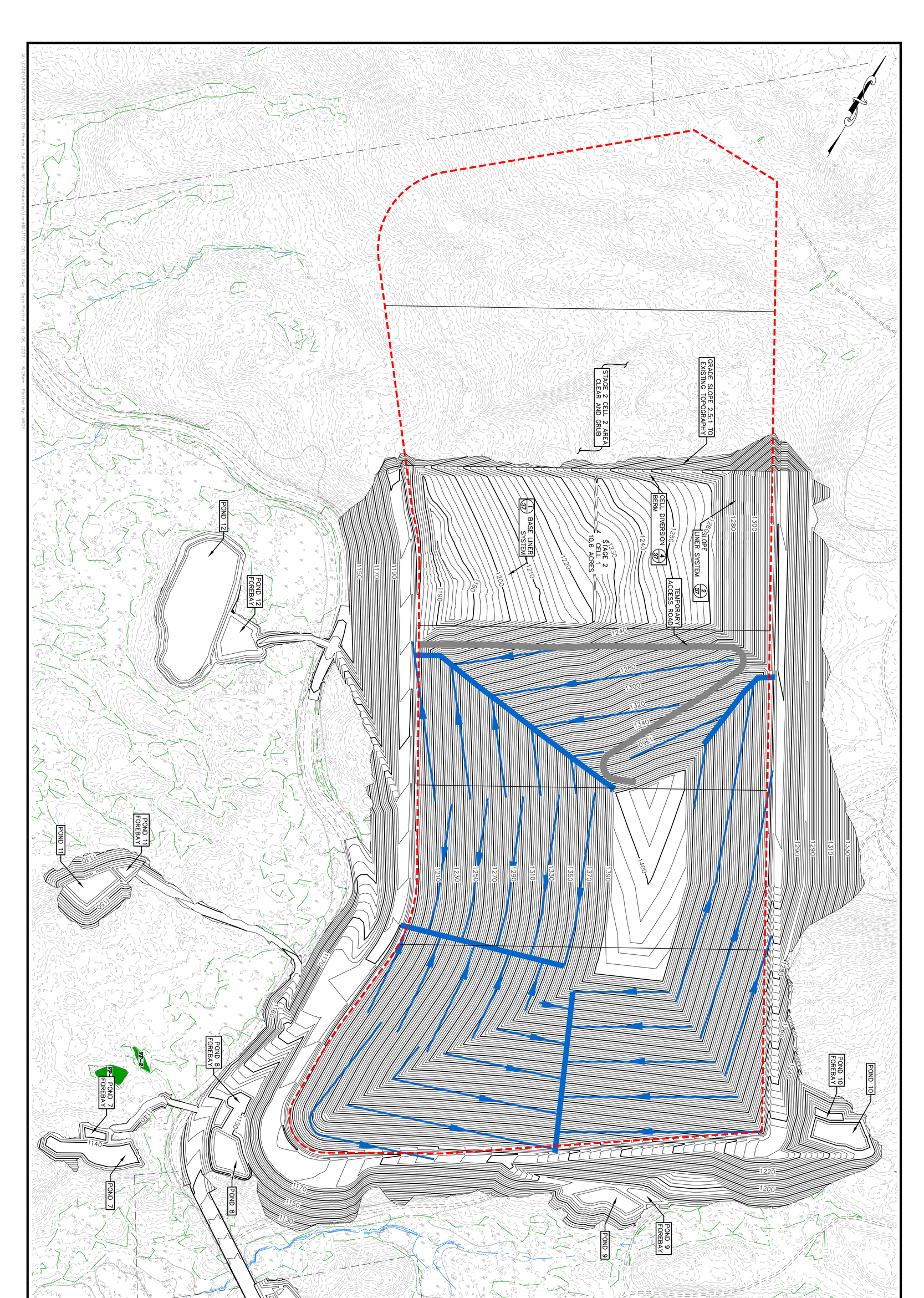

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sheet 16 of 50	drawing no. INT-4	Granite State Landfill, LLC Dalton, New Hampshire Permitting Plan Set Interim Grading Plan Stage 2 Cell 1	date: October 2023 · designed by: ATR/NJM/STF/AJS project no: 1101 · drawn by: ATR/NJM/STF checked by: AJS · approved by: AJS scale: 0 120' 240' Scale: 1" = 120'

STATE OF NEW HAMPSHIRE — ADAM J. SANDORI No. 12644 LICENSED PROFESSIONAL ENGINEER

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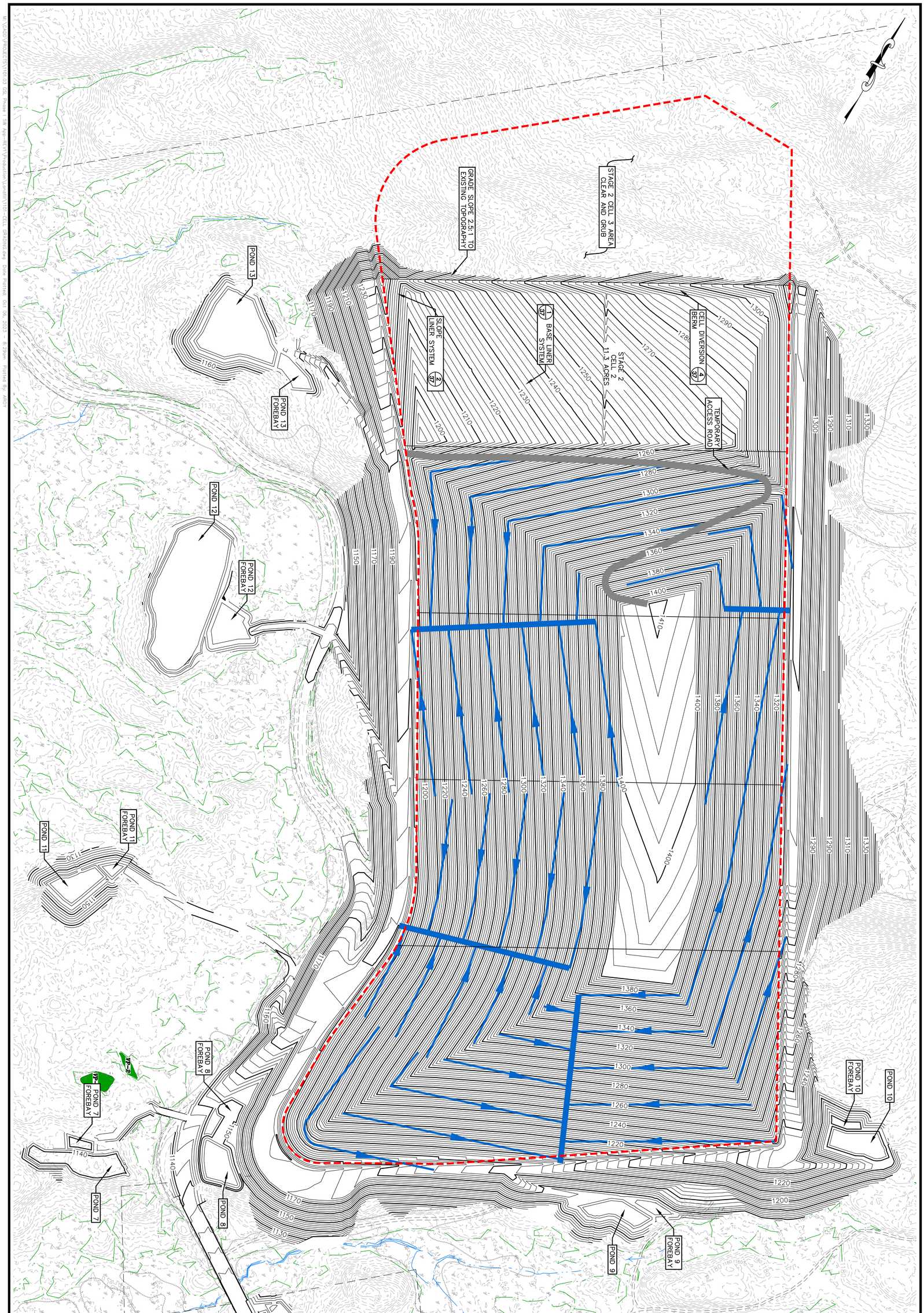

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sheet 17 of 50	drawing no. INT-5	Granite State Landfill, LLC Dalton, New Hampshire Permitting Plan Set Interim Grading Plan Stage 2 Cell 2	date: October 2023 project no: 1101 checked by: AJS scale: 0 120' 240' Scale: 1" = 120'	designed by: ATR/NJM/STF/AJS drawn by: ATR/NJM/STF approved by: AJS

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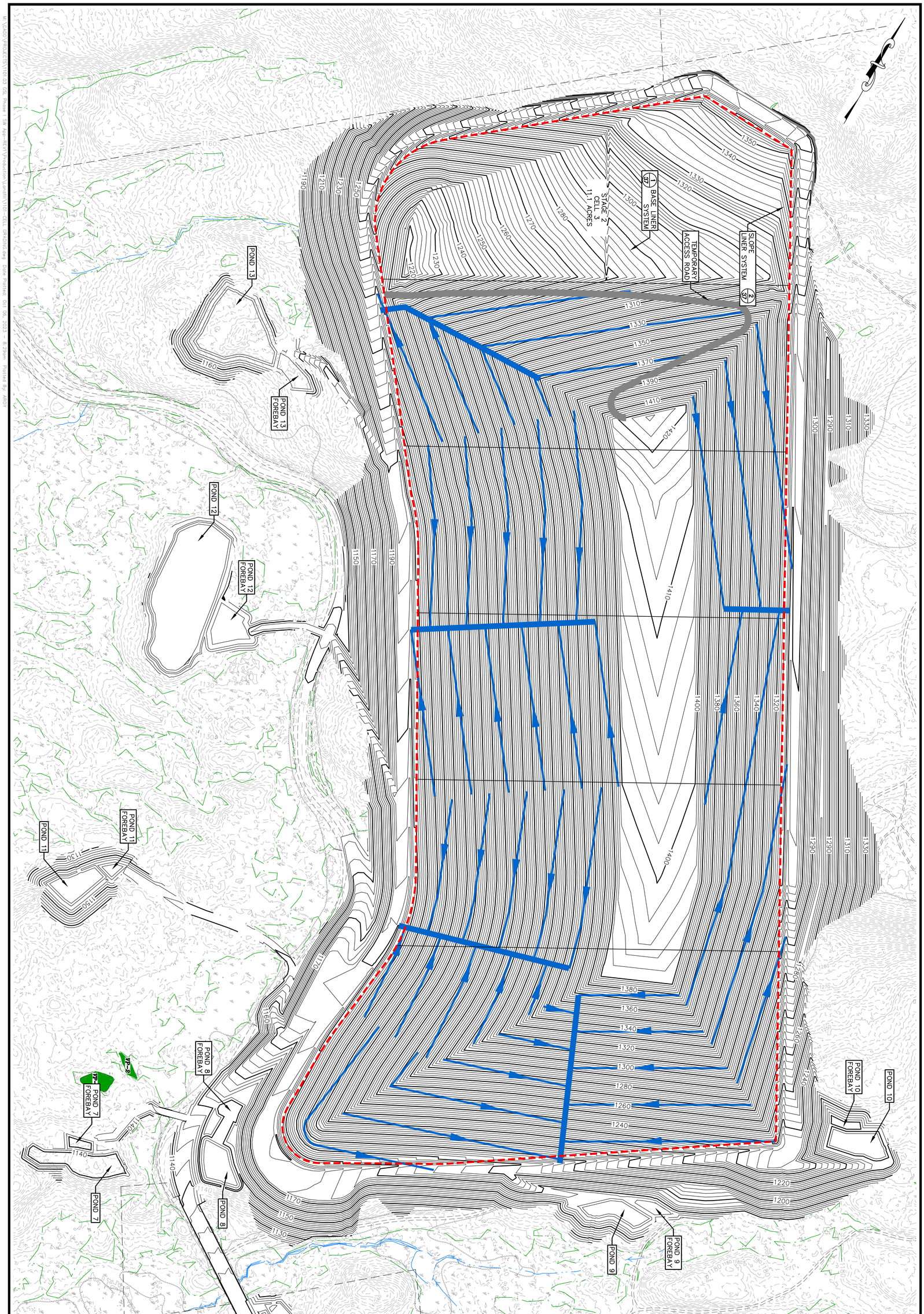
no.	revision	date	by



Granite State Landfill, LLC Dalton, New Hampshire Permitting Plan Set Interim Grading Plan Stage 2 Cell 3	date: October 2023	designed by: ATR/NJM/STF/AJS	
	project no: 1101	drawn by: ATR/NJM/STF	
	checked by: AJS	approved by: AJS	
	scale: 0 120' 240' Scale: 1" = 120'		

sheet 18 of 50 — drawing no. INT-6

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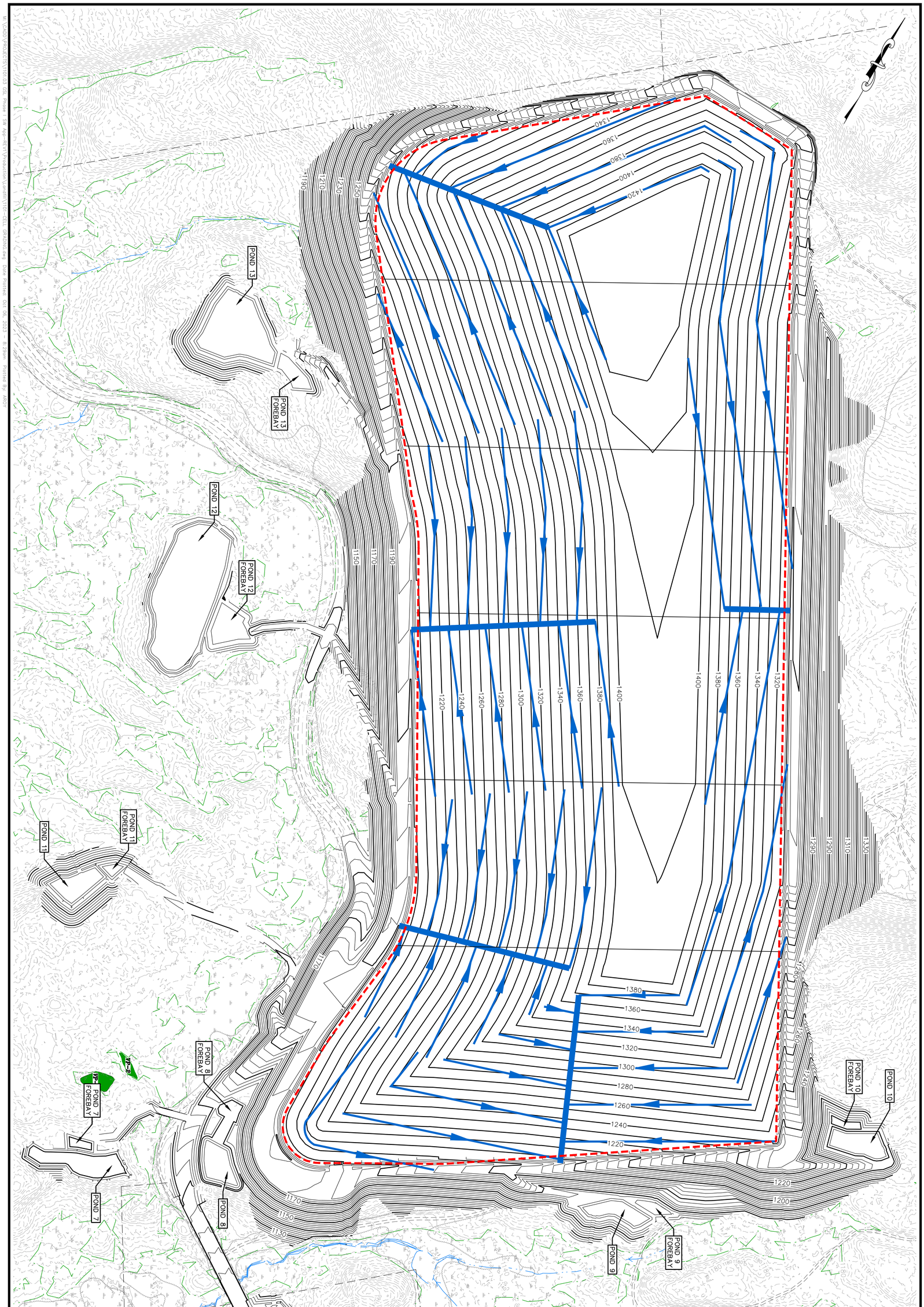

sheet 19 of 50	drawing no. INT-7	Granite State Landfill, LLC Dalton, New Hampshire Permitting Plan Set Interim Grading Plan Final Grading	date: October 2023 · designed by: ATR/NJM/STF/AJS project no: 1101 · drawn by: ATR/NJM/STF checked by: AJS · approved by: AJS scale: 0 120' 240' Scale: 1" = 120'

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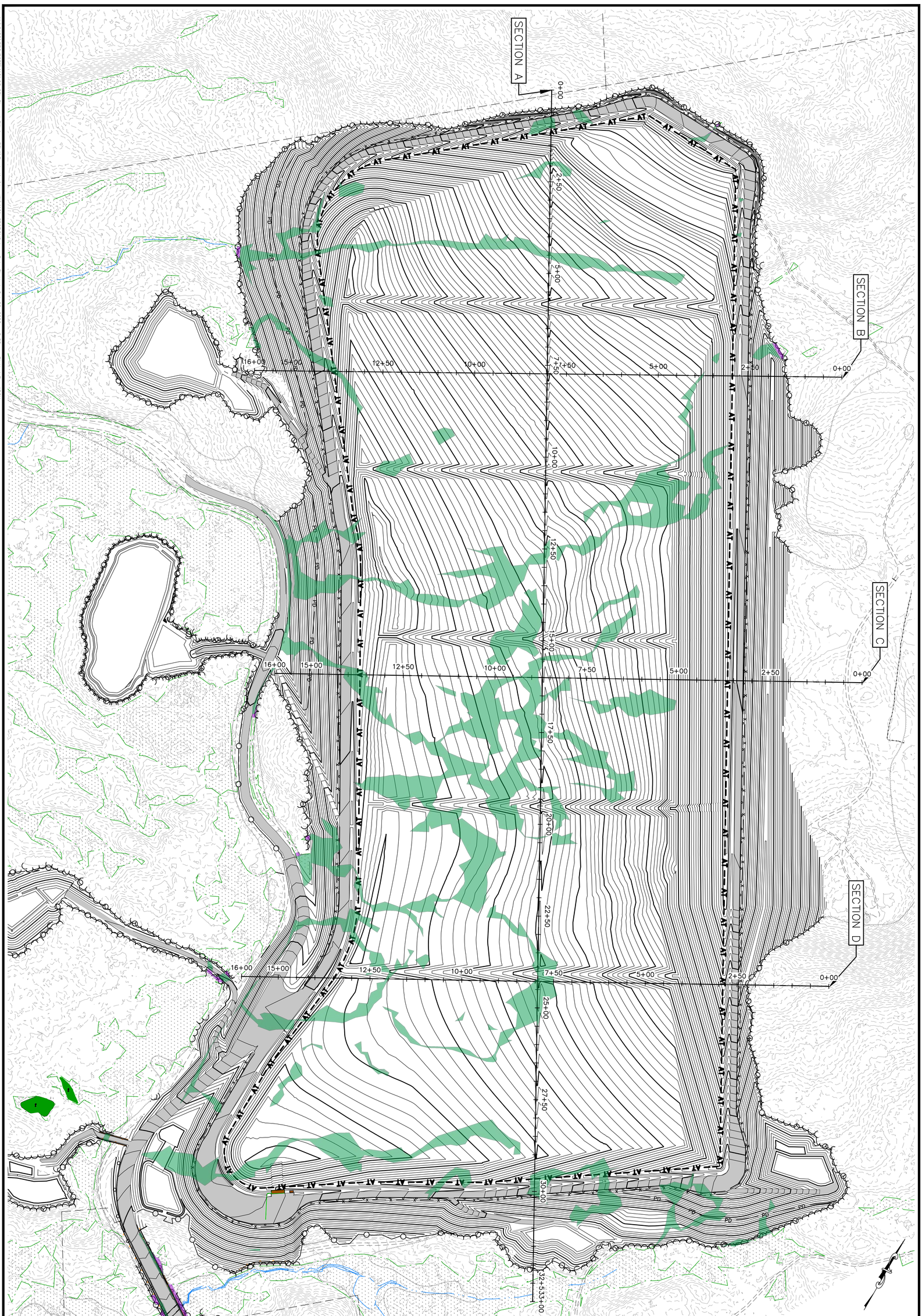
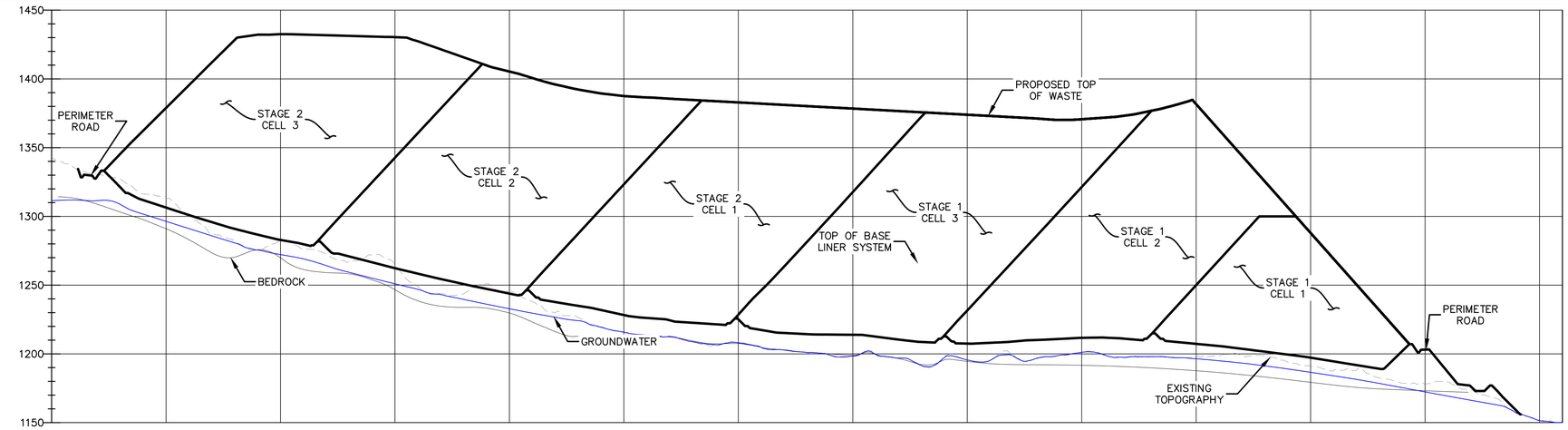


Granite State Landfill, LLC Dalton, New Hampshire	date: October 2023	designed by: ATR/NJM/STF/AJS	CMA ENGINEERS Civil/Environmental/Structural
Permitting Plan Set	project no: 1101	drawn by: ATR/NJM/STF	Portsmouth, NH 603/431-6196 • Manchester, NH 603/627-0708 • Portland, ME 207/541-4223
Landfill Cross Sections Sheet 1	checked by: AJS	approved by: AJS	cmaengineers.com
	scale: 0 120' 240' Scale: 1" = 120'		

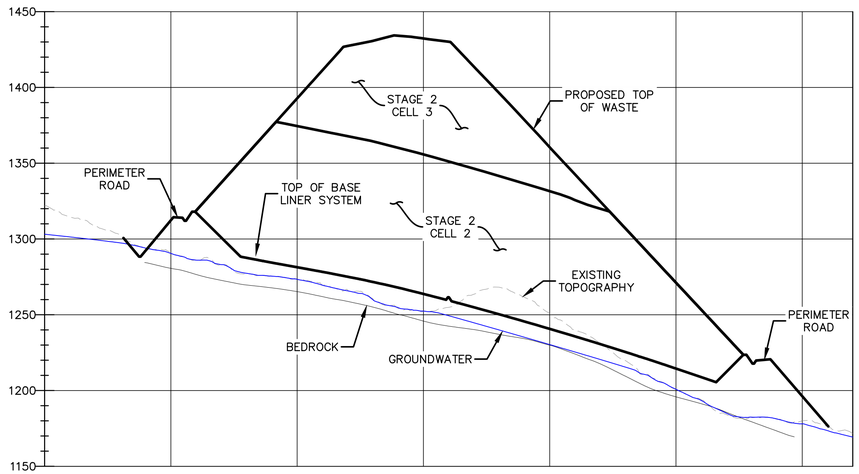
no.	revision	date	by

sheet 20 of 50
drawing no XS-1



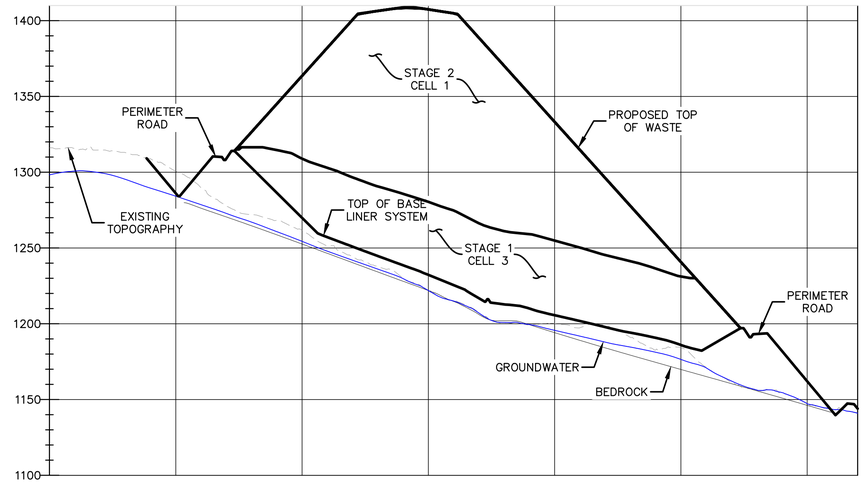
Section A-A'

Horizontal: 1" = 150'
Vertical: 1" = 50'



Section B-B'

Horizontal: 1" = 150'
Vertical: 1" = 50'



Section C-C'

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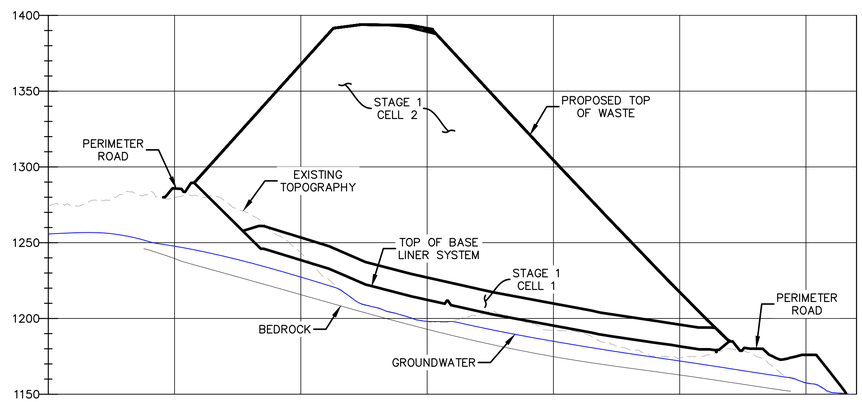
Vertical: 1" = 50'



Section D-D'

Horizontal: 1" = 150'
Vertical: 1" = 50'

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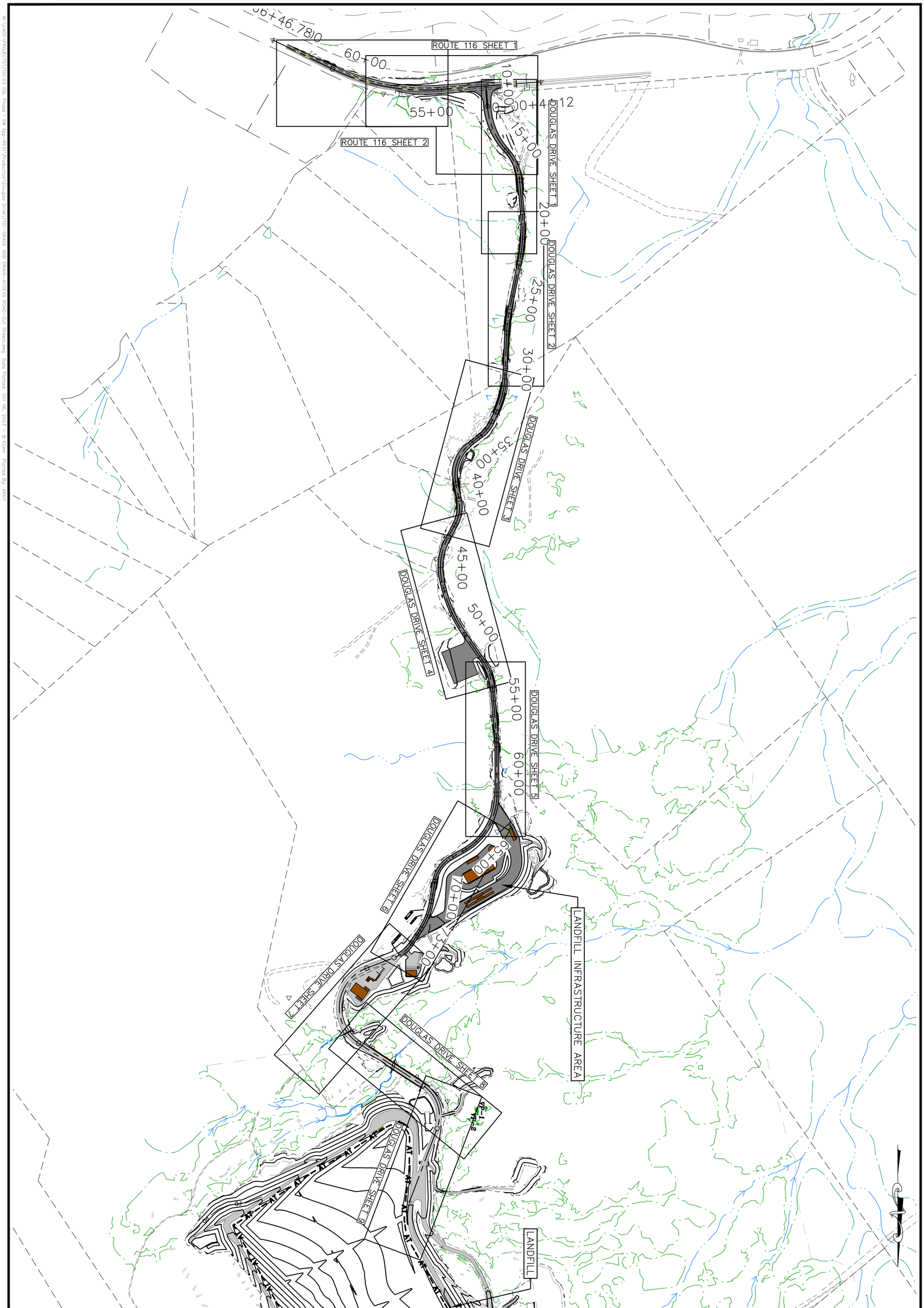
drawn by: ATR/NJM/STF
approved by: AJS
date: October 2023
project no: 1101
checked by: AJS
scale: 150' 0 300' Scale: 1" = 150'

Granite State Landfill, LLC
Dalton, New Hampshire
Permitting Plan Set

Landfill Cross Sections
Sheet 2

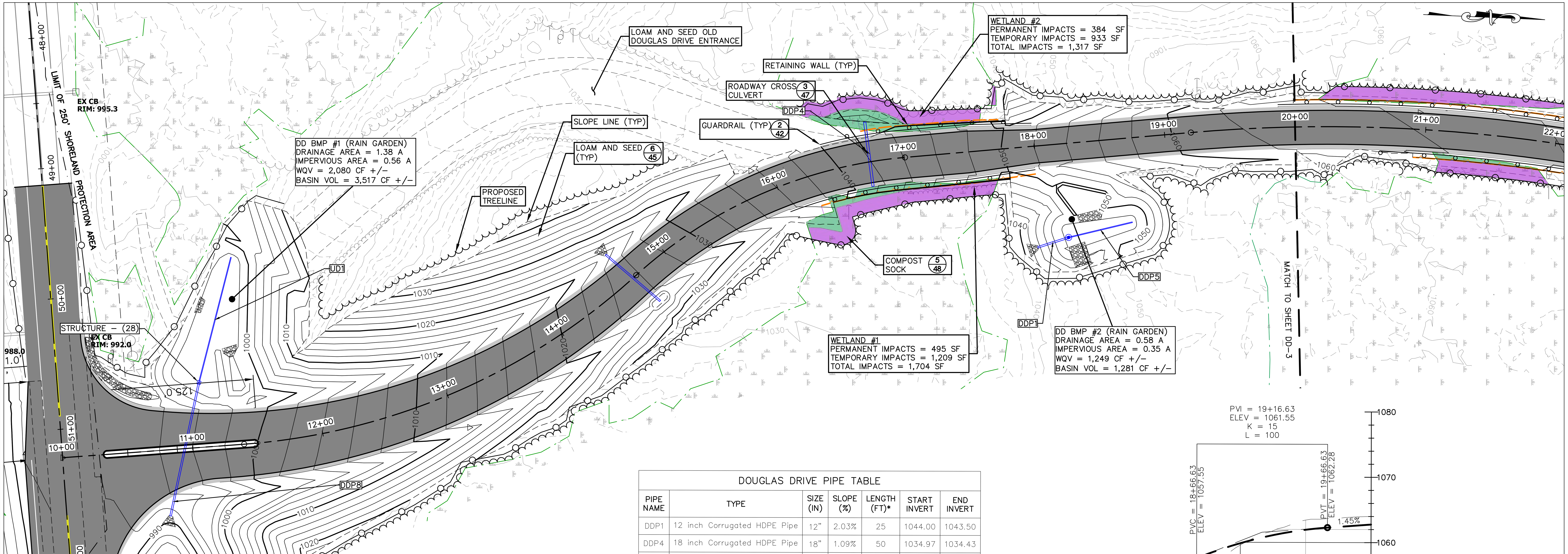
drawing no.
XS-2

sheet: 21 of 50



sheet 22 of 55	Granite State Landfill, LLC Dalton, New Hampshire Permitting Plan Set Douglas Drive Overall Site Plan	date: October 2023	designed by: ATR/NJM/STF/AJS	STATE OF NEW HAMPSHIRE ADAM J. SANDAHL No. 12544 LICENSED PROFESSIONAL ENGINEER	CMA ENGINEERS CIVIL/ENVIRONMENTAL/STRUCTURAL Portsmouth, NH 603/431-6196 • Manchester, NH 603/627-0708 • Portland, ME 207/541-4223 cmaengineers.com
drawing no. DD-1		project no: 1101	drawn by: ATR/NJM/STF		
		checked by: AJS	approved by: AJS		
		scale: 0 300' 600' Scale: 1" = 300'			

no.	revision	date	by

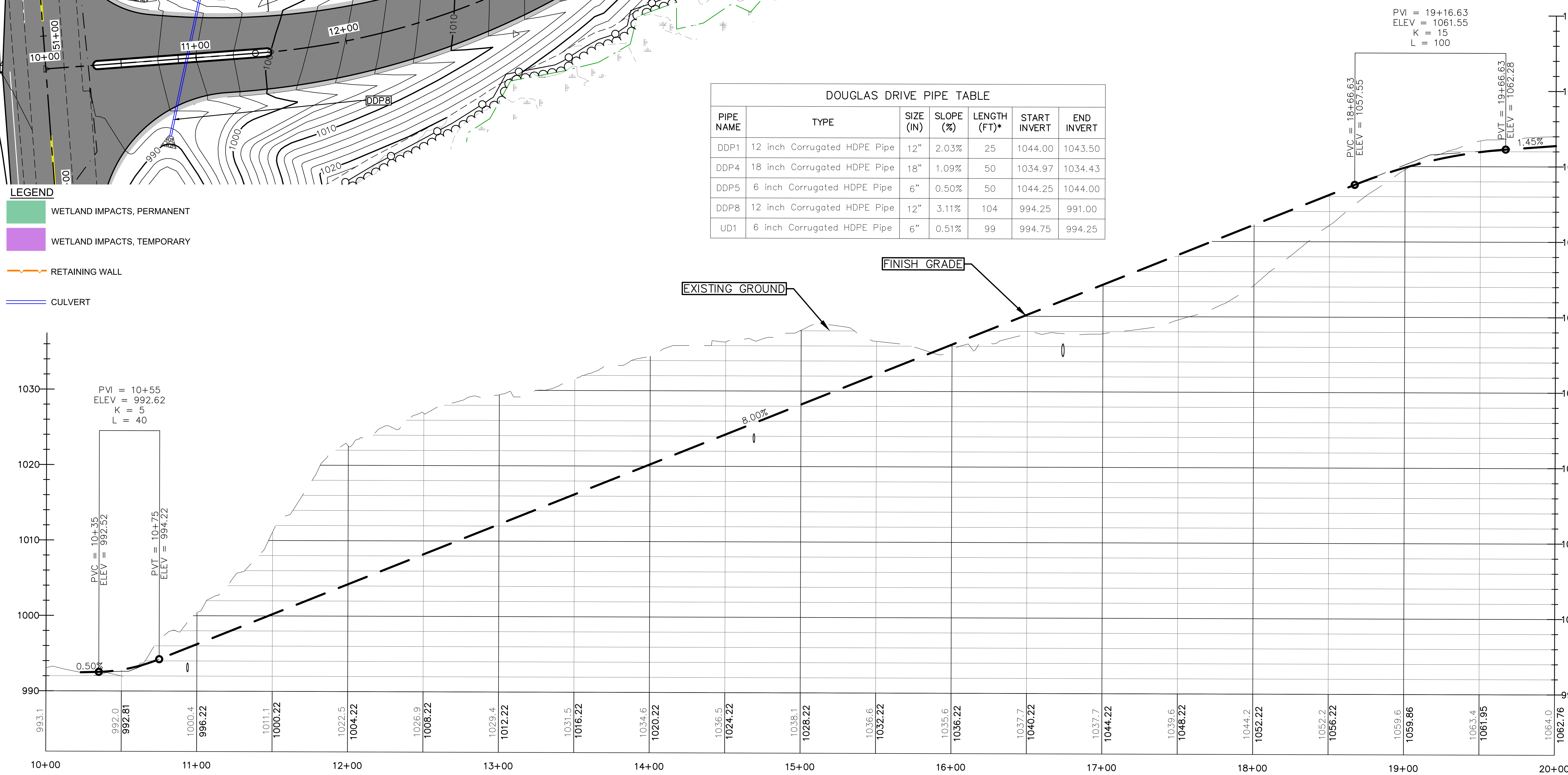


DOUGLAS DRIVE PIPE TABLE

PIPE NAME	TYPE	SIZE (IN)	SLOPE (%)	LENGTH (FT)*	START INVERT	END INVERT
DDP1	12 inch Corrugated HDPE Pipe	12"	2.03%	25	1044.00	1043.50
DDP4	18 inch Corrugated HDPE Pipe	18"	1.09%	50	1034.97	1034.43
DDP5	6 inch Corrugated HDPE Pipe	6"	0.50%	50	1044.25	1044.00
DDP8	12 inch Corrugated HDPE Pipe	12"	3.11%	104	994.25	991.00
UD1	6 inch Corrugated HDPE Pipe	6"	0.51%	99	994.75	994.25

LEGEND

- WETLAND IMPACTS, PERMANENT
- WETLAND IMPACTS, TEMPORARY
- RETAINING WALL
- CULVERT



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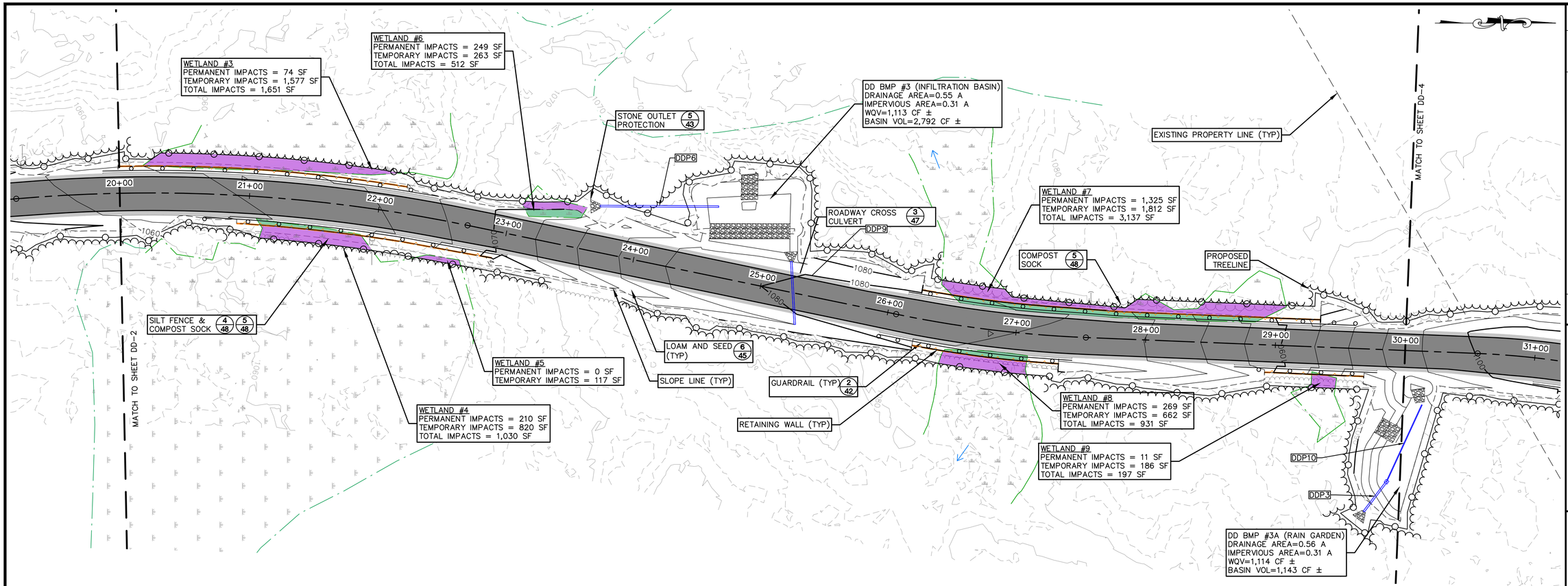
drawn by: ATR/NJM/STF
approved by: AJS
date: October 2023
project no: 1101
checked by: AJS
scale: 1" = 40' H / 4' V

