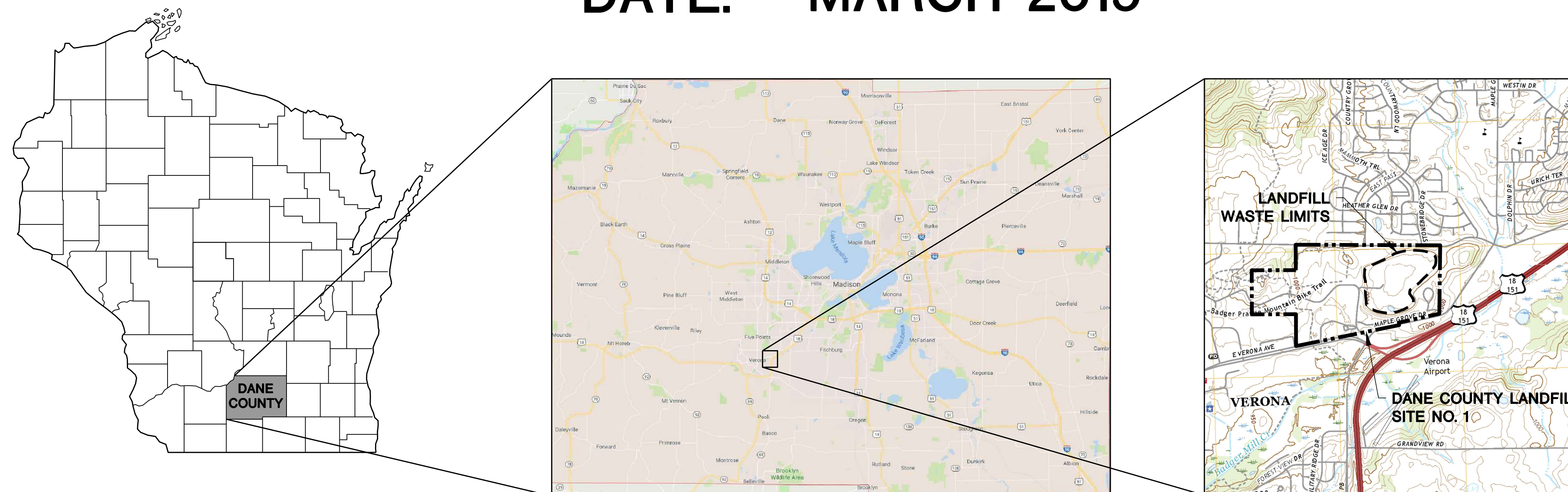


# ISSUED FOR BID DANE COUNTY LANDFILL SITE NO. 1 (VERONA LANDFILL) PERIMETER GAS MITIGATION SYSTEM VERONA, WISCONSIN

**PREPARED FOR:** DANE COUNTY  
DEPARTMENT OF WASTE AND RENEWABLES  
1919 ALLIANT ENERGY CENTER WAY  
MADISON, WISCONSIN 53713

**PREPARED BY:** SCS ENGINEERS  
MADISON, WISCONSIN

**DATE:** MARCH 2019



WISCONSIN

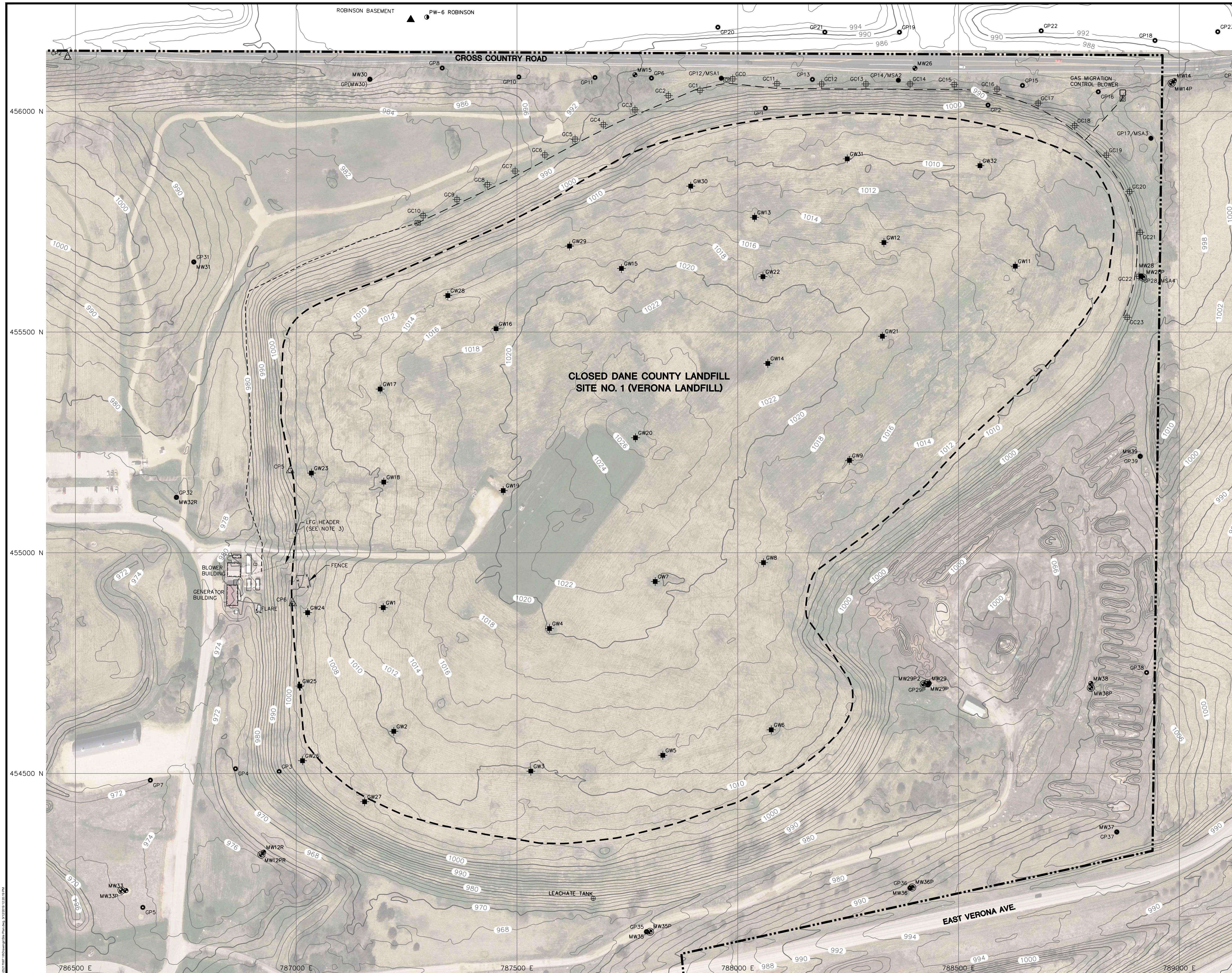
DANE COUNTY  
(NOT TO SCALE)

VICINITY  
LOCATOR MAP  
APPROXIMATE SCALE: 1" = 2,000'

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3	DOCUMENTATION TABLES
4	PERIMETER GAS MITIGATION SYSTEM LAYOUT
5	DETAILS
6	DETAILS AND P&ID
7	BLOWER AREA PIPING
8	ONE-LINE DIAGRAM





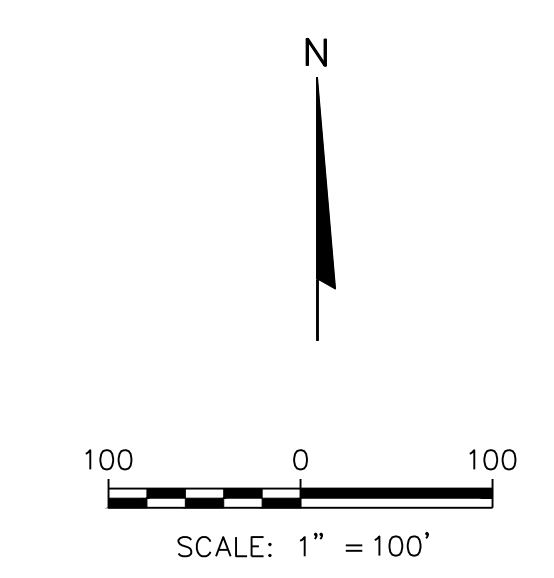
- LEGEND
- PROPERTY BOUNDARY (APPROXIMATE)
  - LIMITS OF WASTE (APPROXIMATE)
  - 1000 EXISTING GRADE (10' CONTOUR)
  - 998 EXISTING GRADE (2' CONTOUR)
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  - ⊕ CONDENSATE SUMP
  - △ CP3 CONTROL POINT

- NOTES:
- AERIAL PHOTOGRAPH (APRIL 2017) AND TOPOGRAPHY (2017) PROVIDED BY DANE COUNTY.
  - MAP COORDINATE SYSTEM IS SET TO DANE COUNTY COORDINATES, NAD 83.
  - EXISTING UTILITIES IN BLOWER AREA FROM DANE COUNTY NO.1 (VERONA) LANDFILL "SITE PLAN" SHEET 4 OF 6, DATED JANUARY 2017. EXISTING UTILITY LOCATIONS ARE APPROXIMATE AND WILL BE FIELD LOCATED BY OWNER PRIOR TO CONSTRUCTION.

CONTROL POINT INFORMATION

CP NO.	NORTHING	EASTING	ELEVATION	DESCRIPTION
1	456147.7685	783818.2485	986.6650	NW CORNER OF SECTION 14, ALUM. MON. SET NEAR THE SOUTH R.O.W. LINE OF CROSS COUNTRY ROAD WEST OF THE DRIVEWAY FOR 6861 CROSS COUNTRY ROAD.
2	456122.4802	786482.2167	1006.9920	NW CORNER OF NE 1/4 SECTION 14, ALUM. MON. SET NEAR THE SOUTH R.O.W. LINE OF CROSS COUNTRY ROAD.
3	453117.7330	786609.5789	953.3100	BRASS CAP SET IN CONCRETE MARKED WITH ORANGE FIBERGLASS POSTS LOCATED SOUTH OF CTH MV NEAR ENTRANCE TO MILITARY RIDGE PARKING LOT.
4	456071.8137	789139.1935	995.3440	NE CORNER OF SECTION 14, BRASS CAP SET NEAR THE SOUTH R.O.W. LINE OF CROSS COUNTRY ROAD.
5	455186.2447	786986.5741	1004.3940	STEEL SURVEY MARKER NAIL SET IN WEST EDGE OF CONCRETE RIM OF SANITARY MANHOLE NE OF BLOWER BUILDING.
6	454885.0357	786992.2129	1001.2850	MAG NAIL SET IN WEST EDGE OF CONCRETE RIM OF SANITARY MANHOLE EAST OF GAS FLARE.

\*CONTROL POINT 1 AND 3 ARE OUTSIDE THE MAP LIMITS.




PROJECT NO. 2521708719  
 DRAWN BY: KP/BSS  
 CHECKED BY: MRH  
 PROJECT NAME: DANE COUNTY WASTE AND RENEWABLES 1919 ALLIANT ENERGY CENTER WY. MADISON, WISCONSIN 53713  
 DATE: 12/18/18  
 REVISED: 03/12/19  
 APPROVED BY: JMO, 03/11/19  
 CLIENT: DANE COUNTY WASTE AND RENEWABLES  
 ENGINEER: SCSS ENGINEERS  
 2830 DARY DRIVE MADISON, WI 53718-0797  
 PHONE: (608) 224-2830  
 ISSUED FOR BID: VERONA LANDFILL PERIMETER GAS MITIGATION SYSTEM VERONA, WISCONSIN  
 SITE: VERONA LANDFILL PERIMETER GAS MITIGATION SYSTEM  
 EXISTING CONDITIONS  
 SHEET: 2 OF 8



