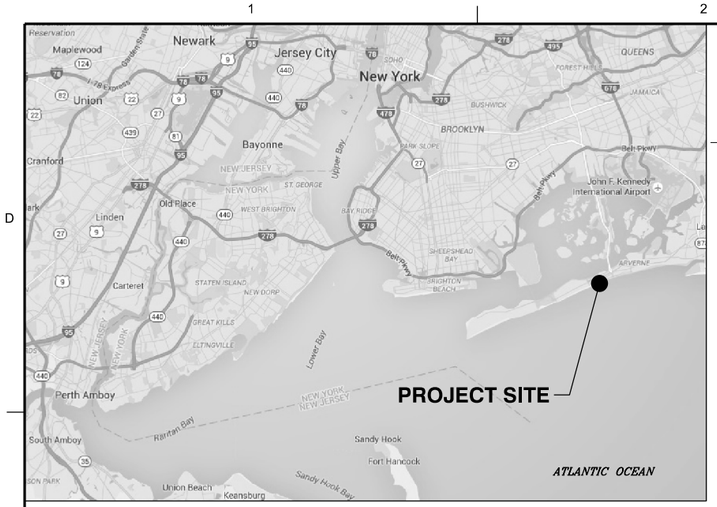
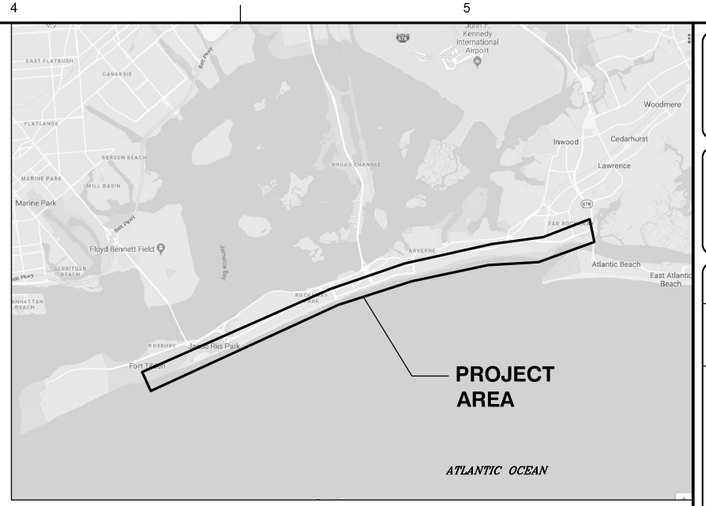


VICINITY MAP
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INTEGRATED HURRICANE SANDY GENERAL RE-EVALUATION REPORT AND ENVIRONMENTAL IMPACT STATEMENT

ATLANTIC COAST OF NEW YORK



LOCATION PLAN
NTS

EAST ROCKAWAY INLET TO ROCKAWAY INLET

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36	CS-410	TYPICAL SECTIONS GROIN CONSTRUCTION REACH 6A

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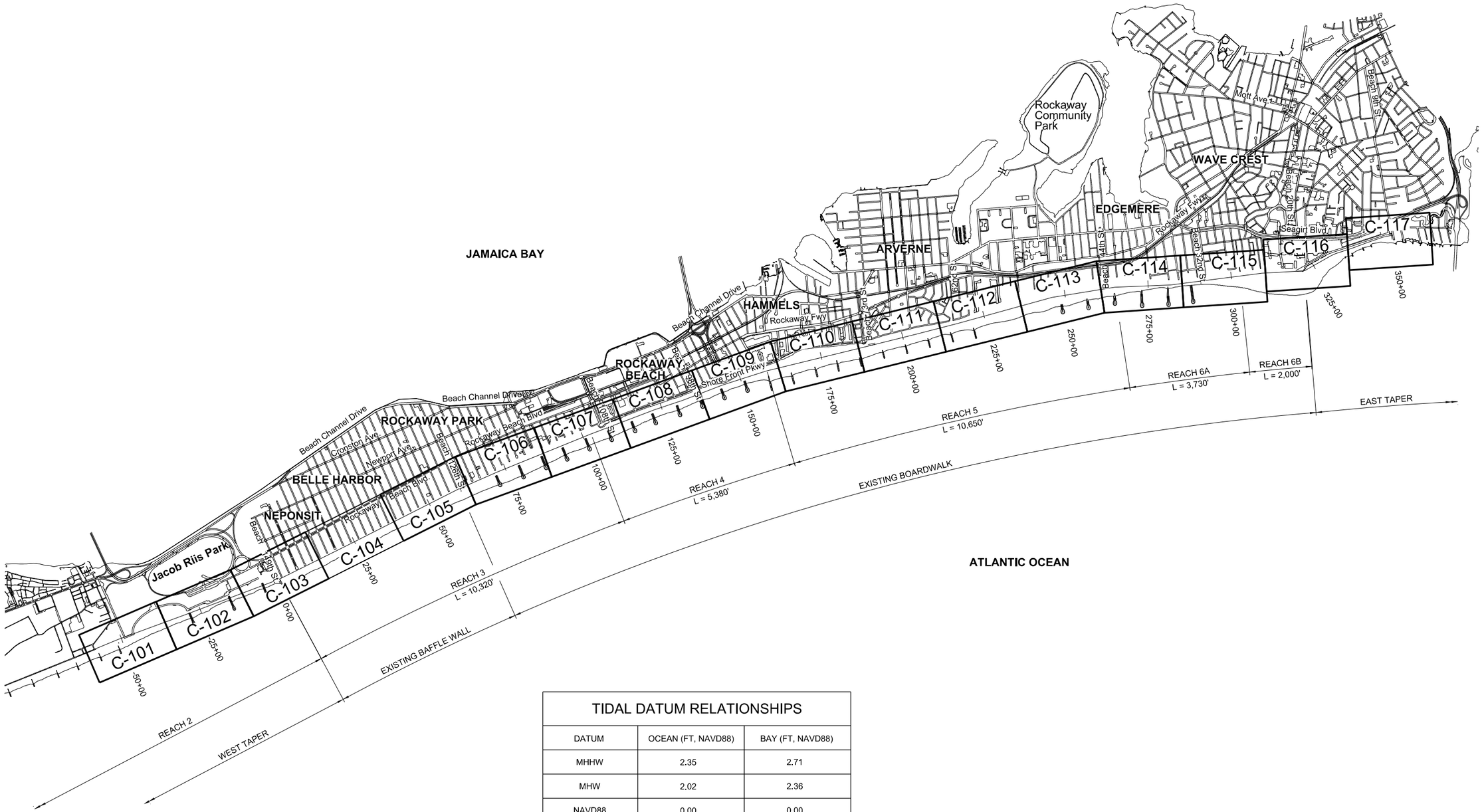
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INTEGRATED HURRICANE SANDY GENERAL RE-EVALUATION REPORT AND ENVIRONMENTAL IMPACT STATEMENT

COVER SHEET

SHEET ID
G-001

SHEET 1 OF 36



TIDAL DATUM RELATIONSHIPS		
DATUM	OCEAN (FT, NAVD88)	BAY (FT, NAVD88)
MHHW	2.35	2.71
MHW	2.02	2.36
NAVD88	0.00	0.00
MSL	-0.22	-0.23
NGVD29	-1.11	-1.11
MLW	-2.54	-2.84
MLLW	-2.73	-3.04

NOTE: TIDAL DATUMS BASED ON NOAA'S VDATUM 1983-2001 EPOCH

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0 1500' 3000'
SCALE:1"=1500'

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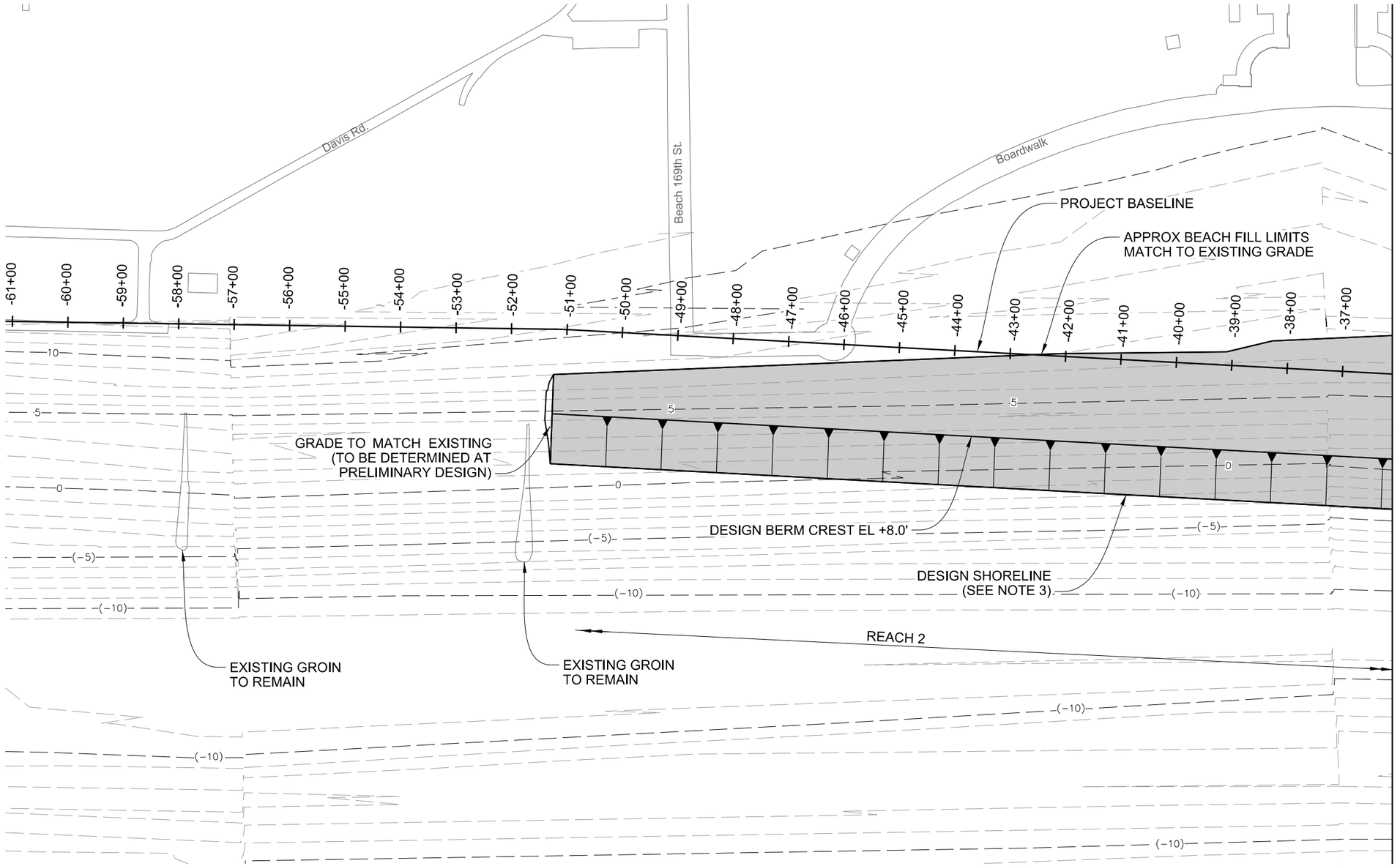
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SHEET KEY PLAN

SHEET ID
G-002
SHEET 2 OF 36

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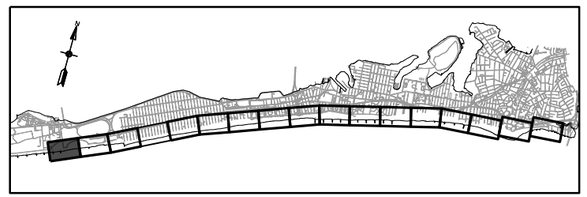


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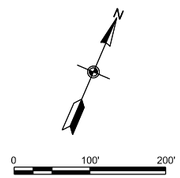
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4. SECTIONS SHOWN ON SHEETS CS-301 TO CS-307.
5. GROIN PLAN PROFILES AND SECTIONS SHOWN ON SHEETS CS-401 TO CS-410.
6. BEACH CONSTRUCTION TEMPLATE WILL EXTEND TO EXISTING GRADE AND IS NOT SHOWN FOR CLARITY.

LEGEND

- BASELINE
- SHEET PILE WALL
- BURIED SEAWALL
- BEACH FILL
- SPLASH APRON
- EXISTING BAFFLE WALL
- (4) EXISTING CONTOURS (BATHYMETRY)



KEY PLAN



SCALE:1"=100'

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MARK	DESCRIPTION	DATE	APPR.

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DRN BY: ME
SUBMITTED BY: SA
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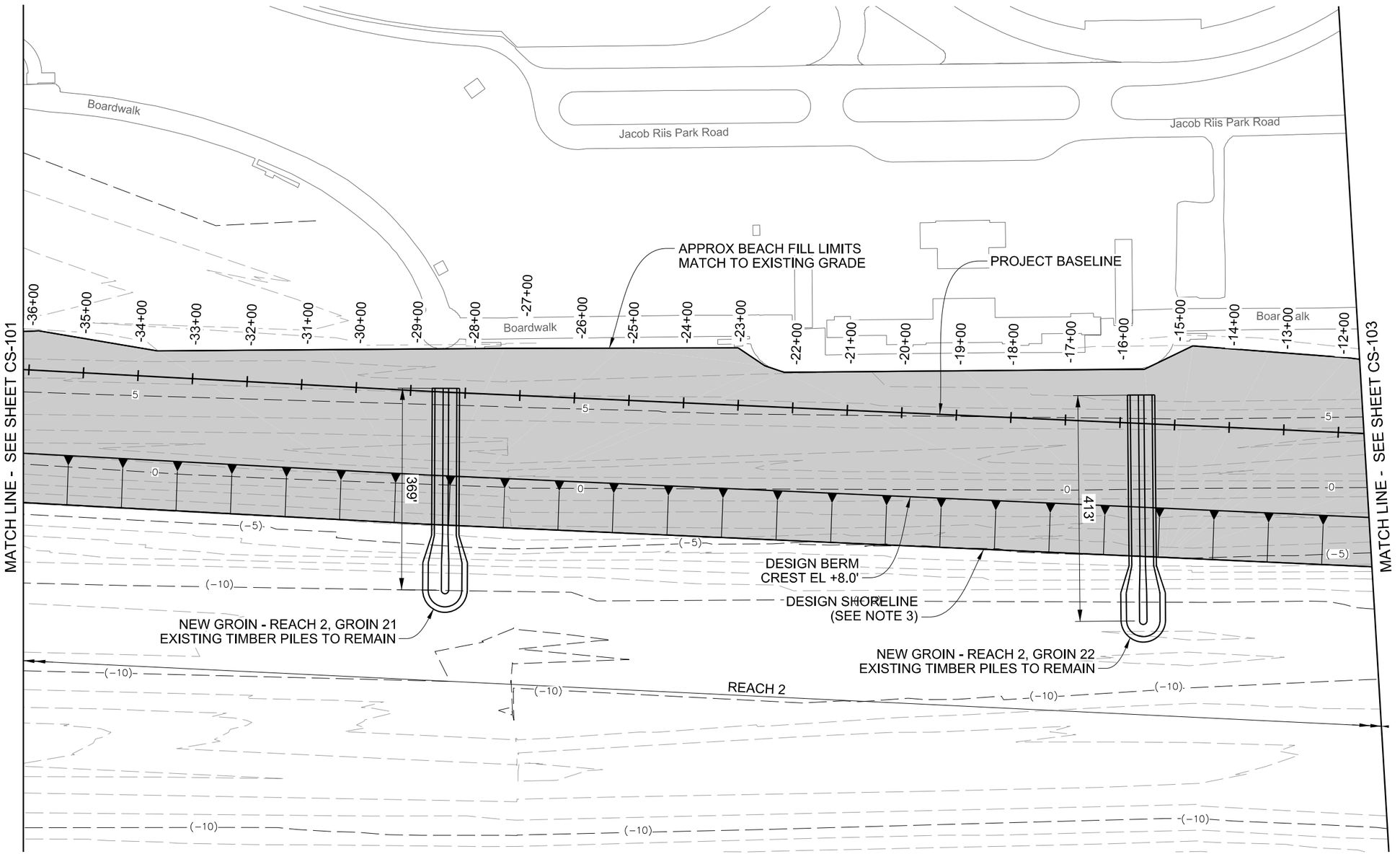
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SITE PLAN (1 OF 17)

SHEET ID
CS-101
SHEET 3 OF 36

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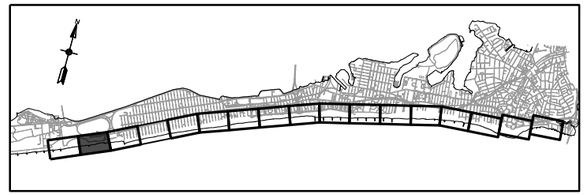


NOTES

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5. GROIN PLAN PROFILES AND SECTIONS SHOWN ON SHEETS CS-401 TO CS-410.
6. BEACH CONSTRUCTION TEMPLATE WILL EXTEND TO EXISTING GRADE AND IS NOT SHOWN FOR CLARITY.

LEGEND

- BASELINE
- SHEET PILE WALL
- BURIED SEAWALL
- BEACH FILL
- SPLASH APRON
- EXISTING BAFFLE WALL
- (4) EXISTING CONTOURS (BATHYMETRY)



KEY PLAN

SCALE:1"=100'

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A	DRAFT FINAL GRR-APPENDIX A1.B	07.19.18	MK

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DWN BY: ME
CKD BY: MK
SUBMITTED BY: SA
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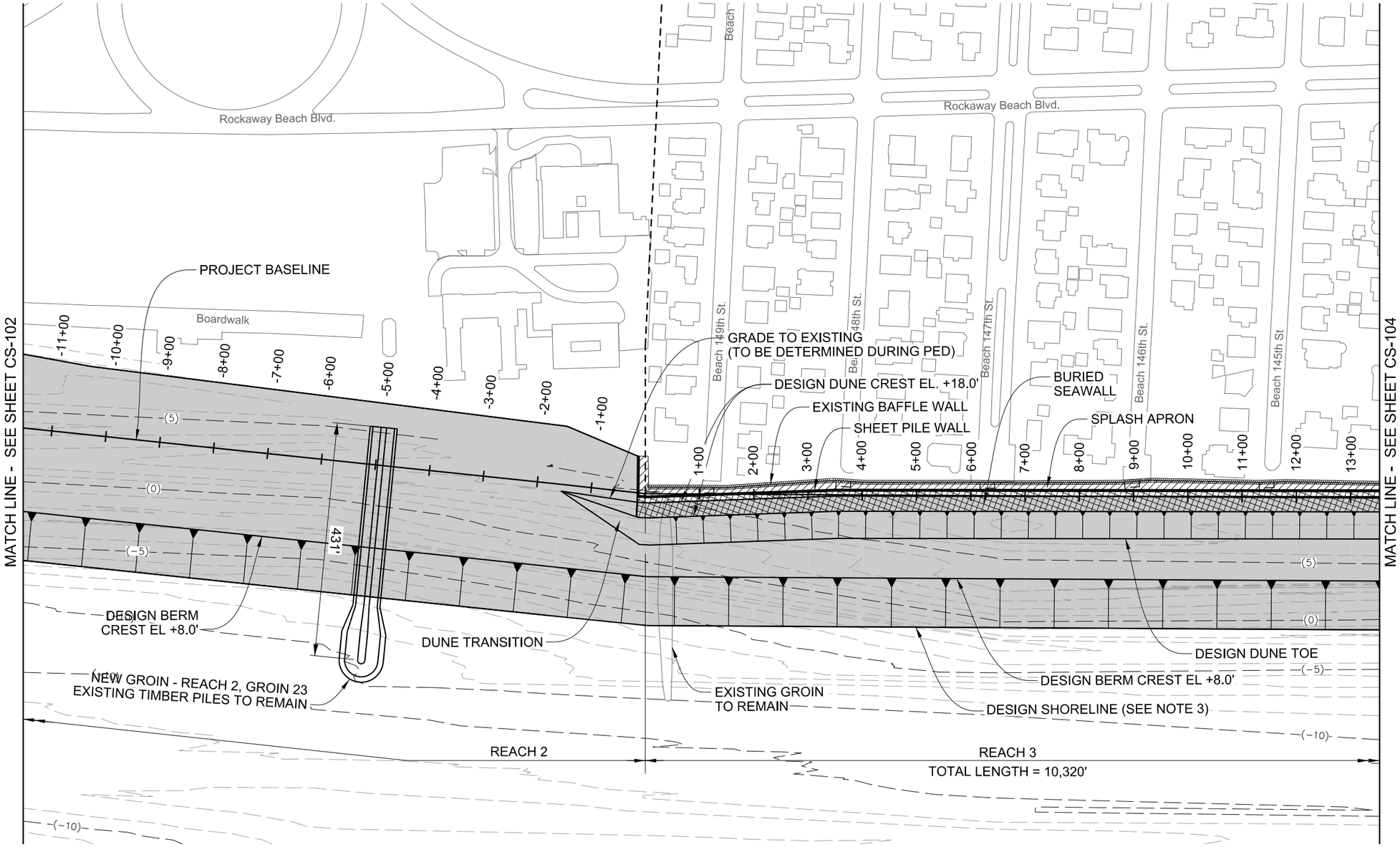
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SHEET 4 OF 36

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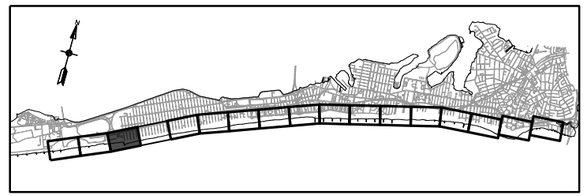
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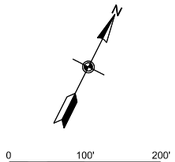
LEGEND

- BASELINE
- SHEET PILE WALL
- BURIED SEAWALL
- BEACH FILL
- SPLASH APRON
- EXISTING BAFFLE WALL
- (4) EXISTING CONTOURS (BATHYMETRY)

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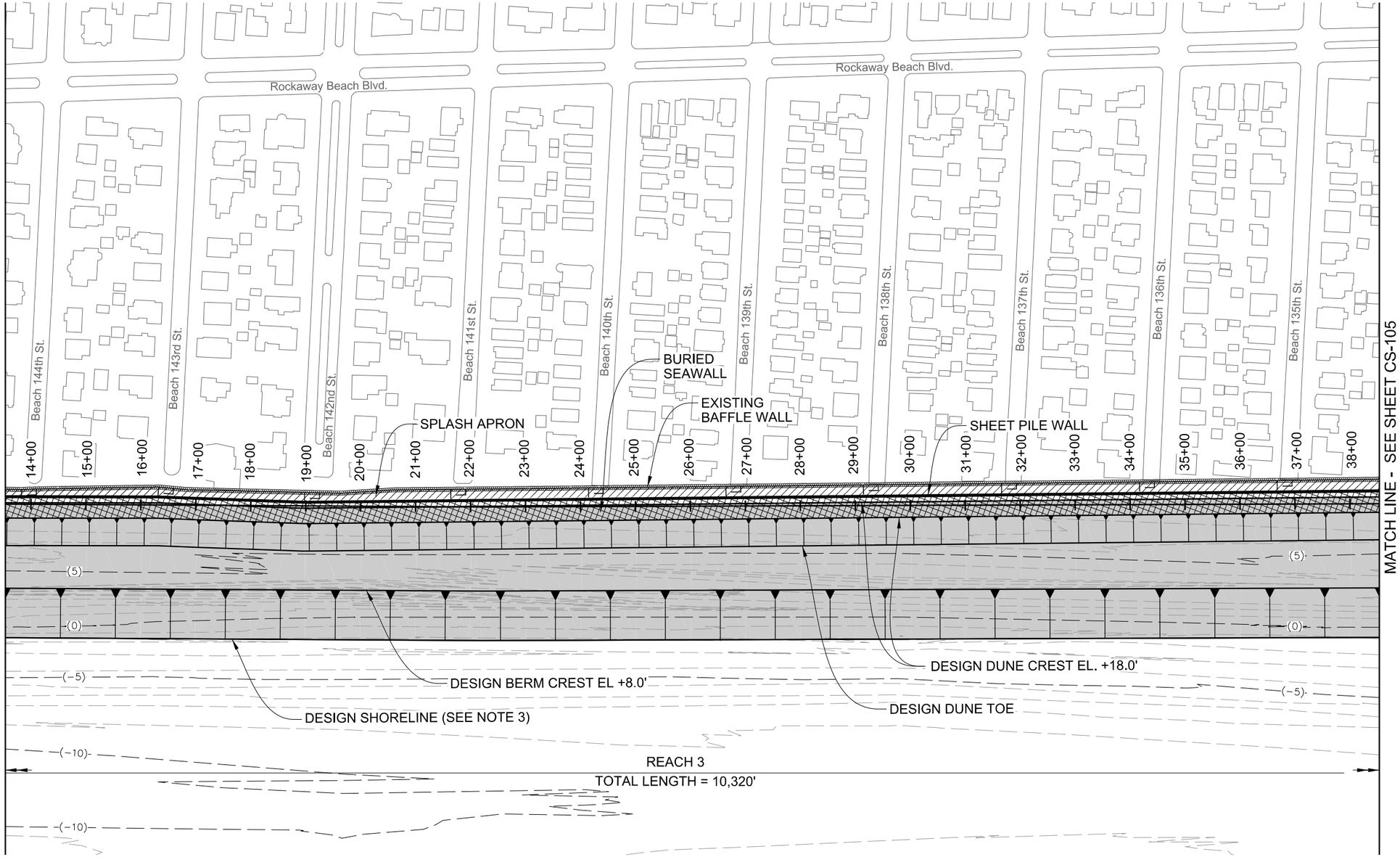
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SITE PLAN (3 OF 17)

