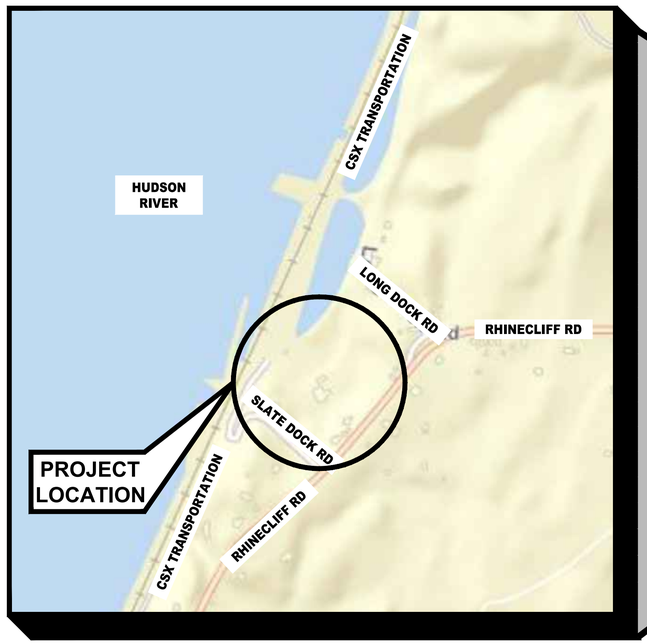
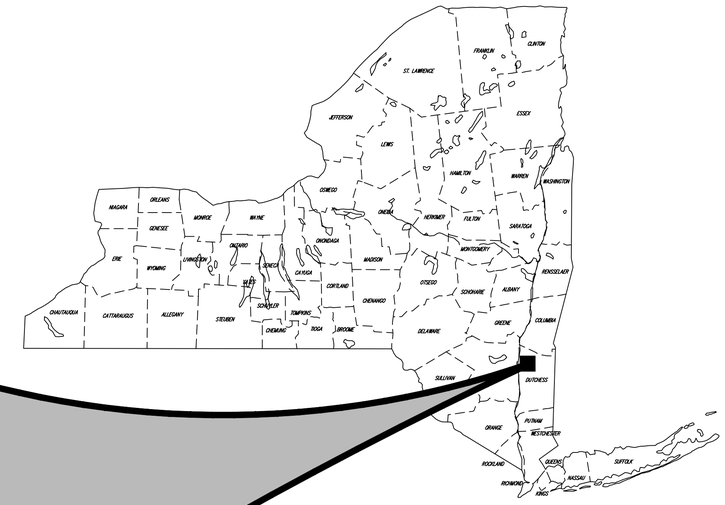
VILLAGE OF RHINEBECK WTP IMPROVEMENTS

VILLAGE OF RHINEBECK , DUTCHESS COUNTY, NEW YORK

DWSRF: 18918

BID PLANS





LOCATION MAP

SCALE: 1" = 500'

76 SLATE DOCK RD, RHINEBECK, NY 12572

NORTH

OCTOBER 2024

PREPARED BY:

DELAWARE ENGINEERING, D.P.C.

CIVIL AND ENVIRONMENTAL ENGINEERING

28 MADISON AVENUE EXTENSION, ALBANY, NY 12203 - 518.452.1290
55 SOUTH MAIN ST, ONEONTA, NY 13820 - 607.432.8073
31 NORTH MAIN STREET, LIBERTY, NY 12754 - 845.747.9952
6 TOWNSEND STREET, WALTON, NY 13856 - 607.865.9235
16 EAST MARKET ST., RED HOOK, NY 12571 - 518.452.1290
548 BROADWAY, MONTICELLO, NY 12701 - 845.791.7777

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DATE: 10/10/2024
DRAWN BY: MANTASA
SCALE: AS SHOWN
REVIEWED BY: RF
PROJECT NO.: ---
FILE:

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STATE OF NEW YORK — ANTHONY MONTAS — 086198 — LICENSED PROFESSIONAL ENGINEER

REVISIONS

NO.	DATE	DESCRIPTION
1.	06/21/24	MAY 2024 DOH COMMENTS
2.	10/02/24	SEPT. 24 DOH COMMENTS

RHINEBECK WTP
PLANT IMPROVEMENTS
VILLAGE OF RHINEBECK
DUTCHESS COUNTY, NEW YORK

COVER

SHEET: G-001

File: H:\DRAWINGS\RHINEBECK (VA22-2496 WTP)\G-001 - 002 - COVER & INDEX.DWG Saved: 10/10/2024 8:13:22 PM Plotted: 10/10/2024 3:58:55 PM User: Anthony Montas LastSavedBy: montas

GENERAL CONSTRUCTION NOTES:

1. THE CONTRACTOR SHALL EXAMINE AND VERIFY, IN THE FIELD, ALL CONDITIONS AND DIMENSIONS. DIMENSIONS OF THE EXISTING STRUCTURES SHOWN ON THESE PLANS ARE FOR GENERAL REFERENCE ONLY. THEY HAVE BEEN TAKEN FROM THE ORIGINAL CONSTRUCTION OR SUBSEQUENT REHABILITATION DRAWINGS AND ARE NOT GUARANTEED. THE CONTRACTOR SHALL TAKE ALL SUCH FIELD MEASUREMENTS TO ASSURE PROPER FIT OF THE FINISHED WORK, AND THE CONTRACTOR SHALL ASSUME FULL RESPONSIBILITY FOR THEIR ACCURACY. IF FIELD CONDITIONS AND DIMENSIONS DIFFER FROM THOSE SHOWN ON THE PLANS, THE CONTRACTOR SHALL USE THE FIELD CONDITIONS AND DIMENSIONS AND MAKE THE APPROPRIATE CHANGES TO THOSE SHOWN ON THE PLANS, AS APPROVED BY THE ENGINEER. WHEN SHOP DRAWINGS BASED ON FIELD MEASUREMENTS ARE SUBMITTED FOR APPROVAL, THE FIELD MEASUREMENTS MADE SHALL BE INDICATED ON THE SHOP DRAWINGS SUBMITTED FOR REFERENCE OF THE REVIEWER.

2. THERE SHALL BE NO CLAIM AGAINST THE OWNER MADE BY THE CONTRACTOR FOR WORK PERTAINING TO MODIFICATIONS, AS MAY BE REQUIRED, DUE TO ANY DIFFERENCE BETWEEN ACTUAL FIELD CONDITIONS AND THOSE SHOWN BY THE DETAILS AND DIMENSIONS ON THE CONTRACT PLANS. THE CONTRACTOR WILL BE PAID AT A LUMP SUM OR THE UNIT BID PRICE FOR THE ACTUAL QUANTITIES OF MATERIALS USED OR FOR THE WORK PERFORMED, AS INDICATED BY THE VARIOUS ITEMS IN THE CONTRACT. THE CONTRACTOR SHOULD NOTE THAT ADDITIONAL WORK MAY BE REQUIRED AS THE CONTRACT PROGRESSES, WHICH IS NOT SHOWN OR NOTED ON THE PLANS. THIS WORK SHALL BE PERFORMED BY THE CONTRACTOR, AS ORDERED BY THE ENGINEER, AND PAYMENT SHALL BE MADE AT THE BID PRICE FOR THE APPROPRIATE ITEMS. THE CONTRACTOR'S ATTENTION IS DIRECTED TO THE FACT THAT, DUE TO THE NATURE OF REPLACEMENT PROJECTS, THE EXACT EXTENT OF REPLACEMENT WORK CANNOT ALWAYS BE ACCURATELY DETERMINED PRIOR TO THE COMMENCEMENT OF WORK. THESE CONTRACT DOCUMENTS HAVE BEEN PREPARED BASED ON FIELD INSPECTION AND OTHER INFORMATION AVAILABLE AT THE TIME. ACTUAL FIELD CONDITIONS MAY REQUIRE MODIFICATIONS TO CONSTRUCTION DETAILS AND WORK QUANTITIES. THE CONTRACTOR SHALL PERFORM THE WORK IN ACCORDANCE WITH FIELD CONDITIONS.

3. THE CONTRACTOR WILL BE HELD RESPONSIBLE FOR ALL DAMAGE TO THE EXISTING STRUCTURES CAUSED BY HIS OPERATIONS WHICH IS NOT INCLUDED AS PART OF THIS WORK. ALL DAMAGE TO THE EXISTING STRUCTURES WHICH IS NOT PART OF THE INTENDED WORK SHALL BE REPAIRED BY THE CONTRACTOR WITHOUT COST TO THE OWNER, AND TO THE SATISFACTION OF THE ENGINEER. THE CONTRACTOR SHALL CONDUCT HIS REMOVAL OPERATIONS TO THE SATISFACTION OF THE ENGINEER SO AS NOT TO UNDULY DISTURB UNDERLYING MATERIALS WHICH ARE TO REMAIN IN PLACE. THE CONTRACTOR SHALL PERFORM ALL WORK WITH CARE SO THAT ANY MATERIALS WHICH ARE TO REMAIN IN PLACE, OR WHICH ARE TO REMAIN THE PROPERTY OF THE OWNER, WILL NOT BE DAMAGED. IF THE CONTRACTOR DAMAGES ANY MATERIALS WHICH ARE TO REMAIN IN PLACE, OR WHICH ARE TO REMAIN THE PROPERTY OF THE OWNER, THE DAMAGED MATERIAL SHALL BE REPAIRED OR REPLACED IN A MANNER SATISFACTORY TO THE ENGINEER AT THE EXPENSE OF THE CONTRACTOR.

4. WHENEVER ITEMS IN THE CONTRACT REQUIRE MATERIALS TO BE REMOVED AND DISPOSED, THE COST OF SUPPLYING A LEGAL DISPOSAL AREA AND TRANSPORTATION TO THE AREA SHALL BE INCLUDED IN THE PRICE BID.

5. THE CONTRACTOR IS STRONGLY SUGGESTED TO VISIT THE SITE BEFORE BIDDING, TO BECOME FAMILIAR WITH THE FIELD CONDITIONS AND TO JUDGE THE EXTENT AND NATURE OF THE WORK TO BE DONE UNDER THIS CONTRACT. NO EXTRA COMPENSATION WILL BE ALLOWED TO THE CONTRACTOR BECAUSE OF THE CONTRACTOR'S FAILURE TO INCLUDE IN THEIR BID ALL ITEMS AND MATERIALS WHICH THEY ARE REQUIRED TO FURNISH IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.

6. ALL WORK AREAS AT THE SITE SHALL BE COMPLETELY SECURED, CONFORMING WITH OSHA REGULATIONS, TO THE SATISFACTION OF THE ENGINEER, TO PROTECT THE PUBLIC AND PREVENT UNAUTHORIZED ENTRY. THE COST OF THIS WORK IS TO BE INCLUDED IN THE VARIOUS ITEMS OF THE CONTRACT.

7. IT WILL BE THE CONTRACTOR'S OBLIGATION AND RESPONSIBILITY TO USE METHODS AND EQUIPMENT WHICH WILL INSURE THE SATISFACTORY COMPLETION OF THE REQUIRED WORK WITHIN THE TIME FRAME STIPULATED IN THE CONTRACT.

8. THE CONTRACTOR SHALL PROVIDE SURVEY AND STAKE OUT FOR THIS PROJECT. THE COST FOR THE SURVEY AND STAKE OUT SHALL BE INCLUDED IN THE UNIT PRICES BID FOR VARIOUS ITEMS OF THE CONTRACT REQUIRING SURVEY AND STAKEOUT.

9. LOCATION OF UTILITIES, PUBLIC AND/OR PRIVATE, INDICATED AS EXISTING AND/OR TO BE CONSTRUCTED AS SHOWN ON THE PLANS ARE APPROXIMATE ONLY. THEIR EXACT LOCATION SHALL BE DETERMINED IN THE FIELD. ADDITIONAL UTILITY LINES, WHETHER ABANDONED OR IN SERVICE, MAY EXIST AND IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO CONDUCT HIS OPERATIONS AND TAKE THE NECESSARY PRECAUTIONS TO PREVENT INTERFERENCE WITH, OR DAMAGE TO, THESE OR OTHER FACILITIES DURING THE COURSE OF CONSTRUCTION. CONTRACTOR SHALL HIRE LOCATING COMPANY TO PROVIDE LOCATE AND MARKOUT ON PRIVATE PROPERTY AT NO ADDITIONAL COST TO OWNER.

10. IN THE EVENT THE CONTRACTOR DAMAGES AN EXISTING UTILITY SERVICE CAUSING AN INTERRUPTION IN SAID SERVICE, THEY SHALL IMMEDIATELY COMMENCE WORK TO RESTORE SERVICE AND MAY NOT CEASE THE WORK OPERATION UNTIL SERVICE IS RESTORED.

11. THE CONTRACTOR SHALL CALL DIG SAFELY NEW YORK (DSNY) (1-800-962-7962) A MINIMUM OF THREE WORKING DAYS PRIOR TO ANY EXCAVATION TO HAVE EXISTING UNDERGROUND UTILITIES LOCATED IN THE FIELD. CONTRACTOR WILL BE RESPONSIBLE TO MAINTAIN ALL UTILITY LOCATIONS THROUGHOUT PROJECT.

12. AREAS DISTURBED BY THE CONTRACTOR AS PART OF THE WORK TO BE PERFORMED UNDER THIS CONTRACT, SHALL BE RESTORED TO PRECONSTRUCTION STANDARDS AND TO THE SATISFACTION OF THE ENGINEER. ALL THE DISTURBED GRASS AREAS SHALL BE GRADED AND SEEDED IN A MANNER APPROVED BY THE ENGINEER.

13. AS-BUILT DRAWINGS: DURING THE DAILY PROGRESS OF WORK, THE CONTRACTOR'S JOB SUPERINTENDENT SHALL RECORD ON THE FIELD SET OF DRAWINGS ALL WORK INSTALLED. ALL PIPING, VALVES, FITTINGS, FIRE HYDRANTS, ETC. SHALL BE LOCATED IN TWO DIRECTIONS. ONE LOCATION SHALL BE REFERENCED PERPENDICULAR TO THE RIGHT OF WAY LINES AND/OR PROPERTY LINES (PREFERABLY BOTH). SIZE, TYPE, AND CLASS OF PIPING, VALVES, FITTINGS, FIRE HYDRANTS, ETC. SHALL BE SHOWN (I.E. 8" CL 52 D.I.P., 6" GATE VALVE). ALL LOCATIONS WHERE THE TOP OF THE PIPING IS LESS THAN 60" DEEP OR MORE THAN 96" DEEP SHALL BE NOTED ON THE AS-BUILTS.

14. CLEAN-UP: ALL SURPLUS MATERIALS OF CONSTRUCTION SHALL BE REMOVED FROM THE SITE AND LEGALLY DISPOSED OF BY THE CONTRACTOR AS PART OF THE CONTRACT WITH THE OWNER. THERE SHALL BE NO ADDITIONAL PAYMENT FOR THIS WORK.

15. PERMITS: THE CONTRACTOR SHALL OBTAIN ANY NYSDOT PERMITS.

16. DEWATERING: THE CONTRACTOR SHALL AT ALL TIMES DURING CONSTRUCTION PROVIDE AMPLE MEANS AND EQUIPMENT WITH WHICH TO PROMPTLY REMOVE AND DISPOSE OF ALL WATER ENTERING THE TRENCH AND STRUCTURE EXCAVATIONS AND SHALL KEEP SAID EXCAVATIONS ACCEPTABLY DRY, UNTIL THE PIPING AND/OR STRUCTURES TO BE BUILT THEREIN ARE COMPLETED. ALL WATER PUMPED OR DRAINED FROM THE WORK AREA SHALL BE DISPOSED OF IN A MANNER AS TO NOT DAMAGE SEWER, WATER, ELECTRICAL OR ANY OTHER PIPING STRUCTURES OR PROPERTY. NO PIPE SHALL BE LAID IN WATER AND NO WATER SHALL BE ALLOWED TO RISE ABOVE THE BOTTOM OF ANY PIPE WHILE IT IS BEING JOINTED. DEWATERING WITH UP TO A 4" PUMP SHALL BE INCLUDED IN THE CONTRACT PRICE. ADDITIONAL COMPENSATION FOR DEWATERING THAT REQUIRES LARGER PUMPS, WELLPOINTS, OR OTHER METHODS SHALL BE APPROVED BY THE ENGINEER AND THE OWNER PRIOR TO INSTALLATION.

17. CONCRETE: ALL PORTLAND CEMENT CONCRETE MIXES SHALL BE APPROVED IN ADVANCE BY THE ENGINEER. ALL CONCRETE SHALL BE PLACED BEFORE THE INITIAL SET HAS TAKEN PLACE. STALE OR RETEMPERED CONCRETE SHALL NOT BE USED. CONCRETE USED FOR PIPE PLUGS AND BENCHING SHALL BE 3000 PSI MINIMUM. CONCRETE USED FOR ALL OTHER PURPOSES SHALL BE 4000 PSI MINIMUM.

18. JOBSITE SAFETY: WHILE ON THE JOBSITE, THE CONTRACTOR SHALL AT ALL TIMES OBSERVE ALL FEDERAL, STATE, AND LOCAL SAFETY RULES, REGULATIONS AND LAWS. JOBSITE SAFETY IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR.

19. PRECONSTRUCTION SURVEY OF EXISTING STRUCTURES ARE TO BE PERFORMED, RECORDED, AND PROVIDED TO THE ENGINEER PRIOR TO ANY AND ALL WORK COMMENCING. PRECONSTRUCTION SURVEY SHALL BE DETAILED TO INCLUDE ALL VISIBLE ASPECTS OF STRUCTURES, HARDSCAPES, LANDSCAPES, UTILITIES, RAILROAD INFRASTRUCTURE, AND GENERAL CONDITION OF ALL ITEMS WITHIN THE PROJECT LIMITS. SURVEY IS TO INCLUDE PHOTOGRAPHS AND VIDEO WITH NARRATIVES EXPLAINING WHAT IS BEING CAPTURED. BY ALL DEPICTIONS, PAYMENT FOR THIS SURVEY WILL BE INCLUDED WITHIN THE MOBILIZATION ITEM.

20. PRESSURE TESTING: AFTER ALL PRESSURE PIPE (WATER MAINS, SERVICES, AND FORCE MAINS) ARE LAID, THE JOINTS COMPLETED, AND THE TRENCHES BACKFILLED, THE NEWLY LAID PIPES AND APPURTENANCES SHALL BE SUBJECTED TO A PRESSURE TEST OF 150 PSI OR 1.5 TIMES WORKING PRESSURE (WHICH EVER IS GREATER) FOR A PERIOD OF AT LEAST 2 HOURS. THE ENGINEER MUST BE NOTIFIED AT LEAST 24 HOURS BEFORE A TEST IS TO BE PERFORMED. ANY LEAKS DETECTED SHALL BE CORRECTED AND THE SECTIONS OF THE PIPELINE RETESTED. THE 2 HOUR TEST PERIOD SHALL BEGIN WHEN ALL JOINTS HAVE BEEN DETERMINED TO BE WATER TIGHT. LEAKAGE SHALL BE LIMITED TO THAT ALLOWANCE SET FORTH IN SECTION 4 OF AWWA STANDARD C600. HYDROSTATIC TEST, LEAKAGE TEST, AND BLOW-DOWN (ZEROING OF GAUGE) MUST OCCUR BEFORE SAMPLING FOR BACTERIOLOGICAL TEST. THE MAXIMUM ALLOWABLE PRESSURE LOSS IS 5 PSI REGARDLESS OF THE LENGTH OF PIPE. ALL TESTS SHALL BE CONDUCTED IN THE PRESENCE OF THE PROJECT ENGINEER.

21. DISINFECTION: AFTER COMPLETION OF CONSTRUCTION AND TESTING, THE WATER SYSTEM SHALL BE DISINFECTED WITH CHLORINE IN ACCORDANCE WITH AWWA STANDARD C651. THE AMOUNT OF CHLORINE APPLIED SHALL BE SUFFICIENT TO PROVIDE A DOSAGE OF 25 MG/L OR MORE. THE CHLORINE SOLUTION SHALL REMAIN IN THE SYSTEM FOR A PERIOD OF AT LEAST 24 HOURS, DURING WHICH TIME EVERY VALVE IN THE SYSTEM SHALL BE OPENED AND CLOSED SEVERAL TIMES TO ASSURE CONTACT WITH EVERY SURFACE OF THE SYSTEM. AFTER A 24 HOUR RETENTION PERIOD, FLUSH THE MAIN UNTIL THE MAXIMUM CHLORINE CONCENTRATION IS 1 MG/L. THE CONTRACTOR SHALL OBTAIN ALL BACTERIOLOGICAL CLEARANCES AS REQUIRED BY THE NEW YORK STATE DEPARTMENT OF HEALTH. AFTER BACTERIOLOGICAL CLEARANCES, THE PRESSURE IN THE MAIN SHALL NOT DROP BELOW 20 PSI. A CLEARANCE REPORT SHALL BE SUBMITTED TO THE ENGINEER. IN ANY PROJECT WHERE THE BACTERIOLOGICAL CLEARANCES ARE GREATER THAN 30 DAYS OLD PRIOR TO PLACING A WATER MAIN INTO SERVICE, THE CONTRACTOR MAY BE REQUIRED TO PULL MORE SAMPLES AND OBTAIN MORE BACTERIOLOGICAL CLEARANCES. PRIOR TO INTRODUCING THE CHLORINE SOLUTION, THE LINES SHALL BE THOROUGHLY FLUSHED WITH CLEAN WATER UTILIZING FULL PIPE DIAMETER FLUSHING FOR PIPE UP TO AND INCLUDING 8" DIAMETER. CONTRACTOR SHALL BE RESPONSIBLE FOR DECHLORINATION OF THE DISINFECTANT WATER PRIOR TO ANY DISCHARGE TO ANY DITCH OR SURFACE WATERS.

22. BACTERIOLOGICAL SAMPLING: CONTRACTOR SHALL ASSURE THE PROJECT CONSTRUCTION IS COMPLETELY FINISHED PRIOR TO ANY BACTERIOLOGICAL SAMPLING AND TESTING.

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STATE OF NEW YORK ROBERT FORSYTH 098186 LICENSED PROFESSIONAL ENGINEER

REVISIONS

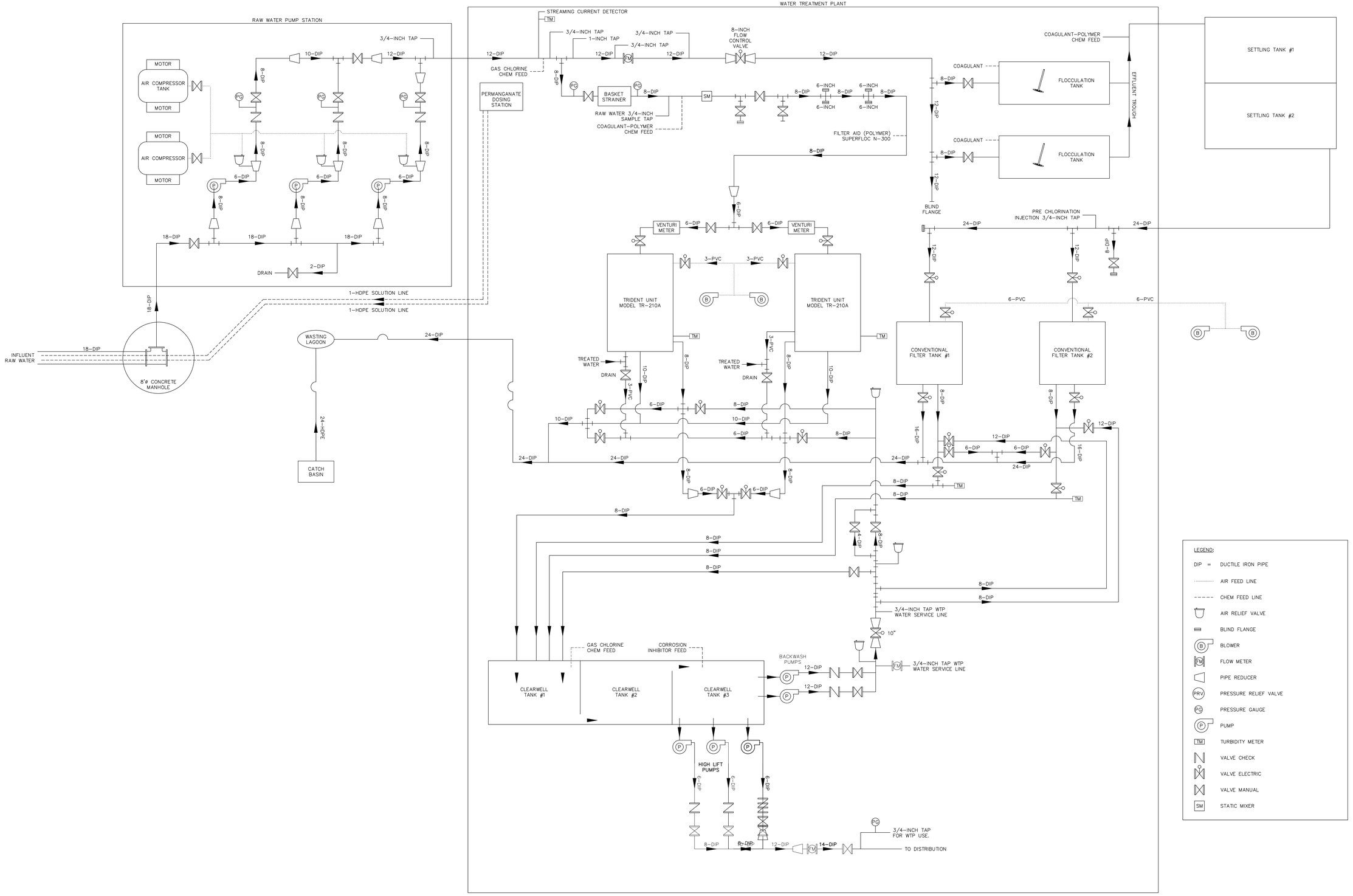
NO.	DATE	DESCRIPTION

RHINEBECK WTP
PLANT IMPROVEMENTS
VILLAGE OF RHINEBECK
DUTCHESS COUNTY, NEW YORK

GENERAL NOTES

SHEET: G-002

File: H:\DRAWINGS\RHINEBECK (V)\22-2496 WTP\G-001 - 002 - COVER & INDEX.DWG Saved: 10/2/2024 9:11:52 AM Plotted: 10/2/2024 10:08:02 AM User: Iris Brakes LastSavedBy: montese



LEGEND:

- DIP = DUCTILE IRON PIPE
- AIR FEED LINE
- CHEM FEED LINE
- AIR RELIEF VALVE
- BLIND FLANGE
- (B) BLOWER
- (FM) FLOW METER
- PIPE REDUCER
- (PRV) PRESSURE RELIEF VALVE
- (PG) PRESSURE GAUGE
- (P) PUMP
- TM TURBIDITY METER
- VALVE CHECK
- VALVE ELECTRIC
- VALVE MANUAL
- SM STATIC MIXER

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RHINEBECK WTP
PLANT IMPROVEMENTS
VILLAGE OF RHINEBECK
DUTCHESS COUNTY, NEW YORK

EXISTING
PROCESS FLOW
DIAGRAM

SHEET:
C-001

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RAW WATER PUMP STATION

NEW PUMPS & MOTOR
VACUUM PRIME TANK #1
MOTOR
NEW PUMPS & MOTOR
VACUUM PRIME TANK #2
MOTOR

NEW
(3) RAW WATER PUMPS UPGRADED TO BE VFD OPERATED

3/4-INCH TAP
10-DIP
12-DIP
8-DIP
6-DIP
18-DIP
2-DIP
DRAIN

1-HDPE SOLUTION LINE

INFLUENT RAW WATER
8'ø CONCRETE MANHOLE

WASTING LAGOON
24-DIP
24-HDPE

CATCH BASIN
18- HDPE
12-HDPE

NEW FILTER BUILDING

6-DIP
3-DIP
RECIRCULATION PUMP
TRIDENT HSR PACKAGE CLARIFICATION UNIT MODEL 2HSR-350
CLARIFIER TRANSFER PUMP
3-DIP

WATER TREATMENT PLANT

STREAMING CURRENT DETECTOR
TM
GAS CHLORINE CHEM FEED
NEW PERMANGANATE DOSING STATION
1-INCH TAP
8-INCH FLOW CONTROL VALVE
SM
BASKET STRAINER
RAW WATER 3/4-INCH SAMPLE TAP
COAGULANT-POLYMER CHEM FEED
NORMALLY CLOSED MANUAL BYPASS VALVE
NORMALLY OPEN MANUAL BYPASS VALVE
6-INCH
RELOCATE CHEM FEED LINE AND TAP
FILTER AID (POLYMER) SUPERFLOC N-300

VENTURI METER
INLET MODULATING FLOW CONTROL
AIR SCOUR
3-PVC
REHABILITATED TRIDENT UNIT MODEL TR-210A

TREATED WATER
DRAIN
FILTER TO WASTE
BACKWASH
10-DIP
FILTRATE MODULATING CONTROL VALVES

COAGULANT
FRP BAFFLE WALL
FLOCCULATION TANK
COAGULANT-POLYMER CHEM FEED
EFFLUENT TROUGH

WOODEN BAFFLE WALL
SETTLING TANK #1
SETTLING TANK #2

BLIND FLANGE
PRE CHLORINATION INJECTION 3/4-INCH TAP
4-VALVE
6-PVC
CONVENTIONAL FILTER TANK #1
CONVENTIONAL FILTER TANK #2

3/4-INCH TAP WTP WATER SERVICE LINE
10"

GAS CHLORINE CHEM FEED
CORROSION INHIBITOR FEED
CLEARWELL TANK #1
CLEARWELL TANK #2
CLEARWELL TANK #3
BACKWASH PUMPS UPGRADED TO BE VFD OPERATED
NEW DISTRIBUTION PUMPS AND VFDS
NEW UV TREATMENT
PRV
2-DIP
3/4-INCH TAP FOR WTP USE
TO DISTRIBUTION

LEGEND:

DIP =	DUCTILE IRON PIPE
.....	AIR FEED LINE
- - - - -	CHEM FEED LINE
	AIR RELIEF VALVE
	BLIND FLANGE
B	BLOWER
FM	FLOW METER
	PIPE REDUCER
PRV	PRESSURE RELIEF VALVE
PG	PRESSURE GAUGE
P	PUMP
TM	TURBIDITY METER
	VALVE CHECK
	VALVE ELECTRIC
	VALVE MANUAL
SM	STATIC MIXER

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DATE: 10/10/2024
DRAWN BY:
SCALE:
REVIEWED BY: RF
PROJECT NO.: ----
FILE:

DELAWARE ENGINEERING, D.P.C.
CIVIL AND ENVIRONMENTAL ENGINEERING
28 MADISON AVENUE EXTENSION, ALBANY, NY 12203 - 518.452.1290
55 SOUTH MAIN ST, ONEONTA, NY 13820 - 607.432.8073
31 NORTH MAIN STREET, LIBERTY, NY 12754 - 845.747.9862
6 TOWNSEND STREET, WALTON, NY 13856 - 607.865.9235
16 EAST MARKET ST., RED HOOK, NY 12571 - 518.452.1290
546 BROADWAY, MONTICELLO, NY 12701 - 845.791.1777

STATE OF NEW YORK ROBERT FOSTER FRANKLIN 081896 LICENSED PROFESSIONAL ENGINEER

REVISIONS

NO.	DATE	DESCRIPTION
1.	06/21/24	MAY 2024 DOH COMMENTS
2.	10/02/24	SEPT. 24 DOH COMMENTS

RHINEBECK WTP
PLANT IMPROVEMENTS
VILLAGE OF RHINEBECK
DUTCHESS COUNTY, NEW YORK

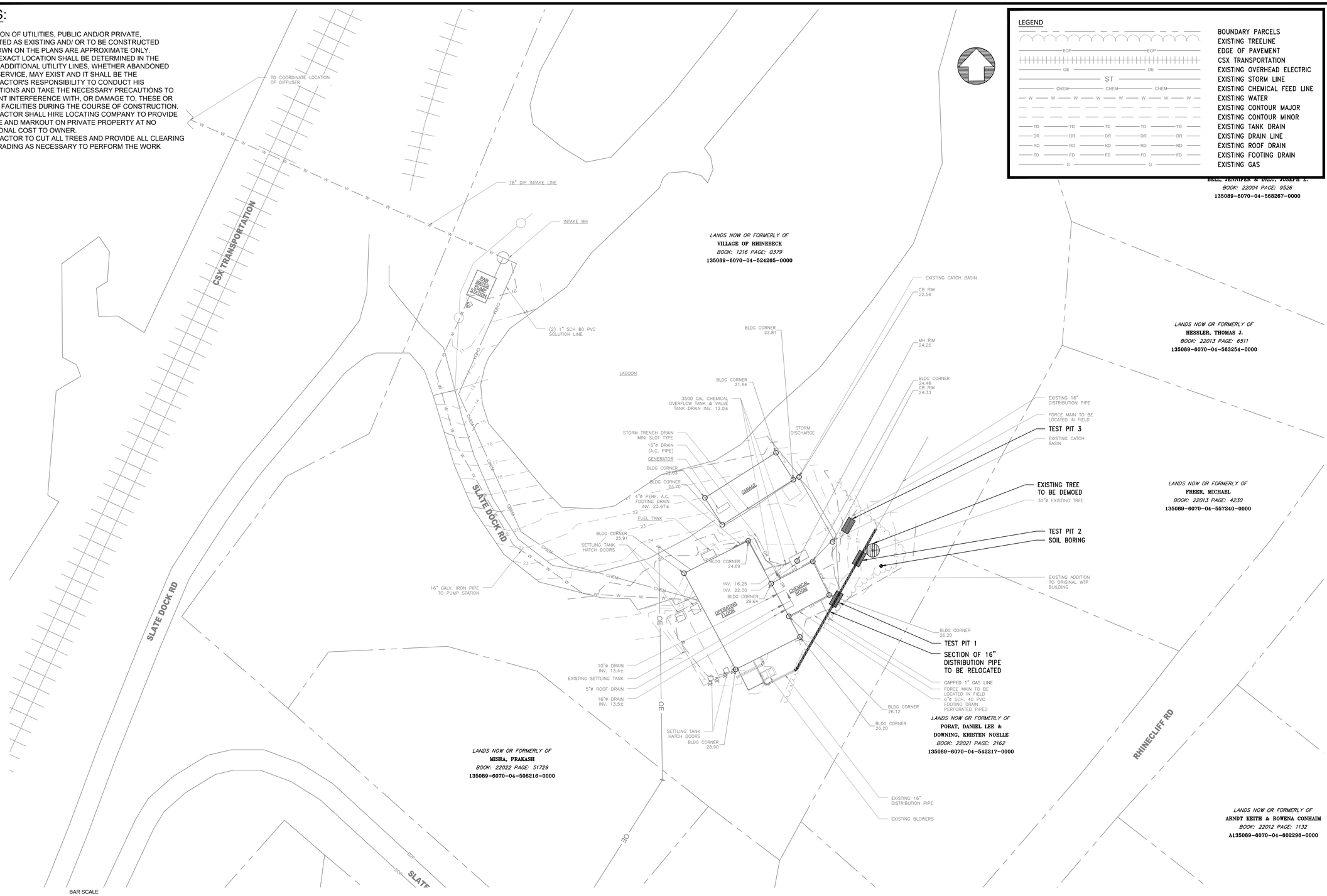
PROPOSED PROCESS FLOW DIAGRAM

SHEET: C-002

File: \\DE-FILES\PUBLIC\DRAWINGS\RHINEBECK (V)\22-2406 WTP\C-001 – 002 EX & PR PROCESS FLOW.DWG Saved: 10/10/2024 3:13:46 PM Plotted: 10/10/2024 3:58:26 PM User: Anthony Mastas LastSavedBy: mastas

NOTES:

1. LOCATION OF UTILITIES, PUBLIC AND/OR PRIVATE, INDICATED AS EXISTING AND/ OR TO BE CONSTRUCTED AS SHOWN ON THE PLANS ARE APPROXIMATE ONLY. THEIR EXACT LOCATION SHALL BE DETERMINED IN THE FIELD. ADDITIONAL UTILITY LINES, WHETHER ABANDONED OR IN SERVICE, MAY EXIST AND IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO CONDUCT HIS OPERATIONS AND TAKE THE NECESSARY PRECAUTIONS TO PREVENT INTERFERENCE WITH, OR DAMAGE TO, THESE OR OTHER FACILITIES DURING THE COURSE OF CONSTRUCTION. CONTRACTOR SHALL HIRE LOCATING COMPANY TO PROVIDE LOCATE AND MARKOUT ON PRIVATE PROPERTY AT NO ADDITIONAL COST TO OWNER.
1. CONTRACTOR TO CUT ALL TREES AND PROVIDE ALL CLEARING AND GRADING AS NECESSARY TO PERFORM THE WORK



EXISTING SITE PLAN
SCALE: 1"=40'

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DATE: 7/1/2024
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REVIEWED BY: RF
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FILE:

DELAWARE ENGINEERING, D.P.C.
CIVIL AND ENVIRONMENTAL ENGINEERING
28 MADISON AVENUE EXTENSION, ALBANY, NY 12203 - 518.452.1290
55 SOUTH MAIN ST, ONEONTA, NY 13820 - 607.432.8073
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16 EAST MARKET ST., RED HOOK, NY 12571 - 518.452.1290
548 BROADWAY, MONTICELLO, NY 12701 - 845.791.1777

STATE OF NEW YORK — MODESTO FORTE — 098181 — LICENSED PROFESSIONAL ENGINEER

REVISIONS

NO.	DATE	DESCRIPTION
1.	06/21/24	MAY 2024 DOH COMMENTS

RHINEBECK WTP
PLANT IMPROVEMENTS
VILLAGE OF RHINEBECK
DUTCHESS COUNTY, NEW YORK

EXISTING DEMO
SITE PLAN

SHEET:
C-003

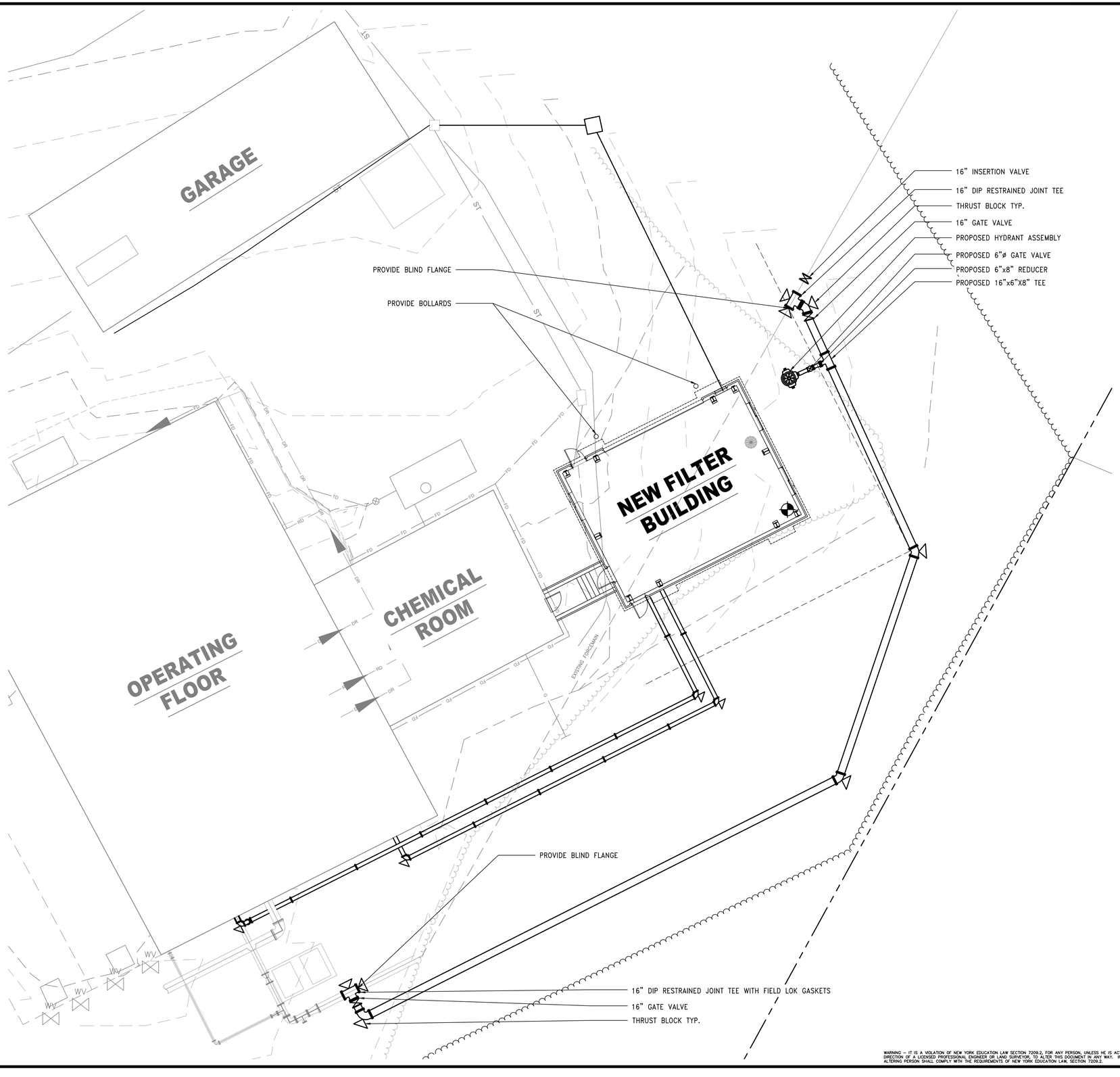
File: H:\DRAWINGS\RHINEBECK (V)\22-2498 WTP\C-003 - EXISTING SITE PLAN.DWG Saved: 7/1/2024 2:29:29 PM Plotted: 10/2/2024 10:08:23 AM User: Iris Brokes LastSavedBy: brokesi

DISTRIBUTION MAIN SEQUENCING NOTES:

1. PROVIDE WRITTEN NOTICE TO THE ENGINEER AT LEAST THREE BUSINESS DAYS PRIOR TO EXPLORATORY EXCAVATION.
2. PROVIDE WRITTEN NOTICE TO BOTH THE ENGINEER AND OWNER AT LEAST THREE BUSINESS DAYS BEFORE BEGINNING THE INSTALLATION OF THE PROPOSED INSERTION VALVE.
3. OBTAIN APPROVAL FROM AND COORDINATE WITH WTP OPERATORS TO SHUT DOWN THE WTP DISTRIBUTION PUMPS. FURNISH AND INSTALL THE PROPOSED 16-INCH INSERTION VALVE.
4. ISOLATE THE DISTRIBUTION SYSTEM USING THE INSTALLED INSERTION VALVE.
5. CUT THE EXISTING WATER MAIN TO INSTALL THE PROPOSED TEES AND RESPECTIVE 16-INCH GATE VALVES.
6. PRIOR TO INSTALLATION, SWAB THE INTERIOR OF THE PROPOSED TEES AND RESPECTIVE 16-INCH GATE VALVES WITH HYPOCHLORITE.
7. ENSURE THAT THE NEW GATE VALVES ARE IN THE CLOSED POSITION.
8. PURGE AIR FROM THE ISOLATED SECTION OF THE EXISTING WATER MAIN AND PERFORM LEAKAGE AND PRESSURE TESTS ON THE INSTALLED TEES AND VALVES.
9. OPEN THE INSERTION VALVE TO RESTORE WATER FLOW TO THE SYSTEM.
10. INSTALL BYPASS TO THE EXISTING SECTION OF THE WATER MAIN.
11. OBTAIN APPROVAL FROM AND COORDINATE WITH WTP OPERATORS TO SHUT DOWN THE WTP DISTRIBUTION PUMPS AND CLOSE THE INSERTION VALVE.
12. CUT THE SECTION OF THE EXISTING MAIN TO BE ELIMINATED AND FURNISH AND INSTALL BLIND FLANGES ON BOTH NEW TEES.
13. SWAB THE BLIND FLANGES WITH HYPOCHLORITE.
14. PURGE AIR AND PERFORM LEAKAGE AND PRESSURE TESTS.
15. OPEN THE INSERTION VALVE AND 16-INCH GATE VALVES TO RESTORE WATER FLOW TO THE SYSTEM.

DISTRIBUTION MAIN GENERAL NOTES:

1. THE ABOVE SEQUENCE PLAN IS A GENERAL OUTLINE AND MAY NOT ENCOMPASS ALL ESSENTIAL STEPS NEEDED TO COMPLETE THE WORK. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ENSURE COMPREHENSIVE SAFETY MEASURES ARE IMPLEMENTED AND THAT ALL WORK COMPLIES WITH APPLICABLE LOCAL, STATE, AND FEDERAL REGULATIONS.
2. ALL BELOW GRADE PIPING SHALL BE OF THE RESTRAINED JOINT TYPE.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ALL REQUIRED TEMPORARY AND PERMANENT PIPE SUPPORTS, BRACES, AND RESTRAINTS.
4. THE SYSTEM PRESSURE IN THE EXISTING 16" PIPE IS ANTICIPATED TO BE 200 PSI. THRUST BLOCKS SHALL BE SIZED FOR A MINIMUM LOAD OF 60,000 LBS AND SOIL BEARING CAPACITY SHALL BE ASSUMED TO BE 1,500 LBS/SF.
5. CONTRACTOR SHALL BE RESPONSIBLE FOR DEWATERING OPERATIONS.



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DATE: 7/2/2024
DRAWN BY: BROILES
SCALE: AS SHOWN
REVIEWED BY: RF
PROJECT NO.: ----
FILE:

DELAWARE ENGINEERING, D.P.C.
CIVIL AND ENVIRONMENTAL ENGINEERING
28 MADISON AVENUE EXTENSION, ALBANY, NY 12203 - 518.452.1290
55 SOUTH MAIN ST, ONEONTA, NY 13820 - 607.432.8073
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16 EAST MARKET ST., RED HOOK, NY 12571 - 518.452.1290
546 BROADWAY, MONTICELLO, NY 12701 - 845.791.1777

STATE OF NEW YORK ROBERT FORREST BROILES 081986 LICENSED PROFESSIONAL ENGINEER

REVISIONS

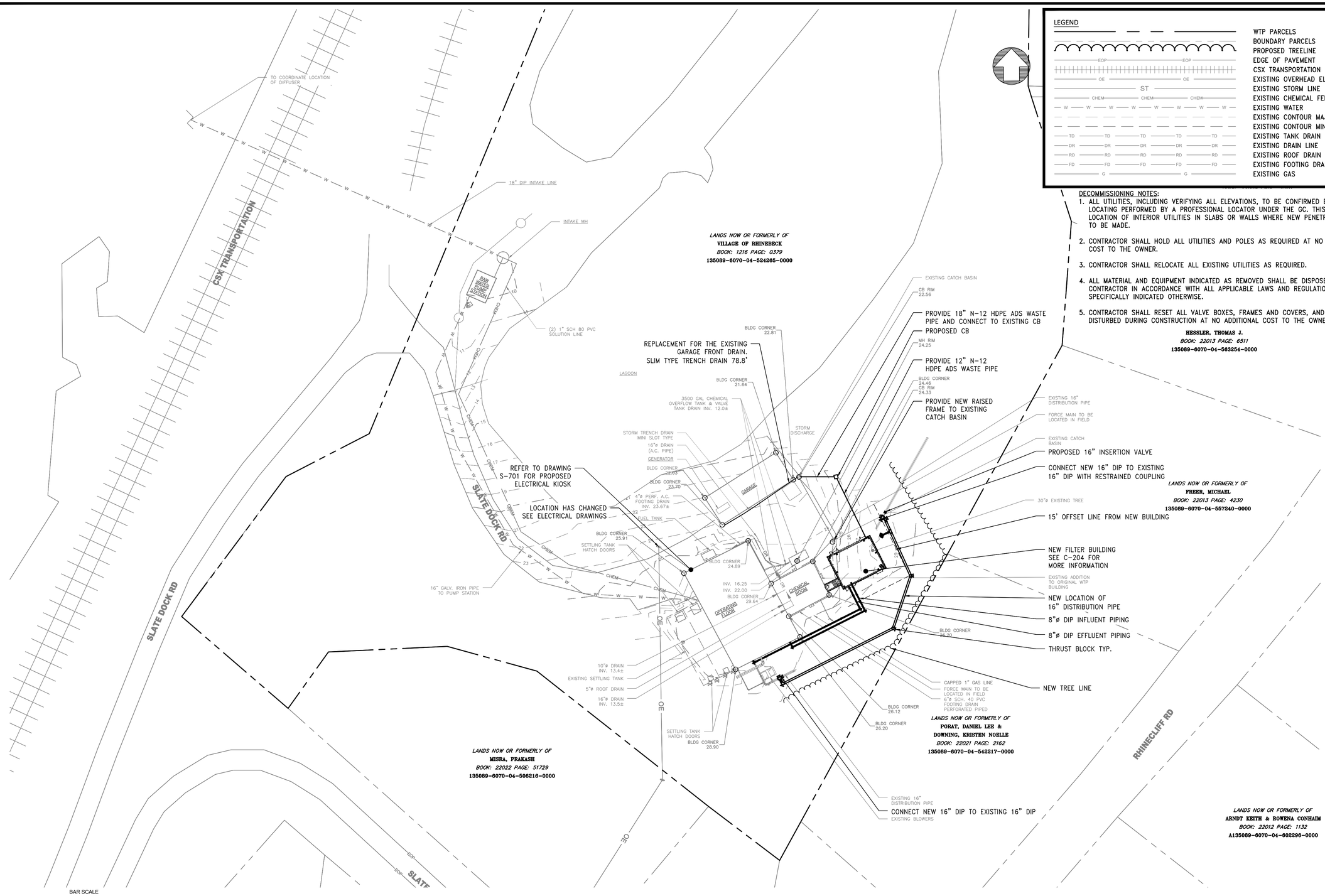
NO.	DATE	DESCRIPTION

RHINEBECK WTP
PLANT IMPROVEMENTS
VILLAGE OF RHINEBECK
DUTCHESS COUNTY, NEW YORK

DISTRIBUTION MAIN SEQUENCING PLAN

SHEET: C-003A

File: H:\DRAWINGS\RHINEBECK (VV)\22-2466 WTP\C-003A - PM SEQUENCING PLAN.DWG Saved: 7/2/2024 12:07:38 PM Plotted: 10/2/2024 10:08:39 AM User: rob Broiles (ref)Saved By: broiles



PROPOSED SITE PLAN

SCALE: 1"=40'

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DATE: 7/1/2024
DRAWN BY:
SCALE:
REVIEWED BY: RF
PROJECT NO.: ----
FILE:

DELAWARE ENGINEERING, D.P.C.
CIVIL AND ENVIRONMENTAL ENGINEERING
26 MADISON AVENUE EXTENSION, ALBANY, NY 12203 - 518.452.1290
55 SOUTH MAIN ST, ONEONTA, NY 13820 - 607.432.8073
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548 BROADWAY, MONTICELLO, NY 12701 - 845.791.1777

STATE OF NEW YORK MODEL LICENSED PROFESSIONAL ENGINEER

REVISIONS

NO.	DATE	DESCRIPTION

RHINEBECK WTP
PLANT IMPROVEMENTS
VILLAGE OF RHINEBECK
DUTCHESS COUNTY, NEW YORK

PROPOSED SITE PLAN

SHEET: C-004

File: H:\DRAWINGS\RHINEBECK (V)\22-2498 WTP\C-004 - PROPOSED SITE PLAN.DWG Saved: 7/1/2024 10:11:49 PM Plotted: 10/2/2024 10:08:59 AM User: Iris Brates LastSavedBy: brates

CSX TRANSPORTATION

SLATE DOCK RD

SLATE DOCK RD

SLATE

RHINECLIFF RD

LANDS NOW OR FORMERLY OF
VILLAGE OF RHINEBECK
BOOK: 1216 PAGE: 0379
135089-6070-04-524265-0000

LANDS NOW OR FORMERLY OF
HESSLER, THOMAS J.
BOOK: 22013 PAGE: 6511
135089-6070-04-563254-0000

LANDS NOW OR FORMERLY OF
FREER, MICHAEL
BOOK: 22013 PAGE: 4230
135089-6070-04-557240-0000

LANDS NOW OR FORMERLY OF
MISRA, PRAKASH
BOOK: 22022 PAGE: 51729
135089-6070-04-506216-0000

LANDS NOW OR FORMERLY OF
PORAT, DANIEL LEE &
DOWNING, KRISTEN NOELLE
BOOK: 22021 PAGE: 2162
135089-6070-04-542217-0000

LANDS NOW OR FORMERLY OF
ARNDT KEITH & ROWENA CONHAIM
BOOK: 22012 PAGE: 1132
A135089-6070-04-602296-0000

SAW PORTER HOME STATION

GARAGE

OPERATING FLOOR

CHEMICAL ROOM FFE 25

FFE 25

FFE 25

24.1

24.2

24.3

24.4

24.5

24.6

24.7

24.8

24.9

25.0

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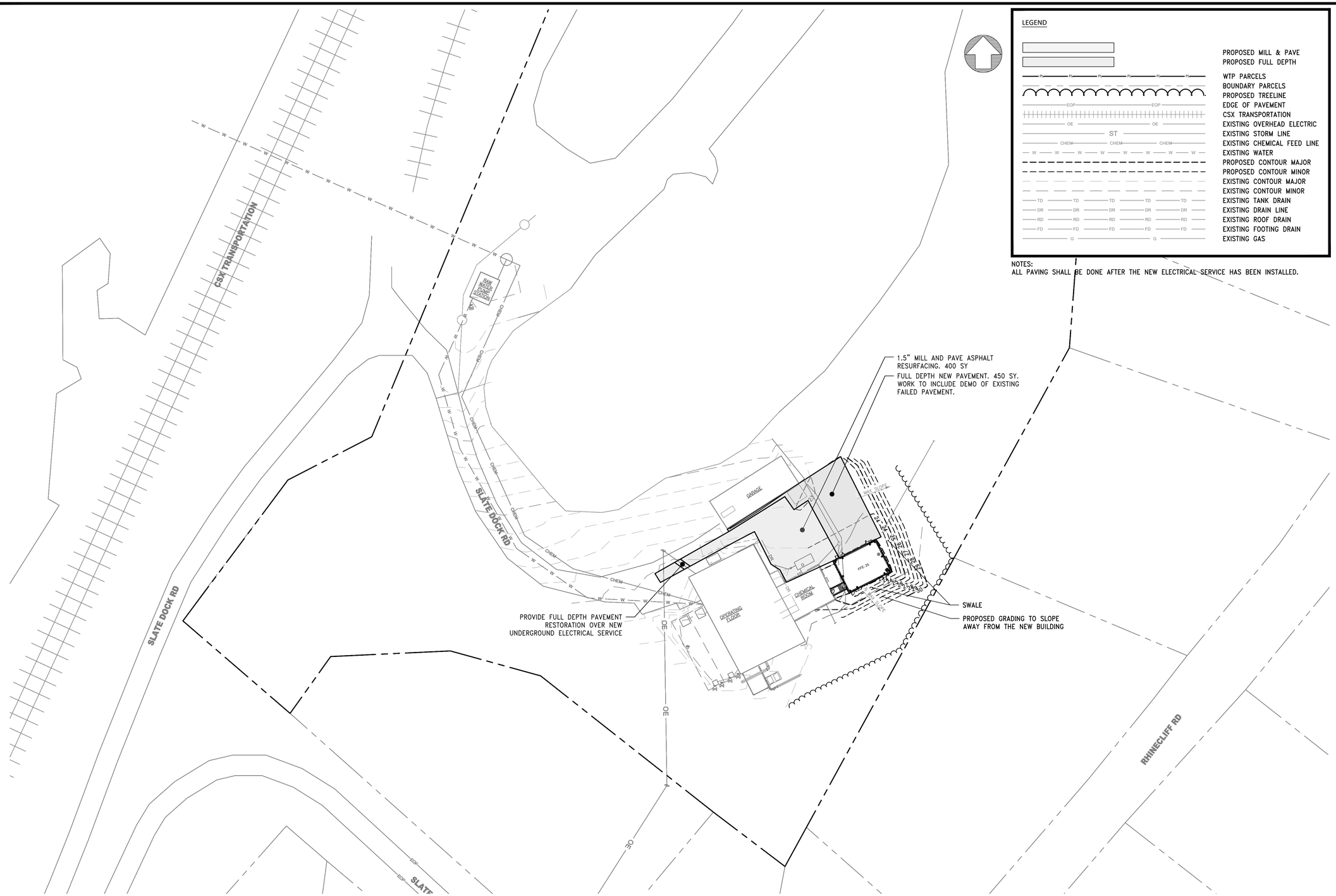

LEGEND

- PROPOSED MILL & PAVE
- PROPOSED FULL DEPTH
- WTP PARCELS
- BOUNDARY PARCELS
- PROPOSED TREELINE
- EDGE OF PAVEMENT
- CSX TRANSPORTATION
- EXISTING OVERHEAD ELECTRIC
- EXISTING STORM LINE
- EXISTING CHEMICAL FEED LINE
- EXISTING WATER
- PROPOSED CONTOUR MAJOR
- PROPOSED CONTOUR MINOR
- EXISTING CONTOUR MAJOR
- EXISTING CONTOUR MINOR
- EXISTING TANK DRAIN
- EXISTING DRAIN LINE
- EXISTING ROOF DRAIN
- EXISTING FOOTING DRAIN
- EXISTING GAS

NOTES:
ALL PAVING SHALL BE DONE AFTER THE NEW ELECTRICAL SERVICE HAS BEEN INSTALLED.

DATE: 6/21/2024
DRAWN BY: ---
SCALE: ---
REVIEWED BY: RF
PROJECT NO.: ---
FILE: ---

DELAWARE ENGINEERING, D.P.C.
CIVIL AND ENVIRONMENTAL ENGINEERING
28 MADISON AVENUE EXTENSION, ALBANY, NY 12203 - 518.452.1290
55 SOUTH MAIN ST, ONEONTA, NY 13820 - 607.432.8073
31 NORTH MAIN STREET, LIBERTY, NY 12754 - 845.747.9862
6 TOWNSEND STREET, WALTON, NY 13856 - 607.865.9235
16 EAST MARKET ST., RED HOOK, NY 12571 - 518.452.1290
548 BROADWAY, MONTICELLO, NY 12701 - 845.791.1777

STATE OF NEW YORK ROBERT FORSTER 090181 LICENSED PROFESSIONAL ENGINEER

REVISIONS

NO.	DATE	DESCRIPTION
1.	06/21/24	MAY 2024 DOH COMMENTS

RHINEBECK WTP
PLANT IMPROVEMENTS
VILLAGE OF RHINEBECK
DUTCHESS COUNTY, NEW YORK

PROPOSED PAVING PLAN

SHEET: C-006

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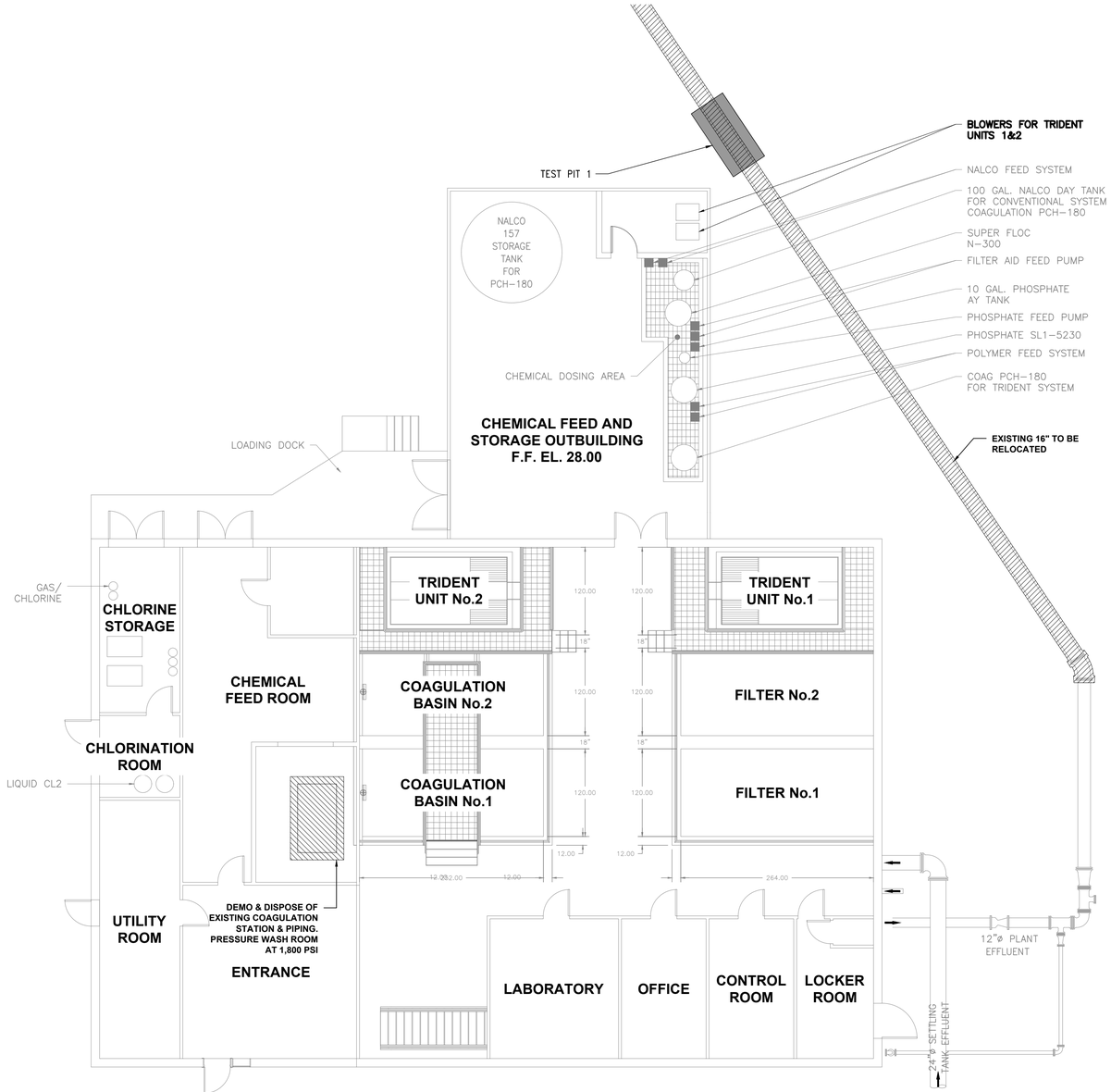
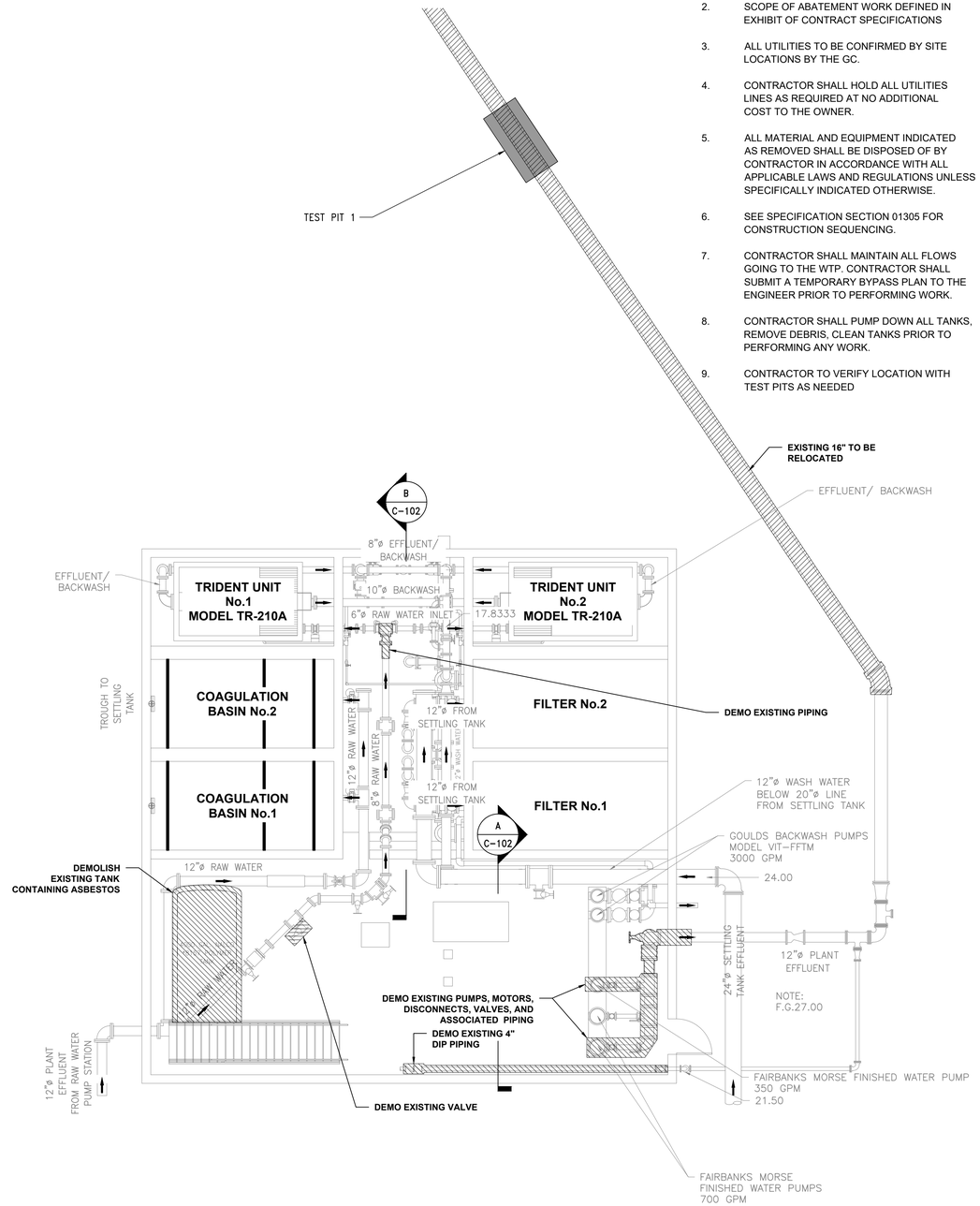
File: H:\DRAWINGS\RHINEBECK (VV)\22-2466 WTP\C-006 – SITE PAVING PLAN.DWG Saved: 6/21/2024 8:40:29 AM Plotted: 10/2/2024 10:10:03 AM User: Iris Brokes LastSavedBy: brokes



OPERATING FLOOR DEMO PLAN

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



LOWER FLOOR DEMO PLAN

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

NOTES:

1. DEMO WORK TO INCLUDE ABATEMENT OF HAZARDOUS MATERIAL
2. SCOPE OF ABATEMENT WORK DEFINED IN EXHIBIT OF CONTRACT SPECIFICATIONS
3. ALL UTILITIES TO BE CONFIRMED BY SITE LOCATIONS BY THE GC.
4. CONTRACTOR SHALL HOLD ALL UTILITIES LINES AS REQUIRED AT NO ADDITIONAL COST TO THE OWNER.
5. ALL MATERIAL AND EQUIPMENT INDICATED AS REMOVED SHALL BE DISPOSED OF BY CONTRACTOR IN ACCORDANCE WITH ALL APPLICABLE LAWS AND REGULATIONS UNLESS SPECIFICALLY INDICATED OTHERWISE.
6. SEE SPECIFICATION SECTION 01305 FOR CONSTRUCTION SEQUENCING.
7. CONTRACTOR SHALL MAINTAIN ALL FLOWS GOING TO THE WTP. CONTRACTOR SHALL SUBMIT A TEMPORARY BYPASS PLAN TO THE ENGINEER PRIOR TO PERFORMING WORK.
8. CONTRACTOR SHALL PUMP DOWN ALL TANKS, REMOVE DEBRIS, CLEAN TANKS PRIOR TO PERFORMING ANY WORK.
9. CONTRACTOR TO VERIFY LOCATION WITH TEST PITS AS NEEDED

DATE: 10/2/2024
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SCALE:
REVIEWED BY: RF
PROJECT NO.: ----
FILE:

DELAWARE ENGINEERING, D.P.C.
CIVIL AND ENVIRONMENTAL ENGINEERING
28 MADISON AVENUE EXTENSION, ALBANY, NY 12203 - 518.452.1290
55 SOUTH MAIN ST, ONEONTA, NY 13820 - 607.432.8073
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14 EAST MARKET ST., RED HOOK, NY 12571 - 518.452.1290
548 BROADWAY, MONTICELLO, NY 12701 - 845.791.1777

REVISIONS

NO.	DATE	DESCRIPTION
1.	06/21/24	MAY 2024 DOH COMMENTS

RHINEBECK WTP
PLANT IMPROVEMENTS
VILLAGE OF RHINEBECK
DUTCHESS COUNTY, NEW YORK

DEMO FLOOR PLANS

SHEET:
C-101

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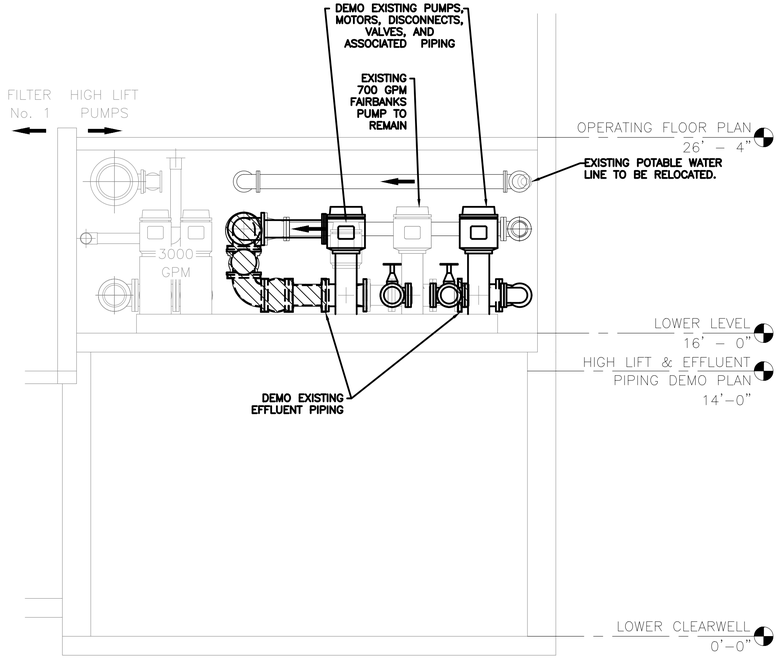
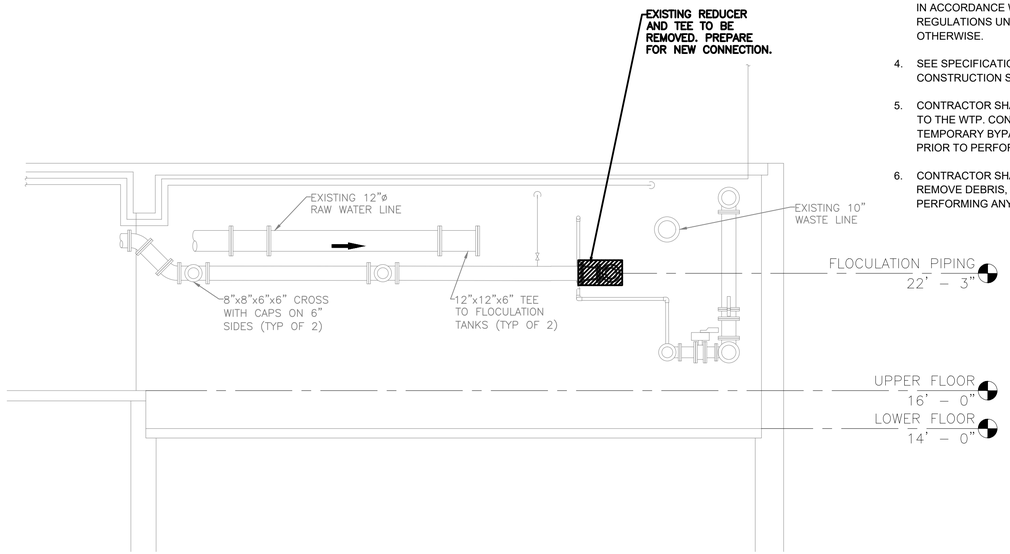
File: I:\DRAWINGS\RHINEBECK (V)\22-2486 WTP\C–101 – 105 – EXISTING FLOOR PLANS & SECTIONS.DWG Saved: 10/2/2024 4:17:29 AM PLotted: 10/2/2024 10:10:29 AM User: Iris Brotes LastSavedBy: montesa



A C-102 HIGH LIFT PUMP DEMOLITION PIPING SECTION
SCALE: 1/4"=1'-0"



B C-102 FLOCULATION DEMOLITION PIPING SECTION
SCALE: 1/4"=1'-0"

NOTES:

1. ALL UTILITIES TO BE CONFIRMED BY SITE LOCATIONS BY THE GC.
2. CONTRACTOR SHALL HOLD ALL UTILITIES LINES AS REQUIRED AT NO ADDITIONAL COST TO THE OWNER.
3. ALL MATERIAL AND EQUIPMENT INDICATED AS REMOVED SHALL BE DISPOSED OF BY CONTRACTOR IN ACCORDANCE WITH ALL APPLICABLE LAWS AND REGULATIONS UNLESS SPECIFICALLY INDICATED OTHERWISE.
4. SEE SPECIFICATION SECTION 01305 FOR CONSTRUCTION SEQUENCING.
5. CONTRACTOR SHALL MAINTAIN ALL FLOWS GOING TO THE WTP. CONTRACTOR SHALL SUBMIT A TEMPORARY BYPASS PLAN TO THE ENGINEER PRIOR TO PERFORMING WORK.
6. CONTRACTOR SHALL PUMP DOWN ALL TANKS, REMOVE DEBRIS, CLEAN TANKS PRIOR TO PERFORMING ANY WORK.

