July 12, 2018



Mr. Chad Staniszewski
Mr. Eugene Melnyk
New York State Department of Environmental Conservation
270 Michigan Avenue
Buffalo, NY 14203
OU-4 Remedial Action Work Plan Addendum
NYSDEC Site No. C915201E

Dear Mr. Staniszewski & Mr. Melnyk:

On behalf of ExxonMobil Oil Corporation, Amec Foster Wheeler have prepared this Addendum to the approved *Remedial Design for Operable Unit 4* (RD), dated May 13, 2011. The RD was implemented as a Track 4 cleanup to meet commercial SCOs and included the installation of a low-permeability cover system, which was terminated on the eastern side of the existing railroad embankment in OU-4. The work included in this Addendum includes the installation of a cover system over the existing railroad embankment that will overlap the existing geosynthetic clay liner and create a continuous low-permeability cover system in OU-4. The makeup of the cover system to be installed over the railroad embankment area of OU-4 includes a 60 mil linear low-density polyethylene (LLDPE) liner overlain by a geotextile fabric cushion layer and a minimum of 12 inches of stone cover. Details for the cover system, including aerial extent and cross sections, are provided on the attached drawings. Note that only the indicated details for OU-4 are being submitted for approval under this Addendum. It is anticipated that this work will be conducted in the second to third quarter of 2019. The attached drawings have been revised from the previous May 7, 2018 submittal for this work. The revisions were made based on DEC comments related to stone cover sizing and liner termination details.

Sincerely, AMEC E&E. PC

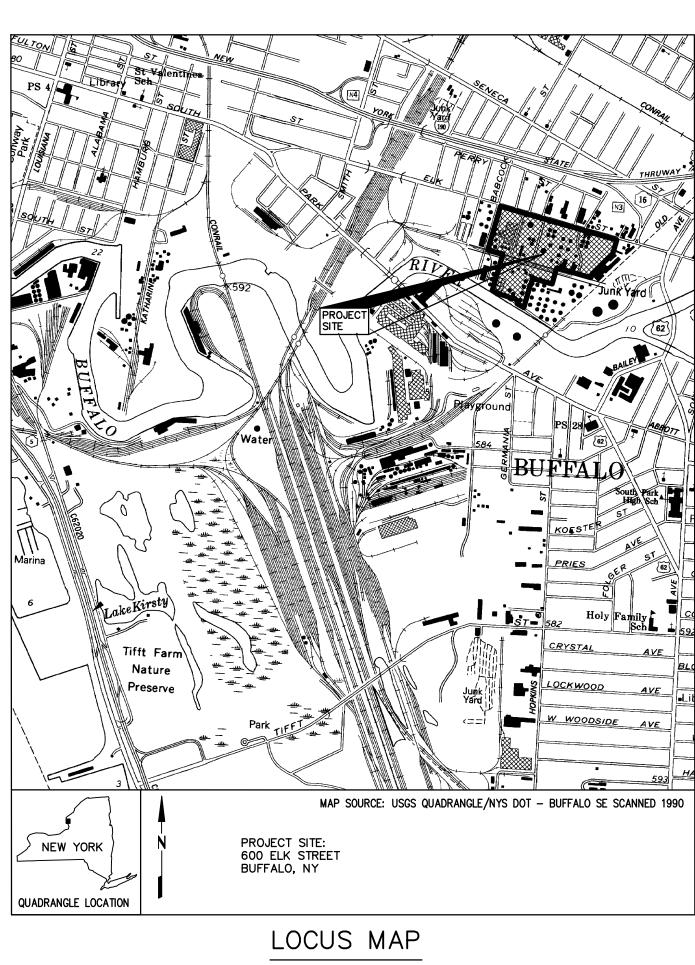
Richard Egan

Associate Geotechnical Engineer

Attachments

OU4 REMEDIAL ACTION PLAN ELK STREET COMMERCE PARK, LLC 625 ELK ST., BUFFALO, NEW YORK

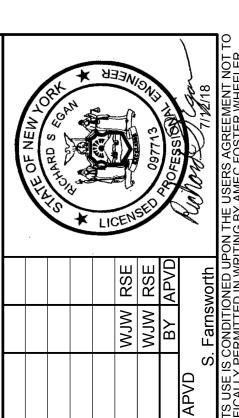
ISSUED FOR NYSDEC APPROVAL JULY 12, 2018



DRAWING INDEX

INCLUDED THIS SUBMITTAL	SHEET NUMBER	DRAWING TITLE	DISCIPLINE NUMBER
•	1	COVER SHEET	G-001
•	2	GENERAL NOTES, LEGEND, AND ABBREVIATIONS	G-002
•	3	OVERALL SITE PLAN - EXISTING CONDITIONS	C-101
•	4	SITE PLAN - EXISTING CONDITIONS	C-102
•	5	SITE PLAN - FINAL GRADING	C-103
•	6	SOIL EROSION AND SEDIMENTATION CONTROL NOTES	C-301
•	7	SOIL EROSION AND SEDIMENTATION CONTROLS	C-302
•	8	EROSION CONTROL DETAILS	C-303
•	9	CIVIL DETAILS	C-501

DRAFT NOT FOR CONSTRUCTION

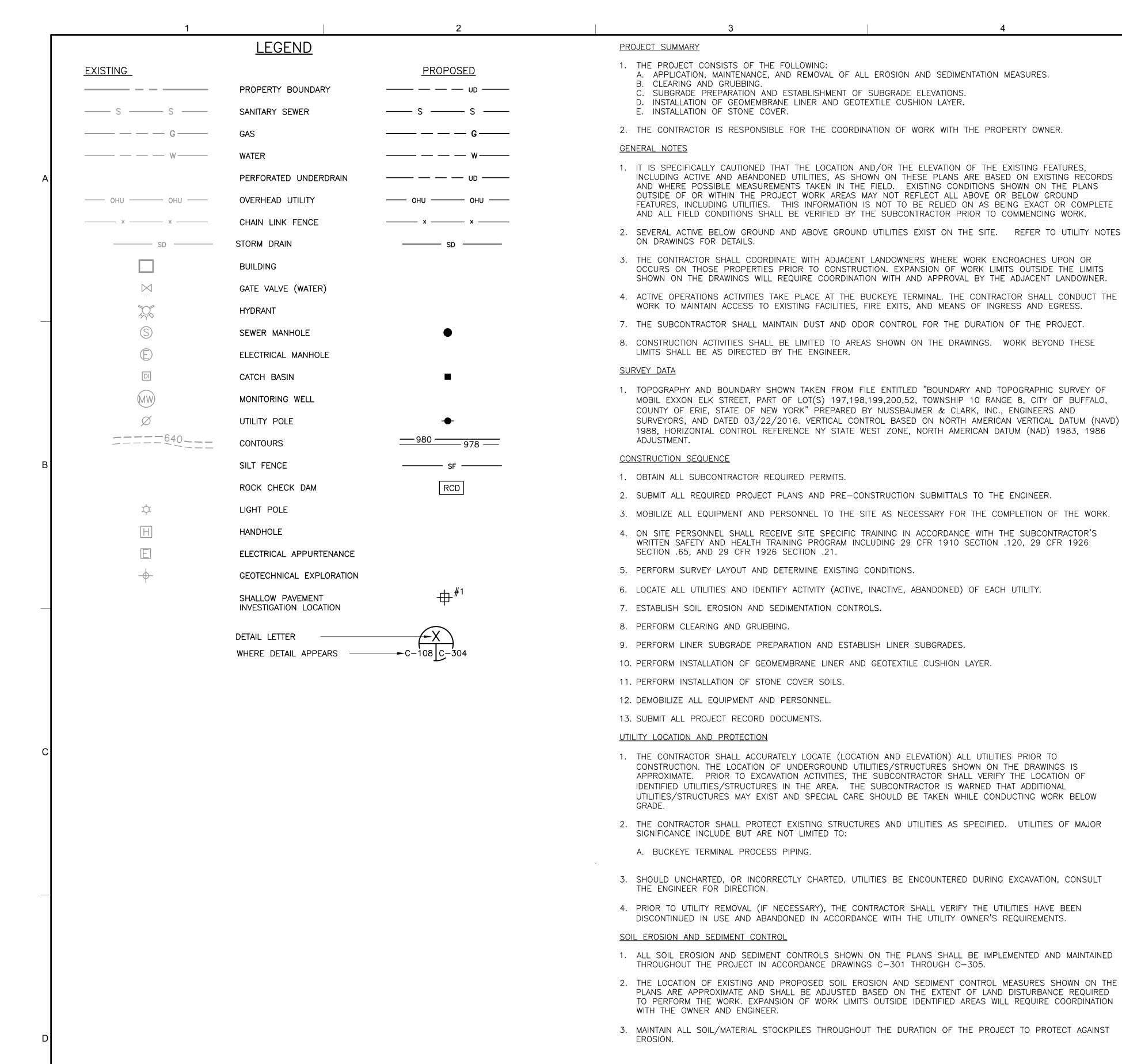


				<u>></u>	$^{\wedge}$	Ш		S. F
							APVD	
				FOR NYSDEC APPROVAL	100% RAP ADDENDUM 1	NOI	CHK	M. Peters
				FOR NYSDE	100% RAP /	REVISION		W. Whitten
							DR	gan
				7/12/18	5/07/18	NO. DATE		R. Egan
				В	٨	NO.	DSGN	
			OU4 REMEDIAL DESIGN	ELK STBEET COMMEDCE DABK 110		625 ELK ST., BUFFALO, NEW YORK		
DRAWING STATUS R NYSDEC APPROVAL	GENEBAI	GENERAL	COVER SHEET					

