

# WATERFORD UTILITY COMMISSION

## WATERFORD, CONNECTICUT

### CONTRACT DRAWINGS FOR

# OLD NORWICH ROAD

# SEWER PUMP STATION UPGRADE

JUNE 2023

BID NO. 23-126

**WATERFORD UTILITY COMMISSION**

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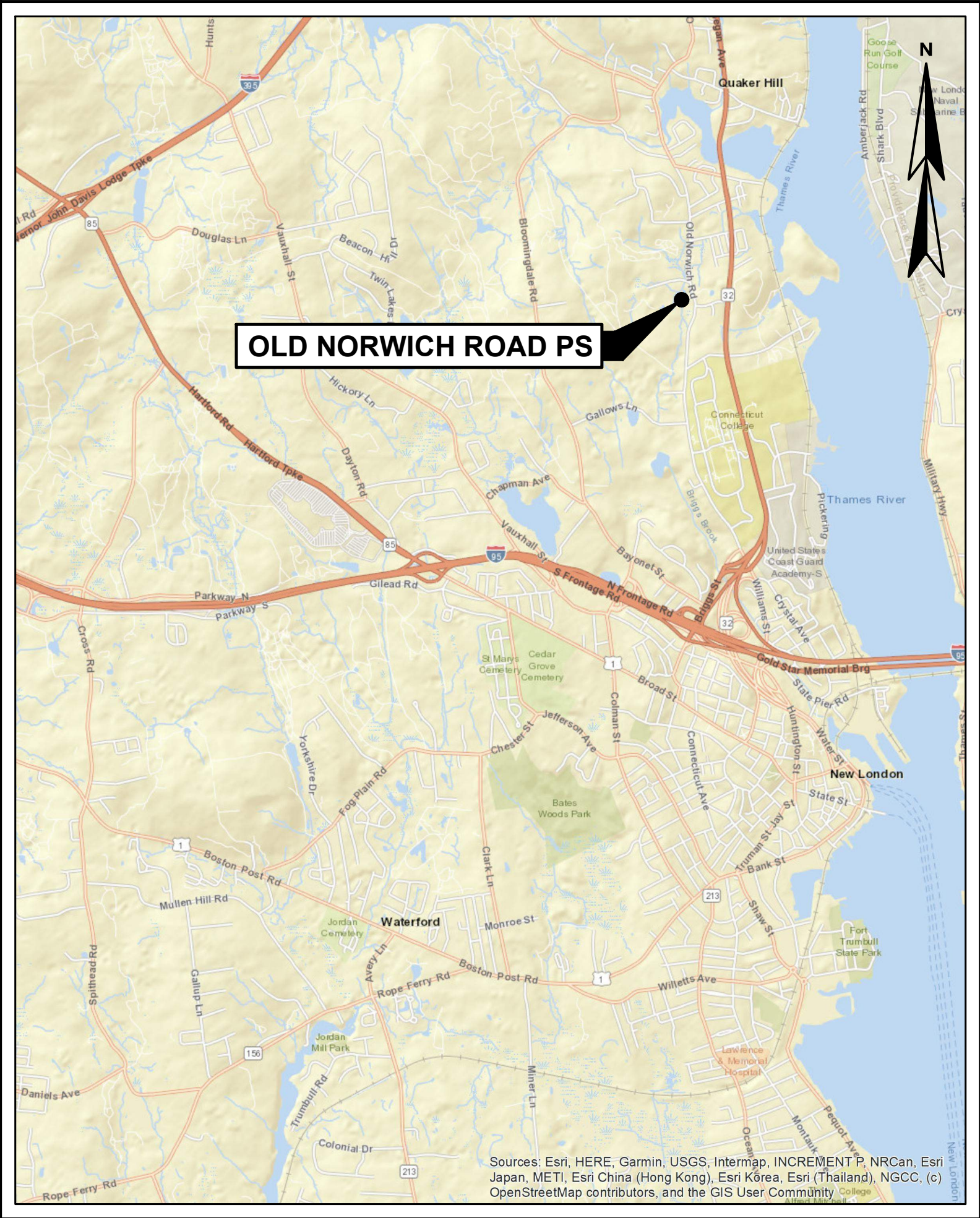
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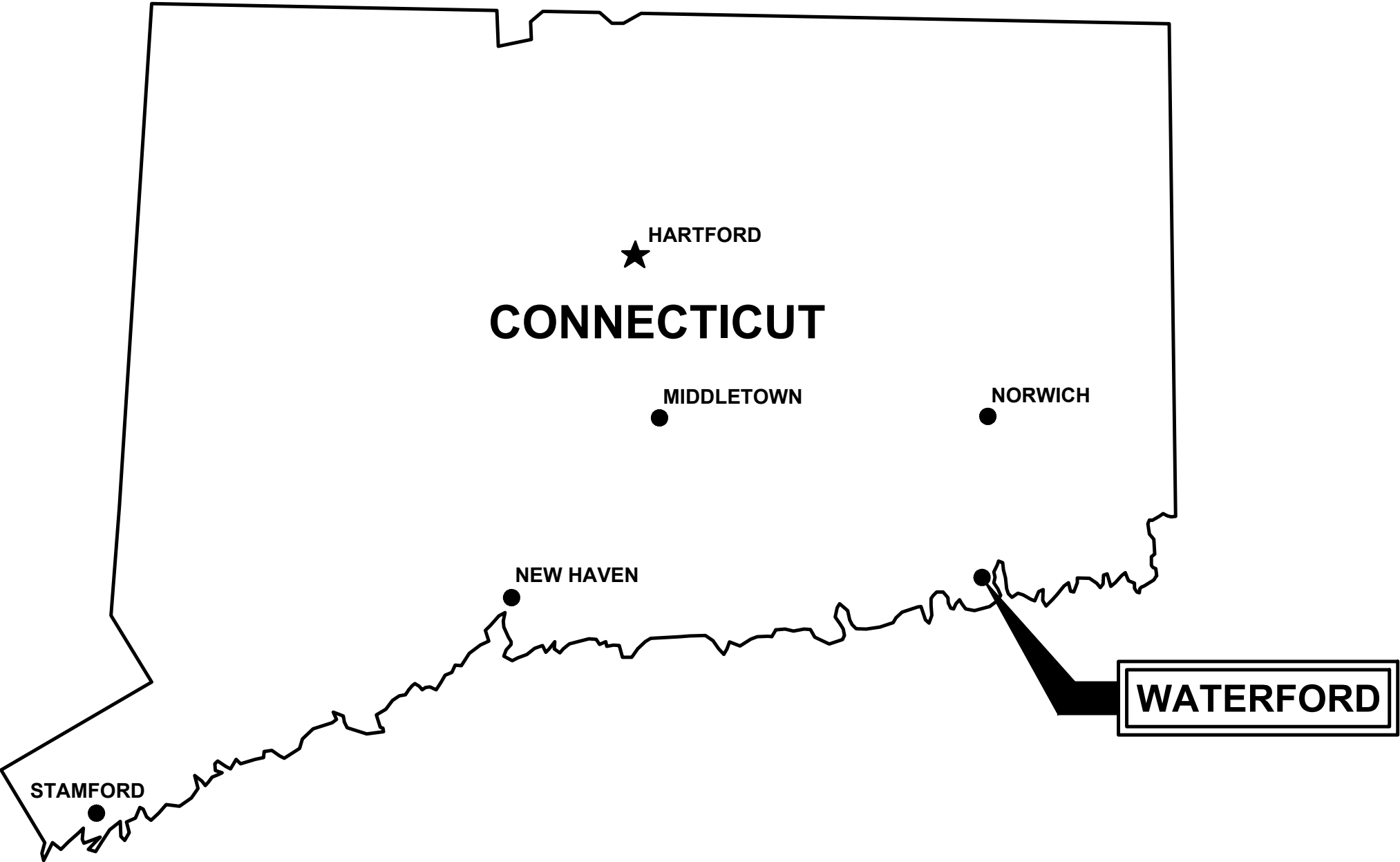
**MODERATOR:** PAUL GOLDSTEIN

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**LOCATION PLAN**  
SCALE: 1"=4,000'



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## GENERAL NOTES

1. THE OWNER WILL BE RESPONSIBLE FOR OBTAINING THE PERMITS LISTED IN THE SUPPLEMENTARY OR SPECIAL CONDITIONS. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO BE FAMILIAR WITH THE APPLICABLE PROVISIONS OF EACH PERMIT AS THEY APPLY TO THE WORK PRIOR TO BIDDING AND ABIDE BY THOSE PROVISIONS DURING CONSTRUCTION. COPIES OF ALL OBTAINED PERMITS ARE AVAILABLE FOR REVIEW FROM THE OWNER. ALL OTHER PERMITS ARE THE RESPONSIBILITY OF THE CONTRACTOR.
2. THE OWNER SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY RIGHTS OF WAY AND EASEMENTS. THE CONTRACTOR SHALL VERIFY THAT THE NECESSARY EASEMENTS HAVE BEEN SECURED BY THE OWNER. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO BE FAMILIAR WITH THE APPLICABLE PROVISIONS OF EACH EASEMENT AS THEY APPLY TO THE WORK PRIOR TO BIDDING AND ABIDE BY THOSE PROVISIONS DURING CONSTRUCTION. COPIES OF ALL RIGHTS-OF-WAY AND EASEMENTS ARE AVAILABLE FOR REVIEW FROM THE OWNER.
3. THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING TRAFFIC FLOW AT ALL TIMES. CONTRACTOR SHALL INSTALL AND MAINTAIN TRAFFIC CONTROL SIGNS IN ACCORDANCE WITH THE MUTCD AND ALL STATE AND LOCAL REGULATIONS. THE CONTRACTOR IS REQUIRED TO SUBMIT A TRAFFIC CONTROL PLAN TO THE OWNER PRIOR TO COMMENCING CONSTRUCTION. THE POLICE DEPARTMENT AND FIRE DEPARTMENT ARE TO BE NOTIFIED AT LEAST 24-HOURS IN ADVANCE OF ANY STREET CLOSING OR DETOUR.
4. CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE REGULATIONS OF THE OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA).
5. CONTRACTOR SHALL COMPLY WITH THE COORDINATION REQUIREMENTS AND RELATED COSTS, IF ANY, AS SPECIFIED IN SPECIFICATION SECTION 01050.
6. CONTRACTOR SHALL NOTE THAT, IN GENERAL, ALL EXISTING CONDITION INFORMATION ON THE DRAWINGS ARE SHOWN WITH A LIGHTER LINE WEIGHT AND WITH A SLANTED TYPE TEXT.

## EXISTING SITE CONDITIONS

1. THE LOCATIONS OF UNDERGROUND UTILITIES AND STRUCTURES, AS SHOWN ON THE DRAWINGS, ARE APPROXIMATE AND MAY NOT BE COMPLETE. THE LOCATION OF EXISTING UNDERGROUND UTILITIES ARE BASED ON PREVIOUS CONSTRUCTION DESIGN PLANS, WHICH ARE AVAILABLE FOR INSPECTION AT THE ENGINEER'S OFFICE. NO GUARANTEE IS MADE THAT UTILITIES OR STRUCTURES WILL BE ENCOUNTERED WHERE SHOWN, OR THAT ALL UNDERGROUND UTILITIES AND STRUCTURES ARE SHOWN. ALL LOCATIONS AND SIZES OF EXISTING UTILITIES AND STRUCTURES SHALL BE VERIFIED IN THE FIELD WITH TEST PITS AS REQUIRED PRIOR TO BEGINNING CONSTRUCTION OF NEW FACILITIES OR PIPING THAT MAY BE AFFECTED. THE CONTRACTOR WILL RE-ALIGN NEW PIPE LOCATIONS AS REQUIRED TO CONFORM TO EXISTING LINES AND AS APPROVED BY THE ENGINEER.
2. THERE ARE NO KNOWN HAZARDOUS ENVIRONMENTAL CONDITIONS WITHIN THE AREA OF WORK. IF THE PRESENCE OF HAZARDOUS ENVIRONMENTAL CONDITIONS ARE DISCOVERED, THE CONTRACTOR SHALL NOTIFY THE OWNER AND THE ENGINEER IMMEDIATELY. ALL ACTIVITIES, HANDLING AND DISPOSAL OF HAZARDOUS ENVIRONMENTAL CONDITIONS AND MATERIALS SHALL BE IN ACCORDANCE WITH OSHA, FEDERAL, STATE, AND LOCAL REGULATIONS.

## SITE DEMOLITION

1. REFER TO THE EXISTING SITE PLAN, FOR ADDITIONAL INFORMATION REGARDING EXISTING FACILITIES. REFER TO THE LAYOUT DRAWING FOR LIMITS OF WORK.
2. REFER TO SPECIFICATION SECTION 01010A, WHICH CONTAINS INFORMATION ON CONSTRAINTS OF CONSTRUCTION SEQUENCING.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVING AND DISPOSING OF ALL DEMOLISHED PIPING, EQUIPMENT AND MATERIALS. DISPOSAL SHALL BE IN ACCORDANCE WITH ALL STATE AND LOCAL REGULATIONS. THE OWNER RESERVES THE RIGHT TO RETAIN ANY SUCH PIPING, EQUIPMENT AND MATERIALS DESIGNATED FOR DEMOLITION. SUCH MATERIALS TO BE RETAINED SHALL BE PROPERLY STORED IN AN ON-SITE LOCATION. COORDINATE LOCATION AND MATERIALS TO BE SALVAGED WITH THE OWNER/ENGINEER. REFER TO SPECIFICATION SECTION 02050A.
4. THE CONTRACTOR SHALL KEEP A RECORD OF DEMOLITION AS PART OF THE PROJECT RECORD DOCUMENTS IN ACCORDANCE WITH SPECIFICATION SECTION 01720.
5. THE CONTRACTOR SHALL TAKE ALL NECESSARY STEPS TO ENSURE THAT ALL PROCESS FLOWS ARE MAINTAINED DURING CONSTRUCTION. GRAVITY OR PUMPED BYPASSES AND OTHER MEANS OF MAINTAINING FLOW SHALL BE SUBJECT TO THE REVIEW AND ACCEPTANCE OF THE ENGINEER. THE CONTRACTOR SHALL COORDINATE ANY TEMPORARY STOPPAGES OR BYPASSES WITH THE OWNER AND ENGINEER.
6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE APPROPRIATE DISPOSAL OF FLOWS RESULTING FROM PRECIPITATION AND GROUNDWATER DOWATERING OPERATIONS.

## SITE CLEARING, GRUBBING AND GRADING

1. STRIPPING OF TOPSOIL (LOAM) SHALL BE IN ACCORDANCE WITH SPECIFICATION SECTION 02115. REFER TO THE LAYOUT AND GRADING DRAWINGS FOR LIMIT OF WORK AND STRIPPING.
2. CONTRACTOR SHALL MINIMIZE CLEARING OPERATIONS. CLEARING LIMITS SHALL BE AS INDICATED ON THE DRAWINGS, BUT AT ALL TIMES WITHIN EXISTING ROAD RIGHTS-OF-WAY AND PROPERTY LINES ON STATE OR COUNTY OWNED PROPERTY OR EASEMENTS. ALL CLEARING AND GRUBBING MATERIAL SHALL BE THE PROPERTY OF THE CONTRACTOR AND SHALL BE DISPOSED OF AT A SITE PROVIDED BY THE CONTRACTOR IN COMPLIANCE WITH ALL STATE AND LOCAL LAWS.
3. CONTRACTOR SHALL PROVIDE PROPER EROSION CONTROL AND DRAINAGE MEASURES IN ALL AREAS OF WORK, AND CONFINES SOIL SEDIMENT TO WITHIN THE LIMITS OF EXCAVATION AND GRADING. PRIOR TO BEGINNING EXCAVATION WORK, EROSION CONTROL SHALL BE INSTALLED AT THE DOWN GRADIENT PERIMETER OF THE ACTUAL LIMITS OF GRUBBING AND/OR GRADING, AND AS SHOWN ON THE DRAWINGS. EROSION CONTROL MEASURES SHOWN ON THE DRAWINGS ARE A MINIMUM. CONTRACTOR SHALL TAKE ALL OTHER NECESSARY MEASURES. EROSION CONTROL FENCE SHALL ALSO BE INSTALLED AT THE DOWN GRADIENT PERIMETER OF THE TOPSOIL STOCKPILES. ALL DISTURBED EARTH SURFACES SHALL BE STABILIZED IN THE SHORTEST PRACTICAL TIME AND TEMPORARY EROSION CONTROL DEVICES SHALL BE EMPLOYED UNTIL SUCH TIME AS ADEQUATE SOIL STABILIZATION HAS BEEN ACHIEVED. TEMPORARY STORAGE OF EXCAVATED MATERIAL SHALL BE STABILIZED IN A MANNER THAT WILL MINIMIZE EROSION. ALL INSTALLED EROSION CONTROL FACILITIES SHALL BE REMOVED AT THE END OF THE PROJECT.
4. ALL STORM DRAINAGE INLETS SHALL BE PROTECTED BY HAY BALE FILTERS TO PREVENT ENTRY OF SEDIMENT FROM RUNOFF WATERS DURING CONSTRUCTION. CONTRACTOR SHALL BE RESPONSIBLE FOR THE REMOVAL AND DISPOSAL OF ALL COLLECTED SEDIMENT, AND THAT WHICH COLLECTS IN THE STORM DRAIN SYSTEM. REFER TO THE CIVIL DETAIL DRAWINGS.
5. CONTRACTOR SHALL CONTROL DUST ON THE CONSTRUCTION SITE TO A REASONABLE LIMIT, AS DETERMINED BY THE ENGINEER, AND AS OUTLINED IN SPECIFICATION SECTION 01562.
6. CONTRACTOR SHALL NOT TRACK OR SPILL EARTH, DEBRIS OR OTHER CONSTRUCTION MATERIAL ON PUBLIC OR PRIVATE STREETS AND PLANT DRIVES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE IMMEDIATE ASSOCIATED CLEAN UP.
7. THE CONTRACTOR SHALL NOT HAVE ANY RIGHT OF PROPERTY IN ANY MATERIALS TAKEN FROM ANY EXCAVATION. SUITABLE EXCAVATED MATERIAL MAY BE INCORPORATED IN THE PROJECT, WITH EXCESS MATERIAL DISPOSED OF AT A LOCATION PROVIDED BY THE CONTRACTOR. THESE PROVISIONS SHALL IN NO WAY RELIEVE THE CONTRACTOR OF OBLIGATIONS TO PROPERLY DISPOSE OF AND REPLACE ANY MATERIAL DETERMINED BY THE ENGINEER TO BE UNSUITABLE FOR BACKFILLING. THE CONTRACTOR SHALL DISPOSE OF UNSUITABLE AND EXCESS MATERIAL IN ACCORDANCE WITH THE APPLICABLE SECTIONS OF THE CONTRACT DOCUMENTS.
8. CONTRACTOR SHALL REMOVE AND REPLACE, OR REPAIR, ALL CURBS, SIDEWALKS, PAVEMENT AND OTHER ITEMS DAMAGED BY CONSTRUCTION ACTIVITIES TO AT LEAST THEIR ORIGINAL CONDITION, TO THE SATISFACTION OF THE OWNER AND ENGINEER.
9. WHERE EXISTING PAVEMENT IS REMOVED AND REPLACED, MATCH EXISTING GRADES TO THE EXTENT POSSIBLE. COORDINATE FINE GRADING WITH THE ENGINEER.
10. ALL ROAD AND DRIVE CROSS SLOPES SHALL PITCH 1/4-INCH PER FOOT MINIMUM. ALL PAVED SURFACES SHALL PITCH 1% UNLESS OTHERWISE NOTED. REFER TO THE CIVIL DETAIL DRAWINGS.
11. ALL NON-ROADWAY AREAS THAT ARE EXCAVATED, FILLED, OR OTHERWISE DISTURBED BY THE CONTRACTOR SHALL BE LOAMED, GRADED, LIMED, FERTILIZED, SEEDED AND MULCHED, UNLESS OTHERWISE NOTED. THE TOP 4-INCHES OF SOIL SHALL BE LOAM. REFER TO SPECIFICATION SECTION 02485, LANDSCAPING/LOAM AND SEED.

## CIVIL SITE LAYOUT

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING THIS PROVIDED LAYOUT INFORMATION THROUGHOUT THE COURSE OF CONSTRUCTION. REPORT ANY LAYOUT DISCREPANCIES IMMEDIATELY TO THE ENGINEER.
2. THE LOCATIONS AND LIMITS OF ALL ON-SITE WORK AND STORAGE AREAS SHALL BE REVIEWED/COORDINATED WITH, AND ACCEPTABLE TO, THE OWNER AND ENGINEER. THE CONTRACTOR SHALL LIMIT ACTIVITIES TO THESE AREAS.
3. WRITTEN DIMENSIONS SHALL PREVAIL. DO NOT SCALE DISTANCES FROM THE DRAWINGS. REPORT ANY DISCREPANCIES IMMEDIATELY TO THE ENGINEER.
4. ALL ELEVATIONS REFER TO THE TOWN OF WATERFORD DATUM (USC AND GS MEAN SEA LEVEL).
5. EXISTING CONDITIONS SITE PLAN DEVELOPED FROM DECEMBER 2021 DRONE IMAGING PREPARED BY WRIGHT-PIERCE AND EXISTING RECORD DRAWING INFORMATION.

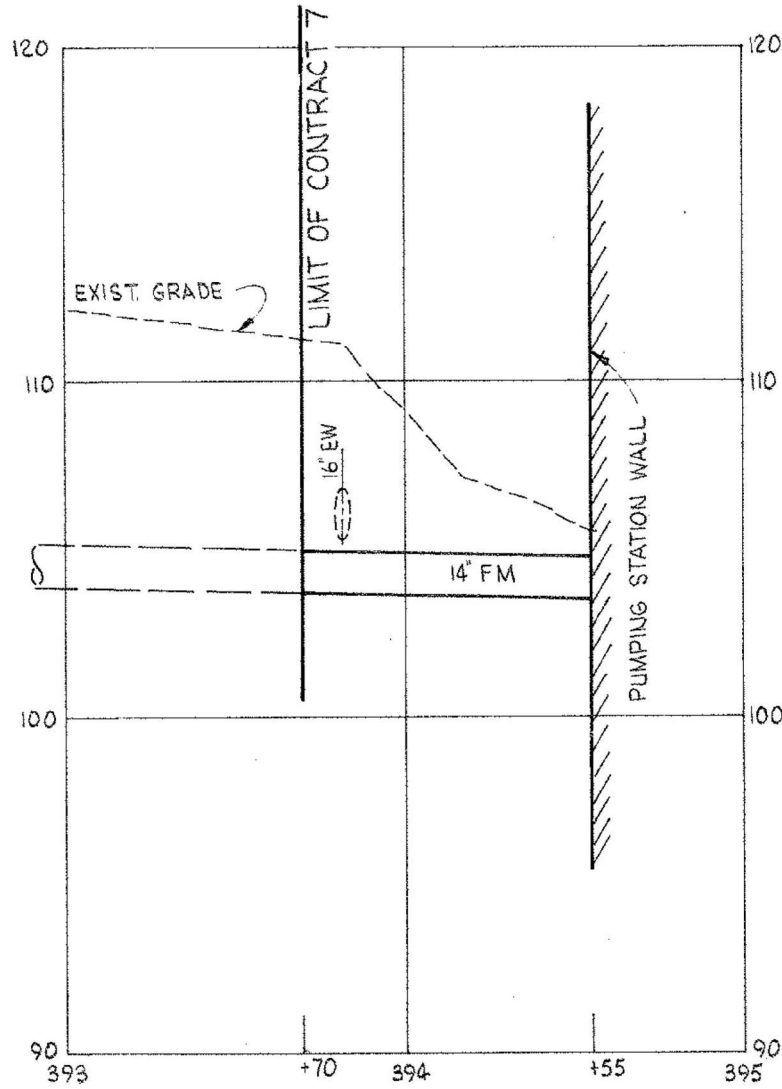
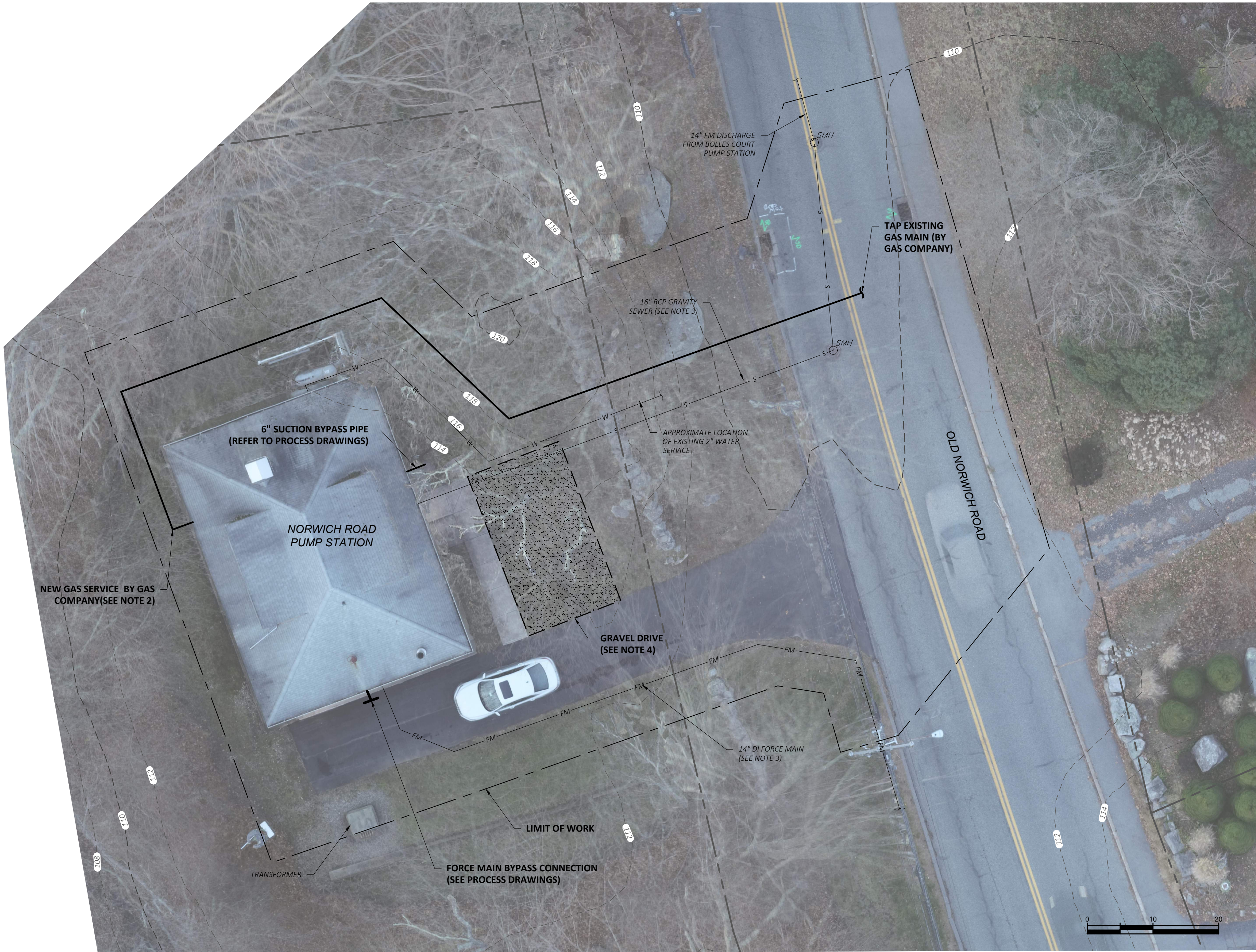
## CIVIL ABBREVIATIONS

|         |                                  |
|---------|----------------------------------|
| Ø, DIA  | DIAMETER                         |
| Ø, NO   | NUMBER                           |
| AC      | ASBESTOS CEMENT                  |
| APP'D   | APPROVED                         |
| BR      | BRICK                            |
| BLDG    | BUILDING                         |
| CB      | CATCH BASIN                      |
| CEN     | CENTER                           |
| CF      | CUBIC FEET PER SECOND            |
| CI      | CAST IRON                        |
| CIPP    | CURED-IN-PLACE-PIPE              |
| CL      | CENTERLINE                       |
| CMF     | CORRUGATED METAL PIPE            |
| CO      | CLEANOUT                         |
| CONC    | CONCRETE                         |
| COR     | CORNER                           |
| CY      | CUBIC YARD                       |
| DEMO    | DEMOLITION                       |
| DMH     | DRAIN MANHOLE                    |
| DI      | DUCTILE IRON                     |
| DR      | DRAIN                            |
| DWG     | DRAWING                          |
| EL      | ELEVATION                        |
| EMH     | ELECTRIC MANHOLE                 |
| FM      | FORCE MAIN                       |
| FT      | FEET                             |
| G       | GAS                              |
| HDPE    | HIGH DENSITY POLYETHYLENE        |
| HYD     | HYDRANT                          |
| IN      | INCH                             |
| INF     | INFLUENT                         |
| INV     | INVERT                           |
| LBS     | POUNDS                           |
| LF      | LINEAR FOOT                      |
| MAX     | MAXIMUM                          |
| MH      | MANHOLE                          |
| MIN     | MINIMUM                          |
| MW      | MONITORING WELL                  |
| N       | NORTH                            |
| NGVD    | NATIONAL GEODETIC VERTICAL DATUM |
| N/A     | NOT AVAILABLE/APPLICABLE         |
| NTS     | NOT TO SCALE                     |
| OD      | OUTSIDE DIAMETER                 |
| OUT     | OUTFALL                          |
| PC      | PERFORATED CLAY                  |
| PSF     | POUNDS PER SQUARE FOOT           |
| PSI     | POUNDS PER SQUARE INCH           |
| PS      | PRIMARY SLUDGE                   |
| PT      | POINT OF TANGENCY                |
| PVC     | POLYVINYL CHLORIDE               |
| RCP     | REINFORCED CONCRETE PIPE         |
| RD      | ROOF DRAIN                       |
| REQ'D   | REQUIRED                         |
| S       | SLOPE, SEWER                     |
| SD      | STORM DRAIN                      |
| SF      | SQUARE FEET                      |
| SMH     | SANITARY SEWER MANHOLE           |
| SQ      | SQUARE                           |
| STA     | STATION                          |
| T, XFMR | TRANSFORMER                      |
| TBM     | TEMPORARY BENCH MARK             |
| THK     | THICKNESS                        |
| TOS     | TOP OF STRUCTURE                 |
| TYP     | TYPICAL                          |
| UD      | UNDERDRAIN                       |
| UG      | UNDERGROUND                      |
| UGE     | UNDERGROUND ELECTRIC             |
| VC      | VITRIFIED CLAY                   |
| VF      | VERTICAL FOOT                    |
| W/      | POTABLE                          |
| W       | WITH WATER                       |

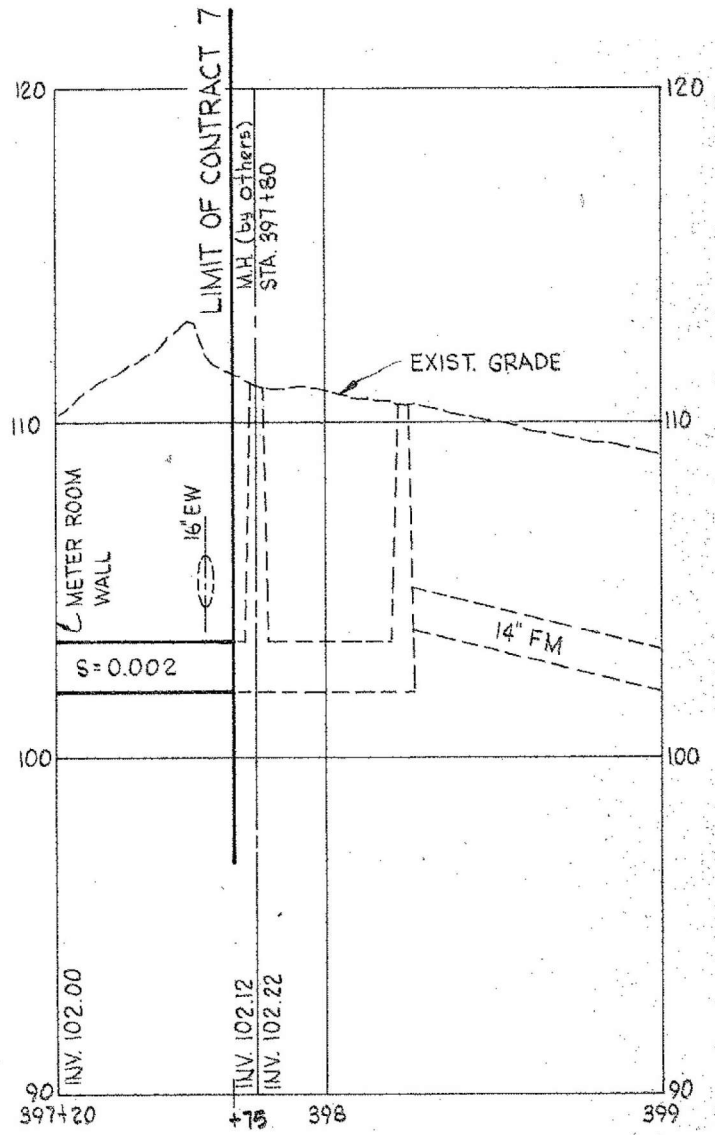
| EXISTING | PROPERTY/ROW LINE     | PROPOSED |
|----------|-----------------------|----------|
|          | PROPERTY/ROW LINE     |          |
|          | SETBACK LINE          |          |
|          | EASEMENT LINE         |          |
|          | CENTERLINE            |          |
|          | EDGE OF PAVEMENT      |          |
|          | CURBING               |          |
|          | EDGE OF GRAVEL        |          |
|          | EDGE OF CONCRETE      |          |
|          | CONTOUR               |          |
|          | BUILDING              |          |
|          | STONEWALL             |          |
|          | TREELINE              |          |
|          | CHAIN LINK FENCE      |          |
|          | STOCKADE FENCE        |          |
|          | BARB WIRE FENCE       |          |
|          | RETAINING WALL        |          |
|          | GUARDRAIL             |          |
|          | SEWER                 |          |
|          | SEWER FORCE MAIN      |          |
|          | GAS                   |          |
|          | WATER                 |          |
|          | STORM DRAIN           |          |
|          | UNDERDRAIN            |          |
|          | CULVERT               |          |
|          | UNDERGROUND ELECTRIC  |          |
|          | OVERHEAD ELECTRIC     |          |
|          | UNDERGROUND TELEPHONE |          |
|          | UNDERGROUND CABLE TV  |          |
|          | IRON PIPE/REBAR       |          |
|          | DRILLHOLE             |          |
|          | MONUMENT              |          |
|          | SURVEY CONTROL POINT  |          |
|          | SPOT ELEVATION        |          |
|          | SEWER MANHOLE         |          |
|          | DRAINAGE MANHOLE      |          |
|          | CATCH BASIN           |          |
|          | ELECTRIC MANHOLE      |          |
|          | TELEPHONE MANHOLE     |          |
|          | SHUTOFF VALVE         |          |
|          | WATER SERVICE SHUTOFF |          |
|          | YARD HYDRANT          |          |
|          | HYDRANT               |          |
|          | GAS SERVICE SHUTOFF   |          |
|          | GAS GATE VALVE        |          |
|          | UTILITY POLE          |          |
|          | UTILITY POLE W/ GUY   |          |
|          | UTILITY POLE W/ LIGHT |          |
|          | LIGHT POLE            |          |
|          | BOLLARD               |          |
|          | FLAGPOLE              |          |
|          | CONIFEROUS TREE       |          |
|          | DECIDUOUS TREE        |          |
|          | SHRUB                 |          |
|          | WETLAND FLAG          |          |
|          | EDGE OF WATER         |          |
|          | STREAM                |          |
|          | EDGE OF WETLANDS      |          |
|          | FLOODPLAIN            |          |
|          | WETLANDS              |          |
|          | DRAINAGE FLOW         |          |
|          | DRAINAGE SWALE        |          |
|          | PAVEMENT MARKINGS     |          |
|          | SIGN                  |          |
|          | MAILBOX               |          |
|          | TEMPORARY BENCH MARK  |          |
|          | TEST PIT              |          |
|          | TEST BORING           |          |
|          | TEST PROBE            |          |
|          | MONITORING WELL       |          |
|          | LIMIT OF WORK         |          |
|          | SILT FENCE            |          |
|          | RIPRAP                |          |
|          | RAILROAD              |          |
|          | MATCHLINE             |          |
|          | ROCK OUTCROP          |          |

|                                                                                                                                                                     |                                                                                                                                                                                                                                                                                           |  |                                                                                      |                                                                                                                                                                                                                                   |  |                                                                                                  |  |                                                                                                  |
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| <div> <div> WATERFORD UTILITY COMMISSION<br/> OLD NORWICH ROAD<br/> SEWER PUMP STATION UPGRADE </div> <div> GENERAL NOTES, LEGEND &amp; ABBREVIATIONS </div> </div> | <div>  <div> <b>WRIGHT-PIERCE</b><br/> 860.343.8297   <a href="http://www.wright-pierce.com">www.wright-pierce.com</a><br/> 169 MAIN STREET, 700 PLAZA MIDDLESEX, MIDDLETOWN, CT 06457 </div> </div> |  |  | <div> PROJECT NO: 21490<br/> DESIGNED: T.MONTGOMERY<br/> CUD COORD: E.LAGNER<br/> CAD: D.METZ<br/> CHECKED: K.HICKEY<br/> DATE: JUNE 2023<br/> APPROVED: D.DIEVERT<br/> DATE: JUNE 2023<br/> SUBMISSION: CONTRACT DRAWINGS </div> |  | <div> REVISIONS </div>                                                                           |  | <div> APPD DATE </div>                                                                           |
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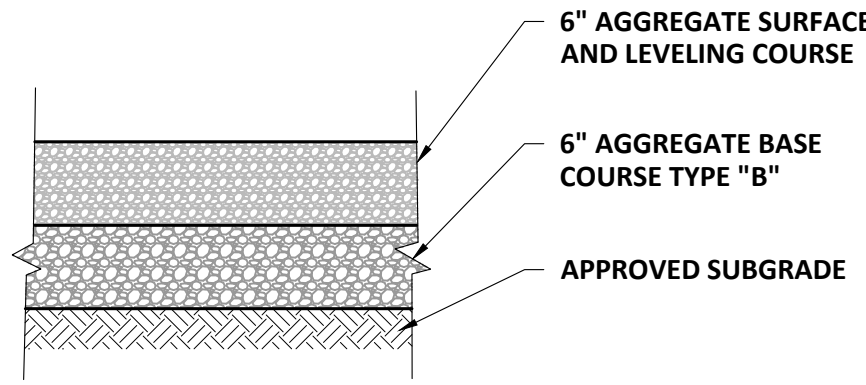




PROFILE - 14" FORCE MAIN  
SCALE: NTS



PROFILE - 16" GRAVITY SEWER  
SCALE: NTS



TYPICAL SECTION OF GRAVEL DRIVE  
SCALE: NTS

OLD NORWICH ROAD PUMP STATION SITE DEMOLITION AND MODIFICATIONS PLAN  
SCALE: 1"=10'

NOTES:

- REFER TO GENERAL NOTES ON DRAWING C-1 FOR ADDITIONAL INFORMATION.
- 1" GAS TO NEW GAS METER/REGULATOR FROM EXISTING HIGH PRESSURE MAIN IN OLD NORWICH ROAD. NEW GAS SERVICE TO BE FURNISHED AND INSTALLED BY THE GAS COMPANY. CONTRACTOR SHALL COORDINATE THEIR WORK WITH THE GAS COMPANY. ALL WORK ASSOCIATED WITH INSTALLATION OF THE NEW GAS SERVICE FROM THE MAIN TO THE EXTERIOR BUILDING WALL SHALL BE CONDUCTED BY THE GAS COMPANY AND PAID FOR OUT OF THE CONTRACT ALLOWANCE FOR UTILITIES.
- APPROXIMATE LOCATION OF GRAVITY SEWER AND FORCE MAIN. REFER TO PROFILES THIS SHEET.
- PREPARE AREA FOR NEW GRAVEL DRIVE. CLEAR AND GRUB AND REMOVE/HAUL AWAY 12-INCHES OF SOIL. COMPACT EXISTING SUBGRADE AND INSTALL GRAVEL DRIVE PER DETAIL THIS SHEET.

| REVISIONS                                                                                                                                                             |   | APPD                                                                                                | DATE |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|---|-----------------------------------------------------------------------------------------------------|------|
| NO                                                                                                                                                                    | △ |                                                                                                     |      |
|                                                                                                                                                                       | △ |                                                                                                     |      |
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| PROJECT NO: 21490                                                                                                                                                     |   | DESIGNED: T.MONTGOMERY                                                                              |      |
| CAD COORD: ELIAGNER                                                                                                                                                   |   | CAD: D.METZ                                                                                         |      |
| CHECKED: K.HICKEY                                                                                                                                                     |   | DATE: JUNE 2023                                                                                     |      |
| APPROVED: D.DIEVERT                                                                                                                                                   |   | DATE: JUNE 2023                                                                                     |      |
| SUBMISSION: CONTRACT DRAWINGS                                                                                                                                         |   |                                                                                                     |      |
|                                                                                                                                                                       |   |                                                                                                     |      |
| <b>WRIGHT-PIERCE</b><br>860.343.8297   <a href="http://www.wright-pierce.com">www.wright-pierce.com</a><br>169 MAIN STREET, 700 PLAZA MIDDLESEX, MIDDLETOWN, CT 06457 |   | <b>WATERFORD UTILITY COMMISSION</b><br><b>OLD NORWICH ROAD</b><br><b>SEWER PUMP STATION UPGRADE</b> |      |
| DRAWING                                                                                                                                                               |   | C-2                                                                                                 |      |
| OLD NORWICH ROAD PUMP STATION<br>SITE DEMOLITION & MODIFICATIONS PLAN                                                                                                 |   |                                                                                                     |      |



EROSION AND SEDIMENTATION CONTROL NOTES:

- THIS PLAN HAS BEEN DEVELOPED AS A STRATEGY TO CONTROL SOIL EROSION AND SEDIMENTATION DURING AND AFTER CONSTRUCTION. THIS PLAN IS BASED ON THE "2002 CONNECTICUT GUIDELINES FOR SOIL EROSION AND SEDIMENT CONTROL" BY THE CONNECTICUT COUNCIL ON SOIL AND WATER CONSERVATION IN COOPERATION WITH THE CONNECTICUT DEPARTMENT OF ENERGY AND ENVIRONMENTAL PROTECTION.
- PROVIDE SILT FENCE, STONE CHECK DAMS, AND OTHER EROSION CONTROL MEASURES AS REQUIRED TO ADEQUATELY PREVENT SEDIMENT TRANSPORT AS NOTED IN THE BMP.
- ALL SEDIMENT AND EROSION CONTROL MEASURES SHALL BE DONE IN ACCORDANCE WITH THE "2002 CONNECTICUT GUIDELINES FOR SOIL EROSION AND SEDIMENT CONTROL" BY THE CONNECTICUT COUNCIL ON SOIL AND WATER CONSERVATION IN COOPERATION WITH THE CONNECTICUT DEPARTMENT OF ENVIRONMENTAL PROTECTION.
  - THOSE AREAS UNDERGOING ACTUAL CONSTRUCTION WILL BE MAINTAINED IN AN UNTREATED OR NON-VEGETATED CONDITION FOR THE MINIMUM TIME REQUIRED. IN GENERAL, AREAS TO BE VEGETATED SHALL BE PERMANENTLY STABILIZED WITHIN 15 DAYS OF FINAL GRADING AND TEMPORARILY STABILIZED WITHIN 30 DAYS OF INITIAL DISTURBANCE OF THE SOIL.
  - SEDIMENT BARRIERS (SILT FENCE, STONE CHECK DAMS, ETC.) SHOULD BE INSTALLED PRIOR TO ANY SOIL DISTURBANCE OF UPGRADIENT DRAINAGE AREAS.
  - INSTALL SILT FENCE AT TOE OF SLOPES TO FILTER SILT FROM RUNOFF. SEE SILT FENCE DETAIL FOR PROPER INSTALLATION. SILT FENCE WILL REMAIN IN PLACE PER NOTE 5.
  - ALL EROSION CONTROL STRUCTURES WILL BE INSPECTED, REPLACED, AND/OR REPAIRED EVERY 7 DAYS AND IMMEDIATELY FOLLOWING ANY SIGNIFICANT RAINFALL OR SNOW MELT OR WHEN NO LONGER SERVICABLE DUE TO SEDIMENT ACCUMULATION OR DECOMPOSE. SEDIMENT DEPOSITS MUST BE REMOVED WHEN DEPOSITS REACH APPROXIMATELY ONE HALF THE HEIGHT OF THE BARRIER. SEDIMENT CONTROL DEVICES SHALL REMAIN IN PLACE AND BE MAINTAINED BY THE CONTRACTOR UNTIL AREAS UPSLOPE ARE PERMANENTLY STABILIZED.
  - NO SLOPES, EITHER PERMANENT OR TEMPORARY, SHALL BE STEEPER THAN TWO HORIZONTAL TO ONE VERTICAL (2 TO 1) UNLESS STABILIZED WITH PERMANENT EROSION CONTROL MEASURES.
  - IF FINAL SEEDING OF THE DISTURBED AREAS IS NOT TO BE COMPLETED 30 DAYS PRIOR TO THE ANTICIPATED DATE OF THE FIRST KILLING FROST, USE TEMPORARY MULCHING (DORMANT SEEDING MAY BE ATTEMPTED AS WELL) TO PROTECT THE SITE AND DELAY PERMANENT SEEDING, UNTIL UPGRADIENT AREAS ARE STABILIZED.
  - WHEN FEASIBLE, TEMPORARY SEEDING OF DISTURBED AREAS THAT HAVE NOT BEEN FINISH-GRADED SHALL BE COMPLETED 30 DAYS PRIOR TO THE FIRST KILLING FROST.
  - DURING THE CONSTRUCTION PHASE, INTERCEPTED SEDIMENT WILL BE RETURNED TO THE SITE AND REGRADED ONTO OPEN AREAS. POST SEEDING SEDIMENT, IF ANY, WILL BE DISPOSED OF IN AN ACCEPTABLE MANNER.
  - REVEGETATION MEASURES WILL COMMENCE UPON COMPLETION OF CONSTRUCTION EXCEPT AS NOTED ABOVE. ALL DISTURBED AREAS NOT OTHERWISE STABILIZED WILL BE GRADED, SMOOTHED, AND REVEGETATED AS FOLLOWS:
    - A MINIMUM OF FOUR INCHES (4") OF LOAM WILL BE SPREAD OVER DISTURBED AREAS AND SMOOTHED TO A UNIFORM SURFACE.
    - APPLY LIMESTONE AND FERTILIZER ACCORDING TO SOIL TEST. IF SOIL TESTING IS NOT DEEMED FEASIBLE ON SMALL OR VARIABLE SITES, OR WHERE TIMING IS CRITICAL, FERTILIZER MAY BE APPLIED AT THE RATE OF 300 POUNDS PER ACRE OR 7.5 POUNDS PER 1,000 SQUARE FEET USING 10-10-10 (N-P205-K20) OR EQUIVALENT. APPLY GROUND LIMESTONE (EQUIVALENT TO 50% CALCIUM PLUS MAGNESIUM OXIDE) AT A RATE OF 4 TONS PER ACRE (180 POUNDS PER 1,000 SQUARE FEET) FOR CLAY, CLAY LOAM, AND HIGH ORGANIC SOIL. AT A RATE OF 3 TONS PER ACRE (135 POUNDS PER 1,000 SQUARE FEET) FOR SANDY LOAM, LOAM AND SILT LOAM. AT A RATE OF 2 TONS PER ACRE (90 POUNDS PER 1,000 SQUARE FEET) FOR LOAMY SAND, AND SAND.
    - FOLLOWING SEED BED PREPARATION, DITCHES AND BACK SLOPES WILL BE SEEDED WITH A MIXTURE OF 47% CREEPING RED FESCUE, 5% REDTOP, AND 48% TALL FESCUE. THE LAWN AREAS WILL BE SEEDED WITH A PREMIUM TURF MIXTURE OF 44% KENTUCKY BLUEGRASS, 44% CREEPING RED FESCUE, AND 12% PERENNIAL RYE GRASS. SEEDING RATE IS 3.0 POUNDS PER 1,000 SQUARE FEET. LAWN QUALITY SOD MAY BE SUBSTITUTED FOR SEED.
    - HAY MULCH AT THE RATE OF 2 TONS PER ACRE OR 90-95 POUNDS PER 1,000 SQUARE FEET OR A HYDRO-APPLICATION OF CELLULOSE FIBER SHALL BE APPLIED FOLLOWING SEEDING. A SUITABLE BINDER WILL BE USED ON HAY MULCH FOR WIND CONTROL.
  - ALL TEMPORARY EROSION CONTROL MEASURES SHALL BE REMOVED ONCE THE WORK AREA IS STABILIZED.
  - WETLANDS (EXCEPTING THOSE WHICH ARE TO BE FILLED IN ACCORDANCE WITH STATE AND FEDERAL REGULATIONS) WILL BE PROTECTED WITH SILT FENCE INSTALLED AT THE EDGE OF THE WETLAND OR THE BOUNDARY OF WETLAND DISTURBANCE.
  - IN GENERAL, AREAS WITHIN 100 FEET OF DELINEATED WETLANDS OR STREAMS SHALL HAVE A MAXIMUM PERIOD OF EXPOSURE OF NOT MORE THAN 15 DAYS.
  - FOLLOW APPROPRIATE EROSION CONTROL MEASURES PRIOR TO EACH STORM IN ALL AREAS WITHIN 100 FEET OF DELINEATED WETLANDS OR STORMS.

EROSION CONTROL DURING WINTER CONSTRUCTION:

- WINTER CONSTRUCTION PERIOD DEFINED: NOVEMBER 1 THROUGH APRIL 15.
- WINTER EXCAVATION AND EARTHWORK SHALL BE DONE SUCH THAT NO MORE THAN 1 ACRE OF THE SITE IS WITHOUT STABILIZATION AT ANY ONE TIME.
- EXPOSED AREA SHOULD BE LIMITED TO THAT WHICH CAN BE MULCHED IN ONE DAY PRIOR TO ANY PRECIPITATION EVENT.
- AN AREA SHALL BE CONSIDERED TO HAVE BEEN STABILIZED WHEN EXPOSED SURFACES HAVE BEEN EITHER MULCHED WITH STRAW OR HAY AT A RATE OF 100 POUNDS PER 1,000 SQUARE FEET (WITH OR WITHOUT SEEDING) OR DORMANT SEEDED, MULCHED, AND ADEQUATELY ANCHORED BY AN APPROVED ANCHORING TECHNIQUE. IN ALL CASES, MULCH SHALL BE APPLIED SUCH THAT SOIL SURFACE IS NOT VISIBLE THROUGH THE MULCH.
- BETWEEN THE DATES OF OCTOBER 15 AND APRIL 1, LOAM OR SEED WILL NOT BE REQUIRED. DURING PERIODS OF ABOVE-FREEZING TEMPERATURES, THE SLOPES SHALL BE FINE GRADED AND EITHER PROTECTED WITH MULCH OR TEMPORARILY SEEDED AND MULCHED UNTIL SUCH TIME AS THE FINAL TREATMENT CAN BE APPLIED. IF THE DATE IS AFTER NOVEMBER 1 AND IF THE EXPOSED AREA HAS BEEN LOAMED, FINAL GRADED, AND IS SMOOTH, THEN THE AREA MAY BE DORMANT SEEDED AT A RATE 200%-300% HIGHER THAN SPECIFIED FOR PERMANENT SEED AND THEN MULCHED. IF CONSTRUCTION CONTINUES DURING FREEZING WEATHER, ALL EXPOSED AREAS SHALL BE GRADED BEFORE FREEZING AND THE SURFACE TEMPORARILY PROTECTED FROM EROSION BY THE APPLICATION OF MULCH. SLOPES SHALL NOT BE LEFT EXPOSED OVER THE WINTER OR ANY OTHER EXTENDED TIME OF WORK SUSPENSION UNLESS TREATED IN THE ABOVE MANNER. UNTIL SUCH TIME AS WEATHER CONDITIONS PERMIT, ALL DITCHES TO BE FINISHED WITH THE PERMANENT SURFACE TREATMENT, EROSION SHALL BE CONTROLLED BY THE INSTALLATION OF BALES OF HAY OR STONE CHECK DAMS IN ACCORDANCE WITH THE STANDARD DETAILS.
- BETWEEN THE DATES OF NOVEMBER 1 AND APRIL 15, ALL MULCH SHALL BE EITHER WOOD CELLULOSE FIBER OR BE ANCHORED WITH MULCH NETTING OR CHEMICAL TACK.
  - MULCH NETTING SHALL BE USED TO ANCHOR MULCH IN ALL DRAINAGE WAYS WITH A SLOPE GREATER THAN 3%, FOR SLOPES EXPOSED TO DIRECT WINDS AND FOR ALL OTHER SLOPES GREATER THAN 8%.
  - MULCH NETTING SHALL BE USED TO ANCHOR MULCH IN ALL AREAS WITH SLOPES GREATER THAN 15%. AFTER OCTOBER 1, THE SAME APPLIES FOR ALL SLOPES GREATER THAN 8%.
- AFTER NOVEMBER 1, THE CONTRACTOR SHALL APPLY DORMANT SEEDING OR MULCH AND ANCHORING ON ALL BARE EARTH AT THE END OF EACH WORKING DAY.
- DURING WINTER CONSTRUCTION PERIODS, ALL SNOW SHALL BE REMOVED FROM AREAS OF SEEDING AND MULCHING PRIOR TO PLACEMENT.

MULCH ANCHORING:

ANCHOR MULCH WITH: MULCH NETTING (AS PER MANUFACTURER); ASPHALT EMULSION (0.05 GALLONS PER SQUARE YARD); CHEMICAL TACK (AS PER MANUFACTURER'S SPECIFICATIONS); OR BE WOOD CELLULOSE FIBER (2,000 POUNDS PER ACRE). WETTING FOR SMALL AREAS AND ROAD DITCHES MAY BE PERMITTED.

MULCH AND MULCH ANCHORING

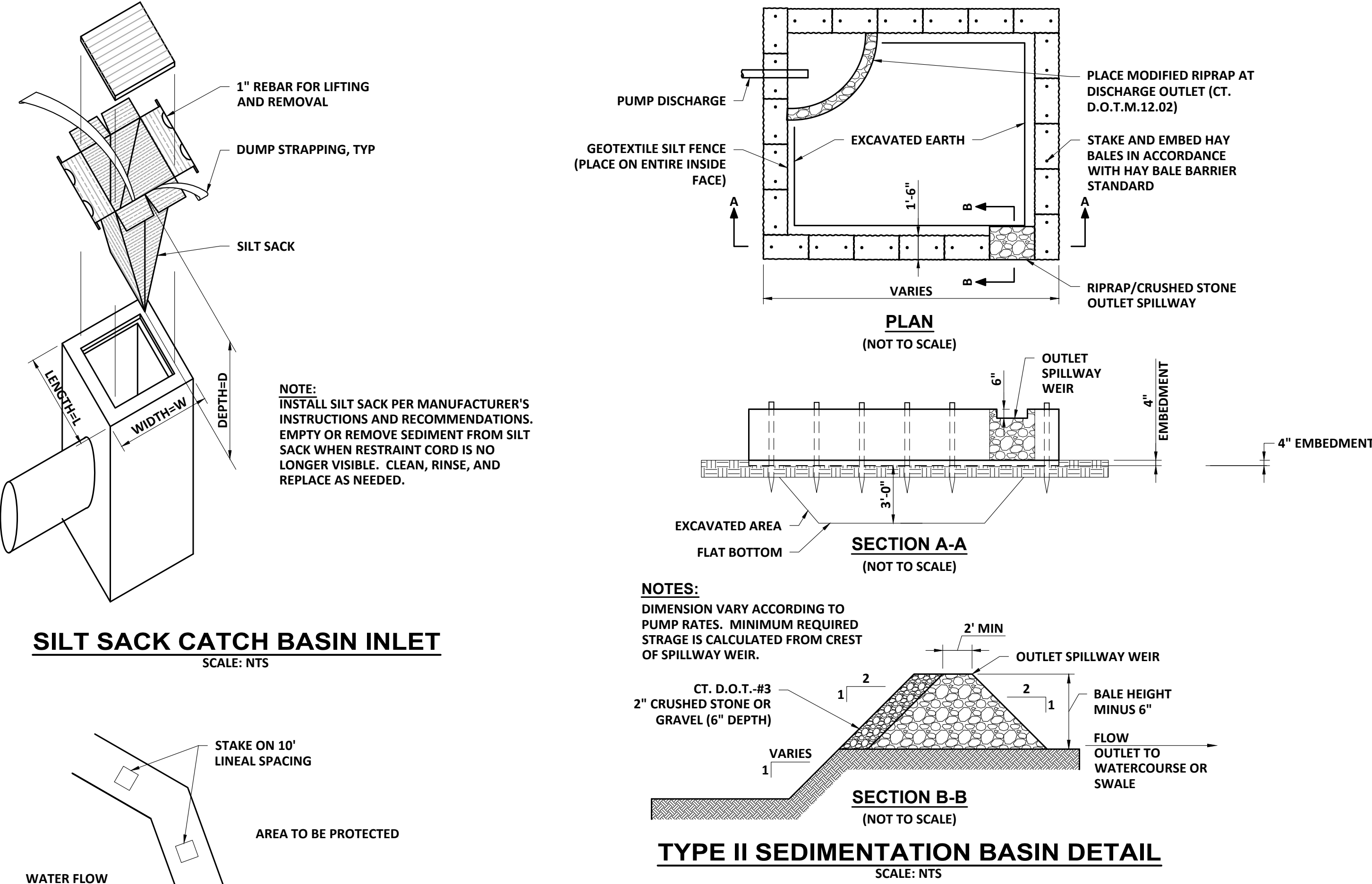
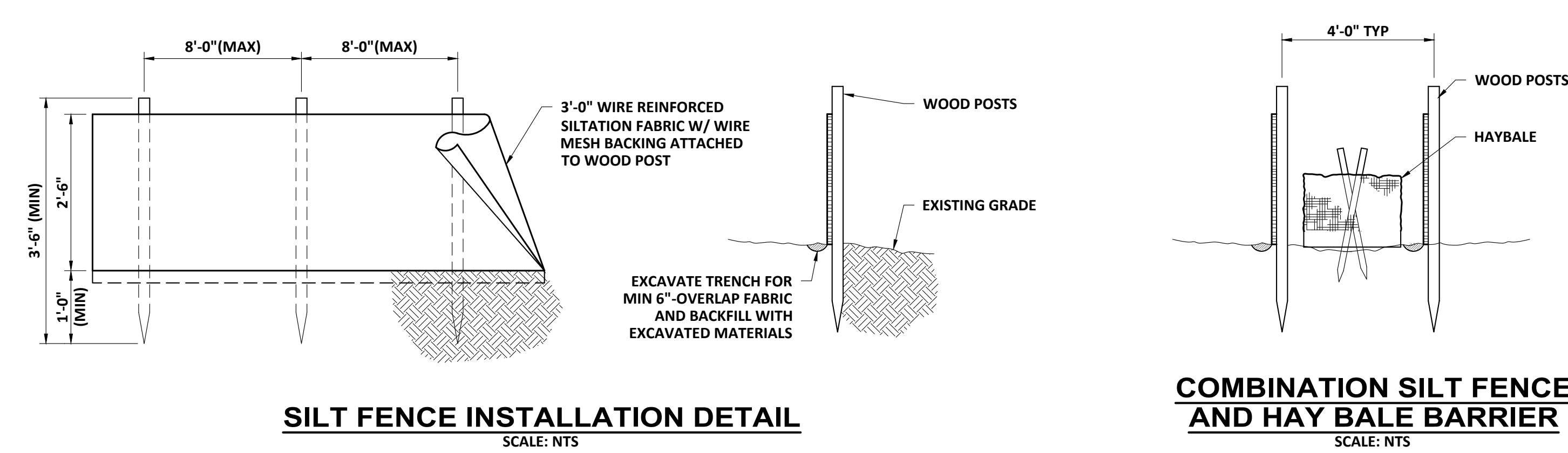
| LOCATION                                                           | MULCH                               | RATE (1000 S.F.) |
|--------------------------------------------------------------------|-------------------------------------|------------------|
| PROTECTED AREA                                                     | STRAW OR HAY *                      | 100 POUNDS       |
| WINDY AREAS                                                        | STRAW OR HAY (ANCHORED) *           | 100 POUNDS       |
| MODERATE TO HIGH VELOCITY AREAS OR STEEP SLOPES (GREATER THAN 3:1) | JUTE MESH, EXCELSIOR MAT, OR EQUIV. | AS REQUIRED      |

\* A HYDRO-APPLICATION OF CELLULOSE FIBER MAY BE APPLIED FOLLOWING SEEDING. A SUITABLE BINDER SHALL BE USED ON HAY MULCH FOR WIND CONTROL.

ADDITIONAL TEMPORARY SEED MIXTURE (OR PERIODS LESS THAN 12 MONTHS)

| DATES                        | SEED             | RATE         |
|------------------------------|------------------|--------------|
| 3/1 - 6/15<br>8/15 - 9/15    | OATS             | 86 LBS/ACRE  |
| 3/1 - 6/15<br>8/1 - 10/15    | ANNUAL RYE GRASS | 40 LBS/ACRE  |
| 4/15 - 7/1<br>(8/15 - 10/15) | WINTER RYE       | 120 LBS/ACRE |
| 5/15 - 7/15                  | MILLET           | 20 LBS/ACRE  |

\* SEED RATE ONLY



|                               |                         |                               |                         |
|-------------------------------|-------------------------|-------------------------------|-------------------------|
| PROJECT NO: 21496             | DESIGNED: T. MONTGOMERY | PROJECT NO: 21496             | DESIGNED: T. MONTGOMERY |
| CAD COORD: ELAIGNER           | CAD: D. METZ            | CAD COORD: ELAIGNER           | CAD: D. METZ            |
| CHECKED: K. HICKEY            | DATE: JUNE 2023         | CHECKED: K. HICKEY            | DATE: JUNE 2023         |
| APPROVED: D. DIEVER           | DATE: JUNE 2023         | APPROVED: D. DIEVER           | DATE: JUNE 2023         |
| SUBMISSION: CONTRACT DRAWINGS |                         | SUBMISSION: CONTRACT DRAWINGS |                         |

|                                                                                |                                 |
|--------------------------------------------------------------------------------|---------------------------------|
| WATERFORD UTILITY COMMISSION<br>OLD NORWICH ROAD<br>SEWER PUMP STATION UPGRADE | EROSION CONTROL NOTES & DETAILS |
|--------------------------------------------------------------------------------|---------------------------------|

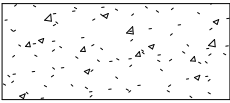
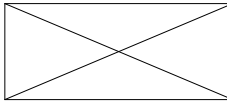
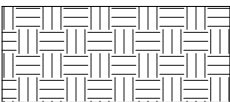
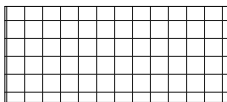
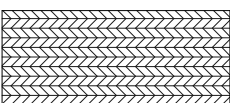
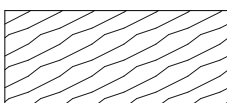
DRAWING  
C-3



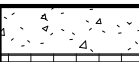
ABBREVIATIONS:

|       |                               |       |                        |
|-------|-------------------------------|-------|------------------------|
| AFF   | ABOVE FINISH FLOOR            | HP    | HIGH POINT             |
| ALUM  | ALUMINUM                      | HR    | HOUR                   |
| BLDG  | BUILDING                      | INSUL | INSULATION             |
| C     | CAULK                         | MAX   | MAXIMUM                |
| CL    | CENTER LINE                   | MECH  | MECHANICAL             |
| CBB   | CONTINUOUS BOND BEAM          | MFR   | MANUFACTURER           |
| CDM   | CAVITY DRAINAGE MATERIAL      | MIN   | MINIMUM                |
| CJ    | CONTROL JOINT                 | MJ    | MASONRY JOINT          |
| CJV   | CONTROL JOINT (VENEER ONLY)   | MO    | MASONRY OPENING        |
| CMU   | CONCRETE MASONRY UNIT         | NIC   | NOT IN CONTRACT        |
| CONC  | CONCRETE                      | NTS   | NOT TO SCALE           |
| CONT  | CONTINUOUS                    | PT    | PRESERVATIVE TREATED   |
| DIA   | DIAMETER                      | R     | RISER                  |
| DIM   | DIMENSION                     | RD    | ROOF DRAIN             |
| DN    | DOWN                          | REINF | REINFORCING            |
| DWG   | DRAWING                       | REQ   | REQUIRED               |
| EL    | ELEVATION (HEIGHT)            | RO    | ROUGH OPENING          |
| EQ    | EQUAL                         | S     | SEALANT                |
| EXIST | EXISTING                      | SF    | SQUARE FEET (FOOT)     |
| FD    | FLOOR DRAIN                   | SIM   | SIMILAR                |
| FFE   | FINISH FLOOR ELEVATION        | SPEC  | SPECIFICATIONS         |
| FRP   | FIBERGLASS REINFORCED PLASTIC | T     | TREAD                  |
| FT    | FEET (FOOT)                   | TOC   | TOP OF CONCRETE        |
| FV    | FIELD VERIFY                  | TOM   | TOP OF MASONRY         |
| GWB   | GYPSUM WALL BOARD             | TOS   | TOP OF STEEL           |
| HB    | HOSE BIB                      | TYP   | TYPICAL                |
| HDWR  | HARDWARE                      | VTR   | VENT THROUGH ROOF      |
| HM    | HOLLOW METAL                  | UNO   | UNLESS NOTED OTHERWISE |

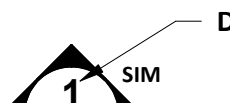
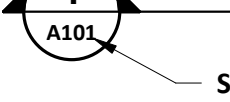
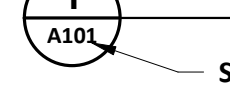
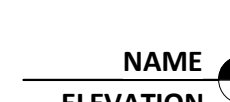
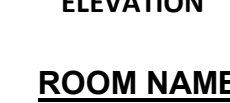
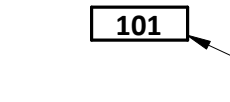
MATERIALS LEGEND

|                                                                                   |          |                                                                                   |                                        |
|-----------------------------------------------------------------------------------|----------|-----------------------------------------------------------------------------------|----------------------------------------|
|  | CONCRETE |  | DIMENSIONAL LUMBER<br>OR WOOD BLOCKING |
|  | EARTH    |  | RIGID INSULATION                       |
|  | PLYWOOD  |  | FINISH<br>WOOD                         |

WALLS LEGEND:

|                                                                                     |                                                                                               |
|-------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------|
|    | EXISTING WALL/PARTITION                                                                       |
|    | CIP CONCRETE WALL WITH 2" RIGID INSULATION ON<br>INTERIOR SIDE AND GWB OR FRP PLYWOOD PANELS. |
|  | CIP CONCRETE WALL                                                                             |

SYMBOLS LEGEND

|                                                                                     |                            |                                                                                     |                                           |
|-------------------------------------------------------------------------------------|----------------------------|-------------------------------------------------------------------------------------|-------------------------------------------|
|  | DRAWING NUMBER             |  | DEMOLITION MARKER                         |
|  | SECTION                    |  | MODIFICATION MARKER                       |
|  | SHEET NUMBER               |  | DOOR TAG                                  |
|  | DRAWING NUMBER             |  | CAULKING (FIRE RATED<br>WHERE APPLICABLE) |
|  | DETAIL                     |  | SEALANT                                   |
|  | SHEET NUMBER               |                                                                                     |                                           |
|  | NAME<br>ELEVATION<br>DATUM |                                                                                     |                                           |
|  | ROOM NAME                  |                                                                                     |                                           |
|  | ROOM TAG                   |                                                                                     |                                           |
|  | ROOM NUMBER                |                                                                                     |                                           |

ARCHITECTURAL NOTES

- ALL DIMENSIONS INDICATED ON THE PLANS ARE NOMINAL, REFER TO THE DETAILS FOR MORE SPECIFIC INFORMATION.
- EXPANSION ANCHORS ARE TO HAVE A MINIMUM OF 4 3/4" EMBEDMENT UNLESS INDICATED OTHERWISE.

CODE NOTES

CODES COMPLIANCE  
CODES - 2022 CONNECTICUT STATE BUILDING CODE (CSBC):  
2021 INTERNATIONAL BUILDING CODE AS AMENDED (IBC)  
2021 INTERNATIONAL EXISTING BUILDING CODE AS AMENDED (IEBC)  
2021 INTERNATIONAL PLUMBING CODE AS AMENDED (IPC)  
2021 INTERNATIONAL MECHANICAL CODE AS AMENDED (IMC)  
2021 INTERNATIONAL ENERGY CONSERVATION CODE AS AMENDED (IECC)  
2020 NFPA 70, NATIONAL ELECTRIC CODE, OF THE NATIONAL FIRE PROTECTION ASSOCIATION INC.