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DELAWARE ENGINEERING, D.P.C.
CIVIL AND ENVIRONMENTAL ENGINEERING
28 MADISON AVENUE EXTENSION, ALBANY, NY 12203 - 518.452.1290
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REVISIONS

NO.	DATE	DESCRIPTION
1.	06/21/24	MAY 2024 DOH COMMENTS

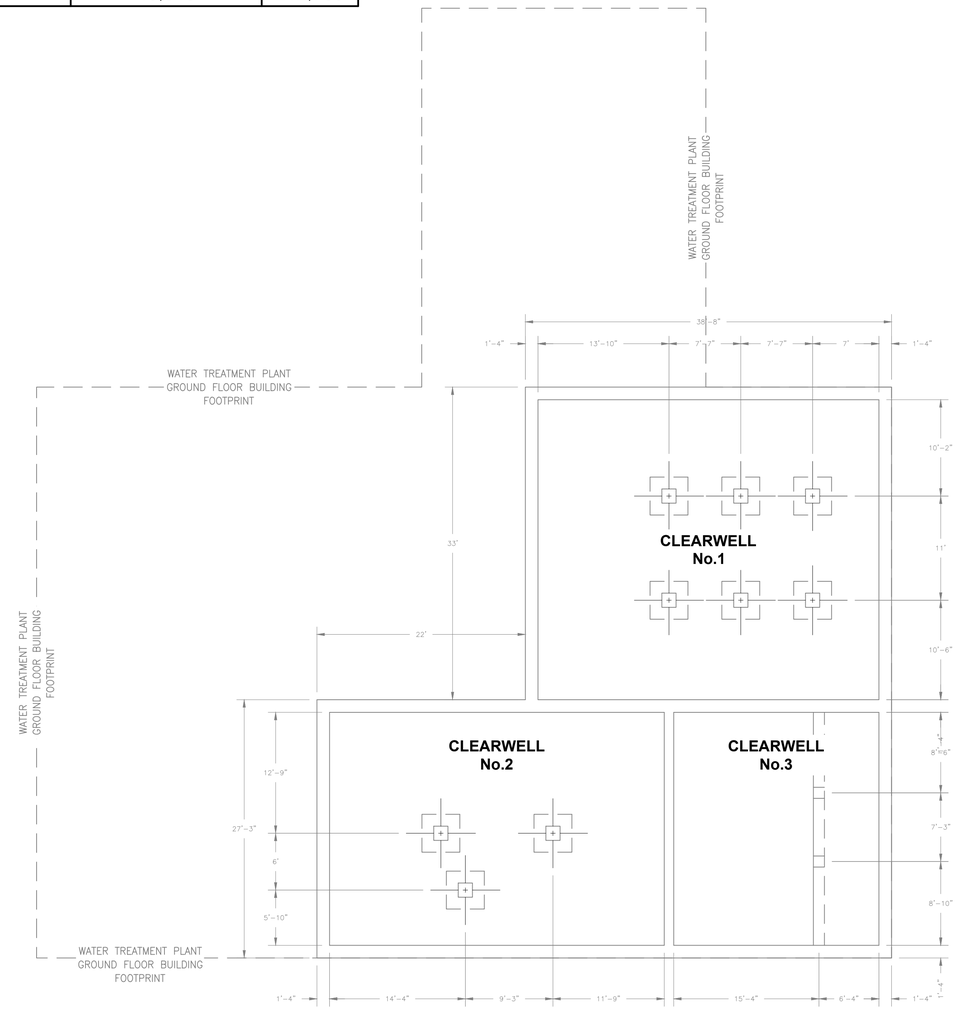
RHINEBECK WTP
PLANT IMPROVEMENTS
VILLAGE OF RHINEBECK
DUTCHESS COUNTY, NEW YORK

DEMOLITION PIPING SECTINS

SHEET: C-102

File: H:\DRAWINGS\RHINEBECK (V)\22-2498 WTP\C-101 - 105 - EXISTING FLOOR PLANS & SECTIONS.DWG Saved: 10/2/2024 9:17:29 AM Plotted: 10/2/2024 10:16:35 AM User: Iris Brotes LastSavedBy: montses

	CLEARWELL No1	CEARWELL No2	CLEARWELL No3	
SURFACE AREA	1,127	863	504	2,493
BOTTOM OF CLEARWELL ELEVATION (FT)	2.00	2.00	0.00	
VOLUME OF FULL CLEARWELL (GAL)	92,688	70,974	49,046	212,709



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

WARNING – IT IS A VIOLATION OF NEW YORK EDUCATION LAW SECTION 7209.2, FOR ANY PERSON, UNLESS HE IS ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER OR LAND SURVEYOR, TO ALTER THIS DOCUMENT IN ANY WAY. IF ALTERED THE ALTERING PERSON SHALL COMPLY WITH THE REQUIREMENTS OF NEW YORK EDUCATION LAW, SECTION 7209.2.

DATE: 10/2/2024
DRAWN BY: ____
SCALE: ____
REVIEWED BY: RF
PROJECT NO.: ----
FILE: ____

DELAWARE ENGINEERING, D.P.C.
CIVIL AND ENVIRONMENTAL ENGINEERING
28 MADISON AVENUE EXTENSION, ALBANY, NY 12203 - 518.452.1290
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REVISIONS

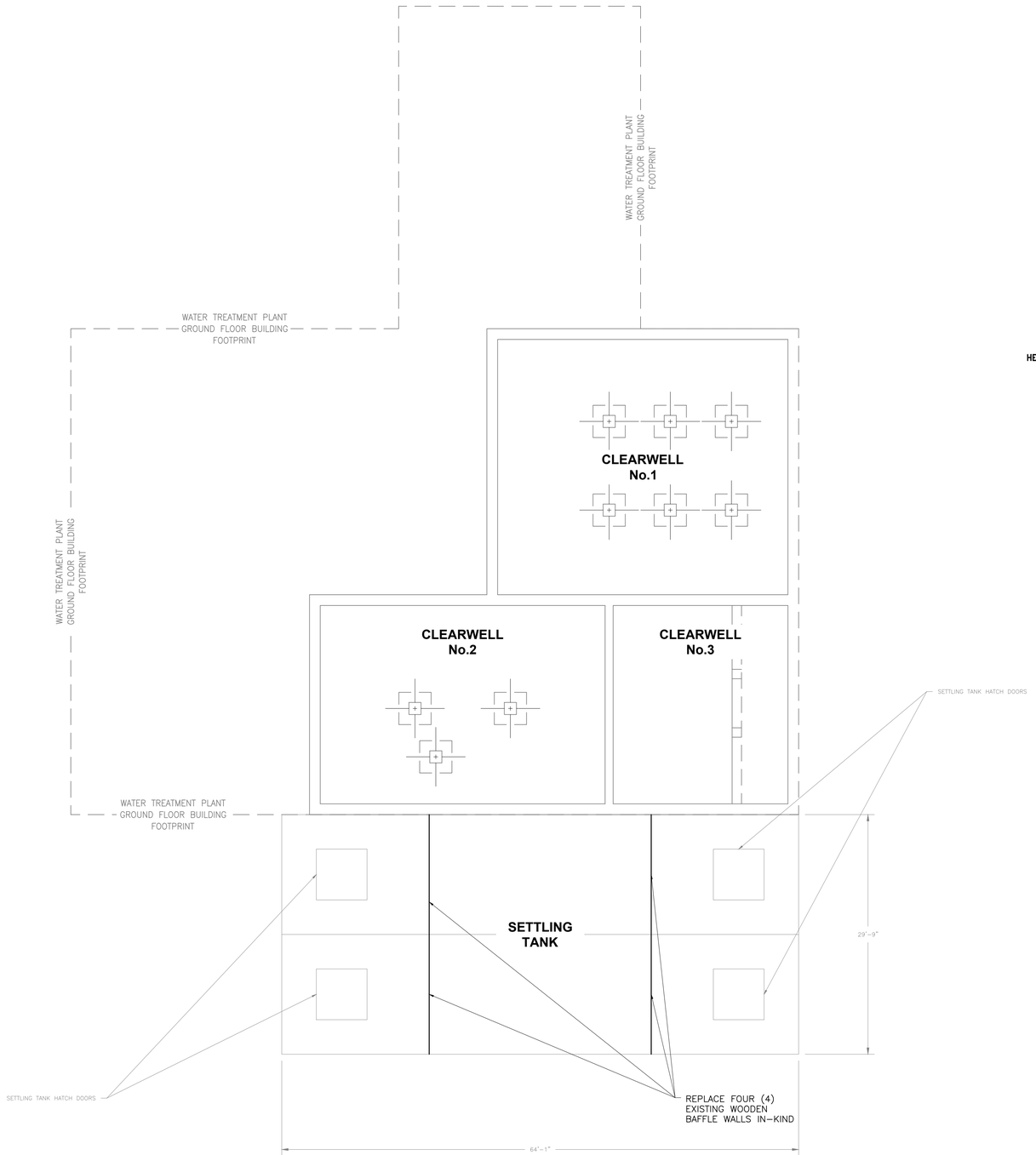
NO.	DATE	DESCRIPTION
1.	06/21/24	MAY 2024 DOH COMMENTS

RHINEBECK WTP
PLANT IMPROVEMENTS
VILLAGE OF RHINEBECK
DUTCHESS COUNTY, NEW YORK

EXISTING
CLEARWELL

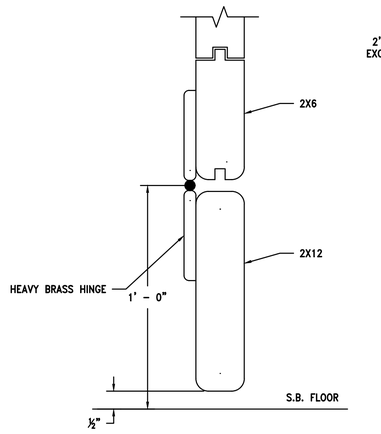
SHEET:
C-103

File: H:\DRAWINGS\RHINEBECK (V)\22-2498 WTP\C-101 - 105 - EXISTING FLOOR PLANS & SECTIONS.DWG Saved: 10/2/2024 9:17:29 AM Plotted: 10/2/2024 10:16:49 AM User: Iris Brotes LastSavedBy: montaas



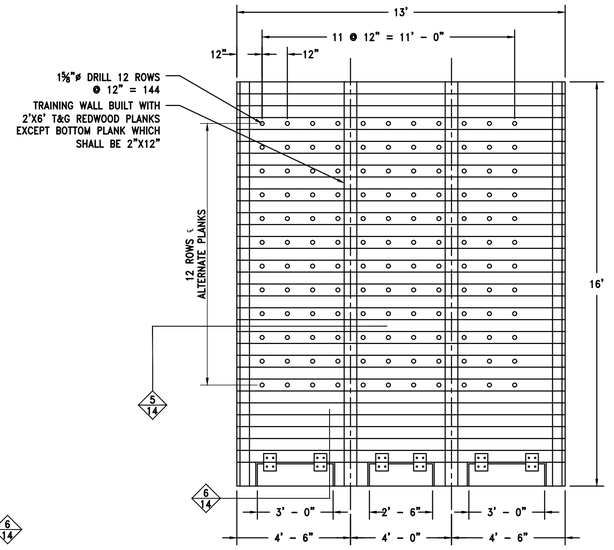
PROPOSED UPGRADES TO EXISTING SETTLING TANKS

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



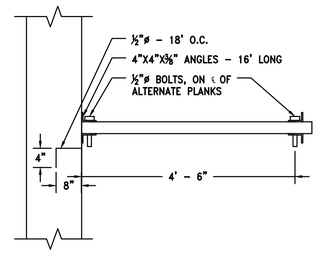
FLAP GATE SECTION 6/14

SCALE: NTS



TRAINING WALL DETAIL

SCALE: 1' - 3'



SECTION 5/14

SCALE: NTS

DATE: 10/2/2024
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DELAWARE ENGINEERING, D.P.C.
CIVIL AND ENVIRONMENTAL ENGINEERING
28 MADISON AVENUE EXTENSION, ALBANY, NY 12203 - 518.452.1290
55 SOUTH MAIN ST., ONEONTA, NY 13820 - 607.432.8073
31 NORTH MAIN STREET, LIBERTY, NY 12754 - 845.747.9562
6 TOWNSEND STREET, WALTON, NY 13856 - 607.865.9235
14 EAST MARKET ST., RED HOOK, NY 12571 - 518.452.1290
548 BROADWAY, MONTICELLO, NY 12701 - 845.791.7777

STATE OF NEW YORK — PROFESSIONAL ENGINEER — LICENSED

REVISIONS

NO.	DATE	DESCRIPTION
1.	06/21/24	MAY 2024 DOH COMMENTS

RHINEBECK WTP
PLANT IMPROVEMENTS
VILLAGE OF RHINEBECK
DUTCHESS COUNTY, NEW YORK

PROPOSED UPGRADES TO
EXISTING SETTLING TANKS

SHEET:
C-104

WARNING – IT IS A VIOLATION OF NEW YORK EDUCATION LAW SECTION 7209.2, FOR ANY PERSON, UNLESS HE IS ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER OR LAND SURVEYOR, TO ALTER THIS DOCUMENT IN ANY WAY. IF ALTERED THE ALTERING PERSON SHALL COMPLY WITH THE REQUIREMENTS OF NEW YORK EDUCATION LAW, SECTION 7209.2.

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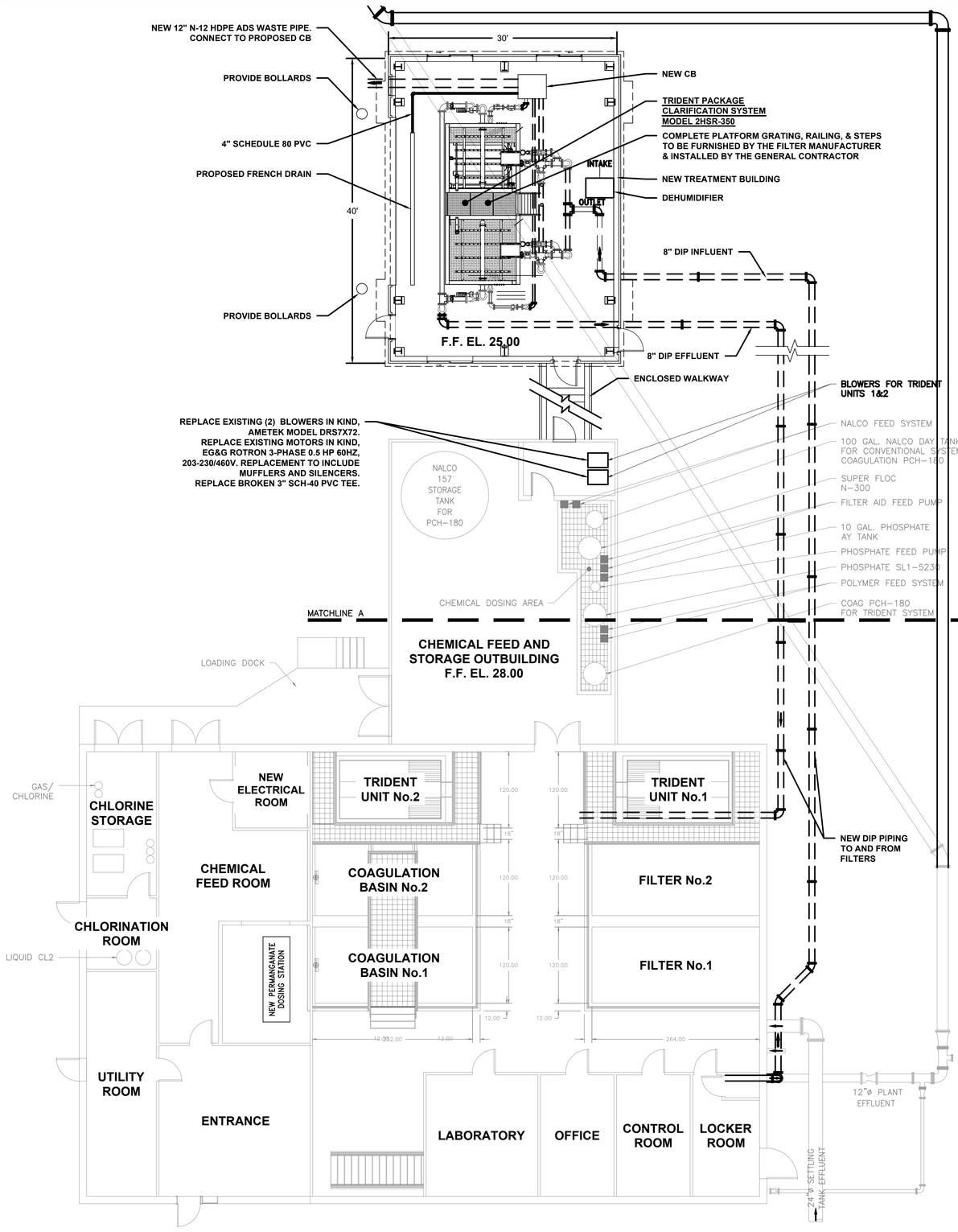
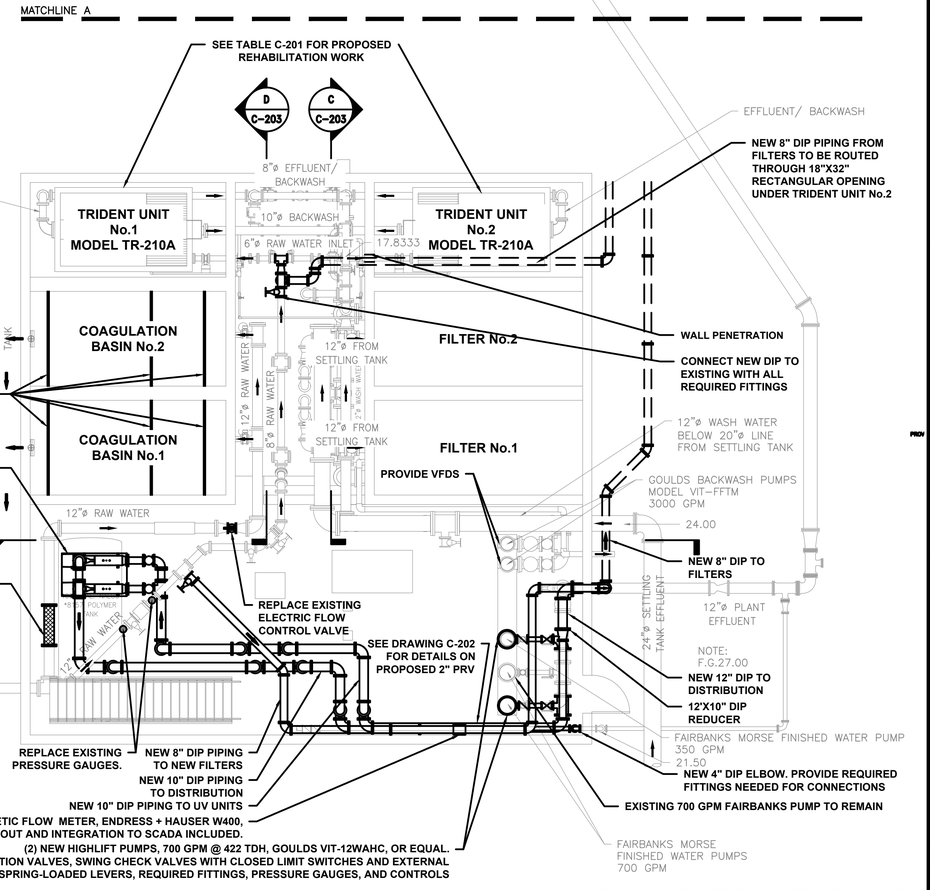


TABLE C-201A - REHABILITATION OF TR-210A TRIDENT UNITS			
SCOPE	QTY PER UNIT	QTY TOTAL	MODEL
HANDTOOL RUST AND FULL RECOAT	1	2	N/A
MEDIA RETENSION GRATING AND GASKET	1	2	FOR TRIDENT TR210A
PISTON AND WASTE GATE INCLUDING CONNECTION TO EXISTING	1	2	FOR TRIDENT TR210A
3-IN ELECTRIC ACTUATED VALVE	1	2	PRATT MK2 POSITRON II, 115V, 1/5 HP
6-IN ELECTRIC ACTUATED VALVE	1	2	PRATT MK2 POSITRON II, 115V, 1/5 HP
6-IN ELECTRIC ACTUATED MODULATING VALVE	2	4	PRATT MK2 POSITRON II, 115V, 1/5 HP
8-IN ELECTRIC ACTUATED VALVE	1	2	PRATT MK2 POSITRON II, 115V, 1/5 HP
PRESSURE SWITCHES	3	6	ASCO PB31B
PRESSURE GAUGE	2	4	BAILEY PTSDGD122110100
SOLENOID VALVE	1	2	
FLOAT SWITCH	3	6	
TRANSDUCERS	1	2	
TABLE C-201B - REHABILITATION OF CONVENTIONAL FILTRATION SYSTEM			
4-IN ELECTRIC ACTUATED VALVE	N/A	1	PRATT MK2 POSITRON II, 115V, 1/5 HP
6-IN ELECTRIC ACTUATED VALVE		2	PRATT MK2 POSITRON II, 115V, 1/5 HP
8-IN ELECTRIC ACTUATED VALVE		2	PRATT MK2 POSITRON II, 115V, 1/5 HP
10-IN ELECTRIC ACTUATED VALVE		1	PRATT MK2 POSITRON II, 115V, 1/5 HP
12-IN ELECTRIC ACTUATED VALVE		4	PRATT MK2 POSITRON II, 115V, 1/5 HP
16-IN ELECTRIC ACTUATED VALVE		2	PRATT MK2 POSITRON II, 115V, 1/5 HP

NOTES:

1. ALL UTILITIES TO BE CONFIRMED IN THE FIELD BY THE CONTRACTOR. CONTRACTOR SHALL PROVIDE COST IN BASE BID TO LOCATE ALL EXISTING SANITARY, WATER AND ELECTRIC LINES ON SITE BY A QUALIFIED PROFESSIONAL LOCATING SERVICE.
2. CONTRACTOR SHALL HOLD ALL UTILITIES LINES AS REQUIRED AT NO ADDITIONAL COST TO THE OWNER.
3. CONTRACTOR SHALL PROVIDE ALL S.S. SUPPORTS.
4. BURIED JOINTS SHALL BE RESTRAINED AND EXPOSED JOINTS SHALL BE FLANGED.
5. ALL HARDWARE SHALL BE S.S.
4. ALL PLUG VALVES SHALL BE GEAR ACTUATED PLUG VALVES.
5. ALL PLUG VALVES IN EQ AND WTP TANKS VALVE VAULT SHALL HAVE EXTENDED S.S. OPERATORS WITH VALVE BOX COVERS. PROVIDE ALL S.S. SUPPORTS, COUPLINGS, AND ALL APPURTENANCES.



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548 BROADWAY, MONTICELLO, NY 12701 - 845.791.7777

REVISIONS

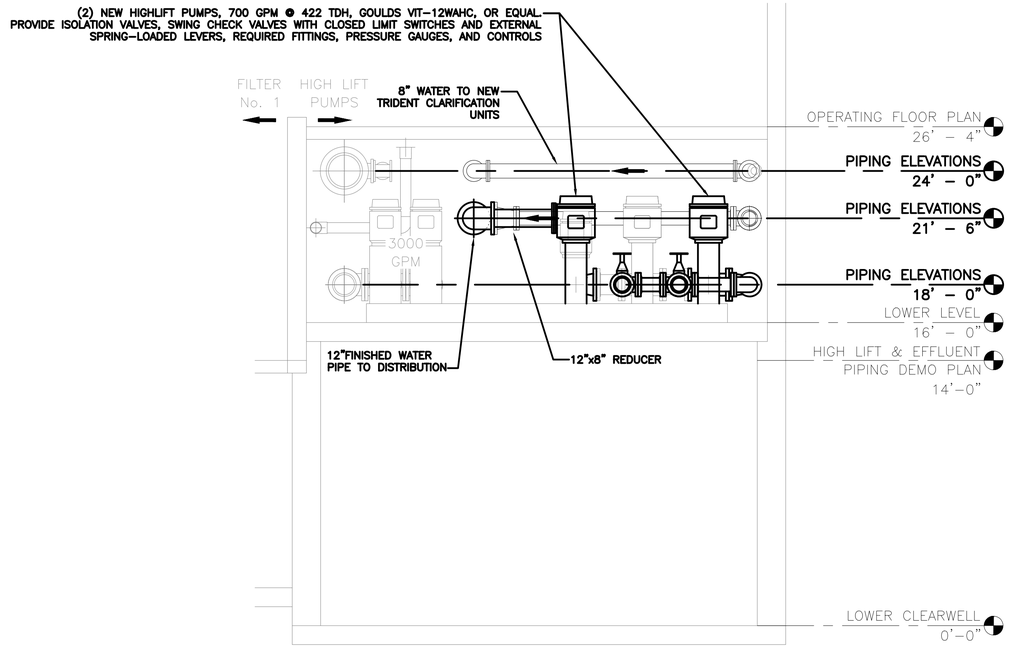
NO.	DATE	DESCRIPTION
1.	06/21/24	MAY 2024 DOH COMMENTS
1.	10/02/24	SEPT. 24 DOH COMMENTS

RHINEBECK WTP
PLANT IMPROVEMENTS
VILLAGE OF RHINEBECK
DUTCHESS COUNTY, NEW YORK

OVERALL NEW PIPING PLAN

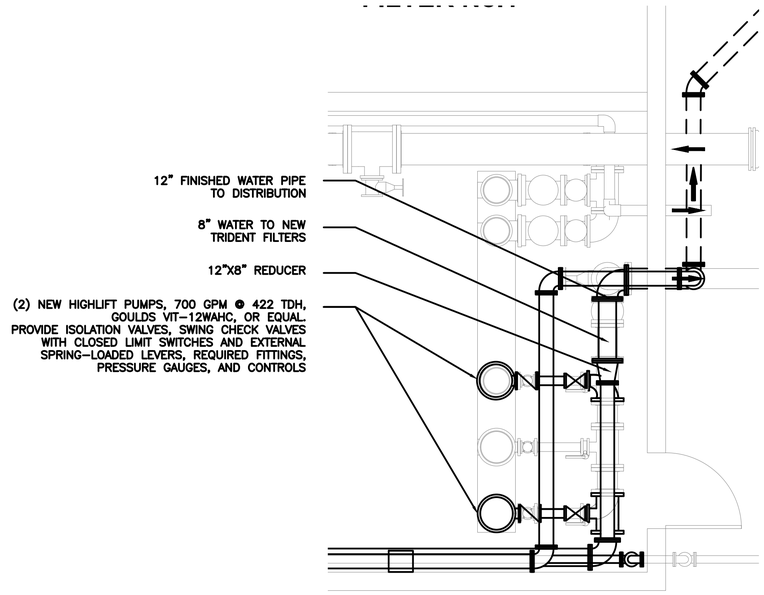
SHEET: C-201

File: I:\DRAWINGS\RHINEBECK (V)\22-2486 WTP\C-201 – 205 – PROPOSED FLOOR PLANS & SECTIONS.DWG Saved: 10/2/2024 10:01:40 AM PlotHed: 10/2/2024 10:11:41 AM User: Iris Brotes LastSavedBy: brotesi



A C-202 HIGH LIFT PUMP NEW PIPING SECTION

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



HIGH LIFT PUMP NEW PIPING PLAN

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

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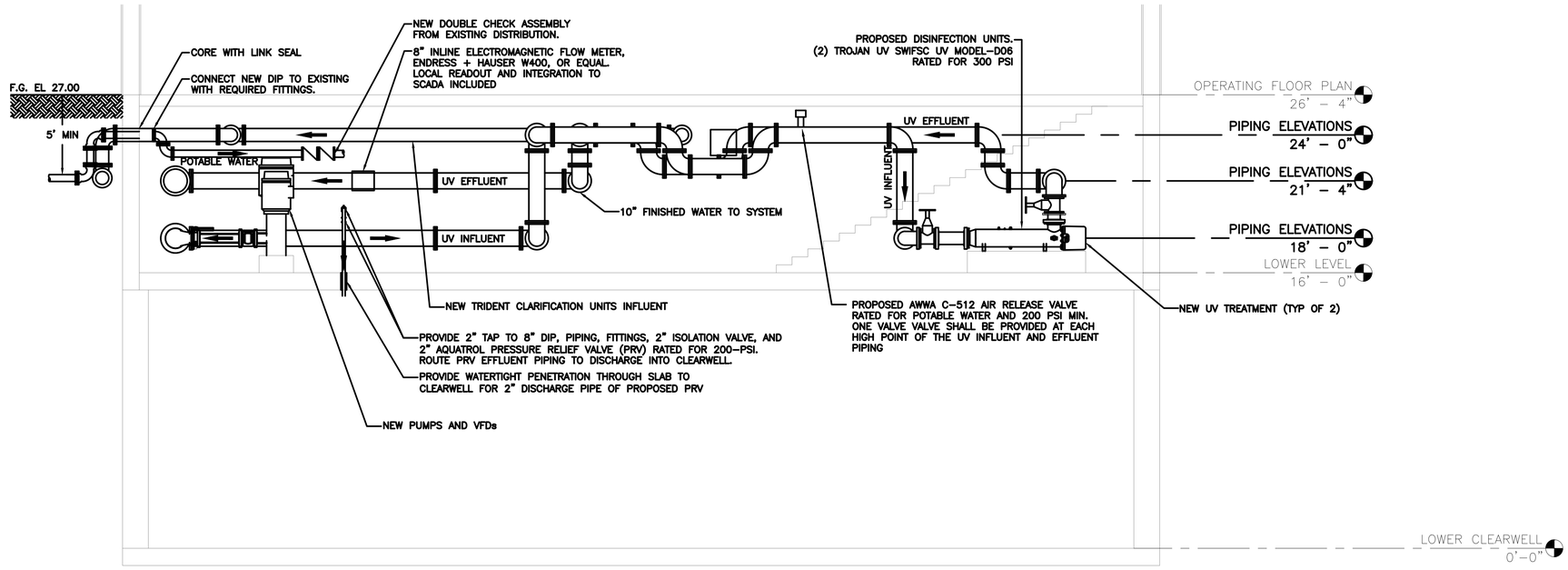

B C-202 FILTER AND UV TREATMENT PIPING SECTION

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

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REVISIONS

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2.	10/02/24	SEPT. 24 DOH COMMENTS

RHINEBECK WTP
PLANT IMPROVEMENTS
VILLAGE OF RHINEBECK
DUTCHESS COUNTY, NEW YORK

NEW PIPING SECTIONS

SHEET: C-202

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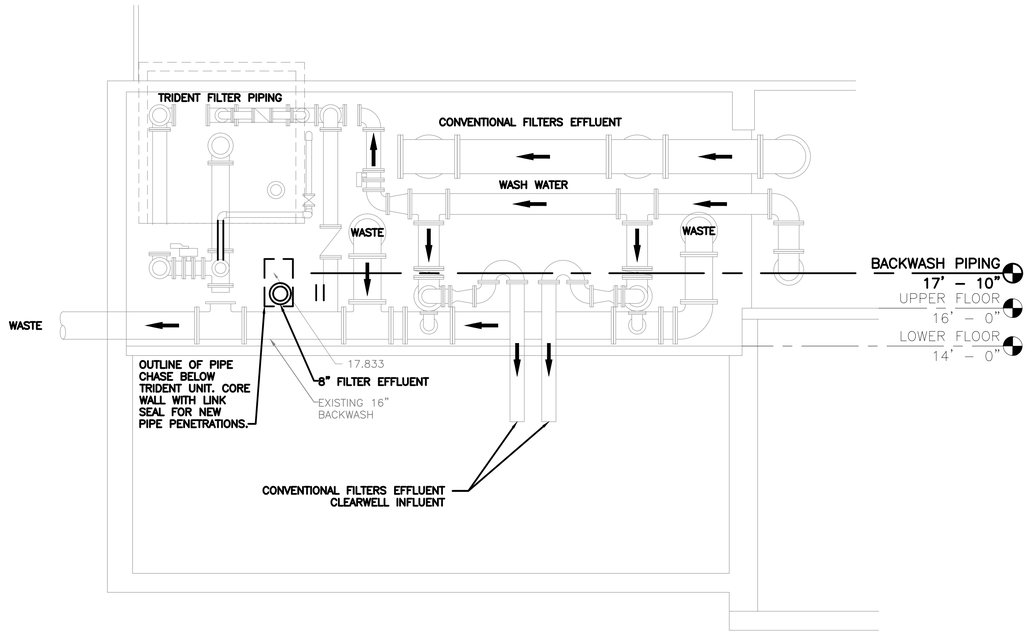

C C-203 TRIDENT NEW PIPING SECTION
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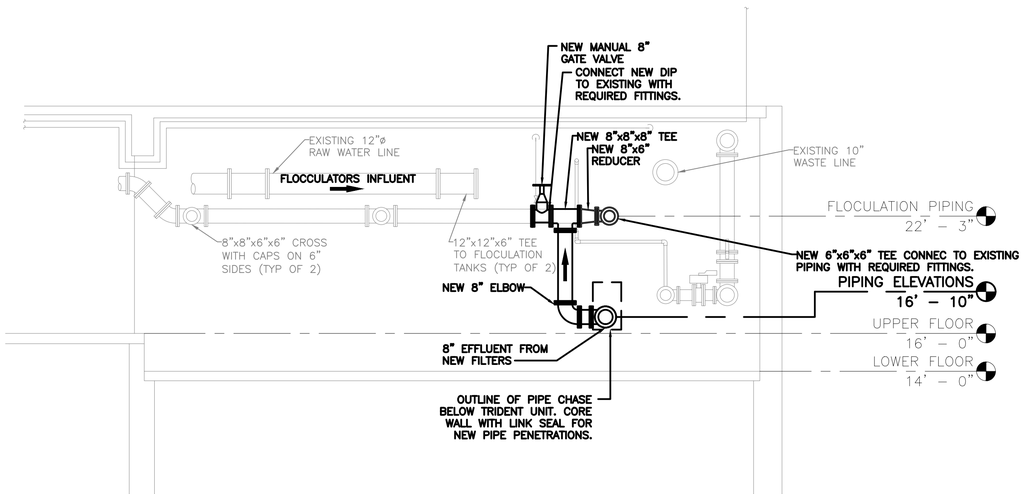

D C-203 TRIDENT NEW PIPING SECTION
SCALE: 1/4"=1'-0"

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FILE: ____

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CIVIL AND ENVIRONMENTAL ENGINEERING
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548 BROADWAY, MONTICELLO, NY 12701 - 845.791.1777

REVISIONS

NO.	DATE	DESCRIPTION
1.	06/21/24	MAY 2024 DOH COMMENTS
2.	10/02/24	SEPT. 24 DOH COMMENTS

RHINEBECK WTP
PLANT IMPROVEMENTS
VILLAGE OF RHINEBECK
DUTCHESS COUNTY, NEW YORK

NEW PIPING SECTIONS

SHEET: C-203

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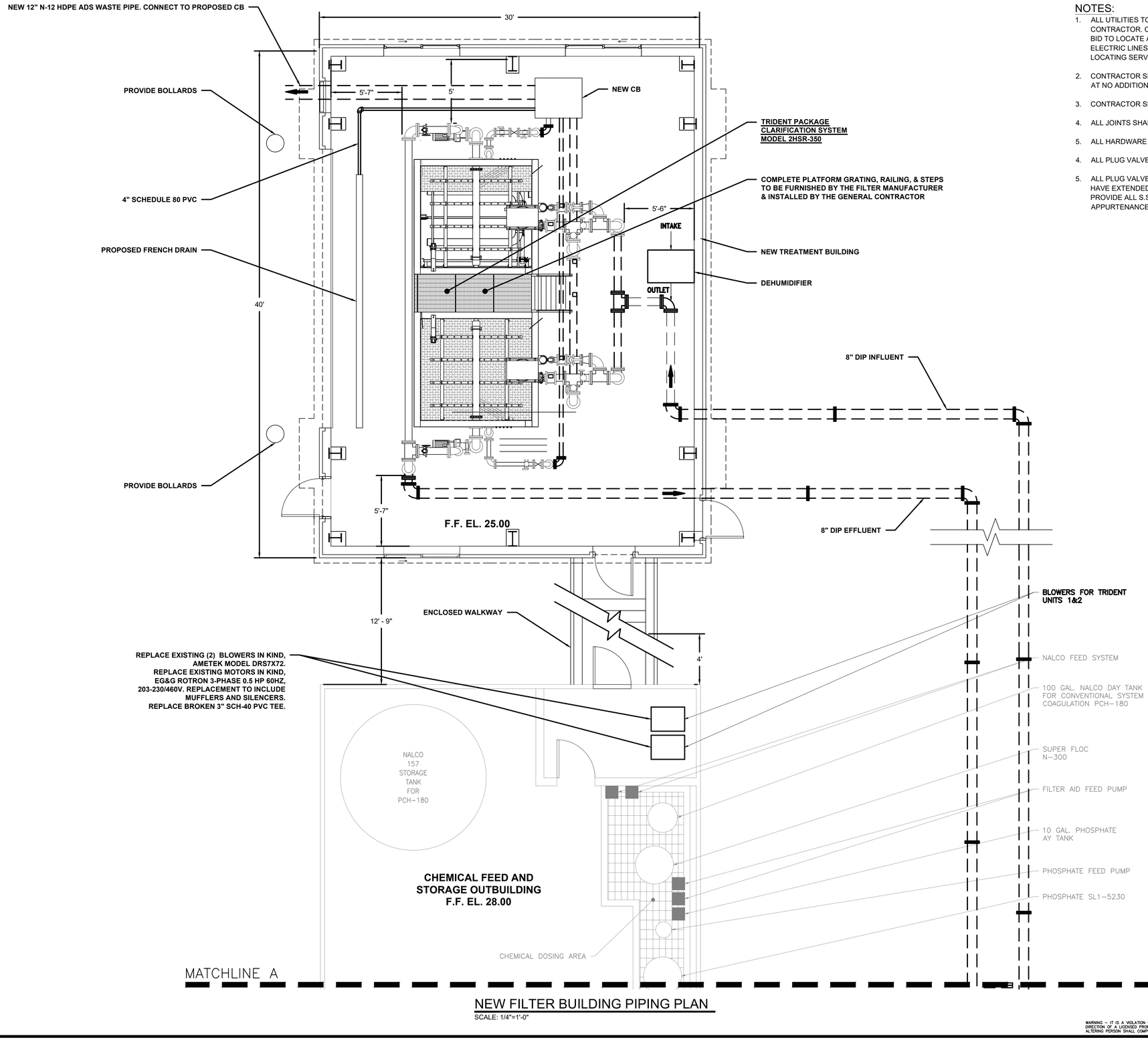

NEW FILTER BUILDING PIPING PLAN

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

NOTES:

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55 SOUTH MAIN ST, ONEONTA, NY 13820 - 607.432.8073
31 NORTH MAIN STREET, LIBERTY, NY 12754 - 845.747.9962
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16 EAST MARKET ST., RED HOOK, NY 12571 - 518.452.1290
548 BROADWAY, MONTICELLO, NY 12701 - 845.791.7777

STATE OF NEW YORK — ROBERT FOSTER — 081181 — LICENSED PROFESSIONAL ENGINEER

REVISIONS

NO.	DATE	DESCRIPTION
1.	06/21/24	MAY 2024 DOH COMMENTS

RHINEBECK WTP
PLANT IMPROVEMENTS
VILLAGE OF RHINEBECK
DUTCHESS COUNTY, NEW YORK

NEW FILTER BUILDING
PIPING PLAN

SHEET:
C-204

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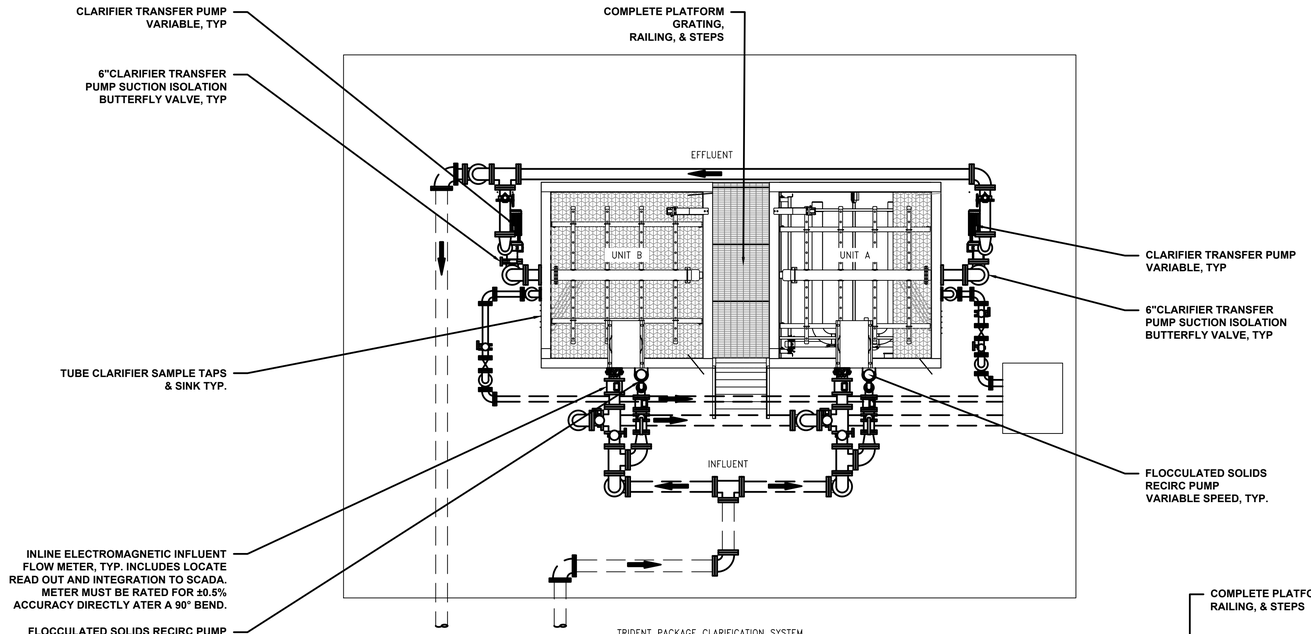
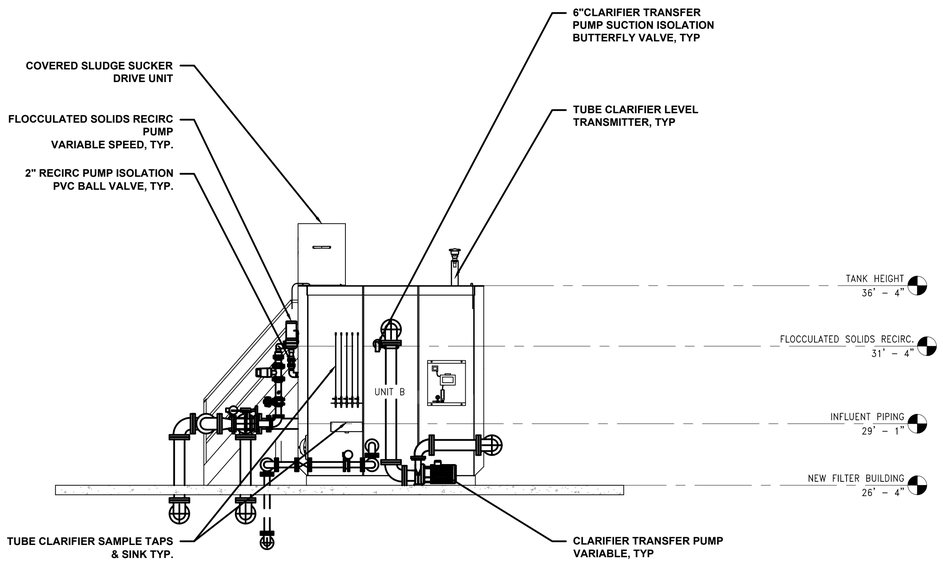
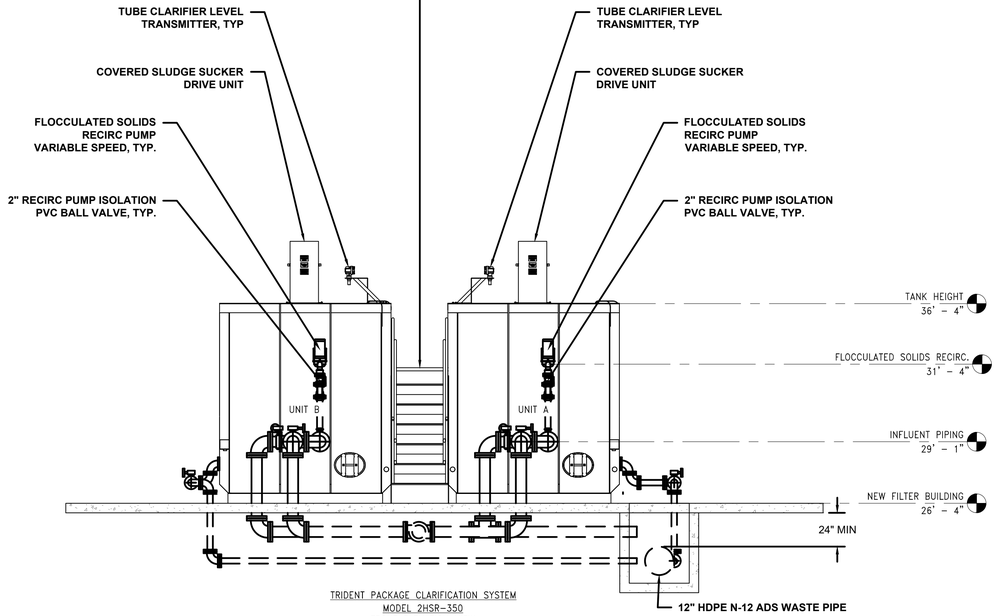


TRIDENT PACKAGE CLARIFICATION SYSTEM
MODEL 2HSR-350
PLAN VIEW
SCALE: ¼" = 1'-0"



TRIDENT PACKAGE CLARIFICATION SYSTEM
MODEL 2HSR-350
UNIT A SIDE ELEVATION VIEW
SCALE: ¼" = 1'-0"



TRIDENT PACKAGE CLARIFICATION SYSTEM
MODEL 2HSR-350
FRONT ELEVATION VIEW
SCALE: ¼" = 1'-0"

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548 BROADWAY, MONTICELLO, NY 12701 - 845.791.1777

STATE OF NEW YORK — ROBERT FORSYTHE — ENGINEER — LICENSED PROFESSIONAL

REVISIONS

NO.	DATE	DESCRIPTION

RHINEBECK WTP
PLANT IMPROVEMENTS
VILLAGE OF RHINEBECK
DUTCHESS COUNTY, NEW YORK

NEW FILTERS PLAN & SECTIONS

SHEET:
C-205

WARNING – IT IS A VIOLATION OF NEW YORK EDUCATION LAW SECTION 7209.2, FOR ANY PERSON, UNLESS HE IS ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER OR LAND SURVEYOR, TO ALTER THIS DOCUMENT IN ANY WAY. IF ALTERED THE ALTERING PERSON SHALL COMPLY WITH THE REQUIREMENTS OF NEW YORK EDUCATION LAW, SECTION 7209.2.

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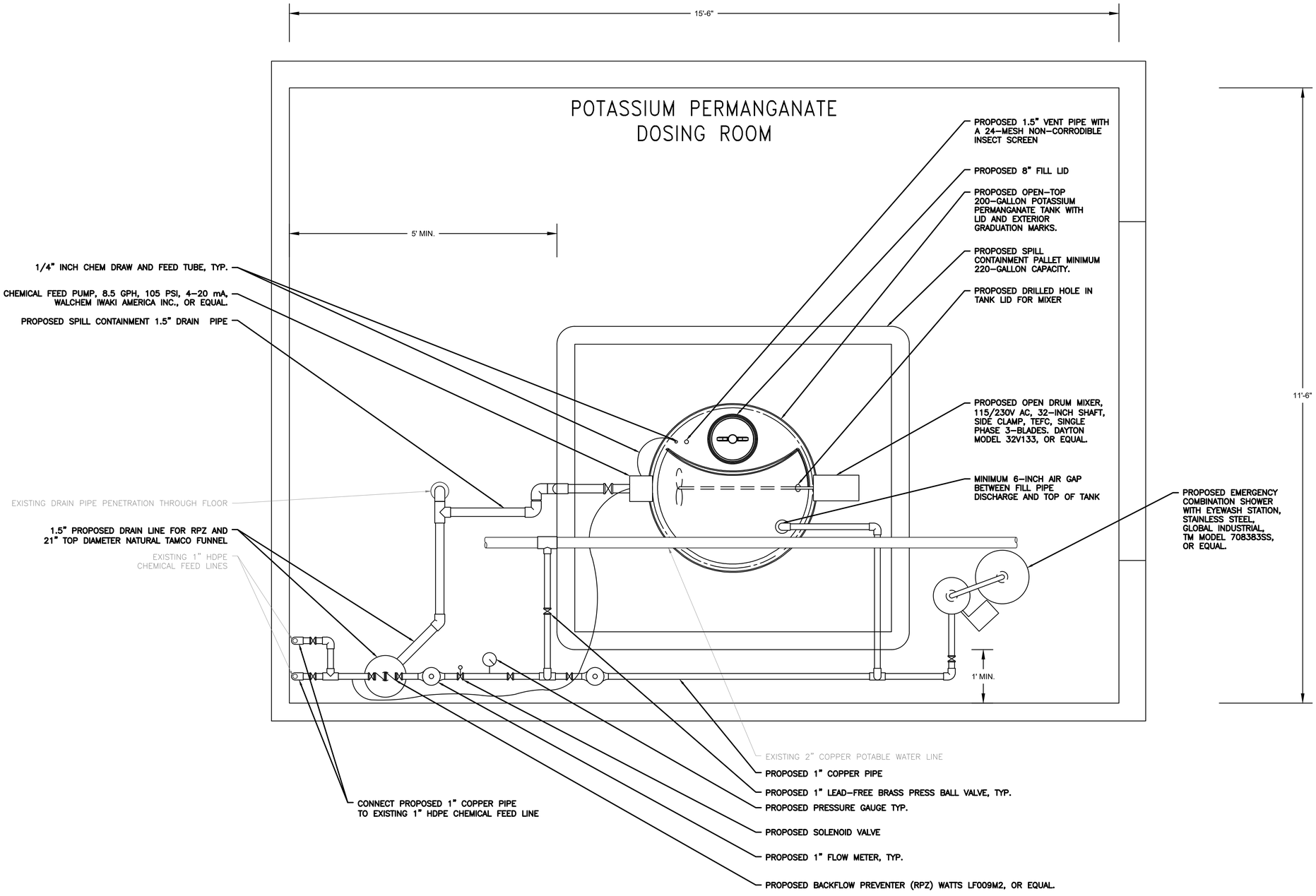
NOTES:

WHEN THE EXISTING RAW WATER PUMPS ACTIVATE, THE SCADA SYSTEM WILL TRANSMIT A SIGNAL, OPENING THE PROPOSED SOLENOID VALVE AND ACTUATING THE PROPOSED CHEMICAL FEED PUMP WHICH WILL OPERATE IN ACCORDANCE WITH THE FLOW RATE DICTATED BY THE PLANT'S INFLUENT TOTAL FLOW READING. THIS PRECISE CONTROL AIMS TO ATTAIN A PERMANGANATE CONCENTRATION IN THE PLANT INFLUENT EQUAL TO 2 PARTS PER MILLION (PPM). UPON DEACTIVATION OF THE RAW WATER PUMPS, THE SOLENOID VALVE WILL CLOSE AND THE CHEMICAL FEED PUMP WILL STOP PUMPING.



C / C-206 PROPOSED POTASSIUM PERMANGANATE DOSING STATION - PLAN VIEW

SCALE: 1"=1'-0"

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6 TOWNSEND STREET, WALTON, NY 13856 - 607.865.9235
16 EAST MARKET ST., RED HOOK, NY 12571 - 518.452.1290
548 BROADWAY, MONTICELLO, NY 12701 - 845.791.1777

REVISIONS

NO.	DATE	DESCRIPTION
1.	06/21/24	MAY 2024 DOH COMMENTS
2.	10/02/24	SEPT. 24 DOH COMMENTS

RHINEBECK WTP
PLANT IMPROVEMENTS
VILLAGE OF RHINEBECK
DUTCHESS COUNTY, NEW YORK

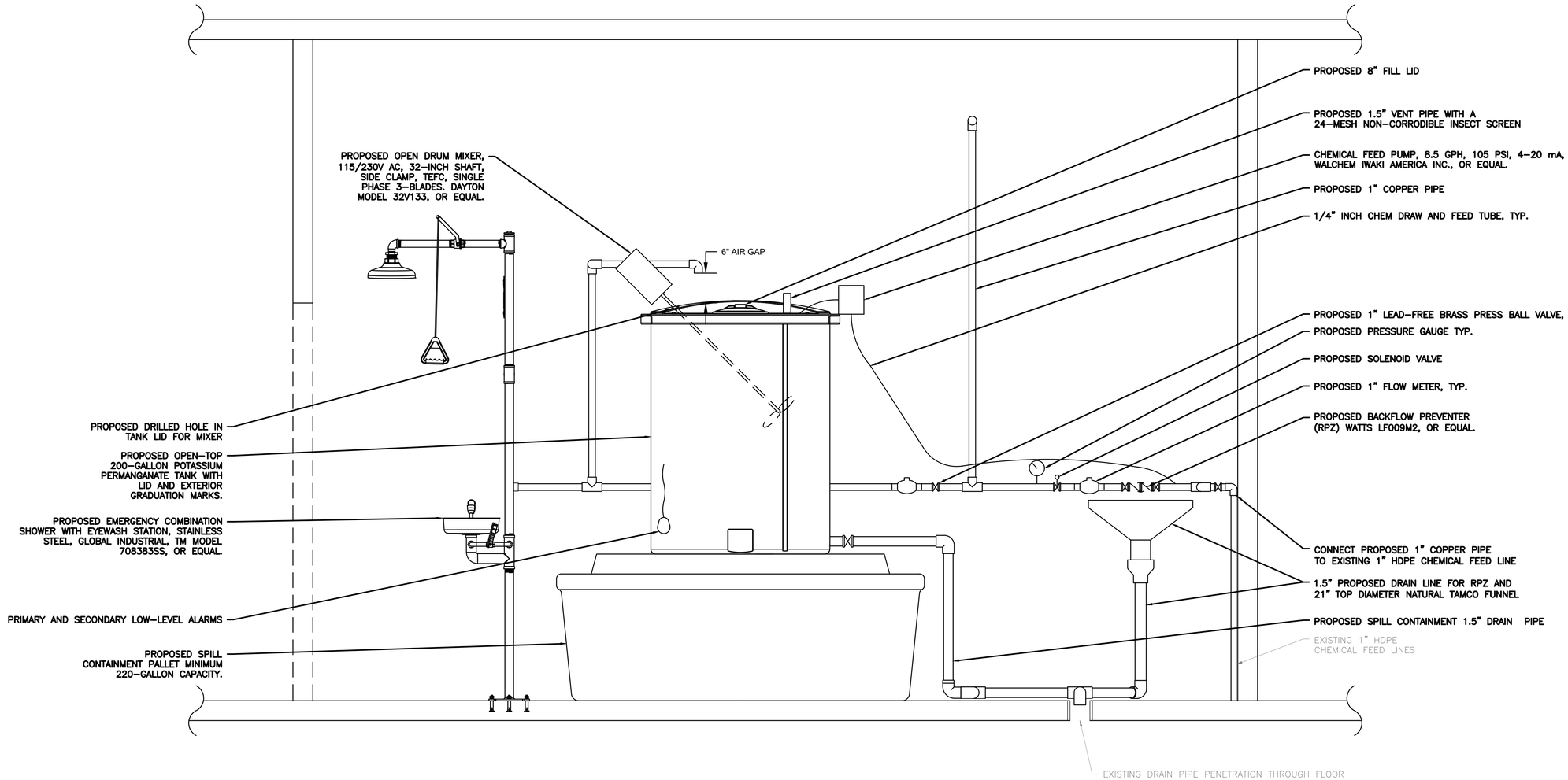
PROPOSED POTASSIUM PERMANGANATE DOSING STATION

SHEET: C-206

File: n:\DRAWINGS\RHINEBECK (V)\22-2486 WTP\C-201 – 205 – PROPOSED FLOOR PLANS & SECTIONS.DWG Saved: 10/2/2024 10:01:40 AM Plotted: 10/2/2024 10:14:51 AM User: Iris Brotes LastSavedBy: brotesi

NOTES:

WHEN THE EXISTING RAW WATER PUMPS ACTIVATE, THE SCADA SYSTEM WILL TRANSMIT A SIGNAL, OPENING THE PROPOSED SOLENOID VALVE AND ACTUATING THE PROPOSED CHEMICAL FEED PUMP WHICH WILL OPERATE IN ACCORDANCE WITH THE FLOW RATE DICTATED BY THE PLANT'S INFLUENT TOTAL FLOW READING. THIS PRECISE CONTROL AIMS TO ATTAIN A PERMANGANATE CONCENTRATION IN THE PLANT INFLUENT EQUAL TO 2 PARTS PER MILLION (PPM). UPON DEACTIVATION OF THE RAW WATER PUMPS, THE SOLENOID VALVE WILL CLOSE AND THE CHEMICAL FEED PUMP WILL STOP PUMPING.



C / C-207 PROPOSED POTASSIUM PERMANGANATE DOSING STATION - SECTION VIEW

SCALE: 1"=1'-0"

WARNING – IT IS A VIOLATION OF NEW YORK EDUCATION LAW SECTION 7209-2, FOR ANY PERSON, UNLESS HE IS ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER OR LAND SURVEYOR, TO ALTER THIS DOCUMENT IN ANY WAY. IF ALTERED THE ALTERING PERSON SHALL COMPLY WITH THE REQUIREMENTS OF NEW YORK EDUCATION LAW, SECTION 7209-2.

DATE: 10/2/2024
DRAWN BY:
SCALE:
REVIEWED BY: RF
PROJECT NO.: ----
FILE:

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CIVIL AND ENVIRONMENTAL ENGINEERING
28 MADISON AVENUE EXTENSION, ALBANY, NY 12203 - 518.452.1290
55 SOUTH MAIN ST, ONEONTA, NY 13820 - 607.432.8073
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548 BROADWAY, MONTICELLO, NY 12701 - 845.791.7777

REVISIONS

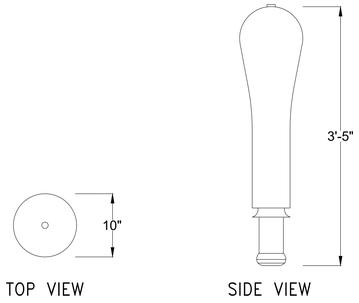
NO.	DATE	DESCRIPTION
1.	10/02/24	SEPT. 24 DOH COMMENTS

RHINEBECK WTP
PLANT IMPROVEMENTS
VILLAGE OF RHINEBECK
DUTCHESS COUNTY, NEW YORK

PROPOSED POTASSIUM PERMANGANATE DOSING STATION

SHEET: C-207

File: I:\DRAWINGS\RHINEBECK (V)\22-2498 WTP\C-201 - 205 - PROPOSED FLOOR PLANS & SECTIONS.DWG Saved: 10/2/2024 10:01:40 AM Plotted: 10/2/2024 10:15:17 AM User: Iris Brotes LastSavedBy: brotesi



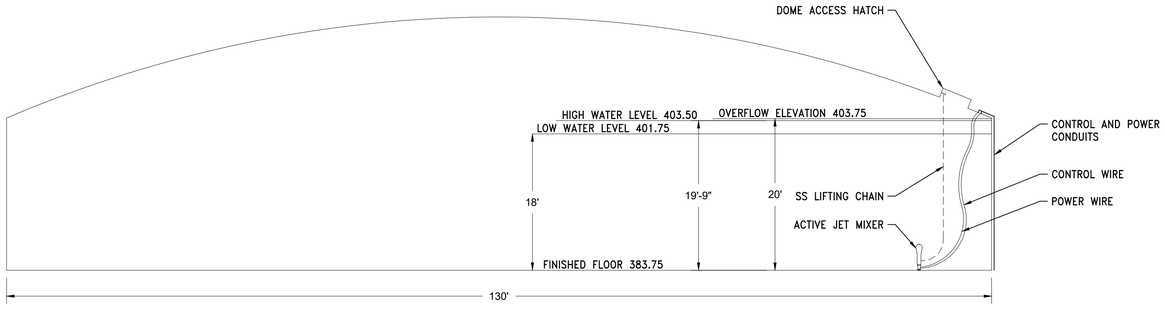
TOP VIEW SIDE VIEW

NOTES:

MAKE/MODEL: PAX WATER MIXER PWM250, OR EQUAL.
MATERIAL – HOUSING: STAINLESS STEEL
MATERIAL – MOTOR SEALS: CHLORINE/CHLORAMINE–RESISTANT NBR RUBBER
MATERIAL – FEET: CHLORINE/CHLORAMINE–RESISTANT EPDM RUBBER
POWER: 230 VAC, 50/60 HZ, SINGLE PHASE – NON–GFCI PROTECTED, 20 AMP CIRCUIT
MOTOR TYPE: 230 VAC, 2 HP, 60 HZ, WATER FILLED, WATER LUBRICATED
WIRING: NSF 61 & UL–LISTED SUBMERSIBLE PUMP CABLE 14 AWG (2.1 MM^2) XLPE

ACTIVE JET MIXER

SCALE: 1" = 1'



WATER STORAGE TANK SECTION VIEW

SCALE: 1" = 10'

TANK NOTES:

CAPACITY: 2 MGD
AVERAGE ASSET TRUNOVER: 0.02 MGD
TANK DIAMETER: 130 FT
TANK HEIGHT: 21 FT
TANK HIGH WATER LEVEL: 20.25 FT
TANK LOW WATER LEVEL: 18 FT

ACTIVE JET MIXER

SCALE: 1" = 30'

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DATE: 2/10/2024
DRAWN BY: KMM
SCALE: 1:40
REVIEWED BY: RF
PROJECT NO.: ---
FILE:

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55 SOUTH MAIN ST, ONEONTA, NY 13820 - 607.432.8073
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548 BROADWAY, MONTICELLO, NY 12701 - 845.791.1777

STATE OF NEW YORK ROBERT FORSYTH ENGINEER LICENSED PROFESSIONAL 085181 1980

REVISIONS

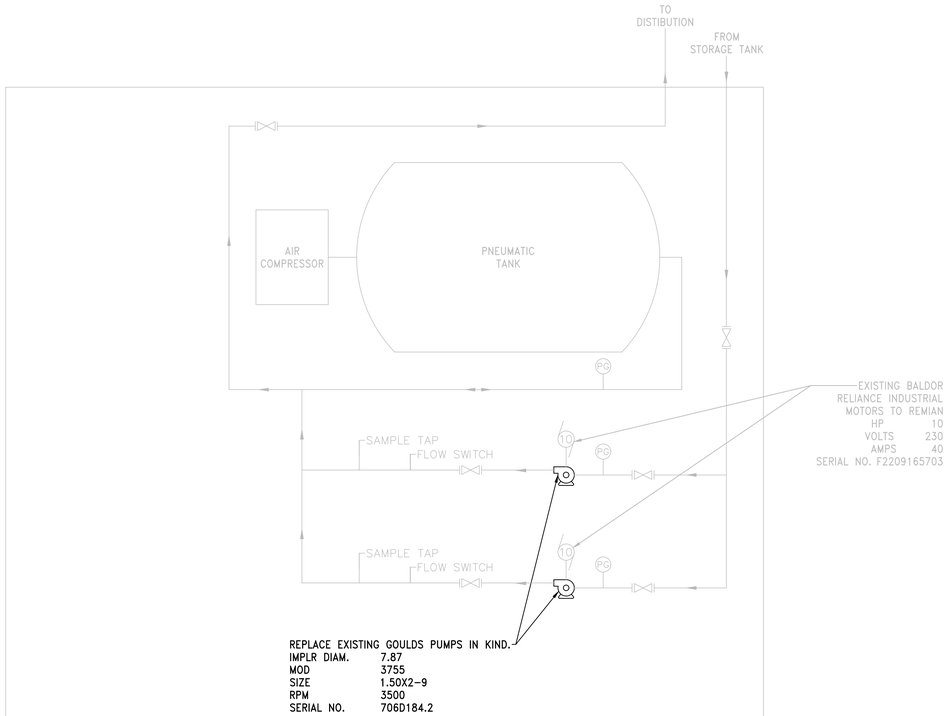
NO.	DATE	DESCRIPTION

RHINEBECK WTP
PLANT IMPROVEMENTS
VILLAGE OF RHINEBECK
DUTCHESS COUNTY, NEW YORK

WATER STORAGE
TANK MIXER

SHEET:
C-300

File: H:\DRAWINGS\RHINEBECK (VA22-2498 WTP)\C-300 - WATER STORAGE TNK MIXER.DWG Saved: 2/10/2024 11:07:06 PM Plotted: 10/2/2024 10:15:23 AM User: Ifa Brokes LastSavedBy: brokes



VIOLET HILL PUMP STATION FLOOR PLAN SCHEMATIC

NOT TO SCALE

SITE PLAN

SCALE: 1" = 30'

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REVIEWED BY: RF
PROJECT NO.: ---
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STATE OF NEW YORK ROBERT FORSTER ENGINEER LICENSED PROFESSIONAL 081986

REVISIONS

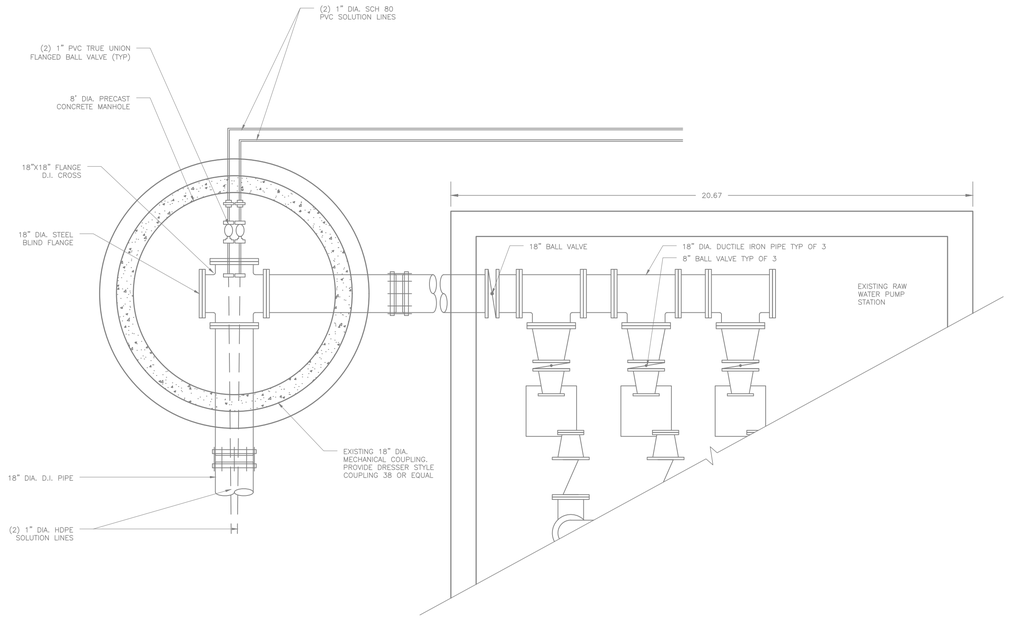
NO.	DATE	DESCRIPTION

RHINEBECK WTP
PLANT IMPROVEMENTS
VILLAGE OF RHINEBECK
DUTCHESS COUNTY, NEW YORK

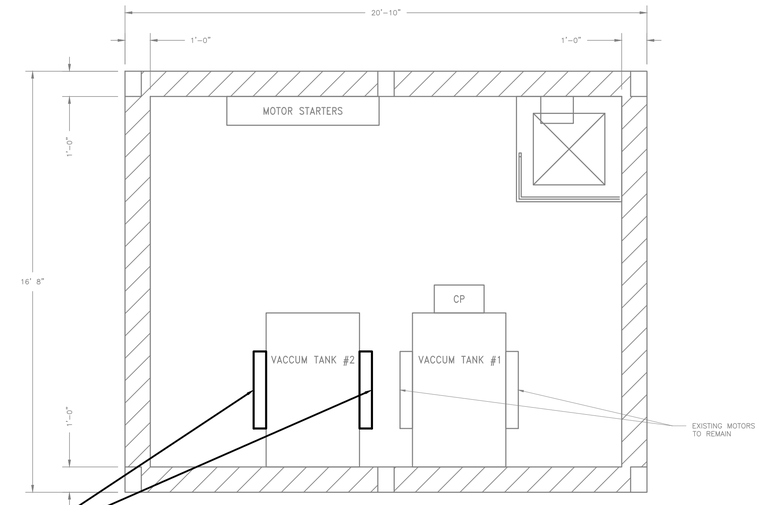
WILLET HILL ESTATES
PUMP STATION

SHEET:
C-400

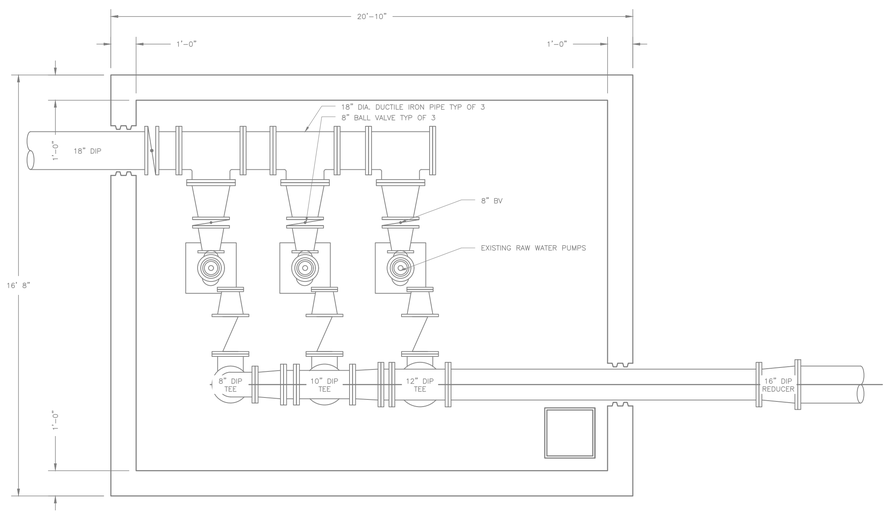
File: \\DE-FILES\PUBLIC\DRAWINGS\RHINEBECK (V)\22-2498 WTP\C-400 - WILLET HILL ESTATES PUMP STATION.DWG Saved: 2/21/2024 4:30:53 PM Plotted: 10/2/2024 10:15:31 AM User: Iris Brokes LastSavedBy: marissa



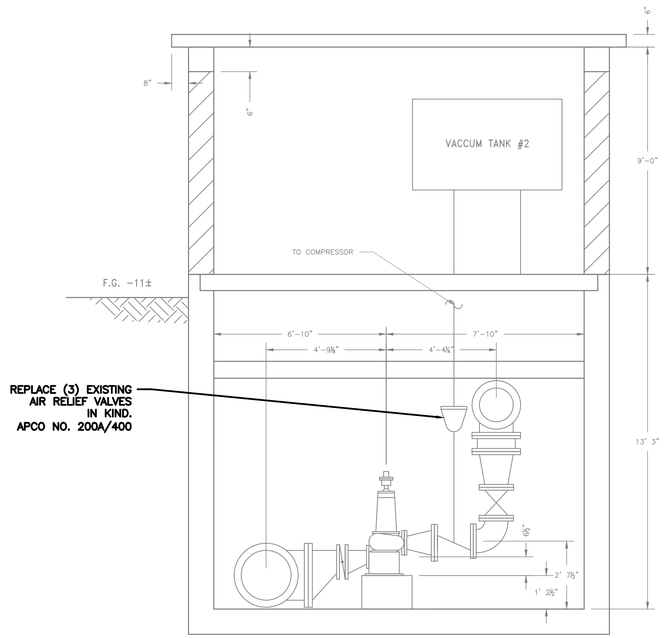
INTAKE MANHOLE PLAN
SCLE ⅜" = 1'0"



MOTOR FLOOR
SCLE ¼" = 1'0"



PUMP ROOM
SCLE ¼" = 1'0"



SECTION
SCLE ¼" = 1'0"

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DATE: 6/21/2024
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FILE: ____

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STATE OF NEW YORK ROBERT FORREST DELAWARE 081396 LICENSED PROFESSIONAL ENGINEER

REVISIONS

NO.	DATE	DESCRIPTION
1.	06/21/24	MAY 2024 DOH COMMENTS

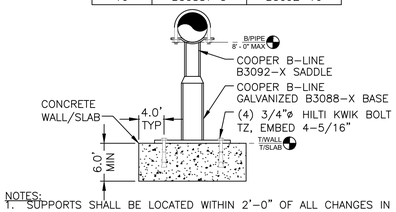
RHINEBECK WTP
PLANT IMPROVEMENTS
VILLAGE OF RHINEBECK
DUTCHESS COUNTY, NEW YORK

RAW WATER PUMP STATION

SHEET:
C-500

FILE: H:\DRAWINGS\RHINEBECK (V)\22-2498 WTP\C-500 - RAW WATER PS DETAILS.DWG Saved: 6/21/2024 10:31:11 AM Plotted: 10/2/2024 10:18:39 AM User: Ira Brokes LastSavedBy: brokes

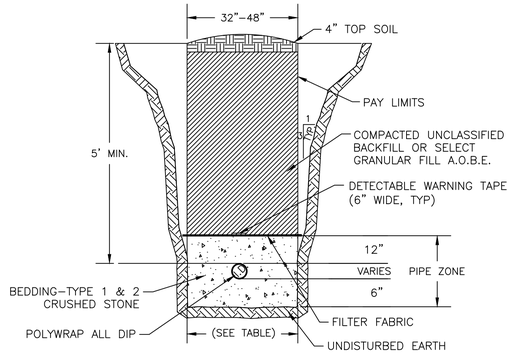
PIPE SUPPORT MODEL		
PIPE SIZE	SUPPORT MODEL	SADDLE MODEL
4	B3088T–3	B3092–4
6	B3088T–3	B3092–6
8	B3088T–3	B3092–8
10	B3088T–3	B3092–10
12	B3088T–3	B3092–12
14	B3088T–3	B3092–14
16	B3088T–3	B3092–16



NOTES:
1. SUPPORTS SHALL BE LOCATED WITHIN 2'–0" OF ALL CHANGES IN DIRECTION AND/OR AS SHOWN ON THE MECHANICAL PLANS, BUT SPACED NO FARTHER THAN 13'–6" ON CENTER.
2. FIELD VERIFY ALL MEASUREMENTS.
3. ALL HARDWARE SHALL BE SS WITH ANTI–SIEZE.
4. PROVIDE ADJUSTABLE PIPE SUPPORTS, COOPER B–LINE GLAVANIZED B3088–X BASE. PROVIDE B3092–X SADDLES OR B3094–X FLANGE SUPPORT SIZED FOR SPECIFIC PIPE. PROVIDE PROTECTION BETWEEN DISSIMILAR METALS PER SPECS.