VERIFY SCALE BAR IS ONE INCH ON ORIGINAL DRAWING. PROJ 3617-16-7397

1 of

FILE NAME: Z:\Projects\ExxonMobil-KROG-Elk Street\OU4 Design\Sheets\G-001 Cover Sheet.dwg PLOT DATE: Thu, 12 Jul 2018 PLOT TIME: 7:11 AM



EXCAVATION, RE-USE AND CONTAINERIZATION, TRANSPORTATION AND DISPOSAL OF CONTAMINATED MATERIALS AND HANDLING/TREATMENT OF CONTAMINATED WATER

- 1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE HANDLING, MANAGEMENT, CONTAINERIZATION, TRANSPORTATION AND OFF-SITE DISPOSAL OF ALL SOIL/MATERIALS, NON-HAZARDOUS WASTE, RCRA HAZARDOUS WASTE, STATE-REGULATED MATERIALS, STEEL, PIPE, CONCRETE/MASONRY, METAL, WOOD, ASPHALT PAVEMENT, AND ALL OTHER MISCELLANEOUS DEBRIS, AND LIQUID WASTE GENERATED DURING THE PERFORMANCE OF THE WORK.
- 2. THE CONTRACTOR SHALL UTILIZE CLEAN NON-CONTAMINATED EQUIPMENT AND MATERIALS, AS APPROVED BY THE ENGINEER, FOR CONDUCTING BACKFILLING AND RESTORATION ACTIVITIES. THE CONTRACTOR SHALL BACKFILL AND RESTORE THE EXCAVATIONS AND DISTURBED AREAS IN ACCORDANCE WITH THE REQUIREMENTS OF THE CONTRACT DOCUMENTS. BACKFILL MATERIALS WILL CONSIST OF NON-CONTAMINATED IMPORTED FILL MEETING THE SPECIFICATIONS AND APPROVED BY THE ENGINEER.
- 3. THE SUBCONTRACTOR SHALL BE RESPONSIBLE FOR THE PROPER ON—SITE MANAGEMENT OF WASTES GENERATED IN COMPLIANCE WITH ALL FEDERAL, STATE, AND LOCAL REGULATIONS AND REQUIREMENTS.
- 4. THE SUBCONTRACTOR IS RESPONSIBLE FOR THE PREPARATION OF ALL DOCUMENTS REQUIRED FOR THE OFF-SITE TRANSPORTATION AND DISPOSAL OF ALL WASTE MATERIALS.
- 5. ALL NON—CONTAMINATED SOIL/MATERIALS AND DEBRIS UNSUITABLE FOR REUSE ONSITE, INCLUDING BUT NOT LIMITED TO CONCRETE, ASPHALT, STEEL, WOOD, AND OTHER MISCELLANEOUS DEBRIS, SHALL BE PROPERLY DISPOSED OFF—SITE AT A FEDERALLY OR STATE LICENSED/PERMITTED DISPOSAL FACILITY OR RECYCLING FACILITY UNLESS OTHERWISE APPROVED BY THE ENGINEER.

EXCAVATION AND BACKFILLING

- 1. THE CONTRACTOR SHALL CONDUCT EXCAVATIONS IN ACCORDANCE WITH SAFETY REQUIREMENTS OF THE U.S. DEPARTMENT OF LABOR'S CONSTRUCTIONS SAFETY ACT DESIGNATED AS TITLE 29 CFR PART 1926 SAFETY AND HEALTH REGULATIONS FOR CONSTRUCTION, SUBPART P, SECTIONS 1926.650 THROUGH 652, AND ALL OTHER APPLICABLE LAWS AND REGULATIONS.
- 2. STABILITY OF EXCAVATIONS IS THE RESPONSIBILITY OF THE CONTRACTOR, AND SHALL MEET ALL LOCAL, STATE AND FEDERAL REQUIREMENTS. SHEETING/SHORING/BRACING MAY BE REQUIRED TO PROTECT STRUCTURES TO REMAIN, AT THE DISCRETION OF THE SUBCONTRACTOR, AND IN COMPLIANCE WITH THE SPECIFICATIONS.
- 3. THE SUBCONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING DIG SAFELY NEW YORK A MINIMUM OF 72 HOURS PRIOR TO ANY EXCAVATION OR SUBSURFACE ACTIVITIES. DIG SAFELY NEW YORK CAN BE REACHED BY CALLING 1-800-962-7962.
- 4. BACKFILL FOR THE BUCKEYE TERMINAL AND BABCOCK STREET EXCAVATIONS SHALL BE CLEAN IMPORTED FILL MEETING NYSDOT SECTION 733-04 SUBBASE TYPE 3. BACKFILL SHALL BE INSTALLED IN MAXIMUM 12-INCH LOOSE LIFTS AND COMPACTED TO 95% DRY DENSITY AS DETERMINED BY ASTM D1557.
- 5. IN-SITU DENSITY TESTING OF BACKFILL SHALL BE CONDUCTED AT A FREQUENCY OF THREE TESTS PER LIFT ON THE BABCOCK STREET PROPERTY AND ONE TEST PER LIFT ON THE BUCKEYE TERMINAL PROPERTY.

GRADING AND DRAINAGE

- 1. THE CONTRACTOR SHALL EMPLOY MEASURES NECESSARY TO DIVERT SURFACE RUNOFF AWAY FROM ALL OPEN EXCAVATION AREAS, AS NECESSARY FOR THE PERFORMANCE OF THE WORK AS SHOWN, AND AS DIRECTED BY THE ENGINEER.
- 2. THE CONTRACTOR SHALL DEWATER EXCAVATIONS AS NECESSARY TO PERFORM EXCAVATION AND BACKFILLING ACTIVITIES AND MAINTAIN STABILITY OF EXCAVATIONS. THESE ACTIVITIES SHALL BE CONDUCTED IN ACCORDANCE WITH APPLICABLE REQUIREMENTS AND AS DIRECTED IN THE SPECIFICATIONS.

					WLW	I MCM	BY A		ırnsw	TIO
					×	W	В		S. Farnsw	NO OI
								APVD		TO LICE
					FOR NYSDEC APPROVAL	100% RAP ADDENDUM 1	NOI	CHK	M. Peters	I GINA INCITAMBODINI INITINDI
					FOR NYSDI	100% RAP	REVISION		W.Whitten	קוקועט מטימועי טקמו
								DR	lu	
					7/12/18	5/07/18	NO. DATE		R. Egan	IND DATIFALTABLE
					В	A	NO.	DSGN		A CATIVE
				OU4 REMEDIAL DESIGN	O I NOVER BOUND TO SERVICE OF SER		625 ELK ST., BUFFALO, NEW YORK			ACTION OF AMECICAL MICHIGATION OF AMECICAL MICHIGAL PATENTER AND PATENTARINE FICATION OF THE SECOND CONDITION AND 125 1151 1150 1150 1150 1150 1150 1150
DRAWING STATUS	FOR NYSDEC APPROVAL		CIVIL	SELON INCHES		LEGEND, AND ABBREVIATIONS				THE ST CHIMING AND STREET

