# TOWN OF BENNINGTON
# MUNICIPAL WATER SYSTEM
# REMEDIAL EXPANSION PHASE II
# BENNINGTON, VERMONT

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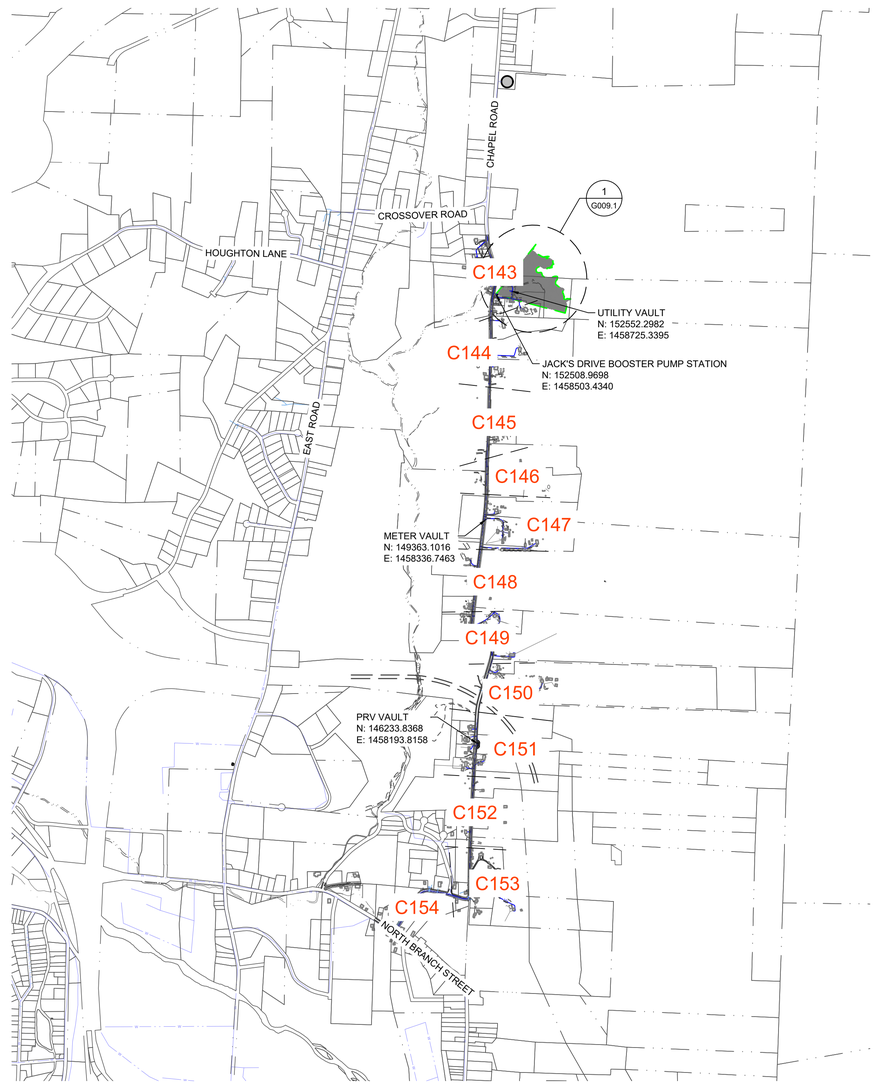
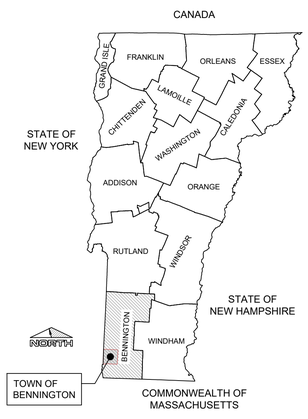
## DWSRF RF3-380
## CONTRACT 9
(LOWER) CHAPEL ROAD

## LEGEND

- BENCHMARK
- IRON PIN
- LEDGE PROBE OR BORING
- STATE OR MUNICIPAL RIGHT-OF-WAY
- EASEMENT
- SETBACK
- PROPERTY LINE
- ADJACENT PROPERTY LINE (ABUTTER)
- FENCE LINE
- PDF — PDF PROJECT DEMARCATION FENCE
- SILT FENCE
- GUARD RAIL
- BOLLARD
- MAILBOX
- POST
- SIGN
- CATCH BASIN
- DRAINAGE MANHOLE
- STORM DRAIN
- SANITARY SEWER MANHOLE
- S — S SANITARY SEWER
- ARV: AIR RELEASE VALVE (EXISTING)
- ARV: AIR RELEASE VALVE
- WATER SHUT-OFF (EXISTING)
- WSO WATER SHUT-OFF
- WV GATE VALVE (EXISTING)
- WV GATE VALVE
- PRV: PRESSURE REDUCING VALVE (EXISTING)
- PRV: PRESSURE REDUCING VALVE
- FIRE HYDRANT (EXISTING)
- FIRE HYDRANT
- FLUSH HYDRANT (EXISTING)
- FLUSH HYDRANT
- SAMPLING STATION
- WELL
- W — W WATER MAIN OR SERVICE (EXISTING)
- WATER MAIN (NEW)
- W — W WATER SERVICE (NEW)
- STREET OR YARD LIGHT
- UTILITY MANHOLE
- UTILITY POLE
- GUY POLE/WIRE
- OH — OH OVERHEAD UTILITY SERVICE
- UE — UE UNDERGROUND ELECTRICAL SERVICE
- G — G UNDERGROUND GAS SERVICE
- EDGE OF WATERWAY(OHW) RIVER, STREAM, LAKE OR POND
- TREE OR BRUSH LINE
- SHRUB
- DECIDUOUS / CONIFER TREE
- FLAGGED WETLAND LOCATION
- ROLLED EROSION CONTROL PRODUCT (RECP)

NOTE: SOME SYMBOLS MAY NOT APPEAR ON ALL PLANS.




1 DISTRICT F COVER SHEET AND KEY PLAN

Scale: 1:1000

0 1000 2000 Feet

DATUM

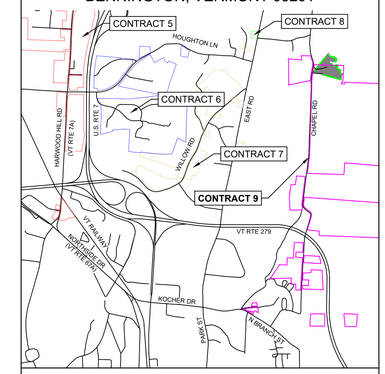
VERTICAL NAVD 1988
HORIZONTAL NAD 1983

NORTH

## VICINITY MAP

APPROXIMATE SCALE: 1:2500

BENNINGTON, VERMONT 05201




## SHEET INDEX

### CONTRACT 9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|---|---|
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| G009.1 | JACKS DRIVE PRESSURE ZONE |
| C143 | PLAN |
| C143A | PROFILE |
| C143B | PROFILE |
| C144 | PLAN |
| C144A | PROFILE |
| C145 | PLAN |
| C145A | PROFILE |
| C146 | PLAN |
| C146A | PROFILE |
| C147 | PLAN |
| C147A | PROFILE |
| C148 | PLAN |
| C148A | PROFILE |
| C149 | PLAN |
| C149A | PROFILE |
| C150 | PLAN |
| C150A | PROFILE |
| C151 | PLAN |
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| C153 | PLAN |
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| C401 | PUMP STATION DETAIL PLAN |
| C402 | PRV SITE PLAN |
| C500 | PRV VAULT DETAILS |
| C501 | TRAFFIC CONTROL DETAILS |
| C502 | TRAFFIC CONTROL DETAILS |
| C503 | CONSTRUCTION DETAILS |
| C504 | CONSTRUCTION DETAILS |
| C505 | CONSTRUCTION DETAILS |
| C506 | EPSC DETAILS |
| C507 | STABILIZATION DETAILS |
| C508 | PLUMBING DETAILS |
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| C601 | SERVICE ENTRANCE DIAGRAMS |
| C602 | SERVICE ENTRANCE DIAGRAMS |
| C603 | SERVICE ENTRANCE DIAGRAMS |
| C604 | SERVICE ENTRANCE DIAGRAMS |
| C605 | BOOSTED SERVICE ENTRANCE DIAGRAMS |
| C606 | BOOSTED SERVICE ENTRANCE DIAGRAMS |
| P1 | SERVICE DISTRICT F PUMP STATION PLAN |
| P2 | SERVICE DISTRICT F PUMP STATION PROCESS PLAN |
| P3 | SERVICE DISTRICT F PUMP STATION DETAILS |
| E1 | ELECTRICAL SITE PLAN DETAILS AND SCHEDULES |
| E2 | ELECTRICAL DETAILS |


## GENERAL NOTES

THE CONTRACTOR SHALL ADHERE TO THE FOLLOWING GUIDELINES, **UNLESS OTHERWISE NOTED**:

- NEW ¾" OR 1" CORPORATION STOPS ARE TO BE INSTALLED FOR ALL SERVICES.
- NEW ¾" OR 1" 'K' COPPER IS TO BE INSTALLED FROM CORPORATION STOPS TO CURB STOPS.
- NEW 1" OR 1.5" HDPE IS TO BE INSTALLED FROM CURB STOPS TO SERVICE ENTRANCES OF ALL STRUCTURES.
- CURB STOPS SHALL BE LOCATED NO LESS THAN 6 FEET NOR MORE THAN 8 FEET FROM EDGES OF ROADWAYS, AND (MINIMUM) 1 FOOT INSIDE STATE OR MUNICIPAL RIGHT-OF-WAYS. AVOID INSTALLING CURB STOPS IN DRIVE SURFACES, WHERE POSSIBLE.
- IN ACCORDANCE WITH VERMONT WASTEWATER AND POTABLE WATER SUPPLY RULES (04/12/2019), LEAKAGE CLAMPS ARE TO BE INSTALLED AT JOINTS ON WATER MAINS WITHIN 50' OF LEACH FIELDS AND SEPTIC TANKS, AND WITHIN 10' OF SANITARY PIPING. 8 mil POLYETHYLENE SLEEVES ARE TO BE APPLIED TO WATER SERVICES WITHIN 25' OF SANITARY SYSTEMS AND WITHIN 10' OF SANITARY PIPING.
- EXISTING PRIVATE WELLS ARE TO BE DECOMMISSIONED IN ACCORDANCE WITH VERMONT WASTEWATER SYSTEM AND POTABLE WATER SUPPLY RULES, SUBCHAPTER 11, SECTION 1-1115, AT ALL SITES RECEIVING NEW WATER SERVICE.


MSK ENGINEERING AND DESIGN, INC.
P.O. BOX 139, 150 DEPOT STREET
BENNINGTON, VERMONT 05201
PH: (802) 447-1402 FAX: (802) 445-1291


REVISIONS

| NO. | DATE | DESCRIPTION |
|---|---|---|

TOWN OF BENNINGTON
MUNICIPAL WATER SYSTEM
REMEDIAL EXPANSION PHASE II
BENNINGTON, VERMONT

DRAWINGS THIS SHEET

CONTRACT 9
COVER SHEET AND
KEY PLAN

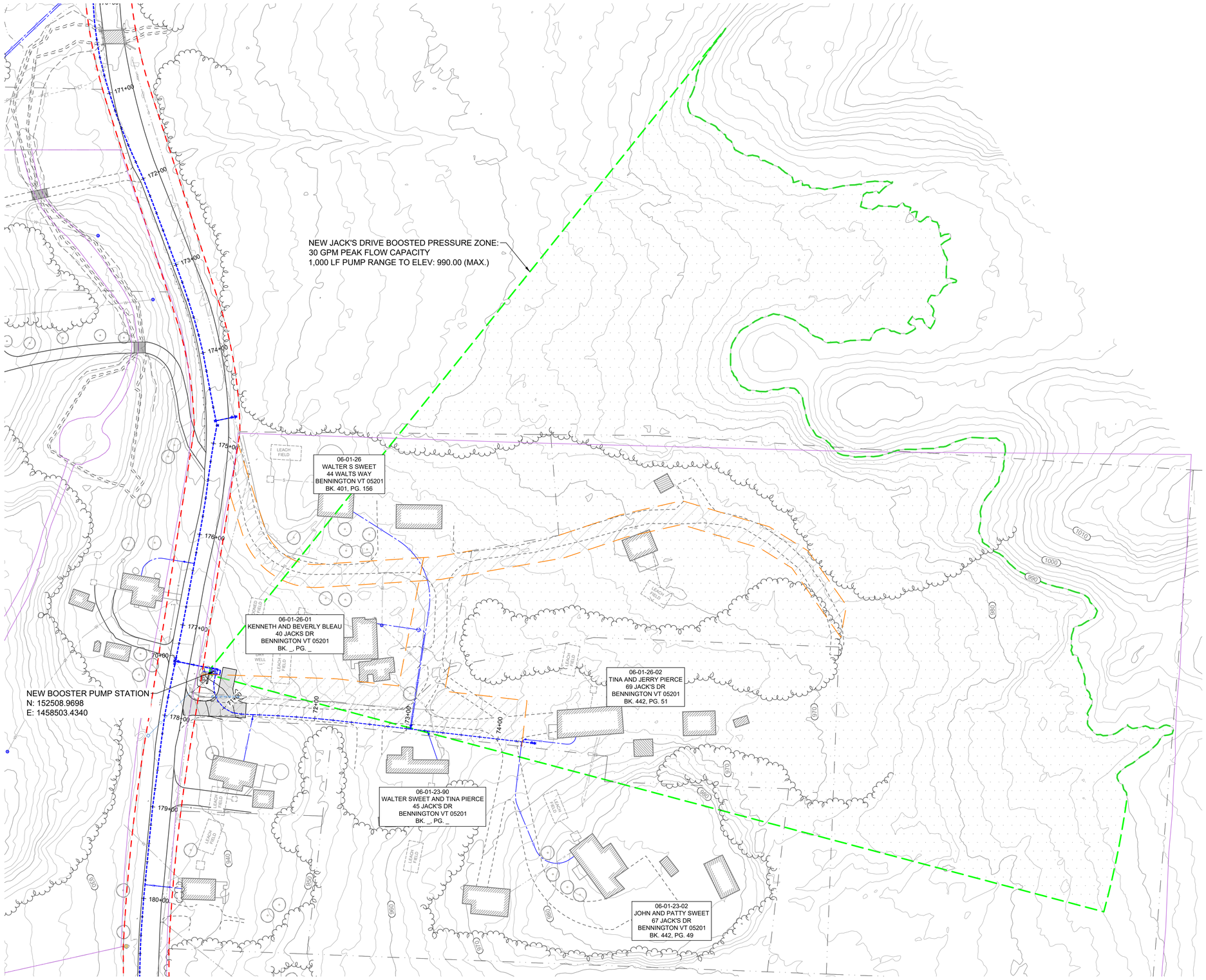
| NUMBER | DATE |
|---|---|
| 1001-019.7 | 10-11-2019 |
| DRAWN | CHECKED |
| MSK | JMD |

SHEET NUMBER

G009

STATE OF VERMONT
JASON M. DOLMETSCH
No.9238
CIVIL
LICENSED
PROFESSIONAL ENGINEER


E:_DRAWING DATABASE\1001-019.7 PFDA BENNINGTON ESMENTS\CONTRACT 9\1001-019.7-T09-G009 COVER SHEET.DWG
Tuesday 10/15/2019 11:06:17




1 JACK'S DRIVE BOOSTER PUMP STATION: PRESSURE ZONE
(CONTRACT 9)

0 50 100 Feet

Scale: 1:50

NORTH

## GENERAL NOTES

MSK ENGINEERING AND DESIGN, INC.
P.O. BOX 139, 150 DEPOT STREET
BENNINGTON, VERMONT 05201
PH: (802) 447-1402 FAX: (802) 445-1291

REVISIONS

| NO. | DATE | DESCRIPTION |
|---|---|---|
| | | |

TOWN OF BENNINGTON
MUNICIPAL WATER SYSTEM
REMEDIAL EXPANSION PHASE II
BENNINGTON, VERMONT

DRAWINGS THIS SHEET

CONTRACT 9
JACKS DRIVE
PRESSURE ZONE

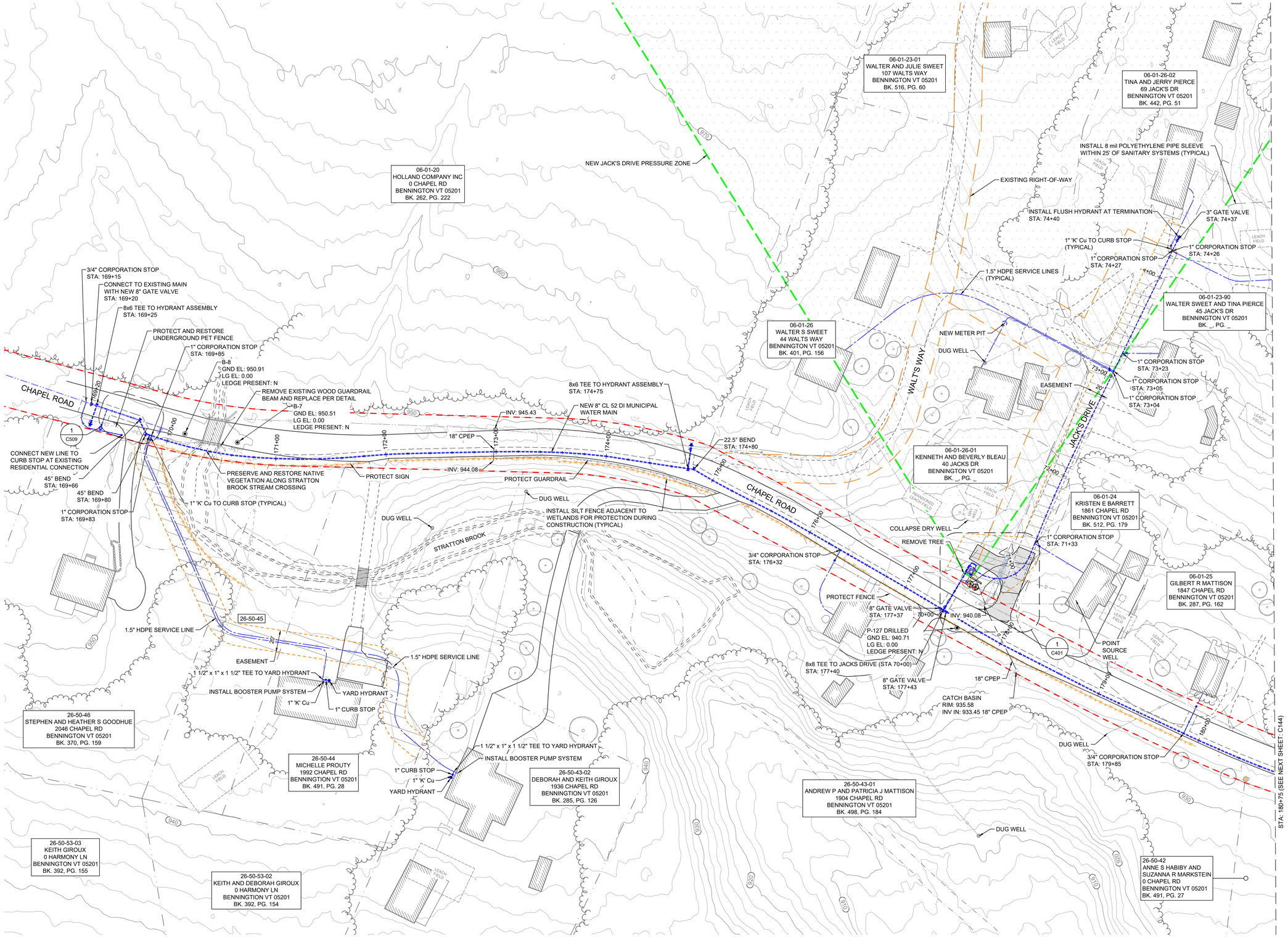
| NUMBER | DATE |
|---|---|
| 1001-019.7 | 10-11-2019 |
| DRAWN | CHECKED |
| MSK | JMD |

SHEET NUMBER

G009.1

STATE OF VERMONT
JASON M. DOLMETSCH
No.9238
CIVIL
LICENSED
PROFESSIONAL ENGINEER

E:_DRAWING DATABASE\1001-019.7 PFAS REMEDIATION\SHEETS\CONTRACT 9\1001-019.7 TOB G009 COVER SHEET.DWG
JD Dolmetsch 10/9 11:52:12




1 CHAPEL ROAD
(CONTRACT 9)

0 40 80 Feet

Scale: 1:40

MSK ENGINEERING AND DESIGN, INC.
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BENNINGTON, VERMONT 05201
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| NO. | DATE | DESCRIPTION |
|---|---|---|

TOWN OF BENNINGTON
MUNICIPAL WATER SYSTEM
REMEDIAL EXPANSION PHASE II
BENNINGTON, VERMONT

DRAWINGS THIS SHEET

SERVICE DISTRICT F
PLAN

| NUMBER | DATE |
|---|---|
| 1001-019.7 | 10-11-2019 |
| DRAWN | CHECKED |
| MSK | JMD |

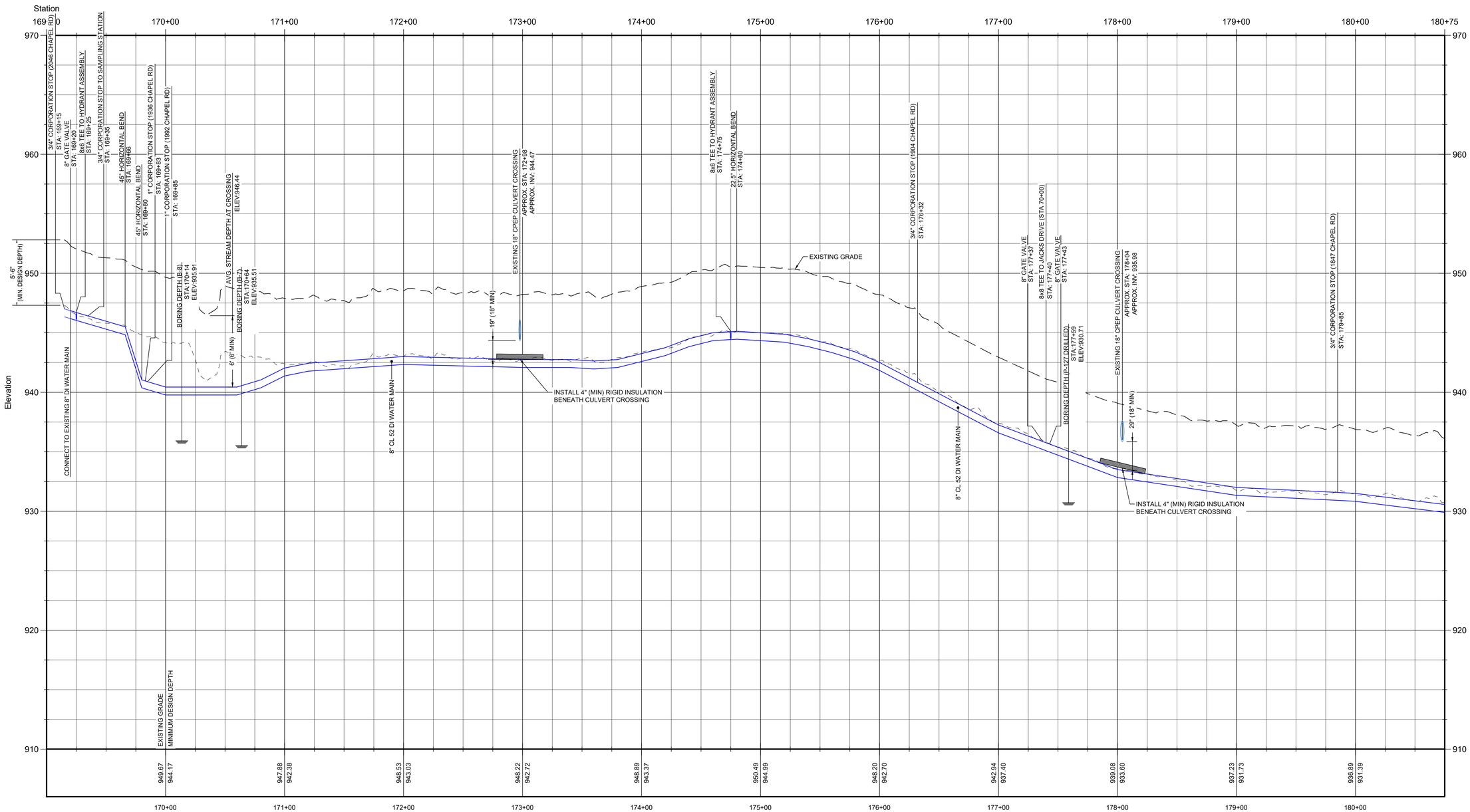
SHEET NUMBER

C143

STATE OF VERMONT
JASON M. DOLNEY
No.9238
CIVIL
LICENSED
PROFESSIONAL ENGINEER

E:_DRAWING DATABASE\1001-019.7 PFAS AMMENDATION IGSMETS\DISTRICT F\1001-019.7 TWB DISTRICT F1 CHAPEL RD.DWG
10:08am 2019 10-07-17

# WL - Chapel Rd PROFILE




1 CHAPEL ROAD
(CONTRACT 9)

0 40 80 Feet

Scale: 1:40 HORIZONTAL; 1:4 VERTICAL


MSK ENGINEERING AND DESIGN, INC.
P.O. BOX 139, 150 DEPOT STREET
BENNINGTON, VERMONT 05201
PH: (802) 447-1402 FAX: (802) 445-1291


REVISIONS

| NO. | DATE | DESCRIPTION |
|---|---|---|
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TOWN OF BENNINGTON
MUNICIPAL WATER SYSTEM
REMEDIAL EXPANSION PHASE II
BENNINGTON, VERMONT

DRAWINGS THIS SHEET

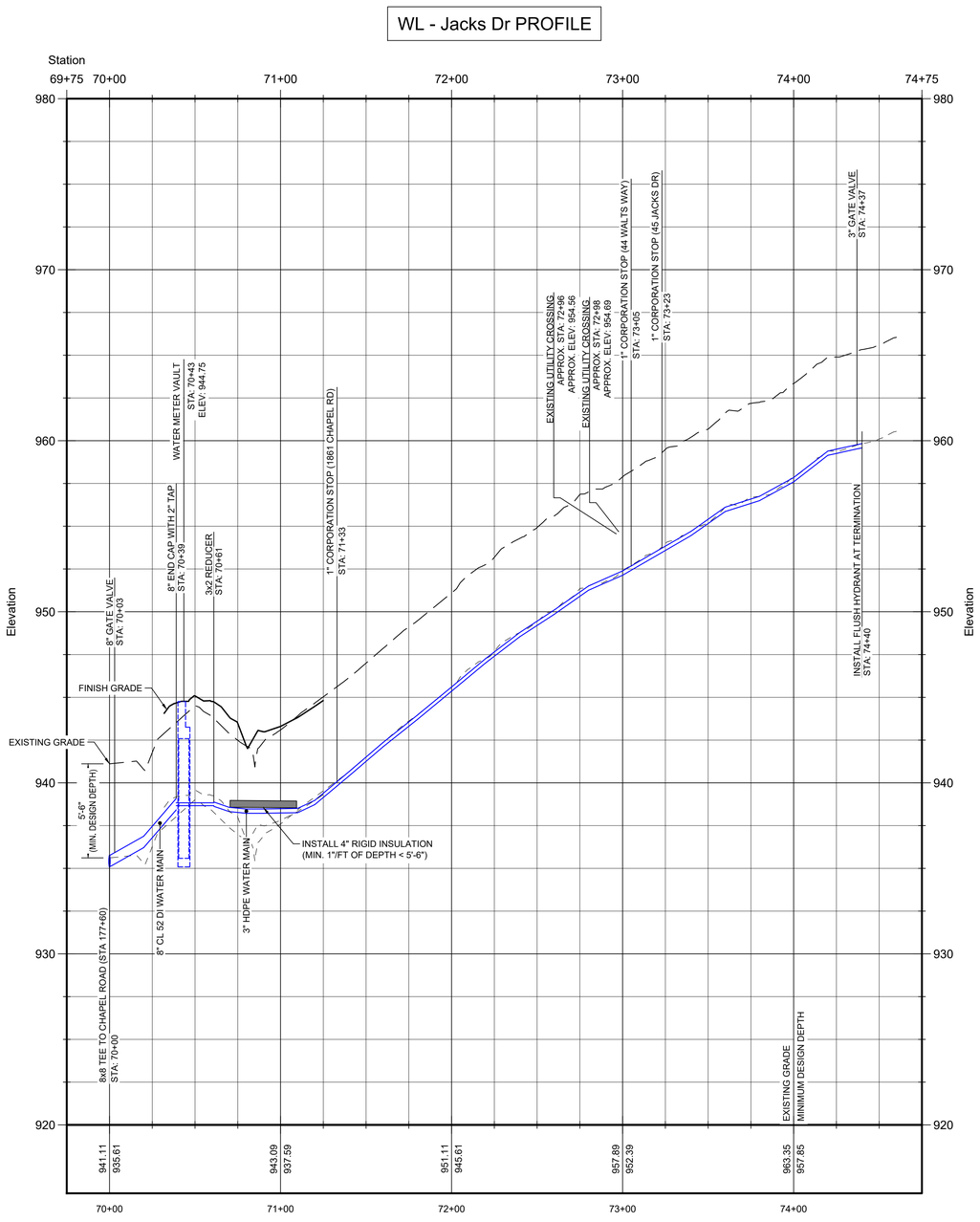
SERVICE DISTRICT F
PROFILE

| NUMBER | DATE |
|---|---|
| 1001-019.7 | 10-11-2019 |
| DRAWN | CHECKED |
| MSK | JMD |

SHEET NUMBER

C143A

STATE OF VERMONT
JASON M. DOLMETSCH
No.9238
CIVIL
LICENSED
PROFESSIONAL ENGINEER




1 JACKS DRIVE
(CONTRACT 9)

0 40 80 Feet

Scale: 1:40 HORIZONTAL; 1:4 VERTICAL

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REVISIONS

| NO. | DATE | DESCRIPTION |
|---|---|---|
| | | |

TOWN OF BENNINGTON
MUNICIPAL WATER SYSTEM
REMEDIAL EXPANSION PHASE II
BENNINGTON, VERMONT

DRAWINGS THIS SHEET

SERVICE DISTRICT F
PROFILE

| NUMBER | DATE |
|---|---|
| 1001-019.7 | 10-11-2019 |
| DRAWN | CHECKED |
| MSK | JMD |

SHEET NUMBER

C143B

F:_DRAWING DATABASE\1001-019.7 PFAS REMEDIATION II\SOURCE DRAWINGS\PLANS\PROPOSED DISTRICT F\1001-019.7 TBW F PROPOSED.DWG
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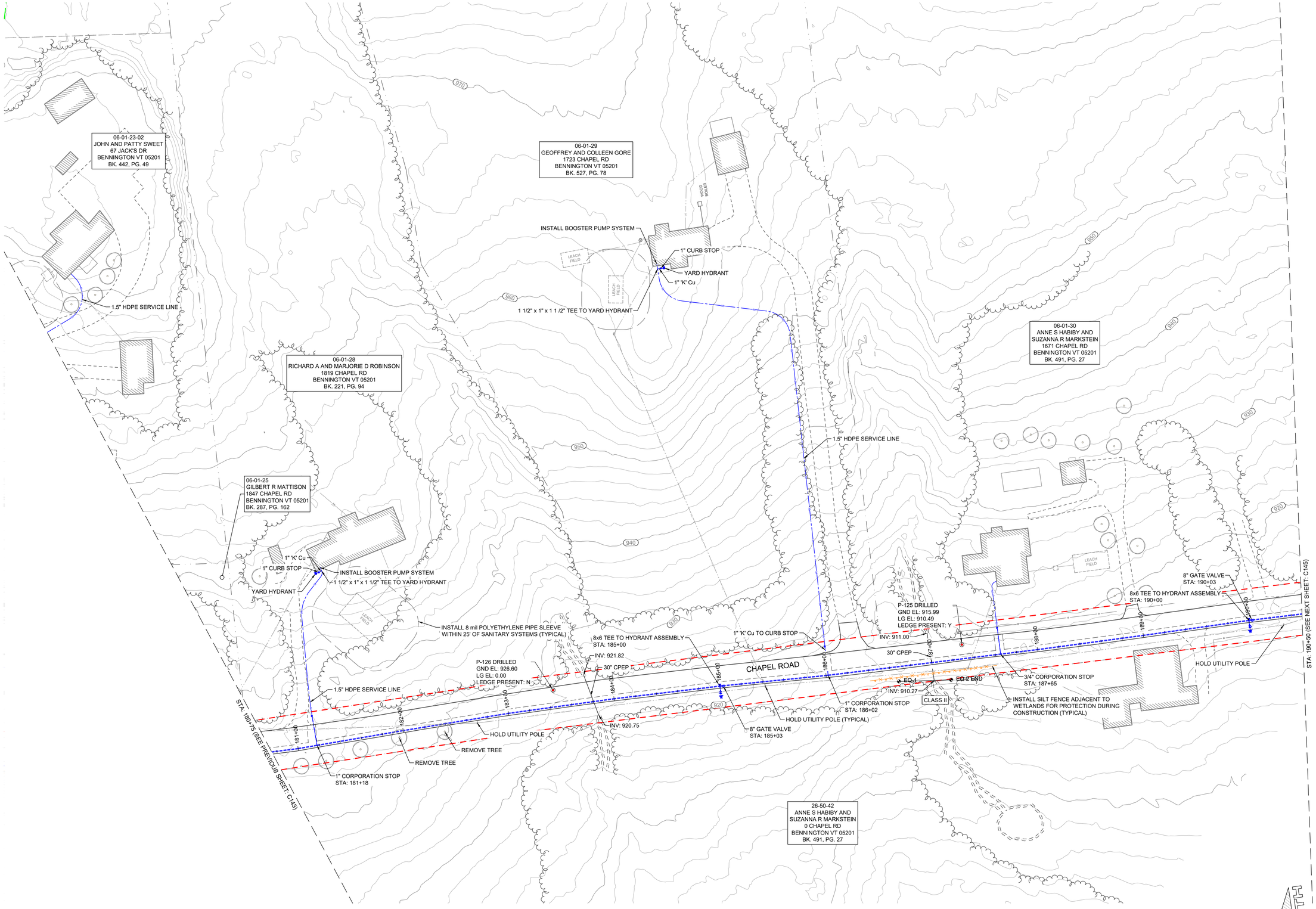


1 CHAPEL ROAD
(CONTRACT 9)
0 40 80 Feet

Scale: 1:40

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BENNINGTON, VERMONT 05201
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| | | |

TOWN OF BENNINGTON
MUNICIPAL WATER SYSTEM
REMEDIAL EXPANSION PHASE II
BENNINGTON, VERMONT

DRAWINGS THIS SHEET

SERVICE DISTRICT F
PLAN

| NUMBER | DATE |
|---|---|
| 1001-019.7 | 10-11-2019 |
| DRAWN | CHECKED |
| MSK | JMD |

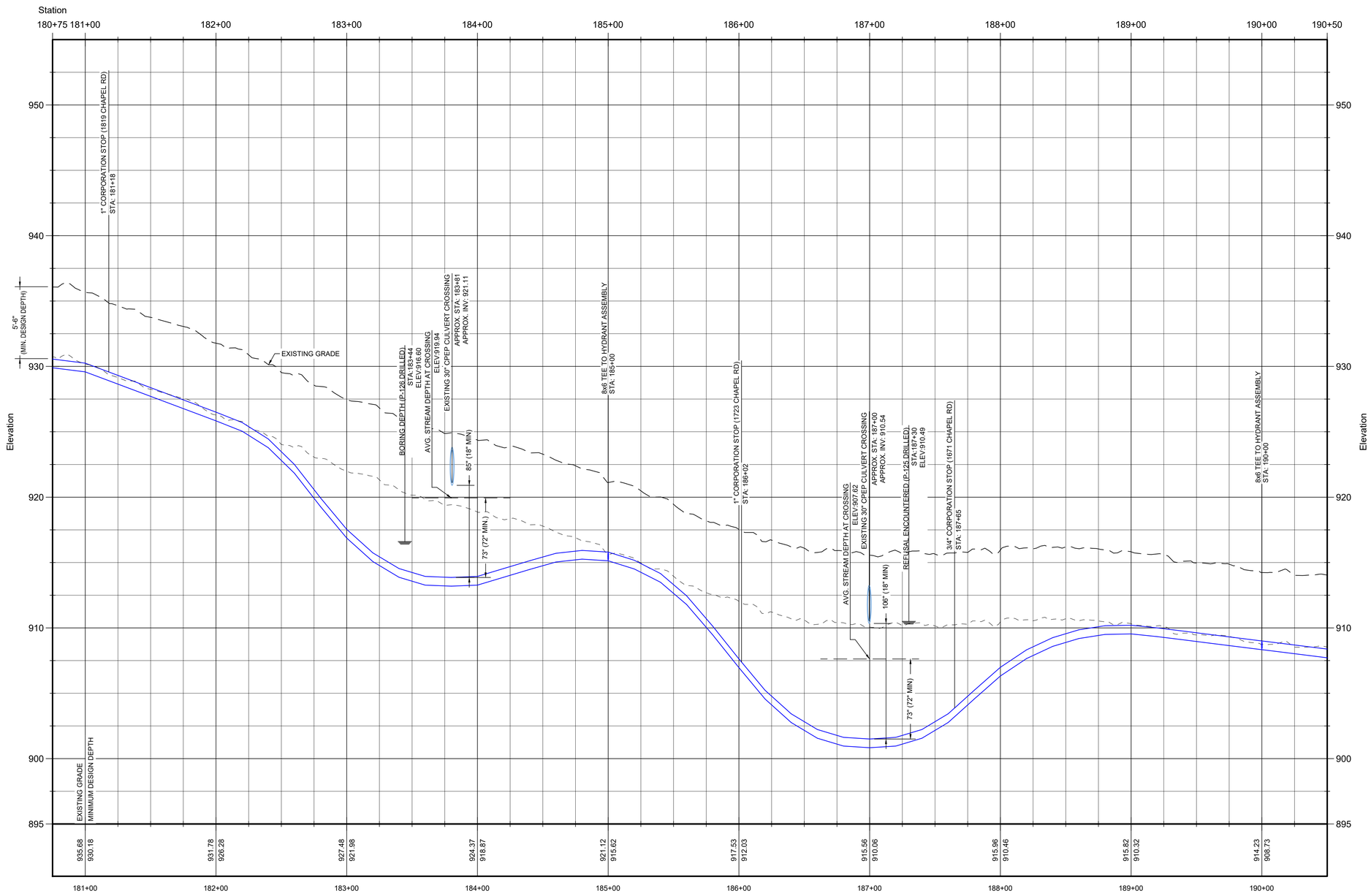
SHEET NUMBER

C144

STATE OF VERMONT
JASON M. DOUMIT, P.E.
No. 9238
CIVIL
LICENSED
PROFESSIONAL ENGINEER

K:_DRAWING DATABASE\1001-019.7 PWM BENNINGTON\SHEETS\DISTRICT F\1001-019.7 TBB DISTRICT F1 CHAPEL RD.DWG
10:50am 10/11/2024

# WL - Chapel Rd PROFILE




1 CHAPEL ROAD
(CONTRACT 9)

0 40 80 Feet

Scale: 1:40 HORIZONTAL; 1:4 VERTICAL


MSK ENGINEERING AND DESIGN, INC.
P.O. BOX 139, 150 DEPOT STREET
BENNINGTON, VERMONT 05201
PH: (802) 447-1402 FAX: (802) 445-1291


REVISIONS

| NO. | DATE | DESCRIPTION |
|---|---|---|
| | | |

TOWN OF BENNINGTON
MUNICIPAL WATER SYSTEM
REMEDIAL EXPANSION PHASE II
BENNINGTON, VERMONT

DRAWINGS THIS SHEET

SERVICE DISTRICT F
PROFILE

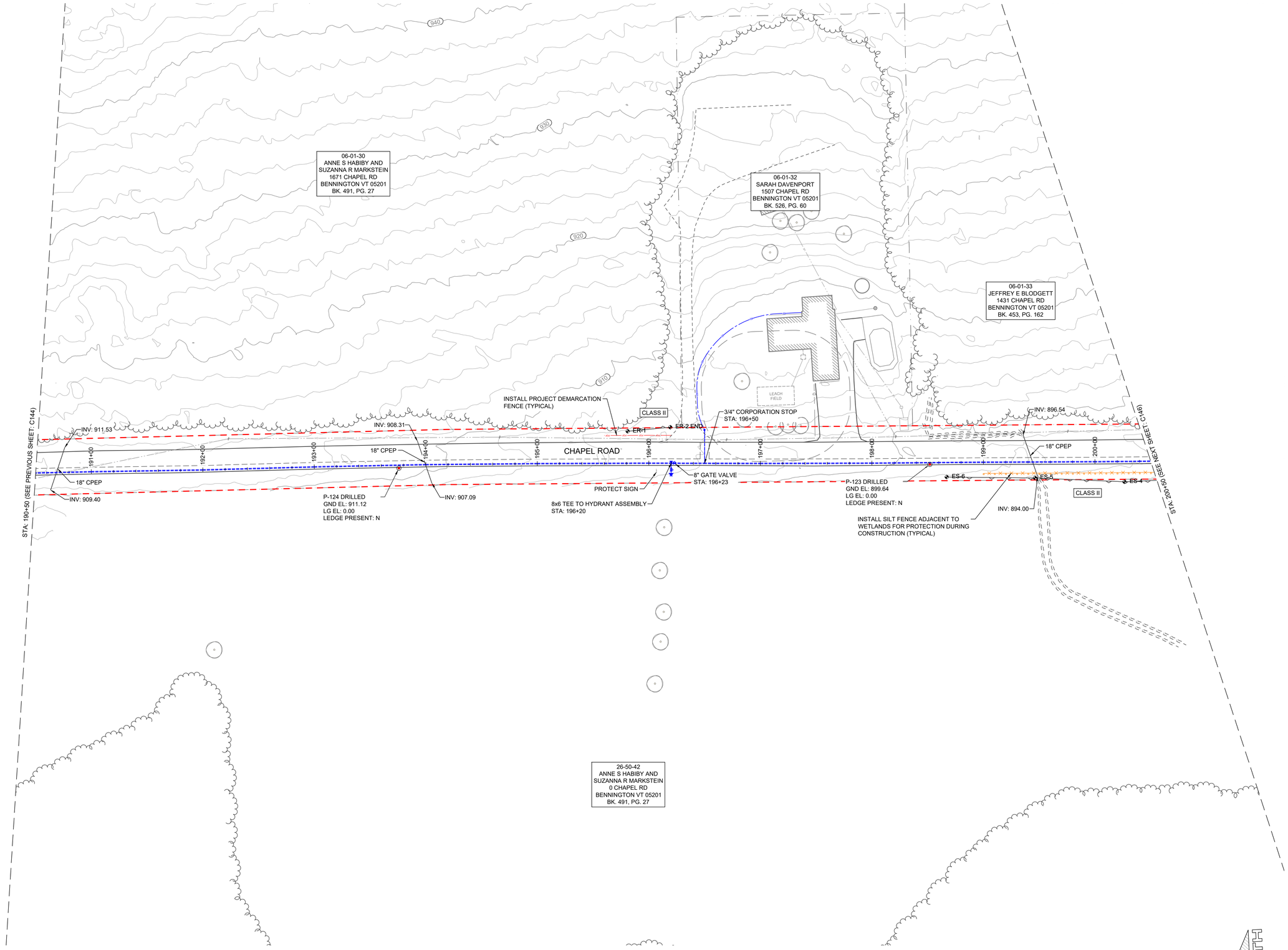
| NUMBER | DATE |
|---|---|
| 1001-019.7 | 10-11-2019 |
| DRAWN | CHECKED |
| MSK | JMD |

SHEET NUMBER

C144A

STATE OF VERMONT
JASON M. DOLMETSCH
No. 8238
CIVIL
LICENSED
PROFESSIONAL ENGINEER

E:_DRAWING DATABASE\1001-019.7 FY08 REMEDIATION VI\SOURCE DRAWINGS\PLANS\PROPOSED\DISTRICT F\1001-019.7 FB8 F PROPOSED.DWG
JD Dolmetsch 2019 11:42:53




1 CHAPEL ROAD
(CONTRACT 9)

0 40 80 Feet

Scale: 1:40

MSK ENGINEERING AND DESIGN, INC.
P.O. BOX 139, 150 DEPOT STREET
BENNINGTON, VERMONT 05201
PH: (802) 447-1402 FAX: (802) 445-1291

REVISIONS

| NO. | DATE | DESCRIPTION |
|---|---|---|
| | | |

TOWN OF BENNINGTON
MUNICIPAL WATER SYSTEM
REMEDIAL EXPANSION PHASE II
BENNINGTON, VERMONT

DRAWINGS THIS SHEET

SERVICE DISTRICT F
PLAN

| NUMBER | DATE |
|---|---|
| 1001-019.7 | 10-11-2019 |
| DRAWN | CHECKED |
| MSK | JMD |

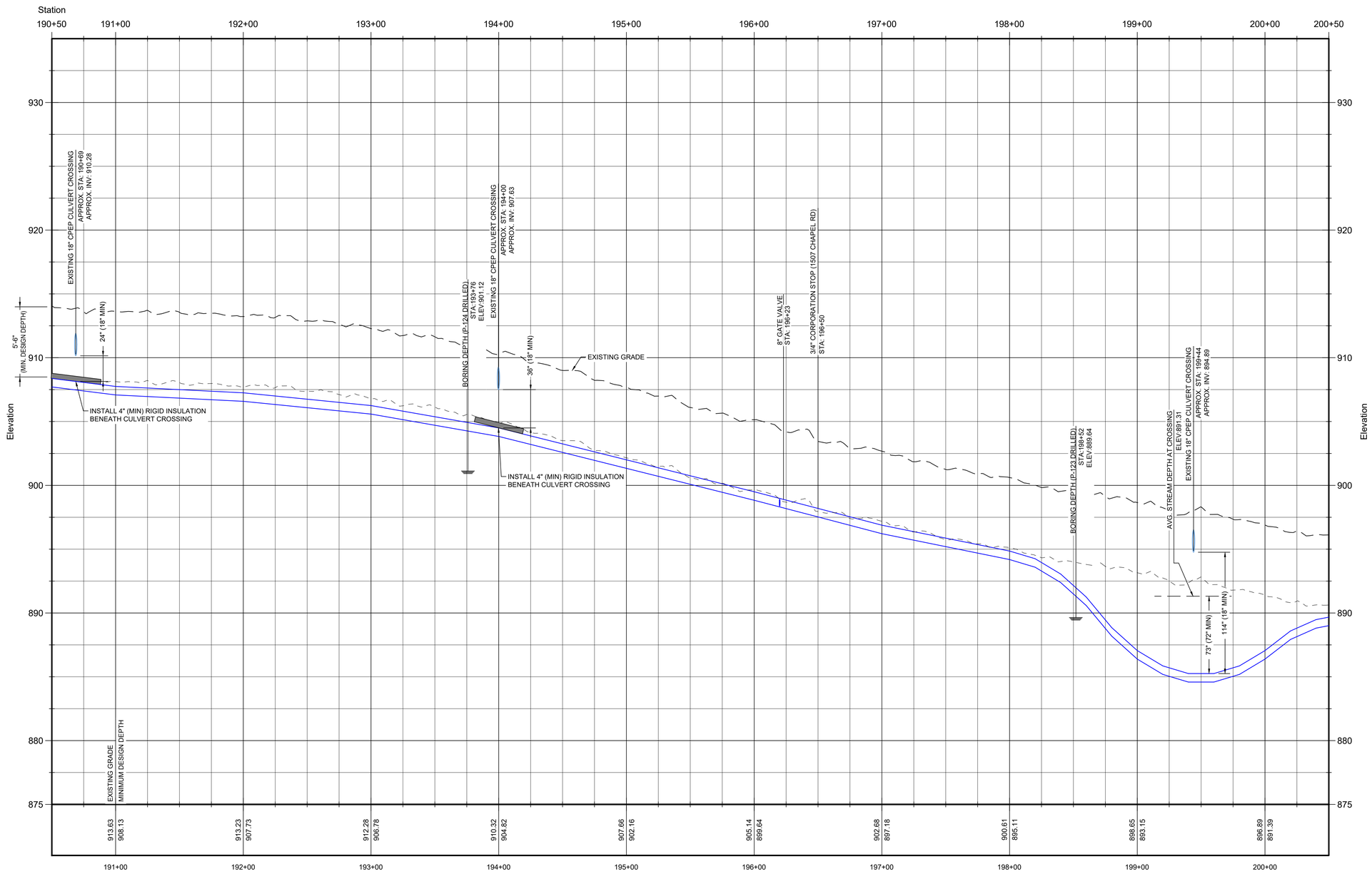
SHEET NUMBER

C145

STATE OF VERMONT
JASON M. DOLMETSCH
No. 9238
CIVIL
LICENSED
PROFESSIONAL ENGINEER

E:_DRAWING DATABASE\1001-019.7 PFAS REMEDIATION IS\SHEETS\DISTRICT F\1001-019.7 TBD DISTRICT F1 CHAPEL RD.DWG
10:00am,Oct 11,2019