DESCRIPTION OF BUILDINGS AND WORK  
THE WORK ON THE OLD NORWICH ROAD PUMP STATION INCLUDES THE REMOVAL OF THE EXISTING SHINGLE ROOFING SYSTEM INCLUDING SHINGLES, UNDERLAYMENT AND DRIP EDGE FOR INSTALLATION OF NEW ROOFING MATERIALS. THE EXISTING EXTERIOR DOORS WILL BE REMOVED AND REPLACED. DOOR TRIM AND WINDOW TRIM IS TO BE PAINTED. THIS WORK WILL BE CLASSIFIED AS AN ALTERATION LEVEL 1 (IEBC).

PROJECT NO: 21490  
DESIGNED: D-HARAZIM  
CAD COORD: ELAGNER  
CAD: H.DORRITY  
CHECKED: CMICHAUD  
DATE: JUNE 2023  
APPROVED: D-HARAZIM  
DATE: JUNE 2023  
SUBMISSION: CONTRACT DRAWINGS





860.343.8297 | [www.wright-pierce.com](http://www.wright-pierce.com)  
169 MAIN STREET, 700 PLAZA MIDDLESEX, MIDDLETOWN, CT 06457

WATERFORD UTILITY COMMISSION  
OLD NORWICH ROAD  
SEWER PUMP STATION UPGRADE

GENERAL NOTES, LEGENDS AND ABBREVIATIONS

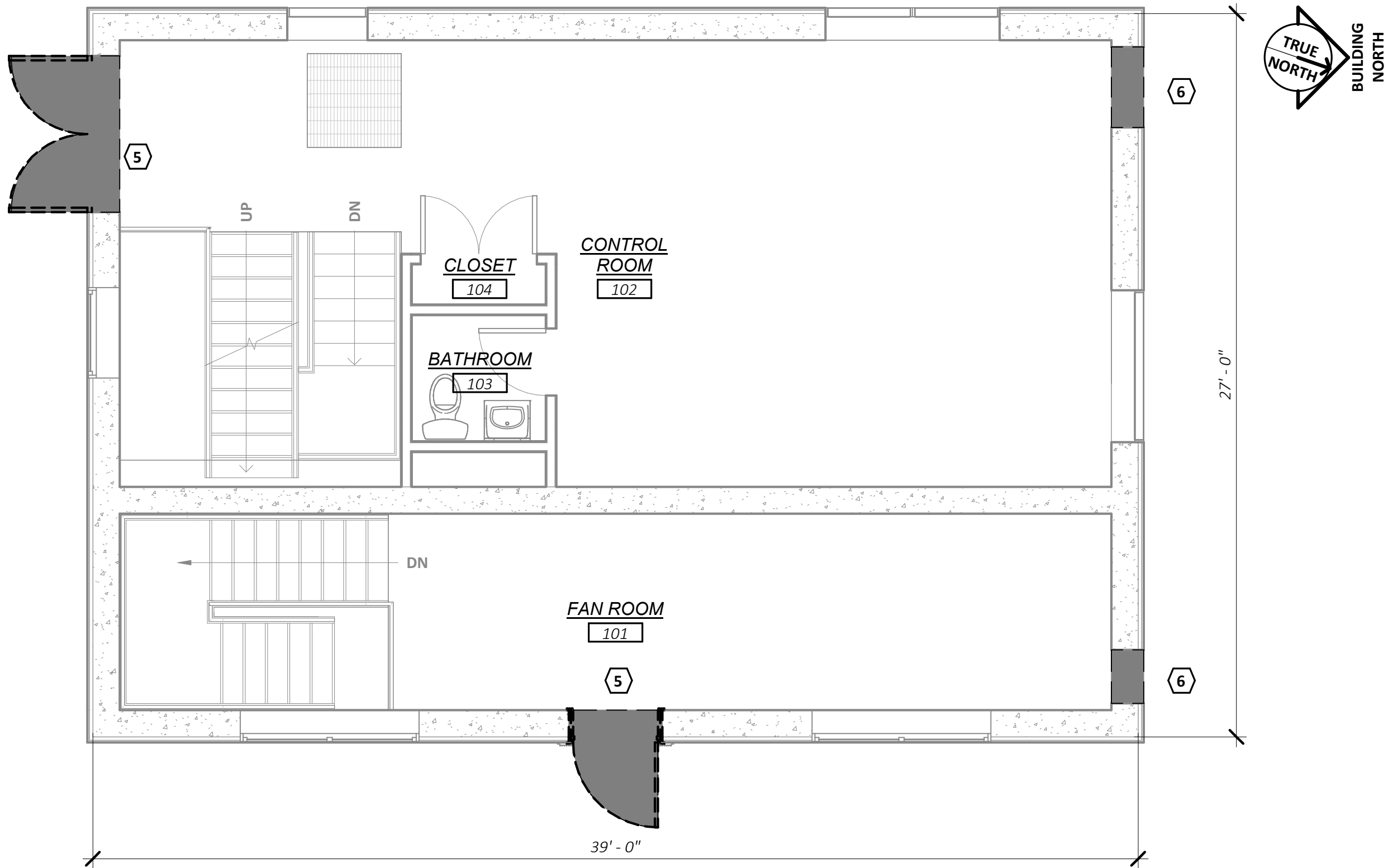
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| REVISIONS |  | APPD | DATE |
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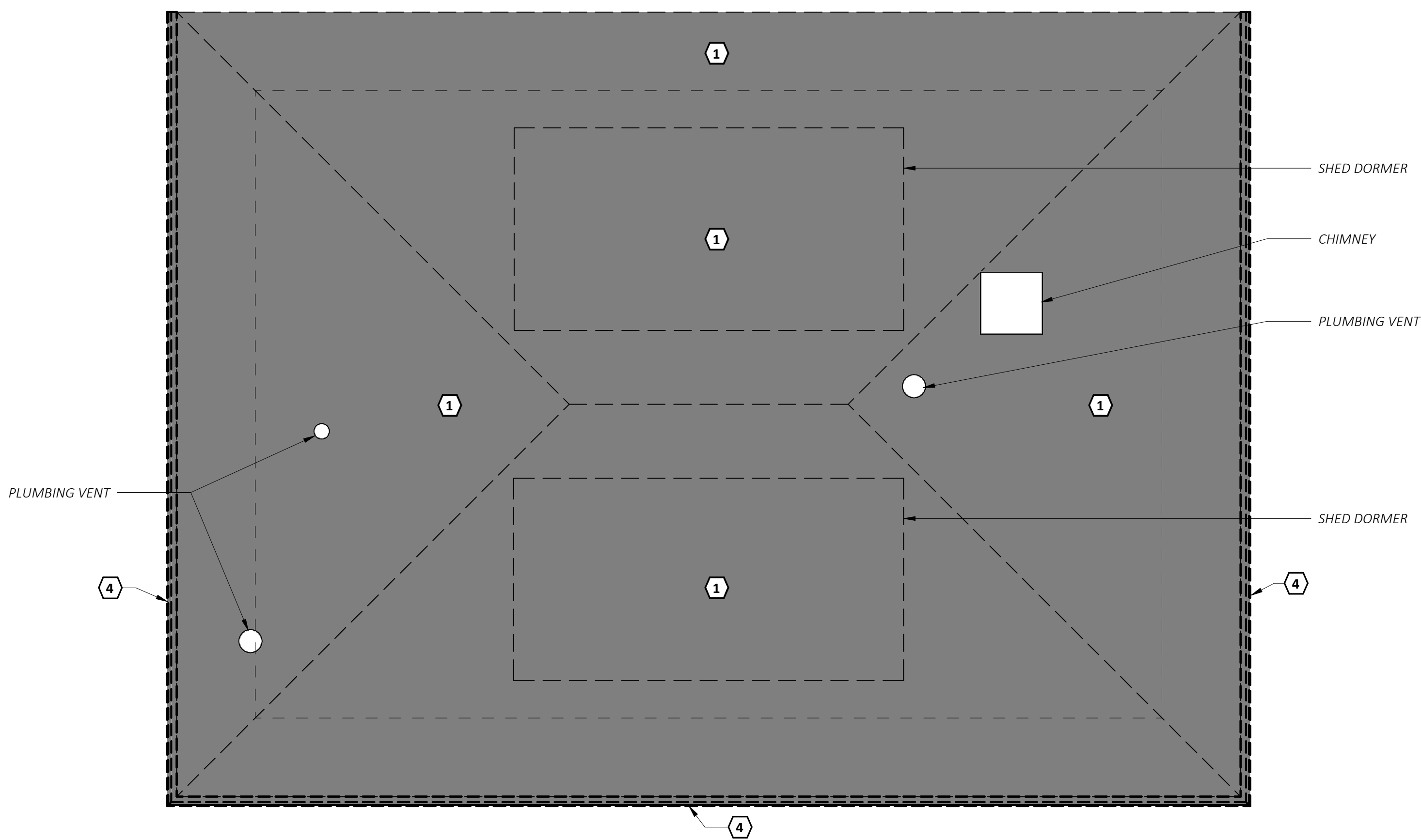


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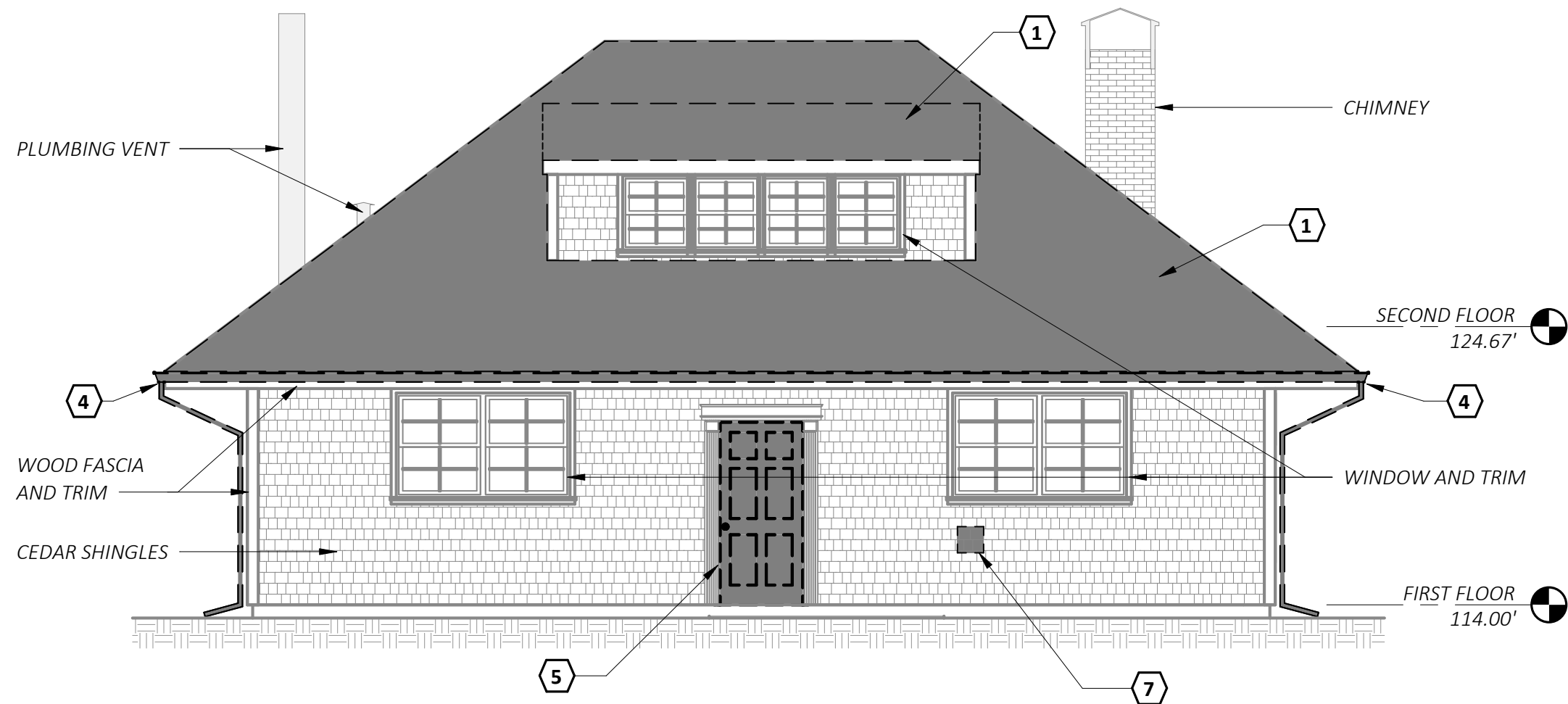
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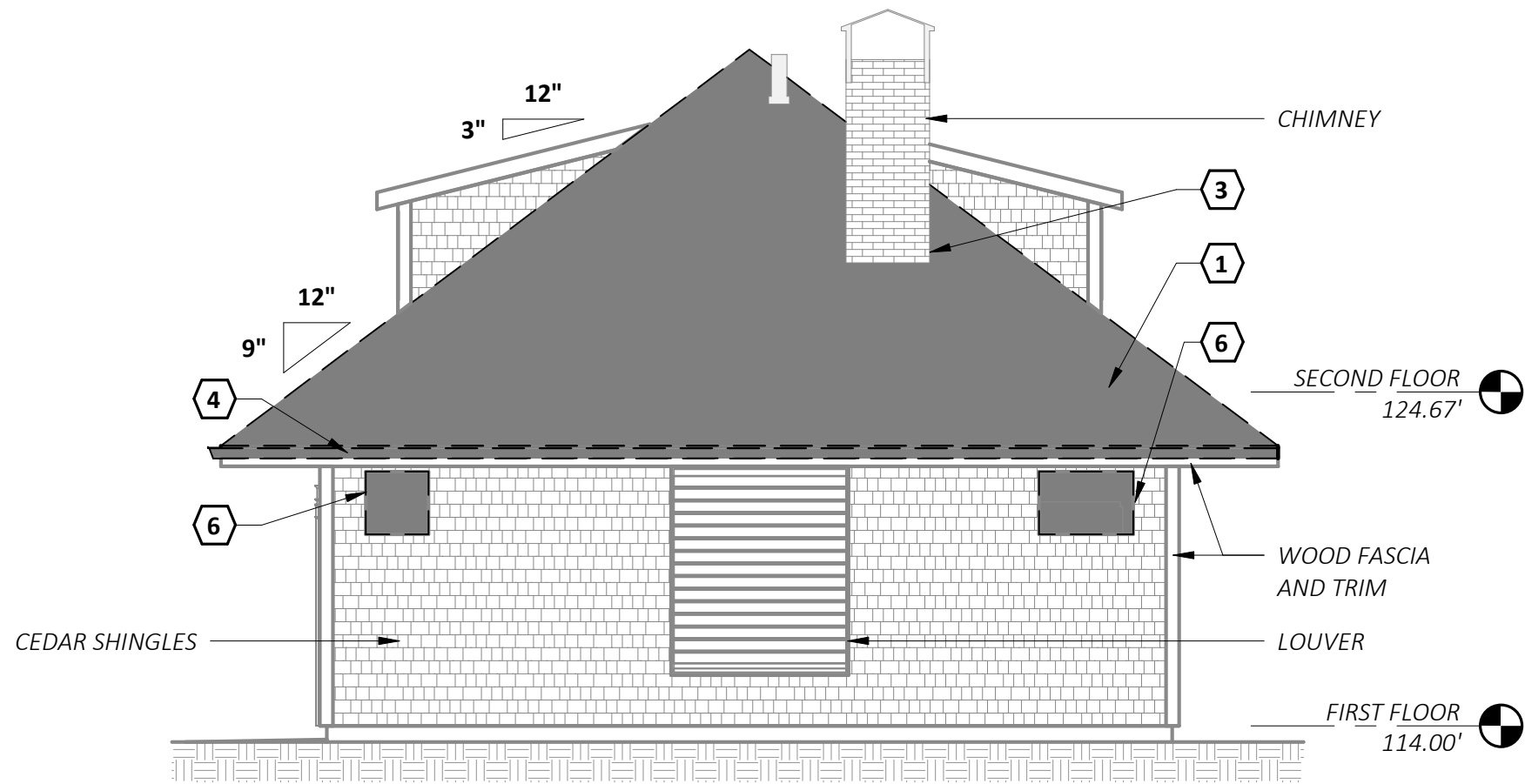
FIRST FLOOR DEMOLITION PLAN  
SCALE: 1/4" = 1'-0"



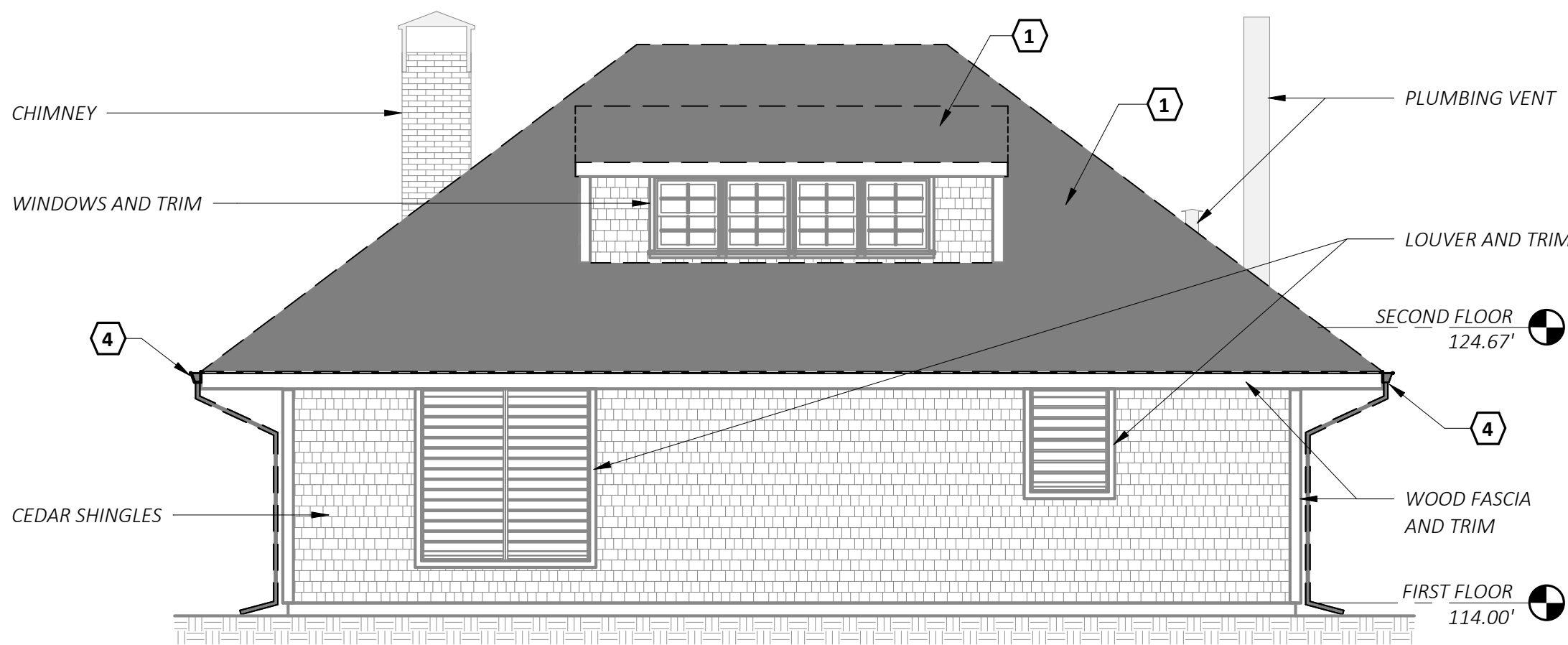
ROOF DEMOLITION PLAN  
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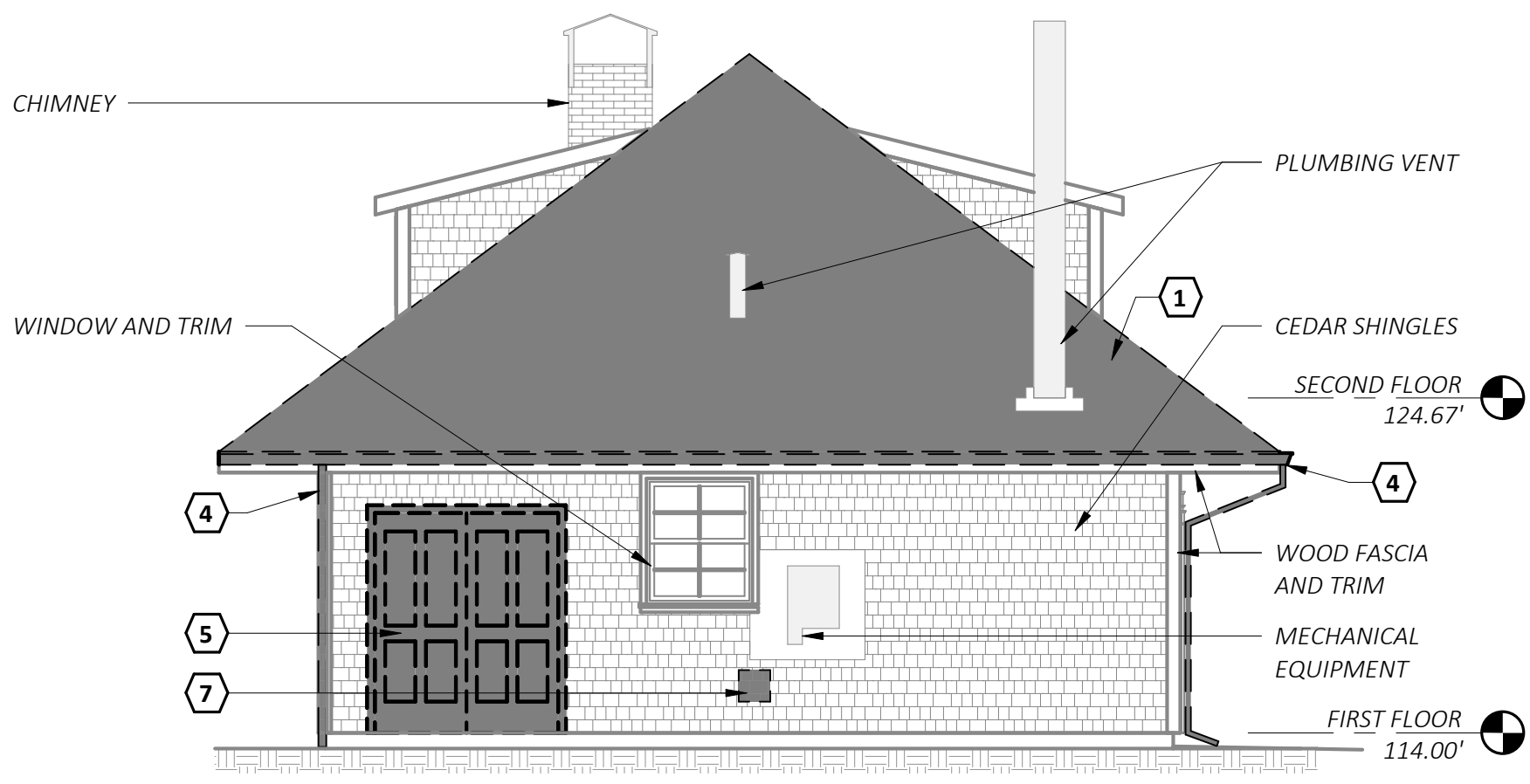
EAST ELEVATION  
SCALE: 3/16" = 1'-0"



NORTH ELEVATION  
SCALE: 3/16" = 1'-0"



WEST ELEVATION  
SCALE: 3/16" = 1'-0"



SOUTH ELEVATION  
SCALE: 3/16" = 1'-0"

DEMOLITION NOTES:

- 1 REMOVE EXISTING SHINGLES, UNDERLAYMENT AND METAL DRIP EDGE AND PREPARE SURFACE FOR INSTALLATION OF NEW ROOFING.
- 2 INSPECT ROOF FOR WATER DAMAGE, REMOVE DAMAGED SHEATHING AS REQUIRED. COORDINATE WITH ARCHITECT FOR INSPECTION.
- 3 REMOVE EXISTING LEAD FLASHING TO THE CHIMNEY AND PREP FOR INSTALLATION OF NEW STEP FLASHING.
- 4 REMOVE EXISTING GUTTERS AND DOWNSPOUTS FOR INSTALLATION OF NEW GUTTERS AND DOWNSPOUTS.
- 5 REMOVE DOOR, FRAME AND ALL HARDWARE. PREP OPENINGS FOR INSTALLATION OF NEW DOORS.
- 6 CUT NEW WALL OPENING FOR INSTALLATION OF NEW LOUVER, SEE MECHANICAL DRAWINGS FOR CUT INFILL DETAILS.
- 7 CUT NEW WALL OPENING FOR INSTALLATION OF NEW PROCESS PIPE, SEE PROCESS DRAWINGS.

| REVISIONS |  | APPD | DATE |
|-----------|--|------|------|
| NO        |  |      |      |
| 1         |  |      |      |
| 2         |  |      |      |
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|                     |                     |                               |
|---------------------|---------------------|-------------------------------|
| PROJECT NO: 21490   | DESIGNED: D-HARAZIM | SUBMISSION: CONTRACT DRAWINGS |
| CAD COORD: ELAHER   | CHECKED: CMICHAUD   |                               |
| CAD: H-DOHERTY      | DATE: JUNE 2023     |                               |
| APPROVED: D-HARAZIM | DATE: JUNE 2023     |                               |

860.343.8297 | www.wright-pierce.com  
169 MAIN STREET, 700 PLAZA MIDDLESEX, MIDDLETOWN, CT 06457

WATERFORD UTILITY COMMISSION  
OLD NORWICH ROAD  
SEWER PUMP STATION UPGRADE

OLD NORWICH ROAD PUMP STATION  
DEMOLITION FLOOR AND ROOF PLANS

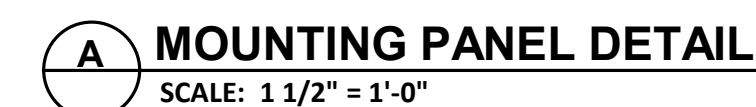
DRAWING  
A-2





1. PRESSURE WASH/CLEAN BUILDING EXTERIOR IN IT'S ENTIRETY
2. PROVIDE 100 LINEAL FEET OF WOOD TRIM TO REPLACE DAMAGED TRIM AS REQUIRED
3. INSPECT ROOF FOR WATER DAMAGE, REMOVE DAMAGED SHEATHING AS REQUIRED. PROVIDE ALLOWANCE OF 600 SF OF SHEATHING REPLACEMENT IN LUMP SUM BASE BID. COORDINATE WITH ARCHITECT FOR INSPECTION.
4. COORDINATE ALL ROOF PENETRATIONS WITH OTHER DISCIPLINES, INFILL ANY EXISTING ABANDONED PENETRATIONS PRIOR TO INSTALLATION OF THE NEW ROOF.
5. DOOR AND WINDOW TRIM ARE TO BE PAINTED
6. ALL PAINTING TO BE DONE IN ACCORDANCE WITH SPEC 09900.

- 1 INSTALL NEW ASPHALT SHINGLES, ICE AND WATER/ UNDERLAYMENT SHIELD AND METAL DRIp EDGE
  - 2 NEW FLASHING AT CHIMNEY, REPOINT MASONRY JOINTS AS REQUIRED
  - 3 REMOVE AND REPLACE FLASHING COLLAR
  - 4 INSTALL NEW GUTTERS AND DOWNSPOUTS
  - 5 INSTALL NEW DOORS
- NEW RIDGE VENT, CUT EXISTING SHEATHING AS REQUIRED TO PROVIDE RIDGE OPENING PER THE MANUFACTURERS REQUIREMENTS
- 7 DOOR AND WINDOW TRIM ARE TO BE PAINTED
- 8 NEW PROCESS PLUMPING, SEE PROCESS DRAWINGS FOR LOCATION. SEE WALKING PANEL DETAIL A/A-3



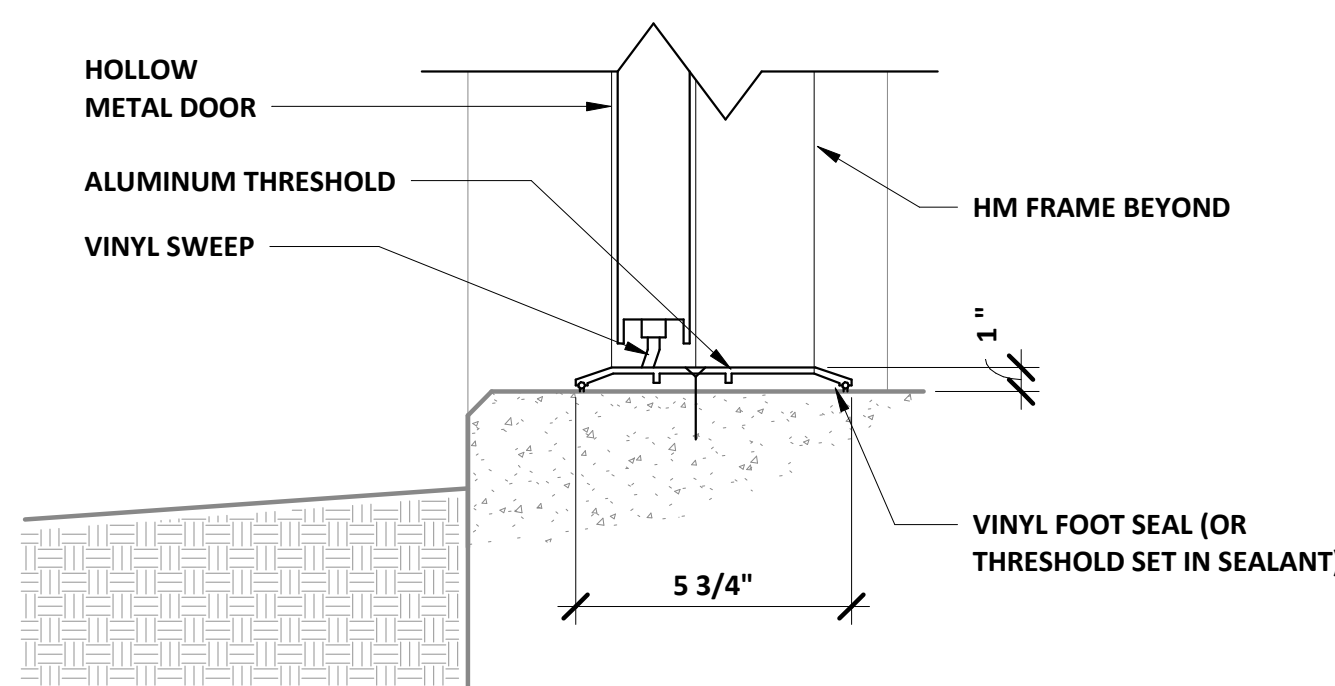
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|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----|-----------|------------|
| <p><b>WRIGHT-PIERCE</b></p> <p>860.343.8297   <a href="http://www.wright-pierce.com">www.wright-pierce.com</a></p> <p>169 MAIN STREET, 700 PLAZA MIDDLESEX, MIDDLETOWN, CT 06457</p> |  | <p>PROJECT NO: 21-890</p> <p>DESIGNED: D.HARAZIM</p> <p>CAD COORD: ELAENER</p> <p>CAD: H.DOHERTY</p> <p>CHECKED: CANICHAUD</p> <p>DATE: JUNE 2023</p> <p>APPROVED: D.HARAZIM</p> <p>DATE: JUNE 2023</p> <p>SUBMISSION: CONTRACT DRAWINGS</p> | NO | REVISIONS | APPD. DATE |
|                                                                                                                                                                                      |  |                                                                                                                                                                                                                                              | 1  |           |            |
|                                                                                                                                                                                      |  |                                                                                                                                                                                                                                              | 2  |           |            |
|                                                                                                                                                                                      |  |                                                                                                                                                                                                                                              | 3  |           |            |
|                                                                                                                                                                                      |  |                                                                                                                                                                                                                                              | 4  |           |            |
|                                                                                                                                                                                      |  |                                                                                                                                                                                                                                              | 5  |           |            |



| ROOM FINISH SCHEDULE |              |               |                   |              |       |    |       |    |       |    |            |    |         |       |            |
|----------------------|--------------|---------------|-------------------|--------------|-------|----|-------|----|-------|----|------------|----|---------|-------|------------|
| RM NO                | ROOM NAME    | FLOOR<br>MATL | FLOOR<br>FINISHES | BASE<br>MATL | WALLS |    |       |    |       |    |            |    | CEILING |       | REMARKS    |
|                      |              |               |                   |              | NORTH |    | SOUTH |    | EAST  |    | WEST       |    | MATL    | FIN.  |            |
| 01                   | MOTOR ROOM   | CONC*         | -                 | VB           | CONC* | P* | CONC* | P* | CONC* | P* | CONC*      | P* | CONC*   | P*    | SEE NOTE 3 |
| 001                  | PUMP ROOM    | CONC*         | -                 | VB           | CONC* | P* | CONC* | P* | CONC* | P* | CONC*      | P* | CONC*   | P*    | SEE NOTE 3 |
| 101                  | FAN ROOM     | CONC*         | EPOXY             | -            | CONC* | P  | CONC* | P  | CONC* | P  | CONC*      | P  | CONC*   | P     |            |
| 102                  | CONTROL ROOM | CONC*         | EPOXY             | VB           | CONC* | P  | CONC* | P  | CONC* | P  | CONC*/GWB* |    | P       | CONC* | P          |
| 103                  | BATHROOM     | CONC*         | EPOXY             | VB           | GWB*  | P  | GWB*  | P  | GWB*  | P  | GWB*       | P  | CONC*   | P     |            |
| 104                  | CLOSET       | CONC*         | EPOXY             | VB           | GWB*  | P  | GWB*  | P  | GWB*  | P  | GWB*       | P  | CONC*   | P     |            |
| 201                  | ATTIC        | CONC*         | P*                | -            | GWB*  | P* | GWB*  | P* | GWB*  | P* | GWB*       | P* | GWB*    | P*    |            |
| 202                  | STORAGE      | CONC*         | P*                | -            | GWB*  | P* | GWB*  | P* | GWB*  | P* | GWB*       | P* | GWB*    | P*    |            |

|       |              |
|-------|--------------|
| AL    | ALUMINUM     |
| HM    | HOLLOW METAL |
| ST    | STEEL        |
| THRES | THRESHOLD    |
| WD    | WOOD         |

**GENERAL CONTRACTOR TO FIELD VERIFY ALL EXISTING OPENINGS**



EXISTING WALL CONSTRUCTION

PT BLOCKING

SHIM AS REQUIRED

DOOR TRIM AND MOULDING

SEALANT AND BACKER ROD EACH SIDE

DOOR FRAME

PVC TRIM

(S)

EXISTING WALL CONSTRUCTION

PT BLOCKING

SHIM AS REQUIRED

DOOR TRIM AND MOULDING

SEALANT AND BACKER ROD EACH SIDE

DOOR FRAME

PVC TRIM

DOOR TRIM AND MOULDING

PT BLOCKING

SHIM AS REQUIRED

WALL ANCHOR TYP.

5 3/4"

DOOR FRAME

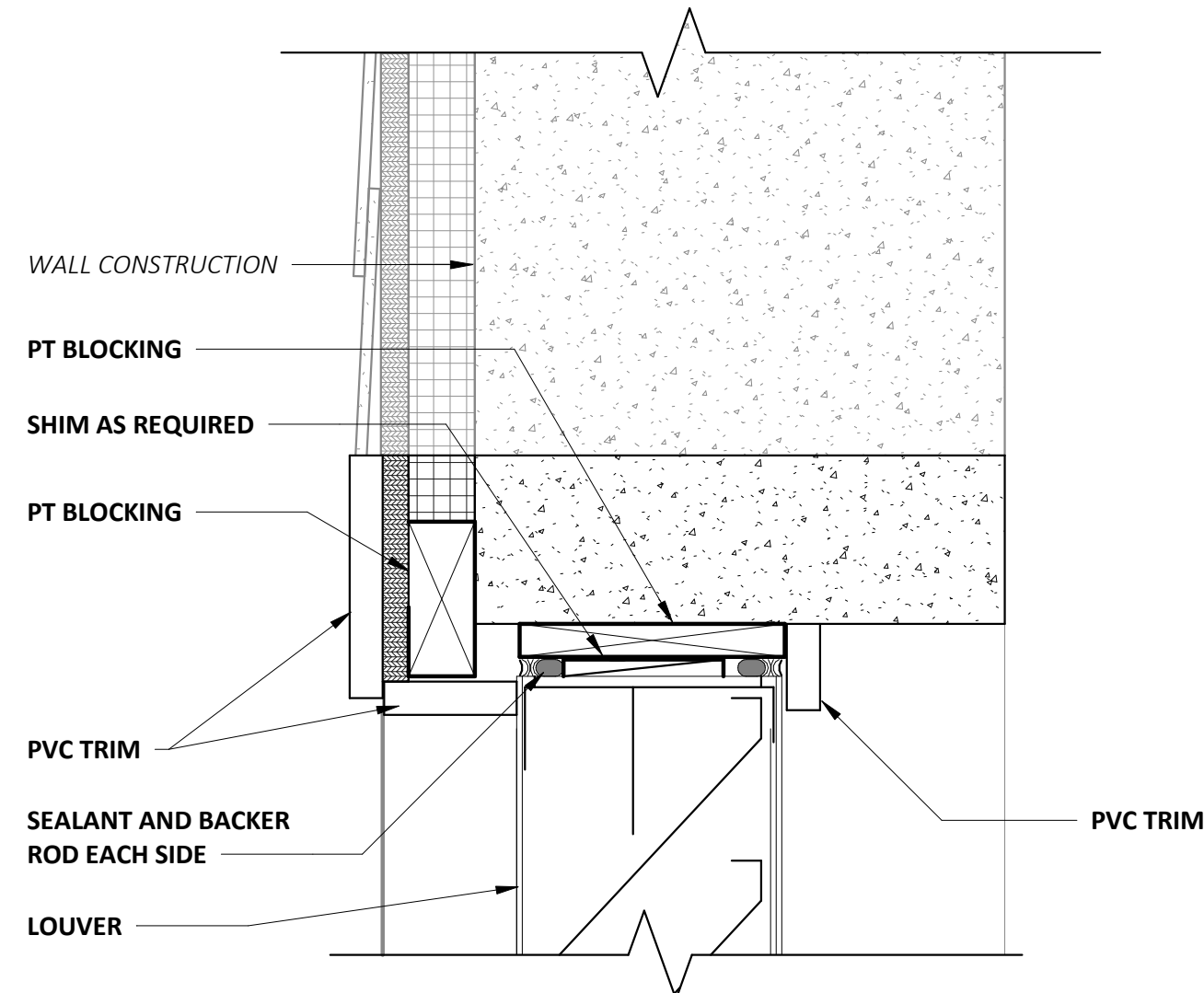
SEALANT AND BACKER ROD EACH SIDE

PVC TRIM

EXISTING WALL CONSTRUCTION

DOOR TRIM  
 PT BLOCKING  
 SHIM AS REQUIRED  
 WALL ANCHOR TYP.,  
 5 3/4"  
 DOOR FRAME  
 SEALANT AND BACKER  
 ROD EACH SIDE  
 PVC TRIM  
 EXISTING WALL CONSTRUCTION

|      |                   |
|------|-------------------|
| CONC | CONCRETE          |
| GWB  | GYPSON WALL BOARD |
| P    | PAINT             |
| VB   | VINYL BASE        |



1x6 PVC TRIM

PT BLOCKING

WALL ANCHOR TYP,

LOUVER

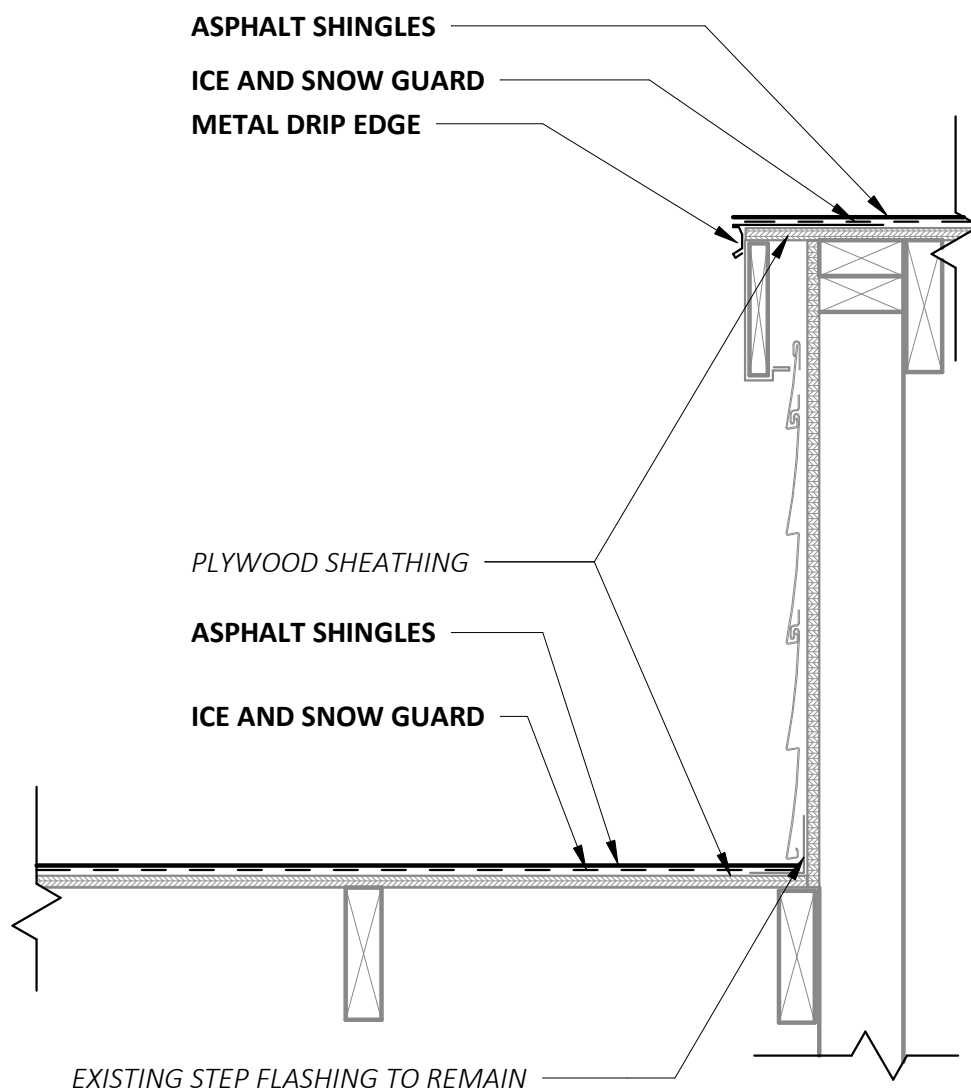
SEALANT AND BACKER  
ROD EACH SIDE

PVC TRIM

Diagram illustrating the components of a roof and gutter system:

- ASPHALT SHINGLES
- ICE AND WATER SHIELD
- PLYWOOD SHEATHING
- METAL DRIP EDGE
- GUTTER AND DOWNSPOUT
- WALL CONSTRUCTION

1. MATERIALS AND FINISHES WITH A \*1\* DENOTE EXISTING MATERIALS AND FINISHES TO REMAIN.
2. NOT ALL ROOMS REFERENCED IN THE ROOM FINISH SCHEDULE ARE SHOWN IN THE ARCHITECTURAL PLANS.
3. SCRAPE AND CLEAN WALLS AND CEILING TO REMOVE LOOSE PAINT



**DETAIL**  
1'-0"

12  
9

ASPHALT SHINGLES

ICE AND WATER SHIELD

PLYWOOD SHEATHING

METAL DRIP EDGE

GUTTER AND DOWNSPOUT

WALL CONSTRUCTION

**J EAVE DETAIL**  
SCALE: 1 1/2" = 1'-0"

|                           |                                                                                                     |                                                                                                                                                                                                                                               |                                                                                                    |                                                                                                                                                                                                       |                             |                                   |             |
|---------------------------|-----------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------|-----------------------------------|-------------|
| DRAWING<br><br><b>A-4</b> | <b>WATERFORD UTILITY COMMISSION</b><br><b>OLD NORWICH ROAD</b><br><b>SEWER PUMP STATION UPGRADE</b> | <br><b>860.343.8297</b>   <a href="http://www.wright-pierce.com">www.wright-pierce.com</a><br>169 MAIN STREET, 700 PLAZA MIDDLESEX, MIDDLETOWN, CT 06457 | <br>06/29/2023 | PROJECT NO: 21690<br>DESIGNED: D.HARAZIM<br>CAD COORD: ELAIGNER<br>CAD: H.DOHERTY<br>CHECKED: C.MICHAUD<br>DATE: JUNE 2023<br>APPROVED: D.HARAZIM<br>DATE: JUNE 2023<br>SUBMISSION: CONTRACT DRAWINGS | NO<br>1<br>2<br>3<br>4<br>5 | REVISIONS<br><br><br><br><br><br> | APP'D. DATE |
|                           |                                                                                                     |                                                                                                                                                                                                                                               |                                                                                                    |                                                                                                                                                                                                       |                             |                                   |             |
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|                           |                                                                                                     |                                                                                                                                                                                                                                               |                                                                                                    |                                                                                                                                                                                                       |                             |                                   |             |
|                           |                                                                                                     |                                                                                                                                                                                                                                               |                                                                                                    |                                                                                                                                                                                                       |                             |                                   |             |



PROCESS GENERAL NOTES:

1.

ALL EQUIPMENT AND PIPING LAYOUT DIMENSIONS SHALL BE FIELD VERIFIED AND COORDINATED WITH EQUIPMENT SUPPLIED, AND/OR EXISTING CONDITIONS. SOME INFORMATION ASSOCIATED WITH EXISTING STRUCTURES, PIPING AND EQUIPMENT LOCATIONS, ELEVATIONS AND SIZES, WERE TAKEN FROM:  
- AS BUILT DRAWINGS FOR THE TOWN OF WATERFORD, SEWAGE WORKS CONSTRUCTION PROGRAM, CONTRACT NO. 7, OLD NORWICH ROAD PUMPING STATION, DATED JANUARY 1977 BY HAYDEN & HARDING  
- CONTRACT DRAWINGS FOR THE TOWN OF WATERFORD, OLD NORWICH ROAD PUMP STATION - GENERATOR REPLACEMENT, CONTRACT NO. 7A, DATED MARCH 2007 BY WRIGHT PIERCE  
- CONTRACT DRAWINGS FOR THE TOWN OF WATERFORD, OLD NORWICH ROAD, EVERGREEN AVENUE & BLUE HILLS PUMP STATIONS HVAC IMPROVEMENTS, BID NO. 19-111, DATED JULY 2019 BY WRIGHT PIERCE  
CONTRACTOR SHALL VERIFY ALL DIMENSIONS IN THE FIELD AS REQUIRED PRIOR TO BEGINNING CONSTRUCTION OF NEW FACILITIES, EQUIPMENT OR PIPING THAT MAY BE AFFECTED. IN SOME SPECIFIC INSTANCES, WHERE SPECIAL ATTENTION MAY BE REQUIRED BY THE CONTRACTOR, SOME DIMENSIONS, ELEVATIONS, ETC. HAVE BEEN NOTED WITH AN " \* ". THIS DOES NOT HOWEVER, LIMIT THE CONTRACTOR'S RESPONSIBILITY TO VERIFY AND COORDINATE ALL NECESSARY INFORMATION FOR CONSTRUCTION.
2.

THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER OF ANY DIMENSIONS, LAYOUT OR ELEVATION CHANGES REQUIRED TO SUIT THE SPECIFIC EQUIPMENT BEING PROVIDED UNDER THIS CONTRACT. WHEN SUCH EQUIPMENT REQUIRES PADS, PIERS, CURBING, ETC., THAT DIFFERS FROM THAT SHOWN ON THE CONSTRUCTION DRAWINGS, THE CONTRACTOR SHALL COORDINATE THE STEEL REINFORCING SHOP DRAWINGS ACCORDINGLY.
3.

PROVIDE CAST OR DUCTILE IRON WALL CASTINGS, OR GALVANIZED STEEL PIPE SLEEVES, FOR ALL PIPE PENETRATIONS MADE THROUGH CONCRETE FOUNDATIONS, WALLS AND SLABS, UNLESS OTHERWISE NOTED ON THE DRAWINGS. ALL WALL SLEEVES AND WALL CASTINGS SHALL HAVE SEALING/ANCHORING COLLARS. SEE PROCESS, MECHANICAL, PLUMBING AND STRUCTURAL DRAWINGS FOR LOCATIONS OF PENETRATIONS. NEW PENETRATIONS THROUGH EXISTING STRUCTURE WALLS SHALL BE BY CORING MACHINE AND LINK TYPE COMPRESSION SEALS, UNLESS OTHERWISE INDICATED. OPENINGS TO BE COMPATIBLE WITH REQUIRED PIPING AND STANDARD LINK SEAL SIZES. FOR ADDITIONAL INFORMATION, REFER TO SPECIFICATION SECTION 15092.
4.

FOR PIPING MATERIAL, SEE THE PIPE SCHEDULE IN SPECIFICATION SECTION 15050.
5.

WHERE 90-DEGREE BENDS ARE USED SEWAGE LINES, THEY SHALL BE LONG RADIUS TYPE, EXCEPT WHERE DIMENSIONAL CONSTRAINTS NECESSITATE THE USE OF STANDARD BENDS. THESE EXCEPTIONS SHALL BE SUBJECT TO ENGINEER'S REVIEW AND ACCEPTANCE.
6.

ALL LIQUID TYPE FLOW ELEMENTS SHALL BE LOCATED A MINIMUM OF TEN PIPE DIAMETERS DOWNSTREAM AND FIVE DIAMETERS UPSTREAM OF ANY HYDRAULIC DISTURBANCE, EXCEPT IN SITUATIONS WHERE DIMENSIONAL CONSTRAINTS PRECLUDE THESE SEPARATION DISTANCES. IN THESE CASES, THE ENGINEER WILL REVIEW THE LAYOUT AND PROVIDE REVISED MINIMUM SEPARATION DISTANCES.
7.

ALL BLIND FLANGES ON SEWAGE LINES SHALL HAVE A 1-1/2-INCH BALL VALVE AND AN ATTACHMENT FOR FLUSHING WITH PLANT WATER, UNLESS OTHERWISE NOTED. SOME SEWAGE LINES SHALL BE HARD PIPED WITH PLANT WATER FOR FLUSHING, WHERE INDICATED ON THE DRAWINGS.
8.

PROVIDE DRIP PANS, WITH CENTRAL COLLECTION POINT AND DRAIN TO FLOOR, FOR ELECTRICAL AND INSTRUMENTATION EQUIPMENT LOCATED BENEATH LIQUID CARRYING PIPES.
9.

ALL PROCESS WATER HOSE BIBBS SHALL BE PROVIDED WITH A HOSE RACK AND HOSE, ALONG WITH A SIGN INDICATING "NOT SUITABLE FOR DRINKING". FOR ADDITIONAL HOSE BIBB AND HOSE RACK INFORMATION, SEE SPECIFICATION SECTION15200 AND DRAWINGS.
10.

INSTALL CORPORATION COCKS ON ALL BUILDING AND STRUCTURE INTERIOR PIPING HIGH POINTS TO PREVENT AIR BINDING. CONTRACTOR IS RESPONSIBLE FOR DETERMINING EXACT NUMBER AND LOCATIONS OF THESE CORPORATION COCKS BASED UPON INFORMATION DEPICTED ON DRAWINGS AND ACTUAL FIELD ROUTING OF PIPING. REVIEW LOCATIONS WITH ENGINEER BEFORE INSTALLATION. THESE MANUAL AIR RELEASES SHALL INCLUDE A 1/2-INCH BRASS CORPORATION COCK WITH 1/2-INCH COPPER TUBING ADEQUATELY SUPPORTED, EXTENDING TO A LOCAL AREA DRAIN. ROUTING OF TUBING AND SELECTED DRAIN TO BE REVIEWED WITH, AND ACCEPTED BY, ENGINEER.
11.

PIPES 3-INCH IN DIAMETER AND UNDER SHALL HAVE UNIONS INSTALLED ADJACENT TO EQUIPMENT AND TANKS, UNLESS OTHERWISE NOTED ON DRAWINGS. FLANGES ARE ACCEPTABLE ON 3-INCH DIAMETER PIPING.
12.

ALL PIPES SHALL BE ADEQUATELY RESTRAINED AND SUPPORTED IN ACCORDANCE WITH SPECIFICATION SECTION 15094.
13.

AFTER INSTALLATION, ALL PIPELINES SHALL BE PRESSURE TESTED FOR TIGHTNESS IN ACCORDANCE WITH SPECIFICATION SECTIONS 15050. ALL LEAKS SHALL BE CORRECTED AND RETESTED UNTIL PRESSURE TEST IS SATISFACTORILY COMPLETED.
14.

ALL PIPING SHALL BE CLEANED, TO THE SATISFACTION OF THE ENGINEER, BEFORE TESTING.
15.

PROVIDE 4-INCH HIGH (MIN.) REINFORCED CONCRETE PAD UNDER ALL EQUIPMENT, CONTROL PANELS, PIPE AND EQUIPMENT SUPPORTS, TANKS, ETC. UNLESS OTHERWISE INDICATED.
16.

REFER TO THIS DRAWING FOR A LISTING OF COMMONLY USED ABBREVIATIONS.
17.

ALL PLANT WATER PIPING IS TO BE INSULATED AND PROVIDED WITH A PVC JACKET, IN ADDITION TO OTHER PIPING INSULATION CALLED FOR IN SPECIFICATION SECTION 15180.
18.

ALL REDUCERS SHALL BE CONCENTRIC TYPE UNLESS DESIGNATED AS ECCENTRIC (ECC) ON THE DRAWINGS. ECCENTRIC REDUCERS SHALL BE INSTALLED WITH FLAT SIDE UP.
19.

ALL PENETRATIONS BETWEEN CLASS 1, DIVISION 1 AREAS AND UNCLASSIFIED AREAS SHALL BE GAS TIGHT.
20.

WHERE NEW PIPING IS TO BE CONNECTED TO EXISTING PIPING, THE CONTRACTOR SHALL FURNISH, AND INSTALL ADAPTERS, FITTINGS AND ADDITIONAL PIPE AS REQUIRED TO COMPLETE THE INSTALLATION. THE USE OF UNI-FLANGES WILL NOT BE ALLOWED UNLESS INDICATED ON THE DRAWINGS.
21.

ALL STAINLESS STEEL FASTENERS FOR PIPING, EQUIPMENT, SUPPORTS, ETC., SHALL BE HAND TIGHTENED IN ORDER TO LIMIT THE POTENTIAL FOR GALLING.
22.

CONTRACTOR TO NOTE THAT ALL EXISTING INFORMATION ON THE DRAWINGS IS SHOWN WITH A LIGHTER LINE WEIGHT AND INDICATED WITH A SLANTED TYPE TEXT. THE EXCEPTION IS WHEN SCANNED IMAGES ARE UTILIZED FROM THE PREVIOUS CONSTRUCTION PROJECTS NOTED IN GENERAL NOTE NO. 1, ABOVE. WHEN REVIEWING DRAWINGS NOTED AS "SCANNED" UNDER DRAWING TITLE, THE CONTRACTOR SHALL IGNORE ANY REFERENCE TO PREVIOUS CONTRACT WORK. SCANNED IMAGES ARE NOT TO SCALE; HOWEVER, AN APPROXIMATE SCALE MAY BE GIVEN FOR CONVENIENCE.
23.

CONTRACTOR SHALL COORDINATE INSTRUMENTATION MOUNTING DETAILS WITH THE INSTRUMENTATION SUPPLIER AND THE ELECTRICAL CONTRACTOR. REFER TO DETAILS ON THE INSTRUMENTATION DRAWINGS, AND/OR EQUIPMENT MANUFACTURER MOUNT DETAILS AND REQUIREMENTS.
24.

PHOTO TAGS, AS SHOWN ON THE PLAN, INDICATE THE LOCATION AND DIRECTION FROM WHICH THE PHOTO WAS TAKEN.



25.

ALL LUBRICATION FITTINGS SHALL BE BROUGHT TO LOCATIONS THAT ARE READILY ACCESSIBLE TO OPERATORS. REFER TO SPECIFICATION SECTION 11000 FOR ADDITIONAL REQUIREMENTS.
26.

DO NOT SCALE DISTANCES OR DIMENSIONS FROM THE DRAWINGS. WRITTEN DIMENSIONS SHALL PREVAIL. REPORT ANY DISCREPANCIES IMMEDIATELY TO THE ENGINEER.

PROCESS DEMOLITION NOTES:

1.

REFER TO INDIVIDUAL DRAWINGS FOR SPECIFIC DEMOLITION NOTES.
2.

INDICATES EXISTING PIPING/EQUIPMENT TO REMAIN FOR RE-USE.  
INDICATES EXISTING PIPING/EQUIPMENT TO BE DEMOLISHED.  
INDICATES EXISTING PIPING/EQUIPMENT TO BE RELOCATED.
3.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REMOVAL AND DISPOSAL OF ALL DEMOLISHED PIPING, EQUIPMENT AND MATERIALS. THE OWNER RESERVES THE RIGHT TO RETAIN PIPING, EQUIPMENT AND/OR MATERIALS ON SITE FOR THEIR USE AS SPECIFIED IN SPECIFICATION SECTION 02050. SUCH MATERIAL TO BE RETAINED SHALL BE PLACED IN AN ON-SITE STORAGE AREA, REVIEWED/COORDINATED WITH, AND ACCEPTABLE TO THE OWNER AND ENGINEER. RETAINED EQUIPMENT SHALL BE REMOVED IN SUCH A WAY AS NECESSARY TO MAINTAIN ITS FUNCTIONAL AND PHYSICAL INTEGRITY.
4.

THE CONTRACTOR SHALL KEEP A RECORD OF DEMOLITION AND LOCATION OF UTILITIES FOUND AS PART OF THE PROJECT RECORD DOCUMENTS, AS SPECIFIED IN SPECIFICATION SECTION 01720.
5.

REFER TO THE DEMOLITION SPECIFICATION SECTION 02050A AND SUMMARY OF WORK SPECIFICATION SECTION 01010 FOR ADDITIONAL INFORMATION REGARDING DEMOLITION REQUIREMENTS AND CONSTRUCTION SEQUENCING.
6.

REFER TO EXISTING DRAWINGS FOR ADDITIONAL INFORMATION REGARDING EXISTING UTILITIES. THE SIZES, LOCATIONS, AND MATERIALS OF CONSTRUCTION INDICATED ARE FROM THE BEST AVAILABLE INFORMATION AND MAY NOT BE COMPLETE OR ACCURATE. ALL SIZES, LOCATIONS, AND MATERIALS OF CONSTRUCTION SHALL BE VERIFIED BY THE CONTRACTOR IN THE FIELD AS REQUIRED. ALL EXISTING UTILITIES THAT ARE TO REMAIN, AND ARE DAMAGED BY THE CONTRACTORS ACTIVITIES, SHALL BE REPAIRED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.
7.

SEVERING THE EXISTING UTILITIES FOR ABANDONMENT, OR REMOVAL OF A SEGMENT FROM SERVICE, SHALL BE PERFORMED IN SUCH A MANNER AS TO ALLOW THE REMAINING ACTIVE SEGMENT TO CONTINUE IN ITS INTENDED SERVICE. CAP ACTIVE SEGMENTS WITH APPROPRIATE FITTING, JOINT RESTRAINT, ETC. TO ENSURE THEIR INTEGRITY. THE METHOD OF CAPPING SHALL BE REVIEWED WITH, AND ACCEPTABLE TO, THE ENGINEER.
8.

ALL PIPING, EQUIPMENT AND MATERIALS TO BE DEMOLISHED AND/OR REMOVED FROM SERVICE MUST BE COORDINATED WITH THE OWNER AND ENGINEER BEFOREHAND.
9.

THE CONTRACTOR SHALL TAKE ALL NECESSARY STEPS TO ENSURE THAT ALL FLOWS, FLOW METERING AND LEVEL CONTROLS ARE MAINTAINED DURING CONSTRUCTION. GRAVITY, PUMPED BYPASSES OR OTHER MEANS OF FLOW MAINTENANCE SHALL BE REVIEWED WITH, AND ACCEPTABLE TO, THE ENGINEER. THE CONTRACTOR SHALL COORDINATE ANY TEMPORARY STOPPAGES WITH THE OWNER AND ENGINEER. CONTRACTOR SHALL VERIFY WITH OWNER/ENGINEER ALL VALVES, GATES, EQUIPMENT, ETC., ARE FUNCTIONAL PRIOR TO ASSUMING UTILIZATION FOR FLOW ISOLATION.
10.

WHERE PIPING OR CONDUIT THAT IS TO BE REMOVED PASSES THROUGH THE WALL OF THE STRUCTURE. IT SHALL BE CUT OFF AS NEAR TO THE WALL AS PRACTICAL AND PROPERLY SEALED ON EACH SIDE OF THE WALL, OR AS SHOWN ON THE DRAWINGS. SEAL METHOD SHALL BE SUBJECT TO REVIEW AND ACCEPTANCE OF THE ENGINEER.
11.

ALL WALL AND/OR FLOOR PENETRATIONS REMAINING AFTER THE REMOVAL OF PIPING OR CONDUIT ARE TO BE PATCHED AND FINISHED FLUSH TO MATCH EXISTING SURFACES.
12.

REMOVE ALL PUMP AND EQUIPMENT PADS NOT BEING RE-USED AND FINISH FLUSH TO FLOOR LEVEL.
13.

REMOVE ALL WALL BRACKETS, PIPE HANGERS AND PIPE SUPPORTS NOT BEING RE-USED. PATCH BOLT HOLES TO MATCH THE EXISTING SURFACE.
14.

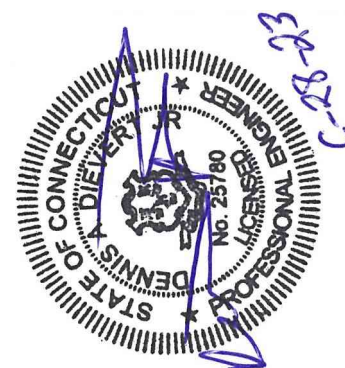
ALL WALL AND FLOOR SURFACES DAMAGED OR DISTURBED AS A RESULT OF DEMOLITION BY THE CONTRACTOR OR ITS SUB-CONTRACTORS, SHALL BE PATCHED AND PAINTED PER SPECIFICATION SECTION 09900.
15.

WHERE PIPING AND/OR EQUIPMENT THAT IS NOTED AS ABANDONED INTERFERES WITH THE CONTRACTOR'S CONSTRUCTION ACTIVITIES, CONTRACTOR SHALL REMOVE AND DISPOSE OF AS NECESSARY AT NO ADDITIONAL COST TO THE OWNER.
16.

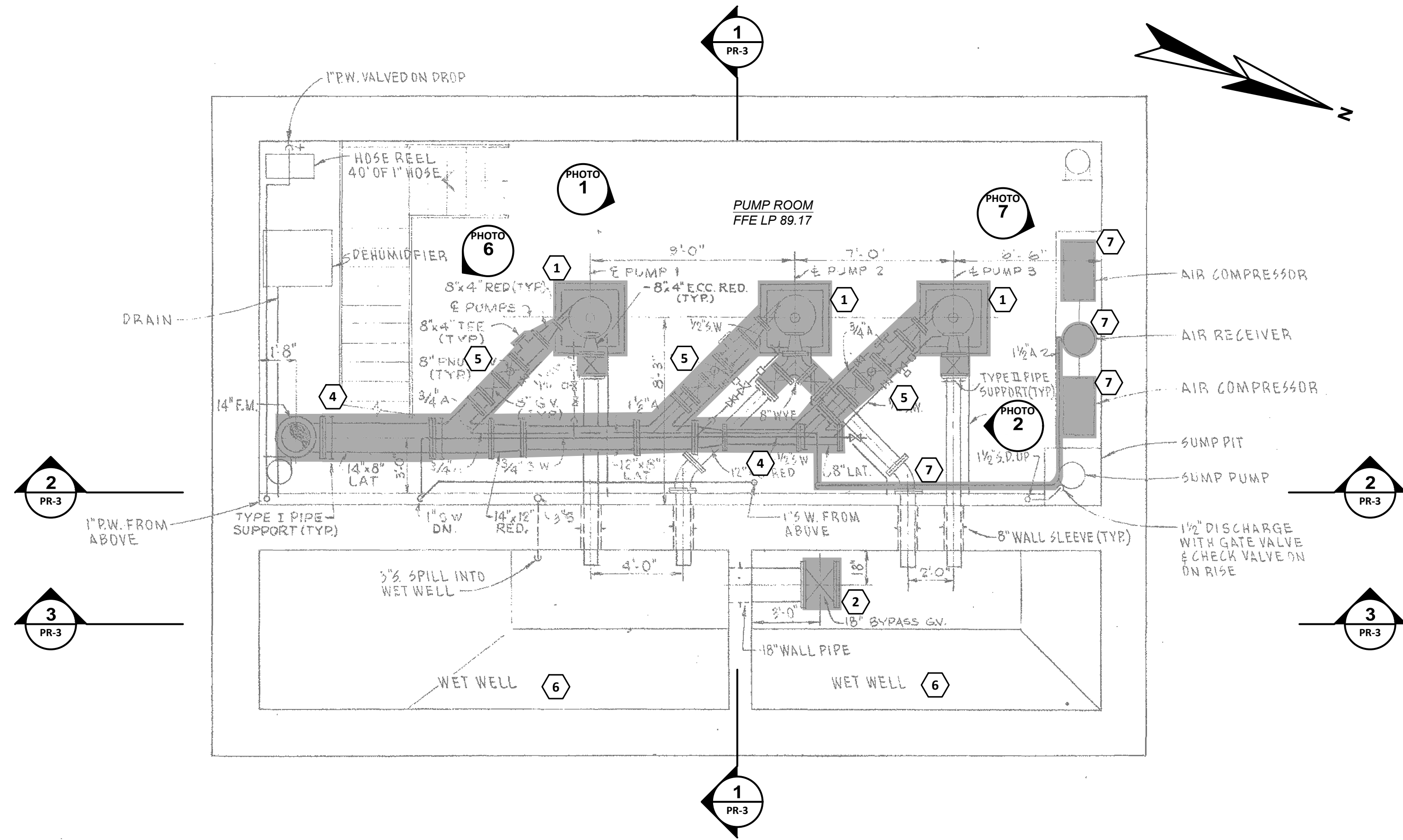
ALL ANCHOR BOLTS TO BE REMOVED SHALL BE CUT/MELTED TO A MINIMUM OF 3/4-INCH BELOW EXISTING CONCRETE OR MASONRY SURFACES AND PATCHED/FILLED FLUSH TO SURFACE WITH NON-SHRINK GROUT.