Granite State Landfill, LLC
Dalton, New Hampshire
Permitting Plan Set

Douglas Drive
Plan and Profile Sheet 1

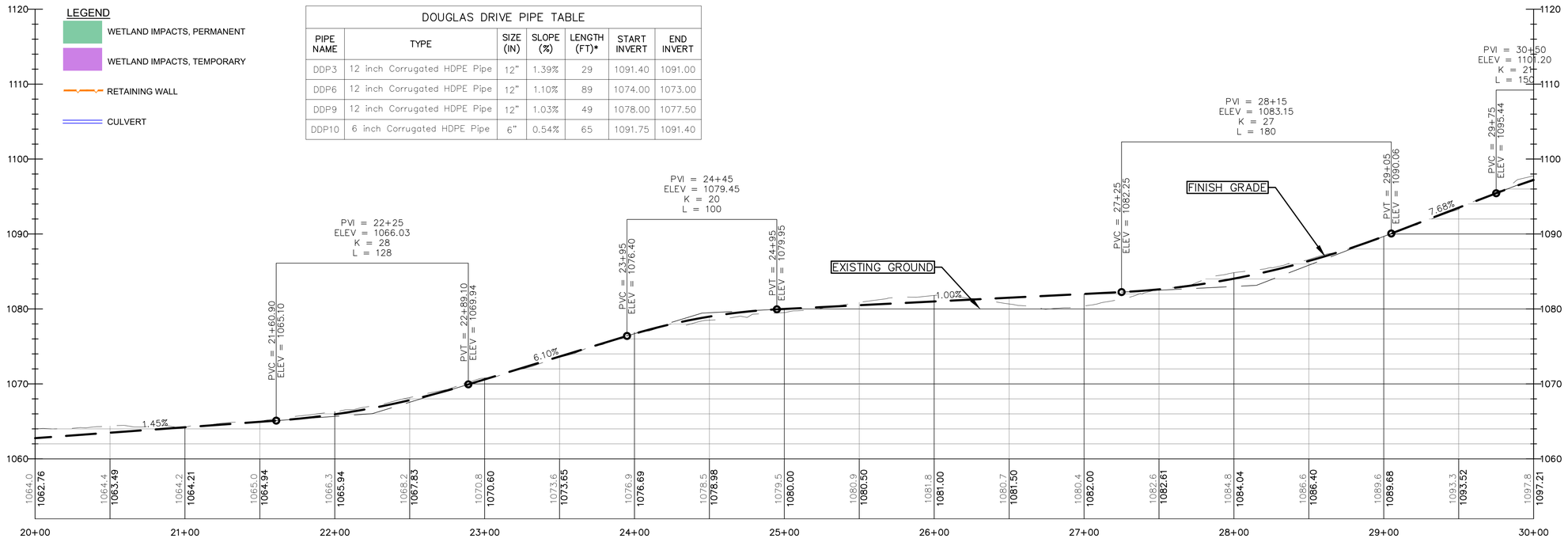
drawing no. DD-2
sheet: 23 of 50



LEGEND

- WETLAND IMPACTS, PERMANENT
- WETLAND IMPACTS, TEMPORARY
- RETAINING WALL
- CULVERT

DOUGLAS DRIVE PIPE TABLE						
PIPE NAME	TYPE	SIZE (IN)	SLOPE (%)	LENGTH (FT)*	START INVERT	END INVERT
DDP3	12 inch Corrugated HDPE Pipe	12"	1.39%	29	1091.40	1091.00
DDP6	12 inch Corrugated HDPE Pipe	12"	1.10%	89	1074.00	1073.00
DDP9	12 inch Corrugated HDPE Pipe	12"	1.03%	49	1078.00	1077.50
DDP10	6 inch Corrugated HDPE Pipe	6"	0.54%	65	1091.75	1091.40



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drawn by: ATR/NJM/STF
approved by: AJS
date: October 2023
project no: 1101
checked by: AJS
scale: 40' 0 80' Scale: 1" = 40' H / 4'V

Granite State Landfill, LLC
Dalton, New Hampshire
Permitting Plan Set

Douglas Drive
Plan and Profile Sheet 2

drawing no. DD-3

sheet: 24 of 50

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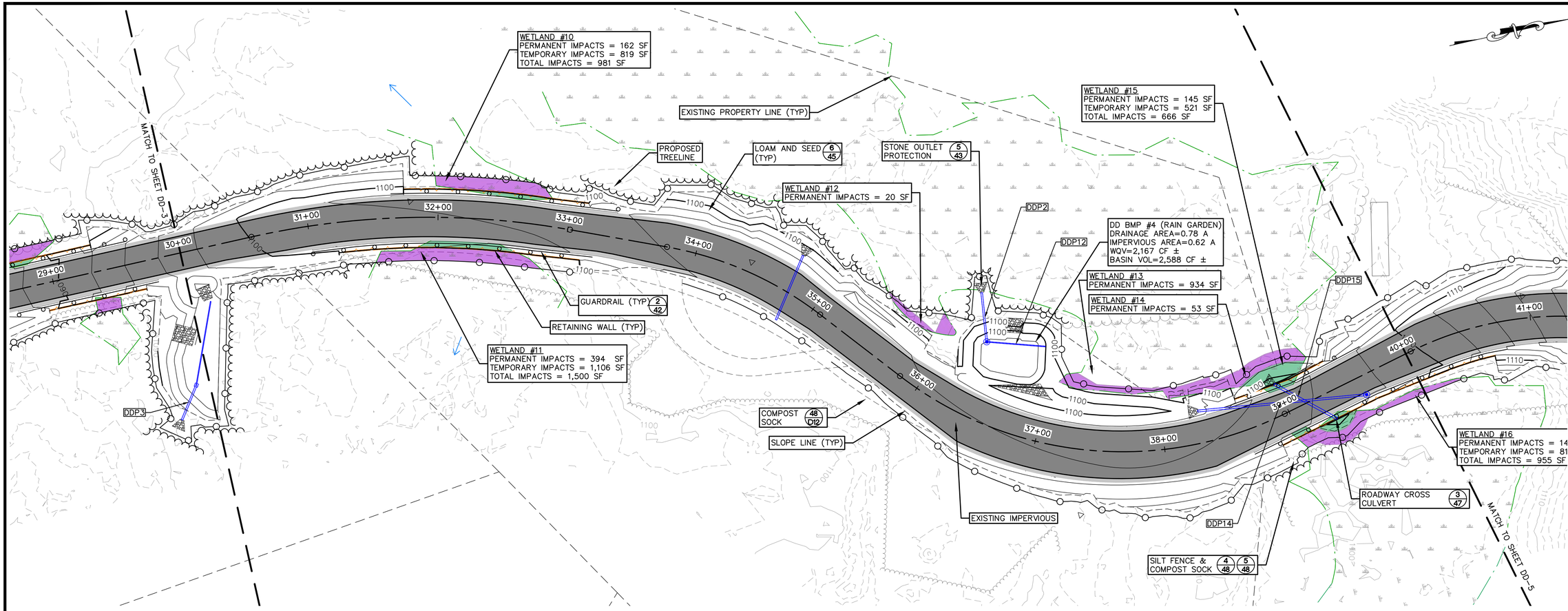
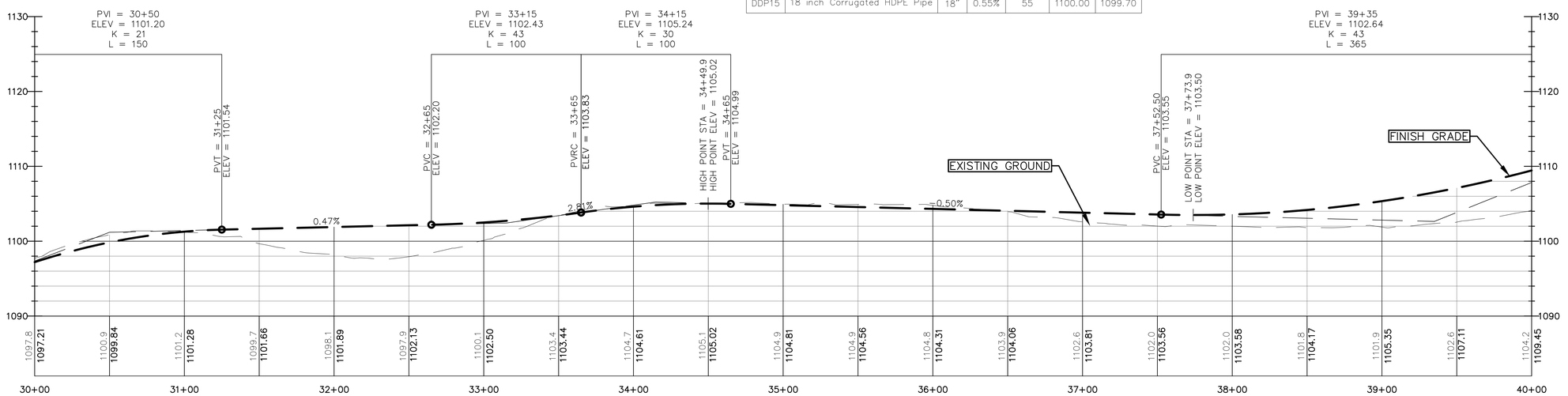


LEGEND

- WETLAND IMPACTS, PERMANENT
- WETLAND IMPACTS, TEMPORARY
- RETAINING WALL
- CULVERT

DOUGLAS DRIVE PIPE TABLE						
PIPE NAME	TYPE	SIZE (IN)	SLOPE (%)	LENGTH (FT)*	START INVERT	END INVERT
DDP2	12 inch Corrugated HDPE Pipe	12"	0.66%	38	1097.00	1096.75
DDP12	6 inch Corrugated HDPE Pipe	6"	0.55%	45	1097.25	1097.00
DDP14	15 inch Corrugated HDPE Pipe	15"	1.95%	128	1104.00	1101.50
DDP15	18 inch Corrugated HDPE Pipe	18"	0.55%	55	1100.00	1099.70



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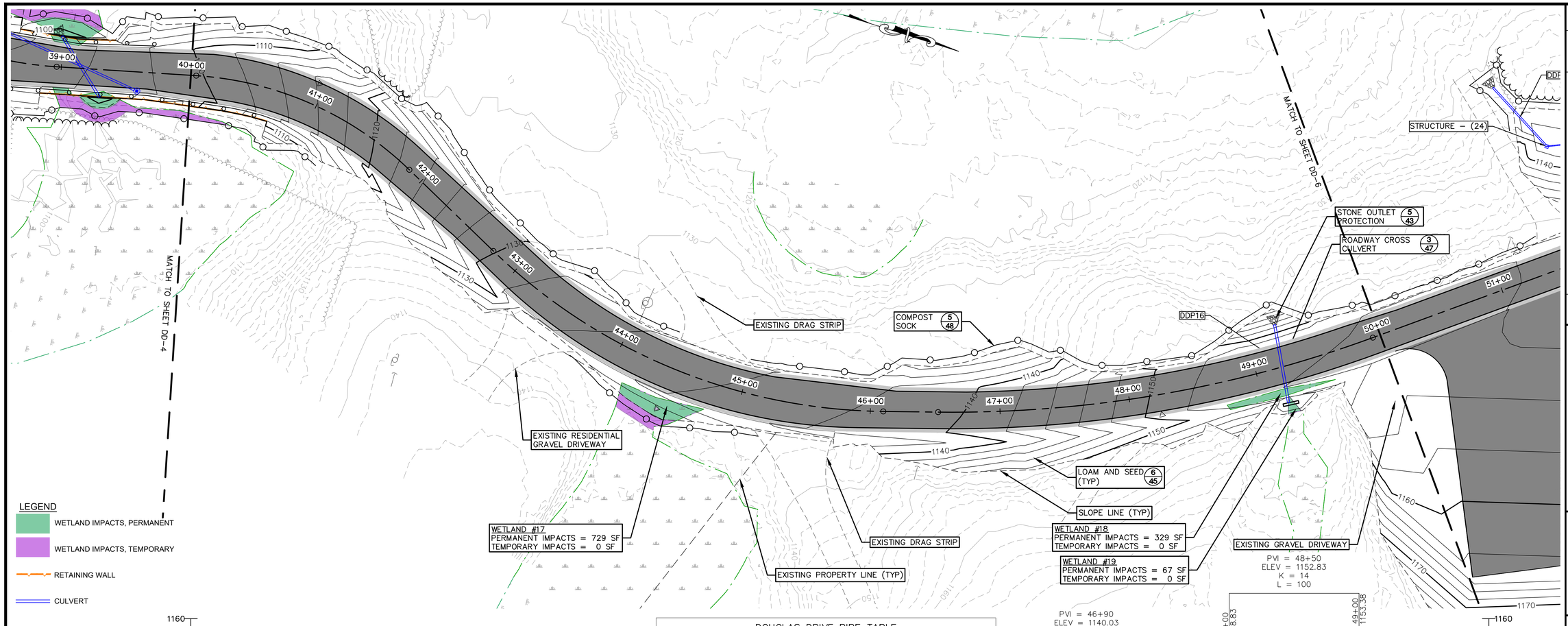
drawn by: ATR/NJM/STF
approved by: AJS
date: October 2023
project no: 1101
checked by: AJS
scale: 1" = 40' H / 4'V (0, 40', 80')

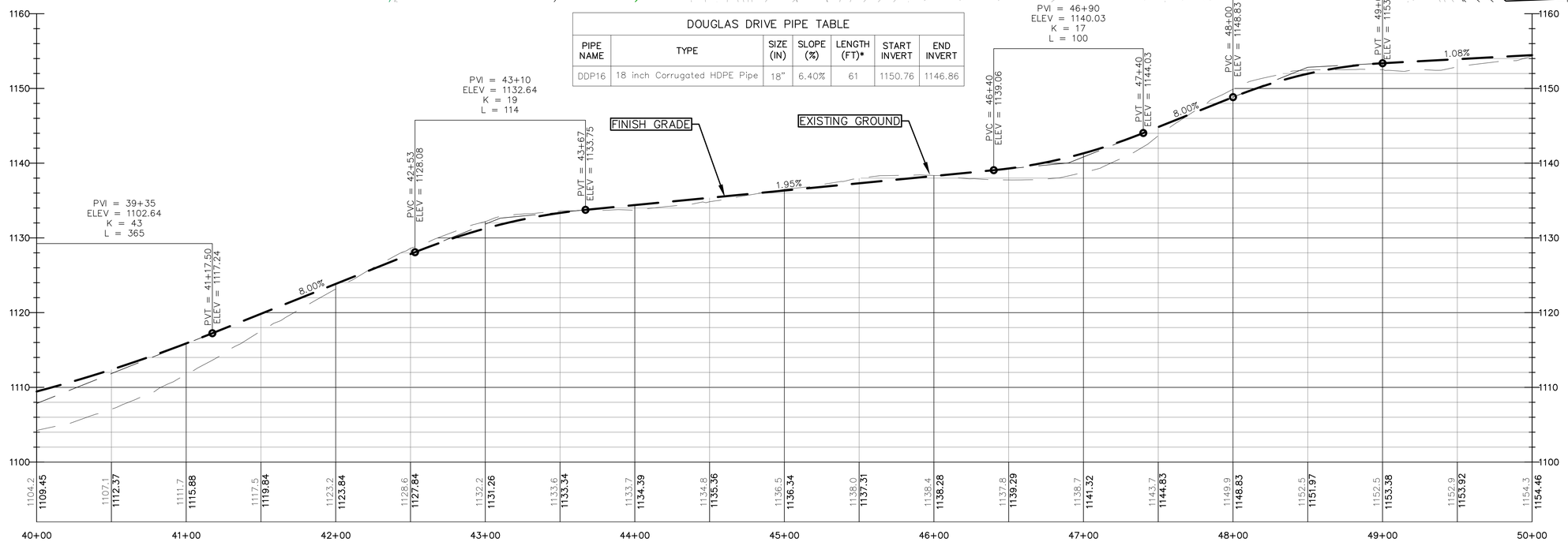
Granite State Landfill, LLC
Dalton, New Hampshire
Permitting Plan Set
Douglas Drive
Plan and Profile Sheet 3

drawing no. DD-4

sheet: 25 of 50



DOUGLAS DRIVE PIPE TABLE						
PIPE NAME	TYPE	SIZE (IN)	SLOPE (%)	LENGTH (FT)*	START INVERT	END INVERT
DDP16	18 inch Corrugated HDPE Pipe	18"	6.40%	61	1150.76	1146.86



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drawn by: ATR/NJM/STF
approved by: AJS
date: October 2023
project no: 1101
checked by: AJS
scale: 0 40' 80' Scale: 1" = 40' H / 4'V

Granite State Landfill, LLC
Dalton, New Hampshire
Permitting Plan Set
Douglas Drive
Plan and Profile Sheet 4

drawing no.
DD-5

sheet: 26 of 50

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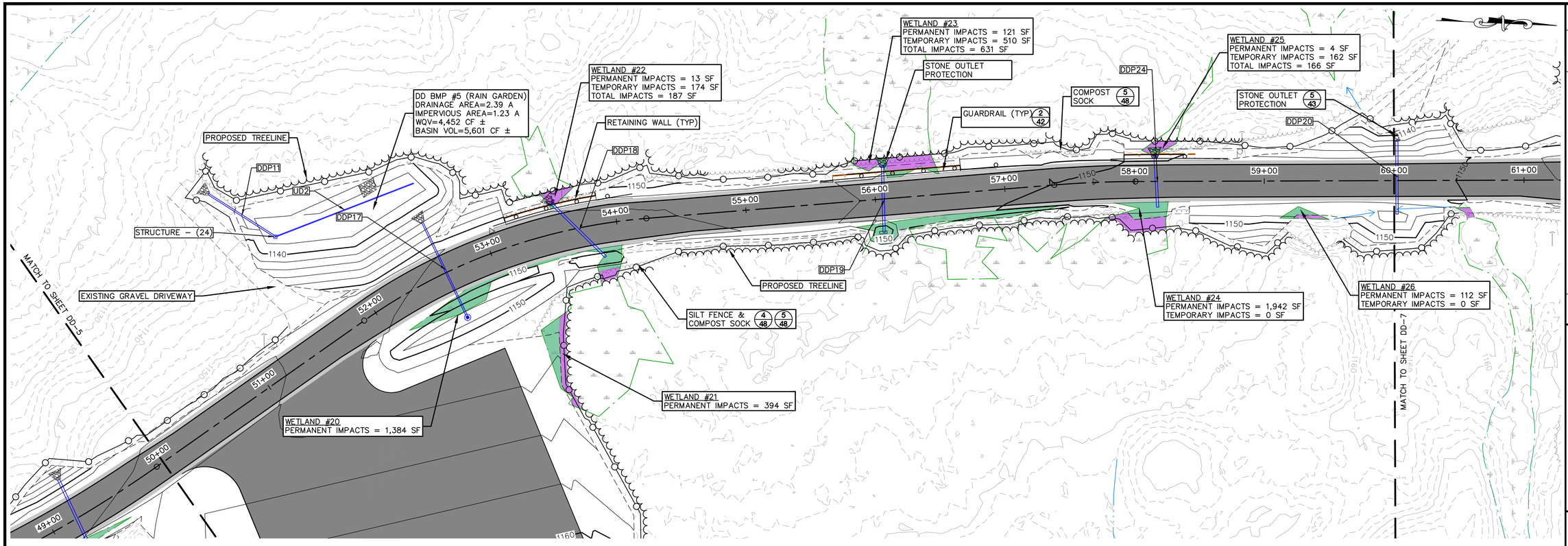
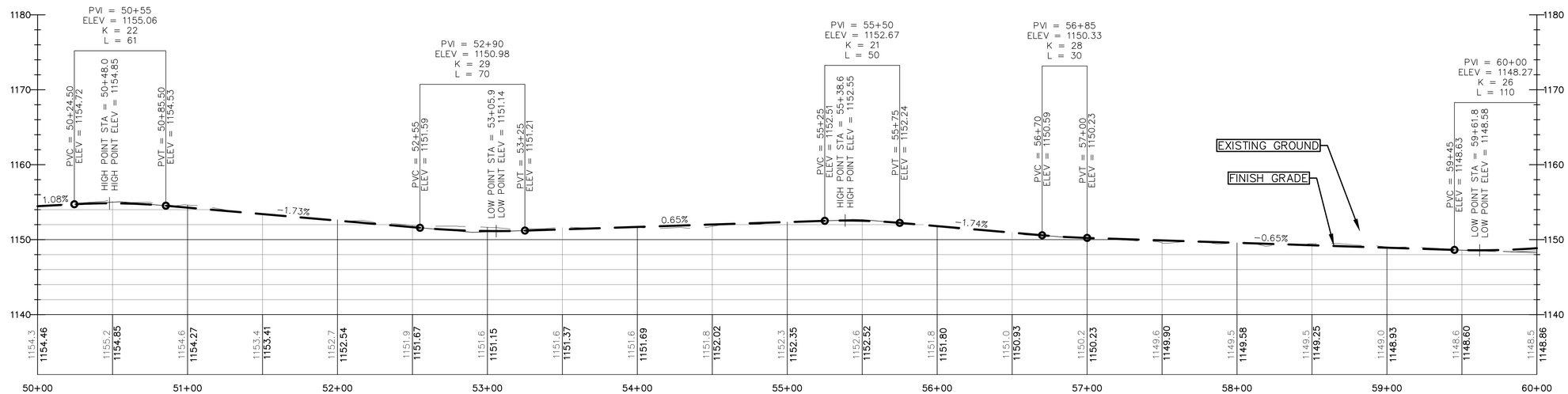


LEGEND

- WETLAND IMPACTS, PERMANENT
- WETLAND IMPACTS, TEMPORARY
- RETAINING WALL
- CULVERT

DOUGLAS DRIVE PIPE TABLE						
PIPE NAME	TYPE	SIZE (IN)	SLOPE (%)	LENGTH (FT)*	START INVERT	END INVERT
DDP11	12 inch Corrugated HDPE Pipe	12"	0.49%	61	1133.20	1132.90
DDP17	12 inch Corrugated HDPE Pipe	12"	6.18%	81	1147.00	1142.00
DDP18	18 inch Corrugated HDPE Pipe	18"	2.41%	58	1149.00	1147.60
DDP19	18 inch Corrugated HDPE Pipe	18"	1.12%	51	1148.57	1148.00
DDP24	18 inch Corrugated HDPE Pipe	18"	2.60%	38	1148.00	1147.00
UD2	6 inch Corrugated HDPE Pipe	6"	0.48%	114	1133.75	1133.20



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STATE OF NEW HAMPSHIRE – 839 – ADAM J. STANDAL – LICENSED PROFESSIONAL ENGINEER

by	date	revision	no.

designed by: ATR/NJM/STF/AJS
drawn by: ATR/NJM/STF
approved by: AJS
date: October 2023
project no: 1101
checked by: AJS
scale: 0 40' 80' Scale: 1" = 40' H / 4"V

Granite State Landfill, LLC
Dalton, New Hampshire
Permitting Plan Set
Douglas Drive
Plan and Profile Sheet 5

drawing no. DD-6

sheet: 27 of 50

TRUCK DEODORIZING STATION

LEACHATE TANKS

SCALE/ SCALEHOUSE

DD BMP #6 (INFILTRATION BASIN)
DRAINAGE AREA=4.40 A
IMPERVIOUS AREA=0.38 A
WQV=2,040 CF ±
BASIN VOL=2,181 CF ±

FUTURE GAS FACILITY

LEAK DETECTION MANHOLE

PCB-1

DP-1

DDP22

FLARE AND BLOWER

EMERGENCY GENERATOR

PCB-5

DP-10

DP-8

DP-6

EXISTING PROPERTY LINE (TYP)

SLOPE LINE (TYP)

POCS-14

LEACHATE LOADOUT AREA

DP-9

PDMH-1

PHW-3

LOAM AND SEED (TYP) 6/45

ROADWAY CROSS CULVERT 3/47

SILT FENCE & COMPOST SOCK 4/48 5/48

PROPOSED TREELINE

ROADWAY CROSS CULVERT 3/47

MATCH TO SHEET DD-6

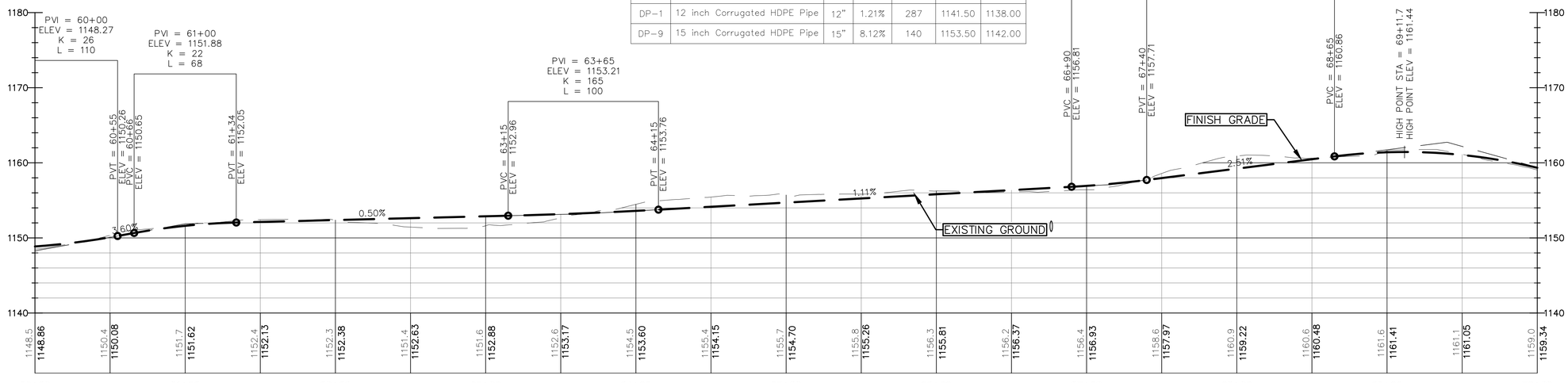
MATCH TO SHEET DD-7

LEGEND

- WETLAND IMPACTS, PERMANENT
- WETLAND IMPACTS, TEMPORARY
- RETAINING WALL
- CULVERT

DOUGLAS DRIVE PIPE TABLE

PIPE NAME	TYPE	SIZE (IN)	SLOPE (%)	LENGTH (FT)*	START INVERT	END INVERT
DDP20	18 inch Corrugated HDPE Pipe	18"	5.30%	57	1145.00	1142.00
DDP21	12 inch Corrugated HDPE Pipe	12"	2.25%	89	1149.50	1147.50
DDP22	12 inch Corrugated HDPE Pipe	12"	1.13%	44	1144.00	1143.50
DP-1	12 inch Corrugated HDPE Pipe	12"	1.21%	287	1141.50	1138.00
DP-9	15 inch Corrugated HDPE Pipe	15"	8.12%	140	1153.50	1142.00



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drawn by: ATR/NJM/STF
approved by: AJS
date: October 2023
project no: 1101
checked by: AJS
scale: 40' 0 80' Scale: 1" = 40' H / 4"V

Granite State Landfill, LLC
Dalton, New Hampshire
Permitting Plan Set

Douglas Drive
Plan and Profile Sheet 6

drawing no. DD-7

sheet: 28 of 50

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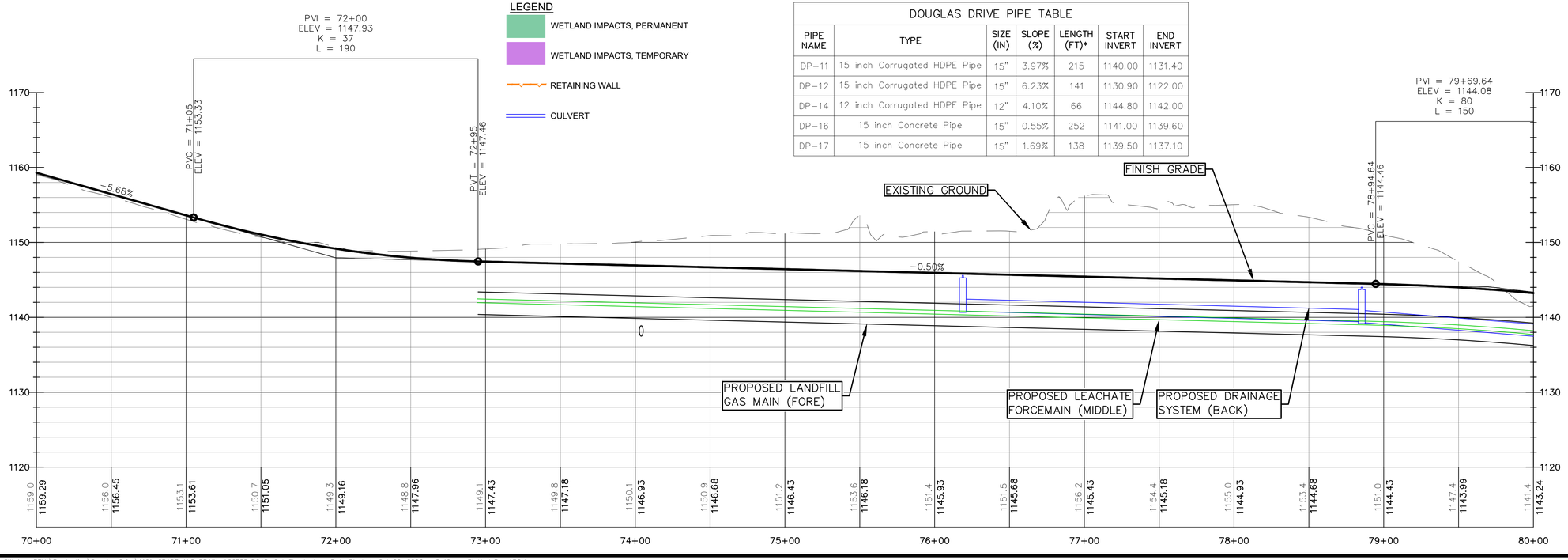
PHW-4
STONE OUTLET PROTECTION 5/43
PDMH-2
DP-11
PCB-5
DP-8
DP-10
POCS-14
OPERATIONS OFFICE
DP-14
PCB-8
PHW-8
SEE SHEET G&D-5 (12) FOR POND AND STRUCTURE INFORMATION
MATCH TO SHEET DD-9
DP-20
PHW-13
PCB-13
MAINTENANCE BUILDING
DP-19
PCB-12
DP-18
PCB-11
DP-17
PCB-10
PHW-5
SLOPE LINE (TYP)
TRANSITION FROM PAVED TO GRAVEL ROAD
LOAM AND SEED (TYP) 6/45
PCB-9
DP-16
MATCH TO SHEET DD-8
169+06.63
70+00
71+00
72+00
73+00
74+00
75+00
76+00
77+00
78+00
79+00
80+00
81+00
82+00
1130
1140
1150
1160
OHE
3PM
PS
G

LEGEND

- WETLAND IMPACTS, PERMANENT
- WETLAND IMPACTS, TEMPORARY
- RETAINING WALL
- CULVERT

DOUGLAS DRIVE PIPE TABLE

PIPE NAME	TYPE	SIZE (IN)	SLOPE (%)	LENGTH (FT)*	START INVERT	END INVERT
DP-11	15 inch Corrugated HDPE Pipe	15"	3.97%	215	1140.00	1131.40
DP-12	15 inch Corrugated HDPE Pipe	15"	6.23%	141	1130.90	1122.00
DP-14	12 inch Corrugated HDPE Pipe	12"	4.10%	66	1144.80	1142.00
DP-16	15 inch Concrete Pipe	15"	0.55%	252	1141.00	1139.60
DP-17	15 inch Concrete Pipe	15"	1.69%	138	1139.50	1137.10



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designed by: ATR/NJM/STF/AJS
drawn by: ATR/NJM/STF
approved by: AJS
date: October 2023
project no: 1101
checked by: AJS
scale: Scale: 1" = 40' H / 4"V

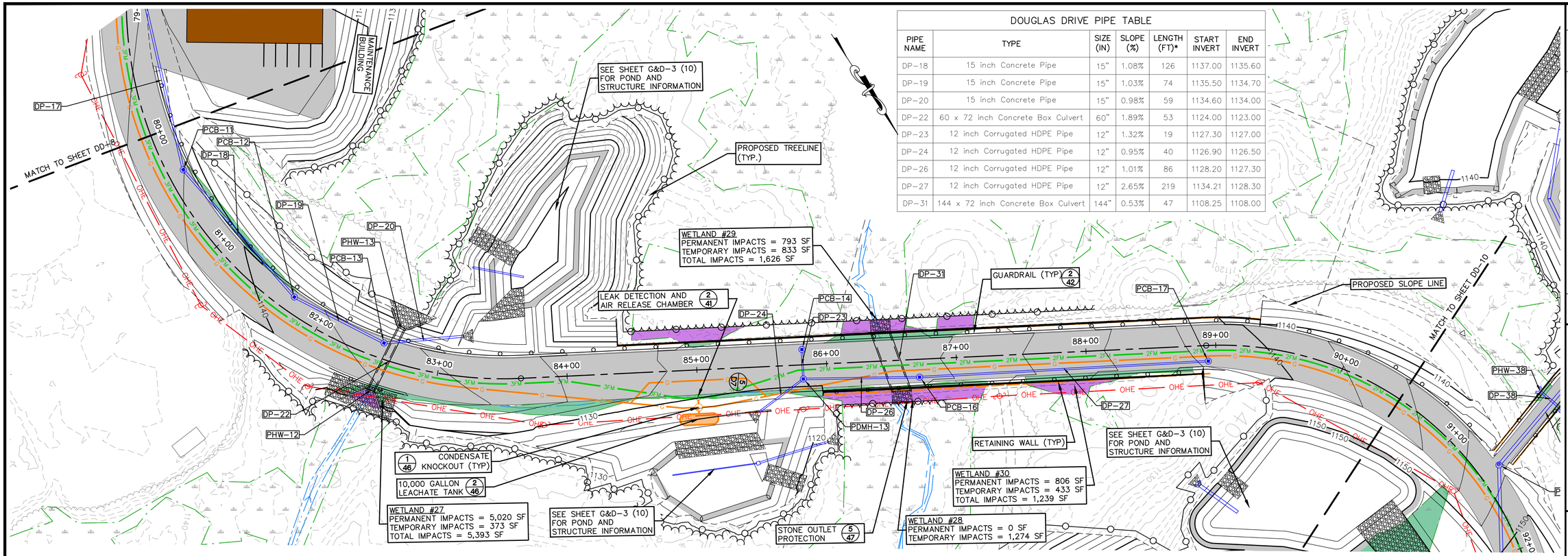
Granite State Landfill, LLC
Dalton, New Hampshire
Permitting Plan Set

Douglas Drive
Plan and Profile Sheet 7

drawing no. DD-8

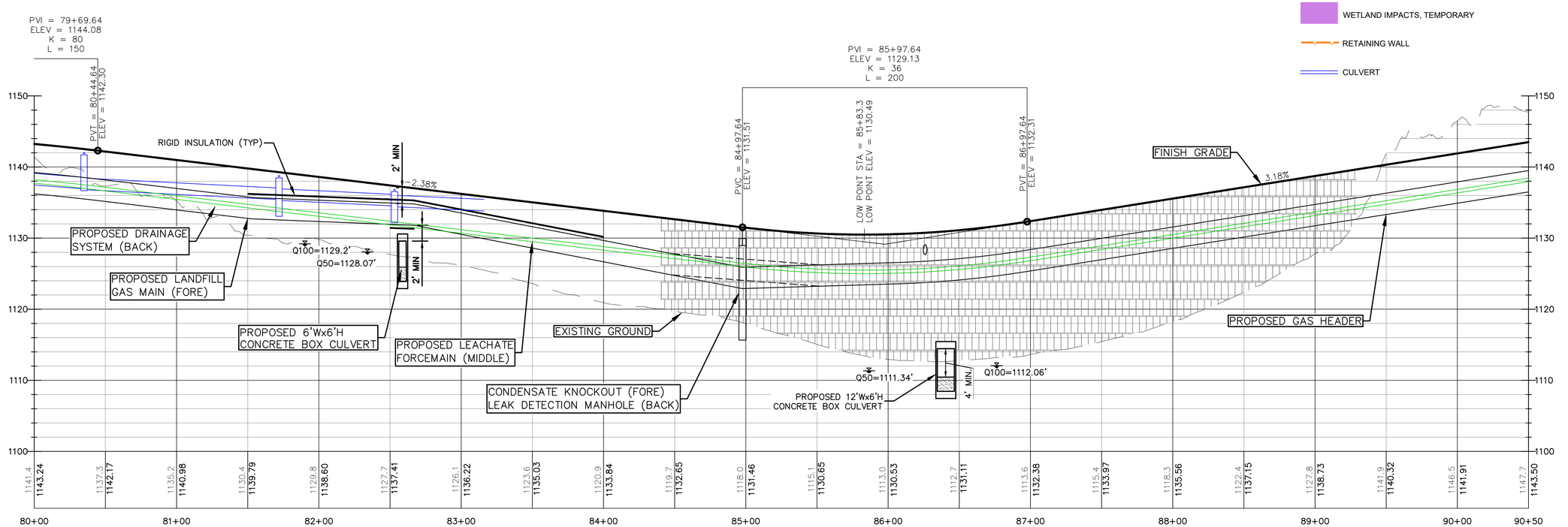
sheet: 29 of 50

DOUGLAS DRIVE PIPE TABLE						
PIPE NAME	TYPE	SIZE (IN)	SLOPE (%)	LENGTH (FT)*	START INVERT	END INVERT
DP-18	15 inch Concrete Pipe	15"	1.08%	126	1137.00	1135.60
DP-19	15 inch Concrete Pipe	15"	1.03%	74	1135.50	1134.70
DP-20	15 inch Concrete Pipe	15"	0.98%	59	1134.60	1134.00
DP-22	60 x 72 inch Concrete Box Culvert	60"	1.89%	53	1124.00	1123.00
DP-23	12 inch Corrugated HDPE Pipe	12"	1.32%	19	1127.30	1127.00
DP-24	12 inch Corrugated HDPE Pipe	12"	0.95%	40	1126.90	1126.50
DP-26	12 inch Corrugated HDPE Pipe	12"	1.01%	86	1128.20	1127.30
DP-27	12 inch Corrugated HDPE Pipe	12"	2.65%	219	1134.21	1128.30
DP-31	144 x 72 inch Concrete Box Culvert	144"	0.53%	47	1108.25	1108.00



LEGEND

- WETLAND IMPACTS, PERMANENT
- WETLAND IMPACTS, TEMPORARY
- RETAINING WALL
- CULVERT



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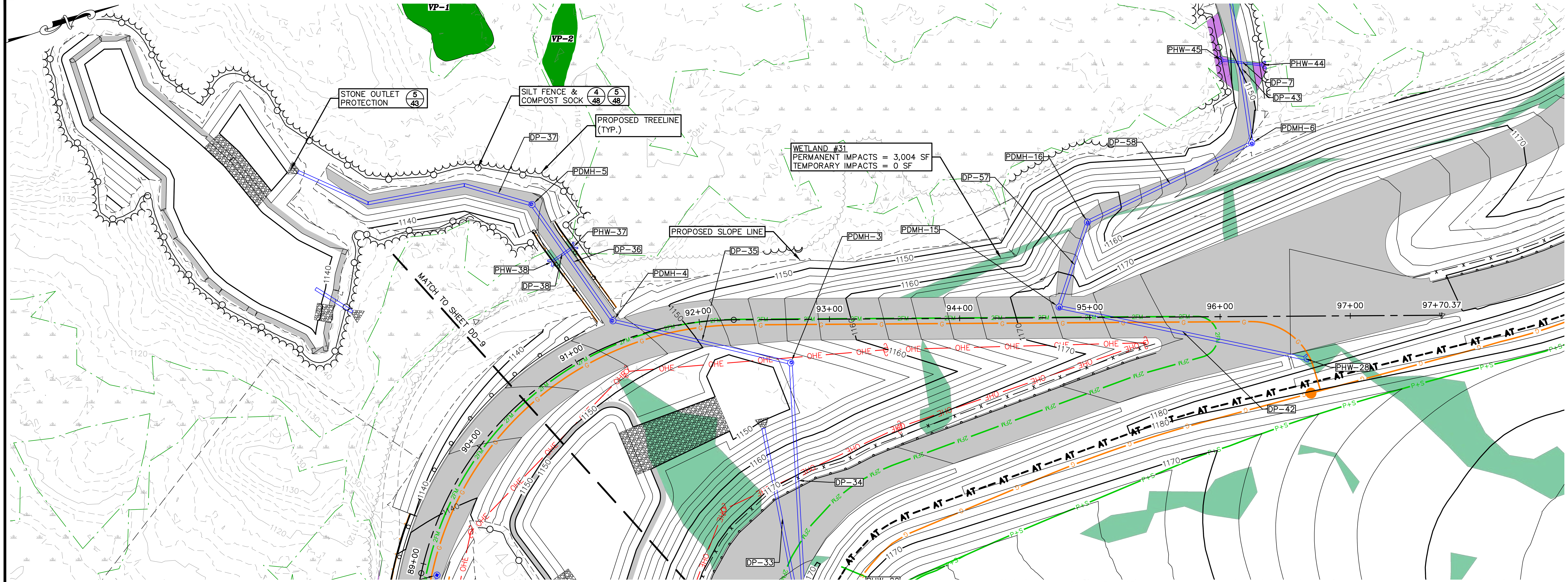
ATR/NJM/STF/AJS	ATR/NJM/STF	AJS	80' 40' 0 Scale: 1" = 40' H / 4'V
date: October 2023	project no: 1101	checked by: AJS	

