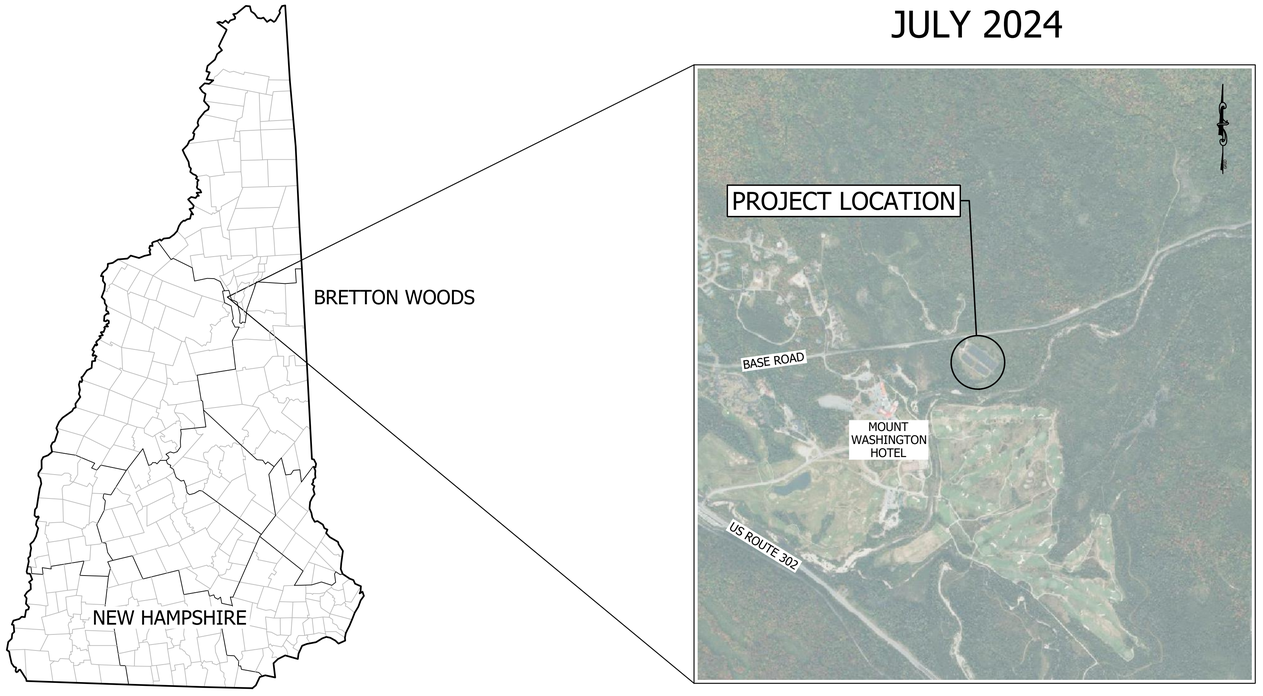
OMNI MOUNT WASHINGTON RESORT

WASTEWATER TREATMENT SYSTEM UPGRADE

BRETTON WOODS, NEW HAMPSHIRE

JULY 2024



LOCATION PLAN

SCALE: 1" = 1000'

OWNER:

OMNI MOUNT WASHINGTON, LLC
4001 MAPLE AVENUE, SUITE 300
DALLAS, TEXAS 75219
(972) 871-5600

ENGINEER/SURVEYOR:

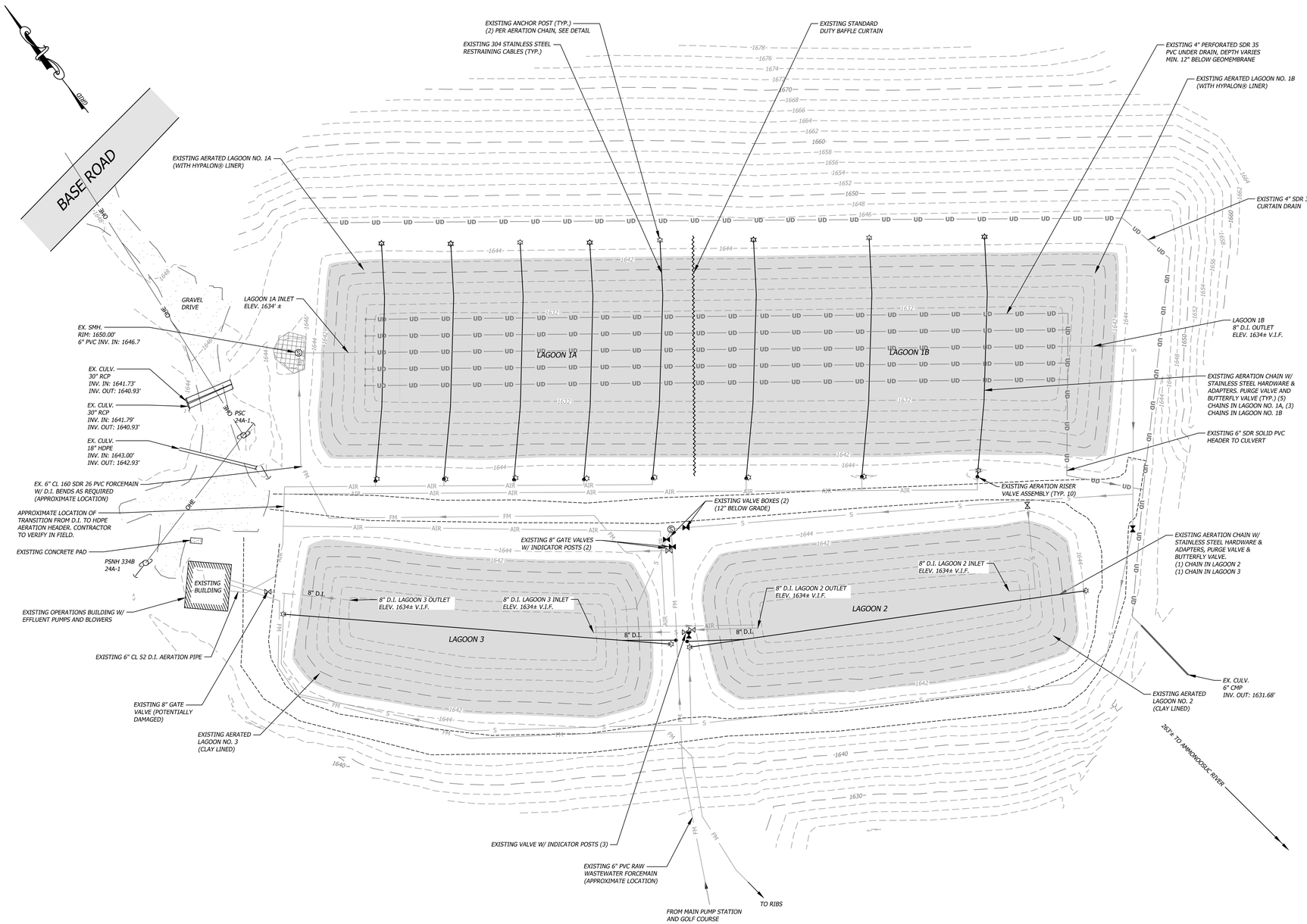
horizons Engineering
34 SCHOOL STREET
LITTLETON, NH 03561
(603) 444-4111

Stephen M. LaFrance No. 7148 LICENSED PROFESSIONAL ENGINEER STATE OF NEW HAMPSHIRE

