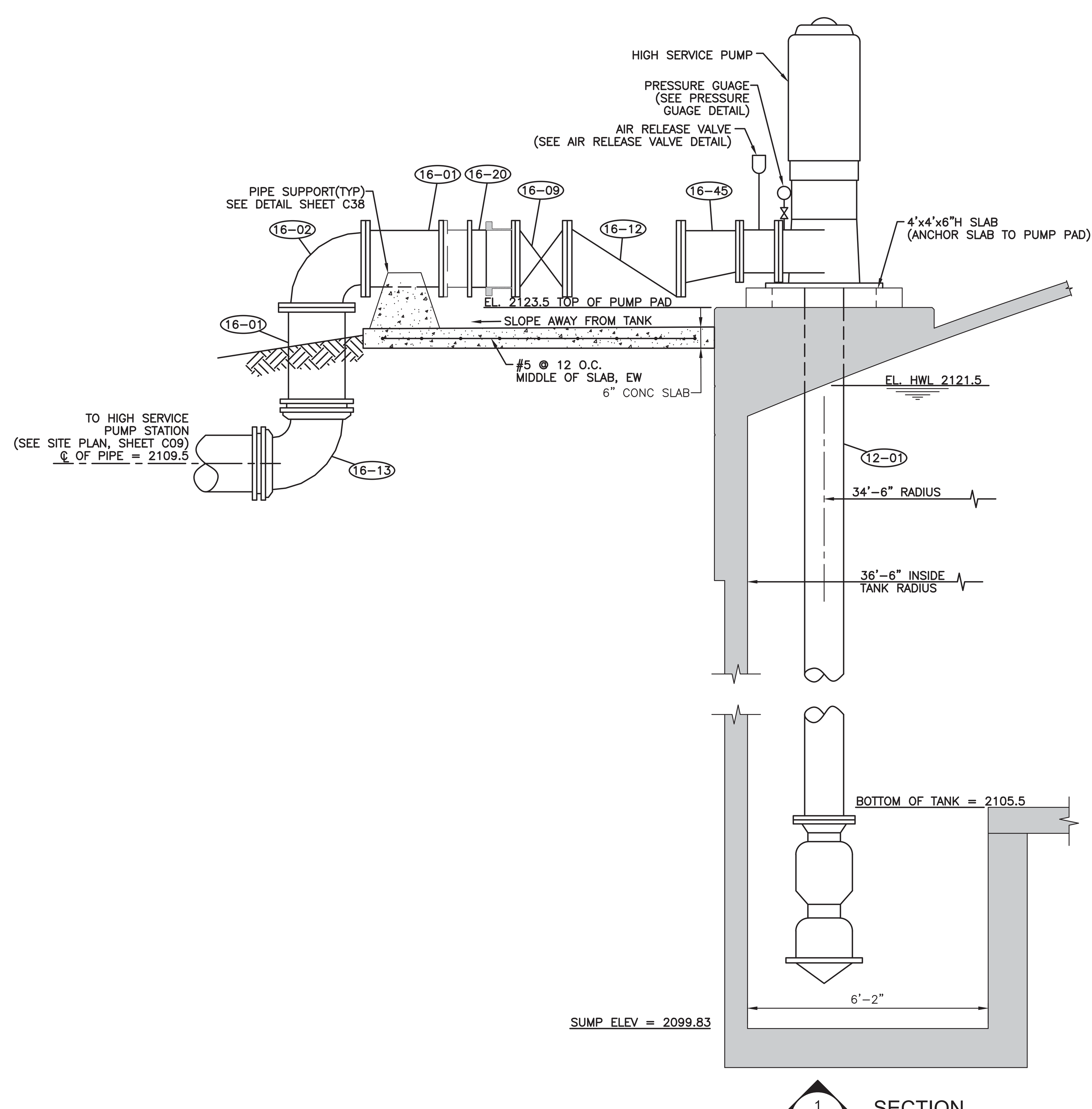
NOTE: FIELD VERIFY ALL ACCESSORY & PIPE LOCATIONS WITH ENGINEER PRIOR TO PLACEMENT.

ALL PUMP LOCATIONS, BASES, PROTRUSIONS AND PIPING ARE SHOWN FOR GENERAL PUMP MODEL. CONTRACTOR SHALL COORDINATE THESE IF PUMP MODEL IS SUBSTITUTED

CHLORINE CONTACT TANK PLAN
SCALE: 1/8" = 1'



PUMP PAD DETAIL
SCALE: 1/2" = 1'



SECTION
SCALE: 1/2" = 1'

NOTES:
1. PUMP PIPING PLAN SHOWN AS PIPING FOR CHLORINE CONTACT TANK. MIRROR PLAN FOR CLEARWELL TANK.
2. SLEEVE DIAMETER SHALL BE COORDINATED WITH THE PUMP PROVIDER. CONTRACTOR SHALL COORDINATE PUMP MODEL.
3. CONTRACTOR SHALL INSULATE AND HEAT TRACE ALL EXTERIOR PIPING.
4. COMPACT ALL FILL MATERIAL AND PIPE BEDDING TO 95% BENEATH ALL PIPES.
5. PIPE DRAIN PIPING FROM PUMP GLANDS AWAY FROM TANKS.
6. CONTRACTOR SHALL LOCATE OVERFLOW EYELIDS SO GRADING IS ALWAYS 2' BELOW OVERFLOW DISCHARGE ELEVATION.

Reed & Bortz, L.L.C.
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CERTIFIED PROFESSIONAL ENGINEER

AUSTINVILLE WATER TREATMENT PLANT (DIVISION I)

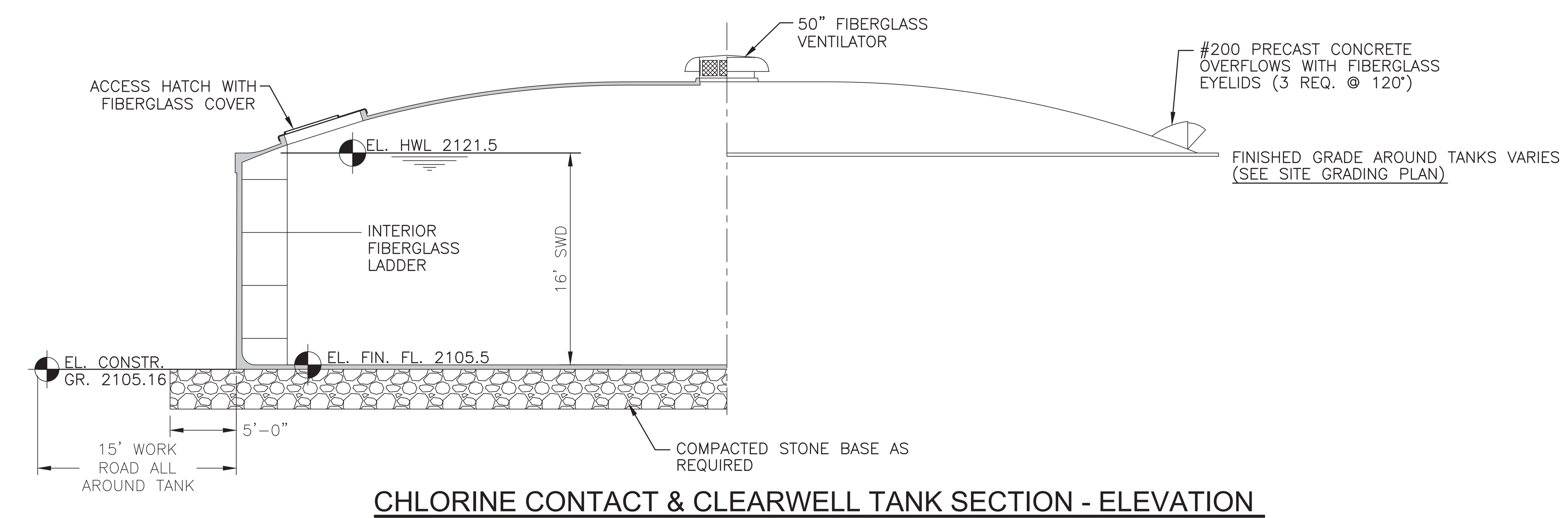
AUSTINVILLE VIRGINIA

DRAWN BY: A. SQUIRES
REVIEW BY: C.E. PEED
DATE: 20 OCTOBER 2006
REVISION:

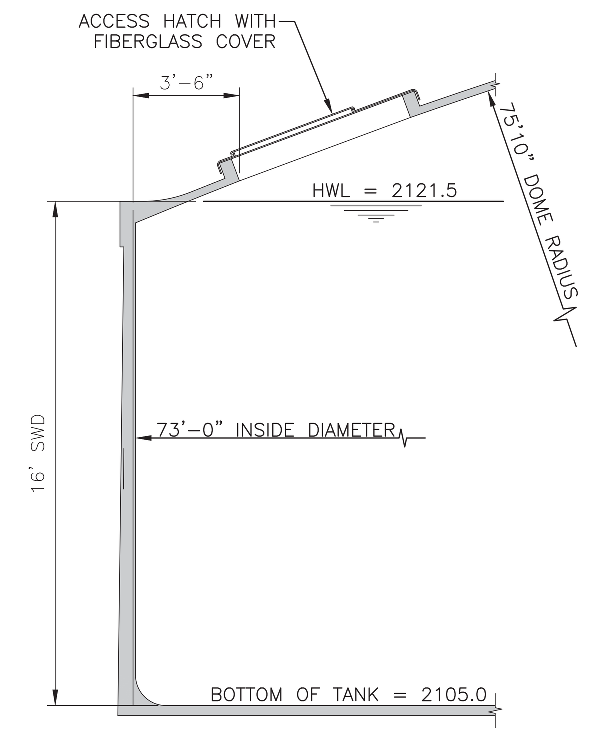
DWG DESCRIPTION: FINISHED WATER TANKS PLAN, PUMP PIPING PLAN & SECTION

C30

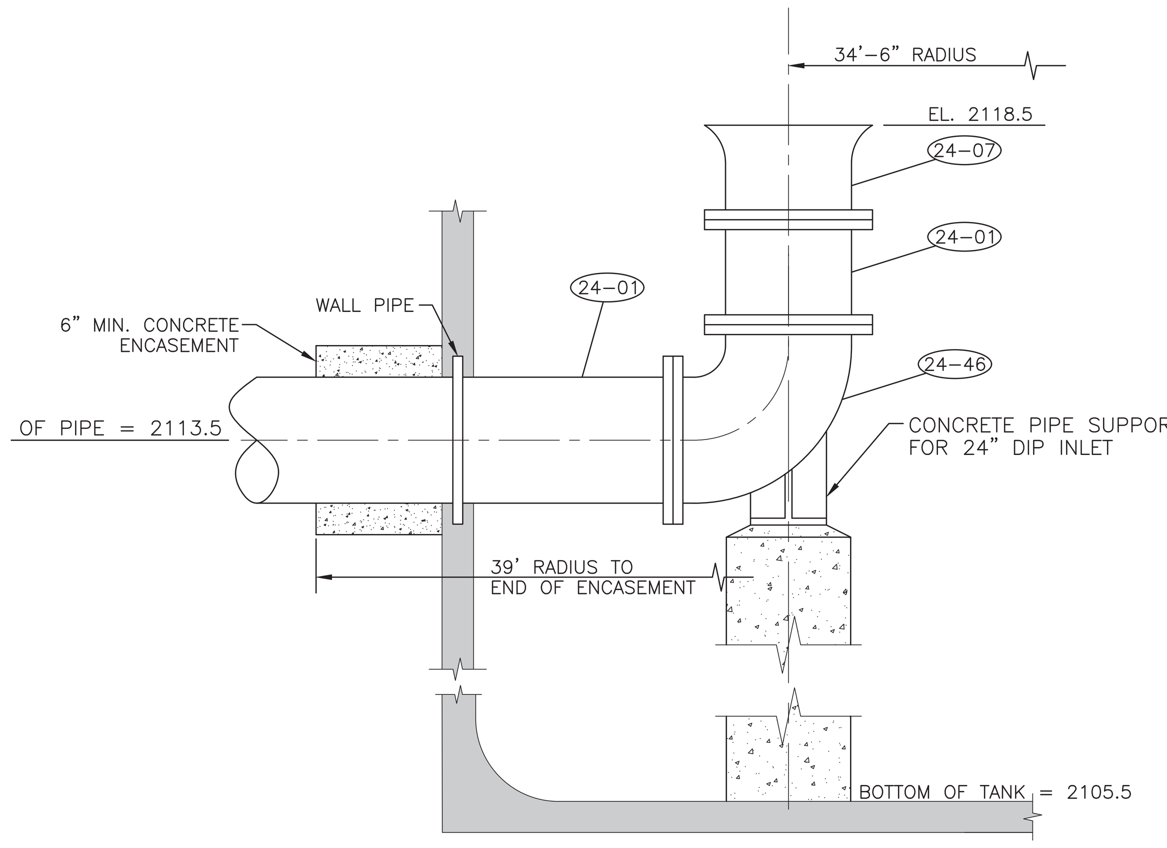
JN: 04 - 02



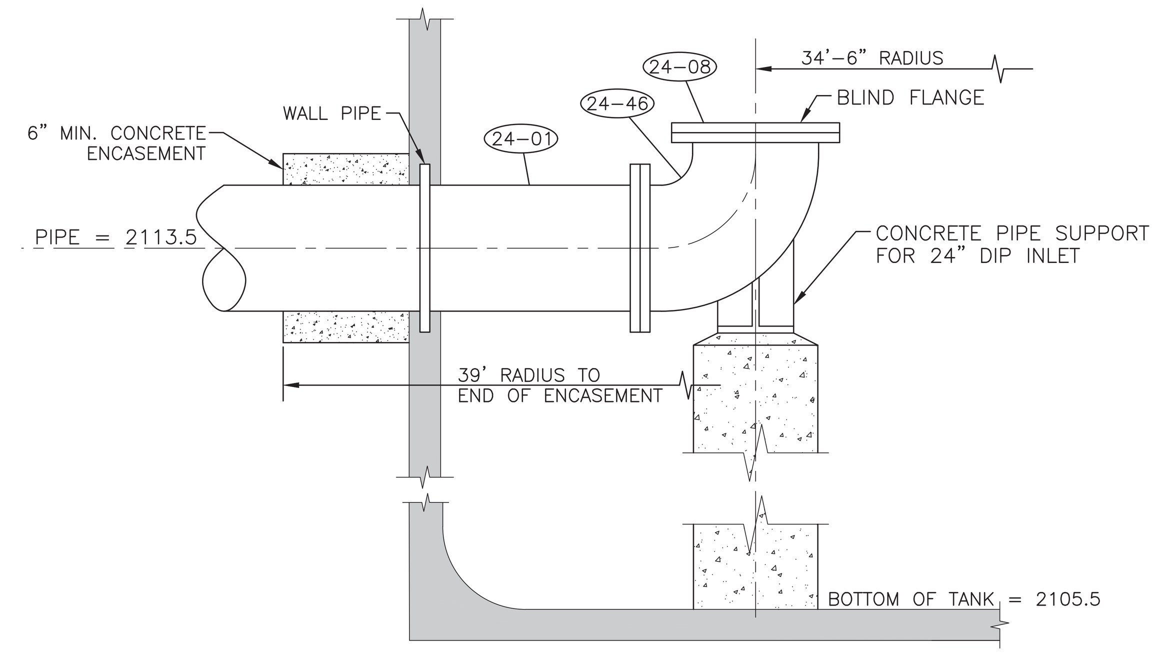
CHLORINE CONTACT & CLEARWELL TANK SECTION - ELEVATION
SCALE: 1/4" = 1'



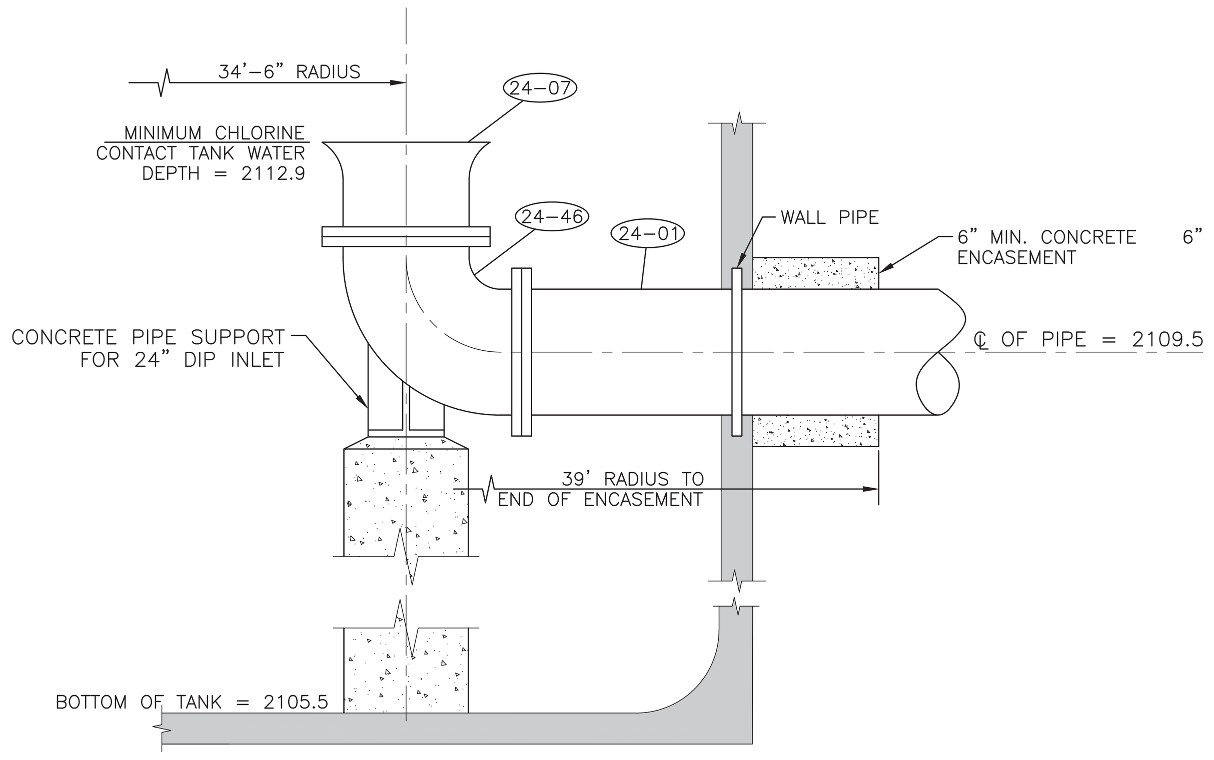
TYPICAL WALL SECTION
SCALE: 1/4" = 1'



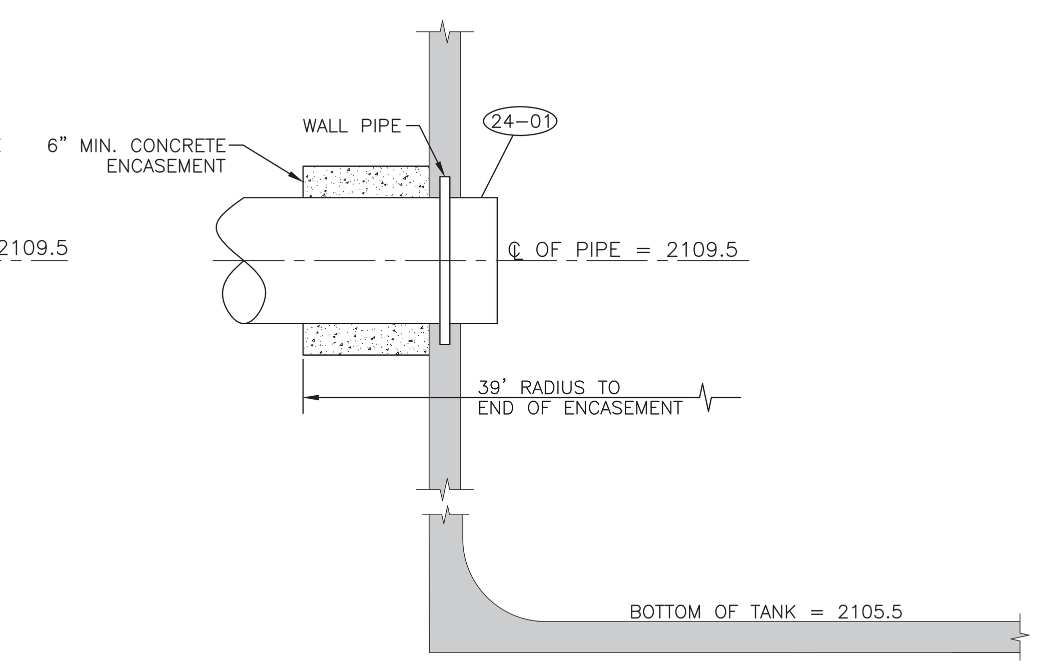
24" DIP INLET TO CHLORINE CONTACT FROM FILTER BUILDING
NOT TO SCALE



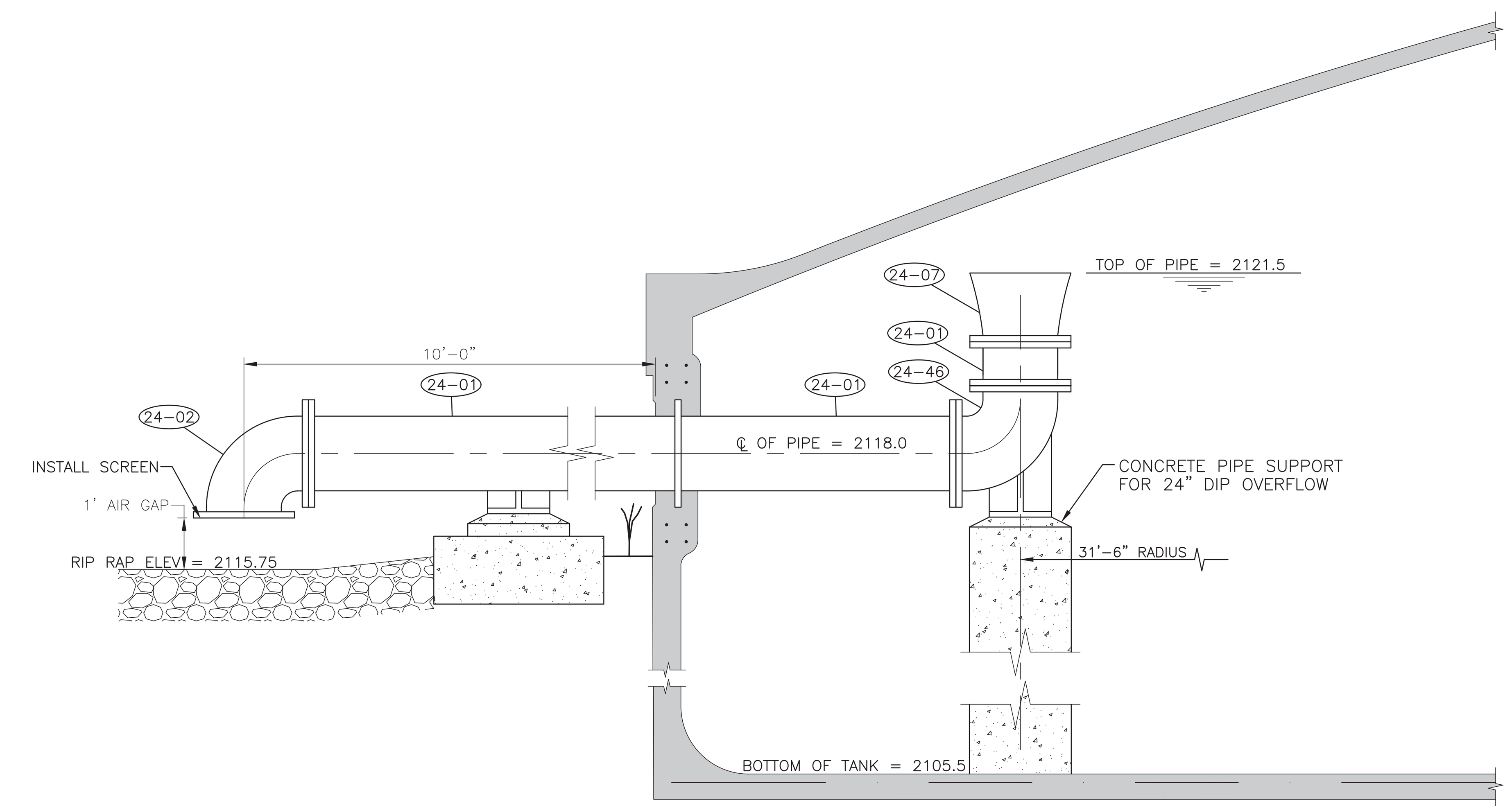
24" DIP INLET TO CLEARWELL FROM FILTER BUILDING
NOT TO SCALE



24" DIP OUTLET FROM CHLORINE CONTACT TANK TO CLEARWELL
NOT TO SCALE



24" DIP INLET TO CLEARWELL FROM CHLORINE CONTACT TANK
NOT TO SCALE



16" DIP OVERFLOW BOTH TANKS
NOT TO SCALE

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AUSTINVILLE WATER TREATMENT PLANT
(DIVISION I)
AUSTINVILLE VIRGINIA

DRAWN BY: A. SQUIRES
REVIEW BY: C.E. PEED
DATE: 20 OCTOBER 2006
REVISION:

DWG DESCRIPTION: FINISHED WATER TANK SECTIONS & PIPING DETAILS

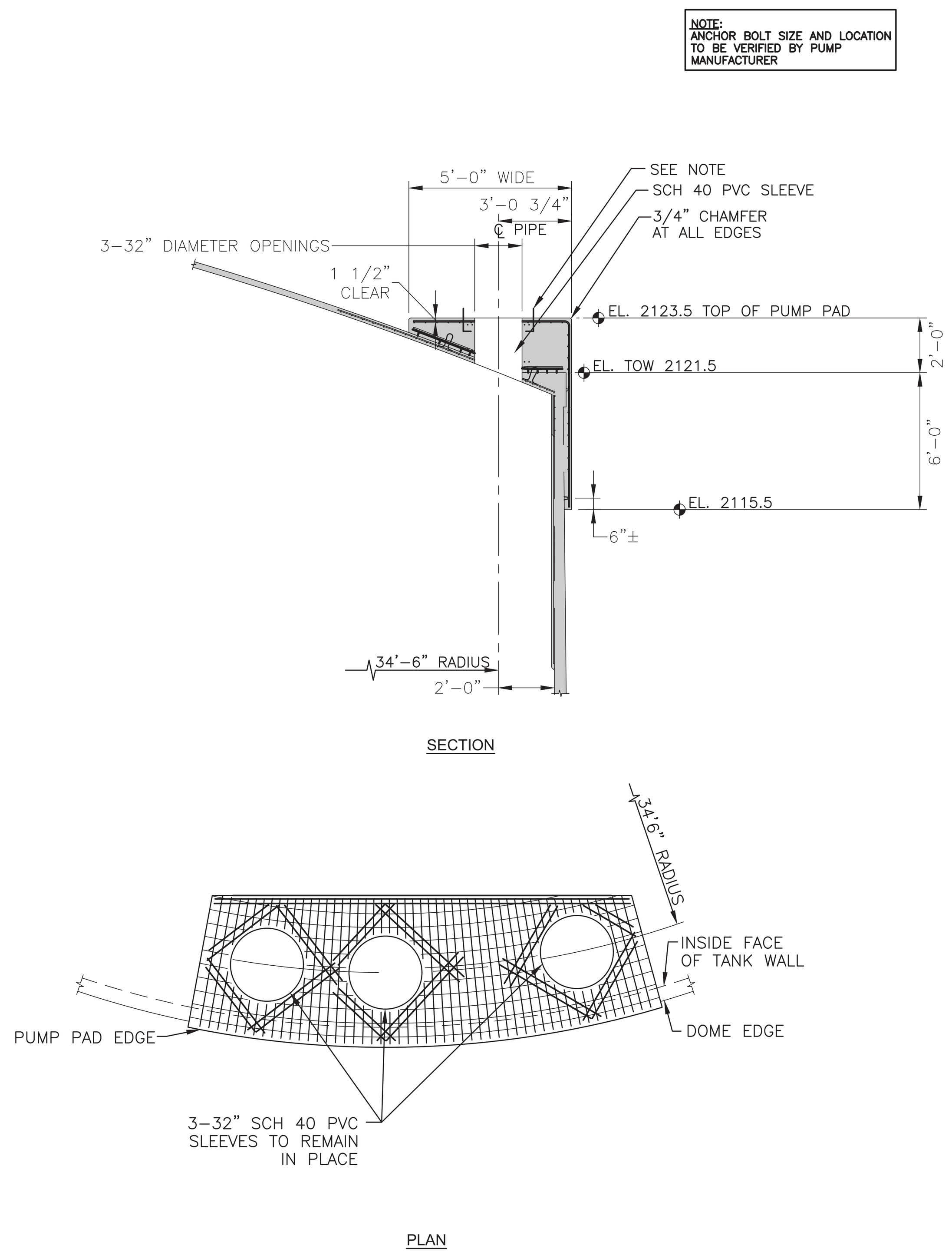
C31

JN: 04 - 02

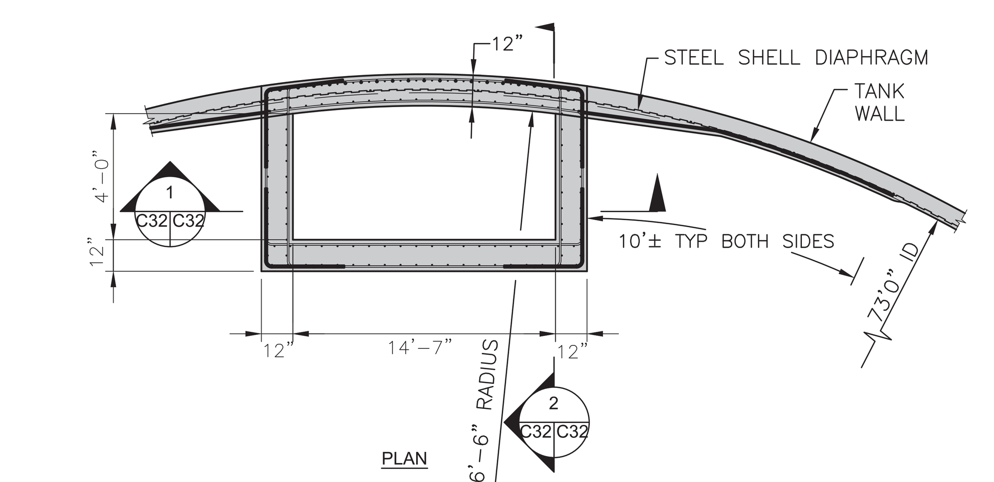
RECORD DRAWINGS
RECORD DRAWINGS
RECORD DRAWINGS
RECORD DRAWINGS

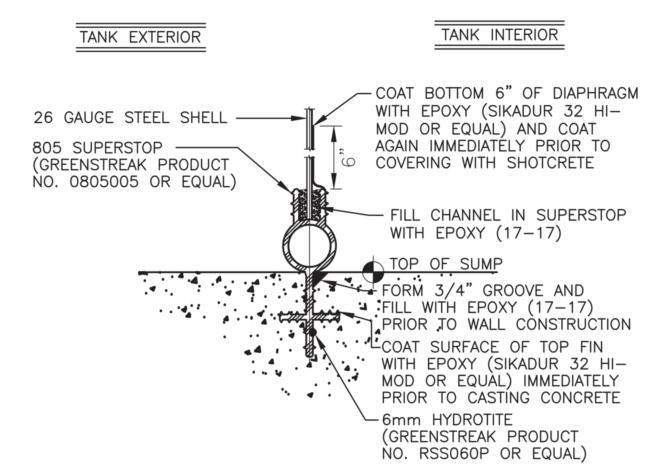
NOTE:
TANK PROVIDER SHALL PROVIDE THE STRUCTURAL DESIGN FOR THE TANK BASE, SHELL, ROOF, PUMP PADS, AND SUMPS. THE CONCRETE DESIGN INCLUDING REINFORCING STEEL ARE SHOWN ON SHEETS C30, C31, C32, AND C33 FOR INFORMATION ONLY, NOT FOR CONSTRUCTION.

NOTE:
ANCHOR BOLT SIZE AND LOCATION TO BE VERIFIED BY PUMP MANUFACTURER

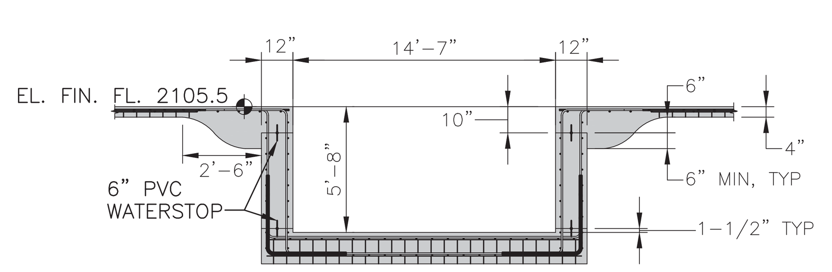


PUMP PAD STEEL DETAIL
NOT TO SCALE

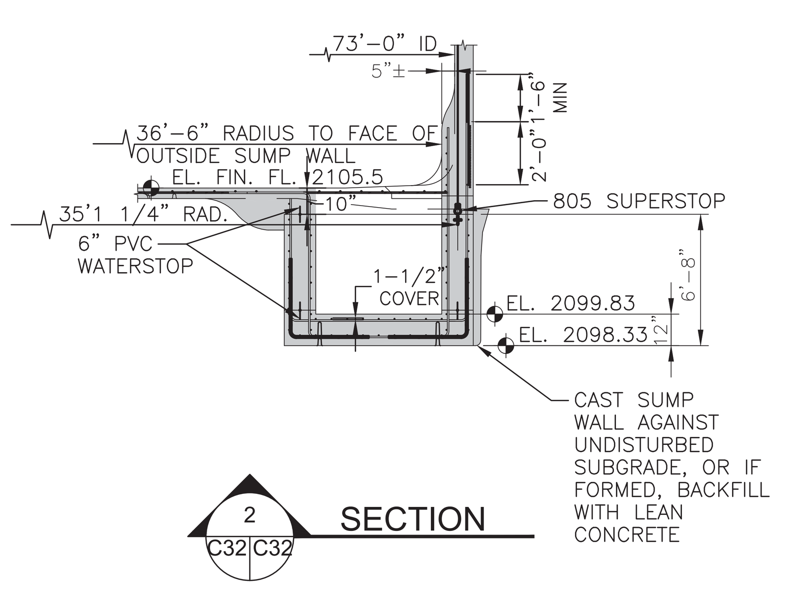




SUPERSTOP
NOT TO SCALE



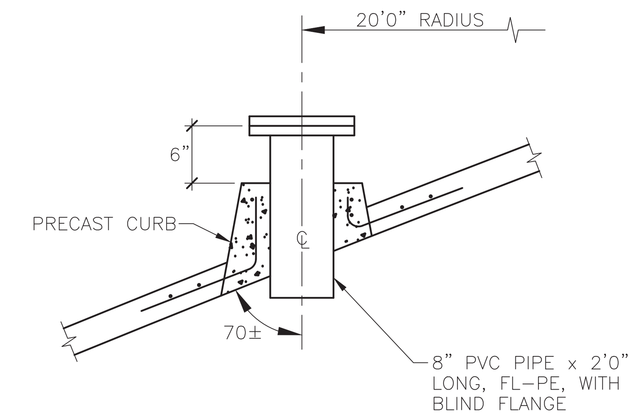
SECTION



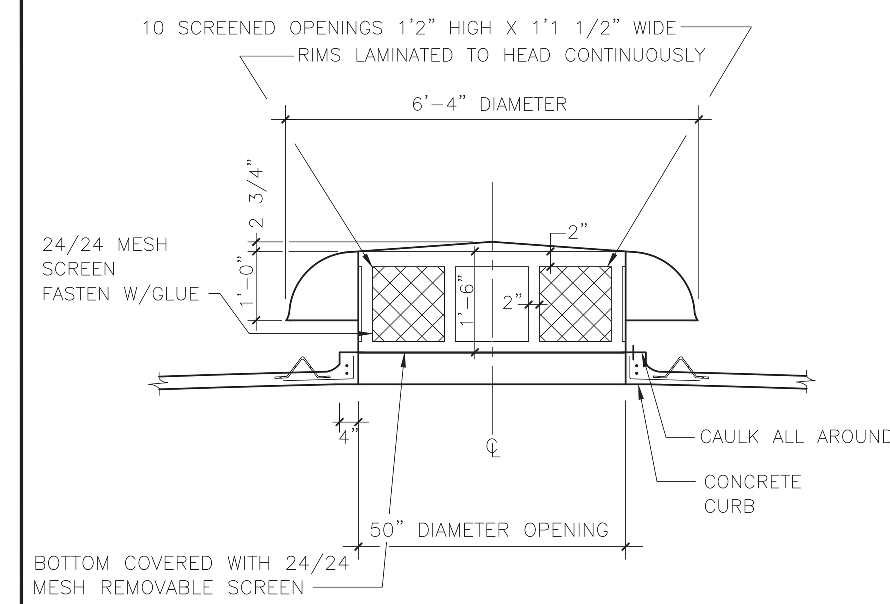
SECTION

SUCTION SUMP DETAIL

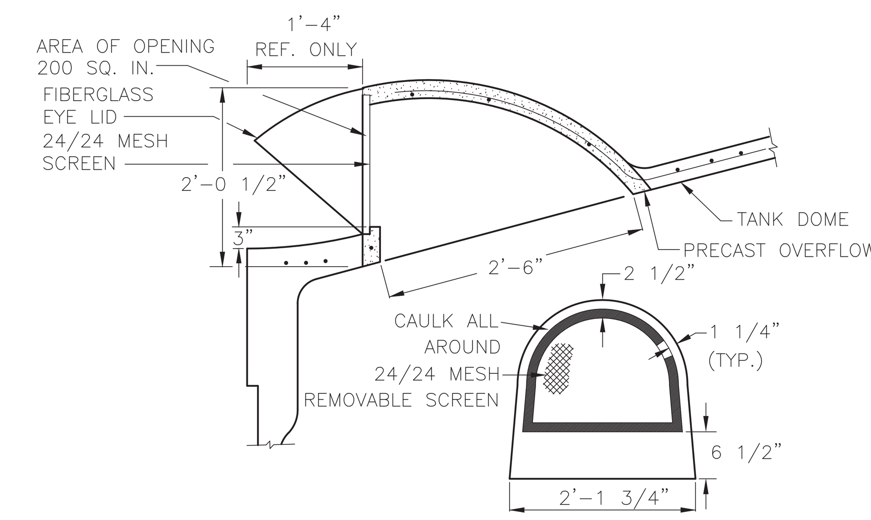
NOTE: PLACE PIPE PLUMB



8" DOME PROBE CURB
NOT TO SCALE

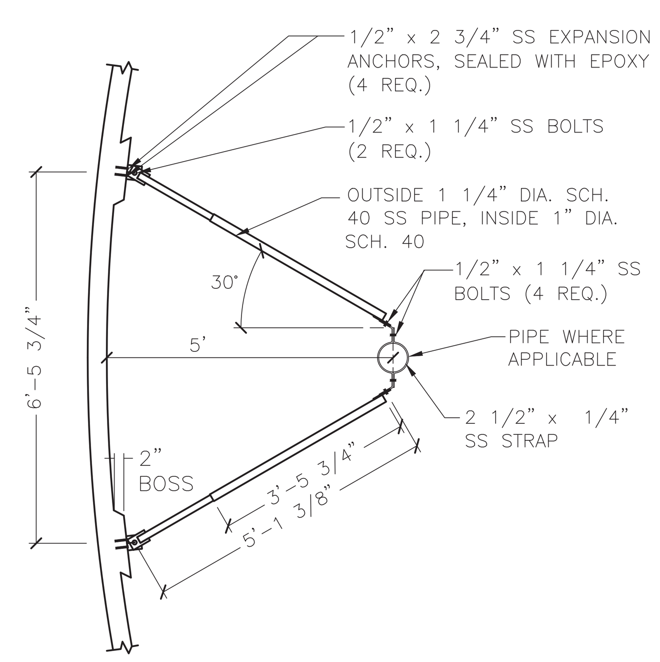


50" FIBERGLASS VENTILATOR
NOT TO SCALE

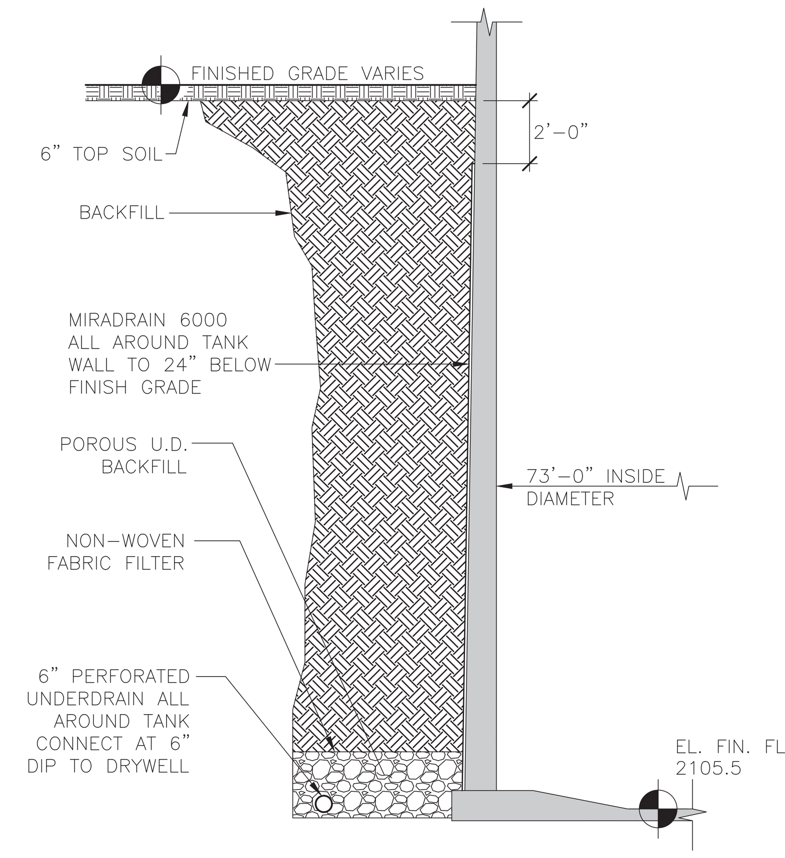


NOTE: KEEP SHOTCRETE REBOUND CLEANED OFF OF OVERFLOW. LEAVE PLYWOOD COVER IN PLACE UNTIL ALL SHOTCRETING IS COMPLETE

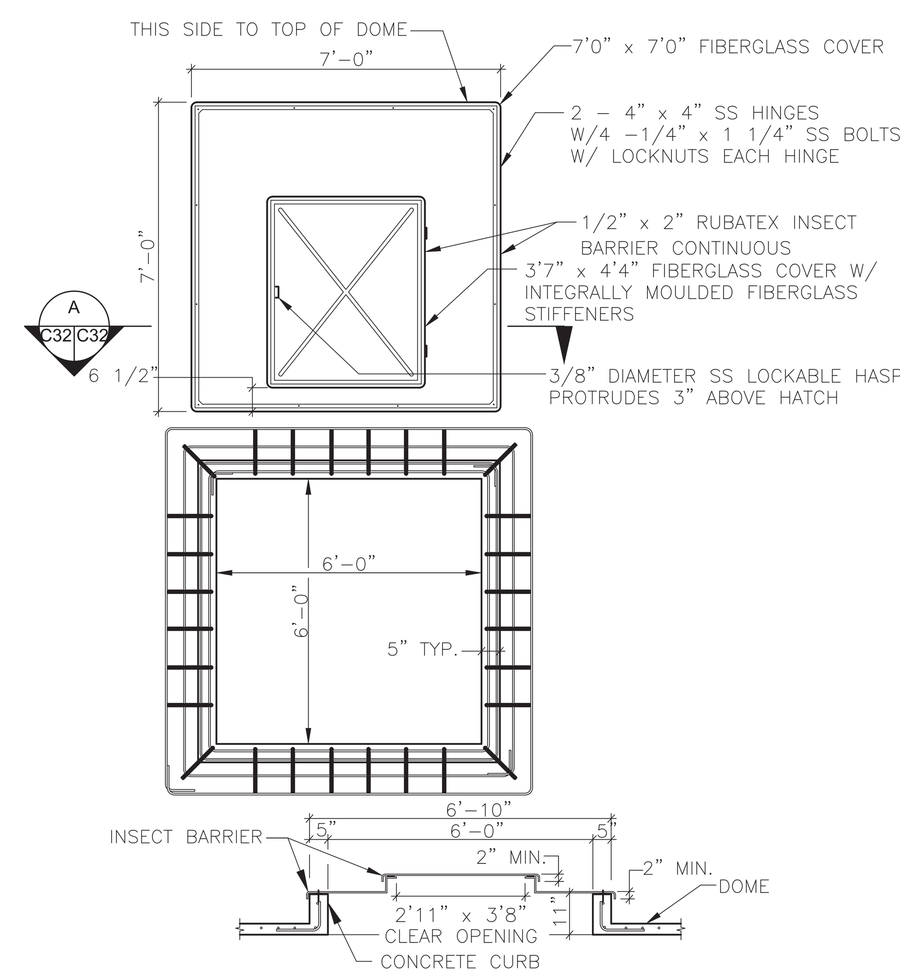
#200 PRECAST CONCRETE OVERFLOW WITH FIBERGLASS EYE LID
NOT TO SCALE



PIPE BRACKET
NOT TO SCALE

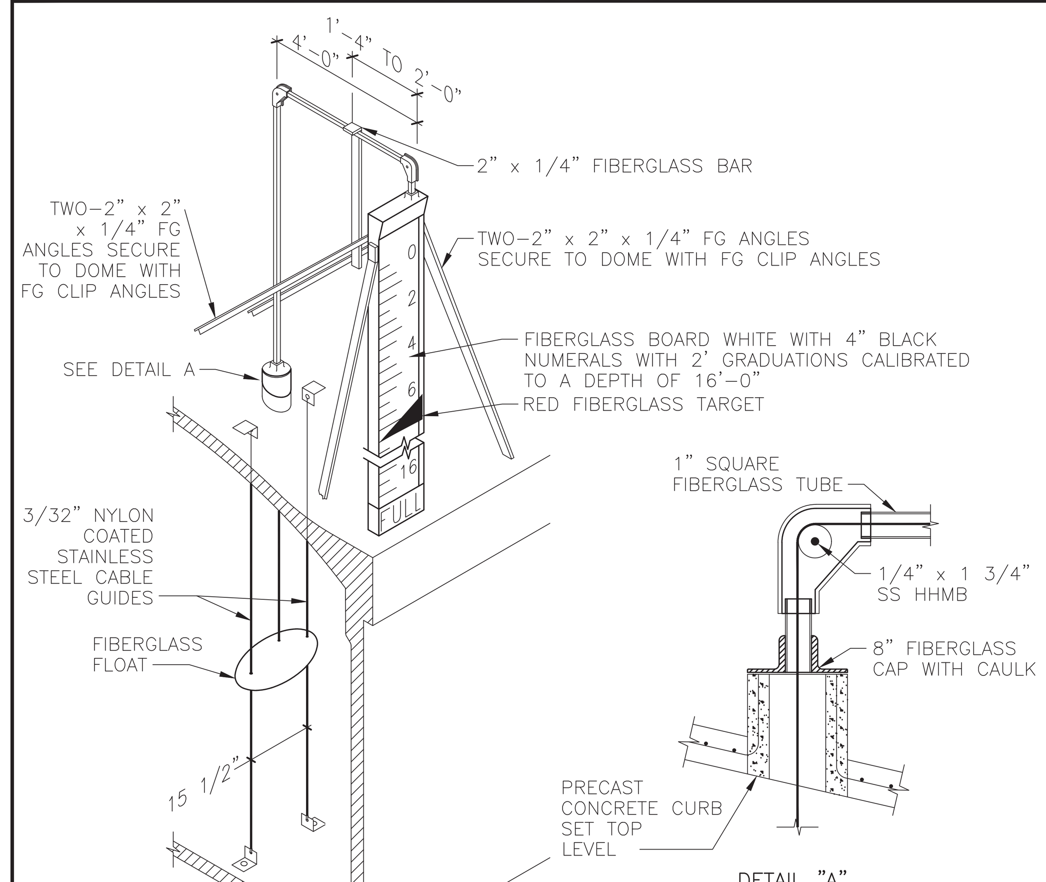


PERIMETER WALL DRAIN
NOT TO SCALE

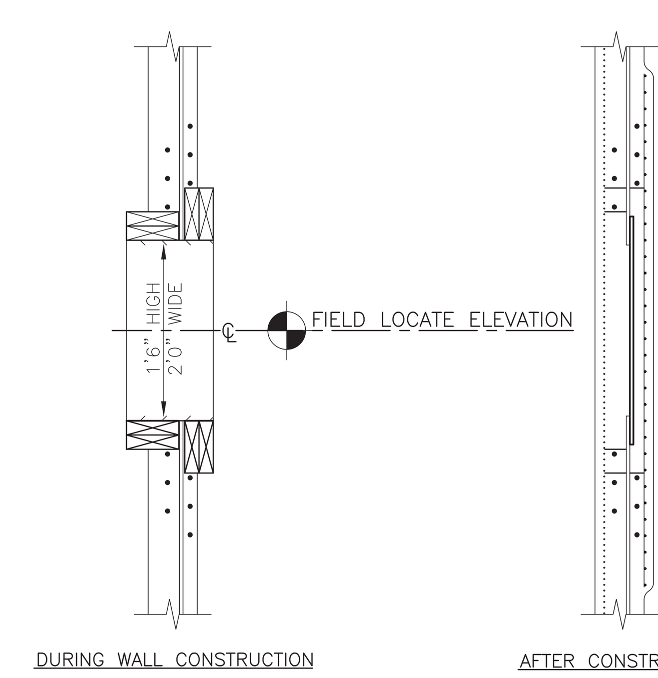


SECTION
NOT TO SCALE

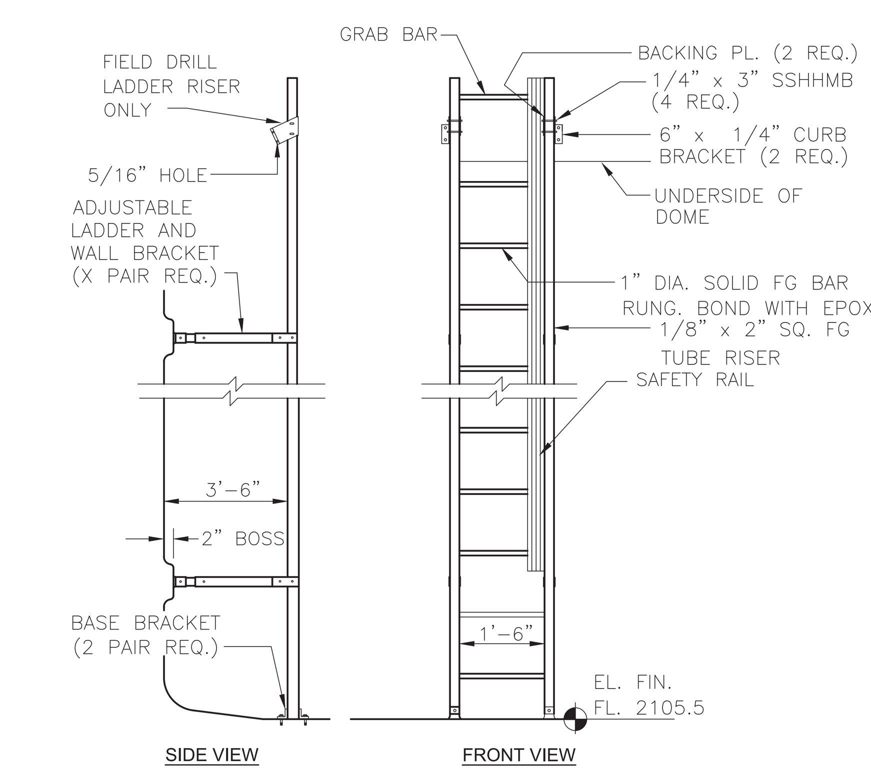
FIBERGLASS HATCH COVER
NOT TO SCALE



FIBERGLASS LIQUID LEVEL INDICATOR
NOT TO SCALE



CONSTRUCTION MANHOLE
NOT TO SCALE



NOTE: 1/4" x 2" FLAT BAR FIBERGLASS CROSS-BRACE TO BE PROVIDED FOR BRACING WALL BRACKET SUPPORTS ON EVERY BRACKET.

INTERIOR FIBERGLASS LADDER WITH SAFETY RAIL
NOT TO SCALE

Reed & Bortz, L.L.C.
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SEAL
COMMONWEALTH OF VIRGINIA
CLEMENT E. PEED
No. 7101
CERTIFIED PROFESSIONAL ENGINEER

AUSTINVILLE WATER TREATMENT PLANT (DIVISION I)
AUSTINVILLE VIRGINIA

DRAWN BY: A. SQUIRES
REVIEW BY: C.E. PEED
DATE: 20 OCTOBER 2006
REVISION:
DWG DESCRIPTION: FINISHED WATER TANK DETAILS

C32

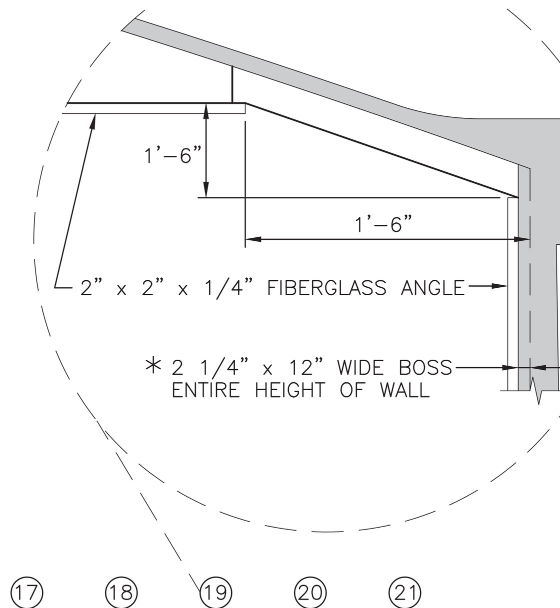
JN: 04 - 02

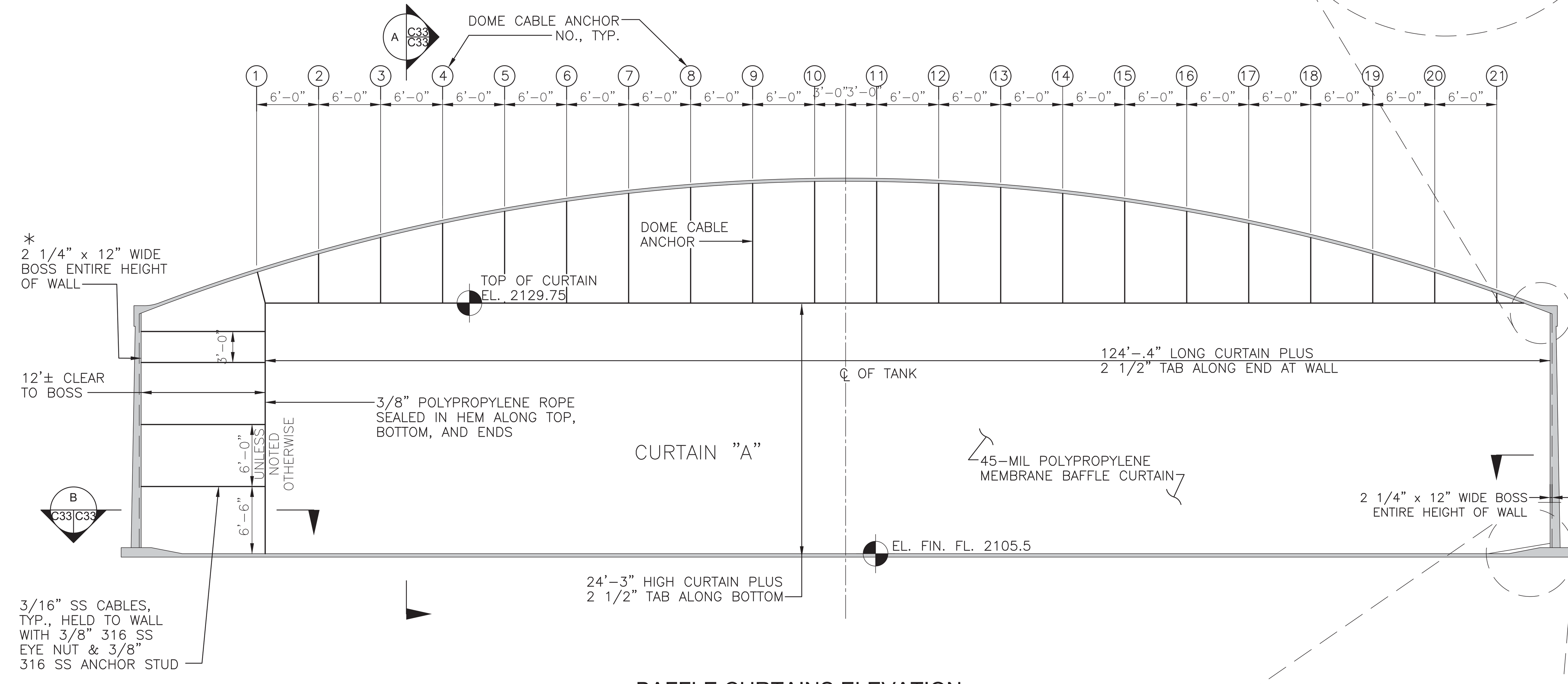
RECORD DRAWINGS
RECORD DRAWINGS
RECORD DRAWINGS
RECORD DRAWINGS

BAFFLE CURTAIN HARDWARE SCHEDULE		
LABEL	DESCRIPTION	
A	45-MIL POLYPROPYLENE MEMBRANE BAFFLE CURTAIN	
B	2" x 2" x 1/4" x 20' LONG FIBERGLASS ANGLE NSF APPROVED FOR CONTACT WITH POTABLE WATER	FLOOR WALL OPEN END
C	2" x 2" x 1/4" x 20' LONG FIBERGLASS ANGLE NSF APPROVED FOR CONTACT WITH POTABLE WATER	TOP
D	3/8" x 1 1/2" SS BOLT, 2 LARGE OD WASHERS & NUT (ALL 316 SS)	
E	3/8" 316 SS EYE NUTS WITH SS FLAT WASHERS	
F	3/16" DIA. 7 x 19 SS CABLE (3500# MIN. BREAKING STRENGTH)	
G	3/16" SS CABLE CLAMPS	
H	3/8" POLYPROPYLENE ROPE SEALED IN HEM OF CURTAIN	
J	3/8" x 4" SS LONG TANGENT U-BOLT, 2 LARGE OD WASHERS & 2 NYLOCK NUTS (ALL 316 SS)	
K	3/8" x 5" LONG ALL-THREAD STUD WITH NUT AND WASHER (ALL 316 SS)	
L	3/8" x 2 3/4" 316 SS EXPANSION ANCHOR EMBEDDED IN EPOXY (1019)	

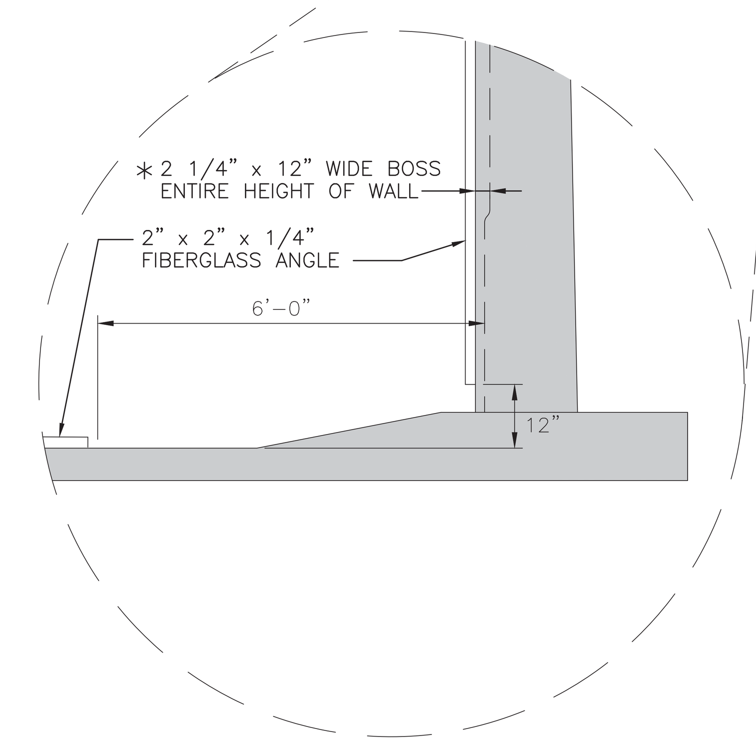
NOTE:
THE TANK PROVIDER SHALL PROVIDE THE BAFFLE STRUCTURAL DESIGN AND DETAILS AND INFORMATION PROVIDED ON THIS SHEET ARE FOR INFORMATION ONLY, NOT FOR CONSTRUCTION.

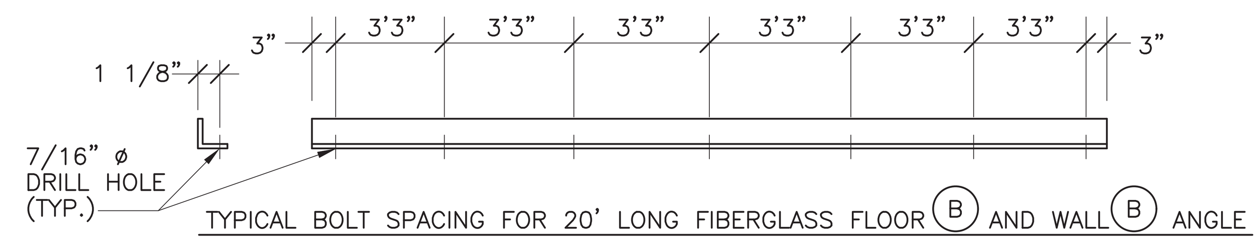
* FORM BOSS BY PLACING SHOOTING WIRES TO PROVIDE 3 1/4" COVER OVER DIAPHRAGM



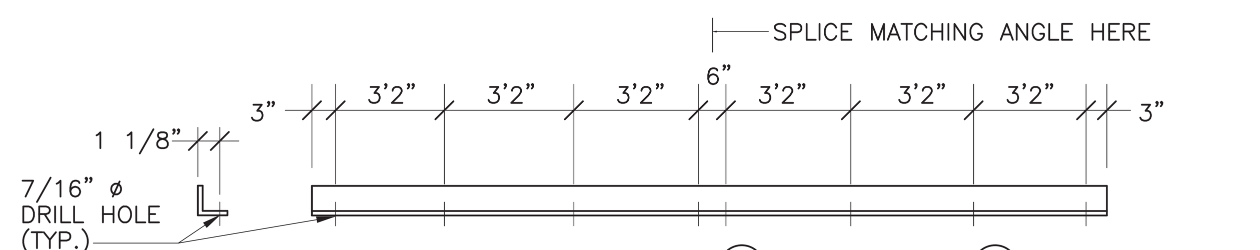


BAFFLE CURTAINS ELEVATION
SCALE: 1/8" = 1'

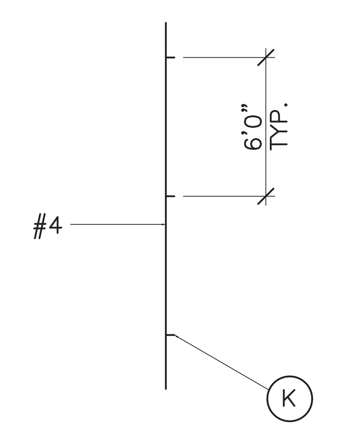




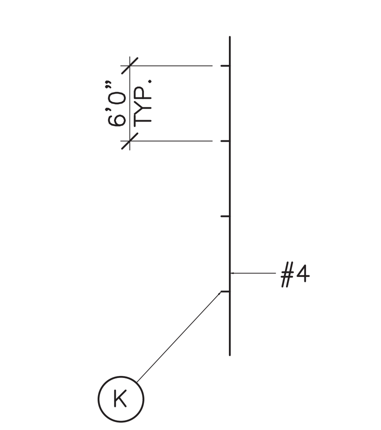
TYPICAL BOLT SPACING FOR 20' LONG FIBERGLASS FLOOR (B) AND WALL (B) ANGLE
NTS



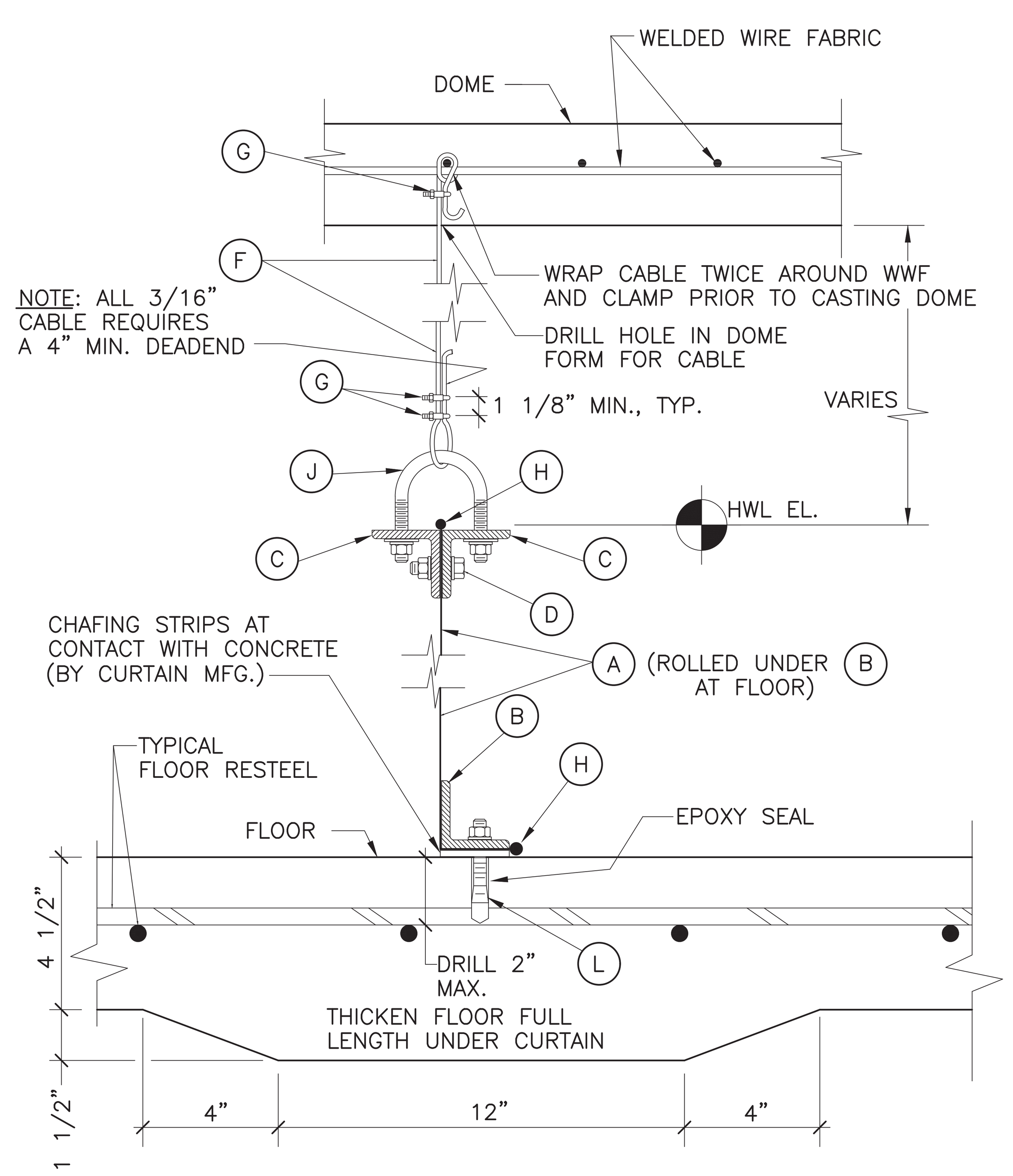
TYPICAL BOLT SPACING FOR 20' LONG FIBERGLASS TOP (C) AND OPEN END (C) OF CURTAIN ANGLE
NTS   NOTE: START WITH 10' LONG ANGLE ON ONE SIDE



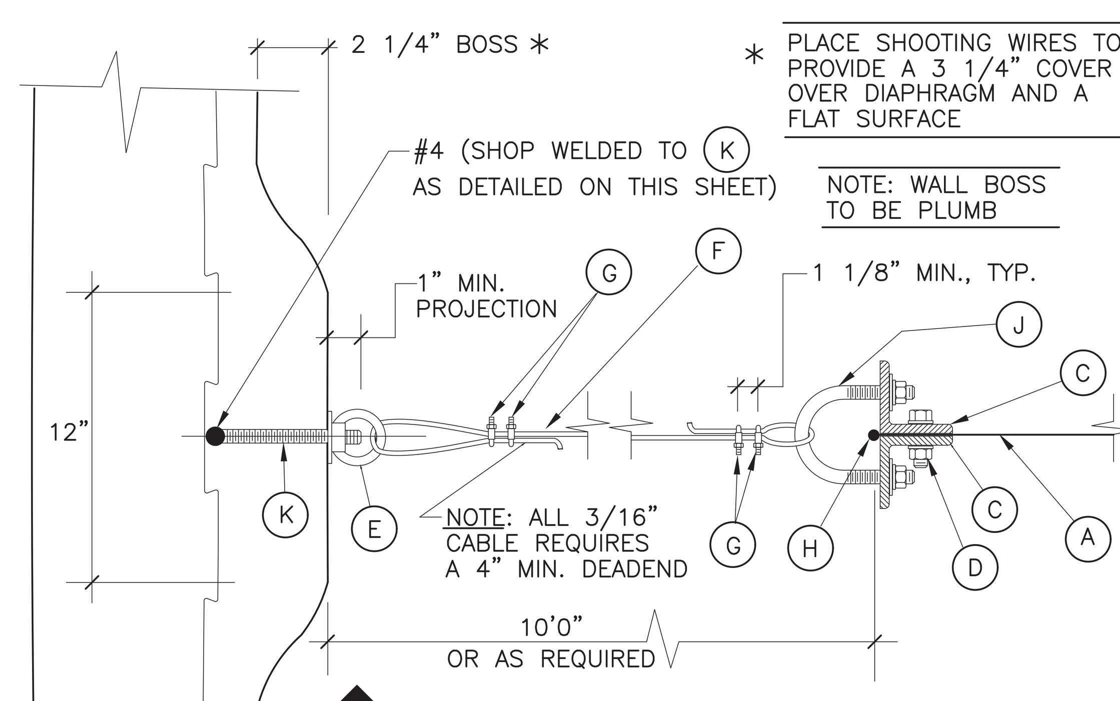
(1 REQ. FOR OPEN END)
NTS



(1 REQ. FOR WALL ANGLE)
NTS

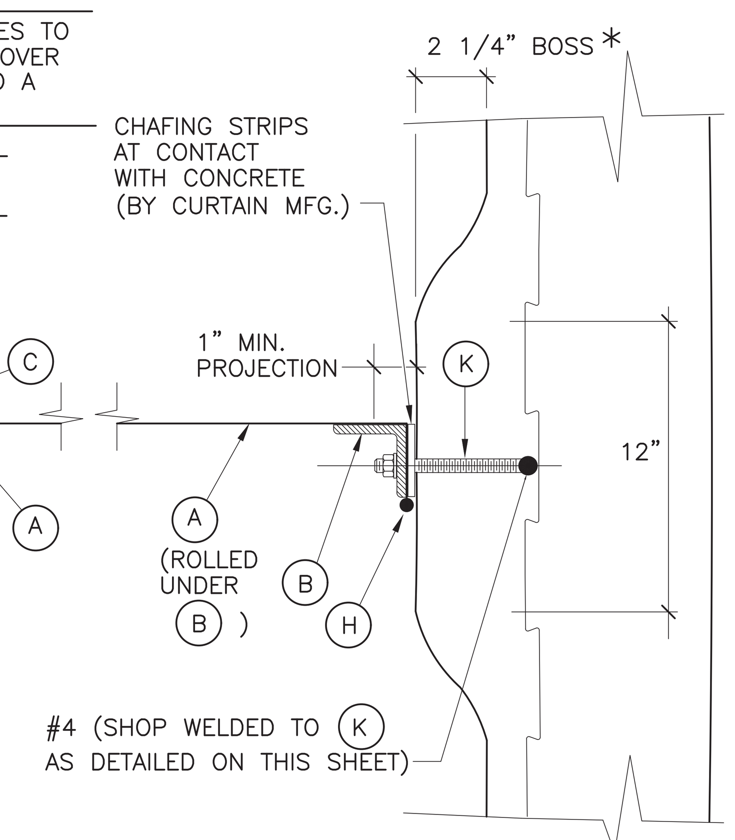


A C33 C33
SECTION
NOT TO SCALE



B C33 C33
OPEN END SECTION
NOT TO SCALE

** SHOP WELD (K) AT 90° TO #4 REBAR AS SHOWN BELOW



C C33 C33
WALL ANGLE SECTION
NOT TO SCALE

Reed & Bortz, L.L.C.
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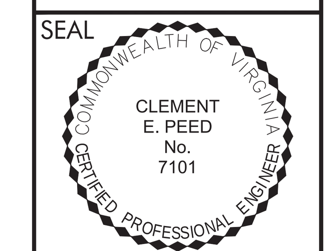
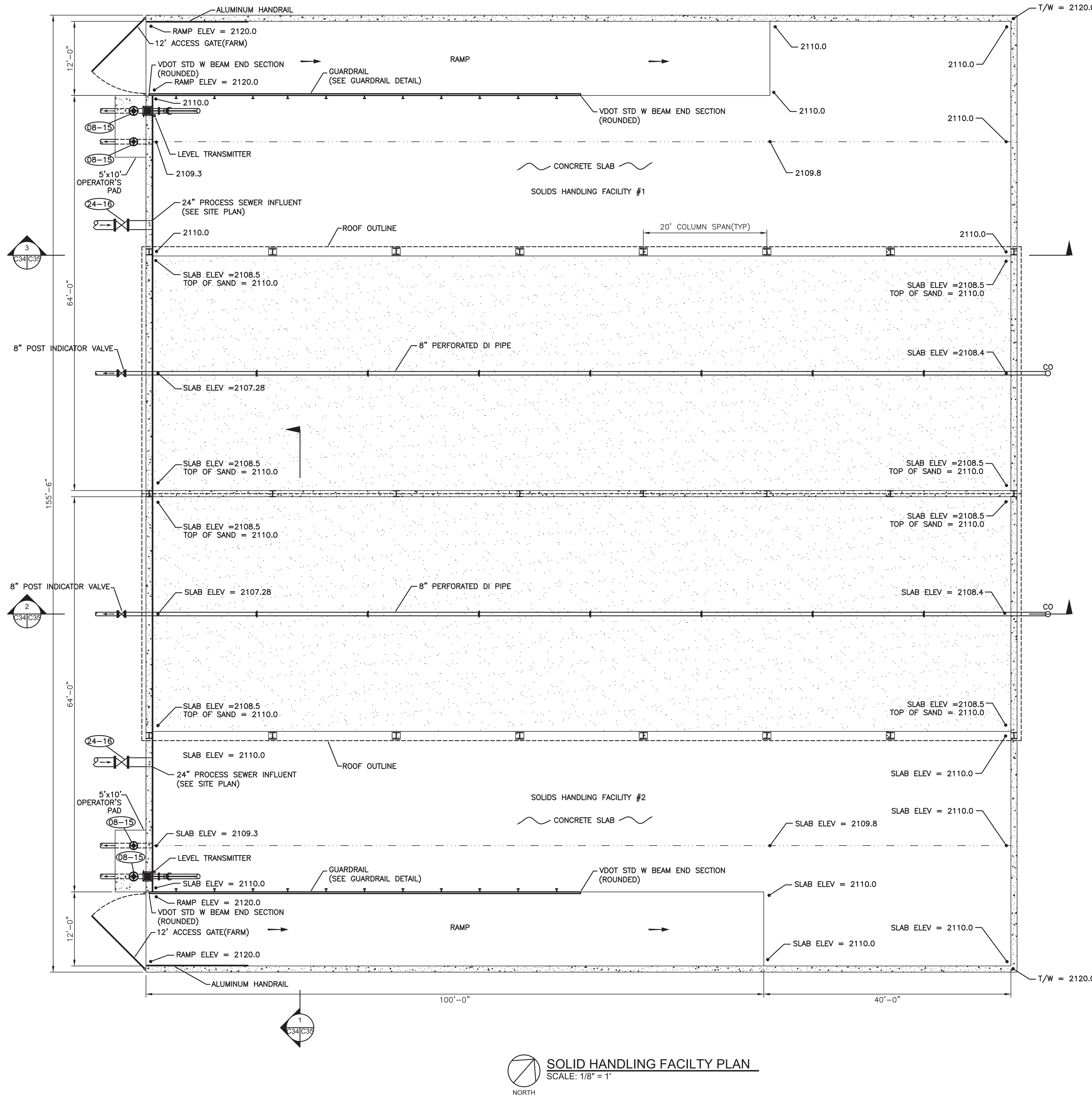
SEAL


AUSTINVILLE WATER TREATMENT PLANT (DIVISION I)

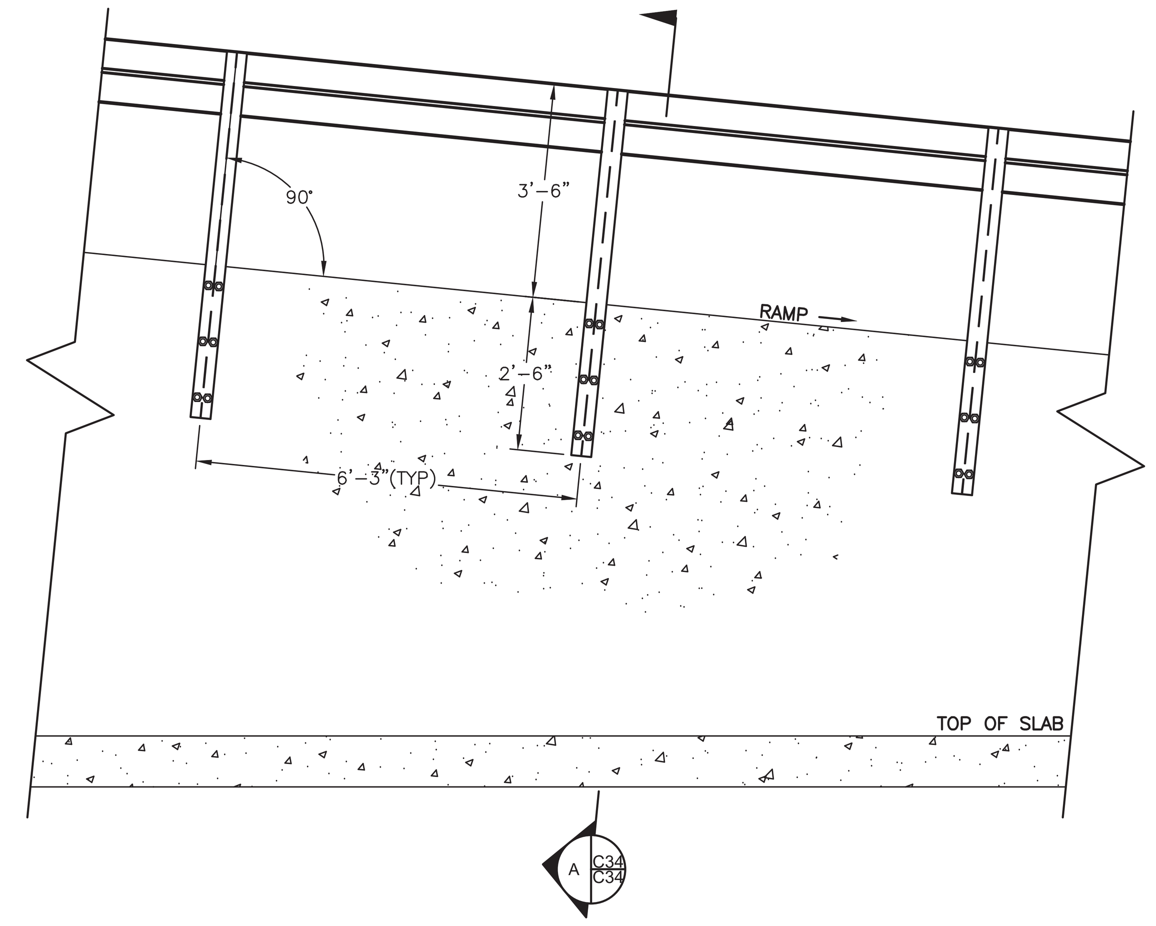
AUSTINVILLE   VIRGINIA

DRAWN BY: A. SQUIRES
REVIEW BY: C.E. PEED
DATE: 20 OCTOBER 2006
REVISION:
DWG DESCRIPTION: FINISHED WATER TANK BAFFLE DETAILS

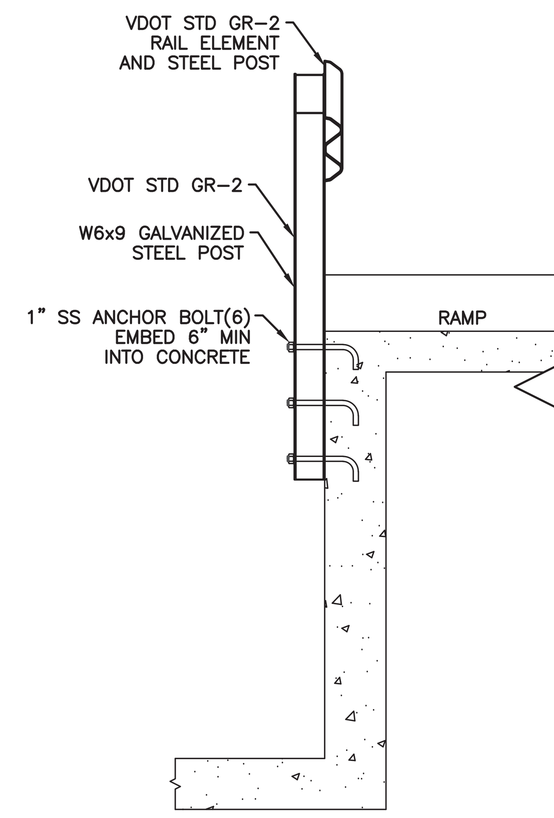
C33



SOLID HANDLING FACILTY PLAN
SCALE: 1/8" = 1'



GUARDRAIL DETAIL
SCALE: 1/2" = 1'



SECTION
SCALE: 1/2" = 1'

NOTES:
1. PERFORATIONS FOR PERFORATED DUCTILE IRON PIPE WILL BE 2-1/2" DIAMETER HOLES AT 120° RADIALLY SEPARATED AT 5" APART (ALONG THE PIPE).
2. CONTRACTOR WILL INSTALL CONCRETE PAD FOR SUPPORT OF POST INDICATOR VALVES (PIV) BARREL PER MANUFACTURER RECOMMENDATIONS FOR EACH PIV.

CROSS REFERENCE LEGEND		
SEE SHEETS		
ARCHITECTURAL		A23
STRUCTURAL	S11	S12
MECHANICAL		M06
ELECTRICAL		E06

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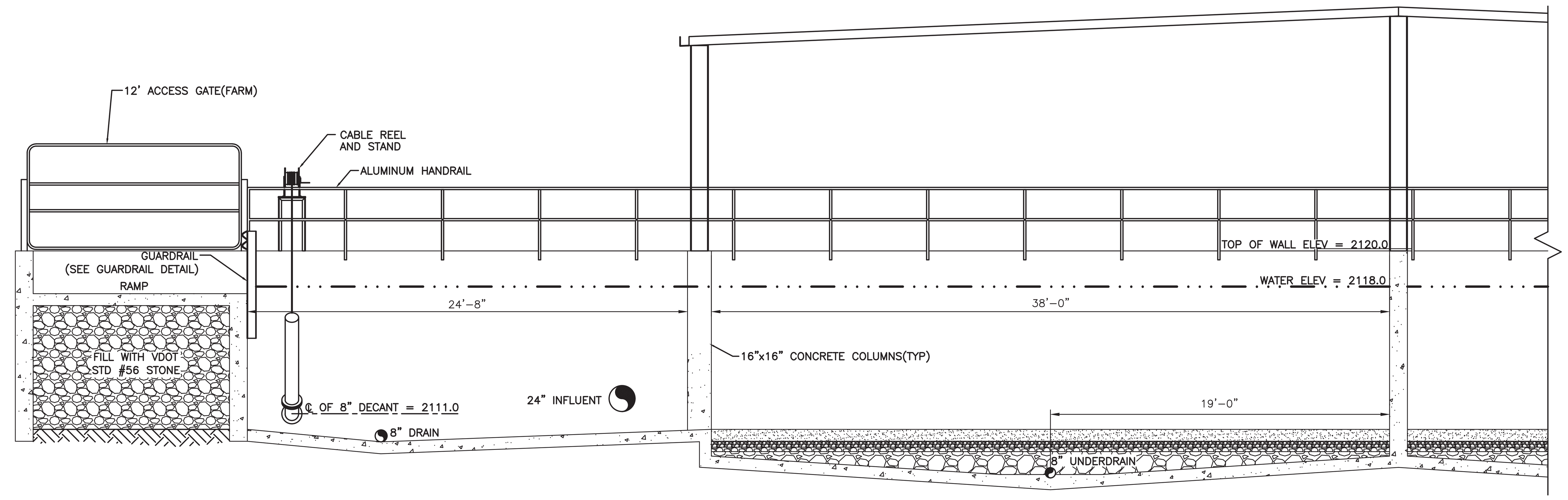
SEAL
COMMONWEALTH OF VIRGINIA
CLEMENT E. PEED
No. 7101
CERTIFIED PROFESSIONAL ENGINEER

AUSTINVILLE
WATER TREATMENT PLANT
(DIVISION I)
AUSTINVILLE VIRGINIA

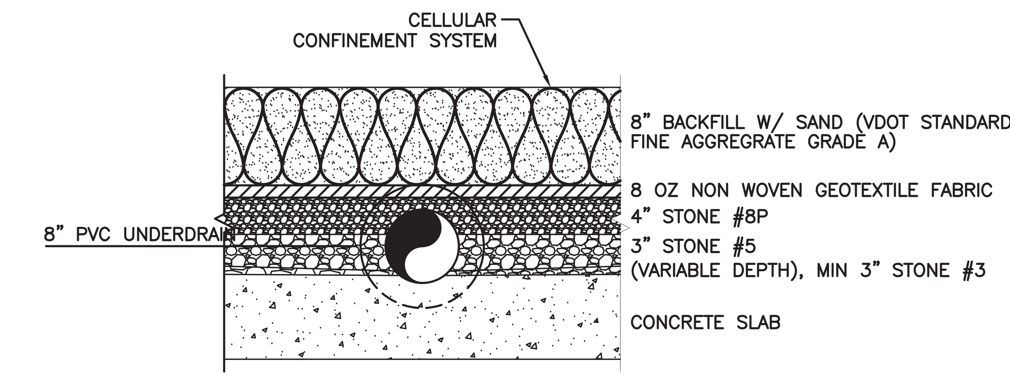
DRAWN BY: A. SQUIRES
REVIEW BY: C.E. PEED
DATE: 20 OCTOBER 2006
REVISION:
DWG DESCRIPTION: SOLID HANDLING FACILITY - PLAN & DETAILS

C34

JN: 04 - 02

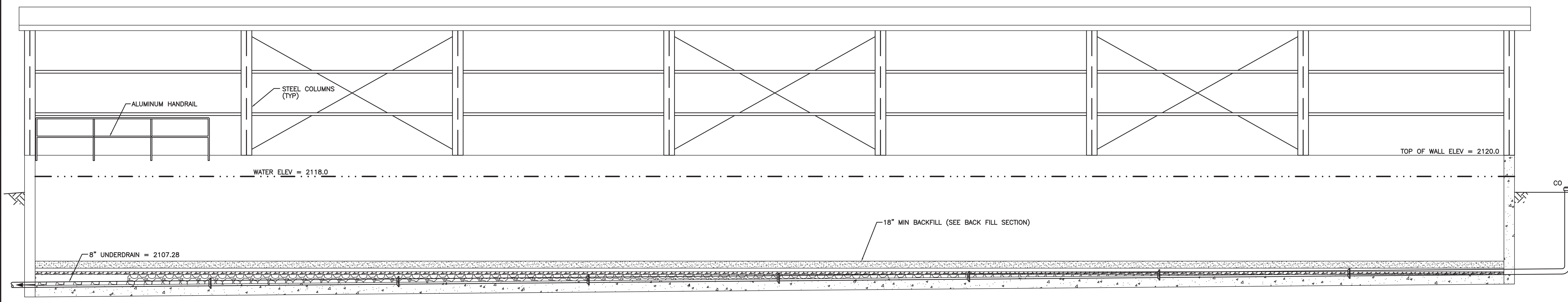


1 C34 C35 SECTION
SCALE: 1/4" = 1'

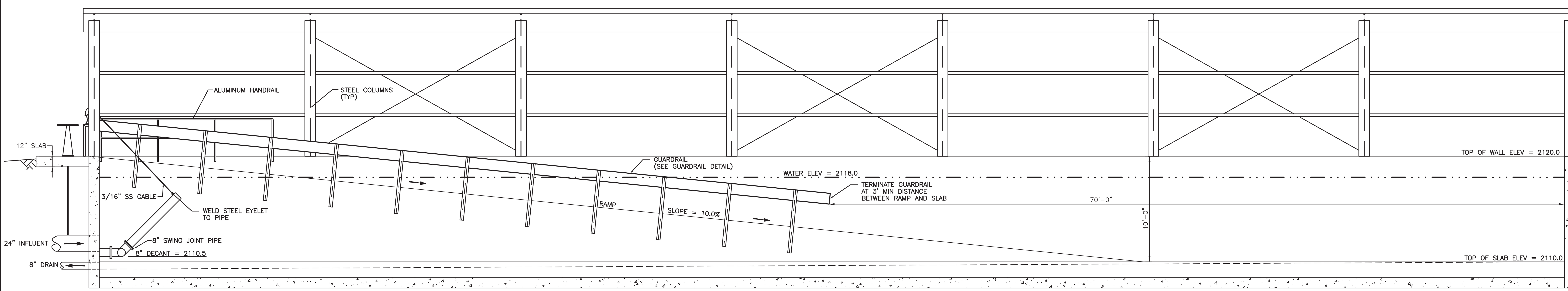


NOTE
CELLULAR CONFINEMENT SYSTEM WILL BE PESTO GEOWEB GW30V 8" DEEP PERFORATED TEXTURED POLYETHYLENE SHEET STRIP OR APPROVED EQUAL. BACKFILL CELULAR CONFINEMENT SYSTEM WITH SAND TO ENSURE MAXIMUM CELL EXPANSION.

BACKFILL SECTION
NOT TO SCALE



2 C34 C35 SECTION
SCALE: 1/4" = 1'



3 C34 C35 SECTION
SCALE: 1/4" = 1'

CROSS REFERENCE LEGEND

SEE SHEETS		
ARCHITECTURAL		A23
STRUCTURAL	S11	S12
MECHANICAL		M06
ELECTRICAL		E06

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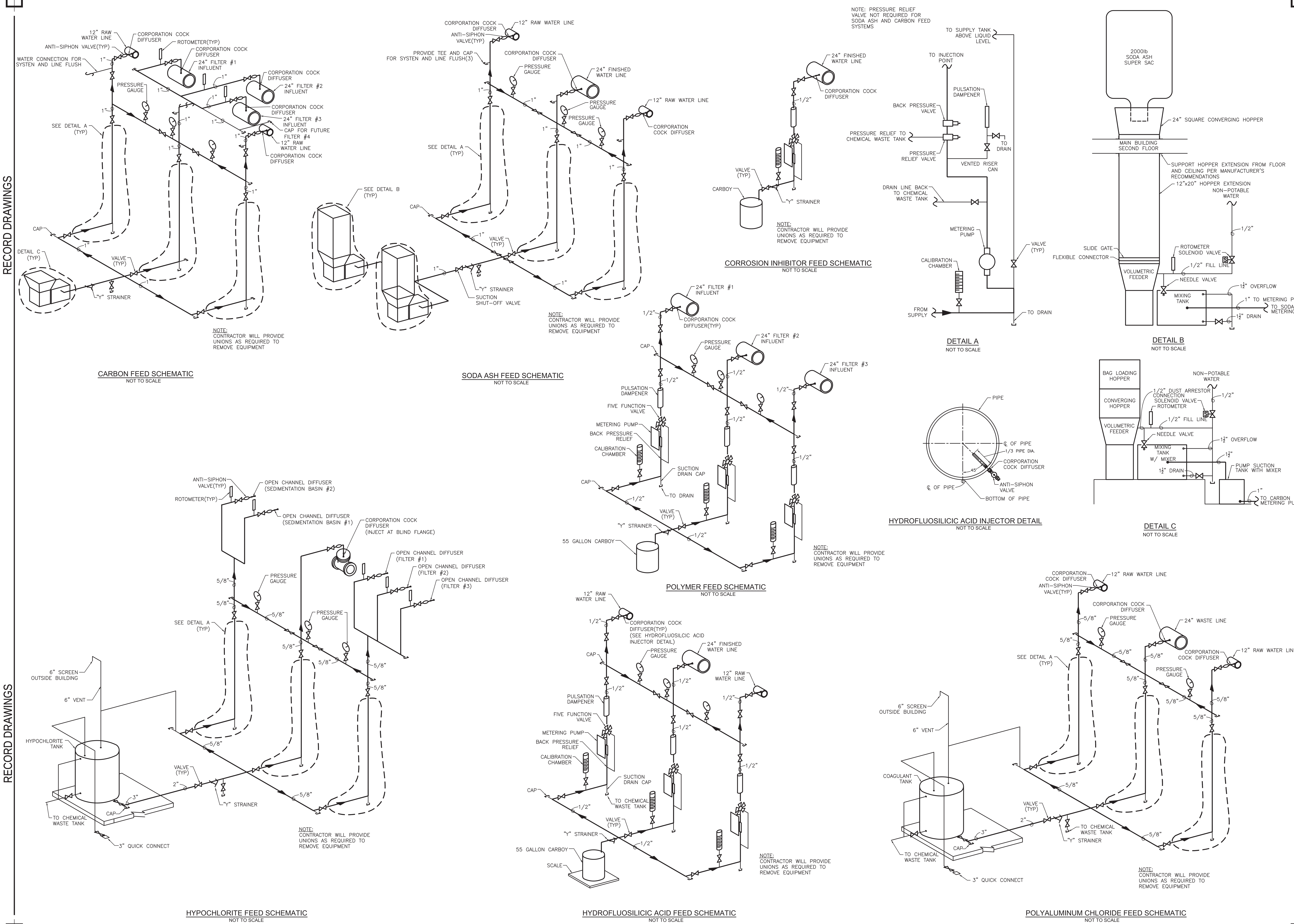
C35

JN: 04 - 02



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AUSTINVILLE VIRGINIA

DRAWN BY:
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REVIEW BY:
C.E. PEED
DATE:
20 OCTOBER 2006
REVISION:

DWG DESCRIPTION:
CHEMICAL FEED SCHEMATICS

C36

JN: 04 - 02

RECORD DRAWINGS

CHEMICAL PIPING NOTES

1. ALL CHEMICAL PIPING SHALL CONFORM TO ALL STATE AND LOCAL CODES, RULES, AND REGULATIONS.

2. THE CONTRACTOR SHALL HAVE OBTAINED AND UNDERSTAND ALL PROVISIONS OF THE "MATERIAL SAFTEY DATA SHEETS" FOR THE CHEMICALS TO BE HANDLED.

3. ALL CHEMICAL PIPING EXCEPT ACTIVATED CARBON SHALL BE POLYVINYL CHLORIDE(PVC), SCHEDULE 80 SOCKET WELD JOINTS. ACTIVATED CARBON PIPING BE FIBERGLASS REINFORCED PLASTIC.

4. A MINIMUM OF ONE FLUSHING CONNECTION SHALL BE PROVIDED ON EACH CHEMICAL FEED LINE AT LOCATIONS SELECTED BY THE ENGINEER.

5. A MINIMUM OF TWO PIPING DRAIN CONNECTIONS SHALL BE PROVIDED ON ALL CHEMICAL LINES AT LOCATIONS SELECTED BY THE ENGINEER. PIPING DRAINS SHALL CONSIST OF A HOSE CONNECTION AND VALVE.

6. TEES SHALL BE USED AT ALL 90° BENDS. PLUGS SHALL BE PROVIDED ON THE UNUSED RUN ENDS.

7. SEE "CHEMICAL FEED SCHEMATICS" FOR CHEMICAL PIPE SIZES.

8. ALL CHEMICAL PIPING SHALL BE COORDINATED WITH THE OTHER TRADES TO AVOID ANY CONFLICTS OR INTERFERENCES.

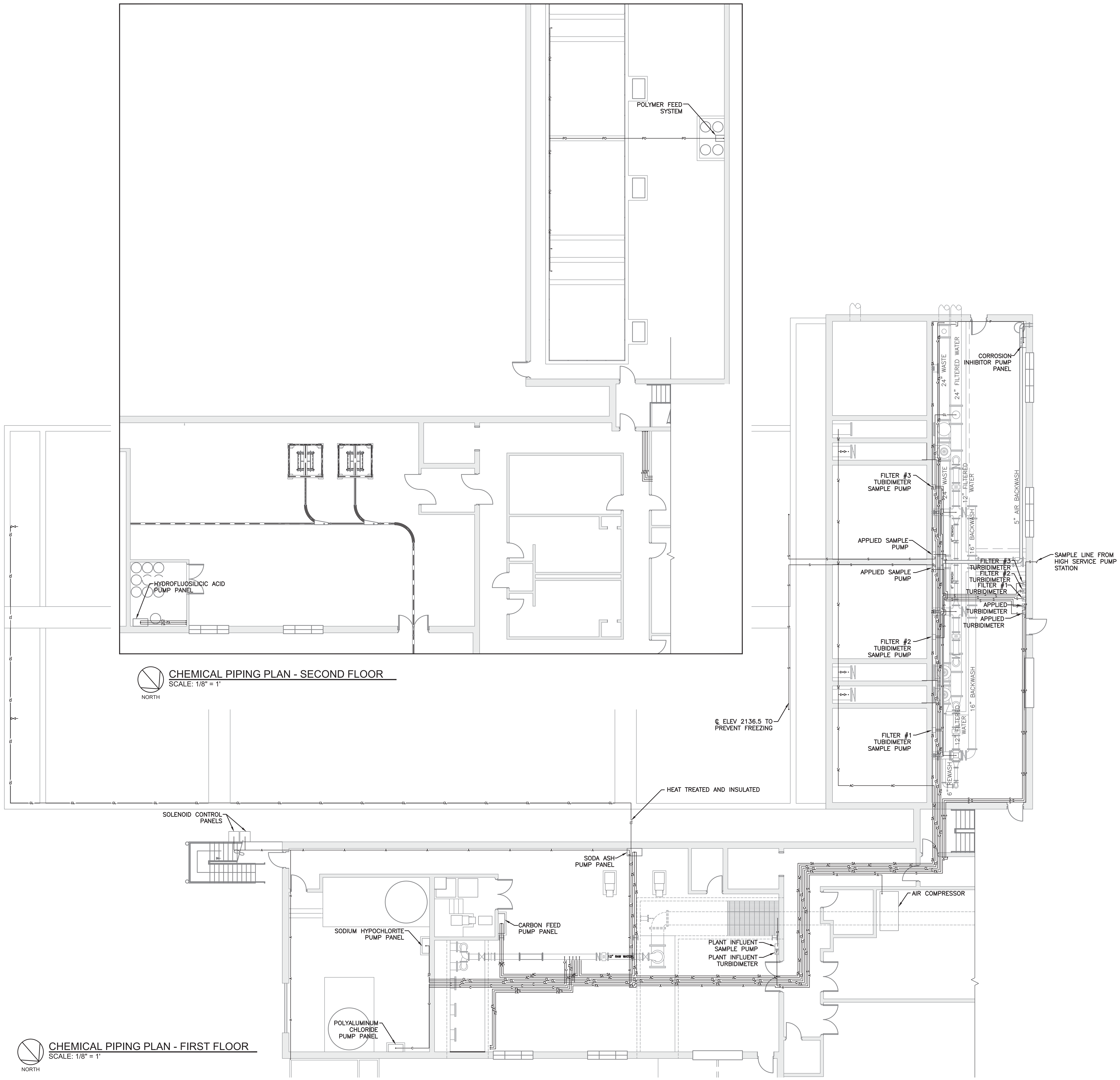
9. CHEMICAL PIPING ARE DIAGRAMMATIC. PLEASE REFER TO THE ARCHITECTURAL DRAWINGS FOR EXACT BUILDING DIMENSIONS.

10. ALL PIPE PENETRATIONS THROUGH WALLS AND FLOORS SHALL BE SEALED. WALL SLEEVES SHALL BE PROVIDED AT ALL CHEMICAL LINE PENETRATIONS THROUGH BASIN WALLS. LINK-SEALS SHALL BE PROVIDED TO SEALL THE ANNULAR AREA.

11. ALL EXTERIOR CHEMICAL PIPING SHALL BE HEAT TRACED AND INSULATED.

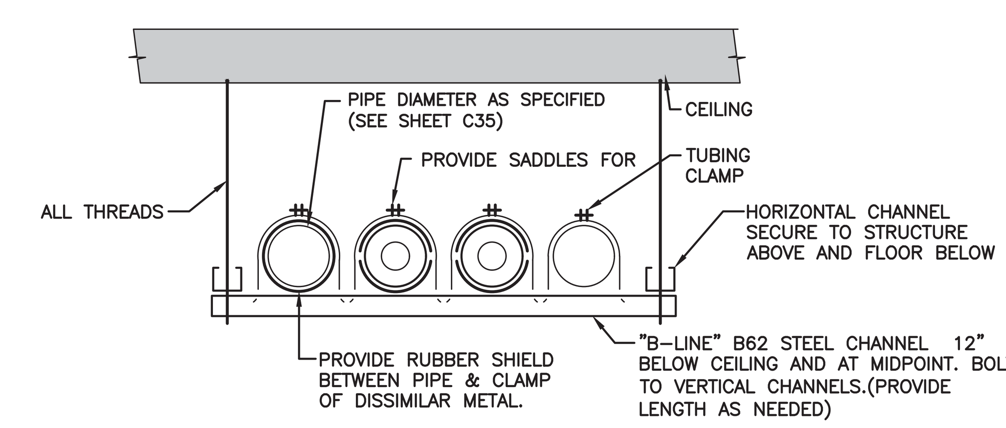
CHEMICAL PIPING LEGEND

——CL——	SODIUM HYPOCHLORITE
——C——	POLYALUMINUM CHLORIDE
——FA——	HYDROFLUOSILICIC ACID
——SA——	SODA ASH
——AC——	CARBON
——P——	CORROSION INHIBITOR
——PO——	POLYMER
——S——	SAMPLE LINES
——AIR——	AIR LINES
⋈	VALVES

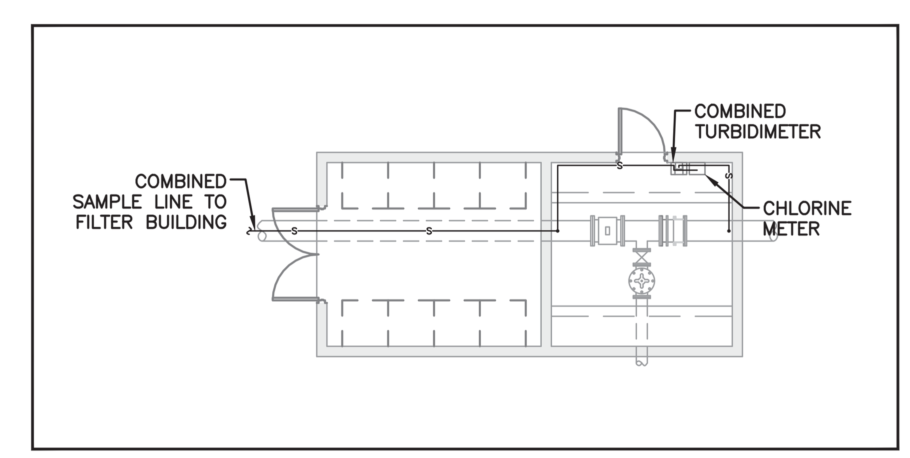


CHEMICAL PIPING PLAN - SECOND FLOOR
SCALE: 1/8" = 1'

CHEMICAL PIPING PLAN - FIRST FLOOR
SCALE: 1/8" = 1'



PIPE SUPPORT DETAIL
NOT TO SCALE



CHEMICAL PIPING PLAN - HIGH SERVICE PUMP STATION
SCALE: 1/8" = 1'

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AUSTINVILLE VIRGINIA

DRAWN BY: A. SQUIRES
REVIEW BY: C.E. PEED
DATE: 20 OCTOBER 2006
REVISION:
DWG DESCRIPTION: CHEMICAL PIPING PLAN

C37

JN: 04 - 02

RECORD DRAWINGS
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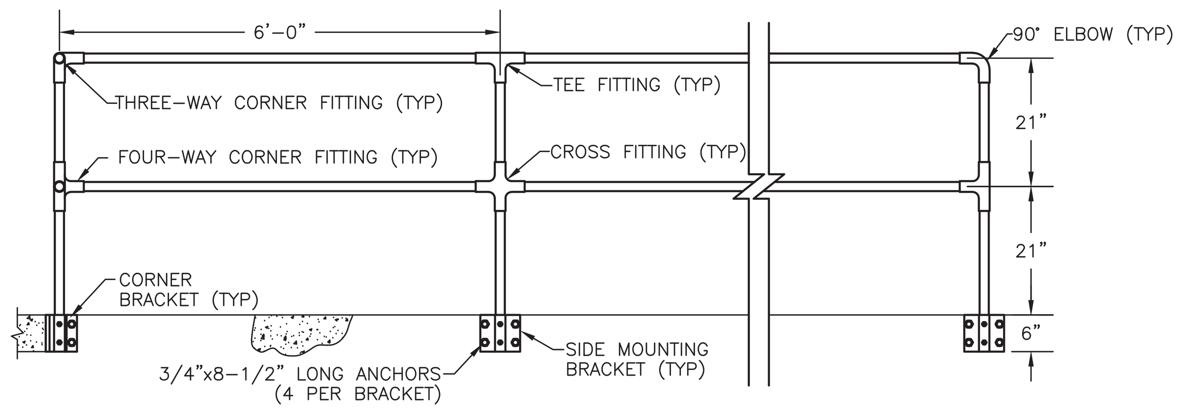
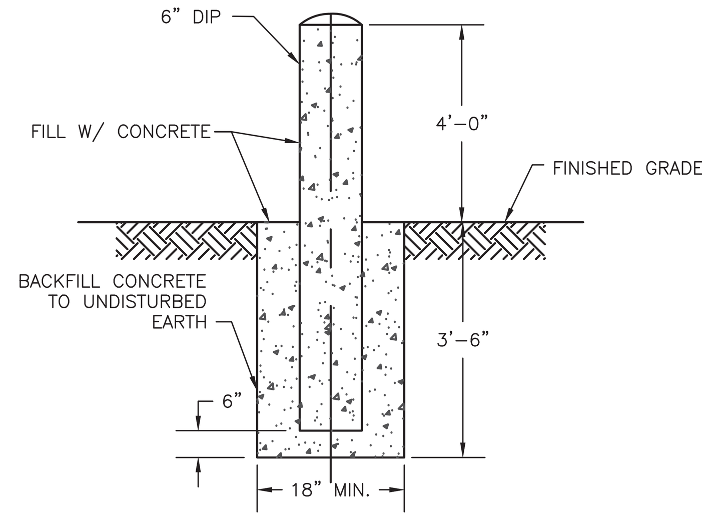
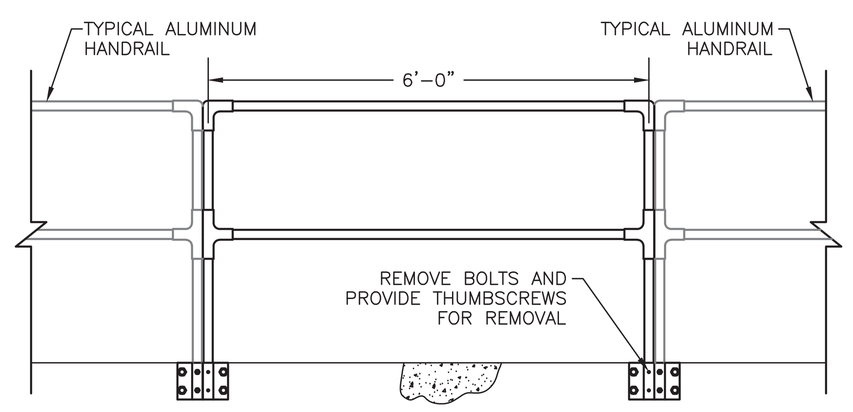


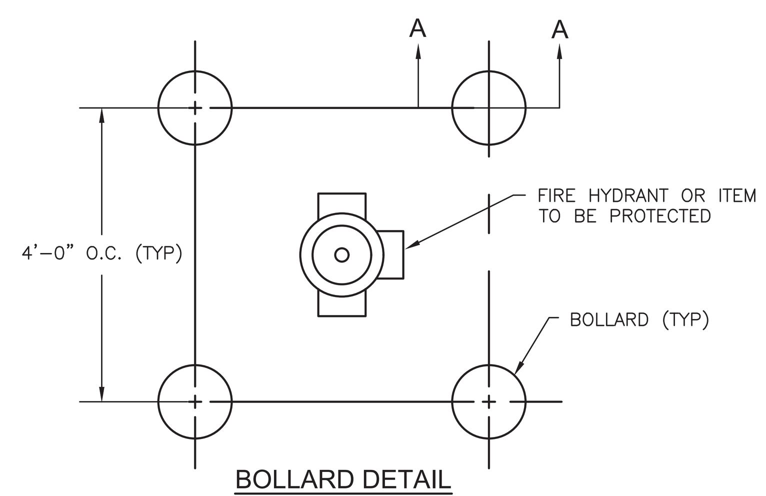
TYPICAL ALUMINUM HANDRAIL
NOT TO SCALE



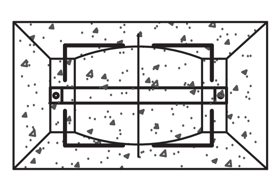
SECTION A-A



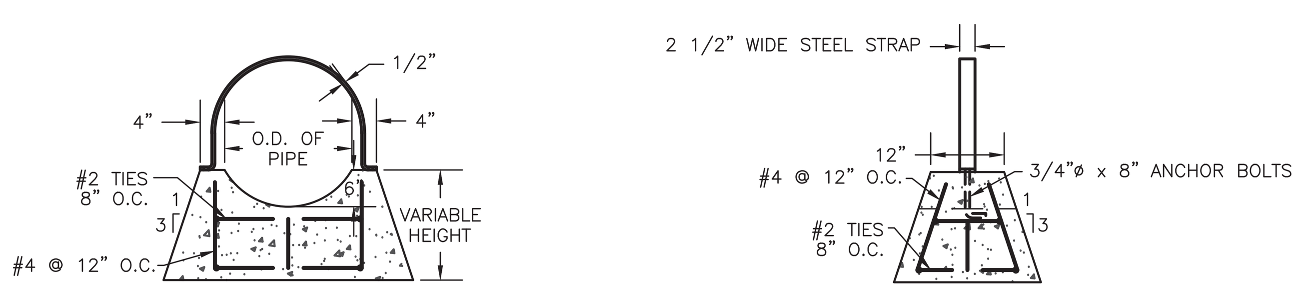
REMOVABLE HANDRAIL DETAIL
NOT TO SCALE



BOLLARD DETAIL
NOT TO SCALE



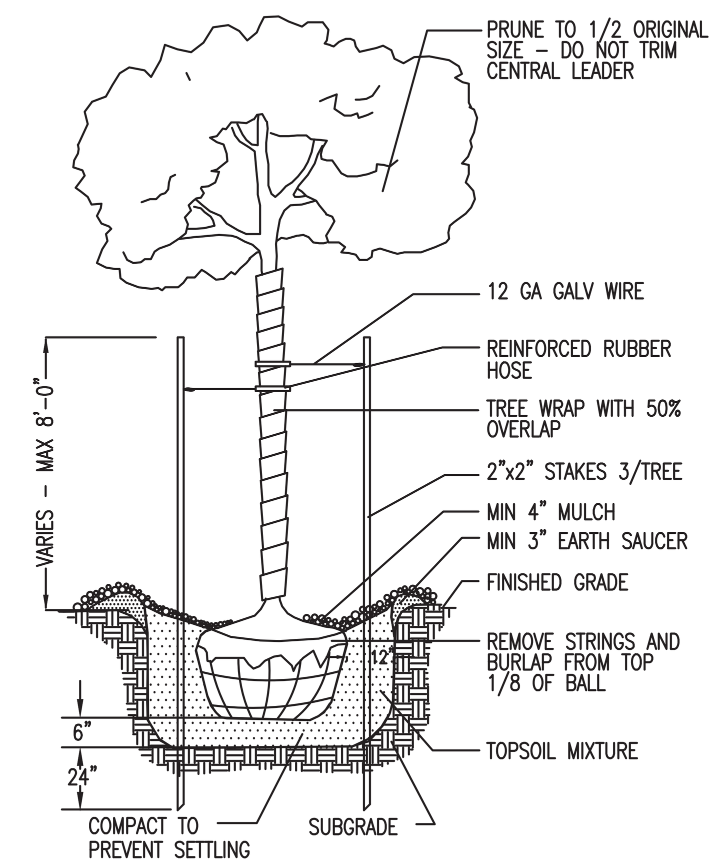
PLAN



FRONT

SIDE

PIPE SUPPORT DETAIL
NOT TO SCALE

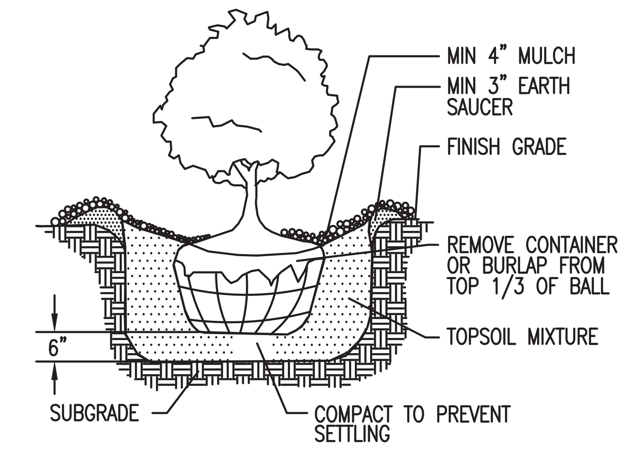


A TREE PLANTING
SCALE: NTS.

LANDSCAPE NOTES

1. THE PLANTING OF TREES SHALL BE DONE IN ACCORDANCE WITH THE STANDARDIZED LANDSCAPE SPECIFICATIONS JOINTLY ADOPTED BY THE VA NURSERYMAN'S ASSOCIATION, THE VA SOCIETY OF LANDSCAPE DESIGNERS AND THE VA CHAPTER OF THE AMERICAN SOCIETY OF LANDSCAPE ARCHITECTS.

2. ALL TREES SHALL BE PLANTED IN GOOD CONDITION AND MEET "AMERICAN STANDARD FOR NURSERY STOCK" (1990), ANSI Z60.1–1990, AS MAY BE AMENDED.



C SHRUB PLANTING
SCALE: NTS.

PLANT SCHEDULE

KEY	SCIENTIFIC NAME	COMMON NAME	SIZE	REMARKS	DETAIL	LOCN	# OF TREES
DT	DECIDUOUS TREES						
DT–1	ACER RUBRUM	OCTOBER GLORY RED MAPLE	MIN 2 1/2" CAL	B&B	A	1	3
DT–2	ACER RUBRUM COLUMNARE	COLUMNARE RED MAPLE	MIN 2 1/2" CAL	B&B	A	1	3
ES	EVERGREEN SHRUBS & TREES						
ES–1	JUNIPERUS HORIZONTALIS "WILTONII"	WILTON CARPET JUNIPER	MIN 12" DIA.	POTTED	C	1	10
ES–2	PICEA ABIES	NORWAY SPRUCE	MIN 6' HT.	B&B	A	2	30
ES–3	PINUS STROBUS	WHITE PINE	MIN 6' HT.	B&B	A	2	30
					TOTAL		

LOCATION (LOCN) LEGEND:
1. INSTALL SURROUNDING THE PARKING LOT. EXACT LOCATIONS TO BE DETERMINED AT A LATER TIME BY OWNER AND ENGINEER.
2. INSTALL ALONG THE EARTHEN BERM AND WEST PROPERTY BOUNDARY. EXACT LOCATIONS TO BE DETERMINED AT A LATER TIME BY OWNER AND ENGINEER.

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AUSTINVILLE WATER TREATMENT PLANT
(DIVISION I)

AUSTINVILLE VIRGINIA

DRAWN BY: A. SQUIRES
REVIEW BY: C.E. PEED
DATE: 20 OCTOBER 2006
REVISION:
DWG DESCRIPTION: GENERAL DETAILS

C38

JN: 04 - 02

RECORD DRAWINGS
RECORD DRAWINGS
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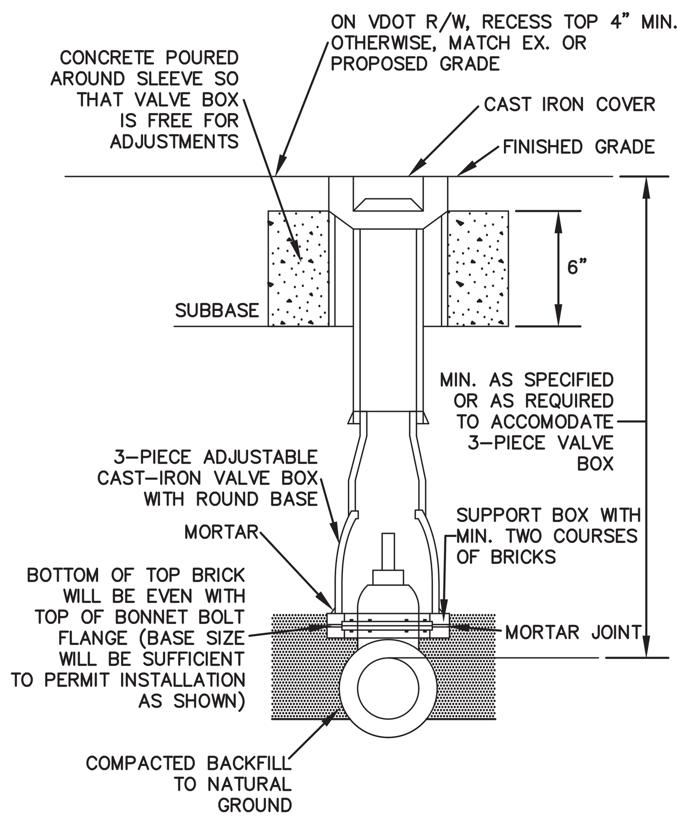
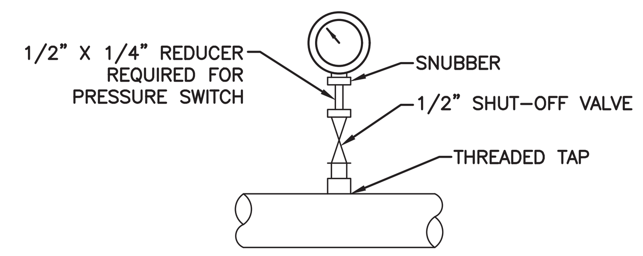
RECORD DRAWINGS

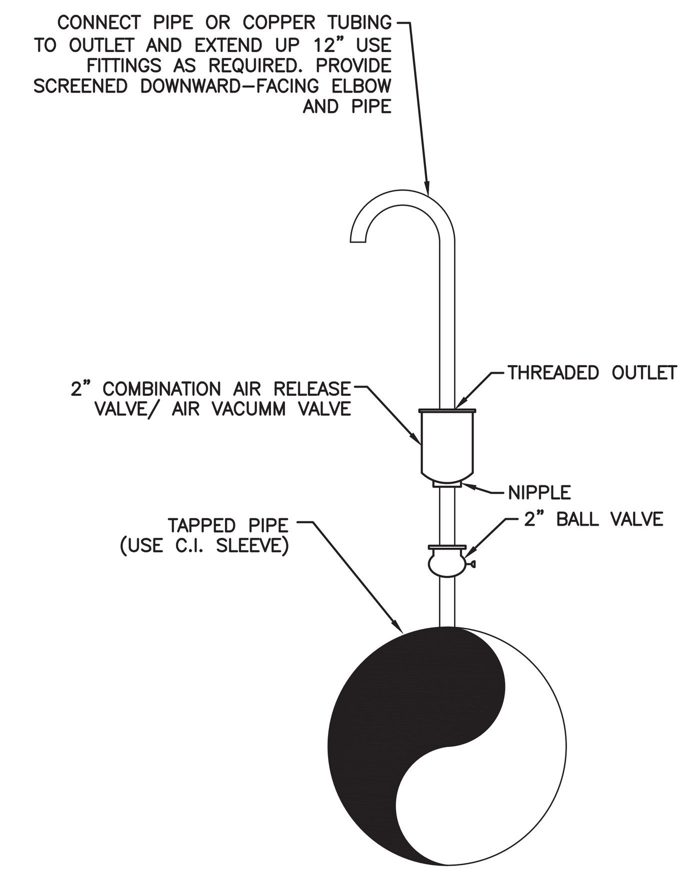


VALVE & BOX DETAIL
NOT TO SCALE

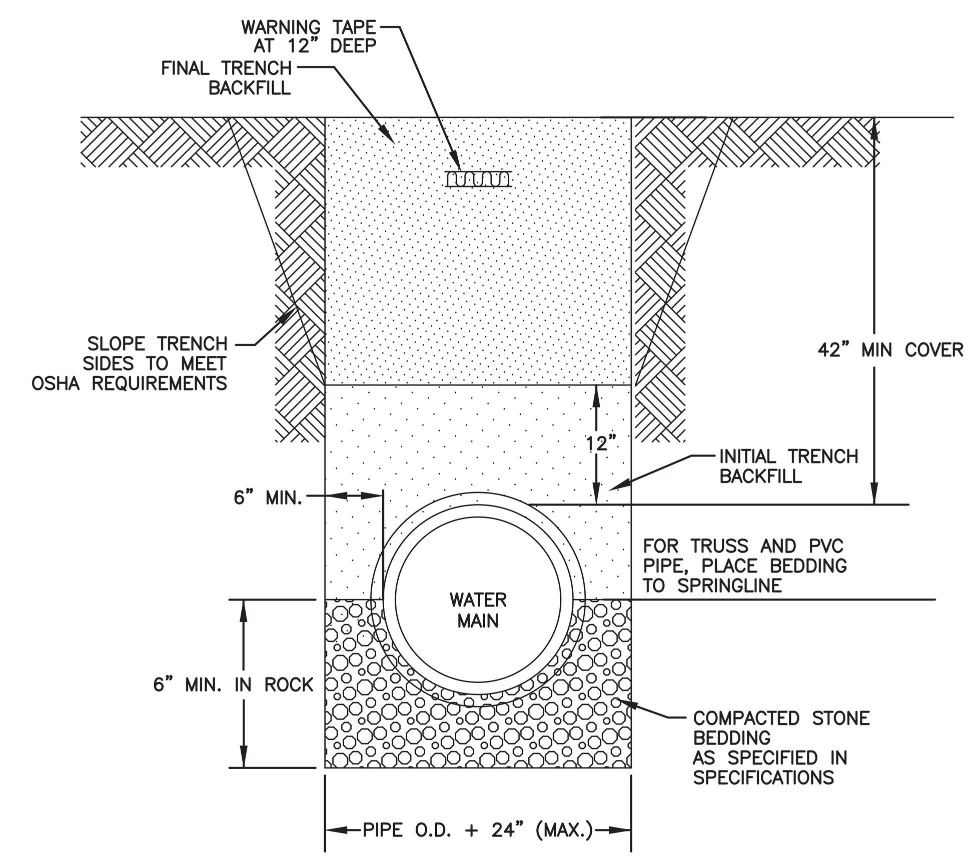


PRESSURE GAUGE OR SWITCH INSTALLATION WITH THREADED TAP (SHOWN WITHOUT DIAPHRAGM SEAL) USED FOR PIPES 2" AND LARGER

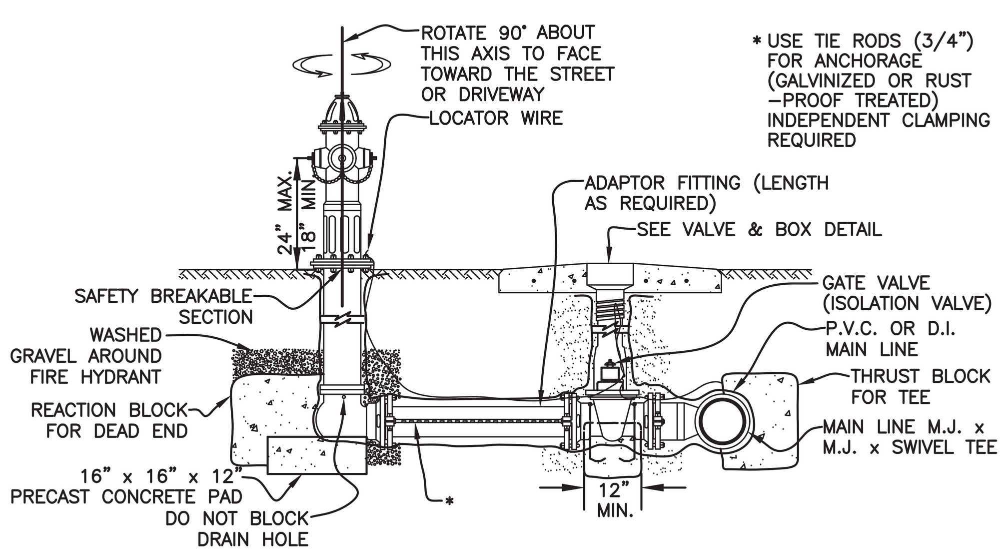
PRESSURE GAUGE DETAIL
NOT TO SCALE



AIR RELEASE VALVE DETAIL
NOT TO SCALE



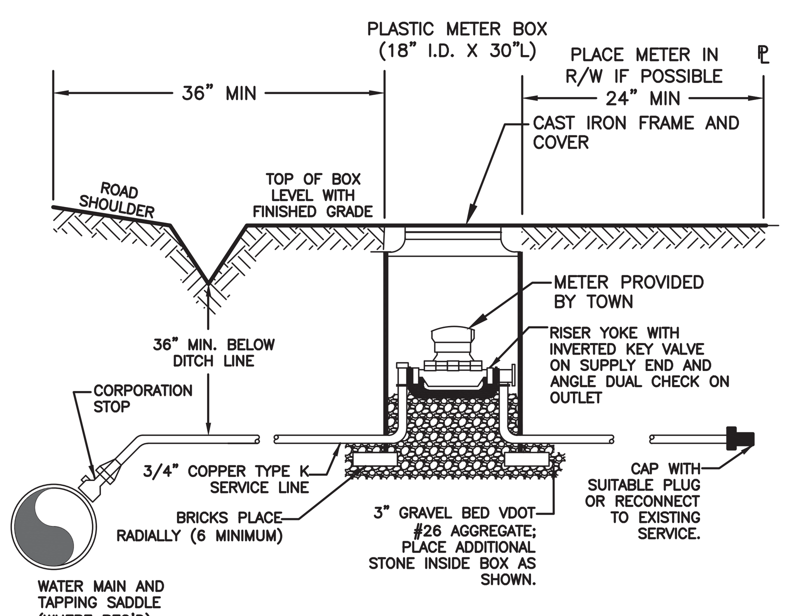
WATER MAIN TRENCH BEDDING
NOT TO SCALE



NOTES:

1. HYDRANT PUMPER & HOSE THREAD CONNECTIONS SHALL MATCH LOCAL STANDARDS.
2. PUMPER NOZZLE TO BE FACED TOWARD THE STREET OR THE ADJACENT DRIVEWAY (TYP.)
3. FIRE HYDRANTS, VALVES, VALVE BOXES, TEES, BENDS & ALL D.I. PIPES WILL BE WRAPPED W/ 0.2mm. THICKNESS GEOTEXTILE FABRIC WRAP. SPECIAL CARE TO BE TAKEN NOT TO BLOCK HYDRANT DRAIN HOLE.
4. NUTS & BOLTS FOR D.I. FITTINGS WILL BE COR-TEN BOLTS AS MANUFACTURED BY NSS INDUSTRIES.
5. SEE REACTION BLOCK DETAILS FOR BLOCKINGS.
6. FIRE HYDRANTS AND THE ASSOCIATED ISOLATION VALVES SHALL NOT BE LOCATED WITHIN DITCHLINES.
7. FIRE HYDRANTS SHALL BE LOCATED WITH 5 FOOT MIN. CLEARANCE FROM EDGE OF ROADWAY, DRIVEWAY OR PARKING SURFACE.
8. IN LIEU OF TIE RODS, THE CONTRACTOR HAS THE OPTION OF USING GRIP RING OR MEG-A-LUG JOINT RESTRAINTS.
9. APPROVED LOCK JOINT SYSTEM MAY BE USED IN LIEU OF RODS AND CLAMPS.

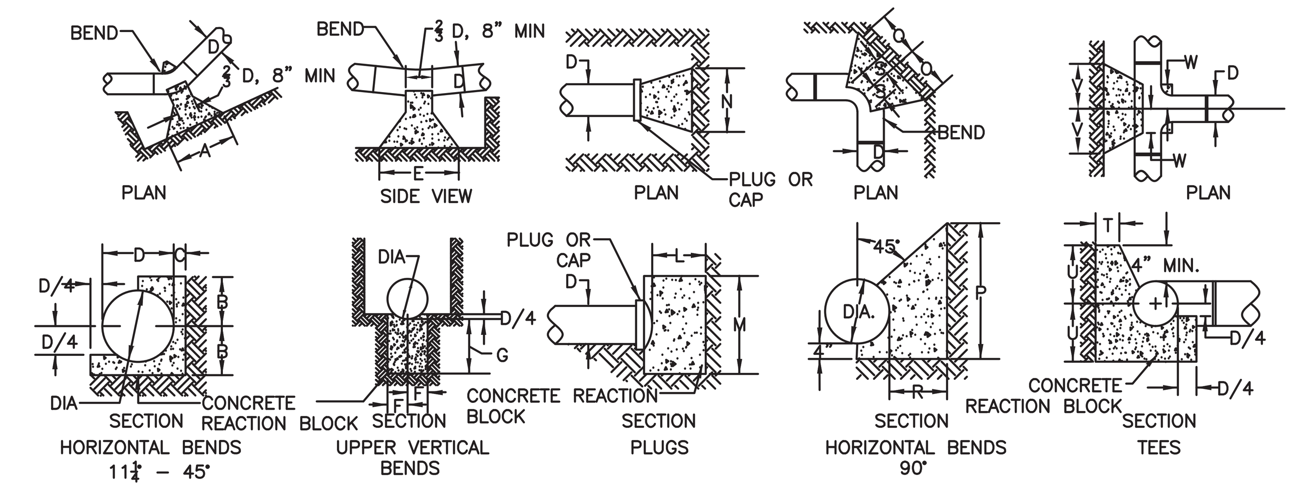
FIRE HYDRANT ASSEMBLY (TYPICAL ELEVATION)
NOT TO SCALE



NOTES:
1. ℄ OF METER CONNECTION NOT MORE THAN 22" OR LESS THAN 16" FROM TOP OF BOX.
2. FOR PUMP SERVICES THE SERVICE LINE AND APPURTENANCES SHALL BE 2".