SHEET ID
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SHEET 5 OF 36

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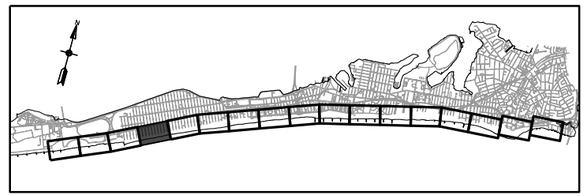
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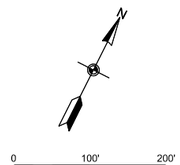
LEGEND

- BASELINE
- SHEET PILE WALL
- BURIED SEAWALL
- BEACH FILL
- SPLASH APRON
- EXISTING BAFFLE WALL
- (4) EXISTING CONTOURS (BATHYMETRY)

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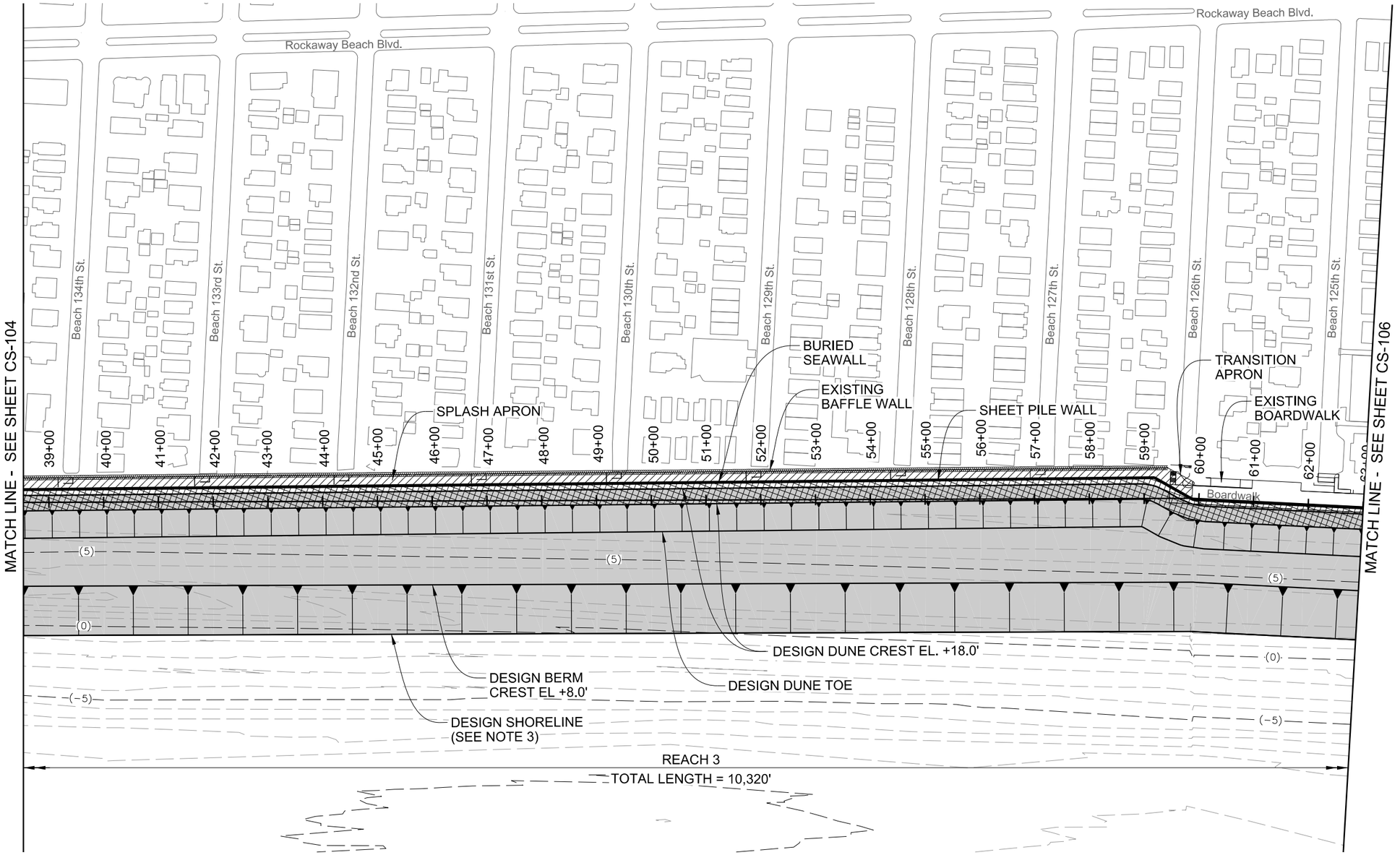
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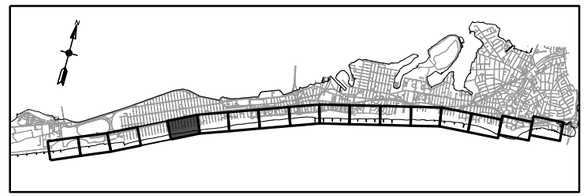


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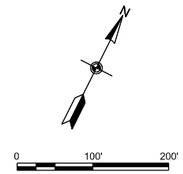
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LEGEND

- BASELINE
- SHEET PILE WALL
- BURIED SEAWALL
- BEACH FILL
- SPLASH APRON
- EXISTING BAFFLE WALL
- (4) EXISTING CONTOURS (BATHYMETRY)



KEY PLAN



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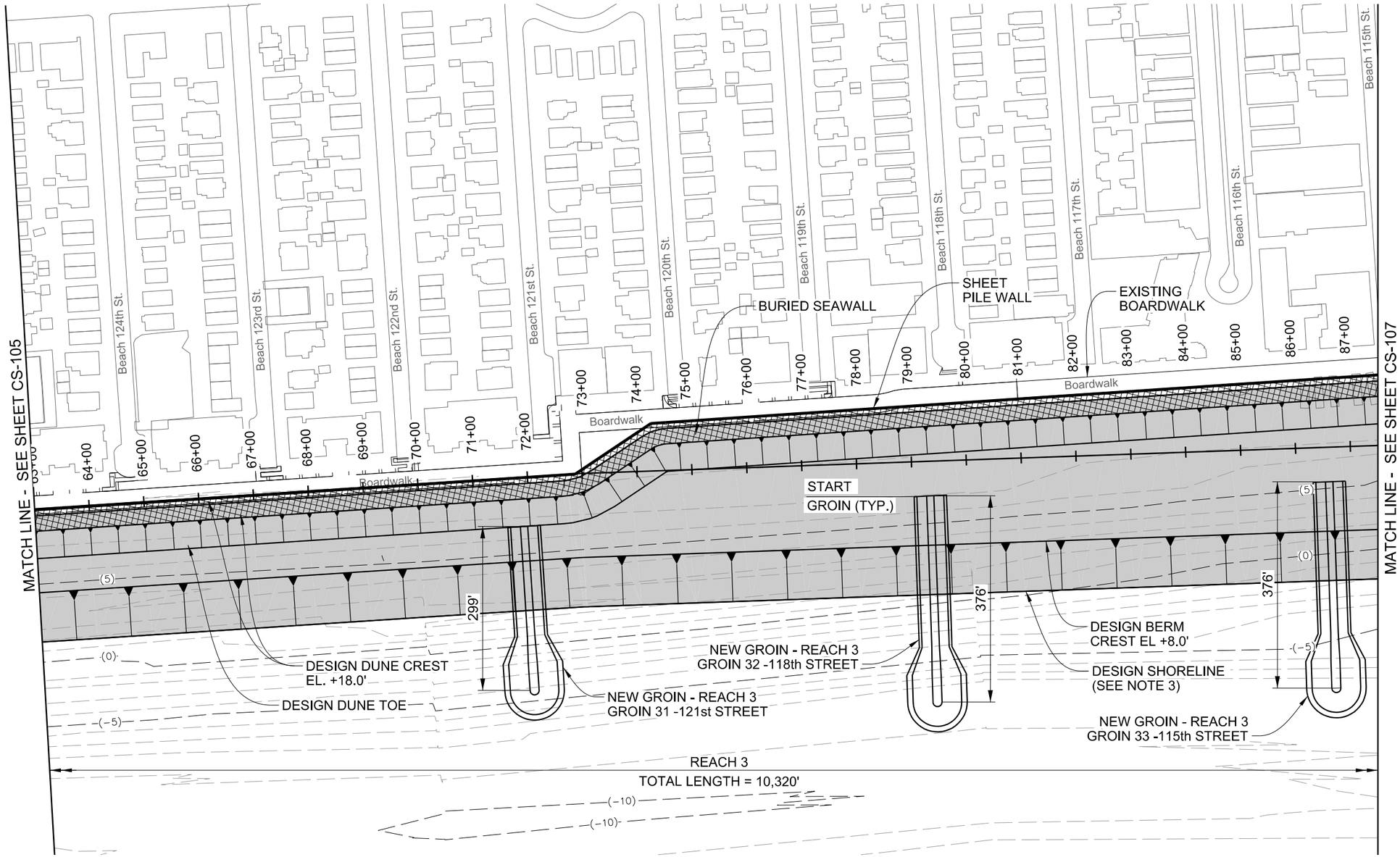
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INTEGRATED HURRICANE SANDY GENERAL RE-EVALUATION REPORT AND ENVIRONMENTAL IMPACT STATEMENT

SITE PLAN (5 OF 17)

SHEET ID
CS-105
SHEET 7 OF 36

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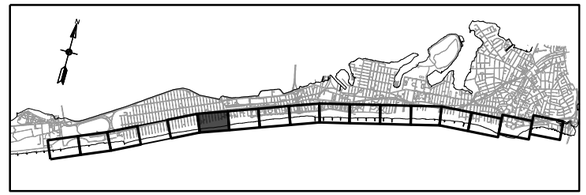


NOTES

1. EXISTING CONTOURS ARE BASED ON POST-SANDY SURVEY PERFORMED BY McKIM & CREED FROM FEBRUARY 25TH, 2013 TO MARCH 5TH, 2013.
2. ALL ELEVATIONS REFERENCED TO NAVD88.
3. DESIGN SHORELINE DEFINED ON SHEET CS-301. TYPICAL SECTIONS SHOWN ON SHEETS CS-301 TO CS-302.
4. SECTIONS SHOWN ON SHEETS CS-301 TO CS-307.
5. GROIN PLAN PROFILES AND SECTIONS SHOWN ON SHEETS CS-401 TO CS-410.
6. BEACH CONSTRUCTION TEMPLATE WILL EXTEND TO EXISTING GRADE AND IS NOT SHOWN FOR CLARITY.

LEGEND

- BASELINE
- SHEET PILE WALL
- BURIED SEAWALL
- BEACH FILL
- SPLASH APRON
- EXISTING BAFFLE WALL
- (4) EXISTING CONTOURS (BATHYMETRY)



KEY PLAN

N

0 100' 200'

SCALE:1"=100'

PRELIMINARY
NOT FOR CONSTRUCTION

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MARK	DESCRIPTION	DATE	APPR.
E	FINAL GRR - APPENDIX A1.C	12.05.18	MK
D	DRAFT FINAL GRR-APPENDIX A1.C	11.19.18	MK
C	DRAFT FINAL GRR-APPENDIX A1.C	08.30.18	MK
B	DRAFT FINAL GRR-APPENDIX A1.C	08.20.18	MK
A	DRAFT FINAL GRR-APPENDIX A1.B	07.19.18	MK

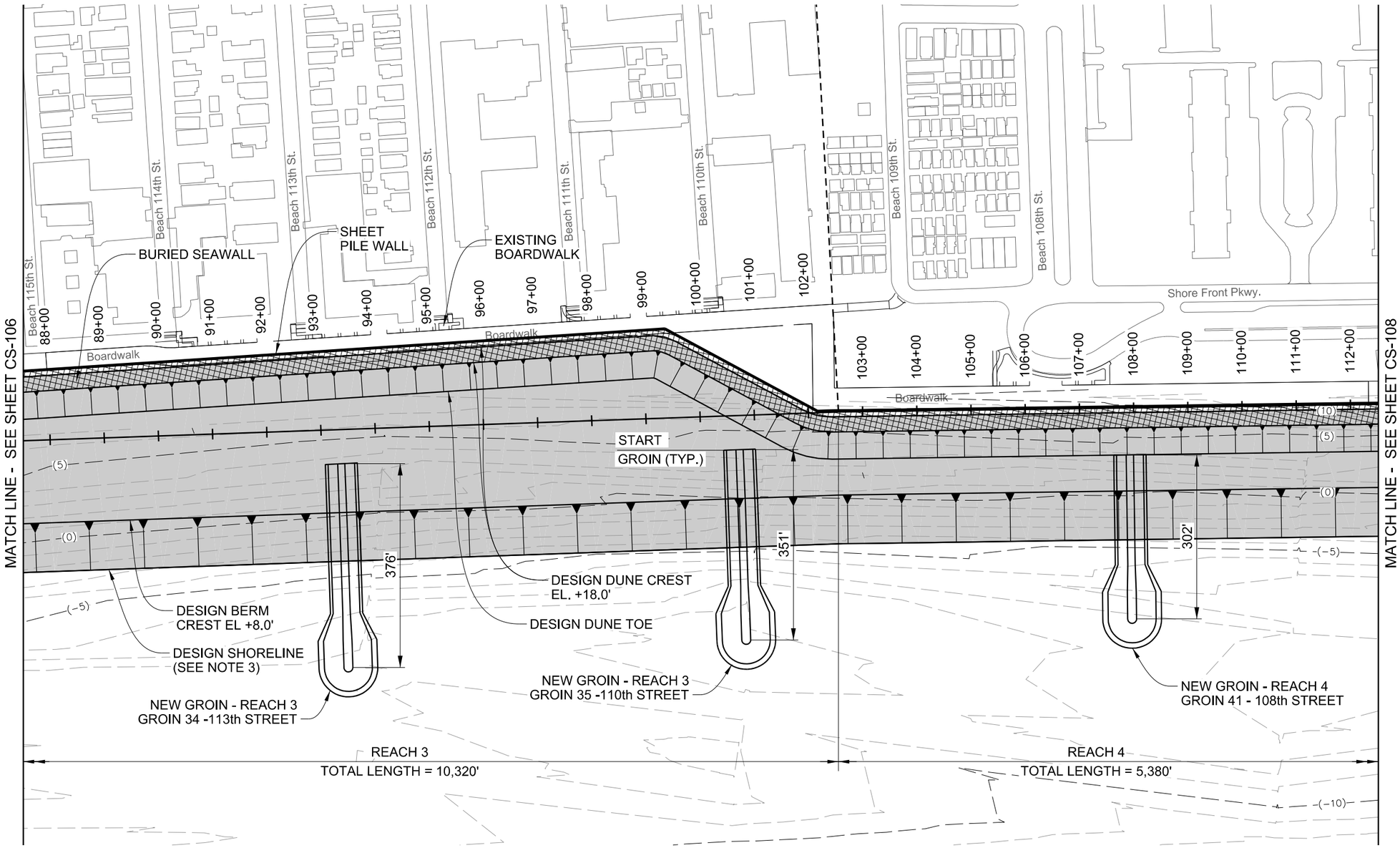
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SUBMITTED BY: SA
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FILE NAME: W912DS_A1_CS-106.dgn
DATE: 12/05.18
SOLICITATION NO.:
CONTRACT NO.:
FILE NUMBER:

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INTEGRATED HURRICANE SANDY GENERAL RE-EVALUATION REPORT AND ENVIRONMENTAL IMPACT STATEMENT

SITE PLAN (6 OF 17)

SHEET ID
CS-106
SHEET 8 OF 36

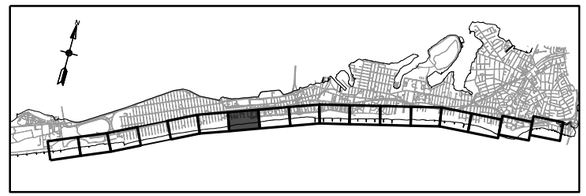


NOTES

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6. BEACH CONSTRUCTION TEMPLATE WILL EXTEND TO EXISTING GRADE AND IS NOT SHOWN FOR CLARITY.

LEGEND

- BASELINE
- SHEET PILE WALL
- BURIED SEAWALL
- BEACH FILL
- SPLASH APRON
- EXISTING BAFFLE WALL
- (4) EXISTING CONTOURS (BATHYMETRY)



KEY PLAN

N

0 100' 200'

SCALE:1"=100'

PRELIMINARY
NOT FOR CONSTRUCTION

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D	DRAFT FINAL GRR-APPENDIX A1.C	11.19.18	MK
C	DRAFT FINAL GRR-APPENDIX A1.C	08.30.18	MK
B	DRAFT FINAL GRR-APPENDIX A1.C	08.20.18	MK
A	DRAFT FINAL GRR-APPENDIX A1.B	07.19.18	MK

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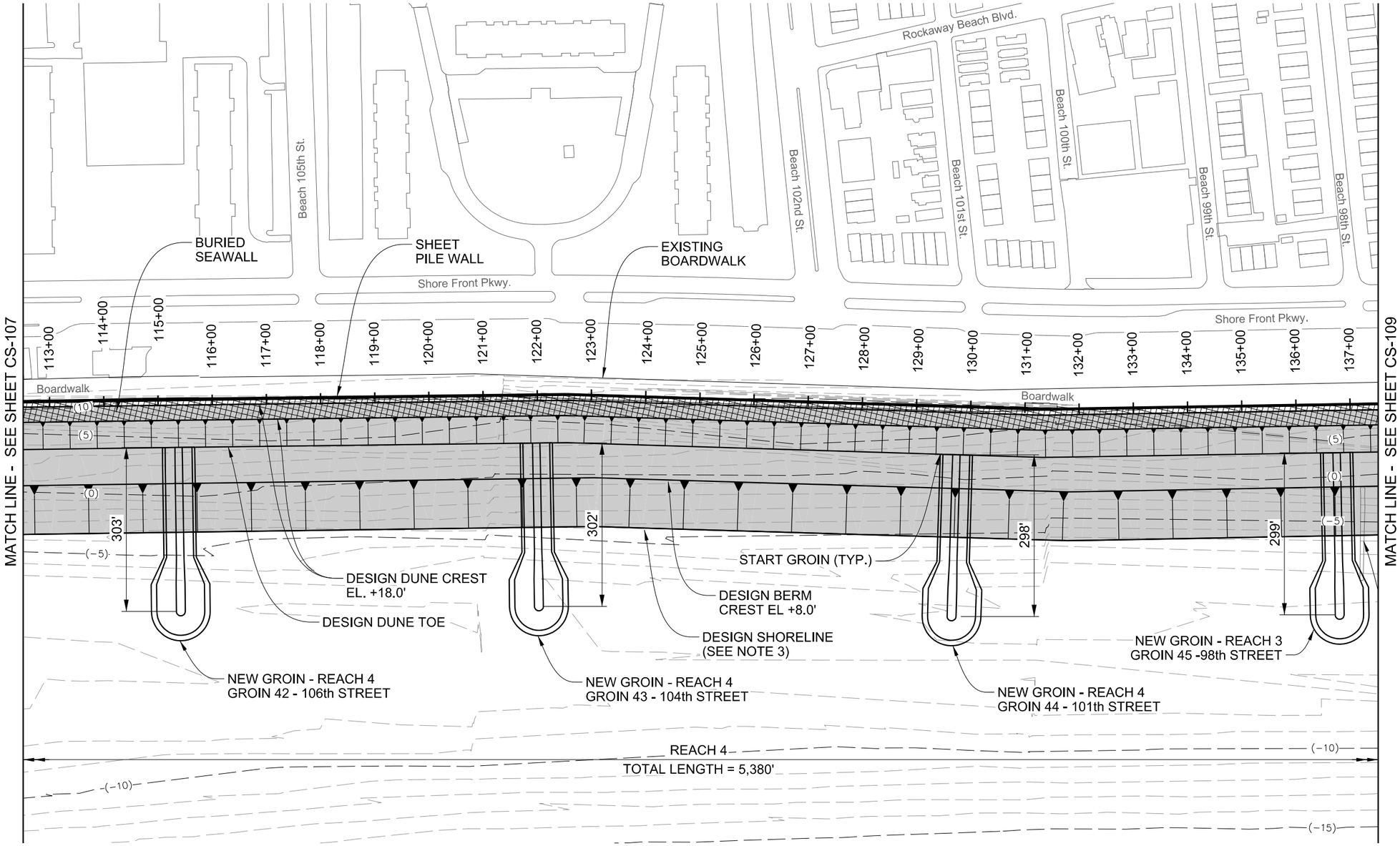
INTEGRATED HURRICANE SANDY GENERAL RE-EVALUATION REPORT AND ENVIRONMENTAL IMPACT STATEMENT

SITE PLAN (7 OF 17)

SHEET ID
CS-107

SHEET 9 OF 36

PATH: Q:\NY\9781-02\500_CADD_Active_GRR Report-App A1\
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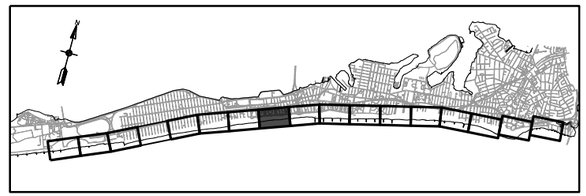
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NOT FOR CONSTRUCTION

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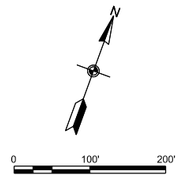
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LEGEND

- BASELINE
- SHEET PILE WALL
- BURIED SEAWALL
- BEACH FILL
- SPLASH APRON
- EXISTING BAFFLE WALL
- (4) EXISTING CONTOURS (BATHYMETRY)



KEY PLAN



SCALE:1"=100'