INDEX OF SHEETS

BID DOCUMENT
NOT FOR CONSTRUCTION

DATE OF PRINT
JULY 08 2024
HORIZONS ENGINEERING



GENERAL NOTES

1. TOPOGRAPHIC INFORMATION IS FROM A FIELD SURVEY BY HORIZONS ENGINEERING. UNDERGROUND UTILITIES, INCLUDING LAGOON 1A/1B UNDERDRAIN, AERATION HEADERS, AND WASTEWATER PIPING FROM "THE MOUNT WASHINGTON HOTEL AND RESORT, WASTEWATER TREATMENT PLANT UPGRADE, FEBRUARY 29, 2000," BY T&M ASSOCIATES, INC.
2. ANY DISCREPANCIES IN THE APPROVED PLANS AND ACTUAL SITE CONDITIONS MUST BE REPORTED TO THE ENGINEER BY THE CONTRACTOR PRIOR TO CONSTRUCTION.
3. ALL WORK SHALL CONFORM TO NATIONAL PLUMBING CODES, NATIONAL ELECTRICAL CODES AND STATE CONSTRUCTION GUIDELINES.
4. ALL EQUIPMENT SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS AND RECOMMENDATIONS.
5. THE CONSTRUCTION OF THE WASTEWATER DISPOSAL SYSTEM SHALL BE INSPECTED BY A PROFESSIONAL ENGINEER, REGISTERED IN THE STATE OF NEW HAMPSHIRE AND SHALL BE COMPLETED IN CONFORMANCE WITH STATE AND LOCAL REGULATIONS.
6. ALL WORK SHALL BE CONSTRUCTED IN ACCORDANCE WITH THESE PLANS AND "TECHNICAL SPECIFICATIONS FOR OMNI MOUNT WASHINGTON RESORT WASTEWATER TREATMENT SYSTEM UPGRADE".
7. NO EXISTING MONUMENTS, BOUNDS, OR BENCHMARKS SHALL BE DISTURBED WITHOUT FIRST MAKING PROVISIONS FOR RELOCATION.
8. ALL WORK SHALL BE PERFORMED WITHIN THE PROPERTY OF, AND EASEMENTS SECURED BY, THE OWNER.
9. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE DATA COLLECTION AND PREPARATION OF RECORD DRAWINGS.
10. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR CONTROLLING EROSION IN ALL AREAS DISTURBED BY HIS ACTIONS. COSTS FOR REQUIRED EROSION CONTROL, REGARDLESS OF WHETHER OR NOT SUCH MEASURES ARE SHOWN ON THE ENGINEERING DRAWINGS, SHALL BE BORNE BY HIM.
11. UTILITY LOCATIONS ARE BASED ON THE BEST AVAILABLE INFORMATION. THE CONTRACTOR IS RESPONSIBLE FOR LOCATION AND PROTECTION OF EXISTING UTILITIES AND SHALL REPAIR ANY DAMAGE AS QUICKLY AS POSSIBLE AT HIS OWN EXPENSE. ALL UTILITIES ENCOUNTERED SHALL BE LOCATED BY DEPTH AND TIES AND SHOWN BY THE CONTRACTOR ON HIS "AS BUILT" DRAWINGS. HAND EXCAVATION SHALL BE DONE WHEREVER UNDERGROUND UTILITIES ARE SHOWN OR ANTICIPATED. THE CONTRACTOR SHALL CONTACT DIG SAFE AND THE APPROPRIATE AUTHORITIES PRIOR TO ANY CONSTRUCTION IN ORDER TO VERIFY EXISTING CONDITIONS AND UTILITY LOCATIONS.
12. UNDERGROUND PIPING LOCATIONS (INCLUDING CURTAIN DRAIN AND UNDERDRAIN) TAKEN FROM ORIGINAL DESIGN DRAWINGS ENTITLED "CONSTRUCTION PLANS FOR THE MOUNT WASHINGTON HOTEL AND RESORT WASTEWATER TREATMENT FACILITY UPGRADE, DATED FEBRUARY 29, 2000."
13. CONTRACTOR TO COORDINATE WITH OWNER AND OPERATOR TO MAINTAIN SYSTEM OPERATION DURING CONSTRUCTION.

LEGEND

- MAJOR CONTOUR (10')
- MINOR CONTOUR (2')
- S — APPROXIMATE SEWER GRAVITY LINE
- FM — APPROXIMATE SEWER FORCEMAIN
- AIR — APPROXIMATE COMPRESSED AIR
- UD — APPROXIMATE UNDER DRAIN
- CURTAIN DRAIN
- EXISTING TRAIL
- ANCHOR POST
- AERATION STAND PIPE
- GATE VALVE (N.O.)
- GATE VALVE (N.C.)
- GUY WIRE
- SEWER MANHOLE
- UTILITY POLE
- EXISTING PAVEMENT
- EXISTING GRAVEL
- LEDGE

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OMNI MOUNT WASHINGTON RESORT
WASTEWATER TREATMENT SYSTEM UPGRADE
BRETTON WOODS, NEW HAMPSHIRE

EXISTING CONDITIONS PLAN

NO.	DATE	REVISION DESCRIPTION	ENG	DWG

STATE OF NEW HAMPSHIRE — Stephen M. LaFrance No. 7145 — LICENSED PROFESSIONAL ENGINEER

DATE: JUNE 2024	PROJECT #: 230570
ENGIN'D BY: KTW	DRAWN BY: DMW
CHECK'D BY: SML	ARCHIVE #: H-___

SHEET C1.0

REMOVE SLUDGE AND HYPALON® LINER FROM EXISTING AERATED LAGOON 1A

REMOVE AND DISPOSE OF EXISTING 304 STAINLESS STEEL RESTRAINING CABLES (TYP.)
(5) CHAINS LAGOON 1A
(3) CHAINS LAGOON 1B

REMOVE AND DISPOSE OF EXISTING ANCHOR POST (TYP.) (2) PER AERATION CHAIN

REMOVE AND DISPOSE EXISTING STANDARD DUTY BAFFLE CURTAIN AND ANCHOR POSTS

EXISTING 6" PERFORATED SDR 35 PVC UNDER DRAIN TO REMAIN, DEPTH VARIES MIN. 12" BELOW LINER

REMOVE SLUDGE, HYPALON® LINER, AERATION SYSTEM FROM EXISTING AERATED LAGOON 1B

FLUSH AND DRAIN CONVEYANCE PIPING

6" PVC SDR 35 UNDERDRAIN HEADER TO REMAIN

REMOVE AND DISPOSE OF EXISTING ANCHOR POST, AERATION HEADER, DIFFUSERS AND BUTTERFLY VALVE. CUT AND PLUG AERATION LATERALS TO BE ABANDONED AT HEADER TEES. (TYP.) (2) LAGOON 1A, (1) LAGOON 1B

FLUSH AND DRAIN CONVEYANCE PIPING

REMOVE AND DISPOSE OF EXISTING AERATION CHAIN W/ STAINLESS STEEL HARDWARE & ADAPTERS, AND ANCHOR POSTS
(1) CHAIN IN LAGOON 2
(1) CHAIN IN LAGOON 3

REMOVE SLUDGE FROM EXISTING AERATED LAGOON 2 (CLAY LINED)

REMOVE SLUDGE FROM EXISTING AERATED LAGOON 3 (CLAY LINED)

LAGOON 1A

LAGOON 1B

LAGOON 2

LAGOON 3

GRAVEL DRIVE

EXISTING BUILDING

PSC 24A-1

PSNH 334B 24A-1

LEGEND

- MAJOR CONTOUR (10')
- MINOR CONTOUR (2')
- S — APPROXIMATE SEWER GRAVITY LINE
- FM — APPROXIMATE SEWER FORCEMAIN
- AIR — APPROXIMATE COMPRESSED AIR
- UD — APPROXIMATE UNDER DRAIN
- ANCHOR POST
- AERATION STAND PIPE
- GATE VALVE (N.O.)
- GATE VALVE (N.C.)
- GUY WIRE
- SEWER MANHOLE
- UTILITY POLE
- EXISTING PAVEMENT
- EXISTING GRAVEL
- LEDGE

0 10 20 40 80

SCALE IN FEET

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OMNI MOUNT WASHINGTON RESORT

WASTEWATER TREATMENT SYSTEM UPGRADE

BRETTON WOODS, NEW HAMPSHIRE

PROPOSED DEMOLITION PLAN

NO.	DATE	REVISION DESCRIPTION	ENG	DWG

STATE OF NEW HAMPSHIRE — Stephen M. LaFrance No. 7145 — LICENSED PROFESSIONAL ENGINEER

DATE:	PROJECT #:
JUNE 2024	230570
ENGIN'D BY: KTW	DRAWN BY: DMW
CHECK'D BY: SML	ARCHIVE #: H-___

SHEET C2.0

NEW ANCHOR POSTS, STAINLESS STEEL CHAINS, AERATION LATERAL ASSEMBLIES WITH BUTTERFLY VALVE (5) PROVIDED AND INSTALLED BY OTHERS, SEE DETAIL SHEET 5.1

PROPOSED 2' WIDE GRASS LINED DRAINAGE SWALE PROVIDE 4" COMPACTED LOAM, SEED AND MULCH

NEW WINCH ASSEMBLIES INSTALLED BY OTHERS, SEE NEXOM DETAILS SHEET 5.1

INSTALL NEW STANDARD DUTY BAFFLE CURTAIN

INSTALL NEW ANCHOR POSTS (TYP. 2) FOR BAFFLE CURTAIN INSTALLED BY OTHERS. SEE NEXOM DETAILS SHEET 5.1

LAGOON 1: CONTRACTOR TO AUGMENT AND RESHAPE EXISTING SAND LAYER TO PROVIDE ONE FOOT THICKNESS AND INSTALL NEW 60 MIL HDPE LINER

GRAVEL DRIVE

EX. CULV.
30" RCP
INV. IN: 1641.73'
INV. OUT: 1640.93'

EX. CULV.
30" RCP
INV. IN: 1641.79'
INV. OUT: 1640.93'