PROCESS ABBREVIATIONS - GENERAL

|            |                                  |
|------------|----------------------------------|
| AE         | ANALYZING ELEMENT                |
| AL         | ALUMINUM                         |
| ALT        | ALTERNATE                        |
| BF         | BLIND FLANGE                     |
| BFV        | BUTTERFLY VALVE                  |
| BLDG       | BUILDING                         |
| BOT        | BOTTOM                           |
| BV         | BALL VALVE                       |
| CI         | CAST IRON                        |
| CL         | CENTERLINE                       |
| CO         | CLEANOUT                         |
| CONC       | CONCRETE                         |
| CONT       | CONTINUED                        |
| CPL        | COUPLING                         |
| CV         | CHECK VALVE                      |
| DET        | DETAIL                           |
| DI         | DUCTILE IRON                     |
| DIA (Ø)    | DIAMETER                         |
| DIM        | DIMENSION                        |
| DMH        | DRAIN MANHOLE                    |
| DN         | DOWN                             |
| DR         | DRAIN                            |
| DWG        | DRAWING                          |
| ECC        | ECCENTRIC                        |
| EL (ELEV)  | ELEVATION                        |
| ELL        | ELBOW                            |
| EQUIP      | EQUIPMENT                        |
| EXIST (EX) | EXISTING                         |
| EXP        | EXPANSION                        |
| FC         | FLUSHING CONNECTION              |
| FD         | FLOOR DRAIN                      |
| FE         | FLOW ELEMENT                     |
| FFE        | FINISHED FLOOR ELEVATION         |
| FLG        | FLANGE                           |
| FLR        | FLOOR                            |
| FM         | FORCE MAIN                       |
| FOT        | FLAT ON TOP                      |
| FP         | FIRE PROTECTION                  |
| FPHB       | FROST PROOF HOSE BIBB            |
| FRP        | FIBERGLASS REINFORCED POLYESTER  |
| FS         | FLOW SWITCH                      |
| G          | GAS                              |
| GA         | GAUGE                            |
| GAL        | GALLON                           |
| GALV       | GALVANIZED                       |
| GV         | GATE VALVE                       |
| HB         | HOSE BIBB                        |
| HDPE       | HIGH DENSITY POLYETHYLENE        |
| HP         | HIGH POINT                       |
| HYD        | HYDRANT                          |
| ID         | INSIDE DIAMETER                  |
| INF        | INFLEUNT                         |
| INL        | INLET                            |
| INV        | INVERT                           |
| JT         | JOINT                            |
| KGV        | KNIFE GATE VALVE                 |
| LE         | LEVEL ELEMENT                    |
| LR         | LONG RADIUS                      |
| MAX        | MAXIMUM                          |
| MECH       | MECHANICAL                       |
| MFG        | MANUFACTURER                     |
| MH         | MANHOLE                          |
| MIN        | MINIMUM                          |
| MJ         | MECHANICAL JOINT                 |
| MTD        | MOUNTED                          |
| NG         | NATURAL GAS                      |
| NIC        | NOT IN CONTRACT                  |
| NO         | NUMBER                           |
| NPT        | NATIONAL PIPE THREAD             |
| NTS        | NOT TO SCALE                     |
| OC         | ON CENTER                        |
| OD         | OUTSIDE DIAMETER                 |
| OH         | OVERHEAD                         |
| OUT        | OUTLET                           |
| PE         | POLYETHYLENE OR PRESSURE ELEMENT |
| PS         | PRESSURE SWITCH                  |
| PV         | PLUG VALVE                       |
| PVC        | POLYVINYL CHLORIDE               |
| PW         | PLANT WATER (NON-POTABLE WATER)  |
| RCP        | REINFORCED CONCRETE PIPE         |
| RED        | REDUCER                          |
| REQ'D      | REQUIRED                         |
| RD         | ROOF DRAIN                       |
| S          | SEWER                            |
| SAM        | SAMPLE LINE                      |
| SAN        | SANITARY WASTE                   |
| SCH        | SCHEDULE                         |
| SD         | STORM DRAIN                      |
| SECT       | SECTION                          |
| SHT        | SHEET                            |
| SMH        | SANITARY SEWER MANHOLE           |
| SP         | SUMP PUMP                        |
| SPD        | SUMP PUMP DISCHARGE              |
| SQ         | SQUARE                           |
| SS         | STAINLESS STEEL                  |
| STD        | STANDARD                         |
| STL        | STEEL                            |
| THK        | THICKNESS                        |
| TYP        | TYPICAL                          |
| UD         | UNDERDRAIN                       |
| V          | VENT                             |
| VERT       | VERTICAL                         |
| W          | WATER - POTABLE                  |
| YH         | YARD HYDRANT                     |

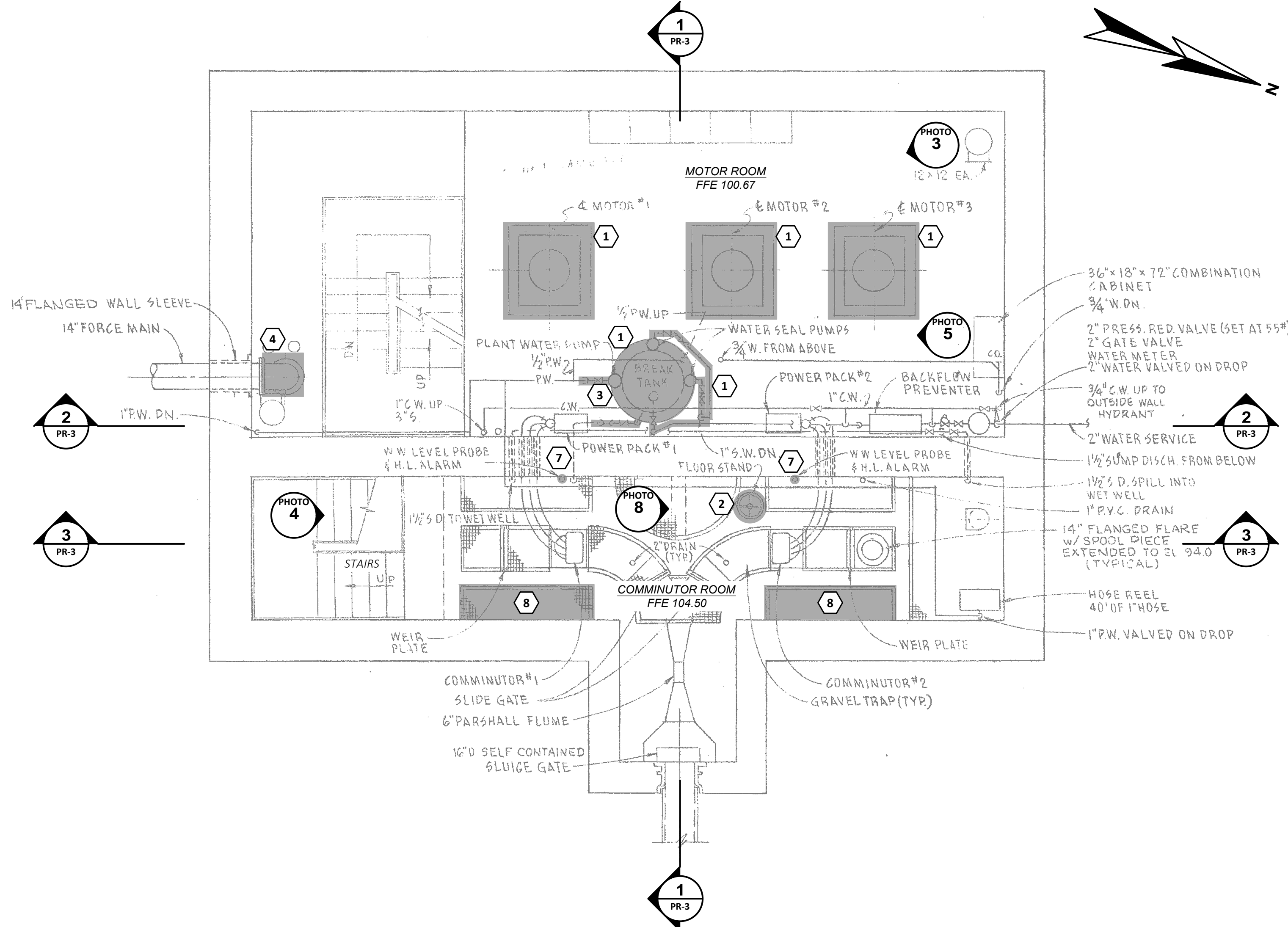
|                                                                                                                                                                                                                                                                                                                                                                     |      |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|
| DRAWING                                                                                                                                                                                                                                                                                                                                                             |      |
| PR-1                                                                                                                                                                                                                                                                                                                                                                |      |
| GENERAL NOTES & ABBREVIATIONS                                                                                                                                                                                                                                                                                                                                       |      |
| WATERFORD UTILITY COMMISSION<br>OLD NORWICH ROAD<br>SEWER PUMP STATION UPGRADE                                                                                                                                                                                                                                                                                      |      |
| <div><div></div><div><div>860.343.8297   <a href="http://www.wright-pierce.com">www.wright-pierce.com</a><br/>169 MAIN STREET, 700 PLAZA MIDDLESEX, MIDDLETOWN, CT 06457</div></div></div> |      |
| PROJECT NO: 21490<br>DESIGNED BY: T. MONTGOMERY<br>CAD COORD: E. LAGNER<br>CAD: B. STEFFEN, L. LAGNER<br>CHECKED: K. HICKEY<br>DATE: JUNE 2023<br>APPROVED: D. DIEVERT<br>DATE: JUNE 2023<br>SUBMISSION: CONTRACT DRAWINGS                                                                                                                                          |      |
| NO                                                                                                                                                                                                                                                                                                                                                                  |      |
| REVISIONS                                                                                                                                                                                                                                                                                                                                                           |      |
| APPD                                                                                                                                                                                                                                                                                                                                                                | DATE |
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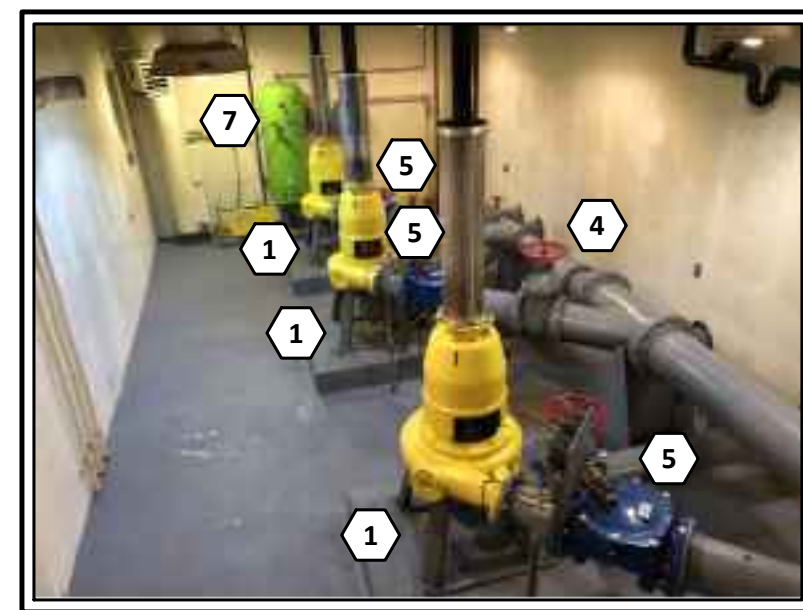
## PUMP ROOM & WETWELL DEMOLITION PLAN

SCALE: "SCANNED"  
(APPROXIMATELY: 1/4"=1'-0")



## MOTOR ROOM & COMMUNUTOR ROOM DEMOLITION PLAN

SCALE: "SCANNED"  
(APPROXIMATELY: 1/4"=1'-0")



**PHOTO**

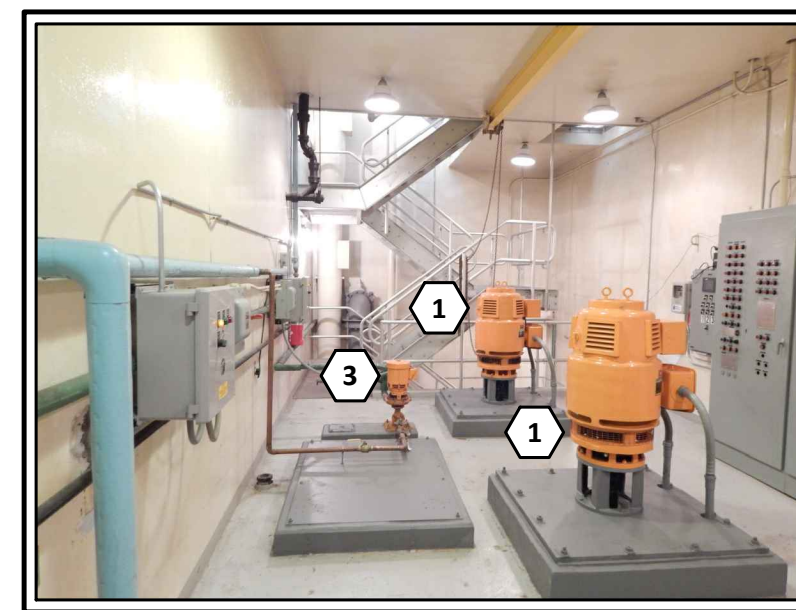
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**PUMPS**

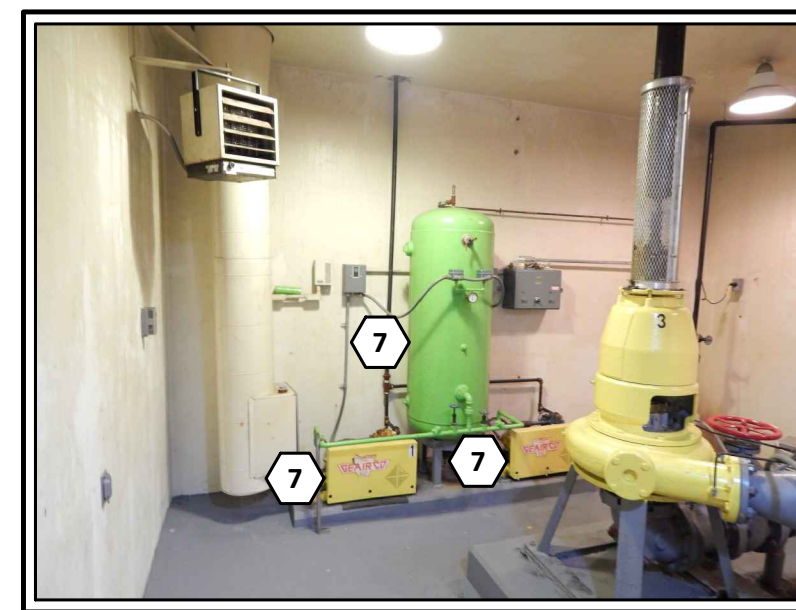
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**PHOTO**  
PUMPS



**PHOTO**  
MOTOR ROOM



**PHOTO**  
AIR COMPRESSORS

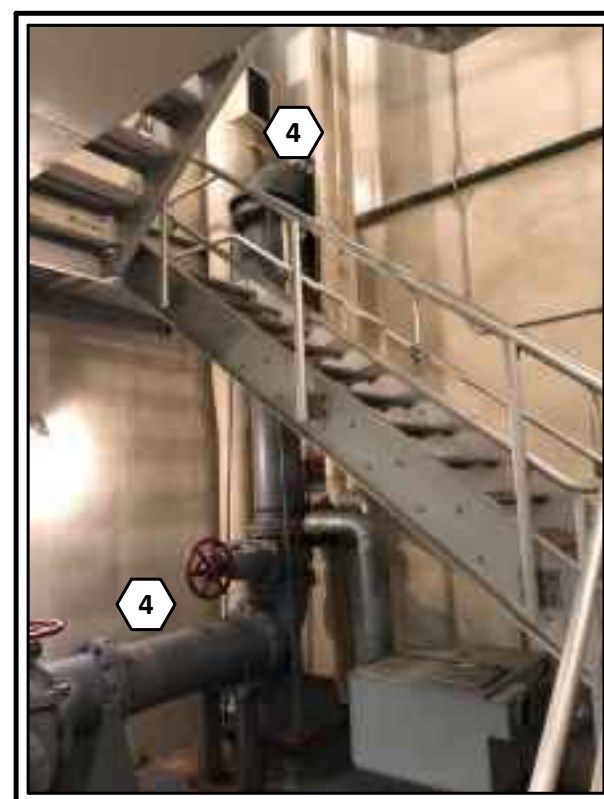


**PHOTO** 

**PUMPS**



**PHOTO**  
COMMINUTOR ROOM



**PHOTO**  
DISCHARGE FORCE MAIN



**PHOTO**

---

WET WELL VALVE

8

-

**DEMOLITION NOTES:**

- 1 REMOVE/DEMOLISH EXISTING PUMPS, INCLUDING BUT NOT LIMITED TO, MOTORS, MOTOR SHAFT, PIPING, SEAL WATER, SHAFT GUARDS, CONCRETE PADS, INSTRUMENTATION AND ELECTRICAL WIRING, CONTROLS, AND ALL OTHER ASSOCIATED APPURTENANCES IN THEIR ENTIRETY.
- 2 REMOVE/DEMOLISH EXISTING WET WELL TRANSFER VALVE, INCLUDING BUT NOT LIMITED TO, SUPPORTS, VALVE STEM, FRAME, MOUNTING HARDWARE, OPERATOR, AND ALL OTHER ASSOCIATED APPURTENANCES IN THEIR ENTIRETY.
- 3 REMOVE/DEMOLISH EXISTING WASH WATER BOOSTER PUMP, INCLUDING BUT NOT LIMITED TO, MOTOR, CONCRETE PAD, INSTRUMENTATION AND ELECTRICAL WIRING, CONTROLS, AND ALL OTHER ASSOCIATED APPURTENANCES IN THEIR ENTIRETY.
- 4 REMOVE/DEMOLISH EXISTING PIPING, INCLUDING BUT NOT LIMITED TO, SUPPORTS, VALVES, AND ALL OTHER ASSOCIATED APPURTENANCES TO THE LIMITS SHOWN.
- 5 REMOVE/RELOCATE EXISTING CHECK VALVE AND LIMIT SWITCHES AS SHOWN ON THE MODIFICATIONS DRAWINGS. THIS WORK INCLUDES RELOCATING AND RECONNECTING ALL ASSOCIATED APPURTENANCES.
- 6 CONTRACTOR TO PUMP DOWN, DRAIN, AND CLEAN WET WELLS AS PART OF THIS CONTRACT. CONTRACTOR TO ALLOW INSPECTION OF WET WELLS BY ENGINEER PRIOR TO FLOW BEING REINTRODUCED. CONTRACTOR IS RESPONSIBLE FOR ALL COSTS ASSOCIATED WITH DISPOSAL OF WET WELL DEBRIS GENERATED DURING CLEANUP. INCLUDE 3 DAYS FOR CLEANING THIS STATION IN THE BASE BID. THE TOWN OF WATERFORD CAN PROVIDE AN AREA AT THE OLD LANDFILL ON MINER LANE IN WATERFORD WHICH IS PERMITTED FOR DISPOSAL OF WETWELL MATERIAL AT NO COST. CONTRACTOR SHALL COORDINATE WITH THE TOWN AT LEAST ONE WEEK AHEAD OF TIME TO ENSURE SUFFICIENT CONTAINERS (20-YARD CAPACITY EACH) ARE READY AND AVAILABLE FOR THIS MATERIAL.
- 7 REMOVE/DEMOLISH EXISTING AIR COMPRESSORS AND AIR RECEIVER FOR THE BUBBLER SYSTEM, INCLUDING BUT NOT LIMITED TO, PIPING, PIPE SUPPORTS, VALVES, INSTRUMENTATION AND ELECTRICAL WIRING, CONTROLS, AND ALL OTHER ASSOCIATED APPURTENANCES IN THEIR ENTIRETY. THIS INCLUDES WORK IN BOTH THE DRY PIT AREA AND BOTH WET WELLS.
- 8 REMOVE/DEMOLISH EXISTING GRATING SECTION IN ITS ENTIRETY.

**GENERAL NOTES:**

1. FOR GENERAL PROCESS AND DEMOLITION NOTES AND ABBREVIATIONS, REFER TO DRAWINGS PR-1.
2. CONTRACTOR TO NOTE A SCANNED IMAGE OF THE EXISTING DRAWINGS HAS BEEN USED FOR DEMOLITION. EXISTING INFORMATION HAS BEEN FADED BACK FOR CLARITY. CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL EXISTING CONDITIONS PRIOR TO BIDDING AND/OR COMMENCING CONSTRUCTION. FOR INFORMATION PERTAINING TO EXISTING DRAWINGS, REFER TO THE GENERAL NOTES ON DRAWING PR-1.
3. THERE ARE NO KNOWN HAZARDOUS MATERIALS ON-SITE.
4. CONTRACTOR TO NOTE THAT CHANGES MAY HAVE BEEN MADE SINCE SCANNED RECORD DRAWINGS WERE PREPARED. IMAGES MAY NOT REFLECT ACTUAL FIELD CONDITIONS. IN SOME INSTANCES, THOSE EQUIPMENT, PIPING SYSTEMS, AND APPURTENANCES NOT SHOWN ON THE SCANNED IMAGES ARE SHOWN IN PHOTOGRAPHS WHERE NOTED.
5. CONTRACTOR TO COORDINATE ALL DEMOLITION WORK WITH OWNER FOR ANY SALVAGE ITEMS AT A PRE-DEMOLITION MEETING.

| NO | REVISIONS | REV'D DATE |
|----|-----------|------------|
| 1  |           |            |
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|                               |                       |
|-------------------------------|-----------------------|
| DESIGNED:                     | T. MONTGOMERY         |
| CAD COORD:                    | E. LAGNER             |
| CAD:                          | B. STEFFEN, E. LAGNER |
| CHECKED:                      | K. HICKEY             |
| DATE:                         | JUNE 2023             |
| APPROVED:                     | D. DIEVERT            |
| DATE:                         | JUNE 2023             |
| SUBMISSION: CONTRACT DRAWINGS |                       |



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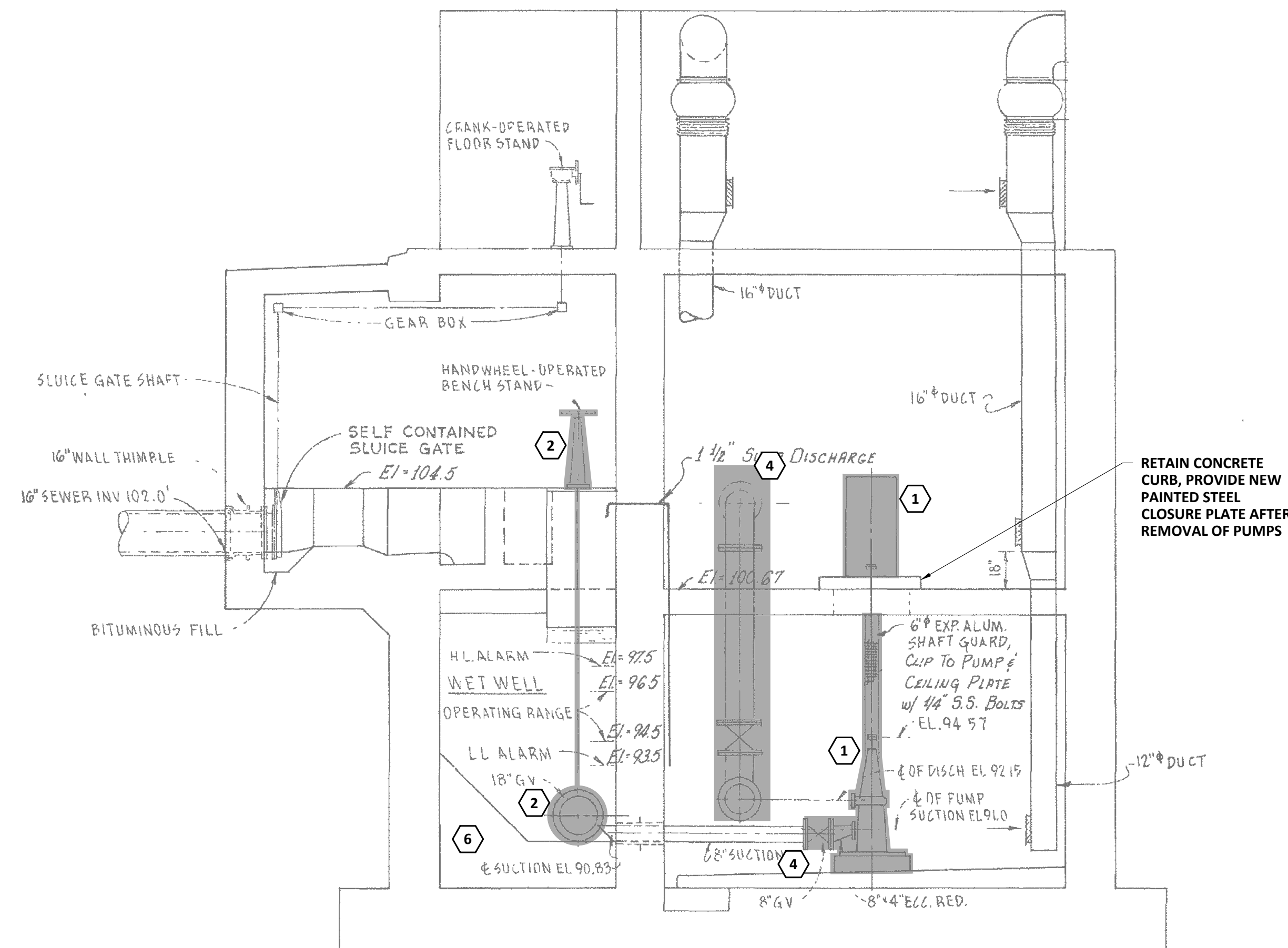
**WATERFORD UTILITY COMMISSION  
OLD NORWICH ROAD  
SEWER PUMP STATION UPGRADE**

## DEMOLITION PLANS

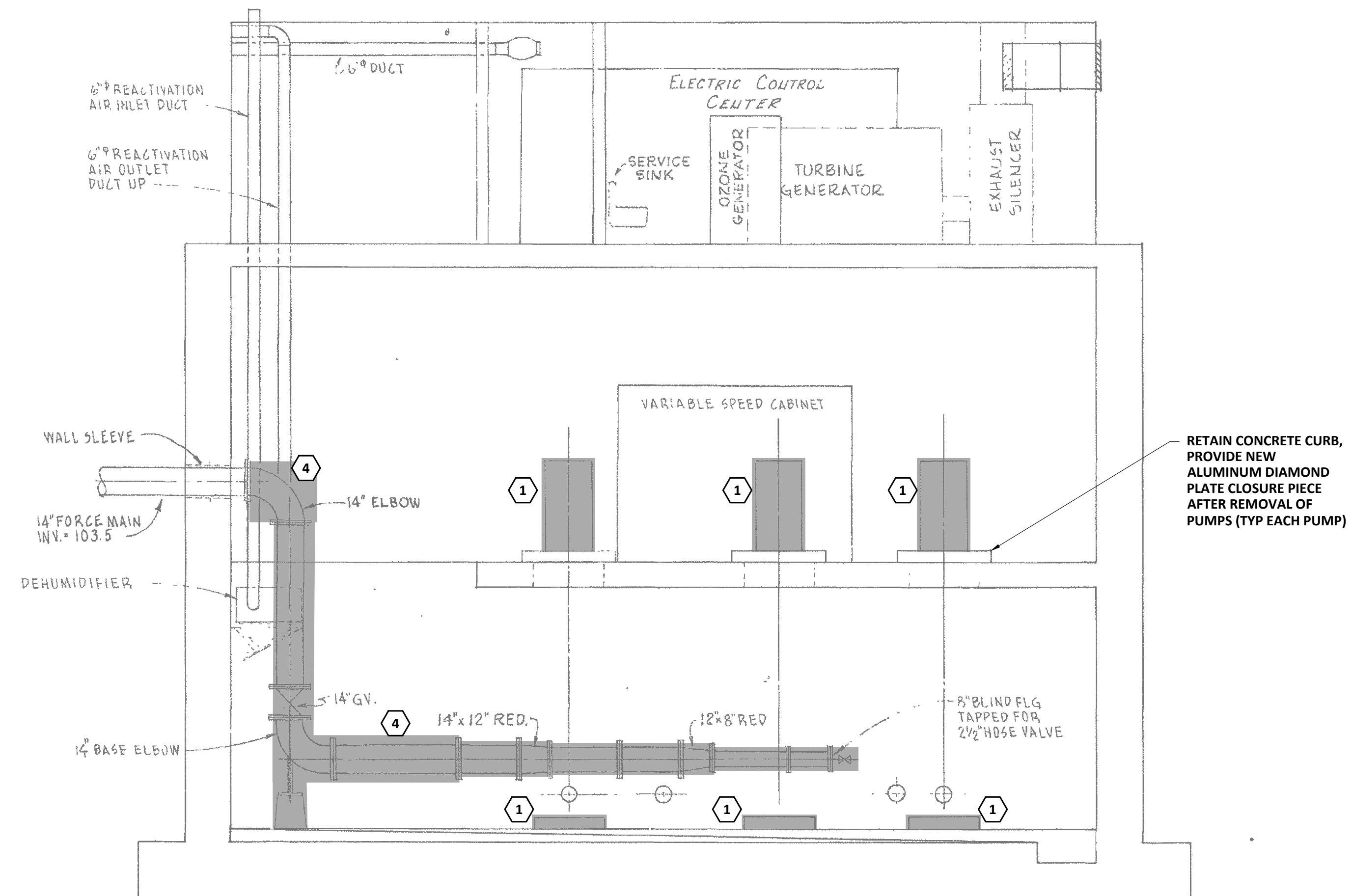
AWING

**PR-2**

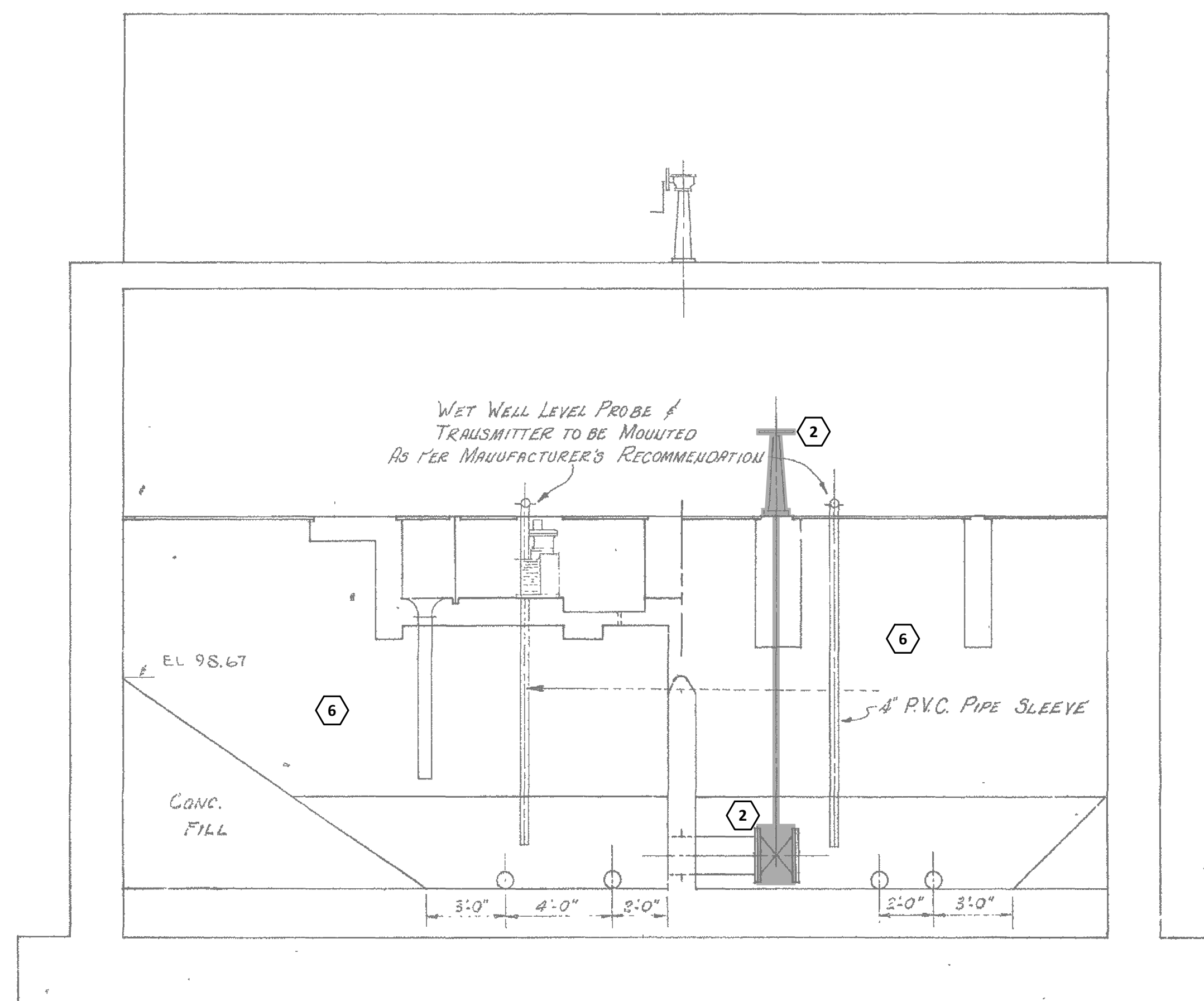




**1** **SECTION**  
PR-2 SCALE: "SCANNED"  
APPROX: 1/4"=1'-0"



**2** **SECTION**  
PR-2 SCALE: "SCANNED"  
APPROX: 1/4"=1'-0"



**3** **SECTION**  
PR-2 SCALE: "SCANNED"  
APPROX: 1/4"=1'-0"

**DEMOLITION NOTES:**

REFER TO DRAWING PR-2 FOR SPECIFIC DEMOLITION NOTES.

**GENERAL NOTES:**

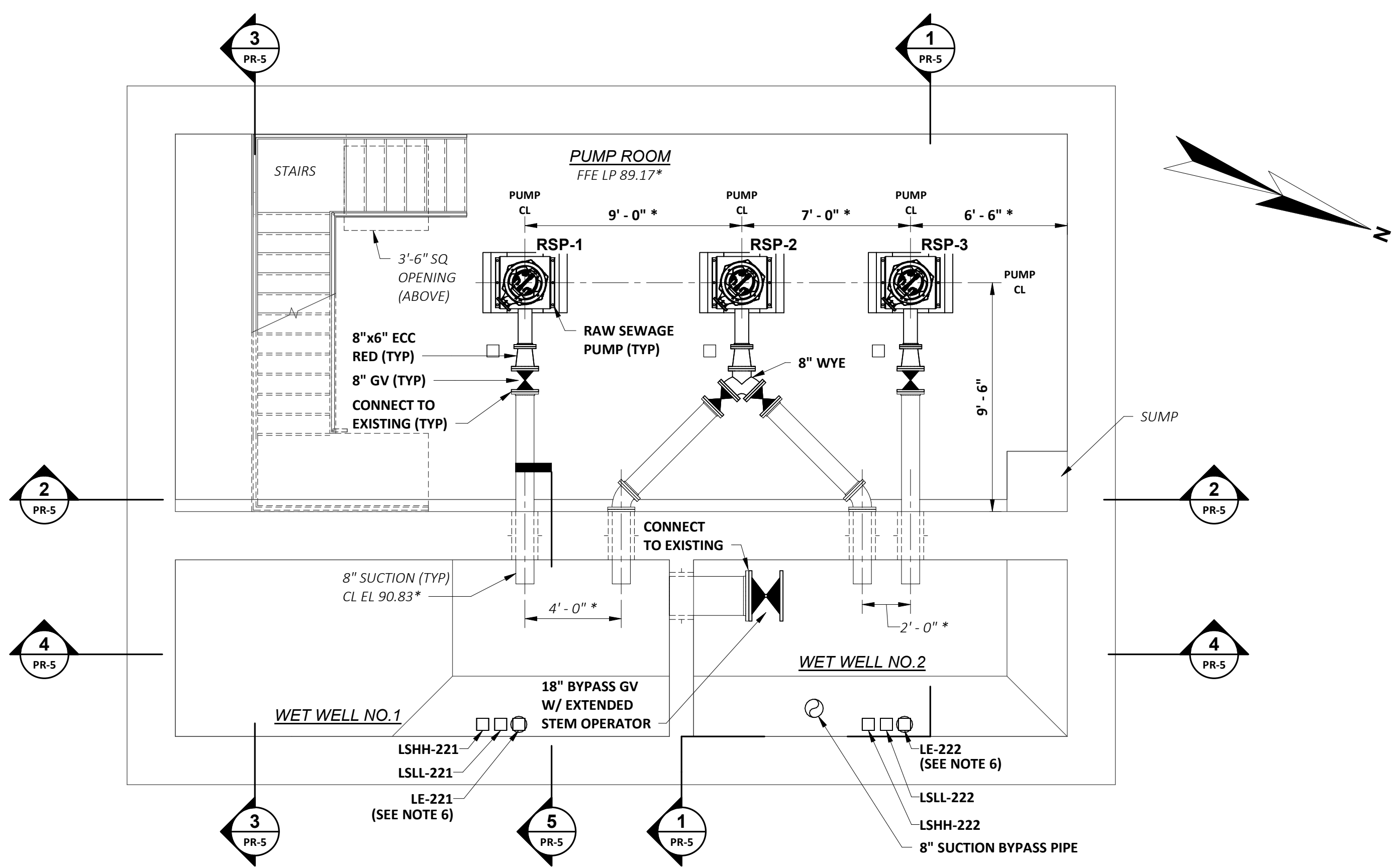
1. FOR GENERAL PROCESS AND DEMOLITION NOTES AND ABBREVIATIONS, REFER TO DRAWINGS PR-1.
2. CONTRACTOR TO NOTE A SCANNED IMAGE OF THE EXISTING DRAWINGS HAS BEEN USED FOR DEMOLITION. EXISTING INFORMATION HAS BEEN FADED BACK FOR CLARITY. CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL EXISTING CONDITIONS PRIOR TO BIDDING AND/OR COMMENCING CONSTRUCTION. FOR INFORMATION PERTAINING TO EXISTING DRAWINGS, REFER TO THE GENERAL NOTES ON DRAWING PR-1.
3. THERE ARE NO KNOWN HAZARDOUS MATERIALS ON-SITE.
4. CONTRACTOR TO NOTE THAT CHANGES MAY HAVE BEEN MADE SINCE SCANNED RECORD DRAWINGS WERE PREPARED. IMAGES MAY NOT REFLECT ACTUAL FIELD CONDITIONS. IN SOME INSTANCES, THOSE EQUIPMENT, PIPING SYSTEMS, AND APPURTENANCES NOT SHOWN ON THE SCANNED IMAGES ARE SHOWN IN PHOTOGRAPHS WHERE NOTED.
5. CONTRACTOR TO COORDINATE ALL DEMOLITION WORK WITH OWNER FOR ANY SALVAGE ITEMS AT A PRE-DEMOLITION MEETING.

|                                                                                                                                                                                      |  |                                                                                                                                                                                                                                                            |                            |                          |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------|--------------------------|
| <p><b>WRIGHT-PIERCE</b></p> <p>860.343.8297   <a href="http://www.wright-pierce.com">www.wright-pierce.com</a></p> <p>169 MAIN STREET, 700 PLAZA MIDDLESEX, MIDDLETOWN, CT 06457</p> |  | <p>PROJECT NO.: 214590</p> <p>DESIGNED: T.MONTGOMERY</p> <p>CAD COORD: E.LAGNER</p> <p>CAD: B.STEFFEN, E.LAGNER</p> <p>CHECKED: K.HICKEY</p> <p>DATE: JUNE 2023</p> <p>APPROVED: D.DIEVERT</p> <p>DATE: JUNE 2023</p> <p>SUBMISSION: CONTRACT DRAWINGS</p> | <p>NO</p> <p>REVISIONS</p> | <p>APPD.</p> <p>DATE</p> |
|                                                                                                                                                                                      |  | <p>△</p>                                                                                                                                                                                                                                                   | <p>△</p>                   | <p>△</p>                 |
|                                                                                                                                                                                      |  | <p>△</p>                                                                                                                                                                                                                                                   | <p>△</p>                   | <p>△</p>                 |
|                                                                                                                                                                                      |  | <p>△</p>                                                                                                                                                                                                                                                   | <p>△</p>                   | <p>△</p>                 |
|                                                                                                                                                                                      |  | <p>△</p>                                                                                                                                                                                                                                                   | <p>△</p>                   | <p>△</p>                 |
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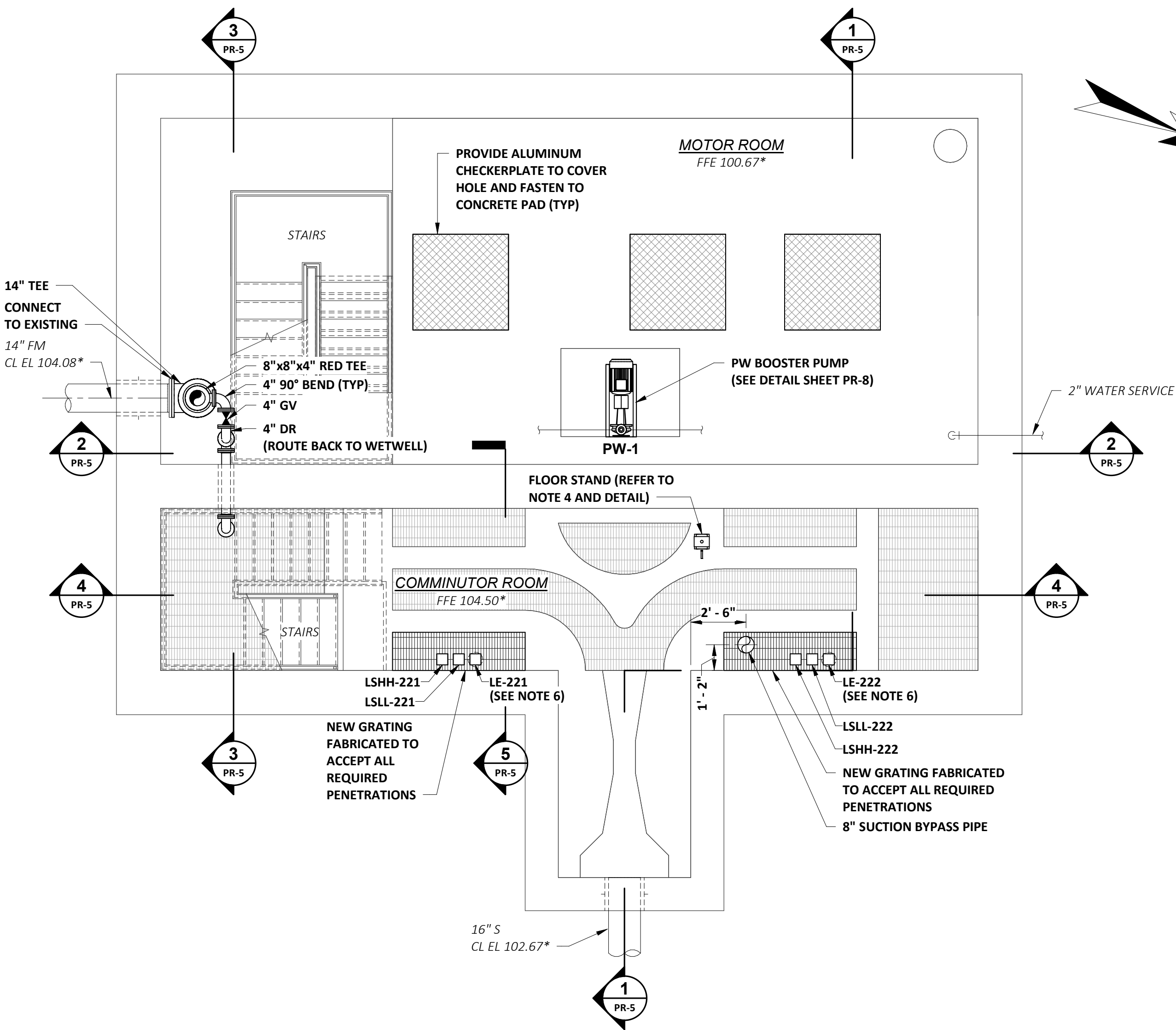


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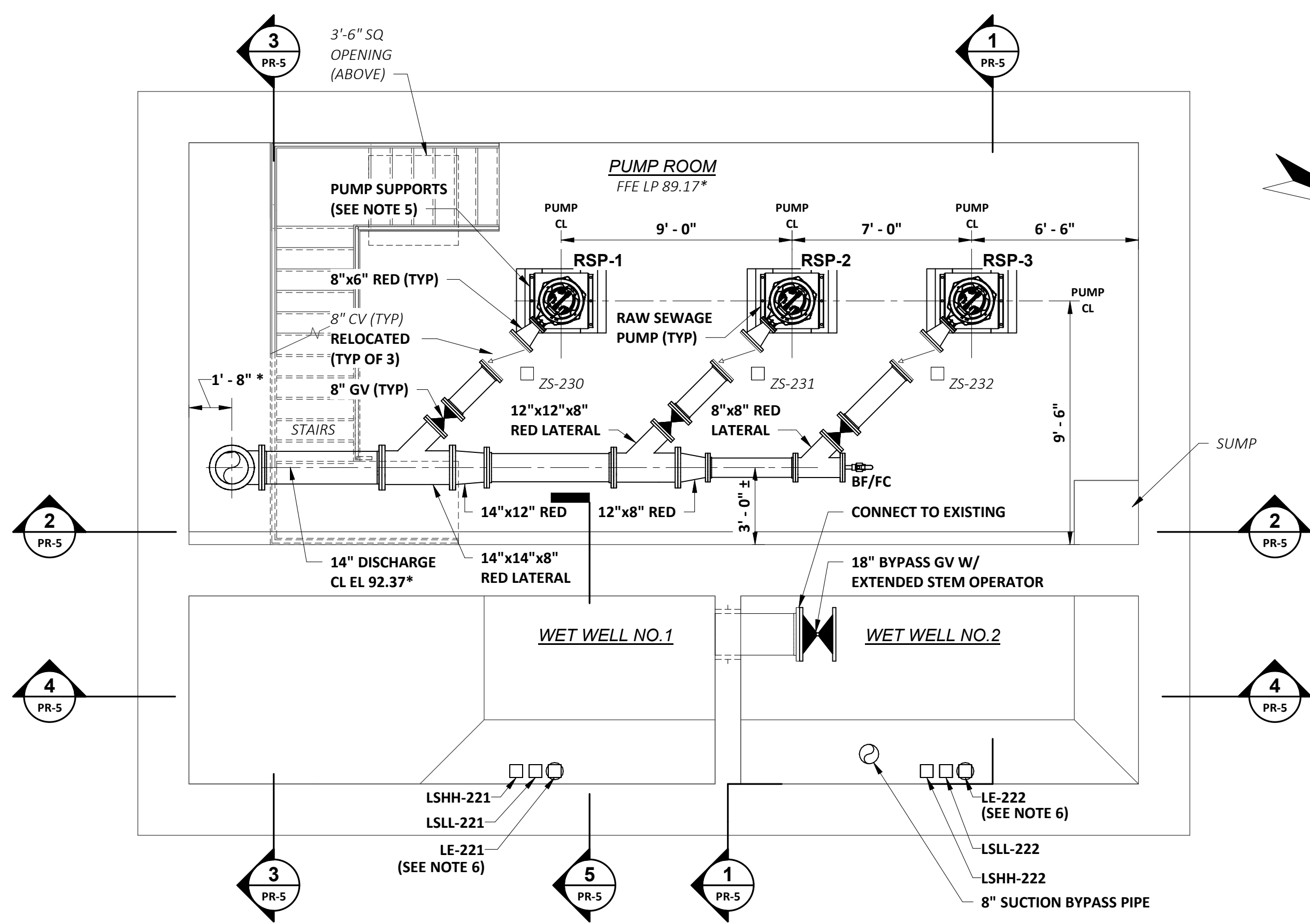
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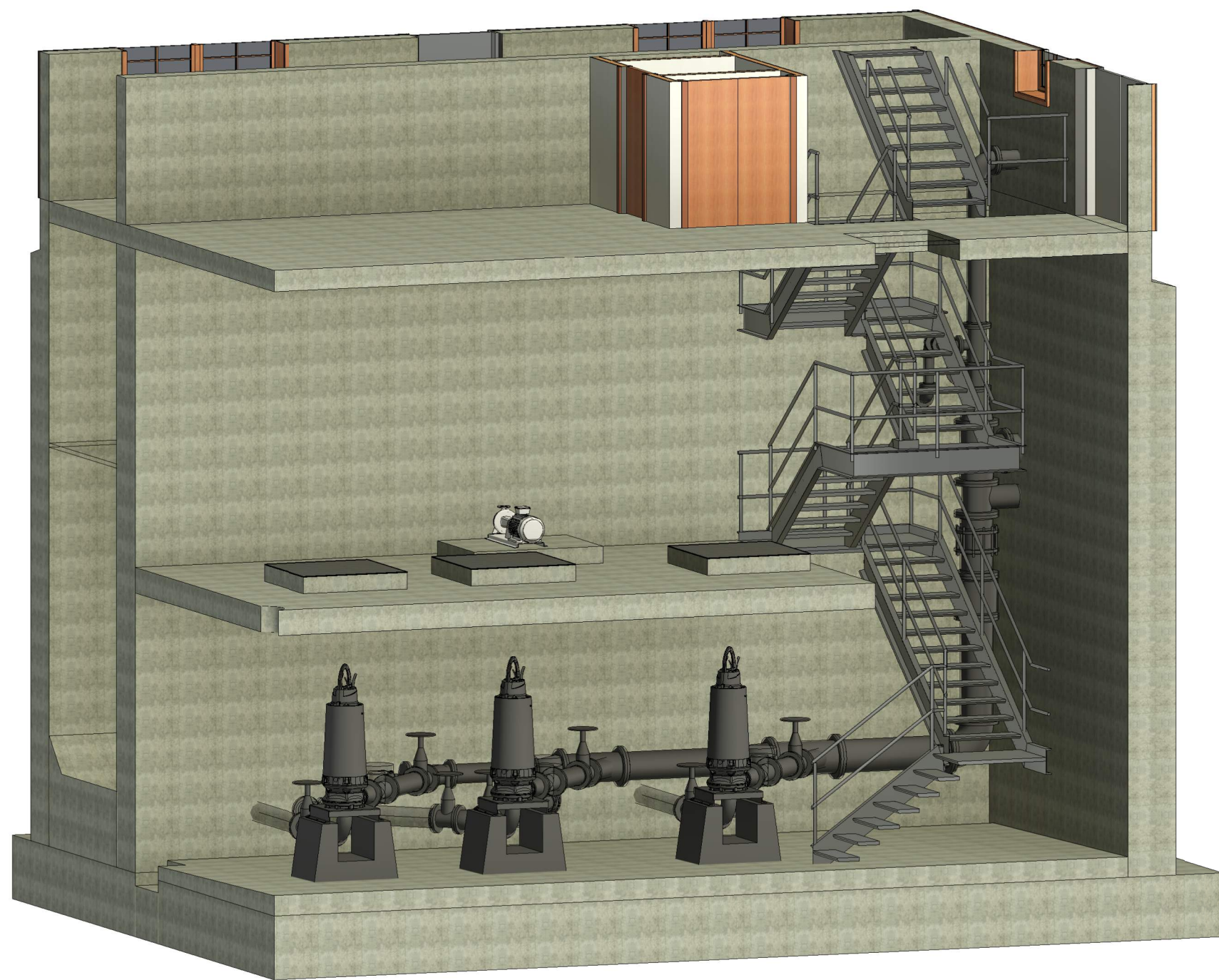
**PUMP ROOM & WETWELL  
MODIFICATIONS PLAN - SUCTION**  
SCALE: 1/4" = 1'-0"



**MOTOR ROOM & COMMINUTOR ROOM  
MODIFICATIONS PLAN**  
SCALE: 1/4" = 1'-0"



**PUMP ROOM & WETWELL  
MODIFICATIONS PLAN - DISCHARGE**  
SCALE: 1/4" = 1'-0"



**PERSPECTIVE**

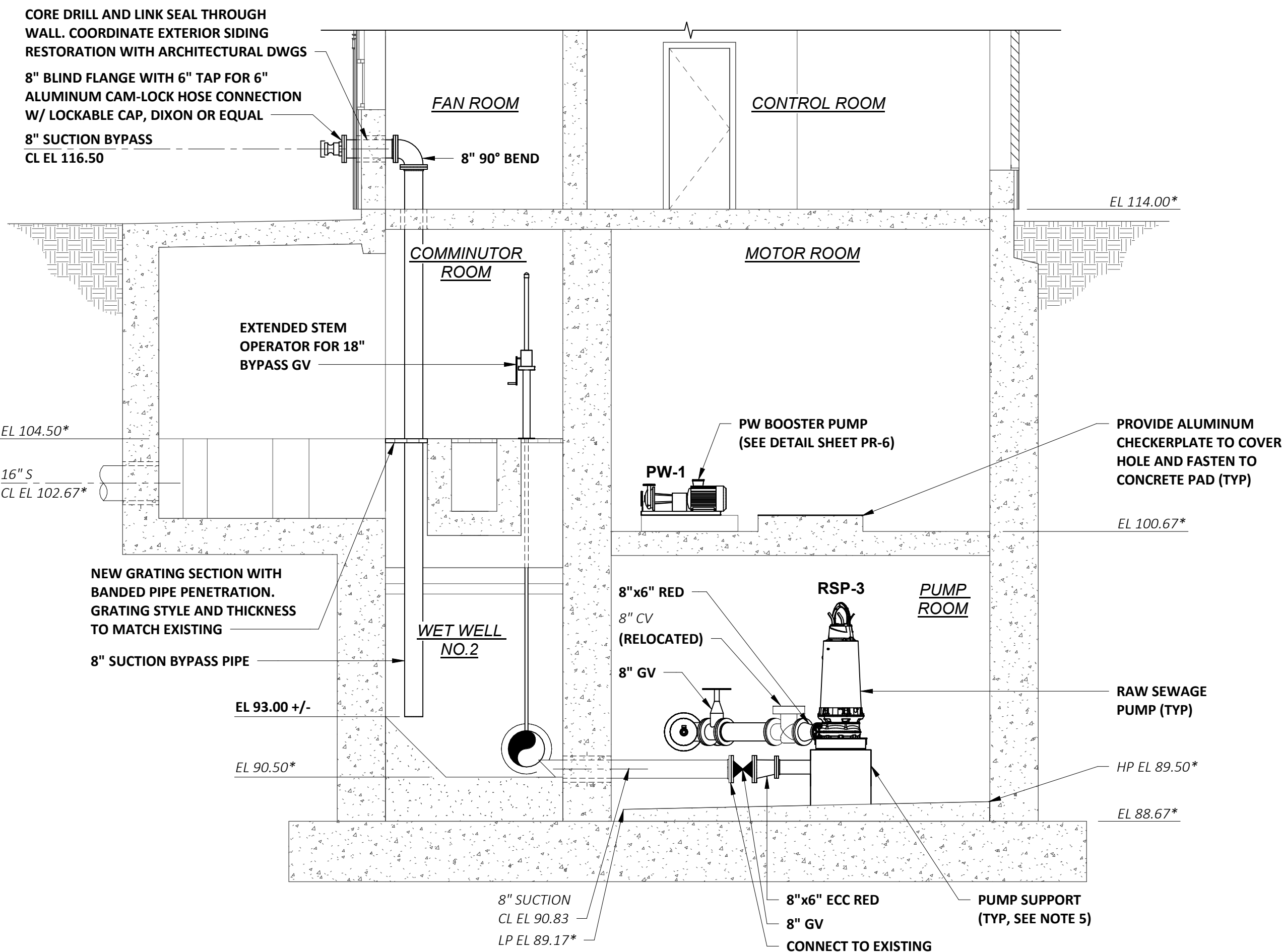
**NOTES:**

- FOR GENERAL PROCESS NOTES AND ABBREVIATIONS, REFER TO DRAWING PR-1.
- CONTRACTOR TO PROVIDE FITTINGS AND ADAPTERS AS NECESSARY TO COMPLETE CONNECTIONS BETWEEN NEW AND EXISTING PIPING.
- CONTRACTOR SHALL BYPASS THE PUMP STATION TO PUMP DOWN, CLEAN, AND INSPECT WITH ENGINEER THE WET WELLS. BYPASS TO BE COORDINATED WITH ELECTRICAL UPGRADES.
- CONTRACTOR TO CORE NEW HOLE IN FLOOR IF NEW BYPASS VALVE DOES NOT LINE UP WITH EXISTING PENETRATION.
- PROVIDE CONCRETE PIERS OR CUSTOM PUMP STANDS TO LINE UP WITH PIPE ELEVATIONS (TYPICAL OF 3).
- FOR PRESSURE TRANSDUCERS GREATER THAN 2" IN DIAMETER PROVIDE A 12-INCH LONG SECTION OF 316 STAINLESS STEEL PIPE, 3/4" TO 1-INCH DIAMETER WITH NPT THREADS TO MOUNT TO THE TRANSDUCER. THE TRANSDUCER AND PIPE SHALL BE SUSPENDED USING A STAINLESS STEEL PVC COATED CABLE WITH STAINLESS STEEL CLAMPS AND BOLTS WITH FRICTION NUTS. PROVIDE A STAINLESS STEEL FLOAT RACK FOR MOUNTING THE FLOAT SWITCHES AND TRANSDUCER CABLE. THE TRANSDUCER SHALL BE MOUNTED 6-INCHES FROM THE BOTTOM OF THE WET WELL. COORDINATE TRANSDUCER BOTTOM ELEVATION WITH WETWELL CONCRETE FILL DURING CONSTRUCTION. FINAL LOCATION SHALL BE DETERMINED BY ENGINEER IN THE FIELD. SUBMERSIBLE PRESSURE TRANSDUCERS THAT ARE 2" DIAMETER OR SMALLER SHALL BE INSTALLED IN A STILLING WELL. STILLING WELL SHALL BE CONSTRUCTED OF 3-4" PVC AND SUSPENDED FROM THE WALL OF THE WET WELL BY STAINLESS STEEL CLAMPS.

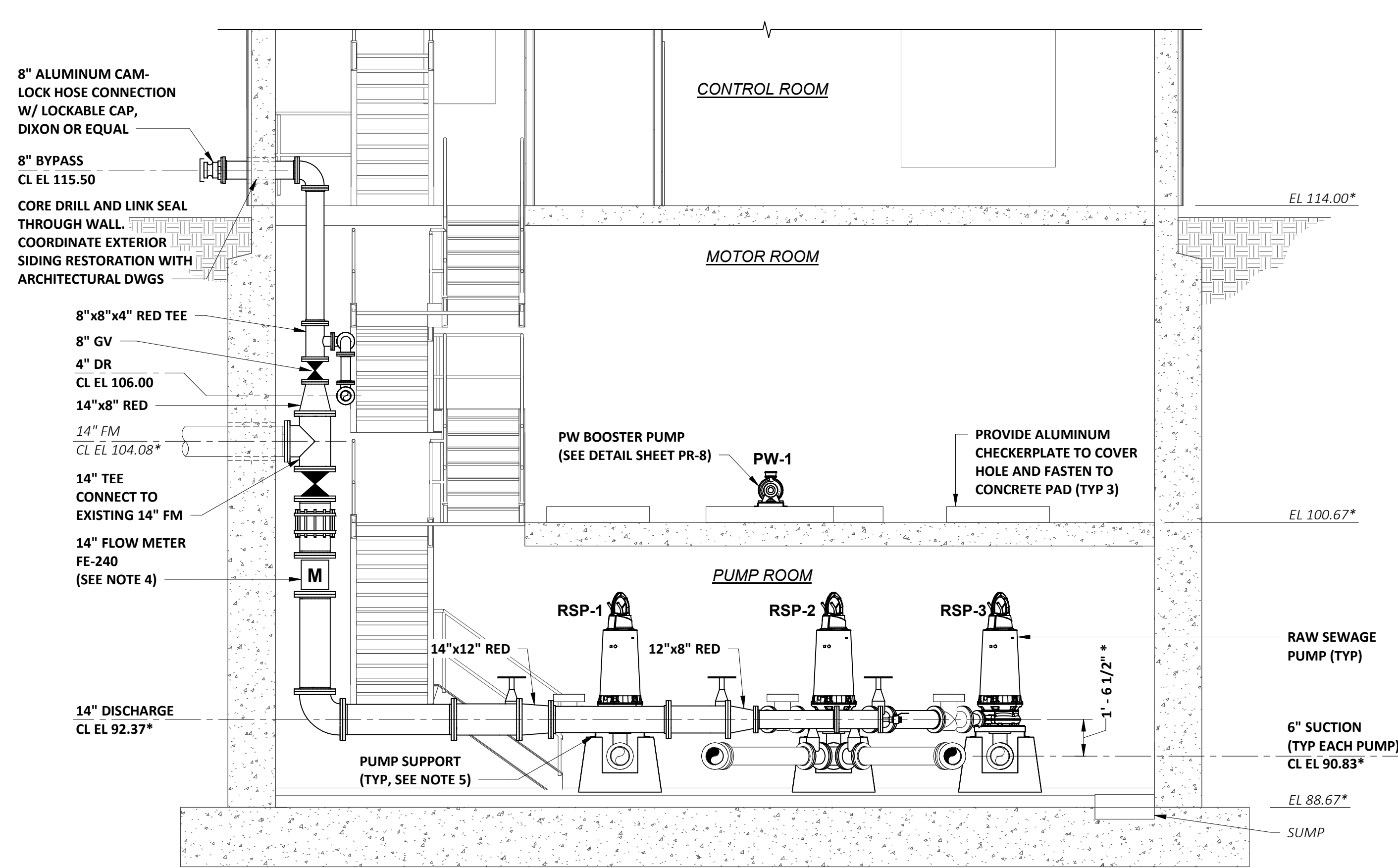
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|--------------------------------------------------------------------------------|--|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--------------------------------------------------------------------------------------|--|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|----|-----------|------------|
| WATERFORD UTILITY COMMISSION<br>OLD NORWICH ROAD<br>SEWER PUMP STATION UPGRADE |  | <br>860.343.8297   <a href="http://www.wright-pierce.com">www.wright-pierce.com</a><br>169 MAIN STREET, 700 PLAZA MIDDLESEX, MIDDLETOWN, CT 06457 |  |  |  | PROJECT NO: 21490<br>DESIGNED: T. MONTGOMERY<br>CAD COORD: ELAIGNER<br>CAD: B. STEFFEN, E. LAIGNER<br>CHECKED: K. HICKEY<br>DATE: JUNE 2023<br>APPROVED: D. DIEVERT<br>DATE: JUNE 2023<br>SUBMISSION: CONTRACT DRAWINGS |  | NO | REV/SIONS | APPD. DATE |
|                                                                                |  |                                                                                                                                                                                                                                        |  |                                                                                      |  |                                                                                                                                                                                                                         |  | 1  |           |            |
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|                                                                                |  |                                                                                                                                                                                                                                        |  |                                                                                      |  |                                                                                                                                                                                                                         |  | 5  |           |            |
| OLD NORWICH ROAD PUMP STATION<br>MODIFICATIONS PLANS                           |  |                                                                                                                                                                                                                                        |  |                                                                                      |  |                                                                                                                                                                                                                         |  |    |           |            |
| DRAWING                                                                        |  | PR-4                                                                                                                                                                                                                                   |  |                                                                                      |  |                                                                                                                                                                                                                         |  |    |           |            |



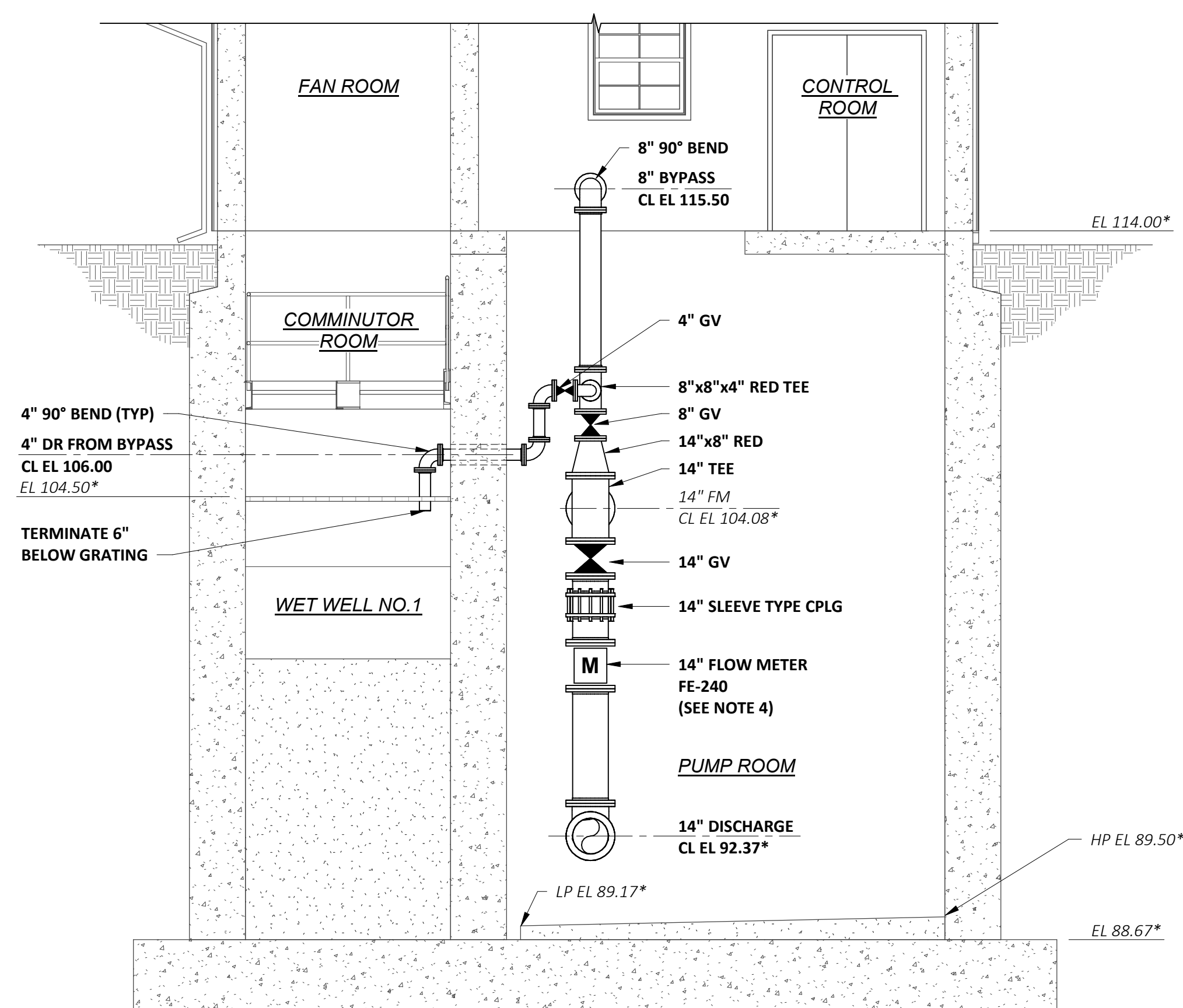
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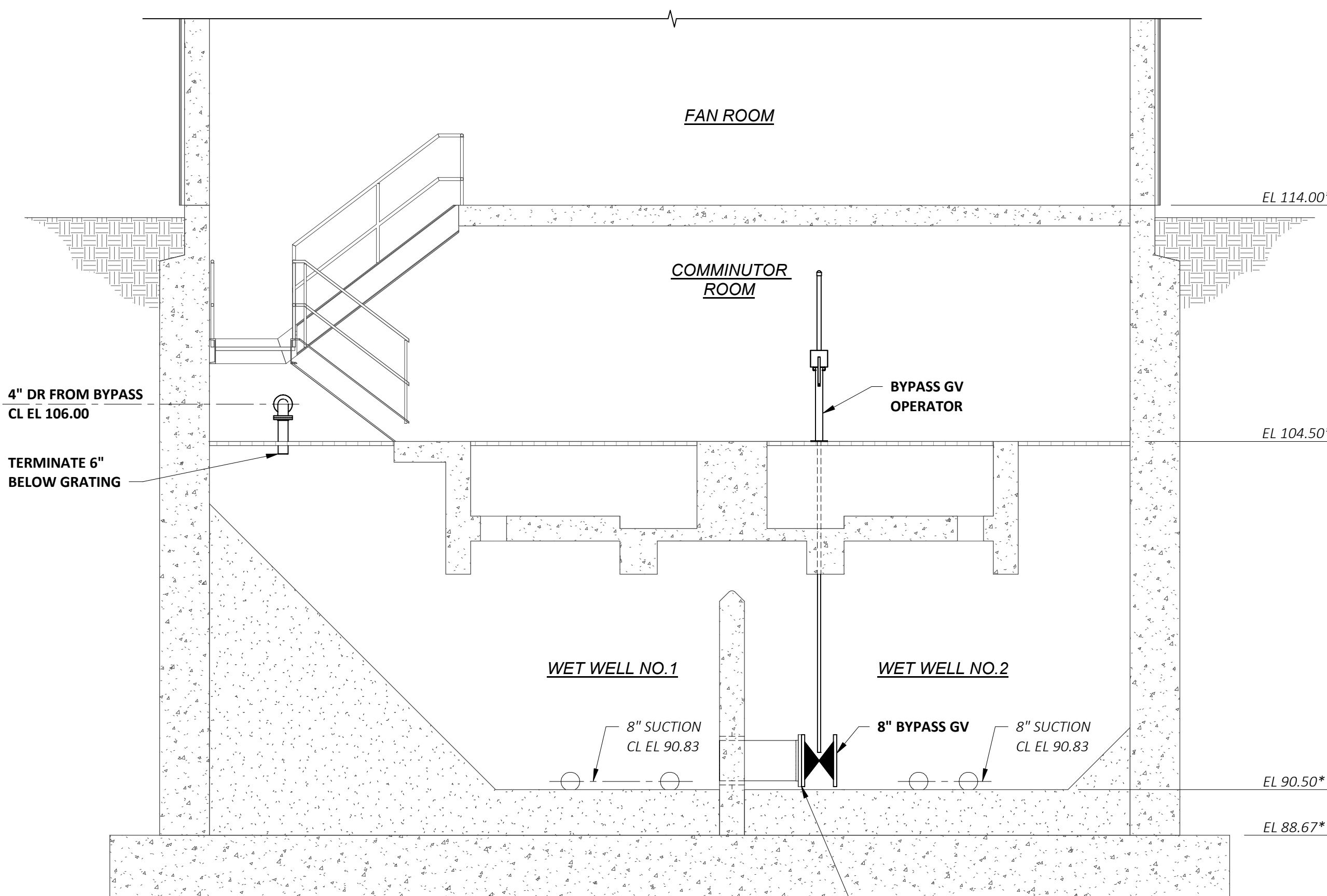
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PR-4 SCALE: 1/4" = 1'-0"