# WL - Chapel Rd PROFILE




1 CHAPEL ROAD
(CONTRACT 9)

0 40 80 Feet

Scale: 1:40 HORIZONTAL; 1:4 VERTICAL


MSK ENGINEERING AND DESIGN, INC.
P.O. BOX 139, 150 DEPOT STREET
BENNINGTON, VERMONT 05201
PH: (802) 447-1402 FAX: (802) 445-1291


REVISIONS

| NO. | DATE | DESCRIPTION |
|---|---|---|
| | | |

TOWN OF BENNINGTON
MUNICIPAL WATER SYSTEM
REMEDIAL EXPANSION PHASE II
BENNINGTON, VERMONT

DRAWINGS THIS SHEET

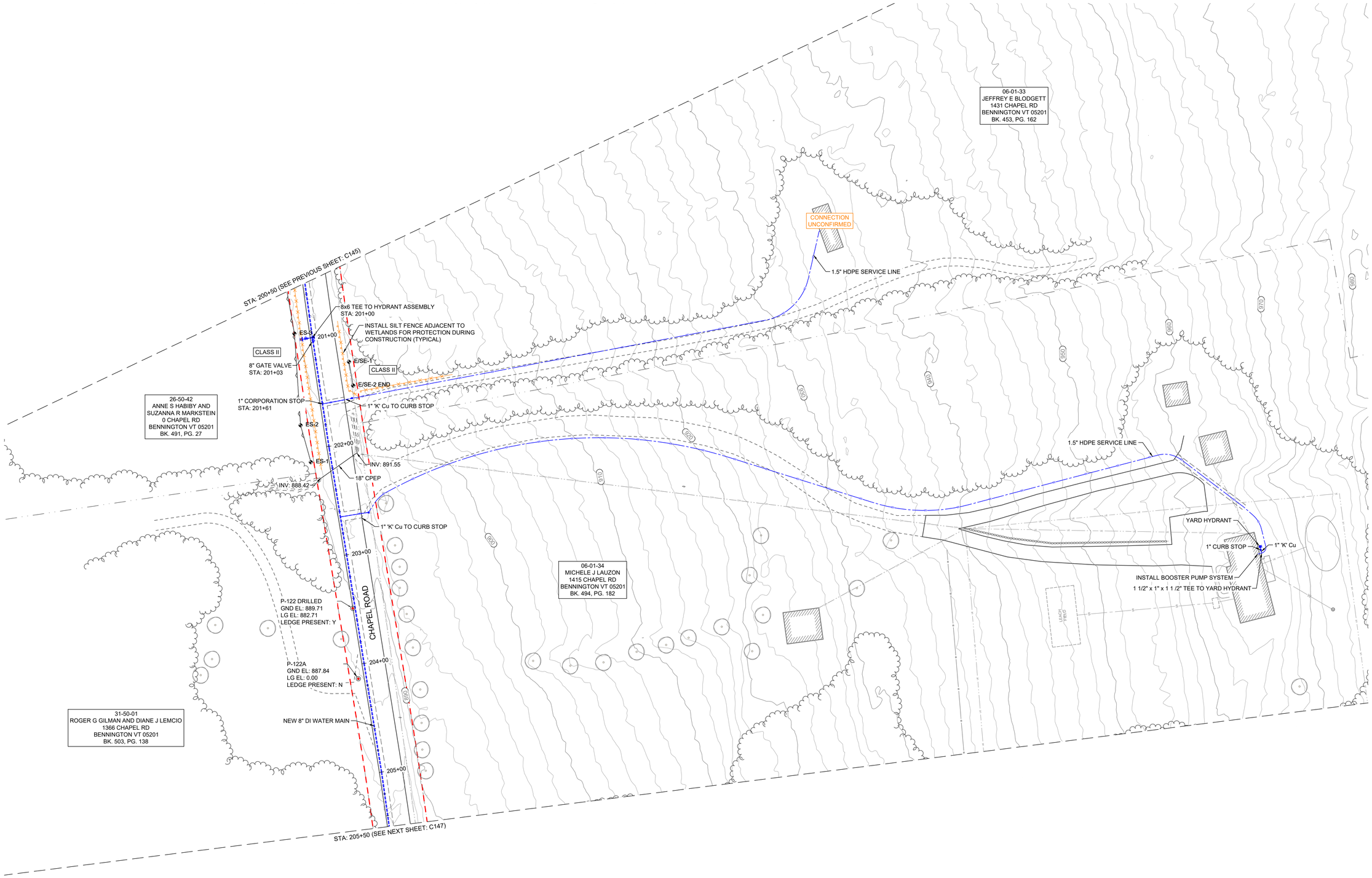
SERVICE DISTRICT F
PROFILE

| NUMBER | DATE |
|---|---|
| 1001-019.7 | 10-11-2019 |
| DRAWN | CHECKED |
| MSK | JMD |

SHEET NUMBER

C145A

STATE OF VERMONT
JASON M. DOUCHETTE
No. 8238
CIVIL
LICENSED
PROFESSIONAL ENGINEER




1 CHAPEL ROAD
(CONTRACT 9)
0 40 80 Feet

Scale: 1:40

MSK ENGINEERING AND DESIGN, INC.
P.O. BOX 139, 150 DEPOT STREET
BENNINGTON, VERMONT 05201
PH: (802) 447-1402 FAX: (802) 445-1291

REVISIONS

| NO. | DATE | DESCRIPTION |
|---|---|---|
| | | |

TOWN OF BENNINGTON
MUNICIPAL WATER SYSTEM
REMEDIAL EXPANSION PHASE II
BENNINGTON, VERMONT

DRAWINGS THIS SHEET

SERVICE DISTRICT F
PLAN

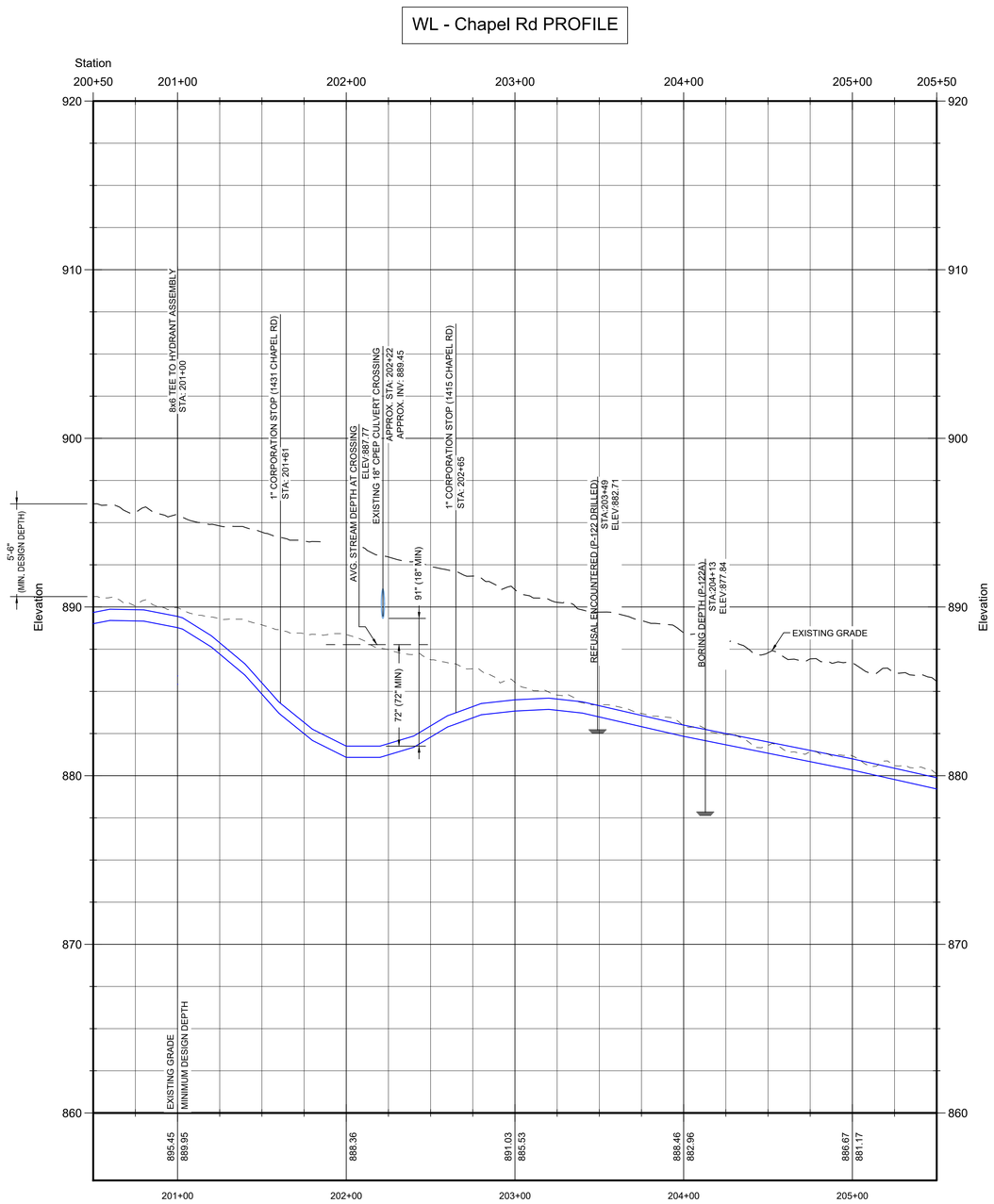
| NUMBER | DATE |
|---|---|
| 1001-019.7 | 10-11-2019 |
| DRAWN | CHECKED |
| MSK | JMD |

SHEET NUMBER

C146

STATE OF VERMONT
JASON M. DOLMETSCH
No.9238
CIVIL
LICENSED
PROFESSIONAL ENGINEER

K:_DRAWING DATABASE\1001-019.7 PWA BENNINGTON\SUBSETS\DISTRICT F\1001-019.7 TOB DISTRICT F2 CHAPEL RD.DWG
Jason Dolmetsch 10/11/19




1 CHAPEL ROAD
(CONTRACT 9)

0 40 80 Feet

Scale: 1:40 HORIZONTAL; 1:4 VERTICAL


MSK ENGINEERING AND DESIGN, INC.
P.O. BOX 139, 150 DEPOT STREET
BENNINGTON, VERMONT 05201
PH: (802) 447-1402 FAX: (802) 445-1291


REVISIONS

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TOWN OF BENNINGTON
MUNICIPAL WATER SYSTEM
REMEDIAL EXPANSION PHASE II
BENNINGTON, VERMONT

DRAWINGS THIS SHEET

SERVICE DISTRICT F
PROFILE

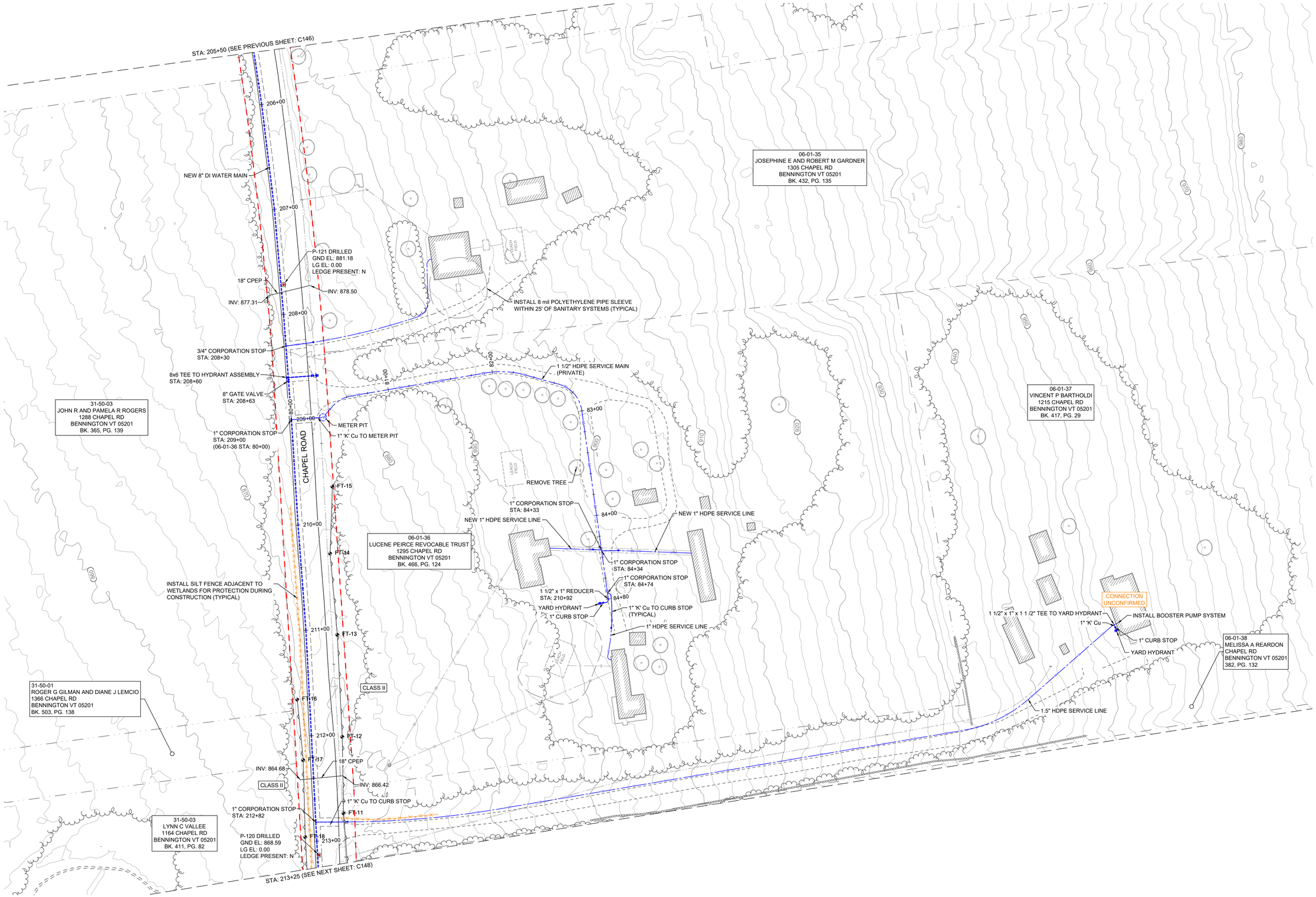
| NUMBER | DATE |
|---|---|
| 1001-019.7 | 10-11-2019 |
| DRAWN | CHECKED |
| MSK | JMD |

SHEET NUMBER

C146A

STATE OF VERMONT
JASON M. DOLMETSCH
No.9238
CIVIL
LICENSED
PROFESSIONAL ENGINEER

K:_DRAWING DATABASE\1001-019.7 PYRA BENNINGTON WSS\NICE DRAWINGS\PLANS\PROPOSED\DISTRICT F\1001-019.7 TBW F PROPOSED.DWG
SB Admin 10/11/2019




1 CHAPEL ROAD

(CONTRACT 9)

0 40 80 Feet

Scale: 1:40

MSK ENGINEERING AND DESIGN, INC.
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BENNINGTON, VERMONT 05201
PH: (802) 447-1402 FAX: (802) 445-1291

REVISIONS

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TOWN OF BENNINGTON
MUNICIPAL WATER SYSTEM
REMEDIAL EXPANSION PHASE II
BENNINGTON, VERMONT

DRAWINGS THIS SHEET

SERVICE DISTRICT F
PLAN

| NUMBER | DATE |
|---|---|
| 1001-019.7 | 10-11-2019 |
| DRAWN | CHECKED |
| MSK | JMD |

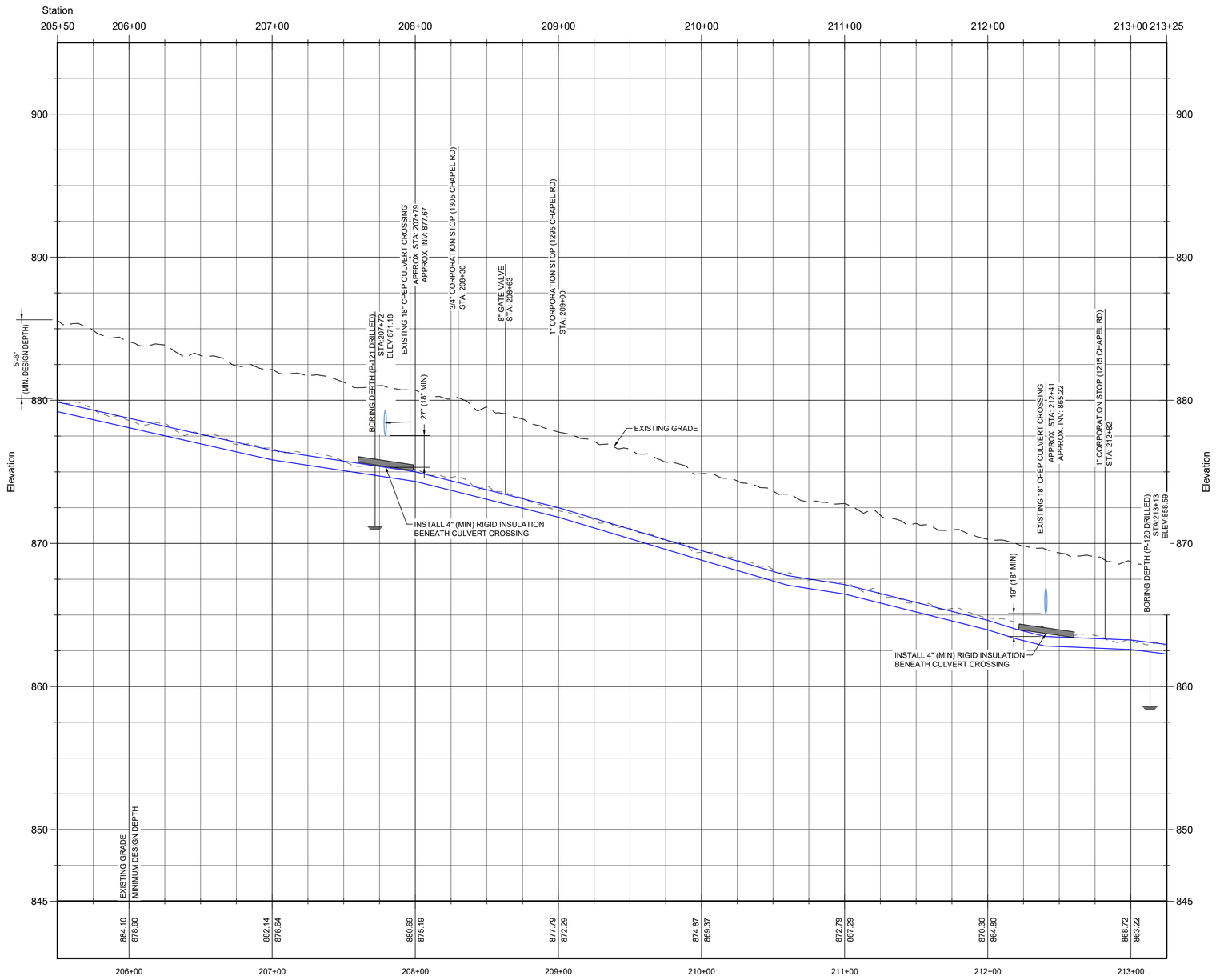
SHEET NUMBER

C147

STATE OF VERMONT
JASON M. DOLMETSCH
No.9238
CIVIL
LICENSED
PROFESSIONAL ENGINEER

F:_DRAWING DATABASE\1001-019.7 FY09 REMEDIATION\SHEETS\DISTRICT F\1001-019.7 FY09 DISTRICT F2 CHAPEL RD.DWG
JASON MOLMETSCH 10/11/19

# WL - Chapel Rd PROFILE




1 CHAPEL ROAD
(CONTRACT 9)

0 40 80 Feet

Scale: 1:40 HORIZONTAL; 1:4 VERTICAL

E:_DRAWING DATABASE\1001-019.7 PFAS REMEDIATION DESIGNS\ DRAWINGS\PLANS\PROPOSED\DISTRICT F\1001-019.7 FBS F PROPOSED.DWG
JASON M. DOLTHEIT, PE
10/10/2019 11:42:25


MSK ENGINEERING AND DESIGN, INC.
P.O. BOX 139, 150 DEPOT STREET
BENNINGTON, VERMONT 05201
PH: (802) 447-1402 FAX: (802) 445-1291


REVISIONS

| NO. | DATE | DESCRIPTION |
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TOWN OF BENNINGTON
MUNICIPAL WATER SYSTEM
REMEDIAL EXPANSION PHASE II
BENNINGTON, VERMONT

DRAWINGS THIS SHEET

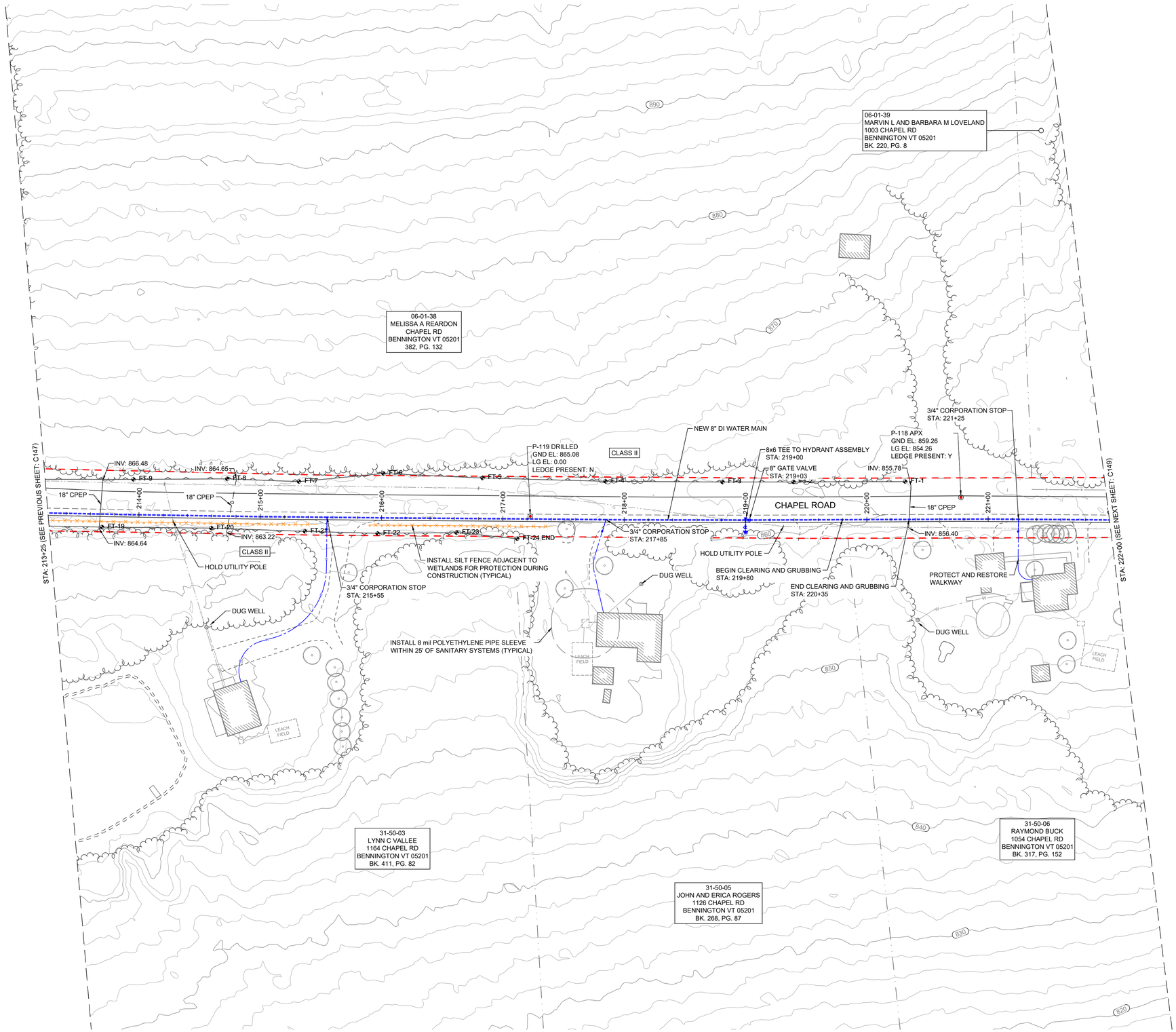
SERVICE DISTRICT F
PROFILE

| NUMBER | DATE |
|---|---|
| 1001-019.7 | 10-11-2019 |
| DRAWN | CHECKED |
| MSK | JMD |

SHEET NUMBER

C147A

STATE OF VERMONT
JASON M. DOLTHEIT, P.E.
No. 9238
CIVIL
LICENSED
PROFESSIONAL ENGINEER




1 CHAPEL ROAD
(CONTRACT 9)
0 40 80 Feet

Scale: 1:40

MSK ENGINEERING AND DESIGN, INC.
P.O. BOX 139, 150 DEPOT STREET
BENNINGTON, VERMONT 05201
PH: (802) 447-1402 FAX: (802) 445-1291

REVISIONS

| NO. | DATE | DESCRIPTION |
|---|---|---|
| | | |

TOWN OF BENNINGTON
MUNICIPAL WATER SYSTEM
REMEDIAL EXPANSION PHASE II
BENNINGTON, VERMONT

DRAWINGS THIS SHEET

SERVICE DISTRICT F
PLAN

| NUMBER | DATE |
|---|---|
| 1001-019.7 | 10-11-2019 |
| DRAWN | CHECKED |
| MSK | JMD |

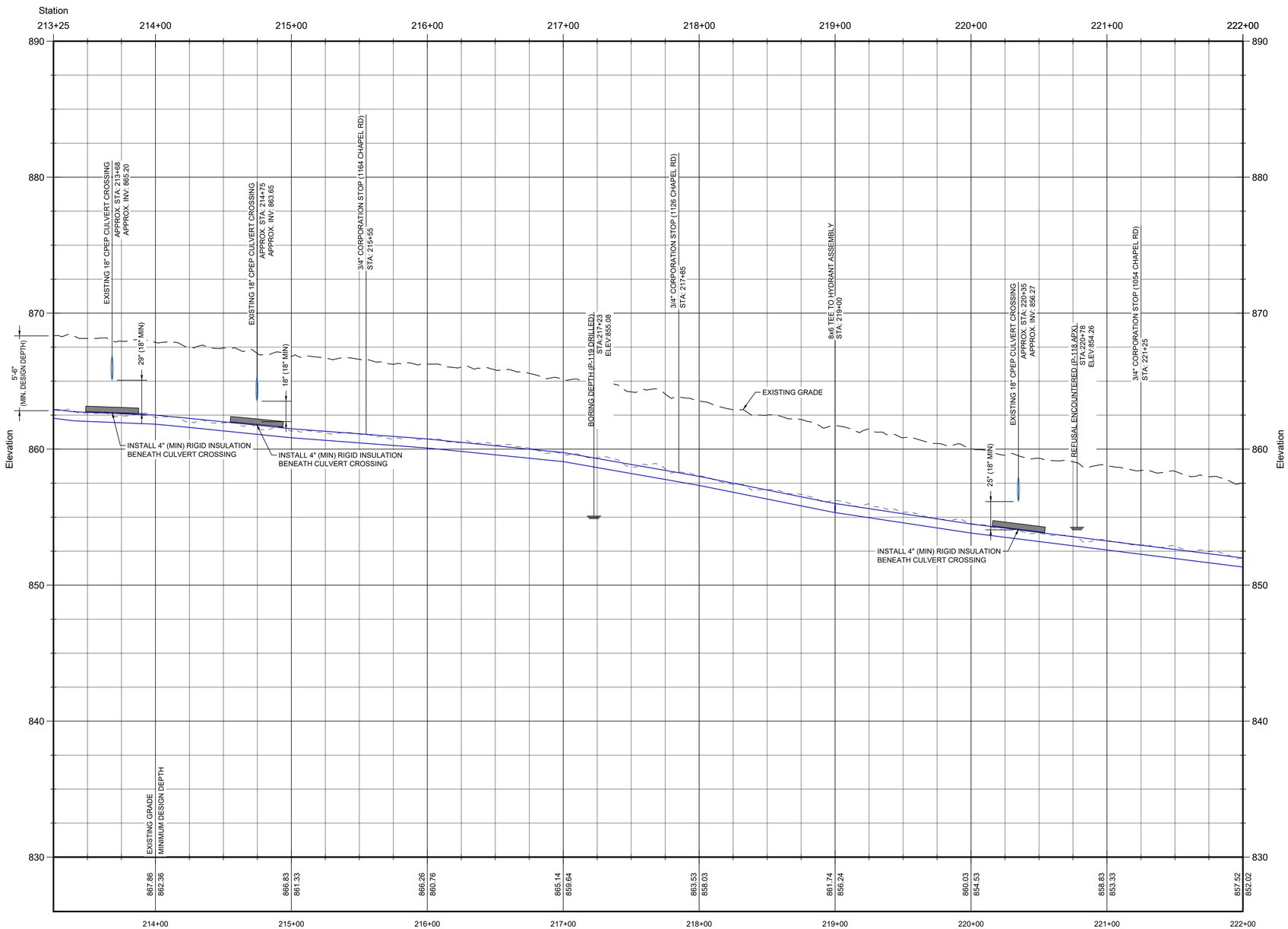
SHEET NUMBER

C148

STATE OF VERMONT
JASON M. DOLMETSCH
No.9238
CIVIL
LICENSED
PROFESSIONAL ENGINEER

E:\ DRAWING DATABASE\1001-019.7 PFAS MUNICIPALITIES\DISTRICTS\DISTRICT F\1001-019.7 F00 DISTRICT F2 CHAPEL RD.DWG
FT Oct 11, 2019 10:10:50

# WL - Chapel Rd PROFILE




1 CHAPEL ROAD
(CONTRACT 9)

0 40 80 Feet

Scale: 1:40 HORIZONTAL; 1:4 VERTICAL


MSK ENGINEERING AND DESIGN, INC.
P.O. BOX 139, 150 DEPOT STREET
BENNINGTON, VERMONT 05201
PH: (802) 447-1402 FAX: (802) 445-1291


REVISIONS

| NO. | DATE | DESCRIPTION |
|---|---|---|
| | | |

TOWN OF BENNINGTON
MUNICIPAL WATER SYSTEM
REMEDIAL EXPANSION PHASE II
BENNINGTON, VERMONT

DRAWINGS THIS SHEET

SERVICE DISTRICT F
PROFILE

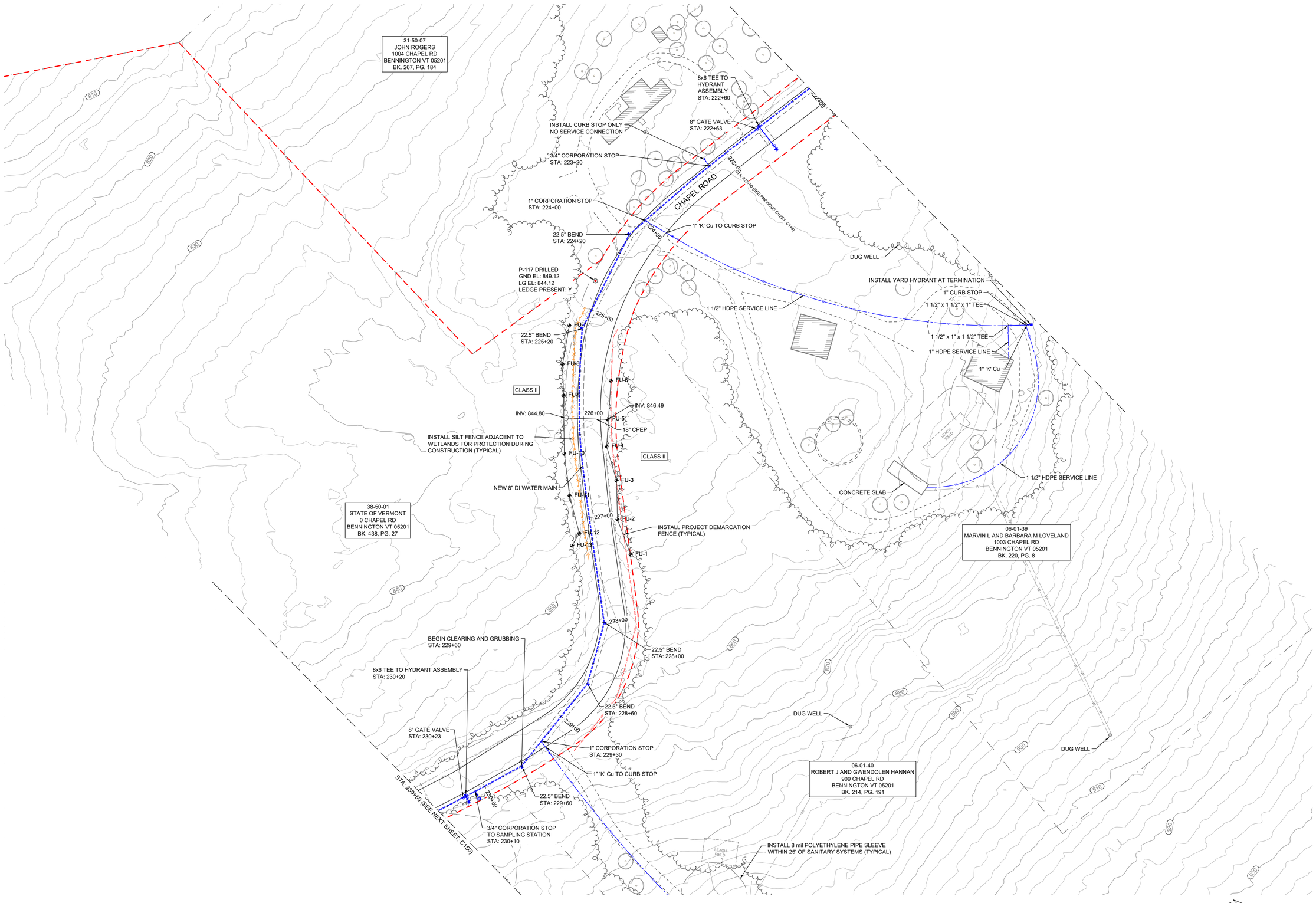
| NUMBER | DATE |
|---|---|
| 1001-019.7 | 10-11-2019 |
| DRAWN | CHECKED |
| MSK | JMD |

SHEET NUMBER

C148A

STATE OF VERMONT
JASON M. DOLMETSCH
No.9238
CIVIL
LICENSED
PROFESSIONAL ENGINEER

F:_DRAWING DATABASE\1001-019.7 FY08 REMEDIATION SCIENCE DRAWINGS\PLANS\PROPOSED\DISTRICT F\1001-019.7 FB8 F PROPOSED.DWG
JASONMDOLMETSCH 11/14/19




1 CHAPEL ROAD
(CONTRACT 9)
0 40 80 Feet

Scale: 1:40

MSK ENGINEERING AND DESIGN, INC.
P.O. BOX 139, 150 DEPOT STREET
BENNINGTON, VERMONT 05201
PH: (802) 447-1402 FAX: (802) 445-1291

REVISIONS

| NO. | DATE | DESCRIPTION |
|---|---|---|
| | | |

TOWN OF BENNINGTON
MUNICIPAL WATER SYSTEM
REMEDIAL EXPANSION PHASE II
BENNINGTON, VERMONT

DRAWINGS THIS SHEET

SERVICE DISTRICT F
PLAN

| NUMBER | DATE |
|---|---|
| 1001-019.7 | 10-11-2019 |
| DRAWN | CHECKED |
| MSK | JMD |

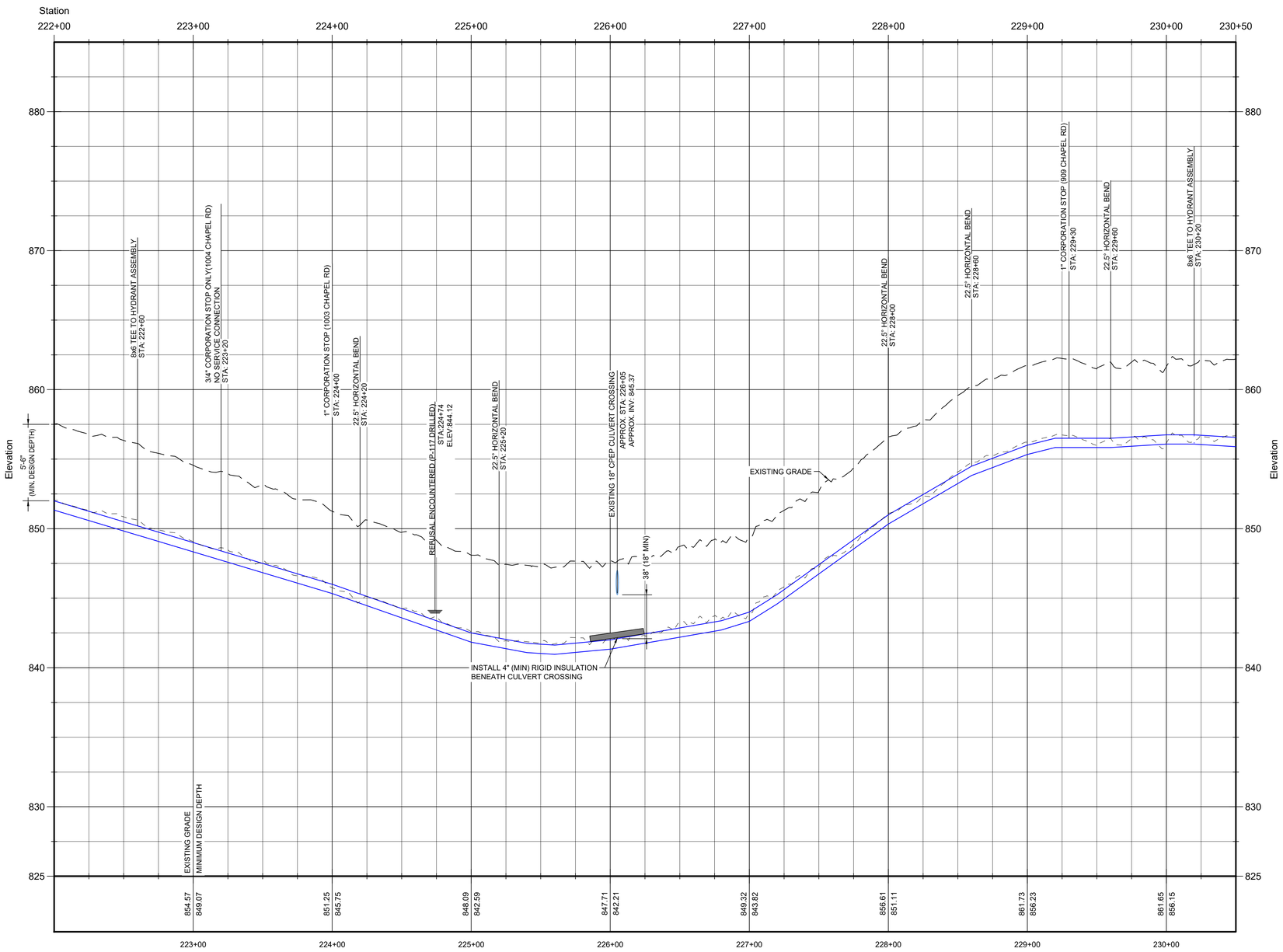
SHEET NUMBER

C149

STATE OF VERMONT
JASON M. DOLMETSCH
No.9238
CIVIL
LICENSED
PROFESSIONAL ENGINEER

K:_DRAWING DATABASE\1001-019.7 PYRA BENNINGTON\SHEETS\DISTRICT F\1001-019.7 TBB DISTRICT F2 CHAPEL RD.DWG
JMDolmetsch 10/11/19

WL - Chapel Rd PROFILE




1 CHAPEL ROAD
(CONTRACT 9)

0 40 80 Feet

Scale: 1:40 HORIZONTAL; 1:4 VERTICAL


MSK ENGINEERING AND DESIGN, INC.
P.O. BOX 139, 150 DEPOT STREET
BENNINGTON, VERMONT 05201
PH: (802) 447-1402 FAX: (802) 445-1291


REVISIONS

| NO. | DATE | DESCRIPTION |
|---|---|---|
| | | |

TOWN OF BENNINGTON
MUNICIPAL WATER SYSTEM
REMEDIAL EXPANSION PHASE II
BENNINGTON, VERMONT

DRAWINGS THIS SHEET

SERVICE DISTRICT F
PROFILE

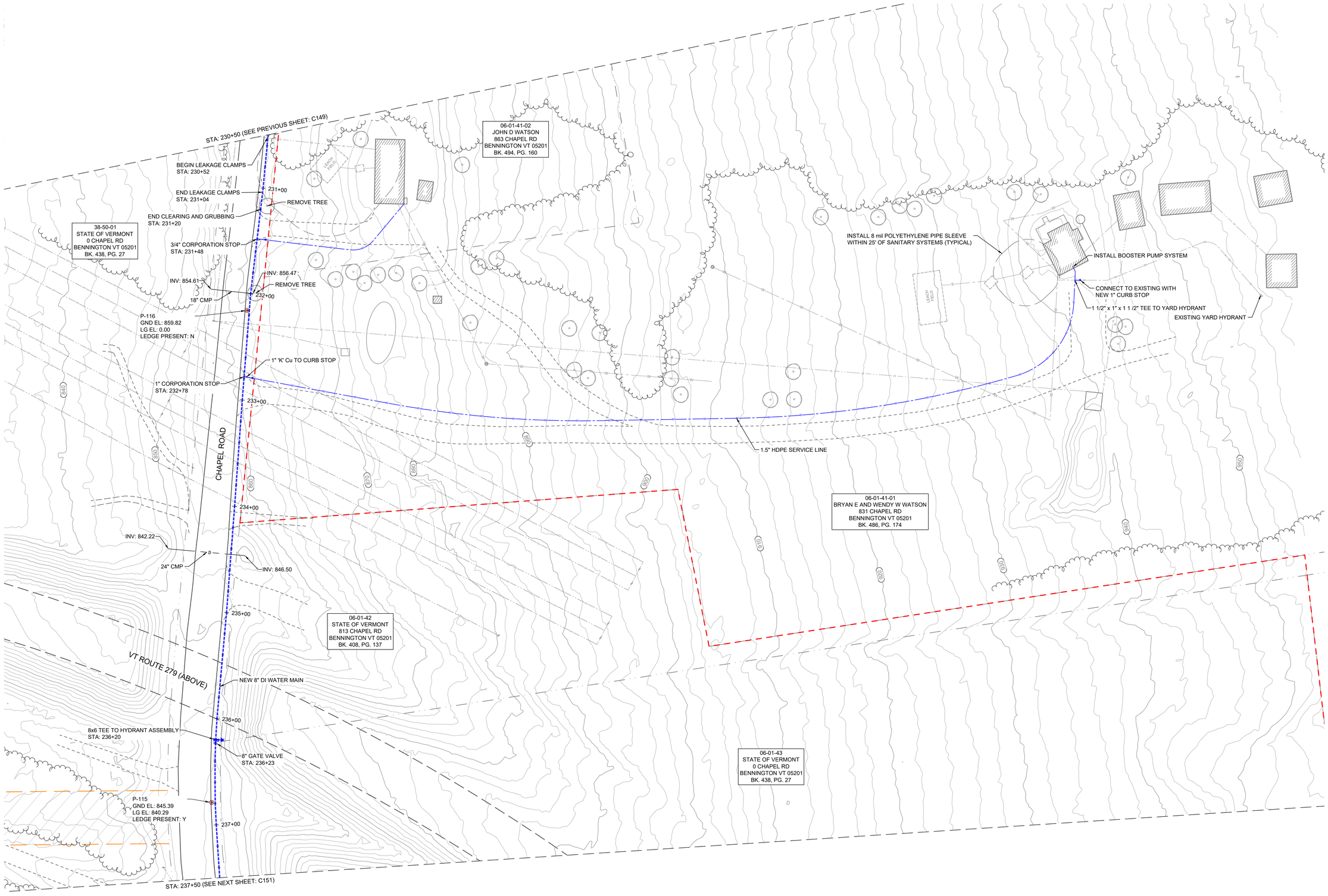
| NUMBER | DATE |
|---|---|
| 1001-019.7 | 10-11-2019 |
| DRAWN | CHECKED |
| MSK | JMD |

SHEET NUMBER

C149A

STATE OF VERMONT
JASON M. DOLINESKI
No.9238
CIVIL
LICENSED
PROFESSIONAL ENGINEER

F:_DRAWING DATABASE\1001-019.7 PWA REMEDIATION SERVICE DRAWINGS\PLANS\PROPOSED\DISTRICT F\1001-019.7 TBB F PROPOSED.DWG
SHEBOWN 10/11/2019 11:14:37




1 CHAPEL ROAD

(CONTRACT 9)

0 40 80 Feet

Scale: 1:40

MSK ENGINEERING AND DESIGN, INC.
P.O. BOX 139, 150 DEPOT STREET
BENNINGTON, VERMONT 05201
PH: (802) 447-1402 FAX: (802) 445-1291

REVISIONS

| NO. | DATE | DESCRIPTION |
|---|---|---|

TOWN OF BENNINGTON
MUNICIPAL WATER SYSTEM
REMEDIAL EXPANSION PHASE II
BENNINGTON, VERMONT

DRAWINGS THIS SHEET

SERVICE DISTRICT F
PLAN

| NUMBER | DATE |
|---|---|
| 1001-019.7 | 10-11-2019 |
| DRAWN | CHECKED |
| MSK | JMD |

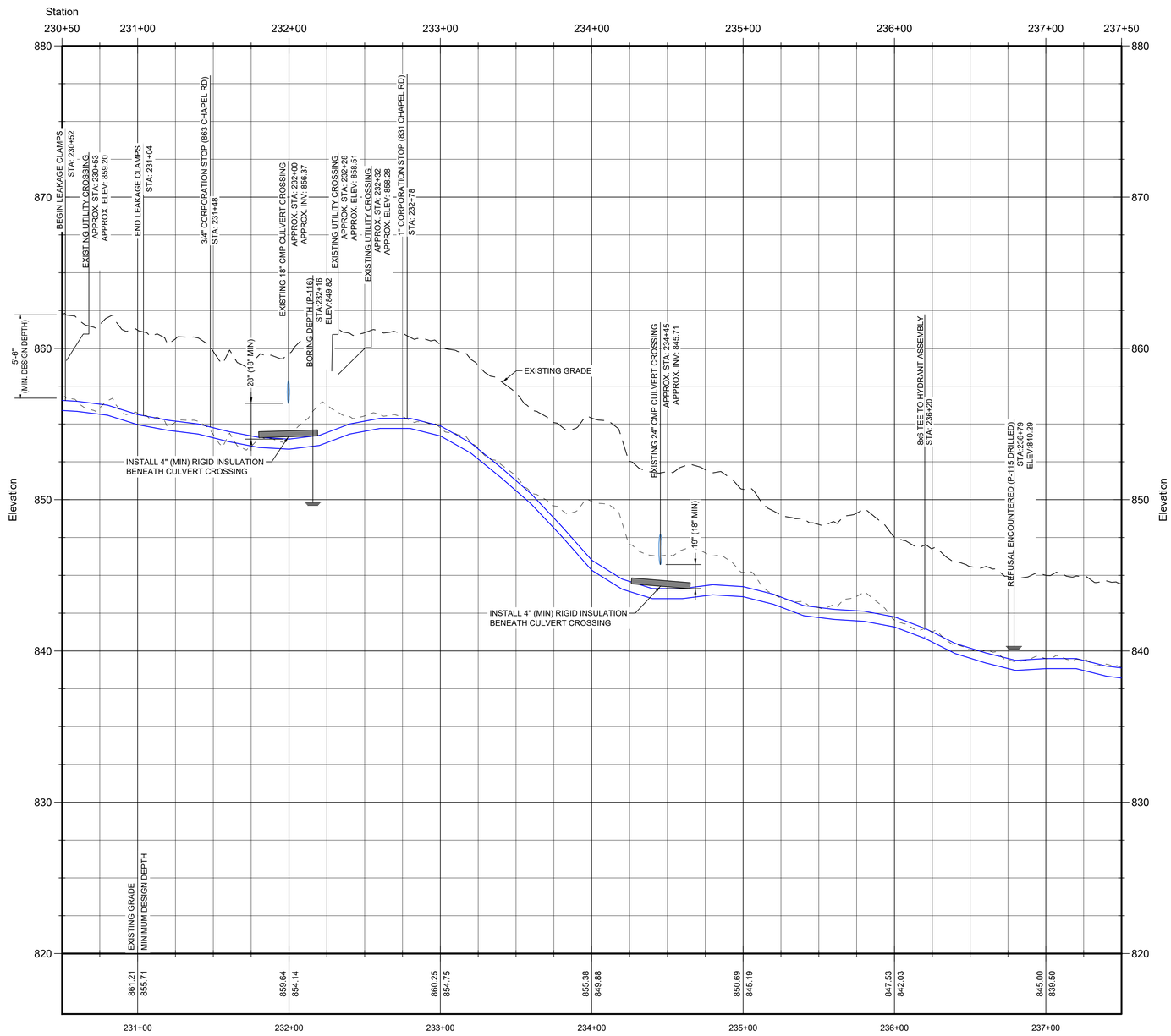
SHEET NUMBER

C150

STATE OF VERMONT
JASON M. COLMERAUER
No.9238
CIVIL
LICENSED
PROFESSIONAL ENGINEER

F:_DRAWING DATABASE\1001-019.7 FY08 REMEDIATION\SHEETS\DISTRICT F\1001-019.7 FDD DISTRICT F2 CHAPEL RD.DWG
M MSKINN 09/13/2541

