APPENDIX D

EMNR CORE SAMPLING CQA REPORT

CONSTRUCTION DAILY REPORT
AMCCO Upland and Sediment Remediation Project

Daily Report Number:	AMCCO-090420-GRK		
Date:	9/4/2020		
Weather:	AM:	Overcast	
	PM:	Sunny	
Temperature:	Min:	54 °F	
	Max:	68 °F	
24hr Precipitation:	None		
Completed by:	Garrick Kalmeta, EIT		
Contractor:			

MAUL FOSTER ALONGI
3140 NE Broadway Street
Portland, OR 97232
971-544-2139

Dust Conditions:	Light

Number of Contractor Employees

Supervisory	Operators	Laborers
0	0	0

Work Performed Today

Location	Sub Location	Description of Work	Time Started	Time Ended
Lewis and Clark	EMNR Sand Layer Placement Area	EMNR Core Sampling	10:00	11:30

CQA Officers on site: GRK

Additional Remarks:

CQA officer and Construction Team Manager (and the site owner) performed EMNR Core sampling after completion of Hot Spot 7 and 8 excavation/backfill. A russian pete bore sampler was used at depths of up to 2' to obtain visual EMNR sand/sediment profile data at 11 points within the EMNR sand placement area (see photo log and figure). The average sand placement depth over the sampling points resulted in an average sand layer thickness of approximately 12.5", with the minimum collected sand thickness being 10" and the maximum collected sand thickness being 15". Both the CQA officer and the site owner made an attempt to collect deeper samples at the dredged and backfilled areas, but the recently installed clean sand layer was too thick for the sampling instruments available on site. CQA Team and DEQ discussed this attempt during a weekly progress meeting, and have agreed to revisit the dredge area sand/sediment profile sampling in the upcoming weeks. All EMNR Core sampling work was conducted in the dry at low tide conditions.

Visual Turbidity Monitoring

Calibration Record **Technician** GRK **Time**

	Time	Water Depth @ Station (ft)		Turbidity (NTU)		Delta NTU (Down-Up)	Direction	Visual	Construction Activity
		Upcurrent	Downcurrent	Upcurrent	Downcurrent				
Start									
+2 Hours									
+4 Hours									
+6 Hours									
+8 Hours									
+10 Hours									

Comments
No in-water work occurred today

Inspections and Tests

Inspection/Test Type	Location	Form No.

Additional Remarks:

Daily Report Number:	AMCCO-090420-GRK		
Date:	9/4/2020	**Completed by:**	Garrick Kalmeta, EIT

Subcontractors Onsite

Company Name:		Work Area	Employees

CONSTRUCTION DAILY REPORT
AMCCO Upland and Sediment Remediation Project

Additional Remarks:

Visitors

Time	Name(s)	Agency/Company	Remarks

Additional Remarks:

Verbal Communications with Contractor

Time	Name(s)		Remarks	Action Item?

Additional Remarks:

Daily Report Number:	AMCCO-090420-GRK		
Date:	9/4/2020	**Completed by:**	Garrick Kalmeta, EIT

Equipment Onsite

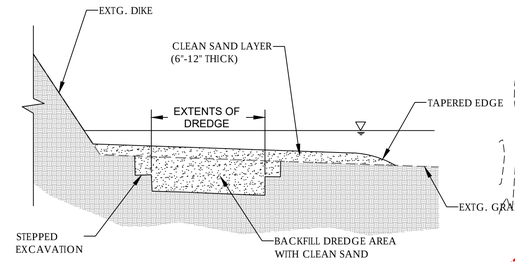
Contractor	Equipment	Quantity	Used Today?	Hours Used

Construction Issues Tracking

Location	Description	Resolution	Action Item?

Additional Remarks:

CQA Officer Signature	Date	Project Manager Review	
GRK	9/4/2020	Cem Gokcora	9/8/2020



1 / C5.1 NEAR SHORE DREDGE AND SAND LAYER
NTS

2 / C5.2 MARINE WAY FILL AND SAND LAYER
NTS

REMEDIATION PLAN LEGEND

- DOCK PILING
- EXISTING ASPHALT
- EXISTING DOCK
- EXISTING GRAVEL SURFACE
- EMNR SAND FILL
- EXISTING MINOR CONTOUR
- EXISTING MAJOR CONTOUR
- LOT LINE
- MEAN HIGH WATER LINE
- HIGH TIDE LINE
- HIGHEST MEASURED TIDE

EMNR SAND FILL NOTES

SEQUENCING

1. SEDIMENT EXCAVATION AND BACKFILL IN THE LEWIS AND CLARK RIVER WORK AREA SHALL BE COMPLETE PRIOR TO PLACEMENT OF THE EMNR MATERIALS.
2. EMNR SAND SHOULD GENERALLY BE PLACED FROM UPSTREAM TO DOWNSTREAM.
3. EMNR SAND SHOULD BE PLACED STARTING AT THE GREATEST DEPTH IN THE PLACEMENT AREA, MOVING TO THE SHALLOWEST LOCATION.

CONSTRUCTION NOTES

1. EMNR SAND IS REQUIRED TO BE PLACED IN AREAS OF THE LEWIS AND CLARK RIVER WHERE VEGETATION MAY OR MAY NOT EXIST. EMNR SAND SHOULD BE PLACED USING A METHOD THAT WILL GRADUALLY SPREAD THE SAND OVER AN AREA WITHOUT SIGNIFICANT DAMAGE TO VEGETATION THAT MAY REMAIN IN PLACE. THE ENGINEER ANTICIPATES THESE METHODS TO UTILIZE AN AERIAL BROADCASTING APPROACH, SUCH AS TELEBELT CONVEYOR, THIN LAYER CLAMSHELL SPREAD, SLURRY SPRAY.
2. SAND SHOULD BE PLACED BY MECHANICAL MEANS - UNLESS HYDRAULIC PLACEMENT METHODS ARE DEMONSTRATED TO NOT DISPLACE OR SUSPEND THE EXISTING SEDIMENT BED.
3. PROVIDE CLEAN EQUIPMENT FOR THE PLACEMENT AND TRANSPORT OF ALL EMNR MATERIALS.
4. PRIOR TO EMNR SAND PLACEMENT ACTIVITIES, OBTAIN VERIFICATION FROM ENGINEER THAT DREDGING IN AN AREA IS COMPLETE.
5. DEMONSTRATE THE PROPOSED EMNR PLACEMENT METHOD IN A PILOT TEST, WITH EVIDENCE PROVIDED TO THE ENGINEER CONSISTING OF RAIN BUCKETS OR SEDIMENT CORES (CLAM GUN), OR OTHER APPROVED METHOD. CORRECTIONS TO APPLICATION METHODOLOGY SHALL BE MADE AND VERIFIED PRIOR TO GOING FULL SCALE.
6. ESTIMATE THE VOLUME OR TONNAGE OF SAND MATERIAL REQUIRED TO BE PLACED IN EACH GRID APPROVAL UNIT AREA TO SATISFY THE DESIGN REQUIREMENT. CONTRACTOR SHALL MONITOR THE PLACEMENT OF EMNR SAND QUANTITY TO DEMONSTRATE THAT THE REQUIRED THICKNESS OF SAND HAS BEEN PLACED.
7. PRIOR TO START OF CONSTRUCTION, THE ENGINEER AND CONTRACTOR SHALL AGREE ON A MEANS OF DEMONSTRATING SUCCESSFUL PLACEMENT TO THE THICKNESS AND LIMITS DESCRIBED IN THE DRAWINGS FOR PURPOSES OF CERTIFYING COMPLETION FOR DEQ. THESE MEANS MAY INCLUDE A COMBINATION OF THE FOLLOWING: DOCUMENTATION OF TONNAGE/VOLUME OF EMNR DELIVERED TO THE SITE, ENGINEER OBSERVATION OF PLACEMENT, PHYSICAL MEASUREMENT (SEDIMENT CORES/RAIN BUCKETS), AND/OR BATHYMETRY.
8. THE MATERIAL SHALL BE PLACED EVENLY AND METHODICALLY IN ORDER TO ACHIEVE THE SAND THICKNESS SPECIFIED BELOW:
   a. THE DESIRED EMNR SAND LAYER IN VEGETATED AREAS IS 6 TO 8 INCHES.
   b. THE DESIRED EMNR SAND LAYER IN NON-VEGETATED AREAS IS 6 TO 12 INCHES.
9. PLACEMENT OF THE EMNR SAND MATERIAL SHALL BE CONDUCTED IN A CONTROLLED AND ACCURATE MANNER IN SUCH A WAY AS TO CONTROL TURBIDITY TO THE REQUIRED LEVELS SPECIFIED IN THE WATER QUALITY PLAN.
10. EMNR SAND SHOULD BE PLACED STARTING AT THE GREATEST DEPTH IN THE PLACEMENT AREA AND MOVING TO THE SHALLOWEST LOCATION.
11. SUDDEN DISCHARGES OF LARGE VOLUMES OF SAND THAT RESULT IN LARGE DISPLACEMENTS OR "BOMBING" OF THE UNDERLYING SEDIMENT OR AN EMNR SAND THICKNESS THAT EXCEEDS THE ALLOWABLE TOLERANCES SHALL BE AVOIDED.
12. PROVIDE ADVANCE NOTICE TO ALLOW ENGINEER'S PERSONNEL TO OBSERVE EMNR PLACEMENT ACTIVITIES FOR THE PURPOSES OF PLACEMENT VERIFICATION.

MATERIALS (AND EQUIPMENT)

1. EMNR SAND
   a. THE MATERIAL TO BE USED FOR CONSTRUCTION OF THE EMNR LAYER SHALL BE AN IMPORTED, CLEAN, GRANULAR MATERIAL FREE OF ROOTS, LARGE ORGANIC MATERIAL, CONTAMINANTS, AND ALL OTHER DELETERIOUS AND OBJECTIONABLE MATERIAL.
   b. THE MATERIAL SHOULD BE MAIN STEM COLUMBIA RIVER MID-CHANNEL DREDGE SPOILS SUPPLIED BY VARIOUS COMMERCIAL SOURCES.
      i. COORDINATE DREDGING ACTIVITIES WITH THE USACE IN ORDER TO COMPLY WITH THEIR FEDERAL NAVIGATION PROJECT PERMIT. ADDITIONAL PERMIT INFORMATION IS AVAILABLE AT HTTPS://WWW.NWP.USACE.ARMY.MIL/OP/N/.
   c. GRAIN SIZE:

% PASSING	U.S. SIEVE
100	1/2 INCH
80-100	NO. 10
<5	NO. 200

   d. PHYSICAL CHARACTERISTICS: WELL-GRADED, SUBANGULAR TO SUBROUNDED SAND.
   e. SAND SHALL BE FREE FROM CHEMICAL CONTAMINANTS PER TESTING DEFINED IN THE REMEDIAL DESIGN REPORT
2. EMNR SAND PLACEMENT EQUIPMENT: PROPOSE EQUIPMENT THAT HAS THE ABILITY TO MEET THE FOLLOWING CRITERIA:
   a. MINIMIZATION OF THE GENERATION OF SUSPENDED SEDIMENTS DURING SAND PLACEMENT OPERATIONS.
   b. CONSISTENT PLACEMENT OF MATERIAL TO THE ALIGNMENTS, GRADES, AND CROSS SECTIONS SHOWN ON THE DRAWINGS AND DETAILED IN THE SPECIFICATIONS.
   c. CAPABLE OF PROCESSING NECESSARY VOLUMES OF MATERIAL TO ACHIEVE THE PROJECT DELIVERY SCHEDULE.