PIPE SUPPORT A DETAIL

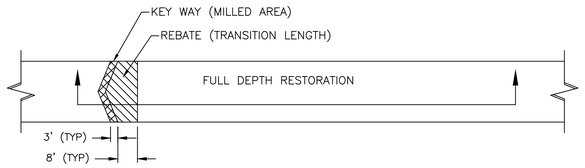
N.T.S.



PIPE SIZE I.D. INCHES	MIN. SUGGESTED TRENCH WIDTH FOR AMPLE WORKING SPACE (I.D. PLUS 24 INCHES
I.D.	W MIN.
4	28
6	30
8	32
12	36
18	42
24	48
30	54

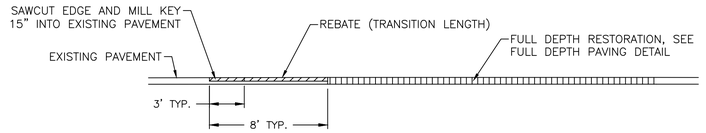
TRENCH IN EARTH DETAIL

SCALE: NTS



TYPICAL PAVEMENT RESTORATION WITH REBATE

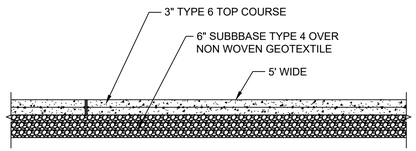
SCALE: NTS



TYPICAL SECTION FOR PAVEMENT RESTORATION WITH REBATE

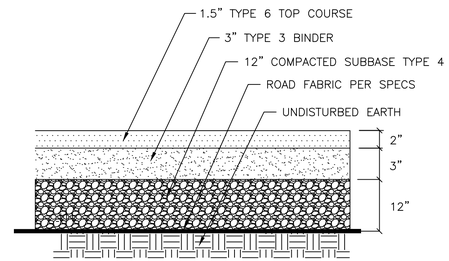
SCALE: NTS

NOTES:
1. ALL SURFACES OF THE TRANSITION AREA SHALL BE CLEANED AND TACK COATED PRIOR TO ASPHALT PLACEMENT. THE COST OF SAWCUTTING, MILLING REBATES, TACK COAT AND CLEANING PAVEMENT IN THE TRANSITION AREA SHALL BE INCLUDED IN THE BID.
2. TRUE & LEVEL COURSE SHALL BE USED AOBE.
3. SAW CUTS SHALL BE MADE SO THAT SURFACE RUNOFF IS DIRECTED TO THE EDGE OF PAVEMENT.



TYPICAL ASPHALT SIDEWALK DETAIL

SCALE: NTS

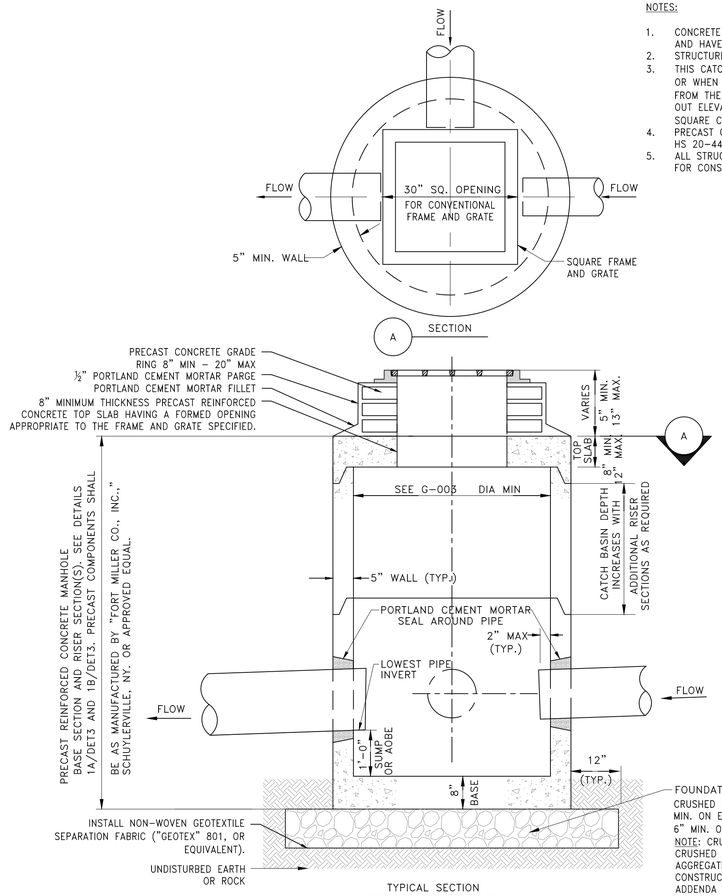


FULL DEPTH PAVING DETAIL

SCALE: NTS

NOTES:

1. CONCRETE SHALL HAVE A 28–DAY COMPRESSIVE STRENGTH (f'c) OF 4,000 PSI AND HAVE BETWEEN 5% AND 8% ENTRAINED AIR.
2. STRUCTURES SHALL BE WET CAST ONLY.
3. THIS CATCH BASIN SHALL BE UTILIZED WITH PIPE SIZES GREATER THAN 15" INØ OR WHEN THE HEIGHT OF THE CATCH BASIN EXCEEDS 4'–4" AS MEASURED FROM THE FINISHED TOP OF FRAME AND GRATE (RIM) ELEVATION TO THE INVERT OUT ELEVATION. FOR SHALLOWER STRUCTURES, USE A PRECAST CONCRETE SQUARE CATCH BASIN (SEE DETAIL 1/D2) UNLESS OTHERWISE INDICATED.
4. PRECAST CONCRETE ROUND CATCH BASIN SHALL BE REINFORCED TO WITHSTAND HS 20–44 LOAD IN TRAFFIC AREAS.
5. ALL STRUCTURES WITHIN THE NYSDOT ROW SHALL FOLLOW ALL NYSDOT STANDARDS FOR CONSTRUCTION AND FOLLOW MP05–04 PROCEDURE.



NOTE: CRUSHED STONE FOUNDATION COURSE SHALL BE NO. 2 CRUSHED STONE CONFORMING WITH SECTION 703–02, COARSE AGGREGATE OF THE NYSDOT STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIAL, DATED MAY 1, 2008, AND ALL ADDENDA THERETO.

2 / D2 PRECAST CONCRETE DRAINAGE MANHOLE

SCALE: NOT TO SCALE

DATE: 7/2/2024
DRAWN BY:
SCALE:
REVIEWED BY: RF
PROJECT NO.: ----
FILE:

DELAWARE ENGINEERING, D.P.C.
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STATE OF NEW YORK ROBERT FOSTER 090181 LICENSED PROFESSIONAL ENGINEER

REVISIONS

NO.	DATE	DESCRIPTION

RHINEBECK WTP
PLANT IMPROVEMENTS
VILLAGE OF RHINEBECK
DUTCHESS COUNTY, NEW YORK

DETAILS

SHEET: D-101

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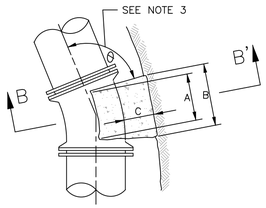
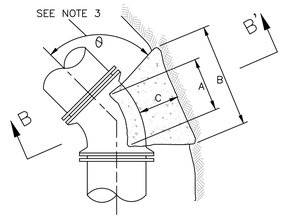
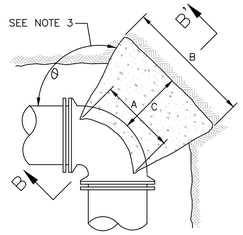


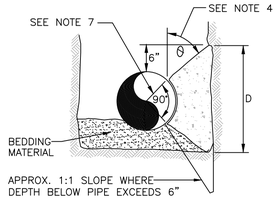
PLAN
11 1/4° & 22 1/2° BENDS



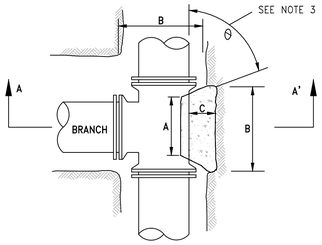
PLAN
45° BEND



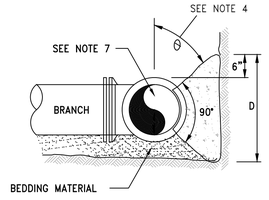
PLAN
90° BEND



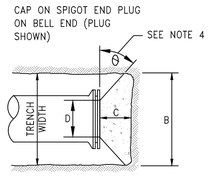
SECTION B–B'



PLAN
TEES



SECTION A–A'



PLAN
DEAD END

JOINT RESTRAINED SCHEDULE							
PIPE SIZE	90°	45°	22 ½°	11 ¼°	TEES (ALONG BRANCH)	REDUCER (LARGER O.D.)	DEAD ENDS
6"	15'	10'	5'	5'	20'	–	60'
8"	20'	10'	5'	5'	55'	–	70'
10"	25'	10'	5'	5'	65'	–	85'
12"	30'	15'	10'	5'	80'	–	95'
16"	36'	20'	15'	15'	90'	–	105'
8"x6"	–	–	–	–	35'	30'	–
10"x8"	–	–	–	–	50'	30'	–
12"x8"	–	–	–	–	45'	55'	–
12"x10"	–	–	–	–	65	30'	–

1. MINIMUM LENGTH IN FEET TO BE RESTRAINED IN EACH DIRECTION.
2. ACTUAL LENGTH SHALL BE BASED ON SOIL CONDITIONS.
3. RESTRAINT BASED ON TYPICAL SOIL CONDITIONS, 150 PSI TEST PRESSURE AND BEDDING PER PROJECT TRENCH DETAIL. FOR VALVES USE LENGTHS AS INDICATED FOR 90° BEND.
4. RESTRAINT BASED ON DUCTILE IRON PIPE WITH POLYETHYLENE ENCASEMENT
5. APPROVED RESTRAINERS: APPROVED MEGA–LUG TYPE FOR MECHANICAL JOINTS AND FIELD LOK GASKETS FOR PUSH JOINTS
6. ALL RESTRAINT BOLTS AND NUTS SHALL BE 304 S.S WITH ANTI–SIEZE PER SPECS.
7. THRUST BLOCKS SHALL ONLY BE USED ON DEAD ENDS PER CONTRACT PLANS.
8. MIN 4' GROUND COVER REQUIRED.
9. IF RESTRAINT LENGTH IS LESS THAN THE LENGTH OF PIPE, CONTRACTOR SHALL RESTRAIN THE NEXT JOINT.
10. ALL RESTRAINTS FOR ELBOWS ARE FOR HORIZONTAL INSTALLATION. CONTRACTOR SHALL CONSULT ENGINEER FOR VERTICAL RESTRAINT SCHEDULE.

2 / D–102 TYPICAL JOINT RESTRAINT DETAIL
SCALE: NOT TO SCALE

TABLE No. 1: THRUST BLOCK AREA REQUIRED

0–50 PSI TEST PRESSURE THRUST AREA REQ'D FT.²						50–100 PSI TEST PRESSURE THRUST AREA REQ'D FT.²						100–150 PSI TEST PRESSURE THRUST AREA REQ'D FT.²					
NOMINAL PIPE DIAMETER	DEAD END	90° BEND OR TEE	45° BEND	22 1/2° BEND	11 1/4° BEND	NOMINAL PIPE DIAMETER	DEAD END	90° BEND	45° BEND	22 1/2° BEND	11 1/4° BEND	NOMINAL PIPE DIAMETER	DEAD END	90° BEND	45° BEND	22 1/2° BEND	11 1/4° BEND
4	1.0	1.0	1.0	1.0	1.0	4	1.0	2.0	1.0	1.0	1.0	4	2.0	2.0	1.0	1.0	1.0
6	1.0	2.0	1.0	1.0	1.0	6	2.0	3.0	2.0	1.0	1.0	6	3.0	4.0	2.0	1.0	1.0
8	2.0	3.0	1.0	1.0	1.0	8	3.0	5.0	3.0	2.0	1.0	8	5.0	7.0	4.0	2.0	1.0
10	3.0	3.0	2.0	1.0	1.0	10	5.0	7.0	4.0	2.0	1.0	10	8.0	11.0	6.0	3.0	2.0
12	4.0	5.0	3.0	2.0	1.0	12	7.0	10.0	5.0	3.0	2.0	12	10.0	15.0	8.0	4.0	2.0
16	5.0	6.0	4.0	3.0	2.0	16	8.0	12.0	6.0	4.0	3.0	16	12.0	18.0	10.0	6.0	4.0

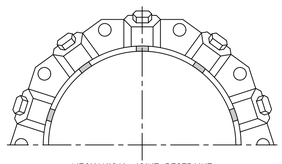
TABLE No. 2: RESTRAINING ROD REQUIREMENTS FOR MECHANICAL JOINT PIPING SYSTEMS

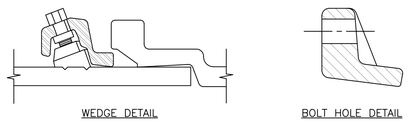
0–50 PSI TEST PRESSURE NUMBER & SIZE OF RESTRAINING RODS						50–100 PSI TEST PRESSURE NUMBER & SIZE OF RESTRAINING RODS						100–150 PSI TEST PRESSURE NUMBER & SIZE OF RESTRAINING RODS					
NOMINAL PIPE DIAMETER	DEAD END	90° BEND OR TEE	45° BEND	22 1/2° BEND	11 1/4° BEND	NOMINAL PIPE DIAMETER	DEAD END	90° BEND	45° BEND	22 1/2° BEND	11 1/4° BEND	NOMINAL PIPE DIAMETER	DEAD END	90° BEND	45° BEND	22 1/2° BEND	11 1/4° BEND
4	(2) 3/4"	(2) 3/4"	(2) 3/4"	(2) 3/4"	(2) 3/4"	4	(2) 3/4"	(2) 3/4"	(2) 3/4"	(2) 3/4"	(2) 3/4"	4	(2) 3/4"	(2) 3/4"	(2) 3/4"	(2) 3/4"	(2) 3/4"
6	(2) 3/4"	(2) 3/4"	(2) 3/4"	(2) 3/4"	(2) 3/4"	6	(2) 3/4"	(2) 3/4"	(2) 3/4"	(2) 3/4"	(2) 3/4"	6	(2) 3/4"	(2) 3/4"	(2) 3/4"	(2) 3/4"	(2) 3/4"
8	(2) 3/4"	(2) 3/4"	(2) 3/4"	(2) 3/4"	(2) 3/4"	8	(2) 3/4"	(2) 3/4"	(2) 3/4"	(2) 3/4"	(2) 3/4"	8	(2) 3/4"	(2) 3/4"	(2) 3/4"	(2) 3/4"	(2) 3/4"
10	(2) 3/4"	(2) 3/4"	(2) 3/4"	(2) 3/4"	(2) 3/4"	10	(2) 3/4"	(2) 3/4"	(2) 3/4"	(2) 3/4"	(2) 3/4"	10	(4) 3/4"	(4) 3/4"	(2) 3/4"	(2) 3/4"	(2) 3/4"
12	(2) 3/4"	(2) 3/4"	(2) 3/4"	(2) 3/4"	(2) 3/4"	12	(4) 3/4"	(4) 3/4"	(2) 3/4"	(2) 3/4"	(2) 3/4"	12	(4) 3/4"	(4) 3/4"	(2) 3/4"	(2) 3/4"	(2) 3/4"
16	(4) 3/4"	(4) 3/4"	(4) 3/4"	(4) 3/4"	(4) 3/4"	16	(6) 3/4"	(6) 3/4"	(4) 3/4"	(4) 3/4"	(4) 3/4"	16	(6) 3/4"	(6) 3/4"	(4) 3/4"	(4) 3/4"	(4) 3/4"

THRUST BLOCK NOTES:

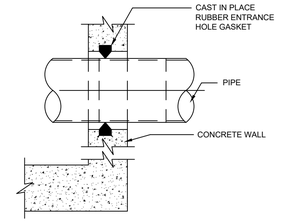
1. WHERE A HORIZONTAL BEND IS MADE, THE PIPING SHALL BE RESTRAINED BY MEANS OF A THRUST BLOCK AS DETAILED ON THIS SHEET. WHERE VERTICAL OFFSETS ARE MADE, THE TOP BEND SHALL BE RESTRAINED BY RESTRAINING RODS AND STRAPS, CONCRETE THRUST ANCHOR BLOCKS AND RESTRAINING RODS, OR A COMBINATION OF BOTH. THE BOTTOM BENDS SHALL BE RESTRAINED BY CONCRETE THRUST BLOCKS AS DETAILED.
2. "A", "B" AND "D" DIMENSIONS SHALL BE AS LARGE AS POSSIBLE WITHOUT INTERFERING WITH THE MECHANICAL JOINTS OR THE BOLTS.
3. "C" DIMENSIONS SHALL BE LARGE ENOUGH TO MAKE ANGLE ø EQUAL TO OR LARGER THAN 45°. ANGLE ø SHALL BE EQUAL TO OR LARGER THAN 45°.
4. "B" AND "D" DIMENSIONS SHALL PROVIDE REQUIRED BLOCKING AREA AS LISTED IN TABLE 1. REFER TO THE SPECIFICATIONS FOR THE PRESSURE RATING OF THE PIPING SYSTEMS.
5. CONCRETE SHALL BEAR ON THE CONCRETE QUADRANT OF PIPE AS A MINIMUM.
6. WHERE THRUST BLOCKS ARE NOT POSSIBLE BECAUSE OF POOR SOIL CONDITIONS OR LACK OF ROOM, STRAPPING SHALL BE PERMITTED. THE CONTRACTOR SHALL SUBMIT TO THE ENGINEER FOR REVIEW & APPROVAL A LIST OF RESTRAINT MATERIAL, DETAILS OF THE RESTRAINT & METHODS OF CONSTRUCTION, AND SIZES OF ALL RESTRAINT MEMBERS HE DESIRES TO USE FOR THRUST ANCHOR BLOCKS, RESTRAINING RODS AND STRAPS.
7. THE THRUST BLOCK AREAS SHOWN IN TABLE 1 ARE CALCULATED USING A SOIL BEARING CAPACITY OF 2000 psf. IF GREATER SOIL BEARING CAPACITY IS AVAILABLE, THE CONTRACTOR MAY, AFTER REVIEW AND APPROVAL BY THE ENGINEER, REDUCE THE THRUST BLOCK AREAS SHOWN ON TABLE 1. THE THRUST BLOCK AREA SHALL BE INCREASED IF THE SOIL IS NOT CAPABLE OF PROVIDING 2000 psf SOIL BEARING CAPACITY.
8. THE CONCRETE FOR BUTTRESSES SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 3000 psi.
9. IF THE CONTRACTOR DESIRES TO USE ALTERNATE METHODS OF RESTRAINT, HE SHALL SUBMIT A RESTRAINT SCHEDULE TO THE ENGINEER FOR REVIEW & APPROVAL, DETAILING THE SYSTEM HE PROPOSES TO USE.
10. RESTRAINT RODS FOR BOTH INTERIOR AND EXTERIOR PIPING SYSTEMS SHALL BE INSTALLED IN ACCORDANCE WITH THE NUMBER & SIZE LISTED IN TABLE 1 AND/OR TABLE 2. THE NUMBER & SIZE OF RESTRAINING RODS IN TABLES 1 & 2 ARE CALCULATED USING ASTM A307 STEEL. THE RESTRAINT RODS SHALL BE ANCHORED TO PROVIDE A RIGID PIPING SYSTEM. THE CONTRACTOR SHALL SUBMIT DETAILS OF THE SYSTEM TO THE ENGINEER FOR REVIEW & APPROVAL. ALL RESTRAINING RODS SHALL BE EQUALLY SPACED AROUND THE CIRCUMFERENCE OF THE PIPE. INTERIOR RESTRAINING RODS SHALL BE PAINTED THE SAME PAINTING SYSTEM SPECIFIED FOR THE PIPING SYSTEM. EXTERIOR RESTRAINING RODS AND MISCELLANEOUS STEEL MATERIALS SHALL BE COATED WITH A BITUMASTIC PAINT SUCH AS KOPPERS NO. 505, MOBILE, OR APPROVED EQUAL.
11. THE CONTRACTOR SHALL SIZE ALL STRAPS, BOLTS, AND WASHERS TO BE COMPATIBLE WITH THE STRENGTH OF THE RESTRAINING RODS AND THE DETAILS SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW AND APPROVAL.
12. THE CONTRACTOR SHALL REFER TO THE LATEST EDITION OF "A GUIDE FOR THE INSTALLATION OF DUCTILE IRON PIPE" PUBLISHED BY THE CAST IRON PIPE RESEARCH ASSOCIATION FOR DESIGN AND INSTALLATION OF RESTRAINT SYSTEM.
13. ALL FITTINGS SHALL BE MECHANICAL JOINT WITH RETAINER GLANDS, TYPE 1.
14. WHERE SHOWN ON THE PLANS ALL DUCTILE IRON PIPING, FITTINGS ETC. SHALL BE POLYETHYLENE ENCASED IN ACCORDANCE WITH THE LATEST STANDARDS OF THE AWWA.
15. INSTALLATION OF ALL WATER SERVICES CROSSING STATE AND COUNTY ROADS SHALL BE BY DIRECT BORING METHODS. SERVICE CROSSINGS OF TOWN ROADS SHALL BE BY OPEN TRENCH METHOD.

1 / D–102 TYPICAL THRUST BLOCK DETAIL
SCALE: NOT TO SCALE

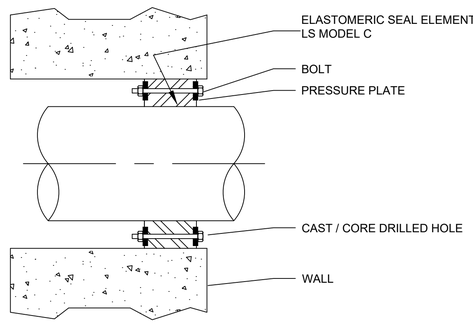




3 / D–102 MECHANICAL JOINT DETAIL
SCALE: NOT TO SCALE



5 / D–102 TYPICAL FELXIBLE WATER–TIGHT BOOT SEAL THROUGH CALNCRETE WALL DETAIL
SCALE: NOT TO SCALE
NOTE: TO BE INSTALLED DURING FABRICATION OF CONCRETE WALL



LINK-SEAL® MODULAR SEALS WITH CAST OR CORE DRILLED WALL OPENING MANUFACTURED BY PIPELINE SEAL & INSULATOR, INC.

4 / D–102 LINK SEAL DETAIL
SCALE: NOT TO SCALE

WARNING – IT IS A VIOLATION OF NEW YORK EDUCATION LAW SECTION 7209.2, FOR ANY PERSON, UNLESS HE IS ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER OR LAND SURVEYOR, TO ALTER THIS DOCUMENT IN ANY WAY. IF ALTERED THE ALTERING PERSON SHALL COMPLY WITH THE REQUIREMENTS OF NEW YORK EDUCATION LAW, SECTION 7209.2.

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DATE: 7/2/2024
DRAWN BY:
SCALE:
REVIEWED BY: RF
PROJECT NO.: ----
FILE:

REVISIONS

NO.	DATE	DESCRIPTION

RHINEBECK WTP
PLANT IMPROVEMENTS
VILLAGE OF RHINEBECK
DUTCHESS COUNTY, NEW YORK

THRUST BLOCK & WATER TIGHT SEAL DETAILS

SHEET: D–102

File: H:\DRAWINGS\RHINEBECK (V)\22–2466 WTP\D–101 – 102 – DETAILS.DWG Saved: 7/2/2024 12:57:33 PM Plotted: 10/2/2024 10:15:56 AM User: ira Brokes (astSaveBy: brokes

EROSION AND SEDIMENT CONTROL NOTES

1. THE CONTRACTOR'S ATTENTION IS DIRECTED TO THE FACT THAT THROUGHOUT THE DURATION OF THE CONTRACT IT WILL BE THE CONTRACTOR'S RESPONSIBILITY TO PROTECT ALL WATER COURSES FROM WATER BORNE SEDIMENT POLLUTANTS ORIGINATING FROM ANY WORK DONE ON, OR IN SUPPORT OF THIS PROJECT.

2. THE SEDIMENT CONTROL NOTES AND DETAILS SHOWN ON THIS DRAWING ARE NOT INTENDED TO BE ALL INCLUSIVE BUT TO SERVE AS A GUIDELINE FOR THE DEVELOPMENT OF THE CONTRACTOR'S EROSION AND SEDIMENT CONTROL SCHEDULE REQUIRED.

3. THE CONTRACTOR WILL SUPPLY THE VILLAGE OF SOUTH GLENS FALLS (OWNER) WITH AN INVENTORY OF ON-SITE EROSION AND CONTROL ITEMS PRIOR TO COMMENCEMENT OF ANY INTRUSIVE SITE WORK. THE INVENTORY WILL BE UPDATED ON A WEEKLY BASIS.

4. ALL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE IN PLACE BEFORE COMMENCING WORK WITHIN AN AREA. ALL EROSION AND SEDIMENT CONTROL MEASURES WILL CONFORM TO THE "NEW YORK STATE STANDARDS AND SPECIFICATIONS FOR EROSION AND SEDIMENT CONTROL".

5. THE CONTRACTOR SHALL IDENTIFY STAGING, STOCKPILE AND SPOIL DISPOSAL AREAS FOR OWNER REVIEW AND APPROVAL PRIOR TO THE START OF CONSTRUCTION.

6. THE CONTRACTOR SHALL OBSERVE ALL RULES AND REGULATIONS OF THE STATE OF NEW YORK AND AGENCIES OF THE FEDERAL GOVERNMENT THAT APPLY TO THIS PROJECT

7. THE CONTRACTOR WILL HAVE ON-SITE DURING ALL SOIL DISTURBANCE ACTIVITIES, A TRAINED CONTRACTOR THAT MEETS THE TRAINING REQUIREMENTS OF THE NYSDEC GP-0-15-002 PERMIT. THE TRAINED CONTRACTOR WILL BE RESPONSIBLE FOR THE DAY TO DAY IMPLEMENTATION OF THE SWPPP AND WILL INSPECT EROSION AND SEDIMENT CONTROLS ON A DAILY BASIS. REPAIRS SHALL BE MADE AS NEEDED. SEDIMENT SHALL BE REMOVED WHEN THE STORAGE VOLUME OF AN EROSION CONTROL MEASURE IS APPROACHING ONE HALF OF ITS INTENDED CAPACITY OR A.O.B.E. THE CONTRACTOR OR ENGINEER WILL COMPLETE A SITE LOGBOOK DOCUMENTING ALL INSPECTIONS AND MAINTENANCE ACTIVITIES. AN INSPECTION SHALL BE SCHEDULED PRIOR TO COMMENCEMENT OF CONSTRUCTION AND A CERTIFICATION SHALL BE PROVIDED STATING THAT THE SITE IS READY FOR CONSTRUCTION TO START.

8. SILT FENCE WILL BE PLACED AROUND SOIL AND STONE STOCKPILES THAT WILL REMAIN IN PLACE FOR MORE THAN 7 DAYS. SOIL STOCKPILES THAT WILL REMAIN IN PLACE FOR MORE THAN SEVEN DAYS WILL BE MULCHED AND SEEDED IF THEY ARE INACTIVE.

9. IN AREAS WHERE SOIL DISTURBANCE ACTIVITY HAS TEMPORARILY OR PERMANENTLY CEASED, THE APPLICATION OF SOIL STABILIZATION MEASURES MUST BE INITIATED BY THE END OF THE NEXT BUSINESS DAY AND COMPLETED WITHIN FOURTEEN (14) DAYS FROM THE DATE THE CURRENT SOIL DISTURBANCE ACTIVITY CEASED

10. ALL STOCKPILE AND EQUIPMENT STORAGE AREAS WILL BE DECOMPACTED PURSUANT TO THE NYSDEC DOCUMENT "DEEP-RIPPING AND DECOMPACTION", 2008, THE SOIL RESTORED PER THE NYSSESC "SOIL RESTORATION" SPECIFICATION FOLLOWED BY SEEDING AND MULCHING.

11. ALL UTILITY LINE TRENCHES IN UNDISTURBED AREAS WILL BE BACKFILLED AT THE END OF EACH WORKDAY AND WILL BE MULCHED AND SEEDED.

12. IN PAVEMENT AREAS ALL UTILITY LINE TRENCHES WILL BE BACKFILLED AT THE END OF EACH WORKDAY. ALSO, THE TRENCH AREA WILL BE TEMPORARILY COVERED WITH THE REQUIRED AMOUNT OF ROAD SUBBASE PLUS THE ADDITIONAL AMOUNT NEEDED TO MEET THE EXISTING ROAD GRADE TO MINIMIZE EROSION. THE CONTRACTOR WILL BE REQUIRED TO INSTALL A MINIMUM OF 2" COLD PATCH OVER THE REQUIRED SUBBASE IN ALL DISTURBED AREAS ON A DAILY BASIS ONCE THE ASPHALT PLANTS HAVE SHUT DOWN FOR THE WINTER. THE CONTRACTOR WILL BE REQUIRED TO MAINTAIN THE SURFACE IN GOOD CONDITION TO THE SATISFACTION OF THE OWNER AND THE ENGINEER. THE COLD PATCH SHALL BE REMOVED AND REPLACED WITH THE SPECIFIED AMOUNT OF TYPE 3 BINDER ASPHALT AS SOON AS THE ASPHALT PLANTS REOPEN IN THE SPRING.

13. IN NON-PAVED AREAS OUTSIDE OF ROADWAYS WITH ON SMOOTH SLOPE GREATER THAN 15% OR AS NOTED BY THE ENGINEER, SEED AND APPLY NORTH AMERICAN GREEN C125I1BN EROSION CONTROL BLANKET (OR EQUIVALENT) TO THE PREPARED SEEDBED. ON ROUGH SLOPES GREATER THAN 33.1 PERCENT SEED AND MULCH AND ANCHOR MULCH WITH EITHER MULCH NETTING, WOOD CELLULOSE FIBER OR A TACKIER PER MANUFACTURES INSTRUCTIONS. DECOMPACT ALL DISTURBED PERVIOUS AREAS PURSUANT TO THE NYSDEC DOCUMENT "DEEP-RIPPING AND DECOMPACTION", 2008 AND THE SOIL RESTORED PER THE NYSSESC "SOIL RESTORATION" SPECIFICATION. SEED AND MULCH FOLLOWING SOIL DECOMPACTION.

14. DECOMPACT ALL DISTURBED PERVIOUS AREAS PURSUANT TO THE NYSDEC DOCUMENT "DEEP-RIPPING AND DECOMPACTION", 2008 AND THE SOIL RESTORED PER THE NYSSESC "SOIL RESTORATION" SPECIFICATION. SEED AND MULCH FOLLOWING SOIL DECOMPACTION.

15. THE FOLLOWING SEED MIXTURE (OR EQUIVALENT) WILL BE USED FOR ALL DISTURBED AREAS EXCEPT THE DETENTION BASINS AND INFILTRATION BASIN:

SEED MIXTURE	RATE LBS./1,000 SF	RATE LBS./ACRE
65% CREEPING RED FESCUE	2.0-2.6	85-114
20% PERENNIAL RYEGRASS	0.6-0.8	26-35
15% FINE FESCUE	0.4-0.6	19-26
TOTAL	3.0-4.0	130-175

(GENERAL RECREATION AND LAWNS: MEDIUM TO HIGH MAINTENANCE MIX TABLE 4.5 VEGETATIVE MEASURES FOR EROSION AND SEDIMENT CONTROL SPECIFICATION.)

EXCEPT ON SLOPES GREATER THAN 15%, ALL PERMANENT SEEDING OF DISTURBED AREAS SHALL BE IN ACCORDANCE WITH THE NYSSESC SPECIFICATION FOR PERMANENT CONSTRUCTION AREA PLANTING (GENERAL SEED MIXTURE) AND THE PROJECT SPECIFICATIONS. FOLLOWING SEEDING MULCH WITH STRAW (CEREAL GRAIN) OR HAY MULCH APPLIED AT 2 TON/ACRE (90 LBS./1000SQ.FT.) AND ANCHORED WITH WOOD FIBER MULCH (HYDRO MULCH) AT 500 - 750 LBS./ACRE (11 - 17LBS ./1000 SQ. FT.). THE WOOD FIBER MULCH MUST BE APPLIED THROUGH A HYDROSEEDER IMMEDIATELY AFTER MULCHING. IF IT IS NOT POSSIBLE TO HYDROSEED, ANCHOR MULCH FOLLOWING ALTERNATIVE ANCHORING METHODS DETAILED IN THE NYSSESC MULCH SPECIFICATION.

16. IF CONDITIONS PRECLUDE PERMANENT SEEDING THEN ALL EXPOSED AREAS WILL BE TEMPORARILY SEEDED AND MULCHED FOLLOWING THE GUIDELINES IN NYSSESC AND THE PROJECT SPECIFICATIONS:THE AREA MUST BE ROUGH GRADED AND SLOPES PHYSICALLY STABLE. LARGE DEBRIS AND ROCKS MUST BE REMOVED. SEEDBED MUST BE SEEDED WITHIN 24 HOURS OF DISTURBANCE OR SCARIFICATION OF THE SOIL SURFACE WILL BE NECESSARY PRIOR TO SEEDING. IF: SPRING OR SUMMER OR EARLY FALL, THEN SEED THE AREA WITH RYEGRASS (ANNUAL OR PERENNIAL) AT 30 LBS. PER ACRE (APPROXIMATELY 0.7 LB./1000 SQ. FT. OR USE 1 LB./1000 SQ. FT.). IF: LATE FALL OR EARLY WINTER, THEN SEED CERTIFIED 'AROOSTOOK' WINTER RYE (CEREAL RYE) AT 100 LBS. PER ACRE (2.5LBS./1000 SQ. FT.). ANY SEEDING METHOD MAY BE USED THAT WILL PROVIDE UNIFORM APPLICATION OF SEED TO THE AREA AND RESULT IN RELATIVELY GOOD SOIL TO SEED CONTACT. MULCH THE AREA WITH OLD HAY OR STRAW AT 2 TONS/ACRE (APPROX. 90 LBS./1000 SQ. FT. OR 2 BALES). QUALITY OF HAY OR STRAW MULCH ALLOWABLE WILL BE DETERMINED BASED ON LONG-TERM USE AND VISUAL CONCERNS. MULCH ANCHORING WILL BE REQUIRED WHERE WIND OR AREAS OF CONCENTRATED WATER ARE OF CONCERN. WOOD FIBER HYDRO MULCH OR OTHER SPRAY ABLE PRODUCTS APPROVED FOR EROSION CONTROL (NYLON WEB OR MESH) MAY BE USED IF APPLIED ACCORDING TO MANUFACTURERS' SPECIFICATION. CAUTION IS ADVISED WHEN USING NYLON OR OTHER SYNTHETIC PRODUCTS. THEY ARE LIKELY TO CREATE DIFFICULT SCENARIOS FOR REMOVAL PRIOR TO SEEDBED PREPARATION FOR THE PERMANENT SEEDING.

17. CHECK DAMS WILL BE USED WITHIN DRAINAGE DITCHES TO CONTROL SEDIMENTATION IN AREAS WHERE THERE IS A POTENTIAL FOR SOIL TO BE TRANSPORTED TO THE DITCH. CHECK DAMS WILL BE USED TO CONTAIN SEDIMENT AT LOCATIONS AOBE, WHERE EXISTING DRAINAGE PATTERNS DIRECT ROAD RUNOFF TO A WATER BODY.

18. ANY TURBID DISCHARGES FROM DEWATERING AREAS WILL BE DIRECTED TO EITHER A SETTLING TANK OR A STABLE, LEVEL, GRASSED AREA, AT LEAST 100 FEET FROM WATERCOURSES AND WETLANDS. IF NECESSARY THE TURBID WATER WILL BE TRUCKED TO A SUITABLE AREA. IF THE DISCHARGE IS DIRECTED TO A STABLE, LEVEL VEGETATED AREA, THE DISCHARGE AND ANY RELATED DEWATERING FILTER AREA WILL BE SURROUNDED BY A SILT CURTAIN SEDIMENT BARRIER. SETTLING TANKS AND DEWATERING FILTER DEVICES (SUCH AS GEOTEXTILE FILETER BAGS) SHALL BE OF SUFFICIENT CAPACITY TO HANDLE THE DISCHARGE OF THE PUMPS SUCH THAT THE WATER RETURNED TO A STREAM IS CLEAR. NO DISCHARGES SHALL CAUSE A SUBSTANTIAL VISIBLE CONTRAST TO NATURAL CONDITIONS. PRIOR TO THE START OF CONSTRUCTION, THE CONTRACTOR WILL IDENTIFY DISCHARGE LOCATIONS AND METHODS FOR TRENCH DEWATERING OPERATIONS TO ENSURE TURBIDITY FREE DISCHARGE TO ANY RECEIVING WATER BODY.

19. THE SEDIMENT AND EROSION CONTROLS WILL BE MAINTAINED DURING ALL CONSTRUCTION ACTIVITIES AND UNTIL AREAS WITH THE POTENTIAL FOR EROSION HAVE BEEN STABILIZED. DISTURBED AREAS ARE CONSIDERED PERMANENTLY STABILIZED WHEN 80 PERCENT OF THE AREA HAS ATTAINED PERENNIAL VEGETATIVE COVER.

20. IMMEDIATELY UPON COMPLETION OF EXCAVATION OR EMBANKMENT, THE CONTRACTOR SHALL INSTALL THE APPROPRIATE FINAL DITCH LINING AS SHOWN IN THE CONTRACT DOCUMENTS AND/OR PLACE TEMPORARY DITCH CHECK DAMS IN ALL ROADWAY AND OUTLET DITCHES AS ORDERED BY THE ENGINEER.

21. WHERE THE CONTRACTOR PROVIDED TEMPORARY CHANNELS TO KEEP WORK SITES FREE FROM WATER DURING CONSTRUCTION, A TEMPORARY LINING MATERIAL MAY BE REQUIRED, A.O.B.E. NO DIRECT PAYMENT WILL BE MADE FOR THIS WORK; THE COST IS TO BE INCLUDED IN THE OTHER ITEMS OF THIS CONTRACT.

22. THE CONTRACTOR SHALL INSTALL OR CONSTRUCT AS SHOWN IN THE CONTRACT DOCUMENTS OR AS ORDERED BY THE ENGINEER, ALL EROSION AND SEDIMENT CONTROL DEVICES, INCLUDING BUT NOT LIMITED TO SILT FENCE, CULVERT INLET TRAPS, STORMDRAIN INLET PROTECTION, SEDIMENT BASINS OR POOLS, CHECK DAMS AND EROSION CONTROL BLANKETS. THESE APPURTENANCES SHALL BE PROVIDED AS AN INTEGRAL PART OF CONSTRUCTING A CULVERT AND SHALL BE MAINTAINED AND REPLACED AS REQUIRED.

23. THE CONTRACTOR SHALL GRADE AND TRIM ALL SLOPES AS THE EXCAVATION PROGRESSES AND SEED ALL SLOPES, A.O.B.E.

24. THE CONTRACTOR SHALL HAVE A HYDROSEEDER AND/OR A MULCHING MACHINE AVAILABLE ON THE PROJECT UNTIL THE PERMANENT SEEDING IS COMPLETED.

25. CONSTRUCTION OPERATIONS SHALL BE CONDUCTED IN SUCH A MANNER AS TO PREVENT ANY DAMAGE TO THE STREAM FROM POLLUTION BY DEBRIS, SEDIMENT, OR OTHER FOREIGN MATERIAL, OR FROM MANIPULATION OF EQUIPMENT AND/OR MATERIALS IN OR NEAR THE STREAM. THE CONTRACTOR SHALL NOT RETURN DIRECTLY TO THE STREAM ANY WATER WHICH HAS BEEN USED FOR WASH PURPOSES OR OTHER SIMILAR OPERATIONS WHICH CAUSE THIS WATER TO BECOME POLLUTED WITH SAND, SILT, CEMENT, OIL OR OTHER IMPURITIES. IF THE CONTRACTOR USES WATER FROM THE STREAM, THE CONTRACTOR SHALL CONSTRUCT AN INTAKE OR TEMPORARY DAM REQUIRED TO PROTECT AND MAINTAIN WATER QUALITY.

26. DURING CONSTRUCTION, NO WET OR FRESH CONCRETE OR LEACHATE SHALL BE ALLOWED TO ESCAPE INTO THE WATERS OF THE UNITED STATES, NOR SHALL ANY WASHING FROM REDIMIX TRUCKS, MIXERS OR OTHER DEVICES BE ALLOWED TO ENTER ANY WETLANDS OR WATERS

27. THE SCHEME PROPOSED BY THE CONTRACTOR TO ACCOMPLISH THE WORK FOR EROSION AND SEDIMENT CONTROL SHALL BE SUBJECT TO APPROVAL OF THE OWNER.

28. ONLY GRAVEL FILL WILL BE ACCEPTABLE IN GRAVEL BAGS. GRAVEL FILL SHALL BE FREE OF SILT AND GRAVEL BAGS SHALL BE REMOVED IN THEIR ENTIRETY AT THE COMPLETION OF THE PROJECT.

29. COFFERDAMS, IF REQUIRED, MAY BE CONSTRUCTED FROM MATERIALS OTHER THAN WHAT IS SHOWN IN THE DETAIL, AS APPROVED BY THE OWNER. MATERIALS SHALL NOT BE USED THAT ARE ERODIBLE, WOULD BE HARMFUL TO PLANTS OR ANIMALS OR WOULD ADVERSELY AFFECT WATER QUALITY.

30. INSTALLING, CLEANING, AND REMOVING SOIL EROSION AND WATER SEDIMENT CONTROL DEVICES SHALL BE PAID UNDER EROSION AND SEDIMENTATION CONTROL BID ITEMS.

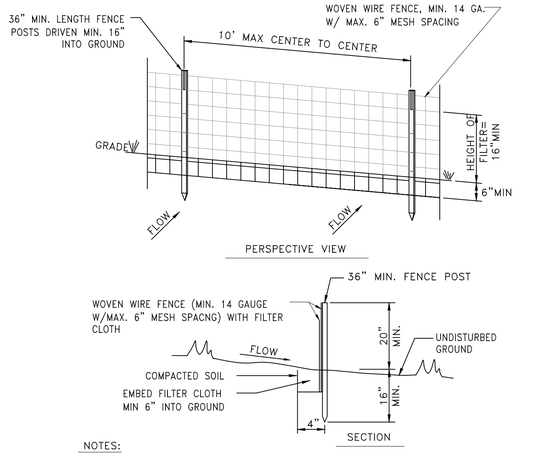
31. STRAW BALES AND/OR HAY BALES CAN ONLY BE USED AS SUPPORT FOR SILT FENCING OR OTHER EROSION CONTROL MEASURE.

32. AT LOCATIONS WHERE THERE IS SIGNIFICANT FLOW IN ROADSIDE DRAINAGE DITCHES/SWALES, IT MAY BE NECESSARY FOR THE CONTRACTOR TO CONTAIN WATER AS NEAR AS POSSIBLE TO THE SOURCE, AND PUMP WATER AWAY FROM EXCAVATION AREAS TO PREVENT SOILS FROM BECOMING ENTRAINED IN THE WATER.

33. AS NECESSARY, THE CONTRACTOR WILL INSTALL STORM DRAIN INLET PROTECTION TO PREVENT TURBID WATER FROM ENTERING THE STORMWATER COLLECTION SYSTEM. STORM DRAIN INLET PROTECTION WILL BE INSTALLED PER THE NYSSESC OR AN ALTERNATE METHOD APPROVED IN ADVANCE BY THE OWNER. THE STORMDRAIN INLET PROTECTION AROUND A STORMDRAIN WILL BE REMOVED ONCE CONSTRUCTION IS NO LONGER OCCURRING IN UPGRADIENT OF THE STORMDRAIN AND ANY DISTURBED AREA UPGRADINT OF THE STORMDRAIN HAS BEEN STABILIZED.

34. THE STORMSEWER OUTLET TO THE WEST BRANCH OF THE KRUM KILL WILL BE STABILIZED WITH NYSDOT MEDIUM STONE FILL AS NOTED ON THE PROJECT DRAWINGS.

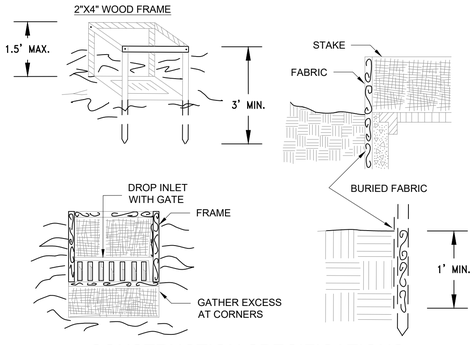
35. REFER TO THE SWPPP FOR ADDITIONAL EROSION, SEDIMENT AND POLLUTION CONTROL NOTES AND REQUIREMENTS.



NOTES:

1. WOVEN WIRE FENCE TO BE FASTENED SECURELY TO FENCE POSTS WITH WIRE TIES OR STAPLES. POSTS SHALL BE STEEL EITHER "T" OR "U" TYPE OR HARDWOOD.
2. FILTER CLOTH TO BE TO BE FASTENED SECURELY TO WOVEN WIRE FENCE WITH TIES SPACED EVERY 24" AT TOP AND MID SECTION. FENCE SHALL BE WOVEN WIRE, 6" MAXIMUM MESH OPENING.
3. WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER THEY SHALL BE OVER-LAPPED BY SIX INCHES AND FOLDED. FILTER CLOTH SHALL BE EITHER FILTER X, MIRAFI 100X, STABILINKA T140N, OR APPROVED EQUIVALENT.
4. PREFABRICATED UNITS SHALL BE GEOFAB, ENVIROFENCE, OR APPROVED EQUIVALENT.
5. MAINTENANCE SHALL BE PERFORMED AS NEEDED AND MATERIAL REMOVED WHEN "BULGES" DEVELOP IN THE SILT FENCE.

1 / D-201 SILT FENCE DETAIL
SCALE: NOT TO SCALE



CONSTRUCTION SPECIFICATIONS

1. FILTER FABRIC SHALL HAVE AN EOS OF 40-85. BURLAP MAY BE USED FOR SHORT TERM APPLICATIONS.
2. CUT FABRIC FROM A CONTINUOUS ROLL TO ELIMINATE JOINTS. IF JOINTS ARE NEEDED THEY WILL BE OVERLAPPED TO THE NEXT STAKE.
3. STAKE MATERIALS WILL BE STANDARD 2" x 4" WOOD OR EQUIVALENT. METAL WITH A MINIMUM LENGTH OF 3 FEET.
4. SPACE STAKES EVENLY AROUND INLET 3 FEET APART AND DRIVE A MINIMUM 18 INCHES DEEP. SPANS GREATER THAN 3 FEET MAY BE BRIDGED WITH THE USE OF WIRE MESH BEHIND THE FILTER FABRIC FOR SUPPORT.
5. FABRIC SHALL BE EMBEDDED 1 FOOT MINIMUM BELOW GROUND AND BACKFILLED. IT SHALL BE SECURELY FASTENED TO THE STAKES AND FRAME.
6. A 2" x 4" WOOD FRAME SHALL BE COMPLETED AROUND THE CREST OF THE FABRIC FOR OVER FLOW STABILITY.

MAXIMUN DRAINAGE AREA 1 ACRE

2 / D-201 FILTER FABRIC DROP INLET PROTECTION
SCALE: NOT TO SCALE

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FILE:

DELAWARE ENGINEERING, D.P.C.
CIVIL AND ENVIRONMENTAL ENGINEERING
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546 BROADWAY, MONTICELLO, NY 12701 - 845.791.1777

STATE OF NEW YORK - ROBERT J. MOSHER - 081896 - LICENSED PROFESSIONAL ENGINEER

REVISIONS

NO.	DATE	DESCRIPTION

RHINEBECK WTP
PLANT IMPROVEMENTS
VILLAGE OF RHINEBECK
DUTCHESS COUNTY, NEW YORK

SEDIMENT CONTROL NOTES & DETAILS

SHEET: D-201

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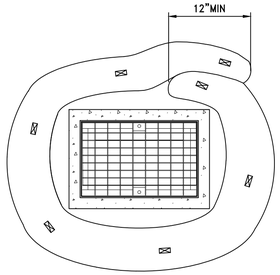
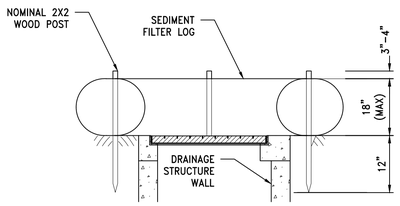


PLAN
DRAINAGE STRUCTURE INLET PROTECTION – TEMPORARY
SEDIMENT FILTER LOG

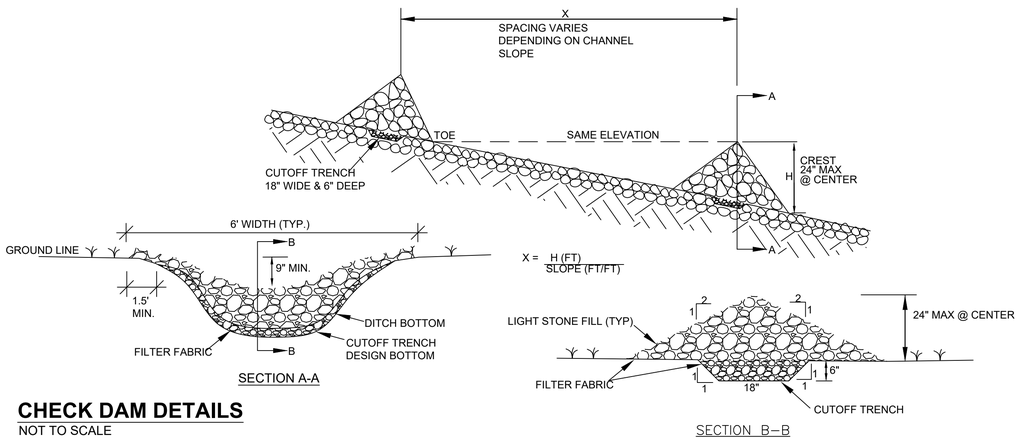


CROSS SECTION
DRAINAGE STRUCTURE INLET PROTECTION – TEMPORARY
SEDIMENT FILTER LOG

1
D-202
INLET PROTECTION TEMPORARY
SCALE: NOT TO SCALE

NOTES FOR TEMPORARY EROSION AND SEDIMENT CONTROL

1. THE CONTRACTOR'S ATTENTION IS DIRECTED TO THE FACT THAT THROUGHOUT THE DURATION OF THE CONTRACT IT WILL BE THE CONTRACTOR'S RESPONSIBILITY TO PROTECT ALL WATER COURSES FROM WATER BORNE SEDIMENT OR POLLUTANTS ORIGINATING FROM ANY WORK DONE ON, OR IN SUPPORT OF THIS PROJECT.
2. THE SEDIMENT CONTROL NOTES AND DETAILS SHOWN ON THIS DRAWING ARE NOT INTENDED TO BE ALL INCLUSIVE BUT TO SERVE AS A GUIDELINE FOR THE DEVELOPMENT OF THE CONTRACTOR'S EROSION AND SEDIMENT CONTROL SCHEDULE REQUIRED.
3. THE CONTRACTOR SHALL IDENTIFY STAGING, STOCKPILE AND SPOIL DISPOSAL AREAS FOR OWNER'S REVIEW AND APPROVAL PRIOR TO THE START OF CONSTRUCTION.
4. THE CONTRACTOR SHALL OBSERVE ALL RULES AND REGULATIONS OF THE STATE OF NEW YORK AND AGENCIES OF THE FEDERAL GOVERNMENT THAT APPLY TO THIS PROJECT.
5. ALL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE IN PLACE BEFORE COMMENCING WORK WITHIN AN AREA. ALL EROSION AND SEDIMENT CONTROL MEASURES WILL CONFORM TO THE "NEW YORK STATE STANDARDS AND SPECIFICATIONS FOR EROSION AND SEDIMENT CONTROL".
6. DISTURBED AREAS THAT ARE NOT UNDER ACTIVE EXCAVATION WILL BE MULCHED AND SEEDED WITHIN ONE DAY FOLLOWING CESSATION OF ACTIVITY IN THE AREA. ALL UTILITY LINE TRENCHES WILL BE BACKFILLED AT THE END OF EACH WORKDAY AND WILL BE MULCHED AND SEEDED. SILT FENCE WILL BE PLACED AROUND SOIL AND STONE STOCKPILES THAT WILL REMAIN IN PLACE FOR MORE THAN 7 DAYS. SOIL STOCKPILES THAT WILL REMAIN IN PLACE FOR MORE THAN SEVEN DAYS WILL BE MULCHED AND SEEDED.
7. IN NON–PAVED AREAS OUTSIDE OF ROADWAYS WITH A SLOPE GREATER THAN 15% OR AS NOTED BY THE ENGINEER, EROSION CONTROL BLANKETS WILL BE INSTALLED TO CONTROL EROSION. THE AREA WILL BE GRADED, SEEDED, AND THE EROSION CONTROL BLANKET APPLIED TO THE PREPARED SEEDBED. IF CONDITIONS PRECLUDE SEEDING, THE EROSION CONTROL BLANKET WILL BE APPLIED TO THE ROUGH GRADED AREA.
8. CHECK DAMS WILL BE USED WITHIN DRAINAGE DITCHES TO CONTROL SEDIMENTATION IN AREAS WHERE THERE IS A POTENTIAL FOR SOIL TO BE TRANSPORTED TO THE DITCH. CHECK DAMS WILL BE USED TO CONTAIN SEDIMENT AT LOCATIONS AOBE, WHERE EXISTING DRAINAGE PATTERNS DIRECT ROAD RUNOFF TO A WATER BODY.
9. ANY TURBID DISCHARGES FROM DEWATERING AREAS WILL BE DIRECTED TO EITHER A SETTLING TANK OR A STABLE, LEVEL, GRASSED AREA, AT LEAST 100 FEET FROM WATERCOURSES AND WETLANDS. IF THE DISCHARGE IS DIRECTED TO A STABLE, LEVEL VEGETATED AREA, THE DISCHARGE AND ANY RELATED DEWATERING FILTER AREA WILL BE SURROUNDED BY A SILT CURTAIN SEDIMENT BARRIER. SETTLING TANKS AND DEWATERING FILTER DEVICES SHALL BE OF SUFFICIENT CAPACITY TO HANDLE THE DISCHARGE OF THE PUMPS SUCH THAT THE WATER RETURNED TO A STREAM IS CLEAR. NO DISCHARGES SHALL CAUSE A SUBSTANTIAL VISIBLE CONTRAST TO NATURAL CONDITIONS. PRIOR TO THE START OF CONSTRUCTION, THE CONTRACTOR WILL IDENTIFY DISCHARGE LOCATIONS AND METHODS FOR TRENCH DEWATERING OPERATIONS TO ENSURE TURBIDITY FREE DISCHARGE TO ANY RECEIVING WATER BODY.
10. IN PAVEMENT AREAS ALL UTILITY LINE TRENCHES WILL BE BACKFILLED AT THE END OF EACH WORKDAY. ALSO, THE TRENCH AREA WILL BE TEMPORARILY COVERED WITH THE REQUIRED AMOUNT OF ROAD SUBBASE PLUS THE ADDITIONAL AMOUNT NEEDED TO MEET THE EXISTING ROAD GRADE TO MINIMIZE EROSION. THE CONTRACTOR WILL BE REQUIRED TO INSTALL A MINIMUM OF 2" COLD PATCH OVER THE REQUIRED SUBBASE IN ALL DISTURBED AREAS ON A DAILY BASIS ONCE THE ASPHALT PLANTS HAVE SHUT DOWN FOR THE WINTER. THE CONTRACTOR WILL BE REQUIRED TO MAINTAIN THE SURFACE IN GOOD CONDITION TO THE SATISFACTION OF THE OWNER AND THE ENGINEER. THE COLD PATCH SHALL BE REMOVED AND REPLACED WITH THE SPECIFIED AMOUNT OF TYPE 3 BINDER ASPHALT AS SOON AS THE ASPHALT PLANTS REOPEN IN THE SPRING.
11. THE SEDIMENT AND EROSION CONTROLS WILL BE MAINTAINED DURING ALL CONSTRUCTION ACTIVITIES AND UNTIL AREAS WITH THE POTENTIAL FOR EROSION HAVE BEEN STABILIZED. DISTURBED AREAS ARE CONSIDERED PERMANENTLY STABILIZED WHEN 80 PERCENT OF THE AREA HAS ATTAINED PERENNIAL VEGETATIVE COVER.
12. CONTRACTOR WILL INSPECT EROSION AND SEDIMENT CONTROLS ON A DAILY BASIS. INSPECTION OF TEMPORARY SOIL EROSION AND POLLUTION CONTROL DEVICES SHALL BE DONE BY A QUALIFIED PROFESSIONAL ON A WEEKLY BASIS. A.O.B.E. REPAIRS SHALL BE MADE AS NEEDED. SEDIMENT SHALL BE REMOVED WHEN THE STORAGE VOLUME OF AN EROSION CONTROL MEASURE IS APPROACHING ONE HALF OF ITS INTENDED CAPACITY OR A.O.B.E. THE CONTRACTOR OR ENGINEER WILL COMPLETE A SITE LOGBOOK DOCUMENTING ALL INSPECTIONS AND MAINTENANCE ACTIVITIES. AN INSPECTION SHALL BE SCHEDULED PRIOR TO COMMENCEMENT OF CONSTRUCTION AND A CERTIFICATION SHALL BE PROVIDED STATING THAT THE SITE IS READY FOR CONSTRUCTION TO START.
13. IMMEDIATELY UPON COMPLETION OF EXCAVATION OR EMBANKMENT, THE CONTRACTOR SHALL INSTALL THE APPROPRIATE FINAL DITCH LINING AS SHOWN IN THE CONTRACT DOCUMENTS AND/OR PLACE TEMPORARY DITCH CHECK DAMS IN ALL ROADWAY AND OUTLET DITCHES AS ORDERED BY THE ENGINEER.
14. WHERE THE CONTRACTOR PROVIDED TEMPORARY CHANNELS TO KEEP WORK SITES FREE FROM WATER DURING CONSTRUCTION, A TEMPORARY LINING MATERIAL MAY BE REQUIRED, A.O.B.E. NO DIRECT PAYMENT WILL BE MADE FOR THIS WORK; THE COST IS TO BE INCLUDED IN THE OTHER ITEMS OF THIS CONTRACT.
15. THE CONTRACTOR SHALL INSTALL OR CONSTRUCT AS SHOWN IN THE CONTRACT DOCUMENTS OR AS ORDERED BY THE ENGINEER, ALL EROSION AND SEDIMENT CONTROL DEVICES, INCLUDING BUT NOT LIMITED TO SILT FENCE, CULVERT INLET TRAPS, SEDIMENT BASINS OR POOLS, CHECK DAMS AND EROSION CONTROL BLANKETS. THESE APPURTENANCES SHALL BE PROVIDED AS AN INTEGRAL PART OF CONSTRUCTING A CULVERT AND SHALL BE MAINTAINED AND REPLACED AS REQUIRED.
16. THE CONTRACTOR SHALL GRADE AND TRIM ALL SLOPES AS THE EXCAVATION PROGRESSES AND SEED ALL SLOPES, A.O.B.E.
17. THE CONTRACTOR SHALL HAVE A HYDROSEEDER AND/OR A MULCHING MACHINE AVAILABLE ON THE PROJECT UNTIL THE PERMANENT SEEDING IS COMPLETED.
18. CONSTRUCTION OPERATIONS SHALL BE CONDUCTED IN SUCH A MANNER AS TO PREVENT ANY DAMAGE TO THE STREAM FROM POLLUTION BY DEBRIS, SEDIMENT, OR OTHER FOREIGN MATERIAL, OR FROM MANIPULATION OF EQUIPMENT AND/OR MATERIALS IN OR NEAR THE STREAM. THE CONTRACTOR SHALL NOT RETURN DIRECTLY TO THE STREAM ANY WATER WHICH HAS BEEN USED FOR WASH PURPOSES OR OTHER SIMILAR OPERATIONS WHICH CAUSE THIS WATER TO BECOME POLLUTED WITH SAND, SILT, CEMENT, OIL OR OTHER IMPURITIES. IF THE CONTRACTOR USES WATER FROM THE STREAM, THE CONTRACTOR SHALL CONSTRUCT AN INTAKE OR TEMPORARY DAM REQUIRED TO PROTECT AND MAINTAIN WATER QUALITY.
19. DURING CONSTRUCTION, NO WET OR FRESH CONCRETE OR LEACHATE SHALL BE ALLOWED TO ESCAPE INTO THE WATERS OF THE UNITED STATES, NOR SHALL ANY WASHING FROM REDIMIX TRUCKS, MIXERS OR OTHER DEVICES BE ALLOWED TO ENTER ANY WETLANDS OR WATERS
20. THE SCHEME PROPOSED BY THE CONTRACTOR TO ACCOMPLISH THE WORK FOR EROSION AND SEDIMENT CONTROL SHALL BE SUBJECT TO APPROVAL OF THE OWNER.
21. ONLY GRAVEL FILL WILL BE ACCEPTABLE IN GRAVEL BAGS. GRAVEL FILL SHALL BE FREE OF SILT AND GRAVEL BAGS SHALL BE REMOVED IN THEIR ENTIRETY AT THE COMPLETION OF THE PROJECT.
22. COFFERDAMS, IF REQUIRED, MAY BE CONSTRUCTED FROM MATERIALS OTHER THAN WHAT IS SHOWN IN THE DETAIL, AS APPROVED BY THE OWNER. MATERIALS SHALL NOT BE USED THAT ARE ERODIBLE, WOULD BE HARMFUL TO PLANTS OR ANIMALS OR WOULD ADVERSELY AFFECT WATER QUALITY.
23. INSTALLING, CLEANING, AND REMOVING SOIL EROSION AND WATER SEDIMENT CONTROL DEVICES SHALL BE PAID UNDER EROSION AND SEDIMENTATION CONTROL BID ITEMS.
24. STRAW BALES AND/OR HAY BALES CAN ONLY BE USED AS SUPPORT FOR SILT FENCING OR OTHER EROSION CONTROL MEASURE.
25. AT LOCATIONS WHERE THERE IS SIGNIFICANT FLOW IN ROADSIDE DRAINAGE DITCHES/SWALES, IT MAY BE NECESSARY FOR THE CONTRACTOR TO CONTAIN WATER AS NEAR AS POSSIBLE TO THE SOURCE, AND PUMP WATER AWAY FROM EXCAVATION AREAS TO PREVENT SOILS FROM BECOMING ENTRAINED IN THE WATER.



CHECK DAM DETAILS
NOT TO SCALE

CONSTRUCTION SPECIFICATIONS

1. LIGHT STONE FILL PLACED ON A FILTER FABRIC FOUNDATION TO THE LINES, GRADES AND LOCATIONS SHOWN IN THE PLAN.
2. SET SPACING OF CHECK DAMS TO ASSURE THAT THE ELEVATION OF THE CREST OF THE DOWNSTREAM DAM IS AT THE SAME ELEVATION OF THE TOE OF THE UPSTREAM DAM.
3. EXTEND THE STONE A MINIMUM OF 1.5 FEET BEYOND THE DITCH BANKS TO PREVENT CUTTING AROUND THE DAM.
4. PROTECT THE CHANNEL DOWNSTREAM OF THE LOWEST CHECK DAM FROM SCOUR AND EROSION WITH STONE OR LINER AS APPROPRIATE.
5. ENSURE THAT CHANNEL APPURTENANCES SUCH AS CULVERT ENTRANCES BELOW CHECK DAMS ARE NOT SUBJECT TO BLOCKAGE FROM DISPLACED STONES.

