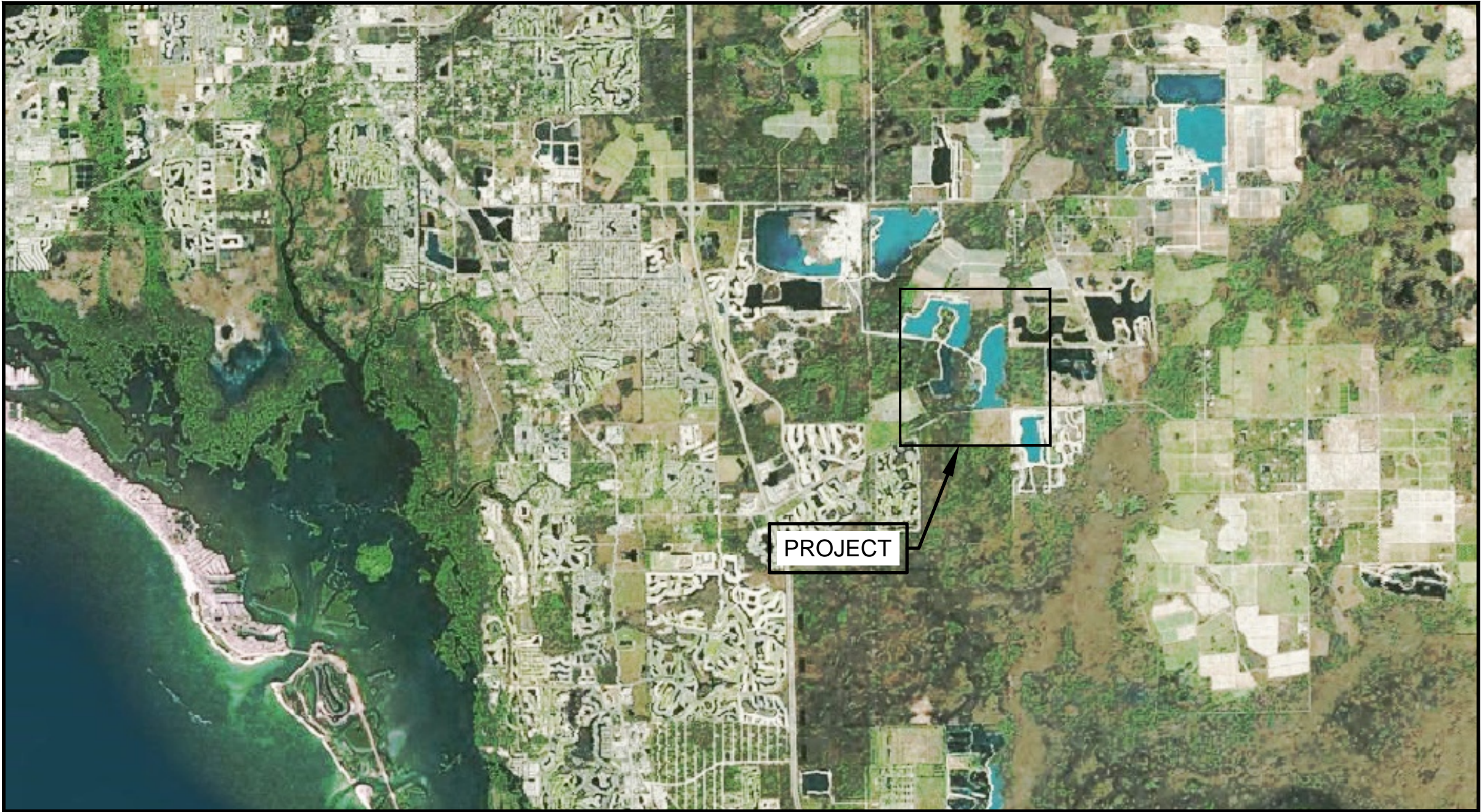
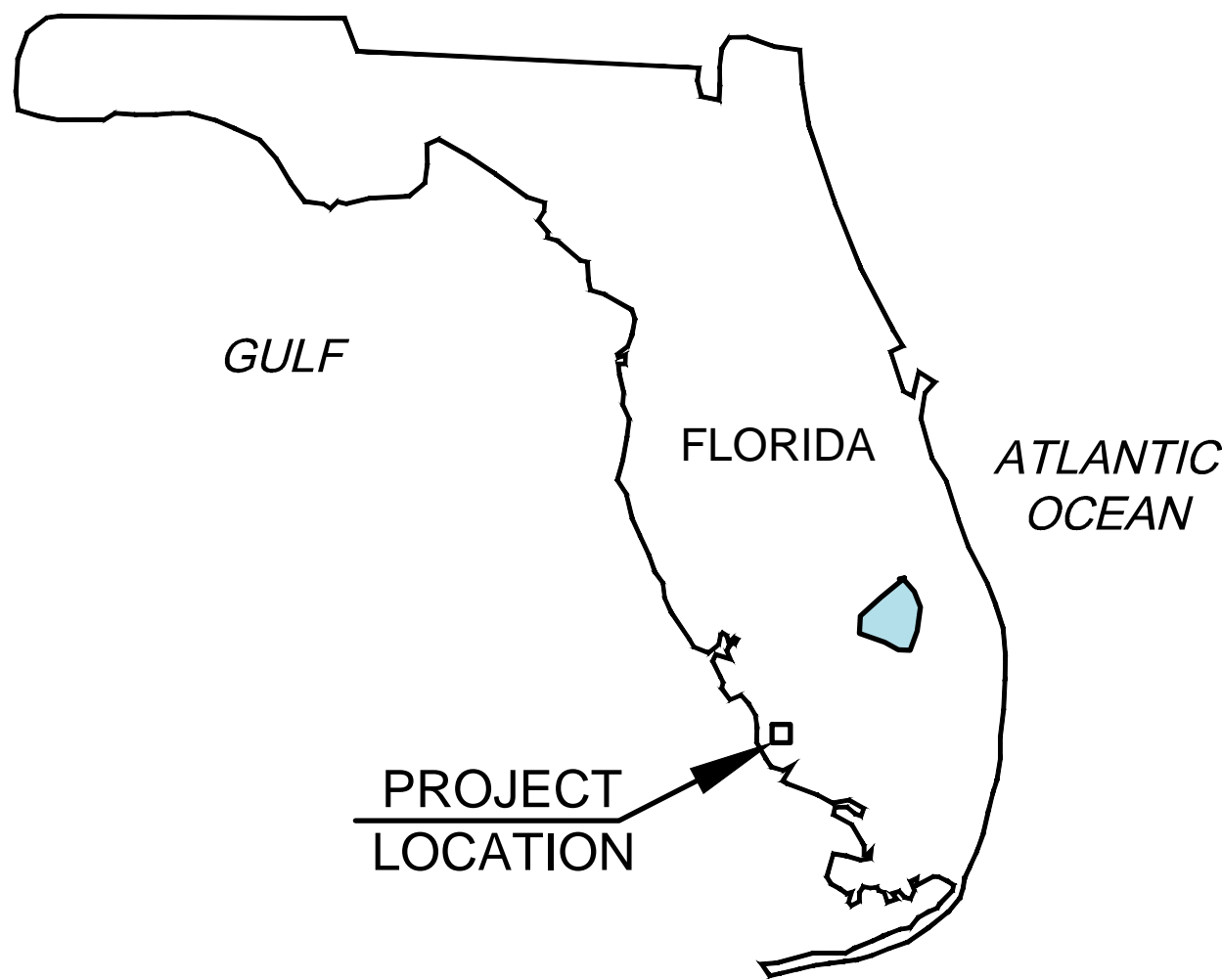


BLUE LAKE SHORELINE STABILIZATION

18701 / 18731 WILDBLUE BLVD.
FORT MYERS, LEE COUNTY
FLORIDA 33913



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	SHEET NUMBER	TITLE
	CM-1.0	COVER SHEET
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	CM-2.0	PROPOSED IMPROVEMENTS STA. 0+00 TO STA. 38+00
	CM-2.1	CROSS SECTIONS (1 OF 3)
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	CM-2.3	CROSS SECTIONS (3 OF 3)
	CM-2.4	ROCK REVETMENT TYPICAL SECTIONS
	CM-3.0	MARINE MATTRESS DETAILS
	CM-3.1	TURBIDITY CONTAINMENT DETAIL

CLIENT:

BLUE LAKE COMMUNITY
DEVELOPMENT DISTRICT
ATTN: MS. KATHLEEN MENEELY
27499 RIVERVIEW CENTER BLVD., #253
BONITA SPRINGS, FLORIDA 334134

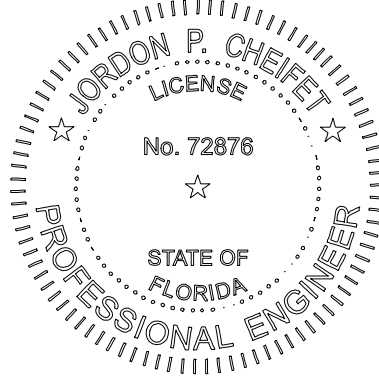
ENGINEER:

CUMMINS | CEDERBERG
Coastal & Marine Engineering

MIAMI FORT LAUDERDALE JUPITER |
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THIS ITEM HAS BEEN DIGITALLY SIGNED AND
SEALED BY JORDON P. CHEIFET
ON THE DATE ADJACENT TO THE SEAL.

PRINTED COPIES OF THIS DOCUMENT ARE
NOT CONSIDERED SIGNED AND SEALED AND
THE SIGNATURE MUST BE VERIFIED ON ANY
ELECTRONIC COPIES.



JORDON P. CHEIFET P.E. LIC. # 72876

NOT FOR CONSTRUCTION

100% CONSTRUCTION DRAWINGS
FOR BIDDING ONLY
02/10/2026



GENERAL

1. THE WORK CONSISTS OF PROVIDING ALL CONSTRUCTION, LABOR, EQUIPMENT, MATERIAL AND OPERATIONS IN CONNECTION WITH THE MARINE WORKS AND RELATED IMPROVEMENTS AS SHOWN ON THESE DRAWINGS.
2. ANY DISCREPANCIES IN THE PLANS WITH THE FIELD CONDITIONS SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE ENGINEER OF RECORD. CONSTRUCTION SHALL NOT CONTINUE UNTIL THE ENGINEER OF RECORD HAS ADDRESSED THE DISCREPANCIES.
3. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT EXISTING STRUCTURES IN THE PROJECT VICINITY. ANY DAMAGE TO PRIVATE OR PUBLIC PROPERTY WITHIN THE PROJECT VICINITY, INCLUDING STAGING SITES, WORK AND ACCESS AREAS SHALL BE REPAIRED PROMPTLY BY THE CONTRACTOR. ANY DAMAGE AS A RESULT OF THE CONTRACTOR'S OPERATIONS SHALL BE REPAIRED AT NO COST TO THE OWNER. ALL ACCESS AND STAGING AREAS SHALL BE KEPT NEAT, ORDERLY AND IN A SAFE MANNER. ALL ACCESS AND STAGING AREAS SHALL BE RESTORED TO THE PRE-CONSTRUCTION CONDITION UPON PROJECT COMPLETION AT THE COST OF THE CONTRACTOR. THE SITE SHALL BE RESTORED BY REMOVING AND FINISHING ALL EVIDENCE FOR CONSTRUCTION. IN THE EVENT INFRASTRUCTURE (SUCH AS WALKWAYS, SIDEWALKS, FENCES, VEGETATION, ETC.) IS TEMPORARILY REMOVED OR RELOCATED OR THERE IS UNAUTHORIZED DAMAGE TO VEGETATION AND/OR FACILITIES BY THE CONTRACTOR, THE CONTRACTOR SHALL RESTORE ALL DAMAGE TO STRUCTURES AND NATURAL FEATURES TO PRE-CONSTRUCTION CONDITIONS OR BETTER.
4. UTILITIES ARE NOT SHOWN IN THE PLANS. CONTRACTOR IS RESPONSIBLE FOR LOCATING ALL PRESENT PUBLIC AND PRIVATE UTILITIES PRIOR TO CONSTRUCTION.
5. CONTRACTOR IS RESPONSIBLE FOR PROVIDING PROPER CLEARANCE AND PROTECTION TO ALL OVERHEAD WIRES AND OBSTRUCTIONS.
6. THE CONTRACTOR SHALL EXCLUDE THE PUBLIC FROM THE WORK AREAS IN THE IMMEDIATE VICINITY OF OPERATIONS. CONTRACTOR SHALL PROVIDE APPROPRIATE SAFETY MEASURES TO PROTECT THE PUBLIC.
7. ALL NEW STRUCTURAL WORK INCLUDING CONCRETE AND REINFORCEMENT SHALL BE ACCURATELY FIELD MEASURED AND DIMENSIONS VERIFIED BY THE CONTRACTOR PRIOR TO ORDERING MATERIALS. CONTRACTOR SHALL BE PREPARED TO MAKE FIELD ADJUSTMENTS TO ACCURATELY FIT THE NEW WORK TO EXISTING CONDITIONS.
8. NO CONSTRUCTION SHALL COMMENCE UNTIL ALL REQUIRED PERMITS AND APPROVALS HAVE BEEN SECURED AND THE CONTRACTOR HAS BEEN ISSUED NOTICE TO PROCEED.
9. ATTENTION IS DIRECTED TO THE FACT THAT THESE PLANS MAY HAVE BEEN CHANGED IN SIZE BY REPRODUCTION. THIS SHOULD BE CONSIDERED WHEN OBTAINING SCALED DATA.
10. CONSTRUCTION WORK SHALL BE EXECUTED IN ACCORDANCE WITH ALL LOCAL, STATE, AND NATIONAL BUILDING CODES AND GOVERNING REGULATIONS INCLUDING FDEP, USACE, AND LEE COUNTY. CONTRACTOR SHALL ADHERE TO ALL CONDITIONS OF THE PERMITS AND EXEMPTIONS.
11. CONTRACTOR SHALL DEPLOY A FLOATING TURBIDITY BARRIER, PER PLANS, FOR THE DURATION OF THE WORK.

DESIGN CRITERIA

1. COASTAL LOADS ASSOCIATED WITH A 50 YR. STORM.
2. 50 YR STORM WAVES:
H MAX = 3.2
TMAX = 2.4S
3. STORM SURGE = 20.3' NAVD88 BASED ON ADDITIONAL 1.0' OF INUNDATION OVER CONTROL EL. OF 19.3' NAVD88
4. SHELF EROSION =

SURVEY

1. SURVEY PERFORMED BY: BARRACO AND ASSOCIATES, DATED 12/17/2024 THRU 12/18/2024, 07/09/2025 THRU 07/29/2025, AND 09/12/2025.
2. HORIZONTAL DATUM IS NAD83 FLORIDA STATE PLANE WEST ZONE, US FEET.
3. VERTICAL DATUM IS NORTH AMERICAN DATUM 1988 (NAVD88)

TIDAL DATA

1. THE LAKE IS NON-TIDAL; HOWEVER, CONTRACTOR MAY NEED TO ADJUST HIS WORK PLAN TO ACCOUNT FOR ACTUAL WATER LEVELS AND CHANGING WATER LEVELS. THE SITE MAY BE SUBJECT TO VARIABLE WAVE AND SURGE CONDITIONS AND IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO PROVIDE TEMPORARY SUPPORT FOR MARINE STRUCTURES AND SHORELINE DURING CONSTRUCTION.

LAYOUT AND TESTING

1. ALL CONSTRUCTION STAKEOUT SHALL BE PERFORMED BY AND PAID FOR BY THE CONTRACTOR UNDER THE SUPERVISION OF A SURVEYOR REGISTERED IN THE STATE OF FLORIDA. CONTRACTOR SHALL PROVIDE THE ENGINEER WITH A SET OF AS-BUILT DRAWINGS IN SUFFICIENT DETAIL TO ILLUSTRATE THE HORIZONTAL AND VERTICAL COMPONENTS OF ABOVE AND BELOW GROUND STRUCTURES AND WALLS RELATIVE TO THE CONSTRUCTION BASELINE. DRAWINGS SHALL BE SIGNED AND SEALED BY A FLORIDA REGISTERED SURVEYOR.

DEMOLITION

1. CONTRACTOR SHALL VERIFY THE EXTENTS, LOCATION AND QUANTITIES OF EXISTING ELEMENTS TO BE REMOVED.
2. ALL DEBRIS WITHIN THE LIMITS OF THE PROJECT SHALL BE HAULED OFF SITE BY THE CONTRACTOR, AS DIRECTED BY THE OWNER, AND DISPOSED OF AT AN APPROPRIATE FACILITY.
3. CONTRACTOR SHALL NOT DAMAGE ANY STRUCTURAL COMPONENTS BEYOND THE DEMOLITION REQUIREMENTS DEPICTED IN THESE DRAWINGS. ANY DAMAGE SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE

GEOTEXTILE

1. GEOTEXTILE SHALL BE U.S. 670 (OR APPROVED EQUAL).
2. PROVIDE GEOTEXTILE IN ACCORDANCE WITH FDOT SPECIFICATION 514. INSTALL GEOTEXTILE AS INDICATED ON THE DRAWINGS AND IN ACCORDANCE WITH THE MANUFACTURERS INSTRUCTION.

SUBMITTALS

1. ALL SHOP DRAWINGS MUST BEAR EVIDENCE OF THE CONTRACTOR'S APPROVAL PRIOR TO SUBMITTING
2. TO THE ENGINEER OF RECORD.
3. THE FOLLOWING MINIMUM SUBMITTALS SHALL BE PREPARED BY THE CONTRACTOR AND SUBMITTED TO THE ENGINEER OF RECORD FOR REVIEW AND APPROVAL PRIOR TO RELATED CONSTRUCTION ACTIVITY:
 - 3.1. SCHEDULE FOR COMPLETION OF WORK WITH TASKS AND DURATIONS DEFINED
 - 3.2. EXCAVATION METHODS AND DISPOSAL PLAN
 - 3.3. ROCK WEIGHT TICKETS
 - 3.4. GEOTEXTILE FABRIC
 - 3.5. INCLEMENT WEATHER PLAN
 - 3.6. ROCK MATERIAL TESTING PER ROCK SECTION
 - 3.7. SILT FENCE / TURBIDITY CURTAIN
 - 3.8. MARINE MATTRESSES
 - 3.9. DEMOLITION METHODS AND DISPOSAL PLAN

ROCK

1. PROPOSED ROCK SOURCE(S) MUST BE APPROVED FOR USE BY THE ENGINEER OF RECORD PRIOR TO THE COMMENCEMENT OF THE WORK. ONCE THE SOURCE(S) FOR ROCK ARE APPROVED, THE CONTRACTOR SHALL NOT USE MATERIAL FROM ANOTHER SOURCE WITHOUT REPEATING THE ACCEPTANCE AND TEST PROCEDURES TO QUALIFY THE OTHER SOURCE(S).
2. CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING QUARRY CERTIFICATIONS AND PERFORMING QUALITY TESTS FROM AN INDEPENDENT LAB ON A MINIMUM OF 1 SET OF TESTS PER 5,000 TONS OF BEDDING STONE AND ARMOR STONE. ALL ROCK SHALL MEET THE FOLLOWING MINIMUM REQUIREMENTS:
 - 2.1. CLEAN, SOUND, AND DURABLE, AND FREE FROM FRACTURES, INCLUSIONS, VOIDS, OR OTHER DEFECTS, FREE OF EARTH, CLAY, REFUSE, OR ADHERENT COATINGS.
 - 2.2. MINIMUM SPECIFIC GRAVITY OF 2.25 (140 PCF).
 - 2.3. SOUNDNESS 15% MAX LOSS (ASTM C88)
 - 2.4. SUCH CHARACTER THAT IT WILL NOT DISINTEGRATE FROM THE ACTION OF AIR, WATER, OR THE CONDITIONS OF HANDLING AND PLACING. MAXIMUM ABRASION LOSS OF 50% (ASTM C131)
 - 2.5. ROUGH ANGULAR QUARRIED MATERIAL WITH A SHAPE THAT ASSURES INTERLOCKING WITH ADJACENT ROCK.

- 2.6. ALL SAMPLES SHALL MEET OR EXCEED THESE MINIMUM STANDARDS. FAILURE WILL BE CAUSE FOR REJECTION OF THE QUARRY AND QUARRYING PROCESS. ANY ADDITIONAL TESTS REQUIRED BECAUSE OF FAILURE WILL BE MADE AT NO COST TO THE OWNER.
- 2.7. A DROP TEST WILL BE PERFORMED ON A TEN (10) STONE SAMPLE AT THE ROCK QUARRY.
- 2.8. ALL ROCK WILL BE SUBJECT TO ON-SITE RANDOM SAMPLING AND TESTING (INCLUDING RANDOM DROP TESTS). ROCK THAT DOES NOT CONFORM IN SPECIFIC GRAVITY, STRUCTURE, AND OTHER CHARACTERISTIC REQUIREMENTS WILL BE REJECTED. THE PRESENCE OF UNSATISFACTORY ROCK OR OBJECTIONABLE FOREIGN MATERIAL IN ANY OF CONTRACTOR-PROVIDED ROCK WILL BE DEEMED SUFFICIENT REASON FOR REJECTION OF THE ENTIRE LOAD OF ROCK. ANY SUCH LOAD OF ROCK SHALL BE IMMEDIATELY REMOVED FROM THE SITE AT THE CONTRACTOR'S EXPENSE.
- 2.9. ROCK USED FOR THE RETEVMENT CONSTRUCTION SHALL CONFORM TO THE FOLLOWING SIZE RANGES:

ARMOR STONE		
PERCENT LESS THAN BY WEIGHT	MASS (LB)	NOMINAL SIZE (IN.)
100	1125	24
50	750	21
0	475	18

BEDDING STONE		
PERCENT LESS THAN BY WEIGHT	MASS (LB)	NOMINAL SIZE (IN.)
100	20	6
50	5	4
0	1	2

- 2.10. THE LEAST DIMENSION OF ANY ROCK SHALL NOT BE LESS THAN ONE-THIRD (1/3) OF THE GREATEST DIMENSION OF THAT ROCK. SQUARE OR FLAT ROCK SHALL NOT BE ACCEPTED. ROCK SIZE SHALL BE TAKEN AS THE AVERAGE OF THE ROCK'S MAXIMUM GIRTH MEASURED IN EACH OF THREE PERPENDICULAR AXES. THE IN-PLACE ROCK SHALL BE WELL GRADED AND REPRESENT THE RANGE OF SIZE SPECIFIED.
3. THE TONNAGE OF ARMOR STONE IN THE BID ASSUMES THAT THERE ARE 25% VOIDS. THE TONNAGE OF BEDDING STONE IN THE BID ASSUMES THAT THERE ARE 35% VOIDS. UNLESS CHANGED BY THE ENGINEER OF RECORD, THE BID TONNAGE IS THE MAXIMUM TONNAGE REQUIRED TO FILL THE MATRESS. THE BIDDER MAKES HIS OWN ESTIMATE PRIOR TO MAKING HIS BID. THE BID TONNAGE ASSUMES 140 P.C. STONE IS USED TO FILL THE TEMPLATE. IF A HIGHER UNIT WEIGHT STONE IS USED, IT IS POSSIBLE THAT THE FINAL CROSS SECTION MAY VARY FROM THAT SHOWN ON THE PLANS. REGARDLESS OF THE STONE DENSITY, THE RIPRAP SHALL BE WITHIN +/- 6 INCHES OF THE CROSS SECTION SHOWN HEREIN. FOR BEDDING STONE (MARINE MATTRESS), THE MAXIMUM PERMISSIBLE VARIATION SHALL BE +/-3 INCHES.