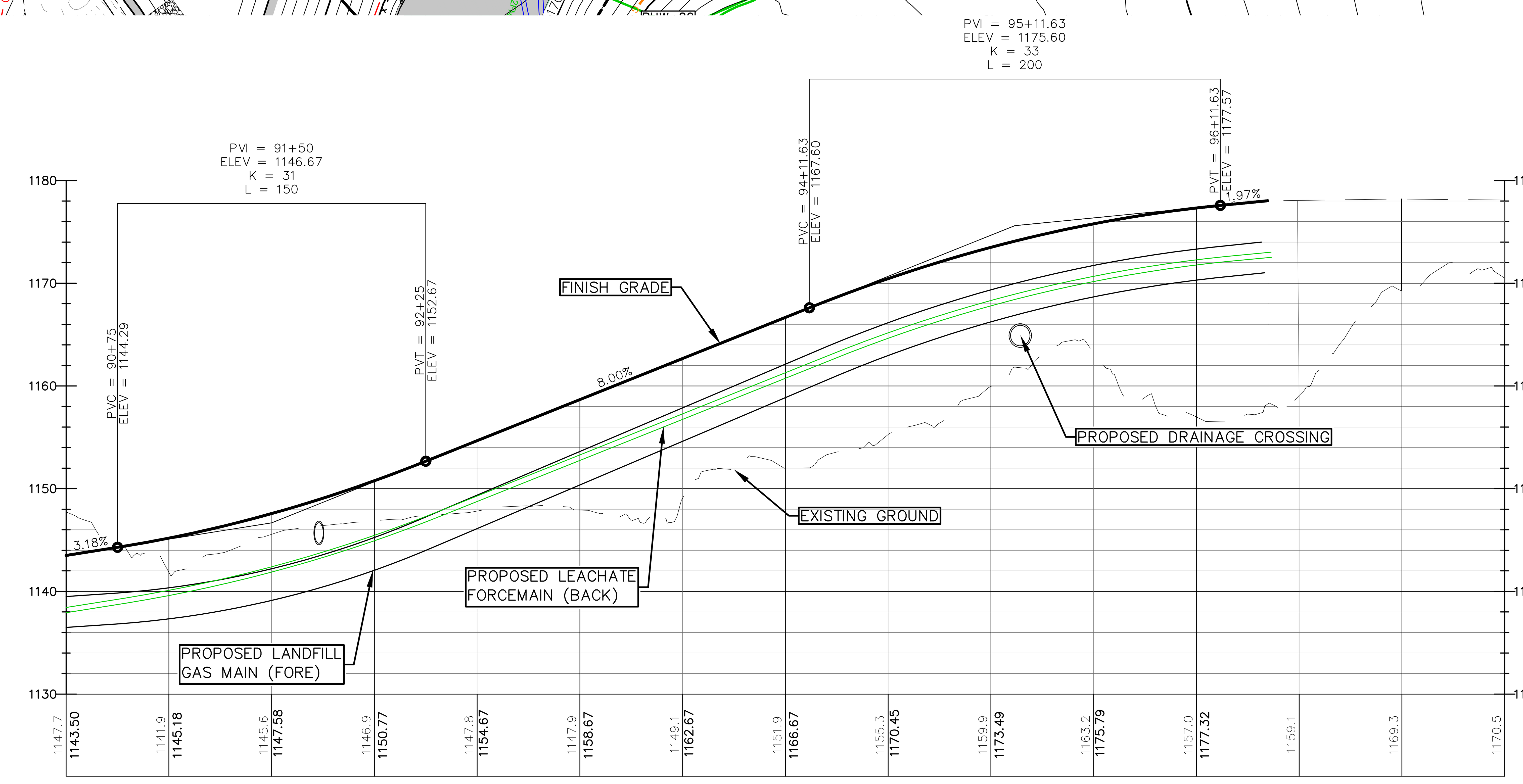
Granite State Landfill, LLC
Dalton, New Hampshire
Permitting Plan Set

Douglas Drive
Plan and Profile Sheet 8

drawing no. DD-9

sheet: 30 of 50





DOUGLAS DRIVE PIPE TABLE						
PIPE NAME	TYPE	SIZE (IN)	SLOPE (%)	LENGTH (FT)*	START INVERT	END INVERT
DP-7	12 inch Corrugated HDPE Pipe	12"	1.58%	32	1145.50	1145.00
DP-33	24 inch Corrugated HDPE Pipe	24"	12.00%	143	1169.00	1152.00
DP-34	24 inch Corrugated HDPE Pipe	24"	12.13%	181	1169.00	1147.00
DP-35	24 inch Corrugated HDPE Pipe	24"	2.14%	136	1147.00	1144.00
DP-36	24 inch Corrugated HDPE Pipe	24"	1.01%	105	1144.00	1142.90
DP-38	15 inch Corrugated HDPE Pipe	15"	1.26%	20	1137.75	1137.50
DP-42	24 inch Corrugated HDPE Pipe	24"	7.19%	192	1175.00	1161.12
DP-43	24 inch Corrugated HDPE Pipe	24"	0.52%	111	1147.20	1146.60
DP-55	24 inch Corrugated HDPE Pipe	24"	1.51%	31	1137.25	1136.75
DP-57	24 inch Corrugated HDPE Pipe	24"	10.25%	65	1161.12	1154.06
DP-58	24 inch Corrugated HDPE Pipe	24"	4.90%	136	1154.06	1147.20

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drawn by: ATR/NJM/STF
approved by: AJS
date: October 2023
project no: 1101
checked by: AJS
scale: Scale: 1" = 40' H / 4' V

Granite State Landfill, LLC
Dalton, New Hampshire
Permitting Plan Set

Douglas Drive
Plan and Profile Sheet 9

drawing no. DD-10
sheet: 31 of 50

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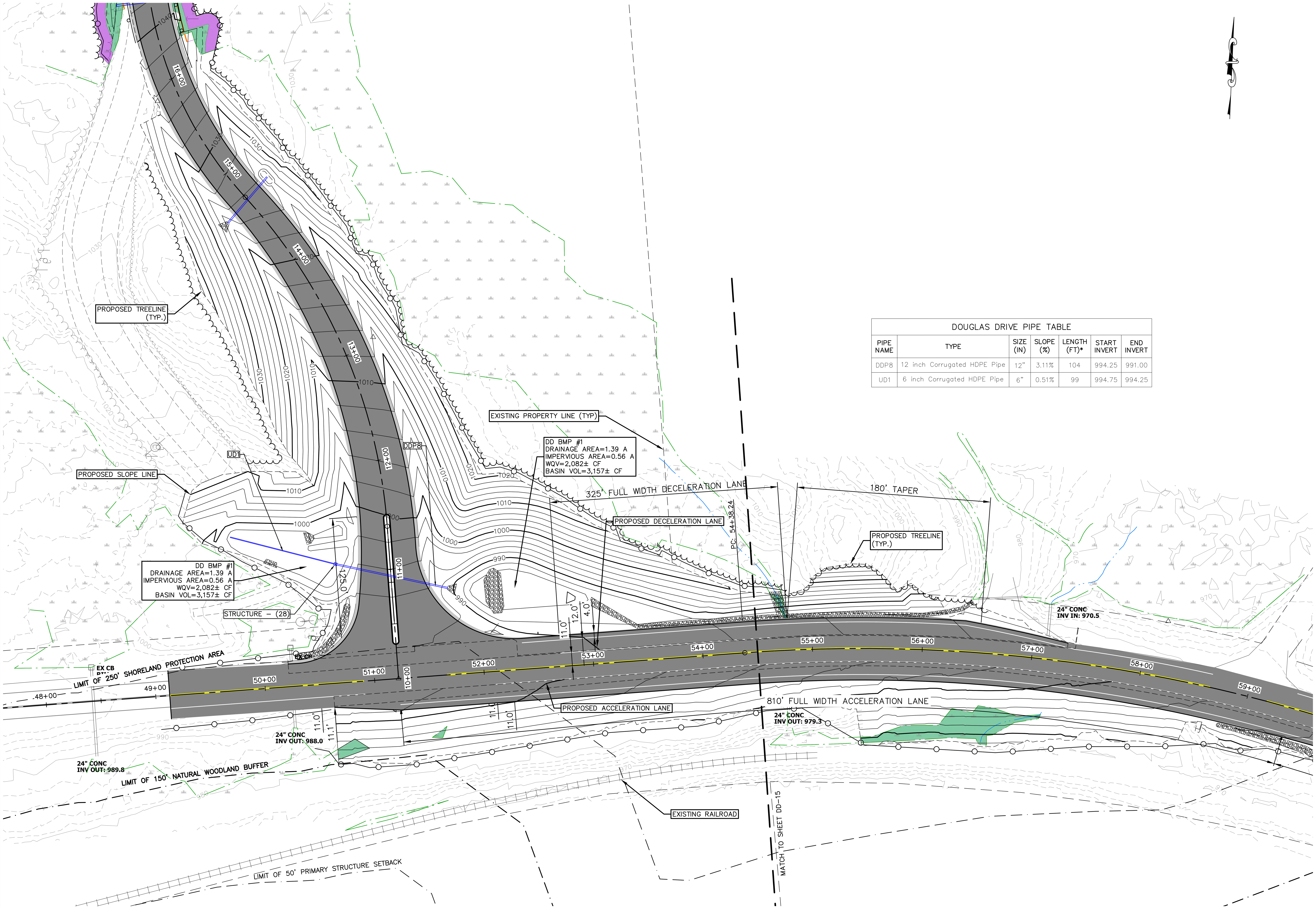

DOUGLAS DRIVE PIPE TABLE						
PIPE NAME	TYPE	SIZE (IN)	SLOPE (%)	LENGTH (FT)*	START INVERT	END INVERT
DDP8	12 inch Corrugated HDPE Pipe	12"	3.11%	104	994.25	991.00
UD1	6 inch Corrugated HDPE Pipe	6"	0.51%	99	994.75	994.25

no.	revision	date	by

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STATE OF NEW HAMPSHIRE
ADAM J. SANDAHL
No. 12544
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designed by: ATR/NJM/STF/AJS
drawn by: ATR/NJM/STF
approved by: AJS
date: October 2023
project no: 1101
checked by: AJS
scale: Scale: 1" = 40'

Granite State Landfill, LLC
Dalton, New Hampshire

Permitting Plan Set

Douglas Drive
Rout 116 Plan Sheet 1

drawing no. DD-11

sheet: 32 of 50

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DOUGLAS DRIVE PIPE TABLE

PIPE NAME	TYPE	SIZE (IN)	SLOPE (%)	LENGTH (FT)*	START INVERT	END INVERT
DDP8	12 inch Corrugated HDPE Pipe	12"	3.11%	104	994.25	991.00
UD1	6 inch Corrugated HDPE Pipe	6"	0.51%	99	994.75	994.25

sheet 33 of 50	drawing no. DD-12	Granite State Landfill, LLC Dalton, New Hampshire Permitting Plan Set Douglas Drive Route 116 Plan Sheet 2	date: October 2023 · designed by: ATR/NJM/STF/AJS project no: 1101 · drawn by: ATR/NJM/STF checked by: AJS · approved by: AJS scale: 0 40' 80' Scale: 1" = 40'

STATE OF NEW HAMPSHIRE · ADAM J. SANDAHL · NO. 15644 · LICENSED PROFESSIONAL ENGINEER

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Erosion Control Notes:

1) THE CONTRACTOR IS RESPONSIBLE FOR THE DEVELOPMENT AND APPROVAL OF THE EROSION AND SEDIMENT CONTROL PLAN.
2) PRIOR TO CONSTRUCTION AND THEREAFTER, EROSION CONTROL MEASURES ARE TO BE IMPLEMENTED AS NECESSARY. THE SMALLEST PRACTICAL AREA OF LAND SHOULD BE EXPOSED AT ANY ONE TIME DURING CONSTRUCTION. WHEN LAND IS EXPOSED DURING CONSTRUCTION, THE EXPOSURE SHOULD BE KEPT TO THE SHORTEST PRACTICAL PERIOD OF TIME. ANY DISTURBED AREAS THAT ARE TO BE LEFT UN-STABILIZED LONGER THAN TWO WEEKS SHALL BE TEMPORARILY SEEDED AND MULCHED AT THE RATE OF 2 TONS PER ACRE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY AND ALL REMEDIAL WORK REQUIRED TO REPAIR AREAS WHICH ARE DAMAGED BY EROSION.
3) HAY BALE BARRIERS SHALL BE INSTALLED AND MAINTAINED AT DRAIN INLETS AND OUTLETS AND ALONG LIMITS OF WORK WHERE NECESSARY. HAY BALE BARRIERS SHALL NOT BE PLACED CLOSER THAN 25-FEET TO DRAIN INLETS AND OUTLETS. ADDITIONAL HAY BALES SHALL BE ADDED AS REQUIRED BY THE ENGINEER. HAY BALES WILL BE STAKED AND MAINTAINED PRIOR TO AND DURING CONSTRUCTION UNTIL DISTURBED AREAS HAVE A HEALTHY STAND OF GRASS.
4) ALL DISTURBED AREAS AND SIDE SLOPES THAT ARE AT ARE FINISH GRADED WITH NO FURTHER CONSTRUCTION TAKING PLACE SHALL BE TRACKED, SEEDED (IN ACCORDANCE WITH SECTION 644 OF THE STANDARD SPECIFICATIONS) AND MULCHED. ALL SEED, LIME AND FERTILIZER PROGRAMS SHALL CONFORM TO ALL APPLICABLE SECTIONS OF THE SPECIFICATIONS (SECTION 642 AND SECTION 643).
5) CONSTRUCTION TRAFFIC SHALL TRAVEL THE ROADBEDS OF EXISTING ROADS.
6) COMPOST SOCK AND SILT FENCE SHALL BE INSTALLED AND MAINTAINED WHERE NECESSARY PRIOR TO ANY ON-SITE GRADING OR DISTURBANCE OF EXISTING SURFACE MATERIAL. GENERALLY, COMPOST SOCK SHALL BE INSTALLED TO PREVENT MIGRATION OF THE SEDIMENT FROM THE WORK AREA. IN AREAS WHERE WETLANDS ARE DOWN SLOPE OF DISTURBED AREAS, SILT FENCE SHALL BE INSTALLED IN ADDITION TO SILT SOCKS. ALL EROSION CONTROL MEASURES SHOULD BE MAINTAINED DURING AND AFTER CONSTRUCTION TO REMOVE SEDIMENT FROM NATURAL DRAINAGE WAYS. EROSION CONTROL SHALL BE MAINTAINED AND CLEANED UNTIL ALL SLOPES HAVE A HEALTHY STAND OF GRASS.
7) AFTER ALL DISTURBED AREAS HAVE BEEN STABILIZED, THE TEMPORARY EROSION CONTROL MEASURES ARE TO BE REMOVED AND ACCUMULATED SEDIMENT DISPOSED OF IN A LOCATION DESIGNATED BY THE OWNER.
8) HAY BALES AND MULCH SHALL BE MOWINGS OF ACCEPTABLE HERBACEOUS GROWTH, FREE FROM NOXIOUS WEEDS OR WOODY STEMS AND SHALL BE DRY.
9) SILT FENCES SHALL BE A MINIMUM OF 36 INCHES HIGH WITH THE BOTTOM OF THE CLOTH KEYING INTO THE GROUND. POSTS SHALL BE OF WOOD OR STEEL.
10) THE EROSION CONTROL DEVICES DESCRIBED AND AS SPECIFIED IN THE SPECIFICATIONS REPRESENT THE MINIMUM REQUIRED MEASURES FOR EROSION CONTROL. THE CONTRACTOR SHALL ADD TO THESE DEVICES ANY OTHER MEASURES AS REQUIRED OR AS DIRECTED BY THE ENGINEER TO EFFECTIVELY PREVENT MIGRATION OF SEDIMENT FROM THE WORK AREA AND PROTECT WETLAND AREAS, WATERWAYS, EXISTING AND PROPOSED DRAINAGE FEATURES, SLOPES, LAWNS, AND PLANTS ADJACENT TO THE WORK AREA.
11) WELDED PLASTIC OR BIODEGRADABLE PLASTIC EROSION CONTROL NETTING SHALL NOT BE USED.

Foundation Notes:

1) FOOTINGS SHALL BE PLACED ON COMPACTED STRUCTURAL FILL (NHDOT ITEM 508) OVERLAYING UNDISTURBED SOIL. ALL EXISTING UNSUITABLE MATERIAL SHALL BE REMOVED AND REPLACED WITH STRUCTURAL FILL. PLACEMENT OF STRUCTURAL FILL AND FOOTING CONSTRUCTION SHALL BE COMPLETED IN THE DRY.
2) PROTRUDING COBBLES AND BOULDERS ENCOUNTERED AT THE FINAL EXCAVATION LEVEL SHOULD BE EITHER REMOVED OR SPLIT TO PROVIDE A LEVEL SURFACE. ENGINEER TO MAKE FINAL DETERMINATION.
3) CONTROL OF WATER WITHIN THE EXCAVATION SHALL BE CONDUCTED IN SUCH A MANNER AS TO PREVENT DISTURBANCE OF THE BEARING SOIL. WELL POINTS, SUMPS, OR OTHER PUMPING AREAS SHALL BE LOCATED OUTSIDE THE FOOTING EXCAVATION LIMITS.
4) ANY FOUNDATION SOIL WEAKENED AS A RESULT OF INSUFFICIENT CARE TAKEN IN MAINTAINING A DEWATERED CONDITION SHALL BE REMOVED AND REPLACED WITH STRUCTURAL FILL (CRUSHED STONE CONFORMING TO 508.2.1.3) AT THE CONTRACTOR'S EXPENSE.
5) DEWATERING SHALL BE CONTINUOUS UNTIL THE STRUCTURE IS BACKFILLED TO THE ELEVATION OF THE SURROUNDING WATER TABLE, UNLESS DIRECTED OTHERWISE.

Water Diversion Structure Notes:

1) ITEM 503.1-WATER DIVERSION STRUCTURES SHALL BE REQUIRED TO CONSTRUCT THE CULVERT. THE CONTRACTOR SHALL SUBMIT THE DIVERSION STRUCTURE TYPE, DESIGN, AND PROPOSED METHOD OF CONSTRUCTION TO THE ENGINEER IN ACCORDANCE WITH SECTION 105.02 OF THE NHDOT STANDARD SPECIFICATIONS.
2) THE CONTRACTOR SHALL SUBMIT FOR REVIEW BY ENGINEER A WATER DIVERSION PLAN PREPARED AND STAMPED BY A NH LICENSED PROFESSIONAL ENGINEER.
3) THE CONTRACTOR SHALL DETERMINE THE REQUIRED LIMITS TO MAINTAIN A DEWATERED AND ADEQUATELY SUPPORTED EXCAVATION DURING CONSTRUCTION.
4) ALL WATER DIVERSION STRUCTURES ARE TO BE INSTALLED DURING PERIODS OF LOW FLOW. THE CONTRACTOR SHALL PUMP/DIVERT STREAM FLOW AROUND WORK AREA TO MINIMIZE SILTATION OF STREAM WATERS. THE CONTRACTOR SHALL BE PREPARED FOR, AND MAKE PROVISIONS FOR, HIGH FLOW EVENTS THAT MAY OCCUR EVEN DURING TYPICAL LOW FLOW PERIODS.
5) ALL COSTS FOR DESIGN, INSTALLATION, AND REMOVAL OF THE WATER DIVERSION STRUCTURES SHALL BE INCLUDED IN THE WATER DIVERSION STRUCTURES ITEM.

Design Notes:

1) DESIGN LIVE LOAD: HL-93
2) DESIGN METHOD: LOAD RESISTANCE FACTOR DESIGN (LRFD)
3) SPECIFICATIONS: AASHTO LRFD 8TH ED. 2017, AS AMENDED
   NHDOT 2016 STANDARD SPECIFICATIONS, AS AMENDED
4) FOUNDATION DATA: SPREAD FOOTINGS ON SOIL
5) REINFORCING STEEL: AASHTO M 31 (ASTM A 615) GRADE 60.
   PRECAST: UNCOATED
   CAST-IN-PLACE: EPOXY COATED
   CURB: EPOXY COATED
6) CONCRETE: PRECAST CONCRETE = 5000 PSI (CLASS AAA)
   CAST-IN-PLACE CONCRETE = 4000 PSI (CLASS AA)
7) FROST COVER: 5 FEET MINIMUM

Culvert Installation Construction Sequence:

1) INSTALL ALL EROSION CONTROL DEVICES.
2) VERIFY HORIZONTAL AND VERTICAL DATUM.
3) INSTALL TEMPORARY WATER DIVERSION DEVICE(S), AND EROSION CONTROL.
4) EXCAVATE FOR THE PROPOSED CULVERT.
5) INSTALL PROPOSED CULVERT, STREAM BED MATERIAL, AND BACKFILL.
6) INSTALL INLET AND OUTLET PROTECTION.
7) INSTALL SLOPE PROTECTION.
8) REMOVE TEMPORARY WATER DIVERSION DEVICES.
9) CONSTRUCT ROAD AS SHOWN IN PLANS.
10) INSTALL GUARDRAIL IN LOCATIONS SHOWN IN PLANS.
11) INSTALL LOAM AND SEED OVER ALL DISTURBED AREAS.
12) REMOVE ALL EROSION CONTROL DEVICES ONCE SITE HAS BEEN DETERMINED STABLE BY THE ENGINEER.

Hydraulic Data Summary

NORTHERN CULVERT
DRAINAGE AREA: 81.72 ac
DESIGN FLOOD (Q50): 27.8 cfs
DESIGN VELOCITY: 3.30 fps
DESIGN FLOOD ELEVATION: 1111.19 ft
Q100 FLOOD ELEVATION: 1112.03 ft
Q100 FLOOD VELOCITY: 4.22 fps

SOUTHERN CULVERT
DRAINAGE AREA: 54.07 ac
DESIGN FLOOD (Q50): 63.9 cfs
DESIGN VELOCITY: 6.78 fps
DESIGN FLOOD ELEVATION: 1128.51 ft
Q100 FLOOD ELEVATION: 1129.13 ft
Q100 FLOOD VELOCITY: 7.31 fps

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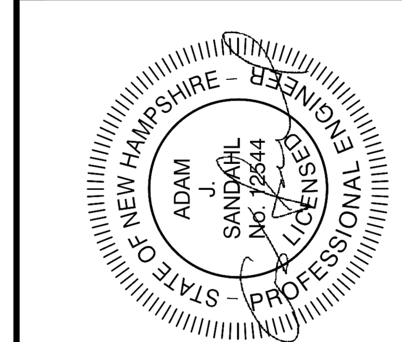
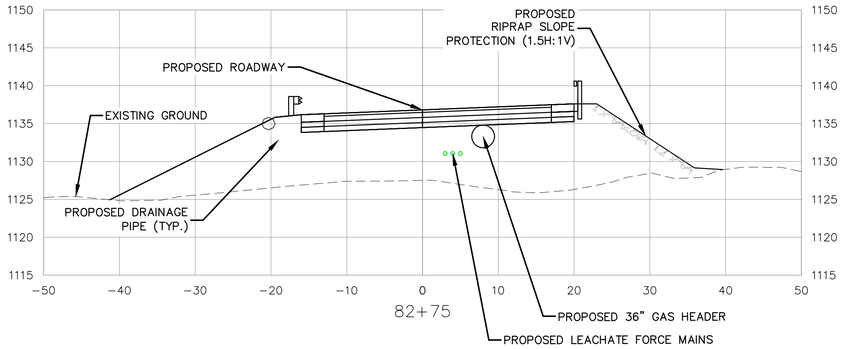


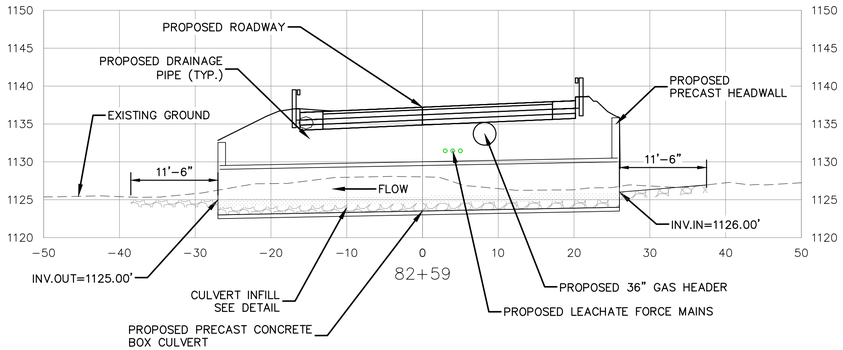
date: October 2023
designed by: ATR/NJM/STF/AJS
project no: 1101
drawn by: ATR/NJM/STF
checked by: AJS
approved by: AJS
scale: 0 40' 80' Scale: 1" = 40' H / 4' V

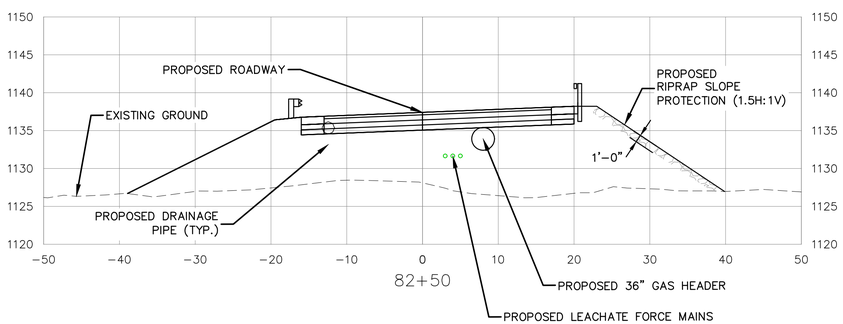
Granite State Landfill, LLC
Dalton, New Hampshire
Permitting Plan Set
Roadway Sections and Culvert Layout Plan 1

drawing no. DD-13

sheet: 34 of 50

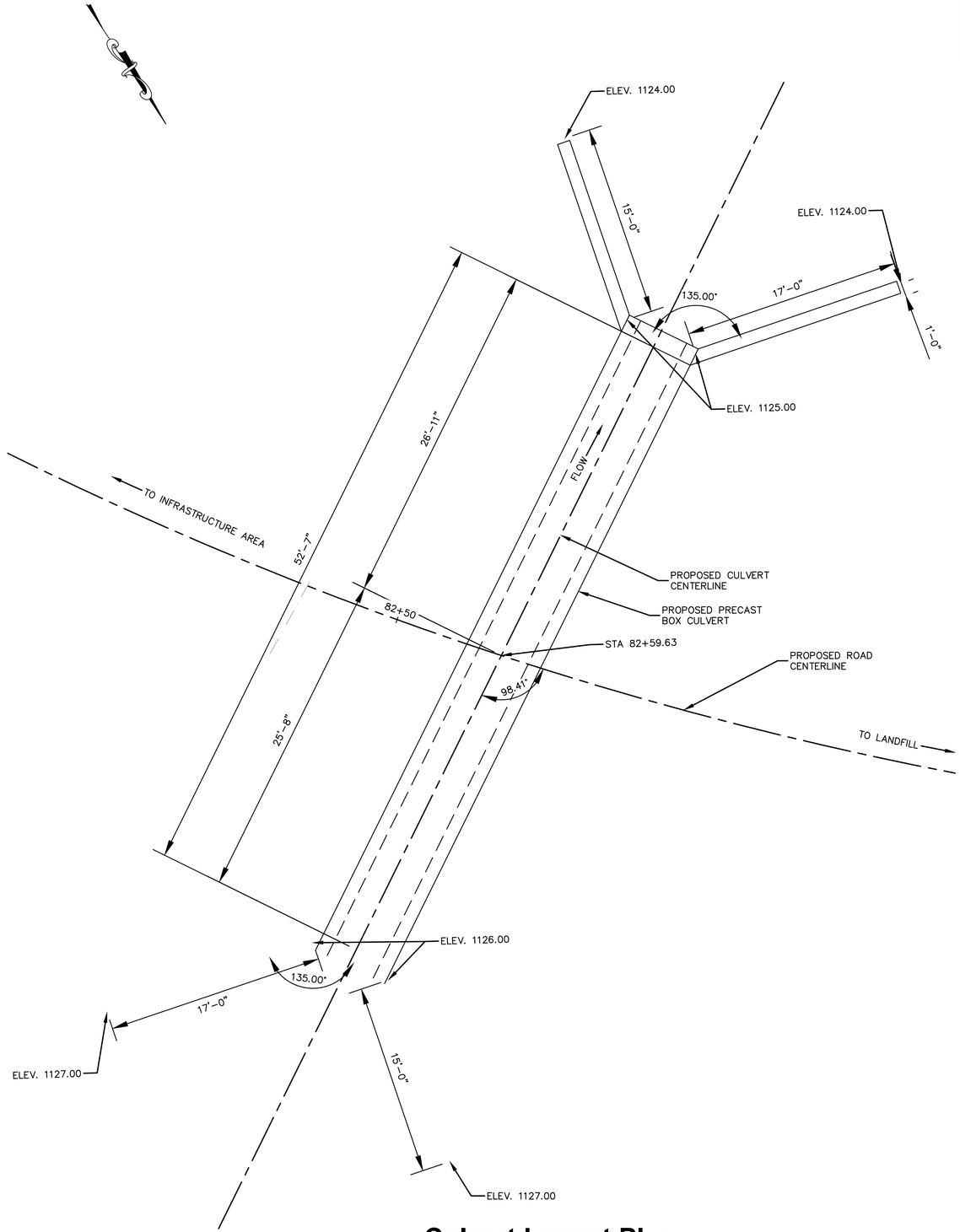






Roadway Sections

Scale: 1" = 10'



Culvert Layout Plan

Scale: 1" = 5'

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STATE OF NEW HAMPSHIRE – 833 – ADAM J. SANDAL – PROFESSIONAL ENGINEER – LICENSED

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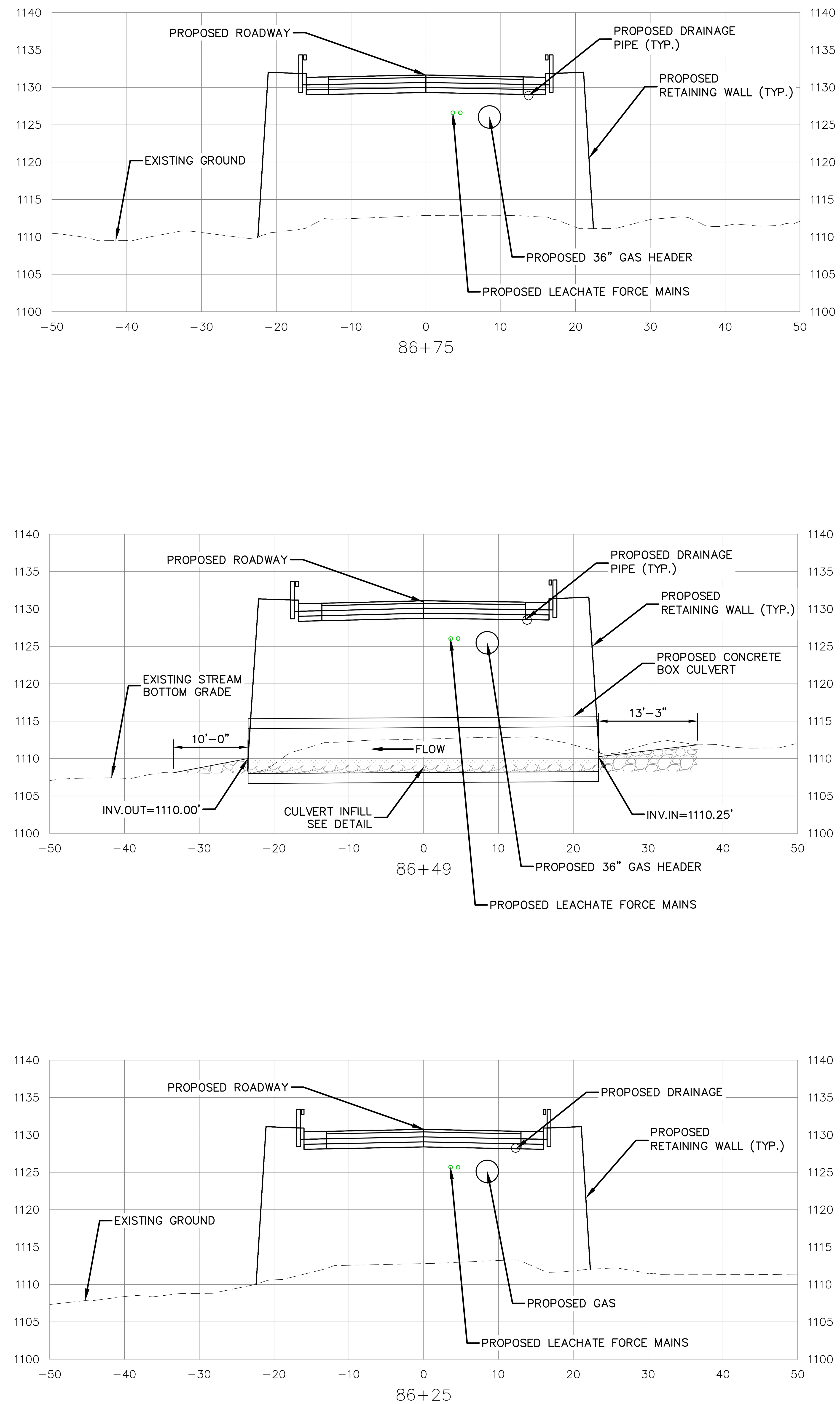
approved by: AJS
date: October 2023
project no: 1101
checked by: AJS
scale: 0 40' 80' Scale: 1" = 40' H / 4'V

Granite State Landfill, LLC
Dalton, New Hampshire
Permitting Plan Set

Roadway Sections and Culvert Layout Plan 2

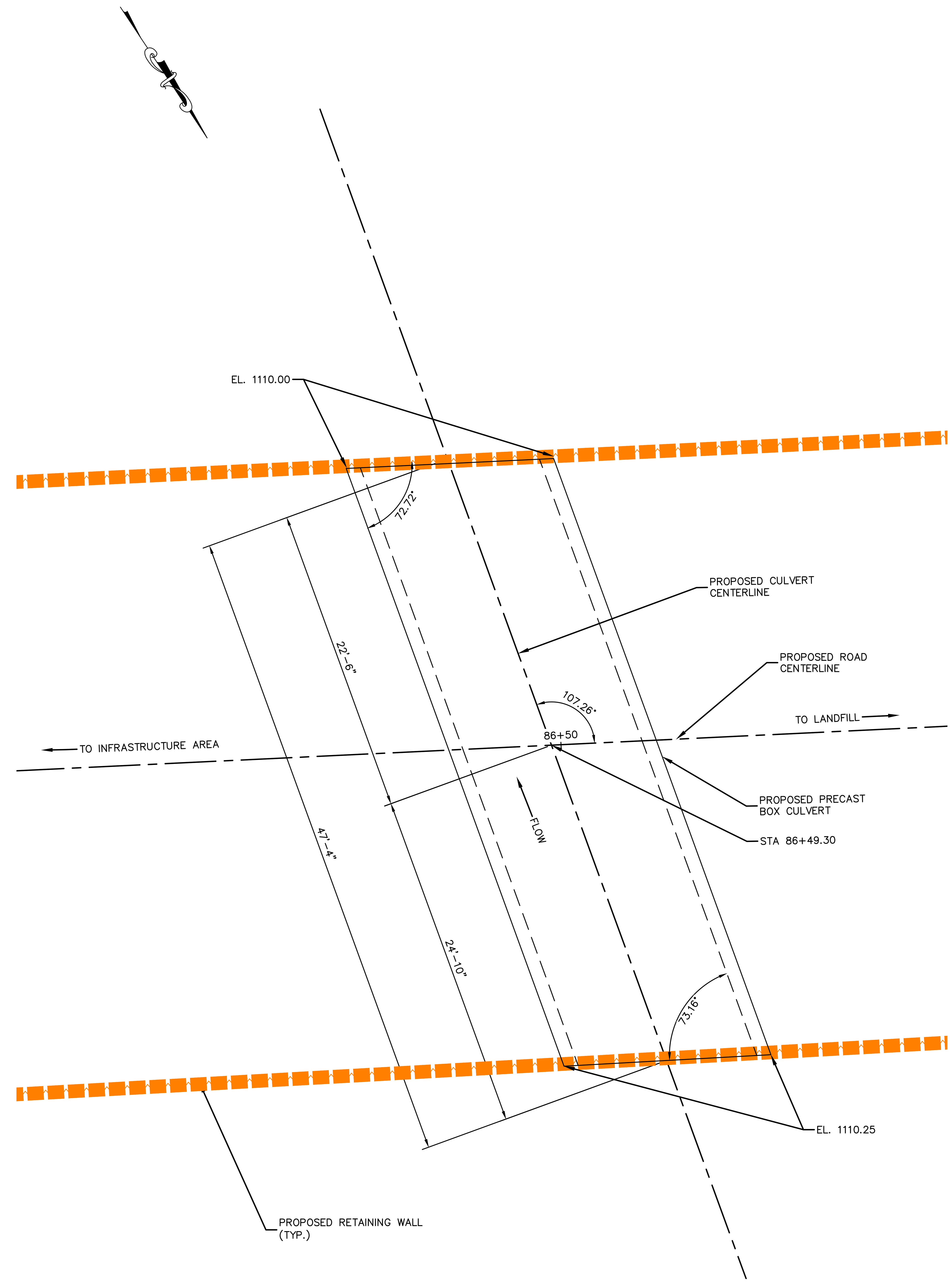
drawing no. DD-14

sheet: 35 of 50



Roadway Sections

Scale: 1" = 10'



Culvert Layout Plan

Scale: 1" = 5'

no.	revision	date	by

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STATE OF NEW HAMPSHIRE ADAM J. SANDAHL No. 12944 LICENSED PROFESSIONAL ENGINEER

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drawn by: ATR/NJM/STF
approved by: AJS
date: October 2023
project no: 1101
checked by: AJS
scale: Scale: 1" = 40' H / 4' V

Granite State Landfill, LLC
Dalton, New Hampshire
Permitting Plan Set

Roadway Sections and Culvert Layout Plan 3

drawing no. DD-15
sheet: 36 of 50

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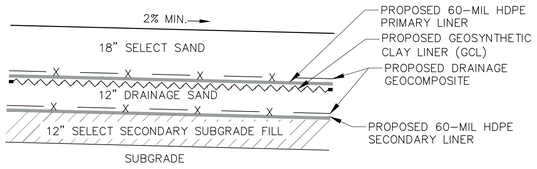
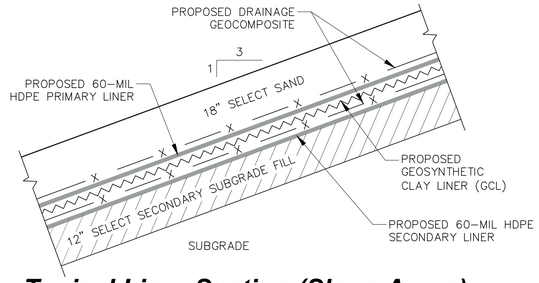


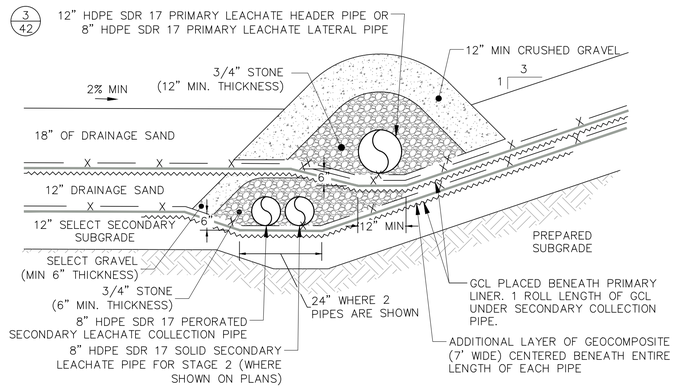
Typical Liner Section (Base Areas) 1

Not to Scale



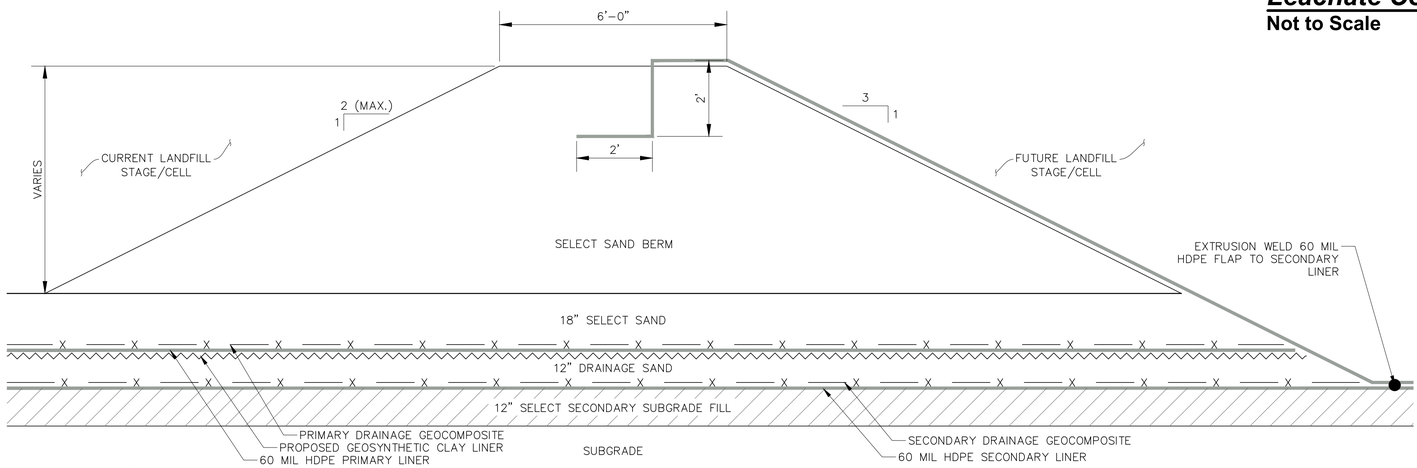
Typical Liner Section (Slope Areas) 2

Not to Scale



Leachate Collection Pipe 3

Not to Scale



Cell Diversion Berm 4

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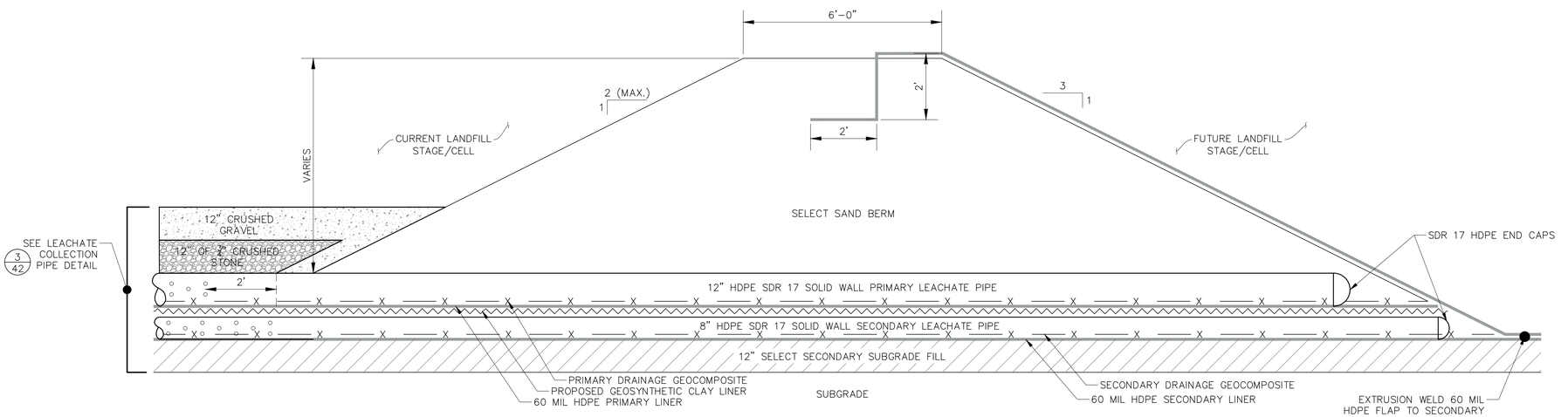