eco Same

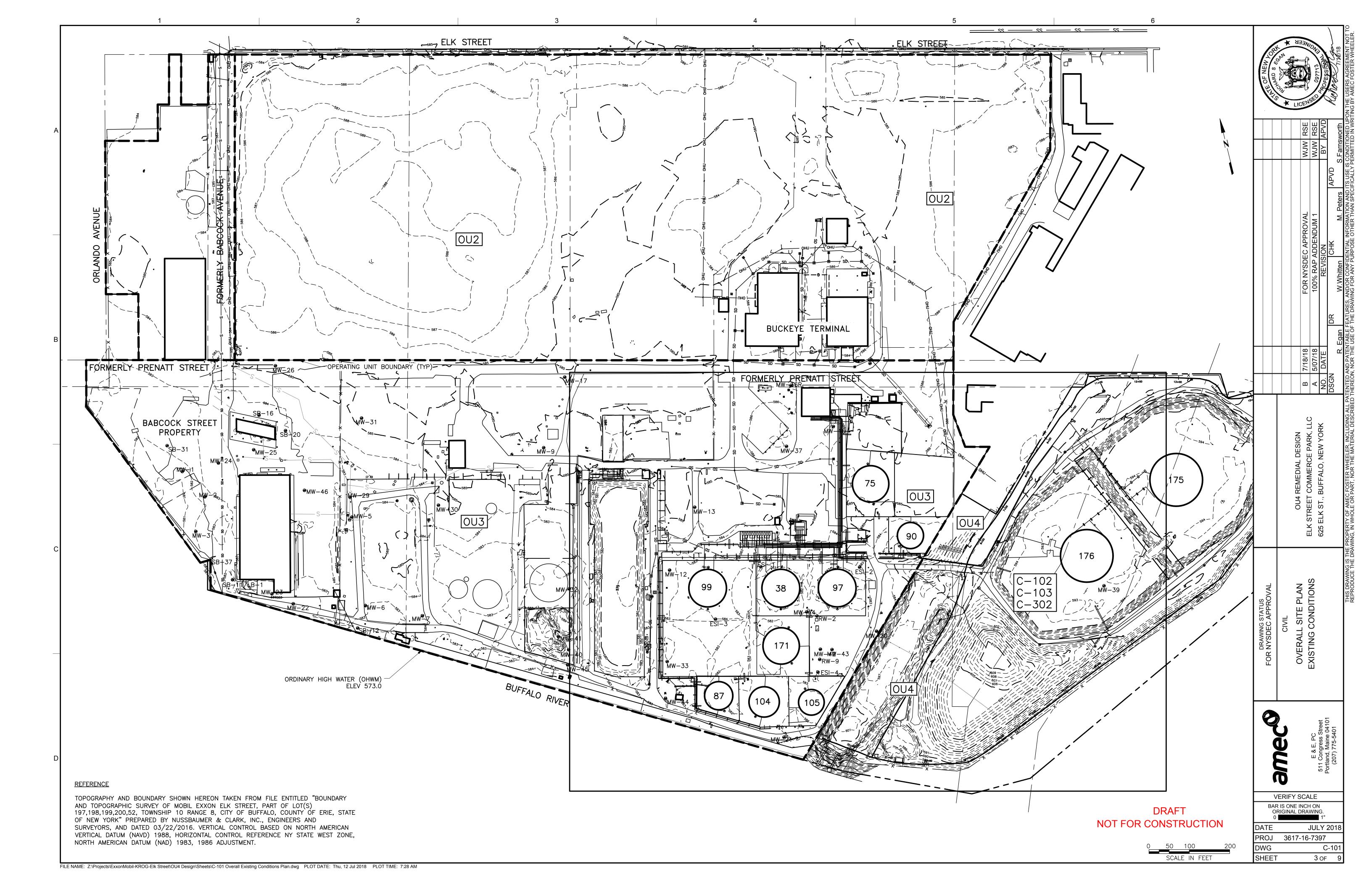
E & E, PC 511 Congress Stre Portland, Maine 04