SUBMITTALS

1. PRE-CONSTRUCTION SUBMITTALS:
   a. SUMMARY OF EQUIPMENT OPERATORS' EXPERIENCE SHOWING THAT THE OPERATORS HAVE A MINIMUM OF 3 YEARS OF EXPERIENCE WITH THE PROPOSED EQUIPMENT FOR EMNR SPREADING.
   b. TWO WEEKS PRIOR TO DELIVERY TO THE SITE, THE CONTRACTOR SHALL CONDUCT ONE GRADATION TEST ACCORDING TO ASTM D422 FOR EMNR SAND FROM EACH SOURCE THAT IS PROPOSED FOR THE PROJECT. THE TEST RESULTS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PRIOR TO MATERIAL DELIVERY TO THE SITE.
   c. A PORTION OF THE REQUIRED CONTRACTOR'S WORK PLAN SHALL OUTLINE MATERIALS, EQUIPMENT, AND METHODS TO BE USED TO PLACE EMNR SAND AND FISH MIX ROCK AS SHOWN ON THE DRAWINGS AND DESCRIBED IN THESE SPECIFICATIONS. DESCRIPTIONS SHALL INCLUDE:
      i. EQUIPMENT AND PROCEDURES TO BE USED TO PLACE MATERIALS AND DEMONSTRATE THAT THEY ARE APPROPRIATE TO DESCRIBED SCOPE OF WORK.
      ii. EQUIPMENT AND TEMPORARY FACILITY REQUIREMENTS AND PROCEDURES TO BE USED TO STAGE, STORE, AND TRANSPORT MATERIALS PRIOR TO PLACEMENT.
      iii. PROPOSED METHODS TO SYSTEMATICALLY EXECUTE THE MATERIAL PLACEMENT IN REQUIRED LIFT THICKNESSES (E.G. SWING PATTERN, BUCKET SIZE, ETC.).
   d. USACE DREDGE PERMIT FOR EMNR SAND, AS APPLICABLE TO PROPOSED SOURCE.
   e. THE CONTRACTOR SHALL SUBMIT ALL FILL MATERIAL SOURCE INFORMATION INCLUDING A CONTACT NAME, ADDRESS, PHONE NUMBER FOR EACH PRODUCT AND/OR SOURCE TO THE ENGINEER FOR APPROVAL.
2. CONSTRUCTION SUBMITTALS:
   a. PROVIDE THE ENGINEER WITH A DAILY SAND PLACEMENT PROGRESS SUMMARY IN THE DAILY FIELD REPORT.
   b. PROVIDE EVIDENCE OF PLACED EMNR SAND LAYER THICKNESS FINAL (I.E. BATHYMETRY, RAIN BUCKETS, SEDIMENT CORES, OR OTHER ENGINEER APPROVED METHOD) PRIOR TO DEMOBILIZING SPREADING EQUIPMENT FROM THE SITE.

PERMIT DOCUMENT

MAUL FOSTER ALONGI
2001 NW 19TH AVE, SUITE 200
PORTLAND, OR 97209
PHONE: 971.544.2139
www.maulfoster.com

AMCCO UPLAND & SEDIMENT REMEDIATION PLAN

ASTORIA MARINE CONSTRUCTION CO.

ASTORIA, OREGON

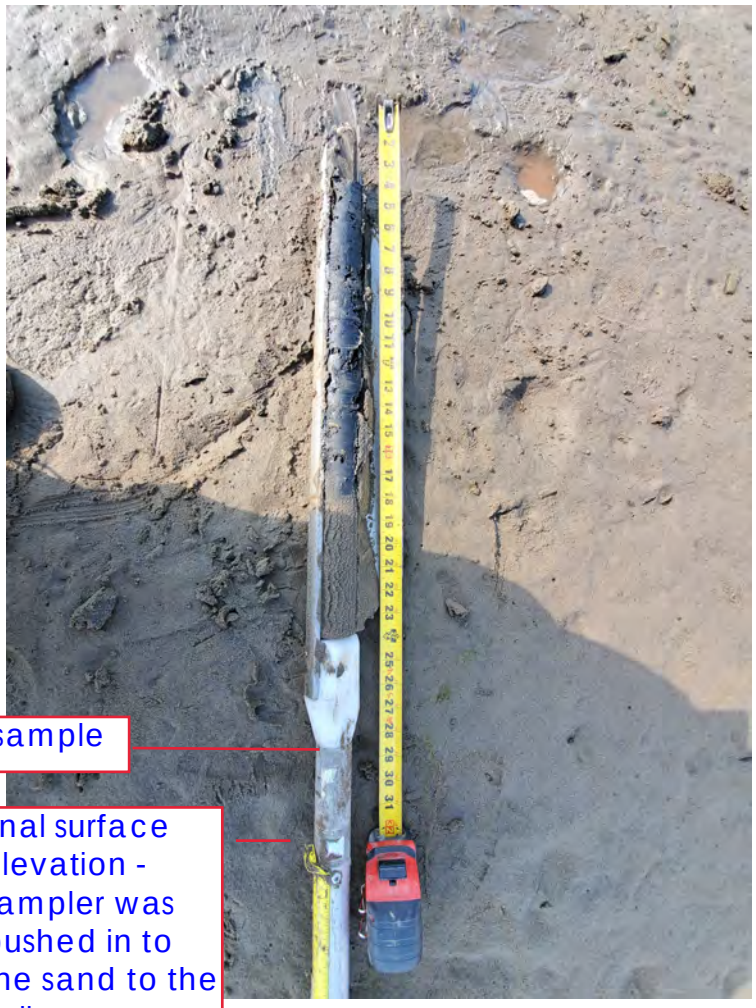
ISSUE	DATE	DESCRIPTION
C	04/30/2019	90% DESIGN DOCUMENTS
B	09/29/2017	SECTION 408 REVIEW
A	06/12/2017	60% DESIGN DOCUMENTS

PROJECT: 1653.01.01
DESIGNED: C. GOKCORA
DRAWN: Z. PYLE
CHECKED: E. BAKKOM
SCALE
0 50' 100
NOTE: BAR IS ONE INCH ON ORIGINAL DRAWING. IF NOT ONE INCH ON THIS SHEET, ADJUST SCALE ACCORDINGLY.

SHEET TITLE
EMNR SAND PLACEMENT

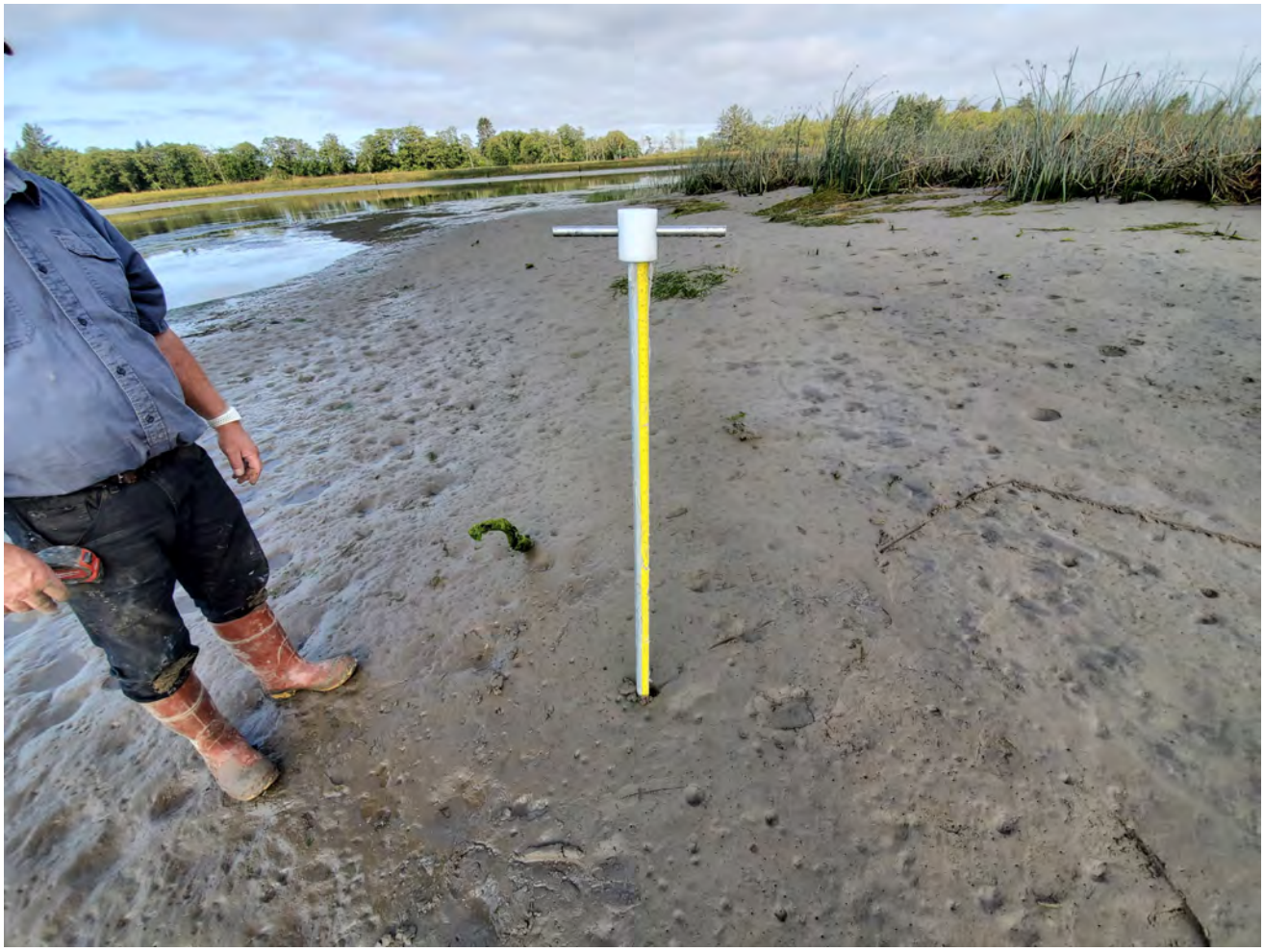
SHEET
C4.2

PLOTTED BY: Cem Gokcora FILENAME: G:\00_MFA Civil 3D\00_PROJECTS\01653\03-AMCCO\PLANS\60% Design\C4.2 EMNR SAND FILL GRADING PLAN.dwg
PLOTTED ON: 2019-05-23 2:05 PM



1: Photo showing a sand thickness of 14".

EMNR Sample 1: A look at the EMNR sand layer horizon.



EMNR Sample 2: A look at the 2nd sample location.

EMNR Sample 2: Photo showing a sand layer thickness of 11".

EMNR Sample 2: A look at the EMNR layer horizon.

EMNR Sample 3: A look at the 3rd sample location.

EMNR Sample 3: Photo showing a sand layer thickness of 10".

EMNR Sample 3: A look at the EMNR layer horizon.

EMNR Sample 4: A look at the 4th sample location.

EMNR Sample 4: Photo showing a sand layer thickness of 12".

EMNR Sample 4: A look at the EMNR layer horizon.

EMNR Sample 5: A look at the 5th sample location.

EMNR Sample 5: Photo showing a sand layer thickness of 14".

EMNR Sample 5: A look at the EMNR layer horizon.

EMNR Sample 6: A look at the 6th sample location.

EMNR Sample 6: Photo showing a sand layer thickness of 12.5".

EMNR Sample 6: A look at the EMNR layer horizon.

EMNR Sample 7: A look at the 7th sample location.

EMNR Sample 7: Photo showing a sand layer thickness of 10".

EMNR Sample 7: A look at the EMNR layer horizon.

EMNR Sample 8: A look at the 8th sample location.