MAXIMUM DRAINAGE AREA 2 ACRES

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DELAWARE ENGINEERING, D.P.C.
CIVIL AND ENVIRONMENTAL ENGINEERING
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546 BROADWAY, MONTICELLO, NY 12701 - 845.791.1777

STATE OF NEW YORK ROBERT FOSTER LICENSED PROFESSIONAL ENGINEER 076186 CIVIL

REVISIONS

NO.	DATE	DESCRIPTION

RHINEBECK WTP
PLANT IMPROVEMENTS
VILLAGE OF RHINEBECK
DUTCHESS COUNTY, NEW YORK

SEDIMENT CONTROL
NOTES & DETAILS

SHEET:
D-202

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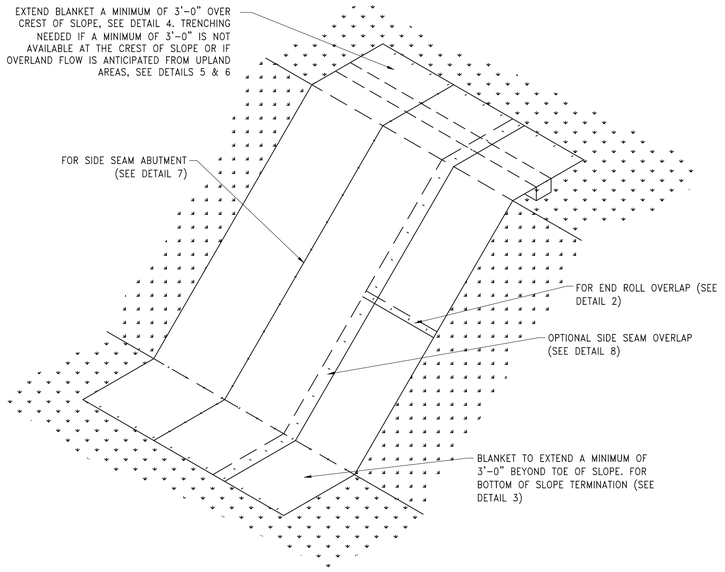
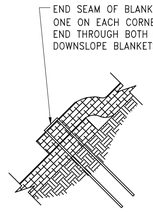


SLOPE DETAIL 1
NOT TO SCALE

NOTE:
DO NOT NEED TO TRENCH BLANKET IN IF IT CAN BE EXTENDED A MINIMUM OF 3'-0" OVER THE CREST OF THE SLOPE.

SLOPE CREST ANCHOR METHOD "A" (NO TRENCH) DETAIL 4
NOT TO SCALE



END ROLL OVERLAP DETAIL 2
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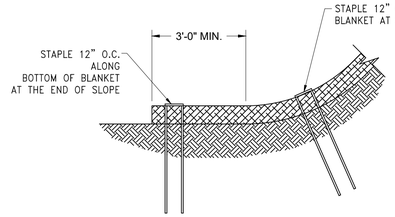
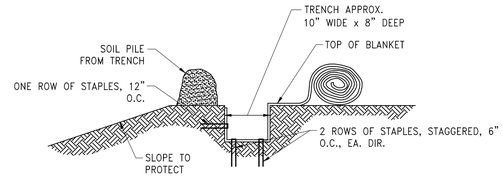
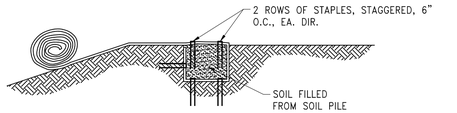


BOTTOM OF SLOPE TERMINATION DETAIL 3
NOT TO SCALE



STEP 1



STEP 2

SLOPE TRENCHING METHOD "B" DETAIL 5
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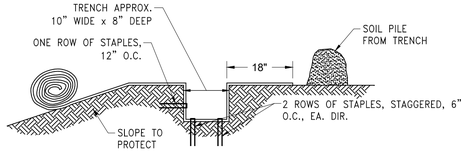
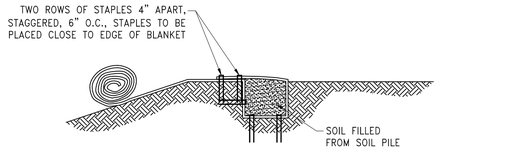


STEP 1



STEP 2

SLOPE TRENCHING METHOD "C" DETAIL 6
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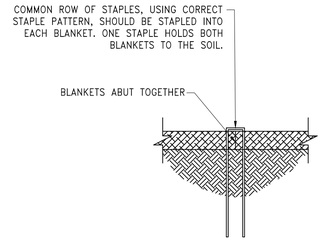
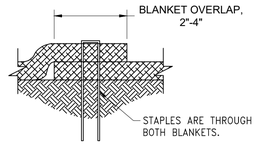
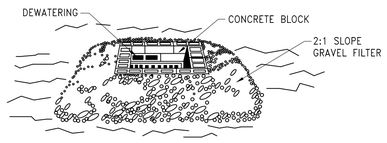


SIDE SEAM ABUT STAPLE DETAIL 7
NOT TO SCALE

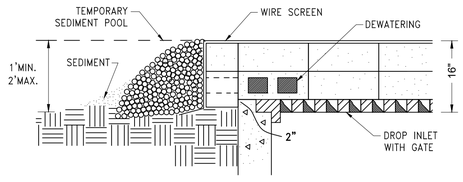


SIDE SEAM OVERLAP STAPLE DETAIL 8
NOT TO SCALE

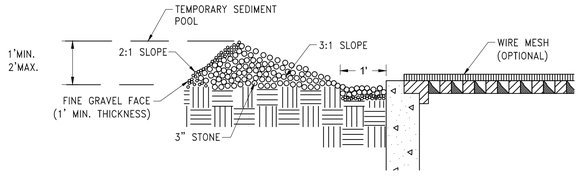
4 D-203 MECHANICAL JOINT DETAIL
SCALE: NOT TO SCALE



STONE & BLOCK PLAN VIEW
NOT TO SCALE



STONE & BLOCK DETAIL
NOT TO SCALE



DONUT DETAIL
NOT TO SCALE

NOTES:
1. LAY ONE BLOCK ON EACH SIDE OF THE STRUCTURE ON ITS SIDE FOR DEWATERING. FOUNDATION SHALL BE 2 INCHES MINIMUM BELOW REST OF INLET AND BLOCKS SHALL BE PLACED AGAINST INLET FOR SUPPORT.

2. HARDWARE CLOTH OR 1/2" WIRE MESH SHALL BE PLACED OVER BLOCK OPENINGS TO SUPPORT STONE.

3. USE CLEAN STONE OR GRAVEL 1/2-3/4 INCH IN DIAMETER PLACED 2 INCHES BELOW TOP OF THE BLOCK ON A 2:1 SLOPE OR FLATTER.

4. FOR STONE STRUCTURES ONLY, A 1 FOOT THICK LAYER OF THE FILTER STONE WILL BE PLACED AGAINST THE 3 INCH STONE AS SHOWN ON THE DRAWINGS.

MAXIMUM DRAINAGE AREA 1 ACRE

DROP INLET PROTECTION DETAIL
NOT TO SCALE

WARNING – IT IS A VIOLATION OF NEW YORK EDUCATION LAW SECTION 7209.2, FOR ANY PERSON, UNLESS HE IS ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER OR LAND SURVEYOR, TO ALTER THIS DOCUMENT IN ANY WAY. IF ALTERED THE ALTERING PERSON SHALL COMPLY WITH THE REQUIREMENTS OF NEW YORK EDUCATION LAW, SECTION 7209.2.

DATE: 7/2/2024
DRAWN BY: ____
SCALE: ____
REVIEWED BY: RF
PROJECT NO.: ----
FILE: ____

DELAWARE ENGINEERING, D.P.C.
CIVIL AND ENVIRONMENTAL ENGINEERING
28 MADISON AVENUE EXTENSION, ALBANY, NY 12203 - 518.452.1290
55 SOUTH MAIN ST, ONEONTA, NY 13820 - 607.432.8073
31 NORTH MAIN STREET, LIBERTY, NY 12754 - 845.747.9862
6 TOWNSEND STREET, WALTON, NY 13856 - 607.865.9235
16 EAST MARKET ST., RED HOOK, NY 12571 - 518.452.1290
546 BROADWAY, MONTICELLO, NY 12701 - 845.791.1777

STATE OF NEW YORK ROBERT FORSTER WALL ENGINEER 086186 LICENSED PROFESSIONAL

REVISIONS

NO.	DATE	DESCRIPTION

RHINEBECK WTP
PLANT IMPROVEMENTS
VILLAGE OF RHINEBECK
DUTCHESS COUNTY, NEW YORK

SEDIMENT CONTROL
NOTES & DETAILS

SHEET:
D-203

File: H:\DRAWINGS\RHINEBECK (VV)\22-2496 WTP\D-101 - 102 - DETAILS.DWG Saved: 7/2/2024 12:57:33 PM Plotted: 10/2/2024 10:16:03 AM User: rla Brobes LastSavedBy: brobes

APPLICABLE CODE:

THE NEW YORK STATE UNIFORM FIRE PREVENTION AND BUILDING CODE (THE "UNIFORM CODE"): CONSTRUCTION SHALL CONFORM TO THE CURRENT EDITIONS OF THE 2018 INTERNATIONAL BUILDING CODE (IBC), THE 2020 NEW YORK STATE CODE SUPPLEMENT, THE 2018 INTERNATIONAL ENERGY CONSERVATION CODE (IECC), THE 2020 SUPPLEMENT TO THE NEW YORK STATE ENERGY CONSERVATION CONSTRUCTION CODE, AS WELL AS ALL OTHER CURRENT LOCAL, STATE, AND FEDERAL CODES AND REGULATIONS APPLICABLE TO THIS PROJECT. CONTRACTOR SHALL CONSTRUCT THE PROJECT IN ACCORDANCE WITH THE APPLICABLE CODES.

BUILDING DATE & CODE

OCCUPANCY CLASSIFICATION: (CHAPTERS 3 & 5)

☒ SINGLE ☐ MIXED ☐ NON-SEPARATED ☐ COMBINATION

IF SEPARATED, FIRE RESISTANCE RATING OF FIRE BARRIER (TABLE 508.4): HR

OCCUPANCY CLASSIFICATION(S): U

USES: HIGHWAY VEHICLE & MISCELLANEOUS STORAGE

CONSTRUCTION CLASSIFICATION (CHAPTER 6): IIB

AUTOMATIC SPRINKLER SYSTEM PROVIDED: ☐ YES ☒ NO

NFPA STANDARD: ☐ 13 ☐ 13R

HEIGHT & AREA - ACTUAL (CHAPTER 5)

BUILDING HEIGHT	HEIGHT IN FEET	HEIGHT IN STORIES
	28' – 3"	1
BUILDING AREA SUMMARY	BUILDING AREA	
FIRST	11,644 SF	
TOTAL (NOT INCLUDING BASEMENT)	11,644 SF	

HEIGHT & AREA – ALLOWABLE (CHAPTER 5)

AREA PER TABLE 504.3 & 506.2

OCCUPANCY CLASSIFICATION	TABULAR AREA	TABULAR HEIGHT	
		FEET	STORIES
U	8,500 SF	55 FT	2

INCREASE DUE TO FRONTAGE ALLOWED, THEREFORE ALLOWABLE AREA INCREASED TO 14,875 SF

FIRE RESISTANCE OF BUILDING ELEMENTS:

BASED ON CONSTRUCTION TYPE IIB

	REQUIRED	PROVIDED	SECTION
STRUCTURAL FRAME	0	0	TABLE 601
BEARING WALLS (EXTERIOR)	NA	NA	TABLE 601
BEARING WALLS (INTERIOR)	NA	NA	TABLE 601
NON-BEARING WALLS (EXTERIOR)	0	0	TABLE 601
NON-BEARING WALS (INTERIOR)	0	0	TABLE 601
FLOOR CONSTRUCTION	0	0	TABLE 601
ROOF CONSTRUCTION	0	0	TABLE 601
VERTICAL EXIT ENCLOSURE	NA	NA	713.4
SHAFT ENCLOSURE	NA	NA	713.4
CORRIDORS	NA	NA	TABLE 1020.1

INTERIOR FINISHES:

BASED ON MOST RESTRICTIVE

USE GROUP B	REQUIRED	PROVIDED	SECTION
WALLS & CEILING: EXITS	NA	NA	TABLE 803.13
WALLS & CEILING: CORRIDORS	NA	NA	TABLE 803.13
WALLS & CEILING: ROOMS	NA	NA	TABLE 803.13
FLOORS	NA	NA	TABLE 803.13

FIRE PROTECTION SYSTEMS: CHAPTER 9

SIZE AND LOCATION OF FIRE AREAS INDICATED ON CODE COMPLIANCE DRAWING(S)

FIRE PROTECTION SYSTEM	REQUIRED	PROVIDED	SECTION
AUTOMATIC SPRINKLER	-	-	903
ALTERNATIVE AUTO FIRE EXIT	-	-	904
STANDPIPE	-	-	905
PORTABLE FIRE EXTINGUISHER	NO	YES	906
FIRE ALARM & DETECTION	-	-	907
EMERGENCY ALARM	-	-	908
SMOKE CONTROL SYSTEM	-	-	909
SMOKE & HEAT VENTS	-	-	910
FIRE COMMAND CENTER	-	-	911

MEANS OF EGRESS: CHAPTER 10

DESIGN OCCUPANT LOAD SUMMARY

FLOOR LEVEL	DESIGN OCCUPANT LOAD
FIRST	58
TOTAL	58

NOTE: DESIGN OCCUPANT LOAD FOR MEANS OF EGRESS SIZING.

MEANS OF EGRESS ELEMENT	REQUIRED	PROVIDED	SECTION
NUMBER OF EXITS	2	6	TABLE 1006.2.1
EXIT ACCESS TRAVEL DISTANCE	300	75	TABLE 1017.2
DEAD-END LIMIT	20	-	1020.4
COMMON PATH OF TRAVEL LIMIT	75	75	1006.2.1
EGRESS WIDTH			
ELEMENT	REQUIRED	PROVIDED	SECTION
DOORS – FIRST FLOOR	2.8	36	1005.3.2
STAIRS	NA	NA	1005.3.1
CORRIDORS – FIRST FLOOR	44" MIN	-	1020.2

PLUMBING FIXTURE REQUIREMENTS: CHAPTER 29

OCCUPANCY CLASSIFICATION	OCCUPANT LOAD	WATER CLOSETS MEN REQUIRED	WATER CLOSETS MEN PROVIDED	WATER CLOSETS WOMEN REQUIRED	WATER CLOSETS WOMEN PROVIDED	URINALS REQUIRED	URINALS PROVIDED	D.F. REQUIRED	D.F. PROVIDED	LAVATORIES MEN REQUIRED	LAVATORIES MEN PROVIDED	LAVATORIES WOMEN REQUIRED	LAVATORIES WOMEN PROVIDED
U	58	0	0	0	0	0	0	0	0	0	0	0	0

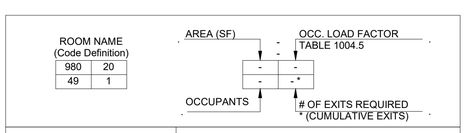
SEPARATE FACILITIES FOR EACH GENDER REQUIRED?	☐ YES	☒ NO	2902.2
SEPARATE EMPLOYEE FACILITIES REQUIRED?	☐ YES	☒ NO	2902.2
LOCATION OF EMPLOYEE FACILITIES COMPLIES?	☒ YES	☐ NO	2902.2
LOCATION OF PUBLIC FACILITIES COMPLIES?	☒ YES	☐ NO	2902.2
OTHER PLUMBING FIXTURE REQUIREMENTS?	Lavatories will be provided in new highway garage facility		

CODE:

1. ALL WORK SHALL CONFORM TO FEDERAL, STATE AND LOCAL CODES AS INTERPRETED BY THE LOCAL AUTHORITY HAVING JURISDICTION.
2. DO NOT INSTALL FIRE EXTINGUISHERS/CABINETS/BRACKETS UNTIL ALL LOCATIONS HAVE BEEN REVIEWED AND APPROVED BY THE CODE AUTHORITY HAVING JURISDICTION. CONTRACTOR SHALL COORDINATE WITH FIRE MARSHALL PRIOR TO INSTALLATION.
3. THE ARCHITECTS CERTIFICATION ON THIS PROJECT IS ONLY FOR THE CONSTRUCTION WORK SHOWN TO BE DONE. IT DOES NOT CONSTITUTE APPROVAL OF ANY PRE-EXISTING CONDITIONS OR REVIEW OF THOSE CONDITIONS FOR CODE COMPLIANCE.
4. THE ARCHITECTS CERTIFICATION ON THIS PROJECT IS FOR COMPLIANCE WITH THE BUILDING CODE OF NEW YORK STATE AND ITS VARIOUS REFERENCE STANDARDS, FOR PURPOSES OF OBTAINING A BUILDING PERMIT THROUGH THE AUTHORITY HAVING JURISDICTION AND TO CONVEY CONSTRUCTION REQUIREMENTS FOR THE PROJECT. CERTIFICATION DOES NOT GUARANTEE COMPLIANCE WITH LOCAL CODES THAT MAY APPLY.
5. GENERAL CONDITIONS OF THE CONTRACT FOR CONSTRUCTION, AIA DOCUMENT A201-2007 AND ANY OTHER DOCUMENTS AS PROVIDED BY THE OWNER SHALL BE INCORPORATED INTO THE OWNER-CONTRACTOR CONTRACT BY REFERENCE.
6. CONSTRUCTION SHALL CONFORM TO CURRENT EDITIONS OF THE NEW YORK STATE UNIFORM FIRE PREVENTION AND BUILDING CODE (THE "UNIFORM CODE"): CONSTRUCTION SHALL CONFORM TO CURRENT EDITIONS OF THE 2018 INTERNATIONAL BUILDING CODE (IBC), THE 2020 NEW YORK STATE UNIFORM CODE SUPPLEMENT, THE 2018 INTERNATIONAL ENERGY CONSERVATION CODE (IECC), THE 2020 SUPPLEMENT TO THE NEW YORK STATE ENERGY CONSERVATION CONSTRUCTION CODE, 2010 AMERICANS WITH DISABILITIES ACT (ADA) STANDARDS FOR ACCESSIBLE DESIGN (28 CFR PART 36, SUBPART D), 2009 ADA ACCESSIBILITY AND USABLE BUILDINGS AND FACILITIES (ICC/ANSI A117.1-2009), AS WELL AS WITH ALL OTHER CURRENT LOCAL, STATE AND FEDERAL CODES AND REGULATIONS APPLICABLE TO THIS PROJECT. CONTRACTOR SHALL CONSTRUCT THE PROJECT IN ACCORDANCE WITH THE APPLICABLE CODES RELEVANT TO THIS PROJECT.
7. CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL REQUIRED PERMITS AND PAYMENT OF ALL PERMIT AND APPLICATION FEES FOR THE CONSTRUCTION OF THE PROJECT.
8. TO THE BEST OF MY KNOWLEDGE, BELIEF AND PROFESSIONAL JUDGEMENT, THESE PLANS ARE IN CONFORMANCE WITH THE 2020 SUPPLEMENT OF THE NEW YORK STATE ENERGY CONSERVATION CONSTRUCTION CODE.
9. THE FOLLOWING IS AN EXCERPT FROM THE NEW YORK EDUCATION LAW ARTICLE 145 SECTION 7209 AND APPLIES TO THESE DRAWINGS: "IT IS A VIOLATION OF THIS LAW FOR ANY PERSON UNLESS HE IS ACTING UNDER THE DIRECT SUPERVISION OF A LICENSED ARCHITECT TO ALTER AN ITEM IN ANY WAY." IF ANY ITEM BEARING THE SEAL OF AN ARCHITECT IS ALTERED, THE ALTERING ARCHITECT SHALL AFFIX HIS SEAL AND NOTATION "ALTERED BY" FOLLOWED BY HIS SIGNATURE AND DATE OF SUCH ALTERNATION AND SPECIFIC DESCRIPTION OF THE ALTERATION.

ENERGY CODE REQUIREMENTS

1. THE NEW STRUCTURE COMPLIES WITH THE 2020 NYS BUILDING CODE REQUIREMENTS, PRESCRIPTIVE METHOD
2. CLIMATE ZONE (IECCNYS TABLE C301.1): 5A - SARATOGA COUNTY
3. ROOF (IECCNYS C402.1.4): METAL BUILDING
   - REQUIRED: U ≤ 0.035
   - PROVIDED: U = 0.022
   - NOTE: PRE-ENGINEERED BUILDING MANUFACTURER IS RESPONSIBLE FOR PROVIDING ENERGY CODE REQUIREMENTS IN WALL AND ROOF ASSEMBLY AS STIPULATED IN THE CONTRACT DOCUMENTS.
4. WALLS, ABOVE GRADE (IECCNYS C402.1.4): METAL BUILDING
   - REQUIRED: U ≤ 0.052
   - PROVIDED: U = 0.039
   - NOTE: PRE-ENGINEERED BUILDING MANUFACTURER IS RESPONSIBLE FOR PROVIDING ENERGY CODE REQUIREMENTS IN WALL AND ROOF ASSEMBLY AS STIPULATED IN THE CONTRACT DOCUMENTS.
5. WALLS, BELOW GRADE (IECCNYS C402.1.3): CONCRETE
   - REQUIRED: R ≥ 7.5 CI
   - PROVIDED: R = 10 CI
6. FLOORS (IECCNYS C402.1.3): UNHEATED SLAB-ON-GRADE
   - REQUIRED: R ≥ 10
   - PROVIDED: R = 10
7. DOORS (IECCNYS C402.1.3): OPAQUE NON-SWINGING DOORS
   - REQUIRED: R ≥ 4.75
   - PROVIDED: R = NA
8. DOORS (IECCNYS C402.1.4): SWINGING DOORS
   - REQUIRED: U ≤ 0.37
   - PROVIDED: U = NA
9. FENESTRATION REQUIREMENTS (IECCNYS C402.4):
   - A. FIXED
     - REQUIRED: U ≤ 0.38
     - PROVIDED: U = NA
   - B. ENTRANCE DOOR
     - REQUIRED: U ≤ 0.77
     - PROVIDED: U = 0.43
   - C. OPERABLES
     - REQUIRED: U ≤ 0.45
     - PROVIDED: U = NA
10. MAXIMUM FENESTRATION ALLOWABLE (IECCNYS C402.4):
    - REQUIRED: 0.30
    - PROVIDED: NA
    - REQUIRED TOTAL: 2125 SF
    - PROVIDED TOTAL: 0 SF
11. MINIMUM SKYLIGHT FENESTRATION (IECCNYS C402.4.2):
    - NOT APPLICABLE
12. WRITTEN STATEMENT:
    - TO THE BEST OF OUR KNOWLEDGE, BELIEF, AND PROFESSIONAL JUDGEMENT, THE DESIGN IS IN COMPLIANCE WITH THE ENERGY CODE. THIS STATEMENT IS BEING PROVIDED AS REQUIRED OF THE 2020 NYS ENERGY CODE SUPPLEMENT, SECTION C103.2.2.



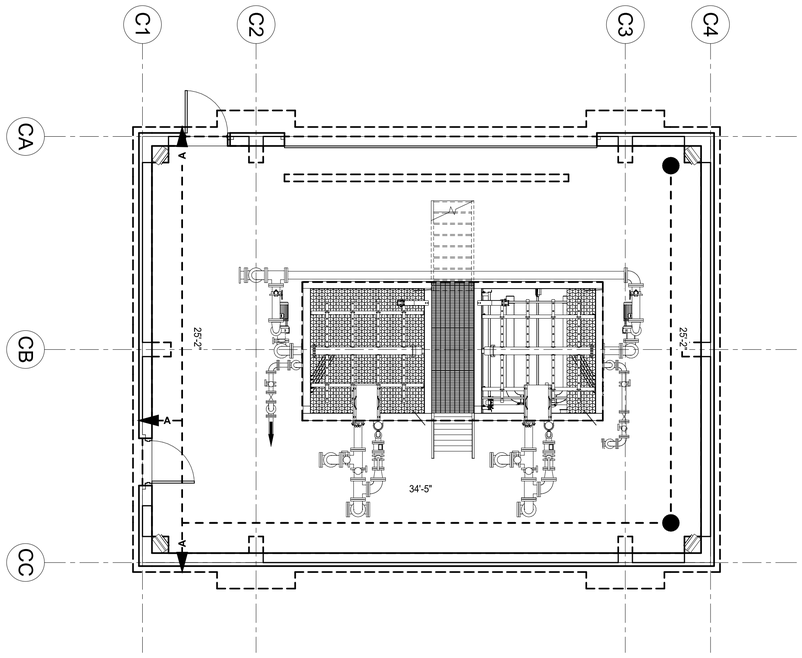
XX' — PATH OF EGRESS TO AN EXIT - [TRAVEL DISTANCE NOTED IN (XX') EQUALS TOTAL DISTANCE FOR ROUTE] - MAXIMUM DISTANCE ALLOWED PER TABLE 1017.2

X — EXIT AND EXIT TYPE AS DESCRIBED BELOW

EXIT REQUIREMENTS BY TYPE

EXIT	OCCUP. LOAD	REQUIRED WIDTH (INCHES)*	PROVIDED WIDTH (INCHES)	NOTES
A	9	1.8	36	MIN WIDTH PER 1010.1.1 = 32 INCHES
B	14	2.8	36	MIN WIDTH PER 1010.1.1 = 32 INCHES

* REQUIRED WIDTH CALCULATED 1005.3.2: 0.2 INCHES PER OCCUPANT



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DATE: 02.2024
DRAWN BY: IB
SCALE: As indicated
REVIEWED BY: AM
PROJECT NO.: 22-2496
FILE:

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548 BROADWAY, MONTICELLO, NY 12701 - 845.791.7777
223 MAIN ST, GOSHEN, NY 10924 - 845.615.9232

REVISIONS

NO.	DESCRIPTION	DATE

RHINEBECK WTP
IMPROVEMENTS
VILLAGE OF RHINEBECK
DUTCHESS COUNTY, NY

CODE COMPLIANCE &
LIFE SAFETY PLANS

SHEET:
A001

ABBREVIATIONS:

"	INCH
#	NUMBER, POUND
&	AND
'	FEET
(E)	EXISTING
(N)	NEW
@	AT
A=	AXIAL FORCE
AB	ANCHOR BOLT
ABV	ABOVE
ACI	AMERICAN CONCRETE INSTITUTE
ADD	ADDENDUM, ADDITION
ADJ	ADJUST, ADJUSTABLE
AESS	ARCHITECTURALLY EXPOSED STRUCTURAL STEEL
AFF	ABOVE FINISHED FLOOR
ALT	ALTERNATE
ALUM	ALUMINUM
APPROX	APPROXIMATE
ARCH	ARCHITECTURAL
ASTM	AMERICAN SOCIETY FOR TESTING AND MATERIALS
AVG	AVERAGE
AWS	AMERICAN WELDING SOCIETY
B/	BOTTOM OF
B/W	BETWEEN
BALC	BALCONY
BD	BOARD
BEV	BEVEL
BKR	BACKER
BLDG	BUILDING
BLK	BLOCK
BLKG	BLOCKING
BM	BEAM
BOC	BOTTOM OF CURB
BOT/BTM	BOTTOM
BOW	BOTTOM OF WALL
BP	BASEPLATE
BRDG	BRIDGE, BRIDGING
BRG	BEARING
BRK	BRICK
BSMT	BASEMENT
BU	BUILT-UP
C	CHANNEL
C=	COMPRESSION FORCE
CEM	CEMENT, CEMENTITIOUS
CGS	CENTER OF GRAVITY OF STRAND
CIP	CAST IN PLACE
CJ	CONTROL JOINT
CJP	COMPLETE JOINT PENETRATION
CL	CENTER LINE
CLG	CEILING
CLR	CLEAR
CMU	CONCRETE MASONRY UNIT
COL	COLUMN
COMP	COMPOSITE, COMPENSATION
CONC	CONCRETE
COND	CONDITION
CONN	CONNECTION
CONSTR	CONSTRUCTION
CONT	CONTINUOUS
COORD	COORDINATE
CORR	CORRIDOR
CTR	CENTER
CTRL	CONTROL
CTSK	COUNTERSINK
CU	CUBIC
CUST	CUSTOM
CY	CUBIC YARD
DBA	DEFORMED BAR ANCHOR
DBL	DOUBLE
DEFL	DEFLECTION
DEG	DEGREE
DEMO	DEMOLITION
DEPT	DEPARTMENT
DET	DETAIL
DIA - Ø	DIAMETER
DIAG	DIAGONAL
DIM	DIMENSION
DKG	DECKING
DL	DEAD LOAD
DWG	DRAWING
DWGS	DRAWINGS
DWL	DOWEL
EA	EACH
EF	EACH FACE
EIFS	EXTERIOR INSULATED FINISH SYSTEM
EJ	EXPANSION JOINT
EL	ELEVATION
ELEC	ELECTRICAL
ELEV	ELEVATOR
ENGR	ENGINEER
EOD	EDGE OF DECK
EOP	EDGE OF PLATE
EOR	ENGINEER OF RECORD
EOS	EDGE OF SLAB
EQ	EQUAL
EQPT	EQUIP
ES	EACH SIDE
EW	EACH WAY
EXIST	EXISTING
EXP	EXPANSION
EXT	EXTERIOR
F TO F	FACE TO FACE
F'c	CONCRETE COMPRESSIVE STRENGTH
FAB	FABRICATIONS/FABRICATED
FB	FLAT BAR

FD	FLOOR DRAIN
FF	FINISH FLOOR
FFE	FINISH FLOOR ELEVATION
FIN	FINISH
FLR	FLOOR
FNDN	FOUNDATION
FOC	FACE OF CONCRETE
FOF	FACE OF FINISH
FOM	FACE OF MASONRY
FOS	FACE OF STUD
FR	FIRE RATED, FIRE RESISTIVE
FRM	FRAMED, FRAMING
FRT	FIRE RETARDANT TREATED
FT	FOOT, FEET
FTG	FOOTING
FUT	FUTURE
Fy	YIELD STRESS
GA	GAUGE
GALV	GALVANIZED
GB	GRADE BEAM
GC	GENERAL CONTRACTOR
GEN	GENERAL
GL	GLU-LAMINATED
GLB	GLU-LAMINATED BEAM
GND	GROUND
GR	GRADE
GYP	GYPSUM
GYP BD	GYPSUM BOARD
HAS	HEADED ANCHOR STUD
HC	HOLLOW CORE
HCP	HOLLOW CORE PLANK
HDR	HEADER
HEX	HEXAGONAL
HI	HIGH
HM	HOLLOW METAL
HORIZ	HORIZONTAL
HSS	HOLLOW STRUCTURAL SECTION
HT	HEIGHT
HVAC	HEATING - VENTILATION - AIR CONDITIONING
IBC	INTERNATIONAL BUILDING CODE
ICF	INSULATED CONCRETE FORMS
ID	INSIDE DIAMETER
IJ	ISOLATION JOINT
IN	INCH, INCHES
INFO	INFORMATION
INSP	INSPECTION
INSUL	INSULATION
INT	INTERIOR
INV	INVERT
JT	JOINT, JOINTS
k	KILOPOUND (1000 POUNDS)
K-FT	KIP-FOOT (1000 POUND - FEET)
KIP	KILOPOUND (1000 POUNDS)
L	ANGLE, LEFT, LENGTH
LAM	LAMINATE, LAMINATED
LAT	LATERAL
LB	POUND
LF	LINEAL FEET, LINEAR FOOTAGE
LG	LONG
LIN	LINEAR
LIN FT	LINEAL FEET, LINEAR FOOTAGE
LL	LIVE LOAD
LLH	LONG LEG HORIZONTAL
LLV	LONG LEG VERTICAL
LNTL	LINTEL
LONG	LONGITUDINAL
LS	LONG SLOTTED
LSH	LONG SIDE HORIZONTAL
LSL	LAMINATED STRAND LUMBER
LSV	LONG SIDE VERTICAL
LT WT	LIGHT WEIGHT
LVL	LAMINATED VENEER LUMBER
MAX	MAXIMUM
MB	MACHINE BOLT
MC	MISCELLANEOUS CHANNEL
MCJ	MASONRY CONTROL JOINT
MECH	MECHANICAL
MEMB	MEMBRANE
MEP	MECHANICAL, ELECTRICAL, PLUMBING
MEZZ	MEZZANINE
MFR	MANUFACTURER
MIN	MINIMUM
MISC	MISCELLANEOUS
MO	MASONRY OPENING
MTL	METAL
MTL	METAL
MUL	MULLION
N	NORTH
NIC	NOT IN CONTRACT
NO	NUMBER
NOM	NOMINAL
NTS	NOT TO SCALE
NW	NORMAL WEIGHT
OC	ON CENTER
OD	OUTSIDE DIAMETER
OPNG	OPENING
OPP	OPPOSITE
OSB	ORIENTED STRAND BOARD
OWSJ	OPEN WEB STEEL JOIST
P/L	PROPERTY LINE
PAF	POWDER ACTUATED FASTENER

PC	PRECAST
PCF	POUNDS PER CUBIC FOOT
Pd	DRIFTED SNOW LOAD
PE	PROFESSIONAL ENGINEER
PEMB	PRE ENGINEERED METAL BUILDING
PERF	PERFORATE, PERFORATED, PERFORMANCE
PERIM	PERIMETER
PERP	PERPENDICULAR
Pf	FLAT ROOF SNOW LOAD
PJP	PARTIAL JOINT PENETRATION
PL	PLATE
PLF	POUNDS PER LINIER FOOT
PLWD	PLYWOOD
PMEJ	PREMOLDED EXPANSION JOINT
PMF	PREMOLDED FILLER
PNL	PANEL
PREFAB	PREFABRICATED
PREFIN	PREFINISHED
Ps	SLOPED ROOF SNOW LOAD
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
PSL	PARALLEL STRAND LUMBER
PT	PRESSURE TREATED
PTD	PAINTED
QTY	QUANTITY
R	RISER
R=	BEAM END SHEAR REACTION
RAD	RADIUS
RCP	REFLECTED CEILING PLAN
RD	ROOF DRAIN
REF	REFER - REFERENCE
REINF	REINFORCING
REQ'D	REQUIRED
REV	REVISION
RO	ROUGH OPENING
SCHED	SCHEDULE
SCL	STRUCTURAL COMPOSITE LUMBER
SE	STRUCTURAL ENGINEER
SECT	SECTION
SF	SQUARE FEET
SGL	SINGLE
SHT	SHEET
SHTG	SHEATHING
SIM	SIMILAR
SIMP	SIMPSON STRONG TIE
SL	SNOIW LOAD
SOG	SLAB ON GRADE
SPEC	SPECIFICATIONS
SQ	SQUARE
SS	STAINLESS STEEL
STD	STANDARD
STL	STEEL
STRUCT	STRUCTURAL
SUSP	SUSPENDED
SYS	SYSTEM
T	TREAD
T&B	TOP AND BOTTOM
T&G	TONGUE AND GROOVE
T/	TOP OF
T=	TENSION FORCE
TAN	TANGENT
THK	THICK
THRD	THREADED
TOB	TOP OF BEAM
TOC	TOP OF COLUMN, TOP OF CURB, TOP OF CONCRETE
TOF	TOP OF FOOTING
TOJ	TOP OF JOIST
TOL	TOP OF LINTEL, LANDING
TOL	TOLERANCE
TOP	TOP OF PIER, TOP OF PLATE
TOPV	TOP OF PAVEMENT
TOS	TOP OF STEEL, TOP OF SLAB
TOW	TOP OF WALL
TRANS	TRANSVERSE
TRANSL	TRANSLUCENT
TYP	TYPICAL
UNO	UNLESS NOTED OTHERWISE
UTIL	UTILITY
VERT	VERTICAL
VFY	VERIFY
VIF	VERIFY IN FIELD
W	SNOW DRIFT WIDTH
W/	WITH
W/O	WITHOUT
WCJ	WALL CONTRACTION JOINT
WD	WOOD
WF	WIDE FLANGE
WP	WORK POINT
WR	WATER RESISTANT, WATER RESISTIVE
WS	WATERSTOP
WT	WEIGHT
WWF	WELDED WIRE FABRIC

GENERAL:

1. THE WORD "PROVIDE" SHALL MEAN THAT THE CONTRACTOR SHALL SUPPLY ALL LABOR AND MATERIALS AS REQUIRED TO RESULT IN A COMPLETELY FINISHED AND/OR OPERABLE SYSTEM.
2. THE CONTRACTOR SHALL MANAGE CONSTRUCTION TO MAINTAIN ONGOING BUSINESS OPERATIONS AS WELL AS MAINTAINING SAFE AND UNRESTRICTED PATHS FOR VISITORS AT THE PROJECT SITE AND SURROUNDING AREAS. COORDINATE SCHEDULE WITH OWNER & LANDLORD. CONSTRUCTION PHASING IS THE RESPONSIBILITY OF THE CONTRACTOR.
3. CONTRACTOR IS RESPONSIBLE FOR ALL MATERIALS, CONSTRUCTION METHODS AND CRAFTSMANSHIP.
4. CONTRACTOR SHALL REVIEW ANY EXISTING DRAWINGS ON FILE WITH THE OWNER & LANDLORD, PRIOR TO STARTING ANY WORK.
5. CONTRACTOR TO VERIFY ALL REQUIREMENTS, NOTES AND DIMENSIONS PRIOR TO THE START OF CONSTRUCTION. REPORT ALL DISCREPANCIES TO THE ARCHITECT IMMEDIATELY.
6. CONTRACTOR SHALL VISIT THE SITE AND VERIFY ALL EXISTING CONDITIONS. ANY DISCREPANCY BETWEEN THE EXISTING CONDITIONS AND THESE DRAWINGS SHALL BE REPORTED TO THE ARCHITECT IMMEDIATELY.
7. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CHANGES TO THESE DOCUMENTS. SITE VISITS MAY NOT BE MADE BY THIS ARCHITECT TO VERIFY CONFORMANCE.
8. IN EVENT OF A DIMENSIONAL CONFLICT DRAWINGS SHALL TAKE PRECEDENT OVER SPECIFICATIONS. IN THE EVENT OF A MATERIAL CONFLICT, SPECIFICATIONS SHALL TAKE PRECEDENT OVER DRAWINGS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO NOTIFY THE ARCHITECT IN WRITING REGARDING ANY CONFLICTS.
9. THE DRAWINGS AND SPECIFICATIONS CREATED FOR THIS PROJECT CREATE AN ENTIRE PROJECT PACKAGE. ALL TRADES SHALL BE RESPONSIBLY FOR REVIEWING THEIR RESPECTIVE REQUIREMENTS AND COORDINATING THEIR HIDDEN OR EXPOSED WORK WITH THAT OF ALL OTHER TRADES.
10. CONTRACTOR SHALL KEEP THE PREMISES AND PROJECT SITE FREE FROM ACCUMULATION OF WASTE, RUBBISH, AND DEBRIS, AND SHALL REMOVE DAILY. AT THE COMPLETION OF THE PROJECT THE CONTRACTOR SHALL LEAVE THE PREMISES BROOM CLEAN AND SHALL CLEAN AND ALL FINISHED SURFACES, FIXTURES, GLASS, STOREFRONT, ETC.
11. SCOPE OF WORK SHALL INCLUDE PATH TO MATCH (PTM) OF ANY EXISTING AREAS ABOVE, BELOW, OR BESIDE, WHICH ARE DISTURBED AS A RESULT OF CONSTRUCTION. THE QUANTITY OF THE PATCH TO MATCH SHALL BE DETERMINED BY THE CONTRACTOR AND SHALL INCLUDE ALL WORK DISTURBED DUE TO CONSTRUCTION ACTIVITIES. THIS INCLUDES ANY PTM AREAS CREATED BY MECHANICAL, PLUMBING, FIRE PROTECTION, AND ELECTRICAL TIE-INS TO EXISTING CONSTRUCTION. THE QUALITY OF PTM CONSTRUCTION SHALL BE EQUIVALENT TO THE NEW CONSTRUCTION OF THE EXISTING CONSTRUCTION DISTURBED, WHICHEVER IS MORE STRINGENT. WHEN WORK IS COMPLETED, NO NOTICEABLE SEAMS SHALL BE DISCERNIBLE BETWEEN THE NEW AND EXISTING CONSTRUCTION. ALL PTM MATERIALS ARE TO MATCH EXISTING UNLESS NOTED OTHERWISE. WHEN IN QUESTION, THE CONTRACTOR SHALL CONSULT THE OWNER TO DETERMINE WHAT THE BUILDING'S "STANDARD" IS.
12. CONTRACTOR RESPONSIBLE FOR IDENTIFYING ALL REQUIRED WORK WITH A SITE VISIT PRIOR TO ISSUANCE OF THEIR BID.
13. CONTRACTOR IS RESPONSIBLE FOR ALL REQUIRED TEMPORARY PROTECTION REQUIRED TO MAINTAIN ONGOING OPERATIONS, EXITING PATHS, DUST CONTROL AND OCCUPANT SAFETY. IT IS THE CONTRACTOR'S RESPONSIBILITY TO IDENTIFY THE REQUIREMENTS FOR TEMPORARY PROTECTION AND PROJECT PHASING. COORDINATE WITH THE OWNER FOR OTHER REQUIREMENTS.
14. NO PART OF THESE DOCUMENTS MAY BE REPRODUCED WITHOUT WRITTEN PERMISSION FROM DELAWARE ENGINEERING.
15. THE DRAWINGS AND SPECIFICATIONS PREPARED BY THE ARCHITECT FOR THIS PROJECT ARE INSTRUMENTS OF THE ARCHITECT'S SERVICE FOR USE SOLELY WITH RESPECT TO THIS PROJECT AND, UNLESS OTHERWISE PROVIDED, DELAWARE ENGINEERING SHALL BE DEEMED THE AUTHOR OF THESE DOCUMENTS AND SHALL RETAIN ALL COMMON LAW, STATUTORY AND OTHER RESERVED RIGHTS, INCLUDING THE COPYRIGHT.
16. THESE DRAWINGS ARE PROTECTED FROM COPYRIGHT INFRINGEMENT UNDER THE FEDERAL COPYRIGHT ACT. ALL RIGHTS TO THE DESIGN AND DRAWINGS SHALL BELONG TO DELAWARE ENGINEERING.
17. WHERE REFERENCE IS MADE TO VARIOUS TEST STANDARDS FOR MATERIALS, SUCH STANDARDS SHALL BE THE LATEST EDITION AND/OR ADDENDUM.

FINISHES:

1. COMPLY WITH MANUFACTURER'S RECOMMENDATIONS FOR PREPARING AND INSTALLING FINISHES.
2. PROTECT ADJACENT WORK BY SUITABLY COVERING DURING WORK.
3. REMOVE ADHESIVE OR PAINT SPOTS FROM FINISHED FLOORS, WALLS, GLASS OR OTHER SURFACES. FINISHES TO MEET OR EXCEED CODE REQUIREMENTS.
4. INSTALL MATERIALS USING MANUFACTURER'S APPROVED ADHESIVES AND METHODS, UNO
5. FILL MINOR DRYWALL IRREGULARITIES WITH SPACKLING COMPOUND AND SAND TO A SMOOTH LEVEL SURFACE. EXERCISE CARE TO AVOID RAISING THE NAP OF PAPER.
6. DO NOT PERFORM PAINTING AND OTHER FINISHING WORK UNDER CONDITIONS UNSUITABLE FOR EXECUTION OF PAINTING WORK. AIR SHALL BE FREE FROM DUST AND DIRT TO PREVENT LODGING OF FOREIGN MATTER IN FRESH PAINT. FLOORS MUST BE BROOM CLEAN BEFORE PAINTING IS STARTED.
7. PAINT DESIGNATIONS INDICATE COLOR ONLY, REFER TO SPECIFICATION FOR FINISH TYPE.
8. EDGES OF PAINT ADJOINING OTHER COLORS OR MATERIALS TO BE SHARP AND CLEAN WITHOUT OVERLAP.
9. EXAMINE SURFACES TO RECEIVE PAINT CAREFULLY FOR DEFECTS. DO NOT PROCEED WITH WORK UNTIL DEFECTS ARE CORRECTED.
10. WHENEVER NECESSARY TO OBTAIN REQUIRED RESULTS, REFINISH AN ENTIRE WALL RATHER THAN SPOT FINISHING WHERE A PORTION OF THE FINISH HAS BEEN DAMAGED OR IS UNSATISFACTORY.
11. PREPARE FLOOR SURFACES INCLUDING, BUT NOT LIMITED TO, THE FOLLOWING:
    - PREPARE/PROPERLY REPAIR AND PATCH SUBFLOORS TO A SMOOTH AND LEVEL FINISH.
    - FLASH PATCH AS REQUIRED, READY TO RECEIVE NEW FINISH.
12. PROVIDE SELF LEVELING TROWELABLE UNDERLAYMENT WHERE REQUIRED TO OBTAIN FINISH MANUFACTURER'S REQUIRED SUBFLOOR CONDITION.
13. FOLLOW THE CARPET AND RUG INSTITUTE METHODS OF INSTALLATION.
14. INSTALL TILE PER THE TILE COUNCIL OF NORTH AMERICA'S INSTALLATION SPECIFICATIONS.
15. PROVIDE THE REQUIRED TRANSITIONS BASED ON TYPES IDENTIFIED ON DRAWINGS AT EACH FINISH TRANSITION LOCATION.
16. CENTER FLOOR MATERIAL TRANSITIONS ON DOOR ABOVE.
17. FINISHED FLOORS EXTEND INTO TOE SPACES, CLOSETS, DOOR REVEALS AND SIMILAR OPENINGS.
18. REFER TO REFLECTED CEILING PLANS FOR CEILING FINISHES.
19. REFER TO ELEVATIONS FOR MILLWORK FINISHES.

PARTITIONS:

1. REFER TO FLOOR PLANS FOR PARTITION WALL TYPE TAGS. IN SOME CASES WALL TYPE TAGS ARE SHOWN ON DETAIL PLANS FOR CLARITY.
2. ANY NEW PARTITIONS NOT INDICATED WITH A WALL TYPE SHALL BE ASSUMED AS TYPE W1.
3. WALL TYPES DO NOT INDICATE FINAL FINISHES. REFER TO FINISH PLANS AND FINISH SCHEDULE.
4. BRACING: INSTALL CHANNEL COLD ROLLED STEEL (CRSS) BRACING AT ALL METAL STUD WALLS. INSTALL TWO ROWS OF BRACING 4'-0" O.C. FOR PARTITIONS UP TO 13'-0" HIGH.
5. ALL DIMENSIONS FOR STUD PARTITIONS ARE TO FACE OF STUD. ALL DIMENSIONS FOR MASONRY WALLS ARE TO FACE OF MASONRY. DIMENSIONS TO EXISTING CONSTRUCTION ARE TO FINISHED FACE OF CONSTRUCTION.
6. DIMENSIONS NOTED AS "CLR" ARE TO FINISHED SURFACE AND ARE CRITICAL FOR ACCESSIBILITY REQUIREMENTS OR BUILT-IN FURNISHINGS.
7. CONTRACTOR TO COORDINATE ALL NEW DIMENSIONS WITH EXISTING FIELD CONDITIONS AND NOTIFY ARCHITECT OF ANY INTERFERENCES, DISCREPANCIES OR OTHER UNFORESEEN CONDITIONS PRIOR TO PROCEEDING WITH THE WORK IN QUESTION.
8. CONTRACTOR SHALL FIELD VERIFY FINISHED DIMENSIONS AND CLEARANCES IN SPACES INDICATED TO RECEIVE BUILT-IN FURNISHINGS OR CASEWORK PRIOR TO FABRICATION.
9. ACOUSTICAL PARTITIONS: PARTITIONS INDICATED WITH ACOUSTICAL BATT, AND/OR A GIVEN AN STC RATING, SHALL BE CONSTRUCTED TO MINIMIZE SOUND TRANSMISSION AS FOLLOWS:
   A. INSTALL ACOUSTICAL SEALANT AT ALL FLOOR AND HEAD LEVELS, EACH SIDE OF THE PARTITIONS.
   B. SET TRACK IN 3 CONTINUOUS BEADS OF ACOUSTICAL SEALANT.
   C. EXTEND SOUND BATTS THOROUGH ANY INTERSECTING WALLS.
   D. STAGGER OUTLETS A MINIMUM OF 24 INCHES HORIZONTAL. DO NOT INSTALL MORE THAN ONE OUTLET IN A COMMON STUD CAVITY. SEAL JOINTS AROUND OUTLETS WITH ACOUSTICAL SEALANT.
10. TYPICAL ACOUSTICAL RATED GYP WALLS: BUILD WALL FLOOR TO DECK, GYP BOTH SIDES, INSULATE CAVITY WITH SOUND ATTENUATION BATT CAVITY INSULATION. PROVIDE CONTINUOUS ACOUSTICAL SEALANT ALONG ALL EDGES, TYP. SEAL ALL PENETRATIONS WITH ACOUSTICAL SEALANT.
11. TYPICAL UNRATED FIRE OR ACOUSTICAL GYPSUM BOARD PARTITION WALLS: FRAME WALL TO DECK, UNO INSTALL GYPSUM BOARD TO 8' - 6" AFF, UNO
12. PROVIDE (2) #10 SMS AT EACH STUD / TRACK CONNECTION AT ALL PARTITIONS, BULK HEADS & SOFFITS NOT EXTENDING FLOOR TO DECK.
13. METAL STUDS SHALL BE 20 GA. @ 16" O.C. UNLESS OTHERWISE NOTED.
14. ALL GYPSUM BOARD SHALL BE TYPE "X" FIRE RATED. ALL JOINTS SHALL BE FINISHED WITH TAPE AND JOINT COMPOUND. PROVIDE A LEVEL 4 FINISH AT ALL JOINTS WHICH WILL BE EXPOSED TO VIEW UPON PROJECT COMPLETION UNO,. PROVIDE A LEVEL 1 FINISH AT ALL JOINTS WHICH WILL REMAIN CONCEALED. PROVIDE GALVANIZED STEEL CORNER BEADS AT ALL EXPOSED CORNERS. REFER TO FINISH LOCATION ON PLANS, AND COORDINATE WITH DESIGNER IN THE FIELD.
15. PROVIDE MOISTURE/ MOLD / ABUSE RESISTANT GYPSUM BOARD AT ALL PARTITIONS IN TOILET ROOMS, JANITORS CLOSETS AND ANY ROOM WHERE MOISTURE CONDITIONS WILL OCCUR AND NOT RECEIVING TILE FINISH.
16. PROVIDE GLASS MATT GYPSUM BOARD AT ALL PARTITIONS DIRECTLY ADJACENT TO LIVING WALL ELEMENT AND AT ALL WET AREAS (SHOWER ROOMS, COMMUNAL KITCHEN/DISHWASHER, ETC.) GLASS MAT GYPSUM BOARD SHALL RECEIVE FIBERGLASS TAPE AND FINISH AS RECOMMENDED BY MANUFACTURER.
17. METAL TRIM: EXPOSED METAL OR NON-METALLIC J-MOLD IS NOT ACCEPTABLE.
18. AT ALL LOCATIONS WHERE GYPSUM BOARD PARTITIONS TERMINATE AT DISSIMILAR MATERIALS, PROVIDE A FINISH-ABLE METAL END TRIM AND A 1/4" GAP BETWEEN TRIM AND ADJACENT MATERIAL. FILL GAP WITH BACKER ROD AND SEALANT.
19. PROVIDE DEFLECTION TRACK OR CLIP AT TOP OF ALL METAL STUD PARTITIONS THAT EXTEND TO THE UNDERSIDE OF STRUCTURAL MEMBERS OR FLOOR/ ROOF DECK.
20. METAL STUD PARTITIONS IN WHICH STUDS DO NOT EXTEND TO DECK ABOVE SHALL BE LATERALLY BRACED TO THE STRUCTURE ABOVE WITH 3 5/8" x 20 GA. STUDS @ 48" O.C. MAX., AND AT ENDS OF SUCH WALLS WHICH DO NOT INTERSECT OTHER WALLS.
21. PROVIDE FULL HEIGHT DOUBLE STUDS AT ALL DOOR AND WINDOW JAMBS.
22. PROVIDE SOLID WOOD BLOCKING IN ALL WALL AND CEILING CONSTRUCTION AS REQUIRED TO SUPPORT WALL MOUNTED MILLWORK AND CASEWORK, FURNISHINGS, RAILINGS, GRAB BARS, TOILET & BATH ACCESSORIES OR ANY OTHER WALL MOUNTED ITEMS INDICATED ON THESE DRAWINGS REQUIRING BLOCKING. REFER TO DIAGRAMS ON DRAWING A401 FOR MOUNTING LOCATIONS OF GRAB BARS.
23. THE BOTTOM EDGE OF ALL GYPSUM WALL BOARD SHALL BE INSTALLED 3/8" ABOVE THE FLOOR AND SEALED AS NOTED IN PARTITION SECTIONS, TYP.
24. CONTROL JOINTS: PROVIDE CONTROL JOINTS IN GWB CONSTRUCTION AS FOLLOWS:
   A. INSTALL CONTROL JOINTS IN EXPANSES OF PARTITIONS AT MAXIMUM 25-FOOT INTERVALS, FROM FLOOR TO CEILING. CONTROL JOINTS ARE RECOMMENDED AT DOOR JAMBS, EXTENDING FROM DOOR HEAD TO CEILING.
   B. CONTROL JOINTS ARE REQUIRED IN CEILINGS TO LIMIT AREAS TO 2,500 SQUARE FEET. INSTALL CONTROL JOINTS IN CEILINGS TO LIMIT DIMENSIONS IN EITHER DIRECTION TO 50 FEET MAXIMUM WITH PERIMETER RELIEF, 30 FEET MAXIMUM OTHERWISE. INSTALL CONTROL JOINTS WHERE CEILING FRAMING OR FURRING CHANGES DIRECTION.
   C. INSTALL CONTROL JOINTS IN GWB WHERE THE UNDERLYING STRUCTURE CONTAINS A CONTROL OR MOVEMENT JOINT.
25. PROVIDE CONTROL JOINTS IN MASONRY AND GYPSUM BOARD/STUD PARTITIONS AND CEILINGS/SOFFITS. CEILINGS EXCEEDING 2500SF IN AREA AND PARTITION, WALL, AND WALL FURRING RUNS EXCEEDING 30 FEET. DO NOT EXCEED 50 FEET BETWEEN CEILING CONTROL JOINTS IN EITHER DIRECTION. ENSURE CONTROL JOINTS COINCIDE WITH BUILDING CONTROL JOINTS. IN PARTITIONS TYPES WHICH INCLUDE BOTH TYPES OF CONSTRUCTION, CONTROL JOINTS SHALL ALIGN FROM UPPER TO LOWER CONSTRUCTION. CONTROL JOINTS ARE RECOMMENDED AT DOOR JAMBS, EXTENDING FROM DOOR HEAD TO CEILING.
26. WHERE CONTROL JOINTS OCCUR IN AN ACOUSTICALLY RATED ASSEMBLY, PROVIDE GYP BOARD, MINERAL FIBER, OR EQUIVALENT TO FILL VOID CREATED. COORDINATE REQUIRED LOCATIONS ON FEATURE WALLS WITH DESIGNER IN THE FIELD. METAL TRIM: EXPOSED METAL OR NON-METALIC J-MOLD IS NOT ACCEPTABLE.
27. PROVIDE PAPER FACED "L" SHAPED TAPE ON TRIM AT THE TOP OF ALL GYP. BD. THAT ABUTS SUSPENDED CEILINGS AND EXPOSED STRUCTURE.

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DATE: 02.2024
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SCALE: 12" = 1'-0"
REVIEWED BY: AM
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FILE:

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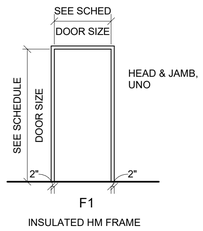
REVISIONS

NO.	DATE	DESCRIPTION

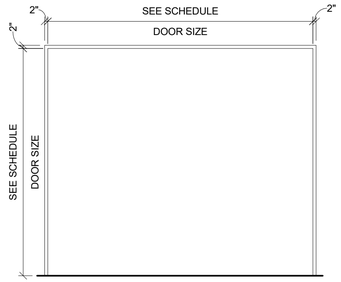
RHINEBECK WTP
IMPROVEMENTS
VILLAGE OF RHINEBECK
DUTCHESS COUNTY, NY

GENERAL
ARCHITECTURAL NOTES

SHEET:
A002



F1
INSTULATED HM FRAME



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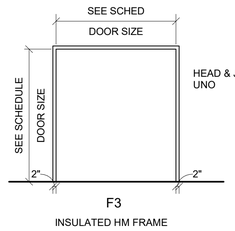

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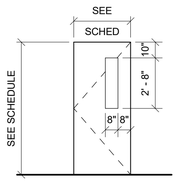
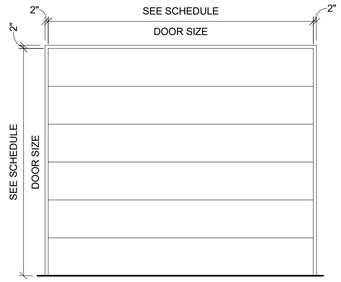
INSTULATED HM FRAME

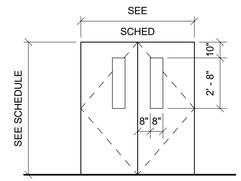


1
INSTULATED HM

DOOR FRAME TYPES



2
STEEL



3
INSTULATED HM

DOOR TYPES

1 A003 DOOR FRAME & TYPES
N.T.S

DOOR SCHEDULE

Type Mark	DOOR SIZE					DOOR			FRAME				DOOR FIRE RATING	MANUFACTURER	REMARKS	HARDWARE GROUP
	ROUGHT HEIGHT	ROUGH WIDTH	HEIGHT	WIDTH	THICKNESS	TYPE	MATERIAL	FINISH	TYPE	DEPTH	MATERIAL	FINISH				
C-130	15' - 0"	22' - 0"	15' - 0"	22' - 0"	1 3/4"	1	INSULATED HOLLOW METAL	PAINT, COLOR BY OWNER	F2	2" (W) x 5 3/4" (D)	HOLLOW METAL	PAINT, COLOR BY OWNER	N/A	OVERHEAD DOOR CORPORATION	SECTIONAL OVERHEAD DOORS 422 SERIES INSULATED STEEL DOORS	D1
C131	7' - 2"	3' - 4"	7' - 0"	3' - 0"	1 3/4"	1	INSULATED HOLLOW METAL	PAINT, COLOR BY OWNER	F1	2" (W) x 5 3/4" (D)	HOLLOW METAL	PAINT, COLOR BY OWNER	N/A	CECO ASSA-ABLOY	LEGION FLUSH	D1
C-132	7' - 4"	6' - 4"	7' - 0"	6' - 0"	1 3/4"		INSULATED HOLLOW METAL	PAINT, COLOR BY OWNER	F3	2" (W) x 5 3/4" (D)	HOLLOW METAL	PAINT, COLOR BY OWNER	N/A	CECO ASSA-ABLOY		
C131	7' - 2"	3' - 4"	7' - 0"	3' - 0"										CECO ASSA-ABLOY	LEGION FLUSH	
C131	7' - 2"	3' - 4"	7' - 0"	3' - 0"										CECO ASSA-ABLOY	LEGION FLUSH	

ABBREVIATIONS:

HM HOLLOW METAL
PF PREFINISHED
PT SEMI-GLOSS PAINT
STLSTEEL

HARDWARE SCHEDULE:

D1:
1. (3) 4-1/2"x 4-1/2" HINGES
2. (1) STORAGE LOCKSET
3. (1) CLOSER
4. WEATHERSTRIPPING
5. (1) SWEEP
6. (1) THRESHOLD

D2:
1. WEATHERSTRIPPING

D3:
1. (6) 4-1/2"x 4-1/2" HINGES
2. (1) STORAGE LOCKSET
3. (2) CLOSER
4. (2) SWEEP

D4:
1. (3) 4-1/2"x 4-1/2" HINGES
2. (1) PRIVACY LOCKSET
3. (1) CLOSER
4. (1) SWEEP
5. (1) WALL STOP

D5:
1. (3) 4-1/2"x 4-1/2" HINGES
2. (1) STORAGE LOCKSET
3. (1) CLOSER
4. (1) SWEEP

Window Schedule

Type Mark	Head Height	Window Size				Window Materials			Manufacturer	Egress Window
		Rough Height	Rough Width	Height	Width	Frame Finish	Trim Finish	Glazing		
W	9' - 3 1/8"	5' - 0 1/2"	6' - 0 1/2"	5' - 0"	6' - 0"	Wood - Stained	Clad - White	Glass-Marvin-IG Low E II With Argon	Marvin Windows & Doors	NO

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PROJECT NO.: 22-2496
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REVISIONS

NO.	DATE	DESCRIPTION

RHINEBECK WTP
IMPROVEMENTS
VILLAGE OF RHINEBECK
DUTCHESS COUNTY, NY

DOOR & WINDOW
OPENING SCHEDULE &
DETAILS

SHEET:
A003

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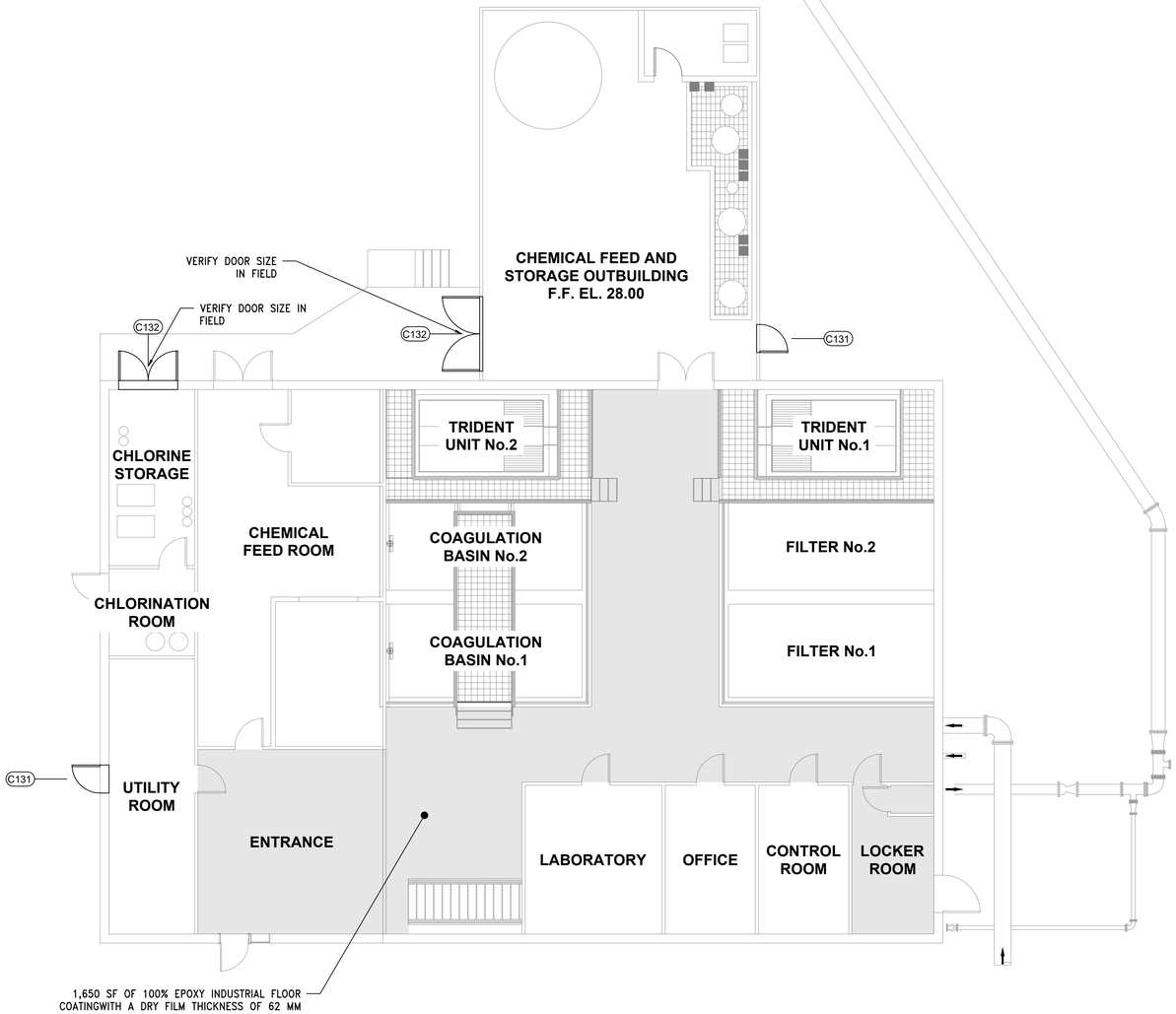
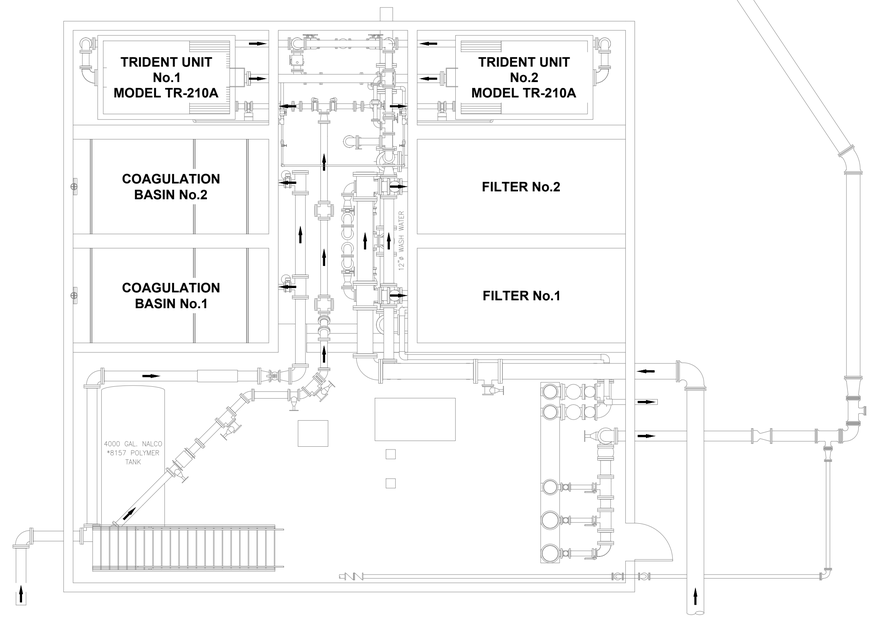
NOTES:

1. EPOXY COAT ALL FLOORS
2. REPAIR LEAKS BY EXISTING ELECTRIC
3. REPLACE EXISTING DOORS CALLED OUT ON PLAN



OPERATING ARCHITECTURAL FLOOR PLAN
SCALE: 1/8"=1'-0"



LOWER ARCHITECTURAL FLOOR
SCALE: 1/8"=1'-0"

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REVISIONS

NO.	DATE	DESCRIPTION
1.	06/21/24	MAY 2024 DOH COMMENTS

RHINEBECK WTP
PLANT IMPROVEMENTS
VILLAGE OF RHINEBECK
DUTCHESS COUNTY, NEW YORK

WTP REHAB FLOOR PLAN

SHEET: A-100

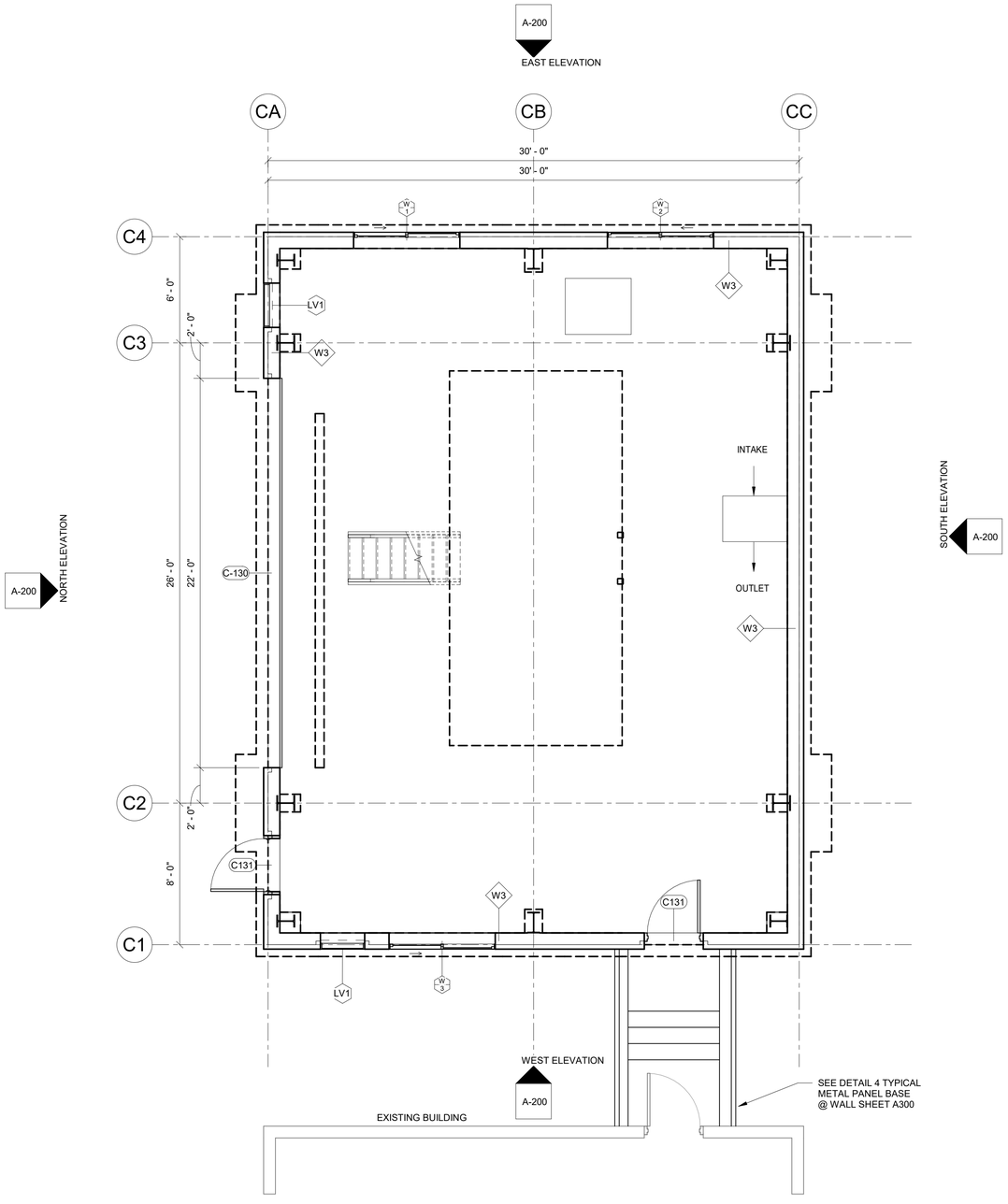
File: I:\DRAWINGS\RHINEBECK (V)\22-2486 WTP\A-100 – EXISTING BUILDING.DWG Saved: 7/2/2024 1:08:49 PM Plotted: 10/2/2024 10:18:24 AM User: Iris Brokaw LastSaved By: brokaw

ARCHITECTURAL LEGEND

- (#) • INDICATES KEYED NOTE.
- W- • INDICATES NEW WALL, REF WALL SCHEDULE.
- -- • INDICATES NEW WINDOW, REF WINDOW SCHEDULE ON 'A' DWGS
- -- • INDICATES NEW DOOR, REF DOOR SCHEDULE ON 'A' DWGS
- -- • INDICATES NEW GRIDLINE

PLAN NOTES

1. ALL ELEVATIONS ARE REFERENCED FROM 0'-0" = LEVEL 1 FINISH FLOOR.
2. GRIDLINES ARE LOCATED AT EXTERIOR FACE OF PEMB STEEL LINES.
3. DETAILS ON THESE PLANS ARE INTENDED TO DEPICT THE GENERAL CONSTRUCTION METHODS FOR THIS STRUCTURE. CONNECTIONS, DETAILS AND CONDITIONS NOT SPECIFICALLY SHOWN THAT ARE SIMILAR TO THOSE THAT ARE SPECIFIED SHALL BE ASSUMED ONE AND THE SAME. IF QUESTIONS REGARDING THE APPLICATION OF DETAILS ARE ENCOUNTERED, NOTIFY THE ARCHITECT / ENGINEER FOR CLARIFICATION IN A TIMELY MANNER PRIOR TO BID OPENING.
4. DIMENSIONS AT DOORS ARE ROUGH OPENING OF STRUCTURAL FRAME.
5. CONTRACTOR TO INSTALL PRE-ENGINEERED METAL BUILDING (PEMB) MATERIALS FOR PEMB FURNISHED UNDER SEPARATE CONTRACT.
6. REFER TO SPECIFICATION 074116, 074213.19, AND 133419 FOR REQUIRED WARRANTIES.
7. CONTRACTOR TO PROVIDE PROOF OF MANUFACTURER'S INSTALLATION CERTIFICATION AND TRAINING.
8. CONTRACTOR TO PROVIDE DOCUMENTATION OF THE NECESSARY MANUFACTURER'S INSTALLATION. CERTIFICATION AND TRAINING CAN BE OBTAINED PRIOR TO INSTALLATION OF THE PEMB STRUCTURE.