# WL - Chapel Rd PROFILE




1 CHAPEL ROAD
(CONTRACT 9)

0 40 80 Feet

Scale: 1:40 HORIZONTAL; 1:4 VERTICAL


MSK ENGINEERING AND DESIGN, INC.
P.O. BOX 139, 150 DEPOT STREET
BENNINGTON, VERMONT 05201
PH: (802) 447-1402 FAX: (802) 445-1291


REVISIONS

| NO. | DATE | DESCRIPTION |
|---|---|---|
| | | |

TOWN OF BENNINGTON
MUNICIPAL WATER SYSTEM
REMEDIAL EXPANSION PHASE II
BENNINGTON, VERMONT

DRAWINGS THIS SHEET

SERVICE DISTRICT F
PROFILE

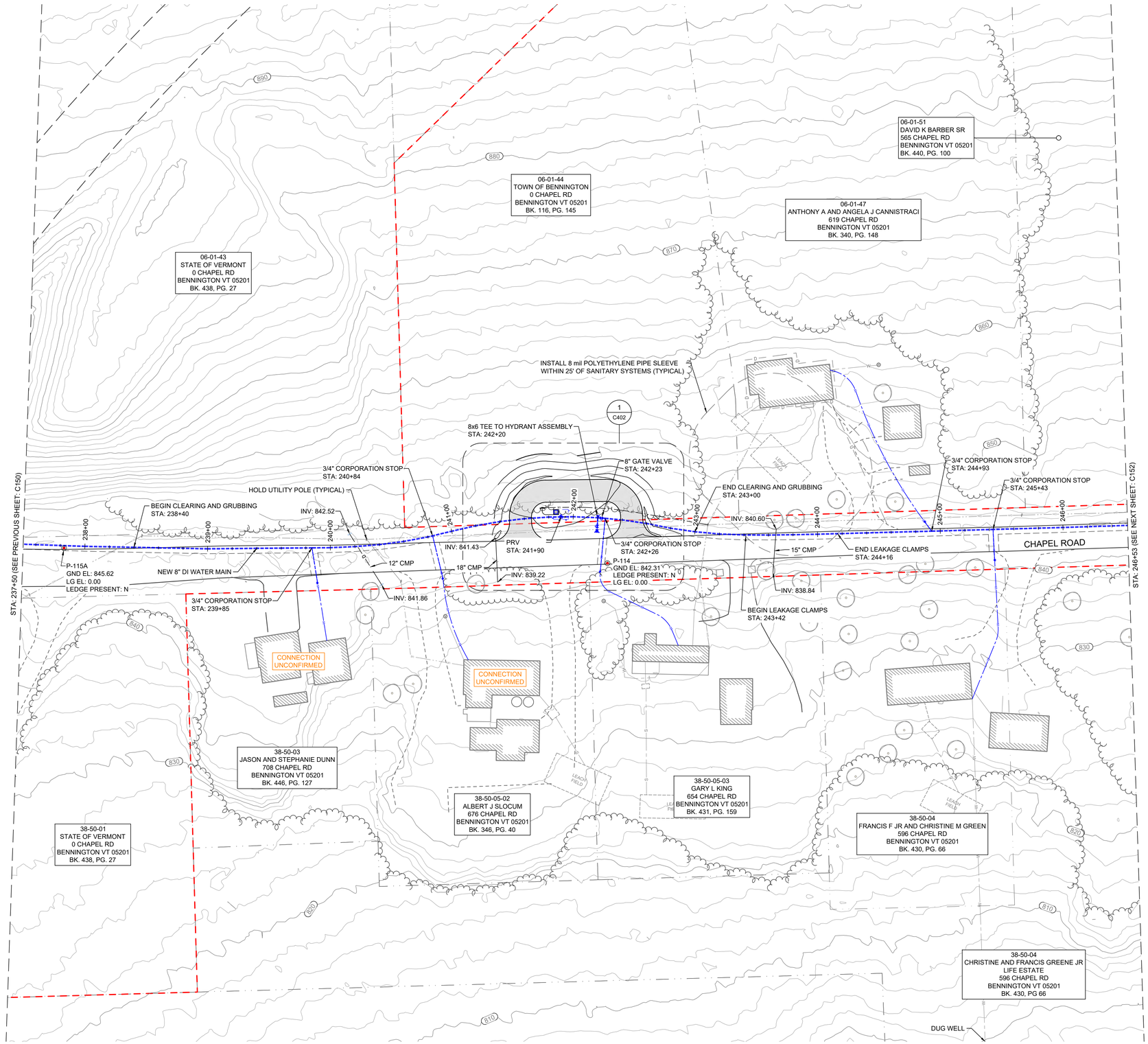
| NUMBER | DATE |
|---|---|
| 1001-019.7 | 10-11-2019 |
| DRAWN | CHECKED |
| MSK | JMD |

SHEET NUMBER

C150A

STATE OF VERMONT
JASON M. DOLMETSCH
No. 8238
CIVIL
LICENSED
PROFESSIONAL ENGINEER

E:_DRAWING DATABASE\1001-019.7 FY08 REMEDIATION DESIGNS_DRAWINGS\PLANS\PROPOSED\DISTRICT F\1001-019.7 TBD F PROPOSED.DWG
JMDolmetsch 2019 11-08-13




1 CHAPEL ROAD
(CONTRACT 9)

0 40 80 Feet

Scale: 1:40

MSK ENGINEERING AND DESIGN, INC.
P.O. BOX 139, 150 DEPOT STREET
BENNINGTON, VERMONT 05201
PH: (802) 447-1402 FAX: (802) 445-1291

REVISIONS

| NO. | DATE | DESCRIPTION |
|---|---|---|

TOWN OF BENNINGTON
MUNICIPAL WATER SYSTEM
REMEDIAL EXPANSION PHASE II
BENNINGTON, VERMONT

DRAWINGS THIS SHEET

SERVICE DISTRICT F
PLAN

| NUMBER | DATE |
|---|---|
| 1001-019.7 | 10-11-2019 |
| DRAWN | CHECKED |
| MSK | JMD |

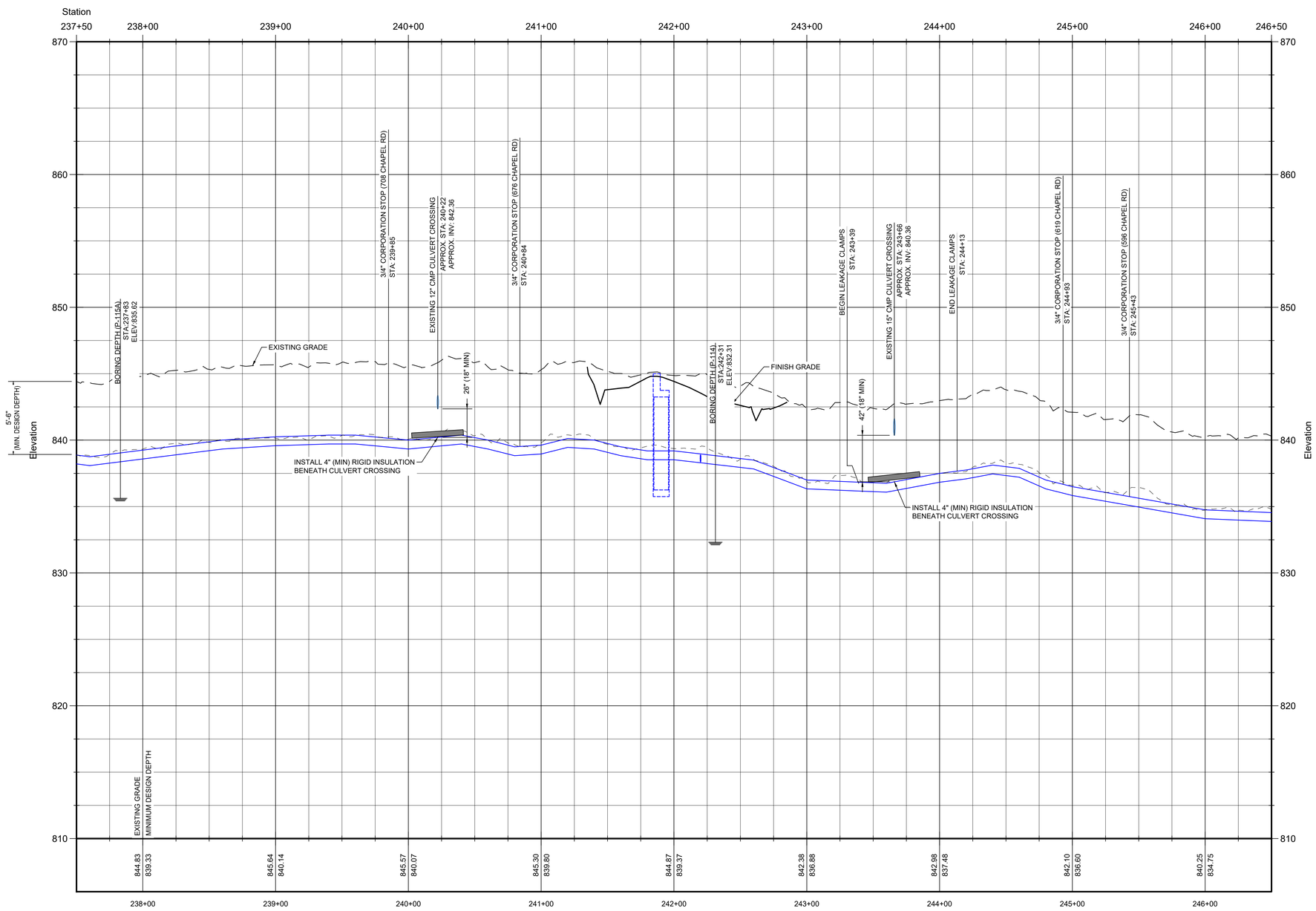
SHEET NUMBER

C151

STATE OF VERMONT
JASON M. DOLMETSCH
No. 9238
CIVIL
LICENSED
PROFESSIONAL ENGINEER

E:_DRAWING DATABASE\1001-019.7 PWSA BENNINGTON #\SHEETS\DISTRICT F\1001-019.7 TBB DISTRICT F3 CHAPEL RD.DWG
FF Gibbon 2019 10 10 09:00

# WL - Chapel Rd PROFILE




1 CHAPEL ROAD
(CONTRACT 9)

0 40 80 Feet

Scale: 1:40 HORIZONTAL; 1:4 VERTICAL


MSK ENGINEERING AND DESIGN, INC.
P.O. BOX 139, 150 DEPOT STREET
BENNINGTON, VERMONT 05201
PH: (802) 447-1402 FAX: (802) 445-1291


REVISIONS

| NO. | DATE | DESCRIPTION |
|---|---|---|
| | | |

TOWN OF BENNINGTON
MUNICIPAL WATER SYSTEM
REMEDIAL EXPANSION PHASE II
BENNINGTON, VERMONT

DRAWINGS THIS SHEET

SERVICE DISTRICT F
PROFILE

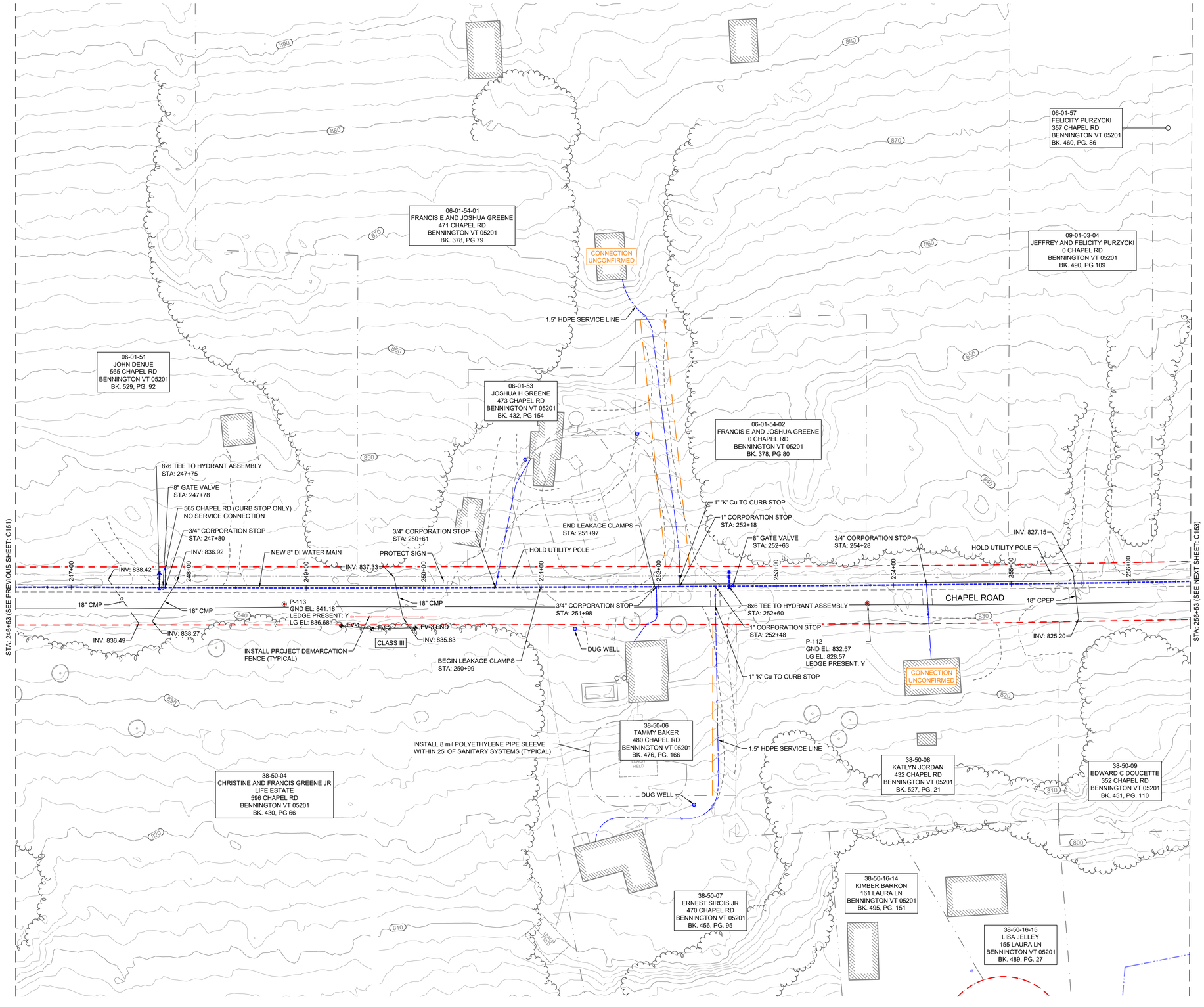
| NUMBER | DATE |
|---|---|
| 1001-019.7 | 10-11-2019 |
| DRAWN | CHECKED |
| MSK | JMD |

SHEET NUMBER

C151A

STATE OF VERMONT
JASON M. DOLMETSCH
No. 9238
CIVIL
LICENSED
PROFESSIONAL ENGINEER

E:_DRAWING DATABASE\1001-019.7 PFAS REMEDIATION\SOURCE DRAWINGS\PLANS\PROPOSED\DISTRICT F\1001-019.7 TRB F PROPOSED.DWG
USBOWER 10/11/2019




1 CHAPEL ROAD
(CONTRACT 9)

0 40 80 Feet

Scale: 1:40


MSK ENGINEERING AND DESIGN, INC.
P.O. BOX 139, 150 DEPOT STREET
BENNINGTON, VERMONT 05201
PH: (802) 447-1402 FAX: (802) 445-1291


REVISIONS

| NO. | DATE | DESCRIPTION |
|---|---|---|
| | | |

TOWN OF BENNINGTON
MUNICIPAL WATER SYSTEM
REMEDIAL EXPANSION PHASE II
BENNINGTON, VERMONT

DRAWINGS THIS SHEET

SERVICE DISTRICT F
PLAN

| NUMBER | DATE |
|---|---|
| 1001-019.7 | 10-11-2019 |
| DRAWN | CHECKED |
| MSK | JMD |

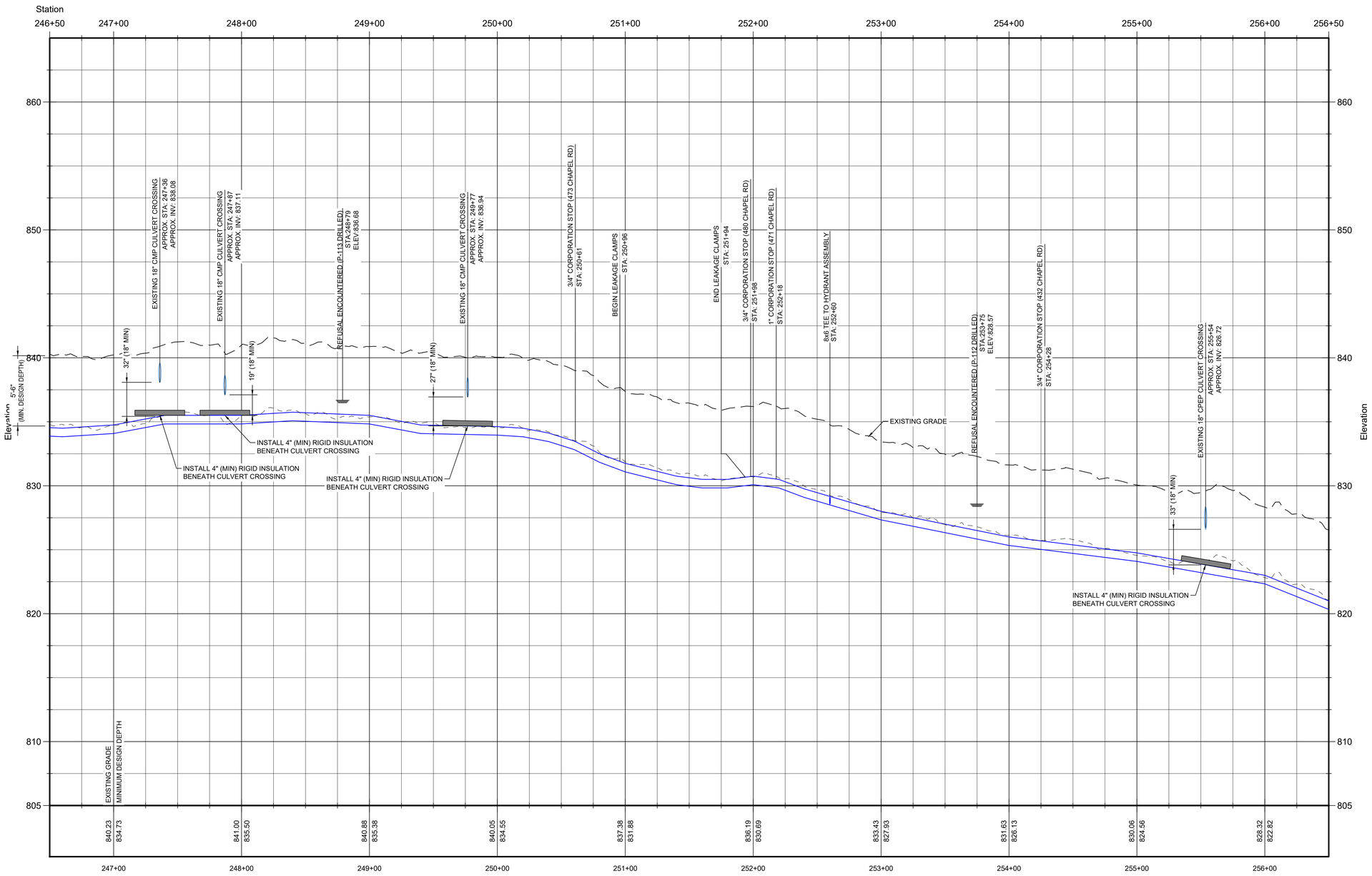
SHEET NUMBER

C152

STATE OF VERMONT
JASON M. DOLLNER JR.
No.9238
CIVIL
LICENSED
PROFESSIONAL ENGINEER

E:_DRAWING DATABASE\1001-019.7 FY08 REMEDIATION\CONTRACT\SERVICE DISTRICT F\1001-019.7 TBB DISTRICT F3 CHAPEL RD.DWG
JMD October 2019 09:56:14

# WL - Chapel Rd PROFILE




1 CHAPEL ROAD
(CONTRACT 9)

0 40 80 Feet

Scale: 1:40 HORIZONTAL; 1:4 VERTICAL


MSK ENGINEERING AND DESIGN, INC.
P.O. BOX 139, 150 DEPOT STREET
BENNINGTON, VERMONT 05201
PH: (802) 447-1402 FAX: (802) 445-1291


REVISIONS

| NO. | DATE | DESCRIPTION |
|---|---|---|
| | | |

TOWN OF BENNINGTON
MUNICIPAL WATER SYSTEM
REMEDIAL EXPANSION PHASE II
BENNINGTON, VERMONT

DRAWINGS THIS SHEET

SERVICE DISTRICT F
PROFILE

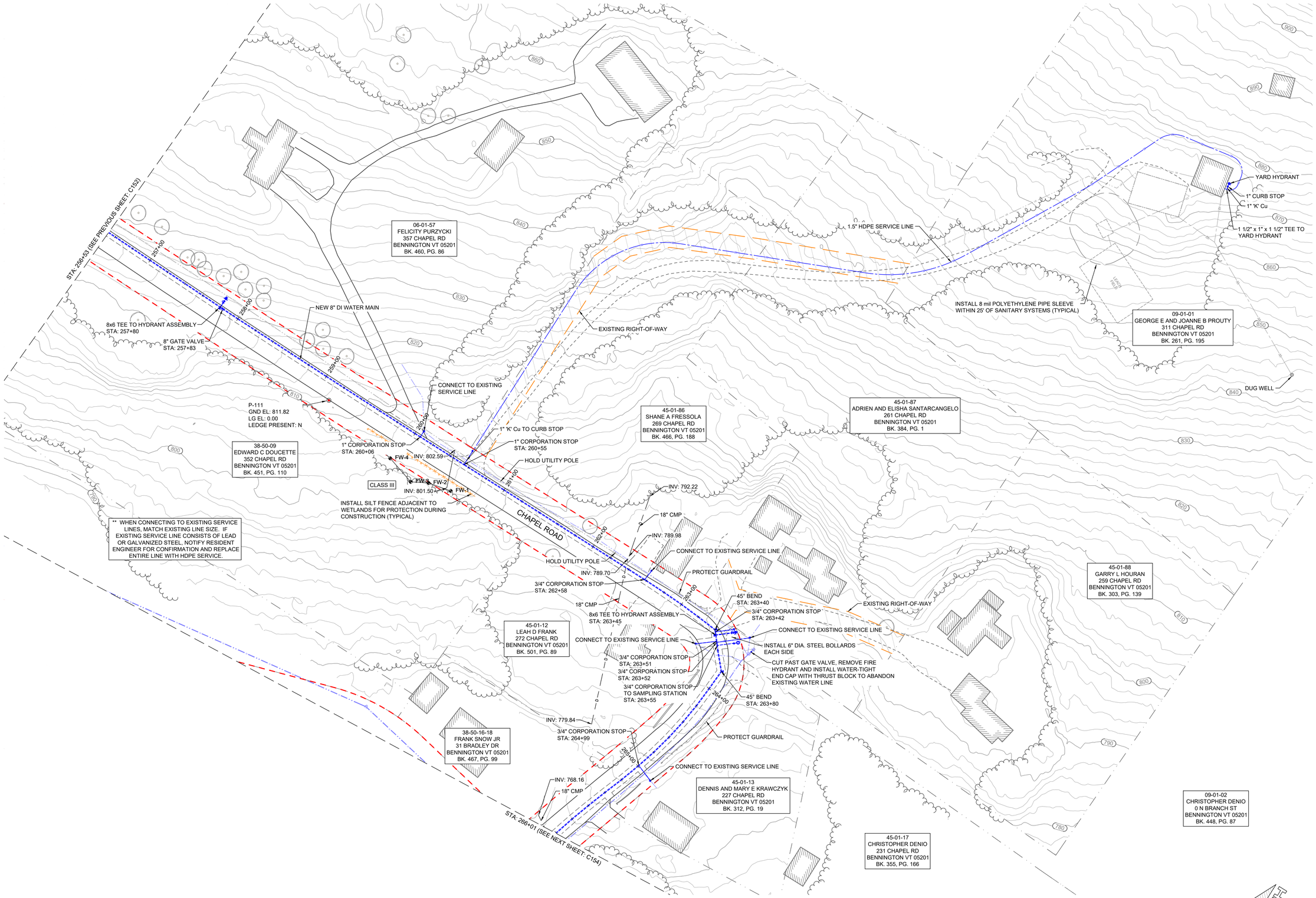
| NUMBER | DATE |
|---|---|
| 1001-019.7 | 10-11-2019 |
| DRAWN | CHECKED |
| MSK | JMD |

SHEET NUMBER

C152A

STATE OF VERMONT
JASON M. DOLMETSCH
No.8238
CIVIL
LICENSED
PROFESSIONAL ENGINEER

E:_DRAWING DATABASE\1001-019.7 PFAS REMEDIATION DESIGNS\ DRAWINGS\PLANS\PROPOSED\DISTRICT F\1001-019.7 TB8 F PROPOSED.DWG
JASONMDOLMETSCH 10/11/2019




1 CHAPEL ROAD
(CONTRACT 9)

0 40 80 Feet

Scale: 1:40

NORTH

MSK ENGINEERING AND DESIGN, INC.
P.O. BOX 139, 150 DEPOT STREET
BENNINGTON, VERMONT 05201
PH: (802) 447-1402 FAX: (802) 445-1291

REVISIONS

| NO. | DATE | DESCRIPTION |
|---|---|---|

TOWN OF BENNINGTON
MUNICIPAL WATER SYSTEM
REMEDIAL EXPANSION PHASE II
BENNINGTON, VERMONT

DRAWINGS THIS SHEET

SERVICE DISTRICT F
PLAN

| NUMBER | DATE |
|---|---|
| 1001-019.7 | 10-11-2019 |
| DRAWN | CHECKED |
| MSK | JMD |

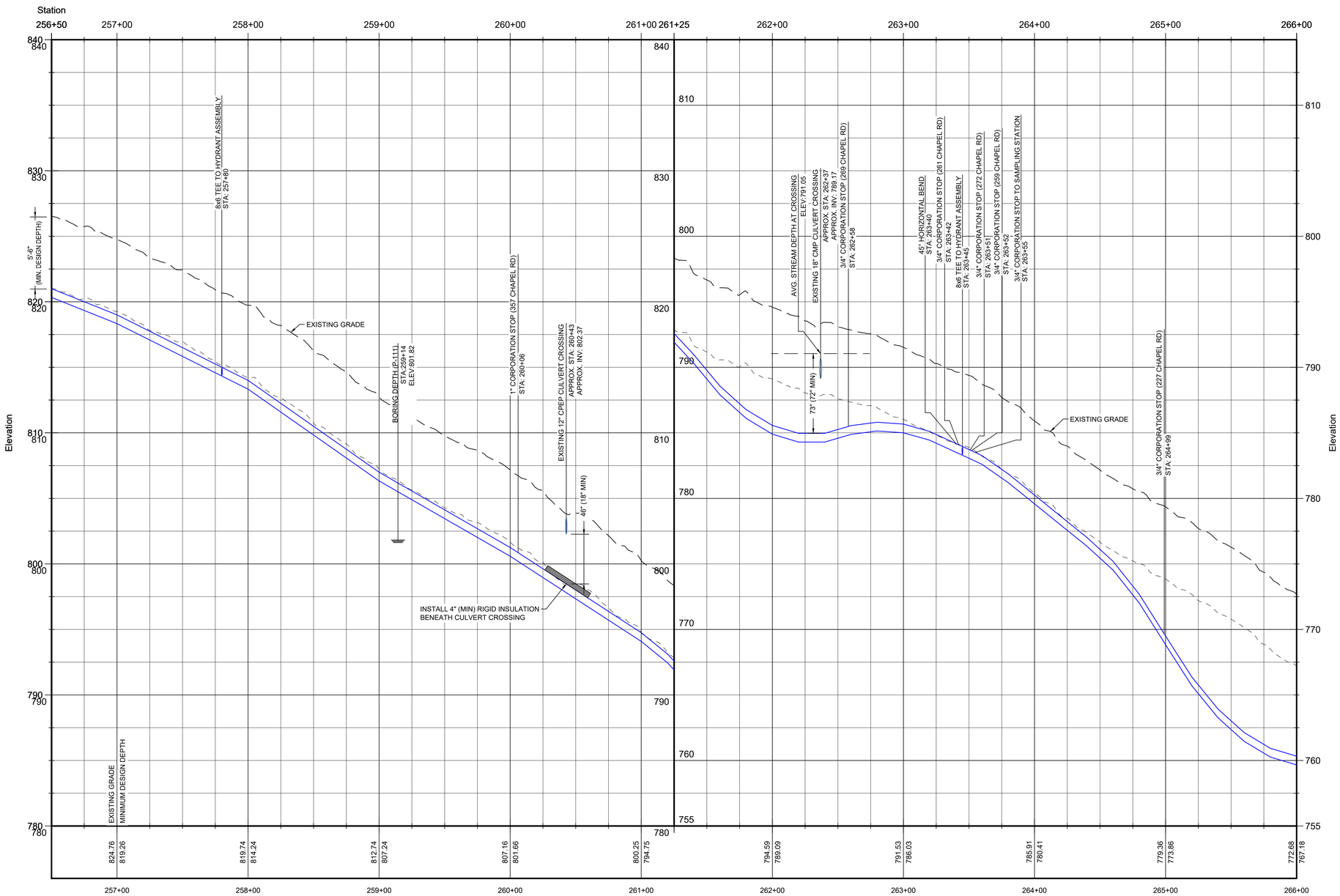
SHEET NUMBER

C153

STATE OF VERMONT
JASON M. DOLMETSCH
No.9238
CIVIL
LICENSED
PROFESSIONAL ENGINEER

E:\DRAWING DATABASE\1001-019.7 PFAS REMEDIATION EGINEERS\DISTRICT F\1001-019.7 TBB DISTRICT F3 CHAPEL RD.DWG
01:00AM 2019 10 08 BY

# WL - Chapel Rd PROFILE




1 CHAPEL ROAD
(CONTRACT 9)

0 40 80 Feet

Scale: 1:40 HORIZONTAL; 1:4 VERTICAL


MSK ENGINEERING AND DESIGN, INC.
P.O. BOX 139, 150 DEPOT STREET
BENNINGTON, VERMONT 05201
PH: (802) 447-1402 FAX: (802) 445-1291


REVISIONS

| NO. | DATE | DESCRIPTION |
|---|---|---|
| | | |

TOWN OF BENNINGTON
MUNICIPAL WATER SYSTEM
REMEDIAL EXPANSION PHASE II
BENNINGTON, VERMONT

DRAWINGS THIS SHEET

SERVICE DISTRICT F
PROFILE

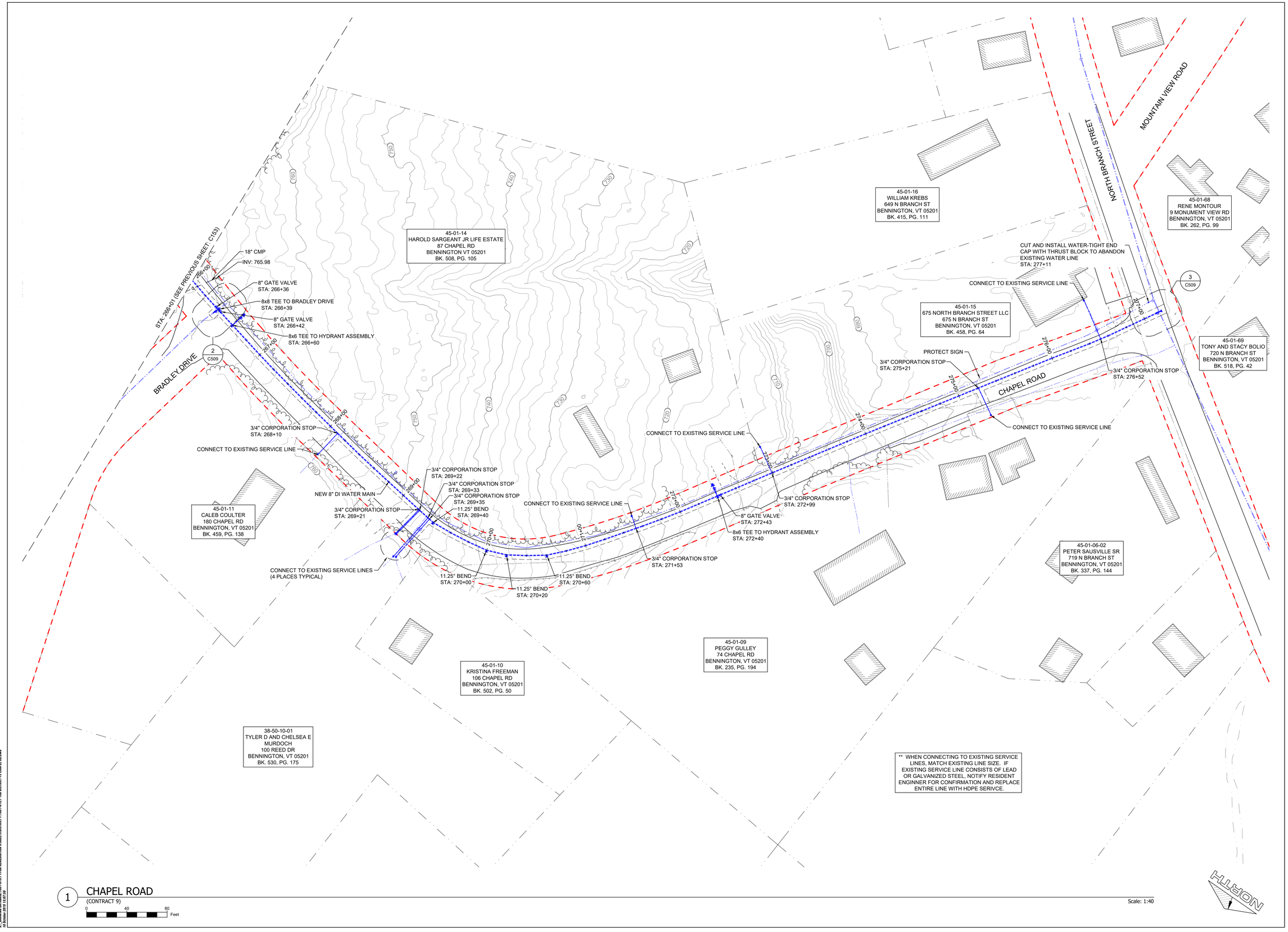
| NUMBER | DATE |
|---|---|
| 1001-019.7 | 10-11-2019 |
| DRAWN | CHECKED |
| MSK | JMD |

SHEET NUMBER

C153A

STATE OF VERMONT
JASON M. DOLMETSCH
No. 9238
CIVIL
LICENSED
PROFESSIONAL ENGINEER

F:_DRAWING DATABASE\1001-019.7 PWM REMEDIATION\SERVICE DRAWINGS\PLANS\PROPOSED\DISTRICT F\1001-019.7 TBB F PROPOSED.DWG
SYBRIGHT 2019 11:27:14




1 CHAPEL ROAD
(CONTRACT 9)

0 40 80 Feet

Scale: 1:40

MSK ENGINEERING AND DESIGN, INC.
P.O. BOX 139, 150 DEPOT STREET
BENNINGTON, VERMONT 05201
PH: (802) 447-1402 FAX: (802) 445-1291

REVISIONS

| NO. | DATE | DESCRIPTION |
|---|---|---|

TOWN OF BENNINGTON
MUNICIPAL WATER SYSTEM
REMEDIAL EXPANSION PHASE II
BENNINGTON, VERMONT

DRAWINGS THIS SHEET

SERVICE DISTRICT F
PLAN

| NUMBER | DATE |
|---|---|
| 1001-019.7 | 10-11-2019 |
| DRAWN | CHECKED |
| MSK | JMD |

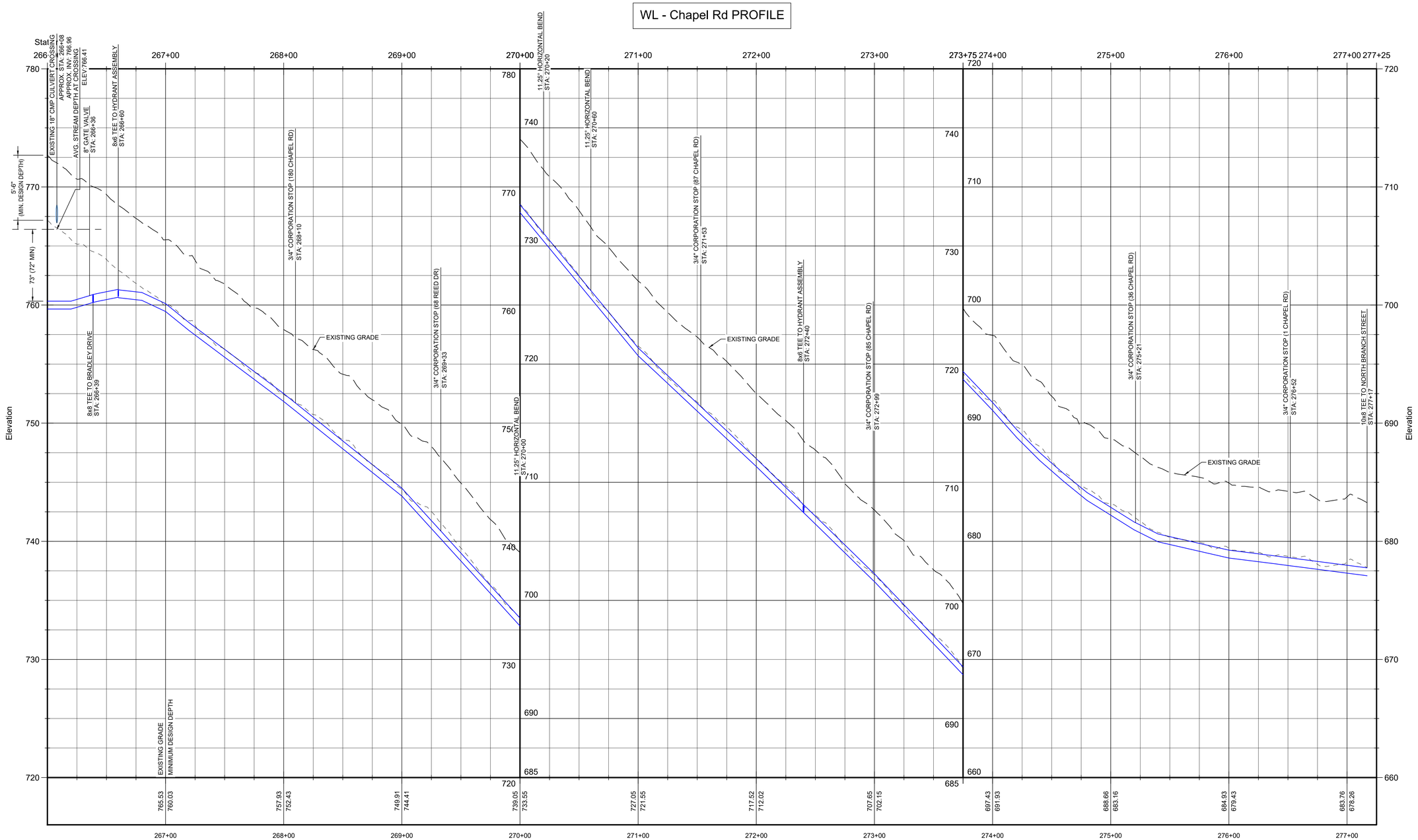
SHEET NUMBER

C154

STATE OF VERMONT
JASON M. DOLNEY
No. 9238
CIVIL
LICENSED
PROFESSIONAL ENGINEER

E:_DRAWING DATABASE\1001-019.7 PFAS REMEDIATION\SHEETS\DISTRICT F\1001-019.7 TOB DISTRICT F2 CHAPEL RD.DWG
JASON DOLNEY 10/11/19

# WL - Chapel Rd PROFILE




1 CHAPEL ROAD
(CONTRACT 9)
0 40 80 Feet

Scale: 1:40 HORIZONTAL; 1:4 VERTICAL


MSK ENGINEERING AND DESIGN, INC.
P.O. BOX 139, 150 DEPOT STREET
BENNINGTON, VERMONT 05201
PH: (802) 447-1402 FAX: (802) 445-1291


REVISIONS

| NO. | DATE | DESCRIPTION |
|---|---|---|

TOWN OF BENNINGTON
MUNICIPAL WATER SYSTEM
REMEDIAL EXPANSION PHASE II
BENNINGTON, VERMONT

DRAWINGS THIS SHEET

SERVICE DISTRICT F
PROFILE

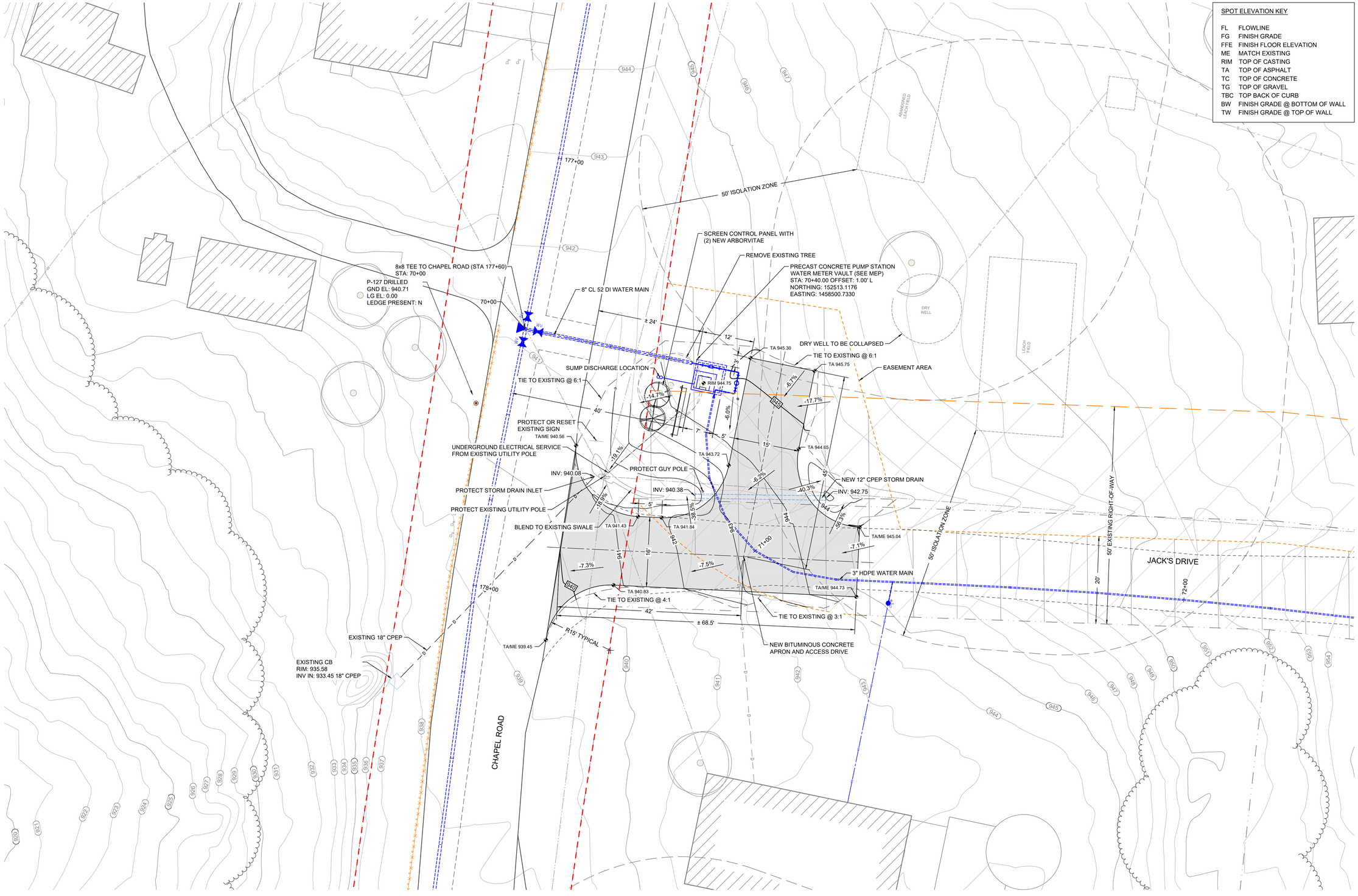
| NUMBER | DATE |
|---|---|
| 1001-019.7 | 10-11-2019 |
| DRAWN | CHECKED |
| MSK | JMD |

SHEET NUMBER

C154A

STATE OF VERMONT
JASON M. DOLMETSCH
No. 9238
CIVIL
LICENSED
PROFESSIONAL ENGINEER

F:_DRAWING DATABASE\1001-019.7 PWA REMEDIATION\CONTRACT 9\CONTRACT DRAWINGS\PLANS\PROPOSED\DISTRICT F\1001-019.7 PWA F PROPOSED.DWG
JMDolmetsch 10/11/2019




1 PUMP STATION SITE PLAN AT CHAPEL ROAD AND JACK'S DRIVE
(CONTRACT 9)

0 10 20 Feet

Scale: 1:10

NORTH

MSK ENGINEERING AND DESIGN, INC.
P.O. BOX 139, 150 DEPOT STREET
BENNINGTON, VERMONT 05201
PH: (802) 447-1402 FAX: (802) 445-1291

REVISIONS

| NO. | DATE | DESCRIPTION |
|---|---|---|

TOWN OF BENNINGTON
MUNICIPAL WATER SYSTEM
REMEDIAL EXPANSION PHASE II
BENNINGTON, VERMONT

DRAWINGS THIS SHEET

SERVICE DISTRICT F
PUMP STATION DETAIL
PLAN

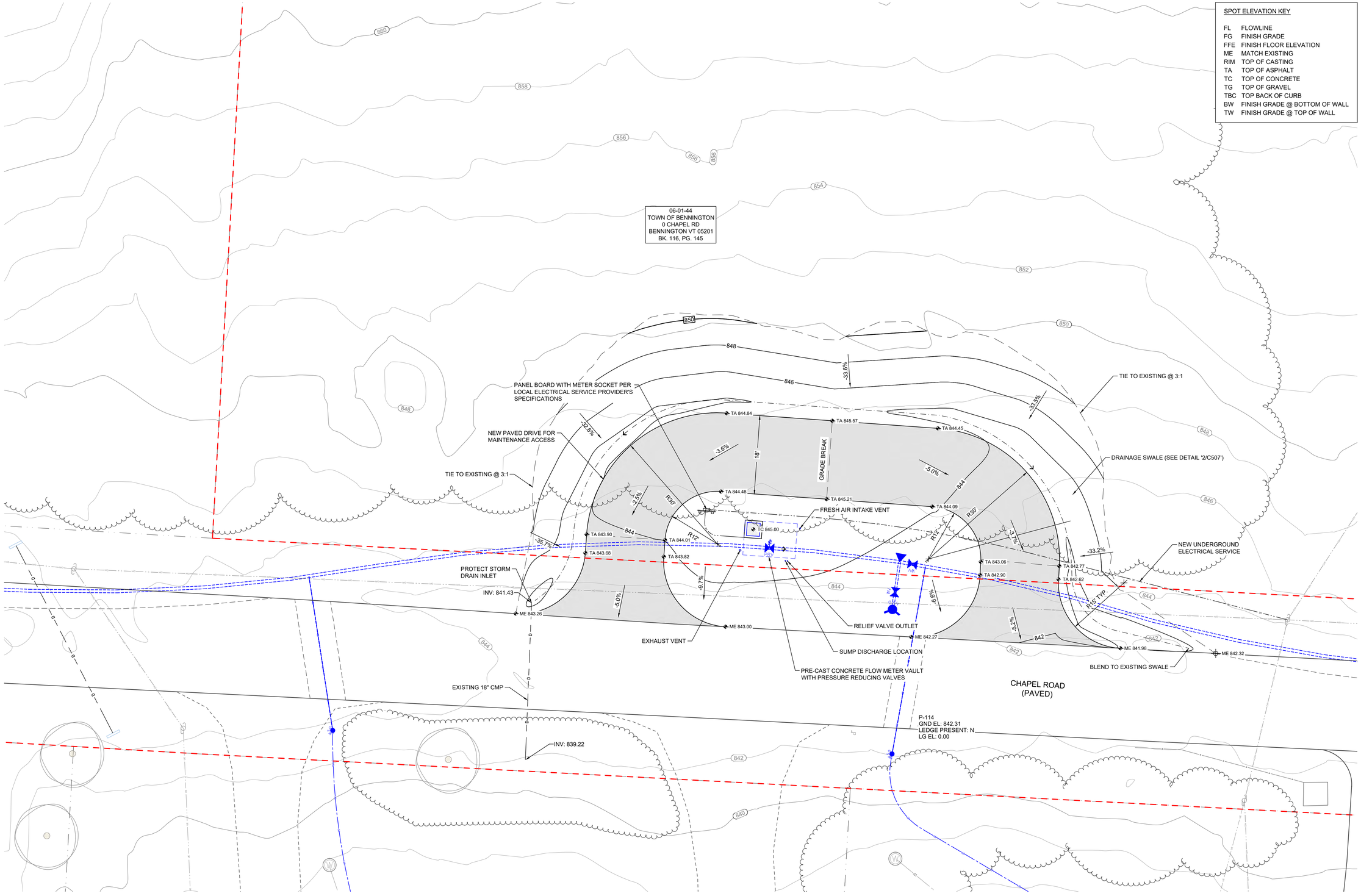
| NUMBER | DATE |
|---|---|
| 1001-019.7 | 10-11-2019 |
| DRAWN | CHECKED |
| MSK | JMD |