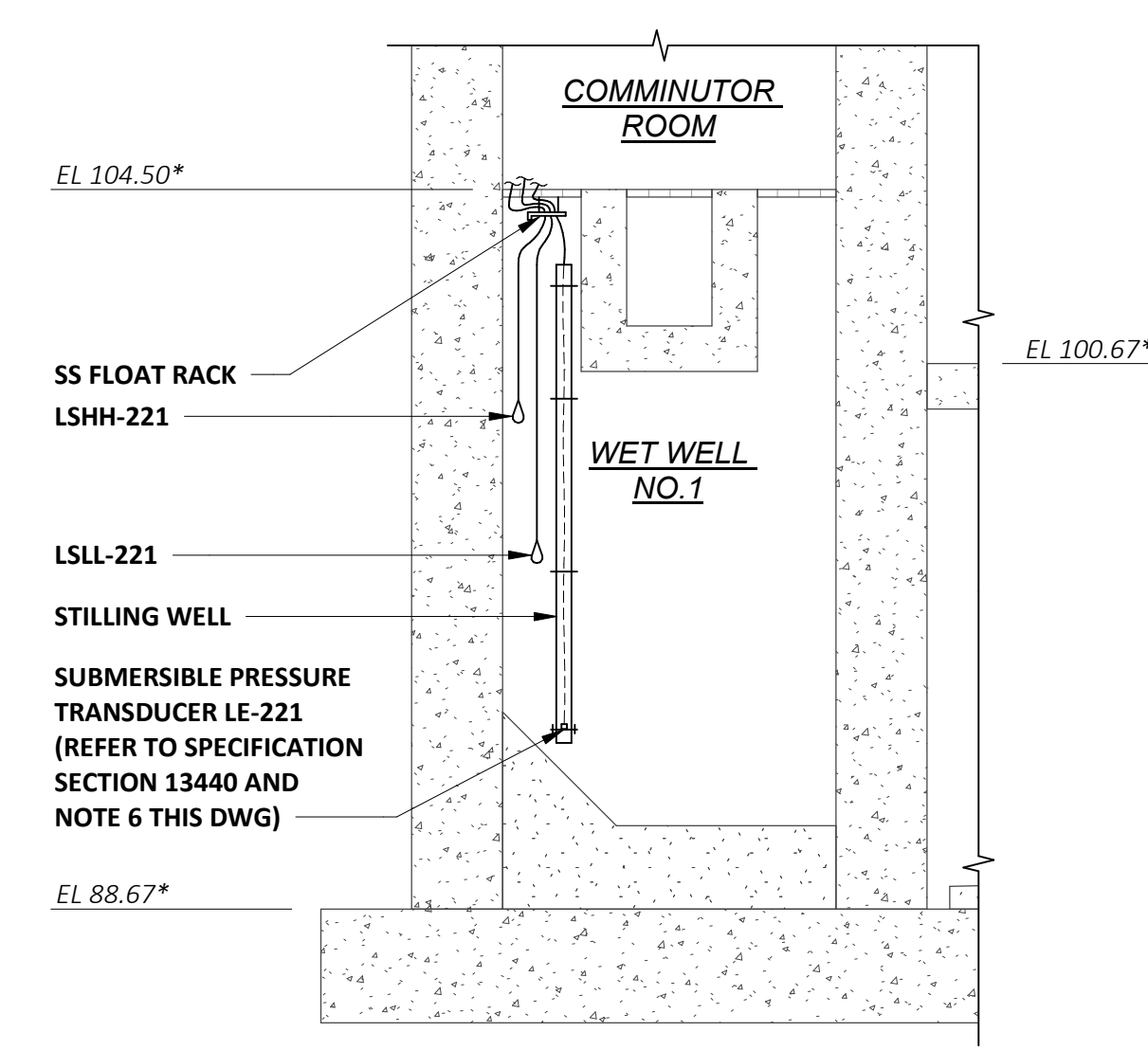
**2 SECTION**  
PR-4 SCALE: 1/4" = 1'-0"



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



**4 SECTION**  
PR-4 SCALE: 1/4" = 1'-0"



**5 SECTION**  
PR-4 SCALE: 1/4" = 1'-0"

- NOTES:**
- FOR GENERAL PROCESS NOTES AND ABBREVIATIONS, REFER TO DRAWING PR-1.
  - CONTRACTOR TO PROVIDE FITTINGS AND ADAPTERS AS NECESSARY TO COMPLETE CONNECTIONS BETWEEN NEW AND EXISTING PIPING.
  - CONTRACTOR SHALL BYPASS THE PUMP STATION TO PUMP DOWN, CLEAN, AND INSPECT WITH ENGINEER THE WET WELLS.
  - CONNECT NEW FLOW METER WITH FLANGED ADAPTERS AS REQUIRED.
  - PROVIDE CONCRETE PIERS OR CUSTOM PUMP STANDS TO LINE UP WITH PIPE ELEVATIONS (TYPICAL OF 3).
  - FOR PRESSURE TRANSDUCERS GREATER THAN 2" IN DIAMETER PROVIDE A 12-INCH LONG SECTION OF 316 STAINLESS STEEL PIPE, 3/4" TO 1-INCH DIAMETER WITH NPT THREADS TO MOUNT TO THE TRANSDUCER. THE TRANSDUCER AND PIPE SHALL BE SUSPENDED USING A STAINLESS STEEL PVC COATED CABLE WITH STAINLESS STEEL CLAMPS AND BOLTS WITH FRICTION NUTS. PROVIDE A STAINLESS STEEL FLOAT RACK FOR MOUNTING THE FLOAT SWITCHES AND TRANSDUCER CABLE. THE TRANSDUCER SHALL BE MOUNTED 6-INCHES FROM THE BOTTOM OF THE WET WELL. COORDINATE TRANSDUCER BOTTOM ELEVATION WITH WETWELL CONCRETE FILL DURING CONSTRUCTION. FINAL LOCATION SHALL BE DETERMINED BY ENGINEER IN THE FIELD. SUBMERSIBLE PRESSURE TRANSDUCERS THAT ARE 2" DIAMETER OR SMALLER SHALL BE INSTALLED IN A STILLING WELL. STILLING WELL SHALL BE CONSTRUCTED OF 3-4" PVC AND SUSPENDED FROM THE WALL OF THE WET WELL BY STAINLESS STEEL CLAMPS.

| REVISIONS |  | APPD | DATE |
|-----------|--|------|------|
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| 2         |  |      |      |
| 3         |  |      |      |
| 4         |  |      |      |
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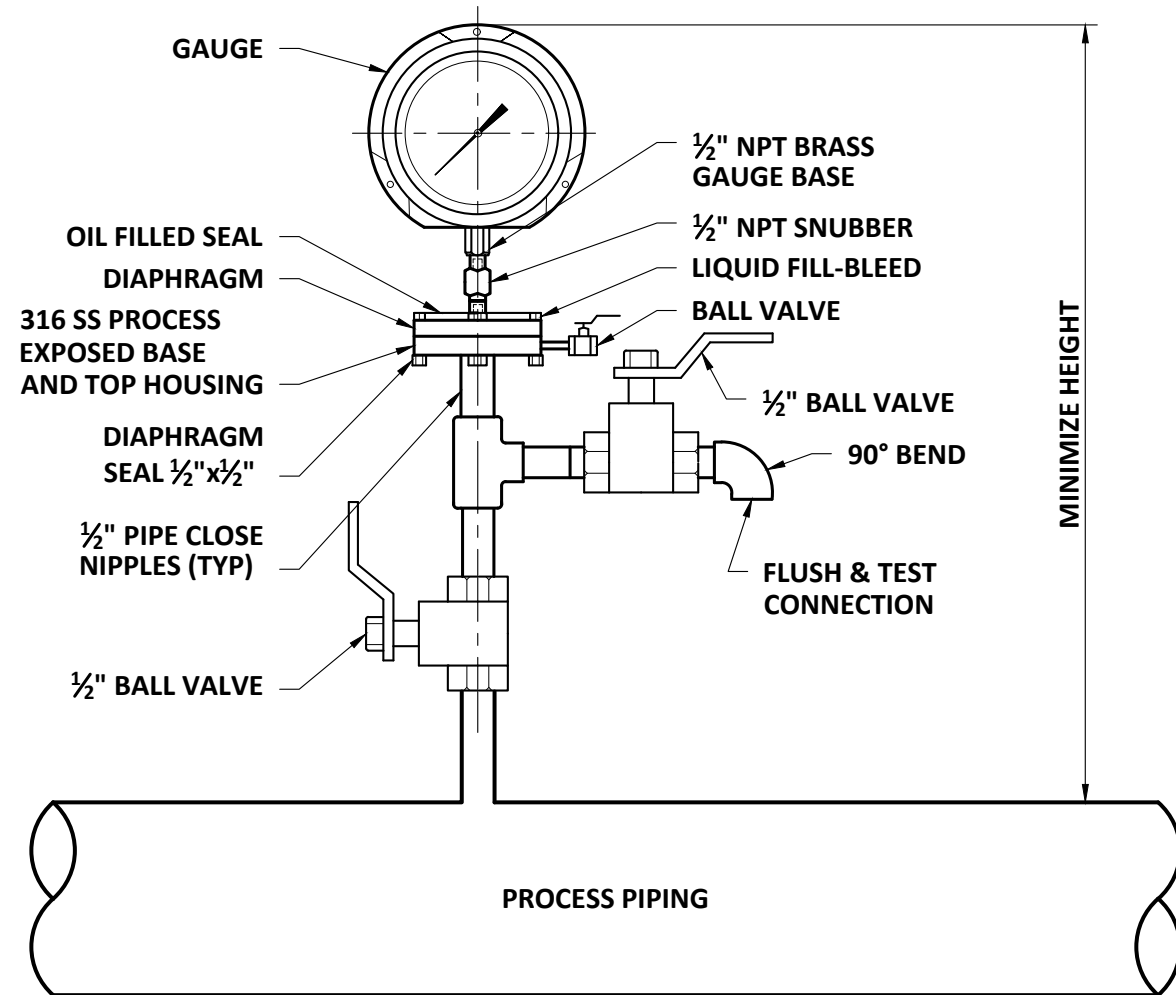
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|-------------------------------|---------------------|--|
| PROJECT NO: 21490             | DESIGNED: D.DIEVART |  |
| CAD COORD: ELAENER            | CAD: K.HICKEY       |  |
| CHECKED: K.HICKEY             | DATE: JUNE 2023     |  |
| APPROVED: D.DIEVART           | DATE: JUNE 2023     |  |
| SUBMISSION: CONTRACT DRAWINGS |                     |  |

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|                                                                                |                                                         |
|--------------------------------------------------------------------------------|---------------------------------------------------------|
| WATERFORD UTILITY COMMISSION<br>OLD NORWICH ROAD<br>SEWER PUMP STATION UPGRADE | OLD NORWICH ROAD PUMP STATION<br>MODIFICATIONS SECTIONS |
|                                                                                |                                                         |

DRAWING  
**PR-5**

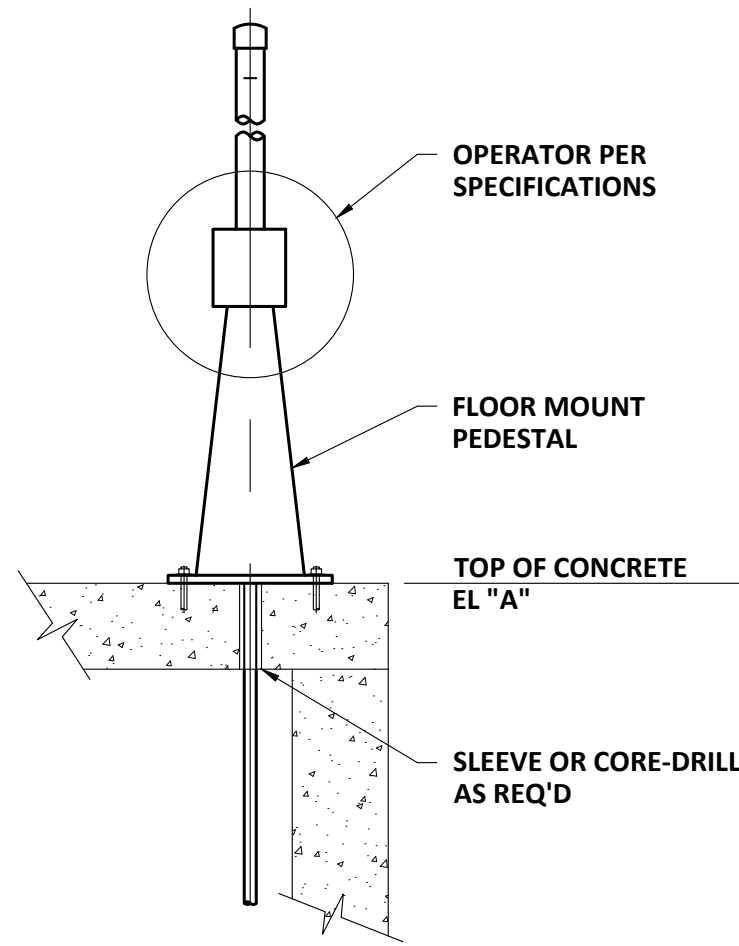




## GAUGE ASSEMBLY

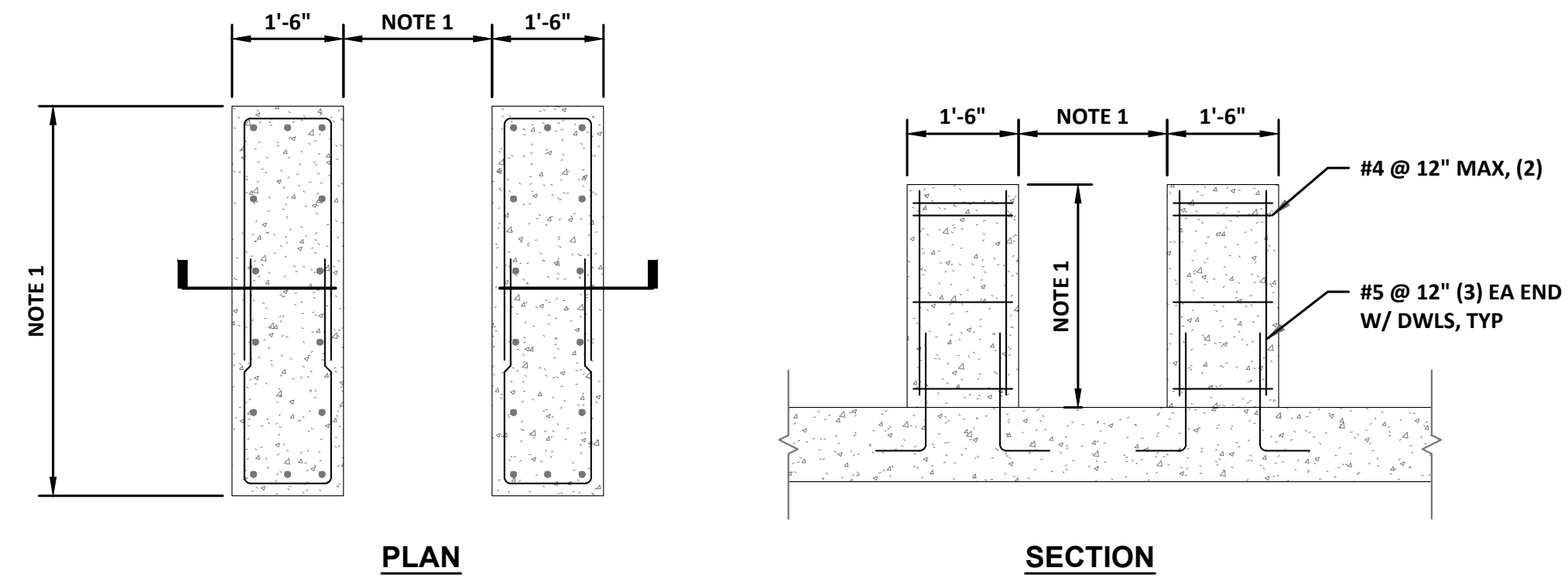
SCALE: NTS

**NOTE:**  
PROVIDE ONE SUCTION GAUGE ASSEMBLY AND ONE DISCHARGE GAUGE ASSEMBLY PER SEWAGE PUMP UNLESS OTHERWISE SPECIFIED. GAUGES SHALL BE PROVIDED IN ACCORDANCE WITH SECTION 11000 AND 11310. REFER TO SPECIFICATION SECTION 11000, PART 2.12 FOR DETAILS FOR GAUGE REQUIREMENTS FOR PLANT WATER BOOSTER PUMP.



SECTION  
**FLOOR PEDESTAL MOUNT DETAIL**

**NOTE: PROVIDE OFFSET FLOOR STAND.**



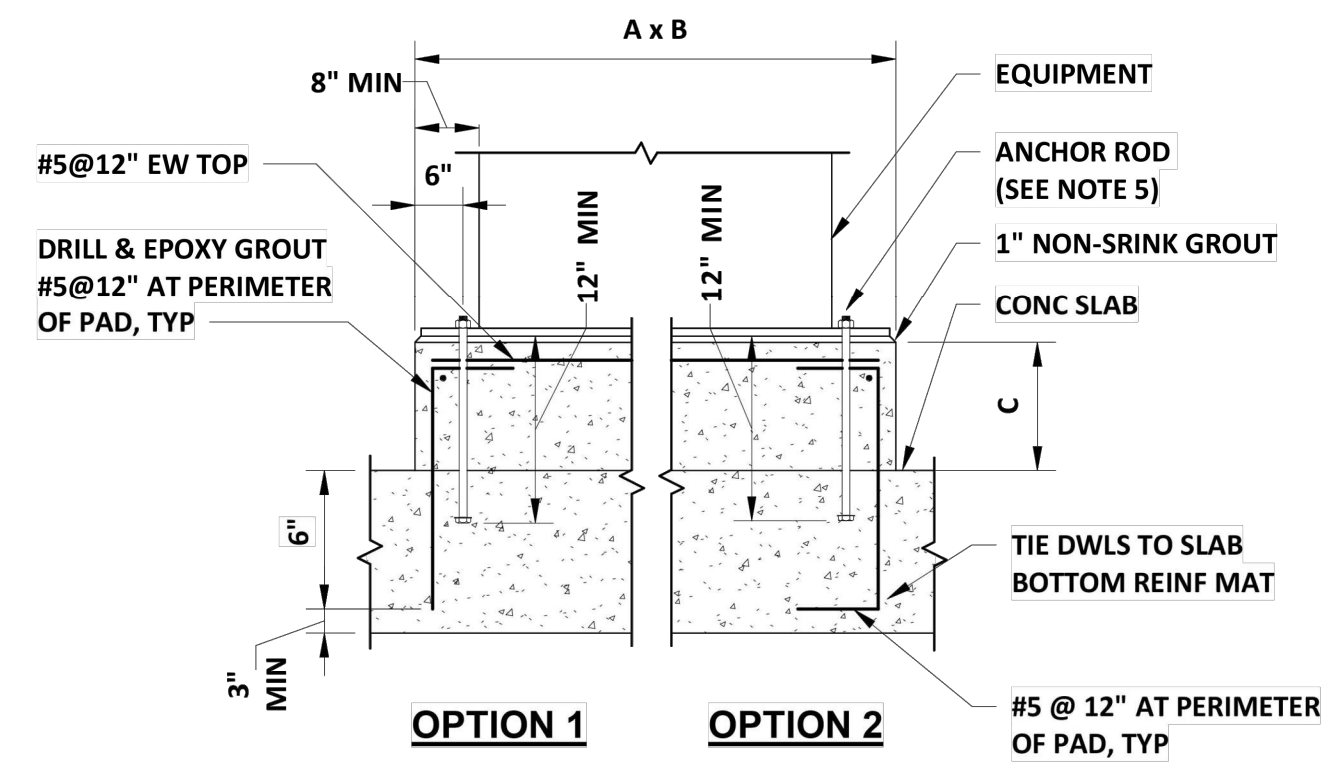
### PLAN

**SECTION**

- NOTES:**
1. COORD. DIMENSIONS WITH REQ'S OF PUMP MANUF. AND PR.
  2. PUMP PEDESTAL ANCHOR BOLTS PER MANUF. (NOT SHOWN)
  3. FOR CONCRETE PADS PLACED ON EXISTING CONCRETE, DRILL HOLES AND INSTALL #5 @ 12" W/ HS EPOXY (MIN 8" EMBEDMENT)
  4. APPLY BONDING AGENT ON CLEANED, ROUGHENED SURFACE PRIOR TO PLACING CONCRETE PAD.
  5. CONCRETE PAD SHALL ATTAIN A COMPRESSIVE STRENGTH OF 4500 PSI PRIOR TO STARTUP OF EQUIPMENT.

## CONCRETE PUMP PEDESTAL

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



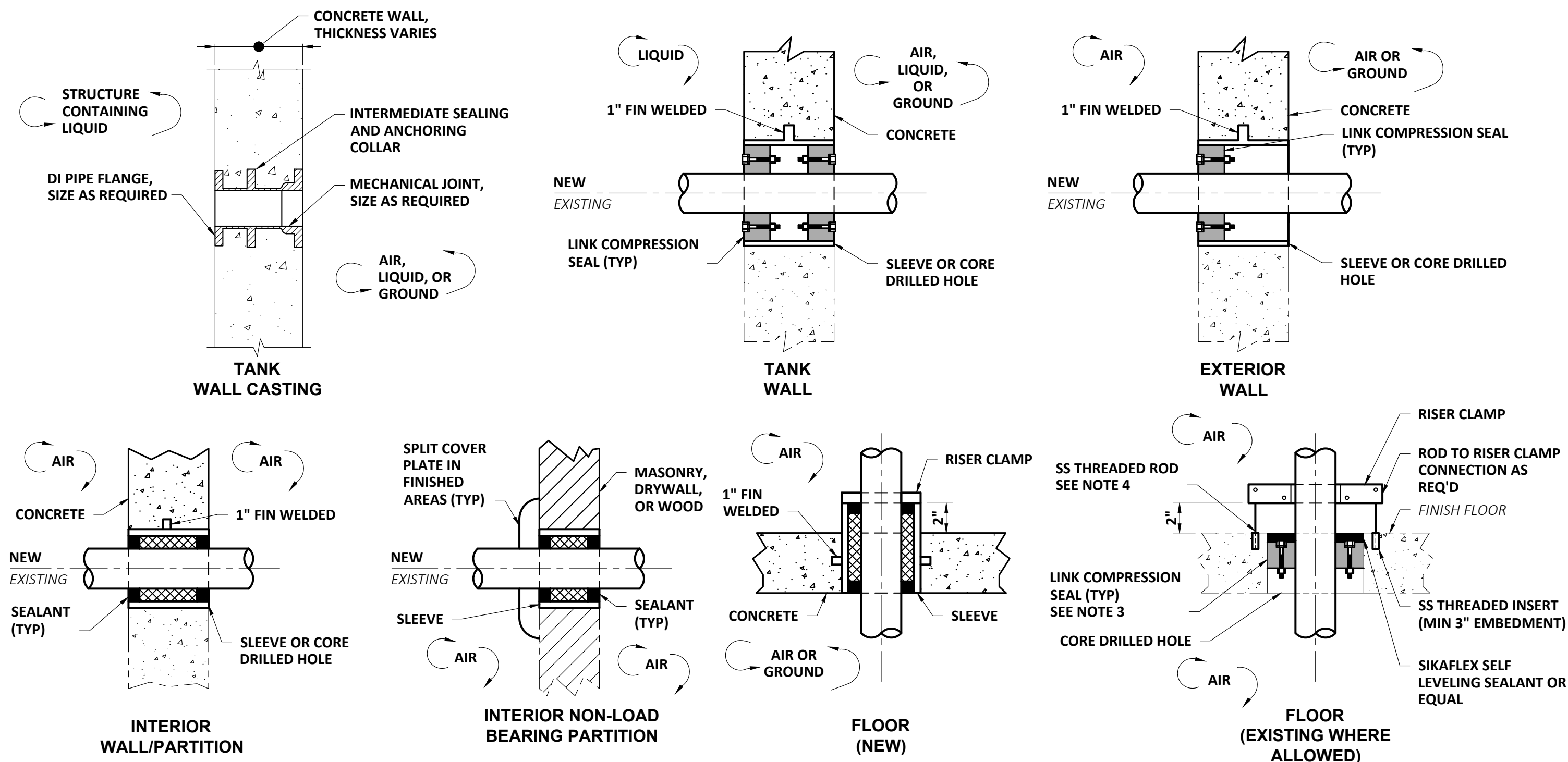
### OPTION 1

### OPTION 2

- NOTES:**
1. PROVIDE A MINIMUM 4" THICK REINFORCED CONCRETE PAD BELOW ALL EQUIPMENT, PIPE SUPPORTS, STANCHIONS, CONTROL PANELS, CHEMICAL STORAGE TANKS, ETC. UNLESS OTHERWISE NOTED.
  2. A, B AND C DIMENSIONS SHALL BE DETERMINED BY THE GENERAL CONTRACTOR BASED ON EQUIPMENT SUPPLIED.
  3. CONCRETE PAD SHALL ATTAIN THE DESIGN COMPRESSIVE STRENGTH PRIOR TO STARTUP OF EQUIPMENT.
  4. FOR CONCRETE PADS PLACED ON EXISTING CONCRETE, DRILL & EPOXY GROUT #5 @ 12" AT PERIMETER OF PAD.
  5. FOR CONCRETE PADS PLACED ON EXISTING CONCRETE, USE SS EPOXY ANCHORS.
  6. PREPARE SUBSTRATE AND APPLY BONDING AGENT AS SPECIFIED PRIOR TO PLACING CONCRETE PAD.

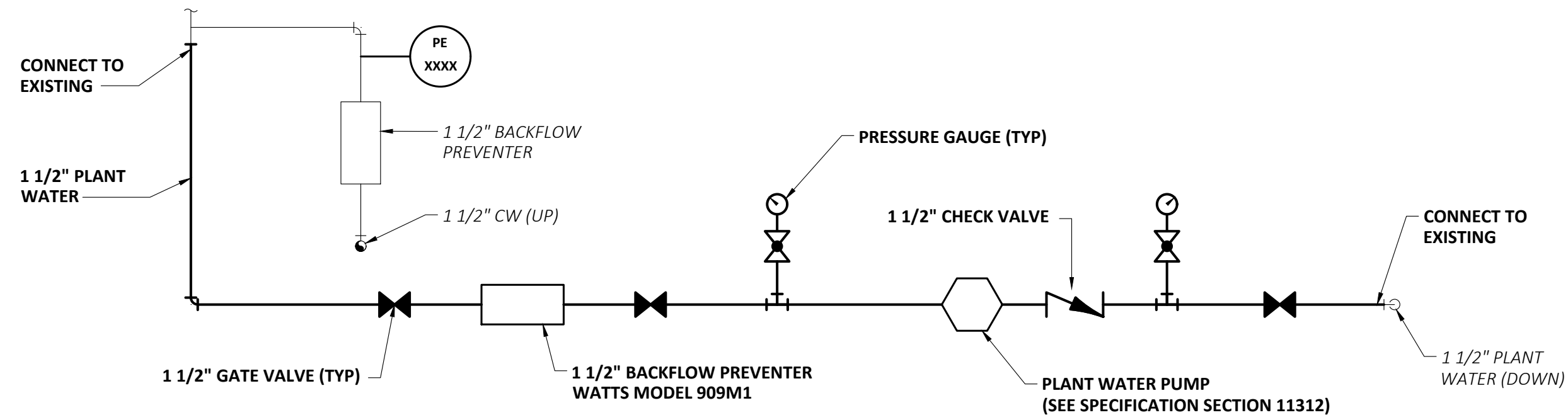
# EQUIPMENT PAD

SCALE: NTS



## CONSTRUCTION PIPING PENETRATION DETAILS

- NOTES:**
1. REFER TO SPECIFICATION SECTION 15092 FOR REQUIREMENTS AND INFORMATION.
  2. WALL CASTING CONNECTION SHOWN IS FLG TO MJ. PROVIDE TYPE OF WALL CASTING AS REQUIRED.
  3. SET TOP OF LINK TYPE SEAL APPROXIMATE  $\frac{1}{2}$ " TO  $\frac{3}{4}$ " BELOW FINISH FLOOR.
  4. LINK SEAL SHALL NOT BE USED TO SUPPORT PIPE. THREADED ROD SHALL BE SIZED AS REQUIRED TO SUPPORT PIPE BOTH VERTICALLY AND HORIZONTALLY.



# PLANT WATER SYSTEM MODIFICATIONS

|                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                           |                                                                                                                                                                                 |                 |              |
|---------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|--------------|
| <div> <div> WATERFORD UTILITY COMMISSION<br/> OLD NORWICH ROAD<br/> SEWER PUMP STATION UPGRADE </div> <div> DRAWING<br/> PR-6 </div> </div> | <div> <div>  <div> 860.343.8297   <a href="http://www.wright-pierce.com">www.wright-pierce.com</a><br/> 169 MAIN STREET, 700 PLAZA MIDDLESEX, MIDDLETOWN, CT 06457 </div> </div> <div>  </div> </div> | <div> <div>  </div> <div> SUBMISSION: CONTRACT DRAWINGS </div> </div> | PROJECT NO: 21490<br>DESIGNED: T.MONTGOMERY<br>CAD COORD: E.LAGNER<br>CAD: B.STEFEN, E.LAGNER<br>CHECKED: K.HICKEY<br>DATE: JUNE 2023<br>APPROVED: D.DIEVERT<br>DATE: JUNE 2023 | NO<br>REVISIONS | APPD<br>DATE |
|                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                           |                                                                                                                                                                                 |                 |              |
|                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                           |                                                                                                                                                                                 |                 |              |
|                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                           |                                                                                                                                                                                 |                 |              |
|                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                           |                                                                                                                                                                                 |                 |              |
|                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                           |                                                                                                                                                                                 |                 |              |



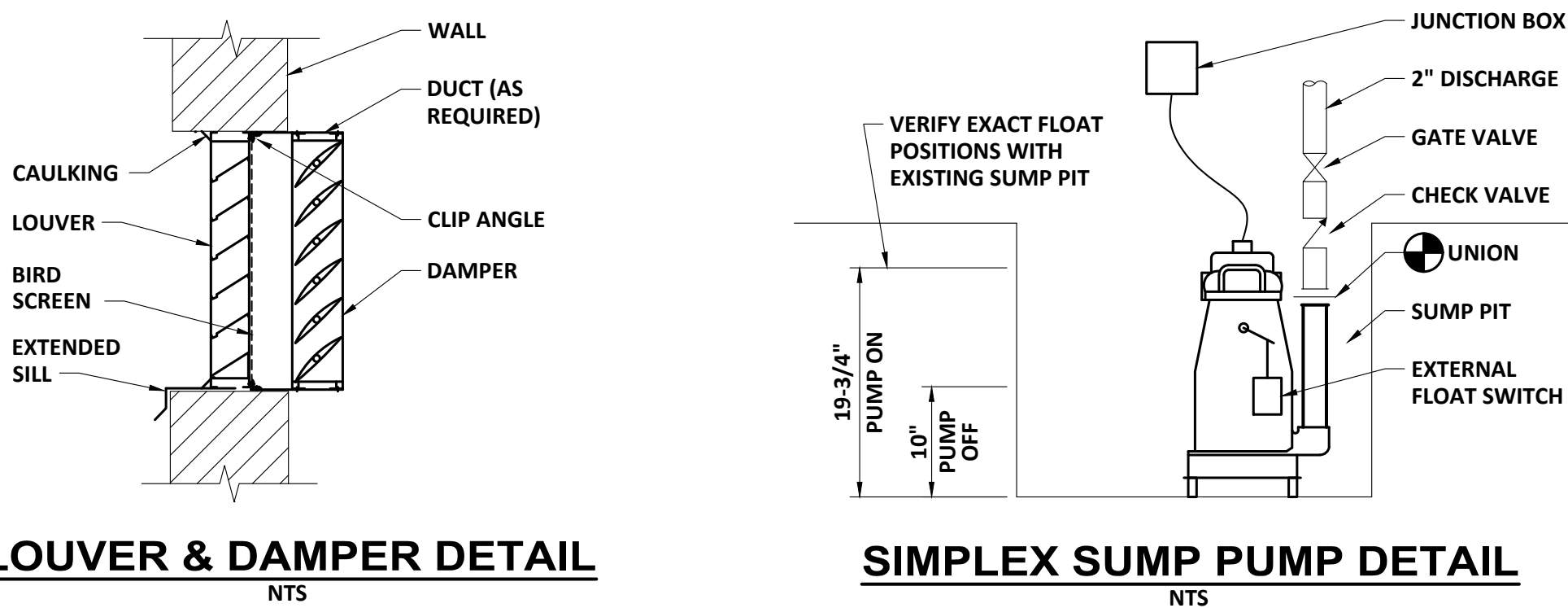
## LEGEND

|                                |                                                                                |                                                                                                                                                                                                                                               |                                                                                                |                                                                                      |                      |    |           |           |
|--------------------------------|--------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|----------------------|----|-----------|-----------|
| DRAWING                        | WATERFORD UTILITY COMMISSION<br>OLD NORWICH ROAD<br>SEWER PUMP STATION UPGRADE | <br><b>860.343.8297</b>   <a href="http://www.wright-pierce.com">www.wright-pierce.com</a><br>169 MAIN STREET, 700 PLAZA MIDDLESEX, MIDDLETOWN, CT 06457 | <br>6/5/23 |  | PROJECT NO: 214590   | NO | REVISIONS | APPD DATE |
|                                |                                                                                |                                                                                                                                                                                                                                               |                                                                                                |                                                                                      | DESIGNED: R. GREENE  | △  |           |           |
|                                |                                                                                |                                                                                                                                                                                                                                               |                                                                                                |                                                                                      | CAD COORD: E. LAGNER | △  |           |           |
|                                |                                                                                |                                                                                                                                                                                                                                               |                                                                                                |                                                                                      | CAD: K. TURNER       | △  |           |           |
|                                |                                                                                |                                                                                                                                                                                                                                               |                                                                                                |                                                                                      | CHECKED: E. CARLSMAN | △  |           |           |
| DATE: JUNE 2023                |                                                                                |                                                                                                                                                                                                                                               |                                                                                                |                                                                                      |                      |    |           |           |
| APPROVED: R. GREENE            | △                                                                              |                                                                                                                                                                                                                                               |                                                                                                |                                                                                      |                      |    |           |           |
| DATE: JUNE 2023                | △                                                                              |                                                                                                                                                                                                                                               |                                                                                                |                                                                                      |                      |    |           |           |
| SUBMISSIONS: CONTRACT DRAWINGS |                                                                                |                                                                                                                                                                                                                                               |                                                                                                |                                                                                      |                      |    |           |           |

| EXISTING                                                                            | NEW                                                                                 |                                              |
|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|----------------------------------------------|
|  |  | BALL VALVE                                   |
|  |  | CHECK VALVE                                  |
|  |  | UNION                                        |
|  |  | WYE STRAINER                                 |
|  |  | TEMPERATURE & PRESSURE SAFETY (RELIEF VALVE) |
|  |  | PRESSURE REDUCING VALVE                      |
|  |  | 3-WAY MIXING VALVE                           |
| <hr/>                                                                               |                                                                                     |                                              |
|  |                                                                                     | CONTROL VALVE (2 WAY)                        |
|  |                                                                                     | PIPE TURNING DOWN                            |
|  |                                                                                     | PIPE TURNING UP                              |
|  |                                                                                     | PIPE TEE DOWN                                |
|  |  | NATURAL GAS PIPE                             |
|  |  | NATURAL GAS PIPE BELOW SLAB OR GRADE         |
|  |                                                                                     | SHUT OFF VALVE                               |
|  |                                                                                     | BALANCING VALVE OR BALL VALVE W/MEMORY STOP  |
|  |                                                                                     | GAS COCK                                     |
|  |                                                                                     | DRAIN / FILL STATION                         |
|  |                                                                                     | THERMOSTAT                                   |
|  |                                                                                     | COMBUSTIBLE GAS DETECTOR                     |
|  |                                                                                     | PROOF-OF-AIRFLOW SWITCH                      |
|  |                                                                                     | PRESSURE GAUGE WITH SHUT OFF                 |
|  |                                                                                     | THERMOMETER                                  |
|  |                                                                                     | AUTOMATIC TEMPERATURE CONTROL PANEL          |
|  |                                                                                     | VENTILATION MONITORING HORN/SSTROBE          |

|                                             |        |                                |        |                                  |
|---------------------------------------------|--------|--------------------------------|--------|----------------------------------|
| RECTANGULAR SUPPLY AIR DUCT UP              | ABV    | ABOVE                          | L      | LOUVER                           |
| RECTANGULAR SUPPLY AIR DUCT DOWN            | ACH    | AIR CHANGES PER HOUR           | LAT    | LEAVING AIR TEMPERATURE          |
|                                             | AD     | ACCESS DOOR                    | LRA    | LOCKED ROTOR AMPS                |
| RECTANGULAR RETURN OR EXHAUST AIR DUCT UP   | ADF    | ABOVE FINISH FLOOR             | LWT    | LEAVING WATER TEMPERATURE        |
| RECTANGULAR RETURN OR EXHAUST AIR DUCT DOWN | AFG    | ABOVE FINISH GRADE             | MAU    | MAKE-UP AIR UNIT                 |
|                                             | AHU    | AIR HANDLING UNIT              | MAX    | MAXIMUM                          |
|                                             | APD    | AIR PRESSURE DROP              | MBH    | BTUH x 1000                      |
| SPIRAL AIR DUCT UP                          | AS     | AIR SEPARATOR                  | MFR    | MANUFACTURER                     |
| SPIRAL AIR DUCT DOWN                        | ATC    | AUTOMATIC TEMPERATURE CONTROL  | MIN    | MINIMUM                          |
|                                             | B      | BOILER                         | MOCP   | MAXIMUM OVERCURRENT PROTECTION   |
|                                             | BHP    | BRAKE HORSEPOWER               | MOD    | MOTOR OPERATED DAMPER            |
| RECTANGULAR TO-SPIRAL DUCT TRANSITION       | BOD    | BOTTOM OF DUCT                 | N/A    | NOT APPLICABLE                   |
|                                             | BOE    | BOTTOM OF EQUIPMENT            | N/T    | NOT TO SCALE                     |
| FLEXIBLE DUCT CONNECTION                    | BTU    | BRITISH THERMAL UNIT           | OA     | OUTSIDE AIR                      |
| SIDEWALL REGISTER                           | BTUH   | BRITISH THERMAL UNITS PER HOUR | OAT    | OUTSIDE AIR TEMPERATURE          |
| DIRECTION OF AIR FLOW (S/OA)                | CL     | CENTERLINE                     | OED    | OPEN END DRAIN, OPEN END DUCT    |
|                                             | CFM    | CUBIC FEET PER MINUTE          | PD     | PRESSURE DROP                    |
| DIRECTION OF AIR FLOW (R/E)                 | CG     | COMBUSTIBLE GAS                | R      | RETURN                           |
|                                             | D      | DAMPER                         | RAD    | RADIUS                           |
|                                             | DB     | DRY BULB                       | RLA    | RUNNING LOAD AMPS                |
| UNIT HEATER (UH)                            | DIA, Ø | DIAMETER                       | RPM    | REVOLUTIONS PER MINUTE           |
|                                             | DN     | DOWN                           | SA     | SUPPLY AIR                       |
| MOTOR OPERATED DAMPER (MOD)                 | DX     | DIRECT EXPANSION               | SC     | SENSIBLE COOLING                 |
|                                             | EA     | EXHAUST AIR                    | SCH    | SCHEDULE                         |
| VOLUME DAMPER                               | EAT    | ENTERING AIR TEMPERATURE       | SF     | SUPPLY FAN                       |
|                                             | EER    | ENERGY EFFICIENCY RATIO        | SMACNA | SHEET METAL AND AIR CONDITIONING |
| HOT WATER SUPPLY                            | EF     | EXHAUST FAN                    |        | CONTRACTORS NATIONAL ASSOCIATION |
| HOT WATER RETURN                            | EFF    | EFFICIENCY                     | SS     | STAINLESS STEEL                  |
|                                             | EG     | EXHAUST GRILLE                 | TC     | TOTAL COOLING                    |
| CIRCULATING PUMP                            | EL     | ELEVATION                      | TOD    | TOP OF DUCT                      |
|                                             | ESP    | EXTERNAL STATIC PRESSURE       | TOE    | TOP OF EQUIPMENT                 |
|                                             | ET     | EXPANSION TANK                 | TSTAT  | THERMOSTAT                       |
| MITERED ELBOW WITH TURNING VANES            | EWI    | ENTERING WATER TEMPERATURE     | TV     | TURNING VANES                    |
|                                             | °F     | DEGREES FAHRENHEIT             | TYP    | TYPICAL                          |
|                                             | FAT    | FAN AIR TEMPERATURE            | UH     | UNIT HEATER                      |
|                                             | FC     | FLEXIBLE CONNECTION            | V      | VOLTS                            |
|                                             | FLA    | FULL-LOAD AMPS                 | VD     | VOLUME DAMPER                    |
|                                             | FPF    | FINS PER FOOT                  | VFD    | VARIABLE FREQUENCY DRIVE         |
|                                             | HP     | HORSEPOWER (SCHEDULES)         | W/     | WITH                             |
|                                             | HWR    | HOT WATER RETURN               | WB     | WET BULB                         |
| POINT OF CONNECTION BETWEEN                 | HWS    | HOT WATER SUPPLY               | WC     | WATER COLUMN                     |

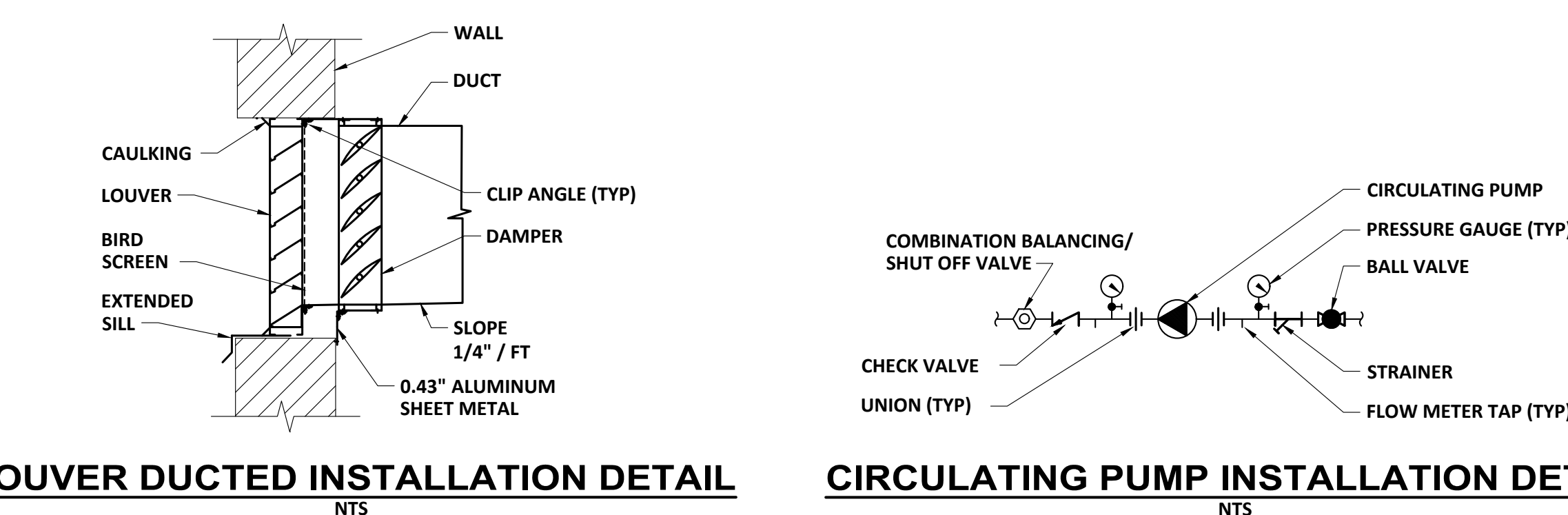
1. ALL EQUIPMENT AND PIPING LAYOUT DIMENSIONS SHALL BE FIELD VERIFIED AND COORDINATED WITH EQUIPMENT SUPPLIED, AND/OR EXISTING CONDITIONS. SOME INFORMATION ASSOCIATED WITH EXISTING STRUCTURES, PIPING AND EQUIPMENT LOCATIONS, ELEVATIONS AND SIZES, WERE TAKEN FROM THE CONTRACT DRAWINGS FOR WATER AND SEWER COMMISSION, WATERFORD, CONNECTICUT, SEWAGE WORKS CONSTRUCTION PROGRAM, CONTRACT 7 - OLD NORWICH ROAD PUMPING STATION (HAYDEN & HARDING 1972), WHICH ARE AVAILABLE FOR REVIEW AT THE ENGINEER'S OFFICE. CONTRACTOR SHALL VERIFY ALL DIMENSIONS IN THE FIELD AS REQUIRED PRIOR TO BEGINNING CONSTRUCTION OF NEW FACILITIES, EQUIPMENT OR PIPING THAT MAY BE AFFECTED.
2. THE ENGINEER SHALL BE NOTIFIED IMMEDIATELY OF ANY DIMENSIONS, LAYOUT OR ELEVATION CHANGES REQUIRED TO SUIT THE SPECIFIC EQUIPMENT BEING PROVIDED UNDER THIS CONTRACT. WHEN SUCH EQUIPMENT REQUIRES PADS, PIERS, CURBING, ETC., THAT DIFFERS FROM THAT SHOWN ON THE CONSTRUCTION DRAWINGS, THE CONTRACTOR SHALL COORDINATE THE STEEL REINFORCING SHOP DRAWINGS ACCORDINGLY.
3. CONTRACTOR TO NOTE THAT ALL EXISTING INFORMATION ON THE DRAWINGS IS SHOWN WITH A LIGHTER LINE WEIGHT AND INDICATED WITH A SLANTED TYPE TEXT. THE EXCEPTION IS WHEN SCANNED IMAGES ARE UTILIZED FROM THE PREVIOUS CONSTRUCTION PROJECTS NOTED IN GENERAL NOTE NO.1 ABOVE. WHEN REVIEWING DRAWINGS NOTED AS "SCANNED" UNDER DRAWING TITLE, THE CONTRACTOR SHALL IGNORE ANY REFERENCE TO PREVIOUS CONTRACT WORK. SCANNED IMAGES ARE NOT TO SCALE, HOWEVER AN APPROXIMATE SCALE MAY BE GIVEN FOR CONVENIENCE.
4. ALL COMPONENTS OF THE AUTOMATIC TEMPERATURE CONTROL SYSTEM SHALL MEET THE ELECTRICAL CLASSIFICATION OF THE SPACE IN WHICH THEY ARE INSTALLED UNLESS NOTED OTHERWISE IN THE SPECIFICATIONS.
5. ALL DUCTWORK AND DEVICES SHALL BE FABRICATED, REINFORCED AND INSTALLED IN ACCORDANCE WITH SMACNA (SHEET METAL AND AIR CONDITIONING CONTRACTORS NATIONAL ASSOCIATION) DOCUMENT "HVAC DUCT CONSTRUCTION STANDARDS METAL AND FLEXIBLE". SEAL ALL DUCT JOINTS TO SEAL CLASS "CC".
6. ALL PIPES SHALL BE ADEQUATELY RESTRAINED AND SUPPORTED IN ACCORDANCE WITH THE INTERNATIONAL MECHANICAL CODE.
7. ALL PIPING SYSTEMS SHALL BE PRESSURE TESTED FOR TIGHTNESS IN ACCORDANCE WITH SPECIFICATION SECTION 15601. ALL LEAKS SHALL BE CORRECTED AND RETESTED UNTIL PRESSURE TEST IS SATISFACTORY PRIOR TO THE INSTALLATION OF PIPE INSULATION.
8. DO NOT SCALE DISTANCES OR DIMENSIONS FROM THE DRAWINGS. WRITTEN DIMENSIONS SHALL PREVAIL. REPORT ANY DISCREPANCIES IMMEDIATELY TO THE ENGINEER.
9. ALL MITERED ELBOWS, AND RADIUS ELBOWS HAVING RAD<1.0x DUCT WIDTH SHALL HAVE TURNING VANES INSTALLED.



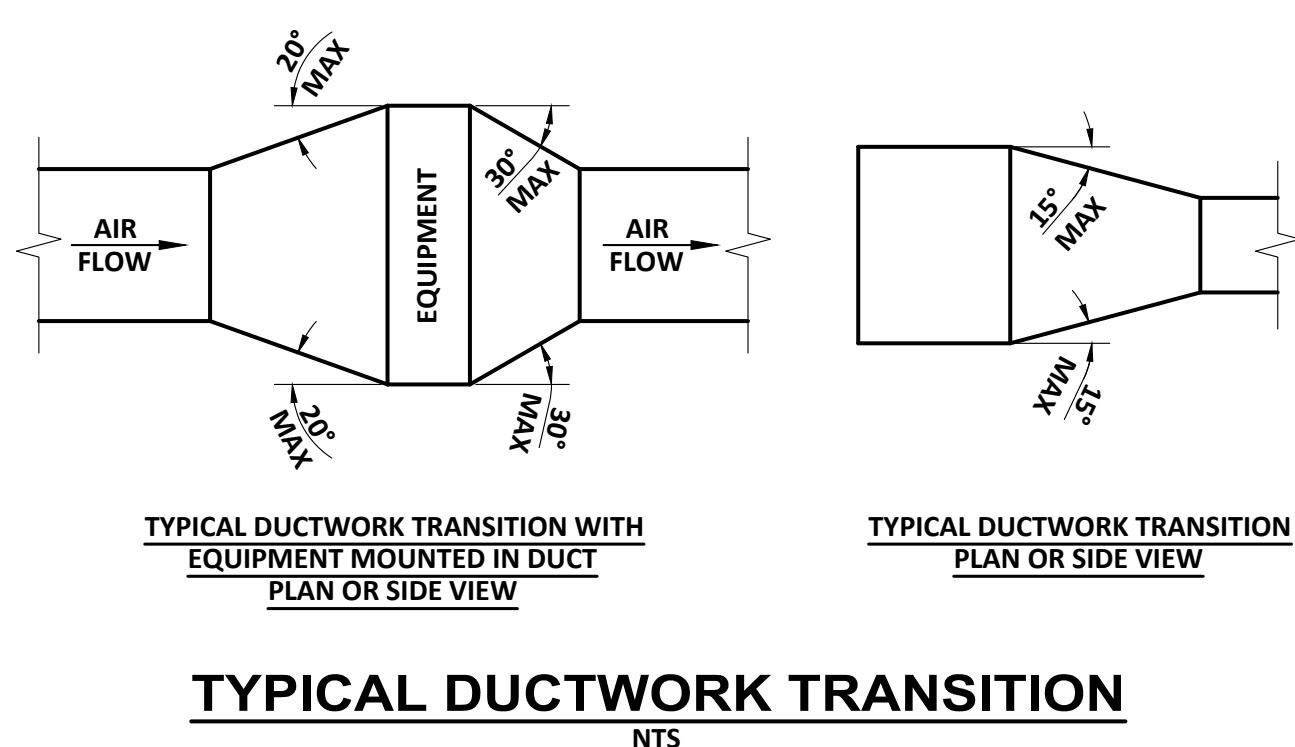
## LOUVER & DAMPER DETAIL

## SIMPLEX SUMP PUMP DETAIL

## LOUVER DUCTED INSTALLATION DETAIL

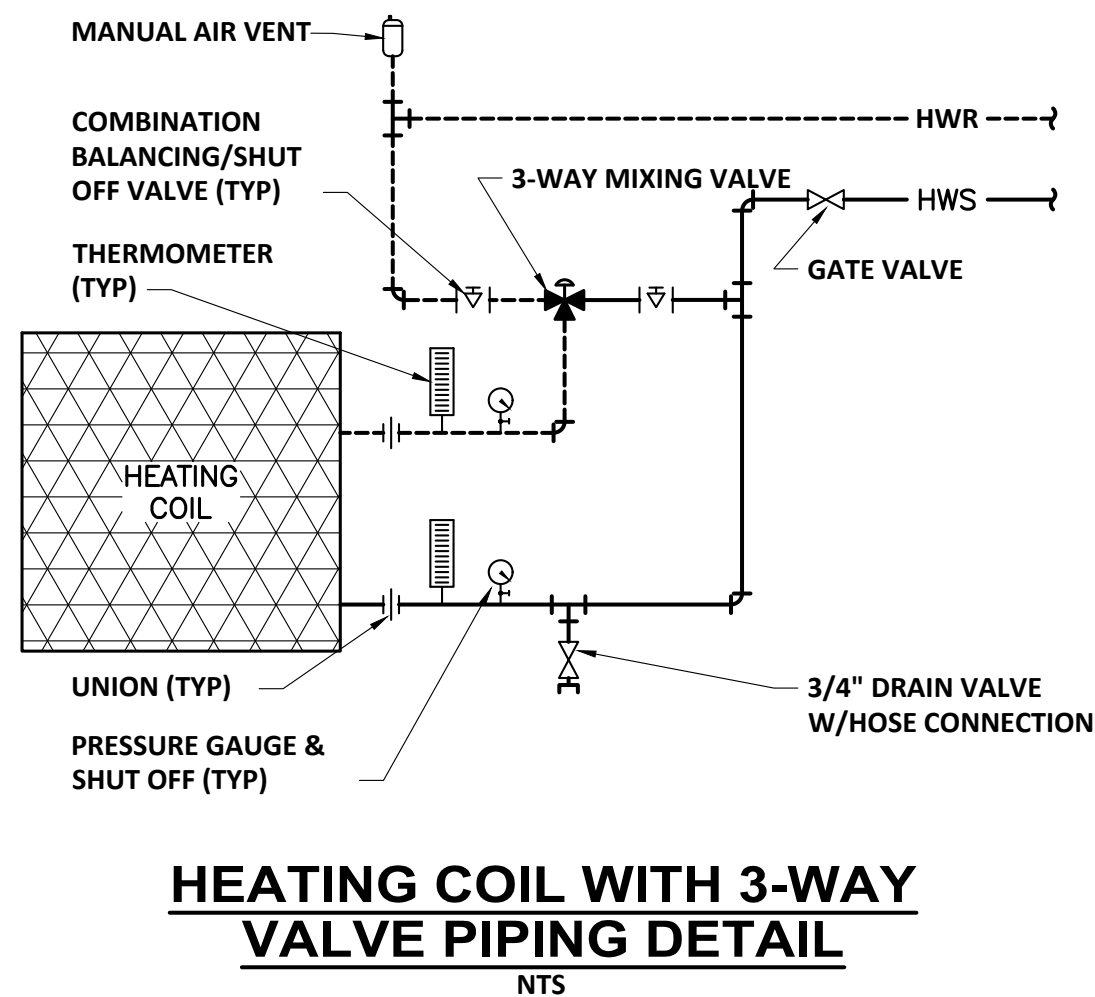


## CIRCULATING PUMP INSTALLATION DETAIL

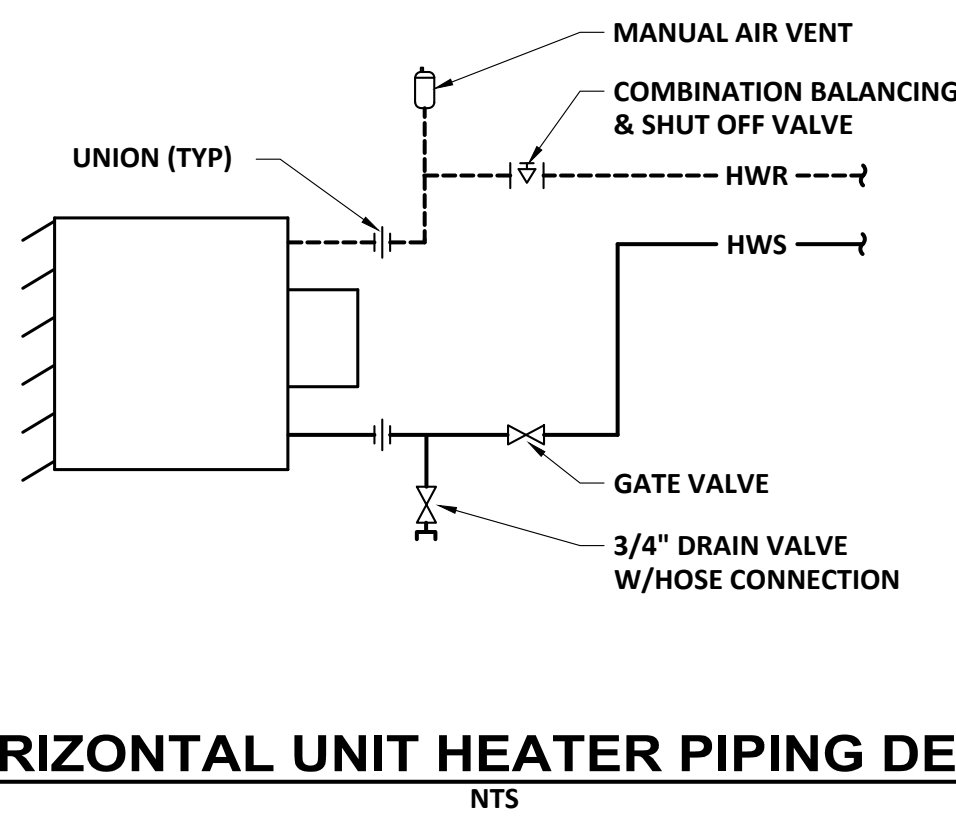


## TYPICAL DUCTWORK TRANSITION

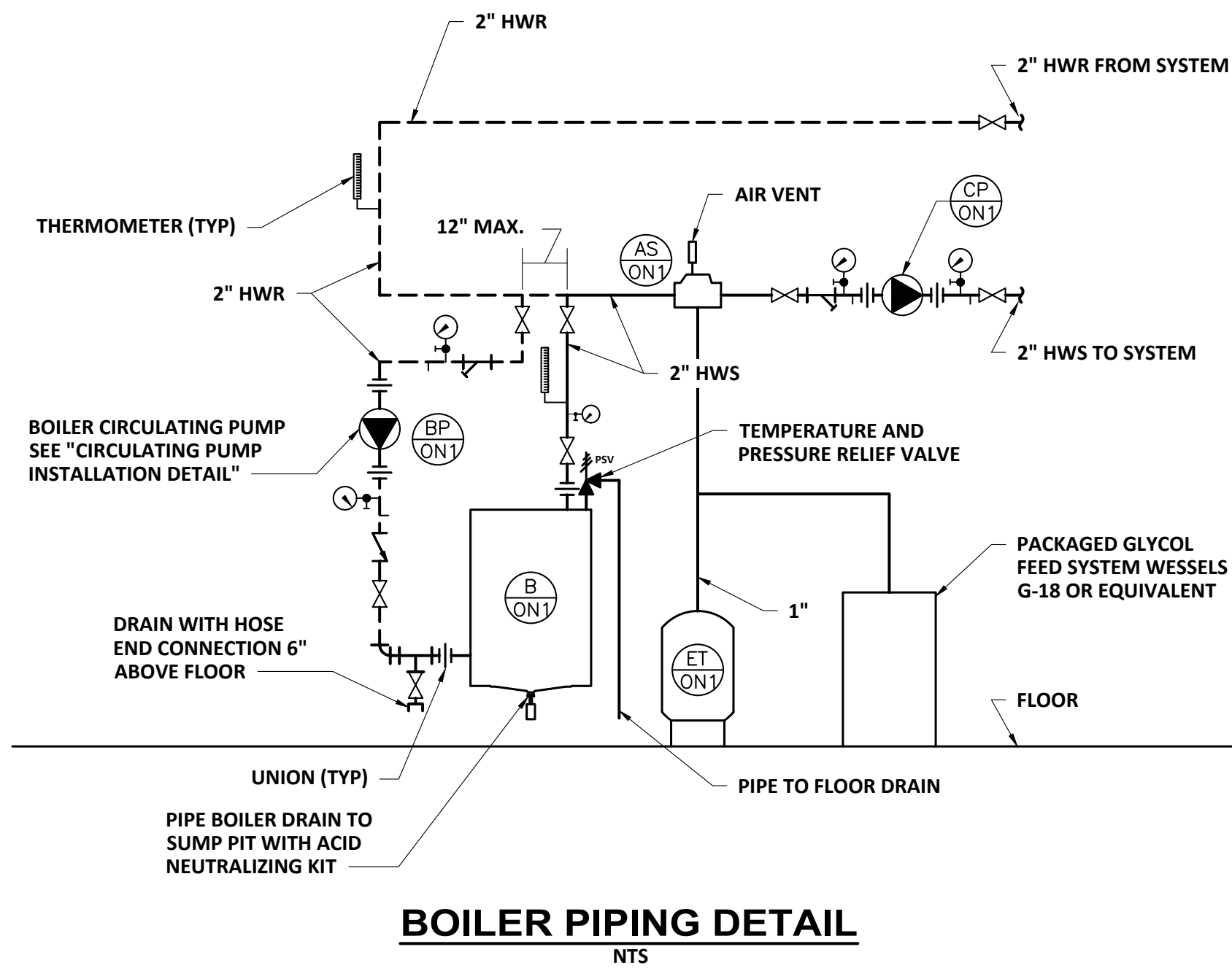
**NOTE: UNLESS OTHERWISE INDICATED ON PLANS, MAXIMUM ANGLES SHOWN SHALL APPLY**



## HEATING COIL WITH 3-WAY VALVE PIPING DETAIL



### HORIZONTAL UNIT HEATER PIPING DETAIL



## BOILER PIPING DETAIL

**WATERFORD UTILITY COMMISSION  
OLD NORWICH ROAD  
SEWER PUMP STATION UPGRADE**

MECHANICAL NOTES, LEGEND, ABBREVIATIONS,  
DESIGN DATA, & DETAILS

**WRIGHT-PIERCE**   
860.343.8297 | [www.wright-pierce.com](http://www.wright-pierce.com)

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| REGISTERS, GRILLES, AND DIFFUSERS SCHEDULE |                       |                       |     |                 |              |          |                                  |       |
|--------------------------------------------|-----------------------|-----------------------|-----|-----------------|--------------|----------|----------------------------------|-------|
| TAG                                        | FACE SIZE<br>WxH (IN) | NECK SIZE<br>WxH (IN) | CFM | MAX ΔP<br>IN WC | NC<br>RATING | TYPE     | REMARKS                          | NOTES |
| EG-CR1                                     | 10x18                 | 8x16                  | 305 | 0.097           | 23           | SIDEWALL | PRICE 635-S-N-A<br>OR EQUIVALENT | 1     |
| EG-CR2                                     | 8x8                   | 6x6                   | 50  | 0.035           | <15          | SIDEWALL | PRICE 635-S-N-A<br>OR EQUIVALENT | 1     |

NOTES: 1. PROVIDE WITH ALUMINUM OPPOSED BLADE DAMPER.

| LOUVER AND DAMPER SCHEDULE |                         |                 |        |       |                      |         |                                         |       |
|----------------------------|-------------------------|-----------------|--------|-------|----------------------|---------|-----------------------------------------|-------|
| UNIT NO.                   | LOCATION SERVED         | DIMENSIONS (IN) |        |       | MIN. FREE AREA SQFT. | TYPE    | REMARKS                                 | NOTES |
|                            |                         | WIDTH           | HEIGHT | DEPTH |                      |         |                                         |       |
| L-ON1                      | OLD NORWICH PS DRY WELL | 36              | 24     | 6     | 2.89                 | EXHAUST | GREENHECK EDJ-601 OR EQUIVALENT PRODUCT | -     |
| L-ON2                      | OLD NORWICH PS WET WELL | 24              | 24     | 6     | 1.84                 | INTAKE  | GREENHECK EDJ-601 OR EQUIVALENT PRODUCT | -     |
| D-ON1                      | OLD NORWICH PS DRY WELL | 36              | 18     | 5     | -                    | OPPOSED | GREENHECK VCD-23 OR EQUIVALENT PRODUCT  | -     |
| D-ON2                      | OLD NORWICH PS WET WELL | 24              | 24     | 5     | -                    | OPPOSED | GREENHECK VCD-43 OR EQUIVALENT PRODUCT  | -     |

| EXPANSION TANK SCHEDULE |                                   |           |            |        |                  |            |                              |       |
|-------------------------|-----------------------------------|-----------|------------|--------|------------------|------------|------------------------------|-------|
| UNIT NO.                | LOCATION                          | TYPE      | DIMENSIONS |        | VOLUME (GALLONS) |            | REMARKS                      | NOTES |
|                         |                                   |           | DIAMETER   | HEIGHT | TANK             | ACCEPTANCE |                              |       |
| ET-ON1                  | OLD NORWICH PS INTERMEDIATE LEVEL | DIAPHRAGM | 16         | 33     | 25               | 20.2       | WESSELS NTA-40 OR EQUIVALENT | -     |

| DEHUMIDIFIER SCHEDULE |                             |     |           |               |            |       |     |      |                                      |       |
|-----------------------|-----------------------------|-----|-----------|---------------|------------|-------|-----|------|--------------------------------------|-------|
| UNIT NO.              | LOCATION                    | CFM | ESP IN WC | PINTS PER DAY | ELECTRICAL |       |     |      | REMARKS                              | NOTES |
|                       |                             |     |           |               | VOLTS      | PHASE | MCA | MOCP |                                      |       |
| DH-ON1                | OLD NORWICH PS CONTROL ROOM | 365 | 0         | 110           | 120        | 1     | 15  | 20   | QUEST DUAL 110 OR EQUIVALENT PRODUCT |       |
| DH-ON2                | OLD NORWICH PS PUMP ROOM    | 365 | 0         | 110           | 120        | 1     | 15  | 20   | QUEST DUAL 110 OR EQUIVALENT PRODUCT |       |

| AIR SEPARATOR SCHEDULE |                                   |         |                                            |       |
|------------------------|-----------------------------------|---------|--------------------------------------------|-------|
| UNIT NO.               | LOCATION                          | MAX GPM | REMARKS                                    | NOTES |
| AS-ON1                 | OLD NORWICH PS INTERMEDIATE LEVEL | 40      | SPIROTHERM VJR200<br>OR EQUIVALENT PRODUCT | -     |

| HYDRONIC HEATING COIL SCHEDULE                 |                            |      |      |              |       |       |      |      |       |     |     |      |     |     |                                            |       |
|------------------------------------------------|----------------------------|------|------|--------------|-------|-------|------|------|-------|-----|-----|------|-----|-----|--------------------------------------------|-------|
| UNIT NO.                                       | LOCATION SERVED            | CFM  | ROWS | HEATING COIL |       |       | APD  | WPD  | MBH   | GPM | EAT | LAT  | EWT | LWT | REMARKS                                    | NOTES |
|                                                |                            |      |      | HEIGHT       | WIDTH | DEPTH |      |      |       |     |     |      |     |     |                                            |       |
| HC-ON1                                         | OLD NORWICH PS VENTILATION | 1980 | 2    | 24           | 24    | 12.5  | 0.16 | 2.97 | 124.9 | 6.5 | 2.8 | 61.2 | 160 | 121 | USA COIL HW58CB102402400003R OR EQUIVALENT | 1     |
| NOTES: 1. 0.049" MINIMUM TUBE THICKNESS, 9 FPI |                            |      |      |              |       |       |      |      |       |     |     |      |     |     |                                            |       |

| PUMP SCHEDULE |                                   |         |     |            |           |         |                            |            |       |       |                                         |       |
|---------------|-----------------------------------|---------|-----|------------|-----------|---------|----------------------------|------------|-------|-------|-----------------------------------------|-------|
| UNIT NO.      | LOCATION                          | TYPE    | GPM | TOTAL HEAD | PUMP EFF. | INPUT W | SUCTION / DISCHARGE INCHES | MOTOR DATA |       |       | REMARKS                                 | NOTES |
|               |                                   |         |     |            |           |         |                            | HP         | VOLTS | PHASE |                                         |       |
| CP-ON1        | OLD NORWICH PS INTERMEDIATE LEVEL | IN-LINE | 16  | 8.5        | 50.2%     | 51.72   | 1.5 / 1.5                  | 106W       | 120   | 1     | GRUNDFOS MAGNA3 32-60F<br>OR EQUIVALENT | -     |
| BP-ON1        | OLD NORWICH PS INTERMEDIATE LEVEL | IN-LINE | 9.5 | 4          | -         | -       | 1.25 / 1.25                | 120W       | 120   | 1     | GRUNDFOS UPML 25-124<br>OR EQUIVALENT   | 1     |

NOTES: 1. ECM VARIABLE SPEED BOILER PUMP PROVIDED BY BOILER MANUFACTURER.

| FAN SCHEDULE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                         |      |              |         |       |            |                    |            |      |       |       |      |                                            |              |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------|------|--------------|---------|-------|------------|--------------------|------------|------|-------|-------|------|--------------------------------------------|--------------|
| UNIT NO.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | LOCATION SERVED         | CFM  | T.S.P. IN WC | FAN RPM | SONES | DRIVE TYPE | TYPE               | MOTOR DATA |      |       |       | NEMA | REMARKS                                    | NOTES        |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                         |      |              |         |       |            |                    | HP         | RPM  | VOLTS | PHASE |      |                                            |              |
| EF-ON1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | OLD NORWICH PS DRY WELL | 1980 | 1            | 1487    | 13.7  | DIRECT     | INLINE CENTRIFUGAL | 3/4        | 1500 | 120   | 1     | 4X   | GREENHECK SQ-140-VG OR EQUIVALENT PRODUCT  | 1,3,4,5,8    |
| EF-ON2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | OLD NORWICH PS WET WELL | 600  | 0.5          | 1209    | 9.7   | BELT       | INLINE MIXED FLOW  | 1/3        | 1725 | 120   | 1     | 7    | GREENHECK QEI-9-II-3 OR EQUIVALENT PRODUCT | 2,3,4,6,9,10 |
| SF-ON1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | OLD NORWICH PS DRY WELL | 1980 | 0.75         | 1375    | 12.5  | DIRECT     | INLINE CENTRIFUGAL | 3/4        | 1500 | 120   | 1     | 4X   | GREENHECK SQ-140-VG OR EQUIVALENT PRODUCT  | 1,4,5,7      |
| NOTES: 1. PERMATECTOR OR EQUIVALENT FINISH.<br>3. MOTOR OPERATED DAMPER (FINISH SAME AS FAN).<br>5. ELECTRONICALLY COMMUTATED MOTOR.<br>7. FACTORY MOUNTED AND WIRED POTENTIOMETER DIAL.<br>9. EXPLOSION PROOF MOTOR, SPARK RESISTANT CONSTRUCTION.<br>2. HI-PRO POLYESTER OR EQUIVALENT FINISH.<br>4. FACTORY MOUNTED AND WIRED DISCONNECT SWITCH.<br>6. ADJUSTABLE PULLEY, SPARE BELTS.<br>8. FACTORY MOUNTED AND WIRED TWO-SPEED CONTROLLER.<br>10. BOLTED ACCESS DOOR, STEEL MOTOR COVER. |                         |      |              |         |       |            |                    |            |      |       |       |      |                                            |              |

| HYDRONIC UNIT HEATER SCHEDULE |                                   |             |             |      |       |     |      |                 |      |     |       |       |      |                              |       |
|-------------------------------|-----------------------------------|-------------|-------------|------|-------|-----|------|-----------------|------|-----|-------|-------|------|------------------------------|-------|
| UNIT NO.                      | LOCATION                          | MBH @ 160°F | GPM @ 160°F | CFM  | WPD   | EAT | LAT  | ELECTRICAL DATA |      |     |       |       | NEMA | REMARKS                      | NOTES |
|                               |                                   |             |             |      |       |     |      | RPM             | HP   | FLA | VOLTS | PHASE |      |                              |       |
| UH-ON1                        | OLD NORWICH PS CONTROL ROOM       | 39.4        | 2.75        | 1100 | 0.057 | 50  | 89.7 | 900             | 1/12 | 2.2 | 120   | 1     | 4X   | VULCAN HV-096B OR EQUIVALENT | 1     |
| UH-ON2                        | OLD NORWICH PS INTERMEDIATE LEVEL | 19.6        | 1.5         | 630  | 0.024 | 50  | 83.6 | 900             | 1/20 | 1.4 | 120   | 1     | 4X   | VULCAN HV-048B OR EQUIVALENT | 1     |
| UH-ON3                        | OLD NORWICH PS PUMP ROOM          | 19.6        | 1.5         | 630  | 0.024 | 50  | 83.6 | 900             | 1/20 | 1.4 | 120   | 1     | 4X   | VULCAN HV-048B OR EQUIVALENT | 1,3   |
| UH-ON4                        | OLD NORWICH PS FAN ROOM           | 32.8        | 2.25        | 1100 | 0.045 | 50  | 82.1 | 1000            | 1/6  | 3.7 | 120   | 1     | 7    | VULCAN HV-072B OR EQUIVALENT | 2,3   |
| UH-ON5                        | OLD NORWICH PS COMMUNUTOR ROOM    | 21.8        | 1.5         | 750  | 0.024 | 50  | 81.4 | 1000            | 1/6  | 3.7 | 120   | 1     | 7    | VULCAN HV-048B OR EQUIVALENT | 2,3   |

NOTES: 1. PROVIDE WITH TEFC MOTOR.  
2. PROVIDE WITH EXPLOSION PROOF TENV MOTOR.  
3. PROVIDE WITH PHENOLIC EPOXY COATING.

| SUMP PUMP SCHEDULE                             |                          |             |     |            |                  |            |       |       |      |      |                            |       |
|------------------------------------------------|--------------------------|-------------|-----|------------|------------------|------------|-------|-------|------|------|----------------------------|-------|
| UNIT NO.                                       | LOCATION                 | TYPE        | GPM | TOTAL HEAD | DISCHARGE INCHES | MOTOR DATA |       |       |      | NEMA | REMARKS                    | NOTES |
|                                                |                          |             |     |            |                  | HP         | VOLTS | PHASE | RPM  |      |                            |       |
| SP-ON1                                         | OLD NORWICH PS PUMP ROOM | SUBMERSIBLE | 20  | 22         | 2.0              | 0.5        | 120   | 1     | 1750 | 4X   | ZOELLER M282 OR EQUIVALENT | 1     |
| NOTES: 1. SIMPLEX PUMP WITH INTEGRAL CONTROLS. |                          |             |     |            |                  |            |       |       |      |      |                            |       |

| BOILER SCHEDULE |                                   |                  |                      |                 |     |    |            |           |      |        |      |                                            |       |
|-----------------|-----------------------------------|------------------|----------------------|-----------------|-----|----|------------|-----------|------|--------|------|--------------------------------------------|-------|
| UNIT NO.        | LOCATION                          | GROSS OUTPUT MBH | NET I-B-R RATING MBH | GAS INPUT CU FT | GPM | ΔT | ΔP (FT HD) | AHRI EFF. | VENT | INTAKE | GAS  | REMARKS                                    | NOTES |
| B-ON1           | OLD NORWICH PS INTERMEDIATE LEVEL | 185              | 161                  | 199             | 9.5 | 40 | 0.4        | 95%       | 4"   | 4"     | 1/2" | LOCHINVAR WHB199N<br>OR EQUIVALENT PRODUCT | 1,2   |

NOTES: 1. PROVIDE WITH CONDENSATE NEUTRALIZATION KIT, ALARM SYSTEM, FLOW SWITCH KIT, LOW WATER CUTOFF, AND VARIABLE SPEED BOILER PUMP.  
2. 30% PROPYLENE GLYCOL SOLUTION.