Cell Diversion Berm - Pipe Penetration 5

Not to Scale

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STATE OF NEW HAMPSHIRE - ADAM J SANDAHL - 14424 - LICENSED PROFESSIONAL ENGINEER

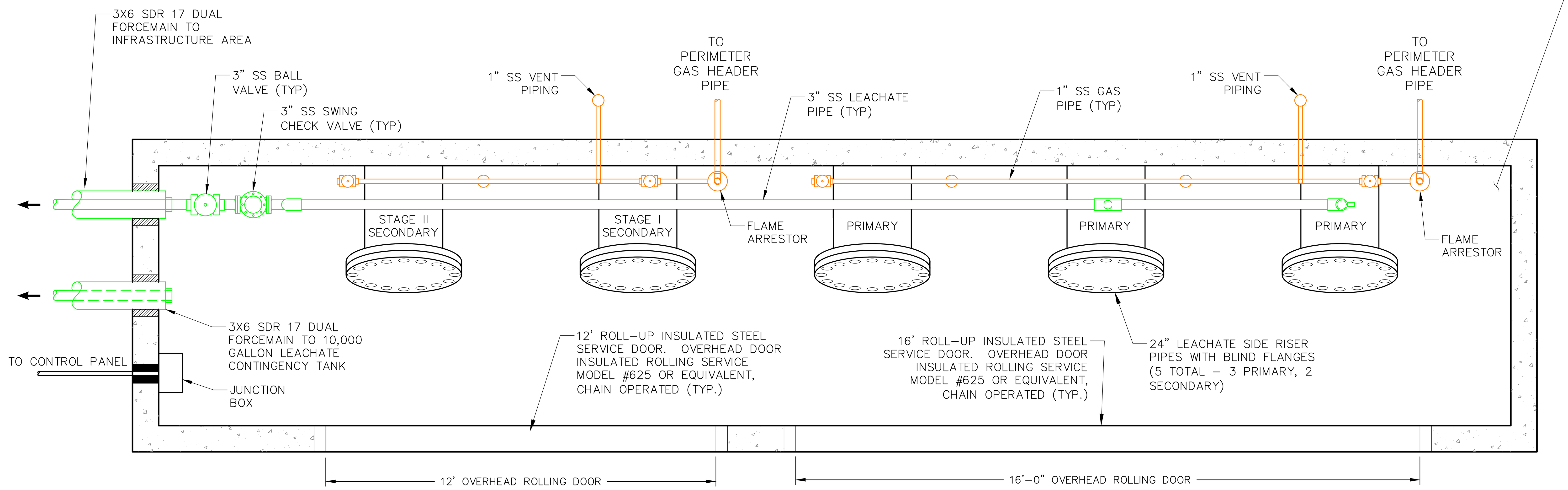
designed by: ATR/NJM/STF/AJS
drawn by: ATR/NJM/STF
approved by: AJS
scale:
date: October 2023
project no: 1101
checked by: AJS

Granite State Landfill, LLC
Dalton, New Hampshire
Permitting Plan Set

Landfill Details

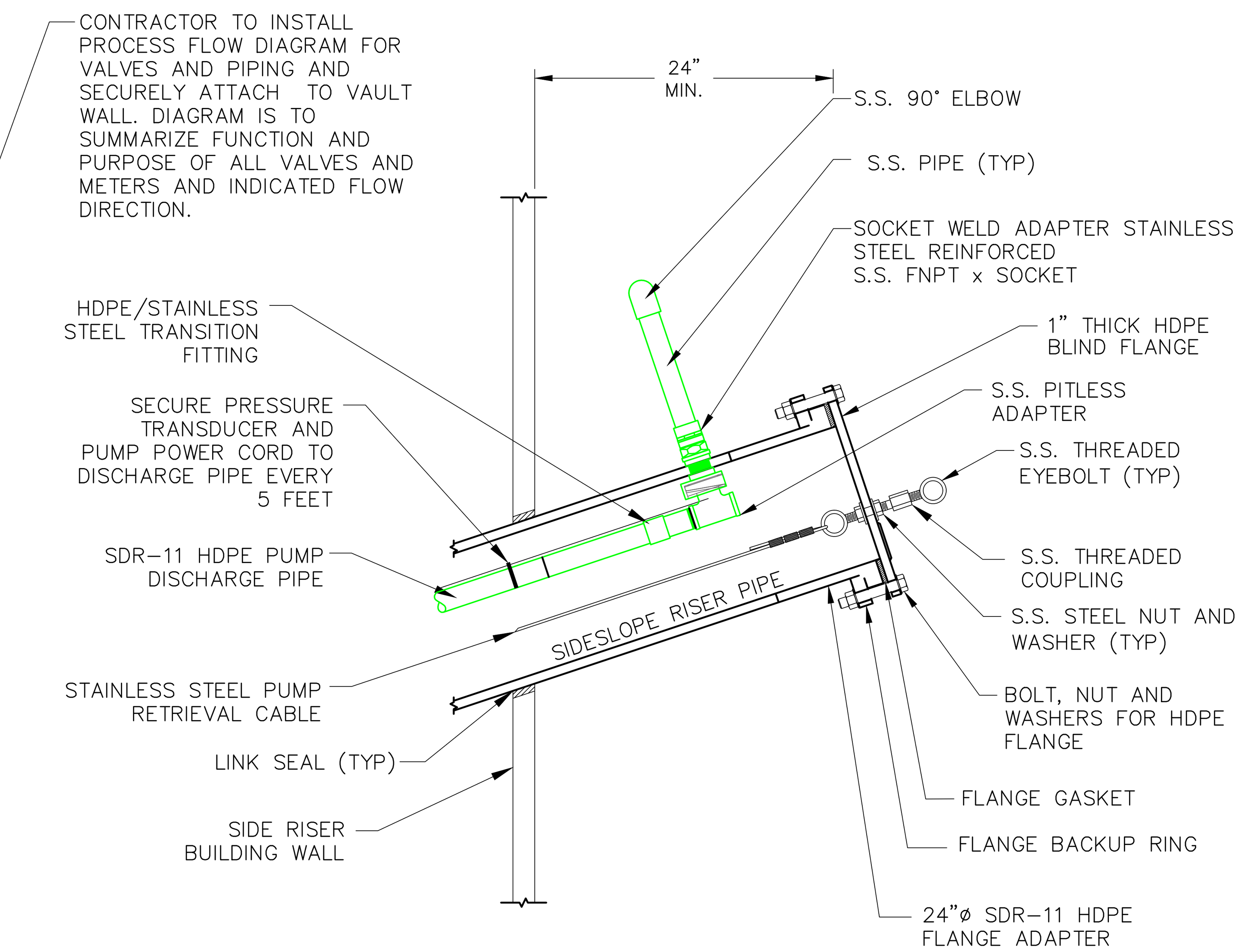
drawing no. *D-1*

sheet: 37 of 50



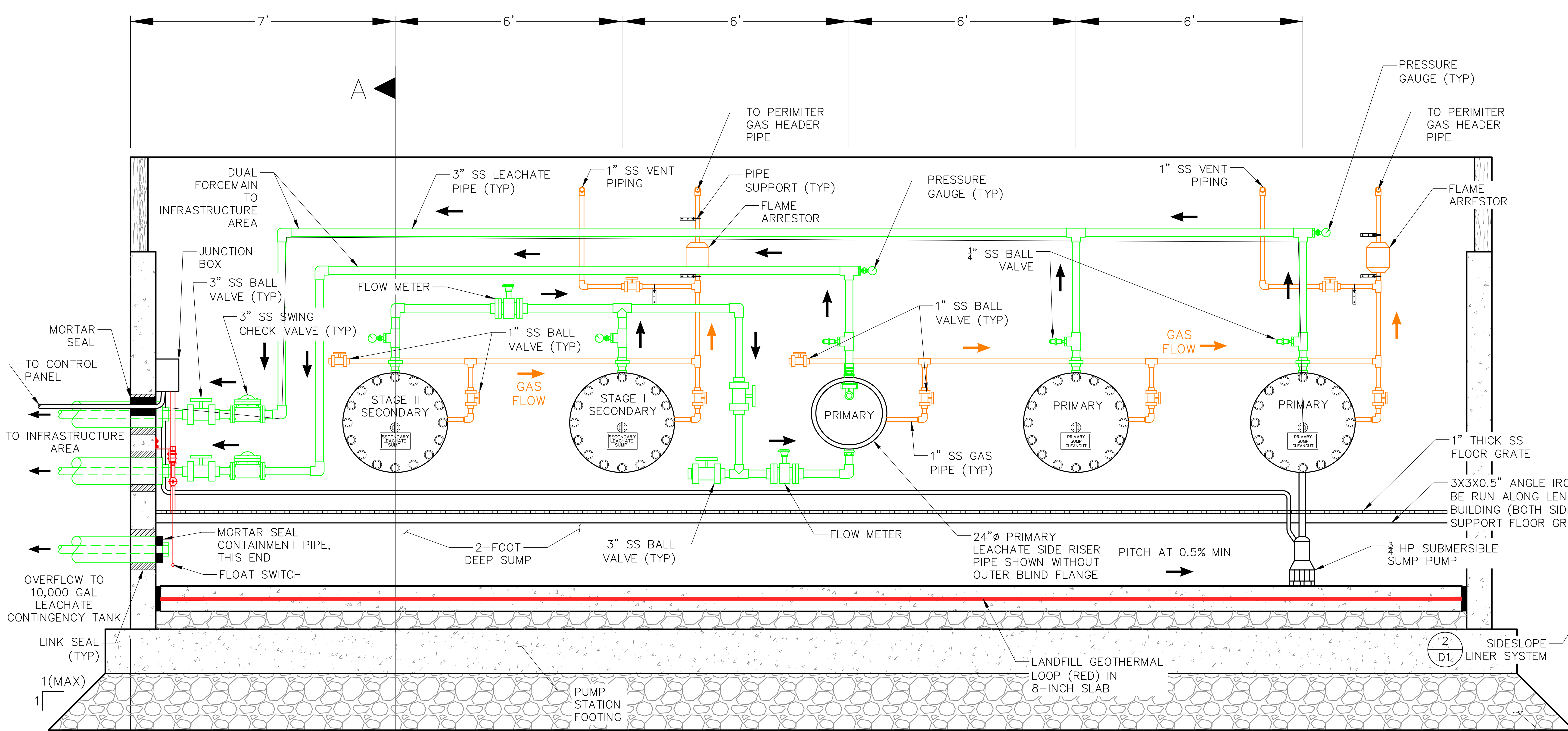
NOTE:
TWO COATS OF SIKAGARD 62 SHALL BE APPLIED TO ALL CONCRETE SURFACES INSIDE THE PUMP STATION. CONCRETE SURFACE TO BE COATED SHALL BE DRY, FREE OF SURFACE VOIDS, HONEYCOMBED CONCRETE, CRACKS, MORTAR SMEARS, DIRT, AND FORM RELEASE AGENTS. SURFACE DEFECTS SUCH AS CRACKS, HOLES, OR CAVITIES SHALL BE FILLED AND FINISHED FLUSH WITH A PORTLAND CEMENT GROUT OR CONCRETE. VOIDS IN SURFACES ARE TO BE FILLED TO CREATE A SMOOTH, SLIGHTLY POROUS SURFACE. CLEAN ALL SURFACES TO REMOVE DIRT, MUD, DEBRIS, DUST, LAITANCE, ETC.

TOP ELEVATION



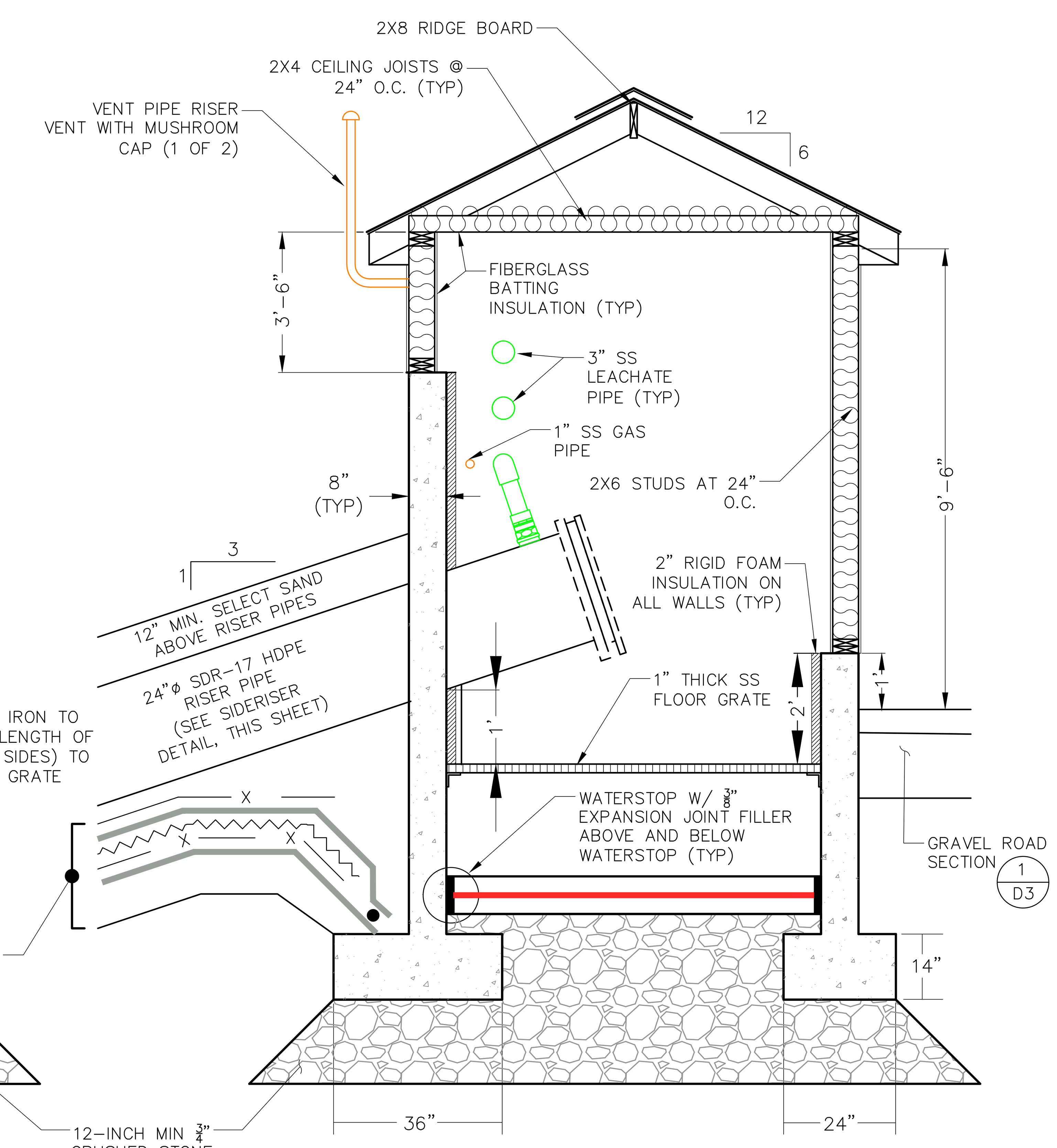
NOTE:
CONTRACTOR SHALL PROVIDE AN ENGRAVED STAINLESS STEEL LABEL ON THE TOP OF EACH RISER THAT SHOWS THE TOTAL LENGTH OF THE SIDE RISER PIPE ALONG THE INVERT.

SIDERISER DETAIL



BACK WALL ELEVATION

36'



SIDE ELEVATION SECTION A

NOTE: ALL PIPING, VALVES, AND FITTINGS TO BE 316L SS. 1" SS GAS PIPE IS DEPICTED ON THIS PLAN IN ORANGE AND 3" SS LEACHATE PIPE IS DEPICTED IN GREEN.

Pump Station Layout

Not to Scale

1

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STATE OF NEW HAMPSHIRE – ADAM J. SANDAHL – No. 12544 – LICENSED – PROFESSIONAL ENGINEER

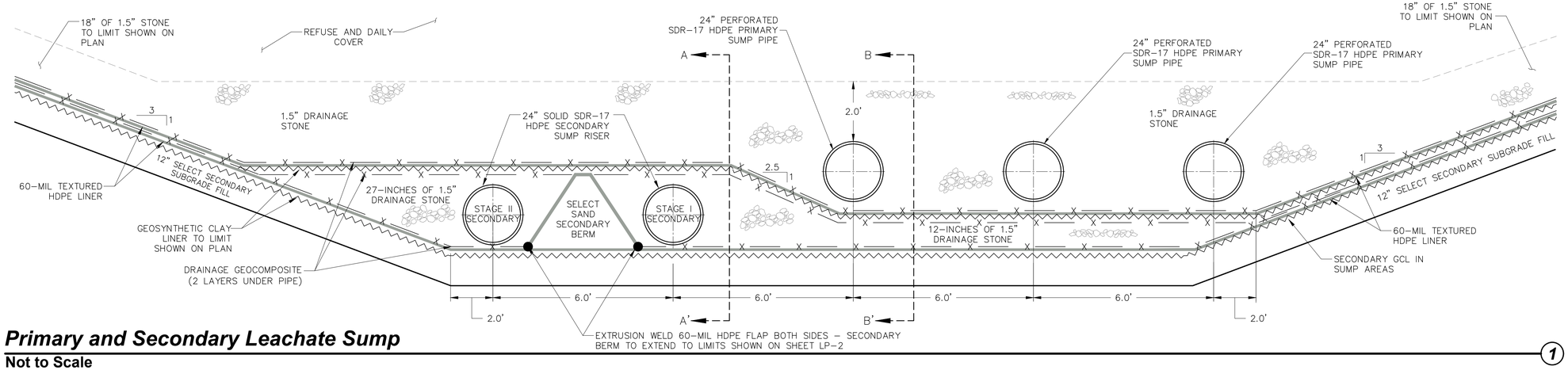
designed by: ATR/NJM/STF/AJS
drawn by: ATR/NJM/STF
approved by: AJS
date: October 2023
project no: 1101
checked by: AJS
scale:

Granite State Landfill, LLC
Dalton, New Hampshire
Permitting Plan Set

Leachate Details 1

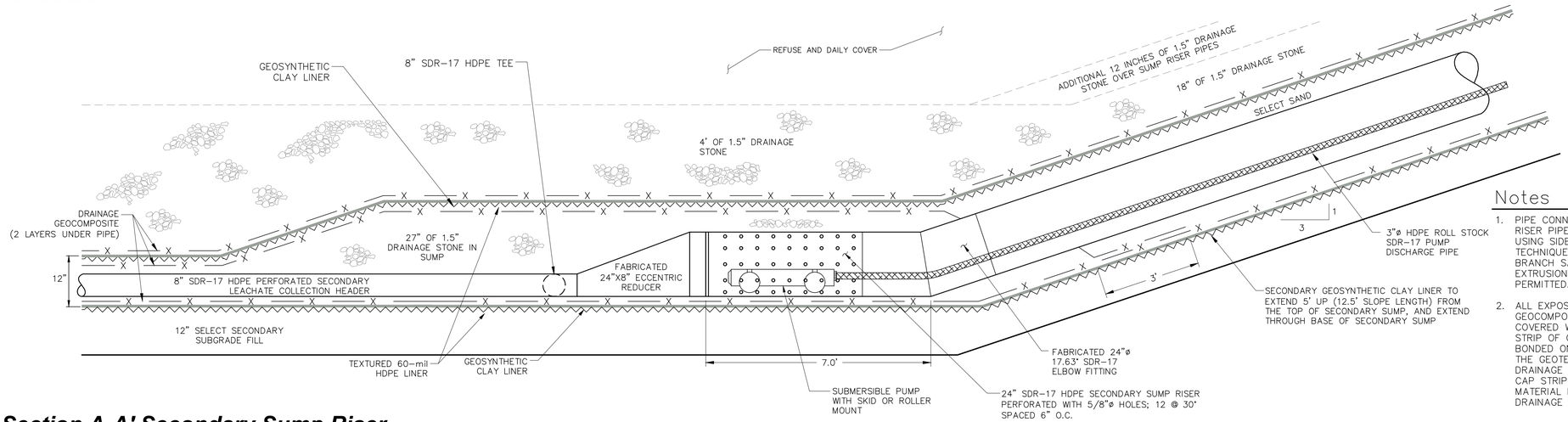
drawing no. D-2

sheet: 38 of 50



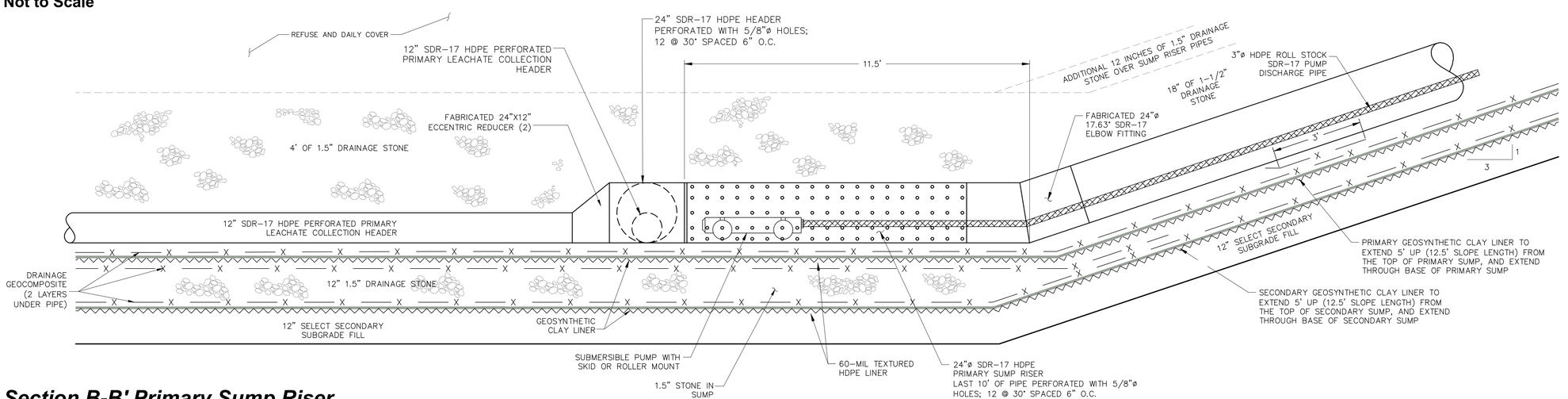
Primary and Secondary Leachate Sump

Not to Scale — (1)



Section A-A' Secondary Sump Riser

Not to Scale — (2)



Section B-B' Primary Sump Riser

Not to Scale — (3)

Notes

1. PIPE CONNECTIONS TO 24"ø RISER PIPES SHALL BE MADE USING SIDE FUSION WELDING TECHNIQUES OR ELECTROFUSION BRANCH SADDLE FITTINGS. EXTRUSION WELDING IS NOT PERMITTED.
2. ALL EXPOSED ENDS OF DRAINAGE GEOCOMPOSITE SHALL BE COVERED WITH AN END CAP STRIP OF GEOTEXTILE HEAT BONDED ON THE TOP SIDE OF THE GEOTEXTILE PORTION OF THE DRAINAGE GEOCOMPOSITE. END CAP STRIP SHALL BE THE SAME MATERIAL PROVIDED ON THE DRAINAGE GEOCOMPOSITE.

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date:	project no:	checked by:
October 2023	1101	AJS

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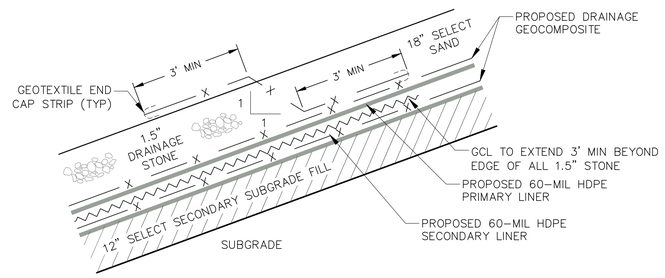
Dalton, New Hampshire
Permitting Plan Set

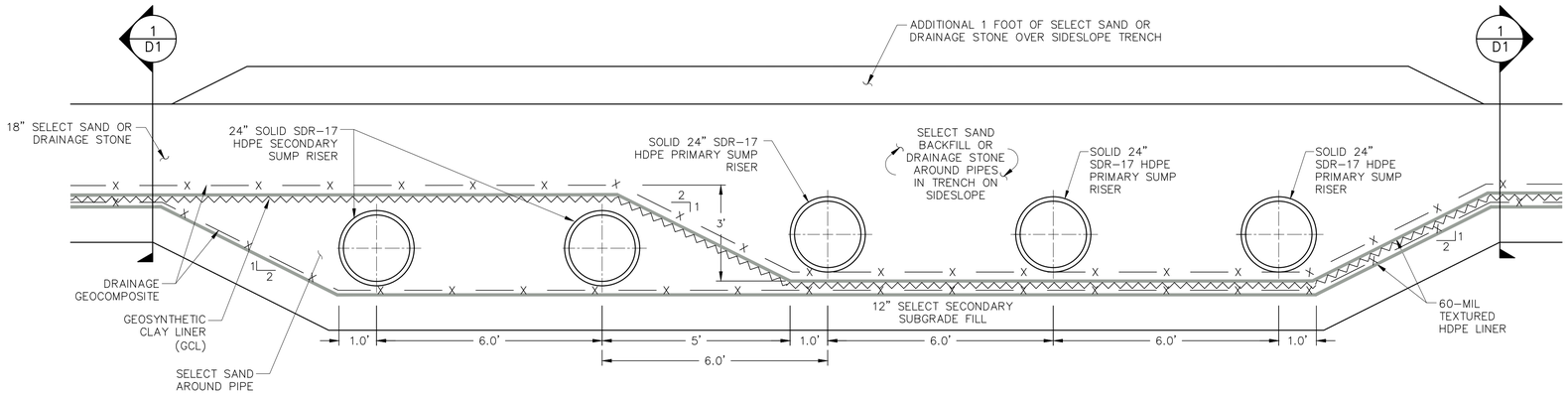
Leachate Details 2

drawing no. *D-3*

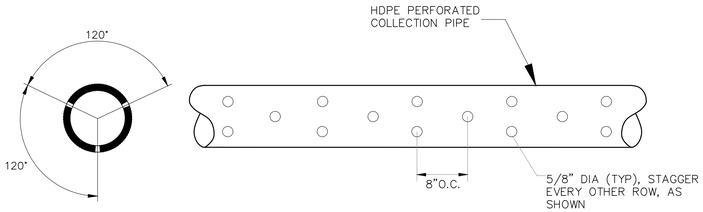
sheet: 39 of 50



Stone/Sand Transition (1)
Not to Scale

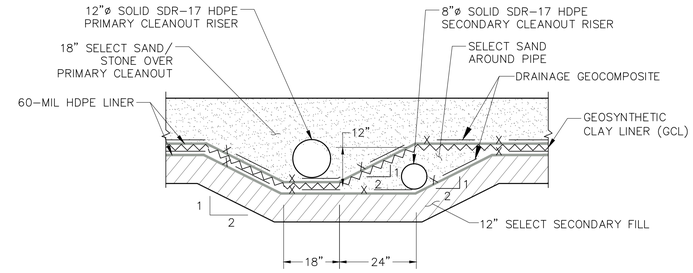


Side Slope Sump Riser Section (2)
Not to Scale



NOTES:
1. PRIMARY LEACHATE HEADER COLLECTION PIPE INSIDE LANDFILL SHALL BE 12" DIA. HDPE SDR 17.
2. PRIMARY LATERAL LEACHATE COLLECTION PIPE INSIDE LANDFILL SHALL BE 8" DIA. HDPE SDR 17.
3. SECONDARY LEACHATE COLLECTION PIPE INSIDE LANDFILL SHALL BE 8" DIA HDPE SDR 17.
4. PRIMARY AND SECONDARY CLEANOUT/VENT PIPES ARE NON-PERFORATED.

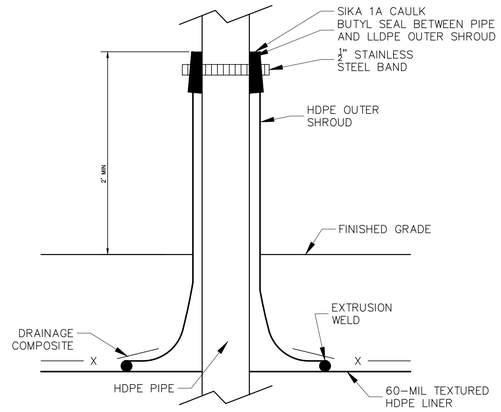
Perforated Collection Pipe (3)
Not to Scale



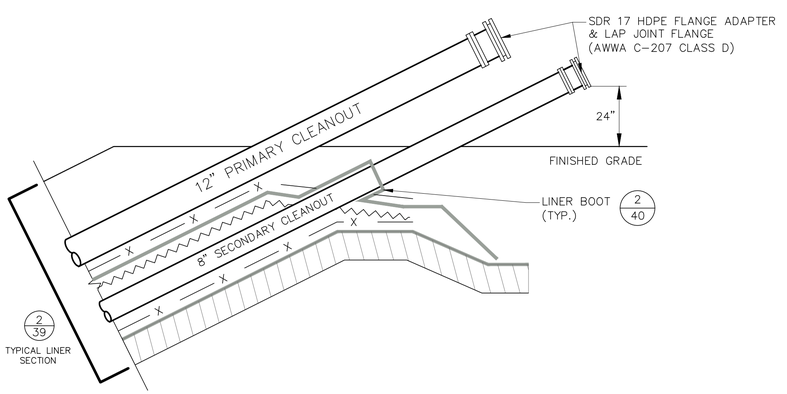
PRIMARY AND SECONDARY

NOTES:
1. CLEANOUTS SHALL EXTEND 24" ABOVE FINISHED GRADE AND PROVIDED WITH SDR 17 HDPE FLANGE ADAPTER & LAP JOINT FLANGE.
2. SEE BOOT REQUIREMENTS FOR SECONDARY CLEANOUT AT ANCHOR TRENCH THIS SHEET.

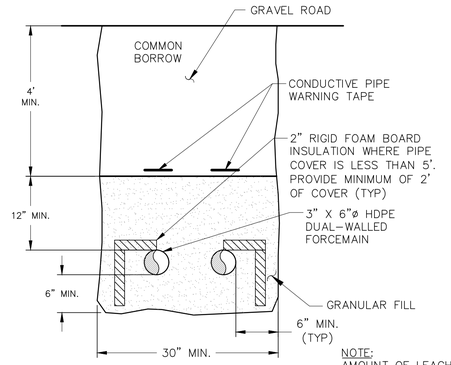
Cleanout Cross Section (4)
Not to Scale



Typical Boot Detail (5)
Not to Scale



Primary & Secondary Cleanout Riser (6)
Not to Scale



NOTE:
AMOUNT OF LEACHATE FORCEMAINS IN TRENCH VARIES.SEE PLAN FOR MORE DETAIL.

Leachate Forcemain Outside Anchor Trench (7)
Not to Scale

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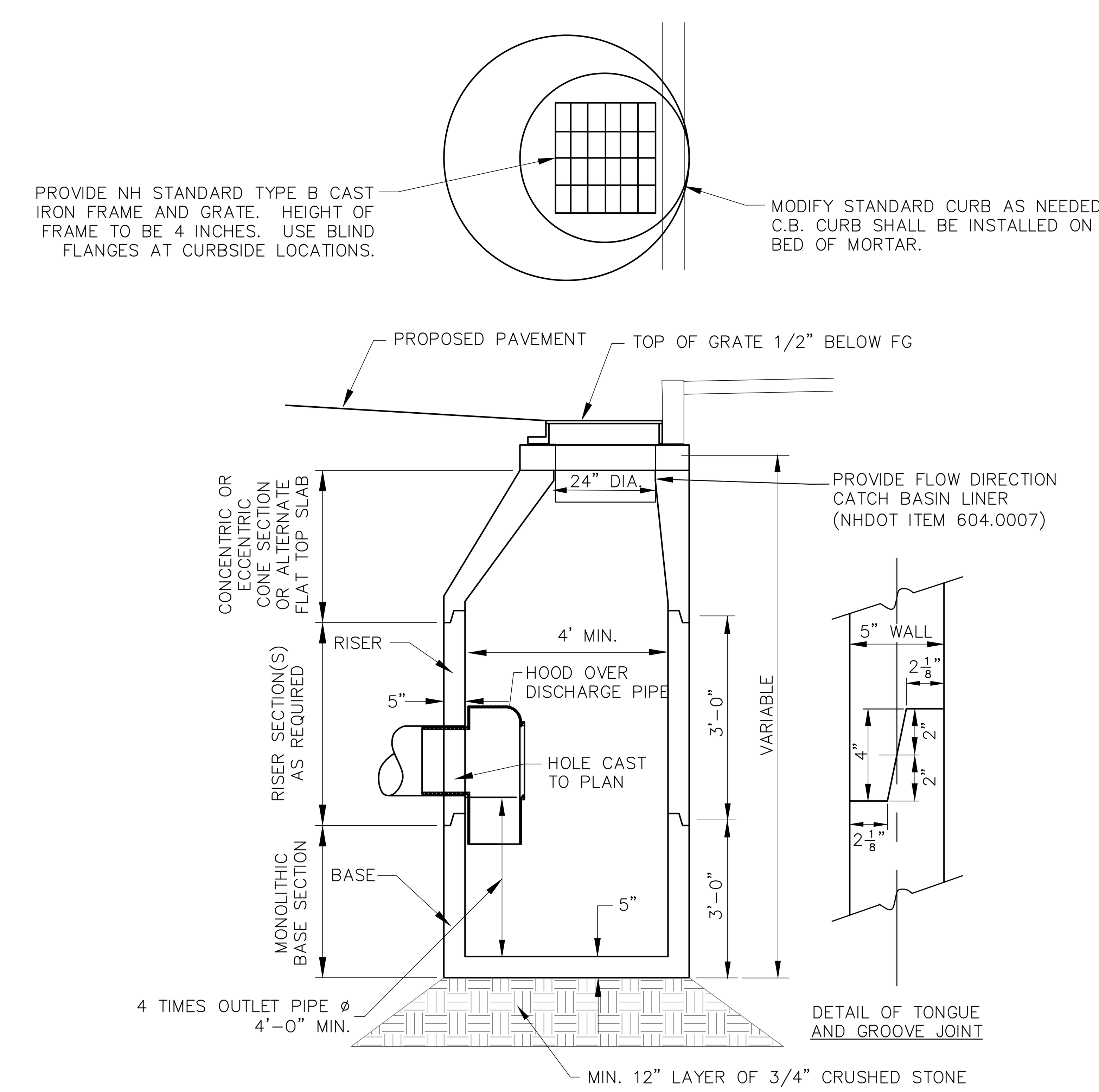
NEW HAMPSHIRE - STATE OF - ADAM J SANDAHL 14241 LICENSED PROFESSIONAL ENGINEER

designed by: ATR/NJM/STF/AJS	drawn by: ATR/NJM/STF	approved by: AJS	scale:
date: October 2023	project no: 1101	checked by: AJS	

Granite State Landfill, LLC
Dalton, New Hampshire
Permitting Plan Set
Leachate Details 3

drawing no. *D-4*

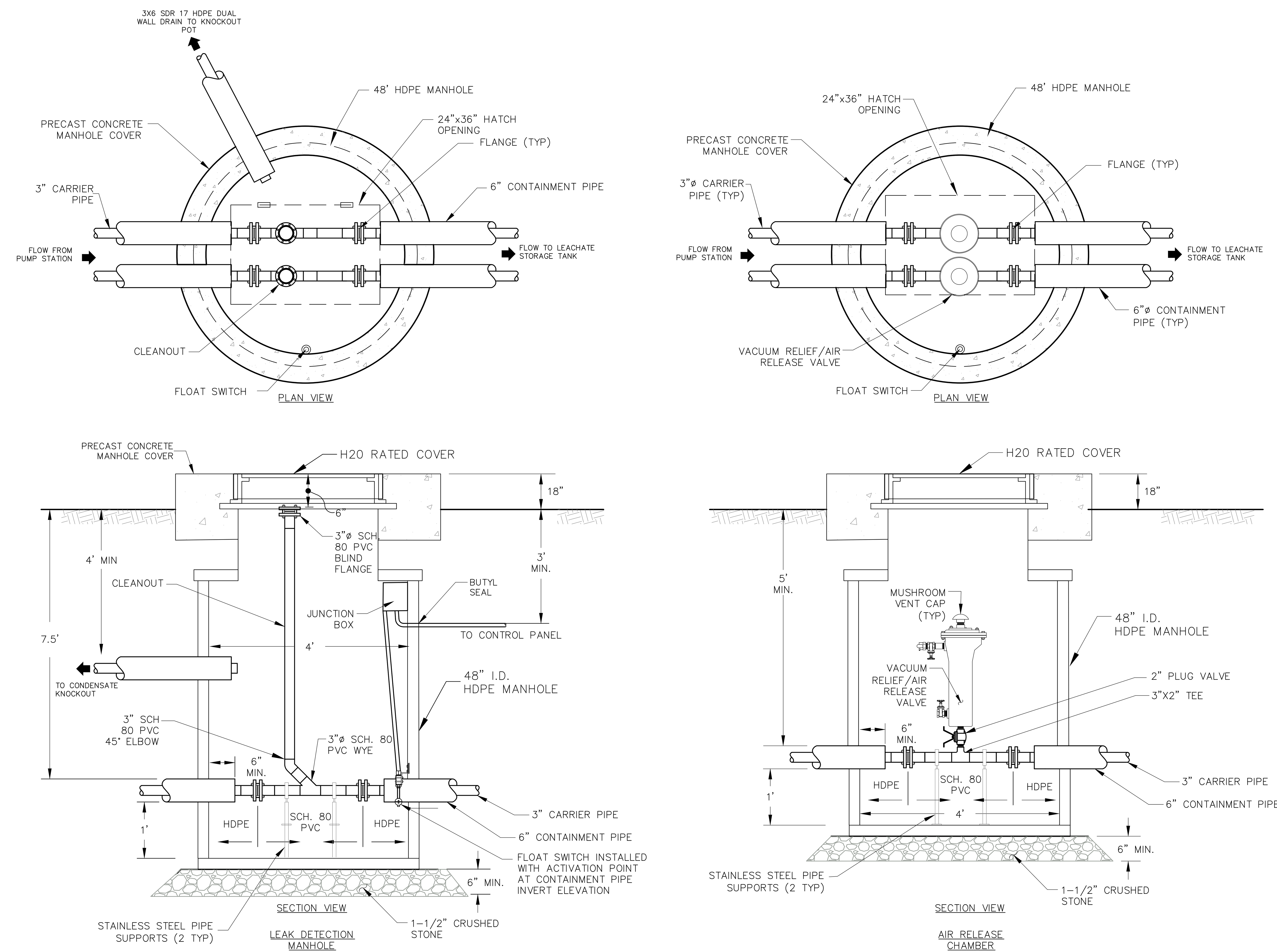
sheet: 40 of 50



Deep Sump Catch Basin Detail

Not to Scale

1



Forcemain Leak Detection and Air Release Chambers

Not to Scale

2

GENERAL LEAK DETECTION AND AIR RELEASE CHAMBER NOTES:

1. ASSUME CLASS 1 DIVISION 1 GROUP D ATMOSPHERE IN ALL BELOW-GRADE STRUCTURES, INCLUDING MANHOLES AND VALVE BOXES.
2. FLOAT SWITCH CIRCUITS SHALL BE INTRINSICALLY SAFE.
3. CONTRACTOR SHALL PROVIDE SUPPORTS AND RESTRAINTS AS REQUIRED TO SECURE THE PIPE SYSTEM IN THE MANHOLES.
4. PROVIDE FULL-FACE VITON GASKET FOR ALL FLANGE CONNECTIONS.
5. CONTAINMENT PIPES ARE TO BE LEFT OPEN-ENDED IN MANHOLES UNLESS OTHERWISE NOTED.
6. FORCE MAIN PIPING SHALL BE SDR-17 CARRIER PIPE WITHIN SDR-17 CONTAINMENT PIPE UNLESS OTHERWISE NOTED.
7. MANHOLES SHALL BE 48" I.D., DR21 PE 4710 HDPE SOLID WALL MANHOLES.
8. ALL SECTIONS OF THE MANHOLE SHALL BE WELDED TOGETHER AND WATER TIGHT.
9. PIPE STUBS SHALL BE WELDED TO THE MANHOLE AND BE WATER TIGHT.
10. OFF-ROAD MANHOLES:
    a. RIM ELEVATION SHALL BE 1.5-FT ABOVE FINISHED GRADE.
    b. COVERS SHALL BE A FLAT, HDPE, HINGED COVER, LOCKABLE, AND WITH STAINLESS STEEL HARDWARE.
    c. NOTED MANHOLES WILL BE DESIGNATED AS LEAK DETECTION MANHOLES AND THE INLET PIPE FROM THE SECONDARY LEACHATE SELECTION SYSTEM SHALL BE FABRICATED PER THE DETAIL ON THIS SHEET.
    d. FALL PROTECTION GRATING IN LEAK DETECTION MANHOLES SHALL INCLUDE A 2-FT DIA. HOLE IN THE GRATING TO ALLOW FOR A BUCKET TO BE LOWERED INTO THE MANHOLE BELOW THE PIPING FROM THE LANDFILL.