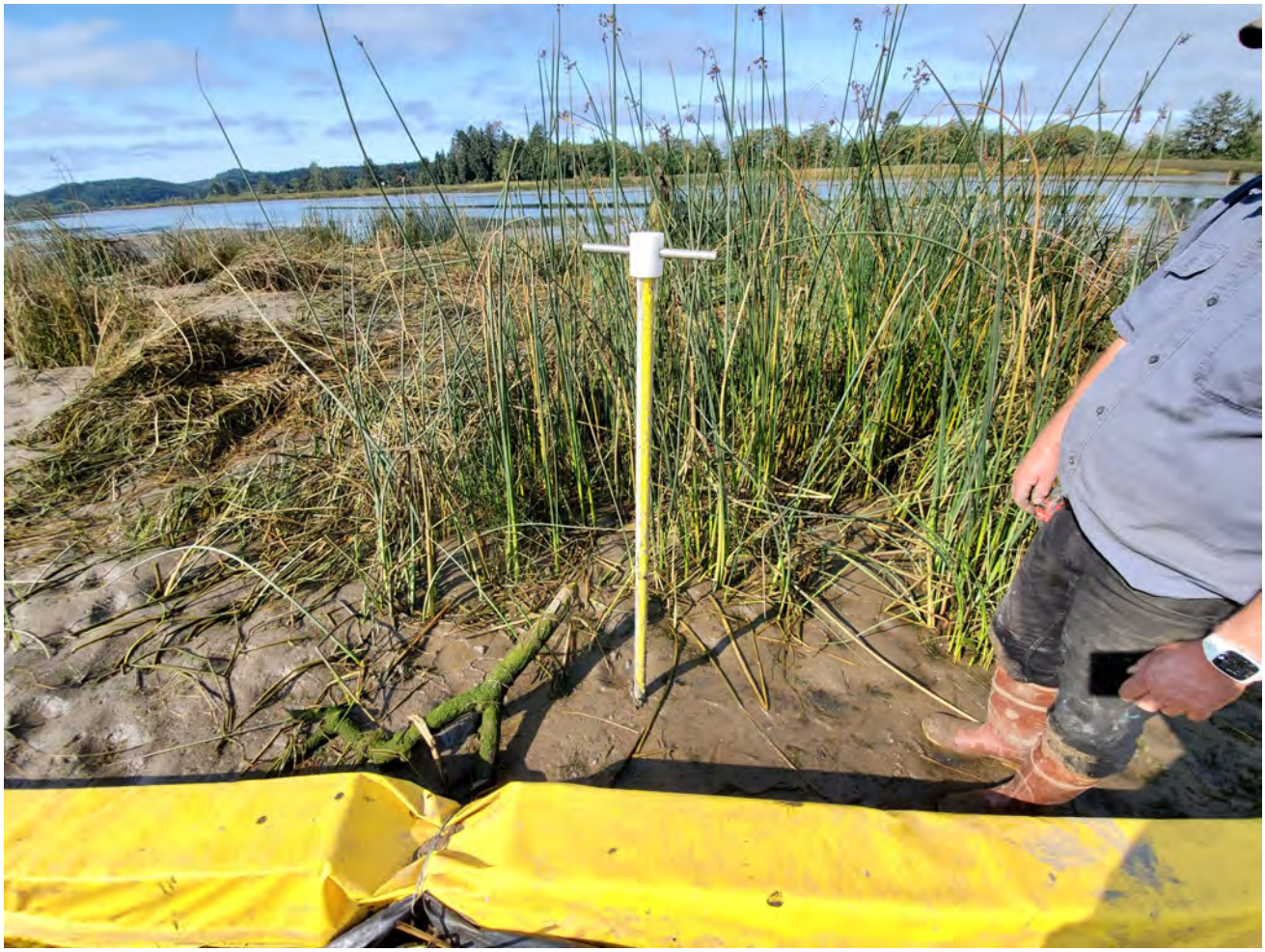
EMNR Sample 8: Photo showing a sand layer depth of 15".

EMNR Sample 8: A look at the EMNR layer horizon.

EMNR Sample 9: A look at the 9th sample location.

EMNR Sample 9: Photo showing an EMNR layer depth of 10".

EMNR Sample 9: A closer look at the EMNR layer horizon.



EMNR Sample 10: A look at the 10th sample location.

EMNR Sample 10: Photo showing a sand layer depth of 14".

EMNR Sample 10: A closer look at the EMNR layer horizon.

EMNR Sample 11: A look at the 11th sample location.

EMNR Sample 10: Photo showing a sand layer depth of 13".

EMNR Sample 11: A closer look at the EMNR layer horizon.

CONSTRUCTION DAILY REPORT
AMCCO Upland and Sediment Remediation Project

Daily Report Number:	AMCCO-081121-GRK		MAUL FOSTER ALONGI		
Date:	8/11/2021		3140 NE Broadway Street Portland, OR 97232 971-544-2139		
Weather:	AM:	Sunny			
	PM:	Sunny			
Temperature:	Min:	64 °F			
	Max:	84 °F			
24hr Precipitation:	None		**Dust Conditions:**		Light
Completed by:	Garrick Kalmeta, EIT		**Number of Contractor Employees**		
Contractor:	N/A		Supervisory	Operators	Laborers
			0	1	0

Work Performed Today

Location	Sub Location	Description of Work	Time Started	Time Ended
Lewis and Clark	EMNR Sand Layer Placement Area	EMNR Core Sampling	8:45	11:30
Upland	Stormwater Pond	Pond Excavation	8:00	17:00

CQA Officers on site: GRK

Additional Remarks:

CQA officer and the project manager (Cem Gokcora) performed EMNR Core sampling upon arrival at the site. A russian pete bore sampler was used at depths of up to 2' to obtain visual EMNR sand/sediment profile data at 12 sampling points (SPs) within the EMNR sand placement area (see photo log and figure). A handheld GPS instrument was used to locate previously identified sampling locations. The average sand placement depth over the SPs resulted in an average sand layer thickness of approximately 12.5", with the minimum collected sand thickness being 7" and the maximum collected sand thickness being 24" (at the north dredge overlap area). All EMNR Core sampling work was conducted in the dry at low tide conditions.

MFA also observed a portion of the stormwater pond excavation. The Contractor had excavated down to three feet from existing surface on the south end of the pond. The excavated material was being transported to the south yard to be blended as south yard subgrade. Two large previously burried trees had been removed from the pond area. The Contractor will continue to excavate down to six feet from existing surface to get to the target pond bottom subgrade elevation.

Inspections and Tests

Inspection/Test Type	Location	Form No.

Additional Remarks:

Daily Report Number:	AMCCO-081121-GRK		
Date:	8/11/2021	**Completed by:**	Garrick Kalmeta, EIT

Subcontractors Onsite

Company Name:		Work Area	Employees

Additional Remarks:

Visitors

Time	Name(s)	Agency/Company	Remarks
9:30	Erin McDonnell	DEQ	Visited site for general progress and observe EMNR core sampling

Additional Remarks:

Verbal Communications with Contractor

Time	Name(s)		Remarks	Action Item?

Additional Remarks:

CONSTRUCTION DAILY REPORT
AMCCO Upland and Sediment Remediation Project

Daily Report Number:	AMCCO-081121-GRK		
Date:	8/11/2021	**Completed by:**	Garrick Kalmeta, EIT

Equipment Onsite

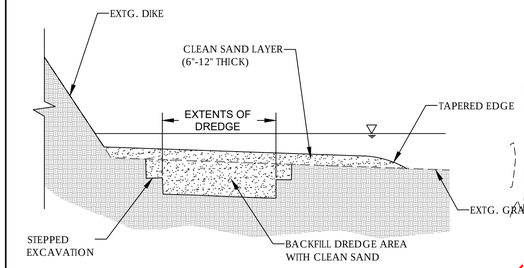
Contractor	Equipment	Quantity	Used Today?	Hours Used
Customs Excavating	Excavator	1	Yes	8

Construction Issues Tracking

Location	Description	Resolution	Action Item?

Attachments:
- Sampling Locations Map
- Photo Log

CQA Officer Signature	Date	Project Manager Review	
GRK	8/17/2021	Cem Gokcora	8/18/2021



1 / C5.1 NEAR SHORE DREDGE AND SAND LAYER
NTS

REMEDIATION PLAN LEGEND

- DOCK PILING
- EXISTING ASPHALT
- EXISTING DOCK
- EXISTING GRAVEL SURFACE
- EMNR SAND FILL
- 2020 CORE SAMPLING POINT
- 2021 CORE SAMPLING POINT
- EXISTING MINOR CONTOUR
- EXISTING MAJOR CONTOUR
- LOT LINE
- MEAN HIGH WATER LINE
- HIGH TIDE LINE
- HIGHEST MEASURED TIDE
- REPEAT (2020 AND 2021) CORE SAMPLING POINT

EMNR SAND FILL NOTES

SEQUENCING

1. SEDIMENT EXCAVATION AND BACKFILL IN THE LEWIS AND CLARK RIVER WORK AREA SHALL BE COMPLETE PRIOR TO PLACEMENT OF THE EMNR MATERIALS.
2. EMNR SAND SHOULD GENERALLY BE PLACED FROM UPSTREAM TO DOWNSTREAM.
3. EMNR SAND SHOULD BE PLACED STARTING AT THE GREATEST DEPTH IN THE PLACEMENT AREA, MOVING TO THE SHALLOWEST LOCATION.

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5. DEMONSTRATE THE PROPOSED EMNR PLACEMENT METHOD IN A PILOT TEST, WITH EVIDENCE PROVIDED TO THE ENGINEER CONSISTING OF RAIN BUCKETS OR SEDIMENT CORES (CLAM GUN), OR OTHER APPROVED METHOD. CORRECTIONS TO APPLICATION METHODOLOGY SHALL BE MADE AND VERIFIED PRIOR TO GOING FULL SCALE.
6. ESTIMATE THE VOLUME OR TONNAGE OF SAND MATERIAL REQUIRED TO BE PLACED IN EACH GRID APPROVAL UNIT AREA TO SATISFY THE DESIGN REQUIREMENT. CONTRACTOR SHALL MONITOR THE PLACEMENT OF EMNR SAND QUANTITY TO DEMONSTRATE THAT THE REQUIRED THICKNESS OF SAND HAS BEEN PLACED.
7. PRIOR TO START OF CONSTRUCTION, THE ENGINEER AND CONTRACTOR SHALL AGREE ON A MEANS OF DEMONSTRATING SUCCESSFUL PLACEMENT TO THE THICKNESS AND LIMITS DESCRIBED IN THE DRAWINGS FOR PURPOSES OF CERTIFYING COMPLETION FOR DEQ. THESE MEANS MAY INCLUDE A COMBINATION OF THE FOLLOWING: DOCUMENTATION OF TONNAGE/VOLUME OF EMNR DELIVERED TO THE SITE, ENGINEER OBSERVATION OF PLACEMENT, PHYSICAL MEASUREMENT (SEDIMENT CORES/RAIN BUCKETS), AND/OR BATHYMETRY.
8. THE MATERIAL SHALL BE PLACED EVENLY AND METHODICALLY IN ORDER TO ACHIEVE THE SAND THICKNESS SPECIFIED BELOW:
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12. PROVIDE ADVANCE NOTICE TO ALLOW ENGINEER'S PERSONNEL TO OBSERVE EMNR PLACEMENT ACTIVITIES FOR THE PURPOSES OF PLACEMENT VERIFICATION.

MATERIALS (AND EQUIPMENT)

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   c. GRAIN SIZE:

% PASSING	U.S. SIEVE
100	1/2 INCH
80-100	NO. 10
<5	NO. 200

   d. PHYSICAL CHARACTERISTICS: WELL-GRADED, SUBANGULAR TO SUBROUNDED SAND.
   e. SAND SHALL BE FREE FROM CHEMICAL CONTAMINANTS PER TESTING DEFINED IN THE REMEDIAL DESIGN REPORT
2. EMNR SAND PLACEMENT EQUIPMENT: PROPOSE EQUIPMENT THAT HAS THE ABILITY TO MEET THE FOLLOWING CRITERIA:
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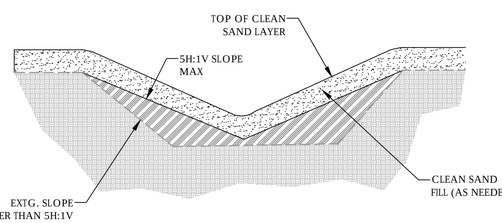
SUBMITTALS

1. PRE-CONSTRUCTION SUBMITTALS:
   a. SUMMARY OF EQUIPMENT OPERATORS' EXPERIENCE SHOWING THAT THE OPERATORS HAVE A MINIMUM OF 3 YEARS OF EXPERIENCE WITH THE PROPOSED EQUIPMENT FOR EMNR SPREADING.
   b. TWO WEEKS PRIOR TO DELIVERY TO THE SITE, THE CONTRACTOR SHALL CONDUCT ONE GRADATION TEST ACCORDING TO ASTM D422 FOR EMNR SAND FROM EACH SOURCE THAT IS PROPOSED FOR THE PROJECT. THE TEST RESULTS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PRIOR TO MATERIAL DELIVERY TO THE SITE.
   c. A PORTION OF THE REQUIRED CONTRACTOR'S WORK PLAN SHALL OUTLINE MATERIALS, EQUIPMENT, AND METHODS TO BE USED TO PLACE EMNR SAND AND FISH MIX ROCK AS SHOWN ON THE DRAWINGS AND DESCRIBED IN THESE SPECIFICATIONS. DESCRIPTIONS SHALL INCLUDE:
      i. EQUIPMENT AND PROCEDURES TO BE USED TO PLACE MATERIALS AND DEMONSTRATE THAT THEY ARE APPROPRIATE TO DESCRIBED SCOPE OF WORK.
      ii. EQUIPMENT AND TEMPORARY FACILITY REQUIREMENTS AND PROCEDURES TO BE USED TO STAGE, STORE, AND TRANSPORT MATERIALS PRIOR TO PLACEMENT.
      iii. PROPOSED METHODS TO SYSTEMATICALLY EXECUTE THE MATERIAL PLACEMENT IN REQUIRED LIFT THICKNESSES (E.G. SWING PATTERN, BUCKET SIZE, ETC.).
   d. USACE DREDGE PERMIT FOR EMNR SAND, AS APPLICABLE TO PROPOSED SOURCE.
   e. THE CONTRACTOR SHALL SUBMIT ALL FILL MATERIAL SOURCE INFORMATION INCLUDING A CONTACT NAME, ADDRESS, PHONE NUMBER FOR EACH PRODUCT AND/OR SOURCE TO THE ENGINEER FOR APPROVAL.
2. CONSTRUCTION SUBMITTALS:
   a. PROVIDE THE ENGINEER WITH A DAILY SAND PLACEMENT PROGRESS SUMMARY IN THE DAILY FIELD REPORT.
   b. PROVIDE EVIDENCE OF PLACED EMNR SAND LAYER THICKNESS FINAL (I.E. BATHYMETRY, RAIN BUCKETS, SEDIMENT CORES, OR OTHER ENGINEER APPROVED METHOD) PRIOR TO DEMOBILIZING SPREADING EQUIPMENT FROM THE SITE.