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223 MAIN ST, GOSHEN, NY 10924 - 845.615.9232

REVISIONS

NO.	DATE	DESCRIPTION

RHINEBECK WTP
IMPROVEMENTS
VILLAGE OF RHINEBECK
DUTCHESS COUNTY, NY

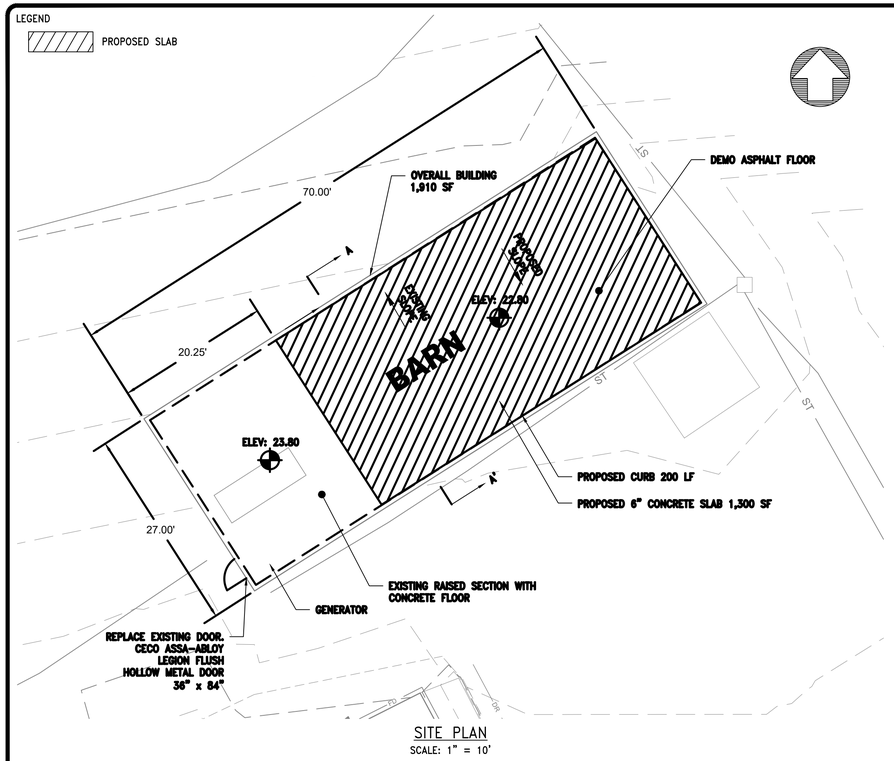
FIRST FLOOR PLAN

SHEET: A101

WARNING - IT IS A VIOLATION OF NEW YORK EDUCATION LAW SECTION 7209.2, FOR ANY PERSON, UNLESS HE IS ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER OR LAND SURVEYOR, TO ALTER THIS DOCUMENT IN ANY WAY. IF ALTERED THE ALTERING PERSON SHALL COMPLY WITH THE REQUIREMENTS OF NEW YORK EDUCATION LAW, SECTION 7209.2.

LEGEND

PROPOSED SLAB

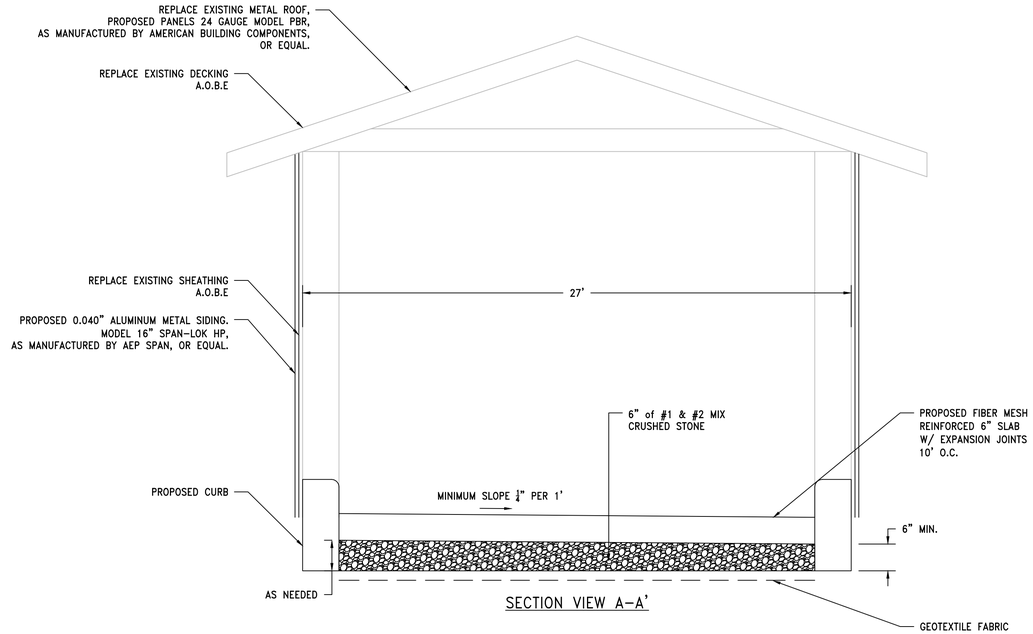


SITE PLAN

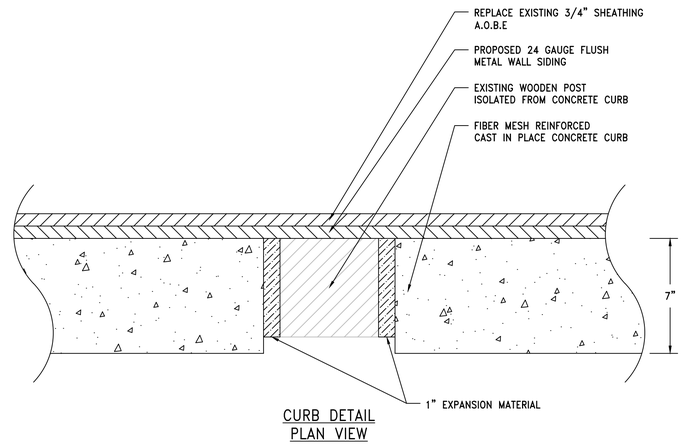
SCALE: 1" = 10'

NOTES:

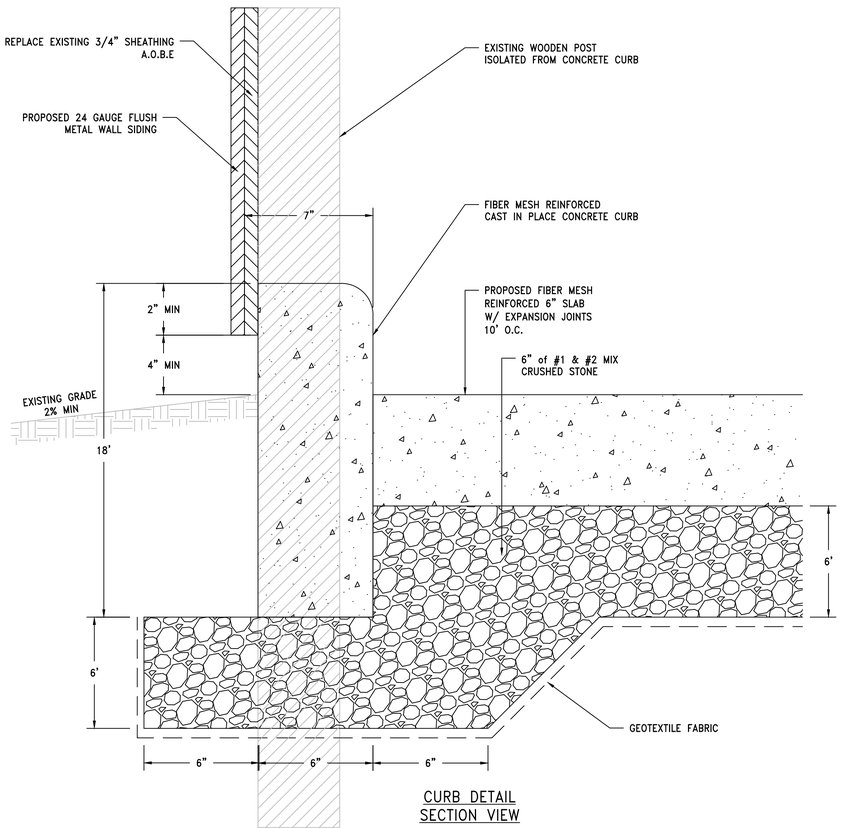
1. CONCRETE CURB TO BE CAST AROUND EXISTING WOODEN POSTS/ COLUMNS.
2. REPLACE ALL EXISTING FASCIA BOARDS, SOFFITS, DRIP EDGES, & VENTS.
3. REPLACE EXISTING ROLL-UP OVERHEAD DOORS IN KIND.
4. CLOSE ALL OPENINGS IN ALL WALLS TO ENSURE THE BUILDINGS PROTECTED FROM THE ELEMENTS.
5. THERE IS NO EXISTED OR PROPOSED INSULATION.
6. REPLACE ALL THREE OVERHEAD LIFTING SECTIONAL ROLL-UP DOORS, OPENING DIMENSIONS 8'H X 10'W.
7. PROVIDE ONE TRUSS MOUNTED LED LIGHT AND ONE WALL POST MOUNTED RECEPTACLE 15' O.C. ALONG THE LENGTH OF THE BUILDING.



SECTION VIEW A-A'



CURB DETAIL
PLAN VIEW



CURB DETAIL
SECTION VIEW

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DATE: 4/11/2024
DRAWN BY:
SCALE:
REVIEWED BY: RF
PROJECT NO.: ----
FILE:

DELAWARE ENGINEERING, D.P.C.
CIVIL AND ENVIRONMENTAL ENGINEERING
28 MADISON AVENUE EXTENSION, ALBANY, NY 12203 - 518.452.1290
55 SOUTH MAIN ST, ONEONTA, NY 13820 - 607.432.8073
31 NORTH MAIN STREET, LIBERTY, NY 12754 - 845.747.9862
6 TOWNSEND STREET, WALTON, NY 13856 - 607.865.9235
16 EAST MARKET ST., RED HOOK, NY 12571 - 518.452.1290
548 BROADWAY, MONTICELLO, NY 12701 - 845.791.1777

REVISIONS

NO.	DATE	DESCRIPTION

RHINEBECK WTP
PLANT IMPROVEMENTS
VILLAGE OF RHINEBECK
DUTCHESS COUNTY, NEW YORK

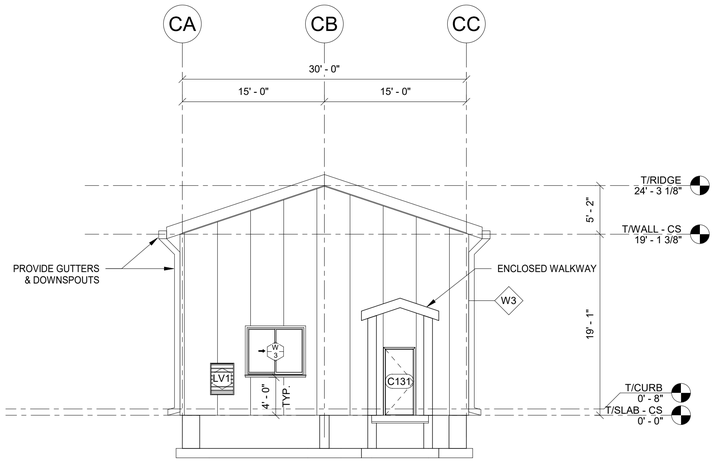
PRPOSED UPGRADES TO
EXISTING BARN

SHEET:
A-102

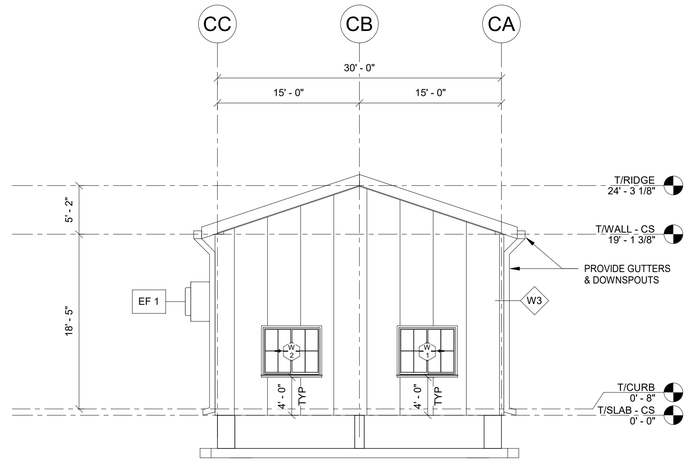
File: H:\DRAWINGS\RHINEBECK (V)\22-2498 WTP\A-102 - BARN UPGRADES.DWG Saved: 4/11/2024 10:58:00 AM Plotted: 10/2/2024 10:16:36 AM User: Iris Brotes LastSavedBy: montoss

ELEVATION NOTES

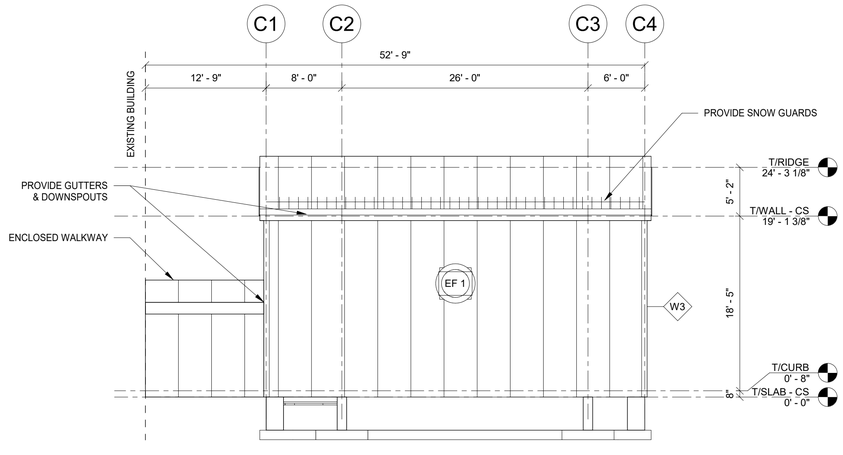
1. ALL ELEVATIONS ARE REFERENCED FROM 0'-0" = LEVEL 1 FINISH FLOOR.
2. GRIDLINES ARE LOCATED AT EXTERIOR FACE OF PEMB STEEL LINES.
3. DETAILS ON THESE PLANS ARE INTENDED TO DEPICT THE GENERAL CONSTRUCTION METHODS FOR THIS STRUCTURE. CONNECTIONS, DETAILS AND CONDITIONS NOT SPECIFICALLY SHOWN THAT ARE SIMILAR TO THOSE THAT ARE SPECIFIED SHALL BE ASSUMED ONE AND THE SAME. IF QUESTIONS REGARDING THE APPLICATION OF DETAILS ARE ENCOUNTERED, NOTIFY THE ARCHITECT / ENGINEER FOR CLARIFICATION IN A TIMELY MANNER PRIOR TO BID OPENING.
4. ALIGN JOINTS OF 42" ROOF PANELS WITH JOINTS OF 42" WALL PANELS.
5. DOOR, WINDOW, & STOREFRONT MANUFACTURER RESPONSIBLE FOR DESIGN OF ALL CONNECTIONS TO JAMBS, SILLS, & HEADERS.
6. DIMENSIONS SHOWN ON ELEVATIONS ARE ROUGH OPENING OF STRUCTURAL FRAME.
7. CONTRACTOR TO INSTALL PRE-ENGINEERED METAL BUILDING (PEMB) MATERIALS FOR PEMB FURNISHED UNDER SEPARATE CONTRACT.
8. REFER TO SPECIFICATION 074116, 074213.19, AND 133419 FOR REQUIRED WARRANTIES.
9. CONTRACTOR TO PROVIDE PROOF OF MANUFACTURER'S INSTALLATION CERTIFICATION AND TRAINING.
10. CONTRACTOR TO PROVIDE DOCUMENTATION OF THE NECESSARY MANUFACTURER'S INSTALLATION. CERTIFICATION AND TRAINING CAN BE OBTAINED PRIOR TO INSTALLATION OF THE PEMP STRUCTURE.
11. ROOF PANELS SHALL BE 36" WIDE, 6" THICK, 24 GAUGE METAL SPAN INSULATED PANELS, LS-36, OR EQUAL.
12. WALL PANELS SHALL BE 36" WIDE, 3" THICK, 24-GAUGE METAL SPAN INSULATED PANELS, LS-36 OR EQUAL.



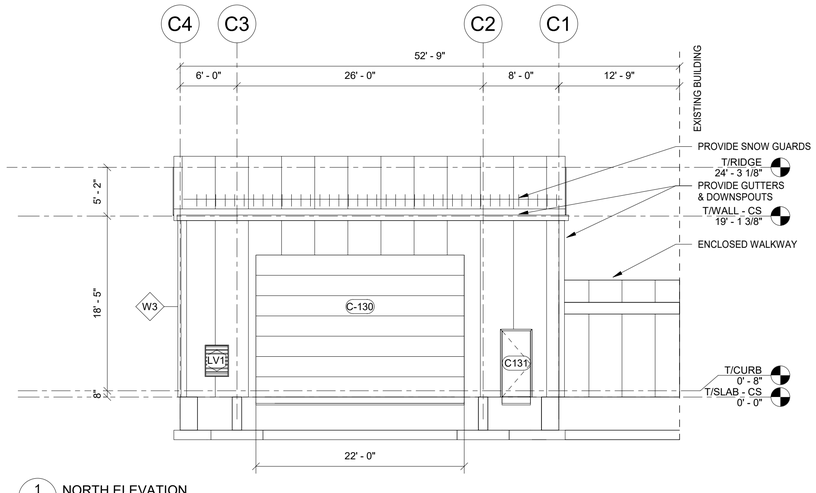
4 / A-200 WEST ELEVATION
1/8" = 1'-0"



3 / A-200 EAST ELEVATION
1/8" = 1'-0"



2 / A-200 SOUTH ELEVATION
1/8" = 1'-0"



1 / A-200 NORTH ELEVATION
1/8" = 1'-0"

DATE: 02.2024
DRAWN BY: IB
SCALE: As indicated
REVIEWED BY: AM
PROJECT NO.: 22-2496
FILE:

DELAWARE ENGINEERING, D.P.C.
CIVIL AND ENVIRONMENTAL ENGINEERING
28 MADISON AVENUE EXTENSION, ALBANY, NY 12203 - 518.452.1290
55 SOUH MAIN ST, ONEONTA, NY 13820 - 607.432.8073
16 EAST MARKET ST, RED HOOK, NY 12571 - 518.452.1290
548 BROADWAY, MONTICELLO, NY 12701 - 845.791.7777
223 MAIN ST, GOSHEN, NY 10924 - 845.615.9232

REVISIONS

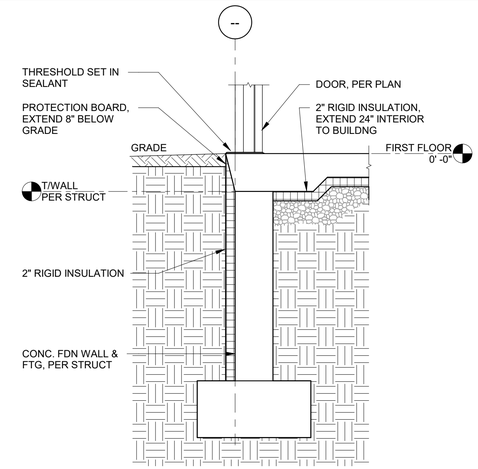
NO.	DATE	DESCRIPTION

RHINEBECK WTP
IMPROVEMENTS
VILLAGE OF RHINEBECK
DUTCHESS COUNTY, NY

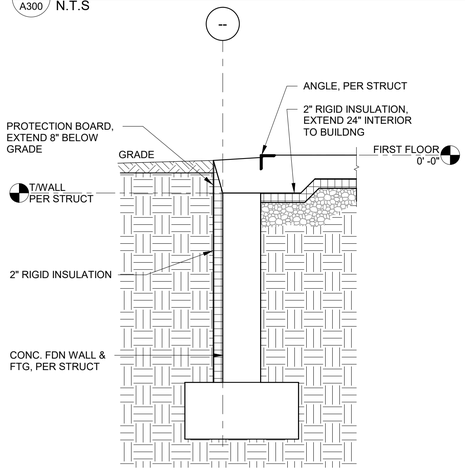
ELEVATIONS

SHEET:
A-200

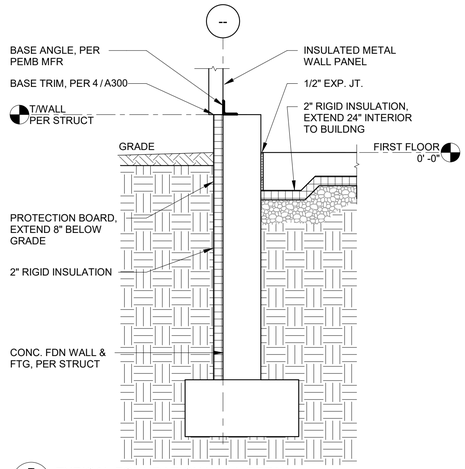
WARNING - IT IS A VIOLATION OF NEW YORK EDUCATION LAW SECTION 7209.2, FOR ANY PERSON, UNLESS HE IS ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER OR LAND SURVEYOR, TO ALTER THIS DOCUMENT IN ANY WAY. IF ALTERED THE ALTERING PERSON SHALL COMPLY WITH THE REQUIREMENTS OF NEW YORK EDUCATION LAW, SECTION 7209.2.



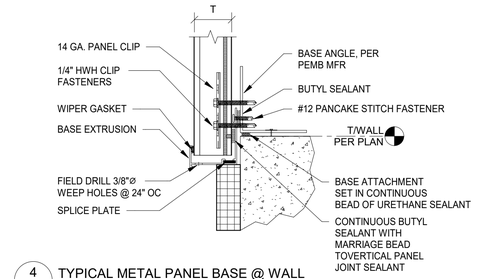
9 A300 TYPICAL FOUNDATION WALL DETAIL @ MAN DOOR
N.T.S



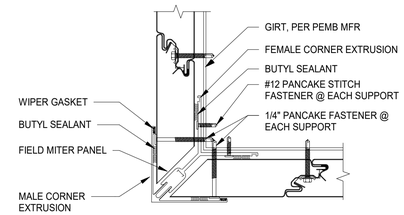
8 A300 TYPICAL FOUNDATION WALL DETAIL @ OHD
N.T.S



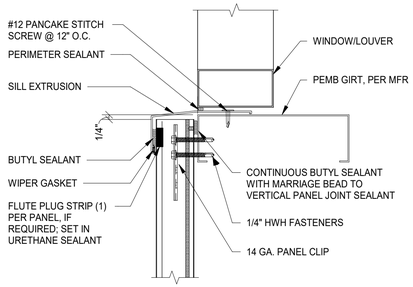
7 A300 TYPICAL FOUNDATION WALL DETAIL
N.T.S



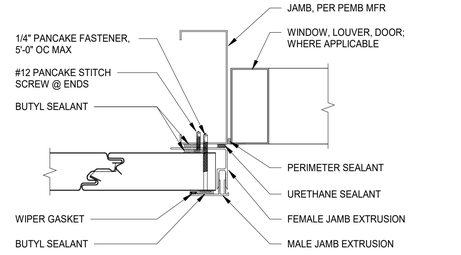
4 A300 TYPICAL METAL PANEL BASE @ WALL
N.T.S



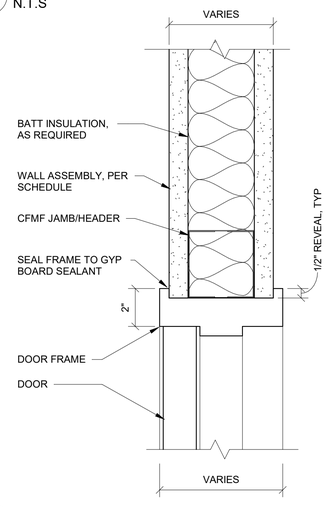
3 A300 TYPICAL METAL PANEL CORNER
N.T.S



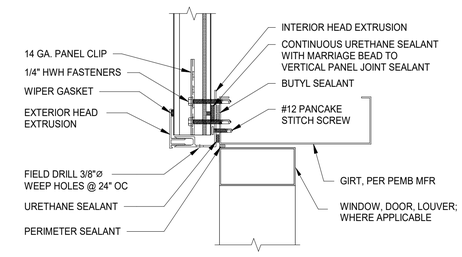
6 A300 TYPICAL METAL PANEL @ SILL
N.T.S



2 A300 TYPICAL WALL PANEL @ JAMB
N.T.S



5 A300 TYPICAL HEAD/JAMB @ INTERIOR DOOR
N.T.S



1 A300 TYPICAL METAL PANEL @ HEAD
N.T.S

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DATE: 02.2024
DRAWN BY: Author
SCALE: As indicated
REVIEWED BY: AM
PROJECT NO.: 22-2496
FILE:

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REVISIONS

NO.	DATE	DESCRIPTION

RHINEBECK WTP
IMPROVEMENTS
VILLAGE OF RHINEBECK
DUTCHESS COUNTY, NY

ARCH DETAILS

SHEET: A300

ABBREVIATIONS:

"	INCH
#	NUMBER, POUND
&	AND
'	FEET
(E)	EXISTING
(N)	NEW
@	AT
A=	AXIAL FORCE
AB	ANCHOR BOLT
ABV	ABOVE
ACI	AMERICAN CONCRETE INSTITUTE
ADD	ADDENDUM, ADDITION
ADJ	ADJUST, ADJUSTABLE
AESS	ARCHITECTURALLY EXPOSED STRUCTURAL STEEL
AFF	ABOVE FINISHED FLOOR
ALT	ALTERNATE
ALUM	ALUMINUM
APPROX	APPROXIMATE
ARCH	ARCHITECTURAL
ASTM	AMERICAN SOCIETY FOR TESTING AND MATERIALS
AVG	AVERAGE
AWS	AMERICAN WELDING SOCIETY
B/	BOTTOM OF
B/W	BETWEEN
BALC	BALCONY
BD	BOARD
BEV	BEVEL
BKR	BACKER
BLDG	BUILDING
BLK	BLOCK
BLKG	BLOCKING
BM	BEAM
BOC	BOTTOM OF CURB
BOT/BTM	BOTTOM
BOW	BOTTOM OF WALL
BP	BASEPLATE
BRDG	BRIDGE, BRIDGING
BRG	BEARING
BRK	BRICK
BSMT	BASEMENT
BU	BUILT-UP
C	CHANNEL
C=	COMPRESSION FORCE
CEM	CEMENT, CEMENTITIOUS
CGS	CENTER OF GRAVITY OF STRAND
CIP	CAST IN PLACE
CJ	CONTROL JOINT
CJP	COMPLETE JOINT PENETRATION
CL	CENTER LINE
CLG	CEILING
CLR	CLEAR
CMU	CONCRETE MASONRY UNIT
COL	COLUMN
COMP	COMPOSITE, COMPENSATION
CONC	CONCRETE
COND	CONDITION
CONN	CONNECTION
CONSTR	CONSTRUCTION
CONT	CONTINUOUS
COORD	COORDINATE
CORR	CORRIDOR
CTR	CENTER
CTRL	CONTROL
CTSK	COUNTERSINK
CU	CUBIC
CUST	CUSTOM
CY	CUBIC YARD
DBA	DEFORMED BAR ANCHOR
DBL	DOUBLE
DEFL	DEFLECTION
DEG	DEGREE
DEMO	DEMOLITION
DEPT	DEPARTMENT
DET	DETAIL
DIA - Ø	DIAMETER
DIAG	DIAGONAL
DIM	DIMENSION
DKG	DECKING
DL	DEAD LOAD
DWG	DRAWING
DWGS	DRAWINGS
DWL	DOWEL
EA	EACH
EF	EACH FACE
EIFS	EXTERIOR INSULATED FINISH SYSTEM
EJ	EXPANSION JOINT
EL	ELEVATION
ELEC	ELECTRICAL
ELEV	ELEVATOR
ENGR	ENGINEER
EOD	EDGE OF DECK
EOP	EDGE OF PLATE
EOR	ENGINEER OF RECORD
EOS	EDGE OF SLAB
EQ	EQUAL
EQPT	EQUIP
ES	EACH SIDE
EW	EACH WAY
EXIST	EXISTING
EXP	EXPANSION
EXT	EXTERIOR

F TO F	FACE TO FACE
F'c	CONCRETE COMPRESSIVE STRENGTH
FAB	FABRICATIONS/FABRICATED
FB	FLAT BAR
FD	FLOOR DRAIN
FF	FINISH FLOOR
FFE	FINISH FLOOR ELEVATION
FIN	FINISH
FLR	FLOOR
FNDN	FOUNDATION
FOC	FACE OF CONCRETE
FOF	FACE OF FINISH
FOM	FACE OF MASONRY
FOS	FACE OF STUD
FR	FIRE RATED, FIRE RESISTIVE
FRM	FRAMED, FRAMING
FRT	FIRE RETARDANT TREATED
FT	FOOT, FEET
FTG	FOOTING
FUT	FUTURE
Fy	YIELD STRESS
GA	GAUGE
GALV	GALVANIZED
GB	GRADE BEAM
GC	GENERAL CONTRACTOR
GEN	GENERAL
GL	GLU-LAMINATED
GLB	GLU-LAMINATED BEAM
GND	GROUND
GR	GRADE
GYP	GYPSUM
GYP BD	GYPSUM BOARD
HAS	HEADED ANCHOR STUD
HC	HOLLOW CORE
HCP	HOLLOW CORE PLANK
HDR	HEADER
HEX	HEXAGONAL
HI	HIGH
HM	HOLLOW METAL
HORIZ	HORIZONTAL
HSS	HOLLOW STRUCTURAL SECTION
HT	HEIGHT
HVAC	HEATING - VENTILATION - AIR CONDITIONING
IBC	INTERNATIONAL BUILDING CODE
ICF	INSULATED CONCRETE FORMS
ID	INSIDE DIAMETER
IJ	ISOLATION JOINT
IN	INCH, INCHES
INFO	INFORMATION
INSP	INSPECTION
INSUL	INSULATION
INT	INTERIOR
INV	INVERT
JT	JOINT, JOINTS
k	KILOPOUND (1000 POUNDS)
K-FT	KIP-FOOT (1000 POUND - FEET)
KIP	KILOPOUND (1000 POUNDS)
L	ANGLE, LEFT, LENGTH
LAM	LAMINATE, LAMINATED
LAT	LATERAL
LB	POUND
LF	LINEAL FEET, LINEAR FOOTAGE
LG	LONG
LIN	LINEAR
LIN FT	LINEAL FEET, LINEAR FOOTAGE
LL	LIVE LOAD
LLH	LONG LEG HORIZONTAL
LLV	LONG LEG VERTICAL
LNTL	LINTEL
LONG	LONGITUDINAL
LS	LONG SLOTTED
LSH	LONG SIDE HORIZONTAL
LSL	LAMINATED STRAND LUMBER
LSV	LONG SIDE VERTICAL
LT WT	LIGHT WEIGHT
LVL	LAMINATED VENEER LUMBER
MAX	MAXIMUM
MB	MACHINE BOLT
MC	MISCELLANEOUS CHANNEL
MCJ	MASONRY CONTROL JOINT
MECH	MECHANICAL
MEMB	MEMBRANE
MEP	MECHANICAL, ELECTRICAL, PLUMBING
MEZZ	MEZZANINE
MFR	MANUFACTURER
MIN	MINIMUM
MISC	MISCELLANEOUS
MO	MASONRY OPENING
MTL	METAL
MTL	METAL
MUL	MULLION
N	NORTH
NIC	NOT IN CONTRACT
NO	NUMBER
NOM	NOMINAL
NTS	NOT TO SCALE
NW	NORMAL WEIGHT

OC	ON CENTER
OD	OUTSIDE DIAMETER
OPNG	OPENING
OPP	OPPOSITE
OSB	ORIENTED STRAND BOARD
OWSJ	OPEN WEB STEEL JOIST
P/L	PROPERTY LINE
PAF	POWDER ACTUATED FASTENER
PC	PRECAST
PCF	POUNDS PER CUBIC FOOT
Pd	DRIFTED SNOW LOAD
PE	PROFESSIONAL ENGINEER
PEMB	PRE ENGINEERED METAL BUILDING
PERF	PERFORATE, PERFORATED, PERFORMANCE
PERIM	PERIMETER
PERP	PERPENDICULAR
Pf	FLAT ROOF SNOW LOAD
PJP	PARTIAL JOINT PENETRATION
PL	PLATE
PLF	POUNDS PER LINIER FOOT
PLWD	PLYWOOD
PMEJ	PREMOLDED EXPANSION JOINT
PMF	PREMOLDED FILLER
PNL	PANEL
PREFAB	PREFABRICATED
PREFIN	PREFINISHED
Ps	SLOPED ROOF SNOW LOAD
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
PSL	PARALLEL STRAND LUMBER
PT	PRESSURE TREATED
PTD	PAINTED
QTY	QUANTITY
R	RISER
R=	BEAM END SHEAR REACTION
RAD	RADIUS
RCP	REFLECTED CEILING PLAN
RD	ROOF DRAIN
REF	REFER - REFERENCE
REINF	REINFORCING
REQ'D	REQUIRED
REV	REVISION
RO	ROUGH OPENING
SCHED	SCHEDULE
SCL	STRUCTURAL COMPOSITE LUMBER
SE	STRUCTURAL ENGINEER
SECT	SECTION
SF	SQUARE FEET
SGL	SINGLE
SHT	SHEET
SHTG	SHEATHING
SIM	SIMILAR
SIMP	SIMPSON STRONG TIE
SL	SNOIW LOAD
SOG	SLAB ON GRADE
SPEC	SPECIFICATIONS
SQ	SQUARE
SS	STAINLESS STEEL
STD	STANDARD
STL	STEEL
STRUCT	STRUCTURAL
SUSP	SUSPENDED
SYS	SYSTEM
T	TREAD
T&B	TOP AND BOTTOM
T&G	TONGUE AND GROOVE
T/	TOP OF
T=	TENSION FORCE
TAN	TANGENT
THK	THICK
THRD	THREADED
TOB	TOP OF BEAM
TOC	TOP OF COLUMN, TOP OF CURB, TOP OF CONCRETE
TOF	TOP OF FOOTING
TOJ	TOP OF JOIST
TOL	TOP OF LINTEL, LANDING
TOL	TOLERANCE
TOP	TOP OF PIER, TOP OF PLATE
TOPV	TOP OF PAVEMENT
TOS	TOP OF STEEL, TOP OF SLAB
TOW	TOP OF WALL
TRANS	TRANSVERSE
TRANSL	TRANSLUCENT
TYP	TYPICAL
UNO	UNLESS NOTED OTHERWISE
UTIL	UTILITY
VERT	VERTICAL
VFY	VERIFY
VIF	VERIFY IN FIELD
W	SNOW DRIFT WIDTH
W/	WITH
W/O	WITHOUT
WCJ	WALL CONTRACTION JOINT
WD	WOOD
WF	WIDE FLANGE
WP	WORK POINT
WR	WATER RESISTANT, WATER RESISTIVE
WS	WATERSTOP
WT	WEIGHT
WWF	WELDED WIRE FABRIC

PROJECT DESCRIPTION:

1. PRE-ENGINEERED METAL BUILDING.

GENERAL:

1. THE STRUCTURAL DRAWINGS ARE A PORTION OF THE CONTRACT DOCUMENTS AND ARE INTENDED TO BE USED IN CONJUNCTION WITH THE ARCHITECTURAL, CIVIL, MECHANICAL, AND ELECTRICAL DRAWINGS. THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING THE REQUIREMENTS FROM THE ENTIRE SET OF CONTRACT DOCUMENTS (INCLUDING THE PROJECT SPECIFICATIONS) INTO THEIR WORK.
2. THESE GENERAL NOTES SUPPLEMENT THE PROJECT SPECIFICATIONS. REFER TO THE PROJECT SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
3. NOTES AND DETAILS ON THE STRUCTURAL DRAWINGS SHALL TAKE PRECEDENCE OVER THE GENERAL STRUCTURAL NOTES AND TYPICAL DETAILS.
4. VERIFY ALL DIMENSIONS WITH THE ARCHITECTURAL DRAWINGS.
5. DETAILS ON THESE PLANS ARE INTENDED TO DEPICT THE GENERAL CONSTRUCTION METHODS FOR THIS STRUCTURE. CONNECTIONS, DETAILS, AND CONDITIONS NOT SPECIFICALLY SHOWN THAT ARE SIMILAR TO THOSE THAT ARE SPECIFIED SHALL BE ASSUMED ONE AND THE SAME. IF QUESTIONS REGARDING THE APPLICATION OF DETAILS ARE ENCOUNTERED, NOTIFY THE ARCHITECT/ENGINEER FOR CLARIFICATION IN A TIMELY MANNER PRIOR TO BID OPENING.

CODE REQUIREMENTS:

1. CONFORM TO 2018 INTERNATIONAL BUILDING CODE AS ADOPTED W/ AMMENDMENTS BY THE 2020 NYS BUILDING CODE.
2. ALL REFERENCE TO OTHER CODES AND STANDARDS (ACI, ASCE, ASTM, ETC.) SHALL BE FOR THE EDITIONS LISTED IN CHAPTER 35 OF THE IBC.

TEMPORARY CONDITIONS:

1. THE STRUCTURE HAS BEEN DESIGNED TO FUNCTION AS A UNIT UPON COMPLETION. THE CONTRACTOR IS RESPONSIBLE FOR FURNISHING ALL TEMPORARY BRACING AND/OR SUPPORT REQUIRED AS A RESULT OF THE CONTRACTOR'S CONSTRUCTION METHODS AND/OR SEQUENCES.
2. CONTRACTOR'S CONSTRUCTION METHODS AND/OR SEQUENCES SHALL RECOGNIZE AND CONSIDER THE EFFECTS OF THERMAL MOVEMENTS OF STRUCTURAL ELEMENTS DURING THE CONSTRUCTION PERIOD.

DESIGN CRITERIA:

1. DESIGN CRITERIA ASSUMED FOR PRELIMINARY FOUNDATION DESIGN - VERIFICATION REQUIRED UPON RECEIPT OF MANUFACTURER'S ENGINEERED SHOP DRAWINGS AND BASE REACTION CALCULATIONS. DESIGN WAS BASED ON THE STRENGTH AND DEFLECTION CRITERIA OF THE IBC. IN ADDITION TO THE DEAD LOADS, THE FOLLOWING LOADS AND ALLOWANCES WERE USED FOR DESIGN, WITH LIVE LOADS (L.L.) REDUCED IN ACCORDANCE WITH THE IBC:

A. RISK CATEGORY — III

B. DEAD LOADS — UNIFORM

1. ROOF	
• 6" INSULATED METAL ROOF PANEL	6 PSF
• COLLATERAL	20 PSF
• TOTAL ROOF DEAD LOAD	26 PSF

C. LIVE LOADS

	UNIFORM	CONCENTRATED
1. ROOF	20 PSF	2000 LBS

D. SNOW LOADS — UNIFORM

1. GROUND SNOW LOAD, Pg	40 PSF
2. FLAT ROOF SNOW LOAD, Pf	37 PSF
3. EXPOSURE FACTOR, Ce	1.0
4. THERMAL FACTOR, Ct	1.2
5. IMPORTANCE FACTOR, Is	1.1
6. SLOPE FACTOR, Cs	1.0
7. SLOPED ROOF SNOW LOAD, Ps & Pbal	37 PSF
8. UNBALANCED SLOPED ROOF SNOW LOAD	
A. WINDWARD - FROM EAVE TO RIDGE	0 PSF
B. LEEWARD - FROM RIDGE TO EAVE	44 PSF
9. SNOW DRIFT	N/A

E. WIND LOADS

1. WIND VELOCITY, V_{ULT}	120 MPH
2. WIND VELOCITY, V_{ASD}	93 MPH
3. EXPOSURE CATEGORY	C
4. INTERNAL PRESSURE COEFFICIENT, GC_{pi}	+/-0.18
5. COMPONENTS & CLADDING PRESSURES - STRENGTH LEVEL	UNIFORM
• ZONE 1 - ROOF INTERIOR	+20/-63 PSF
• ZONE 2r - ROOF RIDGE	+20/-92PSF
• ZONE 2e - ROOF EAVE	+20/-63 PSF
• ZONE 2n - ROOF RAKE	+20/-63 PSF
• ZONE 3r - ROOF RIDGE CORNER	+20/-109PSF
• ZONE 3e - ROOF EAVE CORNER	+20/-92 PSF
• ZONE 4 - WALL SURFACE	+34/-37 PSF
• ZONE 5 - WALL CORNER	+34/-46 PSF
OVERHANG	
• ZONE 1 - ROOF INTERIOR	-77 PSF
• ZONE 2r - ROOF RIDGE	-106 PSF
• ZONE 2e - ROOF EAVE	-78 PSF
• ZONE 2n - ROOF RAKE	-106 PSF
• ZONE 3r - ROOF RIDGE CORNER	-141 PSF
• ZONE 3e - ROOF EAVE CORNER	-124 PSF

F. SEISMIC LOADS

1. SITE CLASS	D (ASSUMED)
2. IMPORTANCE FACTOR, Ie	1.25
3. SEISMIC DESIGN CATEGORY	B
4. EARTHQUAKE SPECTRAL RESPONSE, Ss	0.171
5. EARTHQUAKE SPECTRAL RESPONSE (1 SECOND), S_1	0.053
6. DESIGN SPECTRAL RESPONSE, S_{DS}	0.183
7. DESIGN SPECTRAL RESPONSE (1 SECOND), S_{D1}	0.086
8. SEISMIC RESISTING SYSTEM	
• STEEL SYSTEMS NOT SPECIFICALLY DETAILED FOR SEISMIC RESISTANCE	
9. RESPONSE MODIFICATION FACTOR, R	3.0
10. DEFLECTION AMPLIFICATION FACTOR, Cd	3
11. SEISMIC RESPONSE COEFFICIENT, Cs	0.076
12. BASE SHEAR, V	25 KIPS (ASD WIND)
13. ANALYSIS PROCEDURE	EQUIVALENT LATERAL FORCE PER ASCE 7-16 SECTION 12.8

FOUNDATIONS:

1. FOUNDATION DESIGN IS BASED ON GEOTECHNICAL REPORT, DATED xx, 202x AND ADDENDA PREPARED BY x, REPORT (PROJECT) # x. SOIL BEARING PRESSURE NOT TO EXCEED x000 PSF FOR FOOTINGS WITHIN BUILDING FOOTPRINT. REFER TO GEOTECHNICAL REPORT FOR ALL PROJECT REQUIREMENTS PERTAINING TO EARTHWORK, INCLUDING BUT NOT LIMITED TO, EXCAVATION, BACKFILLING, COMPACTION, AND MATERIALS.
2. FOUNDATION SYSTEM - CONCRETE WALLS, COLUMN PIERS, SLABS-ON-GRADE AND SPREAD FOOTINGS.
3. ALL FOOTINGS SHALL BE A MINIMUM OF 48" BELOW LOWEST FINAL GRADE (OR FLOOR SLAB) FOR EXTERIOR FOOTINGS AND 12" FOR INTERIOR FOOTINGS FOR BEARING ON MEDIUM PLASTICITY SOILS, OR FROST DEPTH.
4. FOUNDATION UNITS SHALL BE CENTERED UNDER SUPPORTED STRUCTURAL MEMBERS, UNLESS NOTED OTHERWISE ON THE DRAWINGS.
5. THE CONTRACTOR SHALL REVIEW ALL GEOTECHNICAL ENGINEER RECOMMENDATIONS PRIOR TO THE COMMENCEMENT OF ANY SITE WORK.
6. STRUCTURAL FILL MATERIALS, PLACEMENT, AND COMPACTION REQUIREMENTS SHALL BE IN ACCORDANCE WITH THE GEOTECHNICAL REPORT.
7. IMPORTED ENGINEERED STRUCTURAL FILL PLACED AS FILL BENEATH PROPOSED FOUNDATIONS/SLABS-ON-GRADE, AND AS BACKFILL, SHALL BE A MATERIAL CONSISTING OF PREDOMINATELY GRANULAR SOILS, FREE FROM ORGANIC MATTER, CLAY, ICE, DEBRIS, OR OTHER DELETERIOUS MATERIAL; SUCH AS NYSDOT SUBASE MATERIAL ITEMS 304.12 OR 304.14 . THE PROPOSED MATERIAL FOR ENGINEERED FILL SHALL BE REVIEWED AND APPROVED BY THE PROJECT ENGINEER.
8. PLACEMENT OF ALL FILL SHALL BE OBSERVED AND TESTED FOR RELATIVE COMPACTION BY A QUALIFIED TECHNICIAN UNDER THE GUIDANCE OF THE GEOTECHNICAL ENGINEER. MINIMUM TESTING FREQUENCY SHALL BE ESTABLISHED BY THE GEOTECHNICAL ENGINEER.
9. THE CONTRACTOR SHALL NOTIFY THE GEOTECHNICAL ENGINEER PRIOR TO COMMENCEMENT OF FILLING OPERATIONS.
10. ALL GENERAL EXCAVATIONS AND FOOTINGS SHALL BE INSPECTED AND APPROVED PRIOR TO THE PLACEMENT OF ANY SOIL BACKFILL AND/OR CONCRETE.
11. ALL FILL, BACKFILL AND COMPACTION ACTIVITIES, PARTICULARLY DURING WET WEATHER CONDITIONS, SHALL FOLLOW RECOMMENDATIONS OF THE GEOTECHNICAL ENGINEER.
12. PLACE BACKFILL AND FILL MATERIALS IN HORIZONTAL LAYERS NOT MORE THAN 8" IN LOOSE DEPTH FOR MATERIAL COMPACTED BY HEAVY COMPACTION EQUIPMENT, AND NOT MORE THAN 6" IN LOOSE DEPTH FOR MATERIAL COMPACTED BY HAND-OPERATED TAMPERS.
13. ALL FOUNDATION ELEMENTS ARE TO BE PLACED ON UNDISTURBED APPROVED NATIVE SOIL OR ON 1'-0" MINIMUM APPROVED COMPACTED STRUCTURAL FILL. STRUCTURAL FILL SHALL EXTEND 1'-0" MINIMUM BEYOND THE FOUNDATION ELEMENT AND THEN DOWNWARD TO NATURAL SOILS AT A SLOPE OF 2 HORIZ. TO 1 VERT.
14. BACKFILL AND FILL MATERIALS SHALL BE COMPACTED TO 95% OF MAXIMUM DRY DENSITY ACCORDING TO THE MODIFIED PROCTOR TEST (ASTM D-1557).
15. BACKFILL AGAINST FOUNDATION WALLS BELOW GRADE SO THAT THE DIFFERENCE IN THE FILL LEVEL ON OPPOSITE SIDES OF THE WALL DOES NOT EXCEED 1'-0" AT ANY TIME.
16. EACH PRIME CONTRACTOR SHALL PROVIDE ALL TRENCHING WORK REQUIRED FOR ITS CONTRACT, INCLUDING TRENCH EXCAVATION, AND BACKFILL (WITH ACCEPTABLE FILL, SEE GEOTECHNICAL REPORT) TO WITHIN 1'-0" OF FINISH GRADE/FLOOR. ALL TRENCHING WORK WITHIN THE BUILDING FOOTPRINT SHALL BE COORDINATED WITH THE GENERAL CONTRACTOR. GENERAL CONTRACTOR MUST ACCEPT, IN WRITING, THE QUALITY OF THE TRENCH BACKFILL OF OTHER PRIME CONTRACTORS BEFORE BEGINNING WORK OVER THE TOP OF THE TRENCH.
17. EXCAVATION AND BACKFILL OPERATIONS SHALL BE MAINTAINED IN A DRY CONDITION. SURFACE AND INFILTRATING WATER SHALL BE REMOVED BY SITE GRADING AND PUMPING FROM SUMPS AS REQUIRED.
18. NO FOUNDATION CONCRETE SHALL BE PLACED IN WATER OR ON FROZEN SUBGRADE MATERIAL.
19. PROTECT IN-PLACE FOUNDATIONS AND SLABS FROM FROST PENETRATION UNTIL THE PROJECT IS COMPLETED.
20. THE CONTRACTOR IS RESPONSIBLE FOR EXCAVATION SAFETY. EXCAVATIONS MUST BE PERFORMED IN ACCORDANCE WITH THE CURRENT OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA) STANDARDS.
21. PROVIDE TEMPORARY OR PERMANENT SUPPORTS WHETHER SHORING, SHEETING OR BRACING SO THAT NO HORIZONTAL MOVEMENT OR VERTICAL SETTLEMENT OCCURS TO EXISTING STRUCTURES, STREETS OR UTILITIES ADJACENT TO THE PROJECT SITE.

CONCRETE:

1. ALL CONCRETE WORK SHALL CONFORM TO "ACI 318 - BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE" AND CHAPTER 19 OF THE NEW YORK STATE BUILDING CODE.
2. CONCRETE STRENGTHS SHALL BE VERIFIED BY STANDARD 28-DAY CYLINDER TESTS PER ASTM C39, UNLESS NOTED OTHERWISE, AND SHALL BE AS INDICATED IN SPECIFICATION 03300 & BELOW

LOCATION	EXPOSURE CLASS F	S	W	C	AIR CONTENT	f'c psi	MAX W/C RATIO
INT. SLAB-ON-GRADE	F0	S0	W0	C0	1.0% - 3.0%	4000	0.50
EXT. SLAB-ON-GRADE	F3	S0	W0	C2	4.5% - 7.5%	5000	0.40
PIERS/FDN/RETAINING WALLS	F2	S0	W0	C1	4.5% - 7.5%	4500	0.45
FOOTINGS	F0	S1	W0	C1	1.0% - 3.0%	4000	0.50

3. MINIMUM CEMENT CONTENT PER CUBIC YARD SHALL BE AS INDICATED IN ACI 301 TABLE 4.2.2.1 & SPECIFICATION 033000.
4. THE CONTRACTOR SHALL SUBMIT CONCRETE MIX DESIGNS, ALONG WITH TEST DATA COMPLIANT WITH ACI-318 CHAPTER 5, A MINIMUM OF TWO WEEKS PRIOR TO PLACING CONCRETE.
5. UNLESS NOTED OTHERWISE, ALL CONCRETE SHALL BE NORMAL WEIGHT CONCRETE (±145 PCF) WITH ALL CEMENT CONFORMING TO ASTM C150, TYPE I / II. MAXIMUM AGGREGATE SIZE SHALL BE 1-1/2" FOR FOOTINGS AND 3/4" FOR WALLS AND SLABS, CONFORMING TO ASTM C33.
6. NO WATER MAY BE ADDED TO CONCRETE IN THE FIELD UNLESS IT CONFORMS TO THE APPROVED MIX DESIGN AND IS SPECIFICALLY APPROVED IN WRITING BY THE CONCRETE SUPPLIER.
7. CONCRETE MIX SHALL INCLUDE XYPEX C-SERIES INTEGRAL CRYSTALLINE WATERPROOFING ADDITIVE AT LOCATIONS INDICATED. COORDINATE DOSAGE RATE AND SPECIFIC PRODUCT FORMULATION WITH XYPEX'S TECHNICAL SERVICE DEPARTMENT, BASED ON THE FINAL APPROVED CONCRETE MIX DESIGN. INCORPORATE PRODUCT INTO CONCRETE BATCHING OPERATION IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS. CONCRETE SAMPLES FROM PROJECT SHALL EXHIBIT NO MEASURABLE WATER LEAKAGE WHEN PRESSURE TESTED TO 150 PSI IN ACCORDANCE WITH U.S. ARMY CORPS OF ENGINEERS CRD-C48-73.
8. A WATER REDUCING ADMIXTURE CONFORMING TO ASTM C494 USED IN STRICT CONFORMANCE WITH THE MANUFACTURER'S RECOMMENDATIONS SHALL BE INCORPORATED INTO CONCRETE MIX DESIGNS. A HIGH RANGE WATER REDUCING ADMIXTURE CONFORMING TO ASTM C494 TYPE "F" OR TYPE "G" MAY BE USED IN CONCRETE MIXES, PROVIDED THAT THE SLUMP DOES NOT EXCEED 10-INCHES.
9. CONCRETE SHALL BE PLACED IN ONE CONTINUOUS OPERATION WHEREVER PRACTICAL. CONSTRUCTION JOINTS IN BEAMS, JOISTS, AND SLABS SHALL BE LOCATED AT MID-SPAN WITH REINFORCING CONTINUING THROUGH AS IF THE JOINT DID NOT OCCUR. VERTICAL CONSTRUCTION JOINTS IN WALLS SHALL BE LOCATED MIDWAY BETWEEN COLUMNS OR PILASTERS.
10. SLEEVES, OPENING, CONDUITS, AND OTHER EMBEDDED ITEMS NOT SHOWN ON THE STRUCTURAL DRAWINGS SHALL BE APPROVED BY THE STRUCTURAL ENGINEER PRIOR TO PLACING CONCRETE. CONDUITS EMBEDDED IN SLABS SHALL NOT BE LARGER IN OUTSIDE DIMENSION THAN ONE-THIRD THE THICKNESS OF THE SLAB AND SHALL NOT BE SPACED CLOSER THAN THREE DIAMETERS ON-CENTER.
11. THE CONTRACTOR SHALL PROVIDE SHOP DRAWINGS FOR THE LAYOUT OF CONSTRUCTION AND CONTROL JOINTS FOR CONCRETE SLABS-ON-GRADE. THE JOINTS SHALL BE LOCATED AT MAXIMUM 10'-0" ON-CENTER, EACH WAY, FORMING RECTANGLES WITH A LENGTH TO WIDTH RATIO NOT EXCEEDING 1.5 IN ANY DIRECTION. CONTROL JOINTS SHALL INTERSECT AT COLUMN BLOCKOUTS, AT ENDS OF BEARING WALLS, AND AT ALL RE-ENTRANT CORNERS IN THE SLAB.
12. ALL BOLTS AND/OR ANCHOR RODS EMBEDDED INTO CONCRETE SHALL CONFORM TO ASTM SPECIFICATION F1554 GRADE 36 UNLESS NOTED OTHERWISE ON THE STRUCTURAL DRAWINGS.
13. ANCHOR RODS ARE TO BE LOCATED BY MEANS OF TEMPLATE. ANCHOR RODS SHALL NOT BE HAND SET OR WET SET.
14. ANCHOR RODS AND EMBEDDED ITEMS SHALL BE SET IN ACCORDANCE WITH THE AISC CODE OF STANDARD PRACTICE SECTION 7.5.
15. WHERE NEW CONCRETE IS PLACED AGAINST EXISTING CONCRETE, THE EXISTING CONCRETE SURFACE SHALL BE CLEANED AND ROUGHENED TO A MINIMUM 1/4" AMPLITUDE.
16. PROVIDE 3/4" CHAMFERS ON ALL EXPOSED CONCRETE EDGES, UNLESS NOTED OTHERWISE.
17. PREPARATION, CONSTRUCTION, AND PROTECTION OF CONCRETE DURING COLD WEATHER OR HOT WEATHER SHALL CONFORM TO ACI 318 26.5.4, 26.5.5, AND ACI 306R AND 305R.

WARNING: IT IS A VIOLATION OF NEW YORK EDUCATION LAW SECTION 7209.2, FOR ANY PERSON, UNLESS HE IS ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER OR LAND SURVEYOR, TO ALTER THIS DOCUMENT IN ANY WAY. IF ALTERED THE ALTERING PERSON SHALL COMPLY WITH THE REQUIREMENTS OF NEW YORK EDUCATION LAW, SECTION 7209.2.

DATE: 01.23.24
DRAWN BY: EK
SCALE: 12" = 1'-0"
REVIEWED BY: CAM
PROJECT NO.: 22-2496
FILE:

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REVISIONS

NO.	DATE	DESCRIPTION

RHINEBECK WTP IMPROVEMENTS
VILLAGE OF RHINEBECK
DUTCHESS COUNTY, NY

GENERAL STRUCTURAL NOTES

SHEET: S001

REINFORCING STEEL:

1. REINFORCING STEEL SHALL BE DETAILED, FABRICATED, AND PLACED IN ACCORDANCE TO "ACI 318 — BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE" AND "ACI 315—MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES."

2. ALL REINFORCING STEEL SHALL CONFORM TO THE FOLLOWING SPECIFICATIONS AND GRADES UNLESS NOTED OTHERWISE ON THE STRUCTURAL DRAWINGS:

   A. SMOOTH WELDED WIRE FABRIC—ASTM A185
   B. ALL OTHER REINFORCEMENT—ASTM A615, GRADE 60

3. REINFORCING STEEL TO BE WELDED SHALL CONFORM TO ASTM A706. WELDING OF REINFORCING STEEL SHALL CONFORM TO AWS D1.4. ALL WELDING SHALL BE DONE BY AWS CERTIFIED WELDERS USING LOW HYDROGEN E70XX ELECTRODES.

4. REINFORCING STEEL SHALL BE SECURELY TIED IN-PLACE WITH #16 ANNEALED IRON WIRE. BARS IN BEAMS, SLABS, AND FOUNDATIONS SHALL BE SUPPORTED ON WELL-CURED CONCRETE BLOCKS, OR APPROVED METAL CHAIRS, AS SPECIFIED BY THE "CRSI MANUAL OF STANDARD PRACTICE," MSP-1.

5. ALL REINFORCEMENT SHALL BE FREE OF LOOSE MILL AND RUST SCALE, OIL, DIRT, OR COATINGS OF ANY KIND THAT REDUCE THE BOND STRENGTH TO THE CONCRETE.

6. REINFORCEMENT STEEL SHALL NOT BE DISPLACED OR ALTERED FOR THE CONVENIENCE OF OTHER TRADES UNLESS APPROVED BY THE STRUCTURAL ENGINEER OF RECORD.

7. "WET SETTING" OF REINFORCING STEEL, ANCHOR RODS, EMBEDDED PLATES AND INSERTS IS NOT PERMITTED.

8. ALL REINFORCEMENT SHALL BE CONTINUOUS WITH ADEQUATE LAP LENGTHS AT SPLICE LOCATIONS.

9. THE FOLLOWING MINIMUM LAP SPLICE LENGTHS SHALL BE PROVIDED FOR ALL REINFORCING STEEL:

TYPICAL LAP SPLICE SCHEDULE (IN)

BAR SIZE	4,000 PSI		4,500 PSI		5,000 PSI	
	TOP BARS	OTHER BARS	TOP BARS	OTHER BARS	TOP BARS	OTHER BARS
#3	16	16	16	16	16	16
#4	20	16	19	16	19	16
#5	25	20	24	19	23	17
#6	30	24	28	23	26	21
#7	49	38	46	36	43	34
#8	62	47	58	45	55	42
#9	76	58	71	55	68	52
#10	91	71	86	67	82	64
#11	110	85	103	80	98	76

   A. FOR CENTER-TO-CENTER SPACING LESS THAN SHOWN BELOW MULTIPLY THE ABOVE VALUES BY THE FACTOR INDICATED:

BAR	SPACING	FACTOR
#3	< 1.875"	1.5
#4	< 2.500"	1.7
#5	< 3.125"	2.0
#6	< 3.750"	2.2
#7	< 3.875"	2.1
#8	< 4.000"	2.0
#9	< 4.125"	1.9
#10	< 4.375"	1.7
#11	< 4.500"	1.6

   B. TABLE VALUES APPLY FOR CLEAR COVER GREATER THAN OR EQUAL TO 1-1/2". CONTACT ENGINEER OF RECORD IF CONDITIONS VARY.

   C. TOP BARS ARE HORIZONTAL BARS WITH MORE THAN 12" OF CONCRETE CAST BELOW THE BAR.

   D. VALUES ARE FOR UNCOATED BARS.

10. THE FOLLOWING MINIMUM CONCRETE COVER SHALL BE PROVIDED FOR ALL REINFORCING STEEL:

MINIMUM CONCRETE COVER (CAST-IN-PLACE)

USE	CLEAR COVER
FORMED CONCRETE SURFACES IN CONTACT W/ EARTH OR EXPOSED TO WEATHER	2" CLEAR COVER 1.5" CLEAR COVER TO TIES
SLAB-ON-GRADE BARS	2" CLEAR COVER FROM TOP OF SLAB
CONCRETE CAST AGAINST EARTH	3"

11. CONTINUE HORIZONTAL WALL BARS THROUGH PILASTERS, COLUMNS AND INTERSECTING WALLS.

12. PROVIDE HOOKED FOOTING DOWELS OF THE SAME SIZE AND SPACING AS THE VERTICAL WALL REINFORCEMENT. LAP SPLICE DOWELS TO THE VERTICAL WALL REINFORCEMENT AND TERMINATE WITH STANDARD 90 DEGREE HOOK INTO THE FOOTING. HOOK SHALL LAY IN-PLANE WITH BOTTOM REINFORCEMENT.

13. AT SLAB AND WALL OPENINGS, PROVIDE A MINIMUM OF TWO #5 BARS OVER, UNDER, AND AT THE SIDES OF THE OPENING. EXTEND THESE BARS A LAP DISTANCE (OR A MINIMUM OF 2'-0") PAST THE OPENING ON ALL SIDES.

14. PROVIDE ONE #5 FOR SINGLE LAYER, AND TWO #5 FOR DOUBLE LAYER REINFORCING, 4'-0" LONG, DIAGONALLY AT EACH CORNER OF ALL WALL AND SLAB OPENINGS.

15. REFERENCE TYPICAL DETAILS FOR THE DISPOSITION OF REINFORCEMENT AT WALL CORNERS, WALL INTERSECTIONS, AND FOR BARS IN SMALL WALL SECTIONS.

16. PROVIDE #5 CARRIER BAR AT 3'-0" MAX SPACING FOR ALL SLAB, JOIST, AND WALL REINFORCING NOT SUPPORTED BY OTHER TRANSVERSE REINFORCEMENT.

17. PROVIDE CORNER BARS AT CORNERS AND INTERSECTIONS FOR WALLS AND FOUNDATIONS EQUAL IN SIZE, NUMBER, AND SPACING TO HORIZONTAL REINFORCING. SIZE CORNER BARS TO PROVIDE A FULL LAP WITH HORIZONTAL REINFORCMENT ON EACH LEG.

SHORING AND RE-SHORING:

1. SHORING AND RE-SHORING IS THE CONTRACTOR'S RESPONSIBILITY AND SHALL CONFORM TO ACI 347-04 AND ACI 347.2R-05.

2. SHORING AND SUPPORTING FORMWORK SHALL NOT BE REMOVED FROM HORIZONTAL MEMBERS BEFORE THE CONCRETE STRENGTH HAS REACHED AT LEAST 70 PERCENT OF THE SPECIFIED DESIGN STRENGTH AS DETERMINED FROM FIELD CURED CYLINDERS. IN ADDITION, SHORING SHALL NOT BE REMOVED SOONER THAN THE FOLLOWING:

SHORING AND RE-SHORING

ELEMENT	MINIMUM REMOVAL TIME	COMMENTS
WALLS, COLUMNS, AND BEAM SIDES	12 HR. CUMULATIVE WITH 50 DEGREES FARENHEIT SURROUNDING TEMPERATURE	WHERE FORMS ALSO SUPPORT FORMWORK FOR SLABS OR SOFFITS, THE REMOVAL TIME OF THE LATTER GOVERNS

CONCRETE ACCESSORIES:

1. DEFORMED BAR ANCHORS (D.B.A.) SHALL BE NELSON TYPE D2L (ICC ESR-2907) OR APPROVED EQUAL.

2. HEADED SHEAR STUDS SHALL BE NELSON HEADED ANCHORS WITH FLUXED ENDS (ICC ESR-2856) OR APPROVED EQUAL.

3. HEADED SHEAR STUDS AND DEFORMED BAR ANCHORS SHALL BE AUTOMATICALLY END-WELDED WITH THE MANUFACTURER'S STANDARD EQUIPMENT AND IN ACCORDANCE WITH THE ASSOCIATED ICC REPORTS.

4. PERMANENTLY EXPOSED EMBEDDED PLATES AND ANGLES SHALL BE HOT-DIPPED GALVANIZED AFTER FABRICATION. EMBEDDED ITEMS SHALL NOT BE LOADED, NOR SHALL WELDS BE APPLIED, FOR A MINIMUM OF 7-DAYS AFTER CASTING OF CONCRETE.

5. PROVIDE WATERSTOPS AT ALL HORIZONTAL AND VERTICAL CONCRETE JOINTS WHERE INDICATED ON DRAWINGS AND DETAILS. WATERSTOPS INDICATED TO BE HYDROPHLLIC STRIP WATERSTOP SHALL MAINTAIN A MINIMUM CLEAR COVER OF 3 INCHES. REFER TO MANUFACTURER'S WRITTEN INSTRUCTIONS FOR ADDITIONAL INFORMATION.

6. APPROVED POST-INSTALLED ANCHORS ARE AS FOLLOWS:

APPROVED POST-INSTALLED CONCRETE ANCHORS

TYPE	ANCHOR	ICC REPORT
CONCRETE SCREW	SIMPSON TITEN HD	ICC ESR-2713
	HILTI KWIK HUS-EZ	ICC ESR-3027
EPOXY ADHESIVE	SIMPSON SET-XP	ICC ESR-2508
	HILTI HIT-RE 500V3	ICC ESR-2322
EXPANSION	SIMPSON STRONG-BOLT II	ICC ESR-3814
	HILTI KWIK BOLT TZ	ICC ESR-1917

   A. ALL ANCHORS SHALL BE INSTALLED IN STRICT CONFORMANCE TO THE APPLICABLE ICC REPORT.

   B. REINFORCEMENT SHALL NOT BE CUT IN NEW, OR EXISTING CONCRETE DURING INSTALLATION OF POST-INSTALLED ANCHORS.

   C. ANCHORS THAT ARE LEFT EXPOSED TO WEATHER SHALL BE STAINLESS STEEL OR HOT-DIPPED GALVANIZED.

EPOXY REPAIR ADHESIVE:

1. EPOXY REPAIR ADHESIVE SHALL CONFORM TO ASTM C881 AND SHALL BE A TWO-COMPONENT, LIQUID EPOXY WITH NON-SAG CONSISTENCY AND LONG POT LIFE. THE EPOXY ADHESIVE SHALL BE SUITABLE FOR USE ON DRY OR DAMP SURFACES.

2. ADHESIVE SHALL MEET THE FOLLOWING MINIMUM REQUIREMENTS:
   A. 14 DAY BOND STRENGTH (SLANT SHEAR) = 1690 PSI
   B. 7 DAY TENSILE STRENGTH = 7150 PSI
   C. 7 DAY COMPRESSIVE STRENGTH = 12000 PSI
   D. LINEAR COEFFICIENT OF SHRINKAGE = 0.008 (MAX VALUE)

3. HOLE SIZES AND INSTALLATION SHALL BE IN STRICT ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS AND THE REQUIREMENTS SET FORTH IN THE APPROVED ICC EVALUATION REPORT.

4. REINFORCEMENT SHALL NOT BE CUT OR DAMAGED IN EITHER NEW OR EXISTING CONCRETE DURING INSTALLATION.

PRE-ENGINEERED METAL BUILDING (PEMB):

1. THE PRE-ENGINEERED BUILDING SUPPLIER SHALL FURNISH THE FRAME REACTIONS TO THE ENGINEER OF RECORD, PRIOR TO COMMENCEMENT OF FOUNDATION CONSTRUCTION. THE REACTIONS FURNISHED SHALL BE THE MAXIMUM, WORST-CASE REACTIONS RESULTING FROM LOAD CASES.

2. SUBMIT ENGINEERED AND CHECKED SHOP DRAWINGS AND CALCULATIONS TO THE ENGINEER FOR REVIEW. SHOP DRAWINGS AND CALCULATIONS SHALL BE SIGNED AND SEALED BY A REGISTERED PROFESSIONAL ENGINEER IN THE LOCAL JURISDICTION. SUBMITTALS SHALL INCLUDE PLANS LOCATING AND DEFINING ALL ELEMENTS FURNISHED BY THE MANUFACTURER, WITH ALL MAJOR OPENINGS SHOWN. SECTIONS AND DETAILS SHOWING CONNECTIONS, BASEPLATES, WALL CONDITIONS AND ROOF CONDITIONS OF THE PRE-ENGINEERED BUILDING. ALL SUBMITTAL MATERIAL MUST BE REVIEWED AND APPROVED BY THE ENGINEER PRIOR TO CONSTRUCTION AND INSTALLATION.

3. THE PRE-ENGINEERED BUILDING SUPPLIER SHALL FURNISH ANCHOR ROD INFORMATION TO THE FOUNDATION CONTRACTOR. ANCHOR ROD PATTERNS SHOWN ON THE FOUNDATION DETAILS ARE SCHEMATIC ONLY. THE GENERAL CONTRACTOR SHALL FURNISH AND SUPPLY THE ANCHOR RODS FOR INSTALLATION IN FOUNDATIONS.

4. ALL ANCHOR RODS SHALL BE F1554 GRADE 36. EMBED ANCHOR RODS 18" INTO CONCRETE PIERS & 8" INTO FOOTINGS.

5. ALL STEEL SHALL BE FACTORY PRIMED..

6. PRE-ENGINEERED METAL BUILDING STEEL SHALL BE AS FOLLOWS:

   A. RIGID CLEAR SPAN FRAMES: I-SHAPED FRAME SECTIONS FABRICATED FROM SHOP-WELDED, BUILT-UP STEEL PLATES OR STRUCTURAL-STEEL SHAPES. INTERIOR COLUMNS WHERE SHOWN SHALL BE FABRICATED FROM ROUND STEEL PIPES OR TUBES, OR SHOP-WELDED, BUILT-UP STEEL PLATES.
      a. FRAME CONFIGURATION: SINGLE GABLE.
      b. EXTERIOR COLUMN: TAPERED.
      c. RAFTER: TAPERED.

   B. END-WALL FRAMING: MANUFACTURER'S STANDARD PRIMARY END-WALL FRAMING FABRICATED FOR FIELD-BOLTED ASSEMBLY TO COMPLY WITH THE FOLLOWING:
      a. END-WALL RAFTERS: C-SHAPED, COLD-FORMED, STRUCTURAL-STEEL SHEET; OR I-SHAPED SECTIONS FABRICATED FROM SHOP-WELDED, BUILT-UP STEEL PLATES OR STRUCTURAL-STEEL SHAPES.