EX. CULV.
18" HDPE
INV. IN: 1643.00'
INV. OUT: 1642.93'

PSC 24A-1

PSNH 334B 24A-1

INSTALL NEW INDICATOR POSTS

EXISTING BUILDING

LAGOON 1

LAGOON 2

LAGOON 3

BLIND FLANGE INSTALLATION AT AERATION HEADER (3) BY OTHERS, SEE NEXOM DETAILS SHEET 5.1

INSTALL NEW INDICATOR POSTS, SEE NOTE 1

INSTALL NEW INDICATOR POST

PROPOSED HDPE LINER

PROPOSED 12' WIDE GRAVEL ACCESS

INSTALL NEW AERATION CHAIN WITH WINCH ASSEMBLIES, STAINLESS STEEL CHAINS AERATION LATERAL ASSEMBLIES AND VALVES PROVIDED AND INSTALLED BY OTHERS (TYP. 2) ANCHOR POSTS PER CHAIN, SEE DETAIL SHEET 5.1
(1) AERATION CHAIN, LAGOON 2
(1) AERATION CHAIN, LAGOON 3

LAGOON #2 AND LAGOON #3 CONTRACTOR TO REMOVE 1 FOOT OF EXISTING CLAY MATERIAL, RESHAPE LAGOON BOTTOMS AND SIDE SLOPES. INSTALL 1 FOOT OF SCREENED, ROLLED SAND, AND NEW 60 MIL GEOMEMBRANE LINER

PROPOSED HDPE LINER

LAGOON 1
TOP OF LINER: 1644.0
TOP: 127'x450'
BOTTOM: 55'x378'

LAGOON 2
TOP OF LINER: 1644.0
TOP: 92'x200'
BOTTOM: 20'x128'

LAGOON 3
TOP OF LINER: 1644.0
TOP: 85'x190'
BOTTOM: 13'x118'

NOTES:
1. INSTALL NEW INDICATOR POSTS AND ROD ASSEMBLIES TO MATCH EXISTING, AMERICAN FLOW CONTROL MODEL A420 AND A421, TYPICAL 5 LOCATIONS.

LEGEND

- MAJOR CONTOUR (10')
- MINOR CONTOUR (2')
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- FM — APPROXIMATE SEWER FORCEMAIN
- AIR — APPROXIMATE COMPRESSED AIR
- UD — UD — UD — APPROXIMATE UNDER DRAIN
- EXISTING TRAIL
- ANCHOR/TETHER POINT
- AERATION STAND PIPE
- EXISTING GATE VALVE
- INDICATOR POST
- PROPOSED GATE VALVE
- GUY WIRE
- SEWER MANHOLE
- UTILITY POLE
- EXISTING PAVEMENT
- EXISTING GRAVEL
- PROPOSED GRAVEL
- LEDGE

0 10 20 40 80
SCALE IN FEET

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WASTEWATER TREATMENT SYSTEM UPGRADE
BRETTON WOODS, NEW HAMPSHIRE

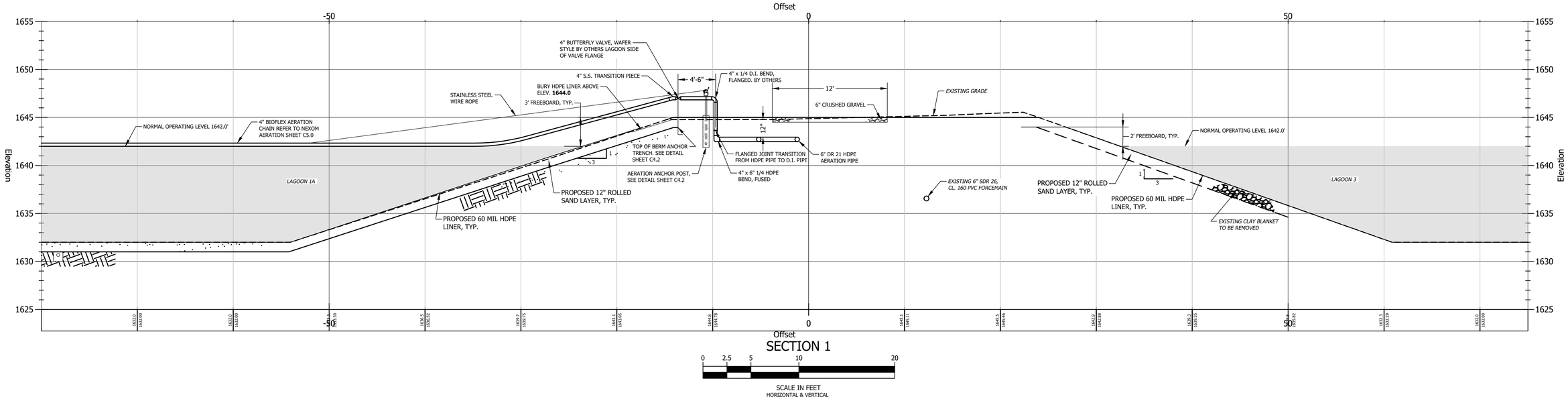
PROPOSED LAGOON CONSTRUCTION

NO.	DATE	REVISION DESCRIPTION	ENG	DWG

STATE OF NEW HAMPSHIRE — Stephen M. LaFrance No. 7148 LICENSED PROFESSIONAL ENGINEER

DATE:	PROJECT #:
JUNE 2024	230570
ENGIN'D BY:	DRAWN BY:
KTW	DMW
CHECK'D BY:	ARCHIVE #:
SML	H-___

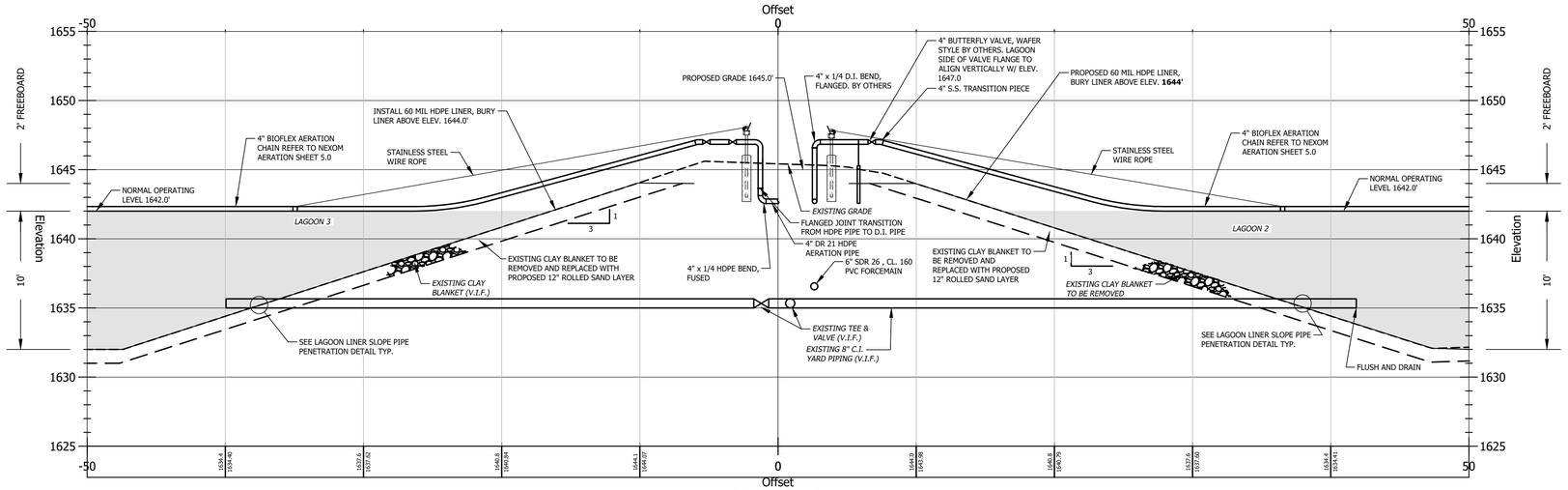
SHEET C3.0



SECTION 1

0 2.5 5 10 20

SCALE IN FEET
HORIZONTAL & VERTICAL



SECTION 2

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SCALE IN FEET
HORIZONTAL & VERTICAL

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LAGOON CROSS SECTIONS 1

NO.	DATE	REVISION DESCRIPTION	ENG	DWG

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No. 7145
LICENSED
PROFESSIONAL ENGINEER