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DESIGNED BY: RWH
DRN BY: ME
SUBMITTED BY: SA
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SIZE: ANSI D
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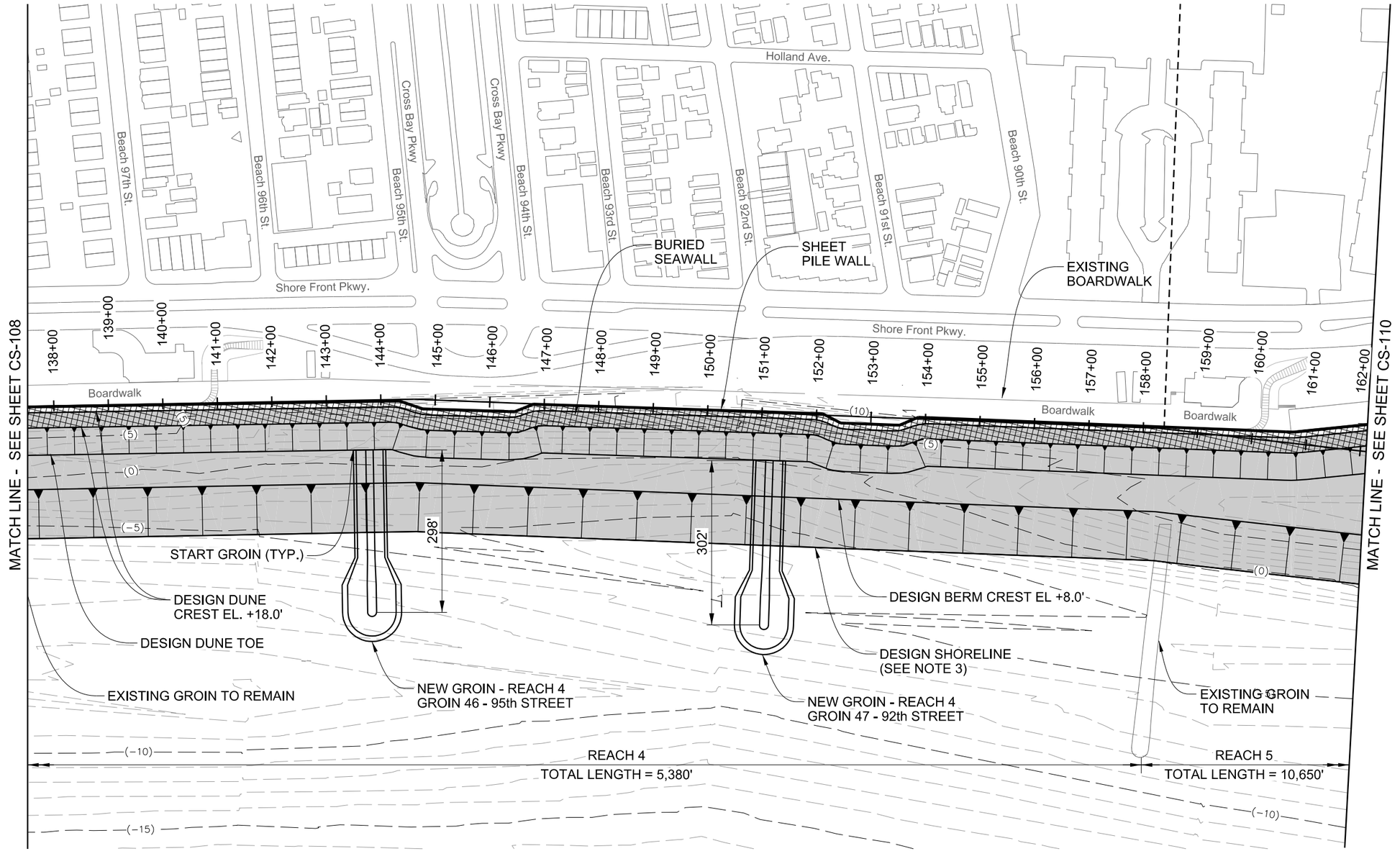
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SITE PLAN (8 OF 17)

SHEET ID
CS-108
SHEET 10 OF 36

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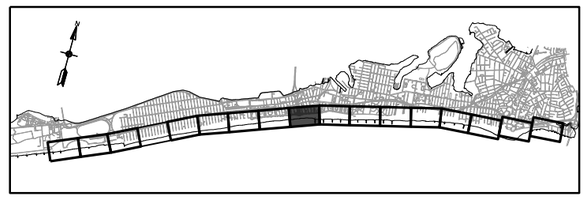


NOTES

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LEGEND

- BASELINE
- SHEET PILE WALL
- BURIED SEAWALL
- BEACH FILL
- SPLASH APRON
- EXISTING BAFFLE WALL
- (4) EXISTING CONTOURS (BATHYMETRY)



KEY PLAN

0 100' 200'

SCALE:1"=100'

PRELIMINARY
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MARK	DESCRIPTION	DATE	APPR.
E	FINAL GRR - APPENDIX A1.C	12.05.18	MK
D	DRAFT FINAL GRR-APPENDIX A1.C	11.19.18	MK
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B	DRAFT FINAL GRR-APPENDIX A1.C	08.20.18	MK
A	DRAFT FINAL GRR-APPENDIX A1.B	07.19.18	MK

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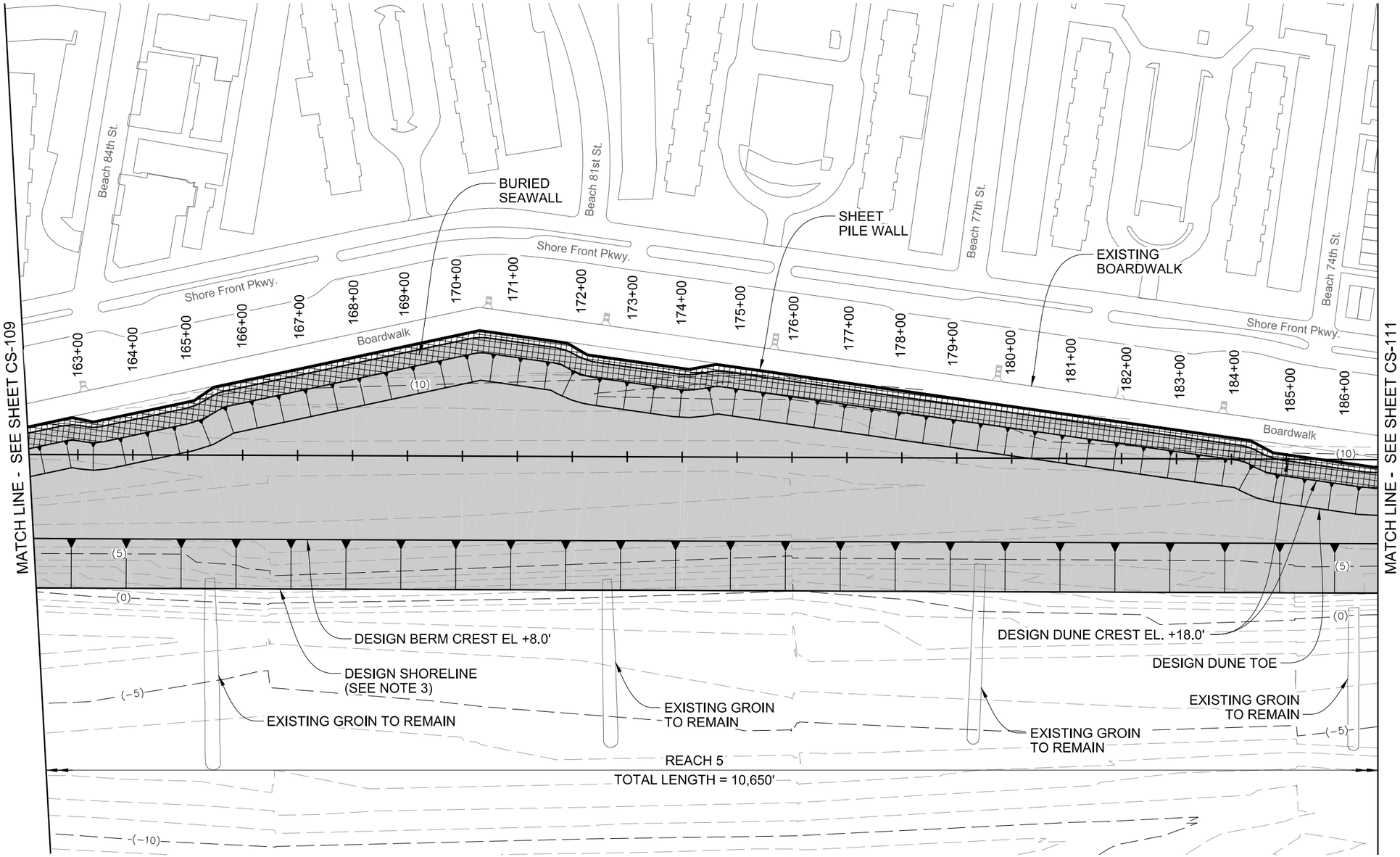
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DESIGNED BY: RWH
DWN BY: ME
CKD BY: MK
SUBMITTED BY: SA
PLOT SCALE: 100.000000'
PLOT STYLE: ANSI D
DATE: 12.05.18
SOLICITATION NO.:
CONTRACT NO.:
PLOT DATE: 12/5/2018
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FILE NAME: W912DS_A1_CS-109.dgn

INTEGRATED HURRICANE SANDY GENERAL RE-EVALUATION REPORT AND ENVIRONMENTAL IMPACT STATEMENT

SITE PLAN (9 OF 17)

SHEET ID
CS-109
SHEET 11 OF 36

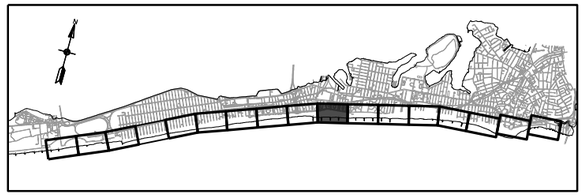


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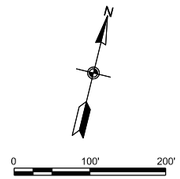
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LEGEND

- BASELINE
- SHEET PILE WALL
- BURIED SEAWALL
- BEACH FILL
- SPLASH APRON
- EXISTING BAFFLE WALL
- – –(4)– – EXISTING CONTOURS (BATHYMETRY)



KEY PLAN



SCALE:1"=100'

PRELIMINARY
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B	DRAFT FINAL GRR-APPENDIX A1.C	08.20.18	MK
A	DRAFT FINAL GRR-APPENDIX A1.B	07.19.18	MK

DESIGNED BY: RWH
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SUBMITTED BY: SA
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SOLICITATION NO.:
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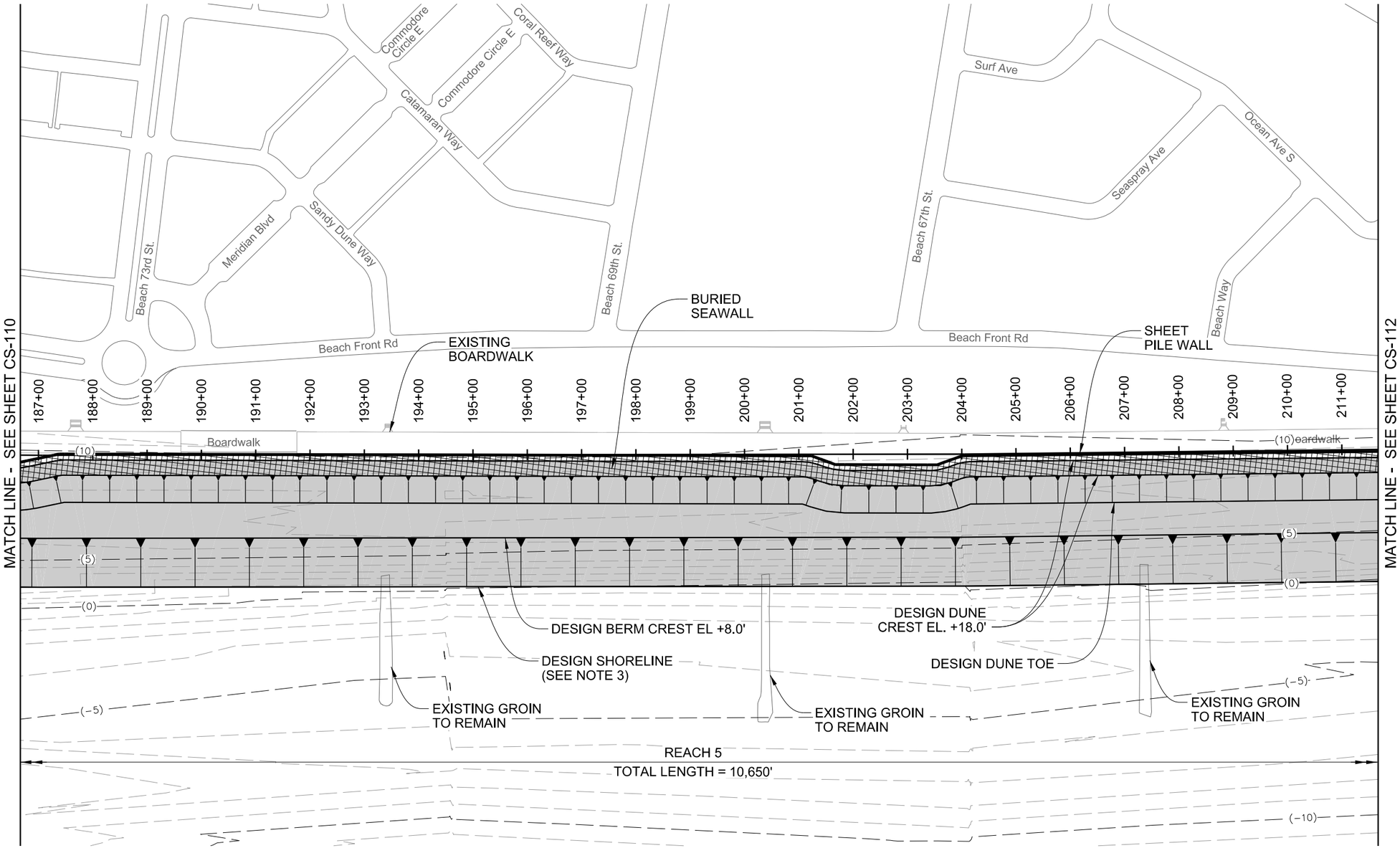
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SITE PLAN (10 OF 17)

SHEET ID
CS-110
SHEET 12 OF 36

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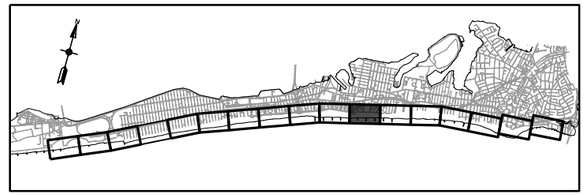
PRELIMINARY
NOT FOR CONSTRUCTION

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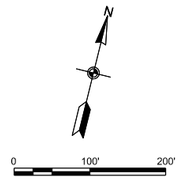
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LEGEND

- BASELINE
- SHEET PILE WALL
- BURIED SEAWALL
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- SPLASH APRON
- EXISTING BAFFLE WALL
- (4) EXISTING CONTOURS (BATHYMETRY)



KEY PLAN



SCALE:1"=100'

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MARK	DESCRIPTION	DATE	APPR.
A	DRAFT FINAL GRR-APPENDIX A1.B	07.19.18	MK
B	DRAFT FINAL GRR-APPENDIX A1.C	08.20.18	MK
C	DRAFT FINAL GRR-APPENDIX A1.C	08.30.18	MK
D	DRAFT FINAL GRR-APPENDIX A1.C	11.19.18	MK
E	FINAL GRR - APPENDIX A1.C	12.05.18	MK

DESIGNED BY: RWH
DRWN BY: ME
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PLOT SCALE: 1:1.0000'/'
PLOT DATE: 12/5/2018
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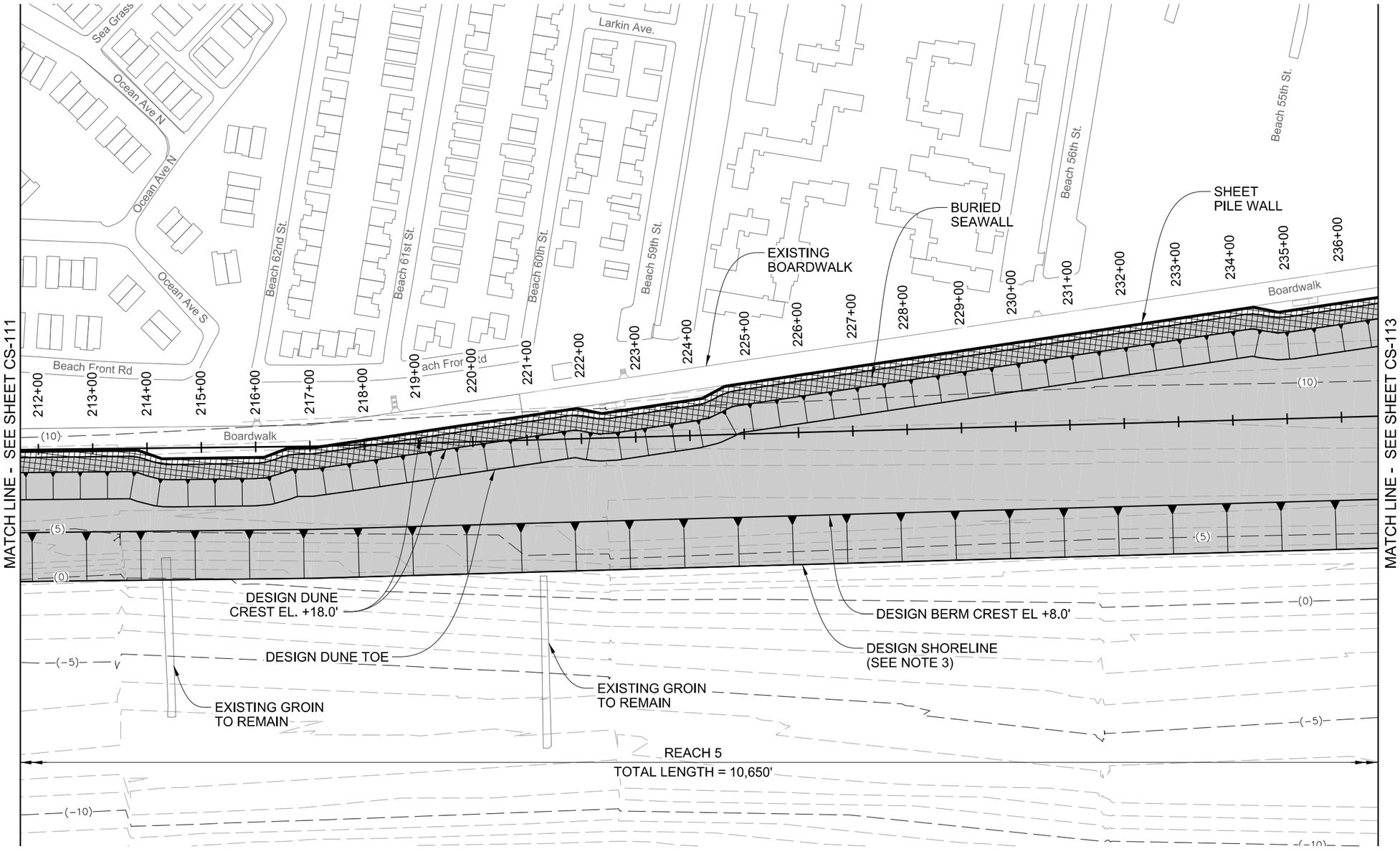
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SITE PLAN (11 OF 17)

SHEET ID
CS-111
SHEET 13 OF 36

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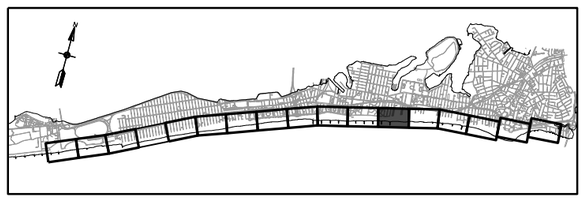
NOTES

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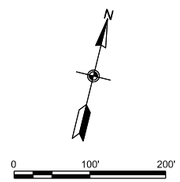
LEGEND

- BASELINE
- SHEET PILE WALL
- BURIED SEAWALL
- BEACH FILL
- SPLASH APRON
- EXISTING BAFFLE WALL
- −−(4)−− EXISTING CONTOURS (BATHYMETRY)

PRELIMINARY
NOT FOR CONSTRUCTION



KEY PLAN



SCALE:1"=100'

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE	APPR.
E	FINAL GRR - APPENDIX A1.C	12.05.18	MK
D	DRAFT FINAL GRR-APPENDIX A1.C	11.19.18	MK
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B	DRAFT FINAL GRR-APPENDIX A1.C	08.20.18	MK
A	DRAFT FINAL GRR-APPENDIX A1.B	07.19.18	MK

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SUBMITTED BY: SA
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PLOT DATE: 12/5/2018
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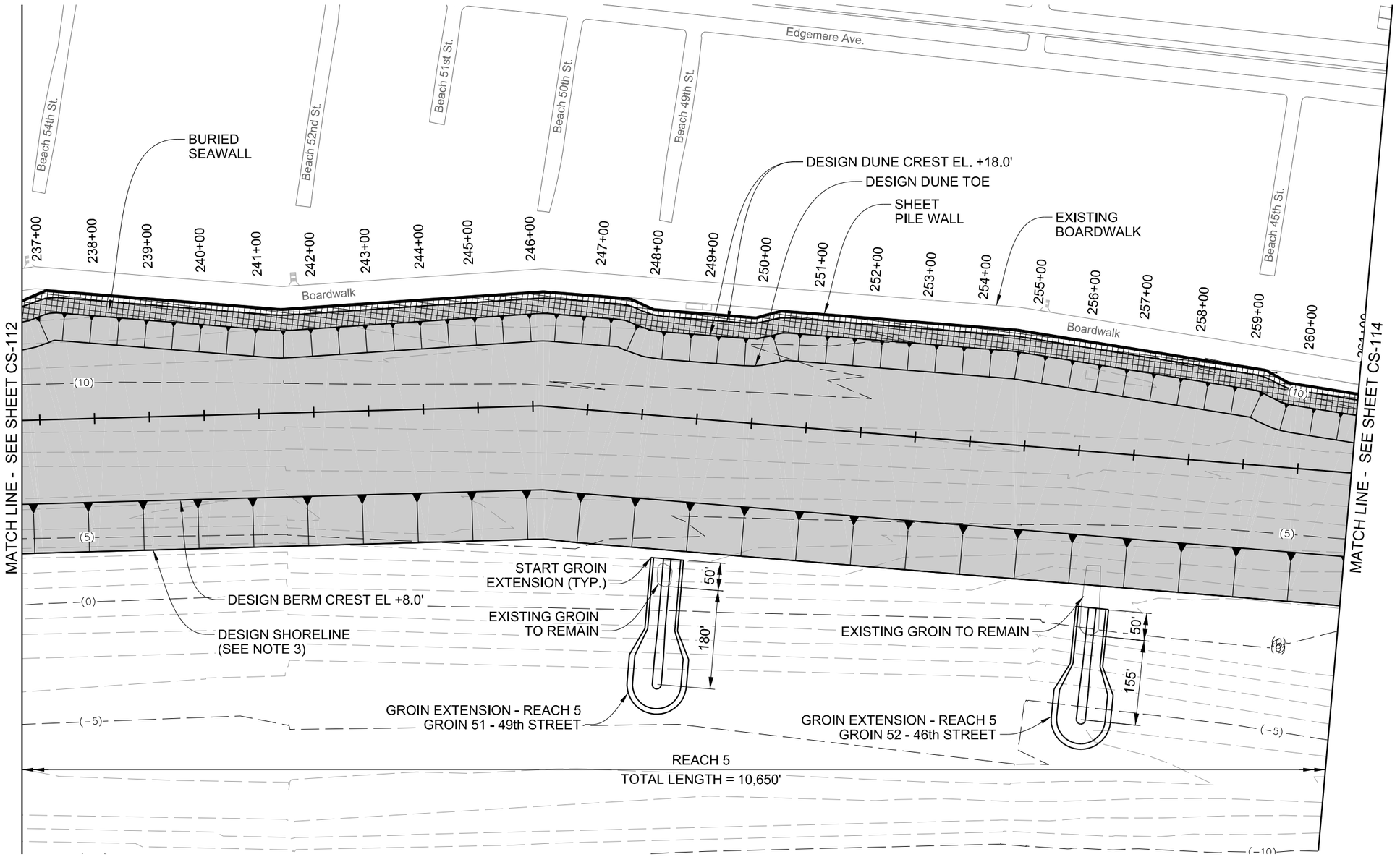
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SITE PLAN (12 OF 17)

SHEET ID
CS-112
SHEET 14 OF 36

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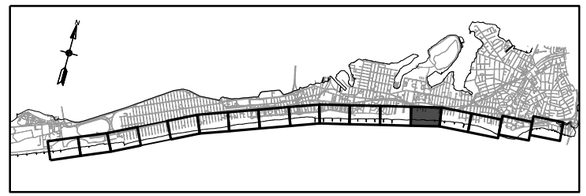


NOTES

1. EXISTING CONTOURS ARE BASED ON POST-SANDY SURVEY PERFORMED BY McKIM & CREED FROM FEBRUARY 25TH, 2013 TO MARCH 5TH, 2013.
2. ALL ELEVATIONS REFERENCED TO NAVD88.
3. DESIGN SHORELINE DEFINED ON SHEET CS-301. TYPICAL SECTIONS SHOWN ON SHEETS CS-301 TO CS-302.
4. SECTIONS SHOWN ON SHEETS CS-301 TO CS-307.
5. GROIN PLAN PROFILES AND SECTIONS SHOWN ON SHEETS CS-401 TO CS-410.
6. BEACH CONSTRUCTION TEMPLATE WILL EXTEND TO EXISTING GRADE AND IS NOT SHOWN FOR CLARITY.