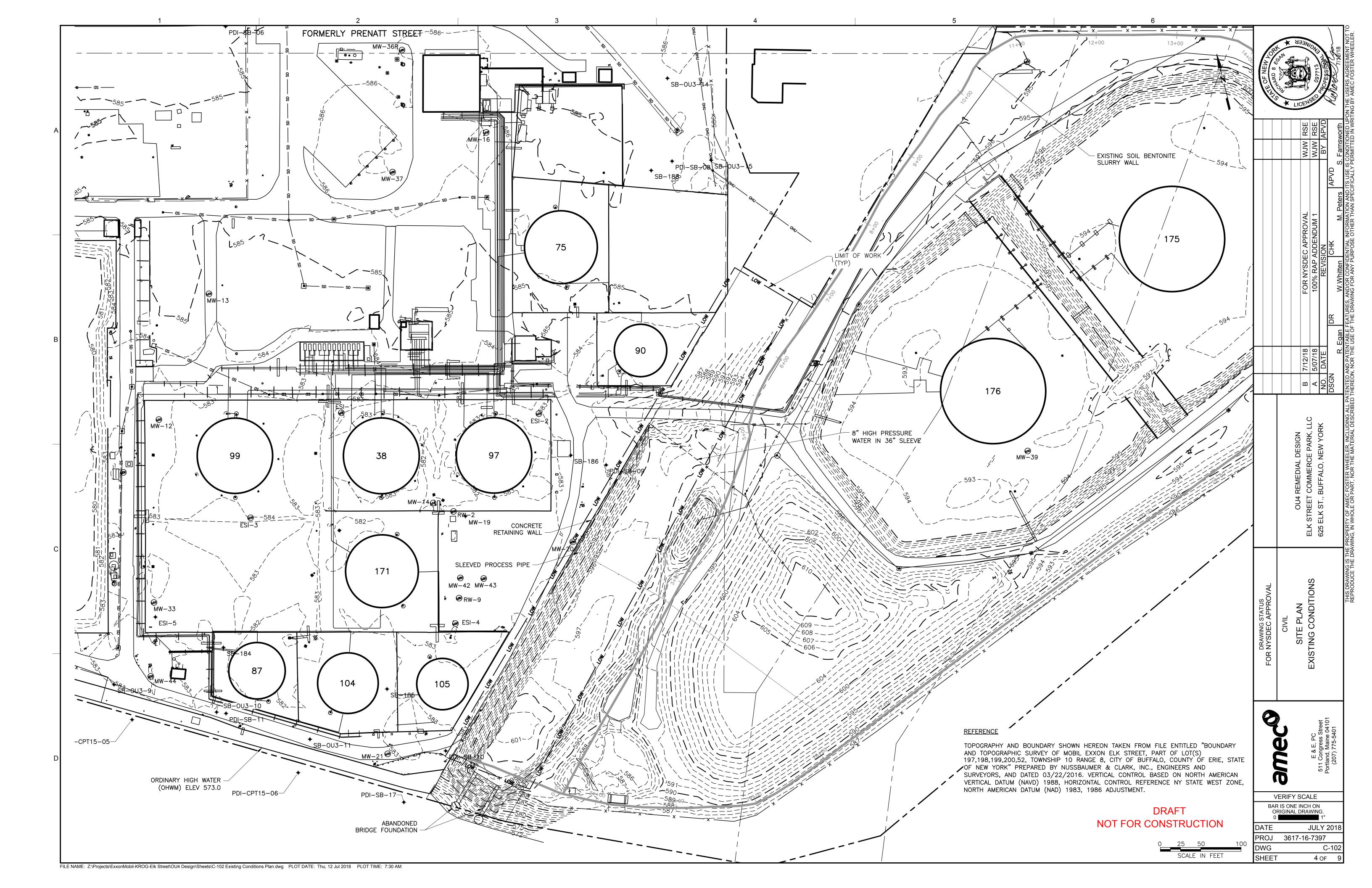
VERIFY SCALE

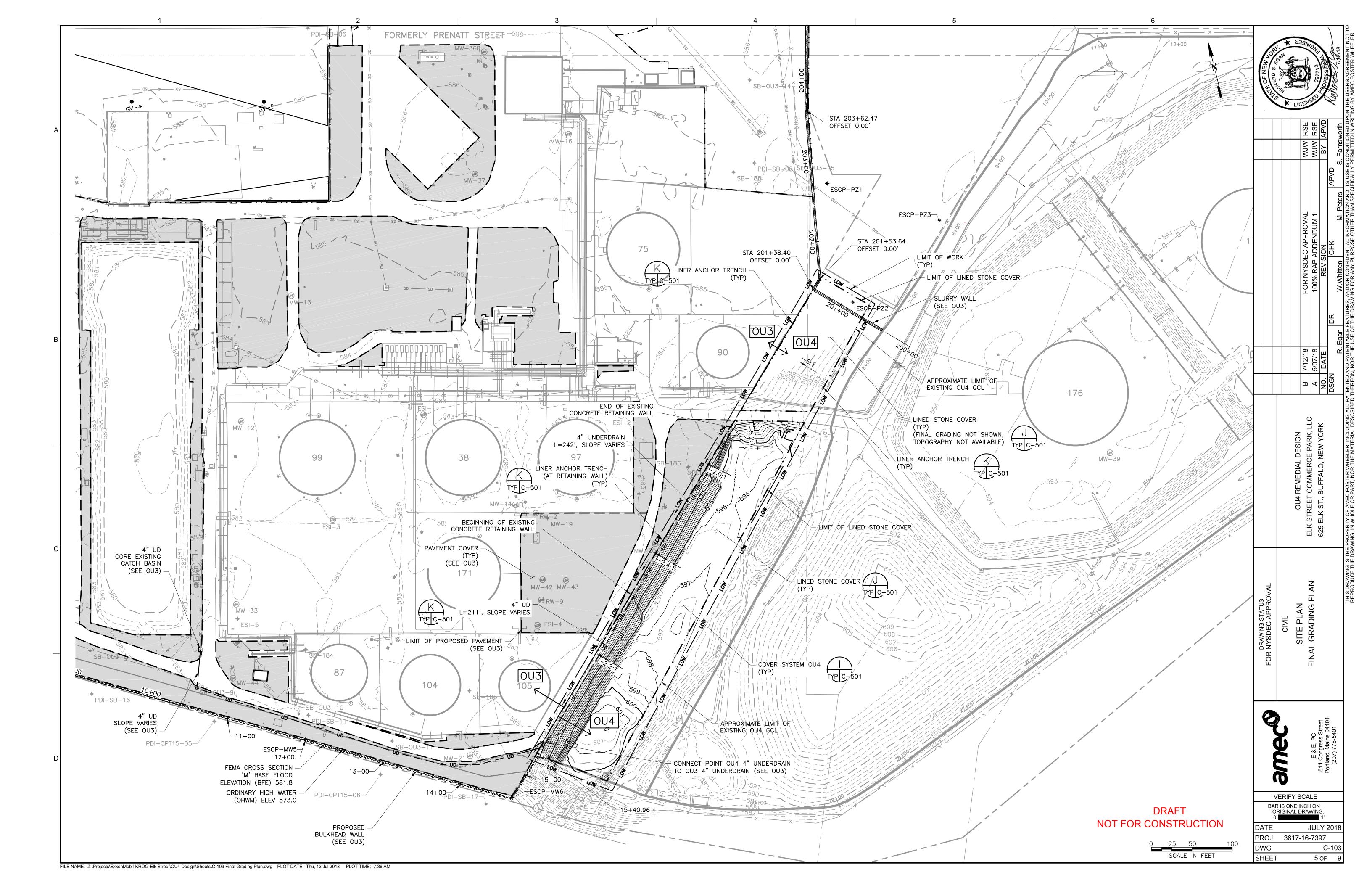
BAR IS ONE INCH ON
ORIGINAL DRAWING.

DATE JULY 2018
PROJ 3617-16-7397
DWG G-002
SHEET 2 OF 9

DRAFT
NOT FOR CONSTRUCTION







GENERAL EROSION AND SEDIMENT CONTROL NOTES:

- 1. ALL WORK IS TO BE DONE IN ACCORDANCE WITH THE NEW YORK STATE STANDARDS AND SPECIFICATIONS FOR EROSION AND SEDIMENT CONTROL (STATE STANDARDS) AND THE CONTRACT DOCUMENTS. IF A DISCREPANCY EXISTS BETWEEN THE STATE STANDARDS AND THE CONTRACT DOCUMENTS, THE STATE STANDARDS SHALL TAKE PRECEDENCE.
- 2. ALL SOIL EROSION AND SEDIMENT CONTROL PRACTICES ARE TO BE INSTALLED PRIOR TO ANY MAJOR SOIL DISTURBANCE, OR IN THEIR PROPER SEQUENCE, AND MAINTAINED UNTIL PERMANENT PROTECTION IS ESTABLISHED.
- 3. EROSION AND SEDIMENTATION CONTROLS SHALL BE AUGMENTED OR SUPPLEMENTED IF THE INSTALLED MEASURES DO NOT PROVIDE ADEQUATE PROTECTION OF DOWNSTREAM RESOURCES AS DETERMINED BY THE ENGINEER OR DEPARTMENT
- 4. ANY DISTURBED AREAS THAT WILL BE LEFT EXPOSED MORE THAN FOURTEEN (14) DAYS, AND NOT SUBJECT TO CONSTRUCTION TRAFFIC, WILL IMMEDIATELY RECEIVE TEMPORARY SEEDING AND MULCHING. IF THE SEASON PREVENTS THE ESTABLISHMENT OF TEMPORARY COVER, THE DISTURBED AREAS WILL BE MULCHED WITH HAY OR STRAW, OR EQUIVALENT MATERIAL, AT A RATE OF 2 TONS PER ACRE, ACCORDING TO STATE STANDARDS.
- 5. IMMEDIATELY FOLLOWING INITIAL DISTURBANCE OR ROUGH GRADING, ALL CRITICAL AREAS SUBJECT TO EROSION (I.E. STEEP SLOPES) WILL RECEIVE TEMPORARY SEEDING IN COMBINATION WITH HAY OR STRAW MULCH OR A SUITABLE EQUIVALENT, AT A RATE OF 2 TONS PER ACRE, ACCORDING TO STATE STANDARDS.
- 6. ANY STEEP SLOPES (I.E. SLOPES GREATER THAN 3:1) WILL BE COMPLETELY GRADED AND STABILIZED DAILY, AS CONSTRUCTION PROGRESSES
- 7. THE STANDARD FOR STABILIZED CONSTRUCTION ENTRANCE REQUIRES THE INSTALLATION OF A PAD OF CLEAN CRUSHED STONE AT POINTS WHERE TRAFFIC WILL BE ACCESSING THE CONSTRUCTION SITE.
- 8. ALL SOIL WASHED, DROPPED, SPILLED, OR TRACKED OUTSIDE THE LIMIT OF WORK OR ONTO PUBLIC RIGHT-OF-WAYS SHALL BE REMOVED IMMEDIATELY.
- 9. PERMANENT VEGETATION IS TO BE SEEDED OR SODDED ON ALL EXPOSED AREAS AS SOON AS POSSIBLE AFTER FINAL GRADING. IF SEEDING IS NOT PERFORMED WITHIN 48 HOURS OF COMPLETION OF FINAL GRADING, ADDITIONAL SURFACE SCARIFICATION SHALL BE COMPLETED PRIOR TO SEEDING.
- 10. AT THE TIME THAT SITE PREPARATION FOR PERMANENT VEGETATIVE STABILIZATION IS TO BE UNDERTAKEN, ANY SOIL THAT WILL NOT PROVIDE A SUITABLE ENVIRONMENT TO SUPPORT ADEQUATE VEGETATIVE GROWTH SHALL BE REMOVED OR TREATED IN SUCH A WAY THAT WILL PERMANENTLY ADJUST THE SOIL CONDITIONS AND RENDER IT SUITABLE TO SUSTAIN VEGETATIVE GROWTH. IF THE REMOVAL OR TREATMENT OF THE SOIL WILL NOT PROVIDE SUITABLE CONDITIONS, NON-VEGETATIVE MEANS OF PERMANENT STABILIZATION SHALL BE EMPLOYED.
- 11. DEWATERING OPERATIONS SHALL BE UNDERTAKEN IN A MANER TO MINIMIZE SEDIMENT TRANSFER. ANY DEWATERING METHODS USED MUST BE IN ACCORDANCE WITH THE SPECIFICATIONS.
- 12. SHOULD THE CONTROL OF DUST AT THE SITE BE NECESSARY, THE SITE WILL BE SPRINKLED WITH WATER UNTIL THE SURFACE IS WET. TEMPORARY VEGETATIVE COVER SHALL BE ESTABLISHED OR MULCH SHALL BE APPLIED PER THE STATE STANDARDS. CALCIUM CHLORIDE SHALL ONLY BE USED FOR DUST CONTROL DURING FREEZING CONDITIONS.
- 13. STOCKPILE AND STAGING LOCATIONS ESTABLISHED IN THE FIELD SHALL BE PLACED WITHIN THE LIMIT OF WORK WITH APPROPRIATE PROTECTIVE EROSION AND SEDIMENTATION CONTROLS.
- 14. ALL SOIL STOCKPILES ARE TO BE TEMPORARILY STABILIZED IN ACCORDANCE WITH GENERAL EROSION AND SEDIMENT CONTROL NOTE NO. 4.
- 15. STABILIZED PLUNGE POOLS/SCOUR PADS MUST BE INSTALLED AT ALL TEMPORARY TRIBUTARY BYPASS SYSTEM DISCHARGE LOCATIONS AND/OR CONSTRUCTION WATER DISCHARGE LOCATIONS PRIOR TO THE DISCHARGE BECOMING OPERATIONAL.
- 16. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY EROSION OR SEDIMENTATION THAT MAY OCCUR DOWNGRADIENT OF STORMWATER OUTFALLS/OUTLETS OR OFFSITE AS A RESULT OF CONSTRUCTION OF THE PROJECT.