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drawn by: ATR/NJM/STF
approved by: AJS
date: October 2023
project no: 1101
checked by: AJS
scale:

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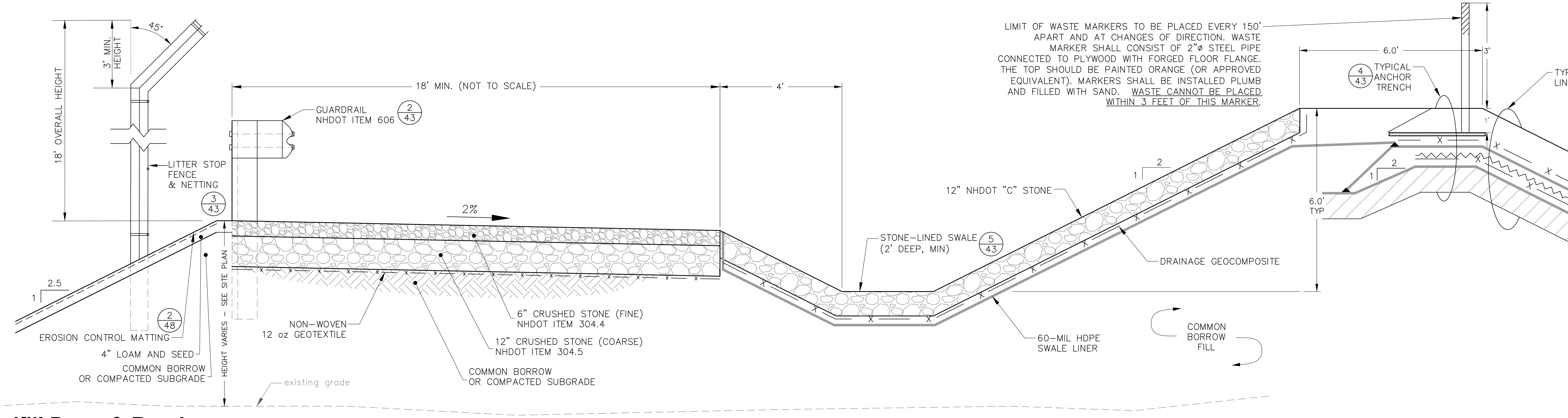
Dalton, New Hampshire
Permitting Plan Set

Leachate Details 4

drawing no. D-5

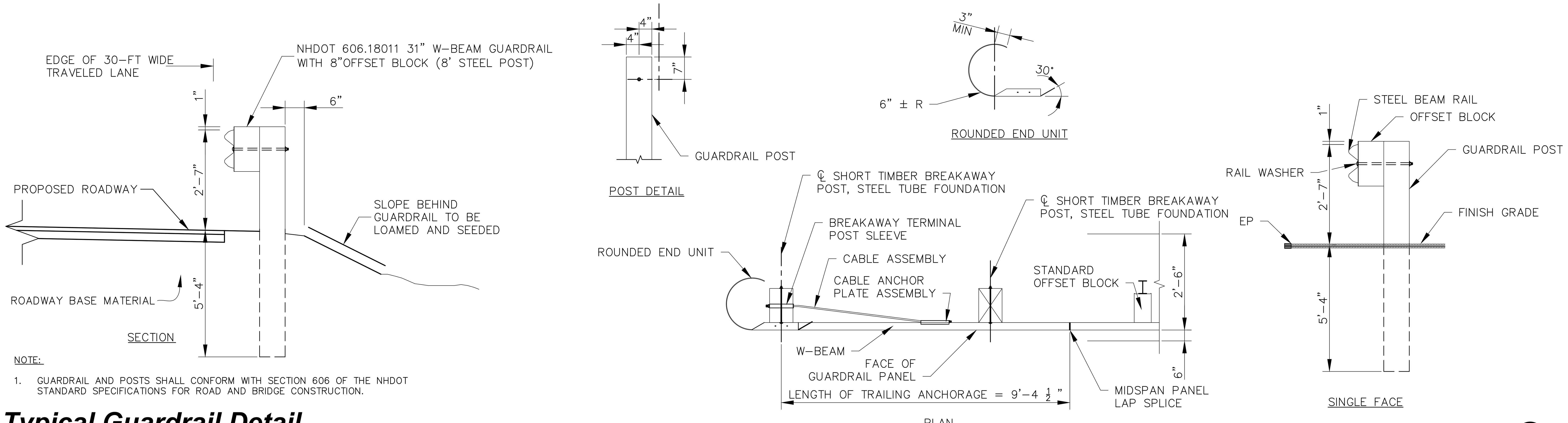
sheet: 41 of 50



Typical Landfill Berm & Roadway

Not to Scale

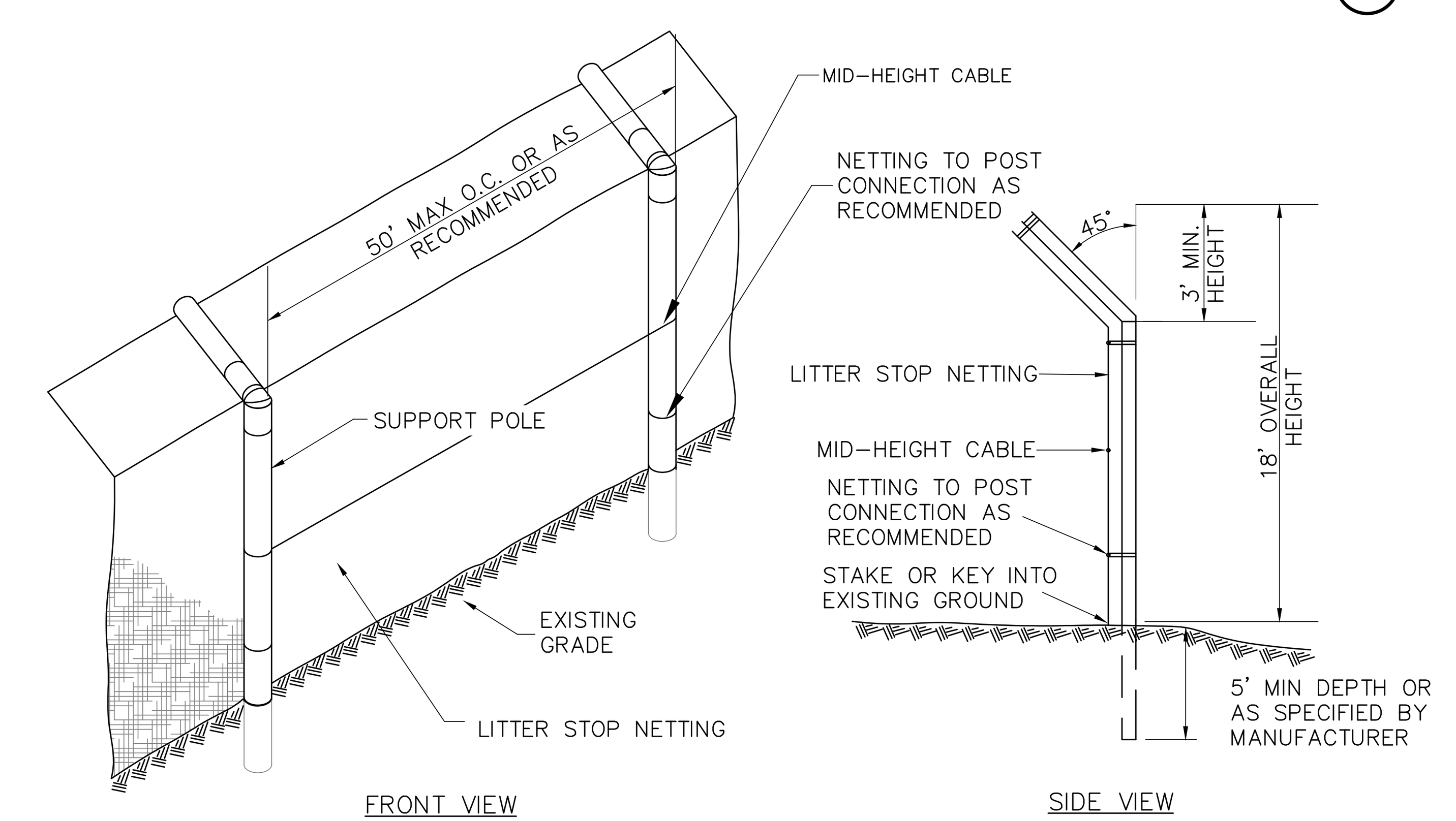
1



Typical Guardrail Detail

Not to Scale

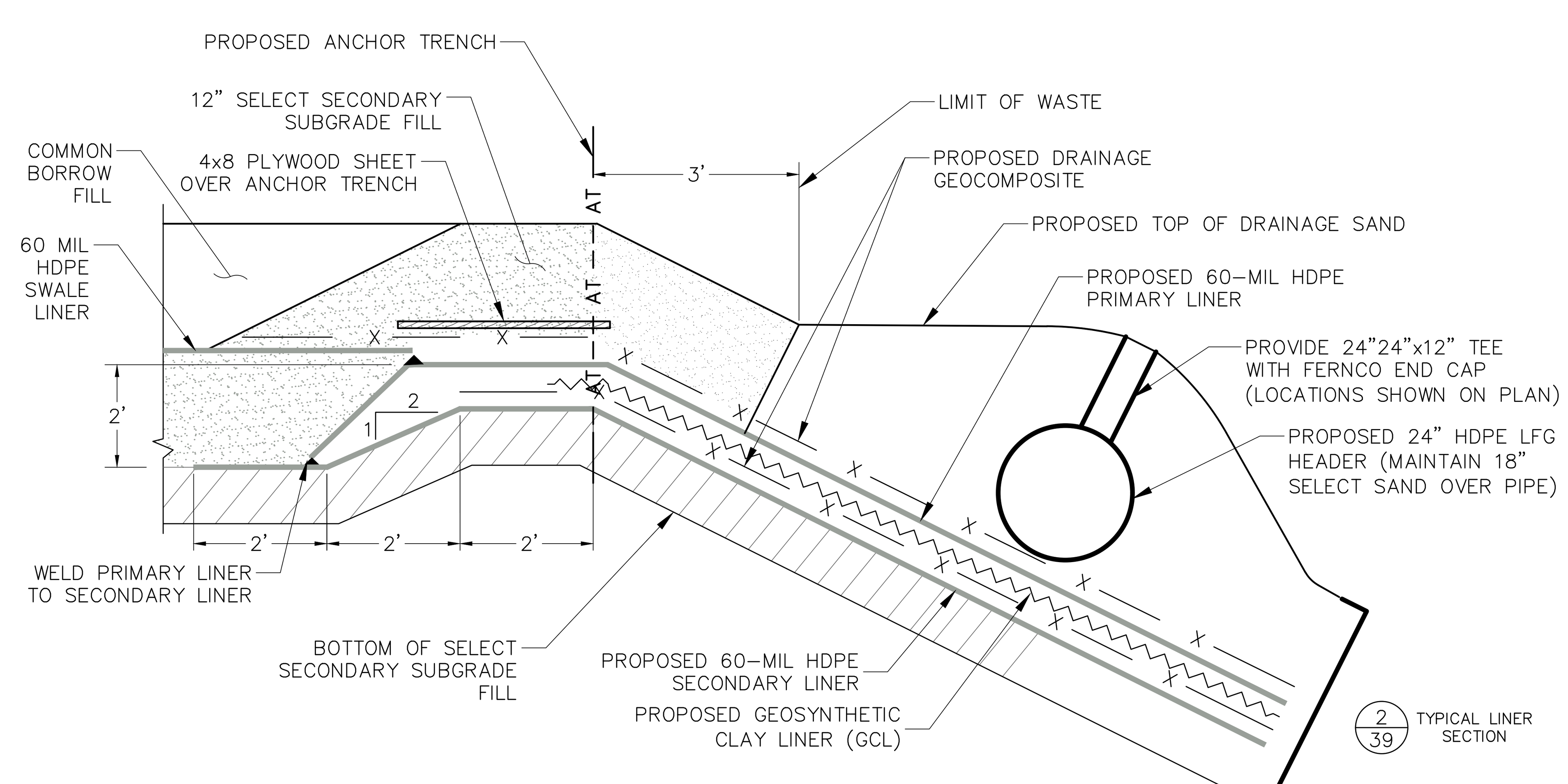
2



Litter Fence

Not to Scale

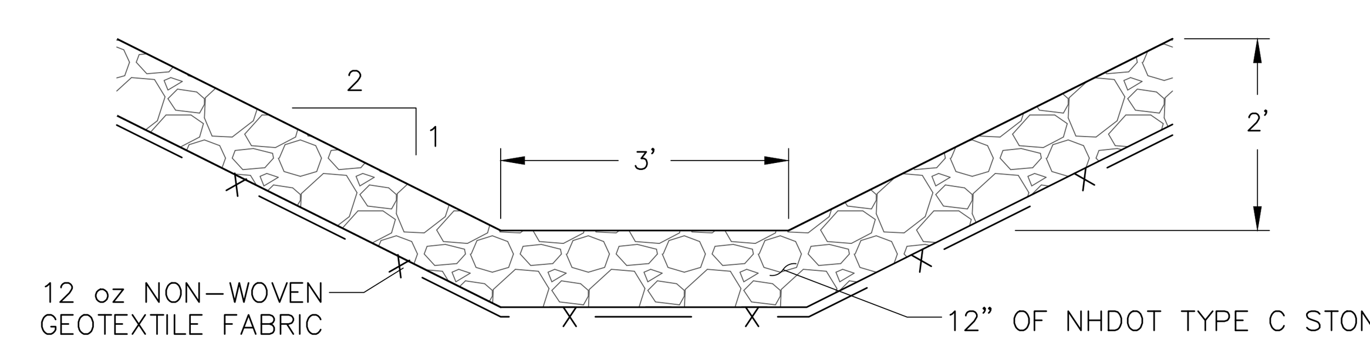
3



Typical Anchor Trench

Not to Scale

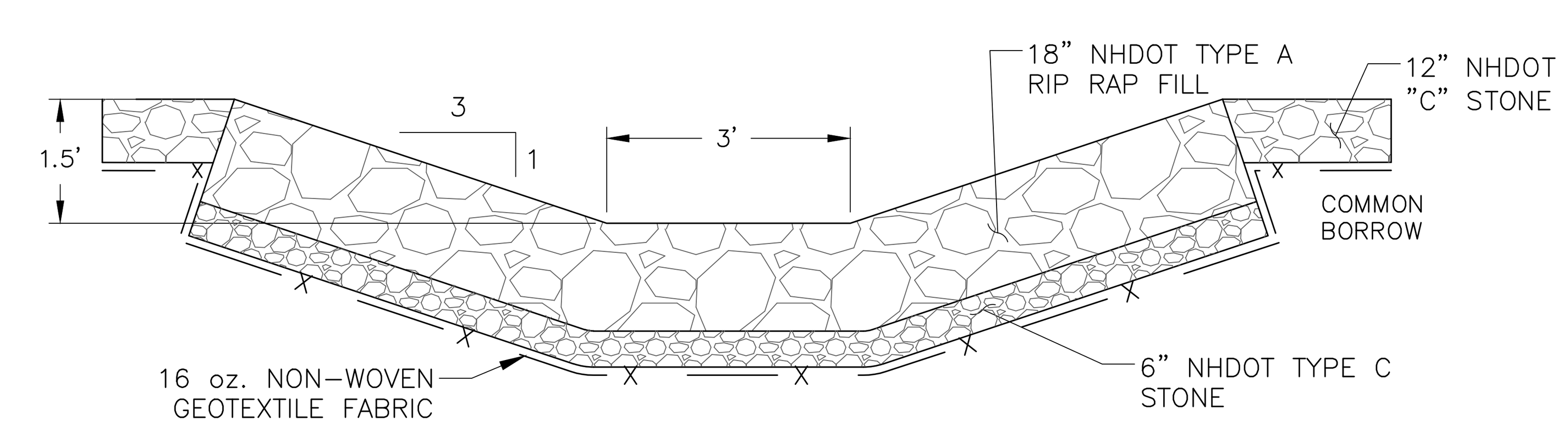
4



Stone-Lined Swale

Not to Scale

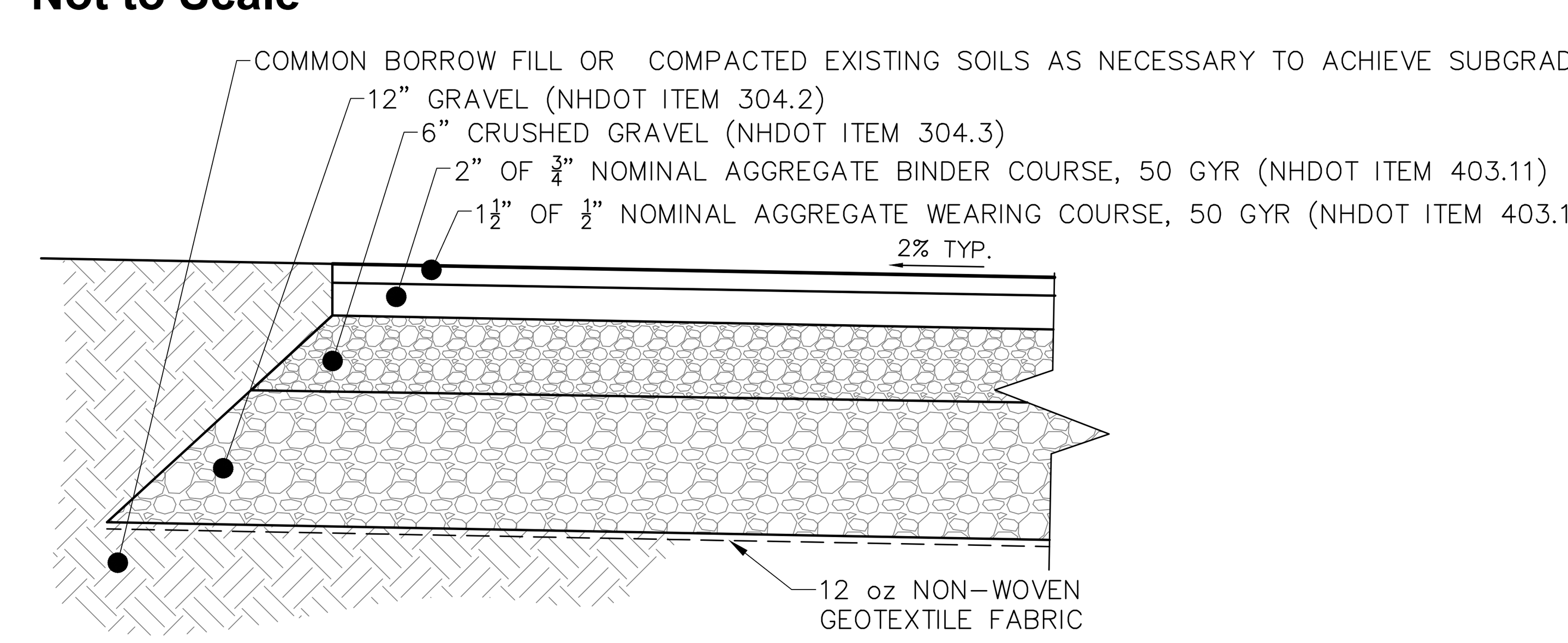
5



Typical Dropchute Section

Not to Scale

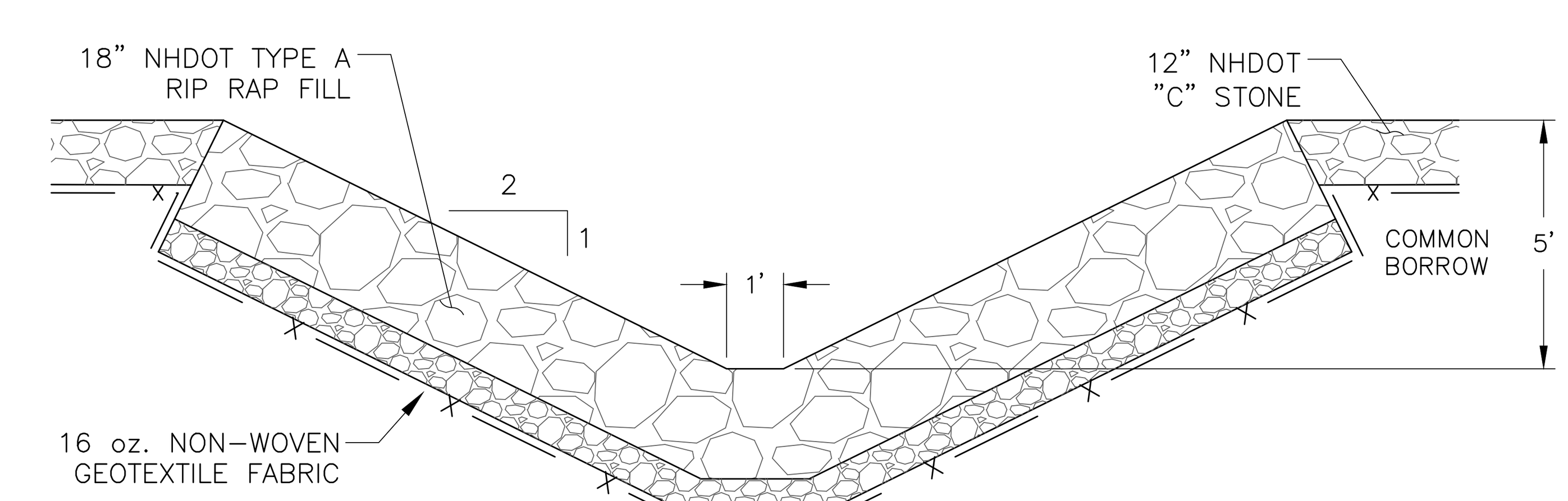
6



General Pavement Section

Not to Scale

7



Plunge Pool Detail

Not to Scale

8

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STATE OF NEW HAMPSHIRE — ADAM J. SANDAHL No. 12644 — LICENSED PROFESSIONAL ENGINEER

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drawn by: ATR/NJM/STF

approved by: AJS

date: October 2023

project no: 1101

checked by: AJS

scale:

Granite State Landfill, LLC
Dalton, New Hampshire

Permitting Plan Set

Site Details

drawing no. D-6

sheet: 42 of 50

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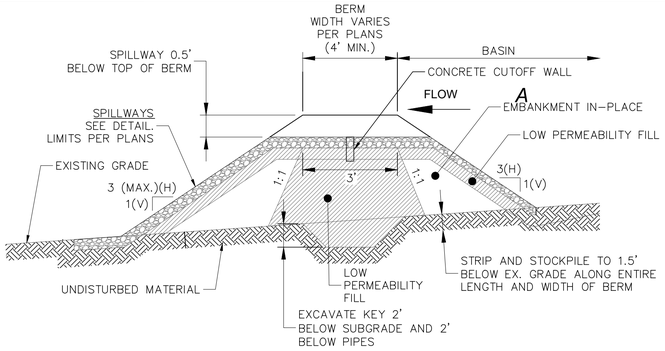


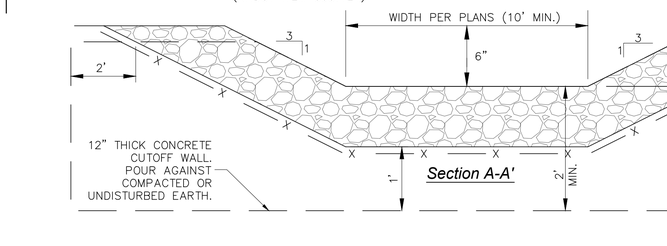
LOCATION	MATERIAL	NHDOT SPEC #	LOOSE LIFT THICKNESS (IN)	COMPACTION REQUIREMENTS (% MDD)[1]
EMBANKMENT	NATIVE SOIL[2]	203.6	12 (MAX)	92%[3]
LOAM COVER	BORROW[2]	646.51	4 (MIN)	80%
IMP. CORE	LOW PERMEABILITY	203.53	6 (MAX)	95%[3]

NOTES:

1. MDD: MAXIMUM DRY DENSITY.
2. ACCEPTABLE TO ENGINEER.
3. COMPACT TO TEST AVERAGE OF 92%, NO TEST LESS THAN 90.
4. BERM MATERIAL, CORE DIMENSIONS, AND PLACEMENT SPECIFICATIONS ARE PRELIMINARY AND NOT FOR CONSTRUCTION. FINAL DESIGN BY OTHERS.

LOW PERMEABILITY FILL	
SIEVE SIZE	% PASSING
3 IN	100
#4	80–100
#40	60–90
#100	40–60
#200	25–45

Stormwater Dam/Berm Detail (1)
Not to Scale

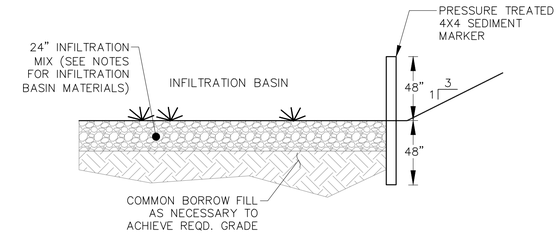


Forebay	Rock Check Dam	Floor of Pond
3	1122.00	1120.00
5	1134.00	1132.00
6	1126.00	1124.00
7	1142.00	1140.00
8	1150.00	1148.00
9	1177.00	1175.00
10	1212.00	1210.00
11	1144.00	1142.00
12	1139.00	1137.00
13	1167.00	1165.00
DD1	998.00	996.00
DD2	1049.00	1047.00
DD3	1077.25	1075.25
DD3A	1096.00	1094.00
DD4	1100.00	1098.00
DD5	-	1147.00
DD6	1147.00	1145.00

Rock Check Dam for Forebay BMP Outlet (2)
Not to Scale

POND	Top of Berm	Spillway	Floor of Pond
1	1138.00	1137.50	1135.00
2	1111.00	1110.50	1106.00
3	1122.00	1121.50	1115.00
4	1142.00	1141.50	1139.00
5	1134.00	1133.50	1129.75
6	1126.00	1125.50	1124.00
7	1142.00	1141.50	1139.00
8	1150.00	1149.50	1145.00
9	1177.00	1176.50	1173.00
10	1211.00	1210.50	1207.00
11	1144.00	1143.50	1141.00
12	1136.00	1135.50	1134.00
13	1167.00	1166.50	1163.00
DD1	999.00	998.50	997.50
DD1A	988.00	987.50	985.00
DD2	1049.00	1048.50	1047.00
DD3	1077.25	1076.75	1074.25
DD3A	1096.00	1095.50	1094.50
DD4	1101.00	1100.50	1100.00
DD5	1139.00	1138.50	1137.00
DD6	1148.00	1147.50	1144.00

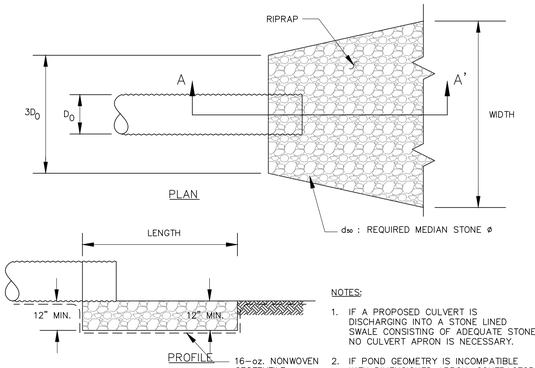
Spillway Detail (4)
Not to Scale



INFILTRATION BASIN NOTES:
INFILTRATION BASINS SHALL CONFORM TO THE REQUIREMENTS ON Env-Wq 1508.06, AS SUMMARIZED BELOW:

1. THE VOLUME OF THE PRACTICE SHALL BE LARGE ENOUGH TO COMPLETELY DRAIN THE WATER QUALITY VOLUME WITHIN 72 HOURS.
2. THE SEASONAL HIGH WATER TABLE (SHWT) AND BEDROCK SHALL BE AT LEAST 3 FEET BELOW THE BOTTOM OF THE PRACTICE.
3. THE PERIMETER OF THE BASIN SHALL BE CURVILINEAR.
4. SIDE SLOPES SHALL BE NO STEEPER THAN 3H:1V OR FLATTER THAN 20H:1V AND THE BASIN FLOOR SHALL BE FLAT (0% SLOPE).
5. THE BASIN FLOOR SHALL BE PREPARED WITH 24-INCHES OF AN APPROVED ENGINEERED MIX THAT WILL:
   A. INFILTRATE STORMWATER AT A RATE OF 5 IN/HOUR (AFTER APPLYING A FACTOR OF SAFETY OF 2)
   B. SUPPORT GRASS TURF THAT CAN SURVIVE INUNDATION FOR UP TO 72 HOURS AND STILL PROVIDE A DENSE, VIGOROUS TURF LAYER
   C. BE PLANTED WITH NATIVE TREES HAVING A CANOPY DIAMETER APPROXIMATELY 6' IN DIAMETER EACH, AND PLANTED DENSELY ENOUGH TO SHADE THE POND FLOOR.
6. WOODY VEGETATION ON AND NEAR EMBANKMENTS SHALL BE REMOVED.
7. IF AN INFILTRATION SYSTEM DOES NOT DRAIN WITHIN 72 HOURS FOLLOWING A RAINFALL EVENT, THEN A QUALIFIED PROFESSIONAL SHOULD ASSESS THE CONDITION OF THE FACILITY.

Stormwater Pond/Infiltration Basin (3)
Not to Scale



NOTES:

1. IF A PROPOSED CULVERT IS DISCHARGING INTO A STONE LINED SWALE CONSISTING OF ADEQUATE STONE, NO CULVERT APRON IS NECESSARY.
2. IF POND GEOMETRY IS INCOMPATIBLE WITH DIMENSIONED APRON, CONTRACTOR SHALL INSTALL A COMPATIBLE STONE LAYOUT WITH AN EQUIVALENT AREA.

Location	Pipe Size (ft)	Length (ft)	Width (ft)
DD1-OUT	1	12	15
DD2-OUT	1	10	13
DD3-OUT	1	7	10
DD3A-OUT	1	10	13
DD4-OUT	1	10	13
DD5-OUT	1	13	16
DD6-OUT	1	7	10
POND-2-OUT	2	14	20
POND-3-OUT	2	16	22
POND-4-OUT	1	9	12
POND-5-OUT	1	14	17
POND-6-OUT	1	8	11
POND-7-OUT	2	22	28
POND-8-OUT	2	19	25
POND-9-OUT	2	22	28
POND-10-OUT	2	17	23

POND-11-OUT	2	27	33
POND-12-OUT	2	14	20
POND-13-OUT	2	14	20
DD-1A-IN	1	17	20
FOREBAY-DD6-IN	1	12	15
POND-2-IN	1.25	39	43
DP-10	1.25	10	14
FOREBAY-3-IN	1.25	21	25
POND-4-IN	1	11	14
FOREBAY-5-IN	1.25	18	21
FOREBAY-6-IN	1	13	16
FOREBAY-7-IN	2	27	33
FOREBAY-8-IN	2	27	33
FOREBAY-9-IN	2	23	29
FOREBAY-11-IN	2	28	34
FOREBAY-12-IN	2	37	43
FOREBAY-13-IN	2	36	42

Stone Outlet Protection (5)
Not to Scale

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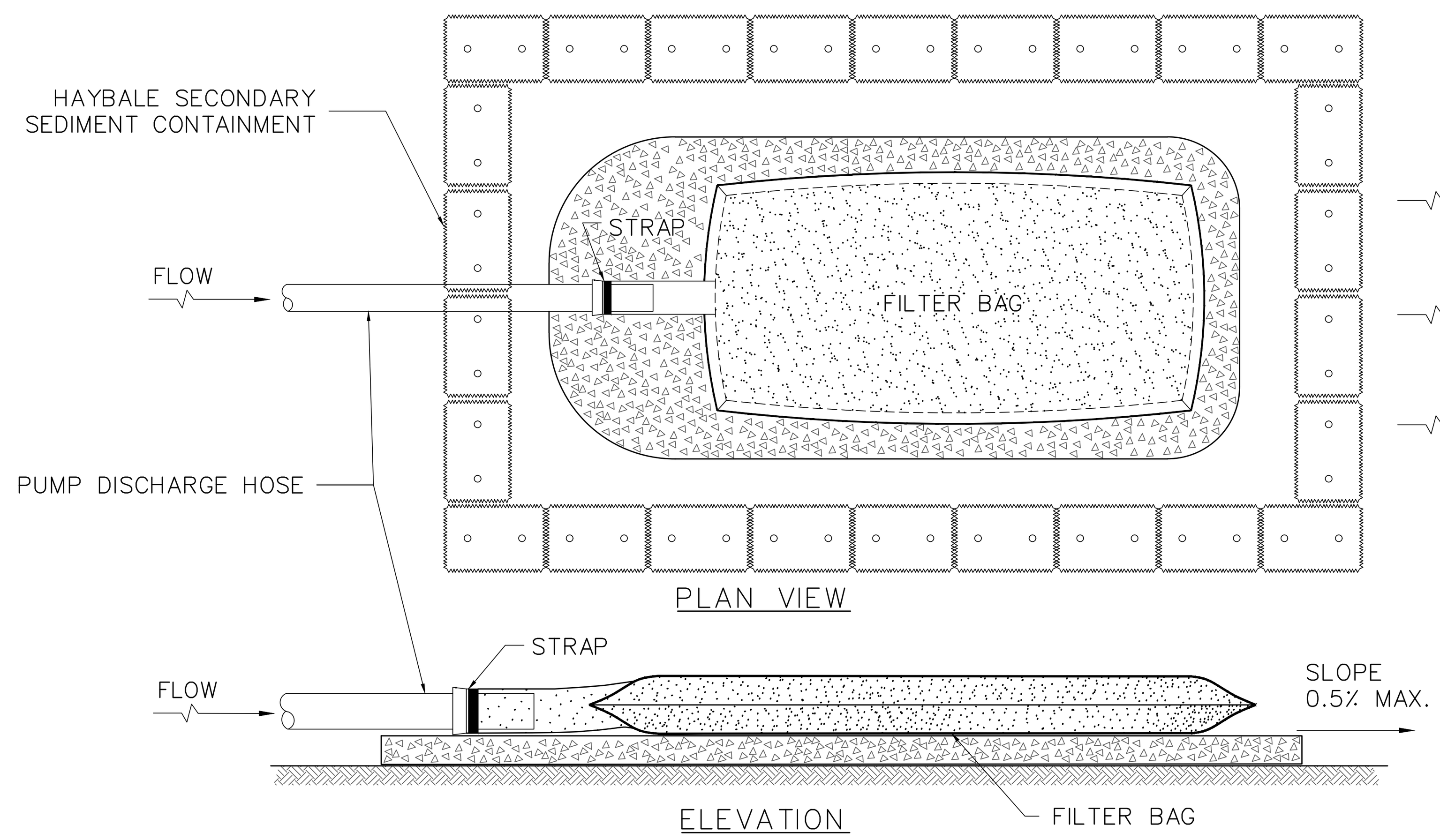
designed by: ATR/NUM/STF/AJS
drawn by: ATR/NUM/STF
approved by: AJS
scale:
date: October 2023
project no: 1101
checked by: AJS

Granite State Landfill, LLC
Dalton, New Hampshire
Permitting Plan Set

Stormwater Details 1

drawing no. *D-7*

sheet: 43 of 50



NOTES:

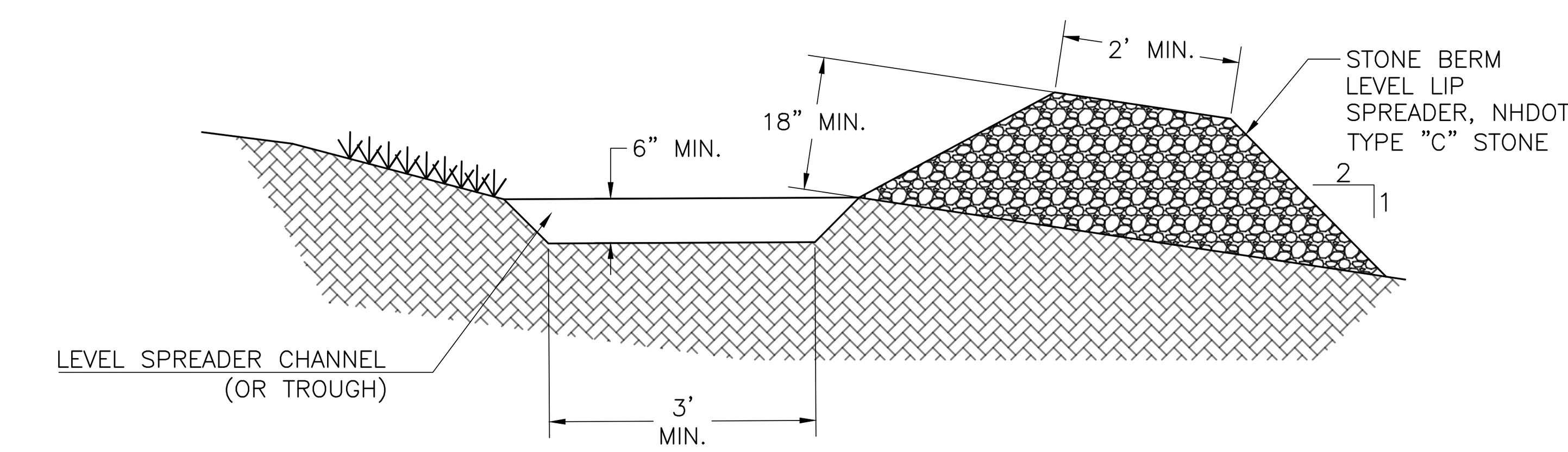
1. TIGHTLY SEAL SLEEVE AROUND THE PUMP DISCHARGE HOSE WITH A STRAP OR SIMILAR DEVICE.
2. PLACE FILTER BAG ON SUITABLE BASE LOCATED ON A LEVEL OR 0.5% MAXIMUM SLOPING SURFACE. DISCHARGE TO A STABILIZED AREA.
3. CONTROL PUMPING RATE TO PREVENT EXCESSIVE PRESSURE WITHIN THE FILTER BAG IN ACCORDANCE WITH THE MANUFACTURER RECOMMENDATIONS. AS THE BAG FILLS WITH SEDIMENT, REDUCE PUMPING RATE.
4. REMOVE AND PROPERLY DISPOSE OF FILTER BAG UPON COMPLETION OF PUMPING OPERATIONS OR AFTER BAG HAS REACHED CAPACITY, WHICHEVER OCCURS FIRST. SPREAD THE DEWATERED SEDIMENT FROM THE BAG IN AN APPROVED UPLAND AREA AND STABILIZE WITH SEED AND MULCH BY THE END OF THE WORK DAY. RESTORE THE SURFACE AREA BENEATH THE BAG TO ORIGINAL CONDITION UPON REMOVAL OF THE DEVICE.
5. USE NONWOVEN GEOTEXTILE WITH DOUBLE STITCHED SEAMS USING HIGH STRENGTH THREAD. SIZE SLEEVE TO ACCOMMODATE A MAXIMUM 4 INCH DIAMETER PUMP DISCHARGE HOSE. THE BAG MUST BE MANUFACTURED FROM A NONWOVEN GEOTEXTILE THAT MEETS OR EXCEEDS MINIMUM AVERAGE ROLL VALUES (MARV) FOR THE FOLLOWING:

GRAB TENSILE	250 LB	ASTM D-4632
PUNCTURE	150 LB	ASTM D-4833
FLOW RATE	70 GAL/MIN/FT²	ASTM D-4491
PERMITTIVITY (SEC^{-1})	1.2 SEC^{-1}	ASTM D-4491
UV RESISTANCE	70% STRENGTH @ 500 HOURS	ASTM D-4355
APPARENT OPENING SIZE (AOS)	0.15-0.18 MM	ASTM D-4751
SEAM STRENGTH	90%	ASTM D-4632

6. REPLACE FILTER BAG IF BAG CLOGS OR HAS RIPS, TEARS, OR PUNCTURES. DURING OPERATION KEEP CONNECTION BETWEEN PUMP HOSE AND FILTER BAG WATER TIGHT. REPLACE BEDDING IF IT BECOMES DISPLACED.