LEGEND

- BASELINE
- SHEET PILE WALL
- BURIED SEAWALL
- BEACH FILL
- SPLASH APRON
- EXISTING BAFFLE WALL
- (4) EXISTING CONTOURS (BATHYMETRY)



KEY PLAN

N

0 100' 200'

SCALE:1"=100'

PRELIMINARY
NOT FOR CONSTRUCTION

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MARK	DESCRIPTION	DATE	APPR.
E	FINAL GRR - APPENDIX A1.C	12.05.18	MK
D	DRAFT FINAL GRR-APPENDIX A1.C	11.19.18	MK
C	DRAFT FINAL GRR-APPENDIX A1.C	08.30.18	MK
B	DRAFT FINAL GRR-APPENDIX A1.C	08.20.18	MK
A	DRAFT FINAL GRR-APPENDIX A1.B	07.19.18	MK

DESIGNED BY: ROH
DRWN BY: ME
SUBMITTED BY: SA
PLOT SCALE: 1:1000
SIZE: ANSI D
DATE: 12/05/18
CKD BY: MK
PLOT DATE: 12/3/2018
FILE NAME: W912DS_A1_CS-113.dgn
SOLICITATION NO.:
CONTRACT NO.:
FILE NUMBER:

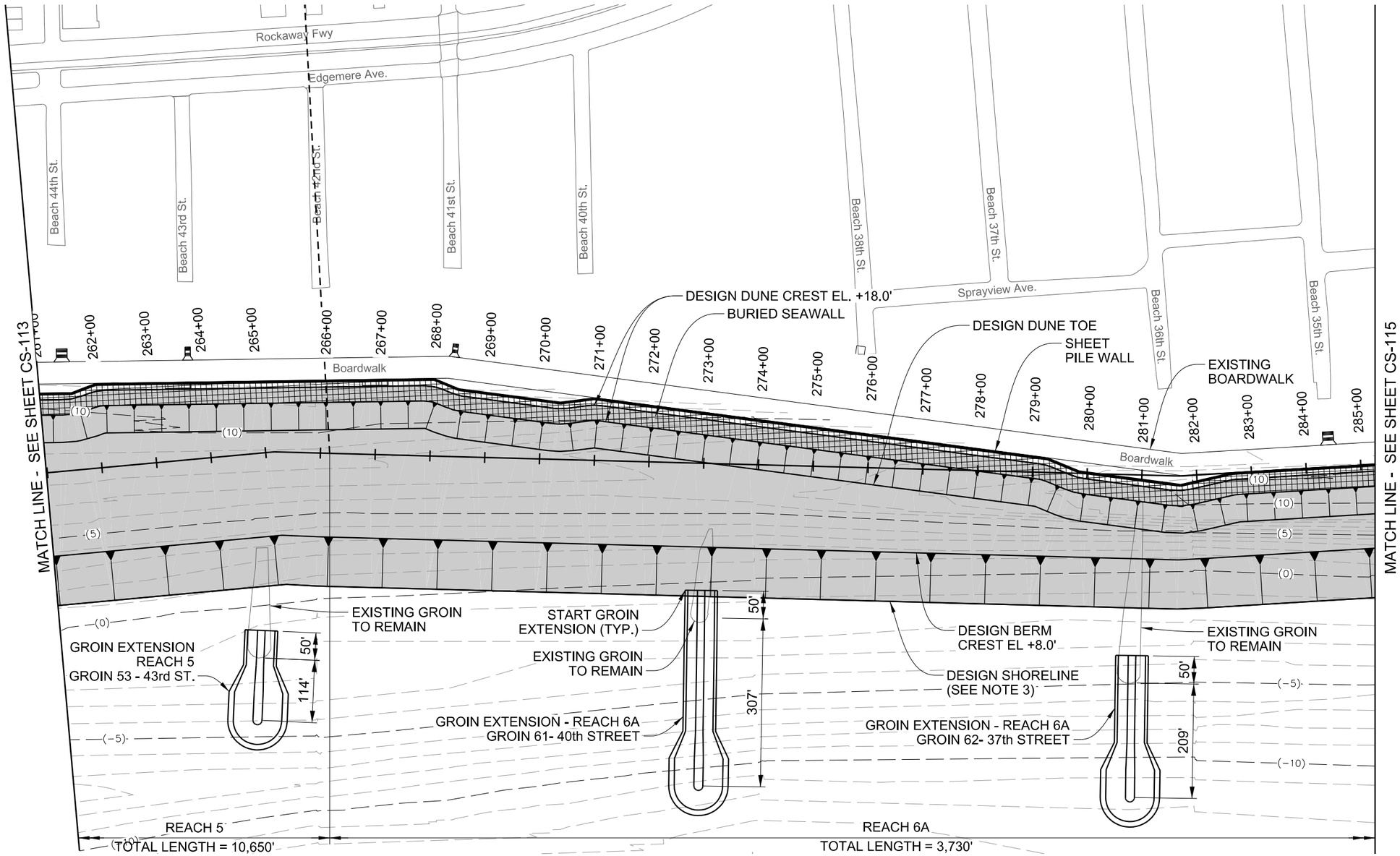
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INTEGRATED HURRICANE SANDY GENERAL RE-EVALUATION REPORT AND ENVIRONMENTAL IMPACT STATEMENT

SITE PLAN (13 OF 17)

SHEET ID
CS-113
SHEET 15 OF 36

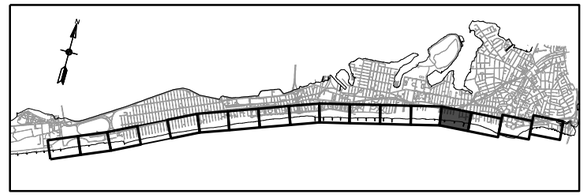


NOTES

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6. BEACH CONSTRUCTION TEMPLATE WILL EXTEND TO EXISTING GRADE AND IS NOT SHOWN FOR CLARITY.

LEGEND

- BASELINE
- SHEET PILE WALL
- BURIED SEAWALL
- BEACH FILL
- SPLASH APRON
- EXISTING BAFFLE WALL
- EXISTING CONTOURS (BATHYMETRY) — (4)



KEY PLAN

N

0 100' 200'

SCALE:1"=100'

PRELIMINARY
NOT FOR CONSTRUCTION

PATH: Q:\NY\9781-02\500_CADD_Active_GRR Report-App A1\
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MARK	DESCRIPTION	DATE	APPR.
E	FINAL GRR - APPENDIX A1.C	12.05.18	MK
D	DRAFT FINAL GRR-APPENDIX A1.C	11.19.18	MK
C	DRAFT FINAL GRR-APPENDIX A1.C	08.30.18	MK
B	DRAFT FINAL GRR-APPENDIX A1.C	08.20.18	MK
A	DRAFT FINAL GRR-APPENDIX A1.B	07.19.18	MK

DESIGNED BY: RWH
DRAWN BY: ME
SUBMITTED BY: SA
SIZE: ANSI D
DATE: 12/05/18
CHKD BY: MK
PLOT SCALE: 1.0000
PLOT DATE: 12/5/2018
FILE NAME: W912DS_A1_CS-114.dgn
SOLICITATION NO.:
CONTRACT NO.:
FILE NUMBER:

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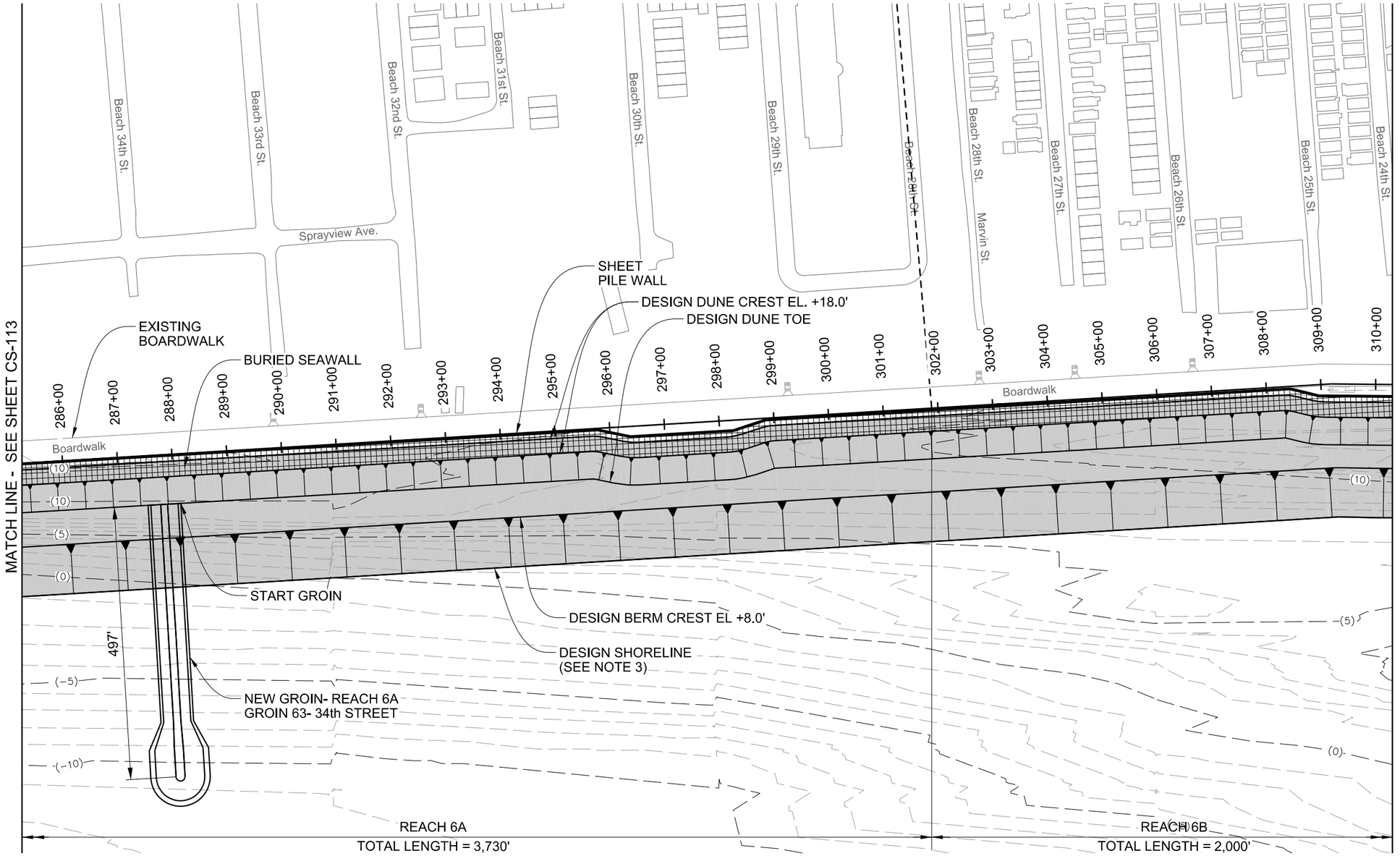
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SITE PLAN (14 OF 17)

SHEET ID
CS-114
SHEET 16 OF 36

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FILE: W912DS_A1_CS-115.dgn
12/3/2018
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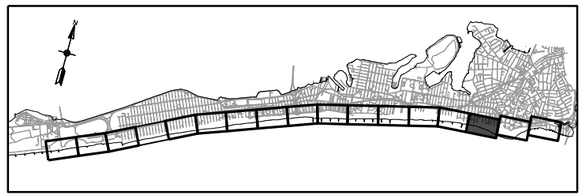


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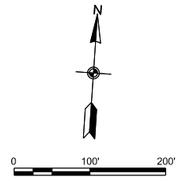
1. EXISTING CONTOURS ARE BASED ON POST-SANDY SURVEY PERFORMED BY McKIM & CREED FROM FEBRUARY 25TH, 2013 TO MARCH 5TH, 2013.
2. ALL ELEVATIONS REFERENCED TO NAVD88.
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5. GROIN PLAN PROFILES AND SECTIONS SHOWN ON SHEETS CS-401 TO CS-410.
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LEGEND

- BASELINE
- SHEET PILE WALL
- BURIED SEAWALL
- BEACH FILL
- SPLASH APRON
- EXISTING BAFFLE WALL
- (4) EXISTING CONTOURS (BATHYMETRY)



KEY PLAN



SCALE:1"=100'

PRELIMINARY
NOT FOR CONSTRUCTION

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MARK	DESCRIPTION	DATE	APPR.
E	FINAL GRR - APPENDIX A1.C	12.05.18	MK
D	DRAFT FINAL GRR-APPENDIX A1.C	11.19.18	MK
C	DRAFT FINAL GRR-APPENDIX A1.C	08.30.18	MK
B	DRAFT FINAL GRR-APPENDIX A1.C	08.20.18	MK
A	DRAFT FINAL GRR-APPENDIX A1.B	07.19.18	MK

DESIGNED BY: RWH
DWN BY: ME
CKD BY: MK
SUBMITTED BY: SA
PLOT SCALE: 1.00000'/IN
STYLE: ANSI D
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CONTRACT NO.:
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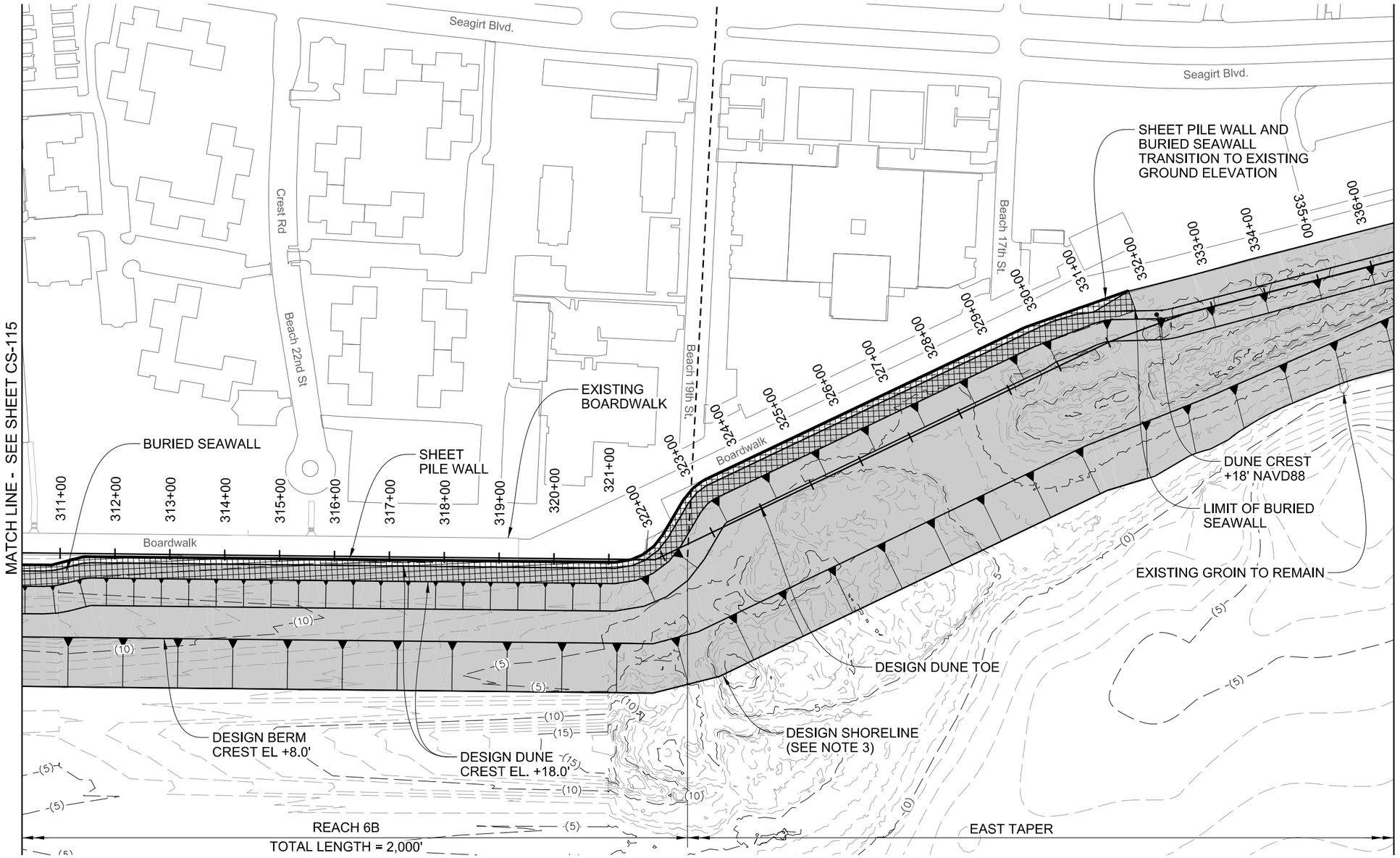
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SITE PLAN (15 OF 17)

SHEET ID
CS-115
SHEET 17 OF 36

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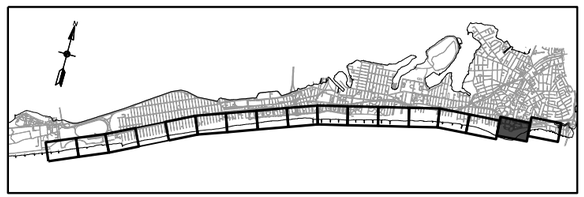
NOTES

1. EXISTING CONTOURS ARE BASED ON THE FOLLOWING SOURCES:
   - GEOPHYSICAL DATA CENTER (NGDC) HURRICANE SANDY DIGITAL ELEVATION MODELS, 2014.
   - NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION (NOAA) DIGITAL COAST, 2014.
   - 2013-2014 U.S. GEOLOGICAL SURVEY CMGP LIDAR: POST SANDY (NEW YORK CITY), 2018.
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PRELIMINARY
NOT FOR CONSTRUCTION

LEGEND

- BASELINE
- SHEET PILE WALL
- BURIED SEAWALL
- BEACH FILL
- SPLASH APRON
- EXISTING BAFFLE WALL
- EXISTING CONTOURS (BATHYMETRY)



KEY PLAN

N

0 100' 200'

SCALE:1"=100'

US Army Corps of Engineers®

MARK	DATE	APPR.
E	12.05.18	MK
D	11.19.18	MK
C	08.30.18	MK
B	08.20.18	MK
A	07.19.18	MK

DESIGNED BY: RWH	DATE: 12.05.18
DWN BY: ME	CKD BY: MK
SUBMITTED BY: SA	SOLICITATION NO.:
PLOT SCALE: 1.000000	CONTRACT NO.:
PLOT DATE: 12/3/2018	FILE NUMBER:
SIZE: ANSI D	FILE NAME: W912DS_A1_CS-116.dgn

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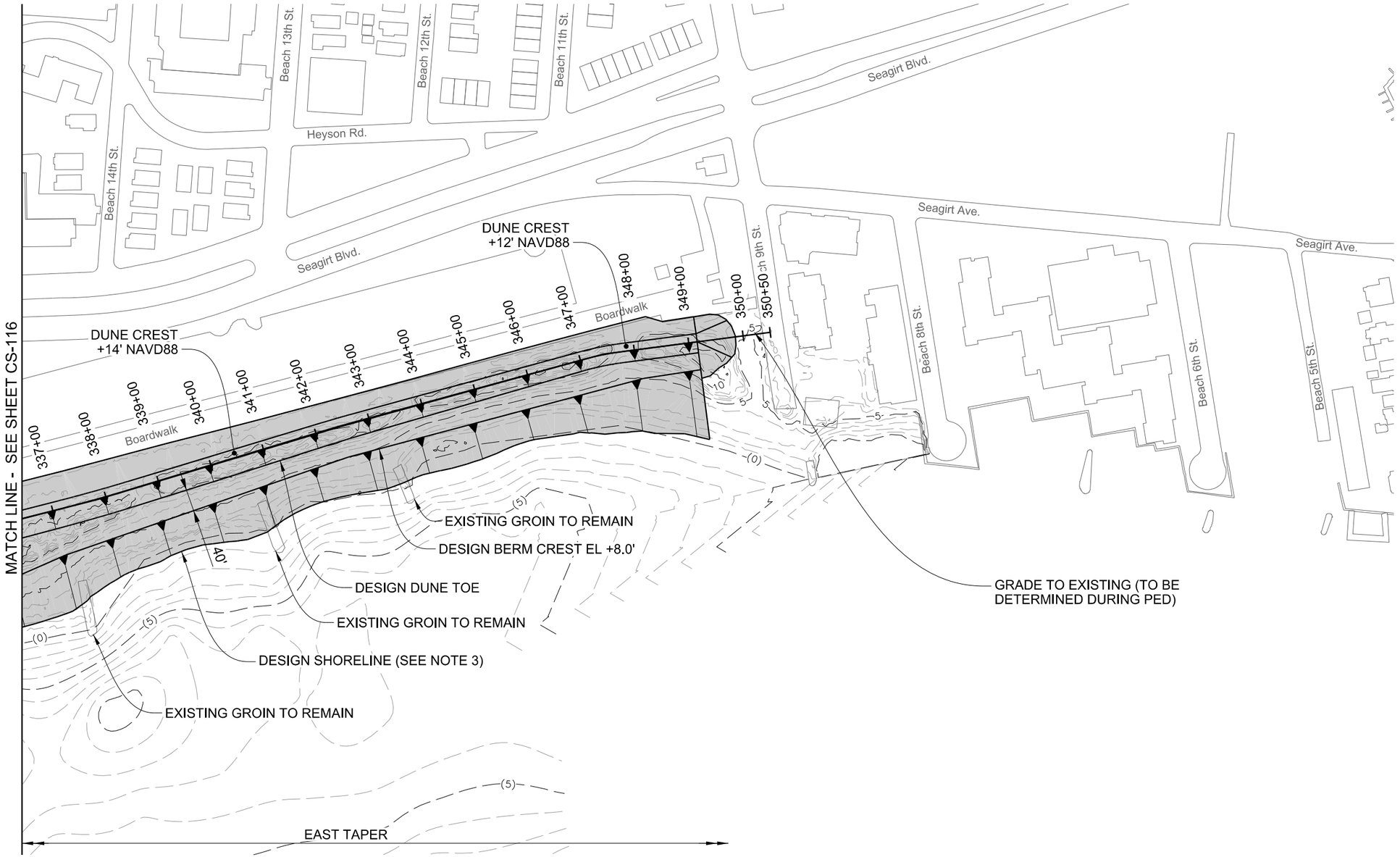
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SITE PLAN (16 OF 17)

SHEET ID
CS-116
SHEET 18 OF 36

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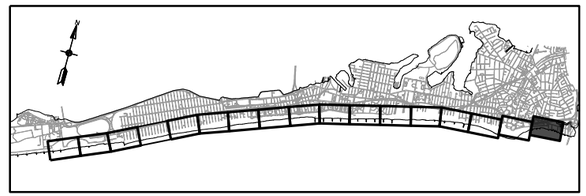
NOTES

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PRELIMINARY
NOT FOR CONSTRUCTION

LEGEND

- BASELINE
- SHEET PILE WALL
- BURIED SEAWALL
- BEACH FILL
- SPLASH APRON
- EXISTING BAFFLE WALL
- EXISTING CONTOURS (BATHYMETRY)



KEY PLAN

N

0 100' 200'

SCALE:1"=100'

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE	APPR.
E	FINAL GRR - APPENDIX A1.C	12.05.18	MK
D	DRAFT FINAL GRR-APPENDIX A1.C	11.19.18	MK
C	DRAFT FINAL GRR-APPENDIX A1.C	08.30.18	MK
B	DRAFT FINAL GRR-APPENDIX A1.C	08.20.18	MK
A	DRAFT FINAL GRR-APPENDIX A1.B	07.19.18	MK

DATE: 12.05.18
SOLICITATION NO.:
CONTRACT NO.:
FILE NUMBER:
DESIGNED BY: RWH
DWN BY: ME
CKD BY: MK
SUBMITTED BY: SA
PLOT DATE: 12/5/2018
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FILE NAME: W912DS_A1_CS-117.dgn