PERMIT DOCUMENT



2 / C5.2 MARINE WAY FILL AND SAND LAYER
NTS

MAUL FOSTER ALONGI
2001 NW 19TH AVE, SUITE 200
PORTLAND, OR 97209
PHONE: 971.544.2139
www.maulfoster.com

AMCCO UPLAND & SEDIMENT REMEDIATION PLAN

ASTORIA MARINE CONSTRUCTION CO.

ASTORIA, OREGON

ISSUE	DATE	DESCRIPTION
C	04/30/2019	90% DESIGN DOCUMENTS
B	09/29/2017	SECTION 408 REVIEW
A	06/12/2017	60% DESIGN DOCUMENTS

PROJECT: 1653.01.01
DESIGNED: C. GOKCORA
DRAWN: Z. PYLE
CHECKED: E. BAKKOM
SCALE
0 50' 100
NOTE: BAR IS ONE INCH ON ORIGINAL DRAWING. IF NOT ONE INCH ON THIS SHEET, ADJUST SCALE ACCORDINGLY.

SHEET TITLE

EMNR SAND PLACEMENT

SHEET

C4.2

PLOTTED BY: Cem Gokcora FILENAME: G:\00_MFA Civil 3D\00_PROJECTS\0258.04.03-AMCCO PLANS\60% Design\C4.2 EMNR SAND FILL GRADING PLAN.dwg
PLOTTED ON: 2019-05-23 2:05 PM

Daily Report Number:	AMCCO-081121-GRK		
Date:	8/11/2021	**Completed by:**	Garrick Kalmeta, EIT

Photos

Photo 1: A look at the drive-in location of the russian pete bore at SP 5

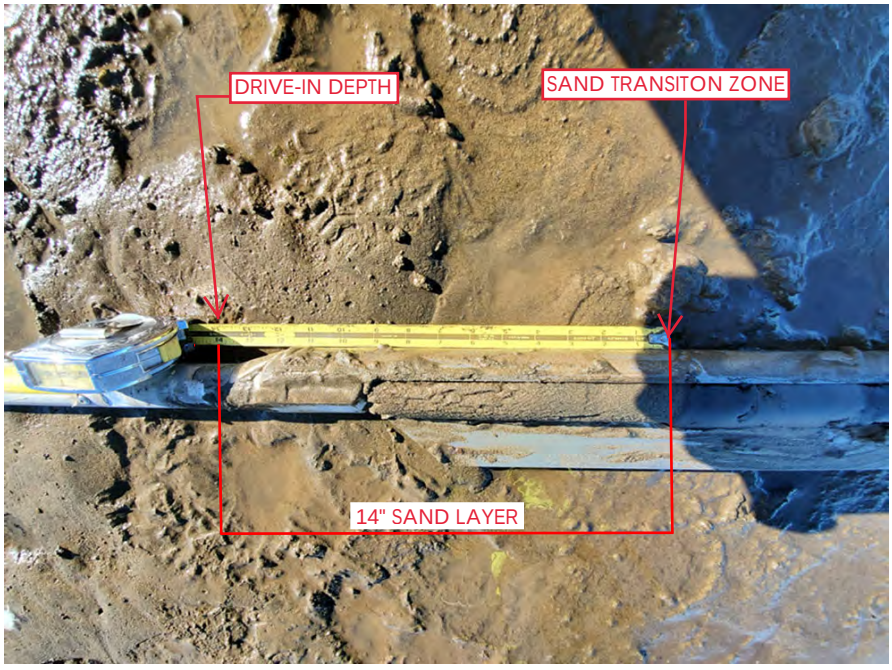


Photo 2: A look at the sampled EMNR Sand profile collected at SP 5, with a depth of approximately 14"

Daily Report Number:	AMCCO-081121-GRK		
Date:	8/11/2021	**Completed by:**	Garrick Kalmeta, EIT

Photos

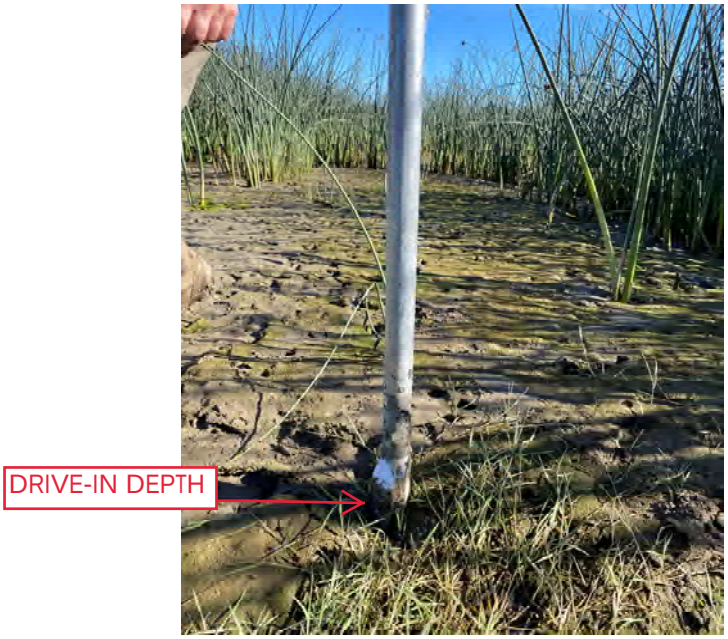


Photo 3: A look at the drive-in location of the russian pete bore at SP 11

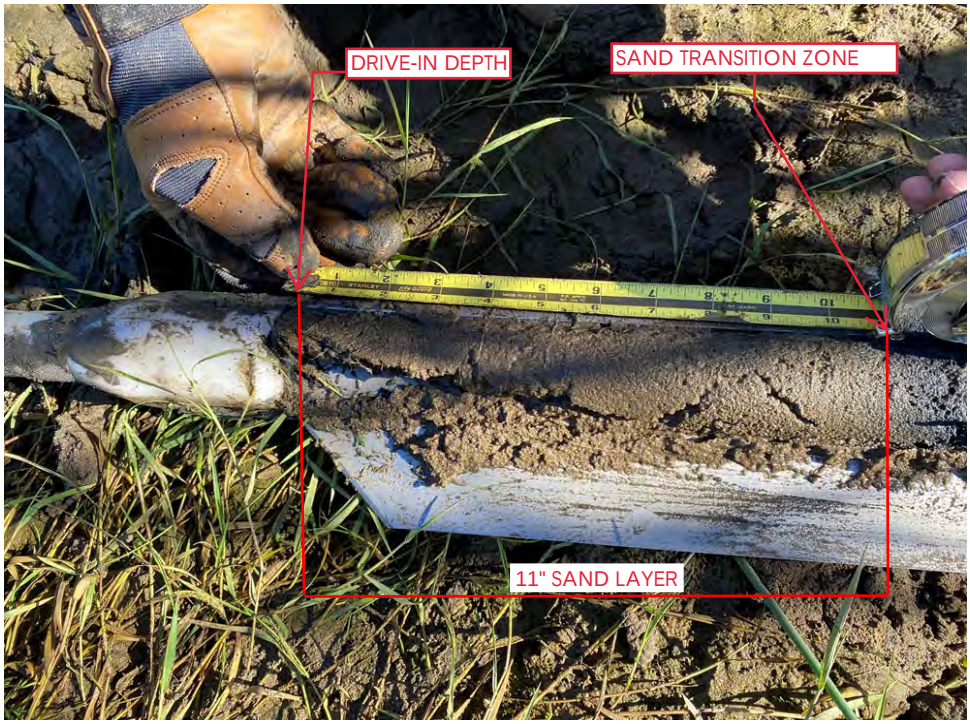


Photo 4: A look at the sampled EMNR Sand profile collected at SP 11, with a depth of approximately 11"

Daily Report Number:	AMCCO-081121-GRK		
Date:	8/11/2021	**Completed by:**	Garrick Kalmeta, EIT

Photos

Photo 5: A look at the drive-in location of the russian pete bore at SP 12

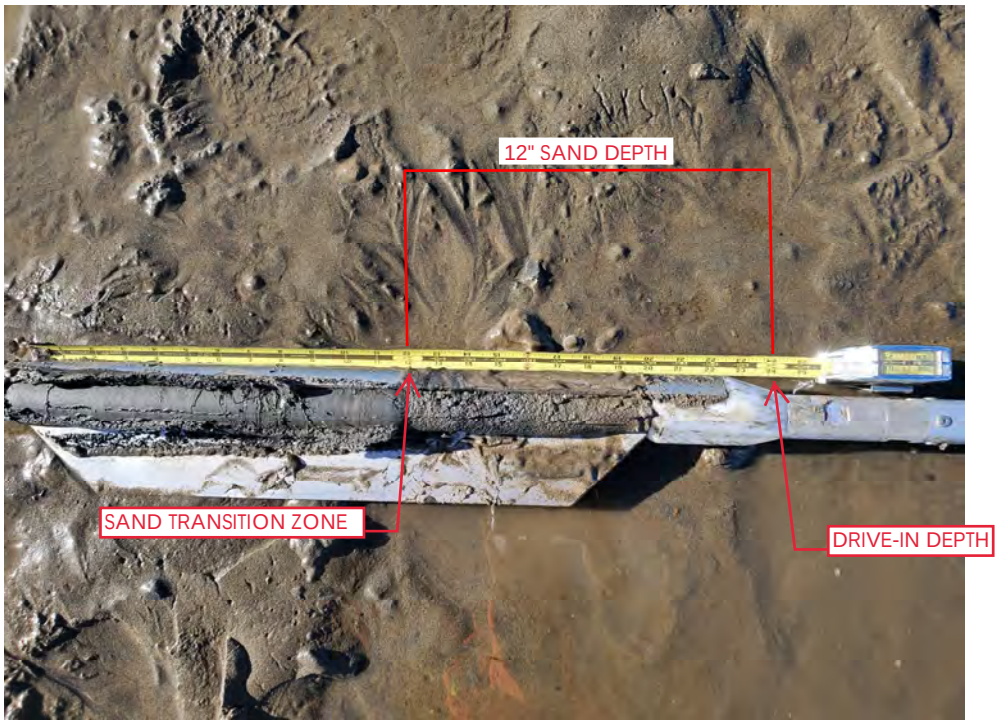


Photo 6: A look at the sampled EMNR Sand profile collected at SP 12, with a depth of approximately 12"

Daily Report Number:	AMCCO-081121-GRK		
Date:	8/11/2021	**Completed by:**	Garrick Kalmeta, EIT