Dewatering Filter Bag Detail

Not to Scale (1)

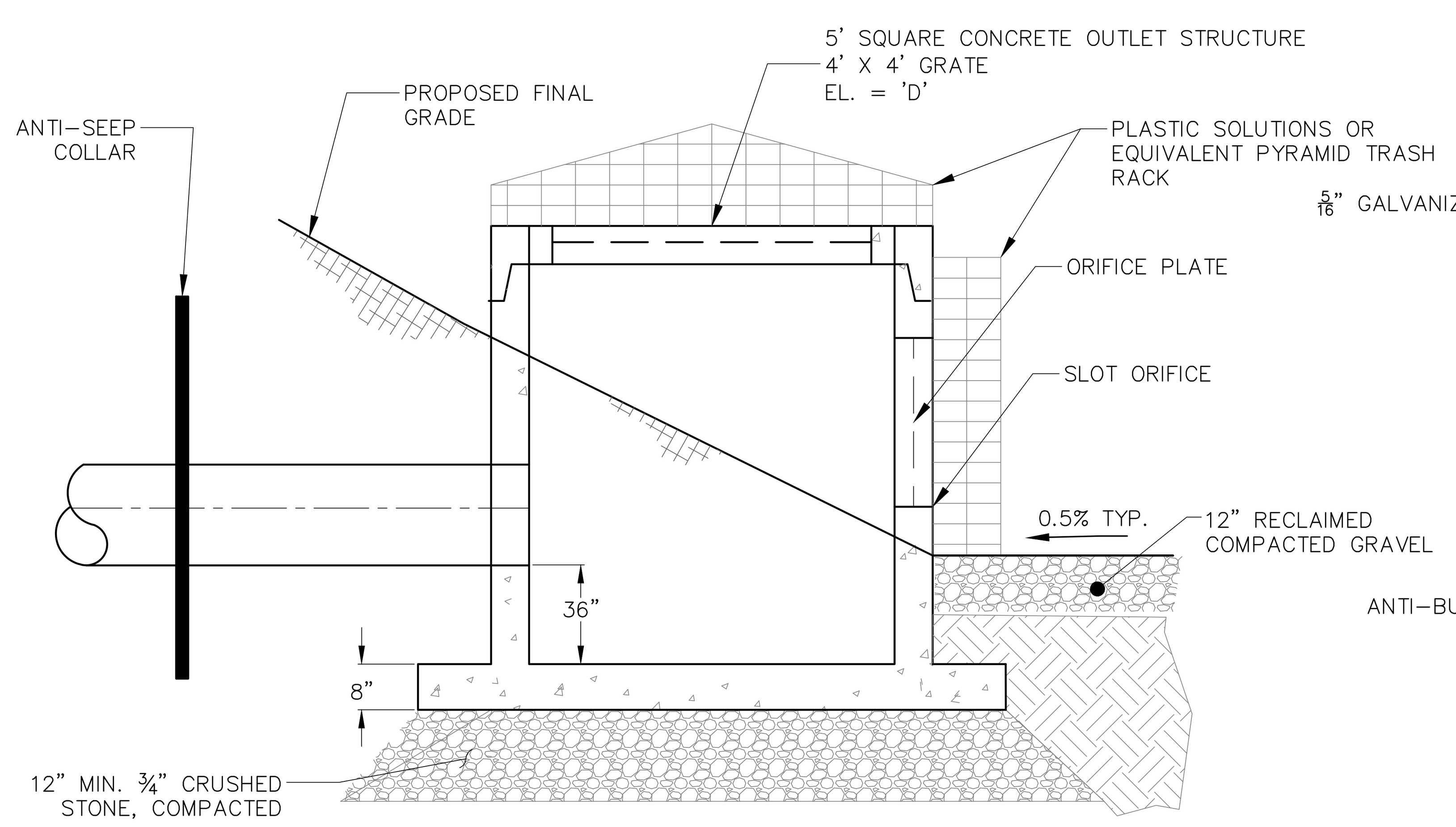


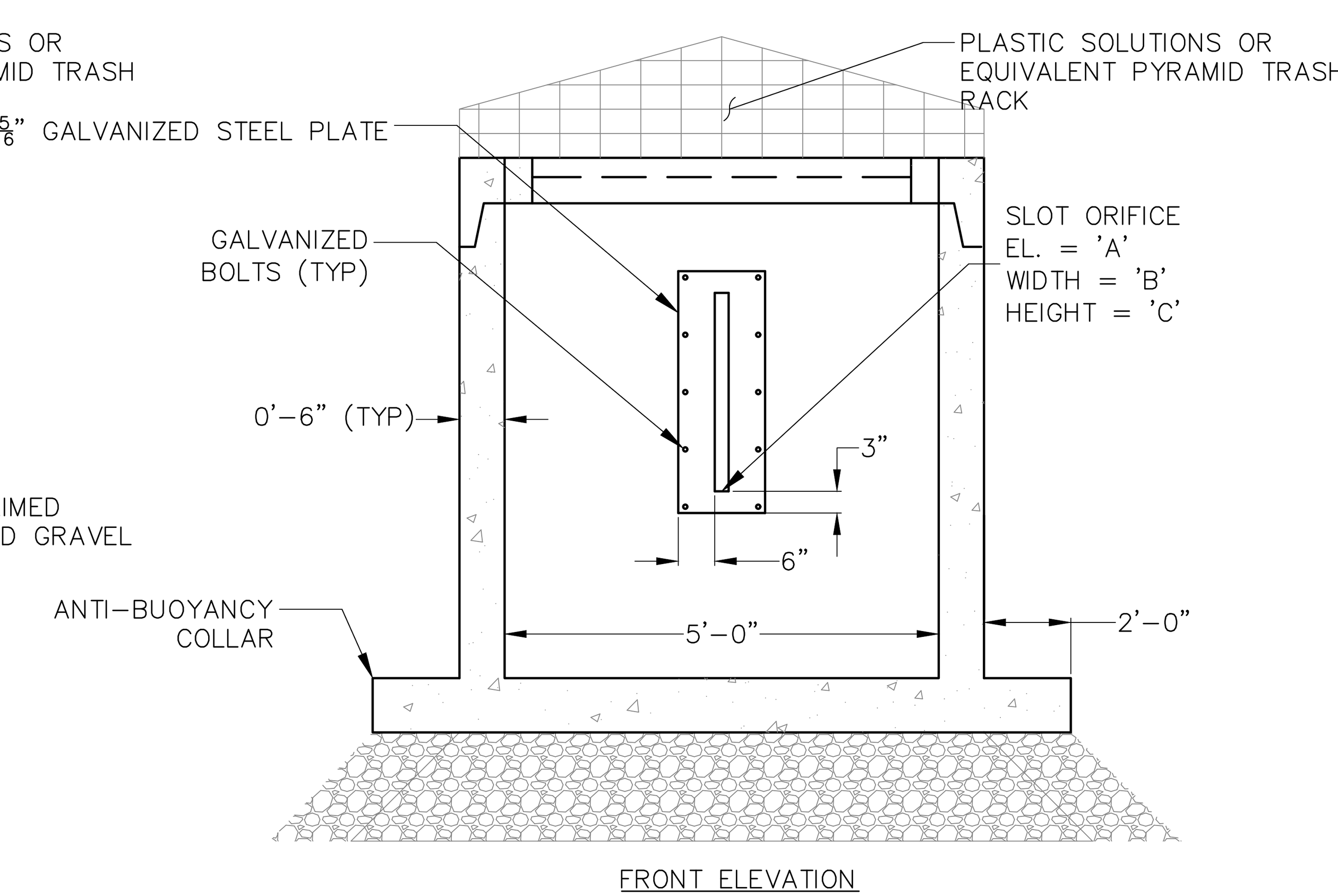
NOTES:

1. THIS DETAIL IS TAKEN FROM THE NEW HAMPSHIRE STORMWATER MANUAL, CHAPTER 4-6 FOR STONE BERM LEVEL SPREADERS (DESIGN REFERENCE MaineDEP (2006).
2. LEVEL SPREADER MUST DISCHARGE TO A VEGETATED RECEIVING AREA WITH CAPACITY TO CONVEY THE DISCHARGE WITHOUT EROSION. THE RECEIVING AREA MUST BE STABLE PRIOR TO CONSTRUCTION OF LEVEL SPREADER.

Stone Berm Level Spreader

Not to Scale (2)





POND	DD1	DD1A	DD2	DD3	DD3A	DD4	DD5	DD5 FOREBAY	DD6	2	3	4	5	6	7	8	9	10	11	12	13
A	-	985.00	-	-	-	-	-	1147.00	-	-	-	-	-	-	-	-	-	-	-	-	-
B (IN)	-	2	-	-	-	-	-	3.5Ø	-	-	-	-	-	-	-	-	-	-	-	-	-
C (IN)	-	30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
D	998.00	987.90	1048.15	1076.65	1019.15	1100.40	1138.10	1149.00	1147.40	1109.40	1120.35	1141.40	1132.25	1124.40	1140.10	1148.20	1175.10	1209.20	1141.90	1135.40	1166.40
GRATE DIMENSIONS (FT)	4 X 4	4 X 4	4 X 4	4 X 4	4 X 4	4 X 4	4 X 4	4 X 4	4 X 4	4 X 4	4 X 4	4 X 4	4 X 4	2 X 2	4 X 4	4 X 4	4 X 4	4 X 4	4 X 4	4 X 4	4 X 4

NOTES:

1. ALL SECTIONS SHALL BE 4,000 PSI CONCRETE (TYPE II CEMENT).
2. PRECAST BOX STRUCTURE SHALL CONFORM TO ASTM C913 SPECIFICATIONS.
3. SEE DETAIL TITLE PIPE CONNECTION TO PRECAST MANHOLE STRUCTURES.
4. REINFORCEMENT:
   4.1. DEFORMED BARS SHALL CONFORM TO ASTM A-615 GRADE 60.
   4.2. WELDED WIRE FABRIC SHALL CONFORM TO ASTM A185-GRADE 70
5. REIN. STEEL SHALL HAVE 1' MINIMUM COVER.
6. THE STRUCTURE SHALL BE DESIGNED FOR HS 20-44 LOADING AND TO PREVENT FLOTATION IF FULLY SUBMERGED.
7. CRUSHED STONE BEDDING SHALL CONFORM TO NHDOT 304.4.
8. PIPE ELEVATIONS SHOWN SHALL BE FIELD VERIFIED PRIOR TO PRECASTING.
9. OUTSIDE EDGES OF PIPES SHALL PROJECT NO MORE THAN 3" BEYOND INSIDE WALL OF STRUCTURE.
10. OUTLET PIPE SHALL BE FLUSH WITH INNER WALL.
11. BASE SHALL BE A SINGLE CAST UP TO A MINIMUM OF 8 INCHES ABOVE OUTFALL PIPE OR TOP OF BMP SURFACE WHICH EVER IS HIGHER

Typical Outlet Structure Detail

Not to Scale (3)

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STATE OF NEW HAMPSHIRE - ADAM J. SANDAHL - No. 12644 - LICENSED PROFESSIONAL ENGINEER

designed by: ATR/NJM/STF/AJS
drawn by: ATR/NJM/STF
approved by: AJS
date: October 2023
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scale:

Granite State Landfill, LLC
Dalton, New Hampshire
Permitting Plan Set

Stormwater Details 2

drawing no. D-8

sheet: 44 of 50

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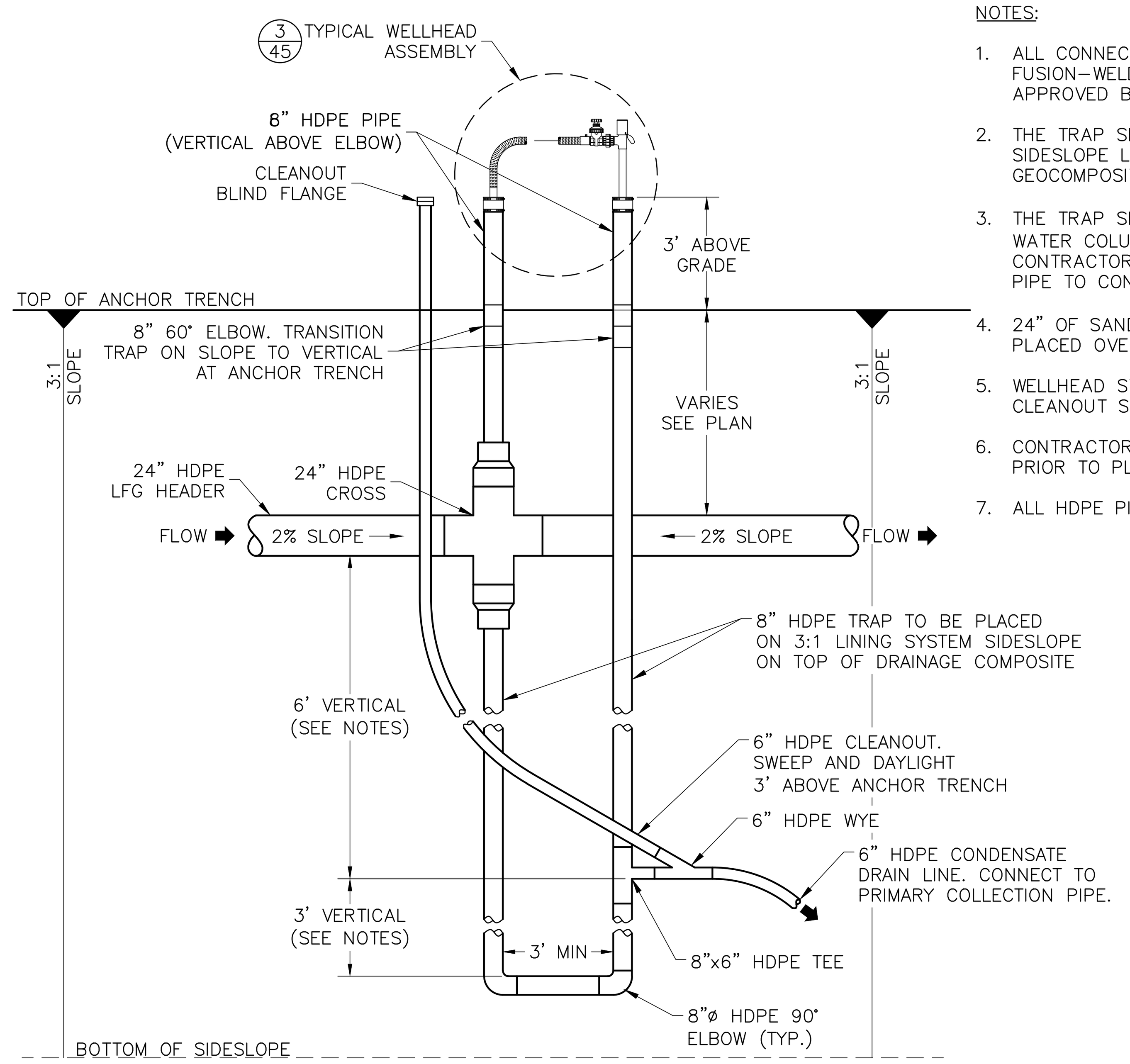
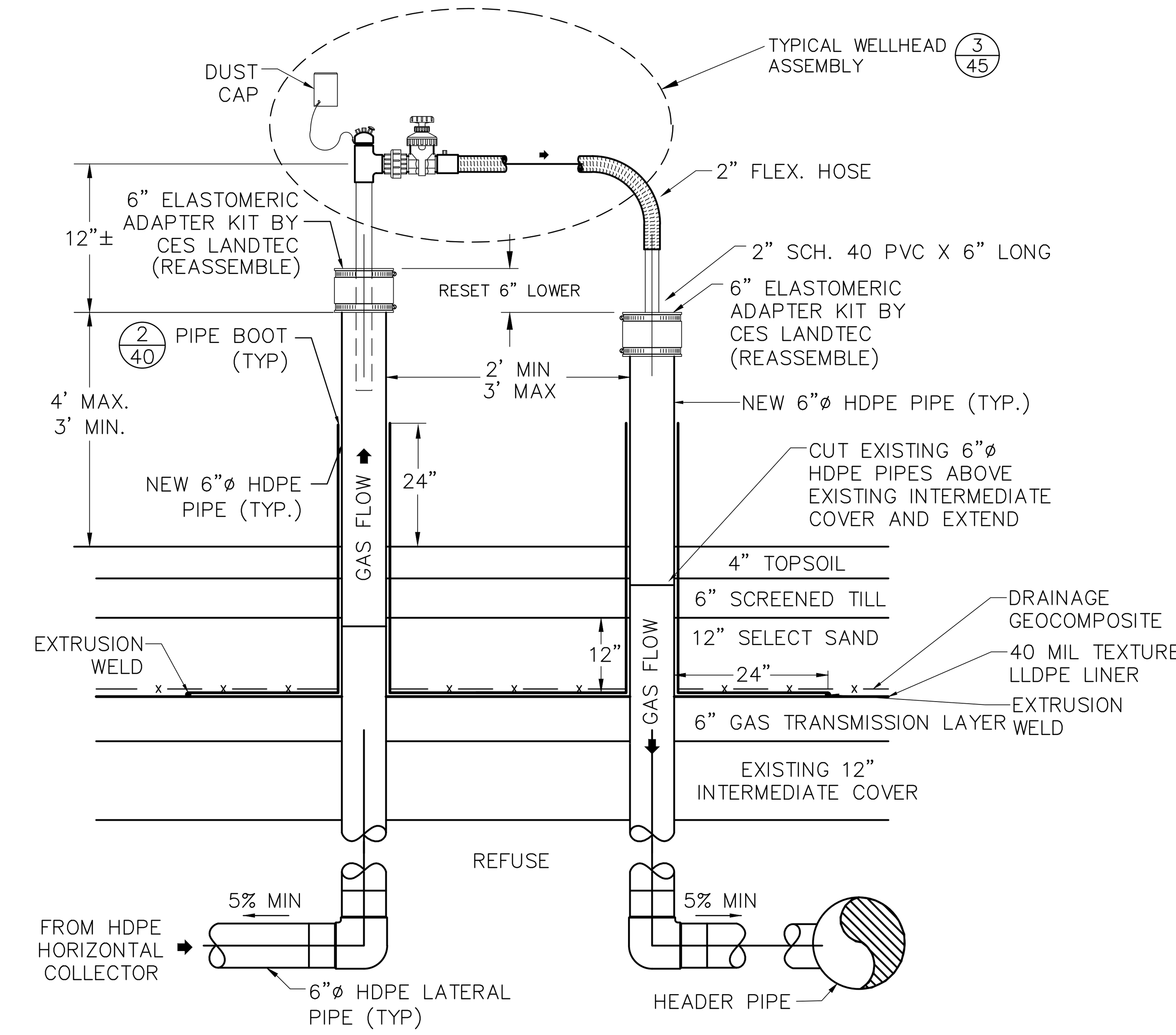


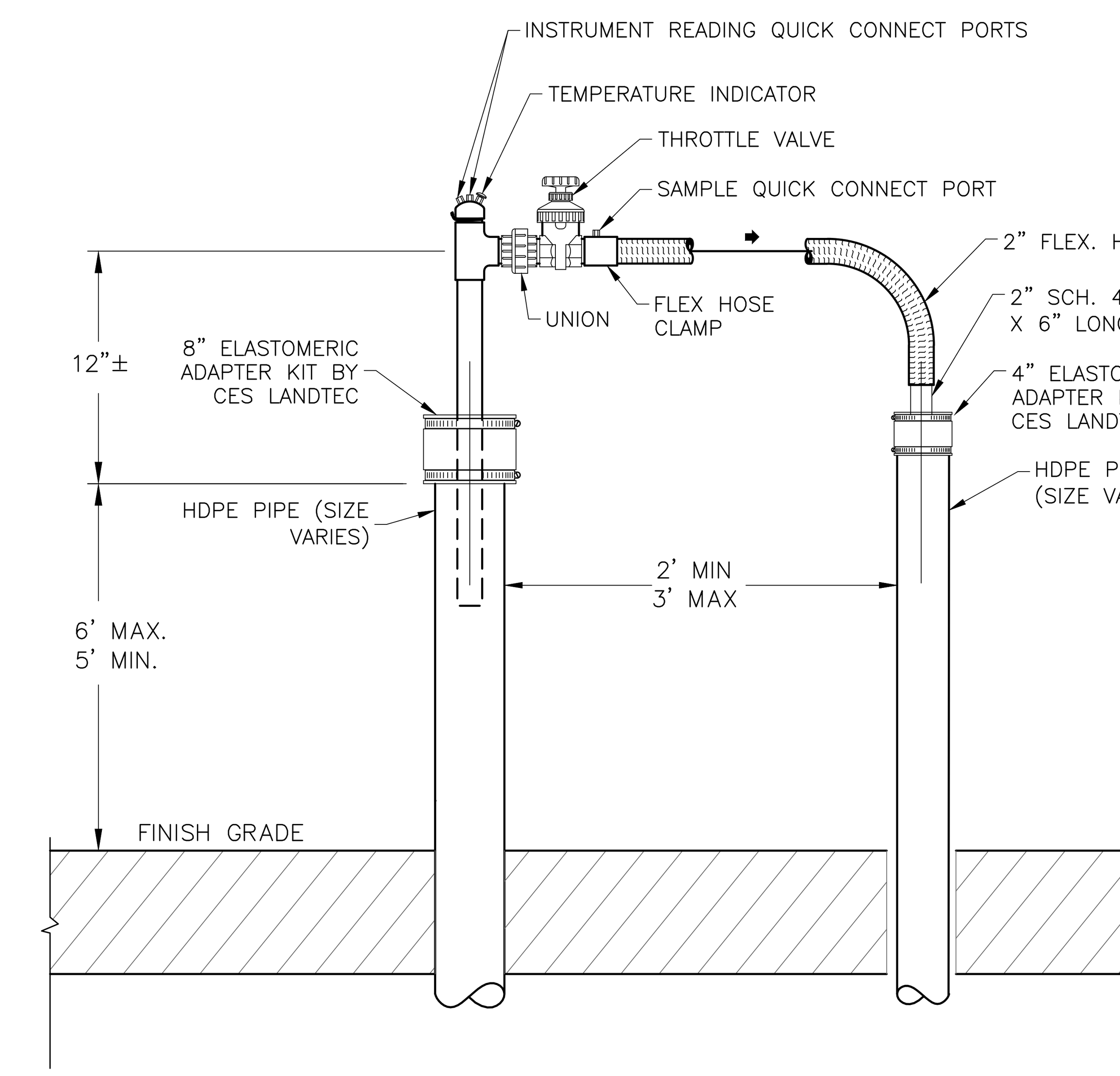
NOTES:

1. ALL CONNECTIONS ARE TO BE BUTT FUSION-WELDED UNLESS ALTERNATIVE APPROVED BY THE ENGINEER.
2. THE TRAP SHALL BE PLACED ON THE 3:1 SIDESLOPE LINING SYSTEM ON TOP OF THE GEOCOMPOSITE.
3. THE TRAP SHALL RESIST VERTICAL 100" OF WATER COLUMN (SYSTEM VACUUM). CONTRACTOR SHALL CONFIRM LENGTHS OF PIPE TO CONSTRUCT TRAP ON 3:1 SLOPE.
4. 24" OF SAND OR CRUSHED STONE SHALL BE PLACED OVER THE TRAP PIPING.
5. WELLHEAD STICKUP SHALL BE VERTICAL. CLEANOUT SHALL REMAIN 3:1 SLOPE.
6. CONTRACTOR SHALL FILL TRAP WITH WATER PRIOR TO PLACING TRAP IN SERVICE.
7. ALL HDPE PIPING SHALL BE SDR 17.

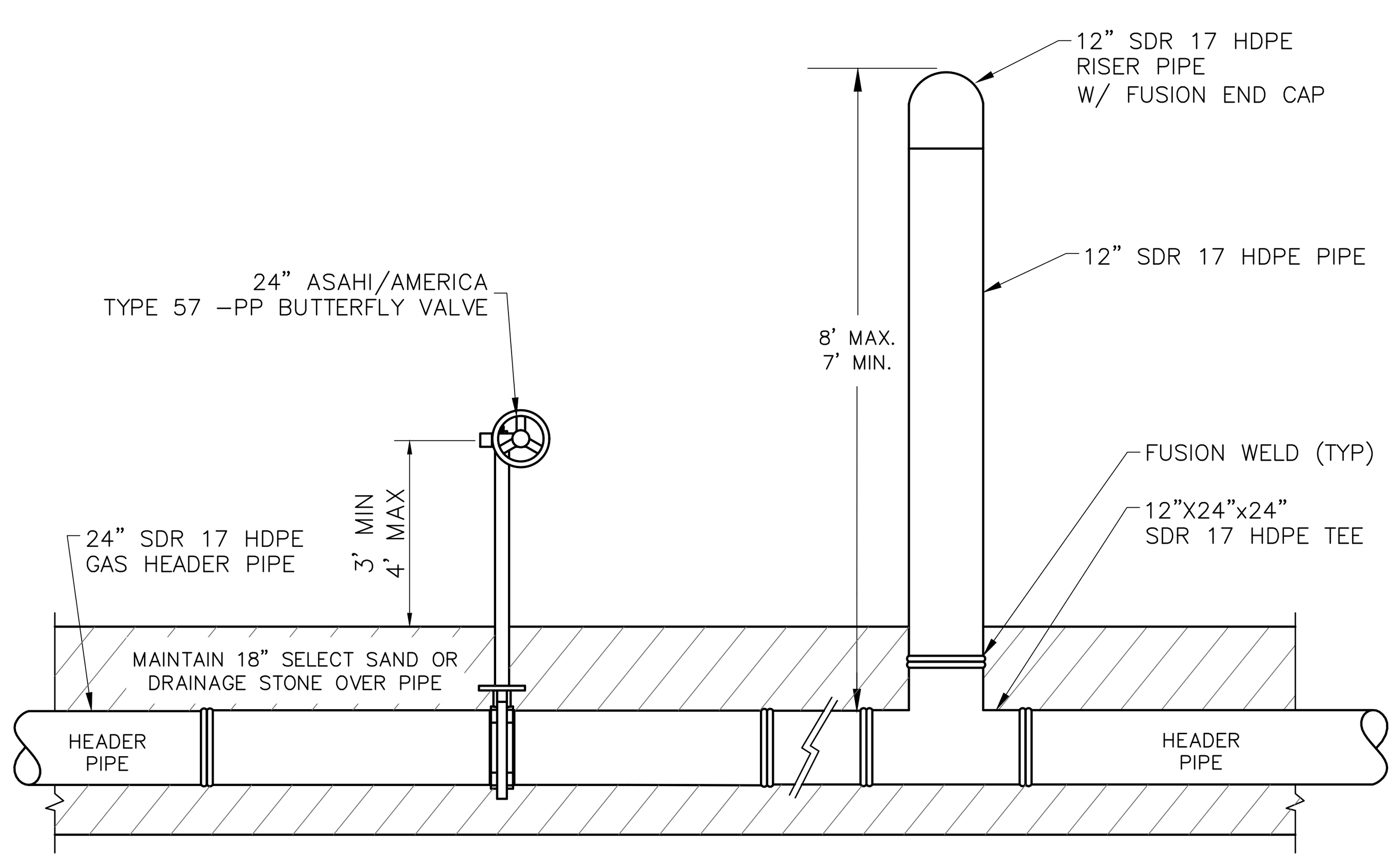
Condensate Trap (1)
Not to Scale



Horizontal Gas Collection Wellhead (2)
Not to Scale



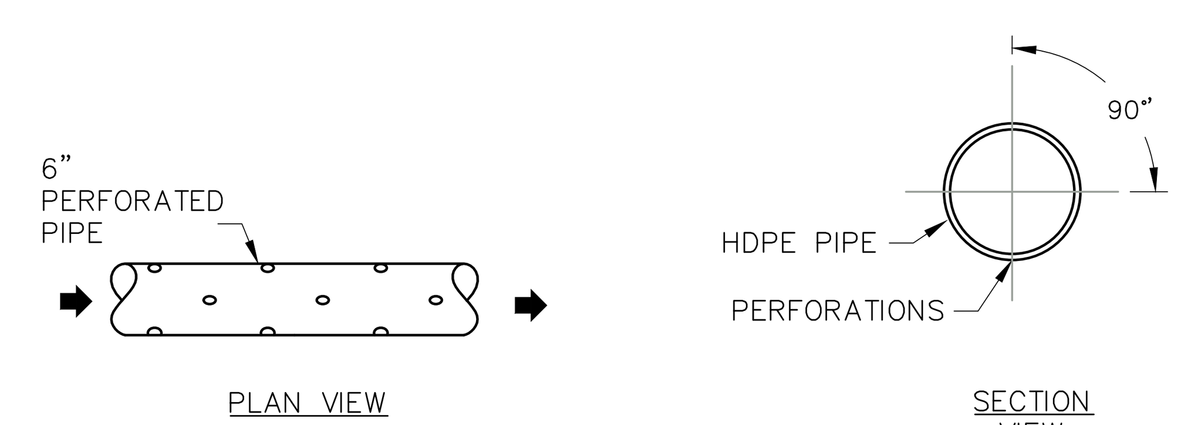
Typical Wellhead Assembly (3)
Not to Scale



NOTES:

1. VALVES SHALL BE ASAHI/AMERICA TYPE-57 PP BUTTERFLY VALVES WITH EPDM SEAT, PP DISC, GEAR DRIVEN WITH EXTENSION OR APPROVED EQUIVALENT.
2. CONTRACTOR TO PROVIDE ALL FITTINGS/ADAPTORS FOR DETAILED COMPONENTS SHOWN.

Flow Control Valve and Vertical Gas Riser (4)
Not to Scale



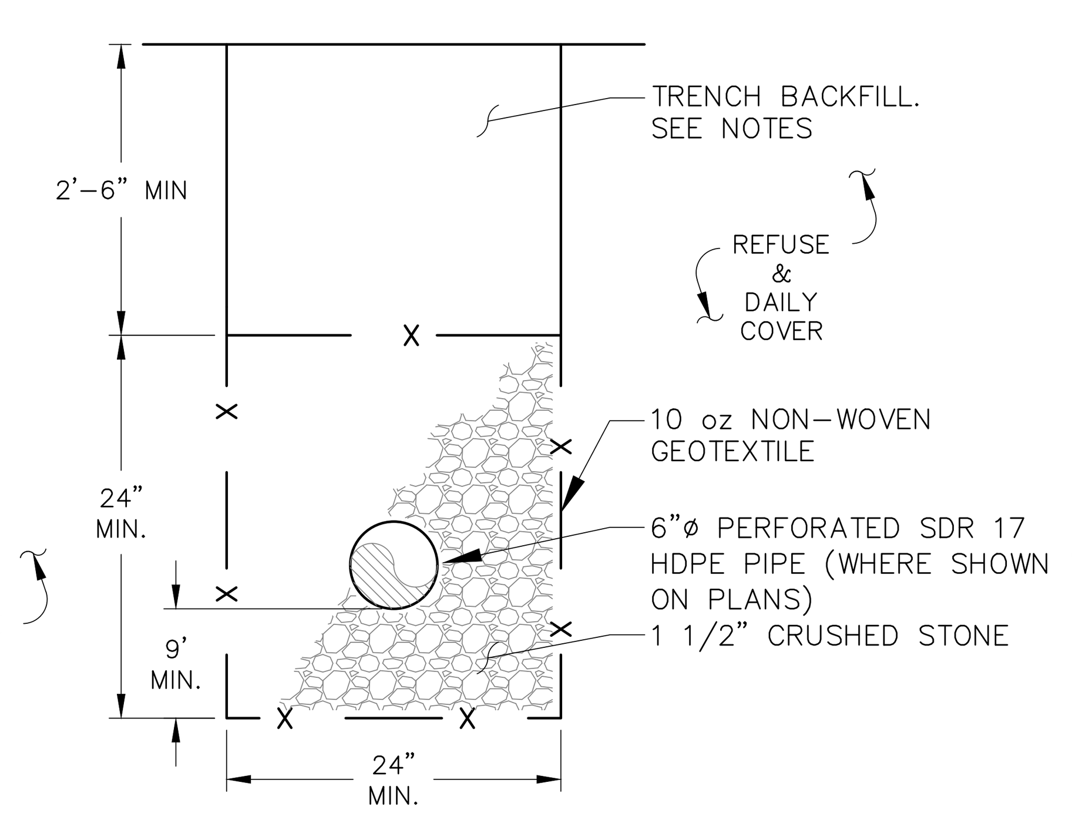
NOTES:

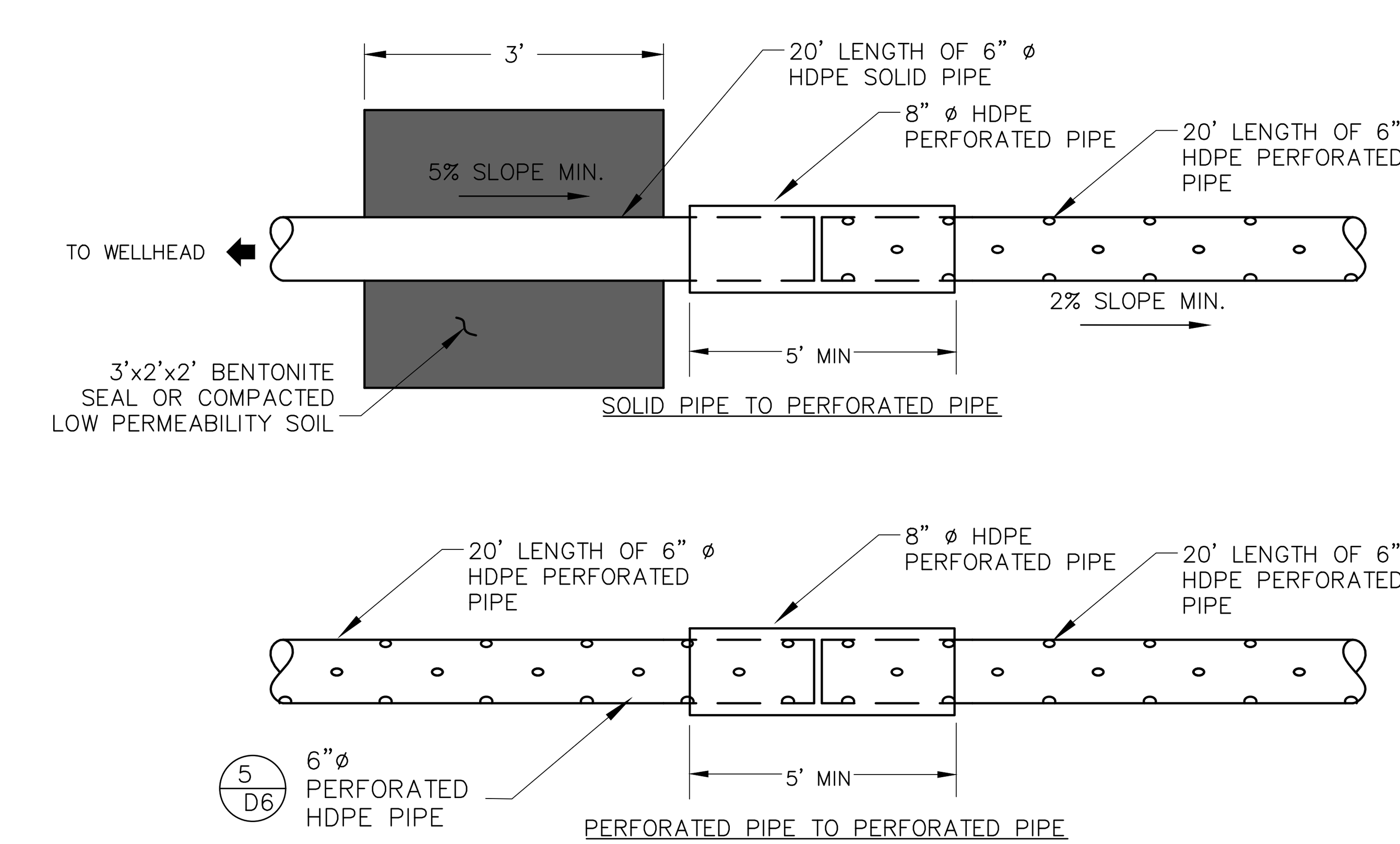
1. HOLES SHALL BE 1/2"ø DRILLED HOLES SPACED 12" APART IN 4 ROWS ALONG THE LENGTH OF THE PIPE. ROWS SHALL BE LOCATED 90°APART OFFSET 6" ALONG THE AXIS OF THE PIPE.

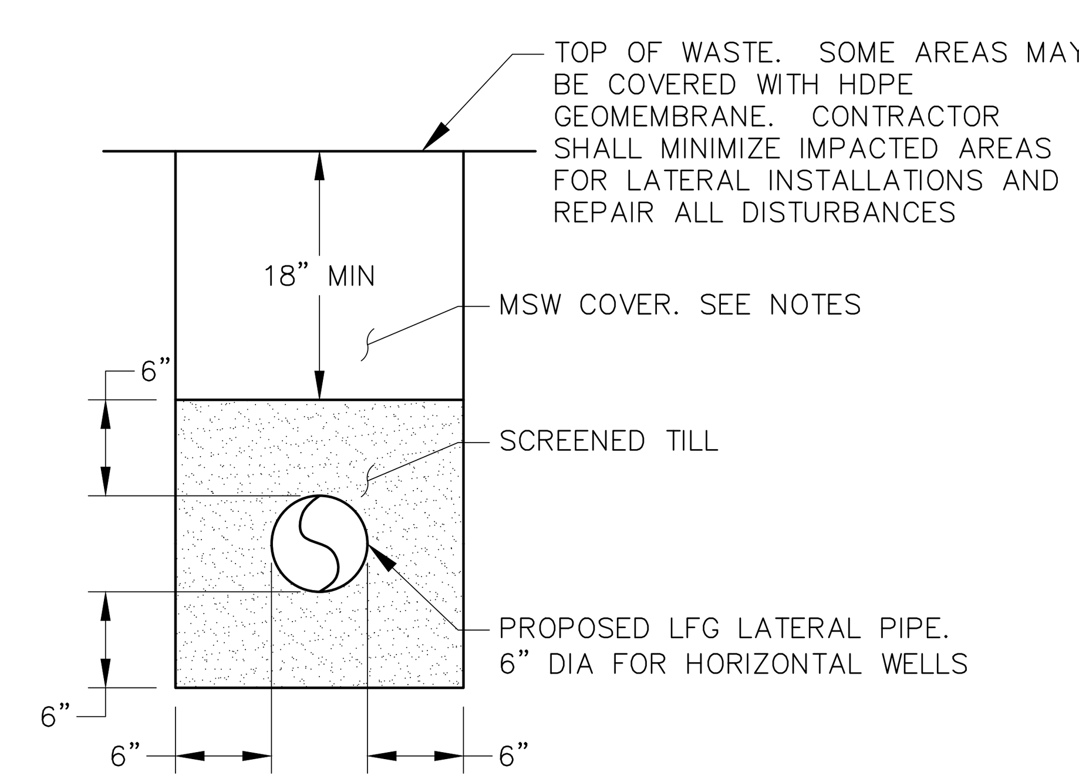
Typical Perforated Gas Pipe (5)
Not to Scale

NOTES:

1. 2% MIN SLOPE TO TRENCH DRAIN PITS.
2. ACTUAL TRENCH DEPTH WILL VARY BASED ON TOPOGRAPHY AT SURFACE.
   - MINIMUM DEPTH = 4'-6"
   - MAXIMUM DEPTH = 9'-0"
3. BACKFILL TRENCH ABOVE PIPE BEDDING WITH WASTE EXCAVATED; MAXIMUM PARTICLE SIZE <3". USE 12" OF AUTOFLUFF COVER AT SURFACE OVER BACKFILL.

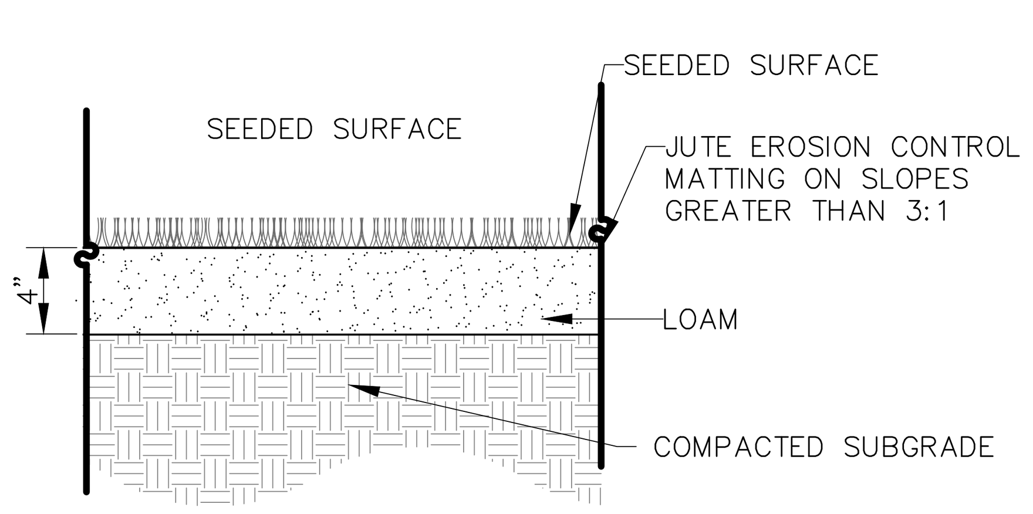




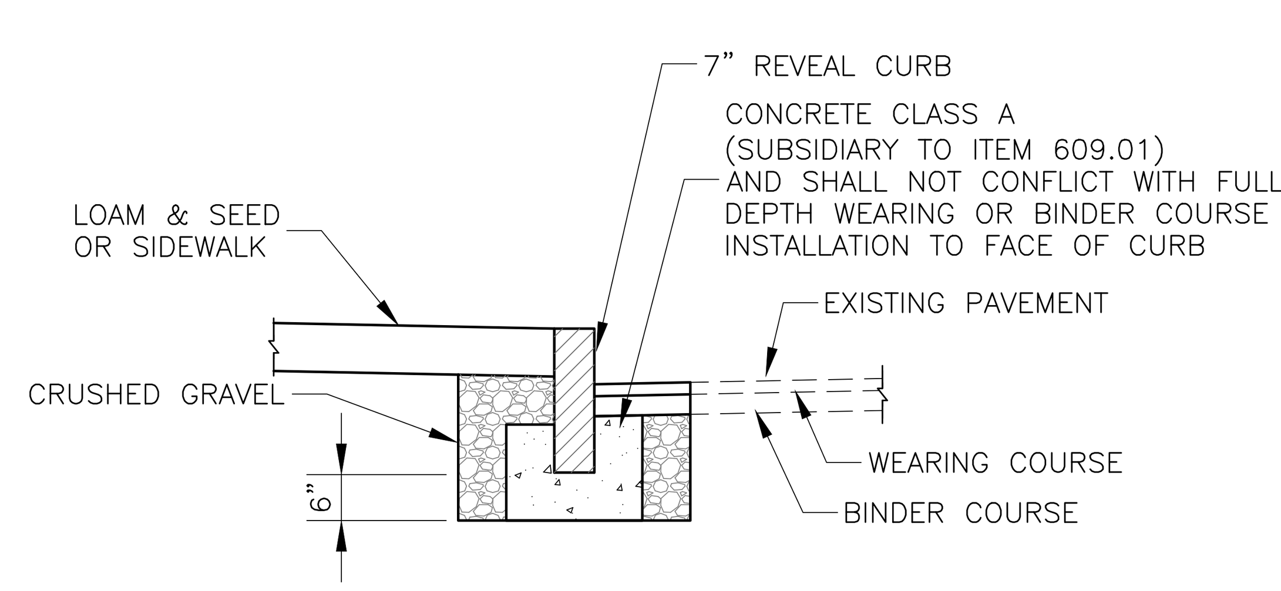


NOTES:

1. 24" MIN COVER FOR LATERALS
2. 5% MIN SLOPE
3. BACKFILL TRENCH ABOVE PIPE BEDDING WITH WASTE EXCAVATED; MAXIMUM PARTICLE SIZE <3". USE 12" OF AUTOFLUFF COVER AT SURFACE OVER BACKFILL.