SOIL EROSION AND SEDIMENT CONTROL INSPECTION AND MAINTENANCE:

1. STABILIZED CONSTRUCTION ENTRANCE

- A. STABILIZED CONSTRUCTION ENTRANCES SHALL, AT A MINIMUM, BE INSPECTED WEEKLY AND WITHIN 24 HOURS AFTER EVERY PRECIPITATION EVENT THAT PRODUCES 0.5 INCHES OF RAIN OR MORE DURING A 24—HOUR PERIOD.
- B. STABILIZED CONSTRUCTION ENTRANCES SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OF SEDIMENT ONTO PAVED SURFACES. CHECK FOR DAMAGE/DETERIORATION/CLOGGING AND IMMEDIATELY REPAIR OR RECONSTRUCT AS NECESSARY.
- C. THE PERFORMANCE OF STABILIZED CONSTRUCTION ENTRANCES SHALL BE MAINTAINED BY LENGTHENING, SCRAPING, OR TOP-DRESSING WITH ADDITIONAL AGGREGATE.
- D. STABILIZED CONSTRUCTION ENTRANCES SHALL HAVE A 6-INCH MINIMUM THICKNESS.
- E. INSPECT ADJACENT IMPERVIOUS SURFACES DAILY (MINIMUM). IMMEDIATELY REMOVE VISIBLE ACCUMULATED SEDIMENT DEPOSITED ON PAVED SURFACES VIA SWEEPING, VACUUMING, OR WASHING. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH AGGREGATE, WHICH DRAINS INTO AN APPROVED SEDIMENT TRAPPING DEVICE. PROPERLY DISPOSE OF SEDIMENT.

2. SEDIMENT BARRIERS

- A. SILTATION FENCE
- A.1. SILTATION FENCES SHALL, AT A MINIMUM, BE INSPECTED WEEKLY AND WITHIN 24 HOURS AFTER EVERY PRECIPITATION EVENT THAT PRODUCES 0.5 INCHES OF RAIN OR MORE DURING A 24-HOUR PERIOD.
- A.2. REMOVE THE SEDIMENT DEPOSITS OR INSTALL A SECONDARY BARRIER UPSLOPE FROM THE EXISTING BARRIER WHEN SEDIMENT DEPOSITS REACH ONE HALF THE HEIGHT OF THE FENCE. PROPERLY DISPOSE
- A.3. REPLACE OR REPAIR FENCES WITHIN 24 HOURS OF OBSERVED FAILURE (E.G., DAMAGE OR DECOMPOSITION; FENCE MOVED OUT OF POSITION; UNDERCUTTING, OVERTOPPING, OR FLOW CHANNELS AROUND THE END OF FENCES).
- A.4. MAINTAIN SILTATION FENCES UNTIL THE CONTRIBUTING AREA IS STABILIZED.
- B. AUGMENTED SILTATION FENCE
- B.1. AUGMENTED SILTATION FENCES SHALL, AT A MINIMUM, BE INSPECTED WEEKLY AND WITHIN 24 HOURS AFTER EVERY PRECIPITATION EVENT THAT PRODUCES 0.5 INCHES OF RAIN OR MORE DURING A 24-HOUR PERIOD.
- B.2. REMOVE THE SEDIMENT DEPOSITS OR INSTALL A SECONDARY BARRIER UPSLOPE FROM THE EXISTING BARRIER WHEN SEDIMENT DEPOSITS REACH ONE HALF THE HEIGHT OF THE FENCE. PROPERLY DISPOSE OF SEDIMENT.
- B.3. REPLACE OR REPAIR FENCES WITHIN 24 HOURS OF OBSERVED FAILURE (E.G., DAMAGE OR DECOMPOSITION; FENCE MOVED OUT OF POSITION; UNDERCUTTING, OVERTOPPING, OR FLOW CHANNELS AROUND THE END OF FENCES).
- B.4. RESHAPE, ADD ADDITIONAL MATERIAL, OR REPLACE FILTER BERM WHEN DISTURBED BY CONSTRUCTION ACTIVITIES OR SIGNIFICANT STORM EVENTS.
- B.5. MAINTAIN AUGMENTED SILTATION FENCES UNTIL THE CONTRIBUTING AREA IS STABILIZED.
- C. TURBIDITY CURTAIN
- C.1. TURBIDITY CURTAINS SHALL BE INSTALLED PRIOR TO BULKHEAD INSTALLATION WORK. TURBIDITY CURTAIN SHALL BE REMOVED FOLLOWING THE BULKHEAD INSTALLATION.
- C.2. TURBIDITY CURTAINS SHALL BE INSTALLED, INSPECTED, AND MAINTAINED BY THE CONTRACTOR THROUGHOUT THE PERFORMANCE OF THE WORK.

3. CHECK DAMS

- A. CHECK DAMS SHALL, AT A MINIMUM, BE INSPECTED WEEKLY AND WITHIN 24 HOURS AFTER EVERY PRECIPITATION EVENT THAT PRODUCES 0.5 INCHES OF RAIN OR MORE DURING A 24 HOUR PERIOD.
- B. REPLACE OR REPAIR CHECK DAMS WITHIN 24 HOURS OF OBSERVED FAILURE (E.G., MOVED STONE, ERODED SOIL AROUND OR UNDER THE CHECK DAM, TRAPPED SEDIMENTS OVERTOPPING CHECK DAM).
- C. UNLESS INCORPORATED INTO A PERMANENT STORMWATER MANAGEMENT SYSTEM, CHECK DAMS SHALL BE REMOVED ONCE THE FINAL GRADING AND CHANNEL STABILIZATION IS APPLIED.
- D. SEDIMENT DEPOSITS SHALL BE REMOVED WHEN DEPOSITS REACH HALF THE HEIGHT OF THE CHECK DAM. REMOVAL OF SEDIMENT MAY REQUIRE REPLACEMENT OF STONE. PROPERLY DISPOSE OF SEDIMENT.

4. TEMPORARY SEEDING AND MULCHING

DURING A 24-HOUR PERIOD.

- A. AREAS RECEIVING TEMPORARY SEEDING AND MULCHING SHALL, AT A MINIMUM, BE INSPECTED WEEKLY AND WITHIN 24 HOURS AFTER EVERY PRECIPITATION EVENT THAT PRODUCES 0.5 INCHES OF RAIN OR MORE
- B. WHERE SEED/MULCH HAS MOVED OR SOIL EROSION HAS OCCURRED, REPAIR THE AREA APPROPRIATELY AND RE—APPLY SEED AND/OR MULCH. APPLY NETTING, TACKIFIER, OR OTHER ANCHORING TECHNIQUES AS NECESSARY TO PREVENT FAILURE. ADDITIONAL TEMPORARY MEASURES MAY ALSO BE INSTALLED TO CONTROL STORMWATER RUNOFF AND SEDIMENT MOVEMENT.
- C. CONTINUE INSPECTION AND MAINTENANCE OF AREAS RECEIVING TEMPORARY SEEDING AND MULCHING UNTIL AT LEAST 90% OF THE SOIL SURFACE IS BE COVERED BY MATURE, ESTABLISHED VEGETATION CAPABLE OF CONTROLLING SOIL EROSION AND SURVIVING SEVERE WEATHER.

SEEDING AND REVEGETATION PLAN:

- UPON COMPLETION OF SITE CONSTRUCTION, ALL AREAS PREVIOUSLY DISTURBED SHALL BE TREATED AS STATED BELOW. THESE AREAS SHALL BE CLOSELY MONITORED BY A QUALIFIED INSPECTOR UNTIL SUCH TIME AS SATISFACTORY GROWTH OF VEGETATION IS ESTABLISHED.
- 1. TOPSOIL SHALL BE SPREAD OVER ALL DISTURBED AREAS AND GRADED TO A UNIFORM DEPTH OF 4".
- 2. THE FOLLOWING SHALL BE INCORPORATED INTO THE SOIL PRIOR TO SEEDING: AGRICULTURAL LIMESTONE TO ATTAIN A PH OF 6.0 IN THE UPPER 2 INCHES OF SOIL, FOLLOWED BY 5-10-10 FERTILIZER AT THE RATE OF 600 POUNDS PER ACRE.
- 3. DISTURBED AREAS SHALL BE SEEDED WITH NYDEC SEED MIXTURE #6 CONSISTING OF THE FOLLOWING MIXTURE: CREEPING RED FESCUE AT A RATE OF 20 LBS/ACRE, TALL FESCUE AT A RATE OF 20 LBS/ACRE, PERENNIAL RYEGRASS AT A RATE OF 5 LBS/ACRE AND BIRDSFOOT TREFOIL AT A RATE OF 10 LBS/ACRE.
- 4. SEEDING SHALL BE COMPLETED BETWEEN THE DATES OF APRIL 1 AND SEPTEMBER 15. WATERING MAY BE REQUIRED DURING DRY PERIODS.
- 5. SMALL GRAIN STRAW MULCH SHALL BE APPLIED AT THE RATE OF 2 TONS/ACRE FOLLOWING SEEDING. MULCH SHALL BE ANCHORED BY WATERING OR TRACKING BY BULLDOZING FLAT AREAS, USING ANCHORING EMULSION OR TRACKING BY BULLDOZING ON AREAS OF MODERATE SLOPES AND INSTALLING APPROVED EROSION CONTROL BLANKETS ON STEEP SLOPES (3:1 AND STEEPER).