MARINE MATTRESS

1. STRUCTURAL GEOGRID. THE STRUCTURAL GEOGRID SHALL BE TENSAR UTRITRON 100/200 OR EQUIVALENT AND WILL PROVIDE A MATRESS UNIT THICKNESS OF AT MINIMUM 12 INCHES THICK WHEN THE GEOGRID IS FILLED AND READY FOR PLACEMENT. UNLESS OTHERWISE NOTED ON THE CONSTRUCTION DRAWINGS OR DIRECTED BY THE ENGINEER OF RECORD, THE STRUCTURAL GEOGRID TYPE SHALL BE:
 - 1.1. UTRITRON 200 FOR THE TOP, BOTTOM, SIDES AND ANY EXTRA LENGTH USED FOR LIFTING OR ANCHORING OF THE UNITS.
 - 1.2. UTRITRON 100 FOR INTERNAL DIAPHRAGMS OF THE UNITS, THE STRUCTURAL GEOGRID SHALL BE PRODUCED FROM VIRGIN RESIN AND CLASSIFIED AS HIGH DENSITY POLYETHYLENE (HDPE) AND/OR POLYPROPYLENE (PP) AND SHALL POSSESS COMPLETE CONTINUITY OF ALL PROPERTIES THROUGHOUT ITS STRUCTURE. THE STRUCTURAL GEOGRID SHALL HAVE THE FOLLOWING PROPERTIES:

PROPERTY	UNITS	UXTRITRON 100	UXTRITRON 200
TRUE 1% TENSILE MODULUS IN USE (MD)	LB/FT (KN/M)	51,400 (750)	113,090 (1,650)
JUNCTION STRENGTH (MD)	LB/FT (KN/M)	3,330 (48.6)	6,908 (100.8)
FLEXURAL STIFFNESS	mg-cm	700,000	6,500,000
RESISTANCE TO LONG TERM DEGRADATION	%	100	100
ULTRAVIOLET STABILITY (RETAINED STRENGTH @ 500 HOURS)	%	98	100

2. THE STRUCTURAL GEOGRID SHALL ACCEPT APPLIED FORCE IN USE BY POSITIVE MECHANICAL INTERLOCKING (I.E. DIRECT MECHANICAL KEYING) WITH CONTIGUOUS SECTIONS OF ITSELF BY RIGID MECHANICAL CONNECTION ELEMENTS SUCH AS BODKINS, PINS OR HOOKS. THERE SHALL BE SUFFICIENT GEOGRID MATERIAL (2 GEOGRID APERTURE MINIMUM) TO FORM LIFTING HOOPS FOR THE UNITS.
3. MECHANICAL CONNECTION ELEMENTS. THE MECHANICAL CONNECTION ELEMENTS SHALL BE AS SHOWN ON THE CONSTRUCTION PLANS AND SHALL BE COMPOSED OF HIGH DENSITY POLYETHYLENE (HDPE) AND/OR POLYPROPYLENE (PP), UNLESS OTHERWISE APPROVED BY THE ENGINEER. THE MECHANICAL CONNECTION USED SHALL BE A BODKIN, UNLESS OTHERWISE APPROVED BY THE ENGINEER OF RECORD. A ONE FOOT BY ONE FOOT SAMPLE OF THE GEOGRID AND A ONE FOOT LENGTH OF BODKIN SHALL BE PROVIDED TO THE ENGINEER OF RECORD UPON REQUEST.
4. UV STABILIZED BRAID. THE BRAID USED FOR TYING AND LACING IN THE FABRICATION OF THE UNITS SHALL BE 8-STRAND HOLLOW-CORE BRAID COMPOSED OF HIGH DENSITY POLYETHYLENE (HDPE). EACH STRAND SHALL CONSIST OF A BUNDLE OF MONOFILAMENT HDPE. THE BRAID SHALL HAVE A NOMINAL DIAMETER OF NOT LESS THAN 3/16 INCH AND A BREAKING STRENGTH OF NOT LESS THAN 400 LBS. ON A TEST SPECIMEN 36 INCHES IN LENGTH. THE BRAID SHALL BE UV STABILIZED WITH A MINIMUM CARBON BLACK CONTENT OF 2.0% BY WEIGHT. A 3 FOOT LENGTH OF BRAID SHALL BE PROVIDED TO THE ENGINEER OF RECORD UPON REQUEST.
5. ACCEPTANCE OF MATERIAL. THE CONTRACTOR SHALL INSPECT THE GEOTEXTILE, GEOGRID, BRAID AND MECHANICAL CONNECTION ELEMENTS UPON DELIVERY TO VERIFY THAT THE PROPER MATERIAL HAS BEEN RECEIVED. THESE MATERIALS SHALL BE INSPECTED BY THE CONTRACTOR TO BE FREE OF FLAWS, DEFECTS, RIPS, HOLES, DETERIORATION OR DAMAGE OCCURRING DURING MANUFACTURING, SHIPPING OR HANDLING.
6. MARINE MATTRESS FOUNDATION STONE DIMENSION AND UNIT WEIGHT. THE MINIMUM DIAMETER OF THE BEDDING STONE USED SHALL BE 2 INCH ACROSS THE SMALLEST DIMENSION OF THE STONE. THE MAXIMUM DIAMETER OF THE BEDDING STONE USED SHALL BE 6 INCHES. THE MINIMUM ACCEPTABLE UNIT WEIGHT OF THE BEDDING STONE IS 140 PCF (SATURATED, SURFACE DRY) (ASTM. C127). THE LOSS WHEN THE STONE IS SUBJECTED TO THE LOS ANGELES ABRASION TEST SHALL NOT EXCEED 40%. UNIT WEIGHT AND ABRASION TESTS WILL BE MADE AT NO COST TO THE OWNER. THE ENGINEER OF RECORD, AT ANY TIME DURING CONSTRUCTION MAY REQUIRE THE CONTRACTOR TO CONDUCT ADDITIONAL TESTS AT THE EXPENSE OF THE CONTRACTOR. THE CONTRACTOR SHALL PROVIDE CERTIFIED RESULTS OF LABORATORY TESTING CONDUCTED BY AN INDEPENDENT LAB TO DETERMINE THE UNIT WEIGHT, SPECIFIC GRAVITY OF THE BEDDING STONE, AND THE RESULTS OF THE LOS ANGELES ABRASION TEST. THE TESTS SHALL BE CONDUCTED PER ROCK SPECIFICATIONS HEREIN. ROCKS THAT FAIL THE TEST SHALL NOT BE INCORPORATED INTO THE WORK. THE CONTRACTOR MAY NOT USE MORE THAN ONE QUARRY WITHOUT PRIOR APPROVAL OF THE ENGINEER.
7. NOMINAL WIDTH OF UNITS: 5 FT (FILLED), 4.3 FT (UNFILLED).
8. CONTRACTOR SHALL UTILIZE MARINE MATTRESS WITH PRE-ATTACHED GEOTEXTILE FABRIC. ATTACH GEOTEXTILE TO BOTTOM AND SIDES OF FILLED MATTRESS USING POLYMERIC CABLE TIES (HOG RINGS ARE ALSO ACCEPTABLE). GEOTEXTILE SHALL BE LAPPED A MINIMUM OF 2 FEET AT ENDS AND SIDES OF ADJOINING MATTRESS UNITS. QUANTITY OF GEOTEXTILE FABRIC SHOWN ON SHEET CM-2.0 IS EXCLUSIVE OF GEOTEXTILE AFFIXED TO MARINE MATTRESSES.

UTILITIES

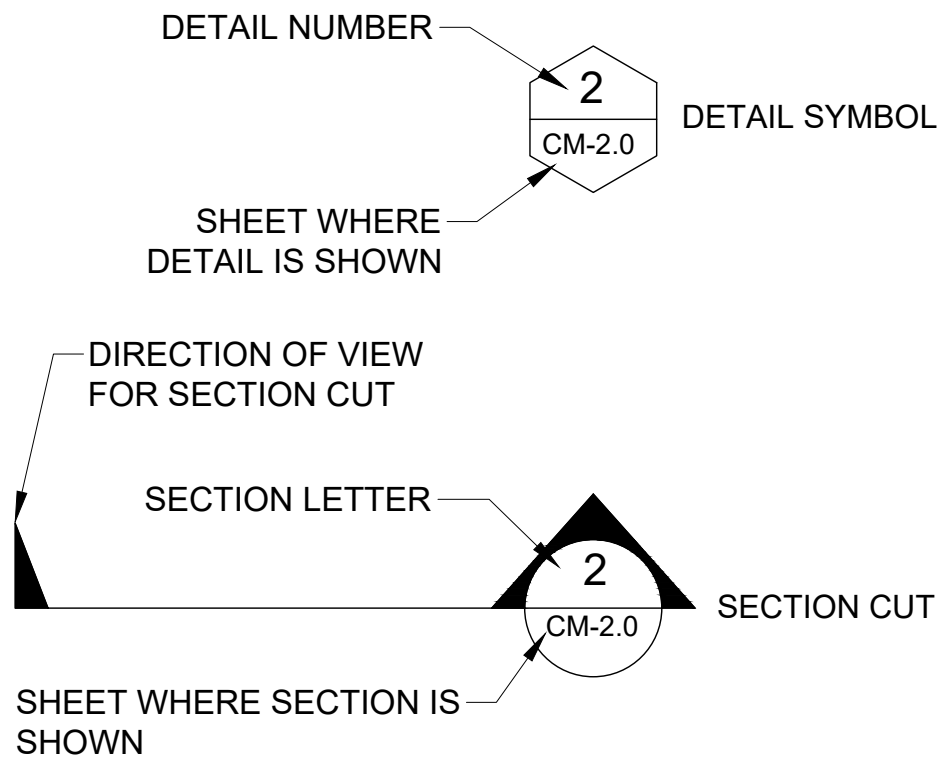
1. CONTRACTOR SHALL CALL SUNSHINE 1-800-432-4770 PRIOR TO CONSTRUCTION. CONTRACTOR IS RESPONSIBLE FOR LOCATING ALL PRESENT UTILITIES PRIOR TO CONSTRUCTION.
2. CONTRACTOR SHALL CONTACT THE LOCAL HOA PRIOR TO CONSTRUCTION TO LOCATE AND PROTECT ALL PRIVATE UTILITIES (LANDSCAPING, IRRIGATION SYSTEMS, ETC.)
3. PRIOR TO ANY SCHEDULED INTERRUPTION OF UTILITY SERVICE, THE CONTRACTOR WILL COORDINATE SUCH INTERRUPTION WITH THE UTILITY PROVIDER AND WILL PROVIDE A MINIMUM 24-HOUR NOTICE TO THE AFFECTED PARTIES. THE CONTRACTOR WILL NOTIFY ELECTRIC UTILITIES A MINIMUM OF TWO WEEKS PRIOR TO CONSTRUCTION IN THE VICINITY OF THEIR FACILITIES.

STORMWATER STRUCTURES

1. CONTRACTOR IS RESPONSIBLE FOR THE FIELD VERIFICATION OF ANY AND ALL STORMWATER STRUCTURES. CONTRACTOR SHALL IDENTIFY MATERIAL TYPE AND ADVISE ENGINEER PRIOR TO COVERING.
2. WHERE STORMWATER STRUCTURES ARE LOCATED, CONTRACTOR SHALL NOT UTILIZE MARINE MATTRESSES, BUT SURROUND WITH ARMOR STONE, SUFFICIENT TO CONFORM TO THE ELEVATION AND PROFILES OF SURROUNDING ROCK REVELMENTS.

ABBREVIATIONS	
ACI	AMERICAN CONCRETE INSTITUTE
ASTM	AMERICAN SOCIETY FOR TESTING AND MATERIALS
CONT	CONTINUOUS
CONT'D	CONTINUED
FDEP	FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION
FDOT	FLORIDA DEPARTMENT OF TRANSPORTATION
KSI	KIPS PER SQUARE INCH
MHW	MEAN HIGH WATER
MIN	MINIMUM
MLW	MEAN LOW WATER
NAVD	NORTH AMERICAN VERTICAL DATUM
NGVD	NATIONAL GEODETIC VERTICAL DATUM
PERA	PERMITTING, ENVIRONMENT, AND REGULATORY AFFAIRS
PSI	POUNDS PER SQUARE INCH
TYP	TYPICAL
USACE	UNITED STATES ARMY CORPS OF ENGINEERS
W/C	WATER/CEMENT RATIO

SYMBOLS LEGEND



PROJECT:
BLUE LAKE SHORELINE
STABILIZATION

ADDRESS:
18701/18731 WILDBLUE BLVD
FORT MYERS, FL, 33913

CLIENT:

BLUE LAKE COMMUNITY
DEVELOPMENT
DISTRICT

ADDRESS:
27499 RIVERVIEW CENTER BLVD.,
#253
BONITA SPRINGS, FL 34134

ENGINEER:
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COA # 29062

CUMMINS | CEDERBERG
Coastal & Marine Engineering

SEAL:	

[illegible]

CC PROJECT NO:	126600
DRAWN	GK
CHECKED	JPC
SCALE	REFERS TO 22X34 SHEET

GENERAL NOTES

CM-1.1



0 200 400
GRAPHIC SCALE IN FT

ADDRESS:
18701/18731 WILDBLUE BLVD
FORT MYERS, FL, 33913

ADDRESS:
27499 RIVERVIEW CENTER BLVD.,
#253
BONITA SPRINGS, FL 34134

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COA # 29062

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EXISTING RETAINING WALL TO BE REMOVED TO FACILITATE INSTALLATION	
STATION RANGE	
5+43*	TO 12+52*
17+55*	TO 31+53*
34+24*	TO 43+04*
47+42	TO 49+18
52+00	TO 53+97
55+52*	TO 59+01*

*IF RETEMENT NOT INSTALLED AT INDIVIDUAL PARCELS, EXIST. RETAINING WALL AT DOCK SHALL EXTEND A MIN. ONE SHEET PILE PAIR INTO ADJACENT RETEMENT. *IF CONTRACTOR SHALL COORDINATE WITH ENGINEER TO ADJUST CROSS-SECTION IF NEEDED.

EXITING RETAINING WALL TO REMAIN	
STATION RANGE	
0+00	TO 5+43
12+52	TO 17+55
31+53	TO 34+24
43+04	TO 47+42
49+18	TO 52+00
53+97	TO 55+52
59+01	TO 65+61

SEAL:

DEMOLITION QUANTITIES TABLE		
ITEM	UNIT	QTY
EXISTING RETAINING WALL	LF	3,709*

*EXIST. RETAINING WALL AT DOCK SHALL EXTEND A MIN. ONE SHEET PILE PAIR INTO ADJACENT REVETMENT, TYP. CONTRACTOR SHALL COORDINATE WITH ENGINEER TO ADJUST CROSS-SECTION IF NEEDED

NOTES

1. SURVEY PERFORMED BY: BARRACO AND ASSOCIATES, DATED 12/17/2024 THRU 12/18/2024 AND 07/09/2025 THRU 07/29/2025, AND 09/12/2025.
 2. HORIZONTAL DATUM IS NAD83 FLORIDA STATE PLANE WEST ZONE, US FEET.
 3. VERTICAL DATUM IS NORTH AMERICAN DATUM 1988 (NAVD88)
- STATION RANGES SHOWN ON THIS SHEET ARE APPROXIMATE, CONTRACTOR TO FIELD VERIFY AND CONFIRM WITH ENGINEER PRIOR TO DEMOLITION.

[illegible]