Photos

Photo 7: A look at the drive-in location of the russian pete bore at SP 13

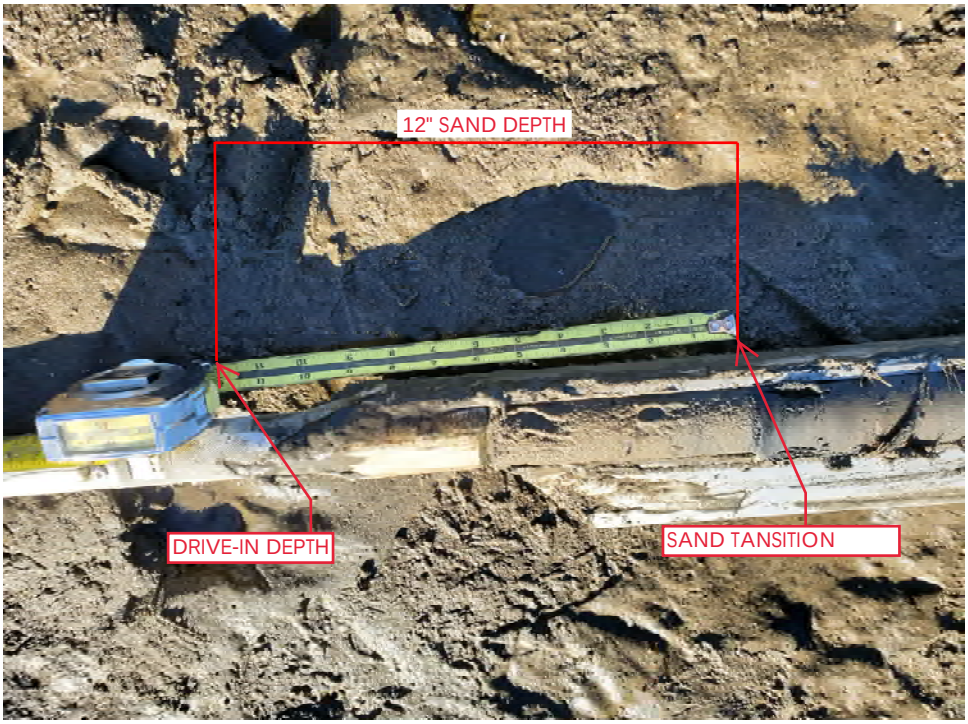


Photo 8: A look at the sampled EMNR Sand profile collected at SP 13, with a depth of approximately 12"

Daily Report Number:	AMCCO-081121-GRK		
Date:	8/11/2021	**Completed by:**	Garrick Kalmeta, EIT

Photos

Photo 9: A look at the drive-in location of the russian pete bore at SP 14

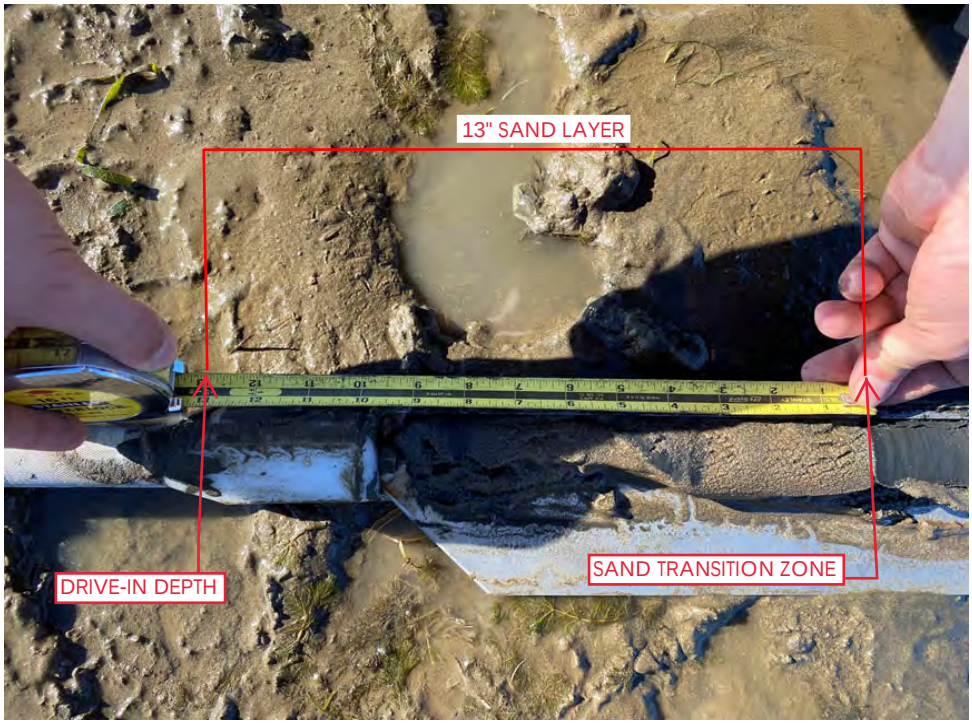


Photo 10: A look at the sampled EMNR Sand profile collected at SP 14, with a depth of approximately 13"

Daily Report Number:	AMCCO-081121-GRK		
Date:	8/11/2021	**Completed by:**	Garrick Kalmeta, EIT

Photos

Photo 11: A look at the drive-in location of the russian pete bore at SP 15

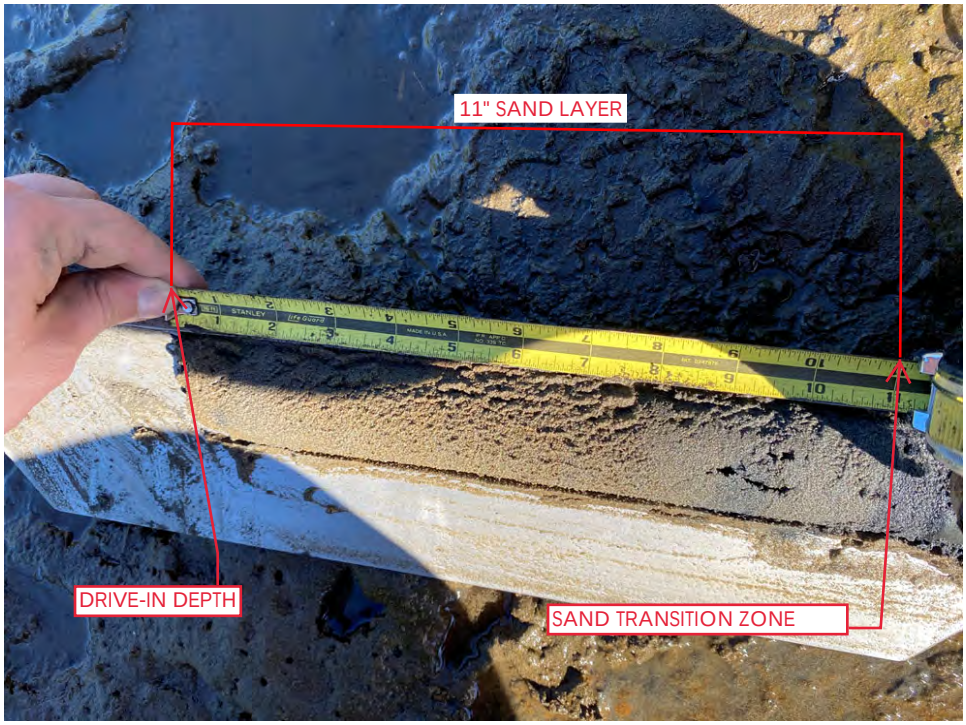


Photo 12: A look at the sampled EMNR Sand profile collected at SP 15, with a depth of approximately 11"

Daily Report Number:	AMCCO-081121-GRK		
Date:	8/11/2021	**Completed by:**	Garrick Kalmeta, EIT

Photos

Photo 13: A look at the drive-in location of the russian pete bore at SP 16

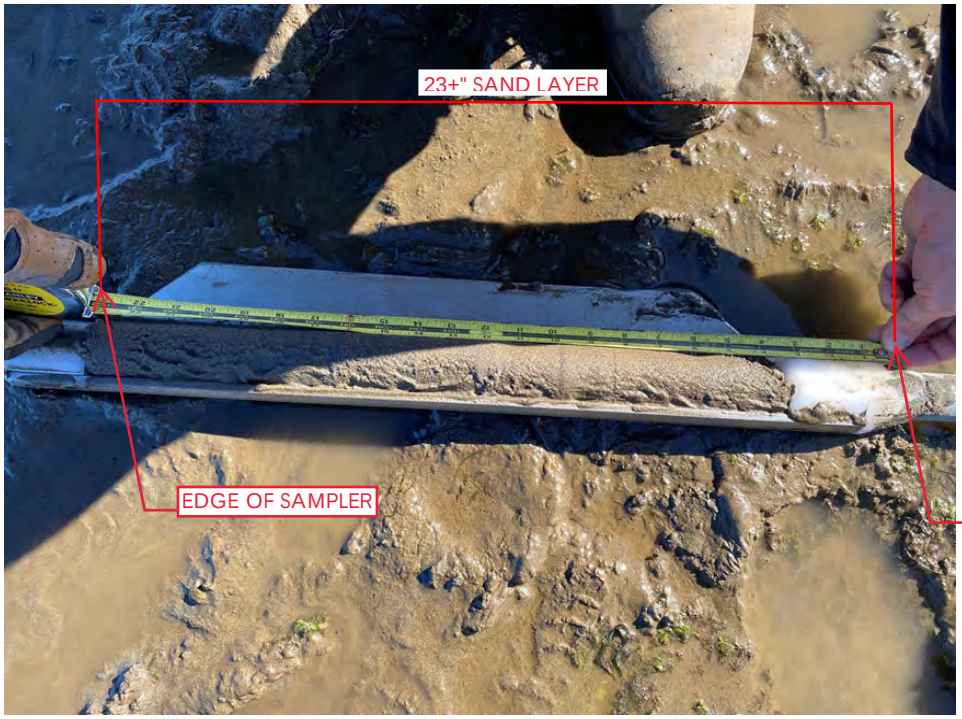


Photo 14: A look at the sampled EMNR Sand profile collected at SP 16, with a depth of over 23" (located within the transition/overlap zone near north dredge area prism)

Daily Report Number:	AMCCO-081121-GRK		
Date:	8/11/2021	**Completed by:**	Garrick Kalmeta, EIT

Photos

Photo 15: A look at the drive-in location of the russian pete bore at SP 17

Photo 14: A look at the sampled EMNR Sand profile collected at SP 17, with a depth of approximately 14"

Daily Report Number:	AMCCO-081121-GRK		
Date:	8/11/2021	**Completed by:**	Garrick Kalmeta, EIT

Photos

Photo 15: A look at the drive-in location of the russian pete bore at SP 18

Photo 14: A look at the sampled EMNR Sand profile collected at SP 18, with a depth of over 24" (located within the transition/overlap zone near north dredge area prism)

Daily Report Number:	AMCCO-081121-GRK		
Date:	8/11/2021	Completed by:	Garrick Kalmeta, EIT

Photos

Photo 15: A look at the drive-in location of the russian pete bore at SP 20

Photo 14: A look at the sampled EMNR Sand profile collected at SP 20, with a depth of approximately 8"

Daily Report Number:	AMCCO-081121-GRK		
Date:	8/11/2021	**Completed by:**	Garrick Kalmeta, EIT

Photos

Photo 15: A look at the drive-in location of the russian pete bore at SP 21

Photo 14: A look at the sampled EMNR Sand profile collected at SP 21, with a depth of approximately 7"

Daily Report Number:	AMCCO-081121-GRK		
Date:	8/11/2021	**Completed by:**	Garrick Kalmeta, EIT

Photos

Photo 15: A look at the drive-in location of the russian pete bore at SP 22

Photo 14: A look at the sampled EMNR Sand profile collected at SP 22, with a depth of approximately 13"

CONSTRUCTION DAILY REPORT
AMCCO Upland and Sediment Remediation Project

Daily Report Number:	AMCCO-080322-GRK	
Date:	8/3/2022	
Weather:	AM:	Cloudy
	PM:	Cloudy
Temperature:	Min:	64 °F
	Max:	65 °F
24hr Precipitation:	None	
Completed by:	Garrick Kalmeta, EIT	
Contractor:	N/A	

MAUL FOSTER ALONGI
3140 NE Broadway Street
Portland, OR 97232
971-544-2139

Dust Conditions:	Light

Number of Contractor Employees

Supervisory	Operators	Laborers
0	0	0

Work Performed Today

Location	Sub Location	Description of Work	Time Started	Time Ended
Lewis and Clark	EMNR Sand Layer Placement Area	EMNR Core Sampling	12:30	13:30

CQA Officers on site: GRK

Additional Remarks:

CQA officer performed EMNR Core sampling upon arrival at the site. A russian pete bore sampler was used at depths of up to 2' to obtain visual EMNR sand/sediment profile data at 5 sampling points (SPs) within the EMNR sand placement area (see photo log and figure). A handheld GPS instrument was used to locate previously identified sampling locations. The average sand placement depth over the SPs resulted in an average sand layer thickness of approximately 10.5", with the minimum collected sand thickness being 7" and the maximum collected sand thickness being 15" (at the north dredge overlap area). All EMNR Core sampling work was conducted in the dry at low tide conditions.