DATE: JUNE 2024	PROJECT #: 230570
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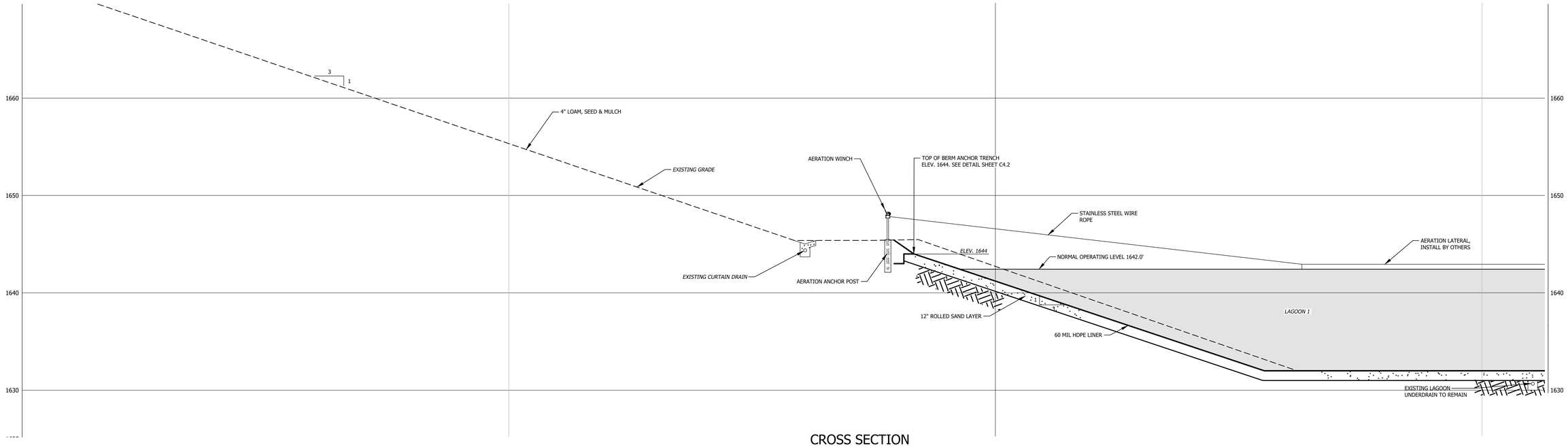
CHECK'D BY: SML	ARCHIVE #: H-___

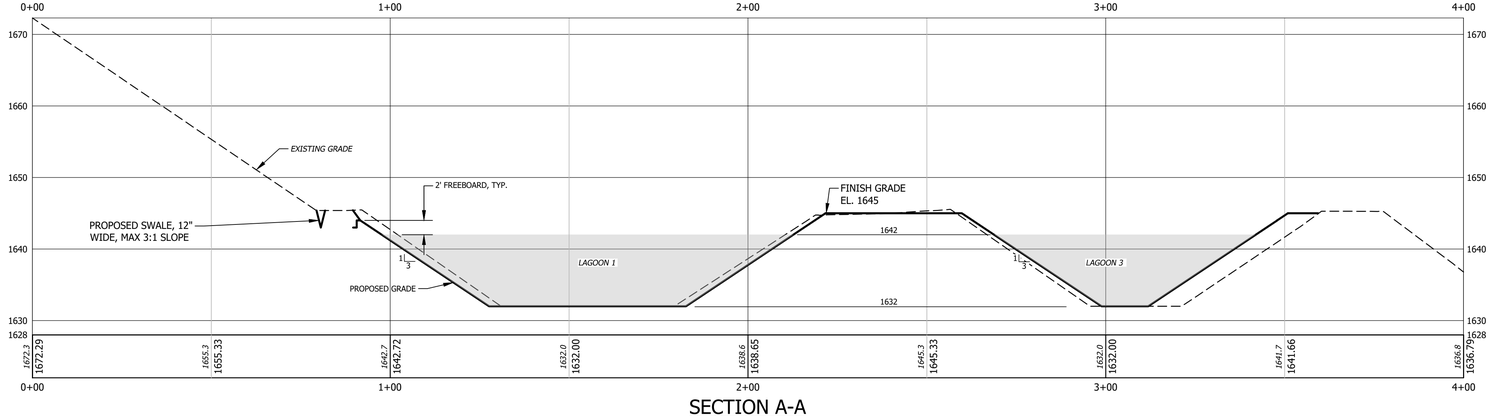
SHEET C4.0



CROSS SECTION

0 2.5 5 10 20

SCALE IN FEET
HORIZONTAL & VERTICAL



SECTION A-A

STA: 0+00 to STA: 4+00

0 10H 20H 40H 80H

0 5V 10V 20V 40V

SCALE IN FEET

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BRETTON WOODS, NEW HAMPSHIRE

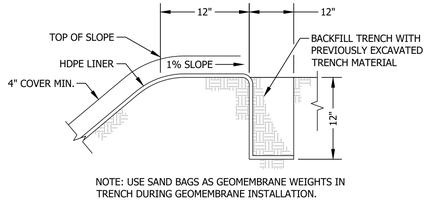
LAGOON CROSS SECTIONS 2

NO.	DATE	REVISION DESCRIPTION	ENG	DWG

STATE OF NEW HAMPSHIRE
Stephen M. LaFrance
No. 7145
LICENSED
PROFESSIONAL ENGINEER

DATE: JUNE 2024	PROJECT #: 230570
ENGIN'D BY: KTW	DRAWN BY: DMW
CHECK'D BY: SML	ARCHIVE #: H-___

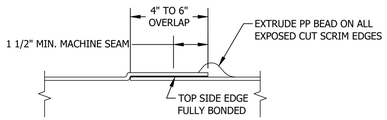
SHEET C4.1



NOTE: USE SAND BAGS AS GEOMEMBRANE WEIGHTS IN TRENCH DURING GEOMEMBRANE INSTALLATION.

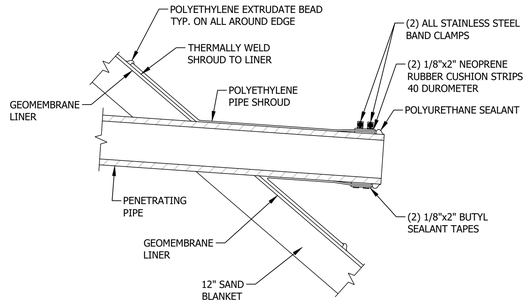
LAGOON LINER TOP OF BERM ANCHOR TRENCH DETAIL

N.T.S.



LAGOON LINER FIELD SEAM DETAIL

N.T.S.



LAGOON LINER SLOPE PIPE PENETRATION DETAIL

N.T.S.

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WASTEWATER TREATMENT SYSTEM UPGRADE

BRETTON WOODS, NEW HAMPSHIRE

LAGOON CONSTRUCTION DETAILS

NO.	DATE	REVISION DESCRIPTION	ENG	DWG

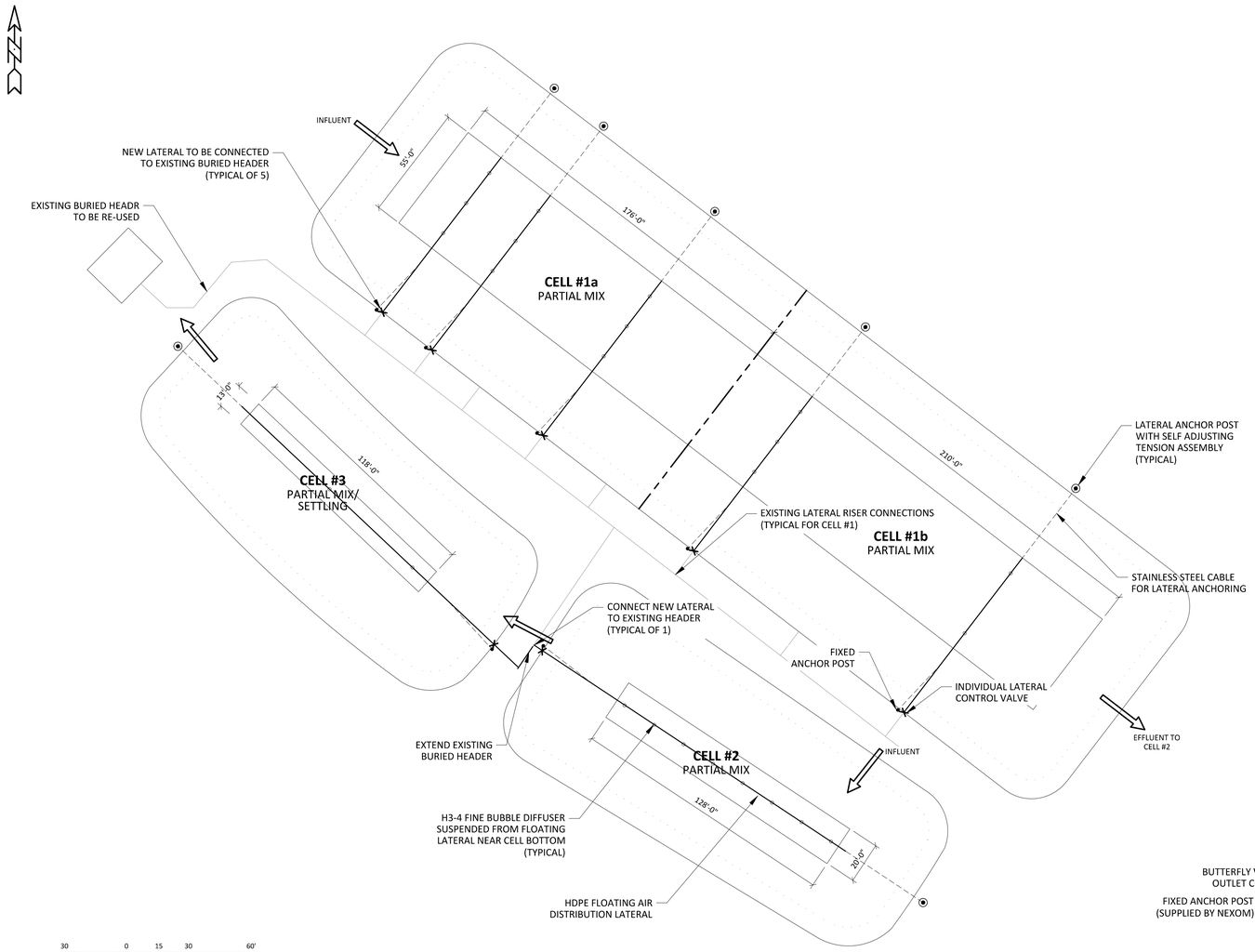
STATE OF NEW HAMPSHIRE — Stephen M. LaFrance No. 7145 — LICENSED PROFESSIONAL ENGINEER