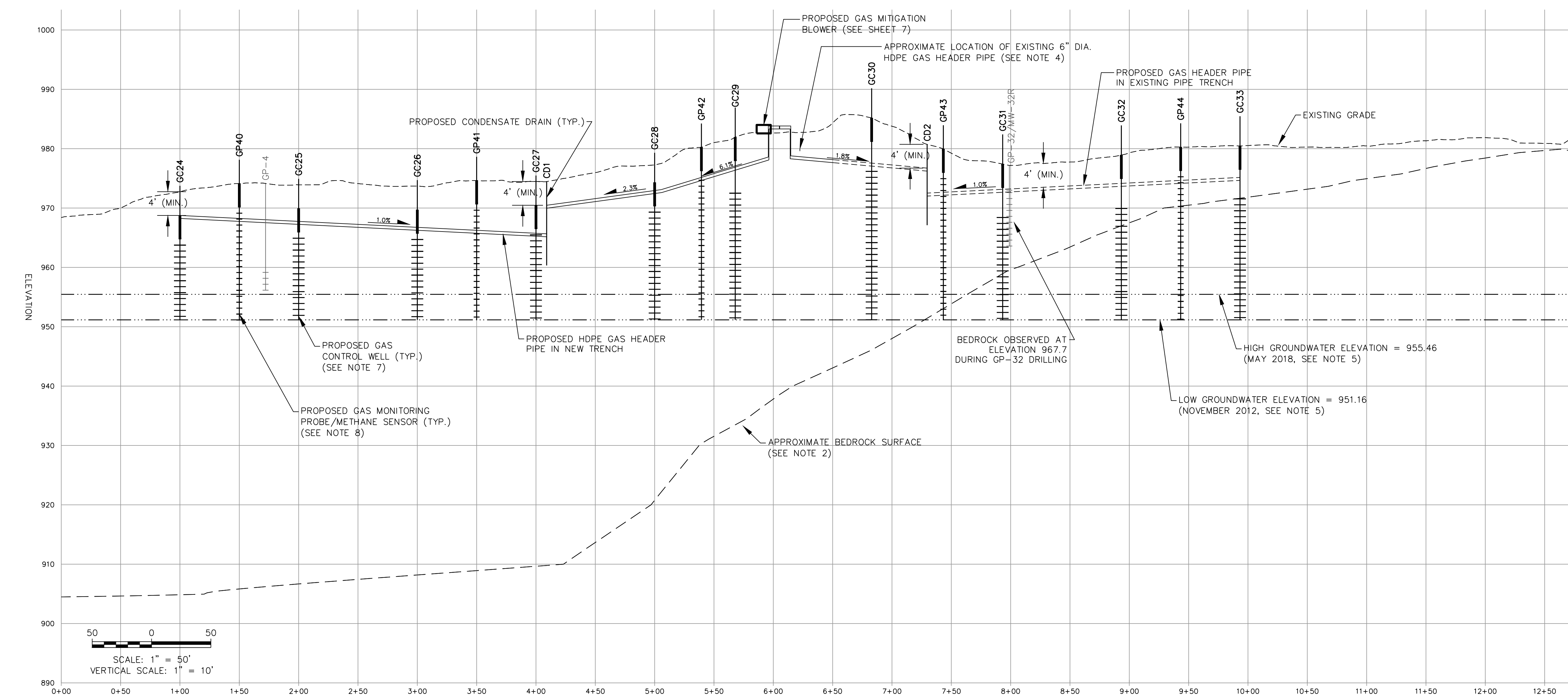
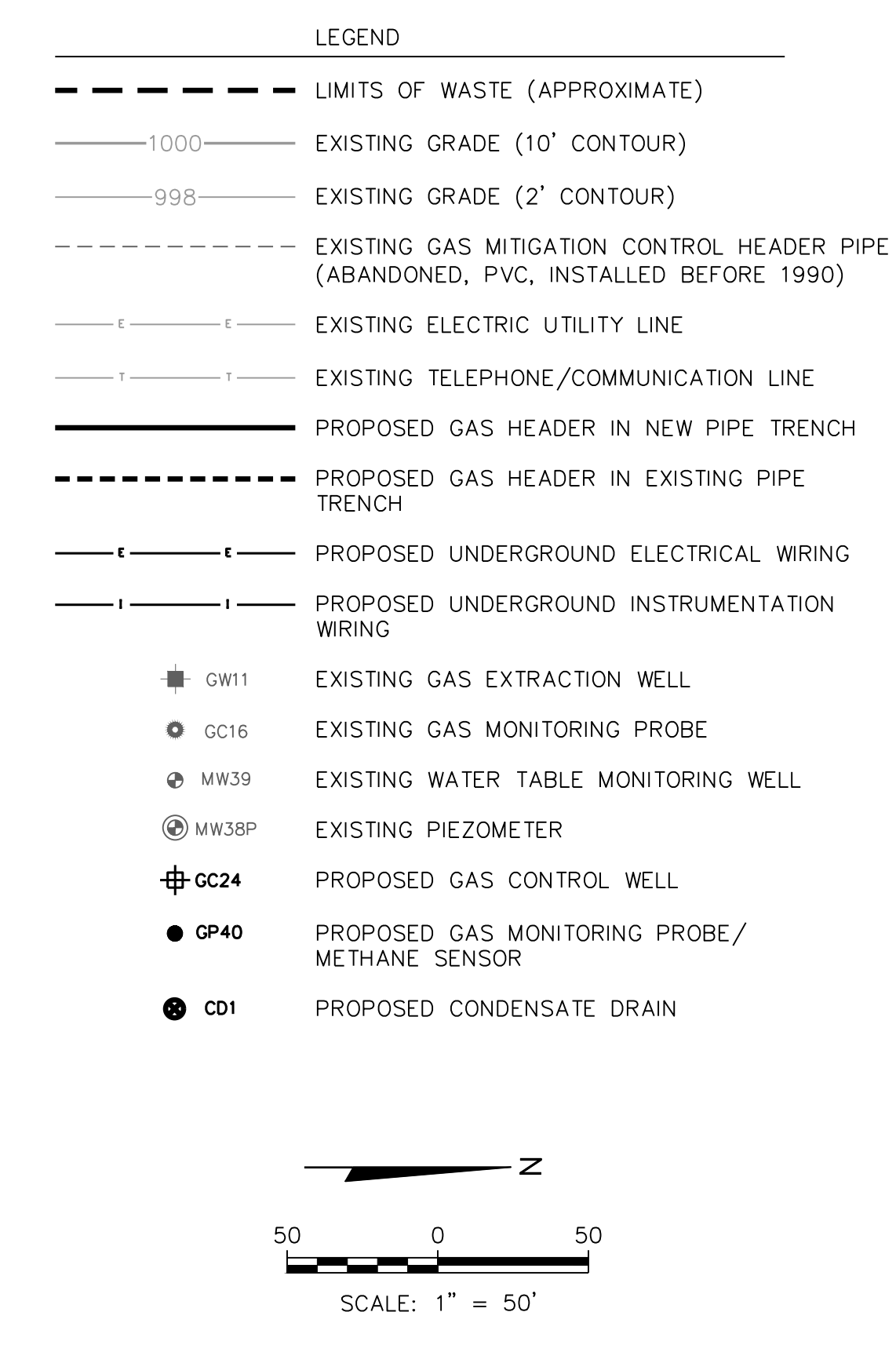
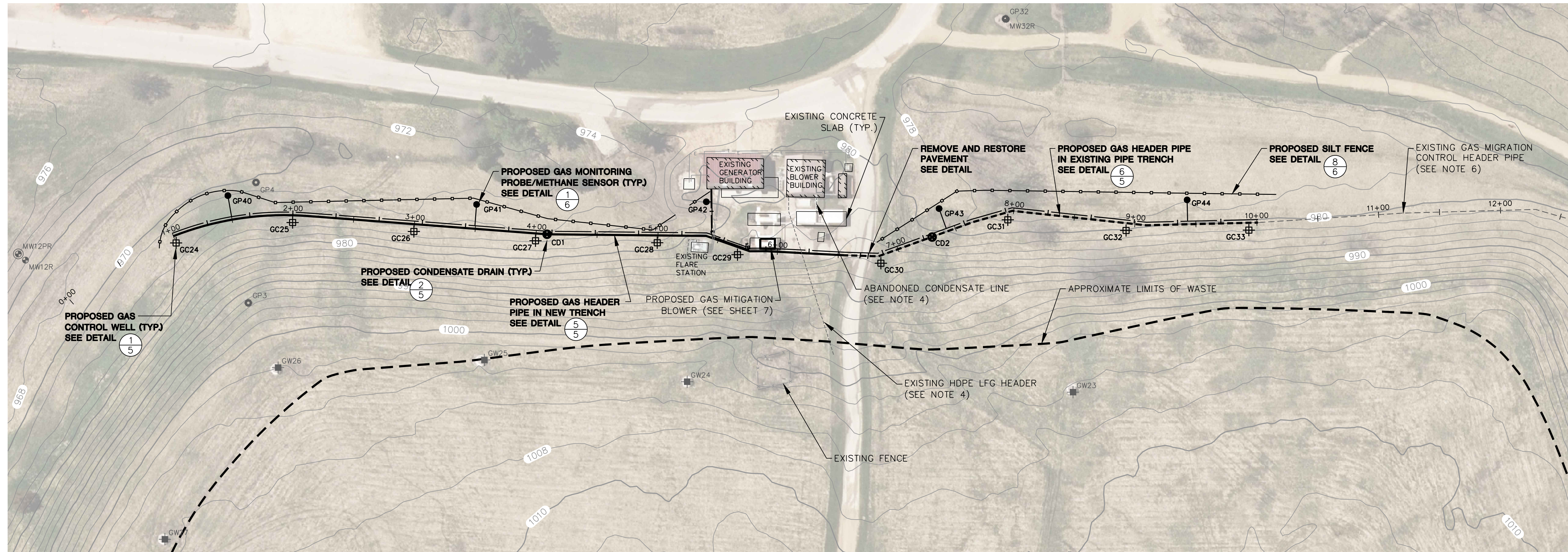
PROPOSED GAS CONTROL WELL INFORMATION TABLE (ALL DEPTHS IN FEET)									
WELL NO.	NORTH	EAST	EXISTING GROUND SURFACE ELEVATION (A)	DESIGN BOREHOLE BOTTOM ELEVATION (B)	DESIGN BOREHOLE DEPTH (C)	DESIGN TOP OF WELL (D)	DESIGN SOLID PIPE (INCLUDES STICK-UP)	TOP OF PERFORATED PIPE ELEVATION (E)	DESIGN PERFORATED WELL PIPE LENGTH (F)
GC24	454,445	786,912	973.20	951.16	22.04	976.20	11.50	964.70	12.54
GC25	454,541	786,895	974.96	951.16	23.80	977.96	11.50	966.46	14.30
GC26	454,640	786,903	975.09	951.16	23.93	978.09	11.50	966.59	14.43
GC27	454,740	786,910	975.89	951.16	24.73	978.89	11.50	967.39	15.23
GC28	454,840	786,912	978.30	951.16	27.14	981.30	11.50	969.80	17.64
GC29	454,905	786,922	982.23	951.16	31.07	985.23	11.50	973.73	21.57
GC30	455,023	786,929	985.71	951.16	34.55	988.71	11.50	977.21	25.05
GC31	455,127	786,893	977.91	951.16	26.75	980.91	11.50	969.41	17.25
GC32	455,224	786,902	980.18	951.16	29.02	983.18	11.50	971.68	19.52
GC33	455,325	786,902	981.81	951.16	30.65	984.81	11.50	973.31	21.15

PROPOSED GAS MONITORING PROBE INFORMATION TABLE (ALL DEPTHS IN FEET)										
PROBE NO.	NORTH	EAST	EXISTING GROUND SURFACE ELEVATION (A)	DESIGN BOREHOLE BOTTOM ELEVATION (B)	DESIGN BOREHOLE DEPTH (C)	DESIGN TOP OF PROBE (D)	DESIGN SOLID PIPE (INCLUDES STICK-UP)	DESIGN WELL PIPE STICK-UP ABOVE GROUND SURFACE	TOP OF PERFORATED PIPE ELEVATION (E)	DESIGN PERFORATED WELL PIPE LENGTH (F)
GP40	454,488	786,873	971.96	951.16	20.80	974.96	8.00	3.00	966.96	14.80
GP41	454,692	786,881	972.91	951.16	21.75	975.91	8.00	3.00	967.91	15.75
GP42	454,881	786,874	980.00	951.16	28.84	983.00	8.00	3.00	975.00	22.84
GP43	455,071	786,884	978.85	951.16	27.69	981.85	8.00	3.00	973.85	21.69
GP44	455,274	786,877	977.89	951.16	26.73	980.89	8.00	3.00	972.89	20.73

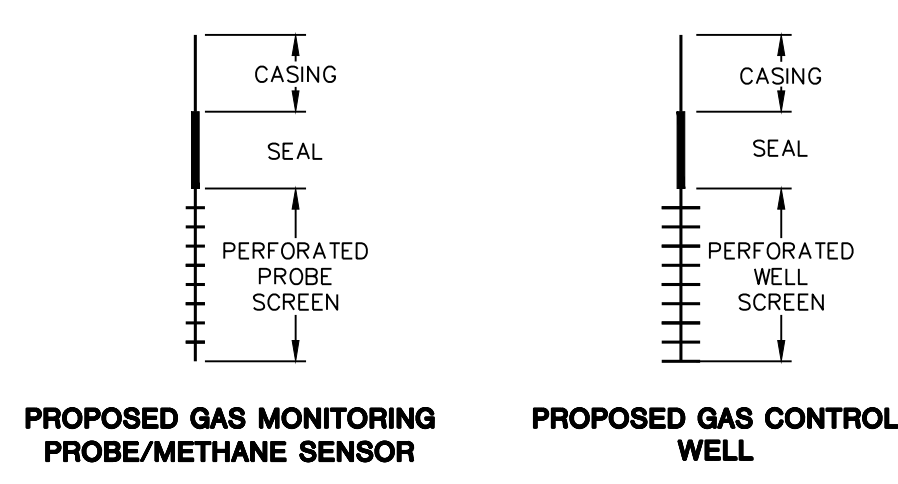
C:\Users\jdoyle\OneDrive\Documents\20250312\250312.dwg