ALL SEDIMENT CONTROL STRUCTURES SHALL REMAIN IN PLACE UNTIL VEGETATION IS ESTABLISHED. ESTABLISHED MEANS A MINIMUM OF 70% OF THE AREA IS VEGETATED WITH VIGOROUS GROWTH.

SEEDING AND REVEGETATION PLAN:

UPON COMPLETION OF SITE CONSTRUCTION, ALL AREAS PREVIOUSLY DISTURBED SHALL BE TREATED AS STATED BELOW. THESE AREAS SHALL BE CLOSELY MONITORED BY A QUALIFIED INSPECTOR UNTIL SUCH TIME AS SATISFACTORY GROWTH OF VEGETATION IS ESTABLISHED.

- 1. TOPSOIL SHALL BE SPREAD OVER ALL DISTURBED AREAS AND GRADED TO A UNIFORM DEPTH OF 4".
- 2. THE FOLLOWING SHALL BE INCORPORATED INTO THE SOIL PRIOR TO SEEDING: AGRICULTURAL LIMESTONE TO ATTAIN A PH OF 6.0 IN THE UPPER 2 INCHES OF SOIL, FOLLOWED BY 5-10-10 FERTILIZER AT THE RATE OF 600 POUNDS PER ACRE.
- 3. DISTURBED AREAS SHALL BE SEEDED WITH NYDEC SEED MIXTURE #6 CONSISTING OF THE FOLLOWING MIXTURE: CREEPING RED FESCUE AT A RATE OF 20 LBS/ACRE, TALL FESCUE AT A RATE OF 20 LBS/ACRE, PERENNIAL RYEGRASS AT A RATE OF 5 LBS/ACRE AND BIRDSFOOT TREFOIL AT A RATE OF 10 LBS/ACRE.
- 4. SEEDING SHALL BE COMPLETED BETWEEN THE DATES OF APRIL 1 AND SEPTEMBER 15. WATERING MAY BE REQUIRED DURING DRY PERIODS.
- 5. SMALL GRAIN STRAW MULCH SHALL BE APPLIED AT THE RATE OF 2 TONS/ACRE FOLLOWING SEEDING. MULCH SHALL BE ANCHORED BY WATERING OR TRACKING BY BULLDOZING FLAT AREAS, USING ANCHORING EMULSION OR TRACKING BY BULLDOZING ON AREAS OF MODERATE SLOPES AND INSTALLING APPROVED EROSION CONTROL BLANKETS ON STEEP SLOPES (3:1 AND STEEPER).
- ALL SEDIMENT CONTROL STRUCTURES SHALL REMAIN IN PLACE UNTIL VEGETATION IS ESTABLISHED. ESTABLISHED MEANS A MINIMUM OF 70% OF THE AREA IS VEGETATED WITH VIGOROUS GROWTH.

MONITORING PROGRAM:

SEDIMENTATION AND EROSION CONTROL STRUCTURES SHALL BE INSPECTED DAILY BY A QUALIFIED INSPECTOR AND ALL STRUCTURES DAMAGED BY CONSTRUCTION EQUIPMENT, VANDALS, OR THE ELEMENTS SHALL BE REPAIRED IMMEDIATELY. FOLLOWING RAINSTORMS AND DURING RUNOFF EVENTS, THE SITE AND ALL STRUCTURES SHALL BE INSPECTED FOR EROSION AND DAMAGE. ALL DAMAGED STRUCTURES SHALL BE REPAIRED AND/OR ADDITIONAL EROSION CONTROL STRUCTURES SHALL BE INSTALLED PRIOR TO CONTINUING THE CONSTRUCTION.

FOLLOWING THE FINAL SEEDING, THE SITE SHALL BE INSPECTED TO ENSURE THAT THE VEGETATION HAS BEEN ESTABLISHED. RESEEDING SHALL BE CARRIED OUT, WITH FOLLOW-UP INSPECTION, IN THE EVENT OF ANY UNSATISFACTORY GROWTH. AFTER THE CONSTRUCTION INSPECTOR HAS DETERMINED THAT THE PROJECT AREA HAS STABILIZED, THE CONTRACTOR SHALL REMOVE ALL SILTATION FENCE, TEMPORARY SILTATION CONTROL RISERS, AND ANY OTHER TEMPORARY EROSION CONTROL MEASURES.

DUST CONTROL PROGRAM:

DUST CONTROL MEASURES SHALL BE IMPLEMENTED.

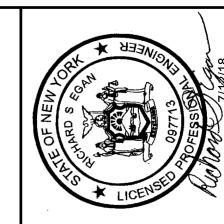
WATER: WATER SHOULD BE APPLIED AT A RATE SUFFICIENT ENOUGH TO MOISTEN EXPOSED SOIL TO PREVENT DUST TRANSPORT BUT NOT AT A RATE THAT PRODUCES ANY AMOUNT OF SILT-LADEN RUNOFF OR MUDDY POOLS IN THE TRAVEL WAY.

CALCIUM CHLORIDE: LIQUID OF FINE-FLAKED CALCIUM CHLORIDE MAY BE USED. CALCIUM CHLORIDE SHOULD NOT BE APPLIED ADJACENT TO WETLANDS, LAKES, POOLS OR OTHER NATURALLY SENSITIVE AREAS. LIMIT APPLICATION RATES TO 30% CALCIUM CHLORIDE OR AS RECOMMENDED BY MANUFACTURER.

STONE: COARSE GRAVEL SHOULD BE PLACED IN AREAS THAT ROUTINELY EXPERIENCE DUSTY CONDITIONS. USE ONLY CHEMICALLY STABLE AGGREGATES.

GENERAL CONSTRUCTION SEQUENCE:

- 1. INITIATE CONSTRUCTION MONITORING AND CONTINUE THROUGHOUT THE DURATION OF THE WORK AS SPECIFIED.
- 2. PERFORM FIELD VERIFICATION SURVEY AND CONSTRUCTION LAYOUT. PERFORM ADDITIONAL SURVEY THROUGHOUT CONSTRUCTION FOR LAYOUT, MEASUREMENT FOR PAYMENT, AND FINAL AS—BUILT RECORD.
- 3. MOBILIZE EQUIPMENT AND INSTALL TEMPORARY FACILITIES AND CONTROLS INCLUDING VEHICLE DECONTAMINATION PAD; SOIL/SEDIMENT STOCKPILE CONTAINMENT; DEWATER STAGING AREA; TRAFFIC AND ACCESS CONTROLS; EROSION AND SEDIMENTATION CONTROLS, ETC.
- 4. CLEAR TREES AND SHRUBS WITHIN THE LIMIT OF CLEARING. TRANSPORT AND DISPOSE OF CLEARING DEBRIS OFF—SITE AT AN APPROVED LICENSED TREATMENT, STORAGE, AND DISPOSAL FACILITY (TSDF). COORDINATE CLEARING WITH INSTALLATION OF PERIMETER EROSION AND SEDIMENT CONTROLS INCLUDING SILTATION FENCE AND AUGMENTED SILTATION FENCE.
- 5. INSTALL NEW UNDERDRAIN.
- 6. GRADE SUBGRADE ACROSS SITE IN PREPARATION OF COVER SYSTEM INSTALLATION.
- 7. INSTALL LLDPE LINER ON PREPARED SUBGRADE, BATTEN TO EXISTING FEATURES AND CONSTRUCT ANCHOR TRENCHES AS SHOWN ON DRAWINGS.
- 8. PLACE COVE STONE OVER LLDPE LINER.
- 9. CONDUCT FINAL SITE CLEANUP AND DEMOBILIZE FROM SITE.