DATE: JUNE 2024	PROJECT #: 230570
ENGIN'D BY: KTW	DRAWN BY: DMW
CHECK'D BY: SML	ARCHIVE #: H-___

SHEET C4.2

PLOT SIZE: 610mm x 914mm (24" x 36")

REDUCED SIZE PLOT - DO NOT SCALE



30 0 15 30 60'

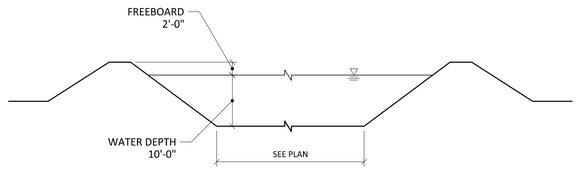
SCALE: IMPERIAL

AERATION LAYOUT - OPTION A

SCALE: 1:400

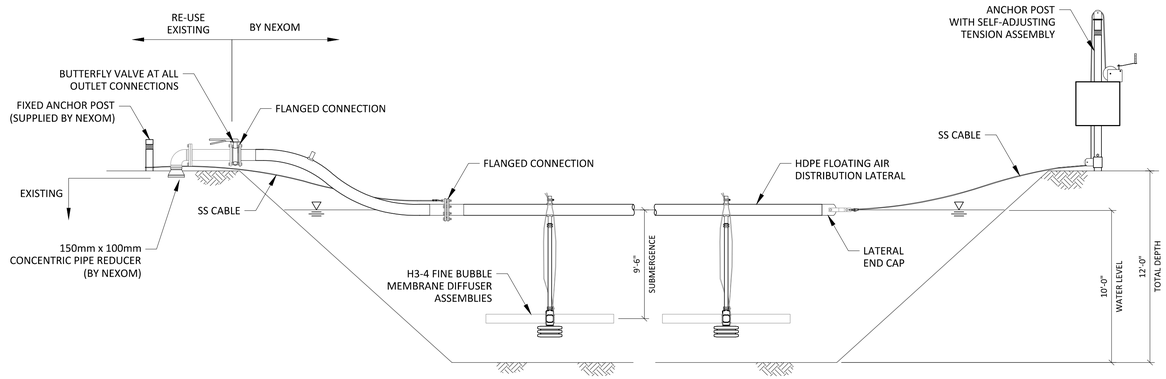
LOCATION PLAN

SCALE: 1:1000



TYPICAL SECTION - AERATED CELLS

SCALE: N.T.S.



AERATED LAGOON SECTION

SCALE: N.T.S.

REVIEWED BY:

STATE OF NEW HAMPSHIRE — Stephen M. LaFrance No. 7145 — LICENSED PROFESSIONAL ENGINEER

Nexom technologies for cleaner water

5 Burks Way
Navin, Manitoba
Canada R5T 0C9

888-426-8180
www.nexom.com

PROJECT: **MOUNT WASHINGTON HOTEL, NH**
PROPOSED WASTEWATER TREATMENT SYSTEM

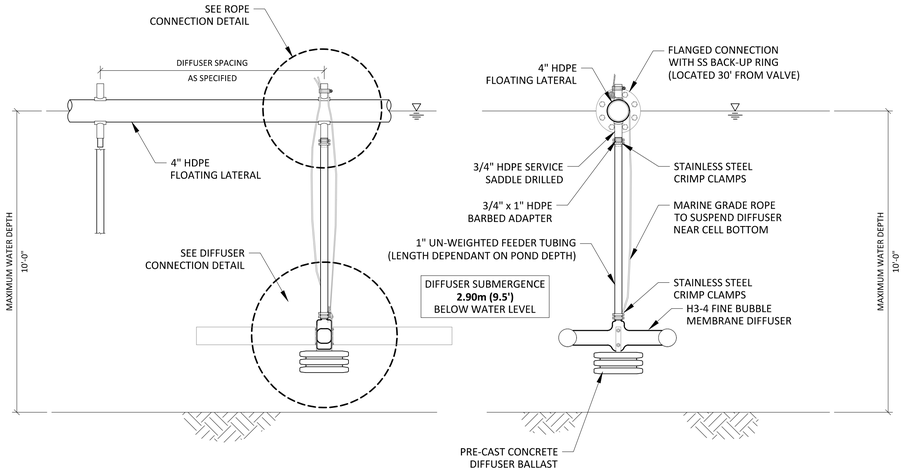
TITLE: OPTAER SYSTEM
AERATION LAYOUT, TYPICAL SECTION, LOCATION PLAN

DRAWN BY:	APPROVED BY:	SCALE:	DRAWING NO.	SHT.	REV.
MR	MK	AS NOTED	C5.0	1 of 2	1

DATE: 2024/06/11 FILE # CD23259.02R1

PLOT SIZE: 610mm x 914mm (24" x 36")

REDUCED SIZE PLOT - DO NOT SCALE

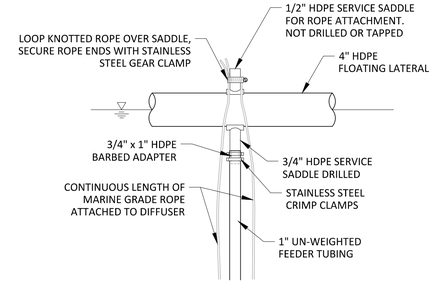


LATERAL DETAIL - ELEVATION

SCALE: 1:15

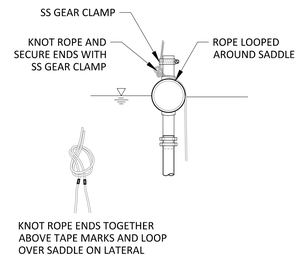
LATERAL DETAIL - SECTION

SCALE: 1:15



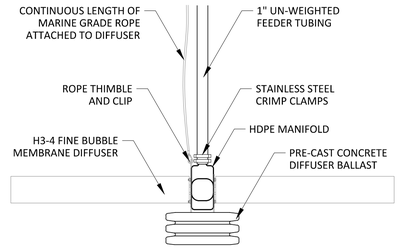
LATERAL CONNECTION DETAIL

SCALE: N.T.S.



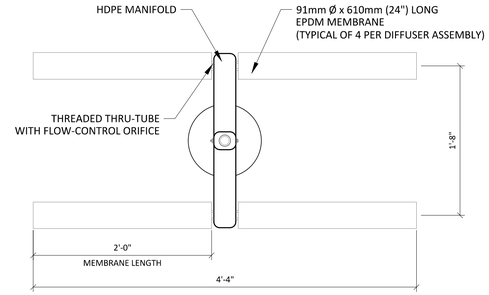
ROPE CONNECTION DETAIL

SCALE: N.T.S.



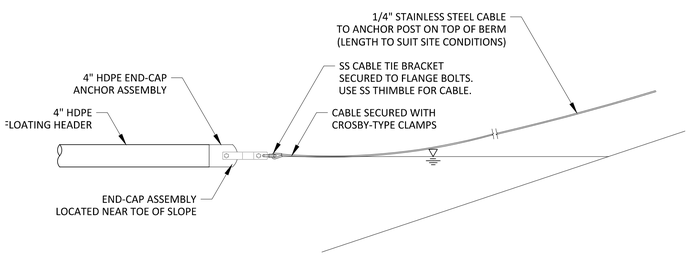
DIFFUSER CONNECTION DETAIL

SCALE: N.T.S.



