

**APPENDIX C –
WELL INSTALLATION LOGS**

APPENDIX C.1

TEMPORARY WELLS

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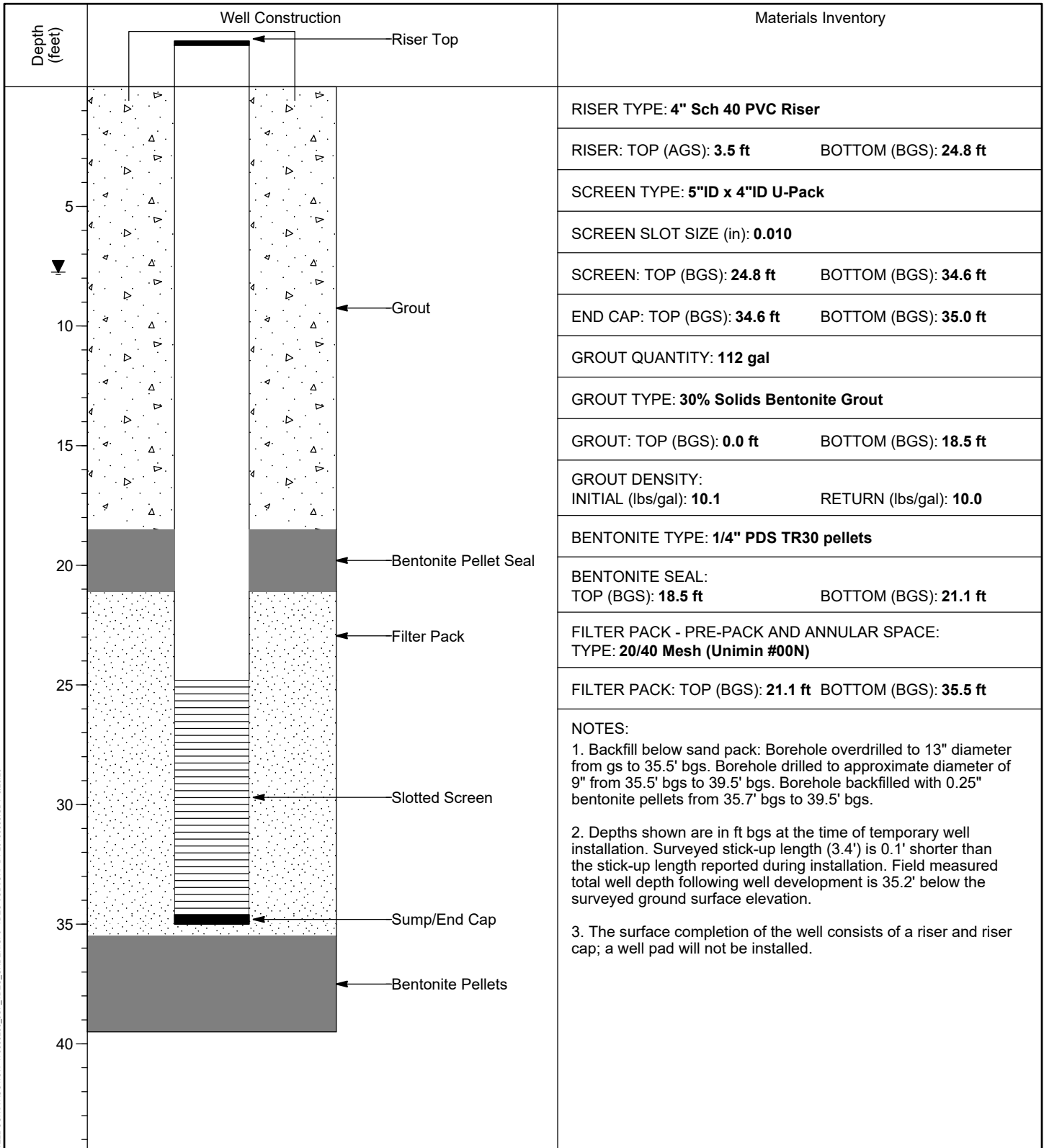


WELL INSTALLATION DETAIL

WELL / PROBEHOLE / BOREHOLE NO: **JOF-TW01 (Boring JOF-TW01)** PAGE 1 OF 1

PROJECT: **JOF TDEC Order**
 PROJECT NUMBER: **175568286**
 DRILLING COMPANY: **Stantec Consulting Services Inc.**
 DRILLING EQUIPMENT: **CME 1050, #952**
 DRILLING METHOD: **8-1/4" HSA overdrill of boring**
 SAMPLING METHOD: **4-1/4" HSA, 3" SS w/o liners, 3" Shelby Tubes**
 OBSERVED BY: **C. Burton**
 REVIEWED BY: **K. Carey**
 APPROVED BY: **P. Dunne**

INSTALLATION: STARTED: **3/11/20** COMPLETED: **3/11/20**
 LOCATION: **602,346.18 N; 1,410,722.15 E** DATUM: **NAD27 Plant Local**
 LOC. DESCRIP: **Active Ash Pond 2**
 LATITUDE: **36° 1' 49.03"** LONGITUDE: **-87° 59' 34.84"**
 GROUND ELEV (ft): **392.9** TOC ELEV (ft): **396.33**
 ELEVATION DATUM: **NGVD29**
 BOREHOLE DEPTH (ft): **39.5** WELL DEPTH (ft, bgs): **35.0**
 DTW AT COMPLETION (ft, bgs): **7.8**
 BOREHOLE DIA. (in): **13.0** WELL DIA. (in): **4.0**



WELL CONSTRUCTION 175568286_JOE_TDEC_ORDER.GPJ TDEC SUBSURF DT 20190530.GDT 8/28/20

VERTICAL SCALE: AS SHOWN. HORIZONTAL SCALE: NOT TO SCALE (EXAGGERATED TO SHOW DETAIL)

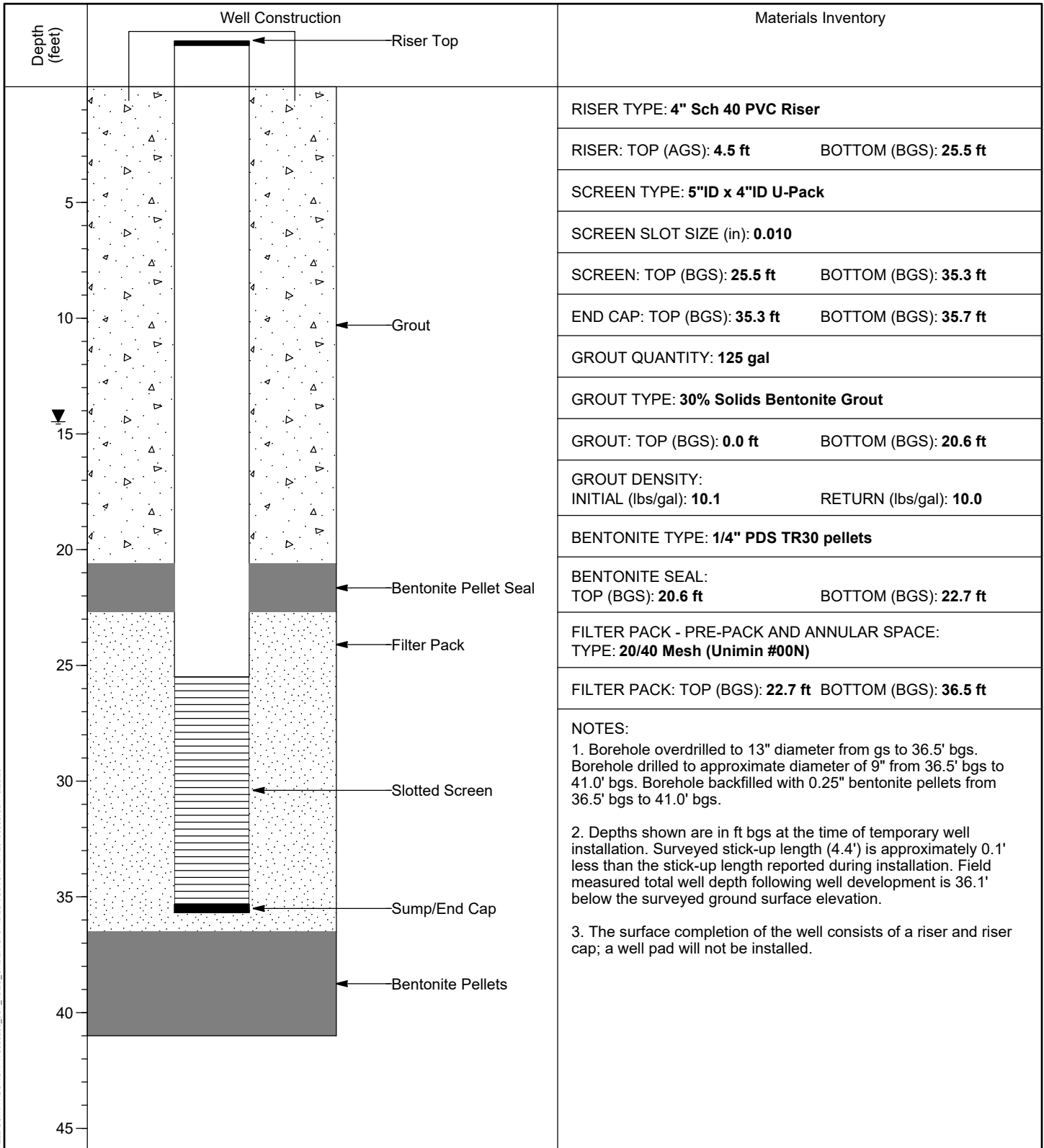


WELL INSTALLATION DETAIL

WELL / PROBEHOLE / BOREHOLE NO: PAGE 1 OF 1
JOF-TW02 (Boring JOF-TW02)

PROJECT: **JOF TDEC Order**
 PROJECT NUMBER: **175568286**
 DRILLING COMPANY: **Stantec Consulting Services Inc.**
 DRILLING EQUIPMENT: **CME 1050, #952**
 DRILLING METHOD: **8-1/4" HSA overdrill of boring**
 SAMPLING METHOD: **4-1/4" HSA, 3" SS w/o liners, 3" Shelby Tubes**
 OBSERVED BY: **C. Burton**
 REVIEWED BY: **K. Carey**
 APPROVED BY: **P. Dunne**

INSTALLATION: STARTED: **3/9/20** COMPLETED: **3/9/20**
 LOCATION: **601,782.20 N; 1,410,669.61 E** DATUM: **NAD27 Plant Local**
 LOC. DESCRIP: **Active Ash Pond 2**
 LATITUDE: **36° 1' 43.44"** LONGITUDE: **-87° 59' 35.34"**
 GROUND ELEV (ft): **392.9** TOC ELEV (ft): **397.38**
 ELEVATION DATUM: **NGVD29**
 BOREHOLE DEPTH (ft): **41.0** WELL DEPTH (ft, bgs): **35.7**
 DTW AT COMPLETION (ft, bgs): **14.5**
 BOREHOLE DIA. (in): **13.0** WELL DIA. (in): **4.0**



WELL CONSTRUCTION 175568286_JOE_TDEC_ORDER.GPJ TDEC SUBSURF DT 20190630.GDT 8/28/20

VERTICAL SCALE: AS SHOWN. HORIZONTAL SCALE: NOT TO SCALE (EXAGGERATED TO SHOW DETAIL)

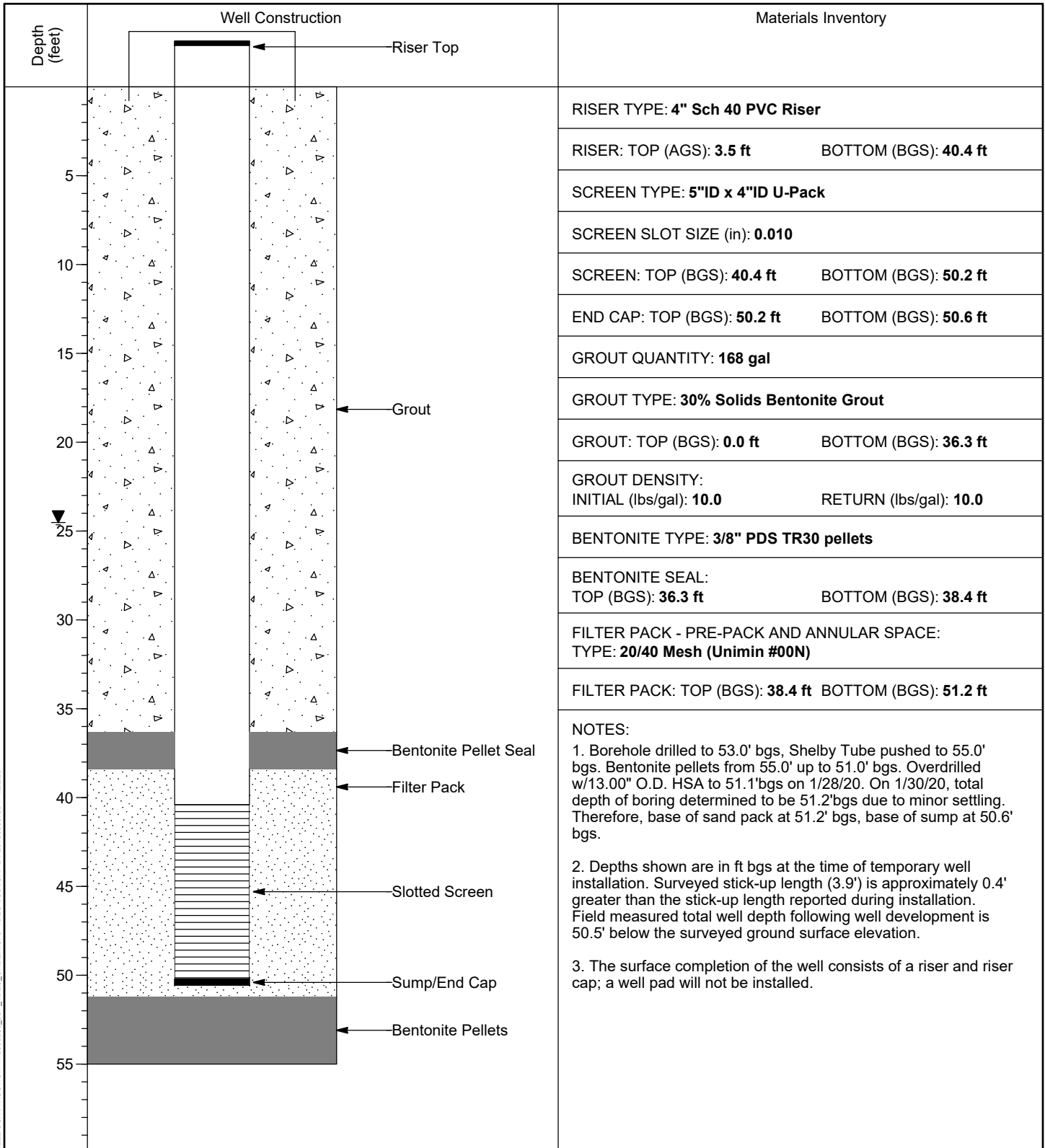


WELL INSTALLATION DETAIL

WELL / PROBEHOLE / BOREHOLE NO: **JOF-TW03 (Boring JOF-TW03)** PAGE 1 OF 1

PROJECT: **JOF TDEC Order**
 PROJECT NUMBER: **175568286**
 DRILLING COMPANY: **Stantec Consulting Services Inc.**
 DRILLING EQUIPMENT: **CME 1050, #952**
 DRILLING METHOD: **8-1/4" HSA overdrill of boring**
 SAMPLING METHOD: **4-1/4" HSA, 3" SS w/o liners, 3" Shelby Tubes**
 OBSERVED BY: **S. Stanley**
 REVIEWED BY: **K. Carey**
 APPROVED BY: **P. Dunne**

INSTALLATION: STARTED: **1/30/20** COMPLETED: **2/3/20**
 LOCATION: **601,107.72 N; 1,410,594.78 E** DATUM: **NAD27 Plant Local**
 LOC. DESCRIP: **Active Ash Pond 2**
 LATITUDE: **36° 1' 36.76"** LONGITUDE: **-87° 59' 36.09"**
 GROUND ELEV (ft): **405.6** TOC ELEV (ft): **409.49**
 ELEVATION DATUM: **NGVD29**
 BOREHOLE DEPTH (ft): **55.0** WELL DEPTH (ft, bgs): **50.6**
 DTW AT COMPLETION (ft, bgs): **24.5**
 BOREHOLE DIA. (in): **13.0** WELL DIA. (in): **4.0**



WELL CONSTRUCTION 175568286_JOF_TDEC_ORDER.GPJ TDEC SUBSURF DT 20190630.GDT 12/2/20

VERTICAL SCALE: AS SHOWN. HORIZONTAL SCALE: NOT TO SCALE (EXAGGERATED TO SHOW DETAIL)

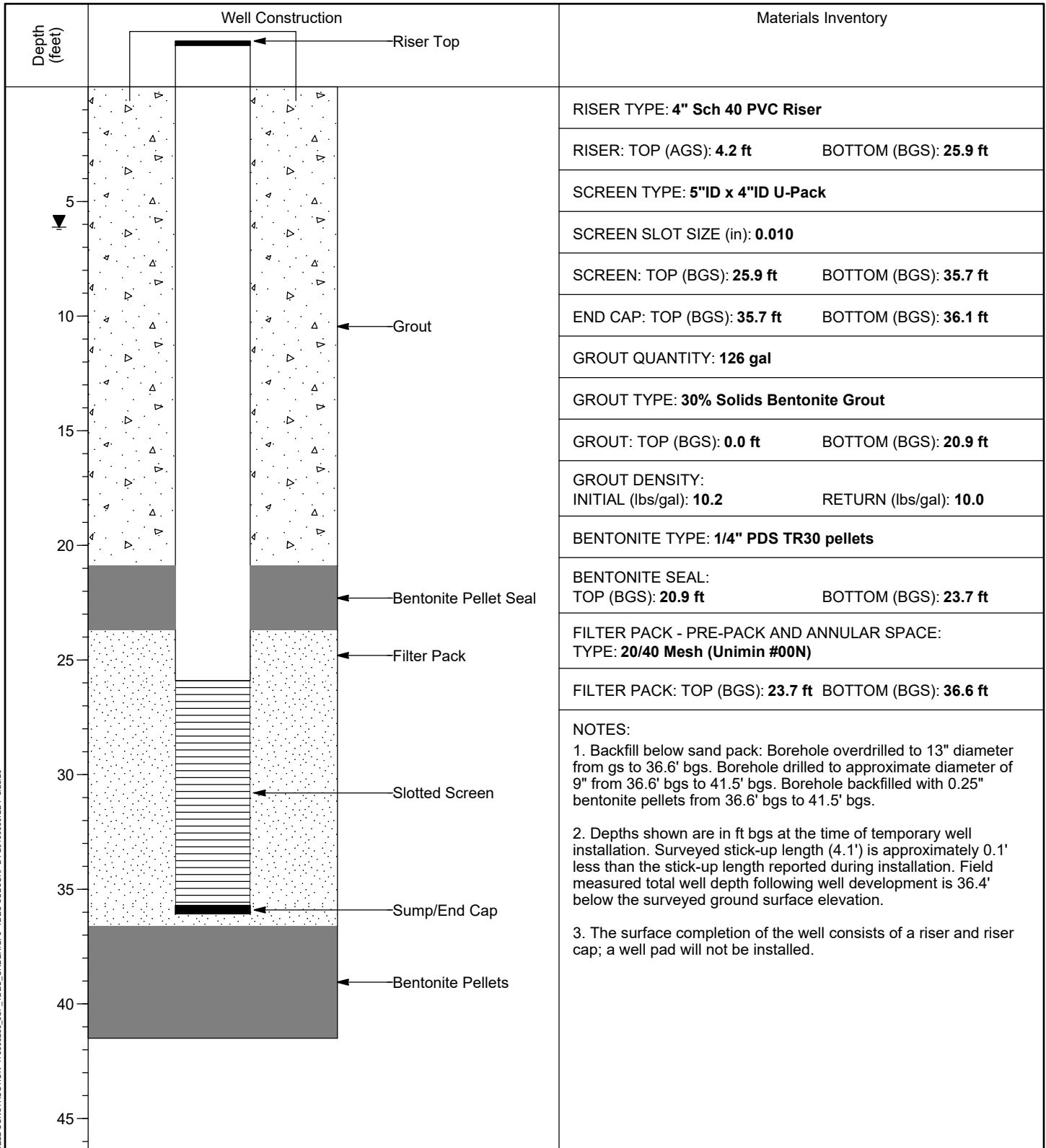


WELL INSTALLATION DETAIL

WELL / PROBEHOLE / BOREHOLE NO: **JOF-TW04 (Boring JOF-TW04)** PAGE 1 OF 1

PROJECT: **JOF TDEC Order**
 PROJECT NUMBER: **175568286**
 DRILLING COMPANY: **Stantec Consulting Services Inc.**
 DRILLING EQUIPMENT: **CME 1050, #952**
 DRILLING METHOD: **8-1/4" HSA overdrill of boring**
 SAMPLING METHOD: **4-1/4" HSA, 3" SS w/o liners, 3" Shelby Tubes**
 OBSERVED BY: **C. Burton**
 REVIEWED BY: **K. Carey**
 APPROVED BY: **P. Dunne**

INSTALLATION: STARTED: **1/21/20** COMPLETED: **1/22/20**
 LOCATION: **599,952.21 N; 1,410,222.84 E** DATUM: **NAD27 Plant Local**
 LOC. DESCRIP: **Active Ash Pond 2**
 LATITUDE: **36° 1' 25.26"** LONGITUDE: **-87° 59' 40.33"**
 GROUND ELEV (ft): **390.2** TOC ELEV (ft): **394.25**
 ELEVATION DATUM: **NGVD29**
 BOREHOLE DEPTH (ft): **41.5** WELL DEPTH (ft, bgs): **36.1**
 DTW AT COMPLETION (ft, bgs): **6.1**
 BOREHOLE DIA. (in): **13.0** WELL DIA. (in): **4.0**



WELL CONSTRUCTION 175568286_JOE_TDEC_ORDER.GPJ TDEC SUBSURF DT 20190530.GDT 8/28/20

VERTICAL SCALE: AS SHOWN. HORIZONTAL SCALE: NOT TO SCALE (EXAGGERATED TO SHOW DETAIL)

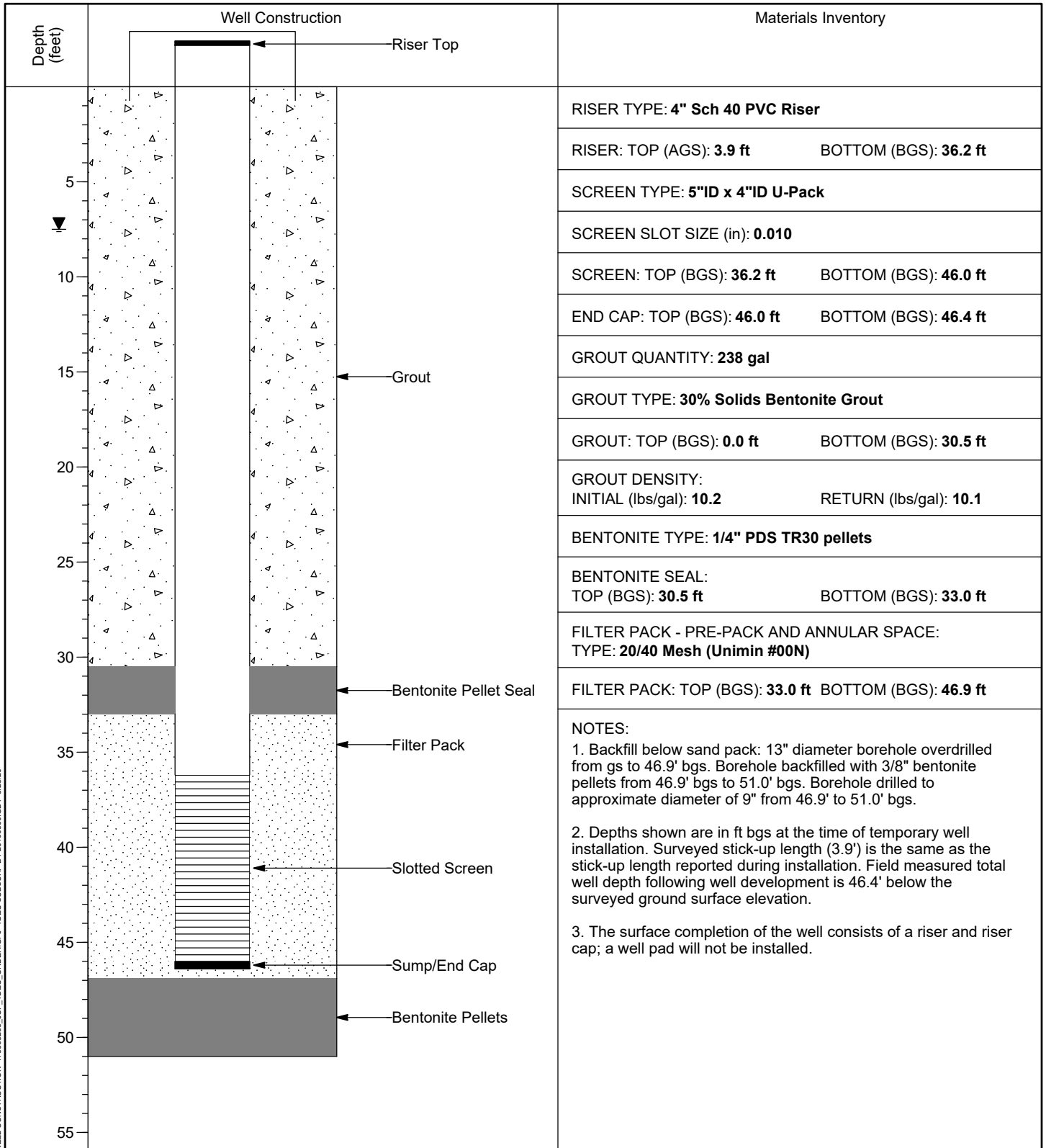


WELL INSTALLATION DETAIL

WELL / PROBEHOLE / BOREHOLE NO: PAGE 1 OF 1
JOF-TW05 (Boring JOF-TW05)

PROJECT: **JOF TDEC Order**
 PROJECT NUMBER: **175568286**
 DRILLING COMPANY: **Stantec Consulting Services Inc.**
 DRILLING EQUIPMENT: **CME 1050, #952**
 DRILLING METHOD: **8-1/4" HSA overdrill of boring**
 SAMPLING METHOD: **4-1/4" HSA, 3" SS w/o liners, 3" Shelby Tubes**
 OBSERVED BY: **C. Burton**
 REVIEWED BY: **K. Carey**
 APPROVED BY: **P. Dunne**

INSTALLATION: STARTED: **1/13/20** COMPLETED: **1/15/20**
 LOCATION: **599,473.18 N; 1,409,852.52 E** DATUM: **NAD27 Plant Local**
 LOC. DESCRIP: **Active Ash Pond 2**
 LATITUDE: **36° 1' 20.45"** LONGITUDE: **-87° 59' 44.72"**
 GROUND ELEV (ft): **389.6** TOC ELEV (ft): **393.44**
 ELEVATION DATUM: **NGVD29**
 BOREHOLE DEPTH (ft): **51.0** WELL DEPTH (ft, bgs): **46.4**
 DTW AT COMPLETION (ft, bgs): **7.5**
 BOREHOLE DIA. (in): **13.0** WELL DIA. (in): **4.0**



WELL CONSTRUCTION 175568286_JOE_TDEC_ORDER.GPJ TDEC SUBSURF DT 20190530.GDT 8/28/20

VERTICAL SCALE: AS SHOWN. HORIZONTAL SCALE: NOT TO SCALE (EXAGGERATED TO SHOW DETAIL)

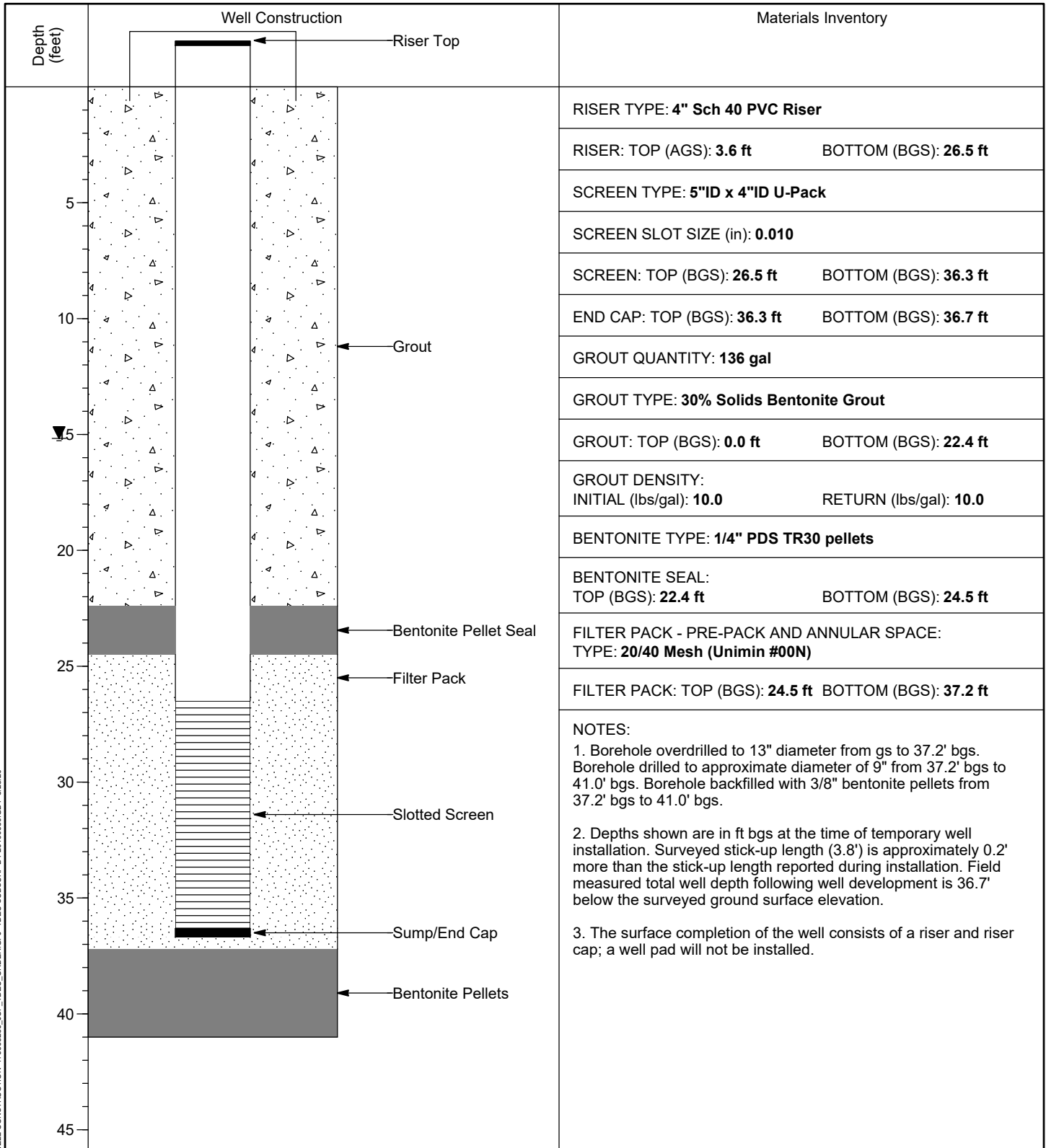


WELL INSTALLATION DETAIL

WELL / PROBEHOLE / BOREHOLE NO: **JOF-TW06 (Boring JOF-TW06)** PAGE 1 OF 1

PROJECT: **JOF TDEC Order**
 PROJECT NUMBER: **175568286**
 DRILLING COMPANY: **Stantec Consulting Services Inc.**
 DRILLING EQUIPMENT: **CME 1050, #952**
 DRILLING METHOD: **8-1/4" HSA overdrill of boring**
 SAMPLING METHOD: **4-1/4" HSA, 3" SS w/o liners, 3" Shelby Tubes**
 OBSERVED BY: **C. Burton**
 REVIEWED BY: **K. Carey**
 APPROVED BY: **P. Dunne**

INSTALLATION: STARTED: **2/20/20** COMPLETED: **2/21/20**
 LOCATION: **605,387.43 N; 1,412,433.21 E** DATUM: **NAD27 Plant Local**
 LOC. DESCRIP: **Ash Disposal Area 1**
 LATITUDE: **36° 2' 19.44"** LONGITUDE: **-87° 59' 14.77"**
 GROUND ELEV (ft): **391.3** TOC ELEV (ft): **395.13**
 ELEVATION DATUM: **NGVD29**
 BOREHOLE DEPTH (ft): **41.0** WELL DEPTH (ft, bgs): **36.7**
 DTW AT COMPLETION (ft, bgs): **15.2**
 BOREHOLE DIA. (in): **13.0** WELL DIA. (in): **4.0**



WELL CONSTRUCTION 175568286_JOF_TDEC_ORDER.GPJ TDEC SUBSURF DT 20190530.GDT 8/28/20

VERTICAL SCALE: AS SHOWN. HORIZONTAL SCALE: NOT TO SCALE (EXAGGERATED TO SHOW DETAIL)

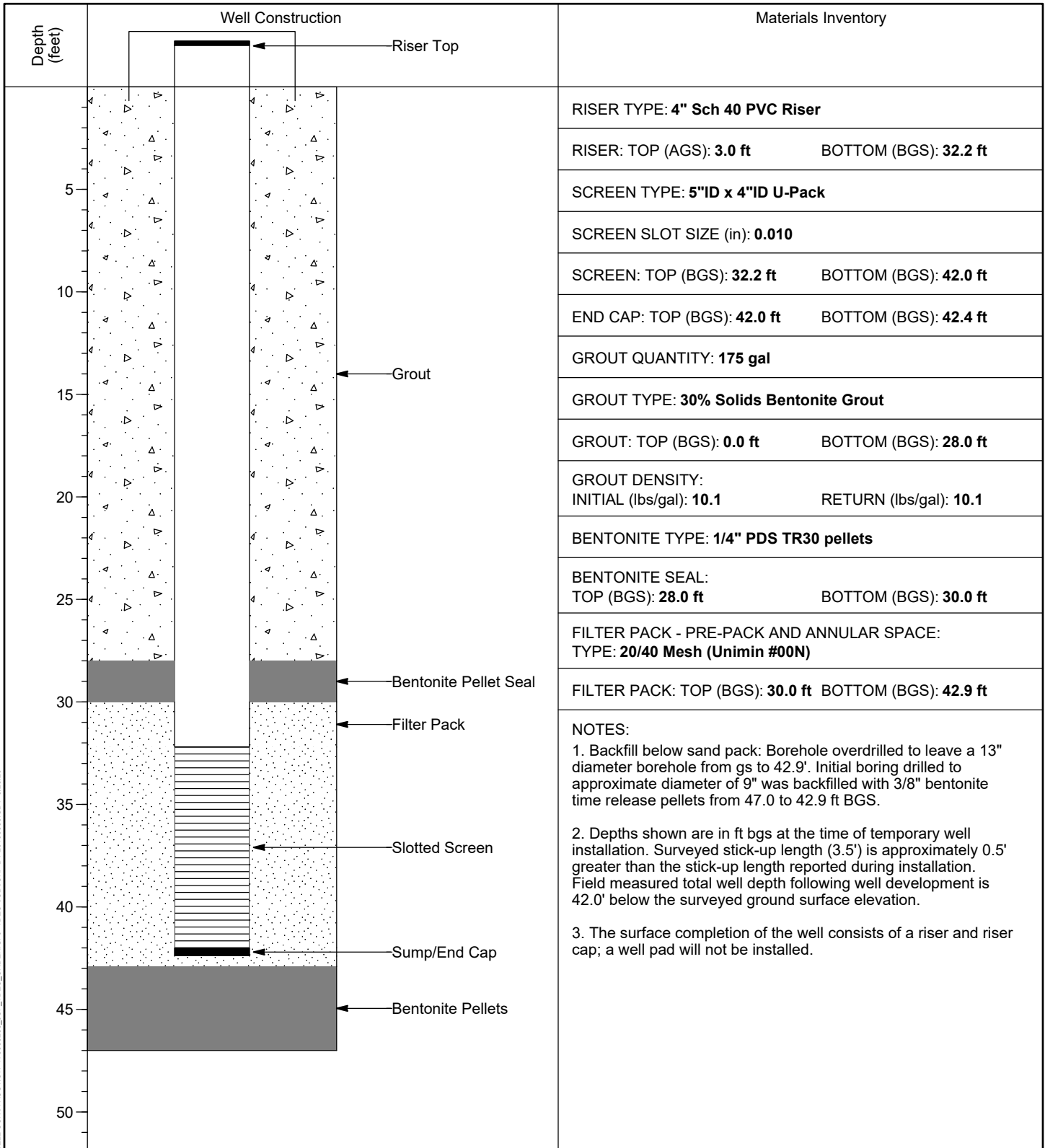


WELL INSTALLATION DETAIL

WELL / PROBEHOLE / BOREHOLE NO: **JOF-TW07 (Boring JOF-TW07)** PAGE 1 OF 1

PROJECT: **JOF TDEC Order**
 PROJECT NUMBER: **175568286**
 DRILLING COMPANY: **Stantec Consulting Services Inc.**
 DRILLING EQUIPMENT: **CME 1050, #952**
 DRILLING METHOD: **8-1/4" HSA overdrill of boring**
 SAMPLING METHOD: **4-1/4" HSA, 3" SS w/o liners, 3" Shelby Tubes**
 OBSERVED BY: **M. Edmunds**
 REVIEWED BY: **K. Carey**
 APPROVED BY: **P. Dunne**

INSTALLATION: STARTED: **2/6/20** COMPLETED: **2/7/20**
 LOCATION: **605,067.15 N; 1,412,573.75 E** DATUM: **NAD27 Plant Local**
 LOC. DESCRIP: **Ash Disposal Area 1**
 LATITUDE: **36° 2' 16.30"** LONGITUDE: **-87° 59' 12.98"**
 GROUND ELEV (ft): **399.4** TOC ELEV (ft): **402.92**
 ELEVATION DATUM: **NGVD29**
 BOREHOLE DEPTH (ft): **47.0** WELL DEPTH (ft, bgs): **42.4**
 DTW AT COMPLETION (ft, bgs): **N/A**
 BOREHOLE DIA. (in): **13.0** WELL DIA. (in): **4.0**



WELL CONSTRUCTION 175568286_JOE_TDEC_ORDER.GPJ TDEC SUBSURF DT 20190530.GDT 8/28/20

VERTICAL SCALE: AS SHOWN. HORIZONTAL SCALE: NOT TO SCALE (EXAGGERATED TO SHOW DETAIL)

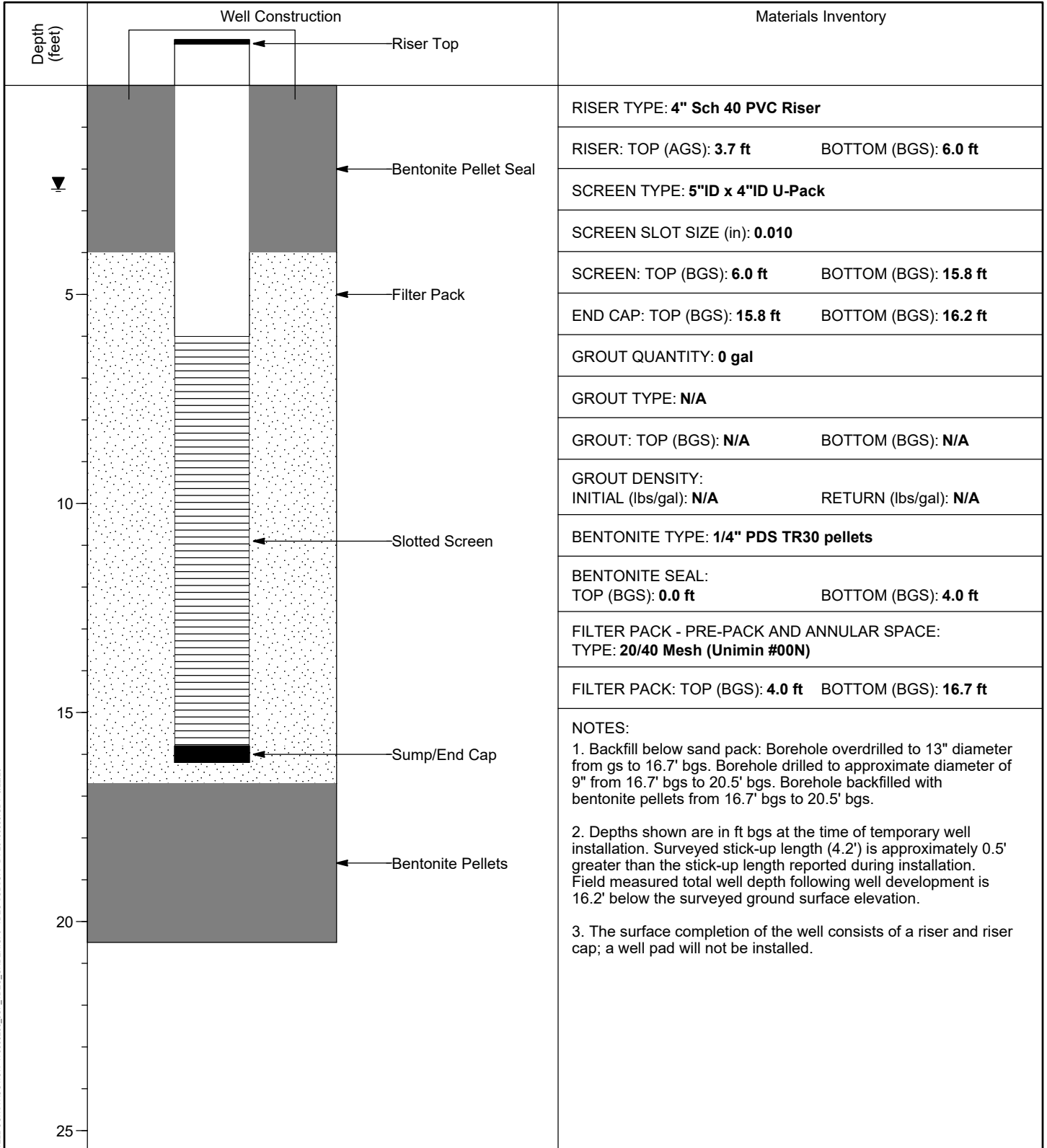


WELL INSTALLATION DETAIL

WELL / PROBEHOLE / BOREHOLE NO: **JOF-TW08 (Boring JOF-TW08)** PAGE 1 OF 1

PROJECT: **JOF TDEC Order**
 PROJECT NUMBER: **175568286**
 DRILLING COMPANY: **Stantec Consulting Services Inc.**
 DRILLING EQUIPMENT: **CME 1050, #952**
 DRILLING METHOD: **8-1/4" HSA overdrill of boring**
 SAMPLING METHOD: **4-1/4" HSA, 3" SS w/o liners, 3" Shelby Tubes**
 OBSERVED BY: **C. Burton**
 REVIEWED BY: **K. Carey**
 APPROVED BY: **P. Dunne**

INSTALLATION: STARTED: **2/28/20** COMPLETED: **2/28/20**
 LOCATION: **604,279.60 N; 1,412,686.01 E** DATUM: **NAD27 Plant Local**
 LOC. DESCRIP: **Coal Yard**
 LATITUDE: **36° 2' 8.54"** LONGITUDE: **-87° 59' 11.42"**
 GROUND ELEV (ft): **383.0** TOC ELEV (ft): **387.22**
 ELEVATION DATUM: **NGVD29**
 BOREHOLE DEPTH (ft): **20.5** WELL DEPTH (ft, bgs): **16.2**
 DTW AT COMPLETION (ft, bgs): **2.5**
 BOREHOLE DIA. (in): **13.0** WELL DIA. (in): **4.0**



WELL CONSTRUCTION 175568286_JOF-TDEC_ORDER.GPJ TDEC SUBSURF DT 20190530.GDT 9/22/20

VERTICAL SCALE: AS SHOWN. HORIZONTAL SCALE: NOT TO SCALE (EXAGGERATED TO SHOW DETAIL)

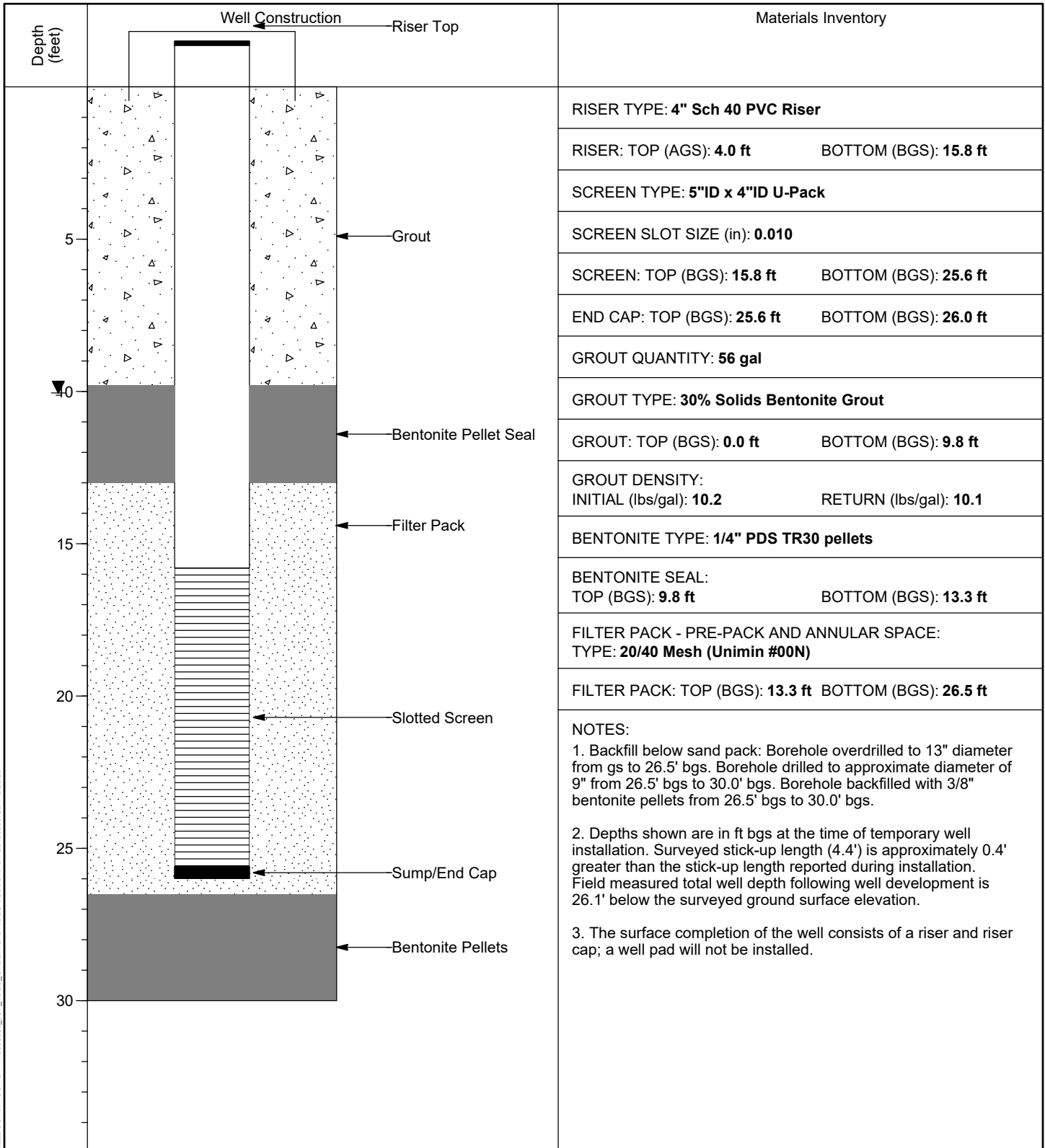


WELL INSTALLATION DETAIL

WELL / PROBEHOLE / BOREHOLE NO: **JOF-TW09 (Boring JOF-TW09)** PAGE 1 OF 1

PROJECT: **JOF TDEC Order**
 PROJECT NUMBER: **175568286**
 DRILLING COMPANY: **Stantec Consulting Services Inc.**
 DRILLING EQUIPMENT: **CME 1050, #952**
 DRILLING METHOD: **8-1/4" HSA overdrill of boring**
 SAMPLING METHOD: **4-1/4" HSA, 3" SS w/o liners, 3" Shelby Tubes**
 OBSERVED BY: **C. Burton**
 REVIEWED BY: **K. Carey**
 APPROVED BY: **P. Dunne**