PROJECT NO. 252708719	DRAWN BY: RP/BSS	CHECKED BY: MRH	APPROVED BY: JMO, 03/11/19
DANE COUNTY WASTE AND RENEWABLES 1919 ALLIANT ENERGY CENTER WY. MADISON, WISCONSIN 53713	CLIENT		
 2830 DARY DRIVE MADISON, WI 53718-6797 PHONE: (608) 224-2830			
ENGINEER			
ISSUED FOR BID VERONA LANDFILL PERIMETER GAS MITIGATION SYSTEM VERONA, WISCONSIN			
SITE			
DOCUMENTATION TABLES			
SHEET			
3 of 8			





- NOTES:**
- SEE SHEET 2 FOR ADDITIONAL BASE MAP NOTES AND LEGEND ITEMS.
  - APPROXIMATE BEDROCK SURFACE DIGITIZED FROM DANE COUNTY WISCONSIN DEPARTMENT OF PUBLIC WORKS "SANITARY LANDFILL NO. 1 - BEDROCK SURFACE TOPOGRAPHIC MAP" DATED NOVEMBER, 1990.
  - AERIAL PHOTOGRAPH (APRIL 2017) AND TOPOGRAPHY (2017) PROVIDED BY DANE COUNTY.
  - EXISTING UTILITIES IN BLOWER AREA FROM DANE COUNTY NO.1 (VERONA) LANDFILL "SITE PLAN" SHEET 4 OF 6, DATED JANUARY 2017. EXISTING UTILITY LOCATIONS ARE APPROXIMATE AND WILL BE FIELD LOCATED BY OWNER PRIOR TO CONSTRUCTION.
  - GROUNDWATER ELEVATIONS BASED ON MEASUREMENTS TAKEN AT MONITORING WELL MW-32R IN NOVEMBER 2012 AND MAY 2018 AND REPRESENT THE LOW AND HIGH OBSERVED GROUNDWATER ELEVATIONS FROM 2009 - 2018.
  - EXISTING GAS MIGRATION CONTROL HEADER PIPE ALIGNMENT FROM "GAS MIGRATION SYSTEM LAYOUT" DATED NOVEMBER 1997 BY RMT.
  - INSTALL GAS CONTROL WELLS TO LOW GROUNDWATER ELEVATION (AS SHOWN) OR TO AUGER REFUSAL (AS APPROVED BY ENGINEER).
  - INSTALL GAS MONITORING PROBES TO THE LOW GROUNDWATER ELEVATION (AS SHOWN) OR TO AUGER REFUSAL (AS APPROVED BY ENGINEER).



PROJECT NO. 2521708719  
 DRAWN BY: RP/BSS/LEC  
 CHECKED BY: MRH  
 APPROVED BY: JMO, 03/11/19

DANE COUNTY WASTE AND RENEWABLES  
 1919 ALLIANT ENERGY CENTER WAY  
 MADISON, WISCONSIN 53713

CLIENT

ISSUED FOR BID  
 VERONA LANDFILL  
 PERIMETER GAS MITIGATION SYSTEM  
 VERONA, WISCONSIN

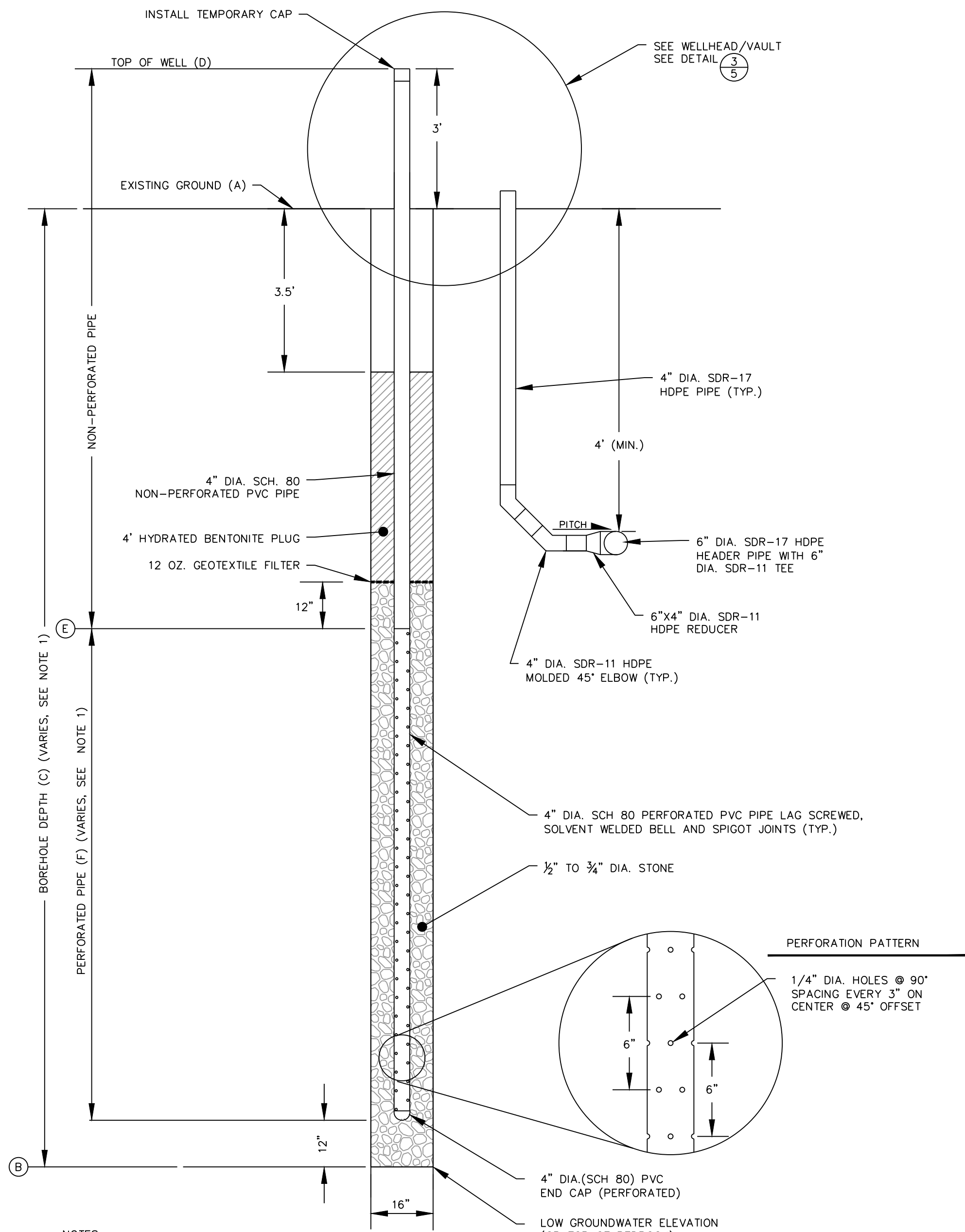
ENGINEER

SITE

PERIMETER GAS MITIGATION SYSTEM LAYOUT

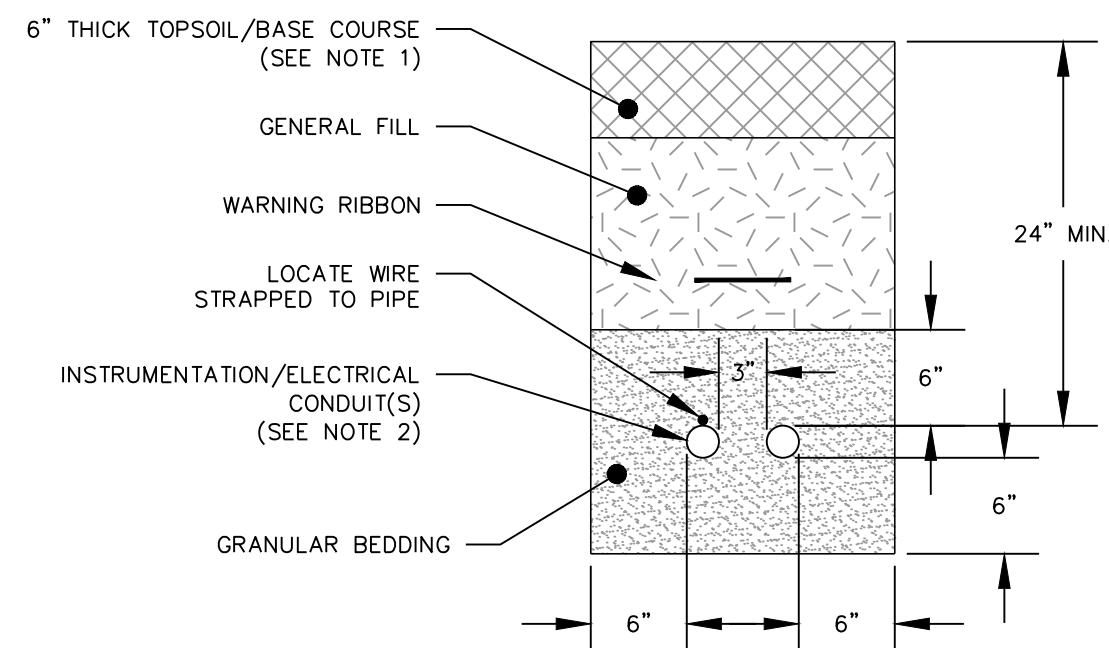
SHEET 4 of 8





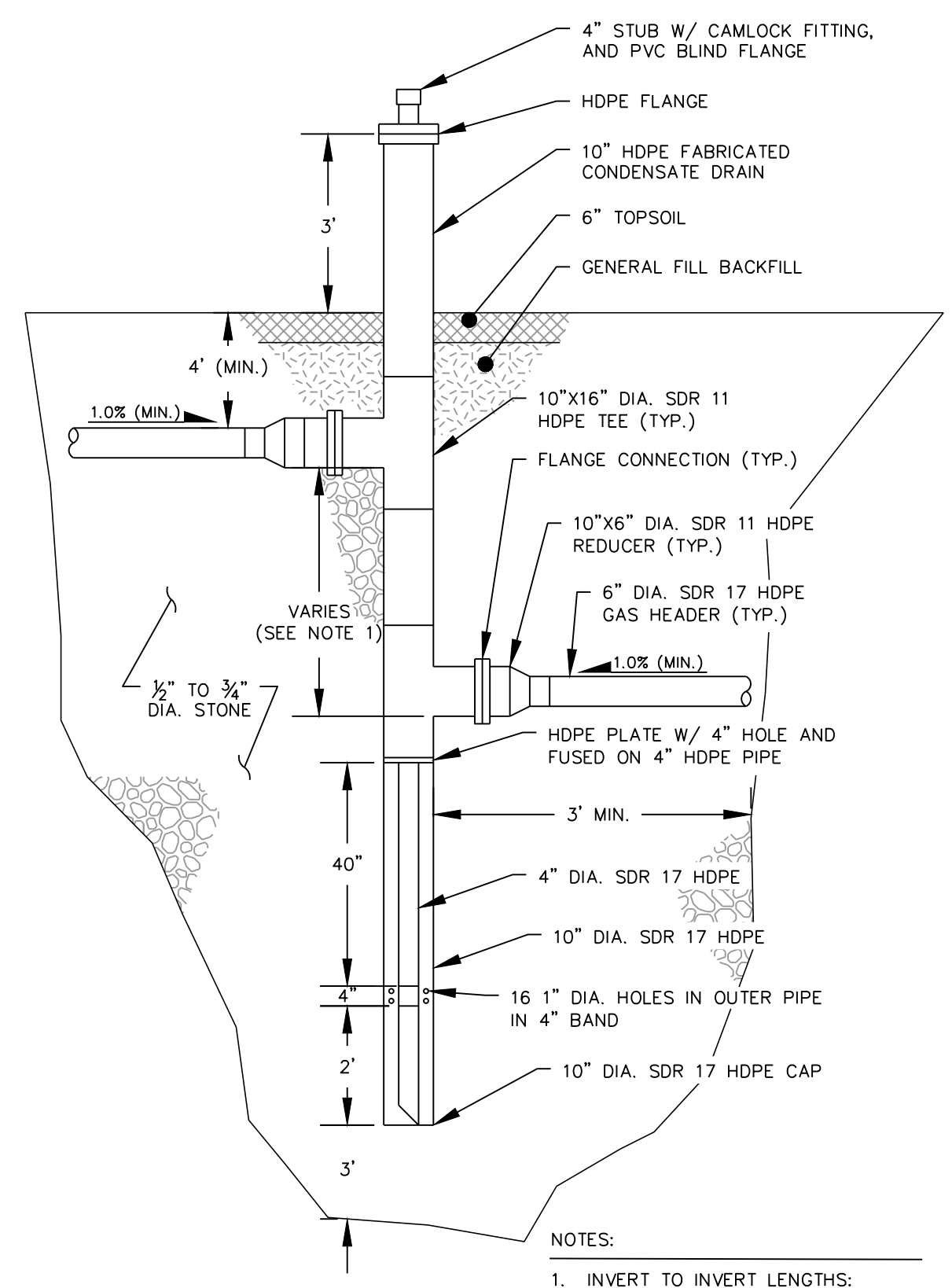
NOTES:  
 1. SEE PROPOSED GAS CONTROL WELL INFORMATION TABLE ON SHEET 3 FOR DIMENSIONS AND ELEVATIONS.