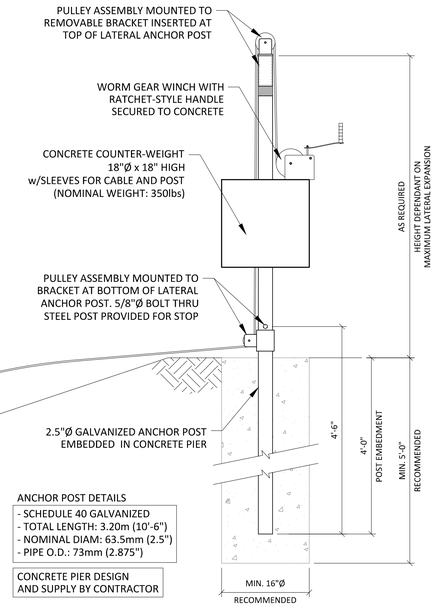
H3-4 DIFFUSER - PLAN

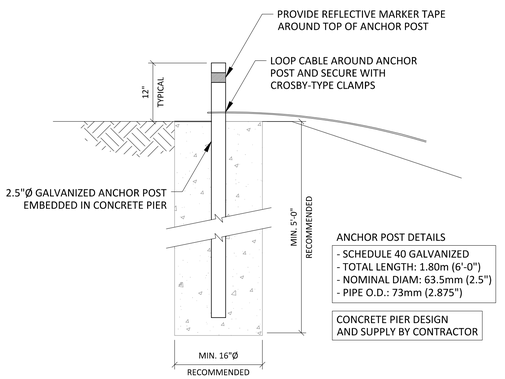
SCALE: N.T.S.



LATERAL DETAIL AT FREE END

SCALE: 1:15





FIXED ANCHOR POST AT HEADER DETAIL

SCALE: 1:15

REVIEWED BY:

Nexom
technologies for cleaner water
5 Burks Way
Navin, Manitoba
Canada R5T 0C9
888-426-8180
www.nexom.com

PROJECT: **MOUNT WASHINGTON HOTEL, NH**
PROPOSED WASTEWATER TREATMENT SYSTEM

TITLE: OPTAER SYSTEM
FLOATING LATERAL AERATION DETAILS

DRAWN BY:	APPROVED BY:	SCALE:	DRAWING NO.	SHT.	REV.
MR	MK	AS NOTED	C5.1	2 of 2	1

DATE: 2024/06/11 FILE # CD23259.02R1

SEEDING RECOMMENDATIONS

1. GRADING AND SHAPING

A. SLOPES SHALL NOT BE STEEPER THAN 2:1; 3:1 SLOPES OR FLATTER ARE PREFERRED. WHERE MOWING WILL BE DONE, 3:1 SLOPES OR FLATTER ARE RECOMMENDED.

2. SEEDBED PREPARATION

A. SURFACE AND SEEPAGE WATER SHOULD BE DRAINED OR DIVERTED FROM THE SITE TO PREVENT DROWNING OR WINTER KILLING OF THE PLANTS.

B. STONES LARGER THAN 4 INCHES AND TRASH SHOULD BE REMOVED BECAUSE THEY INTERFERE WITH SEEDING AND FUTURE MAINTENANCE OF THE AREA. WHERE FEASIBLE, THE SOIL SHOULD BE AMENDED WITH ORGANIC MATTER AND TILLED TO A DEPTH OF ABOUT 4 INCHES TO PREPARE A SEEDBED AND MIX FERTILIZER AND LIME THOROUGHLY INTO THE SOIL. THE SEEDBED SHOULD BE LEFT IN A REASONABLY FIRM AND SMOOTH CONDITION. THE LAST TILLAGE OPERATION SHOULD BE PERFORMED ACROSS THE SLOPE WHEREVER PRACTICAL.

3. ESTABLISHING VEGETATION

A. LIME AND FERTILIZER SHOULD BE APPLIED PRIOR TO OR AT THE TIME OF SEEDING AND INCORPORATED INTO THE SOIL. KINDS AND AMOUNTS OF LIME AND FERTILIZER SHOULD BE BASED ON AN EVALUATION OF SOIL TESTS. WHEN A SOIL TEST IS NOT AVAILABLE, THE FOLLOWING MINIMUM AMOUNTS SHOULD BE APPLIED:

-AGRICULTURAL LIMESTONE, 2 TONS PER ACRE OR 100 LBS. PER 1,000 SQ. FT.
-NITROGEN (N), 50 LBS., PER ACRE OR 1.1 LBS. PER 1,000 SQ. FT.
-PHOSPHATE (P_2O_5), 100 LBS. PER ACRE OR 2.2 LBS. PER 1,000 SQ. FT.
-POTASH (K_2O), 100 LBS. PER ACRE OR 2.2 LBS. PER 1,000 SQ. FT.

(NOTE: THIS IS THE EQUIVALENT OF 500 LBS. PER ACRE OF 10-20-20 FERTILIZER OR 1,000 LBS. PER ACRE OF 5-10-10).

B. SEED SHOULD BE SPREAD UNIFORMLY BY THE METHOD MOST APPROPRIATE FOR THE SITE. METHODS INCLUDE BROADCASTING, DRILLING, AND HYDROSEEDING. WHERE BROADCASTING IS USED, COVER SEED WITH .25 INCH OF SOIL OR LESS, BY CULTIPACKING OR RAKING.

C. SEEDING GUIDE:

USE	SEEDING MIXTURE (SEE 3D)	SOIL TYPE: DROUGHTY	WELL DRAINED	MOD. WELL DRAINED	POORLY DRAINED
STEEP CUTS AND FILLS, BORROW AND DISPOSAL AREAS	A	FAIR	GOOD	GOOD	FAIR
	B	POOR	GOOD	FAIR	FAIR
	C	FAIR	EXCELLENT	EXCELLENT	POOR
WATERWAYS, EMERGENCY SPILL-WAYS, AND OTHER CHANNELS WITH FLOWING WATER	A	GOOD	GOOD	GOOD	FAIR
LIGHTLY USED PARKING LOTS, ODD AREAS, UNUSED LANDS, AND LOW INTENSITY USE RECREATION SITES	A	GOOD	GOOD	GOOD	FAIR
	B	GOOD	GOOD	FAIR	POOR

D. SEEDING RATES:

MIXTURE	POUNDS PER ACRE	POUNDS PER 1,000 SQ. FT.
A TALL FESCUE	20	0.45
CREEPING RED FESCUE	20	0.45
REDTOP	2	0.05
TOTAL:	42	0.95
B TALL FESCUE	15	0.35
CREEPING RED FESCUE	10	0.25
CROWN VETCH **OR**	15 **OR**	0.35 **OR**
FLATPEA	30	0.75
TOTAL:	40 **OR** 55	0.95 **OR** 1.35
C TALL FESCUE	20	0.45
FLATPEA	30	0.75
TOTAL:	50	1.20

E. WHEN SEEDED AREAS ARE MULCHED, PLANTINGS MAY BE MADE FROM EARLY SPRING TO SEPTEMBER 15. WHEN SEEDED AREAS ARE NOT MULCHED, PLANTINGS SHOULD BE MADE FROM EARLY SPRING TO MAY 20 OR FROM AUGUST 10 TO SEPTEMBER 1.

F. TEMPORARY SEEDING RATES:

SPECIES	POUNDS PER ACRE	POUNDS PER 1,000 SQ. FT.	REMARKS
WINTER RYE	112	2.5	BEST FOR FALL SEEDING. SEED FROM AUGUST TO SEPTEMBER 5TH FOR BEST COVER. SEED TO A DEPTH OF 1 INCH.
OATS	80	2.0	BEST FOR SPRING SEEDING. SEED NO LATER THAN MAY 15TH FOR SUMMER PROTECTION. SEED TO A DEPTH OF 1 INCH.
ANNUAL RYEGRASS	40	1.0	GROWS QUICKLY, BUT IS OF SHORT DURATION. USE WHERE APPEARANCES ARE NOT IMPORTANT. SEED EARLY SPRING AND/OR BETWEEN AUGUST 15TH AND SEPTEMBER 15TH. COVER SEED WITH NO MORE THAN 0.25 INCH OF SOIL.
PERENNIAL RYEGRASS	30	0.7	GOOD COVER WHICH IS LONGER LASTING THAN ANNUAL RYEGRASS. SEED BETWEEN APRIL 1ST AND JUNE 1ST AND/OR BETWEEN AUGUST 15TH AND SEPTEMBER 15TH. MULCHING WILL ALLOW SEEDING THROUGHOUT THE GROWING SEASON. SEED TO A DEPTH OF APPROXIMATELY 0.5 INCH.