   C. SECONDARY FRAMING: MANUFACTURER'S STANDARD SECONDARY FRAMING, INCLUDING PURLINS, GIRTS, EAVE STRUTS, FLANGE BRACING, BASE MEMBERS, GABLE ANGLES, CLIPS, HEADERS, JAMBS, AND OTHER MISCELLANEOUS STRUCTURAL MEMBERS. UNLESS OTHERWISE INDICATED, FABRICATE FRAMING FROM EITHER COLD-FORMED, STRUCTURAL-STEEL SHEET OR ROLL-FORMED, METALLIC-COATED STEEL SHEET, PREPAINTED WITH COIL COATING, TO COMPLY WITH THE FOLLOWING:
      a. PURLINS: C- OR Z-SHAPED SECTIONS; FABRICATED FROM BUILT-UP STEEL PLATES, STEEL SHEET, OR STRUCTURAL-STEEL SHAPES; MINIMUM 2-1/2-INCH- (64-MM-) WIDE FLANGES.
      b. GIRTS: C- OR Z-SHAPED SECTIONS; FABRICATED FROM BUILT-UP STEEL PLATES, STEEL SHEET, OR STRUCTURAL-STEEL SHAPES. FORM ENDS OF Z-SECTIONS WITH STIFFENING LIPS ANGLED 40 TO 50 DEGREES FROM FLANGE, WITH MINIMUM 2-1/2-INCH- (64-MM-) WIDE FLANGES.
      c. EAVE STRUTS: UNEQUAL-FLANGE, C-SHAPED SECTIONS; FABRICATED FROM BUILT-UP STEEL PLATES, STEEL SHEET, OR STRUCTURAL-STEEL SHAPES; TO PROVIDE ADEQUATE BACKUP FOR METAL PANELS.
      d. FLANGE BRACING: MINIMUM 2-BY-2-BY-1/8-INCH (51-BY-51-BY-3-MM) STRUCTURAL-STEEL ANGLES OR 1-INCH- (25-MM-) DIAMETER, COLD-FORMED STRUCTURAL TUBING TO STIFFEN PRIMARY-FRAME FLANGES.
      e. SAG BRACING: MINIMUM 1-BY-1-BY-1/8-INCH (25-BY-25-BY-3-MM) STRUCTURAL-STEEL ANGLES.
      f. BASE OR SILL ANGLES: MANUFACTURER'S STANDARD BASE ANGLE, MINIMUM 3-BY-2-INCH (76-BY-51-MM), FABRICATED FROM ZINC-COATED (GALVANIZED) STEEL SHEET.
      g. PURLIN AND GIRT CLIPS: MANUFACTURER'S STANDARD CLIPS FABRICATED FROM STEEL SHEET. PROVIDE GALVANIZED CLIPS WHERE CLIPS ARE CONNECTED TO GALVANIZED FRAMING MEMBERS.
      h. FRAMING FOR OPENINGS: CHANNEL SHAPES; FABRICATED FROM COLD-FORMED, STRUCTURAL-STEEL SHEET OR STRUCTURAL-STEEL SHAPES. FRAME HEAD AND JAMB OF DOOR OPENINGS AND HEAD, JAMB, AND SILL OF OTHER OPENINGS.

   D. BRACING: PROVIDE ADJUSTABLE WIND BRACING AS FOLLOWS:
      a. RIGID PORTAL FRAMES: FABRICATED FROM SHOP-WELDED, BUILT-UP STEEL PLATES OR STRUCTURAL-STEEL SHAPES TO MATCH PRIMARY FRAMING; OF SIZE REQUIRED TO WITHSTAND DESIGN LOADS.

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DATE: 01.23.24
DRAWN BY: EK
SCALE: 12" = 1'-0"
REVIEWED BY: CAM
PROJECT NO.: 22-2496
FILE:

DELAWARE ENGINEERING, D.P.C.
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548 BROADWAY, MONTICELLO, NY 12701 - 845.791.7777
223 MAIN ST, GOSHEN, NY 10924 - 845.615.9232

REVISIONS

NO.	DATE	DESCRIPTION

RHINEBECK WTP
IMPROVEMENTS
VILLAGE OF RHINEBECK
DUTCHESS COUNTY, NY

GENERAL STRUCTURAL NOTES

SHEET: S002

SPECIAL INSPECTIONS - STEEL

Inspections & Test	Cont.	Per.	IBC Ref.	Required For Project	Referenced Standard
Steel Construction				Yes	
1. Structural Steel				Yes	
a. Inspection Tasks Prior To Welding				Yes	
iii. Manufacturer certifications for welding consumables available		X	1705.2.1	Yes	AISC 360 Table N.5.4-1
i. Welder Qualification records and continuity records	X		1705.2.1	Yes	AISC 360 Table N.5.4-1
ii. Welding Procedure Specifications (WPS) Available	X		1705.2.1	Yes	AISC 360 Table N.5.4-1
iv. Material identification (type/grade)		X	1705.2.1	Yes	AISC 360 Table N.5.4-1
v. Welder identification system		X	1705.2.1	Yes	AISC 360 Table N.5.4-1
vi. Fit up of groove welds (including joint geometry)		X	1705.2.1	Yes	AISC 360 Table N.5.4-1
vii. Fit up of CJP groove welds of HSS, T-, Y-, and K-joints without backing (including joint geometry)		X	1705.2.1	Yes	AISC 360 Table N.5.4-1
viii. Configuration and finish of access holes		X	1705.2.1	Yes	AISC 360 Table N.5.4-1
ix. Fit-up of fillet welds		X	1705.2.1	Yes	AISC 360 Table N.5.4-1
x. Check Welding equipment		X	1705.2.1	Yes	AISC 360 Table N.5.4-1
b. Inspection Tasks During Welding				Yes	
i. Control and Handling of welding consumables.		X	1705.2.1	Yes	AISC 360 Table N.5.4-2
ii. No welding over cracked tack welds.		X	1705.2.1	Yes	AISC 360 Table N.5.4-2
iii. Environmental Conditions		X	1705.2.1	Yes	AISC 360 Table N.5.4-2
iv. Verify WPS followed		X	1705.2.1	Yes	AISC 360 Table N.5.4-2
v. Verify Welding Techniques		X	1705.2.1	Yes	AISC 360 Table N.5.4-2
vi. Placement and installation of steel headed stud anchors		X	1705.2.1	Yes	AISC 360 Table N.5.4-2
c. Inspection Tasks after Welding				Yes	
i. Welds cleaned		X	1705.2.1	Yes	AISC 360 Table N.5.4-3
ii. Size, length, and location of welds	X		1705.2.1	Yes	AISC 360 Table N.5.4-3
iii. Welds meet visual acceptance criteria	X		1705.2.1	Yes	AISC 360 Table N.5.4-3
iv. Arc strikes	X		1705.2.1	Yes	AISC 360 Table N.5.4-3
v. K-area		X	1705.2.1	Yes	AISC 360 Table N.5.4-3
vi. Weld access holes in rolled heavy shapes and built-up heavy shapes	X		1705.2.1	Yes	AISC 360 Table N.5.4-3
vii. Backing removed and weld tabs removed (if required)	X		1705.2.1	Yes	AISC 360 Table N.5.4-3
viii. Repair activities	X		1705.2.1	Yes	AISC 360 Table N.5.4-3
iv. Document acceptance or rejection of welded joint or member	X		1705.2.1	Yes	AISC 360 Table N.5.4-3
x. No prohibited welds have been added without the approval of the EOR		X	1705.2.1	Yes	AISC 360 Table N.5.4-3
d. Inspection Tasks Prior to Bolting				Yes	
i. Manufacturer's certification available for fastener materials	X		1705.2.1	Yes	AISC 360 Table N.5.6-1
ii. Fasteners marked in accordance with ASTM requirements		X	1705.2.1	Yes	AISC 360 Table N.5.6-1
iii. Proper fasteners selected for the joint detail (grade, type, bolt length if threads are to be excluded from shear plane)		X	1705.2.1	Yes	AISC 360 Table N.5.6-1
iv. Proper bolting procedure selected for joint detail		X	1705.2.1	Yes	AISC 360 Table N.5.6-1
v. Connecting elements, including the appropriate faying surface condition and hole preparation, if specified, meet applicable requirements.		X	1705.2.1	Yes	AISC 360 Table N.5.6-1
vi. Pre-installation verification testing by installation personnel observed and documented for fastener assemblies and methods used.		X	1705.2.1	Yes	AISC 360 Table N.5.6-1
vii. Proper storage provided for bolts, nuts, washers and other fastener components. X 1705.2.11 AISC 360 Table N5.6-1		X	1705.2.1	Yes	AISC 360 Table N.5.6-1
e. Inspection Tasks During Bolting				Yes	
i. Fastener assemblies, of suitable condition, placed in all holes and washers (if required) are positioned as required.		X	1705.2.1	Yes	AISC 360 Table N.5.6-2
ii. Joint brought to the snug-tight condition prior to the pretensioning operation.		X	1705.2.1	Yes	AISC 360 Table N.5.6-2
iii. Fastener component not turned by the wrench prevented from rotating.		X	1705.2.1	Yes	AISC 360 Table N.5.6-2
iv. Fasteners are pretensioned in accordance with the RCSC Specification, progressing systematically from the most rigid point toward the free edges.		X	1705.2.1	Yes	AISC 360 Table N.5.6-2
f. Inspection Tasks After Bolting				Yes	
i. Document acceptance or rejection of bolted connections.	X		1705.2.1	Yes	AISC 360 Table N.5.6-3

SPECIAL INSPECTIONS - CONCRETE

Inspections & Test	Cont.	Per.	IBC Ref.	Required For Project	Referenced Standard
Concrete Construction				Yes	
1. Inspect reinforcement, including prestressing tendons, and verify placement.		X	1705.3	Yes	ACI 318 Ch. 20, 25.2, 25.3, 26.6.1-26.6.3 IBC 1908.4
2. Reinforcing Bar Welding:			1705.3	No	
a. Verify weldability of reinforcing bars other than ASTM A706:		X	1705.3	No	AWS D1.4 ACI 318: 26.6.4
b. Inspect single pass fillet welds, maximum 5/16" ACI 318: 26.6.4		X	1705.3	No	AWS D1.4 ACI 318: 26.6.4
c. Inspect all other welds	X		1705.3	No	AWS D1.4 ACI 318: 26.6.4
3. Inspect anchors cast in concrete.		X	1705.3	Yes	ACI 318: 17.8.2
4. Inspect anchors post-installed in hardened concrete members.			1705.3	Yes	
a. Adhesive anchors installed in horizontally or upwardly inclined orientations to resist sustained tension loads.	X		1705.3	Yes	ACI 318: 17.8.2.4
b. Mechanical anchors and adhesive anchors not defined in item 4a.		X	1705.3	Yes	ACI 318: 17.8.2
5. Verify use of required design mix		X	1705.3	Yes	ACI 318: Ch. 19, 26.4.3, 26.4.4; IBC 1904.1, 1904.2, 1908.2, 1908.3
6. Prior to concrete placement, fabricate specimens for strength tests, perform slump and air content tests, and determine the temperature of concrete.	X		1705.3	Yes	ASTM C172, ASTM C31; ACI 318: 26.5, 26.12; IBC 1908.10
7. Inspect concrete and shotcrete placement for proper application techniques.	X		1705.3	Yes	ACI 318: 26.5; IBC 1908.6, 1908.7, 1908.8
8. Verify maintenance of specified curing temperature and techniques.		X	1705.3	Yes	ACI 318: 26.5.3-26.5.5 IBC: 1908.9
9. Inspect Prestressed concrete for:			1705.3	No	
a. Application of prestressing forces	X		1705.3	No	ACI 318: 26.10
b. Grouting of bonded prestressing tendons	X		1705.3	No	ACI 318: 26.10
10. Inspect erection of precast concrete members		X	1705.3	No	ACI 318: Ch. 26.9
11. Verify in-situ concrete strength, prior to stressing tendons in post-tensioned concrete and prior to removal of shores and forms from beams and structural slabs.		X	1705.3	No	ACI 318: 26.11.2
12. Inspect formwork for shape, location and dimensions of the concrete member being formed.		X	1705.3	Yes	ACI 318: 26.11.2b
13. Fabricated Items - Precast Concrete		X	1704.2.5; 1705.10	No	

SPECIAL INSPECTIONS - FOUNDATIONS

Inspections & Test	Cont.	Per.	IBC Ref.	Required For Project	Referenced Standard
Foundations				Yes	
A. Soils				Yes	
1. Verify materials below shallow foundations are adequate to achieve the design bearing capacity.		X	1705.6	Yes	
2. Verify excavations are extended to a proper depth and have reached proper material.		X	1705.6	Yes	
3. Perform classification and testing of compacted fill materials.		X	1705.6	Yes	
4. Verify use of proper materials, densities and lift thicknesses during placement and compaction of compacted fill.	X		1705.6	Yes	
5. Prior to placement of compacted fill, inspect subgrade and verify that site has been prepared properly.		X	1705.6	Yes	
B. Driven Deep Foundations				No	
1. Verify element materials, sizes and lengths, comply with the requirements.	X		1705.7	No	
2. Determine capacities of test elements and conduct additional load tests, as required.	X		1705.7	No	
3. Inspect driving operations and maintain complete and accurate records for each elements	X		1705.7	No	
4. Verify placement locations and plumbness, confirm type and size of hammer, record number of blows per foot of penetration, determine required penetrations to achieve design capacity, record tip and butt elevations and document any damage to foundation element.	X		1705.7	No	
5. For steel elements, perform additional special inspections in accordance with Section 1705.2.	--	--	1705.7	No	
6. For concrete elements and concrete-filled elements, perform tests and additional special inspections in accordance with Section 1705.3.	--	--	1705.7	No	
7. For specialty elements, perform additional inspections as determined by the registered design professional in responsible charge.	--	--	1705.7	No	
C. Cast-in-place Deep Foundations				No	
1. Inspect drilling operations and maintain complete and accurate records for each element.	X		1705.8	No	
2. Verify placement locations and plumbness, confirm element diameters, bell diameters (if applicable), lengths, embedment into bedrock (if applicable) and adequate end-bearing strata capacity. Record concrete or grout volumes.	X		1705.8	No	
3. For concrete elements, perform tests and additional special inspections in accordance with Section 1705.3.	--	--	1705.8	No	
D. Helical Pile Foundations	X		1705.9	No	

SPECIAL INSPECTION AND TESTING:

1. SPECIAL INSPECTION WILL BE PROVIDED BY THE OWNER BASED ON THE REQUIREMENTS OF THE CURRENT EDITION OF THE NYSBC AS SUMMARIZED IN THE SPECIAL INSPECTION AND TESTING PROGRAM ON SHEET S003. THE CONTRACTOR SHALL PROVIDE SUFFICIENT NOTICE AND ACCESS FOR THE SPECIAL INSPECTOR TO PERFORM THESE INSPECTIONS.

STRUCTURAL OBSERVATION:

1. THE STRUCTURAL ENGINEER OF RECORD (SER) WILL PERFORM STRUCTURAL OBSERVATIONS BASED ON THE REQUIREMENTS OF THE IBC AT THE STAGES OF CONSTRUCTION LISTED BELOW. THE CONTRACTOR SHALL PROVIDE SUFFICIENT NOTICE AND ACCESS FOR THE SER TO PERFORM THESE OBSERVATIONS:

STRUCTURAL OBSERVATIONS		
CONSTRUCTION PHASE	OBSERVATION BY SER	COMMENTS
PRIOR TO FIRST CONCRETE POUR	X	REF FOOTNOTE A, B, C
AT COMPLETION OF HORIZONTAL ROOF DIAPHRAGM	X	REF FOOTNOTE A, B
PRIOR TO COVERING STRUCTURAL ELEMENTS	X	REF FOOTNOTE A, B
AS REQUIRED TO ADDRESS STRUCTURAL ISSUES	X	REF FOOTNOTE A, B

A. STRUCTURAL OBSERVATIONS ARE INTENDED TO VERIFY GENERAL CONFORMANCE WITH THE STRUCTURAL DRAWINGS. SPECIAL INSPECTIONS AND TESTING ARE STILL REQUIRED.

B. A FIELD REPORT WILL BE SUBMITTED TO THE BUILDING DEPARTMENT FOLLOWING EACH VISIT.

C. STRUCTURAL OBSERVATION TO OCCUR AFTER THE REINFORCING STEEL HAS BEEN INSTALLED.

SUBMITTALS:

1. SHOP DRAWINGS SHALL BE SUBMITTED TO THE ENGINEER PRIOR TO THE FABRICATION AND CONSTRUCTION OF ALL STRUCTURAL ITEMS INCLUDING THE FOLLOWING:

SUBMITTALS			
ITEM	SUBMITTAL (A, C)	DEFERRED SUBMITTAL (B, C)	COMMENTS
CONCRETE MIX DESIGNS	X		
CONCRETE REINFORCEMENT	X		
REINFORCING STEEL MILL CERTS	X		
CONCRETE ANCHORAGES	X		
EMBEDDED STEEL ITEMS	X		
PRE-ENGINEERED METAL BUILDING SHOP DRAWINGS AND BASE REACTIONS	X	X	

A. IF THE SHOP DRAWINGS DIFFER FROM OR ADD TO THE DESIGN OF THE STRUCTURAL DRAWINGS, THEY SHALL BEAR THE SEAL AND SIGNATURE OF A STRUCTURAL ENGINEER REGISTERED IN NEW YORK STATE. ANY MODIFICATIONS TO THE STRUCTURAL DRAWINGS SHALL BE SUBMITTED TO THE ENGINEER AND ARE SUBJECT TO REVIEW AND ACCEPTANCE BY THE STRUCTURAL ENGINEER OF RECORD.

B. DESIGN DRAWINGS, SHOP DRAWINGS, AND CALCULATIONS FOR THE DESIGN AND FABRICATION OF ITEMS THAT ARE DESIGNED BY OTHERS SHALL BEAR THE SEAL AND SIGNATURE OF A STRUCTURAL ENGINEER REGISTERED IN NEW YORK STATE. CALCULATIONS SHALL BE INCLUDED FOR ALL CONNECTIONS TO THE STRUCTURE CONSIDERING LOCALIZED EFFECTS ON STRUCTURAL ELEMENTS INDUCED BY THE CONNECTION LOADS. DESIGN SHALL BE BASED UPON THE REQUIREMENTS OF THE NYSBC AND AS NOTED UNDER "DESIGN CRITERIA."

C. FIELD ENGINEERED DETAILS DEVELOPED BY THE CONTRACTOR THAT DIFFER FROM, OR ADD TO, THE STRUCTURAL DRAWINGS SHALL BEAR THE SEAL AND SIGNATURE OF A STRUCTURAL ENGINEER REGISTERED IN NEW YORK STATE AND SHALL BE SUBMITTED TO THE ARCHITECT PRIOR TO CONSTRUCTION. ANY SUCH DETAILS ARE SUBJECT TO REVIEW AND ACCEPTANCE BY THE STRUCTURAL ENGINEER OF RECORD.

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REVISIONS

NO.	DATE	DESCRIPTION

RHINEBECK WTP
IMPROVEMENTS
VILLAGE OF RHINEBECK
DUTCHESS COUNTY, NY

SPECIAL INSPECTION & SUBMITTALS

SHEET: S003

STRUCTURAL LEGEND

- `-` • INDICATES FOUNDATION TYPE MARK, REFERENCE THE FOUNDATION SCHEDULE.
- LOW HIGH • INDICATES FLOOR/ROOF STEP.
- LOW HIGH • INDICATES TOP FOUNDATION WALL STEP.
- LOW HIGH • INDICATES TOP FOOTING STEP.
- • INDICATES STRUCTURAL WALL BELOW.
- `#` • INDICATES KEYED NOTE.
- `--` • INDICATES NEW GRIDLINE

FOUNDATION PLAN NOTES

1. ALL ELEVATIONS REFERENCED FROM 0'-0" = FF.
2. VERIFY ALL DIMENSIONS WITH THE ARCHITECTURAL DRAWINGS AND METAL BUILDING DRAWINGS. GRIDLINES ARE LOCATED AT OUTSIDE FACE OF CONCRETE FOUNDATION WALLS AND CENTERLINE OF COLUMNS WHERE INDICATED.
3. DETAILS ON THESE PLANS ARE INTENDED TO DEPICT THE GENERAL CONSTRUCTION METHOD FOR THIS STRUCTURE. CONNECTIONS, DETAILS AND CONDITIONS NOT SPECIFICALLY SHOWN THAT ARE SIMILAR TO THOSE THAT ARE SPECIFIED SHALL BE ASSUMED ONE AND THE SAME. IF QUESTIONS ARISE REGARDING THE APPLICATION OF DETAILS ARE ENCOUNTERED, NOTIFY THE STRUCTURAL ENGINEER OF RECORD FOR CLARIFICATION IN A TIMELY MANNER PRIOR TO BID OPENING.
4. REFERENCE MEP DRAWINGS FOR ALL ELEVATIONS, PIPE PENETRATIONS, ETC. REFER TO STRUCTURAL DETAILS CORRESPONDING TO SPECIFIC ITEMS SUCH AS PIPE PENETRATIONS, OPENINGS, ETC.
5. VERIFY SIZE AND LOCATION OF ALL SLAB AND WALL PENETRATIONS.
6. ALL WALL FOOTINGS ARE WF1, UNLESS OTHERWISE NOTED. WALL FOOTINGS ARE CENTERED ON FOUNDATION WALLS.
7. TOP OF FOOTING ELEVATION IS -3' - 0" UNLESS OTHERWISE NOTED.
8. ALL STEM WALLS TO BE 8" THICK UNO ON PLAN, REINFORCEMENT TO BE #5@12" OC, EW, CENTER OF WALL.
9. TOP OF FOUNDATION WALL ELEVATION IS 1'-0" UNLESS OTHERWISE NOTED.
10. TOP OF PIER ELEVATION IS 0'-0" UNLESS OTHERWISE NOTED.
11. FOOTINGS ARE CENTERED ON PIERS UNLESS OTHERWISE NOTED.

WALL FOOTING SCHEDULE

MARK	WIDTH	THICKNESS	LONG. REINF.	TRANS. REINF.
WF1	2' - 0"	1' - 0"	(3) #5, EQ SP, BTM	#5 @18" OC, BTM

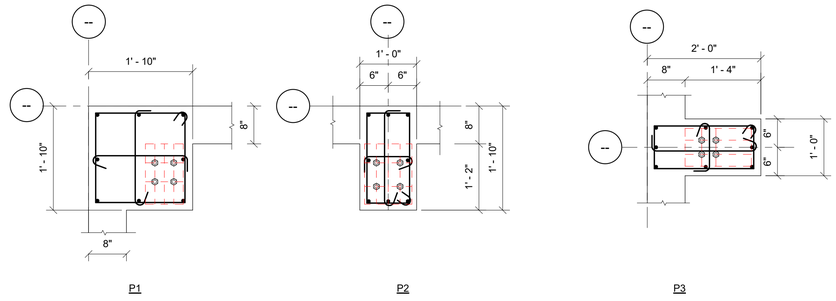
FOOTING SCHEDULE

MARK	LENGTH	WIDTH	THICKNESS	LONG. REINF.	TRANS. REINF.
F1	3' - 6"	3' - 6"	1' - 0"	(4) #5, EQ SP, BTM	(4) #5, EQ SP, BTM
F2	5' - 6"	5' - 6"	1' - 0"	(6) #5, EQ SP, BTM	(6) #5, EQ SP, BTM

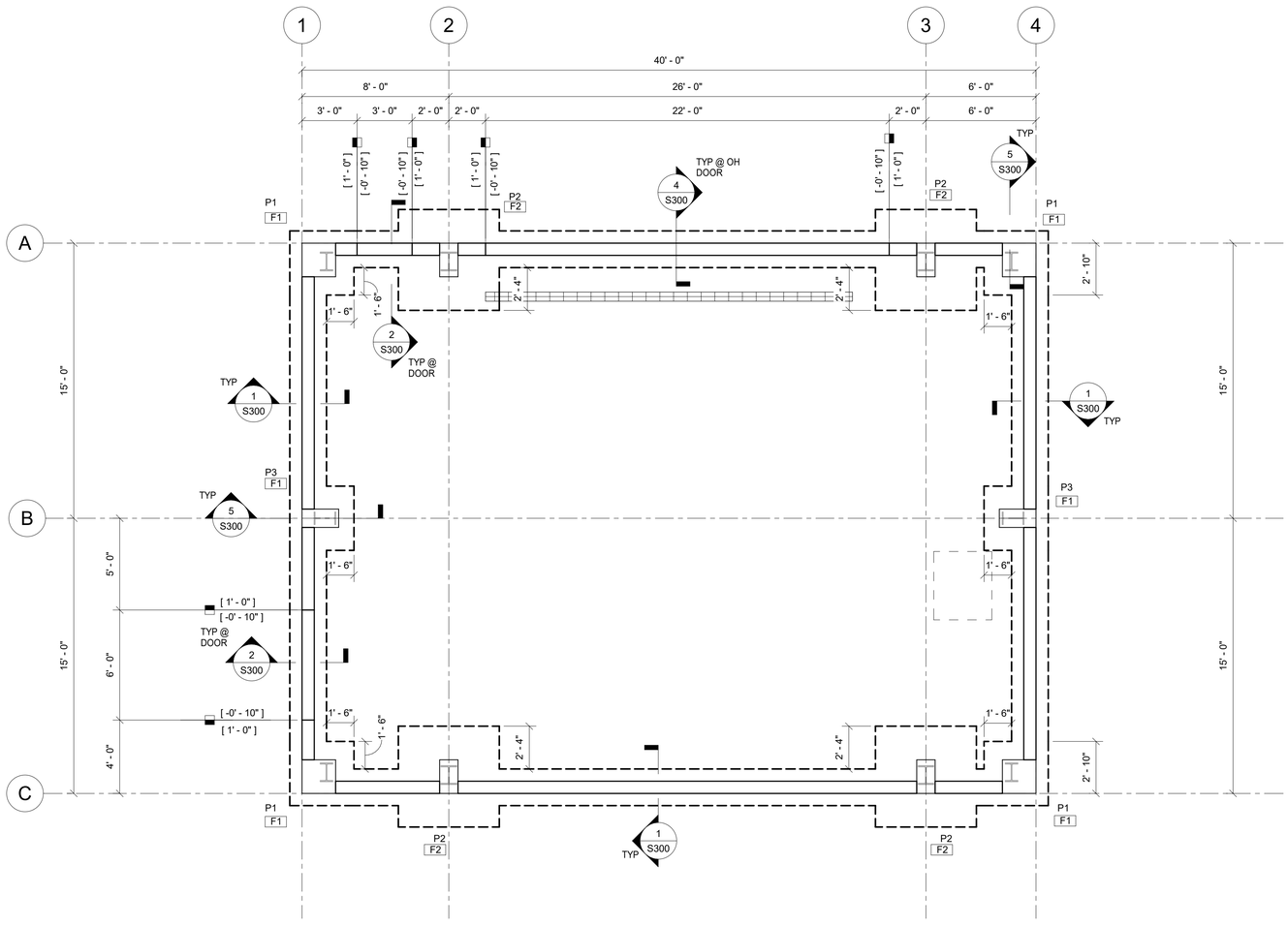
PIER SCHEDULE

MARK	SIZE	VERT REINF	TIES
P2	12"x22"	(8) #5, EQ SP	1 @2",1 @3", REMAINDER @10"
P3	12"x24	(8) #5, EQ SP	1 @2",1 @3", REMAINDER @10"
P1	22"x22"	(8) #5, EQ SP	1 @2",1 @3", REMAINDER @10"

KEYNOTES `#`



2 S100 PIER TYPES
N.T.S



1 S100 FOUNDATION PLAN
1/4" = 1'-0"

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REVISIONS

NO.	DATE	DESCRIPTION

RHINEBECK WTP
IMPROVEMENTS
VILLAGE OF RHINEBECK
DUTCHESS COUNTY, NY

FOUNDATION PLAN

SHEET: S100

STRUCTURAL LEGEND

- `-` • INDICATES FOUNDATION TYPE MARK, REFERENCE THE FOUNDATION SCHEDULE.
- LOW HIGH • INDICATES FLOOR/ROOF STEP.
- LOW HIGH • INDICATES TOP FOUNDATION WALL STEP.
- LOW HIGH • INDICATES TOP FOOTING STEP.
- T/T B/W • INDICATES STRUCTURAL WALL BELOW.
- (#) • INDICATES KEYED NOTE.
- -- • INDICATES NEW GRIDLINE

FRAMING PLAN NOTES

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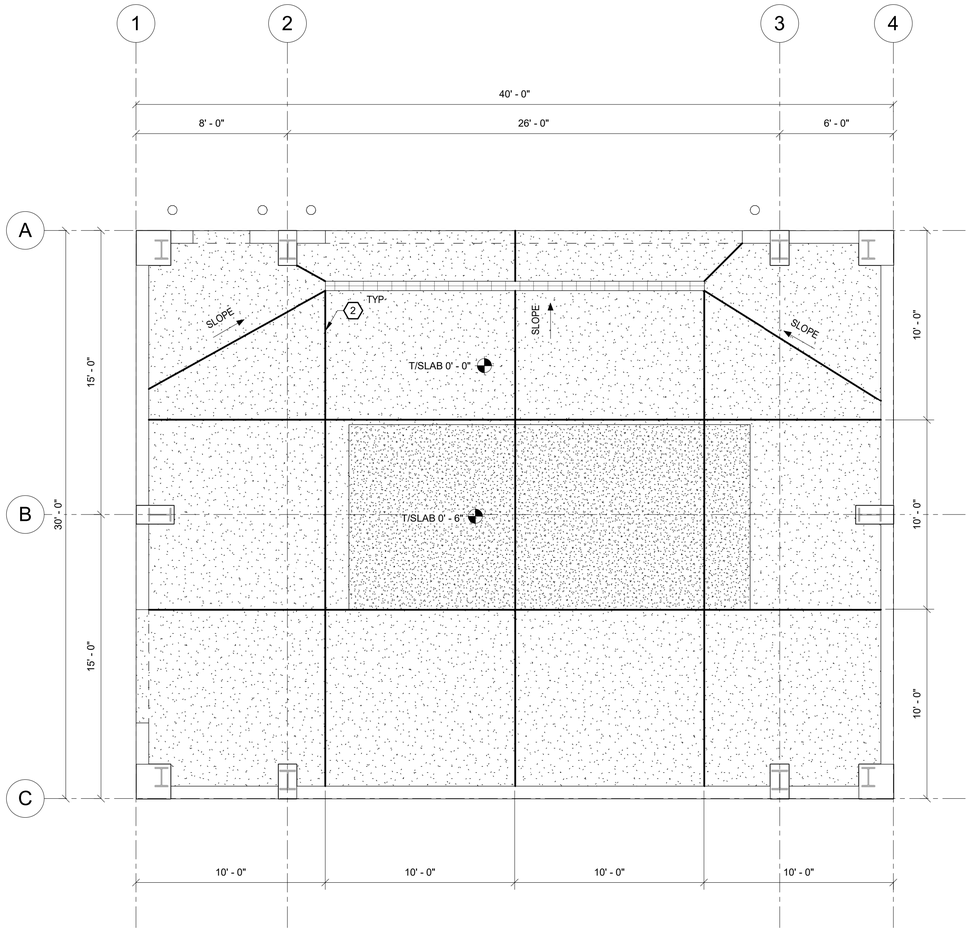
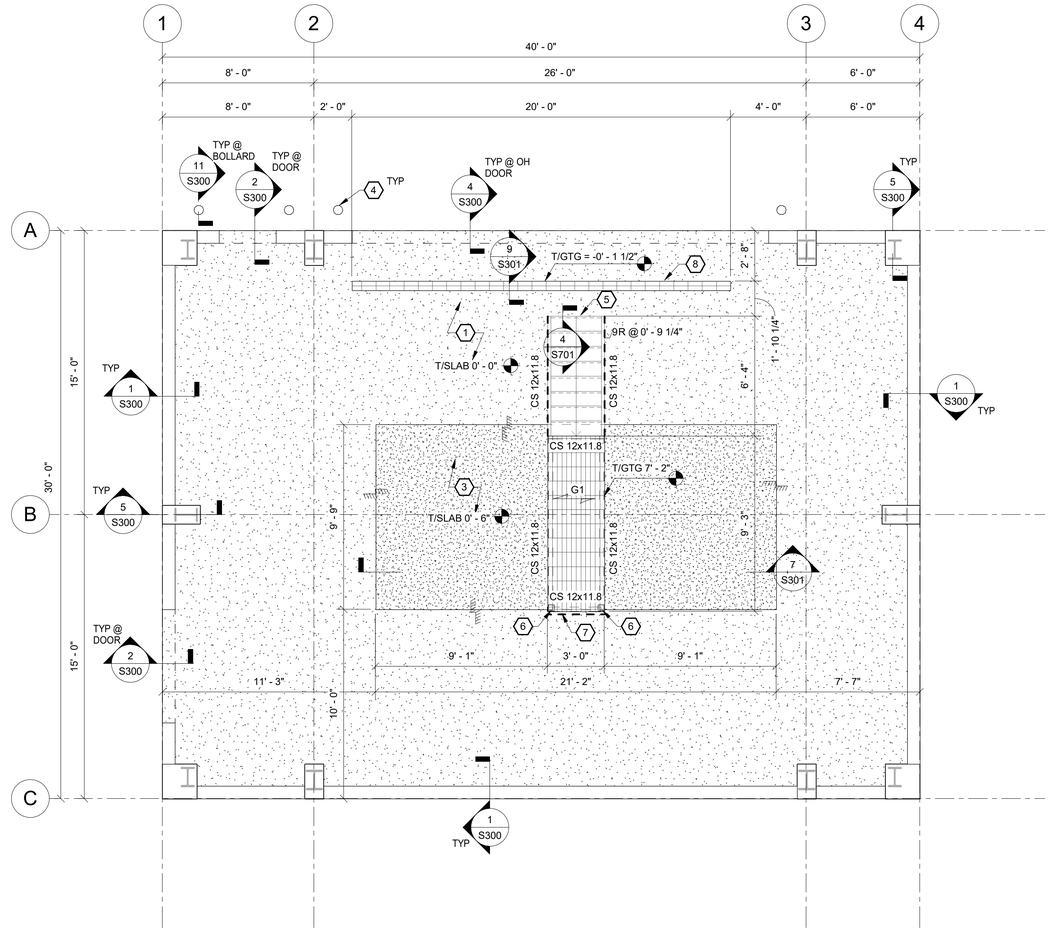
2. VERIFY ALL DIMENSIONS WITH THE ARCHITECTURAL DRAWINGS AND THE METAL BUILDING DRAWINGS. GRIDLINES ARE LOCATED AT EXTERIOR FACE OF CONCRETE FOUNDATION WALLS AND CENTERLINE OF COLUMNS WHERE INDICATED.
3. DETAILS ON THESE PLANS ARE INTENDED TO DEPICT THE GENERAL CONSTRUCTION METHODS FOR THIS STRUCTURE. CONNECTIONS, DETAILS AND CONDITIONS NOT SPECIFICALLY SHOWN THAT ARE SIMILAR TO THOSE THAT ARE SPECIFIED SHALL BE ASSUMED ONE AND THE SAME. IF QUESTIONS REGARDING THE APPLICATION OF DETAILS ARE ENCOUNTERED, NOTIFY THE ENGINEER FOR CLARIFICATION IN A TIMELY MANNER PRIOR TO BID OPENING.
4. REFERENCE MEP DRAWINGS FOR ALL ELEVATIONS, PIPE PENETRATIONS, ETC. REFER TO STRUCTURAL DETAILS CORRESPONDING TO SPECIFIC ITEMS SUCH AS PIPE PENETRATIONS, OPENINGS, ETC.
5. REFERENCE ARCHITECTURAL DRAWINGS FOR ADDITIONAL INFORMATION FOR ALL DOORS.
6. G1 INDICATES SPAN DIRECTION OF 1 1/2" WELDED SERRATED ALUMINUM GRATING W/ 3/16" BEARING BARS @ 1 3/16" OC AND CROSS BARS @ 2" OC. ALL EDGES OF GRATING AND OPENINGS IN GRATING SHALL BE BANDED.

KEYNOTES (#)

1. 8" NORMAL WEIGHT SLAB-ON-GRADE. REINFORCE WITH #5 @ 16" OC EW, PER 3/S301
2. ISOLATION AND CONTROL JOINT, TYPICAL PER 5/S301
3. 6" THICK CAST-IN-PLACE EQUIPMENT PAD; REINFORCE PER 7/S301. FINAL DIMENSIONS OF PAD TO BE COORDINATED WITH EQUIPMENT MANUF; PAD EXTENTS TO BE MIN 6" GREATER THAN EQUIPMENT EXTENTS EA SIDE. T/ PAD PER PLAN
4. BOLLARD, TYPICAL PER 11/S300.
5. ALUMINUM STAIRS, CONT'R TO SUBMIT AS PART OF DELEGATED DESIGN
6. ALUMINUM POST TO BE RT4x4x0.188, REFERENCE 3/S701 FOR ATTACHMENT TO SLAB
7. THICK DASHED LINE INDICATES EXTENTS OF ALUMINUM GUARDRAIL PER 1/S701
8. TRENCH DRAIN PER X/S301.



2 S101 SLAB CONTROL JOINT LAYOUT PLAN
1/4" = 1'-0"



1 S101 FIRST FLOOR STRUCTURAL FRAMING AND SLAB PLAN
1/4" = 1'-0"

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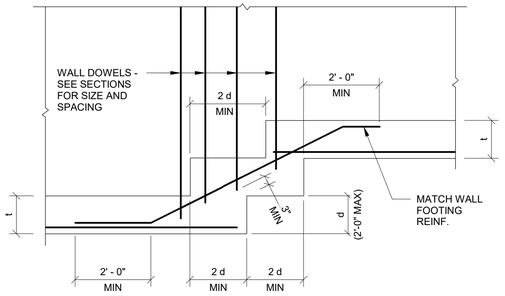
REVISIONS

NO.	DATE	DESCRIPTION
1	10/20/2023	CCD#1

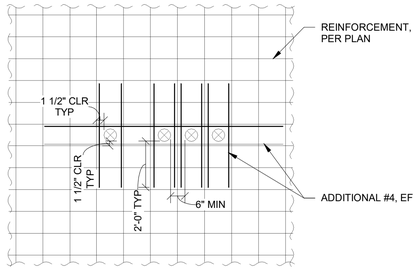
RHINEBECK WTP
IMPROVEMENTS
VILLAGE OF RHINEBECK
DUTCHESS COUNTY, NY

FIRST FLOOR FRAMING PLAN

SHEET: S101



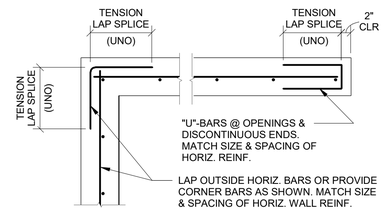
12 S300 TYPICAL STEPPED FOOTING DETAIL
N.T.S



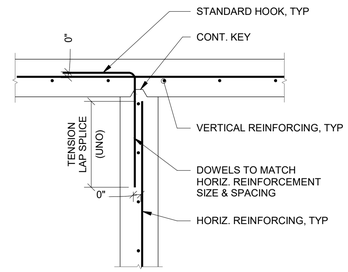
NOTES:

1. COORDINATE THE LOCATION OF THE SLEEVES SUCH THAT THEY DO NOT INTERRUPT THE WALL REINFORCEMENT.

9 S300 TYPICAL MULTIPLE WALL SLEEVE OPENING DETAIL
N.T.S



6 S300 TYPICAL CONCRETE WALL CORNER & END DETAIL
N.T.S

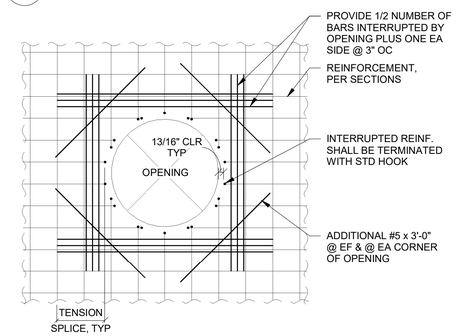


3 S300 TYPICAL CONCRETE WALL INTERSECTION DETAIL
N.T.S

NOTES:

1. REFER TO PLANS FOR LOCATIONS

11 S300 TYPICAL 6" BOLLARD SECTION
N.T.S



NOTES:

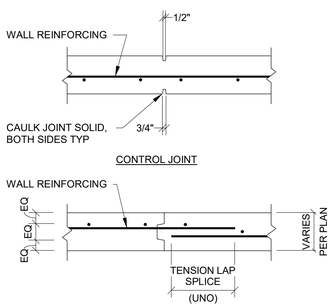
1. MAX OPENING SIZE 4' - 0"

10 S300 TYPICAL WALL SLEEVE OPENING
N.T.S

NOTES:

1. PROVIDE 6" MINIMUM CLEAR COVER BETWEEN ADJACENT OPENINGS.

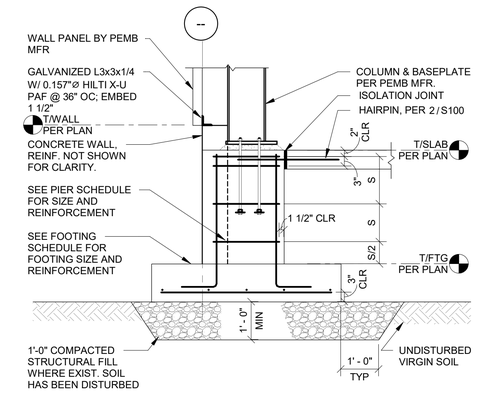
8 S300 TYPICAL WALL REINFORCING FOR PIPE OPENING
N.T.S



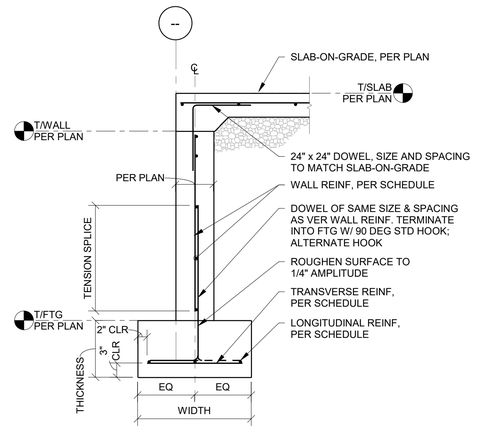
NOTES:

1. PROVIDE CONSTRUCTION AND CONTROL JOINTS IN CONCRETE WALLS AS FOLLOWS UNLESS OTHERWISE INDICATED:
   - FOUNDATION WALLS - 25'-0" (MAX)
   - BASEMENT FOUNDATION WALLS
     1. 8'-0" OR LESS - WALL HEIGHT x 3 (MAX)
     2. 8'-1" TO 11'-11 - 25'-0" (MAX)
     3. 12'-0" OR GREATER - WALL HEIGHT x 1 (MAX)
2. DO NOT PLACE WITHIN 5 FEET OF A PIER, CORNER, INTERSECTIONS, AND ENDS.
3. COORDINATE JOINT LOCATIONS WITH BRICK VENEER CONTROL JOINT LOCATIONS, SEE ARCHITECTURAL DRAWINGS.
4. ALL CONSTRUCTION JOINTS MUST BE LOCATED ON SHOP DRAWINGS AND APPROVED BY THE ENGINEER OF RECORD. NO CONSTRUCTION JOINTS MAY BE FORMED IN THE FIELD WITHOUT THE ENGINEERS APPROVAL

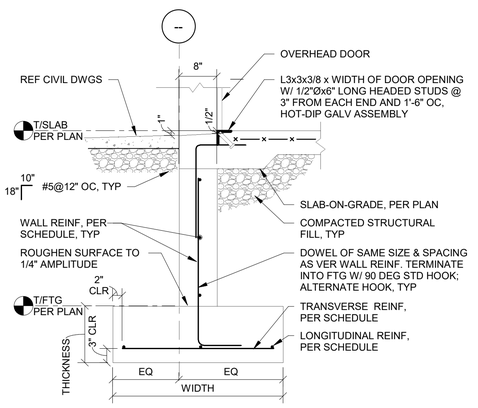
7 S300 TYPICAL CONCRETE WALL JOINT DETAILS
N.T.S



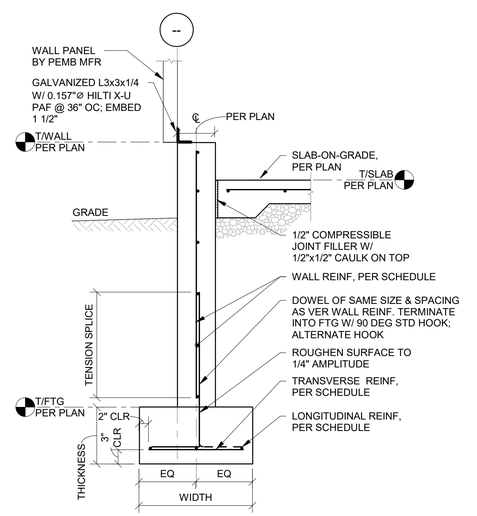
5 S300 PEMB SPREAD FTG WITH PIER
N.T.S



2 S300 TYPICAL FOUNDATION WALL DETAIL
N.T.S



4 S300 TYPICAL FDN DETAIL @ VEHICLE DOOR
N.T.S



1 S300 TYPICAL FOUNDATION WALL DETAIL
N.T.S

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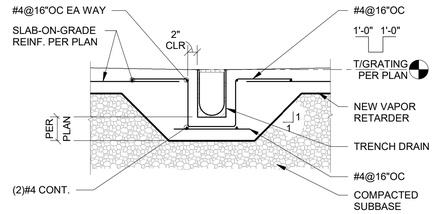
REVISIONS

NO.	DESCRIPTION	DATE

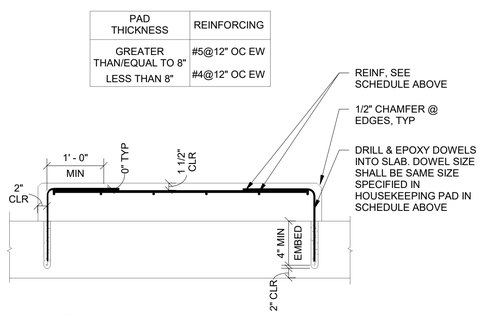
RHINEBECK WTP IMPROVEMENTS
VILLAGE OF RHINEBECK
DUTCHESS COUNTY, NY

CONCRETE DETAILS

SHEET: S300



9 S301 TYPICAL TRENCH DRAIN DETAIL @ NEW SLAB
N.T.S

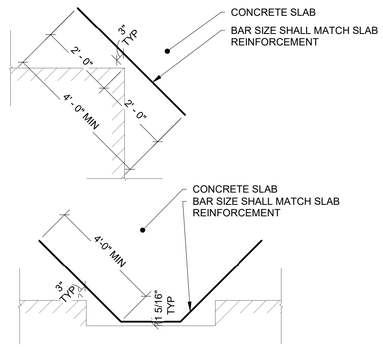


PAD THICKNESS	REINFORCING
GREATER THAN/EQUAL TO 8"	#5@12" OC EW
LESS THAN 8"	#4@12" OC EW

NOTES:

1. REF PLANS FOR SIZE AND LOCATION OF PADS

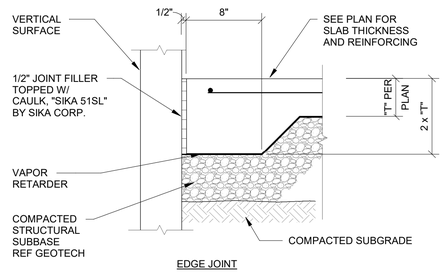
7 S301 TYPICAL HOUSEKEEPING PAD DETAIL
N.T.S



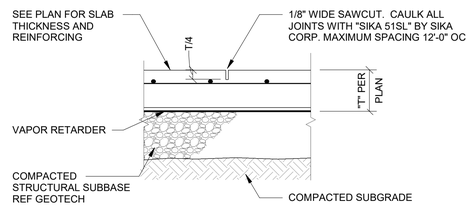
NOTES:

1. DETAIL APPLIES AT ALL CONCRETE SLAB RE-ENTRANT CORNERS.

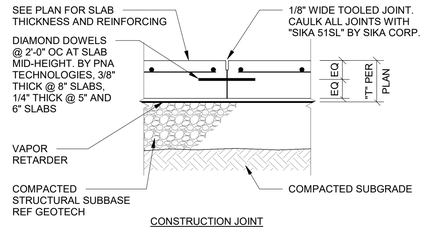
6 S301 TYPICAL RE-ENTRANT CORNER PLAN DETAILS
N.T.S



EDGE JOINT

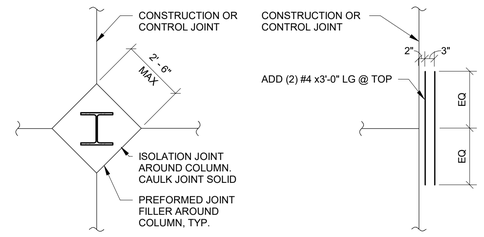


CONTROL JOINT



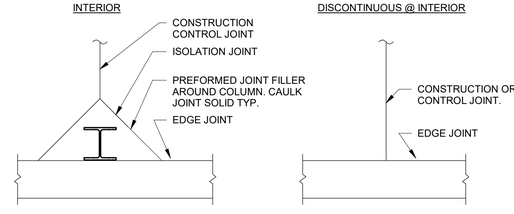
CONSTRUCTION JOINT

5 S301 TYPICAL SLAB-ON-GRADE JOINTS
N.T.S



INTERIOR

DISCONTINUOUS @ INTERIOR



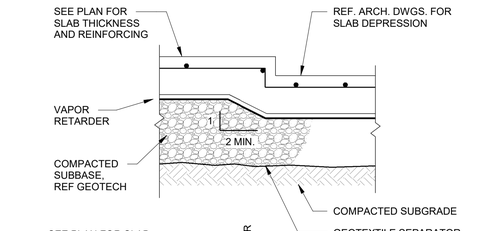
EXTERIOR @ COLUMN

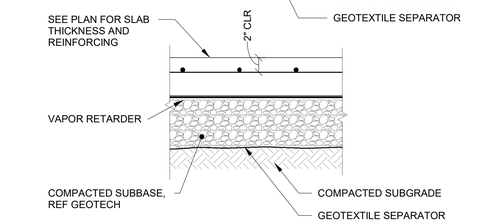
EXTERIOR @ WALL

NOTES:

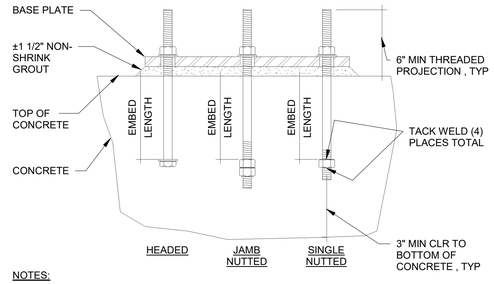
1. SEE PLAN FOR SLAB JOINT LOCATIONS.

4 S301 TYPICAL SLAB-ON-GRADE JOINT DETAILS
N.T.S





3 S301 TYPICAL SLAB-ON-GRADE CONSTRUCTION
N.T.S

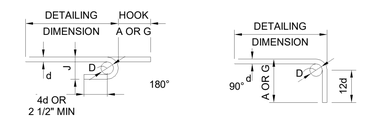


NOTES:

1. ANCHOR RODS TO BE ASTM F1554 GRADE 36.
2. NUTS FOR ANCHOR RODS SHALL BE STANDARD HEX NUTS TYPE ASTM A563-A.
3. WASHER FOR ANCHOR RODS SHALL BE ASTM F436. PROVIDE WASHER BETWEEN ALL NUTS AND BASE PL'S.
4. ALL ANCHOR ROD EMBEDED ENDS SHALL BE ONE OF THE FOLLOWING
   A. HEADED
   B. JAMB NUTTED (DOUBLE NUTTED)
   C. SINGLE NUTTED (TACK WELD IN (4) LOCATIONS TO SECURE NUT IN PLACE)
5. ALL HOLES IN BASE PLATES SHALL BE ANCHOR ROD DIAMETER + 3/16" MAXIMUM.
6. ALL ANCHOR RODS, NUTS, AND WASHERS SHALL BE HOT-DIPPED GALVANIZED.

2 S301 TYPICAL ANCHOR ROD EMBEDMENT DETAIL
N.T.S

RECOMMENDED END HOOKS
ALL GRADES OF STEEL
D = FINISHED BEND DIAMETER



BAR SIZE	D, IN.	180° HOOKS, IN.		90° HOOKS N.
		A OR G	J	A OR G
#3	2 1/4	5	3	6
#4	3	6	4	8
#5	3 3/4	7	5	10
#6	4 1/2	8	6	12
#7	5 1/4	10	7	14
#8	6	11	8	16
#9	9 1/2	15	11 3/4	19
#10	10 3/4	17	13 1/4	22
#11	12	19	15 3/4	24
#12	18 1/4	27	21 3/4	31

1 S301 TYPICAL REBAR END HOOK DETAIL
N.T.S

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REVISIONS

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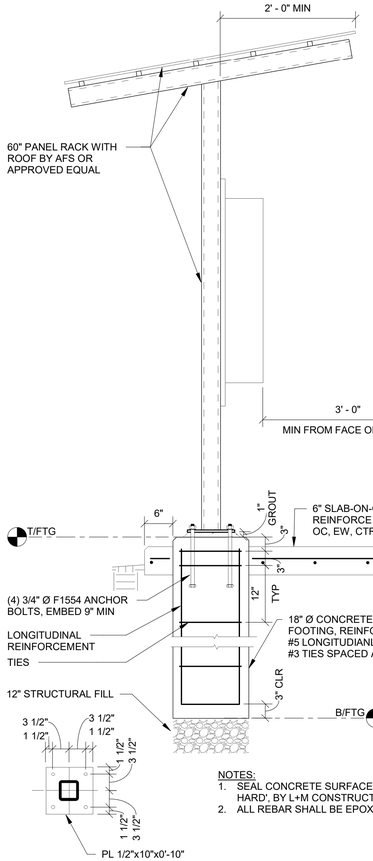
VILLAGE OF RHINEBECK
DUTCHESS COUNTY, NY

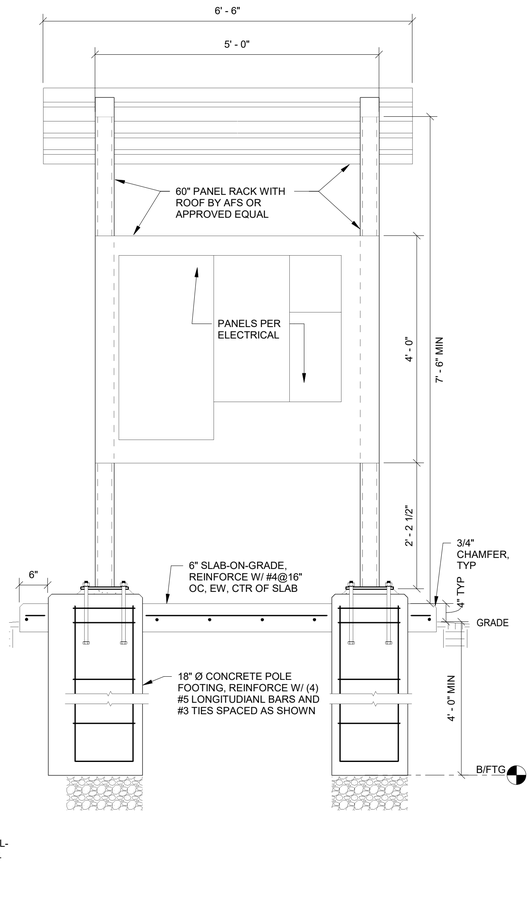
CONCRETE DETAILS

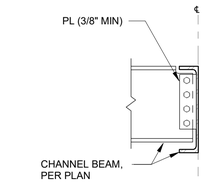
SHEET: S301



NOTES:
1. SEAL CONCRETE SURFACE W/ (2) COATS 'SEAL-HARD', BY L+M CONSTRUCTION CHEMICAL CO.
2. ALL REBAR SHALL BE EPOXY COATED.

7 S701 ELECTRICAL KIOSK
N.T.S



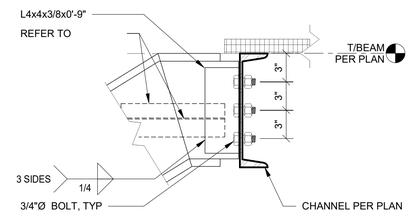


BEAM TO BEAM

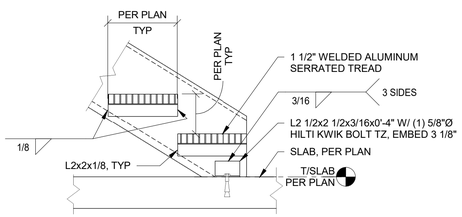
MINIMUM NUMBER OF ROWS OF BOLTS
C8 - 2 C12 - 3

NOTES:
1. AT ALL BEAM CONNECTIONS, PROVIDE NUMBER OF 3/4" Ø A325 BOLTS REQUIRED TO SATISFY REACTIONS SHOWN ON FRAMING PLANS, BUT IN NO CASE LESS THAN THE MINIMUM NUMBER OF ROWS OF BOLTS FOR THE BEAM DEPTH AS INDICATED IN THE TABLE.

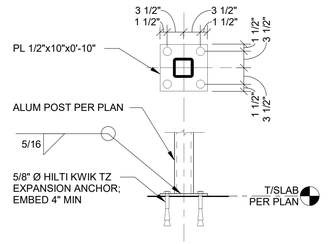
6 S701 BEAM TO BEAM CONNECTION
N.T.S



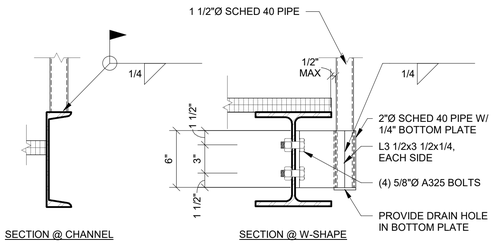
5 S701 STAIR STRINGER CONNECTION
N.T.S



4 S701 STAIR STRINGER @ SLAB
N.T.S

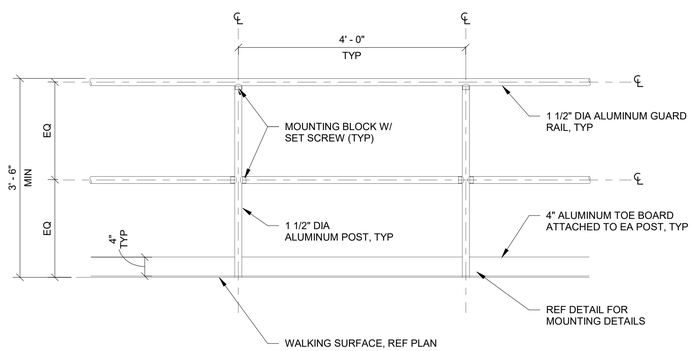


3 S701 POST BASE @ SLAB
N.T.S



2 S701 TYPICAL GUARDRAIL POST BASE CONNECTIONS
N.T.S

NOTE:
ALL GUARDRAIL AND HANDRAIL SHALL BE DESIGNED AND SUBMITTED TO THE ENGINEER AS A DELEGATED SUBMITTAL AS SPECIFIED IN THE GENERAL STRUCTURAL NOTES. THE ELEVATION AND DETAILS SHOWN ARE FOR REFERENCE ONLY.



1 S701 TYPICAL GUARDRAIL ELEVATION
N.T.S

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FILE:

DELAWARE ENGINEERING, D.P.C.
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223 MAIN ST, GOSHEN, NY 10924 - 845.615.9232

REVISIONS

NO.	DATE	DESCRIPTION

RHINEBECK WTP IMPROVEMENTS
VILLAGE OF RHINEBECK
DUTCHESS COUNTY, NY

MISC DETAILS

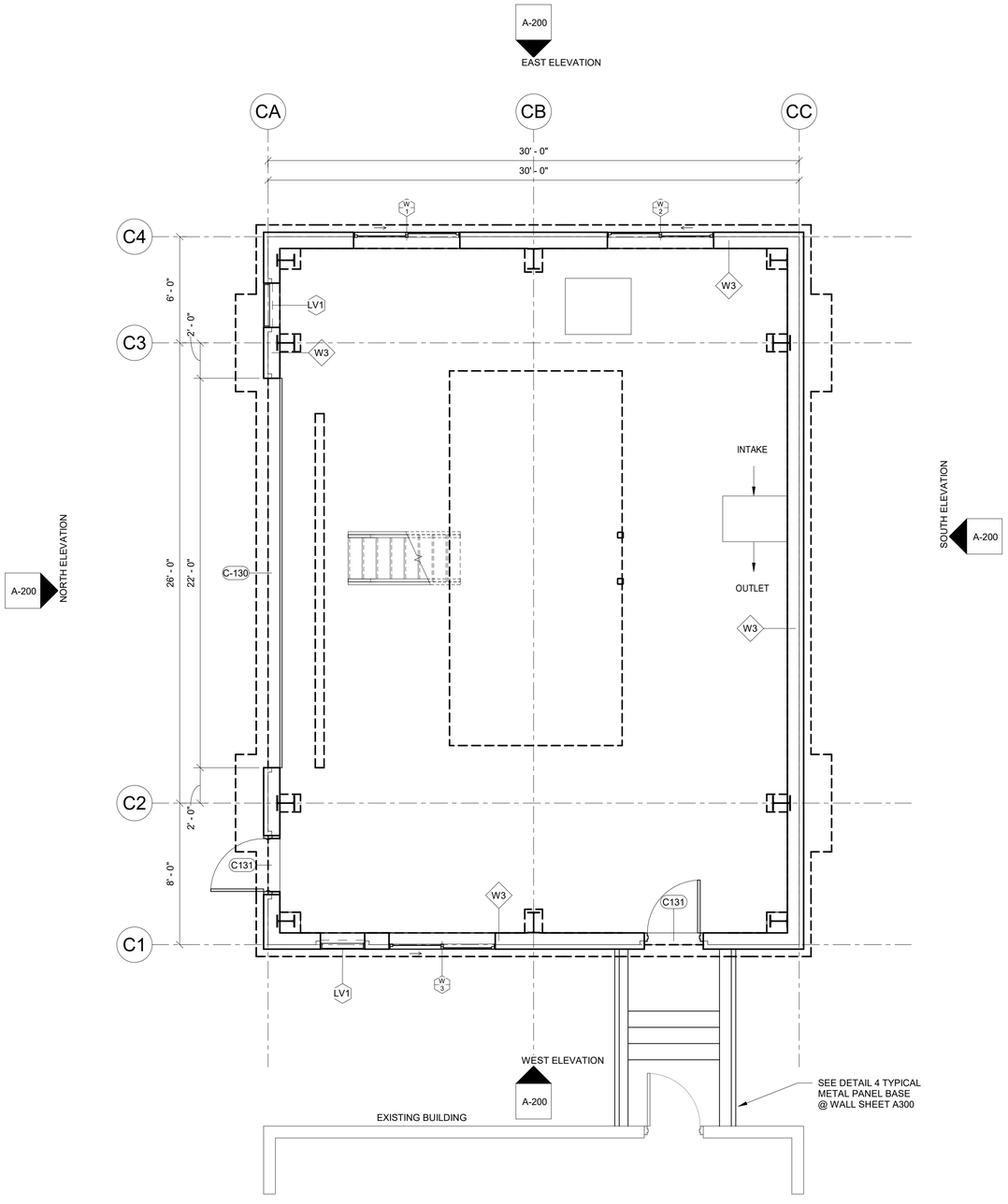
SHEET: S701

ARCHITECTURAL LEGEND

- (#) • INDICATES KEYED NOTE.
- W- • INDICATES NEW WALL, REF WALL SCHEDULE.
- -- • INDICATES NEW WINDOW, REF WINDOW SCHEDULE ON 'A' DWGS
- -- • INDICATES NEW DOOR, REF DOOR SCHEDULE ON 'A' DWGS
- -- • INDICATES NEW GRIDLINE

PLAN NOTES

1. ALL ELEVATIONS ARE REFERENCED FROM 0'-0" = LEVEL 1 FINISH FLOOR.
2. GRIDLINES ARE LOCATED AT EXTERIOR FACE OF PEMB STEEL LINES.
3. DETAILS ON THESE PLANS ARE INTENDED TO DEPICT THE GENERAL CONSTRUCTION METHODS FOR THIS STRUCTURE. CONNECTIONS, DETAILS AND CONDITIONS NOT SPECIFICALLY SHOWN THAT ARE SIMILAR TO THOSE THAT ARE SPECIFIED SHALL BE ASSUMED ONE AND THE SAME. IF QUESTIONS REGARDING THE APPLICATION OF DETAILS ARE ENCOUNTERED, NOTIFY THE ARCHITECT / ENGINEER FOR CLARIFICATION IN A TIMELY MANNER PRIOR TO BID OPENING.
4. DIMENSIONS AT DOORS ARE ROUGH OPENING OF STRUCTURAL FRAME.
5. CONTRACTOR TO INSTALL PRE-ENGINEERED METAL BUILDING (PEMB) MATERIALS FOR PEMB FURNISHED UNDER SEPARATE CONTRACT.
6. REFER TO SPECIFICATION 074116, 074213.19, AND 133419 FOR REQUIRED WARRANTIES.
7. CONTRACTOR TO PROVIDE PROOF OF MANUFACTURER'S INSTALLATION CERTIFICATION AND TRAINING.
8. CONTRACTOR TO PROVIDE DOCUMENTATION OF THE NECESSARY MANUFACTURER'S INSTALLATION. CERTIFICATION AND TRAINING CAN BE OBTAINED PRIOR TO INSTALLATION OF THE PEMB STRUCTURE.



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DELAWARE ENGINEERING, D.P.C.
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REVISIONS

NO.	DATE	DESCRIPTION

RHINEBECK WTP
IMPROVEMENTS
VILLAGE OF RHINEBECK
DUTCHESS COUNTY, NY

FIRST FLOOR PLAN

SHEET: A101

WARNING - IT IS A VIOLATION OF NEW YORK EDUCATION LAW SECTION 7209.2, FOR ANY PERSON, UNLESS HE IS ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER OR LAND SURVEYOR, TO ALTER THIS DOCUMENT IN ANY WAY. IF ALTERED THE ALTERING PERSON SHALL COMPLY WITH THE REQUIREMENTS OF NEW YORK EDUCATION LAW, SECTION 7209.2.

GENERAL ELECTRICAL NOTES:

1. THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR SUPPLYING, INSTALLING AND CONNECTING ALL LINE AND LOW VOLTAGE CONDUIT, CONDUCTORS, SWITCHES, DISCONNECTS, JUNCTION BOXES, AND FIXTURES FOR POWER, TELECOMMUNICATIONS, AND LIGHTING SYSTEMS.
2. THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR SUPPLYING, INSTALLING, AND CONNECTING ALL CONTROL CONDUIT AND CONDUCTORS FOR CONTROL SYSTEM.
3. THE ELECTRICAL CONTRACTOR SHALL SUPPLY, RIG AND MOUNT THE NEW TRANSFER SWITCH AND ASSOCIATED COMPONENTS.
4. THE ELECTRICAL CONTRACTOR SHALL PROVIDE ATS START UP AND TESTING.
5. LABEL ALL PANELS, DISCONNECTS, MOTOR STARTERS, AND CONTROLLERS. ALL LABELS ARE TO BE SELF ADHERING PLASTIC LAMINATED WITH 3/8" WHITE LETTERS ON A BLACK BACKGROUND. ALL DEVICES WILL BE IDENTIFIED BY THEIR NUMBER, VOLTAGE AND SOURCE OF POWER.
6. PROVIDE A TYPEWRITTEN CIRCUIT DIRECTORY IN ALL NEW PANEL BOXES.
7. THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR ARRANGING AND SCHEDULING ALL ELECTRICAL INSPECTIONS, PAY ALL FEES, AND SUBMIT A FINAL INSPECTION REPORT TO THE ENGINEER.
8. THE ELECTRICAL CONTRACTOR SHALL INSTALL ALL GROUNDING IN ACCORDANCE WITH NEC ARTICLE 250 AND ACCORDING TO THE REQUIREMENTS INDICATED ON THE DRAWINGS. EQUIPMENT GROUNDING CONDUCTORS SHALL BE USED. GROUNDING THROUGH RACEWAY AND CONDUITS IS NOT PERMITTED.
9. THE ELECTRICAL CONTRACTOR SHALL FURNISH AND INSTALL GROUND CONDUCTORS TO BOND THE WTP GROUNDING SYSTEM TOGETHER.
10. THE LOCATIONS AND ROUTES OF CONDUITS AND RACEWAYS SHOWN ON THESE DRAWINGS ARE SCHEMATIC. ALL CONDUITS ABOVE THE SLAB SHALL BE INSTALLED PARALLEL OR PERPENDICULAR TO THE BUILDING. CONDUITS ABOVE THE CEILING SHALL BE MOUNTED AS HIGH AS POSSIBLE. ALL BELOW GROUND CONDUITS SHALL BE INSTALLED USING THE MOST DIRECT ROUTE WITH CONSIDERATION OF PROPER COORDINATION WITH OTHER UTILITIES - UNDERGROUND OR ABOVE GROUND.
11. THE ELECTRICAL CONTRACTOR SHALL PROVIDE ALL CONDUIT AND CONDUCTORS FOR TELEPHONE AND LAN SYSTEMS. ALL CONDUCTORS SHALL BE COPPER WITH TYPE THHN/THWN OR XHHW INSULATION UNLESS OTHERWISE NOTED. ALL CONDUIT AND CONDUCTORS SHALL BE SIZED PER NEC.
12. THE ELECTRICAL CONTRACTOR SHALL PROVIDE LAMPS FOR ALL LIGHTING FIXTURES.
13. ALL DUPLEX RECEPTACLES SHALL BE MOUNTED VERTICALLY AND 18" NOMINALLY AFF TO BOTTOM OF BOX UNLESS OTHERWISE INDICATED.
14. ALL LIGHTING SHALL BE WARRANTED BY THE MANUFACTURER FOR 5 YEARS. ALL LIGHTING THAT FAIL WITHIN THE FIRST YEAR OF SUBSTANTIAL COMPLETION SHALL BE REPLACED BY THE ELECTRICAL CONTRACTOR AT NO COST TO THE OWNER.
15. FASTENING OF HANGERS TO THE ROOF WILL NOT BE PERMITTED. ANY CONTRACTOR RESPONSIBLE FOR PUNCTURING THE ROOF STRUCTURE WILL REPAIR THE ROOF AT THEIR EXPENSE.
16. ALL DISCONNECT SWITCHES AND SAFETY SWITCHES ARE TO BE HEAVY DUTY TYPE.
17. MC CABLE WILL NOT BE ACCEPTED.
18. "GREENFIELD" AND LIQUID TIGHT FLEX CONDUIT MAY BE USED IN LENGTHS NOT TO EXCEED 72".
19. THE ELECTRICAL CONTRACTOR SHALL CAULK ALL PENETRATIONS,RELATED TO ELECTRICAL WORK, IN 1 & 2 RATED HR FIRE WALL WITH 3M FIRE CAULK. SEAL LARGER OPENINGS WITH WIREMOLD "FLAMESTOPPER" KIT.
20. ALL EXTERIOR EXPOSED CONDUIT SHALL BE PVC COATED GRC.
21. ALL CONDUIT IN CLASS 1 DIV 1 LOCATIONS SHALL BE PVC COATED GRC.
22. THE ELECTRICAL CONTRACTOR SHALL PROVIDE SEAL OFFS FOR ALL CONDUIT BETWEEN CLASSIFIED AND UNCLASSIFIED LOCATIONS.
23. ALL CONDUIT IN CHEMICAL ROOMS SHALL BE PVC.
24. ALL OTHER INTERIOR CONDUIT SHALL BE GRC.
25. THE ELECTRICAL CONTRACTOR SHALL FURNISH AND INSTALL ALL EQUIPMENT CONDUIT AND CONDUCTORS FOR THE HVAC EQUIPMENT. THIS SHALL INCLUDE LINE AND LOW VOLTAGE EQUIPMENT.
26. THE ELECTRICAL CONTRACTOR SHALL FURNISH AND INSTALL ALL FIBER OPTIC CABLE AND CONDUITS FOR THE FIBER RUNS.
27. THE SCADA VENDOR SHALL BE RESPONSIBLE FOR ALL FIBER OPTIC TERMINATIONS AND TESTING.
28. THE SCADA VENDOR SHALL PROVIDE ALL TERMINATIONS FOR SCADA VENDOR SUPPLIED PANELS. SCADA VENDOR SHALL PROVIDE CONTROL PANEL START UP.
29. THE ELECTRICAL CONTRACTOR SHALL FURNISH, INSTALL, AND TERMINATE ALL CONDUIT AND CONDUCTORS FOR VENDOR SUPPLIED CONTROL PANELS.