SHEET NUMBER

C401

STATE OF VERMONT
JASON M. DOLMETSCH
No.9238
CIVIL
LICENSED
PROFESSIONAL ENGINEER

K:_DRAWING DATABASE\1001-019.7 PWSA REMEDIATION\CONTRACTS\1001-019.7 TOB CONTRACT 9 PUMP STATION DETAIL PLAN.DWG
JD 10/09/2019 9:49:19




1 PRV SITE PLAN AT CHAPEL ROAD
(CONTRACT 9)
0 10 20 Feet
Scale: 1:40

MSK ENGINEERING AND DESIGN, INC.
P.O. BOX 139, 150 DEPOT STREET
BENNINGTON, VERMONT 05201
PH: (802) 447-1402 FAX: (802) 445-1291

REVISIONS

| NO. | DATE | DESCRIPTION |
|---|---|---|

TOWN OF BENNINGTON
MUNICIPAL WATER SYSTEM
REMEDIAL EXPANSION PHASE II
BENNINGTON, VERMONT

DRAWINGS THIS SHEET

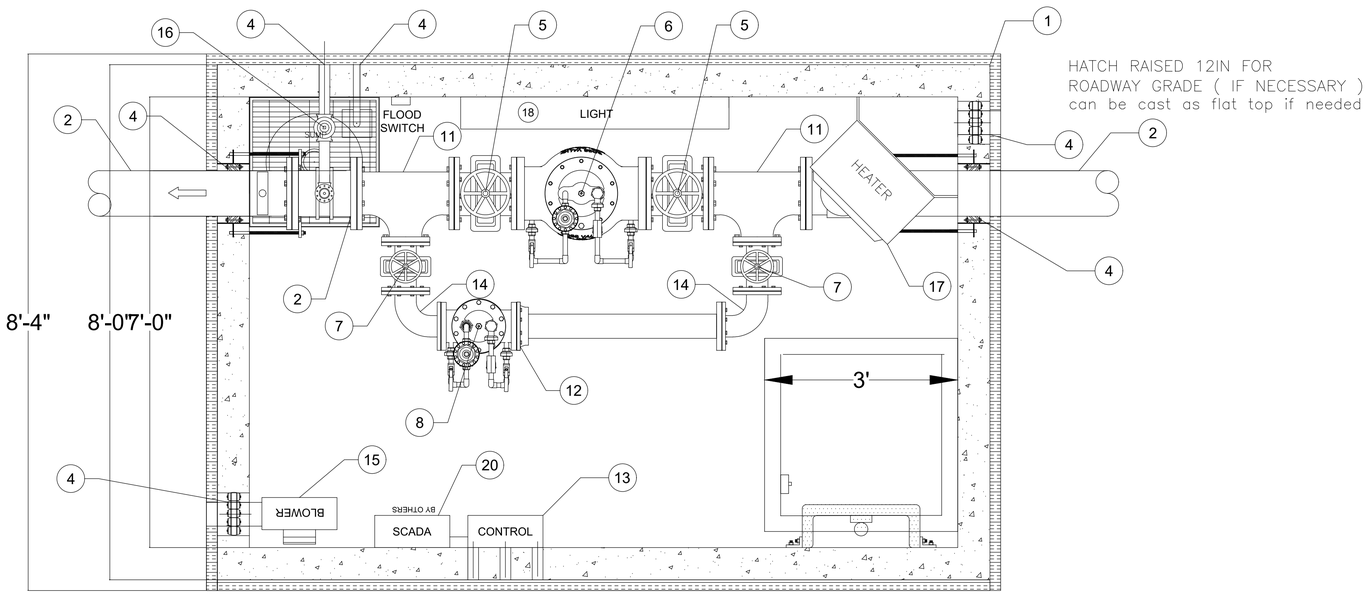
SERVICE DISTRICT F
PRV SITE PLAN

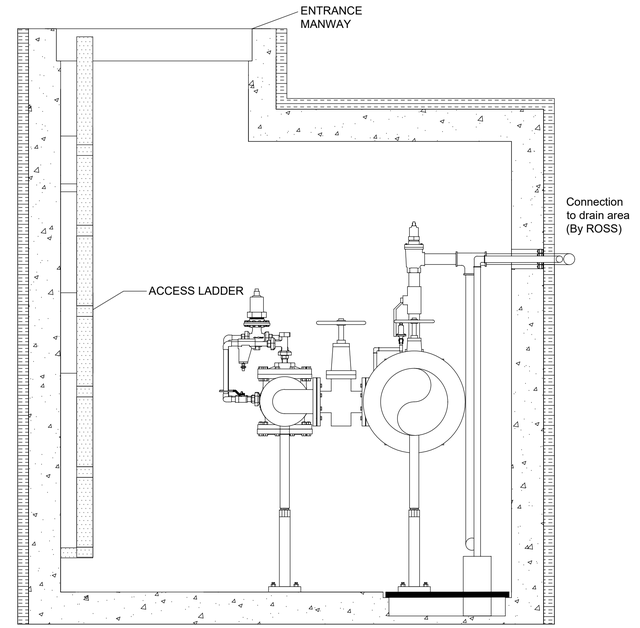
| NUMBER | DATE |
|---|---|
| 1001-019.7 | 10-11-2019 |
| DRAWN | CHECKED |
| MSK | JMD |

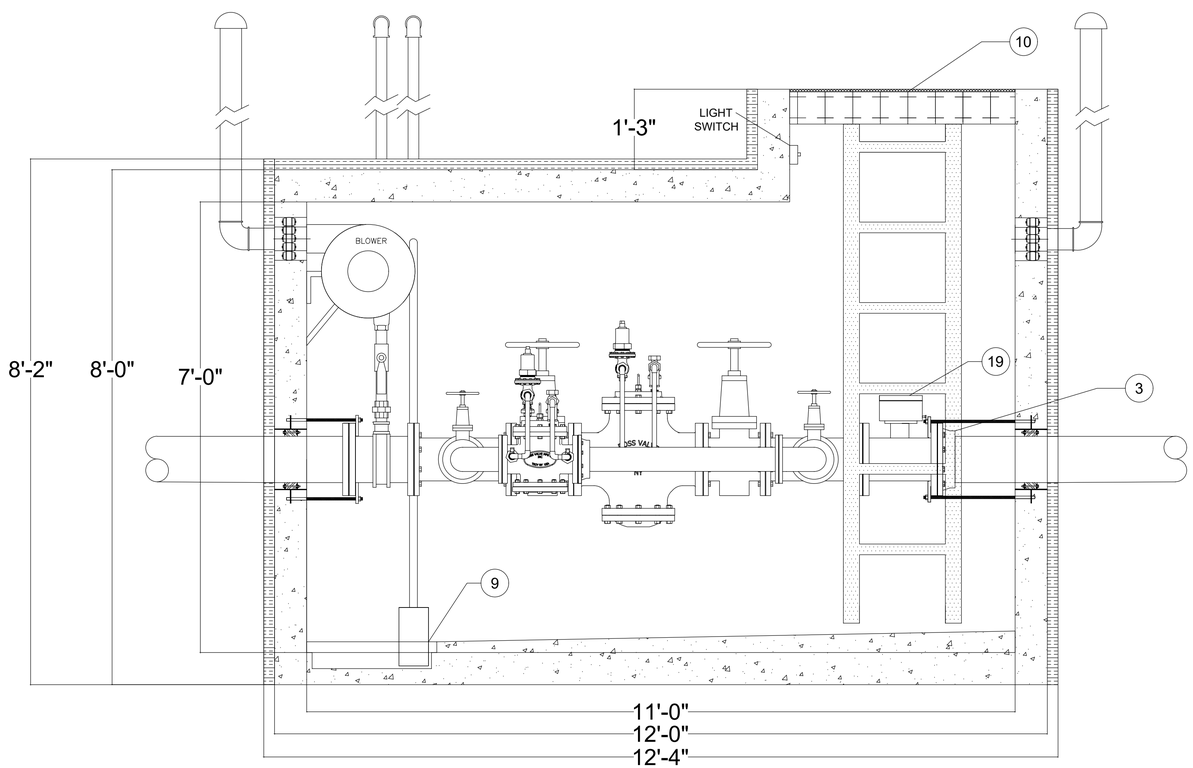
SHEET NUMBER
C402

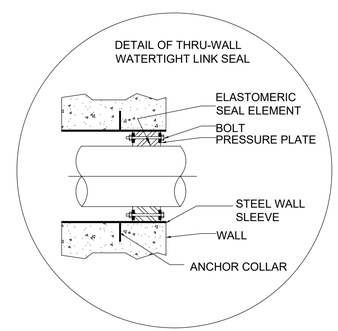
STATE OF VERMONT
JASON M. DOLLEY
No.9238
CIVIL
LICENSED
PROFESSIONAL ENGINEER

K:_DRAWING AUTOCAD\1001-019.7 PRV&BENNINGTON W SERVICE\CONTRACT 9\1001-019.7 TBW CONTRACT 9 PRV DETAIL PLAN.DWG
Jul 09,2019 11:54:13




ALL THRU-WALL SEAL TO BE LINK-SEAL BRAND MECHANICAL SEALS-LS SERIES EDPM

| ITEM | DESCRIPTION | QTY. |
|---|---|---|
| 1 | HS-20 PRECAST CONCRETE VAULT 11'X7'X7' ID WITH 15" RISER PIECE | 1 |
| 2 | ATLANTIC STATES CLASS 52 D.I. PIPE 8" | 3 |
| 3 | EBBAA IRON MEGA-FLANGE 8" | 1 |
| 4 | WALL PENETRATION LINK SEAL (TYP) | 6 |
| 5 | 8" GATE VALVE RESL. SEAT N.R.S. OPEN RIGHT | 2 |
| 6 | 8" ROSS 40WR PRV | 1 |
| 7 | 4" GATE VALVE RESL. SEAT N.R.S. OPEN RIGHT | 7 |
| 8 | 4" ROSS 40WR PRV | 2 |
| 9 | SUMP WITH SUMP PUMP THRU-WALL DRAIN 24"X24" | 1 |
| 10 | 36 X 36 HS-20 ALUMIN SYRACUSE DTHD-7 HATCH | 1 |
| 11 | 8" X 4" REDUCING TEE | 2 |
| 12 | EBBAA IRON MEGA-FLANGE 4" | 1 |
| 13 | ELECTRICAL CONTROL PANEL | 1 |
| 14 | 4" ELBOW | 2 |
| 15 | BLOWER | 1 |
| 16 | 2" ROSS 20WR RELIEF | 2 |
| 17 | HEATER SET AT 40° | 1 |
| 18 | FLUORESCENT LIGHT | 1 |
| 19 | 8" FLOW METER MAG 8000 | 1 |
| 20 | SCADA BOX | 1 |

# ROSS VALVE MFG. CO., INC.

6 OAKWOOD AVENUE -TROY, NEW YORK, 12180 - TEL. (518) 274 - 0961
POST OFFICE BOX 595 - TROY, NY 12181 FAX (518) 274 - 0210
WEBSITE: www.rossvalve.com - E-MAIL sales@rossvalve.com

DRAWING: 08-40WR 04-40WR 02-20WRx2 | DATE 4/22/19 WRH

BODY: VAULT | NO SCALE | FIGURE -

8" FLOW METER VAULT
WITH 8" PRESSURE REDUCING VALVE, 4" PRESSURE
REDUCING VALVE, & 2" PRESSURE RELIEF VALVE

THIS PRINT CONTAINS CONFIDENTIAL INFORMATION WHICH IS THE PROPERTY OF ROSS VALVE BY ACCEPTING THIS INFORMATION THE BORROWER AGREES THAT IT WILL NOT BE USED FOR ANY PURPOSE OTHER THAN THAT WHICH IT IS LOANED.
NOTE: The Ross Valve Mfg. Co., Inc., reserves the right to modify valve construction which will result in equal or superior performance to existing designs. These modifications may be made at ant time and at the sole discretion of the manufacturer.

MSK ENGINEERING AND DESIGN, INC.
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BENNINGTON, VERMONT 05201
PH: (802) 447-1402 FAX: (802) 445-1291

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|---|---|---|

TOWN OF BENNINGTON
MUNICIPAL WATER SYSTEM
REMEDIAL EXPANSION PHASE II
BENNINGTON, VERMONT

DRAWINGS THIS SHEET
PRV VAULT DETAILS

| NUMBER | DATE |
|---|---|
| 1001-019.7 | 10-11-2019 |
| DRAWN | CHECKED |
| MSK | JMD |

SHEET NUMBER
C500

E:_DRAWING DATABASE\1001-019.7 PRV REMEDIATION ESMETTS\C500 CONSTRUCTION DETAILS.DWG
LT Model 2018 / 1/3/2017

# GENERAL NOTES

TEMPORARY TRAFFIC CONTROL (VERMONT AGENCY OF TRANSPORTATION STANDARD T-1)

1. TRAFFIC CONTROL DEVICES NOT DETAILED IN THE VERMONT AGENCY OF TRANSPORTATION (VAOT) "STANDARD DRAWINGS" OR THE PROJECT PLANS SHALL BE IN ACCORDANCE WITH THE CURRENT "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MUTCD) AND THE "STANDARD HIGHWAY SIGNS AND MARKINGS" BOOK (SHSM), AND THEIR LATEST REVISIONS, PUBLISHED BY THE FEDERAL HIGHWAY ADMINISTRATION (FHWA).
2. CONSTRUCTION SIGNS SHALL BE ERECTED BEFORE THE START OF ANY WORK AND SHALL BE COVERED UNTIL WORK COMMENCES, DURING PERIODS OF INACTIVITY, OR UPON COMPLETION OF THE WORK. EACH SIGN SHALL BE ERECTED IN A NEAT AND WORKMAN-LIKE MANNER.
3. DIAMOND SHAPED CONSTRUCTION SIGNS SHALL BE 48 INCH BY 48 INCH.
4. CONSTRUCTION SIGN COVERS SHALL CONSIST OF A PANEL, PAINTED FLAT BLACK, THE SAME AS THE SIGN IT COVERS. THE PANEL SHALL BE OF WOOD, PLYWOOD, HARDBOARD, OR ANY MATERIAL SATISFACTORY TO THE ENGINEER. NO MATERIAL WILL BE APPROVED THAT WILL DETERIORATE BY EXPOSURE TO THE WEATHER DURING THE PROJECT. MOUNTING OF THE PANEL SHALL BE DONE IN SUCH A WAY AS NOT TO DAMAGE THE SIGN FACE MATERIAL.
5. SIGNS SHALL BE MAINTAINED IN A CLEAN AND LEGIBLE CONDITION SATISFACTORY TO THE ENGINEER. THEY SHALL BE KEPT PLUMB AND LEVEL, AND ALWAYS PRESENT A NEAT APPEARANCE. DAMAGED, DEFACED, OR DIRTY SIGNS SHALL BE REPAIRED, CLEANED, OR REPLACED, AS ORDERED BY THE ENGINEER.
6. NO CROSS-BRACING OR BACK-BRACING TO KEEP POSTS PLUMB WILL BE ALLOWED. CONCRETE FOUNDATIONS, COLLARS, OR SOIL BEARING PLATES ARE NOT PERMITTED.
7. CONSTRUCTION SIGNS INSTALLED ON POSTS SHALL BE SET SECURELY IN THE GROUND ON TWO POSTS. THE BOTTOM OF THE SIGN SHALL BE AT LEAST FIVE FEET ABOVE THE EDGE OF THE PAVEMENT, AND THE NEAREST EDGE OF A SIGN SHALL BE AT LEAST SIX FEET OUTSIDE THE SHOULDER POINT. FOUR FEET OUTSIDE OF GUARDRAIL, OR TWO FEET OUTSIDE CURBING OR SIDEWALK. THE INSTALLATION OF SIGNS SHALL BE SUBJECT TO THE APPROVAL OF THE ENGINEER. IN URBAN AREAS, THE BOTTOM OF THE SIGN SHALL BE AT LEAST SEVEN FEET ABOVE THE SIDEWALK OR EDGE OF PAVEMENT, WHICHEVER IS HIGHER.
8. PORTABLE SIGNS SHALL BE PLACED ON THE EDGE OF THE ROADWAY AND A MINIMUM OF ONE FOOT ABOVE THE TRAVELED WAY. ALL VEGETATION WHICH INTERFERES WITH THE VISIBILITY OF THE SIGNS SHALL BE REMOVED. WHEN PLACED BEHIND GUARDRAIL, THE BOTTOM OF THE SIGN SHALL BE ABOVE THE TOP OF THE GUARDRAIL.
9. SIGNS SHALL BE REMOVED UPON THE COMPLETION OF THE WORK AT THE DISCRETION OF THE ENGINEER.
10. ROLL UP CONSTRUCTION SIGNS SHALL HAVE RETROREFLECTIVE SHEETING EQUAL TO OR EXCEEDING THE "AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS" (AASHTO) M 268 ["AMERICAN SOCIETY FOR TESTING AND MATERIALS" (ASTM) D 4956] TYPE VII, UNLESS OTHERWISE NOTED.
11. SOLID SUBSTRATE CONSTRUCTION SIGNS SHALL HAVE RETROREFLECTIVE SHEETING EQUAL TO OR EXCEEDING THE "AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS" (AASHTO) M 268 ["AMERICAN SOCIETY FOR TESTING AND MATERIALS" (ASTM) D 4956] TYPE VIII OR IX REQUIREMENTS, UNLESS OTHERWISE NOTED.
12. WHERE CONSTRUCTION SIGN INSTALLATIONS ARE NOT PROTECTED BY GUARDRAIL OR OTHER APPROVED TRAFFIC BARRIERS, ALL SIGN STANDS AND POST INSTALLATIONS SHALL MEET "NATIONAL COOPERATIVE HIGHWAY RESEARCH PROGRAM" (NCHRP) REPORT 350 OR THE AASHTO "MANUAL FOR ASSESSING SAFETY HARDWARE" (MASH). THE APPROPRIATE RESOURCE SHALL BE DETERMINED AS DESCRIBED IN THE MASH PUBLICATION. NO SIGN POSTS SHALL EXTEND OVER THE TOP OF THE SIGN INSTALLED ON SAID POSTS. WHEN ANCHORS ARE INSTALLED, STUBS SHALL NOT BE GREATER THAN FOUR INCHES ABOVE THE EXISTING GROUND.
13. ROADWAY AND SHOULDER WIDTHS DEPICTED ON THE STANDARD DRAWINGS MAY VARY.
14. THESE STANDARD DRAWINGS ARE INTENDED TO SERVE AS VTRANS STANDARD OPERATING PROCEDURE. IT IS NOTED THAT COMPONENT PARTS OF A TEMPORARY TRAFFIC CONTROL WORK ZONE MAY BE MODIFIED, DUE TO FIELD CONDITIONS, AT THE DISCRETION OF THE ENGINEER.

# GENERAL NOTES

CONVENTIONAL ROADS CONSTRUCTION APPROACH SIGNING (VERMONT AGENCY OF TRANSPORTATION STANDARD T-10)

1. SIGNS SHOWN ON THIS SHEET ARE INTENDED FOR USE IN PROVIDING ADVANCED WARNING AND INFORMATION ON CONSTRUCTION PROJECTS OVER WHICH TRAFFIC WILL BE MAINTAINED. WHEN ADDITIONAL APPROACH SIGNS OR OTHER TYPES OF ADVANCED SIGNING OR CONTROL ARE NECESSARY, THE PLANS AND/OR SPECIFICATIONS FOR THAT PROJECT WILL GIVE THE DETAILS OF THE SIGNS AND DEVICES REQUIRED. FOR ON-PROJECT CONSTRUCTION SIGNS,REFER TO THE APPROPRIATE STANDARDS SHEETS.
2. THE "ROAD WORK NEXT xx MILES" SIGN (G20-1) SHALL BE INSTALLED IN ADVANCE OF TEMPORARY TRAFFIC CONTROL ZONES THAT ARE MORE THAN TWO MILES IN LENGTH, OR AS DIRECTED BY THE ENGINEER. DISTANCES SHALL BE STATED TO THE NEAREST WHOLE MILE.
3. SIGNS SHALL BE LOCATED AS DETAILED ON THIS SHEET, OR AS OTHERWISE SHOWN ON THE PLANS. THE SIGNS SHALL APPEAR AT EACH END OF THE HIGHWAY UNDER CONSTRUCTION, AND ON ALL INTERSECTING PUBLIC HIGHWAYS. THE ENGINEER SHALL DETERMINE THE EXACT LOCATIONS

# GENERAL NOTES

CONSTRUCTION SIGN DETAILS (VERMONT AGENCY OF TRANSPORTATION STANDARD T-28)

1. COLORS FOR SIGNS SHALL BE BLACK LEGEND AND BORDER ON FLUORESCENT ORANGE BACKGROUND.
2. CONSTRUCTION SIGNS SHALL BE 48 INCH BY 48 INCH. IF SOLID SUBSTRATE SIGNS ARE USED, SIGNS SHALL HAVE CORNERS ROUNDED TO A THREE INCH RADIUS.
3. SIGNS SHALL HAVE 1¼ INCH WIDE BORDERS THAT ARE INDENTED ¾ INCH FROM THE EDGE OF THE SIGN.
4. SIGNS SHALL HAVE THE LEGEND CENTERED HORIZONTALLY AND VERTICALLY ON THE SIGN, UNLESS OTHERWISE NOTED.
5. ALL SIGN DIMENSIONS ARE SHOWN IN INCHES.

# SIGN LEGEND

(VTRANS STANDARD T-1)

A — ROAD WORK AHEAD — W20-1

B — ROAD WORK 500 FT — W20-1

C — SIDE ROAD WORK AHEAD — VC-869

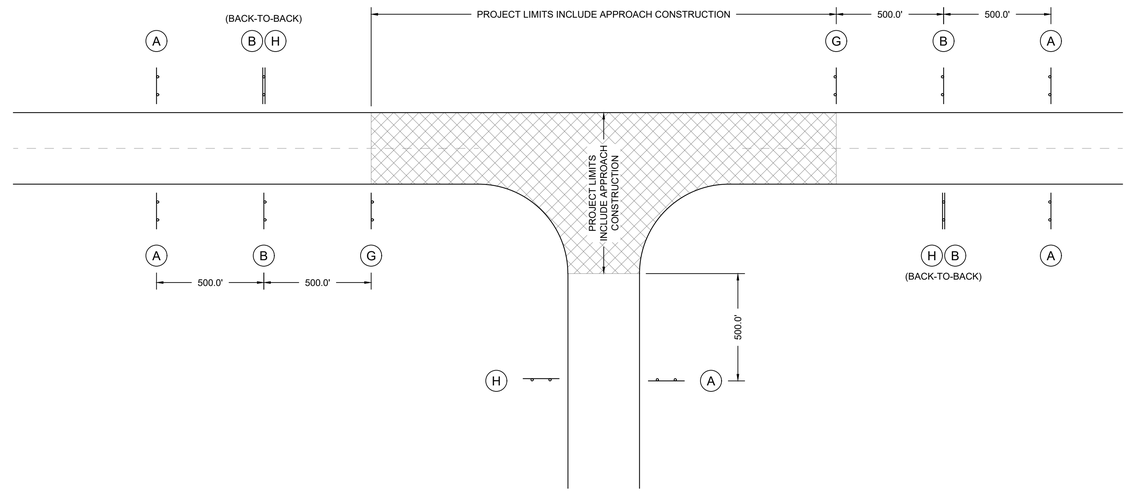
D — SIDE ROAD WORK 500 FT — VC-869

E — SIDE ROAD WORK LEFT — VC-869

F — SIDE ROAD WORK RIGHT — VC-869

G — ROAD WORK NEXT XX MILES — G20-1

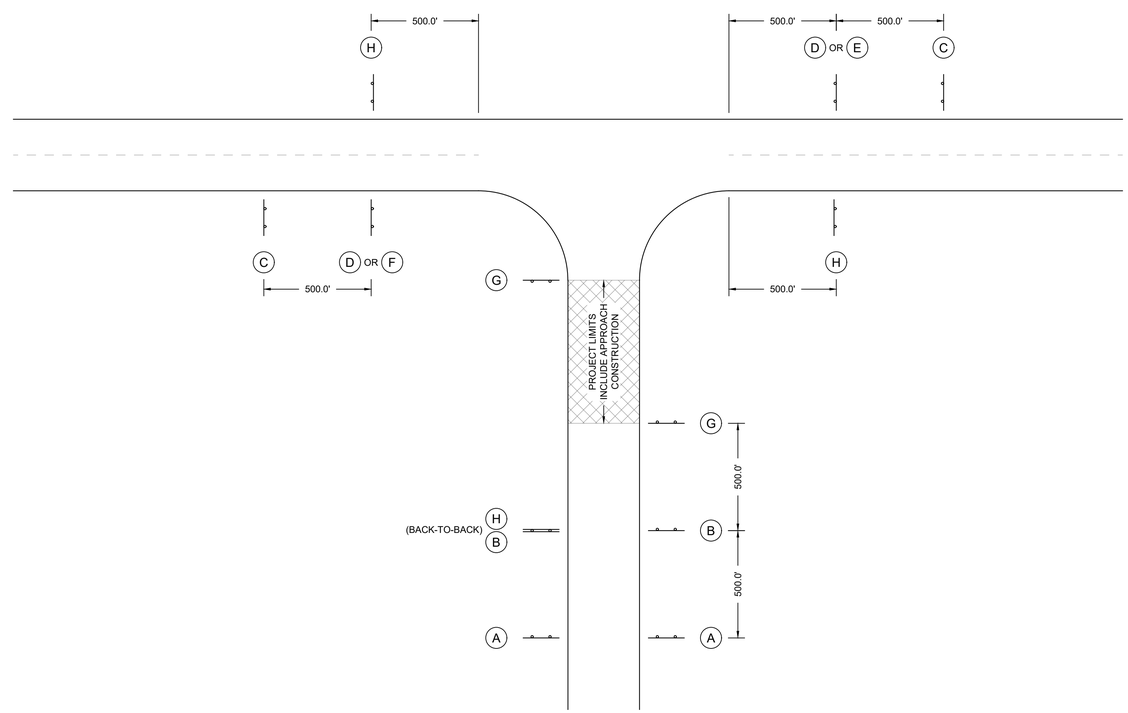
H — END ROAD WORK — G20-2




1 TYPICAL APPROACH SIGNAGE

(FIELD CONDITIONS SHALL DICTATE ACTUAL PLACEMENT)

Scale: NTS




2 SIDE ROAD APPROACH SIGNAGE

TO BE USED WHEN CONSTRUCTION IS UP TO 1000 FEET FROM THE INTERSECTION
(FIELD CONDITIONS SHALL DICTATE ACTUAL PLACEMENT)

Scale: NTS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BENNINGTON, VERMONT

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TRAFFIC CONTROL DETAILS

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| 1001-019.7 | 10-11-2019 |
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| MSK | JMD |

SHEET NUMBER

C501

STATE OF VERMONT — JASON M. DOLMETSCH — No.9238 CIVIL — LICENSED PROFESSIONAL ENGINEER


E:_DRAWING DATABASE\1001-019.7 PVSA BENNINGTON\SHEETS\C500 CONSTRUCTION DETAILS.DWG
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# LEGEND

MUTCD TABLE 6H-2: MEANING OF SYMBOLS ON TYPICAL APPLICATION DIAGRAMS

CHANNELIZING DEVICE

DIRECTION OF TRAFFIC

FLAGGER

SIGN

WORK SPACE

## TABLE 6H-3: MEANING OF LETTER CODES ON TYPICAL APPLICATION DIAGRAMS

| ROADWAY TYPE | DISTANCE BETWEEN SIGNS ** | | |
|---|---|---|---|
| | A | B | C |
| URBAN (LOW SPEED) * | 100 FEET | 100 FEET | 100 FEET |
| URBAN (HIGH SPEED) * | 350 FEET | 350 FEET | 350 FEET |
| RURAL | 500 FEET | 500 FEET | 500 FEET |
| EXPRESSWAY/FREEWAY | 1,000 FEET | 1,500 FEET | 2,640 FEET |

* SPEED CATEGORY TO BE DETERMINED BY HIGHWAY AGENCY

** THE COLUMN HEADINGS A,B, AND C ARE THE DIMENSIONS SHOWN IN FIGURES 6H-3 AND 6H-10. THE DIMENSION A IS THE DISTANCE FROM THE TRANSITION, OR POINT OF RESTRICTION, TO THE FIRST SIGN. THE B DIMENSION IS THE DISTANCE BETWEEN THE FIRST AND SECOND SIGNS. THE C DIMENSION IS THE DISTANCE BETWEEN THE SECOND AND THIRD SIGNS. [THE "FIRST SIGN" IS THE SIGN IN A THREE-SIGN SERIES THAT IS CLOSEST TO THE TEMPORARY TRAFFIC CONTROL (TTC) ZONE. THE "THIRD SIGN" IS THE SIGN THAT IS LOCATED THE FURTHEST UPSTREAM FROM THE TTC ZONE.]

NOTES FOR FIGURE 6H-3: TYPICAL APPLICATION 3 "WORK ON THE SHOULDERS":

GUIDANCE

1. A "SHOULDER WORK" SIGN SHOULD BE PLACED ON THE LEFT SIDE OF THE ROADWAY FOR A DIVIDED OR ONE-WAY STREET ONLY IF THE LEFT SHOULDER IS AFFECTED.

OPTION

2. THE "WORKERS" SYMBOL SIGN MAY BE USED INSTEAD OF "SHOULDER WORK" SIGNS.
3. THE "SHOULDER WORK AHEAD" SIGN ON AN INTERSECTING ROADWAY MAY BE OMITTED WHERE DRIVERS EMERGING FROM THAT ROADWAY WILL ENCOUNTER ANOTHER ADVANCED WARNING SIGN PRIOR TO THIS ACTIVITY AREA.
4. FOR SHORT DURATION OPERATIONS OF 60 MINUTES OR LESS, ALL SIGNS AND CHANNELIZING DEVICES MAY BE ELIMINATED IF A VEHICLE WITH ACTIVATED HIGH-INTENSITY ROTATING, FLASHING, OSCILLATING, OR STROBE LIGHTS IS USED.
5. VEHICLE HAZARD WARNING SIGNALS MAY BE USED TO SUPPLEMENT HIGH-INTENSITY ROTATING, FLASHING, OSCILLATING, OR STROBE LIGHTS.

STANDARD

6. VEHICLE HAZARD WARNING SIGNALS SHALL NOT BE USED INSTEAD OF THE VEHICLE'S HIGH-INTENSITY ROTATING, FLASHING, OSCILLATING, OR STROBE LIGHTS.
7. WHEN PAVED SHOULDERS HAVING A WIDTH OF 8 FEET OR MORE ARE CLOSED, AT LEAST ONE ADVANCED WARNING SIGN SHALL BE USED. IN ADDITION, CHANNELIZING DEVICES SHALL BE USED TO CLOSE THE SHOULDER IN ADVANCE TO DELINEATE THE BEGINNING OF THE WORK SPACE AND DIRECT VEHICULAR TRAFFIC TO REMAIN WITHIN THE TRAVELED WAY.

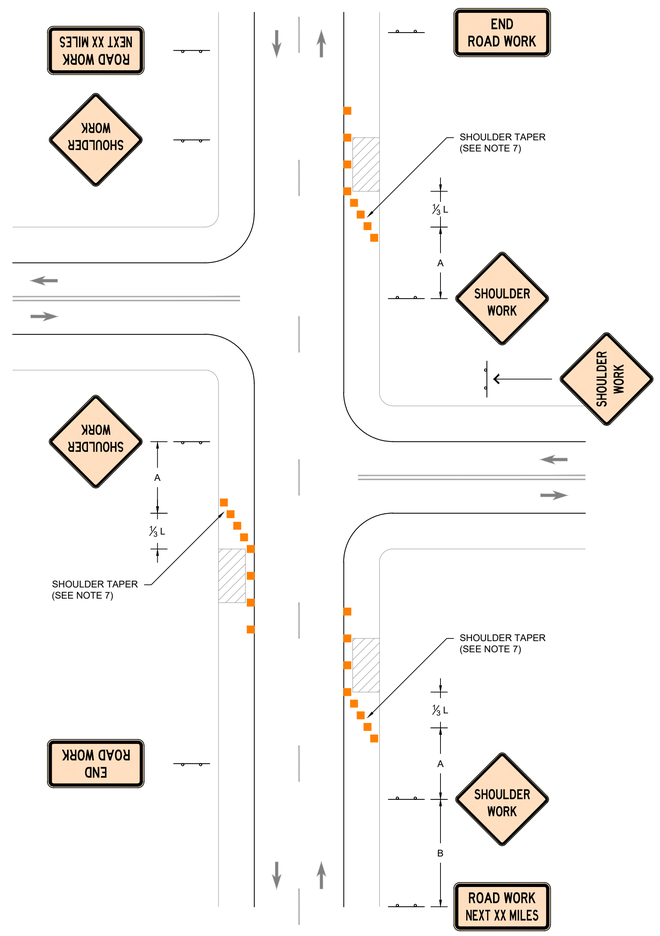
## TABLE 6H-4: FORMULAS FOR DETERMINING TAPER LENGTH

| SPEED (S) | TAPER LENGTH (L) IN FEET |
|---|---|
| 40 MPH OR LESS | $L = \frac{WS^2}{60}$ |
| 45 MPH OR MORE | L = WS |

WHERE: L = TAPER LENGTH IN FEET

W = WIDTH OF OFFSET IN FEET

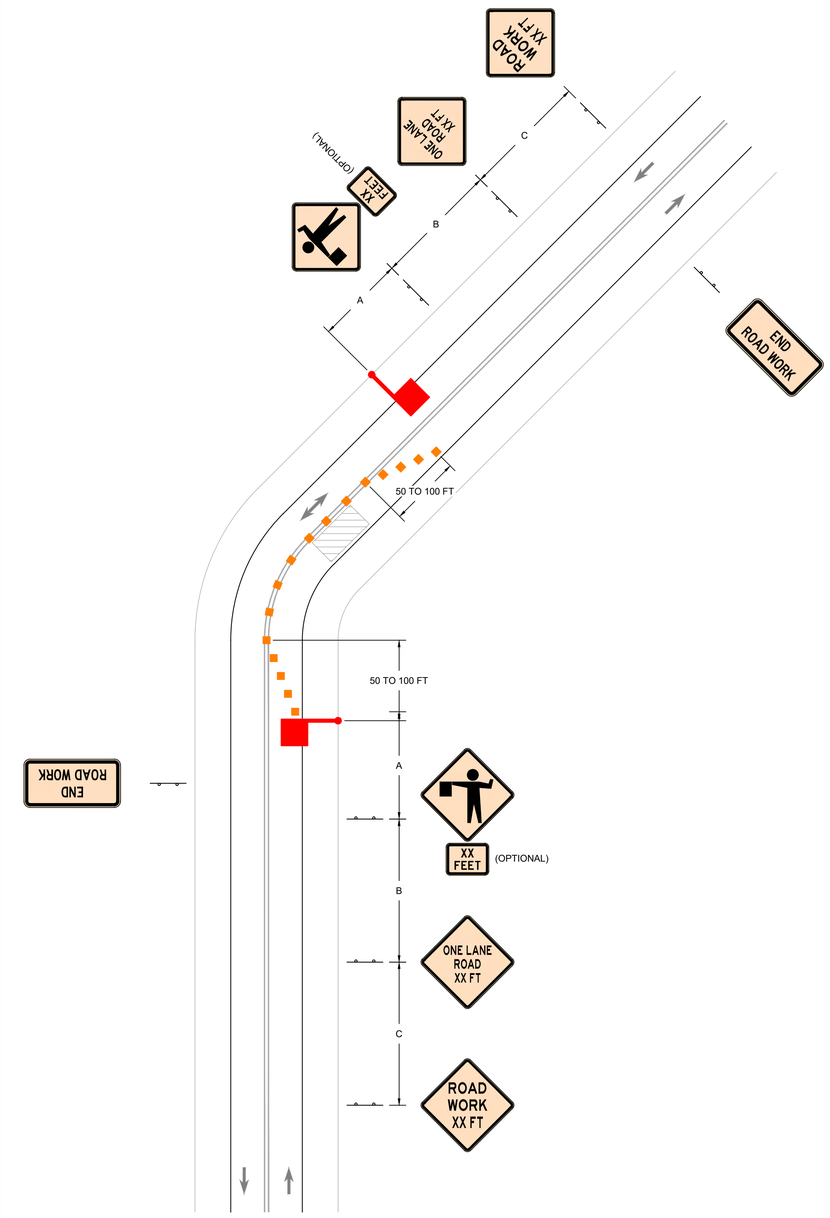
S = POSTED SPEED LIMIT, OR OFF-PEAK 85TH-PERCENTILE SPEED PRIOR TO WORK STARTING, OR THE ANTICIPATED OPERATING SPEED IN MPH




1 WORK ON THE SHOULDERS (TA-3)

MUTCD FIGURE 6H-3: TYPICAL APPLICATION 3

Scale: NTS




2 LANE CLOSURE ON TWO-LANE ROAD USING FLAGGERS (TA-10)

MUTCD FIGURE 6H-10: TYPICAL APPLICATION 10

Scale: NTS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TRAFFIC CONTROL DETAILS

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| 1001-019.7 | 10-11-2019 |
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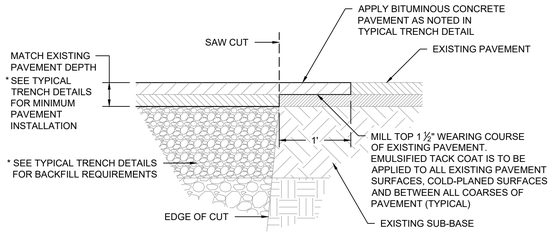
SHEET NUMBER

C502

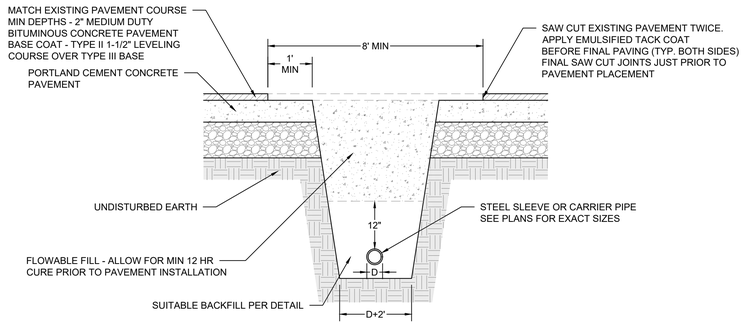
STATE OF VERMONT
JASON M. DOLAND
No. 9238
CIVIL
LICENSED
PROFESSIONAL ENGINEER


F:_DRAWING DATABASE\1001-019.7 PWA REMEDIATION\CIRCUIT2\C502 CONSTRUCTION DETAILS.DWG
SB Doland 09/11/2019



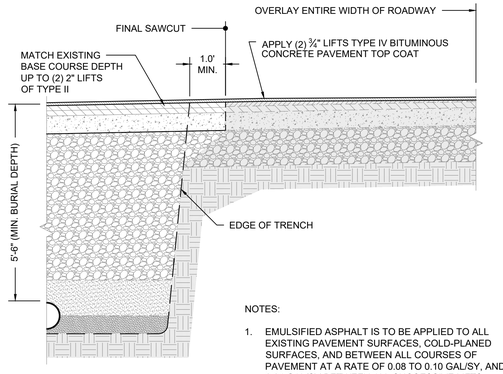

## 1 PAVEMENT REPAIR DETAIL

Scale: NTS




## 4 OPEN CUT PAVEMENT TRENCH DETAIL - CONCRETE ROADWAY

Scale: NTS

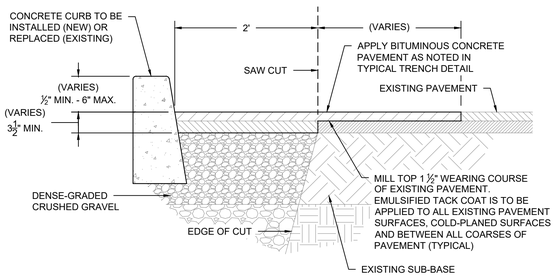



NOTES:

1. EMULSIFIED ASPHALT IS TO BE APPLIED TO ALL EXISTING PAVEMENT SURFACES, COLD-PLANED SURFACES, AND BETWEEN ALL COURSES OF PAVEMENT AT A RATE OF 0.08 TO 0.10 GAL/SY, AND 0.04 GAL/SY BETWEEN ALL SUCCESSIVE LIFTS, REGARDLESS OF WHETHER IT IS PAVED ON THE SAME DAY, OR NOT.
2. RESTORE ALL PAVEMENT MARKINGS.

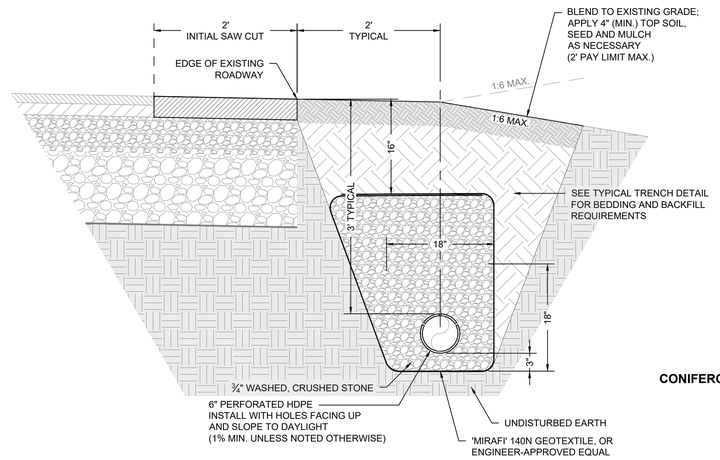
## 8 PAVEMENT REPAIR AND OVERLAY DETAIL

Scale: NTS



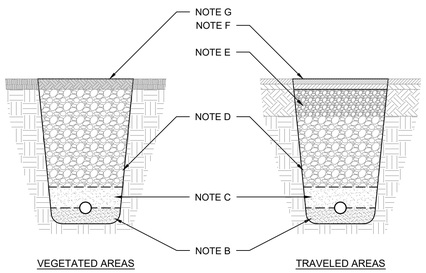

## 2 PAVEMENT REPAIR DETAIL

(AT CURB) Scale: NTS



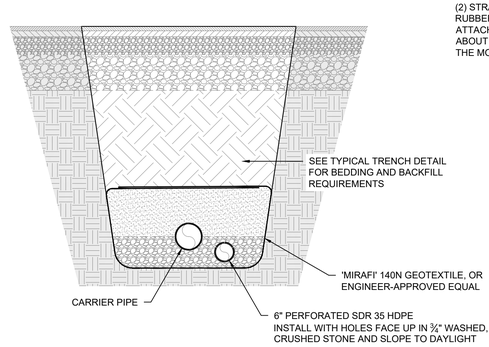

## 5 UNDERDRAIN DETAIL

Scale: NTS



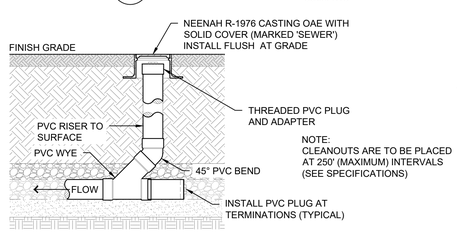

## 3 TYPICAL TRENCH DETAIL

Scale: NTS




## 6 UNDERDRAIN DETAIL

Scale: NTS




NOTE:
CLEANOUTS ARE TO BE PLACED AT 250' (MAXIMUM) INTERVALS (SEE SPECIFICATIONS)

## 7 TYPICAL IN-LINE CLEANOUT

Scale: NTS

INSTALLATION SPECIFICATIONS

A. MINIMUM BURIAL DEPTH 5'-6" (4'-0" FOR SEWER). IF CONDITIONS PREVENT MINIMUM BURIAL DEPTH, ALL SECTIONS OF LINE LESS THAN MINIMUM DEPTH IS TO BE INSULATED WITH 1" THICKNESS RIGID FOAM INSULATION PER FOOT LESS THAN MINIMUM (MIN. 2" THICKNESS).

B. BED PIPE IN 6" OF BEDDING MATERIAL. PIPE IS NOT TO BE LAID IN UNCOMPACTED SOIL OR IN WATER. IF IN LEDGE CONDITIONS, BED PIPE IN A MINIMUM OF 6" OF SAND. DO NOT REST PIPE ON LEDGE ROCK.

C. BACKFILL OVER PIPE WITH 12" MINIMUM SAND BEDDING MATERIAL, COMPACTED ENTIRE WIDTH OF TRENCH. BACKFILL WITH 3/4" STONE TO 12" DEPTH IF IN WATER.

D. BACKFILL WITH SATISFACTORY SOIL MATERIAL COMPACTED IN 6" LIFTS TO 95% MAXIMUM DRY DENSITY IN ROADS AND PAVED AREAS, 85% MAXIMUM DRY DENSITY IN LAWN AND GRASSED AREAS..

E. MINIMUM SUB-BASE INSTALLATION:

| | |
|---|---|
| MUNICIPAL ROADWAYS: | 12" COARSE-GRADED, CRUSHED GRAVEL<br>6" FINE-GRADED, CRUSHED GRAVEL |
| STATE ROADWAY: | 18" COARSE-GRADED, CRUSHED GRAVEL<br>6" FINE-GRADED, CRUSHED GRAVEL |
| DRIVEWAY: | 8" COARSE-GRADED, CRUSHED GRAVEL<br>6" FINE-GRADED, CRUSHED GRAVEL |

F. EDGES OF PAVEMENT MUST BE CUT PRIOR TO EXCAVATION TO PREVENT LIFTING OF REMAINING PAVEMENT, AND FOLLOWING EXCAVATION PRIOR TO PAVEMENT REPAIR. APPLY EMULSION TO EDGE OF EXISTING PAVEMENT PRIOR TO PAVING.

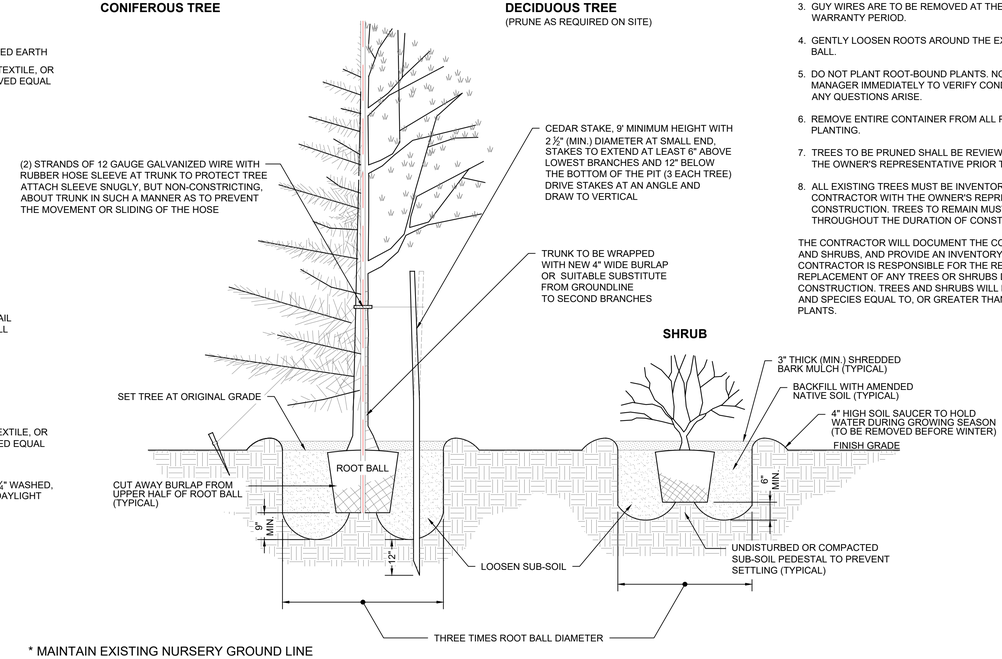
MINIMUM PAVEMENT INSTALLATION:

| | |
|---|---|
| MUNICIPAL ROADWAY: | TOP: 1.5" TYPE 4<br>BASE: 2" TYPE 2 |
| STATE ROADWAY: | TOP: 1.5" TYPE 3<br>BASE: 2.5" TYPE 2 |
| PAVED DRIVEWAYS: | TOP: 1" TYPE 4<br>BASE: 2" TYPE 2 |

G. 4" MINIMUM TOPSOIL, SEEDED AND MULCHED.

**CONIFEROUS TREE**

**DECIDUOUS TREE**
(PRUNE AS REQUIRED ON SITE)




* MAINTAIN EXISTING NURSERY GROUND LINE OF TREES AND/OR SHRUBS

NOTES:

1. PLANTS ARE TO BE SET PLUMB.
2. DO NOT ALLOW AIR POCKETS TO FORM DURING BACKFILLING.
3. GUY WIRES ARE TO BE REMOVED AT THE END OF THE WARRANTY PERIOD.
4. GENTLY LOOSEN ROOTS AROUND THE EXTERIOR OF THE ROOT BALL.
5. DO NOT PLANT ROOT-BOUND PLANTS. NOTIFY PROJECT MANAGER IMMEDIATELY TO VERIFY CONDITION OF PLANT IF ANY QUESTIONS ARISE.
6. REMOVE ENTIRE CONTAINER FROM ALL PLANTS PRIOR TO PLANTING.
7. TREES TO BE PRUNED SHALL BE REVIEWED IN THE FIELD WITH THE OWNER'S REPRESENTATIVE PRIOR TO INSTALLATION.
8. ALL EXISTING TREES MUST BE INVENTORIED BY THE CONTRACTOR WITH THE OWNER'S REPRESENTATIVE PRIOR TO CONSTRUCTION. TREES TO REMAIN MUST BE PROTECTED THROUGHOUT THE DURATION OF CONSTRUCTION.