**1** GAS CONTROL WELL  
 NOT TO SCALE



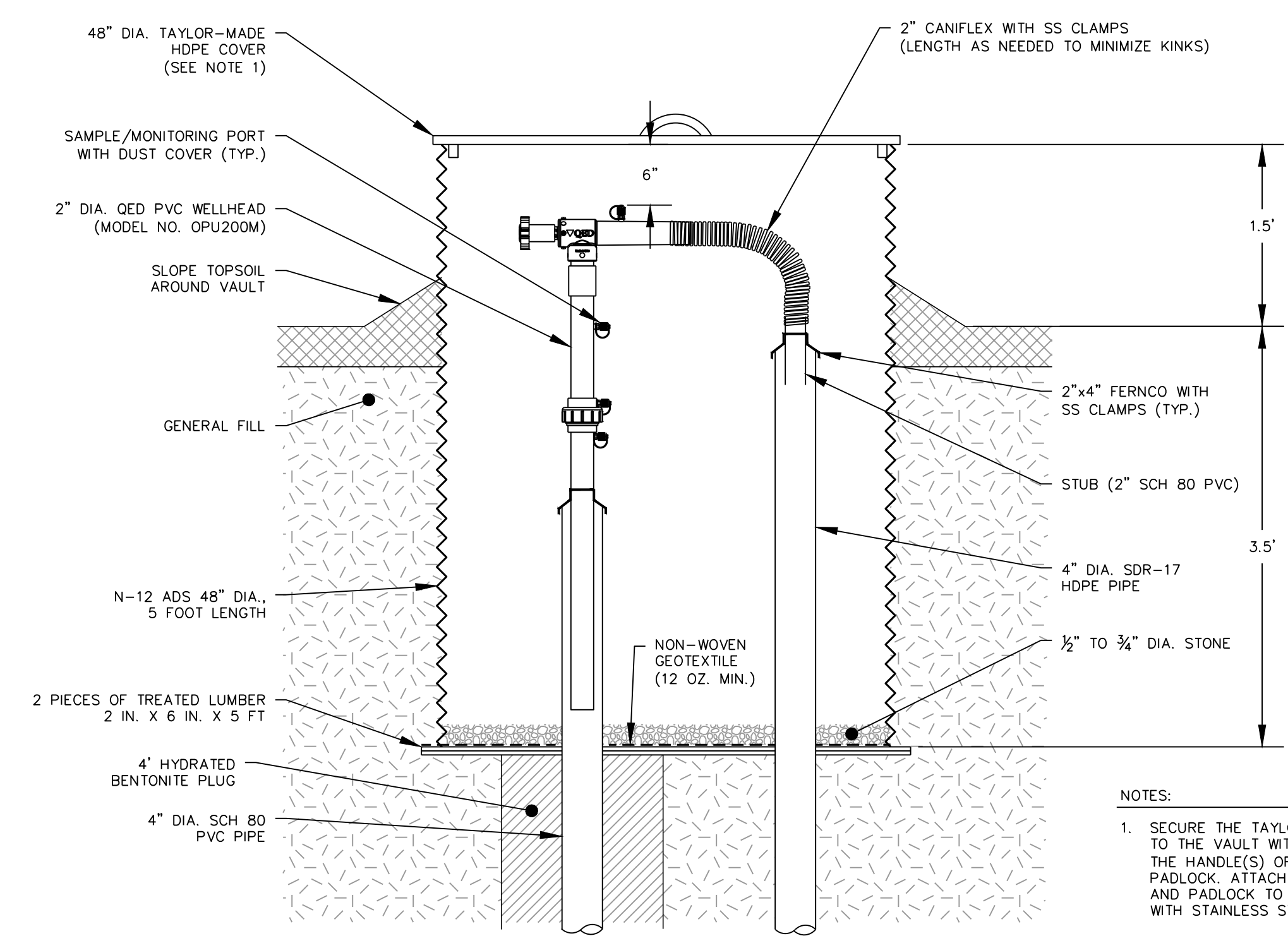
NOTES:  
 1. RESTORE GRASSED AREAS WITH TOPSOIL. RESTORE GRAVEL AND ASPHALT AREAS (EXCEPT ASPHALT DRIVE AREA) WITH BASE COURSE.  
 2. REFER TO ONE-LINE DIAGRAM ON SHEET 8 AND PROVIDE CONDUIT(S) AS NEEDED FOR ELECTRICAL/INSTRUMENTATION WIRING.

**4** ELECTRICAL/INSTRUMENTATION TRENCH  
 NOT TO SCALE



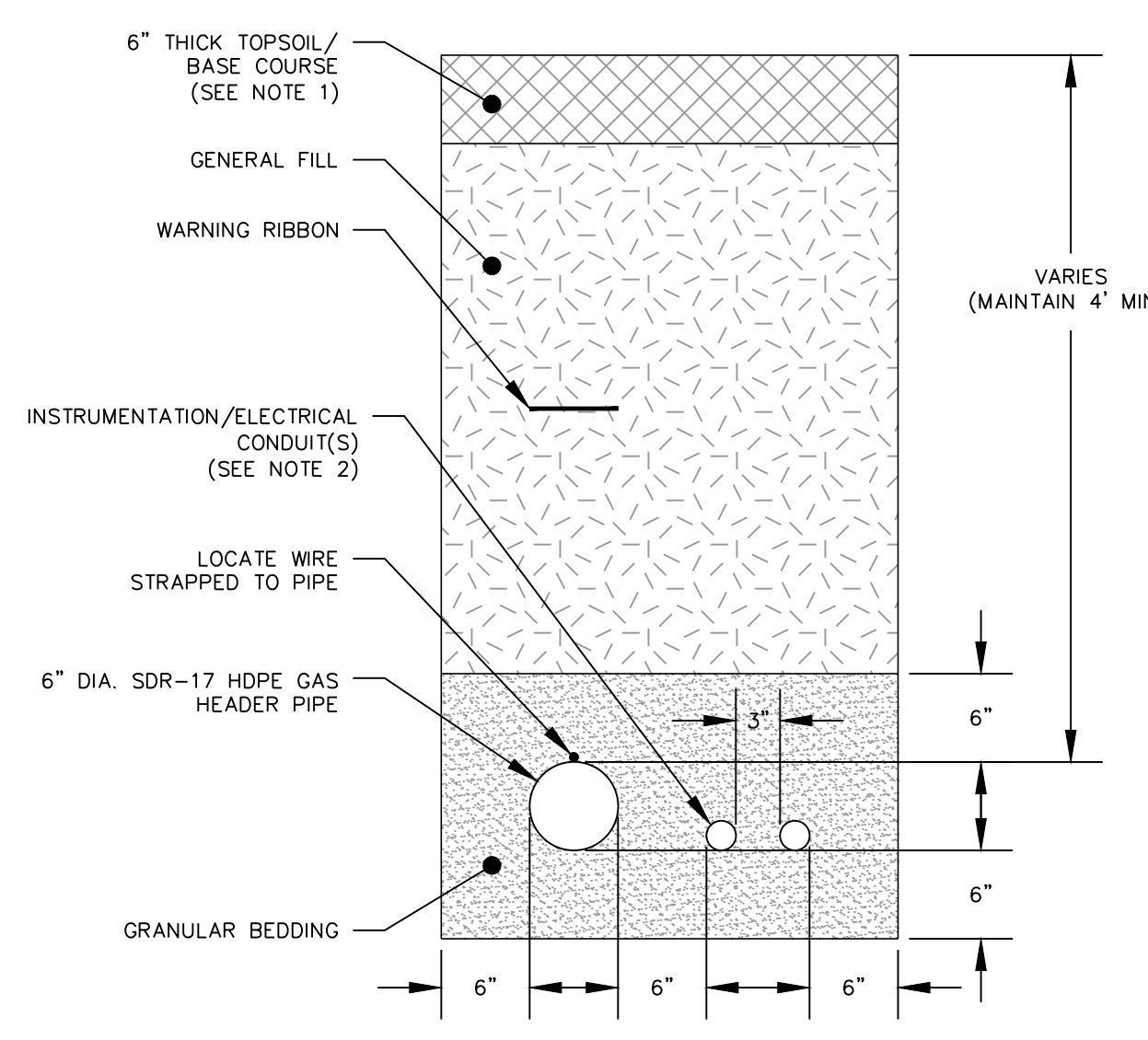
NOTES:  
 1. INVERT TO INVERT LENGTHS:  
 CONDENSATE DRAIN CD1 = 4.81 FEET  
 CONDENSATE DRAIN CD2 = 4.21 FEET

**2** CONDENSATE DRAIN  
 NOT TO SCALE



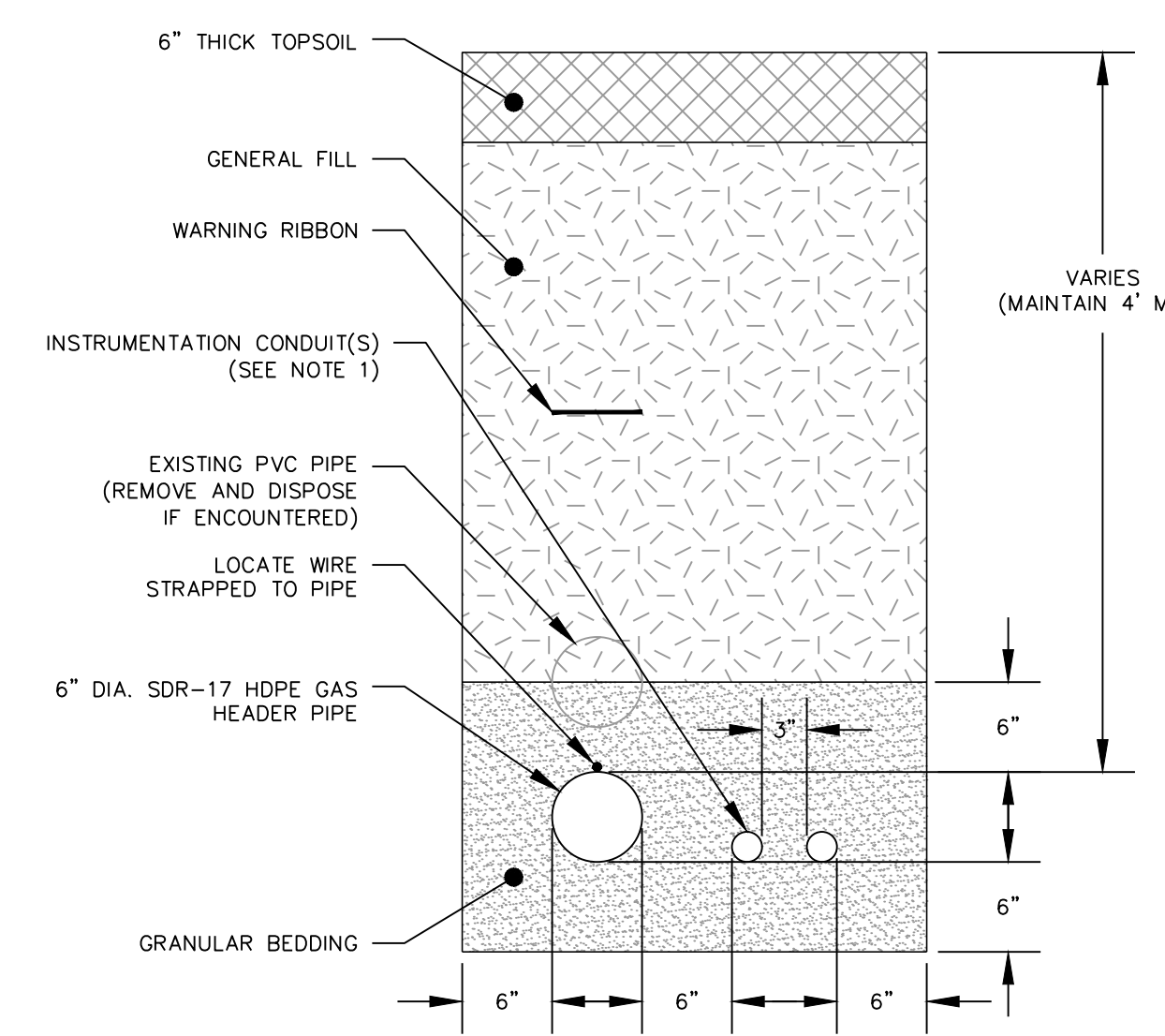
NOTES:  
 1. SECURE THE TAYLOR-MADE HDPE COVER TO THE VAULT WITH A CHAIN THROUGH THE HANDLE(S) OF THE COVER AND A PADLOCK. ATTACH THE END OF THE CHAIN AND PADLOCK TO THE SIDE OF THE VAULT WITH STAINLESS STEEL U-BOLTS.