GROUND GRID EXOTHERMIC CONNECTION TO BUILDING FOUNDATION REINFORCING BAR
SIZE AS INDICATED ON DRAWINGS

MAIN GROUND GRID CONDUCTOR BELOW GRADE (BURY 30" BELOW GRADE THROUGHOUT)
SIZE AS INDICATED ON DRAWINGS

3/4"x 10' COPPER CLAD GROUND ROD WITH EXOTHERMIC CONNECTION TO MAIN GROUND GRID CONDUCTOR

GROUND GRID RISER CONDUCTOR THROUGH SLAB FOR CONNECTION TO COLUMN, EQUIPMENT, ETC.

EXOTHERMIC CONNECTION BETWEEN GROUND GRID CONDUCTORS

NEW PANEL

GP–2 — HOMERUN
GP = GENERAL PURPOSE PANEL 'GP'
2 = CIRCUIT No.

CONDUIT UP

CONDUIT DOWN

FLEXIBLE CONDUIT CONNECTION

SPECIAL USE RECEPTACLE
REFER TO INFORMATION ON INDIVIDUAL DRAWINGS

GF / WP / CKT — RECEPTACLE
GF = GROUND FAULT
WP = WEATHERPROOF
CKT = CIRCUIT

SINGLE RECEPTACLE

A / 3 — SWITCH
A = SWITCHING SCHEME
3 = 3 WAY
4 = 4 WAY
M = MOTOR STARTER TYPE

NEW TELEPHONE JACK

E — NEW ETHERNET JACK

DR — WALL MOUNTED DOOR HOLDER

SYMBOLS

L.A. — LIGHTNING ARRESTER

1600 / 1200 — SST LT ST IT — CIRCUIT BREAKER
= DRAW-OUT
1600 = AMP FRAME SIZE
1200 = AMP TRIP SENSOR
SST = SOLID STATE TRIP UNIT
LT = LONG TIME TRIP FUNCTION
ST = SHORT TIME TRIP FUNCTION
IT = INSTANTANEOUS TRIP FUNCTION

300 / 300 — CIRCUIT BREAKER
400 = AMP FRAME SIZE
300 = AMP TRIP RATING

52 — DRAW-OUT TYPE POWER CIRCUIT BREAKER

DELTA-WYE TRANSFORMER
SIZE AS INDICATED ON DRAWINGS

POTENTIAL TRANSFORMER

CURRENT TRANSFORMER

SSS — SOLID STATE SOFT STARTER

LOCAL START / LOCK STOP CONTROLLER

TVSS — TRANSIENT VOLTAGE SURGE SUPPRESION

FACP — FIRE ALARM CONTROL PANEL

RADIO — RADIO TRANSCEIVER

OMNI DIRECTIONAL ANTENNA WITH MODULE

SOUNDER STROBE

TM — 60 MIN TIMER

TRANSMITTER — FLOW METER CONTROL BOX TRANSMITTER

FM — FLOW METER

ANN — ANNUNCIATOR PANEL

NMM — ADDRESSABLE MINI MODULE

NORMALLY OPEN CONTACT

NORMALLY CLOSED CONTACT

DISCONNECT SWITCH

DISCONNECT SWITCH

COMBINATION DISCONNECT SWITCH MOTOR STARTER
GREENHECK MODEL AS INDICATED ON
CONDUIT SCHEDULE

E — EMERGENCY STOP

X — MOTOR
SIZE AS INDICATED ON DRAWINGS
X = HORSEPOWER

K — KEY INTERLOCK

J — JUNCTION BOX

80E — SIZE
80E = RATING

GENERATOR
SIZE AS INDICATED ON DRAWINGS

VFD — VARIABLE FREQUENCY DRIVE

O — METHANE SENSOR

M — OXYGEN SENSOR

H — H2S SENSOR

F — STROBE LIGHT

F — FIRE ALARM PULL STATION WITH KEY RESET

S — PHOTOELECTRIC SMOKE DETECTOR

XS — EXPLOSION PROOF SMOKE DETECTOR

XF — EXPLOSION PROOF FIRE PULL STATION WITH KEY RESET

E — EXTERIOR STROBE LIGHT WITH HORN

H^X — HEAT DETECTOR
X = RATE OF RISE IN DEGREES

ANSUL — SUPPRESSION SYSTEM SUPERVISION

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REVIEWED BY: RF
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FILE:

DELAWARE ENGINEERING, D.P.C.
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STATE OF NEW YORK — MARK ROBERT DELAWARE — 086181 — LICENSED PROFESSIONAL ENGINEER

REVISIONS

NO.	DATE	DESCRIPTION

RHINEBECK WTP
PLANT IMPROVEMENTS
VILLAGE OF RHINEBECK
DUTCHESS COUNTY, NEW YORK

ELECTRICAL NOTES & LEGEND

SHEET: E-001

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STATE OF NEW YORK — ROBERT FORREST DELAWARE — 086181 — LICENSED PROFESSIONAL ENGINEER

REVISIONS

NO.	DATE	DESCRIPTION

RHINEBECK WTP
PLANT IMPROVEMENTS
VILLAGE OF RHINEBECK
DUTCHESS COUNTY, NEW YORK

DEMO ONE LINE DIAGRAM

SHEET: E-002

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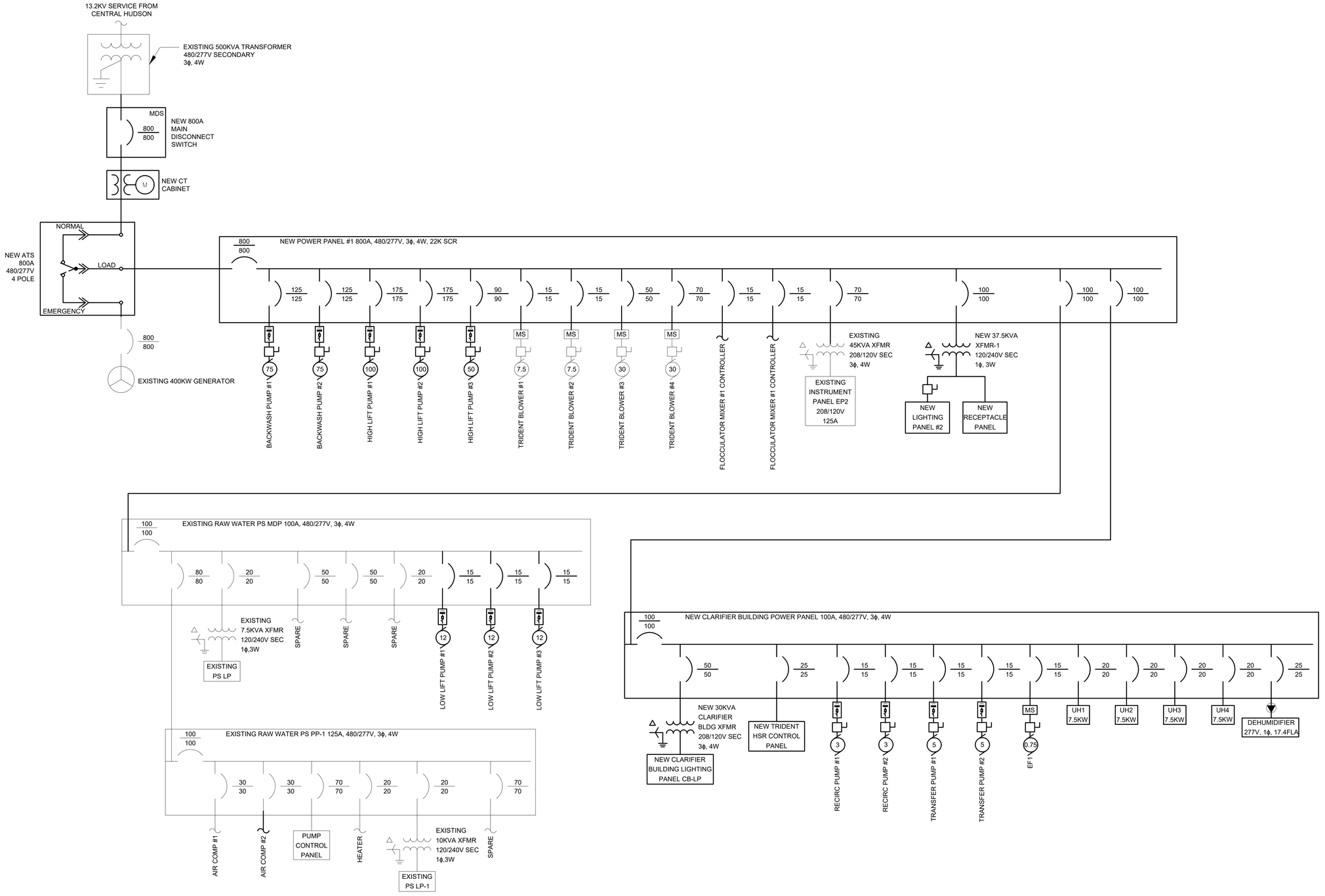

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STATE OF NEW YORK — ROBERT FOSTER — 087618 — LICENSED PROFESSIONAL ENGINEER

REVISIONS

NO.	DATE	DESCRIPTION

RHINEBECK WTP
PLANT IMPROVEMENTS
VILLAGE OF RHINEBECK
DUTCHESS COUNTY, NEW YORK

ONE LINE DIAGRAM

SHEET: E-003

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CONDUIT AND CABLE SCHEDULE

CONDUIT NO.	CONDUIT SIZE	CABLE QTY.	CABLE SIZE	PURPOSE	FROM	VIA	TO	REMARKS
A1.1	(x2) 4"	4/EA	600MCM	POWER	UTILITY		MDS	
A1.2	(x2) 4"	4/EA	600MCM	POWER	MDS		CT CABINET	
A1.3	(x2) 4"	4/EA	600MCM	POWER	CT CABINET		ATS	
A1.4	(x2) 3"	4/EA	350MCM	POWER	EXISITING GENERATOR CONNECTION FEED		ATS	EX CABLES
A1.5	(x2) 4"	4/EA	600MCM	POWER	ATS		NEW POWER PANEL #1	
A2.1	1"	4	#4	POWER	NEW POWER PANEL #1		EXISTING 45KVA XFMR	
A2.2	1-1/4"	4	#3	POWER	NEW POWER PANEL #1		NEW 37.5KVA XFMR-1	
A2.3	1-1/4"	4	#3	POWER	NEW 37.5KVA XFMR-1	DISCONNECT	NEW LIGHTING PANEL	
A2.4	1-1/4"	4	#3	POWER	NEW 37.5KVA XFMR-1		NEW RECEPTACLE PANEL	
B1.1	3/4"	4	#12	POWER	NEW POWER PANEL #1		EXISTING TRIDENT BLOWER #1 MS	
B1.2	3/4"	4	#12	POWER	NEW POWER PANEL #1		EXISTING TRIDENT BLOWER #2 MS	
B1.3	3/4"	4	#8	POWER	NEW POWER PANEL #1		EXISTING TRIDENT BLOWER #3 MS	
B1.4	3/4"	4	#8	POWER	NEW POWER PANEL #1		EXISTING TRIDENT BLOWER #4 MS	
B2.1	3/4"	1	CAT6	CONTROL	FILTER #1 RIO		MAIN CONTROL PANEL	
B2.2	3/4"	1	CAT6	CONTROL	FILTER #2 RIO		MAIN CONTROL PANEL	
C1.1	1-1/2"	4	#2	POWER	NEW POWER PANEL #1		NEW CLARIFIER BUILDING POWER PANEL	
C1.2	3/4"	4	#8	POWER	NEW CLARIFIER BUILDING POWER PANEL		NEW CLARIFIER BUILDING XFMR	
C1.3	1"	4	#2	POWER	NEW CLARIFIER BUILDING XFMR		NEW CLARIFIER BUILDING LIGHTING PANEL	
C1.4	3/4"	4	#10	POWER	NEW CLARIFIER BUILDING POWER PANEL		NEW TRIDENT HSR CONTROL PANEL	
C1.5	3/4"	1	CAT6	CONTROL	MAIN CONTROL PANEL		NEW TRIDENT HSR CONTROL PANEL	
C1.6	3/4"	3	#12	POWER	NEW CLARIFIER BUILDING LIGHTING PANEL		UNIT A CONTROL PANEL	
C1.7	3/4"	1	CAT6	CONTROL	NEW TRIDENT HSR CONTROL PANEL		UNIT A CONTROL PANEL	
C1.8	3/4"	3	#12	POWER	NEW CLARIFIER BUILDING LIGHTING PANEL		UNIT B CONTROL PANEL	
C1.9	3/4"	1	CAT6	CONTROL	NEW TRIDENT HSR CONTROL PANEL		UNIT B CONTROL PANEL	
C2.1	3/4"	4	#12	POWER	NEW CLARIFIER BUILDING POWER PANEL		CLARIFIER TRANSFER PUMP #1 VFD	
C2.2	3/4"	4	#12	POWER	CLARIFIER TRANSFER PUMP #1 VFD	DISCONNECT	CLARIFIER TRANSFER PUMP #1	
C2.3	3/4"	1	CAT6	CONTROL	UNIT A CONTROL PANEL		CLARIFIER TRANSFER PUMP #1 VFD	
C2.4	3/4"	4	#12	POWER	NEW CLARIFIER BUILDING POWER PANEL		RECIRC PUMP #1 VFD	
C2.5	3/4"	4	#12	POWER	RECIRC PUMP #1 VFD	DISCONNECT	RECIRC PUMP #1	
C2.6	3/4"	1	CAT6	CONTROL	UNIT A CONTROL PANEL		RECIRC PUMP #1 VFD	
C2.7	3/4"	4	#12	POWER	UNIT A CONTROL PANEL	DISCONNECT	CLARIFIER #1 DRIVE UNIT	
C3.1	3/4"	4	#12	POWER	NEW CLARIFIER BUILDING POWER PANEL		CLARIFIER TRANSFER PUMP #2 VFD	
C3.2	3/4"	4	#12	POWER	CLARIFIER TRANSFER PUMP #2 VFD	DISCONNECT	CLARIFIER TRANSFER PUMP #2	
C3.3	3/4"	1	CAT6	CONTROL	UNIT B CONTROL PANEL		CLARIFIER TRANSFER PUMP #2 VFD	
C3.4	3/4"	4	#12	POWER	NEW CLARIFIER BUILDING POWER PANEL		RECIRC PUMP #2 VFD	
C3.5	3/4"	4	#12	POWER	RECIRC PUMP #2 VFD	DISCONNECT	RECIRC PUMP #2	
C3.6	3/4"	1	CAT6	CONTROL	UNIT B CONTROL PANEL		RECIRC PUMP #2 VFD	
C3.7	3/4"	4	#12	POWER	UNIT B CONTROL PANEL	DISCONNECT	CLARIFIER #2 DRIVE UNIT	
C4.1	3/4"	3	#12	POWER	NEW CLARIFIER BUILDING LIGHTING PANEL		INFLUENT ACTUATED VALVE #1	
C4.2	3/4"	8	#14	CONTROL	UNIT A CONTROL PANEL		INFLUENT ACTUATED VALVE #1	
C4.3	3/4"	3	#12	POWER	NEW CLARIFIER BUILDING LIGHTING PANEL		SLUDGE RECYCLE VALVE #1	
C4.4	3/4"	8	#14	CONTROL	UNIT A CONTROL PANEL		SLUDGE RECYCLE VALVE #1	
C4.5	3/4"	3	#12	POWER	NEW CLARIFIER BUILDING LIGHTING PANEL		SLUDGE BLOWDOWN VALVE #1	
C4.6	3/4"	8	#14	CONTROL	UNIT A CONTROL PANEL		SLUDGE BLOWDOWN VALVE #1	
C4.7	3/4"	3	#12	POWER	NEW CLARIFIER BUILDING LIGHTING PANEL		CLARIFIER TRANSFER VALVE #1	
C4.8	3/4"	8	#14	CONTROL	UNIT A CONTROL PANEL		CLARIFIER TRANSFER VALVE #1	
C5.1	3/4"	3	#12	POWER	NEW CLARIFIER BUILDING LIGHTING PANEL		INFLUENT ACTUATED VALVE #2	
C5.2	3/4"	8	#14	CONTROL	UNIT B CONTROL PANEL		INFLUENT ACTUATED VALVE #2	
C5.3	3/4"	3	#12	POWER	NEW CLARIFIER BUILDING LIGHTING PANEL		SLUDGE RECYCLE VALVE #2	
C5.4	3/4"	8	#14	CONTROL	UNIT B CONTROL PANEL		SLUDGE RECYCLE VALVE #2	
C5.5	3/4"	3	#12	POWER	NEW CLARIFIER BUILDING LIGHTING PANEL		SLUDGE BLOWDOWN VALVE #2	
C5.6	3/4"	8	#14	CONTROL	UNIT B CONTROL PANEL		SLUDGE BLOWDOWN VALVE #2	
C5.7	3/4"	3	#12	POWER	NEW CLARIFIER BUILDING LIGHTING PANEL		CLARIFIER TRANSFER VALVE #2	
C5.8	3/4"	8	#14	CONTROL	UNIT B CONTROL PANEL		CLARIFIER TRANSFER VALVE #2	
C6.1	3/4"	3	#12	POWER	NEW CLARIFIER BUILDING LIGHTING PANEL		INLET METER #1	
C6.2	3/4"	1	16TS	CONTROL	UNIT A CONTROL PANEL		INLET METER #1	
C6.3	3/4"	3	#12	POWER	NEW CLARIFIER BUILDING LIGHTING PANEL		INLET METER #2	
C6.4	3/4"	1	16TS	CONTROL	UNIT B CONTROL PANEL		INLET METER #2	
C6.5	3/4"	3	#12	POWER	NEW CLARIFIER BUILDING LIGHTING PANEL		SLUDGE RECIRC METER #1	
C6.6	3/4"	1	16TS	CONTROL	UNIT A CONTROL PANEL		SLUDGE RECIRC METER #1	
C6.7	3/4"	3	#12	POWER	NEW CLARIFIER BUILDING LIGHTING PANEL		SLUDGE RECIRC METER #2	
C6.8	3/4"	1	16TS	CONTROL	UNIT B CONTROL PANEL		SLUDGE RECIRC METER #2	
C7.1	3/4"	1	16TS	CONTROL	UNIT A CONTROL PANEL		LEVEL TRANSMITTER #1	
C7.2	3/4"	1	16TS	CONTROL	UNIT B CONTROL PANEL		LEVEL TRANSMITTER #2	
C7.3	3/4"	3	#12	POWER	NEW CLARIFIER BUILDING LIGHTING PANEL		TURBIDIMETER ASSEMBLY #1	
C7.4	3/4"	1	16TS	CONTROL	UNIT A CONTROL PANEL		TURBIDIMETER ASSEMBLY #1	
C7.5	3/4"	1	VSC	PWR/CTRL	TURBIDIMETER CONTROLLER #1		TURBIDIMETER SENSOR #1	
C7.6	3/4"	3	#12	POWER	NEW CLARIFIER BUILDING LIGHTING PANEL		TURBIDIMETER ASSEMBLY #2	
C7.7	3/4"	1	16TS	CONTROL	UNIT B CONTROL PANEL		TURBIDIMETER ASSEMBLY #2	
C7.8	3/4"	1	VSC	PWR/CTRL	TURBIDIMETER CONTROLLER #2		TURBIDIMETER SENSOR #2	
C8.1	3/4"	4	#12	POWER	NEW CLARIFIER BUILDING LIGHTING PANEL		DOOR OPENER MOTOR	
C8.2	3/4"	6	#14	CONTROL	DOOR OPENER CONTROLLER		DOOR OPENER MOTOR	

CONDUIT AND CABLE SCHEDULE

CONDUIT NO.	CONDUIT SIZE	CABLE QTY.	CABLE SIZE	PURPOSE	FROM	VIA	TO	REMARKS
D1.1	3/4"	3	#12	POWER	NEW POWER PANEL #1		FLOCCULATOR MIXER #1 CONTROLLER	
D1.2	3/4"	3	#12	POWER	NEW POWER PANEL #1		FLOCCULATOR MIXER #2 CONTROLLER	
P1.1	2"	4	2/0	POWER	NEW POWER PANEL #1		NEW HIGH SERVICE PUMP #1 VFD	
P1.2	2"	4	2/0	POWER	NEW HIGH SERVICE PUMP #1 VFD	DISCONNECT	NEW HIGH SERVICE PUMP #1	
P1.3	3/4"	1	CAT6	CONTROL	MAIN CONTROL PANEL		NEW HIGH SERVICE PUMP #1 VFD	
P1.4	3/4"	4	#14	CONTROL	MAIN CONTROL PANEL		HIGH SERVICE PUMP #1 CHECK VALVE	LIMIT SWITCH
P2.1	2"	4	2/0	POWER	NEW POWER PANEL #1		NEW HIGH SERVICE PUMP #2 VFD	
P2.2	2"	4	2/0	POWER	NEW HIGH SERVICE PUMP #2 VFD	DISCONNECT	NEW HIGH SERVICE PUMP #2	
P2.3	3/4"	1	CAT6	CONTROL	MAIN CONTROL PANEL		NEW HIGH SERVICE PUMP #2 VFD	
P2.4	3/4"	4	#14	CONTROL	MAIN CONTROL PANEL		HIGH SERVICE PUMP #2 CHECK VALVE	LIMIT SWITCH
P3.1	1-1/4"	4	#3	POWER	NEW POWER PANEL #1		NEW HIGH SERVICE PUMP #3 VFD	
P3.2	1-1/4"	4	#3	POWER	NEW HIGH SERVICE PUMP #3 VFD	DISCONNECT	NEW HIGH SERVICE PUMP #3	
P3.3	3/4"	1	CAT6	CONTROL	MAIN CONTROL PANEL		NEW HIGH SERVICE PUMP #3 VFD	
P3.4	3/4"	4	#14	CONTROL	MAIN CONTROL PANEL		HIGH SERVICE PUMP #3 CHECK VALVE	LIMIT SWITCH
P4.1	1-1/4"	4	#1	POWER	NEW POWER PANEL #1		NEW BACKWASH PUMP #1 VFD	
P4.2	1-1/4"	4	#1	POWER	NEW BACKWASH PUMP #1 VFD	DISCONNECT	NEW BACKWASH PUMP #1	
P4.3	3/4"	1	CAT6	CONTROL	MAIN CONTROL PANEL		NEW BACKWASH PUMP #1 VFD	
P5.1	1-1/4"	4	#1	POWER	NEW POWER PANEL #1		NEW BACKWASH PUMP #2 VFD	
P5.2	1-1/4"	4	#1	POWER	NEW BACKWASH PUMP #2 VFD	DISCONNECT	NEW BACKWASH PUMP #2	
P5.3	3/4"	1	CAT6	CONTROL	MAIN CONTROL PANEL		NEW BACKWASH PUMP #2 VFD	
L1.1	1-1/2"	4	#2	POWER	NEW POWER PANEL #1		EXISTING RAW WATER PS MDP	
L1.2	2"	1	FIBER	CONTROL	MAIN CONTROL PANEL		NEW RAW WATER CONTROL PANEL	
L1.3	3/4"	3	#12	POWER	EXISTING PS LP-1		NEW RAW WATER CONTROL PANEL	
L2.1	3/4"	4	#8	POWER	EXISTING RAW WATER PS MDP		NEW RAW WATER PUMP #1 VFD	
L2.2	3/4"	4	#8	POWER	NEW RAW WATER PUMP #1 VFD		NEW RAW WATER PUMP #1	
L2.3	3/4"	1	CAT6	CONTROL	NEW RAW WATER PUMP #1 VFD		NEW RAW WATER CONTROL PANEL	
L2.4	3/4"	8	#14	CONTROL	NEW RAW WATER PUMP #1 VFD		NEW RAW WATER PUMP #1 THERM/SEAL	
L3.1	3/4"	4	#8	POWER	EXISTING RAW WATER PS MDP		NEW RAW WATER PUMP #2 VFD	
L3.2	3/4"	4	#8	POWER	NEW RAW WATER PUMP #2 VFD		NEW RAW WATER PUMP #2	
L3.3	3/4"	1	CAT6	CONTROL	NEW RAW WATER PUMP #2 VFD		NEW RAW WATER CONTROL PANEL	
L3.4	3/4"	8	#14	CONTROL	NEW RAW WATER PUMP #2 VFD		NEW RAW WATER PUMP #2 THERM/SEAL	
L4.1	3/4"	4	#8	POWER	EXISTING RAW WATER PS MDP		NEW LOW LIFT PUMP #3 VFD	
L4.2	3/4"	4	#8	POWER	NEW RAW WATER PUMP #3 VFD		NEW RAW WATER PUMP #3	
L4.3	3/4"	1	CAT6	CONTROL	NEW RAW WATER PUMP #3 VFD		NEW RAW WATER CONTROL PANEL	
L4.4	3/4"	8	#14	CONTROL	NEW RAW WATER PUMP #3 VFD		NEW RAW WATER PUMP #3 THERM/SEAL	
L5.1	3/4"	4	#14	CONTROL	NEW RAW WATER CONTROL PANEL		EXISTING AIR COMPRESSOR CP 1	
L5.2	3/4"	4	#14	CONTROL	NEW RAW WATER CONTROL PANEL		EXISTING AIR COMPRESSOR CP 2	
M1.1	3/4"	3	#12	POWER	PUMP STATION PANEL		MIXER MS/DC	
M1.2	3/4"	10	#14	CONTROL	PUMP STATION PANEL		MIXER CONTROL PANEL	
M1.3	3/4"	4	#12	POWER	MIXER CONTROL PANEL		MIXER	
M1.4	3/4"	10	#14	CONTROL	MIXER CONTROL PANEL		MIXER	
U1.1	3/4"	3	#8	POWER	EXISTING INSTRUMENT POWER PANEL		UV CP #1	
U1.2	3/4"	1	CAT6	CONTROL	MAIN CONTROL PANEL		UV CP #1	
U1.3	3/4"	-	VSC	PWR/CTRL	UV CP #1		UV UNIT #1	
U2.1	3/4"	3	#8	POWER	EXISTING INSTRUMENT POWER PANEL		UV CP #2	
U2.2	3/4"	1	CAT6	CONTROL	MAIN CONTROL PANEL		UV CP #2	
U2.3	3/4"	-	VSC	PWR/CTRL	UV CP #2		UV UNIT #2	
F1.1	3/4"	3	#12	POWER	EXISTING INSTRUMENT POWER PANEL		NEW EFFLUENT FM TRANSMITTER	
F1.2	3/4"	1	16TS	CONTROL	MAIN CONTROL PANEL		NEW EFFLUENT FM TRANSMITTER	
F1.3	3/4"	1	VSC	PWR/CTRL	NEW EFFLUENT FM TRANSMITTER		NEW EFFLUENT FLOW METER	
F2.1	3/4"	3	#12	POWER	EXISTING INSTRUMENT POWER PANEL		NEW CLARIFIER FLOW CONTROL VALVE	
F2.2	3/4"	8	#14	CONTROL	MAIN CONTROL PANEL		NEW CLARIFIER FLOW CONTROL VALVE	
H1.1	3/4"	4	#12	POWER	NEW CLARIFIER BUILDING POWER PANEL	MS/DC	EF1	
H1.2	3/4"	3	#12	POWER	LV1		EF1 MS/DC	
H1.3	3/4"	3	#12	POWER	LV2		EF1 MS/DC	
H1.4	3/4"	2	#12	CONTROL	TSTAT		EF1 MS/DC	
H1.5	3/4"	2	#12	CONTROL	HSTAT		EF1 MS/DC	
H2.1	3/4"	4	#12	POWER	NEW CLARIFIER BUILDING POWER PANEL	DISCONNECT	UH1	
H2.2	3/4"	4	#12	POWER	NEW CLARIFIER BUILDING POWER PANEL	DISCONNECT	UH2	
H2.3	3/4"	2	#12	CONTROL	TSTAT		UH1	
H2.4	3/4"	2	#12	CONTROL	TSTAT		UH2	
H2.5	3/4"	4	#12	POWER	NEW CLARIFIER BUILDING POWER PANEL	DISCONNECT	UH3	
H2.6	3/4"	4	#12	POWER	NEW CLARIFIER BUILDING POWER PANEL	DISCONNECT	UH4	
H2.7	3/4"	2	#12	CONTROL	TSTAT		UH3	
H2.8	3/4"	2	#12	CONTROL	TSTAT		UH4	
H3.1	3/4"	3	#12	POWER	NEW CLARIFIER BUILDING POWER PANEL		DEHUMIDIFER 277V RECEPTACLE	
H3.2	3/4"	2	#12	CONTROL	DEHUMIDIFIER		DEHUMIDIFIER HSTAT	

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548 BROADWAY, MONTICELLO, NY 12701 - 845.791.1777

REVISIONS

NO.	DATE	DESCRIPTION

RHINEBECK WTP
PLANT IMPROVEMENTS
VILLAGE OF RHINEBECK
DUTCHESS COUNTY, NEW YORK

CONDUIT & CABLE SCHEDULES

SHEET: E-004

NOTES:

1. ELECTRICAL CONTRACTOR SHALL DEMO EXISTING PHASE MONITOR PANEL AND NOTE BREAKER AS SPARE IN EXISTING PANEL EP-2.
2. ELECTRICAL CONTRACTOR SHALL FURNISH AND INSTALL NEW BREAKERS IN EXISTING PANEL EP-2 FOR NEW CONNECTIONS.
3. ELECTRICAL CONTRACTOR SHALL USE EXISTING SPARE IN EXISTING PANEL PS LP-1 FOR NEW CONNECTION.

LOAD SERVED	WATTS PER PHASE A	B	C	CKT BRKR.	CKT NO.	NEUTRAL A B C	CKT NO.	CKT BRKR.	WATTS PER PHASE A	B	C	LOAD SERVED
PERMANGANATE CONTROL PANEL	-			40	1		2	100	-			CHEM RM EP-1
		-			3		4			-		
			-		5		6				-	
MCP/L1	-			20	7		8	20	-			SPARE
MCP/2L1		-		20	9		10	20		-		COMBO FINISH TURBIDIMETER
MCP/1L1			-	20	11		12	20			-	BLOWERS 3&4 EXHAUST FAN
SPACE	-			-	13		14	15	-			EFFLUENT FM TRANSMITTER
SPACE		-		-	15		16	15		-		CLARIFIER FLOW CONTROL VALVE
BAT CHARG. & GARAGE LIGHTS			-	20	17		18	50			-	UV CONTROL PANEL #1
GARAGE HEATER	-			20	19		20		-			
		-			21		22	50		-		UV CONTROL PANEL #2
SPACE			-	-	23		24				-	
AIC RATING - AMPS	-	-	-	SUBTOTAL B			SUBTOTAL A		-	-	-	EXISTING PANEL EP-2
RATING 208/120 V, 3 ϕ, 4 W, -							SUBTOTAL B		-	-	-	
MOUNTING SURFACE GROUND BUS YES [X] NO [ ]						YES SN	GRAND TOT.		-	-	-	
MAIN CIRCUIT BREAKER RATING 100 AMPS						AMPS PER PHASE			-	-	-	
MAIN BUS RATING 100 AMPS												

LOAD SERVED	WATTS PER PHASE A	B	CKT BRKR.	CKT NO.	NEUTRAL A B	CKT NO.	CKT BRKR.	WATTS PER PHASE A	B	LOAD SERVED
BASEMENT REC	-		20	1		2	20	-		UPPER LEVEL REC
UPPER LEVEL LIGHTS		-	20	3		4	20		-	UPPER LEVEL LIGHTS
BASEMENT LIGHTS	-		20	5		6	20	-		FAN
SPARE		-	20	7		8	20		-	PUMP
PUMP	-		20	9		10	20	-		SPARE
SPACE		-	-	11		12	-		-	SPACE
AIC RATING - AMPS	-	–	SUBTOTAL B			SUBTOTAL A		-	-	EXISTING PANEL PS LP (7.5KVA)
RATING 120/240 V, 1 ϕ, 3 W, -						SUBTOTAL B		-	-	
MOUNTING SURFACE GROUND BUS YES [X] NO [ ]					YES SN	GRAND TOT.		-	-	
MAIN CIRCUIT BREAKER RATING - AMPS					AMPS PER PHASE			-	-	
MAIN BUS RATING 100 AMPS										

LOAD SERVED	WATTS PER PHASE A	B	CKT BRKR.	CKT NO.	NEUTRAL A B	CKT NO.	CKT BRKR.	WATTS PER PHASE A	B	LOAD SERVED
SPARE	-		15	1		2	15	-		DOWN STAIRS LIGHTS
SPARE		-	15	3		4	20		-	DEHUMIDIFIER GFI
RAW WATER CONTROL PANEL	-		20	5		6	20	-		DOWN STAIRS GFI
SPACE		-	-	7		8	-		-	SPACE
SPACE	-		-	9		10	-	-		SPACE
SPACE		-	-	11		12	-		-	SPACE
SPACE	-		-	13		14	-	-		SPACE
SPACE		-	-	15		16	-		-	SPACE
SPACE	-		-	17		18	-	-		SPACE
AIC RATING - AMPS	-	–	SUBTOTAL B			SUBTOTAL A		-	-	EXISTING PANEL PS LP-1 (10KVA)
RATING 120/240 V, 1 ϕ, 3 W, -						SUBTOTAL B		-	-	
MOUNTING SURFACE GROUND BUS YES [X] NO [ ]					YES SN	GRAND TOT.		-	-	
MAIN CIRCUIT BREAKER RATING 50 AMPS					AMPS PER PHASE			-	-	
MAIN BUS RATING 250 AMPS										

LOAD SERVED	WATTS PER PHASE A	B	CKT BRKR.	CKT NO.	NEUTRAL A B	CKT NO.	CKT BRKR.	WATTS PER PHASE A	B	LOAD SERVED
MAIN FLOOR RECEPTACLE	-		20	1		2	20	-		OFFICE WALL PLUG
OFFICE EXHAUST FAN		-	20	3		4	20		-	OFFICE EXHAUST FAN
ENTRANCE	-		20	5		6	20	-		AIR-COMP CHEM ROOM
CHLORINE ROOM FANS		-	20	7		8	20		-	PUMP ROOM RECEPTACLE
UNDERWATER LIGHTS	-		20	9		10	20	-		UNDERWATER LIGHTS
FURNACE		-	30	11		12	20		-	CAUSTIC SODA CIRCULATOR
-	-		-	13		14	20	-		FILTER TABLES 1 & 2
AGITATOR MOTORS		-	20	15		16	20		-	FILTER CONTROL
CAUSTIC SODA HEATER CONTROL	-		20	17		18	-	-		-
2 ALUM CL2 CARBON		-	-	19		20	-		-	DUST COLLECTOR
WELDER	-		50	21		22	30	-		HOT WATER HEATER
		-		23		24			-	
SPARE	-		20	25		26	-	-		SPACE
SPARE		-	20	27		28	-		-	SPACE
SPARE	-		20	29		30	-	-		SPACE
AIC RATING 10,000 AMPS	-	–	SUBTOTAL B			SUBTOTAL A		-	-	NEW RECEPTACLE PANEL
RATING 120/240 V, 1 ϕ, 3 W, -						SUBTOTAL B		-	-	
MOUNTING SURFACE GROUND BUS YES [X] NO [ ]					YES SN	GRAND TOT.		-	-	
MAIN CIRCUIT BREAKER RATING 100 AMPS					AMPS PER PHASE			-	-	
MAIN BUS RATING 100 AMPS										

LOAD SERVED	WATTS PER PHASE A	B	CKT BRKR.	CKT NO.	NEUTRAL A B	CKT NO.	CKT BRKR.	WATTS PER PHASE A	B	LOAD SERVED
1ST ROW LIGHTS AGAINST WALL ABOVE FBS	-		-	1		2	20	-		2ND ROW LIGHTS AGAINST WALL ABOVE FBS
4TH ROW LIGHTS (CENTER) ABOVE SCD		-	20	3		4	20		-	3RD ROW LIGHTS AGAINST WALL ABOVE FBS
5TH ROW LIGHTS ABOVE FLOC TANKS	-		20	5		6	20	-		LAB LIGHTS
OFFICE LIGHTS		-	20	7		8	20		-	CONTROL ROOM LIGHTS
EXIT SIGNS	-		20	9		10	20	-		6TH ROW LIGHTS ABOVE FLOC TANK/STAIRS
7TH ROW LIGHTS ABOVE KMN04		-	20	11		12	20		-	8TH ROW LIGHTS ABOVE BLDG ENT/TOOL RM
9TH ROW LIGHTS ABOVE BOILER RM/ CL2 RM	-		20	13		14	20	-		BASEMENT LIGHTS ABOVE HI LIFT PUMPS
BASEMENT LIGHTS 1ST ROW LEFT OF STAIRS		-	20	15		16	20		-	BASEMENT FILTER GALLERY LIGHTS
BASEMENT LIGHTS 2ND ROW LEFT OF STAIRS	-		20	17		18	20	-		OUTSIDE ENTRY LIGHTS
SPARE		-	20	19		20	-		-	SPACE
SPARE	-		20	21		22	-	-		SPACE
SPARE		-	20	23		24	-		-	SPACE
SPACE	-		-	25		26	-	-		SPACE
SPACE		-	-	27		28	-		-	SPACE
SPACE	-		-	29		30	-	-		SPACE
AIC RATING 10,000 AMPS	-	–	SUBTOTAL B			SUBTOTAL A		-	-	NEW LIGHTING PANEL
RATING 120/240 V, 1 ϕ, 3 W, -						SUBTOTAL B		-	-	
MOUNTING SURFACE GROUND BUS YES [X] NO [ ]					YES SN	GRAND TOT.		-	-	
MAIN CIRCUIT BREAKER RATING 100 AMPS					AMPS PER PHASE			-	-	
MAIN BUS RATING 100 AMPS										

LOAD SERVED	WATTS PER PHASE A	B	C	CKT BRKR.	CKT NO.	NEUTRAL A B C	CKT NO.	CKT BRKR.	WATTS PER PHASE A	B	C	LOAD SERVED
UNIT A CONTROL PANEL	800			20	1		2	20	200			INFLUENT ACTUATED VALVE #1
UNIT B CONTROL PANEL		800		20	3		4	20		200		INFLUENT ACTUATED VALVE #2
INLET METER #1			100	20	5		6	20			200	SLUDGE RECIRC VALVE #1
INLET METER #2	100			20	7		8	20	200			SLUDGE RECIRC VALVE #2
SLUDGE RECIRC METER #1		100		20	9		10	20		200		SLUDGE BLOWDOWN VALVE #1
SLUDGE RECIRC METER #2			100	20	11		12	20			200	SLUDGE BLOWDOWN VALVE #2
TURBIDIMETER CONTROLLER #1	100			20	13		14	20	200			CLARIFIER TRANSFER VALVE #1
TURBIDIMETER CONTROLLER #2		100		20	15		16	20		200		CLARIFIER TRANSFER VALVE #2
CLARIFIER BUILDING LIGHTS			585	20	17		18	20			1800	CLARIFIER BUILDING RECEPTACLES
OUTDOOR LIGHTS	48			20	19		20	20	-			SPARE
OVERHEAD DOOR		500		20	21		22	20		-		SPARE
			500		23		24	20			-	SPARE
	500				25		26	20	-			SPARE
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
AIC RATING 10,000 AMPS	1548	1500	1285	SUBTOTAL B			SUBTOTAL A		600	600	2200	NEW PANEL CB-LP
RATING 208/120 V, 3 ϕ, 4 W, #2							SUBTOTAL B		1548	1500	1285	
MOUNTING SURFACE GROUND BUS YES [X] NO [ ]						YES SN	GRAND TOT.		2148	2100	3485	
MAIN CIRCUIT BREAKER RATING 100 AMPS						AMPS PER PHASE			17.90	17.50	29.04	
MAIN BUS RATING 100 AMPS												

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REVISIONS

NO.	DATE	DESCRIPTION

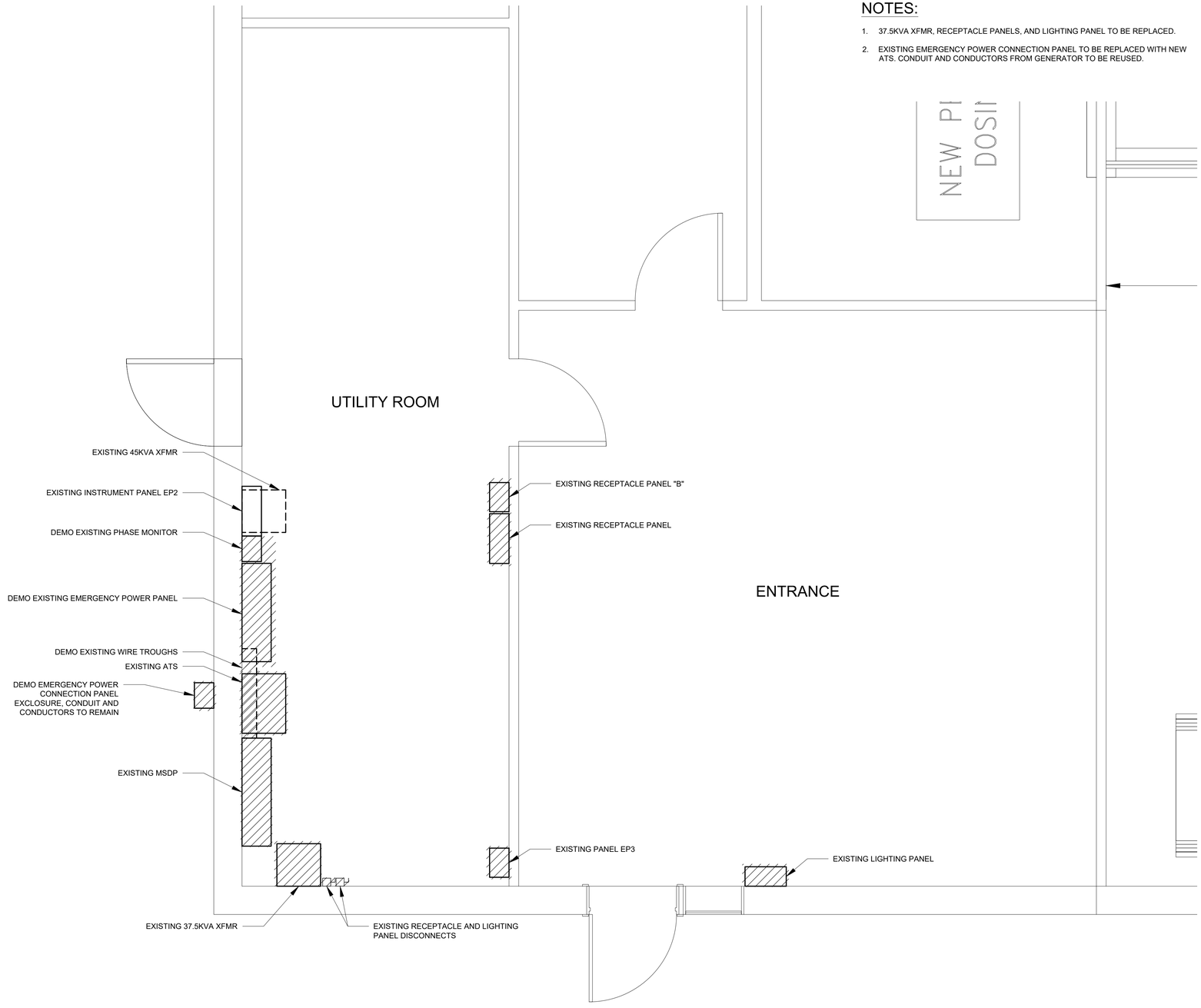
RHINEBECK WTP
PLANT IMPROVEMENTS
VILLAGE OF RHINEBECK
DUTCHESS COUNTY, NEW YORK

PANEL SCHEDULES

SHEET: E-005

NOTES:

1. 37.5KVA XFMR, RECEPTACLE PANELS, AND LIGHTING PANEL TO BE REPLACED.
2. EXISTING EMERGENCY POWER CONNECTION PANEL TO BE REPLACED WITH NEW ATS. CONDUIT AND CONDUCTORS FROM GENERATOR TO BE REUSED.



0 1 2 4

1/2"=1'-0"

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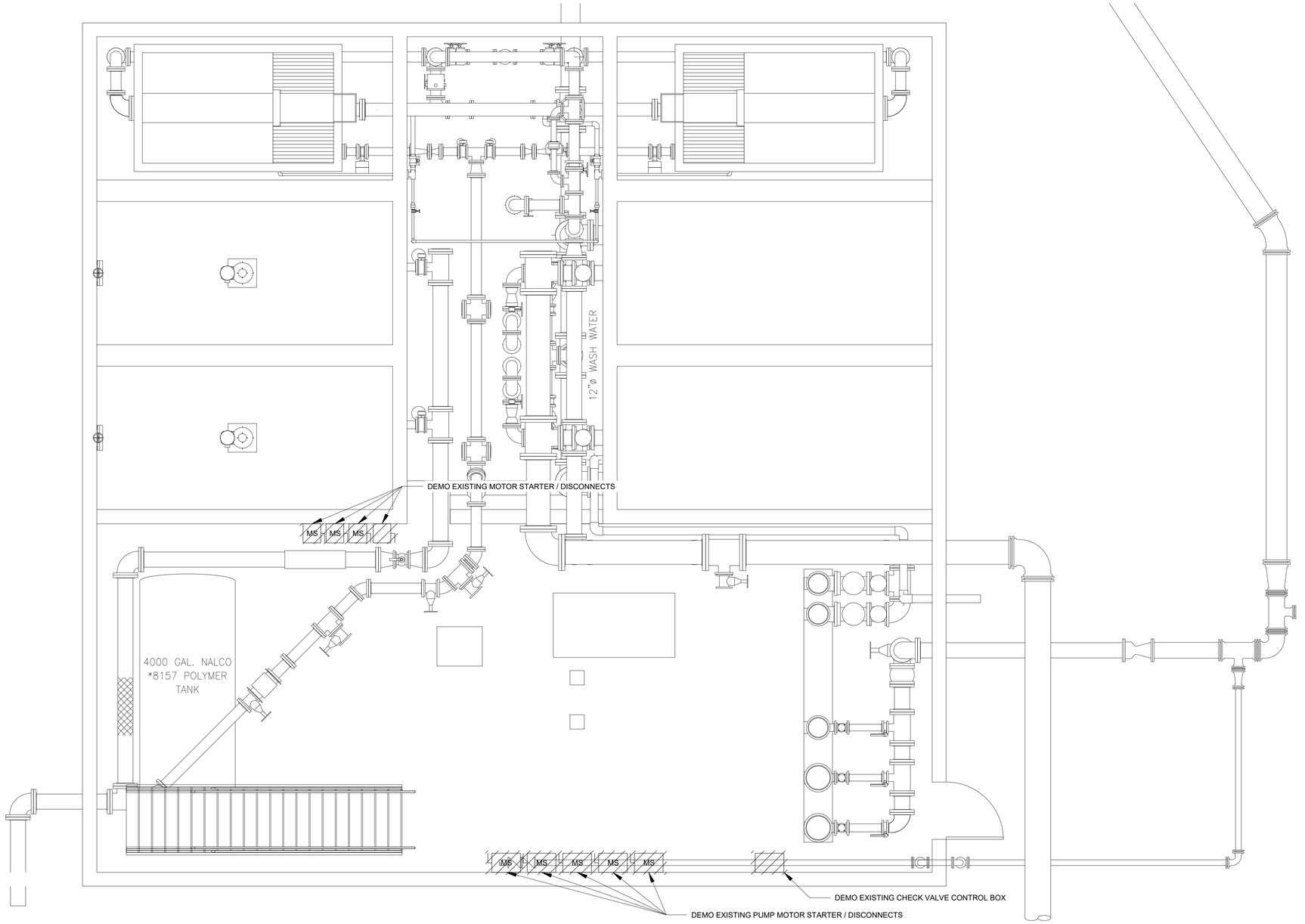
REVISIONS

NO.	DATE	DESCRIPTION

RHINEBECK WTP
PLANT IMPROVEMENTS
VILLAGE OF RHINEBECK
DUTCHESS COUNTY, NEW YORK

ELECTRICAL ROOM
ELECTRICAL DEMO PLAN

SHEET:
E-101



0 2 4 8

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

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PROJECT NO.: ----
FILE: ----

DELAWARE ENGINEERING, D.P.C.
CIVIL AND ENVIRONMENTAL ENGINEERING
28 MADISON AVENUE EXTENSION, ALBANY, NY 12203 - 518.452.1290
55 SOUTH MAIN ST, ONEONTA, NY 13820 - 607.432.8073
31 NORTH MAIN STREET, LIBERTY, NY 12754 - 845.747.9862
6 TOWNSEND STREET, WALTON, NY 13856 - 607.865.9235
16 EAST MARKET ST., RED HOOK, NY 12571 - 518.452.1290
548 BROADWAY, MONTICELLO, NY 12701 - 845.791.1777

STATE OF NEW YORK — MICHAEL FOSTER — 081810 — LICENSED PROFESSIONAL ENGINEER

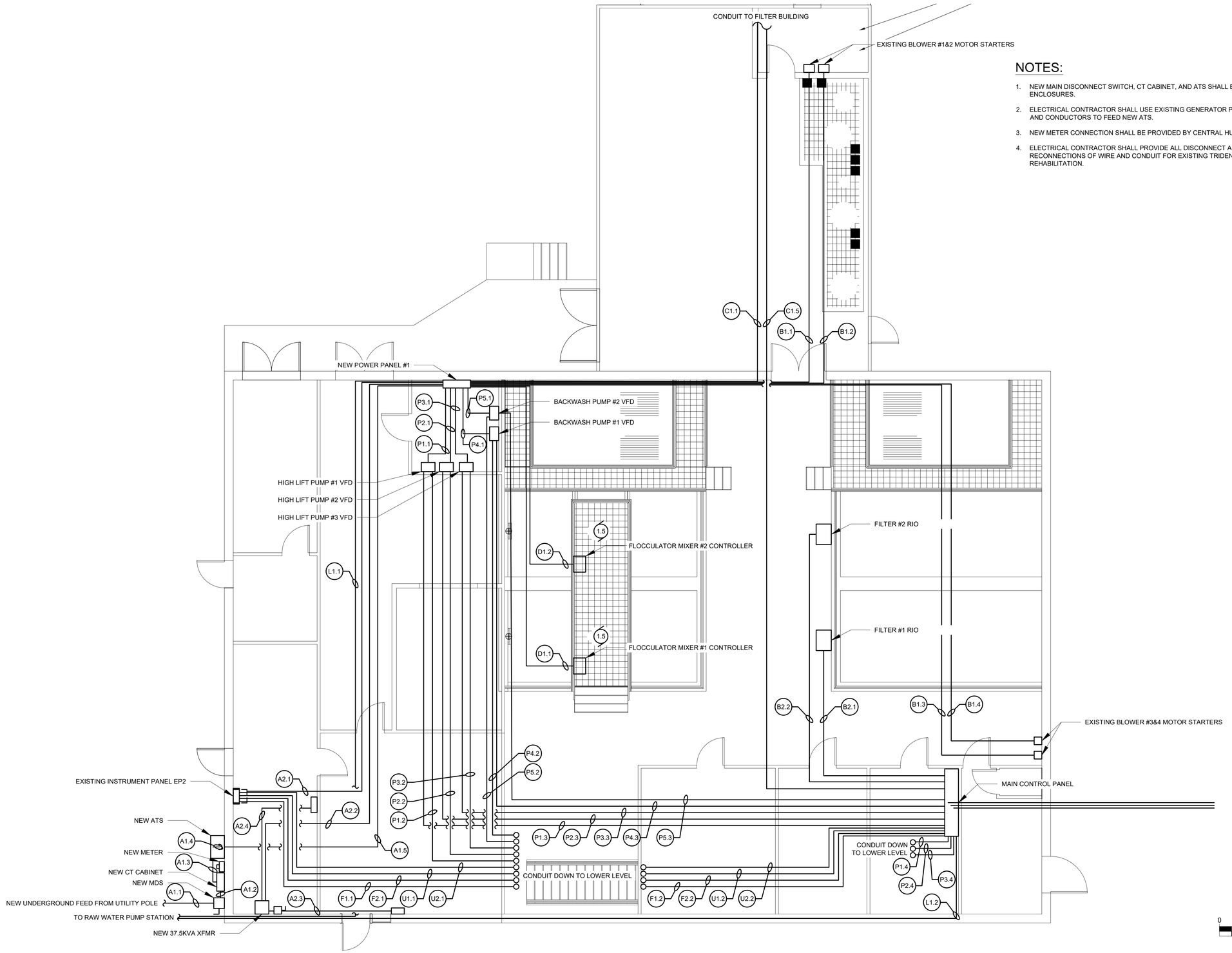
REVISIONS

NO.	DATE	DESCRIPTION

RHINEBECK WTP
PLANT IMPROVEMENTS
VILLAGE OF RHINEBECK
DUTCHESS COUNTY, NEW YORK

LOWER LEVEL
ELECTRICAL DEMO
PLAN

SHEET:
E-102



NOTES:

1. NEW MAIN DISCONNECT SWITCH, CT CABINET, AND ATS SHALL BE IN NEMA 3R ENCLOSURES.
2. ELECTRICAL CONTRACTOR SHALL USE EXISTING GENERATOR POWER CONDUIT AND CONDUCTORS TO FEED NEW ATS.
3. NEW METER CONNECTION SHALL BE PROVIDED BY CENTRAL HUDSON.
4. ELECTRICAL CONTRACTOR SHALL PROVIDE ALL DISCONNECT AND RECONNECTIONS OF WIRE AND CONDUIT FOR EXISTING TRIDENT UNIT REHABILITATION.

DATE: 9/30/2024
DRAWN BY: EMB
SCALE: AS SHOWN
REVIEWED BY: RF
PROJECT NO.: ----
FILE:

DELAWARE ENGINEERING, D.P.C.
CIVIL AND ENVIRONMENTAL ENGINEERING
28 MADISON AVENUE EXTENSION, ALBANY, NY 12203 - 518.452.1290
55 SOUTH MAIN ST, ONEONTA, NY 13820 - 607.432.8073
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548 BROADWAY, MONTICELLO, NY 12701 - 845.791.1777

STATE OF NEW YORK — MODEL — LICENSED PROFESSIONAL ENGINEER

REVISIONS

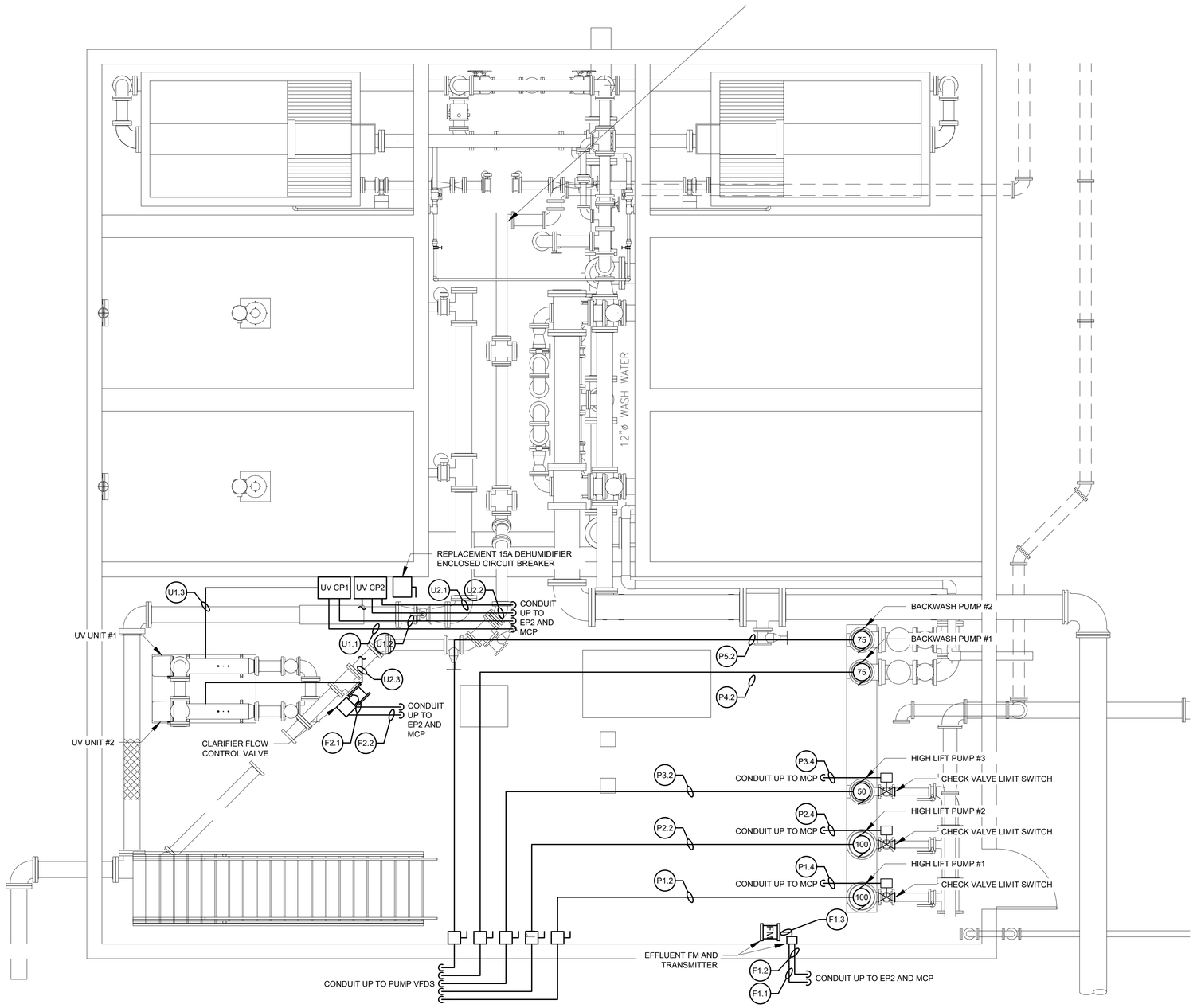
NO.	DATE	DESCRIPTION

RHINEBECK WTP
PLANT IMPROVEMENTS
VILLAGE OF RHINEBECK
DUTCHESS COUNTY, NEW YORK

UPPER FLOOR
ELECTRICAL PLAN

SHEET:
E-103

WARNING – IT IS A VIOLATION OF NEW YORK EDUCATION LAW SECTION 7209.2, FOR ANY PERSON, UNLESS HE IS ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER OR LAND SURVEYOR, TO ALTER THIS DOCUMENT IN ANY WAY. IF ALTERED THE ALTERING PERSON SHALL COMPLY WITH THE REQUIREMENTS OF NEW YORK EDUCATION LAW, SECTION 7209.2.



0 2 4 8

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

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DATE: 9/30/2024
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REVIEWED BY: RF
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CIVIL AND ENVIRONMENTAL ENGINEERING
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548 BROADWAY, MONTICELLO, NY 12701 - 845.791.1777

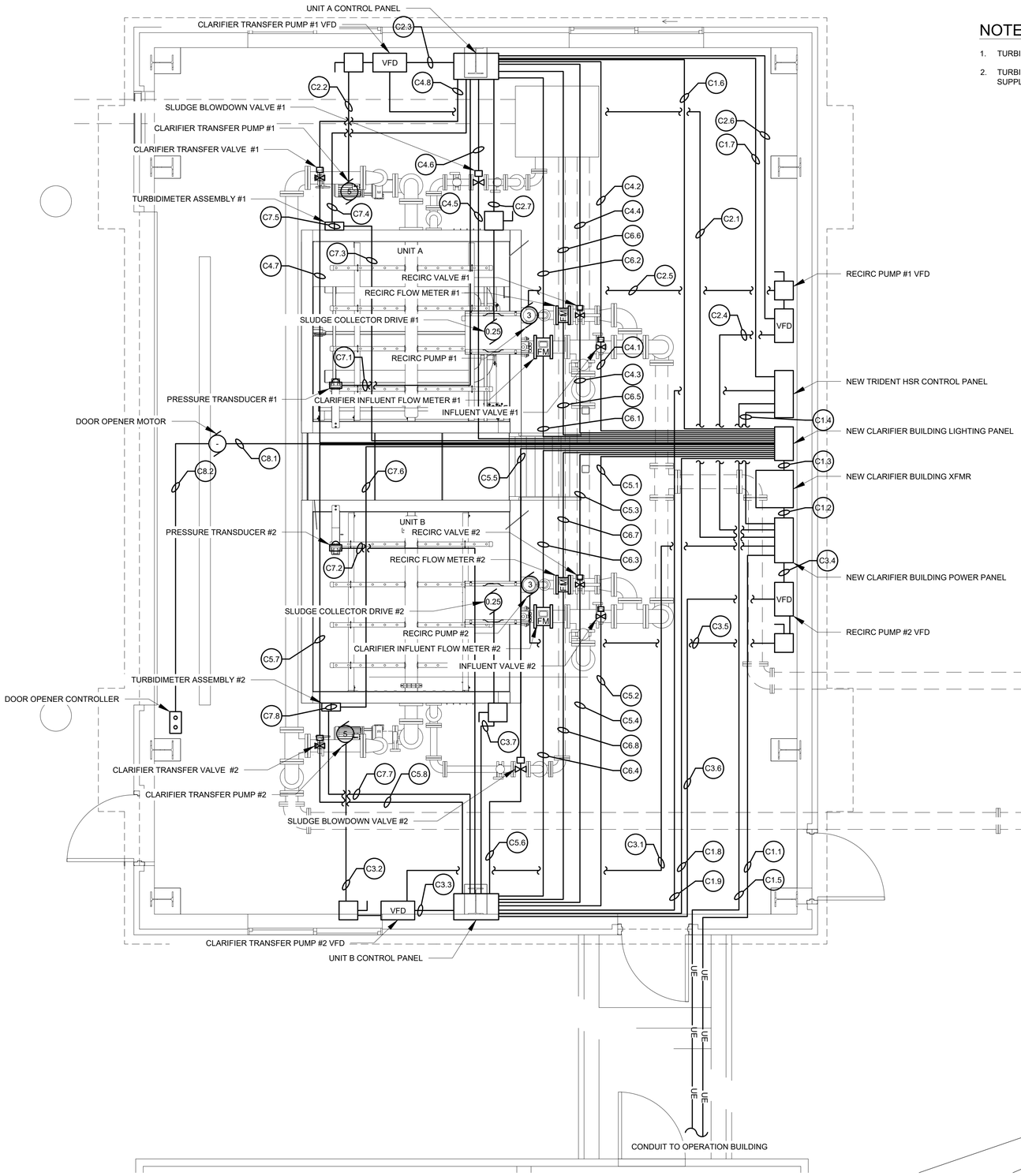
REVISIONS

NO.	DATE	DESCRIPTION

RHINEBECK WTP
PLANT IMPROVEMENTS
VILLAGE OF RHINEBECK
DUTCHESS COUNTY, NEW YORK

LOWER LEVEL
ELECTRICAL PLAN

SHEET:
E-104



NOTES:

1. TURBIDIMETER ASSEMBLY INCLUDES CONTROLLER AND SENSOR.
2. TURBIDIMETER CONTROLLER AND SENSOR SHALL BE CONNECTED VIA VENDOR SUPPLIED CABLE INSTALLED BY ELECTRICAL CONTRACTOR.

DATE: 9/30/2024
DRAWN BY: EMB
SCALE: AS SHOWN
REVIEWED BY: RF
PROJECT NO.: ----
FILE: ----

DELAWARE ENGINEERING, D.P.C.
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548 BROADWAY, MONTICELLO, NY 12701 - 845.791.1777

STATE OF NEW YORK — RICHARD FOSTER — 086181 — LICENSED PROFESSIONAL ENGINEER

REVISIONS

NO.	DATE	DESCRIPTION

RHINEBECK WTP
PLANT IMPROVEMENTS
VILLAGE OF RHINEBECK
DUTCHESS COUNTY, NEW YORK

NEW CLARIFIER BUILDING
ELECTRICAL PLAN

SHEET: E-105

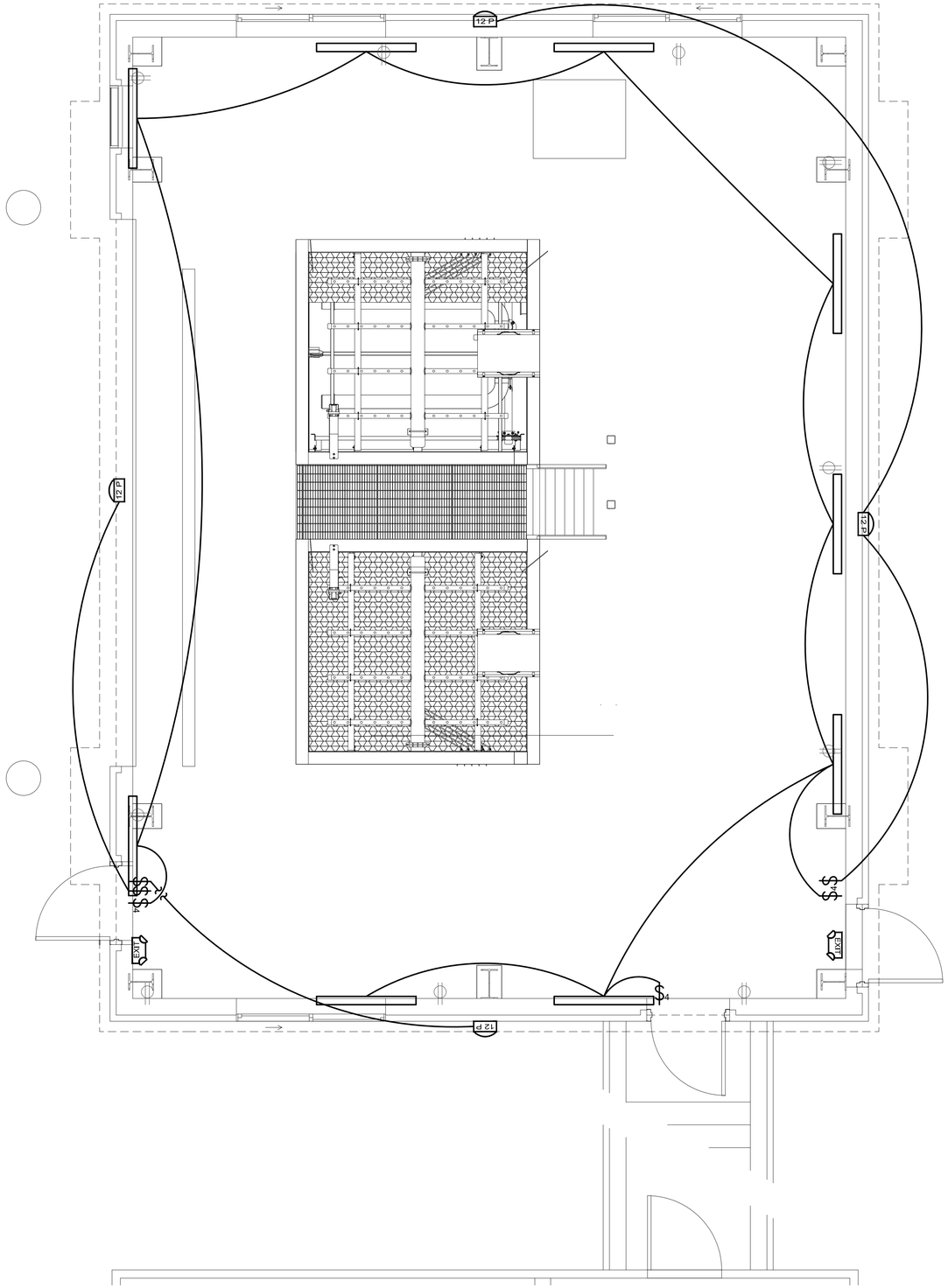
WARNING – IT IS A VIOLATION OF NEW YORK EDUCATION LAW SECTION 7209.2, FOR ANY PERSON, UNLESS HE IS ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER OR LAND SURVEYOR, TO ALTER THIS DOCUMENT IN ANY WAY. IF ALTERED THE ALTERING PERSON SHALL COMPLY WITH THE REQUIREMENTS OF NEW YORK EDUCATION LAW, SECTION 7209.2.