THE CONTRACTOR WILL DOCUMENT THE CONDITION OF ALL TREES AND SHRUBS, AND PROVIDE AN INVENTORY TO THE OWNER. THE CONTRACTOR IS RESPONSIBLE FOR THE REMOVAL AND REPLACEMENT OF ANY TREES OR SHRUBS DAMAGED DURING CONSTRUCTION. TREES AND SHRUBS WILL BE REPLACED AT A SIZE AND SPECIES EQUAL TO, OR GREATER THAN, THE DAMAGED PLANTS.

## 9 TYPICAL PLANTING DETAIL FOR TREES AND SHRUBS

Scale: NTS


MSK ENGINEERING AND DESIGN, INC.
P.O. BOX 139, 150 DEPOT STREET
BENNINGTON, VERMONT 05201
PH: (802) 447-1402 FAX: (802) 445-1291


REVISIONS

| NO. | DATE | DESCRIPTION |
|---|---|---|
| | | |

TOWN OF BENNINGTON
MUNICIPAL WATER SYSTEM
REMEDIAL EXPANSION PHASE II
BENNINGTON, VERMONT

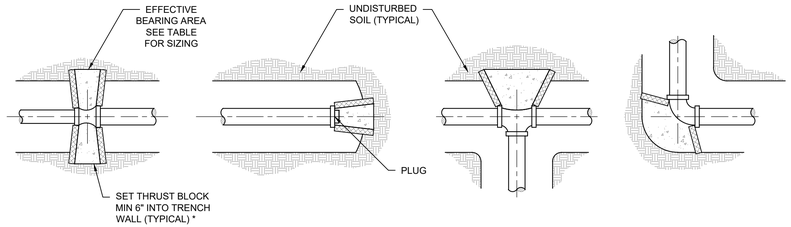
DRAWINGS THIS SHEET
CONSTRUCTION DETAILS

| NUMBER | DATE |
|---|---|
| 1001-019.7 | 10-11-2019 |
| DRAWN | CHECKED |
| MSK | JMD |

SHEET NUMBER
C503

STATE OF VERMONT
JASON M. DOLLEWICH
No.9238
CIVIL
LICENSED
PROFESSIONAL ENGINEER

F:_DRAWING DATABASE\1001-019.7 PFAS REMEDIATION\SHEETS-C500 CONSTRUCTION DETAILS.DWG
11:Oct:2019 10:11:19:06




REDUCER NTS | DEAD END NTS | TEE NTS | 90°, 45°, OR 22.5° BEND NTS

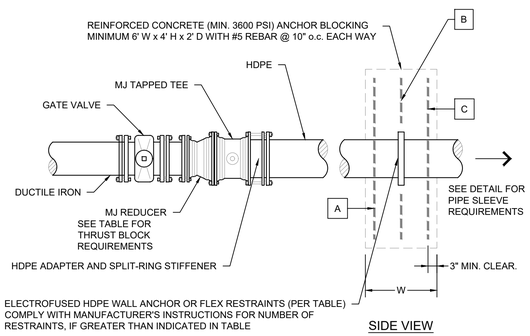
MINIMUM BEARING SURFACE AREA OF CONCRETE THRUST BLOCKS (IN SQUARE FEET)

| REDUCERS | | | 4-8" | | | | 10" | | | | 12" | | | | SOIL CONDITION | SAFE BEARING LOAD (PSF) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 8x6 | 10x8 | 12x8 | ENDS AND TEES | 90° ELB | 45° ELB | 22.5° OR LESS | ENDS AND TEES | 90° ELB | 45° ELB | 22.5° OR LESS | ENDS AND TEES | 90° ELB | 45° ELB | 22.5° OR LESS | | |
| 3.0 | 5.0 | 6.0 | 4.0 | 6.0 | 3.0 | 2.0 | 6.0 | 8.0 | 5.0 | 2.0 | 8.0 | 12.0 | 6.0 | 3.0 | SOUND SHALE | 10000 |
| 3.0 | 5.0 | 6.0 | 4.5 | 6.5 | 3.5 | 2.0 | 8.0 | 11.0 | 6.0 | 3.0 | 10.0 | 14.0 | 7.5 | 4.0 | CEMENTED GRAVEL AND SAND | 4000 |
| 7.0 | 7.0 | 11.0 | 7.0 | 9.0 | 5.0 | 3.0 | 10.0 | 14.0 | 7.0 | 4.0 | 14.0 | 19.0 | 11.0 | 5.0 | COARSE AND FINE COMPACT SAND | 3000 |
| 8.0 | 9.0 | 14.0 | 15.0 | 20.0 | 10.0 | 5.0 | 21.0 | 31.0 | 15.0 | 8.0 | 30.0 | 40.0 | 20.0 | 10.0 | MEDIUM CLAY (CAN BE SPADED) | 2000 |
| 8.0 | 11.0 | 16.0 | 20.0 | 28.0 | 15.0 | 8.0 | 29.0 | 41.0 | 22.0 | 11.0 | 41.0 | 58.0 | 31.0 | 16.0 | SOFT CLAY | 1000 |
| MAXIMUM WATER PRESSURE 300 PSI | | | | | | | | | | | | | | | | |

* THRUST BLOCKS ARE NOT REQUIRED AT REDUCERS OF ONE PIPE DIAMETER OR LESS
** ALL THRUST BLOCKS ARE TO BE FORMED WITH 2" RIGID FOAM INSULATION TO MEET MINIMUM BEARING SURFACE AREA.
**NON-FORMED THRUST BLOCKS WILL NOT BE PERMITTED.**

## 1 TYPICAL CONCRETE THRUST BLOCK DETAIL
Scale: NTS

NOTES:
1. PLACE 3 MIL MINIMUM POLYETHYLENE SHEETING BETWEEN ALL CONCRETE THRUST BLOCKS AND PIPE AND/OR FITTINGS TO PREVENT BONDING



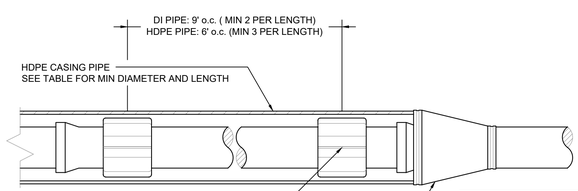

SIDE VIEW

NOTES:
1. INSTALL (2) EXTRA HIGH-STRENGTH # 12 - 14 AWG SOLID COPPER TRACER WIRE WITH BLUE 30 mil INSULATION. CONNECT AT DUCTILE IRON PIPE, RUN ABOVE HDPE, AND IN SLEEVE. TRACER WIRE TO BE ELECTRICALLY CONTINUOUS TO BOTH ENDS OF HDPE, AND BONDED TO DUCTILE IRON.
2. FLEX RESTRAINTS MUST BE RATED AT 8,000 LBS OF FORCE OR HIGHER
3. WHEN DIRECTED BY THE ENGINEER, THE CONCRETE ANCHOR BLOCK SIZE MAY BE ADJUSTED, BASED ON SOIL CLASSIFICATION AND PIPE DIAMETER
4. ENGINEER TO CONFIRM ADEQUATE SOIL PRESSURE BEARING CAPACITY FOR CONCRETE ANCHOR BLOCKING
5. REINFORCEMENT NOTES
   a. FOR 4 TO 10 INCH PIPE, PLACE ONE MAT OF #5 REBAR AT LOCATION "B" AS SHOWN ON DIAGRAM
   b. FOR 12 INCH PIPE, PLACE TWO MATS OF #5 REBAR, ONE AT LOCATION "A" AND ONE AT LOCATION "C" AS SHOWN ON THE DIAGRAM

| APPROX. DEAD END THRUST AT 200 PSI WATER PRESSURE | | UNDISTURBED SOIL BEARING AREA (SQ FT) | APPROX. SOIL PRESSURE BEARING LOAD (LB/ SQ FT) | MINIMUM WIDTH "W" (INCHES) | APPROXIMATE CONCRETE VOLUME | |
|---|---|---|---|---|---|---|
| HDPE NOMINAL PIPE SIZE (INCHES) | TOTAL THRUST (LBS) | | | | CUBIC FT | CUBIC YARDS |
| 3-4 | 2,130 | 15 | 142 | 10 | 20 | 0.74 |
| 6 | 4,616 | 15 | 308 | 10 | 20 | 0.74 |
| 8 | 7,823 | 15 | 522 | 12 | 24 | 0.89 |
| 10 | 12,153 | 15 | 810 | 12 | 24 | 0.89 |
| 12 | 17,094 | 15 | 1,140 | 14 | 28 | 1.04 |

| MINIMUM NUMBER OF FLEX RESTRAINTS BY PIPE SIZE | |
|---|---|
| HDPE NOMINAL PIPE SIZE (INCHES) | NUMBER OF FLEX RESTRAINTS |
| 4 THROUGH 8 | 2 |
| 10 THROUGH 12 | 3 |

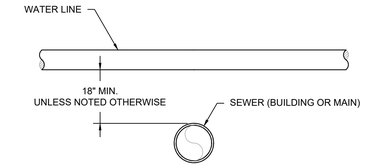
## 2 TYPICAL HDPE TRANSITION DETAIL
Scale: NTS



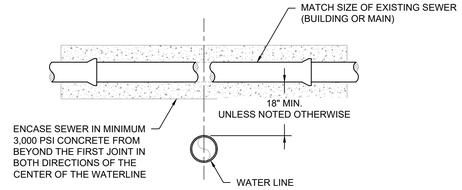

| SLEEVE PIPE SIZE AND THICKNESS | | |
|---|---|---|
| CARRIER DIA | CASING DIA/MATL | MIN THICKNESS |
| 3/4"-1" 'K' CU | 4" HDPE | N/A |
| 2" 'K' Cu | 6" HDPE | DR 17 |
| 3" HDPE | 10" HDPE | DR 17 |
| 4" DI | 14" HDPE | DR 17 |
| 6" DI | 16" HDPE | DR 17 |
| 8" DI | 18" HDPE | DR 17 |
| 10" HDPE | 18" HDPE | DR 17 |
| 10" HDPE * | 24" HDPE | DR 17 |

* BENEATH U.S. ROUTE 7 (SEE PLANS)

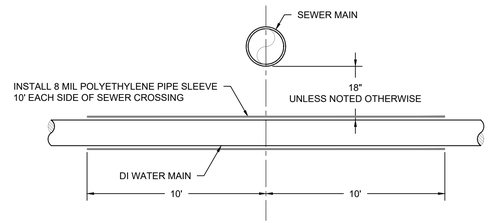
## 3 SLEEVE PIPE DETAIL
Scale: NTS



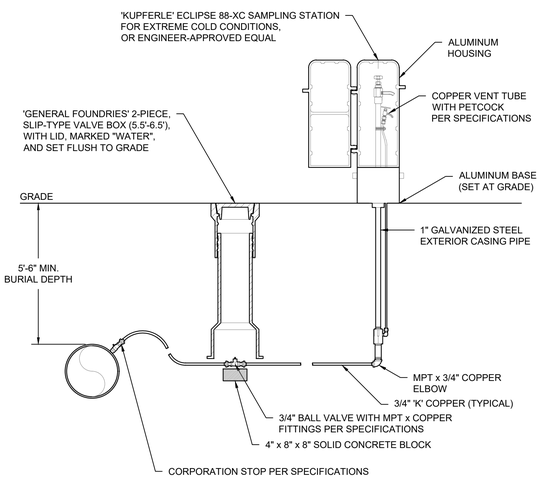

## 4 WATER CROSSING SEWER - ABOVE
Scale: NTS




## 5 WATER CROSSING SEWER - BELOW
Scale: NTS

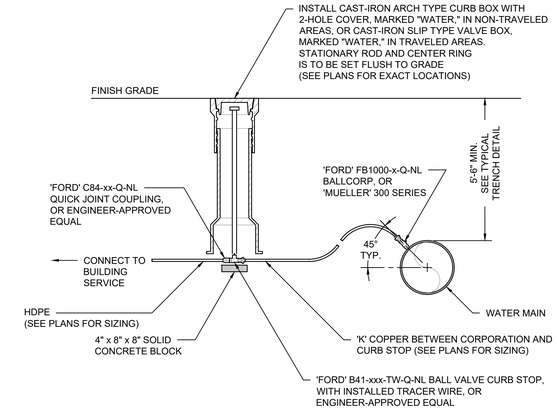



## 6 WATER CROSSING SEWER - BELOW
Scale: NTS




## 7 TYPICAL SAMPLING STATION DETAIL
Scale: NTS

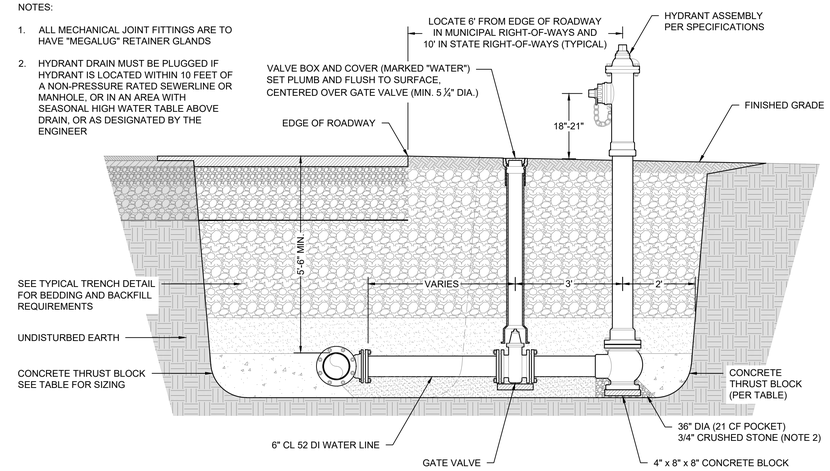
- SAMPLING STATIONS ARE TO HAVE A 5'-6" MINIMUM BURIAL DEPTH, WITH 3/4" FIP INLET AND 3/4" HOSE OR UNTHREADED NOZZLE
- ALL STATIONS ARE TO BE ENCLOSED IN A LOCKABLE, NON-REMOVABLE ALUMINUM-CAST HOUSING, AND ARE TO INCLUDE THE MANUFACTURER'S VACUUM PUMP SYSTEM
- WHEN OPENED, THE STATION MUST REQUIRE NO KEY FOR OPERATION, AND THE WATER WILL FLOW IN AN ALL BRASS WATERWAY
- ALL WORKING PARTS WILL ALSO BE OF BRASS AND BE REMOVABLE FROM ABOVE GROUND WITH NO DIGGING
- EXTERIOR PIPING ARE TO BE BRASS OR GALVANIZED
- A COPPER VENT TUBE WILL ENABLE EACH STATION TO BE PUMPED FREE OF STANDING WATER TO PREVENT FREEZING AND TO MINIMIZE THE GROWTH OF BACTERIA
- THE ECLIPSE No. 88-XC SAMPLING STATION, FOR EXTREME COLD CONDITIONS, WILL BE MANUFACTURED BY KUPFERLE FOUNDRY, ST. LOUIS, MO 63102




NOTE:
1. CONTRACTOR IS TO USE 'FORD' C84-xx-Q-NL "QUICK JOINT COUPLING", OR APPROVED EQUAL FOR TRANSITIONS FROM COPPER TO HDPE.
2. INSERT STIFFENERS ARE REQUIRED AT ALL PLASTIC PIPE CONNECTIONS.
3. THE CONTRACTOR MUST SUPPLY A MINIMUM OF (3) TIE DISTANCES FOR CORPORATION STOPS,CURB STOPS, END OF SERVICE AND ANY OTHER FITTINGS IN THE SERVICE LINE AS A PART OF ALL AS-BUILT DRAWINGS.

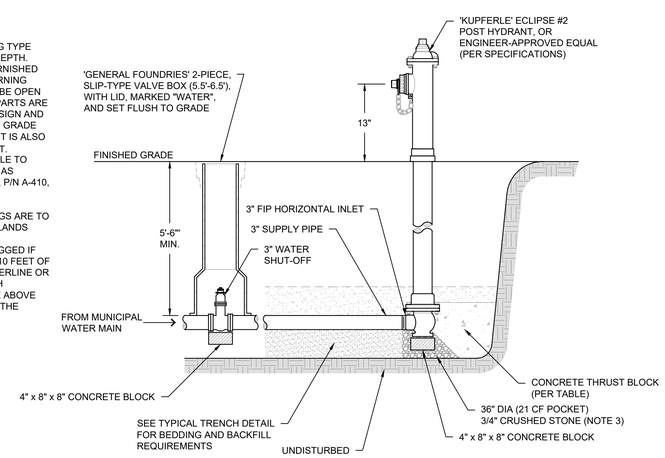
## 8 TYPICAL CURB STOP
NTS

NOTES:
1. ALL MECHANICAL JOINT FITTINGS ARE TO HAVE "MEGALUG" RETAINER GLANDS
2. HYDRANT DRAIN MUST BE PLUGGED IF HYDRANT IS LOCATED WITHIN 10 FEET OF A NON-PRESSURE RATED SEWERLINE OR MANHOLE, OR IN AN AREA WITH SEASONAL HIGH WATER TABLE ABOVE DRAIN, OR AS DESIGNATED BY THE ENGINEER




## 9 HYDRANT ASSEMBLY DETAIL
Scale: NTS

NOTES:
1. POST HYDRANTS ARE TO BE NON-FREEZING, SELF-DRAINING TYPE WITH A 5'-6" MINIMUM BURIAL DEPTH. THESE HYDRANTS WILL BE FURNISHED WITH A 3" FIP INLET, A NON-TURNING OPERATING ROD, AND ARE TO BE OPEN TO THE RIGHT. ALL WORKING PARTS ARE TO BE BRONZE TO BRONZE DESIGN AND BE SERVICEABLE FROM ABOVE GRADE WITHOUT DIGGING. THE OUTLET IS ALSO TO BE BRONZE AND BE 2 ½" NST. HYDRANTS ARE TO BE LOCKABLE TO PREVENT UNAUTHORIZED USE AS MANUFACTURED BY MUELLER., P/N A-410, OR APPROVED EQUAL.
2. ALL MECHANICAL JOINT FITTINGS ARE TO HAVE "MEGALUG" RETAINER GLANDS
3. HYDRANT DRAIN MUST BE PLUGGED IF HYDRANT IS LOCATED WITHIN 10 FEET OF A NON-PRESSURE RATED SEWERLINE OR MANHOLE, OR IN AN AREA WITH SEASONAL HIGH WATER TABLE ABOVE DRAIN, OR AS DESIGNATED BY THE ENGINEER




## 10 FLUSH HYDRANT DETAIL
Scale: NTS


MSK ENGINEERING AND DESIGN, INC.
P.O. BOX 139, 150 DEPOT STREET
BENNINGTON, VERMONT 05201
PH: (802) 447-1402 FAX: (802) 445-1291


REVISIONS

| NO. | DATE | DESCRIPTION |
|---|---|---|

TOWN OF BENNINGTON
MUNICIPAL WATER SYSTEM
REMEDIAL EXPANSION PHASE II
BENNINGTON, VERMONT

DRAWINGS THIS SHEET
CONSTRUCTION DETAILS

| NUMBER | DATE |
|---|---|
| 1001-019.7 | 10-11-2019 |
| DRAWN | CHECKED |
| MSK | JMD |

SHEET NUMBER
C504

STATE OF VERMONT
JASON M. DOLMETSCH
No.9238
CIVIL
LICENSED
PROFESSIONAL ENGINEER

E:_DRAWING DATABASE\1001-019.7 PFOA REMEDIATION\SHEETS\C500 CONSTRUCTION DETAILS.DWG
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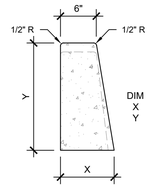
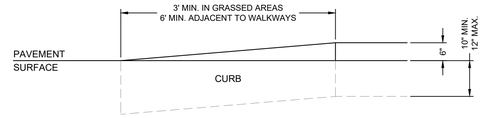


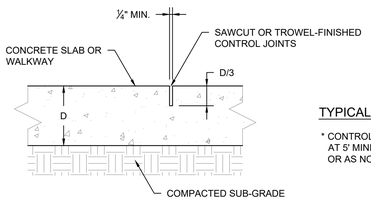

| DIM | SLIP FORM | PRE CAST |
|---|---|---|
| X | 9" | 8" |
| Y | 18" | 16.5" |

NOTE:
WHERE NEW CURBS AND WALKWAYS ARE REQUIRED, AN APPROVED SEALANT IS TO BE APPLIED IMMEDIATELY FOLLOWING THE PLACEMENT OF THE CONCRETE

## 1 TYPICAL CURB
TYPE B — NTS




## 2 CURB - TAPERED END DETAIL
NTS

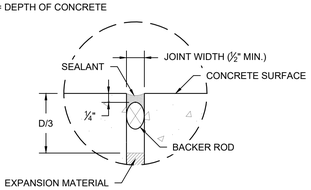



TYPICAL CONTROL JOINT*

* CONTROL JOINTS SHALL BE INSTALLED AT 5' MINIMUM LONGITUDINAL SPACING, OR AS NOTED ON PLANS

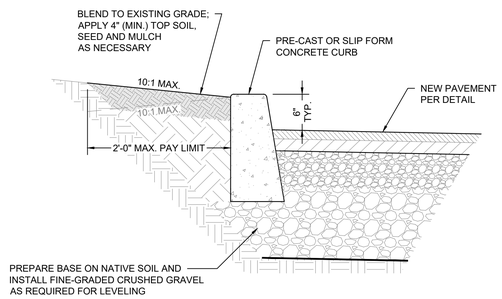
D = DEPTH OF CONCRETE

TYPICAL EXPANSION JOINT
(WITH SEAL)

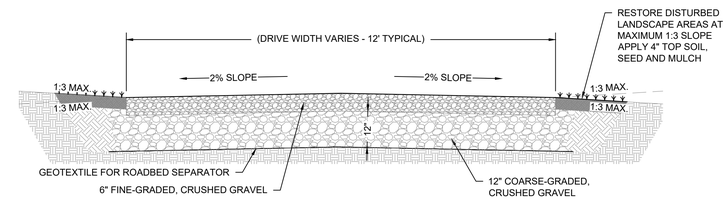



PRE-FORMED EXPANSION JOINT FILLER SHALL BE INSTALLED FOR THE FULL THICKNESS OF THE WALKWAY AND SHALL BE USED AT ALL JOINTS BETWEEN NEW WALKWAYS, EXISTING WALKWAYS, AND OTHER CONCRETE APPURTENANCES. EXPANSION JOINT SPACING SHALL NOT EXCEED 25' IN NEW CONSTRUCTION.

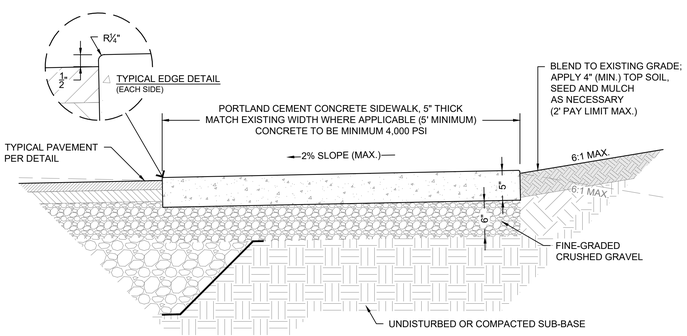
## 3 TYPICAL CONCRETE JOINT DETAILS
Scale: NTS



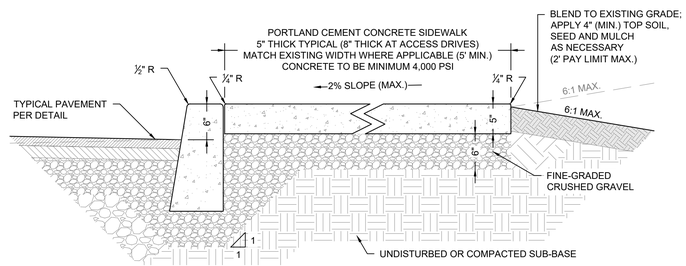

## 4 TYPICAL CURB DETAIL
TYPE B — Scale: NTS



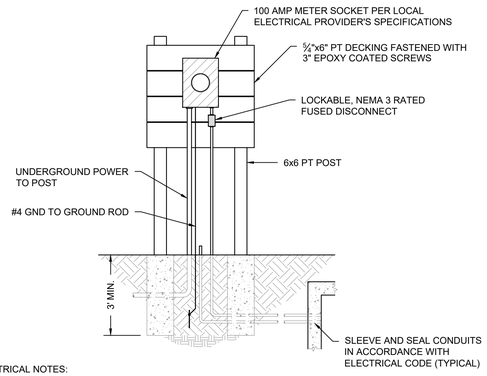

## 9 TYPICAL GRAVEL DRIVE
Scale: NTS




## 5 TYPICAL CONCRETE WALKWAY DETAIL
Scale: NTS



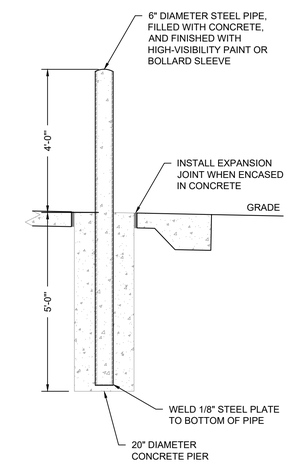

## 6 TYPICAL CONCRETE WALKWAY DETAIL
(WITH CURB) — Scale: NTS



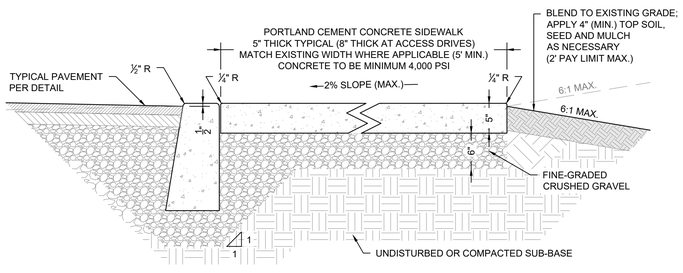

SITE ELECTRICAL NOTES:

- CONTRACTOR TO SUPPLY ALL ELECTRICAL MATERIALS AND LABOR FROM POWER COMPANY'S UTILITY POLE INTO VAULT'S CB PANEL AND TERMINATION INSIDE PANEL.
- SITE CONTRACTOR IS RESPONSIBLE FOR STATE ELECTRICAL PERMITS; COORDINATION WITH POWER COMPANY (ANY POWER COMPANY CHARGES TO BE PAID BY OWNER)
- ALL CONTRACT ELECTRICAL WORK SHALL BE COMPLETED BY A QUALIFIED ELECTRICIAN, LICENSED TO PRACTICE IN THE STATE OF VERMONT, AND ALL WORK MUST BE PERFORMED IN COMPLIANCE WITH ALL APPLICABLE CODES, REGULATIONS AND PERMITS.
- ALL WORK AND MATERIALS TO COMPLY WITH IAW NFPA 70, STATE ELECTRICAL CODE, AND POWER COMPANY SPECIFICATIONS/REQUIREMENTS

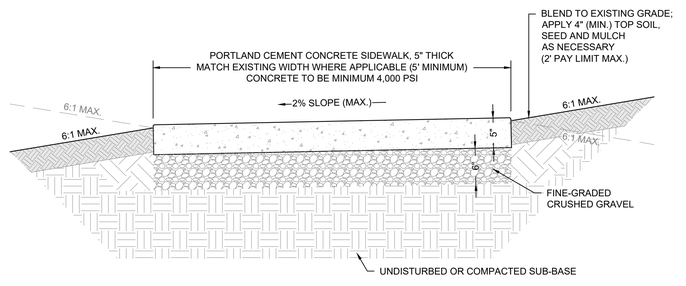
## 11 ELECTRIC SERVICE PANEL DETAIL
Scale: NTS




## 12 BOLLARD DETAIL
Scale: NTS




## 7 TYPICAL CONCRETE WALKWAY DETAIL
(WITH FLUSH CURB) — Scale: NTS




## 8 TYPICAL CONCRETE WALKWAY DETAIL
Scale: NTS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P.O. BOX 139, 150 DEPOT STREET
BENNINGTON, VERMONT 05201
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REVISIONS

| NO. | DATE | DESCRIPTION |
|---|---|---|
| | | |

TOWN OF BENNINGTON
MUNICIPAL WATER SYSTEM
REMEDIAL EXPANSION PHASE II
BENNINGTON, VERMONT

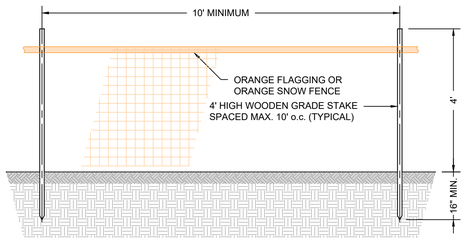
DRAWINGS THIS SHEET
CONSTRUCTION DETAILS

| NUMBER | DATE |
|---|---|
| 1001-019.7 | 10-11-2019 |
| DRAWN | CHECKED |
| MSK | JMD |

SHEET NUMBER
C505

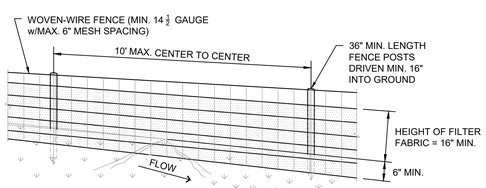
STATE OF VERMONT — JASON M. DOLMETSCH — No.9238 CIVIL — LICENSED PROFESSIONAL ENGINEER


F:_DRAWING DATABASE\1001-019.7 PFOA REMEDIATION II\SHEETS\C505 CONSTRUCTION DETAILS.DWG
11/08/2019 11:06:36

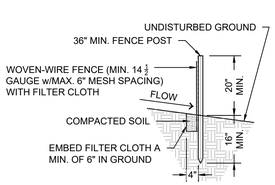



1 TYPICAL PROJECT DEMARCATION FENCE

Scale: NTS




PERSPECTIVE VIEW




SECTION VIEW

CONSTRUCTION SPECIFICATIONS

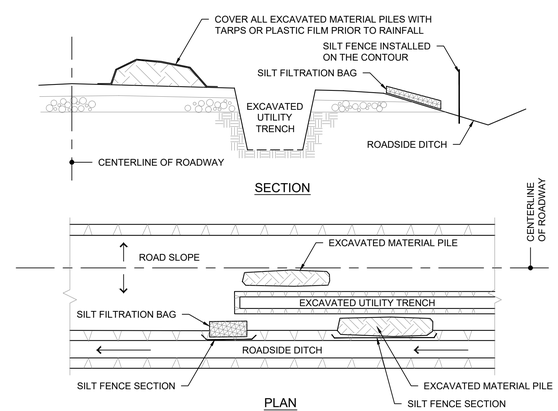
1. WOVEN-WIRE FENCE TO BE FASTENED SECURELY TO FENCE POSTS WITH WIRE TIES OR STAPLES. POSTS SHALL BE STEEL, EITHER "T" OR "U" TYPE, OR HARDWOOD.
2. FILTER CLOTH TO BE FASTENED SECURELY TO WOVEN-WIRE FENCE WITH TIES, SPACED EVERY 24" AT TOP AND MID SECTION. FENCE SHALL BE WOVEN-WIRE, 6" MAXIMUM MESH OPENING.
3. WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER THEY SHALL BE OVER- LAPPED BY SIX INCHES AND FOLDED. FILTER CLOTH SHALL BE EITHER FILTER X, 'MIRAFI' 100X, 'STABILINKA' T140N, OR APPROVED EQUIVALENT.
4. PRE-FABRICATED UNITS SHALL BE 'GEOFAB', 'ENVIROFENCE', OR APPROVED EQUIVALENT.
5. MAINTENANCE SHALL BE PERFORMED AS NEEDED AND MATERIAL REMOVED WHEN "BULGES" DEVELOP IN THE SILT FENCE.

2 TYPICAL SILT FENCE

Scale: NTS

## GENERAL NOTES

1. THIS PROJECT IS PERMITTED UNDER AN INDIVIDUAL STORMWATER CONSTRUCTION PERMIT.
2. SOIL DISTURBANCE IS TO BE LIMITED TO FIVE ACRES, OR LESS, AT ANY ONE TIME.
3. THE OSPC IS RESPONSIBLE FOR ALL SITE INSPECTIONS AND AMENDING THE EROSION PROTECTION AND SEDIMENT CONTROL (EPSC) PLAN.
4. INSPECTIONS TO BE CONDUCTED EVERY 7 DAYS AND WITHIN 24 HOURS OF STORM EVENTS RESULTING IN STORMWATER DISCHARGE FROM THE PROJECT SITE.
5. THE OSPC MUST COMPLETE THE VTDEC FORM "CGP-9020 INSPECTION REPORT."
6. AT THE END OF EACH WORK DAY:
   - GRADED AREAS ARE TO DRAIN TOWARD SWALES.
   - EXCAVATED AREAS SHALL BE SELF-CONTAINED AND BE OF A DEPTH OF TWO FEET OR GREATER.
   - MATERIAL SHALL NOT BE LEFT STOCKPILED, EXCEPT WITHIN STAGING AREAS, AND SHALL BE STABILIZED.
7. ALL TRENCH DEWATERING ACTIVITIES MUST BE DISCHARGED INTO SWALES.
8. ADEQUATE STABILIZATION MATERIAL IS TO BE STORED ON SITE AT ALL TIMES.
9. THE WINTER CONSTRUCTION SEASON IS DEFINED AS THE PERIOD FROM OCTOBER 15 THROUGH APRIL 15.
10. ALL SEEDING IS TO OCCUR BEFORE SEPTEMBER 15 OR SUITABLE ROLLED EROSION CONTROL PRODUCTS (RECP) SHALL BE USED.
11. WORK PERFORMED BELOW THE ORDINARY HIGH WATER (OHW) LEVEL SHALL BE COMPLETED IN ACCORDANCE WITH THE ARMY CORP GENERAL PERMIT AND THE STATE OF VERMONT STREAM ALTERATION PERMIT AND IS NOT COVERED UNDER THE STORMWATER CONSTRUCTION PERMIT.
12. ALL AREAS OF DISTURBANCE MUST HAVE TEMPORARY OR PERMANENT STABILIZATION WITHIN 7 DAYS OF THE INITIAL DISTURBANCE. AFTER THIS TIME, ANY DISTURBANCE IN THE AREA MUST BE STABILIZED AT THE END OF EACH WORK DAY. THE FOLLOWING EXCEPTIONS APPLY:
    - STABILIZATION IS NOT REQUIRED IF WORK IS TO CONTINUE IN THE AREA WITHIN THE NEXT 24 HOURS AND THERE IS NO PRECIPITATION FORECAST WITHIN THE SAME 24 HOUR TIME PERIOD.
    - STABILIZATION NOT REQUIRED IF THE WORK IS OCCURRING WITHIN A SELF-CONTAINED EXCAVATION WITH A DEPTH OF TWO FEET OR GREATER.




CONSTRUCTION SPECIFICATIONS

1. UTILITY TRENCH EXCAVATION NOT TO EXCEED 500 LINEAR FEET OF OPEN TRENCH AT ANY ONE TIME.
2. EXCAVATED SOIL MATERIAL SHOULD BE PLACED ON UPHILL SIDE, BUT NOT ON THE EDGE, OF THE TRENCH. ENCIRCLE PILES WITH SILT FENCE SECTIONS IF EXCAVATED MATERIAL IS ON THE DOWNHILL SIDE OF TRENCH.
3. TRENCH DEWATERING ACTIVITIES MUST DISCHARGE INTO A SILT FILTRATION BAG OF WOVEN OR NON-WOVEN GEOTEXTILE. CONTRACTOR TO MONITOR BAG THROUGHOUT PUMPING OPERATIONS. SILT FENCE SECTION TO SURROUND DOWN SLOPE SIDE OF SILT FILTRATION BAG, DO NOT BLOCK FLOW OF RUNOFF WITHIN THE DITCH.
4. EXCAVATED SOIL FROM TRENCH MUST BE PREVENTED FROM MIGRATING INTO ADJACENT PROPERTY, CATCH BASINS, ROADSIDE DITCHES, OR RECEIVING WATERS. IF EXCAVATED SOIL MIGRATES, CLEAN UP IMMEDIATELY.
5. MATERIAL STOCKPILES TO BE ENCLOSED WITH SILT FENCE SECTIONS, TO BE ACCESSED FROM PAVEMENT OVER A STONE TRACKING PAD, AND TO BE LOCATED MORE THAN 50 FEET FROM ANY RECEIVING WATERS.
6. EXCAVATED SOIL FROM THE TRENCH TO BE COMPLETELY COVERED BY TARPS OR PLASTIC FILM DURING ALL RAINFALL EVENTS AND AT ANY TIME CONSTRUCTION ACTIVITIES ARE SUSPENDED DUE TO THE WEATHER.
7. ACCUMULATED SOIL ON PAVEMENT TO BE SWEPT PRIOR TO ALL FORECASTED RAINFALL EVENTS. ROADWAY TO BE SWEPT AT END OF THE WORK DAY IF TRENCH EXCAVATION IS WITHIN 50' OF ANY RECEIVING WATER.
8. WITHIN 24 HOURS OF BACKFILLING ANY TRENCH SECTION ON EXISTING PAVEMENT, A MINIMUM 6" LAYER OF COMPACTED SUB-BASE GRAVEL SHALL BE PLACED AS THE TOP COURSE OF MATERIAL. IF TRENCH IS WITHIN AN UNPAVED AREA, HAY OR STRAW MULCH MATERIAL AND GRASS SEED SHALL BE PLACED OVER DISTURBED AREAS WITHIN 24 HOURS OF BACKFILLING TRENCH SECTION. SEEDING TO BE TEMPORARY OR PERMANENT.

3 TYPICAL UTILITY TRENCH INSTALLATION DETAIL

Scale: NTS

# EROSION PREVENTION/SEDIMENT CONTROL (EPSC) NOTES

1. SEDIMENT BASINS/TRAPS, PERIMETER DIKES, SEDIMENT BARRIERS,S STABILIZED CONSTRUCTION ENTRANCES, AND OTHER MEASURES CONSTRUCTED AS THE INITIAL STEP IN ANY LAND DISTURBING ACTIVITY AND SHALL BE MADE FUNCTIONAL BEFORE UPSLOPE LAND DISTURBANCE TAKES PLACE.
2. CONCENTRATED RUNOFF SHALL NOT FLOW DOWN CUT OR FILL SLOPES UNLESS CONTAINED WITHIN AN ADEQUATE TEMPORARY OR PERMANENT CHANNEL, FLUME, OR SLOPE DRAIN STRUCTURE.
3. WHENEVER WATER SEEPS FROM A SLOPE FACE, ADEQUATE DRAINAGE OR OTHER PROTECTION SHALL BE PROVIDED AND SHALL CONVEY CLEAN RUNOFF IN A NON-EROSIVE MANNER TO AN OUTLET.
4. BEFORE NEWLY CONSTRUCTED STORMWATER CONVEYANCE CHANNELS OR PIPES ARE MADE OPERATIONAL, ADEQUATE OUTLET PROTECTION AND ANY REQUIRED TEMPORARY OR PERMANENT CHANNEL LINING SHALL BE INSTALLED IN BOTH THE CONVEYANCE AND RECEIVING CHANNEL.
5. UNDERGROUND UTILITY LINES SHALL BE INSTALLED IN ACCORDANCE WITH THESE STANDARDS AND OTHER APPLICABLE CRITERIA: NO MORE THAN 500 LINEAR FEET OF TRENCH MAY BE OPENED AT ONE TIME; EXCAVATED MATERIAL SHALL BE PLACED ON THE UPHILL SIDE OF TRENCHES;
6. ALL SEDIMENT REMOVED FROM SEDIMENT CONTROL PRACTICES AS A PART OF MAINTENANCE SHALL BE DISPOSED OF IN AN AREA THAT IS: LESS THAN 5% IN SLOPE AND SUFFICIENTLY VEGETATED; A MIN. 100 FT FROM ANY DOWNSLOPE WATER BODY OR CONVEYANCE TO A WATER BODY (STORM DRAIN INLET OR DITCH); PERMANENTLY STABILIZED IMMEDIATELY AFTER DISPOSAL.
7. DISTURBED AREAS BORDERING AND DRAINING TO ANY ROADWAY MUST HAVE AN APPROPRIATE SEDIMENT BARRIER SPANNING THE DISTURBANCE EDGE TO PREVENT MIGRATION OF SEDIMENT.
8. ALL AREAS OF DISTURBANCE MUST HAVE TEMPORARY OR PERMANENT STABILIZATION WITHIN 14 DAYS OF THE INITIAL DISTURBANCE. AFTER THIS TIME, ANY DISTURBANCE IN THE AREA MUST BE STABILIZED AT THE END OF EACH WORK DAY. THE FOLLOWING EXCEPTIONS APPLY:
   A. STABILIZATION IS NOT REQUIRED IF WORK IS TO CONTINUE IN THE SAME AREA WITHIN THE NEXT 24 HOURS AND THERE IS NO PRECIPITATION FORECAST FOR THE NEXT 24 HOURS.
   B. STABILIZATION IS NOT REQUIRED IF THE WORK IS OCCURRING IN A SELF-CONTAINED EXCAVATION (I.E. NO OUTLET) WITH 2 FT OR GREATER DEPTH (E.G. FOUNDATION EXCAVATION, UTILITY TRENCHES).
9. MAINTENANCE MUST BE PERFORMED AS NECESSARY TO ENSURE CONTINUED STABILIZATION. EXCEPT AS NOTED BELOW, ALL SITES SHALL BE SEEDED AND STABILIZED WITH EROSION CONTROL MATERIALS, SUCH AS MULCH OR ROLLED EROSION CONTROL PRODUCTS, INCLUDING AREAS WHERE CONSTRUCTION HAS BEEN SUSPENDED OR SECTIONS COMPLETED:
   A. ON THE CUT SIDE OF ROADS, DITCHES SHALL BE STABILIZED IMMEDIATELY WITH ROCK RIP-RAP OR OTHER NON-ERODIBLE LINERS (E.G. RECP), OR IF APPROPRIATE, VEGETATIVE MEASURES (SOD).
   B. FOR ACTIVE CONSTRUCTION AREAS SUCH AS BORROW OR STOCKPILE AREAS, ROADWAY IMPROVEMENTS AND AREAS WITHIN 50 FT. OF A BUILDING UNDER CONSTRUCTION, A PERIMETER SEDIMENT CONTROL SYSTEM CONSISTING, FOR EXAMPLE, OF SILT FENCING, SHALL BE INSTALLED AND MAINTAINED TO CONTAIN SOIL. EXPOSED DISTURBED AREAS ADJACENT TO A CONVEYANCE THAT PROVIDES RAPID OFFSITE DISCHARGE OF SEDIMENT, SUCH AS A CUT SLOPE AT AN ENTRANCE, SHALL BE COVERED WITH PLASTIC OR GEOTEXTILE TO PREVENT SOIL LOSS UNTIL STABILIZED. STABILIZED CONSTRUCTION ENTRANCES WILL BE MAINTAINED TO CONTROL VEHICLE TRACKING MATERIAL OFF SITE.
   C. PERMANENT SEEDING SHALL ONLY BE UNDERTAKEN IN THE SPRING FROM APRIL THROUGH MAY, AND IN LATE SUMMER AND EARLY FALL UNTIL SEPTEMBER 15, EXCEPT THAT PERMANENT SEEDING MAY BE UNDERTAKEN DURING THE SUMMER IF PLANS PROVIDE FOR ADEQUATE WATERING. DURING THE PEAK SUMMER MONTHS AND AFTER SEPTEMBER 15, IF SEEDING IS FOUND TO BE IMPRACTICABLE, AN APPROPRIATE TEMPORARY STABILIZATION IS STRAW/HAY MULCH OR WOODCHIPS.
   D. TEMPORARY SEDIMENT TRAPPING DEVICES SHALL NOT BE REMOVED UNTIL PERMANENT STABILIZATION IS ESTABLISHED IN ALL CONTRIBUTORY DRAINAGE AREAS. SIMILARLY, STABILIZATION OF CONTRIBUTING DRAINAGE AREAS SHALL BE ESTABLISHED PRIOR TO CONVERTING SEDIMENT TRAPS/ BASINS INTO PERMANENT (POST-CONSTRUCTION) STORMWATER MANAGEMENT PRACTICES.
   E. STABILIZATION MEASURES, TEMPORARY OR PERMANENT, SHALL BE APPLIED TO EARTHEN STRUCTURES SUCH AS DAMS, DIKES, AND DIVERSIONS IMMEDIATELY AFTER INSTALLATION.
   F. UPON COMPLETION, ALL SLOPES STEEPER THAN 3:1 (H:V) OR 33.3%, PERIMETER DIKE/SWALES, SEDIMENT BASINS OR TRAPS, AND EMBANKMENTS SHALL BE IMMEDIATELY STABILIZED WITH SOD, SEED & ANCHORED STRAW MULCH, OR OTHER APPROVED STABILIZATION MEASURES (RECP). **AREAS OUTSIDE OF THE PERIMETER SEDIMENT CONTROL SYSTEM SHALL NOT BE DISTURBED.**
10. IN ADVANCE OF A PREDICTED RAINFALL OR SNOWMELT EVENT, ALL MANAGEMENT PRACTICES APPROPRIATE TO CURRENT AREAS OF DISTURBANCE MUST BE INSPECTED AND REPAIRED AS NECESSARY TO ENSURE PROPER OPERATING CONDITION. IF NECESSARY TO PREVENT SEDIMENT DISCHARGE FROM THE CONSTRUCTION SITE TO WATERS OF THE STATE, THIS WILL INCLUDE TEMPORARY STABILIZATION OF ALL DISTURBED SOILS ON THE SITE IN ADVANCE OF THE ANTICIPATED RUNOFF PERIOD.
11. ALL TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES SHALL BE REMOVED WITHIN 30 DAYS AFTER FINAL SITE STABILIZATION OR AFTER TEMPORARY MEASURES ARE NO LONGER NEEDED.

**REQUIREMENTS FOR WINTER SHUTDOWN**

**FOR PROJECTS COMPLETING EARTH DISTURBANCE ACTIVITIES PRIOR TO THE BEGINNING OF THE WINTER PERIOD (OCTOBER 15), THE FOLLOWING ARE REQUIREMENTS OF THE EPSC PLAN:**

1. FOR AREAS TO BE STABILIZED BY VEGETATION, SEEDING TO BE COMPLETED NO LATER THAN SEPTEMBER 15TH TO ENSURE ADEQUATE GROWTH AND COVER PRIOR TO THE WINTER PERIOD.
2. FOR AREAS TO BE STABILIZED BY NONVEGETATIVE METHODS, STABILIZATION OF THESE AREAS OF DISTURBANCE WITHOUT VEGETATIVE COVER MUST OCCUR NO LATER THAN OCTOBER 15TH.
3. FOR AREAS TO BE STABILIZED BY MULCH, DOUBLE THE REGULAR COVERAGE RATE, OR ROUGHLY 2 INCHES OF STRAW/HAY MULCH WITH 100% COVERAGE, WILL BE APPLIED ON ALL DISTURBANCES. MULCH WILL BE ANCHORED TO PREVENT MIGRATION OF MATERIAL THROUGHOUT THE WINTER PERIOD.