**3** WELLHEAD / VAULT  
 NOT TO SCALE



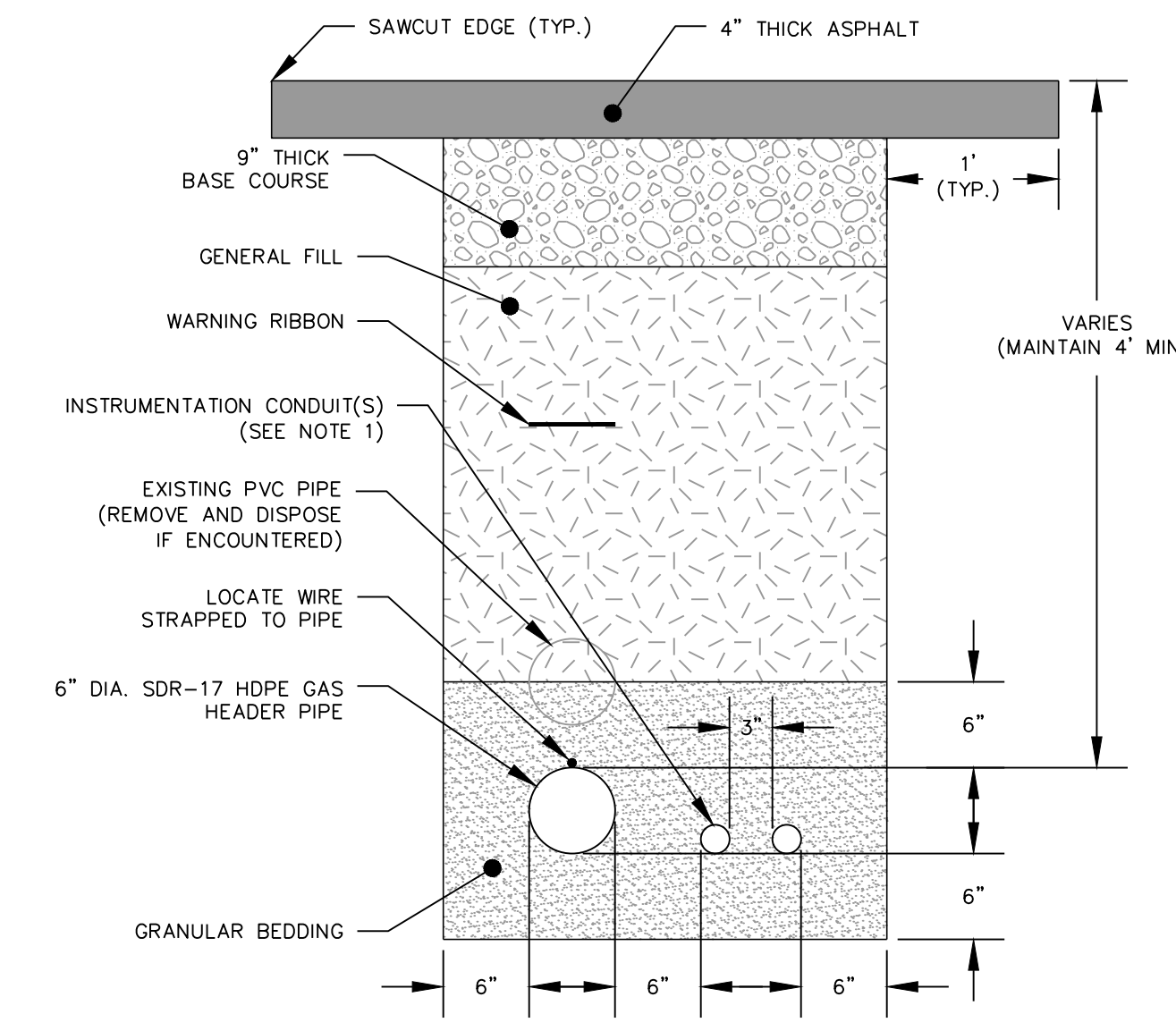
NOTES:  
 1. RESTORE GRASSED AREAS WITH TOPSOIL. RESTORE GRAVEL AND ASPHALT AREAS (EXCEPT ASPHALT DRIVE AREA) WITH BASE COURSE.  
 2. REFER TO ONE-LINE DIAGRAM AND PROVIDE CONDUIT(S) AS NEEDED FOR ELECTRICAL/INSTRUMENTATION WIRING.

**5** GAS HEADER PIPE IN NEW TRENCH  
 NOT TO SCALE



NOTES:  
 1. REFER TO ONE-LINE DIAGRAM AND PROVIDE CONDUIT(S) AS NEEDED FOR INSTRUMENTATION WIRING.

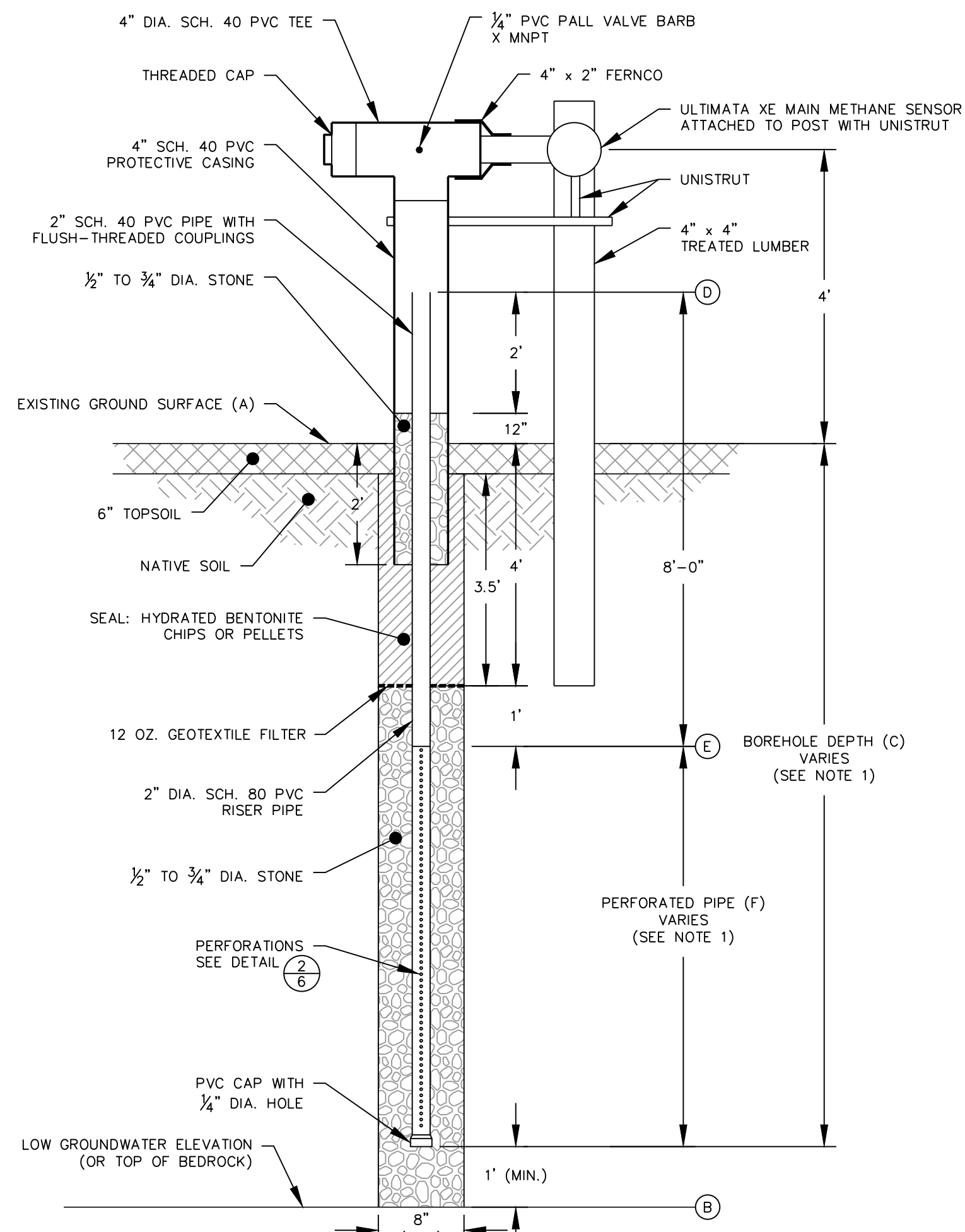
**6** GAS HEADER PIPE IN EXISTING PIPE TRENCH  
 NOT TO SCALE



NOTES:  
 1. REFER TO ONE-LINE DIAGRAM AND PROVIDE CONDUIT(S) AS NEEDED FOR INSTRUMENTATION WIRING.  
 2. RESAW ASPHALT EDGE, IF EDGE IS DAMAGED DURING TRENCHING AND BACKFILLING ACTIVITIES.

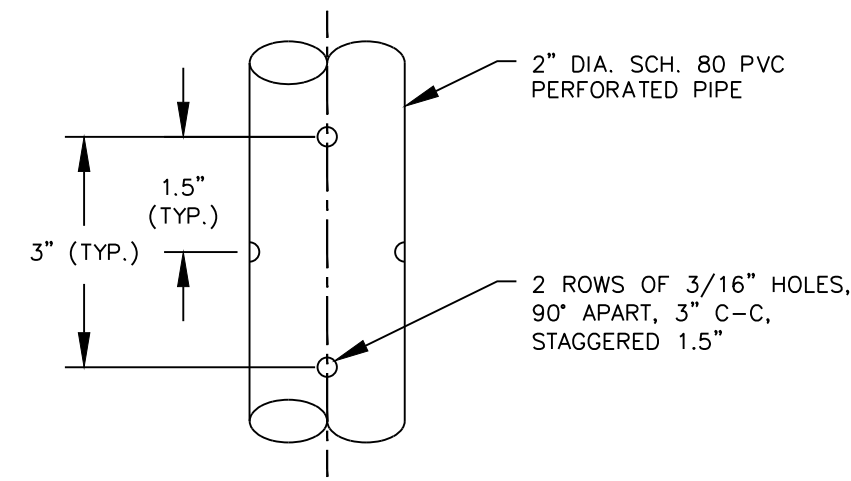
**7** GAS HEADER TRENCH THROUGH ASPHALT DRIVE  
 NOT TO SCALE





NOTES:  
1. SEE PROPOSED GAS MONITORING PROBE INFORMATION TABLE ON SHEET 3 FOR DIMENSIONS AND ELEVATIONS.