INSTALLATION: STARTED: **3/4/20** COMPLETED: **3/5/20**
 LOCATION: **604,000.17 N; 1,412,349.82 E** DATUM: **NAD27 Plant Local**
 LOC. DESCRIP: **Coal Yard**
 LATITUDE: **36° 2' 5.71"** LONGITUDE: **-87° 59' 15.44"**
 GROUND ELEV (ft): **383.1** TOC ELEV (ft): **387.52**
 ELEVATION DATUM: **NGVD29**
 BOREHOLE DEPTH (ft): **30.0** WELL DEPTH (ft, bgs): **26.0**
 DTW AT COMPLETION (ft, bgs): **10.1**
 BOREHOLE DIA. (in): **13.0** WELL DIA. (in): **4.0**



WELL CONSTRUCTION 175568286_JOE_TDEC_ORDER.GPJ TDEC SUBSURF DT 20190530.GDT 8/28/20

VERTICAL SCALE: AS SHOWN. HORIZONTAL SCALE: NOT TO SCALE (EXAGGERATED TO SHOW DETAIL)

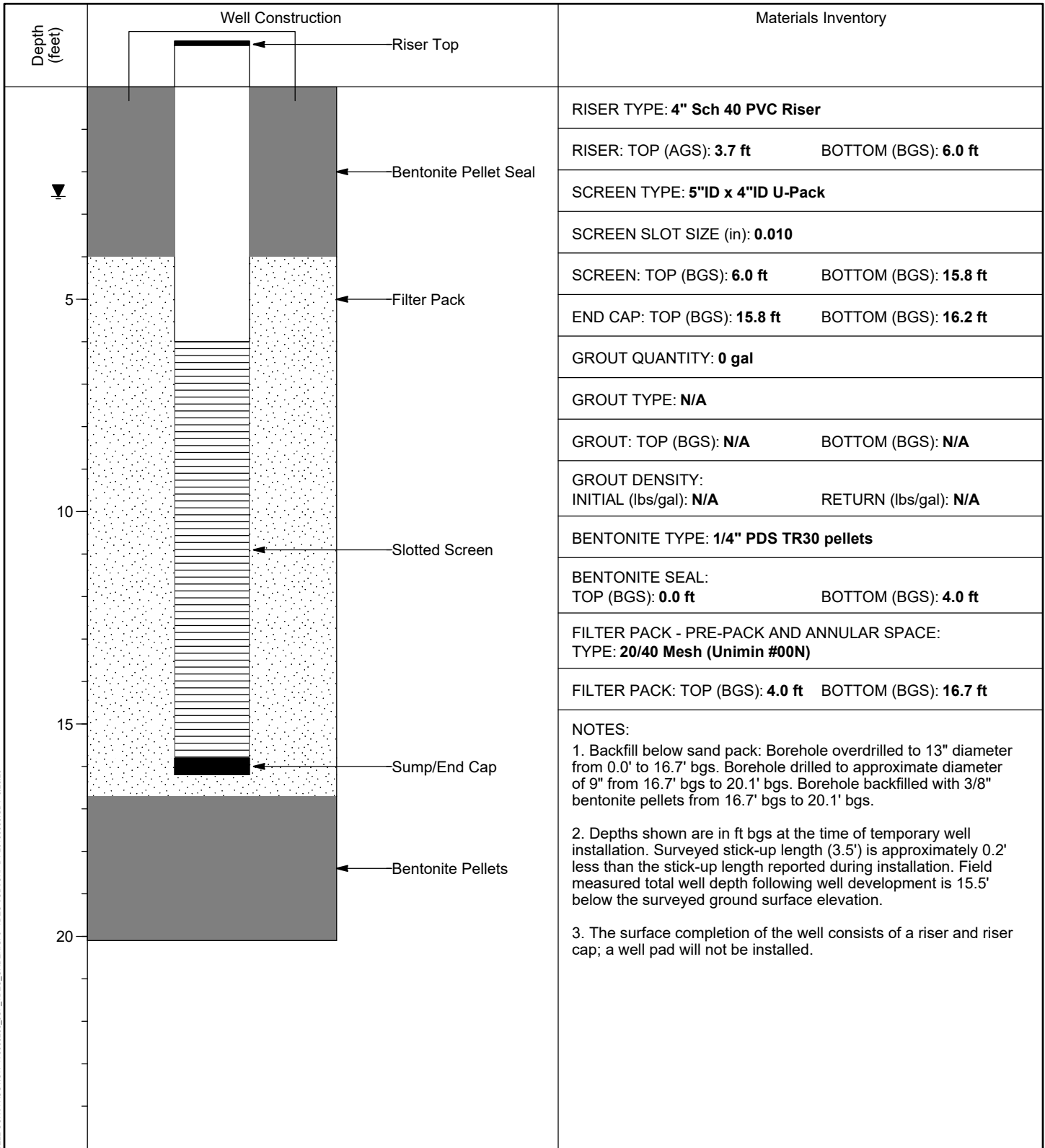


WELL INSTALLATION DETAIL

WELL / PROBEHOLE / BOREHOLE NO: PAGE 1 OF 1
JOF-TW10 (Boring JOF-TW10)

PROJECT: **JOF TDEC Order**
 PROJECT NUMBER: **175568286**
 DRILLING COMPANY: **Stantec Consulting Services Inc.**
 DRILLING EQUIPMENT: **CME 1050, #952**
 DRILLING METHOD: **8-1/4" HSA overdrill of boring**
 SAMPLING METHOD: **4-1/4" HSA, 3" SS w/o liners, 3" Shelby Tubes**
 OBSERVED BY: **C. Burton**
 REVIEWED BY: **K. Carey**
 APPROVED BY: **P. Dunne**

INSTALLATION: STARTED: **2/26/20** COMPLETED: **2/26/20**
 LOCATION: **603,792.61 N; 1,412,822.85 E** DATUM: **NAD27 Plant Local**
 LOC. DESCRIP: **Coal Yard**
 LATITUDE: **36° 2' 3.75"** LONGITUDE: **-87° 59' 9.63"**
 GROUND ELEV (ft): **381.4** TOC ELEV (ft): **384.92**
 ELEVATION DATUM: **NGVD29**
 BOREHOLE DEPTH (ft): **20.1** WELL DEPTH (ft, bgs): **16.2**
 DTW AT COMPLETION (ft, bgs): **2.6**
 BOREHOLE DIA. (in): **13.0** WELL DIA. (in): **4.0**



WELL CONSTRUCTION 175568286_JOF-TDEC_ORDER.GPJ TDEC SUBSURF DT 20100530.GDT 8/28/20

VERTICAL SCALE: AS SHOWN. HORIZONTAL SCALE: NOT TO SCALE (EXAGGERATED TO SHOW DETAIL)

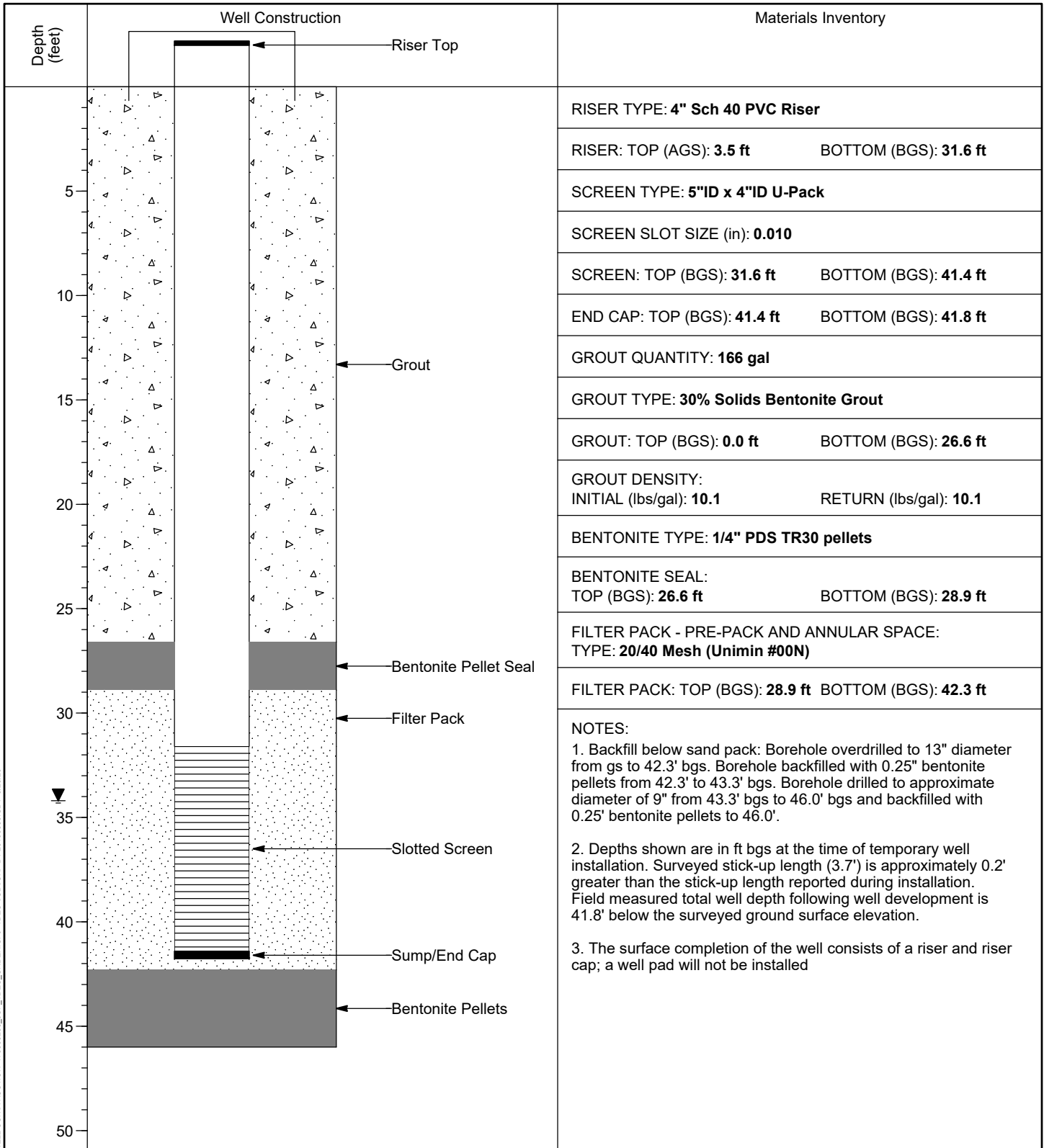


WELL INSTALLATION DETAIL

WELL / PROBEHOLE / BOREHOLE NO: **JOF-TW11 (Boring JOF-TW11)** PAGE 1 OF 1

PROJECT: **JOF TDEC Order**
 PROJECT NUMBER: **175568286**
 DRILLING COMPANY: **Stantec Consulting Services Inc.**
 DRILLING EQUIPMENT: **CME 1050, #952**
 DRILLING METHOD: **8-1/4" HSA overdrill of boring**
 SAMPLING METHOD: **4-1/4" HSA, 3" SS w/o liners, 3" Shelby Tubes**
 OBSERVED BY: **C. Burton**
 REVIEWED BY: **K. Carey**
 APPROVED BY: **P. Dunne**

INSTALLATION: STARTED: **12/3/19** COMPLETED: **12/4/19**
 LOCATION: **604,258.65 N; 1,414,919.43 E** DATUM: **NAD27 Plant Local**
 LOC. DESCRIP: **DuPont Road Dredge Cell**
 LATITUDE: **36° 2' 8.78"** LONGITUDE: **-87° 58' 44.22"**
 GROUND ELEV (ft): **436.4** TOC ELEV (ft): **440.13**
 ELEVATION DATUM: **NGVD29**
 BOREHOLE DEPTH (ft): **46.0** WELL DEPTH (ft, bgs): **41.8**
 DTW AT COMPLETION (ft, bgs): **34.2**
 BOREHOLE DIA. (in): **13.0** WELL DIA. (in): **4.0**



WELL CONSTRUCTION 175568286_JOF-TDEC_ORDER.GPJ TDEC SUBSURF DT 20190630.GDT 8/28/20

VERTICAL SCALE: AS SHOWN. HORIZONTAL SCALE: NOT TO SCALE (EXAGGERATED TO SHOW DETAIL)

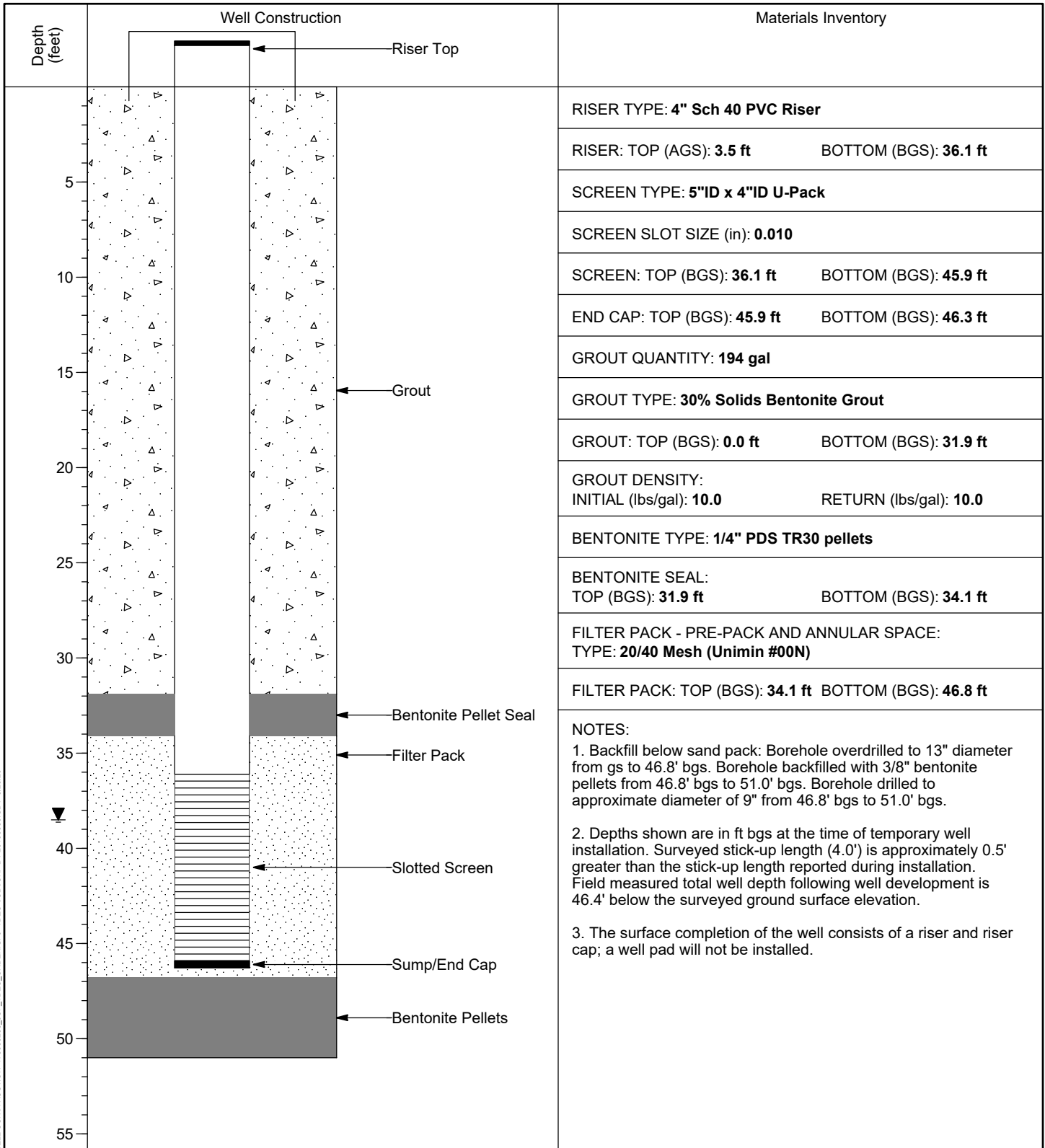


WELL INSTALLATION DETAIL

WELL / PROBEHOLE / BOREHOLE NO: PAGE 1 OF 1
JOF-TW12 (Boring JOF-TW12)

PROJECT: **JOF TDEC Order**
 PROJECT NUMBER: **175568286**
 DRILLING COMPANY: **Stantec Consulting Services Inc.**
 DRILLING EQUIPMENT: **CME 1050, #952**
 DRILLING METHOD: **8-1/4" HSA overdrill of boring**
 SAMPLING METHOD: **4-1/4" HSA, 3" SS w/o liners, 3" Shelby Tubes**
 OBSERVED BY: **C. Burton**
 REVIEWED BY: **K. Carey**
 APPROVED BY: **P. Dunne**

INSTALLATION: STARTED: **12/9/19** COMPLETED: **12/10/19**
 LOCATION: **603,735.38 N; 1,414,921.69 E** DATUM: **NAD27 Plant Local**
 LOC. DESCRIP: **DuPont Road Dredge Cell**
 LATITUDE: **36° 2' 3.61"** LONGITUDE: **-87° 58' 44.07"**
 GROUND ELEV (ft): **440.2** TOC ELEV (ft): **444.17**
 ELEVATION DATUM: **NGVD29**
 BOREHOLE DEPTH (ft): **51.0** WELL DEPTH (ft, bgs): **46.3**
 DTW AT COMPLETION (ft, bgs): **38.5**
 BOREHOLE DIA. (in): **13.0** WELL DIA. (in): **4.0**



WELL CONSTRUCTION 175568286_JOF_TDEC_ORDER.GPJ TDEC SUBSURF DT 20190630.GDT 8/28/20

VERTICAL SCALE: AS SHOWN. HORIZONTAL SCALE: NOT TO SCALE (EXAGGERATED TO SHOW DETAIL)

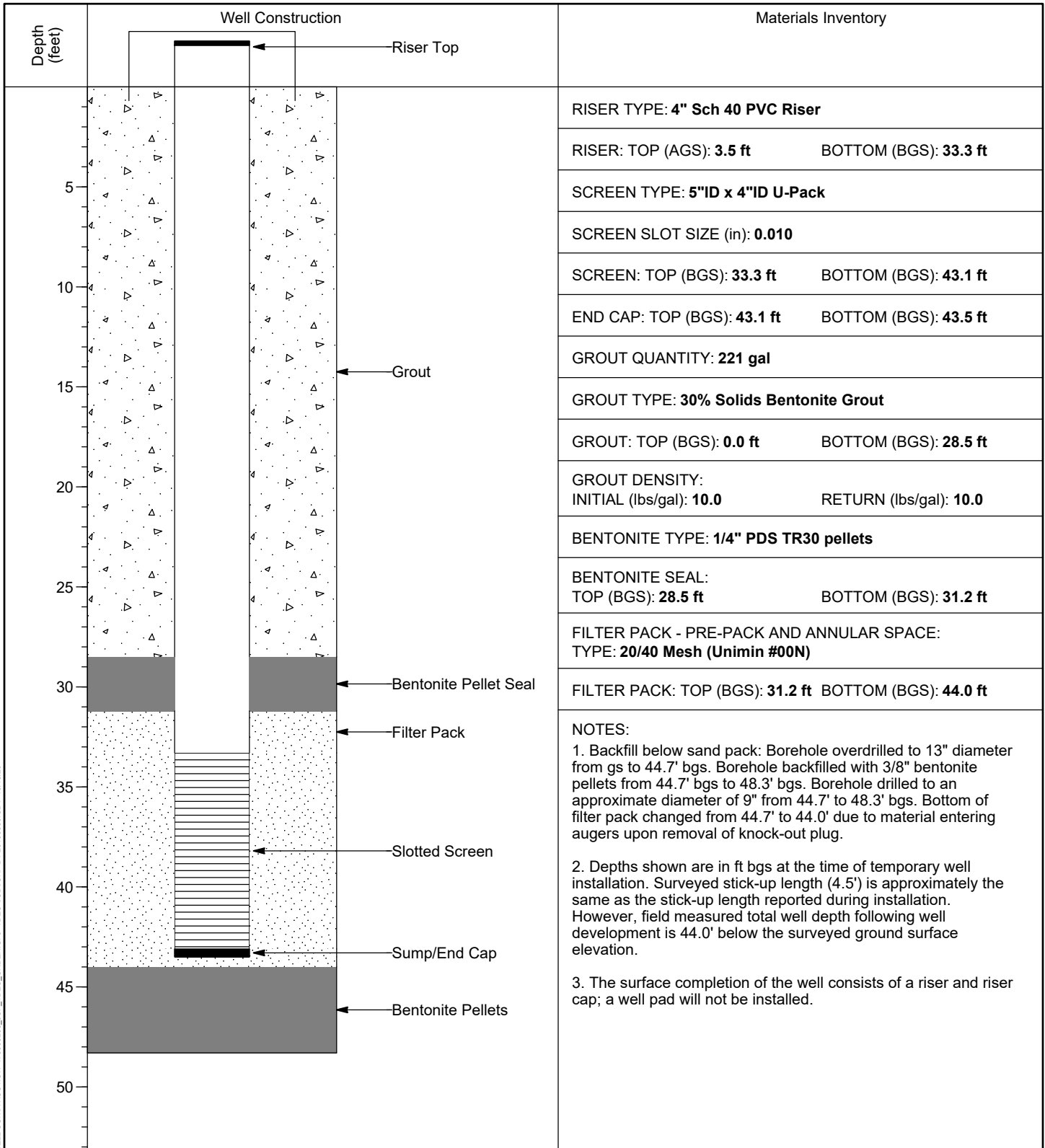


WELL INSTALLATION DETAIL

WELL / PROBEHOLE / BOREHOLE NO: **JOF-TW13 (Boring JOF-TW13)** PAGE 1 OF 1

PROJECT: **JOF TDEC Order**
 PROJECT NUMBER: **175568286**
 DRILLING COMPANY: **Stantec Consulting Services Inc.**
 DRILLING EQUIPMENT: **CME 1050, #952**
 DRILLING METHOD: **8-1/4" HSA overdrill of boring**
 SAMPLING METHOD: **4-1/4" HSA, 3" SS w/o liners, 3" Shelby Tubes**
 OBSERVED BY: **C. Burton**
 REVIEWED BY: **K. Carey**
 APPROVED BY: **P. Dunne**

INSTALLATION: STARTED: **12/18/19** COMPLETED: **12/19/19**
 LOCATION: **603,275.70 N; 1,414,944.75 E** DATUM: **NAD27 Plant Local**
 LOC. DESCRIP: **DuPont Road Dredge Cell**
 LATITUDE: **36° 1' 59.07"** LONGITUDE: **-87° 58' 43.67"**
 GROUND ELEV (ft): **437.9** TOC ELEV (ft): **441.39**
 ELEVATION DATUM: **NGVD29**
 BOREHOLE DEPTH (ft): **48.3** WELL DEPTH (ft, bgs): **43.5**
 DTW AT COMPLETION (ft, bgs): **N/A**
 BOREHOLE DIA. (in): **13.0** WELL DIA. (in): **4.0**



WELL CONSTRUCTION 175568286_JOF_TDEC_ORDER.GPJ TDEC SUBSURF DT 20190630.GDT 10/13/20

VERTICAL SCALE: AS SHOWN. HORIZONTAL SCALE: NOT TO SCALE (EXAGGERATED TO SHOW DETAIL)

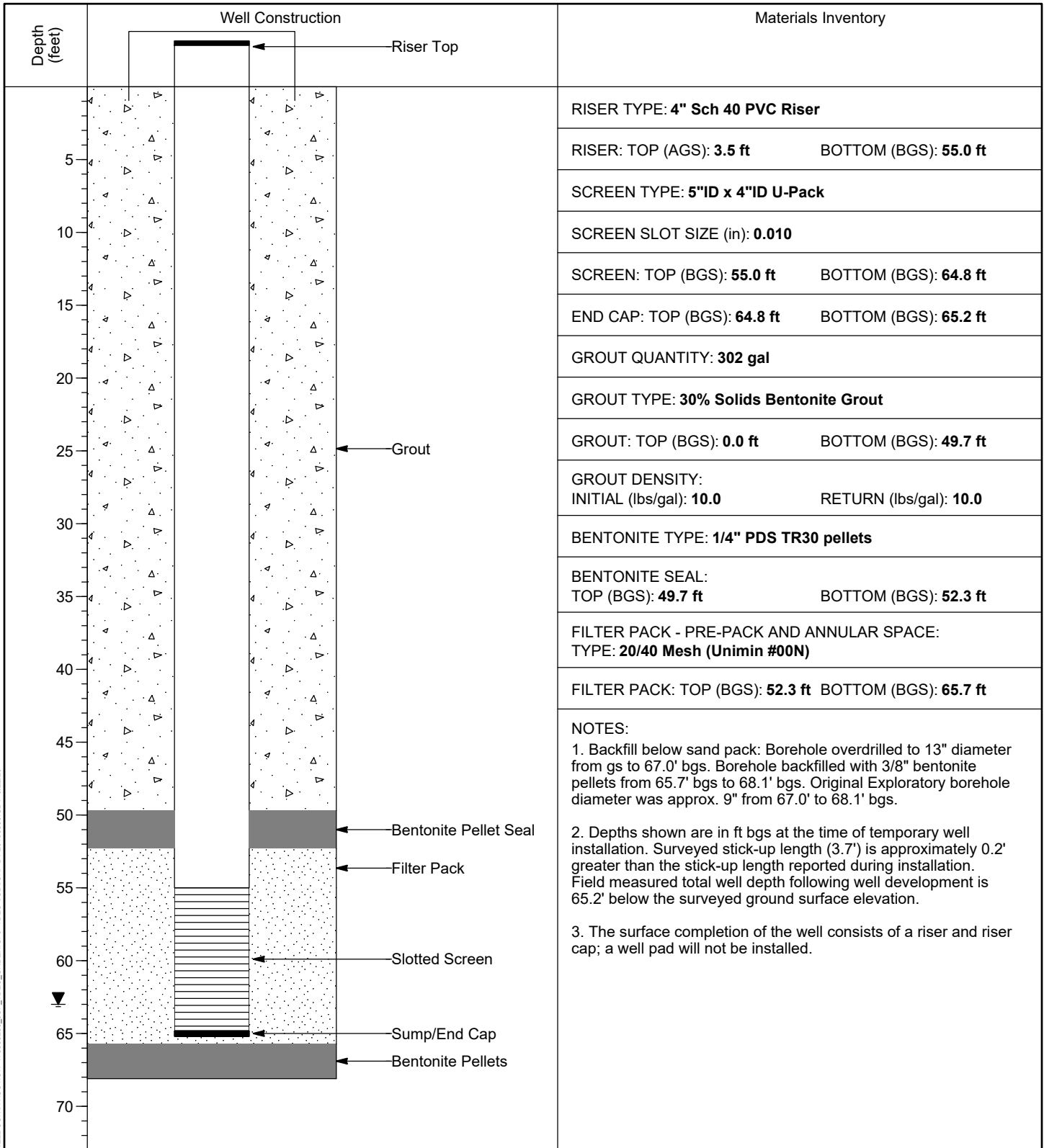


WELL INSTALLATION DETAIL

WELL / PROBEHOLE / BOREHOLE NO: PAGE 1 OF 1
JOF-TW15 (Boring JOF-TW15)

PROJECT: **JOF TDEC Order**
 PROJECT NUMBER: **175568286**
 DRILLING COMPANY: **Stantec Consulting Services Inc.**
 DRILLING EQUIPMENT: **CME 850XR, #953**
 DRILLING METHOD: **8-1/4" HSA overdrill of boring**
 SAMPLING METHOD: **4-1/4" HSA, 3" SS w/o liners, 3" Shelby Tubes**
 OBSERVED BY: **C. Burton**
 REVIEWED BY: **K. Carey**
 APPROVED BY: **P. Dunne**

INSTALLATION: STARTED: **10/29/19** COMPLETED: **11/5/19**
 LOCATION: **599,085.81 N; 1,415,329.68 E** DATUM: **NAD27 Plant Local**
 LOC. DESCRIP: **South Rail Loop Area 4**
 LATITUDE: **36° 1' 17.71"** LONGITUDE: **-87° 58' 37.96"**
 GROUND ELEV (ft): **448.0** TOC ELEV (ft): **451.71**
 ELEVATION DATUM: **NGVD29**
 BOREHOLE DEPTH (ft): **68.1** WELL DEPTH (ft, bgs): **65.2**
 DTW AT COMPLETION (ft, bgs): **63.0**
 BOREHOLE DIA. (in): **13.0** WELL DIA. (in): **4.0**



WELL CONSTRUCTION 175568286_JOE_TDEC_ORDER.GPJ TDEC SUBSURF DT 20190530.GDT 9/22/20

VERTICAL SCALE: AS SHOWN. HORIZONTAL SCALE: NOT TO SCALE (EXAGGERATED TO SHOW DETAIL)

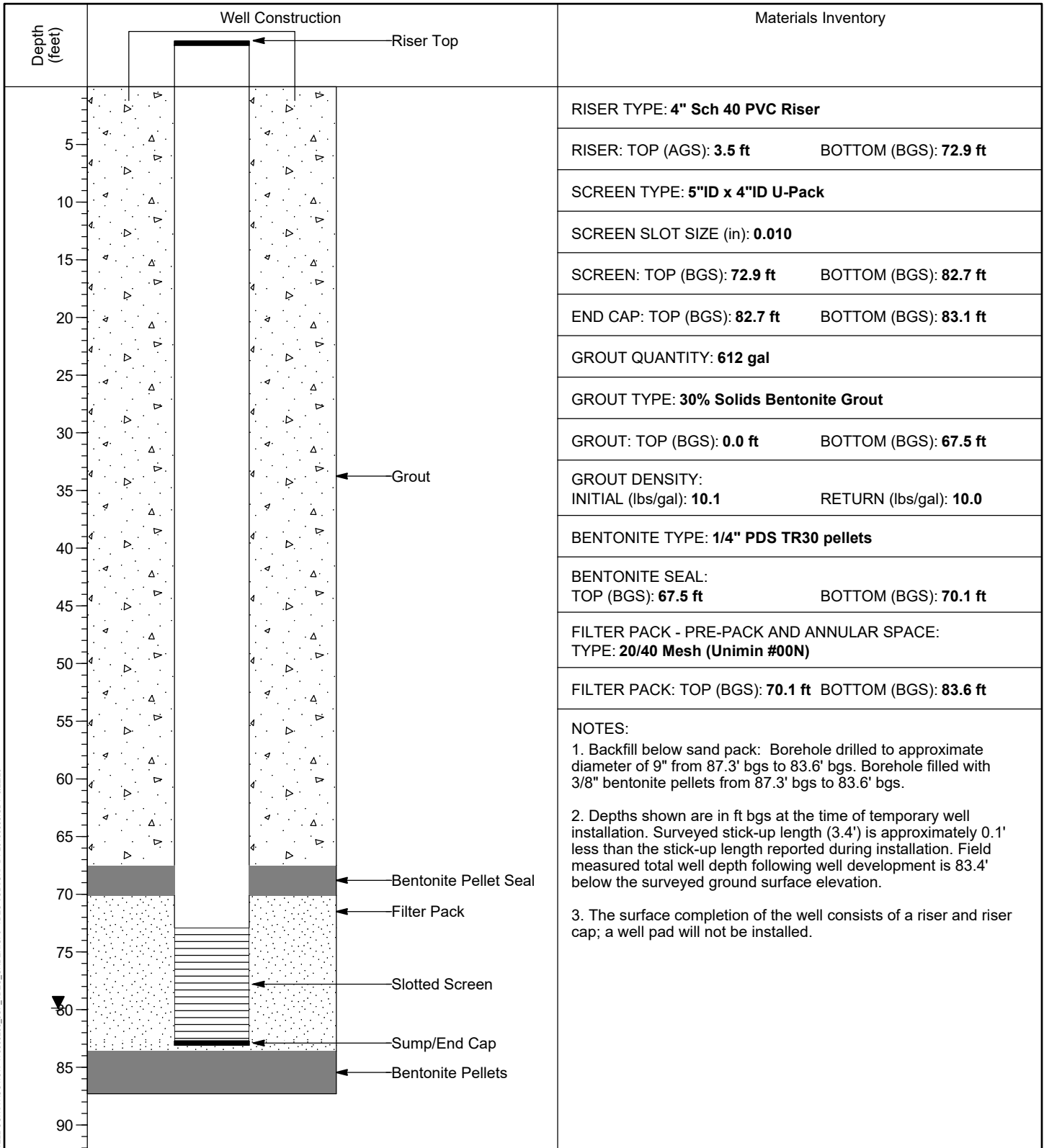


WELL INSTALLATION DETAIL

WELL / PROBEHOLE / BOREHOLE NO: PAGE 1 OF 1
JOF-TW16 (Boring JOF-TW16)

PROJECT: **JOF TDEC Order**
 PROJECT NUMBER: **175568286**
 DRILLING COMPANY: **Stantec Consulting Services Inc.**
 DRILLING EQUIPMENT: **CME 850XR, #953**
 DRILLING METHOD: **8-1/4" HSA overdrill of boring**
 SAMPLING METHOD: **4-1/4" HSA, 3" SS w/o liners, 3" Shelby Tubes**
 OBSERVED BY: **C. Burton**
 REVIEWED BY: **K. Carey**
 APPROVED BY: **P. Dunne**

INSTALLATION: STARTED: **10/22/19** COMPLETED: **10/24/19**
 LOCATION: **599,473.18 N; 1,416,176.31 E** DATUM: **NAD27 Plant Local**
 LOC. DESCRIP: **South Rail Loop Area 4**
 LATITUDE: **36° 1' 21.71"** LONGITUDE: **-87° 58' 27.75"**
 GROUND ELEV (ft): **470.4** TOC ELEV (ft): **473.81**
 ELEVATION DATUM: **NGVD29**
 BOREHOLE DEPTH (ft): **87.3** WELL DEPTH (ft, bgs): **83.1**
 DTW AT COMPLETION (ft, bgs): **79.9**
 BOREHOLE DIA. (in): **13.0** WELL DIA. (in): **4.0**



WELL CONSTRUCTION 175568286_JOE_TDEC_ORDER.GPJ TDEC SUBSURF DT 20190630.GDT 9/22/20

VERTICAL SCALE: AS SHOWN. HORIZONTAL SCALE: NOT TO SCALE (EXAGGERATED TO SHOW DETAIL)

APPENDIX C.2

PIEZOMETERS

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SURFACE TREATMENT BY TVA

GROUND SURFACE

ELEV. 390.0'

GROUT

1" DIA. SCH. 40 PVC PIPE

JOF_AAP2_PZ_3_A
GEOKON VWPZ
ELEV. 356.4'

JOF_AAP2_PZ_3_B
GEOKON VWPZ
ELEV. 347.4'

JOF_AAP2_PZ_3_C
GEOKON VWPZ
ELEV. 319.4'

39.0'

22.8'

12.7'

ASH

ELEV. 351.0'

ALLUVIAL CLAY AND SILT

ELEV. 328.2'

ALLUVIAL SAND AND GRAVEL

B.O.H. ELEV. 315.5'

8"

ID/SERIAL NO.	FIELD ZERO (DG/°C)	STRATA
JOF_AAP2_PZ_3_A/ 1804816	9009.2/22.3	ASH
JOF_AAP2_PZ_3_B/ 1804817	8847.0/18.8	ALLUVIAL CLAY AND SILT
JOF_AAP2_PZ_3_C/ 1804768	9076.0/18.1	ALLUVIAL SAND AND GRAVEL

LOCATION:

NORTHING: 599,982.7'
EASTING: 1,410,241'
GROUND ELEVATION: 390.0'

NOTES:

1. INSTALLED ON 04/18/2018.
BORING ADVANCED WITH 4.25"
(I.D.) HOLLOW STEM AUGERS.

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Tel: 615.885.1144
www.stantec.com

Client/Project
TENNESSEE VALLEY
AUTHORITY (TVA)

JOHNSONVILLE FOSSIL
PLANT

Project No.
175658077

Title
INSTRUMENT INSTALLATION
DETAIL - JOF_AAP2_PZ-3

Revision
R0

Reference Sheet
N/A

Date
2018.06.25

Figure No.
1

SURFACE TREATMENT BY TVA

GROUND SURFACE

ELEV. 397.1'

GROUT

1" DIA. SCH. 40 PVC PIPE

JOF_AAP2_PZ_4_A
GEOKON VWPZ
ELEV. 351.0'

JOF_AAP2_PZ_4_B
GEOKON VWPZ
ELEV. 343.0'

JOF_AAP2_PZ_4_C
GEOKON VWPZ
ELEV. 331.0'

ID/SERIAL NO.	FIELD ZERO (DG/°C)	STRATA
JOF_AAP2_PZ_4_A/ 1804818	9040.5/17.9	ASH
JOF_AAP2_PZ_4_B/ 1804769	9099.8/17.2	ALLUVIAL CLAY AND SILT
JOF_AAP2_PZ_4_C/ 1804770	9225.3/17.1	ALLUVIAL SAND AND GRAVEL

51.0'

ASH

ELEV. 346.1'

6.0'

ALLUVIAL CLAY AND SILT

ELEV. 340.1'

10.0'

ALLUVIAL SAND AND GRAVEL

B.O.H. ELEV. 330.1'

8"

LOCATION:

NORTHING: 600,469.6'
EASTING: 1,410,025'
GROUND ELEVATION: 397.1'

NOTES:

1. INSTALLED ON 04/26/2018.
BORING ADVANCED WITH 4.25"
(I.D.) HOLLOW STEM AUGERS.

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Project No.
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Title
INSTRUMENT INSTALLATION
DETAIL - JOF_AAP2_PZ-4

Revision
R0

Reference Sheet
N/A

Date
2018.06.25

Figure No.
1

SURFACE TREATMENT BY TVA

GROUND SURFACE

ELEV. 392.2'

GROUT

1" DIA. SCH. 40 PVC PIPE

JOF_AAP2_PZ_6_A
GEOKON VWPZ
ELEV. 355.5'

JOF_AAP2_PZ_6_B
GEOKON VWPZ
ELEV. 346.5'

JOF_AAP2_PZ_6_C
GEOKON VWPZ
ELEV. 325.5'

ID/SERIAL NO.	FIELD ZERO (DG/°C)	STRATA
JOF_AAP2_PZ_6_A/ 1804820	9162.9/29.9	ASH
JOF_AAP2_PZ_6_B/ 1804773	9184.6/28.5	ALLUVIAL CLAY AND SILT
JOF_AAP2_PZ_6_C/ 1804774	9145.8/26.9	ALLUVIAL SAND AND GRAVEL

ASH

ELEV. 351.4'

ALLUVIAL CLAY AND SILT

ELEV. 331.7'

ALLUVIAL SAND AND GRAVEL

B.O.H. ELEV. 321.2'

LOCATION:

NORTHING: 600,613.9'
EASTING: 1,410,816'
GROUND ELEVATION: 392.2'

NOTES:

1. INSTALLED ON 05/24/2018.
BORING ADVANCED WITH 4.25"
(I.D.) HOLLOW STEM AUGERS.



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Title
INSTRUMENT INSTALLATION
DETAIL - JOF_AAP2_PZ-6

Revision
RO

Reference Sheet
N/A

Date
2018.06.25

Figure No.
1

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SURFACE TREATMENT BY TVA

GROUND SURFACE

ELEV. 404.7'

GROUT

1" DIA. SCH. 40 PVC PIPE

JOF_AAP2_PZ_8_A
GEOKON VWPZ
ELEV. 358.5'

JOF_AAP2_PZ_8_B
GEOKON VWPZ
ELEV. 348.5'

JOF_AAP2_PZ_8_C
GEOKON VWPZ
ELEV. 327.5'

51.7'

20.8'

9.5'

ID/SERIAL NO.	FIELD ZERO (DG/°C)	STRATA
JOF_AAP2_PZ_8_A/ 1804823	9015.3/22.9	ASH
JOF_AAP2_PZ_8_B/ 1804811	8972.6/21.9	ALLUVIAL CLAY AND SILT
JOF_AAP2_PZ_8_C/ 1421195	8869.5/22.0	ALLUVIAL SAND AND GRAVEL

ASH

ELEV. 353.0'

ALLUVIAL CLAY AND SILT

ELEV. 332.2'

ALLUVIAL SAND AND GRAVEL

B.O.H. ELEV. 322.7'

8"

LOCATION:

NORTHING: 601,312.8'
EASTING: 1,410,318'
GROUND ELEVATION: 404.7'

NOTES:

1. INSTALLED ON 05/23/2018.
BORING ADVANCED WITH 4.25"
(I.D.) HOLLOW STEM AUGERS.

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175658077

Title
INSTRUMENT INSTALLATION
DETAIL - JOF_AAP2_PZ-8

Revision
R0

Reference Sheet
N/A

Date
2018.06.25

Figure No.
1

SURFACE TREATMENT BY TVA

GROUND SURFACE

ELEV. 393.3'

GROUT

1" DIA. SCH. 40 PVC PIPE

JOF_AAP2_PZ_9_A
GEOKON VWPZ
ELEV. 361.4'

JOF_AAP2_PZ_9_B
GEOKON VWPZ
ELEV. 352.4'

JOF_AAP2_PZ_9_C
GEOKON VWPZ
ELEV. 325.4'

ID/SERIAL NO.	FIELD ZERO (DG/°C)	STRATA
JOF_AAP2_PZ_9_A/ 1804825	8928.4/27.6	ASH
JOF_AAP2_PZ_9_B/ 1804826	9002.1/27.7	ALLUVIAL CLAY AND SILT
JOF_AAP2_PZ_9_C/ 1804812	8905.0/28.0	ALLUVIAL SAND AND GRAVEL

37.0'

ASH

ELEV. 356.3'

26.2'

ALLUVIAL CLAY AND SILT

ELEV. 330.1'

7.3'

ALLUVIAL SAND AND GRAVEL

B.O.H. ELEV. 322.8'

8"

LOCATION:

NORTHING: 601,633.0'
EASTING: 1,410,631'
GROUND ELEVATION: 393.3'

NOTES:

1. INSTALLED ON 05/10/2018.
BORING ADVANCED WITH 4.25"
(I.D.) HOLLOW STEM AUGERS.

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Project No.
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INSTRUMENT INSTALLATION
DETAIL - JOF_AAP2_PZ-9

Revision
R0

Reference Sheet
N/A

Date
2018.06.25

Figure No.
1

SURFACE TREATMENT BY TVA

GROUND SURFACE

ELEV. 390.3'

GROUT

1" DIA. SCH. 40 PVC PIPE

JOF_AAP2_PZ_10_A
GEOKON VWPZ
ELEV. 364.0'

JOF_AAP2_PZ_10_B
GEOKON VWPZ
ELEV. 350.0'

JOF_AAP2_PZ_10_C
GEOKON VWPZ
ELEV. 325.0'

ID/SERIAL NO.	FIELD ZERO (DG/°C)	STRATA
JOF_AAP2_PZ_10_A/ 1804827	9099.1/30.7	ASH
JOF_AAP2_PZ_10_B/ 1804828	9090.3/31.4	ALLUVIAL CLAY AND SILT
JOF_AAP2_PZ_10_C/ 1804813	9039.9/30.1	ALLUVIAL SAND AND GRAVEL

34.3'

ASH

ELEV. 356.0'

25.7'

ALLUVIAL CLAY AND SILT

ELEV. 330.3'

9.0'

ALLUVIAL SAND AND GRAVEL

B.O.H. ELEV. 321.3'

8"

LOCATION:

NORTHING: 602,515.4'
EASTING: 1,410,738'
GROUND ELEVATION: 390.3'

NOTES:

1. INSTALLED ON 05/3/2018.
BORING ADVANCED WITH 4.25"
(I.D.) HOLLOW STEM AUGERS.

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2018.08.31 1:53:43 PM



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JOHNSONVILLE FOSSIL
PLANT

Project No.
175658077

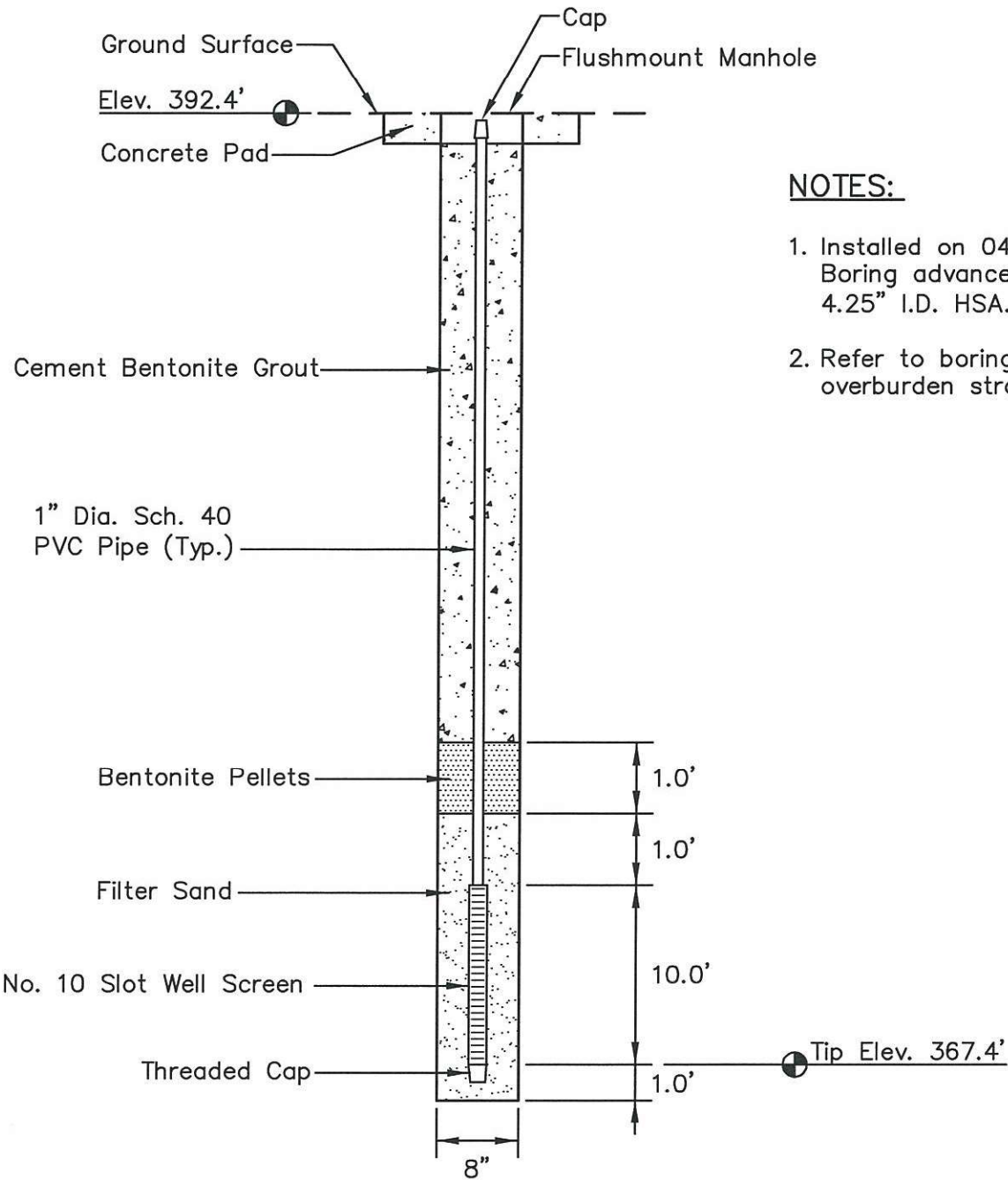
Title
INSTRUMENT INSTALLATION
DETAIL - JOF_AAP2_PZ-10

Revision
R0

Reference Sheet
N/A

Date
2018.06.25

Figure No.
1



NOTES:

1. Installed on 04/01/09. Boring advanced with 4.25" I.D. HSA.
2. Refer to boring log for overburden stratigraphy.

PLOT DATE: 01/18/2010 USER: PETTY, RICHARD V:\1755\ACTIVE\175559008\GEO\TECHNICAL\DRAWING\SPILLWAY_REPLACEMENT\PZ_DETAILS\59008-JOF-301-PZ.DWG

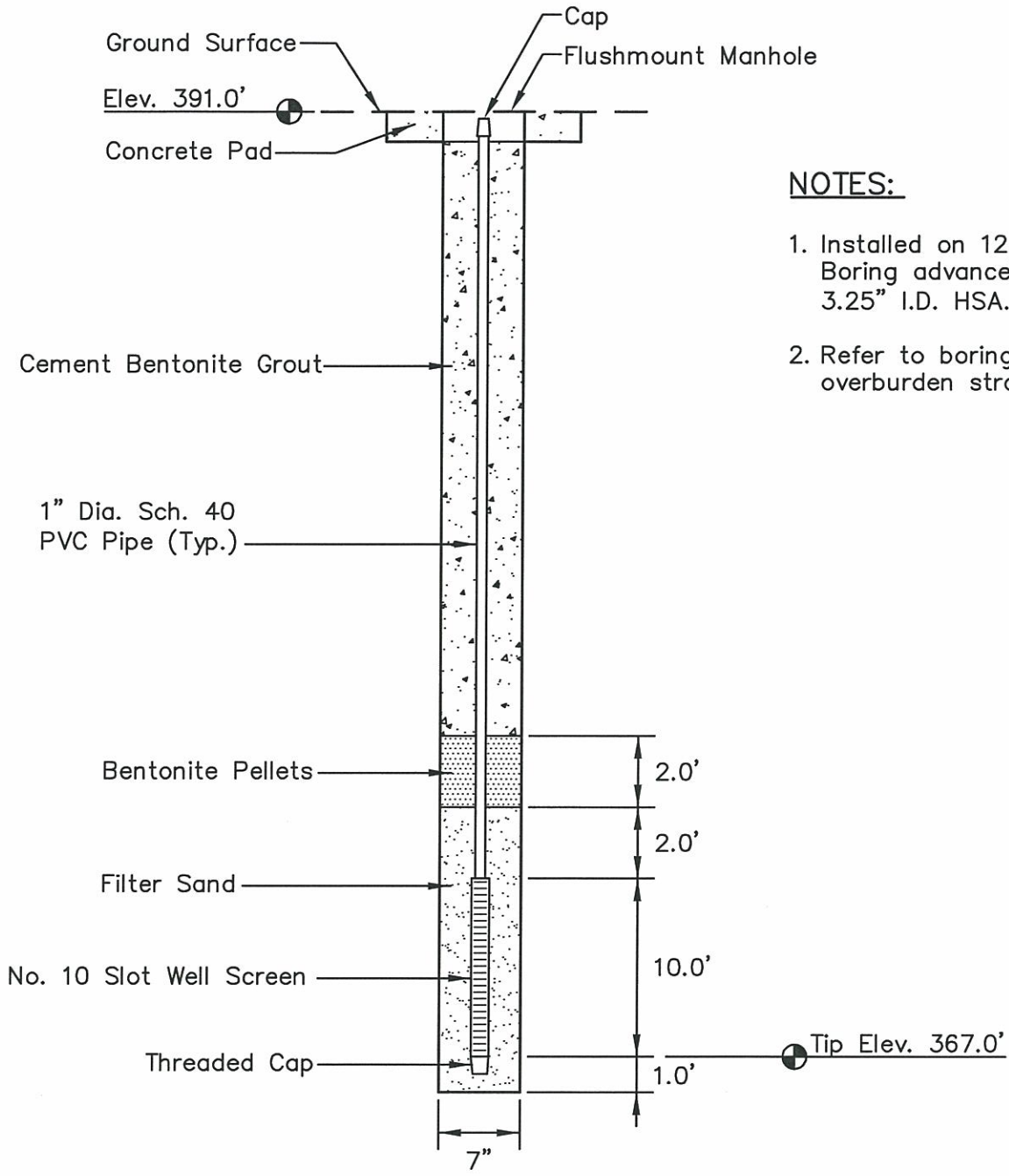
LOCATION

Northing: 602314.45
 Easting: 1410988.89
 Ground Elevation: 392.4

Locations to be provided by TVA, Power Systems Operations, Surveying and Project Services.
 Horizontal Datum: NAD 27
 Vertical Datum: NGVD29

STN-BC-PZ
PIEZOMETER INSTALLATION DETAIL
JOHNSONVILLE FOSSIL PLANT
ASH DISPOSAL AREAS 2 AND 3

		Stantec Consulting Services Inc. 1901 Nelson Miller Parkway Louisville, Kentucky 40223-2177 502-212-5000 www.stantec.com	
DRAWN BY	RRP	DATE	JAN. 2010
CHECKED BY	PJC	PROJ. NO.	175559008
CHECKED BY	SHB	SCALE	NTS
		REVISED	SHEET
		1.	3.
		2.	4.
			4 OF 32



NOTES:

1. Installed on 12/15/09. Boring advanced with 3.25" I.D. HSA.
2. Refer to boring log for overburden stratigraphy.

LOCATION

Northing: 600140.29
 Easting: 1410778.22
 Ground Elevation: 391.0

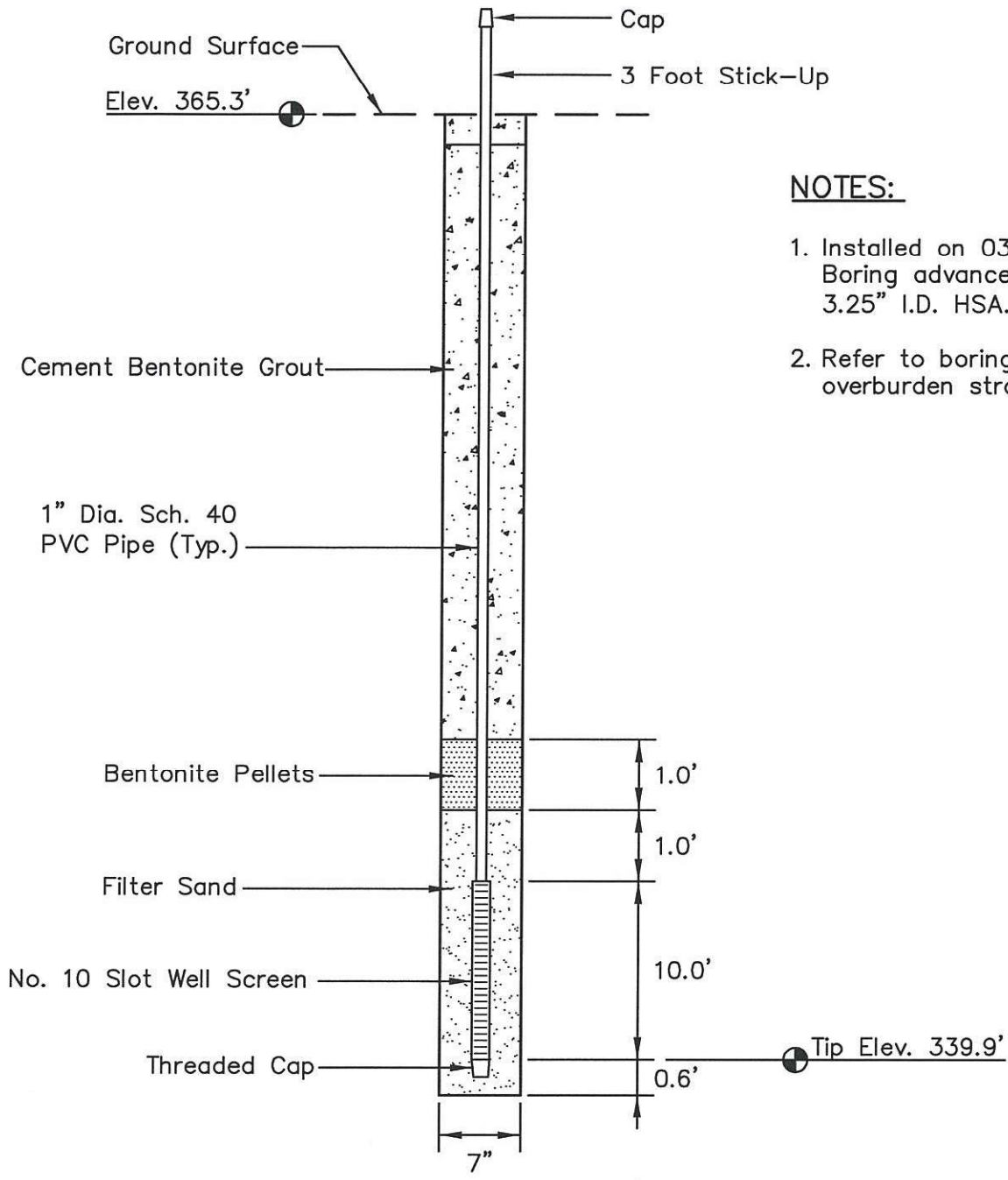
Locations to be provided by TVA,
 Power Systems Operations,
 Surveying and Project Services.
 Horizontal Datum: NAD 27
 Vertical Datum: NGVD29

STN-DC-PZ(2)
PIEZOMETER INSTALLATION DETAIL
JOHNSONVILLE FOSSIL PLANT
ASH DISPOSAL AREAS 2 AND 3

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	DRAWN BY	RRP	DATE	JAN. 2010	REVISED
CHECKED BY	PJC	PROJ. NO.	175559008	1.	3.
CHECKED BY	SHB	SCALE	NTS	2.	4.

13 OF 32

PLOT DATE: 01/18/2010 USER: PETTY, RICHARD
 Y:\1755\ACTIVE\175559008\GEO\TECHNICAL\DRAWING\SPILLWAY_REPLACEMENT\PIZ_DETAILS\59008-10F-301-PZ.DWG



NOTES:

1. Installed on 03/10/09. Boring advanced with 3.25" I.D. HSA.
2. Refer to boring log for overburden stratigraphy.


PLOT DATE: 01/18/2010 USER: PETTY, RICHARD V:\1755\ACTIVE\175559008\GEO\TECHNICAL\DRAWING\SPILLWAY_REPLACEMENT\PIZ_DETAILS\59008-10F-301-PZ.DWG

LOCATION

Northing: 600147.64
 Easting: 1410847.53
 Ground Elevation: 365.3

Locations to be provided by TVA,
 Power Systems Operations,
 Surveying and Project Services.
 Horizontal Datum: NAD 27
 Vertical Datum: NGVD29

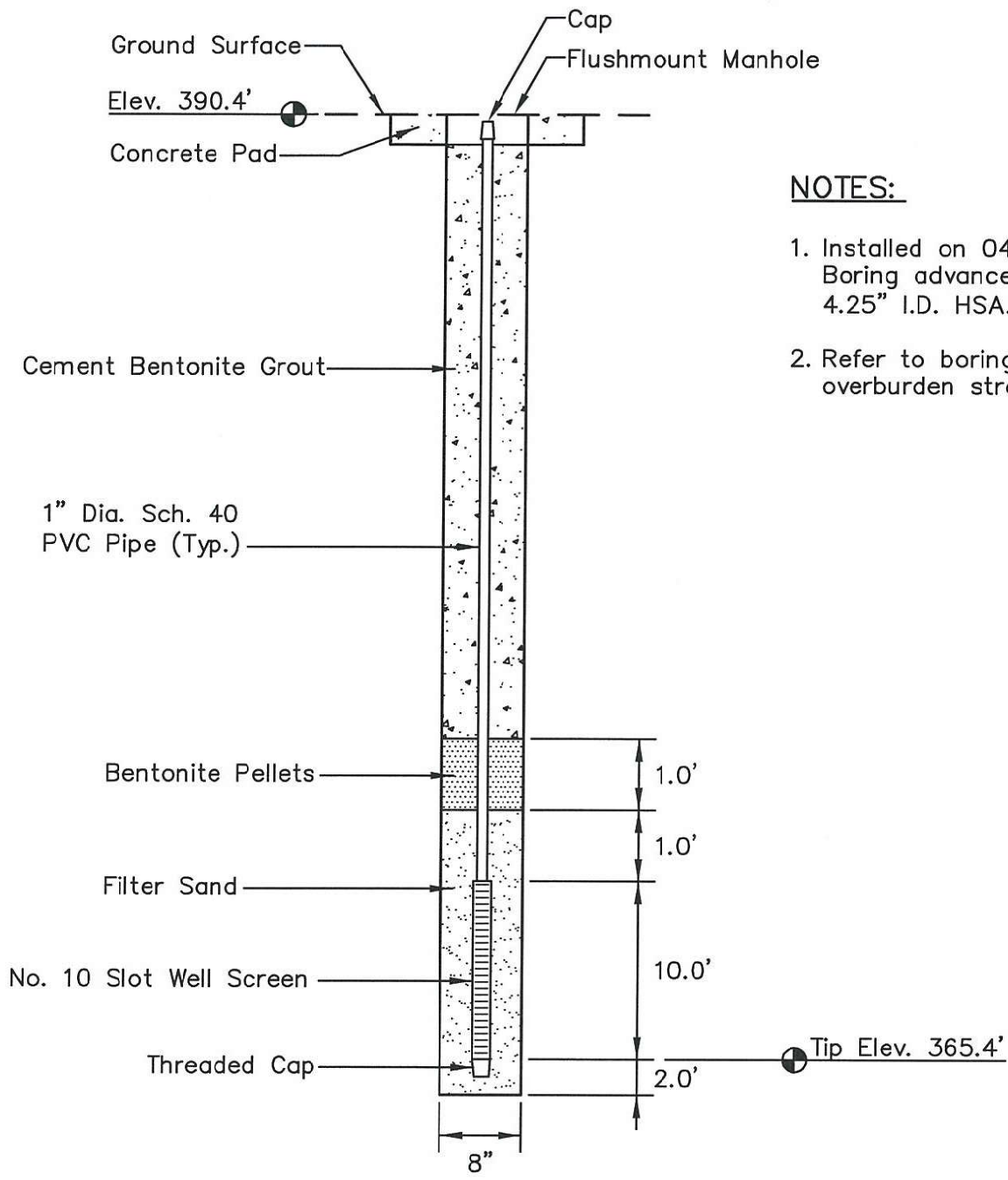
STN-DT-PZ
PIEZOMETER INSTALLATION DETAIL
JOHNSONVILLE FOSSIL PLANT
ASH DISPOSAL AREAS 2 AND 3



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CHECKED BY	PJC	PROJ. NO.	175559008	1.	3.	14 OF 32
CHECKED BY	SHB	SCALE	NTS	2.	4.	



NOTES:

1. Installed on 04/01/09. Boring advanced with 4.25" I.D. HSA.
2. Refer to boring log for overburden stratigraphy.


PLOT DATE: 01/18/2010 USER: PETTY, RICHARD V:\1755\ACTIVE\175559008\GEO\TECHNICAL\DRAWING\SPILLWAY_REPLACEMENT\PIZ_DETAILS\59008-JOF-301-PZ.DWG

LOCATION

Northing: 599517.65
 Easting: 1410428.37
 Ground Elevation: 390.4

Locations to be provided by TVA, Power Systems Operations, Surveying and Project Services.
 Horizontal Datum: NAD 27
 Vertical Datum: NGVD29

**STN-EC-PZ
 PIEZOMETER INSTALLATION DETAIL
 JOHNSONVILLE FOSSIL PLANT
 ASH DISPOSAL AREAS 2 AND 3**

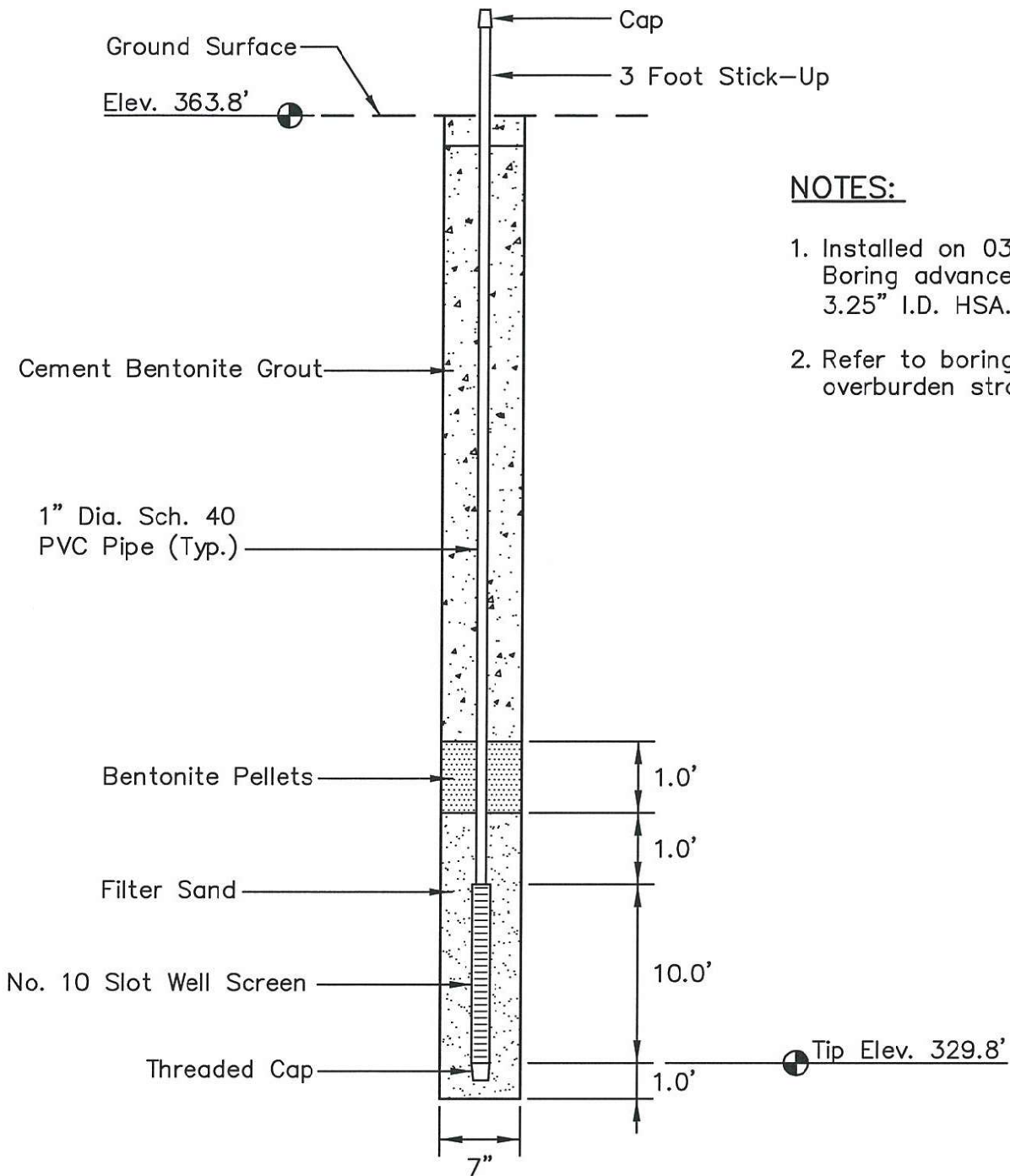


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DRAWN BY	RRP	DATE	JAN. 2010	REVISED		SHEET
CHECKED BY	PJC	PROJ. NO.	175559008	1.	3.	15 OF 32
CHECKED BY	SHB	SCALE	NTS	2.	4.	



NOTES:

1. Installed on 03/16/09. Boring advanced with 3.25" I.D. HSA.
2. Refer to boring log for overburden stratigraphy.

PLOT DATE: 01/18/2010 USER: PETTY, RICHARD V:\1755\ACTIVE\175559908\VEGETECHNICAL\DRAWING\SPILLWAY_REPLACEMENT\PZ_DETAIL\59008-JOF-301-PZ.DWG

LOCATION

Northing: 599486.09
 Easting: 1410496.27
 Ground Elevation: 363.8

Locations to be provided by TVA, Power Systems Operations, Surveying and Project Services.
 Horizontal Datum: NAD 27
 Vertical Datum: NGVD29

**STN-ET-PZ
 PIEZOMETER INSTALLATION DETAIL
 JOHNSONVILLE FOSSIL PLANT
 ASH DISPOSAL AREAS 2 AND 3**

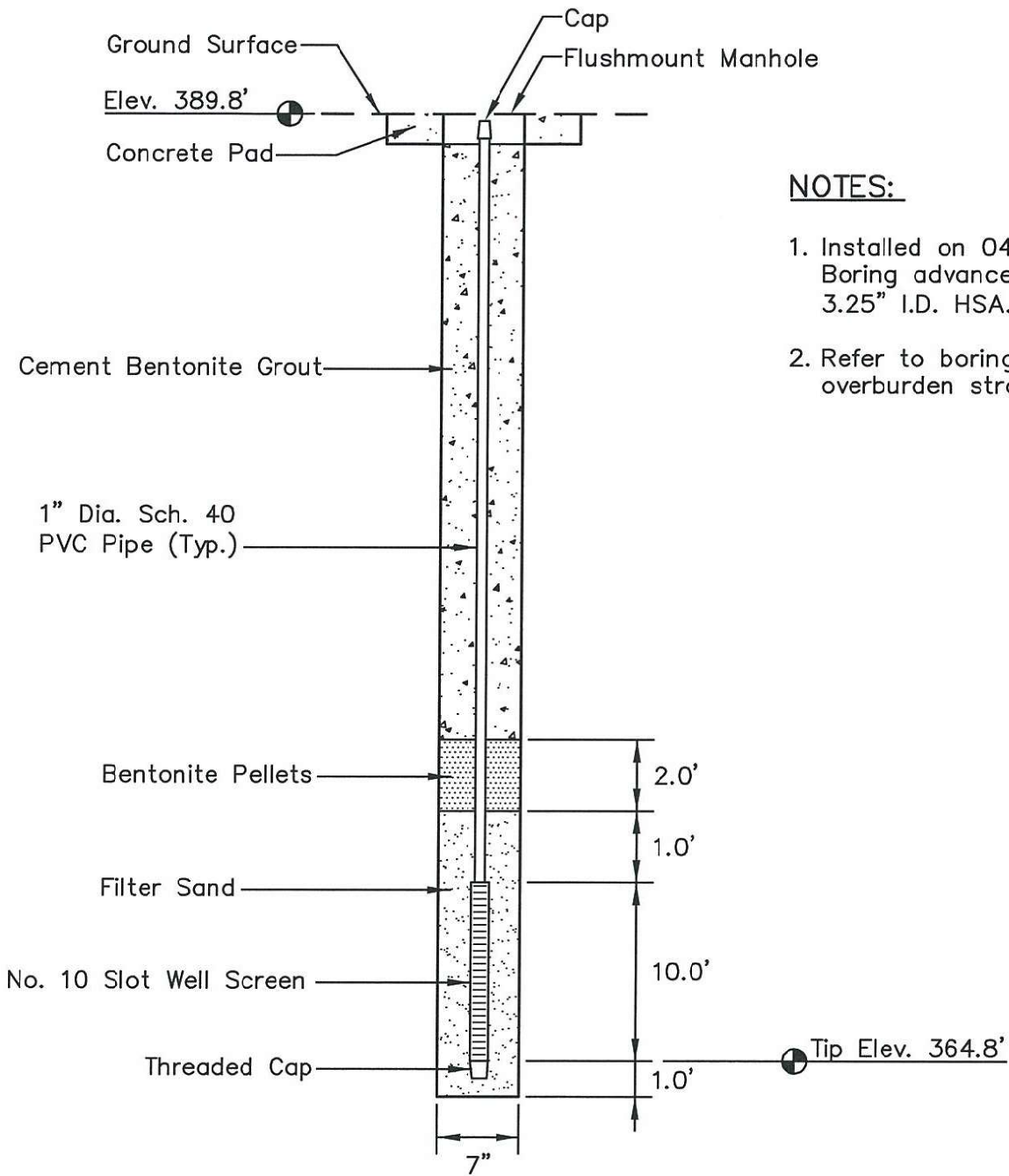


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CHECKED BY	PJC	PROJ. NO.	175559008	1.	3.	16 OF 32
CHECKED BY	SHB	SCALE	NTS	2.	4.	



NOTES:

1. Installed on 04/07/09. Boring advanced with 3.25" I.D. HSA.
2. Refer to boring log for overburden stratigraphy.

PLOT DATE: 01/18/2010 USER: PETTY, RICHARD
V: \1755\ACTIVE\175559008\GEO\TECHNICAL\DRAWING\SPILLWAY_REPLACEMENT\PZ_DETAILS\59008-10F-301-PZ.DWG

LOCATION

Northing: 598892.27
Easting: 1410076.24
Ground Elevation: 389.8

Locations to be provided by TVA,
Power Systems Operations,
Surveying and Project Services.
Horizontal Datum: NAD 27
Vertical Datum: NGVD29

**STN-FC-PZ
PIEZOMETER INSTALLATION DETAIL
JOHNSONVILLE FOSSIL PLANT
ASH DISPOSAL AREAS 2 AND 3**

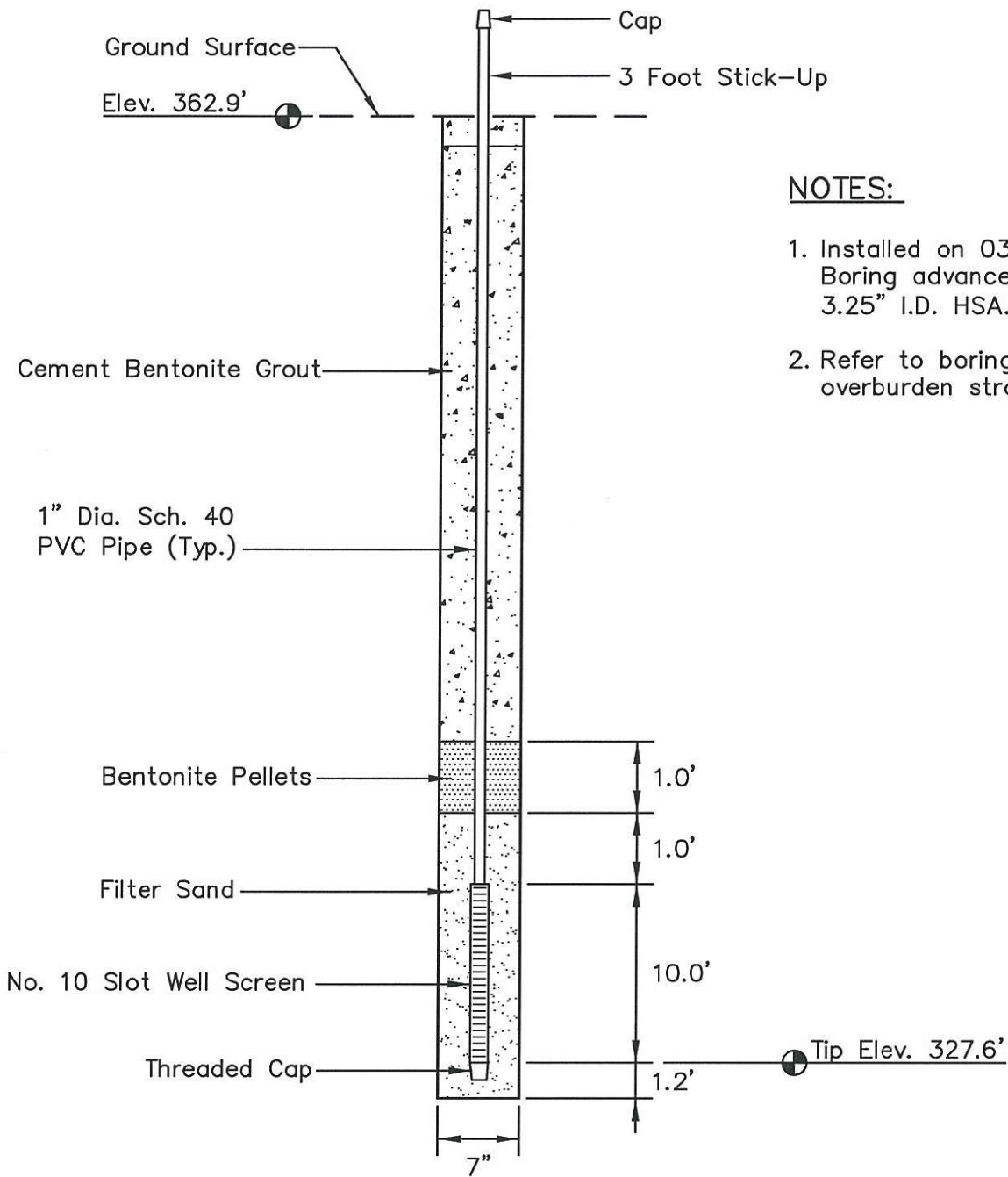


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CHECKED BY	PJC	PROJ. NO.	175559008	1.	3.	17 OF 32
CHECKED BY	SHB	SCALE	NTS	2.	4.	



NOTES:

1. Installed on 03/09/09. Boring advanced with 3.25" I.D. HSA.
2. Refer to boring log for overburden stratigraphy.

LOCATION

Northing: 598868.34
 Easting: 1410145.49
 Ground Elevation: 362.9

Locations to be provided by TVA,
 Power Systems Operations,
 Surveying and Project Services.
 Horizontal Datum: NAD 27
 Vertical Datum: NGVD29

**STN-FT-PZ
 PIEZOMETER INSTALLATION DETAIL
 JOHNSONVILLE FOSSIL PLANT
 ASH DISPOSAL AREAS 2 AND 3**



Stantec Consulting
 Services Inc.
 1901 Nelson Miller Parkway
 Louisville, Kentucky
 40223-2177
 502-212-5000

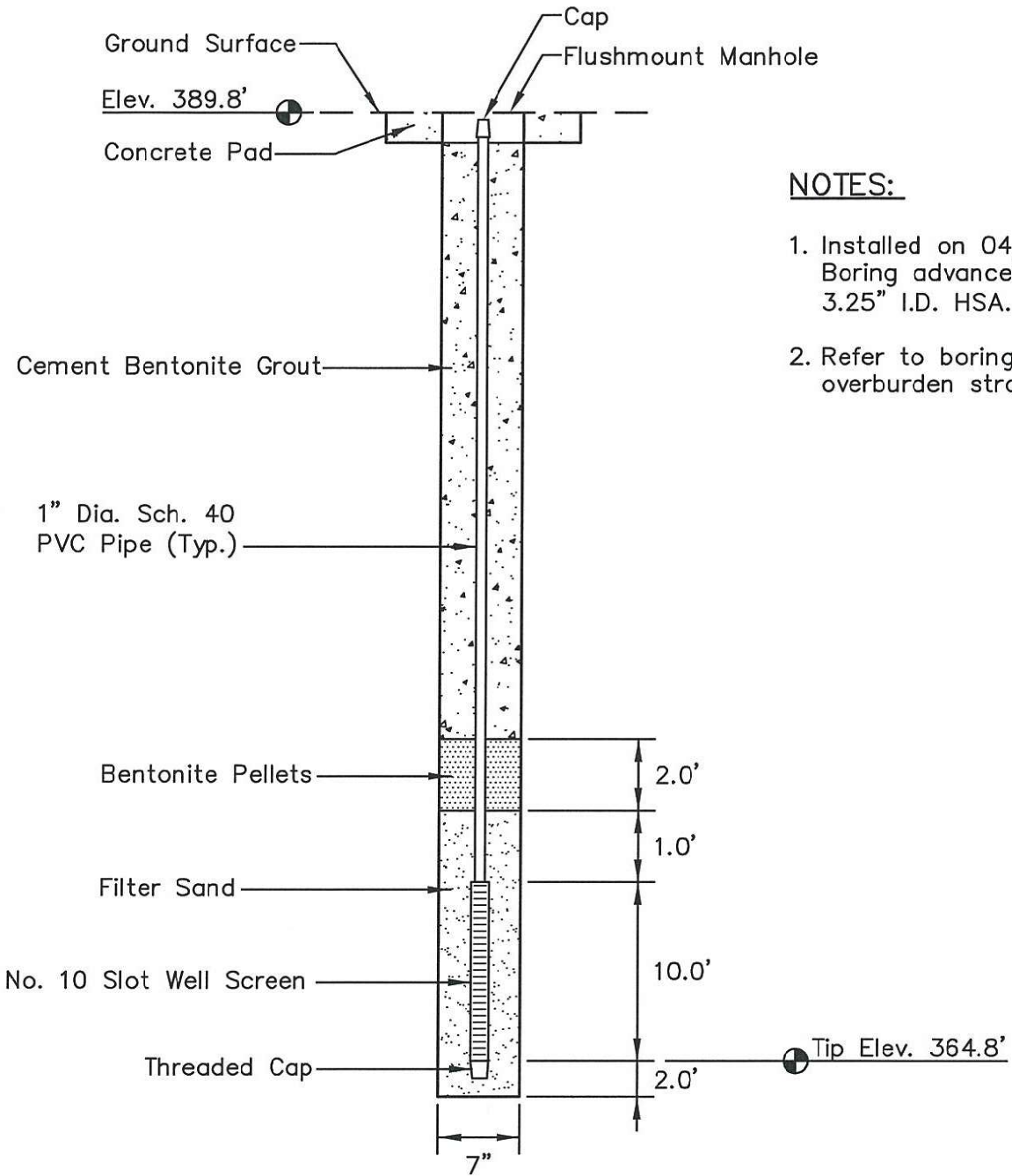
www.stantec.com

DRAWN BY	RRP	DATE	JAN. 2010	REVISED	
CHECKED BY	PJC	PROJ. NO.	175559008	1.	3.
CHECKED BY	SHB	SCALE	NTS	2.	4.

SHEET

18 OF 32

PLOT DATE: 01/18/2010 USER: PETTY, RICHARD
 V: \1755\ACTIVE\175559008\GEO\TECHNICAL\DRAWING\SPILLWAY_REPLACEMENT\PZ_DETAILS\59008-00F-301-PZ.DWG



NOTES:

1. Installed on 04/07/09. Boring advanced with 3.25" I.D. HSA.
2. Refer to boring log for overburden stratigraphy.


PLOT DATE: 01/18/2010 USER: PETTY, RICHARD V:\1755\ACTIVE\175559008\GEO\TECHNICAL\DRAWING\SPILLWAY_REPLACEMENT\PZ_DETAILS\59008-JOF-301-PZ.DWG

LOCATION

Northing: 598696.58
 Easting: 1409758.99
 Ground Elevation: 389.8

Locations to be provided by TVA,
 Power Systems Operations,
 Surveying and Project Services.
 Horizontal Datum: NAD 27
 Vertical Datum: NGVD29

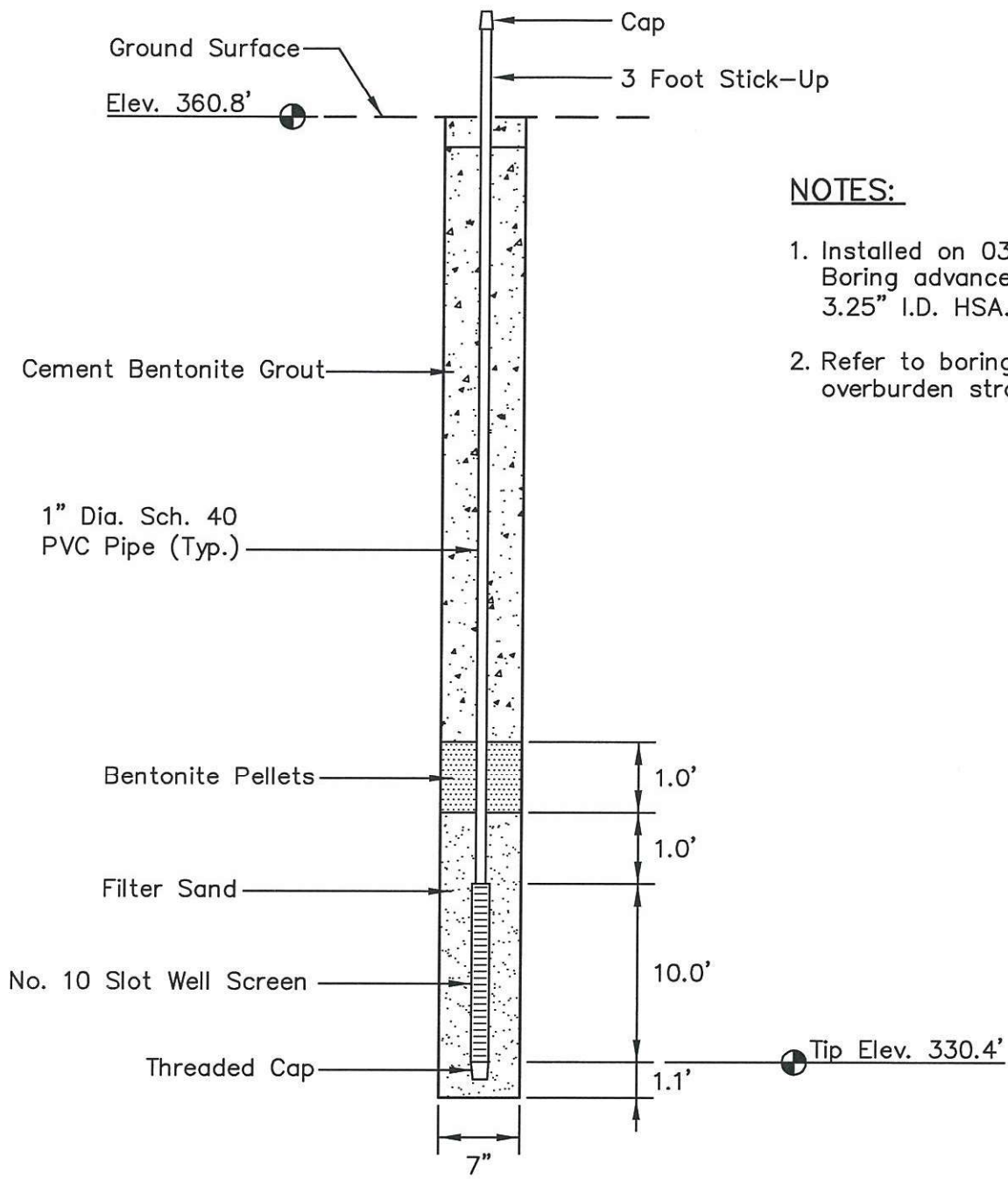
STN-GC-PZ
PIEZOMETER INSTALLATION DETAIL
JOHNSONVILLE FOSSIL PLANT
ASH DISPOSAL AREAS 2 AND 3



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DRAWN BY	RRP	DATE	JAN. 2010	REVISED		
CHECKED BY	PJC	PROJ. NO.	175559008	1.	3.	19 OF 32
CHECKED BY	SHB	SCALE	NTS	2.	4.	



NOTES:

1. Installed on 03/10/09. Boring advanced with 3.25" I.D. HSA.
2. Refer to boring log for overburden stratigraphy.

PLOT DATE: 01/18/2010 USER: PETTY, RICHARD V: \1755\ACTIVE\175559008\GEO\TECHNICAL\DRAWING\SPILLWAY\REPLACEMENT\PIZ_DETAILS\59008-10F-301-PZ.DWG

LOCATION

Northing: 598582.54
 Easting: 1409772.40
 Ground Elevation: 360.8

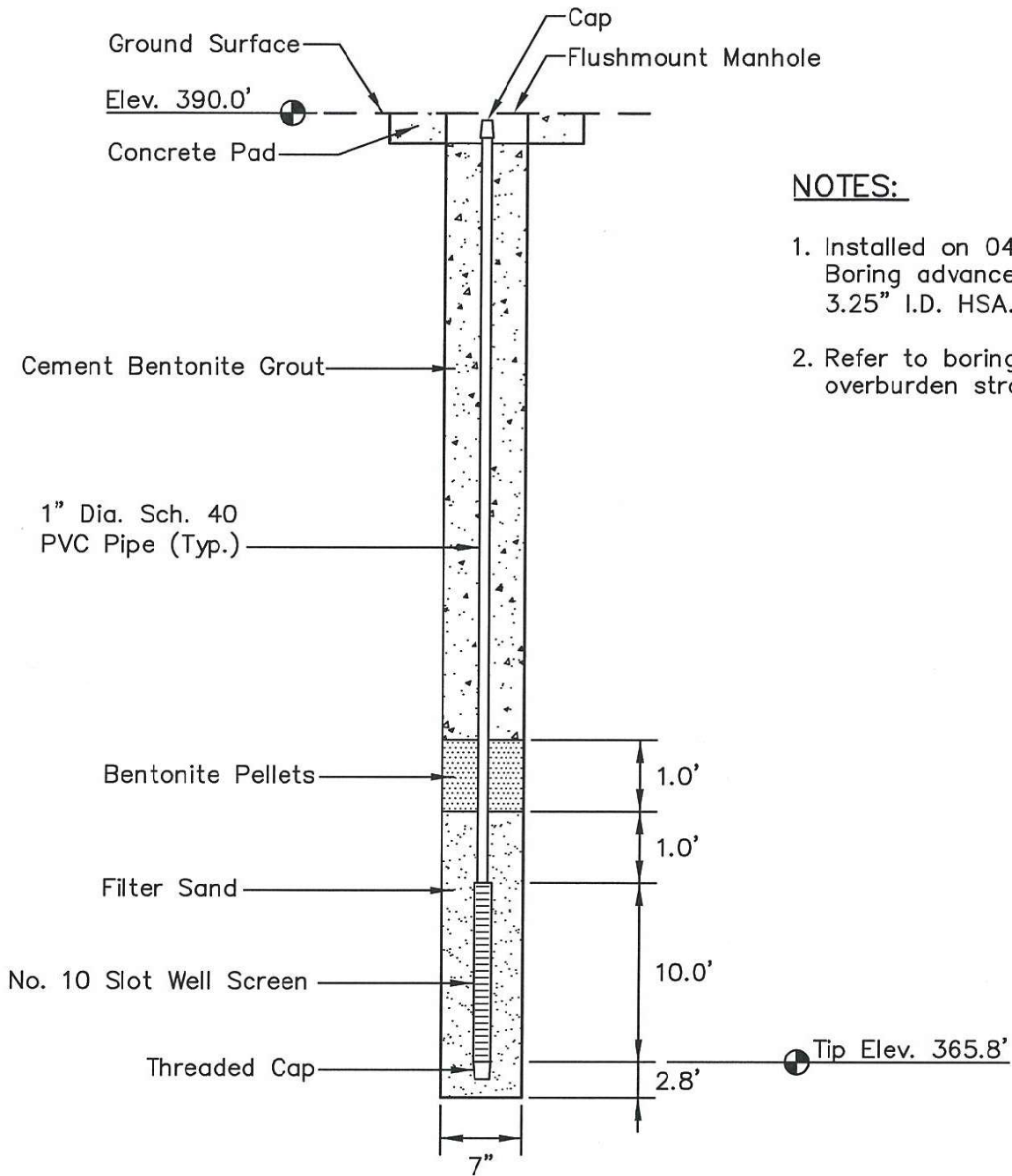
Locations to be provided by TVA,
 Power Systems Operations,
 Surveying and Project Services.
 Horizontal Datum: NAD 27
 Vertical Datum: NGVD29

STN-GT-PZ
PIEZOMETER INSTALLATION DETAIL
JOHNSONVILLE FOSSIL PLANT
ASH DISPOSAL AREAS 2 AND 3

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DRAWN BY	RRP	DATE	JAN. 2010	REVISED	SHEET
CHECKED BY	PJC	PROJ. NO.	175559008	1.	3.
CHECKED BY	SHB	SCALE	NTS	2.	4.