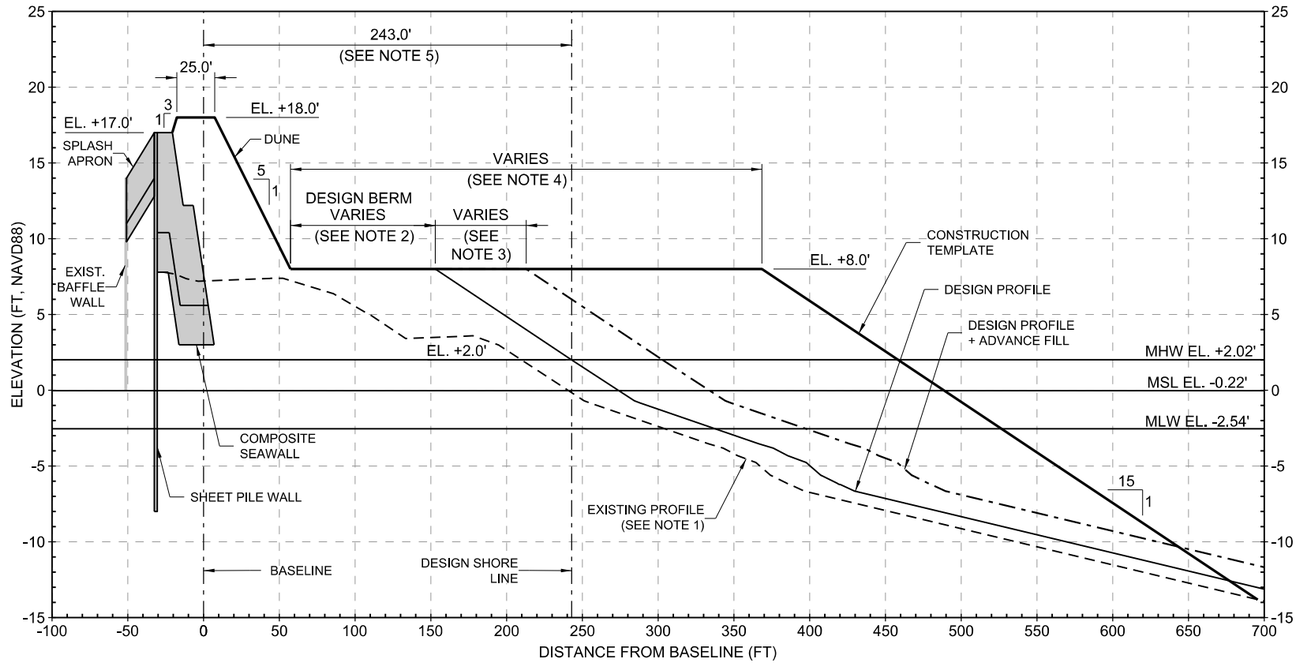
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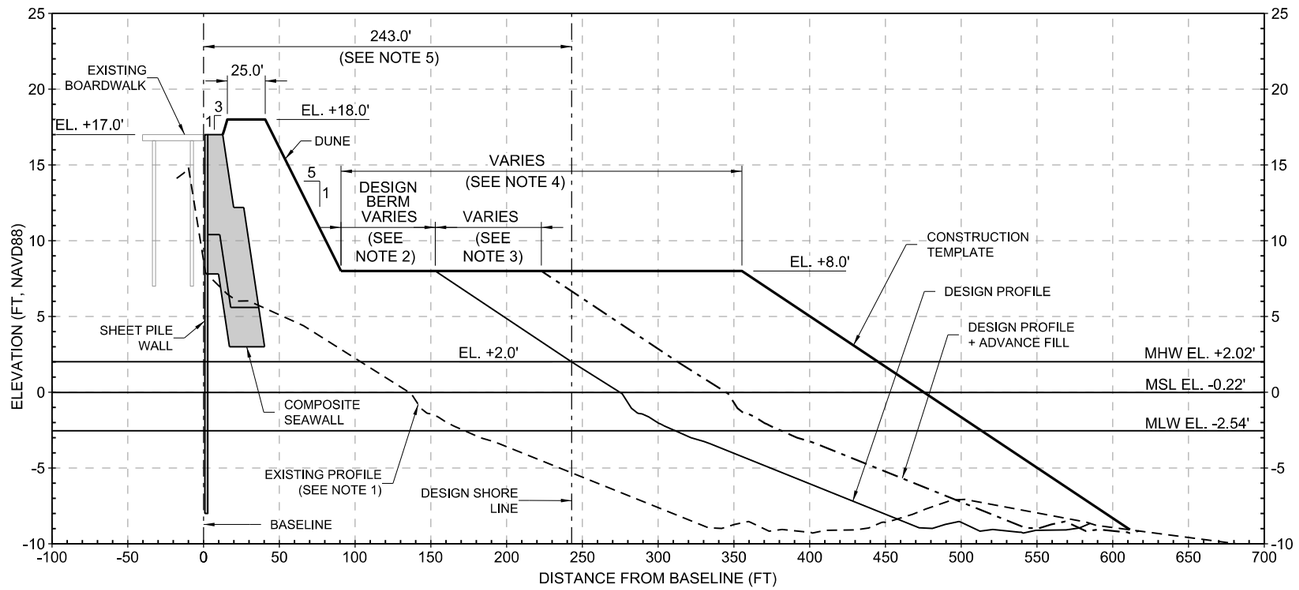
INTEGRATED HURRICANE SANDY GENERAL RE-EVALUATION REPORT AND ENVIRONMENTAL IMPACT STATEMENT

SITE PLAN (17 OF 17)

SHEET ID
CS-117
SHEET 19 OF 36



C2 TYPICAL BEACH FILL SECTION
BEACH 126TH ST. TO BEACH 149TH ST.
CS-101 TO CS-103
SCALE: 1"=50'-0"



A2 TYPICAL BEACH FILL SECTION
BEACH 19TH ST. TO BEACH 126TH ST.
CS-103 TO CS-114
SCALE: 1"=50'-0"

PRELIMINARY
NOT FOR CONSTRUCTION

BEACH FILL NOTES

1. EXISTING PROFILE IS BASED ON POST-SANDY SURVEY PERFORMED BY McKIM & CREED FROM FEBRUARY 25TH, 2013 TO MARCH 5TH, 2013.
2. THE WIDTH OF THE DESIGN BERM IS GENERALLY 60 FEET OR MORE. THE SEAWARD CREST OF THE DESIGN BERM IS CONTROLLED BY THE ALIGNMENT OF THE BASELINE, WHICH DOES NOT ALWAYS FOLLOW THE BOARDWALK ALIGNMENT.
3. THE ADVANCE FILL WIDTH VARIES BASED UPON THE EROSION RATE.
4. THE WIDTH OF THE CONSTRUCTION TEMPLATE IS BASED UPON THE FILL VOLUME REQUIRED FOR THE DESIGN PROFILE + ADVANCE FILL AND VARIES FROM PROFILE TO PROFILE.
5. THE DISTANCE FROM THE BASELINE TO THE DESIGN SHORELINE IS ALWAYS 243.0 FEET. THE DESIGN SHORELINE IS ALIGNED WITH THE NATURAL SHORELINE. THE ALIGNMENT OF THE DUNE FOLLOWS THE UNNATURAL ALIGNMENT OF THE BOARDWALK.

VERT. SCALE: 1"=5'
HOR. SCALE: 1"=50'

MARK	DESCRIPTION	DATE	APPR.
E	FINAL GRR - APPENDIX A1.C	12.05.18	MK
D	DRAFT FINAL GRR-APPENDIX A1.C	11.19.18	MK
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B	DRAFT FINAL GRR-APPENDIX A1.C	08.20.18	MK
A	DRAFT FINAL GRR-APPENDIX A1.B	07.19.18	MK

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DESIGNED BY: RWH
DRWN BY: ME
CKD BY: MK
SUBMITTED BY: SA
PLOT SCALE: 1:50.0000'
PLOT SIZE: ANSI D
PLOT DATE: 12/3/2018
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DATE: 12/05/18
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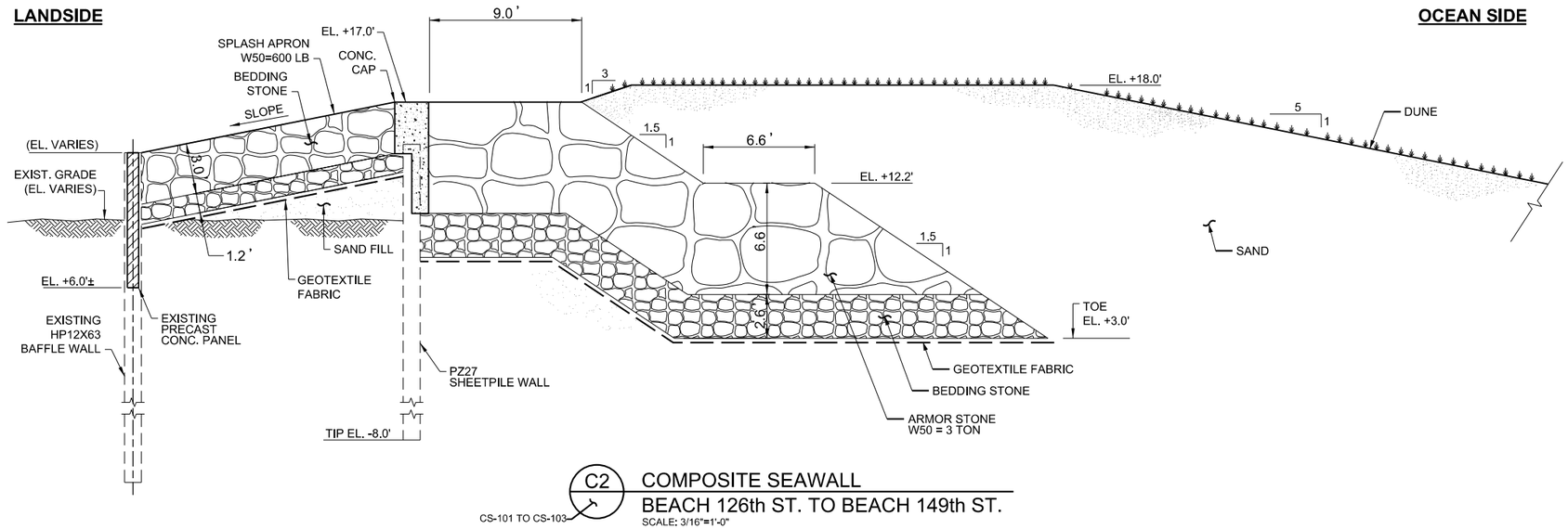
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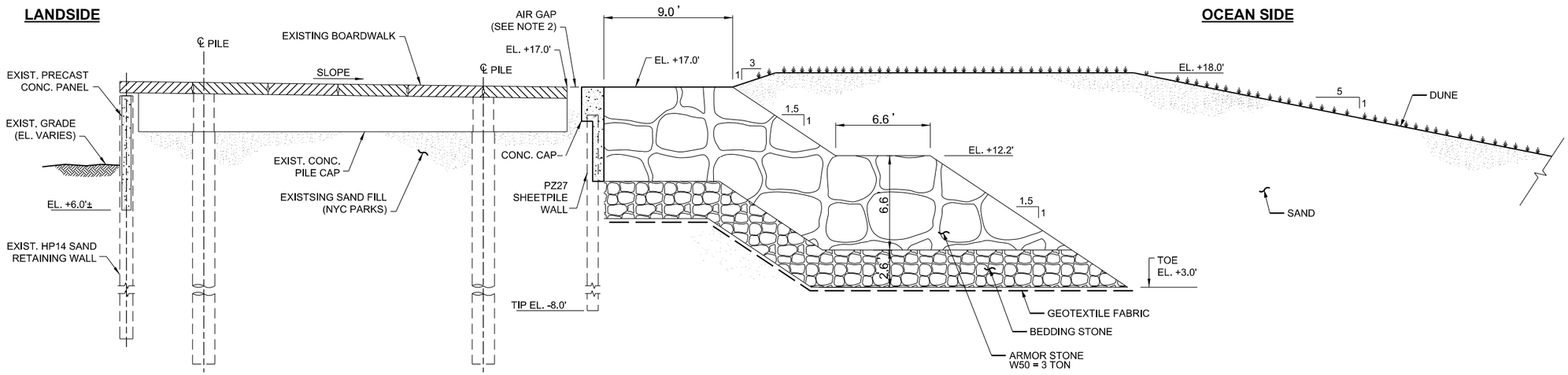
BEACH FILL TYPICAL SECTIONS

SHEET ID
CS-301
SHEET 20 OF 36

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FILE: W912DS_A1_CS-301.dgn
12/3/2018
1:16:12 PM
LAST PLOTTED BY: mestimable



C2 — COMPOSITE SEAWALL
BEACH 126th ST. TO BEACH 149th ST.
CS-101 TO CS-103
SCALE: 3/16"=1'-0"



A2 — COMPOSITE SEAWALL
BEACH 17th ST. TO BEACH 126th ST.
CS-103 TO CS-114
SCALE: 3/16"=1'-0"

PRELIMINARY
NOT FOR CONSTRUCTION

0 4' 8' 12'
VERT. SCALE: 3/16"=1'

0 4' 8' 12'
HOR. SCALE: 3/16"=1'

NOTES:

1. EXISTING GRADE SEAWARD OF BAFFLE WALL NOT SHOWN FOR CLARITY.
2. A 1-FT GAP IS INCLUDED FOR CONSTRUCTIBILITY AND TO ALLOW FOR HORIZONTAL DEFLECTIONS.
3. EXISTING APPURTENANCES, RAILINGS, ETC. FOR THE BOARDWALK ARE NOT SHOWN FOR CLARITY.

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E	FINAL GRR - APPENDIX A1.C	12.05.18	MK
D	DRAFT FINAL GRR-APPENDIX A1.C	11.19.18	MK
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B	DRAFT FINAL GRR-APPENDIX A1.C	08.20.18	MK
A	DRAFT FINAL GRR-APPENDIX A1.B	07.19.18	MK

DESIGNED BY: RWH
DRWN BY: ME
CKD BY: MK
SUBMITTED BY: SA
DATE: 12.05.18
SOLICITATION NO.:
CONTRACT NO.:
PLOT SCALE: 1.0000
PLOT DATE: 12/5/2018
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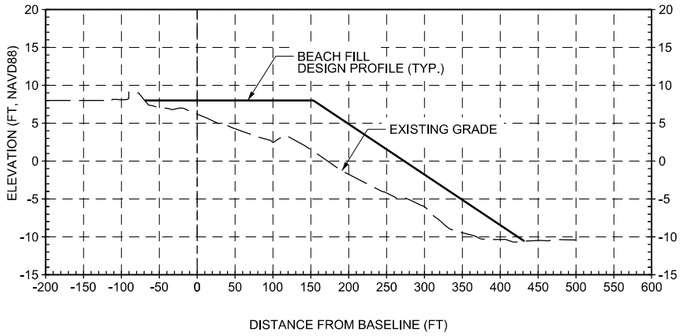
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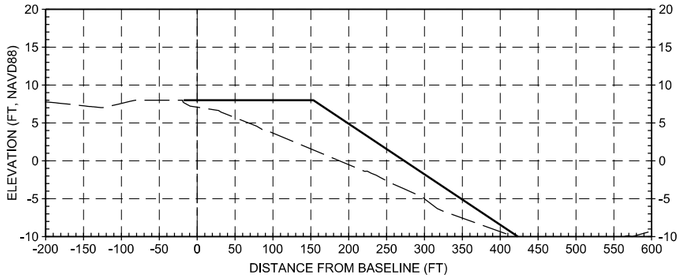
COMPOSITE SEAWALL TYPICAL SECTIONS

SHEET ID
CS-302
SHEET 21 OF 36

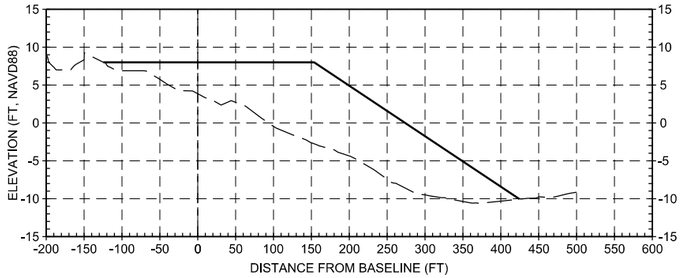
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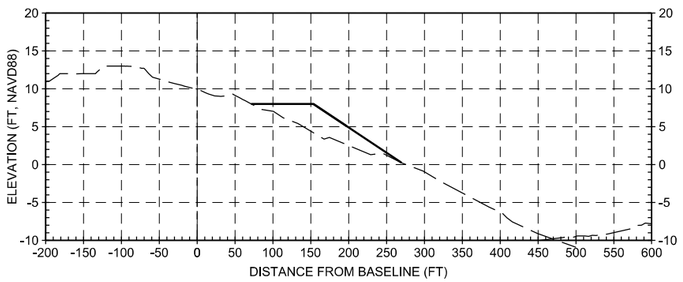
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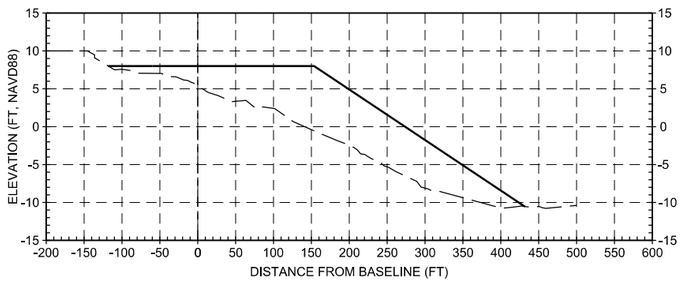
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-10+00



-50+00



-20+00

NOTES

1. EXISTING PROFILE IS BASED ON POST-SANDY SURVEY PERFORMED BY McKIM & CREED FROM FEBRUARY 25TH, 2013 TO MARCH 5TH, 2013.
2. DESIGN PROFILE SHOWN IN SECTIONS.
3. REFER TO SHEETS CS-301 AND CS-302 FOR TYPICAL SECTIONS.

PRELIMINARY
NOT FOR CONSTRUCTION

0 10' 20'
VERT. SCALE: 1"=10'

0 100' 200'
HOR. SCALE: 1"=100'

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C	DRAFT FINAL GRR-APPENDIX A1.C	08.30.18	MK
B	DRAFT FINAL GRR-APPENDIX A1.C	08.20.18	MK
A	DRAFT FINAL GRR-APPENDIX A1.B	07.19.18	MK

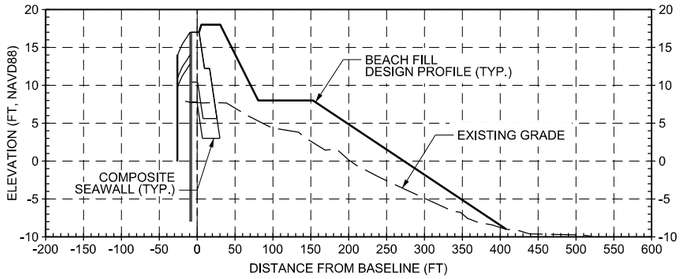
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DRWN BY: ME
SUBMITTED BY: SA
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SIZE: ANSI D
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PLOT DATE: 12/3/2018
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SOLICITATION NO.:
CONTRACT NO.:
FILE NUMBER:

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NEW YORK
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NEW YORK, NY 10017
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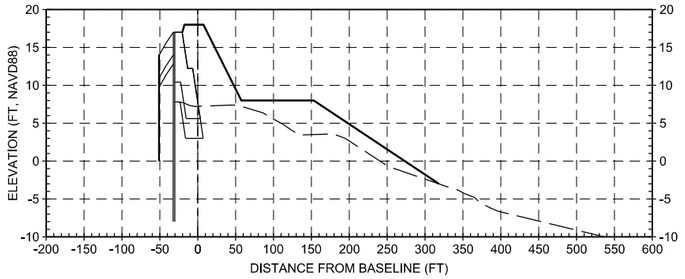
INTEGRATED HURRICANE SANDY GENERAL RE-EVALUATION REPORT AND ENVIRONMENTAL IMPACT STATEMENT

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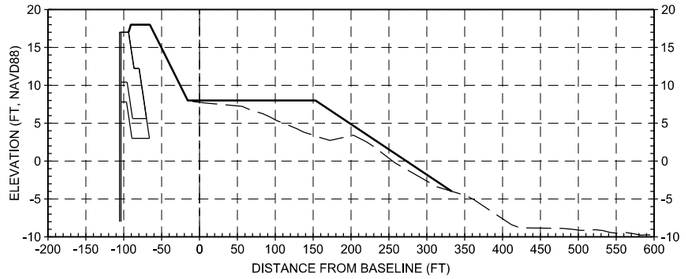
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SHEET 22 OF 36



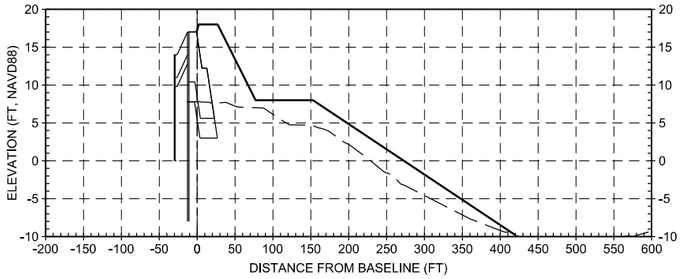
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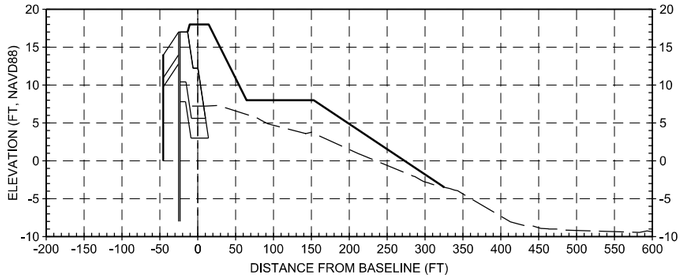
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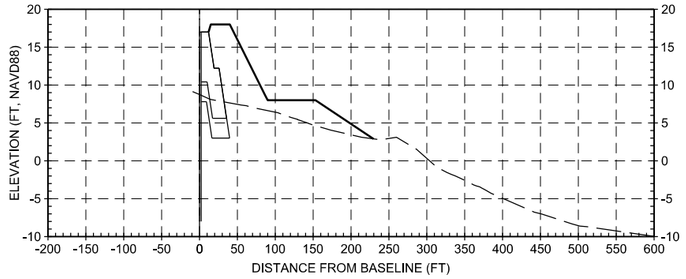
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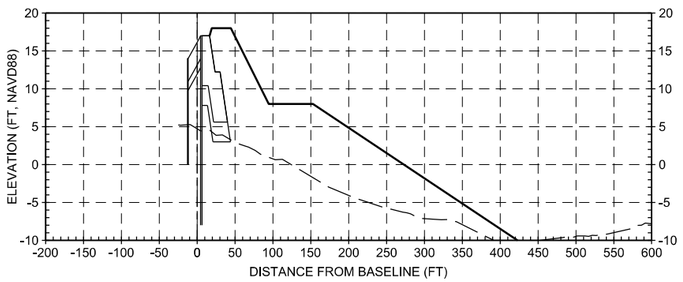
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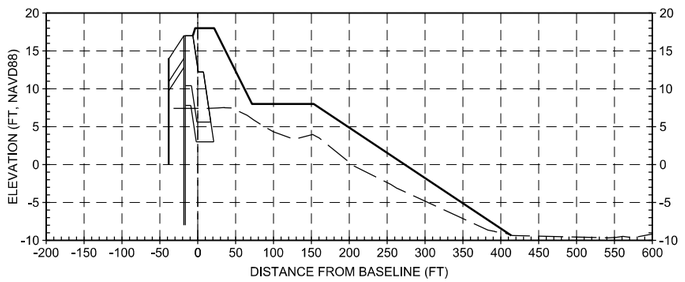
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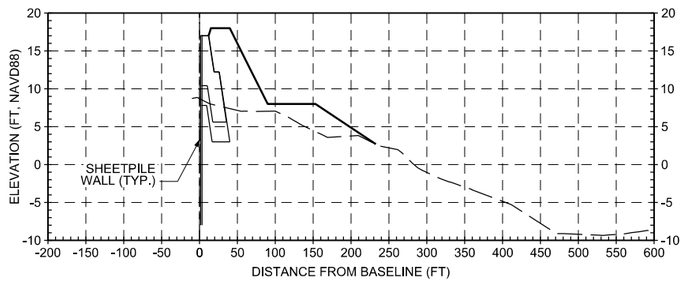
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0+10



30+00



60+00

NOTES

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PRELIMINARY
NOT FOR CONSTRUCTION

VERT. SCALE: 1"=10'

HOR. SCALE: 1"=100'

MARK	DESCRIPTION	DATE	APPR.
E	FINAL GRR - APPENDIX A1.C	12.05.18	MK
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C	DRAFT FINAL GRR-APPENDIX A1.C	08.30.18	MK
B	DRAFT FINAL GRR-APPENDIX A1.C	08.20.18	MK
A	DRAFT FINAL GRR-APPENDIX A1.B	07.19.18	MK

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DESIGNED BY: RWH | DRN BY: ME | CKD BY: MK | SUBMITTED BY: SA | DATE: 12.05.18 | SOLICITATION NO.: | CONTRACT NO.: | PLOT SCALE: 1:1.0000 | PLOT DATE: 12/3/2018 | FILE NUMBER: | SIZE: ANSI D | FILE NAME: W912DS_A1_CS-304.dgn