PROJECT NO: 21490  
DESIGNED: R.GREENE  
CAD COORD: ELAGNER  
CAD: K.TURNER  
CHECKED: E.CALLMAN  
DATE: JUNE 2023  
APPROVED: R.GREENE  
DATE: JUNE 2023  
SUBMISSION: CONTRACT DRAWINGS

6/21/23

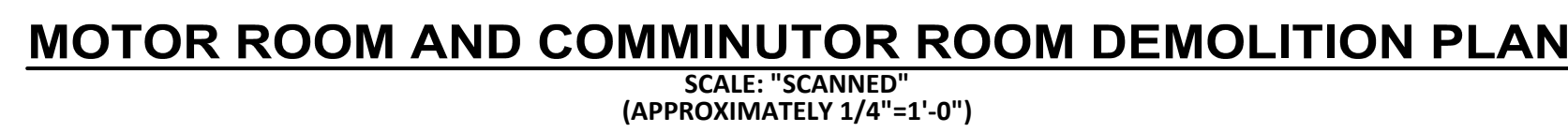
860.343.8297 | www.wright-pierce.com  
169 MAIN STREET, 700 PLAZA MIDDLESEX, MIDDLETOWN, CT 06457

WATERFORD UTILITY COMMISSION  
OLD NORWICH ROAD  
SEWER PUMP STATION UPGRADE

MECHANICAL EQUIPMENT SCHEDULES

DRAWING  
M-2





1. FOR MECHANICAL NOTES, LEGEND AND ABBREVIATIONS, REFER TO DRAWING M-1.

|                                                                                                           |                                                                                     |                                                                                                                                                                                                                                                                              |                                                                                                 |                      |    |           |            |
|-----------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|----------------------|----|-----------|------------|
| <div>WATERFORD UTILITY COMMISSION</div> <div>OLD NORWICH ROAD</div> <div>SEWER PUMP STATION UPGRADE</div> | <div>OLD NORWICH ROAD PUMP STATION</div> <div>DEMOLITION PLANS &amp; SECTIONS</div> | <div><br/><b>WRIGHT-PIERCE</b><br/>860.343.8297   <a href="http://www.wright-pierce.com">www.wright-pierce.com</a><br/>169 MAIN STREET, 700 PLAZA MIDDLESEX, MIDDLETOWN, CT 06457</div> | <div></div> | PROJECT NO: 21490    | NO | REVISIONS | APPD. DATE |
|                                                                                                           |                                                                                     |                                                                                                                                                                                                                                                                              |                                                                                                 | DESIGNED: R. GREENE  | △  |           |            |
|                                                                                                           |                                                                                     |                                                                                                                                                                                                                                                                              |                                                                                                 | CAD COORD: ELAIGNER  | △  |           |            |
|                                                                                                           |                                                                                     |                                                                                                                                                                                                                                                                              |                                                                                                 | CAD: K. TURNER       | △  |           |            |
|                                                                                                           |                                                                                     |                                                                                                                                                                                                                                                                              |                                                                                                 | CHECKED: E. CARLAMAN | △  |           |            |
|                                                                                                           |                                                                                     |                                                                                                                                                                                                                                                                              |                                                                                                 | DATE: JUNE 2023      | △  |           |            |
| APPROVED: R. GREENE                                                                                       | △                                                                                   |                                                                                                                                                                                                                                                                              |                                                                                                 |                      |    |           |            |
| DATE: JUNE 2023                                                                                           | △                                                                                   |                                                                                                                                                                                                                                                                              |                                                                                                 |                      |    |           |            |
| STAMP/REVISION: CONTROL OFFICE/AMMIZE                                                                     |                                                                                     |                                                                                                                                                                                                                                                                              |                                                                                                 |                      |    |           |            |





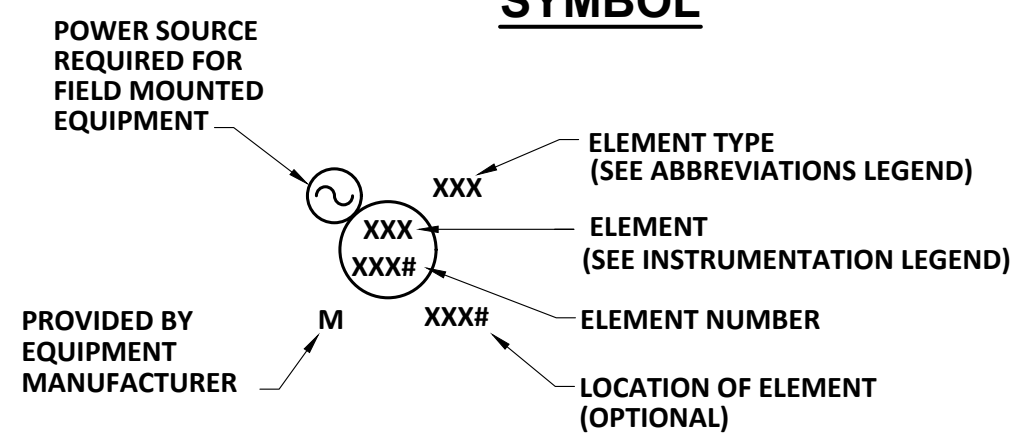


## INSTRUMENTATION SYMBOL LEGEND

| DESCRIPTION                                    | EXISTING | NEW |
|------------------------------------------------|----------|-----|
| PROCESS FLOW                                   |          |     |
| ELECTRICAL POWER OR PROCESS CONNECTION         |          |     |
| ELECTRICAL SIGNAL                              |          |     |
| DATA LINK                                      |          |     |
| PLC INPUT/OUTPUT                               |          |     |
| PNEUMATIC SIGNAL                               |          |     |
| HYDRAULIC SIGNAL                               |          |     |
| DISCRETE OUTPUT SIGNAL                         |          |     |
| ANALOG OUTPUT SIGNAL                           |          |     |
| DISCRETE INPUT SIGNAL                          |          |     |
| ANALOG INPUT SIGNAL                            |          |     |
| HARDWARE INTERLOCK                             |          |     |
| PROGRAMMABLE LOGIC CONTROLLER                  |          |     |
| OPERATOR TERMINAL INTERFACE                    |          |     |
| LOCAL (FIELD MOUNTED)                          |          |     |
| FRONT PANEL MOUNTED                            |          |     |
| REAR PANEL MOUNTED                             |          |     |
| INTEGRAL EQUIPMENT                             |          |     |
| SIGNAL SPLITTER CONVERTER/ BOOSTER (SEE BELOW) |          |     |
| MOTOR                                          |          |     |
| ALARM/ STATUS LIGHT                            |          |     |
| STROBE LIGHT                                   |          |     |

### TYPICAL INSTRUMENTATION

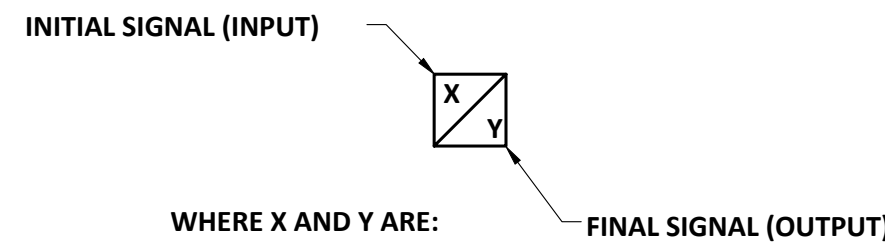
#### SYMBOL



\* ALSO USED AS A MODIFIER AFTER FIRST LETTER ( i.e. PDIT: PRESSURE DIFFERENTIAL INDICATING TRANSMITTER)

**\*\* ALSO USED AS A MODIFIER AFTER LAST LETTER ( i.e. LSHH: LEVEL SWITCH HIGH HIGH )**

### TYPICAL SIGNAL CONVERTER SYMBOL



### INSTRUMENTATION LEGEND

| FIRST LETTER | SUCCEEDING LETTER     |                            |
|--------------|-----------------------|----------------------------|
|              | 2                     | 3                          |
| A            | ANALYSIS              | ALARM                      |
| B            | -                     | -                          |
| C            | CONTROL               | CONTROL                    |
| D            | DIFFERENTIAL*         | DETECT                     |
| E            | -                     | ELEMENT                    |
| F            | FLOW                  | -                          |
| G            | GAS                   | GLASS                      |
| H            | HAND (MANUAL)         | HIGH**                     |
| I            | CURRENT               | INDICATE                   |
| J            | POWER                 | -                          |
| K            | TIME*                 | -                          |
| L            | LEVEL                 | LIGHT                      |
| M            | MOTOR                 | -                          |
| P            | PRESSURE              | INTERMEDIATE               |
| Q            | QUANTITY OR TOTALIZE* | QUANTITY                   |
| R            | RADIATION             | RECORD                     |
| S            | SPEED OR FREQUENCY    | SWITCH                     |
| T            | TEMPERATURE           | TRANSMIT                   |
| V            | VIBRATION             | VALVE                      |
| W            | TORQUE, WEIGHT, FORCE | -                          |
| X            | -                     | -                          |
| Y            | STATUS                | RELAY, COMPUTE, OR CONVERT |
| Z            | POSITION              | -                          |

## **ABBREVIATIONS LEGEND**

|       |                               |
|-------|-------------------------------|
| AMD   | ADMITTANCE                    |
| CAP   | CAPACITANCE                   |
| CL    | CHLORINE                      |
| CP    | CONTROL PANEL                 |
| CR    | CONTROL RELAY                 |
| DO    | DISSOLVED OXYGEN              |
| ESTOP | EMERGENCY STOP                |
| FOR   | FORWARD-OFF-REVERSE           |
| FSR   | FORWARD-STOP-REVERSE          |
| FRSA  | FORWARD-STOP-REVERSE-AUTO     |
| HOA   | HAND-OFF-AUTO                 |
|       | CURRENT                       |
| INF   | INFLEUNT                      |
| LOE   | LOSS OF ECHO                  |
| LOR   | LOCAL-OFF-REMOTE              |
| LT    | PILOT LIGHT                   |
| MBS   | MAINTENANCE BY-PASS SWITCH    |
| MCC   | MOTOR CONTROL CENTER          |
| OCR   | OPEN-CLOSE-REMOTE             |
| OPT   | OPERATOR TERMINAL             |
| PB    | PUSH BUTTON                   |
| PLC   | PROGRAMMABLE LOGIC CONTROLLER |
| RESET | ALARM RESET                   |
| ROL   | RAISE OFF LOWER               |
| ROR   | RUN-OFF-REMAOTE               |
| SS    | SPEED CONTROL RECTIFIER       |
| SS    | SELECTOR SWITCH               |
| TR    | TRIM RELAY                    |
| TURB  | TURBIDITY                     |
| ULT   | ULTRASONIC                    |
| UPS   | UNINTERRUPTIBLE POWER SUPPLY  |
| VFD   | VARIABLE FREQUENCY DRIVE      |

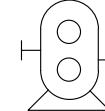
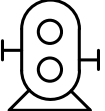
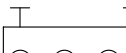
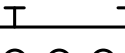
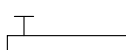
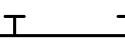
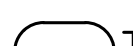
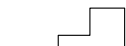
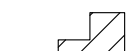
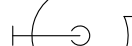
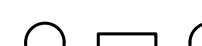
## VALVES AND FITTINGS

| DESCRIPTION             | EXISTING | NEW |
|-------------------------|----------|-----|
| GATE VALVE              |          |     |
| BALL VALVE              |          |     |
| PLUG VALVE              |          |     |
| GLOBE VALVE             |          |     |
| BUTTERFLY VALVE         |          |     |
| CHECK VALVE             |          |     |
| DOUBLE DISC CHECK VALVE |          |     |
| DIAPHRAGM VALVE         |          |     |
| MUD VALVE               |          |     |
| TIDE CHECK VALVE        |          |     |
| NEEDLE VALVE            |          |     |
| PINCH VALVE             |          |     |
| 3-WAY VALVE             |          |     |
| KNIFE GATE              |          |     |
| TELESCOPING VALVE       |          |     |
| CONCENTRIC REDUCER      |          |     |
| ECCENTRIC REDUCER       |          |     |
| FLOW ARROW              |          |     |
| UNION                   |          |     |
| PRESSURE SAFETY VALVE   |          |     |
| VACUUM RELIEF           |          |     |
| BACKPRESSURE VALVE      |          |     |
| PRESSURE REDUCING VALVE |          |     |
| BACKFLOW PREVENTER      |          |     |
| DUPLEX STRAINER         |          |     |
| SIMPLEX STRAINER        |          |     |
| WYE STRAINER            |          |     |
| IN-LINE MIXER           |          |     |
| EXPANSION JOINT         |          |     |
| ROTAMETER               |          |     |
| PULSTATION DAMPENERS    |          |     |
| DIAPHRAGM SEAL          |          |     |

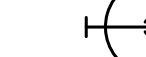
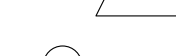
## ACTUATORS

|                              |                                                                                       |                                                                                       |
|------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| CONTROL ACTUATOR             |  |  |
| SOLENOID ACTUATOR            |  |  |
| PNEUMATIC DIAPHRAGM ACTUATOR |  |  |
| PNEUMATIC/HYDRAULIC CYLINDER |  |  |

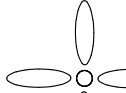
## PUMPS

| <u>DESCRIPTION</u>    | <u>EXISTING</u>                                                                     | <u>NEW</u>                                                                          |
|-----------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| POSITIVE DISPLACEMENT |  |  |
| PROGRESSIVE CAVITY    |  |  |
| SCREW PUMP            |  |  |
| CENTRIFUGAL           |  |  |
| SUBMERSIBLE PUMP      |  |  |
| HOSE                  |  |  |
| CHEMICAL METERING     |  |  |
| CHEMICAL TRANSFER     |  |  |
| <b><u>BLOWERS</u></b> |                                                                                     |                                                                                     |
| CENTRIFUGAL           |  |  |
| POSITIVE DISPLACEMENT |  |  |
| COMPRESSOR/TURBO      |  |  |
| AIR INTAKE FILTER     |  |  |

BLOWERS

|                              |                                                                                     |                                                                                     |
|------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| <b>CENTRIFUGAL</b>           |  |  |
| <b>POSITIVE DISPLACEMENT</b> |  |  |
| <b>COMPRESSOR/TURBO</b>      |  |  |
| <b>AIR INTAKE FILTER</b>     |  |  |

## MISCELLANEOUS SYMBOLS

|                           |                                                                                       |                                                                                       |
|---------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| MIXER                     |    |    |
| IN-LINE STATIC MIXER      |    |    |
| GRINDER                   |   |   |
| WEIR                      |  |  |
| STOP GATE                 |  |  |
| SLIDE GATE                |  |  |
| SHEAR GATE                |  |  |
| CHEMICAL INJECTION NOZZLE |  |  |

### INDICATOR LIGHT COLOR LEGEND

|         |       |
|---------|-------|
| RUN     | GREEN |
| STOP    | RED   |
| WARNING | AMBER |
| ALARM   | RED   |
| POWER   | WHITE |

## FIELD INSTRUMENTS

| DESCRIPTION                          | EXISTING                                                                              | NEW                                                                                   |
|--------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| FIELD PIPE MOUNTED DEVICE            |    |    |
| PADDLE OR LEVER TYPE PROBE           |    |    |
| SUBMERSIBLE PRESSURE TRANSDUCER      |    |    |
| FLOAT SWITCH                         |    |    |
| CAPACITANCE OR ADMITTANCE TYPE PROBE |    |    |
| BUBBLE LIQUID LEVEL ELEMENT          |    |    |
| ULTRASONIC LEVEL TRANSDUCER          |    |    |
| RADAR LEVEL TRANSDUCER               |    |    |
| GUIDED WAVE RADAR                    |    |    |
| <b>FLOW METERS</b>                   |                                                                                       |                                                                                       |
| MAGNETIC FLOW METER                  |    |    |
| VENTURI FLOW METER                   |    |    |
| PARSHALL FLUME                       |    |    |
| ULTRASONIC FLOW METER                |   |   |
| PITOT FLOW METER                     |  |  |
| AVERAGING PITOT FLOW METER           |  |  |
| THERMAL MASS FLOW METER              |  |  |
| TURBINE FLOW METER                   |  |  |
| ORIFICE PLATE                        |  |  |

## FLOW METERS

|                            |                                                                                       |                                                                                       |
|----------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| MAGNETIC FLOW METER        |    |    |
| VENTURI FLOW METER         |    |    |
| PARSHALL FLUME             |   |   |
| ULTRASONIC FLOW METER      |  |  |
| PITOT FLOW METER           |  |  |
| AVERAGING PITOT FLOW METER |  |  |
| THERMAL MASS FLOW METER    |  |  |
| TURBINE FLOW METER         |  |  |
| ORIFICE PLATE              |  |  |

**NOTES:**

1. REFER TO ELECTRICAL DRAWINGS FOR ADDITIONAL INFORMATION.
2. PROVIDE SIGNAL REPEATERS/CONVERTERS/BOOSTERS AS REQUIRED BASED UPON EQUIPMENT SELECTED BY INSTRUMENTATION SUPPLIER, DISTANCE AND LOCATION.
3. PROVIDE DRIP SHIELDS TO PROTECT ALL PANELS LOCATED UNDERNEATH PIPES OR OTHER LIQUID-CONTAINING STRUCTURES.
4. REFERENCE PROCESS AND ELECTRICAL DRAWINGS FOR LOCATION OF PANELS AND FIELD INSTRUMENTATION.
5. CONTRACTOR TO COORDINATE NEEDED VOLTAGE BASED UPON EQUIPMENT SUPPLIED.
6. ALL FLOOR MOUNTED CONTROL PANELS SHALL BE INSTALLED ON 4" HIGH CONCRETE EQUIPMENT PADS.
7. WHERE INPUT AND OUTPUT SIGNALS TO A PLC IS REQUIRED, PROVIDE PROPER TYPE AND QUANTITY OF INPUT/OUTPUT MODULES (I/O).
8. CONTRACTOR SHALL COORDINATE THE TYPE OF ANALOG SIGNAL PROVIDED BY THE EQUIPMENT OR FIELD DEVICES WITH THE PROPER TYPE PLC I/O.
9. ALL ANALOG SIGNALS WILL BE 4-20mA, UNLESS OTHERWISE INDICATED OR REQUIRED.

|                                                                                                                                                          |                                                                                                                                                                                                                           |                                                                                                |  |           |  |    |  |
|----------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------|--|-----------|--|----|--|
| <div>WATERFORD UTILITY COMMISSION<br/>OLD NORWICH ROAD<br/>SEWER PUMP STATION UPGRADE</div> <div>INSTRUMENTATION LEGEND, NOTES &amp; ABBREVIATIONS</div> | <div>PROJECT NO: 21490<br/>DESIGNED: L LOBOH<br/>CAD COORD: ELAHER<br/>CAD: L LOBOH<br/>CHECKED: R. MECHAM<br/>DATE: JUNE 2023<br/>APPROVED: J. PAPADIMITRIOU<br/>DATE: JUNE 2023<br/>SUBMISSION: CONTRACT DRAWINGS</div> | <div></div> |  | REVISIONS |  | NO |  |
|                                                                                                                                                          |                                                                                                                                                                                                                           |                                                                                                |  |           |  | Δ  |  |
|                                                                                                                                                          |                                                                                                                                                                                                                           |                                                                                                |  |           |  | Δ  |  |
|                                                                                                                                                          |                                                                                                                                                                                                                           |                                                                                                |  |           |  | Δ  |  |
|                                                                                                                                                          |                                                                                                                                                                                                                           |                                                                                                |  |           |  | Δ  |  |
|                                                                                                                                                          |                                                                                                                                                                                                                           |                                                                                                |  |           |  | Δ  |  |
|                                                                                                                                                          |                                                                                                                                                                                                                           |                                                                                                |  |           |  | Δ  |  |
|                                                                                                                                                          |                                                                                                                                                                                                                           |                                                                                                |  | Δ         |  |    |  |



MID RANGE PROGRAMMABLE LOGIC CONTROLLER (PLC)

MAINTENANCE BYPASS SWITCH (MBS)

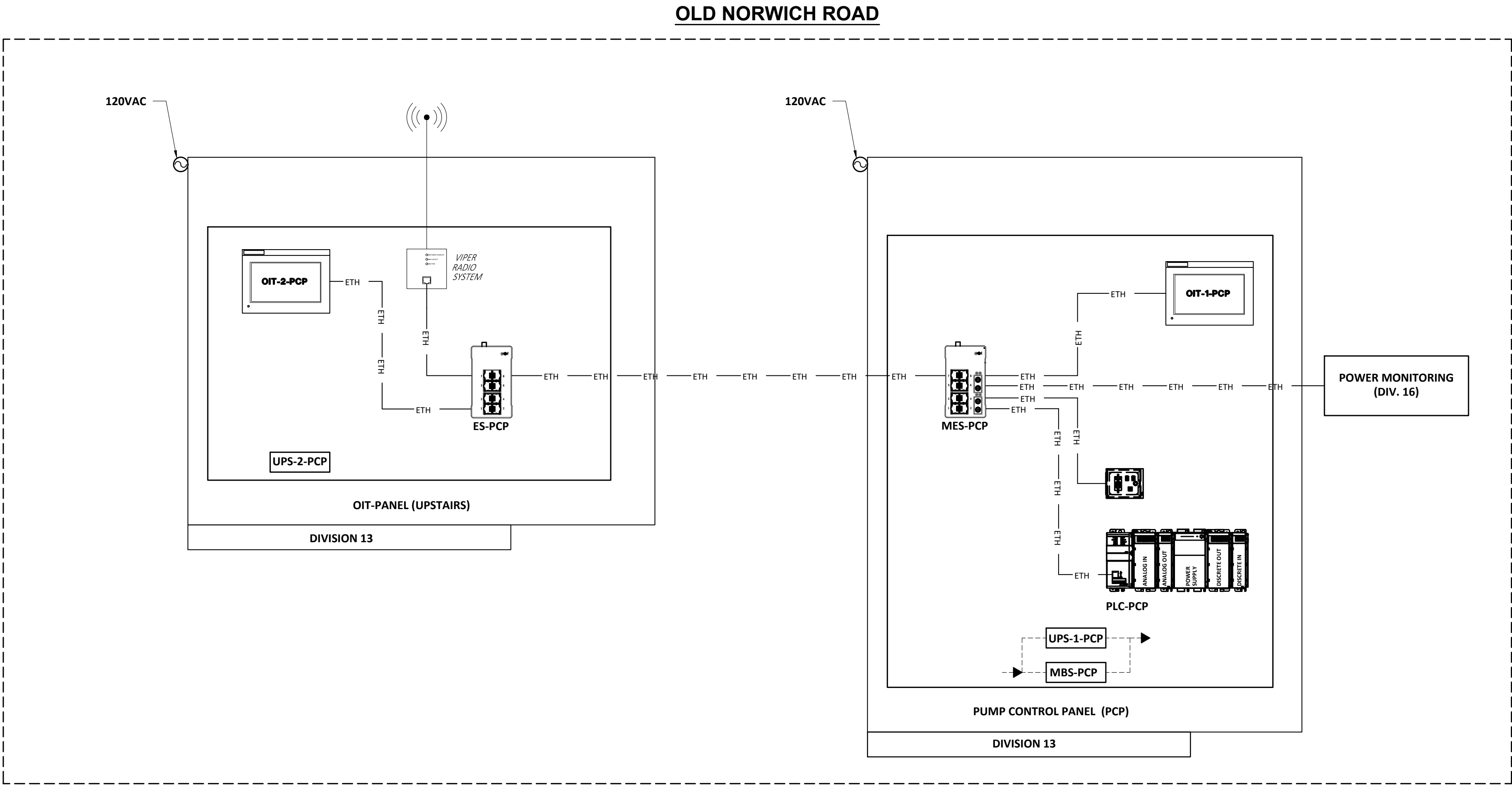
UNINTERRUPTIBLE POWER SUPPLY (UPS)

POWER AND DATA PORT

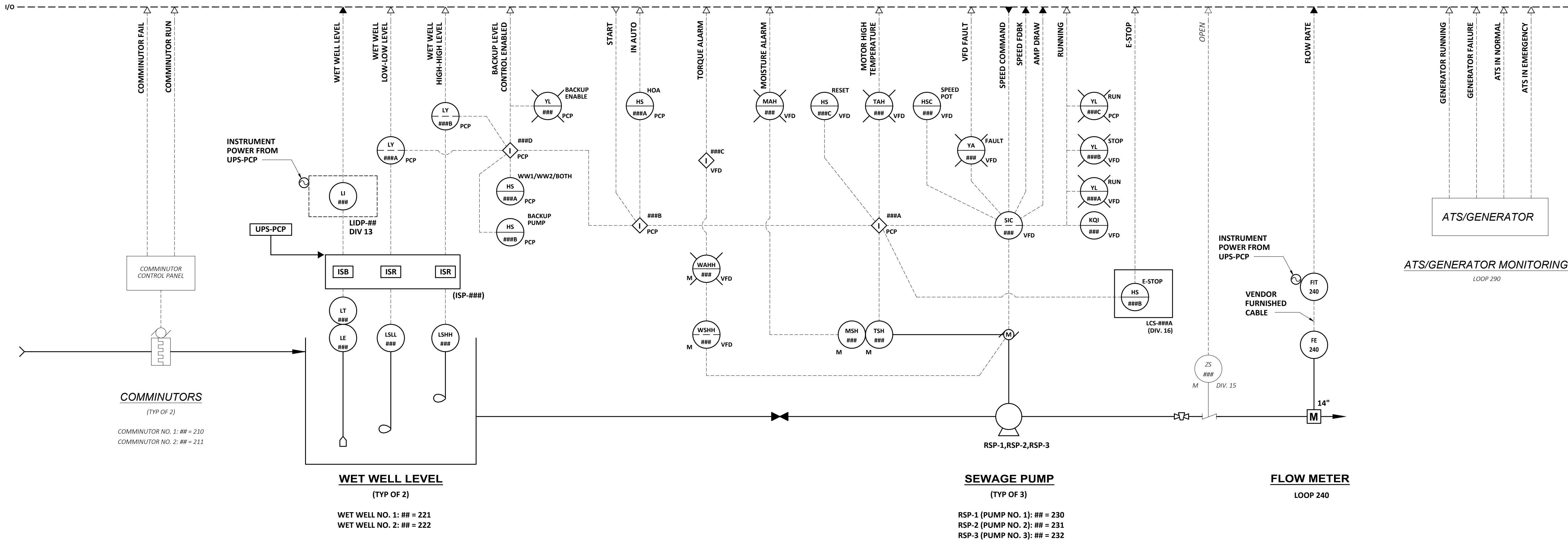
ETHERNET (CAT6)

MANAGED ETHERNET SWITCH (MES)

ETHERNET SWITCH (ES)







**PUMP STATION MONITORING**  
LOOP 250

**GENERATOR  
DIESEL FUEL TANK LEVEL**  
LOOP 200

**CONTROL PANEL**  
LOOP 020

**ATS/GENERATOR MONITORING**  
LOOP 290

PROJECT NO: 21490  
DESIGNED: L. BOEH  
CAD COORD: ELAGNER  
CAD: LOBOH  
CHECKED: R. MECHAM  
DATE: JUNE 2023  
APPROVED: J. PAPADIMITRIOU  
DATE: JUNE 2023  
SUBMISSION: CONTRACT DRAWINGS

NO

REVISIONS

DATE

WRIGHT-PIERCE

860.343.8297 | www.wright-pierce.com

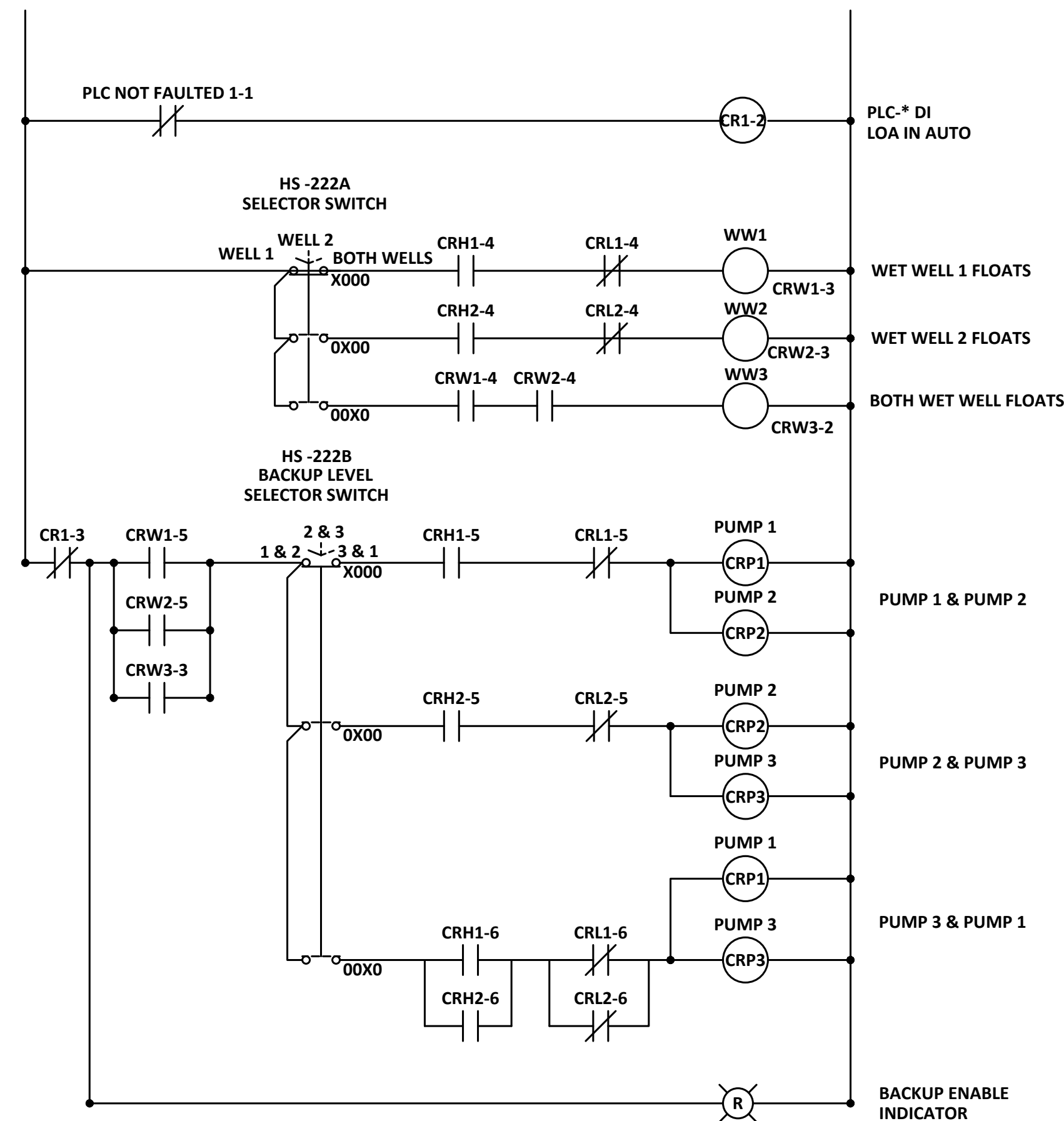
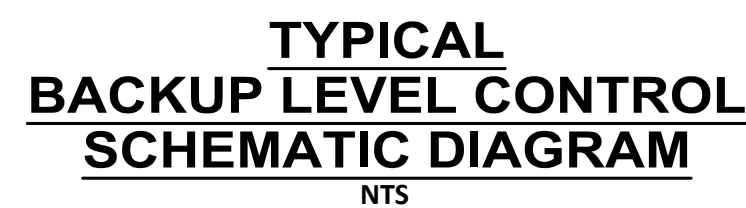
160 MAIN STREET, 700 PLAZA MIDDLESEX, MIDDLETOWN, CT 06457

WATERFORD UTILITY COMMISSION  
OLD NORWICH ROAD  
SEWER PUMP STATION UPGRADE

OLD NORWICH ROAD PUMP STATION  
LOOPS

DRAWING  
I-3

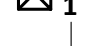
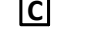
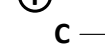
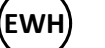




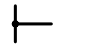
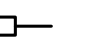
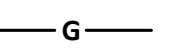
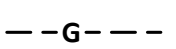
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|----------------------------------------------------------------------------------------------------------------|-------------------------------------|--|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|------|------|
| <p><b>WATERFORD UTILITY COMMISSION</b><br/> <b>OLD NORWICH ROAD</b><br/> <b>SEWER PUMP STATION UPGRADE</b></p> | <p><b>ELECTRICAL SCHEMATICS</b></p> |  | <p><b>WRIGHT-PIERCE</b></p> <p>860.343.8297   <a href="http://www.wright-pierce.com">www.wright-pierce.com</a></p> <p>169 MAIN STREET, 700 PLAZA MIDDLESEX, MIDDLETOWN, CT 06457</p> |  | <p>PROJECT NO.: 21490</p> <p>DESIGNED: L OBOH</p> <p>CAD COORD: ELIAGNER</p> <p>CAD: L OBOH</p> <p>CHECKED: R. MECHAM</p> <p>DATE: JUNE 2023</p> <p>APPROVED: J. PAPADIMITRIOU</p> <p>DATE: JUNE 2023</p> <p>SUBMISSION: CONTRACT DRAWINGS</p> | REVISONS | APPD | DATE |
|                                                                                                                |                                     |  |                                                                                                                                                                                      |  |                                                                                                                                                                                                                                                | Δ        |      |      |
|                                                                                                                |                                     |  |                                                                                                                                                                                      |  |                                                                                                                                                                                                                                                | Δ        |      |      |
|                                                                                                                |                                     |  |                                                                                                                                                                                      |  |                                                                                                                                                                                                                                                | Δ        |      |      |
|                                                                                                                |                                     |  |                                                                                                                                                                                      |  |                                                                                                                                                                                                                                                | Δ        |      |      |
|                                                                                                                |                                     |  |                                                                                                                                                                                      |  |                                                                                                                                                                                                                                                | Δ        |      |      |



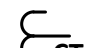
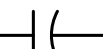
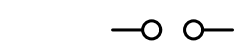
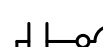
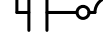
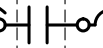
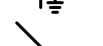
POWER

| DESCRIPTION                                                                         |                                                          |
|-------------------------------------------------------------------------------------|----------------------------------------------------------|
|    | UNFUSED SAFETY SWITCH, RATING AS NOTED                   |
|    | POLES                                                    |
|    | AMPERES                                                  |
|    | FUSED SAFETY SWITCH, RATING AS NOTED                     |
|    | POLES                                                    |
|    | FUSE AMPERE RATING                                       |
|    | SWITCH AMPERE RATING                                     |
|    | MAGNETIC MOTOR STARTER, RATING AS NOTED                  |
|    | NEMA SIZE                                                |
|    | COMBINATION TYPE MAGNETIC MOTOR STARTER, RATING AS NOTED |
|    | PUSHBUTTON OR LOCAL CONTROL STATION                      |
|    | MAINTAINED RED MUSHROOM-HEAD EMERGENCY STOP P.B.         |
|    | SOLENOID                                                 |
|    | RELAY                                                    |
|    | MOTOR OPERATED DAMPER                                    |
|    | LIGHTING OR POWER CONTACTOR                              |
|    | ENCLOSED CIRCUIT BREAKER                                 |
|    | THERMOSTAT                                               |
|    | COOLING ONLY FREEZESTAT                                  |
|    | DUCT-MOUNTED                                             |
|    | UTILITY METER                                            |
|    | PANELBOARD, SURFACE MTD.                                 |
|    | PANELBOARD, FLUSH MTD.                                   |
|    | EQUIPMENT, TERMINAL, OR CONTROL CABINET                  |
|    | MOTOR                                                    |
|    | TRANSFORMER                                              |
|  | PAD MOUNTED TRANSFORMER                                  |
|  | ELECTRIC WATER HEATER                                    |
|  | ELECTRICAL HANDHOLE                                      |
|  | JUNCTION BOX                                             |
|  | PRESSURE SWITCH                                          |
|  | ELECTRIC ACTUATED VALVE                                  |
|  | PHOTOELECTRIC CELL                                       |
|  | MANUAL MOTOR STARTER                                     |
|  | FIOMATIC SWITCH                                          |

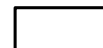
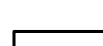
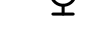
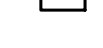
GROUNDING

| DESCRIPTION                                                                         |                                                      |
|-------------------------------------------------------------------------------------|------------------------------------------------------|
|  | GROUND ROD                                           |
|  | EXOTHERMIC WELD CONNECTION                           |
|  | BOLTED CONNECTION                                    |
|  | BARE COPPER CONDUCTOR RUN EXPOSED                    |
|  | BARE COPPER CONDUCTOR EMBEDDED IN CONCRETE OR BURIED |

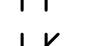
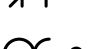
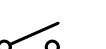
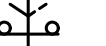
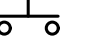
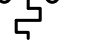
SINGLE LINE DIAGRAM

| DESCRIPTION                                                                       |                                                                                                                                                                                                                           |
|-----------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  | SAFETY DISCONNECT SWITCH                                                                                                                                                                                                  |
|  | TRANSFORMER                                                                                                                                                                                                               |
|  | CURRENT TRANSFORMER                                                                                                                                                                                                       |
|  | POTENTIAL TRANSFORMER                                                                                                                                                                                                     |
|  | 100AF<br>70AT<br>FRAME SIZE CIRCUIT BREAKER TRIP AMPS                                                                                                                                                                     |
|  | SURGE CAPACITOR                                                                                                                                                                                                           |
|  | LIGHTNING ARRESTER                                                                                                                                                                                                        |
|  | COMBINATION MOTOR STARTER AND BREAKER                                                                                                                                                                                     |
|  | AUTOTRANSFORMER-TYPE MOTOR STARTER                                                                                                                                                                                        |
|  | REVERSING MOTOR STARTER                                                                                                                                                                                                   |
|  | TWO-SPEED TWO-WINDING MOTOR STARTER                                                                                                                                                                                       |
|  | REDUCED VOLTAGE SOLID-STATE MOTOR STARTER                                                                                                                                                                                 |
|  | DELTA CONNECTION                                                                                                                                                                                                          |
|  | WYE CONNECTION                                                                                                                                                                                                            |
|  | GROUND CONNECTION                                                                                                                                                                                                         |
|  | 5<br>MOTOR (HP AS SHOWN)                                                                                                                                                                                                  |
|  | GENERATOR                                                                                                                                                                                                                 |
|  | N<br>O<br>E<br>TRANSFER SWITCH                                                                                                                                                                                            |
|  | ES<br>EMERGENCY STOP MUSHROOM SWITCH (RED)                                                                                                                                                                                |
|  | SPD<br>SURGE PROTECTION DEVICE                                                                                                                                                                                            |
|  | A<br>V<br>W<br>WH<br>KWH<br>VAR<br>HZ<br>PF<br>METER<br>A - AMMETER<br>V - VOLTMETER<br>W - WATTMETER<br>WH - WATT HOURMETER<br>KWH - KILOWATT HOUR<br>VAR - VAR METER<br>HZ - FREQUENCY METER<br>PF - POWER FACTOR METER |

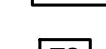
LIGHTING FIXTURES

| DESCRIPTION                                                                         |                                                                                         |
|-------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
|  | FLUORESCENT FIXTURE, 2x4 SURFACE TROFFER TYPE                                           |
|  | Ma,#3<br>FIXTURE (M) SWITCH (a) CIRCUIT (3)                                             |
|  | FLUORESCENT FIXTURE, STRIP, OPEN REFLECTOR, ENCLOSED OR WRAPAROUND TYPE                 |
|  | INCANDESCENT WALL MOUNTED FIXTURE                                                       |
|  | INCANDESCENT CEILING FIXTURE                                                            |
|  | INCANDESCENT LIGHT WITH GLOBE AND GUARD                                                 |
|  | H.I.D. WALL MOUNTED FIXTURE                                                             |
|  | H.I.D. CEILING FIXTURE                                                                  |
|  | EXIT SIGN, CEILING MOUNTED ARROW INDICATES EGRESS DIRECTION SHADING INDICATES SIGN FACE |
|  | EXIT SIGN, WALL MOUNTED SHADING INDICATES SIGN FACE                                     |
|  | EMERGENCY LIGHTING BATTERY UNIT WITH 2 LAMP HEADS                                       |
|  | REMOTE EMERGENCY LIGHTING 1 OR 2 LAMP HEADS                                             |
|  | POLE MOUNTED SITE LIGHT                                                                 |

SCHEMATIC DIAGRAM

| DESCRIPTION                                                                         |                                                             |
|-------------------------------------------------------------------------------------|-------------------------------------------------------------|
|  | MS<br>MANUAL MOTOR STARTER, O/L, RIL FRACTIONAL H.P.        |
|  | CR<br>CONTROL RELAY                                         |
|  | M<br>MOTOR CONTACTOR                                        |
|  | CONTACT NORMALLY OPEN                                       |
|  | CONTACT NORMALLY CLOSED                                     |
|  | OVERLOAD HEATER ELEMENT                                     |
|  | SINGLE POLE SINGLE THROW SWITCH                             |
|  | SELECTOR SWITCH                                             |
|  | START PUSHBUTTON, MOMENTARY CONTACT                         |
|  | STOP PUSHBUTTON, MOMENTARY CONTACT                          |
|  | RED MUSHROOM-HEAD MAINTAINED-TYPE EMERGENCY STOP PUSHBUTTON |
|  | LIMIT SWITCH                                                |
|  | TEMPERATURE SWITCH                                          |
|  | FLOAT SWITCH                                                |
|  | PRESSURE SWITCH                                             |
|  | TIMED CONTACT                                               |
|  | R<br>PILOT LIGHT, LETTER INDICATES COLOR                    |
|  | G<br>R<br>A<br>GREEN<br>RED<br>AMBER                        |
|  | CONNECTION POINT FOR EXTERNAL DEVICE                        |
|  | INTERNAL CONNECTION POINT                                   |

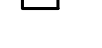
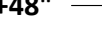
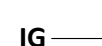
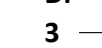
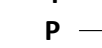
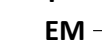
FIRE ALARM SYSTEM

| DESCRIPTION                                                                                                 |                                                        |
|-------------------------------------------------------------------------------------------------------------|--------------------------------------------------------|
|                        | F<br>MANUAL PULL STATION                               |
|                        | F<br>AUDIO/VISUAL ALARM STATION (ADA COMPLIANT)        |
|                        | L<br>VISUAL ALARM (ADA COMPLIANT)                      |
|                        | S<br>SMOKE DETECTOR                                    |
|                        | H 135°<br>HEAT DETECTOR TEMP RATING                    |
|                        | SD<br>DUCT-MOUNTED SMOKE DETECTOR, REMOTE ALARM & TEST |
|                        | FACP<br>FIRE ALARM SYSTEM CONTROL PANEL                |
|                        | TS<br>SPRINKLER SYSTEM TAMPER SWITCH                   |
|                        | FAA<br>FIRE ALARM ANNUNCIATOR                          |
|                        | FS<br>SPRINKLER SYSTEM FLOW SWITCH                     |
|                        | FRPS<br>FIRE ALARM REMOTE POWER SUPPLY                 |
|  | MM<br>FIRE ALARM SYSTEM "MONITOR MODULE"               |
|                        | FIM<br>FAULT ISOLATING MODULE                          |
|                        | TS<br>REMOTE TEST STATION                              |
|                        | ILCP<br>INTEGRAL LIGHTNING CIRCUIT PROTECTOR           |

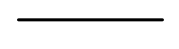
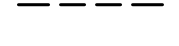
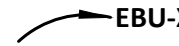
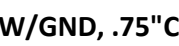
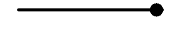
TELEPHONE/PAGING/INTERCOM SYSTEM

| DESCRIPTION                                                                           |                                    |
|---------------------------------------------------------------------------------------|------------------------------------|
|  | S<br>PAGING SPEAKER, CEILING MTD.  |
|  | A<br>PAGING HORN, WALL MTD.        |
|  | TELEPHONE OUTLET RJ11              |
|  | TD<br>TELEPHONE RJ11/DATA RJ45     |
|  | W<br>WALL MOUNTED                  |
|  | HS<br>PAGING HANDSET, WALL MOUNTED |

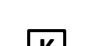
WIRING DEVICES

| DESCRIPTION                                                                         |                                                               |
|-------------------------------------------------------------------------------------|---------------------------------------------------------------|
|  | 20 AMPERE, 120 VOLT DUPLEX RECEPTACLE                         |
|  | GFI 20 AMPERE, 120 VOLT DUPLEX RECEPTACLE                     |
|  | +48"<br>INDICATES INCHES AFF MOUNTING HEIGHT                  |
|  | WP<br>WEATHERPROOF                                            |
|  | IG<br>ISOLATED GROUND COUNTER TOP                             |
|  | 20 AMPERE, 120 VOLT QUAD RECEPTACLE                           |
|  | 20 AMPERE, 120 VOLT SINGLE RECEPTACLE                         |
|  | CLOCK OUTLET                                                  |
|  | 30<br>SINGLE SPECIAL PURPOSE RECEPTACLE INDICATES AMPERE SIZE |
|  | PLUGMOLD                                                      |
|  | S<br>SINGLE POLE WALL SWITCH                                  |
|  | DP<br>DOUBLE POLE SWITCH                                      |
|  | 3<br>THREE WAY SWITCH                                         |
|  | 4<br>FOUR WAY SWITCH                                          |
|  | P<br>NEON PILOT LIGHT                                         |
|  | WP<br>WEATHERPROOF                                            |
|  | K<br>KEY OPERATED                                             |
|  | EP<br>EXPLOSION PROOF                                         |
|  | D<br>DIMMER SWITCH                                            |
|  | T<br>MOTOR RATED                                              |
|  | EM<br>EMERGENCY SHUT-OFF                                      |

WIRING

| DESCRIPTION                                                                           |                                                                                                                                        |
|---------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------|
|  | WIRING, CONCEALED IN FINISHED AREAS, EXPOSED WHERE PERMITTED BY SPECIFICATIONS                                                         |
|  | WIRING INSTALLED IN OR BELOW FLOOR SLAB                                                                                                |
|  | EBU-XX<br>HOME RUN TO DEVICE (EBU, ATC, ETC.)                                                                                          |
|  | P101<br>HOME RUN (NO. REFERS TO CONDUIT AND WIRE SCHEDULE)                                                                             |
|  | DC<br>DC WIRING                                                                                                                        |
|  | 3C#12 W/GND, .75" C<br>CONDUIT AND WIRE                                                                                                |
|  | CONDUIT DOWN                                                                                                                           |
|  | CONDUIT UP                                                                                                                             |
|  | #XX<br>INDICATES THE CIRCUIT # OF THE RESPECTIVE PANELBOARD REFERENCED. SEE GENERAL NOTES 6 AND 26 FOR CONDUIT AND WIRING REQUIREMENTS |

SECURITY SYSTEM

| DESCRIPTION                                                                           |                                                     |
|---------------------------------------------------------------------------------------|-----------------------------------------------------|
|  | SACP<br>SECURITY ALARM CONTROL PANEL                |
|  | KWP<br>SECURITY SYSTEM FUNCTION KEYPAD WEATHERPROOF |
|  | OH<br>DOOR CONTACT OVERHEAD DOOR TYPE               |
|  | W<br>GLASS BREAK CONTACT, GLASS MOUNTED TYPE        |
|  | IR A<br>INFRARED INTRUDER SENSOR                    |
|  | G A<br>AREA GLASS BREAK DETECTOR                    |

NEMA CLASSIFICATIONS FOR ELECTRICAL EQUIPMENT AND ENCLOSURES

(UNLESS OTHERWISE NOTED - SEE NOTE 1 BELOW)

OLD NORWICH PUMP STATION

| ROOM NAME                             | NEMA RATING                         |
|---------------------------------------|-------------------------------------|
| <u>WETWELL SIDE</u>                   |                                     |
| WET WELL NO. 1                        | 7 (CL I, DIV. 1 GR. C&D) SEE NOTE 2 |
| WET WELL NO. 2                        | 7 (CL I, DIV. 1 GR. C&D) SEE NOTE 2 |
| INTERMEDIATE LEVEL (COMMUNUATOR ROOM) | 7 (CL I, DIV. 1 GR. C&D) SEE NOTE 2 |
| FAN ROOM                              | 4X                                  |
| <u>DRYWELL SIDE</u>                   |                                     |
| CONTROL ROOM                          | 12                                  |
| BATH ROOM                             | 12                                  |
| PUMP ROOM                             | 4X                                  |
| MOTOR ROOM                            | 4X                                  |
| <u>ROOF</u>                           |                                     |
|                                       | 4X - SEE NOTE 2                     |
| <u>GENERAL OUTDOORS</u>               |                                     |
|                                       | 4X                                  |

NOTE:

- THE AREAS NOTED SHALL BE RATED AS INDICATED, EXCEPT THAT EQUIPMENT SUCH AS MOTOR CONTROL CENTERS, SWITCHBOARDS, AND TRANSFORMERS SHALL BE RATED AS SPECIFIED. PANELBOARDS AND TRANSFORMERS SHALL BE, AT A MINIMUM, RATED NEMA 12 IF NOT SPECIFIED.
- WITHIN A 3 FOOT RADIUS OF VENTS, HATCHES, OPENINGS, ETC. OF AREAS CONNECTING TO THE WET WELL SIDE OF THE PUMP STATION SHALL BE RATED CLASS I, DIVISION 2, GR. C&D. OUTSIDE OF THE ENVELOPE AREA SHALL BE RATED NEMA 4X.

\*\* CONDUIT INSTALLATION SCHEDULE

| AREA NEMA RATING PER E-1               | CONDUIT REQUIRED IN EXPOSED AREAS | CONDUIT REQUIRED IN NON EXPOSED AREAS | CONDUITS EMERGING FROM GRADE OR SLAB 12" AFF |
|----------------------------------------|-----------------------------------|---------------------------------------|----------------------------------------------|
| 1/12                                   | ALUMINUM                          | EMT                                   | RGS PVC COATED                               |
| 3R                                     | ALUMINUM                          | RGS                                   | RGS PVC COATED                               |
| 4                                      | ALUMINUM                          | RGS                                   | RGS PVC COATED                               |
| 4X                                     | ALUMINUM                          | RGS                                   | RGS PVC COATED                               |
| 4X CORROSIVE                           | RGS PVC COATED                    | RGS                                   | RGS PVC COATED                               |
| 4X CORROSIVE ABOVE 8'                  | PVC SCHEDULE 80                   | RGS                                   | N/A                                          |
| 7                                      | RGS PVC COATED                    | RGS                                   | RGS PVC COATED                               |
| * IN CONCRETE SLAB                     | N/A                               | PVC SCHEDULE 40                       | RGS PVC COATED                               |
| * BELOW GRADE DUCT ENCASED IN CONCRETE | N/A                               | PVC SCHEDULE 40                       | RGS PVC COATED                               |
| * BELOW GRADE DUCT NON ENCASED         | N/A                               | PVC SCHEDULE 80                       | RGS PVC COATED                               |

- \*\* SEE SPECIFICATIONS FOR FURTHER INFORMATION  
\* SIGNAL CONDUITS BELOW GRADE SHALL BE RGS

NOTE:  
1. ALL SYMBOL LISTS SHALL BE CONSIDERED AS APPLICABLE TO ALL ELECTRICAL DRAWINGS FOR THIS PROJECT. SYMBOLS SHOWN ON THIS SHEET ARE FOR REFERENCE ONLY AND DO NOT INDICATE THEIR INCORPORATION IN THE DESIGN.

PROJECT NO: 21490  
DESIGNED: S.CONWAY  
CAD COORD: ELAIGNER  
CAD: K.NIEVES  
CHECKED: A.DAMELIO  
DATE: JUNE 2023  
APPROVED: S.CONWAY  
DATE: JUNE 2023  
SUBMISSION: CONTRACT DRAWINGS

  
6/29/2023

  
860.343.8297 | www.wright-pierce.com  
169 MAIN STREET, 700 PLAZA MIDDLESEX, MIDDLETOWN, CT 06457

WATERFORD UTILITY COMMISSION  
OLD NORWICH ROAD  
SEWER PUMP STATION UPGRADE

ELECTRICAL LEGEND, NEMA AND  
CONDUIT INSTALLATION SCHEDULES

DRAWING  
E-1



ABBREVIATIONS

|        |                                         |        |                                         |
|--------|-----------------------------------------|--------|-----------------------------------------|
| A      | AMPERE                                  | MFR    | MANUFACTURER                            |
| AC     | ALTERNATING CURRENT                     | MI     | MINERAL INSULATED                       |
| ACR    | CONTROL RELAY "A" (TYP)                 | MH     | MANHOLE                                 |
| AFF    | ABOVE FINISHED FLOOR                    | MLO    | MAIN LUG ONLY                           |
| AFG    | ABOVE FINISHED GRADE                    | MO     | MECHANICALLY OPERATED                   |
| AI     | ANALOG INPUT (PLC)                      | MOD    | MOTOR OPERATED DAMPER                   |
| AIC    | AMPERE INTERRUPTING CAPACITY            | MOV    | MOTOR OPERATED VALVE                    |
| AL     | ALUMINUM                                | MS     | MOTOR STARTER                           |
| AO     | ANALOG OUTPUT (PLC)                     | MTD    | MOUNTED                                 |
| ASYM   | ASYMMETRICAL                            | MTS    | MANUAL TRANSFER SWITCH                  |
| ATC    | AUTOMATIC TEMPERATURE CONTROL           | MVA    | MEGAVOLT-AMPERE                         |
| ATS    | AUTOMATIC TRANSFER SWITCH               | MV     | MEDIUM VOLTAGE                          |
| AUX    | AUXILIARY                               | NC     | NORMALLY CLOSED                         |
| AWG    | AMERICAN WIRE GAUGE                     | NEG    | NEGATIVE                                |
| BFG    | BELOW FINISHED GRADE                    | NEU    | NEUTRAL                                 |
| BKR    | BREAKER                                 | NIC    | NOT IN CONTRACT                         |
| BOS    | BOTTOM OF STEEL                         | NO     | NORMALLY OPEN                           |
| C      | CONDUIT                                 | NTS    | NOT TO SCALE                            |
| CATV   | CABLE TELEVISION                        | OEM    | FURNISHED BY MANUFACTURER               |
| CB     | CIRCUIT BREAKER                         | OH     | OVERHEAD                                |
| CCF    | CARBON CANISTER FILTER                  | OL     | OVERLOAD                                |
| CI     | CONTROL INTERLOCK                       | OOA    | ON-OFF-AUTOMATIC                        |
| CKT    | CIRCUIT                                 | OSY    | OUTSIDE STEM AND YOKE VALVE (FA SYSTEM) |
| CP     | CONTROL PANEL                           | P      | POLE                                    |
| CR     | CONTROL RELAY                           | PB     | PUSHBUTTON                              |
| CPT    | CONTROL POWER TRANSFORMER               | PC     | PERSONAL COMPUTER                       |
| CT     | CURRENT TRANSFORMER                     | PE     | PRESSURE ELEMENT                        |
| CU     | COPPER                                  | PF     | POWER FACTOR                            |
| DACT   | DIGITAL ALARM COMMUNICATOR              | PH     | PHASE                                   |
|        |                                         | PIH    | PRESSURE INDICATOR TRANSMITTER          |
| DB     | DIRECT BURIED                           | PLC    | PROGRAMMABLE LOGIC CONTROLLER           |
| DBH    | DIESEL BLOCK HEATER                     | PNL    | PANEL                                   |
| DC     | DIRECT CURRENT                          | PRI    | PRIMARY                                 |
| DI     | DIGITAL INPUT (PLC)                     | PT     | POTENTIAL TRANSFORMER                   |
| DISC   | DISCONNECT                              | PT     | PRESSURE TRANSMITTER                    |
| DN     | DOWN                                    | PVC    | POLYVINYL CHLORIDE                      |
| DO     | DIGITAL OUTPUT (PLC)                    | QI     | LOAD KW INDICATOR                       |
| EBU    | EMERGENCY BATTERY UNIT                  | R      | REMOTE                                  |
| EC     | ELECTRICAL CONTRACTOR                   | RGS    | RIGID GALVANIZED STEEL CONDUIT          |
| EF     | EXHAUST FAN                             | RIL    | RED INDICATING LIGHT (TYP)              |
| EG     | EQUIPMENT GROUND                        |        | B=BLUE, G=GREEN, A=AMBER                |
| EH     | ELECTRICALLY HELD                       | RSC    | RIGID STEEL CONDUIT                     |
| EHH    | ELECTRICAL HANDHOLE                     | RTD    | RESISTANCE TEMPERATURE DETECTOR         |
| EM     | EMERGENCY                               | RVSS   | REDUCED VOLTAGE SOLID STATE             |
| EMT    | ELECTRICAL METALLIC TUBING              | S      | SURFACE                                 |
| EO     | ELECTRICALLY OPERATED                   | SEC    | SECONDARY                               |
| EP     | EXPLOSION PROOF CL 1 DIV 1 GR D         | SF     | SUPPLY FAN                              |
| EPR    | ETHYLENE PROPYLENE RUBBER               | SHLD   | SHIELDED CABLE                          |
| EQUIP  | EQUIPMENT                               | SI     | SPEED INDICATOR                         |
| ES     | EMERGENCY STOP                          | SN     | SOLID NEUTRAL                           |
| EWC    | ELECTRIC WATER COOLER                   | SP     | SPARE                                   |
| EWV    | ELECTRIC WATER HEATER                   | SPD    | SURGE PROTECTIVE DEVICE                 |
| EX     | EXTERIOR                                | SS     | SURGE SUPPRESSOR                        |
| EXIT   | EXISTING                                | STP    | SHIELDED TWISTED PAIR                   |
| F      | FIELD                                   | STT    | SHIELDED TWISTED TRIPLET                |
| FA     | FIRE ALARM                              | SV3    | 3 WAY VALVE                             |
| FAA    | FIRE ALARM ANNUNCIATOR                  | SW     | SWITCH                                  |
| FACP   | FIRE ALARM CONTROL PANEL                | SWBD   | SWITCHBOARD                             |
| FBO    | FURNISHED BY OTHERS                     | SWGR   | SWITCHGEAR                              |
| FC     | FOOTCANDLE                              | SYM    | SYMMETRICAL                             |
| FE     | FLOW ELEMENT                            | T      | TRANSFORMER                             |
| FIT    | FLOW INDICATOR TRANSMITTER              | TB     | TERMINAL BLOCKS                         |
| FLUOR  | FLUORESCENT                             | TOS    | TOP OF STEEL                            |
| FNR    | FORWARD NEUTRAL REVERSE                 | TS     | THERMOSTAT                              |
| FS     | FLOW SWITCH                             | TC     | COOLING THERMOSTAT                      |
| FTR    | FIN TUBE RADIATOR                       | TD     | TEL DIALER                              |
| FU     | FUSE                                    | TDR    | TIME DELAY RELAY                        |
| FVE    | FURNISHED WITH EQUIPMENT                | TE     | TEMPERATURE ELEMENT                     |
| FVNR   | FULL VOLTAGE NON-REVERSING              | TEL    | TELEPHONE                               |
| FVR    | FULL VOLTAGE REVERSING                  | TF     | FREEZE STAT                             |
| GCP    | GENERATOR CONTROL PANEL                 | TH     | HUMIDISTAT                              |
| GEN    | GENERATOR                               | TIT    | TEMPERATURE INDICATING TRANSMITTER      |
| GF     | GROUND FAULT                            | TL     | TEMPERATURE LOW                         |
| GFI    | GROUND FAULT CIRCUIT INTERRUPTER        | TOA    | THERMOSTAT OUTSIDE AIR                  |
| GND    | GROUND                                  | TRANSF | TRANSFORMER                             |
| GH     | HANDHOLE                                | TS     | THERMOSTAT                              |
| HID    | HIGH INTENSITY DISCHARGE                | TS     | TEMPERATURE SWITCH                      |
| HIT    | HIGH INTENSITY TUNGSTEN                 | TWS    | TWISTED SHIELDED CABLE                  |
| HOA    | HAND-OFF-AUTOMATIC                      | UG     | UNDERGROUND                             |
| HP     | HORSEPOWER                              | UH     | UNIT HEATER                             |
| HPS    | HIGH PRESSURE SODIUM                    | UPS    | UNINTERRUPTIBLE POWER SUPPLY            |
| HTR    | HEATER                                  | V      | VOLT                                    |
| HV     | HIGH VOLTAGE                            | VA     | VOLT-AMPERE                             |
| HVAC   | HEATING VENTILATING AIR CONDITIONING    | VAR    | VOLT-AMPERE REACTIVE                    |
| HWV    | HOT WATER VALVE                         | VFD    | VARIABLE FREQUENCY DRIVE                |
| HZ     | HERTZ                                   | VPS    | VACUUM PRESSURE SWITCH                  |
| IG     | ISOLATED GROUND                         | W      | WIRE                                    |
| IMC    | INTERMEDIATE METAL CONDUIT              | WH     | WATT HOUR                               |
| INCAND | INCANDESCENT                            | WM     | WATT METER                              |
| ISR    | INTRINSICALLY SAFE RELAY                | WP     | WEATHERPROOF                            |
| JB     | JUNCTION BOX                            | XP     | CROSS LINKED POLYETHYLENE               |
| K      | KILO                                    | XFMR   | TRANSFORMER                             |
| KCMIL  | THOUSAND CIRCULAR MILS                  | ZSC    | LIMIT SWITCH CLOSED                     |
| KV     | KILOVOLT                                | ZSO    | LIMIT SWITCH OPEN                       |
| KVA    | KILOVOLT-AMPERE                         |        |                                         |
| KVAR   | KILOVOLT-AMPERE REACTIVE                |        |                                         |
| KW     | KILOWATT                                |        |                                         |
| KWH    | KILOWATT-HOUR                           |        |                                         |
| L      | LOCAL                                   |        |                                         |
| LA     | LIGHTNING ARRESTER                      |        |                                         |
| LCP    | LOCAL CONTROL PANEL                     |        |                                         |
| LCS    | LOCAL CONTROL STATION                   |        |                                         |
| LE     | LEVEL ELEMENT                           |        |                                         |
| LI     | LEVEL INDICATOR                         |        |                                         |
| LIT    | LEVEL INDICATOR TRANSMITTER             |        |                                         |
| LP     | LIGHTING PANEL                          |        |                                         |
| LPS    | LOW PRESSURE SODIUM                     |        |                                         |
| LSW    | LIGHT SWITCH                            |        |                                         |
| LS     | LEVEL SWITCH                            |        |                                         |
|        | L=LOW, H=HIGH, LL=LOW LOW, HH=HIGH HIGH |        |                                         |
| LT     | LEVEL TRANSMITTER                       |        |                                         |
| LTG    | LIGHTING                                |        |                                         |
| LV     | LOW VOLTAGE                             |        |                                         |
| MC     | METAL CLAD                              |        |                                         |
| MCB    | MAIN CIRCUIT BREAKER                    |        |                                         |
| MCC    | MOTOR CONTROL CENTER                    |        |                                         |
| MCP    | MOTOR CIRCUIT PROTECTOR                 |        |                                         |

GENERAL DEMOLITION NOTES:

- THE EXISTING ELECTRICAL DRAWINGS FOR THIS PROJECT ARE BASED ON INFORMATION PRESENTED IN THE AS-BUILT CONTRACT DRAWINGS PROVIDED FOR THIS PROJECT. GENERAL CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS AND ELEVATIONS AND NOTIFY THE ENGINEER OF ANY DISCREPANCIES.
- FIELD VERIFY ALL CONDITIONS AFFECTING THE WORK PRIOR TO CONSTRUCTION AND NOTIFY THE ENGINEER OF ANY DISCREPANCIES.
- PROTECT ALL EXISTING ITEMS AND EQUIPMENT ADJACENT TO THE WORK AREA. ALL EXISTING ITEMS, EQUIPMENT AND MATERIALS DAMAGED OR AFFECTED BY THE WORK SHALL BE REPAIRED OR REPLACED AT NO ADDITIONAL COST TO THE OWNER.
- EACH OF THE EXISTING PROJECT LOCATIONS SHALL REMAIN IN OPERATION DURING THE CONSTRUCTION OF THE PROJECT. THE CONTRACTOR WILL COORDINATE THE DEMOLITION AND CONSTRUCTION WITH THE OWNER'S REQUIREMENTS TO MAINTAIN EACH OF THE PROJECT LOCATIONS OPERATIONAL. THE CONTRACTOR SHALL PROVIDE TEMPORARY SERVICES AS NECESSARY.
- PROVIDE ALL TEMPORARY BRACING REQUIRED AND SUPPORT ALL ITEMS AND EQUIPMENT MOUNTED TO THE WALLS WHICH ARE DESIGNATED TO BE REMOVED. REINSTALL ALL ITEMS AFTER THE NEW WALLS ARE COMPLETED.
- PATCH, REPAIR AND REFINISH ALL EXISTING SURFACES AFFECTED BY THE WORK, TO THE SATISFACTION OF THE ENGINEER.
- REMOVE, REINSTALL OR REPLACE ALL MISCELLANEOUS ITEMS MOUNTED TO THE WALLS DESIGNATED TO BE REMOVED OR RENOVATED.
- ALL ITEMS SHOWN ON THE PLANS WITH SHADING ARE TO BE REMOVED AND DISPOSED OF, UNLESS OTHERWISE INDICATED. THIS SHALL INCLUDE ALL ASSOCIATED CONDUIT, WIRING, BOXES, DEVICES, CONTROLS, ETC. UNLESS OTHERWISE NOTED. THE OWNER RESERVES THE RIGHT TO RETAIN ANY EQUIPMENT OR MATERIALS. THE CONTRACTOR WILL STORE ON SITE AND PROTECT SUCH ITEMS IN A MANNER ACCEPTABLE TO THE OWNER AND ENGINEER. ALSO REFER TO THE STRUCTURAL, MECHANICAL, PROCESS AND ELECTRICAL DRAWINGS FOR A COMPLETE REQUIREMENT OF DEMOLITION WORK FOR THIS PROJECT.
- ALL 120/208V ELECTRICAL EQUIPMENT TO REMAIN WHICH IS FED FROM PANELBOARDS OR EQUIPMENT DESIGNATED AS BEING REMOVED OR RELOCATED, SHALL REMAIN AND BE REWIRED FROM NEW OR RELOCATED PANELBOARDS OR EQUIPMENT AS NOTED ON THE MODIFIED DRAWINGS OR AS REQUIRED BY THE INTENDED OVERALL DEMOLITION OF THIS WORK. REMOVE EXISTING CONDUIT AND WIRING FROM THE APPLICABLE EXISTING PANELBOARD OR EQUIPMENT BACK TO THE CIRCUITS NEAREST PULLBOX, CONTROLLING DEVICE OR FIXTURE LOCATED OUTSIDE THE AREA BEING DEMOLISHED AND RE-FEED AS NOTED ON THE MODIFIED DRAWINGS. RE-FEED THE EXISTING EQUIPMENT WITH NEW CONDUIT AND WIRING FOR A COMPLETE INSTALLATION. SPLICING OF WIRING SHALL NOT BE ALLOWED.
- THE EXISTING PANELBOARD CIRCUIT DESCRIPTIONS SHOWN WERE TAKEN FROM EXISTING PANELBOARD DIRECTORIES OBTAINED IN THE FIELD AND/OR BY EXISTING RECORD DRAWING PANELBOARD SCHEDULES. THE ACCURACY OF THESE DESCRIPTIONS HAS NOT BEEN FIELD VERIFIED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR FIELD VERIFYING ALL CIRCUITRY, AS APPLICABLE FOR THIS PROJECT, ASSOCIATED WITH THE PANEL, AND REPORT ANY DISCREPANCIES TO THE ENGINEER.