Loam and Seed (6)
Not to Scale



Concrete Curb Backing Detail (7)
Not to Scale

Gas Lateral (8)
Not to Scale

Horizontal Gas Collection Well (9)
Not to Scale

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STATE OF NEW HAMPSHIRE — ADAM J. SANDAHL No. 12544 — LICENSED PROFESSIONAL ENGINEER

designed by: ATR/NJM/STF/AJS
drawn by: ATR/NJM/STF
approved by: AJS
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scale:

Granite State Landfill, LLC
Dalton, New Hampshire
Permitting Plan Set

Landfill Gas Details 1

drawing no. D-9
sheet: 45 of 50

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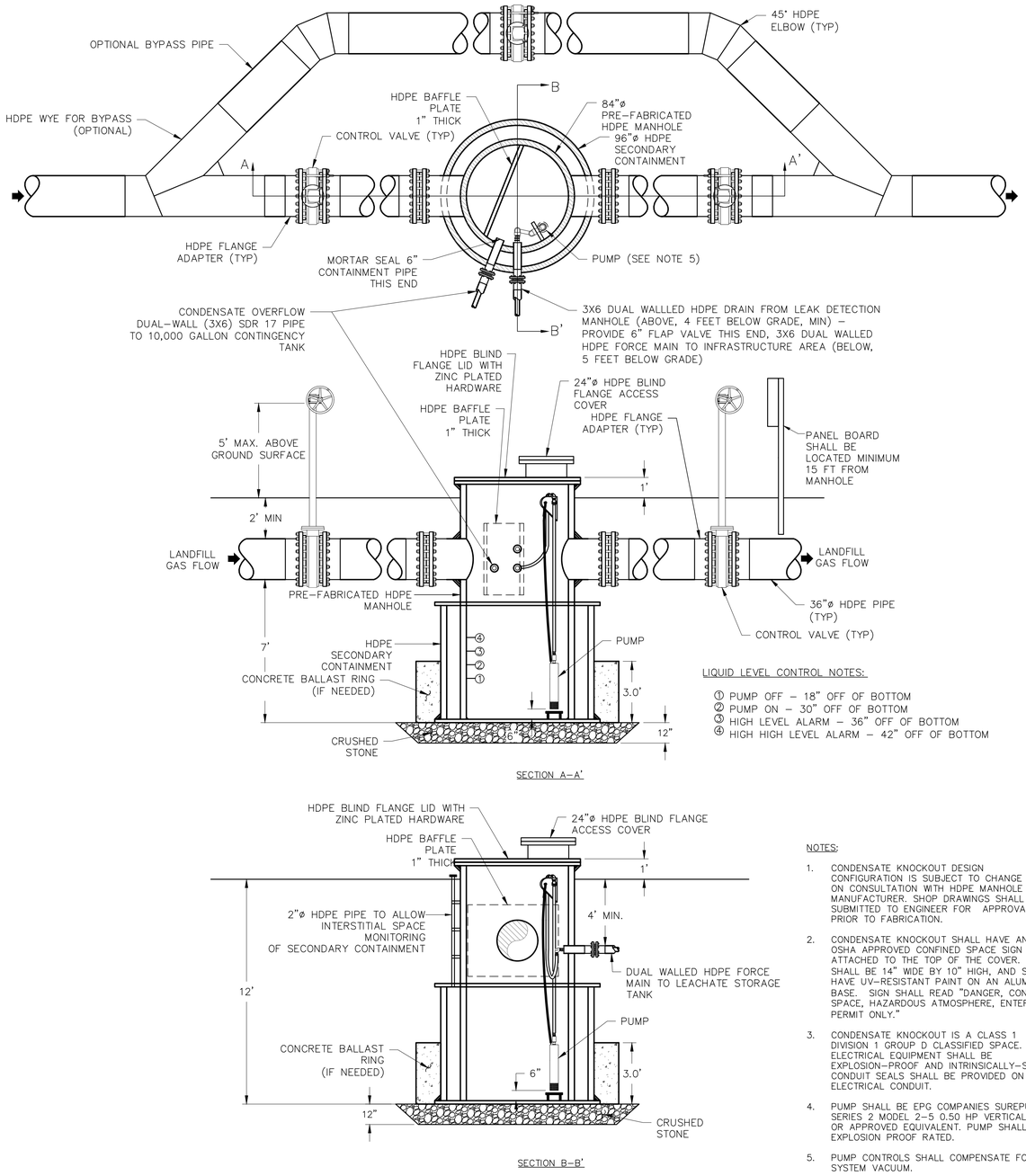


LIQUID LEVEL CONTROL NOTES:

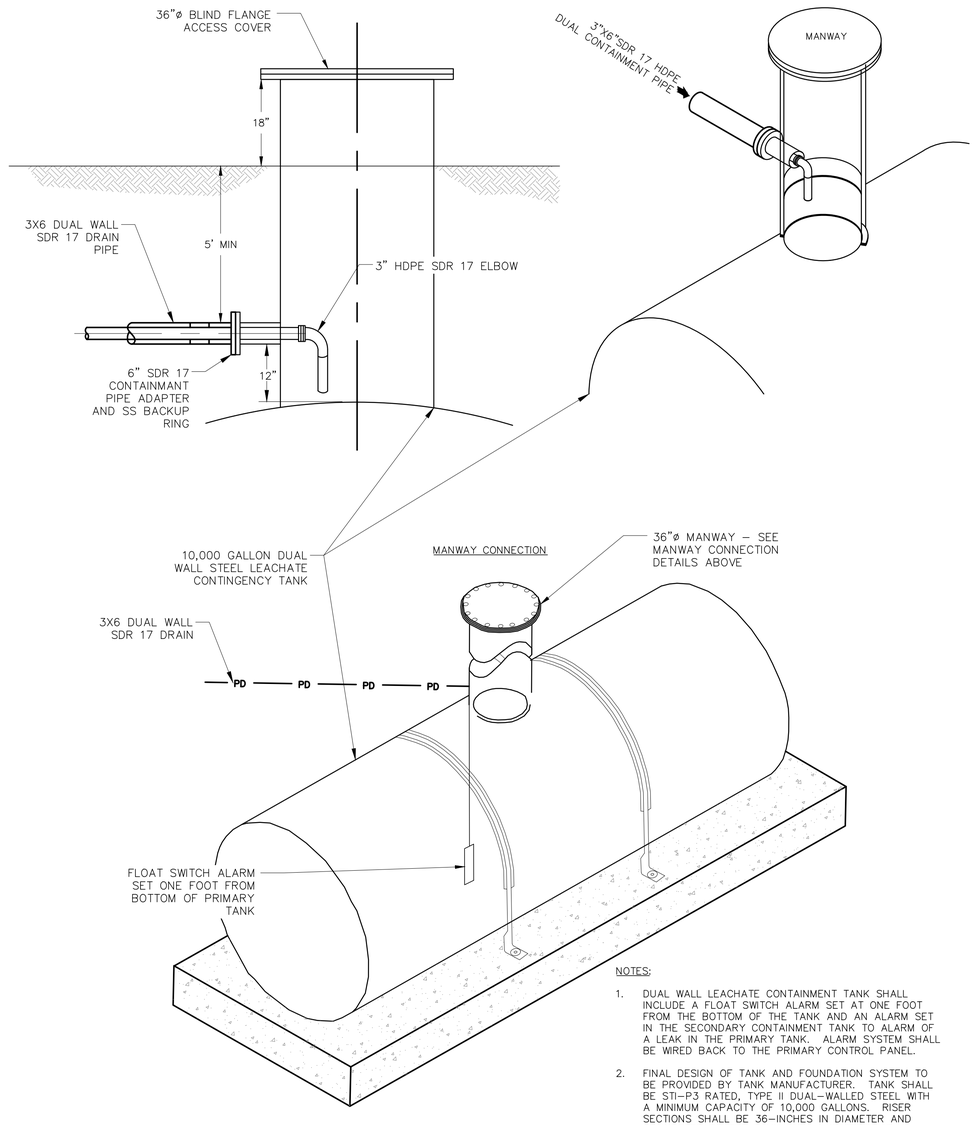
① PUMP OFF – 18" OFF OF BOTTOM
② PUMP ON – 30" OFF OF BOTTOM
③ HIGH LEVEL ALARM – 36" OFF OF BOTTOM
④ HIGH HIGH LEVEL ALARM – 42" OFF OF BOTTOM

NOTES:

1. CONDENSATE KNOCKOUT DESIGN CONFIGURATION IS SUBJECT TO CHANGE BASED ON CONSULTATION WITH HDPE MANHOLE MANUFACTURER. SHOP DRAWINGS SHALL BE SUBMITTED TO ENGINEER FOR APPROVAL PRIOR TO FABRICATION.
2. CONDENSATE KNOCKOUT SHALL HAVE AN OSHA APPROVED CONFINED SPACE SIGN ATTACHED TO THE TOP OF THE COVER. SIGN SHALL BE 14" WIDE BY 10" HIGH, AND SHALL HAVE UV-RESISTANT PAINT ON AN ALUMINUM BASE. SIGN SHALL READ "DANGER, CONFINED SPACE, HAZARDOUS ATMOSPHERE, ENTER BY PERMIT ONLY."
3. CONDENSATE KNOCKOUT IS A CLASS 1 DIVISION 1 GROUP D CLASSIFIED SPACE. ELECTRICAL EQUIPMENT SHALL BE EXPLOSION-PROOF AND INTRINSICALLY-SAFE. CONDUIT SEALS SHALL BE PROVIDED ON ALL ELECTRICAL CONDUIT.
4. PUMP SHALL BE EPG COMPANIES SUREPUMP SERIES 2 MODEL 2-5 0.50 HP VERTICAL PUMP OR APPROVED EQUIVALENT. PUMP SHALL BE EXPLOSION PROOF RATED.
5. PUMP CONTROLS SHALL COMPENSATE FOR SYSTEM VACUUM.

Condensate Knockout Detail - Provided by Sanborn Head & Associates (1)

Not to Scale



NOTES:

1. DUAL WALL LEACHATE CONTAINMENT TANK SHALL INCLUDE A FLOAT SWITCH ALARM SET AT ONE FOOT FROM THE BOTTOM OF THE TANK AND AN ALARM SET IN THE SECONDARY CONTAINMENT TANK TO ALARM OF A LEAK IN THE PRIMARY TANK. ALARM SYSTEM SHALL BE WIRED BACK TO THE PRIMARY CONTROL PANEL.
2. FINAL DESIGN OF TANK AND FOUNDATION SYSTEM TO BE PROVIDED BY TANK MANUFACTURER. TANK SHALL BE STI-P3 RATED, TYPE II DUAL-WALLED STEEL WITH A MINIMUM CAPACITY OF 10,000 GALLONS. RISER SECTIONS SHALL BE 36-INCHES IN DIAMETER AND CONNECTED TO THE TANK WITH A WATERTIGHT, FLANGED CONNECTION.
3. TANK INTERIOR TO BE COATED WITH SHERWIN WILLIAMS CORROCOTE II ULTRALINER (A TWO-COMPONENT, SOLVENT-FREE POLYURETHANE RESIN)

10,000 Gallon Dual Wall Steel Leachate Contingency Tank (2)

Not to Scale

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STATE OF NEW HAMPSHIRE – ADAM J SKINDAL – 24147 – LICENSED PROFESSIONAL ENGINEER

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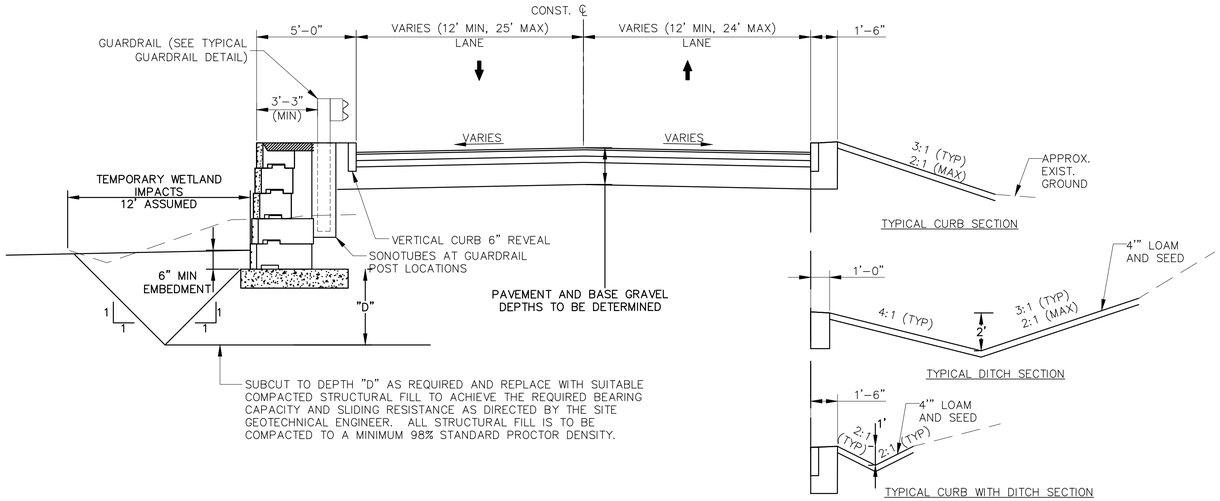
Granite State Landfill, LLC
Dalton, New Hampshire
Permitting Plan Set

Landfill Gas Details 2

drawing no. *D-10*

sheet: 46 of 50

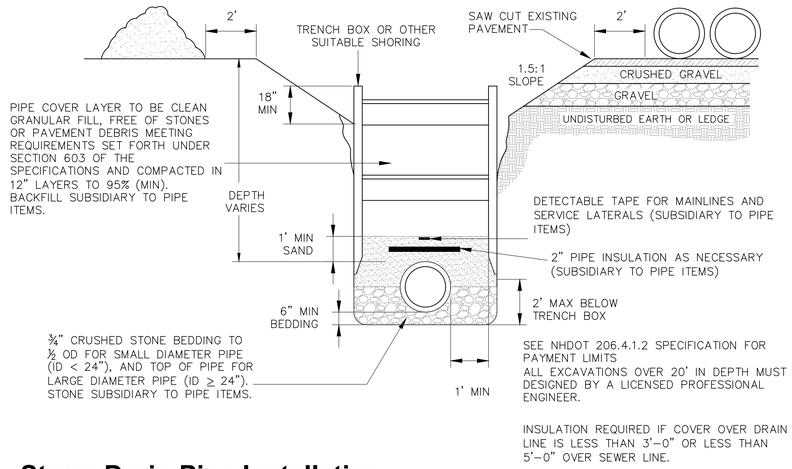


Douglas Drive Typical Section

Not to Scale

1

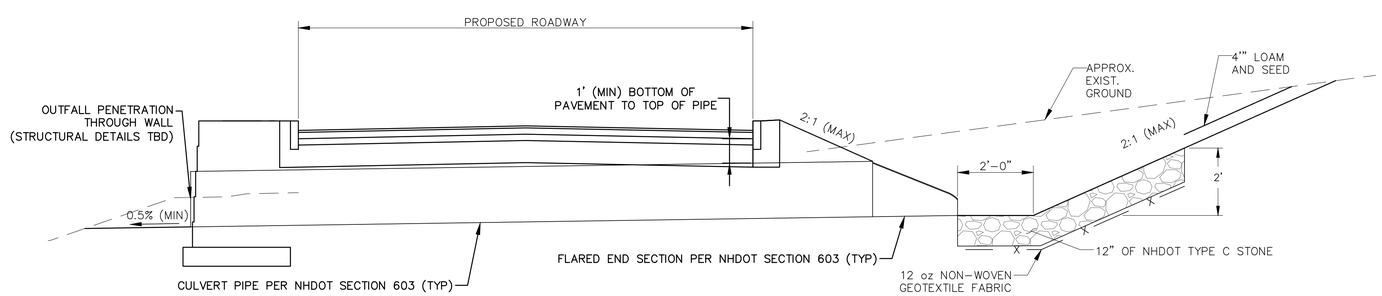
EXCAVATION TO BE CONSTRUCTED PER TYPICAL SECTION OR RECONSTRUCTED TO MATCH EXISTING PAVEMENT AND SUB-BASE DEPTHS.



Storm Drain Pipe Installation

Not to Scale

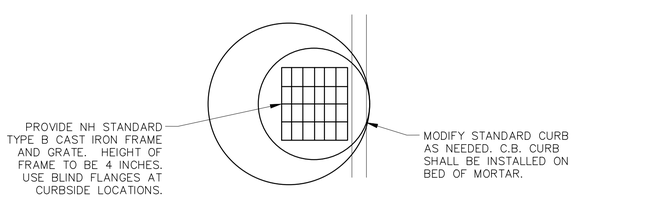
2

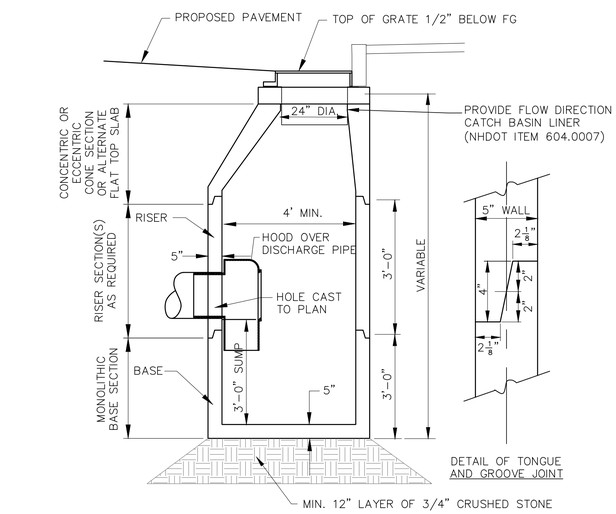


Roadway Cross Culvert Detail

Not to Scale

3

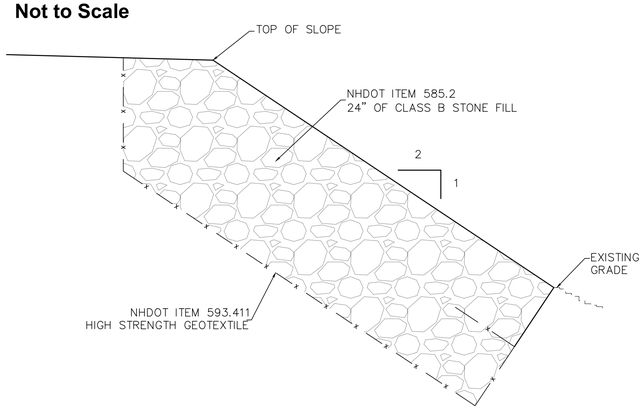




Catch Basin Detail

Not to Scale

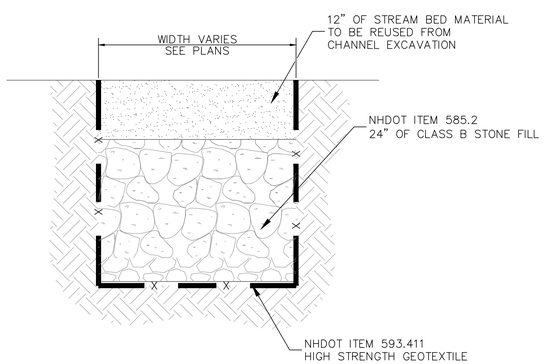
4



Slope Protection Detail

Not to Scale

5



Culvert Infill Detail

Not to Scale

6

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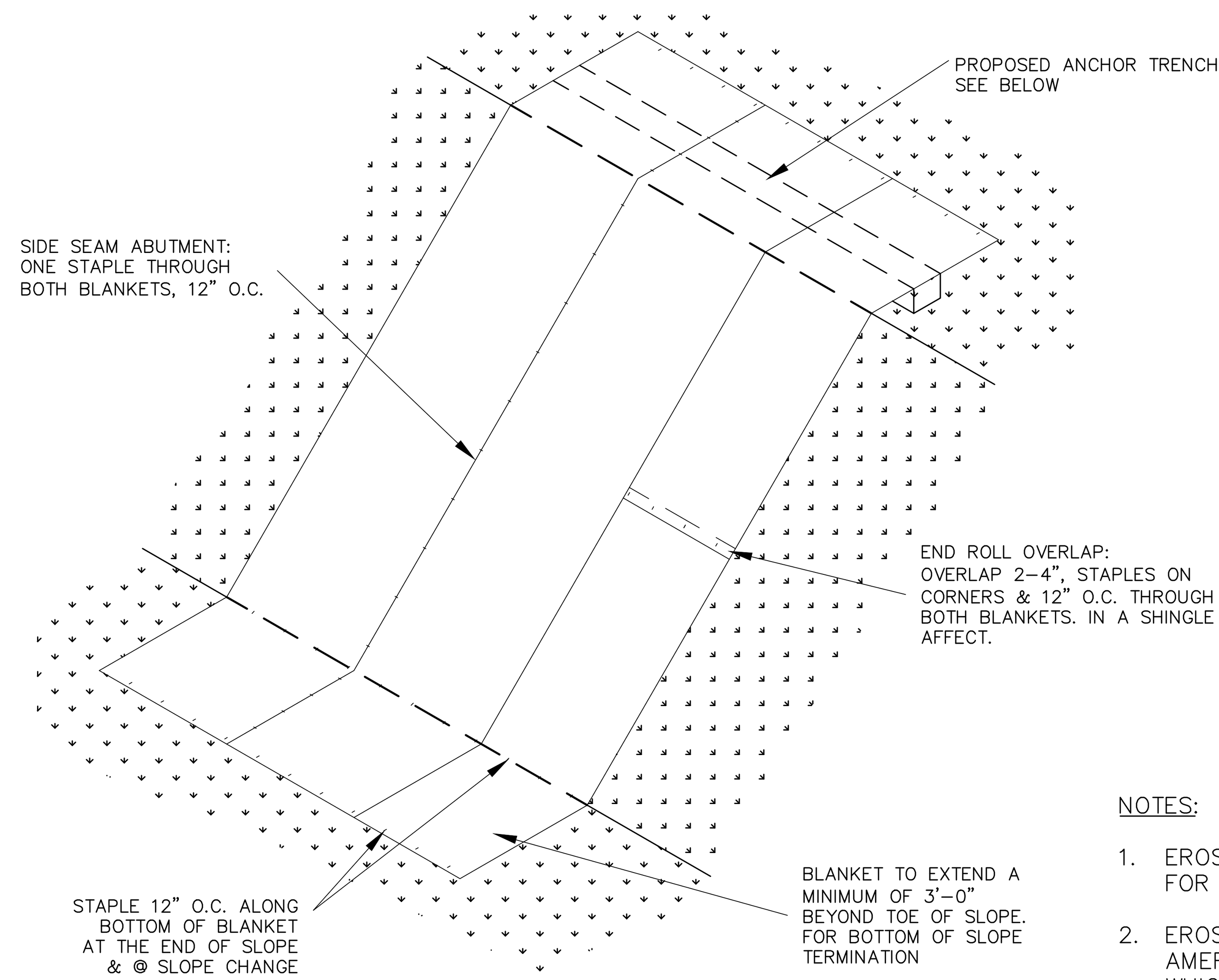
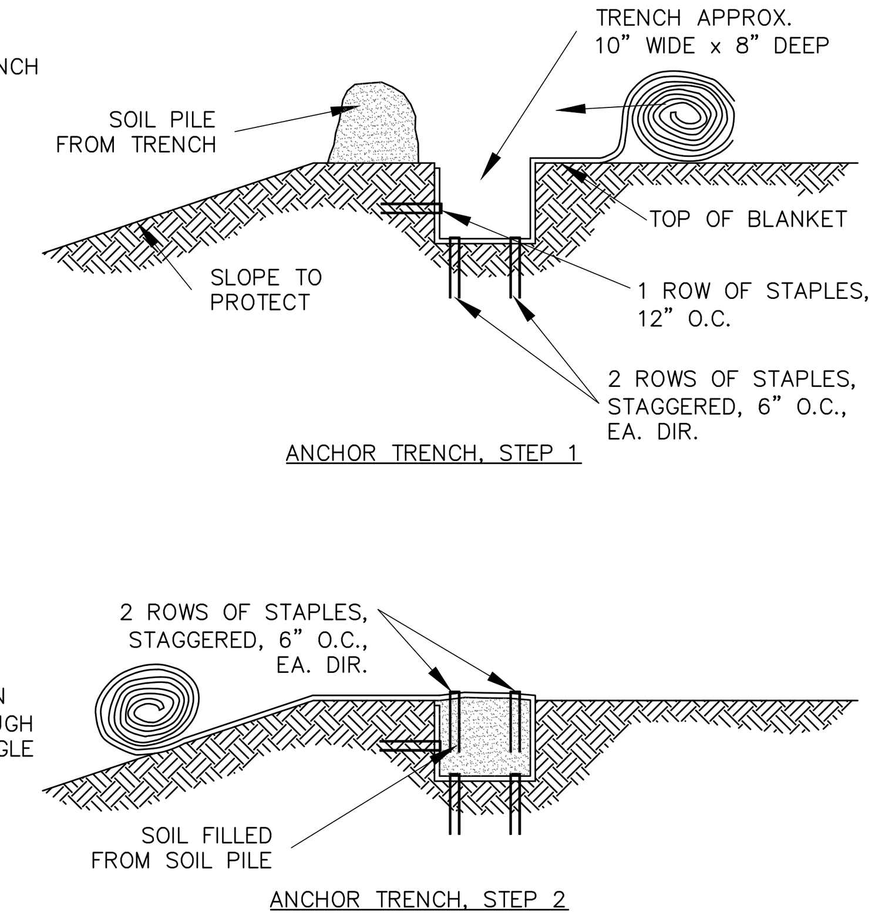
Granite State Landfill, LLC
Dalton, New Hampshire
Permitting Plan Set

Roadway Details

drawing no. D-11

sheet: 47 of 50



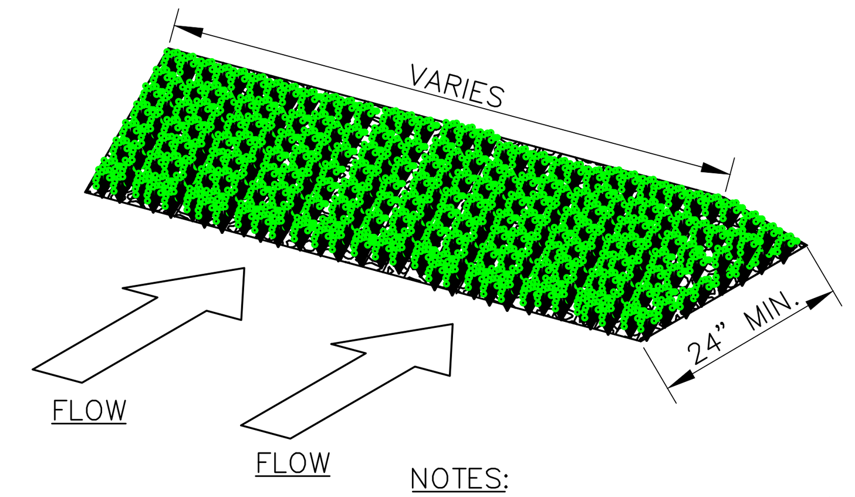


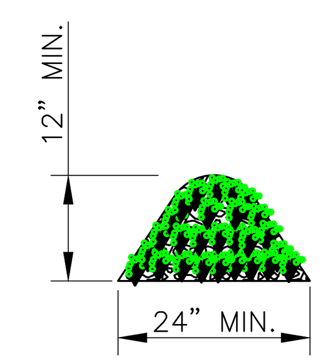
NOTES:

1. EROSION CONTROL BLANKETS ARE TO BE INSTALLED FOR SLOPES GREATER THAN 3H:1V.
2. EROSION CONTROL BLANKETS SHALL BE NORTH AMERICAN GREEN SC150BN, OR APPROVED EQUIVALENT WHICH MUST CONSIST OF ALL NATURAL MATERIAL WITH NO PHOTOSYNTHETIC THREAD. BLANKETS SHALL BE INSTALLED IN CONFORMANCE WITH MANUFACTURER'S RECOMMENDATIONS.

Erosion Control Blanket Slope Detail (1)

Not to Scale



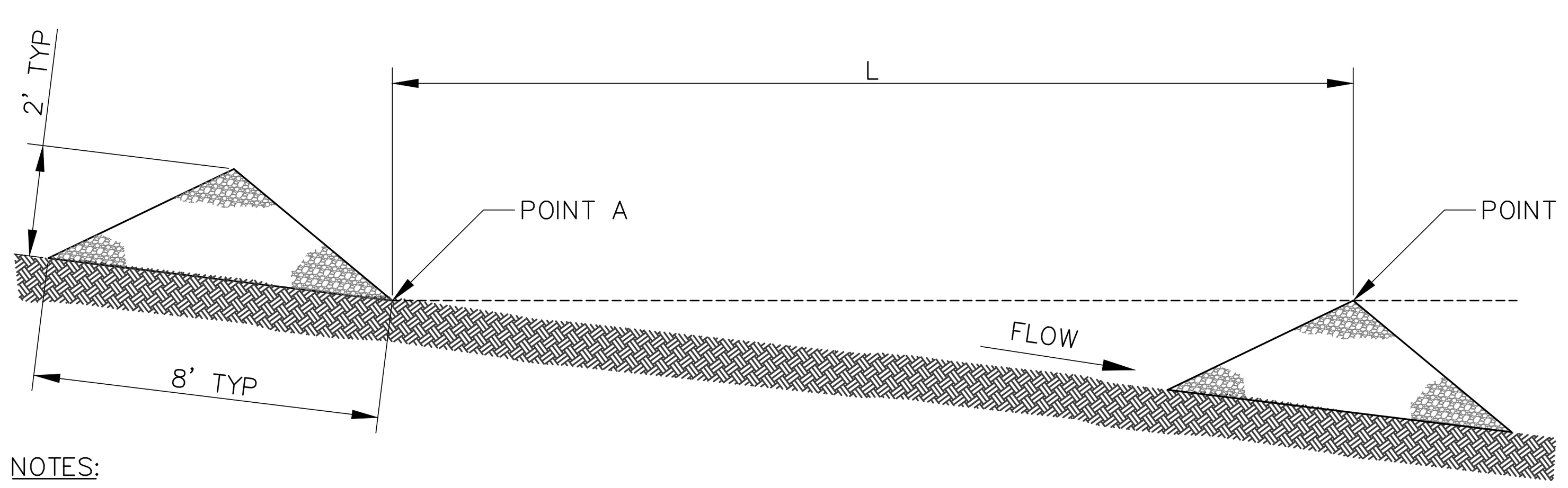


NOTES:

1. EROSION CONTROL MIX (ECM) BERMS SHALL CONFORM TO Env-Wq 1506.05.
2. STUMP GRINDINGS SHALL BE GENERATED FROM THE PROJECT SITE OR LOCALLY SOURCED AND SHOULD BE VOID OF INVASIVE SPECIES.
3. THE MAXIMUM LENGTH OF SLOPE ABOVE THE EROSION CONTROL BERM IS 100'. BERMS MAY ONLY BE UTILIZED IN AREAS WHERE THERE IS NO CONCENTRATION OF WATER.
4. ECM BERMS SHALL BE INSTALLED FOLLOWING THE CONTOUR OF THE LAND AS CLOSELY AS POSSIBLE.
5. ECM BERMS SHALL BE USED ONLY IF THE AREA UPSLOPE OF THE BERM HAS A SLOPE OF LESS THAN 5%.
6. ECM BERMS SHALL NOT BE INSTALLED IN LIVE STREAMS OR AS CHECK DAMS IN DRAINAGE SWALES.
7. ECM BERMS MUST BE FREE OF REFUSE, PHYSICAL CONTAMINANTS, AND MATERIAL TOXIC TO PLANT GROWTH.
8. THE ORGANIC MATTER CONTENT SHOULD BE BETWEEN 25% AND 65% BASED ON DRY WEIGHT THAT IS FIBROUS AND ELONGATED SUCH AS FROM SHREDDED BARK, STUMP GRINDINGS, COMPOSTED BARK, OR EQUIVALENT MANUFACTURED PRODUCTS AND NOT COMPRISED OF WOOD CHIPS, BARK CHIPS, GROUND CONSTRUCTION DEBRIS, OR REPROCESSED WOOD PRODUCTS.
9. THE MIX SHOULD NOT CONTAIN SILTS, CLAYS OR FINE SAND, HAVE A pH BETWEEN 5.0 AND 8.0, AND HAVE A PARTICLE SIZE BY WEIGHT OF 100% PASSING A 3-INCH SCREEN, 90 TO 100% PASSING A 1-INCH SCREEN, 70 TO 100% PASSING A 0/75-INCH SCREEN, AND 40 TO 75% PASSING A 0.25-INCH SCREEN.

Erosion Control Mix (ECM) Berm (2)

Not to Scale

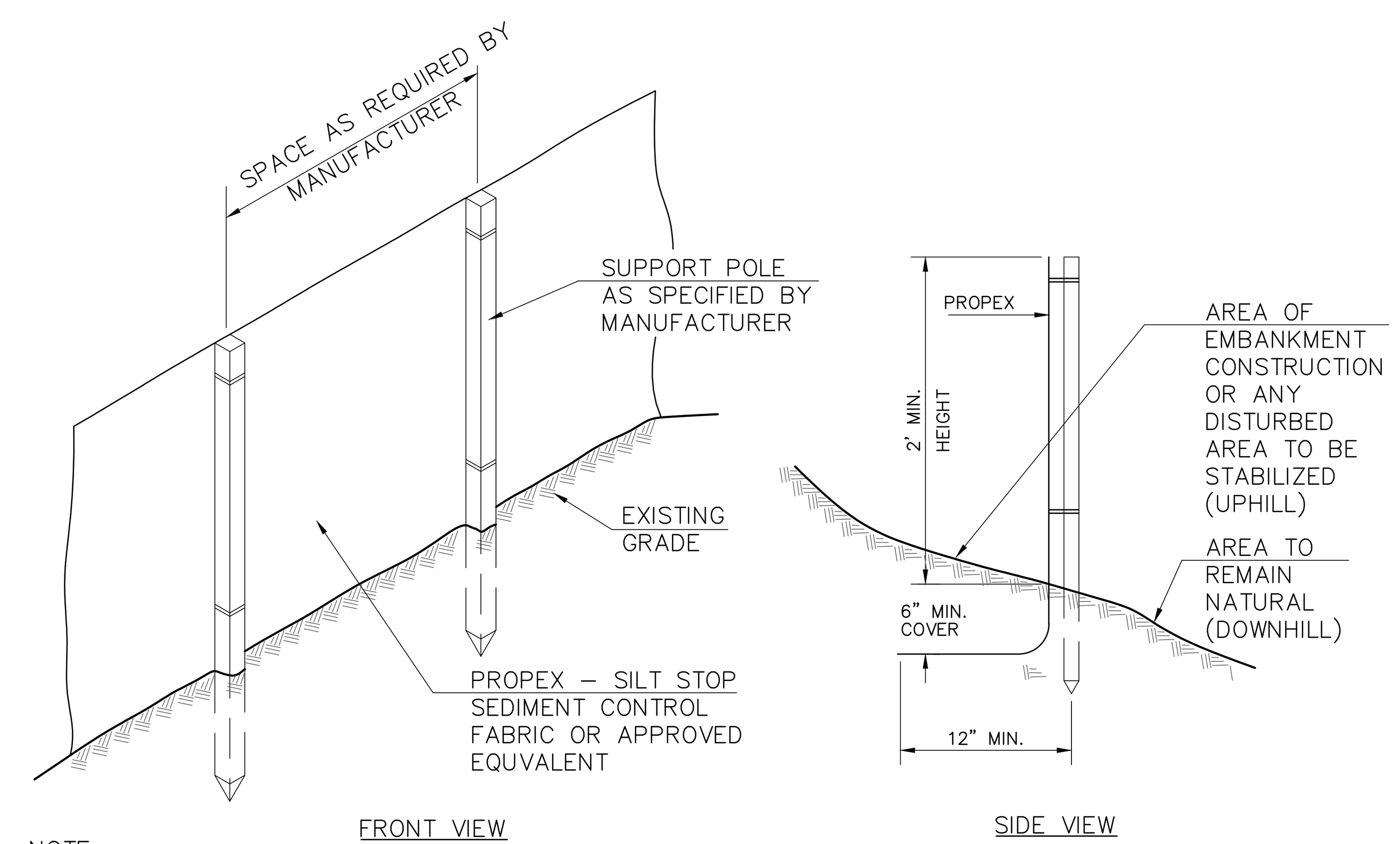


NOTES:

1. CRUSHED STONE SHALL BE KEYED INTO THE BANKS OF THE CHANNEL.
2. FOR ACTIVE DRAINAGE OUTFLOW CHECK DAMS SHALL BE PLACED IN SERIES (100-FEET MIN) ALONG FLOW LINE TO RETAIN SEDIMENTS.
3. THE MAXIMUM HEIGHT OF THE STONE CHECK DAM SHALL NOT EXCEED 2 FEET.
4. STONE CHECK DAMS SHALL BE CHECKED AFTER EACH RAINFALL AND REPAIRED IMMEDIATELY.
5. THE MAXIMUM SPACING BETWEEN THE DAMS SHALL BE SUCH THAT THE TOE OF THE UPSTREAM DAM IS AT THE SAME ELEVATION AS THE OVERFLOW ELEVATION OF THE DOWNSTREAM DAM (POINT A ELEVATION = POINT B ELEVATION).

Stone Check Dam (3)

Not to Scale

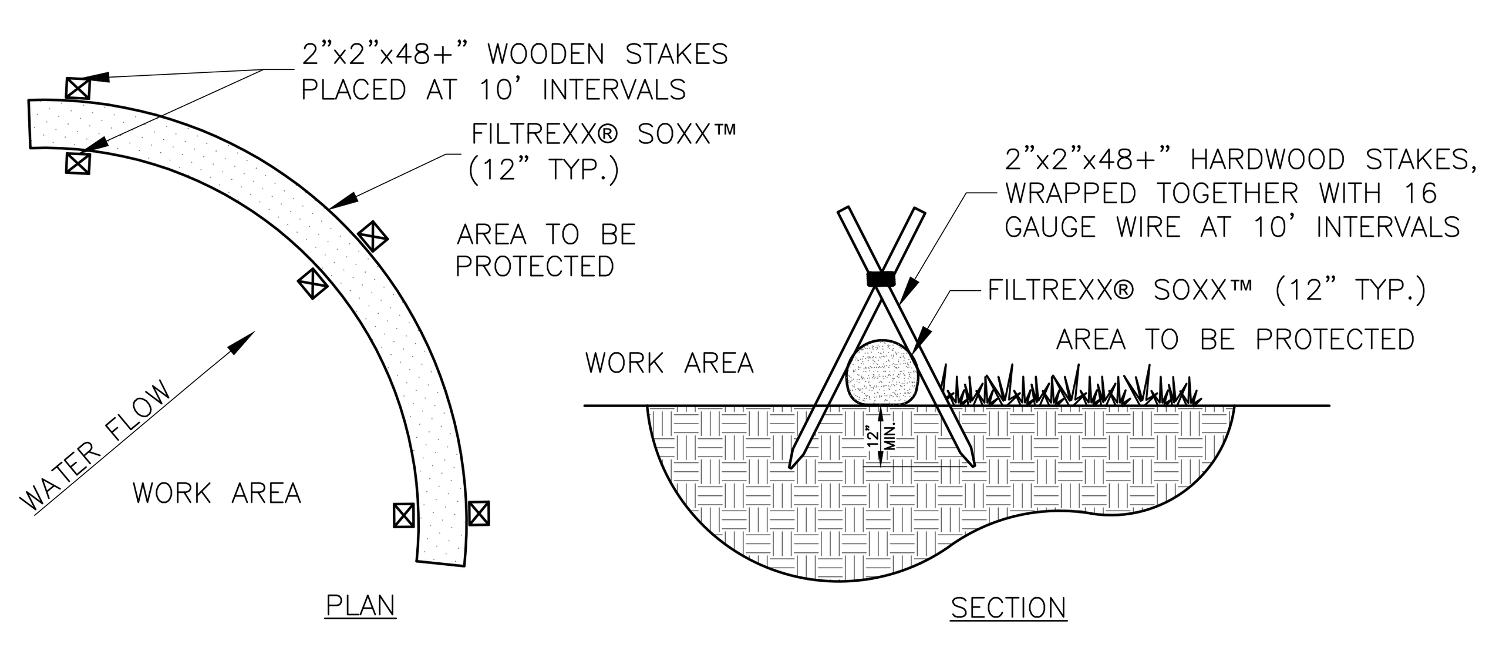


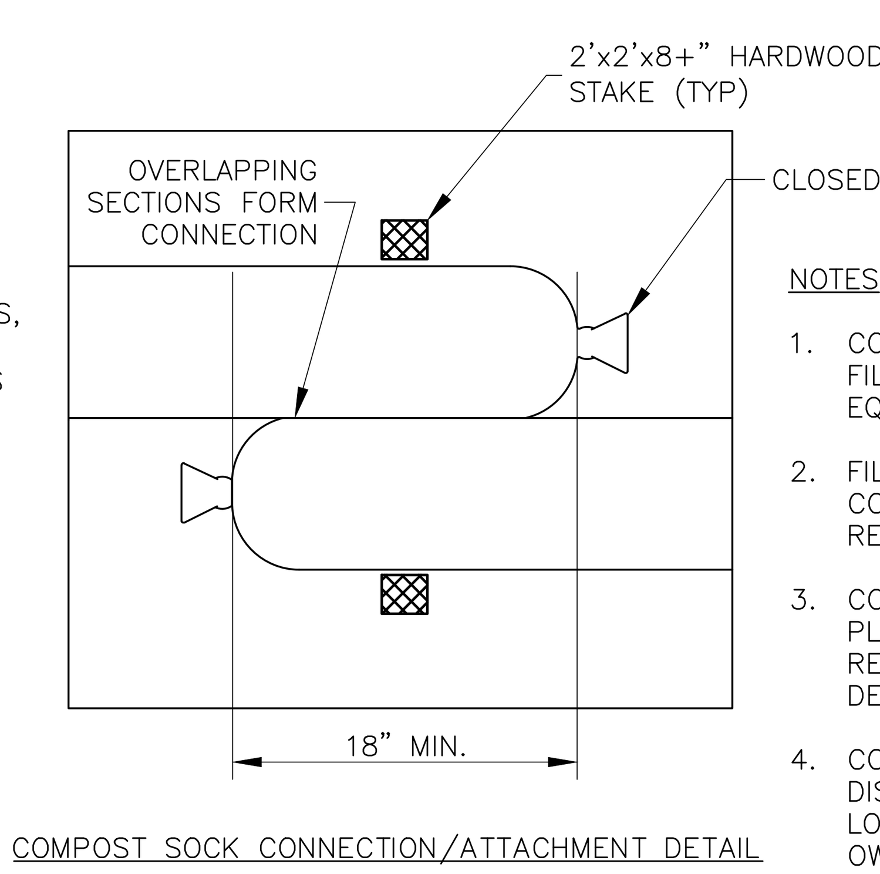
NOTE:

1. AT A MINIMUM, SILT FENCE IS TO BE INSTALLED TO PROTECT WETLAND AREAS, WATERWAYS, EXISTING AND PROPOSED DRAINAGE FEATURES, SLOPES, LAWNS AND PLANTINGS ADJACENT TO THE WORK.