RESIDENTIAL WATER
METER SETTING
NOT TO SCALE

NOTES: 1) ALL CONCRETE SHALL BE VDOT CLASS A-3 AND SHALL BE POURED AGAINST UNDISTURBED EARTH
2) PAINT ALL EXPOSED STEEL WITH 2 COATS OF WATERPROOF BITUMASTIC COMPOUND



DIA	HORIZONTAL BENDS 11¼° A	B	C	22½° A	B	C	45° A	B	C	UPPER VERTICAL BENDS 11¼° E	F	G	22½° E	F	G	45° E	F	G	PLUGS L	M	N	HORIZ. BENDS 90° O	P	R	S	TEE BRANCH T	U	V	W
4"	.50	.58	.75	.75	.58	.75	1.25	.58	.75	.50	.58	.58	.75	.58	.58	1.25	.58	.58	.50	1.17	1.50	1.17	1.17	1.67	.42	.75	.67	.75	.50
6"	.50	.58	.75	.75	.58	.75	1.25	.58	.75	.50	.58	.58	.75	.58	.58	1.25	.58	.58	.50	1.17	1.50	1.17	1.17	1.67	.42	.75	.67	.75	.50
8"	.67	.67	.75	1.00	.67	.75	2.00	.67	.75	.67	.67	.58	1.00	.67	.67	2.08	.75	.83	.67	1.50	2.25	1.58	1.50	1.75	.50	.75	.83	1.00	.67
10"	.83	.75	.75	1.50	.75	.83	2.50	.75	.92	.83	.75	.67	1.50	.83	.67	2.08	.75	.83	.67	2.00	2.50	1.67	2.08	1.75	.50	.83	1.00	1.25	.67
12"	1.00	.83	.75	1.75	.92	.92	2.92	.92	1.17	1.00	.83	.67	1.75	.83	.67	2.50	.92	.92	.83	2.33	3.25	2.00	2.50	1.92	.58	1.00	1.25	1.42	.67
16"	1.33	1.00	.75	2.33	1.00	1.17	3.67	1.25	1.42	1.33	1.00	.75	2.25	.83	.75	3.33	1.25	1.25	1.00	2.92	4.17	2.08	3.00	2.17	.83	1.17	1.67	1.83	.83
20"	1.67	1.17	1.00	3.17	1.17	1.33	4.75	1.50	1.83	1.67	1.17	.83	3.00	1.17	1.00	4.17	1.50	1.50	1.33	3.75	5.17	3.50	3.83	2.83	1.00	1.33	2.08	2.25	1.17
24"	2.00	1.33	1.00	4.00	1.33	1.50	6.08	1.67	1.92	2.00	1.33	1.00	3.50	1.33	1.00	5.00	1.75	1.75	1.67	4.33	6.25	4.67	4.00	3.00	1.00	1.50	2.50	2.67	1.33
30"	2.50	1.50	1.08	5.00	1.58	1.75	7.95	2.00	3.08	2.50	1.58	1.08	4.17	1.58	1.08	6.25	2.25	2.25	2.00	5.42	7.42	5.75	5.00	3.83	1.17	1.75	3.08	3.92	1.83
36"	3.00	1.92	1.17	5.75	2.00	2.00	8.92	2.50	3.33	3.00	1.58	1.17	5.33	2.00	1.17	7.50	2.50	2.67	2.00	6.50	9.00	6.83	6.00	4.83	1.17	2.00	3.75	3.92	1.83

STANDARD ANCHOR BLOCKING DETAILS
NOT TO SCALE

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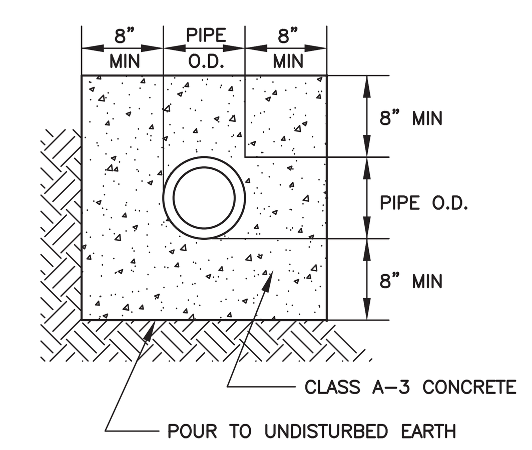
AUSTINVILLE VIRGINIA

DRAWN BY: A. SQUIRES
REVIEW BY: C.E. PEED
DATE: 20 OCTOBER 2006
REVISION:
DWG DESCRIPTION: STANDARD WATER DETAILS

C39

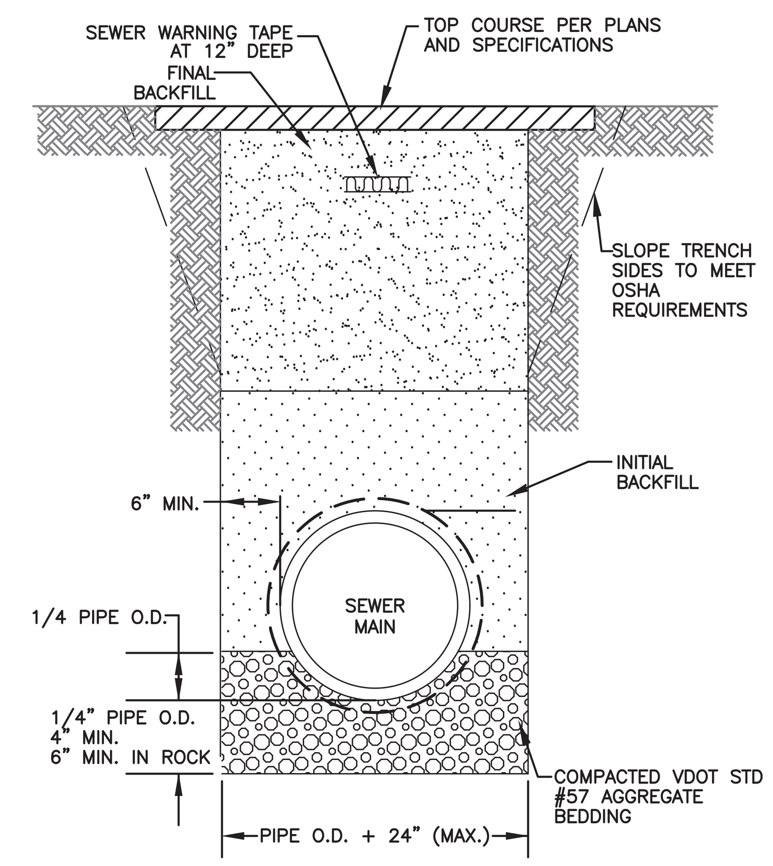
JN: 04 - 02



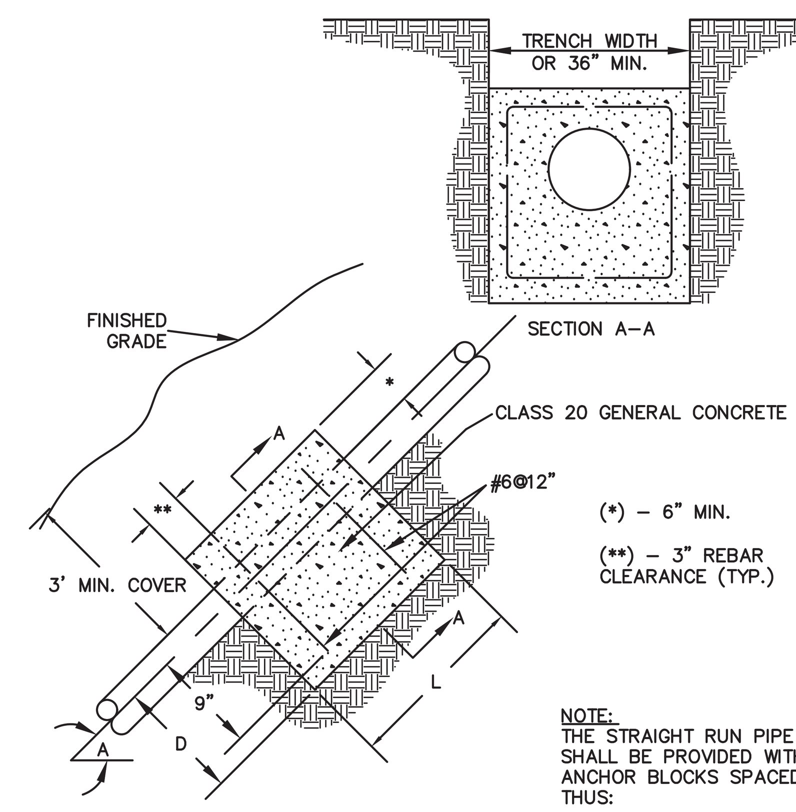
NOTES:

1. WHERE THE TRENCH BOTTOM IS IN ROCK, EXCAVATE TO A MINIMUM OF 8" BELOW THE BOTTOM OF THE PIPE AND BACKFILL WITH BEDDING MATERIAL.
2. WHERE PIPE FOUNDATIONS ARE YIELDING, BED PIPE ON A MINIMUM OF 8" BEDDING MATERIAL.

CONCRETE ENCASEMENT
NOT TO SCALE



GRAVITY SEWER BEDDING
NOT TO SCALE



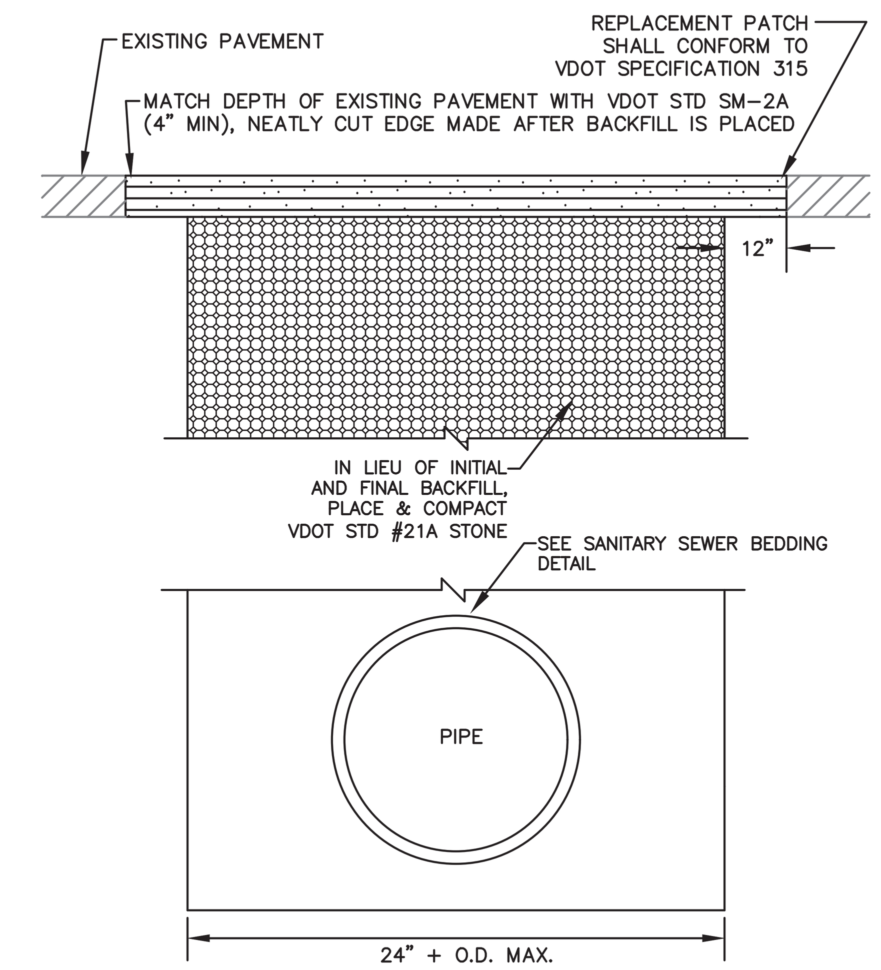
REACTION BLOCK – STRAIGHT SLOPING PIPE

SIZE	8"	12"	15"	
"D"	15"	18"	21"	
"L"	24"	27"	30"	

NOTE:
THE STRAIGHT RUN PIPE SHALL BE PROVIDED WITH ANCHOR BLOCKS SPACED THUS:

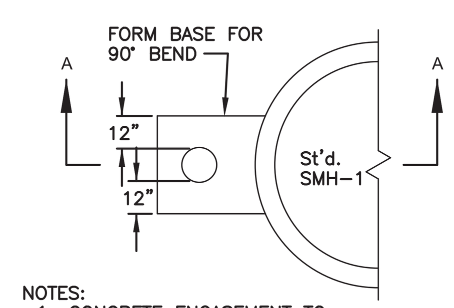
SLOPE "A"	
<20%	NOT NEEDED
20% – 35%	@ MIN. 36'
35% – 50%	@ MIN. 24'
> 50%	@ MIN. 16'

STRAIGHT PIPE CONCRETE ANCHOR DETAIL
NOT TO SCALE



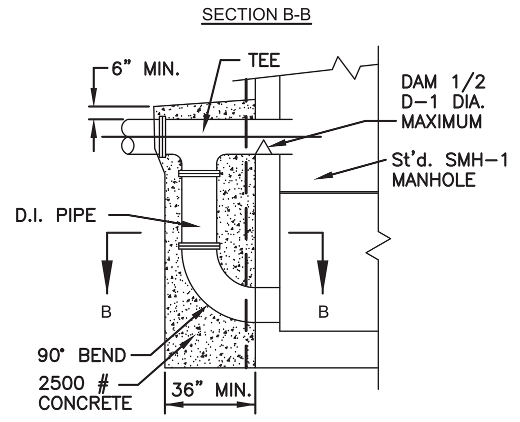
NOTE: IF NO PAVEMENT IS PROVIDED ON A DRIVEWAY OR ROAD, (INSTALL AND COMPACT) 6" MIN VDOT STD #21A STONE AS A TOP COURSE.

STANDARD PAVEMENT REPAIR
NOT TO SCALE



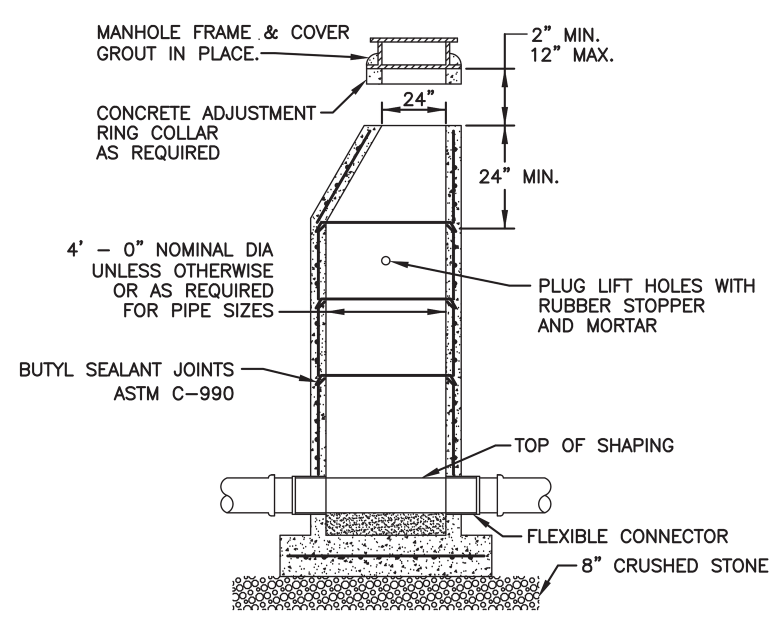
NOTES:
1. CONCRETE ENCASEMENT TO EXTEND TO LIMITS OF EXCAVATION.
2. DROP SECTION IS REQUIRED. THE INVERT DIFFERENTIAL IS 2.0' OR GREATER.

SECTION B-B



SECTION A-A

DROP MANHOLE CONNECTION
NOT TO SCALE



SANITARY SEWER MANHOLE
NOT TO SCALE

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SEAL
COMMONWEALTH OF VIRGINIA
CLEMENT E. PEED
No. 7101
CERTIFIED PROFESSIONAL ENGINEER

AUSTINVILLE WATER TREATMENT PLANT (DIVISION I)

AUSTINVILLE VIRGINIA

DRAWN BY:
A. SQUIRES

REVIEW BY:
C.E. PEED

DATE:
20 OCTOBER 2006

REVISION:

DWG DESCRIPTION:
SANITARY SEWER DETAILS

C40

JN: 04 - 02

RECORD DRAWINGS
RECORD DRAWINGS
RECORD DRAWINGS
RECORD DRAWINGS

ABBREVIATIONS:

A.S.C.	ACOUSTICAL SUSPENDED CEILING
A.F.F.	ABOVE FINISH FLOOR
ALUM.	ALUMINUM
A.P.A.	AMERICAN PLYWOOD ASSOCIATION
APPROX.	APPROXIMATE
ARCH.	ARCHITECTURAL
BD.	BOARD
BLDG.	BUILDING
BM	BEAM or BENCH MARK
BOT.	BOTTOM
BRG.	BEARING
BTWN.	BETWEEN
CAB.	CABINET
C.J.	CONTROL JOINT
CLG.	CEILING
C.T.	CERAMIC TILE
CLO.	CLOSET
C.O.	CLEAN OUT
CMU	CONCRETE MASONRY UNIT
COL.	COLUMN
CONC.	CONCRETE
CONST.	CONSTRUCTION
CONT.	CONTINUE
CONTR.	CONTRACTOR
CPT.	CARPET
CTR.	CENTER
D.	DEEP
Ø, DIA.	DIAMETER
DIM.	DIMENSION
D.L.	DEAD LOAD
DN.	DOWN
DS.	DOWNSPOUT
DTL.	DETAIL
D.W.	DISH WASHER
DWG.	DRAWING
E.	EAST
EA.	EACH
E.I.F.S.	EXTERIOR INSULATION FINISH SYSTEM
E.J.	EXPANSION JOINT
ELEC.	ELECTRICAL
ELEV.	ELEVATION
EQ.	EQUAL
EXIST.	EXISTING
EXT.	EXTERIOR
F.D.	FLOOR DRAIN
F.F.E.	FINISH FLOOR ELEVATION
FIN.	FINISH
FL.	FLOOR
F.O.	FACE OF
(') FT.	FOOT or FEET
FTG.	FOOTING
GA.	GAGE
GR.	GRADE
G.W.B.	GYPSUM WALLBOARD
GYP.	GYPSUM
H.M.	HOLLOW METAL
HORIZ.	HORIZONTAL
HT.	HEIGHT
HTR.	HEATER
H.W.	HOT WATER
(") IN.	INCH
INSUL.	INSULATION
INT.	INTERIOR
JCT.	JUNCTION
JT.	JOINT
LB.	POUND
LG.	LENGTH or LONG
L.L.	LIVE LOAD
L.L.V.	LONG LEG VERTICAL
MATL.	MATERIAL
MAX.	MAXIMUM
MECH.	MECHANICAL
MFR.	MANUFACTURER
M.R.	MOISTER RESISTANCE
MW.	MICROWAVE
MIN.	MINIMUM
MISC.	MISCELLANEOUS
MNTG.	MOUNTING
N.	NORTH
N.I.C.	NOT IN CONTRACT
NO.	NUMBER
N.T.S.	NOT TO SCALE
O/	OVER
O.A.	OVER-ALL
O.C.	ON CENTER
O.F.C.I.	OWNER FURNISHED CONTRACTOR INSTALLED
O.H.	OPPOSITE HAND
OPNG.	OPENING
OZ.	OUNCE
PL.	PLATE
P/L	PROPERTY LINE
PLYWD.	PLYWOOD
PNL.	PANEL
P.T.	PRESSURE TREATED
R.	RADIUS
REF.	REFRIGERATOR
REINF.	REINFORCE
REQD.	REQUIRED
REV.	REVERSED
RM.	ROOM
R/W	RIGHT OF WAY
S.	SOUTH
SIM.	SIMILAR
SPEC.	SPECIFICATION
SQ.	SQUARE
STD.	STANDARD
STRUCT.	STRUCTURAL
STL.	STEEL
T&G	TONGUE & GROOVE
THK.	THICK
T.O.	TOP OF
T.S.	TUBULAR STEEL
TYP.	TYPICAL
V.B.	VAPOR BARRIER
VERT.	VERTICAL
V.C.T.	VINYL COMPOSITION TILE
W.	WEST
W/	WITH
W/D	WASHER & DRYER
W.H.	WATER HEATER
WD.	WOOD
WT.	WEIGHT
W.W.F.	WELDED WIRE FABRIC

MATERIAL SYMBOLS:

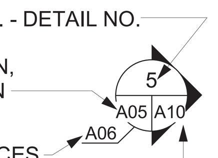
- CONCRETE (PLAN & SECTION)
- BRICK (PLAN & SECTION)
- CONCRETE BLOCK (PLAN & SECTION)
- WOOD (PLAN)
- FRAMING LUMBER (SECTION)
- FINISH WOOD (SECTION)
- PLYWOOD (SECTION)
- STEEL (SECTION)
- BATT INSULATION (PLAN & SECTION)
- RIGID INSULATION (PLAN & SECTION)
- GRAVEL
- SOIL
- GYPSUM BOARD
- LINTEL OR BEAM (PLAN)

SYMBOLS LEGEND:

ELEVATION, SECTION OR DETAIL SYMBOL

ELEVATION NO. - SECTION NO. - DETAIL NO.

SHEET NO. WHERE ELEVATION, SECTION, OR DETAIL IS TAKEN



ADDITIONAL SHEET REFERENCES

SHEET NO. WHERE ELEVATION, SECTION, OR DETAIL IS DRAWN

INDEX TO DRAWINGS:

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AUSTINVILLE WATER TREATMENT PLANT

AUSTINVILLE VIRGINIA

DRAWN BY: CKD

REVIEW BY:

DATE: 10/20/06

REVISION:

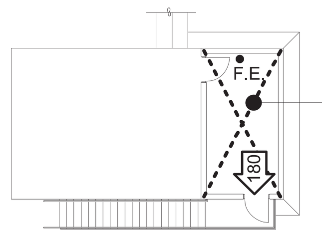
DWG DESCRIPTION:

ARCHITECTURAL COVER SHEET

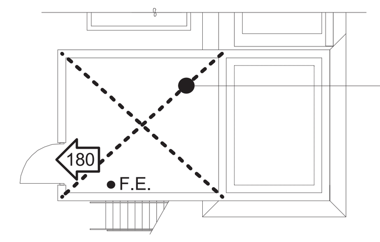
A00

JN: 04 - 02

RAW WATER INTAKE BUILDING



SECOND FLOOR PLAN
SCALE: 1/16" = 1'-0"



FIRST FLOOR PLAN
SCALE: 1/16" = 1'-0"

LEGEND

180 EGRESS CAPACITY OF DOOR (TABLE 1003.2.3)

F.E. PORTABLE FIRE EXTINGUISHER, WALL MOUNTED

PROJECT DATA

DRAWINGS BASED ON 2000 VUSBC (IBC 2000)

	USE GROUP	BLDG AREA (GROSS SF)	OCCUPANT LOAD (TABLE 1003.2.2.2)
FIRST FLOOR	H-3	402	2
SECOND FLOOR	H-3	196	1
BUILDING TOTAL		598	3

USE GROUP / (IBC 302):
H-3 (HIGH PHYSICAL HAZARD)

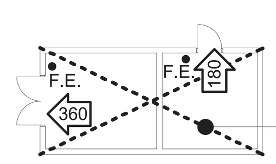
REQUIRED SEPARATION OF OCCUPANCIES (TABLE 302.3.3)

CONSTRUCTION CLASSIFICATION / (IBC 602):
IIB (NONCOMBUSTIBLE)
BUILDING IS SPRINKLED IN ACCORDANCE WITH NFPA 13

HEIGHT & AREA LIMITATIONS
THE FOLLOWING HEIGHT & AREA LIMITATIONS ARE BASED ON USE GROUP H-3

ALLOWED HEIGHT: (2) STORIES, 55 FT. HEIGHT (TABLE 503)
ACTUAL HEIGHT: (2) STORIES, 25 FT. HEIGHT
ALLOWED AREA: 14000 SF (TABLE 503)
ACTUAL AREA: 402 SF FIRST FLOOR
196 SF SECOND FLOOR

HIGH SERVICE PUMP STATION BUILDING



FLOOR PLAN
SCALE: 1/16" = 1'-0"

LEGEND

180 EGRESS CAPACITY OF DOOR (TABLE 1003.2.3)

F.E. PORTABLE FIRE EXTINGUISHER, WALL MOUNTED

PROJECT DATA

DRAWINGS BASED ON 2000 VUSBC (IBC 2000)

	USE GROUP	BLDG AREA (GROSS SF)	OCCUPANT LOAD (TABLE 1003.2.2.2)
BUILDING TOTAL	U	373	2

USE GROUP / (IBC 302):
U (UTILITY AND MISCELLANEOUS)

CONSTRUCTION CLASSIFICATION / (IBC 602):
IIB (NONCOMBUSTIBLE)

HEIGHT & AREA LIMITATIONS
THE FOLLOWING HEIGHT & AREA LIMITATIONS ARE BASED ON USE GROUP U

ALLOWED HEIGHT: (2) STORIES, 55 FT. HEIGHT (TABLE 503)
ACTUAL HEIGHT: (2) STORIES, 13 FT. HEIGHT
ALLOWED AREA: 8500 SF (TABLE 503)
ACTUAL AREA: 373 SF

MAIN BUILDING

LEGEND

1 HOUR FIRE RATED WALL ASSEMBLY

2 HOUR FIRE RATED WALL ASSEMBLY

3 HOUR FIRE RATED WALL ASSEMBLY

180 EGRESS CAPACITY OF DOOR (TABLE 1003.2.3)

F.E. PORTABLE FIRE EXTINGUISHER, WALL MOUNTED

PROJECT DATA

DRAWINGS BASED ON 2000 VUSBC (IBC 2000)

	USE GROUP	BLDG AREA (GROSS SF)	OCCUPANT LOAD (TABLE 1003.2.2.2)
FIRE AREA 1			
FIRST FLOOR	F-1	3,000	30
FIRST FLOOR	H-2	164	1
FIRST FLOOR	H-4	1,088	4
FIRST FLOOR TOTAL		4,252	35
SECOND FLOOR	F-1	3,010	31
SECOND FLOOR	H-4	154	1
SECOND FLOOR TOTAL		3,164	32
FIRE AREA 1 TOTAL		7,416	67
FIRE AREA 2			
FIRST FLOOR	F-2	7,754	78
SECOND FLOOR	F-2	4,188	42
SECOND FLOOR	B	3,566	36
SECOND FLOOR TOTAL		7,754	78
FIRE AREA 2 TOTAL		15,508	156
FIRST FLOOR GRAND TOTAL		12,006	113
SECOND FLOOR GRAND TOTAL		10,918	110
BUILDING TOTAL		22,924	223

USE GROUP / (IBC 302):
F-1 (FACTORY INDUSTRIAL - MODERATE HAZARD)
F-2 (FACTORY INDUSTRIAL - LOW HAZARD)
H-2 (HIGH ACCELERATED BURNING HAZARD)
H-4 (HIGH HEALTH HAZARD)
B (BUSINESS)

REQUIRED SEPARATION OF OCCUPANCIES (TABLE 302.3.3)
F-1 FROM F-2 2 HOUR FIRE SEPARATION
F-1 FROM H-2 2 HOUR FIRE SEPARATION
F-1 FROM H-4 2 HOUR FIRE SEPARATION
F-1 FROM B 3 HOUR FIRE SEPARATION
H-2 FROM H-4 2 HOUR FIRE SEPARATION

CONSTRUCTION CLASSIFICATION / (IBC 602):
IIB (NONCOMBUSTIBLE)
BUILDING IS SPRINKLED IN ACCORDANCE WITH NFPA 13 (AREAS NOTED IN DRAWING)

HEIGHT & AREA LIMITATIONS AT MAIN BUILDING

FIRE AREA 1
THE FOLLOWING HEIGHT & AREA LIMITATIONS ARE BASED ON SEPARATED MIXED USE GROUPS (F-1, H-2, & H-4)

F-1
ALLOWED HEIGHT: (2) STORIES, 55 FT. HEIGHT (TABLE 503)
ACTUAL HEIGHT: (2) STORIES, 33 FT. HEIGHT
ALLOWED AREA: 15,500 SF (TABLE 503)
ACTUAL AREA: 3,000 SF FIRST FLOOR
3,010 SF SECOND FLOOR

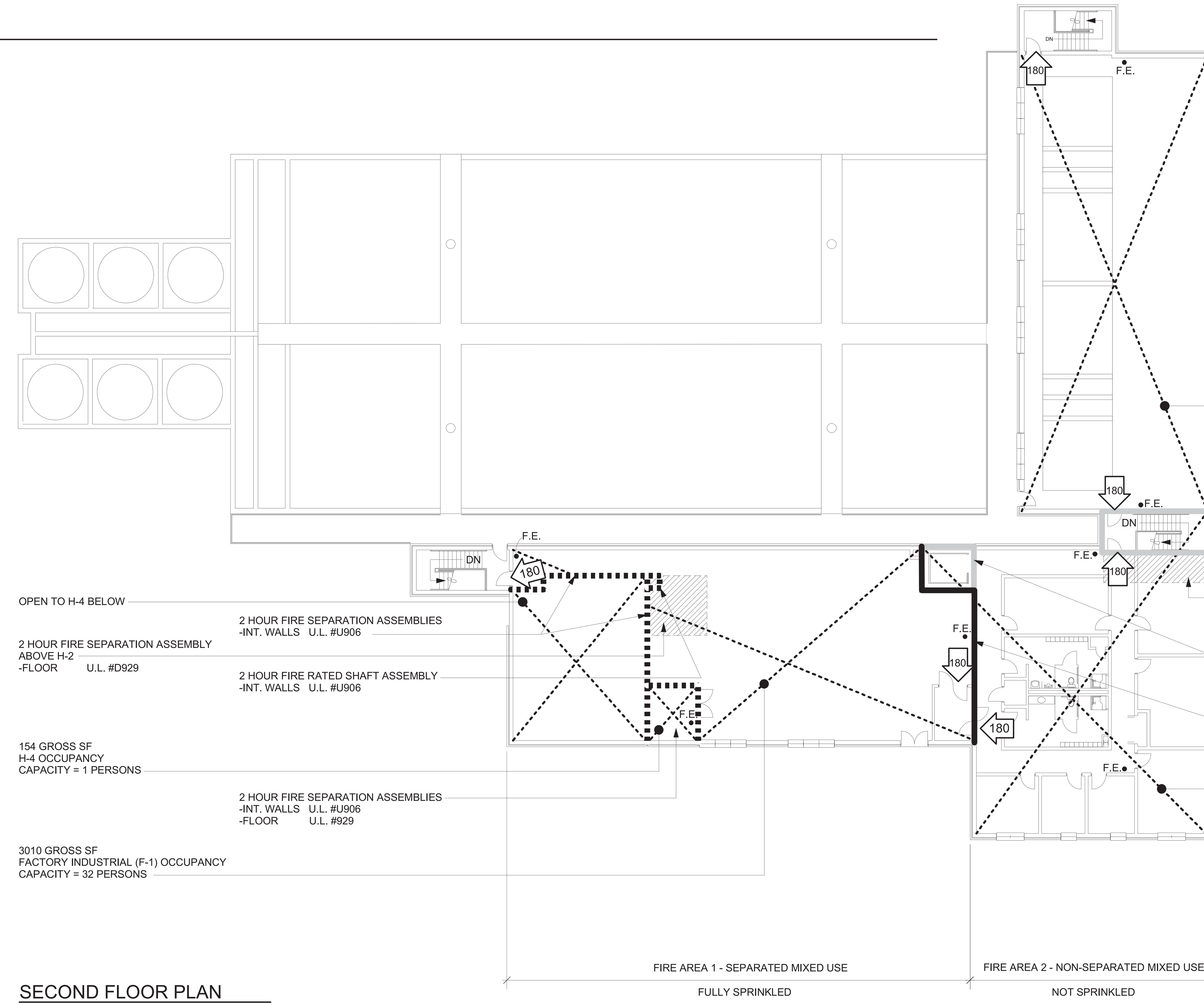
H-2
ALLOWED HEIGHT: (1) STORY, 55 FT. HEIGHT (TABLE 503)
ACTUAL HEIGHT: (1) STORIES, 14 FT. HEIGHT
ALLOWED AREA: 7,000 SF. AREA ALLOWED PER FLOOR (TABLE 503)
ACTUAL AREA: 165 SF FIRST FLOOR

H-4
ALLOWED HEIGHT: (3) STORIES, 55 FT. HEIGHT (TABLE 503)
ACTUAL HEIGHT: (2) STORIES, 33 FT. HEIGHT
ALLOWED AREA: 17,500 SF (TABLE 503)
ACTUAL AREA: 1,088 SF FIRST FLOOR
154 SF SECOND FLOOR

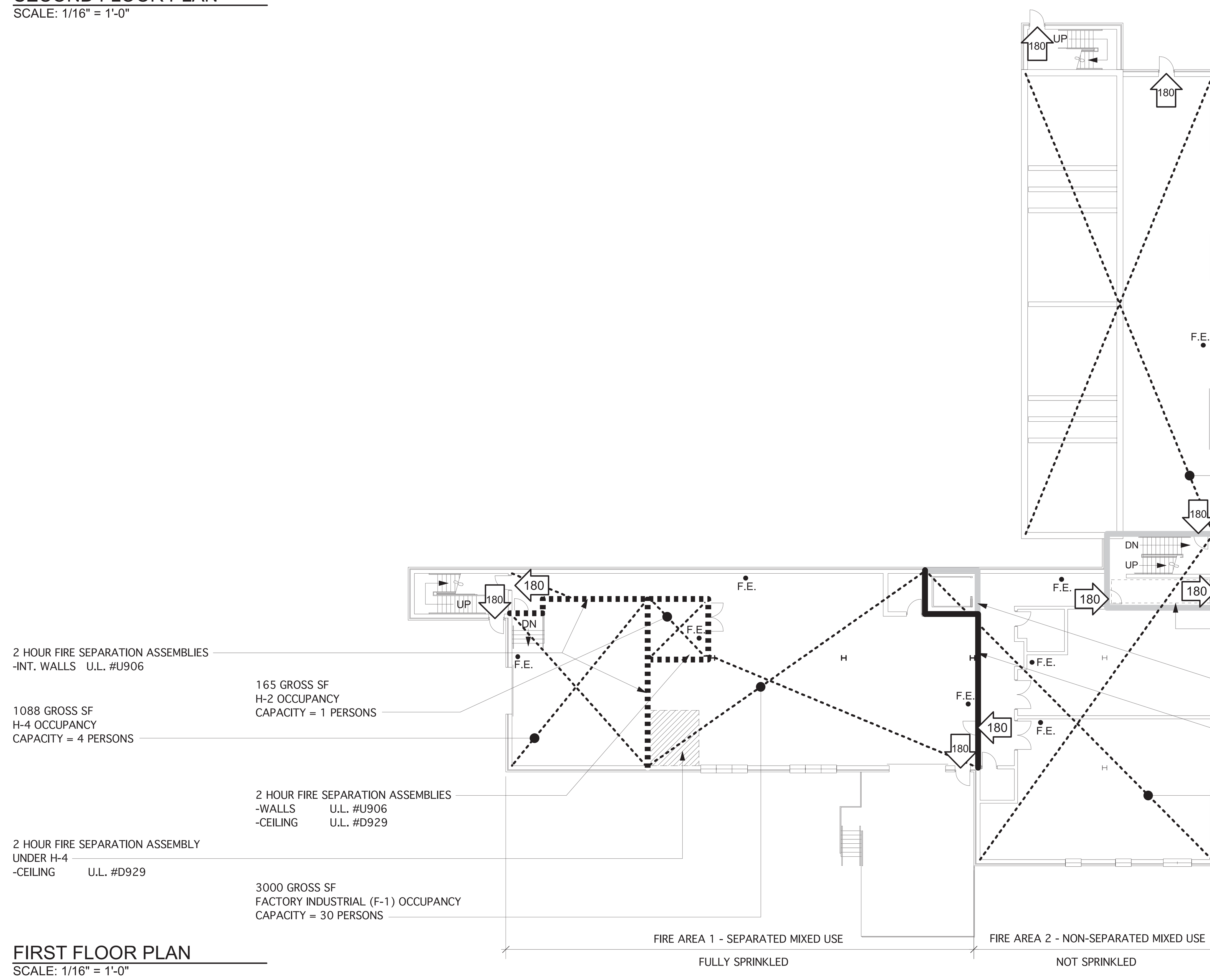
FIRE AREA 2
THE FOLLOWING HEIGHT & AREA LIMITATIONS ARE BASED ON NON-SEPARATED MIXED USE GROUPS (F-2 & B) - WHERE F-2 IS MOST RESTRICTIVE AND GOVERNS THE FIRE AREA

ALLOWED HEIGHT (F-2): (3) STORIES, 55 FT. HEIGHT (TABLE 503)
ACTUAL HEIGHT: (2) STORIES, 30 FT. HEIGHT
ALLOWED AREA (F-2): 23,000 SF. AREA ALLOWED PER FLOOR (TABLE 503)
ACTUAL AREA: 7,754 SF FIRST FLOOR
7,754 SF SECOND FLOOR

SHAFT ENCLOSURE RATING
PER SEC. 707.4, ALL SHAFT ENCLOSURES SHALL HAVE A FIRE-RESISTANCE RATING OF 1 HOUR. THIS INCLUDES, BUT IS NOT LIMITED TO, STAIRWAYS AND ELEVATOR HOISTWAYS.



SECOND FLOOR PLAN
SCALE: 1/16" = 1'-0"



FIRST FLOOR PLAN
SCALE: 1/16" = 1'-0"

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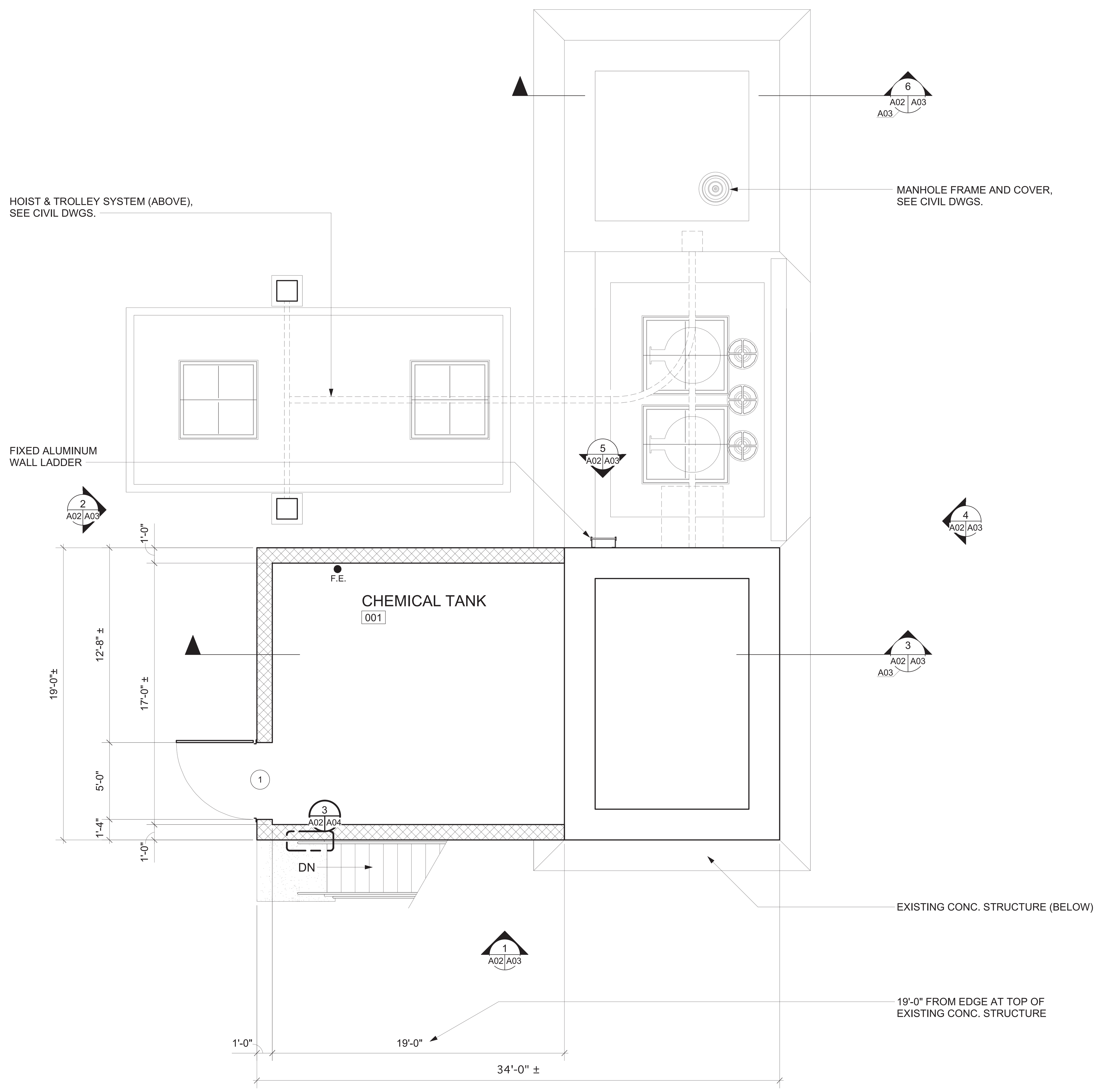
AUSTINVILLE
WATER TREATMENT PLANT
AUSTINVILLE VIRGINIA

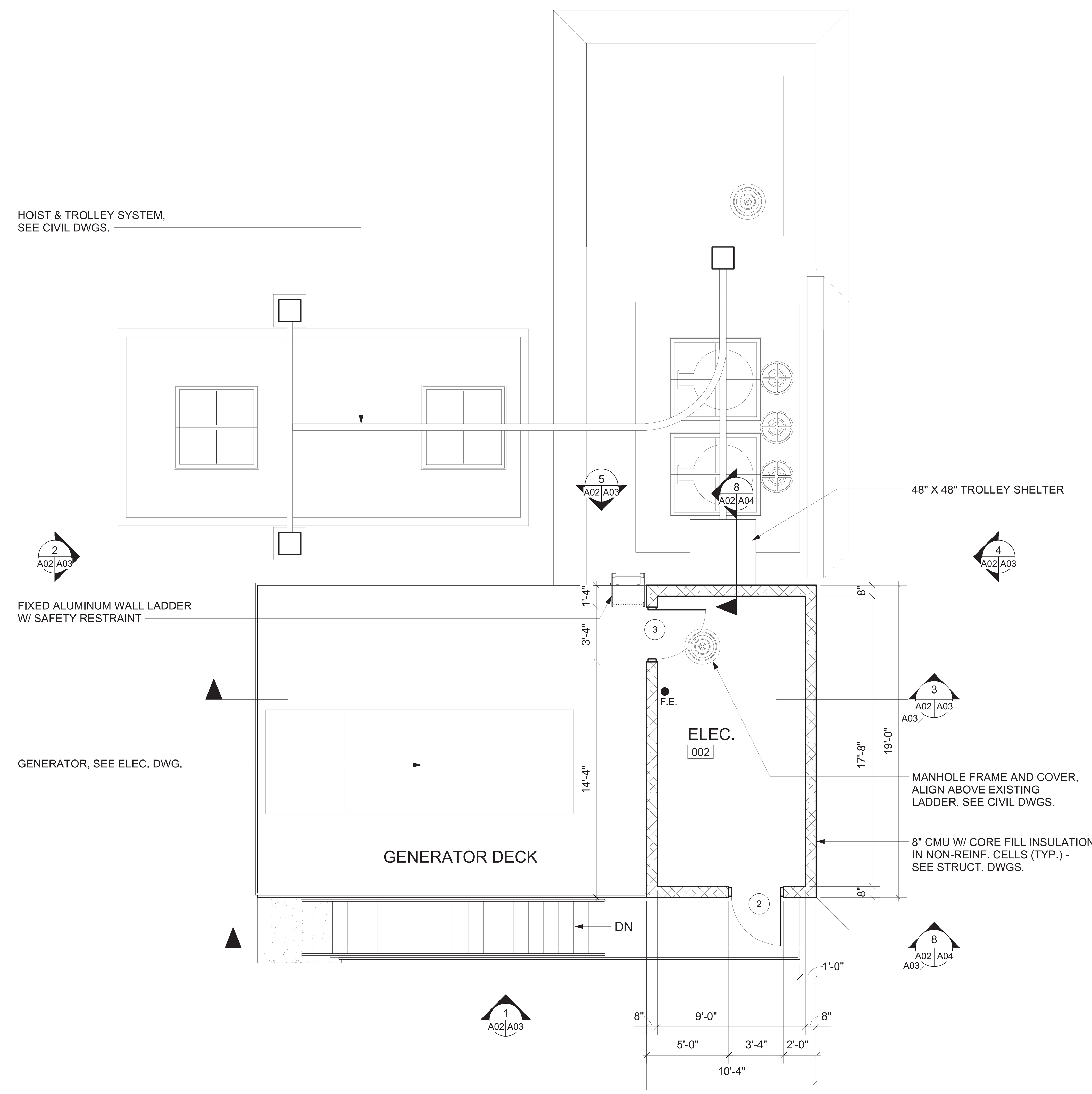
DRAWN BY: CKD
REVIEW BY:
DATE: 10/20/06
REVISION:
DWG DESCRIPTION:
PROJECT CODE DATA

A01

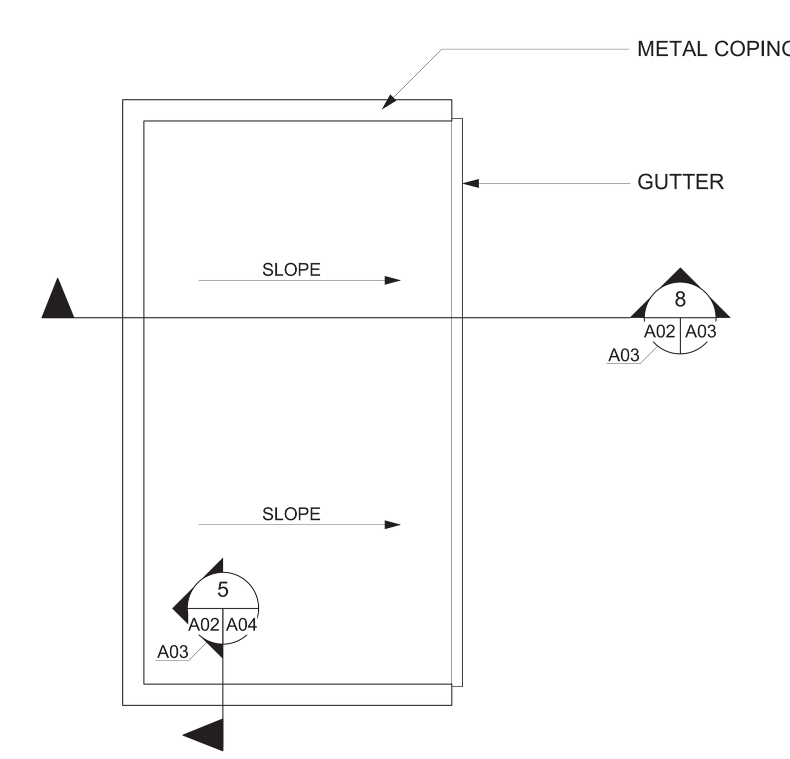
JN: 04 - 02



FIRST FLOOR PLAN
SCALE: 1/4" = 1'-0"



SECOND FLOOR PLAN
SCALE: 1/4" = 1'-0"



ROOF PLAN (OVER ELECTRIC ROOM 002)
SCALE: 1/4" = 1'-0"

GENERAL NOTES

- F.E. PORTABLE FIRE EXTINGUISHER, WALL MOUNTED
  - TOP NO HIGHER THAN 42" A.F.F.
  - BOTTOM BETWEEN 4" AND 27" A.F.F.

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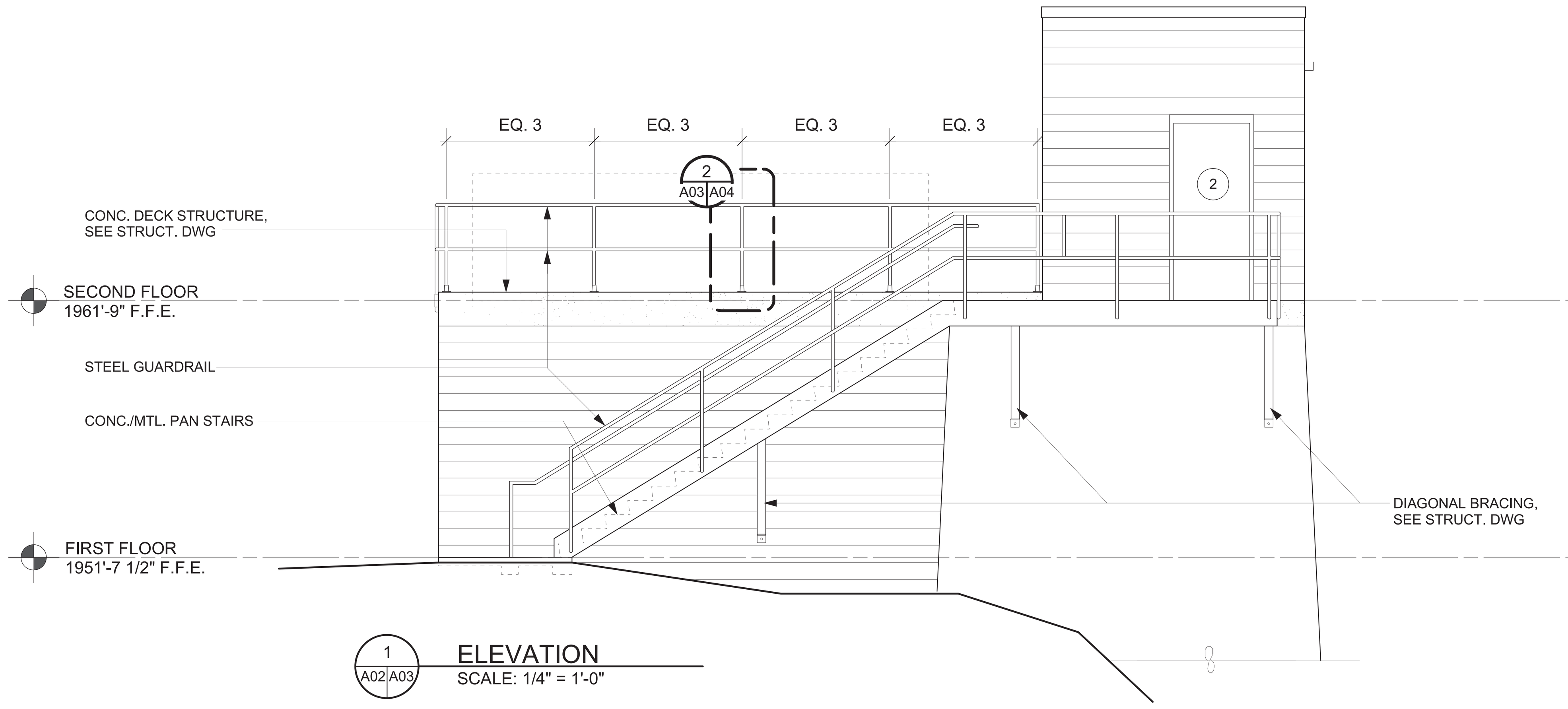
AUSTINVILLE
WATER TREATMENT PLANT
AUSTINVILLE VIRGINIA

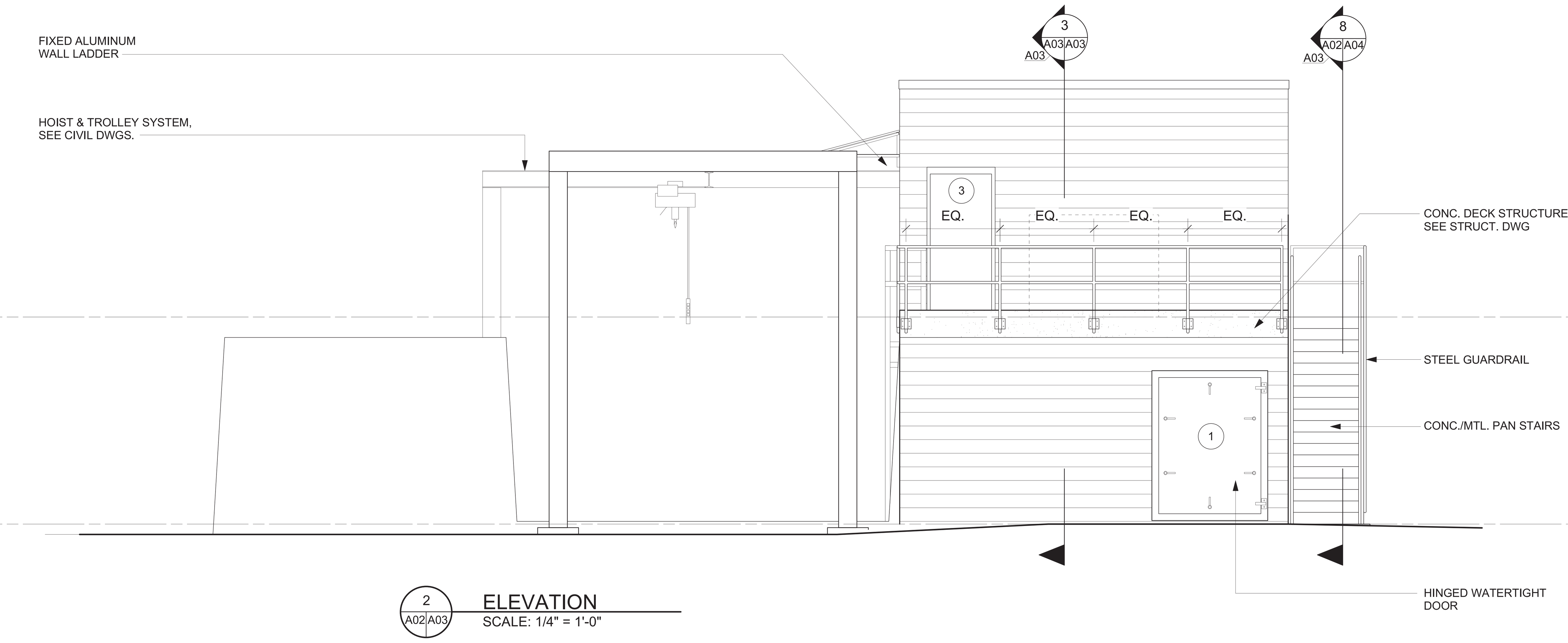
DRAWN BY: CKD
REVIEW BY:
DATE: 10/20/06
REVISION:
DWG DESCRIPTION: RAW WATER INTAKE BUILDING - PLAN

A02

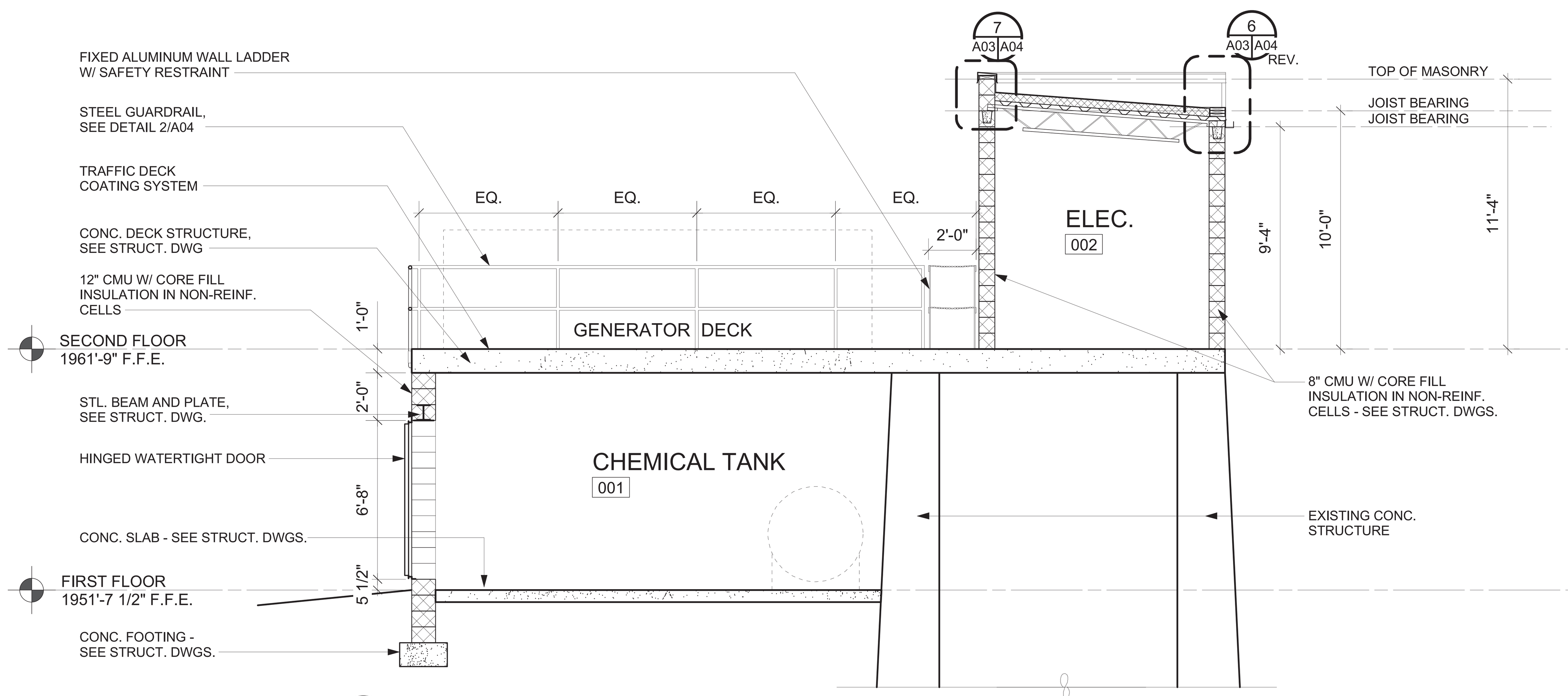
JN: 04 - 02



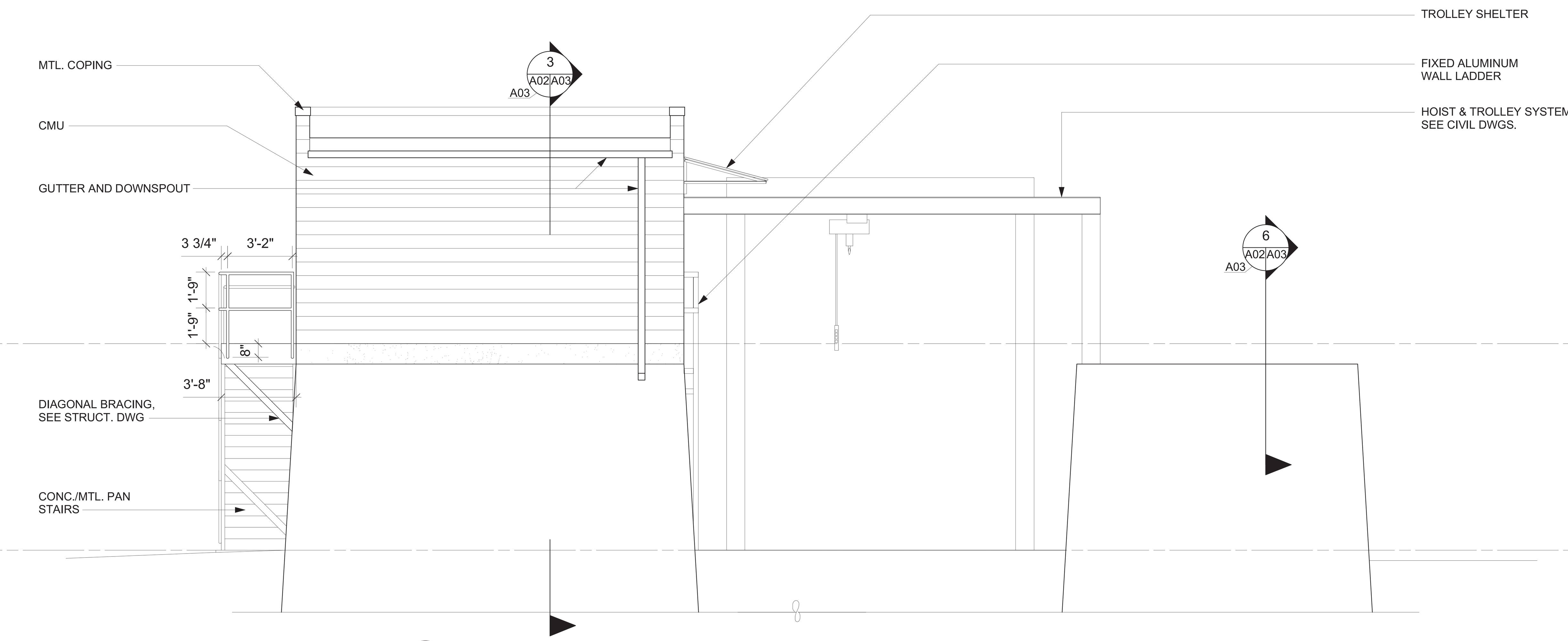
1 A02 A03 ELEVATION
SCALE: 1/4" = 1'-0"



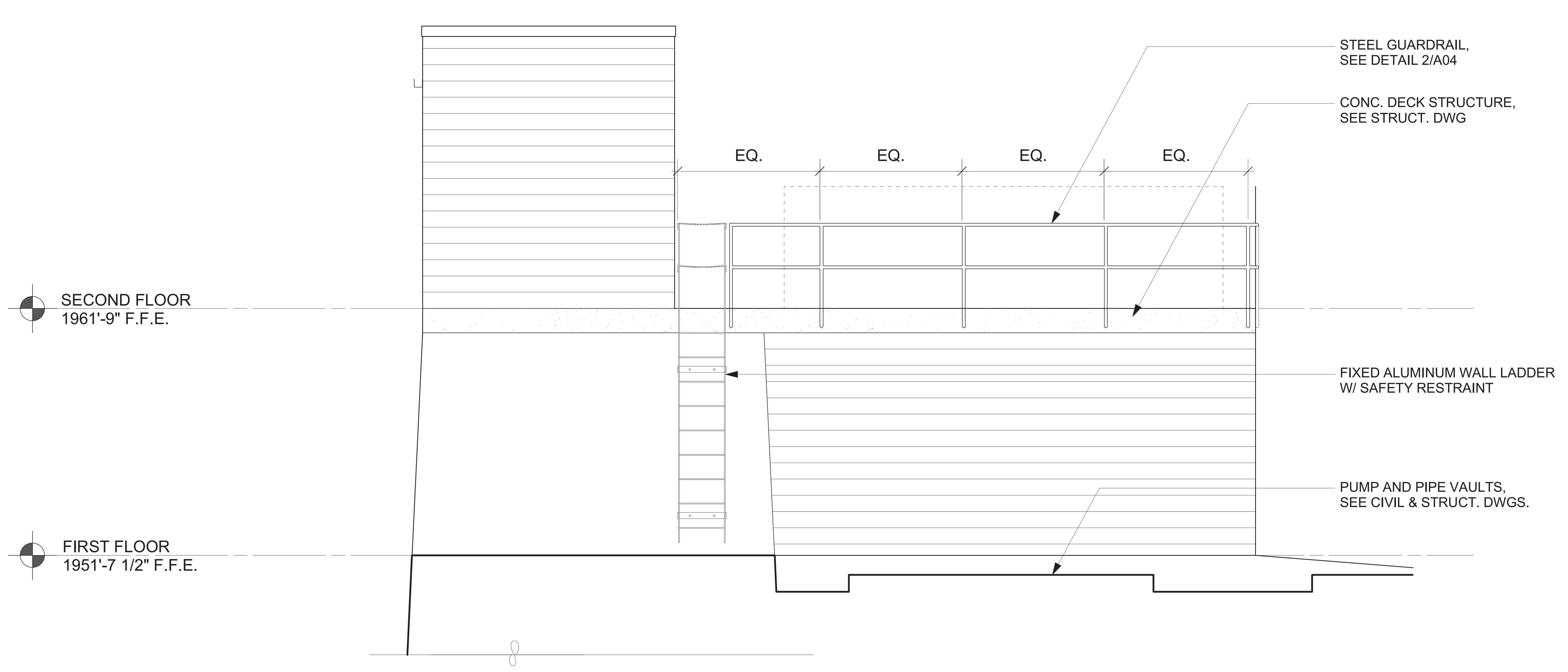
2 A02 A03 ELEVATION
SCALE: 1/4" = 1'-0"



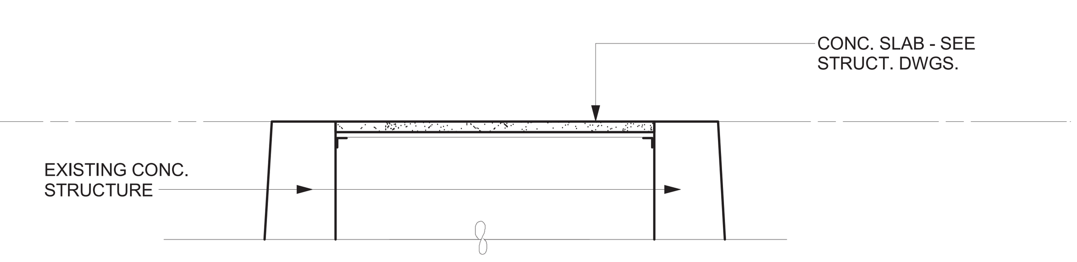
3 A02 A03 SECTION
SCALE: 1/4" = 1'-0"



4 A02 A03 ELEVATION
SCALE: 1/4" = 1'-0"



5 A02 A03 ELEVATION
SCALE: 1/4" = 1'-0"



6 A02 A03 SECTION
SCALE: 1/4" = 1'-0"

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AUSTINVILLE WATER TREATMENT PLANT

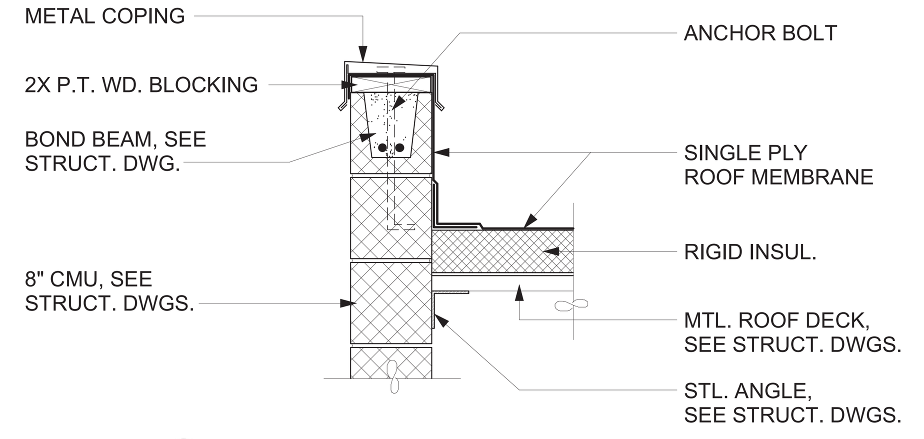
AUSTINVILLE VIRGINIA

DRAWN BY:	CKD
REVIEW BY:	
DATE:	10/20/06
REVISION:	
DWG DESCRIPTION:	RAW WATER INTAKE BUILDING - ELEVATIONS & SECTIONS

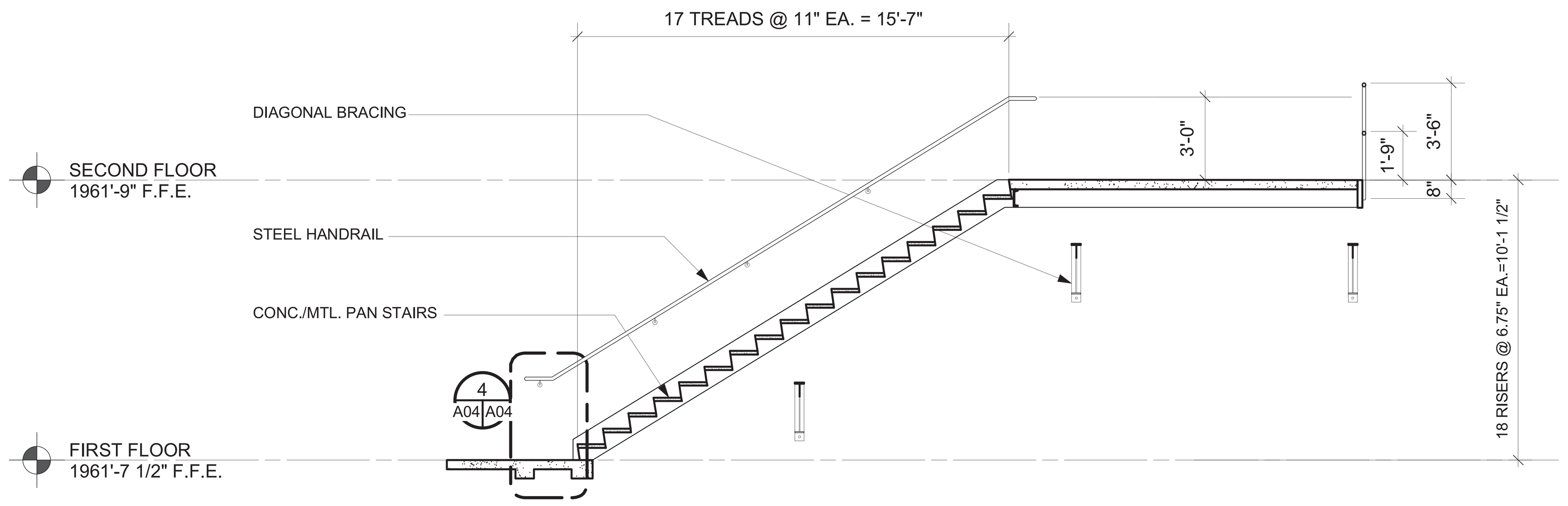
A03

JN: 04 - 02

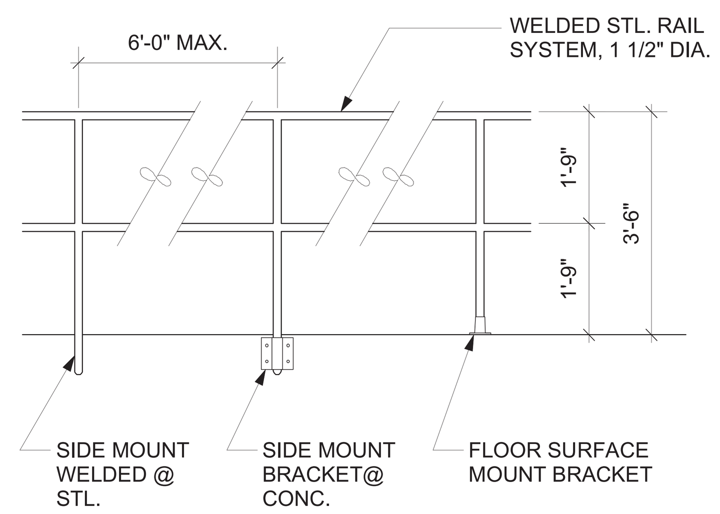
1 NOT USED



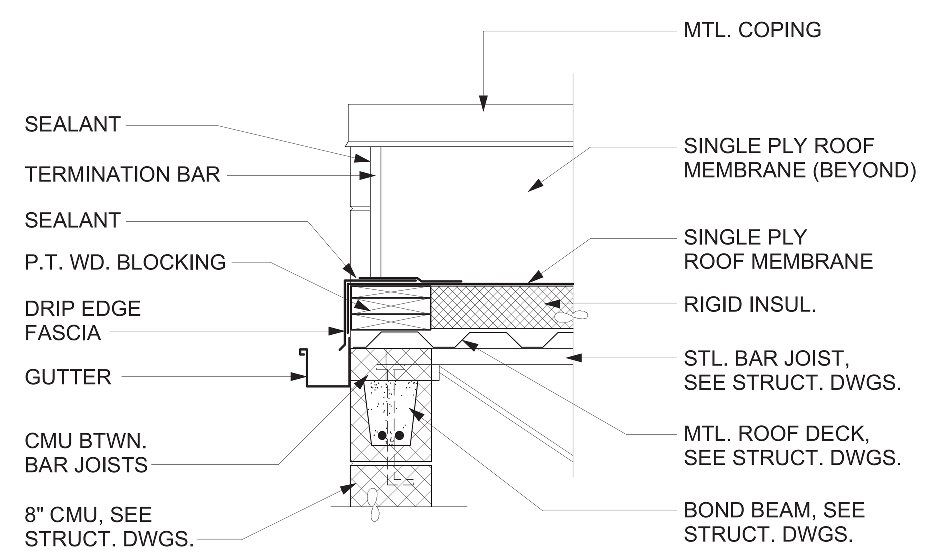
5 A02 A04 A03 PARAPET WALL DETAIL
SCALE: 1" = 1'-0"



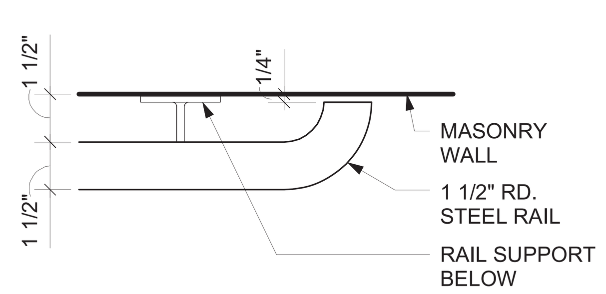
8 A02 A04 A03 STAIR SECTION
SCALE: 1/4" = 1'



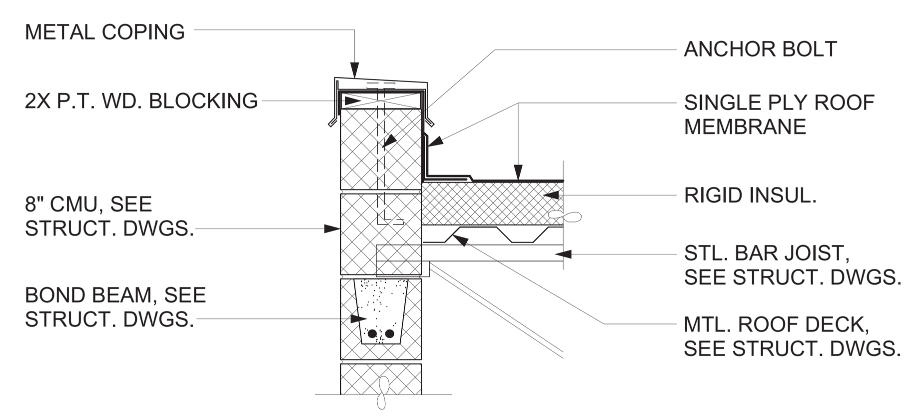
2 A03 A04 TYPICAL STEEL GUARDRAIL DETAIL
SCALE: 1/2" = 1'-0"



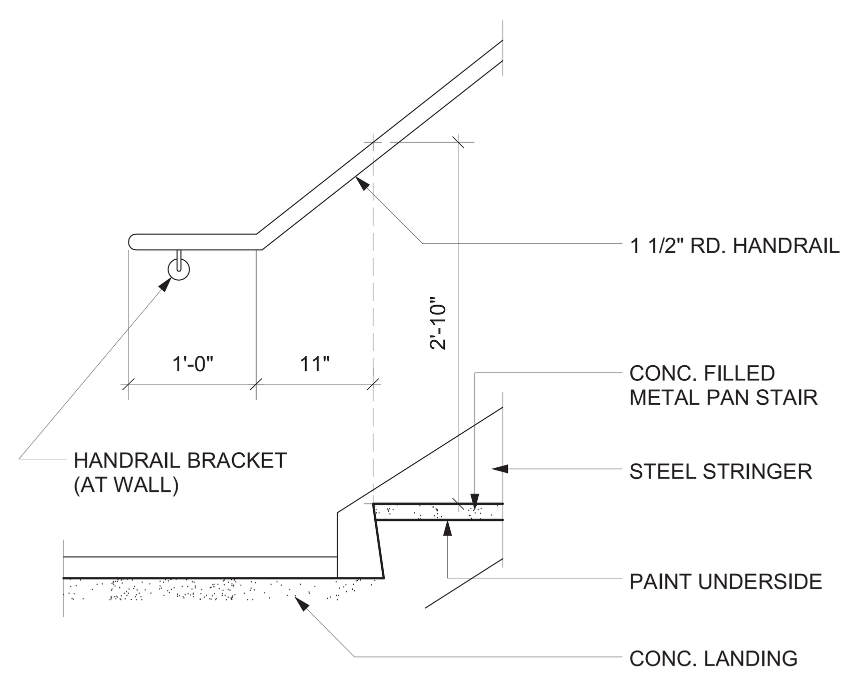
6 A03 A04 ROOFING DETAIL
SCALE: 1" = 1'-0"



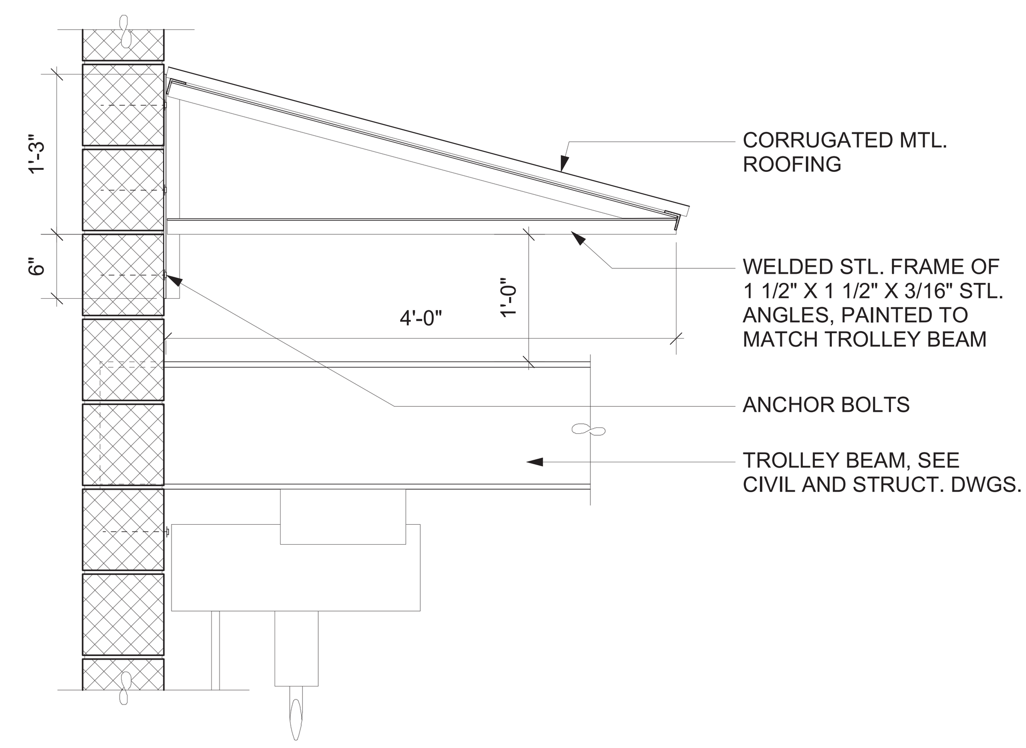
3 A02 A04 HANDRAIL RETURN DETAIL
SCALE: 3" = 1'-0"



7 A03 A04 PARAPET WALL DETAIL
SCALE: 1" = 1'-0"



4 A03 A04 STAIR & HANDRAIL DETAIL
SCALE: 1" = 1'-0"



8 A02 A04 SECTION - TROLLEY SHELTER
SCALE: 1" = 1'-0"

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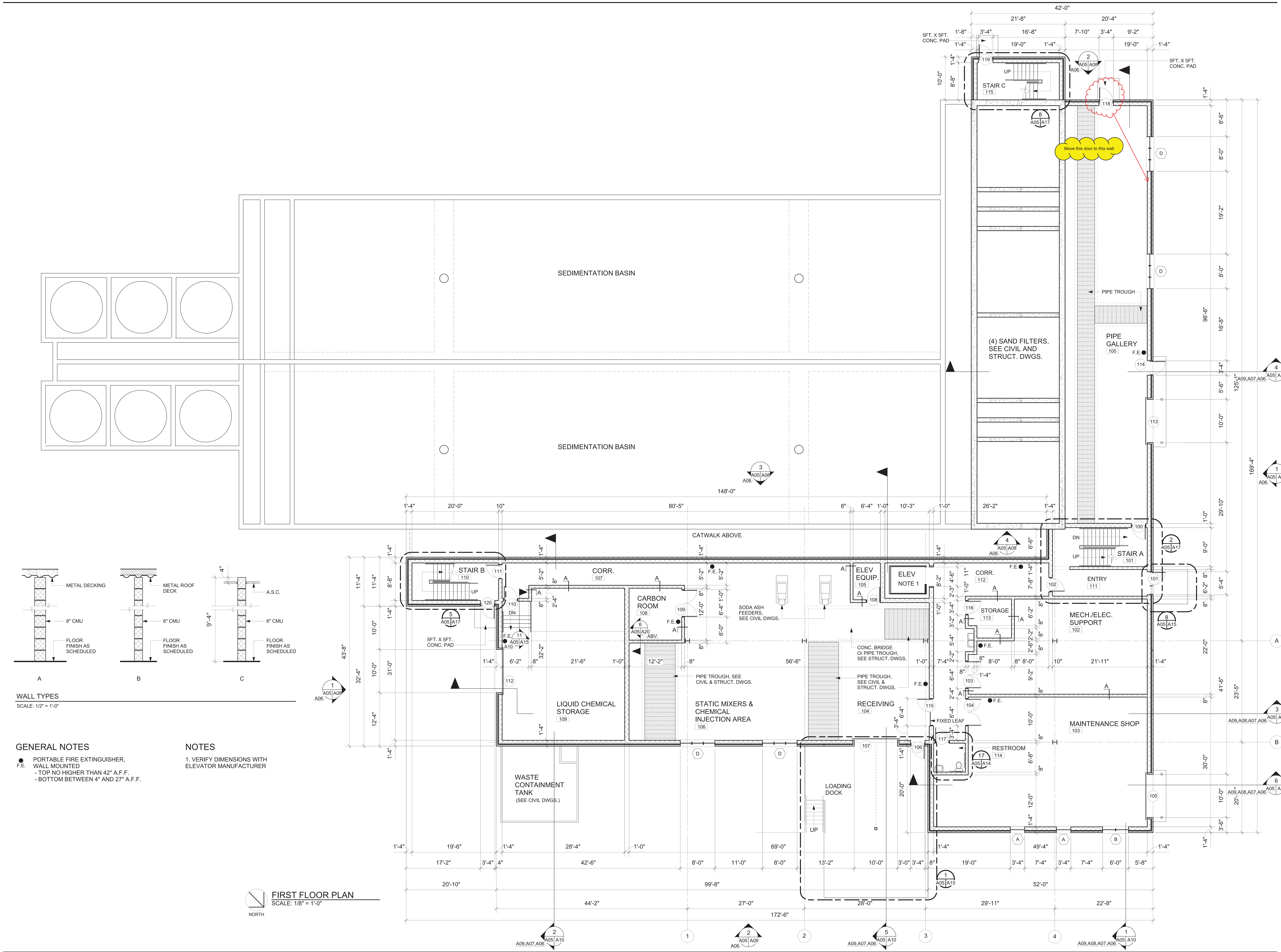
AUSTINVILLE WATER TREATMENT PLANT
AUSTINVILLE VIRGINIA

DRAWN BY: CKD
REVIEW BY:
DATE: 10/20/06
REVISION:
DWG DESCRIPTION:
RAW WATER INTAKE BUILDING - DETAILS

A04

JN: 04 - 02



WALL TYPES
SCALE: 1/2" = 1'-0"

GENERAL NOTES

● F.E. PORTABLE FIRE EXTINGUISHER, WALL MOUNTED
- TOP NO HIGHER THAN 42" A.F.F.
- BOTTOM BETWEEN 4" AND 27" A.F.F.

NOTES

1. VERIFY DIMENSIONS WITH ELEVATOR MANUFACTURER

FIRST FLOOR PLAN
SCALE: 1/8" = 1'-0"
NORTH

Reed & Bortz, L.L.C.
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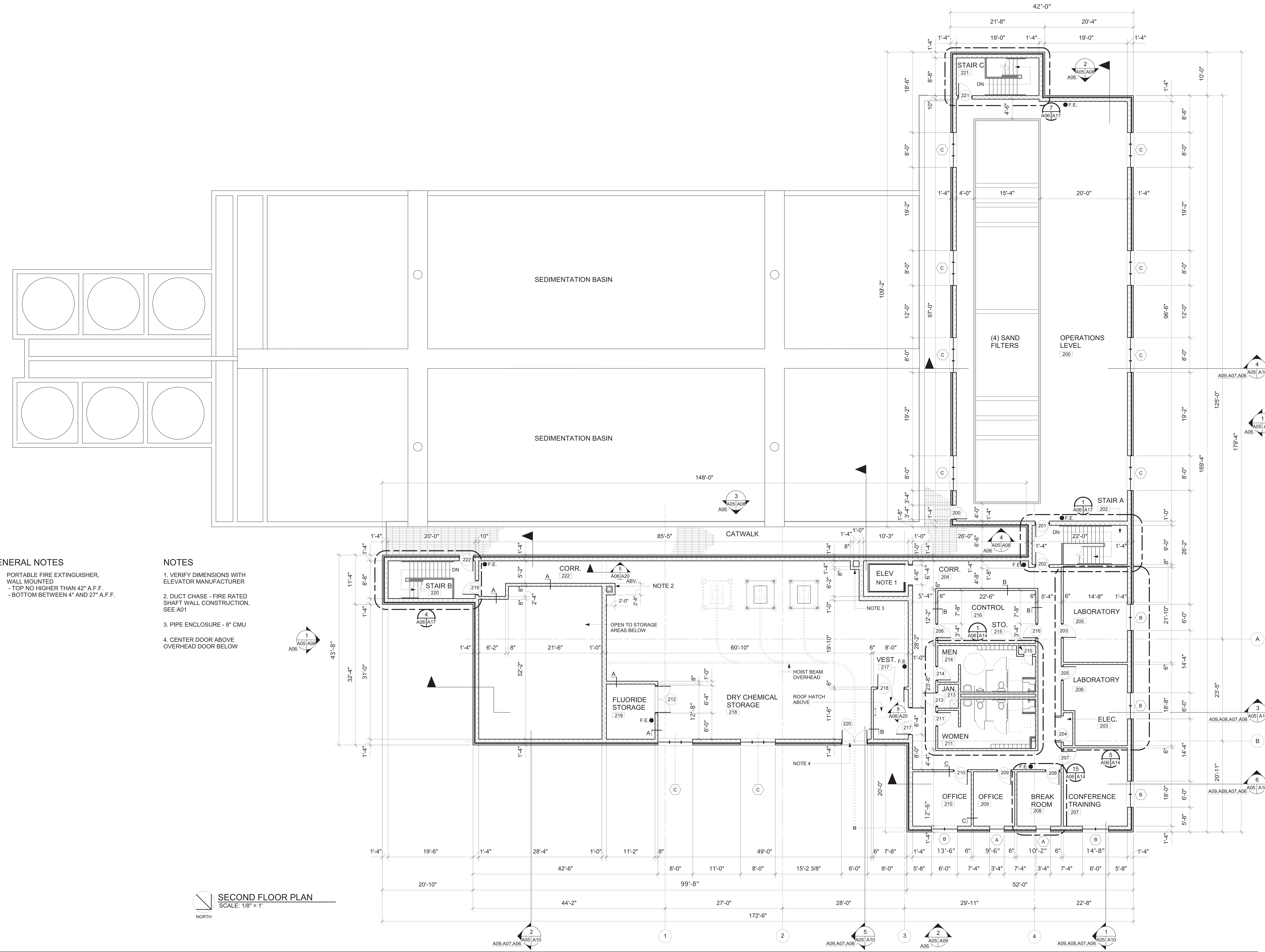
AUSTINVILLE WATER TREATMENT PLANT
AUSTINVILLE VIRGINIA

DRAWN BY:	CKD
REVIEW BY:	
DATE:	10/20/06
REVISION:	
DWG DESCRIPTION:	MAIN BUILDING - FIRST FLOOR PLAN

A05

JN: 04 - 02



GENERAL NOTES

● F.E. PORTABLE FIRE EXTINGUISHER, WALL MOUNTED
- TOP NO HIGHER THAN 42" A.F.F.
- BOTTOM BETWEEN 4" AND 27" A.F.F.

NOTES

1. VERIFY DIMENSIONS WITH ELEVATOR MANUFACTURER
2. DUCT CHASE - FIRE RATED SHAFT WALL CONSTRUCTION, SEE A01
3. PIPE ENCLOSURE - 8" CMU
4. CENTER DOOR ABOVE OVERHEAD DOOR BELOW

SECOND FLOOR PLAN
SCALE: 1/8" = 1'

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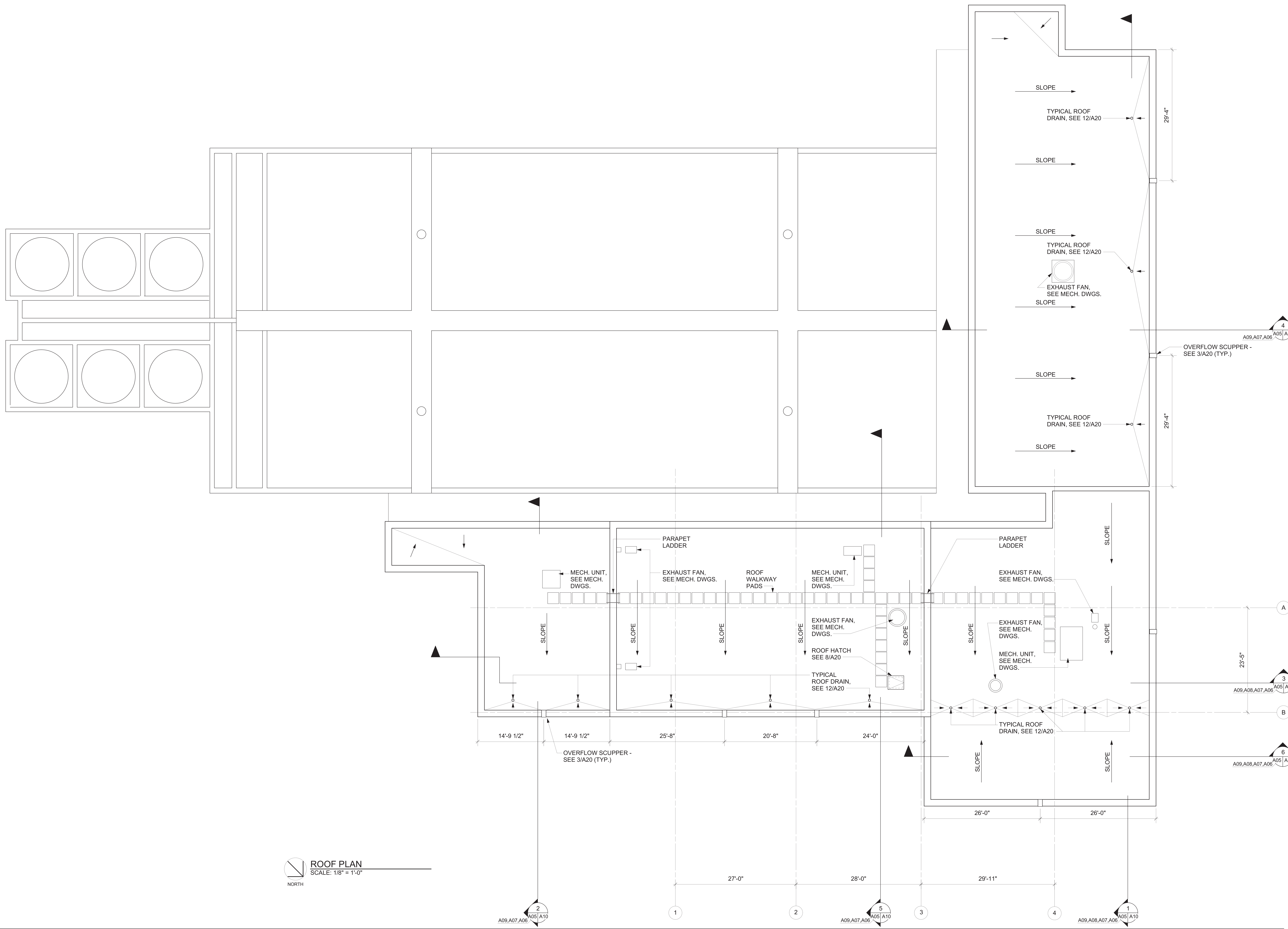
AUSTINVILLE WATER TREATMENT PLANT

AUSTINVILLE VIRGINIA

DRAWN BY: CKD
REVIEW BY:
DATE: 10/20/06
REVISION:
DWG DESCRIPTION: MAIN BUILDING - SECOND FLOOR PLAN

A06

JN: 04 - 02



ROOF PLAN
SCALE: 1/8" = 1'-0"

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AUSTINVILLE WATER TREATMENT PLANT

AUSTINVILLE VIRGINIA

DRAWN BY: CKD

REVIEW BY:

DATE: 10/20/06

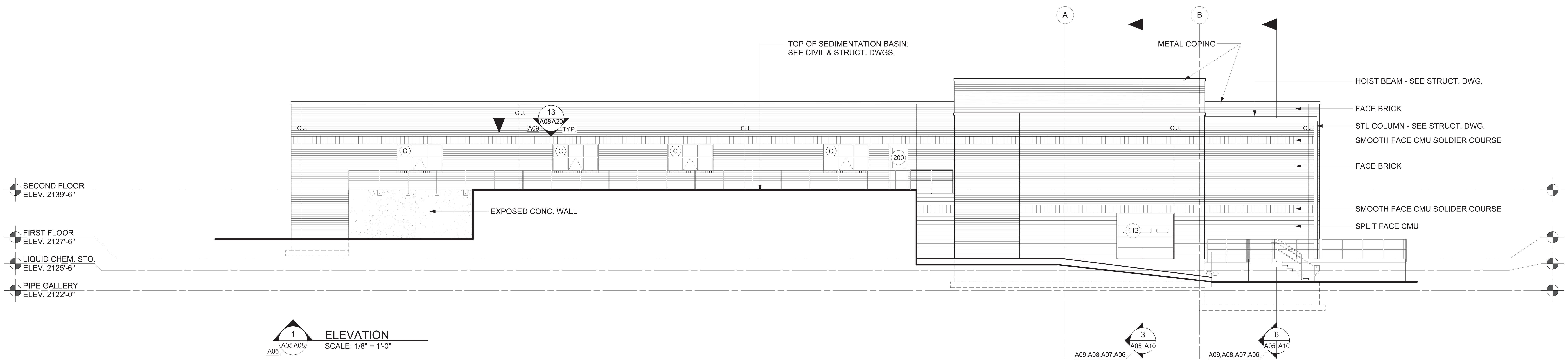
REVISION:

DWG DESCRIPTION:

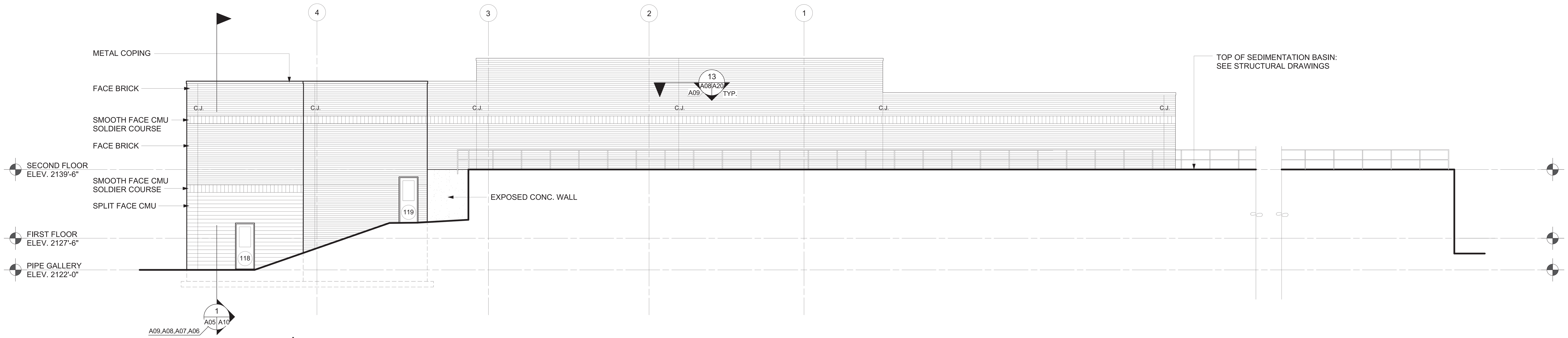
MAIN BUILDING - ROOF PLAN

A07

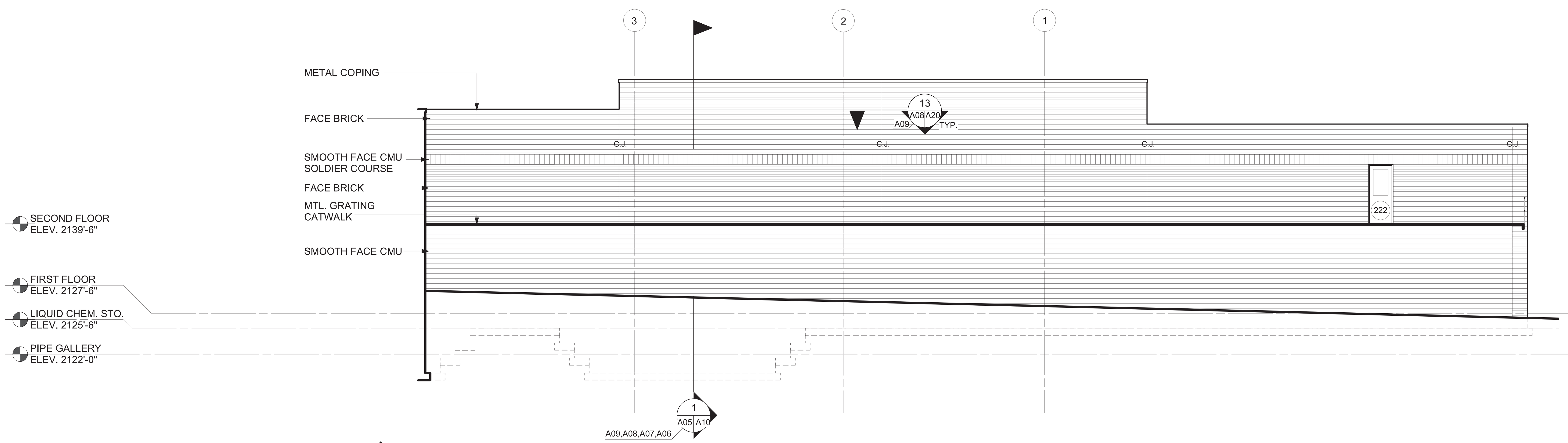
JN: 04 - 02



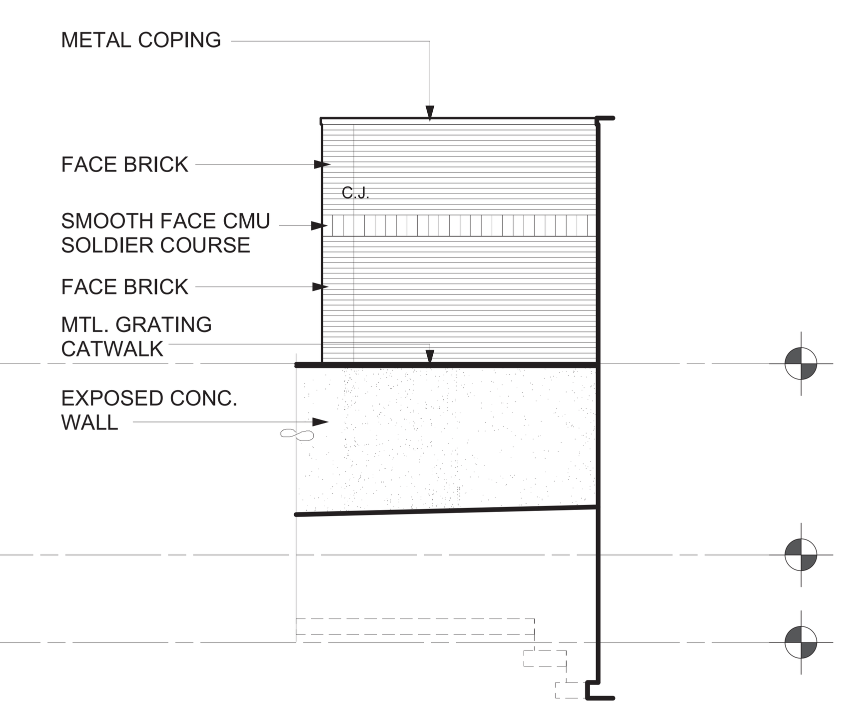
ELEVATION
SCALE: 1/8" = 1'-0"



ELEVATION
SCALE: 1/8" = 1'-0"



ELEVATION
SCALE: 1/8" = 1'-0"



ELEVATION
SCALE: 1/8" = 1'-0"

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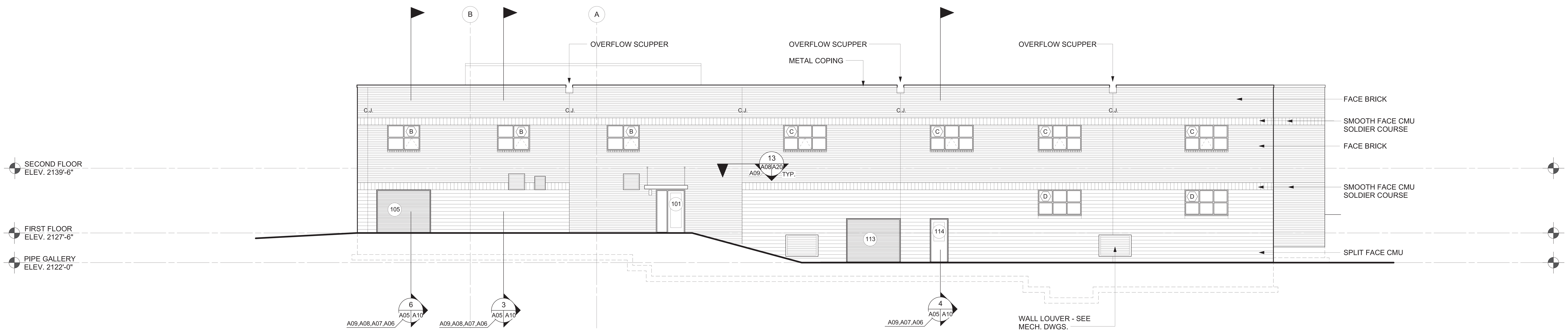
AUSTINVILLE WATER TREATMENT PLANT
AUSTINVILLE VIRGINIA

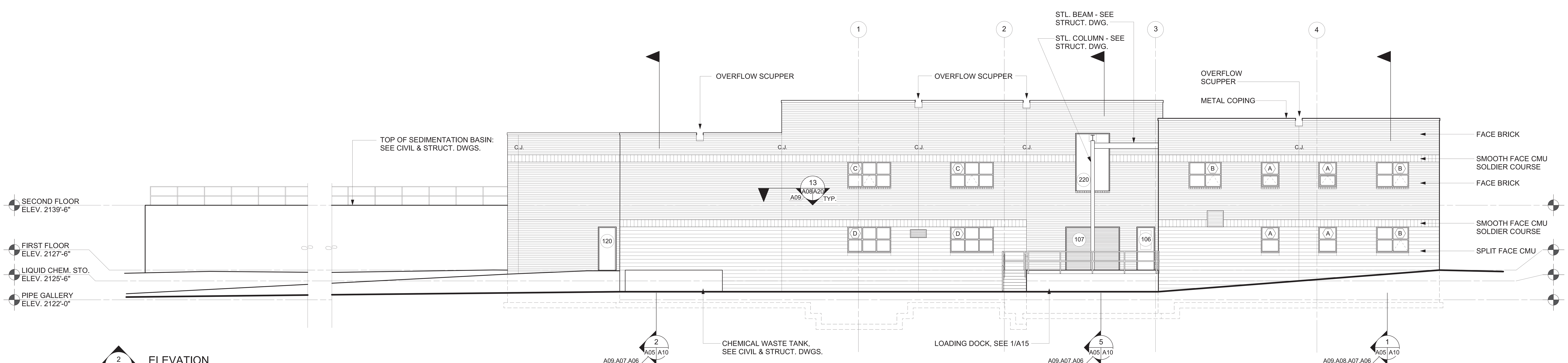
DRAWN BY: CKD
REVIEW BY:
DATE: 10/20/06
REVISION:
DWG DESCRIPTION:
MAIN BUILDING - EXTERIOR ELEVATIONS

A08

JN: 04 - 02



ELEVATION
SCALE: 1/8" = 1'-0"



ELEVATION
SCALE: 1/8" = 1'-0"

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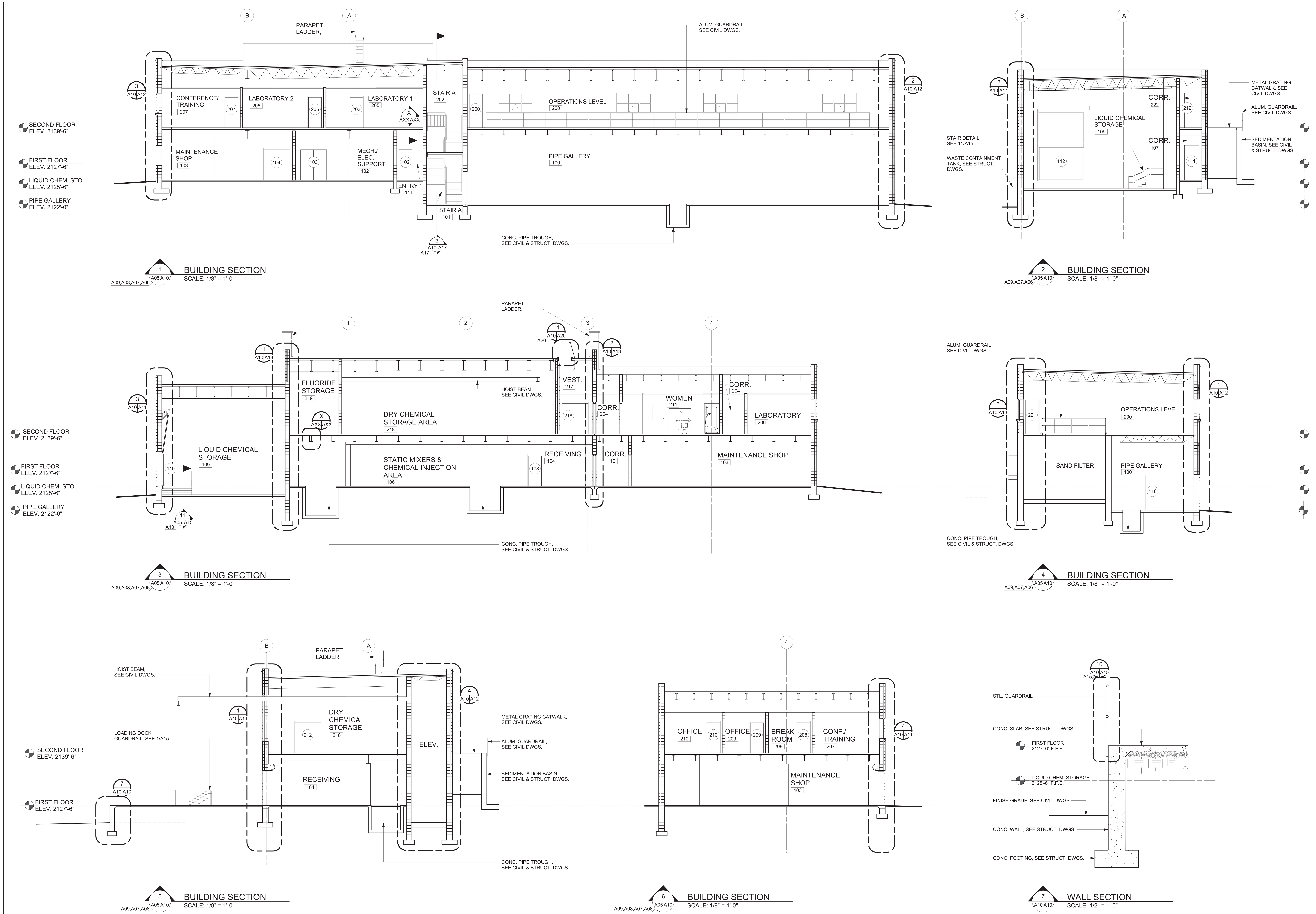
AUSTINVILLE WATER TREATMENT PLANT
AUSTINVILLE VIRGINIA

DRAWN BY: CKD
REVIEW BY:
DATE: 10/20/06
REVISION:
DWG DESCRIPTION:
MAIN BUILDING - EXTERIOR ELEVATIONS

A09

JN: 04 - 02



Reed & Bortz, L.L.C.
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AUSTINVILLE WATER TREATMENT PLANT

AUSTINVILLE VIRGINIA

DRAWN BY: CKD

REVIEW BY:

DATE: 10/20/06

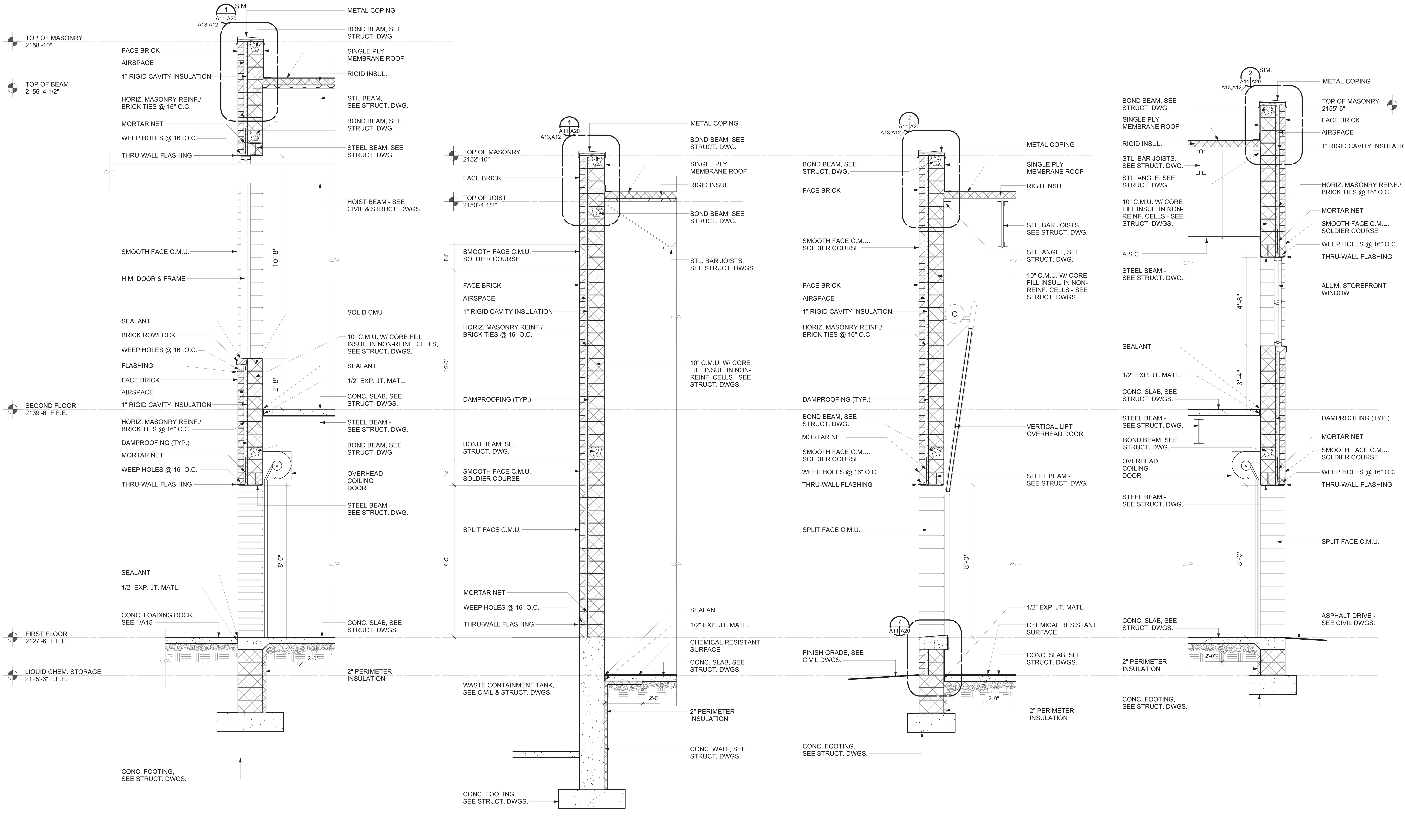
REVISION:

DWG DESCRIPTION:

MAIN BUILDING - BUILDING SECTIONS

A10

JN: 04 - 02



1 A10 A11 WALL SECTION
SCALE: 1/2" = 1'-0"

2 A10 A11 WALL SECTION
SCALE: 1/2" = 1'-0"

3 A10 A11 WALL SECTION
SCALE: 1/2" = 1'-0"

4 A10 A11 WALL SECTION
SCALE: 1/2" = 1'-0"

Reed & Bortz, L.L.C.
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AUSTINVILLE WATER TREATMENT PLANT

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DRAWN BY: CKD

REVIEW BY:

DATE: 10/20/06

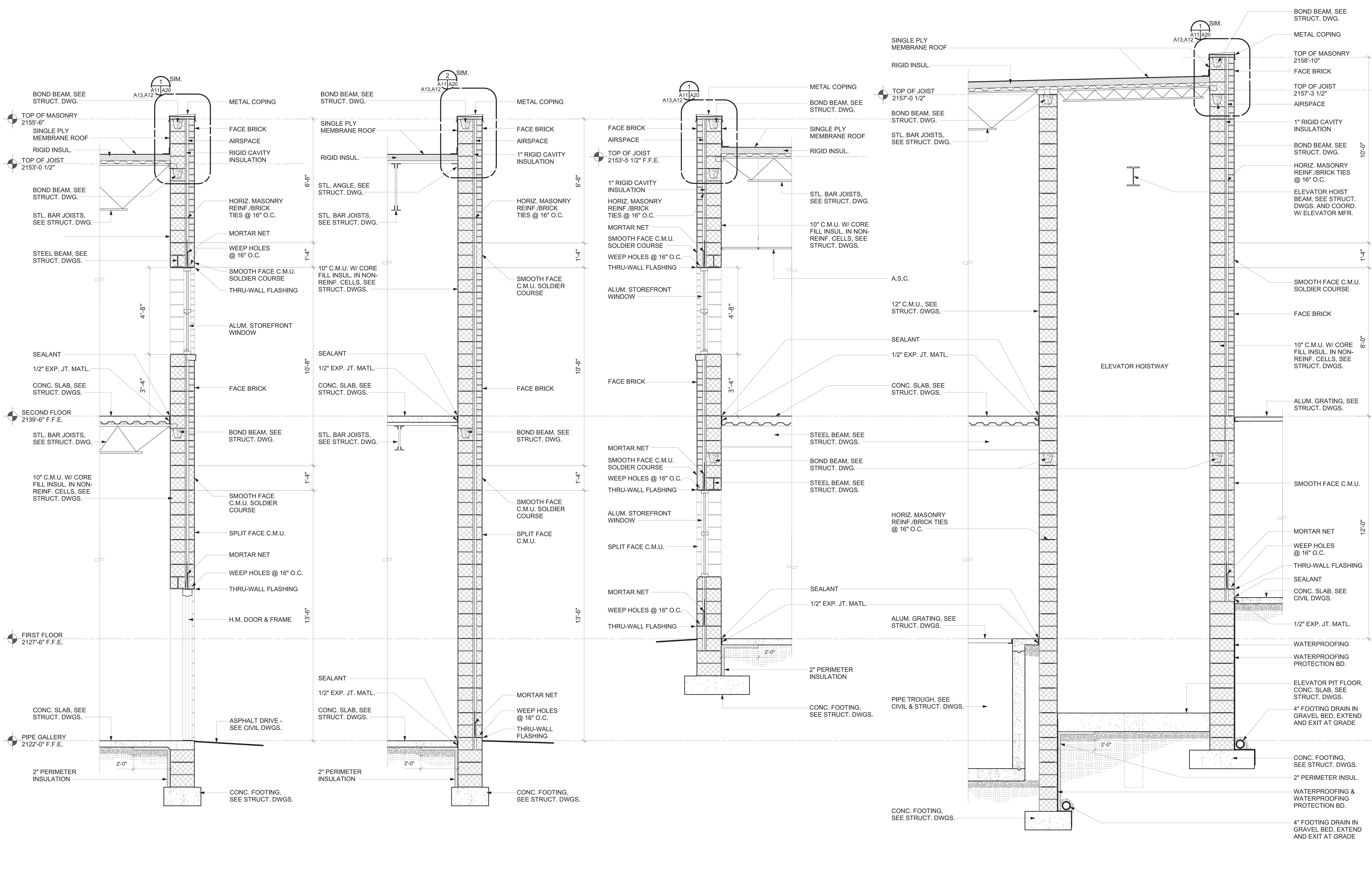
REVISION:

DWG DESCRIPTION:

MAIN BUILDING - WALL SECTIONS

A11

JN: 04 - 02



1 A10 A12 WALL SECTION
SCALE: 1/2" = 1'-0"

2 A10 A12 WALL SECTION
SCALE: 1/2" = 1'-0"

3 A10 A12 WALL SECTION
SCALE: 1/2" = 1'-0"

4 A10 A12 WALL SECTION
SCALE: 1/2" = 1'-0"

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AUSTINVILLE WATER TREATMENT PLANT

AUSTINVILLE VIRGINIA

DRAWN BY: CKD

REVIEW BY:

DATE: 10/20/06

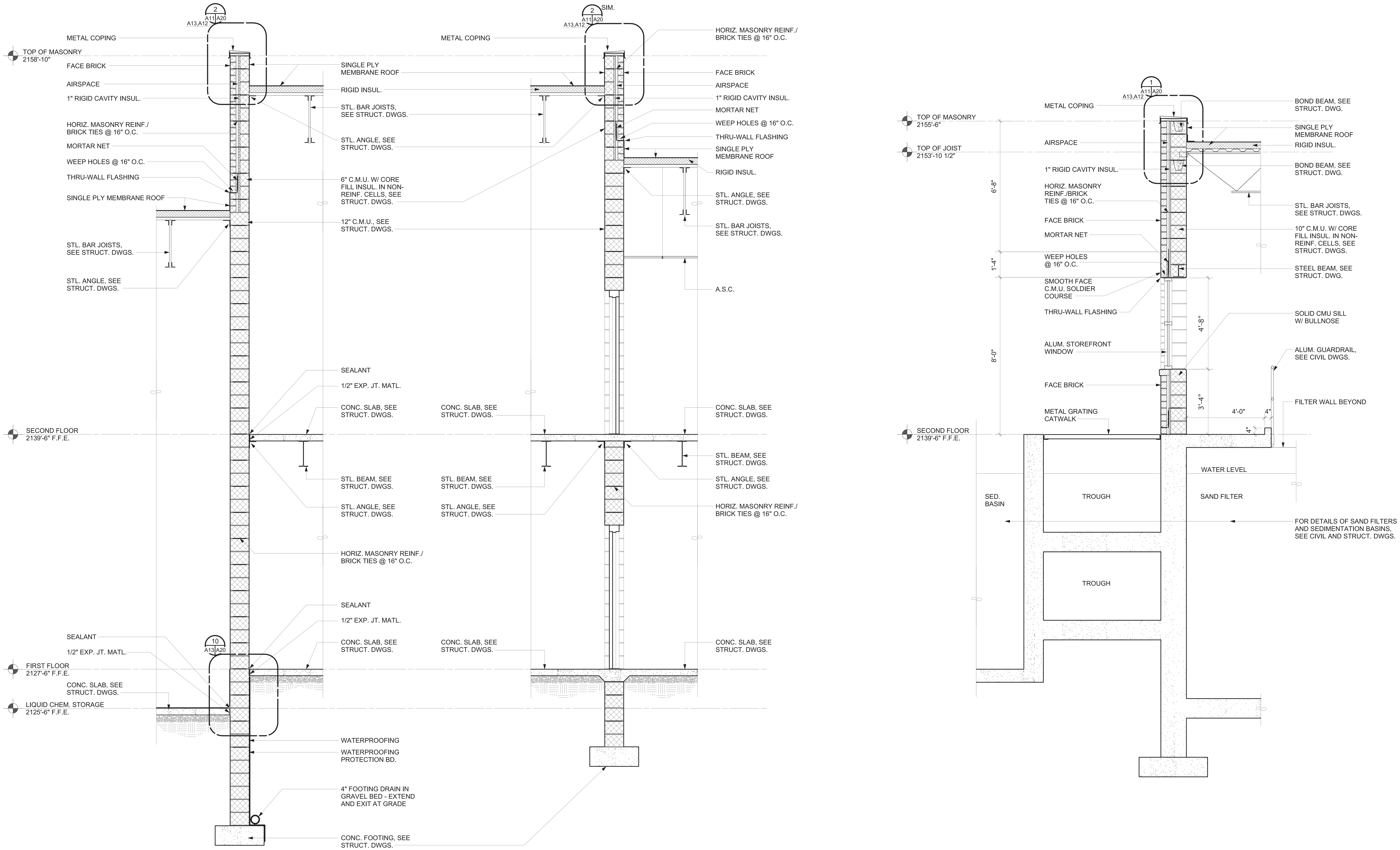
REVISION:

DWG DESCRIPTION:

MAIN BUILDING - WALL SECTIONS

A12

JN: 04 - 02



1 A10 A13 WALL SECTION
SCALE: 1/2" = 1'-0"

2 A10 A13 WALL SECTION
SCALE: 1/2" = 1'-0"

3 A10 A13 WALL SECTION
SCALE: 1/2" = 1'-0"

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AUSTINVILLE WATER TREATMENT PLANT

AUSTINVILLE VIRGINIA

DRAWN BY: CKD

REVIEW BY:

DATE: 10/20/06

REVISION:

DWG DESCRIPTION:

MAIN BUILDING - WALL SECTIONS

A13

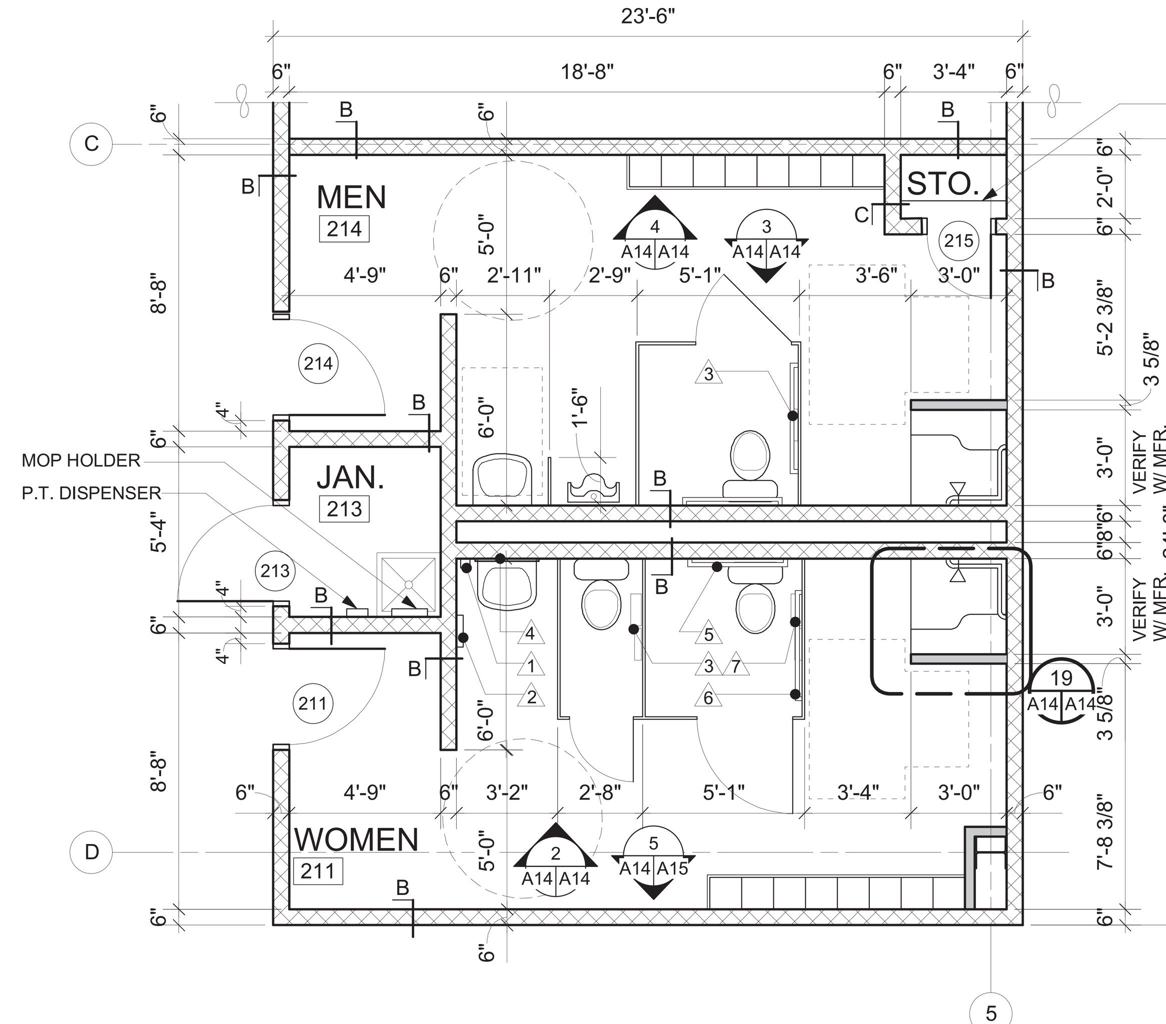
JN: 04 - 02

CASEWORK LEGEND

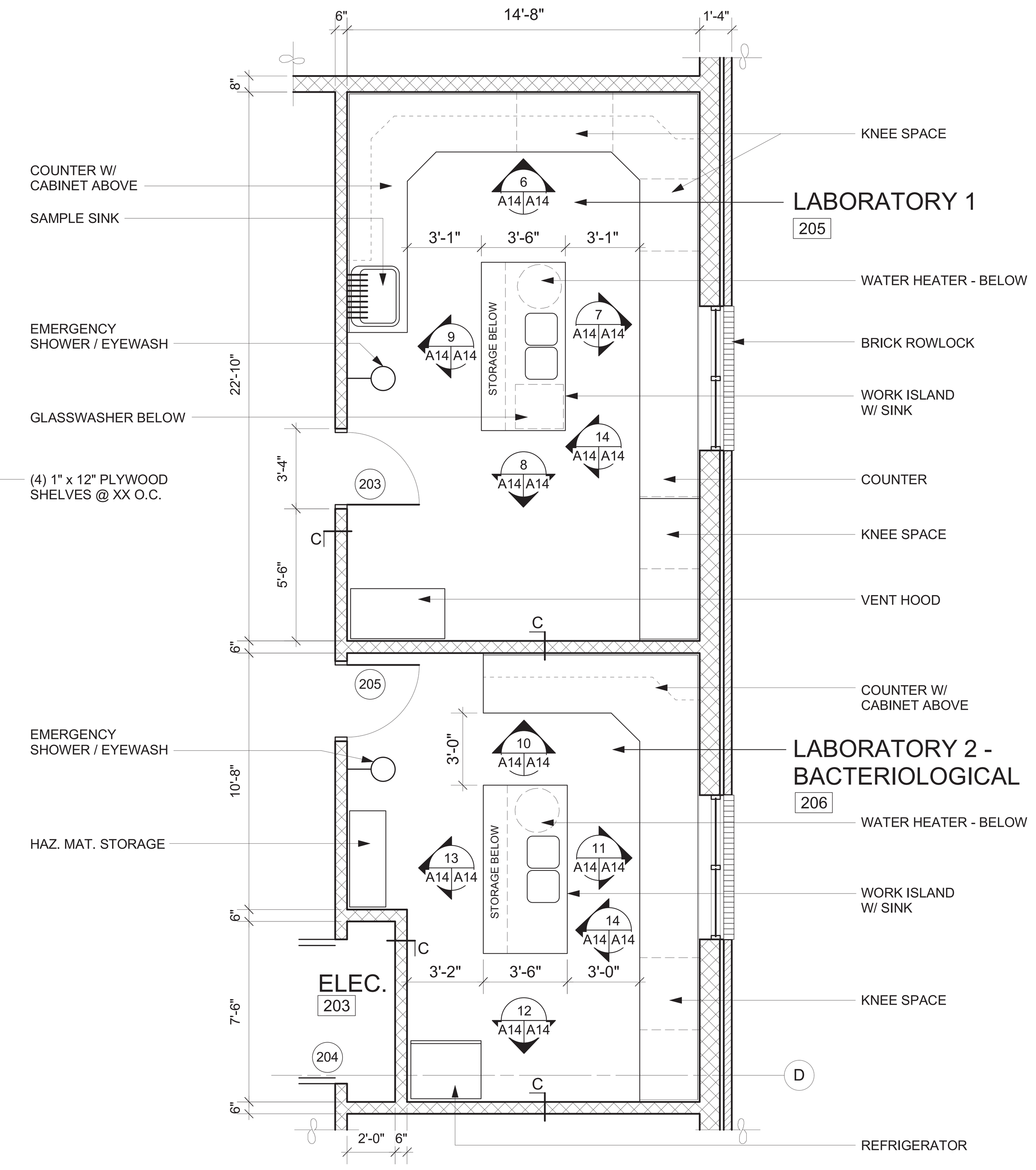
A1	KNEE SPACE RAIL - 500C1050	D	CORNER CASE - 726C151	G1	DOOR CABINET - 106C632
A2	KNEE SPACE RAIL - 500C1030	E	COMBINATION CABINET - 146C632	G2	DOOR CABINET - 106C532
A3	KNEE SPACE RAIL - 500C1730			G3	DOOR CABINET - 103C432
B1	KNEE SPACE PANEL - 616C8320	F1	WALL CASE - 706C651	G4	DOOR CABINET - 102C272
B2	KNEE SPACE PANEL - 616C6320	F2	WALL CASE - 702C351	H1	DRAWER CABINET - 173C632
B3	KNEE SPACE PANEL - 616C6720	F3	WALL CASE - 702C251	H2	DRAWER CABINET - 139C272
C	CORNER CABINET - 423C632	F4	WALL CASE - 706C551	H3	DRAWER CABINET - 145C432
		F5	WALL CASE - 702C451	I	SINK CABINET - 115C632

TOILET ACCESSORIES

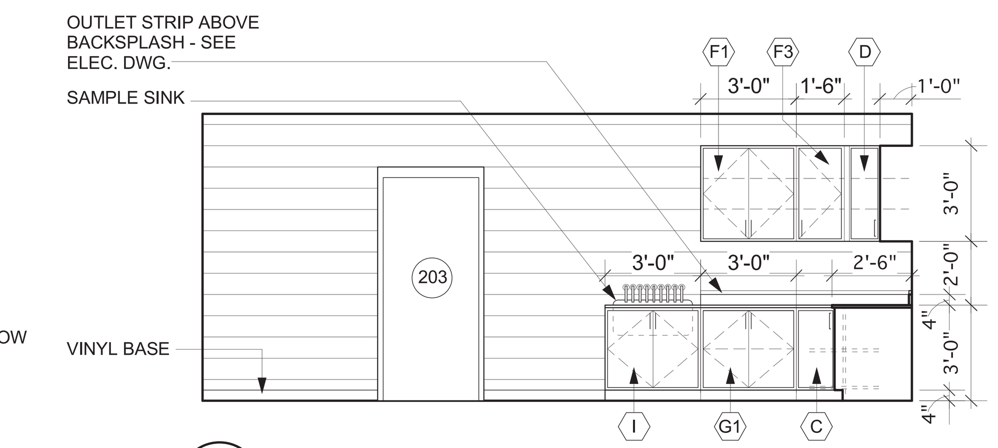
1	SURFACE MOUNT SOAP DISP.	4	MIRROR	7	SANITARY NAPKIN DISPOSAL
2	SURFACE MOUNT PAPER TOWEL DISP.	5	42" GRAB BAR		
3	SURFACE MOUNT T.P. DISP.	6	36" GRAB BAR		