CC PROJECT NO: 126600

DRAWN	GK
CHECKED	JPC
SCALE	REFERS TO 22X34 SHEET

SHEET TITLE

EXISTING CONDITIONS

CM-1.2



CUMMINS | CEDERBERG
Coastal & Marine Engineering

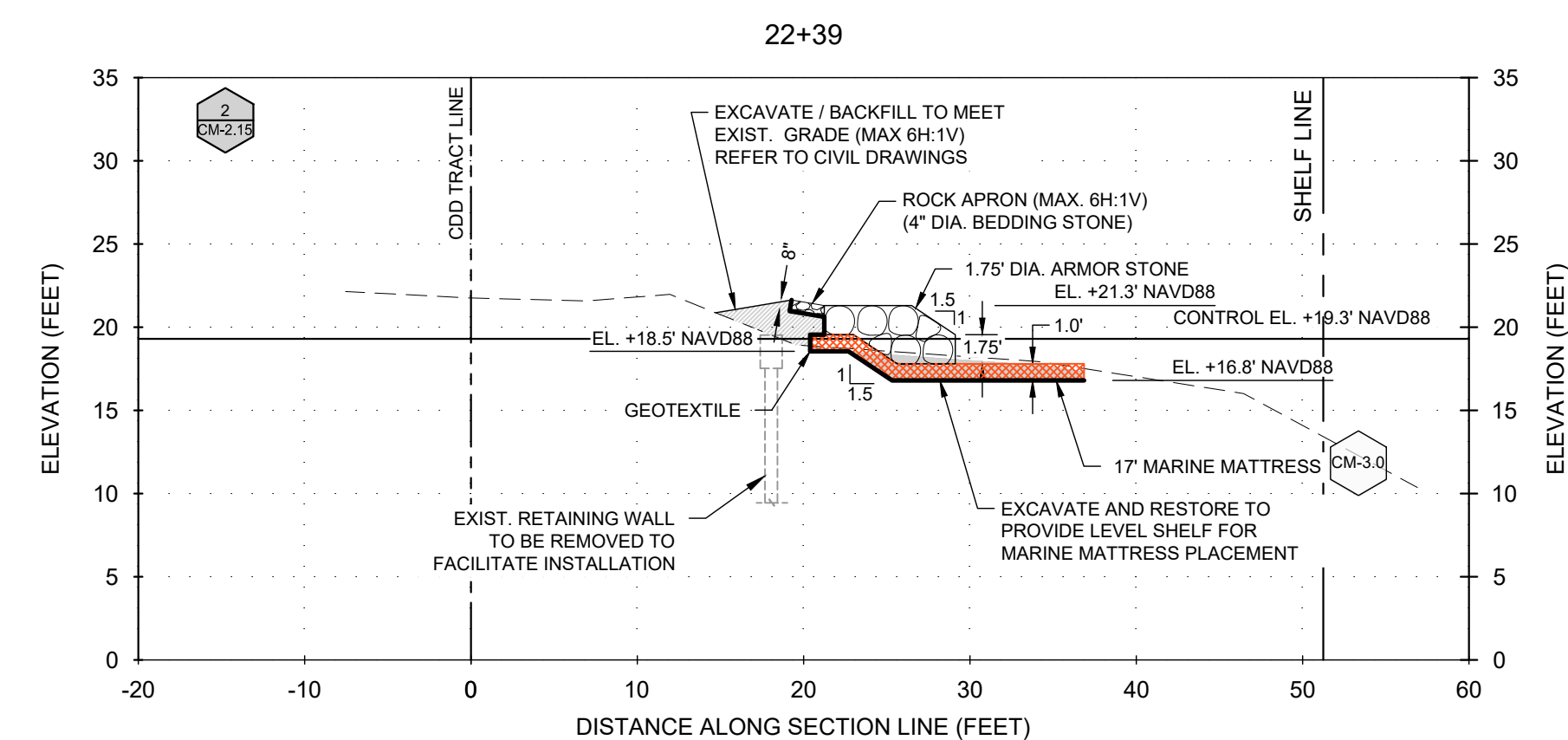
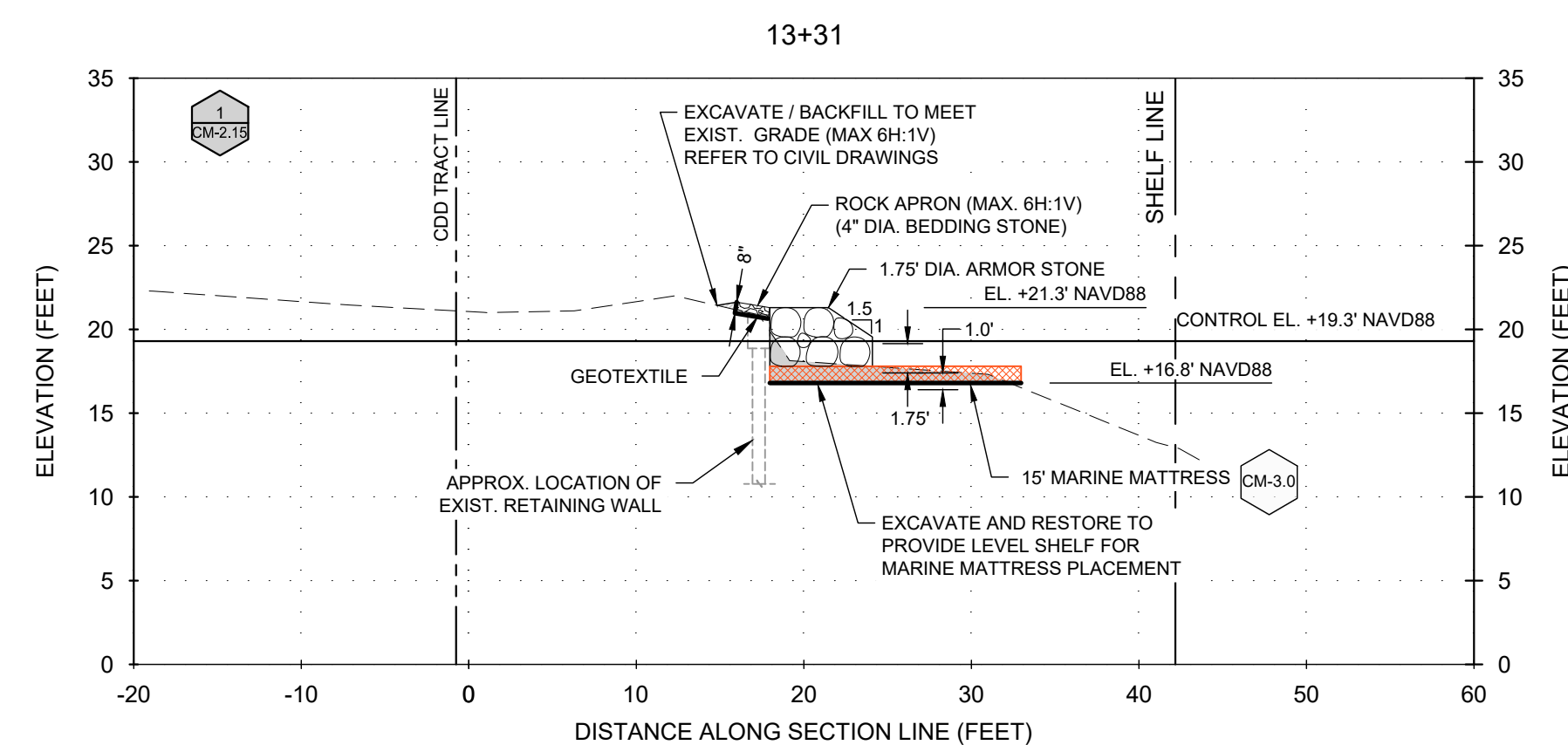
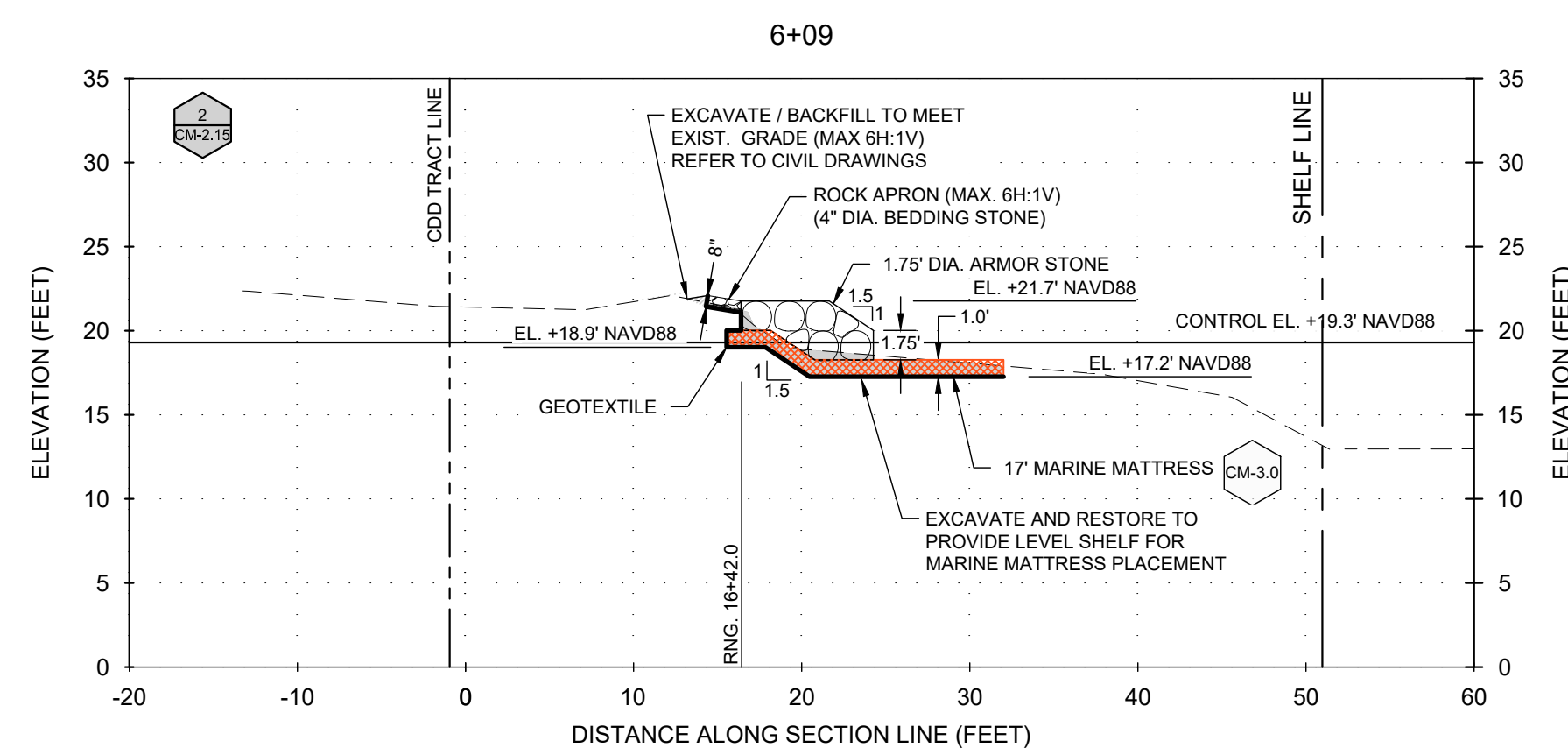
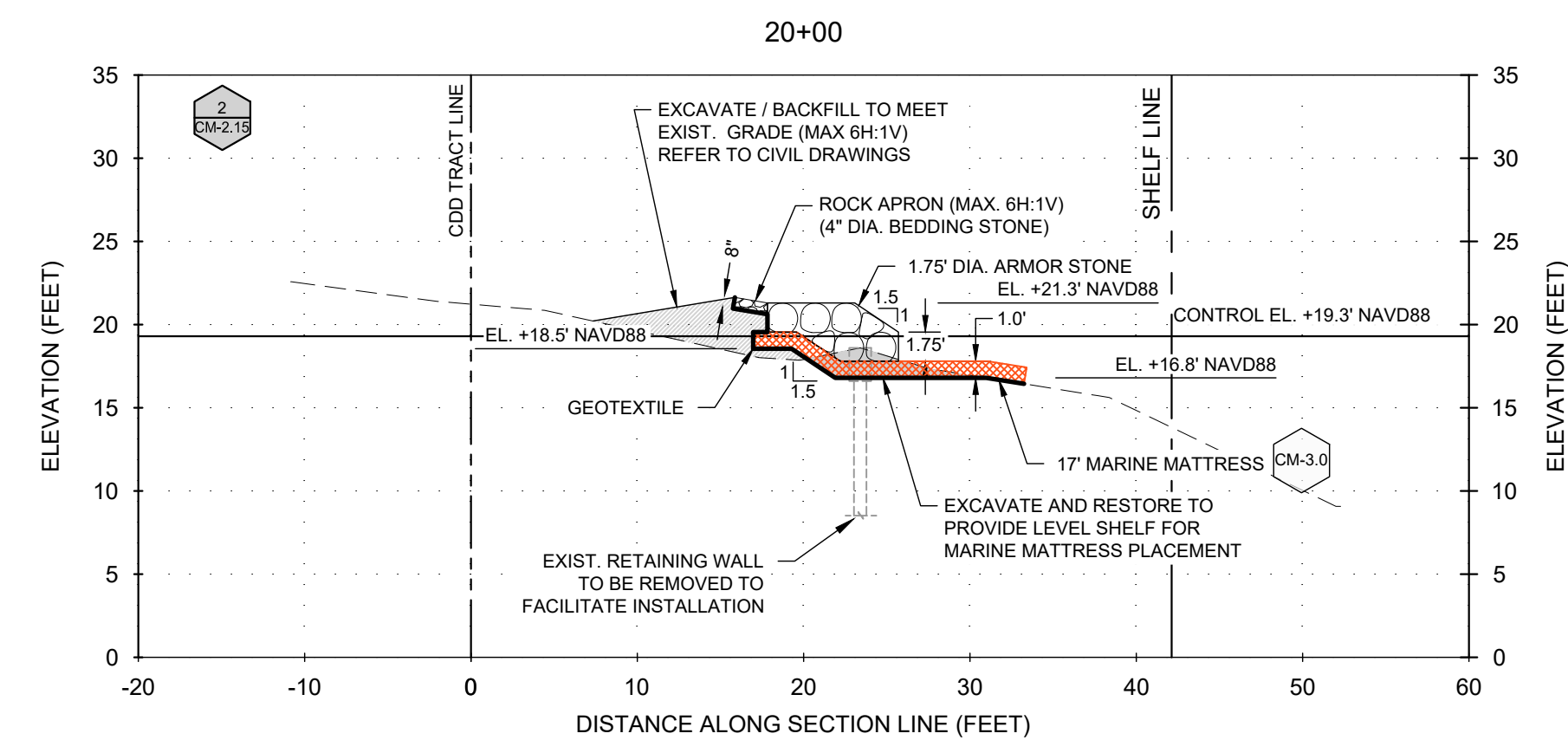
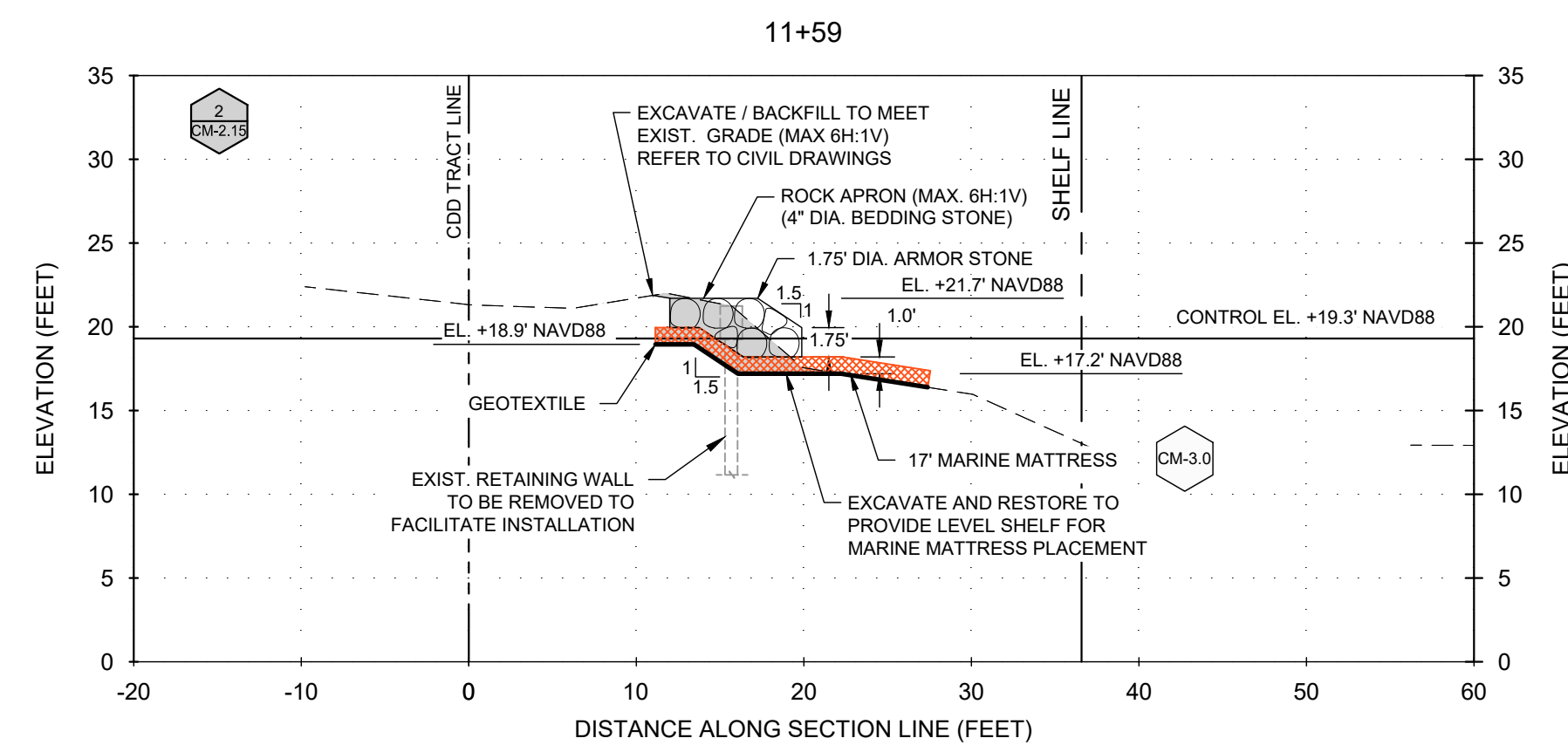
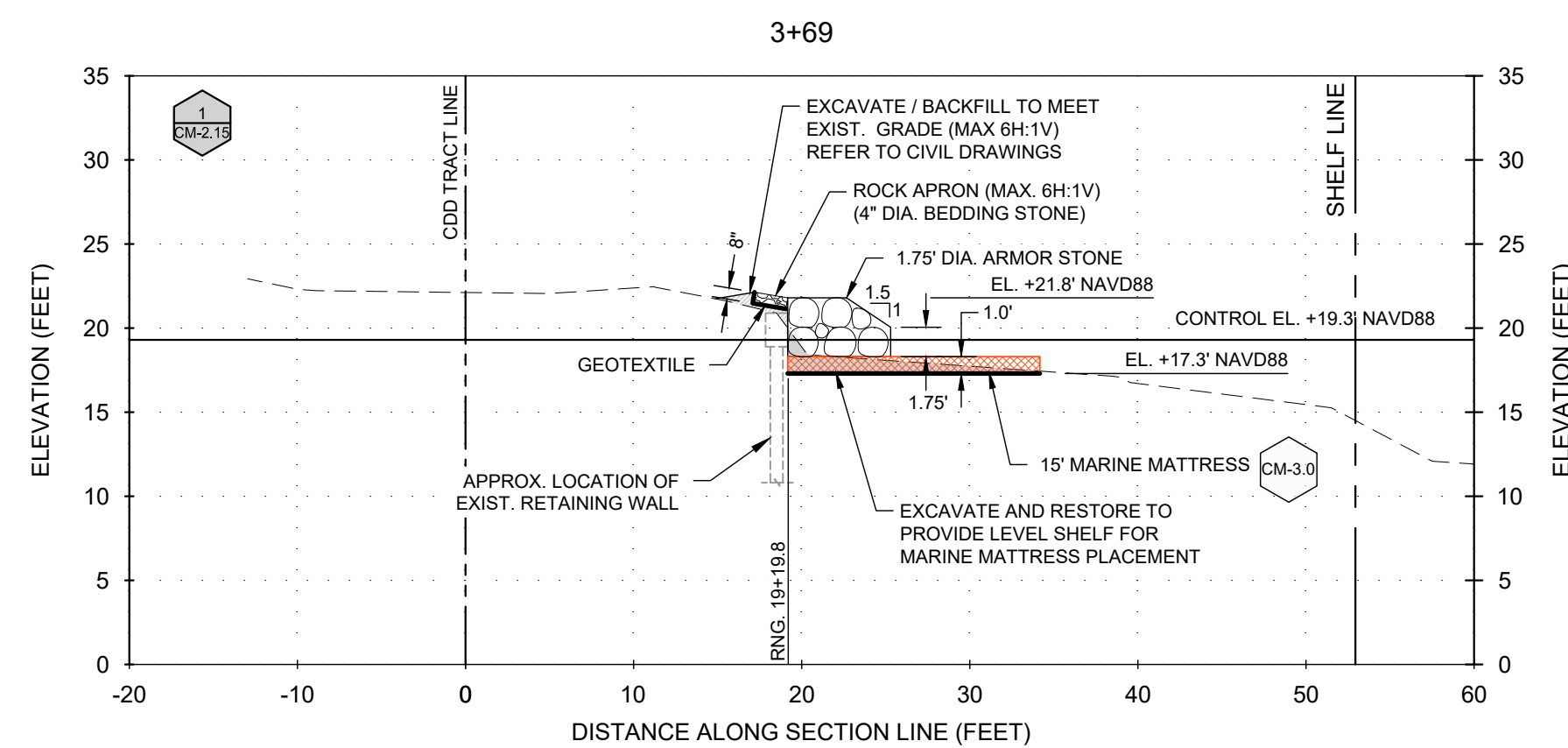
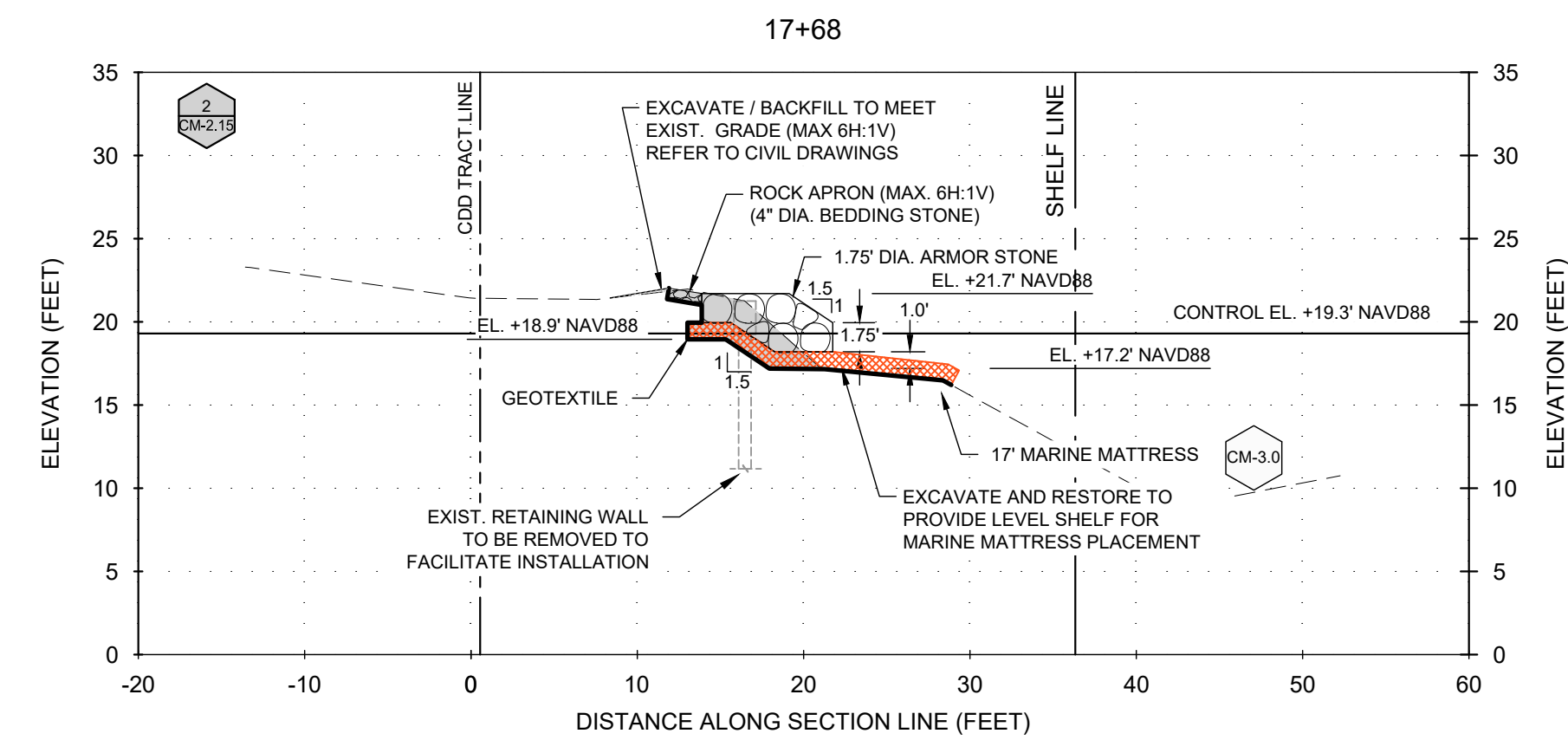
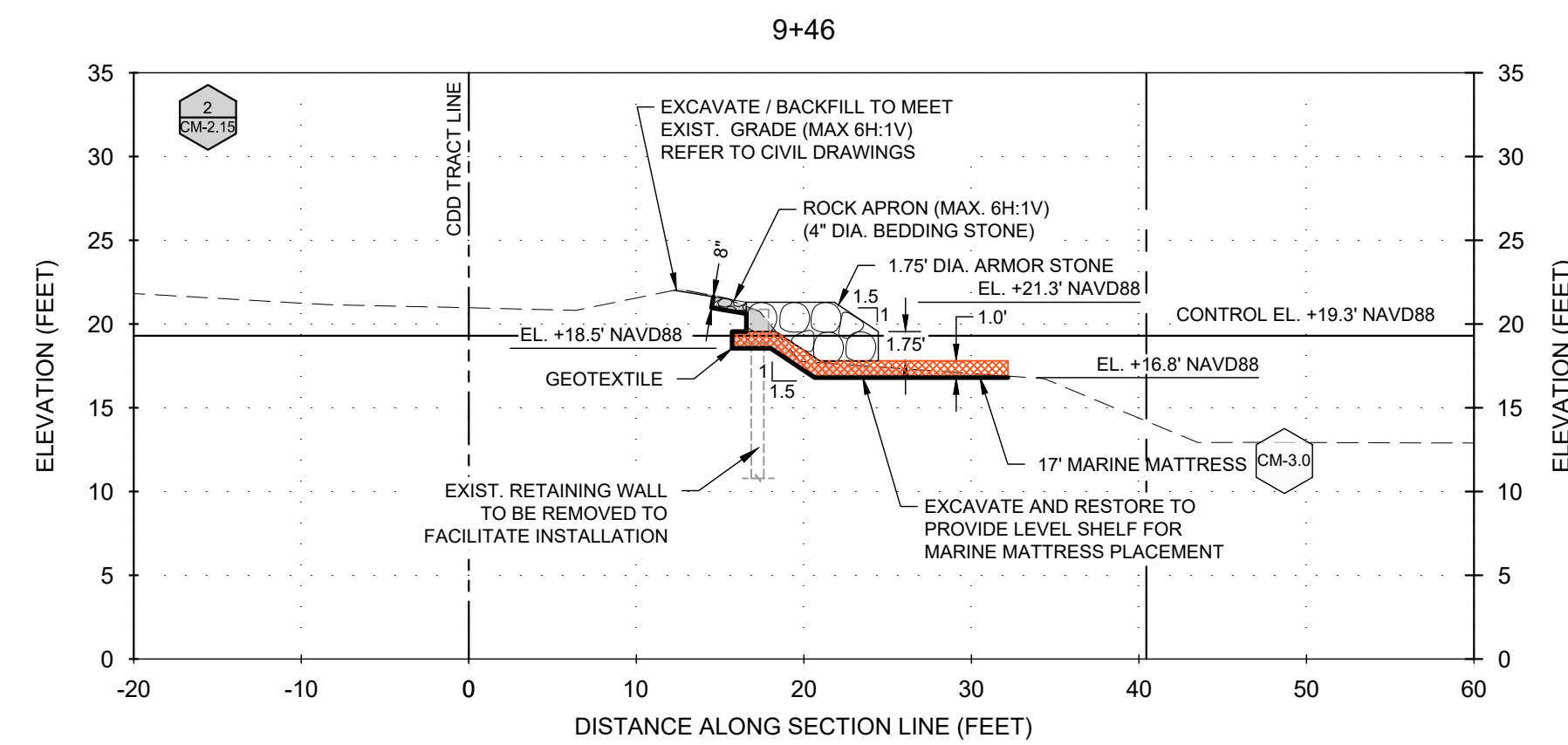
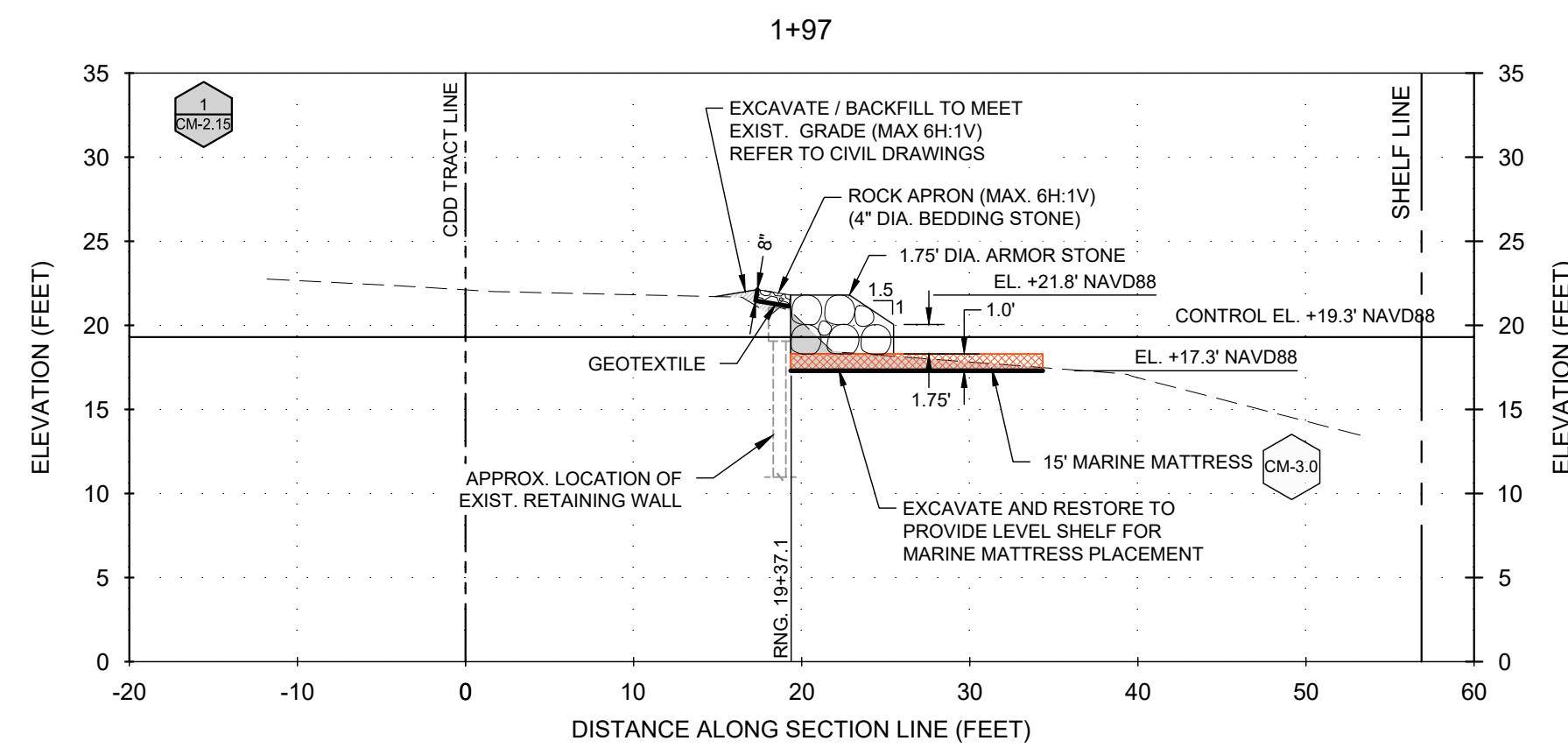
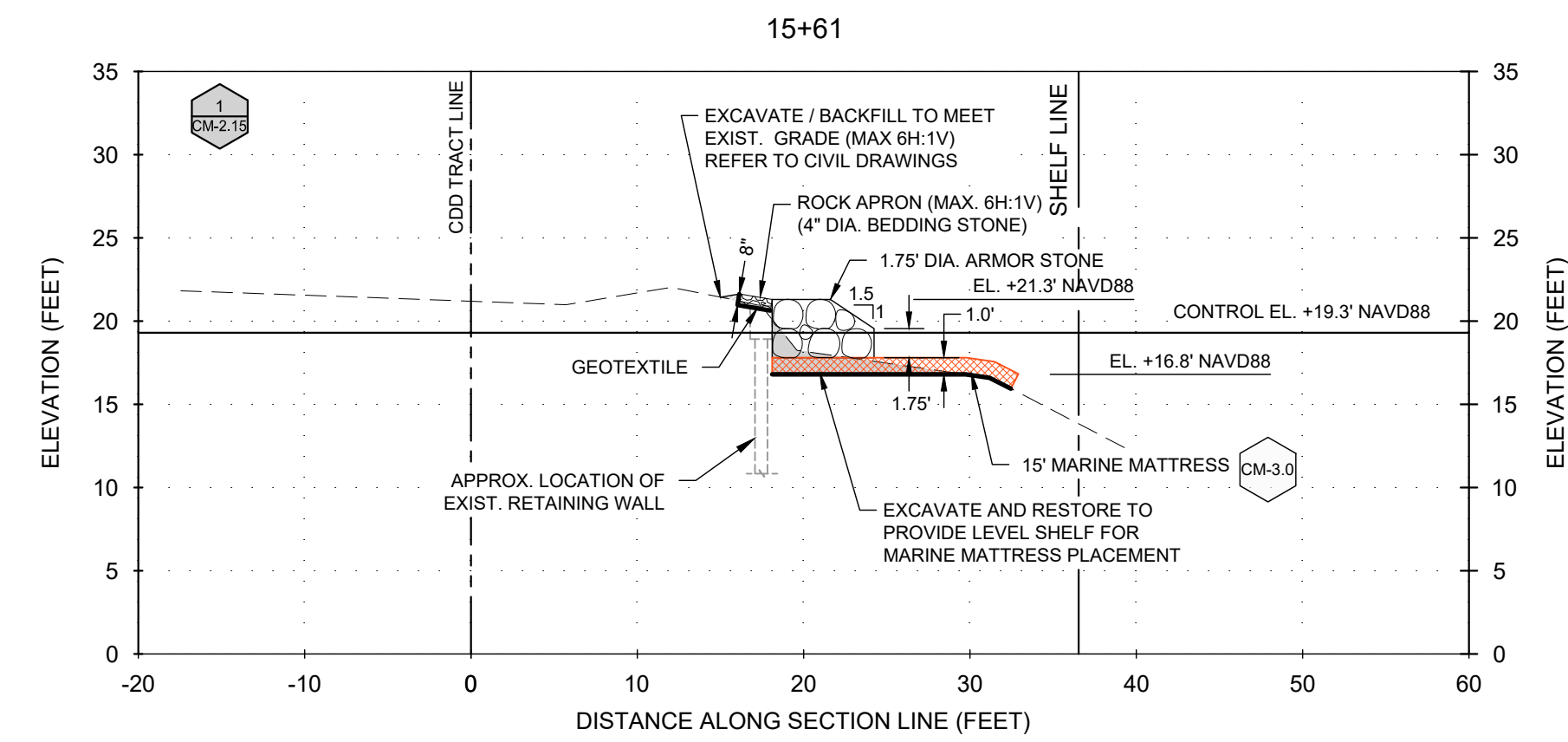
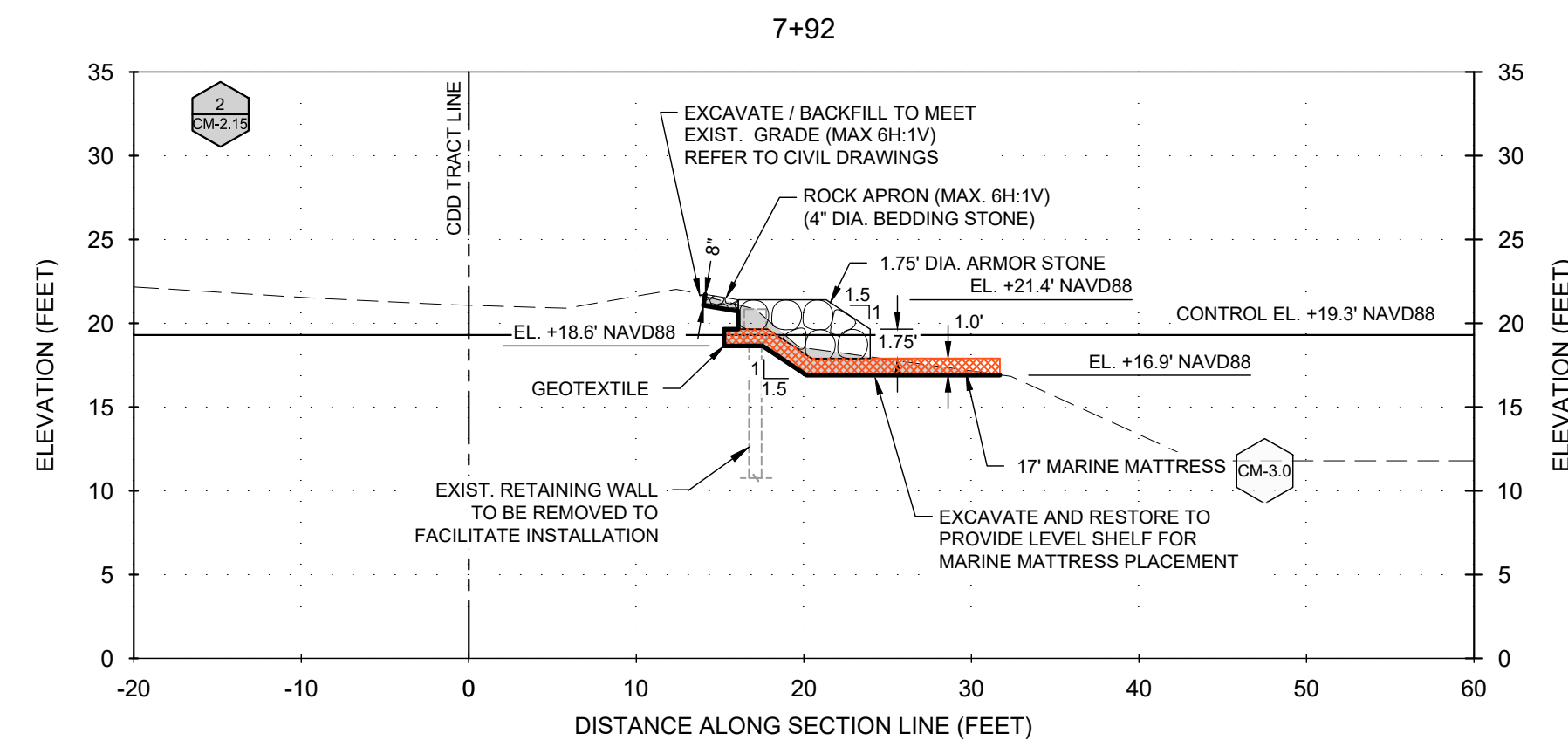
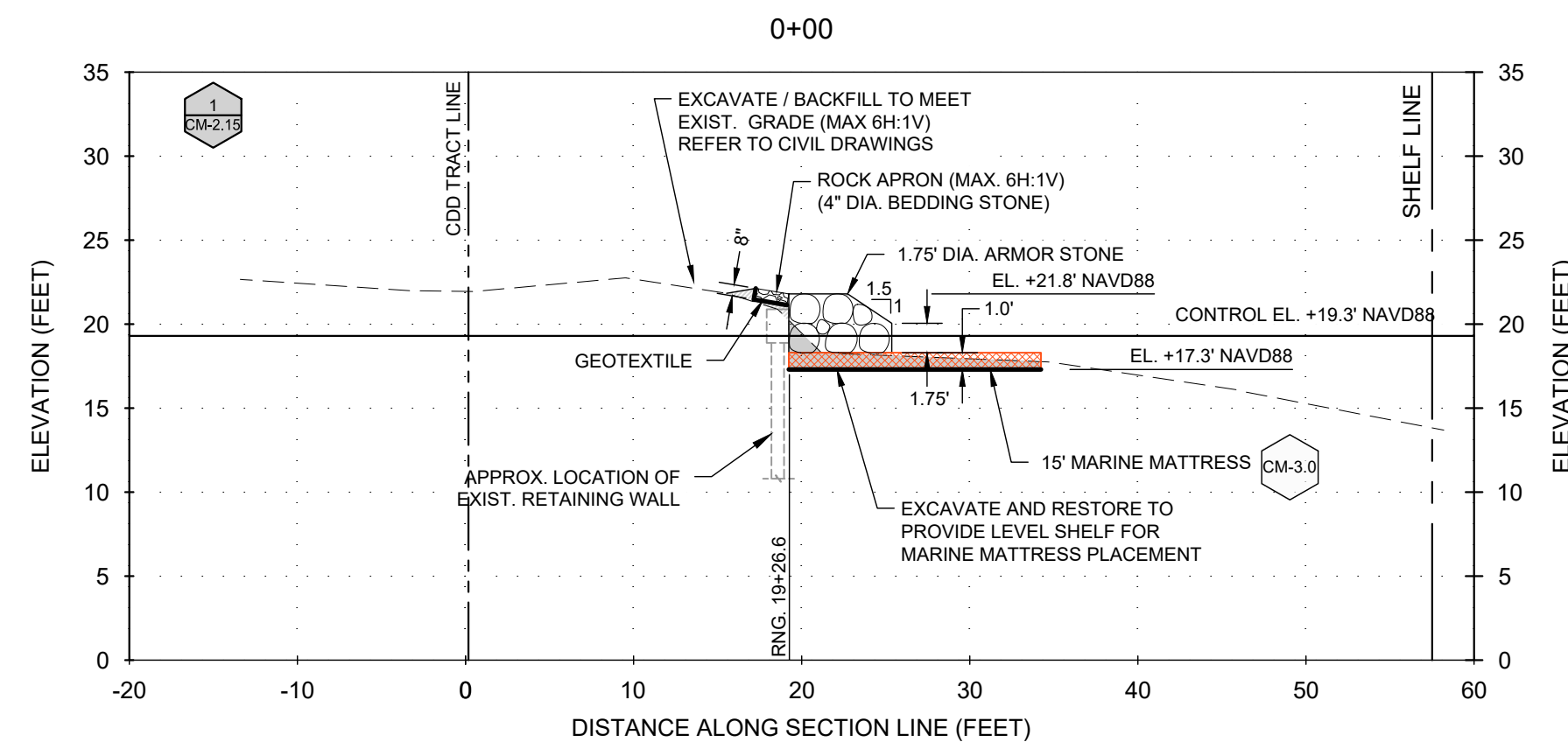
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SHEET TITLE