20 OF 32



NOTES:

1. Installed on 04/02/09. Boring advanced with 3.25" I.D. HSA.
2. Refer to boring log for overburden stratigraphy.

PLOT DATE: 01/18/2010 USER: PETTY, RICHARD V:\1755\ACTIVE\175559008\GEO\TECHNICAL\DRAWING\SPILLWAY\REPLACEMENT\PZ_DETAILS\59008-JOF-301-PZ.DWG

LOCATION

Northing: 599314.96
 Easting: 1409635.77
 Ground Elevation: 390.0

Locations to be provided by TVA,
 Power Systems Operations,
 Surveying and Project Services.
 Horizontal Datum: NAD 27
 Vertical Datum: NGVD29

**STN-HC-PZ
 PIEZOMETER INSTALLATION DETAIL
 JOHNSONVILLE FOSSIL PLANT
 ASH DISPOSAL AREAS 2 AND 3**

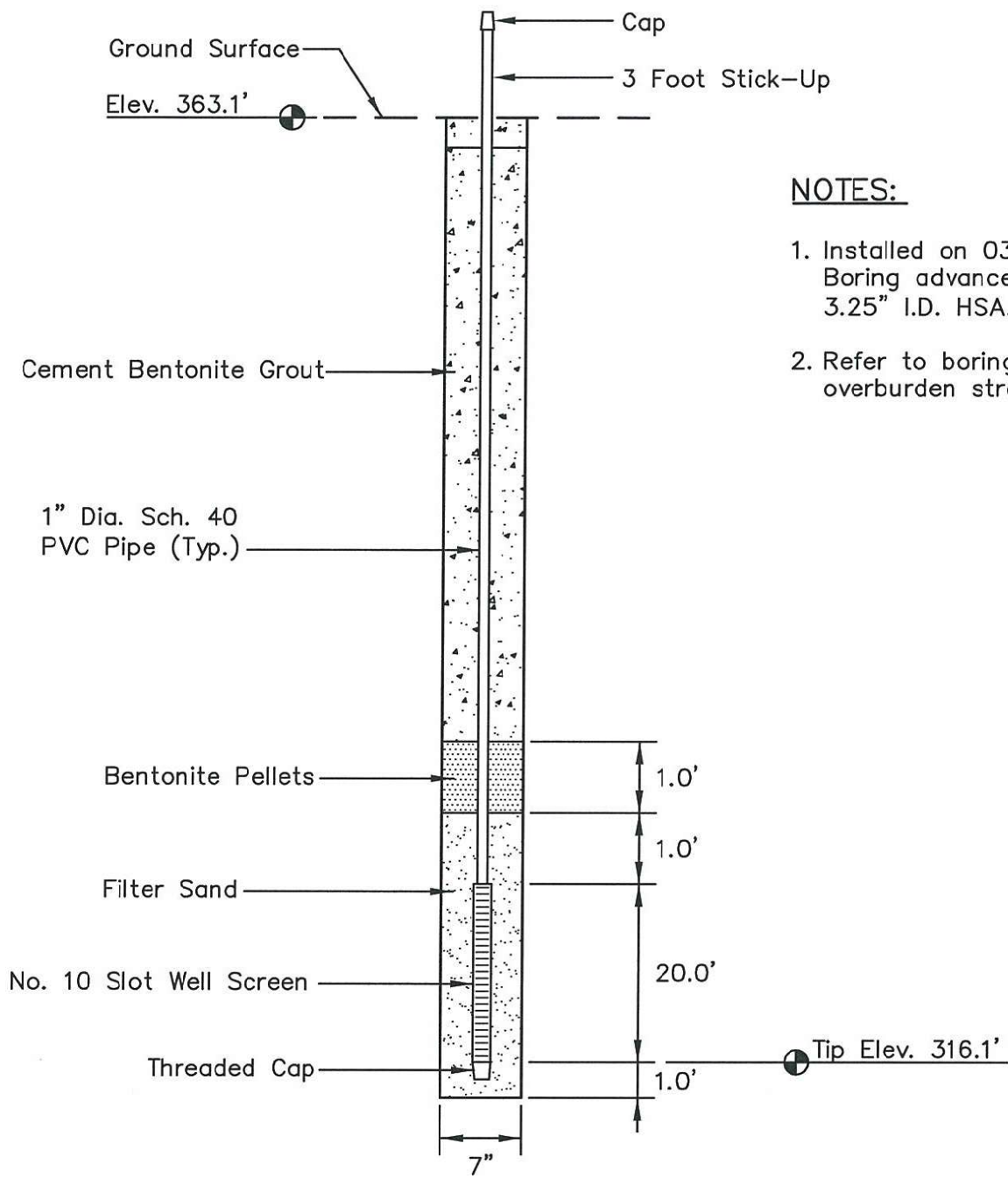


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DRAWN BY	RRP	DATE	JAN. 2010	REVISED		SHEET
CHECKED BY	PJC	PROJ. NO.	175559008	1.	3.	21 OF 32
CHECKED BY	SHB	SCALE	NTS	2.	4.	



NOTES:


1. Installed on 03/11/09. Boring advanced with 3.25" I.D. HSA.
2. Refer to boring log for overburden stratigraphy.

LOCATION

Northing: 599308.41
 Easting: 1409545.23
 Ground Elevation: 363.1

Locations to be provided by TVA,
 Power Systems Operations,
 Surveying and Project Services.
 Horizontal Datum: NAD 27
 Vertical Datum: NGVD29

STN-HT-PZ
PIEZOMETER INSTALLATION DETAIL
JOHNSONVILLE FOSSIL PLANT
ASH DISPOSAL AREAS 2 AND 3



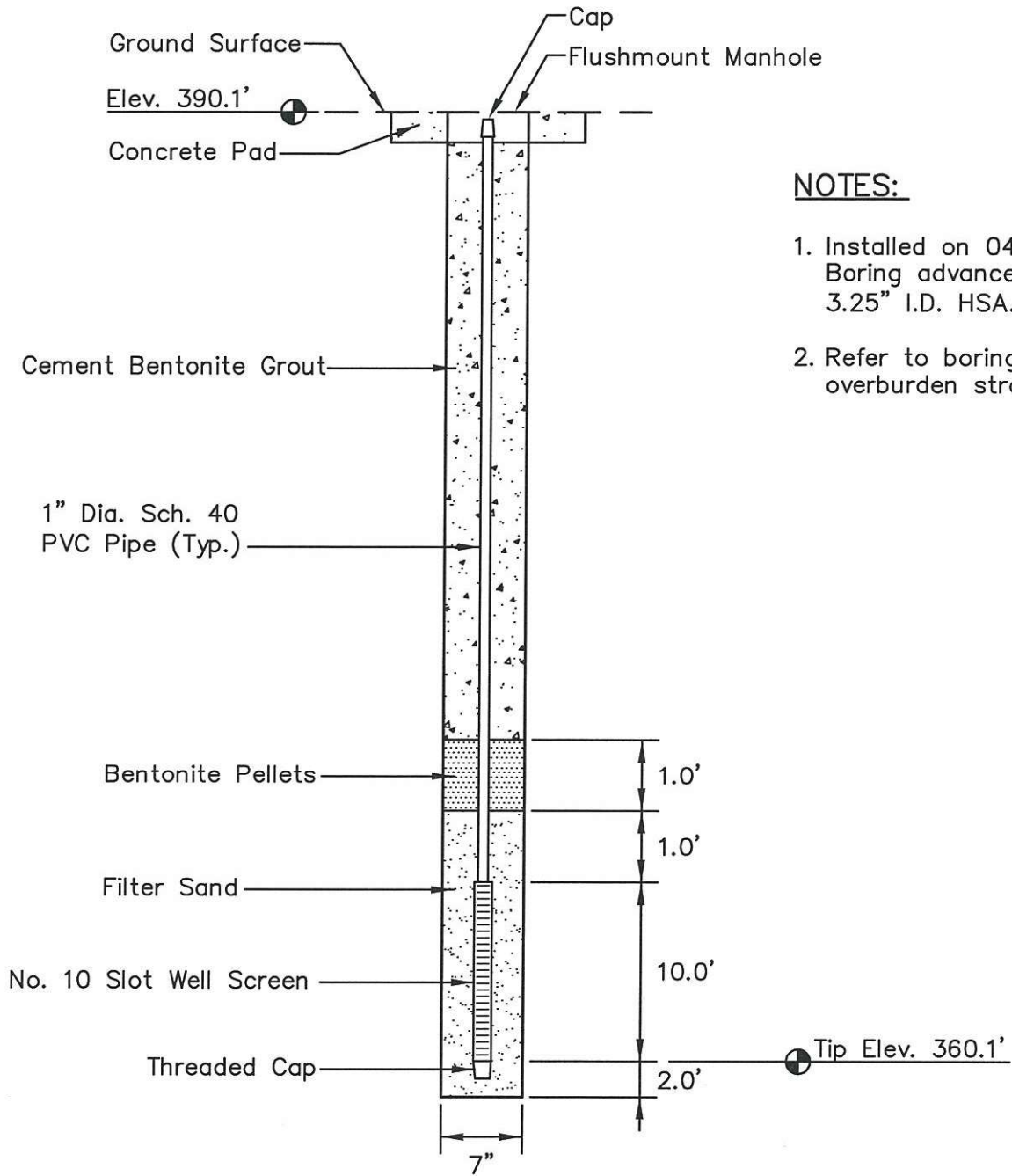
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DRAWN BY	RRP	DATE	JAN. 2010	REVISED	SHEET
CHECKED BY	PJC	PROJ. NO.	175559008	1.	3.
CHECKED BY	SHB	SCALE	NTS	2.	4.

22 OF 32

PLOT DATE: 01/18/2010 USER: PETTY, RICHARD
 V: \1755\ACTIVE\175559008\GEO\TECHNICAL\DRAWING\SPILLWAY_REPLACEMENT\PZ_DETAILS\59008-10F-301-PZ.DWG



NOTES:

1. Installed on 04/01/09. Boring advanced with 3.25" I.D. HSA.
2. Refer to boring log for overburden stratigraphy.

PLOT DATE: 01/18/2010 USER: PETTY, RICHARD V: Y755\ACTIVE\175559008\GEO\TECHNICAL\DRAWING\SPILLWAY\REPLACEMENT\PZ_DETAILS\59008-JOF-301-PZ.DWG

LOCATION

Northing: 600086.63
Easting: 1409629.83
Ground Elevation: 390.1

Locations to be provided by TVA, Power Systems Operations, Surveying and Project Services.
Horizontal Datum: NAD 27
Vertical Datum: NGVD29

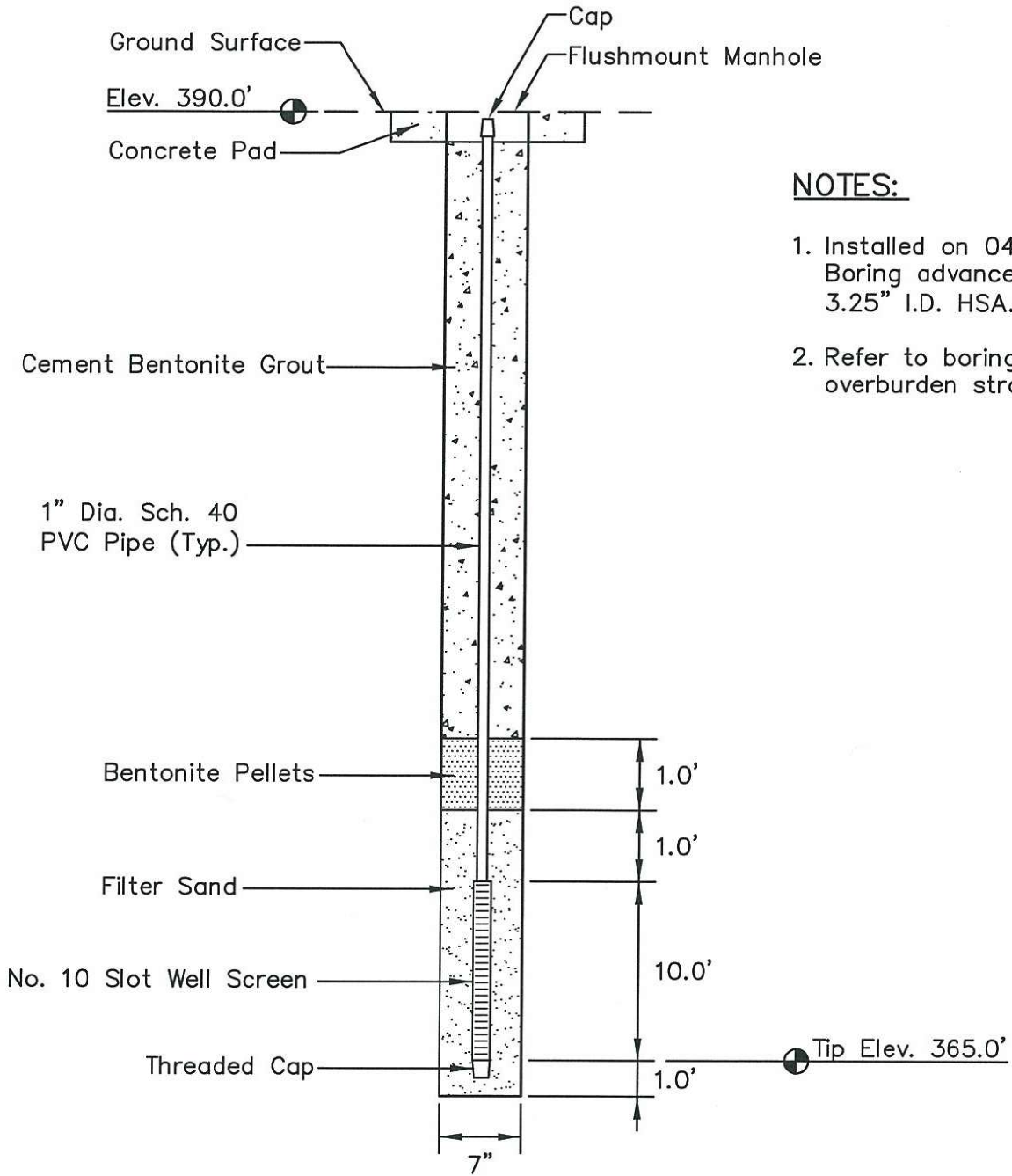
**STN-IC-PZ
PIEZOMETER INSTALLATION DETAIL
JOHNSONVILLE FOSSIL PLANT
ASH DISPOSAL AREAS 2 AND 3**



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DRAWN BY	RRP	DATE	JAN. 2010	REVISED		SHEET
CHECKED BY	PJC	PROJ. NO.	175559008	1.	3.	23 OF 32
CHECKED BY	SHB	SCALE	NTS	2.	4.	



NOTES:

1. Installed on 04/01/09. Boring advanced with 3.25" I.D. HSA.
2. Refer to boring log for overburden stratigraphy.

PLOT DATE: 01/18/2010 USER: PETTY, RICHARD V:\1755\ACTIVE\175559008\GEO\TECHNICAL\DRAWING\SPILLWAY_REPLACEMENT\PZ_DETAILS\59008-10F-301-PZ.DWG

LOCATION

Northing: 600825.25
 Easting: 1409856.37
 Ground Elevation: 390.0

Locations to be provided by TVA,
 Power Systems Operations,
 Surveying and Project Services.
 Horizontal Datum: NAD 27
 Vertical Datum: NGVD29

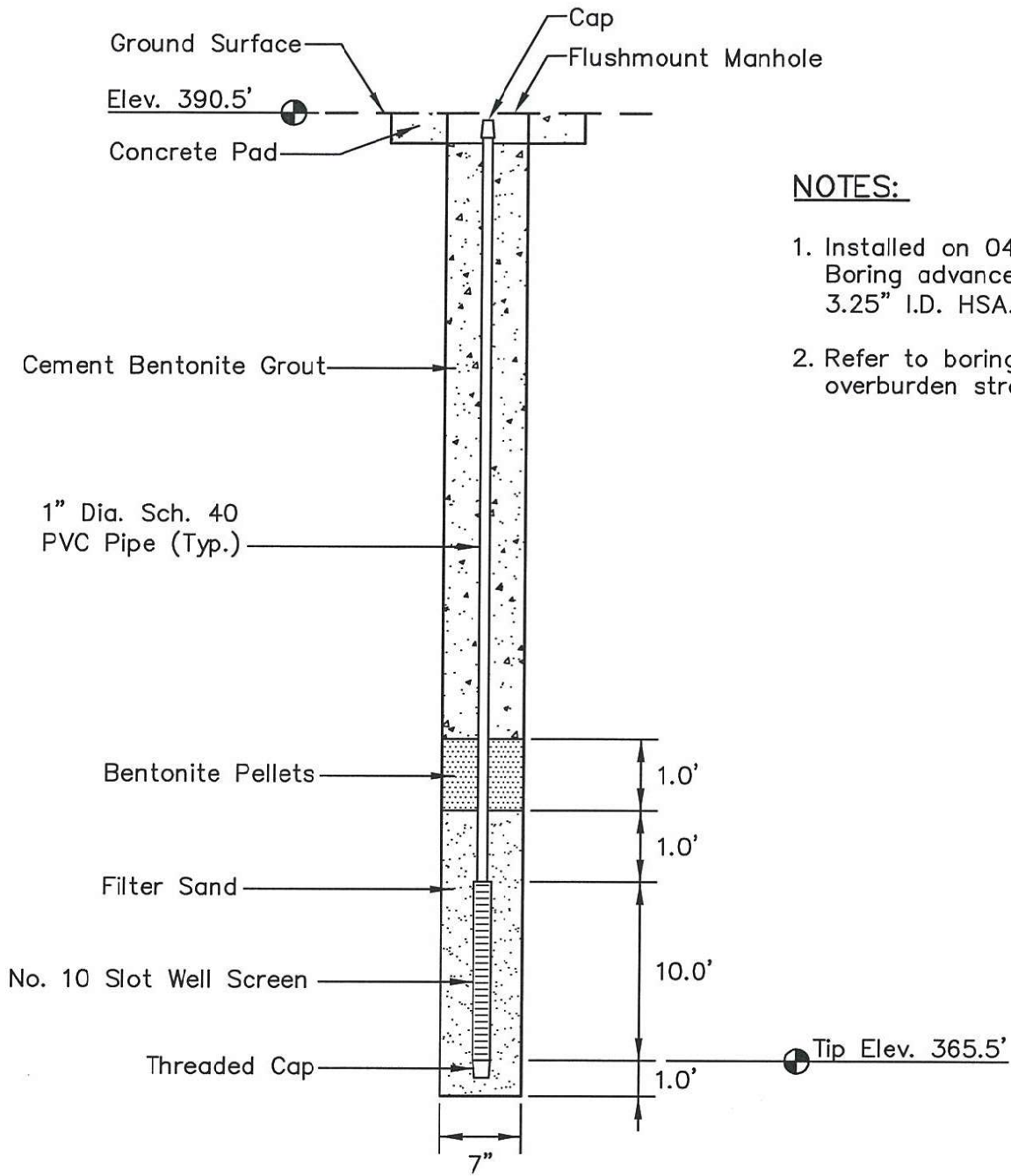
STN-JC-PZ
PIEZOMETER INSTALLATION DETAIL
JOHNSONVILLE FOSSIL PLANT
ASH DISPOSAL AREAS 2 AND 3

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DRAWN BY	RRP	DATE	JAN. 2010	REVISED	SHEET
CHECKED BY	PJC	PROJ. NO.	175559008	1.	3.
CHECKED BY	SHB	SCALE	NTS	2.	4.

25 OF 32



NOTES:

1. Installed on 04/01/09. Boring advanced with 3.25" I.D. HSA.
2. Refer to boring log for overburden stratigraphy.

LOCATION

Northing: 601483.81
 Easting: 1410099.66
 Ground Elevation: 390.5

Locations to be provided by TVA, Power Systems Operations, Surveying and Project Services.
 Horizontal Datum: NAD 27
 Vertical Datum: NGVD29

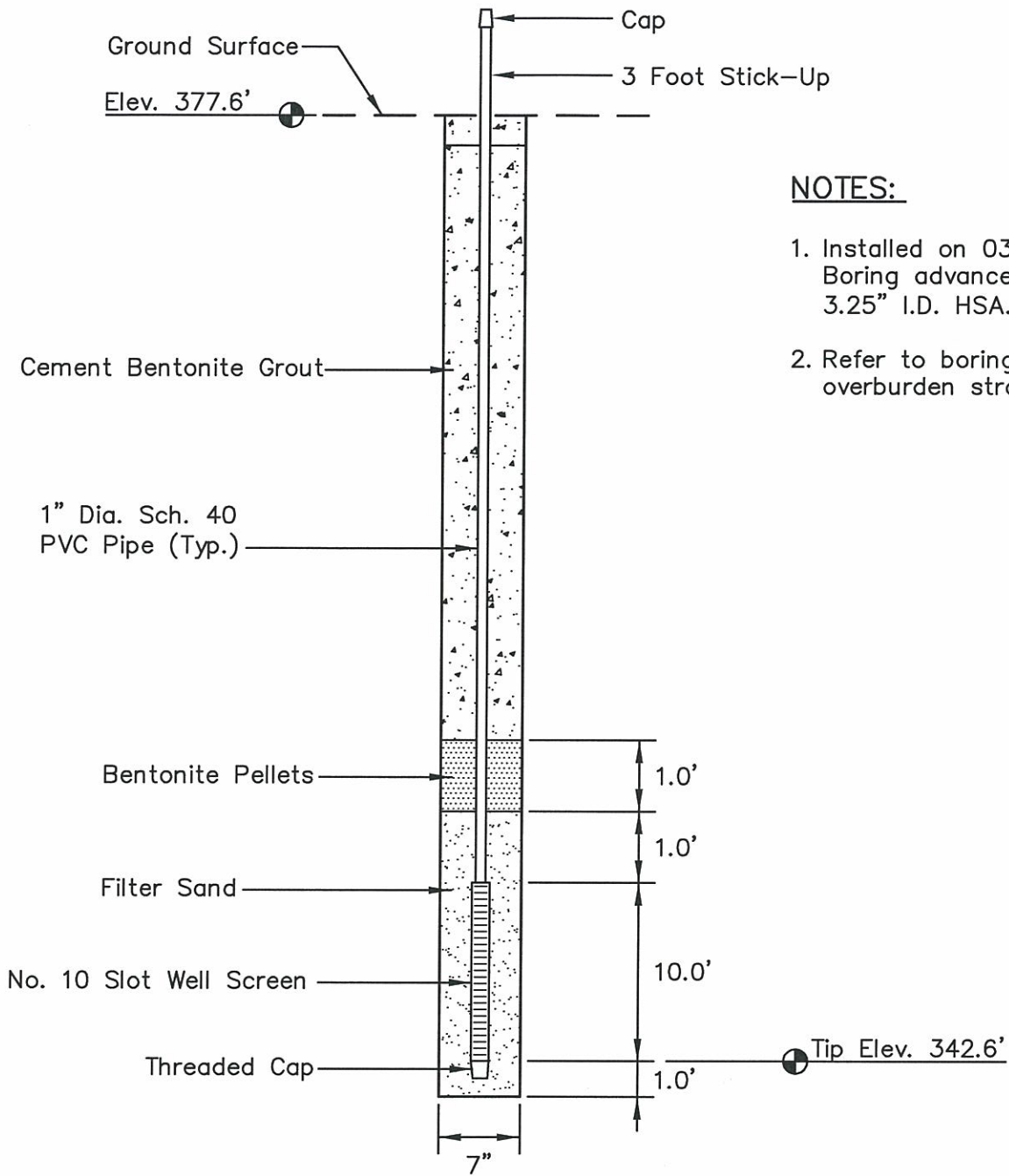
**STN-KC-PZ
 PIEZOMETER INSTALLATION DETAIL
 JOHNSONVILLE FOSSIL PLANT
 ASH DISPOSAL AREAS 2 AND 3**

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DRAWN BY	RRP	DATE	JAN. 2010	REVISED	SHEET
CHECKED BY	PJC	PROJ. NO.	175559008	1.	3.
CHECKED BY	SHB	SCALE	NTS	2.	4.

27 OF 32

PLOT DATE: 01/18/2010 USER: PETTY, RICHARD V:\1755\ACTIVE\175559008\GEO\TECHNICAL\DRAWING\SPILLWAY\REPLACEMENT\PIZ_DETAIL\59008-10F-301-PZ.DWG



NOTES:

1. Installed on 03/30/09. Boring advanced with 3.25" I.D. HSA.
2. Refer to boring log for overburden stratigraphy.

PLOT DATE: 01/18/2010 USER: PETTY, RICHARD V:\1755\ACTIVE\175559008\REPLACEMENT\PZ_DETAILS\59008-10F-301-PZ.DWG

LOCATION

Northing: 601488.26
 Easting: 1410056.92
 Ground Elevation: 377.6

Locations to be provided by TVA,
 Power Systems Operations,
 Surveying and Project Services.
 Horizontal Datum: NAD 27
 Vertical Datum: NGVD29

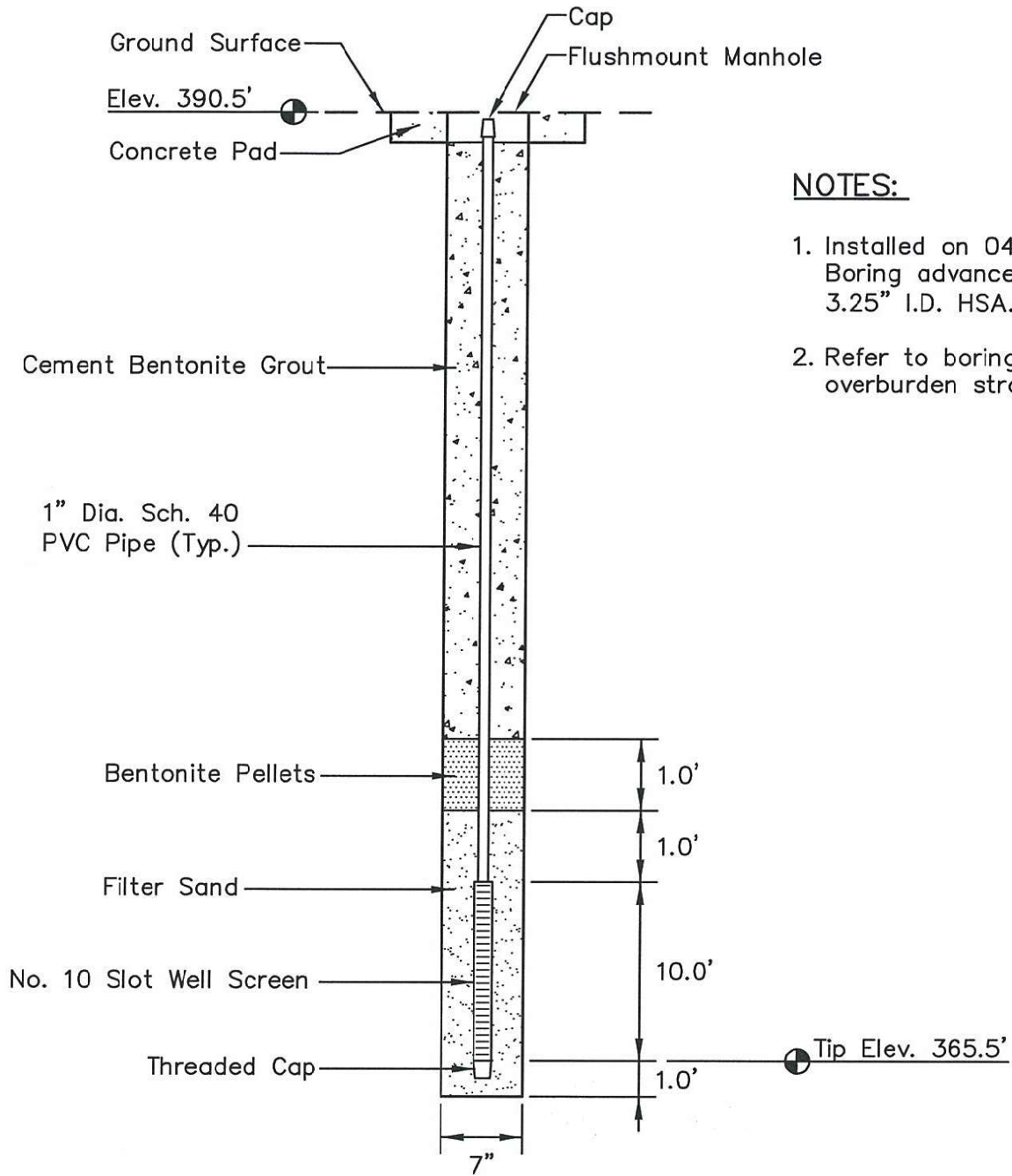
**STN-KT-PZ
 PIEZOMETER INSTALLATION DETAIL
 JOHNSONVILLE FOSSIL PLANT
 ASH DISPOSAL AREAS 2 AND 3**



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DRAWN BY	RRP	DATE	JAN. 2010	REVISED		SHEET
CHECKED BY	PJC	PROJ. NO.	175559008	1.	3.	28 OF 32
CHECKED BY	SHB	SCALE	NTS	2.	4.	



NOTES:

1. Installed on 04/01/09. Boring advanced with 3.25" I.D. HSA.
2. Refer to boring log for overburden stratigraphy.

LOCATION

Northing: 602374.84
 Easting: 1410429.97
 Ground Elevation: 390.5

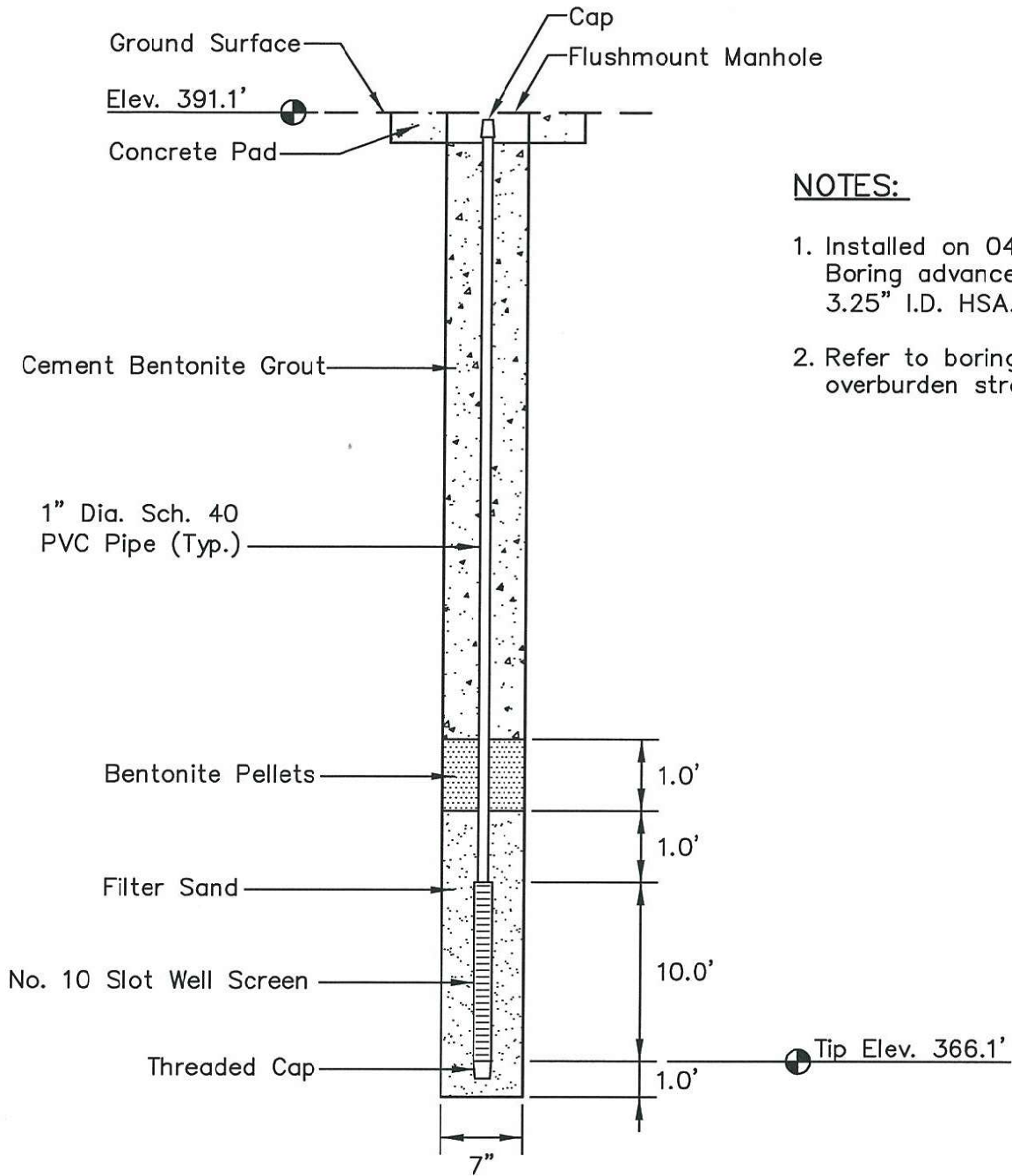
Locations to be provided by TVA,
 Power Systems Operations,
 Surveying and Project Services.
 Horizontal Datum: NAD 27
 Vertical Datum: NGVD29

STN-LC-PZ
PIEZOMETER INSTALLATION DETAIL
JOHNSONVILLE FOSSIL PLANT
ASH DISPOSAL AREAS 2 AND 3

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DRAWN BY	RRP	DATE	JAN. 2010	REVISED		SHEET
CHECKED BY	PJC	PROJ. NO.	175559008	1.	3.	29 OF 32
CHECKED BY	SHB	SCALE	NTS	2.	4.	

PLOT DATE: 01/18/2010 USER: PETTY, RICHARD
 V: Y755\ACTIVE\175559008\GEO\TECHNICAL\DRAWING\SPILLWAY...REPLACEMENT\PZ_DETAILS\59008-JOF-PZ.DWG



NOTES:

1. Installed on 04/01/09. Boring advanced with 3.25" I.D. HSA.
2. Refer to boring log for overburden stratigraphy.

PLOT DATE: 01/18/2010 11:58:11 USER: PETTY, RICHARD V. \1755\ACTIVE\175559008\GEO\TECHNICAL\DRAWING\SPILLWAY_REPLACEMENT\PIZ_DETAILS\59008-10F-301-PZ.DWG

LOCATION

Northing: 603157.20
 Easting: 1410719.51
 Ground Elevation: 391.1

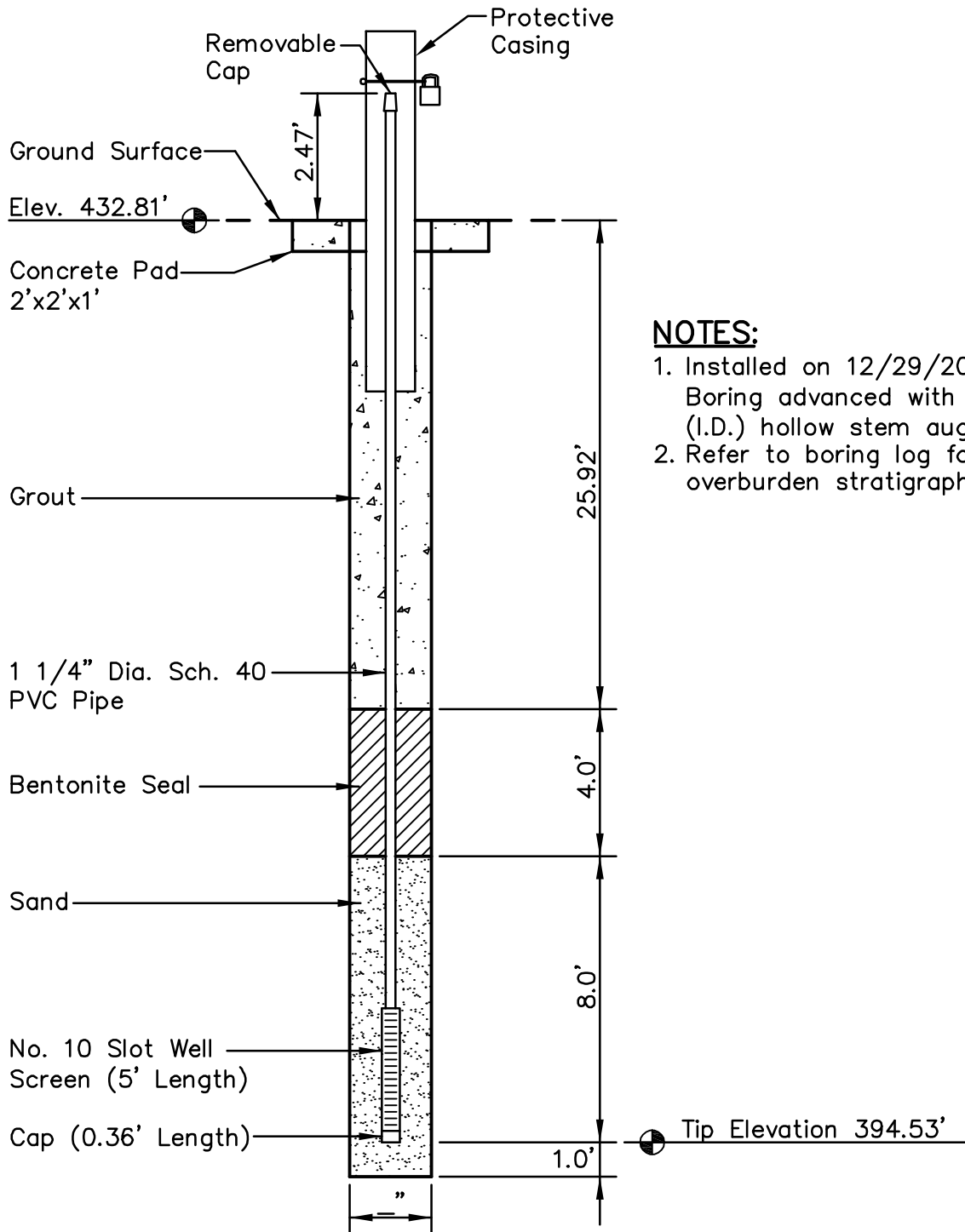
Locations to be provided by TVA,
 Power Systems Operations,
 Surveying and Project Services.
 Horizontal Datum: NAD 27
 Vertical Datum: NGVD29

STN-MC-PZ
PIEZOMETER INSTALLATION DETAIL
JOHNSONVILLE FOSSIL PLANT
ASH DISPOSAL AREAS 2 AND 3

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DRAWN BY	RRP	DATE	JAN. 2010	REVISED	SHEET
CHECKED BY	PJC	PROJ. NO.	175559008	1.	3.
CHECKED BY	SHB	SCALE	NTS	2.	4.

31 OF 32



NOTES:

1. Installed on 12/29/2009. Boring advanced with 3.25" (I.D.) hollow stem augers.
2. Refer to boring log for overburden stratigraphy.

PLOT DATE: 04/16/2010 USER: SILPACHARN, PRAYUTH (BILLY) V:\1726\ACTIVE\172679048\ENVIRONMENTAL\DRAWING\GEOTECH\INSTRUMENT\79048B-JOF-PZ8.DWG

LOCATION:

Northing: 604074.54
 Easting: 1414663.34
 Ground Elevation: 432.81 feet

Locations to be provided by TVA, Power Systems Operations, Surveying and Project Services.

Horizontal Datum: NAD 27
 Vertical Datum: NGVD 29

**PIEZOMETER P-8/DDC-3
 TVA - JOF - DDC
 NEW JOHNSONVILLE, TN**

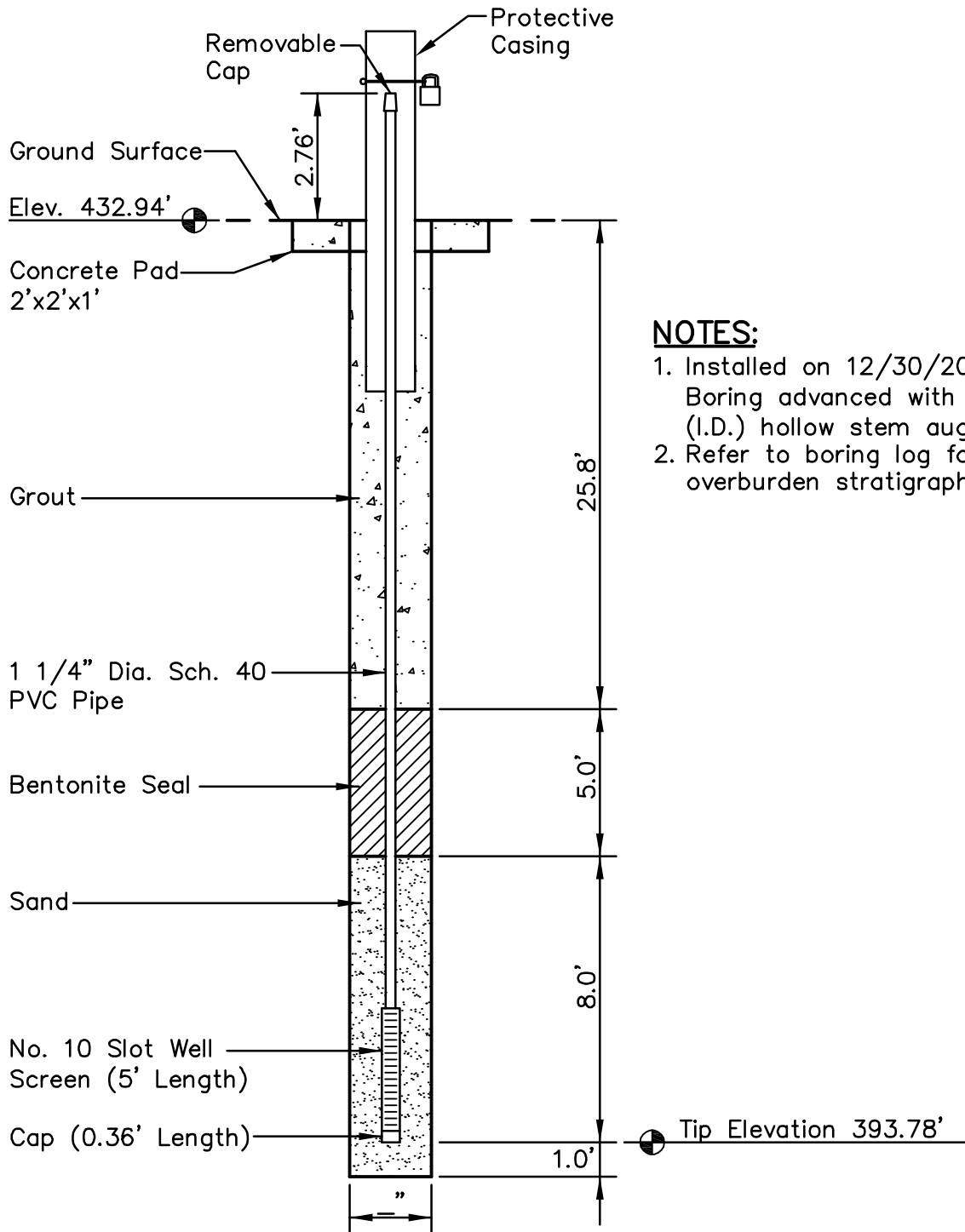


Stantec

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 100 Westwood Pl., Ste. 420
 Nashville, Tennessee
 37027-5044
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DRAWN BY	PS	DATE	JAN., 2010	REVISED		SHEET
CHECKED BY	PW	PROJ. NO.	172679048	1.	11/04/09	3.
CHECKED BY	BE	SCALE	NTS	2.	04/16/10	4.

1 OF 1



NOTES:

1. Installed on 12/30/2009. Boring advanced with 3.25" (I.D.) hollow stem augers.
2. Refer to boring log for overburden stratigraphy.

PLOT DATE: 04/16/2010 USER: SILPACHARN, PRAYUTH (BILLY) V:\1726\ACTIVE\172679048\ENVIRONMENTAL\DRAWING\GEOTECH\INSTRUMENT\79048B-JOF-PZ9.DWG

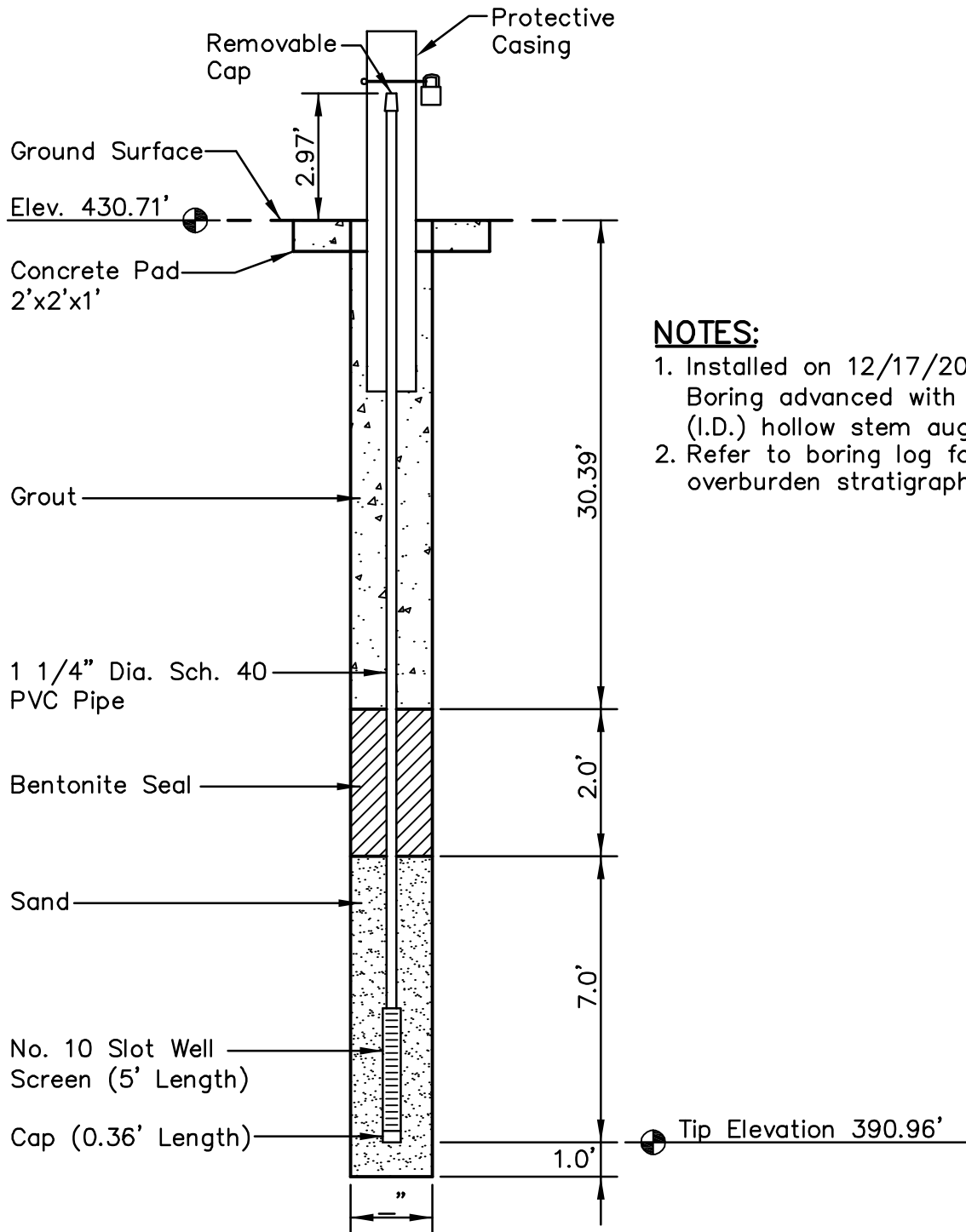
LOCATION:

Northing: 603834.16
 Easting: 1415064.64
 Ground Elevation: 432.94 feet

Locations to be provided by TVA, Power Systems Operations, Surveying and Project Services.