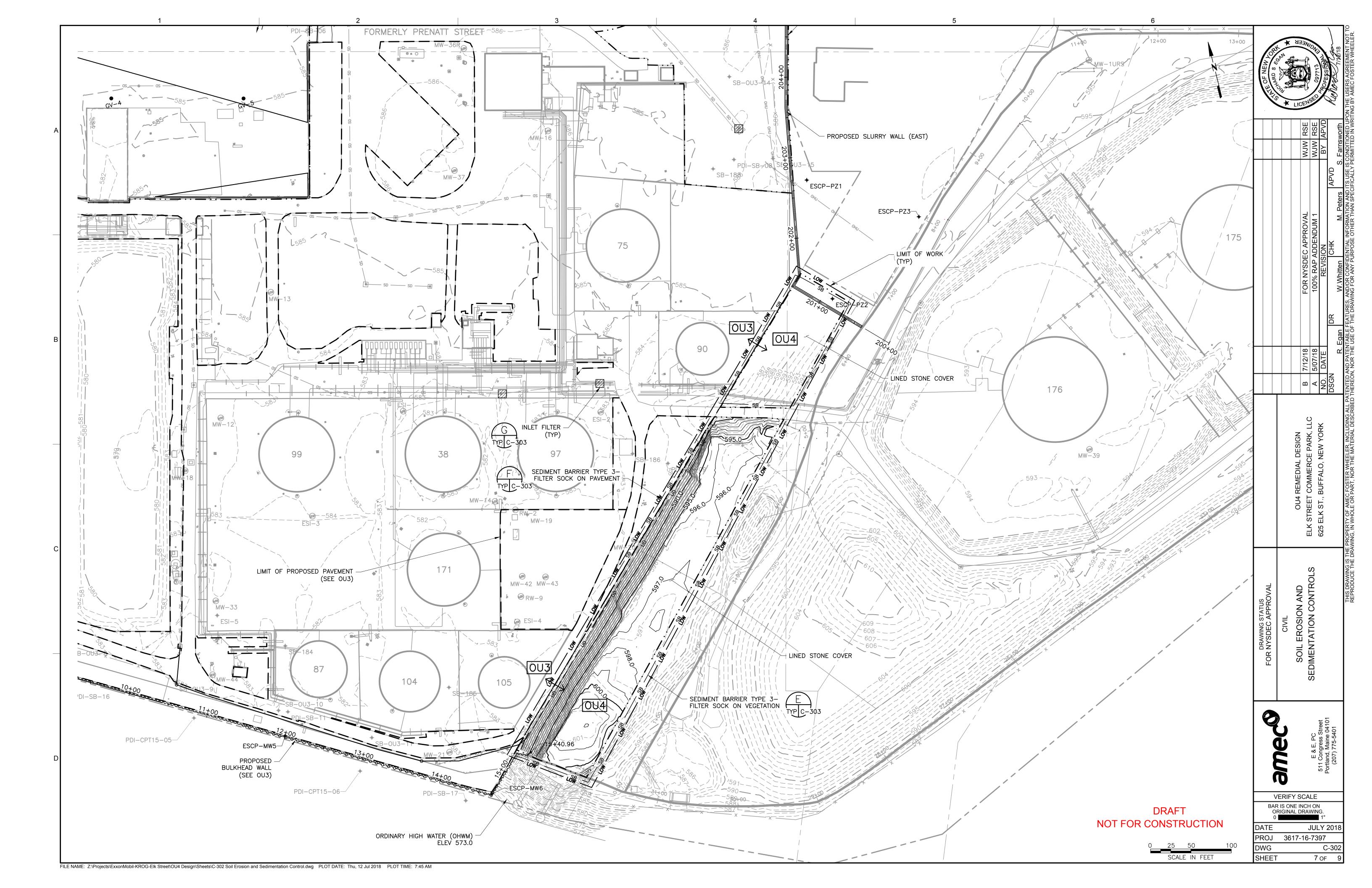
								APVD	S
					APPROVAL	DENDUM 1	N	CHK	M. Peters
					FOR NYSDEC APPROVAL	100% RAP ADDENDUM 1	REVISION	<u>၁</u>	W.Whitten
								DR	
					B 7/12/18	A 5/07/18	NO. DATE		R. Egan
					В	Α	NO.	DSGN	
				OU4 REMEDIAL DESIGN	E K OTE		625 ELK ST., BUFFALO, NEW YORK		
SIITATS SNIWARG	FOR NYSDEC APPROVAL		CIVIL	NOITATHAMIN SENIMENTATION		CONTROL NOTES			
	_								_

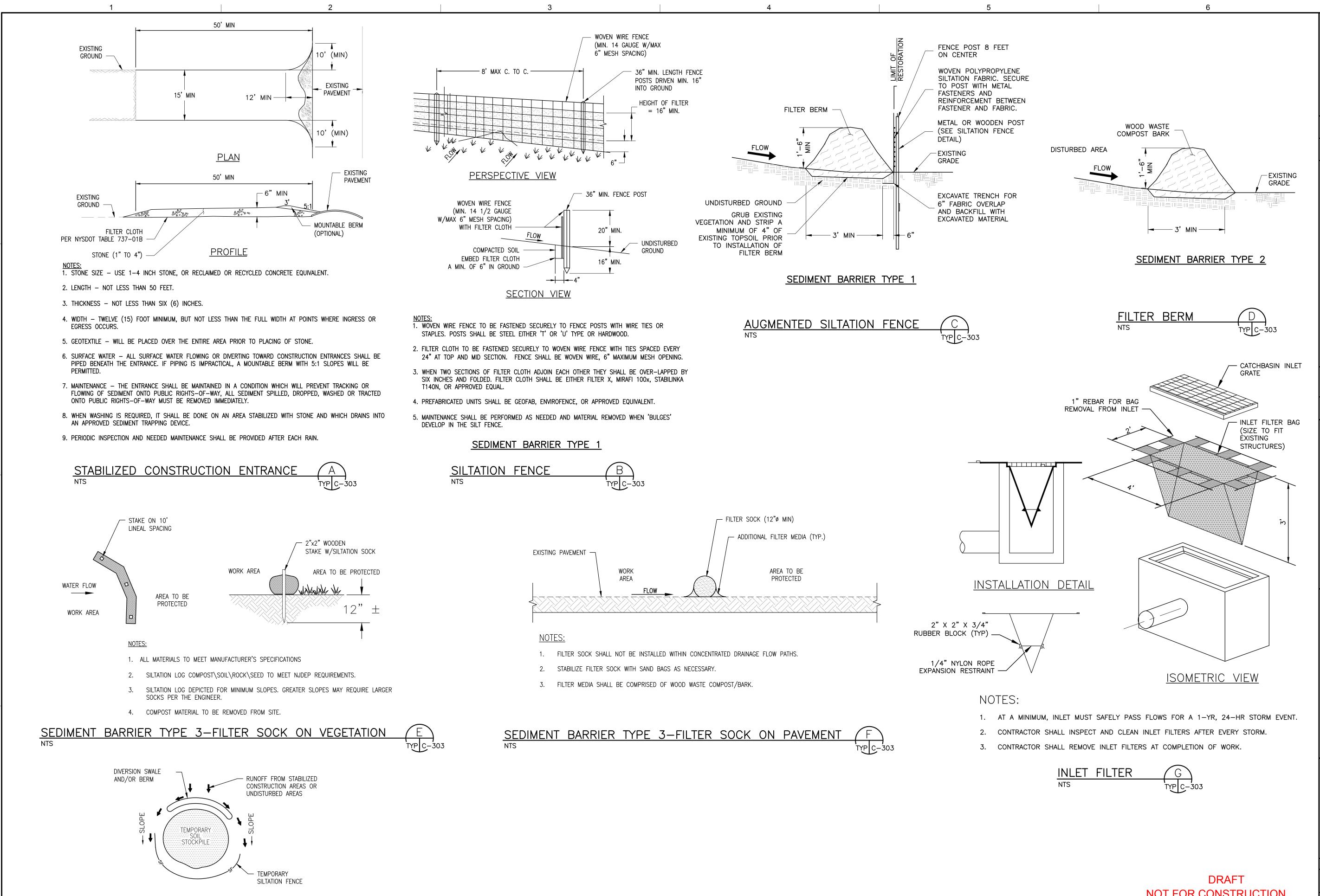
DRAFT NOT FOR CONSTRUCTION VERIFY SCALE

BAR IS ONE INCH ON ORIGINAL DRAWING.