4. MULCH

A. HAY, STRAW, OR OTHER MULCH, WHEN NEEDED, SHOULD BE APPLIED IMMEDIATELY AFTER SEEDING.

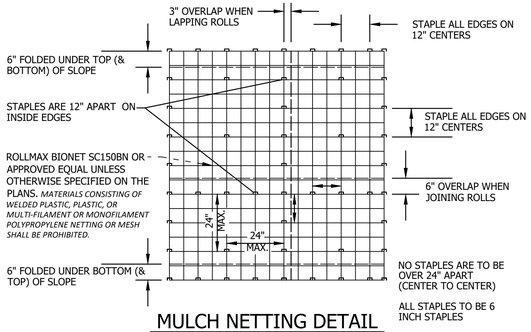
B. MULCH WILL BE HELD IN PLACE USING APPROPRIATE TECHNIQUES FROM THE BEST MANAGEMENT PRACTICE FOR MULCHING.

5. MAINTENANCE TO ESTABLISH A STAND

A. PLANTED AREAS SHOULD BE PROTECTED FROM DAMAGE BY FIRE, GRAZING, TRAFFIC, AND DENSE WEED GROWTH.

B. FERTILIZATION NEEDS SHOULD BE DETERMINED BY ON SITE INSPECTIONS. SUPPLEMENTAL FERTILIZER IS USUALLY THE KEY TO FULLY COMPLETE THE ESTABLISHMENT OF THE STAND BECAUSE MOST PERENNIALS TAKE 2 TO 3 YEARS TO BECOME ESTABLISHED.

C. IN WATERWAYS, CHANNELS, OR SWALES WHERE UNIFORM FLOW CONDITIONS ARE ANTICIPATED, OCCASIONAL MOWING MAY BE NECESSARY TO CONTROL GROWTH OF WOODY VEGETATION.



MULCH NETTING DETAIL

SOURCE: USDA SOIL CONSERVATION SERVICE
NO SCALE

EROSION CONTROL GENERAL NOTES

A. KEEP SITE MODIFICATION TO A MINIMUM

1. CONSIDER FITTING THE BUILDINGS AND STREETS TO THE NATURAL TOPOGRAPHY. THIS REDUCES THE NEED FOR CUTS AND FILLS. AVOID EXTENSIVE GRADING THAT WOULD ALTER DRAINAGE PATTERNS OR CREATE VERY STEEP SLOPES.
2. EXPOSE AREAS OF BARE SOIL TO EROSIVE ELEMENTS FOR THE SHORTEST TIME POSSIBLE.
3. SAVE AND PROTECT DESIRABLE EXISTING VEGETATION WHERE POSSIBLE. ERECT BARRIERS TO PREVENT DAMAGE FROM CONSTRUCTION EQUIPMENT.
4. LIMIT THE GRADES OF SLOPES SO VEGETATION CAN BE EASILY ESTABLISHED AND MAINTAINED.
5. AVOID SUBSTANTIAL INCREASE IN RUNOFF LEAVING THE SITE.

B. MINIMIZE POLLUTION OF WATER DURING CONSTRUCTION ACTIVITIES

1. STOCKPILE TOPSOIL REMOVED FROM CONSTRUCTION AREA AND SPREAD OVER ANY DISTURBED AREAS PRIOR TO REVEGETATION. TOPSOIL STOCKPILES MUST BE PROTECTED FROM EROSION.
2. PROTECT BARE SOIL AREAS EXPOSED BY GRADING ACTIVITIES WITH TEMPORARY VEGETATION OR MULCHES.
3. USE SEDIMENT BASINS TO TRAP DEBRIS AND SEDIMENT WHICH WILL PREVENT THESE MATERIALS FROM MOVING OFF SITE.
4. USE DIVERSIONS TO DIRECT WATER AROUND THE CONSTRUCTION AREA AND AWAY FROM EROSION PRONE AREAS TO POINTS OF SAFE DISPOSAL.
5. USE TEMPORARY CULVERTS OR BRIDGES WHEN CROSSING STREAMS WITH EQUIPMENT.
6. PLACE CONSTRUCTION FACILITIES, MATERIALS, AND EQUIPMENT STORAGE AND MAINTENANCE AREAS AWAY FROM DRAINAGE WAYS.

C. PROTECT AREA AFTER CONSTRUCTION.

1. ESTABLISH GRASS OR OTHER SUITABLE VEGETATION ON ALL DISTURBED AREAS. SELECT SPECIES ADAPTED TO THE SITE CONDITIONS AND THE FUTURE USE OF THE AREA. FINAL GRADES SHALL BE SEEDED WITHIN 72 HOURS. STABILIZATION SHALL BE DEFINED AS 85% VEGETATIVE COVER.
2. MAINTAIN VEGETATED AREAS USING PROPER VEGETATIVE 'BEST MANAGEMENT PRACTICES' DURING THE CONSTRUCTION PERIOD.
3. MAINTAIN NEEDED STRUCTURAL 'BEST MANAGEMENT PRACTICES' AND REMOVE SEDIMENT FROM DETENTION PONDS AND SEDIMENT BASINS AS NEEDED.
4. DETERMINE RESPONSIBILITY FOR LONG TERM MAINTENANCE OF PERMANENT 'BEST MANAGEMENT PRACTICES'.
5. IF CONSTRUCTION IS ANTICIPATED DURING WINTER MONTHS, REFER TO 'COLD WEATHER SITE STABILIZATION REQUIREMENTS'.

D. INVASIVE SPECIES AND FUGITIVE DUST

1. THE PROJECT SHALL NOT CONTRIBUTE TO THE SPREAD OF INVASIVE SPECIES. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL EVALUATE WORK AREAS FOR THE PRESENCE OF INVASIVE SPECIES, AND IF FOUND SHALL TAKE NECESSARY MEASURES TO PREVENT THEIR SPREAD IN ACCORDANCE WITH RSA 430:51-57 AND AGR 3800. THE CONTRACTOR SHALL TAKE ALL NECESSARY MEASURES TO PREVENT THE INTRODUCTION OF INVASIVE SPECIES BY INSPECTING AND CLEANING ALL EQUIPMENT ARRIVING ON SITE.
2. FUGITIVE DUST SHALL BE CONTROLLED IN ACCORDANCE WITH ENV-A 1000.

COLD WEATHER SITE STABILIZATION REQUIREMENTS

TO ADEQUATELY PROTECT WATER QUALITY DURING COLD WEATHER AND DURING SPRING RUNOFF, THE FOLLOWING ADDITIONAL STABILIZATION TECHNIQUES SHALL BE EMPLOYED DURING THE PERIOD FROM OCTOBER 15 THROUGH MAY 1:

1. THE AREA OF EXPOSED, UNSTABILIZED SOIL SHALL BE LIMITED TO 1 ACRE AND SHALL BE PROTECTED AGAINST EROSION BY THE METHODS DESCRIBED IN THIS SECTION PRIOR TO ANY THAW OR SPRING MELT EVENT. THE ALLOWABLE AREA OF EXPOSED SOIL MAY BE INCREASED IF A WINTER CONSTRUCTION PLAN, DEVELOPED BY A QUALIFIED ENGINEER OR A CPESC SPECIALIST, IS REVIEWED AND APPROVED BY NHDES.
2. ALL PROPOSED VEGETATED AREAS HAVING A SLOPE OF LESS THAN 15% WHICH DO NOT EXHIBIT A MINIMUM OF 85% VEGETATIVE GROWTH BY OCTOBER 15, OR WHICH ARE DISTURBED AFTER OCTOBER 15, SHALL BE SEEDED AND COVERED WITH 3 TO 4 TONS OF HAY OR STRAW MULCH PER ACRE, SECURED WITH ANCHORED NETTING OR TACKIFIER, OR 2 INCHES OF EROSION CONTROL MIX MEETING THE CRITERIA OF ENV-WQ 1506.05(D) THROUGH (H).
3. ALL PROPOSED VEGETATED AREAS HAVING A SLOPE OF GREATER THAN 15% WHICH DO NOT EXHIBIT A MINIMUM OF 85% VEGETATIVE GROWTH BY OCTOBER 15, OR WHICH ARE DISTURBED AFTER OCTOBER 15, SHALL BE SEEDED AND COVERED WITH PROPERLY INSTALLED AND ANCHORED EROSION CONTROL MATTING OR WITH A MINIMUM 4 INCH THICKNESS OF EROSION CONTROL MIX MEETING THE CRITERIA OF ENV-WQ 1506.05(D) THROUGH (H).
4. INSTALLATION OF ANCHORED HAY MULCH OR EROSION CONTROL MIX, MEETING THE CRITERIA OF ENV-WQ 1506.05(D) THROUGH (H), SHALL NOT OCCUR OVER SNOW OF GREATER THAN 1 INCH IN DEPTH.
5. INSTALLATION OF EROSION CONTROL MATTING SHALL NOT OCCUR OVER SNOW OF GREATER THAN ONE INCH IN DEPTH OR ON FROZEN GROUND.
6. ALL PROPOSED STABILIZATION IN ACCORDANCE WITH NOTES 2 OR 3 ABOVE, SHALL BE COMPLETED WITHIN 1 DAY OF ESTABLISHING THE GRADE THAT IS FINAL OR THAT OTHERWISE WILL EXIST FOR MORE THAN 5 DAYS.
7. 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, AS DETERMINED BY THE OWNER'S ENGINEERING CONSULTANT.
8. AFTER OCTOBER 15, INCOMPLETE ROAD OR PARKING AREAS WHERE ACTIVE CONSTRUCTION OF THE ROAD OR PARKING AREA HAS STOPPED FOR THE WINTER SEASON SHALL BE PROTECTED WITH A MINIMUM 3 INCH LAYER OF BASE COURSE GRAVELS MEETING THE GRADATION REQUIREMENTS OF NHDOT STANDARD SPECIFICATION FOR ROAD AND BRIDGE CONSTRUCTION, 2016, ITEM NO. 304.1 OR 304.2.