**REQUIREMENTS FOR WINTER CONSTRUCTION**

**FOR PROJECTS INVOLVING EARTH DISTURBANCE WITHIN THE WINTER PERIOD (AFTER OCTOBER 15 AND BEFORE APRIL 15), THE FOLLOWING ARE REQUIREMENTS OF THE EPSC PLAN:**

1. ENLARGE ACCESS ROUTES TO ACCOMMODATE SNOW REMOVAL ACTIVITY, STABILIZE WITH STONE.
2. LIMIT OF DISTURBANCE MOVED/REPLACED TO REFLECT BOUNDARY OF ANTICIPATED WINTER WORK.
3. A SNOW MANAGEMENT PLAN INCLUDING ADEQUATE STORAGE LOCATIONS AND CONTROL OF SNOWMELT, REQUIRING CLEARED SNOW TO BE STORED DOWN GRADIENT OF ALL AREAS OF EARTH DISTURBANCE AND PROHIBITING STORAGE OF SNOW WITHIN STORMWATER TREATMENT STRUCTURES.
4. A MINIMUM 25 FOOT BUFFER TO BE MAINTAINED FROM PERIMETER CONTROLS SUCH AS SILT FENCE, TEMPORARY SWALES OR PERIMETER DIKES TO ALLOW FOR SNOW CLEARING/MAINTENANCE.
5. IN AREAS OF DISTURBANCE WITHIN 100 FT OF A RECEIVING WATER, SILT FENCE TO BE REINFORCED OR USED WITH PERIMETER DIKES OR OTHER PRACTICES RESISTANT TO THE FORCES OF SNOW LOADS.
6. DRAINAGE STRUCTURES TO BE MONITORED TO REMAIN OPEN AND FREE OF SNOW AND ICE DAMS.
7. INSTALL SILT FENCE SECTIONS, HAY BALE DIKES, PERIMETER DIKE/SWALES, WATERBARS, AND OTHER PRACTICES REQUIRING AN ASSOCIATED EARTH DISTURBANCE PRIOR TO GROUND FREEZING.
8. MULCH STABILIZATION MEASURES TO BE USE OF DOUBLE THE STANDARD RATE OF COVERAGE.
9. ALL MULCH MUST BE ANCHORED WITH AN APPROVED METHOD TO PREVENT REMOVAL BY WIND.
10. TO ENSURE COVER OF DISTURBED SOIL IN ADVANCE OF A MELT EVENT, AREAS OF DISTURBED SOIL MUST BE STABILIZED AT THE END OF EACH WORK DAY, WITH THE FOLLOWING EXCEPTIONS:
11. IF NO PRECIPITATION, RAIN OR SNOW, WITHIN 24 HOURS IS FORECASTED AND WORK WILL RESUME IN THE SAME DISTURBED AREA WITHIN 24 HOURS, DAILY STABILIZATION IS NOT NECESSARY.
12. IF THE DISTURBED AREAS WILL COLLECT AND RETAIN RUNOFF, SUCH AS HOUSE FOUNDATIONS OR OPEN
13. UTILITY TRENCHES, DAILY STABILIZATION IS NOT NECESSARY UNTIL EXCAVATION BACKFILLING OCCURS.
14. PRIOR TO STABILIZATION, REMOVE SNOW OR ICE TO LESS THAN 1" THICKNESS ABOVE THE SOIL.
15. STONE STABILIZATION (8" THICK) AT ACCESS POINTS FOR CONSTRUCTION VEHICLE TRAFFIC, I.E. FROM THE PAVEMENT TO THE BUILDING PUT A 15' WIDE PATH ON TOP OF THE PROPOSED DRIVEWAY.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REVISIONS

| NO. | DATE | DESCRIPTION |
|---|---|---|

TOWN OF BENNINGTON
MUNICIPAL WATER SYSTEM
REMEDIAL EXPANSION PHASE II
BENNINGTON, VERMONT

DRAWINGS THIS SHEET

EPSC DETAILS

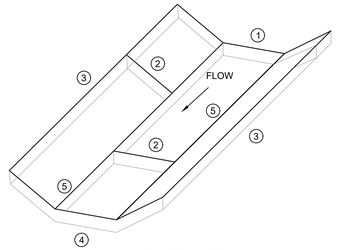
| NUMBER | DATE |
|---|---|
| 1001-019.7 | 10-11-2019 |
| DRAWN | CHECKED |
| MSK | JMD |

SHEET NUMBER

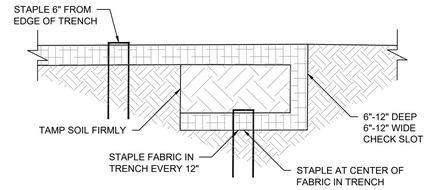
C506

STATE OF VERMONT
JASON M. DOLMETSCH
No.9238
CIVIL
LICENSED
PROFESSIONAL ENGINEER

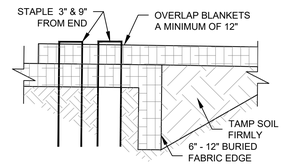
E:_DRAWING DATABASE\1001-019.7 PWSA REMEDIATION E\SHEETS\C506 CONSTRUCTION DETAILS.DWG
JASON DOLMETSCH 10/11/2019




**CHANNEL INSTALLATION**
NOT TO SCALE




**1. CHECK SLOT**
NOT TO SCALE




**2. JUNCTION SLOT**
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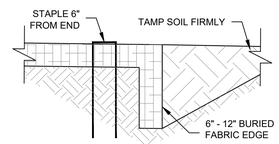
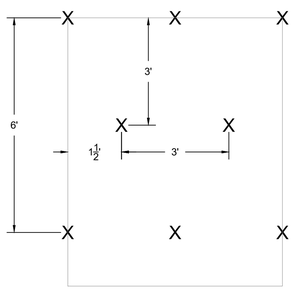



**3. ANCHOR SLOT**
NOT TO SCALE

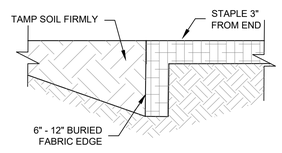
## CONSTRUCTION SPECIFICATIONS

1. INSTALL RECP ON ALL SLOPES 3:1 OR GREATER AND IN CHANNELS
2. METAL STAPLES TO BE UNGALVANIZED U-SHAPED WIRE WITH 2" CROWN AND 6" TO 8" LONG LEG. SET STAPLE INTO THE FABRIC FLUSH WITH SURROUNDING SOIL. MAY BE MANUALLY OR MECHANICALLY HAMMERED DOWN.
3. METAL STAPLES ARE TO BE PLACED ALTERNATIVELY, IN COLUMNS ~ 2' APART AND IN ROWS ~ 3' APART. APPROXIMATELY 175 STAPLES ARE REQUIRED PER 4' x 225' ROLL OF MATERIAL AND ABOUT 125 STAPLES ARE REQUIRED PER 4' x 150' ROLL OF MATERIAL. ACTUAL STAPLE AMOUNTS VARY BASED UPON SOIL CONDITIONS.
4. DISTURBED AREA SHALL BE SMOOTHLY GRADED TO ENSURE CLOSE CONTACT BETWEEN RECP AND GROUND. REMOVE LARGE STONES AND WOODY DEBRIS THAT WILL PREVENT RECP FROM CONTACTING THE GROUND.
5. EROSION CONTROL MATERIAL SHALL BE PLACED LOOSELY OVER GROUND SURFACE. DO NOT STRETCH.
6. ENSURE EROSION CONTROL MATERIAL ROLLS ARE UNRAVELED DOWN SLOPE IN A CONTROLLED FASHION.
7. ALL RECP TERMINAL ENDS AND TRANSVERSE LAPS SHALL BE STAPLED AT APPROXIMATELY 12" INTERVALS.




1.2 STAPLES/YD$^2$
3:1 SLOPES

**STAPLE PATTERN**
NOT TO SCALE




**4. TERMINAL FOLD**
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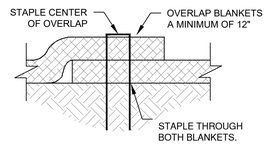
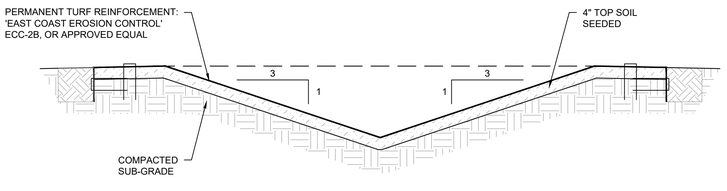



**5. LAP JOINT**
NOT TO SCALE

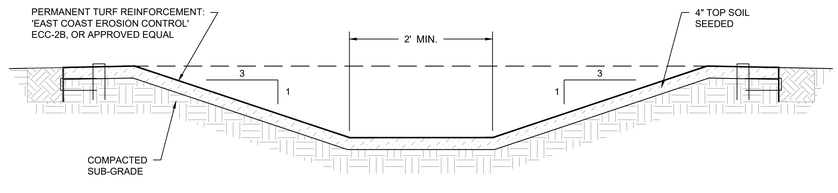
## 1 ROLLED EROSION CONTROL PRODUCT (RECP) - TYPICAL

Scale: NTS




## 2 TURF REINFORCEMENT SWALE DETAIL

Scale: NTS




## 3 TURF REINFORCEMENT SWALE DETAIL

Scale: NTS

# STABILIZATION NOTES

**TEMPORARY SEEDING**

**PREPARATION:**
RUNOFF CONTROL PRACTICES MUST BE INSTALLED PRIOR TO STABILIZATION AS APPROPRIATE FOR THE SITE CONDITIONS. THE AREA MUST BE ROUGH GRADED AND SLOPES PHYSICALLY STABLE. LARGE DEBRIS AND ROCKS SHOULD BE REMOVED. AREA MUST BE SEEDED WITHIN 24 HOURS OF PREVIOUS DISTURBANCE OR SCARIFICATION OF SOIL SURFACE WILL BE NECESSARY PRIOR TO SEEDING.

**SEED TYPE:**
IF: SPRING OR SUMMER OR EARLY FALL, THEN SEED THE AREA WITH REGIONAL RYEGRASS (ANNUAL OR PERENNIAL) AT 20 LBS PER ACRE (APPROXIMATELY 0.5 LBS/1,000 SF OR USE 1 LB/1,000 SF).
IF: LATE FALL OR EARLY WINTER, THEN SEED CERTIFIED 'AROOSTOOK' WINTER RYE (CEREAL RYE) AT 90 LBS PER ACRE (2.0 LBS/1,000 SF).

**METHOD OF SEEDING:**
ANY SEEDING METHOD MAY BE USED THAT WILL PROVIDE UNIFORM APPLICATION OF SEED ON THE AREA AND RESULT IN RELATIVELY GOOD SOIL TO SEED CONTACT. HAND SEEDING IS RECOMMENDED FOR AREAS OF THE SITE THAT CAN NOT BE ACCESSED WITH EQUIPMENT DUE TO SOIL MOISTURE.

**MULCHING:**
MULCHING OVER SEED IS REQUIRED. MULCH THE AREA WITH HAY OR STRAW AT 2 TONS/ACRE (90 LBS/1,000 SF OR 2 BALES/1,000 SF). WOOD FIBER (CELLULOSE) HYDROMULCH OR SIMILAR SPRAYABLE PRODUCTS APPROVED FOR EROSION CONTROL MAY BE USED IF APPLIED ACCORDING TO THE MANUFACTURERS' SPECIFICATION BUT AT A MINIMUM OF 50 LBS/1,000 SF.

**ANCHORING:**
MULCH ANCHORING WILL BE REQUIRED IN AREAS OF HIGH WIND, CONCENTRATED FLOWS OF RUNOFF, AND AREAS SEEDED BETWEEN OCTOBER 15 AND APRIL 15, I.E. DURING WINTER CONSTRUCTION.

**IRRIGATION:**
WATERING OF SEED MAY BE IDEAL DURING SUMMER MONTHS TO ENSURE GERMINATION OF SEED.

**INSPECTION:**
INSPECT AREAS EVERY 7 DAYS AND AFTER RAINFALL EVENTS RESULTING IN RUNOFF FROM THE SITE. DOCUMENT AREAS OF SIGNIFICANT EROSION (RILLS & GULLIES) AND/OR LOSS OF VEGETATIVE COVER.

**MAINTENANCE:**
KEEP VEHICLES AND EQUIPMENT OFF OF MULCHED AND SEEDED AREAS TO PREVENT DISTURBANCE OF STABILIZED AREAS. RILLS AND GULLIES MUST BE REGARDED PRIOR TO PLACEMENT OF ADDITIONAL SEED AND MULCH. SCARIFY, SEED, AND MULCH BARE AREAS TO PREVENT CONTINUED EROSION.

**TEMPORARY MULCHING**
**PREPARATION:**
SITE PREPARATION PRIOR TO MULCHING REQUIRES THE INSTALLATION OF NECESSARY EROSION CONTROL OR RUNOFF CONTROL PRACTICES AND DRAINAGE SYSTEMS. SLOPE, GRADE AND SMOOTH THE SITE TO FIT THE NEEDS OF SELECTED MULCH PRODUCTS. REMOVE ALL UNDESIRABLE STONES AND OTHER DEBRIS TO MEET THE NEEDS OF ANTICIPATED LAND USE AND EXPECTED MAINTENANCE REQUIRED.

NOTE: THE BEST COMBINATION FOR GRASS/LEGUME ESTABLISHMENT IS STRAW (CEREAL GRAIN) MULCH APPLIED AT 2 TON/ACRE (90 LBS/1,000 SF) AND ANCHORED IMMEDIATELY WITH WOOD FIBER MULCH (HYDROMULCH) AT 500 - 750 LBS/ACRE (11 - 17 LBS/1,000 SF).

**SPECIFICATIONS:**

| MULCH MATERIAL | RATE PER 1,000 SF | COVERAGE | ANCHORING |
|---|---|---|---|
| WOOD CHIPS OR SHAVINGS | 500-900 LBS | 2" TO 7" | NONE |
| WOOD FIBER CELLULOSE | 50 LBS BAG | 100% | TACKIFIER |
| GRAVEL, CRUSHED STONE | 9 CUBIC YARDS | 3" TO 6" | COMPACTED |
| HAY OR STRAW | 90-100 LBS. 2-3 BALES | 90% | VARIOUS |
| JUTE/EXCELSIOR/COIR | VARIOUS SIZED ROLLS | 100% | STAPLES |
| WELL AGED COMPOST | 3-9 CUBIC YARDS | 1" TO 3" | NONE |

**ANCHORING METHODS:**
BIODEGRADABLE NETTING - STAPLE TO GROUND AS PER MANUFACTURER'S SPECIFICATIONS
CRIMPING - USE DISKS OR TRACKS ALONG THE CONTOUR TO EMBED THE MULCH INTO THE SOIL
CELLULOSE OVERSPRAY - HYDROMULCH WOOD FIBERS AT 500 LBS PER ACRE, HAS GREEN DYE
TACKIFIERS* - USE HYDROSEEDER TO MIX AND SPRAY CHEMICALS, APPLY WITH WOOD FIBER MULCH

*TO ALLOW FOR PROPER CURING OF THESE CHEMICALS, TACKIFIERS MAY ONLY BE APPLIED IF RAINFALL IS NOT PREDICTED WITHIN 24 HRS AND SOIL TEMPERATURES ARE HIGHER THAN 45° F. DO NOT APPLY TACKIFIERS WITHIN 50 FEET OF ANY SURFACE WATER OR UPON VEGETATION, BUILDINGS, VEHICLES, AND/OR EQUIPMENT. TACKIFIERS WITH KNOWN AQUATIC TOXICITY ARE PROHIBITED.

**PERMANENT SEEDING**
**PREPARATION:**
ALL WATER CONTROL MEASURES WILL BE INSTALLED AS NEEDED PRIOR TO FINAL GRADING AND SEEDBED PREPARATION. ANY SEVERELY COMPACTED SECTIONS WILL REQUIRE CHISELING OR DISKING TO PROVIDE AN ADEQUATE ROOTING ZONE, TO A MINIMUM DEPTH OF 12". THE SEEDBED MUST BE PREPARED TO ALLOW GOOD SOIL TO SEED CONTACT, WITH THE SOIL NOT TOO SOFT AND NOT TOO COMPACT. ADEQUATE SOIL MOISTURE MUST BE PRESENT TO ACCOMPLISH THIS. IF SURFACE IS POWDER DRY OR STICKY WET, POSTPONE OPERATIONS UNTIL MOISTURE CHANGES TO A FAVORABLE CONDITION. IF SEEDING IS ACCOMPLISHED WITHIN 24 HOURS OF FINAL GRADING, ADDITIONAL SCARIFICATION IS NOT NEEDED. REMOVE ALL STONES AND OTHER DEBRIS FROM THE SURFACE THAT ARE GREATER THAN 4 INCHES, OR THAT WILL INTERFERE WITH FUTURE MOWING OR MAINTENANCE.

**AMENDMENTS:**
SOIL AMENDMENTS MUST BE INCORPORATED INTO THE UPPER 2 INCHES OF SOIL. THE SOIL SHOULD BE TESTED TO DETERMINE THE AMOUNTS OF AMENDMENTS NEEDED. APPLY GROUND AGRICULTURAL LIMESTONE TO ATTAIN A PH OF 6.0 IN THE UPPER 2 INCHES OF SOIL. IF SOIL MUST BE FERTILIZED BEFORE RESULTS OF A SOIL TEST ARE OBTAINED TO DETERMINE FERTILIZER NEEDS, USE COMMERCIAL FERTILIZER AT 600 LBS PER ACRE OF 5-10-10 OR EQUIVALENT. IF MANURE IS USED, APPLY QUANTITY TO MEET THE NUTRIENTS OF THE ABOVE FERTILIZER. THIS REQUIRES AN APPROPRIATE MANURE ANALYSIS PRIOR TO APPLYING TO THE SITE. DO NOT USE IN AREAS OF CONCENTRATED WATER FLOW.

**GENERAL SEED MIXTURES:**
SEED MIXTURES MAY VARY DEPENDING ON LOCATION WITHIN THE STATE AND TIME OF SEEDING. GENERALLY, WARM SEASON GRASSES SHOULD ONLY BE SEEDED DURING EARLY SPRING, APRIL TO MAY. THESE GRASSES ARE PRIMARILY USED FOR VEGETATING EXCESSIVELY DRAINED SANDS AND GRAVELS. OTHER GRASSES MAY BE SEEDED ANY TIME OF THE YEAR WHEN THE SOIL IS NOT FROZEN AND IS WORKABLE. WHEN LEGUMES LIKE CLOVER ARE INCLUDED, SPRING SEEDING IS PREFERRED. ACTUAL GRASS SEED SPECIES USED ON THE SITE TO BE DETERMINED BY THE HOMEOWNER AND/OR LANDSCAPE PROFESSIONAL AND WILL REFLECT THE ULTIMATE LAND USE.

**RECOMMENDED SEED RATES:**

| GRASS SPECIES | LBS/ACRE | LBS/1,000 SF | COMMENTS |
|---|---|---|---|
| COMMON WHITE CLOVER | 8 | 0.20 | ADD INOCULATES |
| TALL FESCUE | 10 | 0.25 | 'REBEL' VARIETY |
| CREEPING RED FESCUE | 20 | 0.45 | 'PENNLAWN' VARIETY |
| PERENNIAL RYEGRASS | 5 | 0.10 | 'PENNFINE' VARIETY |

**TIME OF SEEDING:**
THE OPTIMUM TIMING FOR THE GENERAL SEED MIXTURE IS EARLY SPRING. PERMANENT SEEDINGS MAY BE MADE ANY TIME OF YEAR IF PROPERLY MULCHED AND ADEQUATE MOISTURE IS PROVIDED. LATE JUNE THROUGH EARLY AUGUST IS NOT A GOOD TIME TO SEED, BUT MAY FACILITATE COVERING THE LAND WITHOUT ADDITIONAL DISTURBANCE IF CONSTRUCTION IS COMPLETED. PORTIONS OF THE SEEDING THAT FAIL DUE TO DROUGHT/HEAT MAY BE RE-SEEDED IN LATE SUMMER, FALL, OR SPRING.

**METHOD OF SEEDING:**
BROADCASTING, DRILLING, CULTIPACK TYPE SEEDING, OR HYDROSEEDING ARE ACCEPTABLE METHODS. PROPER SOIL TO SEED CONTACT IS KEY TO SUCCESSFUL GERMINATION.

**MULCHING:**
MULCHING IS ESSENTIAL TO OBTAIN A UNIFORM STAND OF SEEDED PLANTS. OPTIMUM BENEFITS OF MULCHING NEW SEEDINGS ARE OBTAINED WITH THE USE OF SMALL GRAIN STRAW APPLIED AT A RATE OF 2 TONS PER ACRE, AND ANCHORED WITH AN OVERSPRAY OF HYDROMULCH AND/OR TACKIFIER.

**IRRIGATION:** WATERING MAY BE ESSENTIAL TO ESTABLISH A NEW SEEDING WHEN A DROUGHT CONDITION OCCURS SHORTLY AFTER A NEW SEEDING EMERGES. IRRIGATION IS A SPECIALIZED PRACTICE AND CARE MUST BE TAKEN NOT TO EXCEED THE APPLICATION RATE FOR THE SOIL OR SUBSOIL. WHEN DISCONNECTING IRRIGATION PIPE, BE SURE PIPES DO NOT CAUSE EROSION.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BENNINGTON, VERMONT 05201
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REVISIONS

| NO. | DATE | DESCRIPTION |
|---|---|---|

TOWN OF BENNINGTON
MUNICIPAL WATER SYSTEM
REMEDIAL EXPANSION PHASE II
BENNINGTON, VERMONT

DRAWINGS THIS SHEET
STABILIZATION DETAILS

| NUMBER | DATE |
|---|---|
| 1001-019.7 | 10-11-2019 |
| DRAWN | CHECKED |
| MSK | JMD |

SHEET NUMBER
C507

STATE OF VERMONT
JASON M. DOLMETSCH
No. 9238
CIVIL
LICENSED
PROFESSIONAL ENGINEER

E:_DRAWING DATABASE\1001-019.7 PFBA AMENDATION 0\SHEETS\C500 CONSTRUCTION DETAILS.DWG
MSK\Admin 2019 11-08-22

## LEGEND:

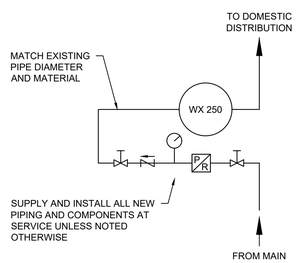
- BALL VALVE
- BACK FLOW PREVENTER
- REDUCER
- FLOW RESTRICTOR
- ADJUSTABLE PRESSURE REDUCER
- PRESSURE SWITCH
- FLUSH HYDRANT
- HOSE BIBB
- LIQUID FILLED PRESSURE GAUGE
- METER
- SOLENOID
- FILTER
- PUMP

- U/V — U/V DISINFECTION SYSTEM
- ST 12 — EXPANSION TANK
- WX 250 — TANK
- WATER METER ASSEMBLY
- INDICATES NEW WATER LINES AS SHOWN. ALL INTERIOR WATER LINES FROM BUILDING ENTRANCE TO CONNECTION FOR DOMESTIC DISTRIBUTION TO BE INSULATED WITH 'RUBA-TEX INSUL-TUBE 180,' 1/2" THICK, OR ENGINEER APPROVED EQUAL.

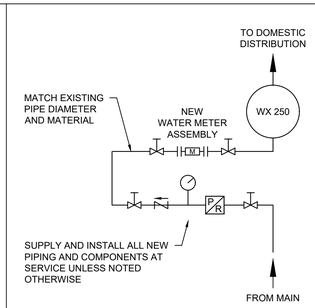
** PLUMBING SCHEMATICS AS SHOWN ARE INDICATIVE (SOME SYMBOLS MAY NOT BE USED). CONTRACTOR IS RESPONSIBLE FOR ALL LABOR AND MATERIALS FOR PROPER TERMINATION.

NOTE:
ALL INTERIOR PLUMBING TO BE ACCOMPLISHED BY A STATE LICENSED PLUMBER. CONTRACTOR TO APPLY FOR, PURCHASE, AND RECEIVE ALL NECESSARY PLUMBING PERMITS.

## SERVICE DIAGRAMS




TYPICAL RESIDENTIAL SERVICE ENTRANCE




TYPICAL COMMERCIAL SERVICE ENTRANCE

## DEMOLITION NOTES

FOR INSTALLATION OF NEW MUNICIPAL WATER SERVICE

- DISCONNECT POWER AT BREAKER BOX TO EXISTING WELL PUMP
- DISCONNECT AND REMOVE WIRE FROM POWER PANEL AND SEAL PANEL OPENINGS
- DISCONNECT WELL LINES FROM PUMP AND PLUG INLETS AND OUTLETS
- DISCONNECT AND DRAIN EXISTING SYSTEM
- REMOVE AND DISPOSE OF EXISTING SYSTEM BY CONSENT, AND IN ACCORDANCE WITH PROPERTY OWNER
- DISCONNECT AND DISASSEMBLE ALL EXISTING POINT OF ENTRY TREATMENT SYSTEMS (P.O.E.T.S.) FROM PLUMBING AND INTERIOR WALLS. SYSTEMS TO BE DISPOSED OF BY OTHERS
- REMOVE ALL MOUNTING BRACKETS AND PIPE HANGERS, AND PLUG OR REPAIR ALL ASSOCIATED HOLES AND VOIDS
- ALL NEW SERVICE LINE PLUMBING MUST BE INSTALLED IN COMPLIANCE WITH THE MOST CURRENT VERMONT STATE PLUMBING CODE

## 1 PLUMBING LEGEND AND TYPICAL WATER SERVICE ENTRANCE DETAILS

Scale: NTS

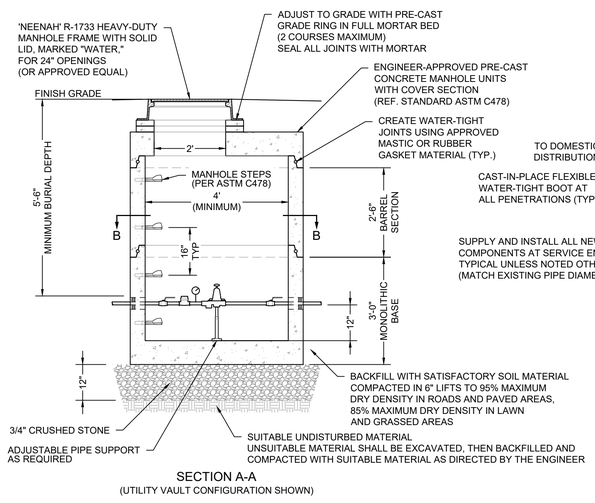
**NOTE:**

**SERVICE ENTRANCE DIAGRAMS INCLUDED IN THE C600 SERIES OF THE SHEET SET ARE SCHEMATIC ONLY, AND BASED ON OBSERVATIONS MADE DURING PRELIMINARY DESIGN INSPECTIONS PERFORMED IN COOPERATION WITH THE PROPERTY OWNER. THESE DIAGRAMS ARE PROVIDED FOR GENERAL REFERENCE ONLY.**

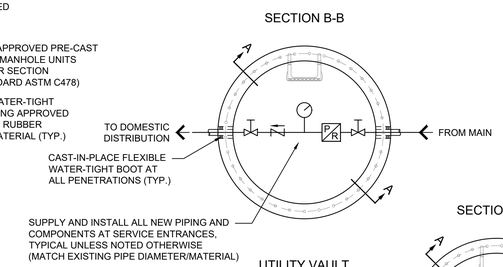
**DUE TO SCHEDULING OR OTHER CIRCUMSTANCES, SOME PROPERTIES REQUIRING SERVICE CONNECTIONS WERE NOT INSPECTED, AND MAY NOT BE INCLUDED IN THE SHEET SET.**

**THE CONTRACTOR MUST VERIFY ALL INTERNAL PLUMBING COMPONENTS AND CONFIGURATIONS, AND COORDINATE CURB STOP AND SERVICE ENTRANCE LOCATIONS WITH THE ENGINEER AND PROPERTY OWNER PRIOR TO MAKING ANY CONNECTIONS.**

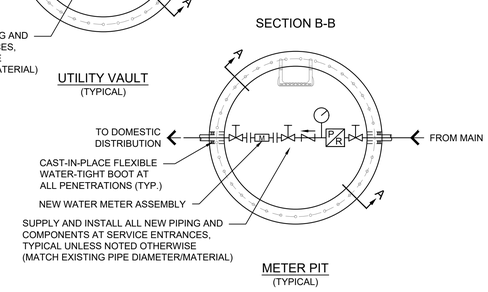
**ALL NEW SERVICE PLUMBING, PIPING AND COMPONENTS WITHIN RESIDENCES, UTILITY VAULTS AND/OR METER PITS SHALL BE COMPLETED BY A QUALIFIED PLUMBER, LICENSED TO PRACTICE IN THE STATE OF VERMONT, AND ALL WORK MUST BE PERFORMED IN COMPLIANCE WITH ALL APPLICABLE CODES, REGULATIONS AND PERMITS.**




SECTION A-A
(UTILITY VAULT CONFIGURATION SHOWN)



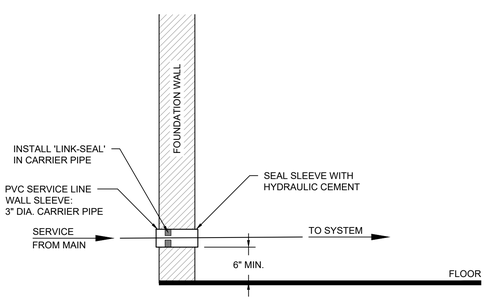

UTILITY VAULT
(TYPICAL)




METER PIT
(TYPICAL)

## 2 PRE-CAST CONCRETE UTILITY VAULT/METER PIT DETAIL

Scale: NTS

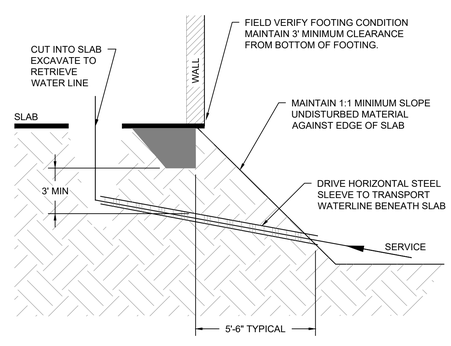



ALL NEW SERVICE LINE PLUMBING MUST BE INSTALLED IN COMPLIANCE WITH THE MOST CURRENT VERMONT STATE PLUMBING CODE

## 3 WATER SERVICE PIPE ENTRY

(THROUGH FOUNDATION WALLS)

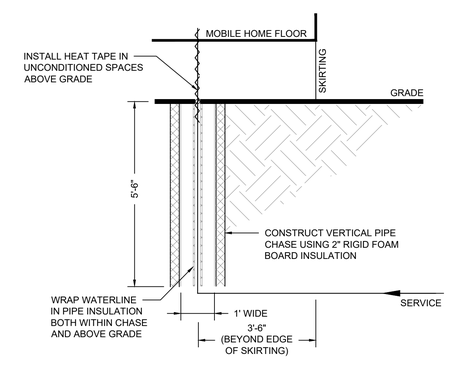
Scale: NTS




## 4 WATER SERVICE VERTICAL PIPE ENTRY

(THROUGH SLABS)

Scale: NTS




## 5 WATER SERVICE VERTICAL PIPE ENTRY

(FOR MOBILE HOMES)

Scale: NTS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| | | |

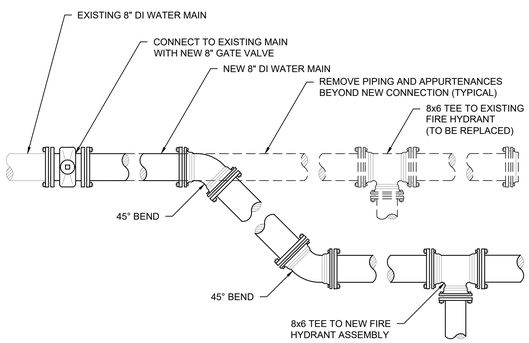
TOWN OF BENNINGTON
MUNICIPAL WATER SYSTEM
REMEDIAL EXPANSION PHASE II
BENNINGTON, VERMONT

DRAWINGS THIS SHEET
PLUMBING DETAILS

| NUMBER | DATE |
|---|---|
| 1001-019.7 | 10-11-2019 |
| DRAWN | CHECKED |
| MSK | JMD |

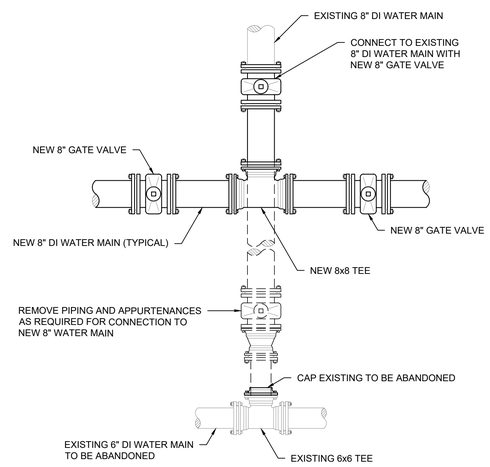
SHEET NUMBER
C508


E:_DRAWING DATABASE\1001-019.7 PFBA BENNINGTON\SHEETS\CONTRACT 6\1001-019.7 T06-C600 CONTRACT 6 CONSTRUCTION DETAILS.DWG
Friday, Oct 11, 2019 09:56:11



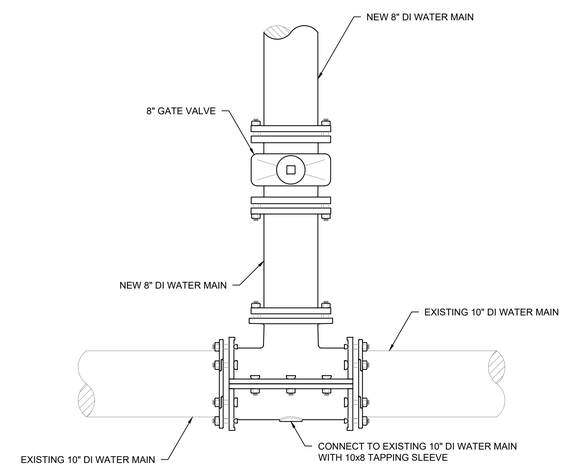

1 CONNECTION TO EXISTING MUNICIPAL WATER MAIN

CHAPEL ROAD Scale: NTS




2 CONNECTION TO EXISTING MUNICIPAL WATER MAIN

BRADLEY DRIVE AND CHAPEL ROAD Scale: NTS




3 CONNECTION TO EXISTING MUNICIPAL WATER MAIN

NORTH BRANCH STREET AND CHAPEL ROAD Scale: NTS

MSK ENGINEERING AND DESIGN, INC.
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REVISIONS

| NO. | DATE | DESCRIPTION |
|---|---|---|

TOWN OF BENNINGTON
MUNICIPAL WATER SYSTEM
REMEDIAL EXPANSION PHASE II
BENNINGTON, VERMONT

DRAWINGS THIS SHEET

CONTRACT 9
CONNECTION DETAILS

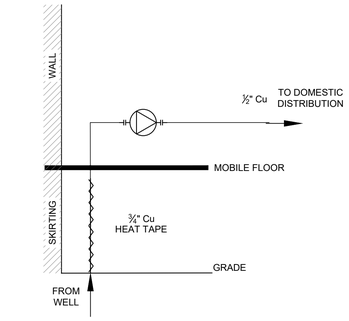
| NUMBER | DATE |
|---|---|
| 1001-019.7 | 10-11-2019 |
| DRAWN | CHECKED |
| MSK | JMD |

SHEET NUMBER

C509

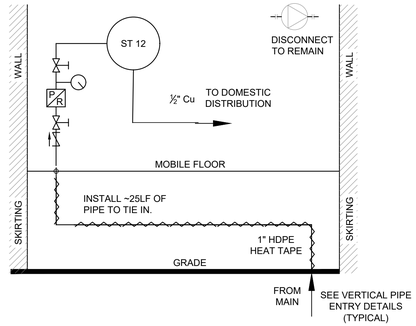
STATE OF VERMONT
JASON M. DOLMETSCH
No. 9238
CIVIL
LICENSED
PROFESSIONAL ENGINEER

E:_DRAWING DATABASE\1001-019.7 PFAS REMEDIATION\SHEETS\CONTRACT 9\1001-019.7 T09 C509 CONTRACT 9 DETAILS.DWG
VIN 10/10/2019 11:20:51



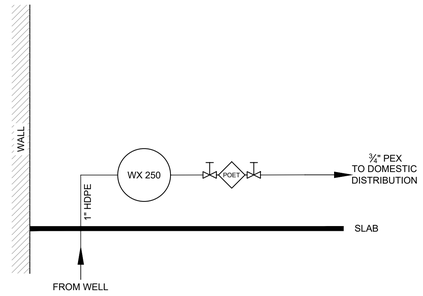

(SEE SHEET C508 FOR SYMBOL LEGEND)

1A WATER SERVICE ENTRANCE DETAIL
109 CHAPEL RD (EXISTING) Scale: NTS




(SEE SHEET C508 FOR SYMBOL LEGEND)

1B WATER SERVICE ENTRANCE DETAIL
109 CHAPEL RD (PROPOSED) Scale: NTS




(SEE SHEET C508 FOR SYMBOL LEGEND)

2A WATER SERVICE ENTRANCE DETAIL
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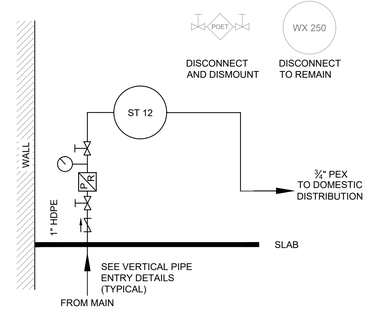
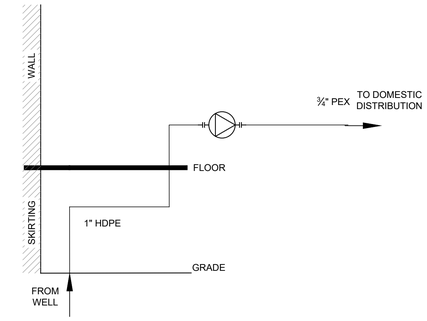


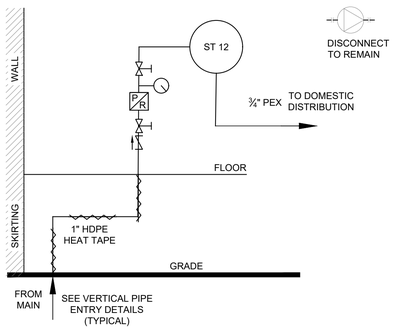

(SEE SHEET C508 FOR SYMBOL LEGEND)

2B WATER SERVICE ENTRANCE DETAIL
311 CHAPEL RD (PROPOSED) Scale: NTS



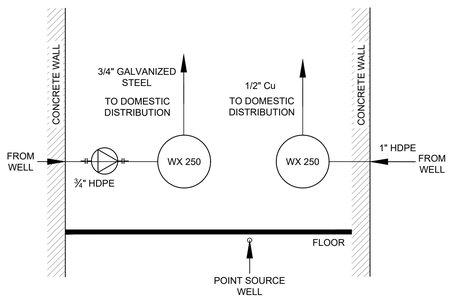

(SEE SHEET C508 FOR SYMBOL LEGEND)

3A WATER SERVICE ENTRANCE DETAIL
470 CHAPEL RD (EXISTING) Scale: NTS



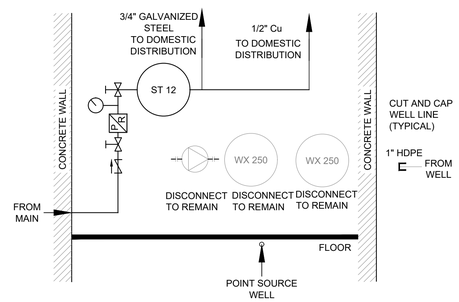

(SEE SHEET C508 FOR SYMBOL LEGEND)

3B WATER SERVICE ENTRANCE DETAIL
470 CHAPEL RD (PROPOSED) Scale: NTS



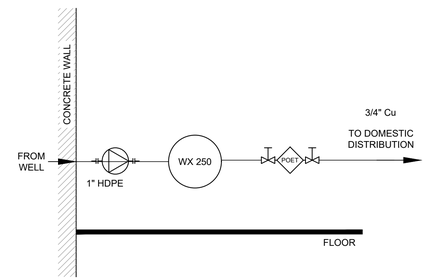

(SEE SHEET C508 FOR SYMBOL LEGEND)

4A WATER SERVICE ENTRANCE DETAIL
473 CHAPEL RD (EXISTING) Scale: NTS



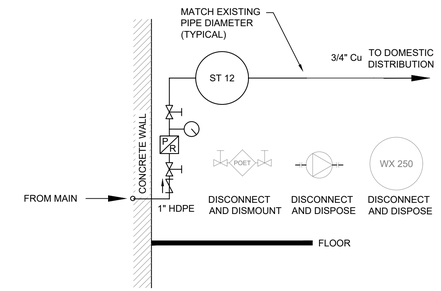

(SEE SHEET C508 FOR SYMBOL LEGEND)

4B WATER SERVICE ENTRANCE DETAIL
473 CHAPEL RD (PROPOSED) Scale: NTS




(SEE SHEET C508 FOR SYMBOL LEGEND)

5A WATER SERVICE ENTRANCE DETAIL
480 CHAPEL RD (EXISTING) Scale: NTS




(SEE SHEET C508 FOR SYMBOL LEGEND)

5B WATER SERVICE ENTRANCE DETAIL
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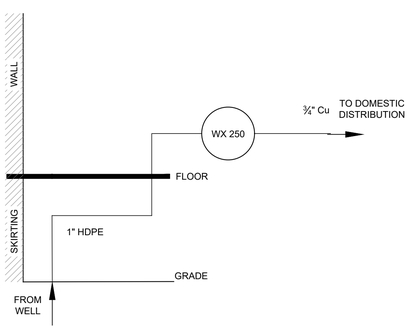
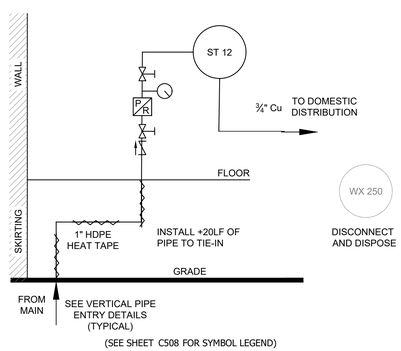


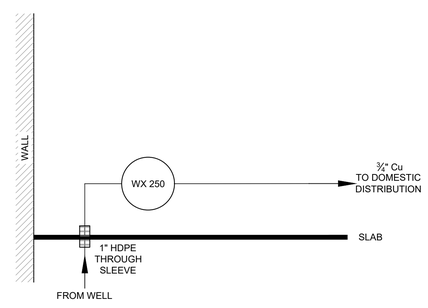

(SEE SHEET C508 FOR SYMBOL LEGEND)

6A WATER SERVICE ENTRANCE DETAIL
564 CHAPEL RD (EXISTING) Scale: NTS



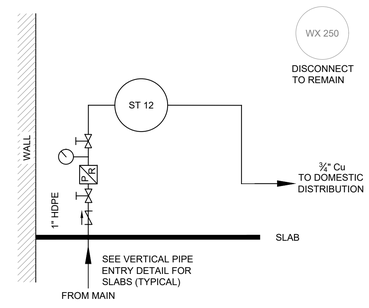

(SEE SHEET C508 FOR SYMBOL LEGEND)

6B WATER SERVICE ENTRANCE DETAIL
564 CHAPEL RD (PROPOSED) Scale: NTS



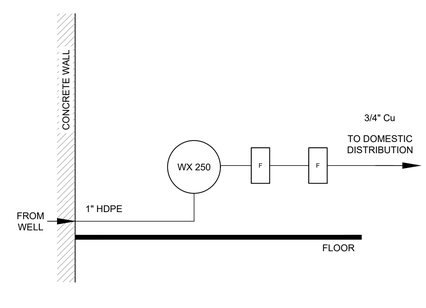

(SEE SHEET C508 FOR SYMBOL LEGEND)

7A WATER SERVICE ENTRANCE DETAIL
596 CHAPEL RD (EXISTING) Scale: NTS



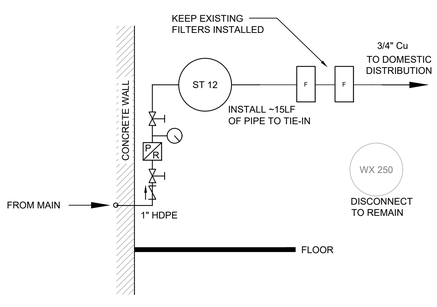

(SEE SHEET C508 FOR SYMBOL LEGEND)

7B WATER SERVICE ENTRANCE DETAIL
596 CHAPEL RD (PROPOSED) Scale: NTS



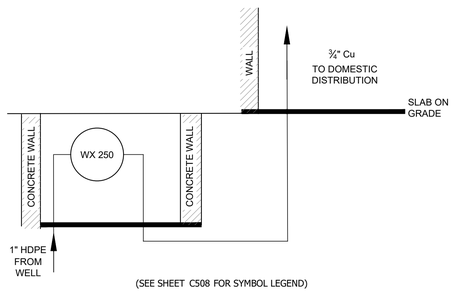

(SEE SHEET 8A FOR SYMBOL LEGEND)

8A WATER SERVICE ENTRANCE DETAIL
619 CHAPEL RD (EXISTING) Scale: NTS



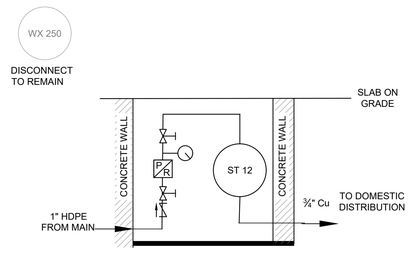

(SEE SHEET C508 FOR SYMBOL LEGEND)

8B WATER SERVICE ENTRANCE DETAIL
619 CHAPEL RD (PROPOSED) Scale: NTS



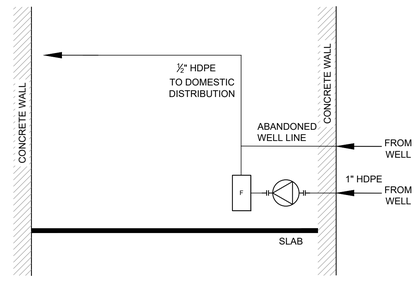

(SEE SHEET C508 FOR SYMBOL LEGEND)

9A WATER SERVICE ENTRANCE DETAIL
863 CHAPEL ROAD (EXISTING) Scale: NTS



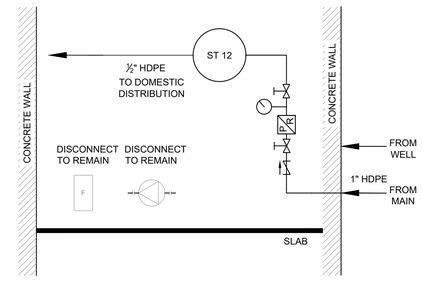

(SEE SHEET C508 FOR SYMBOL LEGEND)

9B WATER SERVICE ENTRANCE DETAIL
863 CHAPEL ROAD (PROPOSED) Scale: NTS




(SEE SHEET C508 FOR SYMBOL LEGEND)

10A WATER SERVICE ENTRANCE DETAIL
909 CHAPEL RD (EXISTING) Scale: NTS




(SEE SHEET C508 FOR SYMBOL LEGEND)

10B WATER SERVICE ENTRANCE DETAIL
909 CHAPEL RD (PROPOSED) Scale: NTS


MSK ENGINEERING AND DESIGN, INC.
P.O. BOX 139, 150 DEPOT STREET
BENNINGTON, VERMONT 05201
PH: (802) 447-1402 FAX: (802) 445-1291


REVISIONS

| NO. | DATE | DESCRIPTION |
|---|---|---|

TOWN OF BENNINGTON
MUNICIPAL WATER SYSTEM
REMEDIAL EXPANSION PHASE II
BENNINGTON, VERMONT

DRAWINGS THIS SHEET

CONTRACT 9
SERVICE ENTRANCE
DIAGRAMS

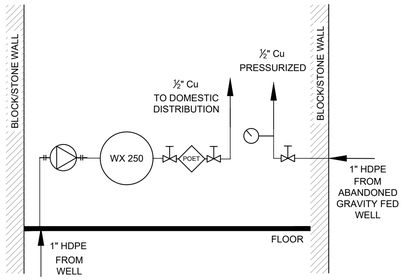
| NUMBER | DATE |
|---|---|
| 1001-019.7 | 10-16-2019 |
| DRAWN | CHECKED |
| MSK | JMD |

SHEET NUMBER

C601

STATE OF VERMONT
JASON M. DOLMETSCH
No 9238
CIVIL
LICENSED
PROFESSIONAL ENGINEER

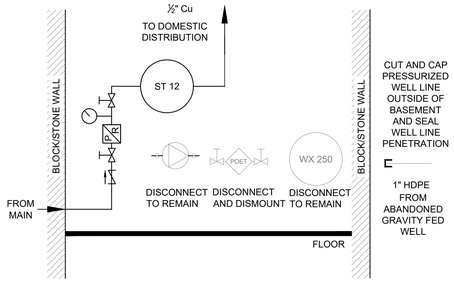

E:_DRAWING DATABASE\1001-019.7 PFOA REMEDIATION\SHEETS\CONTRACT 9\1001-019.7 TOD C509 CONTRACT 9 SERVICE DIAGRAMS.DWG
10-16-2019 10:21:36




(SEE SHEET C508 FOR SYMBOL LEGEND)

## 1A WATER SERVICE ENTRANCE DETAIL

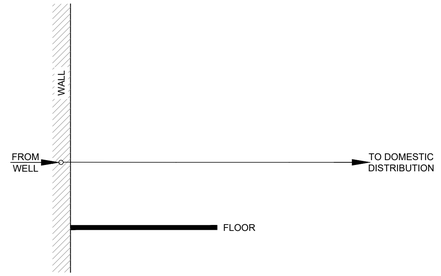
1003 CHAPEL HILL RD (EXISTING) Scale: NTS