Silt Fence (4)

Not to Scale





NOTES:

1. COMPOST SOCKS SHALL BE FILTREXX SILTSOXX®, OR APPROVED EQUIVALENT.
2. FILTER MEDIA SHALL BE CONSISTENT WITH PRODUCT REQUIREMENTS.
3. COMPOST STOCKS TO REMAIN IN PLACE UNTIL SITE IS STABILIZED. REMOVAL OF THE SOCKS SHALL BE DETERMINED BY THE ENGINEER.
4. COMPOST AND SOCKS TO BE DISPOSED AT AN ON-SITE LOCATION DESIGNATED BY THE OWNER.

Compost Sock (5)

Not to Scale

Erosion Control Notes

1. PRIOR TO CONSTRUCTION AND THEREAFTER EROSION CONTROL MEASURES ARE TO BE IMPLEMENTED AS NOTED. THE SMALLEST PRACTICAL AREA OF LAND SHALL BE EXPOSED AT ANY ONE TIME DURING DEVELOPMENT. WHEN LAND IS EXPOSED DURING DEVELOPMENT, THE EXPOSURE SHALL BE KEPT TO THE SHORTEST PRACTICAL PERIOD OF TIME. LAND SHALL NOT BE LEFT EXPOSED DURING THE WINTER MONTHS. PERIMETER CONTROLS, INCLUDING SILT FENCE, COMPOST SOCK, ECM BERMS, STORMWATER PONDS, AND INFILTRATION BASINS SHALL BE INSTALLED PRIOR TO ROUGH GRADING OF THE SITE.
2. THIS PROJECT IS TO BE MANAGED IN A MANNER THAT MEETS THE REQUIREMENTS AND INTENT OF RSA 430:53 AND CHAPTER AGR-3800 RELATIVE TO INVASIVE SPECIES.
3. ALL DISTURBED AREAS AND SIDE SLOPES WHICH ARE FINISH GRADED WITH NO FURTHER CONSTRUCTION TO TAKE PLACE SHALL BE SEEDED AND MULCHED WITHIN 72 HOURS. ALL SEED, LIME AND FERTILIZER PROGRAMS SHALL CONFORM TO ALL APPLICABLE SECTIONS OF THE SPECIFICATIONS.
4. ANY DISTURBED AREAS WHICH ARE TO BE LEFT TEMPORARILY, OR LONGER THAN TWO WEEKS AND WHICH WILL BE REGRADED LATER DURING CONSTRUCTION, SHALL BE MACHINE HAY MULCHED AND SEEDED AT THE RATE OF 2 TONS PER ACRE. THE SMALLEST PRACTICAL AREA SHALL BE DISTURBED DURING CONSTRUCTION, BUT SHALL NOT EXCEED 5-ACRES AT ANY ONE TIME UNLESS AN AoT-APPROVED ENVIRONMENTAL MONITOR (EM) IS UTILIZED. THE EM SHALL COMPLETE REQUIRED INSPECTIONS AND REPORTING IN COMPLIANCE WITH SECTION ENV-WQ 1505(D) OF THE AoT RULES.
5. AVOID USE OF UNDISTURBED AREAS WHENEVER POSSIBLE DURING CONSTRUCTION. CONSTRUCTION TRAFFIC SHALL TRAVEL THE ROADBEDS OF EXISTING AND FUTURE ROADS.
6. SILT FENCE, COMPOST SOCK, AND ECM BERMS SHALL BE INSTALLED & MAINTAINED WHERE SHOWN AND ADDITIONAL SILT FENCE AND COMPOST SOCK ADDED AS REQUIRED BY THE ENGINEER PRIOR TO ANY ON-SITE GRADING OR DISTURBANCE OF EXISTING SURFACE MATERIAL. IT SHOULD BE MAINTAINED DURING AND AFTER DEVELOPMENT TO REMOVE SEDIMENT FROM RUNOFF WATER AND FROM LAND UNDERGOING DEVELOPMENT. WHERE POSSIBLE NATURAL DRAINAGE WAYS SHOULD BE UTILIZED AND LEFT OPEN TO REMOVE CLEAN EXCESS SURFACE WATER. THE SILT FENCE IS TO BE MAINTAINED AND CLEANED UNTIL ALL SLOPES HAVE A HEALTHY STAND OF GRASS.
7. EROSION CONTROL DEVICES SHALL BE INSPECTED WEEKLY AND AFTER EVERY 0.5-IN OF RAINFALL.
8. ALL DISTURBED AREAS SHALL HAVE A MINIMUM OF 4 INCHES OF LOAM PLACED, BEFORE BEING SEEDED AND MULCHED UNLESS OTHERWISE SHOWN. EROSION CONTROL MATTING SHALL BE PLACED ON ALL SLOPES STEEPER THAN 3:1 AND WITHIN GRASS LINED SWALES AS SHOWN.
9. AFTER ALL DISTURBED AREAS HAVE BEEN STABILIZED, THE TEMPORARY EROSION CONTROL MEASURES ARE TO BE REMOVED AND ACCUMULATED SEDIMENT DISPOSED OF IN AN ON SITE LOCATION DESIGNATED BY THE OWNER.
10. BALED HAY AND MULCH SHALL BE MOWINGS OF ACCEPTABLE HERBACEOUS GROWTH, FREE FROM NOXIOUS WEEDS OR WOODY STEMS, AND SHALL BE DRY.
11. SILT FENCES SHALL BE MINIMUM OF 36 INCHES HIGH WITH THE BOTTOM OF THE FABRIC KEYED INTO THE GROUND (SEE DETAIL). POSTS SHALL BE OF WOOD OR STEEL.
12. THE EROSION CONTROL DEVICES SHOWN ON THE DRAWINGS AND AS SPECIFIED IN THE SPECIFICATIONS REPRESENT THE MINIMUM REQUIRED FOR EROSION CONTROL. THE CONTRACTOR SHALL ADD TO THESE DEVICES ANY AND ALL MEASURES AS REQUIRED BY THE ENGINEER TO EFFECTIVELY PREVENT MIGRATION OF SEDIMENT FROM THE WORK AREA.
13. ALL SLOPES AND DISTURBED AREAS TO BE SEEDED SHALL COMPLY WITH THE NHDES SECTION 644 WF SEED TYPE 45.
14. LIME SHALL CONFORM TO NHDOT SPECIFICATIONS, DIV. 600, SEC. 642 "LIMESTONE". LIMESTONE SHALL BE APPLIED BY EITHER THE DRY OR HYDRAULIC METHOD AS DESCRIBED IN NHDOT DIV 600, SEC. 644.2.5. THE AMOUNT OF LIMESTONE APPLIED SHOULD BE BASED ON EVALUATION OF SOIL TESTS CONDUCTED BY THE CONTRACTOR. THE MINIMUM RATE OF 2 TONS PER ACRE OR 100 LBS PER SQ. FT. SHALL BE APPLIED IF REQUIRED.
15. FERTILIZER TO BE USED MUST BE THE EQUIVALENT OF A 15-15-15 MIXTURE AND SHALL BE REVIEWED BY THE ENGINEER. FERTILIZER SHALL CONFORM TO NHDOT SPECIFICATIONS DIV. 600, SEC. 643 "FERTILIZER FOR GRASSES." KINDS AND AMOUNTS OF FERTILIZER SHOULD BE BASED ON EVALUATION OF SOIL TESTS CONDUCTED BY THE CONTRACTOR. THE MINIMUM AMOUNTS APPLIED SHALL BE AS FOLLOWS:

    NITROGEN (N) 150 LBS PER ACRE OR 1.1 LBS PER 1000 S.F.
    PHOSPHATE (P O) 100 LBS PER ACRE OR 2.2 LBS PER 1000 S.F.
    POTASH (K O) 100 LBS PER ACRE OR 2.2 LBS PER 1000 S.F.

    (NOTE: THIS IS THE EQUIVALENT OF 500 LBS PER ACRE OF 10-20-20 FERTILIZER OR 1000 LBS PER ACRE OF 5-10-10)
16. ALL PROPOSED SWALES MUST BE STABILIZED PRIOR TO DIRECTING RUNOFF TO THEM.
17. ALL ROADWAYS TO BE STABILIZED WITHIN 72 HOURS OF ACHIEVING FINISHED GRADE.
18. ALL AREAS SHALL BE STABILIZED WITHIN 45 DAYS OF INITIAL DISTURBANCE. AN AREA SHALL BE CONSIDERED STABLE IF ONE OF THE FOLLOWING HAS OCCURRED:
    - BASE COURSE GRAVELS HAVE BEEN INSTALLED IN AREAS TO BE PAVED;
    - A MINIMUM OF 85% VEGETATED GROWTH HAS BEEN ESTABLISHED;
    - A MINIMUM OF 3-IN OF NON-EROSIVE MATERIAL SUCH AS STONE OR RIP RAP HAS BEEN INSTALLED; OR
    - EROSION CONTROL BLANKETS HAVE BEEN PROPERLY INSTALLED.

Winter Construction Notes:

1. ALL PROPOSED VEGETATED AREAS THAT DO NOT EXHIBIT A MINIMUM OF 85% VEGETATIVE GROWTH BY OCTOBER, 15, OR WHICH ARE DISTURBED AFTER OCTOBER 15, SHALL BE STABILIZED BY SEEDING AND INSTALLING EROSION CONTROL BLANKETS ON SLOPES GREATER THAN 3:1, AND SEEDING AND PLACING 3 TO 4 TONS OF MULCH PER ACRE, SECURED WITH ANCHORED NETTING, ELSEWHERE. THE INSTALLATION OF EROSION CONTROL BLANKETS OR MULCH AND NETTING SHALL NOT OCCUR OVER ACCUMULATED SNOW OR ON FROZEN GROUND AND SHALL BE COMPLETED IN ADVANCE OF THAW OR SPRING MELT EVENTS.
2. ALL DITCHES OR SWALES WHICH DO NOT EXHIBIT A MINIMUM OF 85% VEGETATIVE GROWTH BY OCTOBER 15, OR WHICH ARE DISTURBED AFTER OCTOBER 15, SHALL BE STABILIZED TEMPORARILY WITH STONE OR EROSION CONTROL BLANKETS APPROPRIATE FOR THE DESIGN FLOW CONDITIONS.
3. AFTER OCTOBER 15, INCOMPLETE ROAD OR PARKING SURFACES, WHERE WORK HAS STOPPED FOR THE WINTER SEASON, SHALL BE PROTECTED WITH A MINIMUM OF 3-INCHES OF CRUSHED GRAVEL PER NHDOT ITEM 304.3.

revision	no.	date	by

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STATE OF NEW HAMPSHIRE — ADAM J. SANDAHL — No. 12644 — LICENSED PROFESSIONAL ENGINEER

designed by: ATR/NJM/STF/AJS
drawn by: ATR/NJM/STF
approved by: AJS
date: October 2023
project no: 1101
checked by: AJS
scale:

Granite State Landfill, LLC
Dalton, New Hampshire
Permitting Plan Set

Erosion Control Details

drawing no. D-12

sheet: 48 of 50

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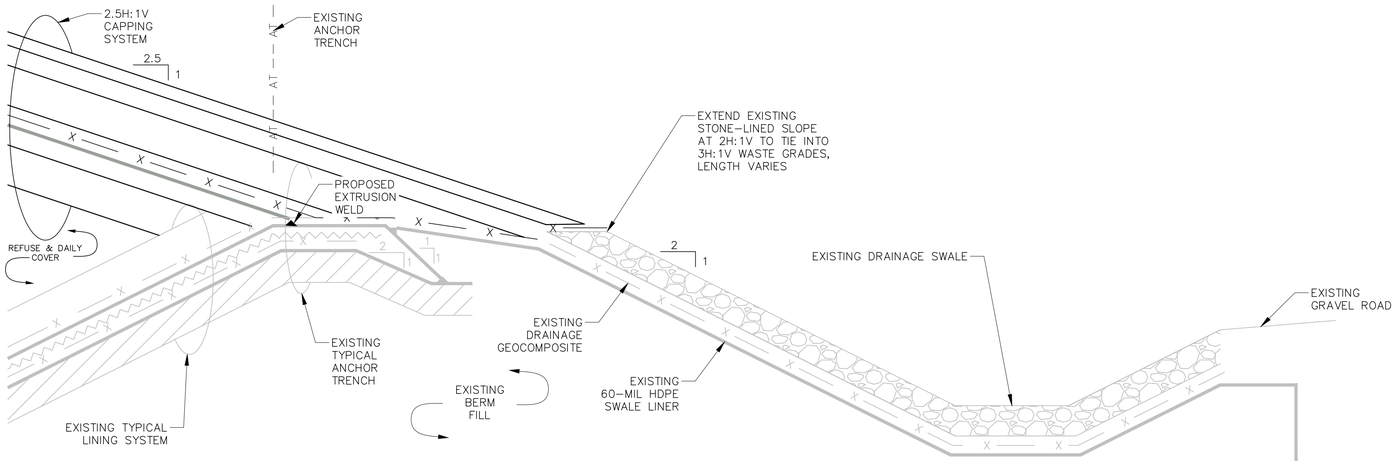

Capping System Tie-in at Anchor Trench (1)

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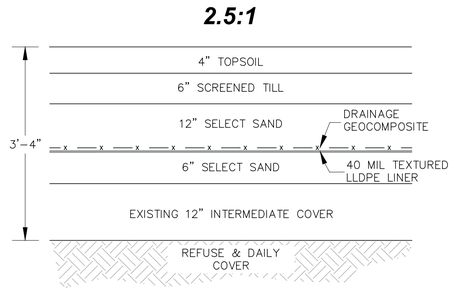

Capping System Sections (2)

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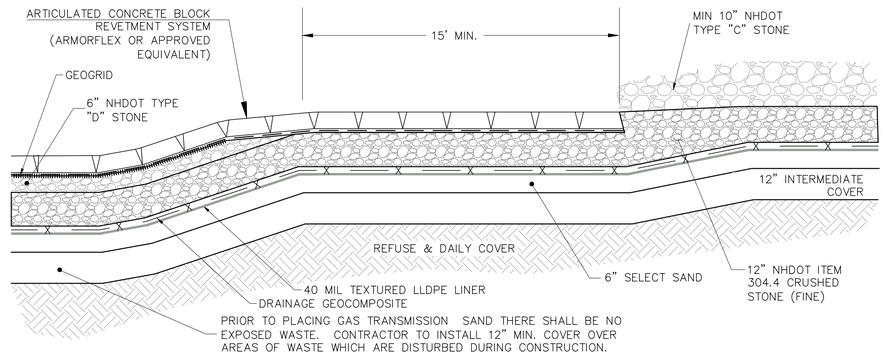
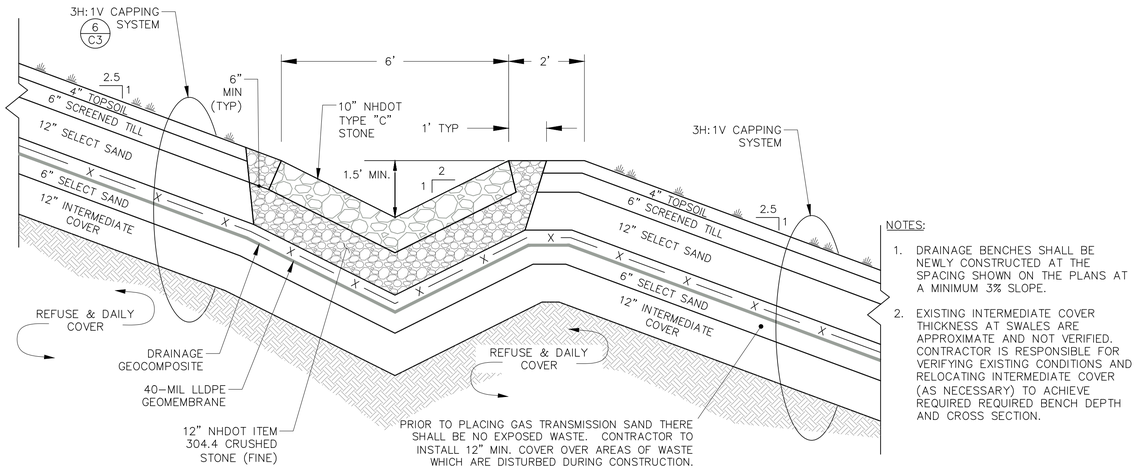


Drainage Bench Outlet Into Dropchute (3)

Not to Scale



Drainage Bench (4)

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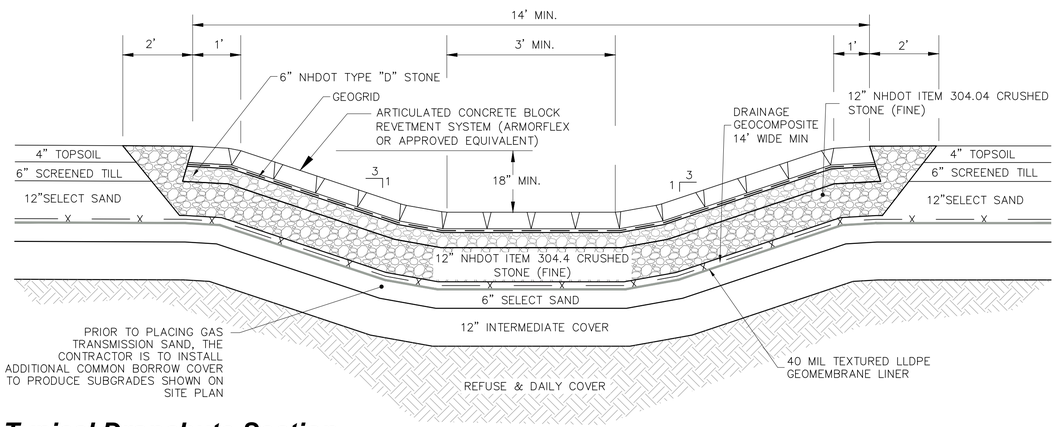

Typical Dropchute Section (5)

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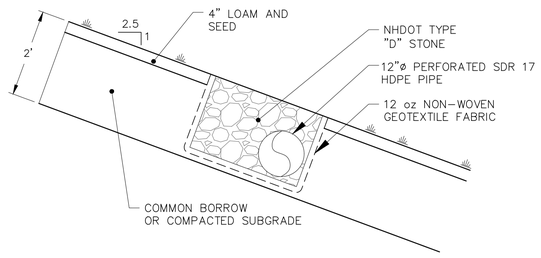

Side Slope Stormwater Collection Trench (6)

Not to Scale

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NEW HAMPSHIRE - STATE OF - ADAM J. SANDAHL - 13433 - LICENSED PROFESSIONAL ENGINEER

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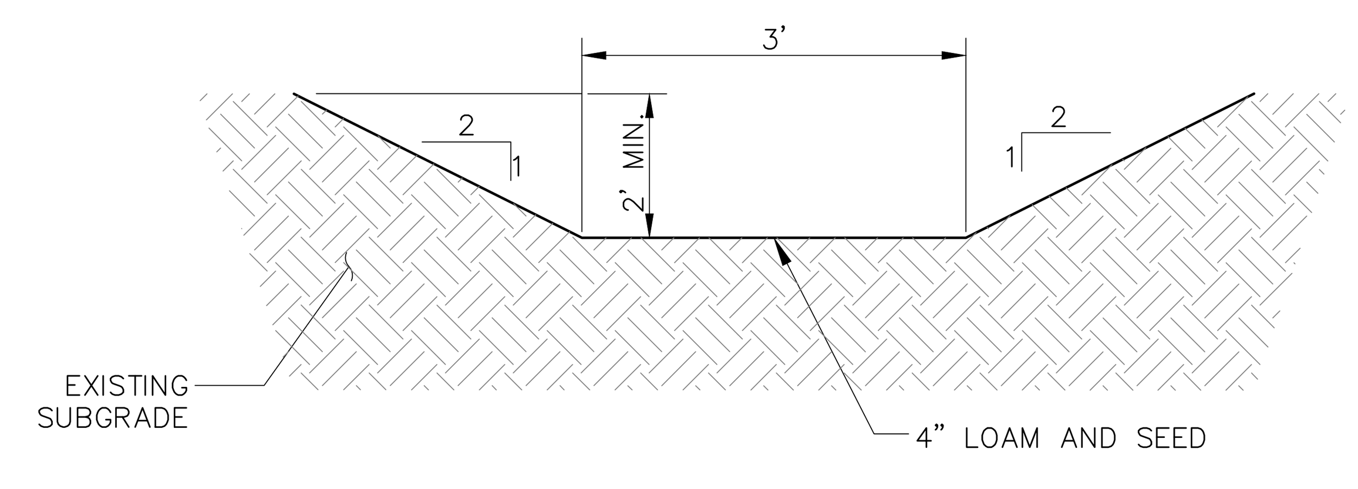
drawn by: ATR/NJM/STF
approved by: AJS
scale:
date: October 2023
project no: 1101
checked by: AJS

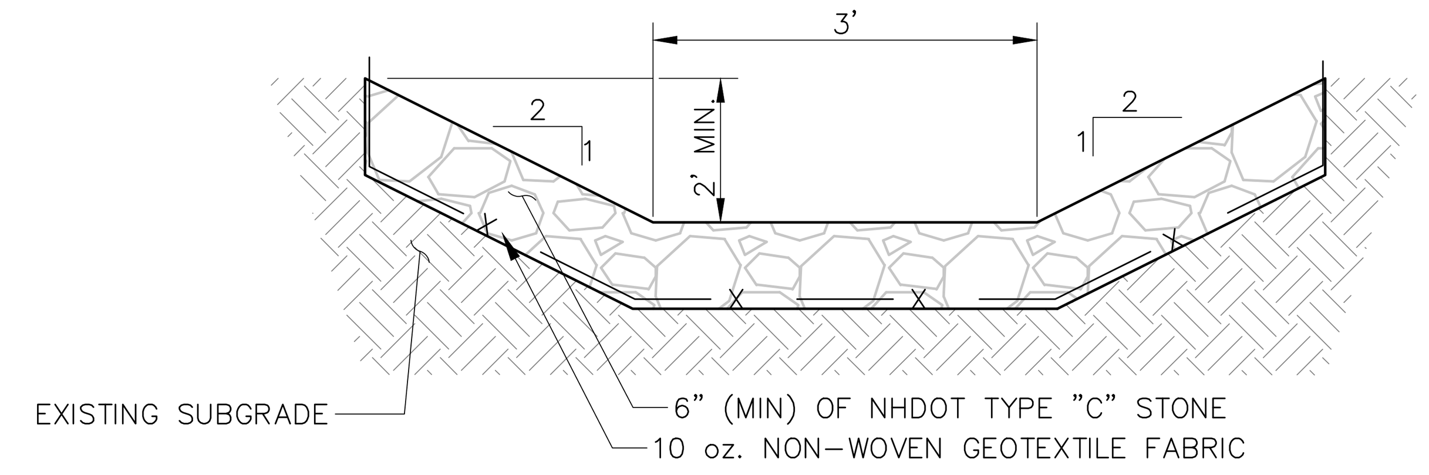
Granite State Landfill, LLC
Dalton, New Hampshire
Permitting Plan Set
Closure Details

drawing no. D-13

sheet: 49 of 50



GRASS-LINED SWALE



STONE-LINED SWALE

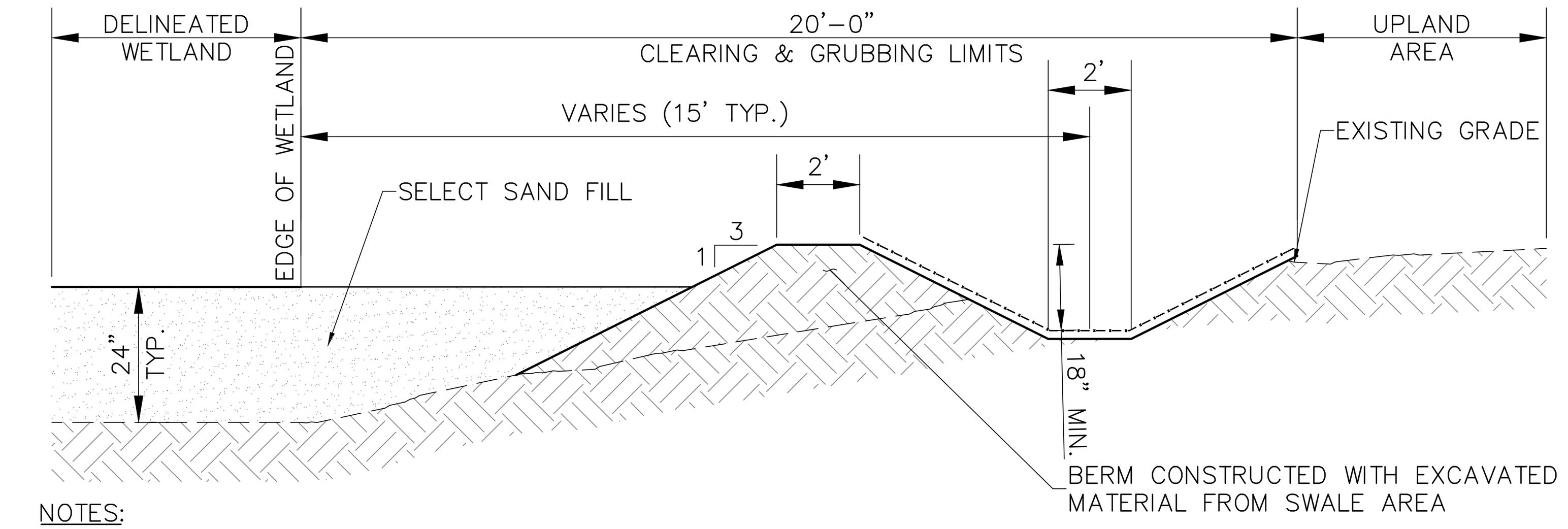
NOTES:

1. GRASS-LINED SWALE SHALL BE USED IN AREAS WHERE SWALE SLOPE <5%.
2. GRASS-LINED SWALES MUST INCLUDE A LAYER OF EROSION CONTROL MATTING DESIGNED TO ACCOMMODATE CHANNEL FLOW (NORTH AMERICAN GREEN SC150BN, OR APPROVED EQUIVALENT).

Cut Swale

Not to Scale

1

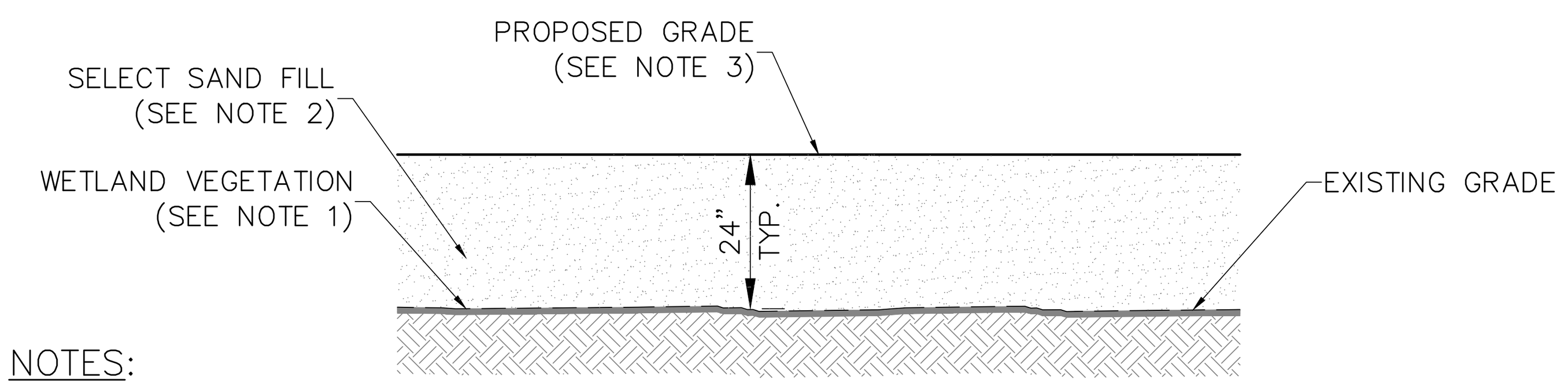


NOTES:

1. CONTRACTOR MAY UTILIZE EXISTING SOILS FROM EXCAVATING THE ADJACENT STORMWATER SWALE TO CONSTRUCT THE BERM AS APPROVED BY THE ENGINEER.
2. SWALES DISCHARGE INTO STORMWATER PONDS.

EDGE WITH SURFACE WATER DIVERSION SWALE (WHERE DIRECTED BY ENGINEER)

SELECT SAND	
SIEVE SIZE	% PASSING BY WEIGHT
1"	100
#4	60-100
#10	40-95
#40	10-50
#100	0-20
#200	0-6



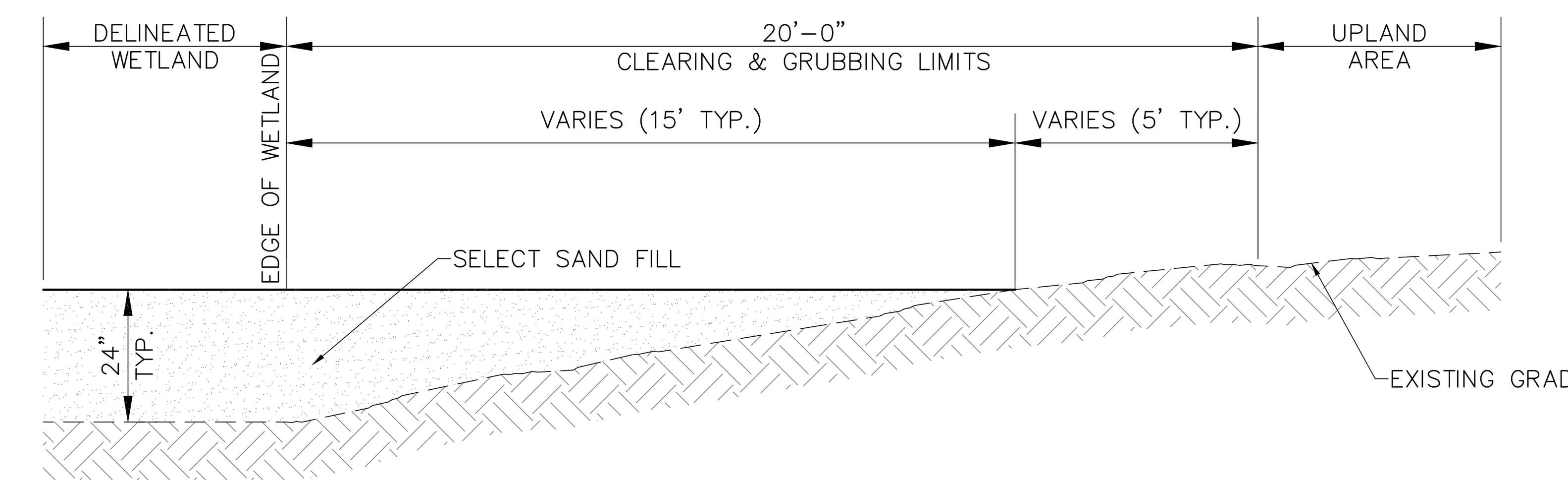
NOTES:

1. WETLAND VEGETATION AND HYDRIC SOILS SHALL BE REMOVED PRIOR TO THE PLACEMENT OF SAND.
2. SELECT SAND FILL TO BE PLACED AN AVERAGE DEPTH OF 2 FEET ABOVE THE EXSTING GRADE AFTER VEGETATION REMOVAL OR SEASONAL HIGH WATER TABLE, WHICHEVER IS HIGHER.
3. PROPOSED GRADE SHALL RECEIVE NO TYPE OF SURFACE TREATMENT. IT IS INTENDED THAT THE FILLED WETLAND AREAS SHALL REMAIN VEGETATION FREE.

Wetland Fill Typical Section

Not to Scale

2



NOTES:

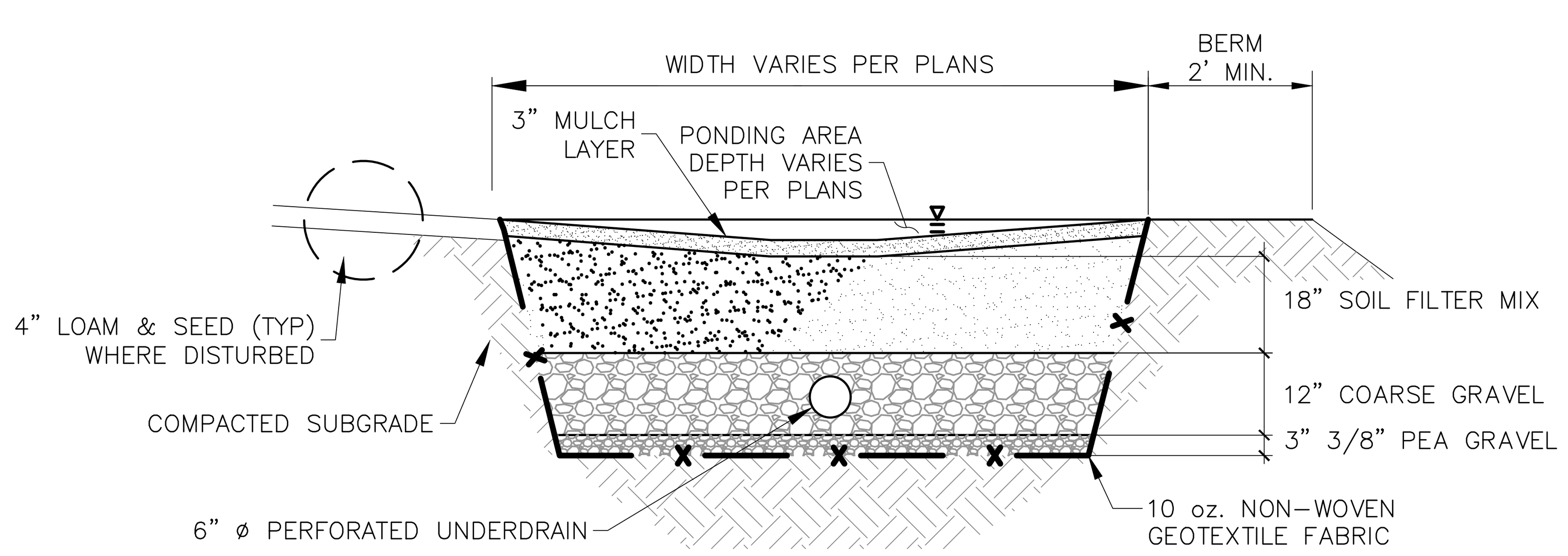
1. SELECT SAND FILL AT EDGE TO BE GRADED TO BLEND INTO EXISTING UPLAND.

EDGE WITHOUT SWALE

Wetland Edge Treatment Detail

Not to Scale

3



NOTES:

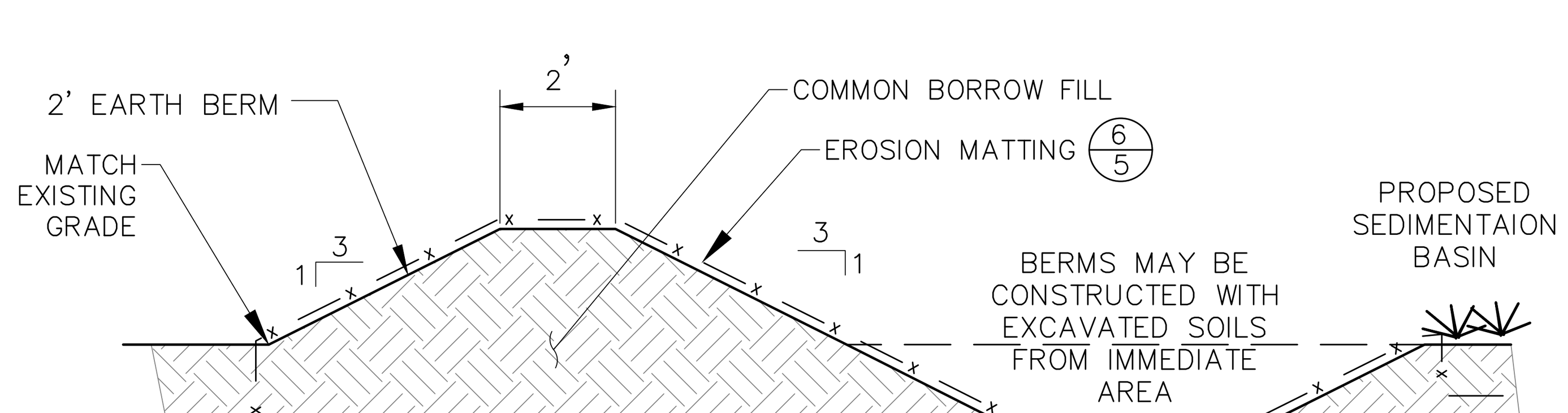
1. PLANTING DESIGN: ONLY NATIVE, NON-INVASIVE SPECIES SHALL BE USED. VEGETATION SHALL HAVE A RANDOM AND NATURAL PLANT LAYOUT. NO WOODY VEGETATION SHALL GROW NEAR INFLOW LOCATIONS. ONLY FACULTATIVE WETLAND SPECIES SHALL BE PLANTED OVER THE FILTER MEDIA. TREES OR LARGE SHRUBS SHALL BE PROVIDED ALONG THE PERIMETER. A TREE CANOPY SHALL BE ESTABLISHED WITH AN UNDERSTORY OF SHRUBS AND HERBACEOUS PLANTS. VEGETATION SHALL BE DROUGHT TOLERANT.

BIORETENTION FILTER MEDIA			
COMPONENT MATERIAL	PERCENT OF MIXTURE BY VOLUME	SIEVE NO.	PERCENT BY WEIGHT PASSING STNDARD SIEVE
FILTER MEDIA OPTION A			
ASTM C-33 CONCRETE SAND	50 TO 55		
LOAMY SAND TOPSOIL	20 TO 30	200	15 TO 25
MODERATELY FINE SHREDDED BARK OR WOOD FIBER MULCH	20 TO 30	200	<5
FILTER MEDIA OPTION B			
MODERATELY FINE SHREDDED BARK OR WOOD FIBER MULCH	20 TO 30	200	<5
LOAMY COARSE SAND	70 TO 80	10	85 TO 100
		20	70 TO 100
		60	15 TO 40
		200	8 TO 15

Bioretention System (Rain Garden)

Not to Scale

4



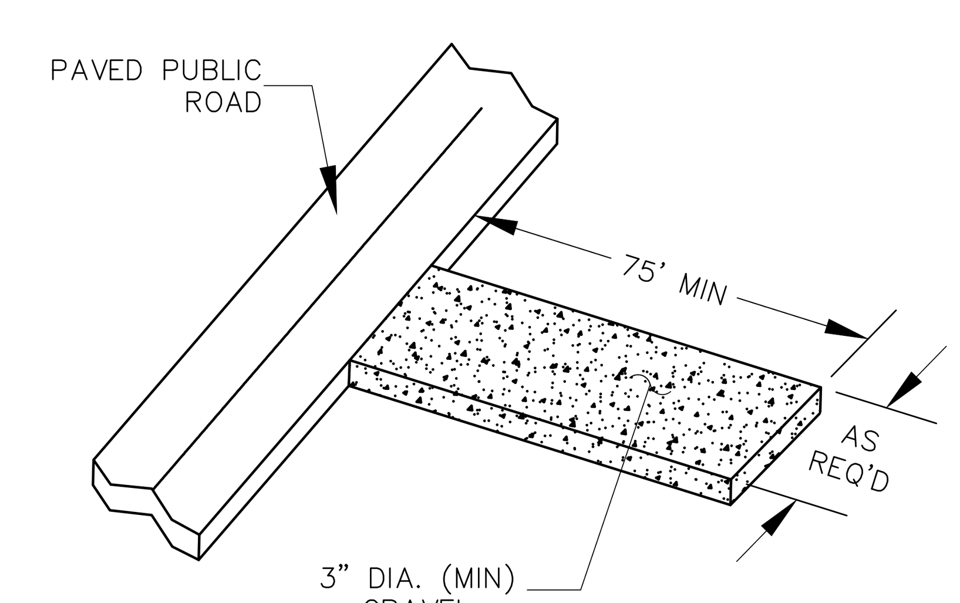
NOTES:

1. THIS TEMPORARY SEDIMENTATION BASIN DETAIL IS PROVIDED AS A CONTINGENCY IN THE EVENT THE ENGINEER DETERMINES THAT ADDITIONAL EROSION CONTROLS ARE WARRANTED.
2. CONTRACTOR MAY UTILIZE EXISTING SOILS FROM EXCAVATING THE SEDIMENTATION BASIN TO CONSTRUCT THE BASIN IF APPROVED BY THE ENGINEER. THE DETAIL ABOVE, DEPICTS UTILIZING SOILS IMMEDIATELY ADJACENT TO THE PROPOSED BERM LOCATION.

Temporary Sedimentation Basin Berm

Not to Scale

5



CONSTRUCTION SPECIFICATIONS:

1. STONE SIZE – USE 3" STONE (MIN)
2. LENGTH – AS REQUIRED, BUT NOT LESS THAN 75 FEET.
3. THICKNESS – NOT LESS THAN SIX (6) INCHES.
4. WIDTH – NOT LESS THAN THE FULL WIDTH AT POINTS WHERE INGRESS OR EGRESS OCCURS.
5. FILTER CLOTH – WILL BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING OF STONE.
6. SURFACE WATER – ALL SURFACE WATER FLOWING OR DIVERTED TOWARD CONSTRUCTION ENTRANCES SHALL BE PIPED ACROSS THE ENTRANCE. IF PIPING IS IMPRACTICAL, A MOUNTABLE BERM WITH 5:1 SLOPES WILL BE PERMITTED.
7. MAINTENANCE – THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND AND REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHTS-OF-WAY MUST BE REMOVED IMMEDIATELY.
8. PERIODIC INSPECTION AND NEEDED MAINTENANCE SHALL BE PERFORMED AFTER EACH RAIN.

Stabilized Construction Entrance

Not to Scale

6

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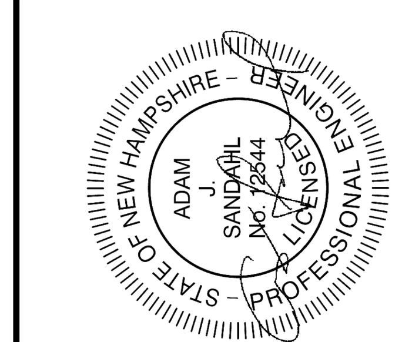

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designed by: ATR/NJM/STF/AJS
project no: 1101
drawn by: ATR/NJM/STF
checked by: AJS
approved by: AJS
scale:

Granite State Landfill, LLC
Dalton, New Hampshire

Permitting Plan Set

Wetland Filling Details

drawing no. *D-14*

sheet: 50 of 50