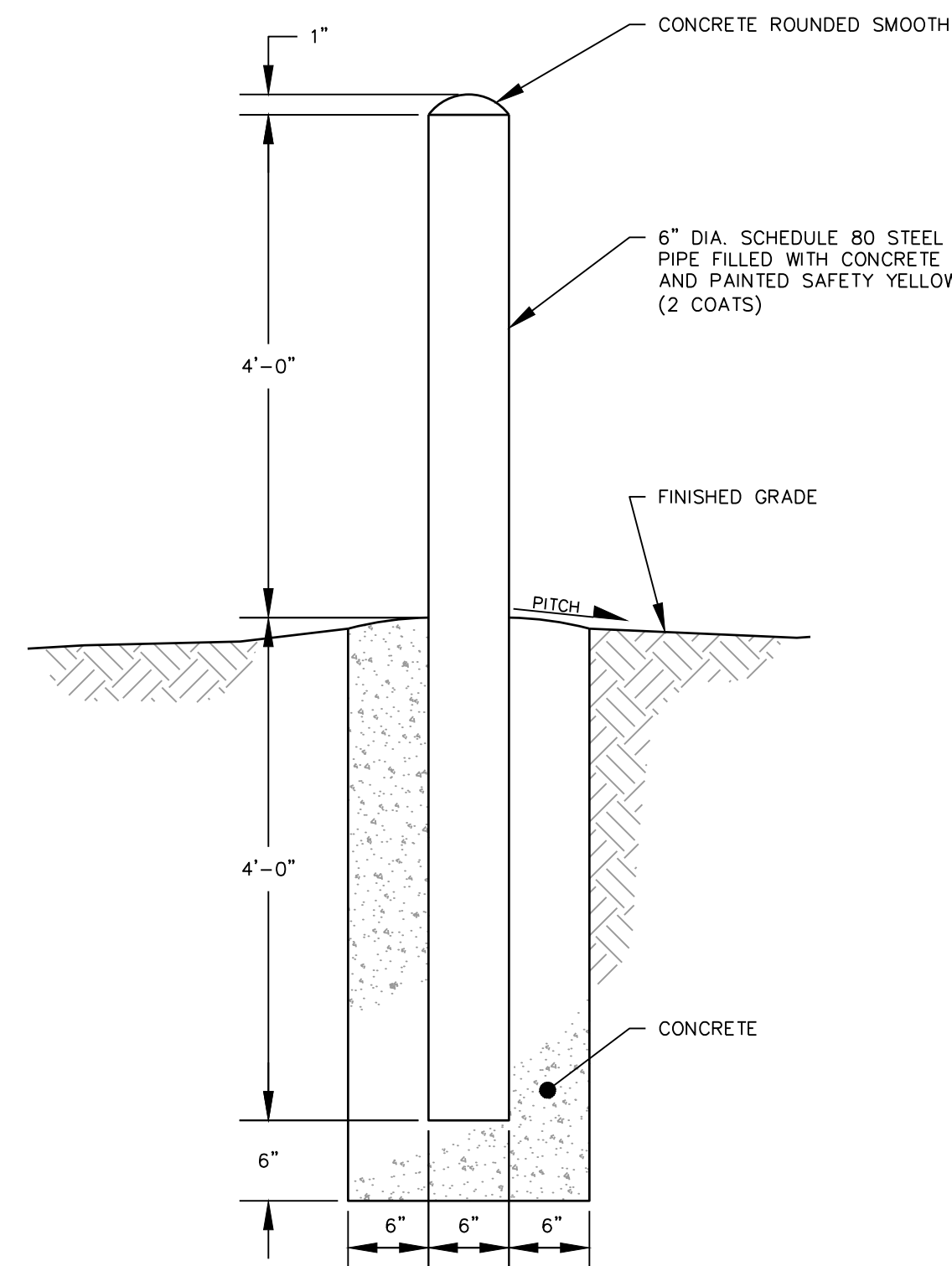
**1**  
**6**  
**GAS MONITORING PROBE/METHANE SENSOR**  
NOT TO SCALE



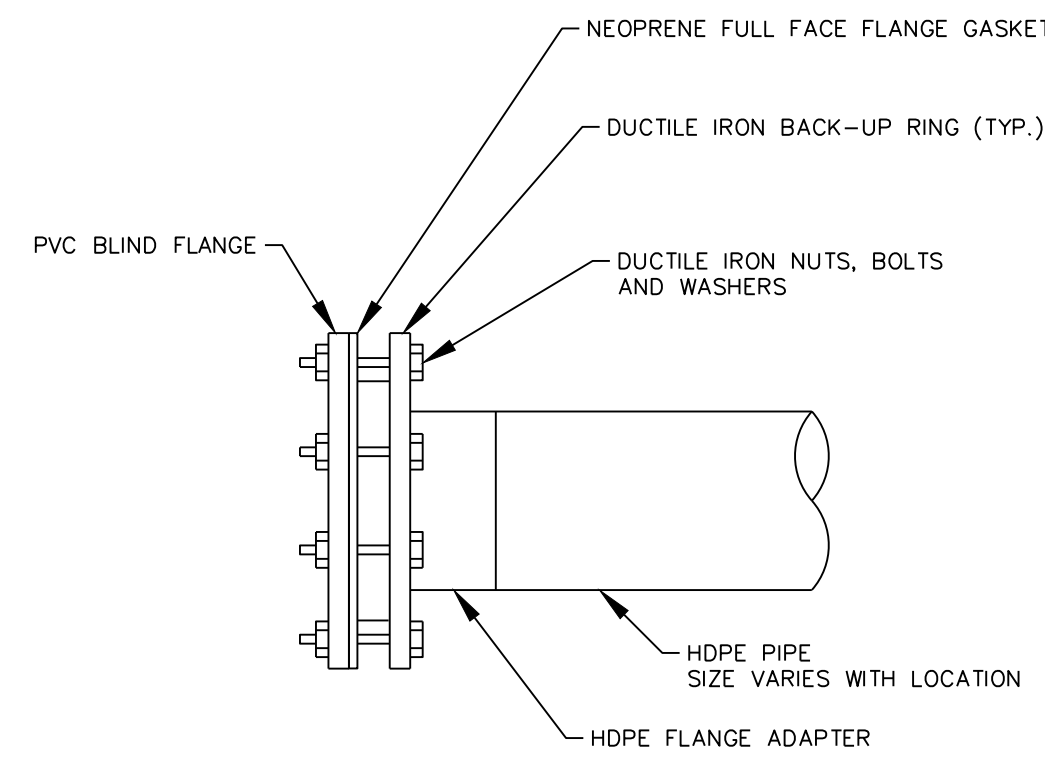
NOTES FOR PERFORATED PIPE:

1. CONTRACTOR TO USE FACTORY PERFORATED PIPING ONLY. FIELD PERFORATIONS WILL NOT BE ALLOWED.

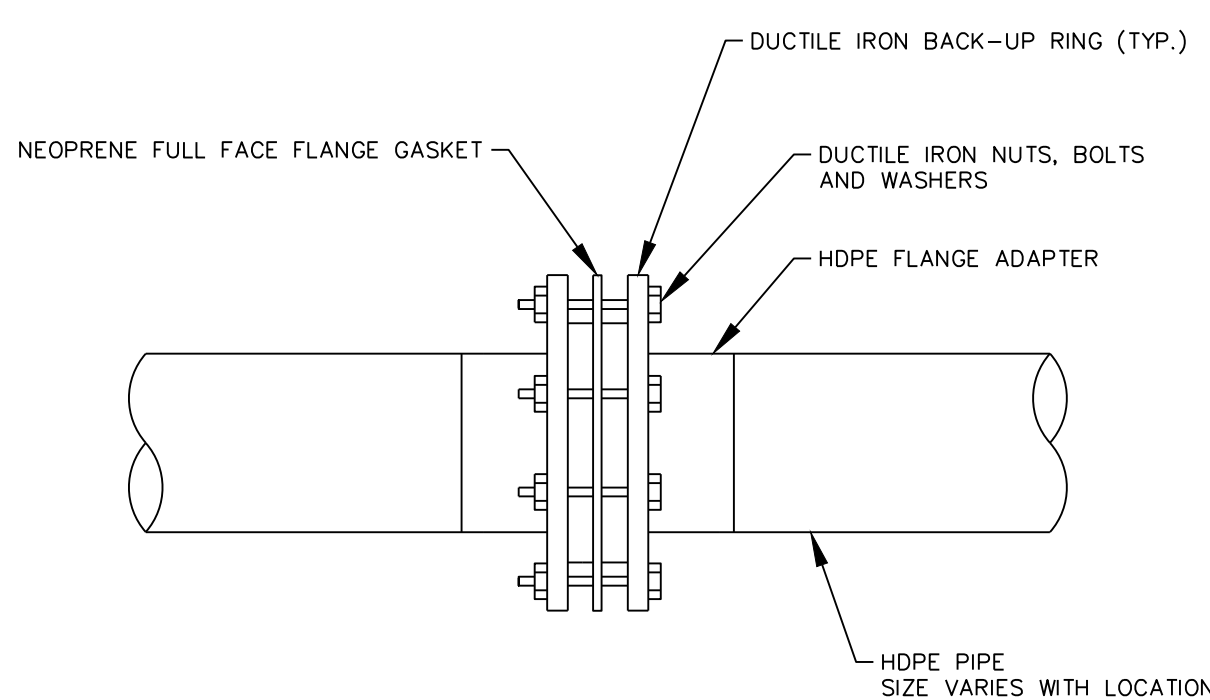
**2**  
**6**  
**TYPICAL GAS PROBE PERFORATED PIPE**  
NOT TO SCALE



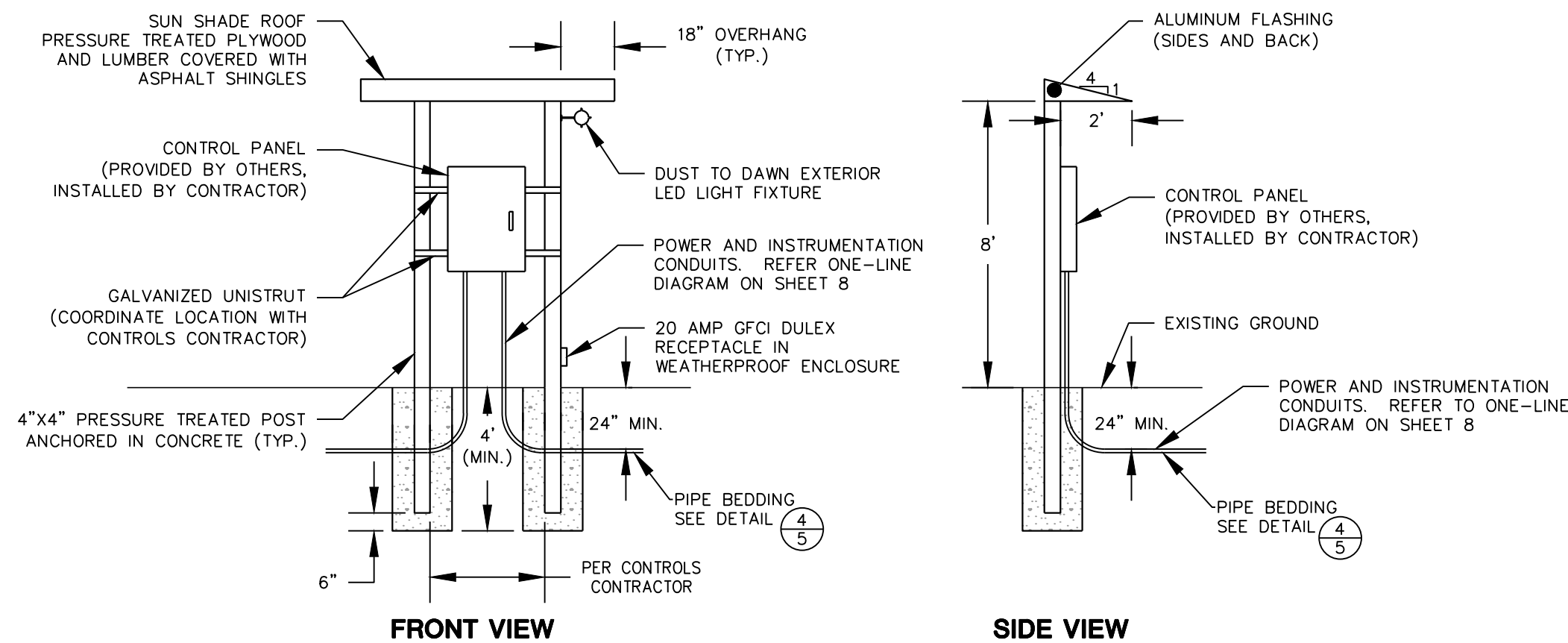
**3**  
**6**  
**BUMPER POST**  
NOT TO SCALE