(SEE SHEET C508 FOR SYMBOL LEGEND)

## 1B WATER SERVICE ENTRANCE DETAIL

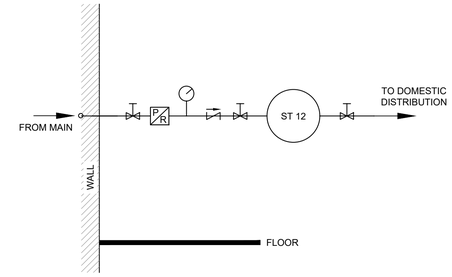
1003 CHAPEL RD (PROPOSED) Scale: NTS




(SEE SHEET C508 FOR SYMBOL LEGEND)

## 2A WATER SERVICE ENTRANCE DETAIL

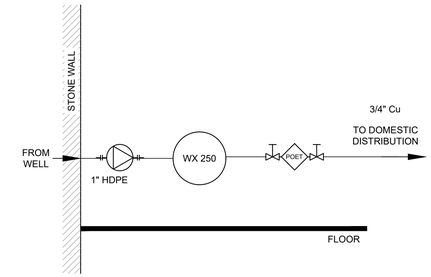
1215 CHAPEL RD (EXISTING) Scale: NTS




(SEE SHEET C508 FOR SYMBOL LEGEND)

## 2B WATER SERVICE ENTRANCE DETAIL

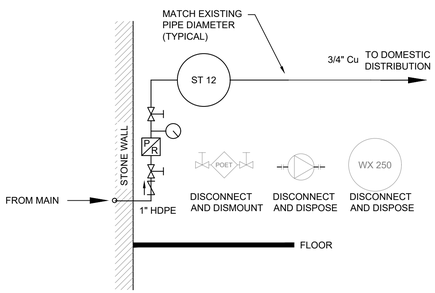
1215 CHAPEL RD (PROPOSED) Scale: NTS




(SEE SHEET C508 FOR SYMBOL LEGEND)

## 3A WATER SERVICE ENTRANCE DETAIL

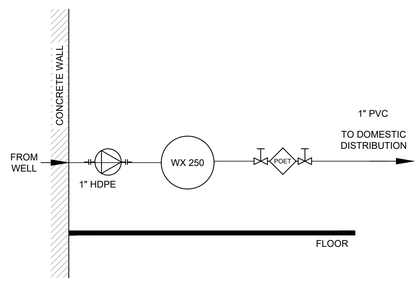
1054 CHAPEL RD (EXISTING) Scale: NTS




(SEE SHEET C508 FOR SYMBOL LEGEND)

## 3B WATER SERVICE ENTRANCE DETAIL

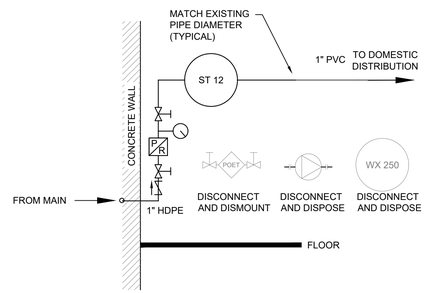
1054 CHAPEL RD (PROPOSED) Scale: NTS




(SEE SHEET C508 FOR SYMBOL LEGEND)

## 4A WATER SERVICE ENTRANCE DETAIL

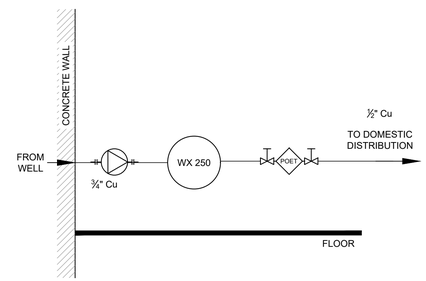
1126 CHAPEL RD (EXISTING) Scale: NTS




(SEE SHEET C508 FOR SYMBOL LEGEND)

## 4B WATER SERVICE ENTRANCE DETAIL

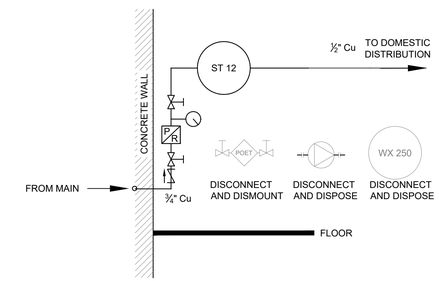
1126 CHAPEL RD (PROPOSED) Scale: NTS




(SEE SHEET C508 FOR SYMBOL LEGEND)

## 5A WATER SERVICE ENTRANCE DETAIL

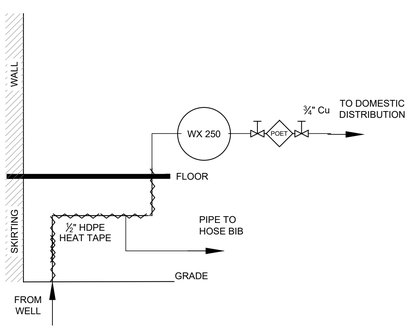
1164 CHAPEL RD (EXISTING) Scale: NTS




(SEE SHEET C508 FOR SYMBOL LEGEND)

## 5B WATER SERVICE ENTRANCE DETAIL

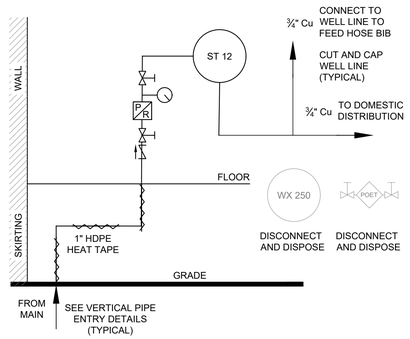
1164 CHAPEL RD (PROPOSED) Scale: NTS




(SEE SHEET C508 FOR SYMBOL LEGEND)

## 6A WATER SERVICE ENTRANCE DETAIL

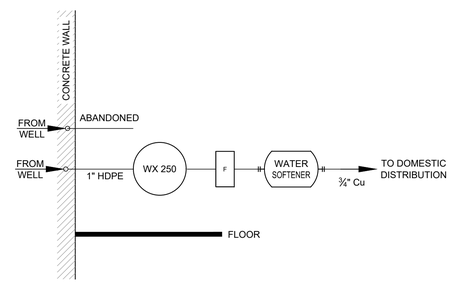
1297 CHAPEL RD (EXISTING) Scale: NTS




(SEE SHEET C508 FOR SYMBOL LEGEND)

## 6B WATER SERVICE ENTRANCE DETAIL

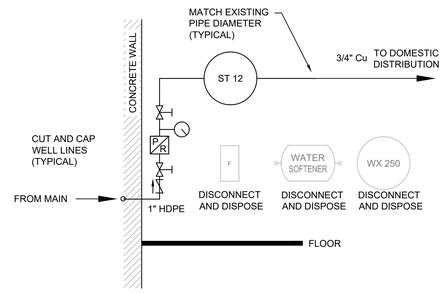
1297 CHAPEL RD (PROPOSED) Scale: NTS




(SEE SHEET C508 FOR SYMBOL LEGEND)

## 7A WATER SERVICE ENTRANCE DETAIL

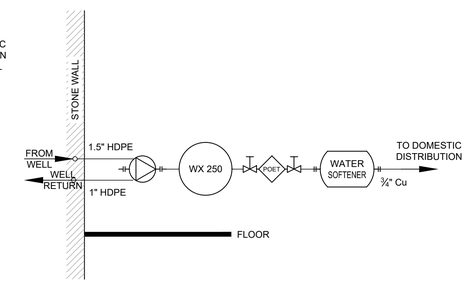
1507 CHAPEL RD (EXISTING) Scale: NTS




(SEE SHEET C508 FOR SYMBOL LEGEND)

## 7B WATER SERVICE ENTRANCE DETAIL

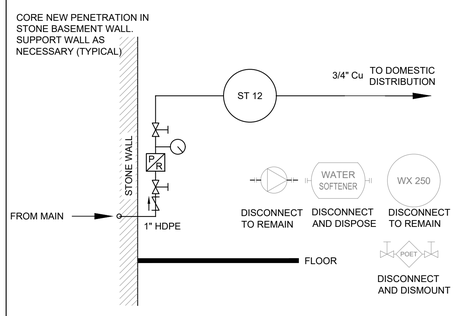
1507 CHAPEL RD (PROPOSED) Scale: NTS




(SEE SHEET C508 FOR SYMBOL LEGEND)

## 8A WATER SERVICE ENTRANCE DETAIL

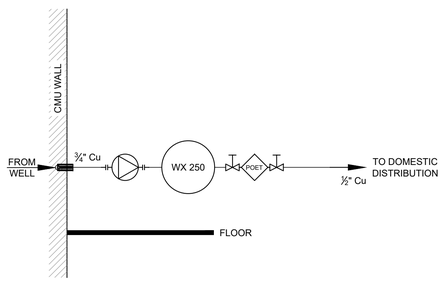
1847 CHAPEL RD (EXISTING) Scale: NTS




(SEE SHEET C508 FOR SYMBOL LEGEND)

## 8B WATER SERVICE ENTRANCE DETAIL

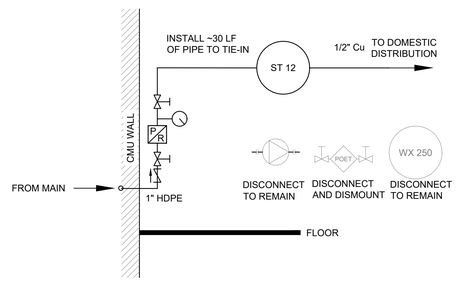
1847 CHAPEL RD (PROPOSED) Scale: NTS




(SEE SHEET C508 FOR SYMBOL LEGEND)

## 9A WATER SERVICE ENTRANCE DETAIL

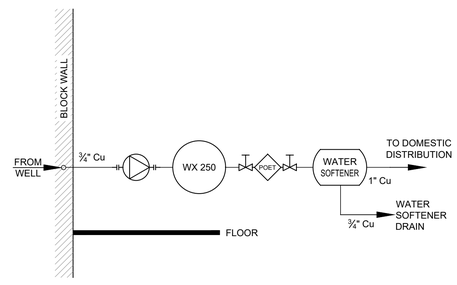
1904 CHAPEL RD (EXISTING) Scale: NTS




(SEE SHEET C508 FOR SYMBOL LEGEND)

## 9B WATER SERVICE ENTRANCE DETAIL

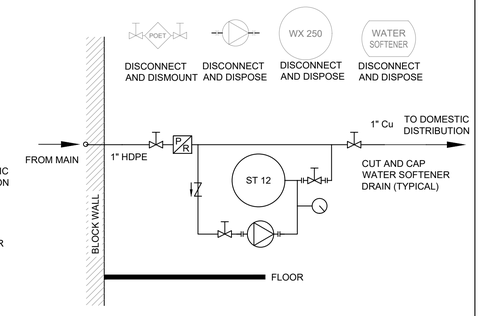
1904 CHAPEL RD (PROPOSED) Scale: NTS




(SEE SHEET C508 FOR SYMBOL LEGEND)

## 10A WATER SERVICE ENTRANCE DETAIL

1992 CHAPEL RD (EXISTING) Scale: NTS




(SEE SHEET C508 FOR SYMBOL LEGEND)

## 10B WATER SERVICE ENTRANCE DETAIL

1992 CHAPEL RD (PROPOSED) Scale: NTS

E:_DRAWING DATABASE\1001-019.7 PFOA REMEDIATION\SHEETS\CONTRACT 9\1001-019.7 TOD C509 CONTRACT 9 SERVICE DIAGRAMS.DWG
JD Brown 10/16/2019


MSK ENGINEERING AND DESIGN, INC.
P.O. BOX 139, 150 DEPOT STREET
BENNINGTON, VERMONT 05201
PH: (802) 447-1402 FAX: (802) 445-1291


REVISIONS

| NO. | DATE | DESCRIPTION |
|---|---|---|

TOWN OF BENNINGTON
MUNICIPAL WATER SYSTEM
REMEDIAL EXPANSION PHASE II
BENNINGTON, VERMONT

DRAWINGS THIS SHEET

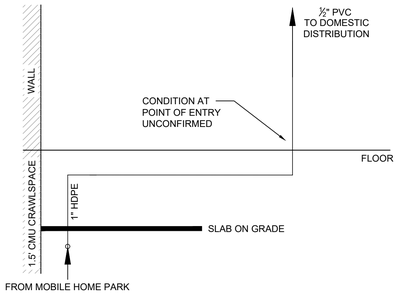
CONTRACT 9
SERVICE ENTRANCE
DIAGRAMS

| NUMBER | DATE |
|---|---|
| 1001-019.7 | 10-16-2019 |
| DRAWN | CHECKED |
| MSK | JMD |

SHEET NUMBER

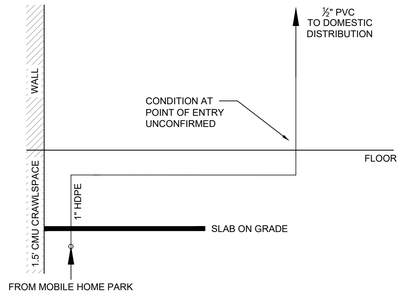
C602

STATE OF VERMONT
JASON M. DOLMETSCH
No. 9238
CIVIL
LICENSED
PROFESSIONAL ENGINEER



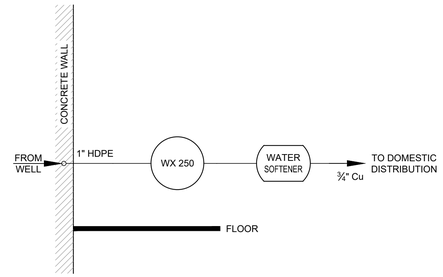

(SEE SHEET C508 FOR SYMBOL LEGEND)

## 1A WATER SERVICE ENTRANCE DETAIL
2511 CHAPEL RD (EXISTING) Scale: NTS



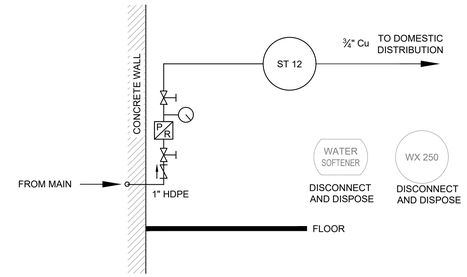

(SEE SHEET C508 FOR SYMBOL LEGEND)

## 1B WATER SERVICE ENTRANCE DETAIL
2511 CHAPEL RD (PROPOSED) Scale: NTS



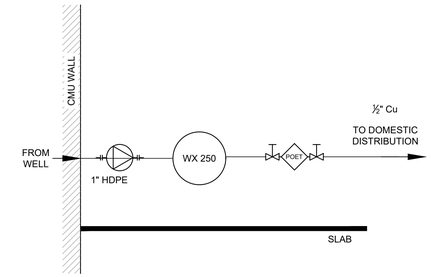

(SEE SHEET C508 FOR SYMBOL LEGEND)

## 2A WATER SERVICE ENTRANCE DETAIL
2547 CHAPEL RD (EXISTING) Scale: NTS



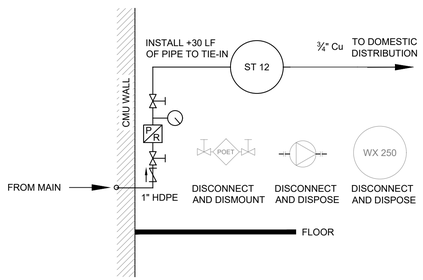

(SEE SHEET C508 FOR SYMBOL LEGEND)

## 2B WATER SERVICE ENTRANCE DETAIL
2547 CHAPEL RD (PROPOSED) Scale: NTS



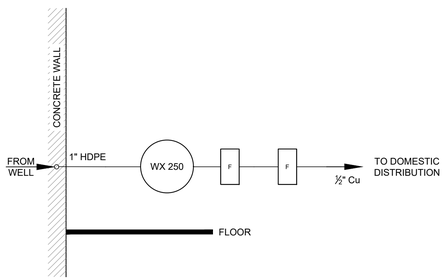

(SEE SHEET C508 FOR SYMBOL LEGEND)

## 3A WATER SERVICE ENTRANCE DETAIL
2591 CHAPEL RD (EXISTING) Scale: NTS



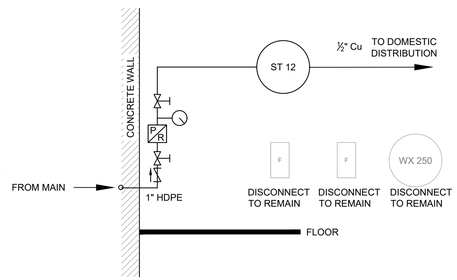

(SEE SHEET C508 FOR SYMBOL LEGEND)

## 3B WATER SERVICE ENTRANCE DETAIL
2591 CHAPEL RD (PROPOSED) Scale: NTS



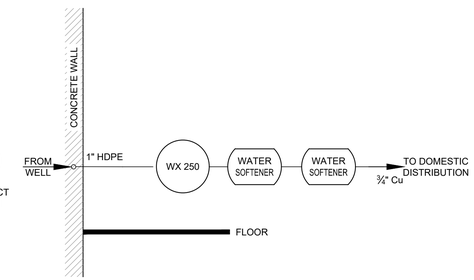

(SEE SHEET C508 FOR SYMBOL LEGEND)

## 4A WATER SERVICE ENTRANCE DETAIL
2628 CHAPEL RD (EXISTING) Scale: NTS



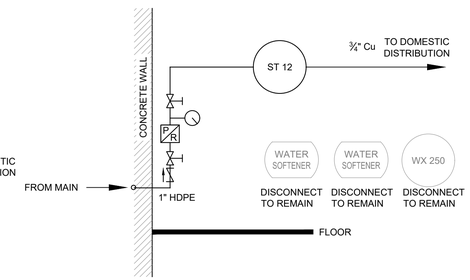

(SEE SHEET C508 FOR SYMBOL LEGEND)

## 4B WATER SERVICE ENTRANCE DETAIL
2628 CHAPEL RD (PROPOSED) Scale: NTS



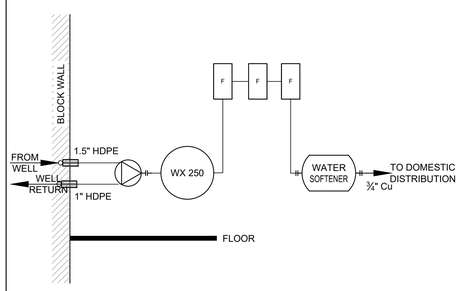

(SEE SHEET C508 FOR SYMBOL LEGEND)

## 5A WATER SERVICE ENTRANCE DETAIL
2633 CHAPEL RD (EXISTING) Scale: NTS



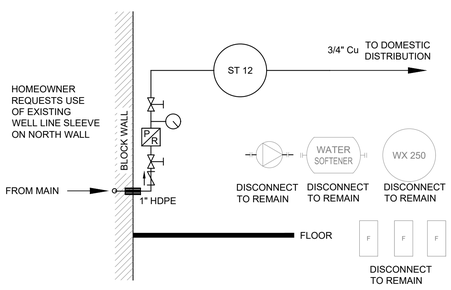

(SEE SHEET C508 FOR SYMBOL LEGEND)

## 5B WATER SERVICE ENTRANCE DETAIL
2633 CHAPEL RD (PROPOSED) Scale: NTS



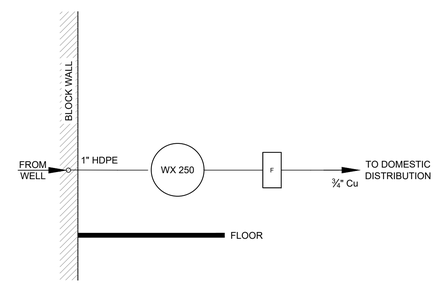

(SEE SHEET C508 FOR SYMBOL LEGEND)

## 6A WATER SERVICE ENTRANCE DETAIL
2652 CHAPEL RD (EXISTING) Scale: NTS



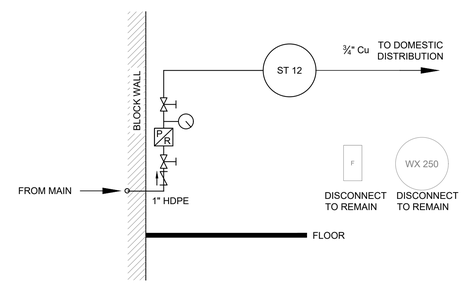

(SEE SHEET C508 FOR SYMBOL LEGEND)

## 6B WATER SERVICE ENTRANCE DETAIL
2652 CHAPEL RD (PROPOSED) Scale: NTS



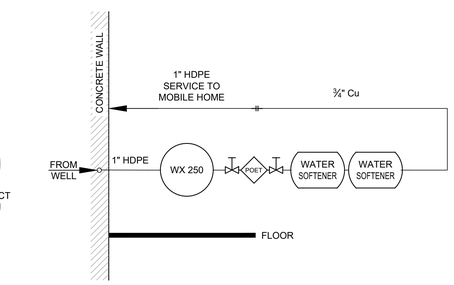

(SEE SHEET C508 FOR SYMBOL LEGEND)

## 7A WATER SERVICE ENTRANCE DETAIL
2678 CHAPEL RD (EXISTING) Scale: NTS



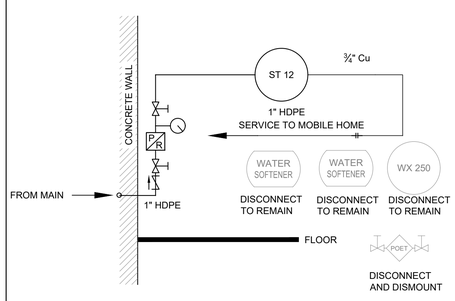

(SEE SHEET C508 FOR SYMBOL LEGEND)

## 7B WATER SERVICE ENTRANCE DETAIL
2678 CHAPEL RD (PROPOSED) Scale: NTS



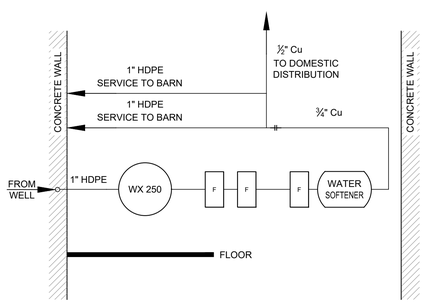

(SEE SHEET C508 FOR SYMBOL LEGEND)

## 8A WATER SERVICE ENTRANCE DETAIL
2679 CHAPEL RD (EXISTING) Scale: NTS



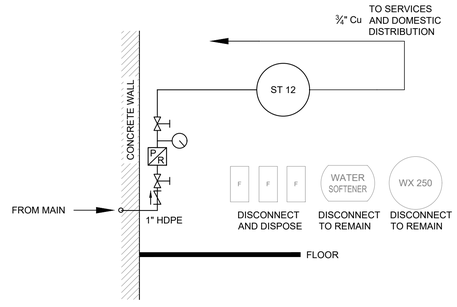

(SEE SHEET C508 FOR SYMBOL LEGEND)

## 8B WATER SERVICE ENTRANCE DETAIL
2679 CHAPEL RD (PROPOSED) Scale: NTS



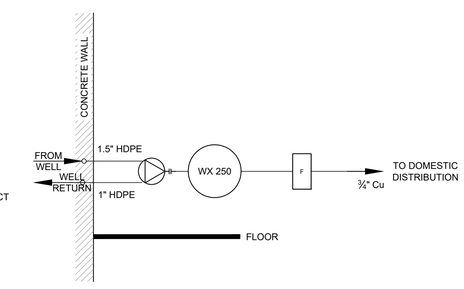

(SEE SHEET C508 FOR SYMBOL LEGEND)

## 9A WATER SERVICE ENTRANCE DETAIL
2710 CHAPEL RD (EXISTING) Scale: NTS



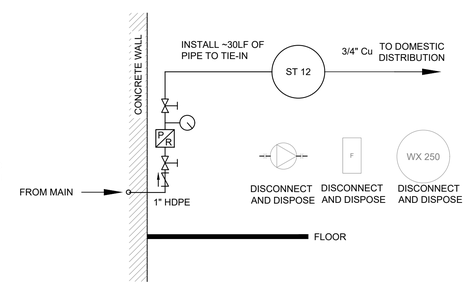

(SEE SHEET C508 FOR SYMBOL LEGEND)

## 9B WATER SERVICE ENTRANCE DETAIL
2710 CHAPEL RD (PROPOSED) Scale: NTS




(SEE SHEET C508 FOR SYMBOL LEGEND)

## 10A WATER SERVICE ENTRANCE DETAIL
2761 CHAPEL RD (EXISTING) Scale: NTS




(SEE SHEET C508 FOR SYMBOL LEGEND)

## 10B WATER SERVICE ENTRANCE DETAIL
2761 CHAPEL RD (PROPOSED) Scale: NTS


MSK ENGINEERING AND DESIGN, INC.
P.O. BOX 139, 150 DEPOT STREET
BENNINGTON, VERMONT 05201
PH: (802) 447-1402 FAX: (802) 445-1291


REVISIONS

| NO. | DATE | DESCRIPTION |
|---|---|---|

TOWN OF BENNINGTON
MUNICIPAL WATER SYSTEM
REMEDIAL EXPANSION PHASE II
BENNINGTON, VERMONT

DRAWINGS THIS SHEET

CONTRACT 9
SERVICE ENTRANCE
DIAGRAMS

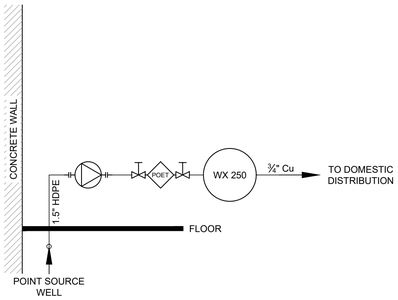
| NUMBER | DATE |
|---|---|
| 1001-019.7 | 10-16-2019 |
| DRAWN | CHECKED |
| MSK | JMD |

SHEET NUMBER

C603

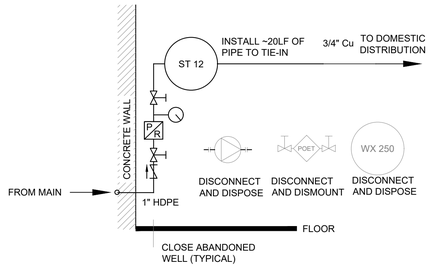
STATE OF VERMONT
JASON M. DOLMETSCH
No. 9238
CIVIL
LICENSED
PROFESSIONAL ENGINEER

E:_DRAWING DATABASE\1001-019.7 PFOA REMEDIATION 6\SHEETS\CONTRACT 9\1001-019.7 TOD C509 CONTRACT 9 SERVICE DIAGRAMS.DWG
JD Dolmetsch 10/16/2019 9:23:41



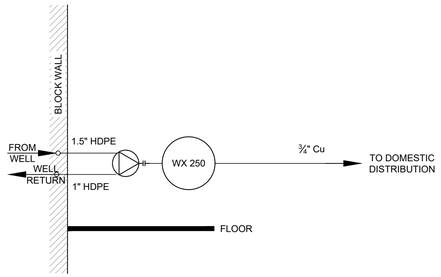

(SEE SHEET C508 FOR SYMBOL LEGEND)

1A WATER SERVICE ENTRANCE DETAIL
2842 CHAPEL RD (EXISTING) Scale: NTS



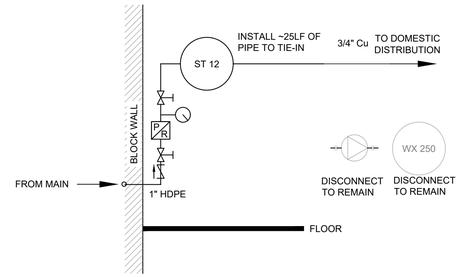

(SEE SHEET C508 FOR SYMBOL LEGEND)

1B WATER SERVICE ENTRANCE DETAIL
2842 CHAPEL RD (PROPOSED) Scale: NTS



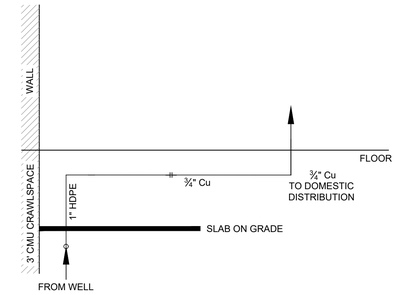

(SEE SHEET C508 FOR SYMBOL LEGEND)

2A WATER SERVICE ENTRANCE DETAIL
2864 CHAPEL RD (EXISTING) Scale: NTS



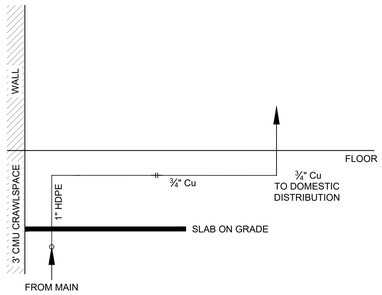

(SEE SHEET C508 FOR SYMBOL LEGEND)

2B WATER SERVICE ENTRANCE DETAIL
2864 CHAPEL RD (PROPOSED) Scale: NTS



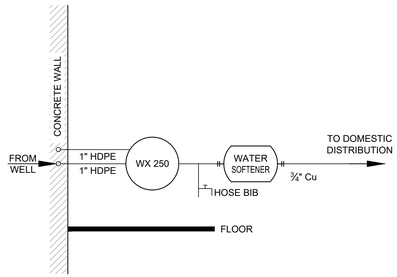

(SEE SHEET C508 FOR SYMBOL LEGEND)

3A WATER SERVICE ENTRANCE DETAIL
2865 CHAPEL RD (EXISTING) Scale: NTS



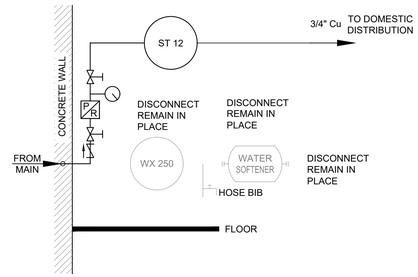

(SEE SHEET C508 FOR SYMBOL LEGEND)

3B WATER SERVICE ENTRANCE DETAIL
2865 CHAPEL RD (PROPOSED) Scale: NTS



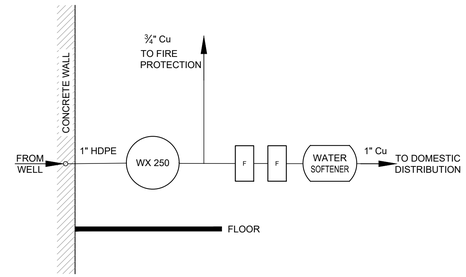

(SEE SHEET C508 FOR SYMBOL LEGEND)

4A WATER SERVICE ENTRANCE DETAIL
2867 CHAPEL RD (EXISTING) Scale: NTS



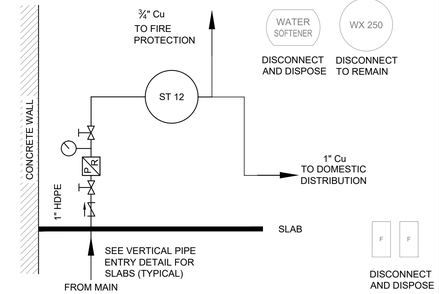

(SEE SHEET C508 FOR SYMBOL LEGEND)

4B WATER SERVICE ENTRANCE DETAIL
2867 CHAPEL RD (PROPOSED) Scale: NTS



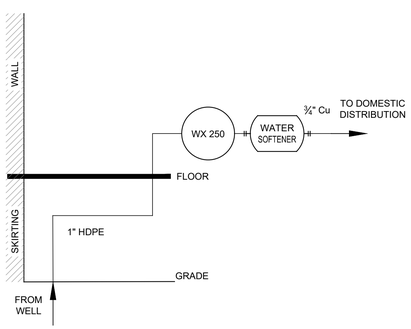

(SEE SHEET C508 FOR SYMBOL LEGEND)

5A WATER SERVICE ENTRANCE DETAIL
2892 CHAPEL RD (EXISTING) Scale: NTS



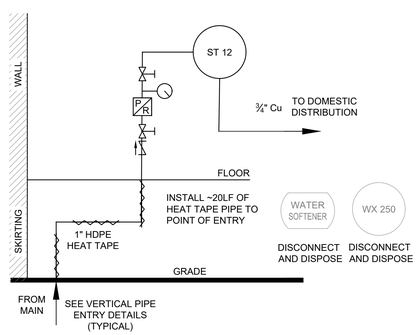

(SEE SHEET C508 FOR SYMBOL LEGEND)

5B WATER SERVICE ENTRANCE DETAIL
2892 CHAPEL RD (PROPOSED) Scale: NTS



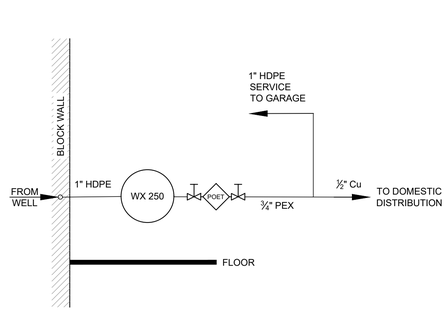

(SEE SHEET C508 FOR SYMBOL LEGEND)

6A WATER SERVICE ENTRANCE DETAIL
2899 CHAPEL RD (EXISTING) Scale: NTS



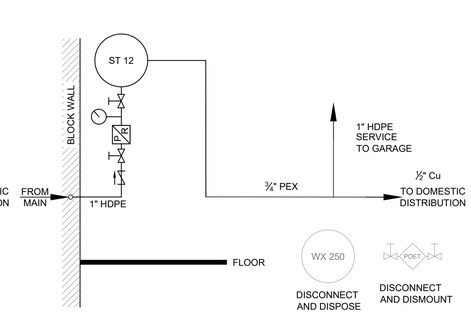

(SEE SHEET C508 FOR SYMBOL LEGEND)

6B WATER SERVICE ENTRANCE DETAIL
2899 CHAPEL RD (PROPOSED) Scale: NTS



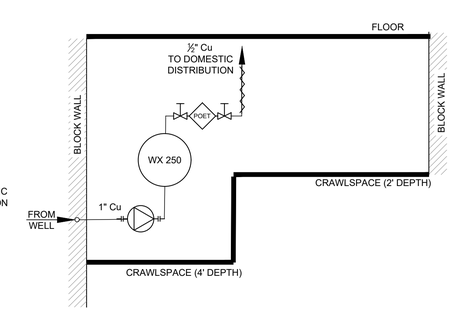

(SEE SHEET C508 FOR SYMBOL LEGEND)

7A WATER SERVICE ENTRANCE DETAIL
2972 CHAPEL RD (EXISTING) Scale: NTS



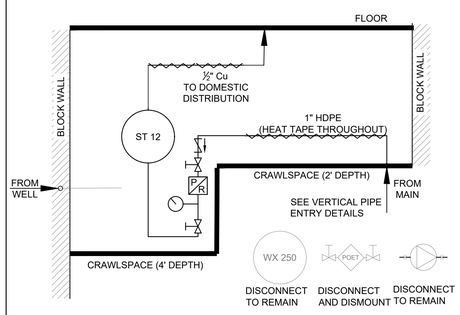

(SEE SHEET C508 FOR SYMBOL LEGEND)

7B WATER SERVICE ENTRANCE DETAIL
2972 CHAPEL RD (PROPOSED) Scale: NTS



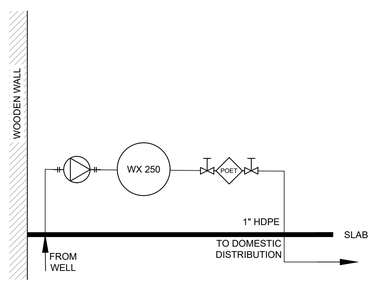

(SEE SHEET C508 FOR SYMBOL LEGEND)

8A WATER SERVICE ENTRANCE DETAIL
3010 CHAPEL RD (EXISTING) Scale: NTS



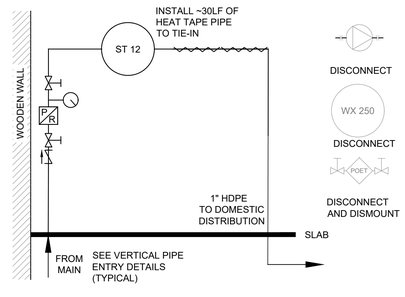

(SEE SHEET C508 FOR SYMBOL LEGEND)

8B WATER SERVICE ENTRANCE DETAIL
3010 CHAPEL RD (PROPOSED) Scale: NTS



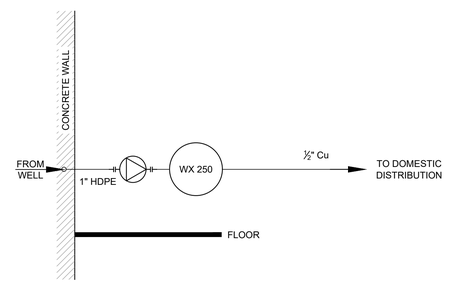

(SEE SHEET C508 FOR SYMBOL LEGEND)

9A WATER SERVICE ENTRANCE DETAIL
3050 CHAPEL RD (EXISTING) Scale: NTS



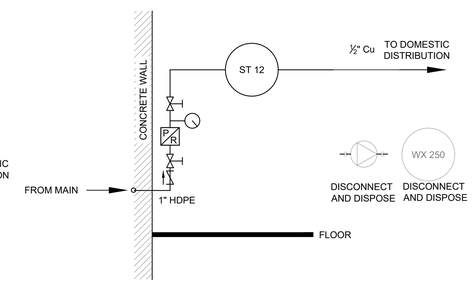

(SEE SHEET C508 FOR SYMBOL LEGEND)

9B WATER SERVICE ENTRANCE DETAIL
3050 CHAPEL RD (PROPOSED) Scale: NTS




(SEE SHEET C508 FOR SYMBOL LEGEND)

10A WATER SERVICE ENTRANCE DETAIL
3110 CHAPEL RD (EXISTING) Scale: NTS




(SEE SHEET C508 FOR SYMBOL LEGEND)

10B WATER SERVICE ENTRANCE DETAIL
3110 CHAPEL RD (PROPOSED) Scale: NTS


MSK ENGINEERING AND DESIGN, INC.
P.O. BOX 139, 150 DEPOT STREET
BENNINGTON, VERMONT 05201
PH: (802) 447-1402 FAX: (802) 445-1291


REVISIONS

| NO. | DATE | DESCRIPTION |
|---|---|---|

TOWN OF BENNINGTON
MUNICIPAL WATER SYSTEM
REMEDIAL EXPANSION PHASE II
BENNINGTON, VERMONT

DRAWINGS THIS SHEET

CONTRACT 9
SERVICE ENTRANCE
DIAGRAMS

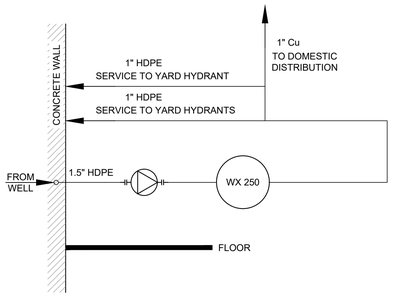
| NUMBER | DATE |
|---|---|
| 1001-019.7 | 10-16-2019 |
| DRAWN | CHECKED |
| MSK | JMD |

SHEET NUMBER

C604

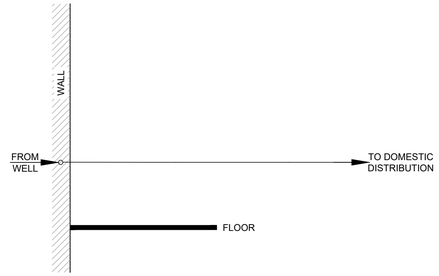
STATE OF VERMONT
JASON M. DOLMETSCH
No. 9238
CIVIL
LICENSED PROFESSIONAL ENGINEER

E:_DRAWING DATABASE\1001-019.7 PFOA REMEDIATION II\SHEETS\CONTRACT 9\1001-019.7 T09 C509 CONTRACT 9 SERVICE DIAGRAMS.DWG
JD Dolmetsch 10/16/2019



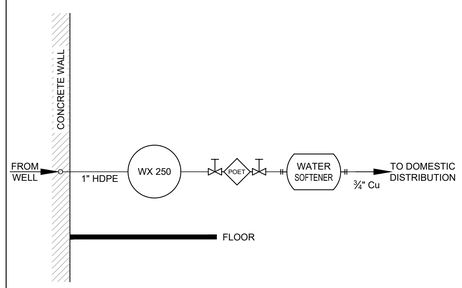

(SEE SHEET C508 FOR SYMBOL LEGEND)

1 WATER SERVICE ENTRANCE DETAIL
831 CHAPEL RD (EXISTING) Scale: NTS



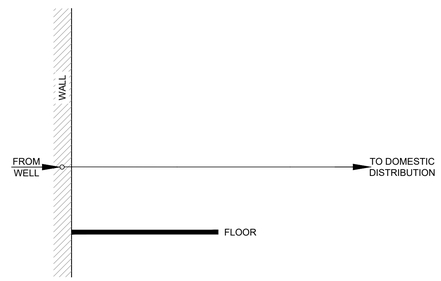

(SEE SHEET C508 FOR SYMBOL LEGEND)

2 WATER SERVICE ENTRANCE DETAIL
1215 CHAPEL RD (EXISTING) Scale: NTS



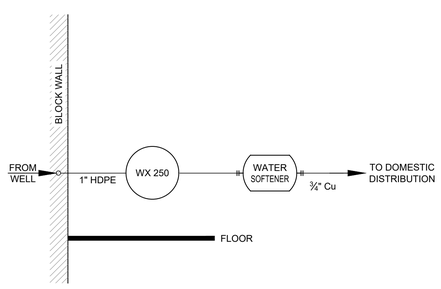

(SEE SHEET C508 FOR SYMBOL LEGEND)

3 WATER SERVICE ENTRANCE DETAIL
1415 CHAPEL RD (EXISTING) Scale: NTS



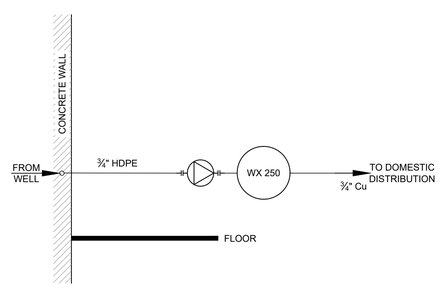

(SEE SHEET C508 FOR SYMBOL LEGEND)

4 WATER SERVICE ENTRANCE DETAIL
1723 CHAPEL RD (EXISTING) Scale: NTS



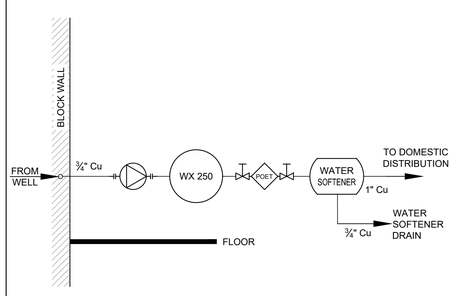

(SEE SHEET C508 FOR SYMBOL LEGEND)

5 WATER SERVICE ENTRANCE DETAIL
1819 CHAPEL RD (EXISTING) Scale: NTS




(SEE SHEET C508 FOR SYMBOL LEGEND)

6 WATER SERVICE ENTRANCE DETAIL
1936 CHAPEL RD (EXISTING) Scale: NTS

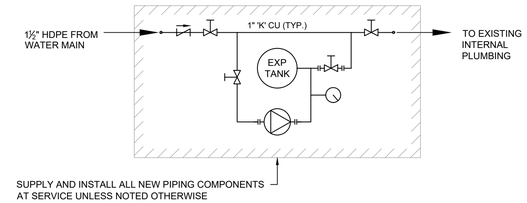



(SEE SHEET C508 FOR SYMBOL LEGEND)

7 WATER SERVICE ENTRANCE DETAIL
1992 CHAPEL RD (EXISTING) Scale: NTS

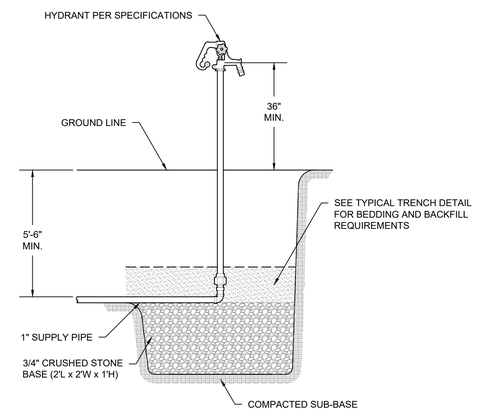
BOOSTER PUMP SYSTEMS ARE TO BE INSTALLED AT THE LISTED PROPERTIES PER TYPICAL DETAIL AS SHOWN ON THIS SHEET.

THE PLUMBER SHALL REMOVE EXISTING INTERNAL PIPING, COMPONENTS, FIXTURES AND APPURTENANCES, AS REQUIRED FOR THE INSTALLATION OF THE BOOSTER PUMP SYSTEM, AND SALVAGE OR DISPOSE AS DIRECTED BY THE PROPERTY OWNER.




8 WATER SERVICE BOOSTER PUMP DETAIL
Scale: NTS

| BOOSTER PUMP SYSTEMS TO BE INSTALLED: | |
|---|---|
| PARCEL ID | STREET ADDRESS |
| 06-01-41-01 | 831 CHAPEL ROAD BENNINGTON VT 05201 |
| 06-01-37 | 1215 CHAPEL ROAD BENNINGTON VT 05201 |
| 06-01-34 | 1415 CHAPEL ROAD BENNINGTON VT 05201 |
| 06-01-29 | 1723 CHAPEL ROAD BENNINGTON VT 05201 |
| 06-01-28 | 1819 CHAPEL ROAD BENNINGTON VT 05201 |
| 26-50-43-02 | 1936 CHAPEL ROAD BENNINGTON VT 05201 |
| 26-50-44 | 1992 CHAPEL ROAD BENNINGTON VT 05201 |




9 YARD HYDRANT DETAIL
Scale: NTS

POST HYDRANTS SHALL BE NON-FREEZING, SELF-DRAINING TYPE WITH A 5'-6" MIN. DEPTH OF BURY. THESE HYDRANTS WILL BE FURNISHED WITH A 2" FIP INLET, A NON-TURNING OPERATING ROD, AND SHALL BE OPEN TO THE RIGHT. ALL WORKING PARTS SHALL BE BRONZE TO BRONZE DESIGN AND BE SERVICEABLE FROM ABOVE GRADE WITHOUT DIGGING. THE OUTLET SHALL ALSO BE BRONZE AND BE 2-1/2" NST. HYDRANTS SHALL BE LOCKABLE TO PREVENT UNAUTHORIZED USE AS MANUFACTURED BY MUELLER., P/N A-410, OR APPROVED EQUAL.