CM-2.0

NOTES:

1. SURVEY PERFORMED BY: BARRACO AND ASSOCIATES, DATED 12/17/2024 THRU 12/18/2024 AND 07/09/2025 THRU 07/29/2025, AND 09/12/2025.
2. HORIZONTAL DATUM IS NAD83 FLORIDA STATE PLANE WEST ZONE, US FEET.
3. VERTICAL DATUM IS NORTH AMERICAN DATUM 1988 (NAVD88)



NOTES:

1. SURVEY PERFORMED BY: BARRACO AND ASSOCIATES, DATED 12/17/2024 THRU 12/18/2024 AND 07/09/2025 THRU 07/29/2025, AND 09/12/2025.
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PROJECT:
BLUE LAKE SHORELINE
STABILIZATION

ADDRESS:
18701/18731 WILDBLUE BLVD
FORT MYERS, FL, 33913

CLIENT:
BLUE LAKE COMMUNITY
DEVELOPMENT
DISTRICT
ADDRESS:
27499 RIVERVIEW CENTER BLVD.,
#253
BONITA SPRINGS, FL 34134

ENGINEER:
CUMMINS CEDERBERG
COASTAL & MARINE ENGINEERING
201 ALHAMBRA CIRCLE, SUITE 601
CORAL GABLES, FL 33134
TEL: +1 305 741-6155 FAX: +1 305-974-1969
WWW.CUMMINSCEDERBERG.COM
COA # 29062

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SEAL:

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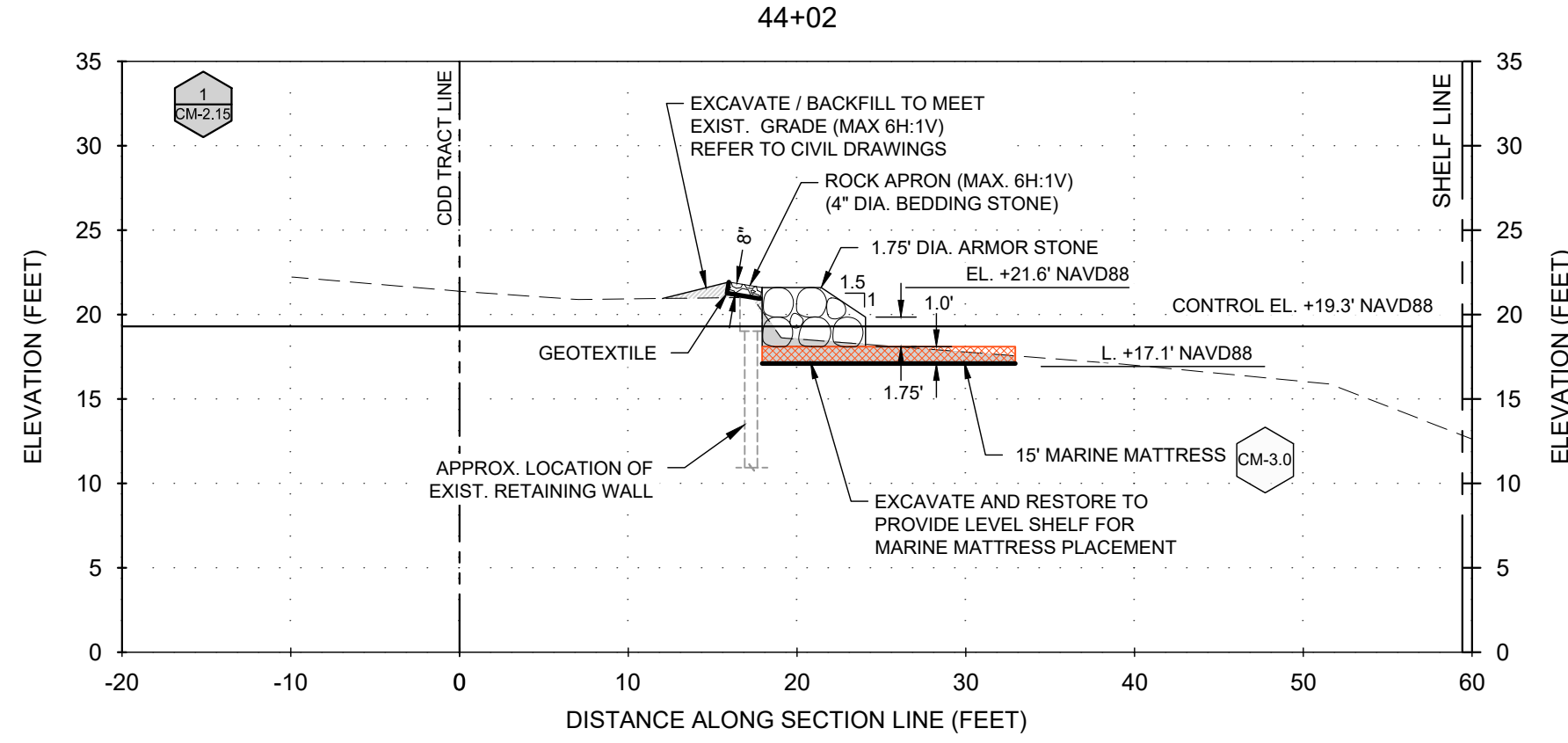
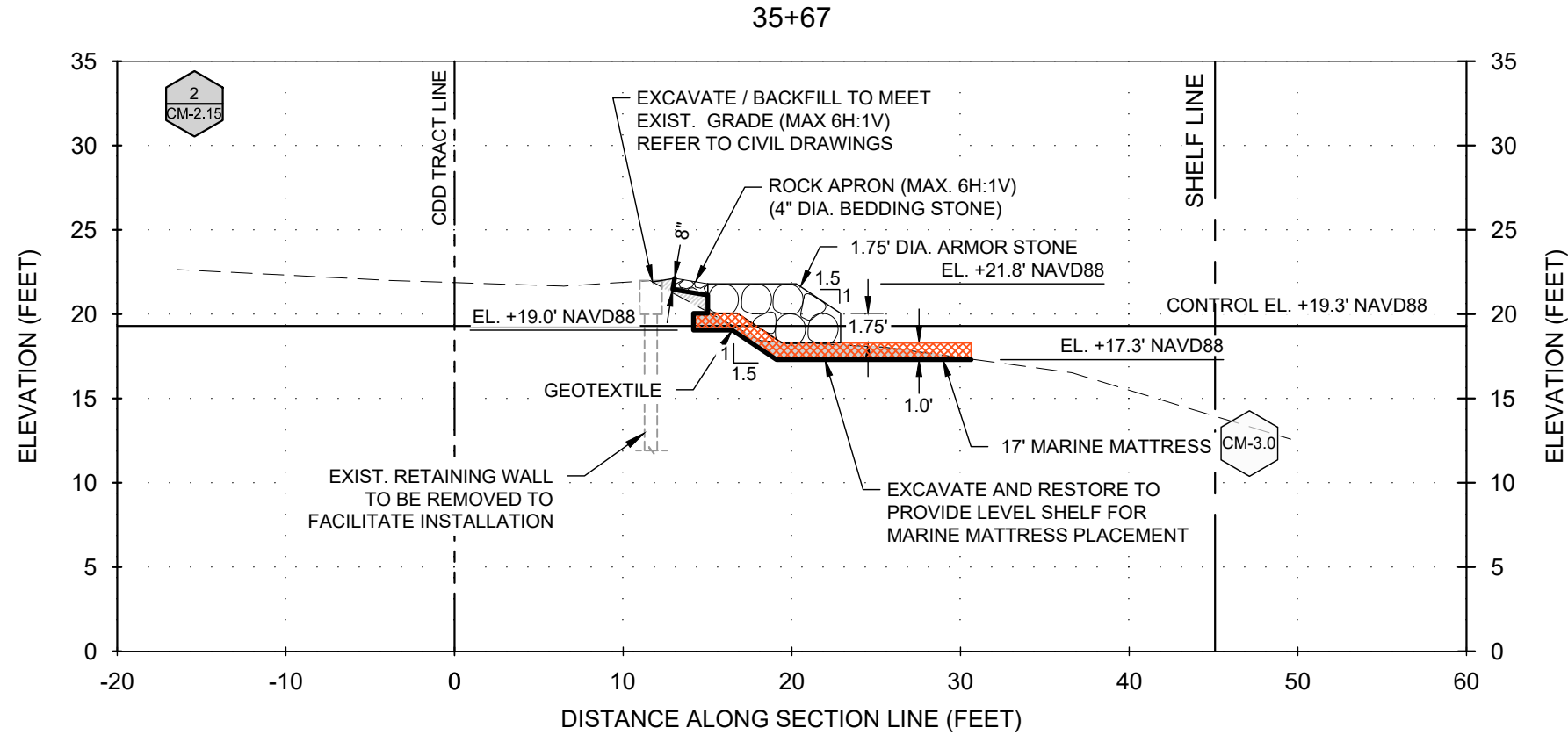
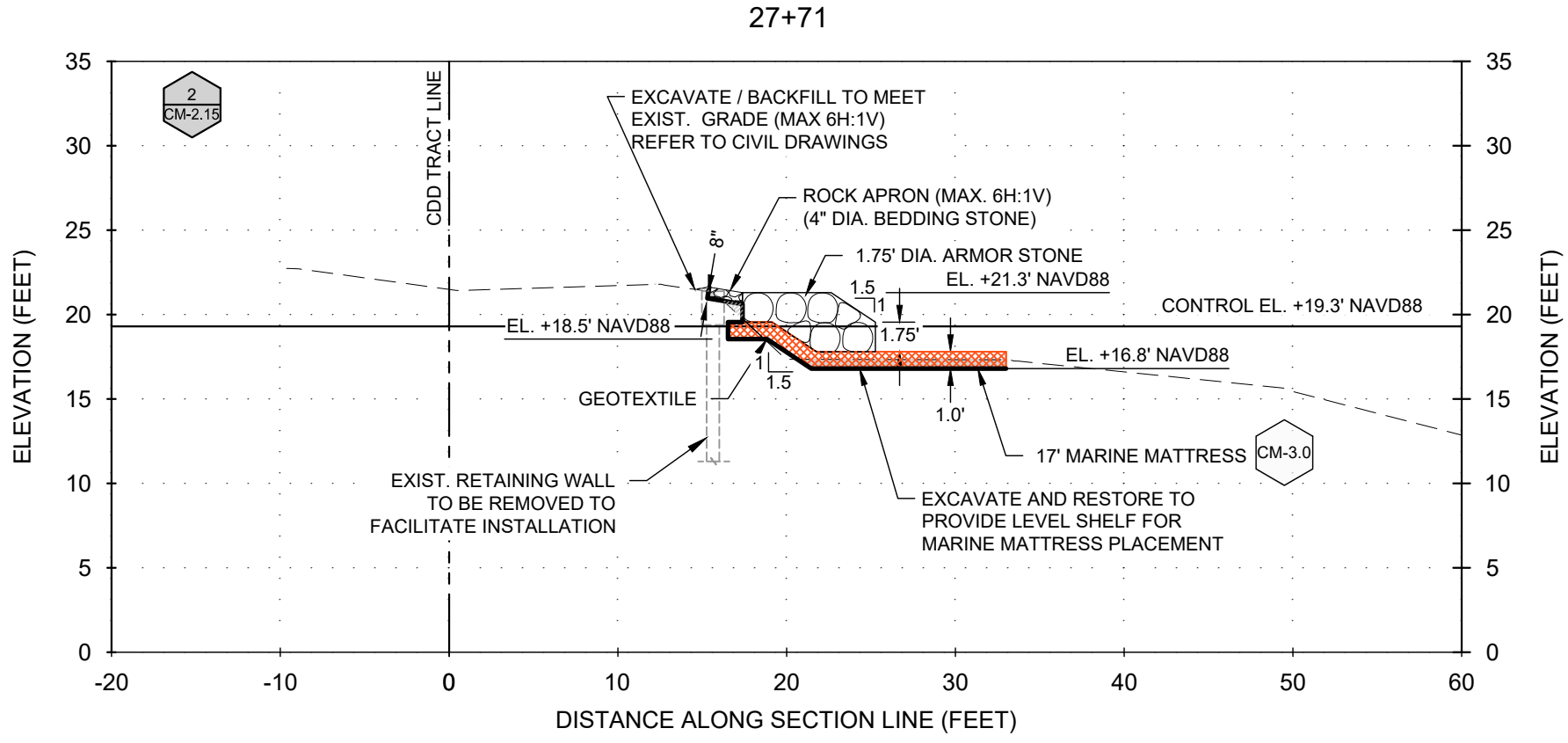
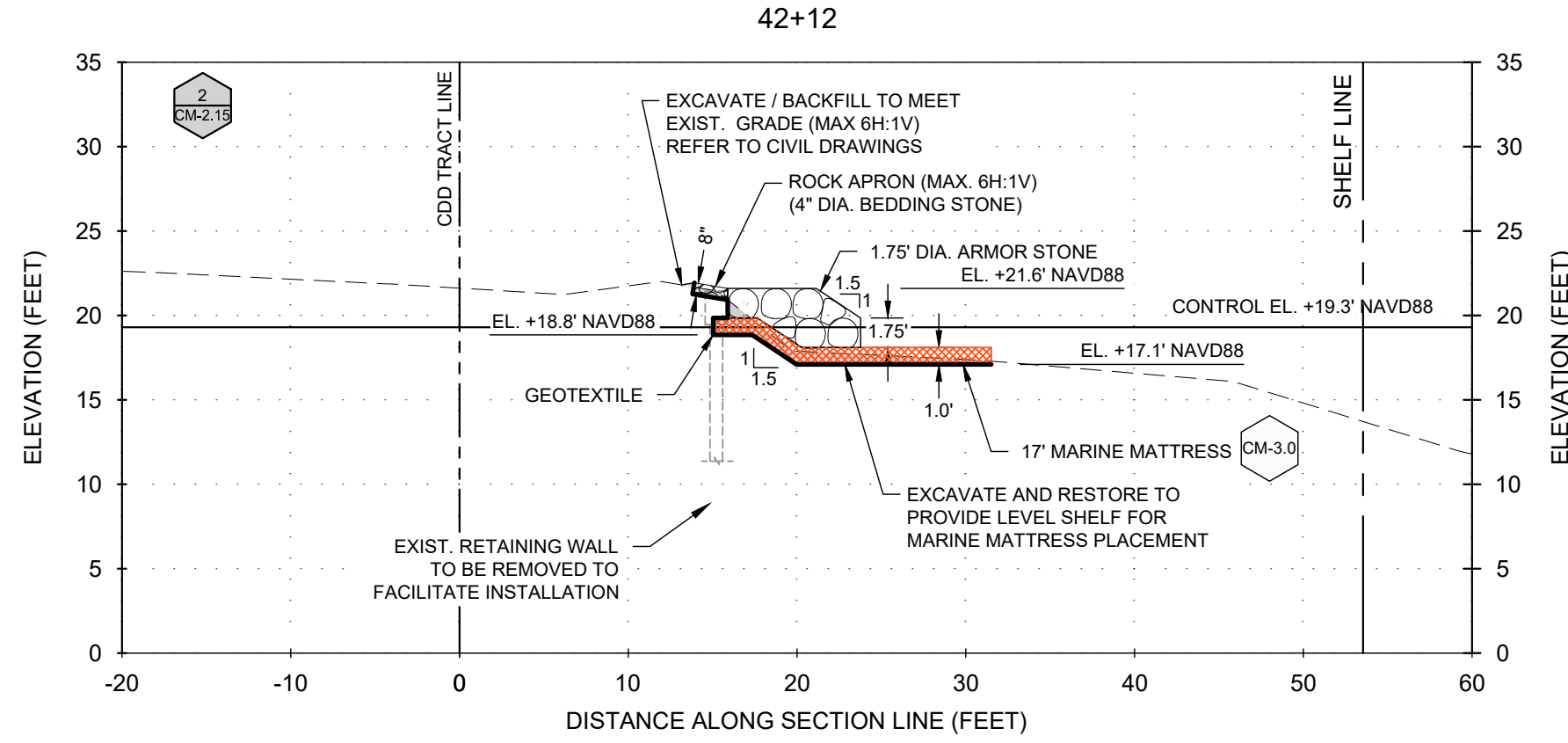
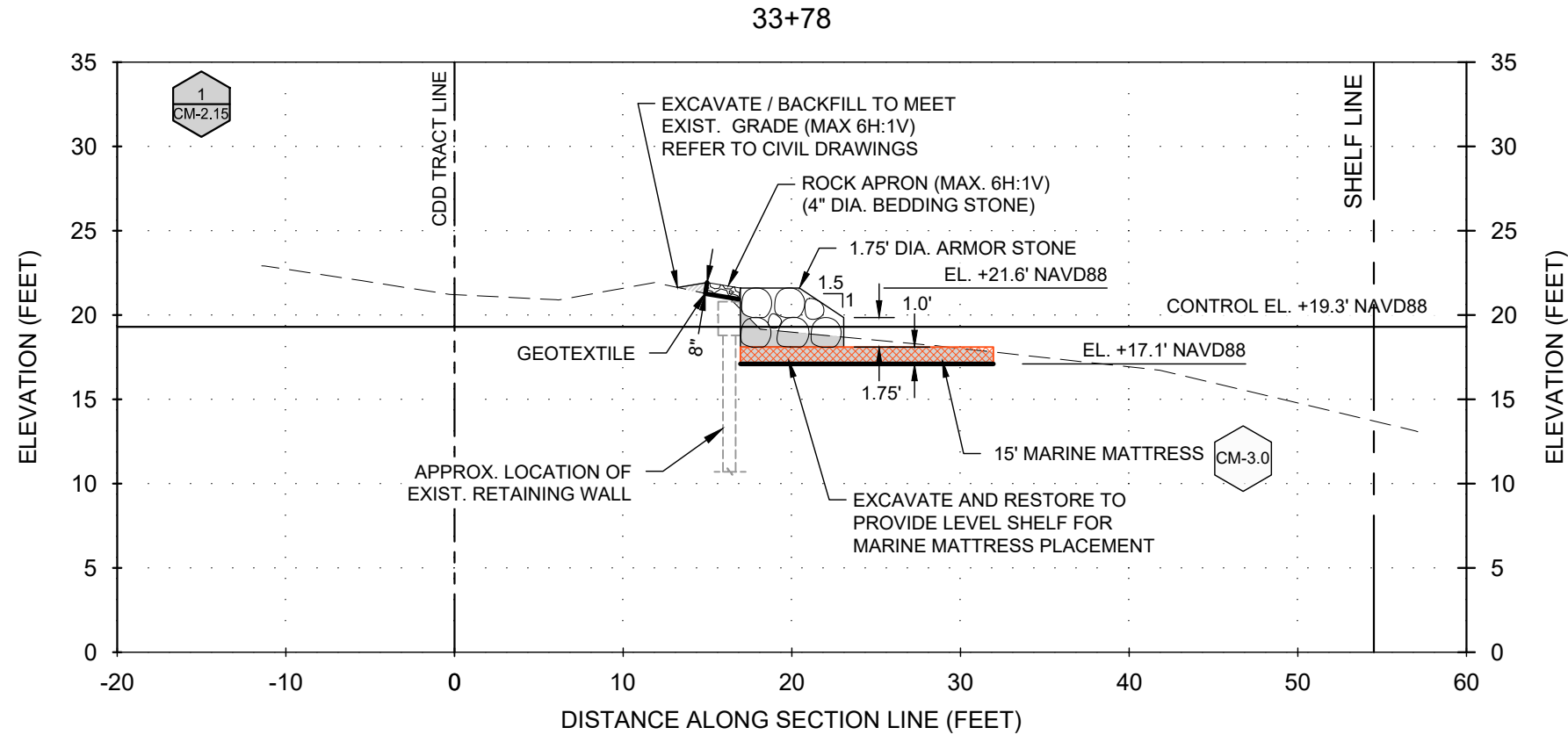
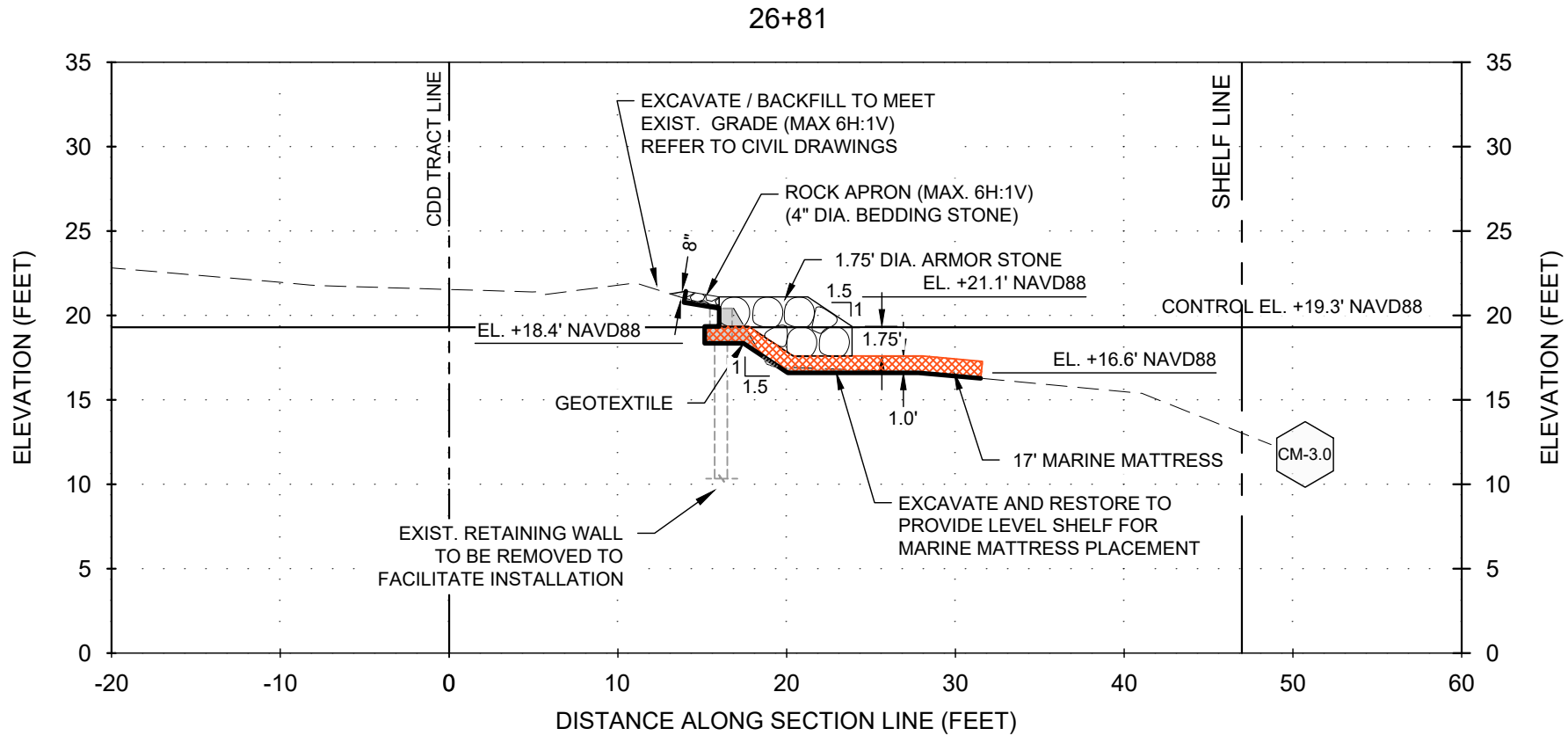
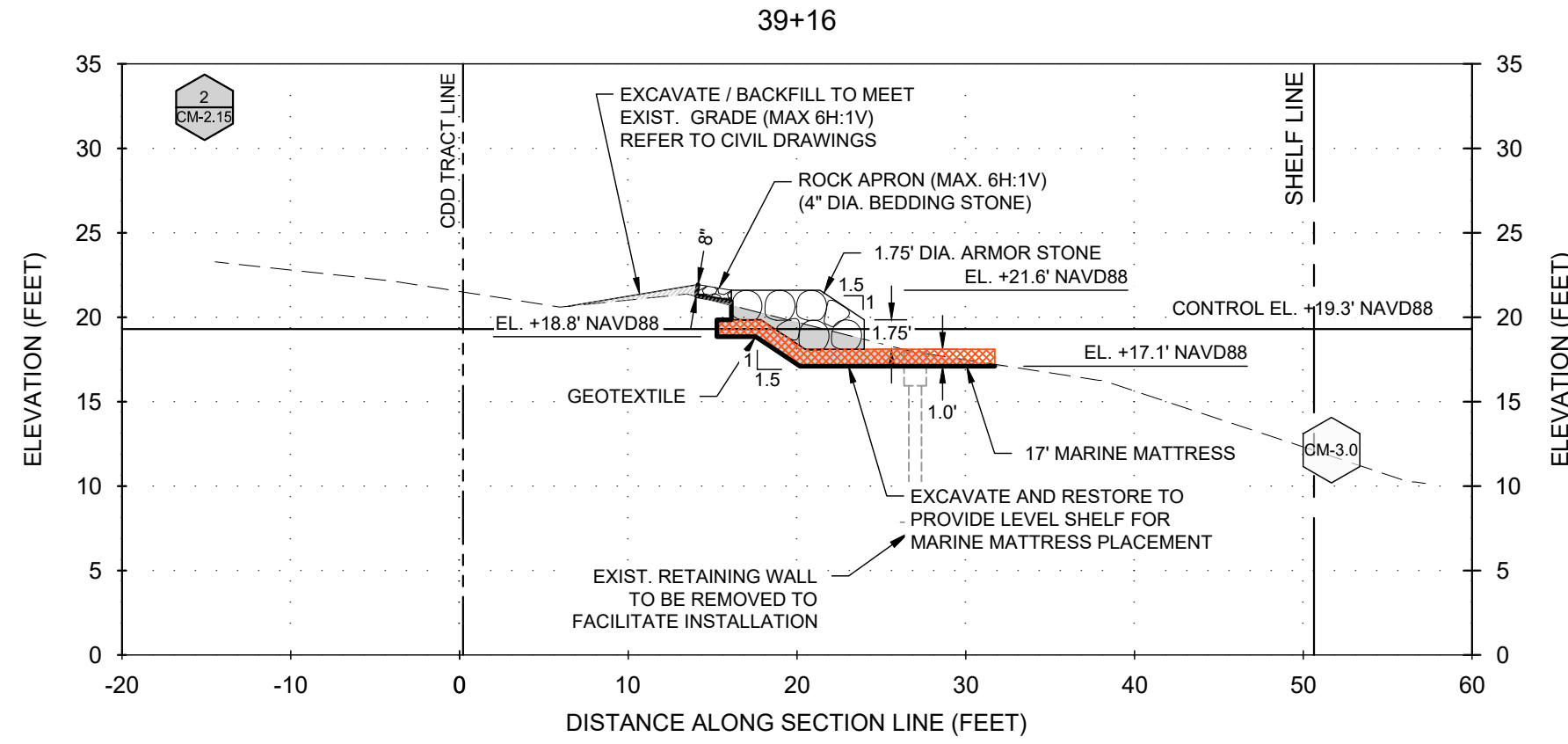
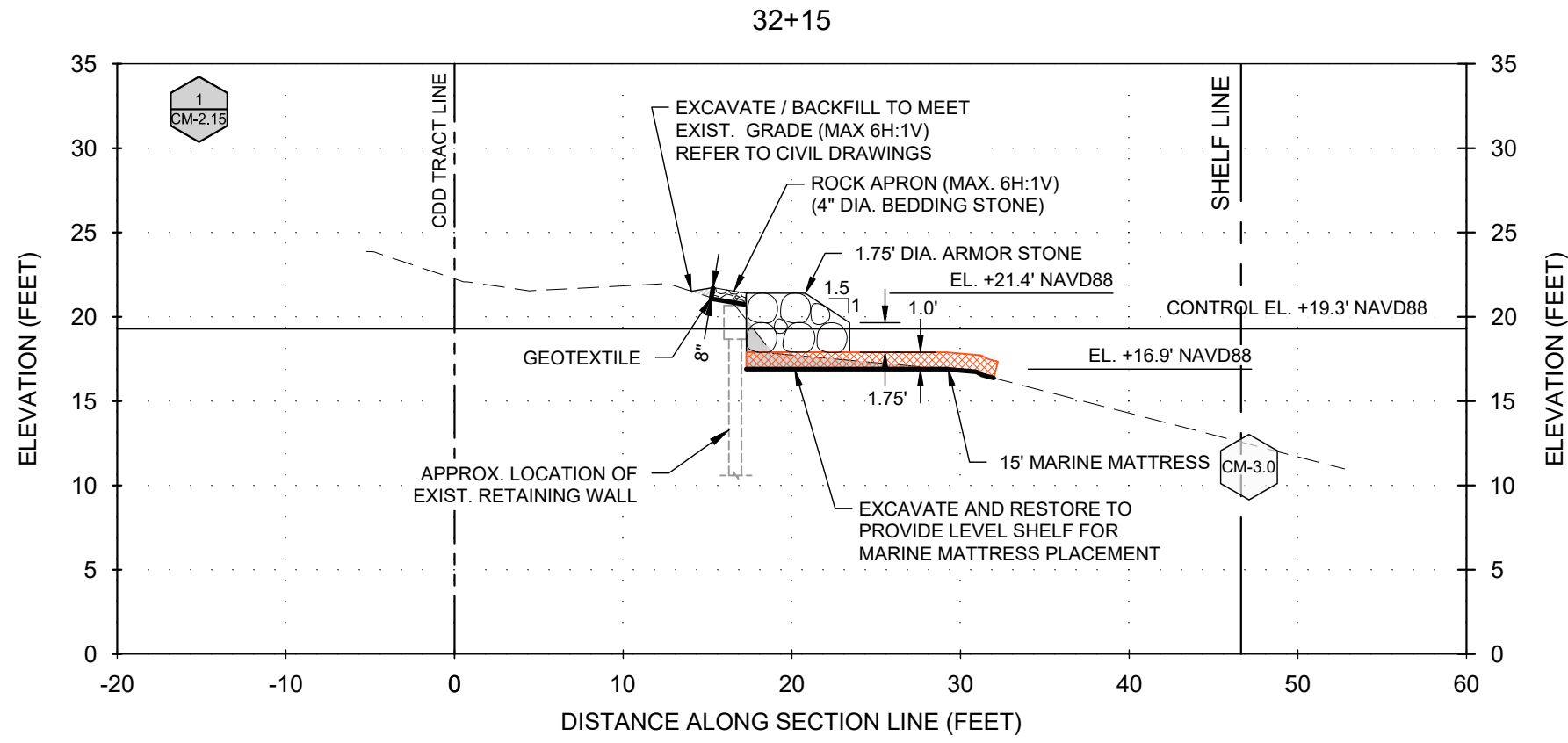
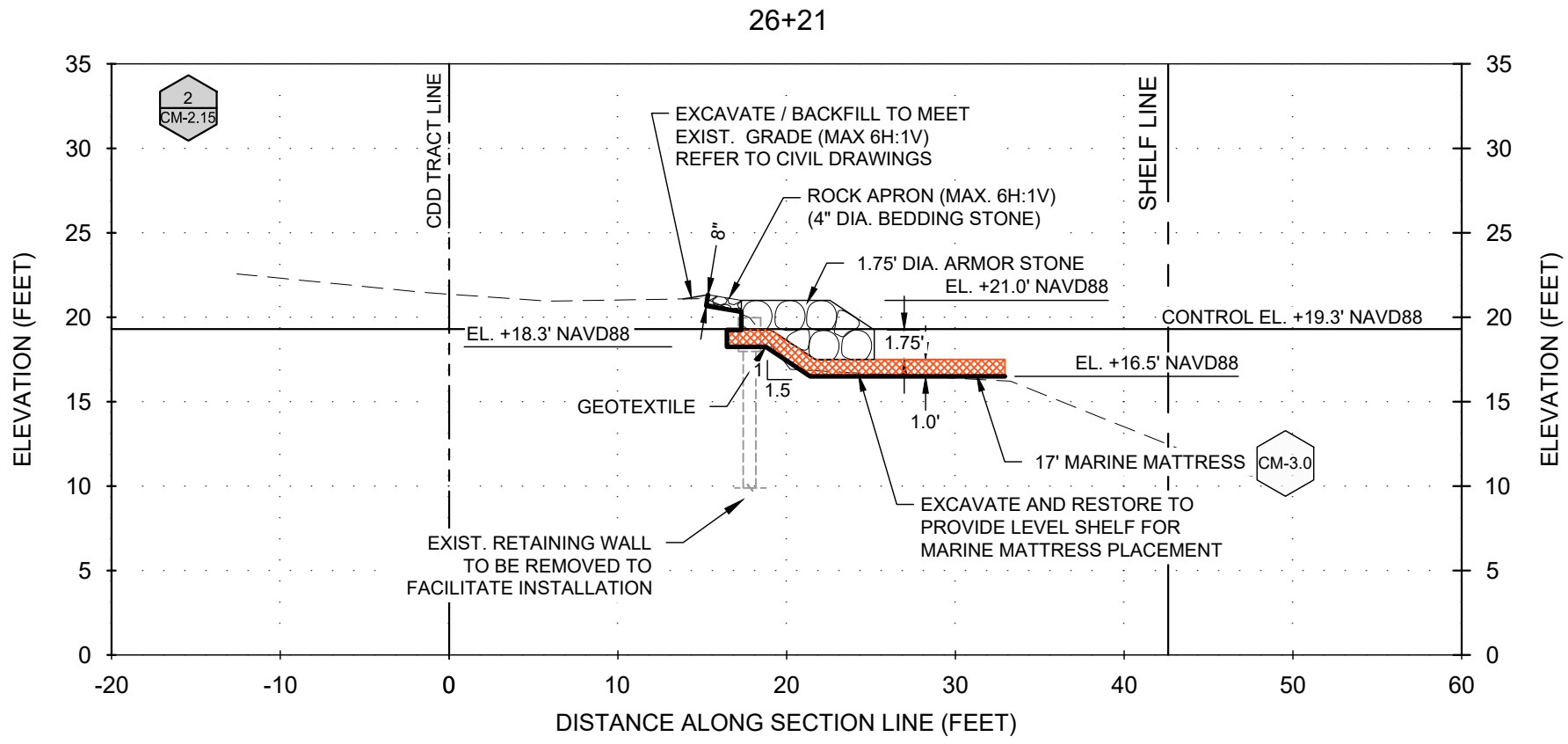
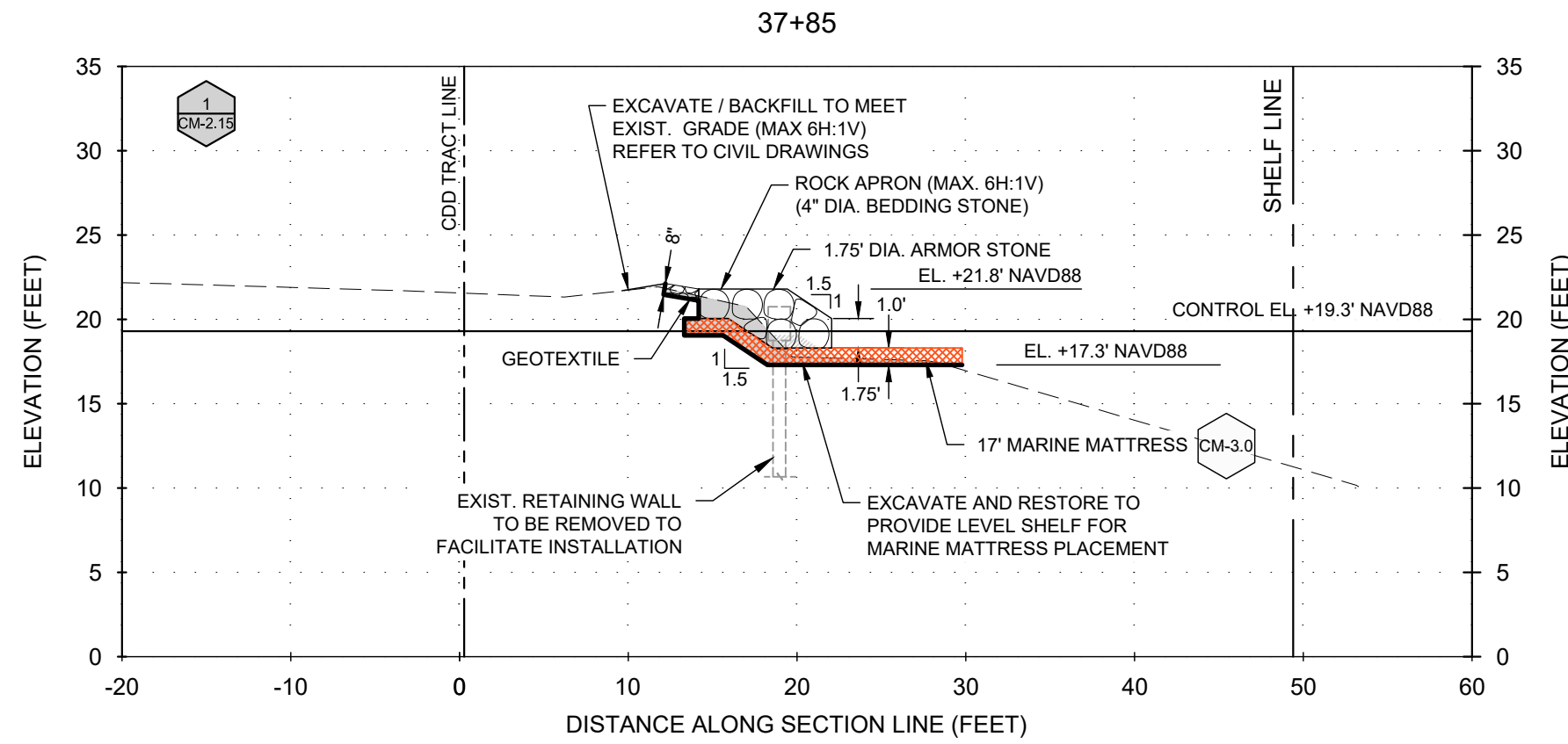
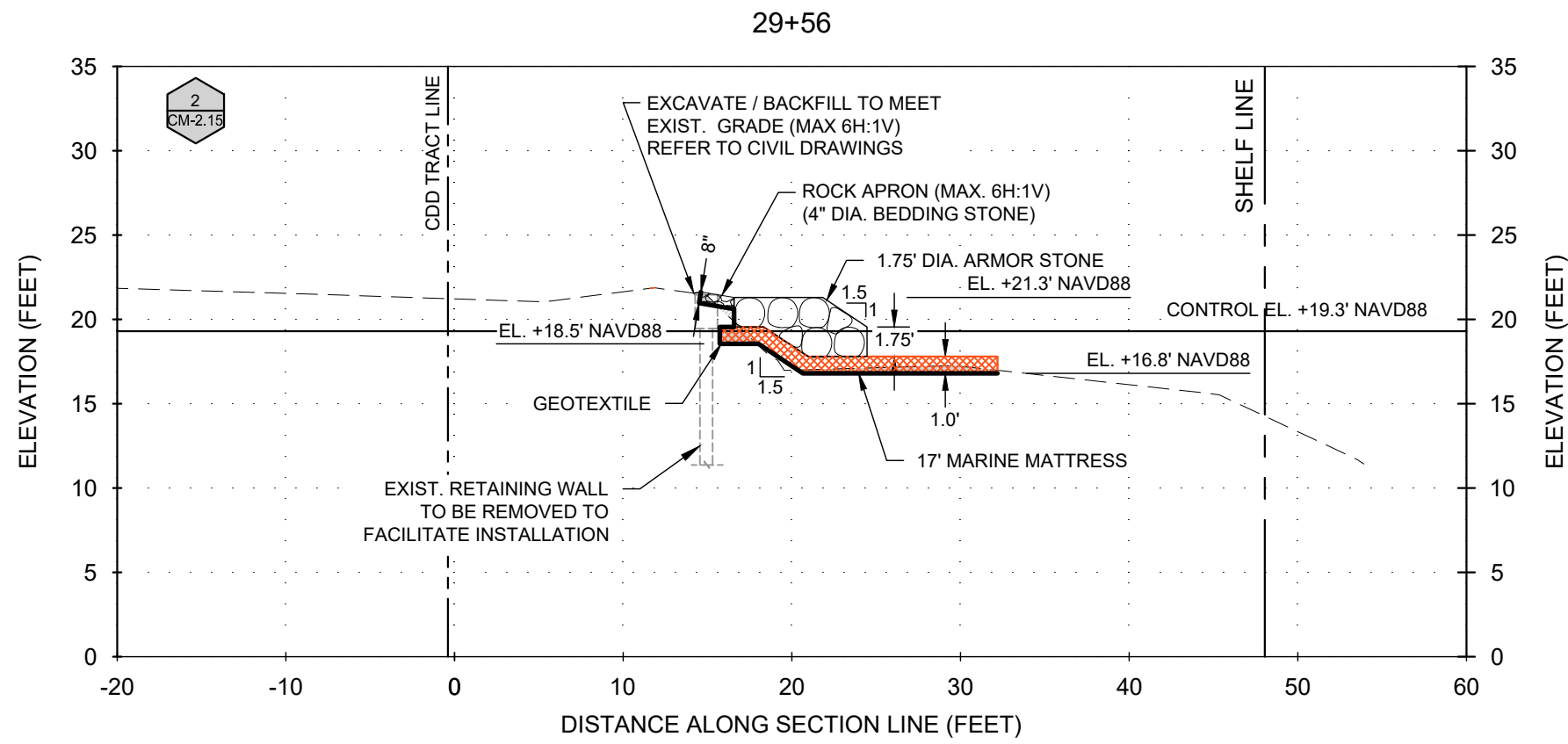
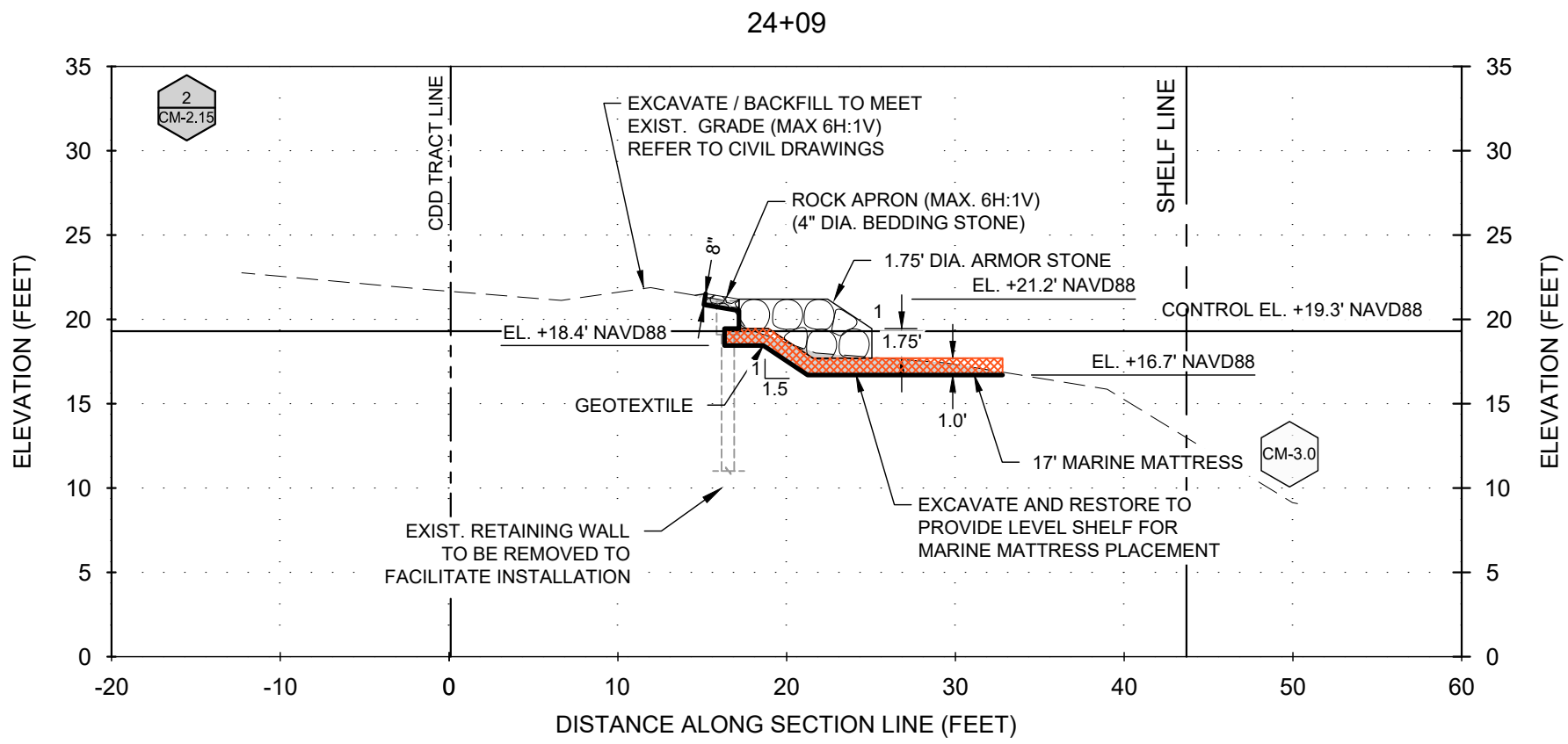
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DRAWN	GK
CHECKED	JPC
SCALE	REFERS TO 22X34 SHEET