LEGEND:

FAIL-SAFE LED LIGHT
65W, 4', 7324 LUMEN FIXTURE
COOPER MODEL: #HVSL4-4-LD4-2STD-40-UNV- O-EDD

12 P — LUMARK CROSSTOUR WALL PACK LED LIGHT
12W, 120V, DUSK TO DAWN BUTTON PHOTOCONTROL
COOPER MODEL:
#XTOR1B-W-PC1
OR APPROVED EQUAL

EXIT — EMERGENCY/EXIT FIXTURE WITH LED LIGHT
120V, POLYCARBONATE, BATTERY BACKUP,
WHITE CASE WITH RED LETTERS
OR APPROVED EQUAL



NOTES:

1. INDOOR LIGHTING SHALL BE MOUNTED 12' AFF.
2. WALL PACKS SHALL BE MOUNTED 14' ABOVE GRADE.

0 1 2 3 4 6
3/8"=1'-0"

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DATE: 9/30/2024
DRAWN BY: EMB
SCALE: AS SHOWN
REVIEWED BY: RF
PROJECT NO.: ----
FILE:

DELAWARE ENGINEERING, D.P.C.
CIVIL AND ENVIRONMENTAL ENGINEERING
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548 BROADWAY, MONTICELLO, NY 12701 - 845.791.1777

STATE OF NEW YORK — MODEL — LICENSED PROFESSIONAL ENGINEER

REVISIONS

NO.	DATE	DESCRIPTION

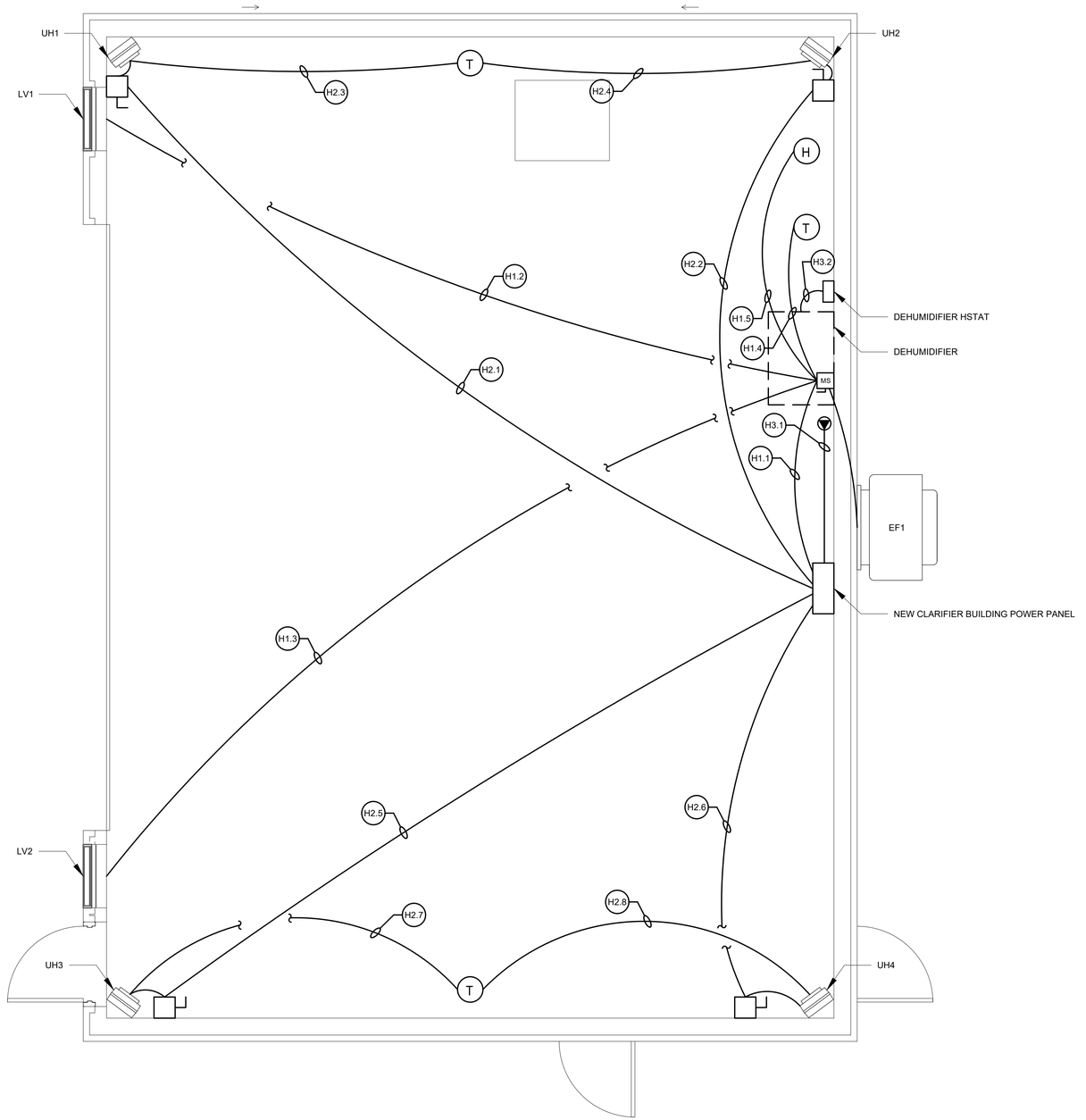
RHINEBECK WTP
PLANT IMPROVEMENTS
VILLAGE OF RHINEBECK
DUTCHESS COUNTY, NEW YORK

NEW CLARIFIER BUILDING
LIGHTING PLAN

SHEET:
E-106

NOTES:

1. DEHUMIDIFER INCLUDES SJT, L7-30P, 10FT POWER CHORD. PROVIDE 277V, 1ϕ RECEPTACLE WITHIN 10FT OF UNIT.



0 1 2 3 4 6

3/8"=1'-0"

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REVIEWED BY: RF
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REVISIONS

NO.	DATE	DESCRIPTION

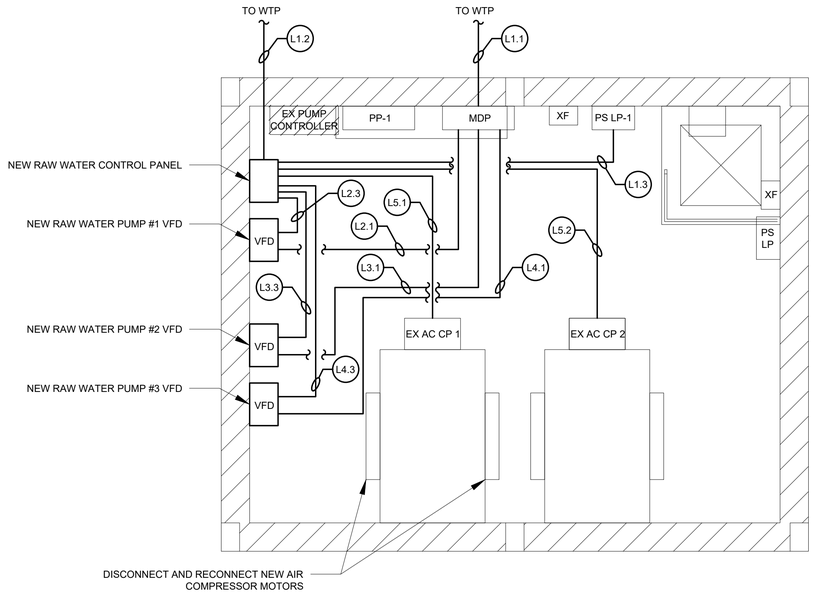
RHINEBECK WTP
PLANT IMPROVEMENTS
VILLAGE OF RHINEBECK
DUTCHESS COUNTY, NEW YORK

NEW CLARIFIER BUILDING
HVAC ELECTRICAL PLAN

SHEET:
E-107

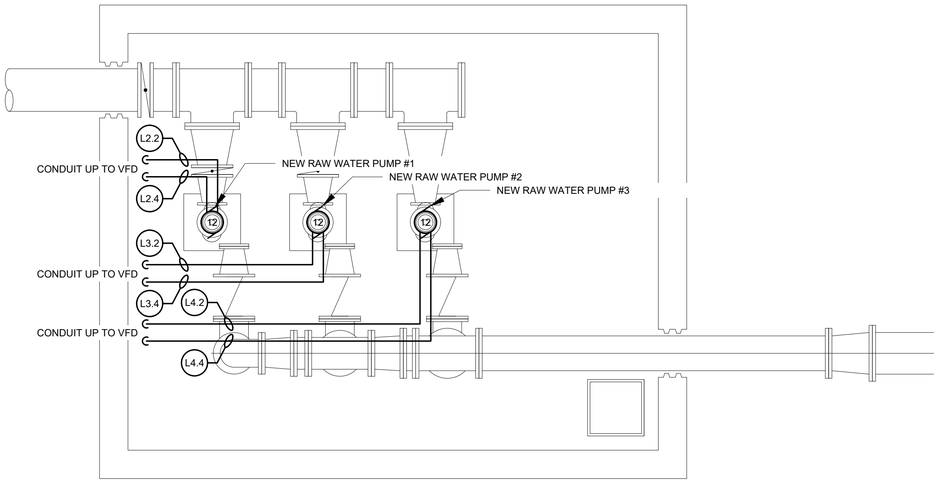
NOTES:

1. NEW RAW WATER PUMP VFD ENCLOSURES SHALL INCLUDE DISCONNECTING MEANS.
2. THE ELECTRICAL CONTRACTOR SHALL DISCONNECT AND RECONNECT REPLACEMENT AIR COMPRESSOR MOTORS.



RAW WATER PUMP STATION UPPER LEVEL ELECTRICAL PLAN

SCALE: 3/8" = 1'



RAW WATER PUMP STATION LOWER LEVEL ELECTRICAL PLAN

SCALE: 3/8" = 1'

0 1 2 3 4 6

3/8"=1'-0"

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DATE: 9/30/2024
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FILE:

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548 BROADWAY, MONTICELLO, NY 12701 - 845.791.1777

STATE OF NEW YORK — ROBERT J. FOSTER — 081810 — LICENSED PROFESSIONAL ENGINEER

REVISIONS

NO.	DATE	DESCRIPTION

RHINEBECK WTP
PLANT IMPROVEMENTS
VILLAGE OF RHINEBECK
DUTCHESS COUNTY, NEW YORK

RAW WATER PUMP STATION
ELECTRICAL PLAN

SHEET:
E-108

NOTES:

1. ELECTRICAL CONTRACTOR SHALL DEMO EXISTING OVERHEAD ELECTRIC SERVICE AND ASSOCIATED ELECTRICAL COMPONENTS.
2. GENERAL CONTRACTOR SHALL REPAIR ALL ROOF PENETRATIONS FROM DEMOLITION REMOVAL. ELECTRICAL CONTRACTOR SHALL COORDINATE DEMOLITION WITH GENERAL CONTRACTOR TO REPAIR IN A TIMELY MANNER.

40 20 0 40 80

SCALE: 1"=40'-0"

WARNING -- IT IS A VIOLATION OF NEW YORK EDUCATION LAW SECTION 7209-2, FOR ANY PERSON, UNLESS HE IS ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER OR LAND SURVEYOR, TO ALTER THIS DOCUMENT IN ANY WAY. IF ALTERED THE ALTERING PERSON SHALL COMPLY WITH THE REQUIREMENTS OF NEW YORK EDUCATION LAW, SECTION 7209-2.

DATE: 9/30/2024
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REVIEWED BY: RF
PROJECT NO.: ----
FILE:

DELAWARE ENGINEERING, D.P.C.
CIVIL AND ENVIRONMENTAL ENGINEERING
28 MADISON AVENUE EXTENSION, ALBANY, NY 12203 - 518.452.1290
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548 BROADWAY, MONTICELLO, NY 12701 - 845.791.1777

STATE OF NEW YORK — MODESTO FORTE — 081810 — LICENSED PROFESSIONAL ENGINEER

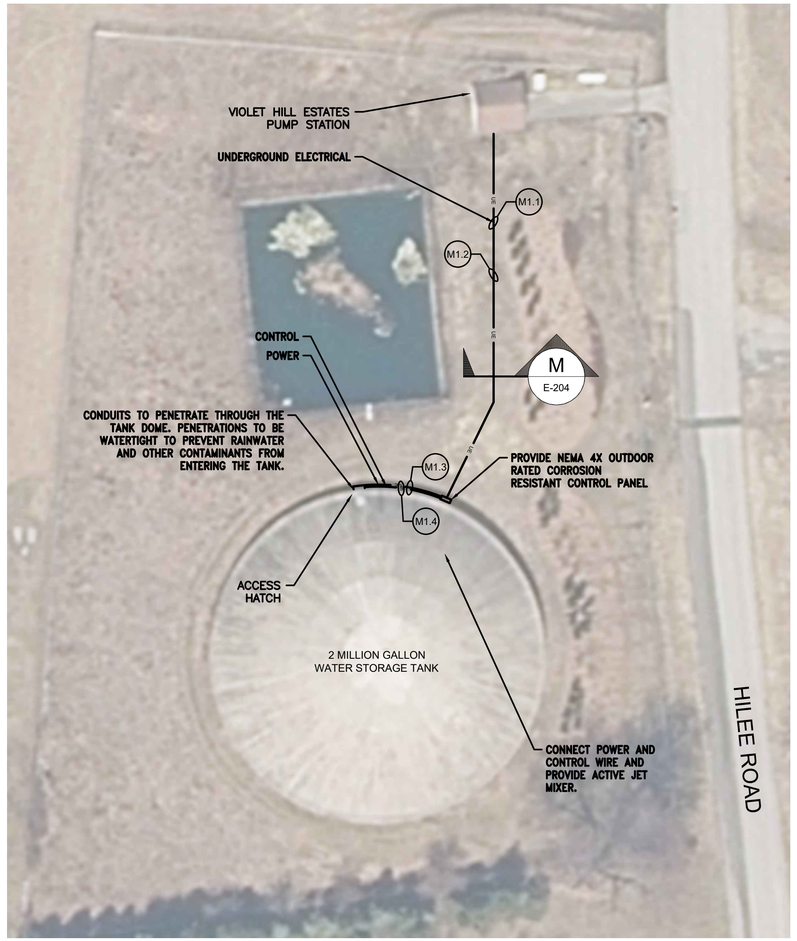
REVISIONS

NO.	DATE	DESCRIPTION

RHINEBECK WTP
PLANT IMPROVEMENTS
VILLAGE OF RHINEBECK
DUTCHESS COUNTY, NEW YORK

WTP ELECTRICAL SITE PLAN

SHEET: E-201



MIXER ELECTRICAL PLAN

SCALE: 1" = 30'

30 15 0 30 60

SCALE: 1"=30'

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DATE: 9/30/2024
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548 BROADWAY, MONTICELLO, NY 12701 - 845.791.1777

STATE OF NEW YORK — MICHAEL J. FOSTER — 081818 — LICENSED PROFESSIONAL ENGINEER

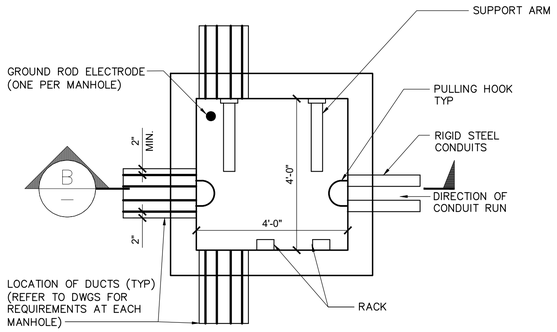
REVISIONS

NO.	DATE	DESCRIPTION

RHINEBECK WTP
PLANT IMPROVEMENTS
VILLAGE OF RHINEBECK
DUTCHESS COUNTY, NEW YORK

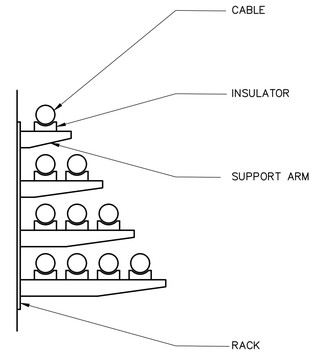
WATER TANK
ELECTRICAL SITE PLAN

SHEET:
E-202



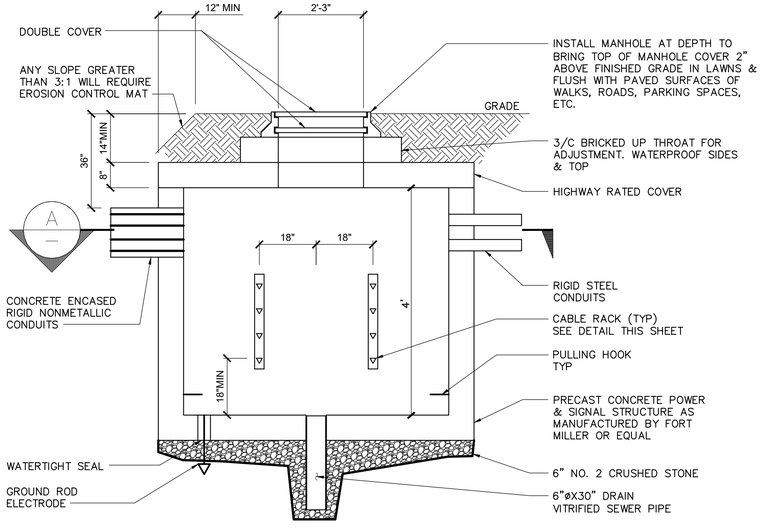
TYPICAL MANHOLE SECTION A

SCALE: NTS



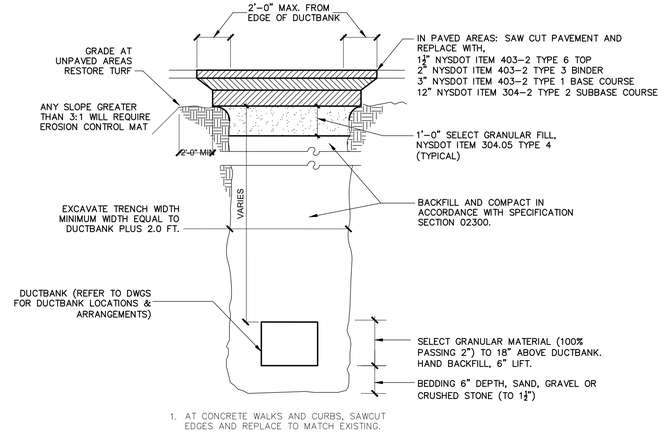
UNDERGROUND MANHOLE CABLE RACK DETAIL

SCALE: NTS



TYPICAL MANHOLE SECTION B

SCALE: NTS



1. AT CONCRETE WALKS AND CURBS, SAWCUT EDGES AND REPLACE TO MATCH EXISTING.

DUCTBANK EXCAVATING & BACKFILL DETAIL

SCALE: NTS

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CIVIL AND ENVIRONMENTAL ENGINEERING
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STATE OF NEW YORK – MODEL OF ENGINEER – LICENSED PROFESSIONAL ENGINEER

REVISIONS

NO.	DATE	DESCRIPTION

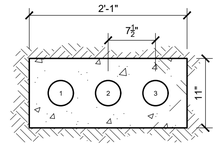
RHINEBECK WTP
PLANT IMPROVEMENTS
VILLAGE OF RHINEBECK
DUTCHESS COUNTY, NEW YORK

DUCT BANK
DETAILS

SHEET:
E-203

DUCT BANK SCHEDULE

BANK	DUCT	CABLES	CONDUIT
A	A1	4 - 600MCM	4"C
	A2	4 - 600MCM	4"C
	A3	SPARE	4"C
B	B1	4 - #2	1-1/2"C
	B2	FIBER	2"C
	B3	SPARE	2"C
C	C1	4 - #2	1-1/2"C
	C2	1 - CAT6	3/4"C
	C3	SPARE	3/4"C
M	M1	3 - #12	3/4"C
	M2	10 - #14	3/4"C
	M3	SPARE	3/4"C



DUCT BANK SECTION A, B, C

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STATE OF NEW YORK ROBERT FOSTER MUSSER 081810 LICENSED PROFESSIONAL ENGINEER

REVISIONS

NO.	DATE	DESCRIPTION

RHINEBECK WTP
PLANT IMPROVEMENTS
VILLAGE OF RHINEBECK
DUTCHESS COUNTY, NEW YORK

DUCT BANK SCHEDULE & SECTIONS

SHEET: E-204

LEGEND

- M — MAGNETIC FLOW METER
- LT — ULTRASONIC LEVEL TRANSDUCER
- LEVEL FLOAT
- LEVEL TRANSUCER
- MANUAL VALVE
- X — ACTUATED VALVE
  X=MV, MOTORIZED VALVE
  X=S, SOLENOID VALVE
  X=PV, PNEUMATIC VALVE
- CHEM ANALYSIS PROBE
- CHEM PUMP
- PUMP
- MIXER
- BLOWER

— X — DRAWING TO DRAWING FLOW INDICATOR
#=TAG SENDING OR RECEIVING FLOW
X=TAG DESCRIPTION

SYMBOL DESIGNATION NUMBERS

LIT 500
- INDICATES FUNCTION
- INDICATES DESTINATION PLC UNLESS OTHERWISE SHOWN

INSTRUMENT IDENTIFICATION CODES

Function		Alarms					Controllers		Readout Devices		Switches & Safety Devices						Transmitters			Solenoids, Relays, Commands, Computing Devices	Valves (On / Off)	Valves Control (Modulating)	Primary Element	Well or Probe Holder	Viewing Device (Glass)	Safety Device
Initiating or Measured Variable	First Letter	General	High	High - High	Low	Low - Low	Indicating	Blind	Recording	Indicating	General	High	High - High	Low	Low - Low	Combination	Recording	Indicating	Blind							
Analysis	A	AA	AAH	AAHH	AAL	AALL	AIC	AC	AR	AI	AS	ASH	ASHH	ASL	ASLL	ASHL	ART	AIT	AT	AY	AV	ACV	AE	AW		
Burner/Combustion	B																									
Not Assigned	C																									
Not Assigned	D																									
Voltage	E	EA	EAH	EAHH	EAL	EALL	EIC	EC	ER	EI	ES	ESH	ESHH	ESL	ESLL	ESHL	ERT	EIT	ET	EY			EE			
Flow Rate	F	FA	FAH	FAHH	FAL	FALL	FIC	FC	FR	FI	FS	FSH	FSHH	FSL	FSLL	FSHL	FRT	FIT	FT	FY	FV	FCV	FE			
Flow Quality	FQ	FQA	FQAH	FQAHH	FQAL	FQALL	FQIC	FQC	FQR	FQI	FQS	FQSH	FQSHH	FQSL	FQSLL	FQSHL	FQRT	FQIT	FQT	FQY	FQV	FQCV	FQE			
Flow Ratio	FF	FFA	FFAH	FFAHH	FFAL	FFALL	FFIC	FFC	FFR	FFI	FFS	FFSH	FFSHH	FFSL	FFSLL	FFSSHL				FFY	FFV	FFCV	FFE			
Not Assigned	G																									
Hand	H	HA					HIC	HC			HS										HV	HCV				
Current	I	IA	IAH	IAHH	IAL	IALL	IIC	IC	IR	II	IS	ISH	ISHH	ISL	ISLL	ISHL	IRT	IIT	IT	IY			IE			
Power	J	JA	JAH	JAHH	JAL	JALL	JIC	JC	JR	JI	JS	JSH	JSHH	JSL	JSLL	JSHL	JRT	JIT	JT	JY			JE			
Time	K	KA	KAH	KAHH	KAL	KALL				KI		KSH	KSHH	KSL	KSLL											
Time Quantity	KQ	KQA	KQAH	KQAHH	KQAL	KQALL				KQI		KQSH	KQSHH	KQSL	KQSLL											
Level	L	LA	LAH	LAHH	LAL	LALL	LIC	LC	LR	LI	LS	LSH	LSHH	LSL	LSLL	LSHL	LRT	LIT	LT	LY	LV	LCV	LE	LW	LG	
Not Assigned	M																									
Not Assigned	N																									
Not Assigned	O																									
Pressure/Vacuum	P	PA	PAH	PAHH	PAL	PALL	PIC	PC	PR	PI	PS	PSH	PSHH	PSL	PSLL	PSHL	PRT	PIT	PT	PY	*PV	PCV	PE		PG	PSV,PSE
Pressure Differential	PD	PDA	PDAH	PDAHH	PDAL	PDALL	PDIC	PDC	PDR	PDI	PDS	PDSH	PDSHH	PDSL	PDSLL	PDSHL	PDRT	PDIT	PDT	PDY	PDV	PDCV	PDE		PDG	
Quantity	Q	QA	QAH	QAHH	QAL	QALL	QIC	QC	QR	QI	QS	QSH	QSHH	QSL	QSLL	QSHL	QRT	QIT	QT	QY			QE			
Radiation	R																									
Speed/Frequency	S	SA	SAH	SAHH	SAL	SALL	SIC	SC	SR	SI	SS	SSH	SSHH	SSL	SSLL	SSHL	SRT	SIT	ST	SY			SE			
Temperature	T	TA	TAH	TAHH	TAL	TALL	TIC	TC	TR	TI	TS	TSH	TSHH	TSL	TSLL	TSHL	TRT	TIT	TT	TY	TV	TCV	TE	TW	TG	TSE
Termperature Differential	TD	TDA	TDAH	TDAHH	TDAL	TDALL	TDIC	TDC	TDR	TDI	TDS	TDSH	TDSHH	TDSL	TDSLL	TDSHL	TDRT	TDIT	TDT	TDY			TDE	TDW	TDG	
Multivariable	U	UA							UR	UI	US						URT	UIT	UT	UY						
Vibration / Mach. Analysis	V	VA	VAH	VAHH	VAL	VALL	VIC	VC	VR	VI	VS	VSH	VSHH	VSL	VSLL	VSHL	VRT	VIT	VT	VY			VE			
Weight / Force	W	WA	WAH	WAHH	WAL	WALL	WIC	WC	WR	WI	WS	WSH	WSHH	WSL	WSLL	WSHL	WRT	WIT	WT	WY	WV	WCV	WE			
Weight / Force Differential	WD	WDA	WDAH	WDAHH	WDAL	WDALL	WDIC	WDC	WDR	WDI	WDS	WDSH	WDSHH	WDSL	WDSLL		WDRT	WDIT	WDT	WDY	WDV	WDCV	WDE			
Miscellaneous	X																									
Event / State / Presence	Y	YA									YS									YY						
Position / Dimension	Z	*ZA	ZAH	ZAHH	ZAL	ZALL	ZIC	ZC	ZR	ZI	*ZS	ZSH	ZSHH	ZSL	ZSLL	ZSHL	ZRT	ZIT	ZT	ZY			ZE			
Gauging / Deviation	ZD	ZDA	ZDAH	ZDAHH	ZDAL	ZDALL	ZDIC	ZDC	ZDR	ZDI	ZDS	ZDSH	ZDSHH	ZDSL	ZDSLL		ZDRT	ZDIT	ZDT	ZDY			ZDE			

NOTES:

1. THIS TABLE IS NOT ALL-INCLUSIVE
2. "A" IS USED FOR ANALYTICAL VARIABLES NOT LISTED IN THE TABLE.
3. *ZAC=CLOSE FAIL, ZAO= OPEN FAIL, ZSC=CLOSE STATUS, ZSO=OPEN STATUS,
   PVO=PNEUMATIC ACTUATOR RATE SET VALVE-OPENING, PVC=PNEUMATIC ACTUATOR RATE SET VALVE-CLOSING.

INSTRUMENT LOGIC SYMBOLS	
HARDWIRED I/O	
FIELD OR LOCALLY MOUNTED	
PANEL MOUNTED	
DISTRIBUTED CONTROL / SHARED DISPLAY	
COMPUTER FUNCTION	

LEGEND	
AI	ANALOG INPUT
AO	ANALOG OUTPUT
DI	DIGITAL INPUT
DO	DIGITAL OUTPUT
E	ETHERNET IP

GENERAL ABBREVIATIONS	
ACP	AIR CONTROL PANEL
CHL	CHLORINE ANALYZER
CP	EQUIPMENT CONTROL PANEL
GAI	BUILDING INTRUSION ALARM
GF	GENERAL FAULT
GRI	START
GRO	RUN STATUS
HOA	HAND-OFF-AUTOMATIC SWITCH
M	MAGNETIC FLOW METER
MV	MOTORIZED VALVE
NPW	NON-POTABLE WATER
PC	PARTICLE COUNTER
PH	PH ANALYZER
PT	PRESSURE TRANSDUCER
PV	PNEUMATIC VALVE
RAS	RETURN ACTIVATED SLUDGE
SI	SPEED IN
SO	SPEED OUT
TB	TURBIDIMETER
TS	THERMAL SENSOR
ULT	ULTRASONIC LEVEL TRANSDUCER
UV	ULTRAVIOLET DISINFECTION
WAS	WASTE ACTIVATED SLUDGE

NOTES:

1. FURNISH AND INSTALL INTERNALLY MOUNTED SURGE PROTECTION IN ALL PANEL BOARDS SQUARE D SURGELOGIC TVSS OR APPROVED EQUAL.
2. COORDINATE BREAKERS TO PREVENT UNNECESSARY TRIPPING OF BREAKERS IN PANELBOARDS AND CONTROL PANELS.
3. TYPICAL - # INDICATES REQUIRED I/O PER INDIVIDUAL INSTRUMENT.

LETTER FUNCTION IDENTIFICATION

	First Letters (4)		Succeeding Letters (3)		
	Measured or Initiating Variable	Variable Modifier	Readout / Passive Function	Output / Active Function	Function Modifier
A	Analysis		Alarm		
B	Burner/Combustion		User's Choice	User's Choice	User's Choice
C	User's Choice			Control	Close
D	User's Choice	Differential			Deviation
E	Voltage		Sensor (Primary Element)		
F	Flow Rate	Ratio			
G	User's Choice		Glass, Viewing Device		
H	Hand				High
I	Current (Electrical)		Indicate		
J	Power		Scan		
K	Time, Time Schedule	Time Rate of Change		Control Station	
L	Level		Light		Low
M	User's Choice	Momentary			Middle, Intermediate
N	User's Choice		User's Choice	User's Choice	User's Choice
O	User's Choice		Orifice, Restriction		Open
P	Pressure / Vacuum		Point (Test Connection)		
Q	Quantity	Intergrate, Totalize	Integrate, Totalize		
R	Radiation		Record		
S	Speed / Frequency	Safety		Switch	Run
T	Temperature			Transmit	Stop
U	Multivariable		Multifunction	Multifunction	
V	Vibration / Mach. Analysis			Valve, Damper, Louver	
W	Weight / Force		Well, Probe		
X	Unclassified	X Axis	Accessory Devices, Unclassified	Unclassified	Unclassified
Y	Event / State / Presence	Y Axis		Auxillary Devices	
Z	Position / Dimension	Z Axis		Drive, Actuator, Unclassified	

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31 NORTH MAIN STREET, LIBERTY, NY 12754 - 845.747.9952
6 TOWNSEND STREET, WALTON, NY 13856 - 607.865.9235
16 EAST MARKET ST., RED HOOK, NY 12571 - 518.452.1290
548 BROADWAY, MONTICELLO, NY 12701 - 845.791.1777

STATE OF NEW YORK LICENSED PROFESSIONAL ENGINEER

REVISIONS

NO.	DATE	DESCRIPTION

RHINEBECK WTP
PLANT IMPROVEMENTS
VILLAGE OF RHINEBECK
DUTCHESS COUNTY, NEW YORK

P&ID LEGEND

SHEET: I-001

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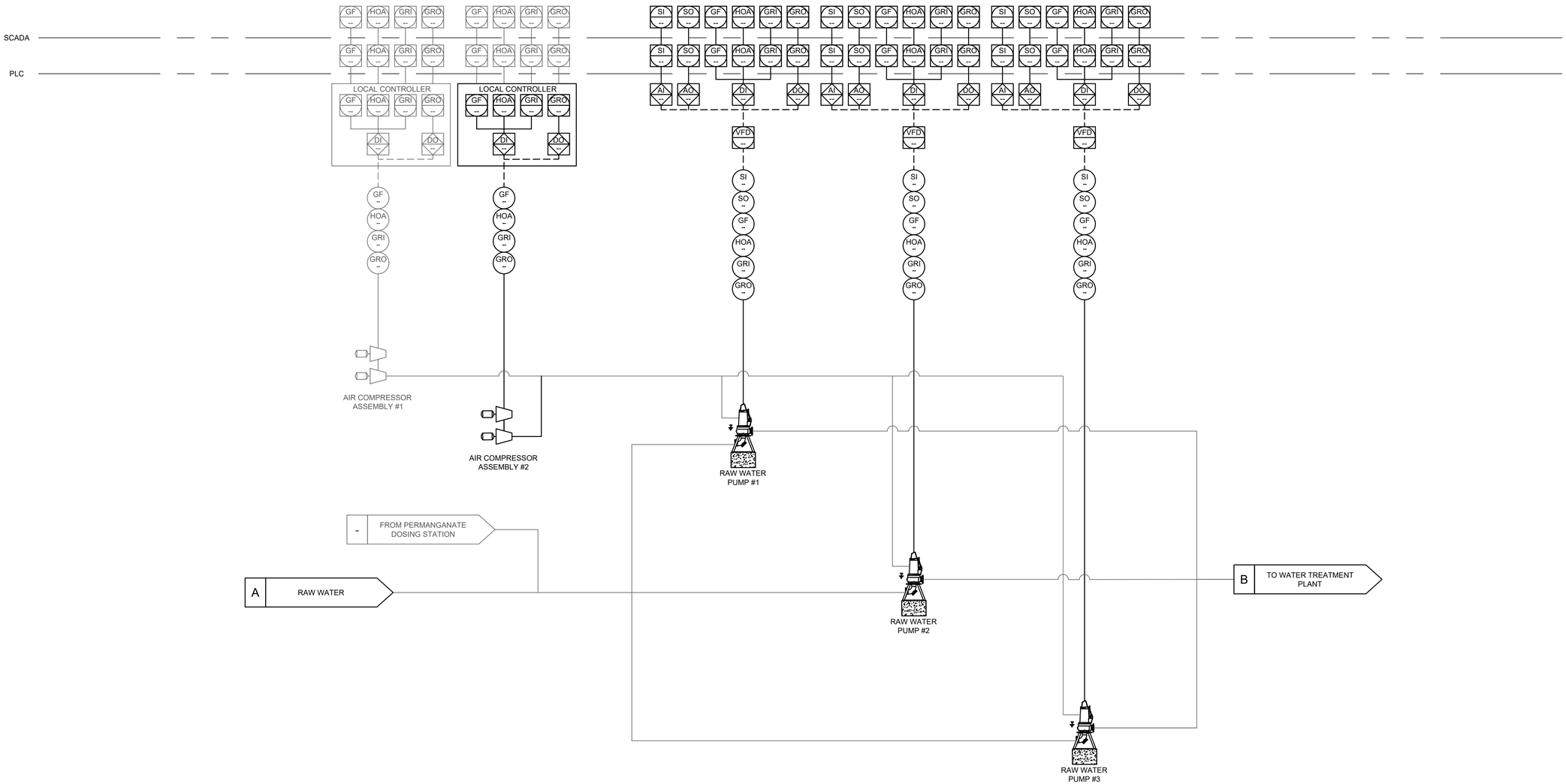

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RHINEBECK WTP
PLANT IMPROVEMENTS
VILLAGE OF RHINEBECK
DUTCHESS COUNTY, NEW YORK

RAW WATER PUMP STATION
INSTRUMENTATION

SHEET:
I-002

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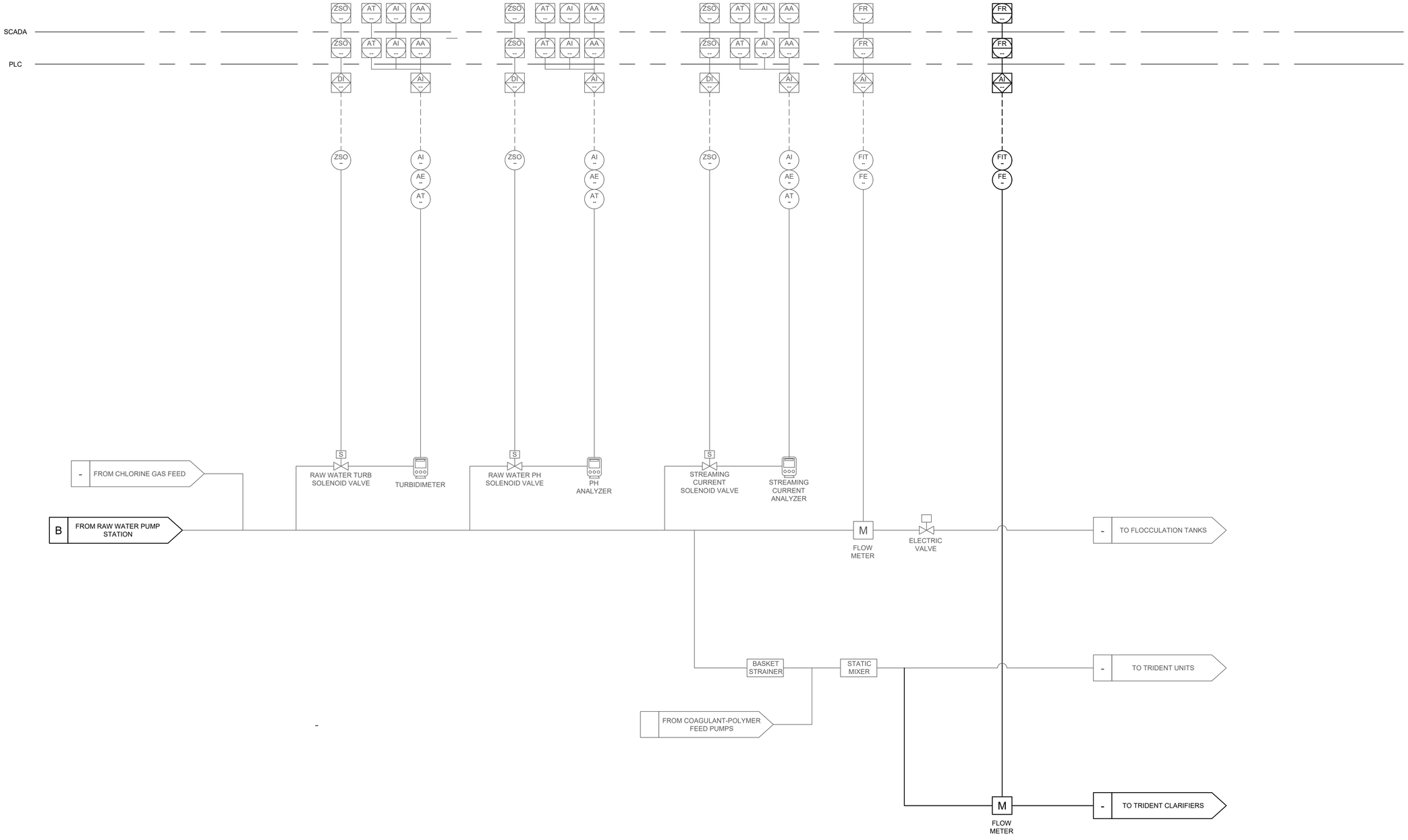

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STATE OF NEW YORK LICENSED PROFESSIONAL ENGINEER

REVISIONS

NO.	DATE	DESCRIPTION

RHINEBECK WTP
PLANT IMPROVEMENTS
VILLAGE OF RHINEBECK
DUTCHESS COUNTY, NEW YORK

WATER TREATMENT
PLANT INFLUENT
INSTRUMENTATION

SHEET:
I-003

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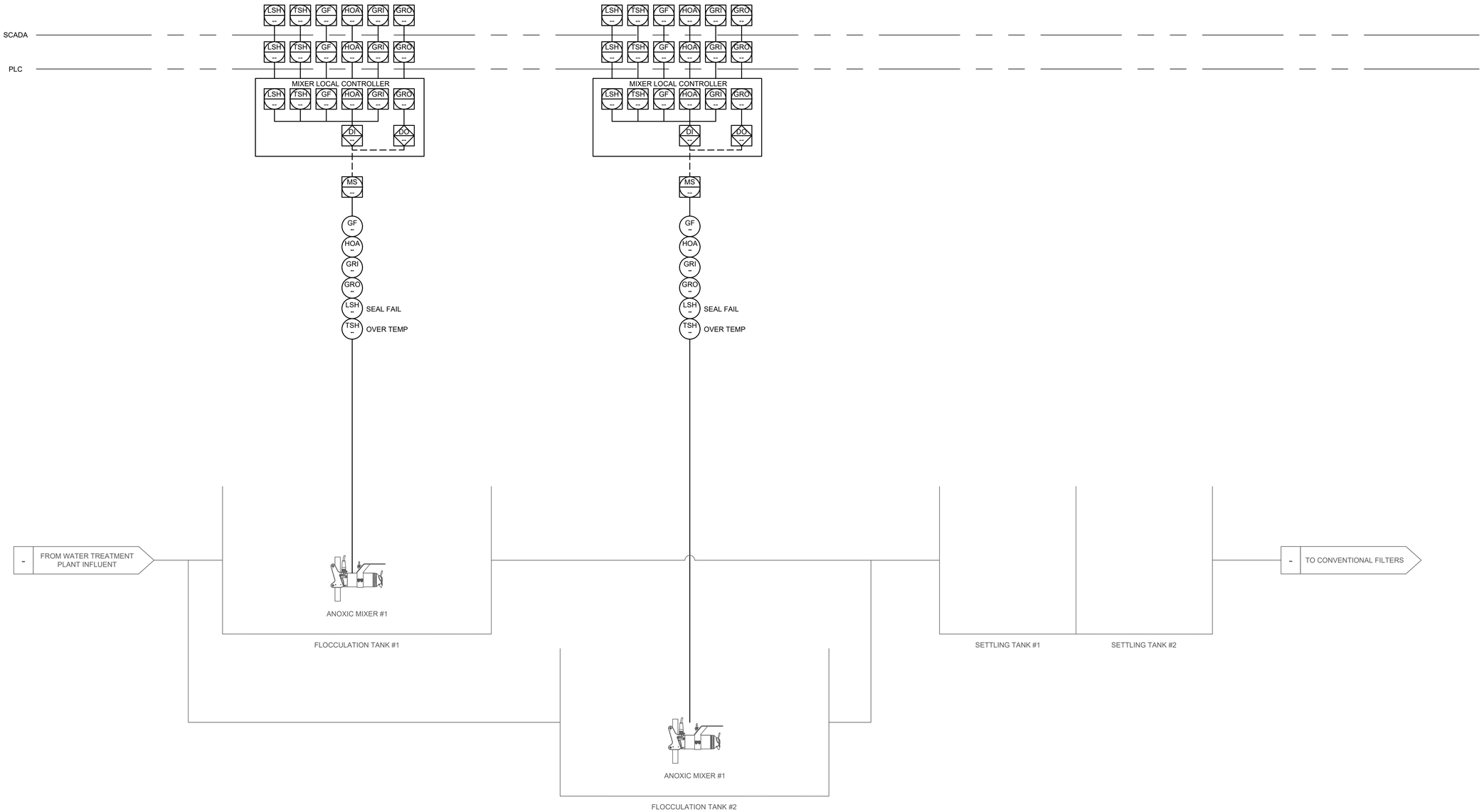

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STATE OF NEW YORK — LICENSED PROFESSIONAL ENGINEER

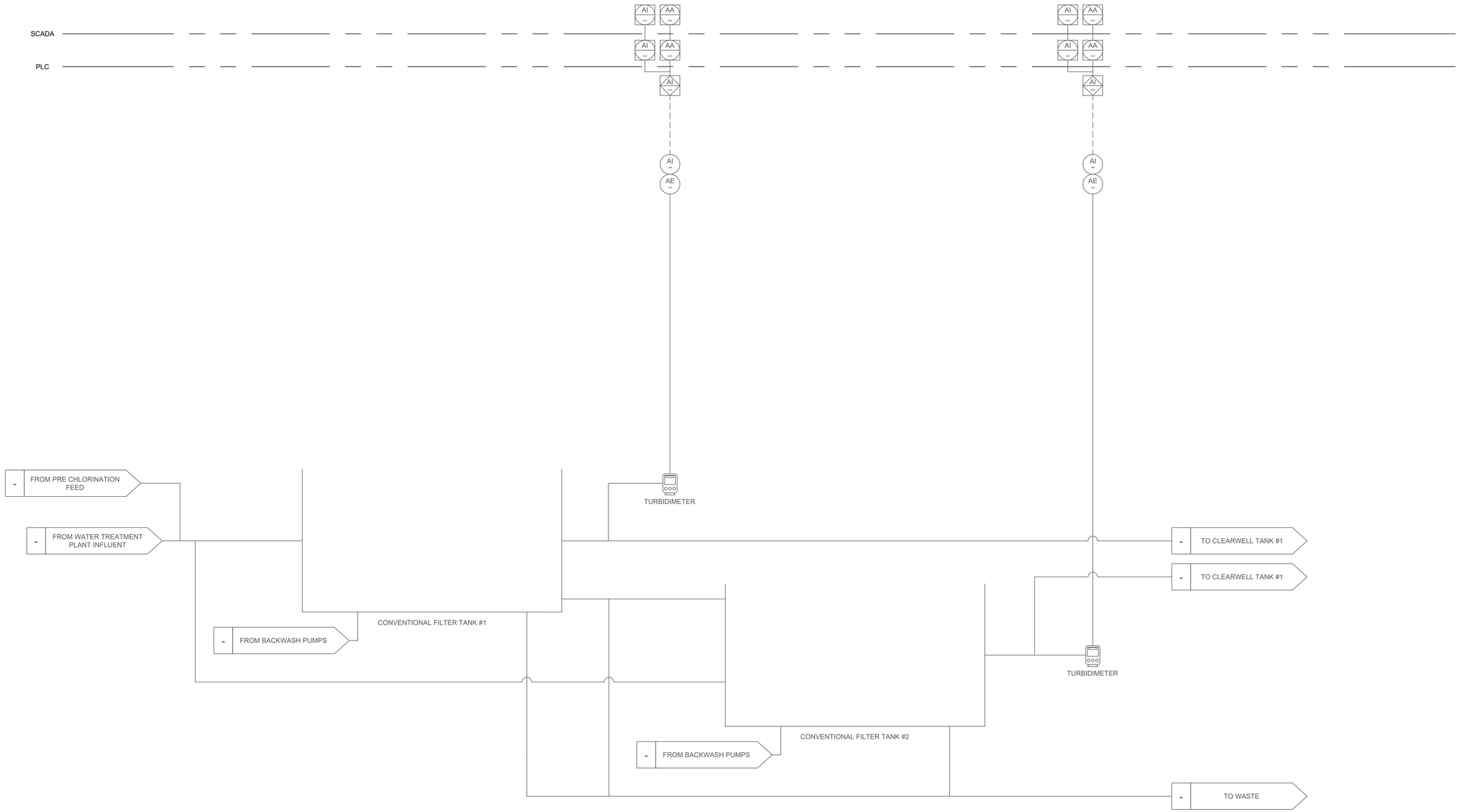
REVISIONS

NO.	DATE	DESCRIPTION

RHINEBECK WTP
PLANT IMPROVEMENTS
VILLAGE OF RHINEBECK
DUTCHESS COUNTY, NEW YORK

FLOCCULATION & SETTLING TANKS INSTRUMENTATION

SHEET:
I-004



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RHINEBECK WTP
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VILLAGE OF RHINEBECK
DUTCHESS COUNTY, NEW YORK

CONVENTIONAL FILTER
TANKS INSTRUMENTATION

SHEET:
I-005

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SCADA

PLC

LAH LAL LI

SI SO GF HOA GRI GRO ZSO ZSC

AI AO DI DO

VFD

LS

LT

FR

FIT

FE

- FROM CHLORINE GAS FEED
- FROM CORROSION INHIBITOR FEED
- FROM TRIDENT UNITS
- FROM CONVENTIONAL FILTER TANK #1
- FROM CONVENTIONAL FILTER TANK #2
- FROM BACKWASH PUMPS

LEVEL FLOATS

PT

CLEARWELL TANK #1

CLEARWELL TANK #2

CLEARWELL TANK #3

HIGH LIFT PUMP #1

CHECK VALVE LIMIT SWITCH

M FLOW METER

- TO DISTRIBUTION
- TO UV UNITS
- TO BACKWASH PUMPS

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STATE OF NEW YORK LICENSED PROFESSIONAL ENGINEER

REVISIONS

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RHINEBECK WTP
PLANT IMPROVEMENTS
VILLAGE OF RHINEBECK
DUTCHESS COUNTY, NEW YORK

CLEARWELL TANKS &
HIGH LIFT PUMPS
INSTRUMENTATION

SHEET: I-006

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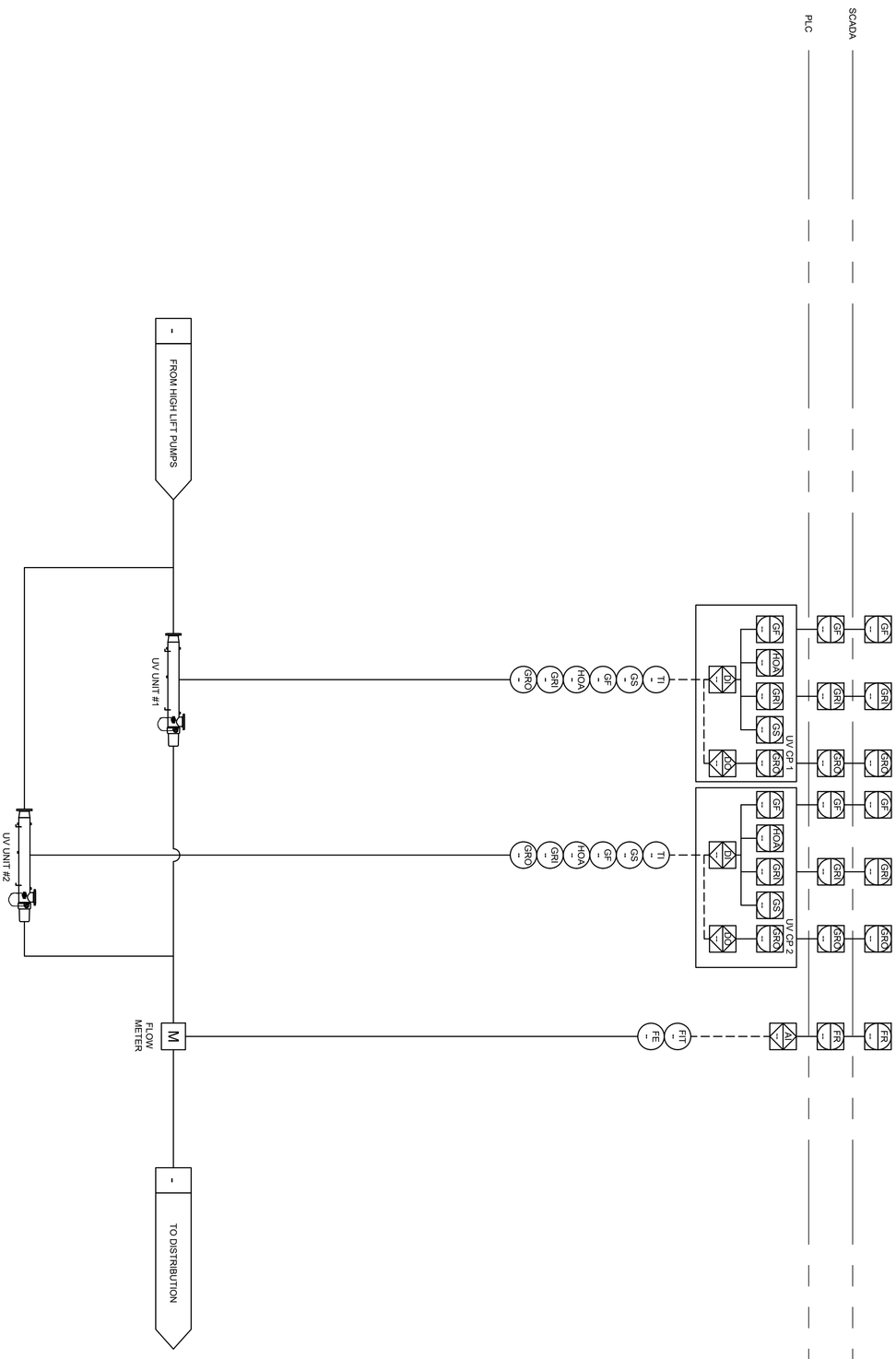

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SHEET: I-007

UV SYSTEM
INSTRUMENTATION

RHINEBECK WTP
PLANT IMPROVEMENTS
VILLAGE OF RHINEBECK
DUTCHESS COUNTY, NEW YORK

REVISIONS

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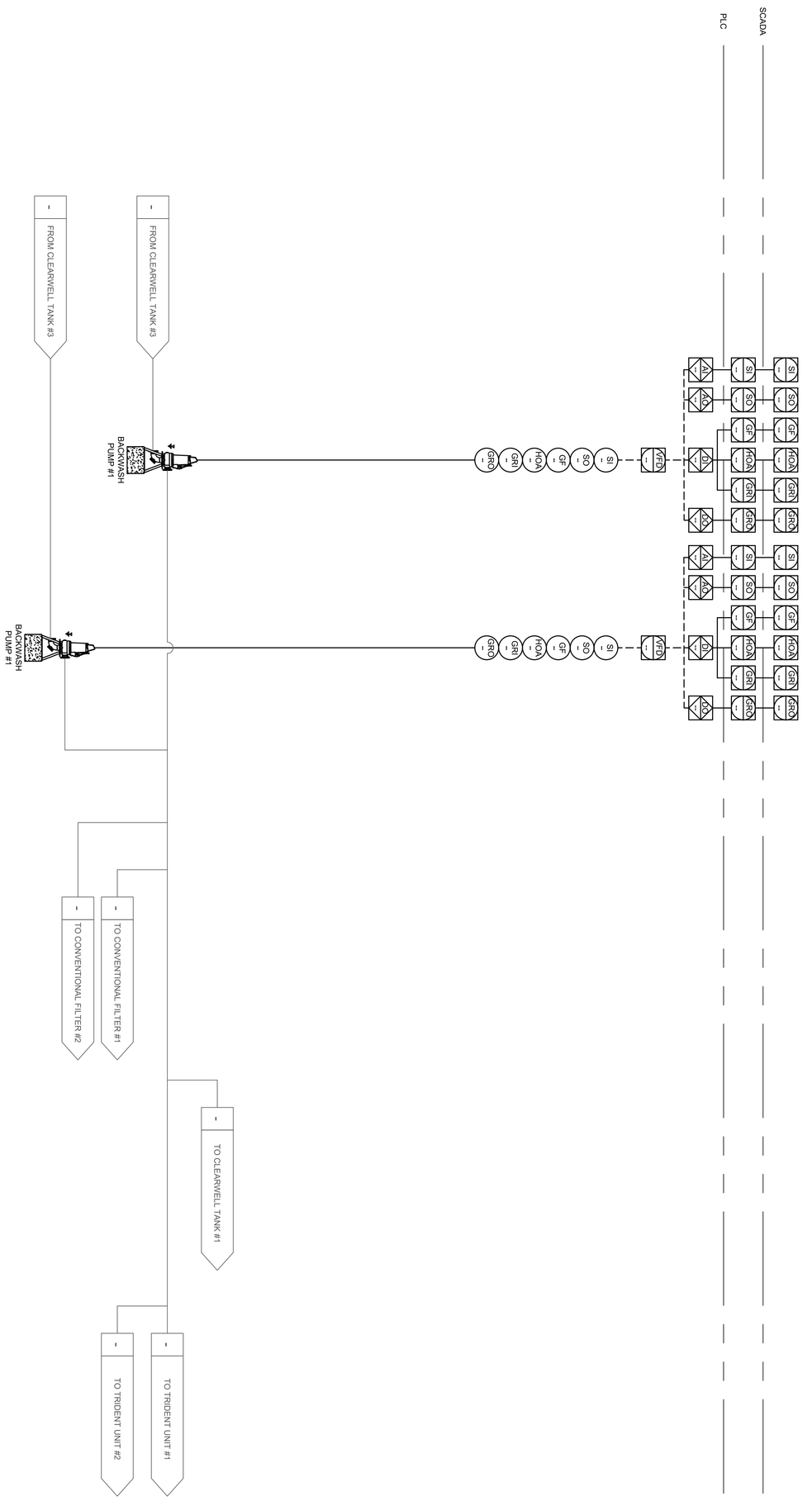

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SHEET: I-008

BACKWASH PUMPS INSTRUMENTATION

RHINEBECK WTP
PLANT IMPROVEMENTS
VILLAGE OF RHINEBECK
DUTCHESS COUNTY, NEW YORK

REVISIONS

NO.	DATE	DESCRIPTION

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TYPICAL (2)

SCADA

PLC

TRIDENT HSR CONTROL PANEL

SLUDGE RECIRC VALVE #1

RECIRC PUMP #1

RECIRC FLOW METER

INFLUENT VALVE #1

INLET FLOW METER #1

POLYMER PUMP #1

POLYMER FLOW METER #1

LEVEL TRANSMITTER #1

ALARM TORQUE

CUT OUT TORQUE

CLARIFIER DRIVE UNIT #1

TRIDENT CLARIFIER UNIT #1

SLUDGE BLOWDOWN VALVE #1

CLARIFIER TRANSFER VALVE #1

CLARIFIER TRANSFER PUMP #1

- TO TRIDENT UNITS

- TO WASTE

CATCH BASIN

- FROM RAW WATER PUMP STATION

SLUDGE RECIRC VALVE #2

RECIRC PUMP #2

RECIRC FLOW METER

INFLUENT VALVE #2

INLET FLOW METER #2

POLYMER PUMP #2

POLYMER FLOW METER #2

LEVEL TRANSMITTER #2

CLARIFIER DRIVE UNIT #2

TRIDENT CLARIFIER UNIT #2

SLUDGE BLOWDOWN VALVE #2

CLARIFIER TRANSFER VALVE #2

CLARIFIER TRANSFER PUMP #2

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DELAWARE ENGINEERING, D.P.C.
CIVIL AND ENVIRONMENTAL ENGINEERING
28 MADISON AVENUE EXTENSION, ALBANY, NY 12203 - 518.452.1290
55 SOUTH MAIN ST, ONEONTA, NY 13820 - 607.432.8073
31 NORTH MAIN STREET, LIBERTY, NY 12754 - 845.747.9952
6 TOWNSEND STREET, WALTON, NY 13856 - 607.865.9235
16 EAST MARKET ST., RED HOOK, NY 12571 - 518.452.1290
548 BROADWAY, MONTICELLO, NY 12701 - 845.791.1777

STATE OF NEW YORK ENGINEER LICENSED PROFESSIONAL

REVISIONS

NO.	DATE	DESCRIPTION

RHINEBECK WTP
PLANT IMPROVEMENTS
VILLAGE OF RHINEBECK
DUTCHESS COUNTY, NEW YORK

TRIDENT CLARIFIER INSTRUMENTATION

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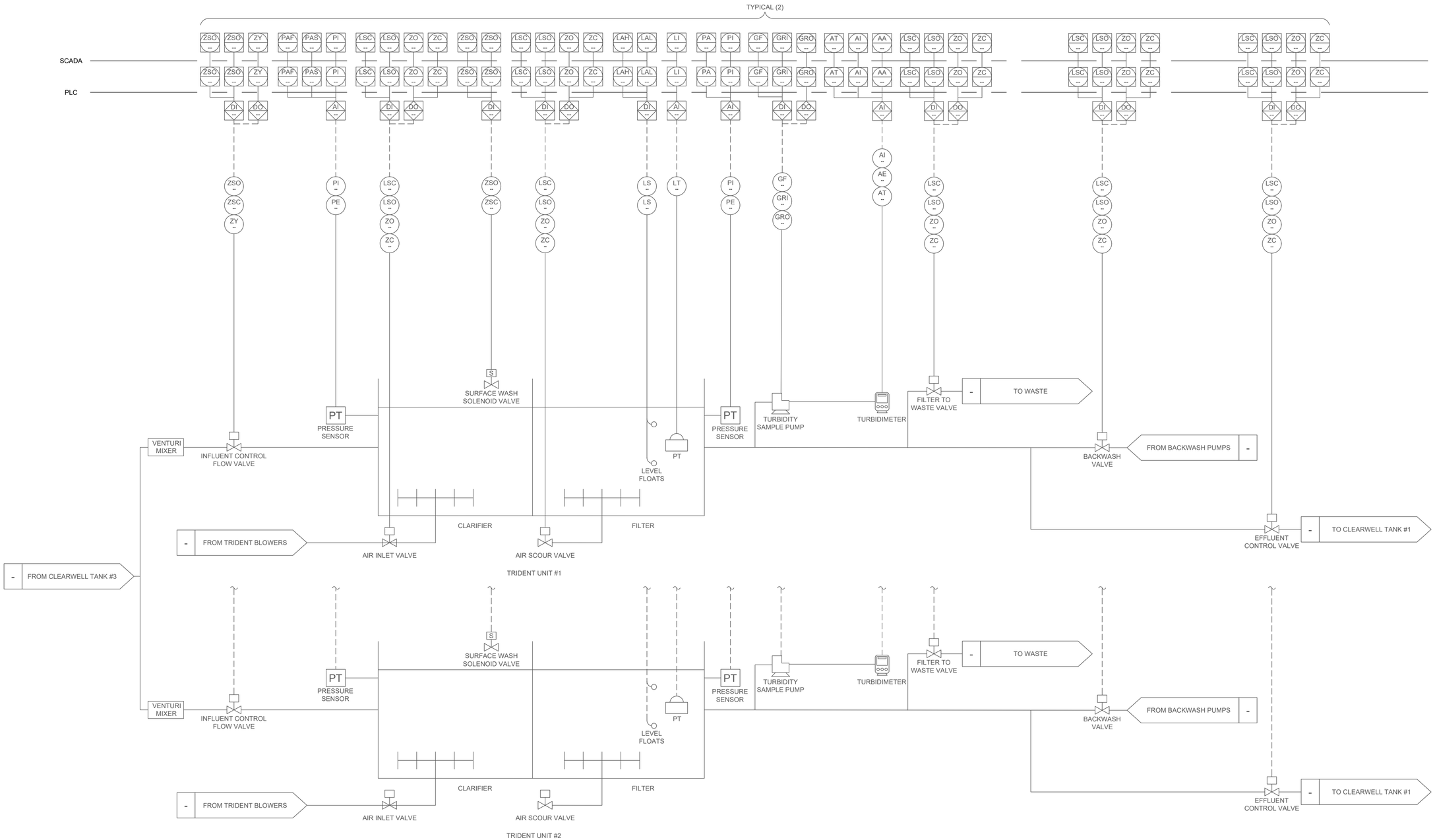

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STATE OF NEW YORK LICENSED PROFESSIONAL ENGINEER

REVISIONS

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RHINEBECK WTP
PLANT IMPROVEMENTS
VILLAGE OF RHINEBECK
DUTCHESS COUNTY, NEW YORK

TRIDENT UNIT
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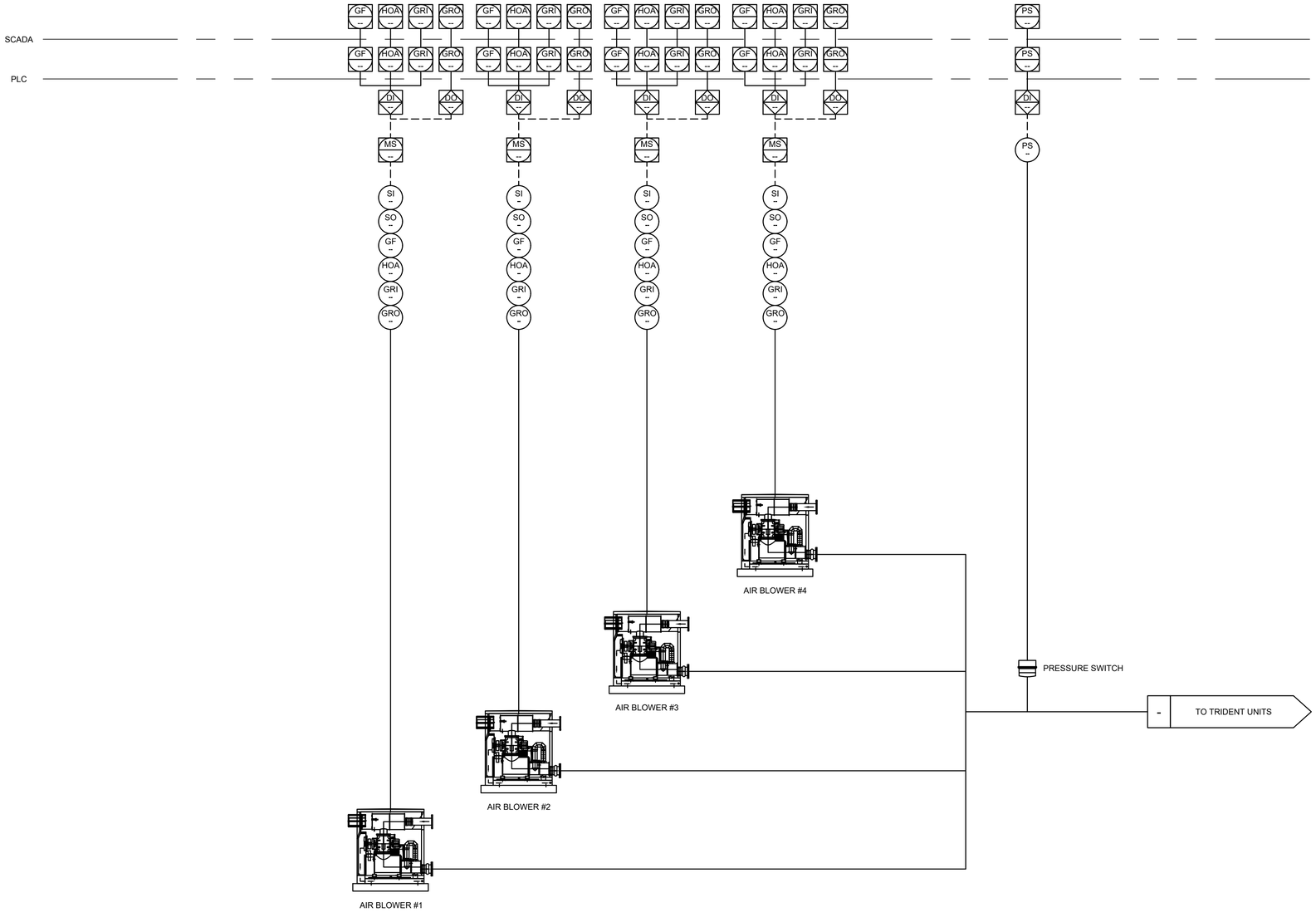

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548 BROADWAY, MONTICELLO, NY 12701 - 845.791.1777

STATE OF NEW YORK LICENSED PROFESSIONAL ENGINEER

REVISIONS

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RHINEBECK WTP
PLANT IMPROVEMENTS
VILLAGE OF RHINEBECK
DUTCHESS COUNTY, NEW YORK

BLOWER
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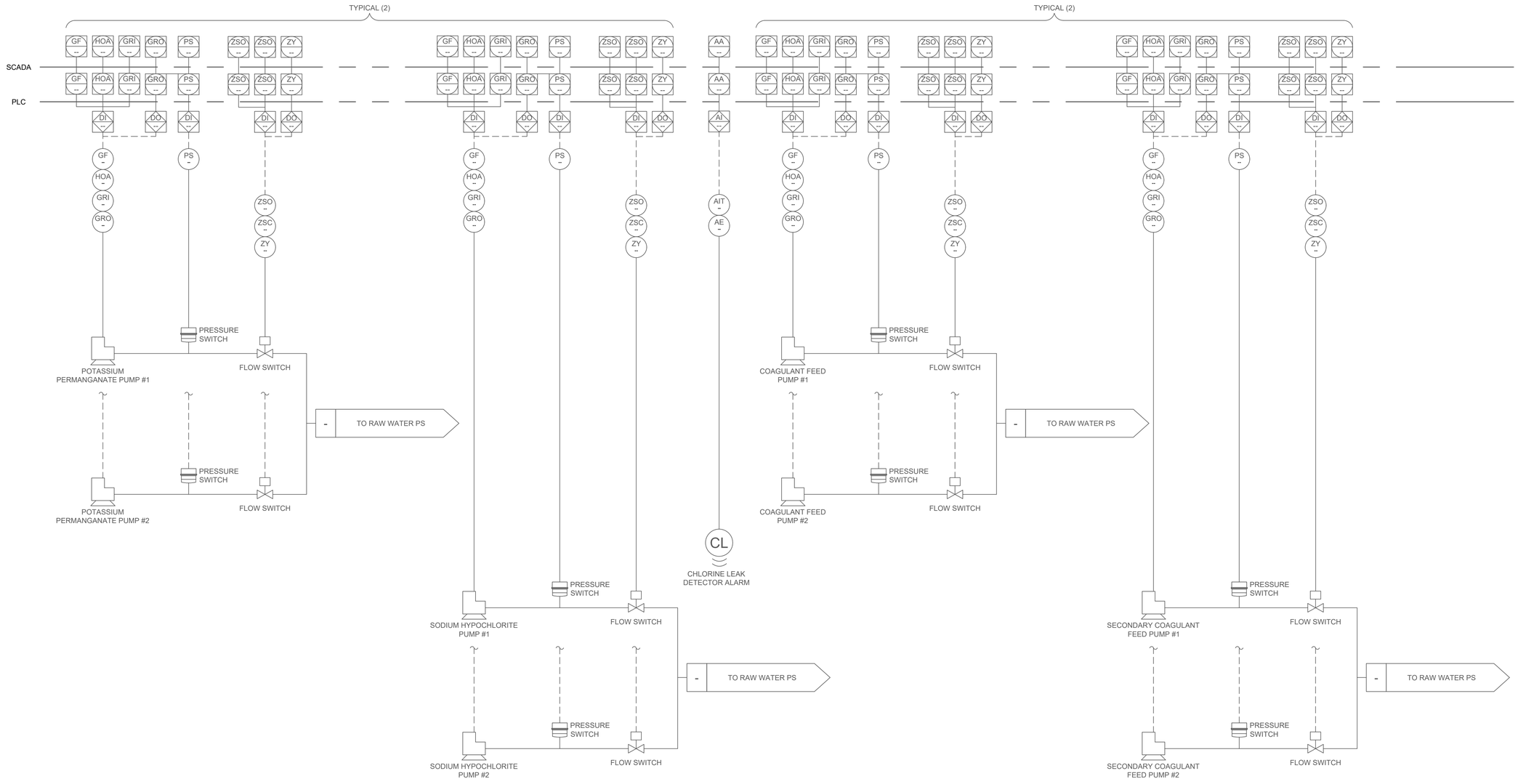

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REVISIONS

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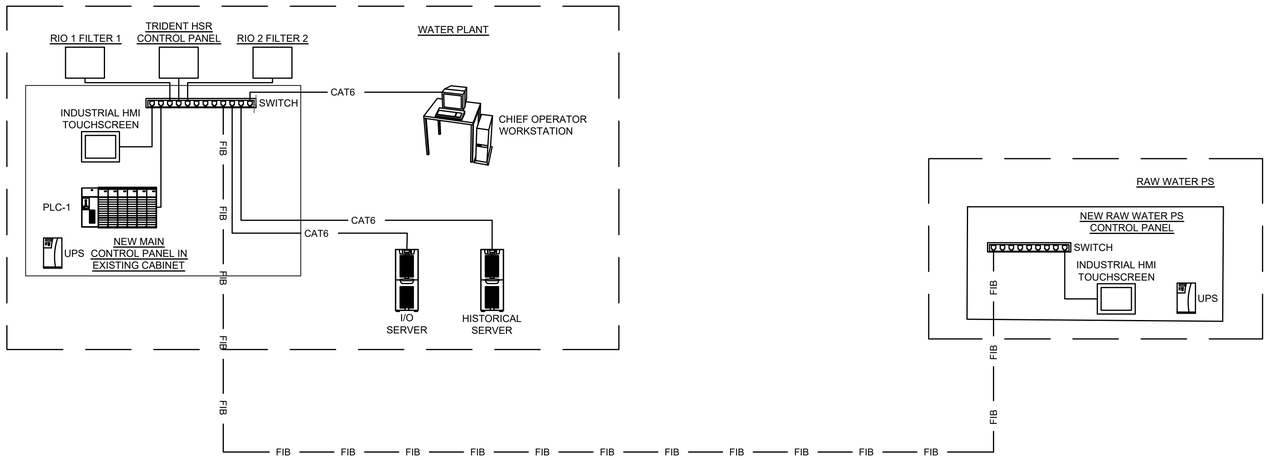

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STATE OF NEW YORK — LICENSED PROFESSIONAL ENGINEER

REVISIONS

NO.	DATE	DESCRIPTION

RHINEBECK WTP
PLANT IMPROVEMENTS
VILLAGE OF RHINEBECK
DUTCHESS COUNTY, NEW YORK

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