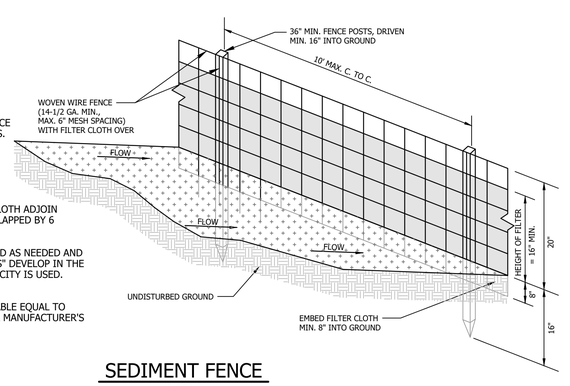
CONSTRUCTION SEQUENCE

1. INSTALL CONSTRUCTION ENTRANCE, SEE DETAIL.
2. INSTALL SEDIMENT FENCES, ROCK CHECK DAMS, AND OTHER APPROPRIATE EROSION CONTROL MEASURES AT LOCATIONS SHOWN ON THE PLANS AND AS NEEDED.
3. INSTALL/ADJUST SEDIMENT FENCE, CHECK DAMS, AND HAYBALES, AS REQUIRED.
4. CONSTRUCT PERMANENT STORMWATER CONTROLS AS SOON AS PRACTICAL. DO NOT DIRECT STORMWATER TOWARD TREATMENT BASINS, PONDS, SWALES, DITCHES AND LEVEL SPREADERS UNTIL THEY HAVE BEEN STABILIZED.
5. BEGIN SEEDING AND MULCHING IMMEDIATELY AFTER GRADING. ALL DISTURBED AREAS SHALL BE STABILIZED WITH APPROVED METHODS WITHIN 72 HOURS OF ACHIEVING FINISHED GRADE.

   AN AREA SHALL BE CONSIDERED STABLE IF ONE OF THE FOLLOWING HAS OCCURRED:
   A) BASE COURSE GRAVELS HAVE BEEN INSTALLED IN AREAS TO BE PAVED;
   B) A MINIMUM OF 85% VEGETATED GROWTH HAS BEEN ESTABLISHED;
   C) A MINIMUM OF 3" OF NON-EROSIVE MATERIAL SUCH AS STONE OR RIPRAP HAS BEEN INSTALLED; OR
   D) EROSION CONTROL BLANKETS HAVE BEEN PROPERLY INSTALLED.
6. INSPECT ALL EROSION CONTROL MEASURES ON A DAILY BASIS AND AFTER EVERY 0.5 INCHES OF PRECIPITATION. MAINTAIN SEDIMENT FENCE, SEDIMENT TRAPS, HAY BALES, ETC., AS NECESSARY.
7. PLACE TOPSOIL, SEED AND MULCH.
8. COMPLETE ALL REMAINING PERMANENT EROSION CONTROL STRUCTURES.
9. MONITOR THE SITE AND MAINTAIN STRUCTURES AS NEEDED UNTIL FULL VEGETATION IS ESTABLISHED.

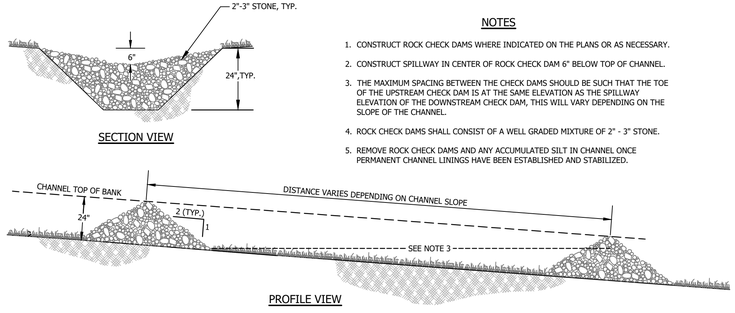
CONSTRUCTION NOTES FOR SEDIMENT FENCE

1. WOVEN WIRE FENCE, IF REQUIRED, TO BE FASTENED SECURELY TO FENCE POSTS WITH WIRE TIES OR STAPLES.
2. FILTER CLOTH TO BE FASTENED SECURELY TO WOVEN WIRE FENCE WITH TIES SPACED EVERY 24" AT TOP, MID SECTION, AND BOTTOM.
3. WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER, THEY SHALL BE OVERLAPPED BY 6 INCHES, FOLDED AND STAPLED.
4. MAINTENANCE SHALL BE PERFORMED AS NEEDED AND MATERIAL REMOVED WHEN "BULGES" DEVELOP IN THE SEDIMENT FENCE, OR 50% OF CAPACITY IS USED.
5. 12" DIAMETER FILTREXX SILTSOXX SHALL BE CONSIDERED AN ACCEPTABLE EQUAL TO SEDIMENT FENCE IF INSTALLED PER MANUFACTURER'S RECOMMENDATIONS.



SEDIMENT FENCE

NO SCALE



SECTION VIEW

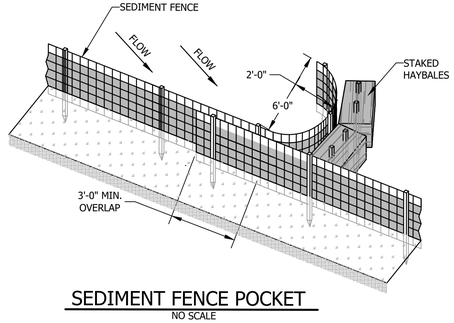
PROFILE VIEW

NOTES

1. CONSTRUCT ROCK CHECK DAMS WHERE INDICATED ON THE PLANS OR AS NECESSARY.
2. CONSTRUCT SPILLWAY IN CENTER OF ROCK CHECK DAM 6" BELOW TOP OF CHANNEL.
3. THE MAXIMUM SPACING BETWEEN THE CHECK DAMS SHOULD BE SUCH THAT THE TOE OF THE UPSTREAM CHECK DAM IS AT THE SAME ELEVATION AS THE SPILLWAY ELEVATION OF THE DOWNSTREAM CHECK DAM, THIS WILL VARY DEPENDING ON THE SLOPE OF THE CHANNEL.
4. ROCK CHECK DAMS SHALL CONSIST OF A WELL GRADED MIXTURE OF 2" - 3" STONE.
5. REMOVE ROCK CHECK DAMS AND ANY ACCUMULATED SILT IN CHANNEL ONCE PERMANENT CHANNEL LININGS HAVE BEEN ESTABLISHED AND STABILIZED.

ROCK CHECK DAM DETAIL

NO SCALE



SEDIMENT FENCE POCKET

NO SCALE

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OMNI MOUNT WASHINGTON RESORT

WASTEWATER TREATMENT SYSTEM UPGRADE

BRETTON WOODS, NEW HAMPSHIRE

EROSION CONTROL NOTES AND DETAILS

NO.	DATE	REVISION DESCRIPTION	ENG	DWG

STATE OF NEW HAMPSHIRE — Stephen M. LaFrance — No. 7148 — LICENSED PROFESSIONAL ENGINEER

DATE: JUNE 2024	PROJECT #: 230570
ENGIN'D BY: KTW	DRAWN BY: DMW
CHECK'D BY: SML	ARCHIVE #: H-___

SHEET C6.0

last revised: 2018-APR-18

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