SHEET TITLE

CROSS SECTION
(1 OF 3)

CM-2.1





- NOTES:
1. SURVEY PERFORMED BY: BARRACO AND ASSOCIATES, DATED 12/17/2024 THRU 12/18/2024 AND 07/09/2025 THRU 07/29/2025, AND 09/12/2025.
 2. VERTICAL DATUM IS NORTH AMERICAN DATUM 1988 (NAVD88)

0 5 10
GRAPHIC SCALE IN FT

PROJECT:
BLUE LAKE SHORELINE
STABILIZATION

ADDRESS:
18701/18731 WILDBLUE BLVD
FORT MYERS, FL, 33913

CLIENT:
BLUE LAKE COMMUNITY
DEVELOPMENT
DISTRICT

ADDRESS:
27499 RIVERVIEW CENTER BLVD.,
#253
BONITA SPRINGS, FL 34134

ENGINEER:
CUMMINS CEDERBERG
COASTAL & MARINE ENGINEERING
201 ALHAMBRA CIRCLE, SUITE 601
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TEL: +1 305 741-6155 FAX: +1 305-974-1969
WWW.CUMMINSCEDERBERG.COM
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SEAL:

CONSTRUCTION DRAWINGS	CONSTRUCTION DRAWINGS	SUBMISSION / REVISION
02/10/2026	01/07/2026	DATE
1	ISSUE	

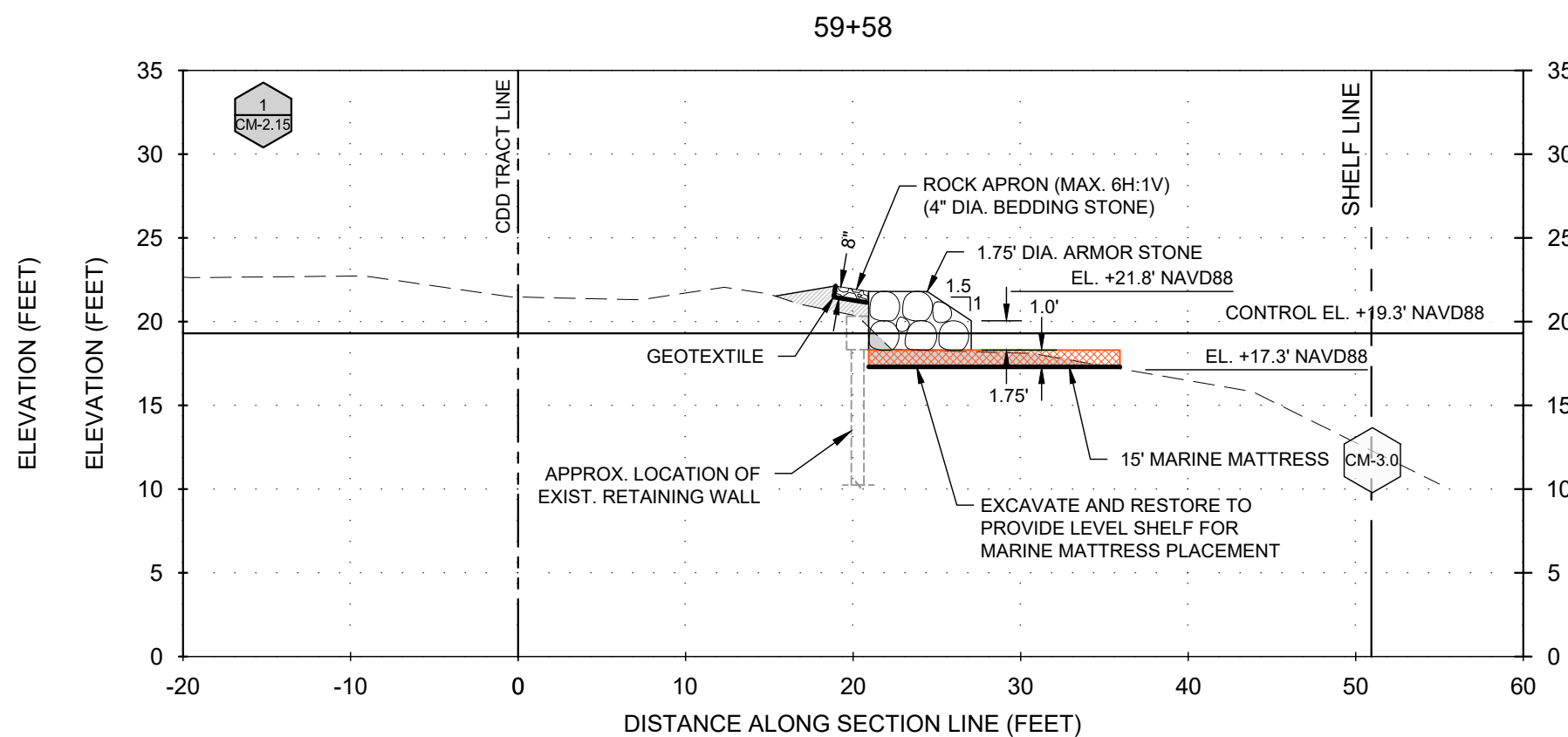
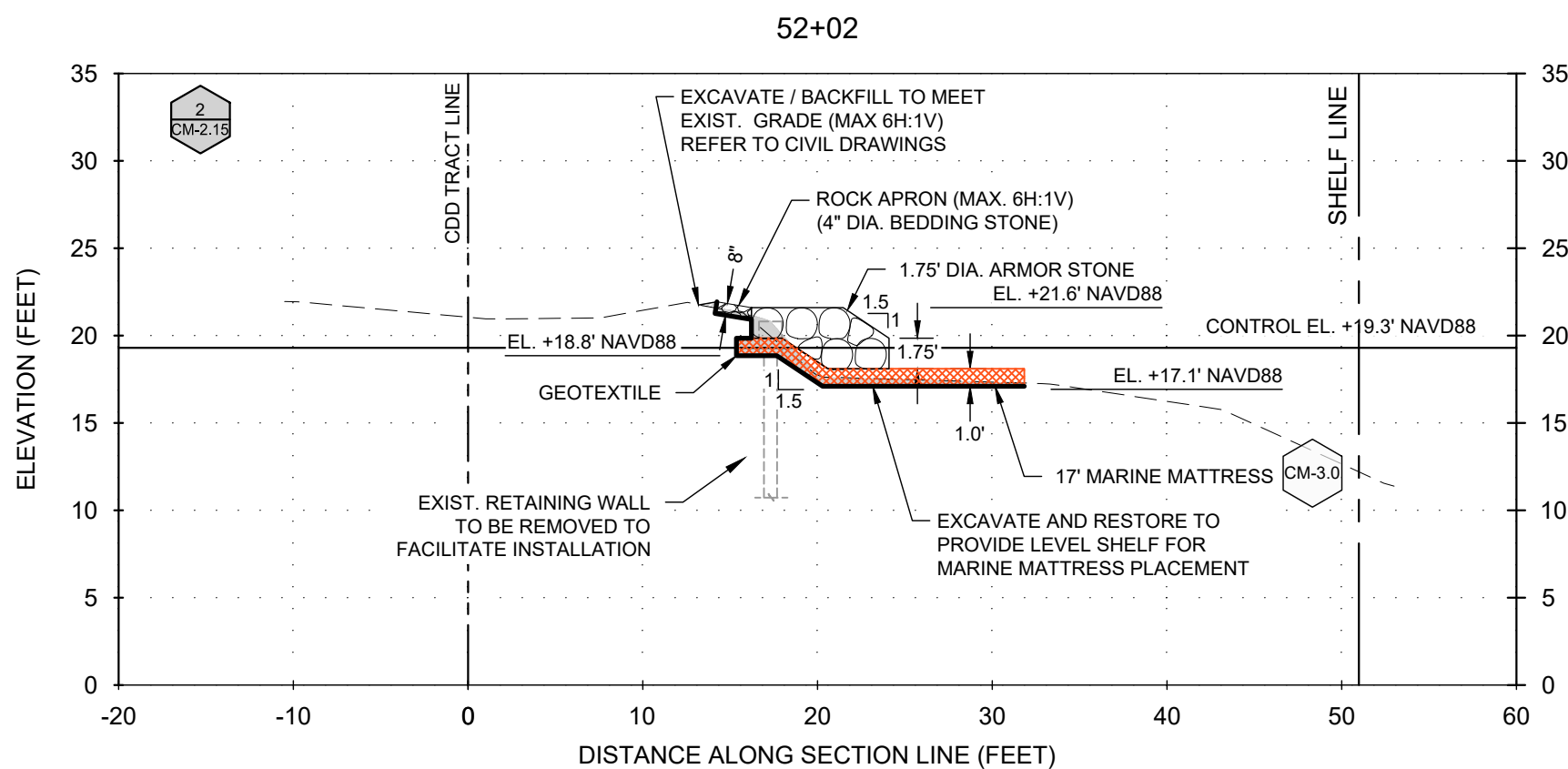
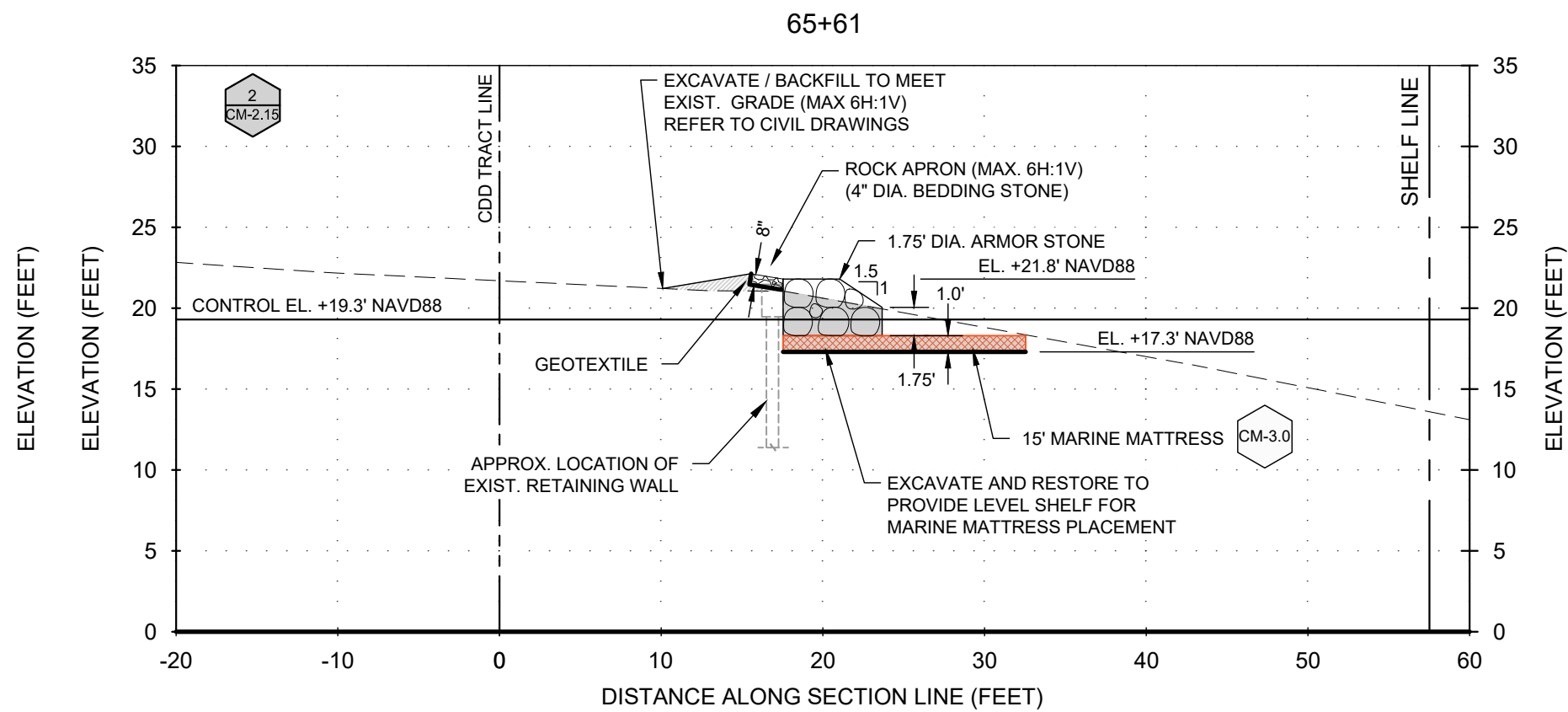
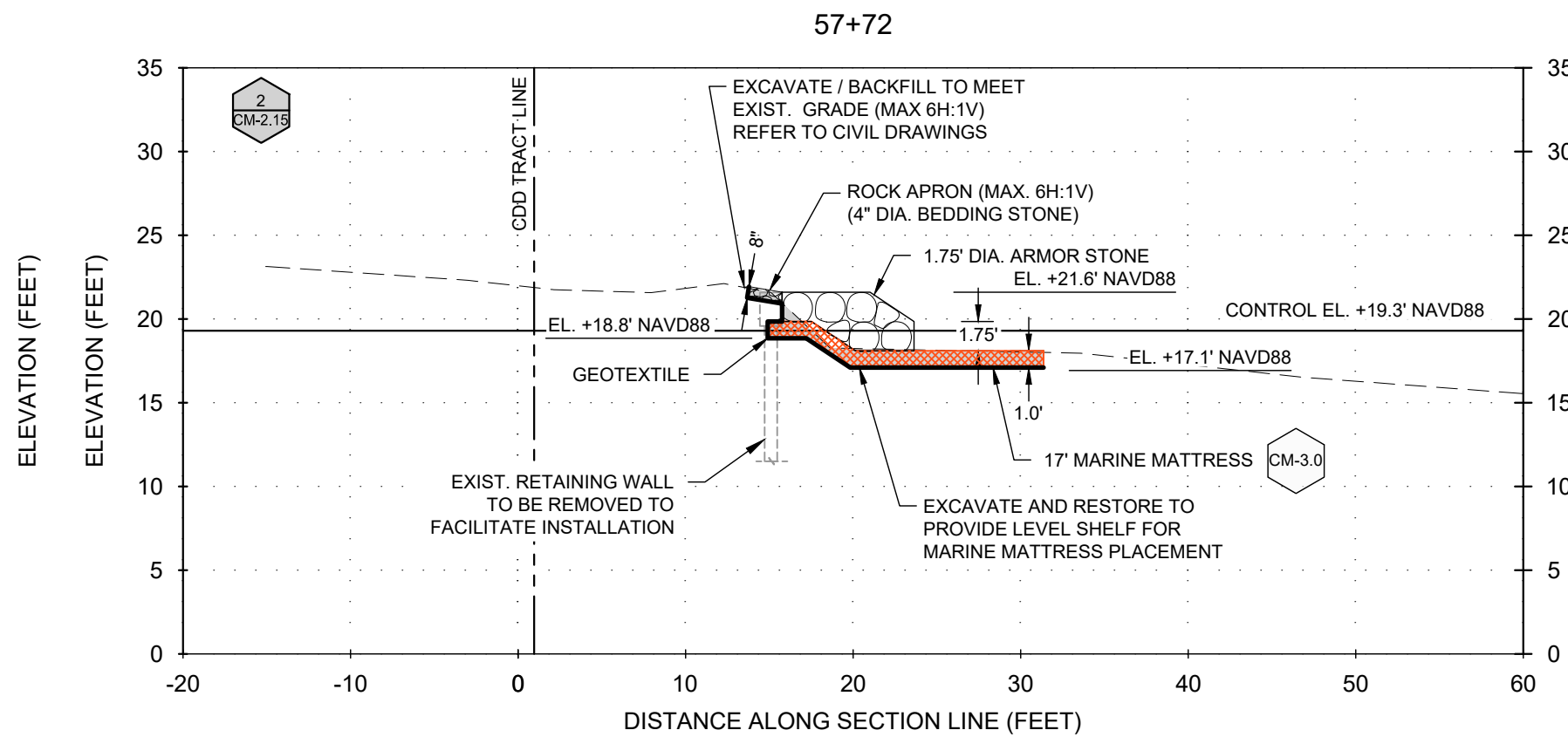
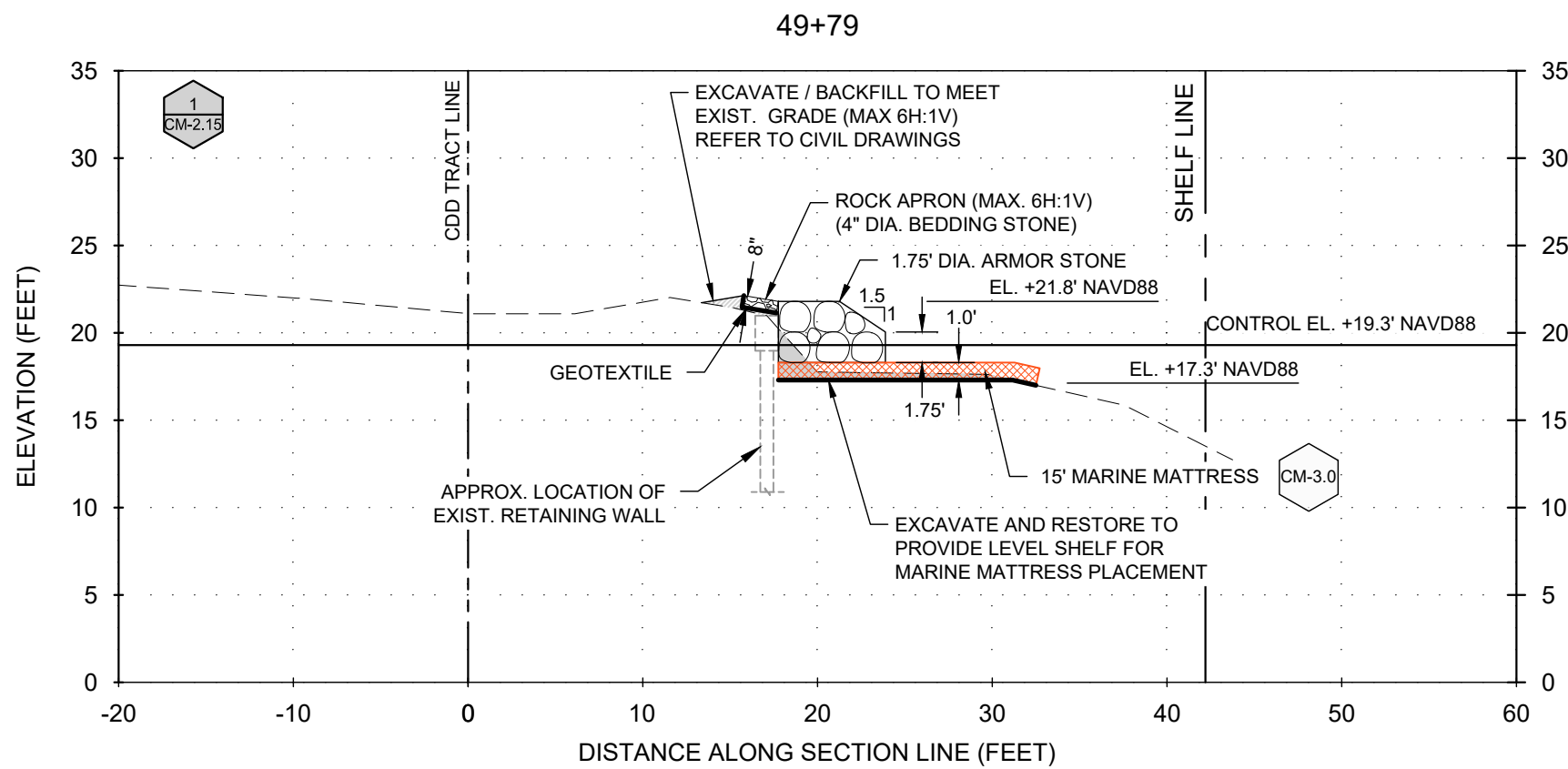
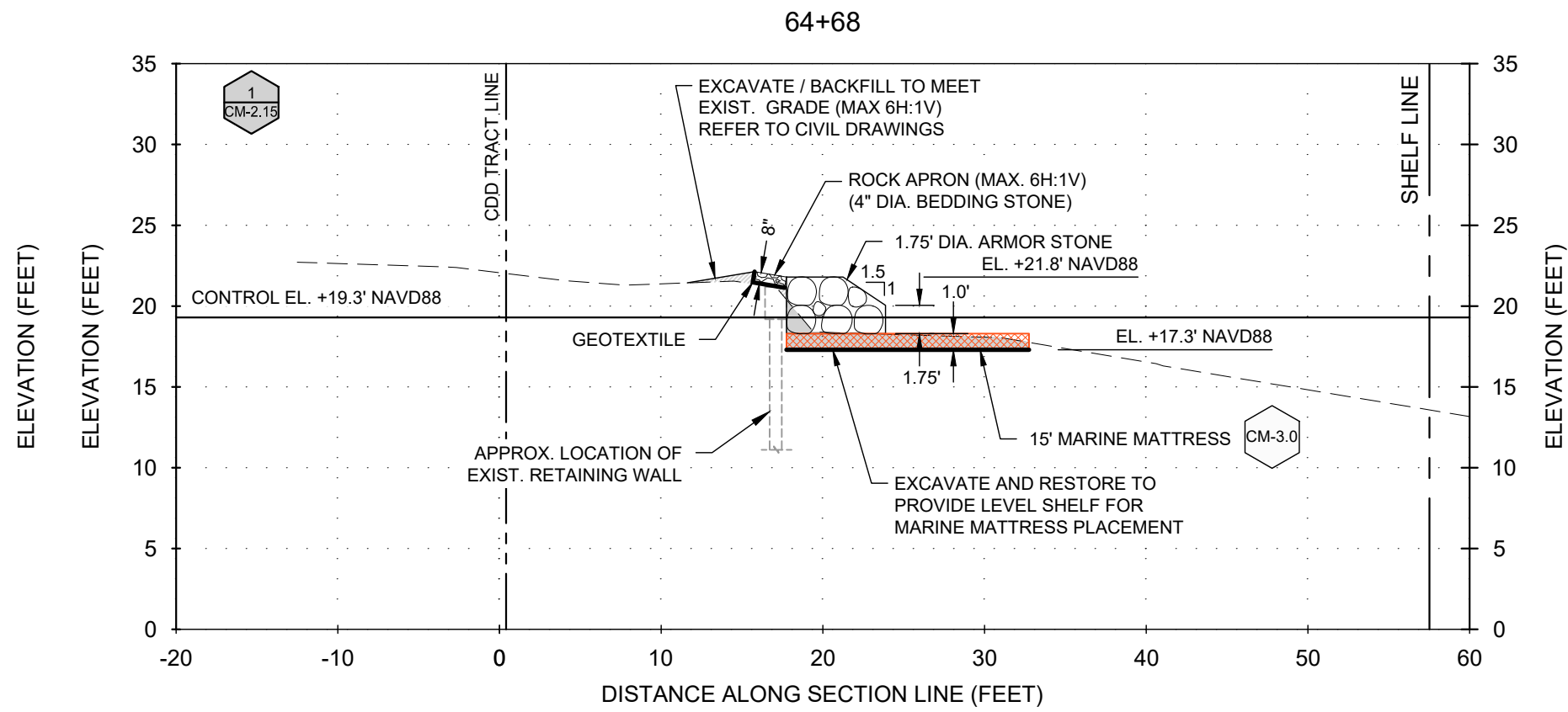