Inspections and Tests

Inspection/Test Type	Location	Form No.

Additional Remarks:

CONSTRUCTION DAILY REPORT
AMCCO Upland and Sediment Remediation Project

Daily Report Number:	AMCCO-080322-GRK		
Date:	8/3/2022	**Completed by:**	Garrick Kalmeta, EIT

Subcontractors Onsite

Company Name:		**Work Area**	**Employees**

Additional Remarks:

Visitors

Time	**Name(s)**	**Agency/Company**	**Remarks**

Additional Remarks:

Verbal Communications with Contractor

Time	**Name(s)**		**Remarks**	**Action Item?**

Additional Remarks:

CONSTRUCTION DAILY REPORT
AMCCO Upland and Sediment Remediation Project

Daily Report Number:	AMCCO-080322-GRK		
Date:	8/3/2022	**Completed by:**	Garrick Kalmeta, EIT

Equipment Onsite

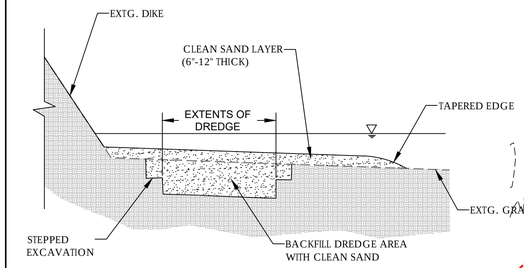
Contractor	Equipment	Quantity	Used Today?	Hours Used

Construction Issues Tracking

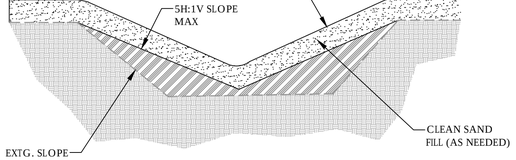
Location	Description	Resolution	Action Item?

Additional Remarks:

CQA Officer Signature	Date	Project Manager Review
GRK	8/5/2022	Cem Gokcora



1 / C5.1 NEAR SHORE DREDGE AND SAND LAYER
NTS



2 / C5.2 MARINE WAY FILL AND SAND LAYER
NTS

REMEDIATION PLAN LEGEND

- DOCK PILING
- EXISTING ASPHALT
- EXISTING DOCK
- EXISTING GRAVEL SURFACE
- EMNR SAND FILL
- EXISTING MINOR CONTOUR
- EXISTING MAJOR CONTOUR
- LOT LINE
- MEAN HIGH WATER LINE
- HIGH TIDE LINE
- HIGHEST MEASURED TIDE
- 2020 CORE SAMPLING POINT
- 2021 CORE SAMPLING POINT
- 2022 CORE SAMPLING POINT
- REPEAT (2020 AND 2021) CORE SAMPLING POINT

ENMR SAND FILL NOTES

SEQUENCING

1. SEDIMENT EXCAVATION AND BACKFILL IN THE LEWIS AND CLARK RIVER WORK AREA SHALL BE COMPLETE PRIOR TO PLACEMENT OF THE EMNR MATERIALS.
2. EMNR SAND SHOULD GENERALLY BE PLACED FROM UPSTREAM TO DOWNSTREAM.
3. EMNR SAND SHOULD BE PLACED STARTING AT THE GREATEST DEPTH IN THE PLACEMENT AREA, MOVING TO THE SHALLOWEST LOCATION.

CONSTRUCTION NOTES

1. EMNR SAND IS REQUIRED TO BE PLACED IN AREAS OF THE LEWIS AND CLARK RIVER WHERE VEGETATION MAY OR MAY NOT EXIST. EMNR SAND SHOULD BE PLACED USING A METHOD THAT WILL GRADUALLY SPREAD THE SAND OVER AN AREA WITHOUT SIGNIFICANT DAMAGE TO VEGETATION THAT MAY REMAIN IN PLACE. THE ENGINEER ANTICIPATES THESE METHODS TO UTILIZE AN AERIAL BROADCASTING APPROACH, SUCH AS TELEBELT CONVEYOR, THIN LAYER CLAMSHELL SPREAD, SLURRY SPRAY.
2. SAND SHOULD BE PLACED BY MECHANICAL MEANS - UNLESS HYDRAULIC PLACEMENT METHODS ARE DEMONSTRATED TO NOT DISPLACE OR SUSPEND THE EXISTING SEDIMENT BED.
3. PROVIDE CLEAN EQUIPMENT FOR THE PLACEMENT AND TRANSPORT OF ALL EMNR MATERIALS.
4. PRIOR TO EMNR SAND PLACEMENT ACTIVITIES, OBTAIN VERIFICATION FROM ENGINEER THAT DREDGING IN AN AREA IS COMPLETE.
5. DEMONSTRATE THE PROPOSED EMNR PLACEMENT METHOD IN A PILOT TEST, WITH EVIDENCE PROVIDED TO THE ENGINEER CONSISTING OF RAIN BUCKETS OR SEDIMENT CORES (CLAM GUN), OR OTHER APPROVED METHOD. CORRECTIONS TO APPLICATION METHODOLOGY SHALL BE MADE AND VERIFIED PRIOR TO GOING FULL SCALE.
6. ESTIMATE THE VOLUME OR TONNAGE OF SAND MATERIAL REQUIRED TO BE PLACED IN EACH GRID APPROVAL UNIT AREA TO SATISFY THE DESIGN REQUIREMENT. CONTRACTOR SHALL MONITOR THE PLACEMENT OF EMNR SAND QUANTITY TO DEMONSTRATE THAT THE REQUIRED THICKNESS OF SAND HAS BEEN PLACED.
7. PRIOR TO START OF CONSTRUCTION, THE ENGINEER AND CONTRACTOR SHALL AGREE ON A MEANS OF DEMONSTRATING SUCCESSFUL PLACEMENT TO THE THICKNESS AND LIMITS DESCRIBED IN THE DRAWINGS FOR PURPOSES OF CERTIFYING COMPLETION FOR DEQ. THESE MEANS MAY INCLUDE A COMBINATION OF THE FOLLOWING: DOCUMENTATION OF TONNAGE/VOLUME OF EMNR DELIVERED TO THE SITE, ENGINEER OBSERVATION OF PLACEMENT, PHYSICAL MEASUREMENT (SEDIMENT CORES/RAIN BUCKETS), AND/OR BATHYMETRY.
8. THE MATERIAL SHALL BE PLACED EVENLY AND METHODICALLY IN ORDER TO ACHIEVE THE SAND THICKNESS SPECIFIED BELOW:
   a. THE DESIRED EMNR SAND LAYER IN VEGETATED AREAS IS 6 TO 8 INCHES.
   b. THE DESIRED EMNR SAND LAYER IN NON-VEGETATED AREAS IS 6 TO 12 INCHES.
9. PLACEMENT OF THE EMNR SAND MATERIAL SHALL BE CONDUCTED IN A CONTROLLED AND ACCURATE MANNER IN SUCH A WAY AS TO CONTROL TURBIDITY TO THE REQUIRED LEVELS SPECIFIED IN THE WATER QUALITY PLAN.
10. EMNR SAND SHOULD BE PLACED STARTING AT THE GREATEST DEPTH IN THE PLACEMENT AREA AND MOVING TO THE SHALLOWEST LOCATION.
11. SUDDEN DISCHARGES OF LARGE VOLUMES OF SAND THAT RESULT IN LARGE DISPLACEMENTS OR "BOMBING" OF THE UNDERLYING SEDIMENT OR AN EMNR SAND THICKNESS THAT EXCEEDS THE ALLOWABLE TOLERANCES SHALL BE AVOIDED.
12. PROVIDE ADVANCE NOTICE TO ALLOW ENGINEER'S PERSONNEL TO OBSERVE EMNR PLACEMENT ACTIVITIES FOR THE PURPOSES OF PLACEMENT VERIFICATION.

MATERIALS (AND EQUIPMENT)

1. EMNR SAND
   a. THE MATERIAL TO BE USED FOR CONSTRUCTION OF THE EMNR LAYER SHALL BE AN IMPORTED, CLEAN, GRANULAR MATERIAL FREE OF ROOTS, LARGE ORGANIC MATERIAL, CONTAMINANTS, AND ALL OTHER DELETERIOUS AND OBJECTIONABLE MATERIAL.
   b. THE MATERIAL SHOULD BE MAIN STEM COLUMBIA RIVER MID-CHANNEL DREDGE SPOILS SUPPLIED BY VARIOUS COMMERCIAL SOURCES.
      i. COORDINATE DREDGING ACTIVITIES WITH THE USACE IN ORDER TO COMPLY WITH THEIR FEDERAL NAVIGATION PROJECT PERMIT. ADDITIONAL PERMIT INFORMATION IS AVAILABLE AT HTTPS://WWW.NWP.USACE.ARMY.MIL/OP/N/.
   c. GRAIN SIZE:

% PASSING	U.S. SIEVE
100	1/2 INCH
80-100	NO. 10
<5	NO. 200

   d. PHYSICAL CHARACTERISTICS: WELL-GRADED, SUBANGULAR TO SUBROUNDED SAND.
   e. SAND SHALL BE FREE FROM CHEMICAL CONTAMINANTS PER TESTING DEFINED IN THE REMEDIAL DESIGN REPORT
2. EMNR SAND PLACEMENT EQUIPMENT: PROPOSE EQUIPMENT THAT HAS THE ABILITY TO MEET THE FOLLOWING CRITERIA:
   a. MINIMIZATION OF THE GENERATION OF SUSPENDED SEDIMENTS DURING SAND PLACEMENT OPERATIONS.
   b. CONSISTENT PLACEMENT OF MATERIAL TO THE ALIGNMENTS, GRADES, AND CROSS SECTIONS SHOWN ON THE DRAWINGS AND DETAILED IN THE SPECIFICATIONS.
   c. CAPABLE OF PROCESSING NECESSARY VOLUMES OF MATERIAL TO ACHIEVE THE PROJECT DELIVERY SCHEDULE.

SUBMITTALS

1. PRE-CONSTRUCTION SUBMITTALS:
   a. SUMMARY OF EQUIPMENT OPERATORS' EXPERIENCE SHOWING THAT THE OPERATORS HAVE A MINIMUM OF 3 YEARS OF EXPERIENCE WITH THE PROPOSED EQUIPMENT FOR EMNR SPREADING.
   b. TWO WEEKS PRIOR TO DELIVERY TO THE SITE, THE CONTRACTOR SHALL CONDUCT ONE GRADATION TEST ACCORDING TO ASTM D422 FOR EMNR SAND FROM EACH SOURCE THAT IS PROPOSED FOR THE PROJECT. THE TEST RESULTS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PRIOR TO MATERIAL DELIVERY TO THE SITE.
   c. A PORTION OF THE REQUIRED CONTRACTOR'S WORK PLAN SHALL OUTLINE MATERIALS, EQUIPMENT, AND METHODS TO BE USED TO PLACE EMNR SAND AND FISH MIX ROCK AS SHOWN ON THE DRAWINGS AND DESCRIBED IN THESE SPECIFICATIONS. DESCRIPTIONS SHALL INCLUDE:
      i. EQUIPMENT AND PROCEDURES TO BE USED TO PLACE MATERIALS AND DEMONSTRATE THAT THEY ARE APPROPRIATE TO DESCRIBED SCOPE OF WORK.
      ii. EQUIPMENT AND TEMPORARY FACILITY REQUIREMENTS AND PROCEDURES TO BE USED TO STAGE, STORE, AND TRANSPORT MATERIALS PRIOR TO PLACEMENT.
      iii. PROPOSED METHODS TO SYSTEMATICALLY EXECUTE THE MATERIAL PLACEMENT IN REQUIRED LIFT THICKNESSES (E.G. SWING PATTERN, BUCKET SIZE, ETC.).
   d. USACE DREDGE PERMIT FOR EMNR SAND, AS APPLICABLE TO PROPOSED SOURCE.
   e. THE CONTRACTOR SHALL SUBMIT ALL FILL MATERIAL SOURCE INFORMATION INCLUDING A CONTACT NAME, ADDRESS, PHONE NUMBER FOR EACH PRODUCT AND/OR SOURCE TO THE ENGINEER FOR APPROVAL.
2. CONSTRUCTION SUBMITTALS:
   a. PROVIDE THE ENGINEER WITH A DAILY SAND PLACEMENT PROGRESS SUMMARY IN THE DAILY FIELD REPORT.
   b. PROVIDE EVIDENCE OF PLACED EMNR SAND LAYER THICKNESS FINAL (I.E. BATHYMETRY, RAIN BUCKETS, SEDIMENT CORES, OR OTHER ENGINEER APPROVED METHOD) PRIOR TO DEMOBILIZING SPREADING EQUIPMENT FROM THE SITE.