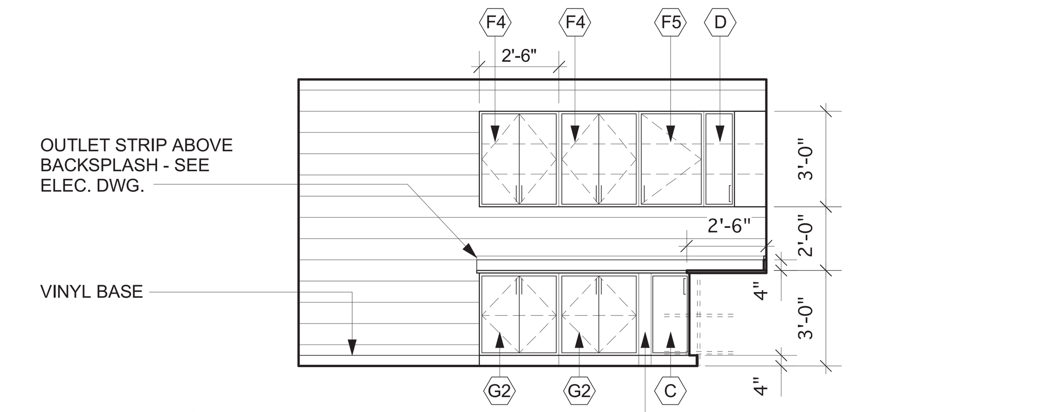
1 PLAN DETAIL - RESTROOMS
SCALE: 1/4" = 1'-0"



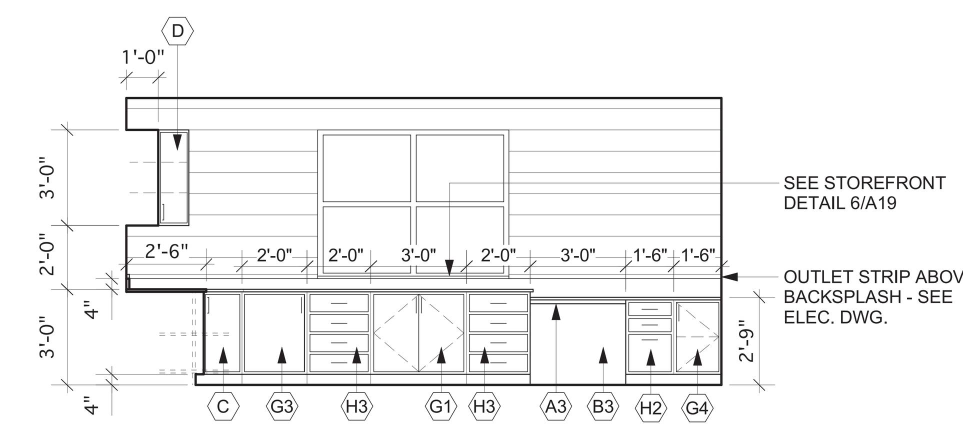
5 PLAN DETAIL - LABORATORIES
SCALE: 1/4" = 1'-0"



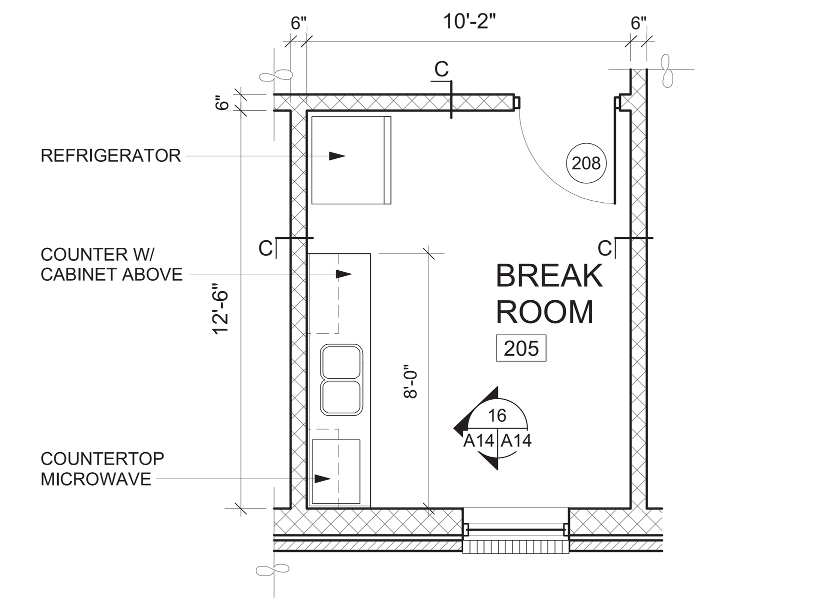
9 ELEVATION
SCALE: 1/4" = 1'-0"



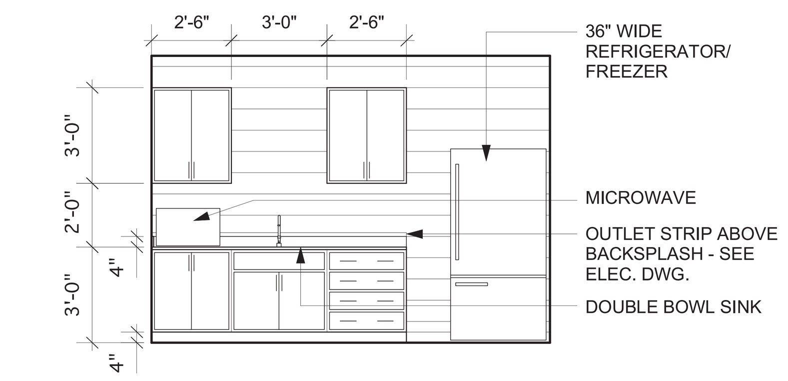
10 ELEVATION
SCALE: 1/4" = 1'-0"



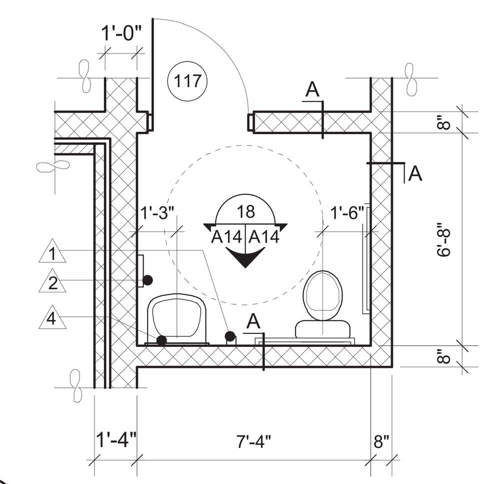
11 ELEVATION
SCALE: 1/4" = 1'-0"



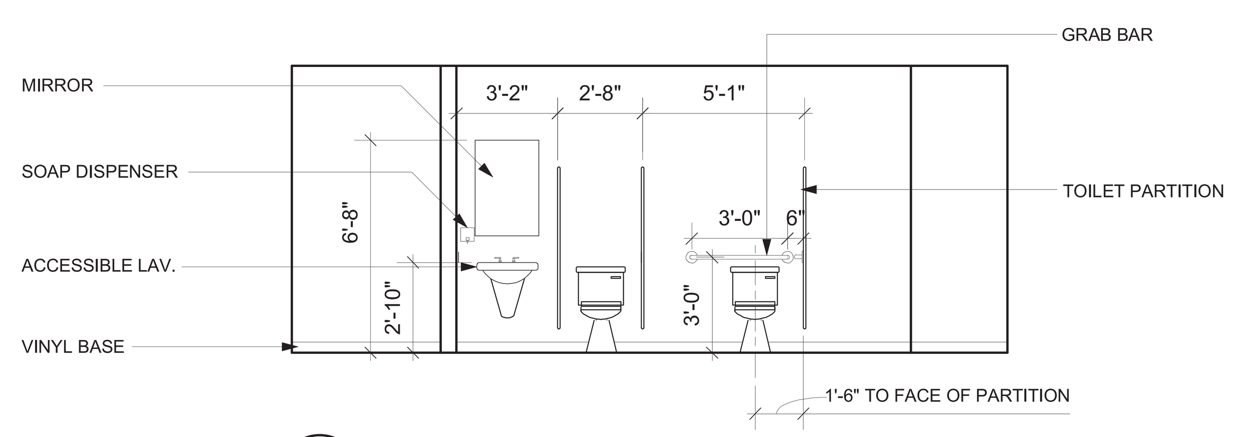
15 PLAN DETAIL - BREAK ROOM
SCALE: 1/4" = 1'-0"



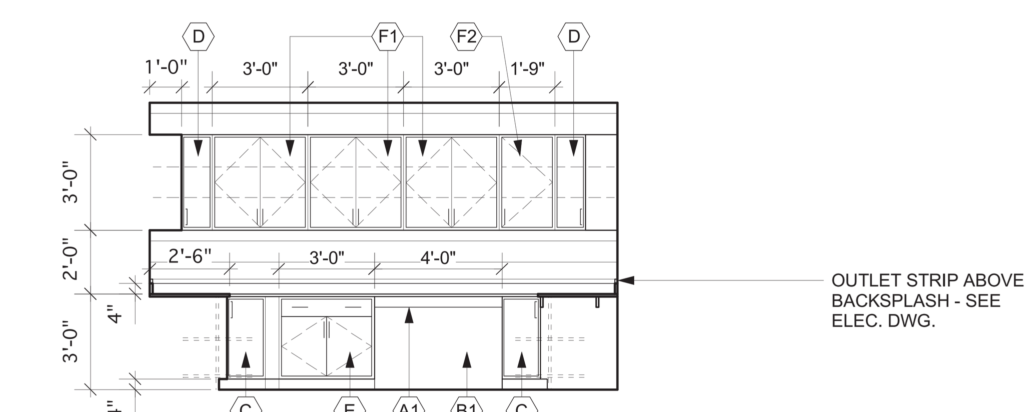
16 ELEVATION - BREAK ROOM
SCALE: 1/4" = 1'-0"



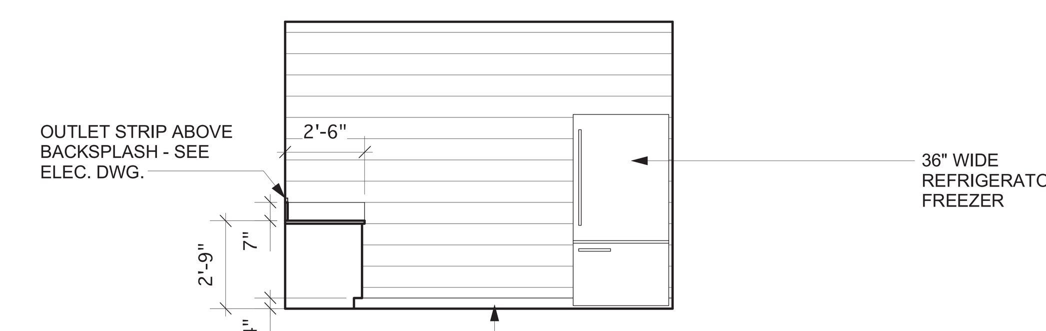
17 PLAN DETAIL - RESTROOM
SCALE: 1/4" = 1'-0"



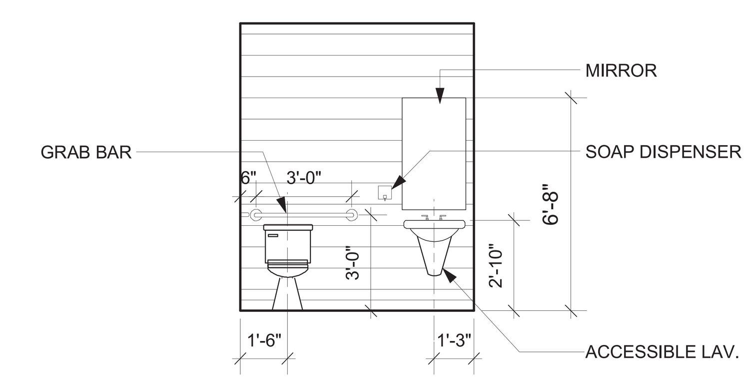
2 ELEVATION
SCALE: 1/4" = 1'-0"



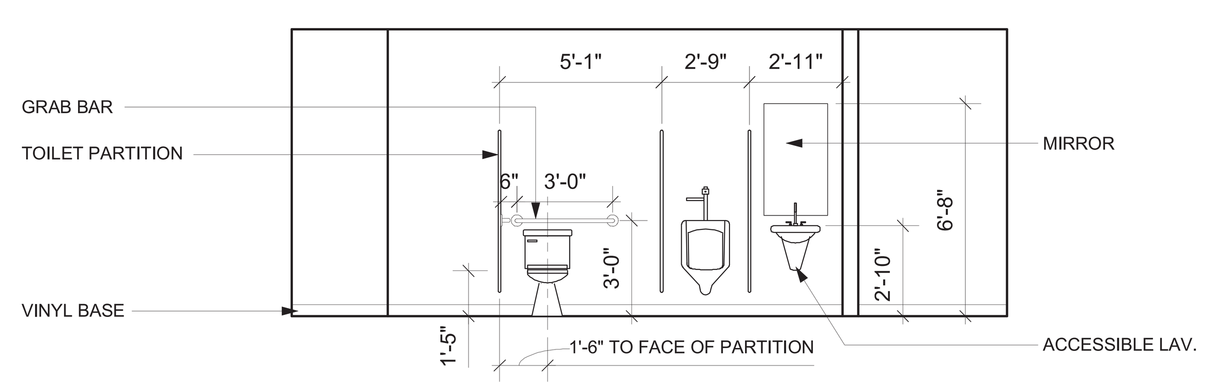
6 ELEVATION
SCALE: 1/4" = 1'-0"



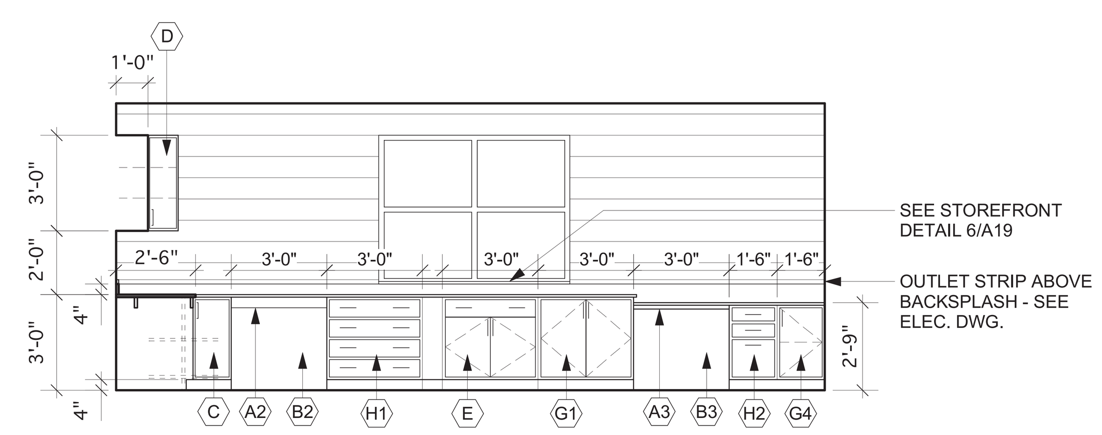
12 ELEVATION
SCALE: 1/4" = 1'-0"



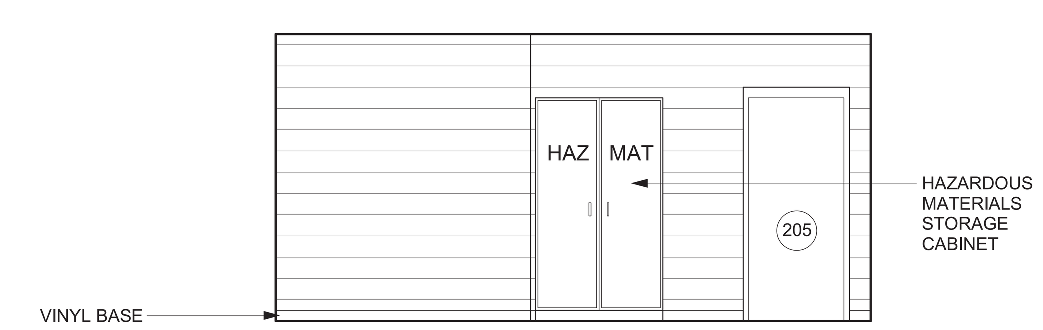
18 ELEVATION - RESTROOM
SCALE: 1/4" = 1'-0"



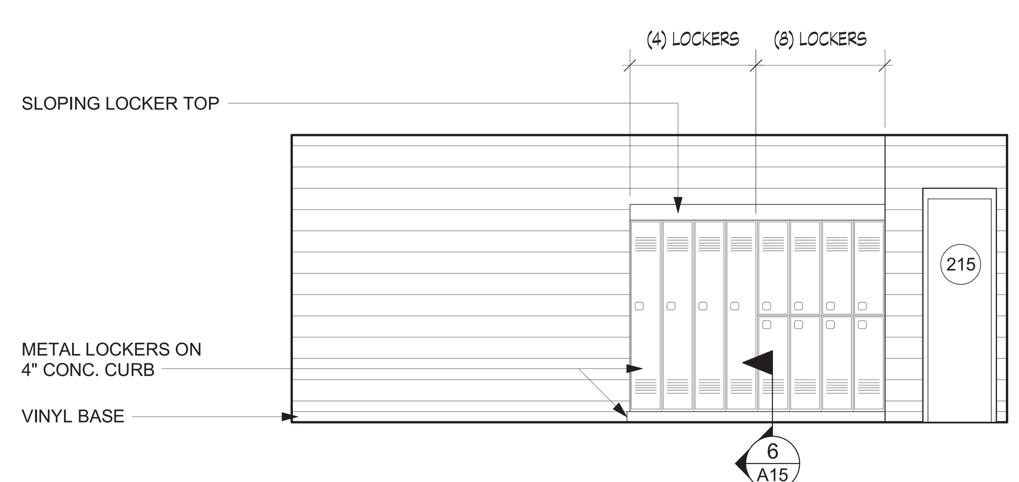
3 ELEVATION
SCALE: 1/4" = 1'-0"



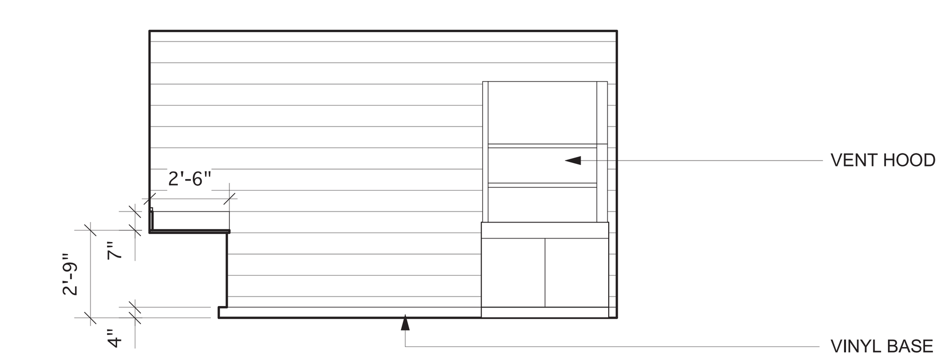
7 ELEVATION
SCALE: 1/4" = 1'-0"



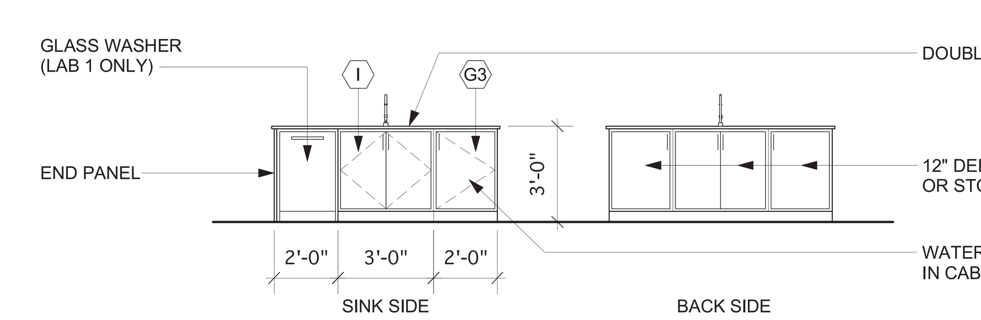
13 ELEVATION
SCALE: 1/4" = 1'-0"



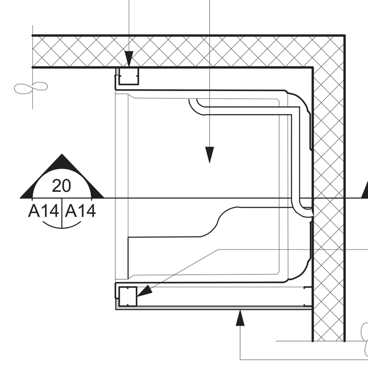
4 ELEVATION
SCALE: 1/4" = 1'-0"



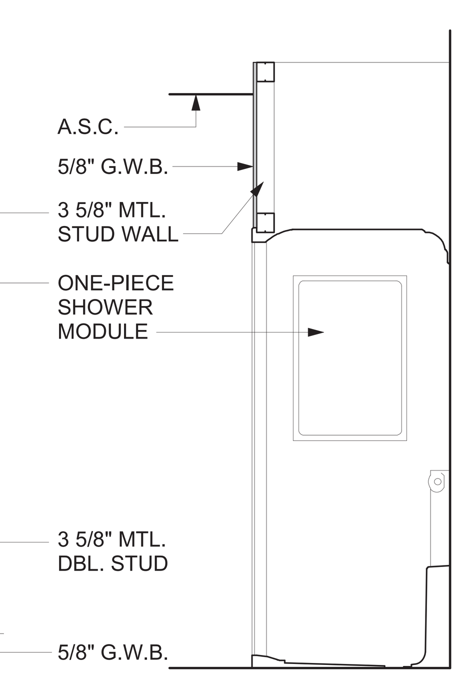
8 ELEVATION
SCALE: 1/4" = 1'-0"



14 ELEVATION - WORK ISLAND
SCALE: 1/4" = 1'-0"



19 DETAIL
SCALE: 1/2" = 1'-0"



20 DETAIL
SCALE: 1/2" = 1'-0"

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AUSTINVILLE WATER TREATMENT PLANT

AUSTINVILLE VIRGINIA

DRAWN BY: CKD

REVIEW BY:

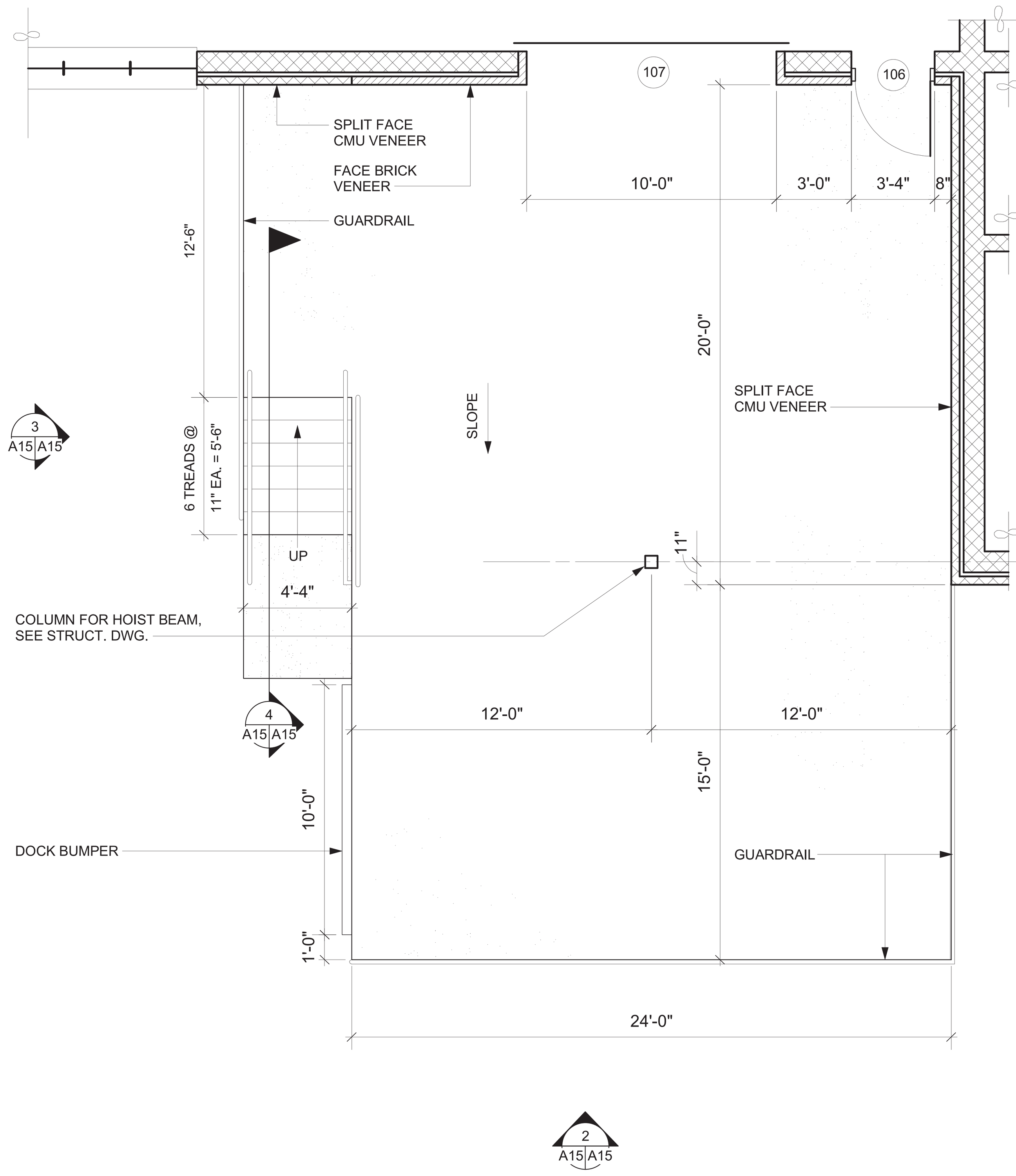
DATE: 10/20/06

REVISION:

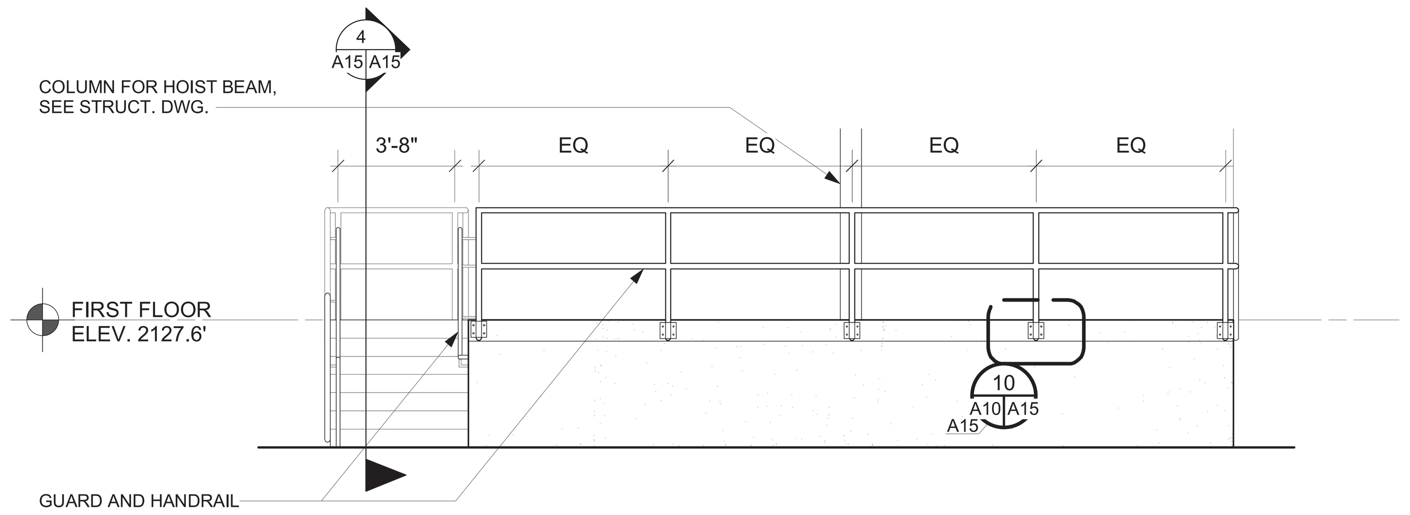
DWG DESCRIPTION:
MAIN BUILDING ENLARGED PLANS & INTERIOR ELEVATIONS

A14

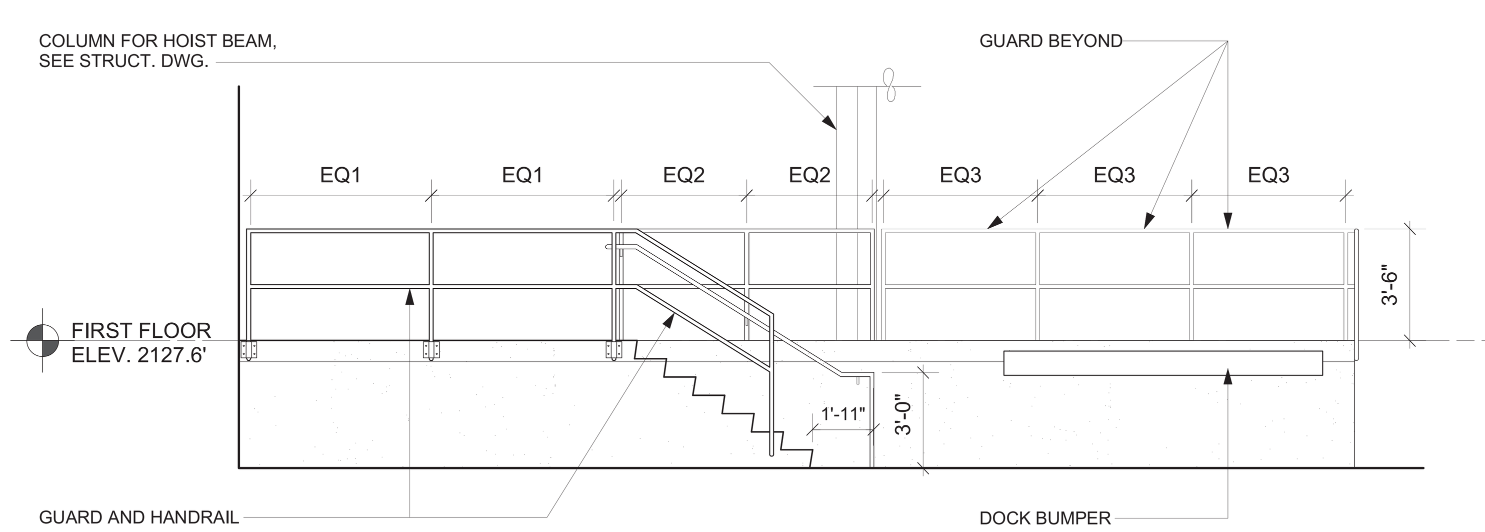
JN: 04 - 02



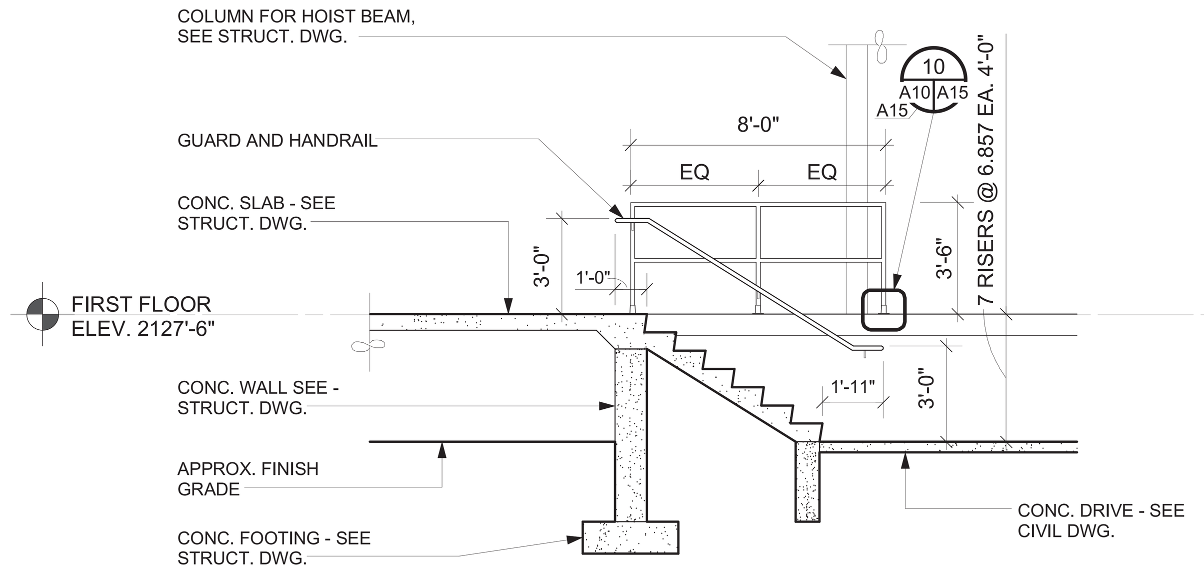
1 A05 A15 PLAN DETAIL - LOADING DOCK
SCALE: 1/4" = 1'-0"



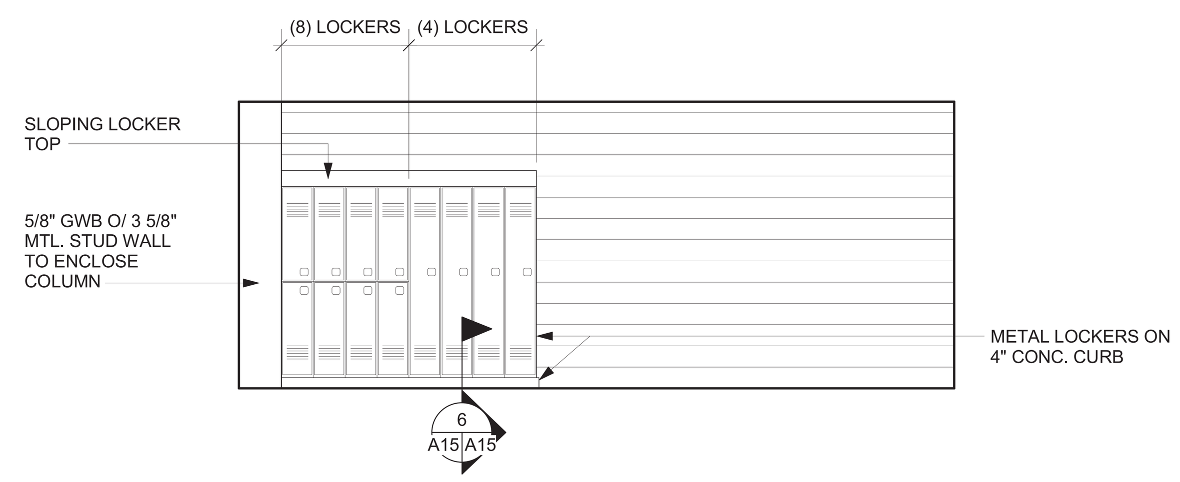
2 A15 A15 ELEVATION - LOADING DOCK
SCALE: 1/4" = 1'-0"



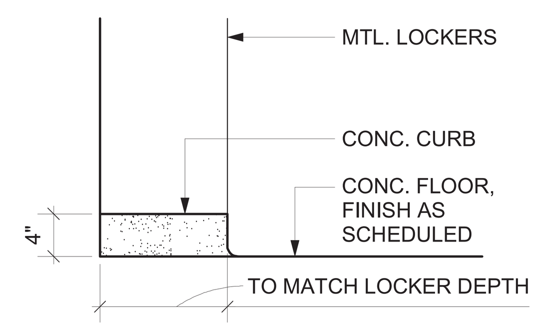
3 A15 A15 ELEVATION - LOADING DOCK
SCALE: 1/4" = 1'-0"



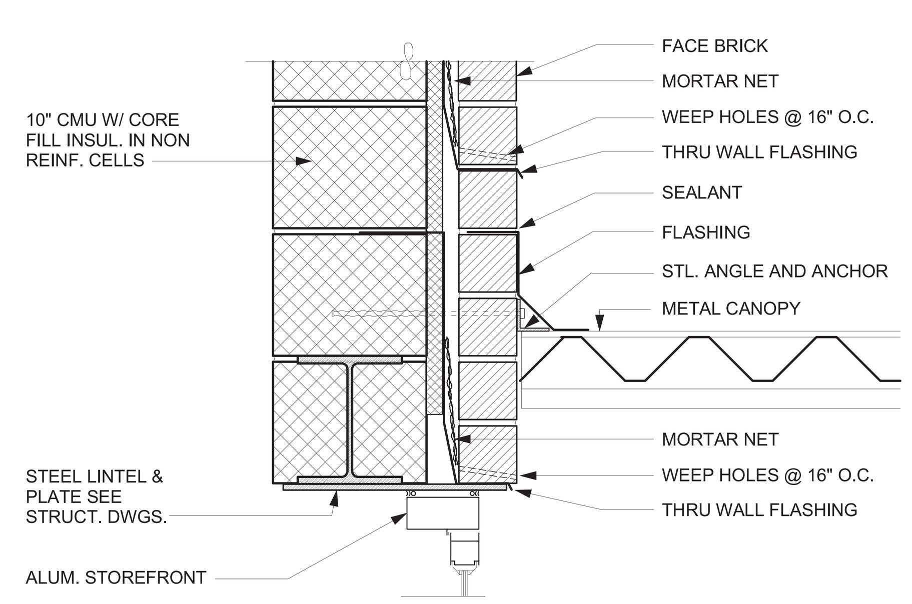
4 1/A15 A15 SECTION - LOADING DOCK STEPS
SCALE: 1/4" = 1'-0"



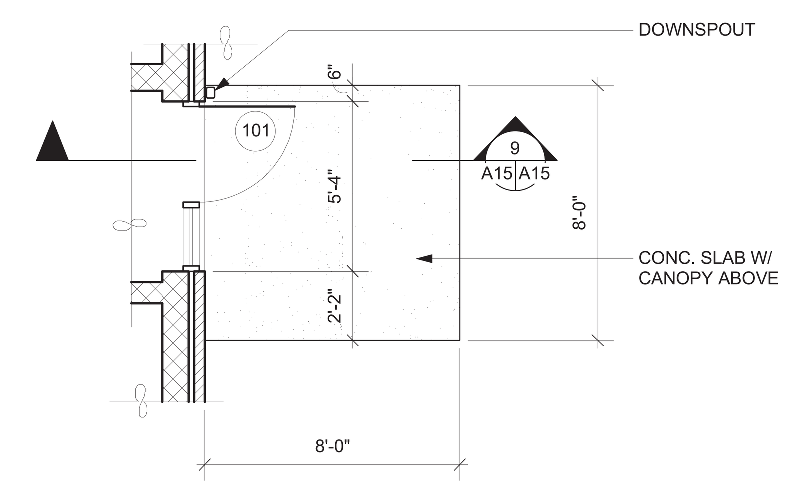
5 A14 A15 ELEVATION
SCALE: 1/4" = 1'-0"



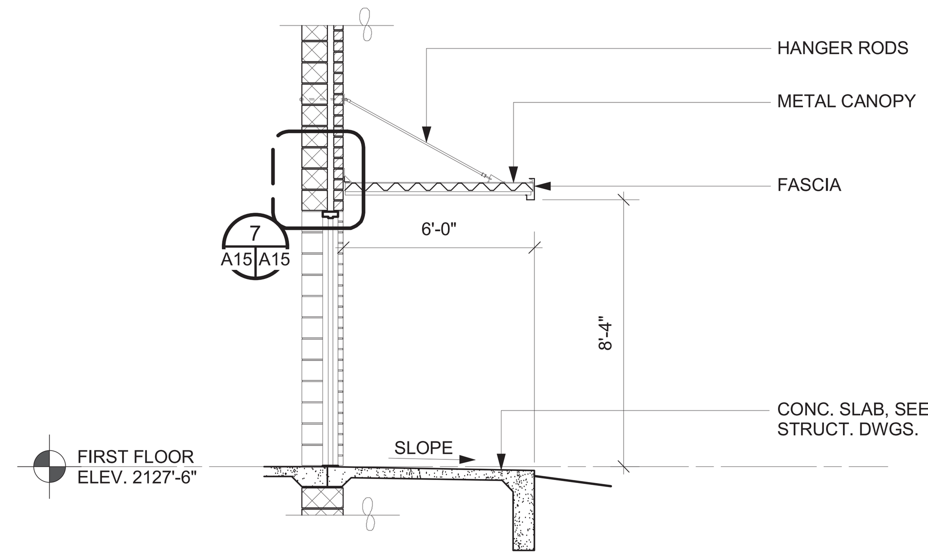
6 A15 A15 DETAIL
SCALE: 1" = 1'-0"



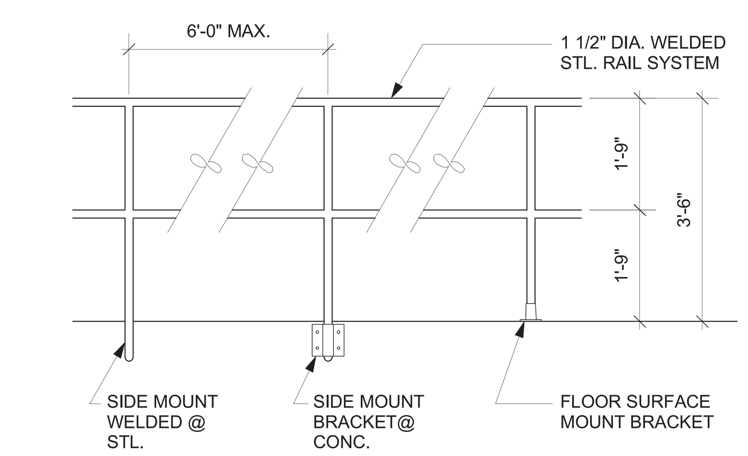
7 A15 A15 DETAIL
SCALE 1 1/2" = 1'-0"



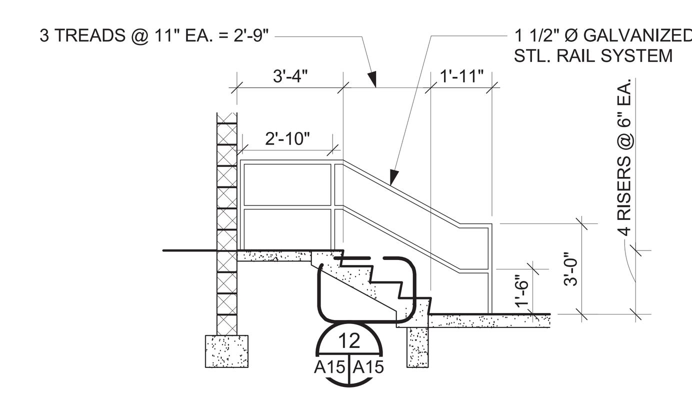
8 A05 A15 PLAN DETAIL - MAIN ENTRANCE
SCALE: 1/4" = 1'-0"



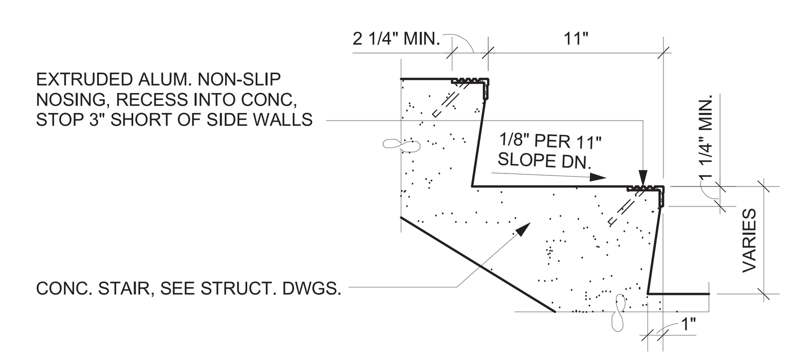
9 A15 A15 SECTION - MAIN ENTRANCE
SCALE: 1/4" = 1'-0"



10 A10 A15 TYPICAL STEEL GUARDRAIL DETAIL
SCALE: 1/2" = 1'-0"



11 A05 A15 STAIR SECTION - LIQUID CHEM. STORAGE
SCALE: 1/4" = 1'-0"



12 A15 A15 STAIR DETAIL - SLAB ON GRADE
SCALE: 1 1/2" = 1'-0"

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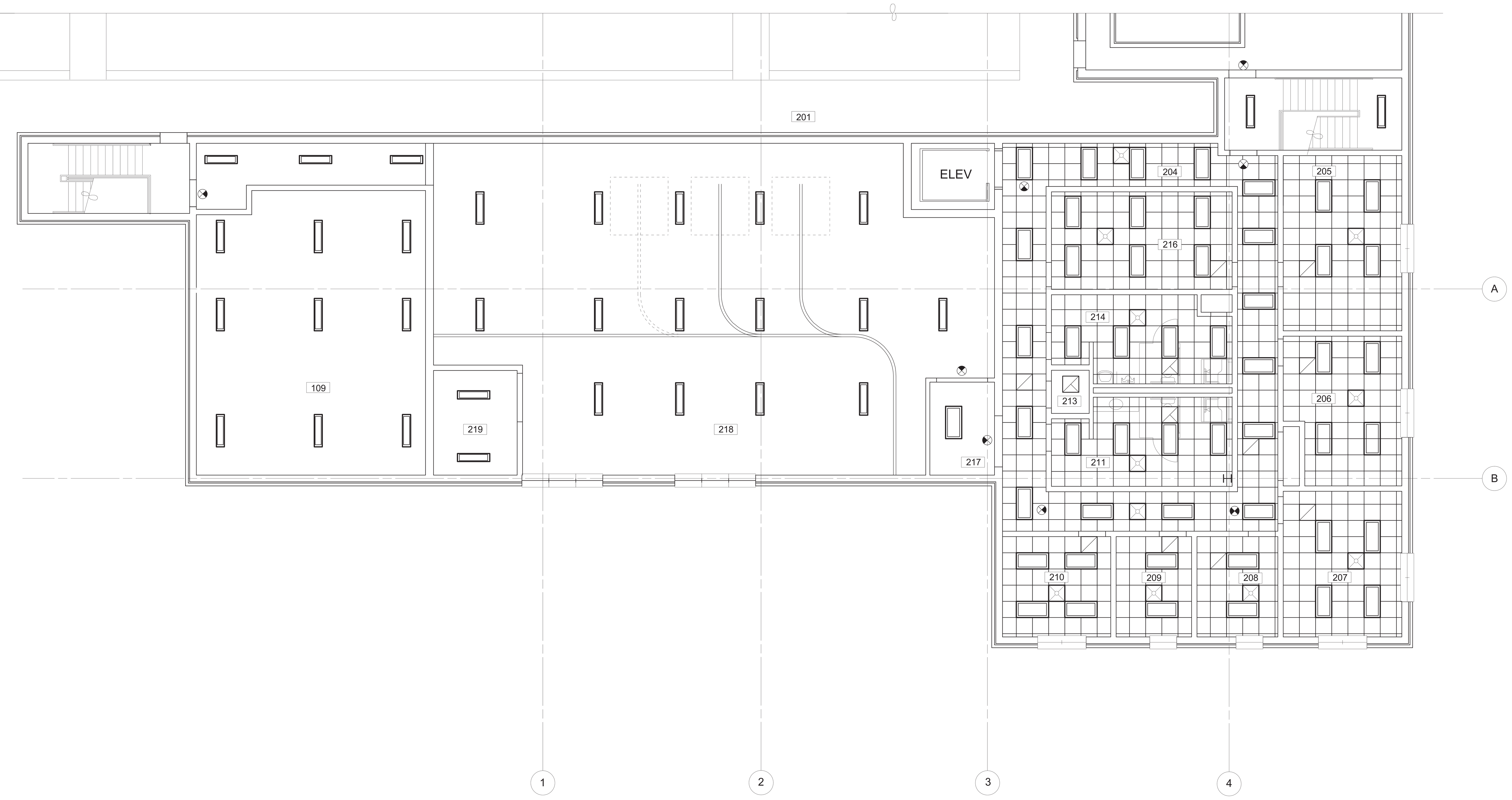
AUSTINVILLE WATER TREATMENT PLANT
AUSTINVILLE VIRGINIA

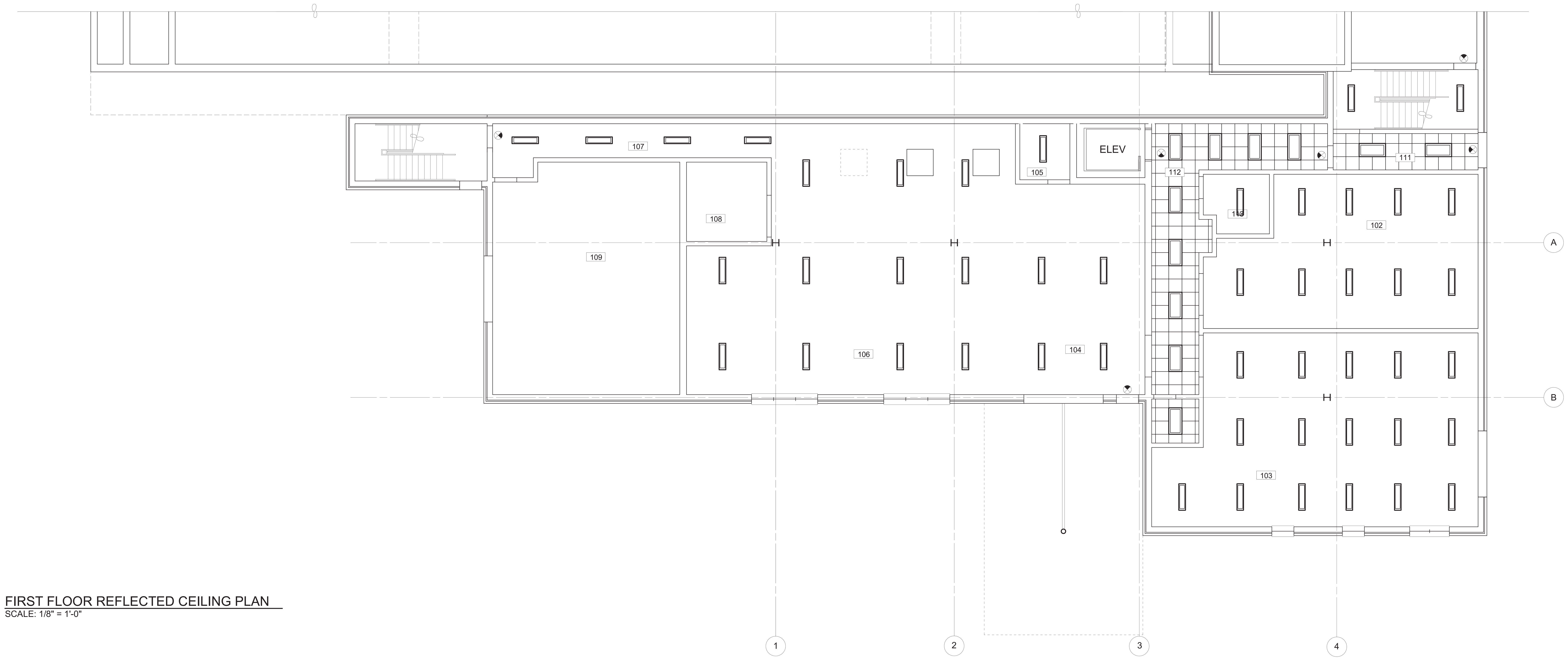
DRAWN BY: CKD
REVIEW BY:
DATE: 10/20/06
REVISION:
DWG DESCRIPTION:
MAIN BUILDING ENLARGED PLANS, ELEVATIONS & DETAILS

A15

JN: 04 - 02



SECOND FLOOR REFLECTED CEILING PLAN
SCALE: 1/8" = 1'



FIRST FLOOR REFLECTED CEILING PLAN
SCALE: 1/8" = 1'-0"

NOTES

1. CONTRACTOR IS TO COORDINATE W/ MEP DRAWINGS LOCATIONS OF ALL DIFFUSERS, GRILLES, LIGHTING FIXTURES, & ACCESS PANELS.
2. REFER TO FINISH SCHEDULE FOR CEILING ELEVATIONS.

LEGEND

- 2 X 4 FLUORESCENT FIXTURE
- 1 X 4 FLUORESCENT FIXTURE
- EXIT SIGN
- CEILING DIFFUSER (SUPPLY)
- CEILING GRILLE (RETURN)
- CEILING GRILLE (EXHAUST)

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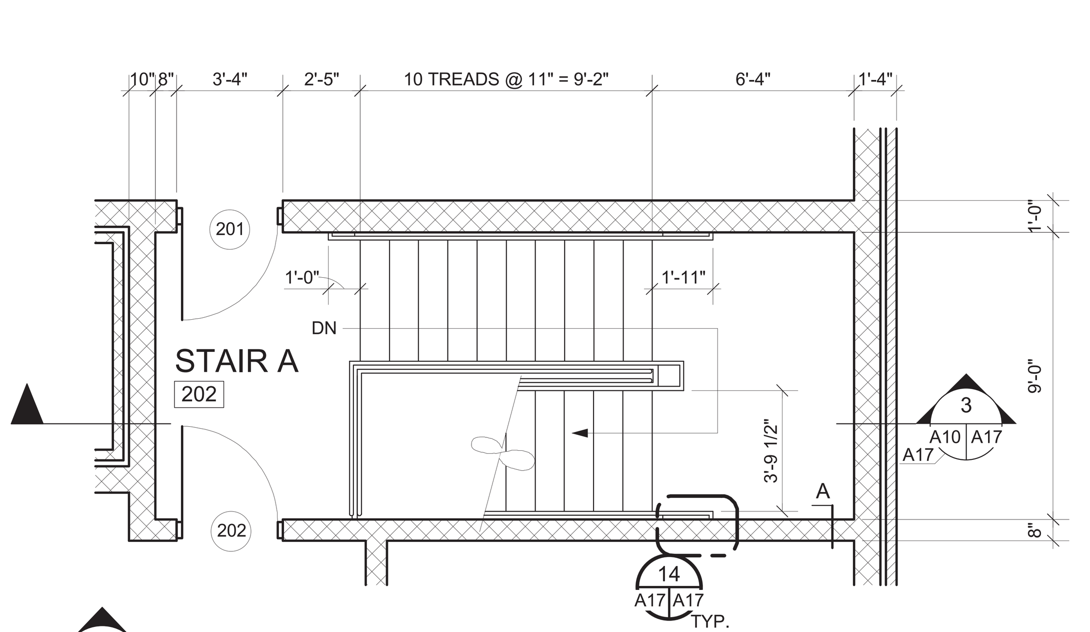
AUSTINVILLE
WATER TREATMENT PLANT
AUSTINVILLE VIRGINIA

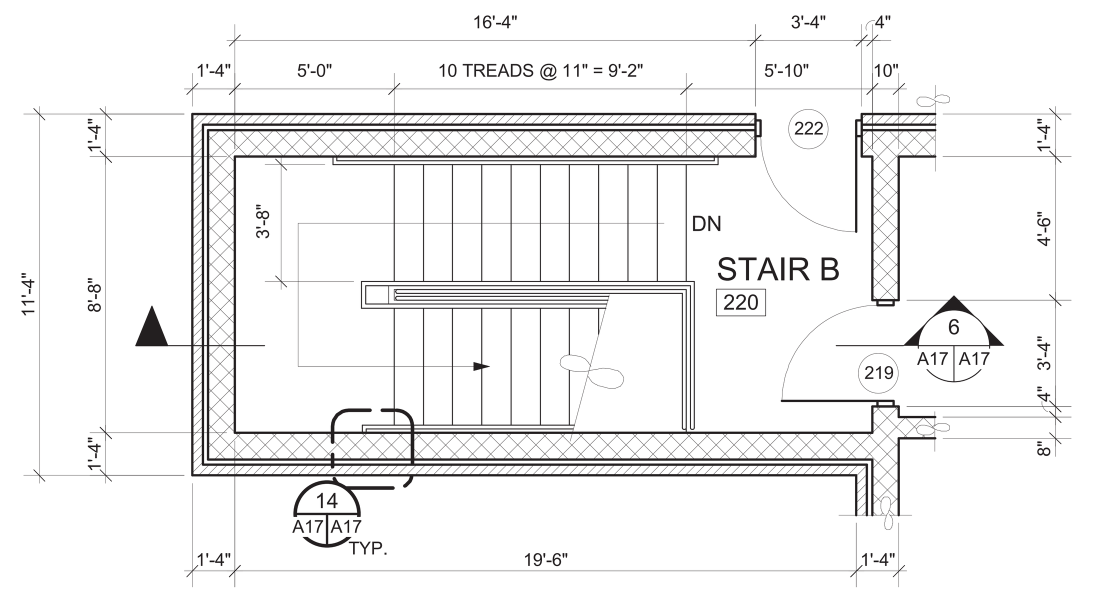
DRAWN BY: CKD
REVIEW BY:
DATE: 10/20/06
REVISION:
DWG DESCRIPTION:
MAIN BUILDING REFLECTED CEILING PLANS

A16

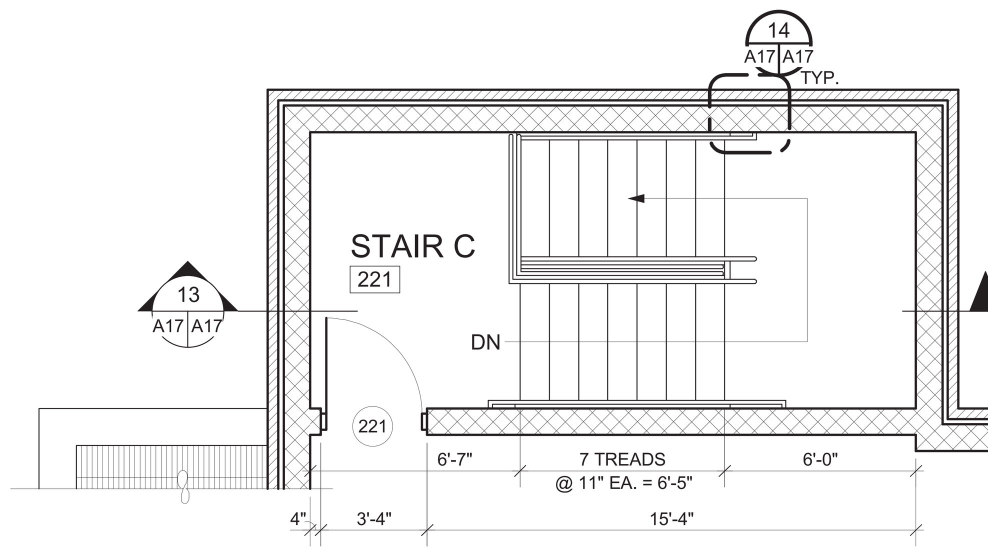
JN: 04 - 02



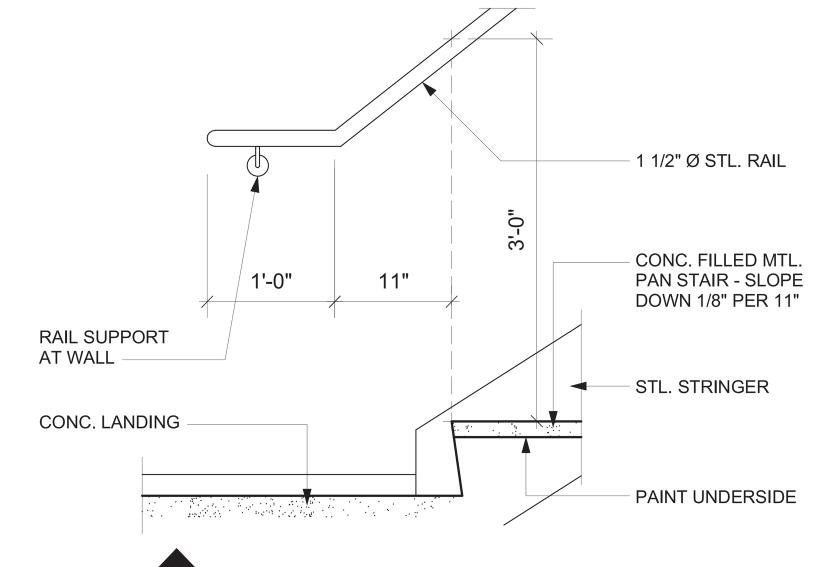
1 A06 A17 STAIR A - SECOND FLOOR PLAN
SCALE: 1/4" = 1'-0"



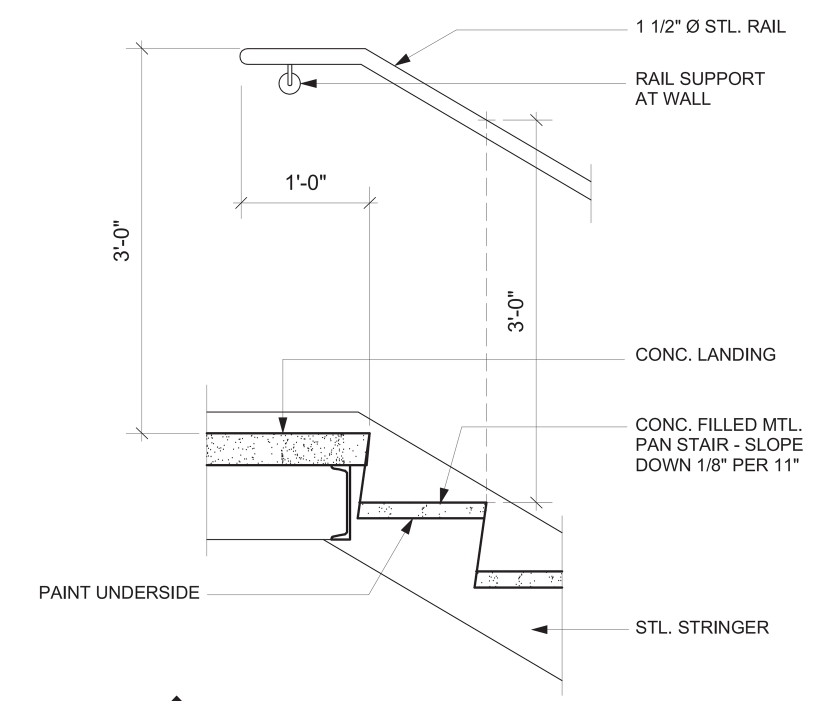
4 A06 A17 STAIR B - SECOND FLOOR PLAN
SCALE: 1/4" = 1'-0"



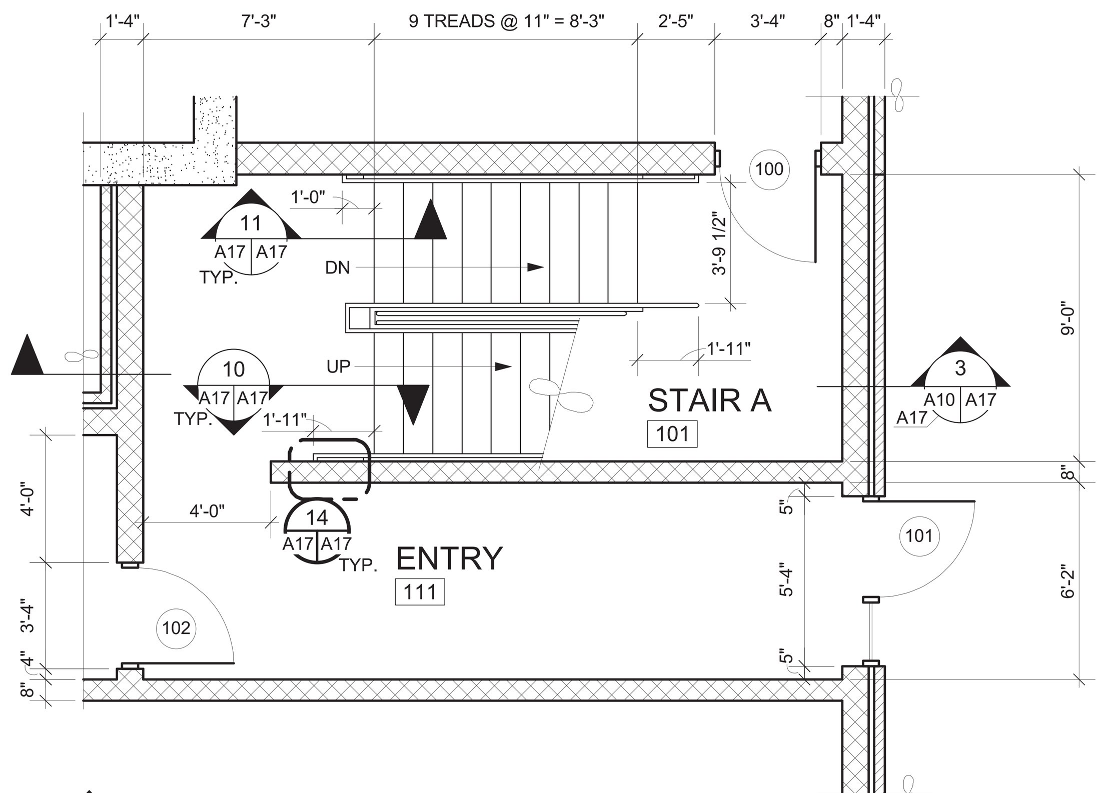
7 A06 A17 STAIR C - SECOND FLOOR PLAN
SCALE: 1/4" = 1'-0"



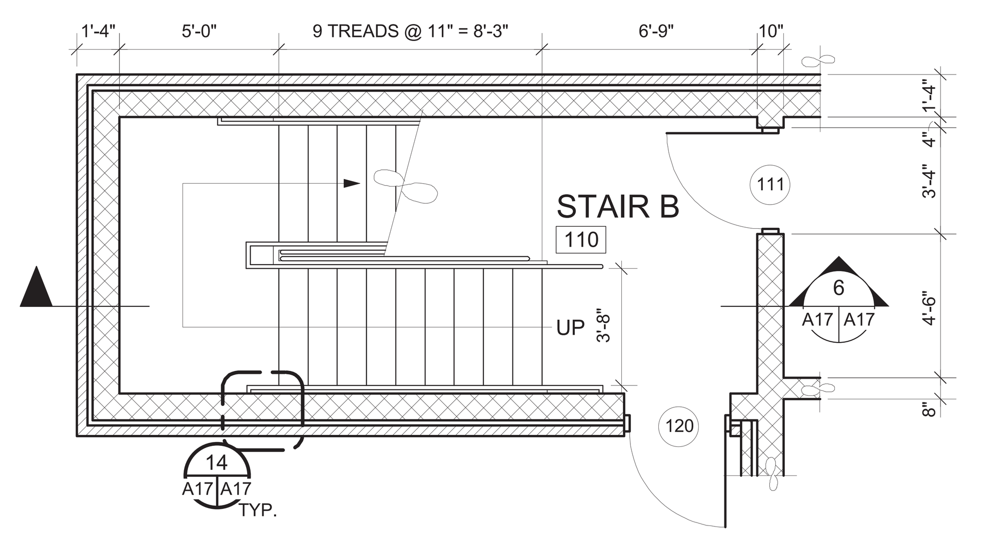
10 A17 A17 STAIR & HANDRAIL DETAIL
SCALE: 1" = 1'-0"



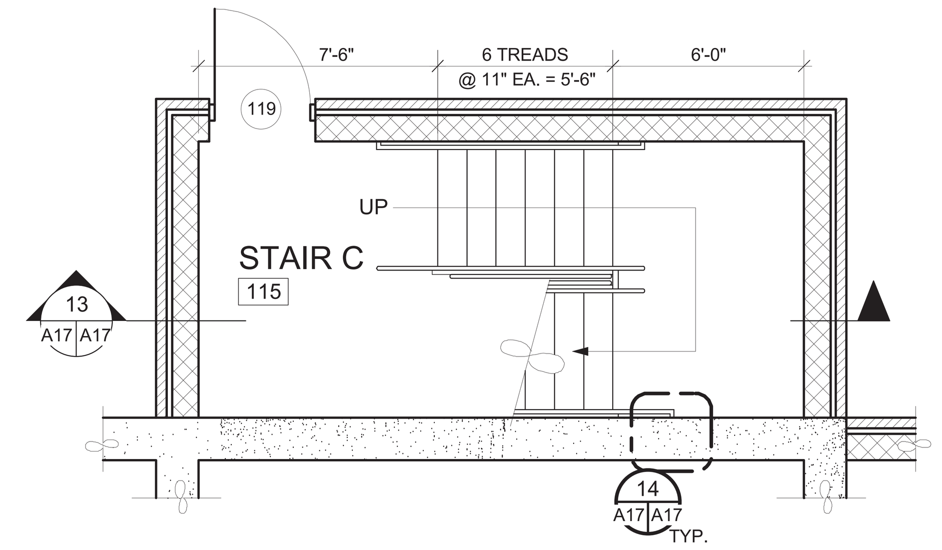
11 A17 A17 STAIR & HANDRAIL DETAIL
SCALE: 1" = 1'-0"



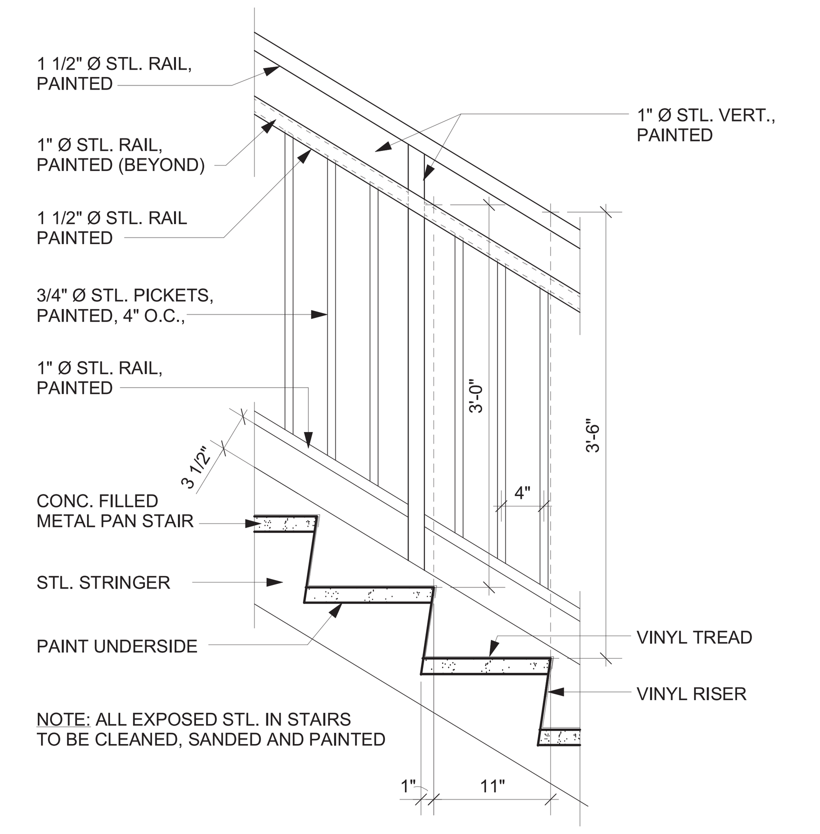
2 A05 A17 STAIR A - FIRST FLOOR PLAN
SCALE: 1/4" = 1'-0"



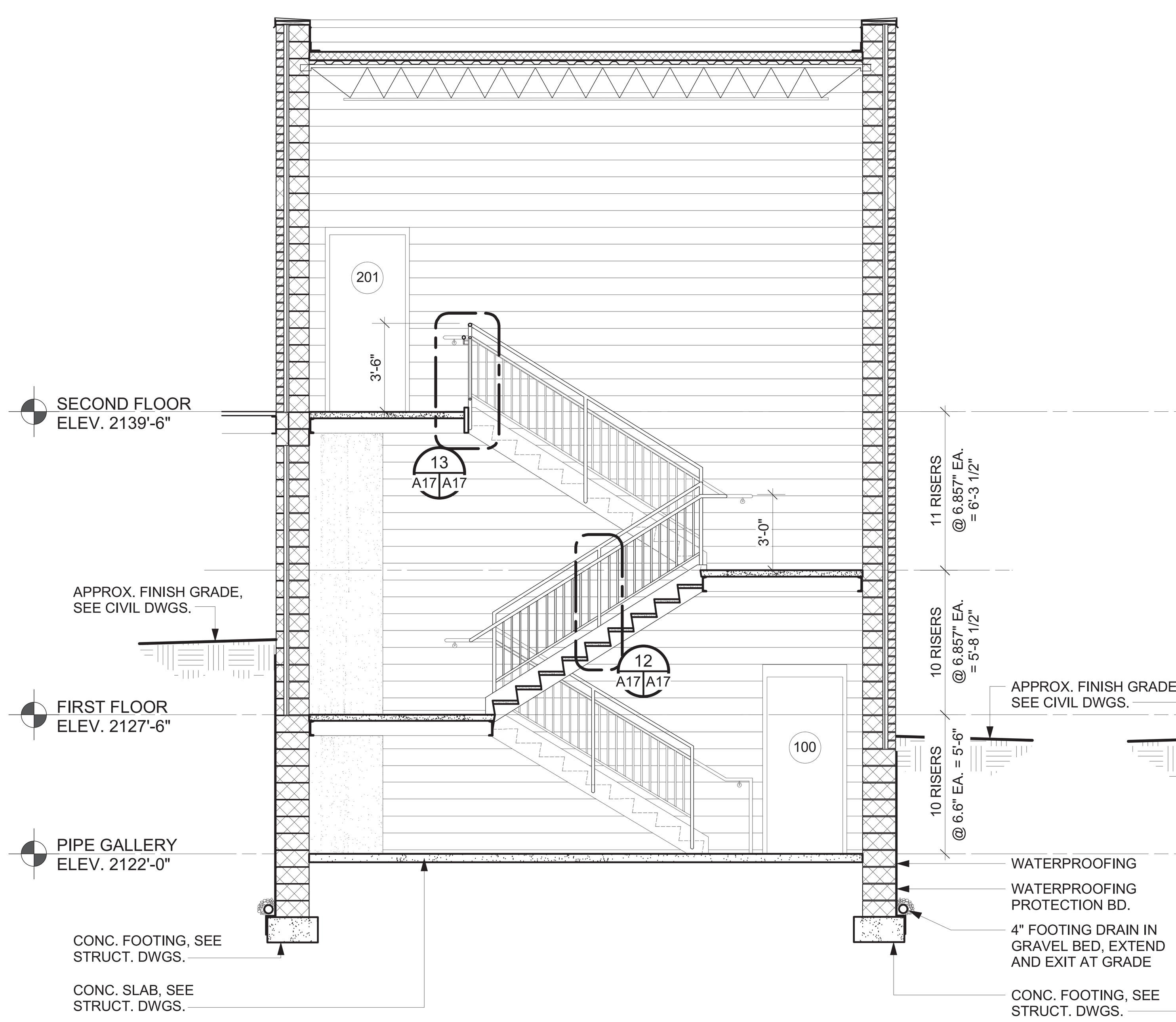
5 A05 A17 STAIR B - FIRST FLOOR PLAN
SCALE: 1/4" = 1'-0"



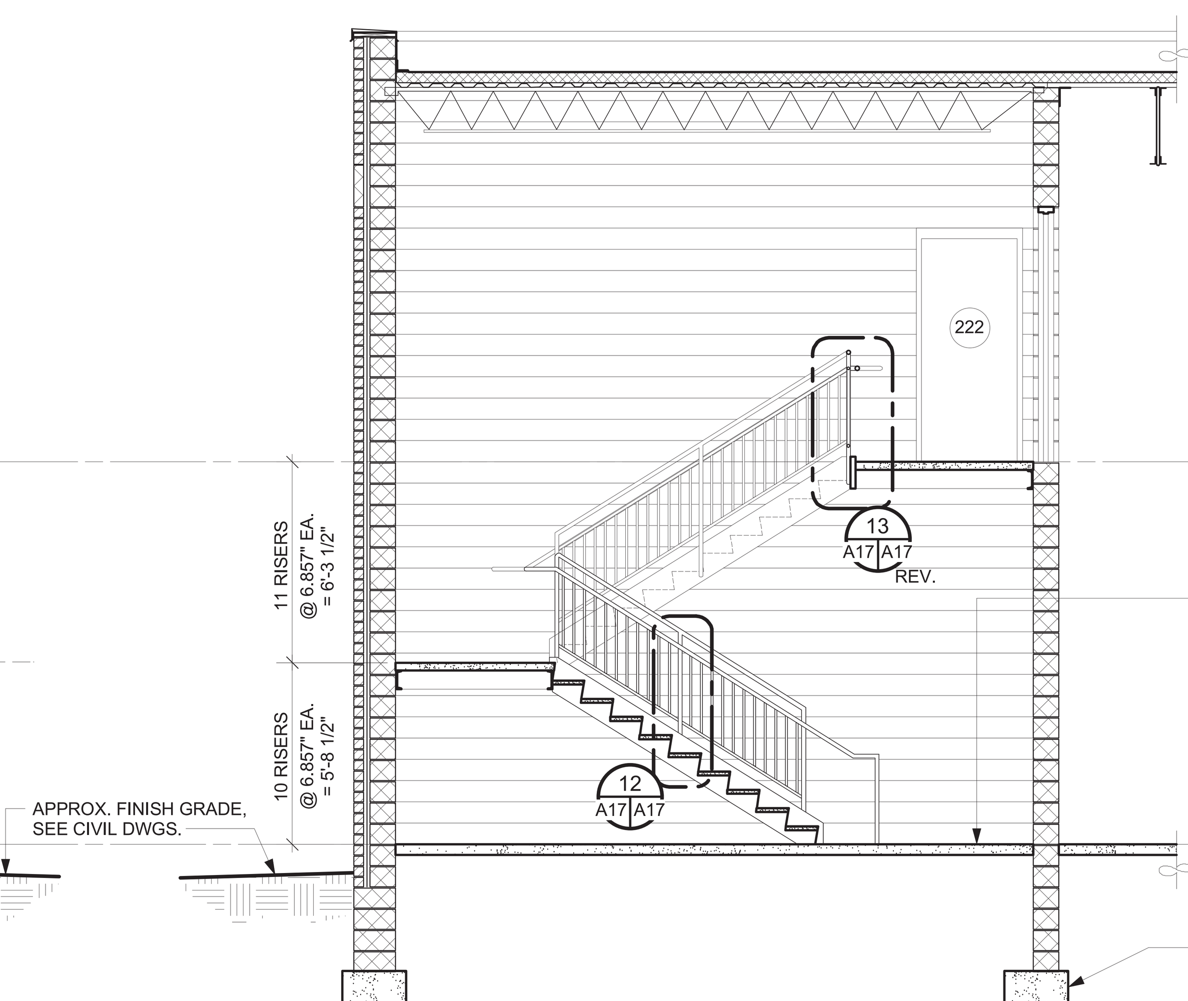
8 A05 A17 STAIR C - FIRST FLOOR PLAN
SCALE: 1/4" = 1'-0"



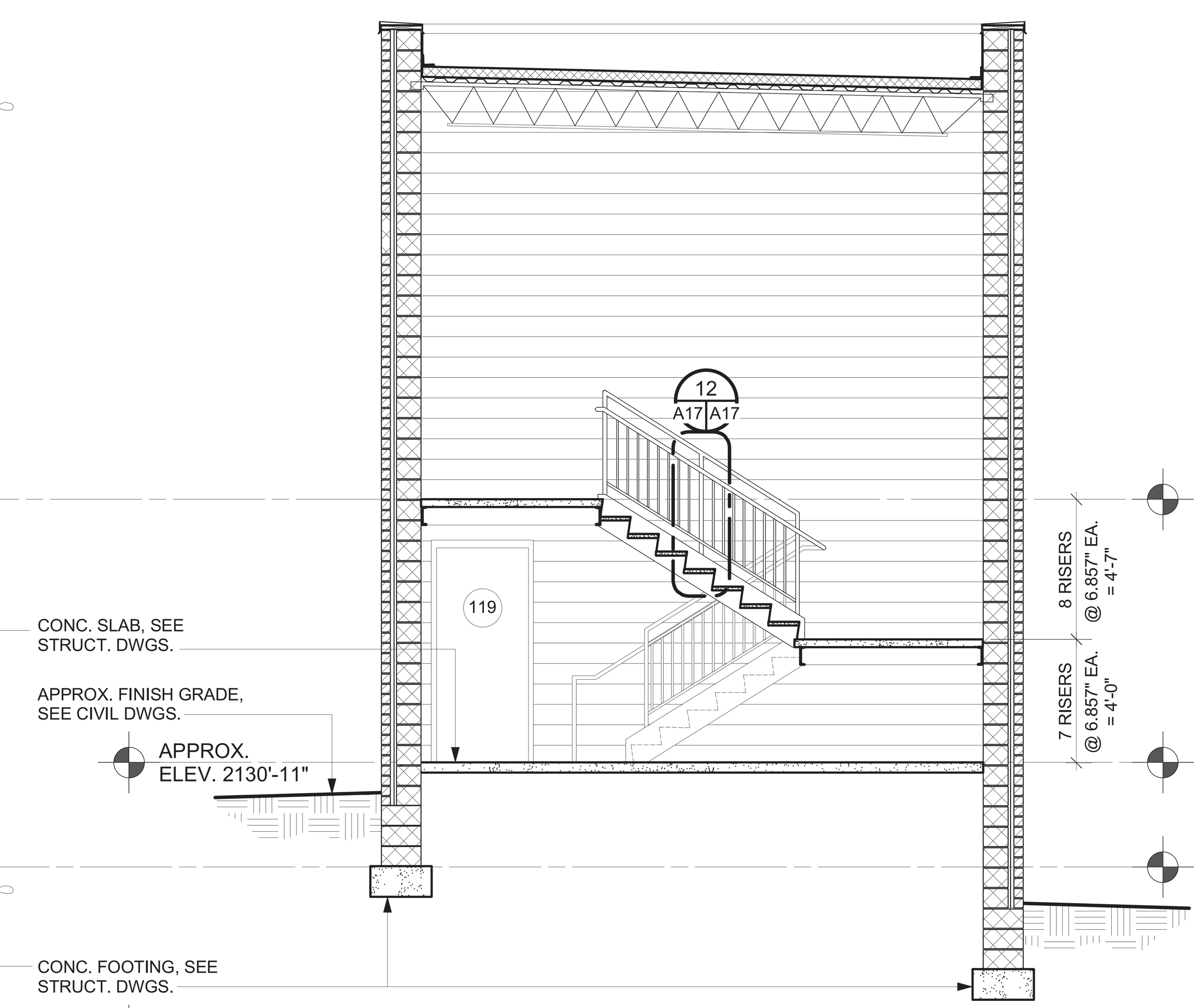
12 A17 A17 STAIR & HANDRAIL DETAIL
SCALE: 1" = 1'



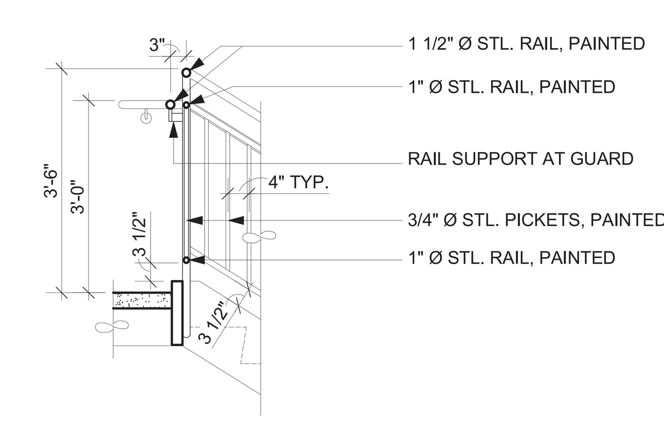
3 1/A17 A17 STAIR A - SECTION
SCALE: 1/4" = 1'-0"



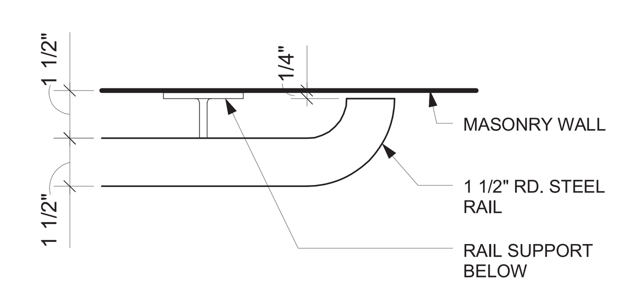
6 4/A17 A17 STAIR B - SECTION
SCALE: 1/4" = 1'-0"



9 A17 A17 STAIR C - SECTION
SCALE: 1/4" = 1'-0"



13 A17 A17 DETAIL
SCALE: 1/2" = 1'



14 A17 A17 HANDRAIL RETURN DETAIL
SCALE: 3" = 1'

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AUSTINVILLE WATER TREATMENT PLANT

AUSTINVILLE VIRGINIA

DRAWN BY: CKD

REVIEW BY:

DATE: 10/20/06

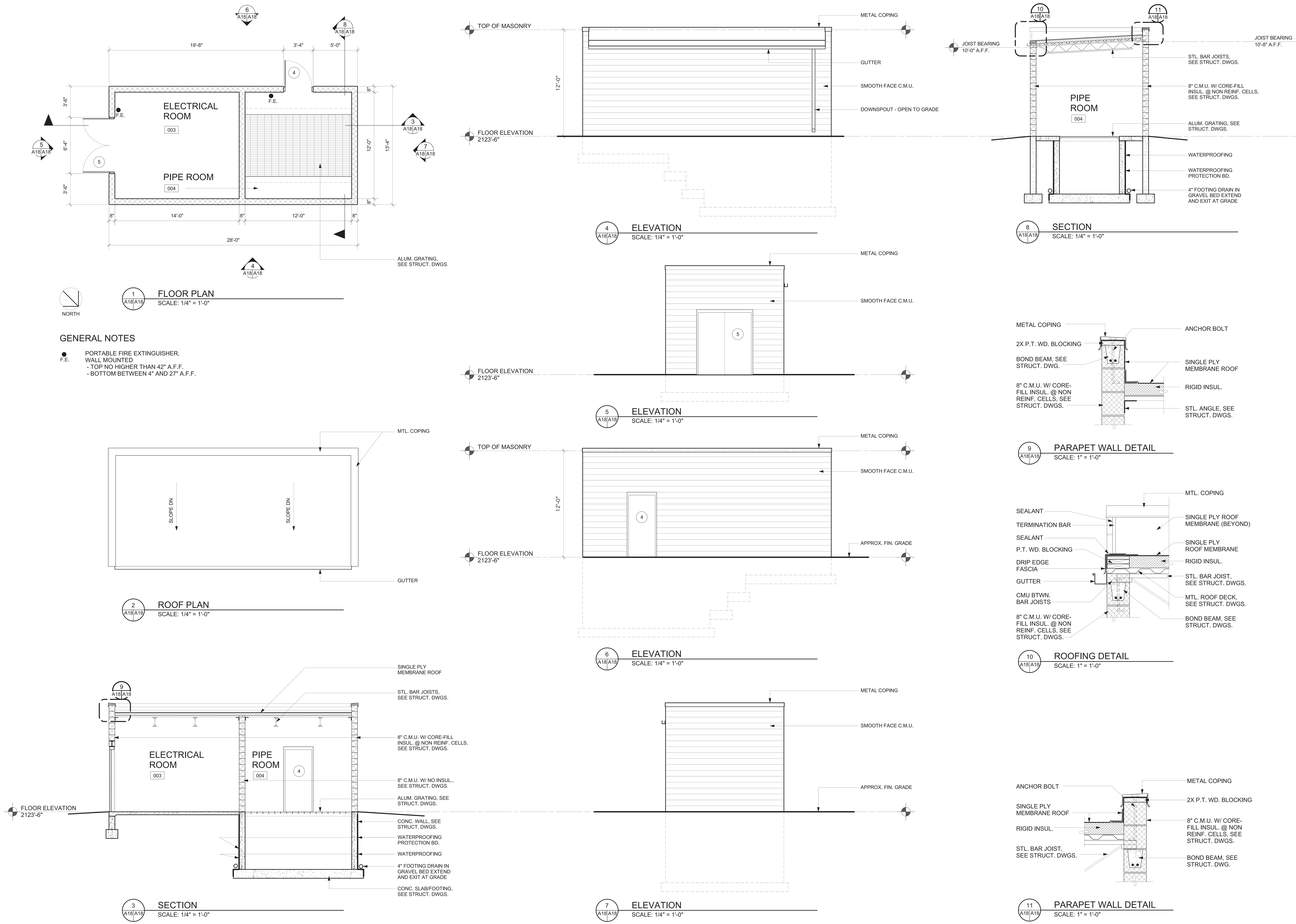
REVISION:

DWG DESCRIPTION:

MAIN BUILDING - STAIR & RAILING DETAILS

A17

JN: 04 - 02



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AUSTINVILLE WATER TREATMENT PLANT

AUSTINVILLE VIRGINIA

DRAWN BY: CKD

REVIEW BY:

DATE: 10/20/06

REVISION:

DWG DESCRIPTION:

HIGH SERVICE PUMP STATION

A18

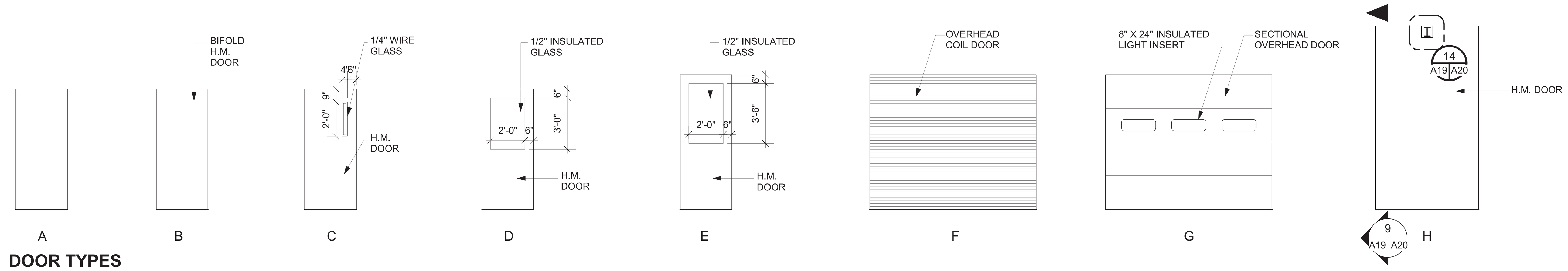
JN: 04 - 02

FINISH SCHEDULE

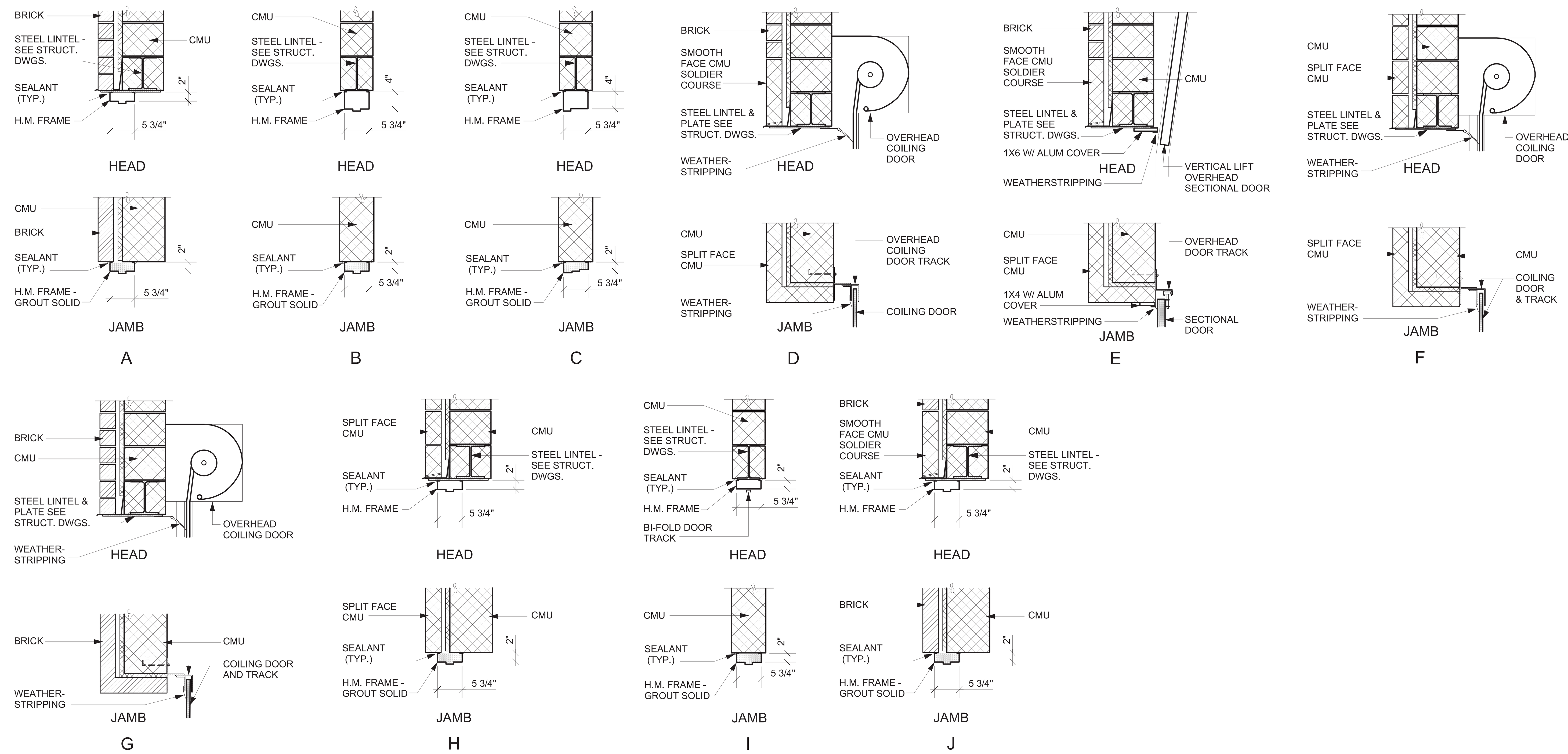
NO.	ROOM NAME	FLOOR MATERIAL	FLOOR BASE	WALLS MATL.	WALLS FINISH	CEILING MATERIAL	CEILING FINISH	CEILING HEIGHT	COMMENTS	NO.
RAW WATER INTAKE BUILDING										
001	CHEMICAL STORAGE	CONCRETE	NONE	CMU	PAINT	EXPOSED STRUCTURE	PAINT			001
002	ELECTRICAL ROOM	CONCRETE	NONE	CMU	PAINT	EXPOSED STRUCTURE	PAINT			002
MAIN BUILDING										
	FIRST FLOOR									
100	PIPE GALLERY	CONCRETE	NONE	CMU	PAINT	EXPOSED STRUCTURE	PAINT			100
101	STAIR A	V.C.T.	VINYL	CMU	PAINT	EXPOSED STRUCTURE	PAINT			101
102	MECH/ELEC SUPPORT	CONCRETE	NONE	CMU	PAINT	EXPOSED STRUCTURE	PAINT			102
103	MAINTENANCE SHOP	CONCRETE	NONE	CMU	PAINT	EXPOSED STRUCTURE	PAINT			103
104	RECEIVING	CONCRETE	NONE	CMU	PAINT	EXPOSED STRUCTURE	PAINT			104
105	ELEVATOR EQUIPMENT	CONCRETE	NONE	CMU	PAINT	EXPOSED STRUCTURE	PAINT			105
106	STATIC MIXERS & CHEMICAL INJECTION AREA	CONCRETE	NONE	CMU	PAINT	EXPOSED STRUCTURE	PAINT			106
107	CORRIDOR	CONCRETE	NONE	CMU	PAINT	EXPOSED STRUCTURE	PAINT			107
108	CARBON ROOM	CONCRETE	NONE	CMU	PAINT	EXPOSED STRUCTURE	PAINT			108
109	LIQUID CHEMICAL STORAGE	CONCRETE	INTEGRAL	CMU	PAINT	EXPOSED STRUCTURE	PAINT		CHEM RES FLR	109
110	STAIR B	V.C.T.	VINYL	CMU	PAINT	EXPOSED STRUCTURE	PAINT			110
111	ENTRY	V.C.T.	VINYL	CMU	PAINT	ASC	PREFINISHED	9'0"		111
112	CORRIDOR	V.C.T.	VINYL	CMU	PAINT	ASC	PREFINISHED	9'0"		112
113	STORAGE	CONCRETE	NONE	CMU	PAINT	EXPOSED STRUCTURE	PAINT			113
114	RESTROOM	V.C.T.	VINYL	CMU	PAINT	ASC	PREFINISHED	9'0"		114
115	STAIR C	V.C.T.	VINYL	CMU	PAINT	EXPOSED STRUCTURE	PAINT			115
	UPPER LEVEL									
200	OPERATIONS LEVEL	CONCRETE	NONE	CMU	PAINT	EXPOSED STRUCTURE	PAINT			200
201	NOT USED									201
202	STAIR A	V.C.T.	VINYL	CMU	PAINT	EXPOSED STRUCTURE	PAINT			202
203	ELECTRICAL	V.C.T.	VINYL	CMU	PAINT	EXPOSED STRUCTURE	PAINT			203
204	CORRIDOR	V.C.T.	VINYL	CMU	PAINT	ASC	PREFINISHED	9'0"		204
205	LABORATORY	V.C.T.	VINYL	CMU	PAINT	ASC	PREFINISHED	9'0"		205
206	LABORATORY	V.C.T.	VINYL	CMU	PAINT	ASC	PREFINISHED	9'0"		206
207	CONFERENCE/TRAINING	V.C.T.	VINYL	CMU	PAINT	ASC	PREFINISHED	9'0"		207
208	BREAK ROOM	V.C.T.	VINYL	CMU	PAINT	ASC	PREFINISHED	9'0"		208
209	OFFICE	V.C.T.	VINYL	CMU	PAINT	ASC	PREFINISHED	9'0"		209
210	OFFICE	V.C.T.	VINYL	CMU	PAINT	ASC	PREFINISHED	9'0"		210
211	WOMEN	V.C.T.	VINYL	CMU	PAINT	ASC	PREFINISHED	9'0"		211
212	NOT USED									212
213	JANITOR	V.C.T.	VINYL	CMU	PAINT	EXPOSED STRUCTURE	PAINT			213
214	MEN	V.C.T.	VINYL	CMU	PAINT	ASC	PREFINISHED	9'0"		214
215	STORAGE	V.C.T.	VINYL	CMU	PAINT	ASC	PREFINISHED	9'0"		215
216	CONTROL	V.C.T.	VINYL	CMU	PAINT	ASC	PREFINISHED	9'0"		216
217	VESTIBULE	CONCRETE	NONE	CMU	PAINT	EXPOSED STRUCTURE	PAINT	9'0"		217
218	DRY CHEMICAL STORAGE	CONCRETE	NONE	CMU	PAINT	EXPOSED STRUCTURE	PAINT			218
219	FLUORIDE STORAGE	CONCRETE	INTEGRAL	CMU	PAINT	EXPOSED STRUCTURE	PAINT		CHEM RES FLR	219
220	STAIR B	V.C.T.	VINYL	CMU	PAINT	EXPOSED STRUCTURE	PAINT			220
221	STAIR C	V.C.T.	VINYL	CMU	PAINT	EXPOSED STRUCTURE	PAINT			221
222	CORRIDOR	CONCRETE	NONE	CMU	PAINT	EXPOSED STRUCTURE	PAINT			222
HIGH SERVICE PUMP STATION										
003	ELECTRICAL ROOM	CONCRETE	NONE	CMU	PAINT	EXPOSED STRUCTURE	PAINT			003
004	PIPE ROOM	CONCRETE	NONE	CMU	PAINT	EXPOSED STRUCTURE	PAINT			004

DOOR SCHEDULE

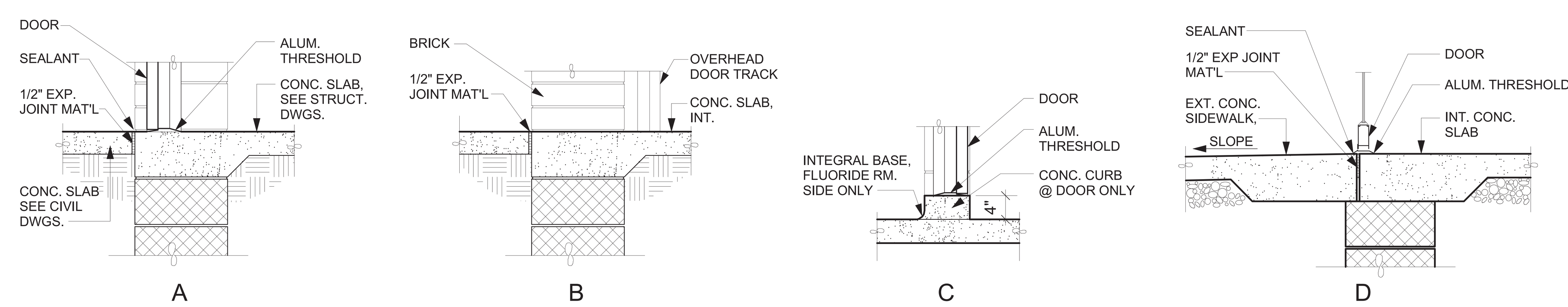
NO.	WIDTH	HEIGHT	THICK.	DOOR MATL.	DOOR TYPE	FRAME JAMB DEPTH	FRAME DETAIL	FRAME MATL.	THRESHOLD DETAIL	RATING	REMARKS	NO.
RAW WATER INTAKE BUILDING												
1	5'0"	6'8"	4"	STL.	?	?	?	STL.	?		WATERTIGHT	1
2	3'0"	7'0"	1 3/4"	H.M.	A	5 3/4"	B	H.M.	---			2
3	3'0"	7'0"	1 3/4"	H.M.	A	5 3/4"	B	H.M.	---			3
MAIN BUILDING												
	FIRST FLOOR											
100	3'0"	7'0"	1 3/4"	H.M.	C	5 3/4"	B	H.M.	---	1 HOUR		100
101	3'0"	7'10"	1 3/4"	ALUM.	SEE A19 / STOREFRONT TYPES			ALUM.	D			101
102	3'0"	7'0"	1 3/4"	H.M.	C	5 3/4"	B	H.M.	---	1 HOUR		102
103	(2) 3'0"	7'0"	1 3/4"	H.M.	A	5 3/4"	B	H.M.	---			103
104	(2) 3'0"	7'0"	1 3/4"	H.M.	A	5 3/4"	B	H.M.	---			104
105	10'0"	8'0"	3/4"	ALUM.	F	---	D	---	B		OVERHEAD COIL	105
106	3'0"	7'10"	1 3/4"	H.M.	E	5 3/4"	A	H.M.	A			106
107	10'0"	8'0"	3/4"	ALUM.	F	---	G	H.M.	B		OVERHEAD COIL	107
108	3'0"	7'0"	1 3/4"	H.M.	A	5 3/4"	B	H.M.	---			108
109	(2) 3'0"	7'0"	1 3/4"	H.M.	A	5 3/4"	B	H.M.	---	1.5 HOUR		109
110	3'0"	7'0"	1 3/4"	H.M.	A	5 3/4"	B	H.M.	---	1.5 HOUR	GALVANIZED	110
111	3'0"	7'0"	1 3/4"	H.M.	C	5 3/4"	B	H.M.	A			111
112	10'0"	8'0"	2"	METAL	G	---	E	---	7/A20		OVERHEAD SECTIONAL	112
113	10'0"	8'0"	3/4"	ALUM.	F	---	F	H.M.	B		OVERHEAD COIL	113
114	3'0"	7'10"	1 3/4"	H.M.	E	5 3/4"	H	H.M.	A			114
115	(2) 3'0"	7'0"	1 3/4"	H.M.	A	5 3/4"	B	H.M.	----	3 HOUR		115
116	3'0"	7'0"	1 3/4"	H.M.	A	5 3/4"	B	H.M.	----			116
117	3'0"	7'0"	1 3/4"	H.M.	A	5 3/4"	B	H.M.	----			117
118	3'0"	8'0"	1 3/4"	H.M.	C	5 3/4"	H	H.M.	A			118
119	3'0"	7'0"	1 3/4"	H.M.	C	5 3/4"	A	H.M.	A			119
120	3'0"	7'10"	1 3/4"	H.M.	C	5 3/4"	A	H.M.	A			120
	SECOND FLOOR											
200	3'0"	7'10"	1 3/4"	H.M.	E	5 3/4"	J	H.M.	A			200
201	3'0"	7'0"	1 3/4"	H.M.	C	5 3/4"	B	H.M.	---	1 HOUR		201
202	3'0"	7'0"	1 3/4"	H.M.	C	5 3/4"	B	H.M.	---	1 HOUR		202
203	3'0"	7'0"	1 3/4"	H.M.	A	5 3/4"	B	H.M.	---			203
204	(4) 1'6"	7'0"	1 3/4"	H.M.	B	5 3/4"	I	H.M.	---		BIFOLD	204
205	3'0"	7'0"	1 3/4"	H.M.	A	5 3/4"	B	H.M.	---			205
206	3'0"	7'0"	1 3/4"	H.M.	A	5 3/4"	B	H.M.	---			206
207	3'0"	7'0"	1 3/4"	H.M.	C	5 3/4"	B	H.M.	---			207
208	3'0"	7'0"	1 3/4"	H.M.	A	5 3/4"	B	H.M.	---			208
209	3'0"	7'0"	1 3/4"	H.M.	A	5 3/4"	B	H.M.	---			209
210	3'0"	7'0"	1 3/4"	H.M.	A	5 3/4"	B	H.M.	---			210
211	3'0"	7'0"	1 3/4"	H.M.	A	5 3/4"	B	H.M.	---			211
212	(2) 3'0"	6'8"	1 3/4"	H.M.	A	5 3/4"	B	H.M.	C	1.5 HOUR	GALVANIZED	212
213	3'0"	7'0"	1 3/4"	H.M.	A	5 3/4"	B	H.M.	---			213
214	3'0"	7'0"	1 3/4"	H.M.	A	5 3/4"	B	H.M.	---			214
215	2'0"	7'0"	1 3/4"	H.M.	A	5 3/4"	B	H.M.	---			215
216	3'0"	7'0"	1 3/4"	H.M.	A	5 3/4"	B	H.M.	---			216
217	(2) 3'0"	7'0"	1 3/4"	H.M.	A	5 3/4"	C	H.M.	---	3 HOUR	DBL EGRESS	217
218	(2) 3'0"	7'0"	1 3/4"	H.M.	A	5 3/4"	C	H.M.	---		DBL EGRESS	218
219	3'0"	7'0"	1 3/4"	H.M.	C	5 3/4"	B	H.M.	---	1 HOUR		219
220	(2) 3'0"	10'6"	1 3/4"	H.M.	H	5 3/4"	SEE 9/A20	H.M.	SEE 9/A20		CUSTOM	220
221	3'0"	7'0"	1 3/4"	H.M.	C	5 3/4"	B	H.M.	---	1 HOUR		221
222	3'0"	7'10"	1 3/4"	H.M.	E	5 3/4"	J	H.M.	A			222
HIGH SERVICE PUMP STATION												
4	3'0"	7'0"	1 3/4"	H.M.	A	5 3/4"	B	H.M.	---			6
5	(2) 3'0"	7'0"	1 3/4"	H.M.	A	5 3/4"	B	H.M.	---			7



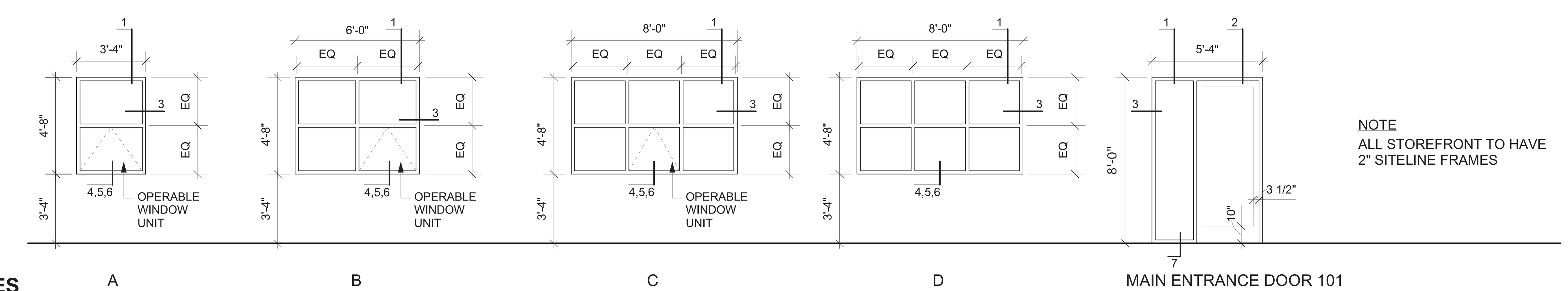
DOOR TYPES
SCALE: 1/4" = 1'-0"



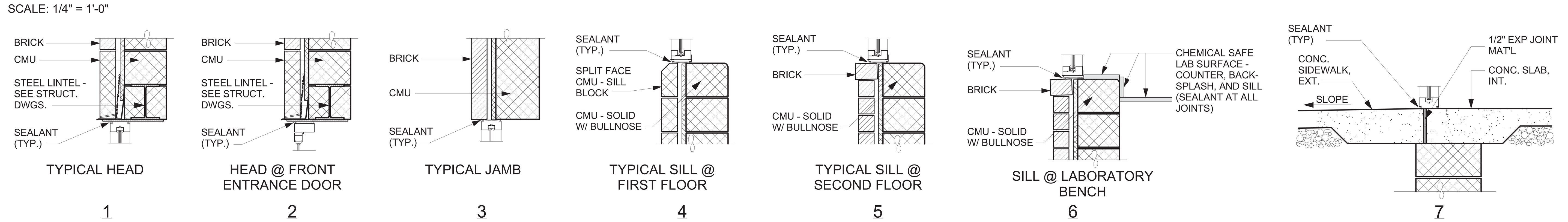
FRAME DETAILS
SCALE: 3/4" = 1'-0"



THRESHOLD DETAILS
SCALE: 3/4" = 1'-0"



STOREFRONT TYPES
SCALE: 1/4" = 1'-0"



STOREFRONT DETAILS
SCALE: 3/4" = 1'-0"

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AUSTINVILLE WATER TREATMENT PLANT

AUSTINVILLE VIRGINIA

DRAWN BY: CKD

REVIEW BY:

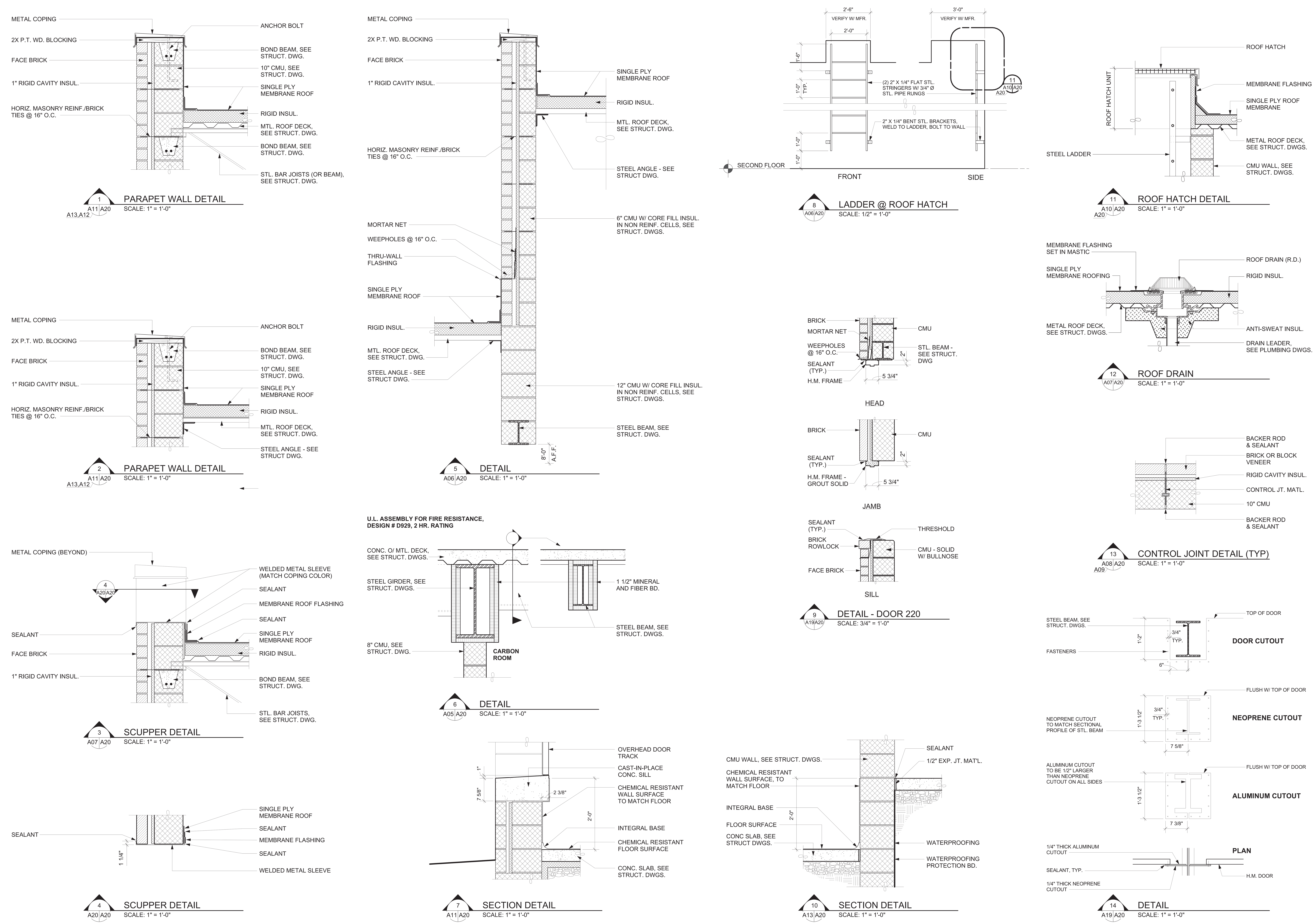
DATE: 10/20/06

REVISION:

DWG DESCRIPTION: SCHEDULES, DOOR & WINDOW DETAILS

A19

JN: 04 - 02



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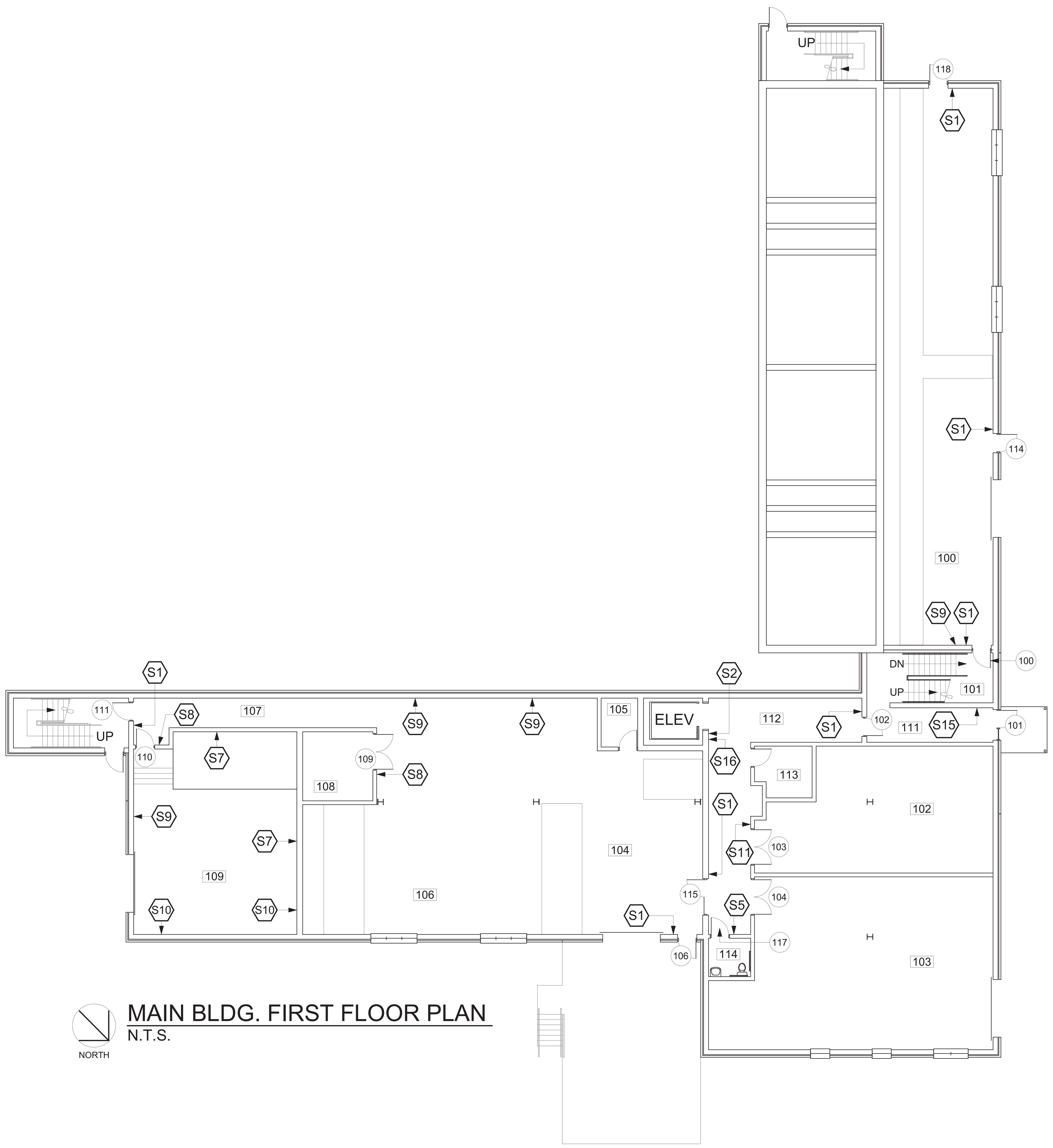
AUSTINVILLE WATER TREATMENT PLANT
AUSTINVILLE VIRGINIA

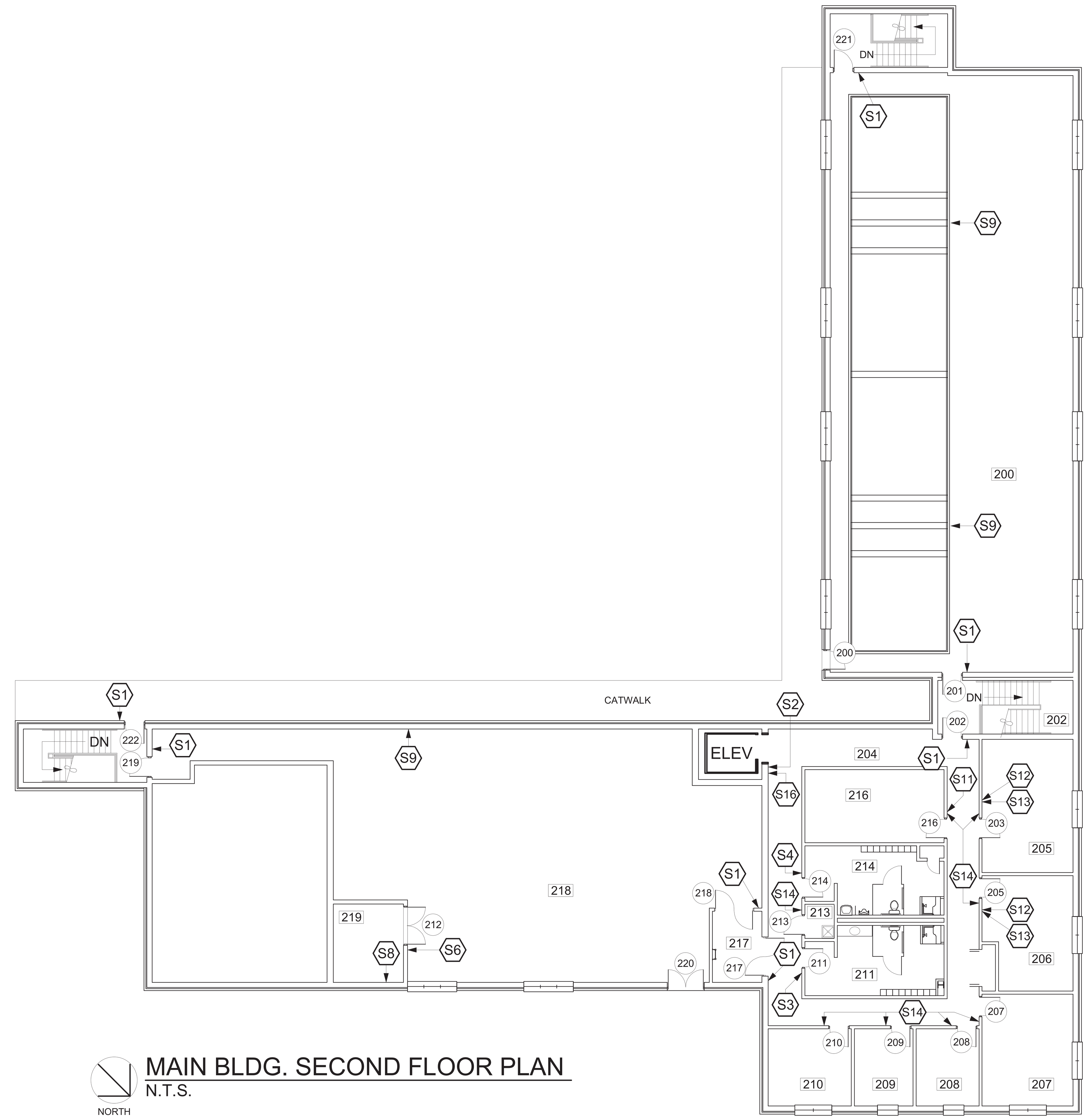
DRAWN BY: CKD
REVIEW BY:
DATE: 10/20/06
REVISION:
DWG DESCRIPTION:
CONSTRUCTION DETAILS

A20

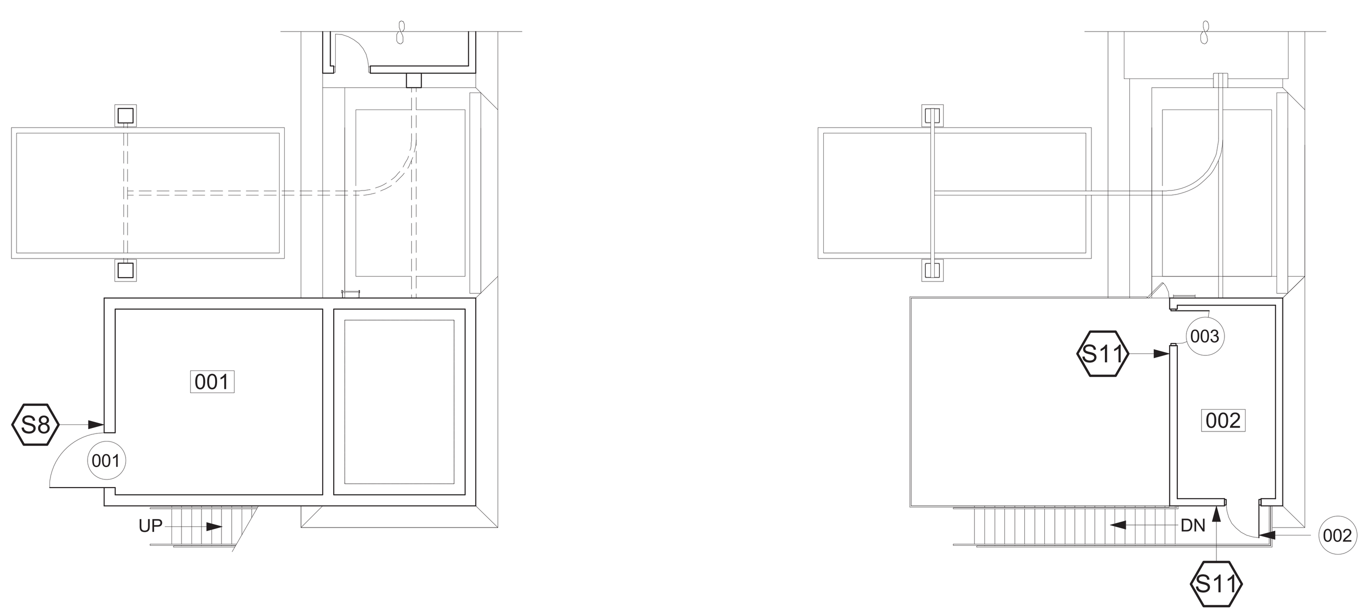
JN: 04 - 02



MAIN BLDG. FIRST FLOOR PLAN
N.T.S.
NORTH



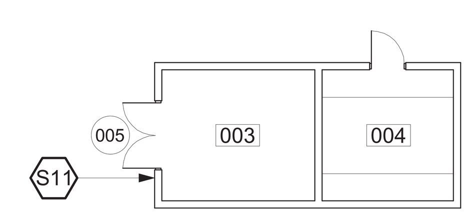
MAIN BLDG. SECOND FLOOR PLAN
N.T.S.
NORTH



1ST FLOOR PLAN

2ND FLOOR PLAN

RAW WATER INTAKE BLDG. 2ND FLOOR PLAN
N.T.S.
NORTH



PUMP STATION PLAN
N.T.S.
NORTH

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AUSTINVILLE WATER TREATMENT PLANT

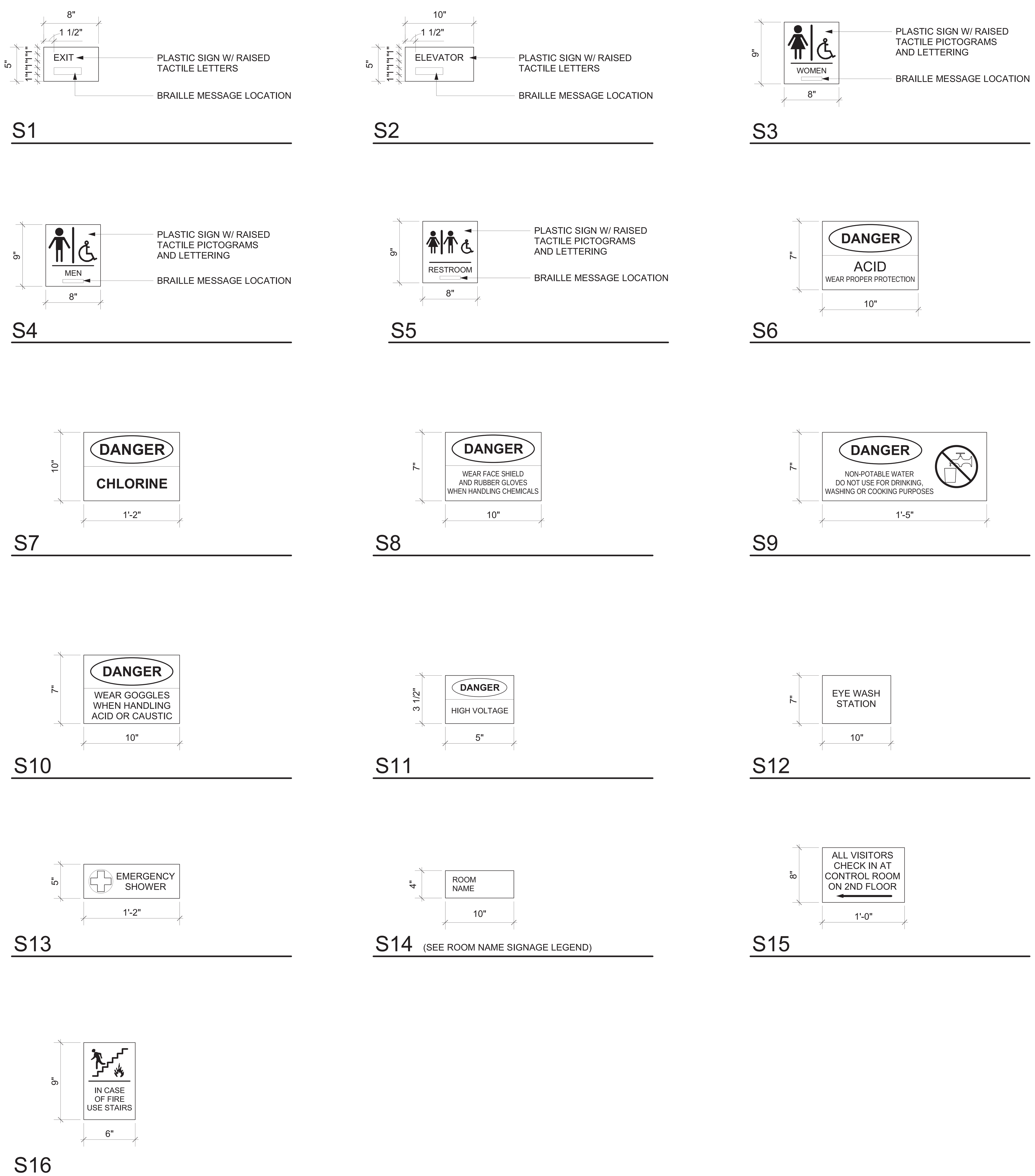
AUSTINVILLE VIRGINIA

DRAWN BY:	CKD
REVIEW BY:	
DATE:	7/20/06
REVISION:	
DWG DESCRIPTION:	SIGNAGE PLANS

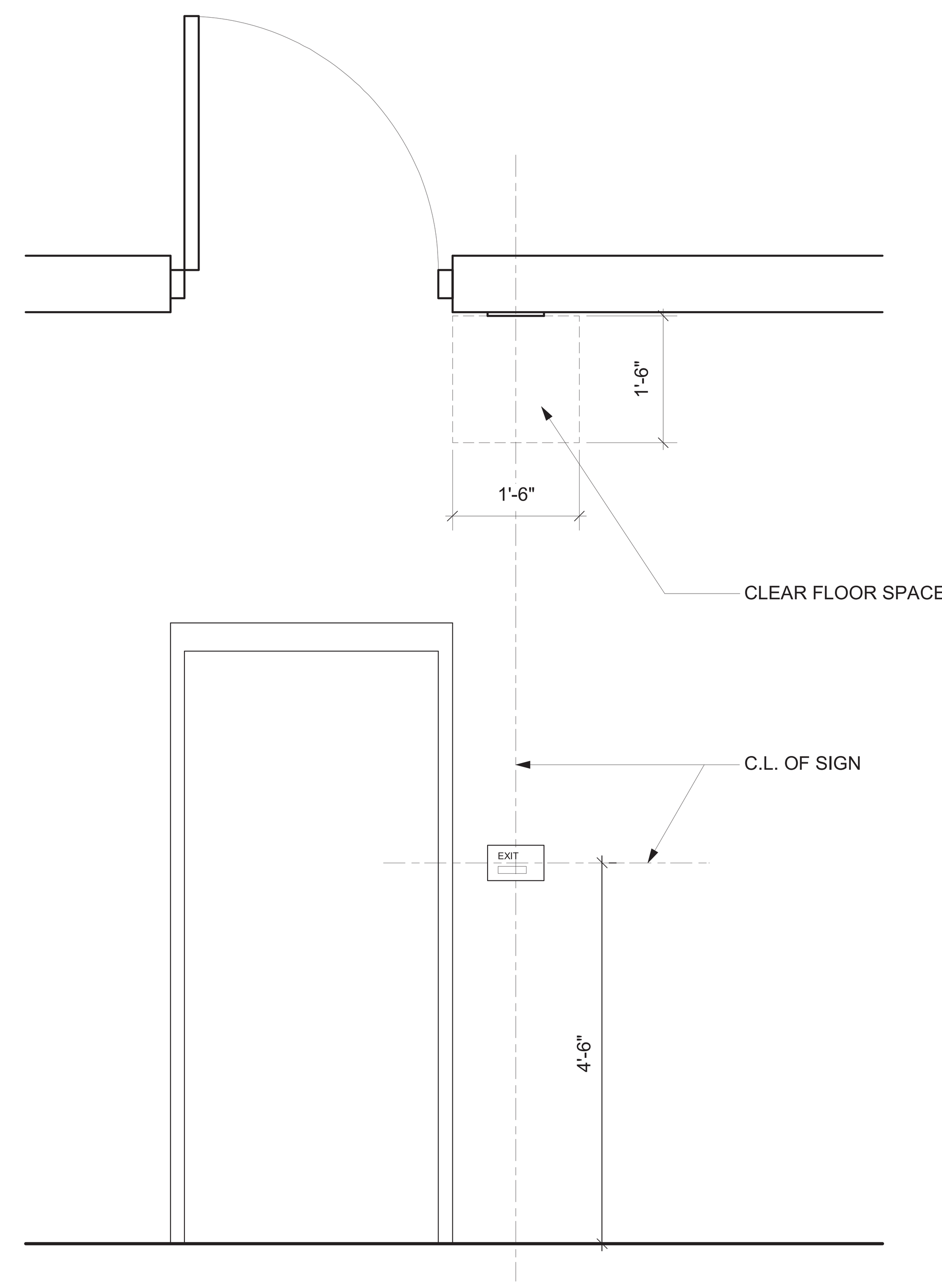
A21

JN: 04 - 02

SIGNAGE TYPES - NOT TO SCALE



TYPICAL SIGNAGE LOCATION



SAFETY SIGNAGE

SIGN NO.	SIGN DESCRIPTION	USA BLUE BOOK STOCK# OR APPROVED EQUAL
S6	"DANGER" ACID WEAR PROPER PROTECTION	47010
S7	"DANGER" CHLORINE	46092
S8	"DANGER" WEAR FACE SHIELD AND RUBBER GLOVES	46136
S9	"DANGER" NON-POTABLE WATER	46124
S10	"DANGER" WEAR GOGGLES WHEN HANDLING ACID OR CAUSTIC	47011
S11	"DANGER" HIGH VOLTAGE	47012
S12	EYE WASH STATION	46024
S13	EMERGENCY SHOWER	46014

ROOM NAME SIGNAGE (S14)

ROOM NO.	ROOM NAME
205	LABORATORY 1
206	LABORATORY 2
207	CONFERENCE / TRAINING
208	BREAK ROOM
209	OFFICE
210	OFFICE
213	JANITOR
216	CONTROL ROOM

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AUSTINVILLE WATER TREATMENT PLANT

AUSTINVILLE VIRGINIA

DRAWN BY: CKD

REVIEW BY:

DATE: 7/20/06

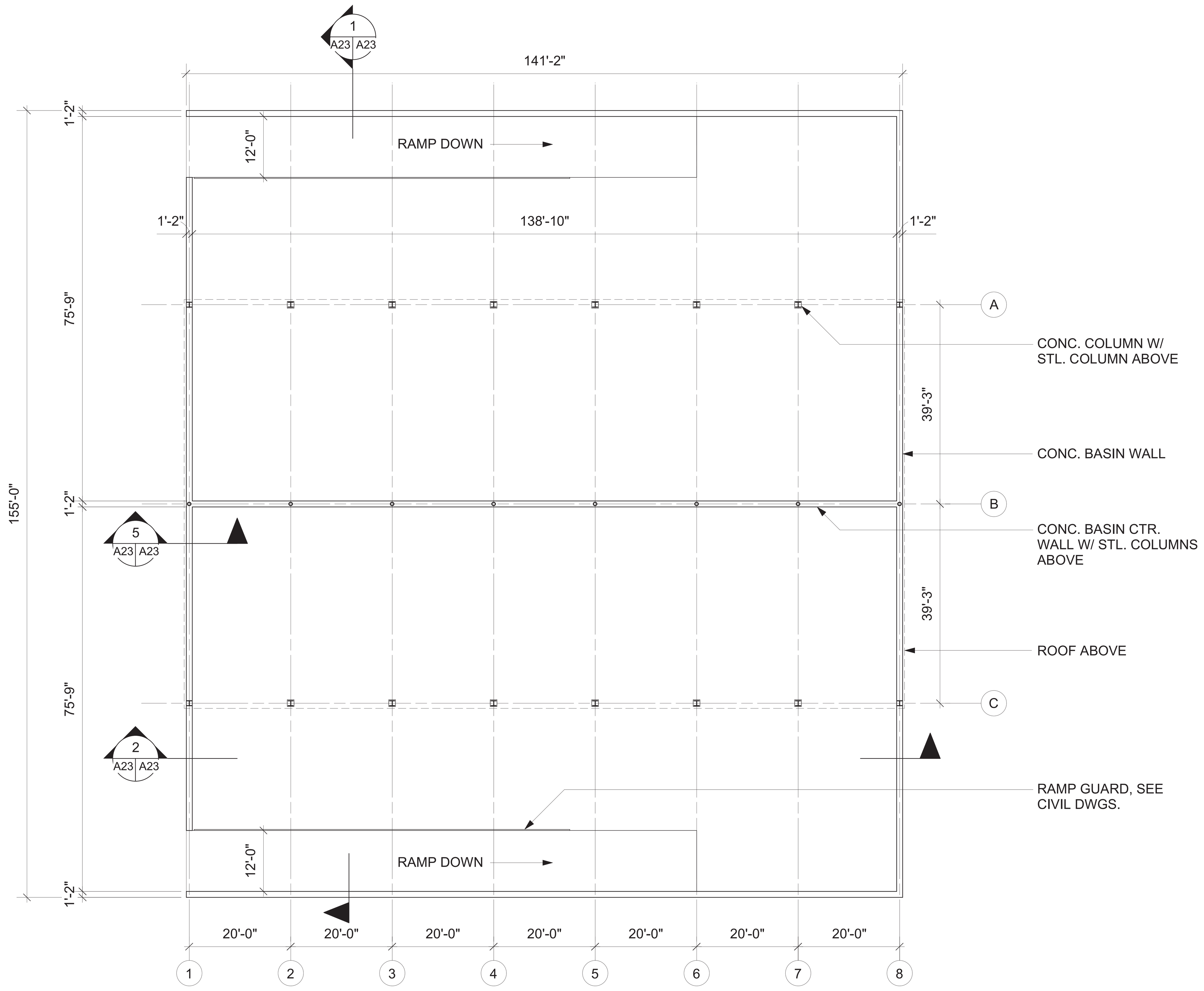
REVISION:

DWG DESCRIPTION:

SIGNAGE DETAILS

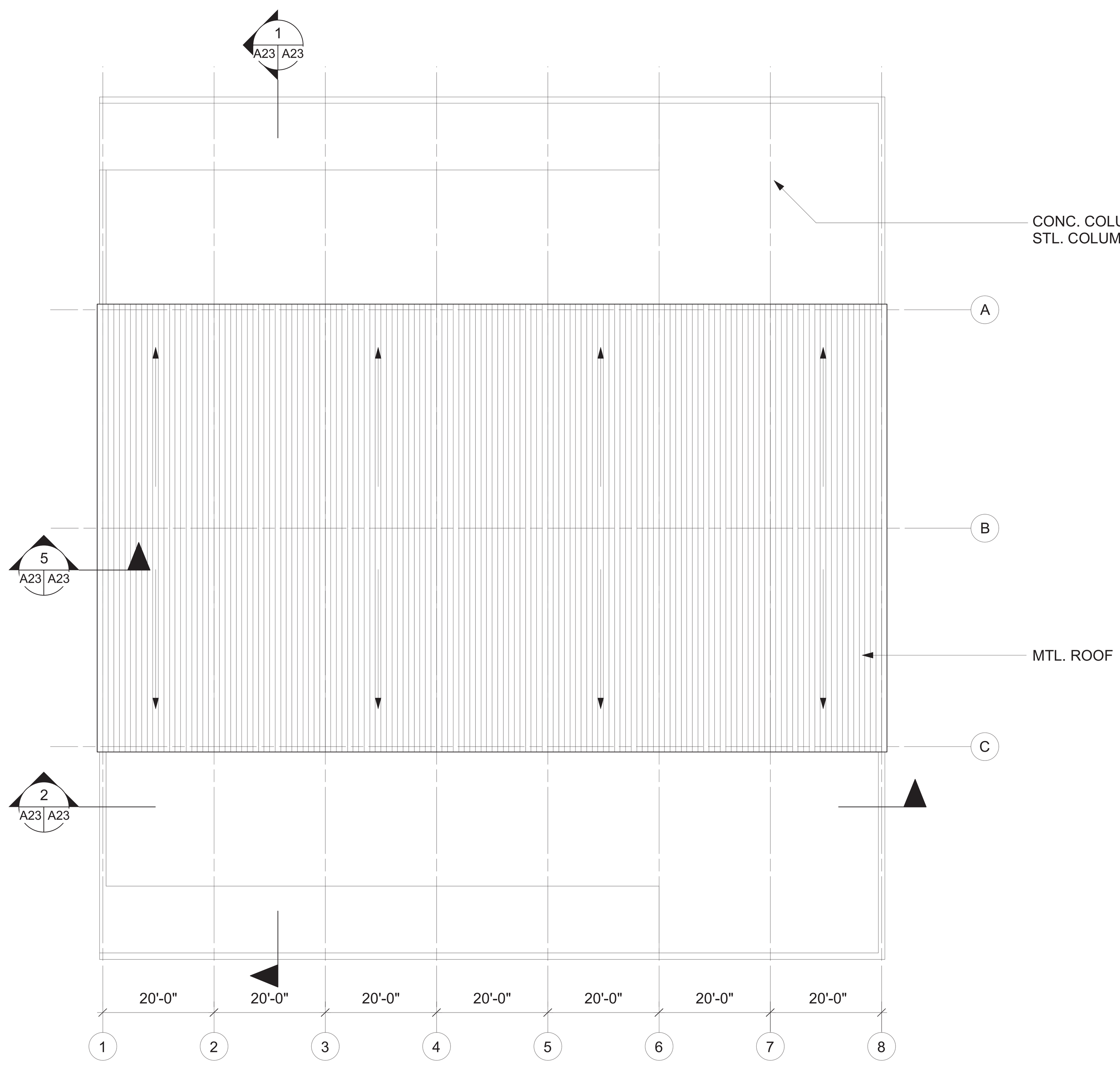
A22

JN: 04 - 02



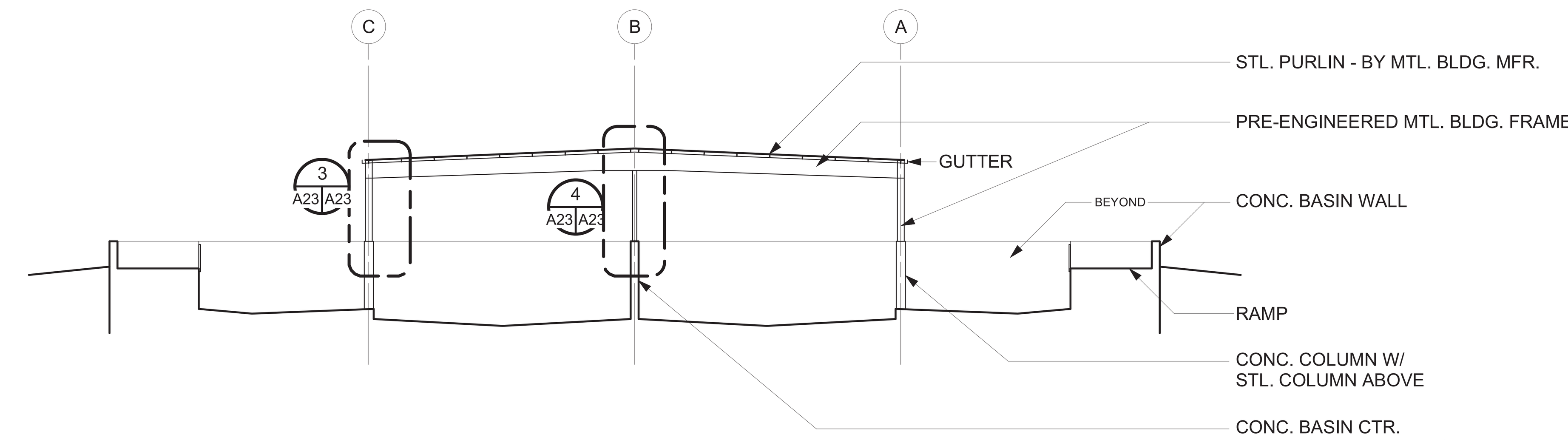
NORTH

PLAN
SCALE: 1/16" = 1'-0"



NORTH

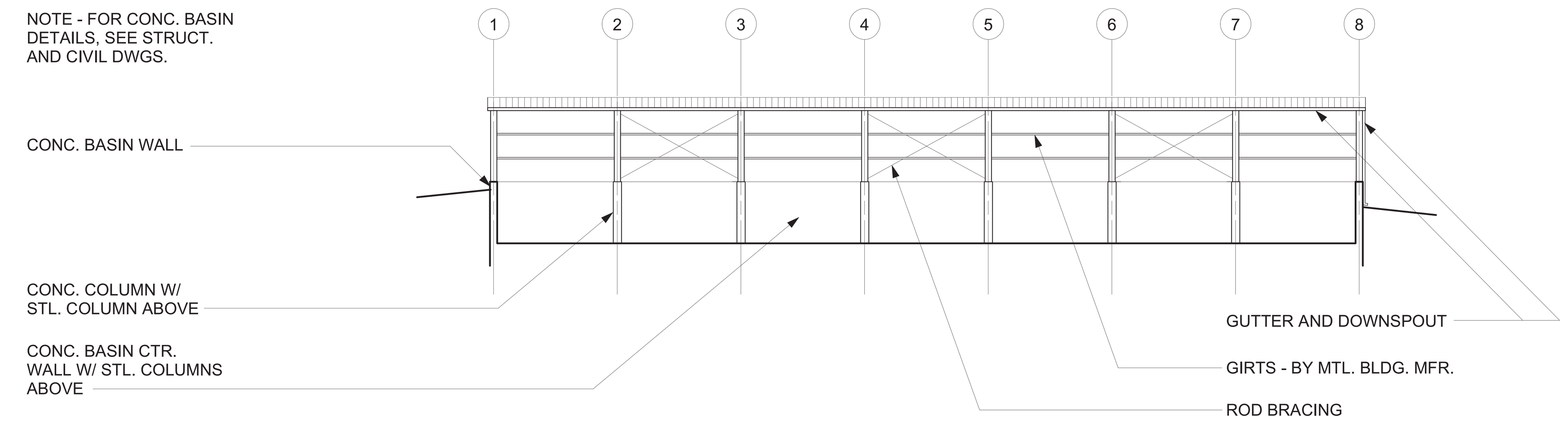
ROOF PLAN
SCALE: 1/16" = 1'-0"



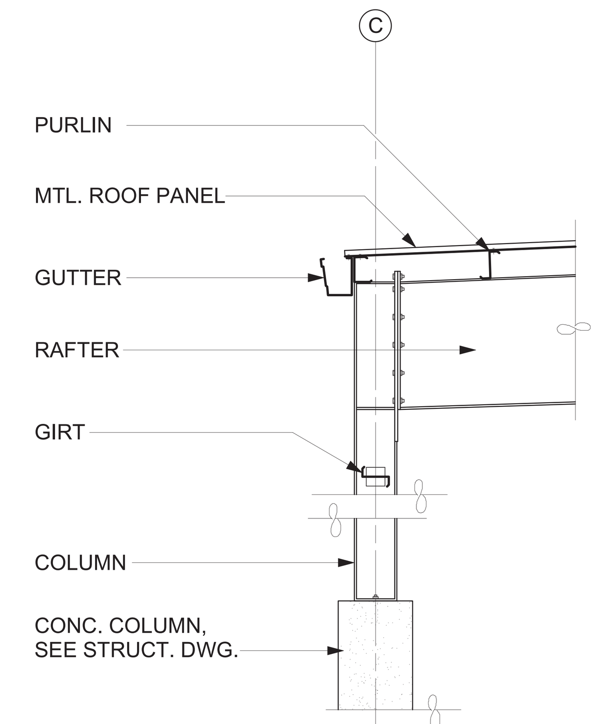
CONC. BASIN CTR. WALL W/ STL. COLUMNS ABOVE

NOTE - FOR CONC. BASIN DETAILS, SEE STRUCT. AND CIVIL DWGS.