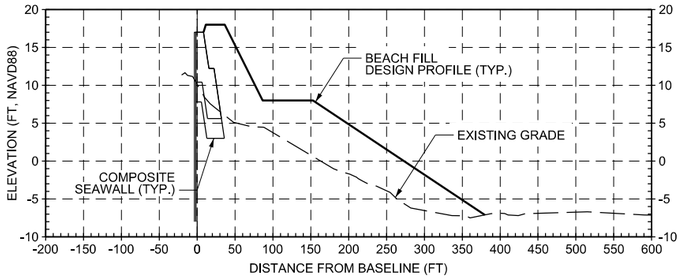
U.S. ARMY CORPS OF ENGINEERS
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NEW YORK, NY 10017
212-768-7454

INTEGRATED HURRICANE SANDY GENERAL RE-EVALUATION REPORT AND ENVIRONMENTAL IMPACT STATEMENT

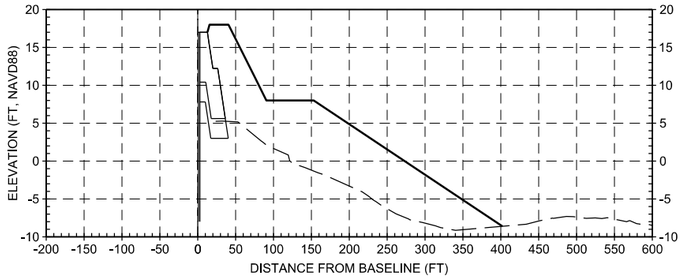
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SHEET ID
CS-304
SHEET 23 OF 36

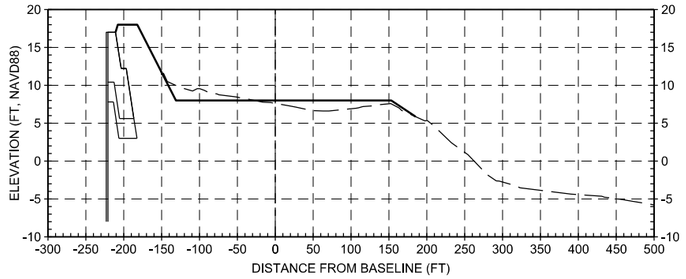
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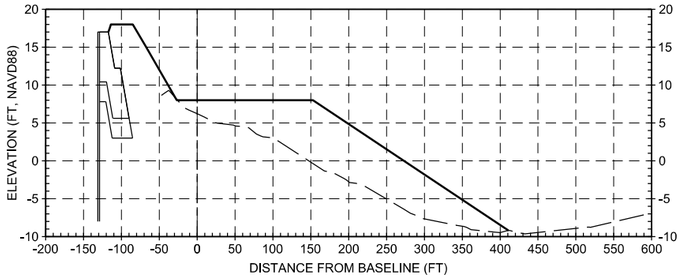
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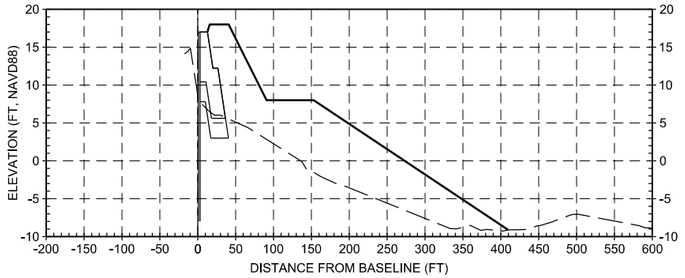
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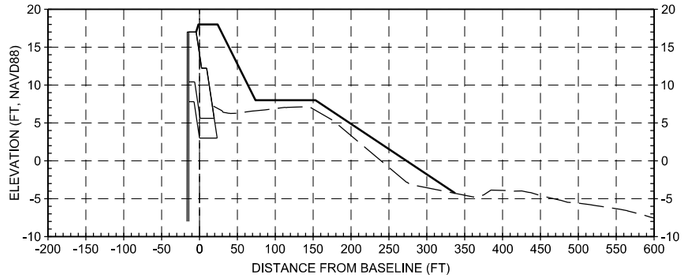
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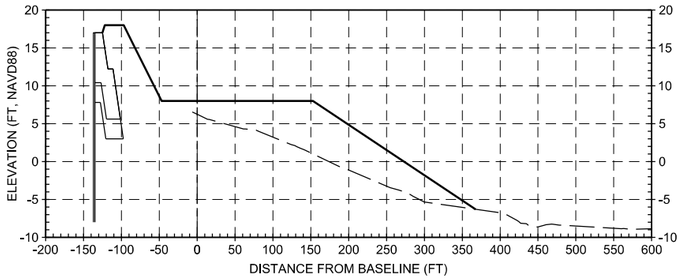
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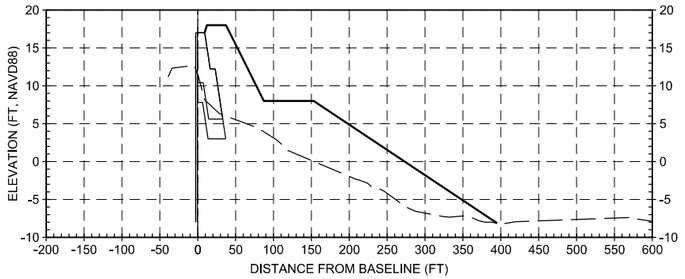
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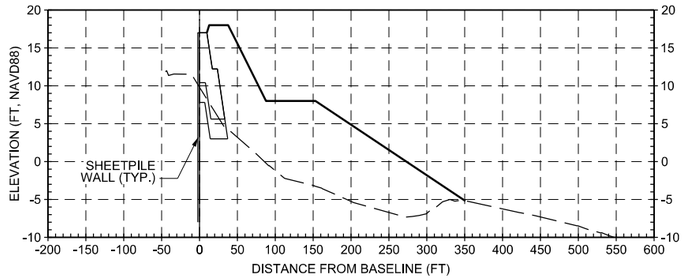
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90+00



120+00



150+00

NOTES

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PRELIMINARY
NOT FOR CONSTRUCTION

VERT. SCALE: 1"=10'

HOR. SCALE: 1"=100'

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C	DRAFT FINAL GRR-APPENDIX A1.C	08.30.18	MK
B	DRAFT FINAL GRR-APPENDIX A1.C	08.20.18	MK
A	DRAFT FINAL GRR-APPENDIX A1.B	07.19.18	MK

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DESIGNED BY: RWH
DRWN BY: ME
SUBMITTED BY: SA
CKD BY: MK
PLOT SCALE: 1:1.0000
SIZE: ANSI D
DATE: 12.05.18
SOLICITATION NO.:
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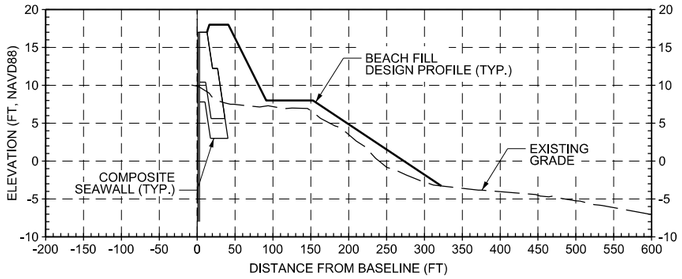
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U.S. ARMY ENGINEER DISTRICT
NEW YORK
http://www.nan.usace.army.mil

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NEW YORK, NY 10017
212-768-7454

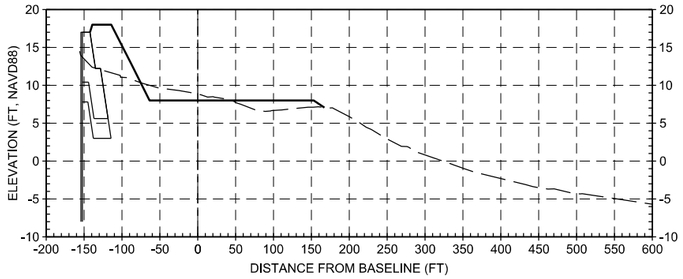
INTEGRATED HURRICANE SANDY GENERAL RE-EVALUATION REPORT AND ENVIRONMENTAL IMPACT STATEMENT

CROSS SECTIONS (SHEET 3 OF 5)

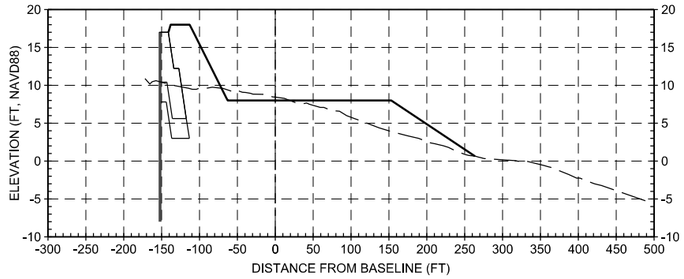
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CS-305
SHEET 24 OF 36



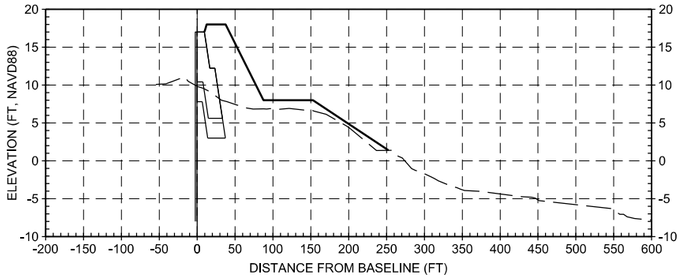
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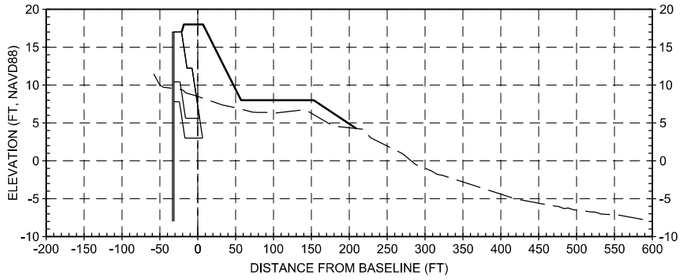
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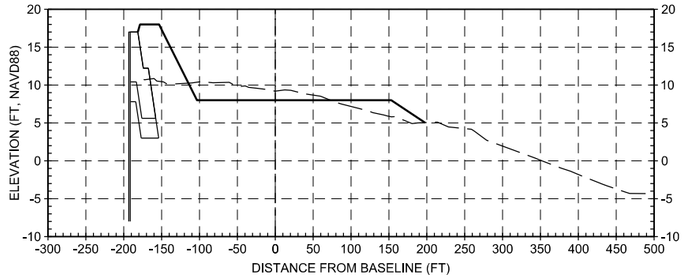
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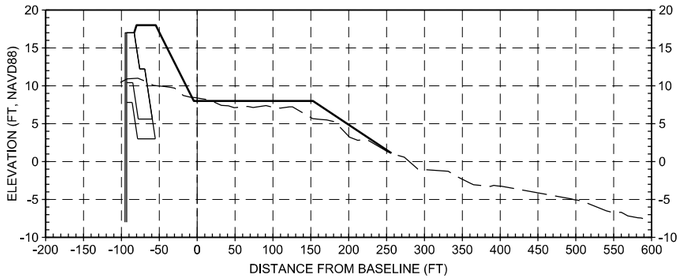
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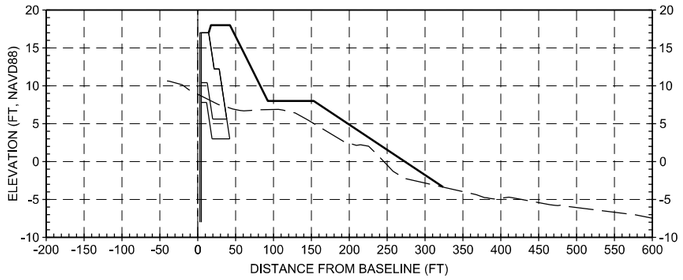
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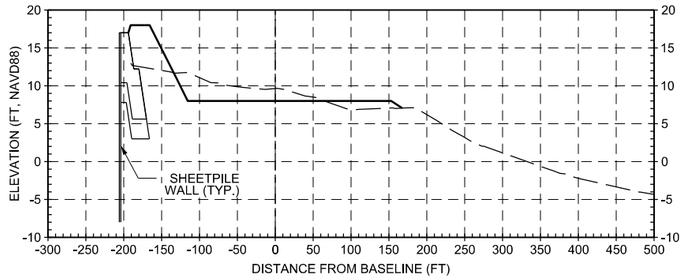
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180+00



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240+00

NOTES

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PRELIMINARY
NOT FOR CONSTRUCTION

VERT. SCALE: 1"=10'

HOR. SCALE: 1"=100'

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C	DRAFT FINAL GRR-APPENDIX A1.C	08.30.18	MK
B	DRAFT FINAL GRR-APPENDIX A1.C	08.20.18	MK
A	DRAFT FINAL GRR-APPENDIX A1.B	07.19.18	MK

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DESIGNED BY: RWH
DRWN BY: ME
SUBMITTED BY: SA
CKD BY: MK
PLOT SCALE: 1:1000000
SIZE: ANSI D
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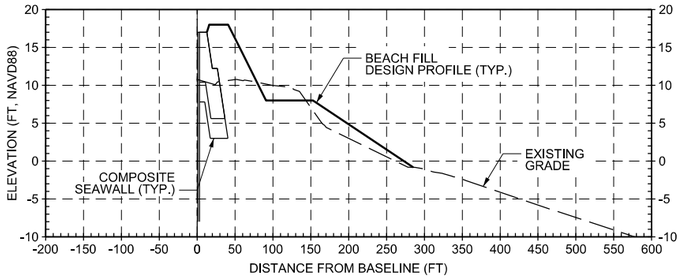
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212-768-7454

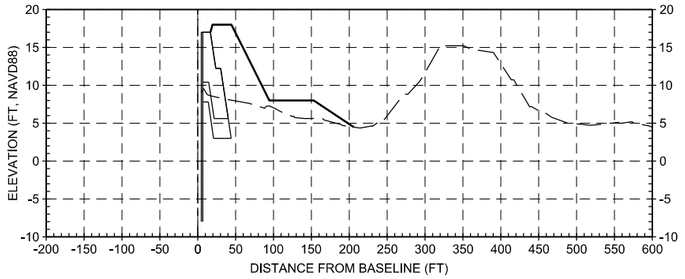
INTEGRATED HURRICANE SANDY GENERAL RE-EVALUATION REPORT AND ENVIRONMENTAL IMPACT STATEMENT

CROSS SECTIONS (SHEET 4 OF 5)

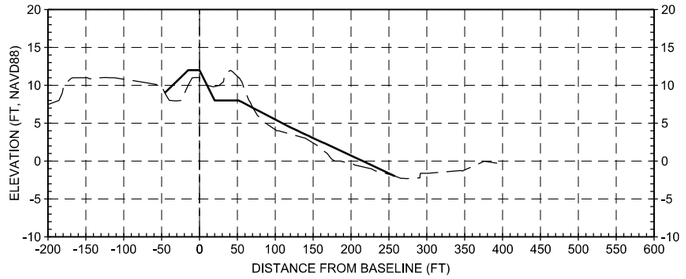
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CS-306
SHEET 25 OF 36



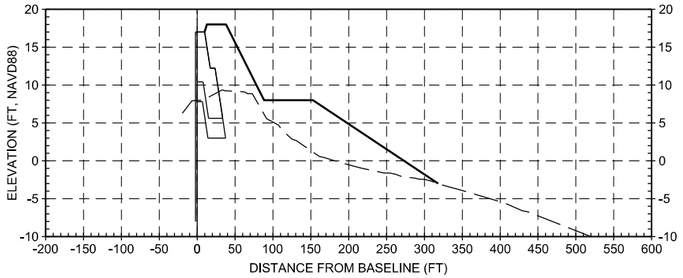
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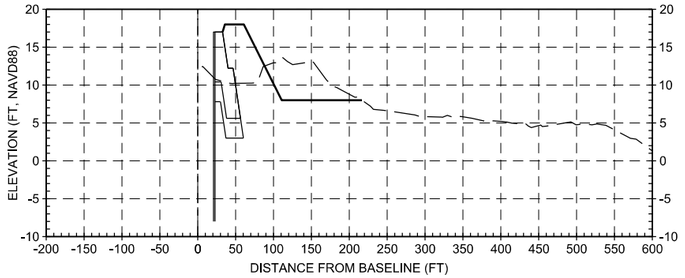
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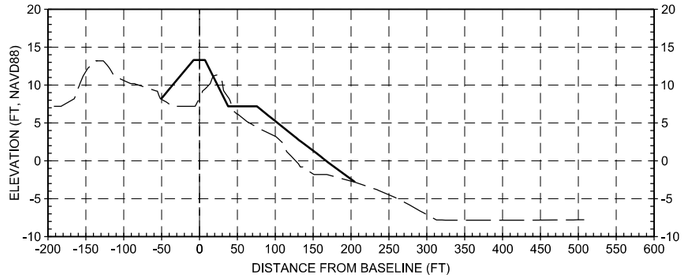
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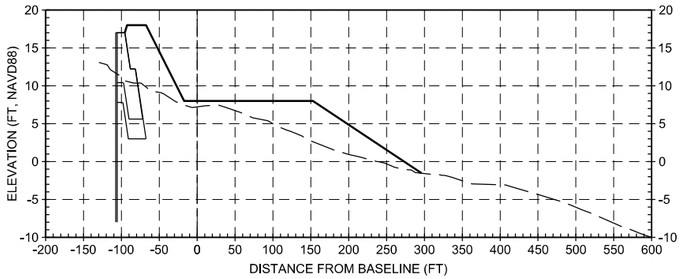
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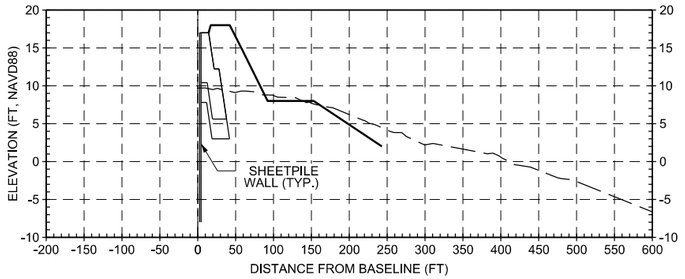
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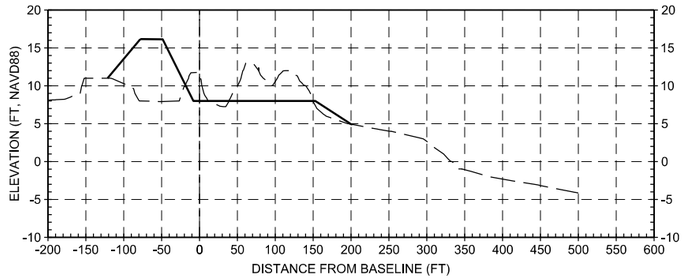
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270+00



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330+00

NOTES

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PRELIMINARY
NOT FOR CONSTRUCTION

VERT. SCALE: 1"=10'

HOR. SCALE: 1"=100'

MARK	DESCRIPTION	DATE	APPR.
E	FINAL GRR - APPENDIX A1.C	12.05.18	MK
D	DRAFT FINAL GRR-APPENDIX A1.C	11.19.18	MK
C	DRAFT FINAL GRR-APPENDIX A1.C	08.30.18	MK
B	DRAFT FINAL GRR-APPENDIX A1.C	08.20.18	MK
A	DRAFT FINAL GRR-APPENDIX A1.B	07.19.18	MK

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DESIGNED BY: RWH | DRWN BY: ME | SUBMITTED BY: SA | CKD BY: MK | DATE: 12.05.18 | SOLICITATION NO.: | CONTRACT NO.: | FILE NUMBER: | PLOT DATE: 12/3/2018 | PLOT SCALE: 1:1 | SIZE: ANSI D | FILE NAME: W912DS_A1_CS-307.dgn

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NEW YORK
http://www.nan.usace.army.mil

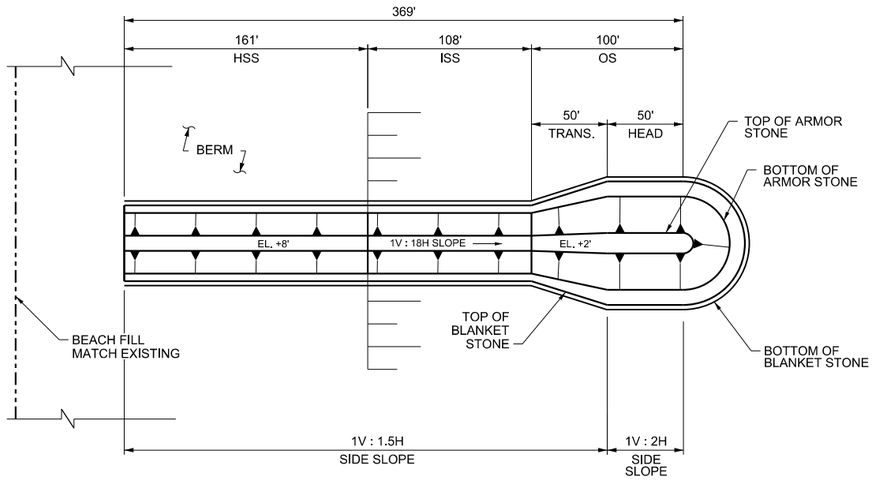
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INTEGRATED HURRICANE SANDY GENERAL RE-EVALUATION REPORT AND ENVIRONMENTAL IMPACT STATEMENT

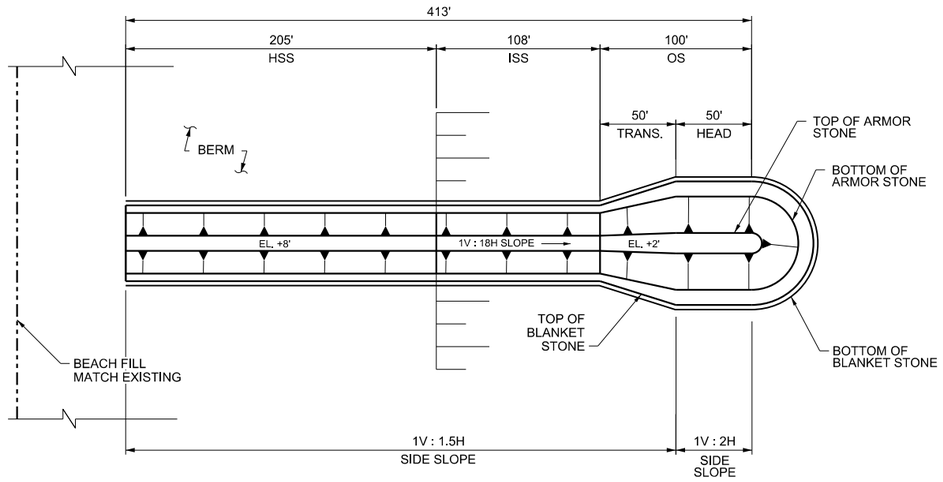
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SHEET 26 OF 36

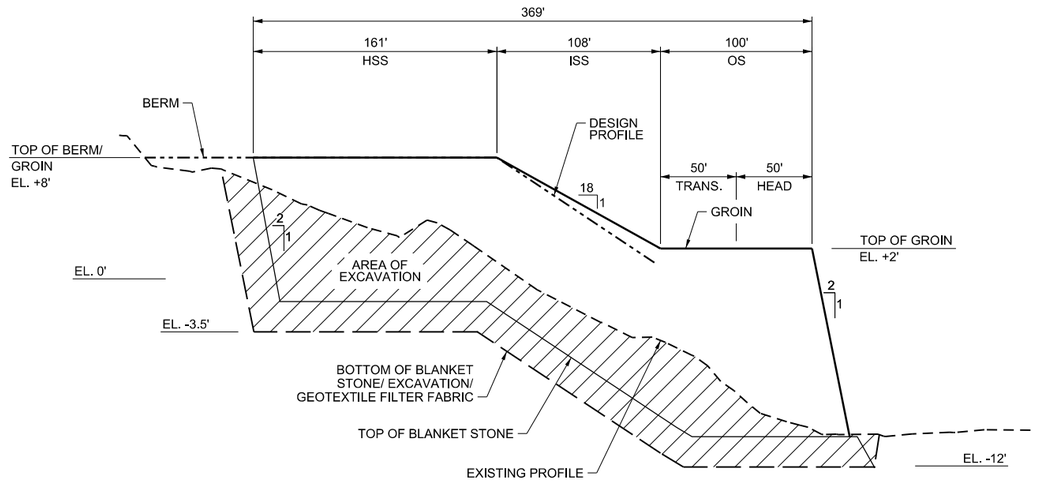
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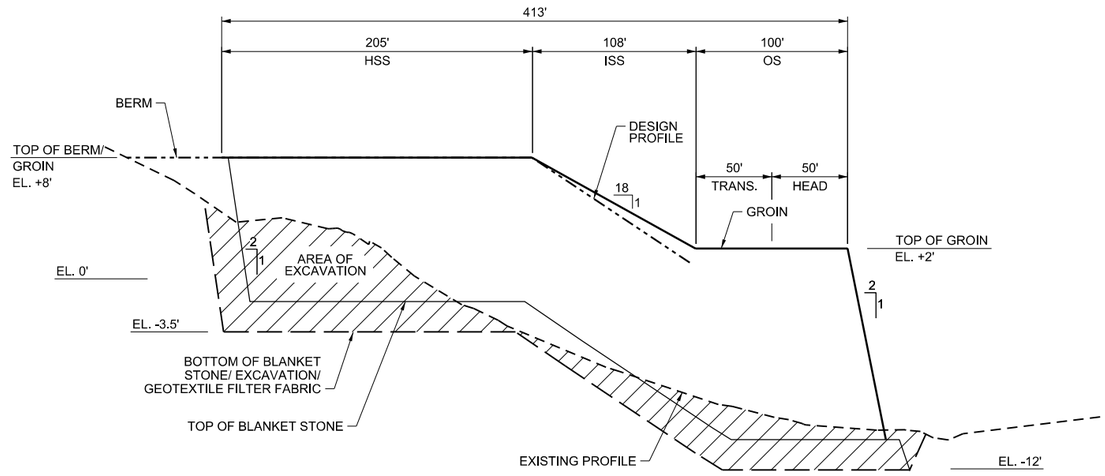
C1 CS-102 PLAN - GROIN 21
SCALE: 1"=50'



C4 CS-102 PLAN - GROIN 22
SCALE: 1"=50'



A1 CS-401 PROFILE - GROIN 21
SCALE: 1"=50'



A4 CS-401 PROFILE - GROIN 22
SCALE: 1"=50'

NOTES

1. EXISTING PROFILE IS BASED ON POST-SANDY SURVEY PERFORMED BY McKIM & CREED FROM FEBRUARY 25TH, 2013 TO MARCH 5TH, 2013.
2. THE WIDTH OF THE DESIGN BERM IS GENERALLY 60 FEET OR MORE. THE SEAWARD CREST OF THE DESIGN BERM IS CONTROLLED BY THE ALIGNMENT OF THE BASELINE, WHICH DOES NOT ALWAYS FOLLOW THE BOARDWALK ALIGNMENT.
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4. REMOVE EXISTING ARMOR STONE AND RE-WORK AS NECESSARY TO CREATE CONTINUOUS INTERLOCKING GROIN STRUCTURE.
5. EXTENTS OF EXISTING GROIN ARE UNKNOWN AT THIS TIME. END OF EXPOSED GROIN HAS BEEN LOCATED FROM AERIAL IMAGERY. EXTENTS OF GROIN TO BE DETERMINED PRIOR TO PRELIMINARY DESIGN PHASE.
6. MATCH ELEVATION WITH EXISTING GROIN CREST.
7. EXISTING CONTOURS NOT SHOWN ON PLAN FOR CLARITY.
8. SEE SHEET CS-302 FOR COMPOSITE WALL SECTIONS.
9. SEE SHEET CS-404 FOR TYPICAL GROIN HSS, OS AND HEAD SECTIONS.