Horizontal Datum: NAD 27
 Vertical Datum: NGVD 29

PIEZOMETER P-9/DDC-7 TVA - JOF - DDC NEW JOHNSONVILLE, TN			
Stantec		Stantec Consulting Services Inc. 100 Westwood Pl., Ste. 420 Nashville, Tennessee 37027-5044 615-885-1144 www.stantec.com	
DRAWN BY	PS	DATE	JAN., 2010
CHECKED BY	PW	PROJ. NO.	172679048
CHECKED BY	BE	SCALE	NTS
REVISED		SHEET	
1.	11/04/09	3.	1 OF 1
2.	04/16/10	4.	



NOTES:

1. Installed on 12/17/2009. Boring advanced with 3.25" (I.D.) hollow stem augers.
2. Refer to boring log for overburden stratigraphy.

PLOT DATE: 04/16/2010 USER: SILPACHARN, PRAYUTH (BILLY) V:\1726\ACTIVE\172679048\ENVIRONMENTAL\DRAWING\GEOTECH\INSTRUMENT\79048B-JOF-PZ10.DWG

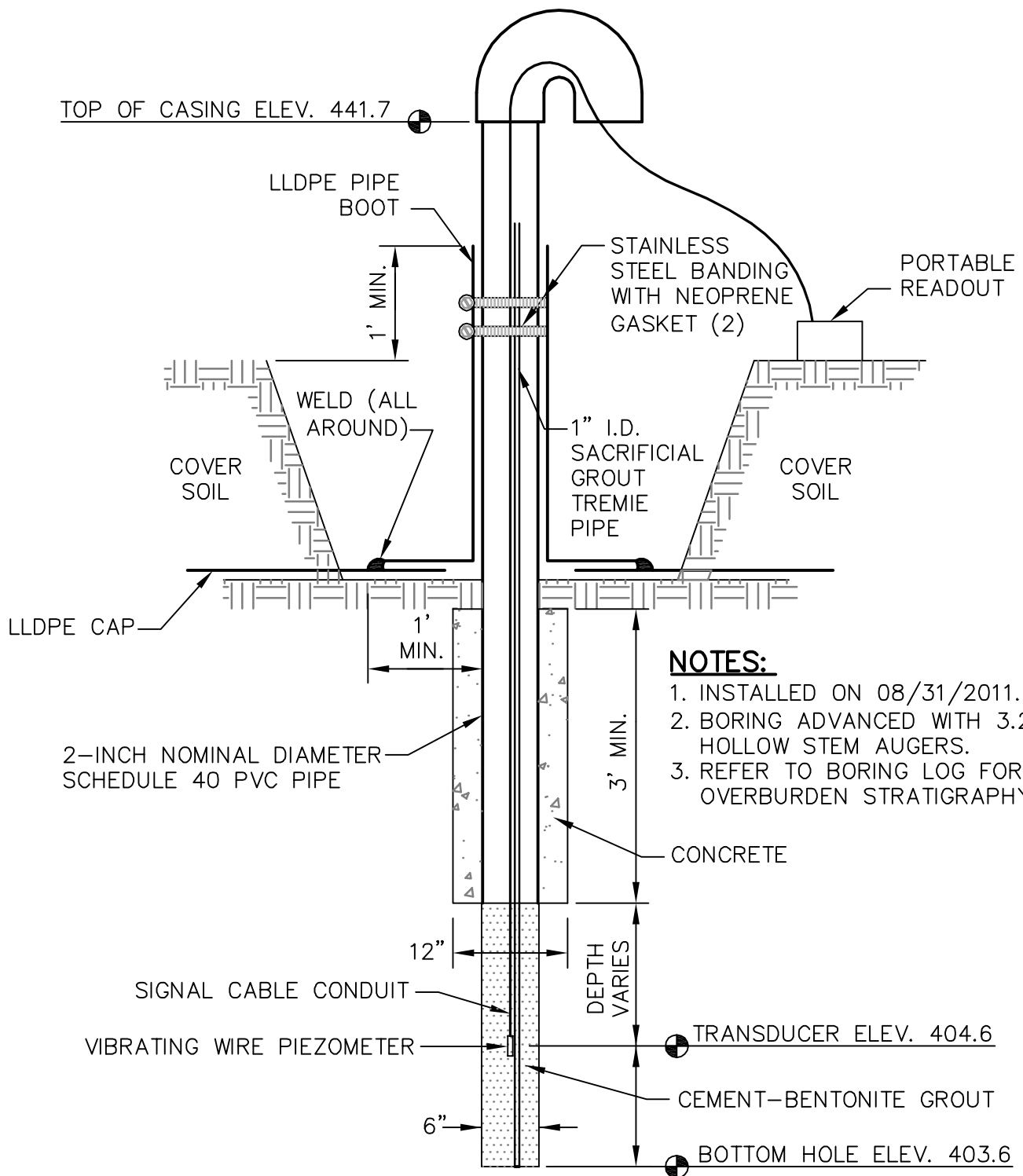
LOCATION:

Northing: 603160.75
 Easting: 1414779.25
 Ground Elevation: 430.71 feet

Locations to be provided by TVA, Power Systems Operations, Surveying and Project Services.

Horizontal Datum: NAD 27
 Vertical Datum: NGVD 29

PIEZOMETER P-10/DDC-12			
TVA - JOF - DDC			
NEW JOHNSONVILLE, TN			
		Stantec Consulting Services Inc. 100 Westwood Pl., Ste. 420 Nashville, Tennessee 37027-5044 615-885-1144 www.stantec.com	
DRAWN BY	PS	DATE	JAN., 2010
CHECKED BY	PW	PROJ. NO.	172679048
CHECKED BY	BE	SCALE	NTS
		REVISED	
		1. 11/04/09	3.
		2. 04/16/10	4.
			SHEET
			1 OF 1




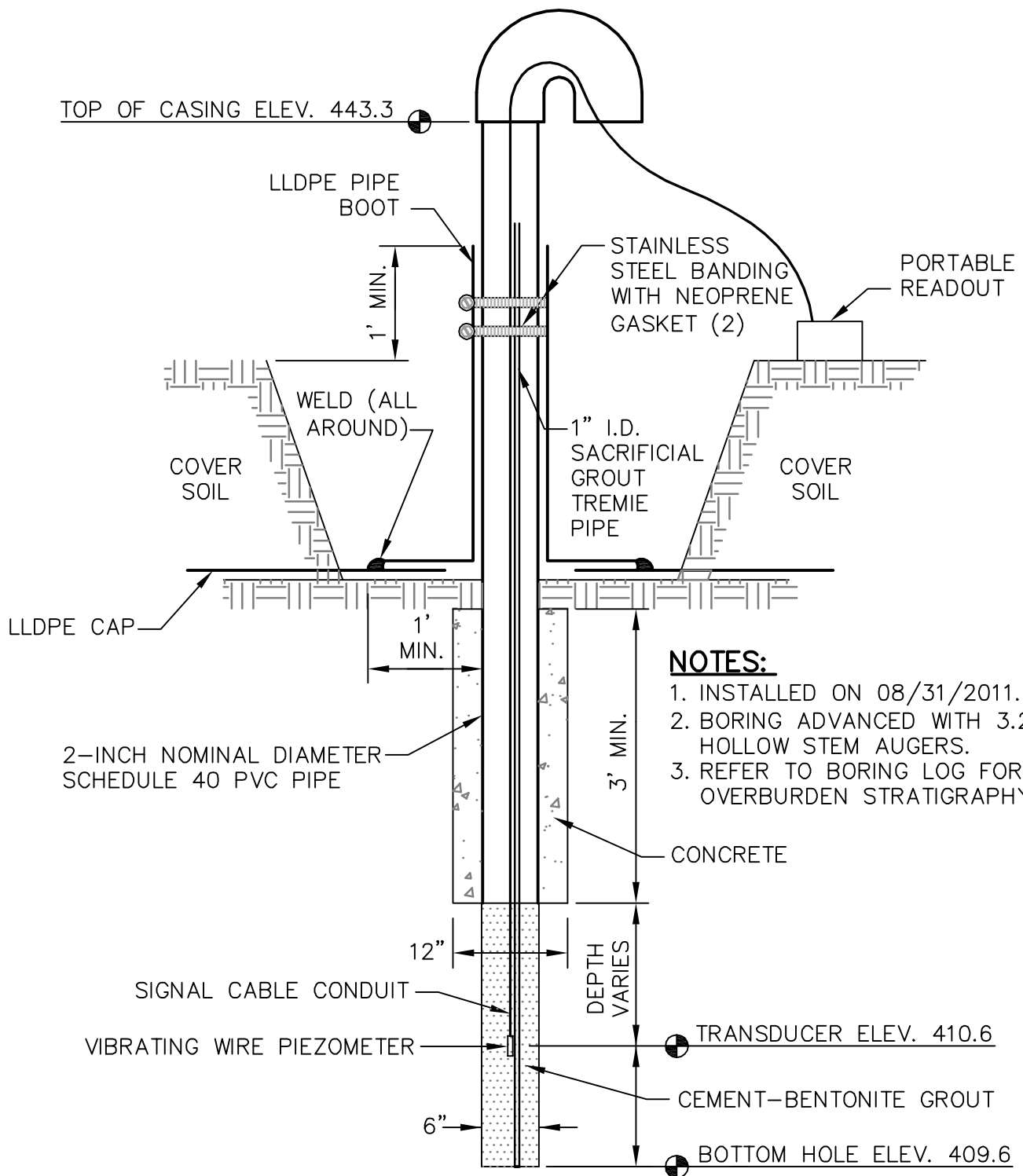
PLOT DATE: 09/28/2011 USER: SILPACHARN, PRAYUTH (BILLY) U: \\175551006\ENVIRONMENTAL\DRAWING\GEO\TECH\INSTRUMENT\51006B-JOF-301-PZ3.DWG

LOCATION:

NORTHING: 604,039.62
 EASTING: 1,414,899.39
 TOP OF CASING ELEV: 441.7 FT.

LOCATIONS TO BE PROVIDED BY TVA, POWER SYSTEMS OPERATIONS, SURVEYING AND PROJECT SERVICES.
 HORIZONTAL DATUM: NAD 27
 VERTICAL DATUM: NGVD29

VIBRATING WIRE PIEZOMETER - PZ-3			
TVA - JOF - DDC			
NEW JOHNSONVILLE, TN			
		Stantec Consulting Services Inc. 601 Grassmere Park Road Suite 22 Nashville, TN 37211 615-885-1144 www.stantec.com	
DRAWN BY	PS	DATE	SEPT, 2011
CHECKED BY	PJC	PROJ. NO.	175551006
CHECKED BY	RJM	SCALE	NTS
		REVISED	
		1.	3.
		2.	4.
			SHEET
			1 of 1




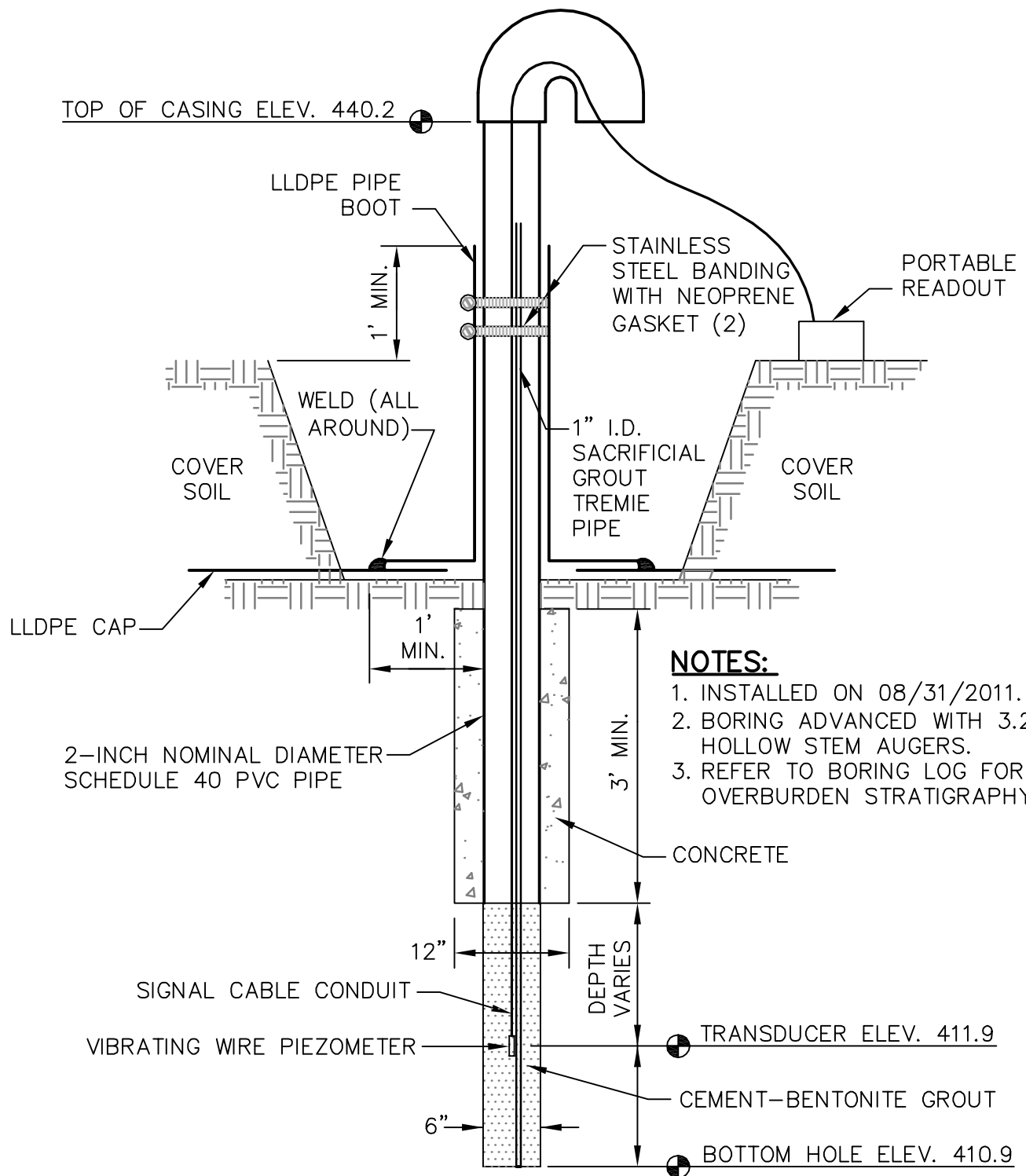
PLOT DATE: 09/28/2011 USER: SILPACHARN, PRAYUTH (BILLY) U: \\175551006\ENVIRONMENTAL\DRAWING\GEO TECH\INSTRUMENT\51006B-JOF-301-PZ6.DWG

LOCATION:

NORTHING: 603,792.31
 EASTING: 1,414,836.07
 TOP OF CASING ELEV: 443.3 FT

LOCATIONS TO BE PROVIDED BY TVA, POWER SYSTEMS OPERATIONS, SURVEYING AND PROJECT SERVICES.
 HORIZONTAL DATUM: NAD 27
 VERTICAL DATUM: NGVD29

VIBRATING WIRE PIEZOMETER - PZ-6			
TVA - JOF - DDC			
NEW JOHNSONVILLE, TN			
		Stantec Consulting Services Inc. 601 Grassmere Park Road Suite 22 Nashville, TN 37211 615-885-1144 www.stantec.com	
DRAWN BY	PS	DATE	SEPT, 2011
CHECKED BY	PJC	PROJ. NO.	175551006
CHECKED BY	RJM	SCALE	NTS
		REVISED	
		1.	3.
		2.	4.
			1 of 1



NOTES:


1. INSTALLED ON 08/31/2011.
2. BORING ADVANCED WITH 3.25" HOLLOW STEM AUGERS.
3. REFER TO BORING LOG FOR OVERBURDEN STRATIGRAPHY.

PLOT DATE: 09/28/2011 USER: SILPACHARN, PRAYUTH (BILLY) U: \175551006\ENVIRONMENTAL\DRAWING\GEO\TECH\INSTRUMENT\51006B-JOF-301-PZ7.DWG

LOCATION:

NORTHING: 603,191.34
 EASTING: 1,414,943.23
 TOP OF CASING ELEV: 440.2 FT

LOCATIONS TO BE PROVIDED BY TVA, POWER SYSTEMS OPERATIONS, SURVEYING AND PROJECT SERVICES.
 HORIZONTAL DATUM: NAD 27
 VERTICAL DATUM: NGVD29

VIBRATING WIRE PIEZOMETER - PZ-7			
TVA - JOF - DDC			
NEW JOHNSONVILLE, TN			
		Stantec Consulting Services Inc. 601 Grassmere Park Road Suite 22 Nashville, TN 37211 615-885-1144 www.stantec.com	
DRAWN BY	PS	DATE	SEPT, 2011
CHECKED BY	PJC	PROJ. NO.	175551006
CHECKED BY	RJM	SCALE	NTS
		REVISED	
		1.	3.
		2.	4.
			SHEET
			1 of 1



PIEZOMETER INSTALLATION DETAIL

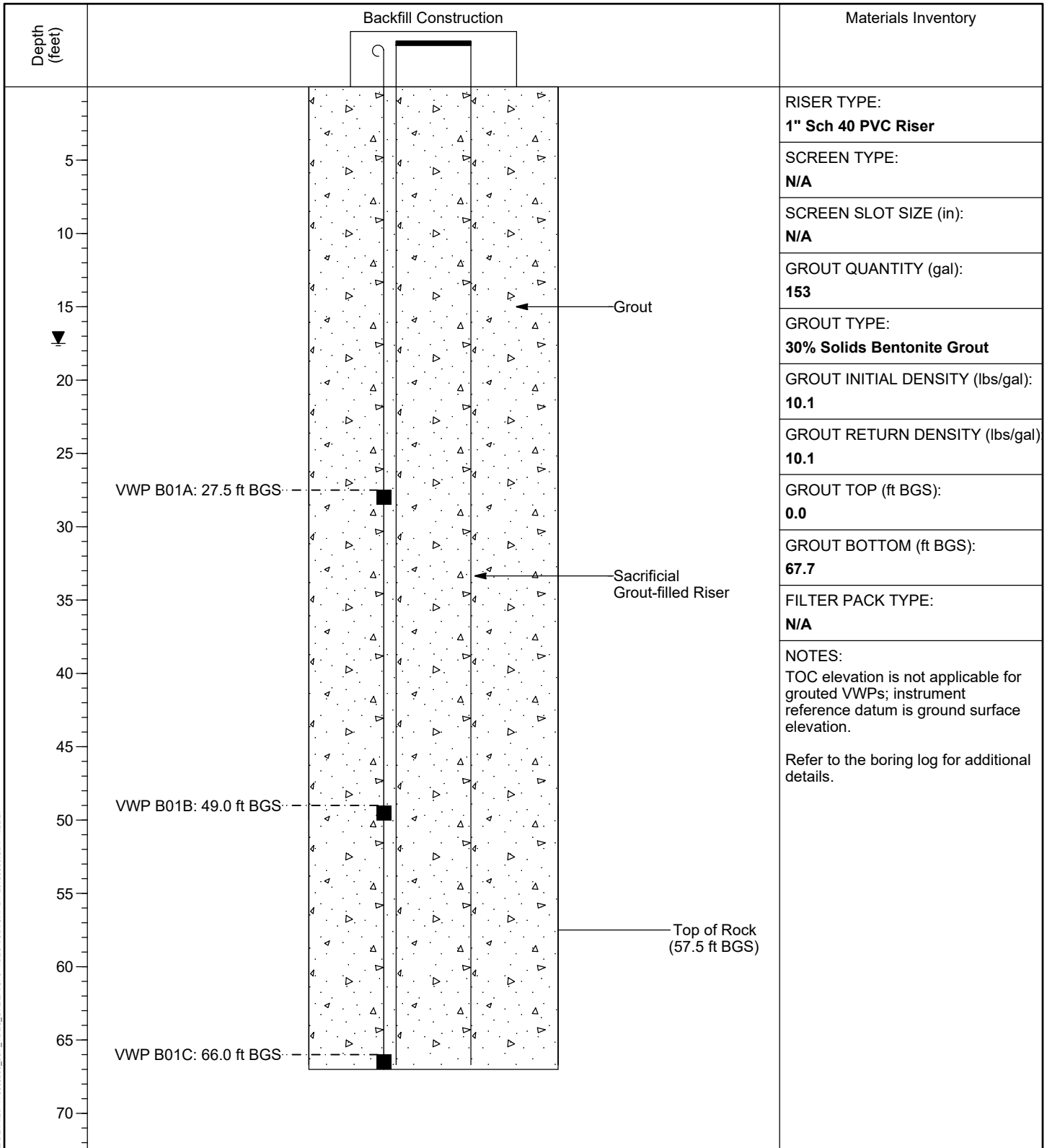
WELL / PROBEHOLE / BOREHOLE NO:

PAGE 1 OF 1

JOF-B01

PROJECT: **JOF TDEC Order**
 PROJECT NUMBER: **175568286**
 DRILLING COMPANY: **Stantec Consulting Services Inc.**
 DRILLING EQUIPMENT: **CME 1050, #952**
 DRILLING METHOD: **4-1/4" HSA, 2" SS w/o liners, 3" Shelby Tubes**
 SAMPLING METHOD: **4-1/4" HSA, 2" SS w/o liners, 3" Shelby Tubes**
 OBSERVED BY: **M. Pritt**
 REVIEWED BY: **T. Greenwell**
 APPROVED BY: **M. Aplin**

INSTALLATION: STARTED: **8/26/19** COMPLETED: **8/26/19**
 LOCATION: **605,223.87 N; 1,412,307.14 E** DATUM: **NAD27 Plant Local**
 LOC. DESCRIPTION: **Ash Disposal Area 1**
 LATITUDE: **36° 2' 17.80"** LONGITUDE: **-87° 59' 16.26"**
 GROUND ELEV (ft): **389.5** TOC ELEV (ft): **N/A**
 ELEVATION DATUM: **NGVD29**
 BOREHOLE DEPTH (ft): **67.7** RISER DEPTH (ft): **67.7**
 DTW AT COMPLETION (ft, bgs): **17.5**
 BOREHOLE DIA. (in): **9.0** RISER DIA. (in): **1.0**



PZ DETAILS: 175568286_JOE_TDEC_ORDER.GPJ_TDEC_SUBSURF.DT 20190530.GDT 1/20/21

VERTICAL SCALE: AS SHOWN. HORIZONTAL SCALE: NOT TO SCALE (EXAGGERATED TO SHOW DETAIL)



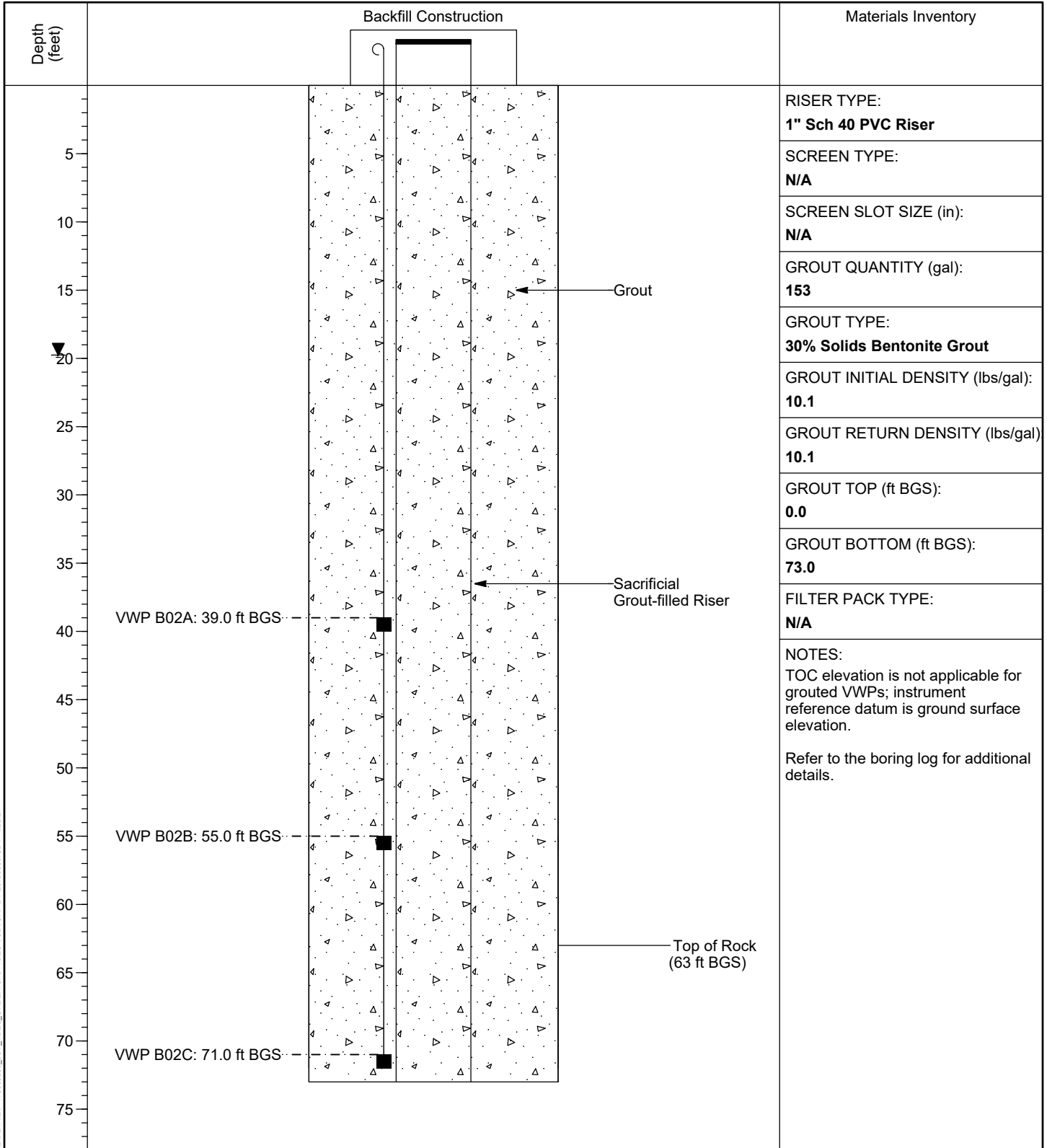
PIEZOMETER INSTALLATION DETAIL

WELL / PROBEHOLE / BOREHOLE NO:
JOF-B02

PAGE 1 OF 1

PROJECT: **JOF TDEC Order**
 PROJECT NUMBER: **175568286**
 DRILLING COMPANY: **Stantec Consulting Services Inc.**
 DRILLING EQUIPMENT: **CME 1050, #952**
 DRILLING METHOD: **4-1/4" HSA, 2" SS w/o liners, 3" Shelby Tubes**
 SAMPLING METHOD: **4-1/4" HSA, 2" SS w/o liners, 3" Shelby Tubes**
 OBSERVED BY: **M. Pritt**
 REVIEWED BY: **T. Greenwell**
 APPROVED BY: **M. Aplin**

INSTALLATION: STARTED: **8/20/19** COMPLETED: **8/20/19**
 LOCATION: **605,227.76 N; 1,412,431.27 E DATUM: NAD27 Plant Local**
 LOC. DESCRIPTION: **Ash Disposal Area 1**
 LATITUDE: **36° 2' 17.86"** LONGITUDE: **-87° 59' 14.75"**
 GROUND ELEV (ft): **394.3** TOC ELEV (ft): **N/A**
 ELEVATION DATUM: **NGVD29**
 BOREHOLE DEPTH (ft): **73.1** RISER DEPTH (ft): **73.0**
 DTW AT COMPLETION (ft, bgs): **19.8**
 BOREHOLE DIA. (in): **9.0** RISER DIA. (in): **1.0**



PZ DETAILS 175568286_JOE_TDEC_ORDER.GPJ_TDEC_SUBSURF.DT 20190530.GDT 1/20/21

VERTICAL SCALE: AS SHOWN. HORIZONTAL SCALE: NOT TO SCALE (EXAGGERATED TO SHOW DETAIL)



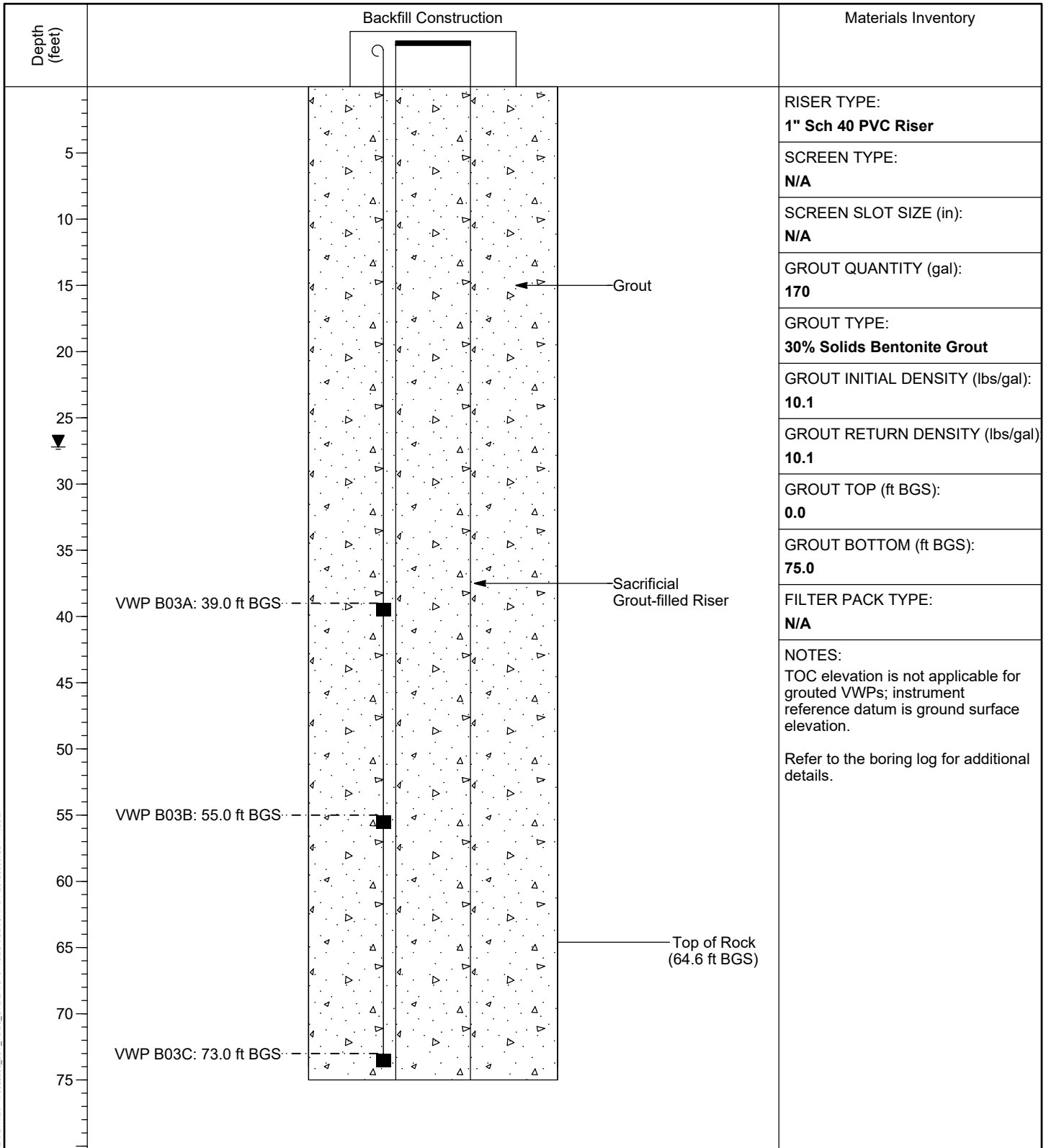
PIEZOMETER INSTALLATION DETAIL

WELL / PROBEHOLE / BOREHOLE NO:
JOF-B03

PAGE 1 OF 1

PROJECT: **JOF TDEC Order**
 PROJECT NUMBER: **175568286**
 DRILLING COMPANY: **Stantec Consulting Services Inc.**
 DRILLING EQUIPMENT: **CME 1050, #952**
 DRILLING METHOD: **4-1/4" HSA, 2" SS w/o liners, 3" Shelby Tubes**
 SAMPLING METHOD: **4-1/4" HSA, 2" SS w/o liners, 3" Shelby Tubes**
 OBSERVED BY: **M. Pritt**
 REVIEWED BY: **T. Greenwell**
 APPROVED BY: **M. Aplin**

INSTALLATION: STARTED: **8/19/19** COMPLETED: **8/19/19**
 LOCATION: **605,219.67 N; 1,412,610.05 E** DATUM: **NAD27 Plant Local**
 LOC. DESCRIPTION: **Ash Disposal Area 1**
 LATITUDE: **36° 2' 17.82"** LONGITUDE: **-87° 59' 12.57"**
 GROUND ELEV (ft): **400.8** TOC ELEV (ft): **N/A**
 ELEVATION DATUM: **NGVD29**
 BOREHOLE DEPTH (ft): **75.4** RISER DEPTH (ft): **75.0**
 DTW AT COMPLETION (ft, bgs): **27.2**
 BOREHOLE DIA. (in): **9.0** RISER DIA. (in): **1.0**



PZ DETAILS: 175568286_JOF_TDEC_ORDER.GPJ_TDEC_SUBSURF.DT 20190530.GDT 1/20/21

VERTICAL SCALE: AS SHOWN. HORIZONTAL SCALE: NOT TO SCALE (EXAGGERATED TO SHOW DETAIL)



PIEZOMETER INSTALLATION DETAIL

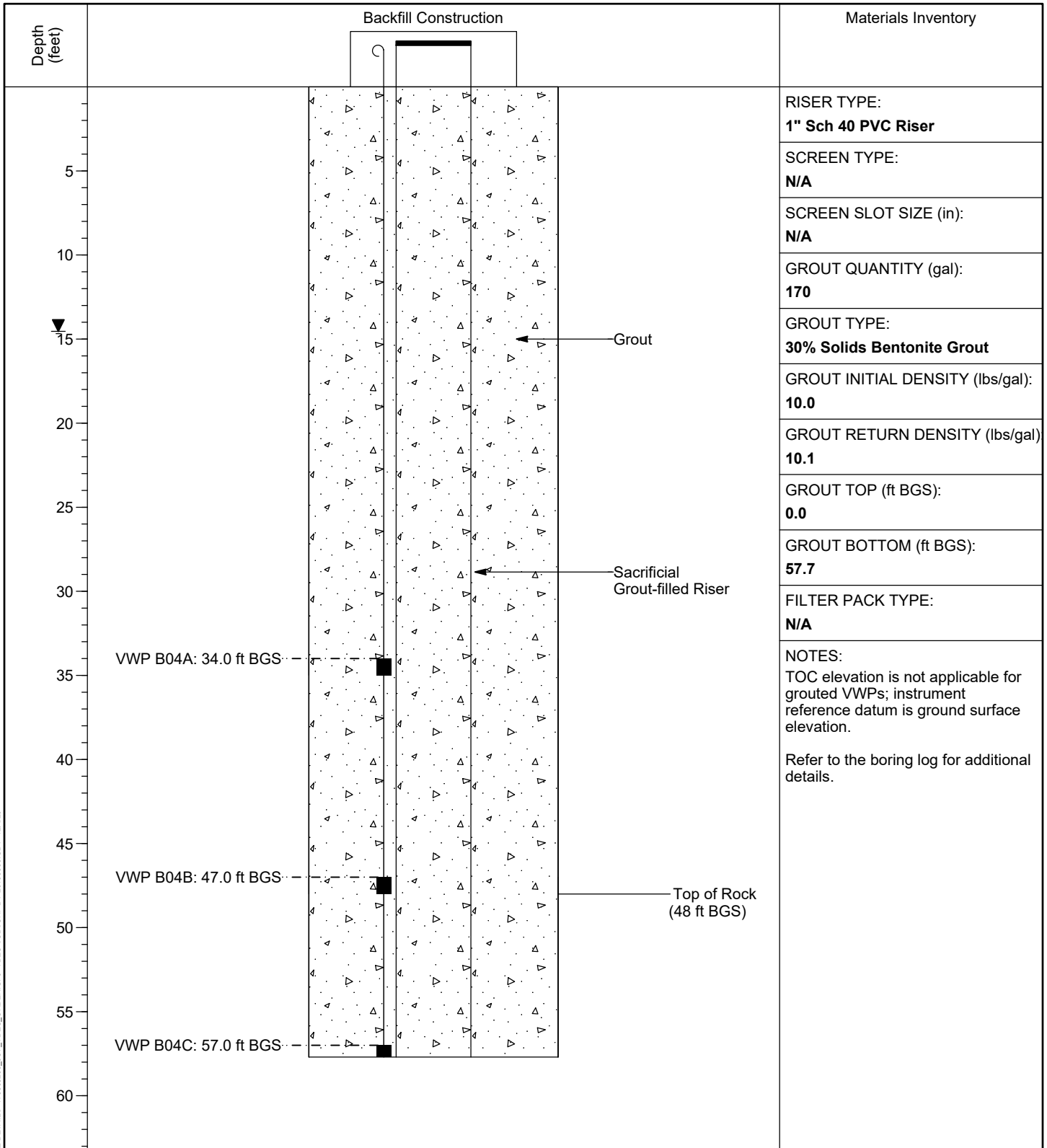
WELL / PROBEHOLE / BOREHOLE NO:

PAGE 1 OF 1

JOF-B04

PROJECT: **JOF TDEC Order**
 PROJECT NUMBER: **175568286**
 DRILLING COMPANY: **Stantec Consulting Services Inc.**
 DRILLING EQUIPMENT: **CME 1050, #952**
 DRILLING METHOD: **4-1/4" HSA, 2" SS w/o liners, 3" Shelby Tubes**
 SAMPLING METHOD: **4-1/4" HSA, 2" SS w/o liners, 3" Shelby Tubes**
 OBSERVED BY: **M. McDonald**
 REVIEWED BY: **A. Welshans**
 APPROVED BY: **B. Halada**

INSTALLATION: STARTED: **9/17/19** COMPLETED: **9/17/19**
 LOCATION: **600,412.00 N; 1,414,600.80 E DATUM: NAD27 Plant Local**
 LOC. DESCRIPTION: **South Rail Loop Area 4**
 LATITUDE: **36° 1' 30.68"** LONGITUDE: **-87° 58' 47.16"**
 GROUND ELEV (ft): **392.5** TOC ELEV (ft): **N/A**
 ELEVATION DATUM: **NGVD29**
 BOREHOLE DEPTH (ft): **58.4** RISER DEPTH (ft): **57.7**
 DTW AT COMPLETION (ft, bgs): **14.5**
 BOREHOLE DIA. (in): **9.0** RISER DIA. (in): **1.0**



PZ DETAILS: 175568286_JOE_TDEC_ORDER.GPJ_TDEC_SUBSURF.DT 20190530.GDT 12/4/20

VERTICAL SCALE: AS SHOWN. HORIZONTAL SCALE: NOT TO SCALE (EXAGGERATED TO SHOW DETAIL)



PIEZOMETER INSTALLATION DETAIL

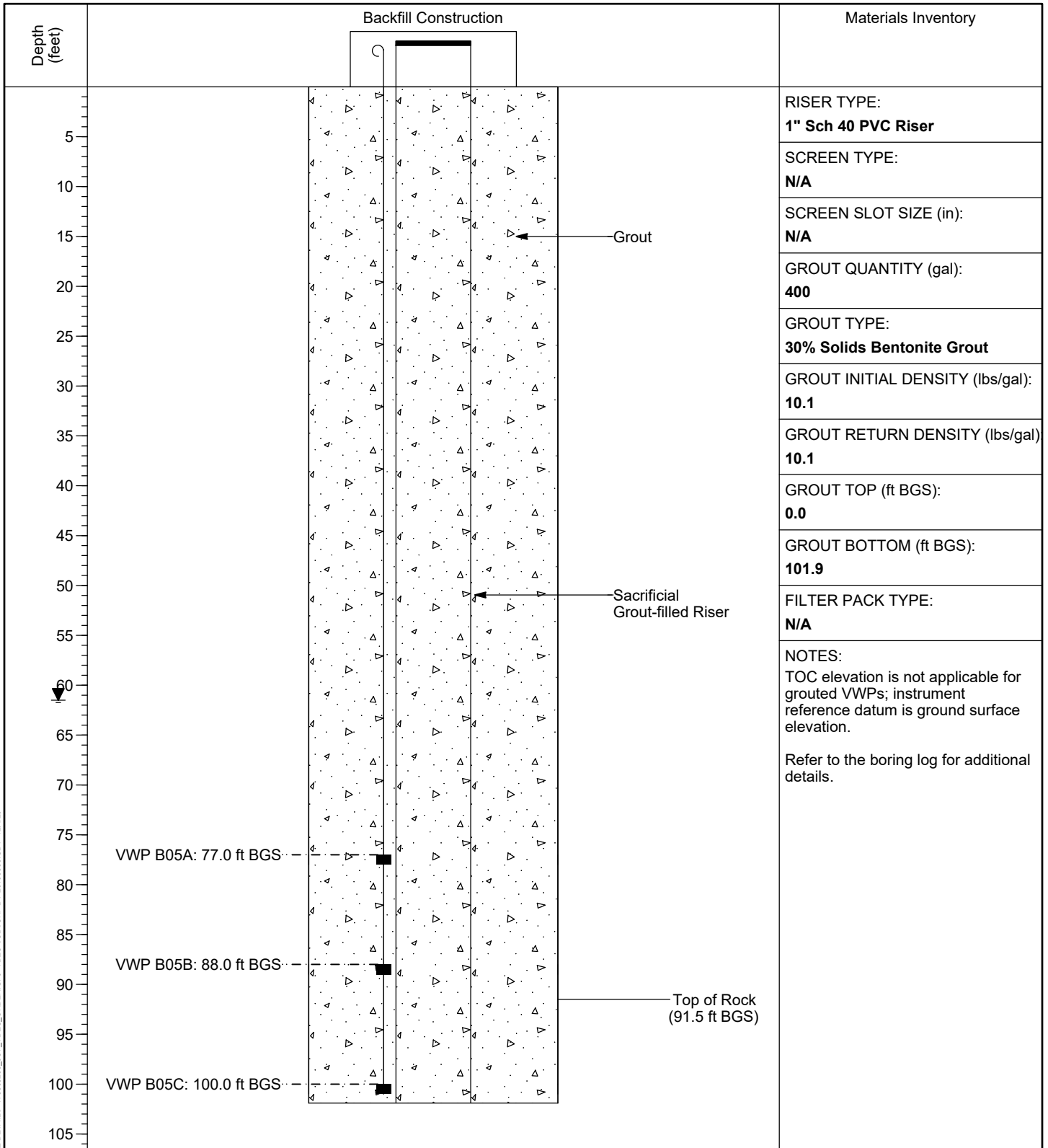
WELL / PROBEHOLE / BOREHOLE NO:

PAGE 1 OF 1

JOF-B05

PROJECT: **JOF TDEC Order**
 PROJECT NUMBER: **175568286**
 DRILLING COMPANY: **Stantec Consulting Services Inc.**
 DRILLING EQUIPMENT: **CME 1050, #952**
 DRILLING METHOD: **4-1/4" HSA, 2" SS w/o liners, 3" Shelby Tubes**
 SAMPLING METHOD: **4-1/4" HSA, 2" SS w/o liners, 3" Shelby Tubes**
 OBSERVED BY: **M. McDonald**
 REVIEWED BY: **T. Greenwell**
 APPROVED BY: **M. Aplin**

INSTALLATION: STARTED: **11/18/19** COMPLETED: **11/19/19**
 LOCATION: **599,914.17 N; 1,415,010.79 E DATUM: NAD27 Plant Local**
 LOC. DESCRIPTION: **South Rail Loop Area 4**
 LATITUDE: **36° 1' 25.84"** LONGITUDE: **-87° 58' 42.04"**
 GROUND ELEV (ft): **456.4** TOC ELEV (ft): **N/A**
 ELEVATION DATUM: **NGVD29**
 BOREHOLE DEPTH (ft): **101.9** RISER DEPTH (ft): **101.9**
 DTW AT COMPLETION (ft, bgs): **61.5**
 BOREHOLE DIA. (in): **9.0** RISER DIA. (in): **1.0**



PZ DETAILS: 175568286_JOE_TDEC_ORDER.GPJ_TDEC_SUBSURF.DT 20190530.GDT 12/4/20

VERTICAL SCALE: AS SHOWN. HORIZONTAL SCALE: NOT TO SCALE (EXAGGERATED TO SHOW DETAIL)



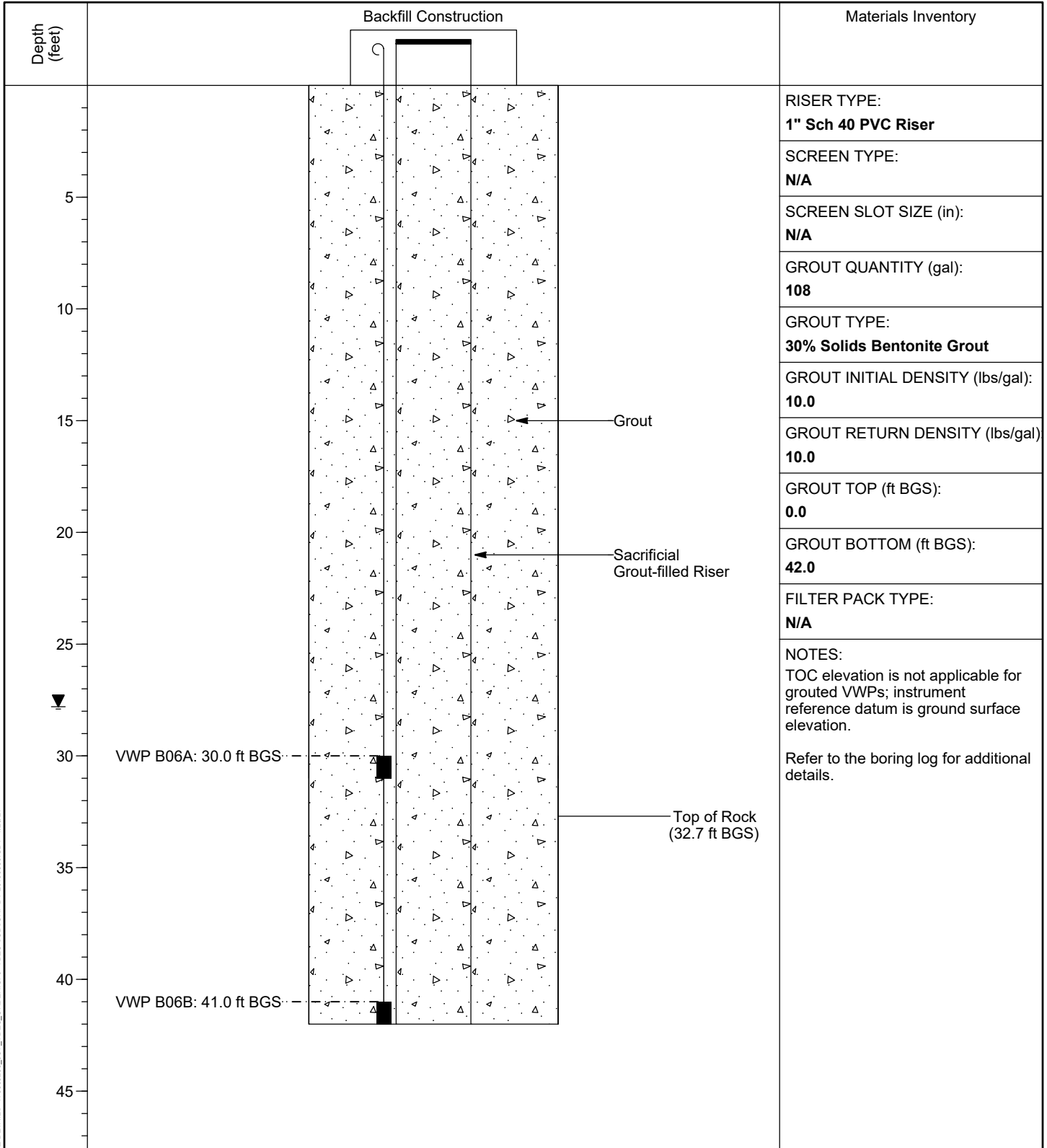
PIEZOMETER INSTALLATION DETAIL

WELL / PROBEHOLE / BOREHOLE NO:
JOF-B06

PAGE 1 OF 1

PROJECT: **JOF TDEC Order**
 PROJECT NUMBER: **175568286**
 DRILLING COMPANY: **Stantec Consulting Services Inc.**
 DRILLING EQUIPMENT: **CME 1050, #952**
 DRILLING METHOD: **4-1/4" HSA, 2" SS w/o liners, 3" Shelby Tubes**
 SAMPLING METHOD: **4-1/4" HSA, 2" SS w/o liners, 3" Shelby Tubes**
 OBSERVED BY: **M. McDonald**
 REVIEWED BY: **T. Greenwell**
 APPROVED BY: **M. Aplin**