BOOSTER PUMP SYSTEMS ARE TO BE INSTALLED PURSUANT TO THE CRITERIA DESCRIBED IN THE TOWN OF BENNINGTON WATER DEPARTMENT PUBLIC COMMUNITY WATER SYSTEM (THE WATER SYSTEM), WSID #5016 - VARIANCE REQUEST GRANTED (12 JULY 2017)


MSK ENGINEERING AND DESIGN, INC.
P.O. BOX 139, 150 DEPOT STREET
BENNINGTON, VERMONT 05201
PH: (802) 447-1402 FAX: (802) 445-1291


REVISIONS

| NO. | DATE | DESCRIPTION |
|---|---|---|

TOWN OF BENNINGTON
MUNICIPAL WATER SYSTEM
REMEDIAL EXPANSION PHASE II
BENNINGTON, VERMONT

DRAWINGS THIS SHEET

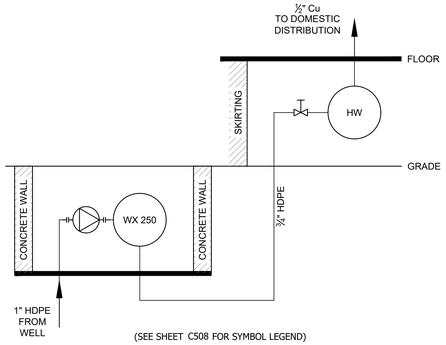
CONTRACT 9
BOOSTED SERVICE
ENTRANCE DIAGRAMS

| NUMBER | DATE |
|---|---|
| 1001-019.7 | 10-16-2019 |
| DRAWN | CHECKED |
| MSK | JMD |

SHEET NUMBER
C605

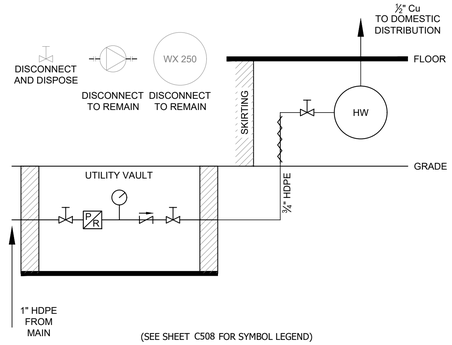
STATE OF VERMONT
JASON M. DOLMETSCH
No. 8238
CIVIL
LICENSED
PROFESSIONAL ENGINEER


G:\DRAWING DATABASE\1001-019.7 PYRA REMEDIATION VE\MASTER\CONTRACT 9 1001-019.7 TOB C600 CONTRACT 9 SERVICE DIAGRAMS.DWG
10/16/2019 10:01:20



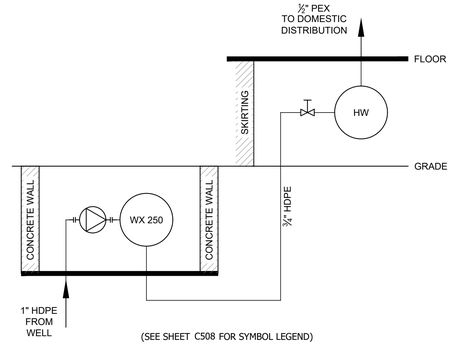

(SEE SHEET C508 FOR SYMBOL LEGEND)

1A WATER SERVICE ENTRANCE DETAIL
40 JACKS DR (EXISTING) Scale: NTS




(SEE SHEET C508 FOR SYMBOL LEGEND)

1B WATER SERVICE ENTRANCE DETAIL
40 JACKS DR (PROPOSED) Scale: NTS




(SEE SHEET C508 FOR SYMBOL LEGEND)

2A WATER SERVICE ENTRANCE DETAIL
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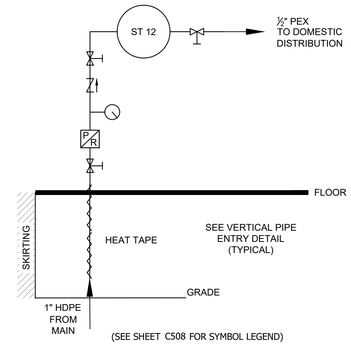


(SEE SHEET C508 FOR SYMBOL LEGEND)

2B WATER SERVICE ENTRANCE DETAIL
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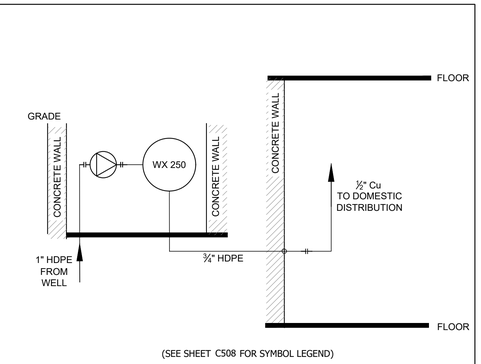
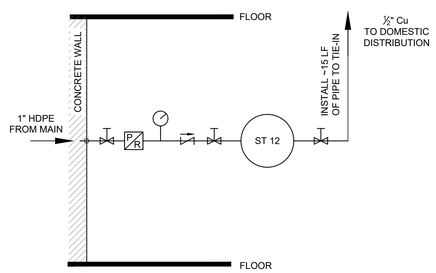


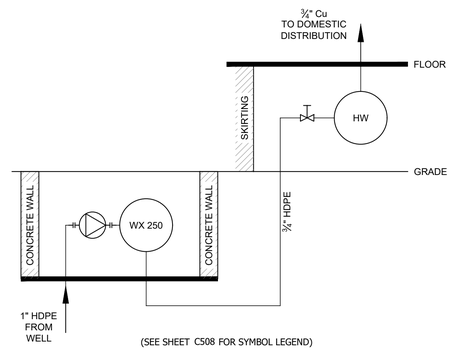

(SEE SHEET C508 FOR SYMBOL LEGEND)

3A WATER SERVICE ENTRANCE DETAIL
67 JACKS DR (EXISTING) Scale: NTS



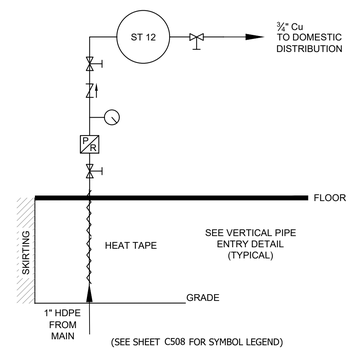

(SEE SHEET C508 FOR SYMBOL LEGEND)

3B WATER SERVICE ENTRANCE DETAIL
67 JACKS DR (PROPOSED) Scale: NTS



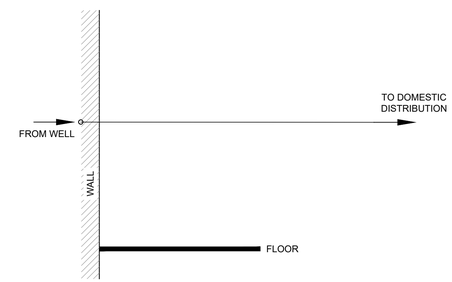

(SEE SHEET C508 FOR SYMBOL LEGEND)

4A WATER SERVICE ENTRANCE DETAIL
69 JACKS DR (EXISTING) Scale: NTS



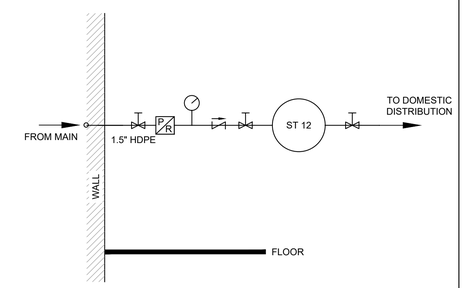

(SEE SHEET C508 FOR SYMBOL LEGEND)

4B WATER SERVICE ENTRANCE DETAIL
69 JACKS DR (PROPOSED) Scale: NTS



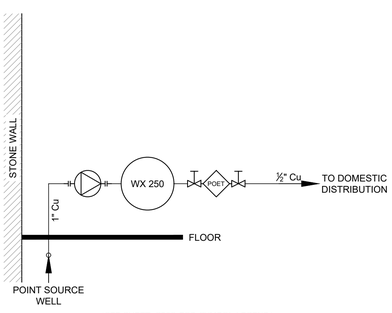

(SEE SHEET C508 FOR SYMBOL LEGEND)

5A WATER SERVICE ENTRANCE DETAIL
44 WALTS WAY (EXISTING) Scale: NTS



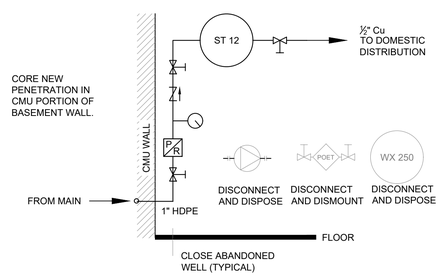

(SEE SHEET C508 FOR SYMBOL LEGEND)

5B WATER SERVICE ENTRANCE DETAIL
44 WALTS WAY (PROPOSED) Scale: NTS




(SEE SHEET C508 FOR SYMBOL LEGEND)

6A WATER SERVICE ENTRANCE DETAIL
1861 CHAPEL RD (EXISTING) Scale: NTS




(SEE SHEET C508 FOR SYMBOL LEGEND)

6B WATER SERVICE ENTRANCE DETAIL
1861 CHAPEL RD (PROPOSED) Scale: NTS

| JACKS DRIVE BOOSTED PRESSURE ZONE: | |
|---|---|
| PARCEL ID | STREET ADDRESS |
| 06-01-26-01 | 40 JACKS DRIVE BENNINGTON VT 05201 |
| 06-01-23-90 | 45 JACKS DRIVE BENNINGTON VT 05201 |
| 06-01-23-02 | 67 JACKS DRIVE BENNINGTON VT 05201 |
| 06-01-26-02 | 69 JACKS DRIVE BENNINGTON VT 05201 |
| 06-01-26 | 44 WALTS WAY BENNINGTON VT 05201 |
| 06-01-24 | 1831 CHAPEL ROAD BENNINGTON VT 05201 |

THESE PROPERTIES AS LISTED ARE WITHIN THE NEW JACK'S DRIVE BOOSTED PRESSURE ZONE


MSK ENGINEERING AND DESIGN, INC.
P.O. BOX 139, 150 DEPOT STREET
BENNINGTON, VERMONT 05201
PH: (802) 447-1402 FAX: (802) 445-1291


REVISIONS

| NO. | DATE | DESCRIPTION |
|---|---|---|

TOWN OF BENNINGTON
MUNICIPAL WATER SYSTEM
REMEDIAL EXPANSION PHASE II
BENNINGTON, VERMONT

DRAWINGS THIS SHEET

CONTRACT 9
BOOSTED PRESSURE
ZONE SERVICE
ENTRANCE DIAGRAMS

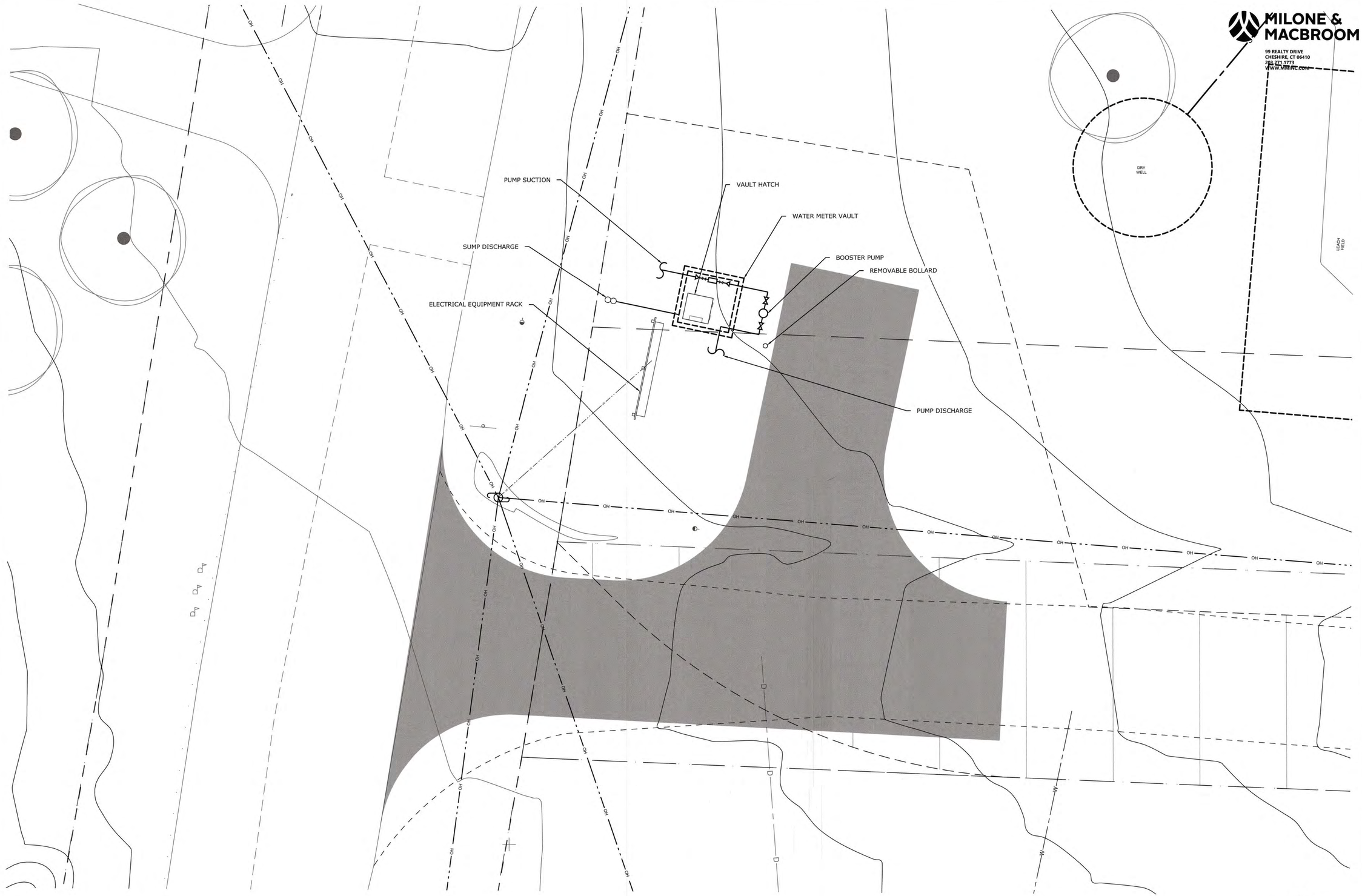
| NUMBER | DATE |
|---|---|
| 1001-019.7 | 10-16-2019 |
| DRAWN | CHECKED |
| MSK | JMD |

SHEET NUMBER

C606

STATE OF VERMONT
JASON M. DOLMETSCH
No.9238
CIVIL
LICENSED
PROFESSIONAL ENGINEER

E:_DRAWING DATABASE\1001-019.7 PFOA REMEDIATION\SHEETS\CONTRACT 9\1001-019.7 TOD C509 CONTRACT 9 SERVICE DIAGRAMS.DWG
JD 09/09/2019 09:19:49




1 PUMP STATION SITE PLAN AT CHAPEL ROAD AND JACK'S DRIVE
(CONTRACT 9)
0 10 20 Feet

Scale: 1:5

MILONE & MACBROOM
99 REALTY DRIVE
CHESHIRE, CT 06410
203.271.1773
WWW.MMINC.COM

MSK ENGINEERING AND DESIGN, INC.
P.O. BOX 139, 150 DEPOT STREET
BENNINGTON, VERMONT 05201
PH: (802) 447-1402 FAX: (802) 445-1291

REVISIONS

| NO. | DATE | DESCRIPTION |
|---|---|---|
| | | |

TOWN OF BENNINGTON
MUNICIPAL WATER SYSTEM
REMEDIAL EXPANSION PHASE II
BENNINGTON, VERMONT

DRAWINGS THIS SHEET

SERVICE DISTRICT F
PUMP STATION PLAN

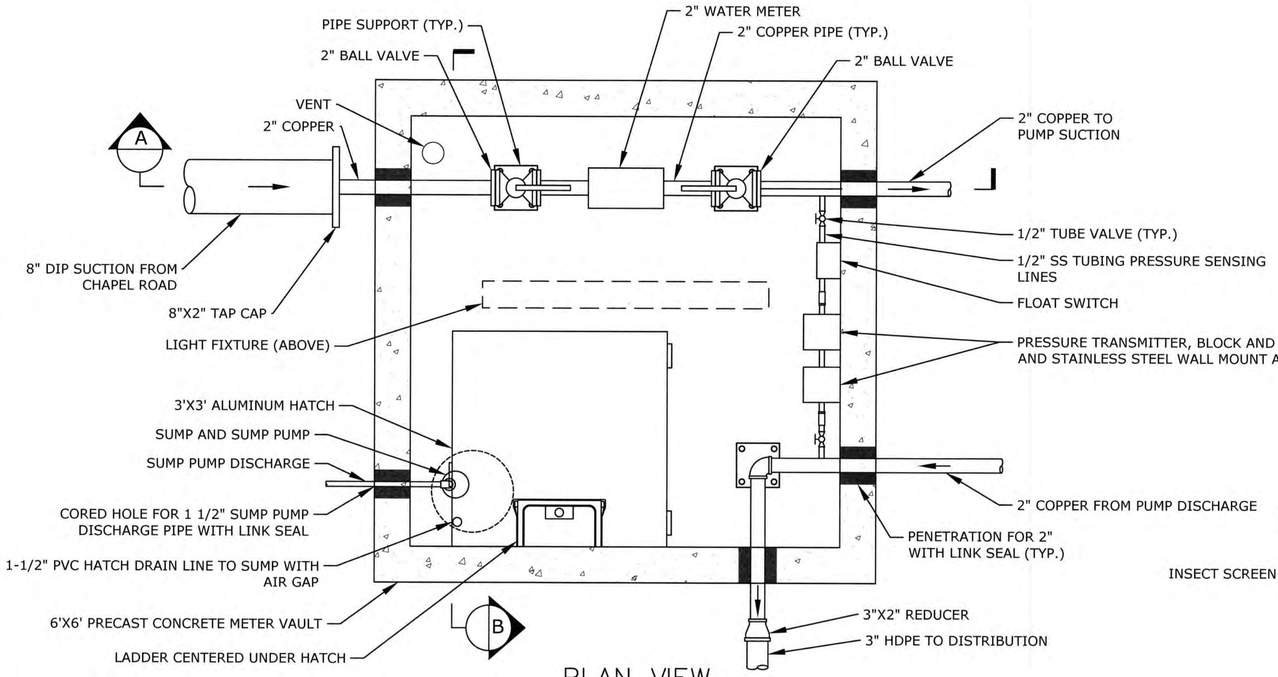
| NUMBER | DATE |
|---|---|
| 1001-019.7 | (ISSUE DATE) |
| DRAWN | CHECKED |
| KVN | TAK |

SHEET NUMBER

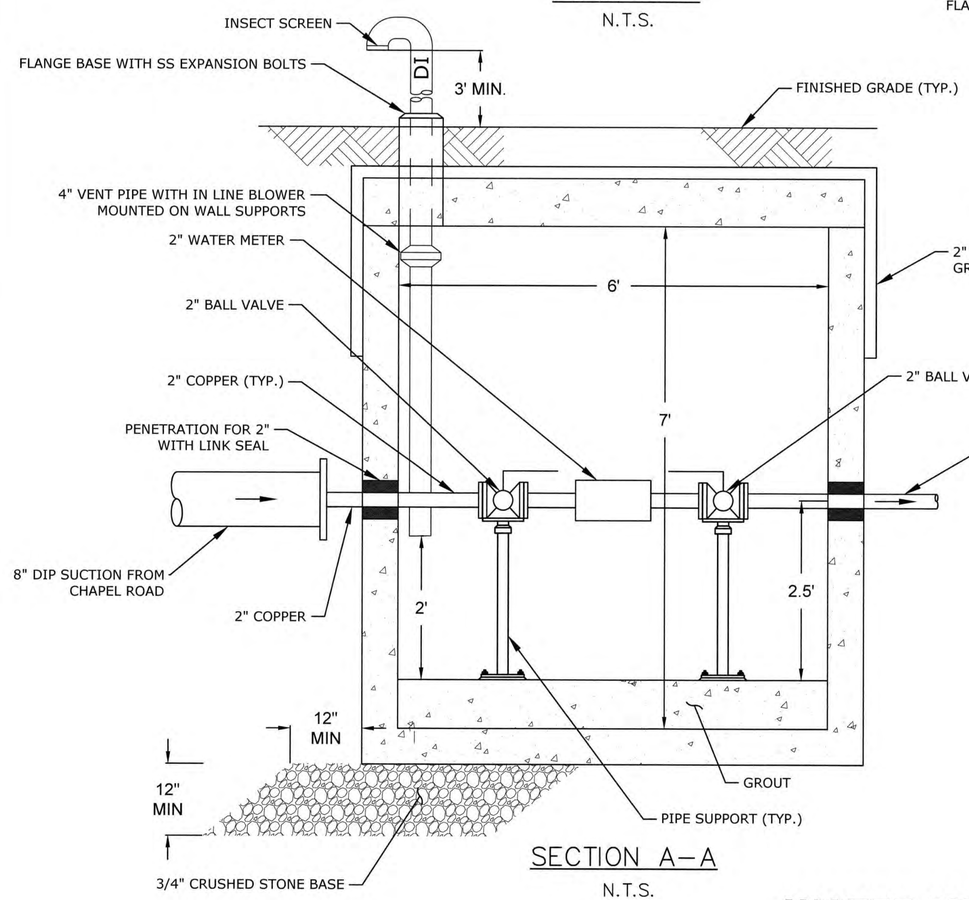
P-1

ENGINEER OF RECORD
EDWARD A. HART, PE
VT #5604

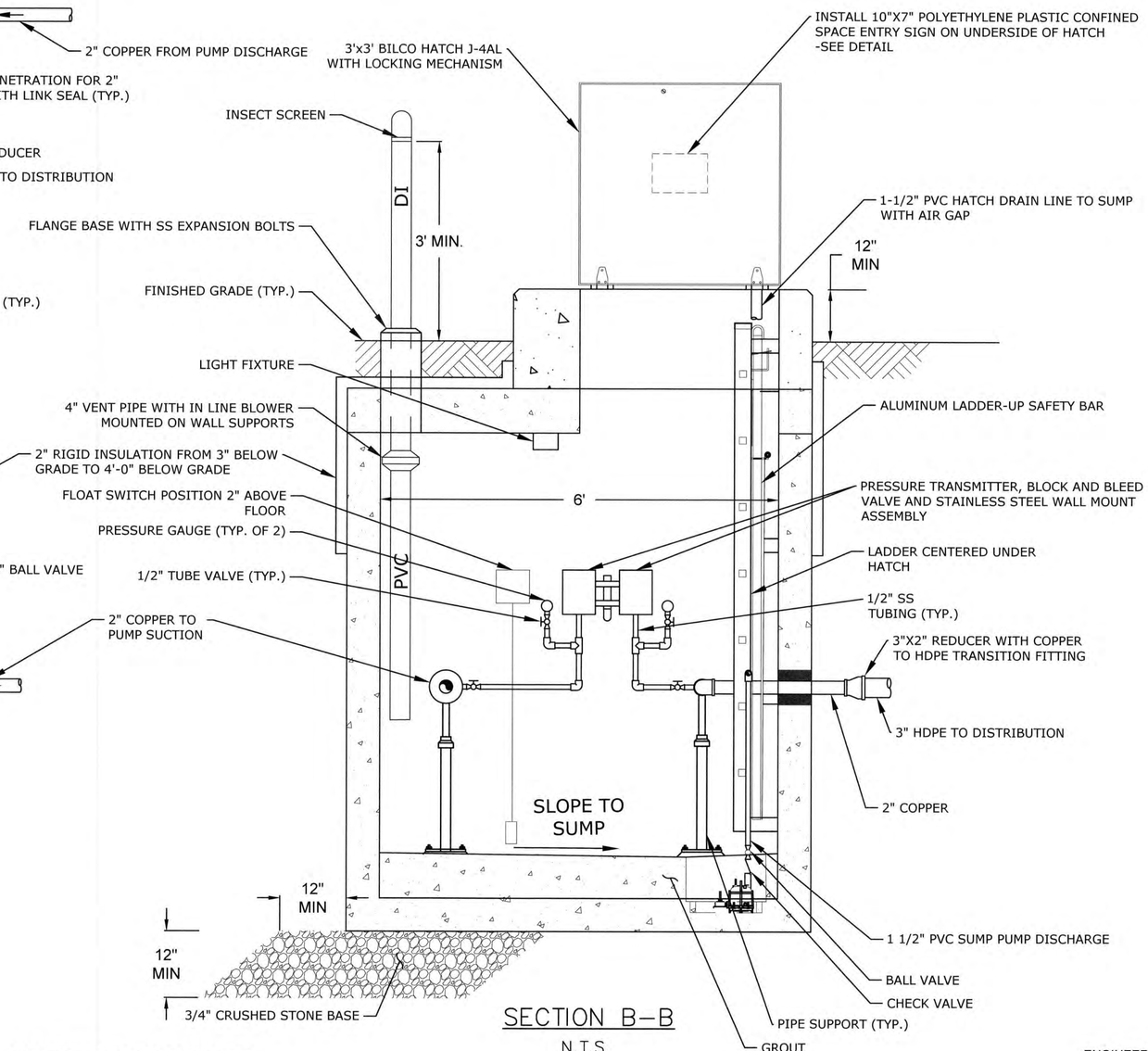
NOTES:
1. ATTACH SMALL DIAMETER PRESSURE SENSING LINES AND HATCH DRAIN LINES TO INTERIOR WALLS WITH PIPE STRAPS AND CONCRETE ANCHORS.
2. INSTALL CONFINED SPACE ENTRY SIGN ON UNDERSIDE OF HATCH.
3. PROVIDE LIMIT SWITCH ON VAULT HATCH TO OPERATE VENT BLOWER AND LIGHT.
4. PROVIDE 4-FOOT SURFACE MOUNTED, GASKETED LIGHT FIXTURE.
5. PROVIDE DUPLEX OUTLET WITH WEATHER COVER ON INSIDE WALL OF VAULT.




PLAN VIEW
N.T.S.




SECTION A–A
N.T.S.




SECTION B–B
N.T.S.

# WATER METER VAULT

ENGINEER OF RECORD
EDWARD A. HART, PE
VT #5604


MILONE & MACBROOM
99 REALTY DRIVE
CHESHIRE, CT 06410
203.271.1773
WWW.MMINC.COM

MSK ENGINEERING AND DESIGN, INC.
P.O. BOX 139, 150 DEPOT STREET
BENNINGTON, VERMONT 05201
PH: (802) 447-1402 FAX: (802) 445-1291


REVISIONS

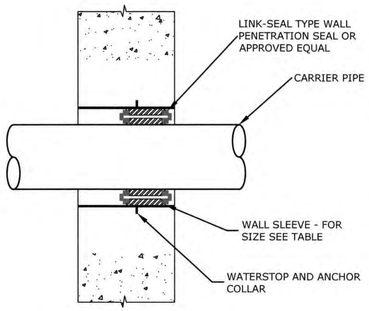
| NO. | DATE | DESCRIPTION |
|---|---|---|

TOWN OF BENNINGTON
MUNICIPAL WATER SYSTEM
REMEDIAL EXPANSION PHASE II
BENNINGTON, VERMONT

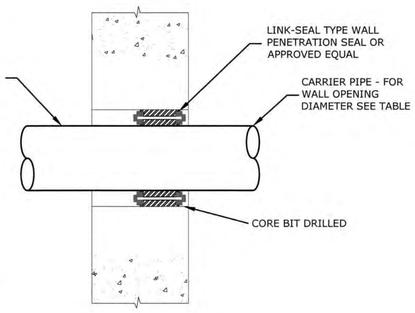
DRAWINGS THIS SHEET
SERVICE DISTRICT F
PUMP STATION
PROCESS PLAN

| NUMBER | DATE |
|---|---|
| 1001-019.7 | (ISSUE DATE) |
| DRAWN | CHECKED |
| KVN | TAK |

SHEET NUMBER
P-2




THRU NEW CONCRETE WALL



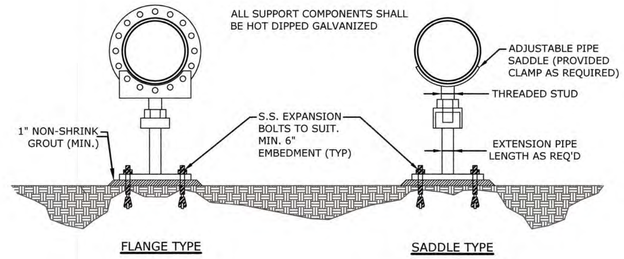

THRU EXISTING CONCRETE WALL

| CARRIER PIPE NORMAL SIZE | CARRIER PIPE O.D. | WALL SLEEVE SIZE | CORE DRILLED I.D. |
|---|---|---|---|
| 2" | 2.50" | 4" | 4" |
| 4" | 4.80" | 8" | 8" |
| 8" | 9.05" | 12" | 12" |
| 12" | 13.20" | 16" | 16" |
| 16" | 17.40" | 20" | 20" |
| 18" | 19.50" | 24" | 24" |
| 20" | 21.60" | 26" | 26" |
| 24" | 25.80" | 30" | 28" |

NOTES:
1. FOR OTHER PIPE SIZES CONSULT MANUFACTURER'S SPECIFICATIONS.
2. SOME APPLICATIONS MAY REQUIRE STANDARD WALL CASTINGS.

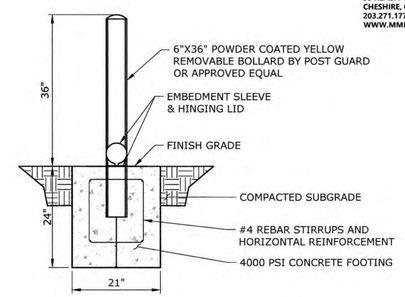
## TYPICAL PIPE WALL PENETRATION DETAILS

NOT TO SCALE



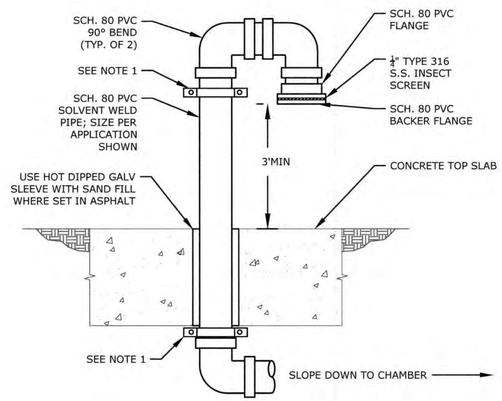

## ADJUSTABLE PIPE SUPPORT DETAIL

NOT TO SCALE



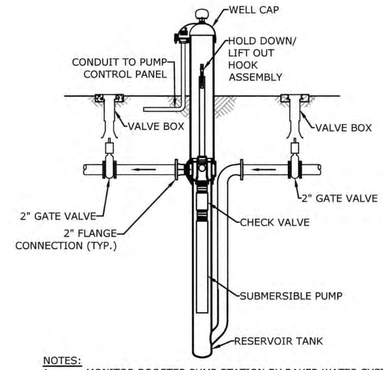

## REMOVABLE BOLLARD 6"DIA.

NOT TO SCALE




## GOOSENECK HIGH AND LOW VENT PIPE DETAIL

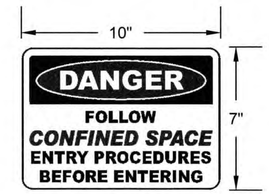
NOTES:
1. PROVIDE PIPE SUPPORTS AT BOTTOM END BELOW GRADE AND AT UPPER ELBOW AND AT INTERVALS NOT EXCEEDING 4 FT. SUPPORTS SHALL CONSIST OF PIPE RISER CLAMP AND THD ROD TO EXPANSION OR EPOXY ANCHOR, OR UNISTRUT WITH PIPE STRAP. ALL COMPONENTS AND ANCHORAGE HARDWARE SHALL BE TYPE 316 SS.
2. PIPE SHALL BE SCH 80 PVC, SOLVENT WELD. AFTER ASSEMBLY, PIPE SHALL BE SANDED TO ROUGHEN THE SURFACE UNIFORMLY, PRIMED AS PER COATING MANUFACTURER'S INSTRUCTIONS. THEN FINISH COATED WITH AN EPOXY POLYAMIDE PAINT AND FINISH COATED WITH AN EPOXY POLYURETHANE. OWNER TO SELECT COLOR.




NOTES:
1. MONITOR BOOSTER PUMP STATION BY BAKER WATER SYSTEMS DIVISION DESIGN CAPACITY: 30GPM @ 70FT TDH
2. ONE VFD SUBMERSIBLE DUTY PUMP (1.5 HP) AS MANUFACTURED BY GOULDS

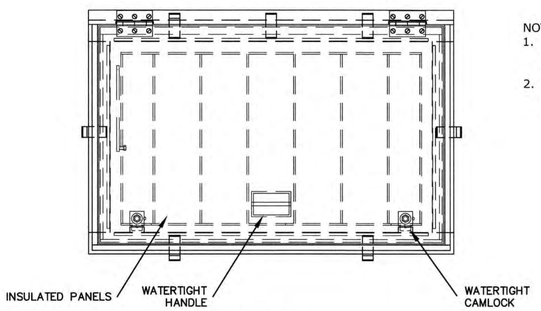
## BOOSTER PUMP

NOT TO SCALE

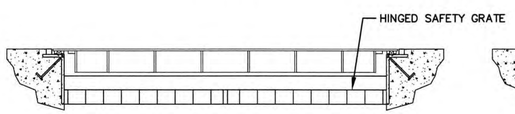



## POLYETHYLENE CONFINED SPACE SIGN

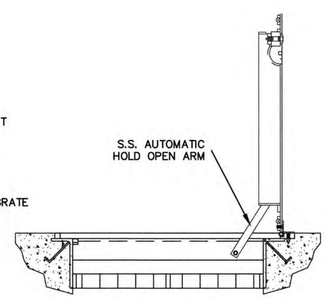
NOT TO SCALE




PLAN VIEW




SECTION VIEW (FRONT)

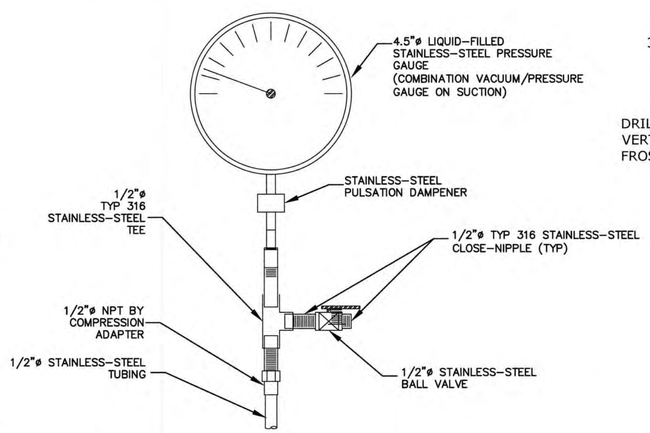



SECTION VIEW (SIDE)

NOTES:
1. COORDINATE HATCH LOCATION WITH LADDER BENEATH.
2. HATCHES MUST BE H 20 LOAD RATED AND INSULATED. SEE PLAN FOR CLEAR OPEN AREA DIMENSIONS.
3. SEE PLANS FOR LEAF CONFIGURATION AND CLEAR OPENING DIMENSIONS.

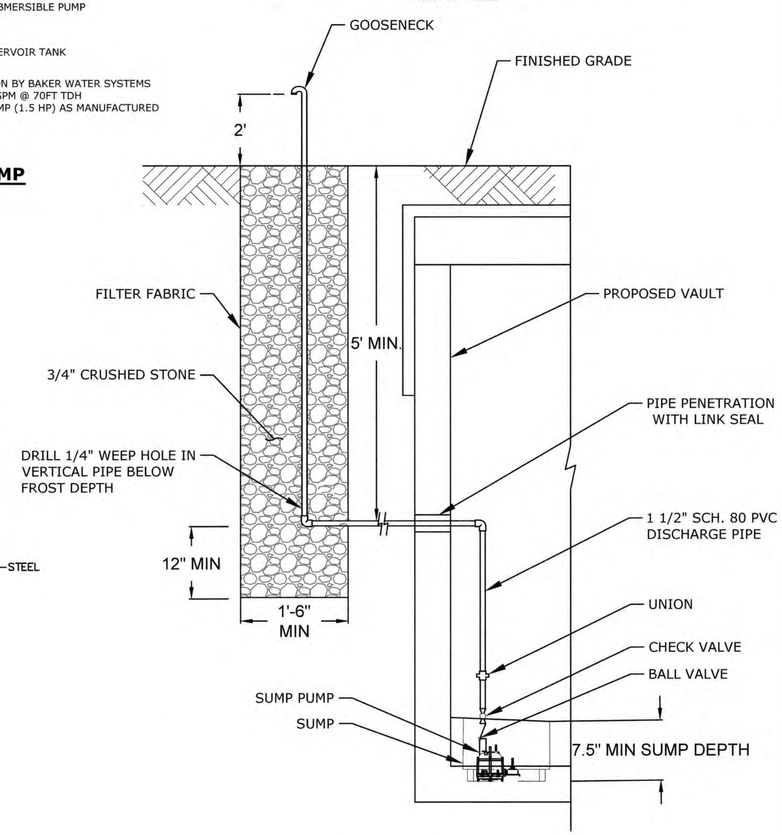
## ALUMINUM HATCH DETAIL

NOT TO SCALE




## PRESSURE INDICATOR (PI) DETAIL

NOT TO SCALE




## SUMP DETAIL

NOT TO SCALE


MILONE & MACBROOM
99 REALTY DRIVE
CHESHIRE, CT 06410
203.271.1773
WWW.MMINC.COM

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P.O. BOX 139, 150 DEPOT STREET
BENNINGTON, VERMONT 05201
PH: (802) 447-1402 FAX: (802) 445-1291

ENGINEER OF RECORD
EDWARD A. HART, PE
VT #5604


| REVISIONS | | |
|---|---|---|
| NO. | DATE | DESCRIPTION |

TOWN OF BENNINGTON
MUNICIPAL WATER SYSTEM
REMEDIAL EXPANSION PHASE II
BENNINGTON, VERMONT

DRAWINGS THIS SHEET
SERVICE DISTRICT F
PUMP STATION
DETAILS

| NUMBER | DATE |
|---|---|
| 1001-019.7 | (ISSUE DATE) |
| DRAWN | CHECKED |
| KVN | TAK |

SHEET NUMBER
P-3

1 PUMP STATION ELECTRICAL SITE PLAN AT CHAPEL ROAD AND JACK'S DRIVE
(CONTRACT 9)
Scale: 1:10
0 10 20 Feet
NORTH

## PP-1 PANELBOARD SCHEDULE

MAIN BUS RATINGS: 100A, 120/240 VOLTS, 1 PHASE, 3 WIRE
MINIMUM SHORTCIRCUIT INTERRUPTION RATING: 22,000 AIC
MAIN BREAKER TRIP: 100A
ESTIMATED CONNECTED LOAD: 3.1 KW

FED FROM: MANUAL TRANSFER SWITCH
INCOMING FEED: 1 #3 PER PHASE
ENCLOSURE: NEMA 3R
SURGE PROTECTIVE DEVICE: INTERNAL

| DESCRIPTION | LOAD KW | CB TRIP/POLE | CIR. NO | A | B | CIR. NO | CB TRIP/POLE | LOAD KW | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| EXT. LIGHTS | 0.1 | 20A/1P | 1 | | | 2 | 20A/1P | 0.5 | RTU |
| EXT. RECEPT. | 0.2 | 20A/1P | 3 | | | 4 | 20A/1P | -- | SPARE |
| VAULT BLOW/LGT | 0.3 | 20A/1P | 5 | | | 6 | 20A/1P | -- | SPARE |
| SUMP PUMP | 0.5 | 20A/1P | 7 | | | 8 | 20A/1P | -- | SPARE |
| SPARE | -- | 20A/1P | 9 | | | 10 | 20A/1P | -- | SPARE |
| SPARE | -- | 20A/1P | 11 | | | 12 | 20A/1P | -- | SPARE |
| SPARE | -- | 20A/1P | 13 | | | 14 | 20A/1P | -- | SPARE |
| MONITOR BOOSTER PS CP | 1.5 | 30A/2P | 15 | | | 16 | 20A/1P | -- | SPARE |
| | | | 17 | | | 18 | 20A/1P | -- | SPARE |

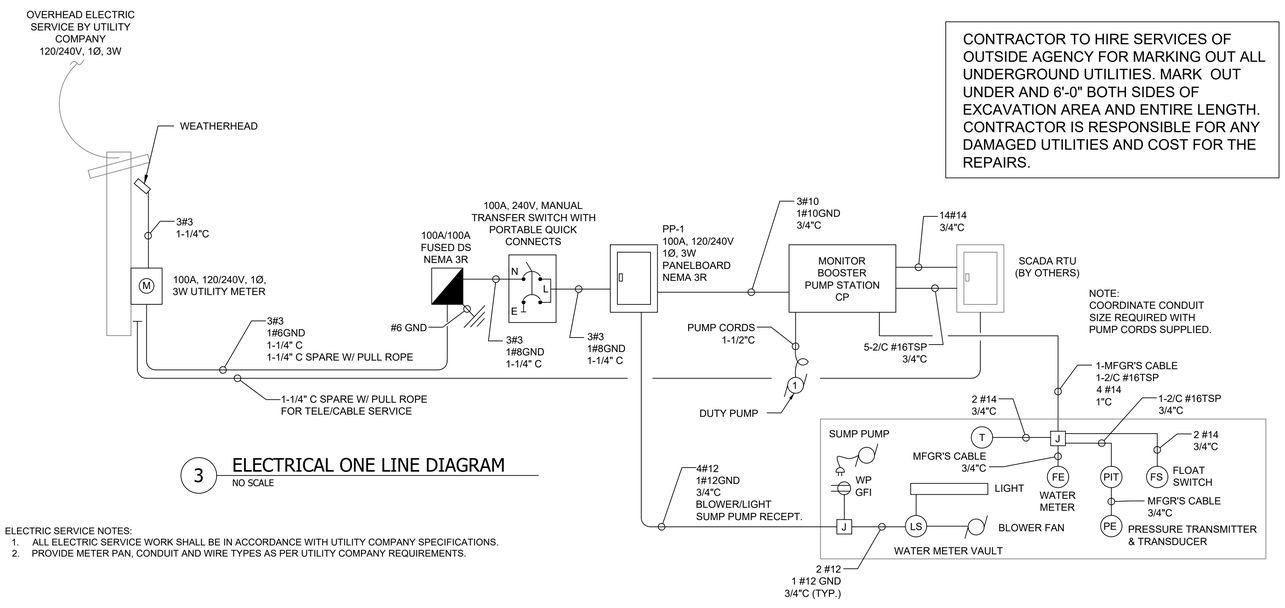
NOTE: PROVIDE 2 #12, 1 #12 GND, 3/4" C FOR ALL 20A/1P CIRCUITS AS REQUIRED UNLESS OTHERWISE NOTED.

## LEGEND

| SYMBOL | DESCRIPTION |
|---|---|
| | EQUIPMENT, DEVICE, CONDUIT, WIRE, ETC. TO BE PROVIDED AND INSTALLED |
| | EQUIPMENT BY OTHERS |
| | EQUIPMENT TO BE DEMOLISHED |
| S | SINGLE POLE SWITCH |
| | 120V 1Ø 20A DUPLEX RECEPTACLE |
| | 120/208V 3Ø 4W PANELBOARD |
| 30/-- | DISCONNECT SWITCH (FRAME/FUSE) |
| | CIRCUIT HOMERUN (208V 1Ø) TO PANELBOARD 2#12, 1#12GND, 3/4"C UON |
| | CIRCUIT HOMERUN (120V) TO PANELBOARD 2#12, 1#12GND, 3/4"C UON |
| | WIREWAY- CROSSLINES INDICATE NUMBER OF CONDUCTORS WHERE MORE THAN TWO |
| | CIRCUIT HOMERUN (208V 3Ø) TO PANELBOARD 3#10, 1#10GND, 3/4"C UON |
| GFI | GROUND FAULT INTERRUPTER |
| WP | WEATHER PROOF |
| | GROUND |
| TSP | TWISTED SHIELDED PAIR |
| M | UTILITY METER |
| FE | FLOW ELEMENT |
| PE PIT | PRESS. TRANSDUCER / PRESS. TRANSMITTER |
| T | TEMPERATURE ALARM |
| | MOTOR |

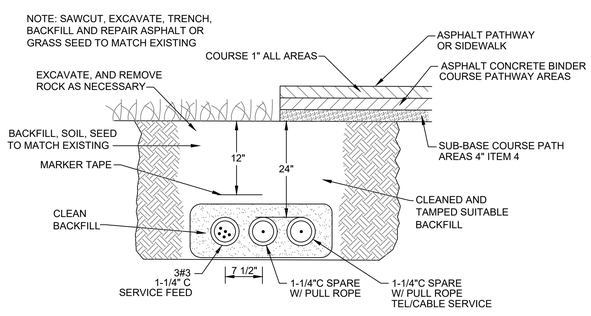
NOTE: ALL WORK IS NEW UNLESS OTHERWISE NOTED.

CONTRACTOR TO HIRE SERVICES OF OUTSIDE AGENCY FOR MARKING OUT ALL UNDERGROUND UTILITIES. MARK OUT UNDER AND 6'-0" BOTH SIDES OF EXCAVATION AREA AND ENTIRE LENGTH. CONTRACTOR IS RESPONSIBLE FOR ANY DAMAGED UTILITIES AND COST FOR THE REPAIRS.

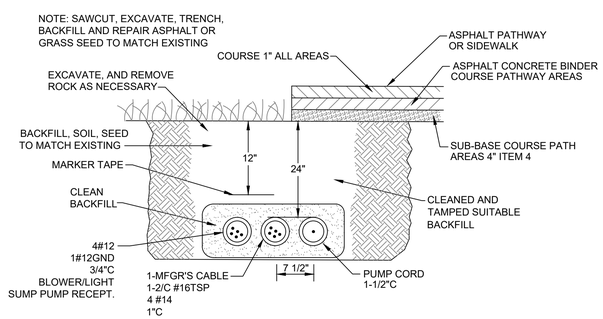



3 ELECTRICAL ONE LINE DIAGRAM
NO SCALE

ELECTRIC SERVICE NOTES:
1. ALL ELECTRIC SERVICE WORK SHALL BE IN ACCORDANCE WITH UTILITY COMPANY SPECIFICATIONS.
2. PROVIDE METER PAN, CONDUIT AND WIRE TYPES AS PER UTILITY COMPANY REQUIREMENTS.




1 E-1 TYPICAL TRENCH DETAIL
NO SCALE




2 E-1 TYPICAL TRENCH DETAIL
NO SCALE


MSK ENGINEERING AND DESIGN, INC.
P.O. BOX 139, 150 DEPOT STREET
BENNINGTON, VERMONT 05201
PH: (802) 447-1402 FAX: (802) 445-1291


REVISIONS

| NO. | DATE | DESCRIPTION |
|---|---|---|

TOWN OF BENNINGTON
MUNICIPAL WATER SYSTEM
REMEDIAL EXPANSION PHASE II
BENNINGTON, VERMONT

DRAWINGS THIS SHEET
ELECTRICAL SITE PLAN, DETAILS AND SCHEDULES

| NUMBER | DATE |
|---|---|
| 1001-019.7 | 08-22-2019 |
| DRAWN | CHECKED |
| GD | JGD |

SHEET NUMBER
E-1


LYNSTAAR ENGINEERING, P.C.
CIVIL - PLUMBING - ELECTRICAL - MECHANICAL
12 Water Street, Suite 202, White Plains, New York 10601
914-741-1290 (tel) 914-741-1253 (fax) www.lynstaar.com


STATE OF VERMONT
GARY M. GIRARD
No. 018.013450
Electrical
LICENSED PROFESSIONAL ENGINEER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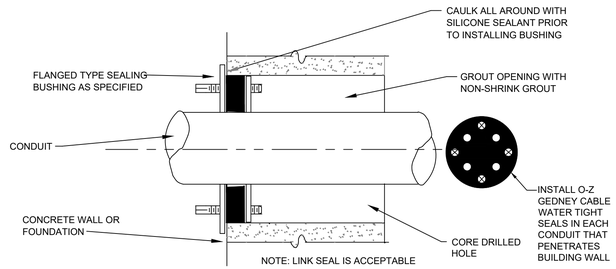
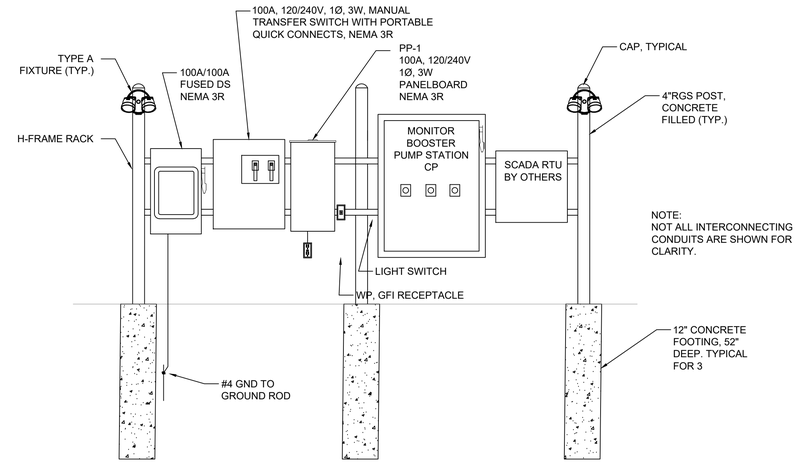
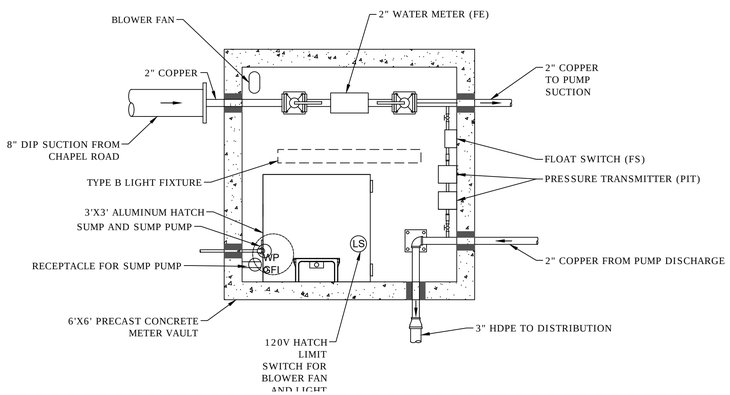



1 TYPICAL CONDUIT PENETRATION DETAIL
NO SCALE




2 EQUIPMENT RACK ELEVATION
SCALE: 1/2" = 1'-0"




3 WATER METER VAULT PLAN
SCALE: 1/2" = 1'-0"

## SCHEDULE OF LIGHTING FIXTURES

| TYPE | LED WATTS | MOUNTING | VOLTAGE | FIXTURE MANUFACTURER AND CATALOG NUMBER | REMARKS |
|---|---|---|---|---|---|
| A | 20W | SURFACE | 120V | LITHONIA LIGHTING OVFL 2RH LED | 2 HEADS, ROUND, 4000K, 120V DUSK TO DAWN PHOTOCELL, DARK BRONZE |
| B | 33W | SURFACE | 120V | LITHONIA VAP LED SERIES | 4000 LUMENS, FROSTED LENS, MEDIUM DIST. 4000° K, 80 CRI, WET LOCATION |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ELECTRICAL DETAILS

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SHEET NUMBER
E-2


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