GENERAL NOTES

- ALL CONDUIT AND EQUIPMENT SHALL BE INSTALLED AND GROUNDED IN ACCORDANCE WITH THE RULES AND REGULATIONS OF THE CURRENT NATIONAL ELECTRICAL CODE (NEC).
- CONDUIT RUNS ARE SHOWN DIAGRAMMATICALLY ONLY AND SHALL BE INSTALLED IN A MANNER TO PREVENT CONFLICTS WITH EQUIPMENT AND STRUCTURES. EXPOSED CONDUITS SHALL BE INSTALLED PARALLEL TO BEAMS AND WALLS.
- CONDUITS SHALL BE PROPERLY TERMINATED WITH NEAT CONNECTIONS TO ALL ASSOCIATED EQUIPMENT.
- CONTROL AND INSTRUMENTATION CONDUIT SIZES AND NUMBER OF CONDUCTORS ARE TO BE DETERMINED FROM SCHEMATIC DIAGRAMS, INSTRUMENTATION DIAGRAMS, AND/OR SPECIFICATIONS, IF NOT DIRECTLY SHOWN ON POWER PLANS. THE WIRING DIAGRAMS, QUANTITY AND SIZE OF WIRES AND CONDUIT REPRESENT A SUGGESTED ARRANGEMENT BASED UPON SELECTED STANDARD COMPONENTS OF ELECTRICAL AND INSTRUMENTATION EQUIPMENT. MODIFICATIONS REVIEWED BY THE ENGINEER WITH NO EXCEPTIONS TAKEN, MAY BE MADE BY THE CONTRACTOR TO ACCOMMODATE EQUIPMENT ACTUALLY PURCHASED. THE BASIC SEQUENCE AND METHOD OF CONTROL MUST BE MAINTAINED AS INDICATED ON THE DRAWINGS AND SPECIFICATIONS. EACH CONTROL AND INSTRUMENTATION CONDUIT SHALL ALSO CONTAIN 10 PER CENT SPARE CONDUCTORS, WITH A MINIMUM OF TWO SPARES, UP TO THE LIMIT OF CONDUIT FILL AS SPECIFIED BY THE NATIONAL ELECTRICAL CODE. INSTRUMENTATION SHIELDED CABLES SHALL BE INSTALLED IN RGS CONDUIT. SEPARATE FROM OTHER POWER WIRING.
- EACH CONDUIT TO CARRY GROUND WIRE(S) IN ADDITION TO NUMBER OF CONDUCTORS SHOWN ON DRAWINGS OR PER NOTE 4 ABOVE. ALL GROUNDING MUST CONFORM TO ARTICLE 250 OF CURRENT NATIONAL ELECTRICAL CODE.
- MINIMUM CONDUIT SIZE SHALL BE 3/4" TRADE SIZE, UNLESS OTHERWISE NOTED ON THE ELECTRICAL DRAWINGS. GENERAL LIGHTING, RECEPTACLE AND HVAC POWER CIRCUITS MAY BE 1/2" TRADE SIZE CONDUIT INSTALLED PER NEC. MINIMUM POWER WIRING SHALL BE 2CH12 AWG WITH GROUND AND 2CH14 AWG FOR CONTROL. MINIMUM INSTRUMENTATION CABLE SHALL BE 2/CH16 AWG TWS AND 3CH16 AWG TWS FOR SPEED POTENTIOMETERS AND RTD'S. PROVIDE CONDUIT AND WIRING AS INDICATED.
- ALL SURFACE MOUNTED PANELS ON THE INSIDE OF EXTERIOR WALLS ABOVE GRADE, OR IN OTHER LOCATIONS CONSIDERED AS DAMP, SHALL BE MOUNTED TO MAINTAIN A 1/4" AIR SPACE BETWEEN THE ENCLOSURE AND THE WALL.
- ELECTRICAL EQUIPMENT LOCATIONS ARE APPROXIMATE ONLY. COORDINATE LOCATIONS WITH PROCESS PIPING AND OTHER DRAWINGS. CONTRACTOR SHALL COORDINATE MANUFACTURER'S EQUIPMENT REQUIREMENTS WITH SPACE AVAILABLE. FINAL CONTROL PANEL LOCATIONS SHALL BE FIELD COORDINATED.
- ALL FIELD CONTROL CONDUCTORS WILL TERMINATE AT INDIVIDUAL TERMINAL BLOCKS WITHIN THE CONTROL ENCLOSURE. SERIES AND PARALLEL CONNECTION OF FIELD CONTROL CONDUCTORS WILL BE MADE ONLY AT CONTROL PANEL OR MOTOR CONTROL CENTER TERMINAL BLOCKS.
- GROUND ALL CONDUCTOR SHIELDS AT CONTROL PANEL ONLY - DO NOT GROUND SHIELDS AT BOTH ENDS.

A - AT LOCATIONS WHERE VAPORTIGHT LIGHTING FIXTURES AND/OR WATERTIGHT RECEPTACLES ARE INDICATED.

B - AT LOCATIONS ON OR IN ALL OUTSIDE WALLS.

C - OUTDOORS.

D - REFER TO THE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
- NAMEPLATES SHALL CONFORM STRICTLY TO INSTRUCTIONS IN THE ELECTRICAL SPECIFICATIONS AND ON THE DRAWINGS. THE FOLLOWING SHALL HAVE NAMEPLATES:

A - ALL LOCAL CONTROL STATIONS AT OR NEAR EQUIPMENT

B - ALL PANELBOARDS

C - GANGED LIGHT SWITCHES

D - PROCESS CONTROL PANELS

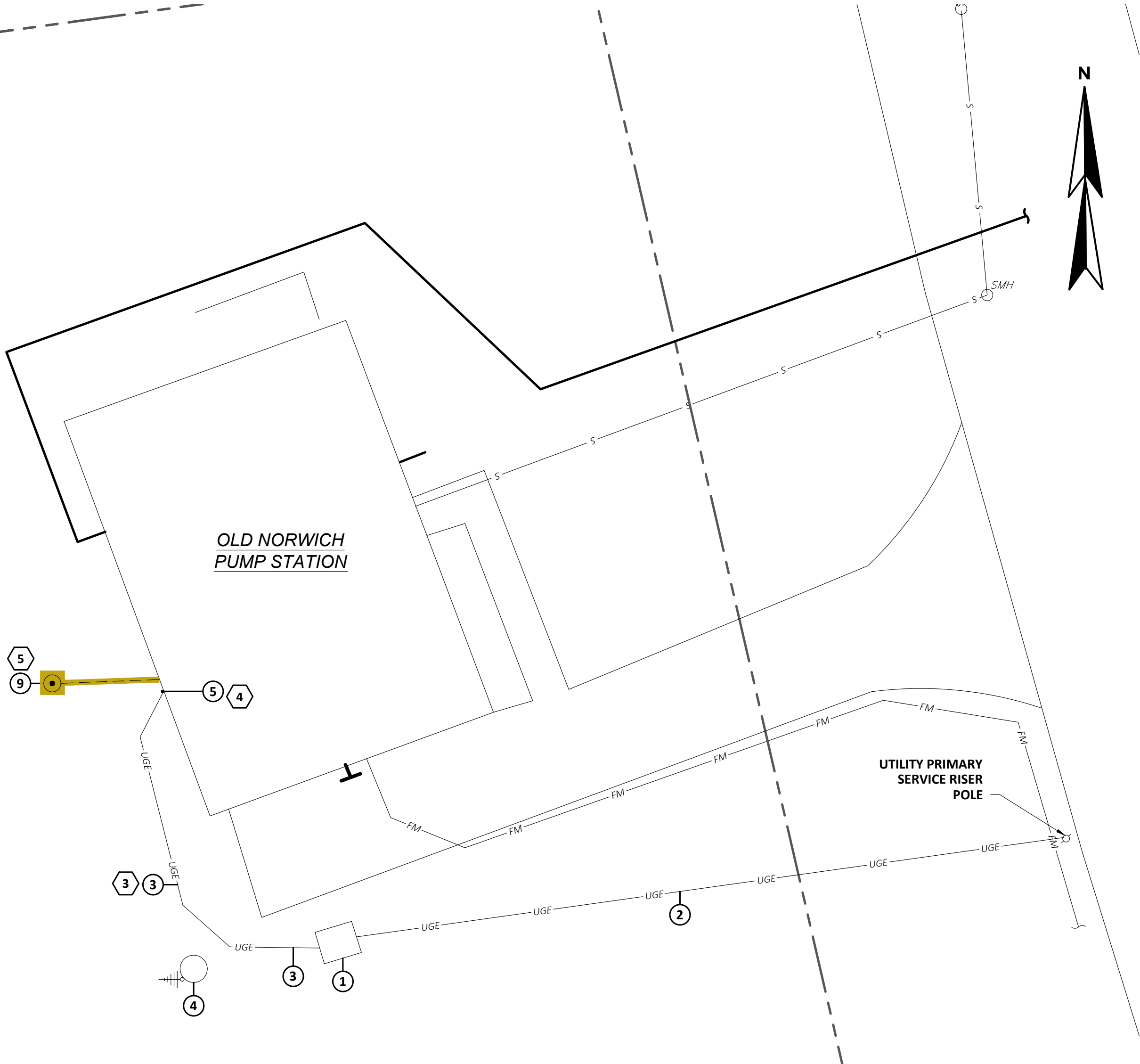
E - REFER TO THE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
- CONTRACTOR SHALL PROVIDE ALL CONDUIT, WIRING, EQUIPMENT, AND CONTROL DEVICES AS INDICATED BY SCHEMATICS, SINGLE LINE DIAGRAMS, SCHEDULES, PLANS, SPECIFICATIONS, AND VENDOR DOCUMENTATION TO PROVIDE A COMPLETE WORKING SYSTEM. SINCE NOT ALL HOME RUNS ARE SHOWN ON PLANS, THE CONTRACTOR SHALL REFERENCE ALL SINGLE LINE AND SCHEMATIC DIAGRAMS, SCHEDULES, AND VENDOR DOCUMENTATION TO DETERMINE CONDUIT AND WIRING REQUIREMENTS.
- PROVIDE CONCRETE HOUSEKEEPING PADS (4" HIGH) UNDER ELECTRICAL AND INSTRUMENTATION EQUIPMENT THAT IS DESIGNED TO BE FLOOR MOUNTED. PROVIDE SUBMITTAL SKETCH FOR ENGINEER REVIEW.
- CONTRACTOR SHALL PROVIDE A COMPLETE WORKING OPERATING SYSTEM IN ACCORDANCE WITH ALL DRAWINGS, SPECIFICATIONS, CODES AND STANDARDS.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR REVIEWING ALL OF THE ELECTRICAL DRAWINGS AND CONDUIT AND WIRE SCHEDULES RELATIVE TO THE CONDUIT AND WIRE TO BE PROVIDED ON THIS PROJECT. THE INTENT OF THE CONTRACT DOCUMENTS IS TO PROVIDE DETAILED INFORMATION OF SPECIFIC INDIVIDUAL RUNS OF CONDUIT AND WIRE TO SPECIFIC EQUIPMENT. THE ELECTRICAL SUBCONTRACTOR IS DIRECTED TO COMBINE CONDUIT AND WIRE RUNS AS MUCH AS POSSIBLE, AS DEFINED IN THE SPECIFICATION. ONLY CONTROL AND SIGNAL CONDUCTORS WILL BE ALLOWED TO BE COMBINED. ALL INDIVIDUAL FEEDER AND BRANCH CIRCUIT POWER CONDUIT AND WIRE SHALL NOT BE ALLOWED TO BE COMBINED AND SHALL BE INSTALLED AS INDICATED IN THE CONTRACT DOCUMENTS. THE ELECTRICAL SUBCONTRACTOR IS DIRECTED TO USE THE MOST COST-EFFECTIVE CONDUIT AND WIRE RUNS CONSISTENT WITH THESE REQUIREMENTS.
- 120V CIRCUITS EXCEEDING 100 FEET IN LENGTH SHALL BE NO 10 AWG WIRING, MINIMUM.
- POWER CONDUITS FOR THREE PHASE AND SINGLE PHASE CIRCUITS (DESIGNATED WITH "P" NUMBERS) ARE SHOWN ON POWER PLANS, WITH CONDUIT SIZES AND WIRING INFORMATION INDICATED IN THE CONDUIT AND WIRE SCHEDULES.
- CONTROL AND INSTRUMENTATION SIGNAL CONDUITS (DESIGNATED WITH "C" AND "S" NUMBERS OR, ALTERNATIVELY, INDICATED BY WAY OF A LEGEND) ARE SHOWN ON CONTROL AND INSTRUMENTATION WIRING DIAGRAMS, WITH CONDUIT SIZES AND WIRING INFORMATION INDICATED EITHER IN THE LEGEND OR IN CONDUIT AND WIRE SCHEDULES. THE CONTRACTOR SHALL NOTE THAT THE MAJORITY OF CONTROL AND INSTRUMENTATION SIGNAL CONDUITS AND WIRING REQUIRED FOR THIS CONTRACT IS INDICATED IN THE AFOREMENTIONED LEGEND AND DOES NOT APPEAR IN THE CONDUIT AND WIRE SCHEDULES. FOR INSTRUMENTS REQUIRING 120V POWER SUPPLIES, THIS INFORMATION IS ALSO SHOWN ON THE CONTROL AND INSTRUMENTATION WIRING DIAGRAMS.
- PROVIDE CONDUIT FREEZE PROTECTION FOR ALL EXTERIOR CONDUIT SYSTEMS.
- FOR ALL OUTDOOR ELECTRICAL EQUIPMENT AND INSTRUMENTATION, CONTRACTOR SHALL USE CONDUIT INSTALLATION MEANS AND METHODS NECESSARY TO MITIGATE MOISTURE AND CONDENSATION PER NEC AND INSTALLATION METHODS LISTED IN SPECIFICATIONS. MITIGATION METHODS INCLUDE DRIP LOOPS, AVOIDING TOP ENTRY, USE OF BREATHERS, DRAINS, AND DUCT SEALANT AS NECESSARY.
- WRITTEN DIMENSIONS SHALL BE FOLLOWED WHERE INDICATED IN LIEU OF SCALING DIMENSIONS FROM DRAWINGS, WRITTEN DIMENSIONS SHALL PREVAIL. CONTRACTOR SHALL PERFORM ACTUAL FIELD MEASUREMENTS OF LOCATIONS AND EQUIPMENT WHERE DIMENSIONS ARE NOT GIVEN. REPORT AND DISCREPANCIES TO THE ENGINEER.
- POWER CONDUITS FOR THREE PHASE AND SINGLE PHASE CIRCUITS (DESIGNATED WITH "P" NUMBERS) ARE SHOWN ON POWER PLANS, WITH CONDUIT SIZES AND WIRING INFORMATION INDICATED IN THE CONDUIT AND WIRE SCHEDULES.
- THE CONTRACTOR SHALL PROVIDE ALL DISCONNECTS AND SERVICE RECEPTACLES FOR HVAC EQUIPMENT AS REQUIRED BY NEC.
- CONTRACTOR SHALL LABEL EACH RESPECTIVE DISTRIBUTION PANEL, SWITCHBOARD OR MCC WITH THE FEEDER POWER CIRCUIT NAME AND LOCATION PER NEC REQUIREMENTS.
- ALL PRIMARY FEEDER DISCONNECTS SERVING REMOTELY LOCATED TRANSFORMERS SHALL BE LOCKABLE. CONTRACTOR SHALL LABEL PRIMARY DISCONNECT LOCATION AT THE TRANSFORMER SERVED PER NEC REQUIREMENTS.
- ALL BANELBOARDS SHALL BE MOUNTED SO THAT THE DISTANCE FROM THE TOP CIRCUIT BREAKER OPERATING HANDLE TO FINISHED FLOOR SHALL NOT EXCEED 6'6".

NOTE:

1. ALL GENERAL NOTES, AND ABBREVIATIONS SHALL BE CONSIDERED AS APPLICABLE TO ALL ELECTRICAL DRAWINGS FOR THIS PROJECT. ABBREVIATIONS SHOWN ON THIS SHEET ARE FOR REFERENCE ONLY AND DO NOT INDICATE THEIR INCORPORATION IN THE DESIGN.

|                                                                                                                                                                                                   |  |                                                                                |  |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--------------------------------------------------------------------------------|--|
| PROJECT NO: 21490<br>DESIGNED: S.CONWAY<br>CAD COORD: ELAIGNER<br>CAD: K.NEVES<br>CHECKED: A.DAMELIO<br>DATE: JUNE 2023<br>APPROVED: S.CONWAY<br>DATE: JUNE 2023<br>SUBMISSION: CONTRACT DRAWINGS |  | APPD DATE                                                                      |  |
| NO                                                                                                                                                                                                |  | REVISIONS                                                                      |  |
| WRIGHT-PIERCE                                                                                                                                                                                     |  | WATERFORD UTILITY COMMISSION<br>OLD NORWICH ROAD<br>SEWER PUMP STATION UPGRADE |  |
| 860.343.8297   www.wright-pierce.com<br>169 MAIN STREET, 700 PLAZA MIDDLESEX, MIDDLETOWN, CT 06457                                                                                                |  | ELECTRICAL NOTES AND ABBREVIATIONS                                             |  |
| DRAWING                                                                                                                                                                                           |  | E-2                                                                            |  |

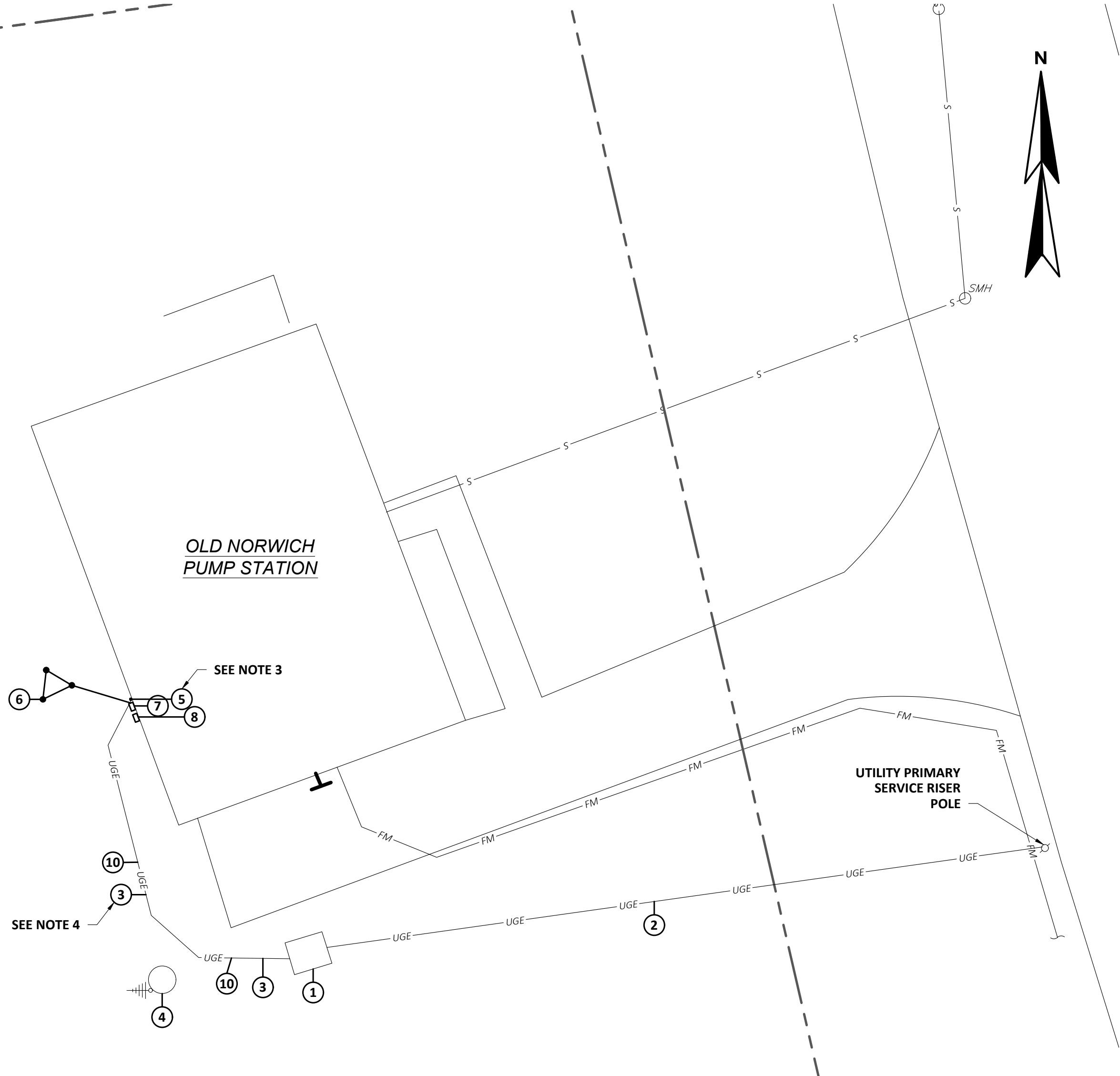




1 SEE NOTES THIS DRAWING  
**OLD NORWICH ROAD PUMP STATION  
ELECTRICAL DEMOLITION SITE PLAN**  
SCALE: 1"=10'

**DEMOLITION NOTES:**

- 1 ELECTRICAL EQUIPMENT INDICATED WITH SHADING SHALL BE DISCONNECTED AND REMOVED ALONG WITH ALL OF THE ASSOCIATED CONDUIT, WIRE, PULLBOXES, ETC. IN ITS ENTIRETY FOR A COMPLETE DEMOLITION, UNLESS OTHERWISE NOTED. ALL ABANDONED BELOW GRADE CONDUIT SHALL BE CUT AND CAPPED AT GRADE LEVEL. REFER TO TO NOTE 1 ON THIS DRAWING FOR ADDITIONAL DEMOLITION NOTES.
- 2 INFORMATION CONTAINED IN THESE PLANS AND DIAGRAMS HAS BEEN OBTAINED IN PART FROM EXISTING PLANT ELECTRICAL DRAWINGS, SITE CONDITIONS AND SHOP DRAWINGS. THE CONTRACTOR SHALL FIELD VERIFY ALL INFORMATION AND CIRCUITRY AFFECTING HIS OR HER WORK PRIOR TO COMMENCING THE WORK FOR THIS CONTRACT. THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF ANY DISCREPANCIES.
- 3 DISCONNECT AND REMOVE EXISTING SECONDARY CONDUCTORS BETWEEN PAD-MOUNTED TRANSFORMER AND THE EXISTING MOTOR CONTROL CENTER.
- 4 REMOVE EXISTING CONDUIT ELBOW JUST ABOVE THE CONDUIT STUB-UP. THE EXISTING CONDUIT SHALL BE EXTENDED TO SERVE A NEW MAIN CIRCUIT BREAKER - MCB-1.
- 5 DISCONNECT AND REMOVE THE EXISTING GROUNDING SYSTEM AND CONNECTIONS IN ITS ENTIRETY FOR A COMPLETE DEMOLITION.



SEE NOTES THIS DRAWING  
**OLD NORWICH ROAD PUMP STATION  
ELECTRICAL MODIFICATION SITE PLAN**  
SCALE: 1"=10'

**NOTES:**

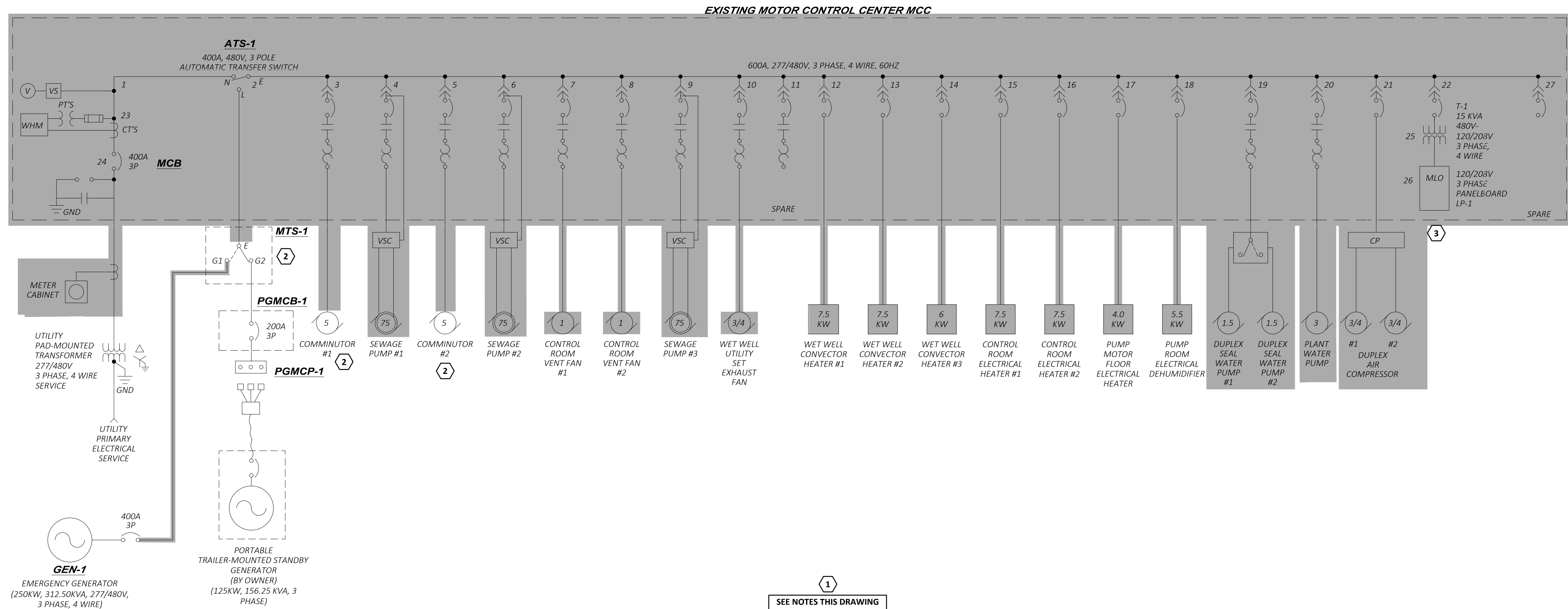
1. FOR ELECTRICAL LEGEND, ABBREVIATIONS AND NOTES, REFER TO DRAWINGS E-1 AND E-2.
2. FOR INFORMATION REGARDING CONDUIT AND WIRING REQUIREMENTS, REFER TO GENERAL NOTES ON DRAWING E-2.
3. EXTEND THE EXISTING 4" CONDUIT STUB UP TO THE NEW MAIN CIRCUIT BREAKER MCB-1.
4. INSTALL NEW WIRING FROM THE EXISTING TRANSFORMER SECONDARY TO THE NEW MCB-1. WIRE SIZES AND NUMBERS OF WIRES SHALL BE AS IDENTIFIED ON THE CONDUIT AND CABLE SCHEDULES.
5. THE CONTRACTOR IS RESPOONSIBLE TO COORDINATE WITH THE ELECTRICAL UTILITY COMPANY FOR ELECTRICAL OUTAGES REQUIRED FOR THE REMOVAL OF EXISTING SECONDARY FEEDERS AND RE-ENERGIZATION AND CONNECTIONS OF THE NEW SECONDARY FEEDERS FOR A COMPLETE INSTALLATION.

**EQUIPMENT LEGEND**

- 1 POWER COMPANY PAD-MOUNTED TRANSFORMER **TO BE MODIFIED**  
SEE NOTE 5
- 2 POWER COMPANY PRIMARY SERVICE CONDUCTORS AND RACEWAY
- 3 TRANSFORMER SECONDARY CONDUCTORS IN 4" UNDERGROUND CONDUIT **TO BE REPLACED**
- 4 ANTENNA AND POLE
- 5 4" CONDUIT STUB-UP WITH CONDUIT ELBOW AND WALL PENETRATION INTO BUILDING TO MOTOR CONTROL CENTER **TO BE MODIFIED**
- 6 GROUND RODS
- 7 MAIN CIRCUIT BREAKER DISCONNECT MCB-1
- 8 UTILITY METERING CABINET AND KILOWATT HOUR METER
- 9 GROUNDING SYSTEM **TO BE REMOVED**
- 10 NEW SECONDARY CONDUITS TO EXISTING 4" UNDERGROUND CONDUIT **TO BE INSTALLED**

| DRAWING                                                                                                                    |  | REVISIONS                     |   | APPD | DATE |
|----------------------------------------------------------------------------------------------------------------------------|--|-------------------------------|---|------|------|
| <b>WATERFORD UTILITY COMMISSION<br/>OLD NORWICH ROAD<br/>SEWER PUMP STATION UPGRADE</b>                                    |  | NO                            | Δ |      |      |
|                                                                                                                            |  | NO                            | Δ |      |      |
|                                                                                                                            |  | NO                            | Δ |      |      |
|                                                                                                                            |  | NO                            | Δ |      |      |
|                                                                                                                            |  | NO                            | Δ |      |      |
|                                                                                                                            |  | NO                            | Δ |      |      |
| <b>OLD NORWICH ROAD PUMP STATION<br/>ELECTRICAL DEMOLITION AND MODIFICATION SITE PLANS</b>                                 |  | PROJECT NO: 21490             |   |      |      |
|                                                                                                                            |  | DESIGNED: S.CONWAY            |   |      |      |
|                                                                                                                            |  | CAD COORD: ELAIGNER           |   |      |      |
|                                                                                                                            |  | CAD: S.MAURO                  |   |      |      |
|                                                                                                                            |  | CHECKED: A.DANIELLO           |   |      |      |
|                                                                                                                            |  | DATE: JUNE 2023               |   |      |      |
| <b>WRIGHT-PIERCE</b><br>860.343.8297   www.wright-pierce.com<br>169 MAIN STREET, 700 PLAZA MIDDLESEX, MIDDLETOWN, CT 06457 |  | APPROVED: S.CONWAY            |   |      |      |
|                                                                                                                            |  | DATE: JUNE 2023               |   |      |      |
|                                                                                                                            |  | SUBMISSION: CONTRACT DRAWINGS |   |      |      |
|                                                                                                                            |  |                               |   |      |      |
|                                                                                                                            |  |                               |   |      |      |
|                                                                                                                            |  |                               |   |      |      |





1  
SEE NOTES THIS DRAWING

# OLD NORWICH ROAD PUMP STATION MOTOR CONTROL CENTER MCC SINGLE LINE DIAGRAM - DEMOLITION

NTS

PANEL LOCATION: MOTOR CONTROL CENTER MCC

VOLTAGE: 120/208

PHASE: 3

WIRE: 4

AIC: 10000

PANELBOARD LP-1

FEEDER POINT: TRANSFORMER T-1 LOCATED IN MCC

MOUNTING: SURFACE

BUS RATING: 100 AMP

MAIN TYPE:  $\frac{X}{MVB}$  100 AMP

| CKT NO.   | AMPS | NO. POLES | DESCRIPTION                               | PHASE LOAD (VA) |   |   | DESCRIPTION               | NO. POLES | AMPS | CKT NO. |
|-----------|------|-----------|-------------------------------------------|-----------------|---|---|---------------------------|-----------|------|---------|
|           |      |           |                                           | A               | B | C |                           |           |      |         |
| 1         | 20   | 1         | CONTROL ROOM LIGHTS                       | <               | - | - | 1 RECEPTACLES             | 1         | 20   | 2       |
| 3         | 20   | 1         | STAIRWAY LIGHTS                           | <               | - | - | 2 RECEPTACLES             | 1         | 20   | 4       |
| 5         | 20   | 1         | MOTOR ROOM LIGHTS                         | <               | - | - | 1 RECEPTACLES             | 1         | 20   | 6       |
| 7         | 20   | 1         | PUMP ROOM LIGHTS                          | <               | - | - | 2 RECEPTACLES WET WELL    | 1         | 20   | 8       |
| 9         | 20   | 1         | WET WELL LIGHTS                           | <               | - | - | 3 BATTERY CHARGER         | 1         | 20   | 10      |
| 11        | 20   | 1         | WET WELL LIGHTS                           | <               | - | - | 100R UNIT CONTROL POWER   | 1         | 20   | 12      |
| 13        | 20   | 1         | AUTOMATIC TEMPERATURE CONTROL PANEL ATC-1 | <               | - | - | 1 EMERGENCY CONTROL POWER | 1         | 20   | 14      |
| 15        | 20   | 1         | UPS GAS MONITORS / FLOW METER             | <               | - | - | 2 BUBBLER                 | 1         | 20   | 16      |
| 17        | 20   | 1         | ATTIC LIGHTS                              | <               | - | - | 1 GENERATOR BLOCK HEATER  | 1         | 20   | 18      |
| 19        | 20   | 1         | SPARE                                     | <               | - | - | 2 SPARE                   | 1         | 20   | 20      |
| 21        | 20   | 1         | SPARE                                     | <               | - | - | 2 FLOW METER              | 1         | 20   | 22      |
| 23        | 20   | 1         | VENTILATION LOUVERS                       | <               | - | - | 2 EXTERIOR LIGHT          | 1         | 20   | 24      |
| 25        | 20   | 1         | UNKNOWN                                   | <               | - | - | 2 GAS ALARM               | 1         | 20   | 26      |
| 27        | 15   | 1         | SPARKING ALARM                            | <               | - | - | 2 SUMP PUMP               | 2         | 20   | 28      |
| 29        | 30   | 1         | OZONE GENERATOR                           | <               | - | - |                           |           |      | 30      |
| SUB-TOTAL |      |           |                                           |                 |   |   |                           |           |      |         |
| TOTAL     |      |           |                                           |                 |   |   |                           |           |      |         |

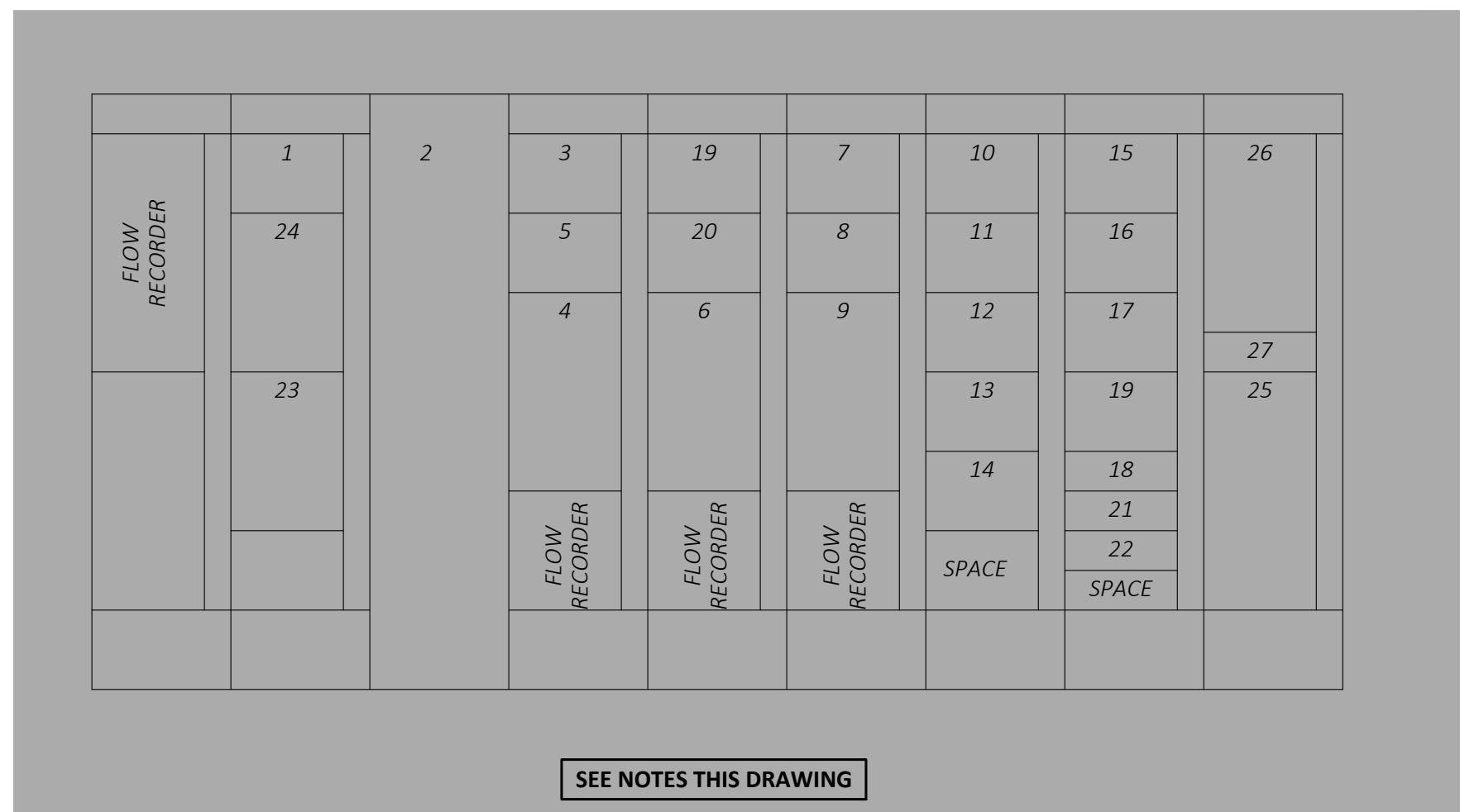
ESTIMATED DEMAND LOAD

DEMAND LINE CURRENT

- KVA

- AMP

ESTIMATED DEMAND LOAD \_\_\_\_\_ - KVA  
DEMAND LINE CURRENT \_\_\_\_\_ - AMP



**MOTOR CONTROL CENTER MCC**  
**FRONT ELEVATION - DEMOLITION**  
NTS

NTS

**NOTES:**

1. FOR ELECTRICAL LEGEND, ABBREVIATIONS, AND ADDITIONAL GENERAL DEMOLITION NOTES AND GENERAL NOTES REFER TO DRAWINGS E-1 AND E-2.
2. INFORMATION CONTAINED ON THIS DRAWING HAS BEEN OBTAINED IN PART FROM EXISTING ELECTRICAL DRAWINGS, PHOTOGRAPHS, SITE CONDITIONS AND SHOP DRAWINGS. THE CONTRACTOR SHALL FIELD VERIFY ALL INFORMATION AND CIRCUITRY AFFECTING HIS OR HER WORK PRIOR TO COMMENCING THE WORK FOR THIS CONTRACT. THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF ANY DISCREPANCIES.
3. THE EXISTING MOTOR CONTROL CENTER MCC IS MANUFACTURED BY GENERAL ELECTRIC CORPORATION. THE EXISTING MOTOR CONTROL CENTER SHALL BE REMOVED AS SHOWN ON THIS DRAWING AND THE DEMOLITION AND REPAIR SHOP DRAWINGS. REFER TO THIS DRAWING AND THE CONTRACT DRAWINGS FOR ADDITIONAL INFORMATION ON DEMOLITION AND MODIFICATION REQUIREMENTS TO THIS MOTOR CONTROL CENTER AND ASSOCIATED CONNECTED EXISTING EQUIPMENT.
4. PROVIDE ALL DEMOLITION REQUIREMENTS INCLUDING CONDUIT AND WIRING. REFER TO THE MODIFICATION DRAWINGS FOR ALL REQUIRED MODIFICATIONS.

**DEMOLITION NOTES:**

- 1 ELECTRICAL EQUIPMENT INDICATED WITH SHADING SHALL BE DISCONNECTED AND REMOVED IN ITS ENTIRETY FOR A COMPLETE DEMOLITION. REFER TO NOTE 1 THIS DRAWING.
- 2 ELECTRICAL EQUIPMENT INDICATED SHALL REMAIN AND BE MODIFIED AS SHOWN AND NOTED ON THIS DRAWING AND THE MODIFICATION DRAWINGS. REFER TO NOTE 4 THIS DRAWING FOR ADDITIONAL REQUIREMENTS.
- 3 ALL EXISTING BRANCH CIRCUITS SHALL BE DISCONNECTED INCLUDING ALL CONDUIT AND WIRING TO THE CLOSEST CONNECTION. PROVIDE ALL NEW CONDUIT AND WIRING TO RECONNECT CIRCUITS TO NEW PANELBOARDS FOR A COMPLETE INSTALLATIONS.

|  | NO | REVISIONS | APPD | DATE |
|--|----|-----------|------|------|
|  | A  |           |      |      |
|  | A  |           |      |      |
|  | A  |           |      |      |
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|  | A  |           |      |      |

|             |                   |
|-------------|-------------------|
| PROJECT NO: | 21490             |
| DESIGNED:   | S.CONWAY          |
| CAD COORD:  | ELAGNER           |
| CAD:        | K.NIEVES          |
| CHECKED:    | A.DAMELIO         |
| DATE:       | JUNE 2023         |
| APPROVED:   | S.CONWAY          |
| DATE:       | JUNE 2023         |
| SUBMISSION: | CONTRACT DRAWINGS |



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169 MAIN STREET, 700 PLAZA MIDDLESEX, MIDDLETOWN, CT 06457

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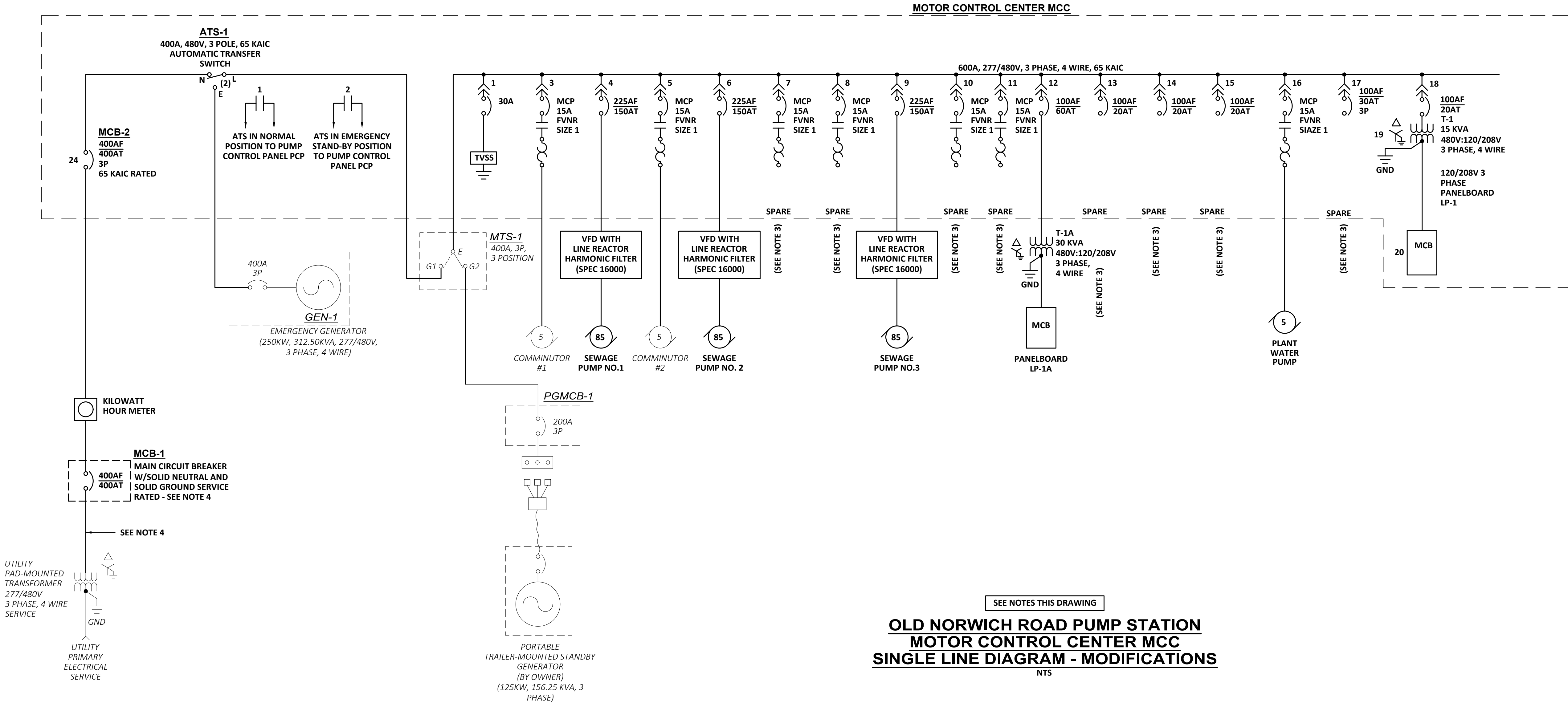
**WATERFORD UTILITY COMMISSION  
OLD NORWICH ROAD  
SEWER PUMP STATION UPGRADE**

**OLD NORWICH ROAD PUMP STATION  
SINGLE LINE DIAGRAM - DEMOLITION**

### DRAWING

E-4





SEE NOTES THIS DRAWING

**OLD NORWICH ROAD PUMP STATION**  
**MOTOR CONTROL CENTER MCC**  
**SINGLE LINE DIAGRAM - MODIFICATIONS**

NTS

|       |   |       |       |       |    |    |  |  |  |
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|       |   |       |       |       |    |    |  |  |  |
| 1     | 2 | 3     | 7     | 10    | 12 | 20 |  |  |  |
| 24    |   | 5     | 8     | 11    | 13 |    |  |  |  |
| SPACE |   | 4     | 6     | 9     | 14 |    |  |  |  |
|       |   | SPACE | SPACE | SPACE | 15 |    |  |  |  |
|       |   |       |       |       | 16 |    |  |  |  |
|       |   |       |       |       | 17 |    |  |  |  |
| SPACE |   | SPACE | SPACE | 18    |    |    |  |  |  |
|       |   |       |       |       |    |    |  |  |  |

SEE NOTES THIS DRAWING

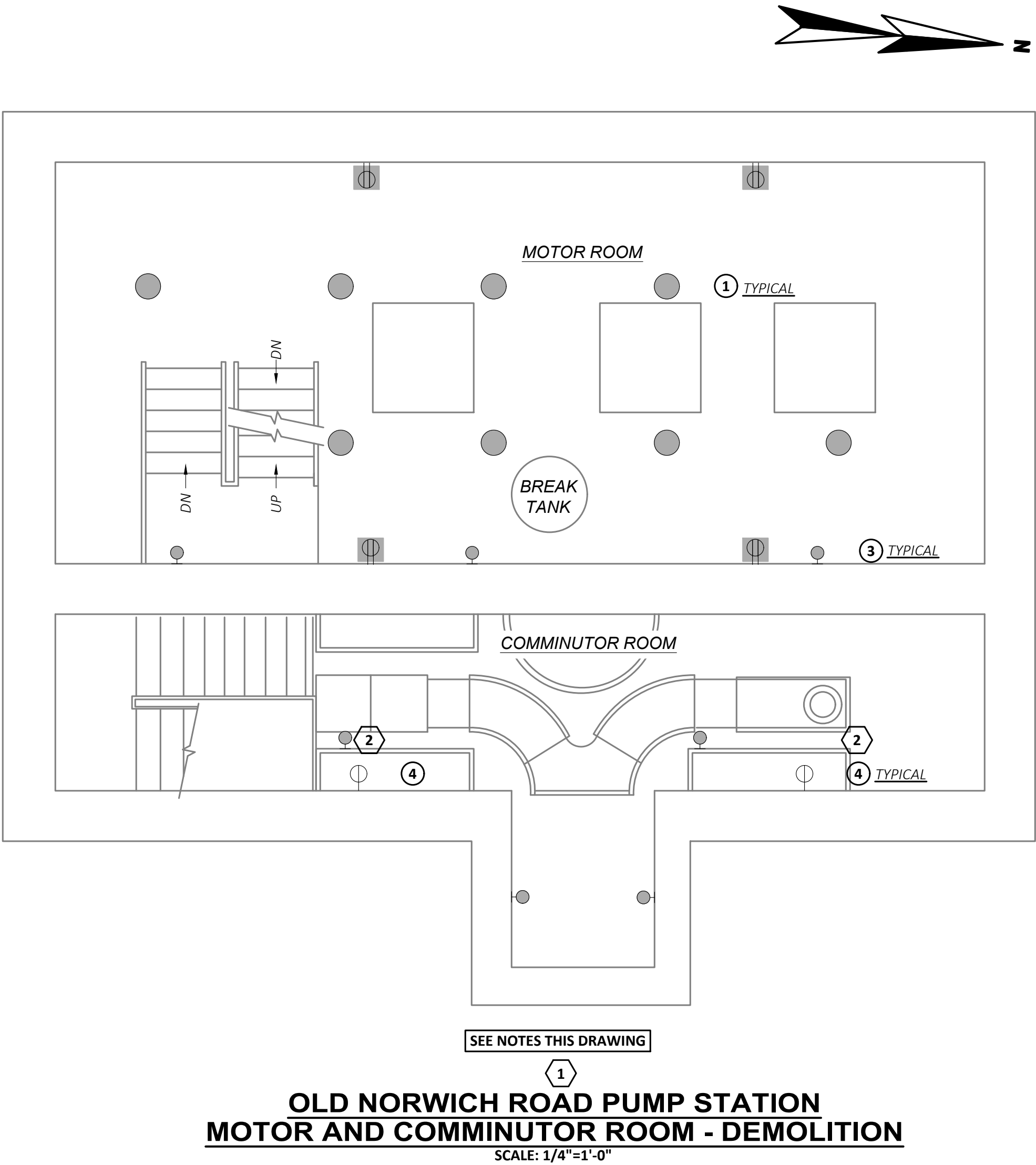
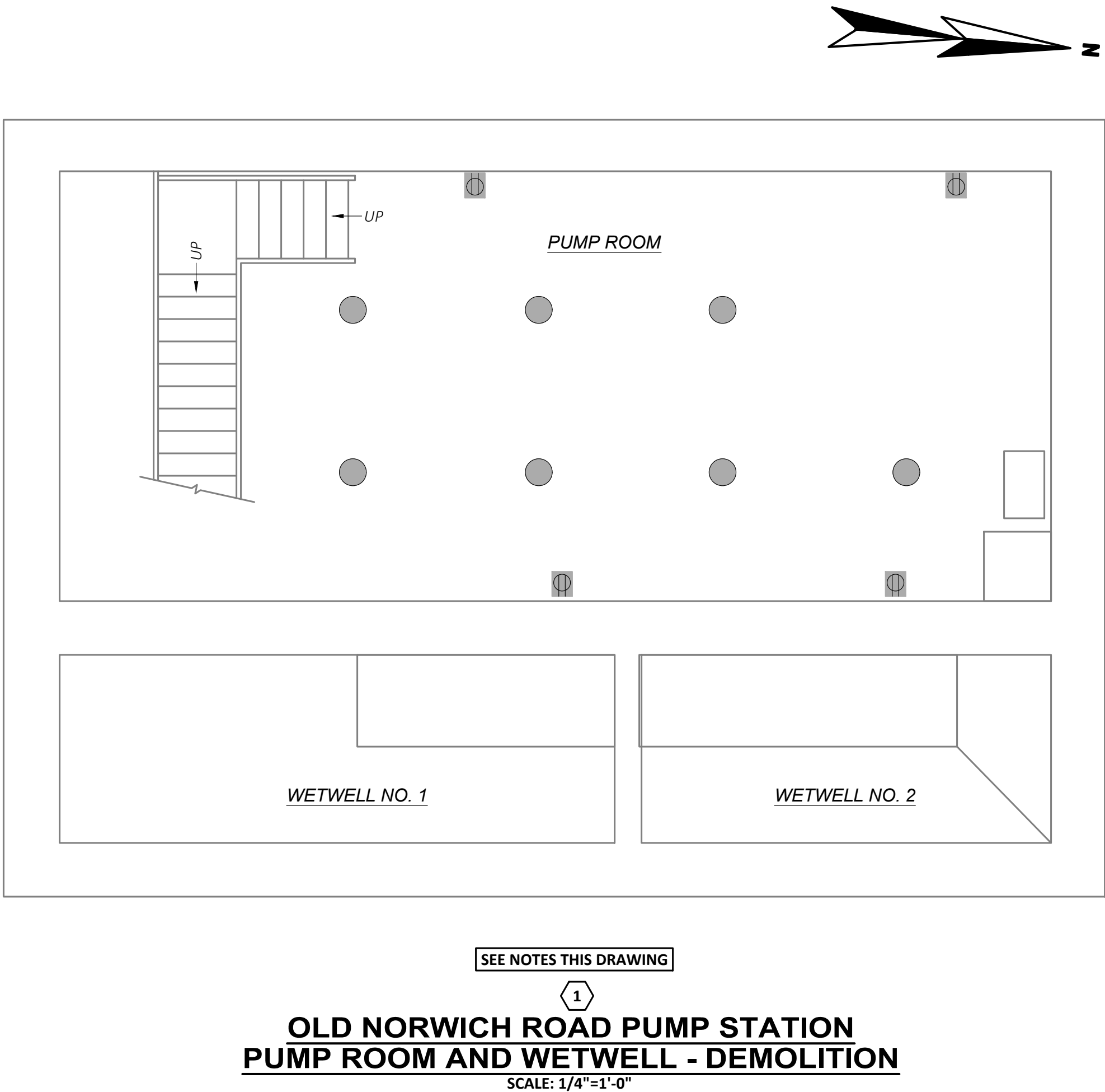
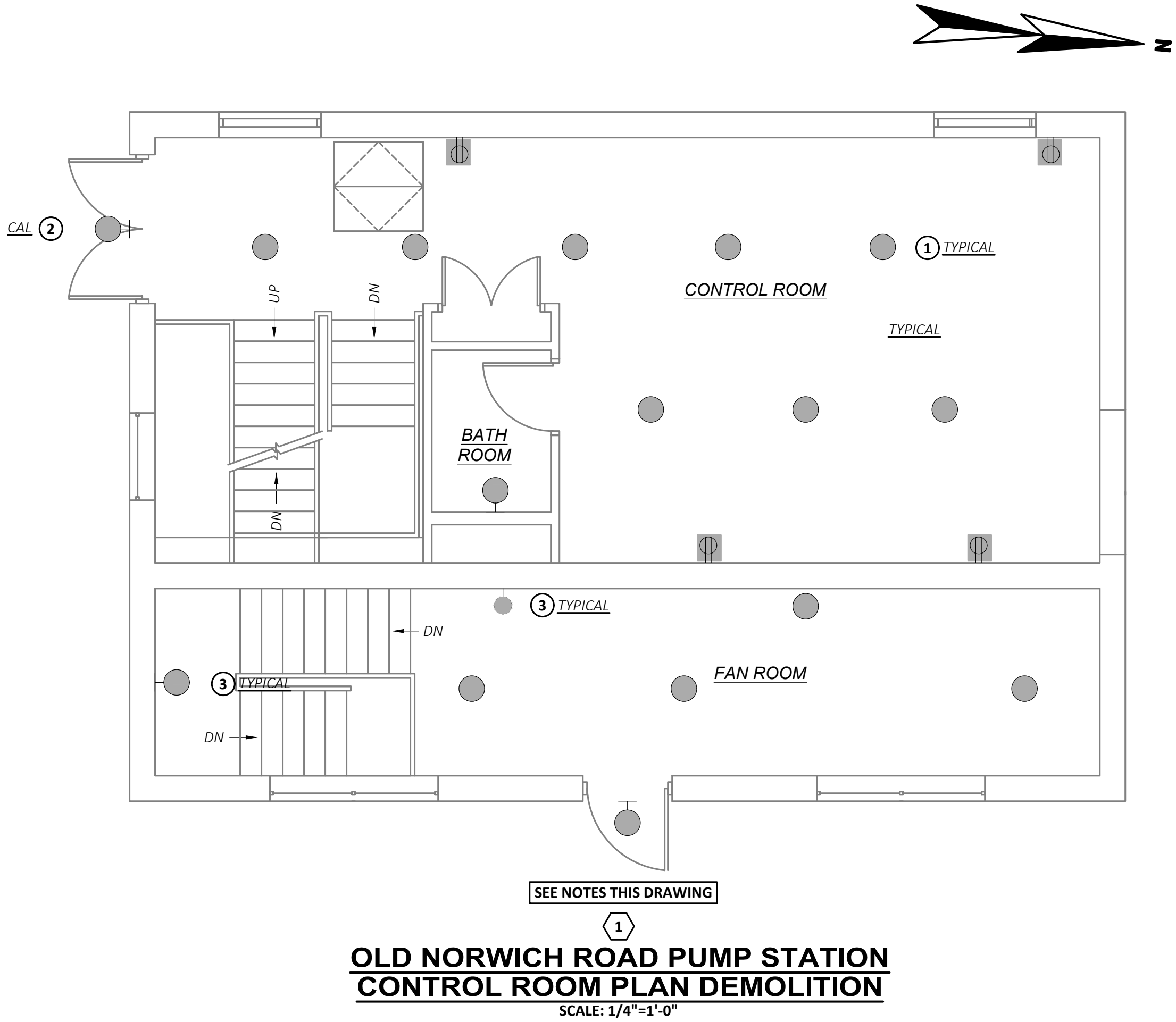
**MOTOR CONTROL CENTER MCC**  
**FRONT ELEVATION - MODIFICATIONS**

NTS

- NOTES:**
- FOR ELECTRICAL LEGEND, ABBREVIATIONS, AND ADDITIONAL GENERAL DEMOLITION NOTES AND GENERAL NOTES REFER TO DRAWINGS E-1 AND E-2.
  - INFORMATION CONTAINED ON THIS DRAWING HAS BEEN OBTAINED IN PART FROM EXISTING ELECTRICAL DRAWINGS, PHOTOGRAPHS, SITE CONDITIONS AND SHOP DRAWINGS. THE CONTRACTOR SHALL FIELD VERIFY ALL INFORMATION AND CIRCUITRY AFFECTING HIS OR HER WORK PRIOR TO COMMENCING THE WORK FOR THIS CONTRACT. THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF ANY DISCREPANCIES.
  - PROVIDE NEW LAMACOID NAMEPLATES ON THE FRONT OF THE COMPARTMENT DOOR TO READ "SPARE CIRCUIT BREAKER" OR "SPARE STARTER" AS APPLICABLE . REFER TO SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
  - PROVIDE NEW CONDUIT AND WIRING AS SHOWN TO A NEW SECONDARY ENCLOSED CIRCUIT BREAKER MCB-1. REFER TO THE OLD NORWICH ROAD PUMP STATION FLOOR PLANS - MODIFICATIONS DRAWING FOR ADDITIONAL REQUIREMENTS.
  - THE CONTINUOUS DEMAND RATING OF THE MOTOR CONTROL CENTER IS 320A MAXIMUM.

|         |     |                                                                                |                                                                                                    |               |                                                                                                   |                                                                                                                                                                                                        |    |           |      |      |
|---------|-----|--------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------|---------------|---------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----|-----------|------|------|
| DRAWING | E-5 | WATERFORD UTILITY COMMISSION<br>OLD NORWICH ROAD<br>SEWER PUMP STATION UPGRADE | 860.343.8297   www.wright-pierce.com<br>169 MAIN STREET, 700 PLAZA MIDDLESEX, MIDDLETOWN, CT 06457 | WRIGHT-PIERCE | <br>6/25/2023 | PROJECT NO: 21490<br>DESIGNED: S. CONWAY<br>CAD COORD: ELAIGNER<br>CAD: K. NIEVES<br>CHECKED: A. DAMELIO<br>DATE: JUNE 2023<br>APPROVED: S. CONWAY<br>DATE: JUNE 2023<br>SUBMISSION: CONTRACT DRAWINGS | NO | REVISIONS | APPD | DATE |
|         |     |                                                                                |                                                                                                    |               |                                                                                                   |                                                                                                                                                                                                        |    |           |      |      |





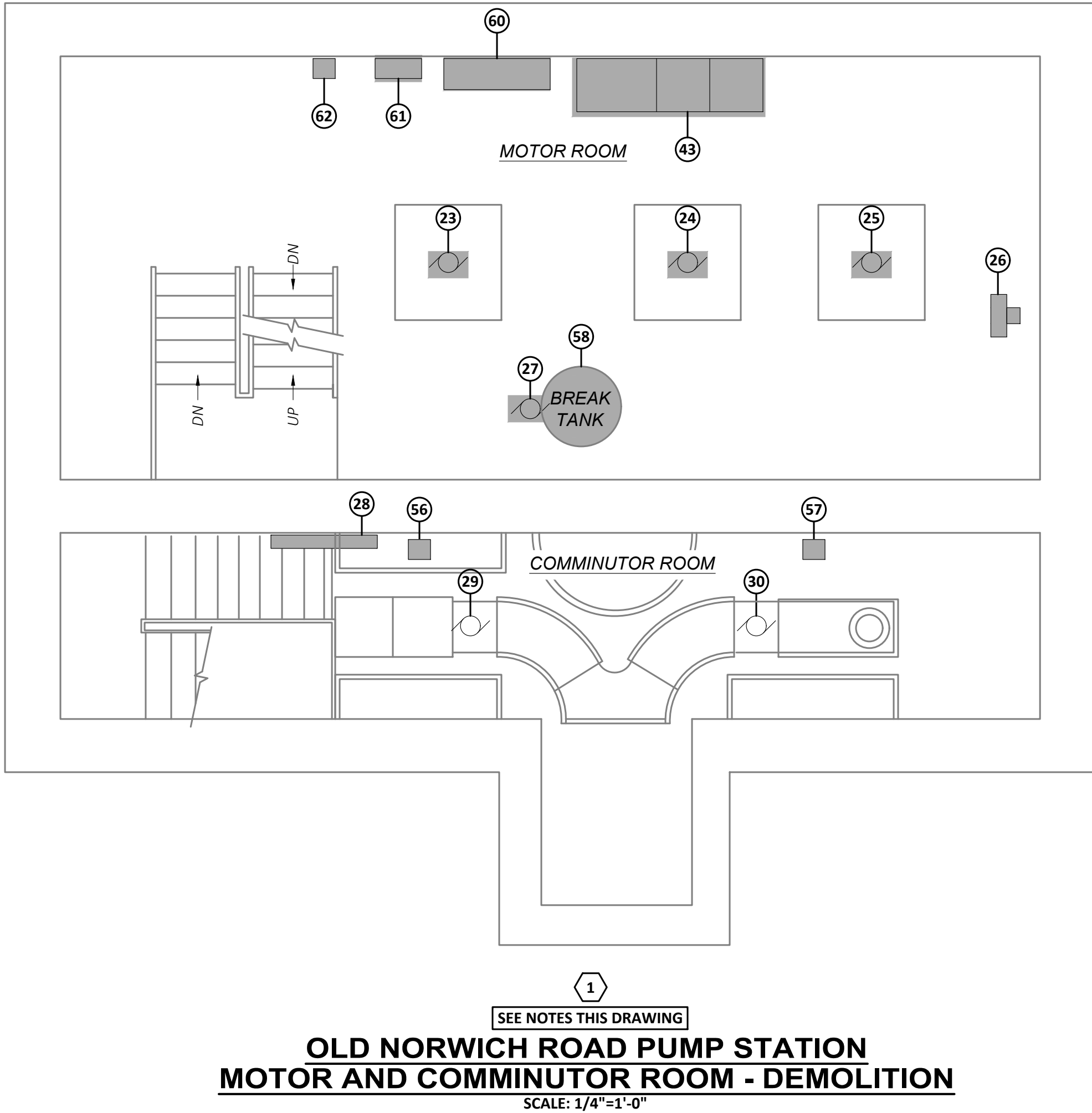
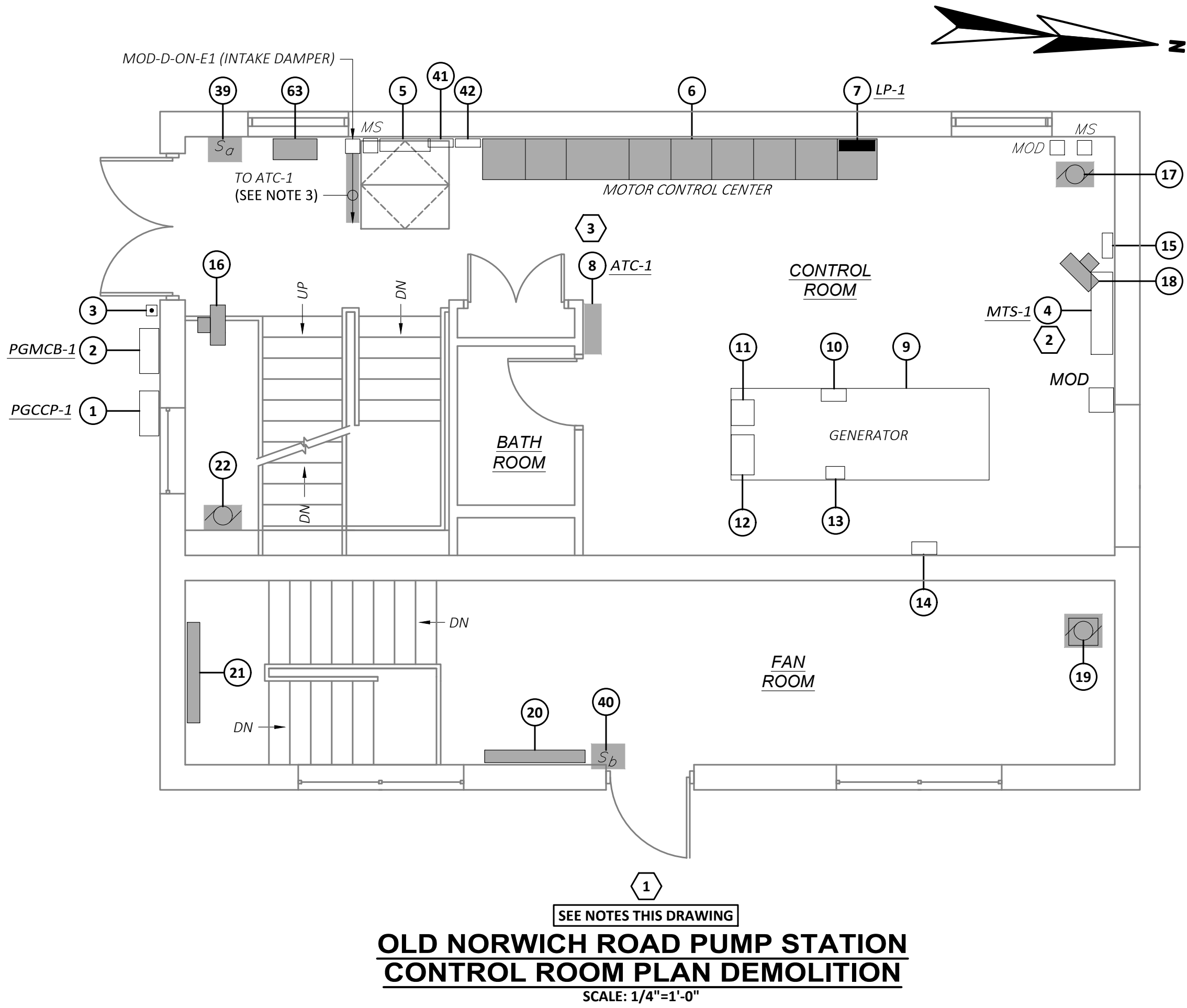
- NOTES:**
- FOR ELECTRICAL LEGEND, ABBREVIATIONS, AND ADDITIONAL GENERAL DEMOLITION NOTES AND GENERAL NOTES REFER TO DRAWINGS E-1 AND E-2.
  - INFORMATION CONTAINED ON THIS DRAWING HAS BEEN OBTAINED IN PART FROM EXISTING ELECTRICAL DRAWINGS, PHOTOGRAPHS, SITE CONDITIONS AND SHOP DRAWINGS. THE CONTRACTOR SHALL FIELD VERIFY ALL INFORMATION AND CIRCUITRY AFFECTING HIS OR HER WORK PRIOR TO COMMENCING THE WORK FOR THIS CONTRACT. THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF ANY DISCREPANCIES.