INSTALLATION: STARTED: **9/18/19** COMPLETED: **9/18/19**
 LOCATION: **598,974.24 N; 1,414,747.55 E DATUM: NAD27 Plant Local**
 LOC. DESCRIPTION: **South Rail Loop Area 4**
 LATITUDE: **36° 1' 16.50"** LONGITUDE: **-87° 58' 45.02"**
 GROUND ELEV (ft): **407.6** TOC ELEV (ft): **N/A**
 ELEVATION DATUM: **NGVD29**
 BOREHOLE DEPTH (ft): **42.7** RISER DEPTH (ft): **42.0**
 DTW AT COMPLETION (ft, bgs): **27.8**
 BOREHOLE DIA. (in): **9.0** RISER DIA. (in): **1.0**



PZ DETAILS: 175568286_JOE_TDEC_ORDER.GPJ TDEC SUBSURF.DT 20190530.GDT 1/20/21

VERTICAL SCALE: AS SHOWN. HORIZONTAL SCALE: NOT TO SCALE (EXAGGERATED TO SHOW DETAIL)



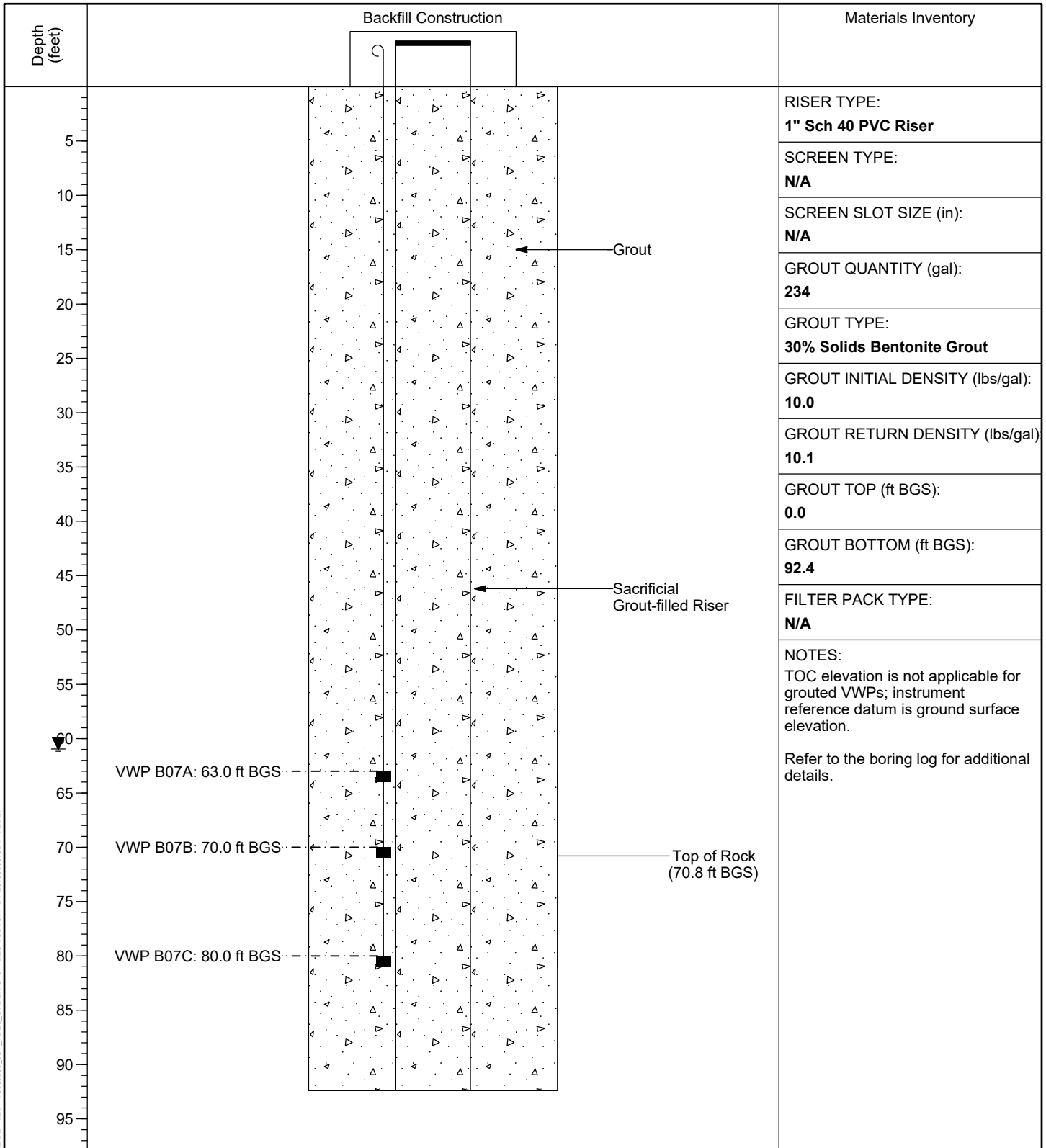
PIEZOMETER INSTALLATION DETAIL

WELL / PROBEHOLE / BOREHOLE NO:
JOF-B07

PAGE 1 OF 1

PROJECT: **JOF TDEC Order**
 PROJECT NUMBER: **175568286**
 DRILLING COMPANY: **Stantec Consulting Services Inc.**
 DRILLING EQUIPMENT: **CME 1050, #952**
 DRILLING METHOD: **4-1/4" HSA, 2" SS w/o liners, 3" Shelby Tubes**
 SAMPLING METHOD: **4-1/4" HSA, 2" SS w/o liners, 3" Shelby Tubes**
 OBSERVED BY: **M. McDonald**
 REVIEWED BY: **T. Greenwell**
 APPROVED BY: **M. Aplin**

INSTALLATION: STARTED: **9/19/19** COMPLETED: **9/19/19**
 LOCATION: **599,004.79 N; 1,414,968.95 E DATUM: NAD27 Plant Local**
 LOC. DESCRIPTION: **South Rail Loop Area 4**
 LATITUDE: **36° 1' 16.84"** LONGITUDE: **-87° 58' 42.33"**
 GROUND ELEV (ft): **445.9** TOC ELEV (ft): **N/A**
 ELEVATION DATUM: **NGVD29**
 BOREHOLE DEPTH (ft): **93.0** RISER DEPTH (ft): **92.4**
 DTW AT COMPLETION (ft, bgs): **61.0**
 BOREHOLE DIA. (in): **9.0** RISER DIA. (in): **1.0**



PZ DETAILS: 175568286_JOE_TDEC_ORDER.GPJ TDEC SUBSURFACE DT 20190530.GDT 1/20/21

VERTICAL SCALE: AS SHOWN. HORIZONTAL SCALE: NOT TO SCALE (EXAGGERATED TO SHOW DETAIL)



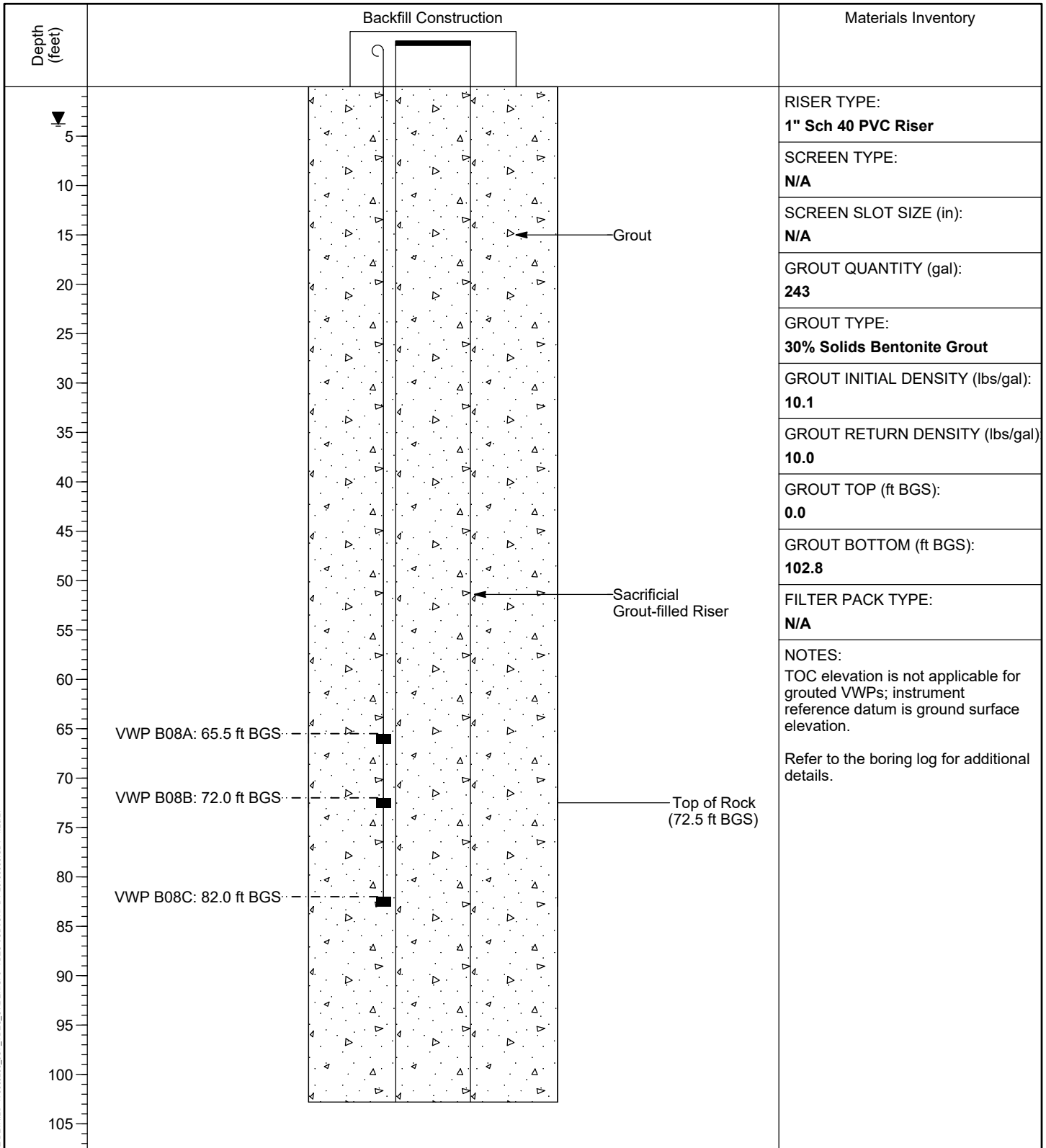
PIEZOMETER INSTALLATION DETAIL

WELL / PROBEHOLE / BOREHOLE NO:
JOF-B08

PAGE 1 OF 1

PROJECT: **JOF TDEC Order**
 PROJECT NUMBER: **175568286**
 DRILLING COMPANY: **Stantec Consulting Services Inc.**
 DRILLING EQUIPMENT: **CME 1050, #952**
 DRILLING METHOD: **4-1/4" HSA, 2" SS w/o liners, 3" Shelby Tubes**
 SAMPLING METHOD: **4-1/4" HSA, 2" SS w/o liners, 3" Shelby Tubes**
 OBSERVED BY: **M. McDonald**
 REVIEWED BY: **T. Greenwell**
 APPROVED BY: **M. Aplin**

INSTALLATION: STARTED: **9/19/19** COMPLETED: **9/19/19**
 LOCATION: **599,016.05 N; 1,415,076.77 E DATUM: NAD27 Plant Local**
 LOC. DESCRIPTION: **South Rail Loop Area 4**
 LATITUDE: **36° 1' 16.97"** LONGITUDE: **-87° 58' 41.02"**
 GROUND ELEV (ft): **448.6** TOC ELEV (ft): **N/A**
 ELEVATION DATUM: **NGVD29**
 BOREHOLE DEPTH (ft): **102.8** RISER DEPTH (ft): **85.8**
 DTW AT COMPLETION (ft, bgs): **3.8**
 BOREHOLE DIA. (in): **9.0** RISER DIA. (in): **1.0**



PZ DETAILS 175568286_JOE_TDEC_ORDER.GPJ TDEC SUBSURF.DT 20190530.GDT 1/20/21

VERTICAL SCALE: AS SHOWN. HORIZONTAL SCALE: NOT TO SCALE (EXAGGERATED TO SHOW DETAIL)



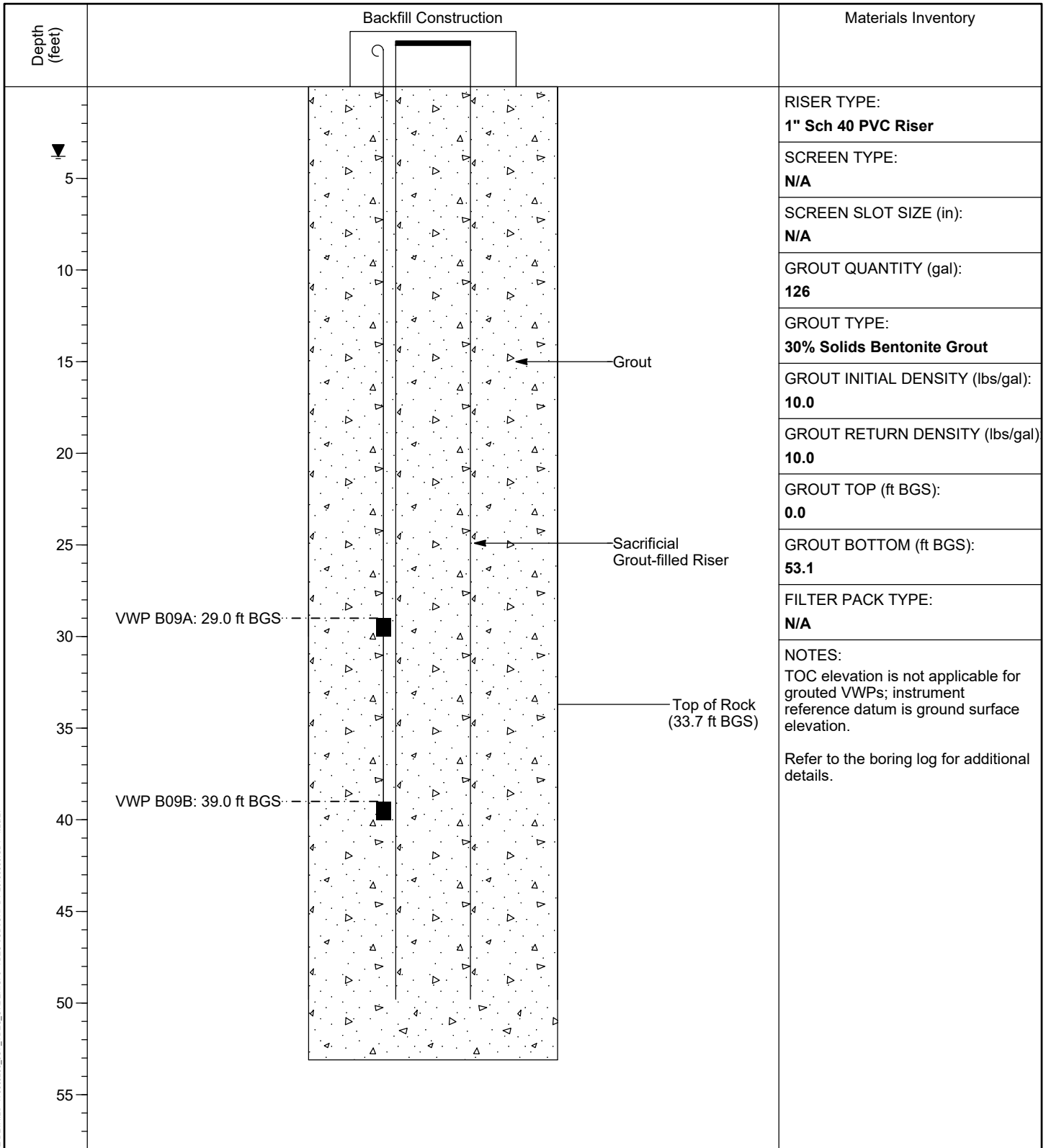
PIEZOMETER INSTALLATION DETAIL

WELL / PROBEHOLE / BOREHOLE NO:
JOF-B09

PAGE 1 OF 1

PROJECT: **JOF TDEC Order**
 PROJECT NUMBER: **175568286**
 DRILLING COMPANY: **Stantec Consulting Services Inc.**
 DRILLING EQUIPMENT: **CME 1050, #952**
 DRILLING METHOD: **4-1/4" HSA, 2" SS w/o liners, 3" Shelby Tubes**
 SAMPLING METHOD: **4-1/4" HSA, 2" SS w/o liners, 3" Shelby Tubes**
 OBSERVED BY: **M. McDonald**
 REVIEWED BY: **T. Greenwell**
 APPROVED BY: **M. Aplin**

INSTALLATION: STARTED: **9/30/19** COMPLETED: **10/1/19**
 LOCATION: **599,950.27 N; 1,416,160.44 E** DATUM: **NAD27 Plant Local**
 LOC. DESCRIPTION: **South Rail Loop Area 4**
 LATITUDE: **36° 1' 26.43"** LONGITUDE: **-87° 58' 28.06"**
 GROUND ELEV (ft): **405.2** TOC ELEV (ft): **N/A**
 ELEVATION DATUM: **NGVD29**
 BOREHOLE DEPTH (ft): **53.1** RISER DEPTH (ft): **49.8**
 DTW AT COMPLETION (ft, bgs): **3.8**
 BOREHOLE DIA. (in): **9.0** RISER DIA. (in): **1.0**



PZ DETAILS: 175568286_JOE_TDEC_ORDER.GPJ_TDEC_SUBSURF.DT 20190530.GDT 1/20/21

VERTICAL SCALE: AS SHOWN. HORIZONTAL SCALE: NOT TO SCALE (EXAGGERATED TO SHOW DETAIL)

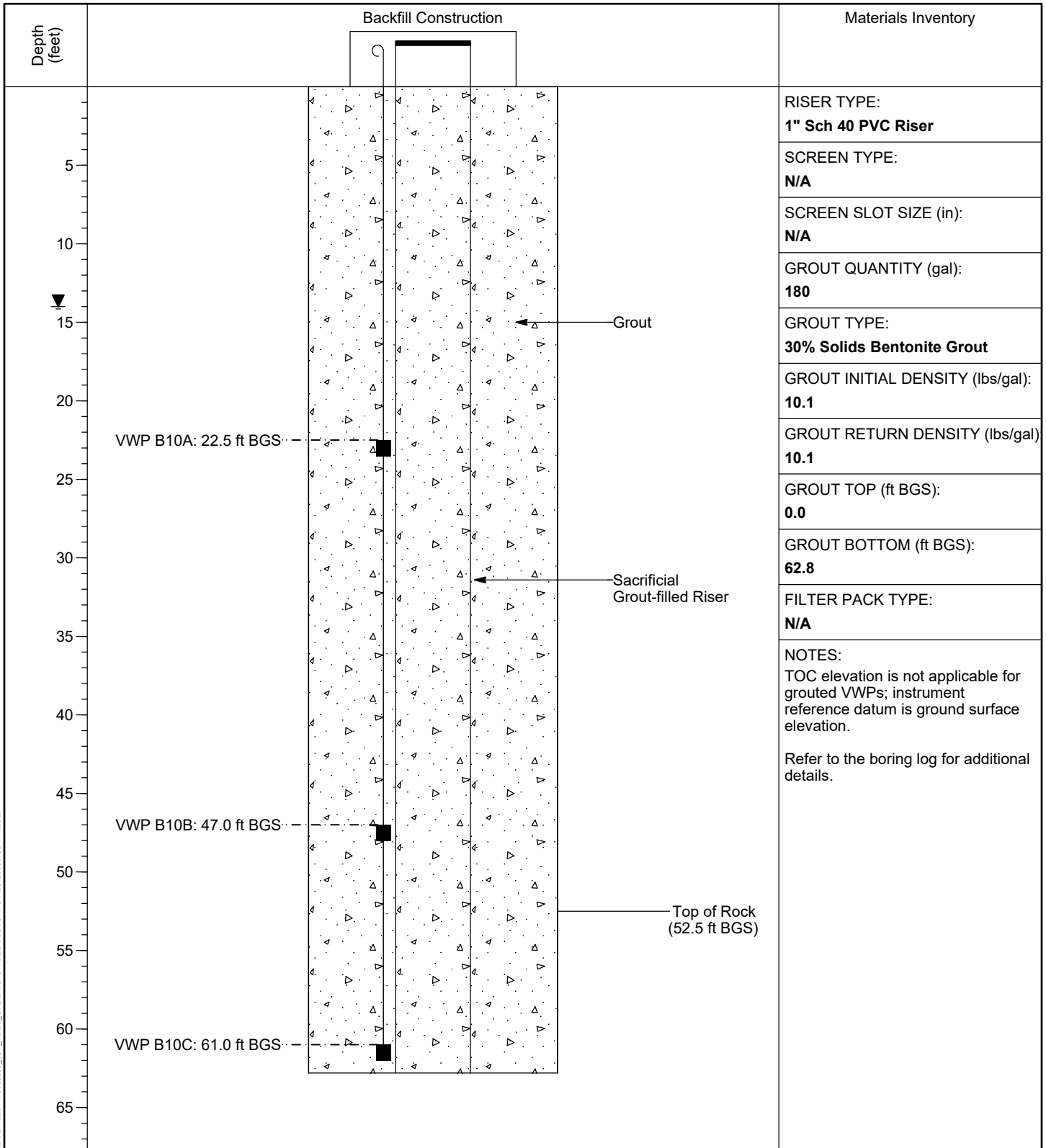


PIEZOMETER INSTALLATION DETAIL

WELL / PROBEHOLE / BOREHOLE NO: **JOF-B10 (Boring JOF-B10B)** PAGE 1 OF 1

PROJECT: **JOF TDEC Order**
 PROJECT NUMBER: **175568286**
 DRILLING COMPANY: **Stantec Consulting Services Inc.**
 DRILLING EQUIPMENT: **CME 1050, #952**
 DRILLING METHOD: **4-1/4" HSA, 2" SS w/o liners, 3" Shelby Tubes**
 SAMPLING METHOD: **4-1/4" HSA, 2" SS w/o liners, 3" Shelby Tubes**
 OBSERVED BY: **M. McDonald**
 REVIEWED BY: **T. Greenwell**
 APPROVED BY: **M. Aplin**

INSTALLATION: STARTED: **9/30/19** COMPLETED: **10/1/19**
 LOCATION: **605,236.13 N; 1,412,209.01 E** DATUM: **NAD27 Plant Local**
 LOC. DESCRIPTION: **Ash Disposal Area 1**
 LATITUDE: **36° 2' 17.90"** LONGITUDE: **-87° 59' 17.46"**
 GROUND ELEV (ft): **384.0** TOC ELEV (ft): **N/A**
 ELEVATION DATUM: **NGVD29**
 BOREHOLE DEPTH (ft): **62.8** RISER DEPTH (ft): **62.6**
 DTW AT COMPLETION (ft, bgs): **14.0**
 BOREHOLE DIA. (in): **9.0** RISER DIA. (in): **1.0**



PZ DETAILS: 175568286_JOF_TDEC_ORDER.GPJ_TDEC_SUBSURF.DT 20190530.GDT 1/20/21

VERTICAL SCALE: AS SHOWN. HORIZONTAL SCALE: NOT TO SCALE (EXAGGERATED TO SHOW DETAIL)



PIEZOMETER INSTALLATION DETAIL

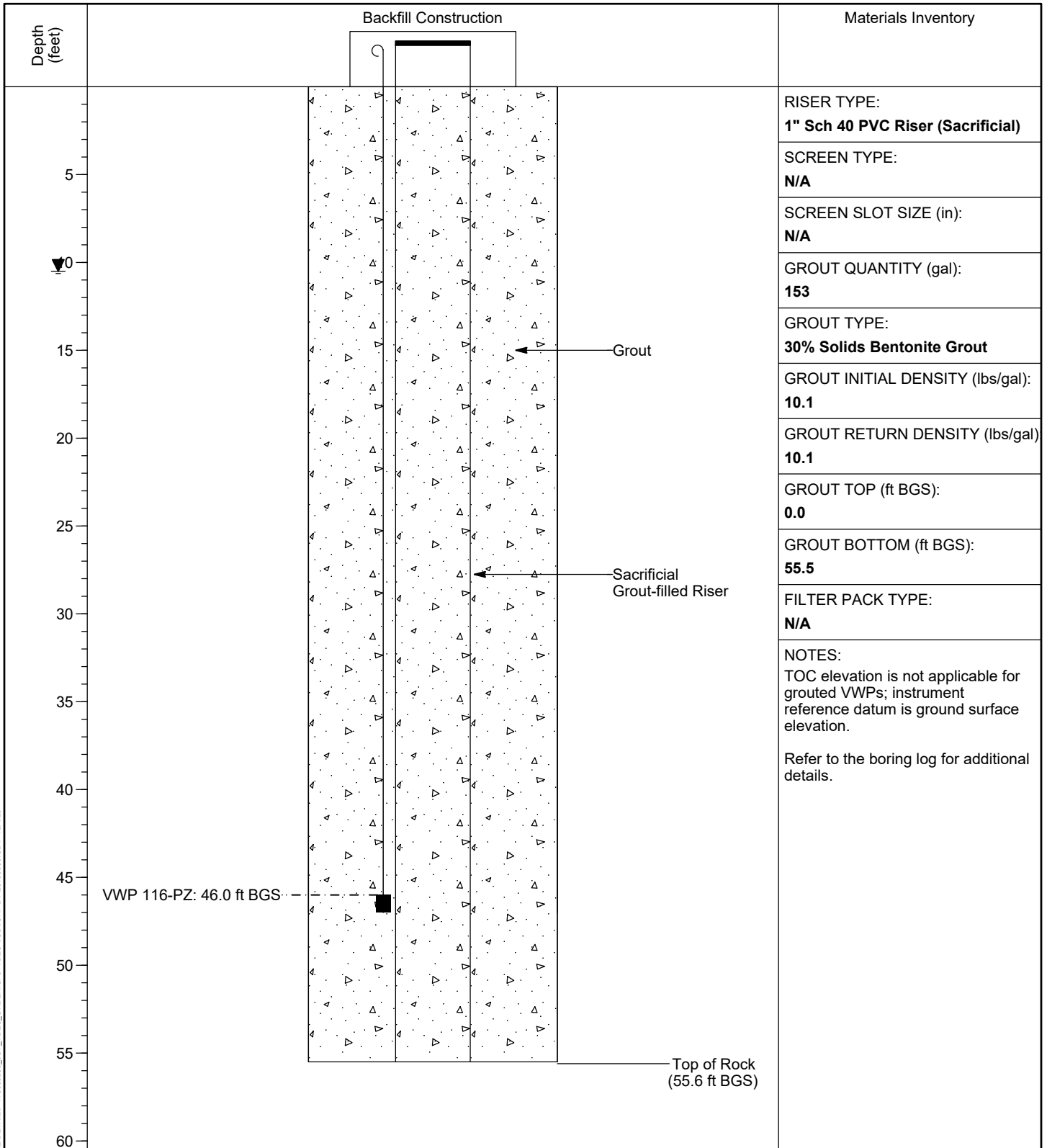
WELL / PROBEHOLE / BOREHOLE NO:

PAGE 1 OF 1

JOF-116-PZ (Boring JOF-116-PZ)

PROJECT: **JOF TDEC Order**
 PROJECT NUMBER: **175568286**
 DRILLING COMPANY: **Stantec Consulting Services Inc.**
 DRILLING EQUIPMENT: **CME 55T#1, #709**
 DRILLING METHOD: **4-1/4" HSA, 2" SS w/o liners, 3" Shelby Tubes**
 SAMPLING METHOD: **4-1/4" HSA, 2" SS w/o liners, 3" Shelby Tubes**
 OBSERVED BY: **M. Pritt**
 REVIEWED BY: **B. Halada**
 APPROVED BY: **P. Dunne**

INSTALLATION: STARTED: **8/20/19** COMPLETED: **8/21/19**
 LOCATION: **605,526.64 N; 1,412,589.35 E** DATUM: **NAD27 Plant Local**
 LOC. DESCRIPTION: **Ash Disposal Area 1**
 LATITUDE: **36° 2' 20.85"** LONGITUDE: **-87° 59' 12.90"**
 GROUND ELEV (ft): **388.0** TOC ELEV (ft): **N/A**
 ELEVATION DATUM: **NGVD29**
 BOREHOLE DEPTH (ft): **55.6** RISER DEPTH (ft): **55.5**
 DTW AT COMPLETION (ft, bgs): **10.5**
 BOREHOLE DIA. (in): **9.0** RISER DIA. (in): **1.0**



PZ DETAILS: 175568286_JOE_TDEC_ORDER.GPJ_TDEC_SUBSURF.DT 20190530.GDT 12/4/20

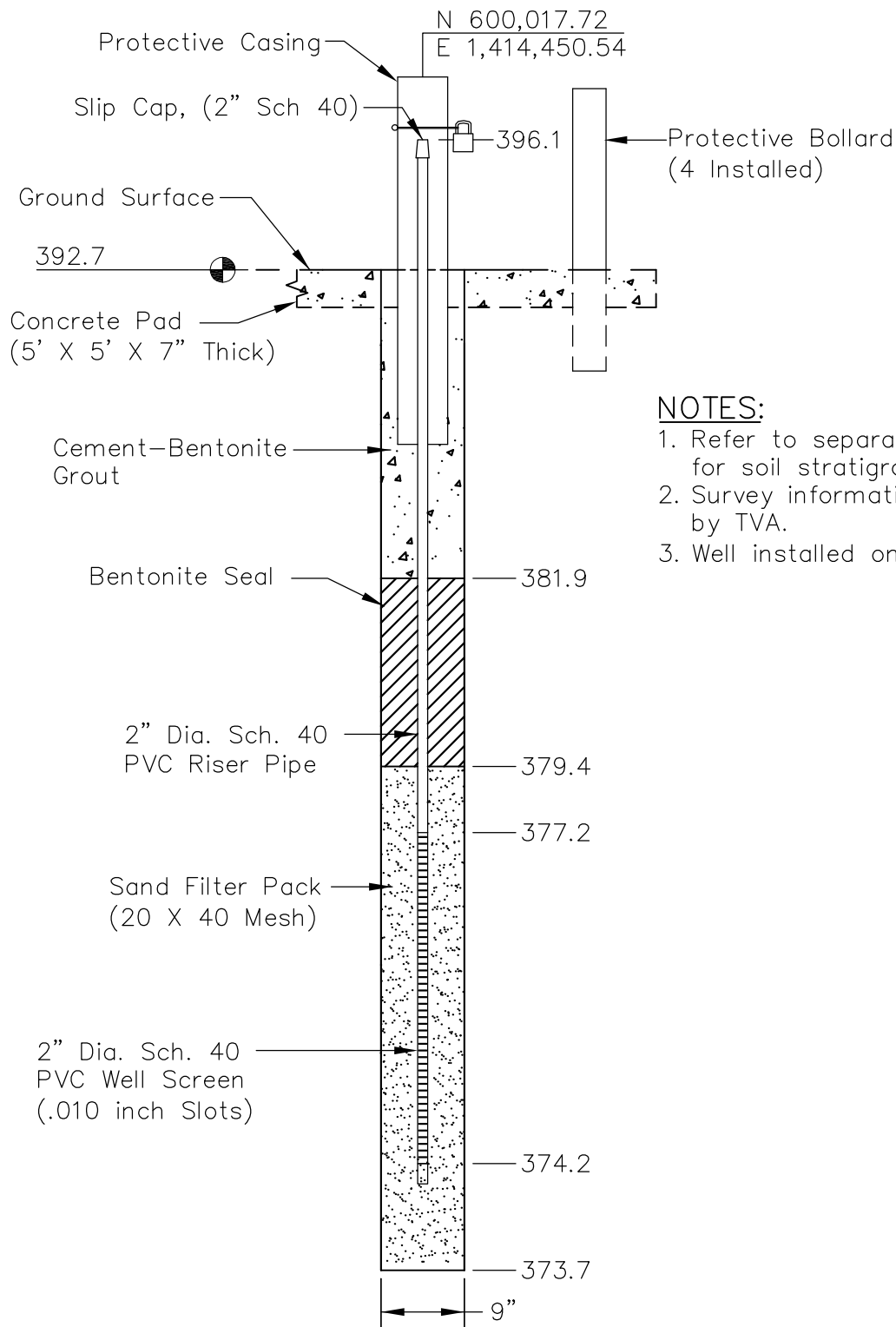
VERTICAL SCALE: AS SHOWN. HORIZONTAL SCALE: NOT TO SCALE (EXAGGERATED TO SHOW DETAIL)

APPENDIX C.3

PERMANENT WELLS

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NOTES:

1. Refer to separate Boring Logs for soil stratigraphy.
2. Survey information provided by TVA.
3. Well installed on 12/12/12.

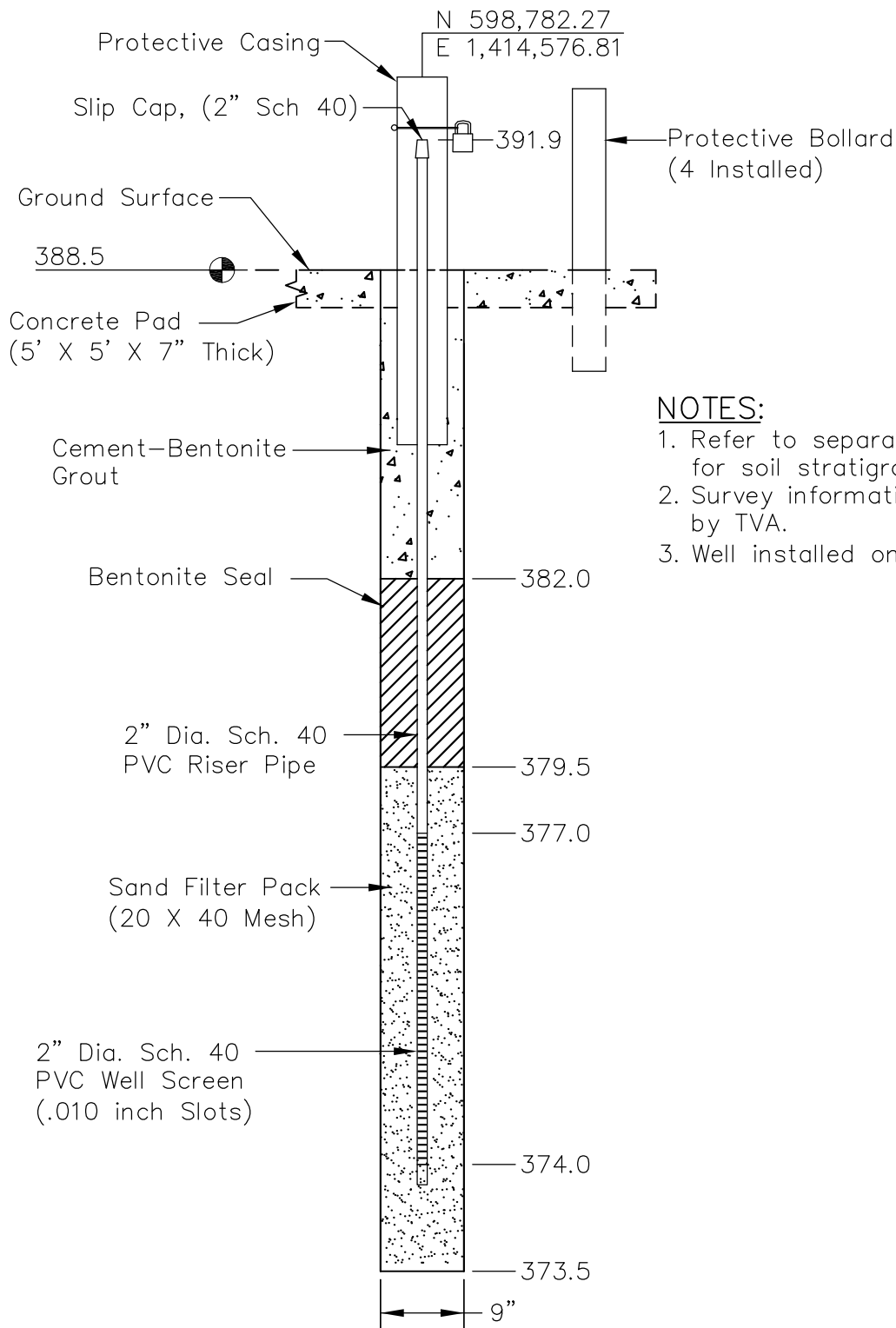
PLOT DATE: 03/07/2013 USER: PETTY, RICHARD V:\1755\ACTIVE\175552009\GEOTECHNICAL\DRAWING\SHEET_FILES\REV1_RECORD\52009-MWELL-LOG_1.DWG

**MONITORING WELL B-6R INSTALLATION DETAIL
SOUTH RAIL LOOP ASH DISPOSAL AREA
NON-REGISTERED SITE NO. 43-1232
TVA FOSSIL PLANT**



Stantec Consulting Services Inc.
10509 Timberwood Circle,
Suite 100
Louisville, Kentucky
40223-5301
502-212-5000
www.stantec.com

DRAWN BY	RRP	DATE	MAR. 5, 2013	REVISED		SHEET 1 OF 1
CHECKED BY	RLR	PROJ. NO.	175552009	1.	3.	
CHECKED BY	RLR	SCALE	NTS	2.	4.	



NOTES:

1. Refer to separate Boring Logs for soil stratigraphy.
2. Survey information provided by TVA.
3. Well installed on 12/12/12.

PLOT DATE: 03/05/2013 USER: PETTY, RICHARD V:\1755\ACTIVE\175552009\GEO\TECHNICAL\DRAWING\SHEET_FILES\REV1_RECORD\52009-MWELL-LOG_2.DWG

**MONITORING WELL B-8R INSTALLATION DETAIL
SOUTH RAIL LOOP ASH DISPOSAL AREA
NON-REGISTERED SITE NO. 43-1232
TVA FOSSIL PLANT**

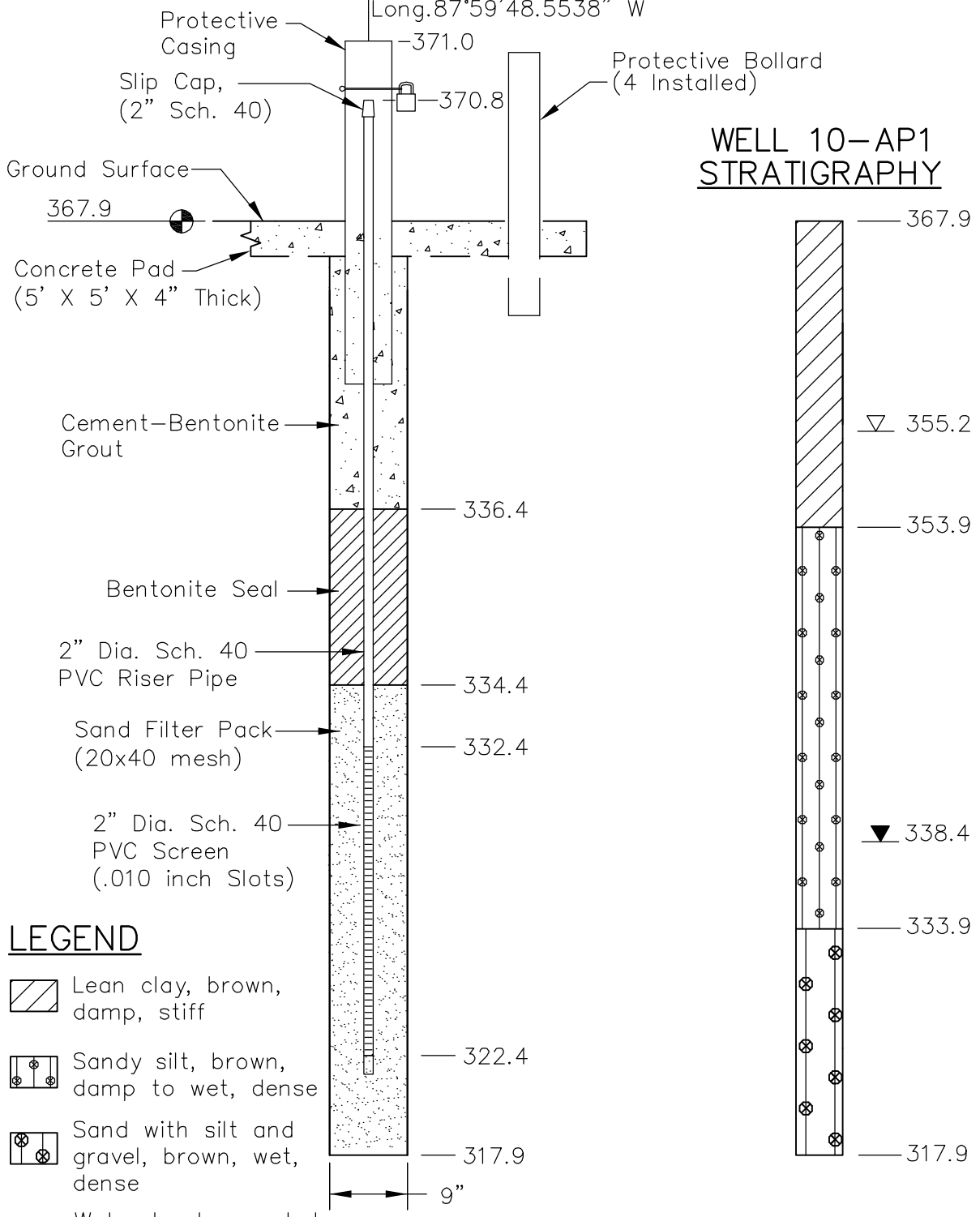


Stantec

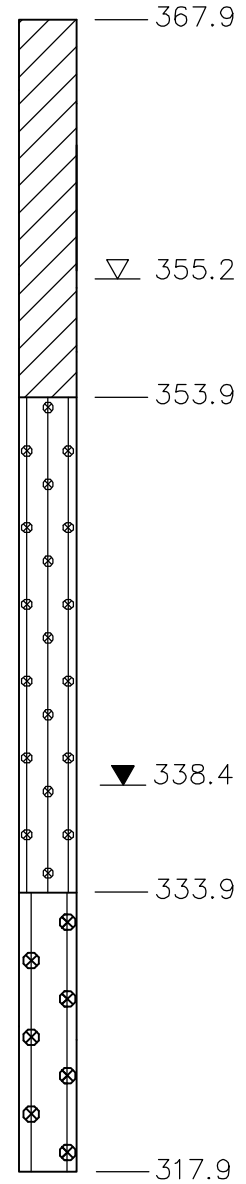
Stantec Consulting Services Inc.
10509 Timberwood Circle,
Suite 100
Louisville, Kentucky
40223-5301
502-212-5000
www.stantec.com

DRAWN BY	RRP	DATE MAR. 5, 2013	REVISED		SHEET
CHECKED BY	RLR	PROJ. NO. 175552009	1.	3.	1 OF 1
CHECKED BY	RLR	SCALE NTS	2.	4.	

Lat. 36°01'26.5151" N
 Long. 87°59'48.5538" W



**WELL 10-AP1
 STRATIGRAPHY**



LEGEND

-  Lean clay, brown, damp, stiff
-  Sandy silt, brown, damp to wet, dense
-  Sand with silt and gravel, brown, wet, dense
-  Water level recorded during drilling
-  Water level recorded on 01/19/2011

NOTES:

1. Soil stratigraphy based on SPT samples obtained during the drilling process.
2. Survey information provided by TVA Surveying.
3. Well installed on 11/03/10.