0 1

DATE JULY 2018
PROJ 3617-16-7397
DWG C-301
SHEET 6 OF 9





NOT FOR CONSTRUCTION

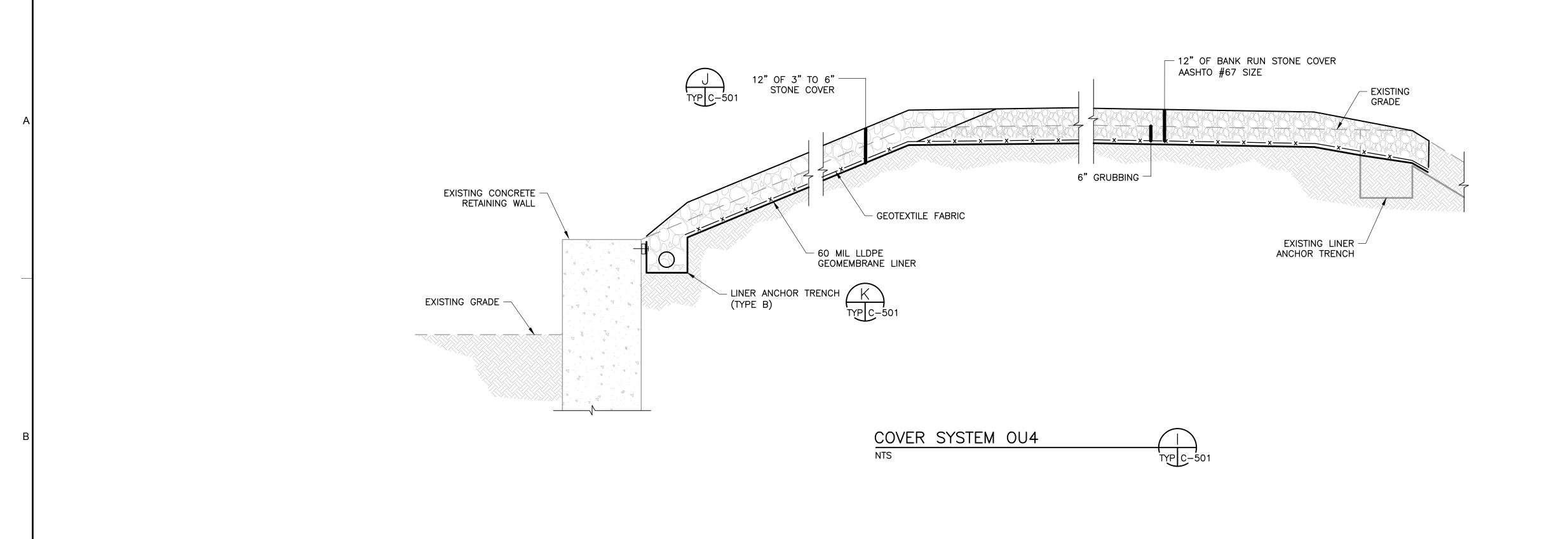
VERIFY SCALE BAR IS ONE INCH ON ORIGINAL DRAWING. DATE **JULY 2018** PROJ 3617-16-7397 C-303

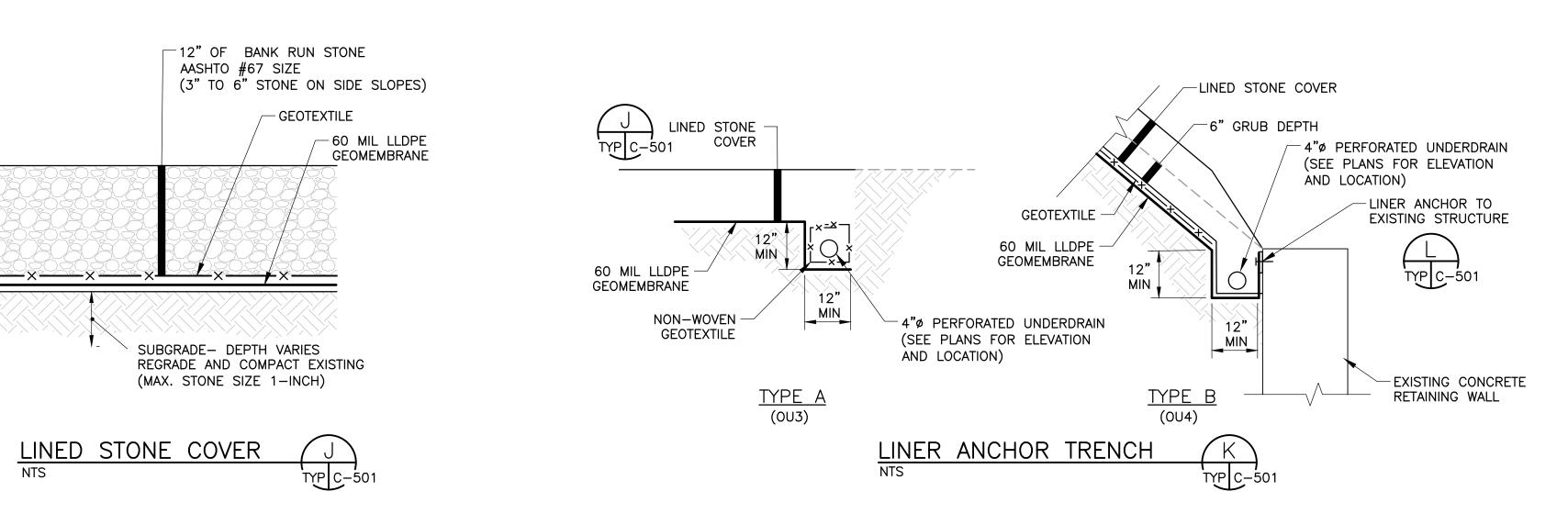
8 OF

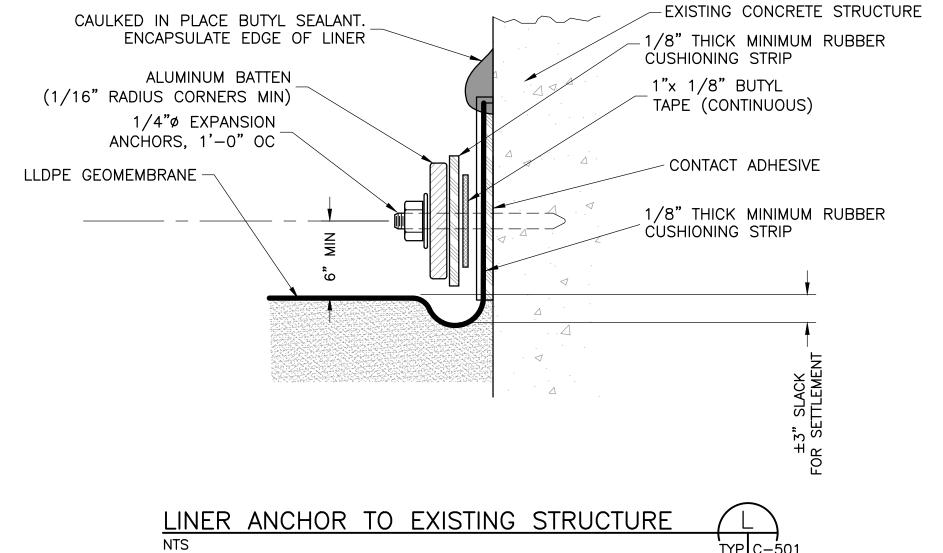
SHEET

DRAWING STATUS NYSDEC APPRO

TEMPORARY SOIL STOCKPILE







DRAFT
NOT FOR CONSTRUCTION

						DR	an	SLE FEATURE		
			7/12/18	5/07/18). DATE	NS	R. Egan	ED AND PATENTAE		
			В	∢	NO.	DSGN		ATENTE		
		OU4 REMEDIAL DESIGN	ELK STBEET COMMEDCE BABK 110	CEN GINEEL COMMENTATION TO STATE OF THE COMMENT OF	625 ELK ST., BUFFALO, NEW YORK			THE PROPERTY OF AMEC FOSTER WHEELER, INCLUDING ALL PATENTED AND PATENTABLE FEATURE		
DRAWING STATUS FOR NYSDEC APPROVAL	CIVIL	SHATAL						THIS DRAWING IS THI		
					511 Congress Street	(207) 775-5401				
VERIFY SCALE BAR IS ONE INCH ON ORIGINAL DRAWING.										
ORIGINAL DRAWING. 0 1" DATE JULY 2018										
PROJ 3617-16-7397										
DWG SHEET	-			Ω	OF	-5()1 9			
JOI IEE I				3	UF		J	J		

FILE NAME: Z:\Projects\ExxonMobil-KROG-Elk Street\OU4 Design\Sheets\C-501- Civil details.dwg PLOT DATE: Thu, 12 Jul 2018 PLOT TIME: 7:51 AM