- DEMOLITION NOTES:**
- ELECTRICAL EQUIPMENT INDICATED WITH SHADING SHALL BE DISCONNECTED AND REMOVED IN ITS ENTIRETY FOR A COMPLETE DEMOLITION. REFER TO NOTE 1 THIS DRAWING.
  - ELECTRICAL EQUIPMENT INDICATED SHALL REMAIN AND BE MODIFIED AS SHOWN AND NOTED ON THE MODIFICATION DRAWINGS.

- EQUIPMENT LEGEND:**
- PENDANT OR SURFACE MOUNTED LIGHT FIXTURE - TO BE REMOVED
  - EXTERIOR WALL MOUNTED LIGHT FIXTURE - TO BE REMOVED
  - INTERIOR WALL MOUNTED LIGHT FIXTURE - TO BE REMOVED
  - EXPLOSION PROOF RECEPTACLE - TO BE MODIFIED

| DRAWING                                                                        |  | REVISIONS                     |   | APPD | DATE |
|--------------------------------------------------------------------------------|--|-------------------------------|---|------|------|
| WATERFORD UTILITY COMMISSION<br>OLD NORWICH ROAD<br>SEWER PUMP STATION UPGRADE |  | NO                            | Δ |      |      |
|                                                                                |  | Δ                             |   |      |      |
|                                                                                |  | Δ                             |   |      |      |
|                                                                                |  | Δ                             |   |      |      |
|                                                                                |  | Δ                             |   |      |      |
| OLD NORWICH ROAD PUMP STATION<br>ELECTRICAL LIGHTING PLAN - DEMOLITION         |  | PROJECT NO: 21490             |   |      |      |
|                                                                                |  | DESIGNED: S. CONWAY           |   |      |      |
|                                                                                |  | CAD COORD: ELAIGNER           |   |      |      |
|                                                                                |  | CAD: K. NIEVES                |   |      |      |
|                                                                                |  | CHECKED: A. DANIELLO          |   |      |      |
| WRIGHT-PIERCE                                                                  |  | DATE: JUNE 2023               |   |      |      |
|                                                                                |  | APPROVED: S. CONWAY           |   |      |      |
|                                                                                |  | DATE: JUNE 2023               |   |      |      |
|                                                                                |  | SUBMISSION: CONTRACT DRAWINGS |   |      |      |
|                                                                                |  | 6/29/2023                     |   |      |      |





NOTES:

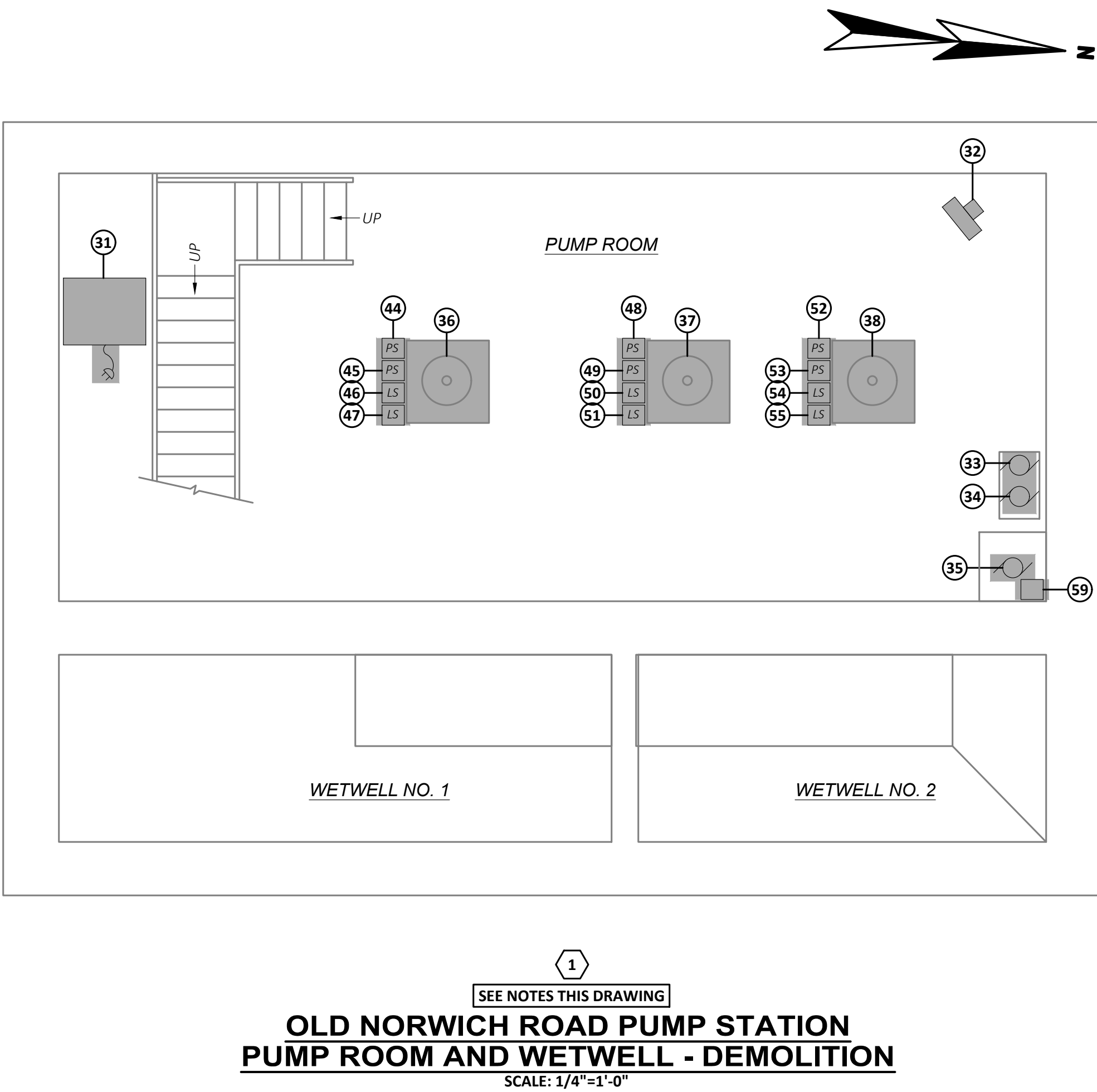
- FOR ELECTRICAL LEGEND, ABBREVIATIONS, AND ADDITIONAL GENERAL DEMOLITION NOTES AND GENERAL NOTES REFER TO DRAWINGS E-1 AND E-2.
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- THE EXISTING INTAKE DAMPER PROVIDES COOLING AND COMBUSTION AIR TO THE EXISTING GENERATOR. ANY EXISTING CONDUIT AND WIRING PRESENTLY INSTALLED FOR THIS APPLICATION SHALL REMAIN. ONLY DEMOLISH THE EXISTING CONDUIT AND WIRING THAT IS PRESENTLY INSTALLED TO EXISTING ATC-1 CONTROL PANEL.
- DISCONNECT AND REMOVE THE EXISTING CONTROL ROOM LIGHT SWITCH AND INSTALL A NEW LIGHT SWITCH AS SHOWN ON THE MODIFICATION DRAWINGS.
- DISCONNECT AND REMOVE THE EXISTING FAN ROOM / WETWELL AREA LIGHT SWITCH AND INSTALL A NEW LIGHT SWITCH AS SHOWN ON THE MODIFICATION DRAWINGS.

DEMOLITION NOTES:

- ELECTRICAL EQUIPMENT INDICATED WITH SHADING SHALL BE DISCONNECTED AND REMOVED IN ITS ENTIRETY FOR A COMPLETE DEMOLITION. REFER TO NOTE 1 THIS DRAWING.
- ELECTRICAL EQUIPMENT INDICATED SHALL REMAIN AND BE MODIFIED AS SHOWN AND NOTED ON THE MODIFICATION DRAWINGS.
- DISCONNECT AND REMOVE THE EXISTING CONDUIT AND WIRING THAT IS CONNECTED TO THE EXISTING ATC-1 CONTROL PANEL AND RECONNECT TO THE NEW ATC-ON1 CONTROL PANEL. REFER TO THE MODIFICATION DRAWINGS FOR ADDITIONAL REQUIREMENTS.

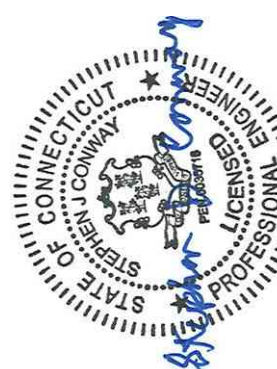
EQUIPMENT LEGEND:

- PORTABLE GENERATOR CABLE CONNECTION PANEL "PGCCP-1"
- PORTABLE GENERATOR MAIN CIRCUIT BREAKER "PGMCB-1"
- EMERGENCY GENERATOR EMERGENCY STOP PUSHBUTTON
- PORTABLE GENERATOR MANUAL TRANSFER SWITCH "MTS-1", 400 AMPERE, 3 POLE
- TELEMETRY CONTROL PANEL **TO BE MODIFIED**
- MOTOR CONTROL CENTER **TO BE REMOVED**
- PANELBOARD LP-1 **TO BE REMOVED**
- AUTOMATIC TEMPERATURE CONTROL PANEL "ATC-1" **TO BE REMOVED**
- 225 KW, 277/480V, 3 PHASE, 4 WIRE EMERGENCY GENERATOR - **SEE NOTE 3**
- EMERGENCY GENERATOR BATTERY
- EMERGENCY GENERATOR MAIN CIRCUIT BREAKER
- EMERGENCY GENERATOR CONTROL PANEL GCP-1 - **SEE NOTE 3**
- EMERGENCY GENERATOR BLOCK HEATER
- EMERGENCY GENERATOR BATTERY CHARGER
- LEAK DETECTION PANEL
- ELECTRIC UNIT HEATER **TO BE REMOVED**
- EXHAUST FAN **TO BE REMOVED**
- ELECTRIC UNIT HEATER **TO BE REMOVED**
- EXHAUST FAN **TO BE REMOVED**
- CONVECTOR **TO BE REMOVED**
- CONVECTOR **TO BE REMOVED**
- EXHAUST FAN **TO BE REMOVED**
- PUMP MOTOR NO. 1 **TO BE REMOVED**
- PUMP MOTOR NO. 2 **TO BE REMOVED**
- PUMP MOTOR NO. 3 **TO BE REMOVED**
- ELECTRIC UNIT HEATER **TO BE REMOVED**
- PLANT WATER PUMP **TO BE REPLACED**
- CONVECTOR **TO BE REMOVED**
- COMMUNINUTOR NO. 1
- COMMUNINUTOR NO. 2
- DEHUMIDIFIER **TO BE REMOVED**
- ELECTRIC UNIT HEATER **TO BE REMOVED**
- AIR COMPRESSOR MOTOR NO. 1 **TO BE REMOVED**
- AIR COMPRESSOR MOTOR NO. 2 **TO BE REMOVED**
- SUMP PUMP **TO BE REMOVED**
- PUMP NO. 1 **TO BE REMOVED**
- PUMP NO. 2 **TO BE REMOVED**
- PUMP NO. 3 **TO BE REMOVED**
- CONTROL ROOM LIGHT SWITCH **TO BE REMOVED - SEE NOTE 4**
- FAN ROOM / WETWELL AREA LIGHT SWITCH **TO BE REMOVED - SEE NOTE 5**
- WETWELL GAS DETECTION CONTROL PANEL **TO BE MODIFIED**
- DRYWELL GAS DETECTION LOCAL DISPLAY CONTROL PANEL **TO BE MODIFIED**
- SEWAGE PUMP VARIABLE SPEED CONTROL PANEL **TO BE REMOVED**
- PUMP NO. 1 SEAL WATER PRESSURE SWITCH AND SOLENOID **TO BE REMOVED**
- PUMP NO. 1 DISCHARGE PRESSURE SWITCH **TO BE REMOVED**
- PUMP NO. 1 CHECK VALVE LIMIT SWITCH AND SOLENOID VALVE **TO BE REMOVED**
- PUMP NO. 1 CHECK VALVE LIMIT SWITCH AND SOLENOID VALVE **TO BE REMOVED**
- PUMP NO. 2 SEAL WATER PRESSURE SWITCH AND SOLENOID **TO BE REMOVED**
- PUMP NO. 2 DISCHARGE PRESSURE SWITCH **TO BE REMOVED**
- PUMP NO. 2 CHECK VALVE LIMIT SWITCH AND SOLENOID VALVE **TO BE REMOVED**
- PUMP NO. 2 CHECK VALVE LIMIT SWITCH AND SOLENOID VALVE **TO BE REMOVED**
- PUMP NO. 3 SEAL WATER PRESSURE SWITCH AND SOLENOID **TO BE REMOVED**
- PUMP NO. 3 DISCHARGE PRESSURE SWITCH **TO BE REMOVED**
- PUMP NO. 3 CHECK VALVE LIMIT SWITCH AND SOLENOID VALVE **TO BE REMOVED**
- PUMP NO. 3 CHECK VALVE LIMIT SWITCH AND SOLENOID VALVE **TO BE REMOVED**
- WETWELL LEVEL SENSOR AND TRANSMITTER **TO BE REMOVED**
- WETWELL LEVEL SENSOR AND TRANSMITTER **TO BE REMOVED**
- BREAK TANK **TO BE REMOVED**
- FLOOD FLOAT SWITCH **TO BE REMOVED**
- PUMP CONTROL PANEL **TO BE REMOVED**
- PUMP CONTROL PANEL WITH PLC **TO BE REMOVED**
- ULTRASONIC FLOW TRANSMITTER **TO BE REMOVED**
- OIT PANEL **TO BE REMOVED**



| NO | REVISIONS | APPD | DATE |
|----|-----------|------|------|
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|                   |                     |                     |                |                     |                 |                     |                 |                               |
|-------------------|---------------------|---------------------|----------------|---------------------|-----------------|---------------------|-----------------|-------------------------------|
| PROJECT NO: 21490 | DESIGNED: S. CONWAY | CAD COORD: ELAIGNER | CAD: K. NIEVES | CHECKED: A. DAMELIO | DATE: JUNE 2023 | APPROVED: S. CONWAY | DATE: JUNE 2023 | SUBMISSION: CONTRACT DRAWINGS |
|-------------------|---------------------|---------------------|----------------|---------------------|-----------------|---------------------|-----------------|-------------------------------|

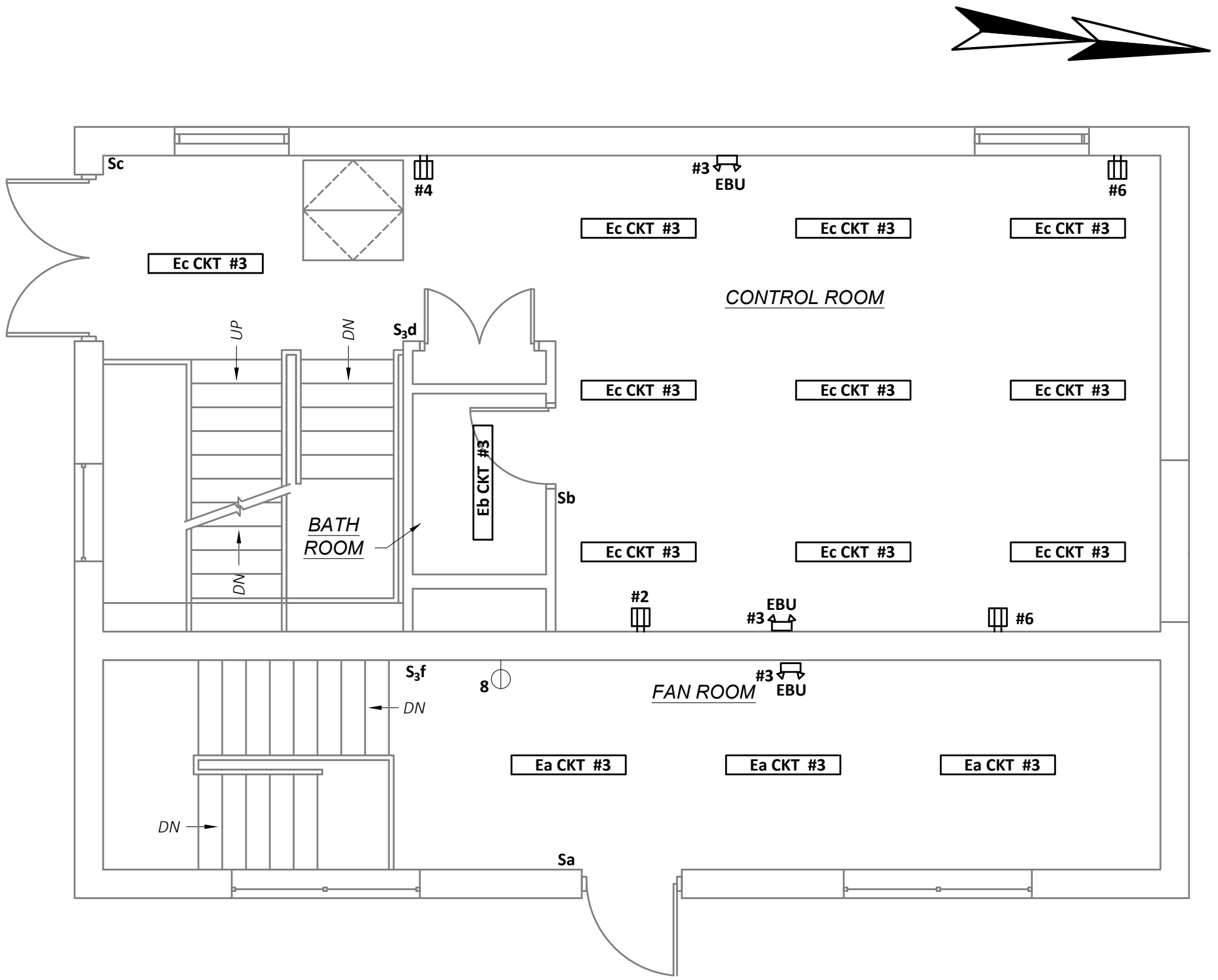


6/29/2023

|                                                                                |                                                             |
|--------------------------------------------------------------------------------|-------------------------------------------------------------|
| WATERFORD UTILITY COMMISSION<br>OLD NORWICH ROAD<br>SEWER PUMP STATION UPGRADE | OLD NORWICH ROAD PUMP STATION<br>ELECTRICAL DEMOLITION PLAN |
|                                                                                |                                                             |

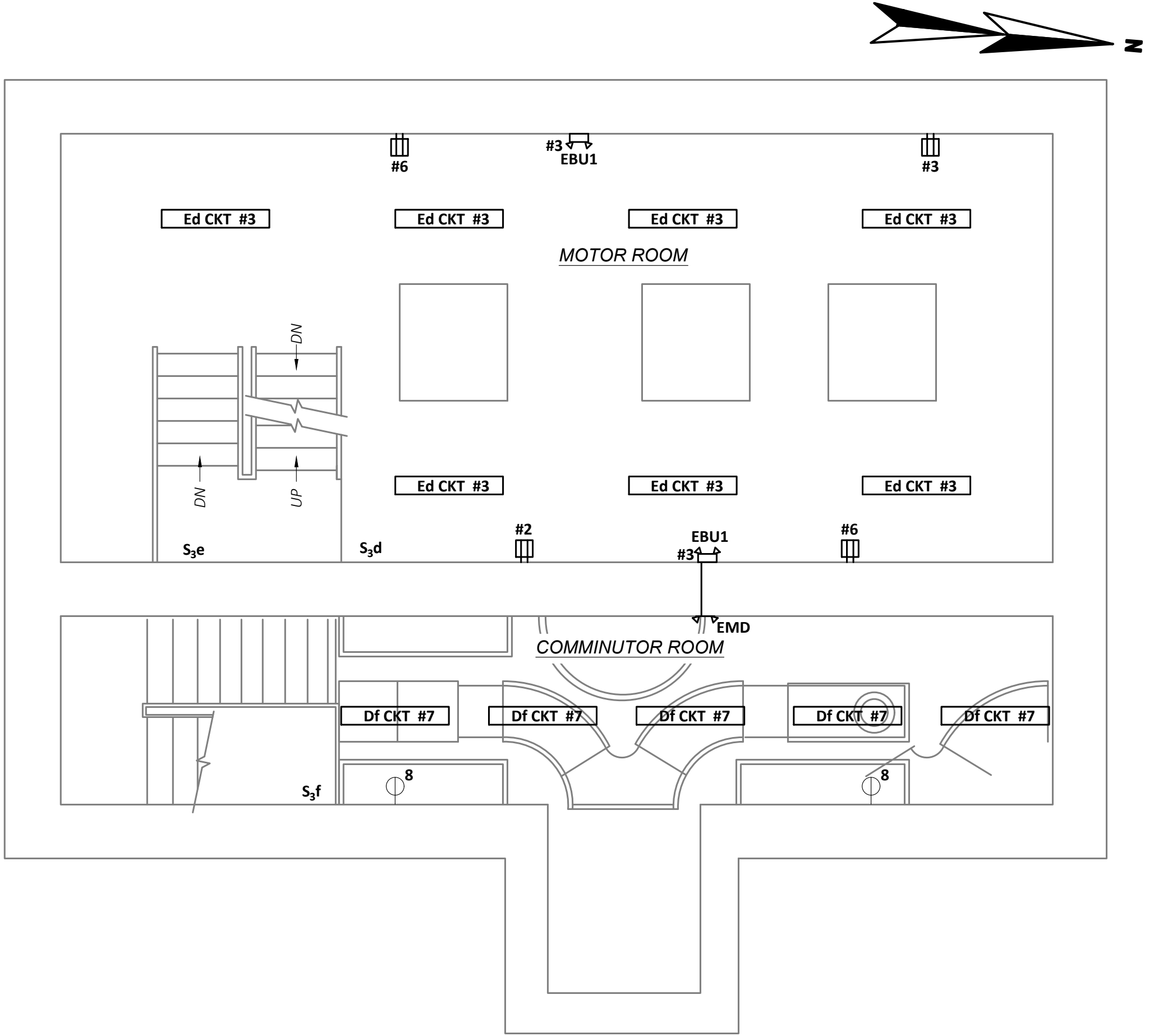
|         |     |
|---------|-----|
| DRAWING | E-7 |
|---------|-----|





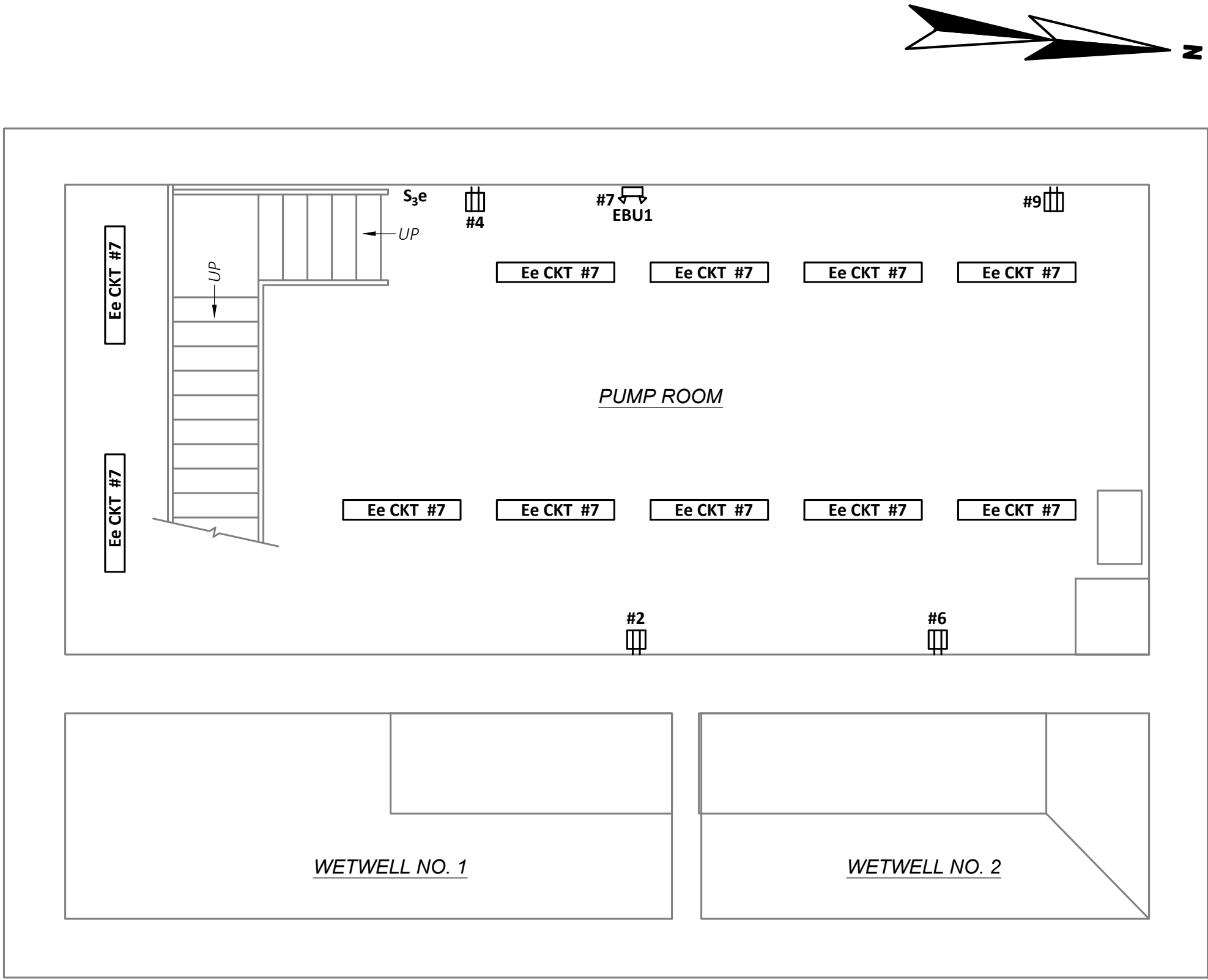
SEE NOTES THIS DRAWING

**OLD NORWICH ROAD PUMP STATION**  
**CONTROL ROOM PLAN MODIFICATION**  
SCALE: 1/4"=1'-0"



SEE NOTES THIS DRAWING

**OLD NORWICH ROAD PUMP STATION**  
**MOTOR AND COMMUNOTOR ROOM - MODIFICATION**  
SCALE: 1/4"=1'-0"



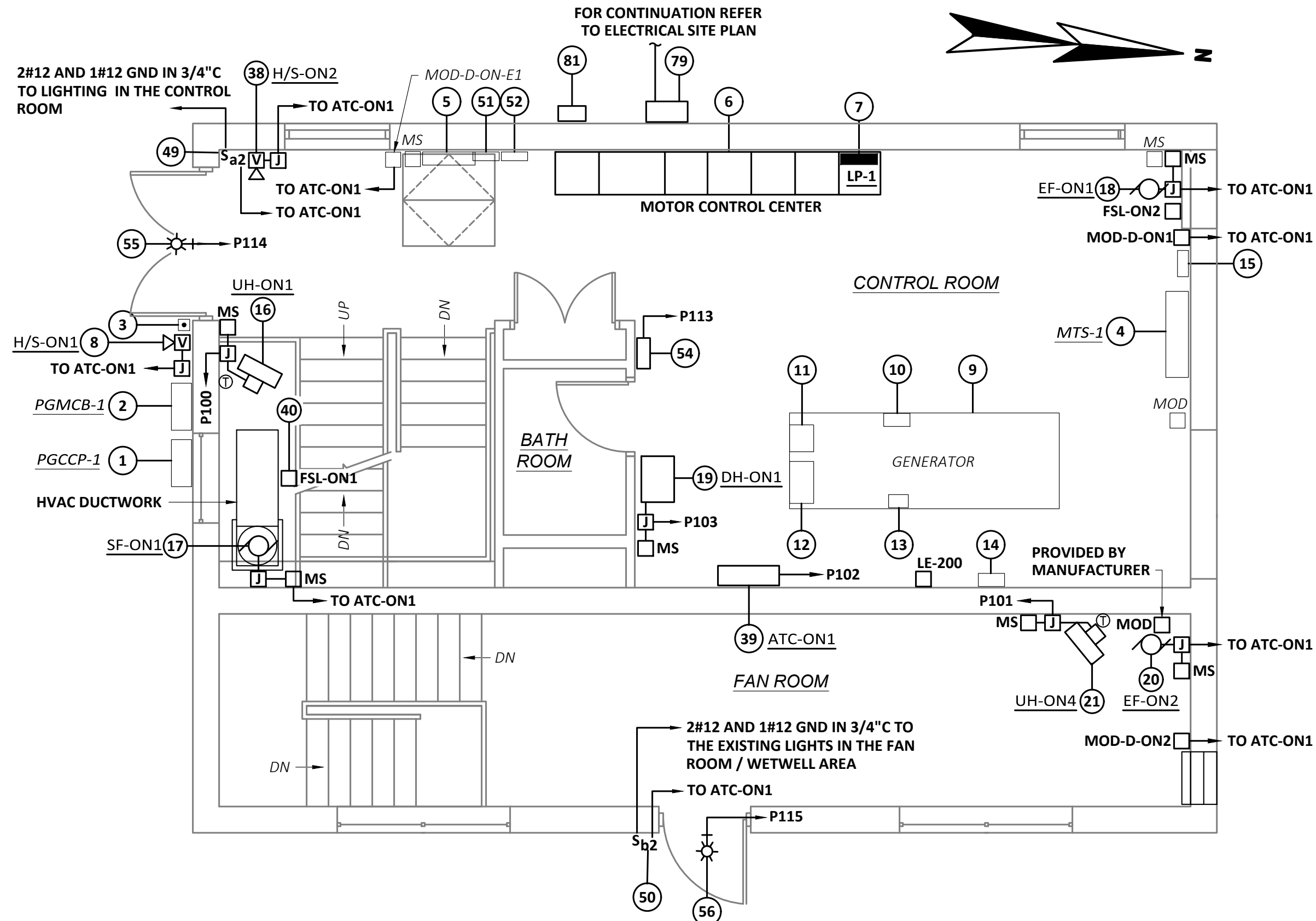
SEE NOTES THIS DRAWING

**OLD NORWICH ROAD PUMP STATION**  
**PUMP ROOM AND WETWELL - MODIFICATION**  
SCALE: 1/4"=1'-0"

- NOTES:**
- FOR ELECTRICAL LEGEND, ABBREVIATIONS AND NOTES, REFER TO DRAWINGS E-1 AND E-2.
  - FOR INFORMATION REGARDING CONDUIT AND WIRING REQUIREMENTS, REFER TO GENERAL NOTES ON DRAWING E-2.
  - CIRCUIT NUMBERS INDICATED ON THIS DRAWING REFER TO PANELBOARD LP-1, UNLESS OTHERWISE NOTED.

| DRAWING                                                                        |  | REVISIONS                     |   | APPD | DATE |
|--------------------------------------------------------------------------------|--|-------------------------------|---|------|------|
| WATERFORD UTILITY COMMISSION<br>OLD NORWICH ROAD<br>SEWER PUMP STATION UPGRADE |  | NO                            | Δ |      |      |
|                                                                                |  | Δ                             |   |      |      |
|                                                                                |  | Δ                             |   |      |      |
|                                                                                |  | Δ                             |   |      |      |
|                                                                                |  | Δ                             |   |      |      |
| OLD NORWICH ROAD PUMP STATION<br>ELECTRICAL LIGHTING PLAN - MODIFICATION       |  | PROJECT NO: 21499             |   |      |      |
|                                                                                |  | DESIGNED: S. CONWAY           |   |      |      |
|                                                                                |  | CAD COORD: ELAIGNER           |   |      |      |
|                                                                                |  | CAD: K. NIEVES                |   |      |      |
|                                                                                |  | CHECKED: A. DANIELLO          |   |      |      |
|                                                                                |  | DATE: JUNE 2023               |   |      |      |
|                                                                                |  | APPROVED: S. CONWAY           |   |      |      |
|                                                                                |  | DATE: JUNE 2023               |   |      |      |
|                                                                                |  | SUBMISSION: CONTRACT DRAWINGS |   |      |      |
|                                                                                |  |                               |   |      |      |

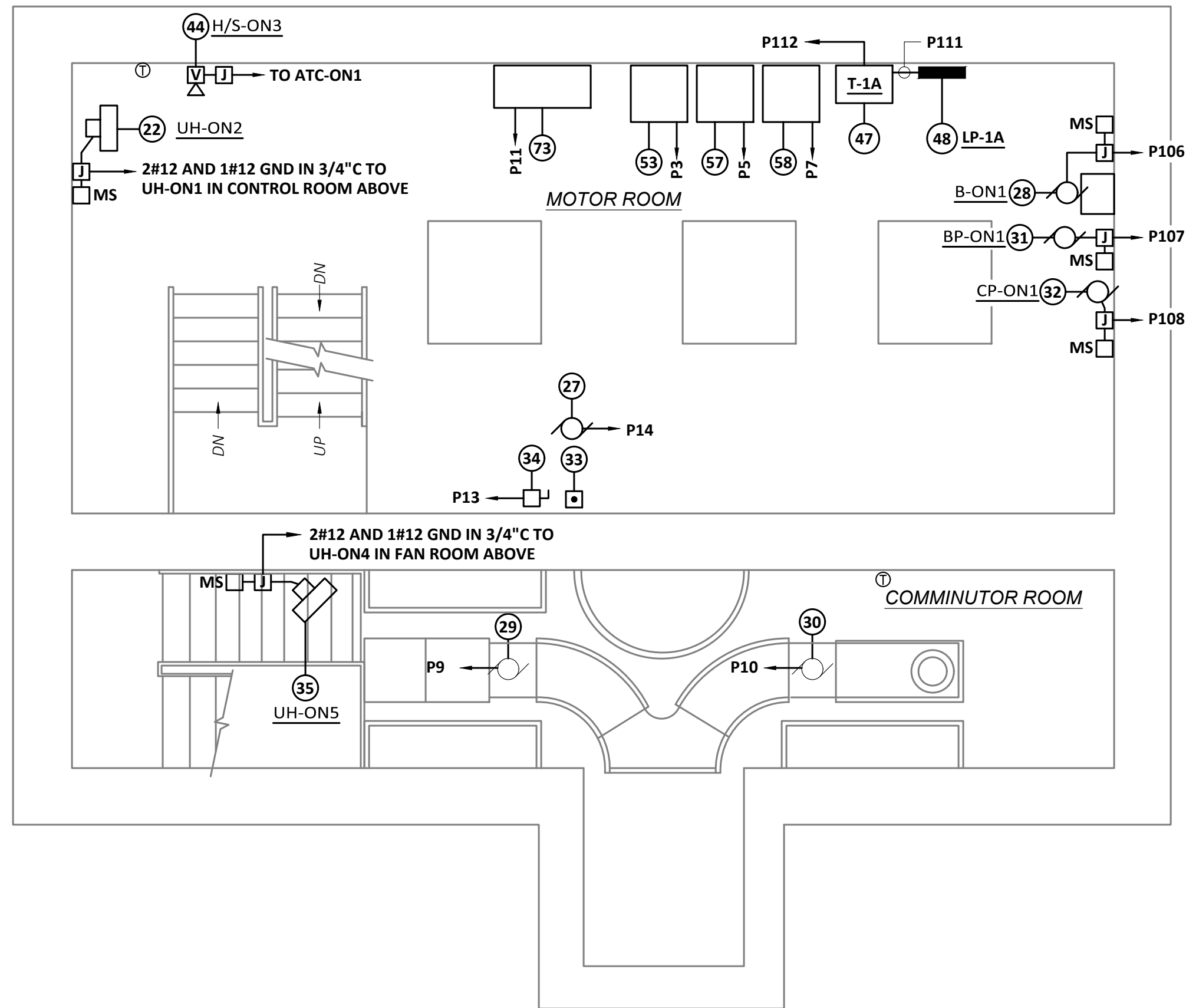




**SEE NOTES THIS DRAWING**

## **OLD NORWICH ROAD PUMP STATION CONTROL ROOM PLAN - MODIFICATIONS**

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



**SEE NOTES THIS DRAWING**

## OLD NORWICH ROAD PUMP STATION MOTOR AND COMMUNUTOR ROOM - MODIFICATIONS

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

**NOTES:**

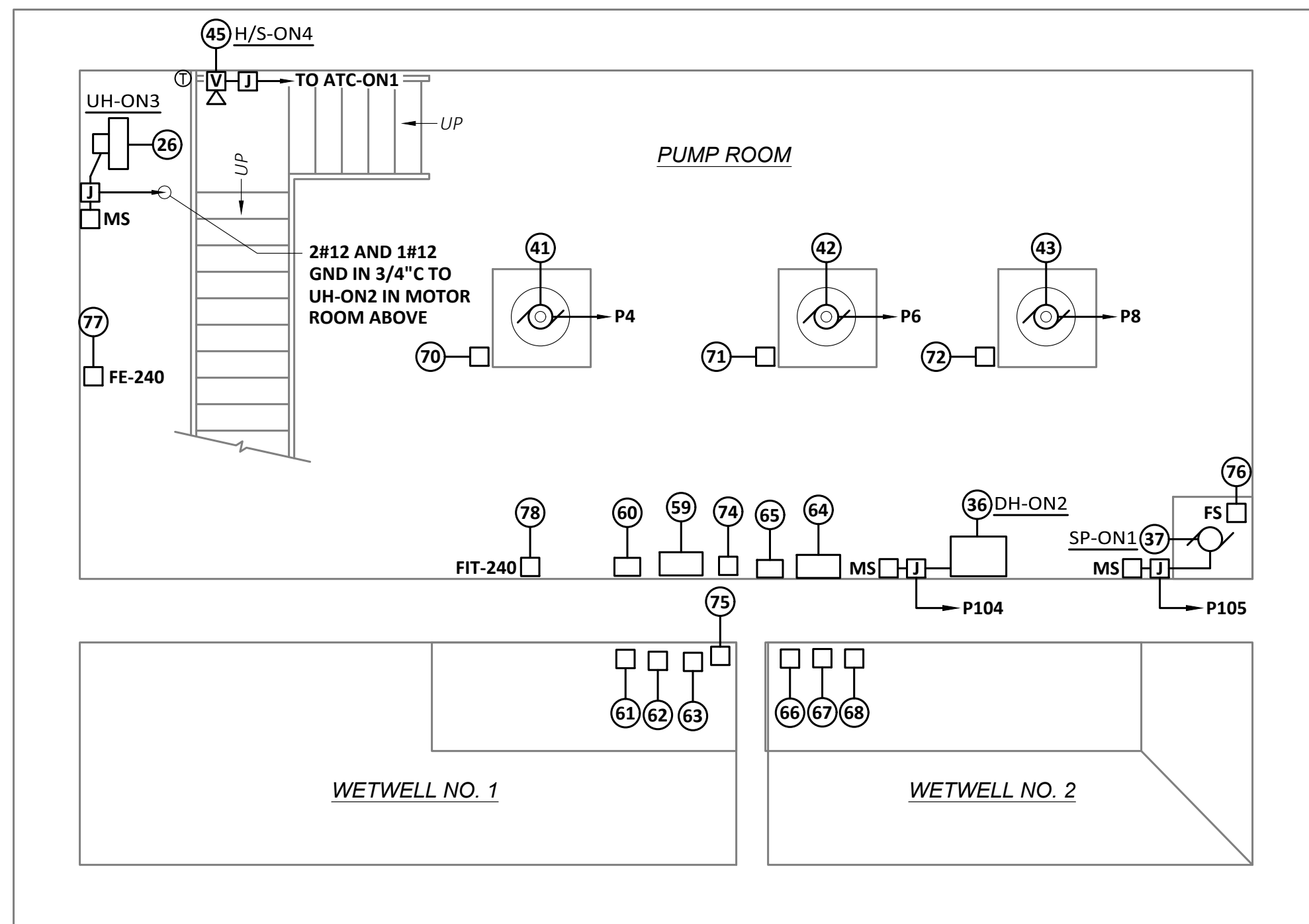
1. FOR ELECTRICAL LEGEND, ABBREVIATIONS, AND ADDITIONAL GENERAL DEMOLITION NOTES AND GENERAL NOTES REFER TO DRAWINGS E-1 AND E-2.
2. INFORMATION CONTAINED ON THIS DRAWING HAS BEEN OBTAINED IN PART FROM EXISTING ELECTRICAL DRAWINGS, PHOTOGRAPHS, SITE CONDITIONS AND SHOP DRAWINGS. THE CONTRACTOR SHALL FIELD VERIFY ALL INFORMATION AND CIRCUITRY AFFECTING HIS OR HER WORK PRIOR TO COMMENCING THE WORK FOR THIS CONTRACT. THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF ANY DISCREPANCIES.
3. REFER TO THE SINGLE-LINE DIAGRAM FOR ADDITIONAL INFORMATION AND REQUIREMENTS FOR THE EQUIPMENT.
4. PROVIDE A HAZARDOUS LEAD GAS DETECTED WARNING LIGHT AS INDICATED. PROVIDE A LARGE LAMACOID WARNING SIGN TO READ "WARNING - HAZARDOUS GAS PRESENT - DO NOT ENTER".
5. THE CONTRACTOR SHALL BE RESPONSIBLE TO RE-FEED ALL EXISTING CIRCUITS TO REMAIN BASED UPON THE ORIGINAL PANELBOARD CIRCUITS. REFER TO EXISTING PANELBOARD SCHEDULE AND DRAWINGS. PROVIDE ALL NEW CONDUIT AND WIRING TO RECONNECT CIRCUITS FROM THE CLOSEST POINT, SPLICES ARE NOT ALLOWED.

**EQUIPMENT LEGEND CONTINUED:**

- |    |                                                     |
|----|-----------------------------------------------------|
| 66 | WETWELL NO. 2 LEVEL ELEMENT/TRANSMITTER (LE/LT-222) |
| 67 | WETWELL NO. 2 HIGH LEVEL FLOAT SWITCH (LSHH-222)    |
| 68 | WETWELL NO. 2 LOW LEVEL FLOAT SWITCH (LSLL-222)     |
| 69 | NOT USED                                            |
| 70 | PUMP NO. 1 CHECK VALVE LS ZS-230                    |
| 71 | PUMP NO. 2 CHECK VALVE LS ZS-231                    |
| 72 | PUMP NO. 3 CHECK VALVE LS ZS-232                    |
| 73 | PUMP CONTROL PANEL WITH LPC PCP                     |
| 74 | DRYWELL TEMPERATURE TRANSMITTER TIT-151B            |
| 75 | WETWELL TEMPERATURE TRANSMITTER TIT-515A            |
| 76 | FLOOD ALARM FLOAT SWITCH YS-250A                    |
| 77 | MAGNETIC FLOW METER FE-240                          |
| 78 | FLOW TRANSMITTER FIT-240                            |
| 79 | MAIN CIRCUIT BREAKER MCB-1                          |
| 80 | NOT USED                                            |
| 81 | UTILITY KILOWATT HOUR METER                         |

**EQUIPMENT LEGEND:**

- (1) PORTABLE GENERATOR CABLE CONNECTION PANEL "PGCCP-1"
  - (2) PORTABLE GENERATOR MAIN CIRCUIT BREAKER "PGMCB-1"
  - (3) EMERGENCY GENERATOR EMERGENCY STOP PUSHBUTTON
  - (4) MODIFIED PORTABLE GENERATOR MANUAL TRANSFER SWITCH "MTS-1", 400 AMPERE, 3 POLE
  - (5) MODIFIED TELEMETRY CONTROL PANEL
  - (6) MOTOR CONTROL CENTER MCC - SEE NOTE 3
  - (7) PANELBOARD LP-1 LOCATED WITHIN MCC - SEE NOTE 5
  - (8) ALARM LIGHT AND HORN H/S-ON1
  - (9) 225 KW, 277/480V, 3 PHASE, 4 WIRE EMERGENCY GENERATOR
  - (10) EMERGENCY GENERATOR BATTERY
  - (11) EMERGENCY GENERATOR MAIN CIRCUIT BREAKER
  - (12) EMERGENCY GENERATOR CONTROL PANEL GCP-1
  - (13) EMERGENCY GENERATOR BLOCK HEATER
  - (14) EMERGENCY GENERATOR BATTERY CHARGER
  - (15) LEAK DETECTION PANEL
  - (16) HYDRONIC UNIT HEATER UH-ON1
  - (17) SUPPLY FAN SF-ON1
  - (18) EXHAUST FAN EF-ON1
  - (19) DEHUMIDIFIER DH-ON1
  - (20) EXHAUST FAN EF-ON2
  - (21) HYDRONIC UNIT HEATER UH-ON4
  - (22) HYDRONIC UNIT HEATER UH-ON2
  - (23) NOT USED
  - (24) NOT USED
  - (25) NOT USED
  - (26) HYDRONIC UNIT HEATER UH-ON3
  - (27) PLANT WATER BOOSTER PUMP
  - (28) BOILER B-ON1
  - (29) COMMUNINUTOR NO. 1
  - (30) COMMUNINUTOR NO. 2
  - (31) BOILER PUMP BP-ON1
  - (32) CIRCULATING PUMP CP-ON1
  - (33) PLANT WATER PUMP CONTROL STATION
  - (34) PLANT WATER PUMP SAFETY SWITCH
  - (35) HYDRONIC UNIT HEATER UH-ON5
  - (36) DEHUMIDIFIER DH-ON2
  - (37) SUMP PUMP SP-ON1
  - (38) ALARM LIGHT AND HORN H/S-ON2
  - (39) AUTOMATIC TEMPERATURE CONTROL PANEL ATC-ON1
  - (40) LOW AIR FLOW SWITCH FSL-ON1
  - (41) PUMP NO. 1 MOTOR AND PUMP
  - (42) PUMP NO. 2 MOTOR AND PUMP
  - (43) PUMP NO. 3 MOTOR AND PUMP
  - (44) ALARM LIGHT AND HORN H/S-ON3
  - (45) ALARM LIGHT AND HORN H/S-ON4
  - (46) NOT USED
  - (47) TRANSFORMER T-1A
  - (48) PANELBOARD LP-1A
  - (49) TWO POLE LIGHT SWITCH FOR CONTROL ROOM LIGHTS AND INTERLOCK WITH THE VENTILATION SYSTEM
  - (50) TWO POLE LIGHT SWITCH FOR FAN ROOM / WETWELL AREA LIGHTS AND INTERLOCK WITH THE VENTILATION SYSTEM
  - (51) MODIFIED WETWELL GAS DETECTION CONTROL PANEL
  - (52) MODIFIED DRYWELL GAS DETECTION LOCAL DISPLAY CONTROL PANEL
  - (53) SEWAGE PUMP 1 VARIABLE SPEED CONTROL PANEL
  - (54) GAS DETECTION RELAY CONTROL PANEL
  - (55) DRYWELL GAS DETECTION ALARM STROBE LIGHT - SEE NOTE 4
  - (56) WETWELL GAS DETECTION ALARM STROBE LIGHT - SEE NOTE 4
  - (57) SEWAGE PUMP 2 VARIABLE SPEED DRIVE
  - (58) SEWAGE PUMP 3 VARIABLE SPEED DRIVE
  - (59) INTRINSIC SAFETY BARRIER PANEL FOR (LT-221, LSL-221, LSHH-221)
  - (60) PANEL FOR LEVEL INDICATOR (LI-221)
  - (61) WETWELL NO. 1 LEVEL ELEMENT/TRANSMITTER (LE/LT-221)
  - (62) WETWELL NO. 1 HIGH LEVEL FLOAT SWITCH (LSHH-221)
  - (63) WETWELL NO. 1 LOW LEVEL FLOAT SWITCH (LSL-221)
  - (64) INTRINSIC SAFETY BARRIER PANEL FOR (LT-222, LSL-222, LSHH-222)
  - (65) PANEL FOR LEVEL INDICATOR (LI-222)



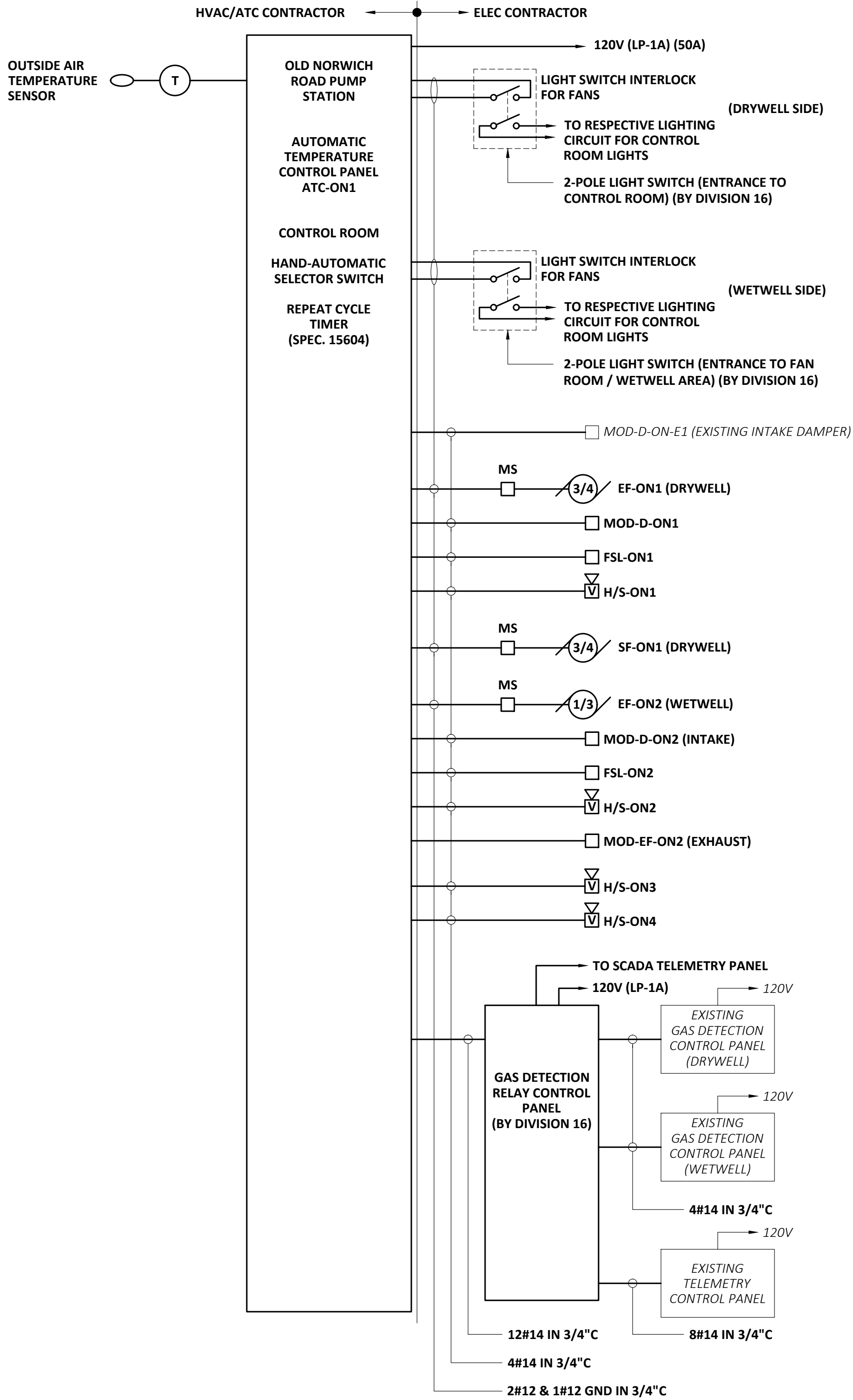
**SEE NOTES THIS DRAWING**

## OLD NORWICH ROAD PUMP STATION PUMP ROOM AND WETWELL - MODIFICATIONS

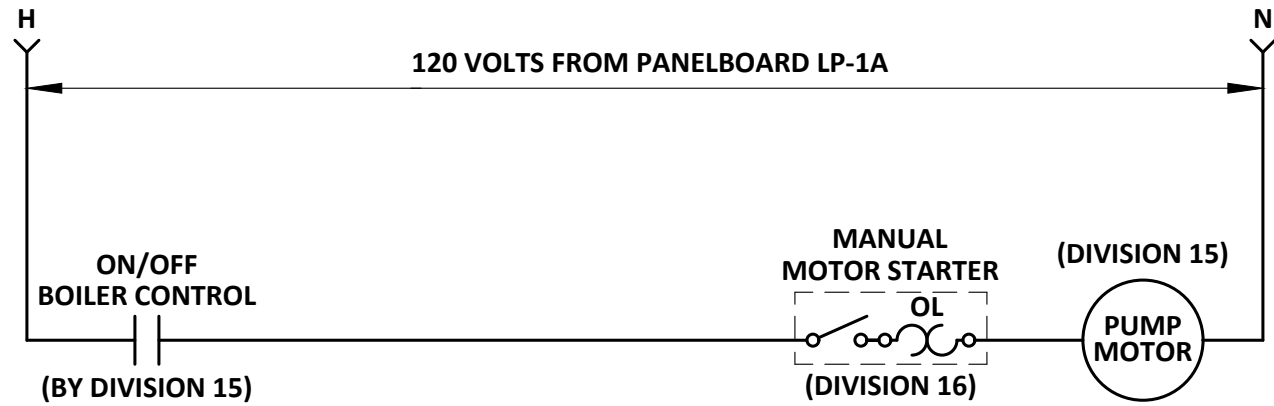
**SCALE: 1/4"=1'-0"**

|                                                                                                                                                                                      |                                                                                                                    |  |                                                                                                                                                                                                                                             |    |           |            |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------|--|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----|-----------|------------|
| <p><b>WRIGHT-PIERCE</b></p> <p>860.343.8297   <a href="http://www.wright-pierce.com">www.wright-pierce.com</a></p> <p>169 MAIN STREET, 700 PLAZA MIDDLESEX, MIDDLETOWN, CT 06457</p> | <p><b>WATERFORD UTILITY COMMISSION</b></p> <p><b>OLD NORWICH ROAD</b></p> <p><b>SEWER PUMP STATION UPGRADE</b></p> |  | <p>PROJECT NO: 214590</p> <p>DESIGNED: S.CONWAY</p> <p>CAD COORD: E.LAGNER</p> <p>CAD: K.NIEVES</p> <p>CHECKED: A.DANIELLO</p> <p>DATE: JUNE 2023</p> <p>APPROVED: S.CONWAY</p> <p>DATE: JUNE 2023</p> <p>SUBMISSION: CONTRACT DRAWINGS</p> | NO | REVISIONS | APP'D DATE |
|                                                                                                                                                                                      |                                                                                                                    |  |                                                                                                                                                                                                                                             | △  |           |            |
|                                                                                                                                                                                      |                                                                                                                    |  |                                                                                                                                                                                                                                             | △  |           |            |
|                                                                                                                                                                                      |                                                                                                                    |  |                                                                                                                                                                                                                                             | △  |           |            |
|                                                                                                                                                                                      |                                                                                                                    |  |                                                                                                                                                                                                                                             | △  |           |            |
|                                                                                                                                                                                      |                                                                                                                    |  |                                                                                                                                                                                                                                             | △  |           |            |

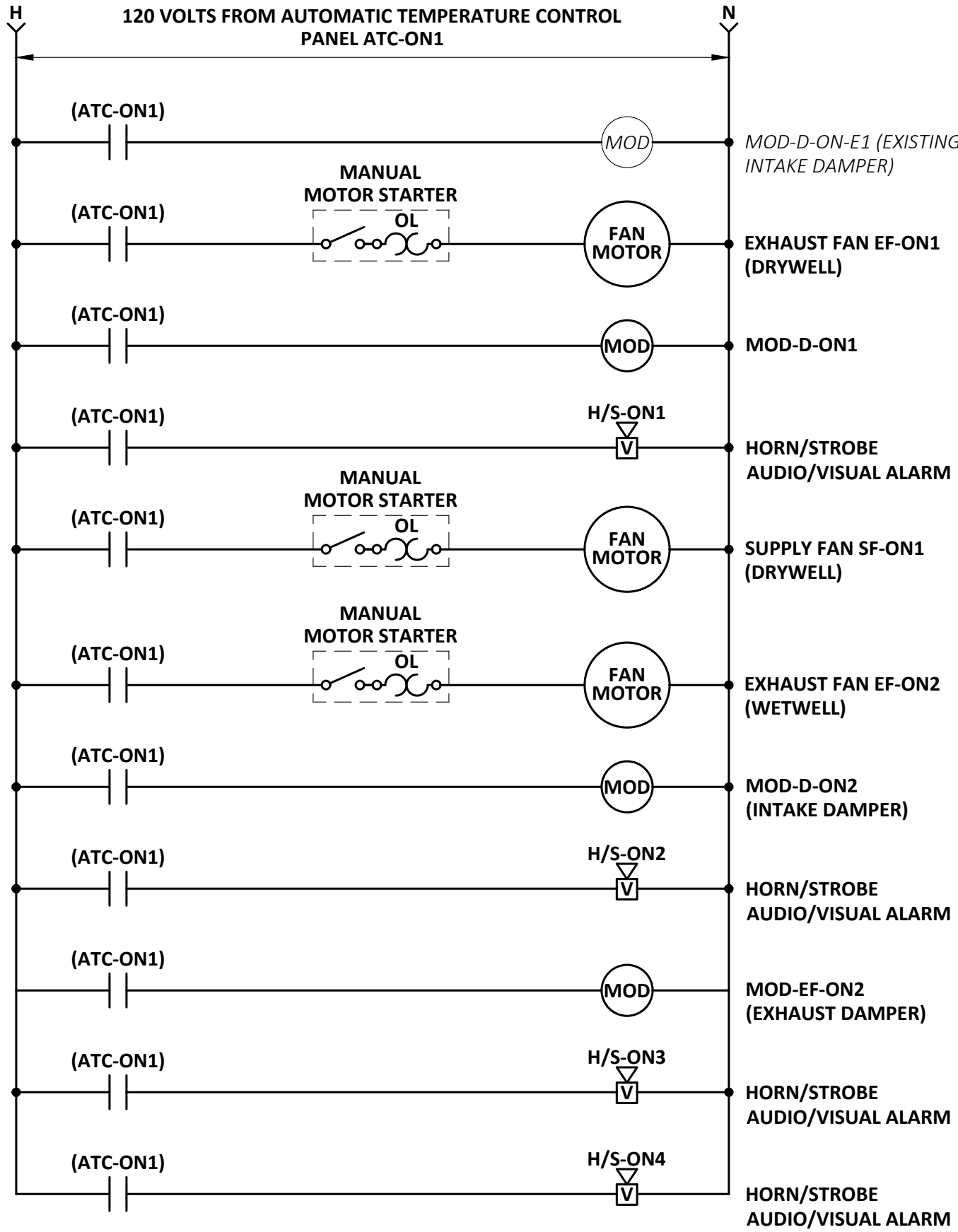




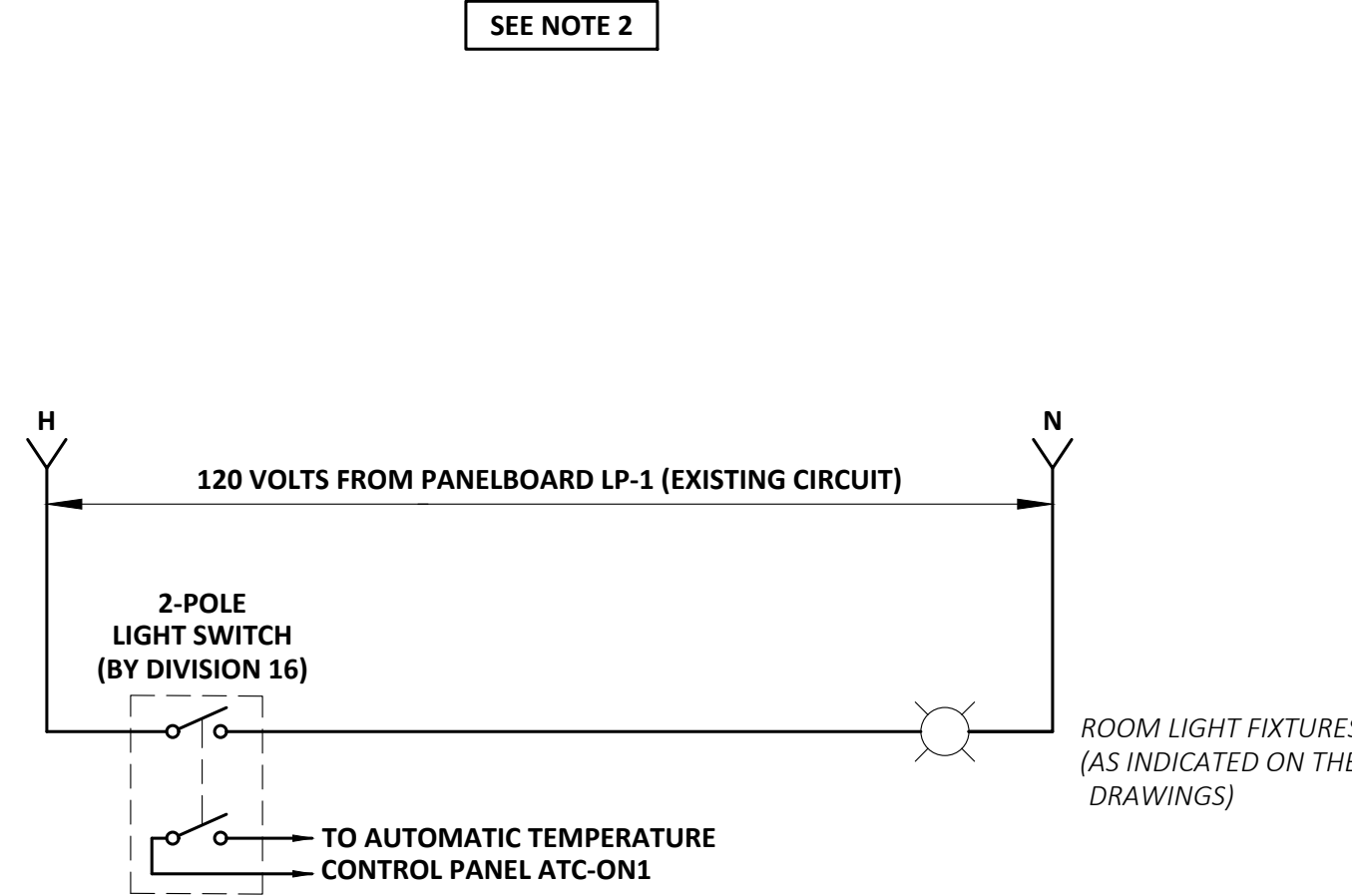
OLD NORWICH ROAD PUMP STATION  
H&V WIRING DIAGRAM



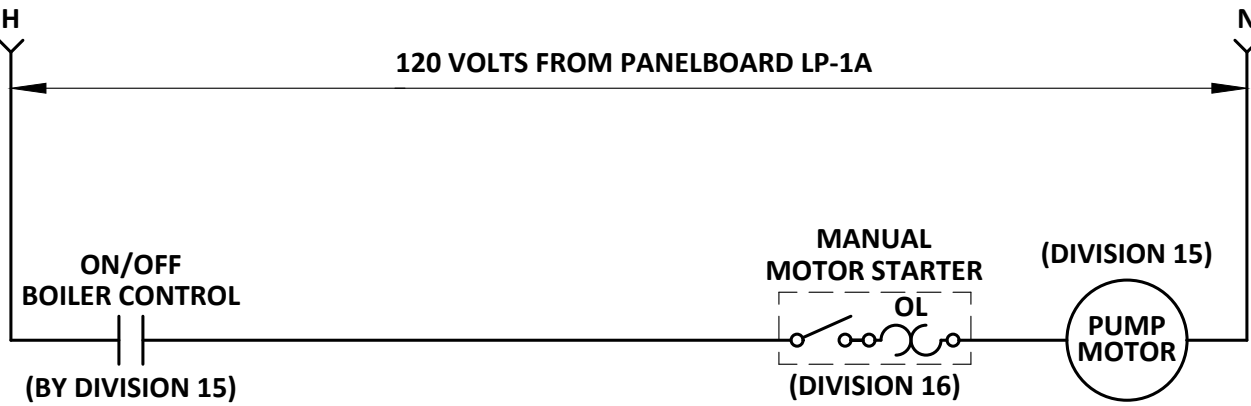
SCHEMATIC DIAGRAM  
CIRCULATION PUMP CP-ON1



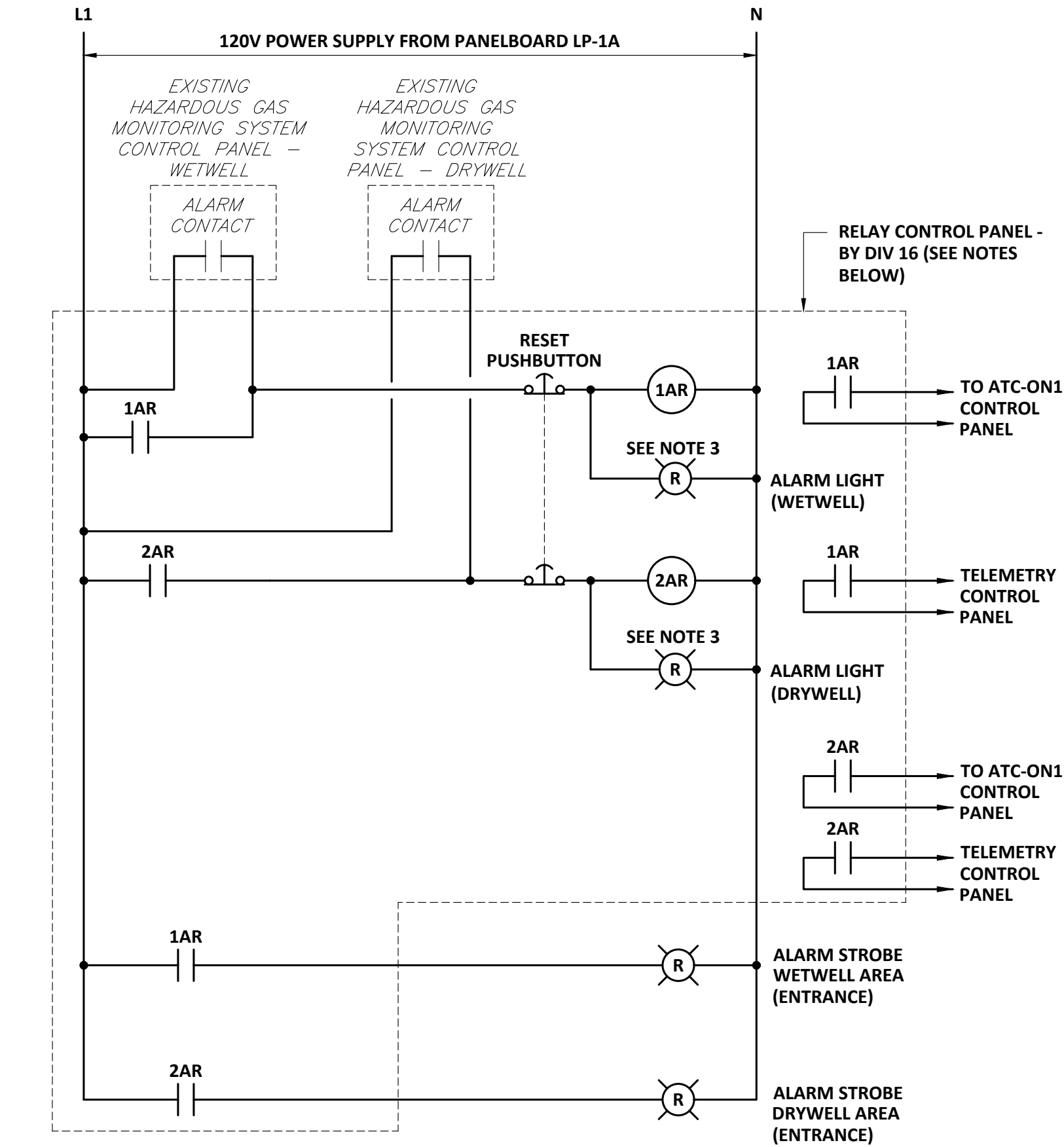
PARTIAL SCHEMATIC DIAGRAM  
EXHAUST FANS EF-ON1 (DRYWELL), EF-ON2 (WETWELL)  
AND SUPPLY FAN SF-ON1 (DRYWELL)



TYPICAL SCHEMATIC DIAGRAM  
LIGHTING AND VENTILATION INTERLOCKING

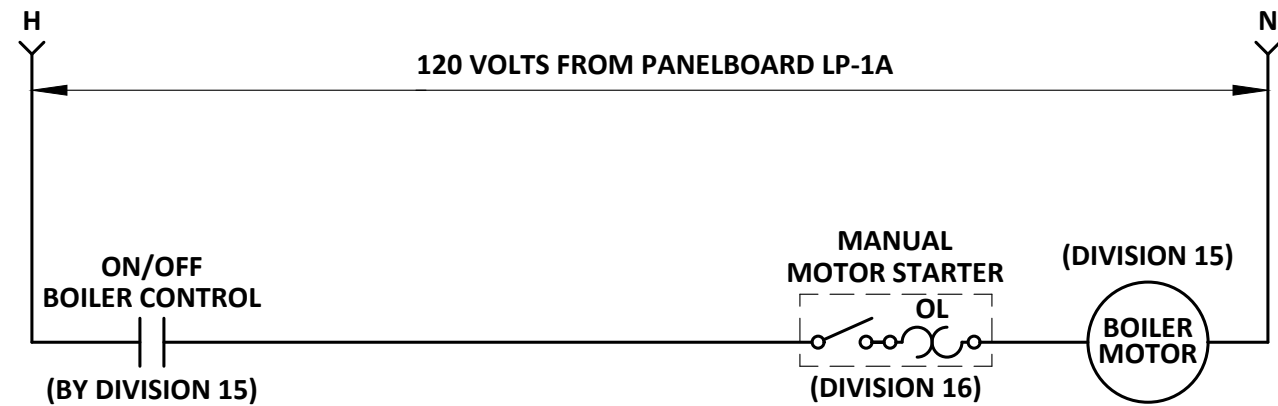


SCHEMATIC DIAGRAM  
BOILER PUMP BP-ON1

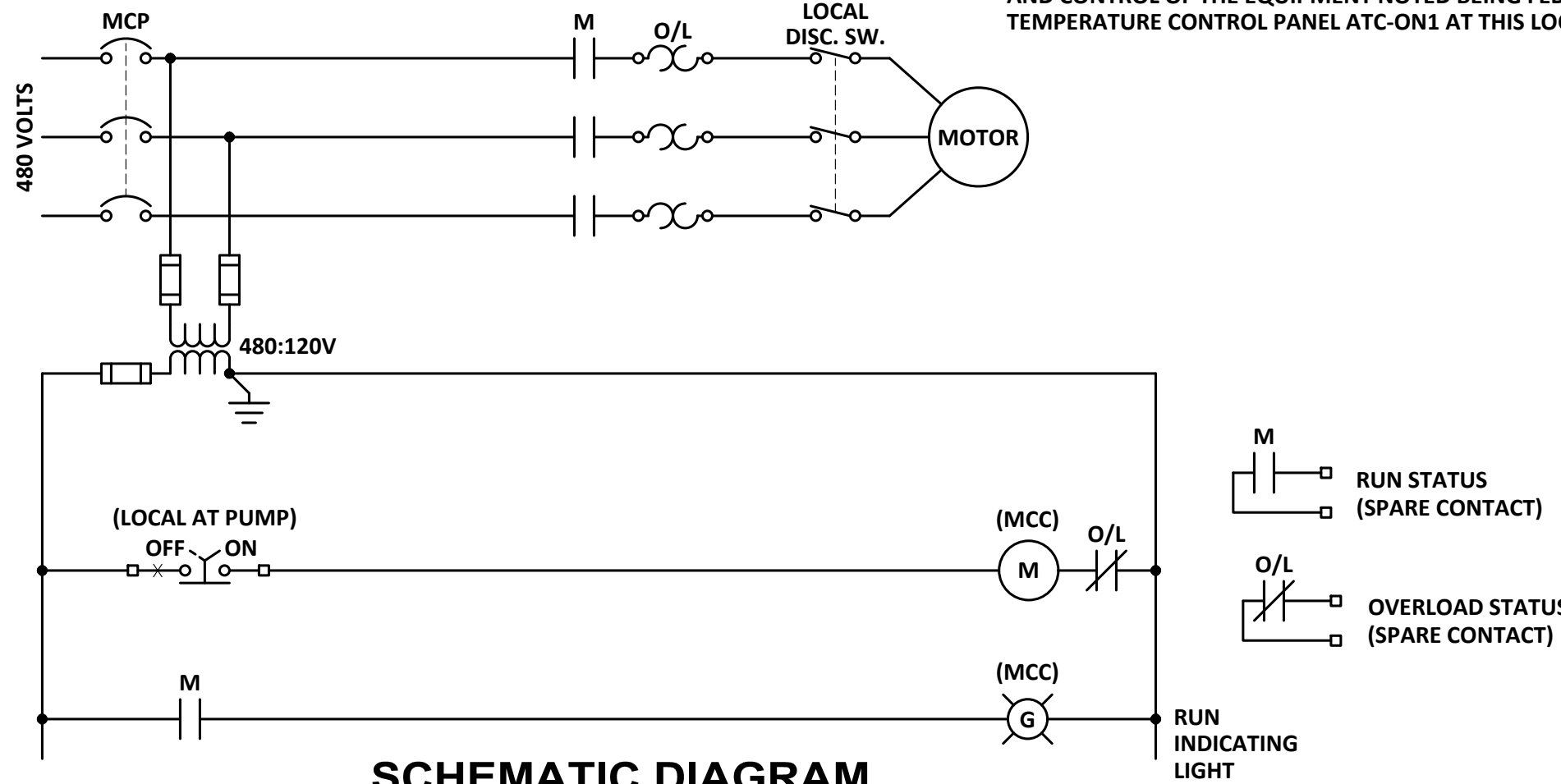


- NOTES:
1. THE RELAY PANEL AND ALL COMPONENTS INSIDE THE DASHED LINES SHALL BE FURNISHED AND INSTALLED UNDER DIVISION 16 - ELECTRICAL. THE RELAY PANEL SHALL BE RATED NEMA 4X AND SHALL BE FURNISHED AS SPECIFIED.
  2. FURNISH AND INSTALL A NEMA 4X (PVC) ENCLOSURE WITH SPRING ACTIVATED SIDE LATCHES (THREE SIDES) AND FULL LEFT SIDE HINGE. PROVIDE LAMACOID NAMEPLATES FOR ALL FRONT MOUNTED DEVICES. NAMEPLATE MATERIAL AND SIZING SHALL BE AS SPECIFIED. SIZE OF ENCLOSURE SHALL BE SUFFICIENT TO SERVICE AND HOUSE ALL DEVICES AND SHALL BE AS APPROVED BY THE ENGINEER.
  3. INSTALL EQUIPMENT ON FRONT OF ENCLOSURE AS NOTED AND SHOWN.
  4. PROVIDE A NEMA 4 STROBE AT ENTRANCES AS SHOWN ON THE DRAWINGS. PROVIDE THE FOLLOWING SIGN: (WARNING - HAZARDOUS GAS PRESENT - DO NOT ENTER) AT EACH LOCATION WHERE THERE IS A WARNING STROBE.