ABBREVIATION

EL.	ELEVATION
HSS	HORIZONTAL SHORE SECTION
ISS	INTERMEDIATE SLOPING SECTION
OS	OUTER SECTION
TRANS.	TRANSITION

PRELIMINARY
NOT FOR CONSTRUCTION

0 10' 20'
VERT. SCALE: 1"=10'

0 50' 100'
HOR. SCALE: 1"=50'

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D	DRAFT FINAL GRR-APPENDIX A1.C	11.19.18	MK
C	DRAFT FINAL GRR-APPENDIX A1.C	08.30.18	MK
B	DRAFT FINAL GRR-APPENDIX A1.C	08.20.18	MK
A	DRAFT FINAL GRR-APPENDIX A1.B	07.19.18	MK

DESIGNED BY: RWH
DRWN BY: ME
CKD BY: MK
SUBMITTED BY: SA
DATE: 12.05.18
SOLICITATION NO.:
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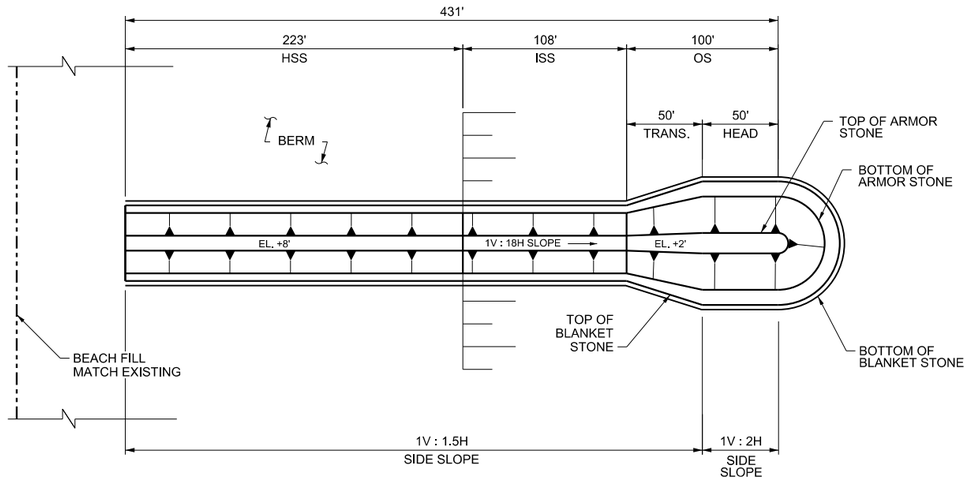
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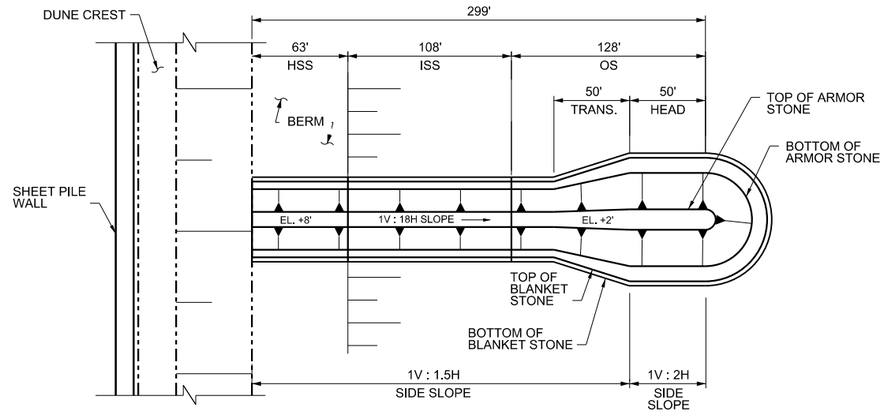
TYPICAL PLAN AND PROFILE GROIN CONSTRUCTION REACH 2

SHEET ID
CS-401
SHEET 27 OF 36



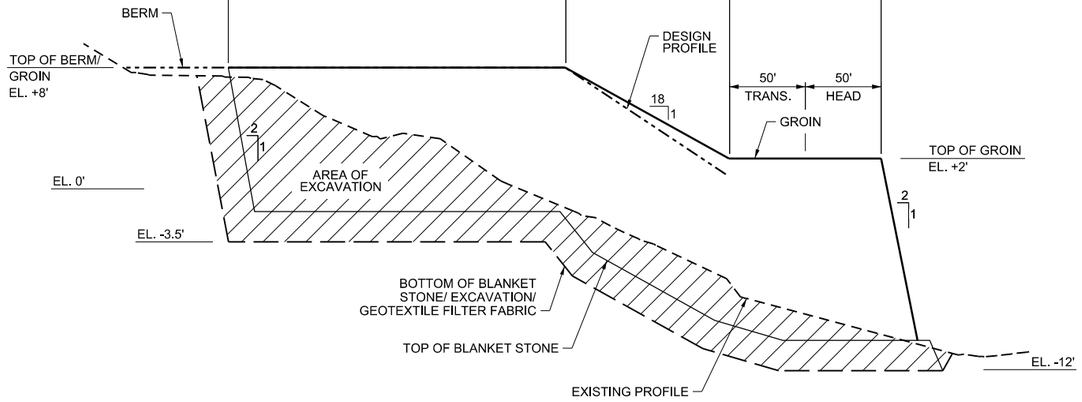
C1 CS-103 PLAN - GROIN 23

SCALE: 1"=50'



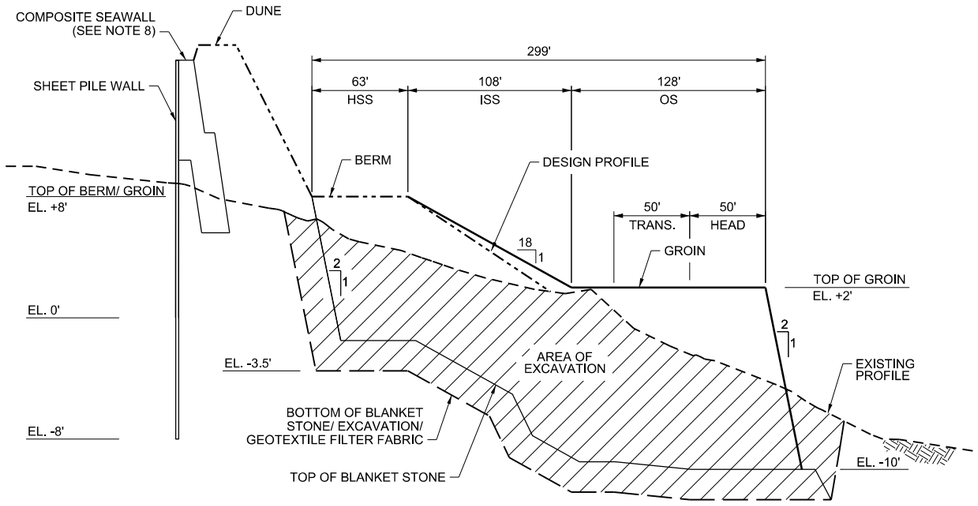
C4 CS-106 PLAN - GROIN 31 (121st STREET)

SCALE: 1"=50'



A1 CS-402 PROFILE - GROIN 23

SCALE: 1"=50'



A4 CS-402 PROFILE - GROIN 31 (121st STREET)

SCALE: 1"=50'

NOTES

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7. EXISTING CONTOURS NOT SHOWN ON PLAN FOR CLARITY.
8. SEE SHEET CS-302 FOR COMPOSITE WALL SECTIONS.
9. SEE SHEET CS-404 FOR TYPICAL GROIN HSS, OS AND HEAD SECTIONS.

ABBREVIATION

EL.	ELEVATION
HSS	HORIZONTAL SHORE SECTION
ISS	INTERMEDIATE SLOPING SECTION
OS	OUTER SECTION
TRANS.	TRANSITION

PRELIMINARY
NOT FOR CONSTRUCTION

0 10' 20'
VERT. SCALE: 1"=10'

0 50' 100'
HOR. SCALE: 1"=50'

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B	DRAFT FINAL GRR-APPENDIX A1.C	08.20.18	MK
A	DRAFT FINAL GRR-APPENDIX A1.B	07.19.18	MK

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DRWN BY: ME
SUBMITTED BY: SA
PLOT SCALE: 1:50000
SIZE: ANSI D
DATE: 12.05.18
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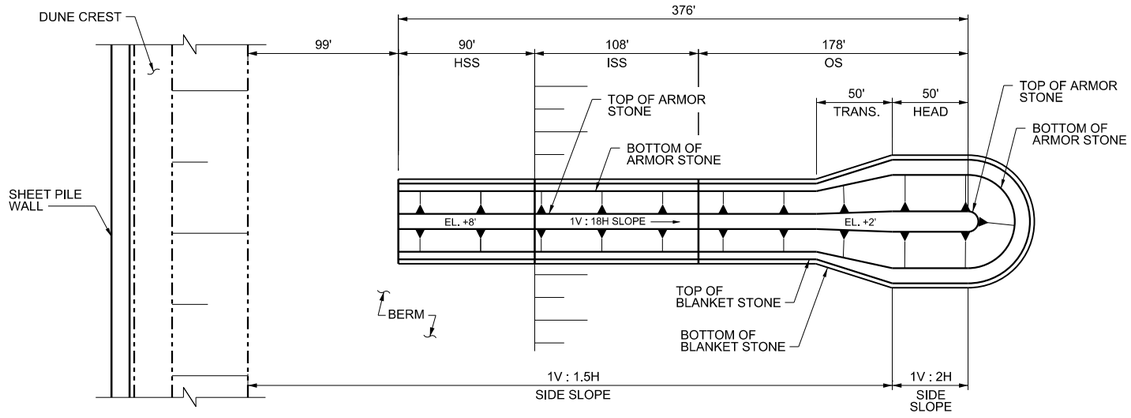
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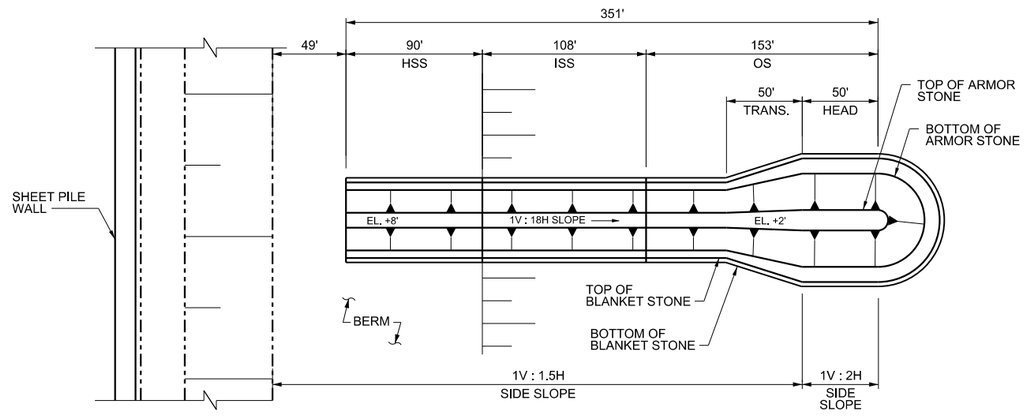
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TYPICAL PLAN AND PROFILE GROIN CONSTRUCTION REACH 2 & 3

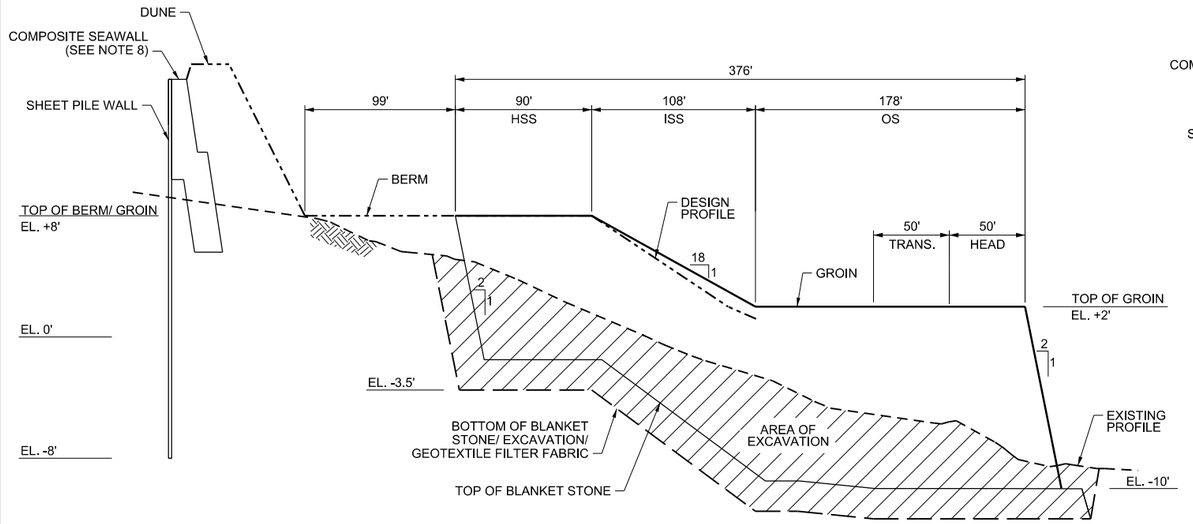
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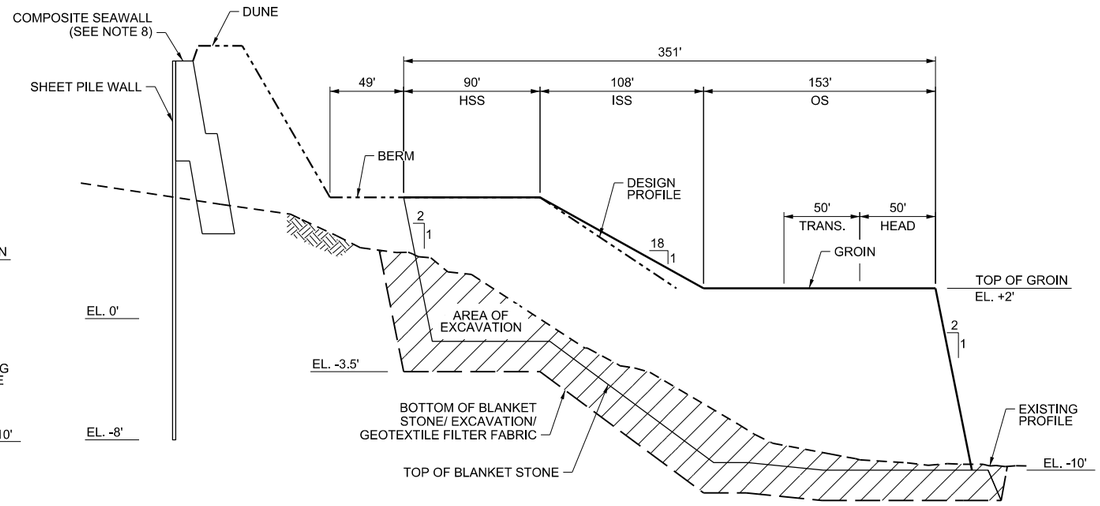
C1 CS-106 PLAN - GROIN 33 (115th STREET)
GROINS 32 & 34 SIMILAR
SCALE: 1"=50'



C4 CS-107 PLAN - GROIN 35 (110th STREET)
SCALE: 1"=50'



A1 CS-403 PROFILE - GROIN 33 (115th STREET)
GROINS 32 & 34 SIMILAR
SCALE: 1"=50'



A4 CS-403 PLAN - GROIN 35 (110th STREET)
SCALE: 1"=50'

NOTES

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ABBREVIATION

EL.	ELEVATION
HSS	HORIZONTAL SHORE SECTION
ISS	INTERMEDIATE SLOPING SECTION
OS	OUTER SECTION
TRANS.	TRANSITION

PRELIMINARY
NOT FOR CONSTRUCTION

VERT. SCALE: 1"=10' (0, 10', 20')

HOR. SCALE: 1"=50' (0, 50', 100')

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B	DRAFT FINAL GRR-APPENDIX A1.C	08.20.18	MK
A	DRAFT FINAL GRR-APPENDIX A1.B	07.19.18	MK

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DRWN BY: ME
SUBMITTED BY: SA
DATE: 12.05.18
CKD BY: MK
SOLICITATION NO.:
CONTRACT NO.:
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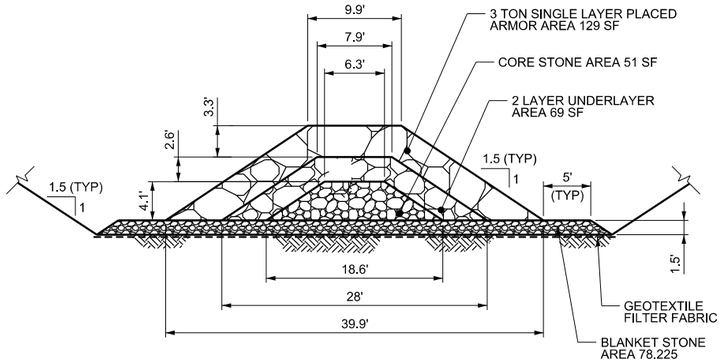
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TYPICAL PLAN AND PROFILE GROIN CONSTRUCTION REACH 3

SHEET ID
CS-403
SHEET 29 OF 36

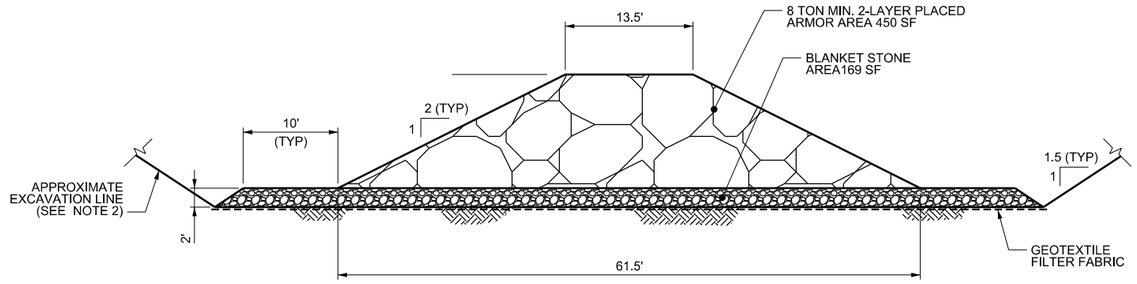
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C2 — SECTION - TYPICAL HSS

SCALE: 1/8"=1'-0"

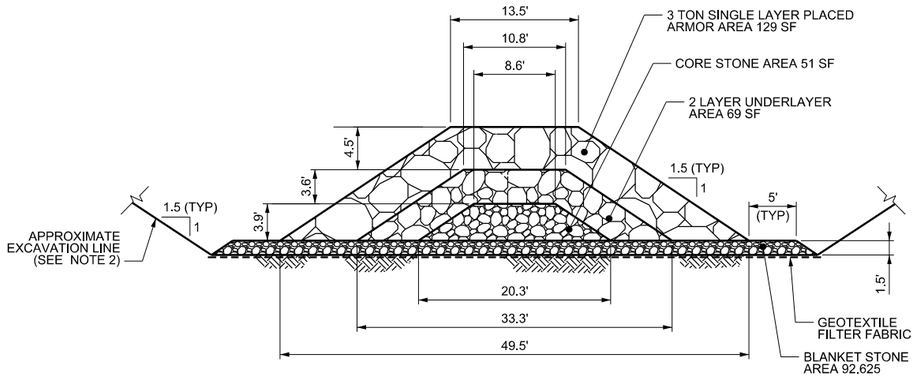
C-401 TO C-403



C2 — SECTION - TYPICAL HEAD

SCALE: 1/8"=1'-0"

C-401 TO C-403



C2 — SECTION - TYPICAL OS

SCALE: 1/8"=1'-0"

C-401 TO C-403

NOTES

1. EXISTING GRADE NOT SHOWN FOR CLARITY.
2. EXCAVATE TO EXISTING GRADE TO FACILITATE GROIN CONSTRUCTION.

VERT. SCALE: 1/8"=1'-0" (0, 8', 16')

HOR. SCALE: 1/8"=1'-0" (0, 8', 16')

PRELIMINARY
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A	DRAFT FINAL GRR-APPENDIX A1.B	07.19.18	MK

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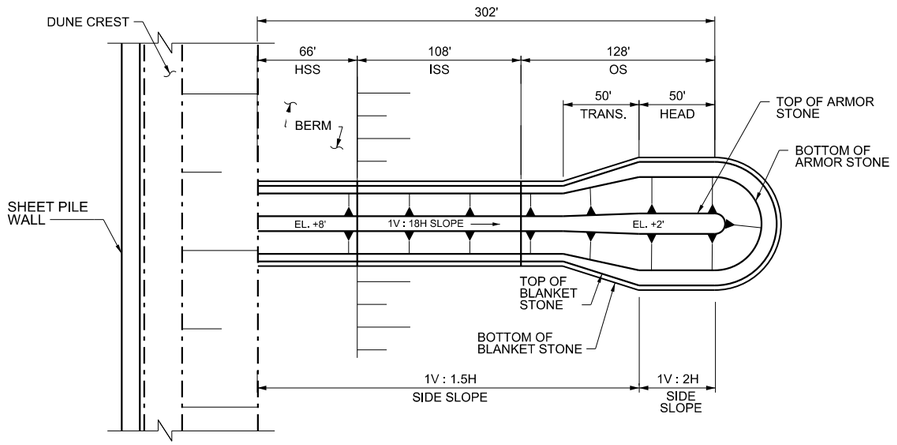
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DRWN BY: ME
CKD BY: MK
SUBMITTED BY: SA
PLOT SCALE: 1.000000
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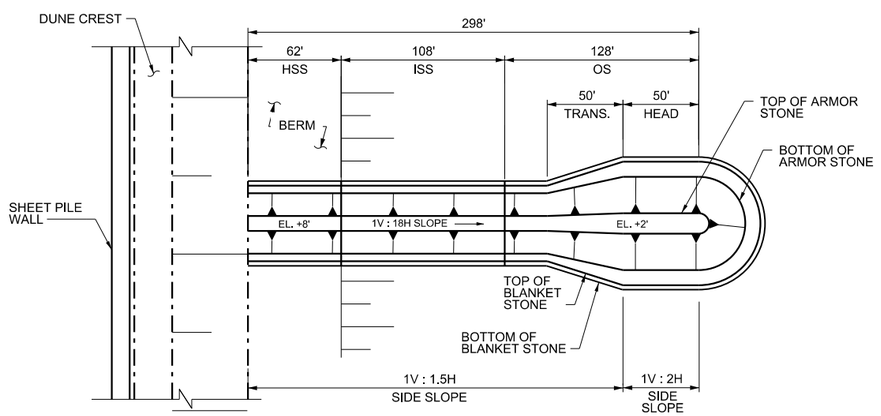
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TYPICAL SECTION GROIN CONSTRUCTION REACH 3