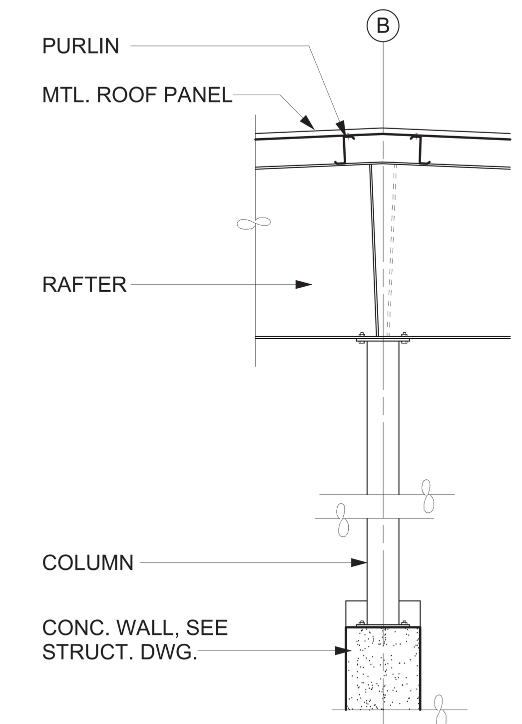
1 A23 A23 BUILDING SECTION
SCALE: 1/16" = 1'-0"



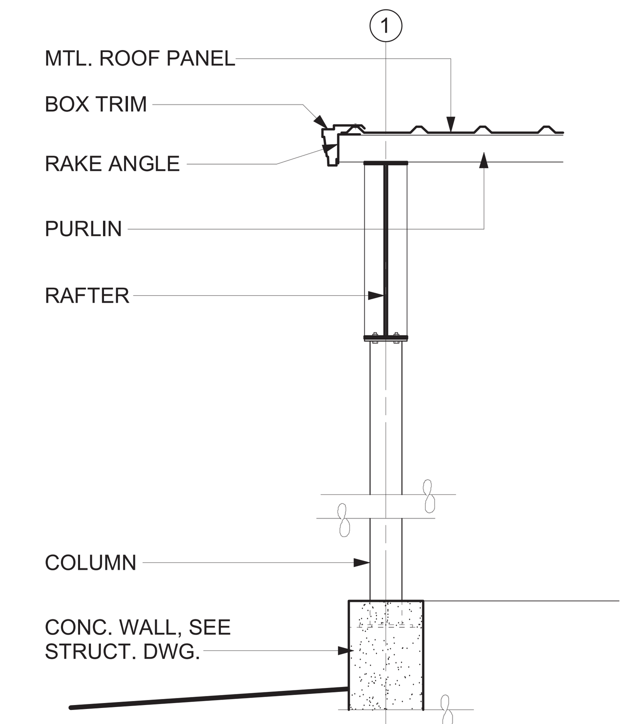
2 A23 A23 BUILDING SECTION
SCALE: 1/16" = 1'-0"



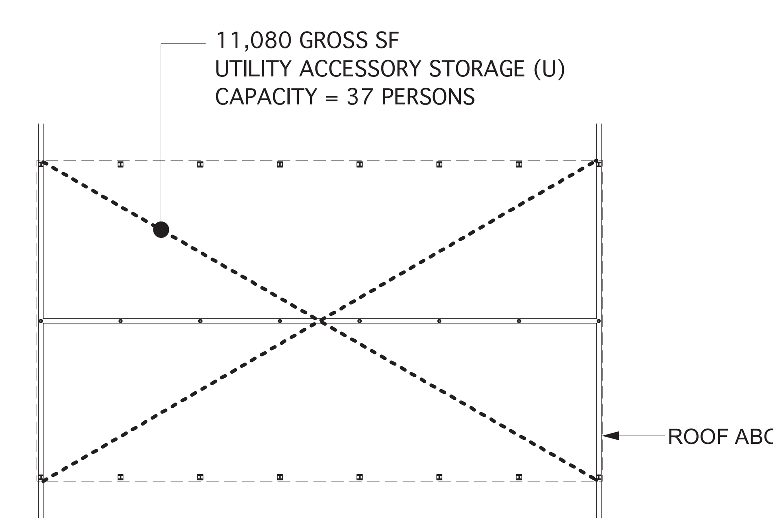
3 A23 A23 DETAIL
SCALE: 1/2" = 1'-0"



4 A23 A23 DETAIL
SCALE: 1/2" = 1'-0"



3 A23 A23 DETAIL
SCALE: 1/2" = 1'-0"



PLAN
N.T.S.

DRAWINGS BASED ON 2000 VUSBC (IBC 2000)

	USE GROUP	BLDG AREA (GROSS SF)	OCCUPANT LOAD (TABLE 1003.2.2.2)
BUILDING TOTAL	U	11,080	37

USE GROUP / (SEC. 302):
U (UTILITY AND MISCELLANEOUS)

CONSTRUCTION CLASSIFICATION / (SEC. 602):
IIB (NONCOMBUSTIBLE)

HEIGHT & AREA LIMITATIONS (TABLE 503)
THE FOLLOWING HEIGHT & AREA LIMITATIONS ARE BASED ON USE GROUP U

ALLOWED HEIGHT:	(2) STORIES, 55 FT. HEIGHT (TABLE 503)
ACTUAL HEIGHT:	(1) STORY, 25 FT. HEIGHT
ALLOWED AREA:	8500 SF (TABLE 503)
	+ 6375 SF (SEC. 506, OPEN FRONTAGE AREA MODIFICATION)
	= 14875 SF
ACTUAL AREA:	11,080 SF

$$6375 = \frac{(8500)(75)}{100}$$

I

$$I = 100 \left[\frac{445}{445} - 0.25\right] \frac{30}{30} = 75$$

CODE DATA

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AUSTINVILLE WATER TREATMENT PLANT

AUSTINVILLE VIRGINIA

DRAWN BY: CKD

REVIEW BY:

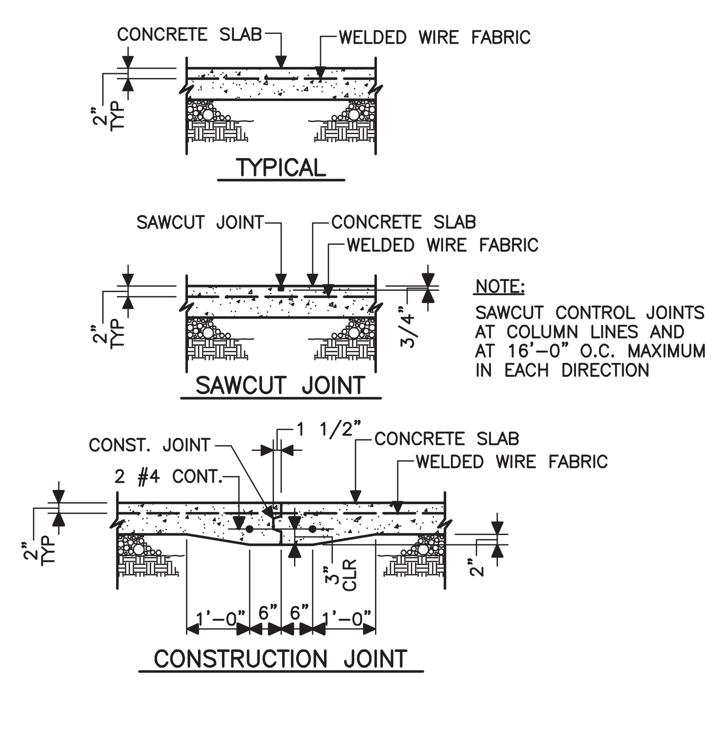
DATE: 10/20/06

REVISION:

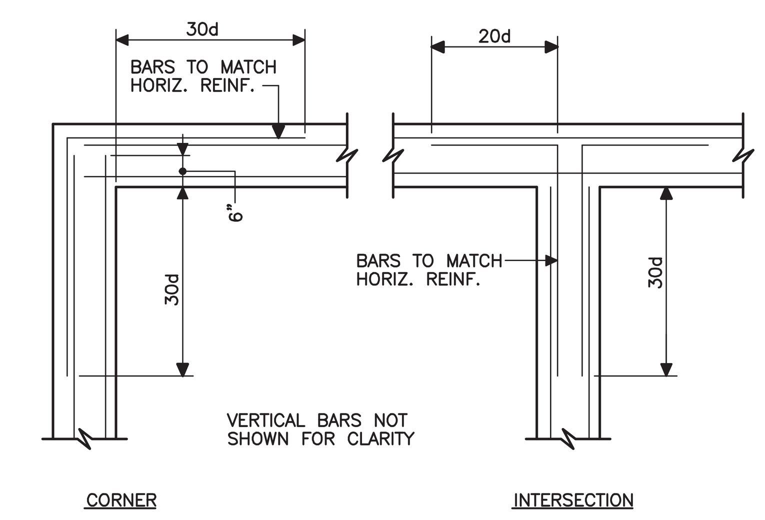
DWG DESCRIPTION:
SOLIDS HANDLING FACILITY

A23

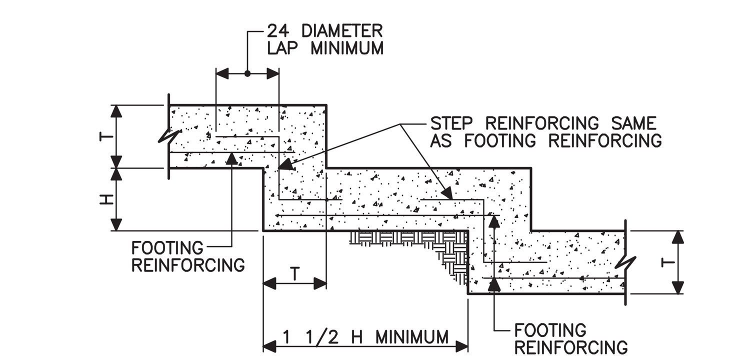
JN: 04 - 02



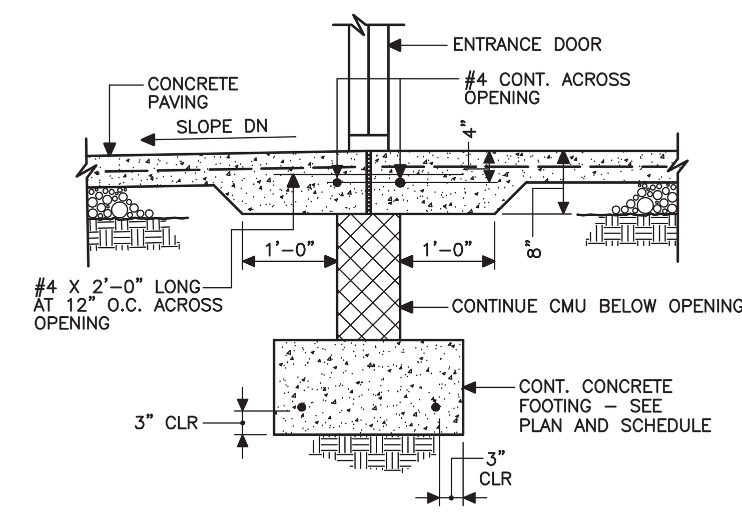
1 S1 TYPICAL SLAB CONSTRUCTION SCALE: N.T.S.



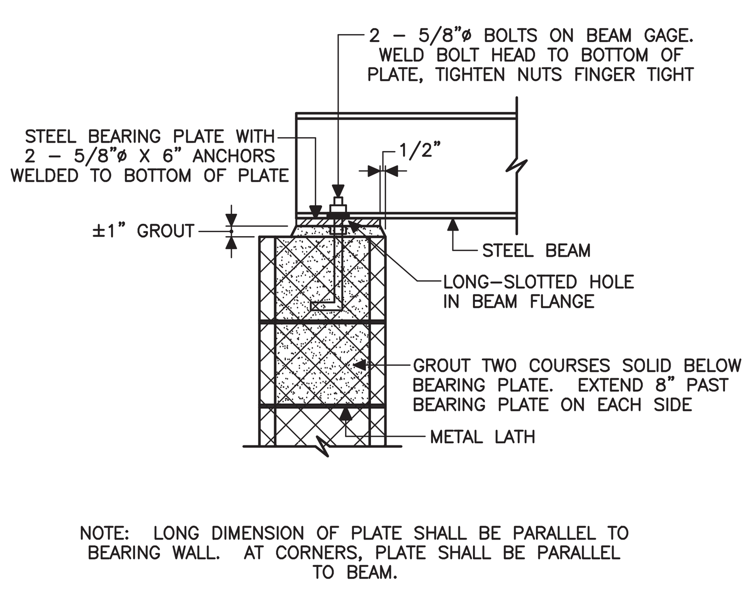
2 S1 CORNER REINFORCING IN CONCRETE FOOTINGS AND WALLS SCALE: N.T.S.



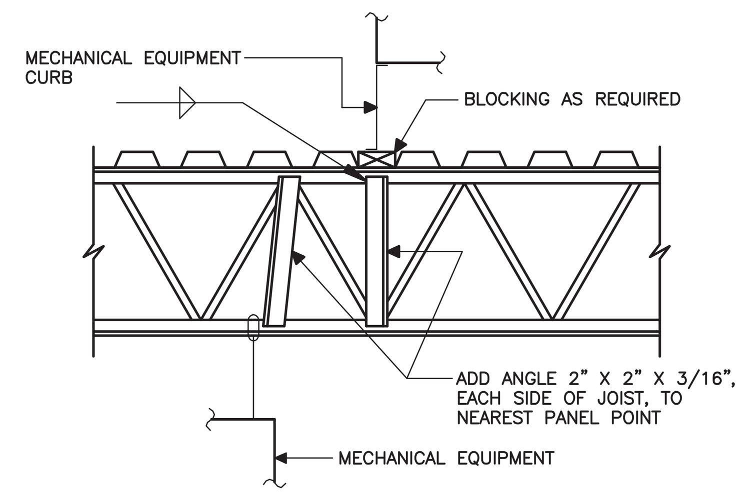
3 S1 TYPICAL STEP FOOTING SCALE: N.T.S.



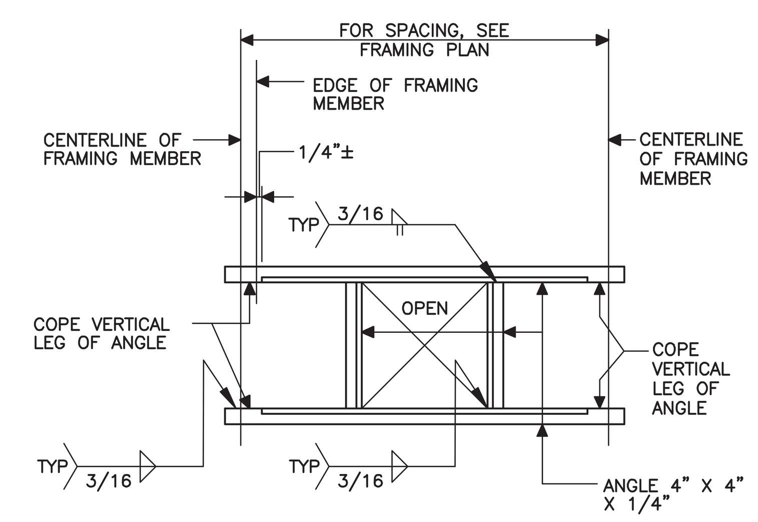
4 S1 TYPICAL ENTRANCE SLAB SCALE: N.T.S.



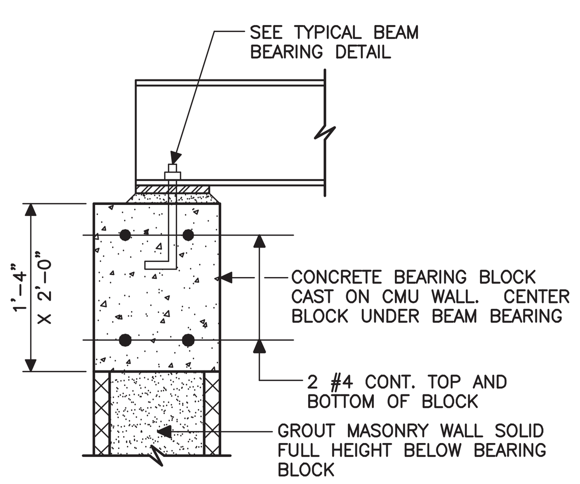
5 S1 TYPICAL BEAM BEARING SCALE: N.T.S.



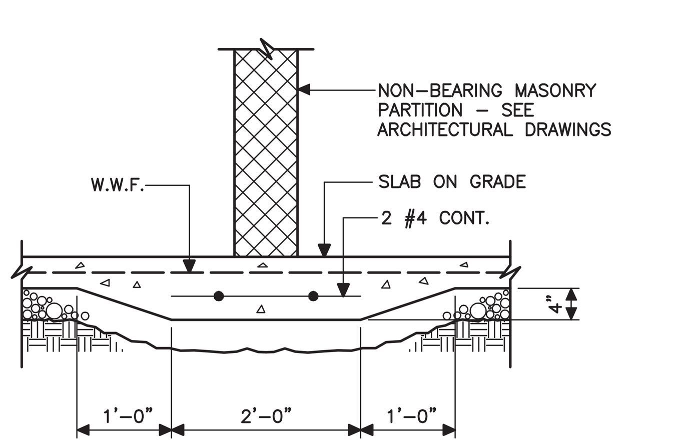
6 S1 TYPICAL JOIST REINFORCEMENT AT MECHANICAL EQUIPMENT SCALE: N.T.S.



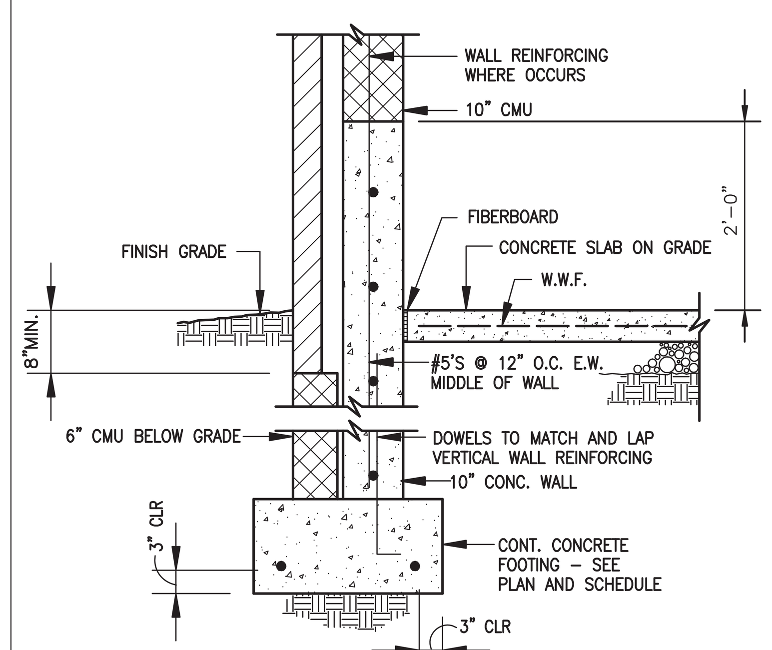
7 S1 TYPICAL FLOOR/ROOF OPENING FRAME SCALE: N.T.S.



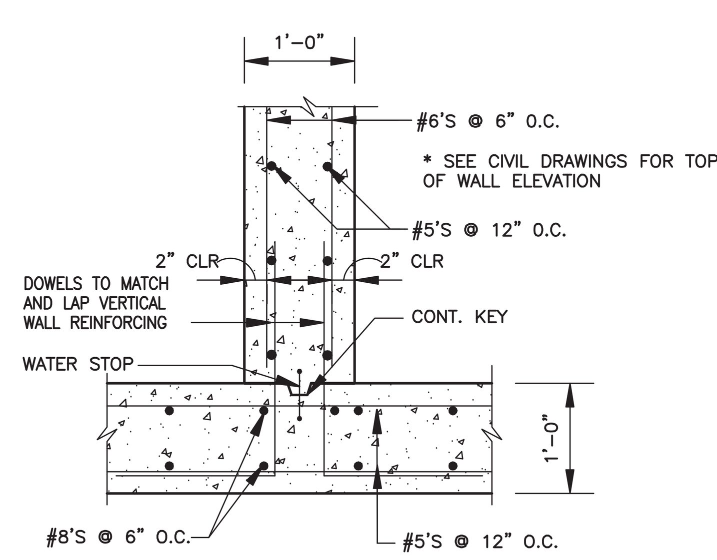
8 S1 TYPICAL CONCRETE BEARING BLOCK SCALE: N.T.S.



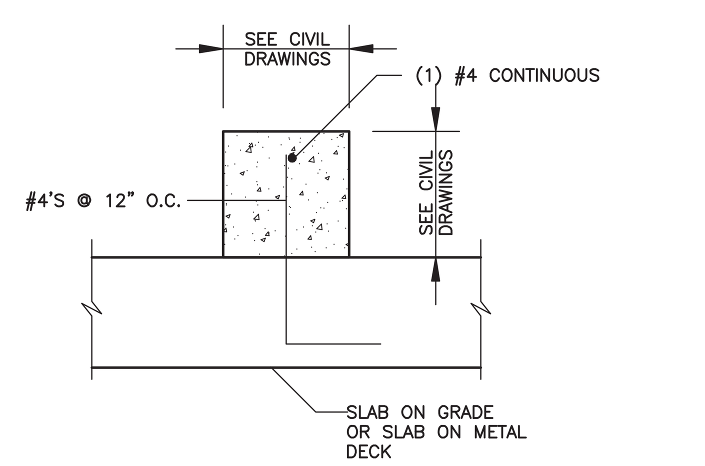
9 S1 TYPICAL THICKENED SLAB AT NON-BEARING CMU PARTITION SCALE: N.T.S.



10 S1 SECTION SCALE: N.T.S.



11 S1 SECTION SCALE: N.T.S.



12 S1 SECTION - TYPICAL CURB DETAIL SCALE: N.T.S.

SCHEDULES

BEARING PLATE SCHEDULE

MARK	THICKNESS	WIDTH	LENGTH	REMARKS
BP1	3/8"	6"	8"	NOTE 1
BP2	3/8"	8"	8"	NOTE 2

BEARING PLATE NOTES:

1. PROVIDE TYPICAL BEAM BEARING DETAIL 5/S1.
2. PROVIDE 24" LONG X WALL WIDTH CONCRETE BEARING BLOCK PER DETAIL 7/S1.

LINTEL SCHEDULE

MARK	TYPE	SIZE	REMARKS
L1		(3) 3 1/2" X 3 1/2" X 1/4" ANGLES	----
L2	4 1/2"	W8X28 WITH CONT 3/8" X 1'-3" BOTTOM PLATE	NOTE 4
L3	5 1/2"	W8X15 WITH CONT. 3/8"X11" BOTTOM PLATE	----
L4	4 1/2"	W8X15 WITH CONT 3/8" X 1'-3" BOTTOM PLATE	NOTE 4
L5	4 1/2"	W8X15 WITH CONT. 3/8"X 9" BOTTOM PLATE	----
L6	6 1/2"	W8X15 WITH CONT. 3/8"X 1'-3" BOTTOM PLATE	----
L7	4 1/2"	W16X26 WITH CONT 3/8" X 1'-3" BOTTOM PLATE	NOTE 4
L8		(2) 3 1/2" X 3 1/2" X 1/4" ANGLES	----

LINTEL NOTES:

1. ALL LINTELS SHALL CONFORM TO ARCHITECTURAL HEAD DETAILS.
2. UNLESS NOTED OTHERWISE PROVIDE ONE ANGLE 3 1/2" X 3 1/2" X 5/16" FOR SPANS LESS THAN 6'-0" AND ANGLE 6" X 3 1/2" X 3/8" (LLV) FOR SPANS GREATER THAN 6'-0" FOR EACH NOMINAL 4" WALL THICKNESS AS LINTELS OVER ALL OPENINGS IN BEARING AND NON-BEARING WALLS REQUIRED FOR DOORS, DUCTS, RECESSED HEATING UNITS, PANELS, GRILLES, ETC. NOT SHOWN.
3. PROVIDE MINIMUM 8" BEARING ON SOLID GROUTED MASONRY AT EACH END OF ALL LINTELS, UNLESS NOTED OTHERWISE.
4. PROVIDE 1/4" X 2" STIFF PLATES AT 24" ON CENTER

FOOTING SCHEDULE

MARK	SIZE	REINFORCING	REMARKS
F1	2'-0" X 1'-0" X CONT.	2 #5 CONT.	------
F2	2'-6" X 1'-0" X CONT.	3 #5 CONT.	------
F3	3'-6" X 1'-0" X CONT.	4 #5 CONT. #5 AT 12" O.C. TRANSVERSE	------
F4	9'-0" X 9'-0" X 1'-7".	7 #9 CONT.	------
F5	4'-0" X 4'-0" X 1'-0.	4 #6's EW	------

PIER SCHEDULE

MARK	SIZE	REINFORCING	REMARKS
P1	24" X 24" CONCRETE	8 #7's VERTICAL #3 TIES AT 12" O.C.	

PIER NOTES:

1. DOWEL ALL PIER REINFORCING TO FOUNDATIONS - TYPICAL.

COLUMN SCHEDULE

MARK	SIZE	BASEPLATE	ANCHOR BOLTS	REMARKS
C1	W 8 X 40	1 1/4" X 14" X 14"	4 - 3/4"ø	-----
C2	TS 6 X 6 X 1/4"	1" X 14" X 14"	4 - 3/4"ø	-----

COLUMN NOTES:

1. ANCHOR BOLTS SHALL HAVE MINIMUM 8" EMBEDMENT INTO PIER/FOOTING WITH STANDARD 90° HOOK AT BOTTOM.

GENERAL STRUCTURAL NOTES

CODE: 2003 VIRGINIA UNIFORM STATEWIDE BUILDING CODE

DESIGN LOADS:

ROOF LIVE LOAD = 30 PSF
FLOOR LIVE LOAD = 250 PSF

WIND LOADS:
BASIC WIND SPEED = 90 MPH (3 SECOND GUST)
EXPOSURE 'B'
K = 1.0
I = 1.15

GROUND SNOW LOAD = 30 PSF
I = 1.1
Ce = 0.9
Ct = 1.0

SEISMIC LOADS:
Ss = 0.350g
Si = 0.010g
SEISMIC DESIGN CATEGORY 'B'
SITE CLASSIFICATION 'D'
R = 2.5
I = 1.25

SHEETS S1 THRU S15 ARE STRUCTURAL DESIGN DRAWINGS ONLY (REQUIRED FOR THE FOUNDATION PLAN, FLOOR FRAMING PLAN, ROOF FRAMING PLAN, BASINS, DETAILS AND SCHEDULES). ANY REFERENCE TO ARCHITECTURAL / CIVIL MATERIALS, SYSTEMS, OR CONCEPTS IS FOR CLARITY ONLY.

ALL FILL AND UNSUITABLE FOUNDATION MATERIAL SHALL BE REMOVED AND FOOTINGS SHALL REST ON UNDISTURBED SOIL OR ENGINEERED FILL AS DIRECTED BY THE GEOTECHNICAL ENGINEER.

FOOTINGS ARE DESIGNED FOR A MINIMUM SOIL BEARING CAPACITY OF 2000 PSF.

ALL EXTERIOR CONCRETE EXPOSED TO WEATHER SHALL BE 4000 PSI, AIR-ENTRAINED. ALL OTHER CONCRETE SHALL BE 4000 PSI. ALL MATERIALS AND PROCESSES TO THIS END SHALL CONFORM IN GENERAL TO ACI RECOMMENDED PRACTICE FOR THE DESIGN OF CONCRETE MIXES. (ACI-613 LAST REVISED).

PROVIDE 3/4" CHAMFER ON EXPOSED CONCRETE EDGES.

UNLESS NOTED OTHERWISE, ALL FLOOR SLABS ON GRADE SHALL BE 6" THICK AND SHALL BE REINFORCED WITH ONE LAYER OF 6 X 6 - W2.9 X W2.9 W.W.F.

UNLESS OTHERWISE NOTED, DEPRESS ALL FLOOR SLABS AS REQUIRED FOR FLOOR FINISHES. SEE ARCHITECTURAL DRAWINGS.

CONTRACTOR SHALL PLACE 1/2" ASPHALT IMPREGNATED FIBER BOARD IN JOINTS OF CONCRETE SLAB ON GRADE AGAINST VERTICAL SURFACES.

STEEL REINFORCING SHALL BE BILLET STEEL ASTM A-615, GRADE 60.

MESH SHALL BE WELDED WIRE FABRIC ASTM A-185.

ROUND STEEL PIPE SHALL CONFORM TO THE REQUIREMENTS OF ASTM A-501. SQUARE AND RECTANGULAR STEEL TUBING SHALL CONFORM TO THE REQUIREMENTS OF ASTM A-500, GRADE B. ALL STRUCTURAL STEEL BEAMS SHALL CONFORM TO THE REQUIREMENTS OF ASTM A992, Fy= 50KSI. ALL OTHER STRUCTURAL STEEL SHALL CONFORM TO THE REQUIREMENTS OF ASTM A-36. ALL STEEL SHALL RECEIVE ONE COAT OF SHOP PAINT, UNLESS NOTED OTHERWISE.

CUTS, HOLES, COPINGS, ETC. IN STRUCTURAL STEEL MEMBERS REQUIRED BY WORK OF OTHER TRADES SHALL BE MADE IN THE SHOP AND SHALL BE SHOWN ON THE SHOP DRAWINGS. BURNING OF HOLES OR CUTS IN THE FIELD WILL NOT BE PERMITTED WITHOUT SPECIFIC APPROVAL OF THE ENGINEER.

FOR OPENINGS IN THE ROOF, SEE ARCHITECTURAL AND MECHANICAL DRAWINGS.

UNLESS NOTED OTHERWISE, ALL BEAM SHEAR CONNECTIONS SHALL BE DESIGNED FOR ONE HALF THE ALLOWABLE UNIFORMLY DISTRIBUTED LOADING IN ACCORDANCE WITH THE UNIFORM LOAD CONSTANTS AS TABULATED IN THE AISC MANUAL (NINTH EDITION) FOR THE INDICATED SPAN PLUS 2 KIPS.

ALL BOLTS SHALL BE 3/4" DIAMETER, ASTM A-325, UNLESS OTHERWISE SHOWN OR NOTED.

HEADED STUDS ON COMPOSITE STEEL BEAMS; ALL REFERENCES TO HEADED STUDS SHALL INDICATE AUTOMATIC WELDED HIGH STRENGTH HEADED STUDS. STUDS SHALL CONFORM TO ALL REQUIREMENTS OF THE LATEST EDITION OF THE "RECOMMENDED PRACTICES FOR STUD WELDING" AND THE "STRUCTURAL WELDING CODE" PUBLISHED BY THE AMERICAN WELDING SOCIETY. CONFORMANCE SHALL INCLUDE BUT NOT BE LIMITED TO ALL QUALITY CONTROL TESTING PROVISIONS OF THE AFOREMENTIONED PUBLICATIONS.

SPACING OF HEADED SHEAR CONNECTOR STUDS ON COMPOSITE STEEL BEAMS; HEADED STUDS SHALL BE UNIFORMLY SPACED. USE NOT MORE THAN ONE STUD PER RIB WHERE THE NUMBER OF STUDS REQUIRED IS LESS THAN OR EQUAL TO THE NUMBER OF RIBS AVAILABLE. WHERE THE NUMBER OF STUDS REQUIRED EXCEEDS THE NUMBER OF RIBS AVAILABLE, PLACE A MINIMUM OF ONE STUD PER RIB FULL LENGTH OF THE BEAM. PLACE ADDED STUDS (NO MORE THAN TWO PER RIB TOTAL) IN EACH RIB BEGINNING AT THE SUPPORTS AT EACH END MOVING TOWARDS MID SPAN UNTIL REQUIRED NUMBER OF STUDS IS SUPPLIED. MINIMUM LONGITUDINAL STUD SPACING IS 6 STUD DIAMETERS CENTER TO CENTER. MAXIMUM LONGITUDINAL STUD SPACING IS 32" CENTER TO CENTER. MINIMUM TRANSVERSE DISTANCE BETWEEN BETWEEN EDGE OF BEAM AND CENTERLINE OF STUD IS 1". STUDS SHALL PROJECT A MINIMUM 3/4" CLEAR OF THE TOP OF THE CONCRETE SLAB. (NOTE; HEIGHT OF STUD + BEAM CAMBER +3/4" MUST BE LESS THAN TOTAL THICKNESS OF SLAB + DECK). CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR REVIEW PRIOR TO INSTALLATION.

STEEL JOISTS SHALL BE FABRICATED AND ERECTED IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS OF THE STEEL JOIST INSTITUTE. BRIDGING SHALL BE BY STEEL MEMBERS WITH L/R NOT TO EXCEED 300. END JOISTS SHALL BE BRACED AND TIED TO ADJACENT STRUCTURAL MEMBERS.

ALL JOIST BRIDGING AND BRIDGING ANCHORS SHALL BE COMPLETELY INSTALLED BEFORE CONSTRUCTION LOADS ARE PLACED ON THE JOISTS.

UNLESS NOTED OTHERWISE, ALL SUPPORTED FLOOR SLABS ON METAL DECK SHALL BE REINFORCED WITH 6 X 6 - W1.4 X W1.4 W.W.F, EQUALLY SPACED BETWEEN TOP OF METAL DECK AND TOP OF CONCRETE SLAB.

STEEL ROOF DECK SHALL BE INTERLOCKING RIB TYPE PREFABRICATED SHEET STEEL UNITS, VULCRAFT, TYPE 1.5B (OR EQUAL), 20 GAGE AND 1 1/2" DEEP. INSTALLATION SHALL BE IN STRICT ACCORDANCE WITH MANUFACTURER'S WRITTEN INSTRUCTIONS. PROVIDE PUDDLE WELDS AT 12" O.C. AT ALL SUPPORTING MEMBERS, AND SCREW SIDE LAPS AT 24" O.C. WITH MINIMUM #8 SCREWS. ROOF DECK SHALL BE FABRICATED AS 3 SPAN MINIMUM.

ALL LINTELS TO HAVE 8" MINIMUM BEARING ON SOLID GROUTED MASONRY UNITS, UNLESS NOTED OTHERWISE.

PROVIDE ANGLE 3 1/2" X 3 1/2" X 1/4" FOR EACH 4" OF MASONRY WALL THICKNESS OVER GRILLES, LOUVERS, PANEL BOXES, DUCTS AND OTHER MISCELLANEOUS OPENINGS NOT LISTED IN SCHEDULE.

USE TWO COURSES OF SOLID GROUTED CMU UNDER ALL BEAM BEARING PLATES AND BEAMS BEARING INTO MASONRY WALLS.

ALL DIMENSIONS SHOWN ON THIS DRAWING SHALL BE VERIFIED BY THE CONTRACTOR AT THE PROJECT SITE PRIOR TO COMMENCING CONSTRUCTION OR FABRICATION OF BUILDING ELEMENTS.

COMPOSITE FLOOR DECK SHALL BE 1.5 VLI AS MANUFACTURED BY VULCRAFT (OR EQUAL), 20 GAGE AND 1 1/2" DEEP FROM STEEL CONFORMING TO ASTM A-611 OR ASTM A-446 WITH A MINIMUM YIELD POINT OF 33 K.S.I. INSTALLATION SHALL BE IN STRICT ACCORDANCE WITH MANUFACTURER'S WRITTEN INSTRUCTIONS

ALL WATER STOPS SHOWN ON PLANS / SECTION SHALL BE GREEN STREAK STYLE NO. 735 OR EQUAL.

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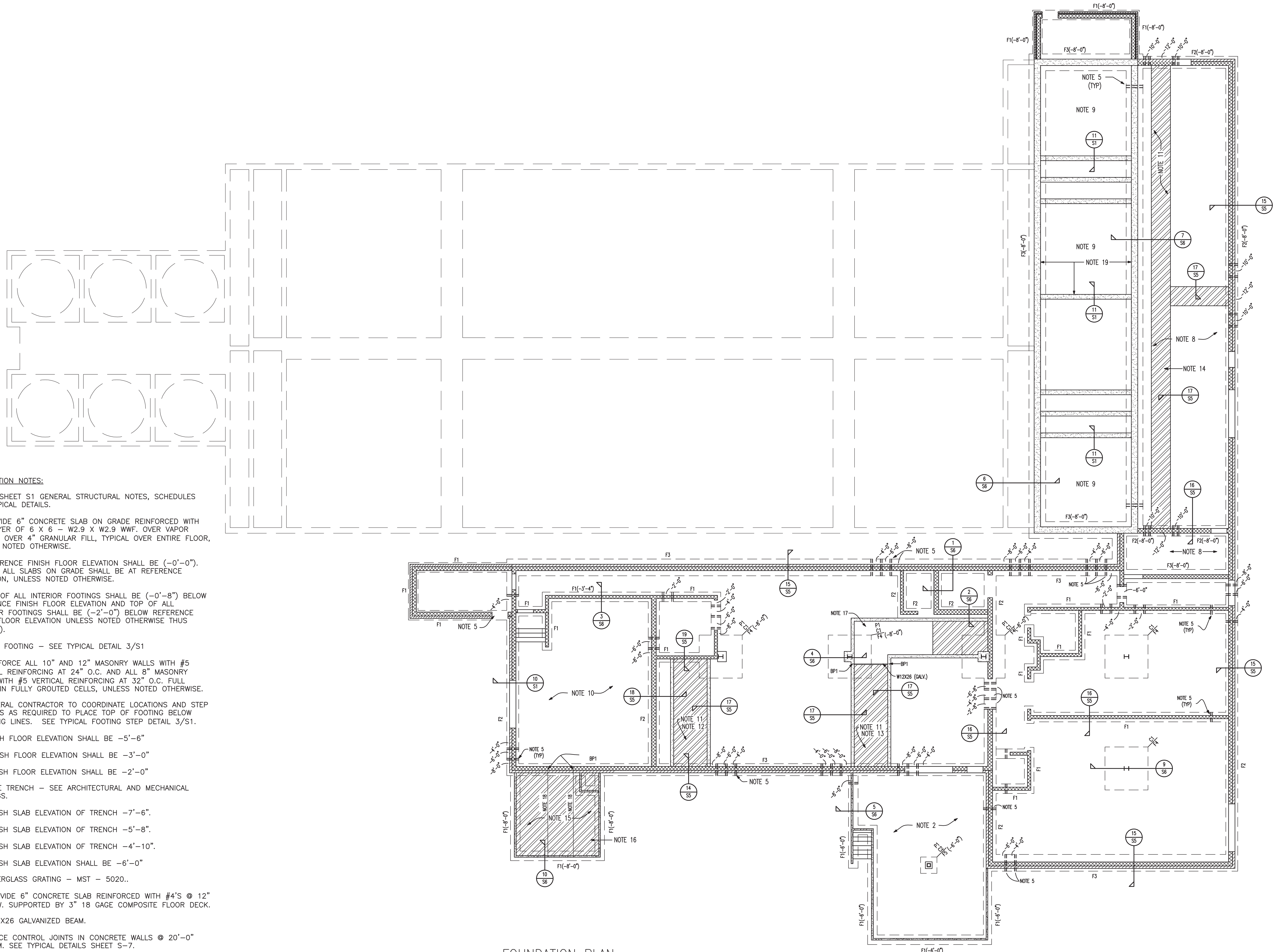
AUSTINVILLE WATER TREATMENT PLANT (DIVISION I)
AUSTINVILLE VIRGINIA

DRAWN BY: BMB
REVIEW BY: JFK
DATE: 20 OCT. 2006
REVISION:
DWG DESCRIPTION: GENERAL NOTES, SCHEDULES, DETAILS

S1

COMMISSION No. 04-095



FOUNDATION PLAN

SCALE: 1/8" = 1'-0"

FOUNDATION NOTES:

1. SEE SHEET S1 GENERAL STRUCTURAL NOTES, SCHEDULES AND TYPICAL DETAILS.

2. PROVIDE 6" CONCRETE SLAB ON GRADE REINFORCED WITH ONE LAYER OF 6 X 6 – W2.9 X W2.9 WWF. OVER VAPOR BARRIER OVER 4" GRANULAR FILL, TYPICAL OVER ENTIRE FLOOR, UNLESS NOTED OTHERWISE.

3. REFERENCE FINISH FLOOR ELEVATION SHALL BE (–0'–0"). TOP OF ALL SLABS ON GRADE SHALL BE AT REFERENCE ELEVATION, UNLESS NOTED OTHERWISE.

4. TOP OF ALL INTERIOR FOOTINGS SHALL BE (–0'–8") BELOW REFERENCE FINISH FLOOR ELEVATION AND TOP OF ALL EXTERIOR FOOTINGS SHALL BE (–2'–0") BELOW REFERENCE FINISH FLOOR ELEVATION UNLESS NOTED OTHERWISE THUS (–X'–X").

5. STEP FOOTING – SEE TYPICAL DETAIL 3/S1.

6. REINFORCE ALL 10" AND 12" MASONRY WALLS WITH #5 VERTICAL REINFORCING AT 24" O.C. AND ALL 8" MASONRY WALLS WITH #5 VERTICAL REINFORCING AT 32" O.C. FULL HEIGHT IN FULLY GROUTED CELLS, UNLESS NOTED OTHERWISE.

7. GENERAL CONTRACTOR TO COORDINATE LOCATIONS AND STEP FOOTINGS AS REQUIRED TO PLACE TOP OF FOOTING BELOW PLUMBING LINES. SEE TYPICAL FOOTING STEP DETAIL 3/S1.

8. FINISH FLOOR ELEVATION SHALL BE –5'–6"

9. FINISH FLOOR ELEVATION SHALL BE –3'–0"

10. FINISH FLOOR ELEVATION SHALL BE –2'–0"

11. PIPE TRENCH – SEE ARCHITECTURAL AND MECHANICAL DRAWINGS.

12. FINISH SLAB ELEVATION OF TRENCH –7'–6".

13. FINISH SLAB ELEVATION OF TRENCH –5'–8".

14. FINISH SLAB ELEVATION OF TRENCH –4'–10".

15. FINISH SLAB ELEVATION SHALL BE –6'–0"

16. FIBERGLASS GRATING – MST – 5020..

17. PROVIDE 6" CONCRETE SLAB REINFORCED WITH #4'S @ 12" O.C. E.W. SUPPORTED BY 3" 18 GAGE COMPOSITE FLOOR DECK.

18. W12X26 GALVANIZED BEAM.

19. PLACE CONTROL JOINTS IN CONCRETE WALLS @ 20'–0" MAXIMUM. SEE TYPICAL DETAILS SHEET S–7.

20. SEE CIVIL DRAWINGS FOR ALL LOCATIONS OF HOLES AND PIPE PENETRATIONS REQUIRED THROUGH FOUNDATION AND TANK WALLS.

21. SEE SHEET S8 FOR TYPICAL REINFORCEMENT AT OPENINGS IN TANK WALLS AND SLABS.

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AUSTINVILLE WATER TREATMENT PLANT (DIVISION I)

AUSTINVILLE VIRGINIA

DRAWN BY: BMB

REVIEW BY: JFK

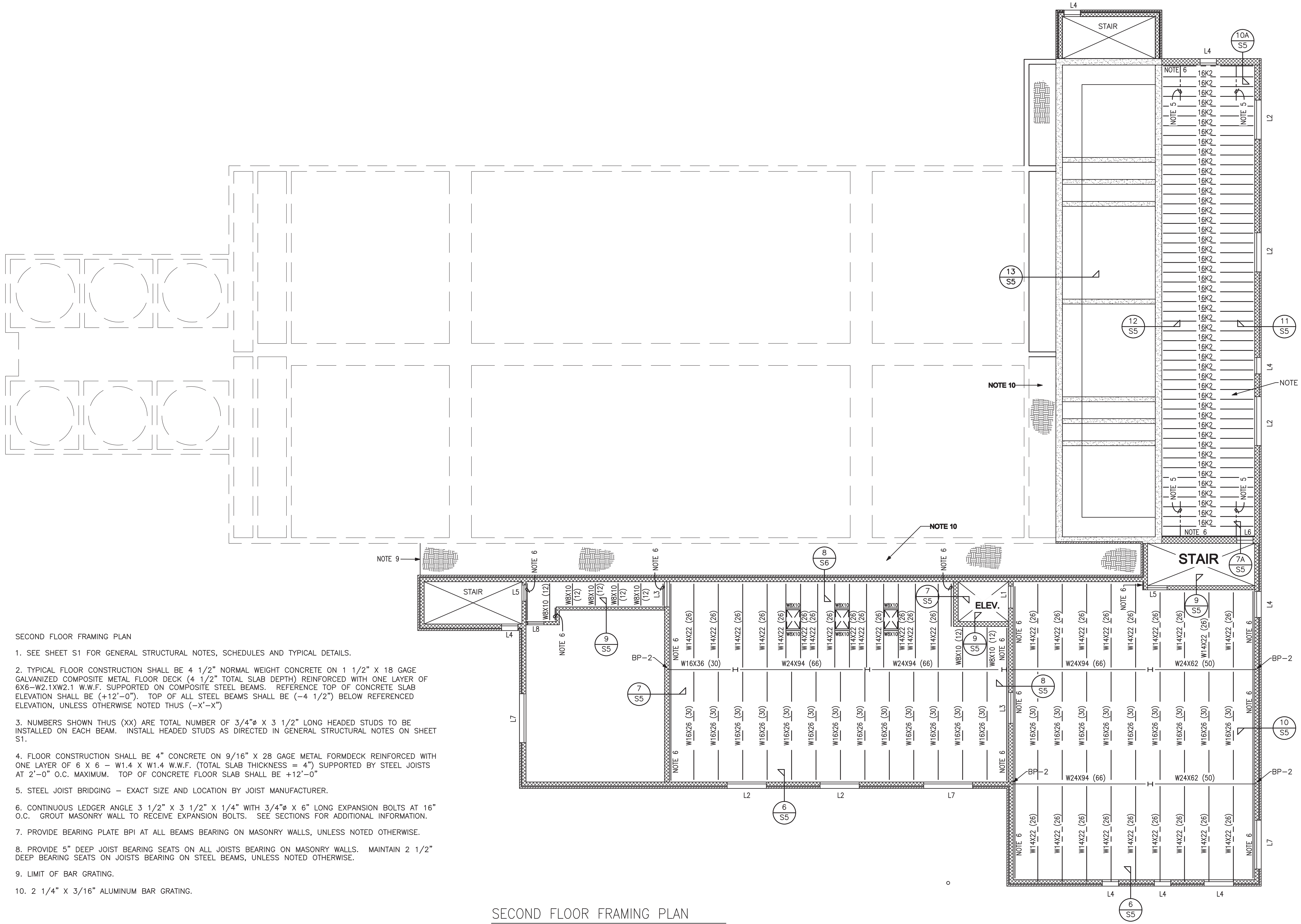
DATE: 20 OCT. 2006

REVISION:

DWG DESCRIPTION: FOUNDATION PLAN

S2

COMMISSION No. 04-095



SECOND FLOOR FRAMING PLAN

1. SEE SHEET S1 FOR GENERAL STRUCTURAL NOTES, SCHEDULES AND TYPICAL DETAILS.

2. TYPICAL FLOOR CONSTRUCTION SHALL BE 4 1/2" NORMAL WEIGHT CONCRETE ON 1 1/2" X 18 GAGE GALVANIZED COMPOSITE METAL FLOOR DECK (4 1/2" TOTAL SLAB DEPTH) REINFORCED WITH ONE LAYER OF 6X6–W2.1XW2.1 W.W.F. SUPPORTED ON COMPOSITE STEEL BEAMS. REFERENCE TOP OF CONCRETE SLAB ELEVATION SHALL BE (+12'–0"). TOP OF ALL STEEL BEAMS SHALL BE (–4 1/2") BELOW REFERENCED ELEVATION, UNLESS OTHERWISE NOTED THUS (–X'–X")

3. NUMBERS SHOWN THUS (XX) ARE TOTAL NUMBER OF 3/4"ø X 3 1/2" LONG HEADED STUDS TO BE INSTALLED ON EACH BEAM. INSTALL HEADED STUDS AS DIRECTED IN GENERAL STRUCTURAL NOTES ON SHEET S1.

4. FLOOR CONSTRUCTION SHALL BE 4" CONCRETE ON 9/16" X 28 GAGE METAL FORMDECK REINFORCED WITH ONE LAYER OF 6 X 6 – W1.4 X W1.4 W.W.F. (TOTAL SLAB THICKNESS = 4") SUPPORTED BY STEEL JOISTS AT 2'–0" O.C. MAXIMUM. TOP OF CONCRETE FLOOR SLAB SHALL BE +12'–0"

5. STEEL JOIST BRIDGING – EXACT SIZE AND LOCATION BY JOIST MANUFACTURER.

6. CONTINUOUS LEDGER ANGLE 3 1/2" X 3 1/2" X 1/4" WITH 3/4"ø X 6" LONG EXPANSION BOLTS AT 16" O.C. GROUT MASONRY WALL TO RECEIVE EXPANSION BOLTS. SEE SECTIONS FOR ADDITIONAL INFORMATION.

7. PROVIDE BEARING PLATE BPI AT ALL BEAMS BEARING ON MASONRY WALLS, UNLESS NOTED OTHERWISE.

8. PROVIDE 5" DEEP JOIST BEARING SEATS ON ALL JOISTS BEARING ON MASONRY WALLS. MAINTAIN 2 1/2" DEEP BEARING SEATS ON JOISTS BEARING ON STEEL BEAMS, UNLESS NOTED OTHERWISE.

9. LIMIT OF BAR GRATING.

10. 2 1/4" X 3/16" ALUMINUM BAR GRATING.

SECOND FLOOR FRAMING PLAN

SCALE: 1/8" = 1'–0"

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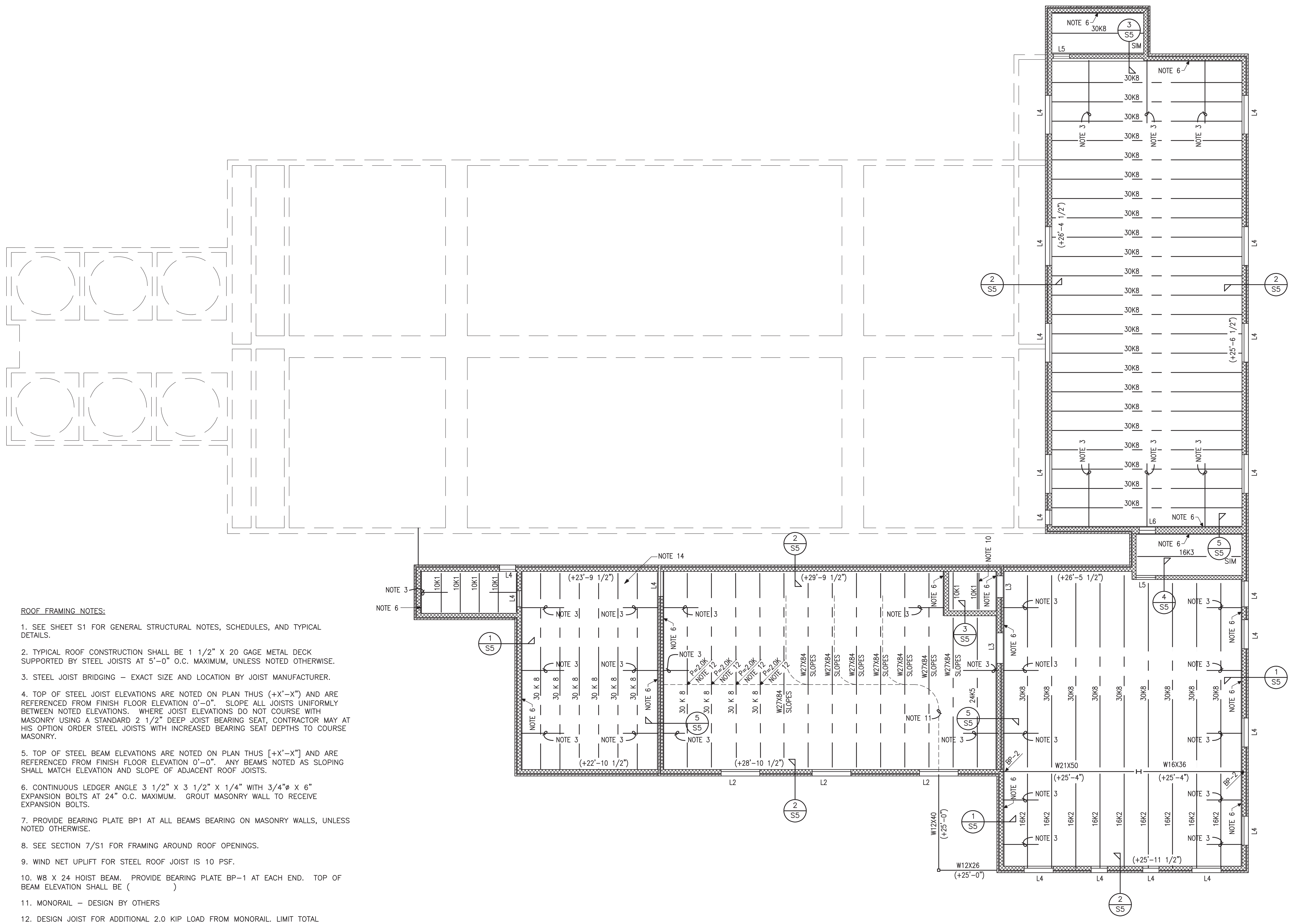
AUSTINVILLE WATER TREATMENT PLANT (DIVISION I)

AUSTINVILLE VIRGINIA

DRAWN BY: BMB
REVIEW BY: JFK
DATE: 20 OCT. 2006
REVISION:
DWG DESCRIPTION: SECOND FLOOR FRAMING PLAN

S3

COMMISSION No. 04-095



ROOF FRAMING PLAN

SCALE: 1/8" = 1'-0"

ROOF FRAMING NOTES:

1. SEE SHEET S1 FOR GENERAL STRUCTURAL NOTES, SCHEDULES, AND TYPICAL DETAILS.

2. TYPICAL ROOF CONSTRUCTION SHALL BE 1 1/2" X 20 GAGE METAL DECK SUPPORTED BY STEEL JOISTS AT 5'-0" O.C. MAXIMUM, UNLESS NOTED OTHERWISE.

3. STEEL JOIST BRIDGING – EXACT SIZE AND LOCATION BY JOIST MANUFACTURER.

4. TOP OF STEEL JOIST ELEVATIONS ARE NOTED ON PLAN THUS (+X'-X") AND ARE REFERENCED FROM FINISH FLOOR ELEVATION 0'-0". SLOPE ALL JOISTS UNIFORMLY BETWEEN NOTED ELEVATIONS. WHERE JOIST ELEVATIONS DO NOT COURSE WITH MASONRY USING A STANDARD 2 1/2" DEEP JOIST BEARING SEAT, CONTRACTOR MAY AT HIS OPTION ORDER STEEL JOISTS WITH INCREASED BEARING SEAT DEPTHS TO COURSE MASONRY.

5. TOP OF STEEL BEAM ELEVATIONS ARE NOTED ON PLAN THUS [+X'-X"] AND ARE REFERENCED FROM FINISH FLOOR ELEVATION 0'-0". ANY BEAMS NOTED AS SLOPING SHALL MATCH ELEVATION AND SLOPE OF ADJACENT ROOF JOISTS.

6. CONTINUOUS LEDGER ANGLE 3 1/2" X 3 1/2" X 1/4" WITH 3/4"ø X 6" EXPANSION BOLTS AT 24" O.C. MAXIMUM. GROUT MASONRY WALL TO RECEIVE EXPANSION BOLTS.

7. PROVIDE BEARING PLATE BP1 AT ALL BEAMS BEARING ON MASONRY WALLS, UNLESS NOTED OTHERWISE.

8. SEE SECTION 7/S1 FOR FRAMING AROUND ROOF OPENINGS.

9. WIND NET UPLIFT FOR STEEL ROOF JOIST IS 10 PSF.

10. W8 X 24 HOIST BEAM. PROVIDE BEARING PLATE BP-1 AT EACH END. TOP OF BEAM ELEVATION SHALL BE (   )

11. MONORAIL – DESIGN BY OTHERS

12. DESIGN JOIST FOR ADDITIONAL 2.0 KIP LOAD FROM MONORAIL. LIMIT TOTAL DEFLECTION OF JOIST TO 1/2".

13. GENERAL CONTRACTOR SHALL COORDINATE SIZE, WEIGHT, AND LOCATION OF RTU'S WITH JOIST MANUFACTURER FOR PROPER JOIST DESIGN.

14. PROVIDE GALVANIZED JOISTS AND ROOF DECK IN THIS AREA.

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AUSTINVILLE WATER TREATMENT PLANT
(DIVISION I)
AUSTINVILLE VIRGINIA

DRAWN BY: BMB
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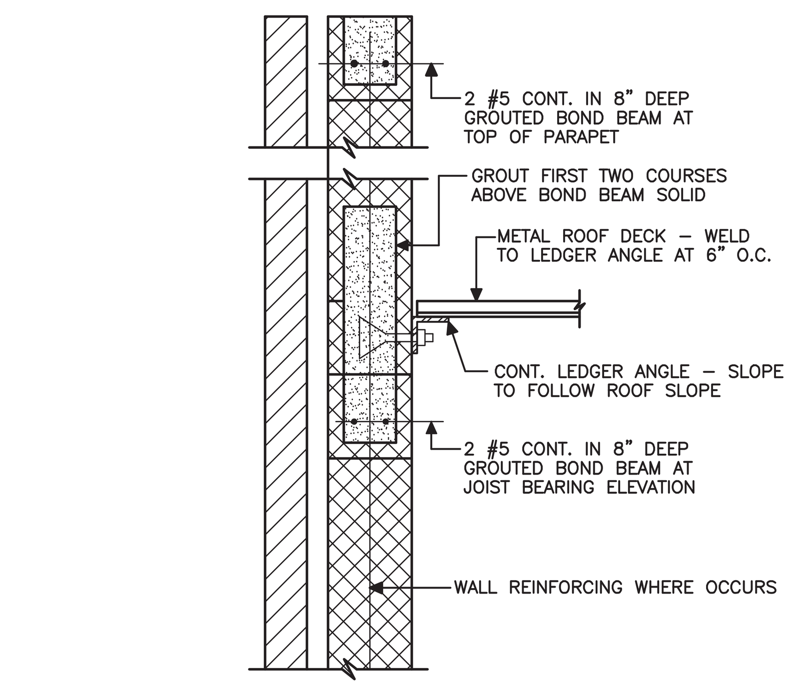
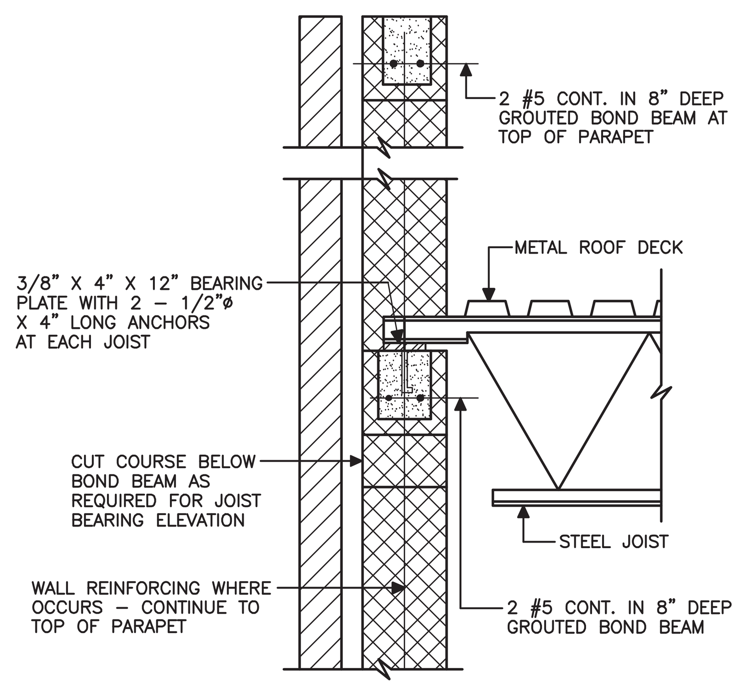
REVISION:
DWG DESCRIPTION: ROOF FRAMING PLAN

S4

COMMISSION No. 04-095



1 / S5 SECTION
NTS



2 / S5 SECTION
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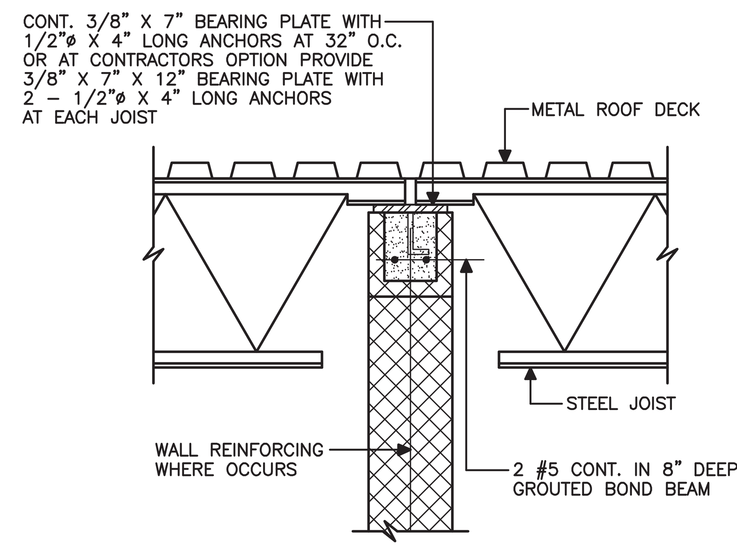
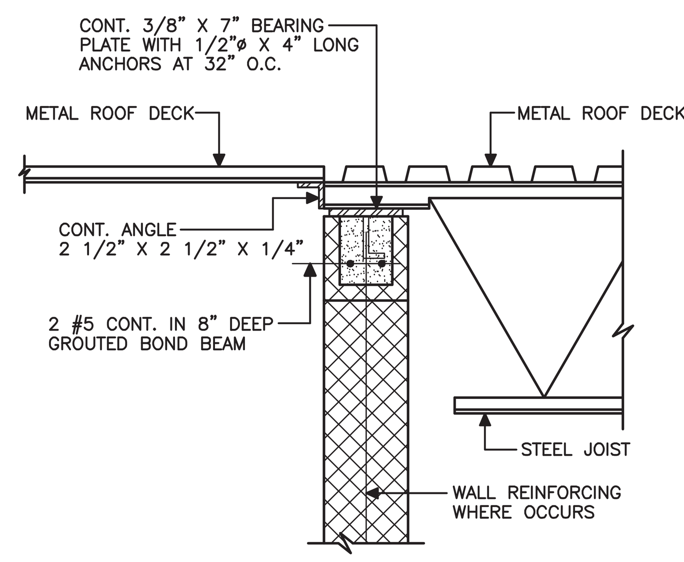


3 / S5 SECTION
NTS



4 / S5 SECTION
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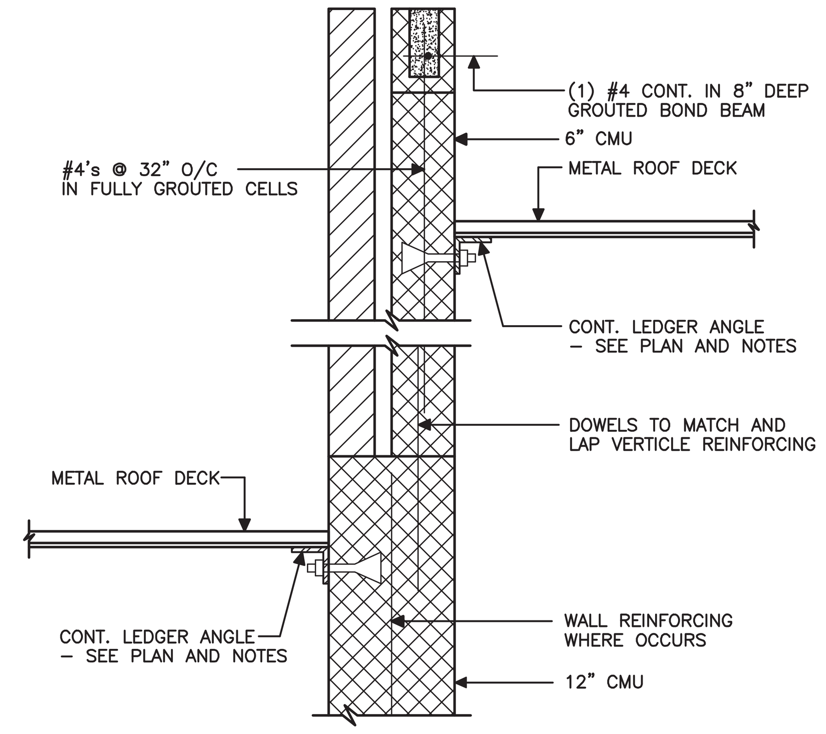
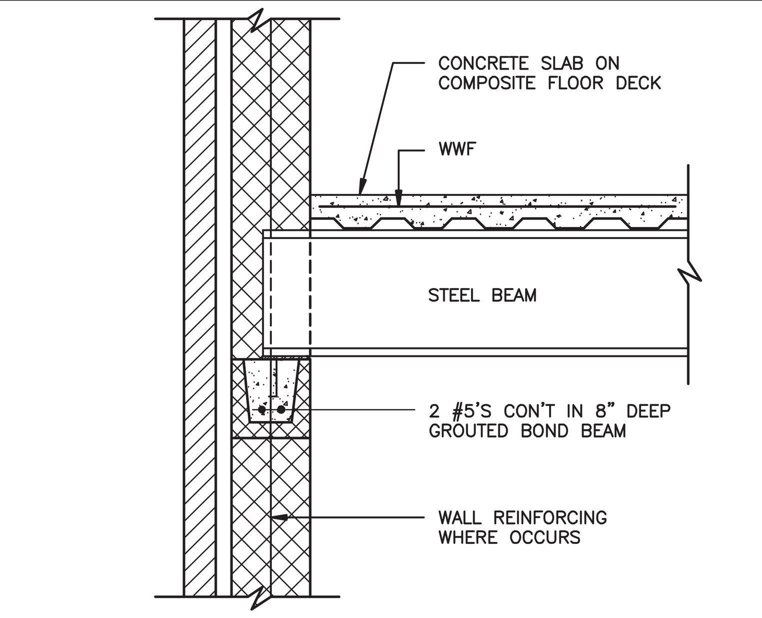
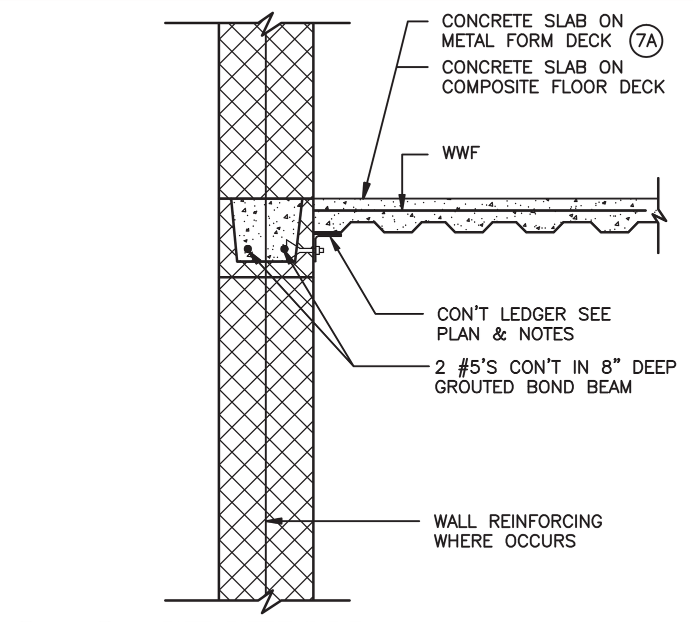


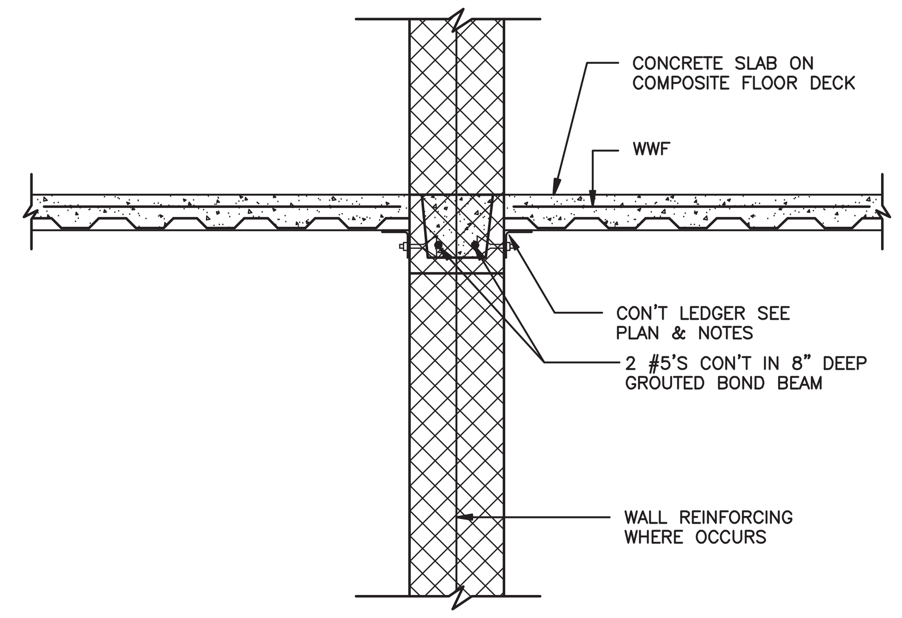
5 / S5 SECTION
NTS



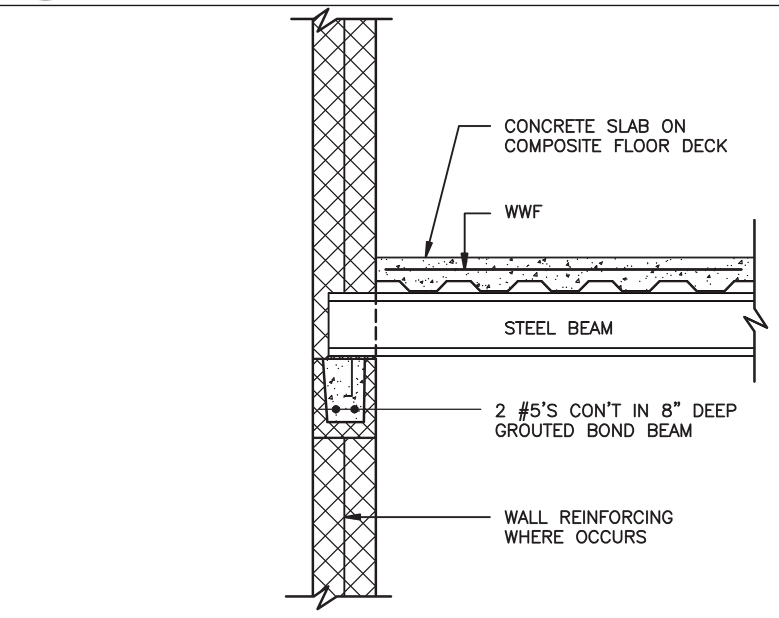
6 / S5 SECTION
3/4" = 1'-0"



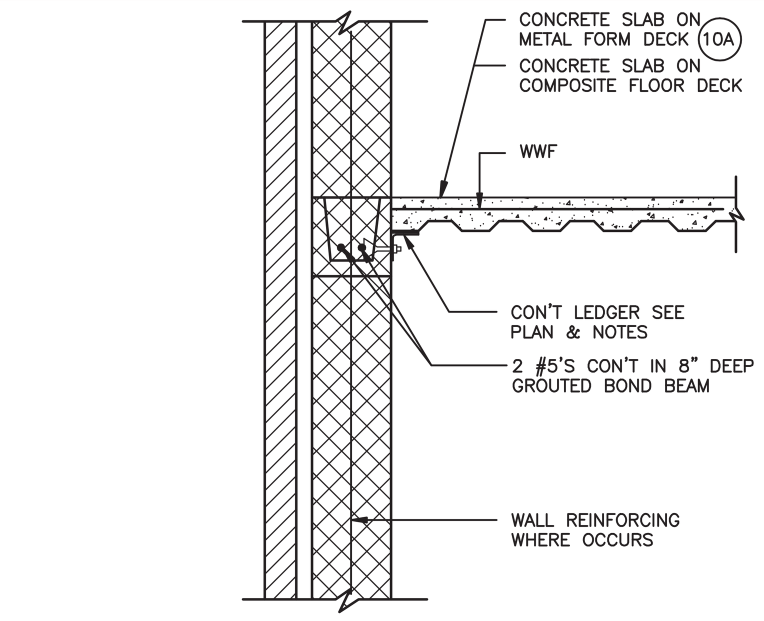
7 / S5 7A / S5 SECTION
3/4" = 1'-0"



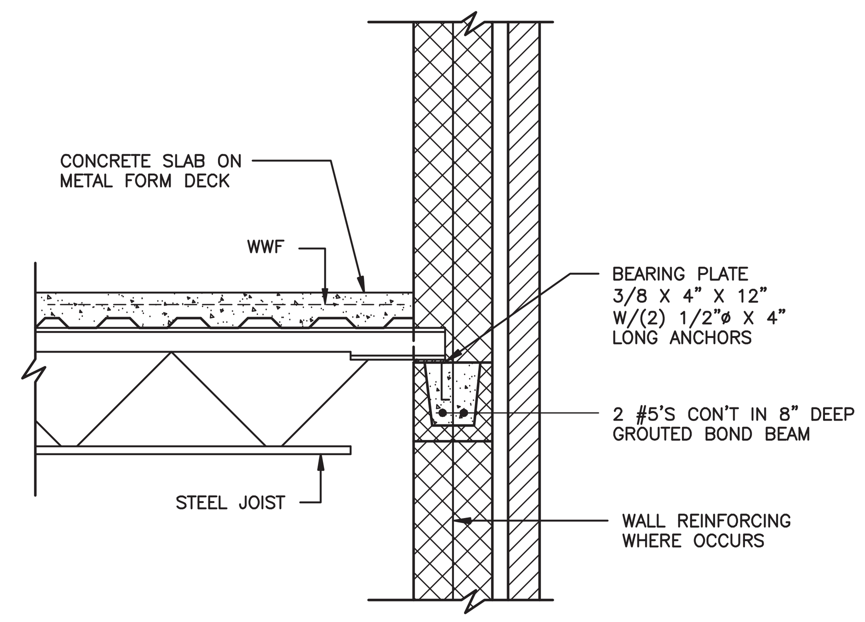
8 / S5 SECTION
3/4" = 1'-0"



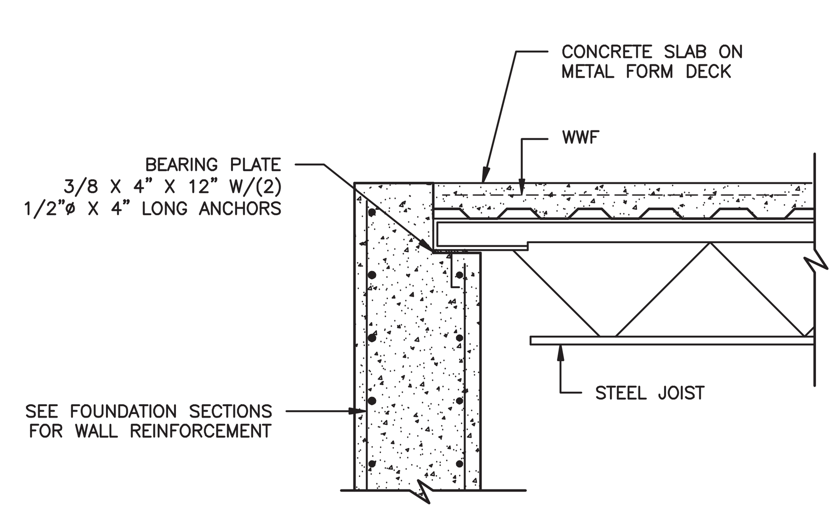
9 / S5 SECTION
3/4" = 1'-0"



10 / S5 10A / S5 SECTION
3/4" = 1'-0"



11 / S5 SECTION
3/4" = 1'-0"



12 / S5 SECTION
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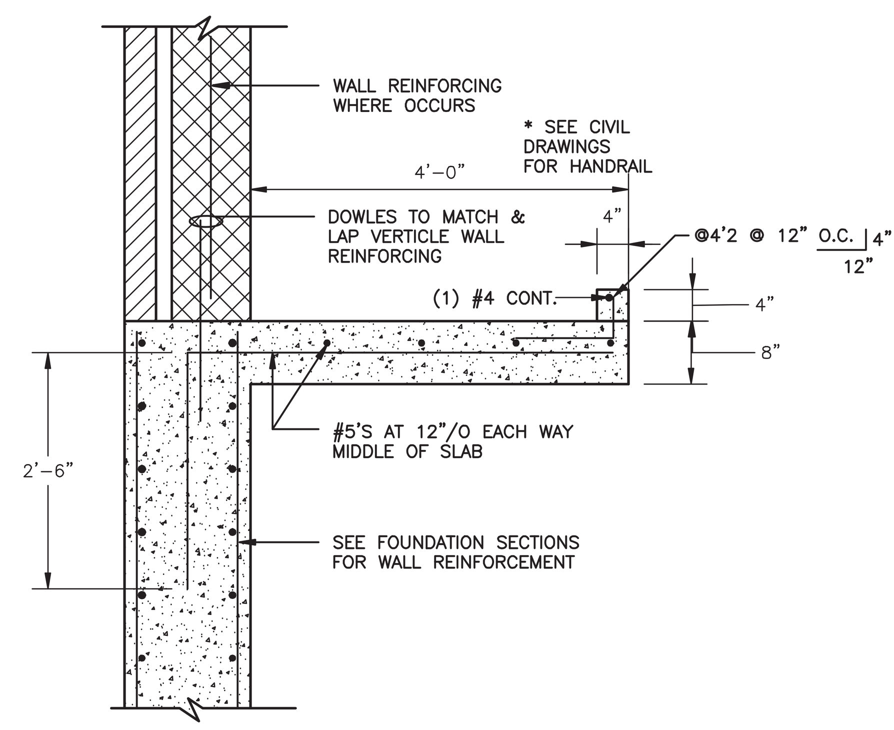
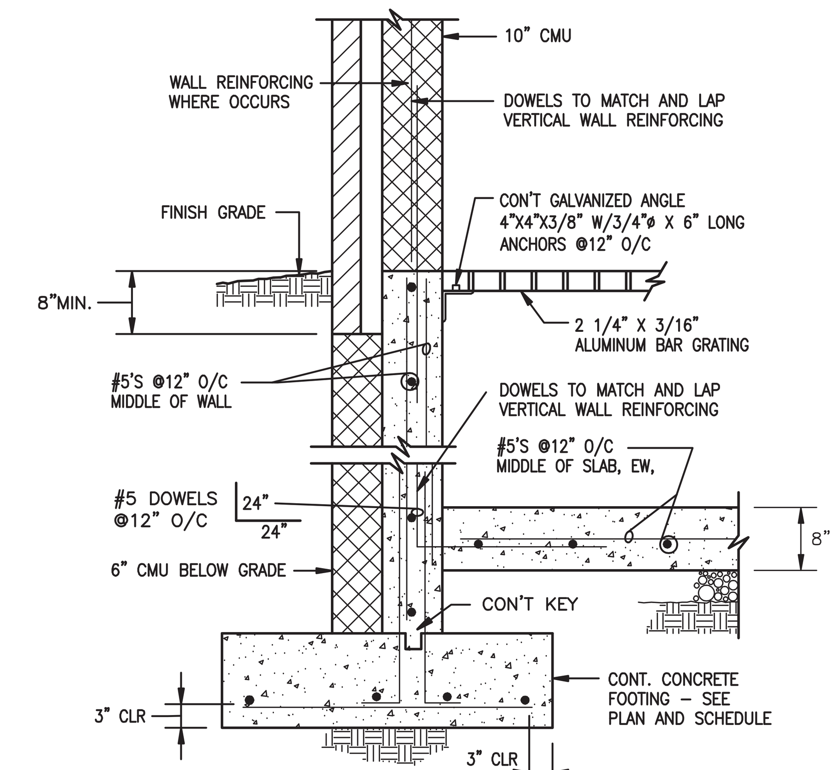
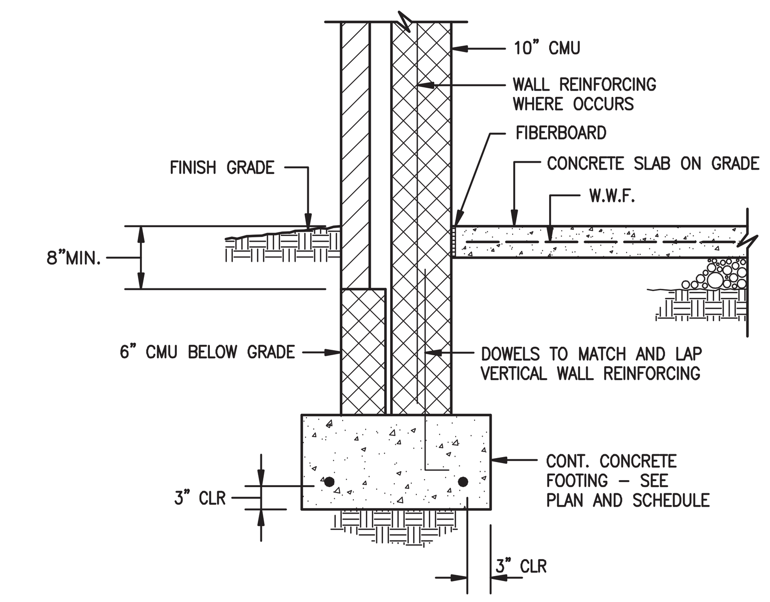


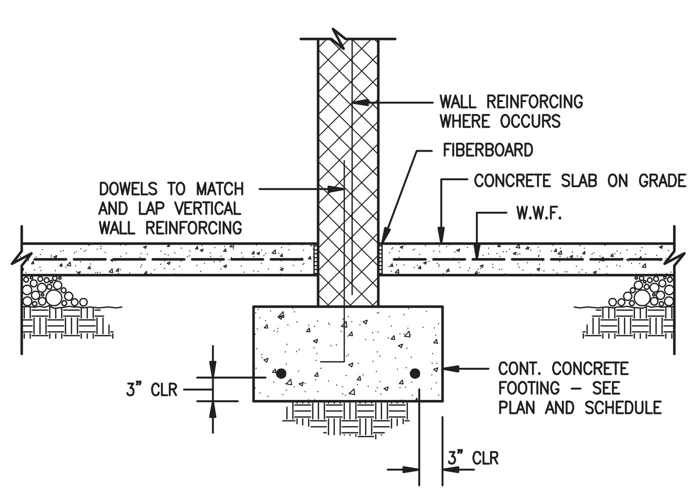
13 / S5 SECTION
3/4" = 1'-0"



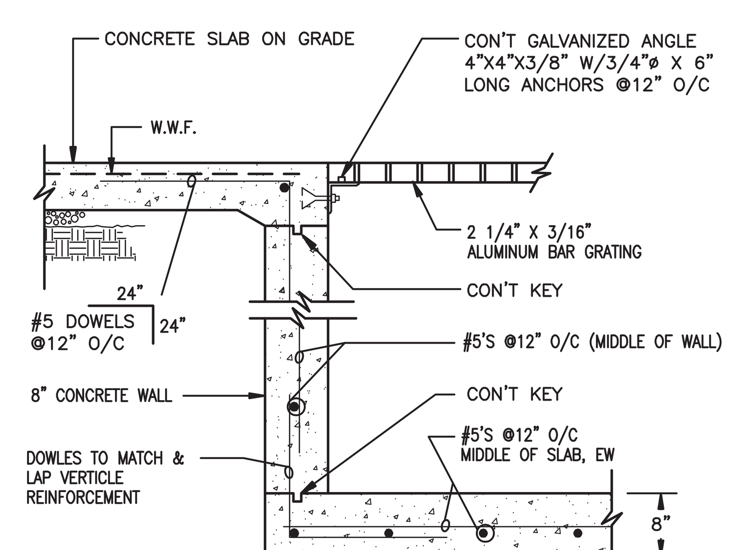
14 / S5 SECTION
3/4" = 1'-0"



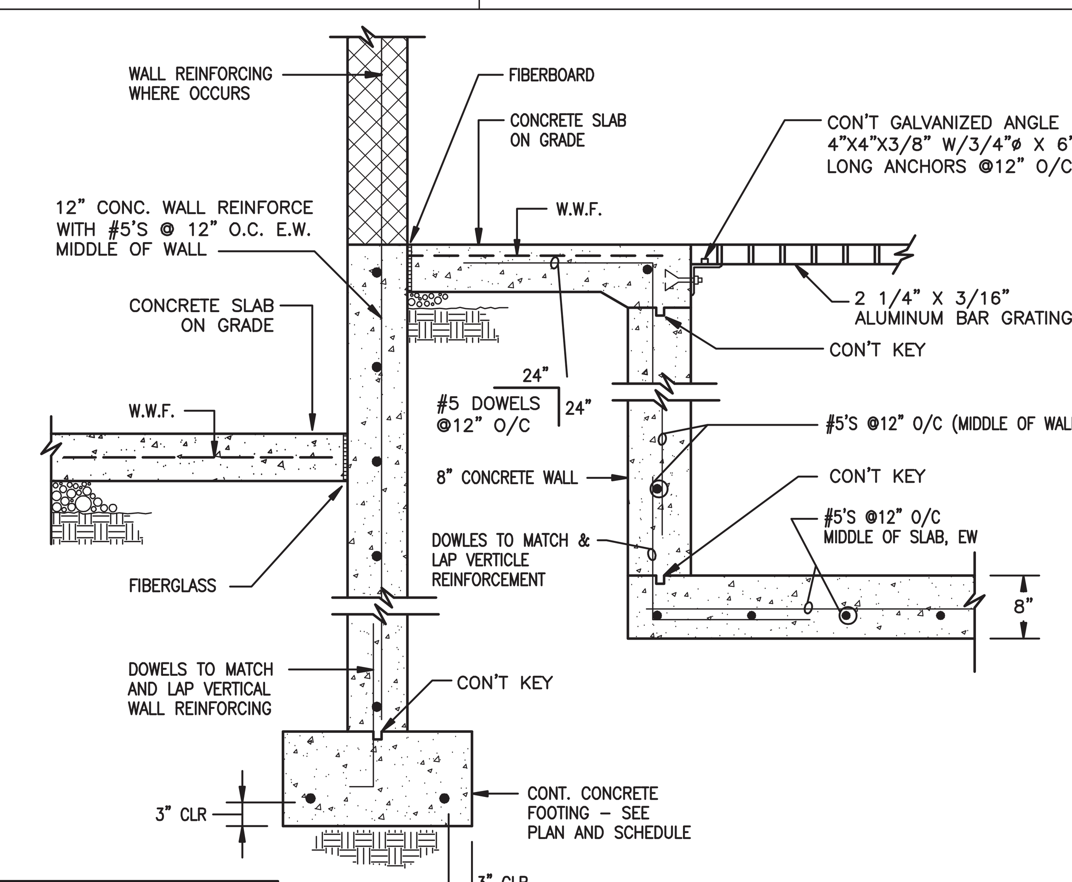
15 / S5 SECTION
3/4" = 1'-0"



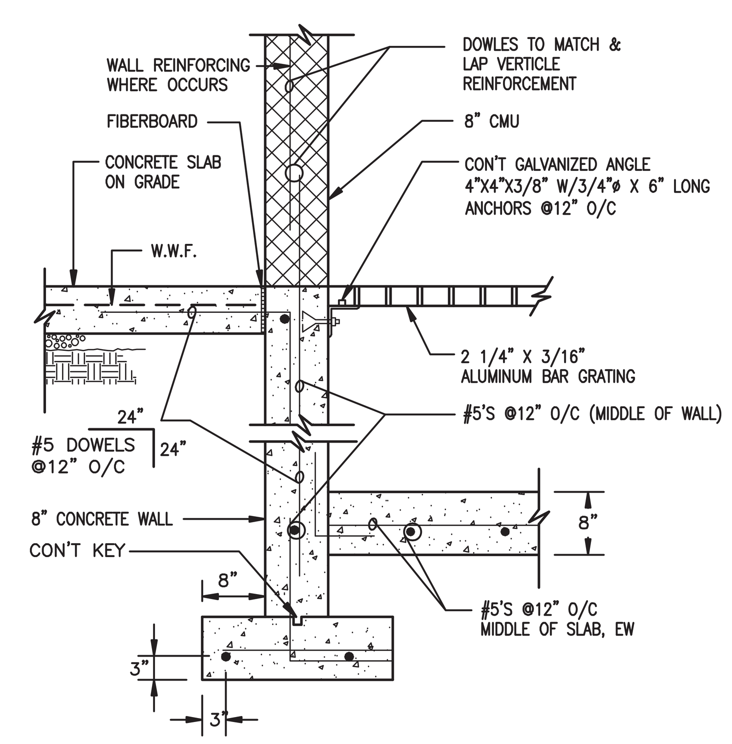
16 / S5 SECTION
3/4" = 1'-0"



17 / S5 SECTION
3/4" = 1'-0"



18 / S5 SECTION
3/4" = 1'-0"



19 / S5 SECTION
3/4" = 1'-0"

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AUSTINVILLE VIRGINIA

DRAWN BY: BMB
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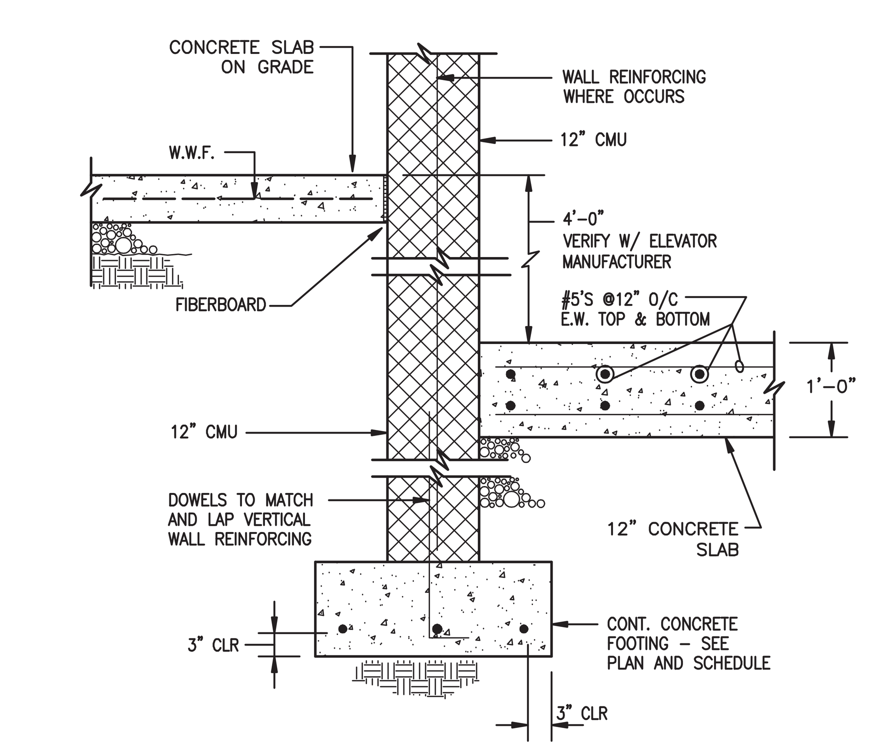
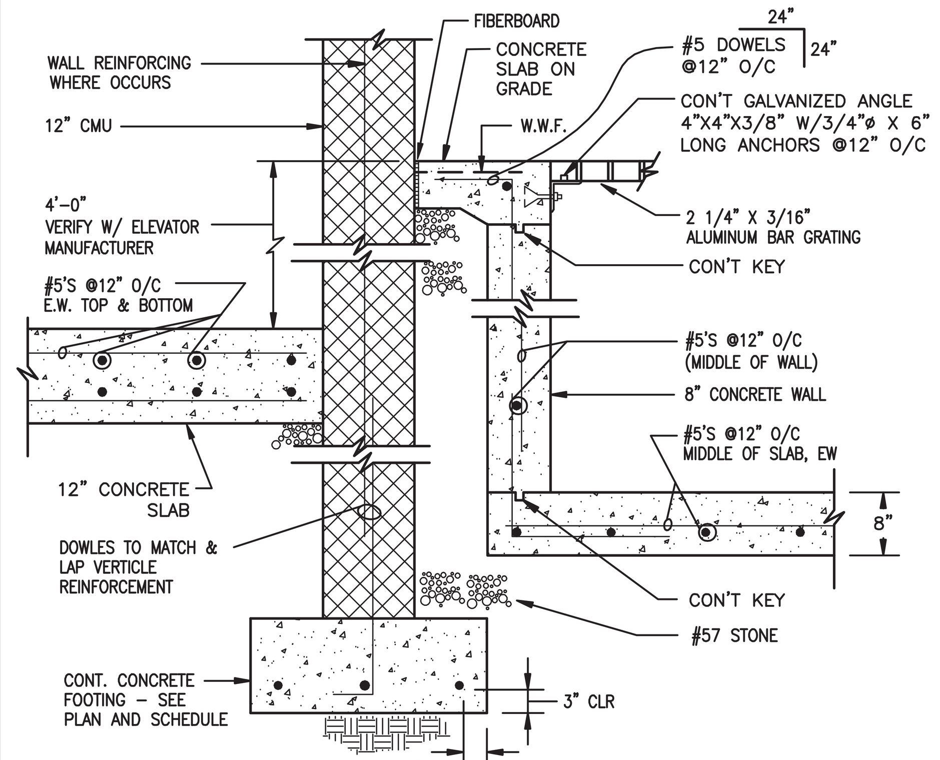
REVISION:
DWG DESCRIPTION: SECTIONS

S5

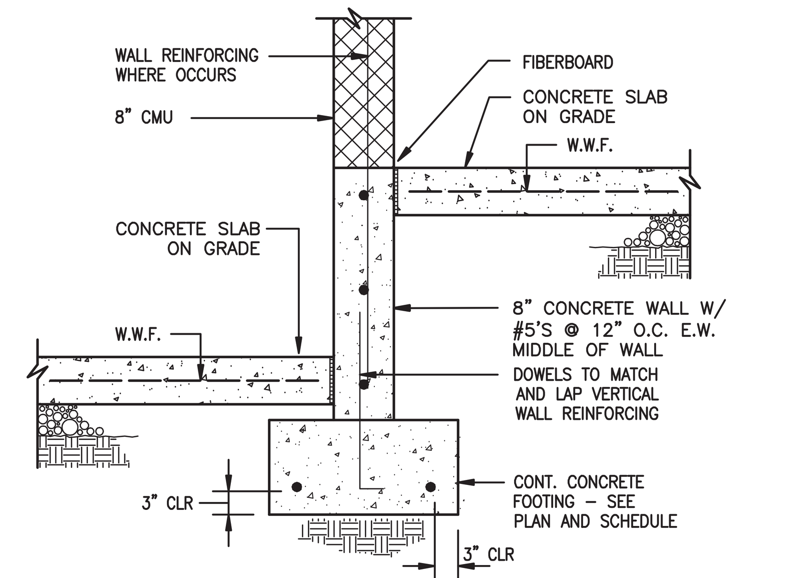
COMMISSION No. 04-095



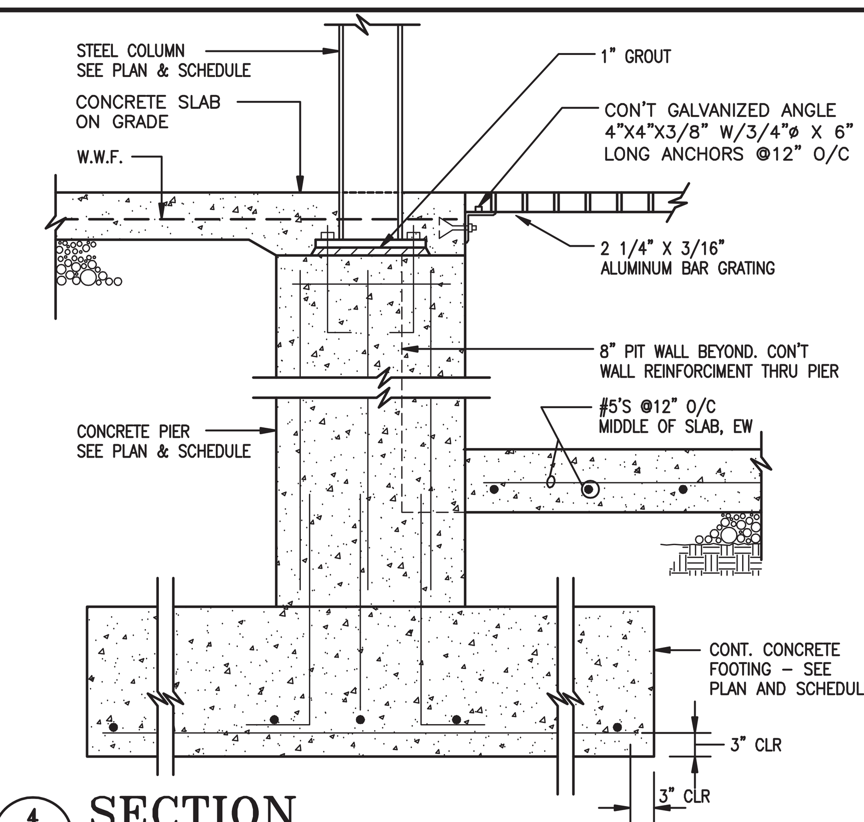
1 SECTION S6 3/4" = 1'-0"



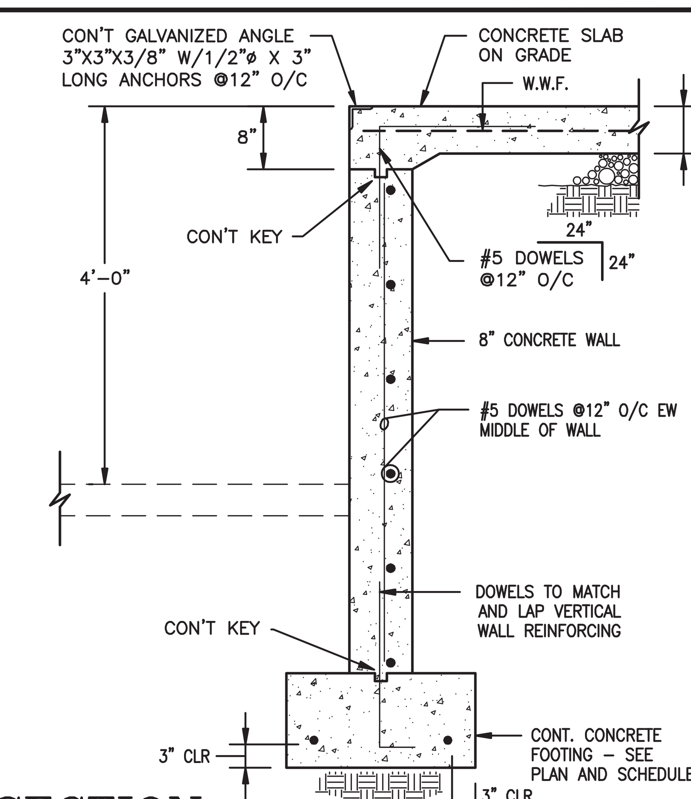
2 SECTION S6 3/4" = 1'-0"



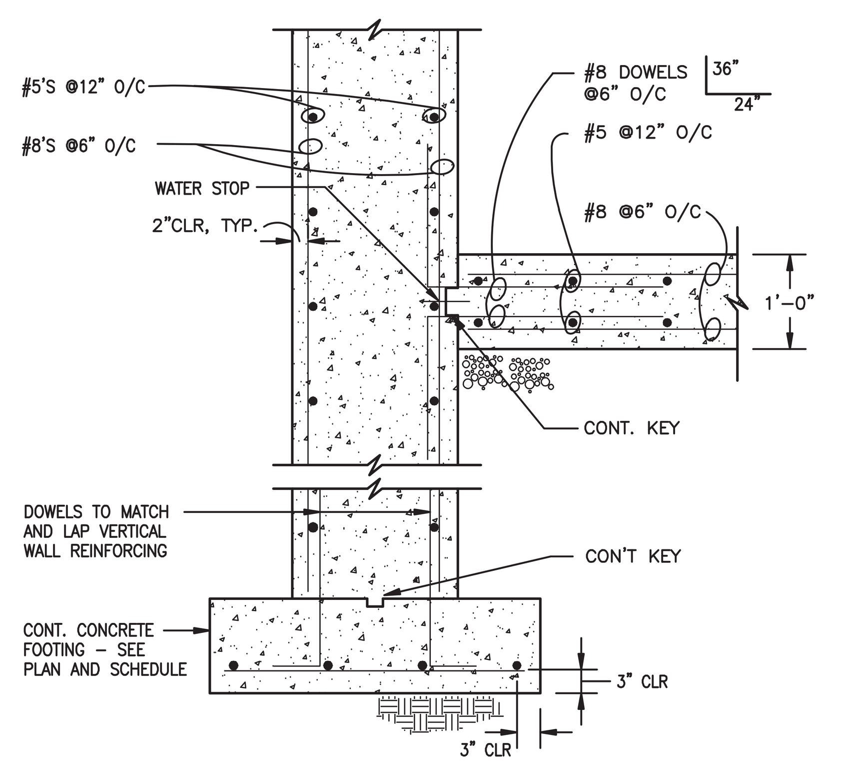
3 SECTION S6 3/4" = 1'-0"



4 SECTION S6 3/4" = 1'-0"



5 SECTION S6 3/4" = 1'-0"



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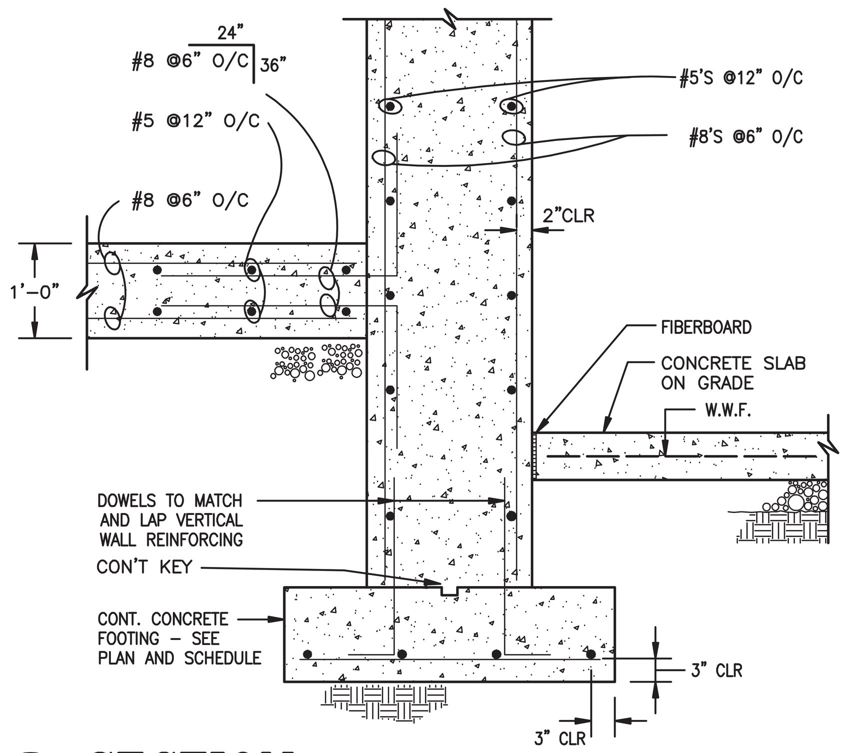

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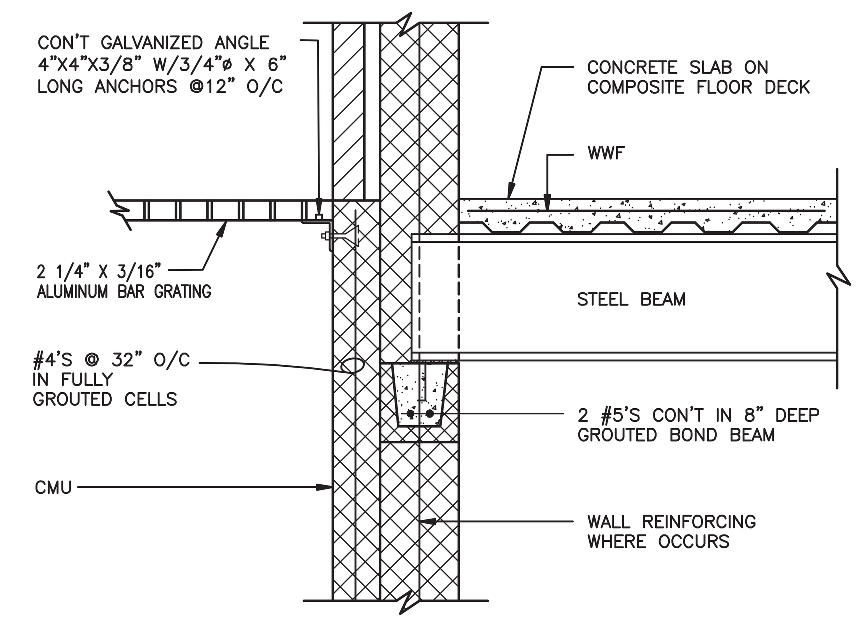
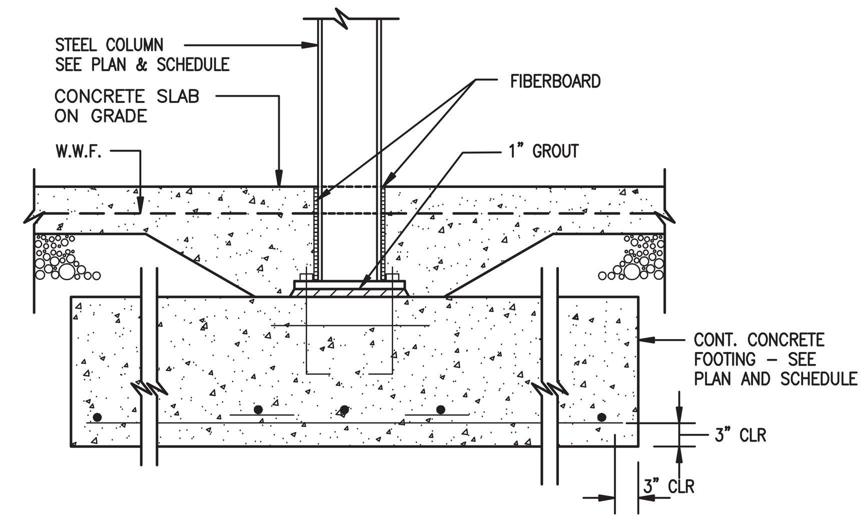
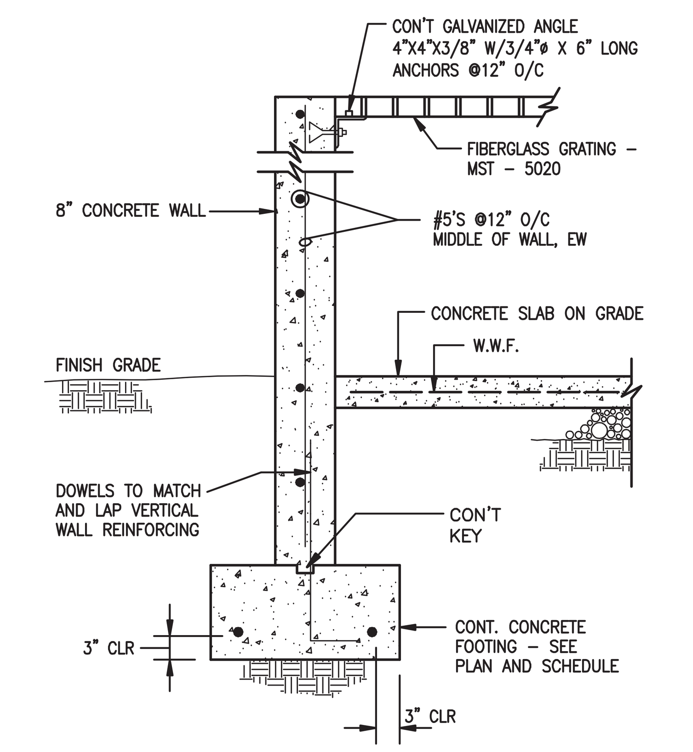


8 SECTION S6 3/4" = 1'-0"



9 SECTION S6 3/4" = 1'-0"



10 SECTION S6 3/4" = 1'-0"

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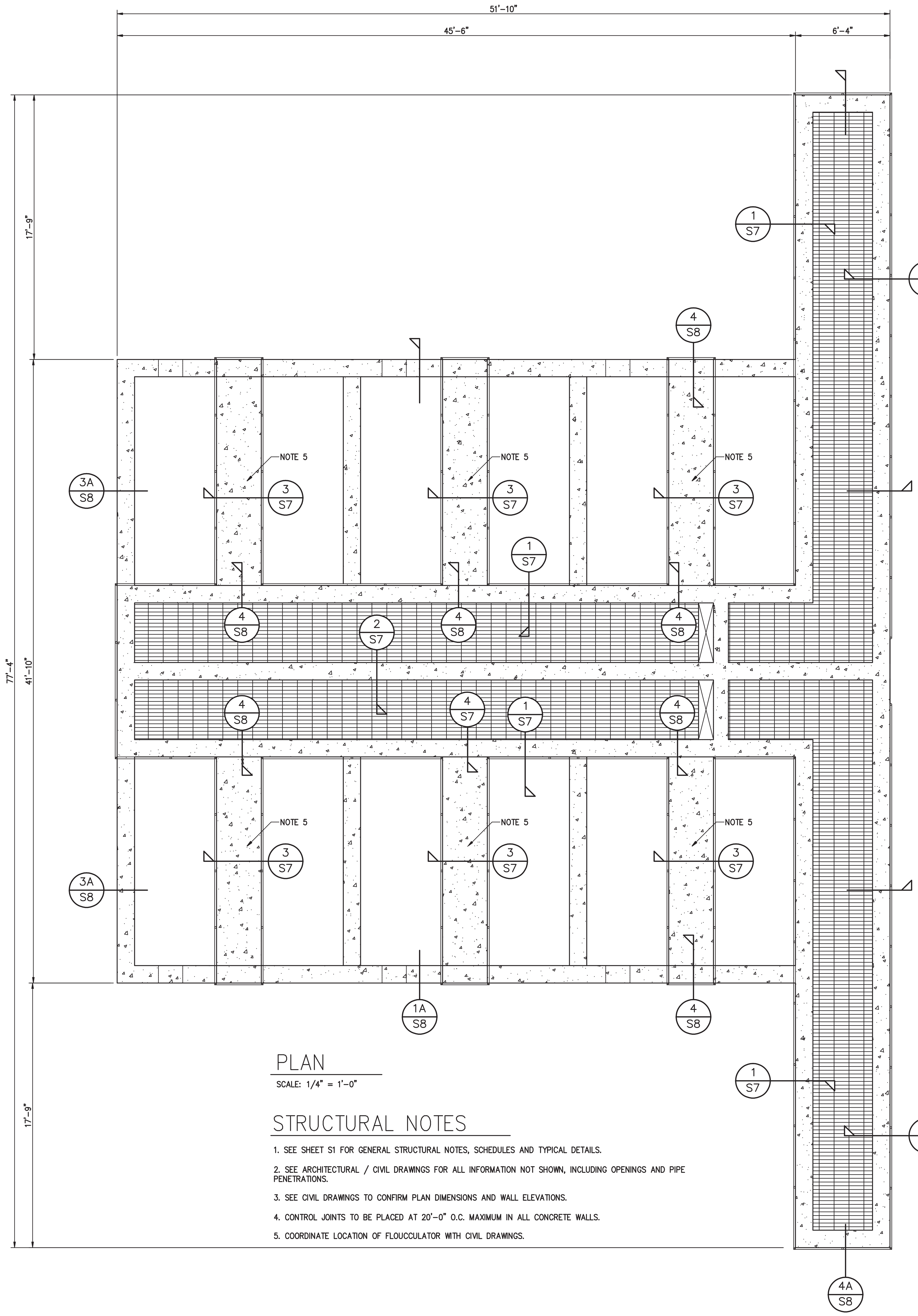
AUSTINVILLE WATER TREATMENT PLANT (DIVISION I)

AUSTINVILLE VIRGINIA

DRAWN BY: BMB
REVIEW BY: JFK
DATE: 20 OCT. 2006
REVISION:
DWG DESCRIPTION: SECTIONS

S6

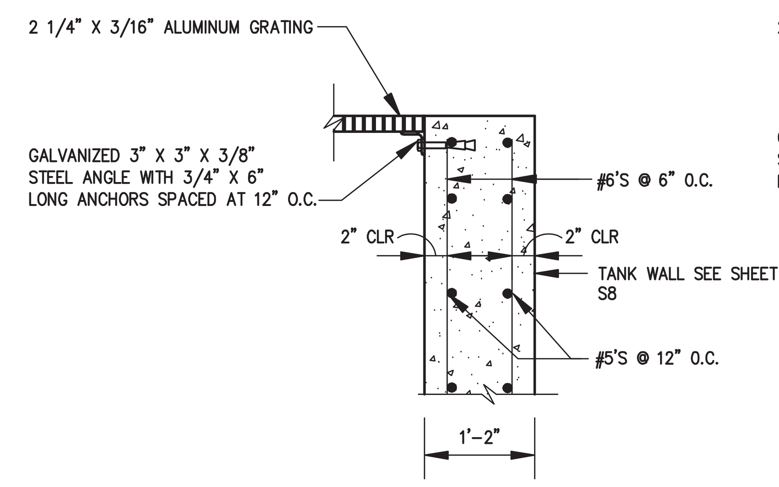
COMMISSION No. 04-095



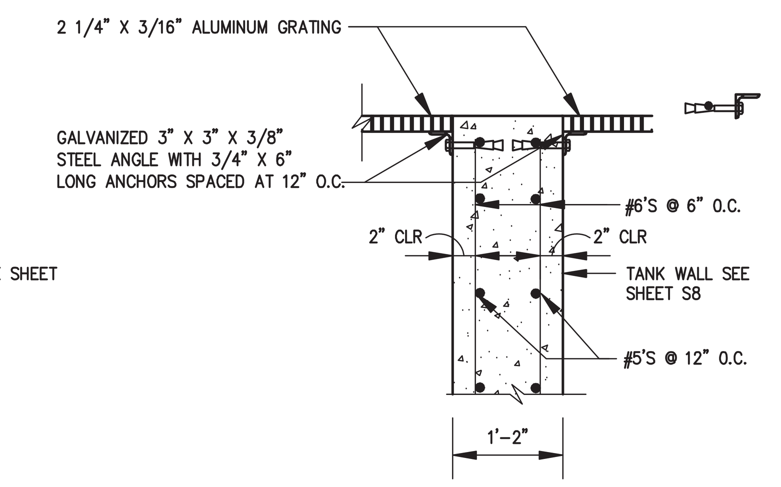
PLAN
SCALE: 1/4" = 1'-0"

STRUCTURAL NOTES

1. SEE SHEET S1 FOR GENERAL STRUCTURAL NOTES, SCHEDULES AND TYPICAL DETAILS.
2. SEE ARCHITECTURAL / CIVIL DRAWINGS FOR ALL INFORMATION NOT SHOWN, INCLUDING OPENINGS AND PIPE PENETRATIONS.
3. SEE CIVIL DRAWINGS TO CONFIRM PLAN DIMENSIONS AND WALL ELEVATIONS.
4. CONTROL JOINTS TO BE PLACED AT 20'-0" O.C. MAXIMUM IN ALL CONCRETE WALLS.
5. COORDINATE LOCATION OF FLOUCCULATOR WITH CIVIL DRAWINGS.