**10-AP1 - MONITORING WELL INSTALLATION DETAIL
 USWAG GROUND WATER MONITORING NETWORK
 TVA JOHNSONVILLE FOSSIL PLANT**

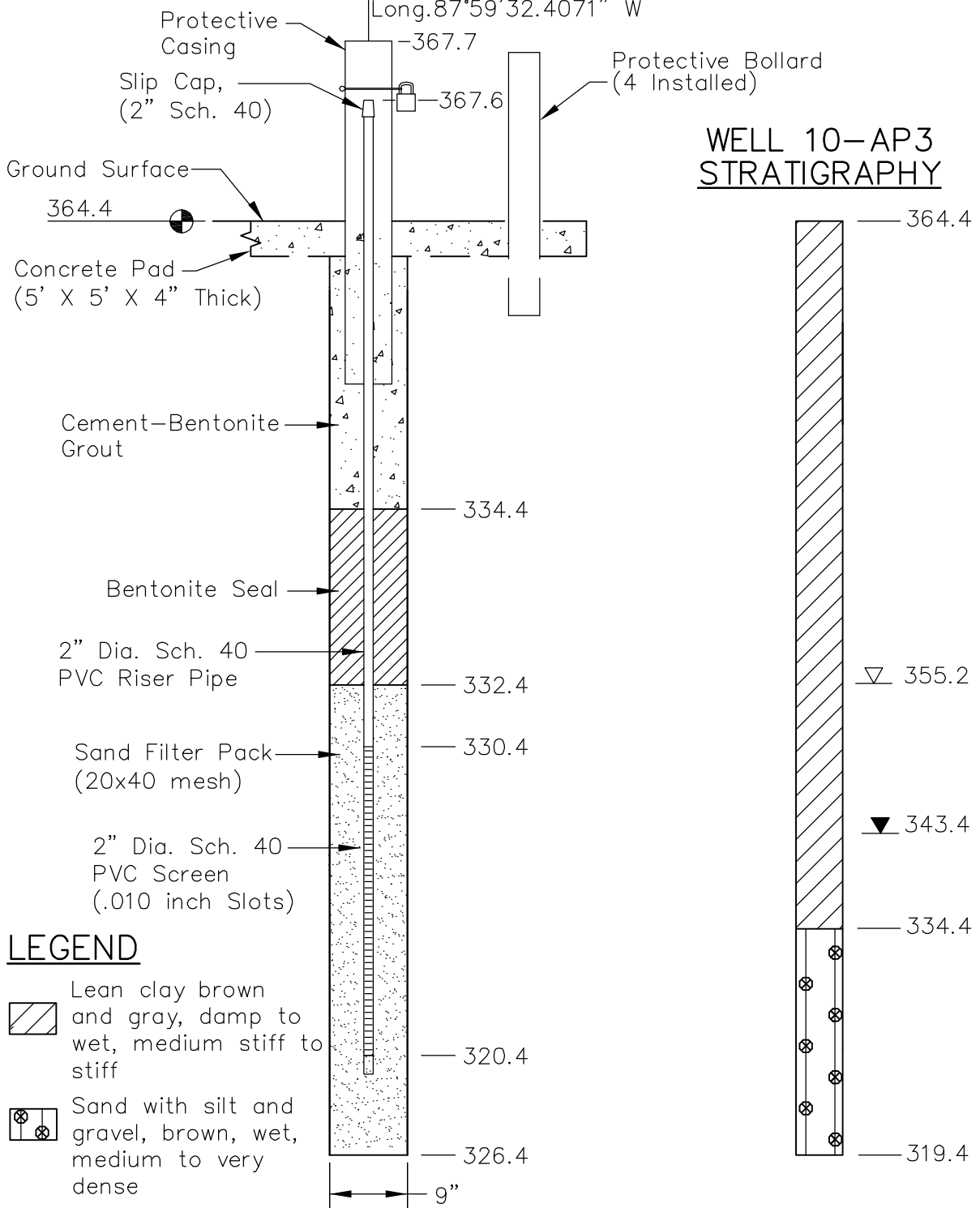


Stantec Consulting Services Inc.
 11687 Lebanon Rd.
 Cincinnati, Ohio
 45241-2012
 513-842-8200

www.stantec.com





DRAWN BY	MSJ	DATE	FEB. 10, 2011	REVISED		SHEET	
CHECKED BY	JMM	PROJ. NO.	175560058	1.	3.	1 OF 1	
CHECKED BY	BLB	SCALE	NTS	2.	4.		

Lat. 36°01'26.8315" N
 Long. 87°59'32.4071" W



**WELL 10-AP3
 STRATIGRAPHY**

LEGEND

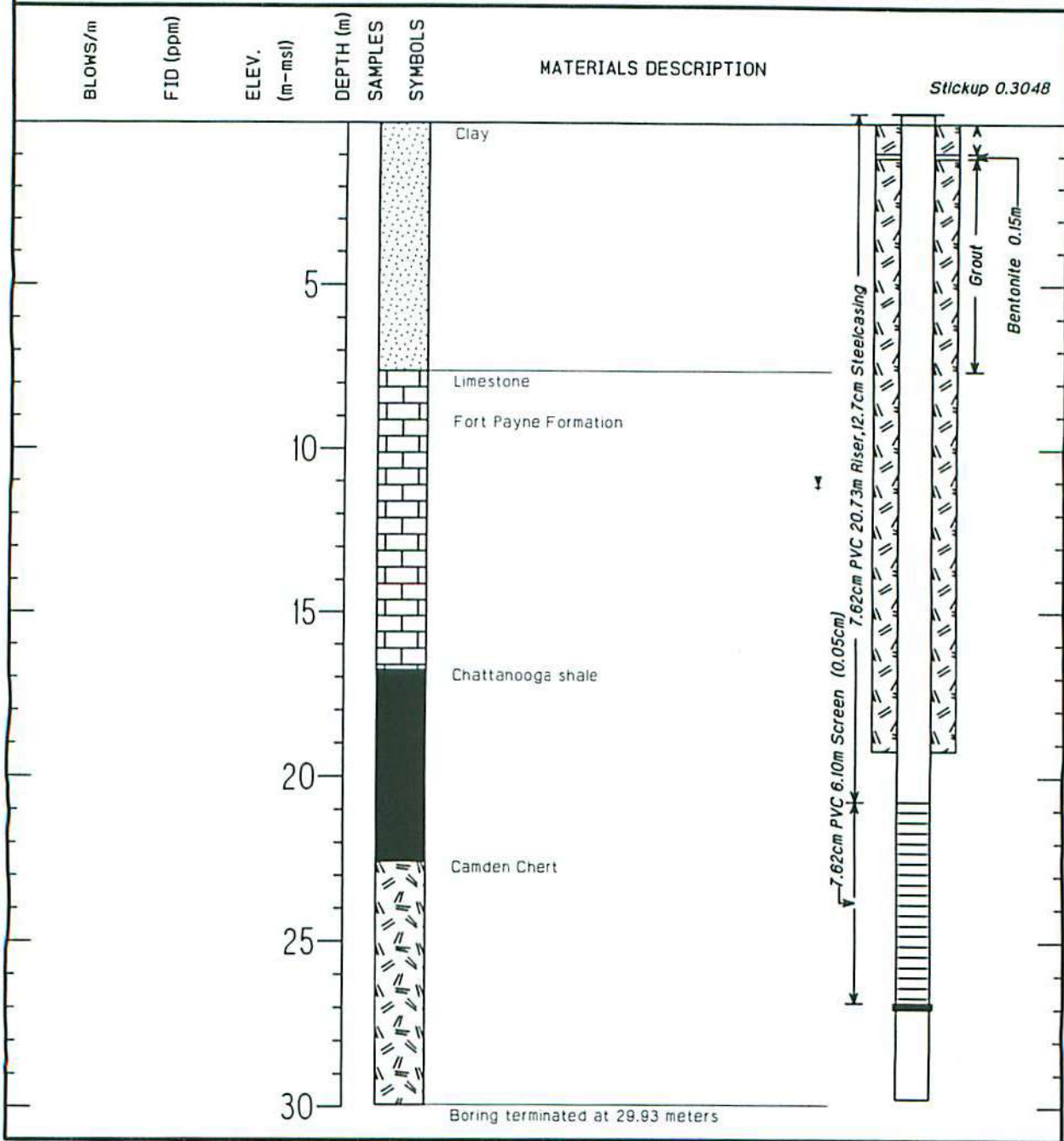
-  Lean clay brown and gray, damp to wet, medium stiff to stiff
-  Sand with silt and gravel, brown, wet, medium to very dense
-  Water level recorded during drilling
-  Water level recorded on 01/19/2011

NOTES:

1. Soil stratigraphy based on SPT samples obtained during the drilling process.
2. Survey information provided by TVA Surveying.
3. Well installed on 11/04/10.

**10-AP3 - MONITORING WELL INSTALLATION DETAIL
 USWAG GROUND WATER MONITORING NETWORK
 TVA JOHNSONVILLE FOSSIL PLANT**

 Stantec		Stantec Consulting Services Inc. 11687 Lebanon Rd. Cincinnati, Ohio 45241-2012 513-842-8200 www.stantec.com																	
		<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 25%;">DRAWN BY</td> <td style="width: 25%;">MSJ</td> <td style="width: 25%;">DATE</td> <td style="width: 25%;">FEB. 10, 2011</td> </tr> <tr> <td>CHECKED BY</td> <td>JMM</td> <td>PROJ. NO.</td> <td>175560058</td> </tr> <tr> <td>CHECKED BY</td> <td>BLB</td> <td>SCALE</td> <td>NTS</td> </tr> </table>	DRAWN BY	MSJ	DATE	FEB. 10, 2011	CHECKED BY	JMM	PROJ. NO.	175560058	CHECKED BY	BLB	SCALE	NTS	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td colspan="2">REVISED</td> </tr> <tr> <td style="width: 50%;">1.</td> <td style="width: 50%;">3.</td> </tr> <tr> <td>2.</td> <td>4.</td> </tr> </table>	REVISED		1.	3.
DRAWN BY	MSJ	DATE	FEB. 10, 2011																
CHECKED BY	JMM	PROJ. NO.	175560058																
CHECKED BY	BLB	SCALE	NTS																
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1.	3.																		
2.	4.																		
SHEET 1 OF 1																			

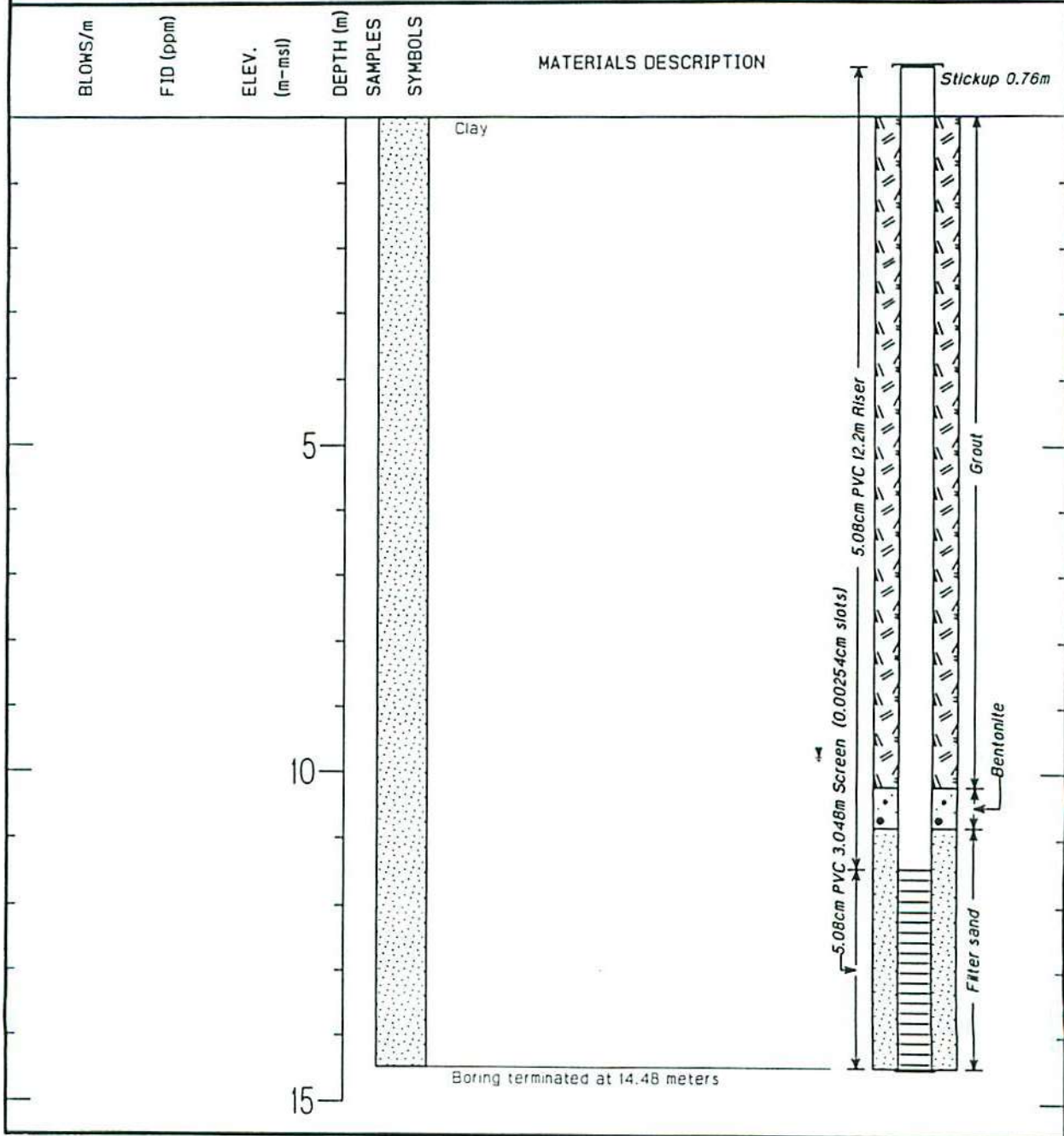


PROJECT	<u>New Johnsonville Demolition Waste Landfill</u>	DRILLING COMPANY	<u>Geological Services</u>
LOCATION	<u>Johnsonville, Tn</u>	DATE DRILLED	<u>1/29/80</u>
DRILL RIG	<u>Hollow Stem Auger 20.3cm borehole</u>	SURFACE ELEVATION	<u>122.90 m-msl</u>
LOGGER/ENGINEER	<u>Davenport</u>	T.O.C. ELEVATION	<u>123.20 m-msl</u>
WATER LEVEL (INITIAL)	<u> </u> m	WATER LEVEL (24-HOUR)	<u>11.13 m</u>
PLANT COORDINATES (east)	<u>755.87m</u>	PLANT COORDINATES (north)	<u>-1035.83m</u>

Tennessee Valley Authority

LOG OF BORING B9

WELL CONSTRUCTION DETAIL



PROJECT New Johnsonville Demolition Waste Landfill DRILLING COMPANY Law Engineering

LOCATION Johnsonville, Tn DATE DRILLED 8/17/89

DRILL RIG Hollow Stem Auger SURFACE ELEVATION 128.29 m-msl

LOGGER/ENGINEER Tillery T.O.C. ELEVATION 129.06 m-msl

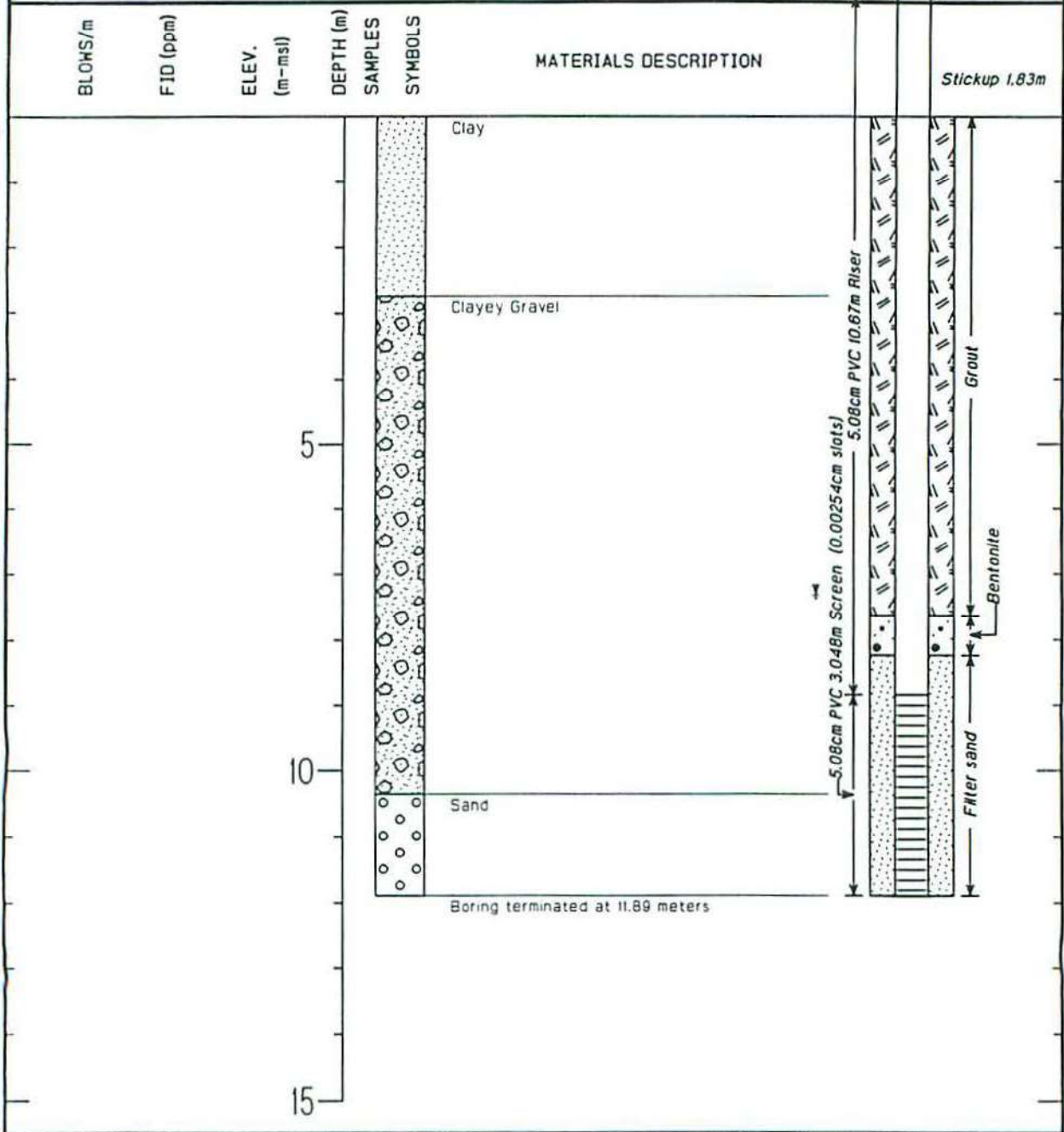
WATER LEVEL (INITIAL) m WATER LEVEL (24-HOUR) 9.7536 m

PLANT COORDINATES (east) 1283.54m PLANT COORDINATES (north) -622.44m

Tennessee Valley Authority

LOG OF BORING B10

WELL CONSTRUCTION DETAIL



PROJECT New Johnsonville Demolition Waste Landfill DRILLING COMPANY Law Engineering

LOCATION Johnsonville, Tn DATE DRILLED 8/16/89

DRILL RIG Hollow Stem Auger SURFACE ELEVATION 122.38 m-msl

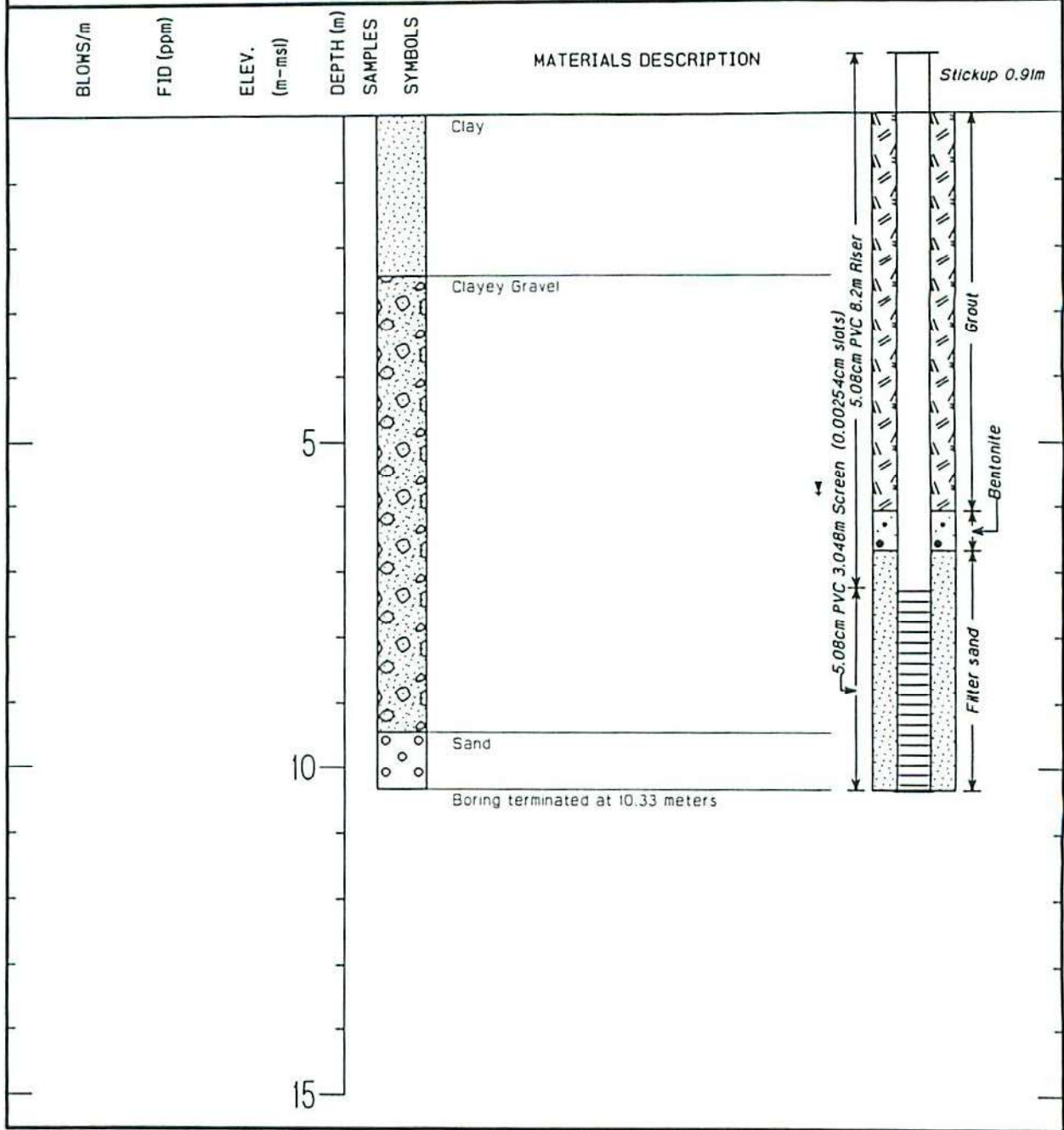
LOGGER/ENGINEER Tillery T.O.C. ELEVATION 123.29 m-msl

WATER LEVEL (INITIAL) m WATER LEVEL (24-HOUR) 7.32 m

PLANT COORDINATES (east) 763.71m PLANT COORDINATES (north) 57.02m

Tennessee Valley Authority

LOG OF BORING B11
WELL CONSTRUCTION DETAIL

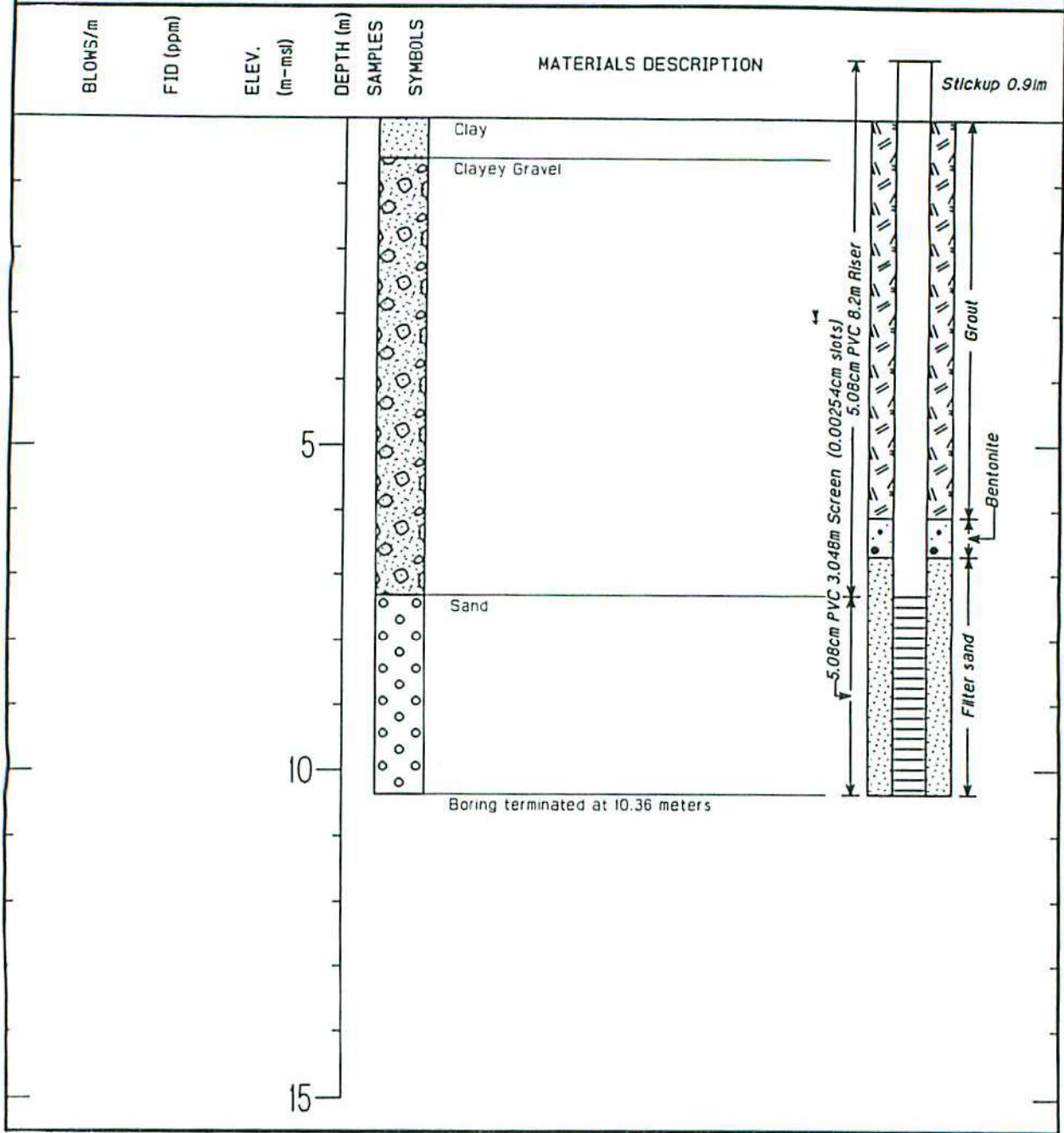


PROJECT <u>New Johnsonville Demolition Waste Landfill</u>	DRILLING COMPANY <u>Law Engineering</u>
LOCATION <u>Johnsonville, Tn</u>	DATE DRILLED <u>8/15/89</u>
DRILL RIG <u>Hollow Stem Auger</u>	SURFACE ELEVATION <u>121.47 m-msl</u>
LOGGER/ENGINEER <u>Tillery</u>	T.O.C. ELEVATION <u>122.38 m-msl</u>
WATER LEVEL (INITIAL) <u> </u> m	WATER LEVEL (24-HOUR) <u>5.79 m</u>
PLANT COORDINATES (east) <u>553.32m</u>	PLANT COORDINATES (north) <u>590.75m</u>

Tennessee Valley Authority

LOG OF BORING B12

WELL CONSTRUCTION DETAIL



PROJECT New Johnsonville Demolition Waste Landfill DRILLING COMPANY Law Engineering

LOCATION Johnsonville, Tn DATE DRILLED 8/17/89

DRILL RIG Hollow Stem Auger SURFACE ELEVATION 119.06 m-msl

LOGGER/ENGINEER Tillery T.O.C. ELEVATION 119.98 m-msl

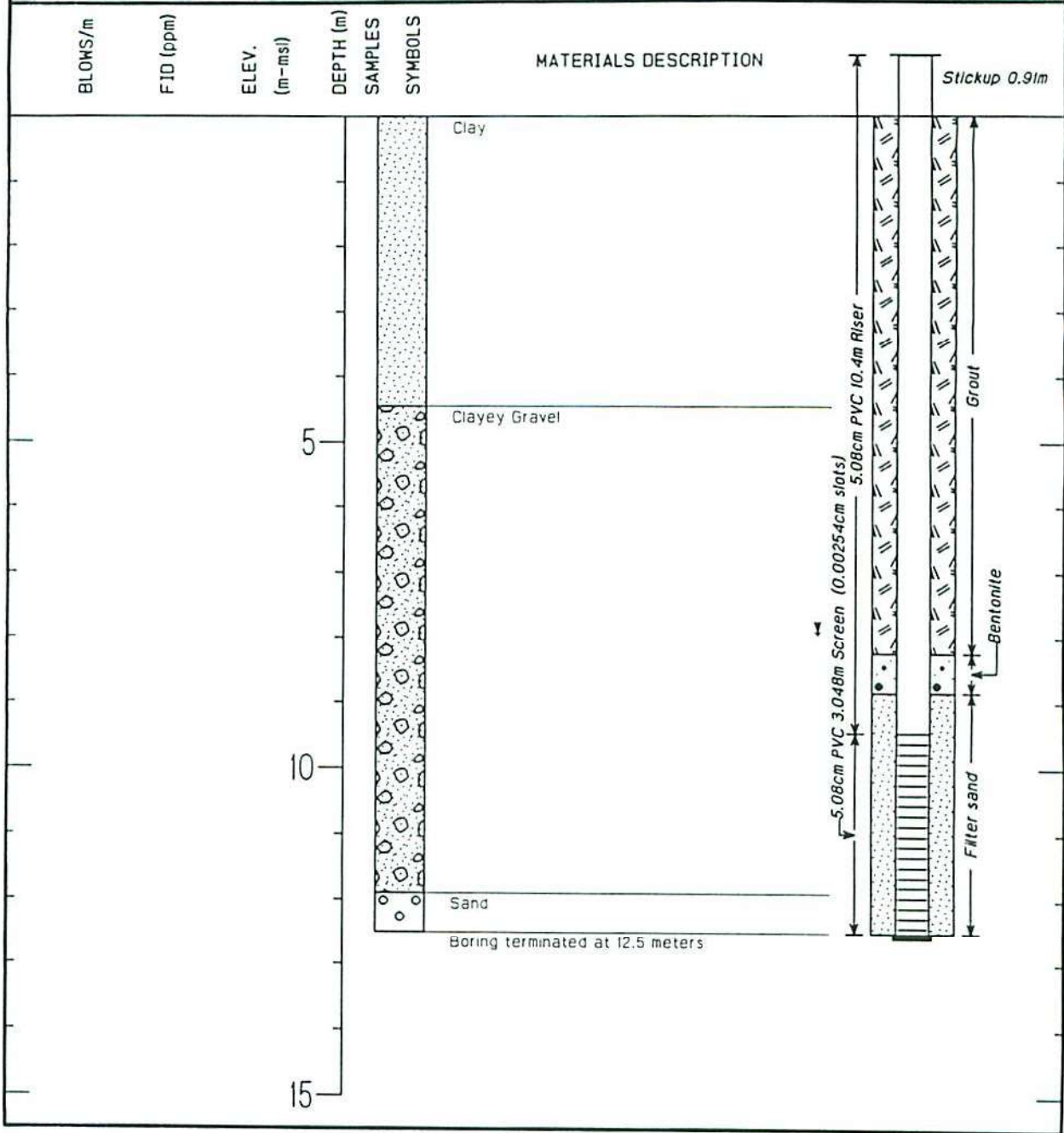
WATER LEVEL (INITIAL) m WATER LEVEL (24-HOUR) 3.08 m

PLANT COORDINATES (east) 584.66m PLANT COORDINATES (north) 780.50m

Tennessee Valley Authority

LOG OF BORING B13

WELL CONSTRUCTION DETAIL



PROJECT New Johnsonville Demolition Waste Landfill DRILLING COMPANY Law Engineering

LOCATION Johnsonville, Tn DATE DRILLED 8/16/89

DRILL RIG Hollow Stem Auger SURFACE ELEVATION 124.2 m-msl

LOGGER/ENGINEER Tillery T.O.C. ELEVATION 125.12 m-msl

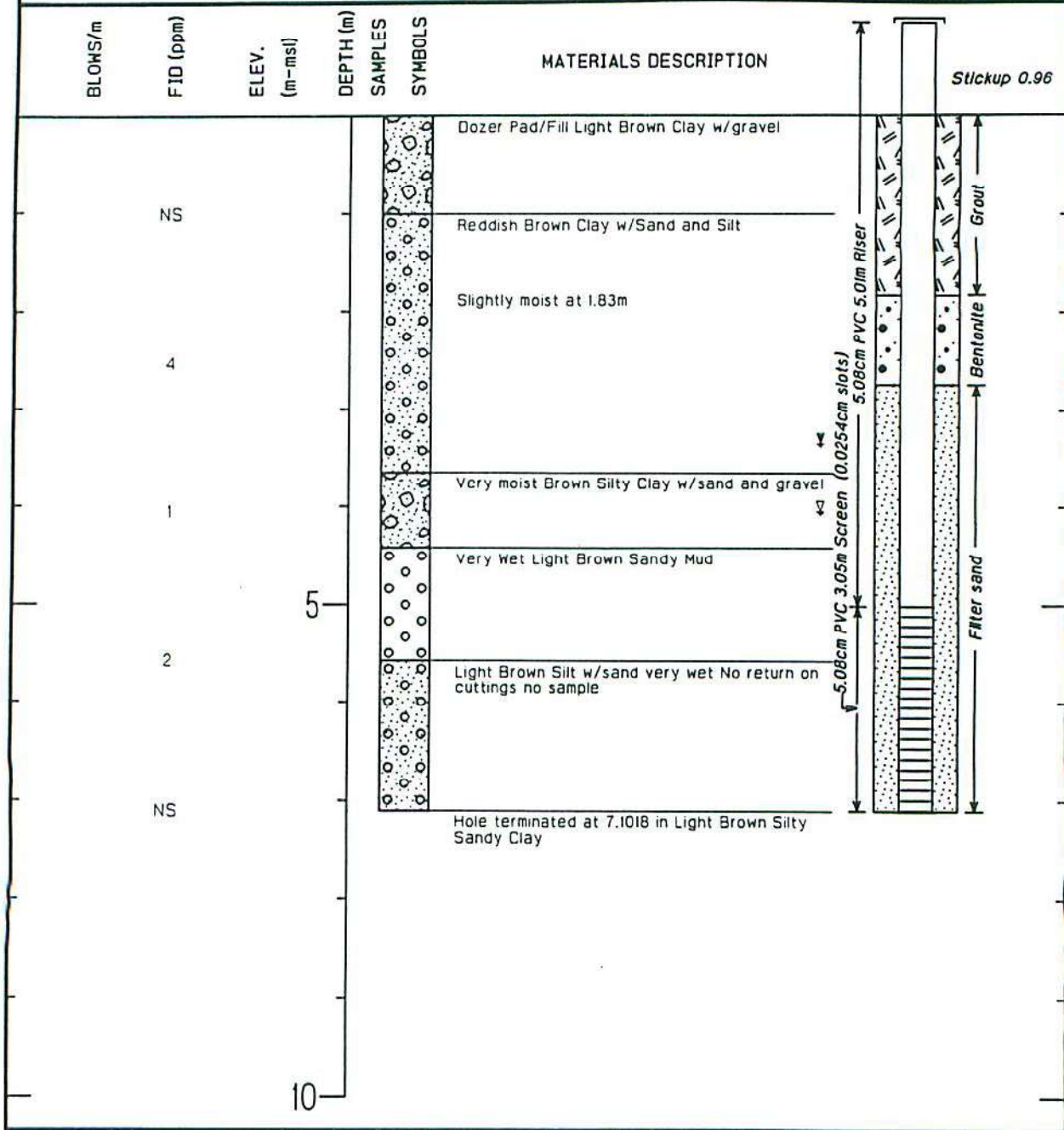
WATER LEVEL (INITIAL) m WATER LEVEL (24-HOUR) 7.9 m

PLANT COORDINATES (east) 808.13m PLANT COORDINATES (north) 429.37m

Tennessee Valley Authority

LOG OF BORING 94-B16

WELL CONSTRUCTION DETAIL



PROJECT New Johnsonville Demolition Waste Landfill DRILLING COMPANY PDR - STEP

LOCATION Johnsonville, Tn DATE DRILLED 9/26/93 11:00 - 11:30

DRILL RIG CME 75 - 21cm OD Borehole SURFACE ELEVATION 118.12 m-msl

LOGGER/ENGINEER JW-BB T.O.C. ELEVATION 119.08m m-msl

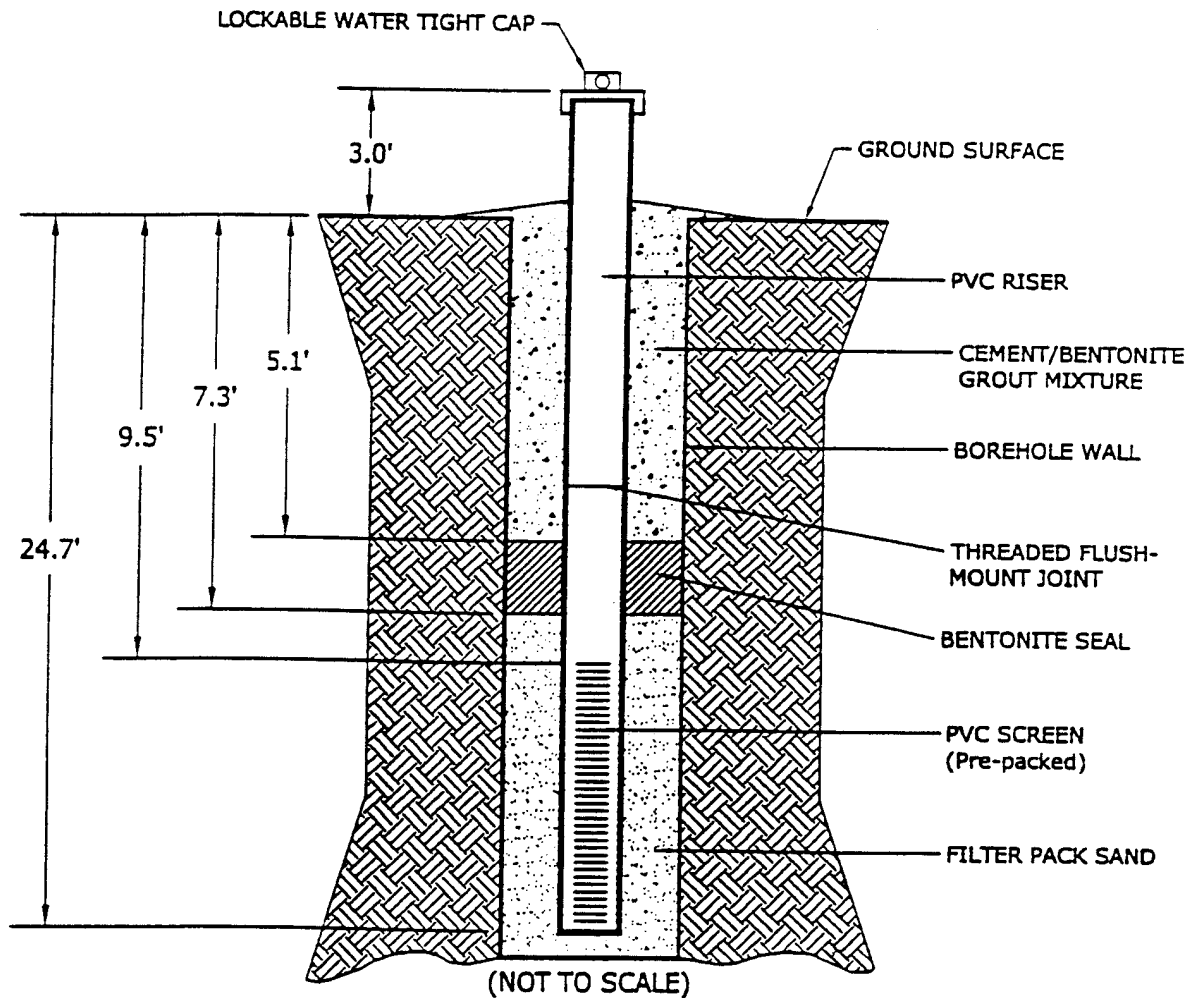
WATER LEVEL (INITIAL) 4.05 m WATER LEVEL (24-HOUR) 3.35 m


PLANT COORDINATES (east) 425.51m PLANT COORDINATES (north) 8.35m

TYPE II MONITORING WELL INSTALLATION RECORD

JOB NAME TVA - NEW JOHNSONVILLE
 WELL NUMBER 99-B19
 ELEVATION N/A
 BOREHOLE DIAMETER 4-1/4"
 TOTAL DEPTH 24.7'
 LAW ENGINEERING
 FIELD REPRESENTATIVE _____

JOB NUMBER 50300-8-2075/09/800
 INSTALLATION DATE 8/24/99
 DRILLED BY J. VOEKEL
 RISER/SCREEN
 MATERIAL: SCHEDULE 40 PVC
 DIAMETER: 2"
 SLOT SIZE: 0.010"



LAW
 LAWGIBB Group Member 
 LAW Engineering and Environmental Services, Inc.
 1725 Louisa Drive
 Knoxville, Tennessee 37921
 423-884-8544 • Fax: 423-884-6026

TVA NEW JOHNSONVILLE

DRAWN BY:
 T. DAVIS

DATE:
 OCTOBER 6, 1999

SCALE:
 NOT TO SCALE

TYPE II MONITORING WELL INSTALLATION RECORD

JOB NAME TVA - NEW JOHNSONVILLE

WELL NUMBER 99-B20

ELEVATION N/A

BOREHOLE DIAMETER 4-1/4"

TOTAL DEPTH 34.6'

LAW ENGINEERING
FIELD REPRESENTATIVE _____

JOB NUMBER 50300-8-2075/09/800

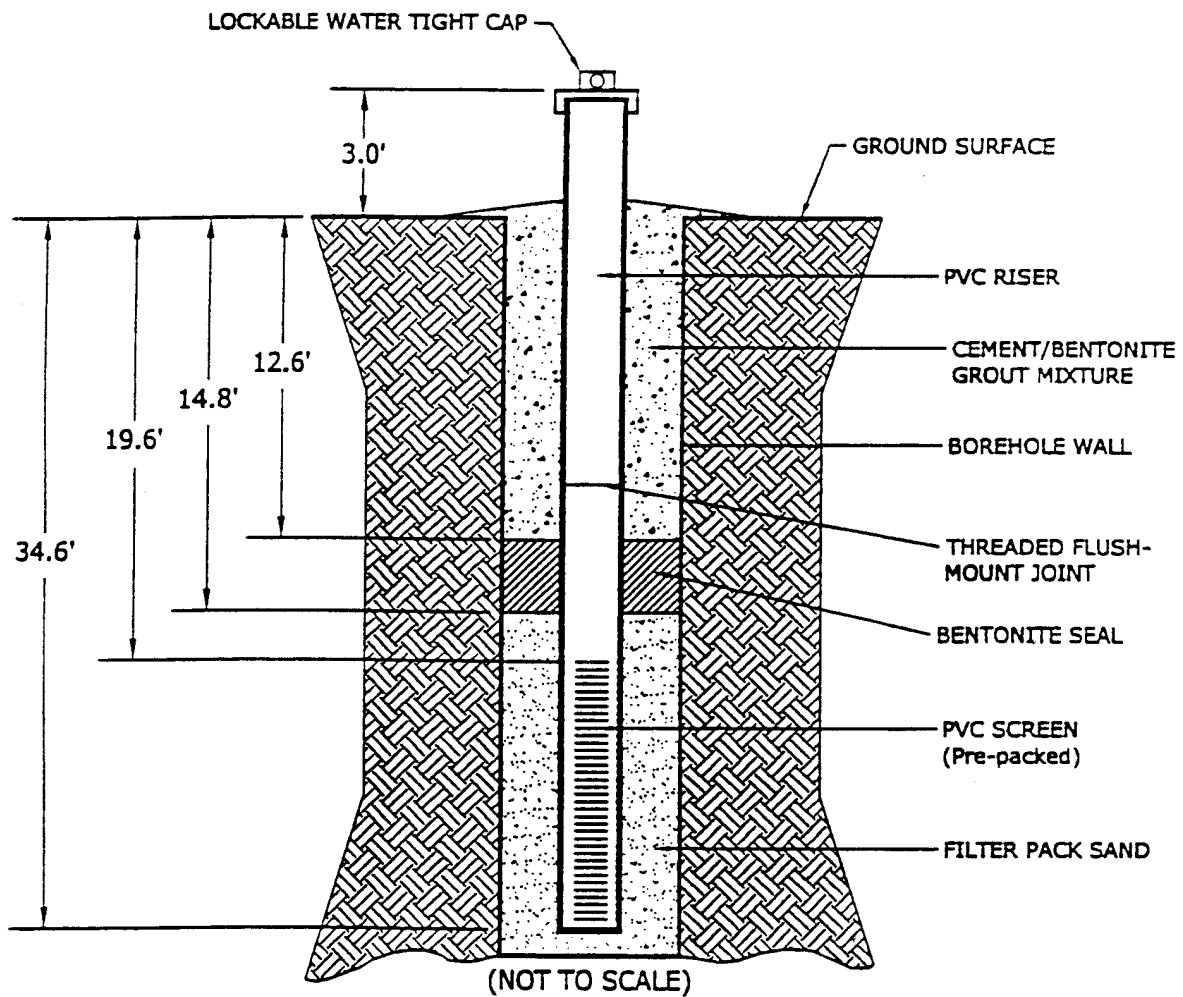
INSTALLATION DATE 8/25/99

DRILLED BY J. VOEKEL

RISER/SCREEN
MATERIAL: SCHEDULE 40 PVC

DIAMETER: 2"

SLOT SIZE: 0.010"



LAW
LAWGIBB Group Member

LAW Engineering and Environmental Services, Inc.
1725 Louisville Drive
Knoxville, Tennessee 37921
423-588-8544 • Fax 423-588-8026