SCHEMATIC DIAGRAM  
HAZARDOUS GAS DETECTION SYSTEM RELAY CONTROL PANEL



SCHEMATIC DIAGRAM  
BOILER B-ON1



SCHEMATIC DIAGRAM  
PLANT WATER PUMP







| CONDUIT |        | CONDUCTOR           | DESTINATION                              |                                   | REMARKS |
|---------|--------|---------------------|------------------------------------------|-----------------------------------|---------|
| NO      | SIZE   | SIZE                | FROM                                     | TO                                |         |
| P100    | 3/4"   | 2 #12 AND 1 #12 GND | UNIT HEATER UN-ON1                       | PANELBOARD LP-1A                  |         |
| P101    | 3/4"   | 2 #12 AND 1 #12 GND | UNIT HEATER UN-ON4                       | PANELBOARD LP-1A                  |         |
| P102    | 3/4"   | 2 #6 AND 1 #10 GND  | AUTOMATIC TEMP. CONTROL PANEL ATC-ON1    | PANELBOARD LP-1A                  |         |
| P103    | 3/4"   | 2 #12 AND 1 #12 GND | DEHUMIDIFIER DH-ON1                      | PANELBOARD LP-1A                  |         |
| P104    | 3/4"   | 2 #12 AND 1 #12 GND | DEHUMIDIFIER DH-ON2                      | PANELBOARD LP-1A                  |         |
| P105    | 3/4"   | 2 #12 AND 1 #12 GND | SUMP PUMP SP-ON1                         | PANELBOARD LP-1A                  |         |
| P106    | 3/4"   | 2 #12 AND 1 #12 GND | BOILER B-ON1                             | PANELBOARD LP-1A                  |         |
| P107    | 3/4"   | 2 #12 AND 1 #12 GND | BOILER PUMP BP-ON1                       | PANELBOARD LP-1A                  |         |
| P108    | 3/4"   | 2 #12 AND 1 #12 GND | CIRCULATING PUMP CP-ON1                  | PANELBOARD LP-1A                  |         |
| P109    | 1"     | 4 #6 AND 1 #10 GND  | TRANSFORMER T-1 LOCATED IN MCC           | ENCLOSED CIRCUIT BREAKER CB-1     |         |
| P110    | 1"     | 4 #6 AND 1 #10 GND  | ENCLOSED CIRCUIT BREAKER CB-1            | PANELBOARD LP-1 LOCATED IN MCC    |         |
| P111    | 2"     | 4 #1 AND 1 #6 GND   | PANELBOARD LP-1A                         | TRANSFORMER T-1A                  |         |
| P112    | 1-1/4" | 3 #4 AND 1 #6 GND   | TRANSFORMER T-1A                         | MOTOR CONTROL CENTER MCC          |         |
| P113    | 3/4"   | 2 #12 AND 1 #12 GND | GAS DETECTION RELAY CONTROL PANEL        | PANELBOARD LP-1A                  |         |
| P114    | 3/4"   | 2 #12 AND 1 #12 GND | DRYWELL GAS DETECTION ALARM STROBE LIGHT | GAS DETECTION RELAY CONTROL PANEL |         |
| P115    | 3/4"   | 2 #12 AND 1 #12 GND | WETWELL GAS DETECTION ALARM STROBE LIGHT | GAS DETECTION RELAY CONTROL PANEL |         |
|         |        |                     |                                          |                                   |         |
|         |        |                     |                                          |                                   |         |

PANEL LOCATION: MOTOR ROOM

VOLTAGE: 208/120

PHASE: 3

WIRE: 4

AIC: 10,000

PANELBOARD LP-1A

FEEDER POINT: MOUNTING: MCC VIA TRANSFORMER T-1A

BUS RATING: 100 AMPS

MAIN TYPE: 

X

MCB

MLO

TRIP AMPS

| CKT NO.               | AMPS | NO. POLES | DESCRIPTION                                 | PHASE LOAD (VA) |             |              | DESCRIPTION                            | NO. POLES | AMPS | CKT NO. |
|-----------------------|------|-----------|---------------------------------------------|-----------------|-------------|--------------|----------------------------------------|-----------|------|---------|
|                       |      |           |                                             | A               | B           | C            |                                        |           |      |         |
| 1                     | 50   | 1         | AUTOMATIC TEMPERATURE CONTROL PANEL ATC-0N1 | 4000<br>575     |             |              | UNIT HEATERS UH-0N1, UH-0N2 AND UH-0N3 | 1         | 20   | 2       |
| 3                     | 20   | 1         | DEHUMIDIFIER DH-0N1                         |                 | 1500<br>200 |              | UNIT HEATERS UH-0N4 AND UH-0N5         | 1         | 20   | 4       |
| 5                     | 20   | 1         | DEHUMIDIFIER DH-0N2                         |                 |             | 1500<br>1200 | SUMP PUMP SP-0N1                       | 1         | 20   | 6       |
| 7                     | 20   | 1         | BOILER B-0N1                                | 600<br>300      |             |              | GAS DETECTION RELAY CONTROL PANEL      | 1         | 20   | 8       |
| 9                     | 20   | 1         | BOILER PUMP BP-0N1                          |                 | 200         |              | SPARE                                  | 1         | 20   | 10      |
| 11                    | 20   | 1         | CIRCULATING PUMP CP-0N1                     |                 | -           | 200          | SPARE                                  | 1         | 20   | 12      |
| 13                    | 20   | 1         | SPARE                                       | -               | -           |              | SPARE                                  | 1         | 20   | 14      |
| 15                    | 20   | 1         | SPARE                                       | -               | -           |              | SPARE                                  | 1         | 20   | 16      |
| 17                    | 20   | 1         | SPARE                                       | -               | -           |              | SPARE                                  | 1         | 20   | 18      |
| 19                    | 20   | 1         | SPARE                                       | -               | -           |              | SPARE                                  | 1         | 20   | 20      |
| 21                    | 20   | 1         | SPARE                                       | -               | -           |              | SPARE                                  | 1         | 20   | 22      |
| 23                    | 20   | 1         | SPARE                                       | -               | -           |              | SPARE                                  | 1         | 20   | 24      |
| 25                    | 20   | 1         | SPARE                                       | -               | -           |              | SPARE                                  | 1         | 20   | 26      |
| 27                    | 20   | 1         | SPARE                                       | -               | -           |              | SPARE                                  | 1         | 20   | 28      |
| 29                    | 20   | 1         | SPARE                                       | -               | -           |              | SPARE                                  | 1         | 20   | 30      |
| 31                    | 20   | 1         | SPARE                                       | -               | -           |              | SPARE                                  | 1         | 20   | 32      |
| 33                    | 20   | 1         | SPARE                                       | -               | -           |              | SPARE                                  | 1         | 20   | 34      |
| 35                    | 20   | 1         | SPARE                                       | -               | -           |              | SPARE                                  | 1         | 20   | 36      |
| 37                    | 20   | 1         | SPARE                                       | -               | -           |              | SPARE                                  | 1         | 20   | 38      |
| 39                    | 20   | 1         | SPARE                                       | -               | -           |              | SPARE                                  | 1         | 20   | 40      |
| 41                    | 20   | 1         | SPARE                                       | -               | -           |              | SPARE                                  | 1         | 20   | 42      |
| SUB-TOTAL             |      |           |                                             | 5475            | 1900        | 2900         |                                        |           |      |         |
| TOTAL                 |      |           |                                             |                 | 10275       |              |                                        |           |      |         |
| ESTIMATED DEMAND LOAD |      |           |                                             | 10.3            | KVA         |              |                                        |           |      |         |
| DEMAND LINE CURRENT   |      |           |                                             | 35.5            | AMP         |              |                                        |           |      |         |

- NOTES:**
1. FOR LEGEND AND GENERAL NOTES, REFER TO DRAWINGS E-1 AND E-2.
  2. ALL MOTOR FEEDER WIRING ORIGINATING FROM VARIABLE FREQUENCY DRIVE (VFD) PANELS SHALL BE INSTALLED IN RIGID GALVANIZED STEEL (RGS) CONDUIT OR PVC-COATED RIGID STEEL CONDUIT, IN ACCORDANCE WITH THE NEMA CLASSIFICATIONS INDICATED ON DRAWING E-1.
  3. ALL INSTRUMENTATION SIGNAL CABLES (IN CONDUITS WITH "S" NUMBERS) SHALL BE INSTALLED IN RIGID GALVANIZED STEEL CONDUIT, IMC, OR PVC-COATED RIGID STEEL CONDUIT, IN ACCORDANCE WITH NEMA RATING OF THE AREA OF INSTALLATION AS INDICATED ON DRAWING E-1. REFER TO SPECIFICATION SECTION 16050 FOR FURTHER INFORMATION.

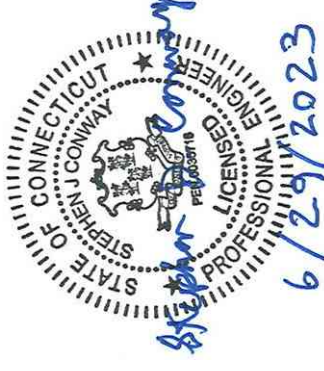
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| OLD NORWICH ROAD PUMP STATION CONDUIT AND CABLE SCHEDULE |          |                             |                                             |                                             |                                  |
|----------------------------------------------------------|----------|-----------------------------|---------------------------------------------|---------------------------------------------|----------------------------------|
| CONDUIT NO                                               | SIZE     |                             | DESTINATION                                 |                                             | REMARKS                          |
|                                                          | CONDUIT  | CONDUCTOR                   | FROM                                        | TO                                          |                                  |
| P1                                                       | 4"       | 4#500                       | EXISTING UTILITY TRANSFORMER                | MAIN CIRCUIT BREAKER MCB-1                  |                                  |
| P2                                                       | 4"       | 4#500, 1#1 GND              | MANUAL TRANSFER SWITCH MTS-1                | AUTOMATIC TRANSFER SWITCH ATS-1 IN MCC      |                                  |
| P3                                                       | 2"       | 3#1/0, 1#6 GND              | MOTOR CONTROL CENTER MCC                    | SEWAGE PUMP #1 VFD                          |                                  |
| P4                                                       | 4"       | 4/C-#1/0 SHIELDED VFD CABLE | SEWAGE PUMP #1 VFD                          | SEWAGE PUMP #1 MOTOR                        |                                  |
| P5                                                       | 2"       | 3#1/0, 1#6 GND              | MOTOR CONTROL CENTER MCC                    | SEWAGE PUMP #2 VFD                          |                                  |
| P6                                                       | 4"       | 4/C-#1/0 SHIELDED VFD CABLE | SEWAGE PUMP #2 VFD                          | SEWAGE PUMP #2 MOTOR                        |                                  |
| P7                                                       | 2"       | 3#1/0, 1#6 GND              | MOTOR CONTROL CENTER MCC                    | SEWAGE PUMP #3 VFD                          |                                  |
| P8                                                       | 4"       | 4/C-#1/0 SHIELDED VFD CABLE | SEWAGE PUMP #3 VFD                          | SEWAGE PUMP #3 MOTOR                        |                                  |
| P9                                                       | 3/4"     | 3#12, 1#2 GND               | MOTOR CONTROL CENTER MCC                    | COMMUNUATOR #1                              |                                  |
| P10                                                      | 3/4"     | 3#12, 1#2 GND               | MOTOR CONTROL CENTER MCC                    | COMMUNUATOR #2                              |                                  |
| P11                                                      | 1-1/2"   | 2#10, 1#10 GND              | PANELBOARD LP-1A                            | PUMP CONTROL PANEL (PCP)                    |                                  |
| P12                                                      |          | NOT USED                    | NOT USED                                    |                                             |                                  |
| P13                                                      | 1 1/4"   | 3#8, 1#8 GND                | MOTOR CONTROL CENTER MCC                    | PLANT WATER PUMP SAFETY SWITCH              |                                  |
| P14                                                      | 1"       | 3#8, 1#8 GND                | PLANT WATER PUMP SAFETY SWITCH              | PLANT WATER PUMP                            |                                  |
| P15                                                      | 1"       | #2/0 BARE COPPER GND        | GROUNDING SYSTEM                            | MAIN CIRCUIT BREAKER MCB-1 IN MCC           | PRIMARY GROUND                   |
| P16                                                      | 1"       | #2/0 BARE COPPER GND        | MAIN WATER PIPE                             | MAIN CIRCUIT BREAKER MCB-1 IN MCC           | BONDING JUMPER                   |
| P17                                                      | 4"       | 4#500, 1#1 GND              | EMERGENCY GENERATOR GEN-1                   | AUTOMATIC TRANSFER SWITCH ATS-1 IN MCC      |                                  |
| P19                                                      | 4"       | 4#500, 1#1 GND              | MANUAL TRANSFER SWITCH MTS-1                | MOTOR CONTROL CENTER MAIN BUS               |                                  |
| P20                                                      | 4"       | 4#500, 1#1 GND              | MAIN CIRCUIT BREAKER MCB-1                  | UTILITY METER CABINET                       |                                  |
| P21                                                      | 4"       | 4#500, 1#1 GND              | UTILITY METER CABINET                       | MAIN CIRCUIT BREAKER MCB-2 IN MCC           |                                  |
|                                                          |          |                             |                                             |                                             |                                  |
|                                                          |          |                             |                                             |                                             |                                  |
| C1                                                       | 1"       | 6#14                        | WET WELL NO. 1 INTRINSIC SAFEY BARRIER PNL. | PUMP CONTROL PANEL (PCP)                    | WWW NO. 1 FLOAT SWITCH SIGNALS   |
| C1                                                       | 3/4"     | 3#14                        | WET WELL NO. 1 LEVEL FLOAT LSHH-221         | WET WELL NO. 1 INTRINSIC SAFEY BARRIER PNL. | WET WELL HIGH LEVEL ALARM        |
| C2                                                       | 3/4"     | 3#14                        | WET WELL NO. 1 LEVEL FLOAT LSLL-221         | WET WELL NO. 1 INTRINSIC SAFEY BARRIER PNL. | WET WELL LOW LEVEL ALARM         |
| C3                                                       | 3/4"     | 5#14                        | COMMUNUATOR CNTRL PANEL NO. 1 - 210         | PUMP CONTROL PANEL (PCP)                    | COMMUNUATOR RUN AND FAIL STATUS  |
| C5                                                       | 1"       | 6#14                        | WET WELL NO. 2 INTRNSIC SAFEY BARRIER PNL.  | PUMP CONTROL PANEL (PCP)                    | WWW NO. 2 FLOAT SWITCH SIGNALS   |
| C4                                                       | 3/4"     | 3#14                        | WET WELL NO. 2 LEVEL FLOAT LSHH-222         | WET WELL NO. 2 INTRINSIC SAFEY BARRIER PNL. | WET WELL HIGH LEVEL ALARM        |
| C5                                                       | 3/4"     | 3#14                        | WET WELL NO. 2 LEVEL FLOAT LSLL-222         | WET WELL NO. 2 INTRINSIC SAFEY BARRIER PNL. | WET WELL LOW LEVEL ALARM         |
| C6                                                       | 3/4"     | 5#14                        | COMMUNUATOR CNTRL PANEL NO. 1 - 211         | PUMP CONTROL PANEL (PCP)                    | COMMUNUATOR RUN AND FAIL STATUS  |
| C7                                                       | 3/4"     | 9#14                        | SEWAGE PUMP NO. 1 MOTOR                     | PUMP CONTROL PANEL (PCP)                    | TEMP. SW., MOISTURE DET.         |
| C8                                                       | 3/4"     | 3#14                        | SEWAGE PUMP NO. 1 MOTOR TORQUE SW WSHH-230  | SEWAGE PUMP NO. 1 VFD                       | MOTOR HIGH TORQUE ALARM          |
| C9                                                       | 3/4"     | 5#14                        | SEWAGE PUMP NO. 1 MOTOR E-STOP PB LCS-230   | SEWAGE PUMP NO. 1 VFD                       | PUMP EMERGENCY STOP              |
| C10                                                      | 3/4"     | 3#14                        | SP NO. 1 CHECK VALVE POSITION ZS-230        | PUMP CONTROL PANEL (PCP)                    | PUMP CHECK VALVE OPEN            |
| C11                                                      | 3/4"     | 16#14                       | SEWAGE PUMP NO. 1 VFD                       | PUMP CONTROL PANEL (PCP)                    | PUMP STATUS, ALARM AND CONTROL   |
| C12                                                      | 3/4"     | 9#14                        | SEWAGE PUMP NO. 2 MOTOR                     | PUMP CONTROL PANEL (PCP)                    | TEMP. SW., MOISTURE DET.         |
| C13                                                      | 3/4"     | 3#14                        | SEWAGE PUMP NO. 2 MOTOR TORQUE SW WSHH-231  | SEWAGE PUMP NO. 2 VFD                       | MOTOR HIGH TORQUE ALARM          |
| C14                                                      | 3/4"     | 5#14                        | SEWAGE PUMP NO. 2 MOTOR E-STOP PB LCS-231   | SEWAGE PUMP NO. 2 VFD                       | PUMP EMERGENCY STOP              |
| C15                                                      | 3/4"     | 3#14                        | SP NO. 2 CHECK VALVE POSITION ZS-231        | PUMP CONTROL PANEL (PCP)                    | PUMP CHECK VALVE OPEN            |
| C16                                                      | 3/4"     | 16#14                       | SEWAGE PUMP NO. 2 VFD                       | PUMP CONTROL PANEL (PCP)                    | PUMP STATUS, ALARM AND CONTROL   |
| C17                                                      | 3/4"     | 9#14                        | SEWAGE PUMP NO. 3 MOTOR                     | PUMP CONTROL PANEL (PCP)                    | TEMP. SW., MOISTURE DET.         |
| C18                                                      | 3/4"     | 3#14                        | SEWAGE PUMP NO. 3 MOTOR TORQUE SW WSHH-232  | SEWAGE PUMP NO. 3 VFD                       | MOTOR HIGH TORQUE ALARM          |
| C19                                                      | 3/4"     | 5#14                        | SEWAGE PUMP NO. 3 MOTOR E-STOP PB LCS-232   | SEWAGE PUMP NO.3 VFD                        | PUMP EMERGENCY STOP              |
| C20                                                      | 3/4"     | 3#14                        | SP NO. 2 CHECK VALVE POSITION ZS-232        | PUMP CONTROL PANEL (PCP)                    | PUMP CHECK VALVE OPEN            |
| C21                                                      | 3/4"     | 16#14                       | SEWAGE PUMP NO. 3 MCC VFD                   | PUMP CONTROL PANEL (PCP)                    | PUMP STATUS, ALARM AND CONTROL   |
| C22                                                      | 3/4"     | 3#14                        | STATION FLOOD SWITCH YS-250A                | PUMP CONTROL PANEL (PCP)                    | ALARM                            |
| C23                                                      | 3/4"     | 3#14                        | STATION POWER FAIL YS-250B                  | PUMP CONTROL PANEL (PCP)                    | ALARM                            |
| C24                                                      | 3/4"     | 3#14                        | WET WELL NO. 1 H2S ALARM AA-250A            | PUMP CONTROL PANEL (PCP)                    | ALARM                            |
| C25                                                      | 3/4"     | 3#14                        | WET WELL NO. 2 H2S ALARM AA-250B            | PUMP CONTROL PANEL (PCP)                    | ALARM                            |
| C26                                                      | 3/4"     | 5#14                        | AUTOMATIC TRANSFER SWITCH                   | PUMP CONTROL PANEL (PCP)                    | ATS STATUS MONITORING (290)      |
| C27                                                      | 3/4"     | 15#14                       | STANDBY GENERATOR                           | PUMP CONTROL PANEL (PCP)                    | GENERATOR STATUS AND ALARMS      |
| C28                                                      | 3/4"     | 4#14                        | EMERGENCY STANDBY GEN. SVCE. DISC. GDCB-1   | STANDBY GENERATOR                           | GENERATOR RUN/STOP INTERLOCK     |
| C29                                                      | 3/4"     | 4#14                        | PLANT WATER PUMP CONTROL STATION            | MOTOR CONTROL CENTER MCC                    | LOCAL PUMP CONTROL               |
| C30-C199                                                 | NOT USED |                             |                                             |                                             |                                  |
| C200                                                     | 3/4"     | 8#14                        | WETWELL ENTRANCE H-O-A SELECTOR SWITCH      | AUTOMATIC TEMP. CONTROL PANEL ATC-EG1       |                                  |
| C201                                                     | NOT USED |                             |                                             |                                             |                                  |
|                                                          |          |                             |                                             |                                             |                                  |
|                                                          |          |                             |                                             |                                             |                                  |
| S1                                                       | 3/4"     | M.S.I.C.                    | WET WELL NO. 1 LEVEL ELEMENT LE-221         | WET WELL NO. 1 LEVEL TRANSMITTER LIT-221    | WET WELL LEVEL SIGNAL            |
| S2                                                       | 3/4"     | 1#16T.P.S.                  | WET WELL NO. 1 LEVEL TRANSMITTER LIT-221    | WET WELL NO. 1 INTRINSIC SAFEY BARRIER PNL. | WET WELL LEVEL SIGNAL            |
| S3                                                       | 3/4"     | 1#16T.P.S.                  | WET WELL NO. 1 INTRINSIC SAFEY BARRIER PNL. | PUMP CONTROL PANEL (PCP)                    | WET WELL LEVEL SIGNAL            |
| S4                                                       | 3/4"     | M.S.I.C.                    | WET WELL NO. 1 LEVEL ELEMENT LE-221         | WET WELL NO. 1 LEVEL TRANSMITTER LIT-221    | WET WELL LEVEL SIGNAL            |
| S5                                                       | 3/4"     | 1#16T.P.S.                  | WET WELL NO. 2 LEVEL TRANSMITTER LIT-222    | WET WELL NO. 2 INTRINSIC SAFEY BARRIER PNL. | WET WELL LEVEL SIGNAL            |
| S6                                                       | 3/4"     | 1#16T.P.S.                  | WET WELL NO. 2 INTRINSIC SAFEY BARRIER PNL. | PUMP CONTROL PANEL (PCP)                    | WET WELL LEVEL SIGNAL            |
| S7                                                       | 3/4"     | 1#16T.P.S.                  | EFFLUENT FLOWMTER TRANSMITTER FE-240        | EFFLUENT FLOWMTER TRANSMITTER FIT-241       | STATION FLOW SIGNAL              |
| S8                                                       | NOT USED |                             |                                             |                                             |                                  |
| S9                                                       | 3/4"     | 1#16T.P.S.                  | GENERATOR DIESEL FUEL TANK LEVEL LE-200     | PUMP CONTROL PANEL (PCP)                    | TANK LEVEL MONITORING            |
| S10                                                      | 3/4"     | 1#16T.P.S.                  | WET WELL TEMPERATURE TRANSMITTER TIT-250A   | PUMP CONTROL PANEL (PCP)                    | TEMPERATURE MONITORING           |
| S11                                                      | 3/4"     | 1#16T.P.S.                  | DRY WELL TEMPERATURE TRANSMITTER TIT-250B   | PUMP CONTROL PANEL (PCP)                    | TEMPERATURE MONITORING           |
| S12                                                      | 3/4"     | 3#16T.P.S.                  | SEWAGE PUMP NO. 1 VFD                       | PUMP CONTROL PANEL (PCP)                    | VFD SPEED CONTROL AND MONITORING |
| S13                                                      | 3/4"     | 3#16T.P.S.                  | SEWAGE PUMP NO. 2 VFD                       | PUMP CONTROL PANEL (PCP)                    | VFD SPEED CONTROL AND MONITORING |
| S14                                                      | 3/4"     | 3#16T.P.S.                  | SEWAGE PUMP NO. 3 VFD                       | PUMP CONTROL PANEL (PCP)                    | VFD SPEED CONTROL AND MONITORING |
| S15                                                      | 3/4"     | 1 CATEGORY 6 ETHERNET       | OIT-PANEL (UPSTAIRS)                        | PUMP CONTROL PANEL (PCP)                    |                                  |
| S16                                                      | 3/4"     | 1 CATEGORY 6 ETHERNET       | MOTOR CONTROL POWER METER                   | PUMP CONTROL PANEL (PCP)                    | FUTURE POWER MONITOTING          |
| S17                                                      | NOT USED |                             |                                             |                                             |                                  |

| PROJECT:                |      |           |                                               | PROJECT NO.: 20753                    |      |      |                                            |           |      |         |
|-------------------------|------|-----------|-----------------------------------------------|---------------------------------------|------|------|--------------------------------------------|-----------|------|---------|
| PANEL DESIGNATION: LP-1 |      |           |                                               | PANEL LOCATION: ELECTRICAL ROOM       |      |      |                                            |           |      |         |
| VOLTAGE: 120/208        |      |           |                                               | FEEDER POINT: MCC                     |      |      |                                            |           |      |         |
| PHASE: 3                |      |           |                                               | MOUNTING: SURFACE                     |      |      |                                            |           |      |         |
| WIRE: 4                 |      |           |                                               | MAIN CIRCUIT BREAKER RATING: 100 AMPS |      |      |                                            |           |      |         |
| AIC: 10,000             |      |           |                                               |                                       |      |      |                                            |           |      |         |
| CKT NO.                 | AMPS | NO. POLES | DESCRIPTION                                   | PHASE LOAD (VA)                       |      |      | DESCRIPTION                                | NO. POLES | AMPS | CKT NO. |
|                         |      |           |                                               | A                                     | B    | C    |                                            |           |      |         |
| 1                       | 20   | 1         | SPARE                                         |                                       |      |      | RE CEPTACLES                               |           |      |         |
|                         |      |           |                                               | 720                                   |      |      |                                            | 1         | 20   | 2       |
| 3                       | 20   | 1         | LIGHTING - CONTROL ROOM, FAN ROOM, MOTOR ROOM |                                       | 798  |      | RE CEPTACLES                               |           |      |         |
|                         |      |           |                                               |                                       | 720  |      |                                            | 1         | 20   | 4       |
| 5                       | 20   | 1         | RECEPTACLES                                   |                                       |      | 720  | RE CEPTACLES                               |           |      |         |
|                         |      |           |                                               |                                       |      | 720  |                                            | 1         | 20   | 6       |
| 7                       | 20   | 1         | LIGHTING - PUMP CONTROL ROOM COMMINTOR ROOM   | 532                                   |      |      | RE CEPTACLES                               |           |      |         |
|                         |      |           |                                               | 360                                   |      |      |                                            | 1         | 20   | 8       |
| 9                       | 20   | 1         | SPARE                                         |                                       | 342  |      | RE CEPTACLES                               |           |      |         |
|                         |      |           |                                               |                                       |      |      |                                            | 1         | 20   | 10      |
| 11                      | 20   | 1         | RELAY CNTRL PANEL                             |                                       |      | 100  | RE CEPTACLES                               |           |      |         |
|                         |      |           |                                               |                                       |      | 360  |                                            | 1         | 20   | 12      |
| 13                      | 20   | 1         | SPARE                                         |                                       |      |      |                                            |           |      |         |
|                         |      |           |                                               | 180                                   |      |      | EXTERTIR LIGHTING FIXTURES                 | 1         | 20   | 14      |
| 15                      |      |           | SUMP PUMP                                     |                                       | 500  |      |                                            |           |      |         |
|                         |      |           |                                               |                                       | 360  |      | RECEPTACLES - SAMPLER AND SINK             | 1         | 20   | 16      |
| 17                      |      |           | SPARE                                         |                                       |      |      |                                            |           |      |         |
|                         |      |           |                                               |                                       |      |      | SPARE                                      | 1         | 20   | 18      |
| 19                      |      |           | SPARE                                         |                                       |      |      |                                            |           |      |         |
|                         |      |           |                                               | 500                                   |      |      | HOT WATER HEATER                           | 1         | 20   | 20      |
| 21                      |      |           | TELEMETRY CONTROL PANEL                       |                                       | 200  |      |                                            |           |      |         |
|                         |      |           |                                               |                                       | 100  |      | EMERGENCY LIGHTING AND EXIT SIGNS          | 1         | 20   | 22      |
| 23                      | 50   | 3         | FEEDER TO GENERATOR ENCLOSURE PANELBOARD      |                                       |      | 600  |                                            |           |      |         |
|                         |      |           |                                               |                                       |      |      | SPARE                                      | 1         | 20   | 24      |
| 25                      |      |           |                                               |                                       |      |      |                                            |           |      |         |
|                         |      |           |                                               | 240                                   |      |      | OUTSIDE POLE MOUNTED LIGHTING              | 1         | 20   | 26      |
| 27                      |      |           |                                               |                                       |      |      | AUTOMATIC TEMPERATURE CONTROLPANEL ATC-EG1 | 1         | 20   | 28      |
|                         |      |           |                                               |                                       | 340  |      |                                            |           |      |         |
| 29                      | 30   | 1         | SPARE                                         |                                       |      | 180  | HVAC MAINTENANCE RECEPTACLE (MUA-EG1)      | 1         | 20   | 30      |
| 31                      | 20   | 2         | HVAC MAINTENANCE RECEPTACLE (AHU-EG1)         | 180                                   |      |      | PUMP CONTROL PANEL (PCP)                   | 1         | 30   | 32      |
|                         |      |           |                                               | 2000                                  |      |      |                                            |           |      |         |
| 33                      | 20   | 3         | SPARE                                         |                                       |      |      | SPARE                                      |           |      | 34      |
| 35                      | 20   | 4         | SPARE                                         |                                       |      |      |                                            |           |      |         |
|                         |      |           |                                               |                                       |      |      | SPARE                                      |           |      | 36      |
| 37                      | 20   | 5         | SPARE                                         |                                       |      |      |                                            |           |      |         |
|                         |      |           |                                               |                                       |      |      | SPARE                                      |           |      | 38      |
| 39                      | 20   | 6         | SPARE                                         |                                       |      |      |                                            |           |      |         |
|                         |      |           |                                               |                                       |      |      | SPARE                                      |           |      | 40      |
| 41                      | 20   |           | SPARE                                         |                                       |      |      |                                            |           |      |         |
|                         |      |           |                                               |                                       |      |      | SPARE                                      |           |      | 42      |
| SUB-TOTAL:              |      |           |                                               | 4712                                  | 3360 | 2680 |                                            |           |      |         |
| TOTAL:                  |      |           |                                               | 10752                                 |      |      |                                            |           |      |         |
| ESTIMATED DEMAND LOAD:  |      |           |                                               | 10.8                                  | KVA  |      |                                            |           |      |         |
| DEMAND LINE CURRENT:    |      |           |                                               | 29.8                                  | AMPS |      |                                            |           |      |         |

PROJECT NO.: 21490  
DESIGNED: S. CONWAY  
CAD COORD: ELAIGNER  
CAD: S. MAURO  
CHECKED: A. DAMELIO  
DATE: JUNE 2023  
APPROVED: S. CONWAY  
DATE: JUNE 2023  
SUBMISSION: CONTRACT DRAWINGS

  
6/29/2023

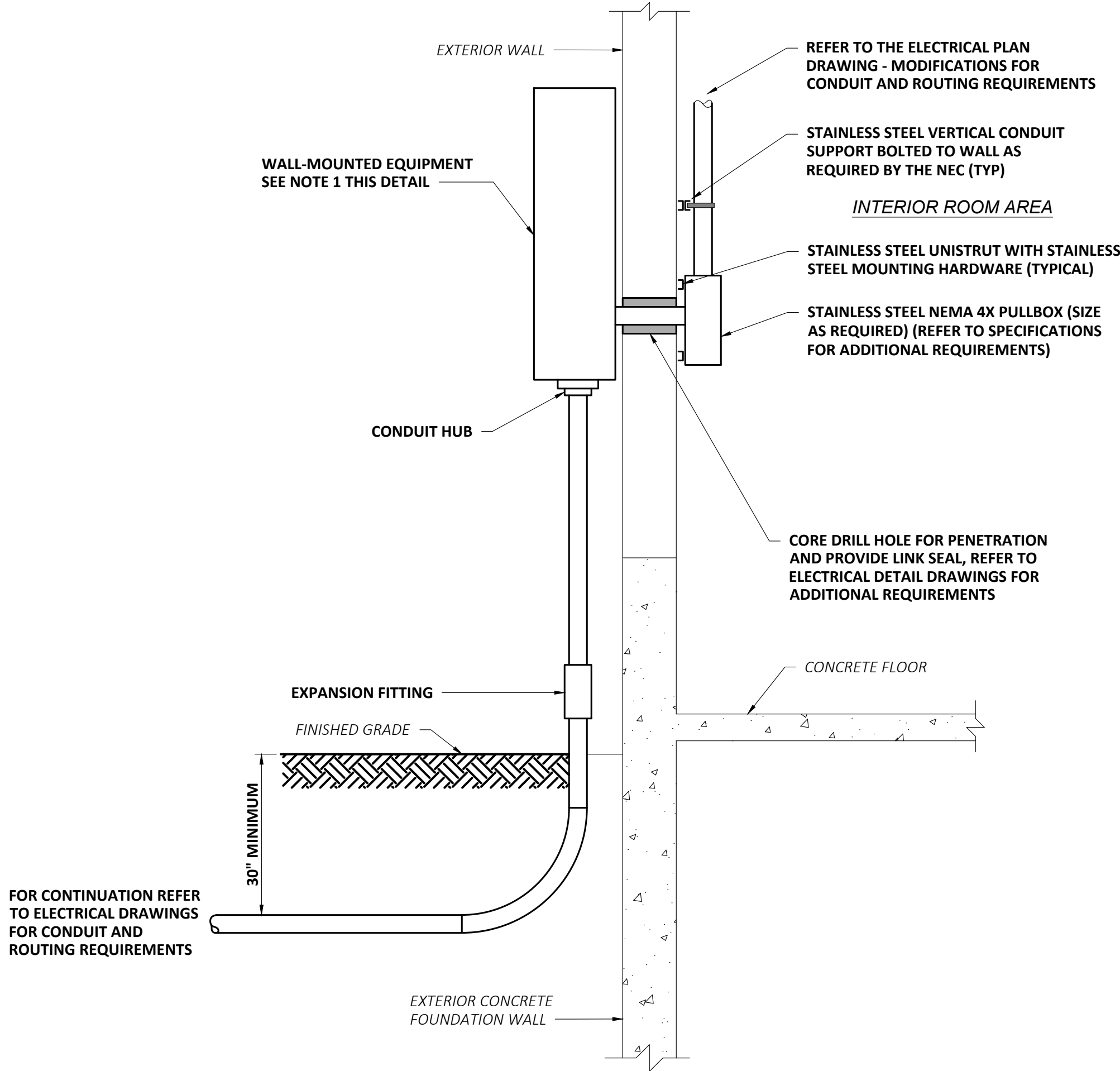
  
860.343.8297 | www.wright-pierce.com  
169 MAIN STREET, 700 PLAZA MIDDLESEX, MIDDLETOWN, CT 06457

WATERFORD UTILITY COMMISSION  
OLD NORWICH ROAD  
SEWER PUMP STATION UPGRADE

OLD NORWICH ROAD PUMP STATION  
ELECTRICAL SCHEDULES II

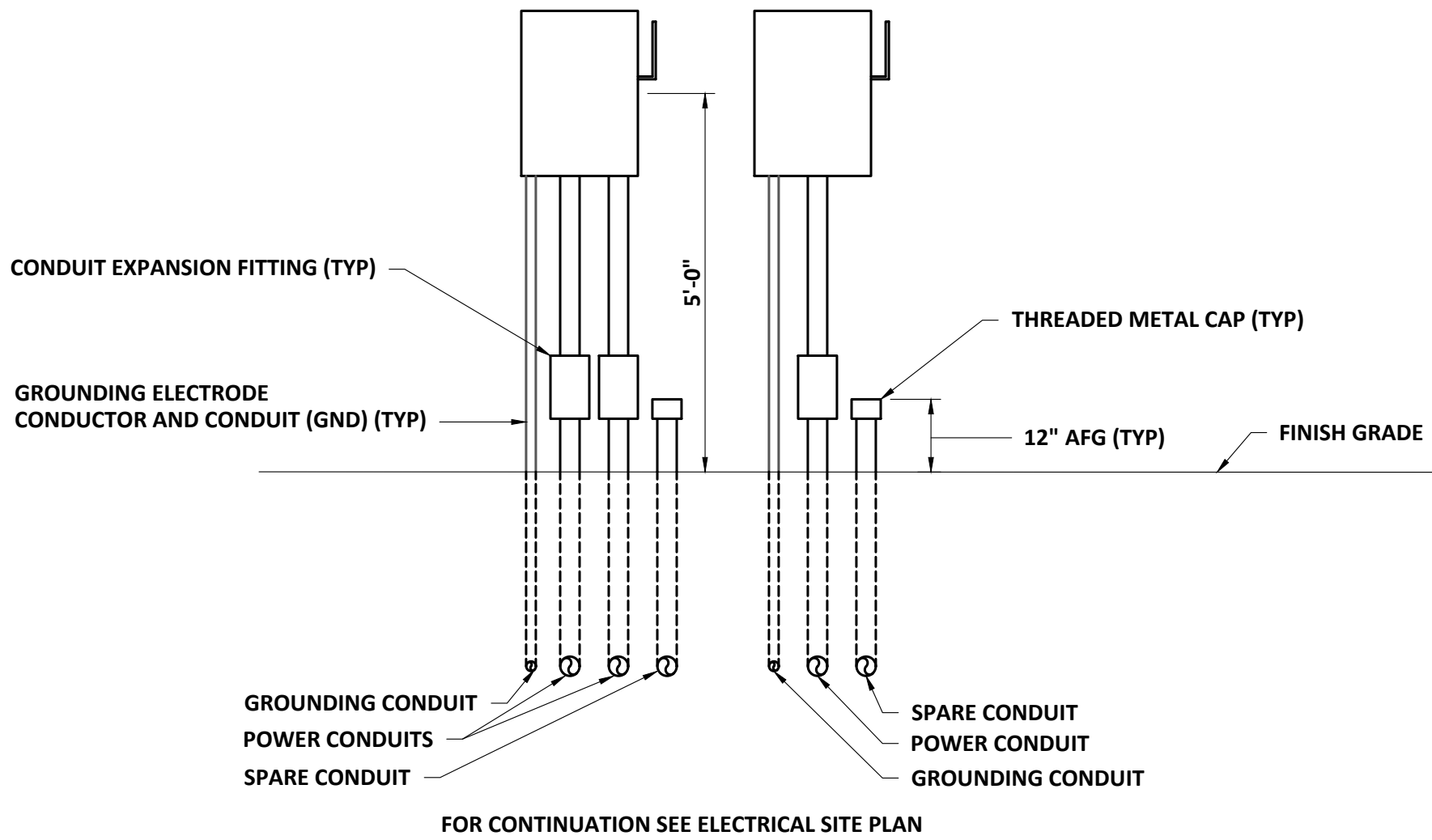
DRAWING  
E-13





### CONDUIT ENTRANCE DETAIL

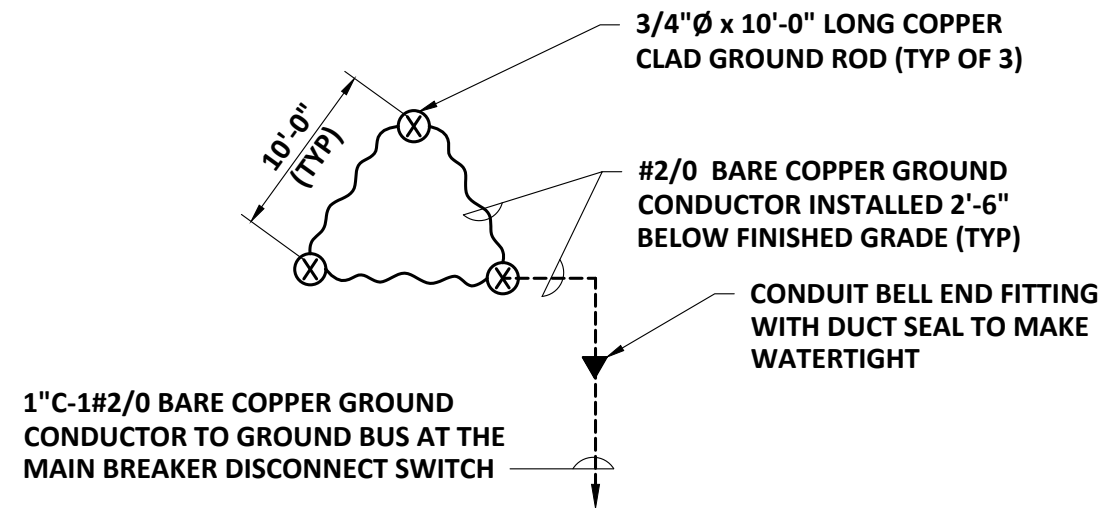
- NOTES (THIS DETAIL):
- REFER TO THE DRAWINGS FOR SPECIFIC INSTALLATION REQUIREMENTS AND EQUIPMENT TO BE INSTALLED.



- NOTES (THIS DETAIL)
- CORE HOLES THROUGH EXISTING WALL AND INSTALL LINK SEAL ON BOTH SIDES (TYPICAL). CAULK WITH SIKA FLEXIBLE SEALANT ON BOTH SIDES OF THE WALL.
  - PROVIDE 1-5/8" SS U-CHANNEL WITH SS MOUNTING HARDWARE AS REQUIRED TO SECURE ELECTRICAL EQUIPMENT AND CONDUIT TO THE BUILDING WALL FOR A RIGID INSTALLATION. U-CHANNEL NOT SHOWN FOR CLARITY.

### MOUNTING DETAIL

- NOTES:
- FOR LEGEND AND GENERAL NOTES, REFER TO DRAWINGS E-1 AND E-2.

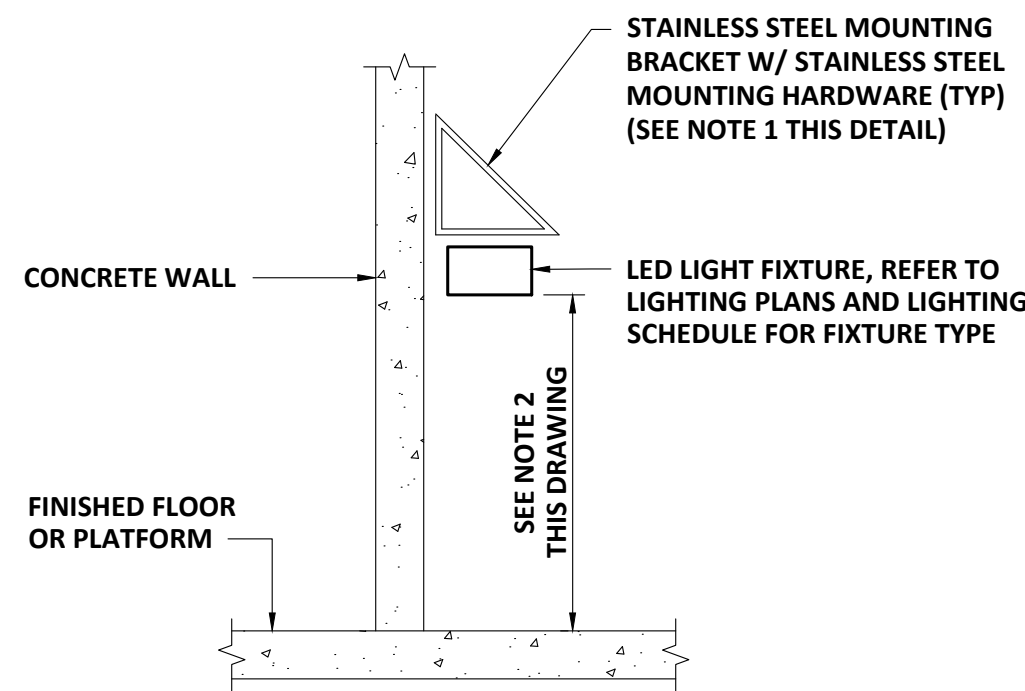


- NOTES (THIS DETAIL):
- EXTEND BARE COPPER GROUND CONDUCTOR AS SHOWN ON THE DRAWINGS OR #2/0 BARE COPPER CONDUCTOR IF NOT SHOWN TO THE MAIN ELECTRICAL SERVICE GROUND GRID OF THE GROUNDING SYSTEM AND CADWELD ALL CONNECTIONS.

### SERVICE GROUNDING SYSTEM PLAN

|                                                                                |  |                                                                                                                                                                                                                                                         |  |
|--------------------------------------------------------------------------------|--|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| DRAWING                                                                        |  | E-14                                                                                                                                                                                                                                                    |  |
| WATERFORD UTILITY COMMISSION<br>OLD NORWICH ROAD<br>SEWER PUMP STATION UPGRADE |  | WRIGHT-PIERCE<br><br>860.343.8297   <a href="http://www.wright-pierce.com">www.wright-pierce.com</a><br>169 MAIN STREET, 700 PLAZA MIDDLESEX, MIDDLETOWN, CT 06457 |  |
| ELECTRICAL DETAILS                                                             |  | <br>6/24/2023                                                                                                                                                       |  |
|                                                                                |  |                                                                                                                                                                                                                                                         |  |
|                                                                                |  |                                                                                                                                                                                                                                                         |  |
|                                                                                |  |                                                                                                                                                                                                                                                         |  |
|                                                                                |  |                                                                                                                                                                                                                                                         |  |
|                                                                                |  |                                                                                                                                                                                                                                                         |  |
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|                                                                                |  |                                                                                                                                                                                                                                                         |  |
|                                                                                |  |                                                                                                                                                                                                                                                         |  |
|                                                                                |  |                                                                                                                                                                                                                                                         |  |
|                                                                                |  |                                                                                                                                                                                                                                                         |  |
|                                                                                |  |                                                                                                                                                                                                                                                         |  |
|                                                                                |  |                                                                                                                                                                                                                                                         |  |
|                                                                                |  |                                                                                                                                                                                                                                                         |  |
|                                                                                |  |                                                                                                                                                                                                                                                         |  |
|                                                                                |  |                                                                                                                                                                                                                                                         |  |
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|                                                                                |  |                                                                                                                                                                                                                                                         |  |
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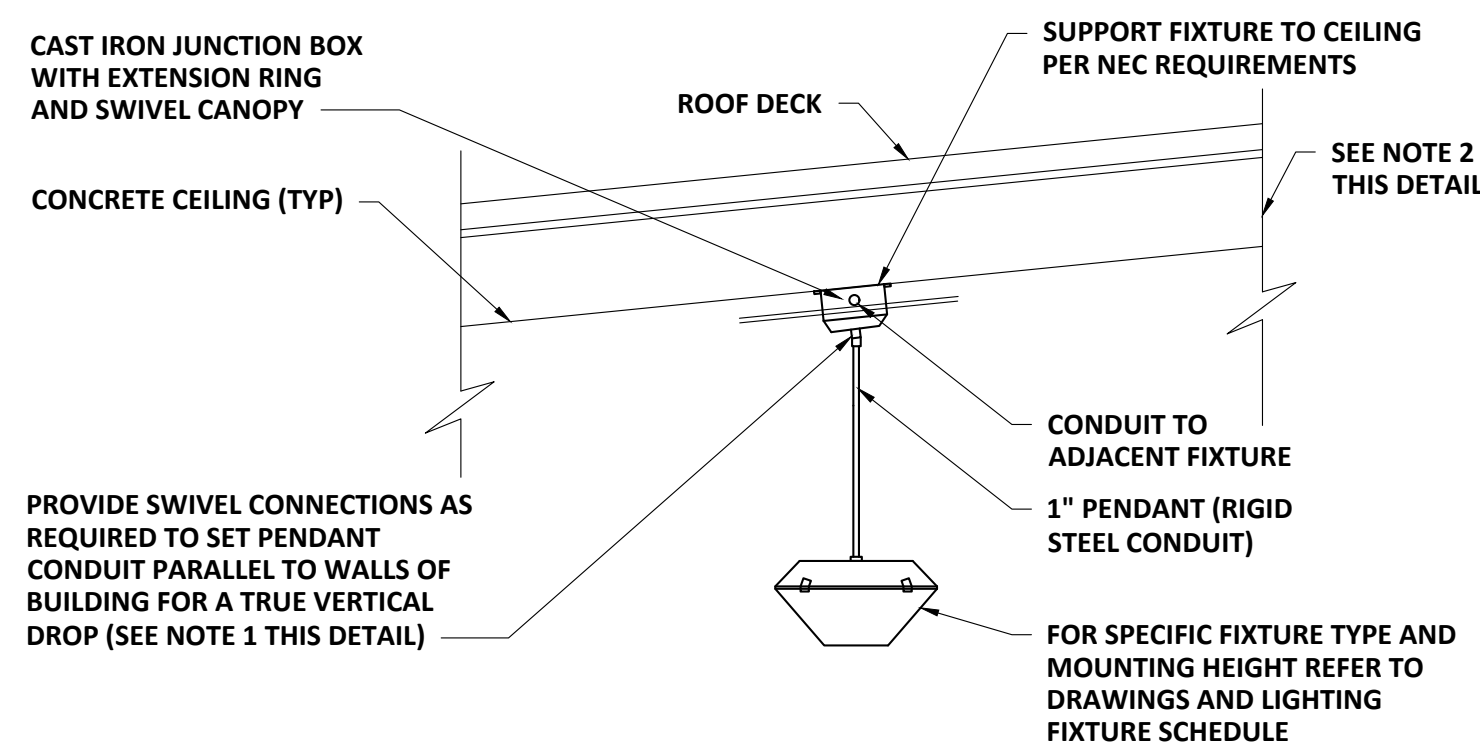




NOTES THIS DETAIL:

1. REFER TO DRAWINGS AND LIGHTING FIXTURE SCHEDULE FOR SPECIFIC REQUIREMENTS FOR THIS TYPE OF INSTALLATION.
2. 10'-0" UNLESS NOTED OTHERWISE IN THE LIGHT PLACEMENT NOTES LOCATED ON THE LIGHTING PLANS.

**WALL BRACKET TYPE**  
**FIXTURE MOUNTING DETAIL**  
NTS



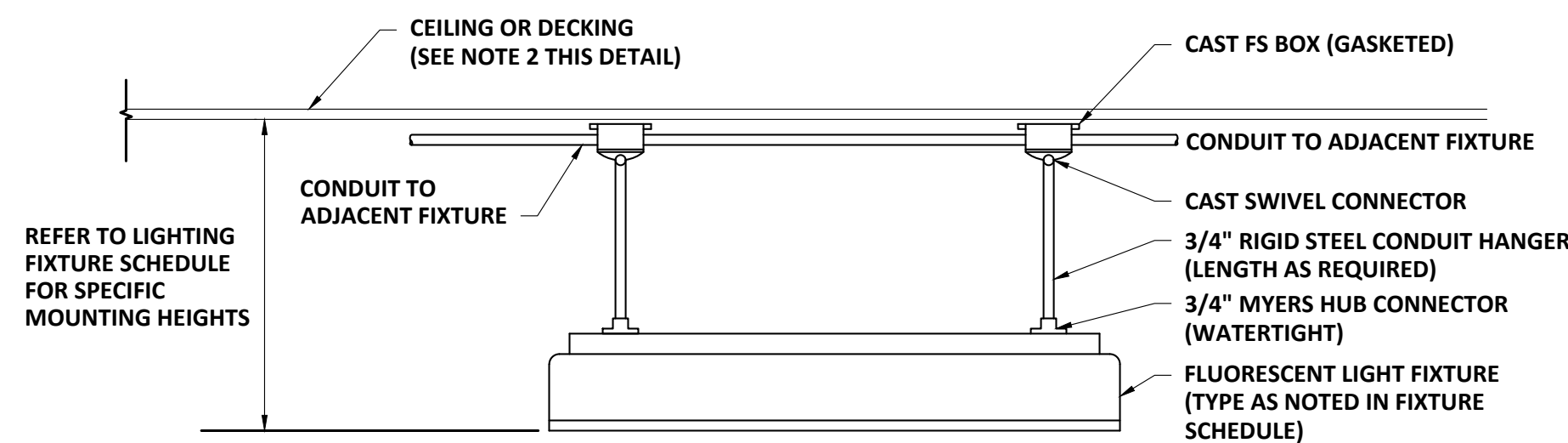
**NOTES THIS DETAIL:**

1. ANY FIXTURE NOT PROPERLY INSTALLED SHALL BE DISCONNECTED AND RE-INSTALLED PROPERLY FOR FINAL ACCEPTANCES BY THE ENGINEER. ANY ADDITIONAL COSTS SHALL BE AT THE EXPENSE OF THIS CONTRACTOR.
2. THE MOUNTING DETAIL HAS BEEN SHOWN FOR A SPECIFIC CEILING TYPE. THE ELECTRICAL SUB-CONTRACTOR SHALL PROVIDE THIS INSTALLATION AND REQUIRED MODIFICATION FOR SPECIFIC TYPE OF CEILING WHERE THIS TYPE OF FIXTURE IS TO BE INSTALLED.
3. PROVIDE GROUNDING LUG, JUMPERS AND BUSHINGS AS REQUIRED TO BOND CONDUIT, LIGHTING FIXTURE AND BOXES PER NEC REQUIREMENTS.

**TYPICAL LED LIGHTING FIXTURE  
MOUNTING INSTALLATION DETAIL**

| CODE | LIGHT SOURCE |                  | MOUNTING                                             | MANUFACTURER                           | CATALOG NO.                     | VOLTS | DESCRIPTION                                                                                                                                          |
|------|--------------|------------------|------------------------------------------------------|----------------------------------------|---------------------------------|-------|------------------------------------------------------------------------------------------------------------------------------------------------------|
|      | TYPE         | LAMPING          |                                                      |                                        |                                 |       |                                                                                                                                                      |
| E    | LED          | 38W              | CEILING OR PENDANT. SEE DRAWINGS FOR MOUNTING HEIGHT | COOPER-METALUX OR EQUAL                | 4VT2-LD4-4-DR-UNV-L835-CD1-WL-U | 120   | 4 FT. ENCL. & POLYURETHANE GASKETED, LED, WET LOCATION, ACRYLIC LENS, 4000 LUMENS                                                                    |
| D    | LED          | 68W              | CEILING OR PENDANT. SEE DRAWINGS FOR MOUNTING HEIGHT | DIALIGHT OR EQUAL                      | LSC-3C4-M3GEX                   | 120   | 4 FT. ENCL. & POLYURETHANE GASKETED, EXPLOSION PROOF, LED, CLASS I, DIV 1, WEATHERPROOF, GLASS LENS, 7250 LUMENS                                     |
| R    | LED          | 50W LED          | WALL*                                                | McGRAW EDISON, COOPER-LUMARK OR EQUAL  | IST-F02-LED-E-1-BL2-BZ-OSB      | 120   | LED COMPACT WALLPACK, UL WET LOCATION, BRONZE FINISH, TRAPEZOID SHAPE., 4000K, 4500 LUMENS, 120VAC, COMPLETE WITH OCCUPANCY SENSOR FOR ONE LIGHT BAR |
| T    | LED          | 27W LED          | WALL*                                                | COOPER-LUMARK OR EQUAL                 | LDWP-GL-3B-ED                   | 120   | LED WALLPACK, UL WET LOCATION, BRONZE FINISH, BOROSILICATE GLASS DOOR, 3300 LUMENS                                                                   |
| EBU  | LED          | (2) 1.5W, 3.6VDC | WALL, 7'AFF                                          | LITHONIA, COOPER SURE LIGHTS, OR EQUAL | ELM2-LED-HO                     | 120   | LED EMERG. BATTERY UNIT W/2 LAMPS, NI-CAD BATTERY, FOR DRY LOCATIONS, 6W REMOTE OUTPUT CAPABILITY                                                    |
| EBU1 | LED          | (2) 1.9W, 9.6VDC | WALL, 7'AFF                                          | LITHONIA, COOPER SURE LIGHTS, OR EQUAL | WLTU-LED                        | 120   | LED EMERG. BATTERY UNIT W/2 LAMPS, NI-CAD BATTERY, FOR WET LOCATIONS, 3.7W REMOTE OUTPUT CAPABILITY                                                  |
| EMD  | LED          | (2) 10W, 30VDC   | WALL, 7'AFF                                          | HUBBELL, COOPER SURE LIGHTS, OR EQUAL  | HLEBS-23DH-P-T                  | 120   | EXPLOSION-PROOF EMERG. BATTERY UNIT W/ (2) 10W LAMP HEADS, NI-CAD BATTERY, COPPER-FREE ALUMINUM HOUSING                                              |
| EMB  | LED          |                  | WALL, 7'AFF                                          | COOPER-SURE-LITES, HUBBELL, OR EQUAL   | LPX7SD                          | 120   | SELF-POWERED EXIT, NI-CAD BATTERY FOR DRY LOCATIONS WITH SELF DIAGNOSTIC SYSTEM                                                                      |
| EMH  | LED          | 10W, 30VDC       | WALL, 7'AFF                                          | HUBBELL, COOPER SURE LIGHTS, OR EQUAL  | EBSHK1030                       | 30VDC | EXPLOSION-PROOF EMERG. SINGLE REMOTE HEAD, EMERGENCY LIGHT                                                                                           |

\* REFER TO ARCHITECTURAL BUILDING ELEVATIONS FOR FIXTURE MOUNTING HEIGHTS



**NOTES THIS DETAIL:**

1. ANY FIXTURE NOT PROPERLY INSTALLED SHALL BE DISCONNECTED AND RE-INSTALLED PROPERLY FOR FINAL ACCEPTANCE BY THE ENGINEER. ANY ADDITIONAL COSTS SHALL BE AT THE EXPENSE OF THIS CONTRACTOR.
2. THIS DETAIL IS SHOWN DIAGRAMMATICALLY, CEILING AND CEILING JOIST ORIENTATION MAY NOT REFLECT ACTUAL FIELD CONDITIONS.

**TYPICAL LED LIGHTING FIXTURE  
MOUNTING INSTALLATION DETAIL**

|                                                                                                                                                                                                                                                                                                                                                                                 |  |                                                                                                                     |  |                     |  |           |  |      |  |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|---------------------------------------------------------------------------------------------------------------------|--|---------------------|--|-----------|--|------|--|
| <div><div><div>WRIGHT-PIERCE</div><div>860.343.8297   <a href="http://www.wright-pierce.com">www.wright-pierce.com</a></div><div>169 MAIN STREET, 700 PLAZA MIDDLESEX, MIDDLETOWN, CT 06457</div></div><div><div>WATERFORD UTILITY COMMISSION</div><div>OLD NORWICH ROAD</div><div>SEWER PUMP STATION UPGRADE</div></div><div>LIGHTING FIXTURE SCHEDULE AND DETAILS</div></div> |  | <div><div>6/29/2023</div></div> |  | PROJECT NO: 21490   |  | REVISIONS |  | NO   |  |
|                                                                                                                                                                                                                                                                                                                                                                                 |  |                                                                                                                     |  | DESIGNED: S.CONWAY  |  | APPD      |  | DATE |  |
|                                                                                                                                                                                                                                                                                                                                                                                 |  |                                                                                                                     |  | CAD COORD: ELLAGNER |  |           |  |      |  |
|                                                                                                                                                                                                                                                                                                                                                                                 |  |                                                                                                                     |  | CAD: S.MAIURO       |  |           |  |      |  |
|                                                                                                                                                                                                                                                                                                                                                                                 |  |                                                                                                                     |  | CHECKED: A.DANIELLO |  |           |  |      |  |
|                                                                                                                                                                                                                                                                                                                                                                                 |  |                                                                                                                     |  | DATE: JUNE 2023     |  |           |  |      |  |
|                                                                                                                                                                                                                                                                                                                                                                                 |  |                                                                                                                     |  | APPROVED: S.CONWAY  |  |           |  |      |  |
| DATE: JUNE 2023                                                                                                                                                                                                                                                                                                                                                                 |  |                                                                                                                     |  |                     |  |           |  |      |  |
| SUBMISSION: CONTRACT DRAWINGS                                                                                                                                                                                                                                                                                                                                                   |  |                                                                                                                     |  |                     |  |           |  |      |  |