1/S7 SECTION SCALE: 3/4" = 1'-0"



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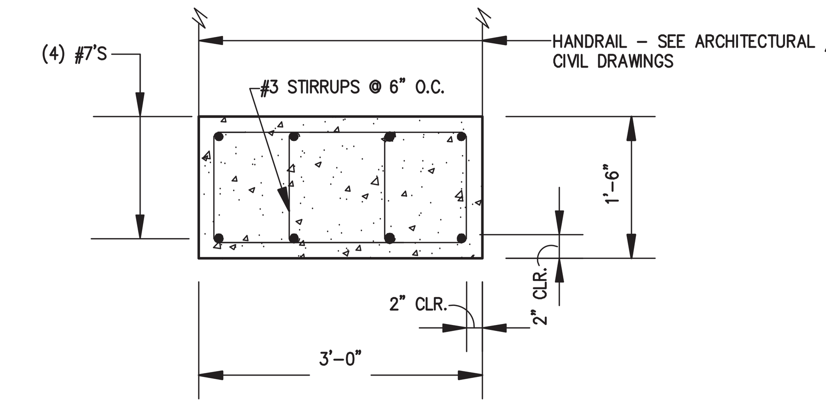
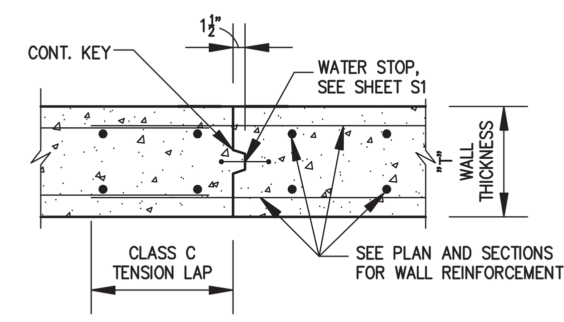
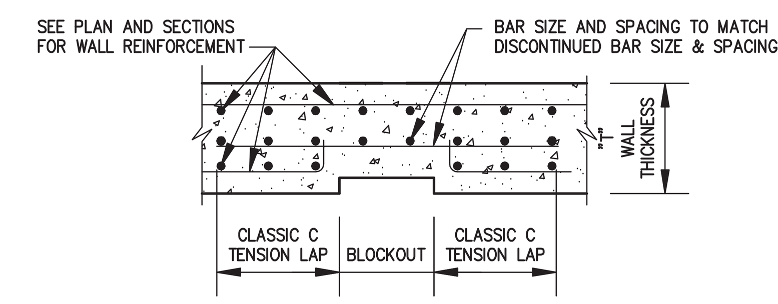


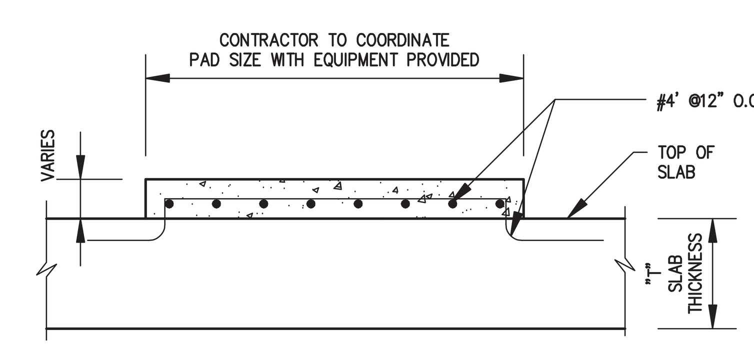
3/S7 SECTION SCALE: 3/4" = 1'-0"



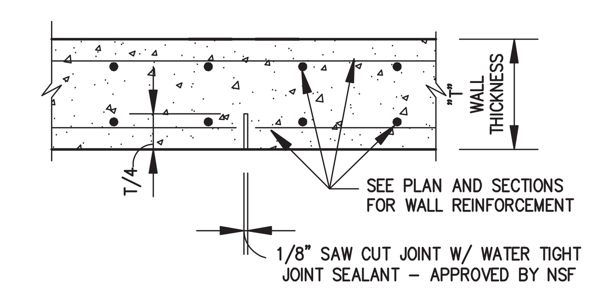
TYPICAL WALL CONSTRUCTION JOINT
SCALE: N.T.S.



BLOCKOUT REINFORCEMENT DETAIL
SCALE: N.T.S.



TYPICAL EQUIPMENT PAD
SCALE: N.T.S.



TYPICAL WALL CONTROL JOINT
SCALE: N.T.S.

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COMM. NO. 04-095

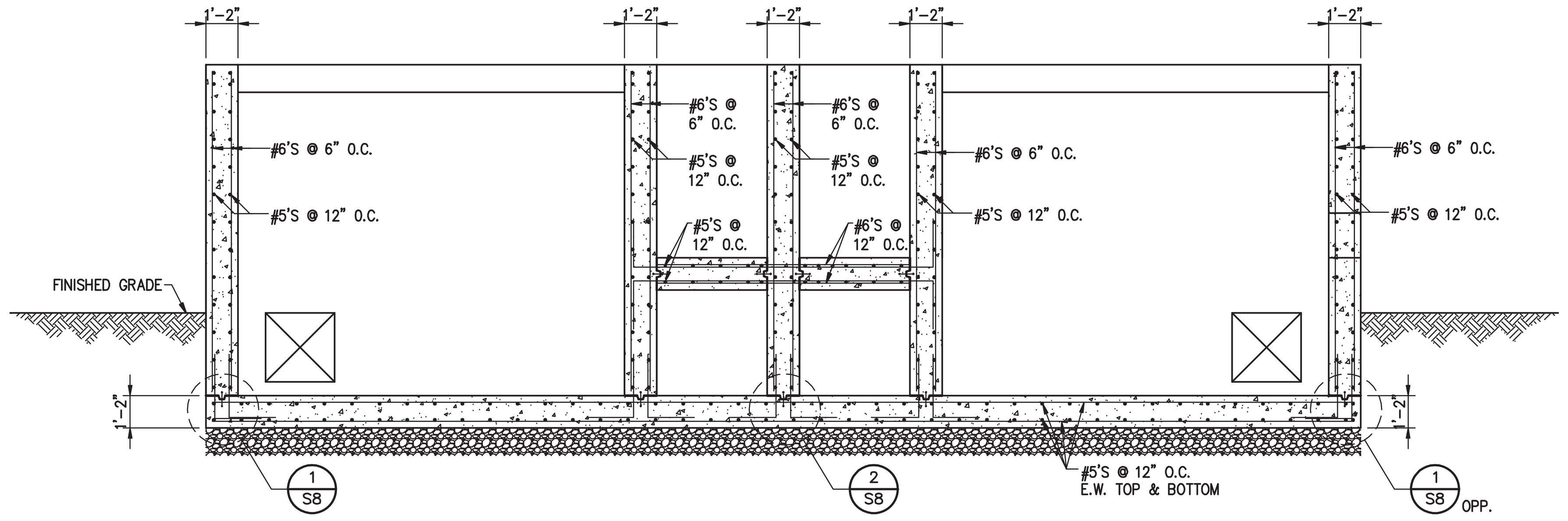
AUSTINVILLE WATER TREATMENT PLANT (DIVISION I)

AUSTINVILLE VIRGINIA

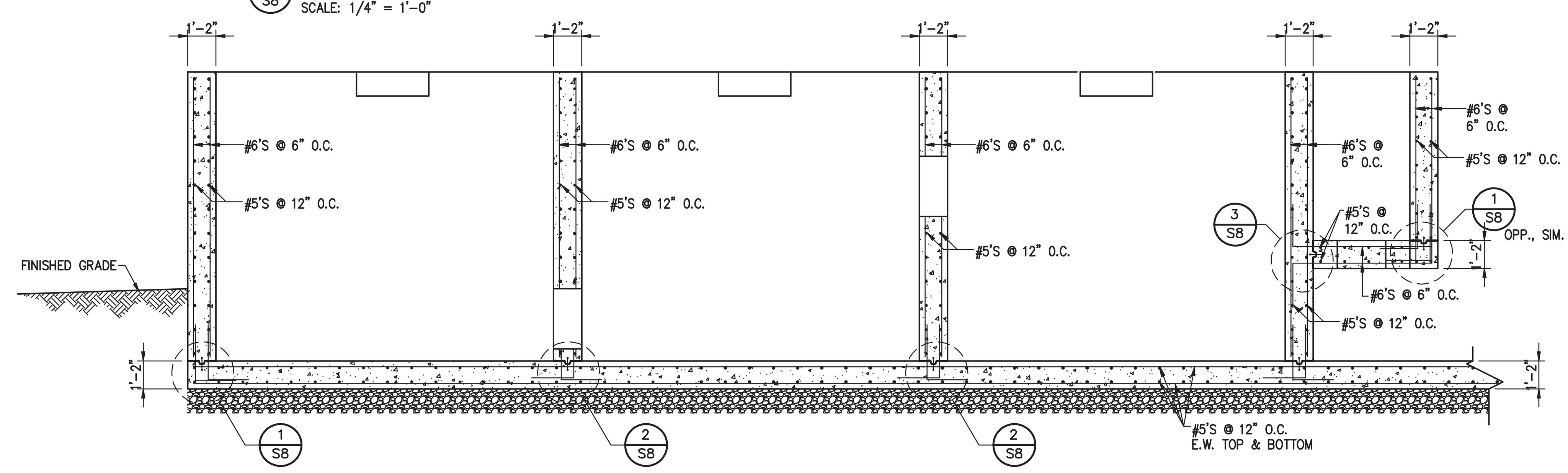
DRAWN BY: BMB
REVIEW BY: JFK
DATE: 20 OCT. 2006
REVISION:
DWG DESCRIPTION: FLOCCULATION BASIN PLAN & DETAILS

S7

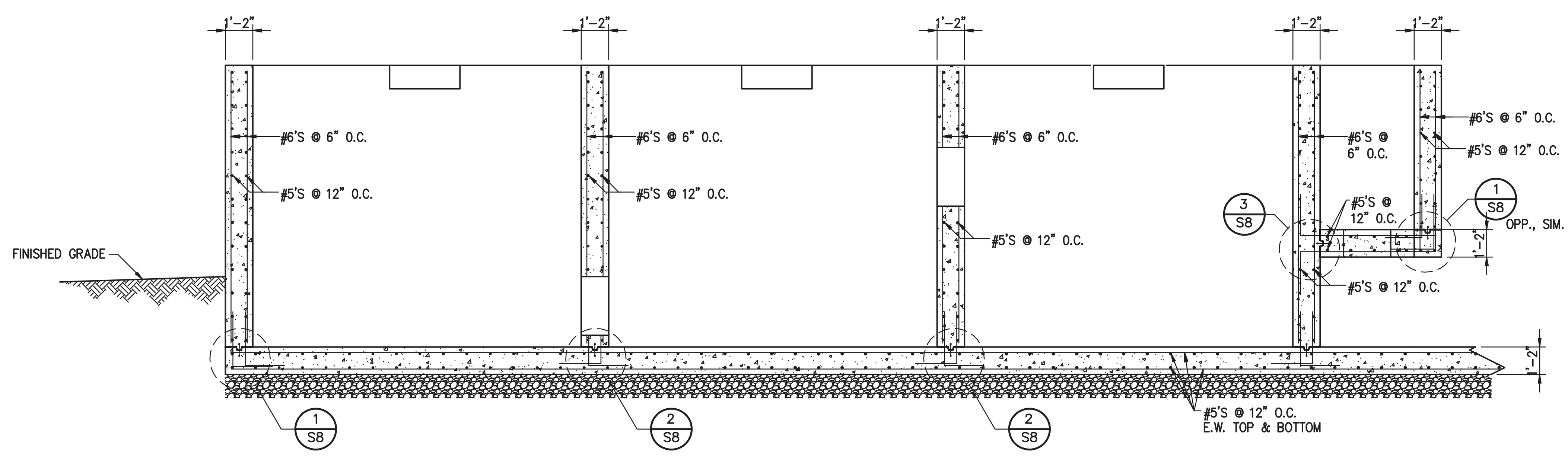
COMMISSION No. 04-095



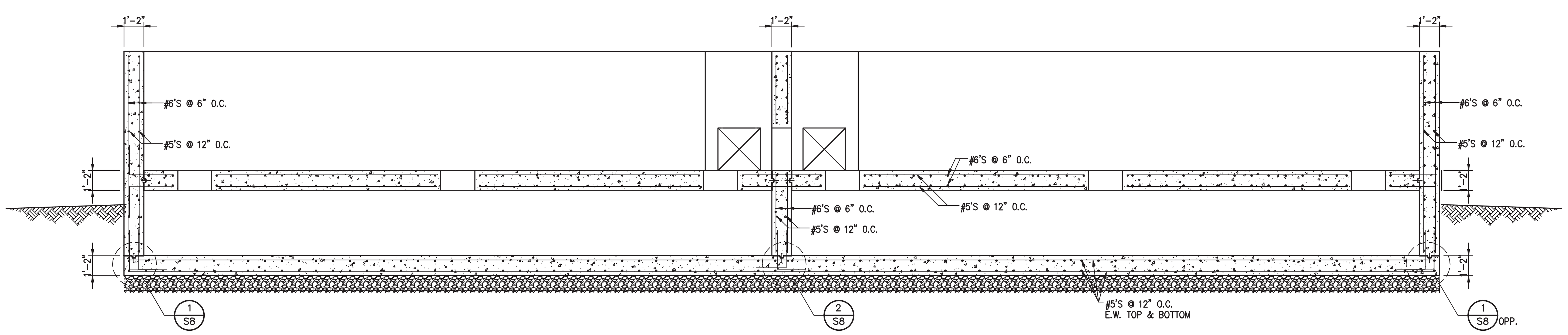
SECTION 1A/S8
SCALE: 1/4" = 1'-0"



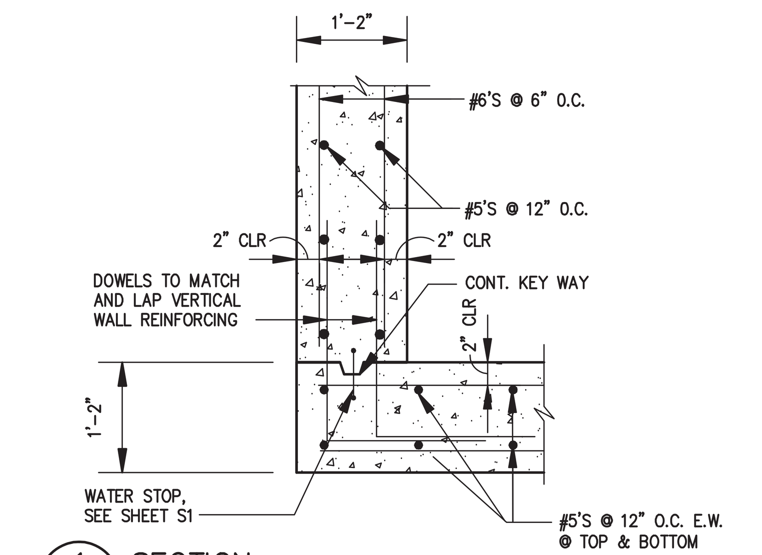
SECTION 2A/S8
SCALE: 1/4" = 1'-0"



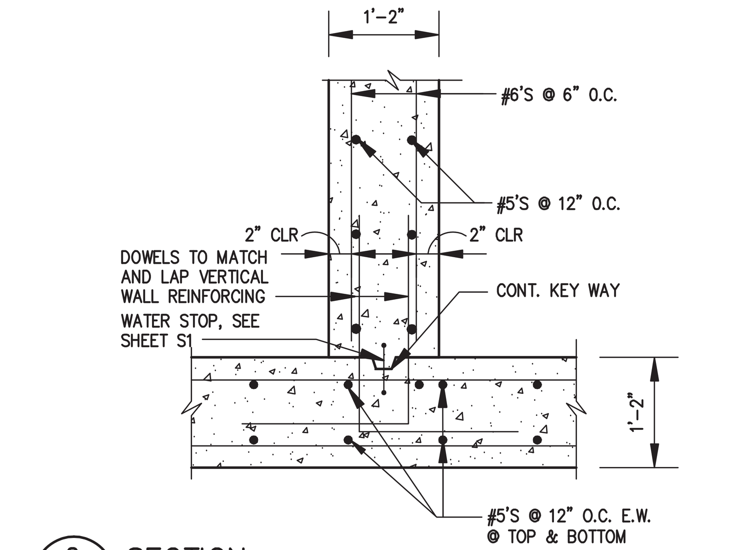
SECTION 3A/S8
SCALE: 1/4" = 1'-0"



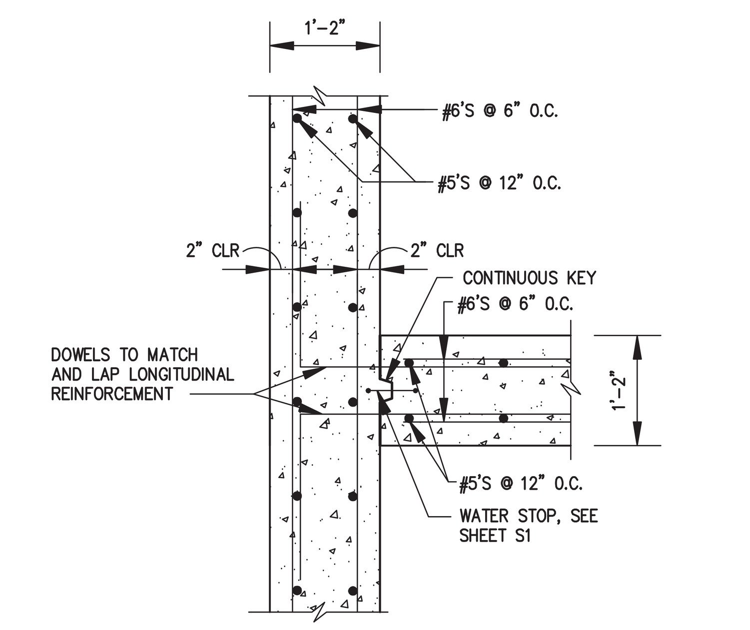
SECTION 4A/S8
SCALE: 1/4" = 1'-0"



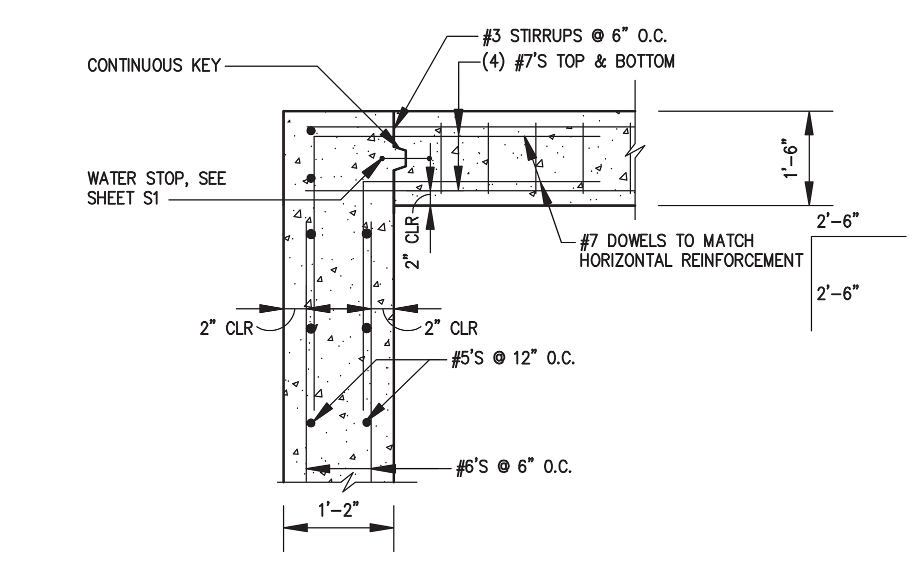
SECTION 1/S8
SCALE: 3/4" = 1'-0"



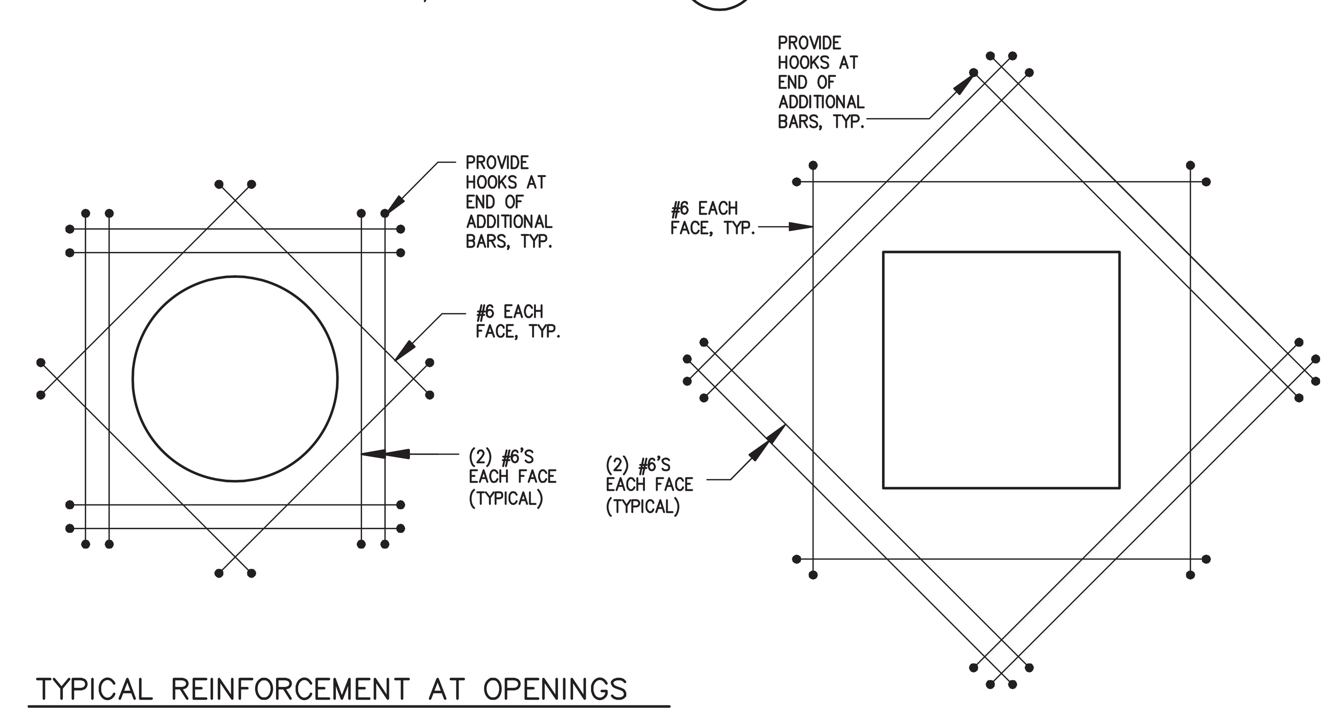
SECTION 2/S8
SCALE: 3/4" = 1'-0"



SECTION 3/S8
SCALE: 3/4" = 1'-0"



SECTION 4/S8
SCALE: 3/4" = 1'-0"



TYPICAL REINFORCEMENT AT OPENINGS IN TANK WALLS AND SLABS
SCALE: N.T.S.

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AUSTINVILLE WATER TREATMENT PLANT (DIVISION I)
AUSTINVILLE VIRGINIA

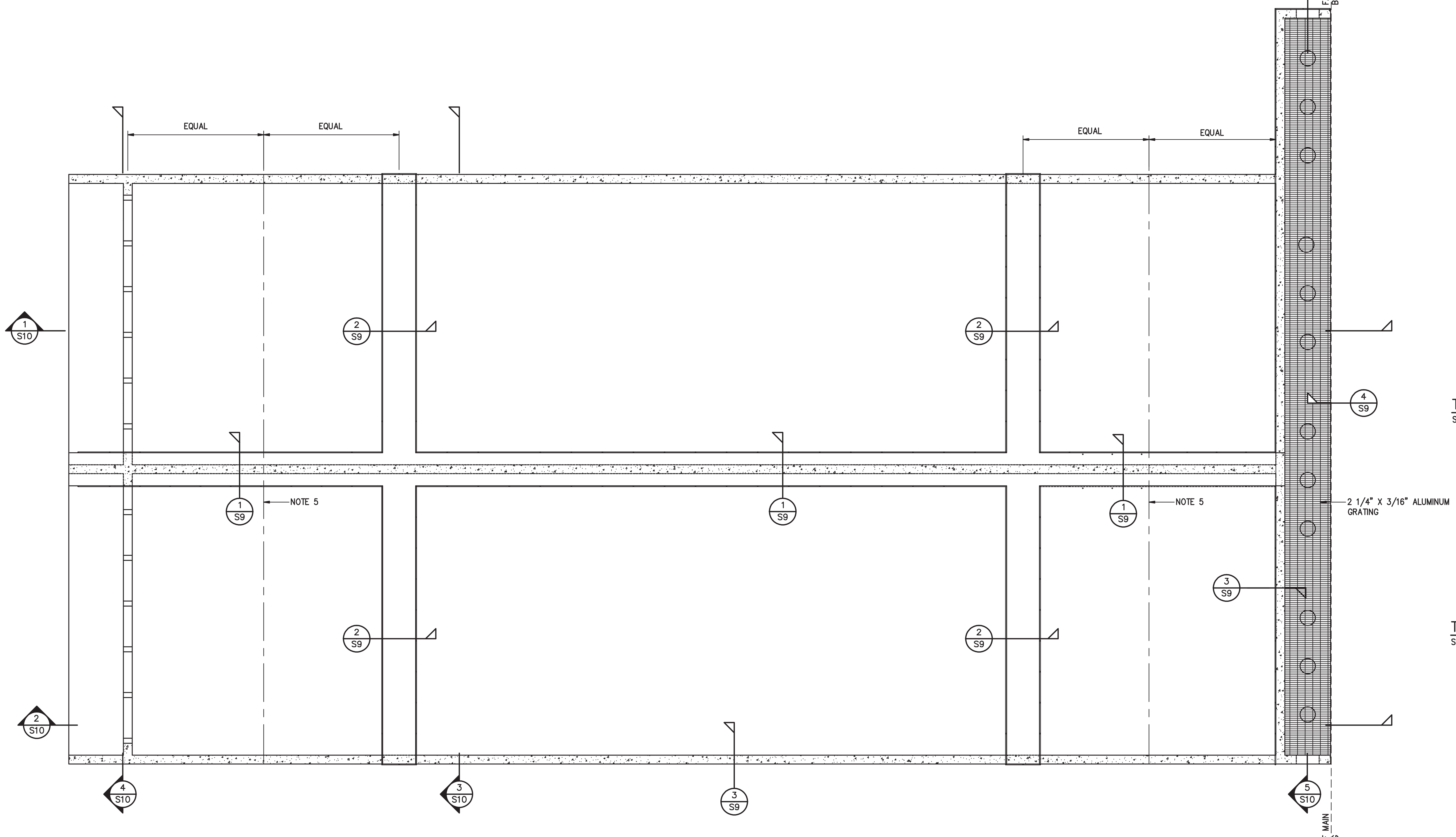
DRAWN BY: BMB
REVIEW BY: JFK
DATE: 20 OCT. 2006
REVISION:
DWG DESCRIPTION: FLOCCULATION BASIN SECTIONS & DETAILS

S8

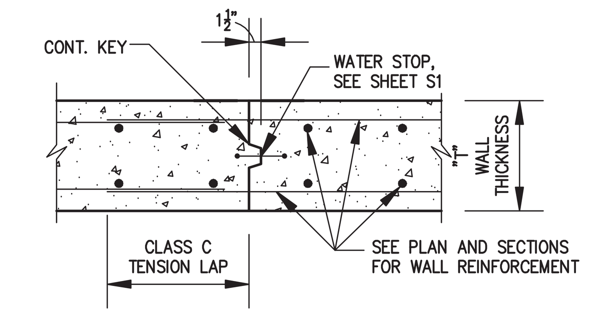
COMMISSION No. 04-095

STRUCTURAL NOTES

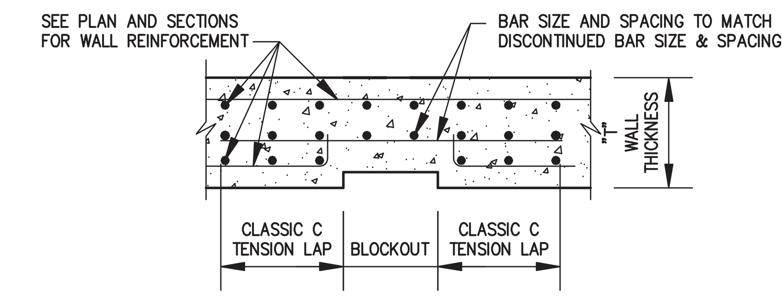
1. SEE SHEET S1 FOR GENERAL STRUCTURAL NOTES, SCHEDULES AND TYPICAL DETAILS.
2. SEE ARCHITECTURAL / CIVIL DRAWINGS FOR ALL INFORMATION NOT SHOWN, INCLUDING OPENING AND PIPE PENETRATIONS.
3. SEE CIVIL DRAWINGS TO CONFIRM PLAN DIMENSIONS AND WALL ELEVATIONS.
4. CONTROL JOINTS TO BE PLACED AT 20'–0" O.C. MAXIMUM IN ALL CONCRETE WALLS.
5. EXPANSION JOINT – SEE DETAIL THIS SHEET.



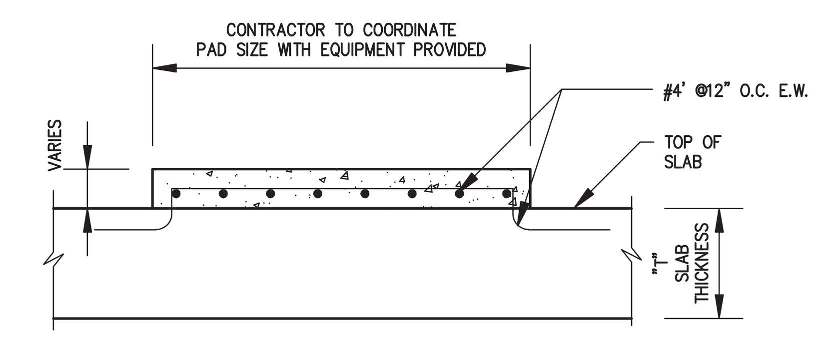
PLAN
SCALE: 1/8" = 1'–0"



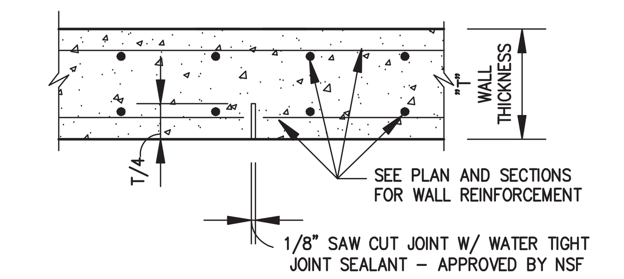
TYPICAL WALL CONSTRUCTION JOINT
SCALE: N.T.S.



BLOCKOUT REINFORCEMENT DETAIL
SCALE: N.T.S.



TYPICAL EQUIPMENT PAD



TYPICAL WALL CONTROL JOINT
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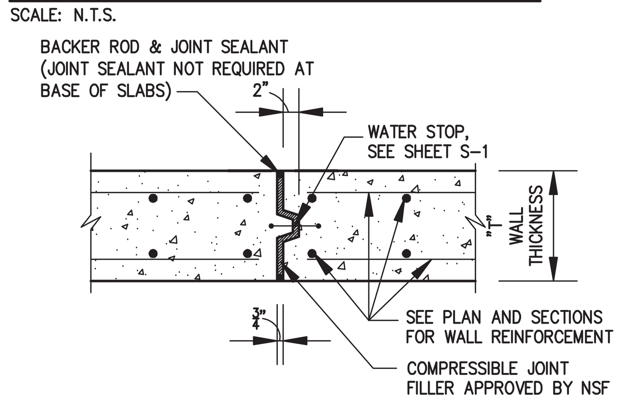
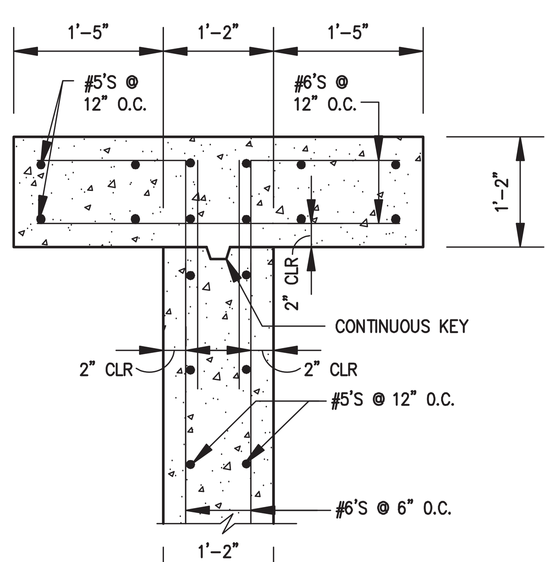
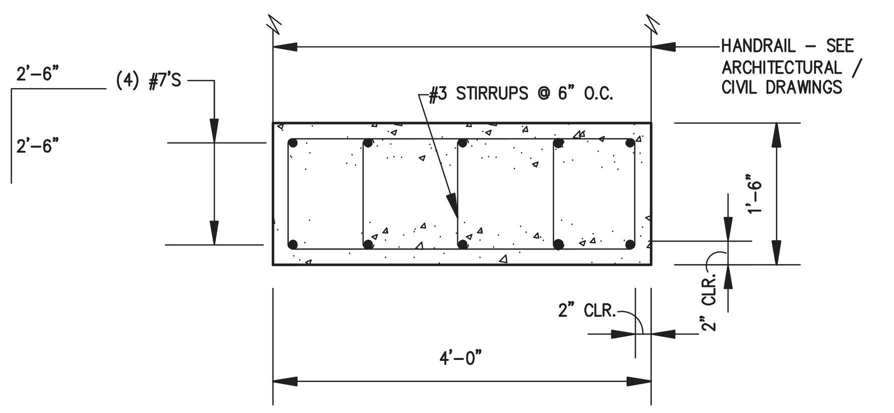


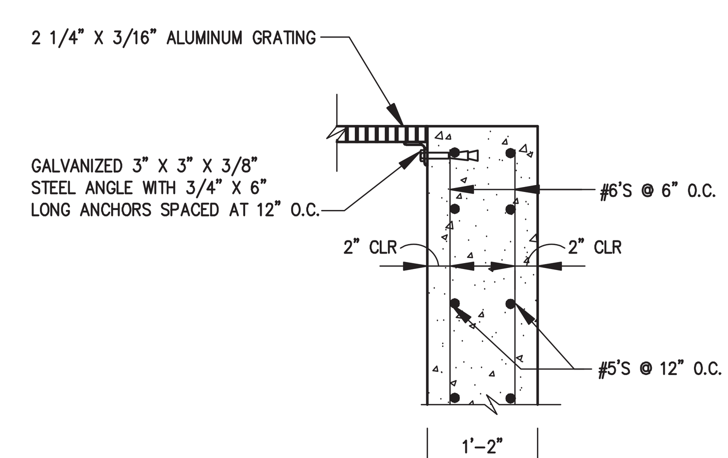
TYPICAL EXPANSION JOINT FOR WALLS
SCALE: N.T.S.



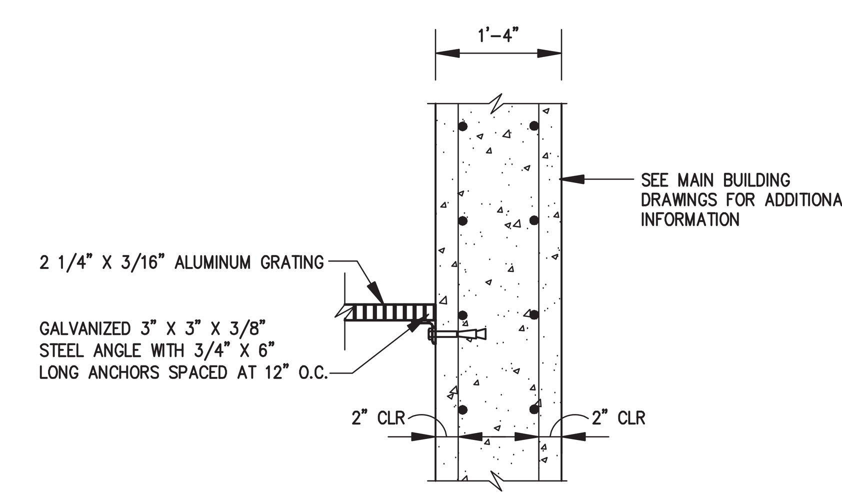
1 S9 SECTION
SCALE: 3/4" = 1'–0"



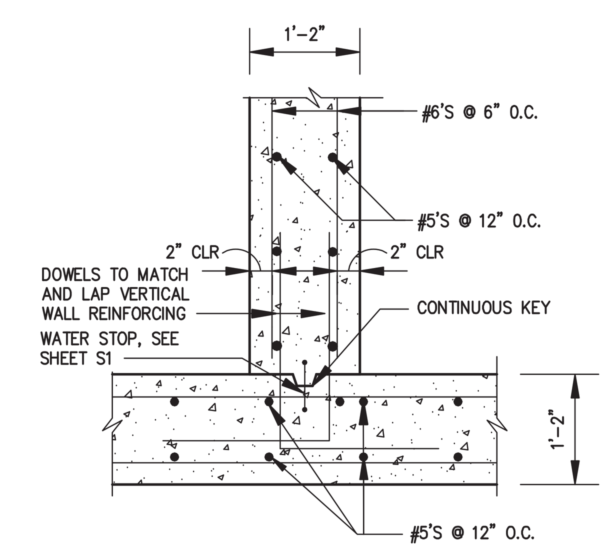
2 S9 SECTION
SCALE: 3/4" = 1'–0"



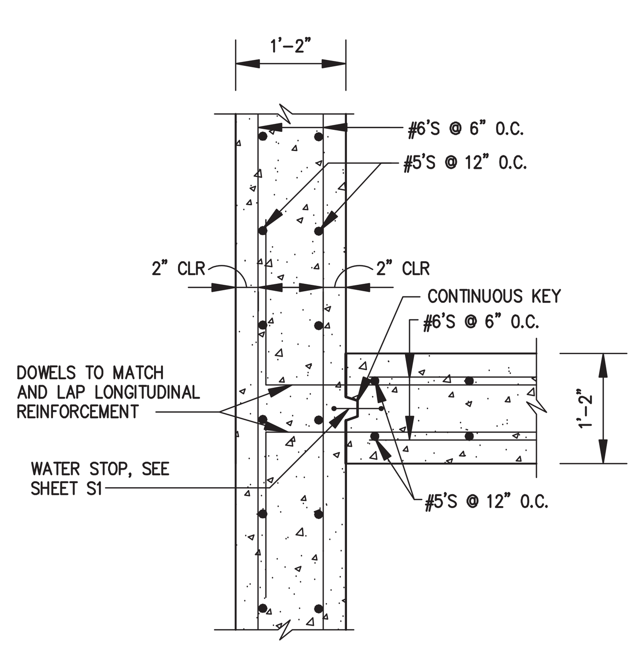
3 S9 SECTION
SCALE: 3/4" = 1'–0"



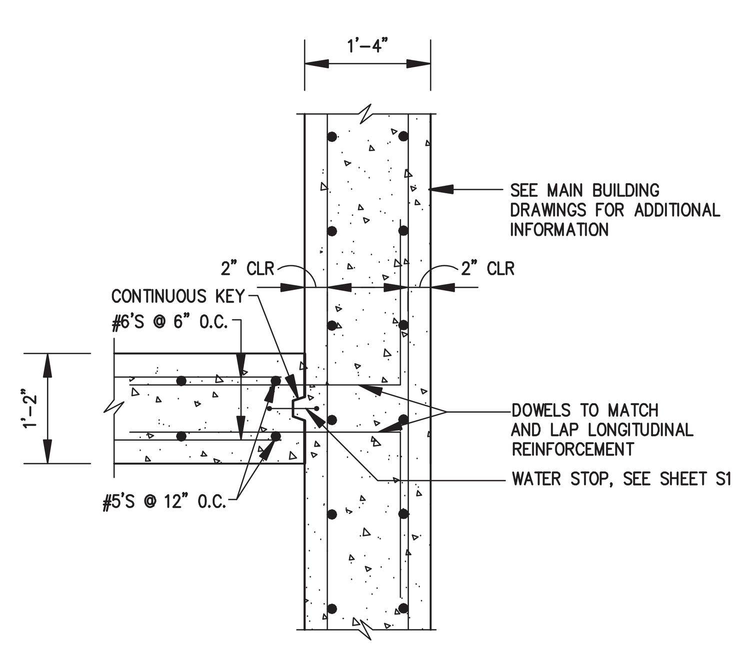
4 S9 SECTION
SCALE: 3/4" = 1'–0"



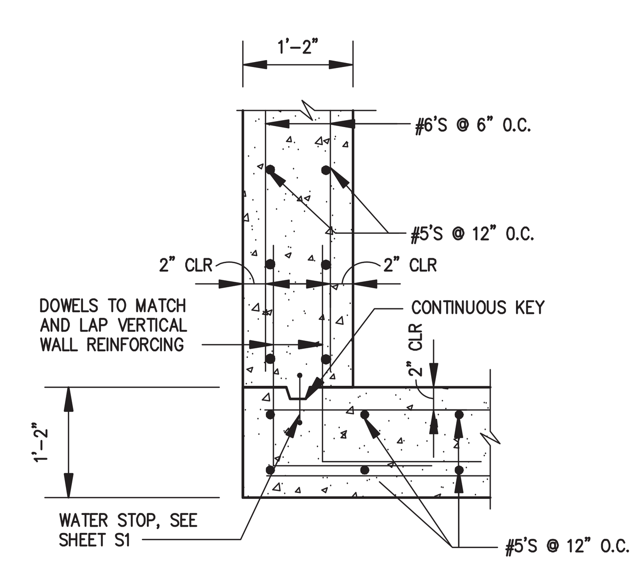
5 S9 SECTION
SCALE: 3/4" = 1'–0"



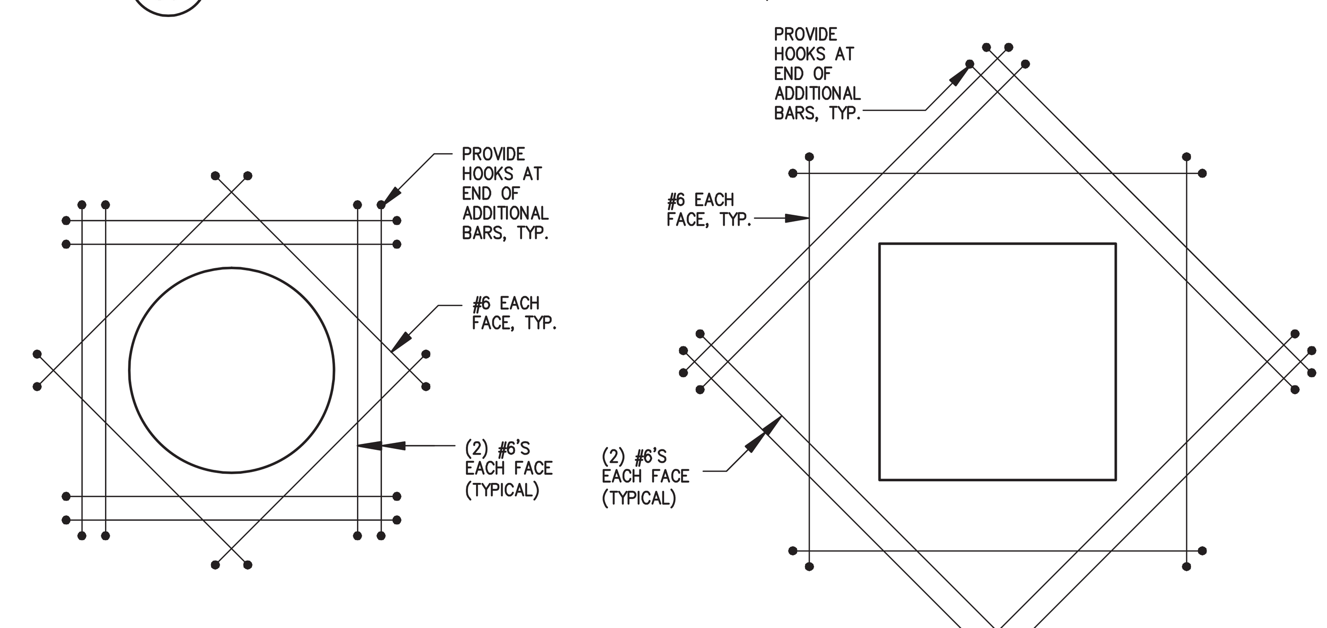
6 S9 SECTION
SCALE: 3/4" = 1'–0"



7 S9 SECTION
SCALE: 3/4" = 1'–0"



8 S9 SECTION
SCALE: 3/4" = 1'–0"



TYPICAL REINFORCEMENT AT OPENINGS IN TANK WALLS AND SLABS
SCALE: N.T.S.

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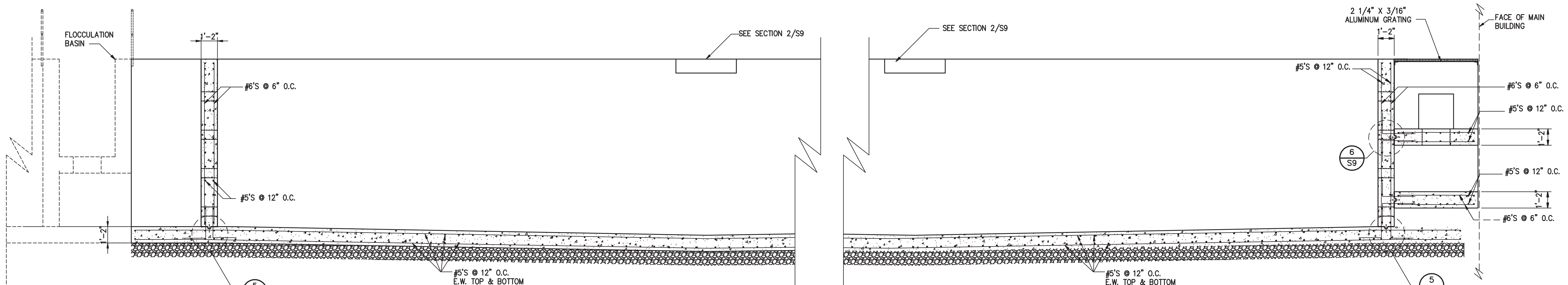
AUSTINVILLE WATER TREATMENT PLANT (DIVISION I)
AUSTINVILLE VIRGINIA

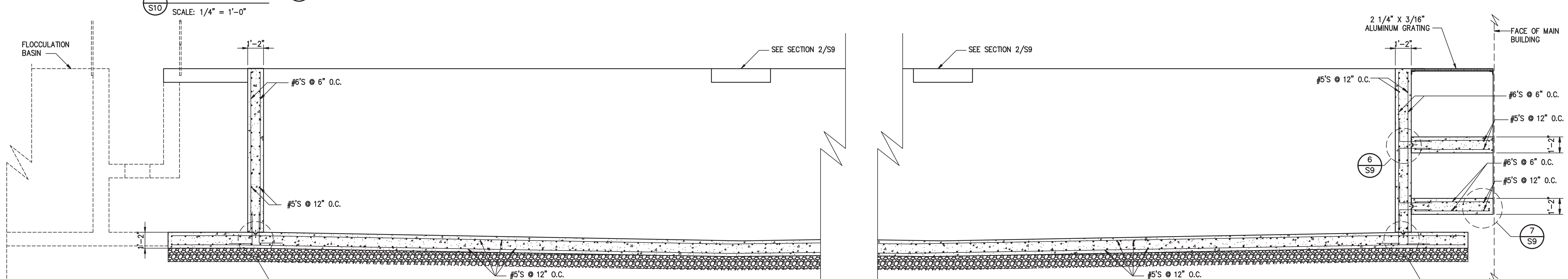
DRAWN BY: BMB
REVIEW BY: JFK
DATE: 20 OCT. 2006
REVISION:
DWG DESCRIPTION: SEDIMENTATION BASIN PLAN & SECTIONS

S9

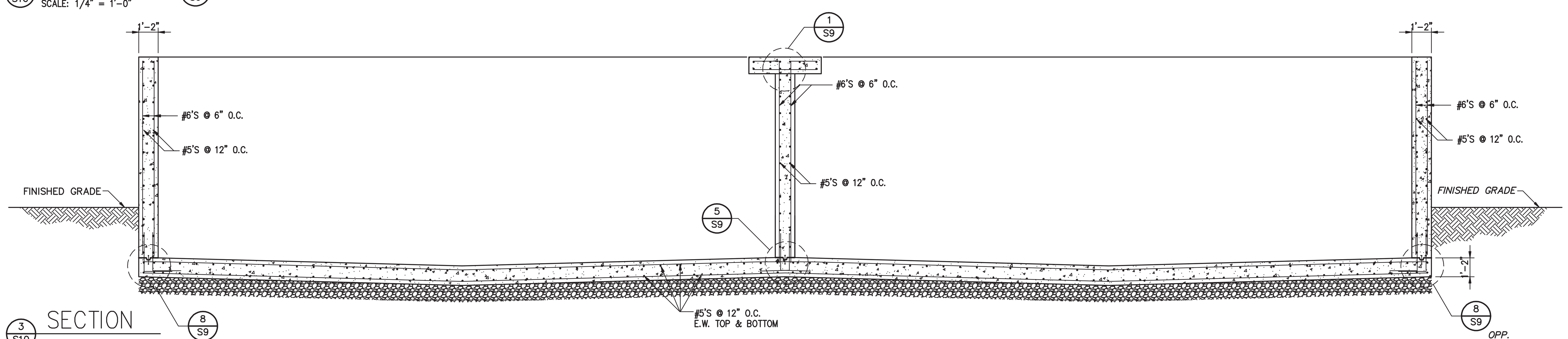
COMMISSION No. 04-095



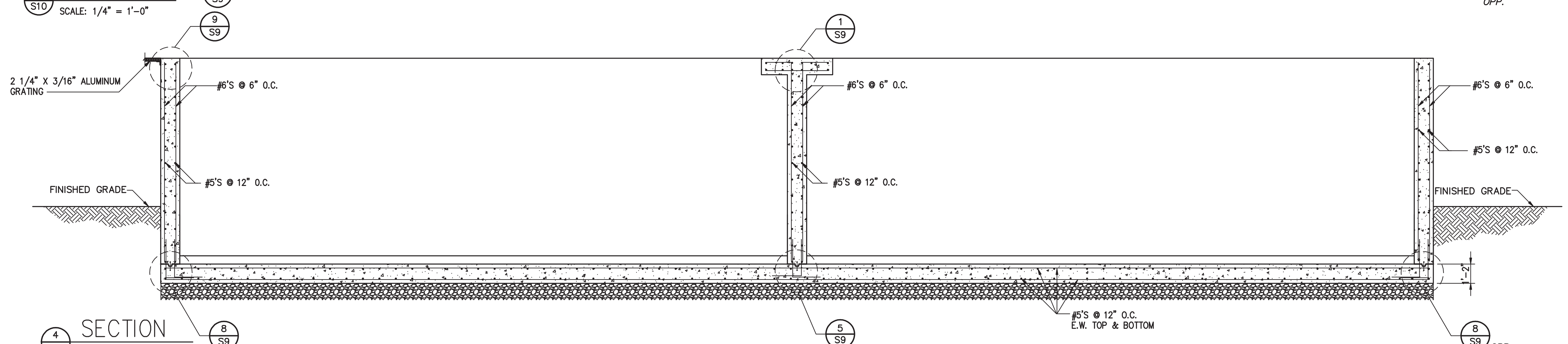
SECTION 1/S10
SCALE: 1/4" = 1'-0"



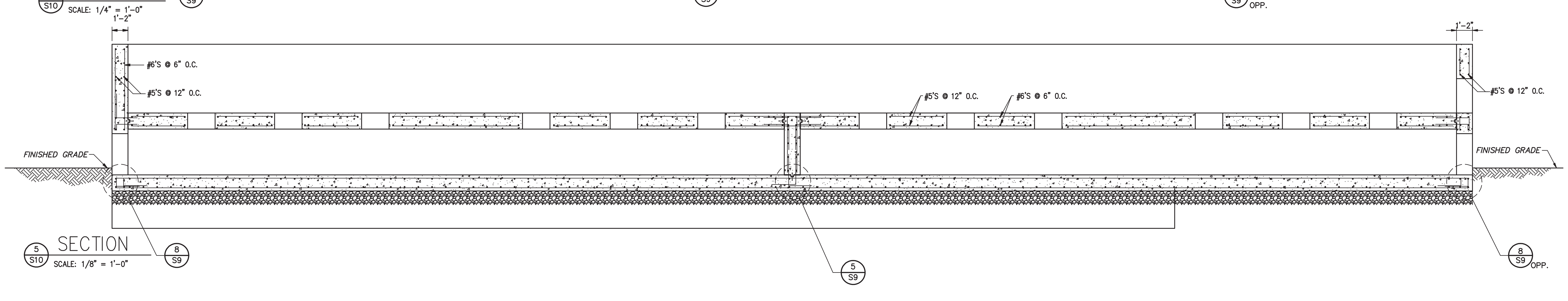
SECTION 2/S10
SCALE: 1/4" = 1'-0"



SECTION 3/S10
SCALE: 1/4" = 1'-0"



SECTION 4/S10
SCALE: 1/4" = 1'-0"



SECTION 5/S10
SCALE: 1/8" = 1'-0"

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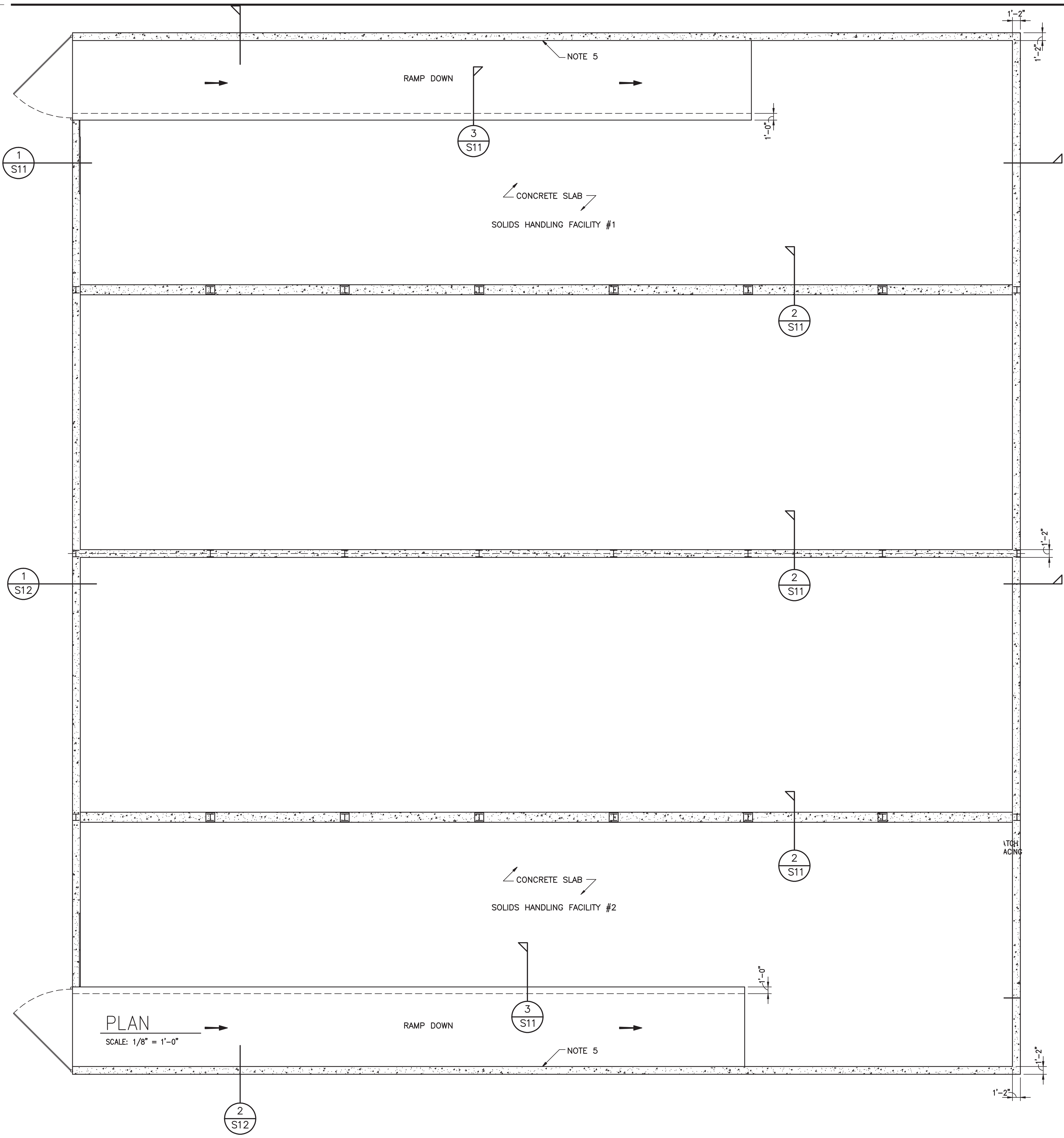
AUSTINVILLE WATER TREATMENT PLANT (DIVISION I)

AUSTINVILLE VIRGINIA

DRAWN BY: BMB
REVIEW BY: JFK
DATE: 20 OCT. 2006
REVISION:
DWG DESCRIPTION: SEDIMENTATION BASIN PLAN & SECTIONS

S10

COMMISSION No. 04-095



PLAN
SCALE: 1/8" = 1'-0"

STRUCTURAL NOTES

1. SEE SHEET S1 FOR GENERAL STRUCTURAL NOTES, SCHEDULES AND TYPICAL DETAILS.
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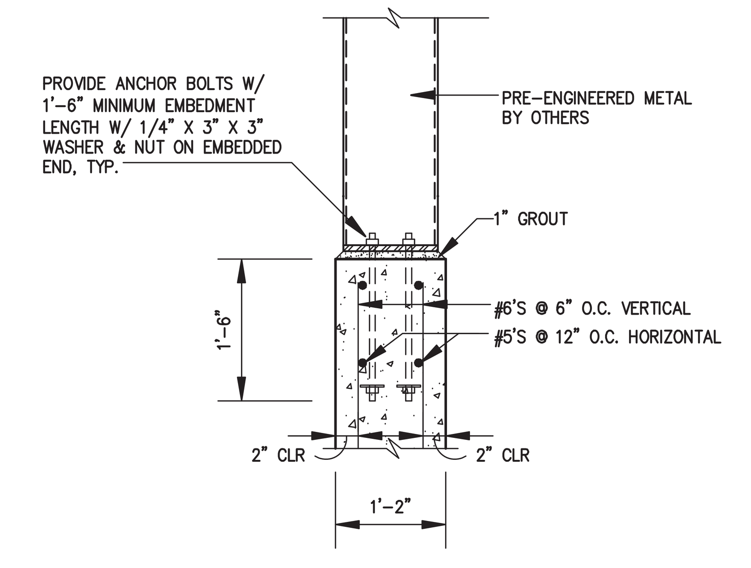
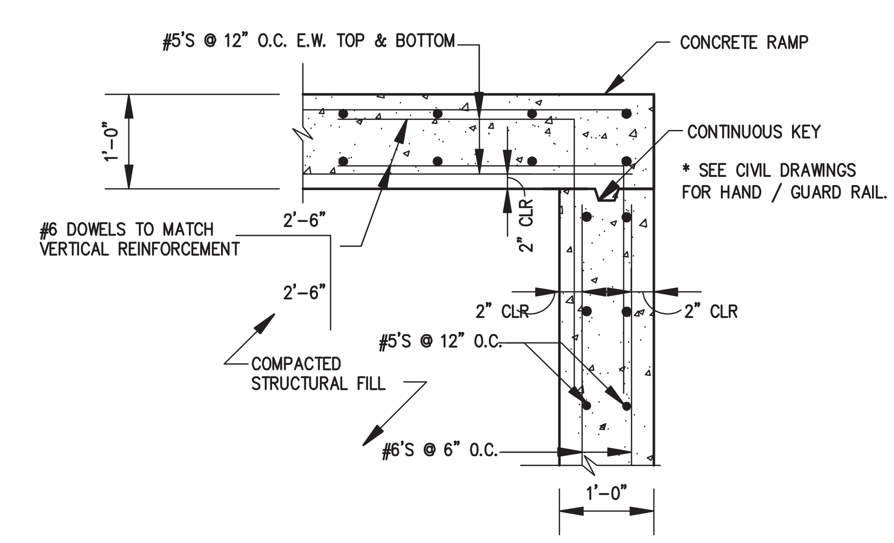
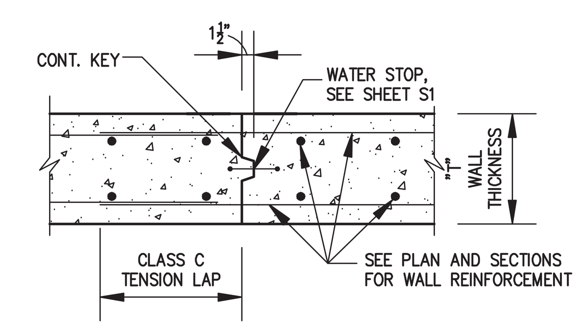
3. SEE CIVIL DRAWINGS TO CONFIRM PLAN DIMENSIONS AND WALL ELEVATIONS.
4. CONTROL JOINTS TO BE PLACED AT 20'-0" O.C. MAXIMUM IN ALL CONCRETE WALLS.
5. DOWEL RAMP REINFORCEMENT INTO CONCRETE WALL.



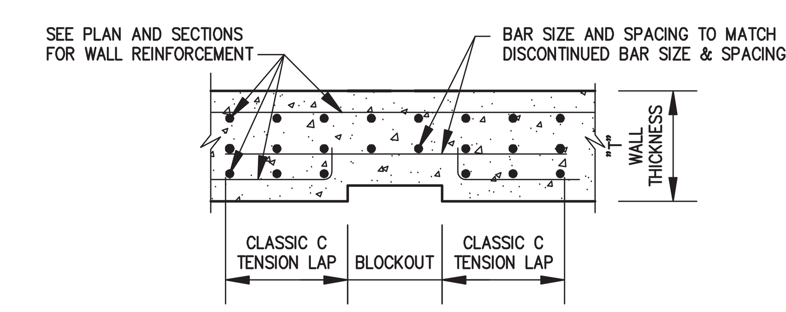
2 S11 SECTION
SCALE: 3/4" = 1'-0"



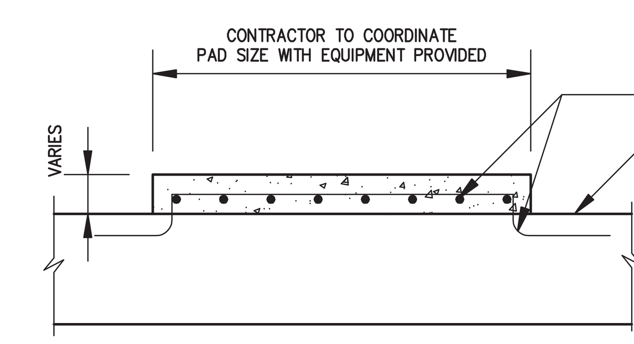
3 S11 SECTION
SCALE: 3/4" = 1'-0"



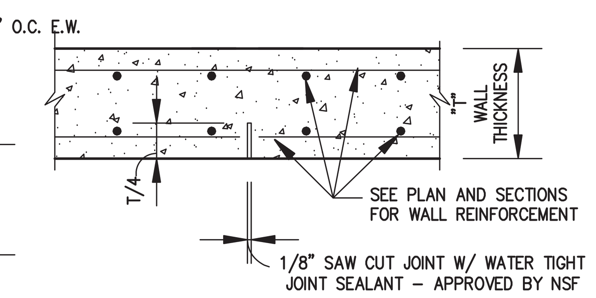
TYPICAL WALL CONSTRUCTION JOINT
SCALE: N.T.S.



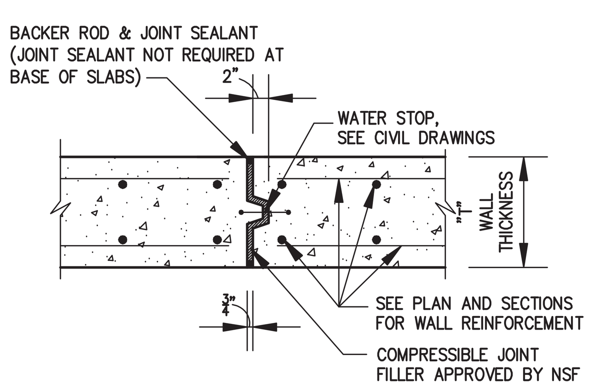
BLOCKOUT REINFORCEMENT DETAIL
SCALE: N.T.S.



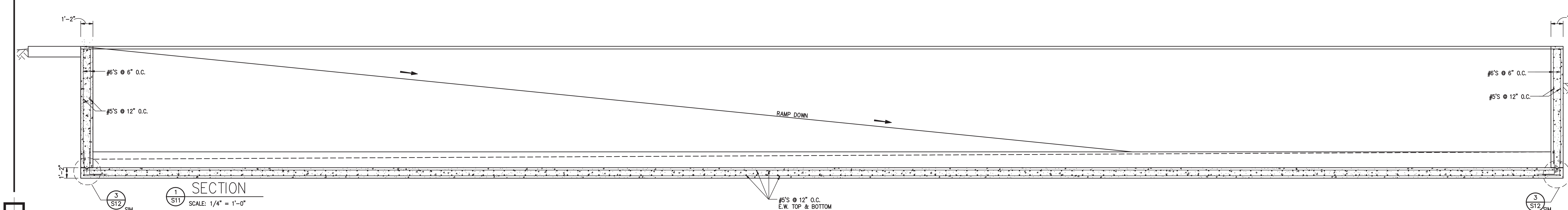
TYPICAL EQUIPMENT PAD
SCALE: N.T.S.



TYPICAL WALL CONTROL JOINT
SCALE: N.T.S.



TYPICAL EXPANSION JOINT FOR WALLS
SCALE: N.T.S.



1 S11 SECTION
SCALE: 1/4" = 1'-0"

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COMM. NO. 04-095

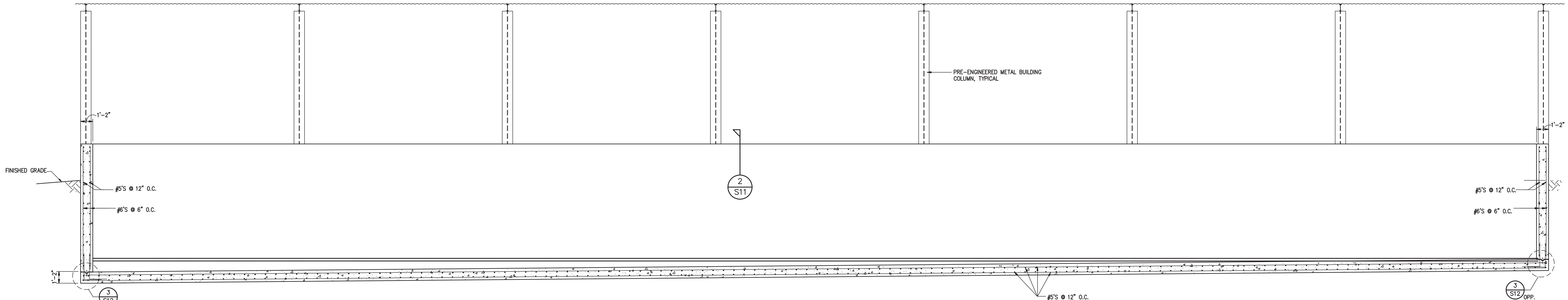
AUSTINVILLE WATER TREATMENT PLANT (DIVISION I)

AUSTINVILLE VIRGINIA

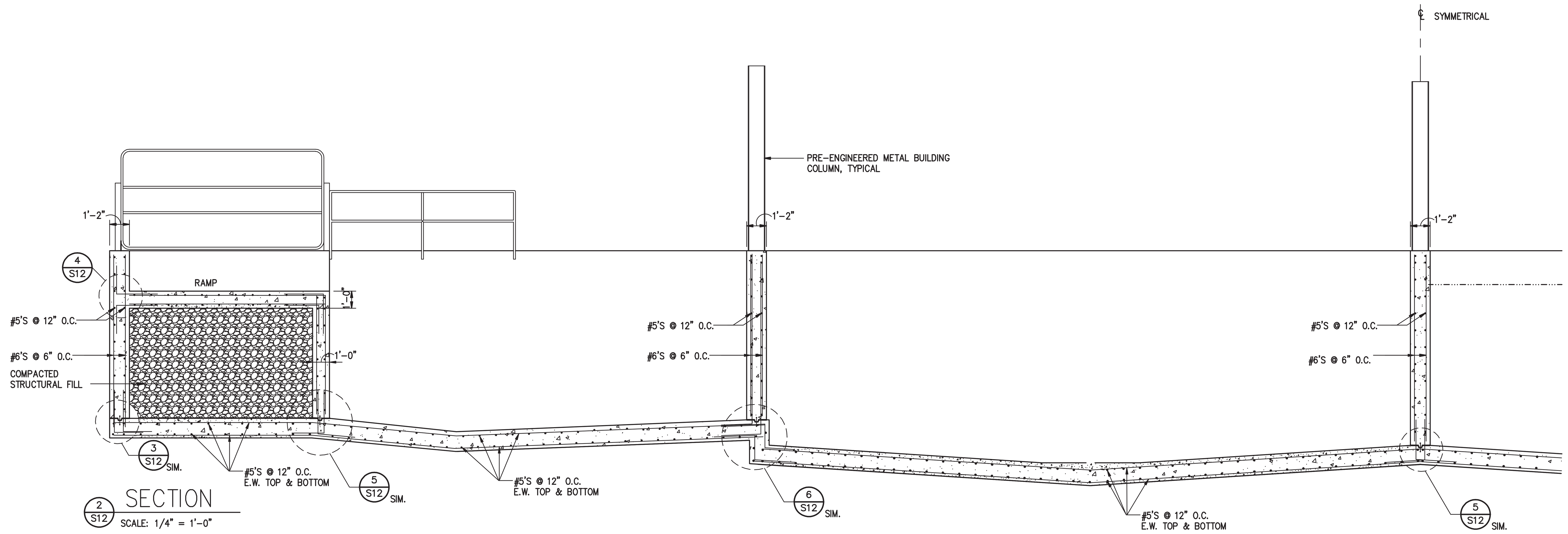
DRAWN BY:	BMB
REVIEW BY:	JFK
DATE:	20 OCT. 2006
REVISION:	
DWG DESCRIPTION:	SOLIDS HANDLING FACILITY

S11

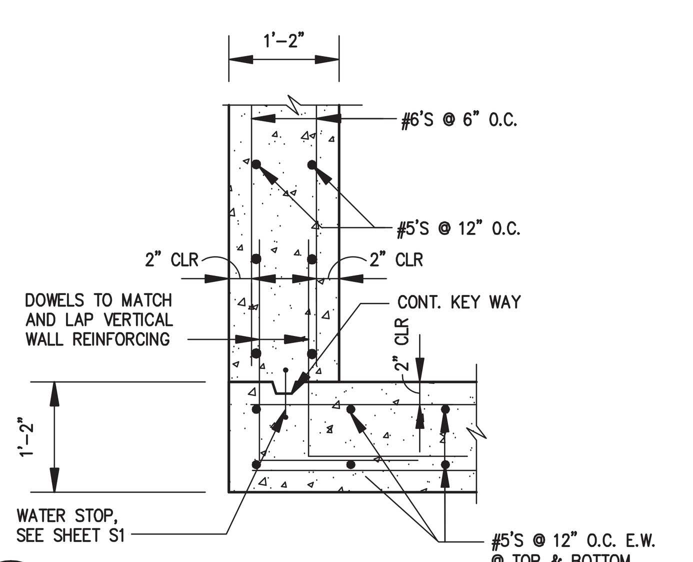
COMMISSION No. 04-095



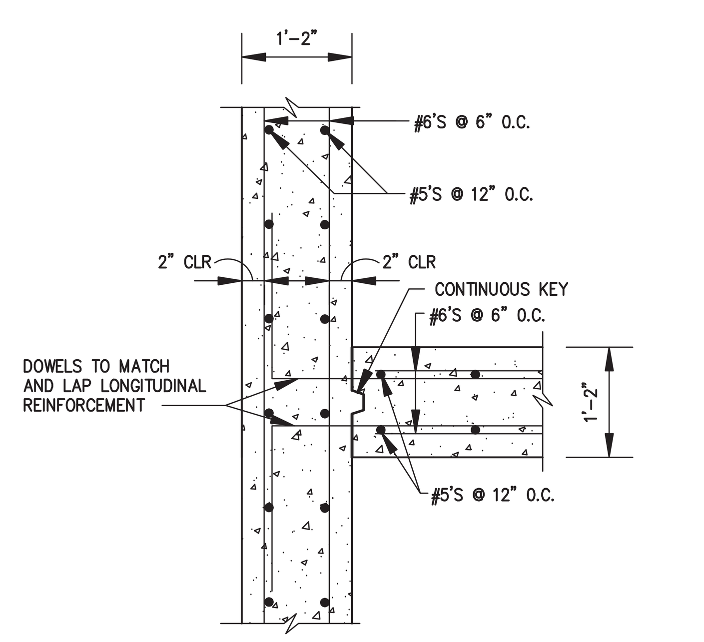
1 SECTION
S12
SCALE: 1/4" = 1'-0"



2 SECTION
S12
SCALE: 1/4" = 1'-0"



3 SECTION
S12
SCALE: 3/4" = 1'-0"



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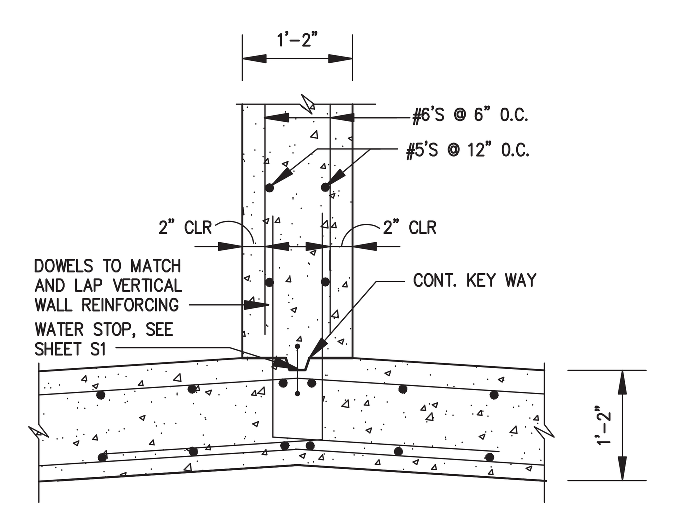
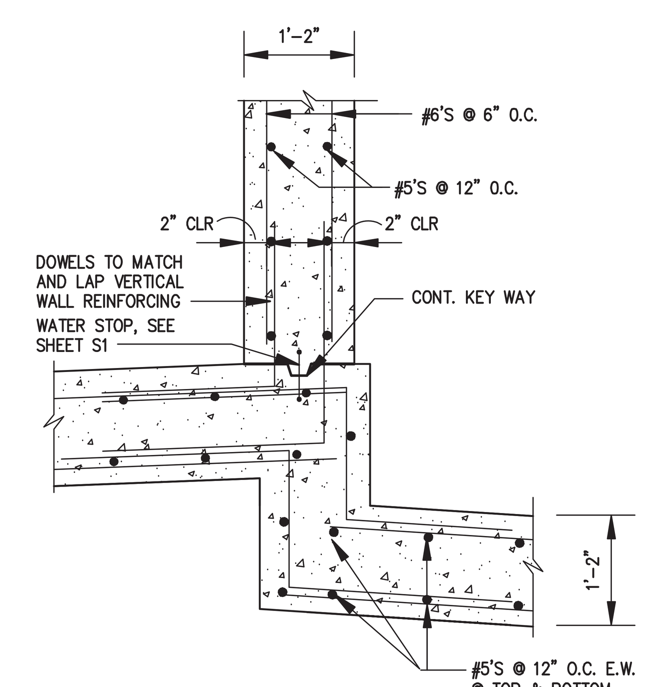
S12
SCALE: 3/4" = 1'-0"



5 SECTION
S12
SCALE: 3/4" = 1'-0"



6 SECTION
S12
SCALE: 3/4" = 1'-0"

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AUSTINVILLE WATER TREATMENT PLANT (DIVISION I)

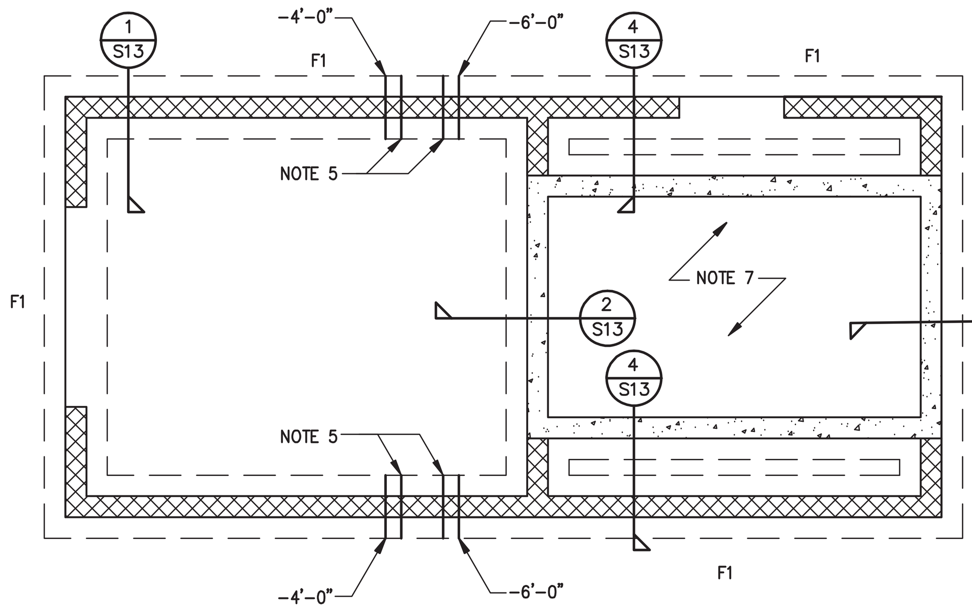
AUSTINVILLE VIRGINIA

DRAWN BY:
BMB
REVIEW BY:
JFK
DATE:
20 OCT. 2006
REVISION:

DWG DESCRIPTION:
SOLIDS
HANDLING
FACILITY

S12

COMMISSION No.
04-095



FOUNDATION PLAN

SCALE: 1/4" = 1'-0"

FOUNDATION NOTES:

1. SEE SHEET S1 FOR GENERAL STRUCTURAL NOTES, SCHEDULES, AND TYPICAL DETAILS.

2. PROVIDE 6" CONCRETE SLAB ON GRADE REINFORCED WITH ONE LAYER OF 6 X 6 – W2.9 X W2.9 W.W.F. OVER VAPOR BARRIER OVER 4" GRANULAR FILL, TYPICAL OVER ENTIRE FLOOR, UNLESS NOTED OTHERWISE.

3. REFERENCE FINISH FLOOR ELEVATION SHALL BE 0'–0". TOP OF ALL SLABS ON GRADE SHALL BE AT REFERENCE ELEVATION, UNLESS NOTED OTHERWISE.

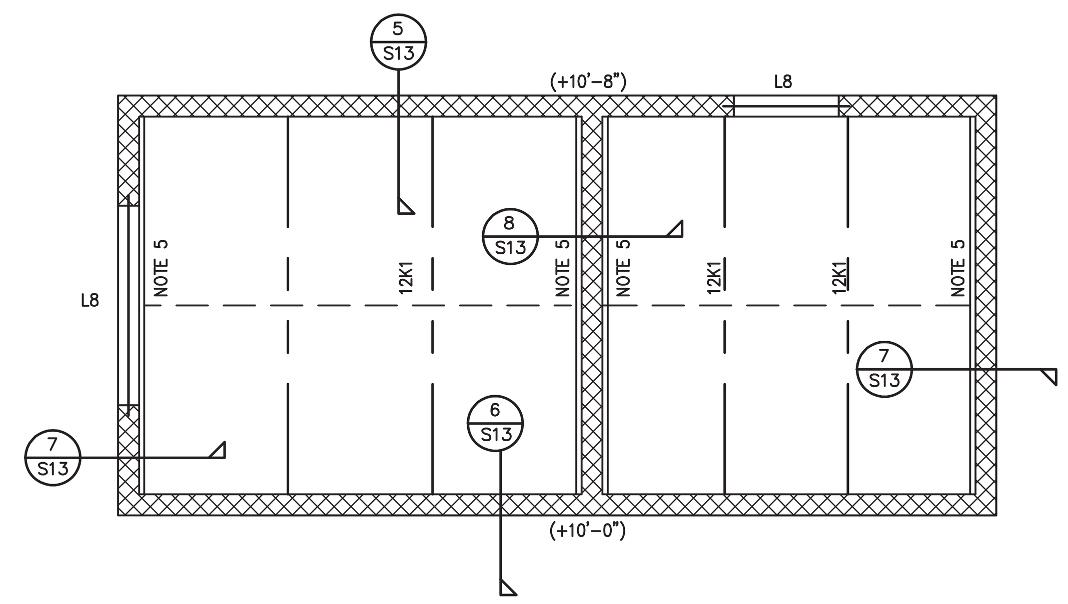
4. TOP OF ALL INTERIOR FOOTINGS SHALL BE (–0'–8") BELOW REFERENCE FINISH FLOOR ELEVATION AND TOP OF ALL EXTERIOR FOOTINGS SHALL BE (–2'–0") BELOW REFERENCE FINISH FLOOR ELEVATION, UNLESS NOTED OTHERWISE THUS (–X'–X").

5. STEP FOOTING – SEE TYPICAL DETAIL 3/S1.

6. REINFORCE ALL 8" MASONRY WALLS WITH #5 VERTICAL REINFORCING AT 32" O.C. FULL HEIGHT IN FULLY GROUTED CELLS, UNLESS NOTED OTHERWISE.

7. PROVIDE ALUMINUM BAR GRATING 2 1/2" X 3/16".

8. SEE ARCHITECTURAL / CIVIL DRAWINGS FOR ALL INFORMATION NOT SHOWN, INCLUDING OPENINGS AND PIPE PENETRATIONS.



ROOF FRAMING PLAN

SCALE: 1/4" = 1'-0"

ROOF FRAMING NOTES:

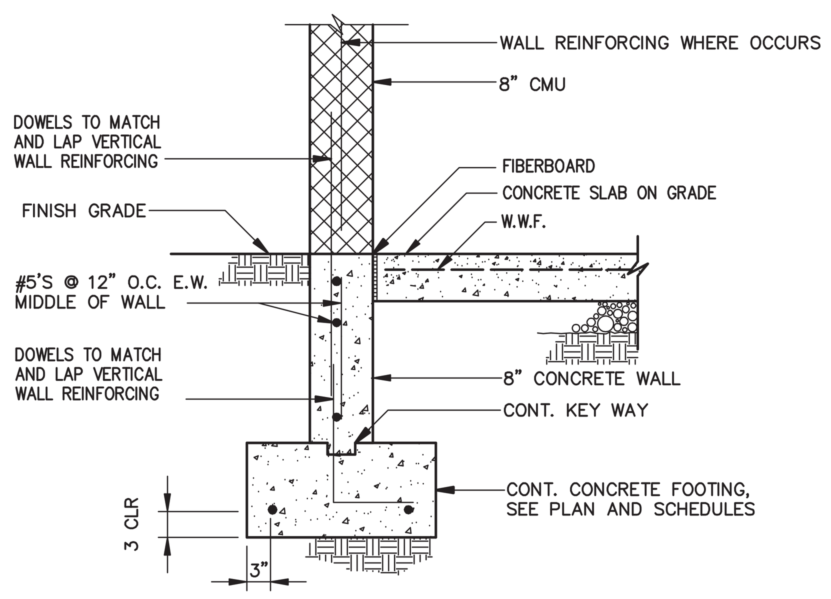
1. SEE SHEET S1 FOR GENERAL STRUCTURAL NOTES, SCHEDULES, AND TYPICAL DETAILS.

2. TYPICAL ROOF CONSTRUCTION SHALL BE 1 1/2" 20 GAGE METAL ROOF DECK SUPPORTED BY STEEL JOIST SPACED AT 5'–0" ON CENTER MAXIMUM, UNLESS NOTED OTHERWISE.

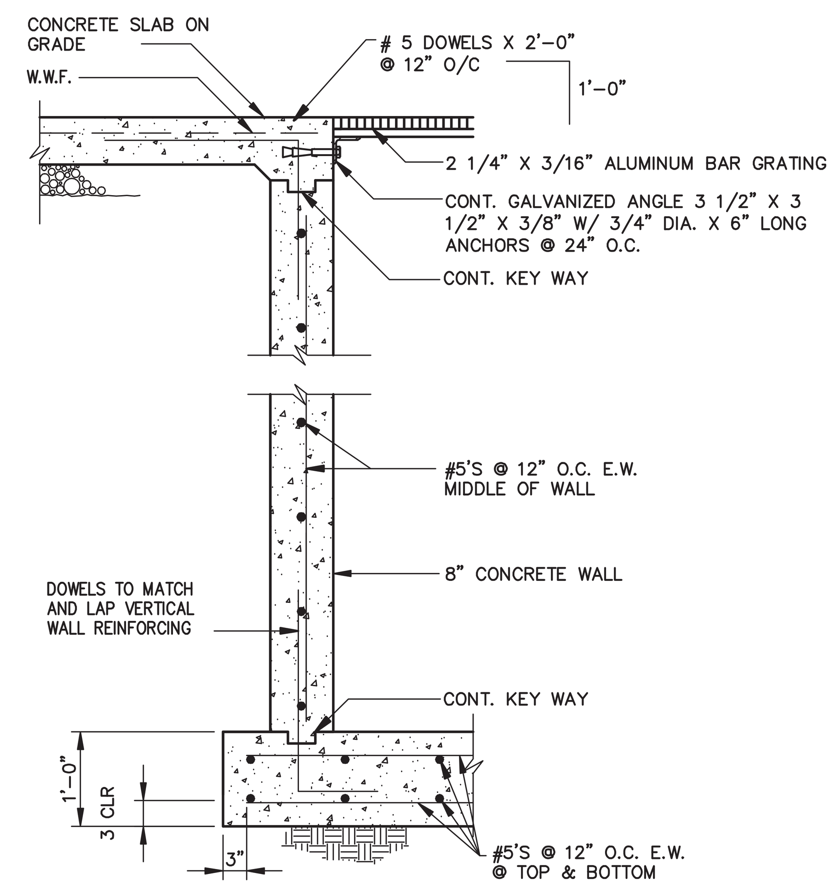
3. STEEL JOIST BRIDGING – EXACT SIZE AND LOCATION BY JOIST MANUFACTURER.

4. TOP OF STEEL JOIST ELEVATIONS ARE NOTED ON PLAN THUS (+X'–X') AND ARE REFERENCED FROM FINISH FLOOR ELEVATION 0'–0". SLOPE ALL JOISTS UNIFORMLY BETWEEN NOTED ELEVATIONS. WHERE JOISTS ELEVATIONS DO NOT COURSE WITH MASONRY USING STANDARD 2 1/2" DEEP JOIST BEARING SEAT, CONTRACTOR MAY AT HIS OPTION, ORDER STEEL JOISTS WITH INCREASED BEARING SEAT DEPTHS TO COURSE MASONRY.

5. CONTINUOUS LEDGER ANGLE 3 1/2" X 3 1/2" X 1/4" WITH 3/5" DIAMETER X 6" EXPANSION BOLTS AT 24" O.C. MAXIMUM. GROUT MASONRY WALL SOLID TO RECEIVE EXPANSION BOLTS.



1 S13 SECTION SCALE: N.T.S.



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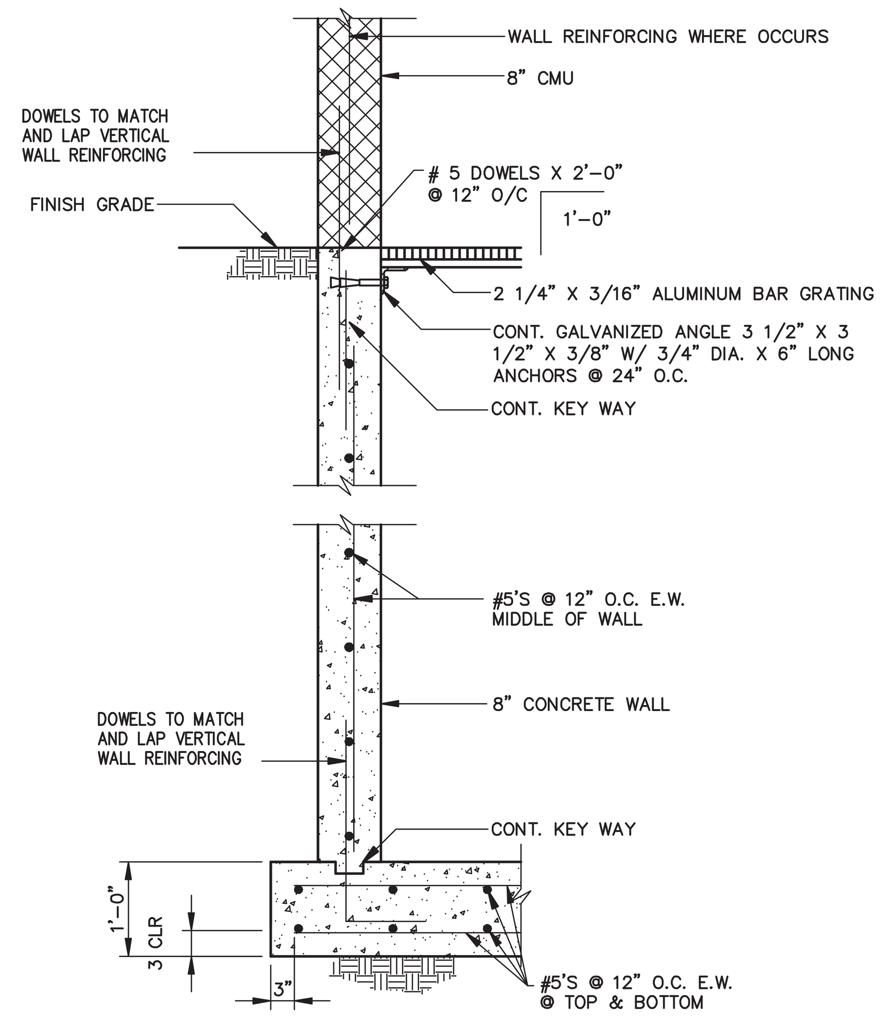

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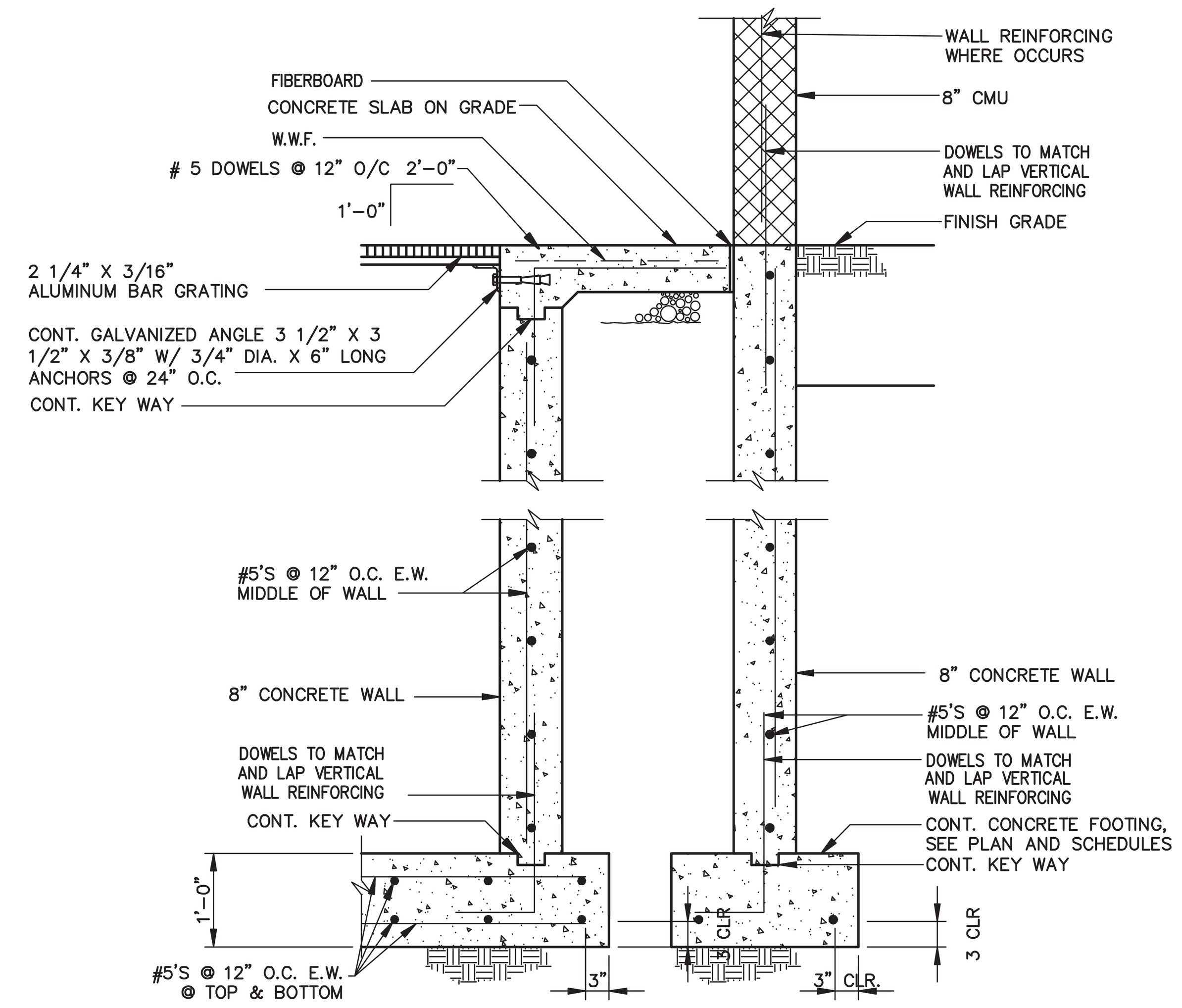

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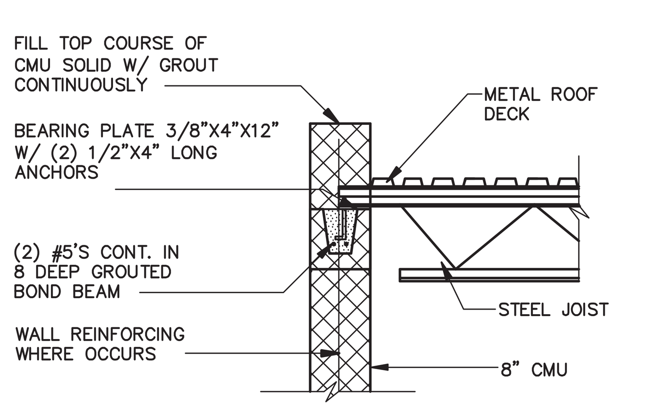

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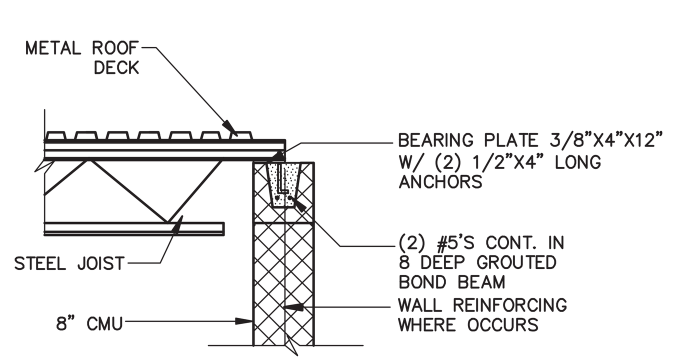

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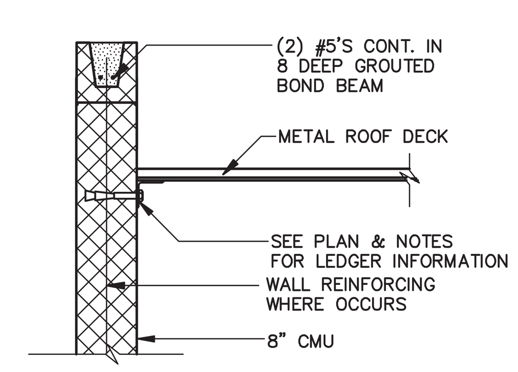
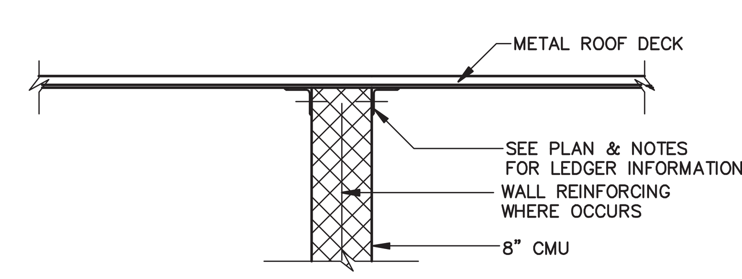


7 S13 SECTION SCALE: N.T.S.



8 S13 SECTION SCALE: N.T.S.

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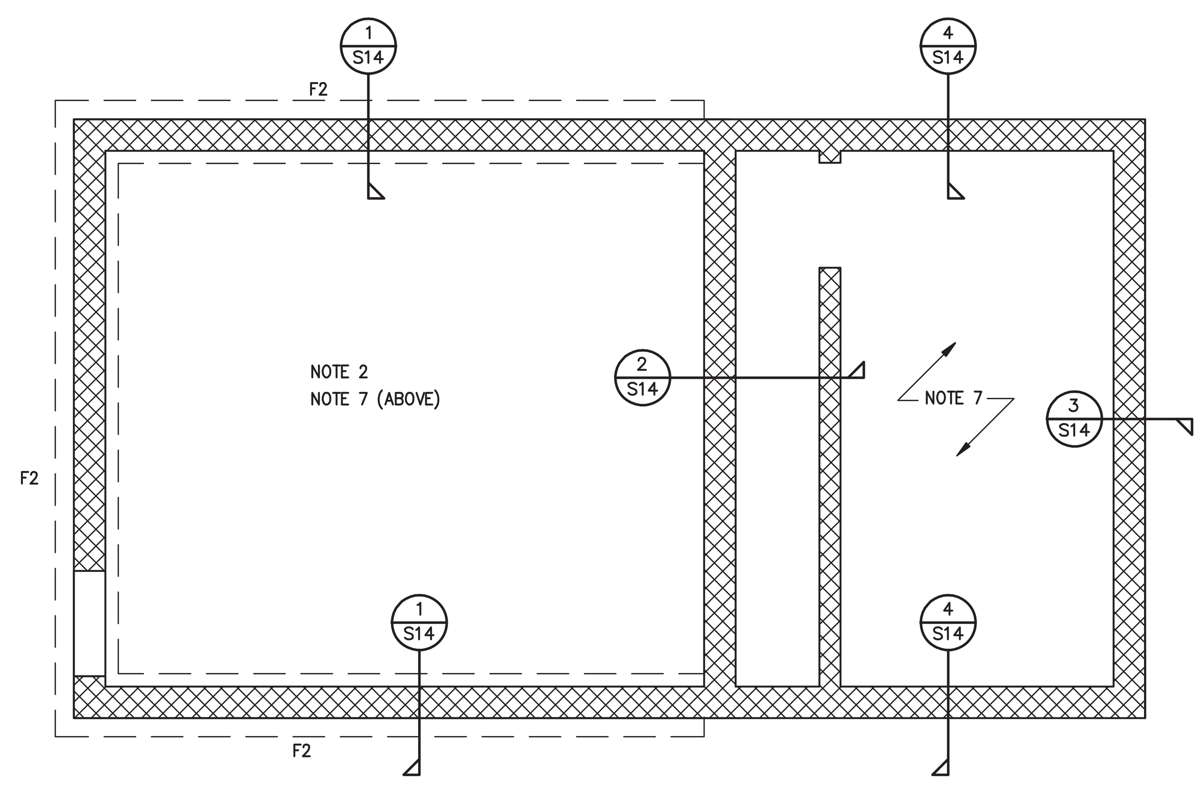
AUSTINVILLE WATER TREATMENT PLANT (DIVISION I)

AUSTINVILLE VIRGINIA

DRAWN BY: BMB
REVIEW BY: JFK
DATE: 20 OCT. 2006
REVISION:
DWG DESCRIPTION: HIGH SERVICE PUMP STATION

S13

COMMISSION No. 04-095



FOUNDATION PLAN

SCALE: 1/4" = 1'-0"

FOUNDATION NOTES:

1. SEE SHEET S1 FOR GENERAL STRUCTURAL NOTES, SCHEDULES, AND TYPICAL DETAILS.

2. PROVIDE 6" CONCRETE SLAB ON GRADE REINFORCED WITH ONE LAYER OF 6 X 6 – W2.9 X W2.9 W.W.F. OVER VAPOR BARRIER OVER 4" GRANULAR FILL, TYPICAL OVER ENTIRE FLOOR, UNLESS NOTED OTHERWISE.

3. REFERENCE FINISH FLOOR ELEVATION SHALL BE 0'-0". TOP OF ALL SLABS ON GRADE SHALL BE AT REFERENCE ELEVATION, UNLESS NOTED OTHERWISE.

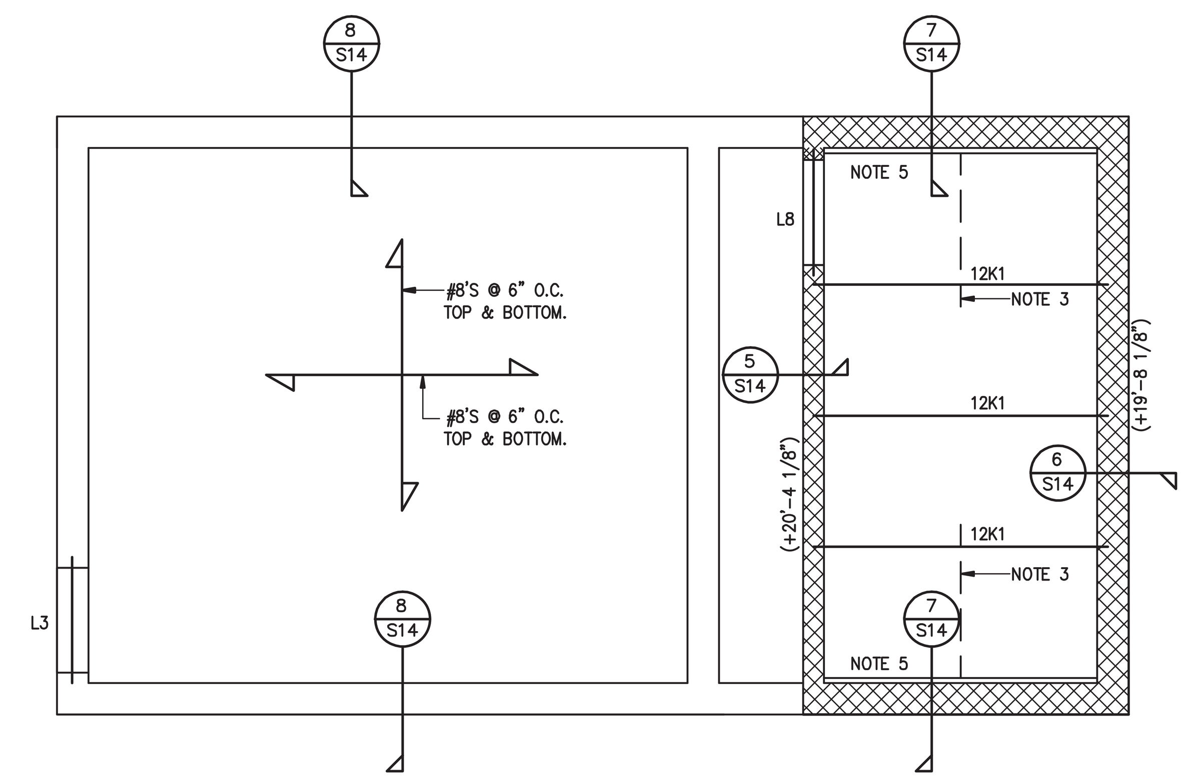
4. TOP OF ALL INTERIOR FOOTINGS SHALL BE (–0'-8") BELOW REFERENCE FINISH FLOOR ELEVATION AND TOP OF ALL EXTERIOR FOOTINGS SHALL BE (–2'-0") BELOW REFERENCE FINISH FLOOR ELEVATION, UNLESS NOTED OTHERWISE THUS (–X'-X").

5. STEP FOOTING – SEE TYPICAL DETAIL 3/S1.

6. REINFORCE ALL 8" AND 12" MASONRY WALLS WITH #5 VERTICAL REINFORCING AT 32" O.C. FULL HEIGHT IN FULLY GROUTED CELLS, UNLESS NOTED OTHERWISE.

7. PROVIDE 12" CONCRETE SLAB REINFORCED WITH #8'S @ 6" ON CENTER FLEXURAL AND #5'S @ 12" O.C. CENTER TEMPERATURE, EACH WAY TOP AND BOTTOM. GENERAL CONTRACTOR TO VERIFY SLAB ELEVATION. FINISH SLAB ELEVATION (+10'– 1 5/8").

8. SEE ARCHITECTURAL / CIVIL DRAWINGS FOR ALL INFORMATION NOT SHOWN, INCLUDING OPENINGS AND PIPE PENETRATIONS.



ROOF FRAMING PLAN

SCALE: 1/4" = 1'-0"

ROOF FRAMING NOTES:

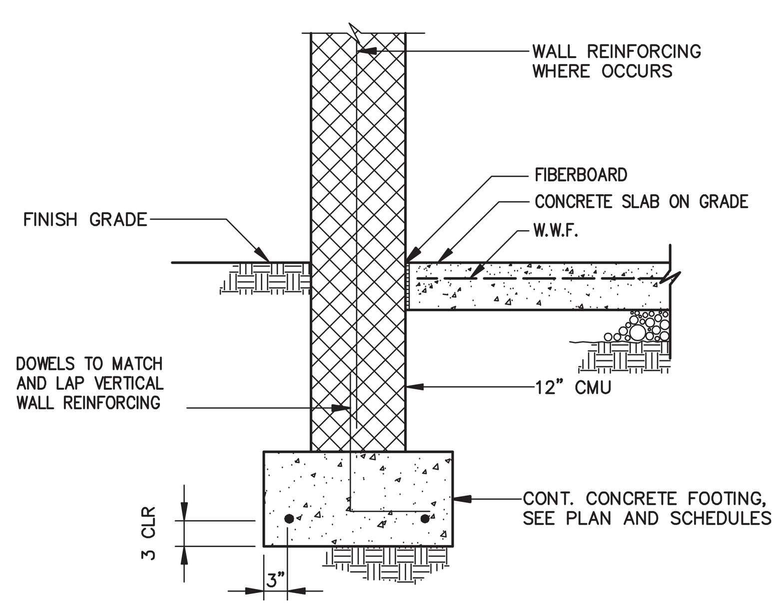
1. SEE SHEET S1 FOR GENERAL STRUCTURAL NOTES, SCHEDULES, AND TYPICAL DETAILS.

2. TYPICAL ROOF CONSTRUCTION SHALL BE 1 1/2" 20 GAGE METAL ROOF DECK SUPPORTED BY STEEL JOIST SPACED AT 5'-0" ON CENTER MAXIMUM, UNLESS NOTED OTHERWISE.

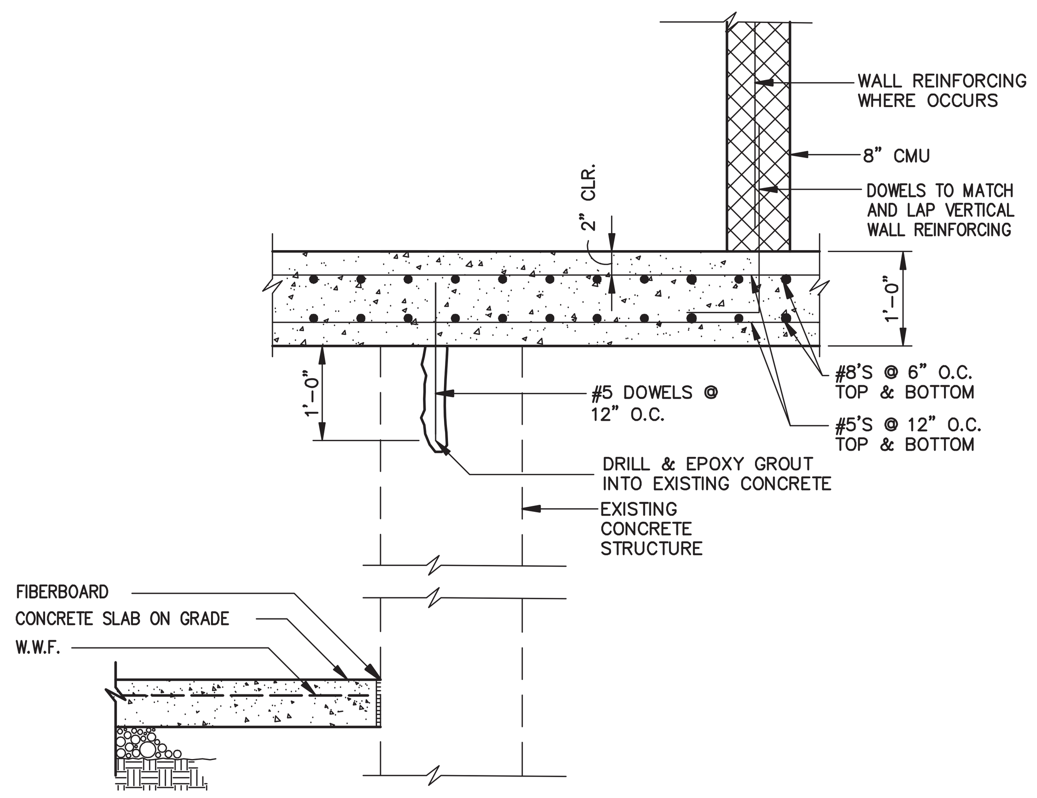
3. STEEL JOIST BRIDGING – EXACT SIZE AND LOCATION BY JOIST MANUFACTURER.

4. TOP OF STEEL JOIST ELEVATIONS ARE NOTED ON PLAN THUS (+X'-X') AND ARE REFERENCED FROM FINISH FLOOR ELEVATION 0'-0". SLOPE ALL JOISTS UNIFORMLY BETWEEN NOTED ELEVATIONS. WHERE JOISTS ELEVATIONS DO NOT COURSE WITH MASONRY USING STANDARD 2 1/2" DEEP JOIST BEARING SEAT, CONTRACTOR MAY AT HIS OPTION, ORDER STEEL JOISTS WITH INCREASED BEARING SEAT DEPTHS TO COURSE MASONRY.

5. CONTINUOUS LEDGER ANGLE 3 1/2" X 3 1/2" X 1/4" WITH 3/5" DIAMETER X 6" EXPANSION BOLTS AT 24" O.C. MAXIMUM. GROUT MASONRY WALL SOLID TO RECEIVE EXPANSION BOLTS.



1 S14 SECTION SCALE: N.T.S.



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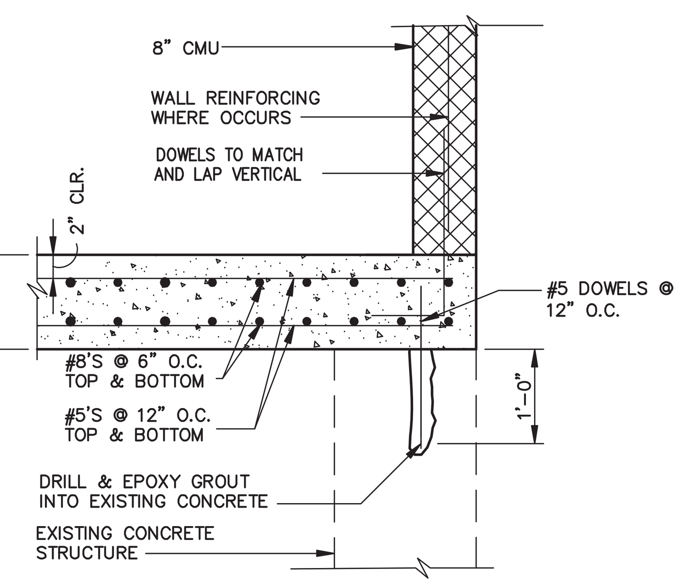

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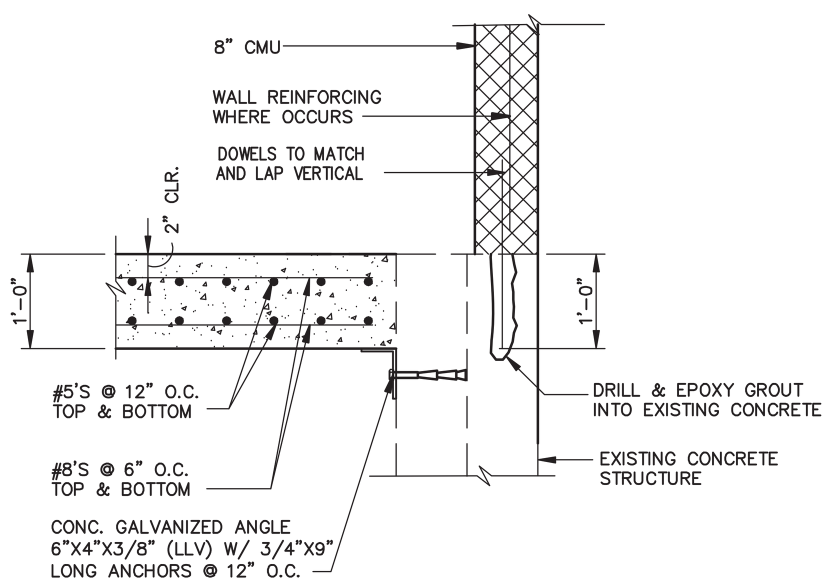

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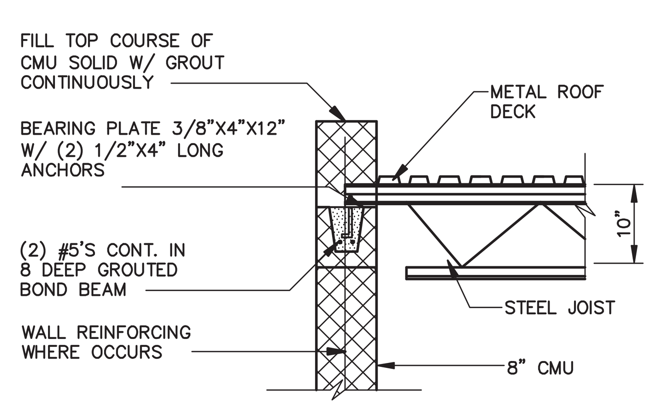

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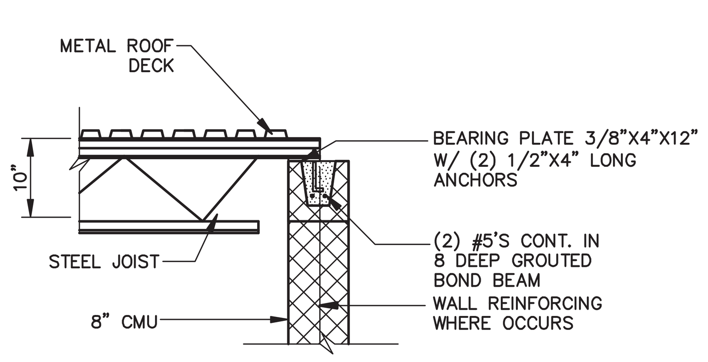

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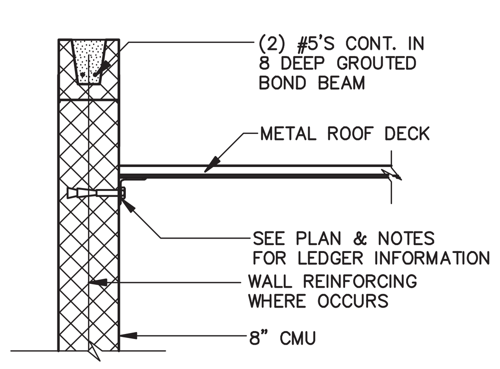
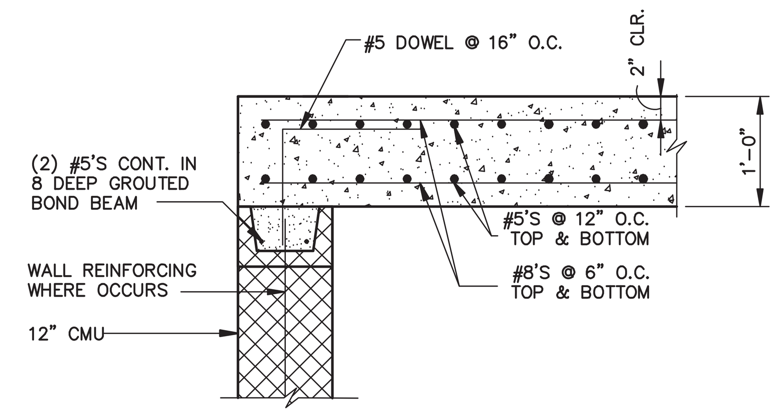


7 S14 SECTION SCALE: N.T.S.



8 S14 SECTION SCALE: N.T.S.

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AUSTINVILLE WATER TREATMENT PLANT (DIVISION I)

AUSTINVILLE VIRGINIA

DRAWN BY: BMB

REVIEW BY: JFK

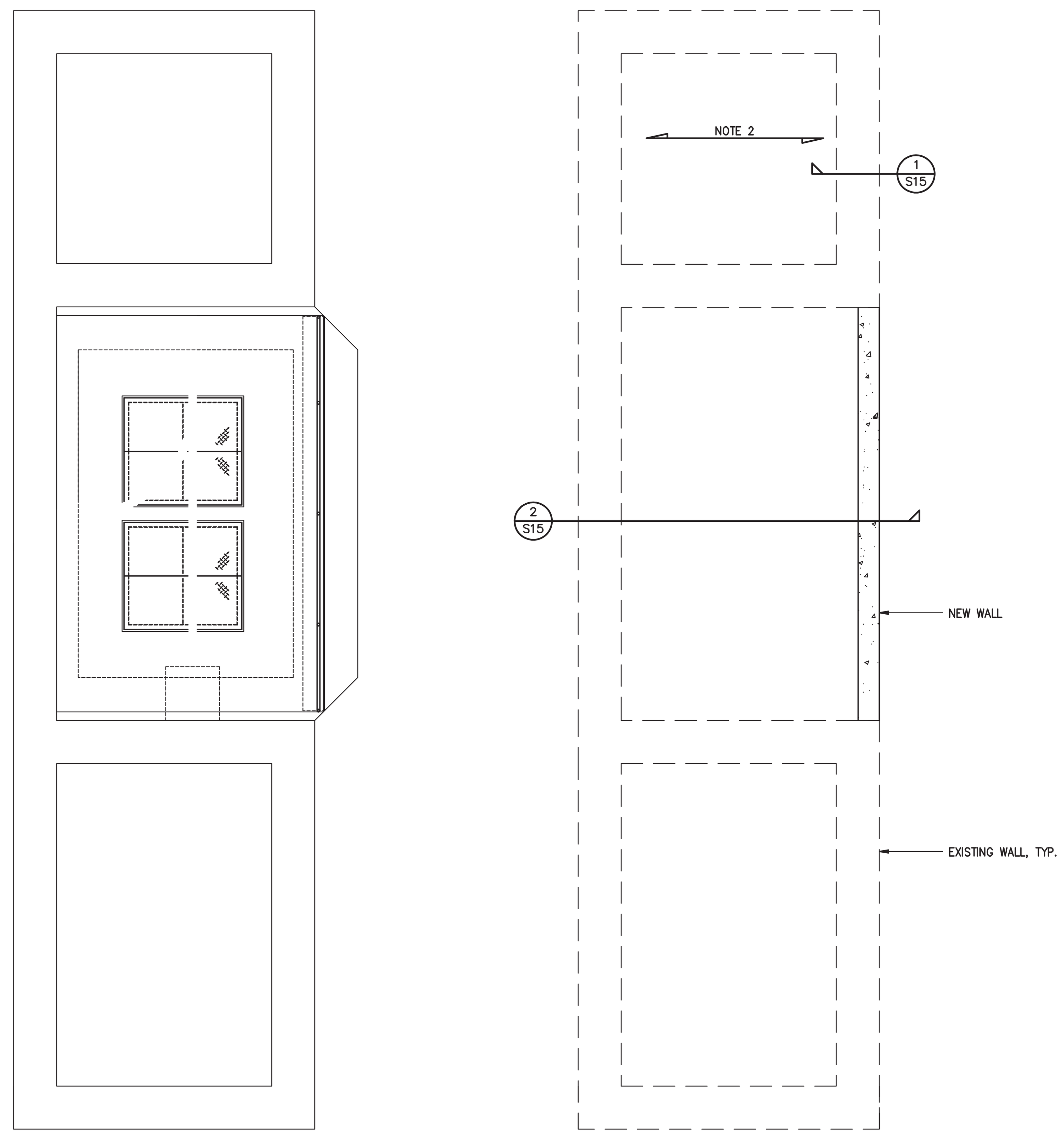
DATE: 20 OCT. 2006

REVISION:

DWG DESCRIPTION: RAW WATER INTAKE

S14

COMMISSION No. 04-095



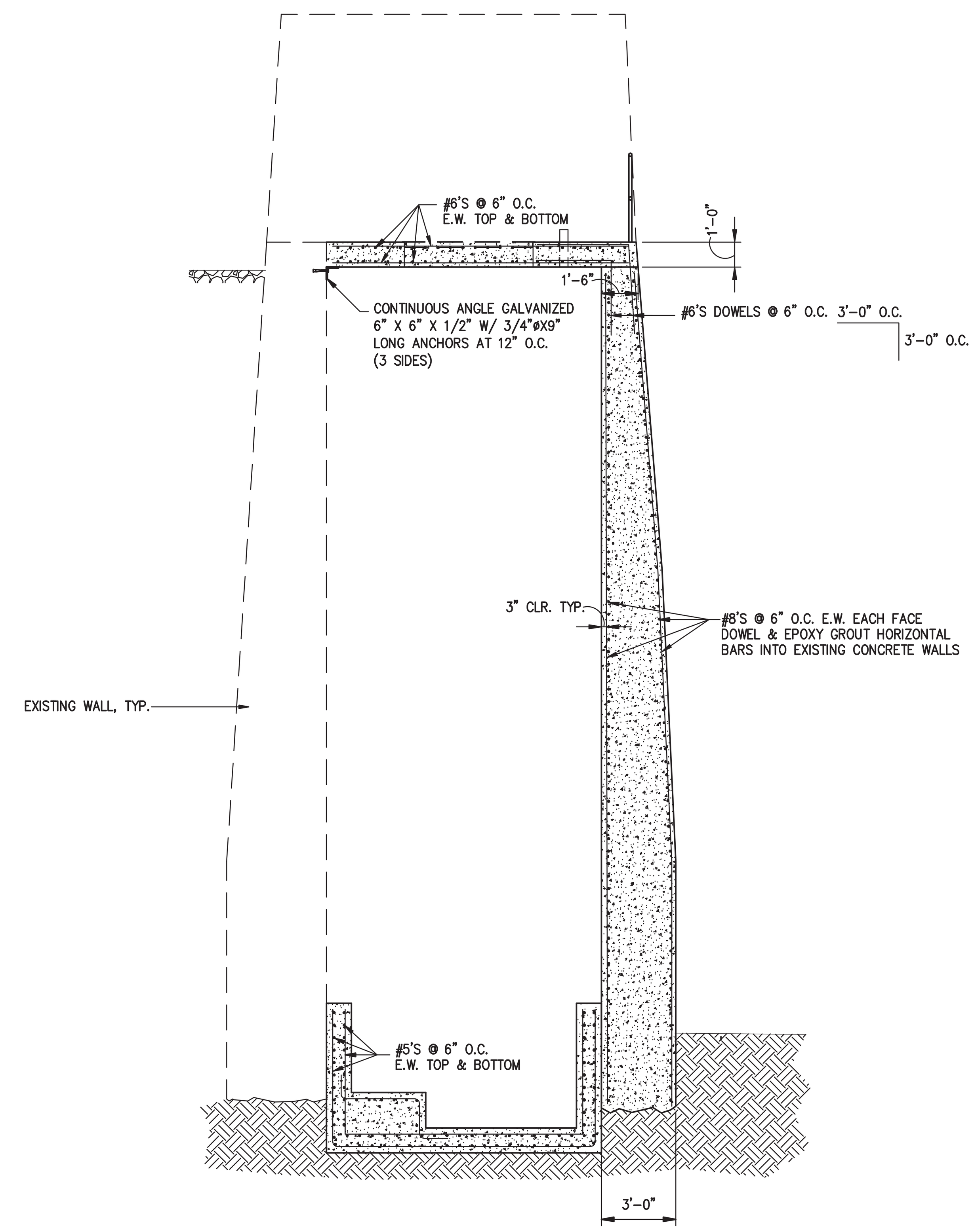
NEW FLOOR / COVER / NEW WALL NOTES

SCALE: 1/4" = 1'-0"

NEW FLOOR / COVER @ EXISTING WALL

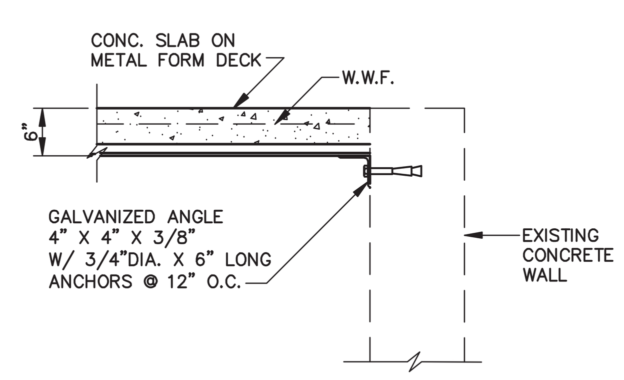
1. SEE SHEET S1 FOR GENERAL STRUCTURAL NOTES, SCHEDULES, AND TYPICAL DETAILS.

2. FLOOR CONSTRUCTION SHALL BE 6" CONCRETE REINFORCED WITH ONE LAYER OF 6X6 W2.1 X W2.1 W.W.F. SUPPORTED BY 3" 18 GAGE COMPOSITE METAL FLOOR DECK.



SECTION – RAW WATER INTAKE (2/S5)

SCALE: 1/4" = 1'-0"



1/S15 SECTION

SCALE: N.T.S.

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AUSTINVILLE
WATER TREATMENT PLANT
(DIVISION I)
AUSTINVILLE VIRGINIA

DRAWN BY: BMB

REVIEW BY: JFK

DATE: 20 OCT. 2006

REVISION:

DWG DESCRIPTION: RAW WATER INTAKE

S15

COMMISSION No. 04-095

PLUMBING GENERAL NOTES

1. ALL PLUMBING WORK SHALL CONFORM WITH ALL STATE AND LOCAL CODES, RULES AND REGULATIONS.
2. PLUMBING CONTRACTOR SHALL SECURE AND PAY FOR ANY PERMITS.
3. PLUMBING CONTRACTOR SHALL INFORM SUBCONTRACTOR OF QUANTITY AND LOCATION OF ACCESS PANELS WHERE REQUIRED FOR ACCESS TO VALVES IN CEILINGS AND WALLS. ACCESS PANELS SHALL BE INSTALLED BY THE APPROPRIATE SUBCONTRACTOR.
4. FOR ALL SIZES OF WASTE, VENT, HOT AND COLD WATER PIPING TO FIXTURES AND EQUIPMENT, SEE SANITARY WASTE AND WATER RISER DIAGRAMS.
5. ALL COLD AND HOT WATER PIPING SHALL BE INSULATED AND ALL PIPING SHALL BE INSTALLED INSIDE OF THE BUILDING INSULATION ENVELOPE.
6. ALL SANITARY WASTE PIPING SHALL BE SLOPED AT 1/4" PER FOOT UNLESS OTHERWISE NOTED.
7. ALL SLOPES AND INVERTS ELEVATIONS SHALL BE CHECKED BEFORE ANY PIPING IS INSTALLED, IN ORDER THAT PROPER SLOPES WILL BE MAINTAINED.
8. MAKE PROPER WASTE, VENT, HOT AND COLD WATER CONNECTIONS TO ALL FIXTURES AND EQUIPMENT, EVEN THOUGH ALL BRANCH MAINS, ELBOWS AND CONNECTIONS ARE NOT SHOWN.
9. ALL PLUMBING WORK SHALL BE COORDINATED WITH OTHER TRADES TO AVOID ANY INTERFERENCE.
10. THESE DRAWINGS ARE DIAGRAMMATIC, REFER TO THE ARCHITECTURAL DRAWINGS FOR EXACT DIMENSIONS OF THE BUILDING AND EXACT LOCATION OF ALL FIXTURES AND EQUIPMENT.
11. ALL PIPE PENETRATIONS BELOW SINKS SHALL BE SEALED.
12. ALL EXPOSED PIPING UNDER HANDICAP LAVATORY TO BE INSULATED.
13. CONTRACTOR SHALL PROVIDE ADDITIONAL WATER LINE DROPS IN WALL WHEN HORIZONTAL RUN IN WALL CONFLICTS WITH VENT PIPE IN WALL.
14. PLUMBING CONTRACTOR SHALL DISINFECT POTABLE WATER SYSTEM PER SECTION 611 IN THE 2000 INTERNATIONAL PLUMBING CODE.
15. ALL NATURAL GAS PIPING LOCATED ABOVE CEILING IN PLENUM SPACE SHALL BE WELDED. CONTRACTOR SHALL ALERT ENGINEER AS TO ANY EXISTING GAS PIPING WHICH DOES NOT COMPLY.
16. PLUMBING CONTRACTOR SHALL X-RAY POST TENSIONED SLAB AFTER WORK HOURS BEFORE ANY CORE DRILLING. COORDINATE TIME WITH BUILDING MANAGEMENT.

FIRE PROTECTION

A. CONTRACTOR SHALL PROVIDE COMPLETE FIRE PROTECTION SYSTEMS FOR THE DESIGNATED AREAS AS PER NFPA 13, 14, 20 AND BUILDING CODE AND ALL STATE AND LOCAL CODES. SUBMIT DETAILED DRAWINGS AND CALCULATIONS TO FIRE MARSHAL FOR APPROVAL AND FIRE MARSHAL APPROVED DRAWINGS TO ENGINEER. PRIOR TO START OF ANY WORK, SUBMIT SHOP DRAWINGS FOR ALL EQUIPMENT AND MATERIAL TO THE ENGINEERS FOR APPROVAL. COORDINATE SPRINKLER HEAD LOCATIONS WITH ARCHITECTURAL REFLECTED CEILING PLAN AND SUBMIT FOR APPROVAL BY ARCHITECT AND ENGINEER.