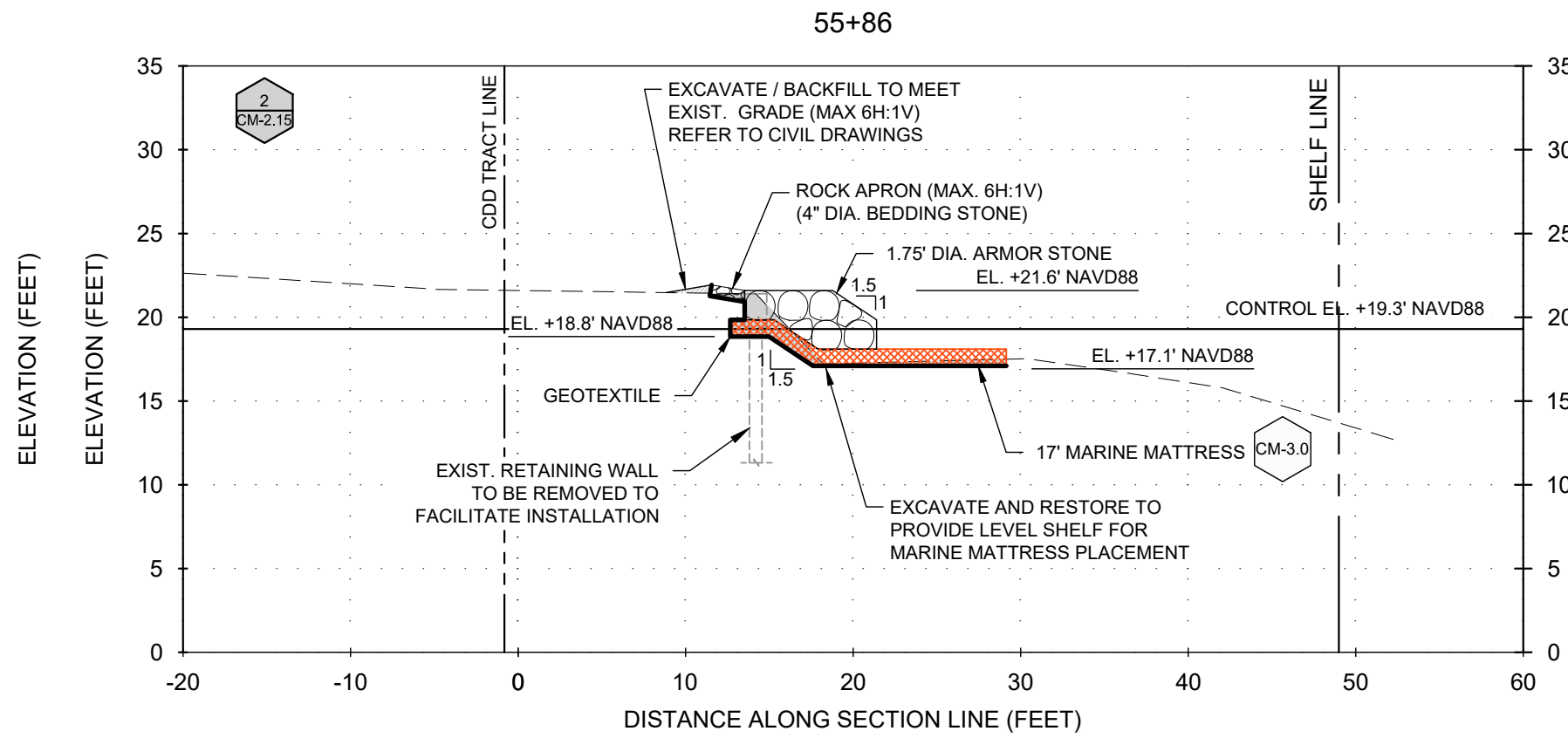
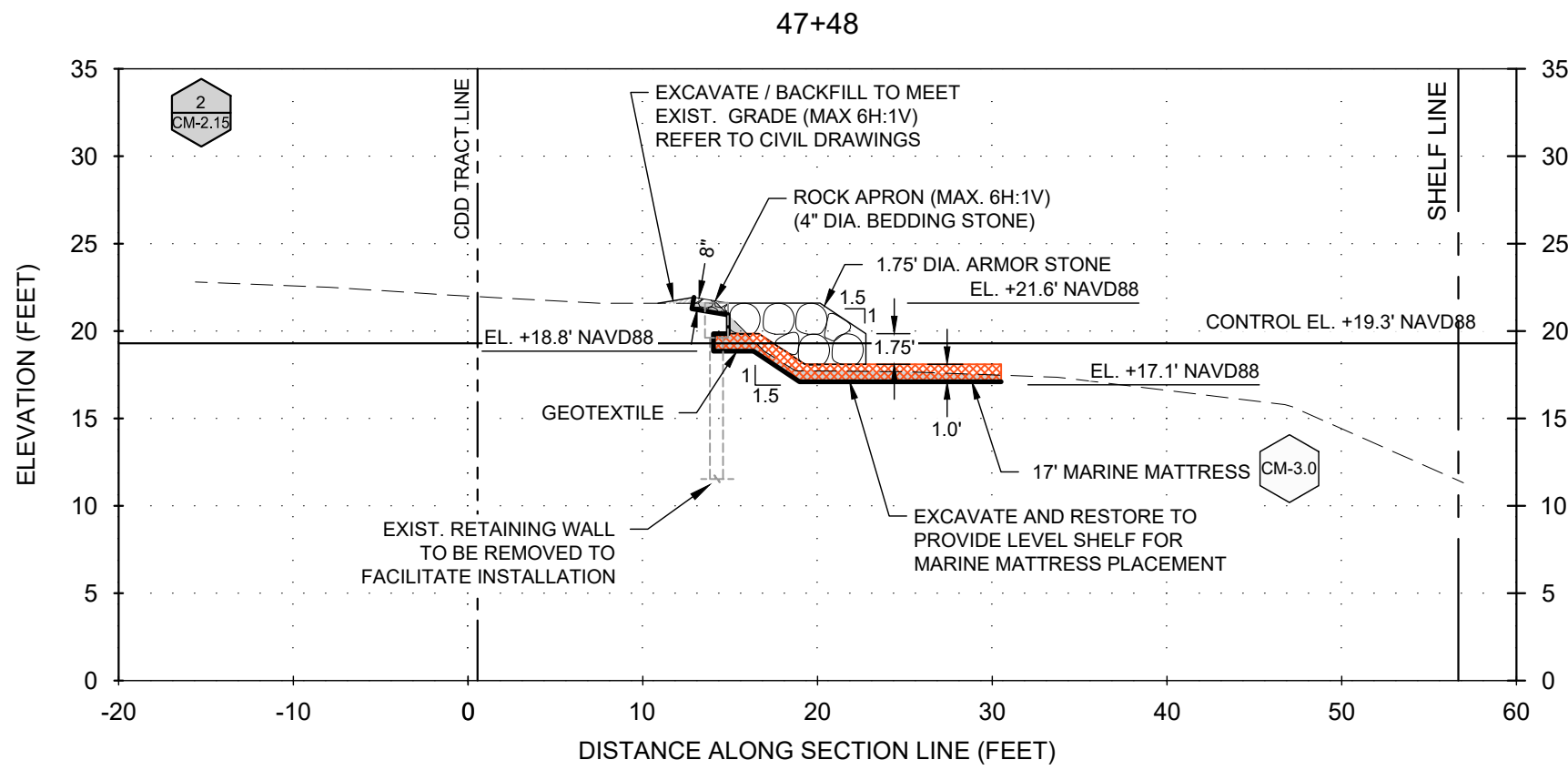
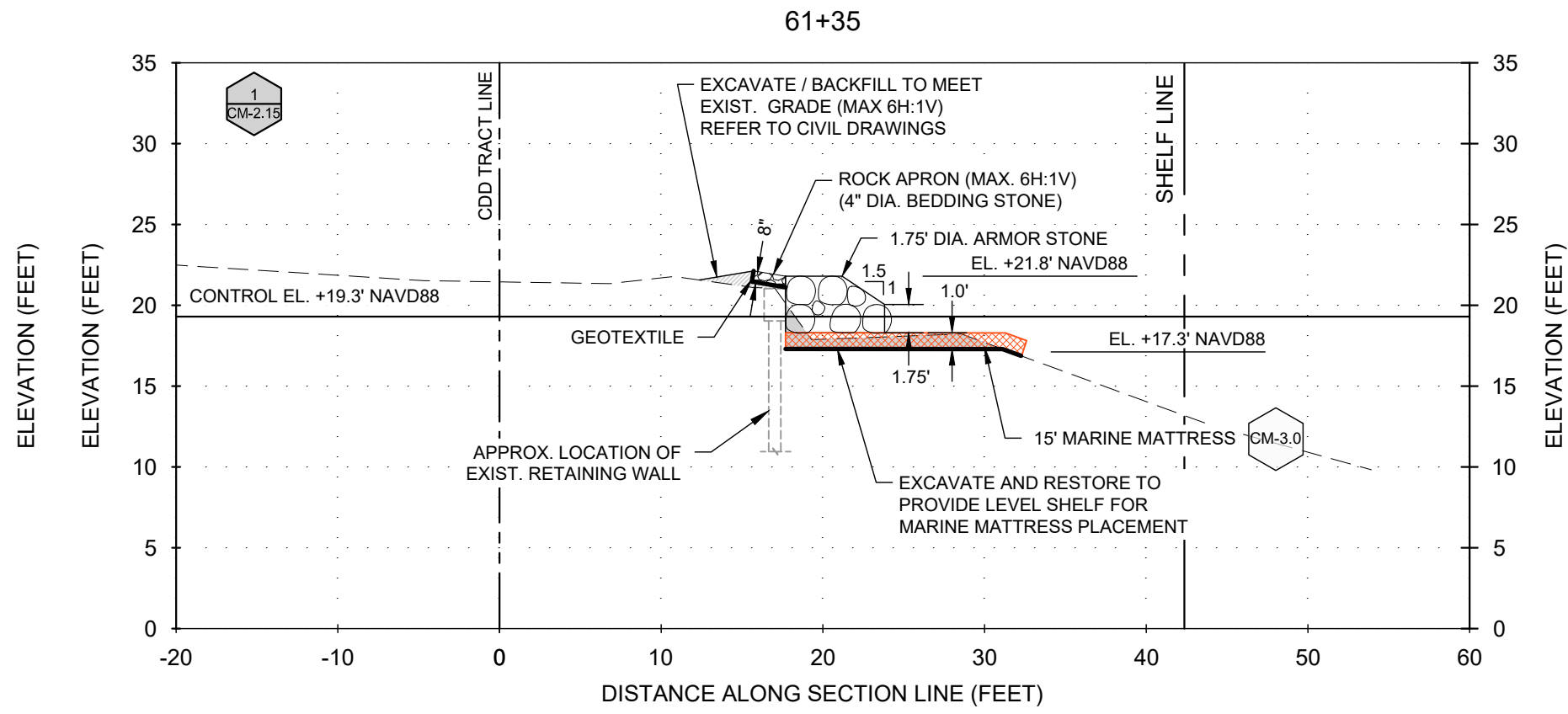
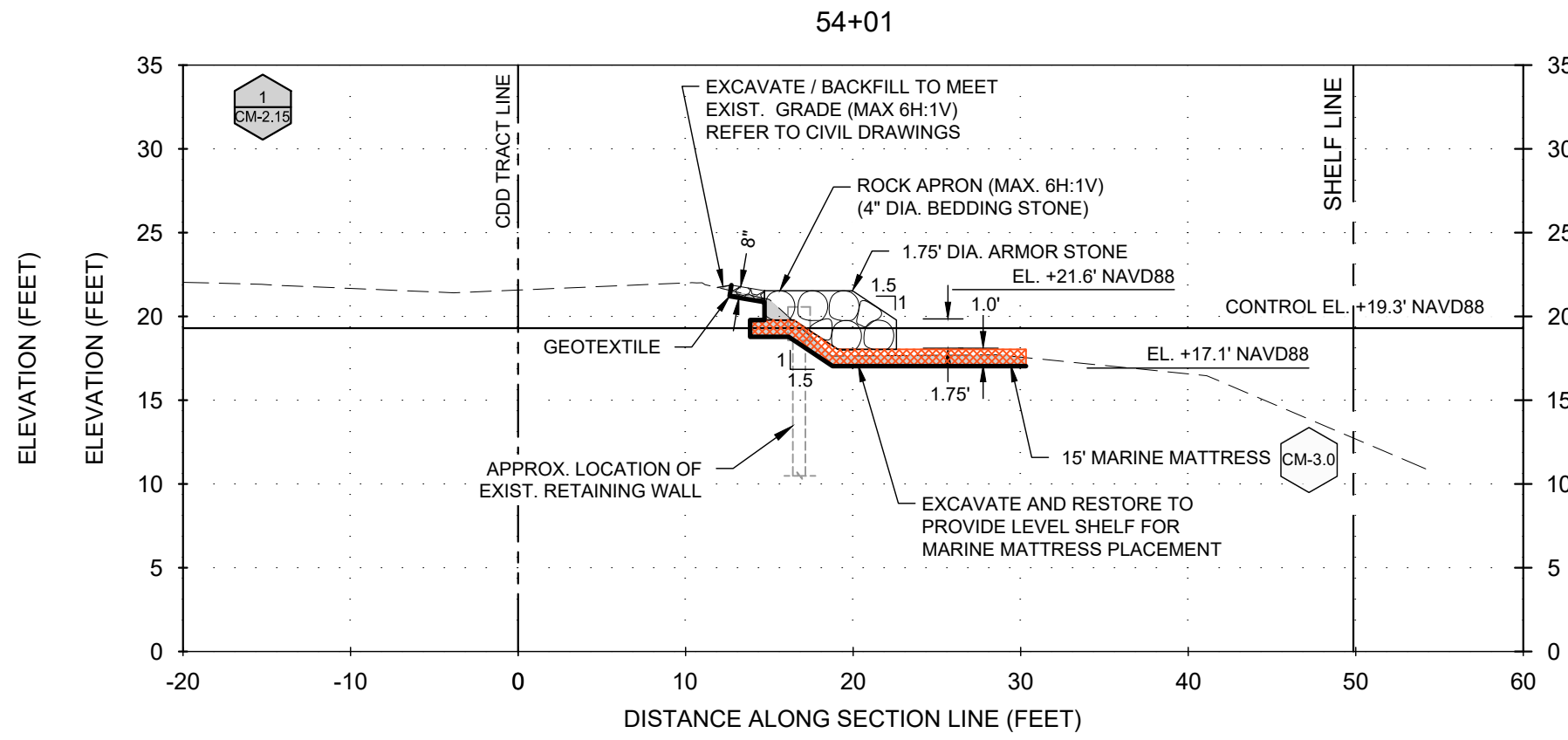
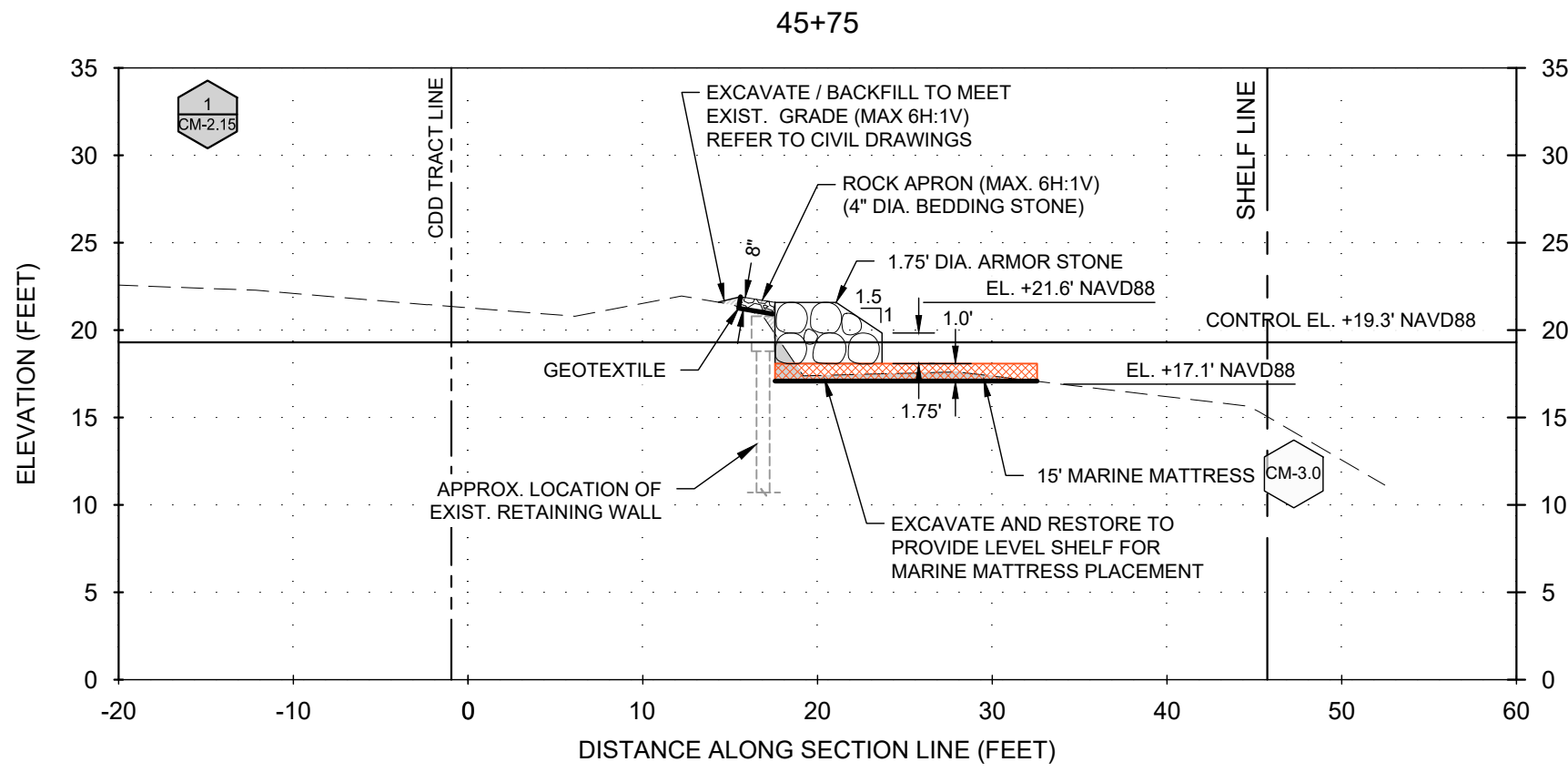
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DRAWN: GK
CHECKED: JPC
SCALE: REFERS TO 22X34 SHEET

SHEET TITLE

CROSS SECTION
(2 OF 3)

CM-2.2

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- NOTES:
- SURVEY PERFORMED BY: BARRACO AND ASSOCIATES, DATED 12/17/2024 THRU 12/18/2024 AND 07/09/2025 THRU 07/29/2025, AND 09/12/2025.
 - VERTICAL DATUM IS NORTH AMERICAN DATUM 1988 (NAVD88)

0 5 10
GRAPHIC SCALE IN FT

PROJECT:
**BLUE LAKE SHORELINE
STABILIZATION**

ADDRESS:
18701/18731 WILDBLUE BLVD
FORT MYERS, FL, 33913

CLIENT:
**BLUE LAKE COMMUNITY
DEVELOPMENT
DISTRICT**

ADDRESS:
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ENGINEER:
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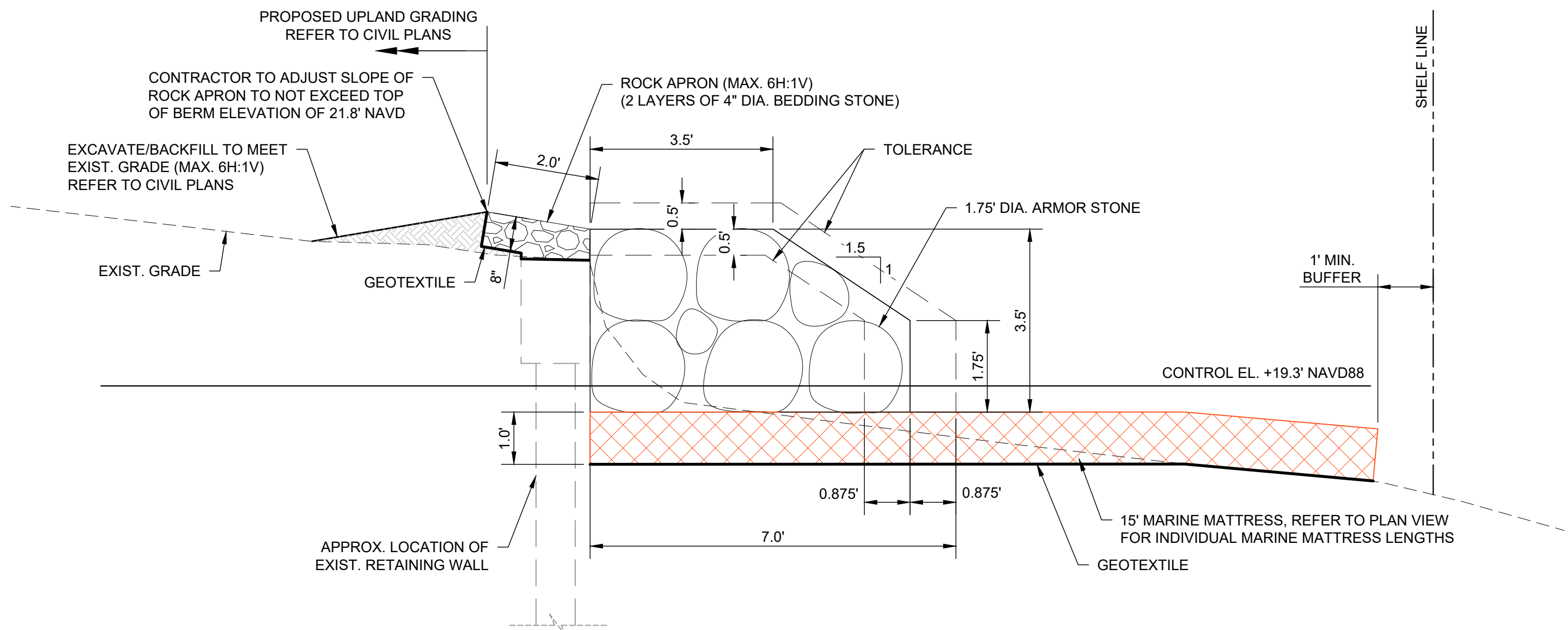
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			CONSTRUCTION DRAWINGS	CONSTRUCTION DRAWINGS		
1	02/10/2026					
	01/07/2028					