PERMIT DOCUMENT

MAUL FOSTER ALONGI
2001 NW 19TH AVE, SUITE 200
PORTLAND, OR 97209
PHONE: 971.544.2139
www.maulfoster.com

AMCCO UPLAND & SEDIMENT REMEDIATION PLAN

ASTORIA MARINE CONSTRUCTION CO.

ASTORIA, OREGON

ISSUE	DATE	DESCRIPTION
C	04/30/2019	90% DESIGN DOCUMENTS
B	09/29/2017	SECTION 408 REVIEW
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PROJECT: 1653.01.01
DESIGNED: C. GOKCORA
DRAWN: Z. PYLE
CHECKED: E. BAKKOM
SCALE
0 50' 100
NOTE: BAR IS ONE INCH ON ORIGINAL DRAWING. IF NOT ONE INCH ON THIS SHEET, ADJUST SCALE ACCORDINGLY.

SHEET TITLE
EMNR SAND PLACEMENT

SHEET
C4.2

PLOTTED BY: Cem Gokcora FILENAME: G:\00_MFA Civil 3D\00_PROJECTS\0258.04.03-AMCCO PLANS\60% Design\C4.2 EMNR SAND FILL GRADING PLAN.dwg
PLOTTED ON: 2019-05-23 2:05 PM

Daily Report Number:	AMCCO-080322-GRK		
Date:	8/3/2022	**Completed by:**	Garrick Kalmeta, EIT

Photos

Photo 1: A look at the GPS location for SP-2

Photo 2: A look at the drive-in location of the russian pete bore at SP-2

Daily Report Number:	AMCCO-080322-GRK		
Date:	8/3/2022	**Completed by:**	Garrick Kalmeta, EIT

Photos

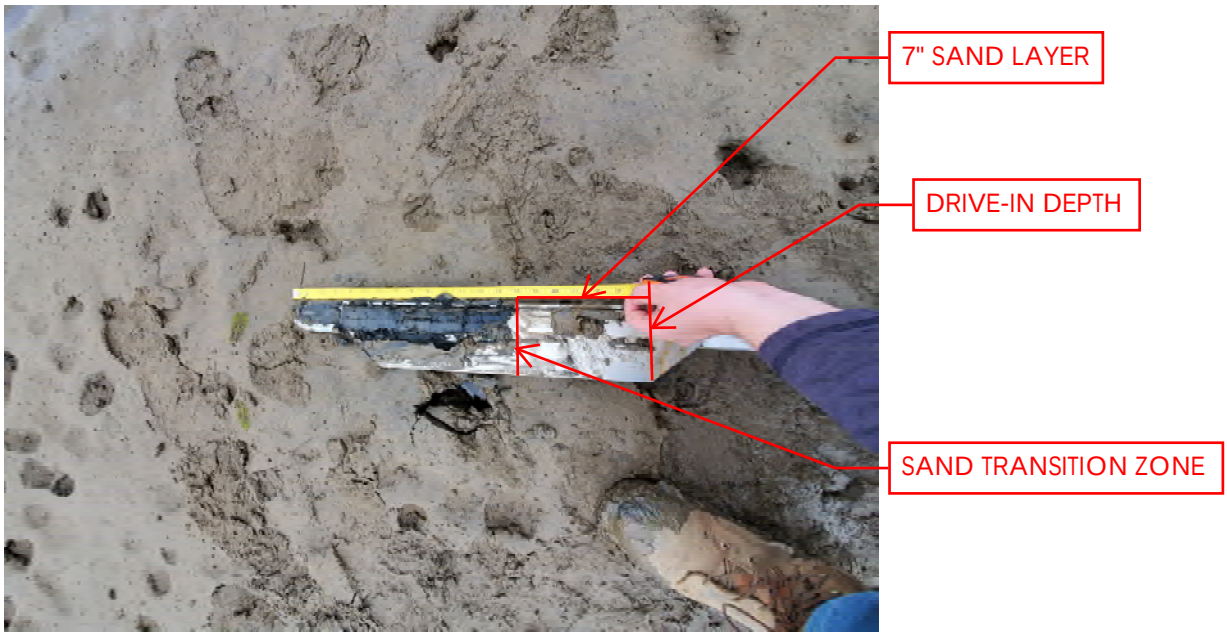

Photo 3: A look at the sampled EMNR Sand profile collected at SP-2, with a depth of approximately 7"

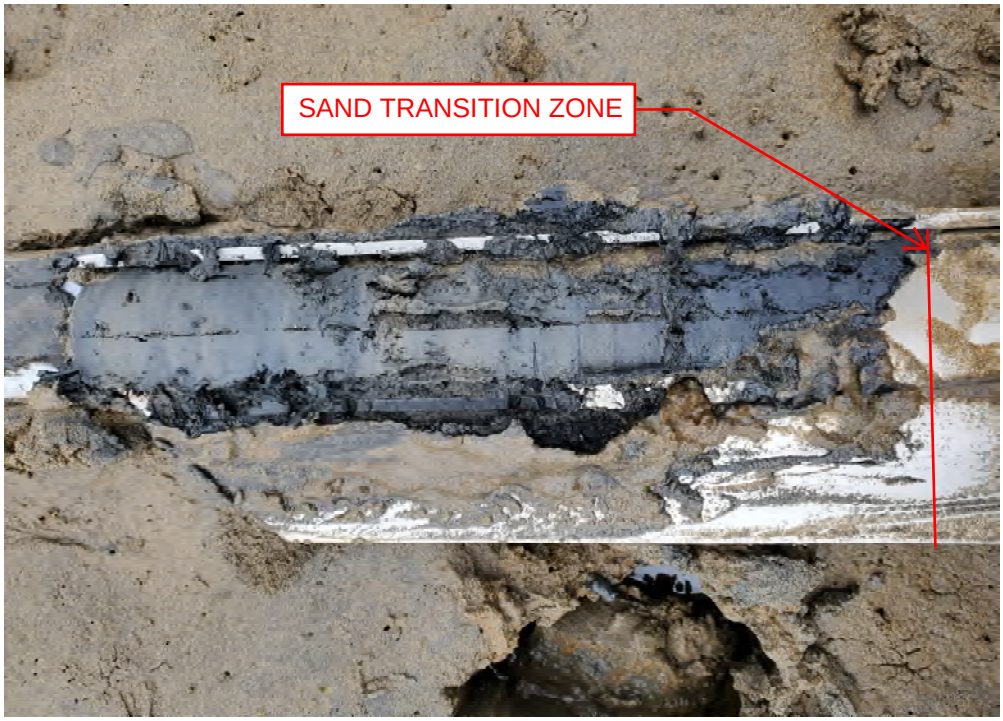

Photo 4: A look at the event horizon (transition zone between sediment and sand) for SP-2

Daily Report Number:	AMCCO-080322-GRK		
Date:	8/3/2022	**Completed by:**	Garrick Kalmeta, EIT

Photos

Photo 5: A look at the GPS location for SP-5

Photo 6: A look at the drive-in location of the russian pete bore at SP-5

Daily Report Number:	AMCCO-080322-GRK		
Date:	8/3/2022	**Completed by:**	Garrick Kalmeta, EIT

Photos

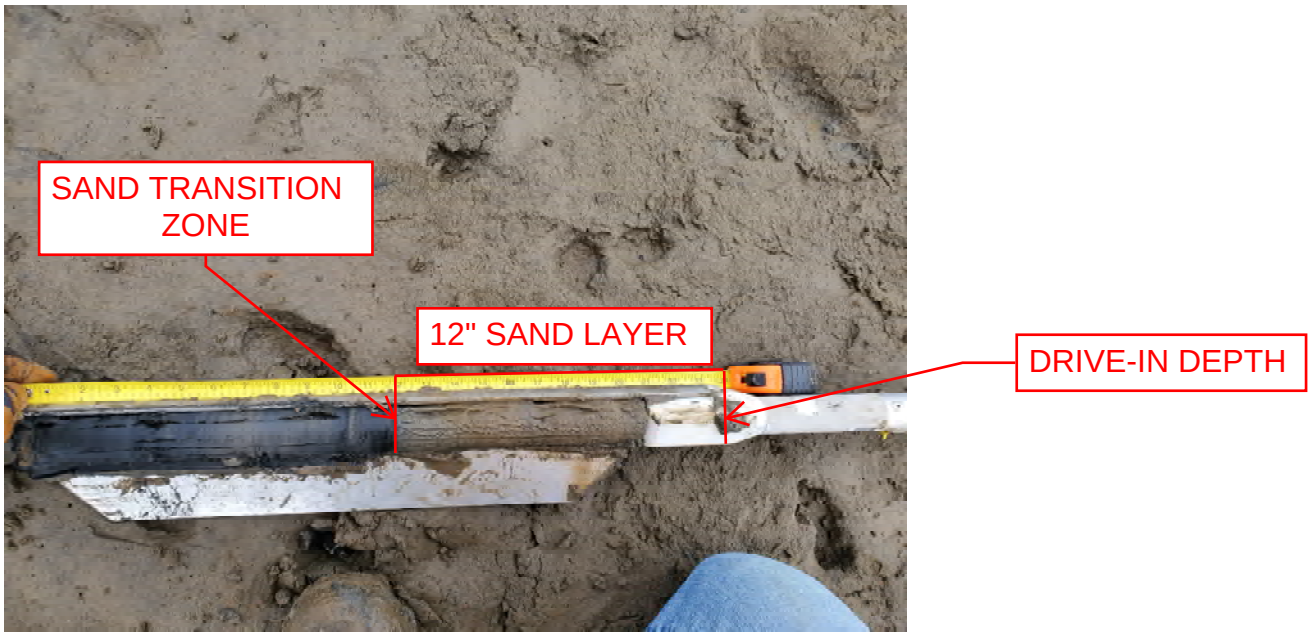

Photo 7: A look at the sampled EMNR Sand profile collected at SP-5, with a depth of approximately 12"

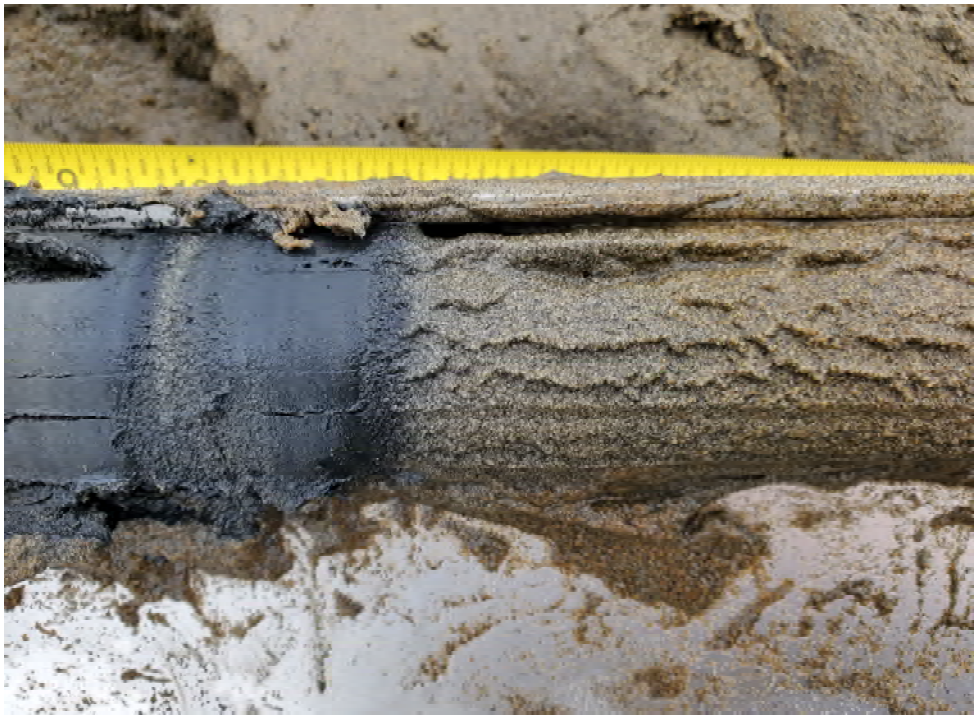

Photo 8: A look at the event horizon (transition zone between sediment and sand) for SP-5