B. WORK INCLUDED: COMPLETE AUTOMATIC SPRINKLER SYSTEMS INCLUDING BUT NOT LIMITED TO THE FOLLOWING AS REQUIRED:

   1. FIRE SERVICES INCLUDING REQUIRED PIPING, PIPING ACCESSORIES FITTINGS, CONCRETE ANCHORS, TIE RODS, VALVES, VALVE BOX, METERS, DETECTOR CHECKS, CONCRETE PITS, BACKFLOW PREVENTORS, POST INDICATORS, FIRE DEPARTMENT CONNECTIONS AND CONNECTION TO MUNICIPAL MAIN.
   2. INTERIOR SYSTEMS INCLUDING PIPING, PIPING ACCESSORIES, FITTINGS, SPRINKLERS, HANGERS, SUPPORTS, SLEEVES, VALVES, WALL INDICATORS, LOCKING DEVICES, ALARM CHECK VALVE, WATER MOTOR GONG, ALARM BELL AND SPARE SPRINKLER AND TOOL CABINET. INSPECTOR'S TEST SHALL BE LOCATED IN CORRIDOR IN TAMPERPROOF CABINET.
   3. ANY INCIDENTAL OR REQUIRED DEMOLITION ASSOCIATED WITH RENOVATED AND/OR NEW CONSTRUCTION.
   4. TRENCHING, EXCAVATION AND BACKFILLING IN CONNECTION WITH THE WORK.
   5. CUTTING AND PATCHING IN CONNECTION WITH THE WORK.
   6. TESTING, CLEANING, ADJUSTING AND PLACING IN OPERATION ALL SYSTEMS AND EQUIPMENT SPECIFIED.
   7. ALL FIRE PROTECTION WORK SHALL BE COORDINATED WITH OTHER TRADES TO AVOID ANY INTERFERENCE.

DESIGN DATA

HYDRAULIC DESIGN

OCCUPANCY CLASSIFICATION: FOR THE PURPOSE OF GENERAL COVERAGE AUTOMATIC SPRINKLER SYSTEM AS FOLLOWS:
F-1 (ORDINARY HAZARD - GROUP 2)
F-2 (ORDINARY HAZARD - GROUP 1)
H-2 (EXTRA HAZARD - GROUP 2)
H-3 (ORDINARY HAZARD - GROUP 1)
H-4 (ORDINARY HAZARD - GROUP 1)
SEE FIRE PROTECTION PLANS FOR THESE AREAS.

SYSTEM TYPE: WET SYSTEM - IN MAIN BUILDING
DRY SYSTEM - IN RAW WATER INTAKE BUILDING

PLUMBING FIXTURE & EQUIPMENT SPECIFICATIONS

WC-1 WATER CLOSET (HANDICAP): KOHLER K-3496 "CIMARRON" (WHITE) VITREOUS CHINA, 1.6 GALLON FLUSH, ELONGATED BOWL. KOHLER K-4670-C OPEN FRONT SEAT AND CHECK HINGE. PROVIDE CHROME-PLATED BRASS ANGLE STOP VALVE AND SUPPLY PIPE.

WC-2 WATER CLOSET: KOHLER K-3422 "WELLWORTH" (WHITE) VITREOUS CHINA, 1.6 GALLON FLUSH, ELONGATED BOWL. KOHLER K-4670-C OPEN FRONT SEAT AND CHECK HINGE. PROVIDE CHROME-PLATED BRASS ANGLE STOP VALVE AND SUPPLY PIPE.

L-1 LAVATORY (HANDICAP): KOHLER K-2032 "GREENWICH" (WHITE) VITREOUS CHINA, KOHLER 15597-F CENTERSET FAUCET, CHROME-PLATED BRASS ANGLE STOP VALVES, SUPPLY PIPES AND ESCUTCHEONS; GRID DRAIN AND TAILPIECE, 1-1/4" X 1-1/2" CHROME-PLATED BRASS P-TRAP, WASTE PIPE COVER TUBE AND ESCUTCHEON. INSULATE ALL PIPING BELOW LAVATORY WITH TRUEBRO "HANDI-LAV-GUARD" KIT OR APPROVAL EQUAL. SPARCO AQUAMIX MODEL AM100C THERM MIXING VALVE LOCATED UNDER FIXTURE.

U-1 URINAL (HANDICAP): KOHLER K-4989-T "FRESHMAN" (WHITE) VITEROUS CHINA, SLOAN ROYAL 186-1, 1.0 GALLON FLUSH.

SS-1 SERVICE SINK: SHALL BE FIAT. THE FOLLOWING IS BASED ON FIAT MODEL TSB-3000. TERRAZZO 24" X 24" X 12" DEEP; FIAT NO. 830-AA FAUCET AND WATTS VACUUM BREAKER; INTEGRAL STOPS PAIL HOOK, WITH RUBBER HOSE AND BRACKET #632-AA.

SH-1 SHOWER (HANDICAP): KOHLER K-12100-N "FREEWILL'. ONE PIECE ACRYLIC BARRIER-FREE TRANFER SHOWER MODULE WITH FOLD UP SEAT (ADA COMPLIANT), NYLON GRAB BARS, DRAIN, CURTAIN ROD AND TRIM. FAUCET KOHLER K404-K "MASTERSHOWER" THERMOSTATIC MIXING VALVE W/ K-T9493-4 THERMOSTATIC MIXING VALVE TRIM WITH VOLUME CONTROL AND LEVEL HANDLE ,SHOWER HEAD KOHLER K-8516 "MASTERSHOWER", POLISHED CHROME SLIDEBAR AND HOSE WITH HAND HELD SHOWER. ZURN Z-415 COATED CAST IRON FLOOR DRAIN WITH 2" OUTLET AND 5" ROUND NICKEL BRONZE STRAINER.

S-1 SINK (DOUBLE BOWL) : ELKAY LR-2922, 29" X 22" x 8", SEAMLESS 18 GAUGE TYPE 304 STANLESS STEEL; ELKAY LK-4100 FAUCET, CHROME-PLATED BRASS ANGLE STOP VALVES, SUPPLY PIPES AND ESCUTCHEONS; 1-1/2" X 1-1/2" CHROME-PLATED BRASS P-TRAP, AND WASTE PIPE COVER TUBE. IN-SINK-ERATOR BADGER 1 GARBAGE DISPOSER, 1/3 HP., 115VOLT, SINGLE PHASE.

S-2 LAB SINK : ELKAY LR-2922, 29" X 22" x 8", SEAMLESS 18 GAUGE TYPE 304 STAINLESS STEEL; ELKAY LK-DC2432BH FAUCET, CHROME-PLATED BRASS ANGLE STOP VALVES, 4" BLADE HANDLES, SUPPLY PIPES AND ESCUTCHEONS; 1-1/2" X 1-1/2" CHROME-PLATED BRASS P-TRAP.

S-3 SAMPLE SINK: SHALL BE FIAT. THE FOLLOWING IS BASED ON FIAT MODEL FL-1. 23" X 21 1/2" X 13" DEEP; FAUCETS PROVIDED BY OTHERS.

ES-1 EMERGENCY SHOWER/EYE WASH: BRADLEY S19-310BF, FREE STANDING DRENCH SHOWER, SHOWER HEAD-10 GPM 10" DIAMETER YELLOW INPACT-RESISTANT PLASTIC, VALVE - CHROME PLATED BRASS 1" IPS STAY-OPEN BALL VALVE, WITH STAINLESS STEEL PULL ROD WITH TRIANGULAR HANDLE, WASH BOWL - 10' DIAMETER STAINLESS STEEL, PIPE AND FITTINGS- 1-1/4" GALVANIZED STEEL PROTECTED WITH PROTECTIVE COATING, WATER SUPPLY - 1-1/4" IPS.

F.D. FLOOR DRAIN : ZURN ZB-415P, DURA-COATED CAST IRON BODY WITH BOTTOM OUTLET, COMBINATION INVERTIBLE MEMBRANE CLAMP AND ADJUSTABLE COLLAR WITH TYPE "B" POLISHED BRONZE STRAINER. PROVIDED AND INSTALLED WITH TRAP PRIMER)

RD-1 ROOF DRAIN : ZURN Z-100 EARC, UNDERDECK CLAMP, ROOF SUMP AND EXTENSION.

FPH-1 FREEZE-PROOF WALL HYDRANT : WOODFORD MODEL U200W, FREEZELESS UTILITY YARD HYDRANT AUTOMATIC DRAINING, 2" HOSE THREAD NOZZLE, MANUAL WHEEL HANDLE TO CONTROL BOTH FLOW AND DRAIN FUNCTION, HARDENED GALVANIZED PIPE OPERATING ROD, CHROME FINISH ON BRASS CASTINGS.

FPH-2 FREEZE-PROOF WALL HYDRANT : WOODFORD MODEL65, FREEZELESS UTILITY YARD HYDRANT AUTOMATIC DRAINING WITH ANTI-SIPHON VACUUM BREAKER, BRASS VALVE BODY, LOOSE KEY OPERATES HYDRANT.

H.B. HOSE BIBB : WOODFORD MODEL 24-3/4", HOSE BIBB WITH VACUUM BREAKER - BACKFLOW PREVENTER.

BFP-1 BACKFLOW PREVENTER : WATTS MODEL 909QTS, 2" REDUCED PRESSURE BACKFLOW PREVENTER WITH STRAINER, QUARTER TURN BALL VALVES WITH WATTS SERIES 223 PRESSURE REDUCING VALVE AND PRESSURE REGULATOR.

BFP-2 BACKFLOW PREVENTER : WATTS MODEL 909QTS, 2" REDUCED PRESSURE BACKFLOW PREVENTER WITH STRAINER, QUARTER TURN BALL VALVES WITH WATTS SERIES 223 PRESSURE REDUCING VALVE AND PRESSURE REGULATOR.

EWC-1 ELECTRIC WATER COOLER : OASIS MODEL P8AMSL, WALL HUNG, SPLIT LEVEL TWIN UNIT, MOUNT CENTERLINE NOZZLE 36" A.F.F. FOR LOWER UNIT, P-TRAP ZURN MODEL Z-8702 1-1/4" CHROME PLATED CAST BRASS, 17 GAUGE, IDE CAST NUTS, CLEANOUT AND ESCUTCHEON, SUPPLY ZURN MODEL Z-8802-LR CHROME PLATED BRASS ANGLE STOPS AND 12" FLEXIBLE CHROME PLATED COPPER RISERS, CARRIER ZURN MODEL Z-1225BL.

CB-1 CATCH BASIN : ZURN Z-897 24"x24"x24" DEEP STAINLESS STEEL BASIN WITH STAINLESS STEEL BAR GRATE AND 4" OUTLET.

MATERIALS:

1. ALL ABOVE GRADE WATER PIPING WITHIN THE BUILDING SHALL BE TYPE 'L' COPPER PIPE WITH 125 PSI WROUGHT COPPER 95/5 SOLDER SWEAT FITTINGS.
2. ALL SANITARY AND VENT PIPING ABOVE GRADE SHALL BE NO-HUB, CAST IRON PIPE WITH STAINLESS STEEL BANDS.
3. ALL BELOW GRADE DRAINAGE PIPING SHALL BE SERVICE WEIGHT CAST IRON SOIL PIPE AND FITTINGS, BELL AND SPIGOT WITH NEOPRENE GASKETS OR POURED LEAD JOINTS, EXTEND TO SANITARY SEWER AND CONNECT AS INDICATED ON THE SITE PLANS, OR AT CONTRACTOR'S OPTION NO HUB CAST IRON PIPE WITH STAINLESS STEEL BANDS AS MANUFACTURED BY "HUSKY" OR APPROVED EQUAL, WITH FOUR BAND MINIMUM.
4. ALL COLD AND HOT WATER PIPING SHALL BE INSULATED, AND ALL PIPING SHALL BE INSTALLED ON THE INSIDE OF THE BUILDING INSULATION ENVELOPE. PIPING INSULATION SHALL BE 3-1/2 LB. DENSITY, SCHULLER "FLAME" SAFE AP-T.
5. ALL VALVES SHALL BE 125 PSI, BRASS, RISING STEM, GATE VALVES.
6. FURNISH AND INSTALL JOSAM 75000 SERIES SHOCK ARRESTORS AT THE ENDS OF ALL HOT AND COLD WATER BRANCHES TO FIXTURES. SIZES SHALL BE IN ACCORDANCE WITH PLUMBING AND DRAINAGE INSTITUTE STANDARD P.D.I. - WH201.

PLUMBING FIXTURE CONNECTION SCHEDULE

FIXTURE NO.	DESCRIPTION	WASTE	VENT	COLD WATER	HOT WATER	REMARKS
WC-1	WATER CLOSET	4"	2"	1/2"	---	NOTE 1 & 2
WC-2	WATER CLOSET	4"	2"	1/2"	---	NOTE 1
L-1	LAVATORY	1-1/2"	1-1/2"	1/2"	1/2"	NOTE 2 & 3
U-1	URINAL	2"	1-1/2"	1"	---	NOTE 1 & 2
SS-1	SERVICE SINK	3"	1-1/2"	1/2"	1/2"	
SH-1	SHOWER	2"	1-1/2"	1/2"	1/2"	NOTE 2
S-1	SINK	1-1/2"	1-1/2"	1/2"	1/2"	
S-2	LAB SINK	1-1/2"	1-1/2"	1/2"	1/2"	
S-3	SAMPLE SINK	1-1/2"	1-1/2"	1/2"	1/2"	
ES-1	EMERGENCY SHOWER/EYE WASH	--	--	1"	1"	
F.D.	FLOOR DRAIN	(SEE PLAN)	--	1/2"	--	
RD-1	ROOF DRAIN	(SEE PLAN)	--	--	--	
F.P.H.-1	F.P. WALL HYDRANT	--	--	1"	--	
F.P.H.-2	F.P. WALL HYDRANT	--	--	1"	--	
H.B.	HOSE BIBB	--	--	3/4"	--	
BFP-1	BACKFLOW PREVENTER	--	--	2"	--	
BFP-2	BACKFLOW PREVENTER	--	--	2"	--	
EWC-1	ELEC. WATER COOLER	1-1/4"	1-1/2"	3/8"	--	NOTE 2 & 3
CB-1	CATCH BASIN	4"	2"	-	--	

NOTE:

1. 1.5 GALLONS PER FLUSH
2. HANDICAP FIXTURE
3. COUNTERTOP FIXTURE
3. WALL HUNG FIXTURE

PLUMBING SYMBOLS

CW COLD WATER PIPE
HW HOT WATER PIPE
NP NON-POTABLE WATER
140° 140°F WATER PIPE
140°HWC 140°F WATER CIRCULATION PIPE
HWC HOT WATER CIRCULATION PIPE
TW TEMPERED WATER PIPE
TWC TEMPERED WATER CIRCULATION PIPE
SP SPRINKLER PIPE

V VENT PIPE
S SOIL OR WASTE PIPE
G LOW PRESSURE GAS PIPE
D CONDENSATE DRAIN PIPE
F FIRE SERVICE PIPE
ST STORM PIPE
PS PROCESS SEWER

CAPPED PIPE
PIPE TURNING UP
PIPE TURNING DOWN
HOSE BIBB (HB)
BOTTOM TAKE OFF
TOP TAKE OFF
POINT OF CONNECTION
WALL HYDRANT (WH)
UNION
VERTICAL VALVE
ANGLE STOP VALVE
OS&Y
GATE VALVE
SOLENOID OPERATED VALVE
CHECK VALVE

CONTINUATION
F.S. FLOW SWITCH
UPRIGHT SPRINKLER HEAD
SIDE WALL SPRINKLER HEADS
SPRINKLER W/GUARD
SIAMESE
WATER GONG
OPEN SITE DRAIN - OSD
FLOOR DRAIN - FD
FCO FLOOR CLEANOUT
WCO WALL CLEANOUT
BACK FLOW PREVENTER
EXTENT OF DEMOLITION
P WASTE RISER DESIGNATION
W WATER RISER DESIGNATION
ST STORM RISER DESIGNATION
SP-X SUMP PIT AND PUMP

PLUMBING ABBREVIATIONS

ABV.	ABOVE	TYP.	TYPICAL
BLW.	BELOW	VTR.	VENT PIPE THRU ROOF
CLG.	CEILING	W/	WITH
FLR.	FLOOR	DN.	DOWN
AFF.	ABOVE FINISHED FLOOR	BFP.	BACKFLOW PREVENTER
FF.	FINISHED FLOOR		
(E)	EXISTING		

DRAWING LIST

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AUSTINVILLE
WATER TREATMENT PLANT
(DIVISION I)
AUSTINVILLE VIRGINIA

DRAWN BY:
JT

REVIEW BY:
SHW

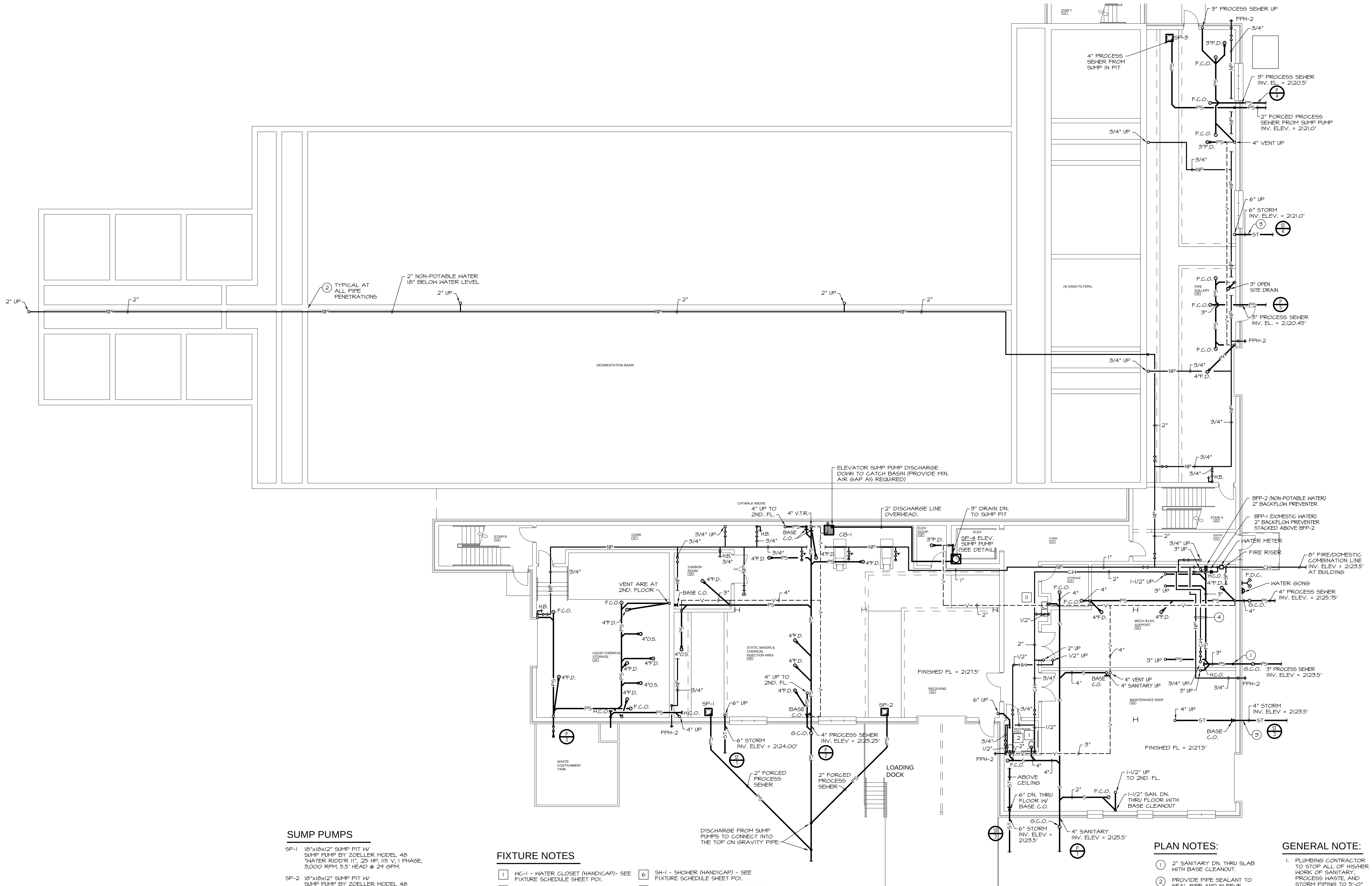
DATE:
20 OCTOBER 2006

REVISION:

DWG DESCRIPTION:
COVER SHEET - PLUMBING

P01

JN: 04 - 02



SUMP PUMPS

SP-1 18"x18x12" SUMP PIT W/ SUMP PUMP BY ZOELLER MODEL 48 "WATER RIDD'R II", .25 HP, 115 V, 1 PHASE, 3,000 RPM, 5.5' HEAD @ 29 GPM.

SP-2 18"x18x12" SUMP PIT W/ SUMP PUMP BY ZOELLER MODEL 48 "WATER RIDD'R II", .25 HP, 115 V, 1 PHASE, 3,000 RPM, 3.66' HEAD @ 29 GPM.

SP-3 18"x18x12" SUMP PIT W/ SUMP PUMP BY ZOELLER MODEL 48 "WATER RIDD'R II", .25 HP, 115 VOLT, 1 PHASE, 3,000 RPM, 6' HEAD @ 25 GPM.

SP-4 18"x18x12" SUMP PIT WITH SUMP PUMP BY STANCOR MODEL SE-50 SUBMERSIBLE EFFLUENT PUMP, .5 HP, 115 VOLT, 3,600 RPM WITH 2" DISCHARGE CONNECTION.

FIXTURE NOTES

1. WC-1 - WATER CLOSET (HANDICAP)- SEE FIXTURE SCHEDULE SHEET P01.
2. L-1 - LAVATORY (HANDICAP) WALL HUNG - SEE FIXTURE SCHEDULE SHEET P01.
3. WC-2 - WATER CLOSET FIXTURE SCHEDULE SHEET P01.
4. U-1 - URINAL (HANDICAP) - SEE FIXTURE SCHEDULE SHEET P01.
5. SS-1 - SERVICE SINK - SEE FIXTURE SCHEDULE SHEET P01.
6. SH-1 - SHOWER (HANDICAP) - SEE FIXTURE SCHEDULE SHEET P01.
7. S-1 - DOUBLE BOWL SINK - SEE FIXTURE SCHEDULE SHEET P01.
8. S-2 - LAB SINK - SEE FIXTURE SCHEDULE SHEET P01. WITH GLASS WASHER PROVIDE BY OTHERS.
9. S-3 - SAMPLE SINK- SEE FIXTURE SCHEDULE SHEET P01.
10. ES-1 - EMERGENCY SHOWER/EYE WASH - SEE FIXTURE SCHEDULE SHEET P01.
11. EWC-1 - ELECTRIC WATER COOLER - SEE FIXTURE SCHEDULE SHEET P01.

PLAN NOTES:

1. 2" SANITARY DN. THRU SLAB WITH BASE CLEANOUT.
2. PROVIDE PIPE SEALANT TO SEAL PIPE AND SLEEVE.
3. ROUTE STORM PIPING 5'-0" OUTSIDE OF BUILDING.
4. PIPING TO BE INSTALLED AS TIGHTLY TOGETHER TO AVOID ELECTRICAL SERVICE PANELS

GENERAL NOTE:

1. PLUMBING CONTRACTOR TO STOP ALL OF HIS/HER WORK OF SANITARY, PROCESS WASTE, AND STORM PIPING TO 5'-0" OUTSIDE OF BUILDING.

FIRST FLOOR - PLUMBING PLAN

SCALE: 1/8" = 1'

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AUSTINVILLE WATER TREATMENT PLANT (DIVISION I)

AUSTINVILLE VIRGINIA

DRAWN BY: JT

REVIEW BY: SHW

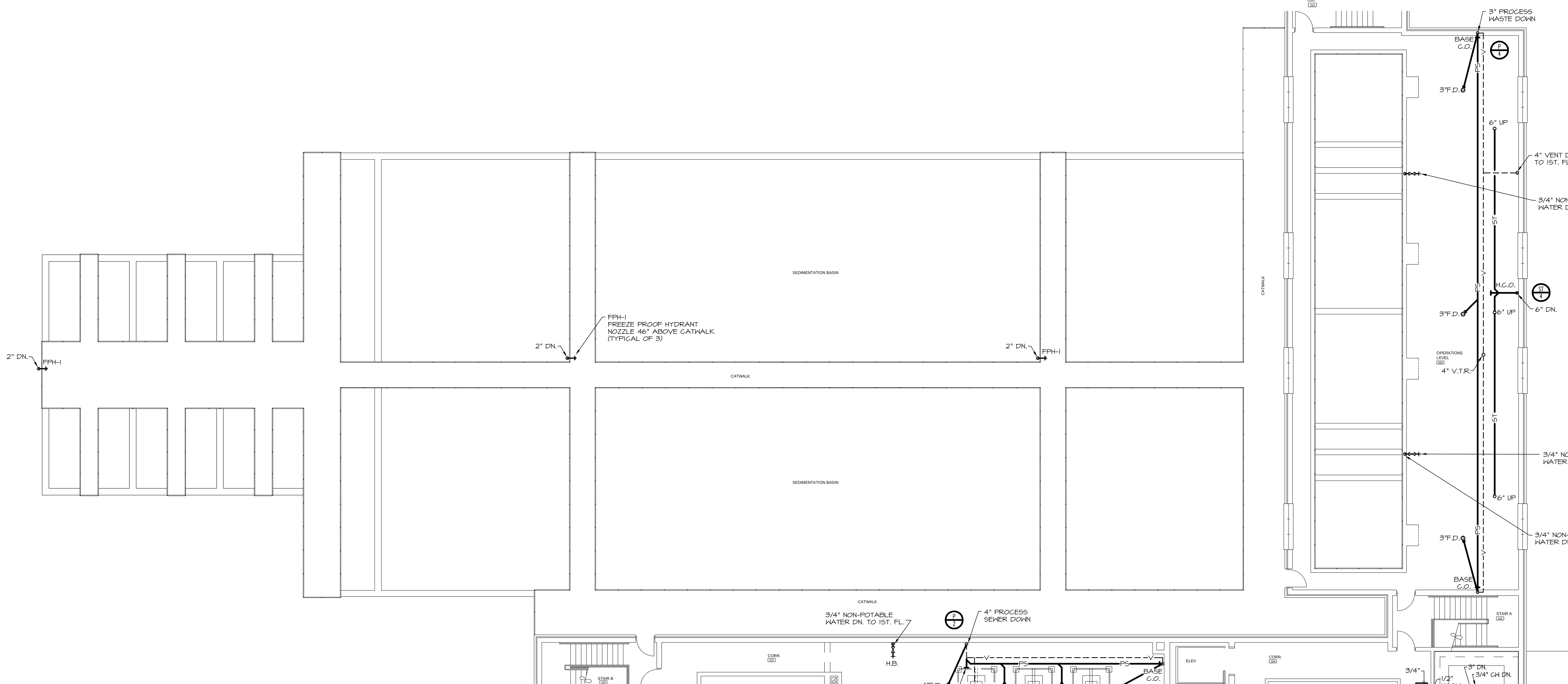
DATE: 20 OCTOBER 2006

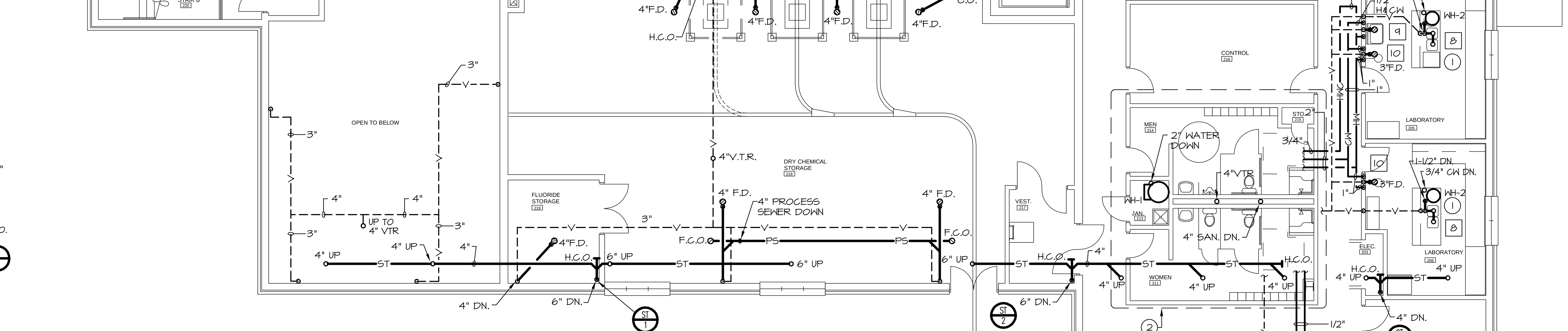
REVISION:

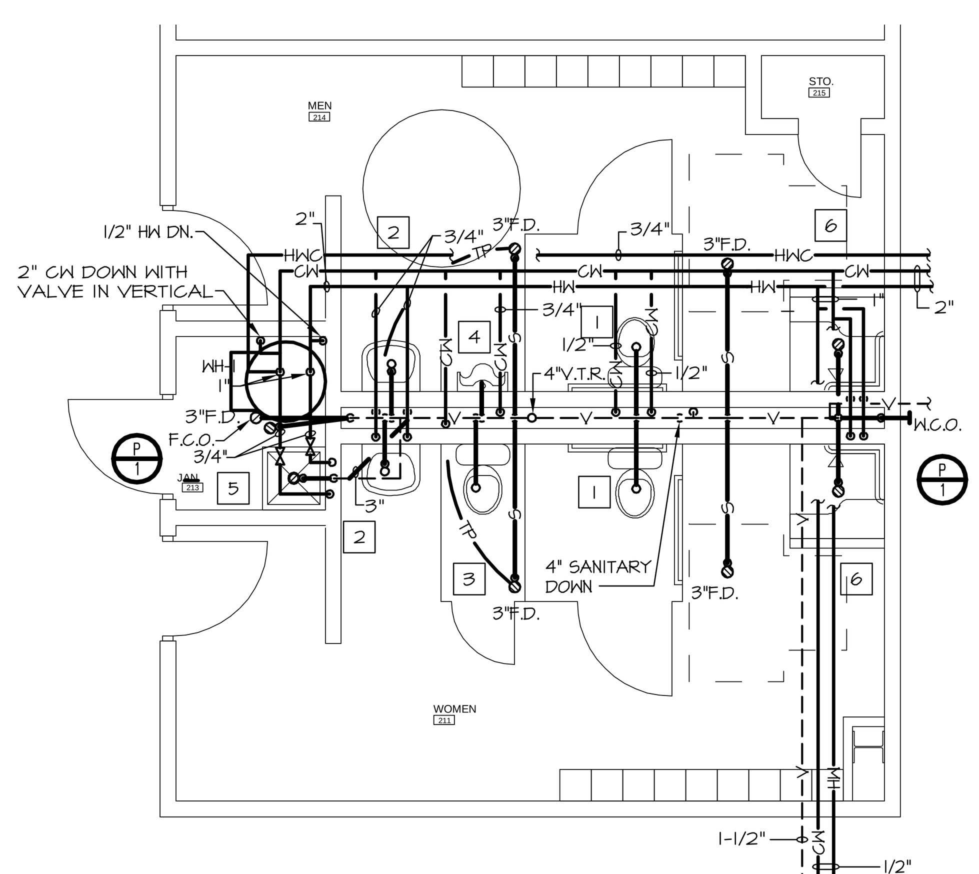
DWG DESCRIPTION: TREATMENT BUILDING FIRST FLOOR - PLUMBING PLANS

P02

JN: 04 - 02







ENLARGED PLUMBING PLAN

SCALE: 1/4" = 1'

FIXTURE NOTES

1 WC-1 - WATER CLOSET (HANDICAP)- SEE FIXTURE SCHEDULE SHEET P01.

2 L-1 - LAVATORY (HANDICAP) WALL HUNG - SEE FIXTURE SCHEDULE SHEET P01.

3 WC-2 - WATER CLOSET FIXTURE SCHEDULE SHEET P01.

4 U-1 - URINAL (HANDICAP) - SEE FIXTURE SCHEDULE SHEET P01.

5 SS-1 - SERVICE SINK - SEE FIXTURE SCHEDULE SHEET P01.

6 SH-1 - SHOWER (HANDICAP) - SEE FIXTURE SCHEDULE SHEET P01.

7 S-1 - DOUBLE BOWL SINK - SEE FIXTURE SCHEDULE SHEET P01.

8 S-2 - LAB SINK - SEE FIXTURE SCHEDULE SHEET P01. WITH GLASS WASHER PROVIDE BY OTHERS.

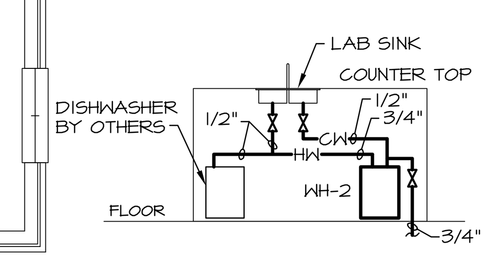
9 S-3 - SAMPLE SINK - SEE FIXTURE SCHEDULE SHEET P01.

10 ES-1 - EMERGENCY SHOWER/EYE WASH - SEE FIXTURE SCHEDULE SHEET P01.

11 EWC-1 - ELECTRIC WATER COOLER - SEE FIXTURE SCHEDULE SHEET P01.

SECOND FLOOR - PLUMBING PLAN

SCALE: 1/8" = 1'



LAB SINK DETAIL

NO SCALE

PLAN NOTES:

1 SEE LAB SINK DETAIL BELOW FOR PIPING FOR ISLAND SINK. (SEE DETAIL SHT. P08)

2 SEE ENLARGED PLUMBING PLAN THIS SHEET FOR PIPING IN THIS AREA.

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AUSTINVILLE WATER TREATMENT PLANT (DIVISION I)

AUSTINVILLE VIRGINIA

DRAWN BY:
JT

REVIEW BY:
SHW

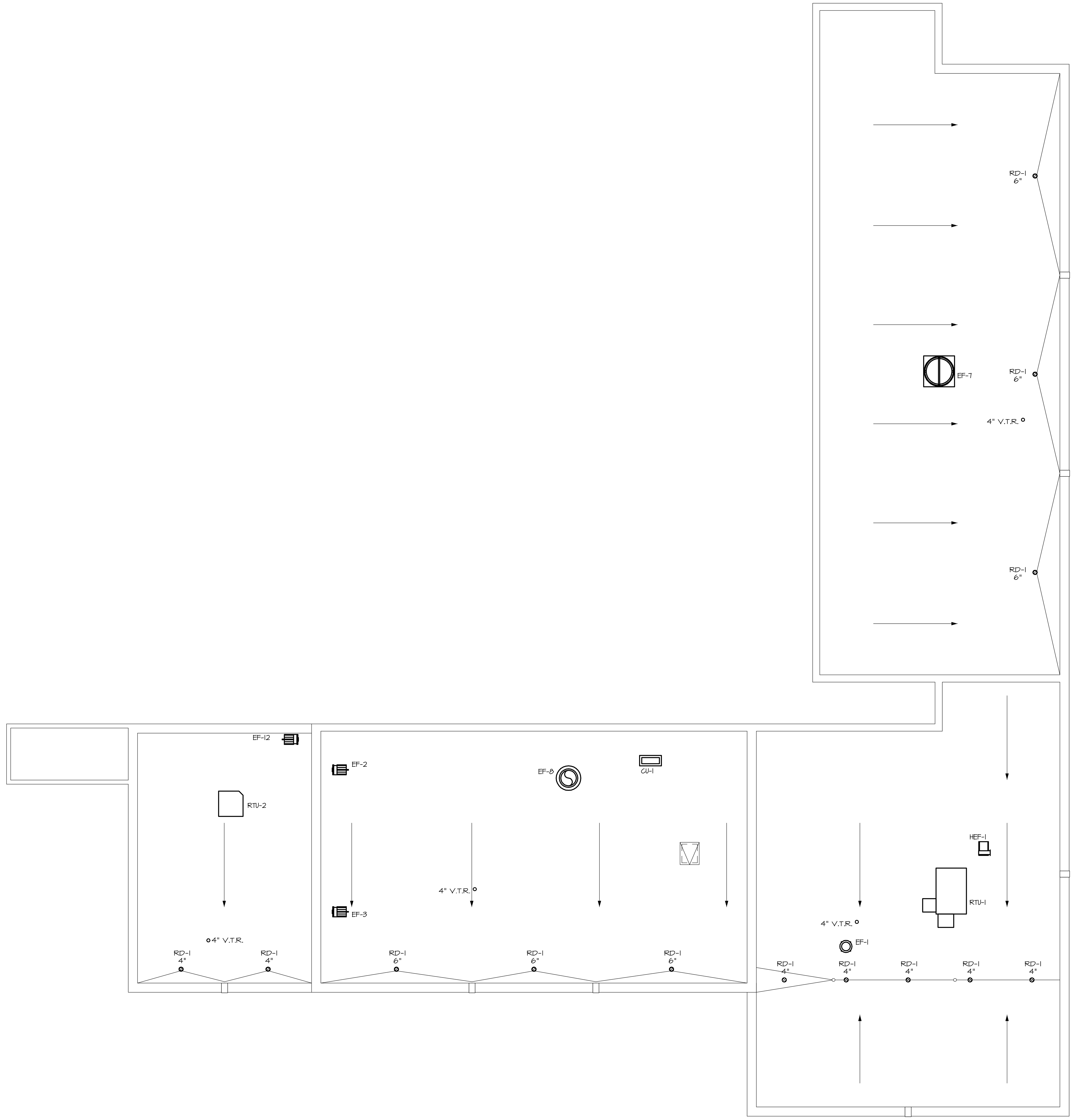
DATE:
20 OCTOBER 2006

REVISION:

DWG DESCRIPTION:
TREATMENT BUILDING SECOND FLOOR - PLUMBING PLANS

P03

JN: 04 - 02



ROOF - PLUMBING PLAN

SCALE: 1/4" = 1'

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AUSTINVILLE WATER TREATMENT PLANT (DIVISION I)

AUSTINVILLE VIRGINIA

DRAWN BY: JT

REVIEW BY: SHW

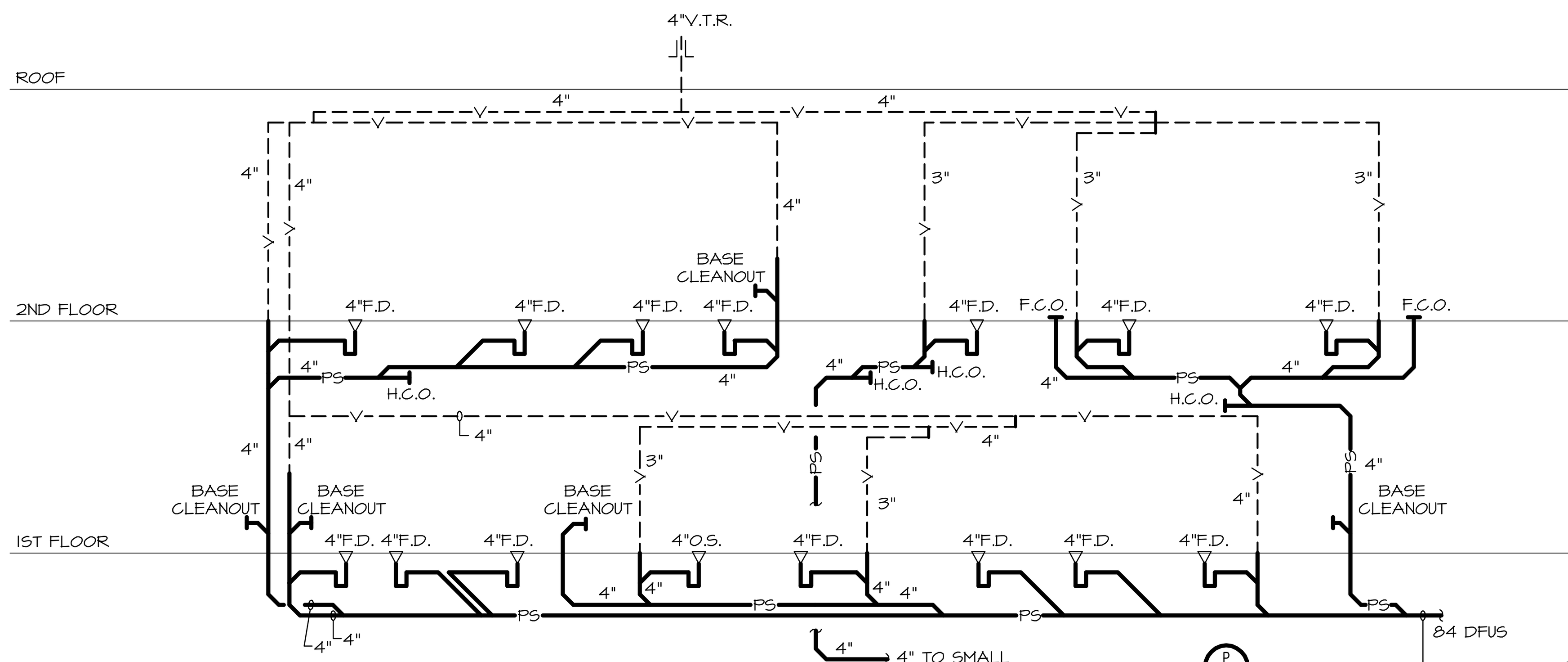
DATE: 20 OCTOBER 2006

REVISION:

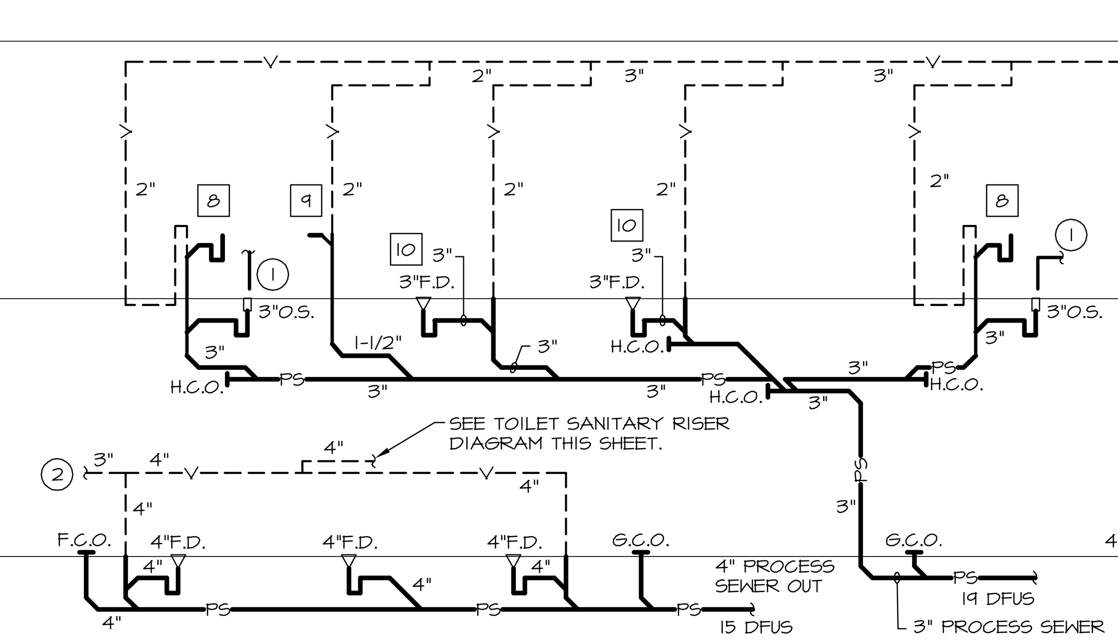
DWG DESCRIPTION: TREATMENT BUILDING ROOF - PLUMBING PLAN

P04

JN: 04 - 02



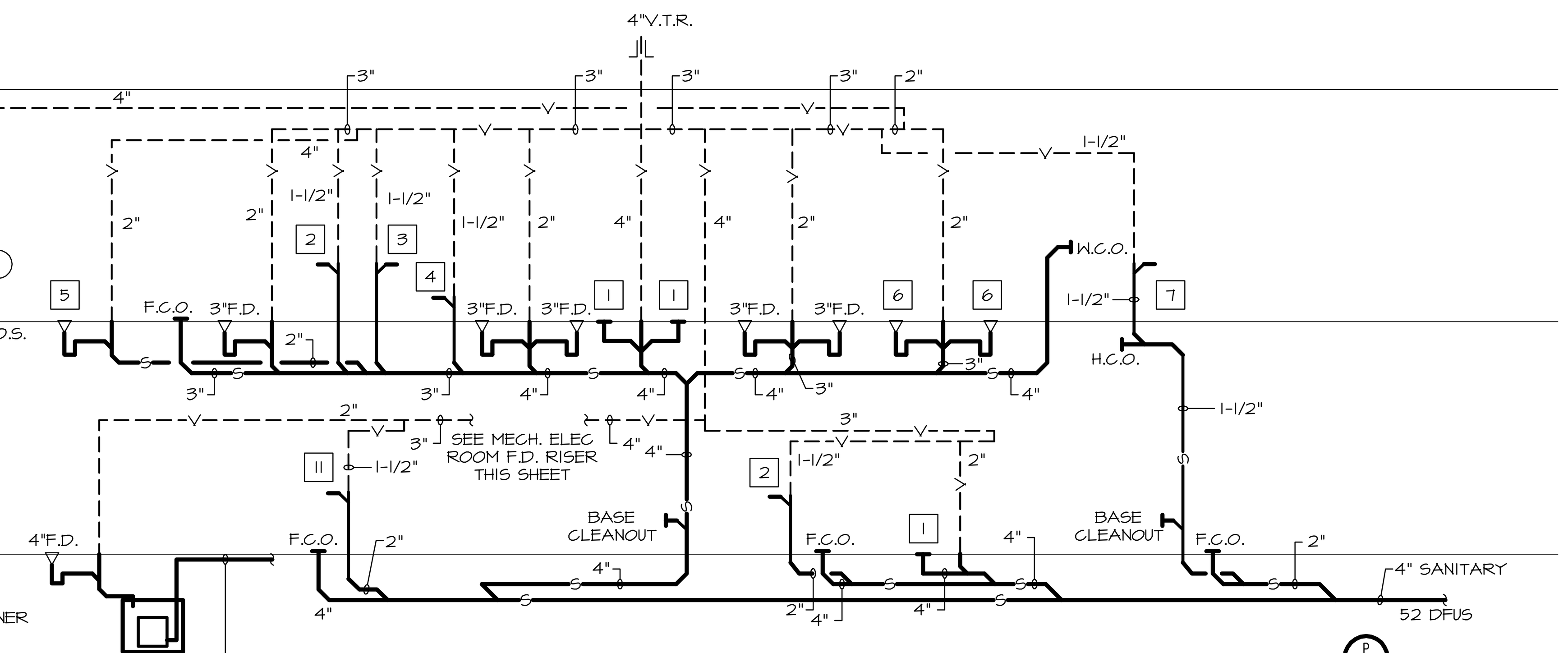
WASTE RISER DIAGRAM
NO SCALE



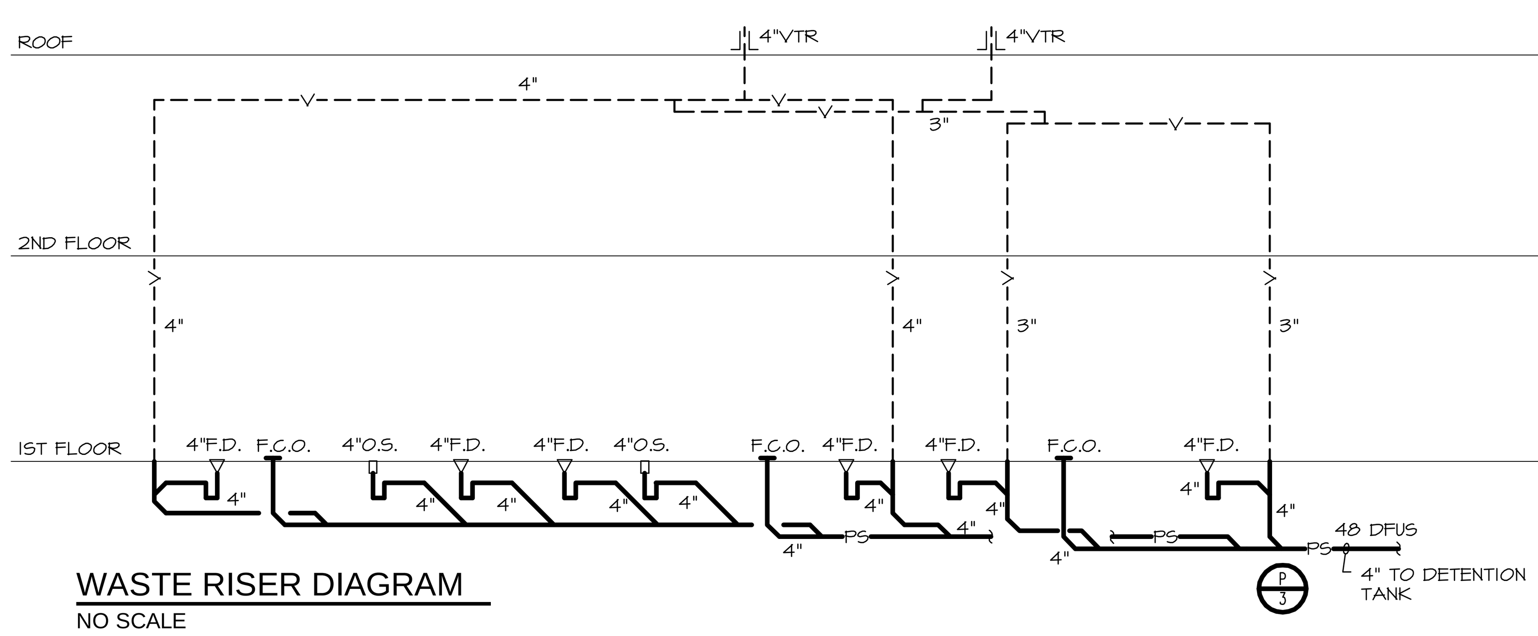
MECH./ELEC. SUPPORT ROOM - F.D. RISER DIAGRAM

WASTE RISER DIAGRAM
NO SCALE

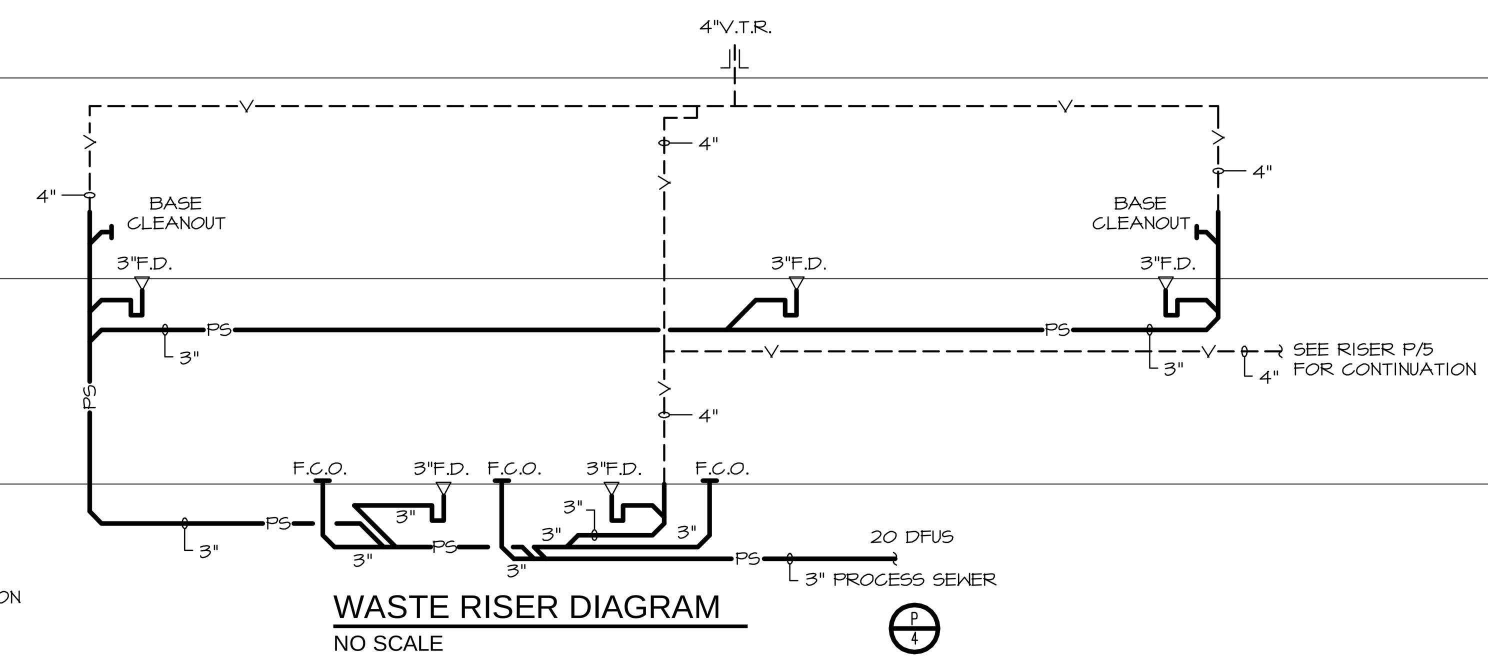
NOTE:
1. DISCHARGE FROM GLASSWASHER TO OPEN SITE DRAIN. (PROVIDE MIN. AIR GAP AS REQUIRED)
2. SEE TOILET SANITARY RISER DIAGRAM THIS SHEET.



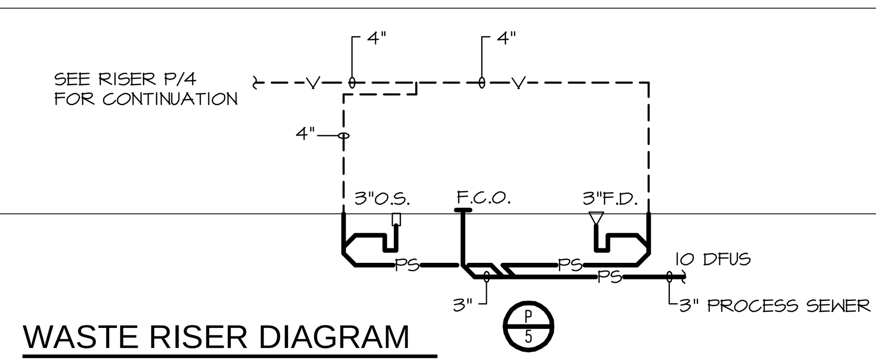
TOILET SANITARY RISER DIAGRAM



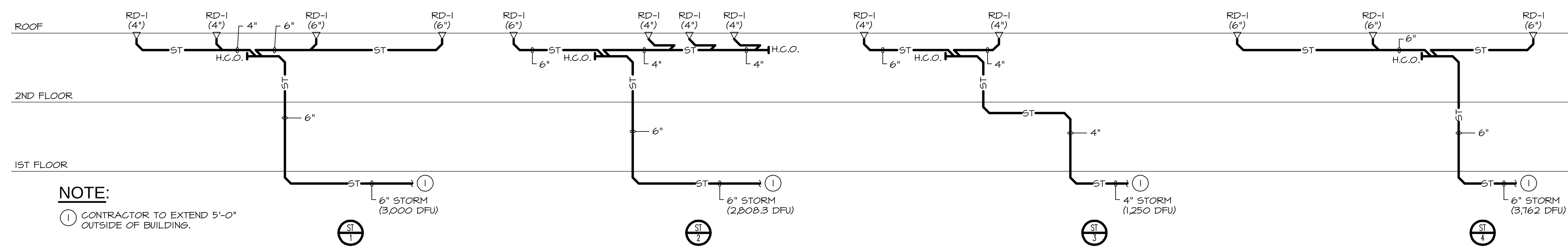
WASTE RISER DIAGRAM
NO SCALE



WASTE RISER DIAGRAM
NO SCALE

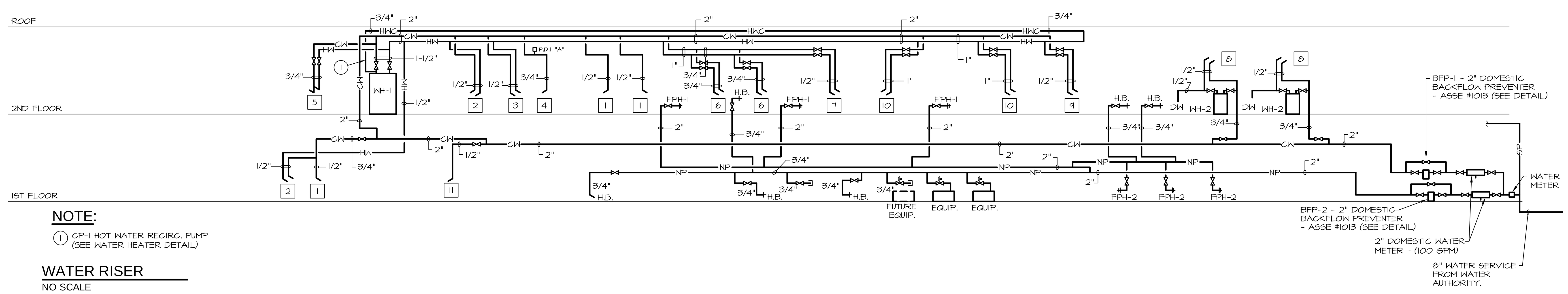


WASTE RISER DIAGRAM
NO SCALE



NOTE:
1. CONTRACTOR TO EXTEND 5'-0" OUTSIDE OF BUILDING.

STORM WATER RISER DIAGRAM
NO SCALE



NOTE:
1. CP-1 HOT WATER RECIRC. PUMP (SEE WATER HEATER DETAIL)

WATER RISER
NO SCALE

FIXTURE NOTES (REFERENCE FOR ALL DIAGRAMS)

1. WC-1 - WATER CLOSET (HANDICAP)- SEE FIXTURE SCHEDULE SHEET P01.
2. L-1 - LAVATORY (HANDICAP) WALL HUNG - SEE FIXTURE SCHEDULE SHEET P01.
3. WC-2 - WATER CLOSET FIXTURE SCHEDULE SHEET P01.
4. U-1 - URINAL (HANDICAP) - SEE FIXTURE SCHEDULE SHEET P01.
5. SS-1 - SERVICE SINK - SEE FIXTURE SCHEDULE SHEET P01.
6. SH-1 - SHOWER (HANDICAP) - SEE FIXTURE SCHEDULE SHEET P01.
7. S-1 - DOUBLE BOWL SINK - SEE FIXTURE SCHEDULE SHEET P01.
8. S-2 - LAB SINK - SEE FIXTURE SCHEDULE SHEET P01. WITH GLASS WASHER PROVIDE BY OTHERS.
9. S-3 - SAMPLE SINK - SEE FIXTURE SCHEDULE SHEET P01.
10. ES-1 - EMERGENCY SHOWER/EYE WASH - SEE FIXTURE SCHEDULE SHEET P01.
11. EWC-1 - ELECTRIC WATER COOLER - SEE FIXTURE SCHEDULE SHEET P01.

Reed & Bortz, L.L.C.
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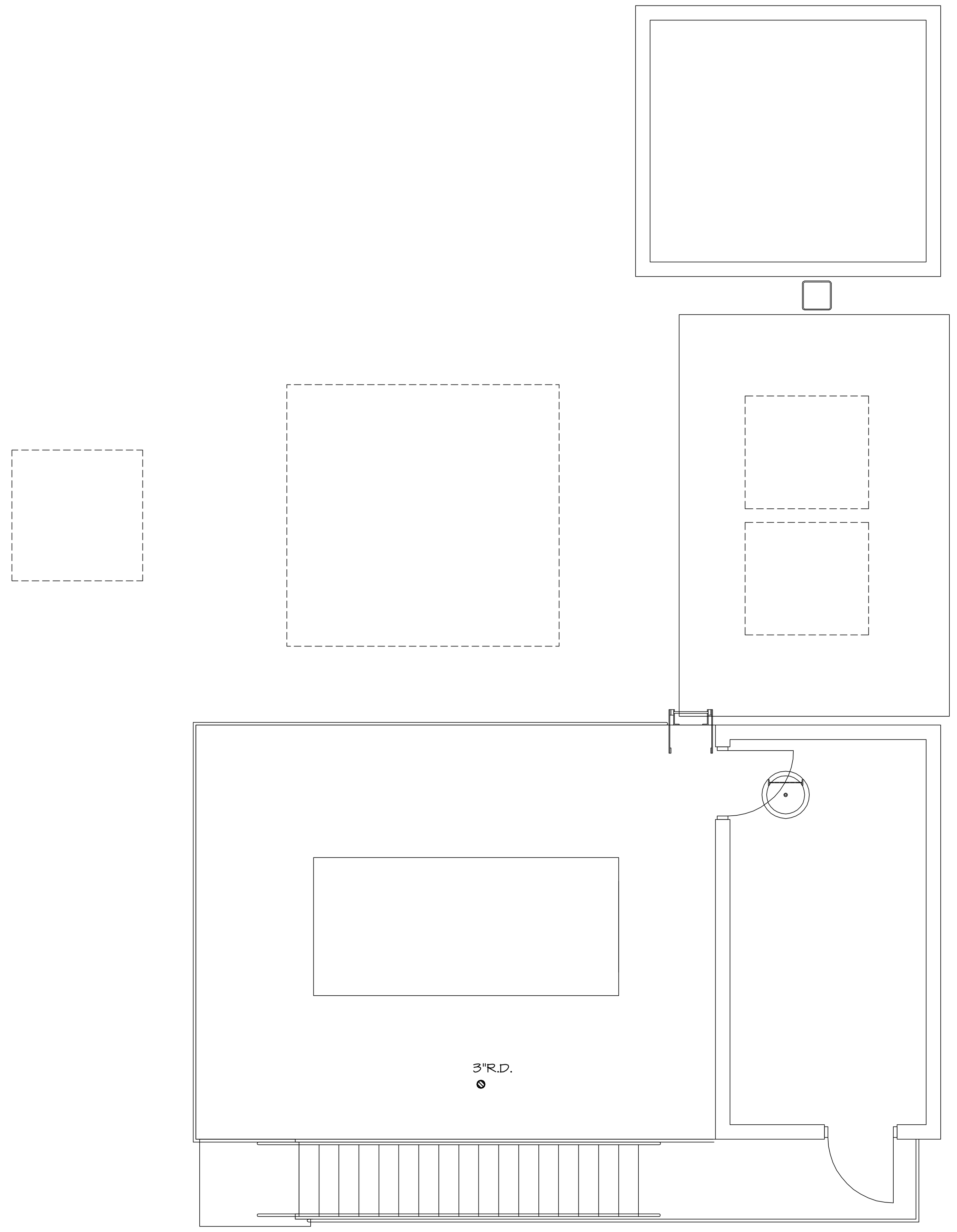
AUSTINVILLE WATER TREATMENT PLANT (DIVISION I)
AUSTINVILLE VIRGINIA

DRAWN BY: JT
REVIEW BY: SHW
DATE: 20 OCTOBER 2006
REVISION:
DWG DESCRIPTION: TREATMENT BUILDING - PLUMBING SCHEMATIC

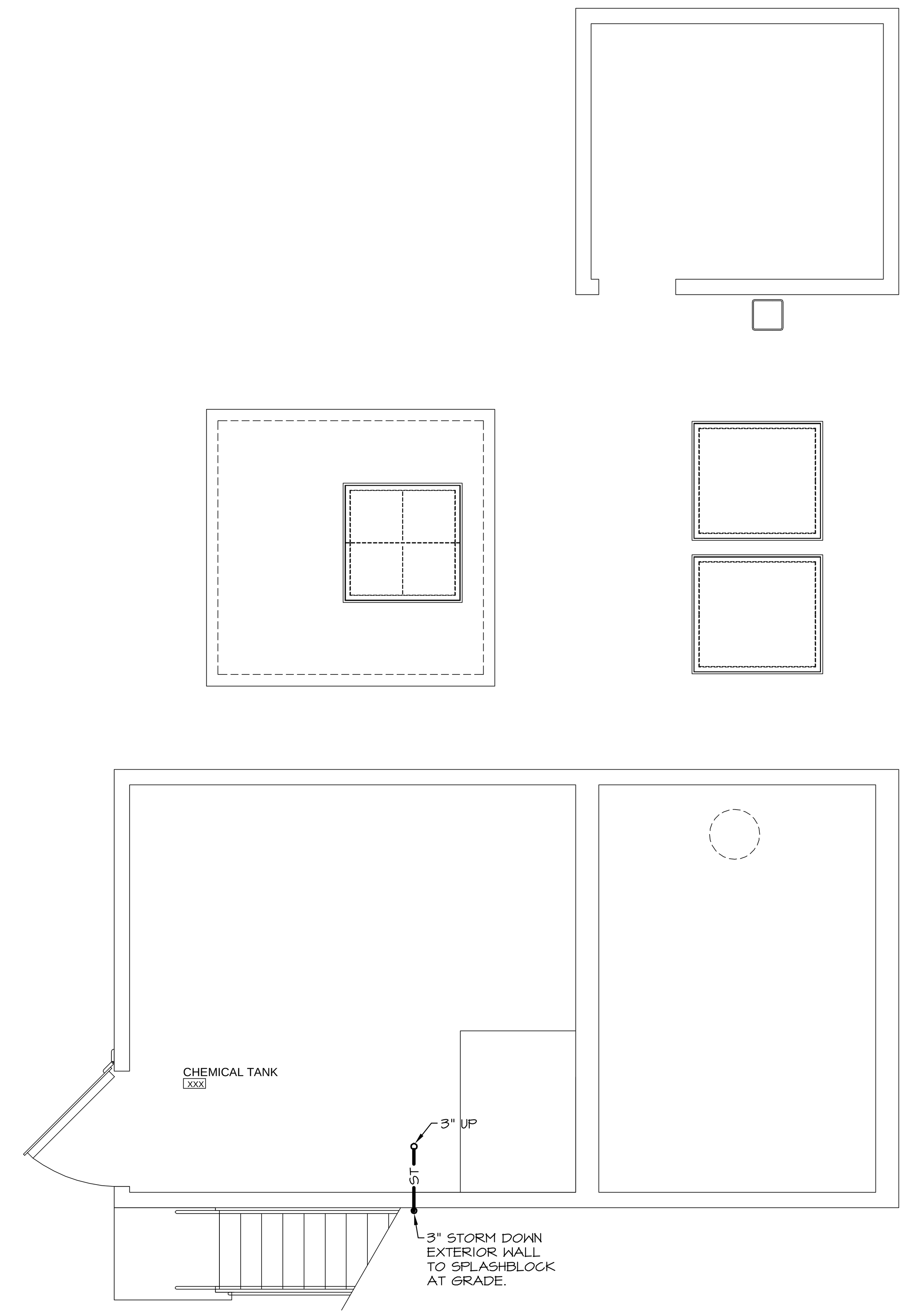
P05

JN: 04 - 02



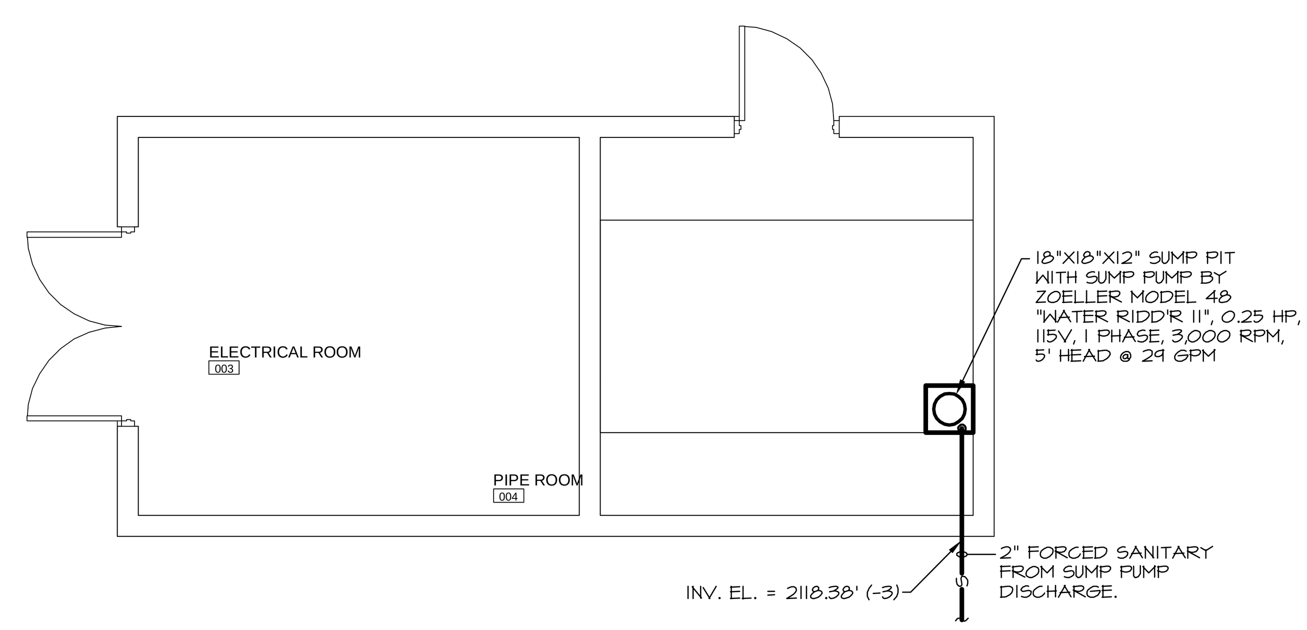
RAW WATER INTAKE BUILDING SECOND FLOOR - PLUMBING PLAN

SCALE: 1/4" = 1'



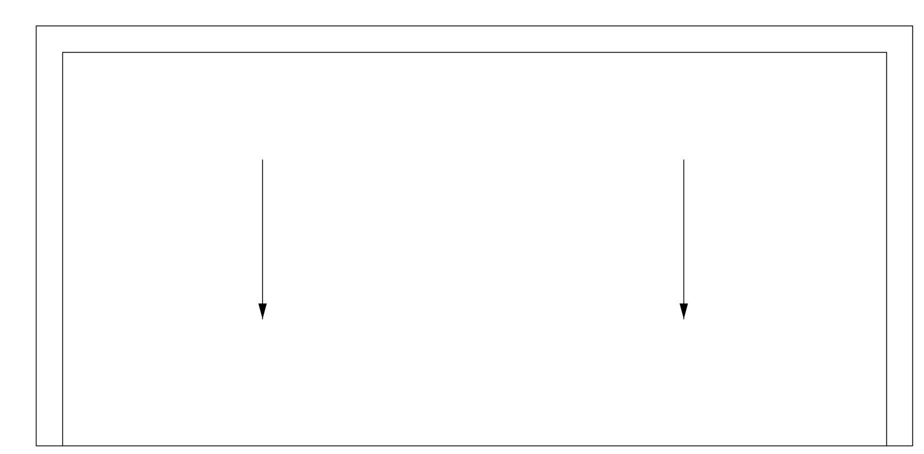
RAW WATER INTAKE BUILDING FIRST FLOOR - PLUMBING PLAN

SCALE: 1/4" = 1'



FINISHED WATER PUMP STATION - PLUMBING PLAN

SCALE: 1/4" = 1'



FINISHED WATER PUMP STATION - ROOF PLAN

SCALE: 1/4" = 1'

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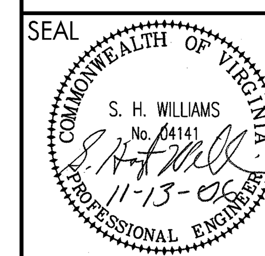
SEAL



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AUSTINVILLE WATER TREATMENT PLANT (DIVISION I)

AUSTINVILLE VIRGINIA

DRAWN BY: JT

REVIEW BY: SHW

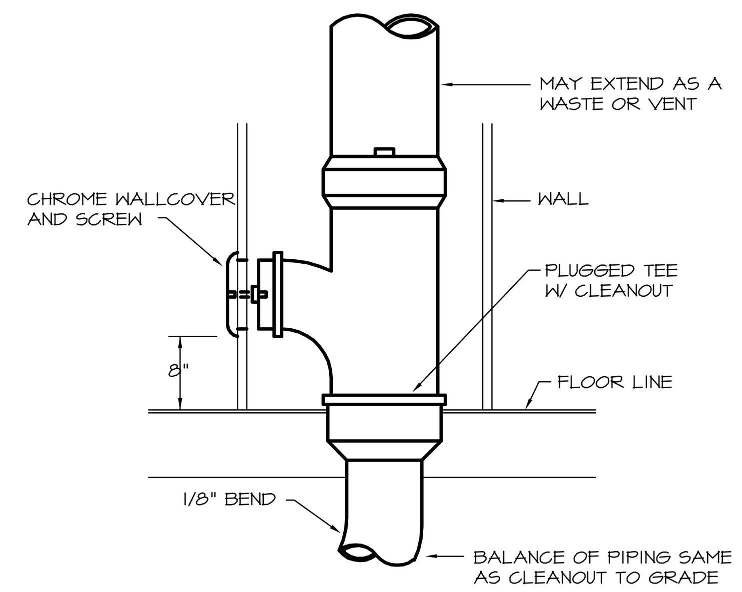
DATE: 20 OCTOBER 2006

REVISION:

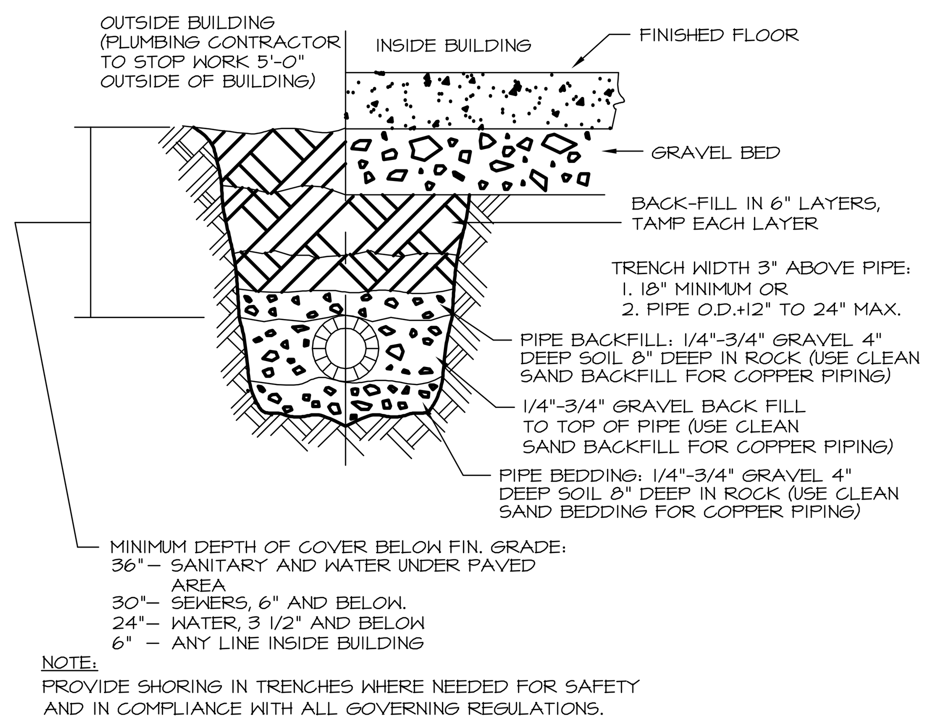
DWG DESCRIPTION: RAW WATER INTAKE/ FINISHED WATER PUMP STATION - PLUMBING PLANS

P06

JN: 04 - 02

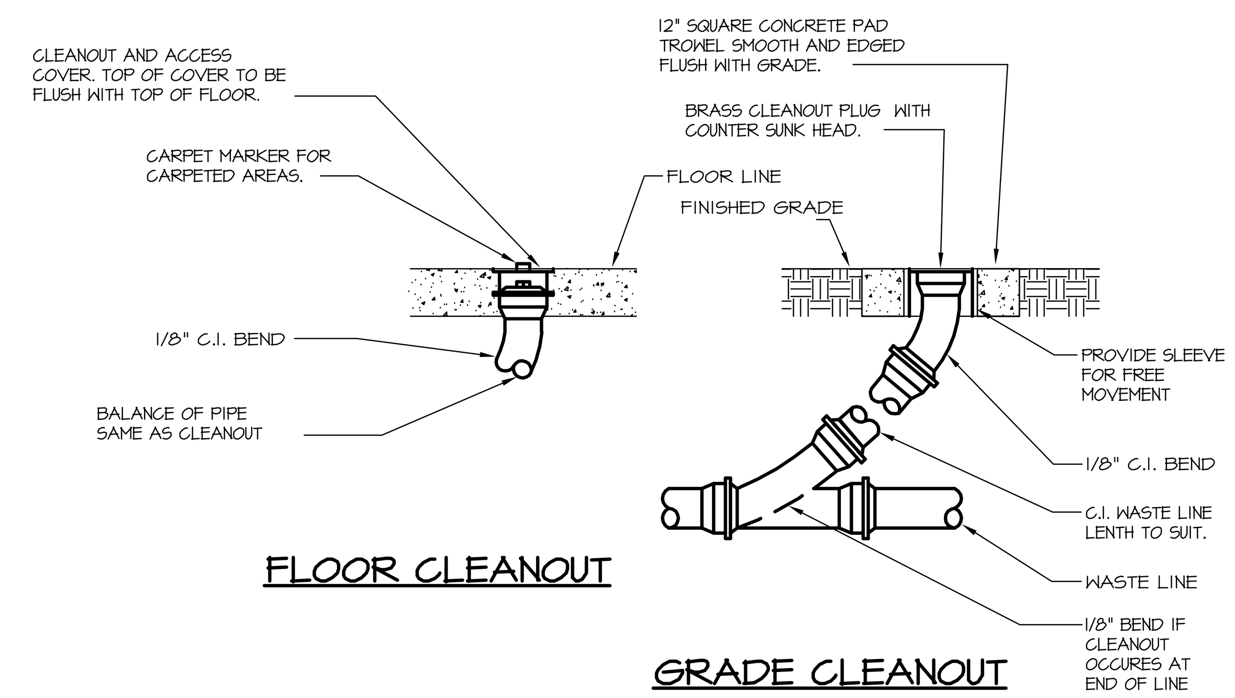


WALL CLEANOUT DETAIL
NO SCALE



NOTE:
PROVIDE SHORING IN TRENCHES WHERE NEEDED FOR SAFETY AND IN COMPLIANCE WITH ALL GOVERNING REGULATIONS.

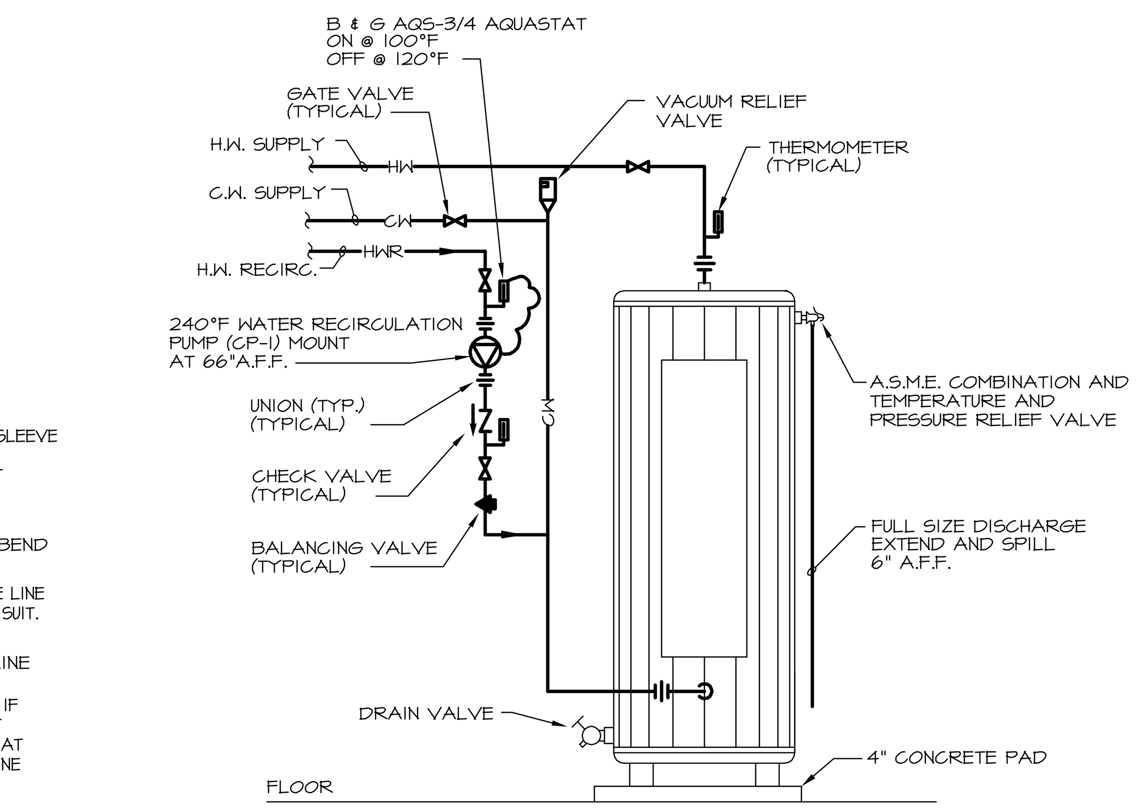
PIPE TRENCH-TYPICAL
NO SCALE



FLOOR CLEANOUT

GRADE CLEANOUT

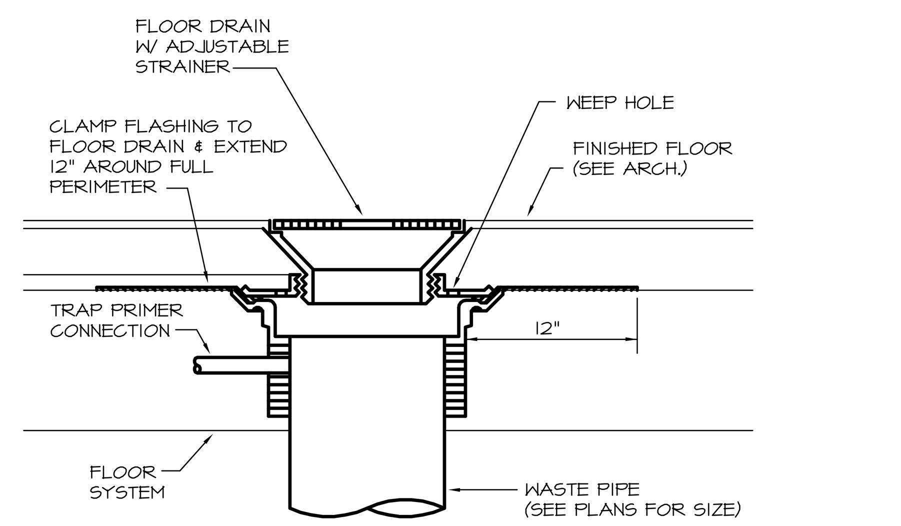
CLEANOUT DETAILS
NO SCALE



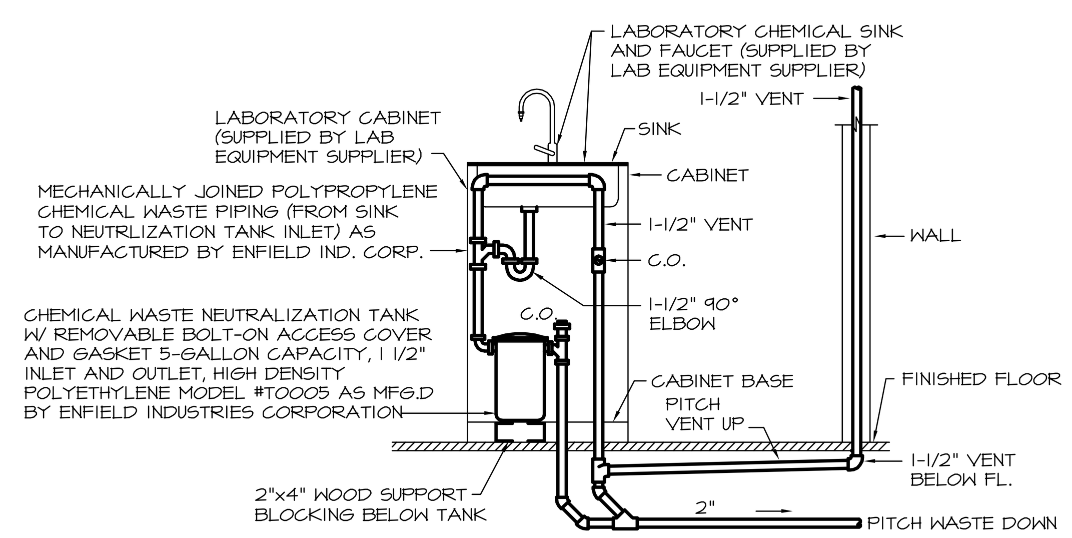
ELECTRIC WATER HEATER
RHEEM/RUUD MODEL NO. E120, 120 GALLON CAPACITY, 9 K.W., 480 VOLT, 3 PHASE, RECOVERY RATE OF OF 37 GPH @ 100°F RISE IN TEMPERATURE.

RECIRCULATION PUMP (CP-1)
BELL AND GOSSETT MODEL NO. NRF-22, 92 WATTS, 115 VOLTS, SINGLE PHASE, 15 GALLONS PER MINUTE AT 5 FEET TOTAL HEAD.

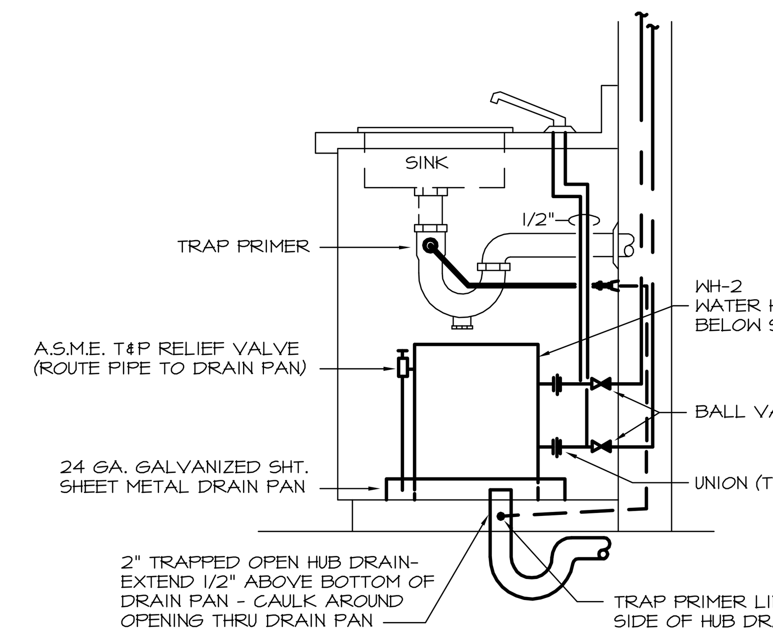
WATER HEATER DETAIL
NO SCALE



TYPICAL FLOOR DRAIN DETAIL
NO SCALE

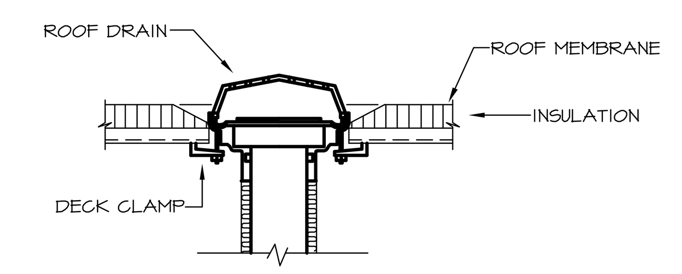


TYPICAL LABORATORY ISLAND SINK WASTE & VENT DETAIL
NO SCALE

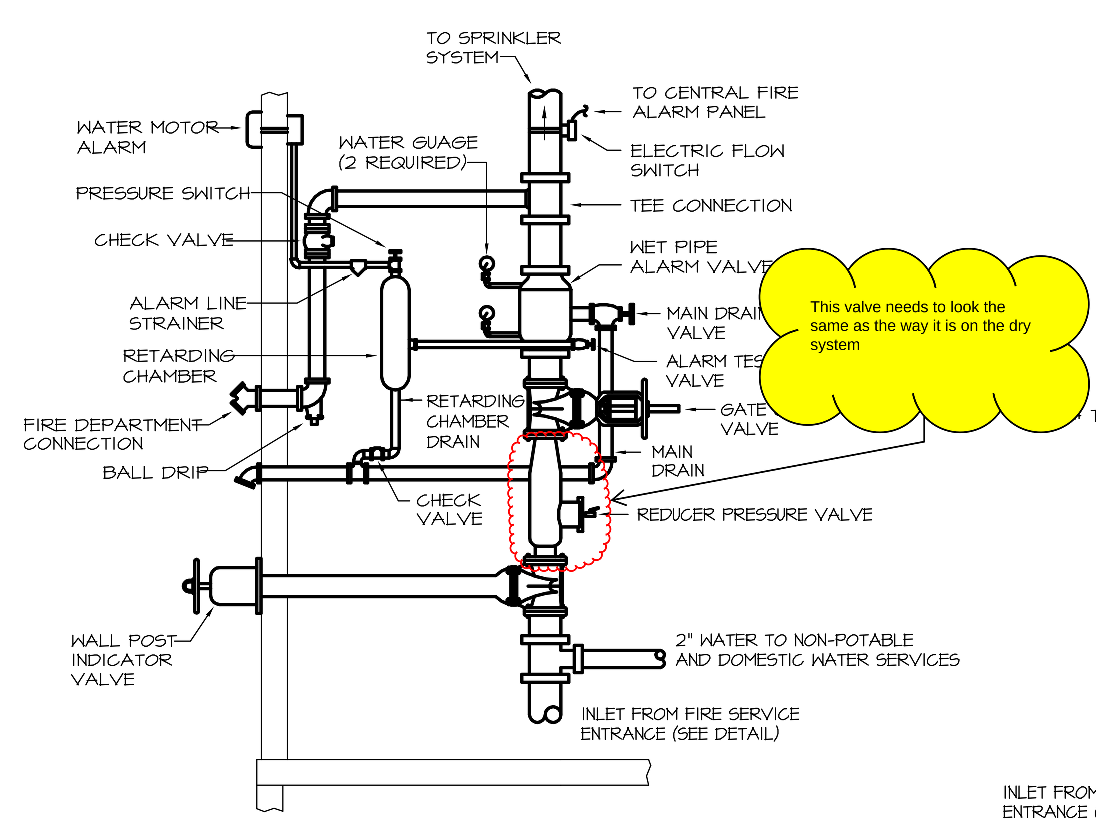


ELECTRIC WATER HEATER
RHEEM/RUUD MODEL NO. E6SP20, 20 GALLON CAPACITY, 2,000 WATTS, 480 VOLT, 1 PHASE, RECOVERY RATE OF OF 8 GPH @ 100°F RISE IN TEMPERATURE.

UNDER COUNTER WATER HEATER DETAIL
NO SCALE

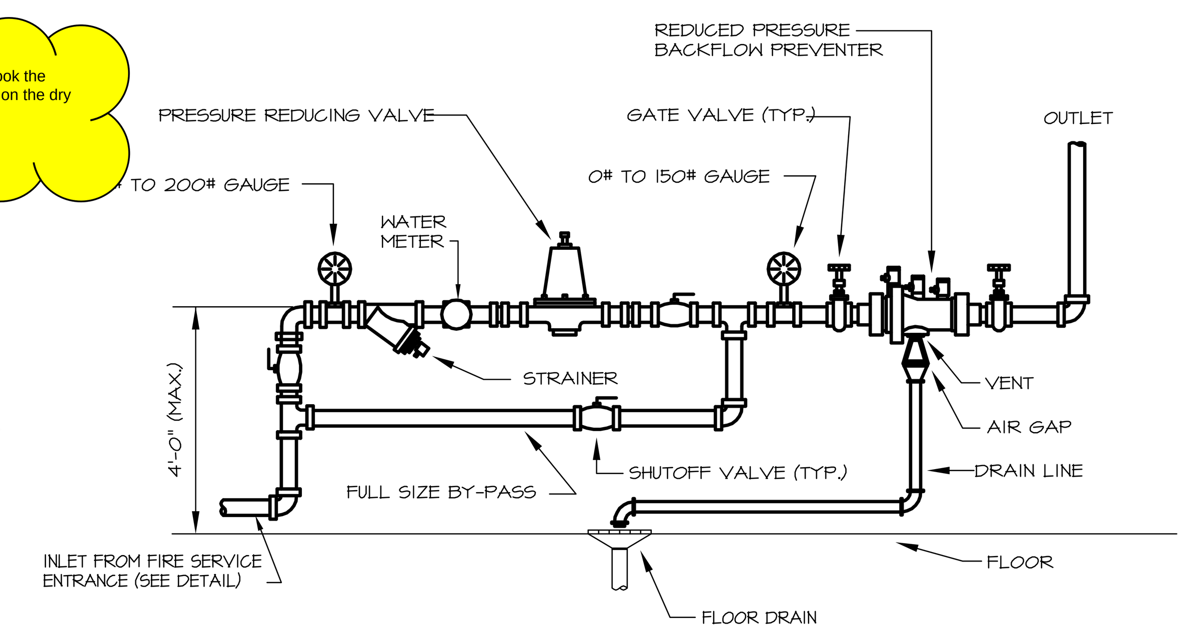


ROOF DRAIN DETAIL
NO SCALE

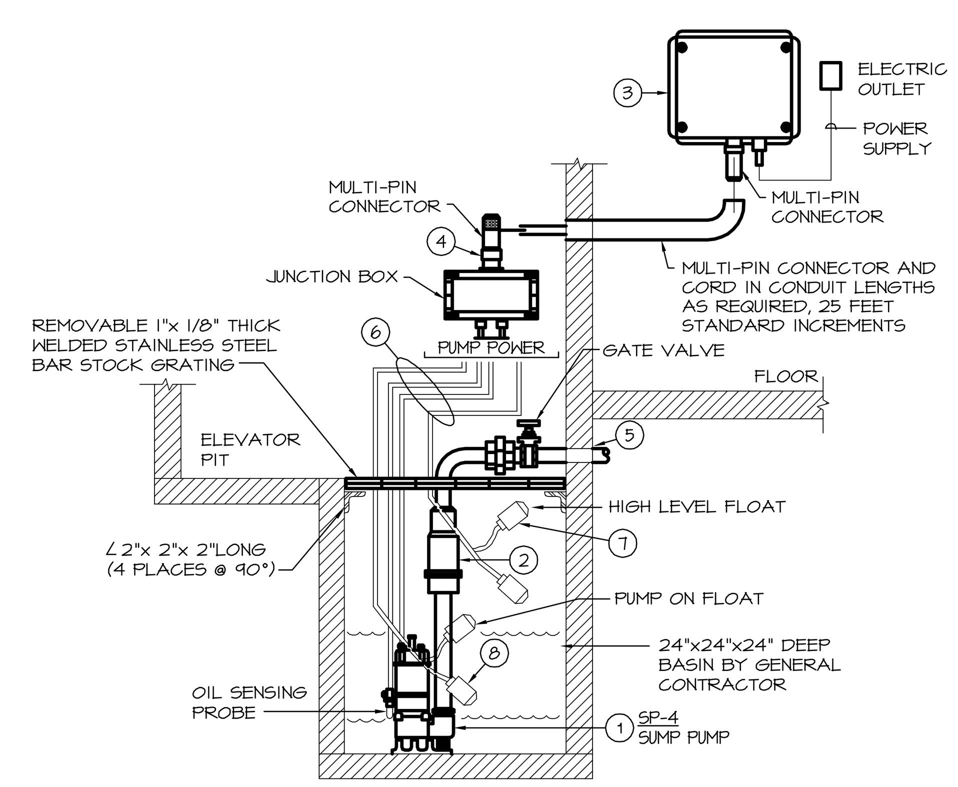


NOTE:
ALL LISTED FIRE PROTECTION EQUIPMENT & EXACT LOCATION OF REQUIRED POST INDICATOR VALVE, FIRE DEPT. CONNECTION & FIRE PROTECTION SYSTEM BACKFLOW PREVENTER TO BE SUBMITTED TO ALL AUTHORITIES HAVING JURISDICTION (INCLUDING OWNERS INSURANCE COMPANY) FOR APPROVAL PRIOR TO BID OR CONSTRUCTION.

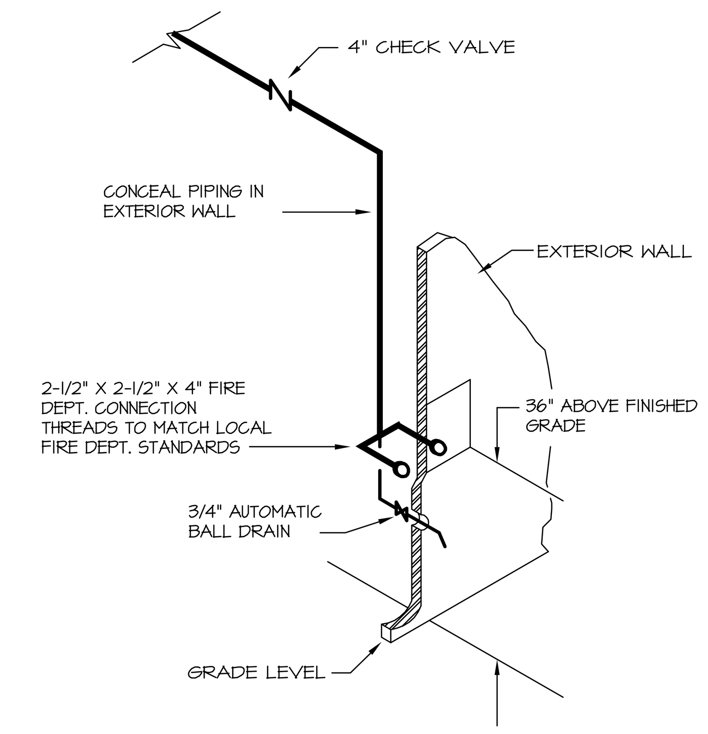
SPRINKLER RISER DETAIL-WET PIPE SYSTEM
NO SCALE



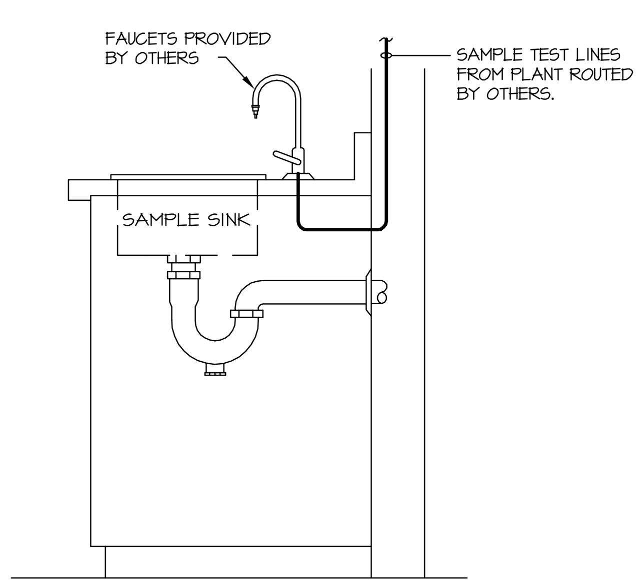
NON-POTABLE AND DOMESTIC WATER SERVICE ENTRANCE DETAIL
NO SCALE (2 REQUIRED)



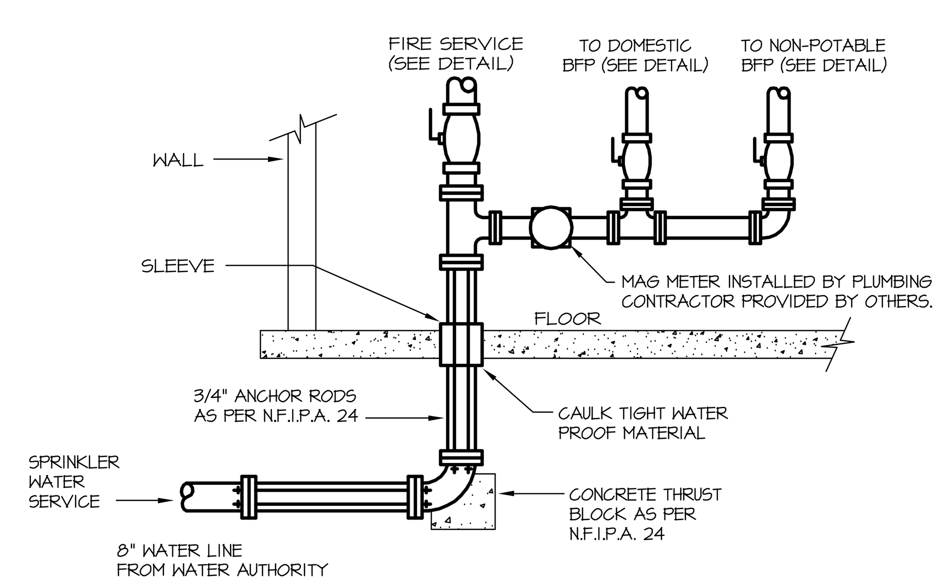
ELEVATOR SUMP PUMP DETAIL
NO SCALE



FIRE DEPT. CONNECTION
NO SCALE



SAMPLE SINK DETAIL
NO SCALE

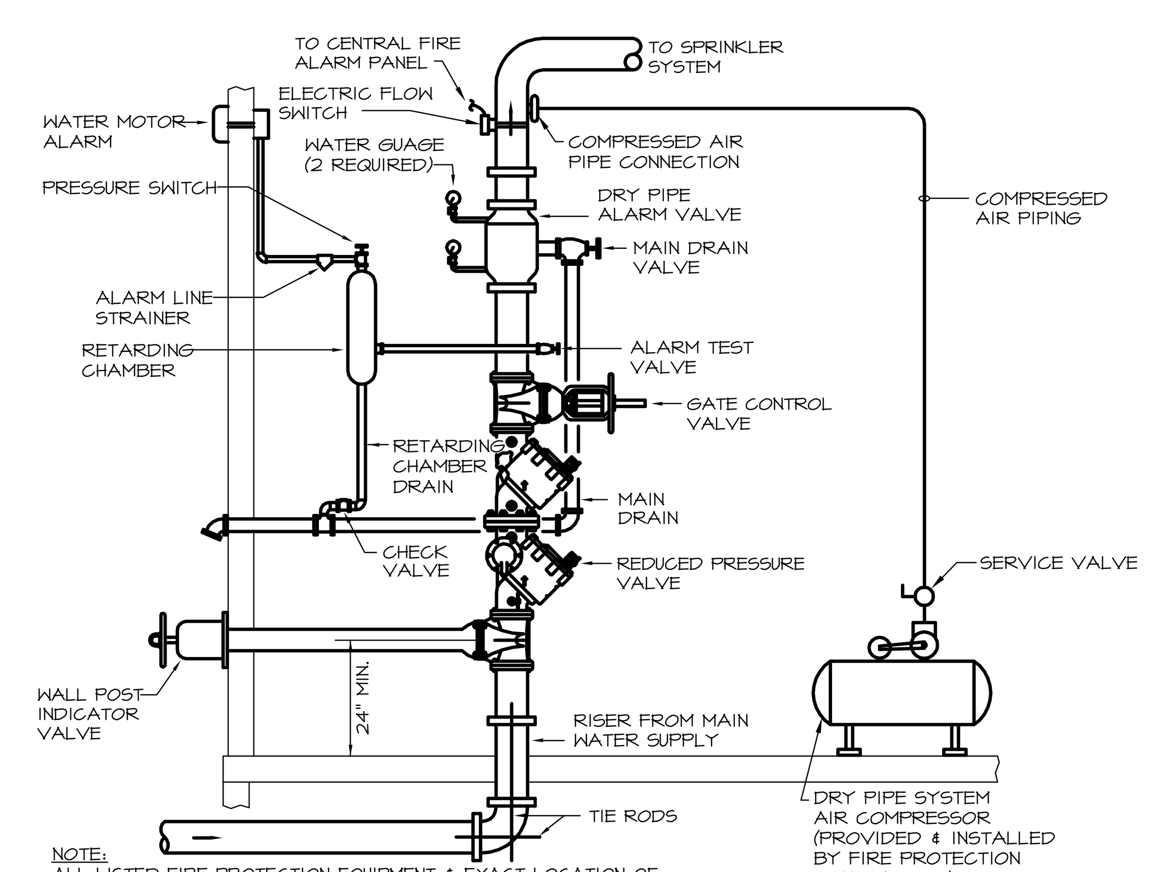


FIRE SERVICE DETAIL
NO SCALE

ELEVATOR SUMP PUMP NOTES:

1. STANCOR MODEL SE-50 SUBMERSIBLE EFFLUENT PUMP .5 HP, 115 VOLT, 3600 RPM, 2" DISCHARGE CONNECTION
2. STANCOR CHECK VALVE
3. STANCOR OIL-MINDER 115V, 1Ø CONTROL SYSTEM WITH OPTIONAL BUILT IN AUDIBLE AND VISUAL ALARM WHEN PUMP DOES NOT RUN DUE TO OIL IN PIT, HIGH AMPERAGE OR HIGH LIQUID CONDITION. PROVIDE SILENCING BUTTON FOR AUDIBLE ALARM BUILT INTO PANEL. PANEL SHALL HAVE ADDITIONAL CONTACT FOR A REMOTE ALARM LOCATION. INSTALL IN ELEVATOR EQUIPMENT ROOM.
4. JUNCTION BOX WILL BE PROVIDED WITH MULTI-PIN CONNECTOR AND CORD IN LENGTHS AS REQUIRED; 25 FT. IS STANDARD, PROVIDE OPTIONAL 25 FT. INCREMENTS AS REQUIRED.
5. ALL BURIED PUMP PRESSURE DISCHARGE PIPING SHALL BE PROTECTED WITH TAPECOAT CT CORROSION PROTECTION TAPE.
6. OIL-MINDER POWER CABLE, PROBE CABLE AND FLOAT CABLE (ALL 16' LONG).
7. HIGH LIQUID ALARM FLOAT WITH CLAMP DEVICE TO MOUNT TO PUMP DISCHARGE PIPING (16' LONG).
8. PUMP ON FLOAT

ITEMS 1, 2, 3, 4, 6, AND 7 PROVIDED BY STANCOR AS A STANDARD PACKAGE



NOTE:
ALL LISTED FIRE PROTECTION EQUIPMENT & EXACT LOCATION OF REQUIRED POST INDICATOR VALVE, FIRE DEPT. CONNECTION & FIRE PROTECTION SYSTEM BACKFLOW PREVENTER TO BE SUBMITTED TO ALL AUTHORITIES HAVING JURISDICTION (INCLUDING OWNERS INSURANCE COMPANY) FOR APPROVAL PRIOR TO BID OR CONSTRUCTION.

SPRINKLER RISER DETAIL-DRY PIPE SYSTEM
NO SCALE

PLUMBING DETAILS AND SCHEDULES
NO SCALE

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AUSTINVILLE WATER TREATMENT PLANT (DIVISION I)
AUSTINVILLE VIRGINIA

DRAWN BY:
JT
REVIEW BY:
SHW
DATE:
20 OCTOBER 2006
REVISION:

DWG DESCRIPTION:
PLUMBING DETAILS AND SCHEDULES

P07

JN: 04 - 02

MECHANICAL ABBREVIATIONS

ABV	ABOVE
AC	AIR CONDITIONER
AHU	AIR HANDLING UNIT
BTUH	BRITISH THERMAL UNITS PER HOUR
CFM	CUBIC FEET PER MINUTE
CLG	CEILING
CONT	CONTINUATION
CR	CEILING REGISTER
DB	DRY BULB
DH	DUCT HEATER
DIA	DIAMETER
DWG	DRAWING
EA	EACH
EAT	ENTERING AIR TEMPERATURE
EBH	ELECTRIC BASEBOARD HEATER
EF	EXHAUST FAN
ESP	EXTERNAL STATIC PRESSURE
°F	DEGREES FAHRENHEIT
FLA	FULL LOAD AMPS
FPM	FEET PER MINUTE
FT	FEET
IN	INCHES
KW	KILOWATTS
LAT	LEAVING AIR TEMPERATURE
LF	LINEAR FEET
MCA	MINIMUM CIRCUIT AMPS
MU	MAKE-UP AIR UNIT
MBH	THOUSAND BTU PER HOUR
MD	MOTORIZED DAMPER
OA	OUTSIDE AIR
OBD	OPPOSED BLADE DAMPER
PH	PHASE
RA	RETURN AIR
RLA	RATED LOAD AMPS
RTU	ROOFTOP UNIT
SA	SUPPLY AIR
SF	SUPPLY FAN
SL	SOUND LINING
SP	STATIC PRESSURE
TG	TRANSFER GRILLE
TYP	TYPICAL
UH	UNIT HEATER
V	VOLTS
w/	WITH
WB	WET BULB
WG	WATER GAUGE

MECHANICAL SYMBOLS

	SUPPLY AIR DEVICE
	RETURN AIR DEVICE
	EXHAUST AIR DEVICE
	NEW WORK
	FLEXIBLE DUCTWORK
VD	VOLUME DAMPER (V.D.)
MD	MOTORIZED DAMPER (M.D.)
	AIR OUT OF AIR TERMINAL
	AIR INTO AIR TERMINAL
-D-	CONDENSATE DRAIN
U	DOOR UNDERCUT
T	THERMOSTAT
(#) # 40	*(QUANTITY IF INDICATED)* SUPPLY AIR DEVICE DESIGNATION *(CFM INDICATED)*
(#) # 40	*(QUANTITY IF INDICATED)* RETURN AIR DEVICE DESIGNATION *(CFM INDICATED IF REQUIRED)*
(#) # 40	*(QUANTITY IF INDICATED)* EXHAUST AIR DEVICE DESIGNATION *(CFM INDICATED IF REQUIRED)*
	WALL LOUVER

DRAWING LIST

M01	COVER SHEET MECHANICAL SPECIFICATIONS
M02	MECHANICAL SCHEDULES
M03	TREATMENT BUILDING FIRST FLOOR – MECANICAL PLANS
M04	TREATMENT BUILDING SECOND FLOOR – MECANICAL PLANS
M05	TREATMENT BUILDING ROOF – MECANICAL PLANS
M06	RAW WATER INTAKE / FINISHED WATER PUMP STATION – MECHANICAL PLANS
M07	MECHANICAL DETAILS
MEP01	FIRE PENETRATION DETAILS

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AUSTINVILLE WATER TREATMENT PLANT (DIVISION I)

AUSTINVILLE VIRGINIA

DRAWN BY: TW
REVIEW BY: SHW
DATE: 20 OCTOBER 2006
REVISION:

DWG DESCRIPTION: COVER SHEET - MECHANICAL SPECIFICATIONS

M01

JN: 04 - 02

AIR DEVICE SCHEDULE

(A) FULL FACE LAY-IN DIFFUSER (TITUS OMNI)

CFM RANGE	NECK	FACE	THROW	MAX APD	MAX NC	NOTES:
0-125	6"Φ	24x24	5	0.1	25	1,2,3
126-250	8"Φ	24x24	10	0.1	30	1,2,3
251-375	10"Φ	24x24	13	0.1	35	1,2,3

(B) EXPOSED SIDEWALL GRILLE (TITUS 301-RL-SS)

CFM RANGE	NECK	FACE	THROW	MAX APD	MAX NC	NOTES:
0-400	18x10	20x12	20	0.1	20	2,4,5

[A] LOUVERED FACE RETURN AIR GRILLE (TITUS 350RL-SS)

CFM RANGE	NECK	FACE	THROW	MAX APD	MAX NC	NOTES:
0-1500	-	30x18	-	0.03	20	-

[B] PERFORATED FACE RETURN AIR GRILLE (TITUS PXP)

CFM RANGE	NECK	FACE	THROW	MAX APD	MAX NC	NOTES:
0-1250	-	24x24	-	0.03	-	-

(1) PERFORATED FACE EXHAUST AIR GRILLE (TITUS PAR)

CFM RANGE	NECK	FACE	THROW	MAX APD	MAX NC	NOTES:
0-150	6"Φ	24x24	-	0.1	35	1,2

NOTES:
1. PROVIDE FRAME AND/OR ACCESSORIES AS REQUIRED TO MATCH CEILING TYPE. SEE ARCHITECTURAL DRAWINGS FOR ADDITIONAL INFORMATION.
2. BALANCE TO CFM INDICATED ON PLANS.
3. PROVIDE WITH VOLUME DAMPER AT AIRTITE FITTING.
4. PROVIDE WITH OPPOSED BLADE DAMPER.
5. SIDE WALL GRILLE TO BE STAINLESS STEEL FOR USE IN CORROSIVE ENVIRONMENT - PROVIDE TRANSITION FROM PVC "TEE" TO 18x10 NECK
6. SIDE WALL GRILLE TO BE STAINLESS STEEL FOR USE IN CORROSIVE ENVIRONMENT - PROVIDE TRANSITION FROM PVC DUCTWORK TO 30X18 NECK

LOUVER SCHEDULE

DESIGN.	TYPE	CFM	HEIGHT	WIDTH	S.P.
IL-1	ARROW EA-681	500	36"	12	0.1
IL-2	ARROW EA-681	300	24"	12"	0.1
IL-3	ARROW EA-681	5000	36"	48"	0.1
IL-4	ARROW EA-681	3200	36"	36"	0.1
IL-5	ARROW EA-681	1900	30"	24"	0.1
IL-6A	ARROW EA-681	8800	42"	60"	0.1
IL-6B	ARROW EA-681	12500	48"	72"	0.1
IL-7	ARROW EA-681	7950	42"	60"	0.1
IL-8	ARROW EA-681	300	24"	12"	0.1
IL-9	ARROW EA-681	925	24"	24"	0.1
IL-10	ARROW EA-681	350	30"	12"	0.1

NOTES:
1. FACTORY FINISH STANDARD
2. PROVIDE BIRD SCREEN
3. IL-1 THRU IL-10 TO BE INTERLOCKED WITH ASSOCIATED EXHAUST FAN (SEE PLAN FOR NOTES)

SPLIT SYSTEM SCHEDULE

UNIT DESIGNATION		SERVING	INDOOR AIR HANDLING UNIT											CONDENSING UNIT					
INDOOR	OUTDOOR		NOMINAL TONS	NOMINAL TOTAL CFM	OA	ESP IN H_2O	ELECTRIC HEAT KW	UNIT AMPS	UNIT MCA	FAN: V/PH/HZ	BASIS OF DESIGN	NOTES	CAPACITY MBH	V/PH/HZ	UNIT MCA	UNIT MOCP	BASIS OF DESIGN	NOTES
AH-1	CU-1	ELEV MACH RM	0.75	350	N/A	N/A	3.0	17.1	20	208/1ø	EMI CHP15	1,2	18	208V/1ø	6.1	15	EMI SHC09DM	1

AIR HANDLING UNIT NOTES:
1. UNIT TO BE PROVIDED WITH THE FOLLOWING FEATURES / ACCESSORIES:
- PRE-WIRED ELECTRIC HEAT.
- MULTI-FUNCTION MICRO-PROCESSOR.
- 2 SPEED FAN OPERATION.
- FULLY INSULATED GALVANIZED STEEL CABINET.
- PRIMARY AND SECONDARY DRAIN CONNECTIONS ON COOLING COIL.
- DX EXPANSION VALVE KIT.
- HEAT PUMP EXPANSION VALVE KIT.

2. SIZE AND INSTALL REFRIGERANT PIPING AND PROVIDE ALL ACCESSORIES AS RECOMMENDED BY MANUFACTURER. PROVIDE LONG LINE ACCESSORY PACKAGE WITH ALL REQUIRED ACCESSORIES. (AS REQUIRED)

HEAT PUMP NOTES:
1. SIZE AND INSTALL REFRIGERANT PIPING AND PROVIDE ALL ACCESSORIES AS RECOMMENDED BY MANUFACTURER. PROVIDE LONG LINE ACCESSORY PACKAGE WITH ALL REQUIRED ACCESSORIES. (AS REQUIRED) PROVIDE LIGHTWEIGHT MOUNTING PAD FOR ROOF INSTALLATION

ROOFTOP UNIT SCHEDULE

DESIG.	MIN. O.A. CFM	SUPPLY FAN			COOLING CAPACITY				HEATING MBH	ELECTRICAL				APPROX WEIGHT LBS.	BASIS OF DESIGN:	NOTES
		CFM	ESP IN W.G.	HP	TOTAL MBH	SENS. MBH	EAT DB/WB °F	AMBIENT °F		KW	V/PH	UNIT MCA	MOCP			
RTU-1	1000	3300	0.65	1.5	97.0	70.0	80/67	92	85.0	24.0	480/3	63.1	70	1400	YORK BP090	1,2,3,4,5,6,7
RTU-2	1200	1200	0.75	0.5	92.7	55.8	92/74	92	68.9	20.2	480/3	31.8	35	2700	DESERT AIRE QS08C	1,3,5,6,7,8

NOTES:
1. DOWNFLOW
2. PLACE T-STAT SENSOR IN RETURN AIR RISER
3. ROOF CURB WITH SPRING ISOLATION (SPRING ISOLATION NOT REQUIRED ON RTU-2)
4. RTU-1: 100% O.A. ECONOMIZER WITH BAROMETRIC RELIEF SET TO PROVIDE MINIMUM REQUIRED OUTSIDE AIR
5. 2" THROW-AWAY FILTERS
6. LOW AMBIENT CONTROL TO 20°F
7. CONDENSER COIL GUARD
8. RTU-2 TO HAVE HOT GAS REHEAT AND SCR CONTROLS ON ELEC HEAT

CONTROL SEQUENCE:
INDIVIDUAL UNITS CONTROLLED BY SINGLE THERMOSTAT IN THEIR RESPECTIVE ZONE.
RTU-1: ECONOMIZER IS CONTROLLED BY ENTHALOPY CONTROL WITH SENSOR LOCATED ON ROOF.