CC PROJECT NO:	126600
DRAWN	GK
CHECKED	JPC
SCALE	REFERS TO 22X34 SHEET

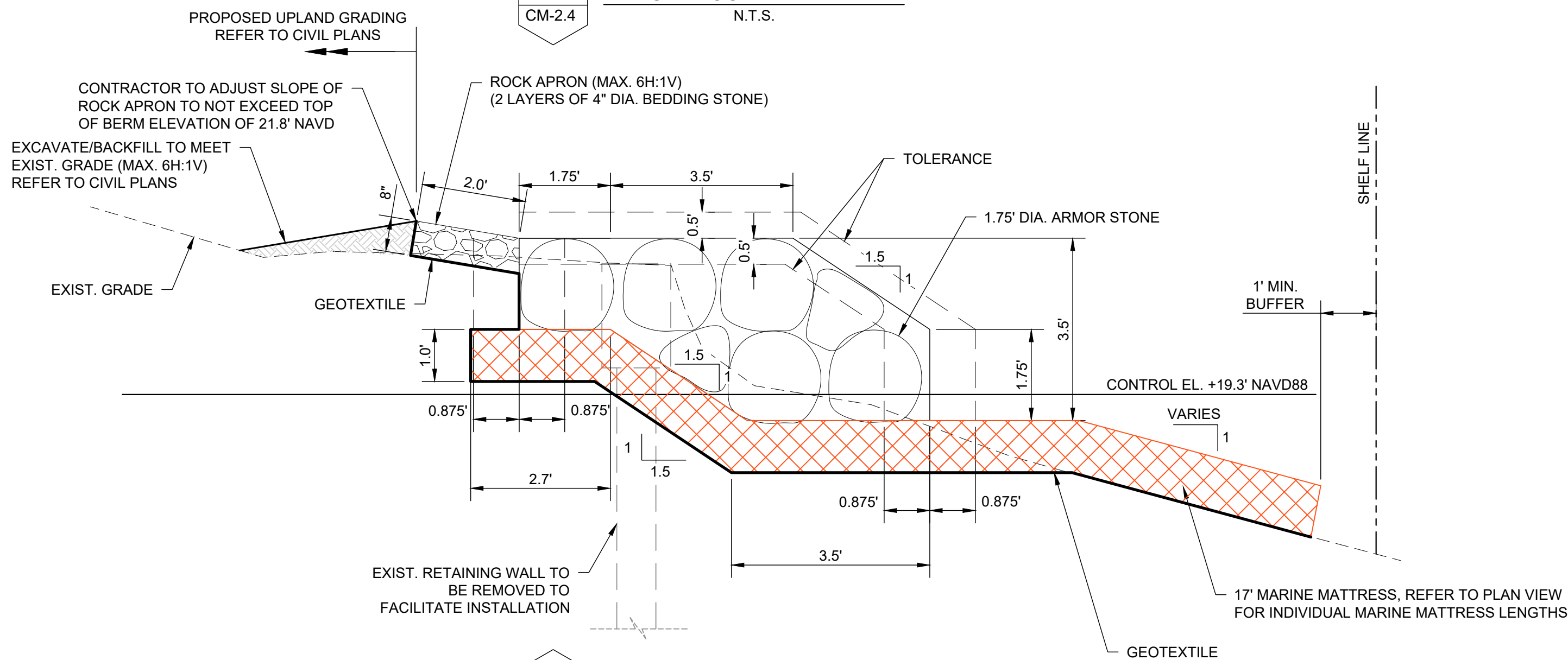
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**CROSS SECTION
(3 OF 3)**

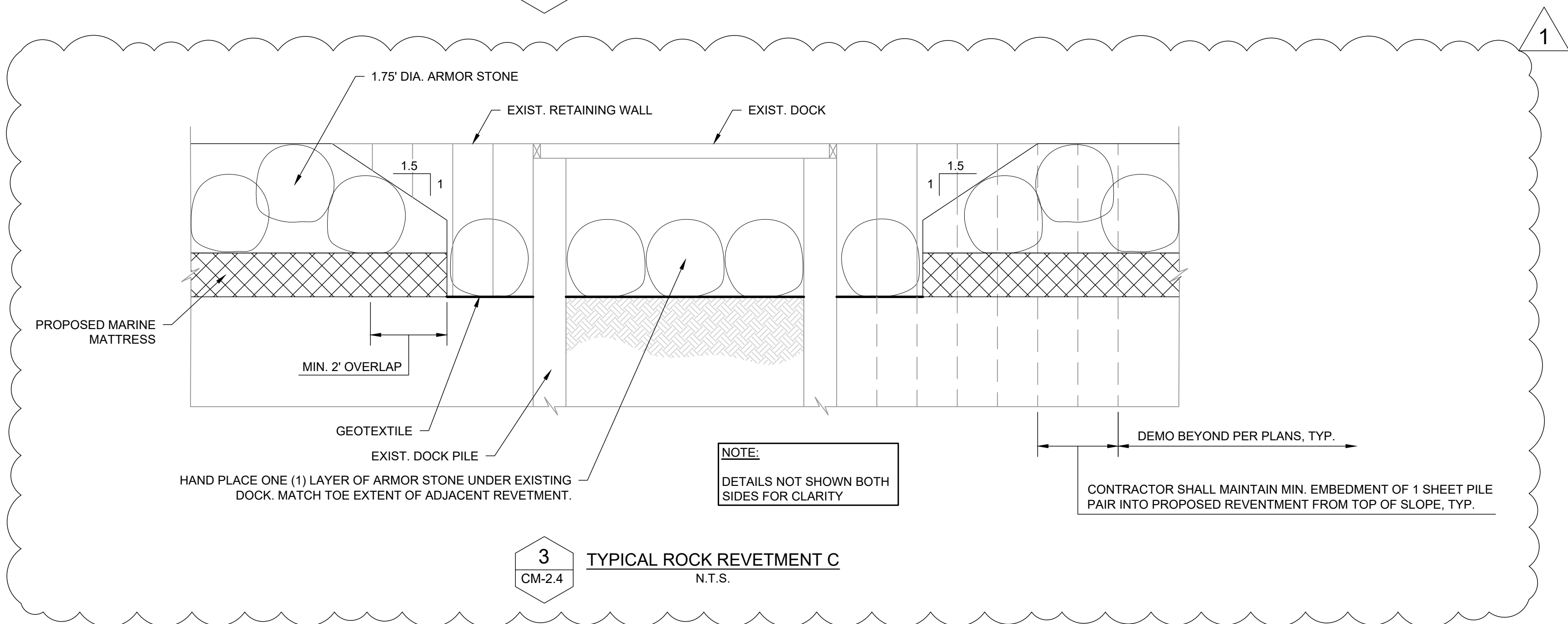
CM-2.3



1
CM-2.4
TYPICAL ROCK REVETMENT A
N.T.S.



2
CM-2.4
TYPICAL ROCK REVETMENT B
N.T.S.



3
CM-2.4
TYPICAL ROCK REVETMENT C
N.T.S.

0 5 10
GRAPHIC SCALE IN FT

PROJECT:
BLUE LAKE SHORELINE
STABILIZATION

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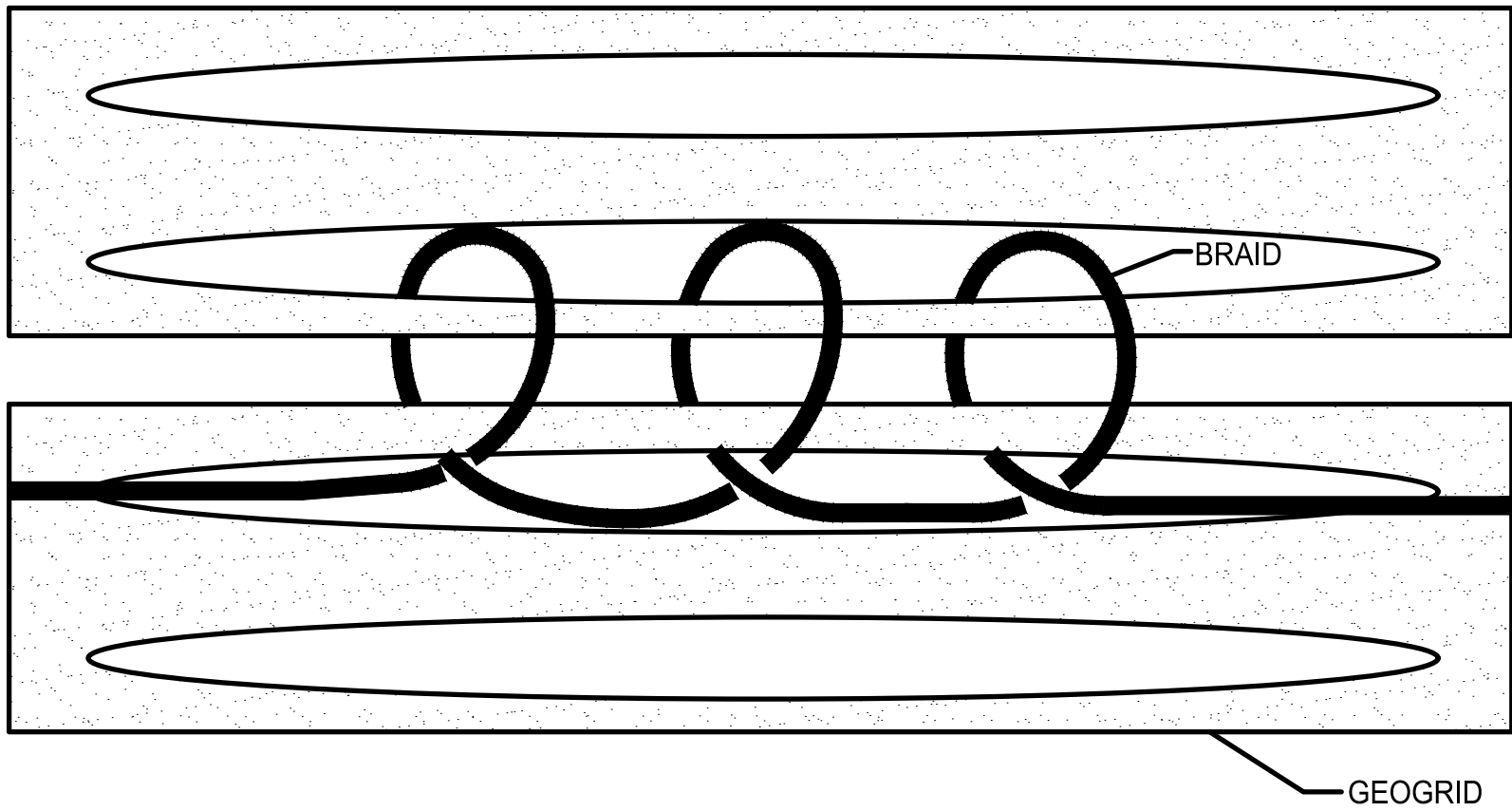
SEAL:

CONSTRUCTION DRAWINGS	CONSTRUCTION DRAWINGS	SUBMISSION / REVISION
02/10/2028	01/07/2028	DATE
1	ISSUE	

CC PROJECT NO:	126600
DRAWN	GK
CHECKED	JPC
SCALE	REFERS TO 22X34 SHEET

SHEET TITLE
ROCK REVETMENT
TYPICAL SECTIONS

CM-2.4



NOTES:

ALL CUT ENDS OF BRAID MATERIAL SHALL BE KNOTTED WITHIN 1/2" TO 2" OF THE END TO PREVENT RAVELING OF BRAID.

AT ALL ENDS OF ALL BRAIDED SEAMS THE BRAID SHALL BE SECURELY KNOTTED TO THE GEOGRID.

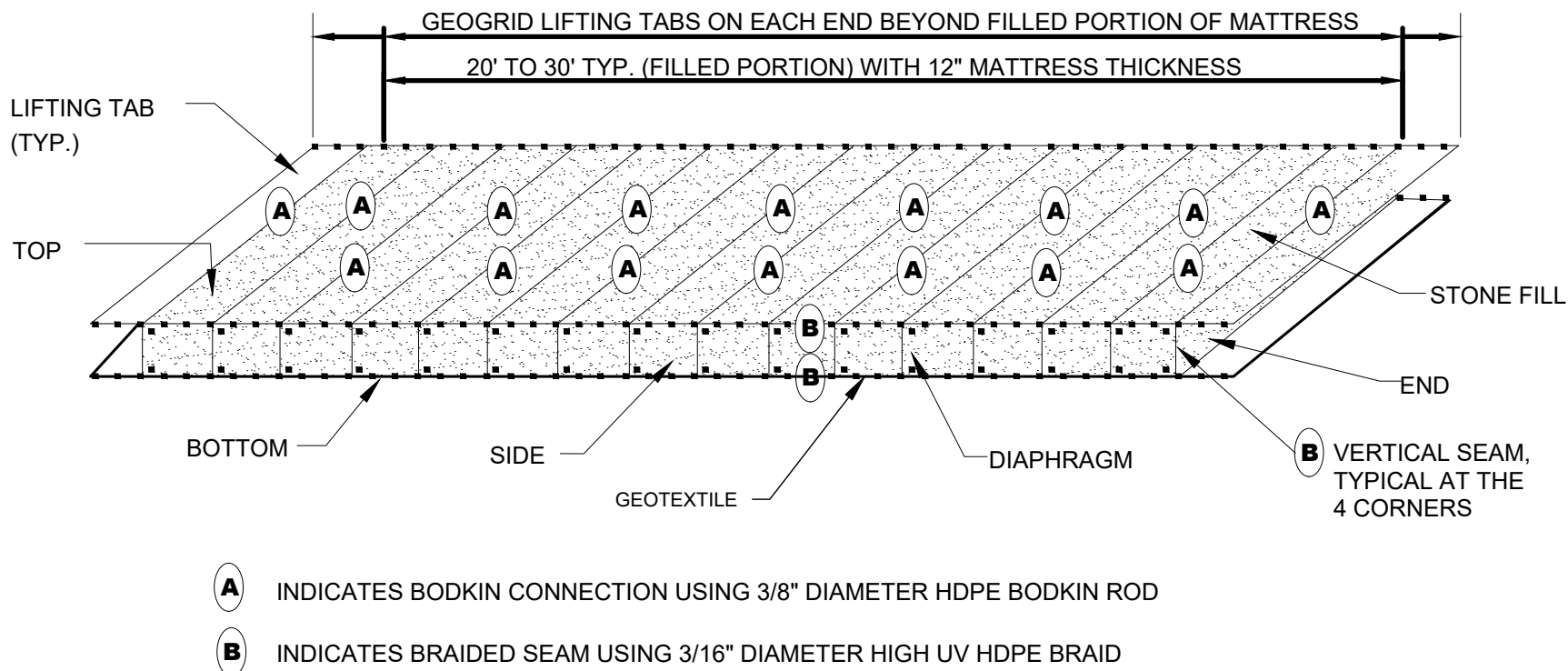
AT ALL ENDS OF ALL PIECES OF BRAID MATERIAL USED, THE BRAID SHALL BE KNOTTED TO SPLICE IT TO THE NEXT PIECE OF BRAID, OR TO SECURE IT TO THE GEOGRID. EACH BRAIDED SEAM SHALL BE CONTINUOUS, WITH SECURELY KNOTTED SPLICES ALLOWED. THE BRAID SHALL BE SECURELY KNOTTED TO THE GEOGRID AT A SPACING NOT TO EXCEED 6 FT ALONG ANY SEAM.

THE BRAID SHALL BE STITCHED THROUGH EACH PAIR OF APERTURES ALONG THE SEAM AT LEAST ONCE, AND THE MINIMUM NUMBER OF STITCHES PER FOOT ALONG THE SEAM SHALL BE SIX (6). THE SPACING OF STITCHES ALONG EACH SEAM SHALL BE REASONABLY UNIFORM.

ALL KNOTS SHALL BE TIED IN A MANNER TO PREVENT SLIPPING AND CINCHING.

THE WRAPS ALONG THE SEAM SHALL BE SUFFICIENTLY TIGHT TO CLOSE THE GAP BETWEEN THE ADJACENT PIECES OF GEOGRID, BUT SHALL NOT BE OVER-TIGHTENED SUCH THAT THE GEOGRID BINDS ALONG THE SEAM.

TYPICAL STITCHED SEAM DETAILS



NOTES:

ENDS, TOP, BOTTOM, SIDES AND ANY EXTRA LENGTH USED FOR LIFTING OR ANCHORING PURPOSES SHALL BE COMPOSED OF TENSAR UXTRITON 200 GEOGRID.

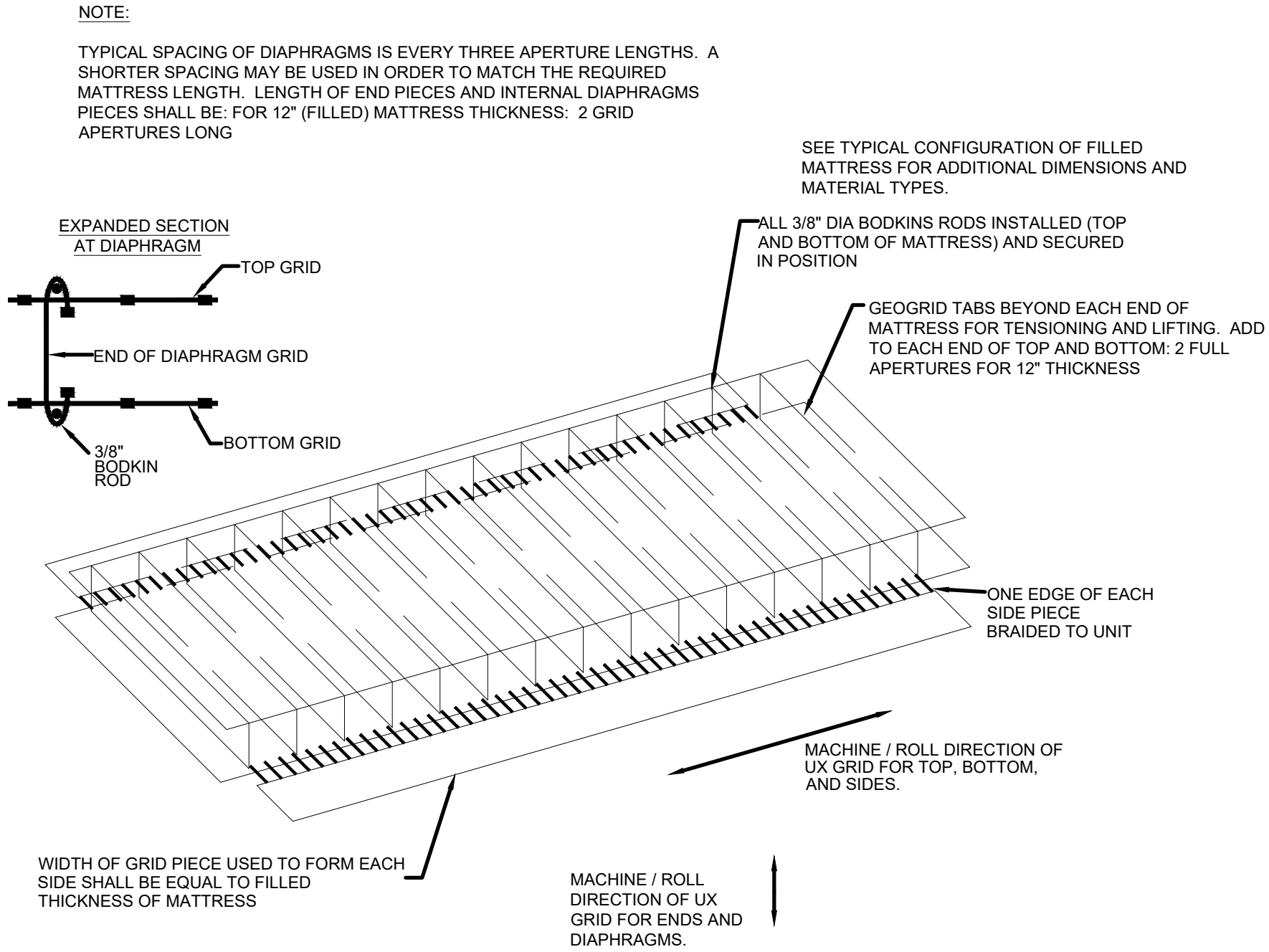
INTERNAL DIAPHRAGMS SHALL BE COMPOSED OF TENSAR UXTRITON 100 GEOGRID.

NOMINAL WIDTH OF UNITS: 5FT (FILLED), 4.3 FT (UNFILLED).

TYPICAL THICKNESS (FILLED): 12 INCHES

PLASTIC CABLES TIES MAY BE USED TO SECURE BODKIN CONNECTORS IN POSITION PRIOR TO TENSIONING OR FILLING OF MATTRESS UNITS.

TYPICAL CONFIGURATION OF FILLED MATTRESS UNITS



NOTE:

1. CONTRACTOR SHALL UTILIZE MARINE MATTRESS WITH PRE-ATTACHED GEOTEXTILE FABRIC. ATTACH GEOTEXTILE TO BOTTOM AND SIDES OF FILLED MATTRESS USING POLYMERIC CABLE TIES (HOG RINGS ARE ALSO ACCEPTABLE). GEOTEXTILE SHALL BE LAPPED A MINIMUM OF 2 FEET AT ENDS AND SIDES OF ADJOINING MATTRESS UNITS. QUANTITY OF GEOTEXTILE FABRIC SHOWN ON SHEET 2.0 IS EXCLUSIVE OF GEOTEXTILE AFFIXED TO MARINE MATTRESSES.

TRITON® COASTAL & WATERWAY SYSTEMS

(2026-02-11)C 126600 BLUE LAKE SHORLINE.DWG

Tensar

Tensar International Corporation | 2500 Northwinds Parkway, Suite 500 | Alpharetta, Georgia 30009
Toll Free: 1-888-828-5126 | Phone: 770-344-2090 | Fax: 770 344-2089 | www.tensarcorp.com

THIS DRAWING IS BASED UPON SPECIFIC PROPERTIES OF TENSAR PRODUCTS (GEOGRIDS, DRAINAGE COMPOSITES AND EROSION MEDIA), WHICH ARE PROPRIETARY TO TENSAR CORPORATION 1210 CITIZENS PARKWAY, MORROW, GA, 30280 AND ARE PROTECTED BY US AND INTERNATIONAL PATENTS, AND LICENSING AGREEMENTS. YOUR USE OF THE INFORMATION CONSTITUTES YOUR ACKNOWLEDGMENT OF THE PROPRIETARY NATURE OF THESE DRAWINGS AND THE TECHNOLOGY.

PROJECT:
BLUE LAKE SHORELINE
STABILIZATION

ADDRESS:
18701/18731 WILDBLUE BLVD
FORT MYERS, FL, 33913

CLIENT:
BLUE LAKE COMMUNITY
DEVELOPMENT
DISTRICT

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SEAL:

CONSTRUCTION DRAWINGS	CONSTRUCTION DRAWINGS	SUBMISSION / REVISION
1	02/10/2026	01/07/2026
ISSUE	DATE	

CC PROJECT NO:	126600
DRAWN	GK
CHECKED	JPC
SCALE	REFERS TO 22X34 SHEET

SHEET TITLE

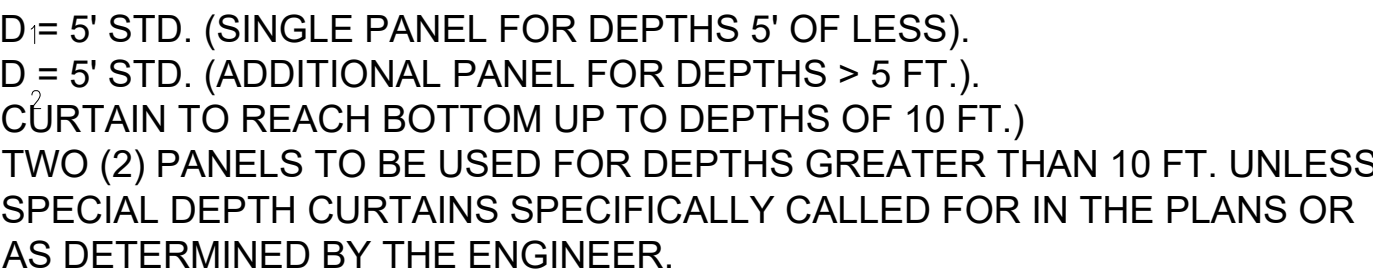
MARINE MATTRESS
DETAILS

CM-3.0

ADDRESS:
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FORT MYERS, FL, 33913

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#253
BONITA SPRINGS, FL 34134

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Coastal & Marine Engineering



1	FLOATING TURBIDITY BARRIER N.T.S
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[illegible]

CC PROJECT NO:	126600
DRAWN	GK
CHECKED	JPC
SCALE	REFERS TO 22X34 SHEET

SHEET TITLE

TURBIDITY
CONTAINMENT
DETAIL

CM-3.1