Daily Report Number:	AMCCO-080322-GRK		
Date:	8/3/2022	**Completed by:**	Garrick Kalmeta, EIT

Photos

Photo 9: A look at the GPS location for SP-11

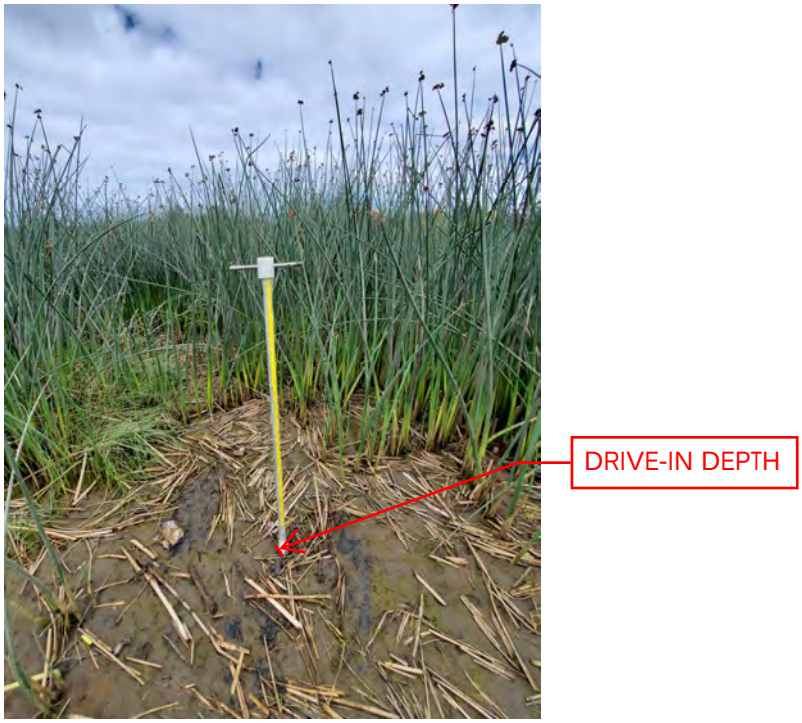

Photo 10: A look at the drive-in location of the russian pete bore at SP-11

Daily Report Number:	AMCCO-080322-GRK		
Date:	8/3/2022	**Completed by:**	Garrick Kalmeta, EIT

Photos

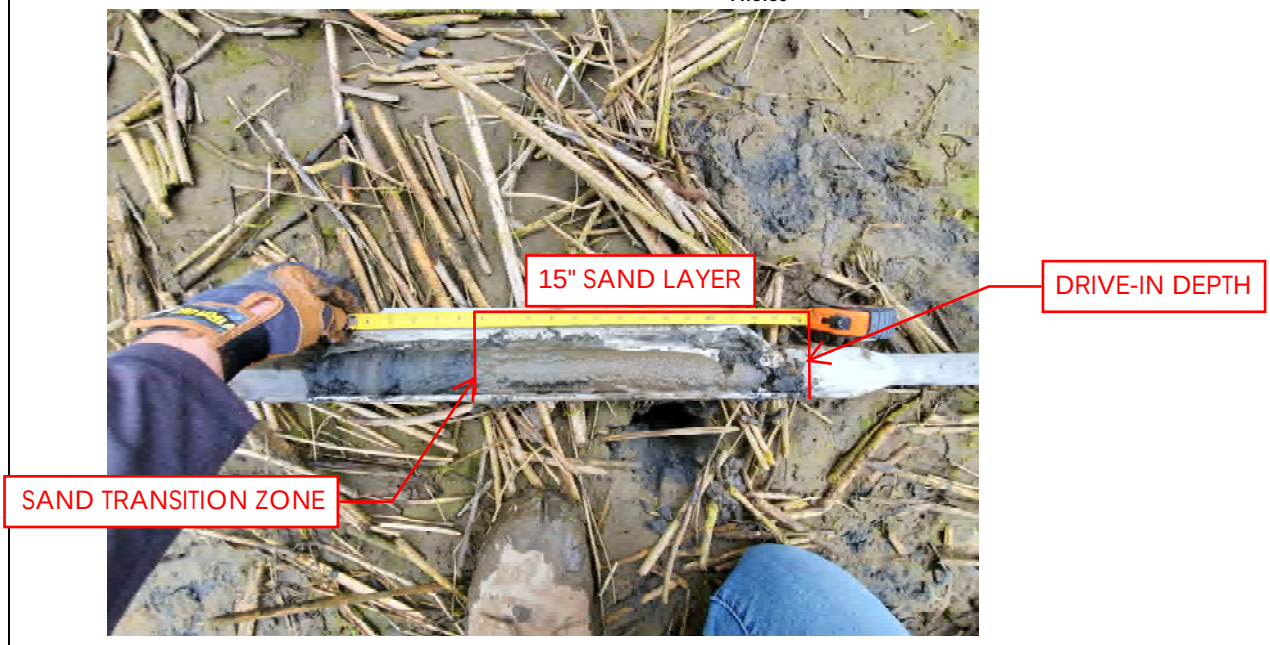

Photo 11: A look at the sampled EMNR Sand profile collected at SP-11, with a depth of approximately 15"

Photo 12: A look at the event horizon (transition zone between sediment and sand) for SP-11

Daily Report Number:	AMCCO-080322-GRK		
Date:	8/3/2022	**Completed by:**	Garrick Kalmeta, EIT

Photos

Photo 13: A look at the GPS location for SP-12

Photo 14: A look at the drive-in location of the russian pete bore at SP-12

Daily Report Number:	AMCCO-080322-GRK		
Date:	8/3/2022	**Completed by:**	Garrick Kalmeta, EIT

Photos

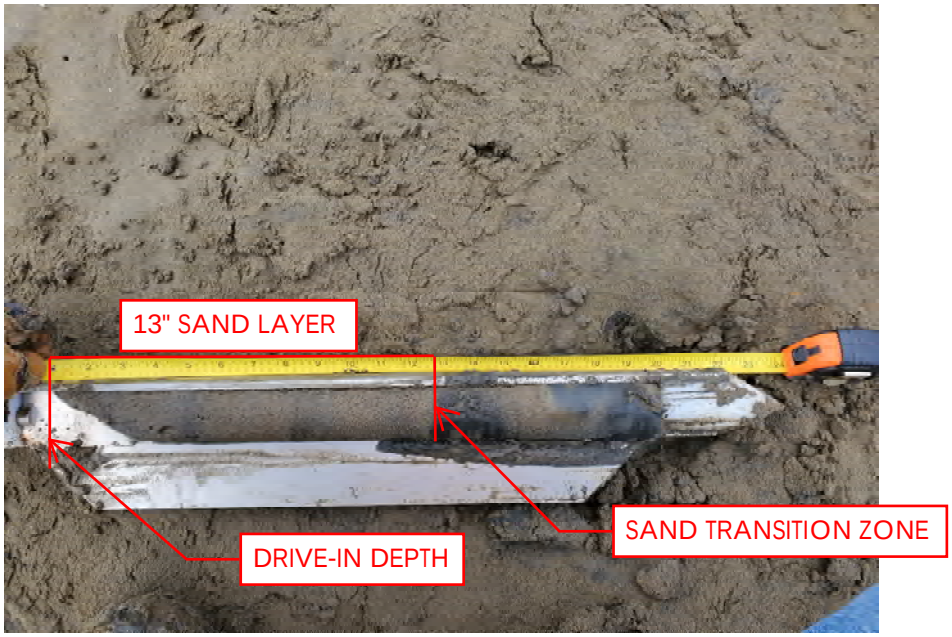

Photo 15: A look at the sampled EMNR Sand profile collected at SP-12, with a depth of approximately 13"

Photo 16: A look at the event horizon (transition zone between sediment and sand) for SP-12

Daily Report Number:	AMCCO-080322-GRK		
Date:	8/3/2022	**Completed by:**	Garrick Kalmeta, EIT

Photos

Photo 17: A look at the GPS location for SP-14

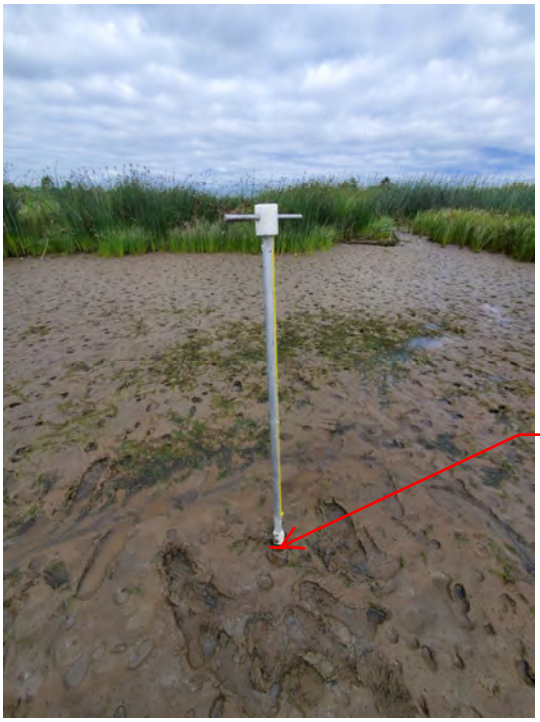

Photo 18: A look at the drive-in location of the russian pete bore at SP-14

Daily Report Number:	AMCCO-080322-GRK		
Date:	8/3/2022	**Completed by:**	Garrick Kalmeta, EIT

Photos

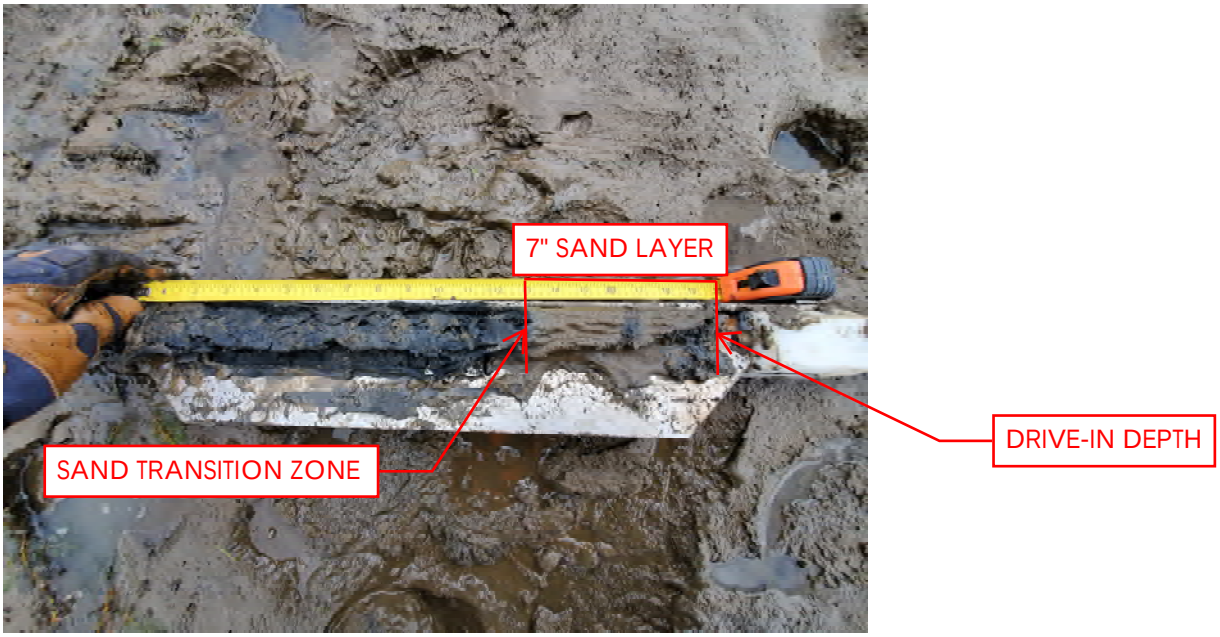

Photo 19: A look at the sampled EMNR Sand profile collected at SP-14, with a depth of approximately 7"

Photo 20: A look at the event horizon (transition zone between sediment and sand) for SP-14