ELECTRIC HEATER SCHEDULE

DESIGN.	MANUFACTURER / MODEL	AMPS	CFM	MBH	KW	POWER	TYPE	CONTROL	NOTES
UH-1	MARKEL HLA 12-480360-3.0-24	4.3	580	10.2	3.0	480/3Φ	UNIT HEATER	WALL MTD T-STAT	1
UH-2	MARKEL P3P5107CAIN	9.1	700	25.6	7.5	480/3Φ	UNIT HEATER	WALL MTD T-STAT	2
EWH-1	MARKEL HF4310T2RP	3.6	70	2.5	0.75	208/1Φ	WALL HEATER	BUILT-IN T-STAT	3
EWH-2	MARKEL G3327TD-RP	17.3	175	16.5	4.8	277/1Φ	WALL HEATER	BUILT-IN T-STAT	3

NOTES:
1. HEATER IS FOR HAZARDOUS LOCATION, INCLUDE EXPLOSION PROOF MOTOR AND THERMOSTAT, FACTORY MOUNTED DISCONNECT AND WALL MOUNTING KIT
2. INCLUDE WALL MOUNTING KIT, BUILT-IN DISCONNECT SWITCH AND FAN GUARD
3. INCLUDE BUILT-IN THERMOSTAT/DISCONNECT SWITCH AND KIT FOR SURFACE MOUNTING

EXHAUST FAN SCHEDULE

DESIGN.	FAN TYPE	CFM	ESP	RPM	HP	POWER	BASIS OF DESIGN	NOTES
EF-1	ROOF	750	0.65	1809	1/4	120/1	COOK 100 ACEB	1
EF-2	UTILITY SET ON ROOF	500	1.0	1410	1/2	208/3	COOK 70-MH-HD	2
EF-3	UTILITY SET ON ROOF	300	1.0	1250	1/2	208/3	COOK 70-MH-HD	2
EF-4	WALL PROP PACKAGE	5000	0.2	612	3/4	208/3	COOK 30XLPH	4
EF-5	WALL PROP PACKAGE	3200	0.2	1196	1/2	208/3	COOK 20XMP	4
EF-6	WALL PROP PACKAGE	1900	0.2	940	1/3	208/3	COOK 20XMP	4
EF-7A	ROOF	8800	0.25	918	1.5	460/3	COOK 30LXUM	6
EF-7B	WALL PROP PACKAGE	12500	0.2	673	2.0	460/3	COOK 36XLPH	4
EF-8	ROOF	7950	0.25	683	1 1/2	208/3	COOK 270 ACEB	1
EF-9	WALL PROP	300	0.25	1550	N/A	120/1	COOK 10S15D	7
EF-10	WALL PROP	925	0.25	1594	1/8	120/1	COOK 12S15D	7
EF-11	ROOF	350	0.25	1095	1/8	120/1	COOK 100C15DH	8
EF-12	UTILITY SET ON ROOF	1400	1.0	2570	3.0	208/3	COOK 70-MH-HD	2
HEF-1	HOOD EXHAUST FAN ON ROOF	500	1.0	1250	1/3	208/3	COOK 80CPV	3
CEF-1	TLT CEILING FAN	100	0.35	995	N/A	120/1	COOK GC-144	5

NOTES:
1. PROVIDE FACTORY PREWIRED DISCONNECT, BACKDRAFT DAMPER, BIRD SCREEN AND SELECTED WITH MEDIUM DRIVE LOSS CONTROL WITH LIGHT SWITCH OF RESTROOMS (EITHER RESTROOM TO TURN ON FAN)
2. FAN TO BE INSTALLED IN HAZARDOUS LOCATION: INCLUDE EXPLOSION PROOF DISCONNECT AND MOTOR, HEAVY DUTY CONSTRUCTION, HINGED ACCESS DOOR, DRAIN AND WEATHER COVER - FAN SELECTED WITH MEDIUM DRIVE LOSS (INCLUDE CORROSION RESISTANT COATING - ACTIVE CHEMICALS INCLUDE CHLORINE, FLUORINE AND CARBON)
3. LAB FUME HOOD EXHAUST FAN: INCLUDE FACTORY DISCONNECT SWITCH, BACKDRAFT DAMPER, ACCESS DOOR , DRAIN AND CORROSION RESISTANT COATING. FAN SELECTED WITH MEDIUM DRIVE LOSS - CONTROL WITH HOOD MOUNTED SWITCH. INTERLOCK FAN WITH MOTORIZED DAMPER OF ROOM RETURN DUCT. DAMPER TO CLOSE WHEN EXHAUST FAN IS ENGAGED.
4. INCLUDE FACTORY DISCONNECT, WALL COLLAR, LOUVER AND SHUTTER AS PART OF FAN PACKAGE FAN SELECTED WITH MEDIUM DRIVE LOSS
5. INCLUDE PLASTIC CEILING GRILLE, FAN SPEED CONTROL, BACKDRAFT DAMPER AND BRICK VENT
6. INCLUDE FACTORY DISCONNECT SWITCH, MAGNETIC LATCHES, INLET GUARD, ALUMINUM DAMPER DOOR AND STEEL HINGED BASE FAN SELECTED WITH MEDIUM DRIVE LOSS
7. INCLUDE FACTORY DISCONNECT SWITCH, GRAVITY SHUTTER, WALL COLLAR, MOTOR SIDE WIRE GUARD AND FAN SPEED CONTROL
8. INCLUDE FACTORY DISCONNECT SWITCH, BACKDRAFT DAMPER AND FAN SPEED CONTROL
9. EF-12 TO OPERATE SIMULTANEOUSLY WITH 100% OUTSIDE AIR UNIT RTU-2 TO PROVIDE NEGATIVE ROOM PRESSURE

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SEAL
COMMONWEALTH OF VIRGINIA
S. H. WILLIAMS
No. 04141
11-13-06
PROFESSIONAL ENGINEER

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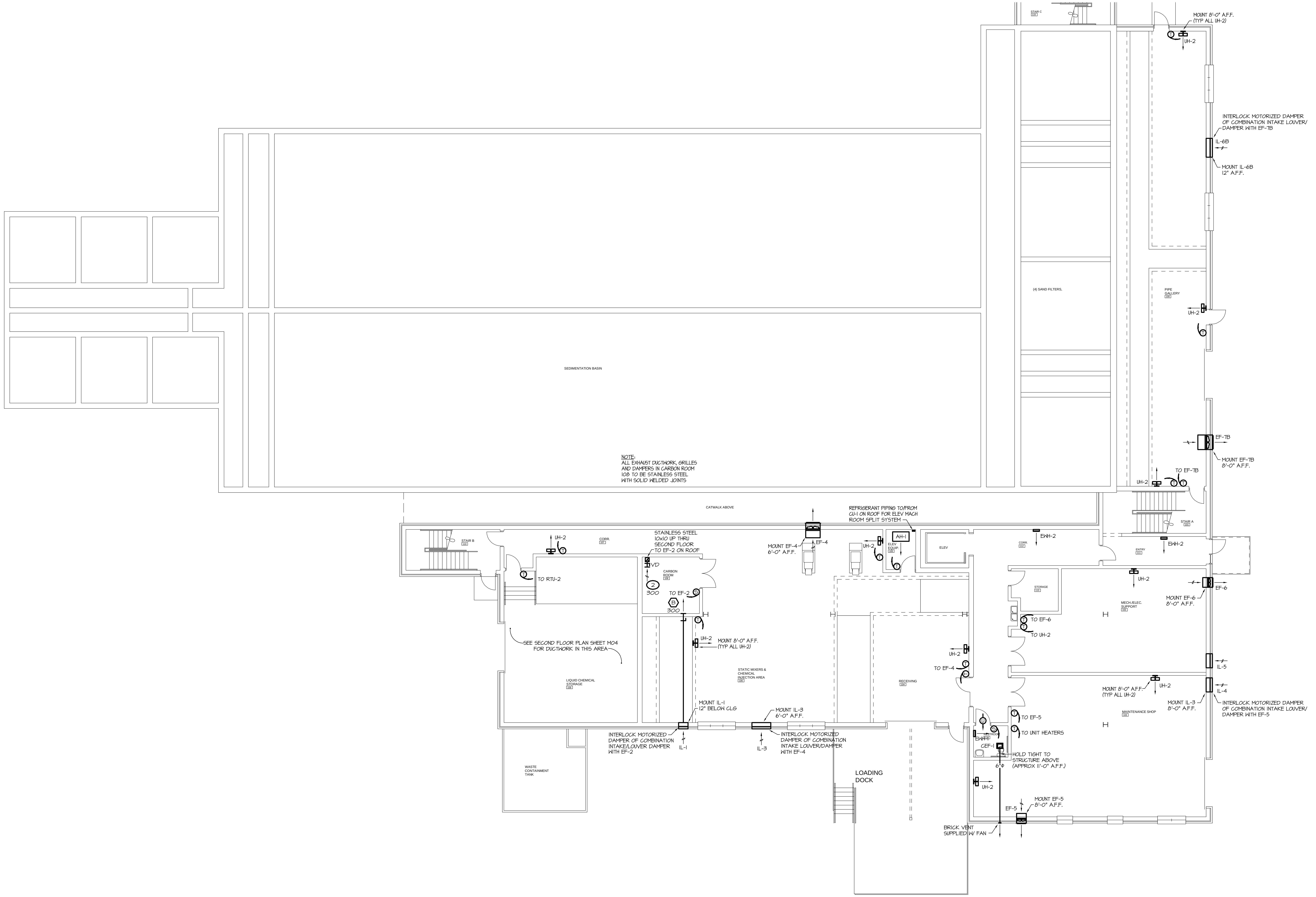
AUSTINVILLE
WATER TREATMENT PLANT
(DIVISION I)
AUSTINVILLE VIRGINIA

DRAWN BY: TW
REVIEW BY: SHW
DATE: 20 OCTOBER 2006
REVISION:
DWG DESCRIPTION: COVER SHEET - MECHANICAL SCHEDULES

M02

JN: 04 - 02



FIRST FLOOR - MECHANICAL PLAN

SCALE: 1/8" = 1'

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AUSTINVILLE WATER TREATMENT PLANT (DIVISION I)

AUSTINVILLE VIRGINIA

DRAWN BY: TW

REVIEW BY: SHW

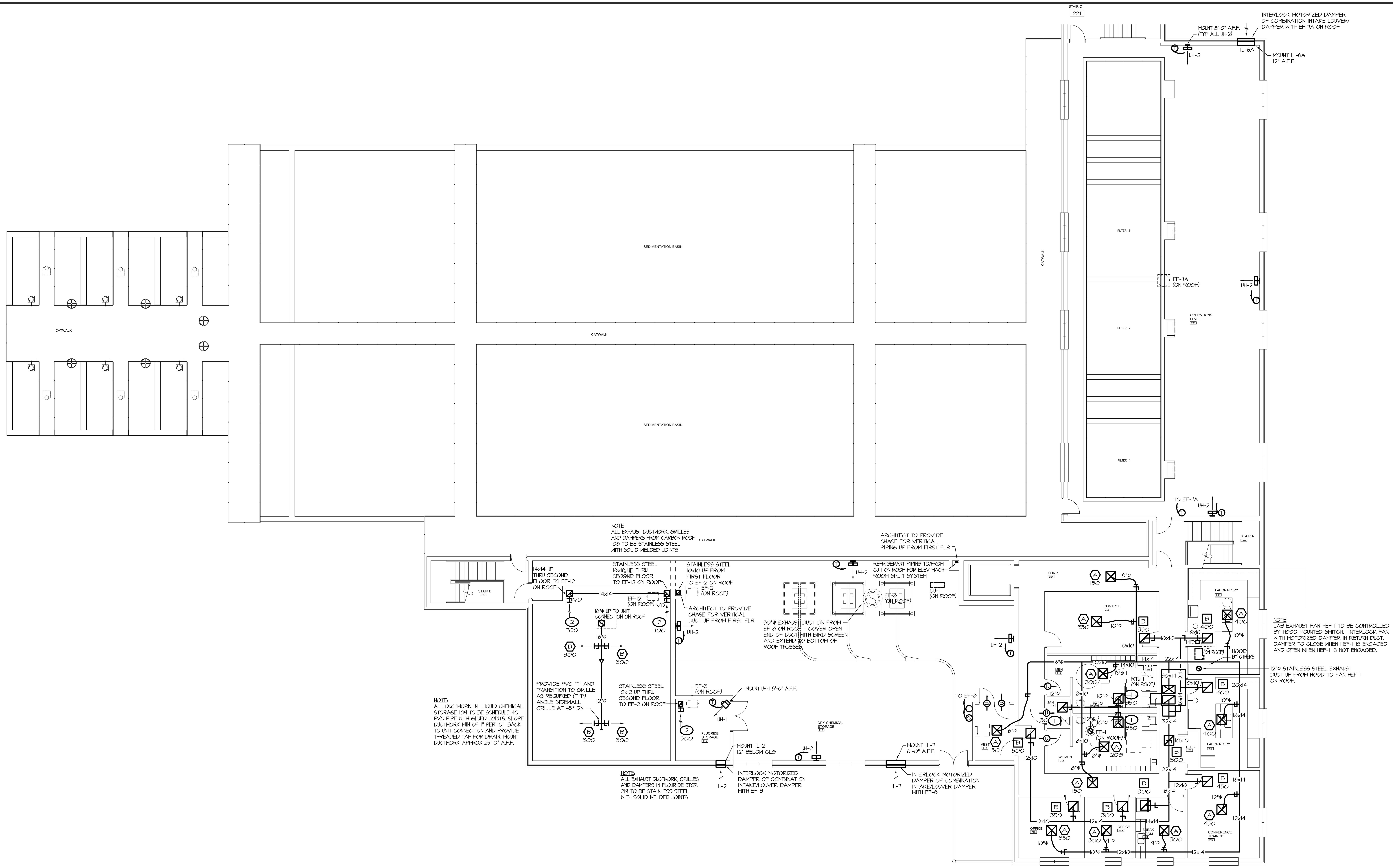
DATE: 20 OCTOBER 2006

REVISION:

DWG DESCRIPTION: TREATMENT BUILDING FIRST FLOOR - MECHANICAL PLANS

M03

JN: 04 - 02



SECOND FLOOR - MECHANICAL PLAN

SCALE: 1/8" = 1'

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AUSTINVILLE WATER TREATMENT PLANT (DIVISION I)

AUSTINVILLE VIRGINIA

DRAWN BY: TW

REVIEW BY: SHW

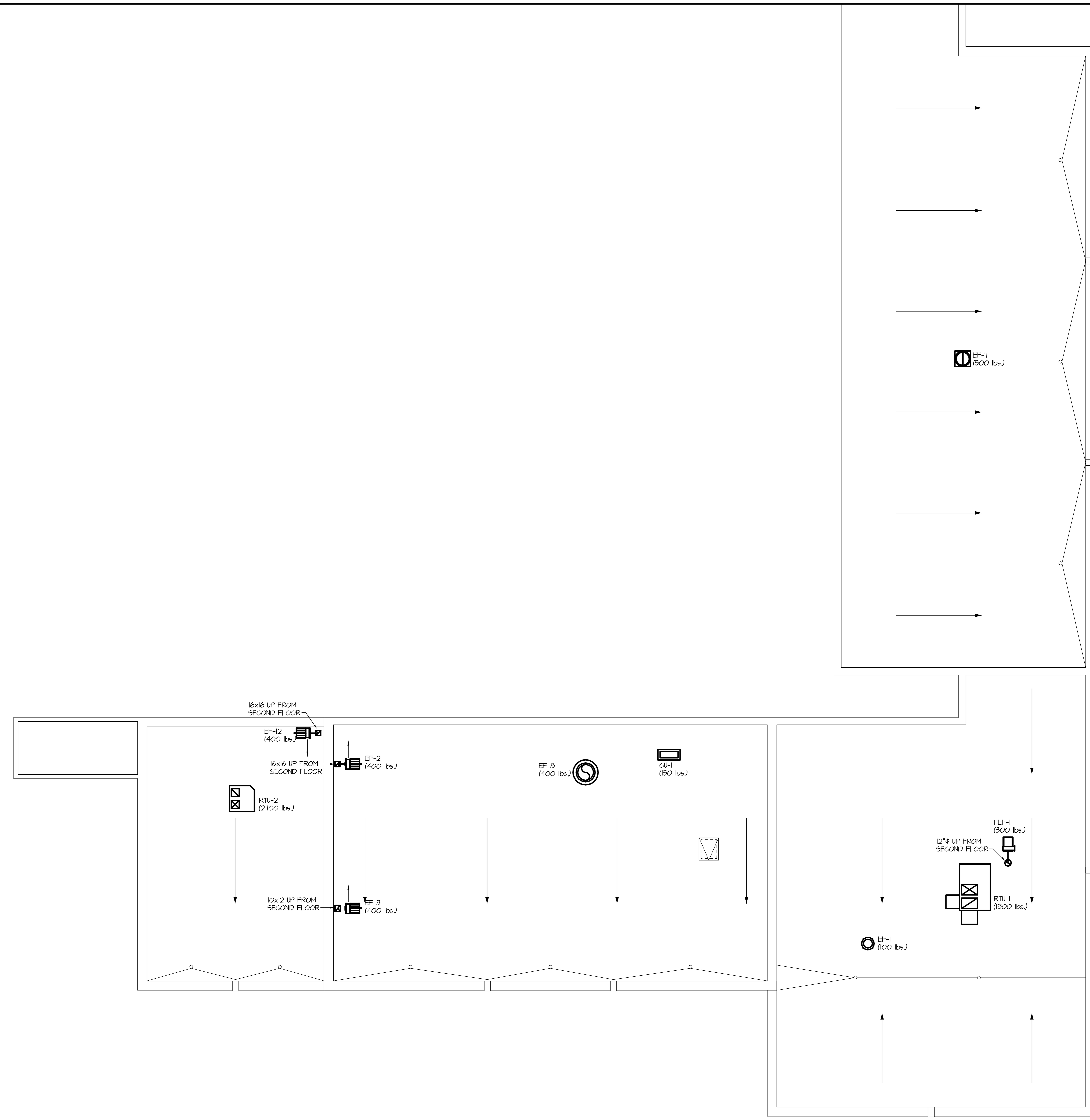
DATE: 20 OCTOBER 2006

REVISION:

DWG DESCRIPTION: TREATMENT BUILDING SECOND FLOOR - MECHANICAL PLANS

M04

JN: 04 - 02



ROOF - MECHANICAL PLAN

SCALE: 1/4" = 1'

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AUSTINVILLE WATER TREATMENT PLANT (DIVISION I)

AUSTINVILLE VIRGINIA

DRAWN BY: JKH

REVIEW BY: SHW

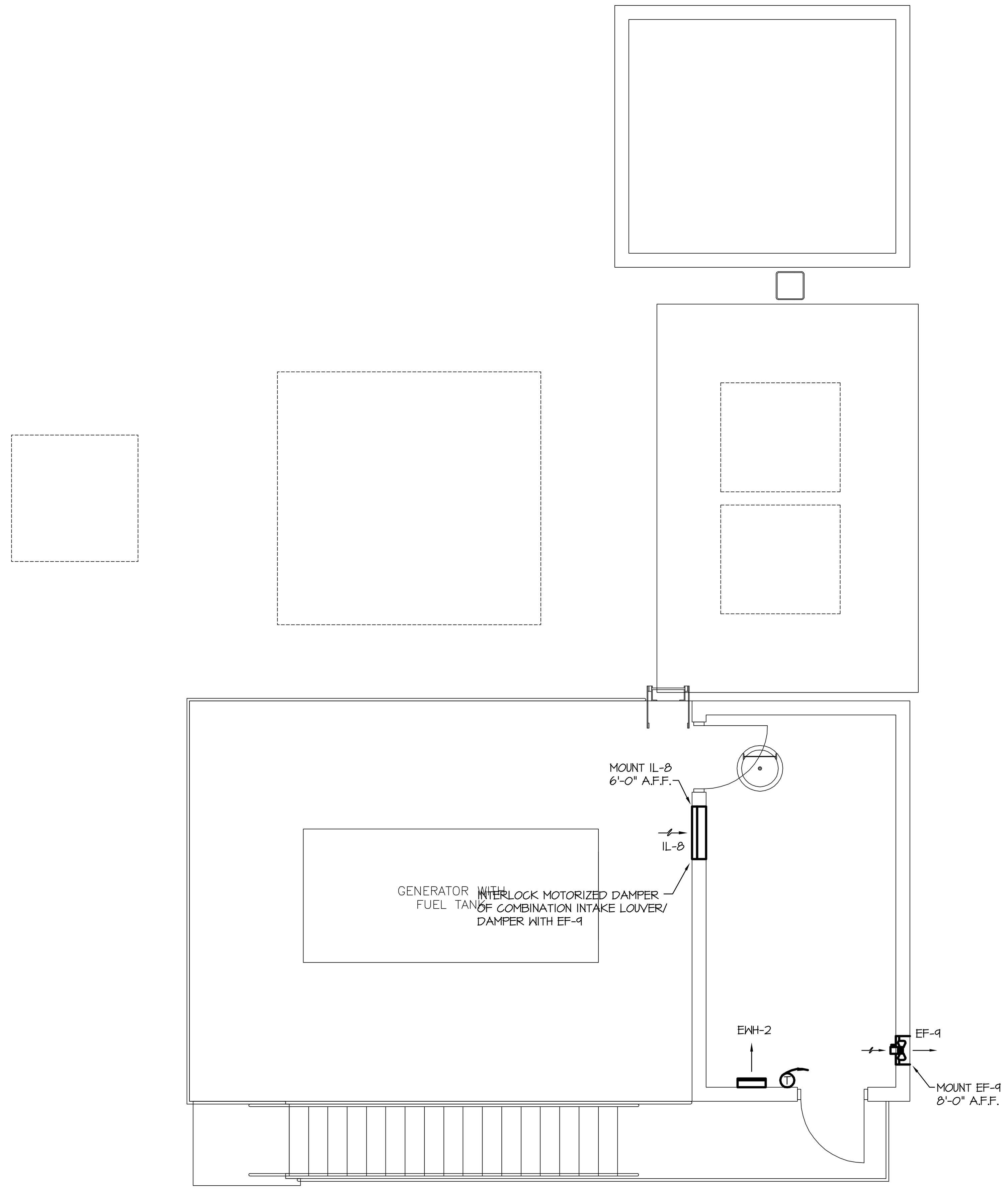
DATE: 20 OCTOBER 2006

REVISION:

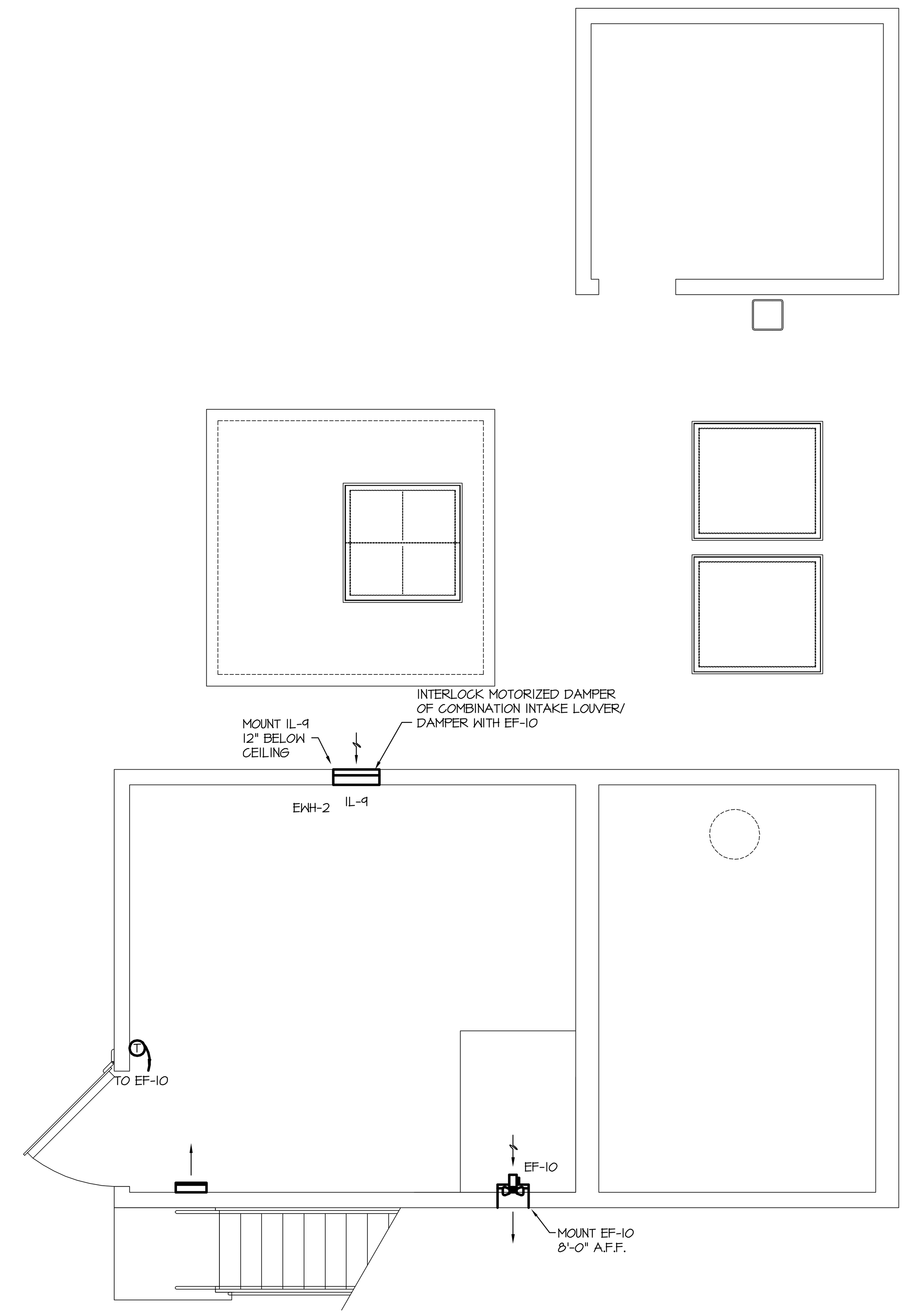
DWG DESCRIPTION: TREATMENT BUILDING ROOF - MECHANICAL PLAN

M05

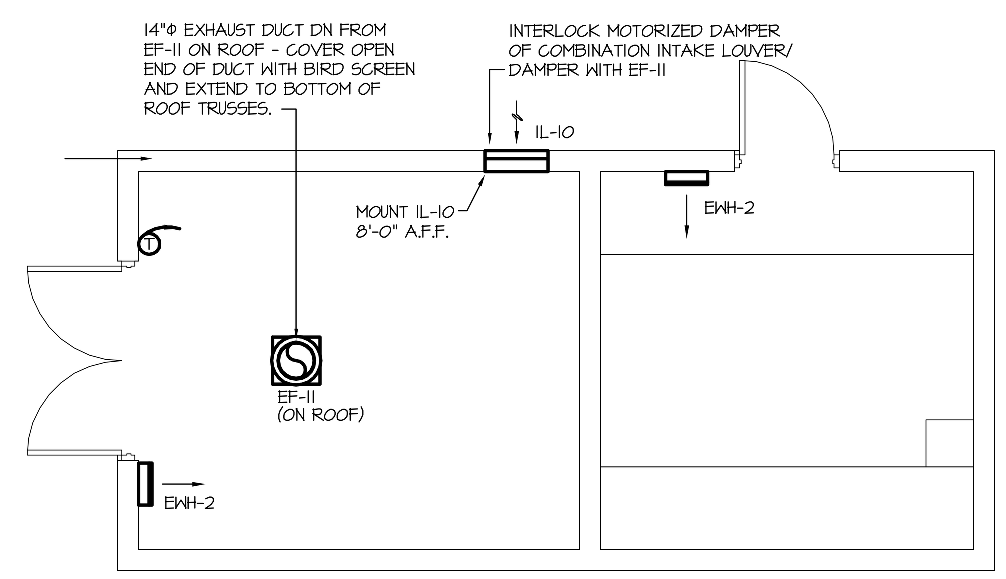
JN: 04 - 02



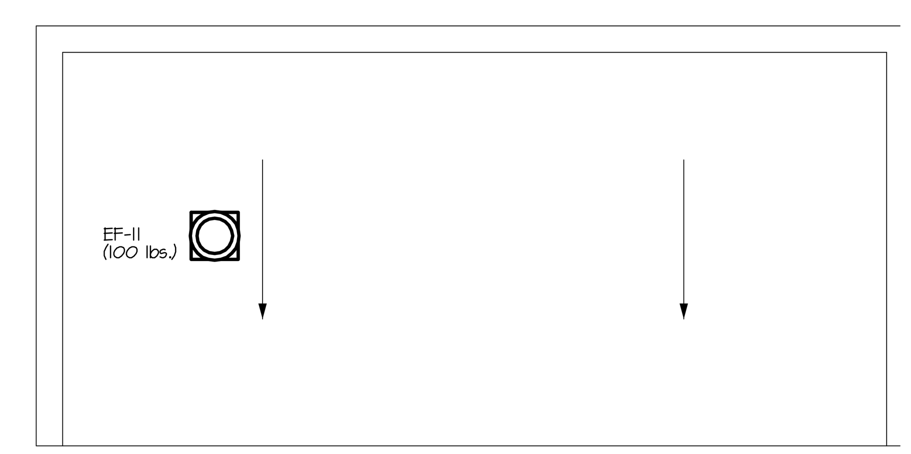
RAW WATER INTAKE BUILDING SECOND FLOOR - MECHANICAL PLAN
SCALE: 1/4" = 1'



RAW WATER INTAKE BUILDING FIRST FLOOR - MECHANICAL PLAN
SCALE: 1/4" = 1'



FINISHED WATER PUMP STATION - MECHANICAL PLAN
SCALE: 1/4" = 1'



FINISHED WATER PUMP STATION - ROOF PLAN
SCALE: 1/4" = 1'

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AUSTINVILLE WATER TREATMENT PLANT
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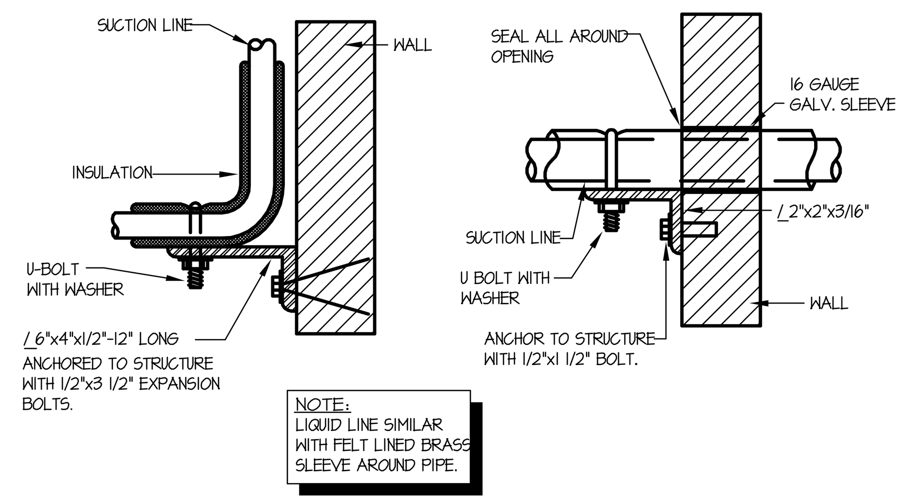
AUSTINVILLE VIRGINIA

DRAWN BY: TW
REVIEW BY: SHW
DATE: 20 OCTOBER 2006
REVISION:
DWG DESCRIPTION: RAW WATER INTAKE/ FINISHED WATER PUMP STATION - MECHANICAL PLANS

M06

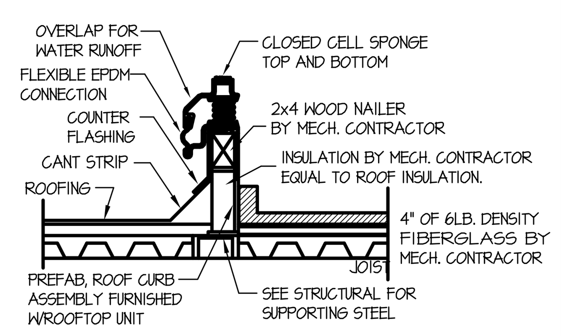
JN: 04 - 02



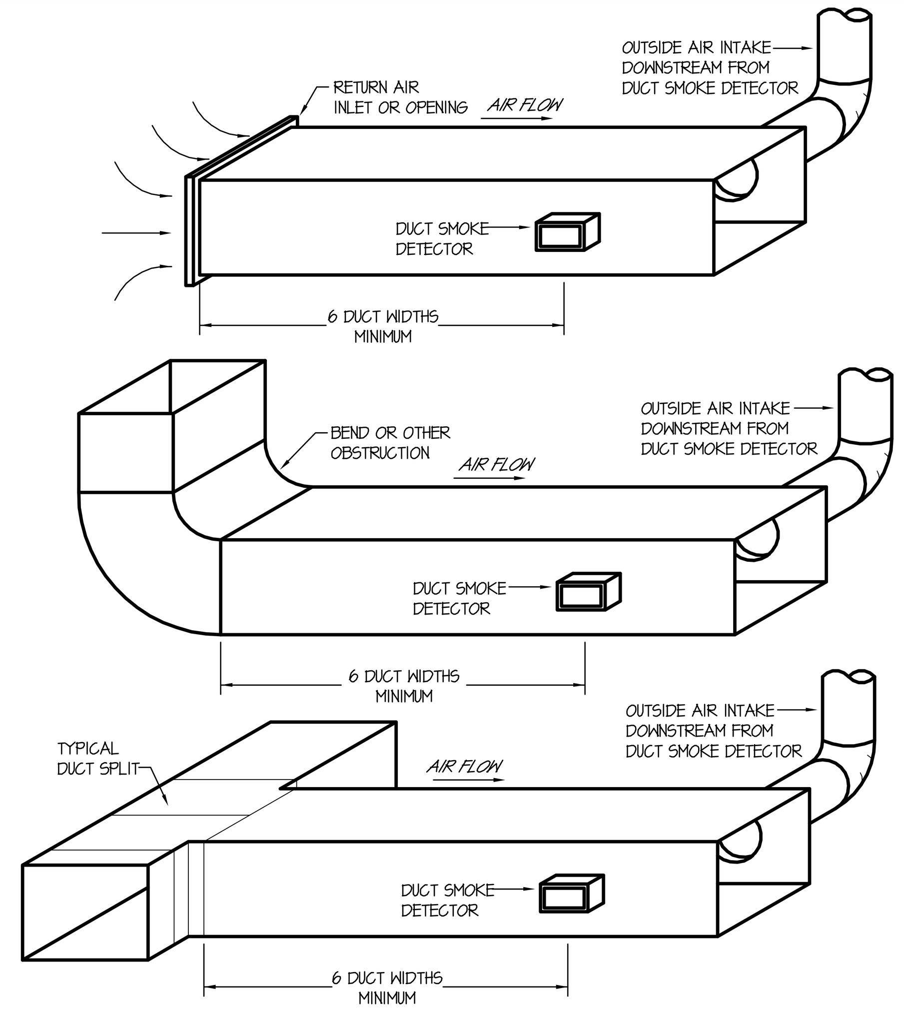
REFRIGERANT PIPE SUPPORTS AT WALL
NOT TO SCALE

NOTE:
ROOFTOP MTD. EQUIPMENT IS TO HAVE A FINISH APPROVED BY THE ARCHITECT. COORDINATE THE POSSIBLE USE OF STANDARD AND CUSTOM COLORS.

NOTE: PROVIDE SUPPORTS UNDER CURB AS REQUIRED TO LEVEL UNIT. SEE ARCHITECTURAL DRAWINGS FOR FLASHING DETAILS.



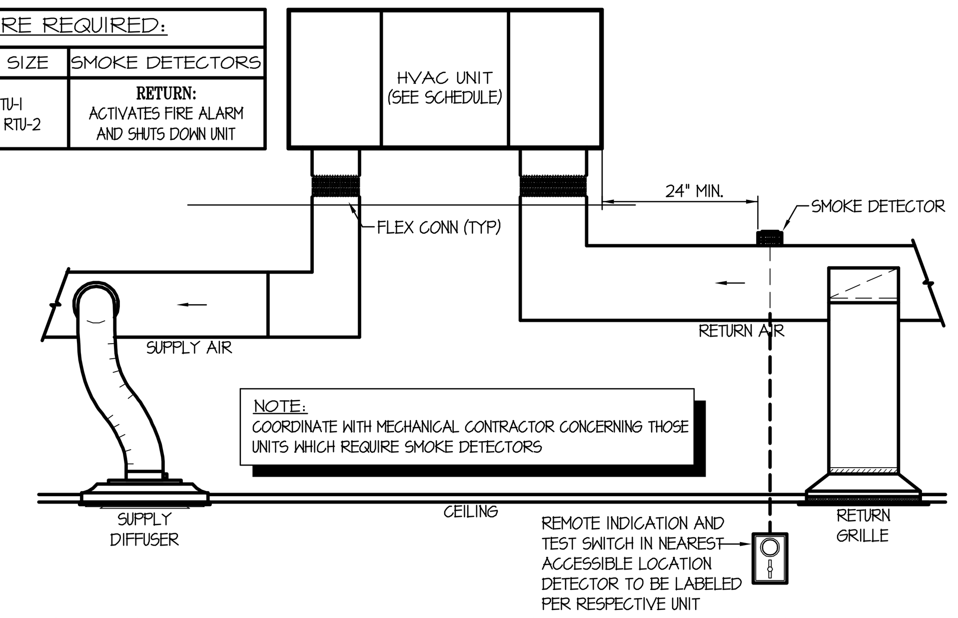
ROOFTOP UNIT CURB DETAIL W/ SPRING ISOLATION
NOT TO SCALE



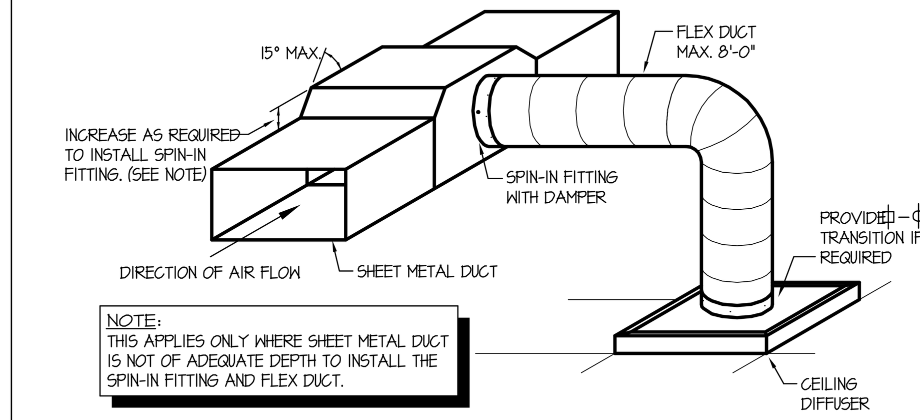
TYPICAL DUCT SMOKE DETECTOR PLACEMENT
NOT TO SCALE

WHERE REQUIRED:

UNIT SIZE	SMOKE DETECTORS
RTU-1 AND RTU-2	RETURN: ACTIVATES FIRE ALARM AND SHUTS DOWN UNIT

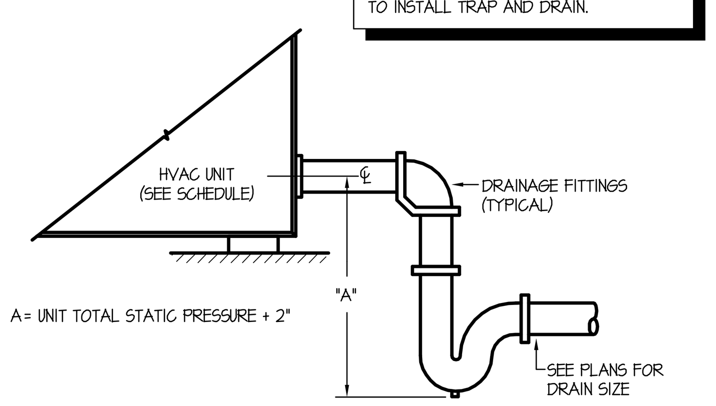


TYPICAL DUCT SMOKE DETECTOR PLACEMENT
NOT TO SCALE



FLEX DUCT TAKE-OFF @ SHEET METAL DUCT DETAIL
NOT TO SCALE

NOTE:
CONTRACTOR TO PROVIDE PROPER SUPPORT FOR UNIT TO ALLOW FOR HEIGHT NECESSARY TO INSTALL TRAP AND DRAIN.



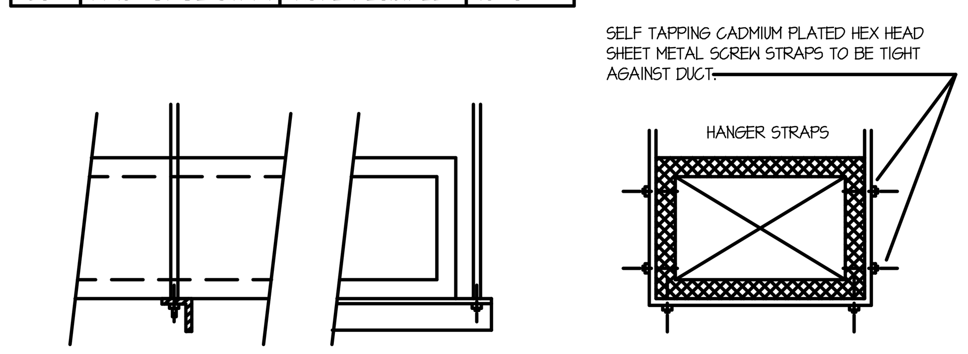
DETAIL OF DRAIN AT UNITS
NOT TO SCALE

HANGER SIZES FOR RECTANGULAR DUCT			
MAX. SIDE	HANGER	HORIZONTAL SUPPORT ANGLE	MAXIMUM SPACING
30"	1"X18" GAGE STRAP	NONE REQUIRED	10'-0"

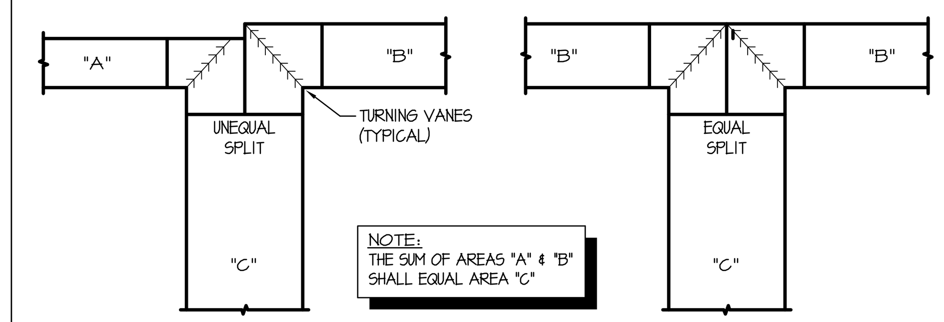
NOTE:
ALL SUPPLY AIR DUCT SHALL BE WRAPPED EXTERNALLY AS PER SPECIFICATIONS

NO POP RIVETS ALLOWED

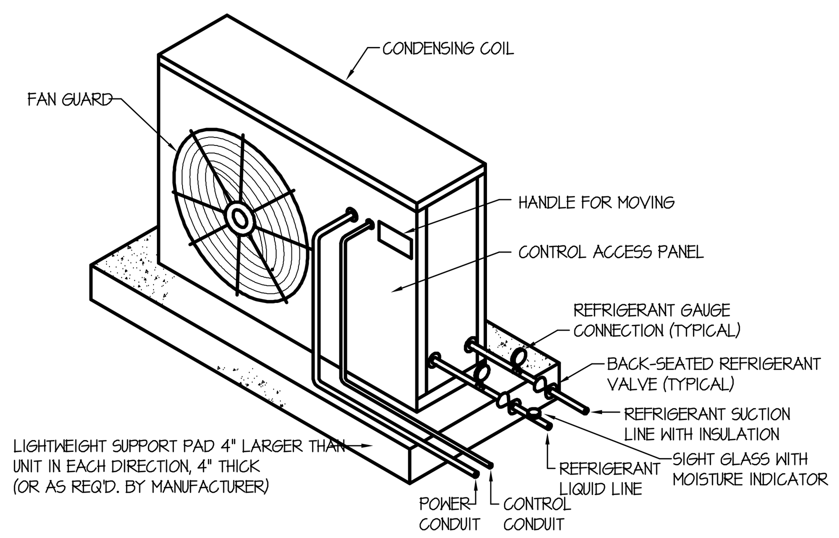
SELF TAPPING CADMIUM PLATED HEX HEAD SHEET METAL SCREW STRAPS TO BE TIGHT AGAINST DUCT



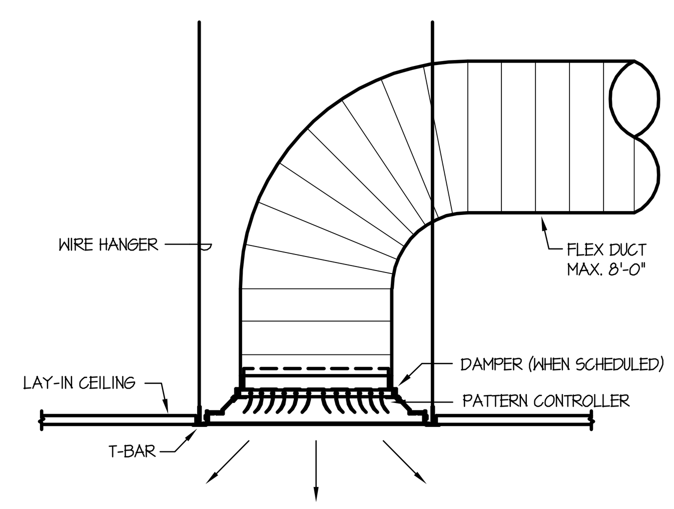
DUCT STRAP HANGER DETAIL
NOT TO SCALE



TYPICAL DUCT SPLIT
NOT TO SCALE

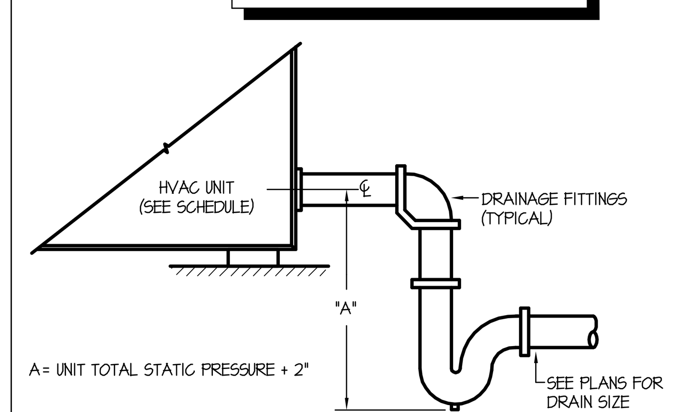


AIR COOLED CONDENSING UNIT DETAIL
NOT TO SCALE

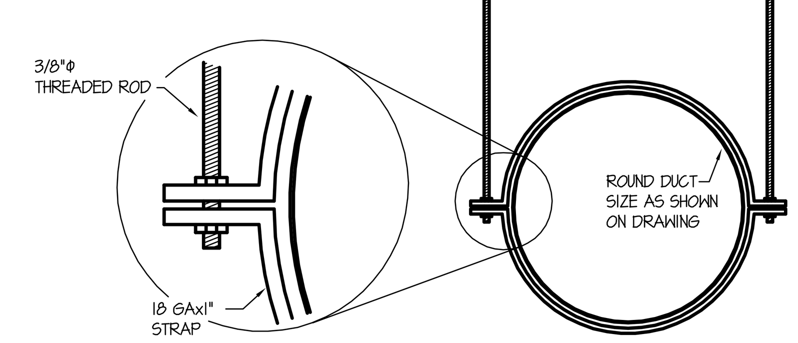


LAY-IN CEILING DIFFUSER DETAIL
NOT TO SCALE

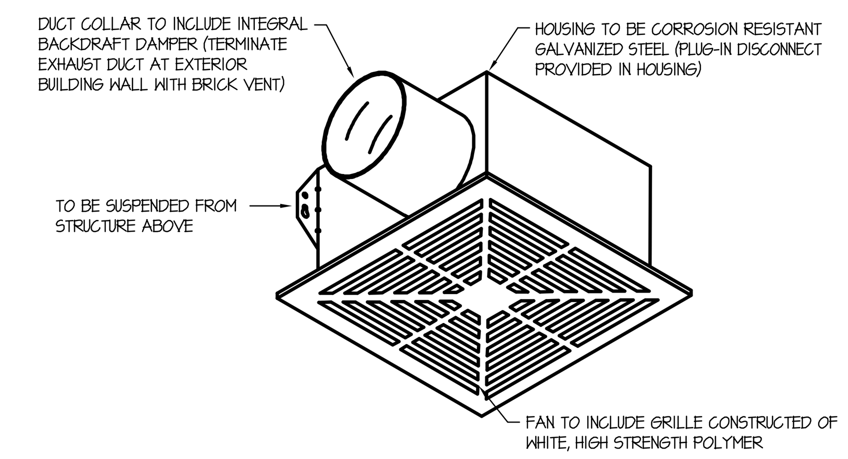
NOTE:
CONTRACTOR TO PROVIDE PROPER SUPPORT FOR UNIT TO ALLOW FOR HEIGHT NECESSARY TO INSTALL TRAP AND DRAIN.



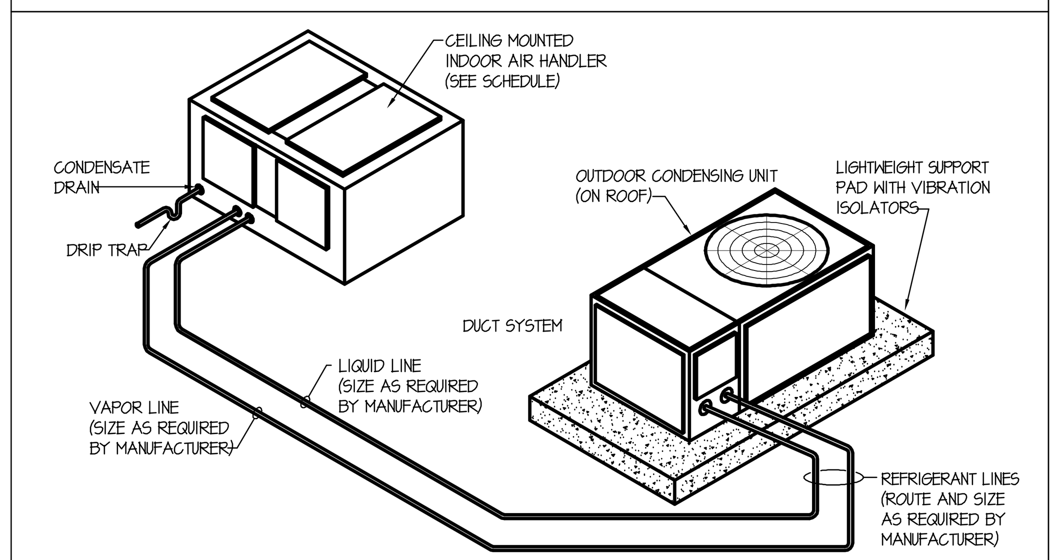
DETAIL OF DRAIN AT UNITS
NOT TO SCALE



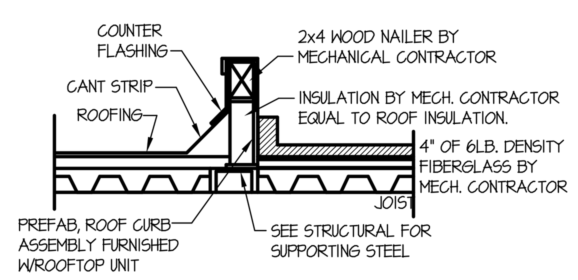
ROUND DUCT HANGER DETAIL
NOT TO SCALE



CEILING EXHAUST FAN DETAIL
NOT TO SCALE



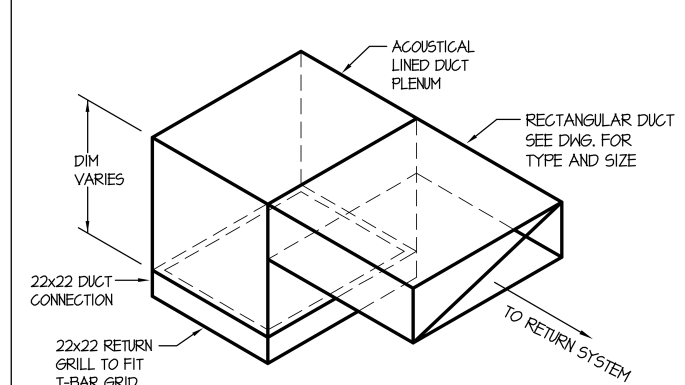
TYPICAL SPLIT SYSTEM HEAT PUMP DETAIL
NOT TO SCALE



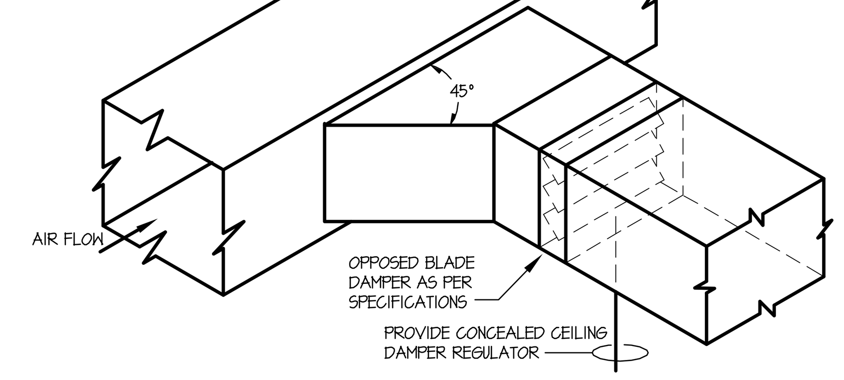
NOTE:
ROOFTOP MTD. EQUIPMENT IS TO HAVE A FINISH APPROVED BY THE ARCHITECT. COORDINATE THE POSSIBLE USE OF STANDARD AND CUSTOM COLORS.

ROOFTOP UNIT CURB DETAIL
NOT TO SCALE

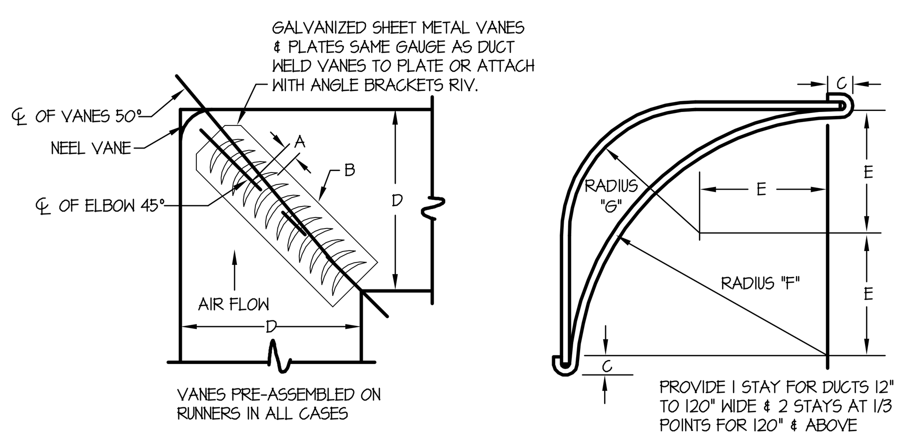
NOTE:
PROVIDE SUPPORTS UNDER CURB AS REQUIRED TO LEVEL UNIT. SEE ARCHITECTURAL DRAWINGS FOR FLASHING DETAILS.



RETURN AIR GRILLE DUCT CONNECTION DETAIL
NOT TO SCALE



BRANCH DUCT TAKE-OFF @ SUPPLY MAIN
NOT TO SCALE



D & D UP TO 24" A = 1-1/2" B = 5" TYPE "B" VANES
D & D OVER 24" A = 3-1/4" B = 4" TYPE "A" VANES
TYPE "A" VANES C = 1/2" E = 2-1/4" RADIUS "F" = 4-1/2" RADIUS "G" = 2-1/4"
TYPE "B" VANES C = 1/4" E = 1" RADIUS "F" = 2" RADIUS "G" = 1"

SQUARE ELBOW DETAIL
NOT TO SCALE

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AUSTINVILLE WATER TREATMENT PLANT (DIVISION I)
AUSTINVILLE VIRGINIA

DRAWN BY: TW
REVIEW BY: SHW
DATE: 20 OCTOBER 2006
REVISION:
DWG DESCRIPTION: MECHANICAL DETAILS

M07

JN: 04 - 02

LIGHTING FIXTURE SCHEDULE

No.	FIXTURE	MANUFACTURER	DESCRIPTION	MOUNTING	LAMPS	VOLTAGE	REMARKS	NOTES
A		LITHONIA	DMW-332-AR-277-GEB	SURFACE	3-32W T8	277	4 FT SEALED STRIP	
A1		COLUMBIA	FNPH-4-4-32-EB8Z-277-2H3S	SURFACE	4-32W T8	277	4 FT SEALED STRIP W/ CORROSIVE RESISTANT	
B		LITHONIA	C-2-32-277-GEB	SURFACE	2-32W T8	277	4 FT STRIP	
C		LITHONIA	TWL-32-277-PE-LPI	SURFACE	1-32W CFL	277	MINI WALL PACK	
D		LITHONIA	2SP8G-2-32-FW-A12-277-GEB	RECESSED	2-32W T8	277	2X4 TROFFER 4-LAMP	
E		LITHONIA	2SP8G-4-32-FW-A12-277-GEB	RECESSED	4-32W T8	277	2X4 TROFFER 2-LAMP	
F		COLUMBIA	HLE-M-1-15-X2-G-EMGI	SURFACE	1-150W A19	120	EXPLOSION PROOF	
G		DAYBRITE	VIS-150112-WG A14	SURFACE	1-100W A19	120	ELEVATOR PIT LIGHT	
H		LITHONIA	EJ-3-32-277-GEB	SURFACE	3-32W T8	277	4 FT STRIP W/REFLECTOR	
I		LITHONIA	LVS-W-2-R-120/277-UM-EIM	UNIVERSAL	LAMPS INCL.	120/277	EXIT SIGN	
J		LITHONIA	TWH-400M-480-PE-LPI	SURFACE	1-400W MH	480	WALL PACK	
K		LITHONIA	TPA-175M-R5G-277-LPI	POLE	1-175W MH	277	POLE LIGHT	
L		HUBBELL	ZS-2	SURFACE	2-150W INC	120	SECURITY LIGHT	
M		LITHONIA	KSF2-400M-R5S-480-PE4	POLE	1-400W MH	480	SHOEBOX SITE LIGHT	
P		LITHONIA	2RT5-28T5-MVOLT-GEB95S-LPI-835P	RECESSED	2-28W T5	277	2X4 INDIRECT 2-LAMP	

LIGHTING FIXTURE NOTES

- EQUAL LIGHTING FIXTURE MANUFACTURERS WILL BE CONSIDERED.
- ALL NEW FLUORESCENT FIXTURES SHALL BE PROVIDED WITH ENERGY SAVING LAMPS AND ELECTRONIC BALLASTS.
- ALL NEW FLUORESCENT LAMPS SHALL BE THE SAME COLOR TEMPERATURE, 3500K, UNLESS OTHERWISE NOTED.
- PROVIDE MOUNTING TYPES AND DIRECTIONAL ARROWS AS INDICATED ON THE FLOOR PLANS.

ELECTRICAL SYMBOLS

- ALL MOUNTING HEIGHTS SHALL BE AS INDICATED BELOW, UNLESS OTHERWISE NOTED OR INDICATED ON PLANS. (HEIGHT INDICATED IS TO CENTER LINE OF DEVICE).
- ALL DEVICES SHALL BE RECESSED MOUNTED FLUSH IN WALL, CEILING OR FLOOR UNLESS OTHERWISE NOTED.

S	SINGLE POLE SWITCH (+48")
S^3	THREE-WAY SWITCH (+48")
S^4	FOUR-WAY SWITCH (+48")
S^P	SWITCH WITH PILOT LIGHT (+48")
S^T	MANUAL STARTER WITH THERMAL OVERLOAD PROTECTION (+48") 20A UON
	SAFETY SWITCH
	DUPLEX RECEPTACLE (+18")
	DOUBLE DUPLEX RECEPTACLE (+18")
	G.F.I. DUPLEX RECEPTACLE (+44")
WP	WEATHERPROOF, G.F.I. DUPLEX RECEPTACLE (+18")
	DUPLEX FLOOR RECEPTACLE
	DUPLEX RECEPTACLE COMPUTER OUTLET (+18")
	TELEPHONE/DATA FLOOR OUTLET
	TELEPHONE WALL OUTLET (+54")
	TELEPHONE / DATA WALL OUTLET (+18")
J	JUNCTION BOX
	MOTOR CONNECTION
	120/208 VOLT, 3 PHASE, 4 WIRE PANELBOARD
	277/480 VOLT, 3 PHASE, 4 WIRE PANELBOARD
	BRANCH CIRCUIT WIRING. PHASE, NEUTRAL AND GREEN INSULATED GROUND CONDUCTOR UON.
	BRANCH CIRCUIT HOMERUN TO PANELBOARD.
	BRANCH CIRCUIT HOMERUN UNDERGROUND TO PANELBOARD. DASHED LINE INDICATES CIRCUIT TO BE RAN UNDERGROUND.
	CROSSMARKS INDICATE QUANTITY OF CONDUCTORS
	CROSSMARK INDICATES AN ISOLATED GREEN INSULATED GROUND CONDUCTOR
	CROSSMARK INDICATES NEUTRAL CONDUCTOR ONLY SHALL BE #10 AWG.
	CROSSMARKS INDICATE PHASE OR SWITCH CONDUCTORS. REFER TO PANEL SCHEDULE FOR SIZE
	RACEWAY UP
	RACEWAY DOWN.
	GROUND
F	FIRE ALARM MANUAL PULL STATION (+48")
V 15	FIRE ALARM VISUAL DEVICE ONLY MINIMUM 15 CANDELA STROBE (UON ON FLOOR PLAN) (+80" TO BOTTOM OF DEVICE OR 6" BELOW CEILING, WHICHEVER IS LOWEST) ADA APPROVED UON
F 15	FIRE ALARM AUDIO/VISUAL DEVICE MINIMUM 15 CANDELA STROBE (UON ON FLOOR PLAN) (+80" TO BOTTOM OF DEVICE OR 6" BELOW CEILING, WHICHEVER IS LOWEST) ADA APPROVED UON
S	SMOKE DETECTOR CEILING MOUNTED
S	DUCT MOUNTED SMOKE DETECTOR
H	HEAT DETECTOR CEILING MOUNTED
FS	SPRINKLER WATER FLOW
TS	SPRINKLER VALVE TAMPER
PS	DRY PIPE SPRINKLER PRESSURE SWITCH
R	CEILING OR WALL MOUNTED REMOTE INDICATOR/TEST SWITCH. WHERE WALL MOUNTED MOUNT 6" BELOW CEILING. PROVIDE PERMANENT LABEL ON DEVICE COVER IDENTIFYING EQUIPMENT.
PIV	POST INDICATOR VALVE
KP	KEY PAD
DC	DOOR CONTACTOR
DS	DOOR STRIKE
INT WP	INTERCOM STATION WEATHER PROOF (+48")
INT FG	INTERCOM STATION FRONT GATE (+48")
INT FG MD	INTERCOM STATION FRONT GATE/MAIN DOOR (+48")
INT	INTERCOM MASTER STATION (+48")

ELECTRICAL ABBREVIATIONS

A	AMPS
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AHU	AIR HANDLING UNIT
AWG	AMERICAN WIRE GUAGE
BRK	BREAKER
C OR COND	CONDUIT
CIRC	CIRCUIT
CLG	CEILING
CU	CONDENSING UNIT
DHC	DUCT HEATING COIL
(E) OR EXIST	EXISTING
EC	EMPTY CONDUIT W/PULL WIRE
EF	EXHAUST FAN
EM	EMERGENCY
EMT	ELECTRIC METALLIC TUBING
EPO	EMERGENCY POWER OFF
EWC	ELECTRIC WATER COOLER
EWH	ELECTRIC WATER HEATER
FACP	FIRE ALARM CONTROL PANEL
FAAP	FIRE ALARM ANNUNCIATOR PANEL
FLA	FULL LOAD AMPS
FT	FOOT
FRACT	FRACTIONAL
FSS	FUSED SAFETY SWITCH
GFI	GROUND FAULT INTERRUPTER
GND	GROUND
HP	HORSEPOWER
IG	ISOLATED GROUND
IMC	INTERMEDIATE METAL CONDUIT
JB	JUNCTION BOX
KVA	KILOVOLT AMPS
KW	KILOWATT
MCB	MAIN CIRCUIT BREAKER
+ OR MH	MOUNTING HEIGHT (ABOVE FINISHED FLOOR)
MLO	MAIN LUGS ONLY
MOCP	MAXIMUM OVERCURRENT PROTECTION
NEMA	NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION
NFSS	NON-FUSED SAFETY SWITCH
NO. OR #	NUMBER
OCPD	OVER CURRENT PROTECTION DEVICE
PNL	PANEL
P	POLE
Φ OR PH	PHASE
PFF	PROVISIONS FOR FUTURE
PVC	POLYVINYL CHLORIDE
RGS	RIGID GALVANIZED STEEL
RLA	RUNNING LOAD AMPS
RM	ROOM
RTU	ROOF TOP UNIT
SWBD	SWITCHBOARD
TELE	TELEPHONE
TYP	TYPICAL
UH	UNIT HEATER
V	VOLTAGE
VAV	VARIABLE AIR VOLUME
W	WIRE
W/	WITH
WP	WEATHERPROOF
WH	WALL HEATER
UON	UNLESS OTHERWISE NOTED

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AUSTINVILLE
WATER TREATMENT PLANT
(DIVISION I)
AUSTINVILLE VIRGINIA

DRAWN BY: TFS

REVIEW BY: MAR

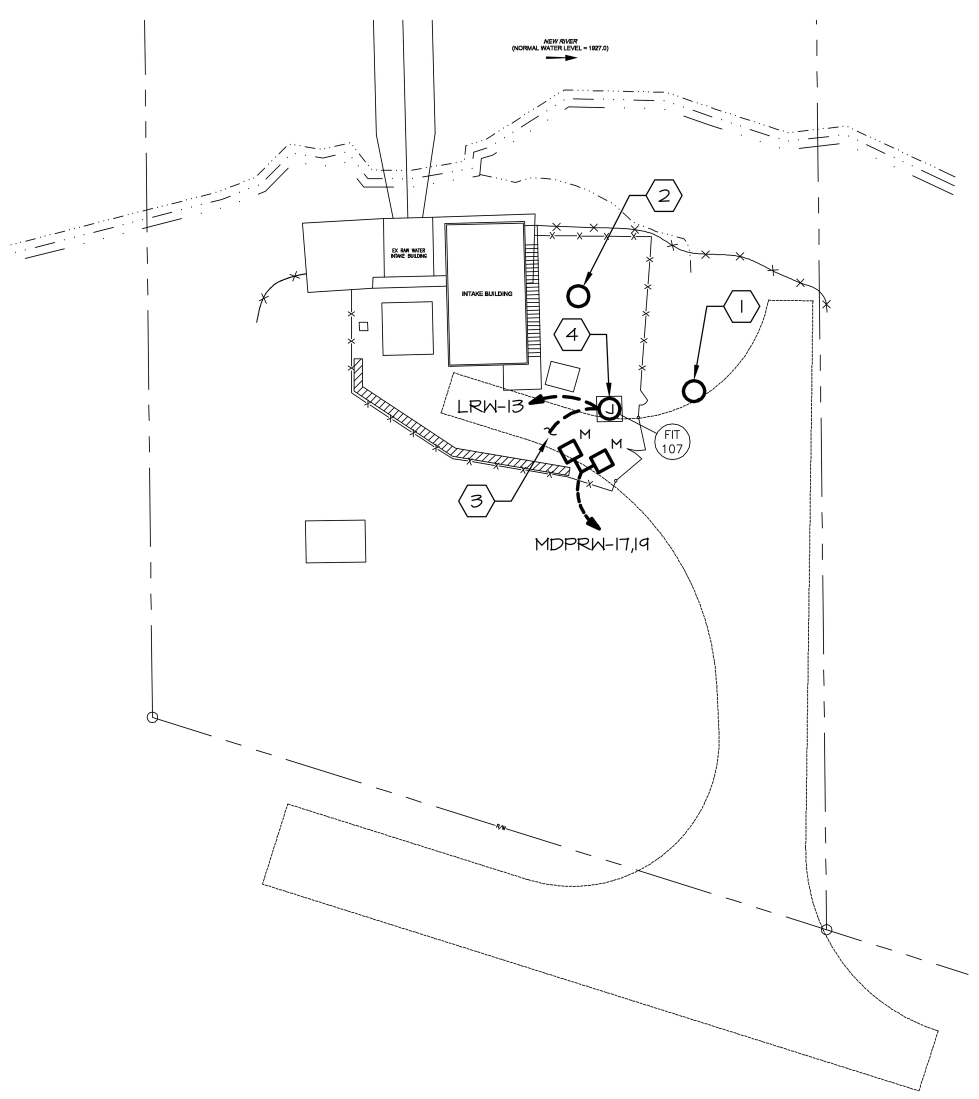
DATE: 20 OCTOBER 2006

REVISION:

DWG DESCRIPTION: ELECTRICAL COVER SHEET

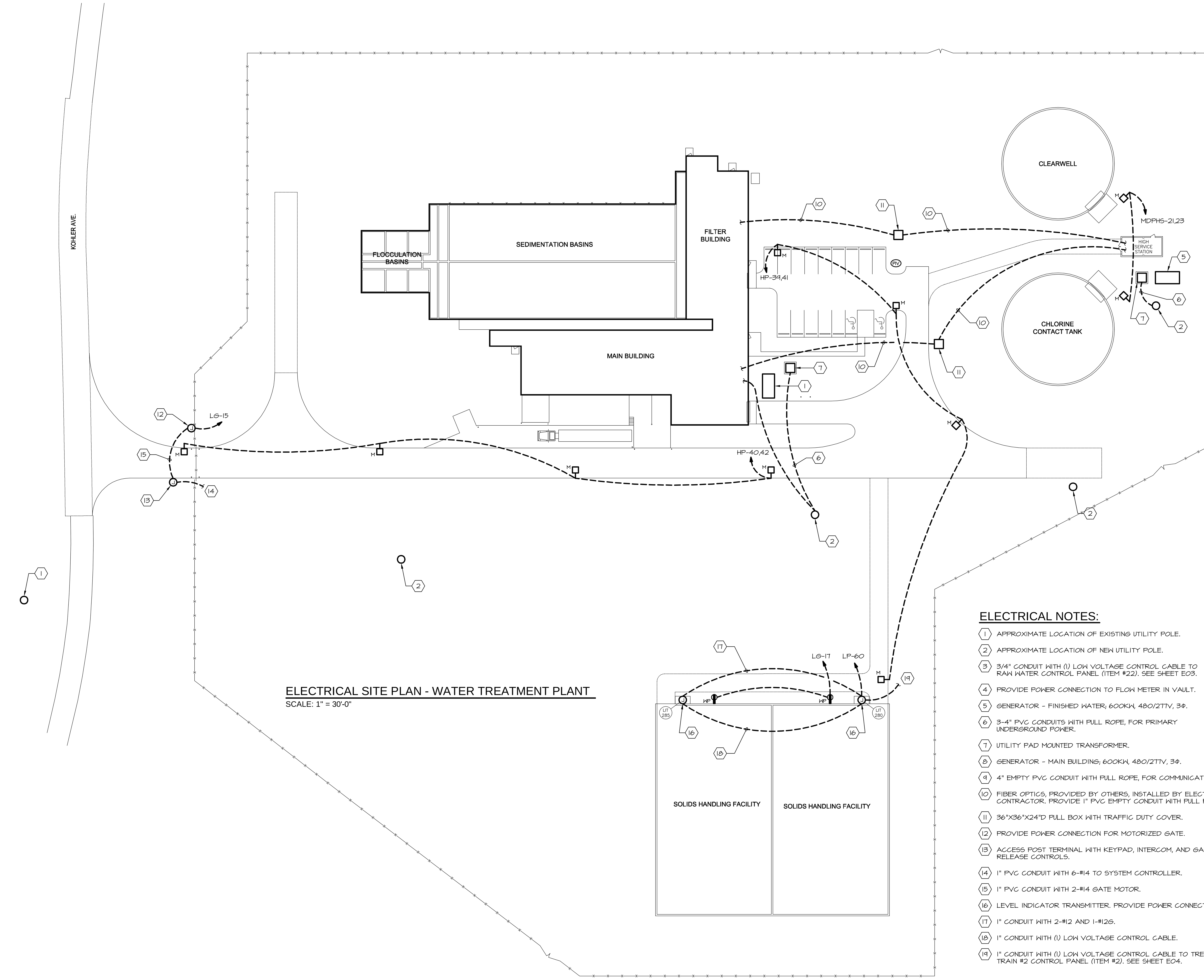
E01

JN: 04 - 02



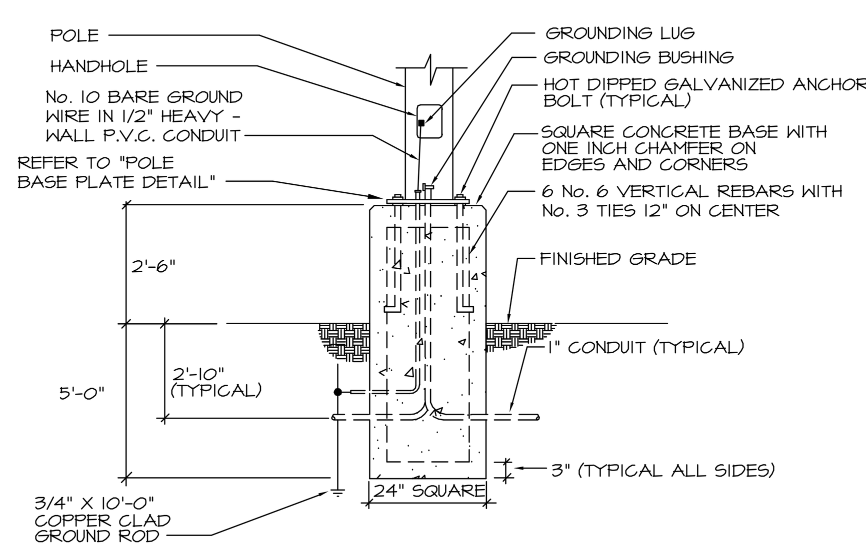
ELECTRICAL SITE PLAN - RAW WATER INTAKE

SCALE: 1" = 30'-0"



ELECTRICAL SITE PLAN - WATER TREATMENT PLANT

SCALE: 1" = 30'-0"



LIGHTING FIXTURE TYPE "M" POLE BASE DETAIL

NOT TO SCALE

ELECTRICAL NOTES:

1. APPROXIMATE LOCATION OF EXISTING UTILITY POLE.
2. APPROXIMATE LOCATION OF NEW UTILITY POLE.
3. 3/4" CONDUIT WITH (1) LOW VOLTAGE CONTROL CABLE TO RAW WATER CONTROL PANEL (ITEM #22). SEE SHEET E03.
4. PROVIDE POWER CONNECTION TO FLOW METER IN VAULT.
5. GENERATOR - FINISHED WATER; 600KW, 480/277V, 3Φ.
6. 3-4" PVC CONDUITS WITH PULL ROPE, FOR PRIMARY UNDERGROUND POWER.
7. UTILITY PAD MOUNTED TRANSFORMER.
8. GENERATOR - MAIN BUILDING; 600KW, 480/277V, 3Φ.
9. 4" EMPTY PVC CONDUIT WITH PULL ROPE, FOR COMMUNICATIONS.
10. FIBER OPTICS, PROVIDED BY OTHERS, INSTALLED BY ELECTRICAL CONTRACTOR. PROVIDE 1" PVC EMPTY CONDUIT WITH PULL ROPE.
11. 36"X36"X24"D PULL BOX WITH TRAFFIC DUTY COVER.
12. PROVIDE POWER CONNECTION FOR MOTORIZED GATE.
13. ACCESS POST TERMINAL WITH KEYPAD, INTERCOM, AND GATE RELEASE CONTROLS.
14. 1" PVC CONDUIT WITH 6-#14 TO SYSTEM CONTROLLER.
15. 1" PVC CONDUIT WITH 2-#14 GATE MOTOR.
16. LEVEL INDICATOR TRANSMITTER. PROVIDE POWER CONNECTION.
17. 1" CONDUIT WITH 2-#12 AND 1-#12G.
18. 1" CONDUIT WITH (1) LOW VOLTAGE CONTROL CABLE.
19. 1" CONDUIT WITH (1) LOW VOLTAGE CONTROL CABLE TO TREATMENT TRAIN #2 CONTROL PANEL (ITEM #2). SEE SHEET E04.

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AUSTINVILLE WATER TREATMENT PLANT (DIVISION I)

AUSTINVILLE VIRGINIA

DRAWN BY: TFS

REVIEW BY: MAR

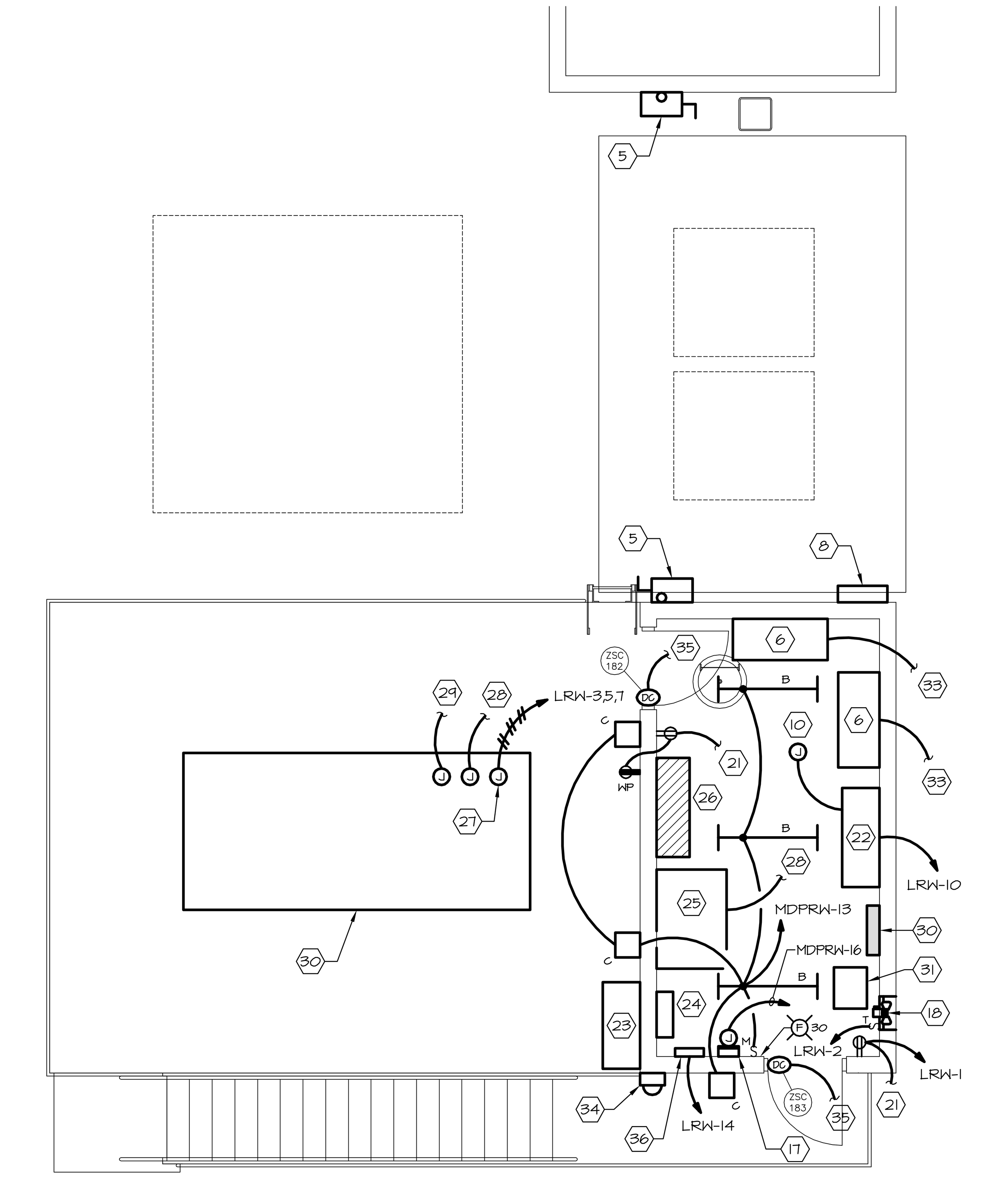
DATE: 20 OCTOBER 2006

REVISION:

DWG DESCRIPTION: ELECTRICAL SITE PLANS

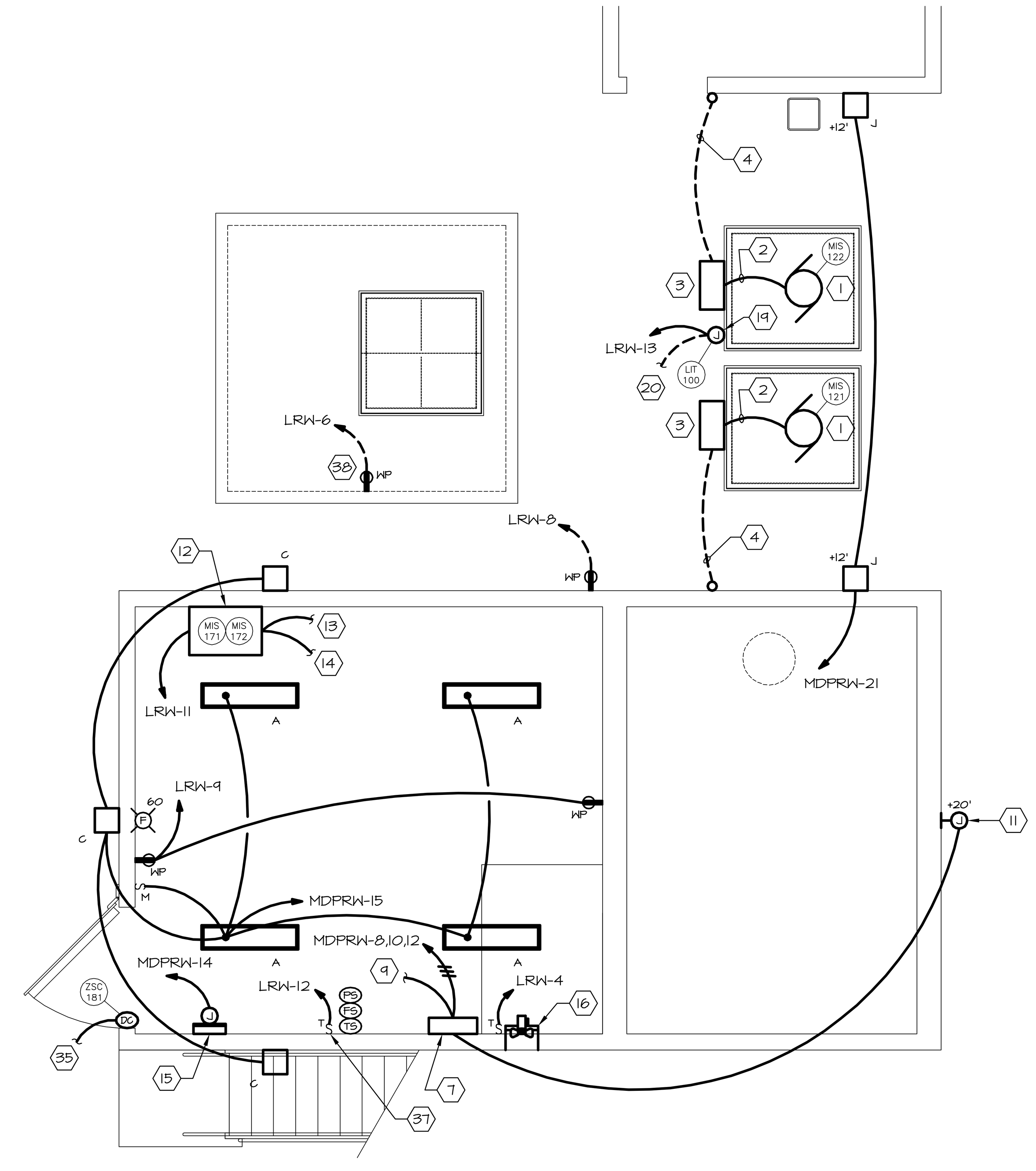
E02

JN: 04 - 02



RAW WATER INTAKE BUILDING SECOND FLOOR - ELECTRICAL PLAN

SCALE: 1/4" = 1'



RAW WATER INTAKE BUILDING FIRST FLOOR - ELECTRICAL PLAN

SCALE: 1/4" = 1'

ELECTRICAL NOTES:

****ALL EXTERIOR MOUNT ELECTRICAL DEVICES SHALL BE MOUNTED A MINIMUM OF 12" ABOVE THE 100 YEAR FLOOD ELEVATION OF 1957.0 TO THE BOTTOM OF THE DEVICE.**

1. RAW WATER PUMP; 355HP 480V, 3Φ; MOUNTED AT BOTTOM OF SHAFT. PUMP BY OTHERS.
2. RAW WATER PUMP CABLE (SEALED FEEDERS AND CONTROL WIRING). PROVIDED WITH PUMP BY OTHERS.
3. PULL BOX 18"X18"X18" WITH STRAIN RELIEF TO SUPPORT RAW WATER PUMP CABLE. CONSTRUCTION SHALL BE 12GA, 304 STAINLESS STEEL. MOUNT BOX TO UNDER SIDE OF CONCRETE FLOOR.
4. 5" PCV CONDUIT FOR ROUTING OF RAW PUMP CABLE UP TO DISCONNECT. ROUTE CONDUIT UNDER FLOOR THEN TURN UP WALL TO DISCONNECT.
5. RAW WATER PUMP 355HP 480V, 3Φ. PROVIDE A 800A, 3P, 600V, NEMA 3R NONFUSED SAFETY SWITCH. MOUNT BOTTOM OF DISCONNECT AT 72" ABOVE FINISHED CONCRETE FLOOR.
6. RAW WATER PUMP REDUCED VOLTAGE, SOLID STATE STARTER.
7. AIR COMPRESSOR CONTROL PANEL. PROVIDED WITH COMPRESSOR, BY OTHERS.
8. REMOTE AIR COMPRESSOR CONTROL PANEL. PROVIDED WITH AIR COMPRESSOR, BY OTHERS. MOUNT BOTTOM OF PANEL AT 72" ABOVE FINISHED CONCRETE FLOOR.
9. 3/4" CONDUIT WITH 8-#14 TO REMOTE AIR COMPRESSOR CONTROL PANEL (ITEM #8) FOR CONTROLS.
10. PROVIDE JUNCTION BOX ON ROOF AND 1" CONDUIT TO RAW WATER CONTROL PANEL (ITEM #22) FOR ANTENNA AND WIRING, SUPPLIED BY OTHER.
11. PROVIDE JUNCTION BOX FOR HORN, BY OTHERS. PROVIDE 3/4" CONDUIT WITH 2-#12 AND 1-#12G TO AIR COMPRESSOR CONTROL PANEL (ITEM #8).
12. SODIUM PERMANGANATE CONTROL PANEL. PROVIDED, BY OTHERS.
13. 3/4" CONDUIT WITH 12-#14 TO RAW WATER CONTROL PANEL (ITEM #22).
14. 3/4" CONDUIT WITH (1) LOW VOLTAGE CONTROL CABLE TO RAW WATER CONTROL PANEL (ITEM #22).
15. EWH-2A; ELECTRIC WALL HEATER: 4.8KW, 277V, 1Φ. PROVIDED WITH FACTORY INSTALLED DISCONNECT.
16. EF-10: 1/8HP, 120V, 1Φ EXHAUST FAN. PROVIDED WITH FACTORY INSTALLED DISCONNECT.
17. EWH-2B; ELECTRIC WALL HEATER: 4.8KW, 277V, 1Φ. PROVIDED WITH FACTORY INSTALLED DISCONNECT.
18. EF-9: 1/8HP, 120V, 1Φ EXHAUST FAN. PROVIDED WITH FACTORY INSTALLED DISCONNECT.
19. LEVEL INDICATOR TRANSMITTER AT BOTTOM OF SHAFT, BY OTHERS. PROVIDE POWER CONNECTION.
20. 3/4" CONDUIT WITH (1) LOW VOLTAGE CONTROL CABLE TO RAW WATER CONTROL PANEL (ITEM #22).
21. CONNECT TO RECEPTACLE IN THIS ROOM.
22. RAW WATER CONTROL PANEL, BY OTHERS.
23. CT CABINET.
24. MAIN SERVICE DISCONNECT; 1000A, 3P, 480V, CIRCUIT BREAKER WITH GROUND FAULT PROTECTION.
25. AUTOMATIC TRANSFER SWITCH; 1200A, 4P, 480/277V, 3Φ.
26. MAIN DISTRIBUTION PANEL "MDPRW"; 1200A, 480/277V, 3Φ, 4W.
27. PROVIDE CONNECTION TO BATTERY CHARGER, BLOCK HEATER, AND BATTERY MAT HEATER.
28. 3/4" CONDUIT WITH 3-#14 TO RAW WATER CONTROL PANEL (ITEM #22).
29. 3/4" CONDUIT TO AUTOMATIC TRANSFER SWITCH (ITEM #25). WIRING PER GENERATOR MANUFACTURER.
30. GENERATOR; 500KW, 480/277V, 3Φ.
31. TRANSFORMER "T1"
32. PANEL "LRW"; 208/120V, 3Φ, 4W.
33. 3/4" CONDUIT WITH 8-#14 TO RAW WATER CONTROL PANEL (ITEM #22).
34. UTILITY POWER METER.
35. 3/4" CONDUIT WITH 2-#14 TO RAW WATER CONTROL PANEL (ITEM #22).
36. FIRE ALARM CONTROL PANEL.
37. PROVIDE POWER CONNECTION TO DRY SPRINKLER AIR COMPRESSOR. 120V, 1Φ.
38. MOUNT IN PIT FOR HEAT TAPE.

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AUSTINVILLE WATER TREATMENT PLANT (DIVISION I)

AUSTINVILLE VIRGINIA

DRAWN BY: TFS

REVIEW BY: MAR

DATE: 20 OCTOBER 2006

REVISION:

DWG DESCRIPTION: RAW WATER INTAKE BUILDING ELECTRICAL PLANS

E03

JN: 04 - 02

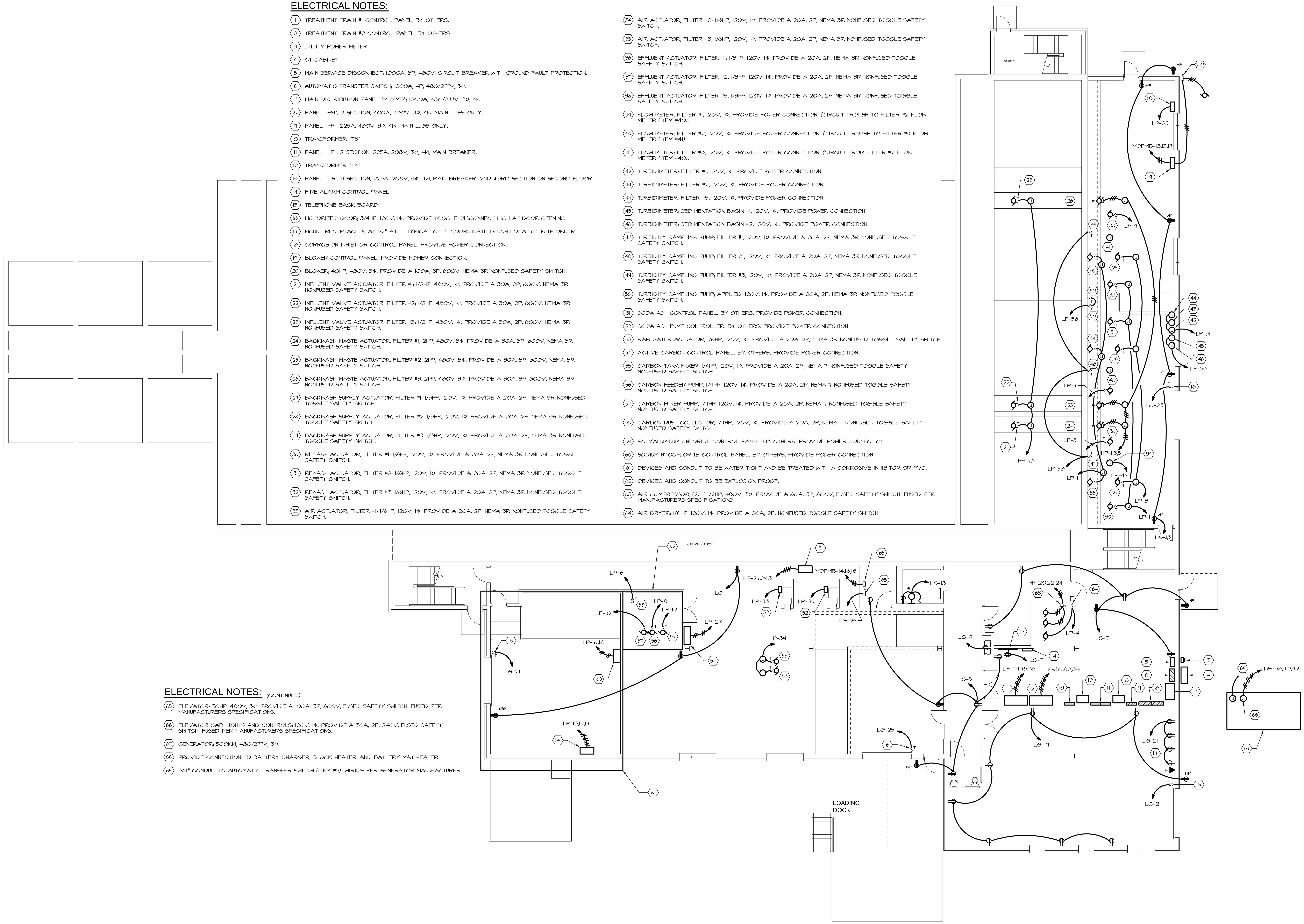
 KTA Proj. No : A0615.00

ELECTRICAL NOTES:

1. TREATMENT TRAIN #1 CONTROL PANEL, BY OTHERS.
2. TREATMENT TRAIN #2 CONTROL PANEL, BY OTHERS.
3. UTILITY POWER METER.
4. CT CABINET.
5. MAIN SERVICE DISCONNECT; 1000A, 3P, 480V, CIRCUIT BREAKER WITH GROUND FAULT PROTECTION.
6. AUTOMATIC TRANSFER SWITCH; 1200A, 4P, 480/277V, 3Ø.
7. MAIN DISTRIBUTION PANEL "MDPMB"; 1200A, 480/277V, 3Ø, 4W.
8. PANEL "HM", 2 SECTION, 400A, 480V, 3Ø, 4W, MAIN LUGS ONLY.
9. PANEL "HP", 225A, 480V, 3Ø, 4W, MAIN LUGS ONLY.
10. TRANSFORMER "T3"
11. PANEL "LP", 2 SECTION, 225A, 208V, 3Ø, 4W, MAIN BREAKER.
12. TRANSFORMER "T4"
13. PANEL "LG", 3 SECTION, 225A, 208V, 3Ø, 4W, MAIN BREAKER. 2ND &3RD SECTION ON SECOND FLOOR.
14. FIRE ALARM CONTROL PANEL.
15. TELEPHONE BACK BOARD.
16. MOTORIZED DOOR; 3/4HP, 120V, 1Ø. PROVIDE TOGGLE DISCONNECT HIGH AT DOOR OPENING.
17. MOUNT RECEPTACLES AT 52" A.F.F. TYPICAL OF 4. COORDINATE BENCH LOCATION WITH OWNER.
18. CORROSION INHIBITOR CONTROL PANEL. PROVIDE POWER CONNECTION.
19. BLOWER CONTROL PANEL. PROVIDE POWER CONNECTION.
20. BLOWER; 40HP, 480V, 3Ø. PROVIDE A 100A, 3P, 600V, NEMA 3R NONFUSED SAFETY SWITCH.
21. INFLUENT VALVE ACTUATOR, FILTER #1; 1/2HP, 480V, 1Ø. PROVIDE A 30A, 2P, 600V, NEMA 3R NONFUSED SAFETY SWITCH.
22. INFLUENT VALVE ACTUATOR, FILTER #2; 1/2HP, 480V, 1Ø. PROVIDE A 30A, 2P, 600V, NEMA 3R NONFUSED SAFETY SWITCH.
23. INFLUENT VALVE ACTUATOR, FILTER #3; 1/2HP, 480V, 1Ø. PROVIDE A 30A, 2P, 600V, NEMA 3R NONFUSED SAFETY SWITCH.
24. BACKWASH WASTE ACTUATOR, FILTER #1; 2HP, 480V, 3Ø. PROVIDE A 30A, 3P, 600V, NEMA 3R NONFUSED SAFETY SWITCH.
25. BACKWASH WASTE ACTUATOR, FILTER #2; 2HP, 480V, 3Ø. PROVIDE A 30A, 3P, 600V, NEMA 3R NONFUSED SAFETY SWITCH.
26. BACKWASH WASTE ACTUATOR, FILTER #3; 2HP, 480V, 3Ø. PROVIDE A 30A, 3P, 600V, NEMA 3R NONFUSED SAFETY SWITCH.
27. BACKWASH SUPPLY ACTUATOR, FILTER #1; 1/3HP, 120V, 1Ø. PROVIDE A 20A, 2P, NEMA 3R NONFUSED TOGGLE SAFETY SWITCH.
28. BACKWASH SUPPLY ACTUATOR, FILTER #2; 1/3HP, 120V, 1Ø. PROVIDE A 20A, 2P, NEMA 3R NONFUSED TOGGLE SAFETY SWITCH.
29. BACKWASH SUPPLY ACTUATOR, FILTER #3; 1/3HP, 120V, 1Ø. PROVIDE A 20A, 2P, NEMA 3R NONFUSED TOGGLE SAFETY SWITCH.
30. REWASH ACTUATOR, FILTER #1; 1/6HP, 120V, 1Ø. PROVIDE A 20A, 2P, NEMA 3R NONFUSED TOGGLE SAFETY SWITCH.
31. REWASH ACTUATOR, FILTER #2; 1/6HP, 120V, 1Ø. PROVIDE A 20A, 2P, NEMA 3R NONFUSED TOGGLE SAFETY SWITCH.
32. REWASH ACTUATOR, FILTER #3; 1/6HP, 120V, 1Ø. PROVIDE A 20A, 2P, NEMA 3R NONFUSED TOGGLE SAFETY SWITCH.
33. AIR ACTUATOR, FILTER #1; 1/6HP, 120V, 1Ø. PROVIDE A 20A, 2P, NEMA 3R NONFUSED TOGGLE SAFETY SWITCH.
34. AIR ACTUATOR, FILTER #2; 1/6HP, 120V, 1Ø. PROVIDE A 20A, 2P, NEMA 3R NONFUSED TOGGLE SAFETY SWITCH.
35. AIR ACTUATOR, FILTER #3; 1/6HP, 120V, 1Ø. PROVIDE A 20A, 2P, NEMA 3R NONFUSED TOGGLE SAFETY SWITCH.
36. EFFLUENT ACTUATOR, FILTER #1; 1/3HP, 120V, 1Ø. PROVIDE A 20A, 2P, NEMA 3R NONFUSED TOGGLE SAFETY SWITCH.
37. EFFLUENT ACTUATOR, FILTER #2; 1/3HP, 120V, 1Ø. PROVIDE A 20A, 2P, NEMA 3R NONFUSED TOGGLE SAFETY SWITCH.
38. EFFLUENT ACTUATOR, FILTER #3; 1/3HP, 120V, 1Ø. PROVIDE A 20A, 2P, NEMA 3R NONFUSED TOGGLE SAFETY SWITCH.
39. FLOW METER; FILTER #1, 120V, 1Ø. PROVIDE POWER CONNECTION. (CIRCUIT TROUGH TO FILTER #2 FLOW METER (ITEM #40).
40. FLOW METER; FILTER #2, 120V, 1Ø. PROVIDE POWER CONNECTION. (CIRCUIT TROUGH TO FILTER #3 FLOW METER (ITEM #41).
41. FLOW METER; FILTER #3, 120V, 1Ø. PROVIDE POWER CONNECTION. (CIRCUIT FROM FILTER #2 FLOW METER (ITEM #40).
42. TURBIDIMETER; FILTER #1, 120V, 1Ø. PROVIDE POWER CONNECTION.
43. TURBIDIMETER; FILTER #2, 120V, 1Ø. PROVIDE POWER CONNECTION.
44. TURBIDIMETER; FILTER #3, 120V, 1Ø. PROVIDE POWER CONNECTION.
45. TURBIDIMETER; SEDIMENTATION BASIN #1, 120V, 1Ø. PROVIDE POWER CONNECTION.
46. TURBIDIMETER; SEDIMENTATION BASIN #2, 120V, 1Ø. PROVIDE POWER CONNECTION.
47. TURBIDITY SAMPLING PUMP; FILTER #1, 120V, 1Ø. PROVIDE A 20A, 2P, NEMA 3R NONFUSED TOGGLE SAFETY SWITCH.
48. TURBIDITY SAMPLING PUMP; FILTER 2I, 120V, 1Ø. PROVIDE A 20A, 2P, NEMA 3R NONFUSED TOGGLE SAFETY SWITCH.
49. TURBIDITY SAMPLING PUMP; FILTER #3, 120V, 1Ø. PROVIDE A 20A, 2P, NEMA 3R NONFUSED TOGGLE SAFETY SWITCH.
50. TURBIDITY SAMPLING PUMP; APPLIED, 120V, 1Ø. PROVIDE A 20A, 2P, NEMA 3R NONFUSED TOGGLE SAFETY SWITCH.
51. SODA ASH CONTROL PANEL. BY OTHERS. PROVIDE POWER CONNECTION.
52. SODA ASH PUMP CONTROLLER. BY OTHERS. PROVIDE POWER CONNECTION.
53. RAW WATER ACTUATOR, 1/6HP, 120V, 1Ø. PROVIDE A 20A, 2P, NEMA 3R NONFUSED TOGGLE SAFETY SWITCH.
54. ACTIVE CARBON CONTROL PANEL. BY OTHERS. PROVIDE POWER CONNECTION.
55. CARBON TANK MIXER; 1/4HP, 120V, 1Ø. PROVIDE A 20A, 2P, NEMA 7 NONFUSED TOGGLE SAFETY NONFUSED SAFETY SWITCH.
56. CARBON FEEDER PUMP; 1/4HP, 120V, 1Ø. PROVIDE A 20A, 2P, NEMA 7 NONFUSED TOGGLE SAFETY NONFUSED SAFETY SWITCH.
57. CARBON MIXER PUMP; 1/4HP, 120V, 1Ø. PROVIDE A 20A, 2P, NEMA 7 NONFUSED TOGGLE SAFETY NONFUSED SAFETY SWITCH.
58. CARBON DUST COLLECTOR; 1/4HP, 120V, 1Ø. PROVIDE A 20A, 2P, NEMA 7 NONFUSED TOGGLE SAFETY NONFUSED SAFETY SWITCH.
59. POLYALUMINUM CHLORIDE CONTROL PANEL. BY OTHERS. PROVIDE POWER CONNECTION.
60. SODIUM HYOCHLORITE CONTROL PANEL. BY OTHERS. PROVIDE POWER CONNECTION.
61. DEVICES AND CONDUIT TO BE WATER TIGHT AND BE TREATED WITH A CORROSIVE INHIBITOR OR PVC.
62. DEVICES AND CONDUIT TO BE EXPLOSION PROOF.
63. AIR COMPRESSOR; (2) 7 1/2HP, 480V, 3Ø. PROVIDE A 60A, 3P, 600V, FUSED SAFETY SWITCH. FUSED PER MANUFACTURERS SPECIFICATIONS.
64. AIR DRYER; 1/6HP, 120V, 1Ø. PROVIDE A 20A, 2P, NONFUSED TOGGLE SAFETY SWITCH.

ELECTRICAL NOTES: (CONTINUED)

65. ELEVATOR; 30HP, 480V, 3Ø. PROVIDE A 100A, 3P, 600V, FUSED SAFETY SWITCH. FUSED PER MANUFACTURERS SPECIFICATIONS.
66. ELEVATOR CAB LIGHTS AND CONTROLS; 120V, 1Ø. PROVIDE A 30A, 2P, 240V, FUSED SAFETY SWITCH. FUSED PER MANUFACTURERS SPECIFICATIONS.
67. GENERATOR; 500KW, 480/277V, 3Ø.
68. PROVIDE CONNECTION TO BATTERY CHARGER, BLOCK HEATER, AND BATTERY MAT HEATER.
69. 3/4" CONDUIT TO AUTOMATIC TRANSFER SWITCH (ITEM #5). WIRING PER GENERATOR MANUFACTURER.



FIRST FLOOR - POWER PLAN
SCALE: 1/8" = 1'

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AUSTINVILLE WATER TREATMENT PLANT (DIVISION I)

AUSTINVILLE VIRGINIA

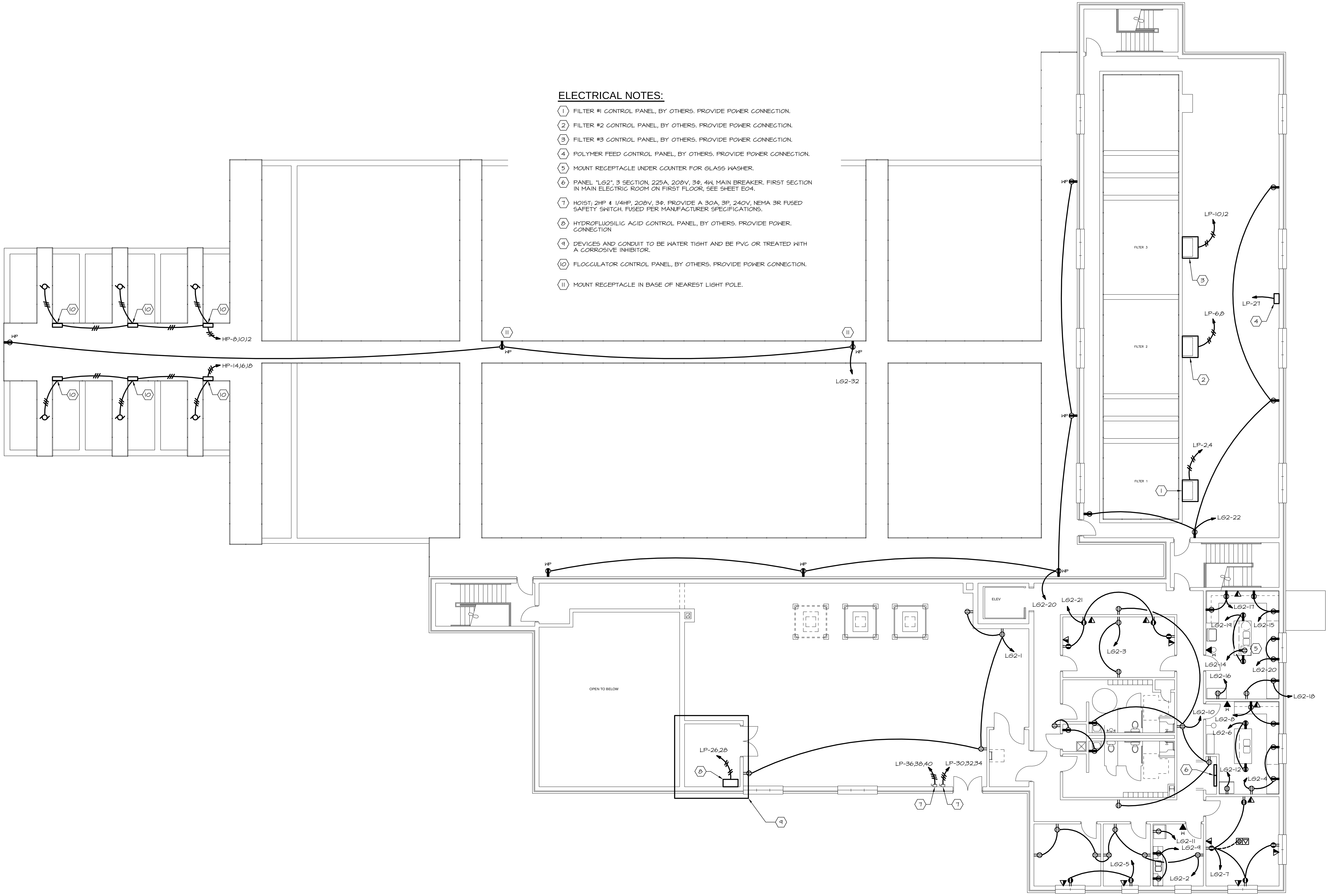
DRAWN BY: TFS
REVIEW BY: MAR
DATE: 20 OCTOBER 2006
REVISION:
DWG DESCRIPTION: TREATMENT BUILDING FIRST FLOOR - POWER PLAN

E04

JN: 04 - 02

ELECTRICAL NOTES:

1. FILTER #1 CONTROL PANEL, BY OTHERS. PROVIDE POWER CONNECTION.
2. FILTER #2 CONTROL PANEL, BY OTHERS. PROVIDE POWER CONNECTION.
3. FILTER #3 CONTROL PANEL, BY OTHERS. PROVIDE POWER CONNECTION.
4. POLYMER FEED CONTROL PANEL, BY OTHERS. PROVIDE POWER CONNECTION.
5. MOUNT RECEPTACLE UNDER COUNTER FOR GLASS WASHER.
6. PANEL "LG2", 3 SECTION, 225A, 208V, 3Φ, 4W, MAIN BREAKER. FIRST SECTION IN MAIN ELECTRIC ROOM ON FIRST FLOOR, SEE SHEET E04.
7. HOIST; 2HP & 1/4HP, 208V, 3Φ. PROVIDE A 30A, 3P, 240V, NEMA 3R FUSED SAFETY SWITCH. FUSED PER MANUFACTURER SPECIFICATIONS.
8. HYDROFLUOSILIC ACID CONTROL PANEL, BY OTHERS. PROVIDE POWER. CONNECTION
9. DEVICES AND CONDUIT TO BE WATER TIGHT AND BE PVC OR TREATED WITH A CORROSIVE INHIBITOR.
10. FLOCCULATOR CONTROL PANEL, BY OTHERS. PROVIDE POWER CONNECTION.
11. MOUNT RECEPTACLE IN BASE OF NEAREST LIGHT POLE.



SECOND FLOOR - POWER PLAN
SCALE: 1/8" = 1'

Reed & Bortz, L.L.C.
CIVIL & ENVIRONMENTAL ENGINEERS
20 MIDWAY PLAZA DRIVE - SUITE 100
CHRISTIANSBURG, VIRGINIA 24073
PHONE: (540) 394 - 3214 FAX : (540) 394 - 3215

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COMMONWEALTH OF VIRGINIA
ALLEN RATLIFF
No. 025443
11/13/06
PROFESSIONAL ENGINEER

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AUSTINVILLE WATER TREATMENT PLANT (DIVISION I)

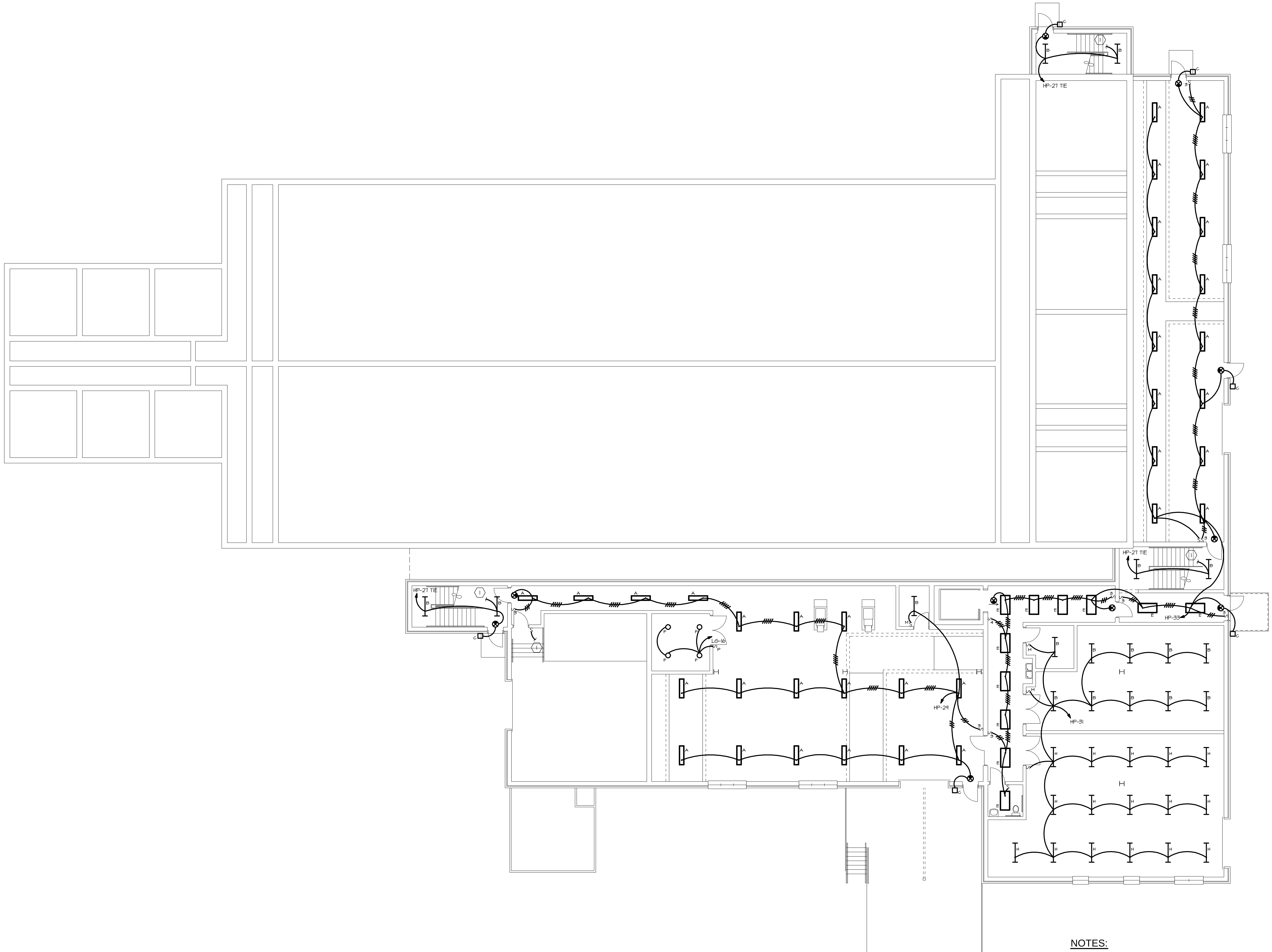
AUSTINVILLE VIRGINIA

DRAWN BY: TFS
REVIEW BY: MAR
DATE: 20 OCTOBER 2006
REVISION:

DWG DESCRIPTION: TREATMENT BUILDING SECOND FLOOR - POWER PLAN

E05

JN: 04 - 02



NOTES:

(1) CONNECT TO LIGHTS ABOVE.

FIRST FLOOR - LIGHTING PLAN

SCALE: 1/8" = 1'

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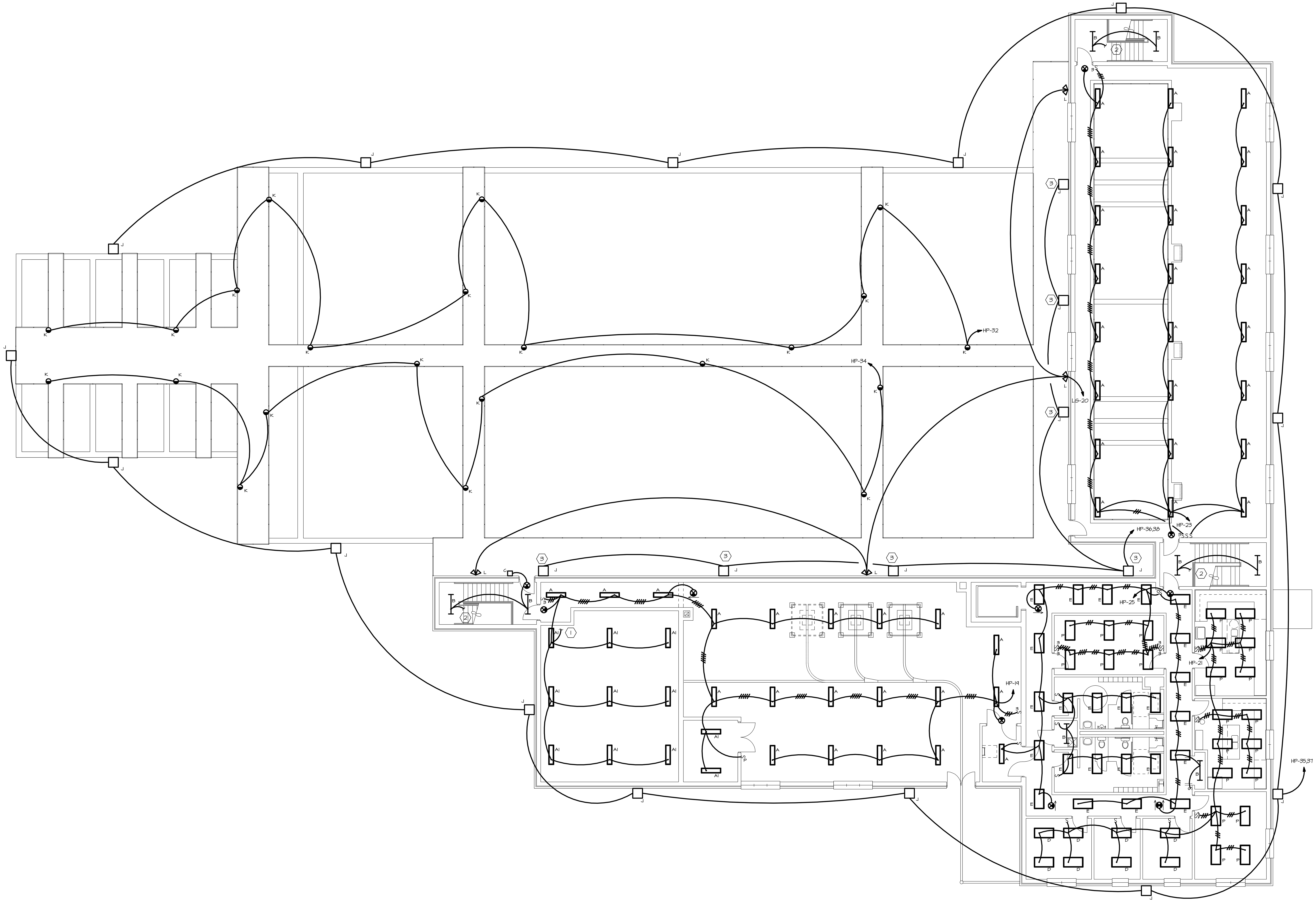
AUSTINVILLE WATER TREATMENT PLANT (DIVISION I)

AUSTINVILLE VIRGINIA

DRAWN BY:	TW
REVIEW BY:	SHW
DATE:	20 OCTOBER 2006
REVISION:	
DWG DESCRIPTION:	TREATMENT BUILDING FIRST FLOOR - LIGHTING PLANS

E06

JN: 04 - 02



NOTES:

1. DOWN TO SWITCH BELOW.
2. DOWN TO LIGHTS BELOW
3. MOUNT 10'-0" ABOVE CAT WALK.

SECOND FLOOR - LIGHTING PLAN

SCALE: 1/8" = 1'

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AUSTINVILLE WATER TREATMENT PLANT (DIVISION I)

AUSTINVILLE VIRGINIA

DRAWN BY: TW

REVIEW BY: SHW

DATE: 20 OCTOBER 2006

REVISION:

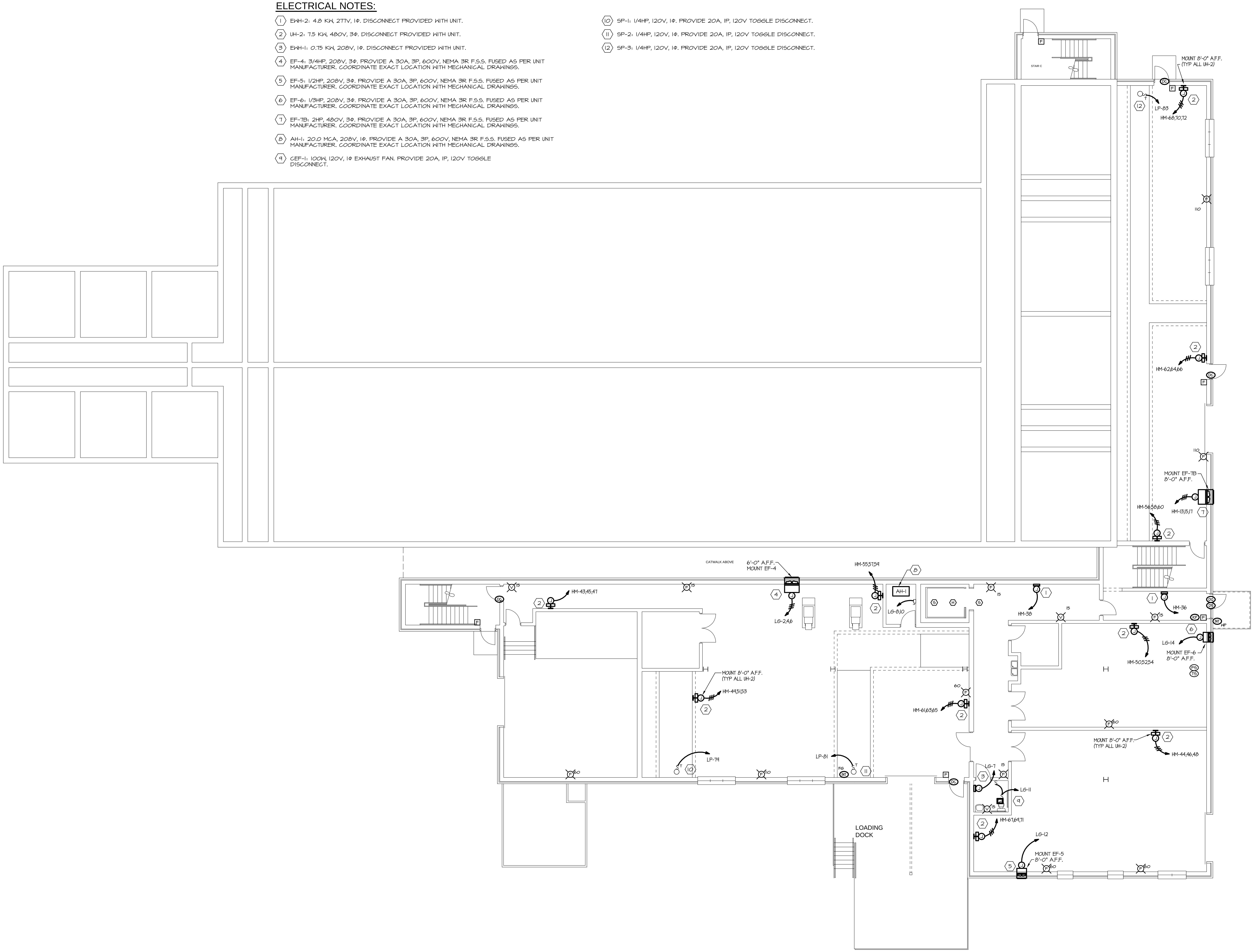
DWG DESCRIPTION: TREATMENT BUILDING SECOND FLOOR - LIGHTING PLANS

E07

JN: 04 - 02

ELECTRICAL NOTES:

1. EWH-2: 4.8 KW, 277V, 1Φ. DISCONNECT PROVIDED WITH UNIT.
2. UH-2: 7.5 KW, 480V, 3Φ. DISCONNECT PROVIDED WITH UNIT.
3. EWH-1: 0.75 KW, 208V, 1Φ. DISCONNECT PROVIDED WITH UNIT.
4. EF-4: 3/4HP, 208V, 3Φ. PROVIDE A 30A, 3P, 600V, NEMA 3R F.S.S. FUSED AS PER UNIT MANUFACTURER. COORDINATE EXACT LOCATION WITH MECHANICAL DRAWINGS.
5. EF-5: 1/2HP, 208V, 3Φ. PROVIDE A 30A, 3P, 600V, NEMA 3R F.S.S. FUSED AS PER UNIT MANUFACTURER. COORDINATE EXACT LOCATION WITH MECHANICAL DRAWINGS.
6. EF-6: 1/3HP, 208V, 3Φ. PROVIDE A 30A, 3P, 600V, NEMA 3R F.S.S. FUSED AS PER UNIT MANUFACTURER. COORDINATE EXACT LOCATION WITH MECHANICAL DRAWINGS.
7. EF-7B: 2HP, 480V, 3Φ. PROVIDE A 30A, 3P, 600V, NEMA 3R F.S.S. FUSED AS PER UNIT MANUFACTURER. COORDINATE EXACT LOCATION WITH MECHANICAL DRAWINGS.
8. AH-1: 20.0 MCA, 208V, 1Φ. PROVIDE A 30A, 3P, 600V, NEMA 3R F.S.S. FUSED AS PER UNIT MANUFACTURER. COORDINATE EXACT LOCATION WITH MECHANICAL DRAWINGS.
9. CEF-1: 100W, 120V, 1Φ EXHAUST FAN. PROVIDE 20A, 1P, 120V TOGGLE DISCONNECT.
10. SP-1: 1/4HP, 120V, 1Φ. PROVIDE 20A, 1P, 120V TOGGLE DISCONNECT.
11. SP-2: 1/4HP, 120V, 1Φ. PROVIDE 20A, 1P, 120V TOGGLE DISCONNECT.
12. SP-3: 1/4HP, 120V, 1Φ. PROVIDE 20A, 1P, 120V TOGGLE DISCONNECT.



FIRST FLOOR - MECHANICAL POWER AND SYSTEMS PLAN
SCALE: 1/8" = 1'

Reed & Bortz, L.L.C.
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AUSTINVILLE WATER TREATMENT PLANT (DIVISION I)

AUSTINVILLE VIRGINIA

DRAWN BY: TFS

REVIEW BY: MAR

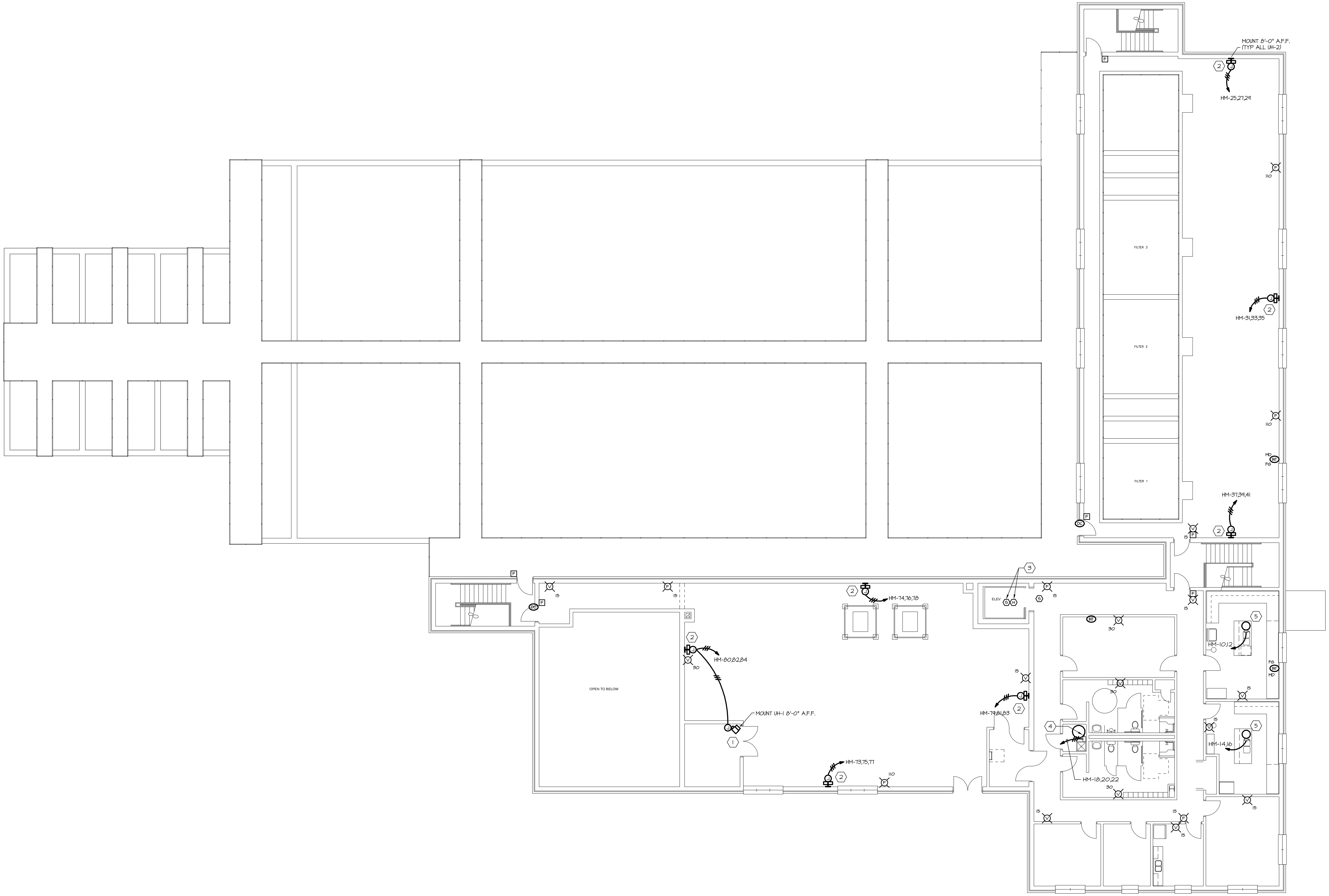
DATE: 20 OCTOBER 2006

REVISION:

DWG DESCRIPTION: TREATMENT BUILDING FIRST FLOOR - MECHANICAL POWER AND SYSTEMS PLAN

E08

JN: 04 - 02



SECOND FLOOR - MECHANICAL POWER AND SYSTEMS PLAN

SCALE: 1/8" = 1'

ELECTRICAL NOTES:

1. UH-1: 3 KW, 480V, 3Φ. DISCONNECT PROVIDED WITH UNIT.
2. UH-2: 7.5 KW, 480V, 3Φ. DISCONNECT PROVIDED WITH UNIT.
3. MOUNT IN TOP OF SHAFT.
4. WH-1; WATER HEATER, 9 KW, 480V, 3Φ. PROVIDE A 30A, 3P, 600V, NEMA 3R F.S.S. FUSED AS PER UNIT MANUFACTURER. COORDINATE EXACT LOCATION WITH PLUMBING DRAWINGS.
5. WH-2; WATER HEATER, 2 KW, 480V, 1Φ. PROVIDE A 30A, 2P, 600V, NEMA 3R F.S.S. FUSED AS PER UNIT MANUFACTURER. COORDINATE EXACT LOCATION WITH PLUMBING DRAWINGS.

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AUSTINVILLE VIRGINIA

DRAWN BY: TFS

REVIEW BY: MAR

DATE: 20 OCTOBER 2006

REVISION:

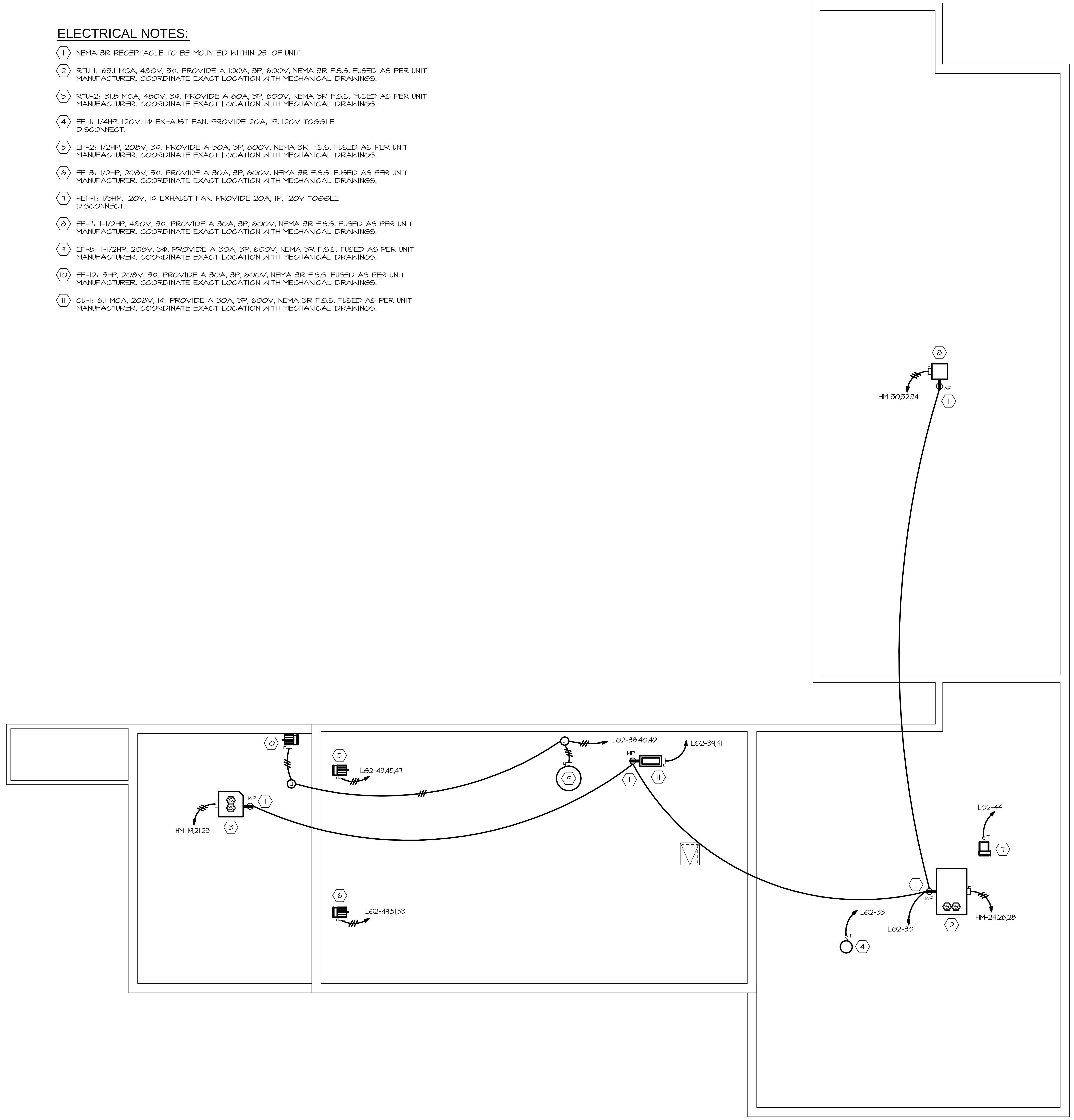
DWG DESCRIPTION: TREATMENT BUILDING SECOND FLOOR - MECHANICAL POWER AND SYSTEMS PLAN

E09

JN: 04 - 02

ELECTRICAL NOTES:

1. NEMA 3R RECEPTACLE TO BE MOUNTED WITHIN 25' OF UNIT.
2. RTU-1: 63.1 MCA, 480V, 3Φ. PROVIDE A 100A, 3P, 600V, NEMA 3R F.S.S. FUSED AS PER UNIT MANUFACTURER. COORDINATE EXACT LOCATION WITH MECHANICAL DRAWINGS.
3. RTU-2: 31.8 MCA, 480V, 3Φ. PROVIDE A 60A, 3P, 600V, NEMA 3R F.S.S. FUSED AS PER UNIT MANUFACTURER. COORDINATE EXACT LOCATION WITH MECHANICAL DRAWINGS.
4. EF-1: 1/4HP, 120V, 1Φ EXHAUST FAN. PROVIDE 20A, 1P, 120V TOGGLE DISCONNECT.
5. EF-2: 1/2HP, 208V, 3Φ. PROVIDE A 30A, 3P, 600V, NEMA 3R F.S.S. FUSED AS PER UNIT MANUFACTURER. COORDINATE EXACT LOCATION WITH MECHANICAL DRAWINGS.
6. EF-3: 1/2HP, 208V, 3Φ. PROVIDE A 30A, 3P, 600V, NEMA 3R F.S.S. FUSED AS PER UNIT MANUFACTURER. COORDINATE EXACT LOCATION WITH MECHANICAL DRAWINGS.
7. HEF-1: 1/3HP, 120V, 1Φ EXHAUST FAN. PROVIDE 20A, 1P, 120V TOGGLE DISCONNECT.
8. EF-7: 1-1/2HP, 480V, 3Φ. PROVIDE A 30A, 3P, 600V, NEMA 3R F.S.S. FUSED AS PER UNIT MANUFACTURER. COORDINATE EXACT LOCATION WITH MECHANICAL DRAWINGS.
9. EF-8: 1-1/2HP, 208V, 3Φ. PROVIDE A 30A, 3P, 600V, NEMA 3R F.S.S. FUSED AS PER UNIT MANUFACTURER. COORDINATE EXACT LOCATION WITH MECHANICAL DRAWINGS.
10. EF-12: 3HP, 208V, 3Φ. PROVIDE A 30A, 3P, 600V, NEMA 3R F.S.S. FUSED AS PER UNIT MANUFACTURER. COORDINATE EXACT LOCATION WITH MECHANICAL DRAWINGS.
11. CU-1: 6.1 MCA, 208V, 1Φ. PROVIDE A 30A, 3P, 600V, NEMA 3R F.S.S. FUSED AS PER UNIT MANUFACTURER. COORDINATE EXACT LOCATION WITH MECHANICAL DRAWINGS.



ROOF - MECHANICAL POWER AND SYSTEMS PLAN

SCALE: 1/8" = 1'

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AUSTINVILLE
WATER TREATMENT PLANT
(DIVISION I)
AUSTINVILLE VIRGINIA

DRAWN BY: TFS
REVIEW BY: MAR
DATE: 20 OCTOBER 2006
REVISION:

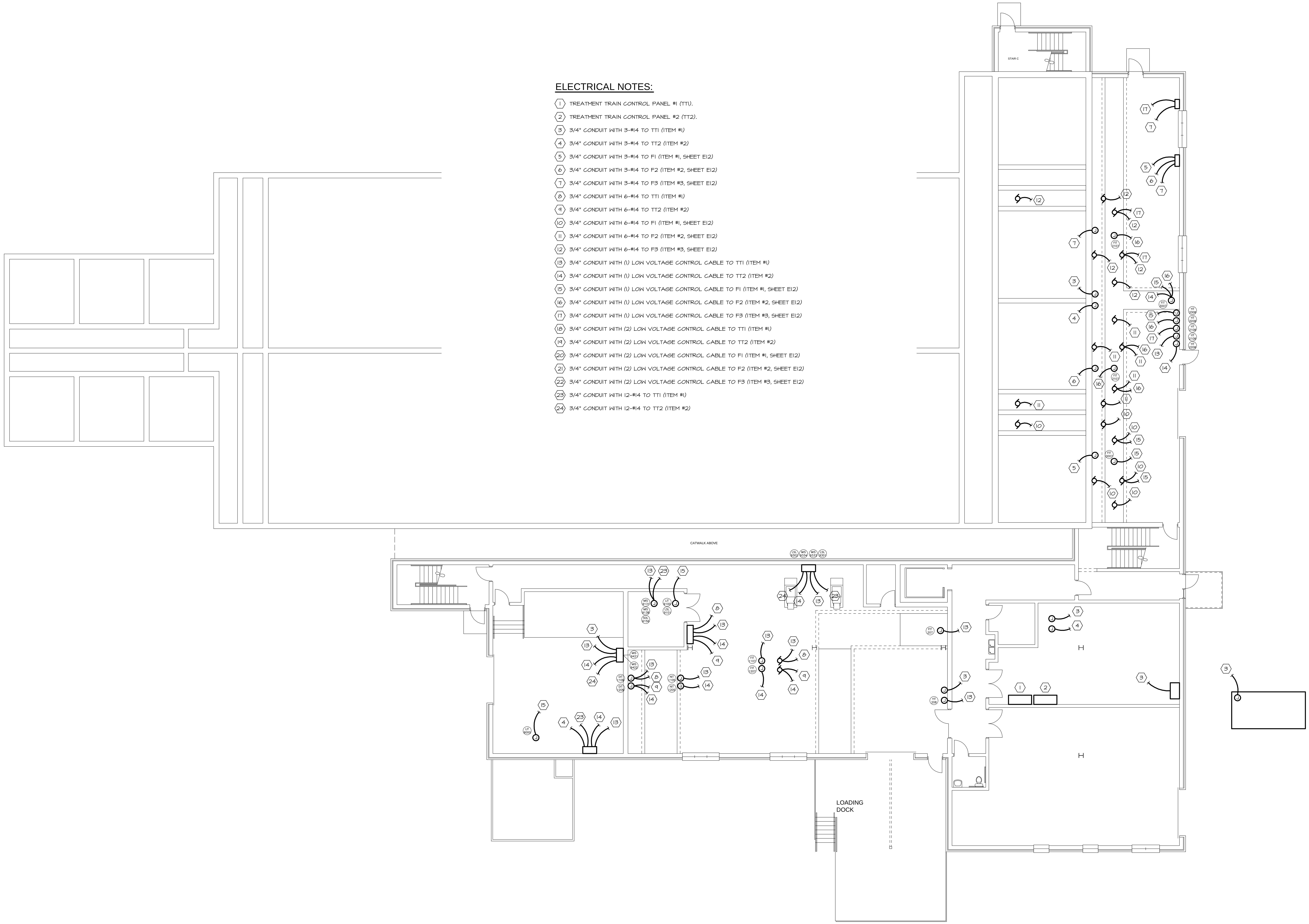
DWG DESCRIPTION: TREATMENT BUILDING ROOF - MECHANICAL POWER AND SYSTEMS PLAN

E10

JN: 04 - 02

ELECTRICAL NOTES:

1. TREATMENT TRAIN CONTROL PANEL #1 (TT1).
2. TREATMENT TRAIN CONTROL PANEL #2 (TT2).
3. 3/4" CONDUIT WITH 3-#14 TO TT1 (ITEM #1)
4. 3/4" CONDUIT WITH 3-#14 TO TT2 (ITEM #2)
5. 3/4" CONDUIT WITH 3-#14 TO F1 (ITEM #1, SHEET E12)
6. 3/4" CONDUIT WITH 3-#14 TO F2 (ITEM #2, SHEET E12)
7. 3/4" CONDUIT WITH 3-#14 TO F3 (ITEM #3, SHEET E12)
8. 3/4" CONDUIT WITH 6-#14 TO TT1 (ITEM #1)
9. 3/4" CONDUIT WITH 6-#14 TO TT2 (ITEM #2)
10. 3/4" CONDUIT WITH 6-#14 TO F1 (ITEM #1, SHEET E12)
11. 3/4" CONDUIT WITH 6-#14 TO F2 (ITEM #2, SHEET E12)
12. 3/4" CONDUIT WITH 6-#14 TO F3 (ITEM #3, SHEET E12)
13. 3/4" CONDUIT WITH (1) LOW VOLTAGE CONTROL CABLE TO TT1 (ITEM #1)
14. 3/4" CONDUIT WITH (1) LOW VOLTAGE CONTROL CABLE TO TT2 (ITEM #2)
15. 3/4" CONDUIT WITH (1) LOW VOLTAGE CONTROL CABLE TO F1 (ITEM #1, SHEET E12)
16. 3/4" CONDUIT WITH (1) LOW VOLTAGE CONTROL CABLE TO F2 (ITEM #2, SHEET E12)
17. 3/4" CONDUIT WITH (1) LOW VOLTAGE CONTROL CABLE TO F3 (ITEM #3, SHEET E12)
18. 3/4" CONDUIT WITH (2) LOW VOLTAGE CONTROL CABLE TO TT1 (ITEM #1)
19. 3/4" CONDUIT WITH (2) LOW VOLTAGE CONTROL CABLE TO TT2 (ITEM #2)
20. 3/4" CONDUIT WITH (2) LOW VOLTAGE CONTROL CABLE TO F1 (ITEM #1, SHEET E12)
21. 3/4" CONDUIT WITH (2) LOW VOLTAGE CONTROL CABLE TO F2 (ITEM #2, SHEET E12)
22. 3/4" CONDUIT WITH (2) LOW VOLTAGE CONTROL CABLE TO F3 (ITEM #3, SHEET E12)
23. 3/4" CONDUIT WITH 12-#14 TO TT1 (ITEM #1)
24. 3/4" CONDUIT WITH 12-#14 TO TT2 (ITEM #2)



FIRST FLOOR - INSTRUMENTATION CONDUIT AND WIRING PLAN
SCALE: 1/8" = 1'

Reed & Bortz, L.L.C.
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AUSTINVILLE WATER TREATMENT PLANT (DIVISION I)

AUSTINVILLE VIRGINIA

DRAWN BY: TFS

REVIEW BY: MAR

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REVISION:

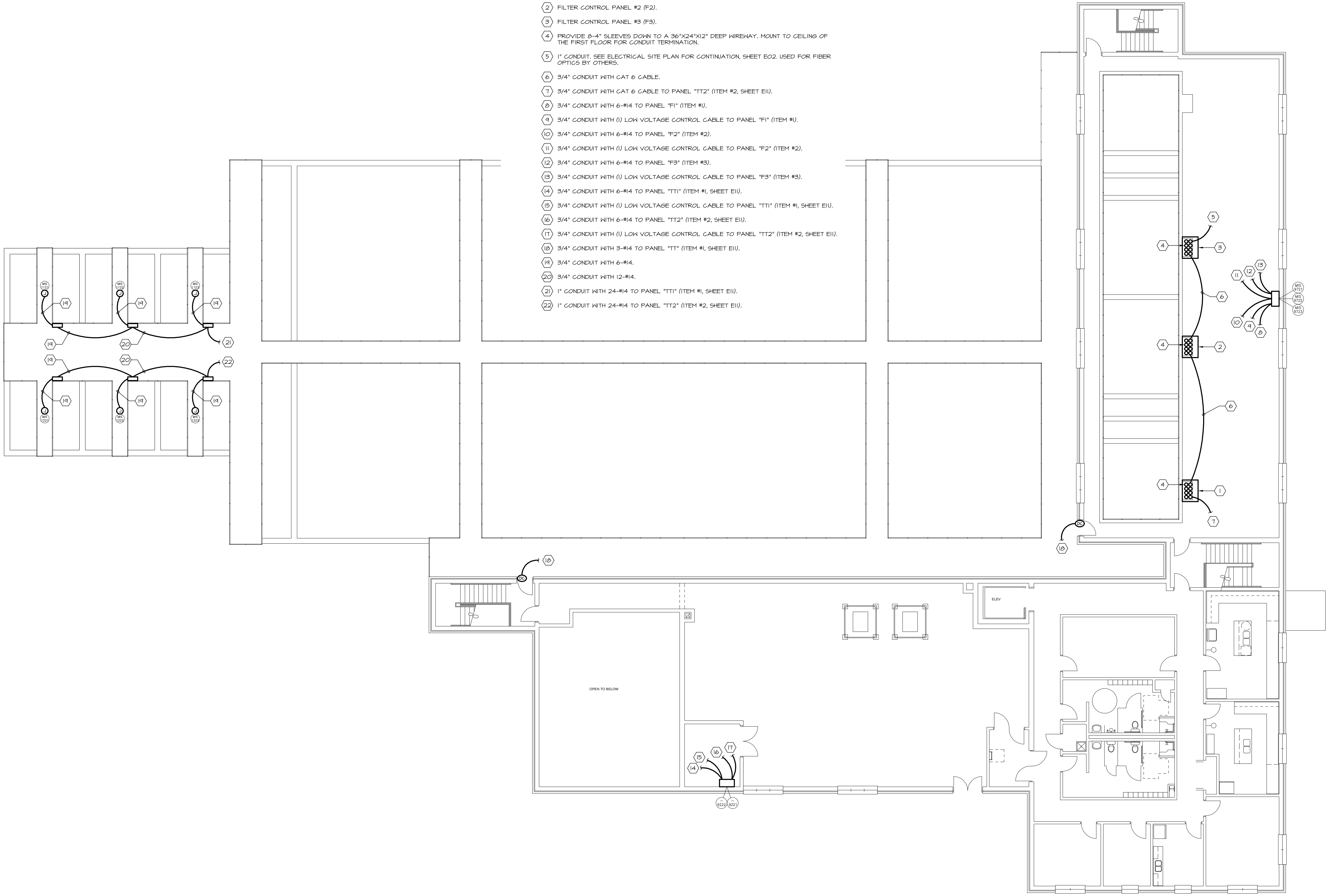
DWG DESCRIPTION: TREATMENT BUILDING FIRST FLOOR - INSTRUMENTATION CONDUIT AND WIRING PLAN

E11

JN: 04 - 02

ELECTRICAL NOTES:

1. FILTER CONTROL PANEL #1 (F1).
2. FILTER CONTROL PANEL #2 (F2).
3. FILTER CONTROL PANEL #3 (F3).
4. PROVIDE 8-4" SLEEVES DOWN TO A 36"X24"X12" DEEP WIREWAY. MOUNT TO CEILING OF THE FIRST FLOOR FOR CONDUIT TERMINATION.
5. 1" CONDUIT. SEE ELECTRICAL SITE PLAN FOR CONTINUATION, SHEET E02. USED FOR FIBER OPTICS BY OTHERS.
6. 3/4" CONDUIT WITH CAT 6 CABLE.
7. 3/4" CONDUIT WITH CAT 6 CABLE TO PANEL "TT2" (ITEM #2, SHEET E11).
8. 3/4" CONDUIT WITH 6-#14 TO PANEL "F1" (ITEM #1).
9. 3/4" CONDUIT WITH (1) LOW VOLTAGE CONTROL CABLE TO PANEL "F1" (ITEM #1).
10. 3/4" CONDUIT WITH 6-#14 TO PANEL "F2" (ITEM #2).
11. 3/4" CONDUIT WITH (1) LOW VOLTAGE CONTROL CABLE TO PANEL "F2" (ITEM #2).
12. 3/4" CONDUIT WITH 6-#14 TO PANEL "F3" (ITEM #3).
13. 3/4" CONDUIT WITH (1) LOW VOLTAGE CONTROL CABLE TO PANEL "F3" (ITEM #3).
14. 3/4" CONDUIT WITH 6-#14 TO PANEL "TT1" (ITEM #1, SHEET E11).
15. 3/4" CONDUIT WITH (1) LOW VOLTAGE CONTROL CABLE TO PANEL "TT1" (ITEM #1, SHEET E11).
16. 3/4" CONDUIT WITH 6-#14 TO PANEL "TT2" (ITEM #2, SHEET E11).
17. 3/4" CONDUIT WITH (1) LOW VOLTAGE CONTROL CABLE TO PANEL "TT2" (ITEM #2, SHEET E11).
18. 3/4" CONDUIT WITH 3-#14 TO PANEL "TT" (ITEM #1, SHEET E11).
19. 3/4" CONDUIT WITH 6-#14.
20. 3/4" CONDUIT WITH 12-#14.
21. 1" CONDUIT WITH 24-#14 TO PANEL "TT1" (ITEM #1, SHEET E11).
22. 1" CONDUIT WITH 24-#14 TO PANEL "TT2" (ITEM #2, SHEET E11).