**5**  
**6**  
**TYPICAL BLIND FLANGE CONNECTION**  
NOT TO SCALE



**6**  
**6**  
**TYPICAL FLANGE CONNECTION**  
NOT TO SCALE



**7**  
**6**  
**CONTROL PANEL**  
NOT TO SCALE

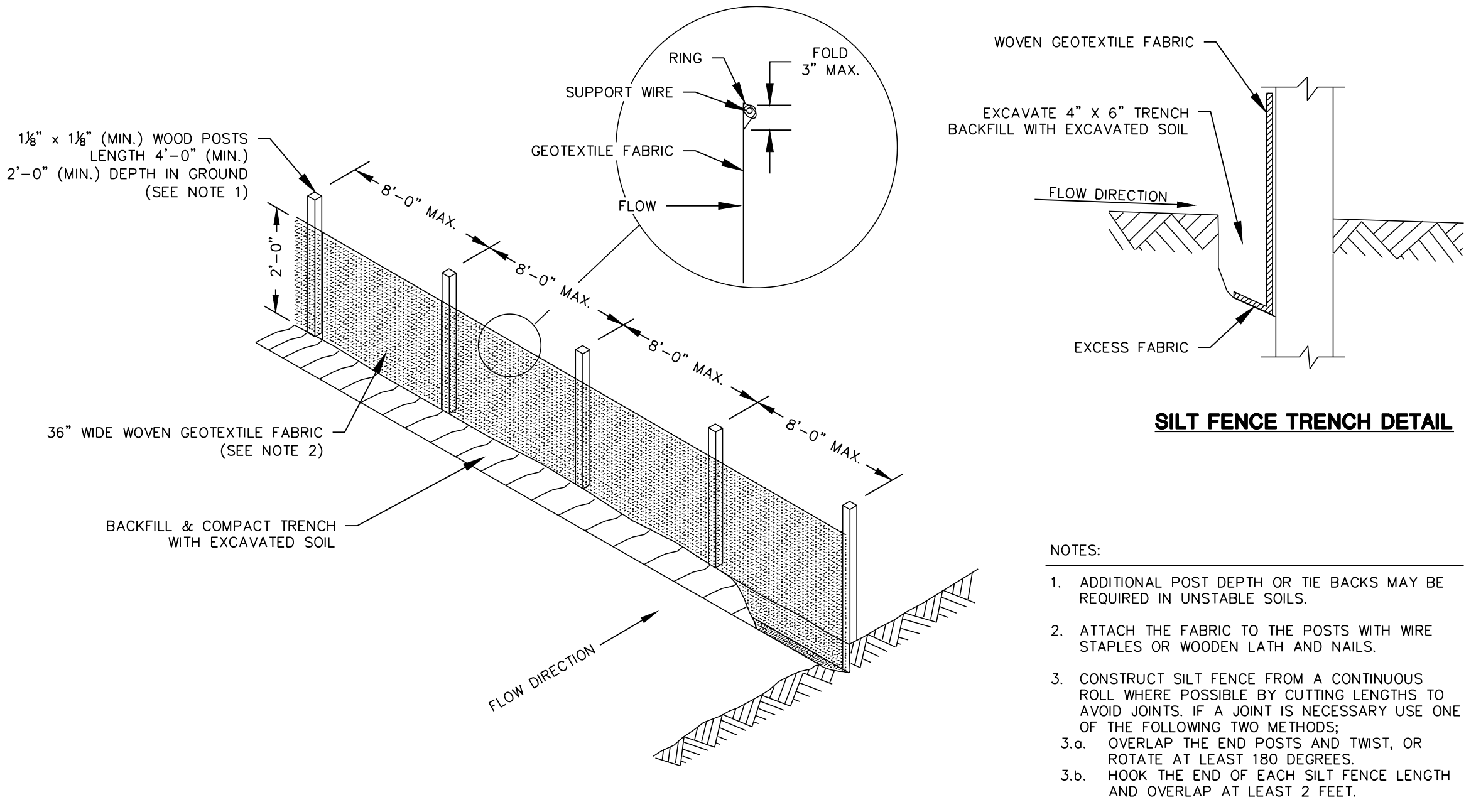
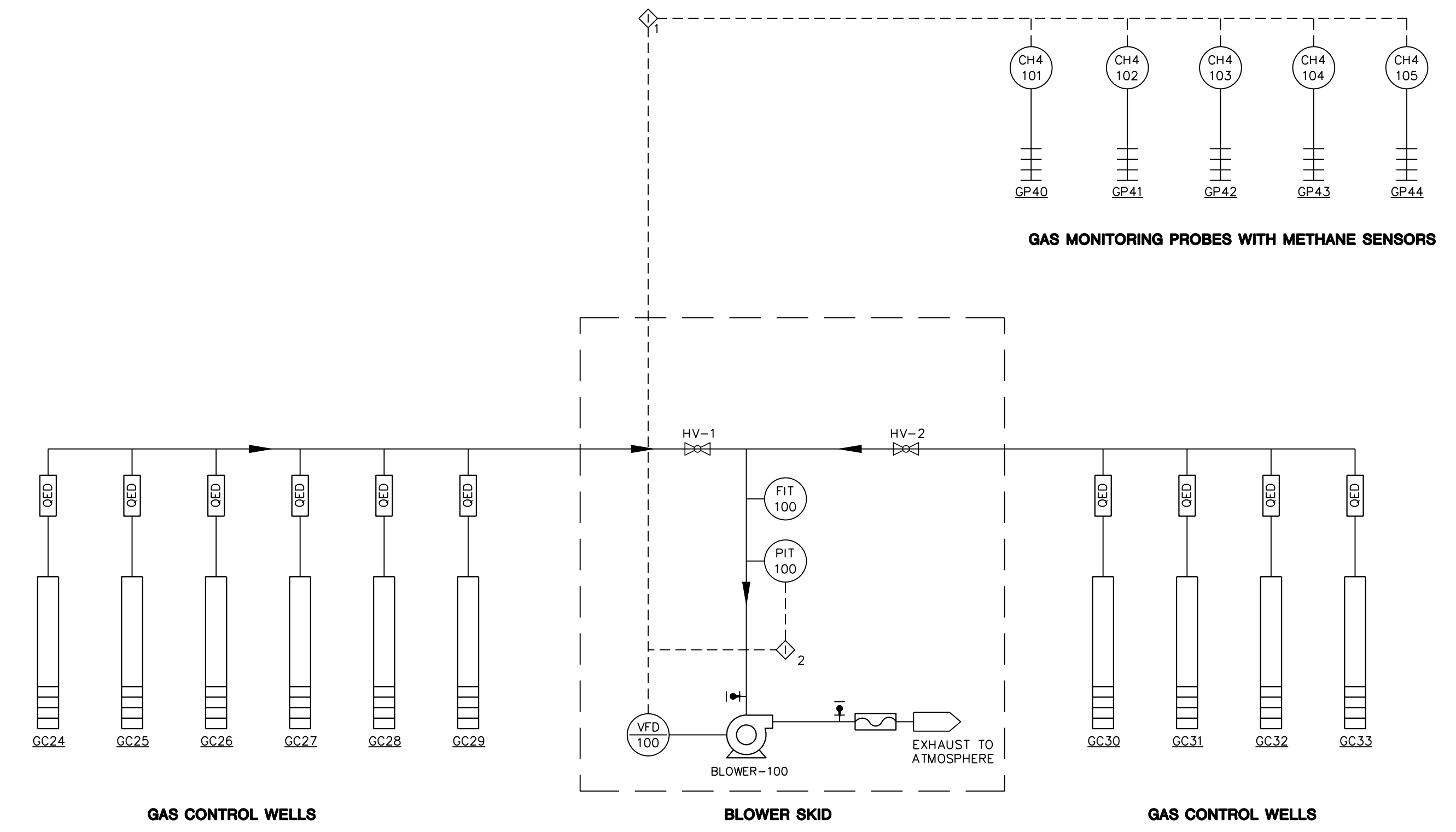
INSTRUMENT ABBREVIATIONS  
GC - GAS CONTROL WELL  
CH4 - METHANE SENSOR  
GP - GAS MONITORING PROBE  
PIT - PRESSURE INDICATING TRANSMITTER  
FIT - FLOW INDICATING TRANSMITTER  
HV - HEADER BUTTERFLY VALVE

LEGEND  
--- ELECTRIC SIGNAL LINE  
--- PROCESS LINE  
QED QED WELLHEAD  
SAMPLE PORT W/ BALL VALVE  
BUTTERFLY VALVE  
SILENCER  
XXX LOCAL INSTRUMENT  
### PANEL MOUNTED INSTRUMENT

INTERCONNECTS  
1. BLOWER ON WHEN METHANE SENSORS DETECTS METHANE ABOVE 30% LEL. BLOWER OFF 5 MINUTES AFTER METHANE SENSOR IS BELOW 10% LEL.  
2. VARIABLE FREQUENCY DRIVE (VFD) TO OPERATE BLOWER AT A FIXED BLOWER INLET VACUUM OF APPROXIMATELY 6-INCHES OF WATER COLUMN (TO PROVIDE A VACUUM OF 4-INCHES OF WATER COLUMN AT THE MOST REMOTE GAS CONTROL WELL).

NOTES  
1. CONTRACTOR TO INSTALL ALL EQUIPMENT INCLUDING THE FOLLOWING EQUIPMENT PROVIDED BY OTHERS:  
- PRESSURE INDICATING TRANSMITTER  
- FLOW INDICATING TRANSMITTER  
- BLOWER  
- VFD  
- BLOWER OUTLET SILENCER

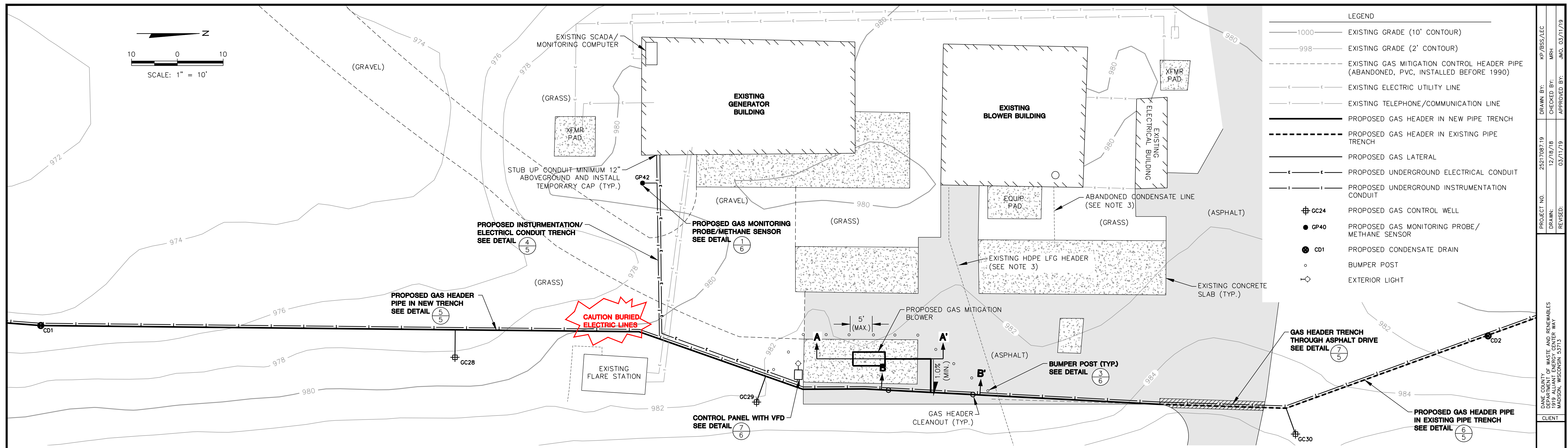
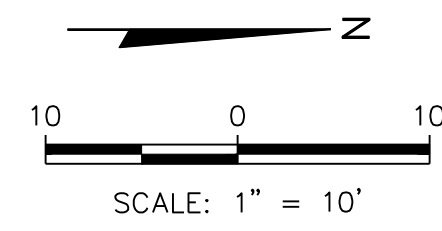
**4**  
**6**  
**PROCESS AND INSTRUMENTATION DIAGRAM**  
NOT TO SCALE



**8**  
**6**  
**SILT FENCE**  
NOT TO SCALE

NOTES:  
1. ADDITIONAL POST DEPTH OR TIE BACKS MAY BE REQUIRED IN UNSTABLE SOILS.  
2. ATTACH THE FABRIC TO THE POSTS WITH WIRE STAPLES OR WOODEN LATH AND NAILS.  
3. CONSTRUCT SILT FENCE FROM A CONTINUOUS ROLL WHERE POSSIBLE BY CUTTING LENGTHS TO AVOID JOINTS. IF A JOINT IS NECESSARY USE ONE OF THE FOLLOWING TWO METHODS:  
3.a. OVERLAP THE END POSTS AND TWIST, OR ROTATE AT LEAST 180 DEGREES.  
3.b. HOOK THE END OF EACH SILT FENCE LENGTH AND OVERLAP AT LEAST 2 FEET.