TVA NEW JOHNSONVILLE

DRAWN BY: T. DAVIS	DATE: OCTOBER 6, 1999	SCALE: NOT TO SCALE
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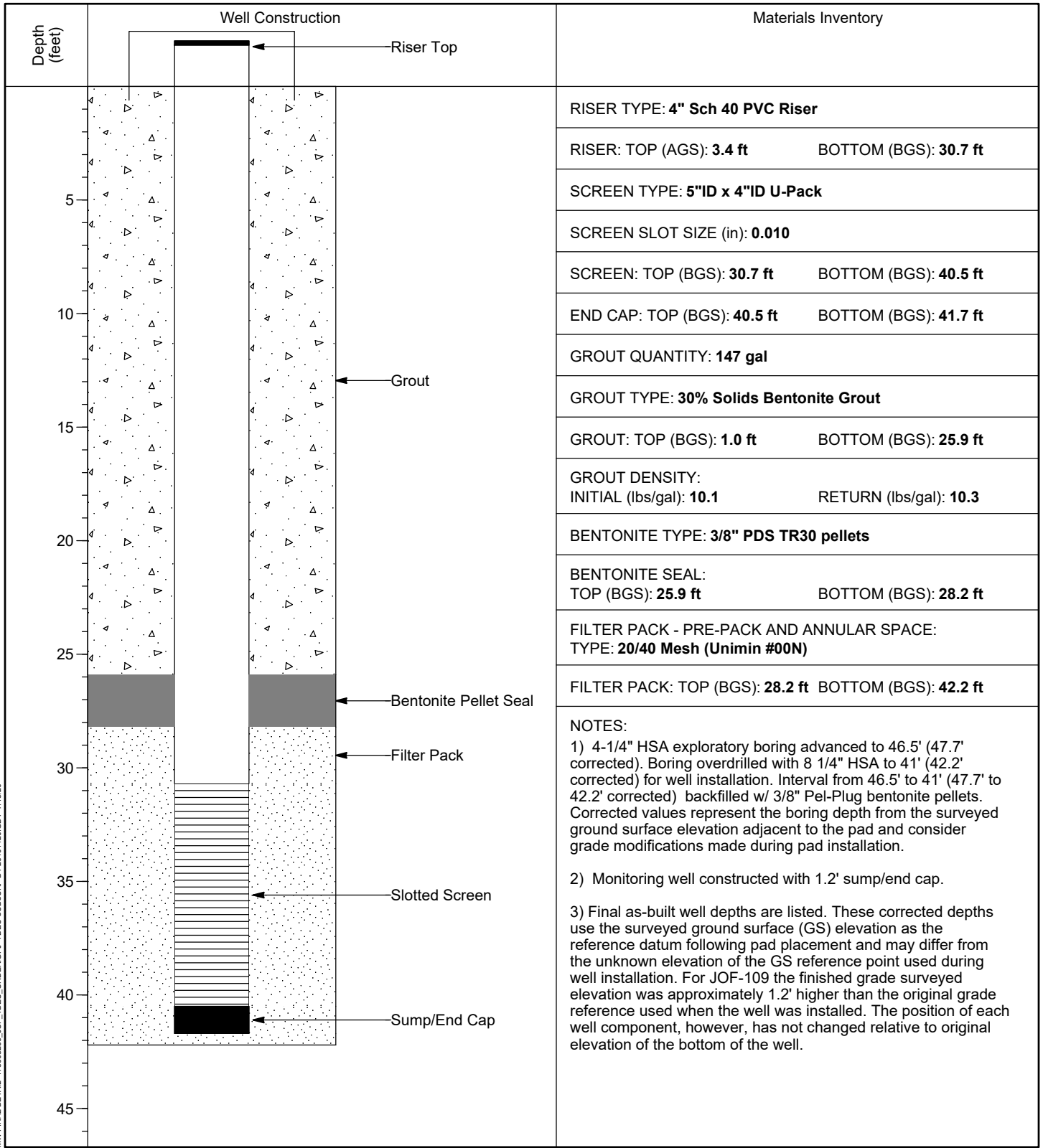


WELL INSTALLATION DETAIL

WELL / PROBEHOLE / BOREHOLE NO: **JOF-109 (Boring JOF-109)** PAGE 1 OF 1

PROJECT: **JOF TDEC Order**
 PROJECT NUMBER: **175568286**
 DRILLING COMPANY: **Stantec Consulting Services Inc.**
 DRILLING EQUIPMENT: **CME 55T#1, #709**
 DRILLING METHOD: **8-1/4" HSA overdrill of boring**
 SAMPLING METHOD: **4-1/4" HSA, 2" SS w/o liners**
 OBSERVED BY: **C. Burton**
 REVIEWED BY: **D. Norman**
 APPROVED BY: **P. Dunne**

INSTALLATION: STARTED: **6/24/19** COMPLETED: **6/26/19**
 LOCATION: **605,123.62 N; 1,413,243.55 E** DATUM: **NAD27 Plant Local**
 LOC. DESCRIP: **Ash Disposal Area 1**
 LATITUDE: **36° 2' 17.00"** LONGITUDE: **-87° 59' 4.84"**
 GROUND ELEV (ft): **382.8** TOC ELEV (ft): **386.11**
 ELEVATION DATUM: **NGVD29**
 WELL DEPTH (ft, bgs): **41.7**
 DTW AT COMPLETION (ft, bgs): **N/A**
 BOREHOLE DIA. (in): **13.0** WELL DIA. (in): **4.0**



MW FINAL DETAIL 175568286 JOF_TDEC_ORDER.GPJ TDEC SUBSURF.DT 20191120.GDT 7/15/20

VERTICAL SCALE: AS SHOWN. HORIZONTAL SCALE: NOT TO SCALE (EXAGGERATED TO SHOW DETAIL)

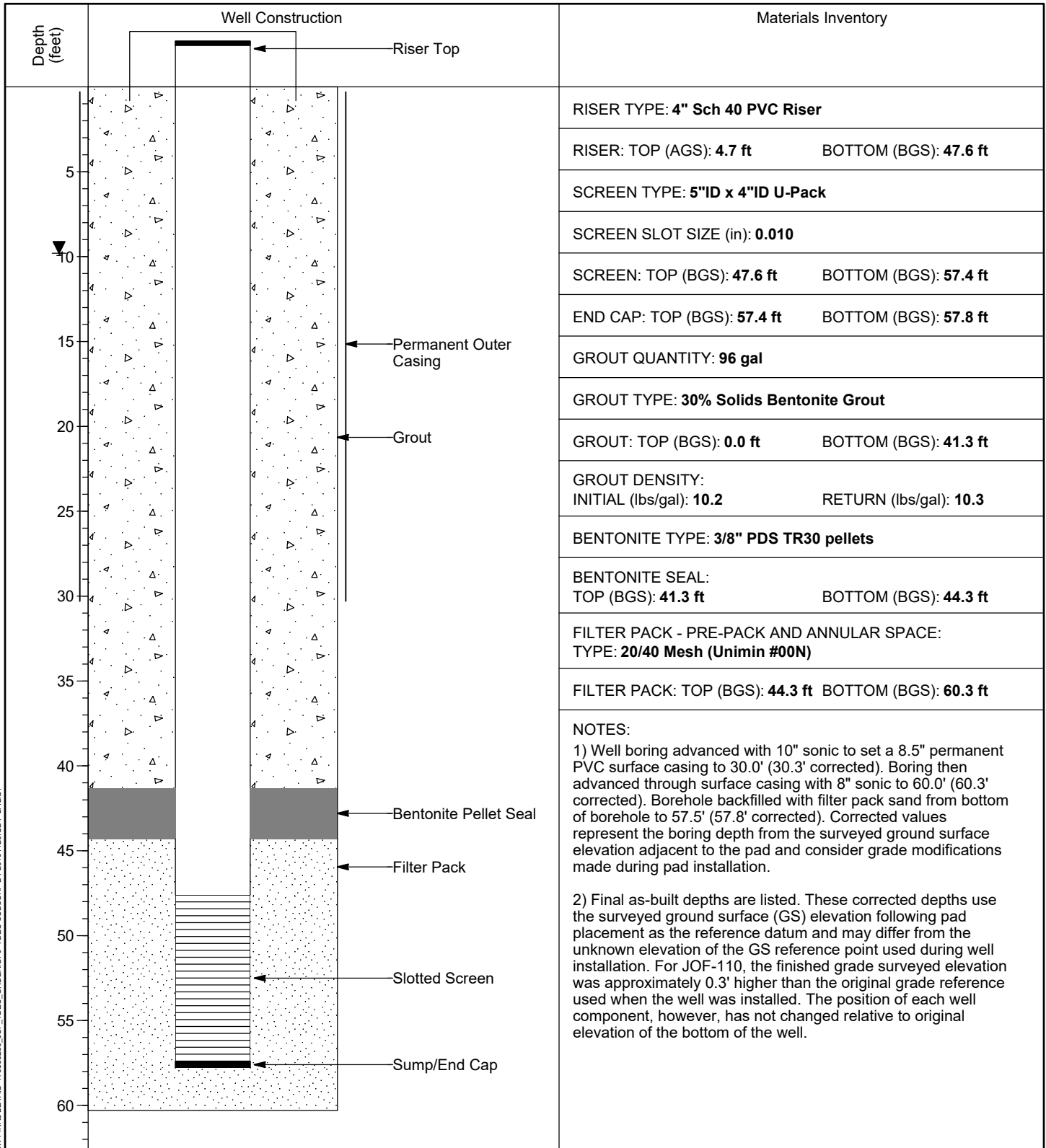


WELL INSTALLATION DETAIL

WELL / PROBEHOLE / BOREHOLE NO:

PAGE 1 OF 1

JOF-110 (Boring JOF-110)

PROJECT: **JOF TDEC Order**PROJECT NUMBER: **175568286**DRILLING COMPANY: **M&W Drilling (Subcontractor)**DRILLING EQUIPMENT: **Geoprobe 8150LS**DRILLING METHOD: **4" x 10" Sonic**SAMPLING METHOD: **4" X 6" Rotosonic**OBSERVED BY: **S. Stanley**REVIEWED BY: **J. Snider**APPROVED BY: **P. Dunne**INSTALLATION: STARTED: **9/10/19**COMPLETED: **9/16/19**LOCATION: **605,614.27 N; 1,412,210.58 E**DATUM: **NAD27 Plant Local**LOC. DESCRIP: **Ash Disposal Area 1**LATITUDE: **36° 2' 21.64"**LONGITUDE: **-87° 59' 17.54"**GROUND ELEV (ft): **384.0**TOC ELEV (ft): **388.76**ELEVATION DATUM: **NGVD29**WELL DEPTH (ft, bgs): **57.8**DTW AT COMPLETION (ft, bgs): **9.8**BOREHOLE DIA. (in): **8.0**WELL DIA. (in): **4.0**

MW/FINAL DETAIL: 175568286_JOE_TDEC_ORDER.GPJ TDEC SUBSURF.DT 20191120.GDT 2/12/21

VERTICAL SCALE: AS SHOWN. HORIZONTAL SCALE: NOT TO SCALE (EXAGGERATED TO SHOW DETAIL)

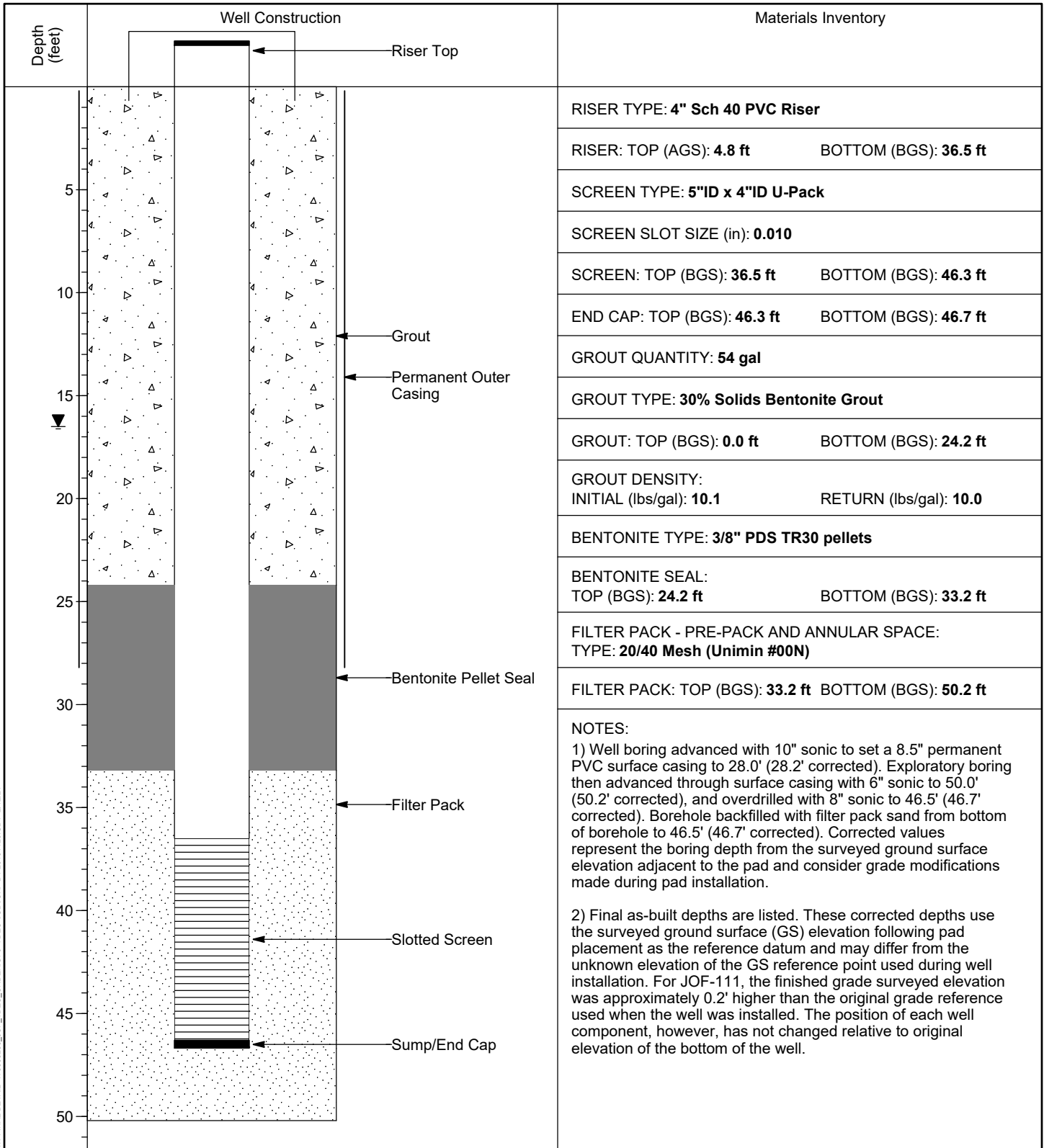


WELL INSTALLATION DETAIL

WELL / PROBEHOLE / BOREHOLE NO: **JOF-111 (Boring JOF-111B)** PAGE 1 OF 1

PROJECT: **JOF TDEC Order**
 PROJECT NUMBER: **175568286**
 DRILLING COMPANY: **M&W Drilling (Subcontractor)**
 DRILLING EQUIPMENT: **Geoprobe 8150LS**
 DRILLING METHOD: **4" x 10" Sonic**
 SAMPLING METHOD: **4" X 6" Rotasonic Casing**
 OBSERVED BY: **D. Norman**
 REVIEWED BY: **J. Snider**
 APPROVED BY: **P. Dunne**

INSTALLATION: STARTED: **9/18/19** COMPLETED: **9/23/19**
 LOCATION: **604,940.99 N; 1,412,174.09 E** DATUM: **NAD27 Plant Local**
 LOC. DESCRIP: **Southwest of Ash Disposal Area 1**
 LATITUDE: **36° 2' 14.98"** LONGITUDE: **-87° 59' 17.81"**
 GROUND ELEV (ft): **385.3** TOC ELEV (ft): **390.08**
 ELEVATION DATUM: **NGVD29**
 WELL DEPTH (ft, bgs): **46.7**
 DTW AT COMPLETION (ft, bgs): **16.5**
 BOREHOLE DIA. (in): **8.0** WELL DIA. (in): **4.0**



MW FINAL DETAIL 175568286 JOF_TDEC_ORDER.GPJ TDEC SUBSURF.DT 20191120.GDT 2/12/21

VERTICAL SCALE: AS SHOWN. HORIZONTAL SCALE: NOT TO SCALE (EXAGGERATED TO SHOW DETAIL)

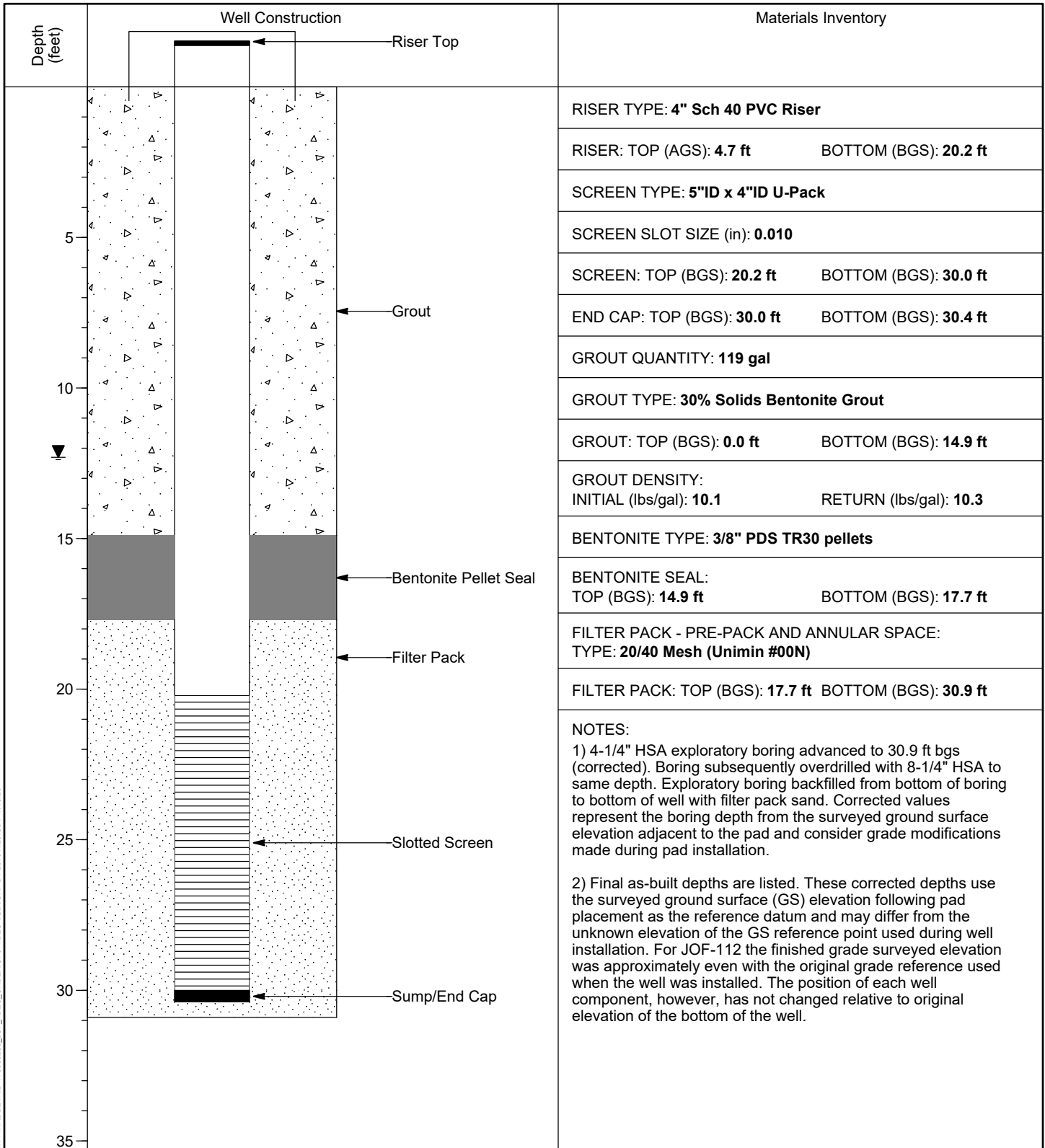


WELL INSTALLATION DETAIL

WELL / PROBEHOLE / BOREHOLE NO: **JOF-112 (Boring JOF-112)** PAGE 1 OF 1

PROJECT: **JOF TDEC Order**
 PROJECT NUMBER: **175568286**
 DRILLING COMPANY: **Stantec Consulting Services Inc.**
 DRILLING EQUIPMENT: **CME 1050, #952**
 DRILLING METHOD: **8-1/4" HSA overdrill of boring**
 SAMPLING METHOD: **4-1/4" HSA, 2" SS w/o liners, 3" Shelby Tubes**
 OBSERVED BY: **S. Stanley**
 REVIEWED BY: **D. Norman**
 APPROVED BY: **P. Dunne**

INSTALLATION: STARTED: **8/27/19** COMPLETED: **8/28/19**
 LOCATION: **604,376.52 N; 1,412,991.02 E** DATUM: **NAD27 Plant Local**
 LOC. DESCRIP: **Coal Yard**
 LATITUDE: **36° 2' 9.56"** LONGITUDE: **-87° 59' 7.73"**
 GROUND ELEV (ft): **389.8** TOC ELEV (ft): **394.48**
 ELEVATION DATUM: **NGVD29**
 WELL DEPTH (ft, bgs): **30.4**
 DTW AT COMPLETION (ft, bgs): **12.3**
 BOREHOLE DIA. (in): **13.0** WELL DIA. (in): **4.0**



MW FINAL DETAIL 175568286 JOF_TDEC_ORDER.GPJ TDEC SUBSURF.DT 20191120.GDT 7/15/20

VERTICAL SCALE: AS SHOWN. HORIZONTAL SCALE: NOT TO SCALE (EXAGGERATED TO SHOW DETAIL)

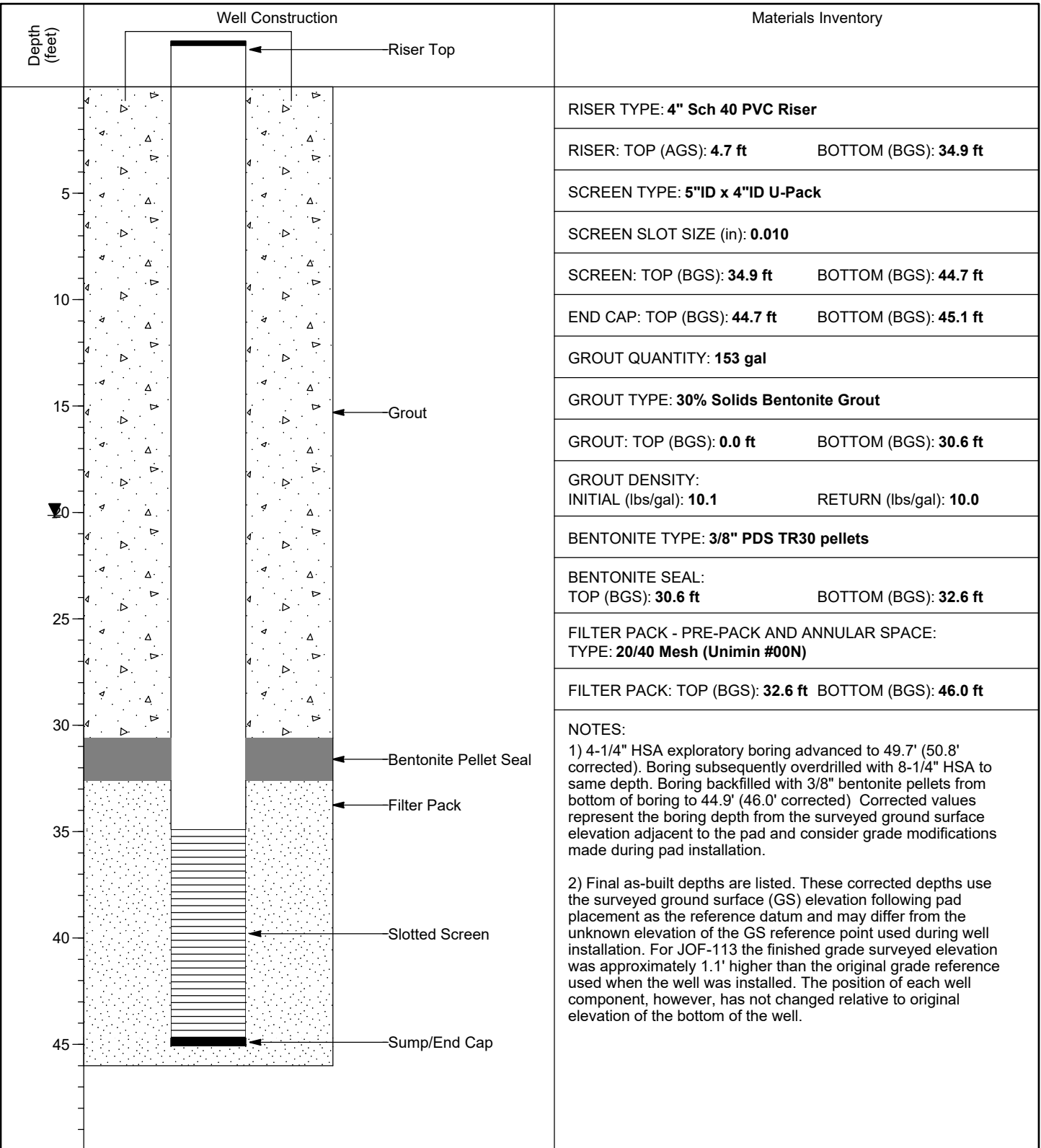


WELL INSTALLATION DETAIL

WELL / PROBEHOLE / BOREHOLE NO:

PAGE 1 OF 1

JOF-113 (Boring JOF-113)

PROJECT: **JOF TDEC Order**PROJECT NUMBER: **175568286**DRILLING COMPANY: **Stantec Consulting Services Inc.**DRILLING EQUIPMENT: **CME 1050, #952**DRILLING METHOD: **8-1/4" HSA overdrill of boring**SAMPLING METHOD: **4-1/4" HSA, 2" SS w/o liners, 3" Shelby Tubes**OBSERVED BY: **C. Burton**REVIEWED BY: **D. Norman**APPROVED BY: **P. Dunne**INSTALLATION: STARTED: **9/4/19**COMPLETED: **9/5/19**LOCATION: **604,136.76 N; 1,412,110.10 E**DATUM: **NAD27 Plant Local**LOC. DESCRIP: **Coal Yard**LATITUDE: **36° 2' 7.01"**LONGITUDE: **-87° 59' 18.39"**GROUND ELEV (ft): **383.4**TOC ELEV (ft): **388.13**ELEVATION DATUM: **NGVD29**WELL DEPTH (ft, bgs): **45.1**DTW AT COMPLETION (ft, bgs): **20.1**BOREHOLE DIA. (in): **13.0**WELL DIA. (in): **4.0**

MW FINAL DETAIL 175568286_JOE_TDEC_ORDER.GPJ TDEC SUBSURF.DT 20191120.GDT 9/24/20

VERTICAL SCALE: AS SHOWN. HORIZONTAL SCALE: NOT TO SCALE (EXAGGERATED TO SHOW DETAIL)

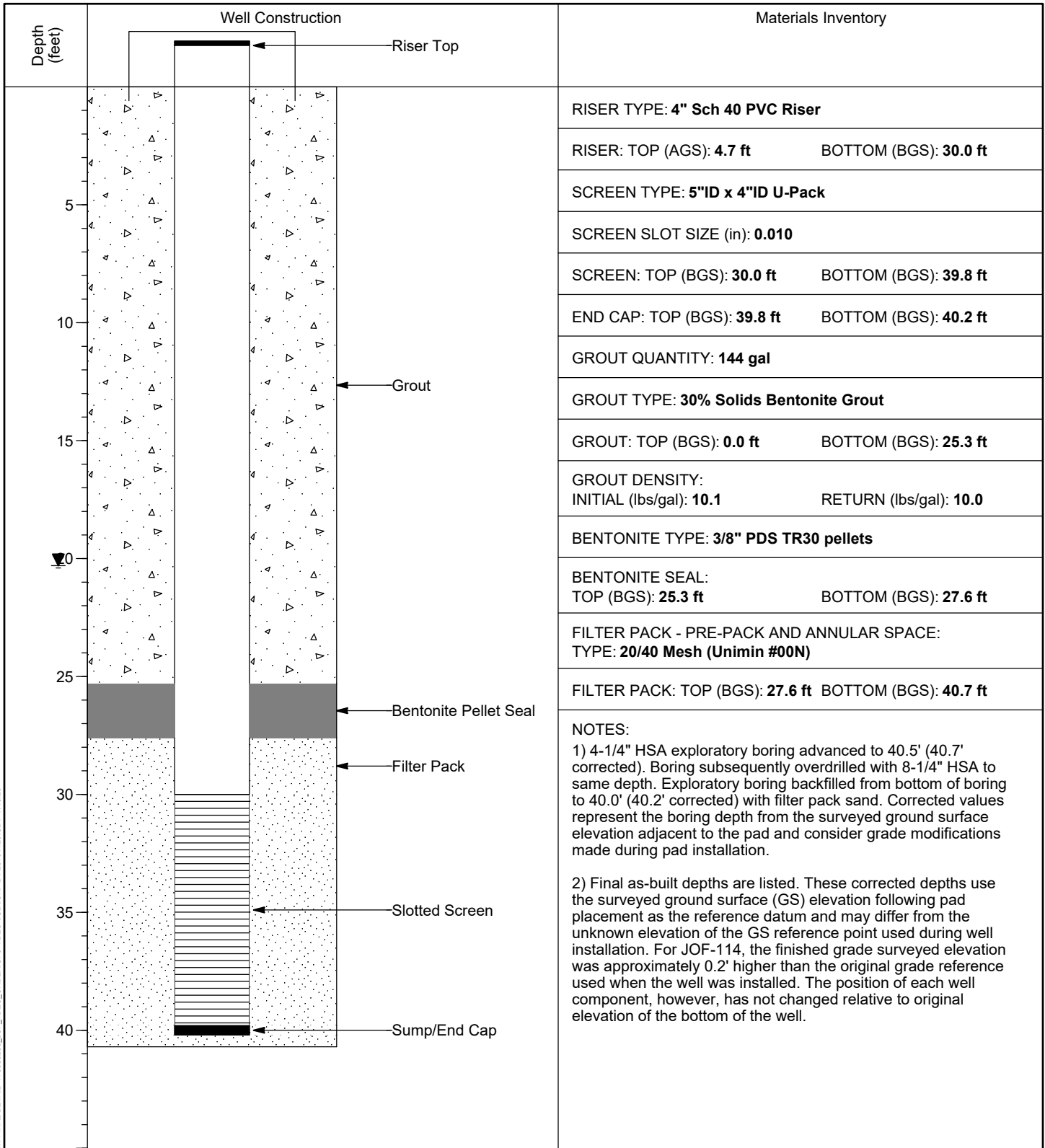


WELL INSTALLATION DETAIL

WELL / PROBEHOLE / BOREHOLE NO: **JOF-114 (Boring JOF-114)** PAGE 1 OF 1

PROJECT: **JOF TDEC Order**
 PROJECT NUMBER: **175568286**
 DRILLING COMPANY: **Stantec Consulting Services Inc.**
 DRILLING EQUIPMENT: **CME 85#2, #951**
 DRILLING METHOD: **8-1/4" HSA overdrill of boring**
 SAMPLING METHOD: **4-1/4" HSA, 2" SS w/o liners, 3" Shelby Tubes**
 OBSERVED BY: **C. Burton**
 REVIEWED BY: **J. Snider**
 APPROVED BY: **P. Dunne**

INSTALLATION: STARTED: **9/11/19** COMPLETED: **9/12/19**
 LOCATION: **603,597.10 N; 1,412,156.67 E** DATUM: **NAD27 Plant Local**
 LOC. DESCRIP: **Coal Yard**
 LATITUDE: **36° 2' 1.69"** LONGITUDE: **-87° 59' 17.69"**
 GROUND ELEV (ft): **383.7** TOC ELEV (ft): **388.36**
 ELEVATION DATUM: **NGVD29**
 WELL DEPTH (ft, bgs): **40.2**
 DTW AT COMPLETION (ft, bgs): **20.3**
 BOREHOLE DIA. (in): **13.0** WELL DIA. (in): **4.0**



MW FINAL DETAIL 175568286 JOF_TDEC_ORDER.GPJ TDEC SUBSURF.DT 20191120.GDT 7/15/20

VERTICAL SCALE: AS SHOWN. HORIZONTAL SCALE: NOT TO SCALE (EXAGGERATED TO SHOW DETAIL)

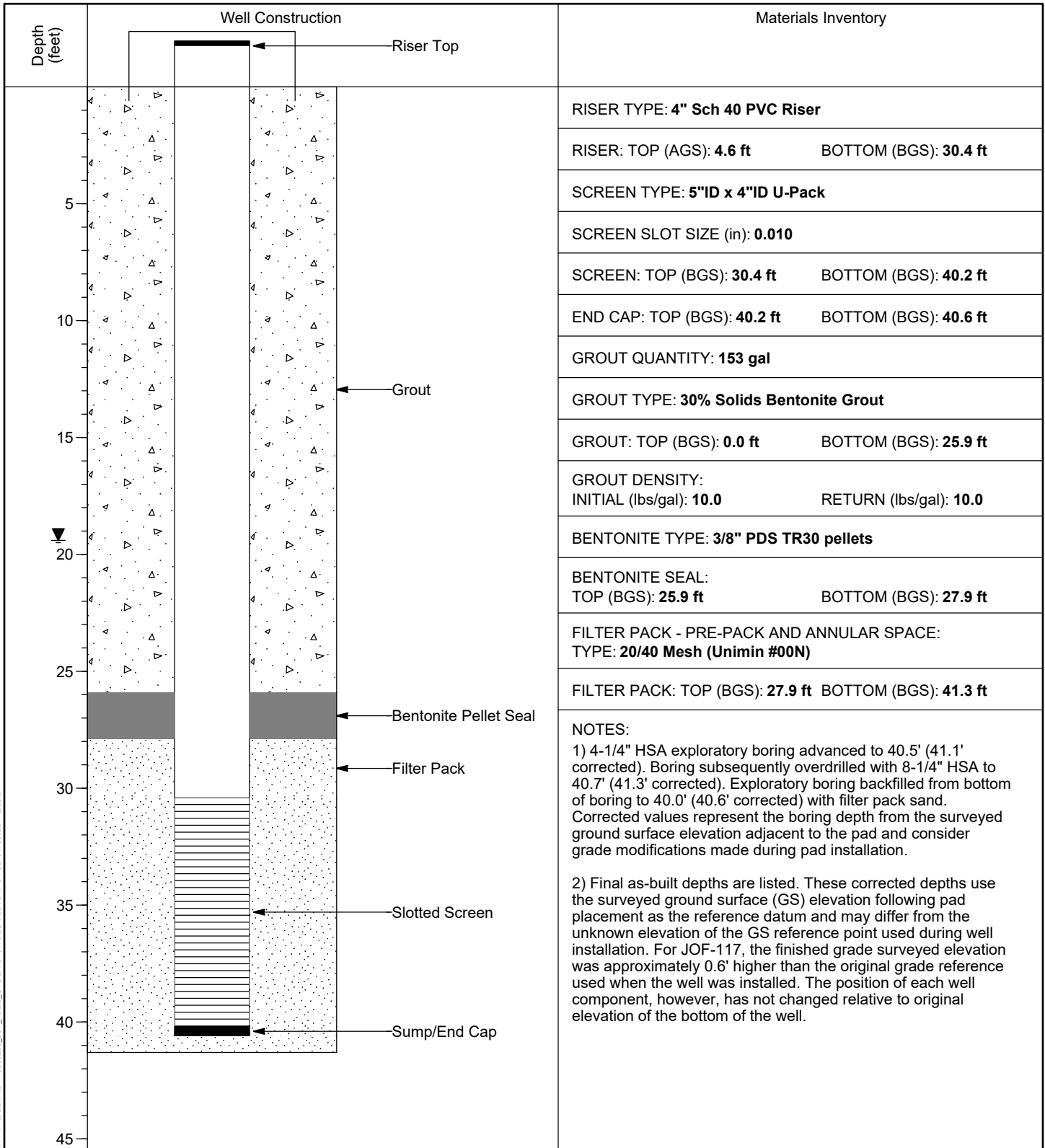


WELL INSTALLATION DETAIL

WELL / PROBEHOLE / BOREHOLE NO: **JOF-117 (Boring JOF-117)** PAGE 1 OF 1

PROJECT: **JOF TDEC Order**
 PROJECT NUMBER: **175568286**
 DRILLING COMPANY: **Stantec Consulting Services Inc.**
 DRILLING EQUIPMENT: **CME 85#2, #951**
 DRILLING METHOD: **8-1/4" HSA overdrill of boring**
 SAMPLING METHOD: **4-1/4" HSA, 2" SS w/o liners, 3" Shelby Tubes**
 OBSERVED BY: **C. Burton**
 REVIEWED BY: **J. Snider**
 APPROVED BY: **P. Dunne**

INSTALLATION: STARTED: **9/16/19** COMPLETED: **9/17/19**
 LOCATION: **602,823.15 N; 1,412,216.73 E** DATUM: **NAD27 Plant Local**
 LOC. DESCRIP: **Coal Yard**
 LATITUDE: **36° 1' 54.04"** LONGITUDE: **-87° 59' 16.77"**
 GROUND ELEV (ft): **384.1** TOC ELEV (ft): **388.63**
 ELEVATION DATUM: **NGVD29**
 WELL DEPTH (ft, bgs): **40.6**
 DTW AT COMPLETION (ft, bgs): **19.4**
 BOREHOLE DIA. (in): **13.0** WELL DIA. (in): **4.0**



MW/FINAL DETAIL: 175568286_JOE_TDEC_ORDER.GPJ TDEC SUBSURF.DT 20191120.GDT 2/23/21

VERTICAL SCALE: AS SHOWN. HORIZONTAL SCALE: NOT TO SCALE (EXAGGERATED TO SHOW DETAIL)

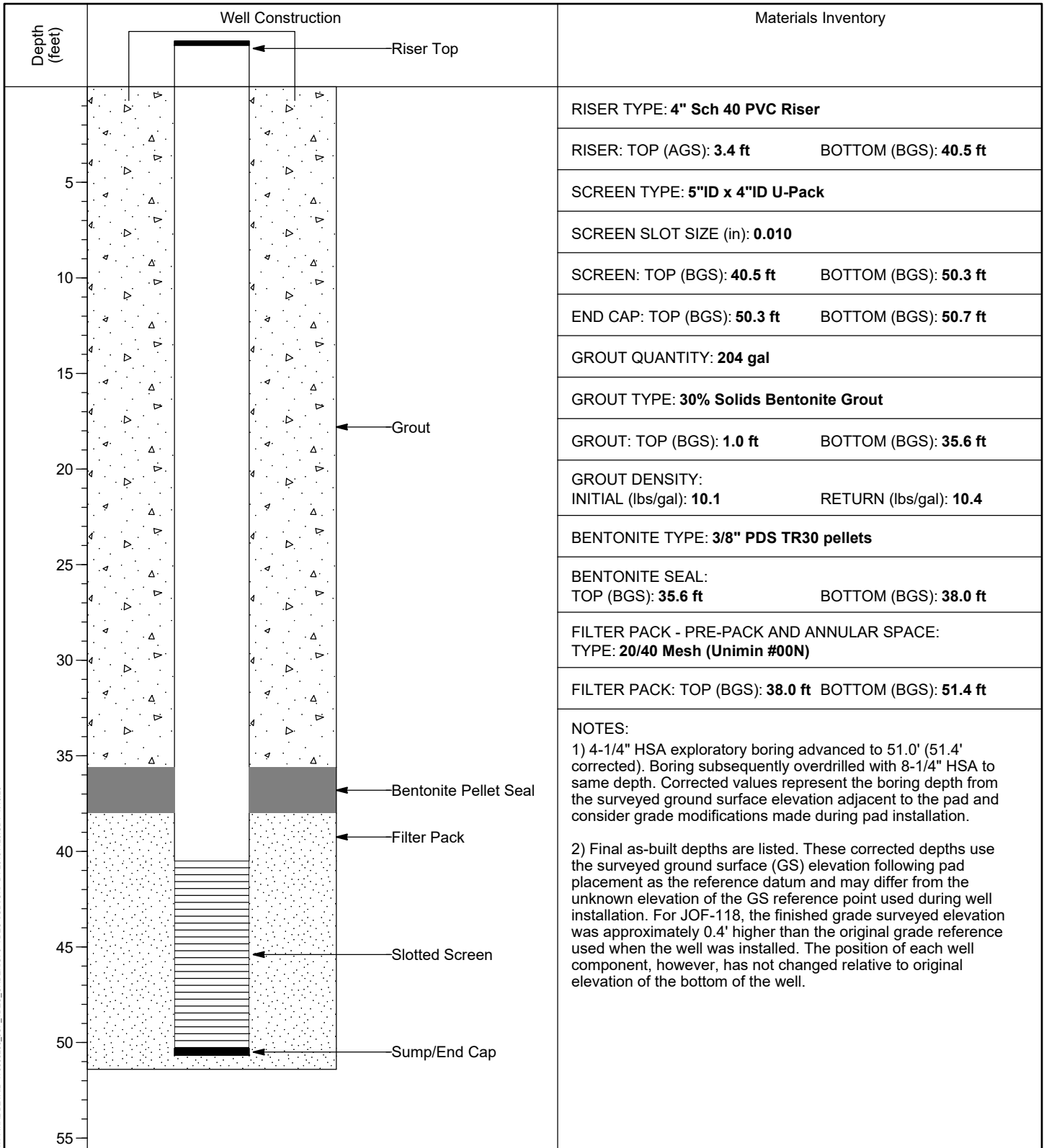


WELL INSTALLATION DETAIL

WELL / PROBEHOLE / BOREHOLE NO: **JOF-118 (Boring JOF-118)** PAGE 1 OF 1

PROJECT: **JOF TDEC Order**
 PROJECT NUMBER: **175568286**
 DRILLING COMPANY: **Stantec Consulting Services Inc.**
 DRILLING EQUIPMENT: **CME 55T#1, #709**
 DRILLING METHOD: **8-1/4" HSA overdrill of boring**
 SAMPLING METHOD: **4-1/4" HSA, 2" SS w/o liners, 3" Shelby Tubes**
 OBSERVED BY: **C. Burton**
 REVIEWED BY: **J. Snider**
 APPROVED BY: **P. Dunne**

INSTALLATION: STARTED: **7/2/19** COMPLETED: **7/2/19**
 LOCATION: **603,219.11 N; 1,410,969.82 E** DATUM: **NAD27 Plant Local**
 LOC. DESCRIP: **Active Ash Pond 2**
 LATITUDE: **36° 1' 57.71"** LONGITUDE: **-87° 59' 32.05"**
 GROUND ELEV (ft): **369.3** TOC ELEV (ft): **372.69**
 ELEVATION DATUM: **NGVD29**
 WELL DEPTH (ft, bgs): **50.7**
 DTW AT COMPLETION (ft, bgs): **N/A**
 BOREHOLE DIA. (in): **13.0** WELL DIA. (in): **4.0**



MW FINAL DETAIL 175568286 JOF_TDEC_ORDER.GPJ TDEC SUBSURF DT 20191120.GDT 7/15/20

VERTICAL SCALE: AS SHOWN. HORIZONTAL SCALE: NOT TO SCALE (EXAGGERATED TO SHOW DETAIL)

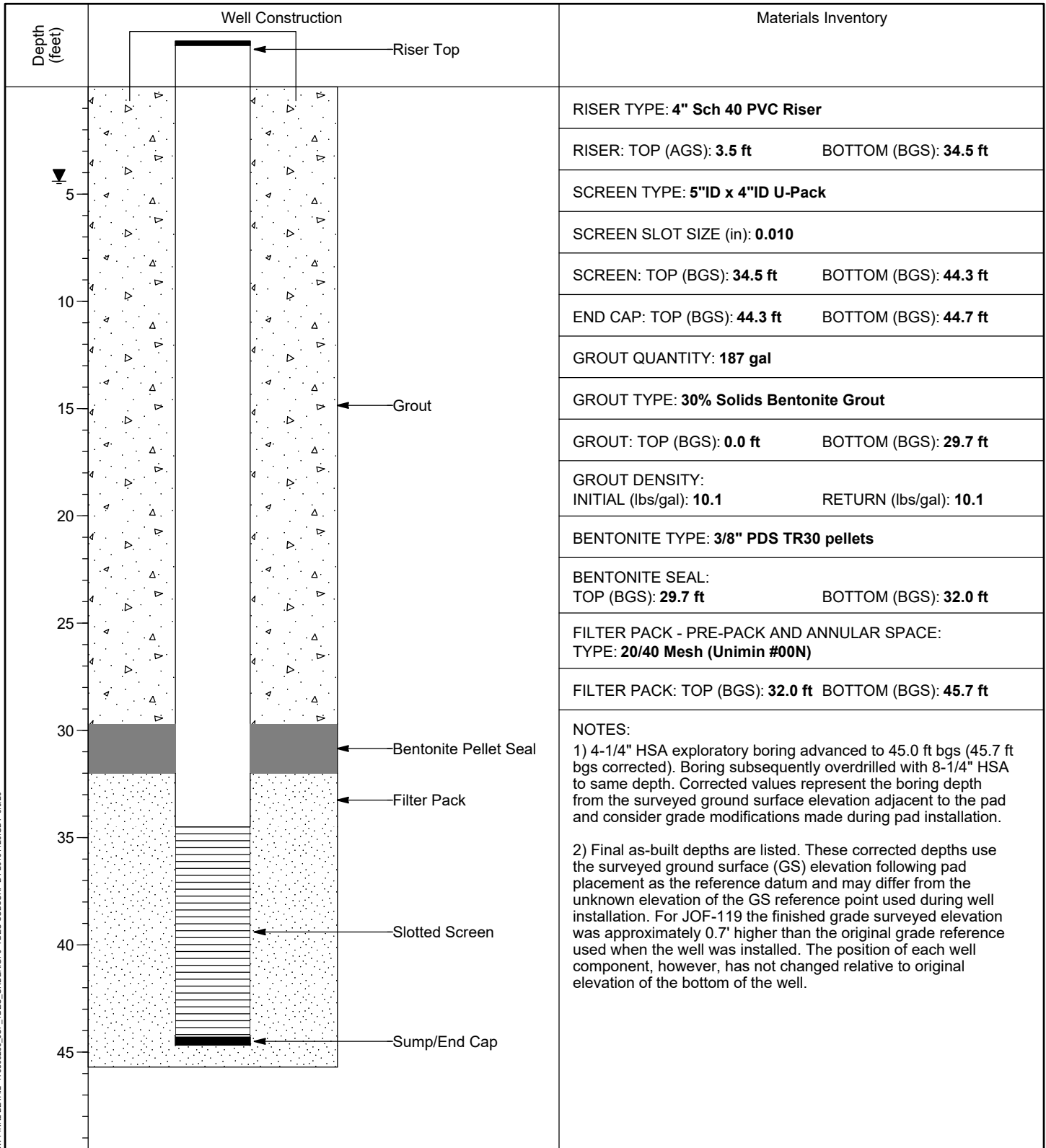


WELL INSTALLATION DETAIL

WELL / PROBEHOLE / BOREHOLE NO:

PAGE 1 OF 1

JOF-119 (Boring JOF-119)

PROJECT: **JOF TDEC Order**PROJECT NUMBER: **175568286**DRILLING COMPANY: **Stantec Consulting Services Inc.**DRILLING EQUIPMENT: **CME 55T#1, #709**DRILLING METHOD: **8-1/4" HSA overdrill of boring**SAMPLING METHOD: **4-1/4" HSA, 2" SS w/o liners, 3" Shelby Tubes**OBSERVED BY: **C. Burton**REVIEWED BY: **D. Norman**APPROVED BY: **P. Dunne**INSTALLATION: STARTED: **7/10/19**COMPLETED: **7/11/19**LOCATION: **598,645.87 N; 1,410,031.49 E**DATUM: **NAD27 Plant Local**LOC. DESCRIP: **Active Ash Pond 2**LATITUDE: **36° 1' 12.30"**LONGITUDE: **-87° 59' 42.33"**GROUND ELEV (ft): **363.4**TOC ELEV (ft): **366.89**ELEVATION DATUM: **NGVD29**WELL DEPTH (ft, bgs): **44.7**DTW AT COMPLETION (ft, bgs): **4.4**BOREHOLE DIA. (in): **13.0**WELL DIA. (in): **4.0**

MW FINAL DETAIL 175568286 JOF_TDEC_ORDER.GPJ TDEC SUBSURF DT 20191120.GDT 9/8/20

VERTICAL SCALE: AS SHOWN. HORIZONTAL SCALE: NOT TO SCALE (EXAGGERATED TO SHOW DETAIL)