SECOND FLOOR - INSTRUMENTATION CONDUIT AND WIRING PLAN
SCALE: 1/8" = 1'

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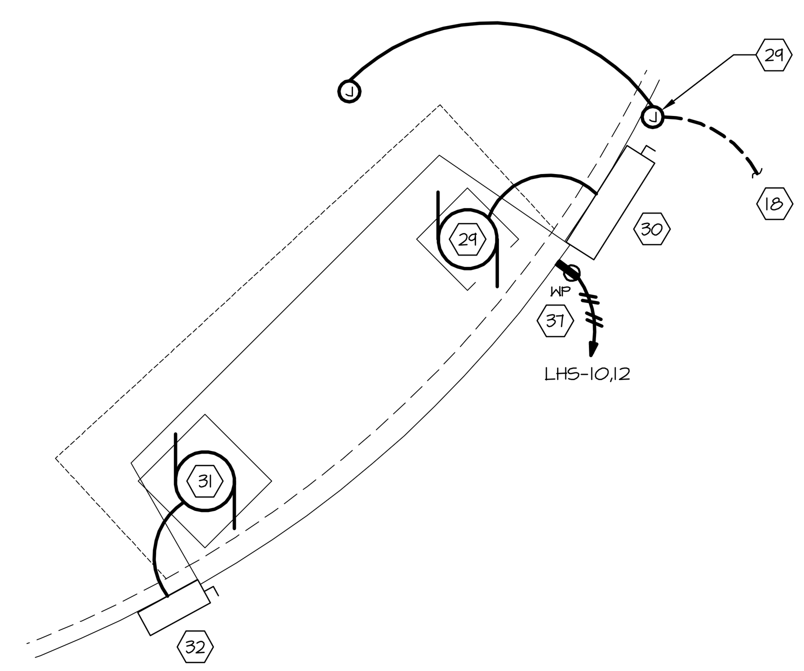
AUSTINVILLE VIRGINIA

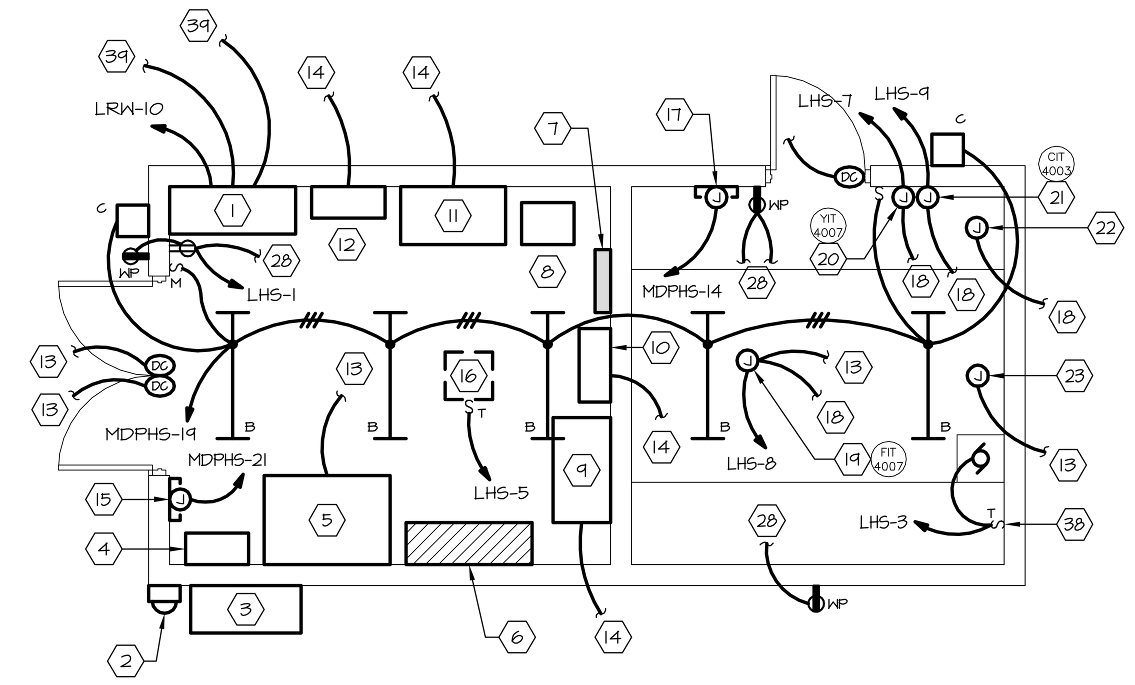
DRAWN BY: TFS
REVIEW BY: MAR
DATE: 20 OCTOBER 2006
REVISION:
DWG DESCRIPTION: TREATMENT BUILDING SECOND FLOOR - INSTRUMENTATION CONDUIT AND WIRING PLAN

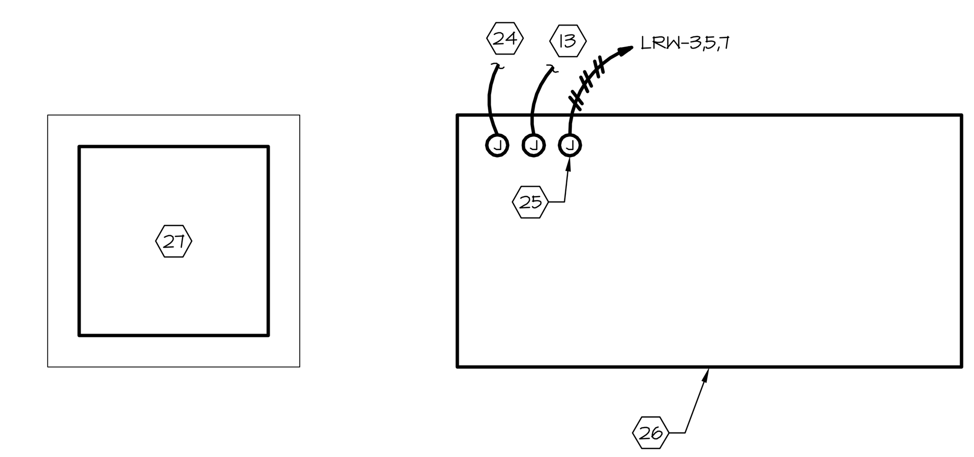
E12

JN: 04 - 02

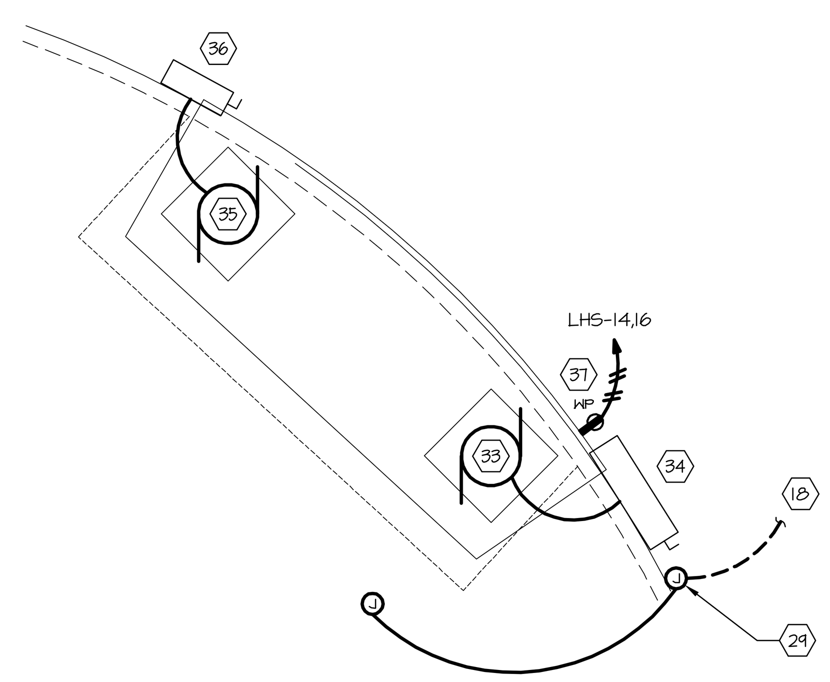


CLEARWELL TANK - ELECTRICAL PLAN
SCALE: 1/8" = 1'





HIGH SERVICE PUMP BUILDING - ELECTRICAL PLAN
SCALE: 1/4" = 1'



CHLORINE CONTACT TANK - ELECTRICAL PLAN
SCALE: 1/8" = 1'

ELECTRICAL NOTES:

1. HIGH SERVICE CONTROL PANEL, BY OTHERS.
2. UTILITY POWER METER.
3. CT CABINET.
4. MAIN SERVICE DISCONNECT; 1200A, 3P, 480V, CIRCUIT BREAKER WITH GROUND FAULT PROTECTION.
5. AUTOMATIC TRANSFER SWITCH; 1200A, 4P, 480/277V, 3Φ.
6. MAIN DISTRIBUTION PANEL "MDPHS"; 1200A, 480/277V, 3Φ, 4W.
7. PANEL "LHS"; 208/120V, 3Φ, 4W.
8. TRANSFORMER "T1"
9. CHLORINE CONTACT TANK, HIGH SERVICE PUMP VARIABLE FREQUENCY DRIVE.
10. CHLORINE CONTACT TANK, BACKWASH PUMP REDUCED VOLTAGE, SOLID STATE STARTER.
11. CLEARWELL, HIGH SERVICE PUMP VARIABLE FREQUENCY DRIVE.
12. CLEARWELL TANK, BACKWASH PUMP REDUCED VOLTAGE, SOLID STATE STARTER.
13. 3/4" CONDUIT WITH 3-#14 TO HIGH SERVICE CONTROL PANEL (ITEM #1).
14. 3/4" CONDUIT WITH 8-#14 TO HIGH SERVICE CONTROL PANEL (ITEM #1).
15. EWH-2A; ELECTRIC WALL HEATER: 4.8KW, 277V, 1Φ. PROVIDED WITH FACTORY INSTALLED DISCONNECT.
16. EF-11: 1/8HP, 120V, 1Φ EXHAUST FAN. PROVIDED WITH FACTORY INSTALLED DISCONNECT. MOUNTED ON ROOF.
17. EWH-2B; ELECTRIC WALL HEATER: 4.8KW, 277V, 1Φ. PROVIDED WITH FACTORY INSTALLED DISCONNECT.
18. 3/4" CONDUIT WITH (1) LOW VOLTAGE CONTROL CABLE TO HIGH SERVICE CONTROL PANEL (ITEM #1).
19. FLOW METER, PROVIDE POWER CONNECTION.
20. TURBIDITY METER.
21. CHLORINE METER.
22. PH TRANSMITTER
23. SAMPLING SOLENOID VALVE.
24. 3/4" CONDUIT TO AUTOMATIC TRANSFER SWITCH (ITEM #5). WIRING PER GENERATOR MANUFACTURER.
25. PROVIDE CONNECTION TO BATTERY CHARGER, BLOCK HEATER, AND BATTERY MAT HEATER.
26. GENERATOR; 750KW, 480/277V, 3Φ.
27. UTILITY PAD MOUNTED TRANSFORMER.
28. LEVEL INDICATOR TRANSMITTER, UP TO TANK PORT, BY OTHERS.
29. CLEARWELL, HIGH SERVICE PUMP; 350HP 480V, 3Φ. PUMP BY OTHERS.
30. CLEARWELL, HIGH SERVICE PUMP 350HP 480V, 3Φ. PROVIDE A 800A, 3P, 600V, NEMA 3R NONFUSED SAFETY SWITCH.
31. CLEARWELL, BACKWASH PUMP; 200HP 480V, 3Φ. PUMP BY OTHERS.
32. CLEARWELL, BACKWASH PUMP 200HP 480V, 3Φ. PROVIDE A 400A, 3P, 600V, NEMA 3R NONFUSED SAFETY SWITCH.
33. CHLORINE CONTACT, HIGH SERVICE PUMP; 350HP 480V, 3Φ. PUMP BY OTHERS.
34. CHLORINE CONTACT, HIGH SERVICE PUMP 350HP 480V, 3Φ. PROVIDE A 800A, 3P, 600V, NEMA 3R NONFUSED SAFETY SWITCH.
35. CHLORINE CONTACT, BACKWASH PUMP; 200HP 480V, 3Φ. PUMP BY OTHERS.
36. CHLORINE CONTACT, BACKWASH PUMP 200HP 480V, 3Φ. PROVIDE A 400A, 3P, 600V, NEMA 3R NONFUSED SAFETY SWITCH.
37. PROVIDE CONNECTION TO HEAT TAPE. 120V, 1Φ.
38. SUMP PUMP: 120V, 1Φ. PROVIDE TOGGLE DISCONNECT SWITCH.
39. FIBER OPTICS, SEE SHEET E02 FOR CONTINUATION.

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No. 025443
PROFESSIONAL ENGINEER

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AUSTINVILLE WATER TREATMENT PLANT (DIVISION I)
AUSTINVILLE VIRGINIA

DRAWN BY: TFS
REVIEW BY: MAR
DATE: 20 OCTOBER 2006
REVISION:
DWG DESCRIPTION: HIGH SERVICE PUMP BUILDING AND TANKS ELECTRICAL PLANS

E13

JN: 04 - 02

PANEL SCHEDULE

PANEL I.D.: MDPHS — VOLTAGE: 277/480V
LOCATION: HIGH SERVICE — SERVICE: 3 PHASE, 4 WIRE
MOUNTING: SURFACE — MAINS: 1000A MLO
NEUTRAL: SOLID — PANEL & BREAKER RMS SYM AMPS: 42,000

LOAD DESCRIP.	KVA	WIRE SIZE	COND SIZE	AMP/ POLE	CIR. NO.	A-B-C	CIR. NO.	AMP/ POLE	COND SIZE	WIRE SIZE	KVA	LOAD DESCRIP.
H.S. PUMP	305.0	--	--	800/3	01	*----	02	800/3	--	--	--	H.S. PUMP
(350HP)	--	--	--	--	03	--*--	04	--	--	--	--	(350HP)
--	--	--	--	--	05	----*	06	--	--	--	--	--
BACKWASH	199.2	--	--	400/3	07	*----	08	400/3	--	--	--	BACKWASH
(200HP)	--	--	--	--	09	--*--	10	--	--	--	--	(200HP)
--	--	--	--	--	11	----*	12	--	--	--	--	--
T24PNL "LHS"	11.4	--	--	45/3	13	*----	14	30/1	3/4	10	4.8	EWH-2A
--	--	--	--	--	15	--*--	16	30/1	3/4	10	4.8	EWH-2B
--	--	--	--	--	17	----*	18	--	--	--	--	SPACE
LIGHTING	0.5	12	3/4	20/1	19	*----	20	--	--	--	--	SPACE
LIGHTING	1.0	10	3/4	30/2	21	--*--	22	--	--	--	--	SPACE
--	--	--	--	--	23	----*	24	--	--	--	--	SPACE
SPACE	--	--	--	--	25	*----	26	--	--	--	--	SPACE
SPACE	--	--	--	--	27	--*--	28	--	--	--	--	SPACE
SPACE	--	--	--	--	29	----*	30	--	--	--	--	SPACE
SPACE	--	--	--	--	31	*----	32	--	--	--	--	SPACE
SPACE	--	--	--	--	33	--*--	34	--	--	--	--	SPACE
SPACE	--	--	--	--	35	----*	36	--	--	--	--	SPACE
SPACE	--	--	--	--	37	*----	38	--	--	--	--	SPACE
SPACE	--	--	--	--	39	--*--	40	--	--	--	--	SPACE
SPACE	--	--	--	--	41	----*	42	--	--	--	--	SPACE

TOTAL CONNECTED KVA: 527.5

NOTES:

PANEL SCHEDULE

PANEL I.D.: MDPRW — VOLTAGE: 277/480V
LOCATION: RAW WATER — SERVICE: 3 PHASE, 4 WIRE
MOUNTING: SURFACE — MAINS: 1000A MLO
NEUTRAL: SOLID — PANEL & BREAKER RMS SYM AMPS: 42,000

LOAD DESCRIP.	KVA	WIRE SIZE	COND SIZE	AMP/ POLE	CIR. NO.	A-B-C	CIR. NO.	AMP/ POLE	COND SIZE	WIRE SIZE	KVA	LOAD DESCRIP.
R.W. PUMP	373.5	--	--	800/3	01	*----	02	800/3	--	--	--	R.W. PUMP
(355HP)	--	--	--	--	03	--*--	04	--	--	--	--	(355HP)
--	--	--	--	--	05	----*	06	--	--	--	--	--
T14PNL "LRW"	10.4	--	--	45/3	07	*----	08	20/3	3/4	12	9.2	AIR COMP.
--	--	--	--	--	09	--*--	10	--	--	--	--	(7.5HP)
--	--	--	--	--	11	----*	12	--	--	--	--	--
LIGHTING	0.3	12	3/4	20/1	13	*----	14	30/1	3/4	10	4.8	EWH-2A
LIGHTING	0.4	12	3/4	20/1	15	--*--	16	30/1	3/4	10	4.8	EWH-2B
LIGHTING	2.3	10	3/4	30/2	17	----*	18	20/1	--	--	--	SPARE
--	--	--	--	--	19	*----	20	20/1	--	--	--	SPARE
LIGHTING	0.9	12	3/4	20/1	21	--*--	22	20/1	--	--	--	SPARE
PFF	--	--	--	--	23	----*	24	--	--	--	--	PFF
PFF	--	--	--	--	25	*----	26	--	--	--	--	PFF
PFF	--	--	--	--	27	--*--	28	--	--	--	--	PFF
PFF	--	--	--	--	29	----*	30	--	--	--	--	PFF
PFF	--	--	--	--	31	*----	32	--	--	--	--	PFF
PFF	--	--	--	--	33	--*--	34	--	--	--	--	PFF
PFF	--	--	--	--	35	----*	36	--	--	--	--	PFF
PFF	--	--	--	--	37	*----	38	--	--	--	--	PFF
PFF	--	--	--	--	39	--*--	40	--	--	--	--	PFF
PFF	--	--	--	--	41	----*	42	--	--	--	--	PFF

TOTAL CONNECTED KVA: 406.6

NOTES:

PANEL SCHEDULE

PANEL I.D.: LP — VOLTAGE: 120/208V
LOCATION: MECH/ELEC 102 — SERVICE: 3 PHASE, 4 WIRE
MOUNTING: SURFACE — MAINS: 225A BREAKER
NEUTRAL: SOLID — PANEL & BREAKER RMS SYM AMPS: 10,000

LOAD DESCRIP.	KVA	WIRE SIZE	COND SIZE	AMP/ POLE	CIR. NO.	A-B-C	CIR. NO.	AMP/ POLE	COND SIZE	WIRE SIZE	KVA	LOAD DESCRIP.
REWASH ACT.	0.6	12	3/4	20/1	01	*----	02	30/1	3/4	10	1.6	CARBON PNL
BW. SUP. ACT.	1.0	12	3/4	20/1	03	--*--	04	30/1	3/4	10	1.6	CARBON PNL
EFFLUENT ACT.	0.9	12	3/4	20/1	05	----*	06	20/1	3/4	12	1.0	CARBON
EFFLUENT ACT.	0.9	12	3/4	20/1	07	*----	08	20/1	3/4	12	0.7	CARBON
EFFLUENT ACT.	0.9	12	3/4	20/1	09	--*--	10	20/1	3/4	12	0.7	CARBON
AIR ACT.	0.6	12	3/4	20/1	11	----*	12	20/1	3/4	12	0.8	CARBON
POLY. CHL. FP	1.2	12	3/4	20/1	13	*----	14	30/1	3/4	10	1.9	TREATMENT
POLY. CHL. FP	1.2	12	3/4	20/1	15	--*--	16	20/1	3/4	12	1.2	S HYOCHL PNL
POLY. CHL. FP	1.2	12	3/4	20/1	17	----*	18	20/1	3/4	12	1.2	S HYOCHL PNL
POLY. CHL. TP	4.0	12	3/4	20/3	19	*----	20	20/3	3/4	12	4.0	TREATMENT
--	--	--	--	--	21	--*--	22	--	--	--	--	--
--	--	--	--	--	23	----*	24	--	--	--	--	--
COR. INH. FP	0.7	12	3/4	20/1	25	*----	26	20/1	3/4	12	0.7	HYDROFLU PNL
SODA ASH TP	5.6	10	3/4	30/3	27	--*--	28	20/1	3/4	12	0.7	HYDROFLU PNL
--	--	--	--	--	29	----*	30	20/3	3/4	12	3.0	HOIST
--	--	--	--	--	31	--*--	32	--	--	--	--	--
TREATMENT	1.3	12	3/4	20/1	33	----*	34	--	--	--	--	--
TREATMENT	1.3	12	3/4	20/1	35	*----	36	20/3	3/4	12	3.0	HOIST
TREATMENT	1.9	10	3/4	30/1	37	--*--	38	--	--	--	--	--
TREATMENT	1.1	12	3/4	20/1	39	----*	40	--	--	--	--	--
AIR DRYER	--	--	--	20/1	41	*----	42	20/1	--	--	--	SPARE
SPARE	--	--	--	20/1	43	--*--	44	20/1	--	--	--	SPARE
SPARE	--	--	--	20/1	45	----*	46	20/1	--	--	--	SPARE
SPARE	--	--	--	20/1	47	*----	48	20/1	--	--	--	SPARE
FLOW METERS	0.5	12	3/4	20/1	49	--*--	50	20/1	3/4	10	1.0	BLOCK HEATER
TUR. METERS	0.5	12	3/4	20/1	51	----*	52	20/1	3/4	10	0.5	BAT. CHARGER
TUR. METERS	0.5	12	3/4	20/1	53	*----	54	20/1	3/4	10	1.0	MAT HEATER
SPARE	--	--	--	20/1	55	--*--	56	20/1	3/4	12	0.7	SAMPLE PUMPS
SPARE	--	--	--	20/1	57	----*	58	20/1	3/4	12	0.7	SAMPLE PUMPS
SPARE	--	--	--	20/1	59	----*	60	20/1	1	12	0.5	LVL SLD HNDL
PFF	--	--	--	--	61	*----	62	20/1	3/4	12	0.7	FILTER PNL 1
PFF	--	--	--	--	63	--*--	64	20/1	3/4	12	0.7	FILTER PNL 1
PFF	--	--	--	--	65	----*	66	20/1	3/4	12	0.7	FILTER PNL 2
PFF	--	--	--	--	67	*----	68	20/1	3/4	12	0.7	FILTER PNL 2
PFF	--	--	--	--	69	--*--	70	20/1	3/4	12	0.7	FILTER PNL 13
PFF	--	--	--	--	71	----*	72	20/1	3/4	12	0.7	FILTER PNL 13
PFF	--	--	--	--	73	*----	74	20/1	3/4	12	0.7	TT1 PANEL
PFF	--	--	--	--	75	--*--	76	20/1	3/4	12	0.7	TT1 PANEL
PFF	--	--	--	--	77	----*	78	20/1	3/4	12	0.7	TT1 PANEL
SP-1	0.5	12	3/4	20/1	79	*----	80	30/1	3/4	10	0.7	TT2 PANEL
SP-2	0.5	12	3/4	20/1	81	--*--	82	20/1	3/4	12	0.7	TT2 PANEL
SP-3	0.5	12	3/4	20/1	83	----*	84	20/1	3/4	12	0.7	TT2 PANEL

TOTAL CONNECTED KVA: 62.3

NOTES: PANEL SHALL BE 2-SECTION TYPE WITH FEED THRU LUGS.

PANEL SCHEDULE

PANEL I.D.: MDPMB — VOLTAGE: 277/480V
LOCATION: MECH/ELEC 102 — SERVICE: 3 PHASE, 4 WIRE
MOUNTING: SURFACE — MAINS: 1000A MLO
NEUTRAL: SOLID — PANEL & BREAKER RMS SYM AMPS: 42,000

LOAD DESCRIP.	KVA	WIRE SIZE	COND SIZE	AMP/ POLE	CIR. NO.	A-B-C	CIR. NO.	AMP/ POLE	COND SIZE	WIRE SIZE	KVA	LOAD DESCRIP.
PNL "HM"	82.0	--	--	225/3	01	*----	02	400/3	--	--	238.2	PNL "HG"
--	--	--	--	--	03	--*--	04	--	--	--	--	--
--	--	--	--	--	05	----*	06	--	--	--	--	--
T3 & PNL "LG"	57.8	--	--	110/3	07	*----	08	110/3	--	--	62.3	T4 & PNL "LP"
--	--	--	--	--	09	--*--	10	--	--	--	--	--
--	--	--	--	--	11	----*	12	--	--	--	--	--
BLOWER	43.2	1	1 1/2	110/3	13	*----	14	100/3	1 1/2	1	33.2	ELEVATOR
--	--	--	--	--	15	--*--	16	--	--	--	--	--
--	--	--	--	--	17	----*	18	--	--	--	--	--
PFF	--	--	--	--	19	*----	20	--	--	--	--	PFF
PFF	--	--	--	--	21	--*--	22	--	--	--	--	PFF
PFF	--	--	--	--	23	----*	24	--	--	--	--	PFF
PFF 400A	--	--	--	--	25	*----	26	--	--	--	--	PFF 400A
PFF 400A	--	--	--	--	27	--*--	28	--	--	--	--	PFF 400A
PFF 400A	--	--	--	--	29	----*	30	--	--	--	--	PFF 400A

TOTAL CONNECTED KVA: 517.7

NOTES:

PANEL SCHEDULE

PANEL I.D.: LHS — VOLTAGE: 120/208V
LOCATION: HIGH SERVICE — SERVICE: 3 PHASE, 4 WIRE
MOUNTING: SURFACE — MAINS: 100A BREAKER
NEUTRAL: SOLID — PANEL & BREAKER RMS SYM AMPS: 10,000

LOAD DESCRIP.	KVA	WIRE SIZE	COND SIZE	AMP/ POLE	CIR. NO.	A-B-C	CIR. NO.	AMP/ POLE	COND SIZE	WIRE SIZE	KVA	LOAD DESCRIP.
RECEPT.	0.4	12	3/4	20/1	01	*----	02	20/1	3/4	10	1.0	BLOCK HEATER
SUMP PUMP	0.7	12	3/4	20/1	03	--*--	04	20/1	3/4	10	1.0	BAT. CHARGER
BAT. CHARGER	0.3	12	3/4	20/1	05	----*	06	20/1	3/4	10	1.0	MAT HEATER
TRIB. MTR.	1.0	12	3/4	20/1	07	*----	08	20/1	3/4	10	1.0	FLOW METER
CHL. MTR.	1.0	12	3/4	20/1	09	--*--	10	20/1	3/4	12	1.0	HEAT TAPE
SPARE	--	--	--	20/1	11	----*	12	20/1	3/4	12	1.0	HEAT TAPE
SPARE	--	--	--	20/1	13	*----	14	20/1	3/4	12	1.0	HEAT TAPE
SPARE	--	--	--	20/1	15	--*--	16	20/1	3/4	12	1.0	HEAT TAPE
SPARE	--	--	--	20/1	17	----*	18	20/1	--	--	--	SPARE
SPACE	--	--	--	--	19	*----	20	--	--	--	--	SPACE
SPACE	--	--	--	--	21	--*--	22	--	--	--	--	SPACE
SPACE	--	--	--	--	23	----*	24	--	--	--	--	SPACE
SPACE	--	--	--	--	25	*----	26	--	--	--	--	SPACE
SPACE	--	--	--	--	27	--*--	28	--	--	--	--	SPACE
SPACE	--	--	--	--	29	----*	30	--	--	--	--	SPACE
SPACE	--	--	--	--	31	*----	32	--	--	--	--	SPACE
SPACE	--	--	--	--	33	--*--	34	--	--	--	--	SPACE
SPACE	--	--	--	--	35	----*	36	--	--	--	--	SPACE
SPACE	--	--	--	--	37	*----	38	--	--	--	--	SPACE
SPACE	--	--	--	--	39	--*--	40	--	--	--	--	SPACE
SPACE	--	--	--	--	41	----*	42	--	--	--	--	SPACE

TOTAL CONNECTED KVA: 11.4

NOTES:

PANEL SCHEDULE

PANEL I.D.: LRW — VOLTAGE: 120/208V
LOCATION: RAW WATER — SERVICE: 3 PHASE, 4 WIRE
MOUNTING: SURFACE — MAINS: 100A BREAKER
NEUTRAL: SOLID — PANEL & BREAKER RMS SYM AMPS: 10,000

LOAD DESCRIP.	KVA	WIRE SIZE	COND SIZE	AMP/ POLE	CIR. NO.	A-B-C	CIR. NO.	AMP/ POLE	COND SIZE	WIRE SIZE	KVA	LOAD DESCRIP.
RECEPT.	0.4	12	3/4	20/1	01	*----	02	20/1	3/4	12	0.2	EF-4
BLOCK HEATER	1.0	10	1	20/1	03	--*--	04	20/1	3/4	12	0.3	EF-10
BAT. CHARGER	1.0	10	1	20/1	05	----*	06	*20/1	3/4	12	1.0	HEAT TAPE
MAT HEATER	1.0	10	1	20/1	07	*----	08	*20/1	3/4	12	0.2	RECEPT.
RECEPT.	0.6	12	3/4	20/1	09	--*--	10	20/1	3/4	12	1.0	RAW WTR PNL
CHEM. PUMP	1.2	12	3/4	20/1	11	----*	12	20/1	3/4	12	0.5	AIR CMPRSR.
FLW. MTR.	1.0	12	3/4	20/1	13	*----	14	20/1	3/4	12	0.5	F.A.C.P.
LVL TRANS.	0.5	12	3/4	20/1	15	--*--	16	20/1	--	--	--	SPARE
SPARE	--	--	--	20/1	17	----*	18	20/1	--	--	--	SPARE
SPARE	--	--	--	20/1	19	*----	20	20/1	--	--	--	SPARE
SPARE	--	--	--	20/1	21	--*--	22	20/1	--	--	--	SPARE
PFF	--	--	--	--	23	----*	24	--	--	--	--	PFF
PFF	--	--	--	--	25	*----	26	--	--	--	--	PFF
PFF	--	--	--	--	27	--*--	28	--	--	--	--	PFF
PFF	--	--	--	--	29	----*	30	--	--	--	--	PFF
PFF	--	--	--	--	31	*----	32	--	--	--	--	PFF
PFF	--	--	--	--	33	--*--	34	--	--	--	--	PFF
PFF	--	--	--	--	35	----*	36	--	--	--	--	PFF
PFF	--	--	--	--	37	*----	38	--	--	--	--	PFF
PFF	--	--	--	--	39	--*--	40	--	--	--	--	PFF
PFF	--	--	--	--	41	----*	42	--	--	--	--	PFF

TOTAL CONNECTED KVA: 10.4

NOTES: * PROVIDE GROUND FAULT BREAKER.

PANEL SCHEDULE

PANEL I.D.: HM — VOLTAGE: 277/480V
LOCATION: MECH/ELEC 102 — SERVICE: 3 PHASE, 4 WIRE
MOUNTING: SURFACE — MAINS: 400A MLO
NEUTRAL: SOLID — PANEL & BREAKER RMS SYM AMPS: 42,000

LOAD DESCRIP.	KVA	WIRE SIZE	COND SIZE	AMP/ POLE	CIR. NO.	A-B-C	CIR. NO.	AMP/ POLE	COND SIZE	WIRE SIZE	KVA	LOAD DESCRIP.
PFF	--	--	--	--	01	*----	02	20/3	--	--	--	SPARE
PFF	--	--	--	--	03	--*--	04	--	--	--	--	--
PFF	--	--	--	--	05	----*	06	--	--	--	--	--
PFF	--	--	--	--	07	*----	08	20/1	--	--	--	SPARE
PFF	--	--	--	--	09	--*--	10	20/2	3/4	12	2.0	WH-2
PFF	--	--	--	--	11	----*	12	--	--	--	--	--
EF-7B	2.8	12	3/4	20/3	13	*----	14	20/2	3/4	12	2.0	WH-2
--	--	--	--	--	15	--*--	16	--	--	--	--	--
--	--	--	--	--	17	----*	18	20/2	3/4	12	9.0	WH-1
RTU-2	28.2	8	1	40/3	19	*----	20	--	--	--	--	--
--	--	--	--	--	21	--*--	22	--	--	--	--	--
--	--	--	--	--	23	----*	24	70/3	1 1/4	4	50.1	RTU-1
UH-2	7.5	12	3/4	20/3	25	*----	26	--	--	--	--	--
--	--	--	--	--	27	--*--	28	--	--	--	--	--
--	--	--	--	--	29	----*	30	20/3	3/4	12	4.0	EF-7
UH-2	7.5	12	3/4	20/3	31	--*--	32	--	--	--	--	--
--	--	--	--	--	33	----*	34	--	--	--	--	--
--	--	--	--	--	35	*----	36	30/1	3/4	10	4.8	EWH-2
UH-2	7.5	12	3/4	20/3	37	--*--	38	30/1	3/4	10	4.8	EWH-2
--	--	--	--	--	39	----*	40	20/1	--	--	--	SPARE
--	--	--	--	--	41	*----	42	20/1	--	--	--	SPARE
UH-2	7.5	12	3/4	20/3	43	--*--	44	20/3	3/4	12	7.5	UH-2
--	--	--	--	--	45	----*	46	--	--	--	--	--
--	--	--	--	--	47	*----	48	--	--	--	--	--
UH-2	7.5	12	3/4	20/3	49	--*--	50	20/3	3/4	12	7.5	UH-2
--	--	--	--	--	51	----*	52	--	--	--	--	--
--	--	--	--	--	53	*----	54	--	--	--	--	--
UH-2	7.5	12	3/4	20/3	55	--*--	56	20/3	3/4	12	7.5	UH-2
--	--	--	--	--	57	----*	58	--	--	--	--	--
--	--	--	--	--	59	----*	60	--	--	--	--	--
UH-2	7.5	12	3/4	20/3	61	*----	62	20/3	3/4	12	7.5	UH-2
--	--	--	--	--	63	--*--	64	--	--	--	--	--
--	--	--	--	--	65	----*	66	--	--	--	--	--
UH-2	7.5	12	3/4	20/3	67	*----	68	20/3	3/4	12	7.5	UH-2
--	--	--	--	--	69	--*--	70	--	--	--	--	--
--	--	--	--	--	71	----*	72	--	--	--	--	--
UH-2	7.5	12	3/4	20/3	73	*----	74	20/3	3/4	12	7.5	UH-2
--	--	--	--	--	75	--*--	76	--	--	--	--	--
--	--	--	--	--	77	----*	78	--	--	--	--	--
UH-2	7.5	12	3/4	20/3	79	*----	80	20/3	3/4	12	10.5	UH-2
--	--	--	--	--	81	--*--	82	--	--	--	--	--
--	--	--	--	--	83	----*	84	--	--	--	--	--

TOTAL CONNECTED KVA: 238.2

NOTES: PANEL SHALL BE 2-SECTION TYPE WITH FEED THRU LUGS.

PANEL SCHEDULE

PANEL I.D.: LG2 — VOLTAGE: 120/208V
LOCATION: ELEC 203 — SERVICE: 3 PHASE, 4 WIRE
MOUNTING: SURFACE — MAINS: 225A LUGS
NEUTRAL: SOLID — PANEL & BREAKER RMS SYM AMPS:10,000

LOAD DESCRIP.	KVA	WIRE SIZE	COND SIZE	AMP/ POLE	CIR. NO.	A-B-C	CIR. NO.	AMP/ POLE	COND SIZE	WIRE SIZE	KVA	LOAD DESCRIP.
RECEPT.	0.8	12	3/4	20/1	01	*----	02	20/1	3/4	12	1.4	RECEPT.
RECEPT.	0.8	12	3/4	20/1	03	--*--	04	20/1	3/4	12	0.7	RECEPT.
RECEPT.	0.8	12	3/4	20/1	05	----*	06	20/1	3/4	12	0.5	RECEPT.
RECEPT.	1.1	12	3/4	20/1	07	*----	08	20/1	3/4	12	0.5	RECEPT.
RECEPT.	0.5	12	3/4	20/1	09	--*--	10	20/1	3/4	12	1.4	RECEPT.
REFRIGERATOR	1.2	12	3/4	20/1	11	----*	12	20/1	3/4	12	1.2	RECEPT.
GLASS WASHER	1.0	12	3/4	20/1	13	*----	14	20/1	3/4	12	1.0	GLASS WASHER
RECEPT.	0.5	12	3/4	20/1	15	--*--	16	20/1	3/4	12	1.4	VENT. HOOD
RECEPT.	0.5	12	3/4	20/1	17	----*	18	20/1	3/4	12	0.5	RECEPT.
RECEPT.	0.5	12	3/4	20/1	19	*----	20	20/1	3/4	12	0.5	RECEPT.
RECEPT.	0.7	12	3/4	20/1	21	--*--	22	20/1	3/4	12	0.5	RECEPT.
SPARE	--	--	--	20/1	23	----*	24	20/1	--	--	--	SPARE
SPARE	--	--	--	20/1	25	*----	26	20/1	--	--	--	SPARE
SPARE	--	--	--	20/1	27	--*--	28	20/1	--	--	--	SPARE
SPARE	--	--	--	20/1	29	----*	30	20/1	3/4	12	1.0	RECEPT.
SPARE	--	--	--	20/1	31	--*--	32	20/1	3/4	12	0.7	RECEPT.
EF-1	0.7	12	3/4	20/1	33	----*	34	--	--	--	--	--
--	--	--	--	--	35	*----	36	--	--	--	--	--
--	--	--	--	--	37	--*--	38	50/3	1	6	6.1	EF-8 & EF-12
CU-1	1.3	12	3/4	20/2	39	----*	40	--	--	--	--	--
--	--	--	--	--	41	*----	42	--	--	--	--	--
EF-2	0.8	12	3/4	20/3	43	--*--	44	20/1	3/4	12	0.9	HEF-1
--	--	--	--	--	45	----*	46	--	--	--	--	PFF
--	--	--	--	--	47	*----	48	--	--	--	--	PFF
EF-3	0.8	12	3/4	20/3	49	--*--	50	20/1	--	--	--	SPARE
--	--	--	--	--	51	----*	52	20/1	--	--	--	SPARE
--	--	--	--	--	53	*----	54	20/1	--	--	--	SPARE
SPARE	--	--	--	20/1	55	--*--	56	20/1	--	--	--	SPARE
SPARE	--	--	--	20/1	57	----*	58	20/1	--	--	--	SPARE
SPARE	--	--	--	20/1	59	----*	60	20/1	--	--	--	SPARE

FOR TOTAL CONNECTED KVA SEE PANEL "LG"

NOTES: PANEL SHALL BE 3-SECTION TYPE WITH FEED THRU LUGS.

PANEL SCHEDULE

PANEL I.D.: LG — VOLTAGE: 120/208V
LOCATION: MECH/ELEC 102 — SERVICE: 3 PHASE, 4 WIRE
MOUNTING: SURFACE — MAINS: 225A BREAKER
NEUTRAL: SOLID — PANEL & BREAKER RMS SYM AMPS: 10,000

LOAD DESCRIP.	KVA	WIRE SIZE	COND SIZE	AMP/ POLE	CIR. NO.	A-B-C	CIR. NO.	AMP/ POLE	COND SIZE	WIRE SIZE	KVA	LOAD DESCRIP.
RECEPT.	0.6	12	3/4	20/1	01	*----	02	20/3	3/4	12	1.2	EF-4
ELEV. PIT	0.5	12	3/4	20/1	03	--*--	04	--	--	--	--	--
RECEPT.	1.0	12	3/4	20/1	05	----*	06	--	--	--	--	--
RECEPT.	1.0	12	3/4	20/1	07	*----	08	20/2	3/4	12	3.6	AH-1
EWC	1.2	12	3/4	20/1	09	--*--	10	--	--	--	--	--
CEF-1	0.2	12	3/4	20/1	11	----*	12	20/1	3/4	12	1.2	EF-5
RECEPT.	0.8	12	3/4	20/1	13	*----	14	20/1	3/4	12	0.9	EF-6
GATE	1.0	10	3/4	20/1	15	--*--	16	20/1	3/4	12	0.4	LIGHTING
RECEPT.	0.5	8	1	20/1*	17	----*	18	20/1	3/4	12	0.8	EWH-1
RECEPT.	1.2	12	3/4	20/1	19	*----	20	20/1	3/4	12	0.8	LIGHTING
MTR DOOR	1.4	12	3/4	20/1	21	--*--	22	20/1	3/4	12	1.0	TELE BOARD
MTR DOOR	1.4	12	3/4	20/1	23	----*	24	20/1	--	--	--	SPARE
MTR DOOR	1.4	12	3/4	20/1	25	*----	26	20/1	--	--	--	SPARE
MTR DOOR	1.4	12	3/4	20/1	27	--*--	28	20/1	--	--	--	SPARE
ELEV. CAB	1.0	12	3/4	20/1	29	----*	30	--	--	--	--	PFF
PFF	--	--	--	--	31	--*--	32	--	--	--	--	PFF
PFF	--	--	--	--	33	----*	34	--	--	--	--	PFF
PFF	--	--	--	--	35	*----	36	--	--	--	--	PFF
PFF	--	--	--	--	37	--*--	38	20/1	3/4	10	1.0	BLOCK HEATER
PFF	--	--	--	--	39	----*	40	20/1	3/4	10	1.0	BAT. CHARGER
PFF	--	--	--	--	41	*----	42	20/1	3/4	10	1.0	MAT HEATER

CONNECTED KVA (THIS PANEL): 27.5
CONNECTED KVA (LG2): 30.3
TOTAL CONNECTED KVA: 57.8

NOTES: * PROVIDE GROUND FAULT BREAKER.
PANEL SHALL BE 3-SECTION TYPE WITH FEED THRU LUGS.

PANEL SCHEDULE

PANEL I.D.: HP — VOLTAGE: 277/480V
LOCATION: MECH/ELEC 102 — SERVICE: 3 PHASE, 4 WIRE
MOUNTING: SURFACE — MAINS: 225A MLO
NEUTRAL: SOLID — PANEL & BREAKER RMS SYM AMPS: 42,000

LOAD DESCRIP.	KVA	WIRE SIZE	COND SIZE	AMP/ POLE	CIR. NO.	A-B-C	CIR. NO.	AMP/ POLE	COND SIZE	WIRE SIZE	KVA	LOAD DESCRIP.
BW. ACT.	2.8	12	3/4	20/3	01	*----	02	30/3	3/4	10	13.0	EFFLUENT ACT.
--	--	--	--	--	03	--*--	04	--	--	--	--	--
--	--	--	--	--	05	----*	06	--	--	--	--	--
INFLUENT ACT.	1.2	12	3/4	20/2	07	*----	08	30/3	3/4	10	7.0	FLOCCULATORS
--	--	--	--	--	09	--*--	10	--	--	--	--	--
SPARE	--	--	--	20/1	11	----*	12	--	--	--	--	--
SPARE	--	--	--	20/1	13	*----	14	30/3	3/4	10	7.0	FLOCCULATORS
SPARE	--	--	--	20/1	15	--*--	16	--	--	--	--	--
SPARE	--	--	--	20/1	17	----*	18	--	--	--	--	--
LIGHTING	1.9	12	3/4	20/1	19	*----	20	60/3	1	6	18.3	AIR COMPRESS
LIGHTING	2.6	12	3/4	20/1	21	--*--	22	--	--	--	--	--
LIGHTING	1.5	12	3/4	20/1	23	----*	24	--	--	--	--	--
LIGHTING	2.4	12	3/4	20/1	25	*----	26	--	--	--	--	PFF
LIGHTING	0.3	12	3/4	20/1	27	--*--	28	--	--	--	--	PFF
LIGHTING	1.3	12	3/4	20/1	29	----*	30	--	--	--	--	PFF
LIGHTING	2.2	12	3/4	20/1	31	--*--	32	20/1	3/4	12	1.2	LIGHTING
LIGHTING	1.7	12	3/4	20/1	33	----*	34	20/1	3/4	12	1.2	LIGHTING
LIGHTING	6.9	8	1	30/2	35	*----	36	30/2	3/4	10	3.9	LIGHTING
--	--	--	--	--	37	--*--	38	--	--	--	--	--
LIGHTING	2.8	10	3/4	30/2	39	----*	40	30/2	3/4	10	2.8	LIGHTING
--	--	--	--	--	41	*----	42	--	--	--	--	SPACE

TOTAL CONNECTED KVA: 82.0

NOTES:

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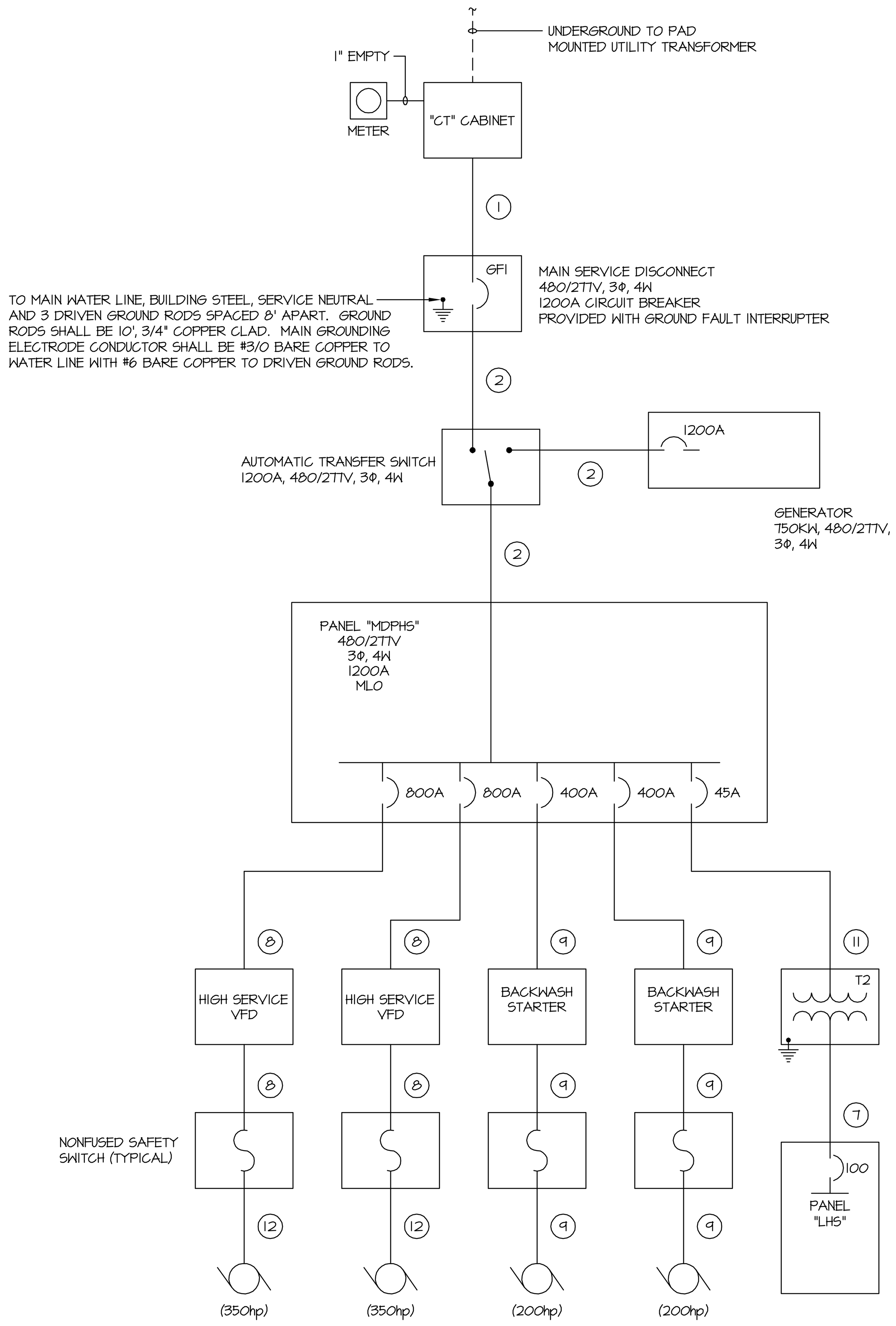
AUSTINVILLE WATER TREATMENT PLANT (DIVISION I)
AUSTINVILLE VIRGINIA

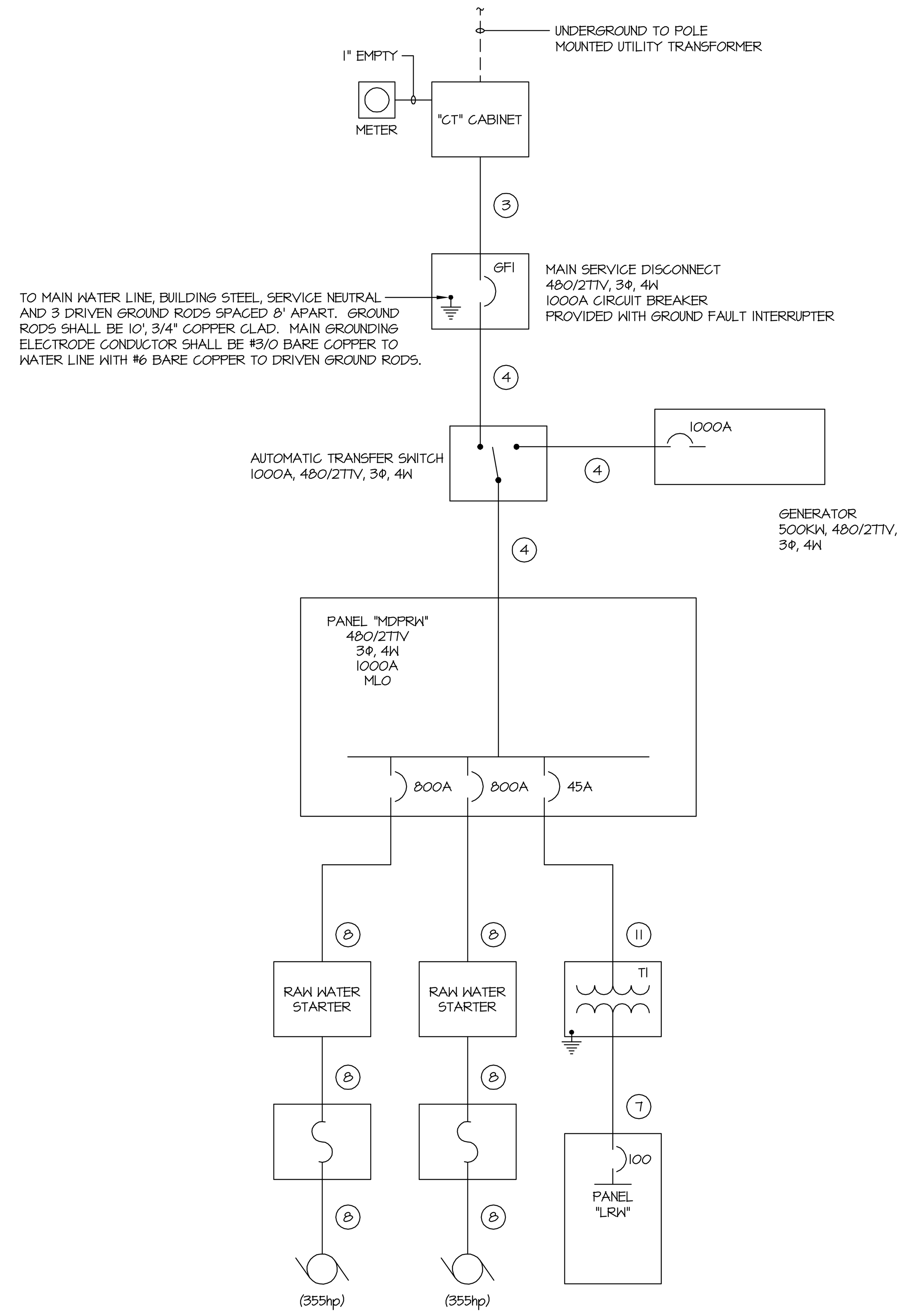
DRAWN BY: TFS
REVIEW BY: MAR
DATE: 20 OCTOBER 2006
REVISION:
DWG DESCRIPTION: ELECTRICAL PANEL SCHEDULES

E14

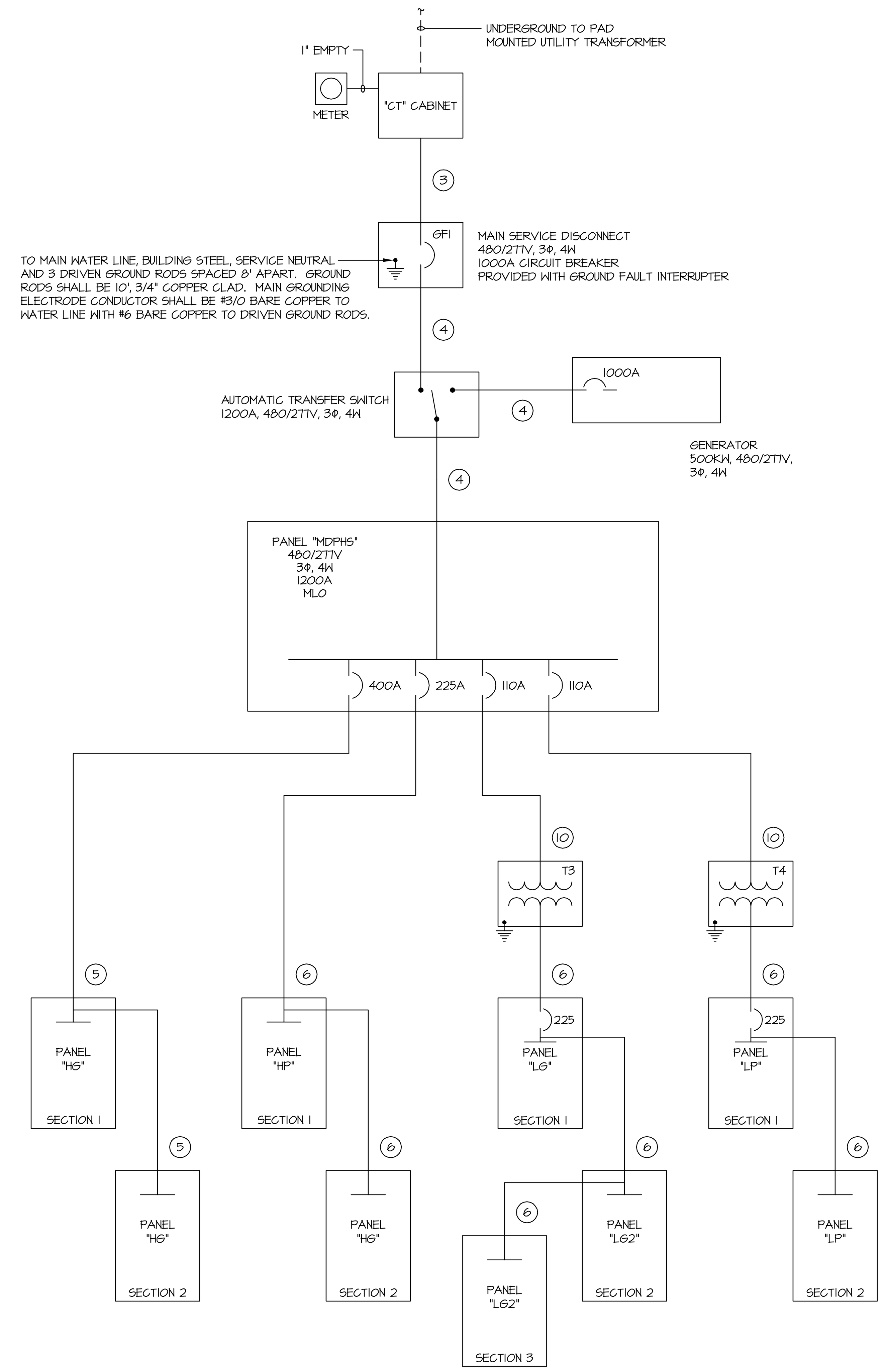
JN: 04 - 02



HIGH SERVICE PUMP BUILDING - ONE-LINE DIAGRAM
NOT TO SCALE



RAW WATER PUMP BUILDING - ONE-LINE DIAGRAM
NOT TO SCALE



TREATMENT BUILDING - ONE-LINE DIAGRAM
NOT TO SCALE

TRANSFORMER GROUNDING NOTE:

EACH DRY TYPE TRANSFORMER SHALL BE CONSIDERED A SEPARATELY DERIVED SYSTEM. THE GROUNDING CONDUCTOR RUN IN THE CONDUIT WITH THE SUPPLY CONDUCTORS SHALL BE BONDED TO THE TRANSFORMER ENCLOSURE. THE NEUTRAL SECONDARY POINT SHALL BE BONDED TO THE INCOMING GROUND CONDUCTOR AND THE TRANSFORMER ENCLOSURE. A CODE SIZED GROUNDING ELECTRODE CONDUCTOR SHALL BE BONDED TO THE NEUTRAL AND EXTENDED TO THE NEAREST BUILDING STRUCTURAL STEEL MEMBER AND BONDED TO IT.

TRANSFORMER SCHEDULE

NO	KVA	PRIMARY VOLTAGE	SECONDARY			K-RATING	MOUNTING
			VOLTAGE	PHASE	# OF WIRES		
T1	30	480 Δ	208/120	3	4	-	FLOOR
T2	30	480 Δ	208/120	3	4	-	FLOOR
T3	75	480 Δ	208/120	3	4	-	FLOOR
T4	75	480 Δ	208/120	3	4	-	FLOOR

FEEDER SCHEDULE

ITEM	AMPERE RATING	CONDUCTORS	CONDUIT SIZE
1	1200	4 SETS OF 4-400 MCM	4-3"
2	1200	4 SETS OF 4-400 MCM AND 1-#3/0G	4-3"
3	1000	3 SETS OF 4-500 MCM	3-4"
4	1000	3 SETS OF 4-500 MCM AND 1-#2/0G	3-4"
5	400	2 SETS OF 4-#4/0 AND 1-#3G	2-2 1/2"
6	225	4-250 MCM AND 1-#4G	3"
7	100	4-#1 AND 1-#8G	1 1/2"
8	600	2 SETS OF 3-400 MCM AND 1-#1G	2-3"
9	300	3-400 MCM AND 1-#4G	3"
10	110	3-#1 AND 1-#8G	1 1/2"
11	45	3-#6 AND 1-#10G	3/4"
12	--	PROVIDEED WITH PUMPS	--

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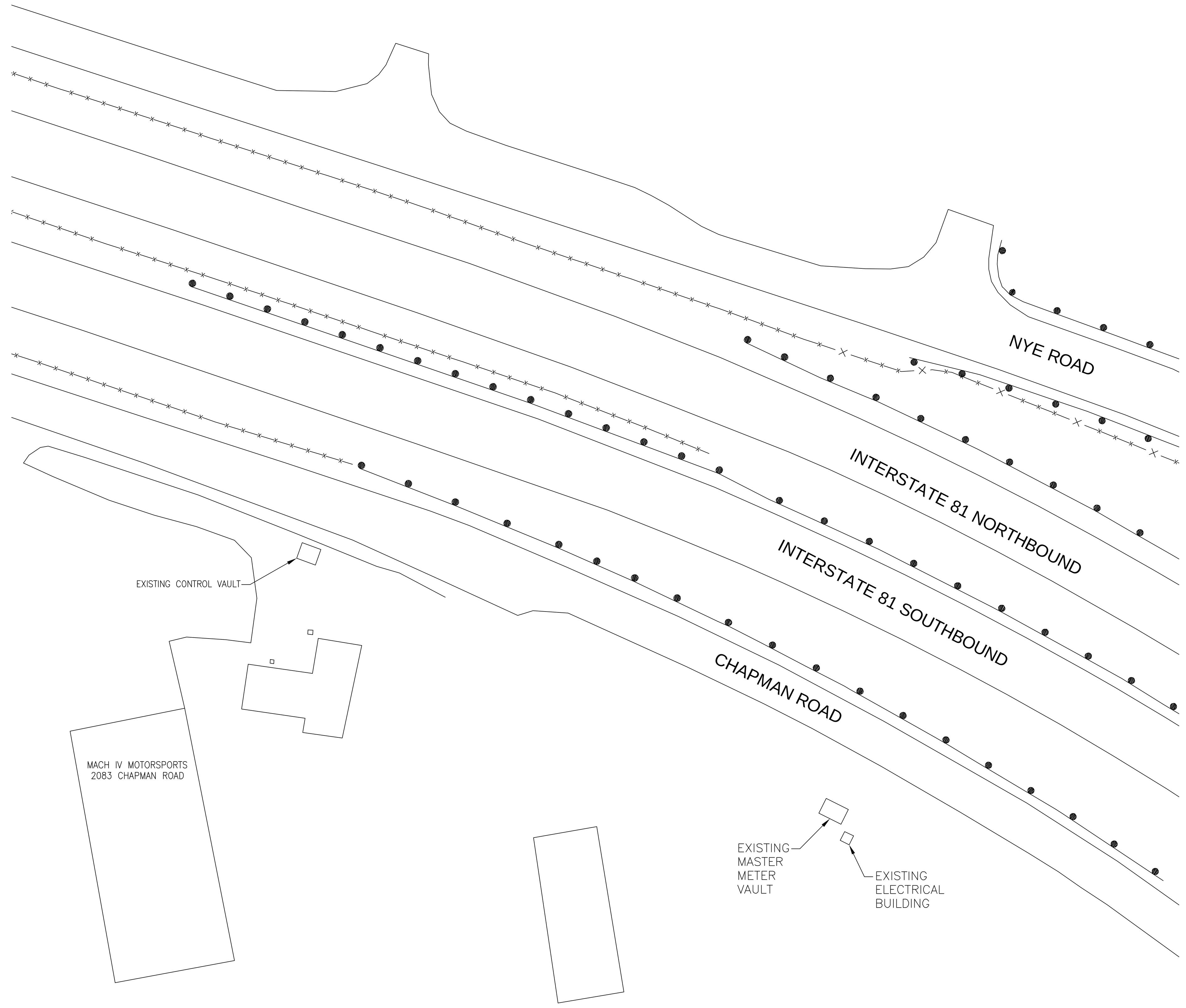
AUSTINVILLE WATER TREATMENT PLANT (DIVISION I)
AUSTINVILLE VIRGINIA

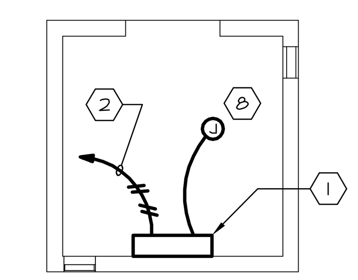
DRAWN BY: TFS
REVIEW BY: MAR
DATE: 20 OCTOBER 2006
REVISION:
DWG DESCRIPTION: ELECTRICAL ONE-LINE DIAGRAMS

E15

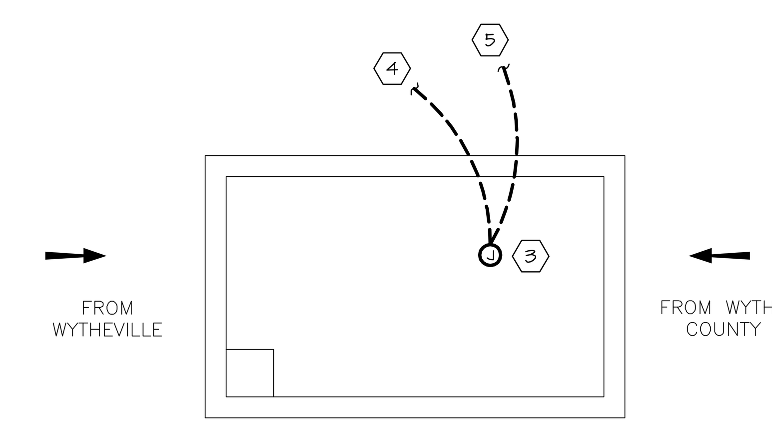
JN: 04 - 02



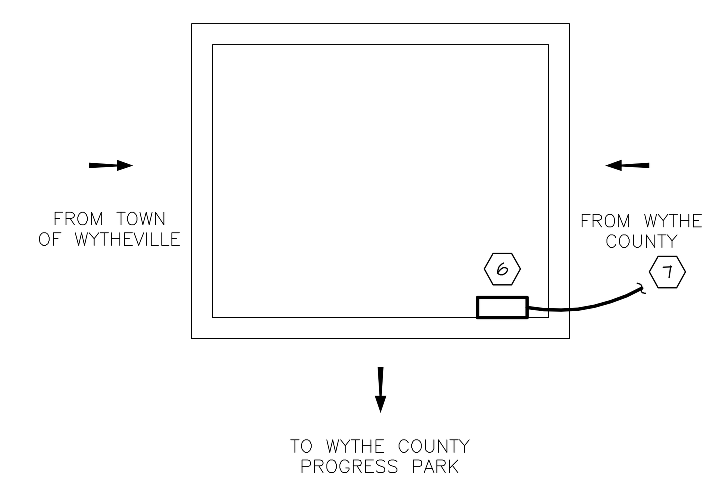
VAULT - ELECTRICAL SITE PLAN
SCALE: 1" = 50'-0"



ELECTRICAL BUILDING - ELECTRICAL PLAN
SCALE: 1/4" = 1'



MASTER METERING VAULT - ELECTRICAL PLAN
SCALE: 1/4" = 1'



CONTROL VAULT - ELECTRICAL PLAN
SCALE: 1/4" = 1'

ELECTRICAL NOTES:

1. VALVE VAULT CONTROL PANEL, BY OTHERS. PROVIDE POWER CONNECTION.
2. CONNECT TO 2-20/1 SPARES IN EXISTING 120/240V ELECTRCIAL PANEL.
3. FLOW METER, BY OTHERS.
4. 1" CONDUIT WITH 4-#14 TO VALVE VAULT CONTROL PANEL (ITEM #1).
5. 1" CONDUIT WITH (1) LOW VOLTAGE CONTROL CABLE TO VALVE VAULT CONTROL PANEL (ITEM #1).
6. ACTUATOR CONTROL PANEL, BY OTHER.
7. 1" CONDUIT WITH 20-#14 TO VALVE VAULT CONTROL PANEL (ITEM #1).
8. PROVIDE JUNCTION BOX ON ROOF AND 1" CONDUIT TO VALVE VAULT CONTROL PANEL (ITEM #1) FOR ANTENNA AND WIRING, SUPPLIED BY OTHER.

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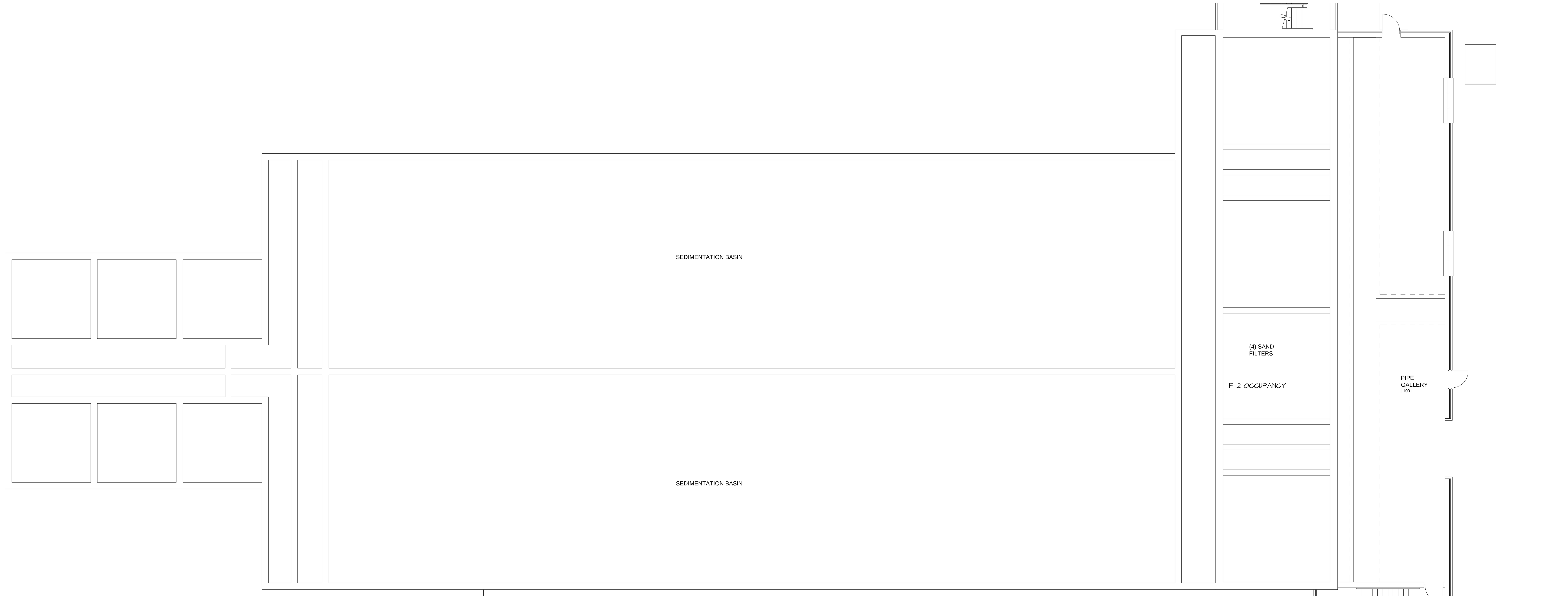
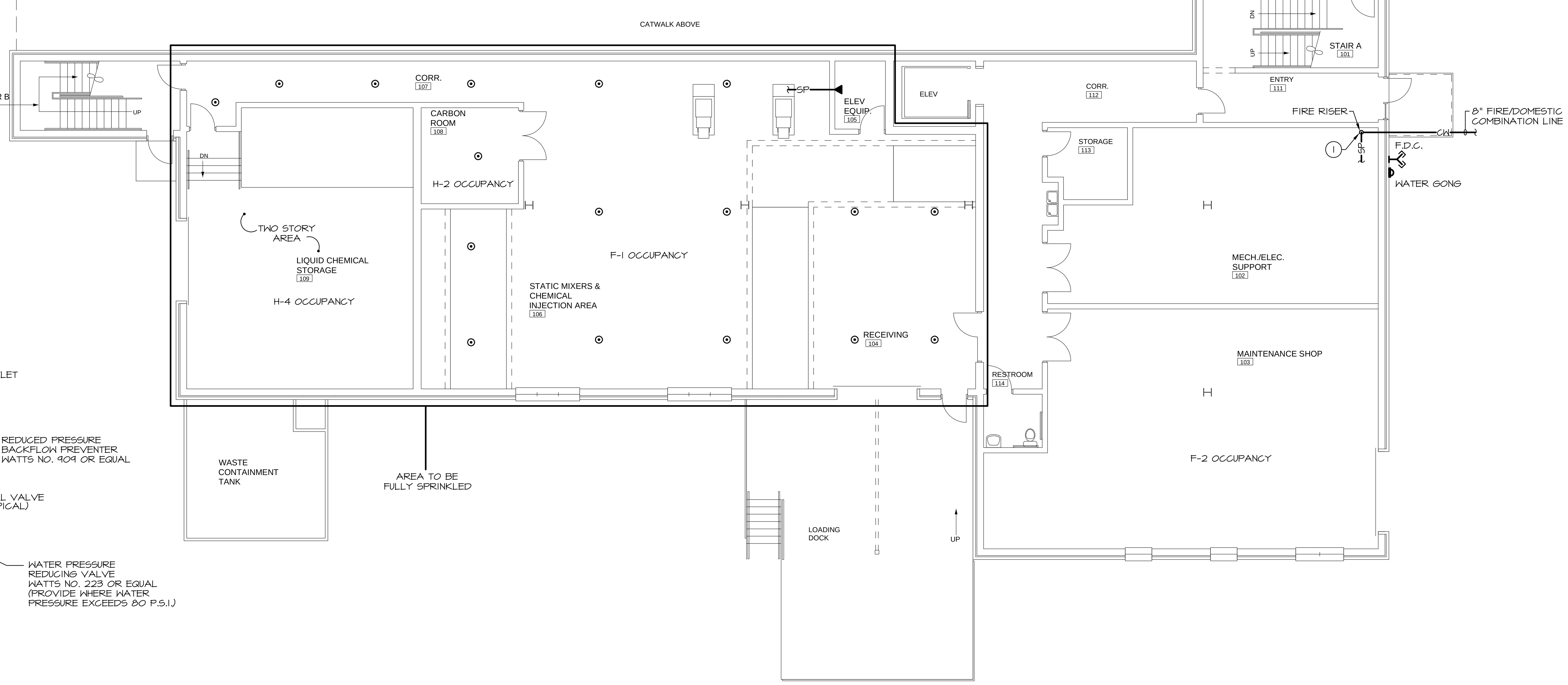
AUSTINVILLE WATER TREATMENT PLANT (DIVISION I)
AUSTINVILLE VIRGINIA

DRAWN BY: TFS
REVIEW BY: MAR
DATE: 20 OCTOBER 2006
REVISION:
DWG DESCRIPTION: VALVE VAULT ELECTRICAL PLANS

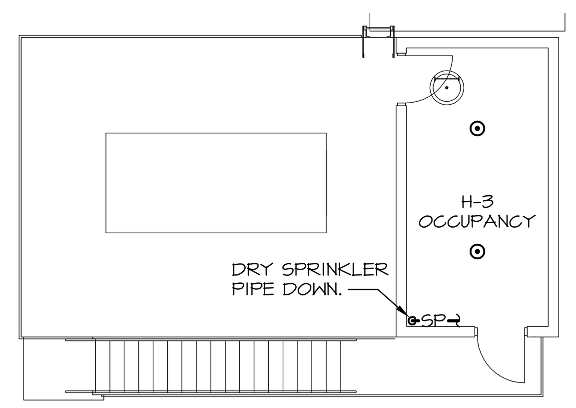
E16

JN: 04 - 02

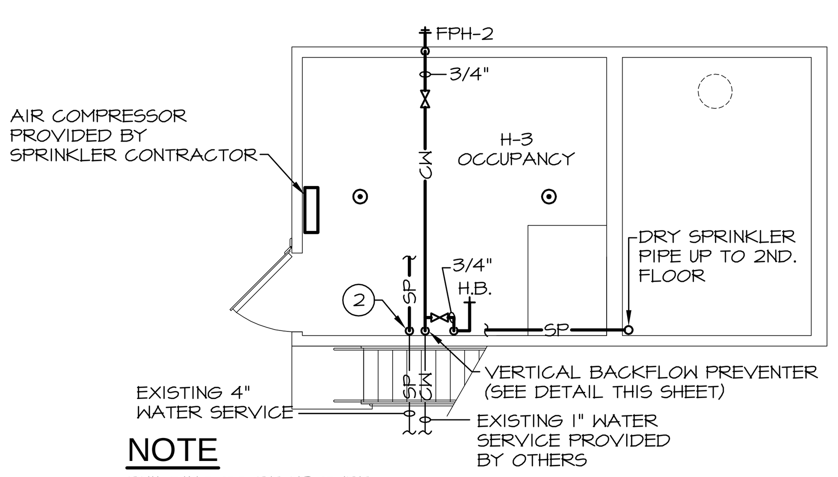
FIRE PROTECTION LEGEND

- ⊙ UPRIGHT SPRINKLER HEAD
- ◄ SIDEWALL SPRINKLER
- —CW— COMBINATION FIRE/WATER LINE
- —SP— SPRINKLER LINE
- X-X OCCUPANCY — CLASSIFICATION OF OCCUPANCY (SEE P01 OF TYPE)



RAW WATER INTAKE BUILDING FIRST FLOOR - FIRE PROTECTION PLAN

SCALE: 1/8" = 1'

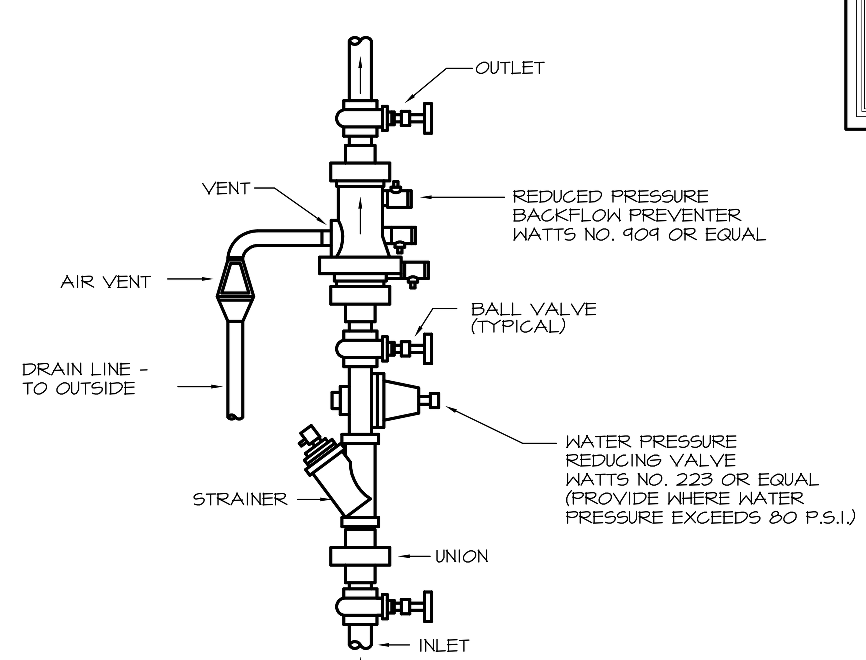


NOTE

BUILDING TO BE H3 TYPE LIMITED SPRINKLERED BLDG.

RAW WATER INTAKE BUILDING FIRST FLOOR - FIRE PROTECTION PLAN

SCALE: 1/8" = 1'



VERTICAL REDUCED PRESSURE BACKFLOW PREVENTER

NO SCALE

FIRST FLOOR - FIRE PROTECTION PLAN

SCALE: 1/8" = 1'

PLAN NOTES

1. WET SPRINKLER MAIN TO SYSTEM. PIPING TO BE SIZED BY SPRINKLER CONTRACTOR.
2. DRY SPRINKLER RISER. PIPING TO BE SIZED BY SPRINKLER CONTRACTOR.

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AUSTINVILLE WATER TREATMENT PLANT (DIVISION I)

AUSTINVILLE VIRGINIA

DRAWN BY: JT

REVIEW BY: SHW

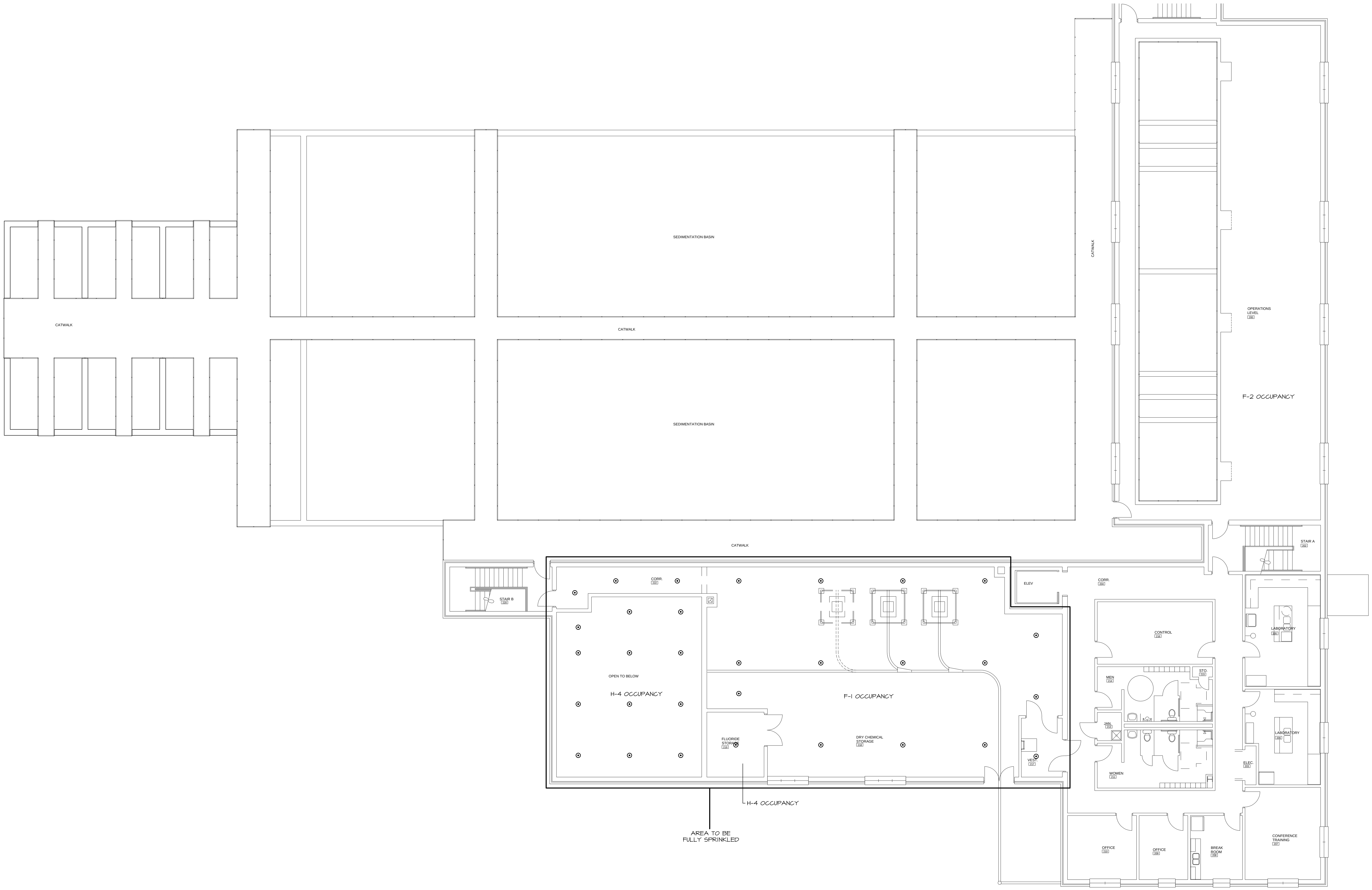
DATE: 20 OCTOBER 2006

REVISION:

DWG DESCRIPTION: TREATMENT BUILDING FIRST FLOOR - FIRE PROTECTION PLAN

FP01

JN: 04 - 02



SECOND FLOOR - FIRE PROTECTION

SCALE: 1/8" = 1'

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AUSTINVILLE WATER TREATMENT PLANT (DIVISION I)

AUSTINVILLE VIRGINIA

DRAWN BY:
JT

REVIEW BY:
SHW

DATE:
20 OCTOBER 2006

REVISION:

DWG DESCRIPTION:
TREATMENT BUILDING SECOND FLOOR - FIRE PROTECTION PLAN

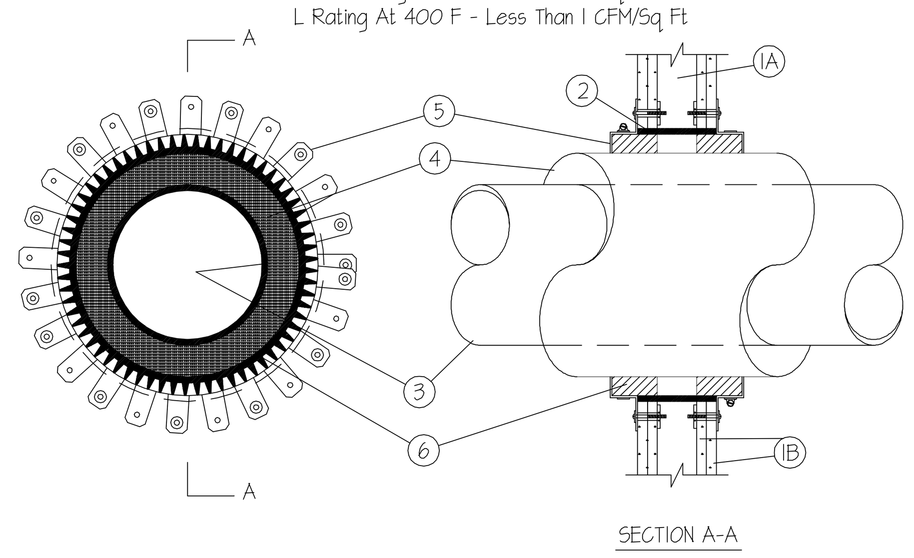
FP02

JN: 04 - 02

System No. W-L-5025

WL 5025

F Ratings - 1 and 2 Hr
T Ratings - 1 and 2 Hr
L Rating At Ambient - 4 CFM/Sq Ft
L Rating At 400 F - Less Than 1 CFM/Sq Ft



SECTION A-A

1. Wall Assembly – The 1 or 2 hr fire-rated gypsum wallboard/stud wall assembly shall be constructed of the materials and in the manner specified in the individual U300 or U400 Series Wall and Partition Designs in the UL Fire Resistance Directory and shall include the following construction features:
   A. Studs – Wall framing may consist of either wood studs or steel channel studs. Wood studs to consist of nom 2 by 4 in. lumber spaced 16 in. OC. Steel studs to be min 2-1/2 in. wide and spaced max 24 in. OC.
   B. Wallboard, Gypsum* – 5/8 in. thick, 4 ft wide with square or tapered edges. The gypsum wallboard type, number of layers, fastener type and sheet orientation shall be as specified in the individual Wall and Partition Design. Max diam of opening is 14-1/2 in. for wood stud walls and 18 in. for steel stud walls.
2. Metallic Sleeve – (Optional) – Nom 18 in. diam (or smaller) Schedule 40 (or thinner) steel pipe cast into wall assembly with joint compound and installed flush with wall surfaces.

HILTI® FIRESTOP SYSTEMS

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Revised 08, Oct. 1999

CLASSIFIED C UL US

Page: 1 of 2

System No. W-L-5025

WL 5025

F Ratings - 1 and 2 Hr
T Ratings - 1 and 2 Hr
L Rating At Ambient - 4 CFM/Sq Ft
L Rating At 400 F - Less Than 1 CFM/Sq Ft

3. Through-Penetrants – One metallic pipe, conduit or tubing to be centered within the firestop system. Pipe, conduit or tubing to be rigidly supported on both sides of wall assembly. The following types and sizes of metallic pipes, conduits or tubing may be used:
   A. Steel Pipe – Nom 10 in. diam (or smaller) Schedule 10 (or heavier) steel pipe.
   B. Conduit – Nom 4 in. diam (or smaller) steel electrical metallic tubing or steel conduit.
   C. Copper Tubing – Nom 4 in. diam (or smaller) Type L (or heavier) copper tubing.
   D. Copper Pipe – Nom 4 in. diam (or smaller) Regular (or heavier) copper pipe.
4. Pipe Covering* – Nom 2 in. thick hollow cylindrical heavy density (min 3.5 pcf) glass fiber units jacketed on the outside with an all service jacket. Longitudinal joints sealed with metal fasteners or factory-applied self-sealing lap tape. Transverse joints secured with metal fasteners or with butt tape supplied with the product. A nom annular space of 1-1/8 in. is required within the firestop system.
   See Pipe and Equipment Covering – Materials (BRGU) category in the Building Material Directory for the names of manufacturers. Any pipe covering material meeting the above specifications and bearing the UL Classification Marking with a Flame Spread Index of 25 or less and a Smoke Developed Index of 50 or less may be used.
5. Steel Collar – Collar fabricated from precut 0.017 in. thick (28 MSG) galv sheet steel available from the sealant manufacturer. Collar shall be nom 2 in. deep with min 1-1/4 in. wide by 2 in. long anchor tabs for securement to wall surface. Retainer tabs, 1/4 in. wide by 3/4 in. long and located opposite the anchor tabs are folded 90 degrees toward pipe surface to maintain the annular space around the pipe and to retain the fill material. Collar secured to surface of wall with 1/4 in. toggle bolts. A nom 1/2 in. wide stainless steel hose clamp was secured to each of the collars at mid-depth.
6. Fill, Void or Cavity Material* – Sealant – In 1 hr fire rated assemblies, min 5/8 in. thickness of fill material applied within the annulus. In 2 hr fire rated assemblies, min 1-1/4 in. thickness of fill material applied within the annulus. Additional fill material applied to completely fill the collars.
   HILTI, Inc. – FS611A Sealant or FS-ONE Sealant
   (Note: L Ratings apply only when FS-ONE Sealant is used).

*Bearing the UL Classification Marking

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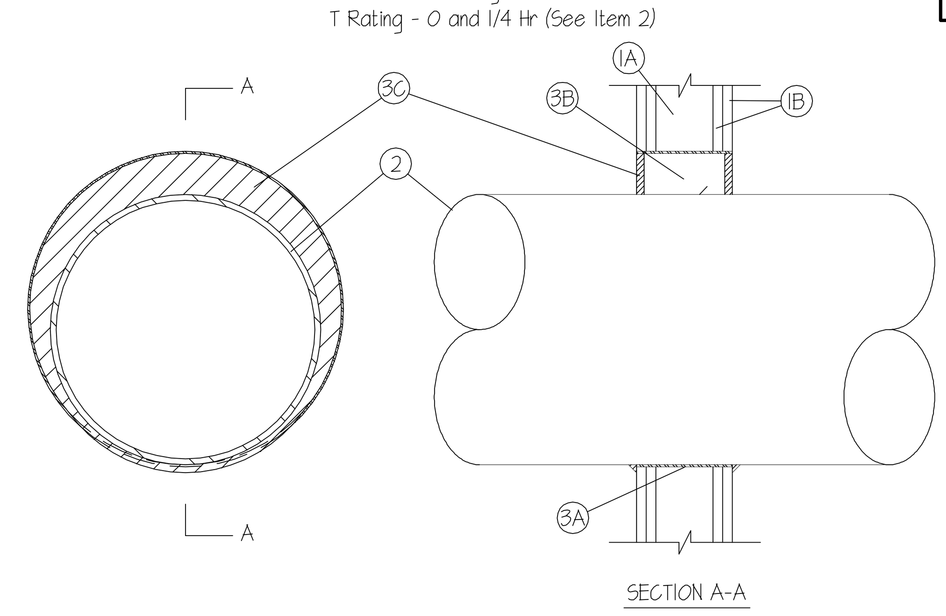
Page: 2 of 2

System No. W-L-1058

WL 1058

F Rating - 2 Hr
T Rating - 0 and 1/4 Hr (See Item 2)



SECTION A-A

1. Wall Assembly – The fire-rated gypsum wallboard/stud wall assembly shall be constructed of the materials and in the manner specified in the individual U300 or U400 Series Wall and Partition Designs in the UL Fire Resistance Directory and shall include the following construction features:
   A. Studs – Wall framing may consist of either wood studs or steel channel studs. Wood studs to consist of nom 2 by 4 in. lumber spaced 16 in. OC. Steel studs to be min 2-1/2 in. wide and spaced max 24 in. OC.
   B. Wallboard, Gypsum* – Two layers of nom 5/8 in. thick gypsum wallboard, as specified in the individual Wall and Partition Design. Max diam of opening is 14-1/2 in. for wood stud walls and 20 in. for steel stud walls. Diam of circular through opening to be min 3/8 in. to max 2-3/4 in. larger than diam of through penetrants (Item 2).

HILTI® FIRESTOP SYSTEMS

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Page: 1 of 2

System No. W-L-1058

WL 1058

F Rating - 2 Hr
T Rating - 0 and 1/4 Hr (See Item 2)

2. Through-Penetrants – One metallic pipe or tubing to be installed either concentrically or eccentrically within the firestop system. Pipe or tubing to be rigidly supported on both sides of wall assembly. The following types and sizes of metallic pipes or tubing may be used:
   A. Steel Pipe – 17-1/4 in. diam (or smaller) by 0.125 (or heavier) steel pipe. The annular space shall be min 0 to max 2-3/4 in. The T Rating is 1/4 hr when steel pipe is used.
   B. Copper Tubing – Nom 4 in. diam (or smaller) Type L (or heavier) copper tubing. The annular space shall be min 0 to max 3 in. The T rating is 0 hr when copper tubing is used.
   C. Copper Pipe – Nom 4 in. diam (or smaller) regular (or heavier) copper pipe. The annular space shall be min. 0 to max 3 in. The T rating is 0 hr when copper pipe is used.
3. Firestop System – The firestop system shall consist of the following:
   A. Steel Wire Mesh – No. 8 steel wire mesh having a min 1 in. lap along the longitudinal seam. Length of steel wire mesh to be 4-3/4 in., centered and formed to fit periphery of through opening.
   B. Packing Material – Min 4-1/2 in. thickness of flexible urethane sheet firmly packed into opening as a permanent form. Packing material to be recessed from both surfaces of wall as required to accommodate the required thickness of fill material.
   C. Fill, Void or Cavity Material* – Sealant – Min 1/4 in. thickness of fill material applied within the annulus, flush with both surfaces of wall. At the point contact location between pipe and wall, a min 1/2 in. diam bead of caulk shall be applied at the wall/pipe interface on both surfaces of wall assembly.
      HILTI, Inc. – FS605 or FS-ONE Sealant

*Bearing the UL Classification Marking

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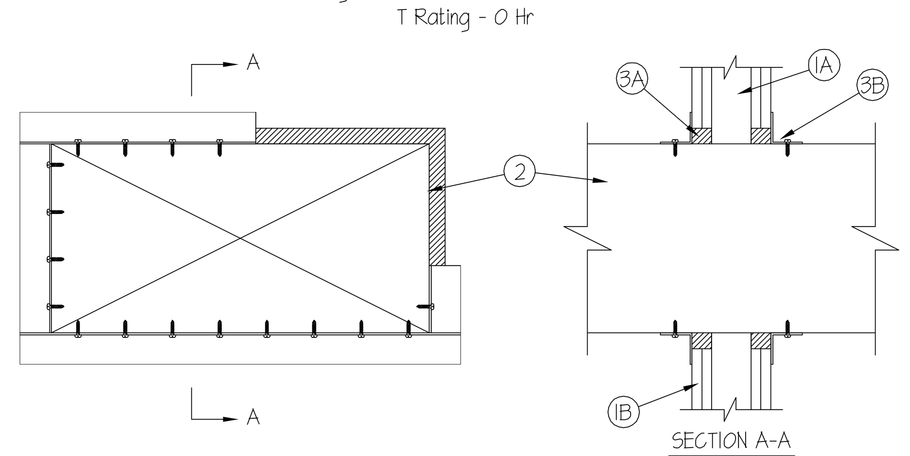
Page: 2 of 2

System No. W-L-7040

WL 7040

F Ratings - 1 and 2 Hr (See Items 1 and 3)
T Rating - 0 Hr



SECTION A-A

1. Wall Assembly – The fire-rated gypsum wallboard/stud wall assembly shall be constructed of the materials and in the manner specified in the individual U300 or U400 Series Wall and Partition Designs in the Fire Resistance Directory and shall include the following construction features:
   A. Studs – Wall framing may consist of either wood studs or steel channel studs. Wood studs to consist of nom 2 by 4 in. lumber spaced 16 in. OC. Steel studs to be min 2-1/2 in. wide and spaced max 24 in.
   B. Wallboard, Gypsum* – Nom 5/8 in. thick with square or tapered edges. The gypsum wallboard type, number of layers and sheet orientation shall be as specified in the individual Wall and Partition Design Number. Max area of opening is 333 in. with the dimension of 25-1/8 in.
   The hourly F rating of the firestop system is equal to the hourly fire rating of the wall assembly in which it is installed.
2. Steel Duct – Nom 12 in. by 24 in. (or smaller) No. 24 gauge (or heavier) galv steel duct to be installed within the firestop system. The annular space shall be min 1/4 in. to a max 1 in. Duct to be rigidly supported on both sides of the wall assembly.
3. Firestop System – The firestop system shall consist of the following:
   A. Fill, Void or Cavity Material* – Sealant – In 1 Hr assemblies, min 5/8 in. thickness of fill material applied within annulus flush with both surfaces of wall. In 2 Hr assemblies, min 1-1/4 in. thickness of sealant applied within annulus flush with both surfaces of wall.
      HILTI, Inc. – CP601S Elastomeric Firestop Sealant
   B. Steel Retaining Angle – Min 2 in. by 2 in. No. 16 MSG (0.060 in.) galv steel angles cut to fit contour of duct with a 2 in. overlap on both surfaces of wall. Vertical leg of angle secured to duct with min No. 8 by 3/4 in. long sheet metal screws per side, spaced a max of 3 in. OC.

*Bearing the UL Classification Marking

HILTI® FIRESTOP SYSTEMS

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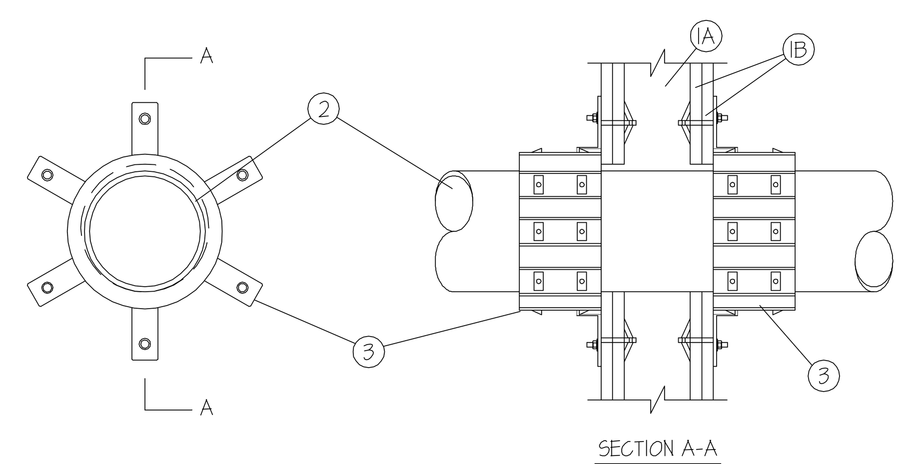
System No. W-L-2078

WL 2078

F Ratings - 1 & 2 Hr (See Item 1)
T Ratings - 1 & 2 Hr (see Item 1)



SECTION A-A

1. Wall Assembly – The fire-rated gypsum wallboard/stud wall assembly shall be constructed of the materials and in the manner specified in the individual U300 or U400 Series Wall and Partition Designs in the UL Fire Resistance Directory and shall include the construction features noted below. The hourly F Rating and T Rating of the firestop system is equal to the hourly fire rating of the wall assembly in which it is installed:
   A. Studs – Wall framing may consist of either wood studs or steel channel studs. Wood studs to consist of nom 2 by 4 in. lumber spaced 16 in. OC. Steel studs to be min 2-1/2 in. wide and spaced max 24 in. OC.
   B. Wallboard, Gypsum* – Nom 5/8 in. thick gypsum wallboard, as specified in the individual Wall and Partition Design. Max diam of opening is 7 in.

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Revised 04, Oct. 1999

UL

Page: 1 of 2

System No. W-L-2078

WL 2078

F Ratings - 1 & 2 Hr (See Item 1)
T Ratings - 1 & 2 Hr (see Item 1)

2. Through-Penetrants – One nonmetallic pipe, conduit or tubing to be installed within the firestop system. The annular space between pipe and periphery of opening shall be min 0 in. (point contact) to max 1/2 in. Pipe or conduit to be rigidly supported on both sides of the wall assembly. The following types and sizes of nonmetallic pipes may be used:
   A. Polyvinyl Chloride (PVC) Pipe – Nom 6 in. diam (or smaller) Schedule 40 solid-core or cellular core PVC pipe for use in closed (process or supply) or vented (drain, waste or vent) piping system.
   B. Chlorinated Polyvinyl Chloride (CPVC) Pipe – Nom 6 in. diam (or smaller) SDR17 CPVC pipe for use in closed (process or supply) or vented (drain, waste or vent) piping systems.
   C. Acrylonitrile Butadiene Styrene (ABS) Pipe – Nom 6 in. diam (or smaller) Schedule 40 solid-core or cellular core ABS pipe for use in closed (process or supply) or vented (drain, waste or vent) piping systems
   D. Flame Retardant Polypropylene (FRPP) Pipe – Nom 6 in. diam (or smaller) Schedule 40 FRPP pipe for use in closed (process or supply) or vented (drain, waste or vent) piping system.
3. Firestop Device* – Firestop Collar – Firestop collar shall be installed in accordance with the accompanying installation instructions. Collar to be installed and latched around the pipe and secured to both sides of the wall using the anchor hooks provided with the collar. (Minimum 2 anchor hooks for 1-1/2 and 2 in. diam pipes, 3 anchor hooks for 3 and 4 in. diam pipes, and 6 anchor hooks for 6 in. diam pipes). The anchor hooks are to be secured to the surface of wall with 3/16 2-1/2 in. long toggle bolts along with washers.
   HILTI, Inc. – CP 643 50/1.5", CP 643 63/2",
   CP 643 90/3", CP 643 110/4" or CP 642 160/6" Firestop Collar

*Bearing the UL Classification Marking

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Page: 2 of 2

FIRE PENETRATION NOTE
THESE DETAILS APPLY TO ALL TRADES: MECHANICAL, ELECTRICAL & PLUMBING

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AUSTINVILLE WATER TREATMENT PLANT (DIVISION I)

AUSTINVILLE VIRGINIA

DRAWN BY:
TW

REVIEW BY:
SHW

DATE:
20 OCTOBER 2006

REVISION:

DWG DESCRIPTION:
FIRE PENETRATION DETAILS

MEP01

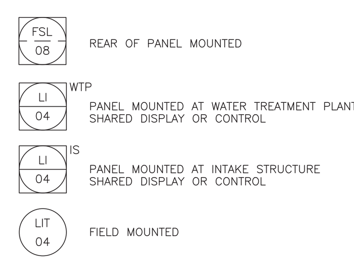
JN: 04 - 02

NOTES:

1. MOTOR RUNS WHEN EITHER RAW WATER PUMP #1 OR RAW WATER PUMP #2 RUNS. PACING OF THE CHEMICAL FEED PUMPS IS DETERMINED BY INFLUENT FLOW TO THE PLANT.

2. VALVE IS CLOSED WHEN BOTH RAW WATER PUMPS ARE OFF. AFTER EITHER RAW WATER PUMP STARTS AND AFTER TIME DELAY, VALVE OPENS AND CONTROLS FLOW RATE.

3. DUST COLECTOR RUNS ACCORDING TO TIMER SETPOINT OR BY LIGHT SWITCH ON ENTRY. AUTOMATIC OPERATION OF THE EXHAUST FAN STARTER IS INTERLOCKED WITH DUST COLLECTOR STARTER. THE EXHAUST FAN RUNS WITH EVER THE DUST COLLECTOR RUNS.



	FIRST LETTER				
	FIRST LETTER		SUCCEEDING LETTERS		
	MEASURED OR INITIATING VARIABLE	MODIFIER	READOUT OR PASSIVE FUNCTION	OUTPUT FUNCTION	MODIFIER
A			ALARM		
B					
C	CHLORINE			CONTROL	
D	STREAMING CURRENT	DIFFERENTIAL			
E			ELEMENT		
F	FLOW RATE	RATIO			
G					
H					HIGH
I			INDICATE		
J					
K					
L	LEVEL				LOW
M	MOTOR				
N	pH				
O			ORIFICE		
P	PRESSURE				
Q					
R			RECORD	RECORD	
S			SWITCH	SWITCH	
T				TRANSMIT	
U					
V	VALVE				
W	WEIGHT				
X					
Y	TURBIDITY			TOTAL	
Z					

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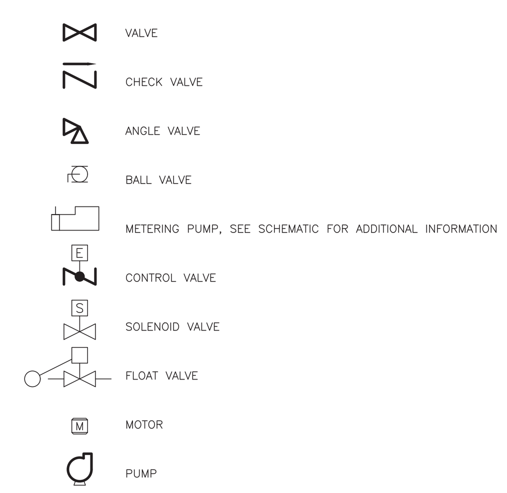
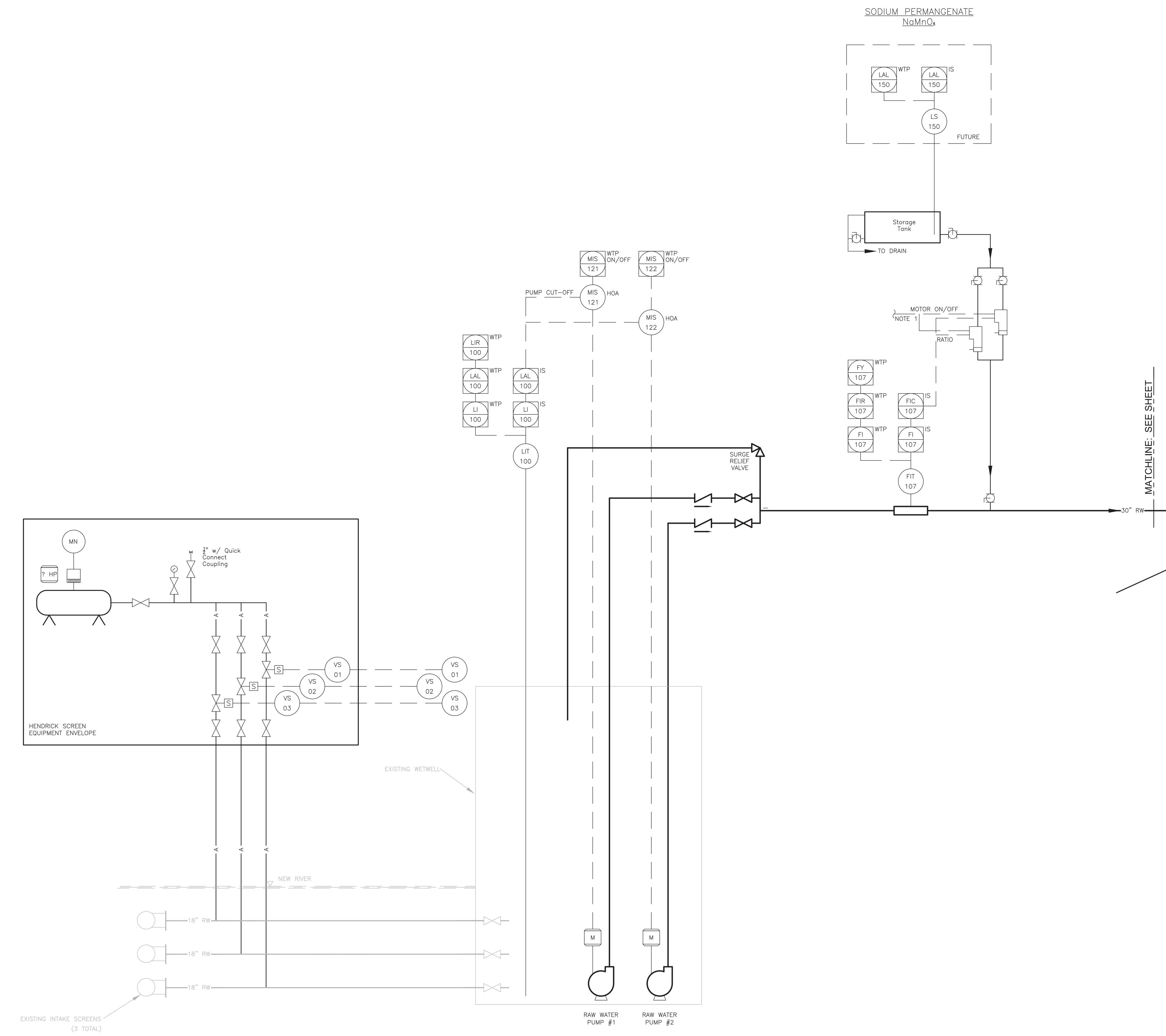


ABBREVIATIONS CWT Chemical waste tank

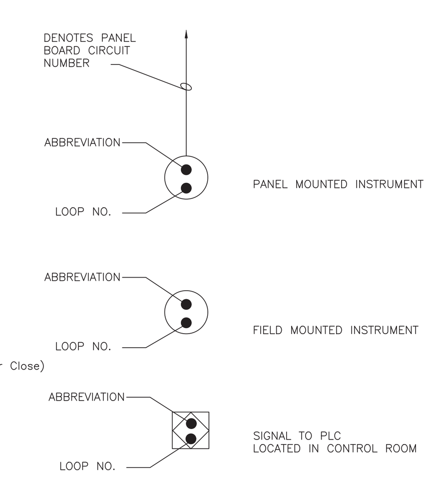
Finish legend, abbreviations, etc

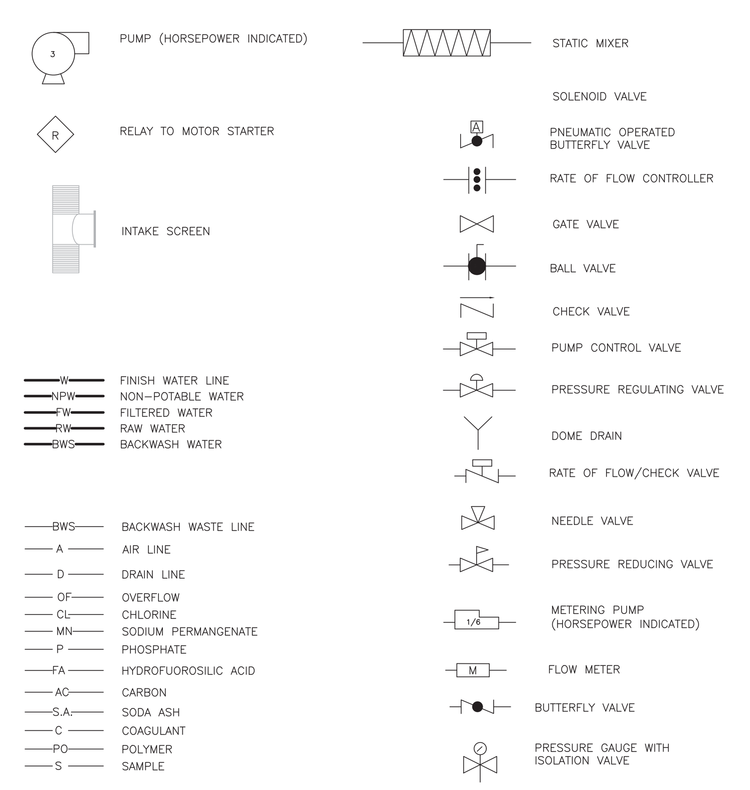


INTAKE STRUCTURE

ABBREVIATIONS

HOA	Hand Off Auto Switch	LMS	Limit Switch
VSC	Valve Switch Console	LSW	Level Switch (energizes pump on/off)
VSA	Valve Switch Adjustable	MN	Motor Status and Control (Start/Stop)
FI	Flow Indicator	MS	Motor Status (On/Off)
FIT	Flow Indicator Transmitter	PI	Pressure Indicator
FS	Flow Sensor	PS	Pressure Sensor
LA	Local Alarm/ Audio Visual	P/L	Pressure to Level Converter
LAH	Level Alarm High	PSW	Pressure Switch
LAL	Level Alarm Low	ST	Sample Tap
LI	Level Indicator	SV	System Vent
LIT	Level Indicator Transmitter	TI	Turbidity Indicator
LS	Level Sensor	TIT	Turbidity Indicator Transmitter
FLS	Fluoride Sensor	TS	Turbidity Sensor
CS	Chlorine Sensor	VP	Valve Position (w/Limit Switch to Indicate Open or Close)
FLIT	Fluoride Indicator Transmitter	VS	Valve Switch (w/Open or Close Indicator)
HOS	Hand Off Switch	CWT	CHEMICAL WASTE TANK
VSC	Valve Switch Console		
VSC	Valve Switch Modulating		





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AUSTINVILLE WATER TREATMENT PLANT (DIVISION I)

AUSTINVILLE VIRGINIA

DRAWN BY:
J. CONNER

REVIEW BY:
R. DAVIS

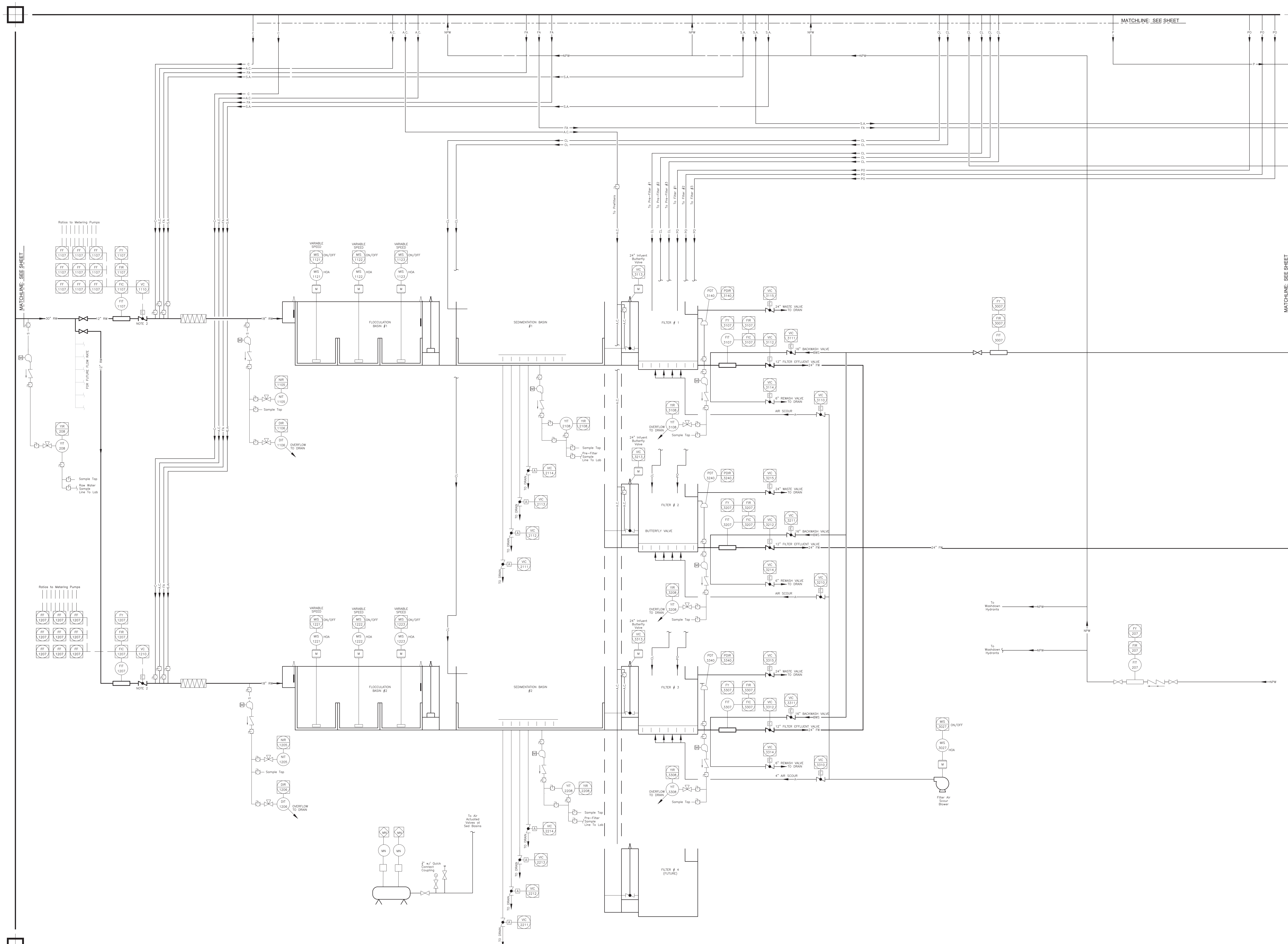
DATE:
20 OCTOBER 2006

REVISION:

DWG DESCRIPTION:
PIPING & INSTRUMENTATION DIAGRAM - RAW WATER INTAKE

I01

JN: 04 - 02



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AUSTINVILLE WATER TREATMENT PLANT (DIVISION I)

AUSTINVILLE VIRGINIA

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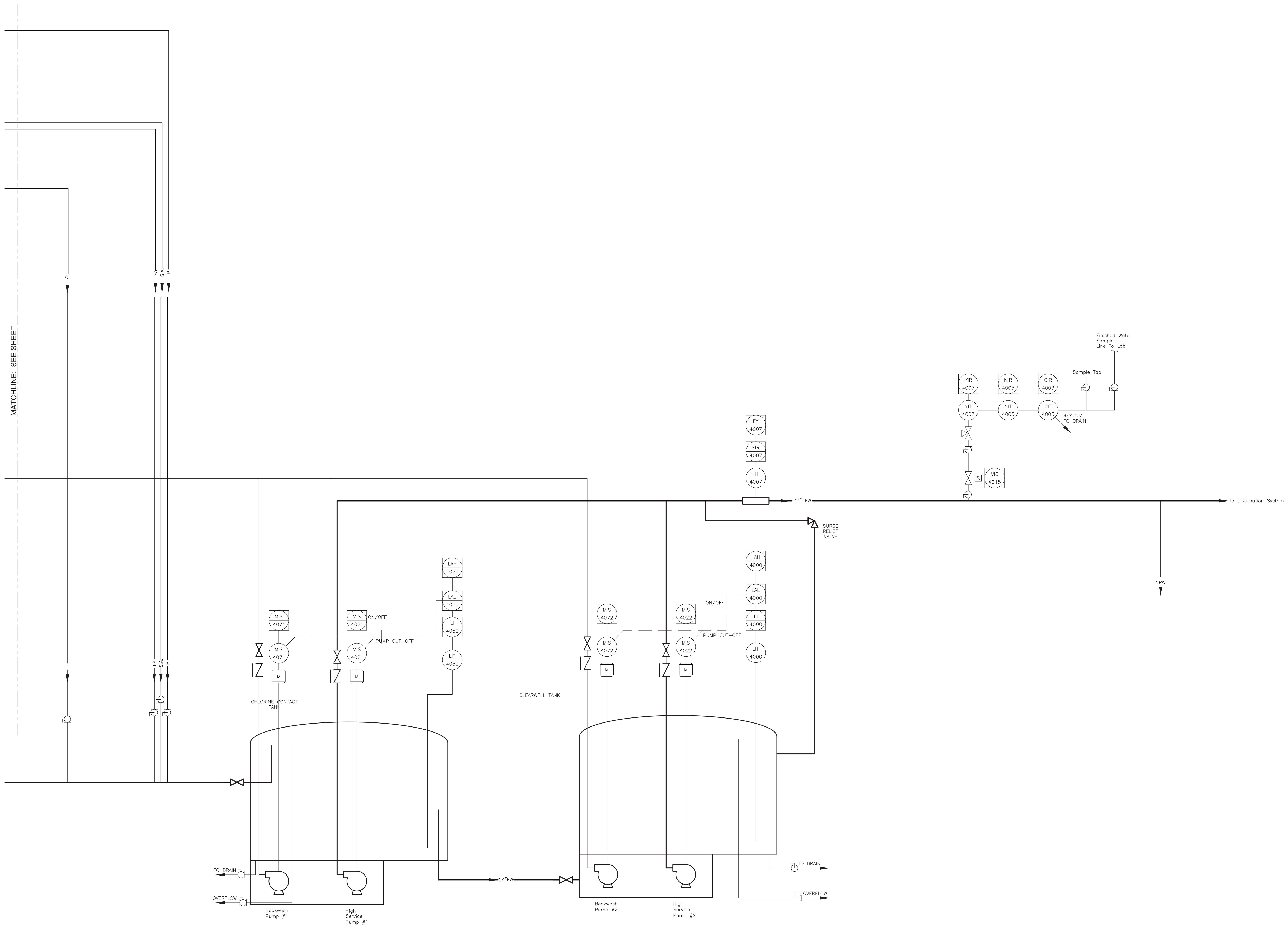
DATE:
20 OCTOBER 2006

REVISION:

DWG DESCRIPTION:
PIPING & INSTRUMENTATION DIAGRAM - TREATMENT PLANT

I02

JN: 04 - 02



DISTRIBUTION SYSTEM

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AUSTINVILLE WATER TREATMENT PLANT (DIVISION I)

AUSTINVILLE VIRGINIA

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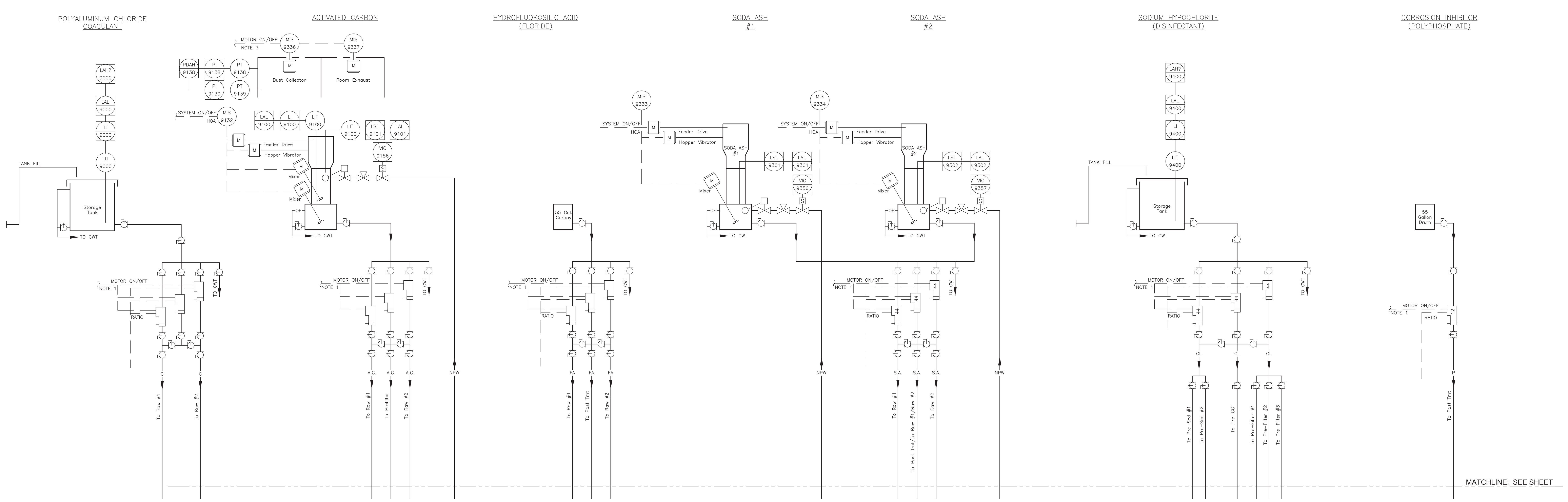
DATE:
20 OCTOBER 2006

REVISION:

DWG DESCRIPTION:
PIPING & INSTRUMENTATION DIAGRAM - DISTRIBUTION SYSTEM

I03

JN: 04 - 02



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AUSTINVILLE WATER TREATMENT PLANT (DIVISION I)

AUSTINVILLE VIRGINIA

DRAWN BY:
J. CONNER

REVIEW BY:
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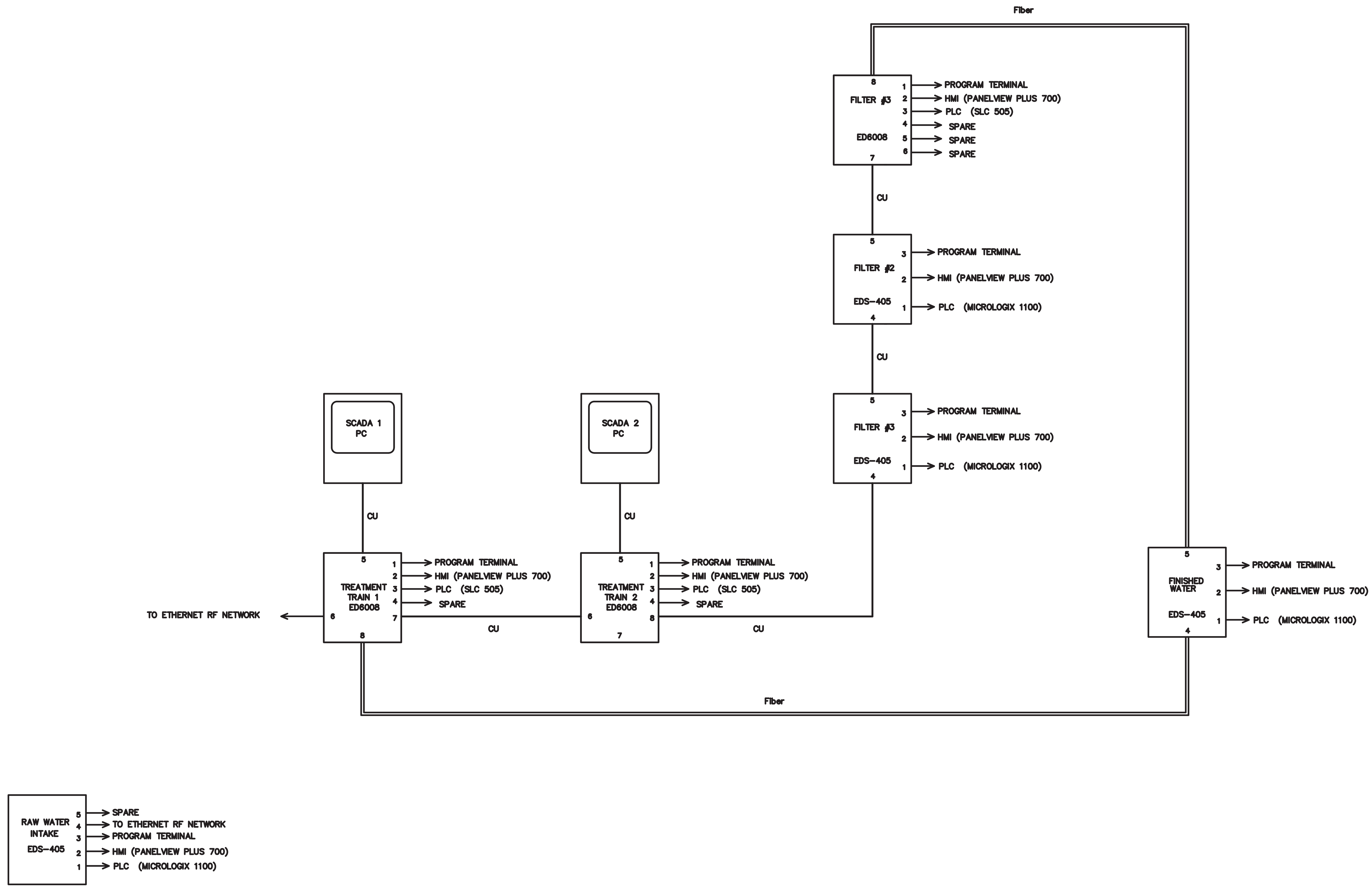
DATE:
20 OCTOBER 2006

REVISION:

DWG DESCRIPTION:
PIPING & INSTRUMENTATION DIAGRAM - CHEMICAL FEED

I04

JN: 04 - 02



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AUSTINVILLE WATER TREATMENT PLANT

(DIVISION I)

AUSTINVILLE VIRGINIA

DRAWN BY: J. CONNER

REVIEW BY: R. DAVIS

DATE: 20 OCTOBER 2006

REVISION:

DWG DESCRIPTION: NETWORK ARCHITECTURE DIAGRAM

I05

JN: 04 - 02

INTAKE CONSTRUCTION
DRAWING - I GB 308

R01

INTAKE CONSTRUCTION
DRAWING - I GB 377

R02