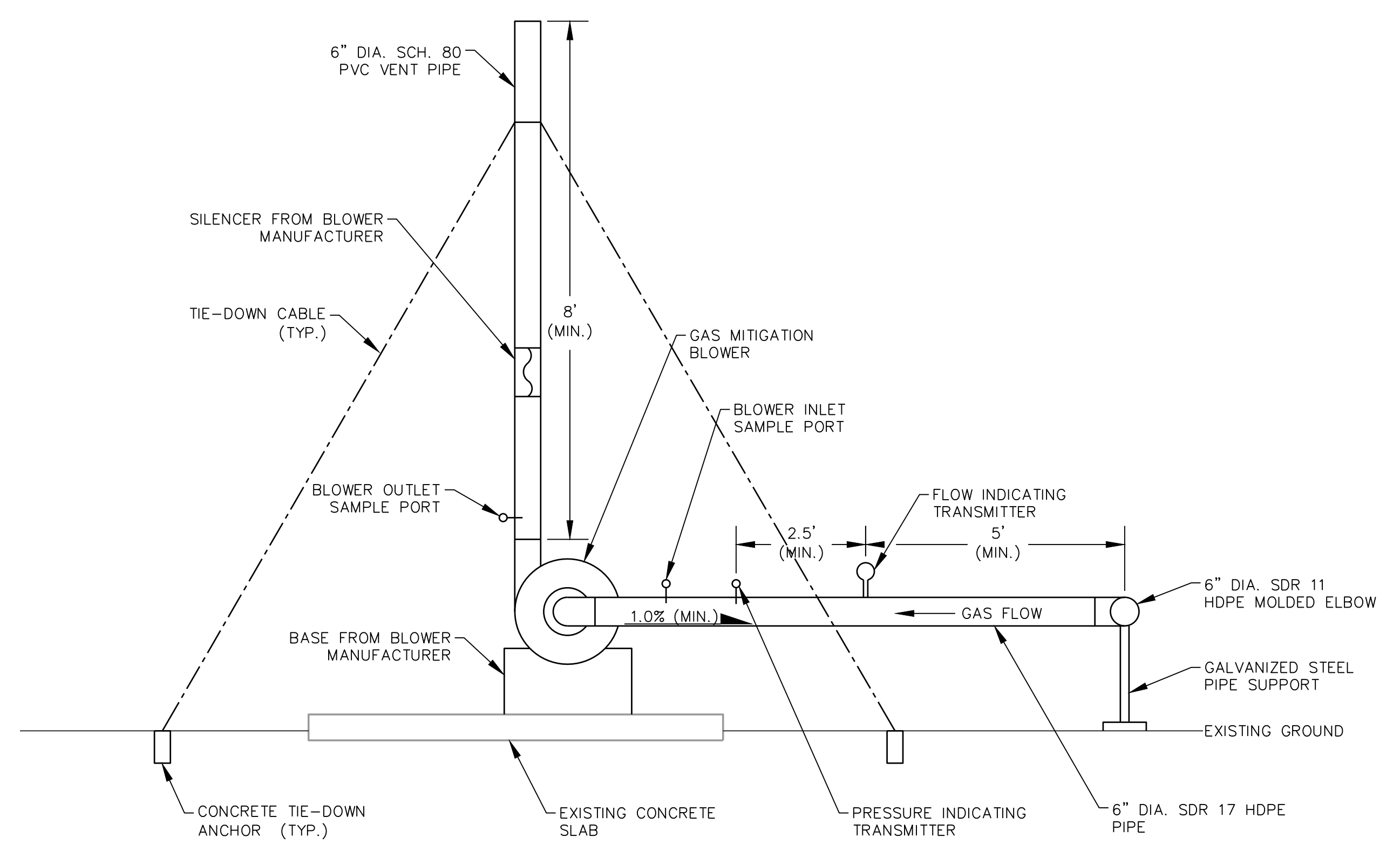




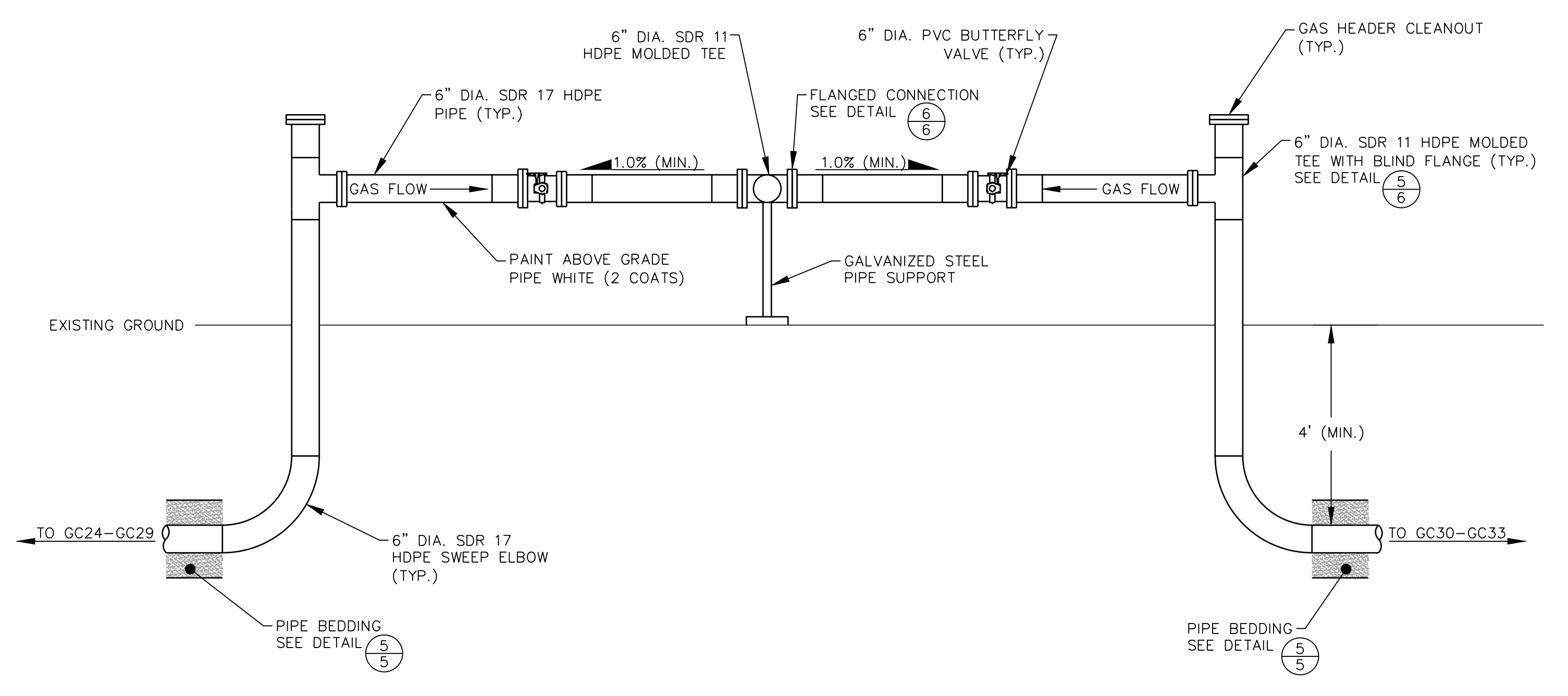
LEGEND

- 1000 ——— EXISTING GRADE (10' CONTOUR)
- 998 ——— EXISTING GRADE (2' CONTOUR)
- - - - - EXISTING GAS MITIGATION CONTROL HEADER PIPE (ABANDONED, PVC, INSTALLED BEFORE 1990)
- - - - - EXISTING ELECTRIC UTILITY LINE
- - - - - EXISTING TELEPHONE/COMMUNICATION LINE
- PROPOSED GAS HEADER IN NEW PIPE TRENCH
- - - - - PROPOSED GAS HEADER IN EXISTING PIPE TRENCH
- PROPOSED GAS LATERAL
- PROPOSED UNDERGROUND ELECTRICAL CONDUIT
- PROPOSED UNDERGROUND INSTRUMENTATION CONDUIT
- ⊕ GC24 PROPOSED GAS CONTROL WELL
- GP40 PROPOSED GAS MONITORING PROBE/METHANE SENSOR
- ⊙ CD1 PROPOSED CONDENSATE DRAIN
- BUMPER POST
- ⊕ EXTERIOR LIGHT

- NOTES:
- SEE SHEET 2 FOR ADDITIONAL BASE MAP NOTES AND LEGEND ITEMS.
  - EXISTING BLOWER BUILDING AREA SITE FEATURES BASED ON 10/23/18 SITE VISIT AND 12/26/18 SURVEY BY SCS ENGINEERS.
  - EXISTING UTILITIES IN BLOWER AREA FROM DANE COUNTY NO.1 (VERONA) LANDFILL "SITE PLAN" SHEET 4 OF 6, DATED JANUARY 2017. EXISTING UTILITY LOCATIONS ARE APPROXIMATE AND WILL BE FIELD LOCATED BY OWNER PRIOR TO CONSTRUCTION.



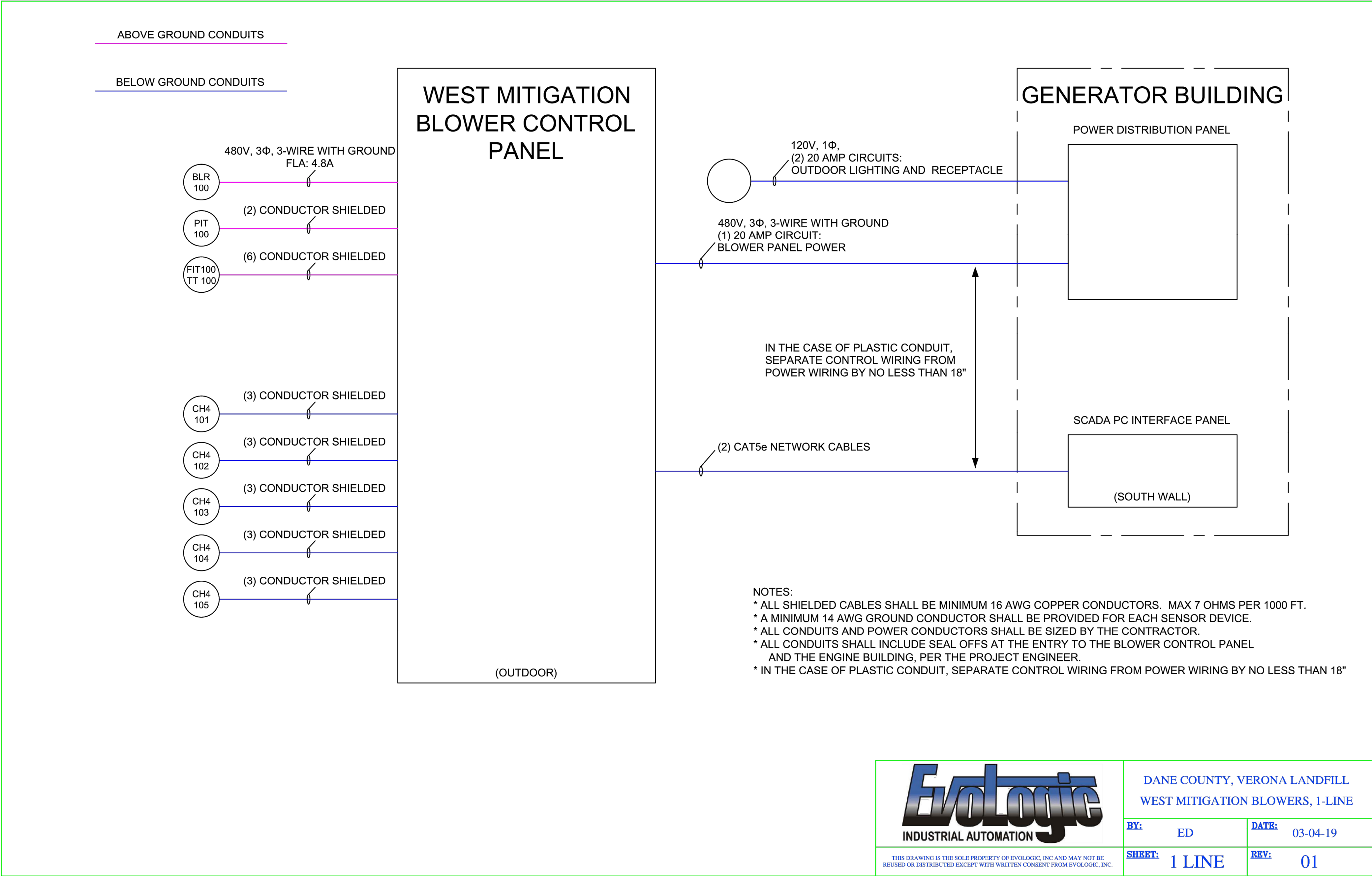
**SECTION A-A'**  
(SCALE: 1" = 2')



**SECTION B-B'**  
(SCALE: 1" = 2')

PROJECT NO. 2521708719  
 DRAWN BY: RP/BSS/LEC  
 CHECKED BY: MRH  
 APPROVED BY: JMO, 03/11/19  
 DANE COUNTY WASTE AND RECYCLABLES  
 1919 ALLIANT ENERGY CENTER WY.  
 MADISON, WISCONSIN 53713  
 CLIENT: SCS ENGINEERS  
 2830 DARIY DRIVE MADISON, WI 53718-0797  
 PHONE: (608) 224-2830  
 ENGINEER: SCS ENGINEERS  
 ISSUED FOR BID: VERONA LANDFILL PERIMETER GAS MITIGATION SYSTEM  
 VERONA, WISCONSIN  
 SITE: BLOWER AREA PIPING  
 SHEET: 7 of 8





**Evologic**  
INDUSTRIAL AUTOMATION

DANE COUNTY, VERONA LANDFILL  
WEST MITIGATION BLOWERS, 1-LINE

BY: ED	DATE: 03-04-19
SHEET: 1 LINE	REV: 01

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