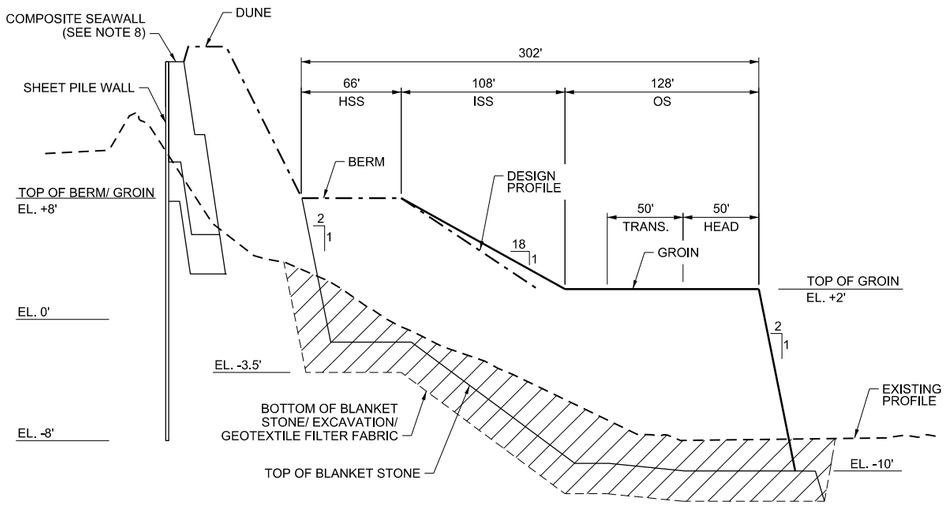
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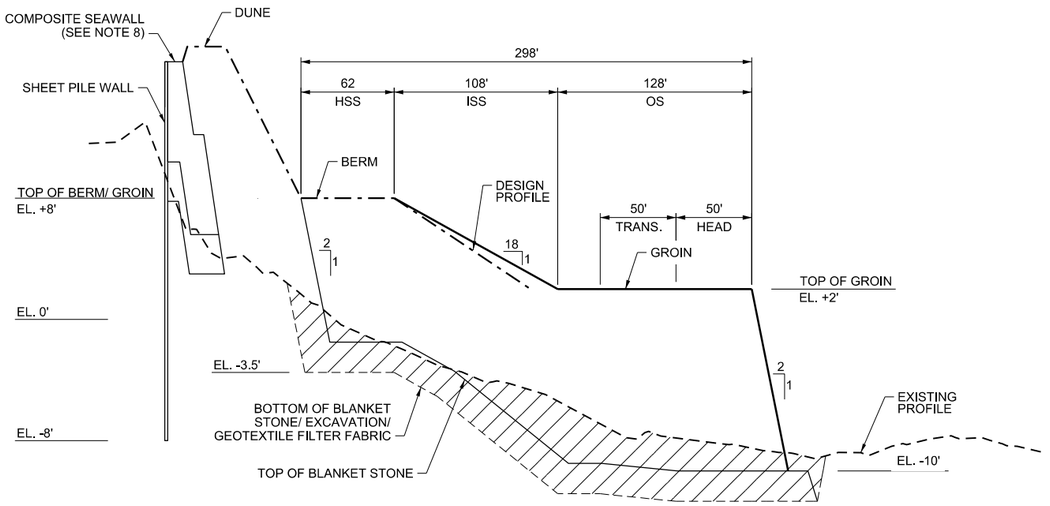
C1 CS-108 PLAN - GROIN 43 (104th STREET)
GROINS 42, 43, & 47 SIMILAR
SCALE: 1"=50'



C4 CS-109 PLAN - GROIN 44 (101st STREET)
GROINS 45, & 46 SIMILAR
SCALE: 1"=50'



A1 CS-405 PROFILE - GROIN 43 (104th STREET)
GROINS 42, 43, & 47 SIMILAR
SCALE: 1"=50'



A4 CS-405 PROFILE - GROIN 44 (101st STREET)
GROINS 45, & 46 SIMILAR
SCALE: 1"=50'

NOTES

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ABBREVIATION

EL.	ELEVATION
HSS	HORIZONTAL SHORE SECTION
ISS	INTERMEDIATE SLOPING SECTION
OS	OUTER SECTION
TRANS.	TRANSITION

PRELIMINARY
NOT FOR CONSTRUCTION

VERT. SCALE: 1"=10' (0, 10', 20')

HOR. SCALE: 1"=50' (0, 50', 100')

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B	DRAFT FINAL GRR-APPENDIX A1.C	08.20.18	MK
A	DRAFT FINAL GRR-APPENDIX A1.B	07.19.18	MK

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DWN BY: ME
CKD BY: MK
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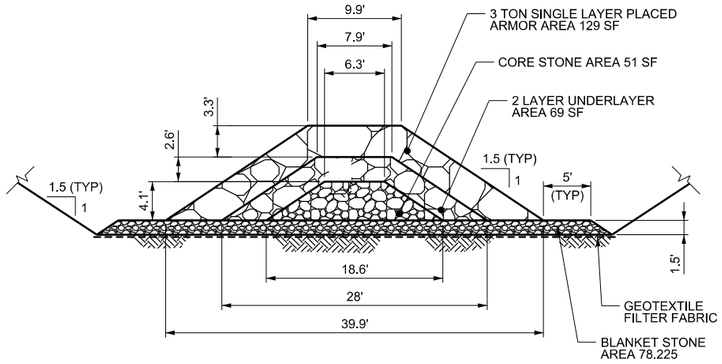
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TYPICAL PLAN AND PROFILE GROIN CONSTRUCTION REACH 4

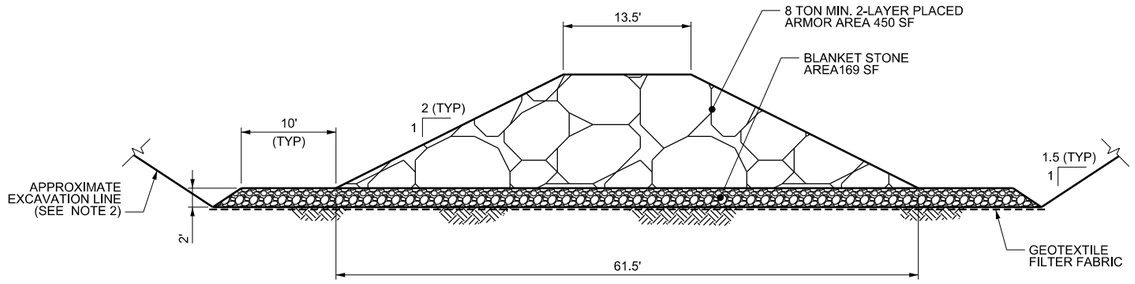
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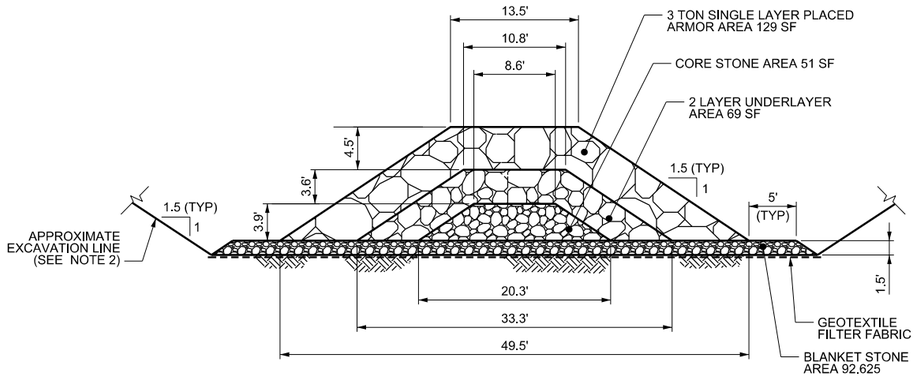
C2 / C-405 TYPICAL HSS

SCALE: 1/8"=1'-0"



C2 / C-405 TYPICAL HEAD

SCALE: 1/8"=1'-0"



C2 / C-405 TYPICAL OS

SCALE: 1/8"=1'-0"

NOTES

1. EXISTING GRADE NOT SHOWN FOR CLARITY.
2. EXCAVATE TO EXISTING GRADE TO FACILITATE GROIN CONSTRUCTION.

PRELIMINARY
NOT FOR CONSTRUCTION

0 8' 16'
VERT. SCALE: 1/8"=1'-0"

0 8' 16'
HOR. SCALE: 1/8"=1'-0"

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C	DRAFT FINAL GRR-APPENDIX A1.C	08.30.18	MK
B	DRAFT FINAL GRR-APPENDIX A1.C	08.20.18	MK
A	DRAFT FINAL GRR-APPENDIX A1.B	07.19.18	MK

DESIGNED BY: RWH
DRWN BY: ME
SUBMITTED BY: SA
PLOT SCALE: 1:1.25000
SIZE: ANSI D
CKD BY: MK
DATE: 12.05.18
PLOT DATE: 12/3/2018
FILE NAME: W912DS_A1_CS-406.dgn
SOLICITATION NO.:
CONTRACT NO.:
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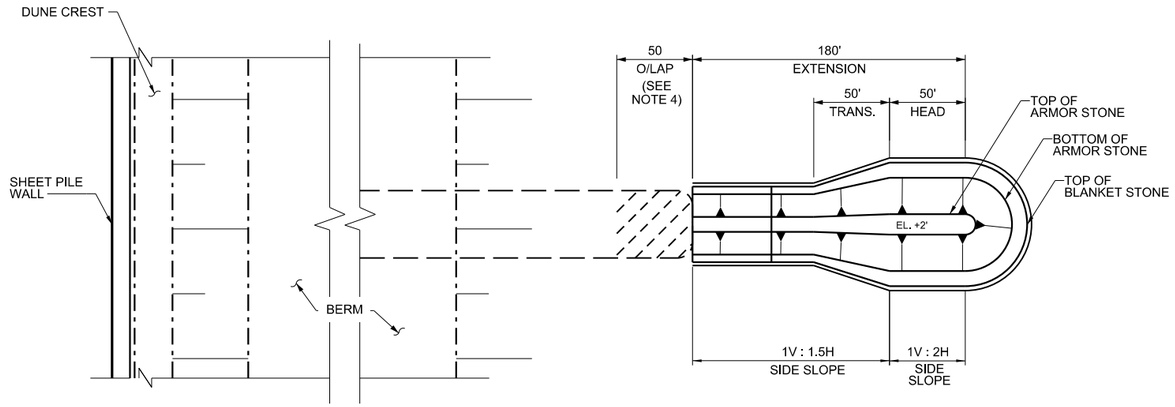
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INTEGRATED HURRICANE SANDY GENERAL RE-EVALUATION REPORT AND ENVIRONMENTAL IMPACT STATEMENT

TYPICAL SECTION GROIN CONSTRUCTION REACH 4

SHEET ID
CS-406
SHEET 32 OF 36



C2 / CS-113 PLAN - GROIN EXTENSION 51 (49th STREET)

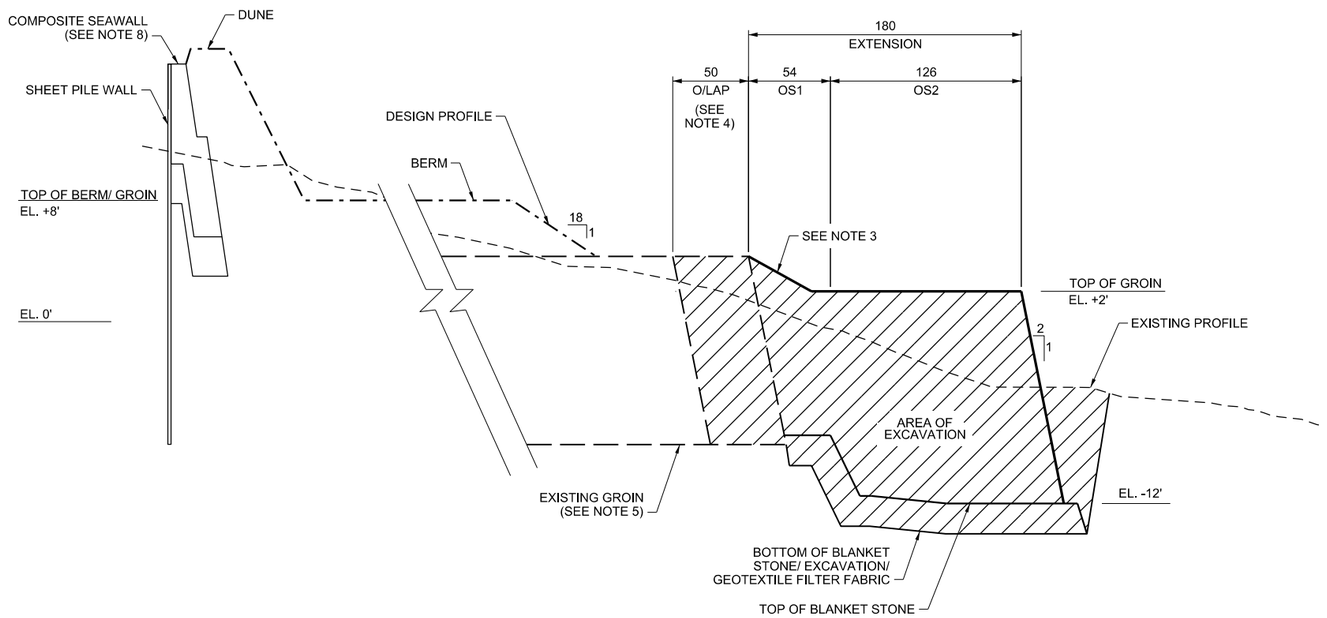
SCALE: 1"=50'

NOTES

1. EXISTING PROFILE IS BASED ON POST-SANDY SURVEY PERFORMED BY McKIM & CREED FROM FEBRUARY 25TH, 2013 TO MARCH 5TH, 2013.
2. THE WIDTH OF THE DESIGN BERM IS GENERALLY 60 FEET OR MORE. THE SEAWARD CREST OF THE DESIGN BERM IS CONTROLLED BY THE ALIGNMENT OF THE BASELINE, WHICH DOES NOT ALWAYS FOLLOW THE BOARDWALK ALIGNMENT.
3. THE DISTANCE FROM THE BASELINE TO THE DESIGN SHORELINE IS ALWAYS 243.0 FEET. THE DESIGN SHORELINE IS ALIGNED WITH THE NATURAL SHORELINE. THE ALIGNMENT OF THE DUNE FOLLOWS THE UNNATURAL ALIGNMENT OF THE BOARDWALK.
4. REMOVE EXISTING ARMOR STONE AND RE-WORK AS NECESSARY TO CREATE CONTINUOUS INTERLOCKING GROIN STRUCTURE.
5. EXTENTS OF EXISTING GROIN ARE UNKNOWN AT THIS TIME. END OF EXPOSED GROIN HAS BEEN LOCATED FROM AERIAL IMAGERY. EXTENTS OF GROIN TO BE DETERMINED PRIOR TO PRELIMINARY DESIGN PHASE.
6. MATCH ELEVATION WITH EXISTING GROIN CREST.
7. EXISTING CONTOURS NOT SHOWN ON PLAN FOR CLARITY.
8. SEE SHEET CS-302 FOR COMPOSITE WALL SECTIONS.
9. SEE SHEET CS-410 FOR TYPICAL GROIN HSS, OS AND HEAD SECTIONS.

ABBREVIATION

EL.	ELEVATION
HSS	HORIZONTAL SHORE SECTION
ISS	INTERMEDIATE SLOPING SECTION
OS	OUTER SECTION
TRANS.	TRANSITION
O/LAP	OVERLAP



A2 / CS-407 PLAN - GROIN EXTENSION 51 (49th STREET)

GROINS 52 & 53 SIMILAR

SCALE: 1"=50'

PRELIMINARY
NOT FOR CONSTRUCTION

0 10' 20'
VERT. SCALE: 1"=10'

0 50' 100'
HOR. SCALE: 1"=50'

PATH: Q:\NY\9781-02\500_CADD_Active_GRR Report-App A1\

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B	DRAFT FINAL GRR-APPENDIX A1.C	08.20.18	MK
A	DRAFT FINAL GRR-APPENDIX A1.B	07.19.18	MK

DESIGNED BY: RWH
DWN BY: ME
SUBMITTED BY: SA
PLOT SCALE: 1:50.0000
SIZE: ANSI D
DATE: 12.05.18
CKD BY: MK
PLOT DATE: 12/3/2018
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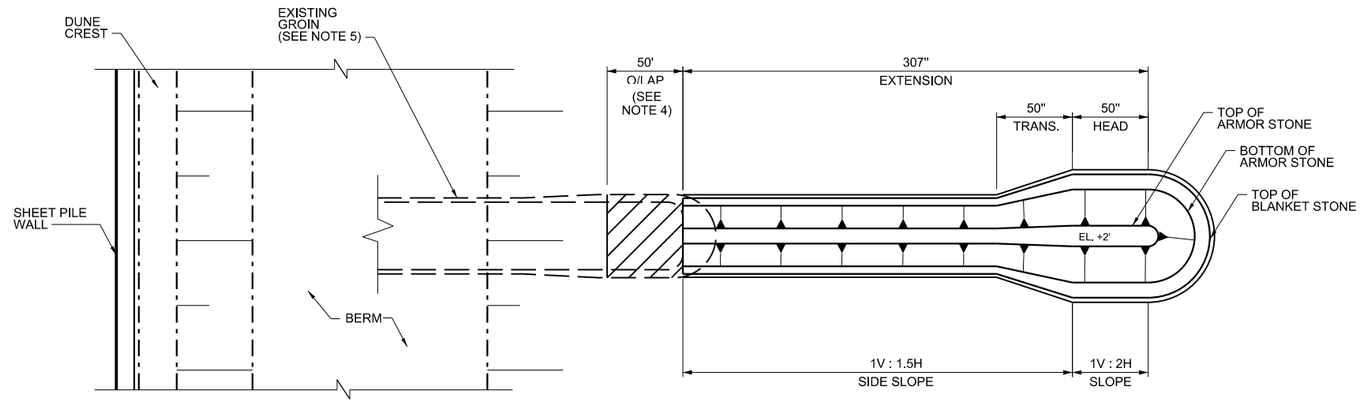
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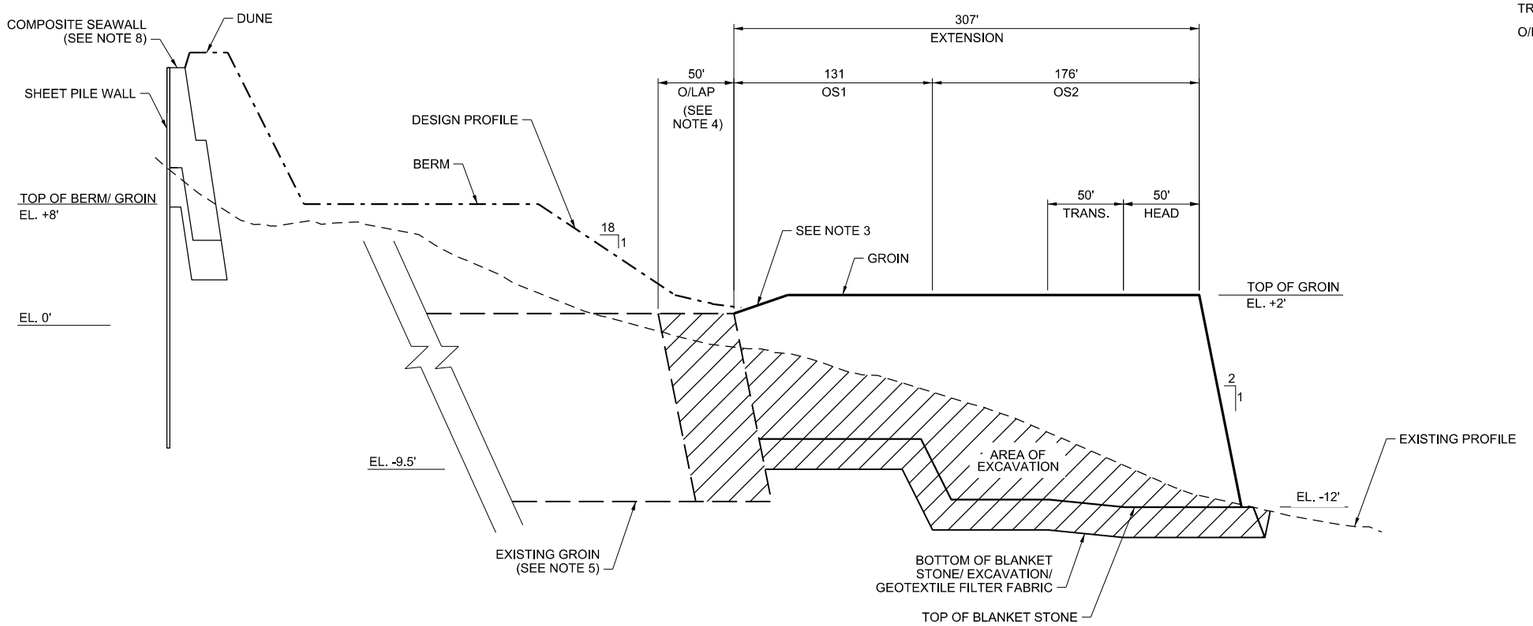
TYPICAL PLAN AND PROFILE
GROIN CONSTRUCTION REACH 5

SHEET ID
CS-407
SHEET 33 OF 36



C2 / CS-114 PLAN - GROIN 61 (40th STREET)

SCALE: 1"=50'



A2 / CS-408 PROFILE - GROIN 61 (40th STREET)

GROINS 62 SIMILAR

SCALE: 1"=50'

NOTES

1. EXISTING PROFILE IS BASED ON POST-SANDY SURVEY PERFORMED BY McKIM & CREED FROM FEBRUARY 25TH, 2013 TO MARCH 5TH, 2013.
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5. EXTENTS OF EXISTING GROIN ARE UNKNOWN AT THIS TIME. END OF EXPOSED GROIN HAS BEEN LOCATED FROM AERIAL IMAGERY. EXTENTS OF GROIN TO BE DETERMINED PRIOR TO PRELIMINARY DESIGN PHASE.
6. MATCH ELEVATION WITH EXISTING GROIN CREST.
7. EXISTING CONTOURS NOT SHOWN ON PLAN FOR CLARITY.
8. SEE SHEET CS-302 FOR COMPOSITE WALL SECTIONS.
9. SEE SHEET CS-410 FOR TYPICAL GROIN HSS, OS AND HEAD SECTIONS.

ABBREVIATION

EL.	ELEVATION
HSS	HORIZONTAL SHORE SECTION
ISS	INTERMEDIATE SLOPING SECTION
OS	OUTER SECTION
TRANS.	TRANSITION
O/LAP	OVERLAP

PRELIMINARY
NOT FOR CONSTRUCTION

0 10' 20'
VERT. SCALE: 1"=10'

0 50' 100'
HOR. SCALE: 1"=50'

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B	DRAFT FINAL GRR-APPENDIX A1.C	08.20.18	MK
A	DRAFT FINAL GRR-APPENDIX A1.B	07.19.18	MK

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DRAWN BY: ME
SUBMITTED BY: SA
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CKD BY: MK
PLOT SCALE: 1:1.0000
PLOT DATE: 12/3/2018
FILE NAME: W912DS_A1_CS-408.dgn
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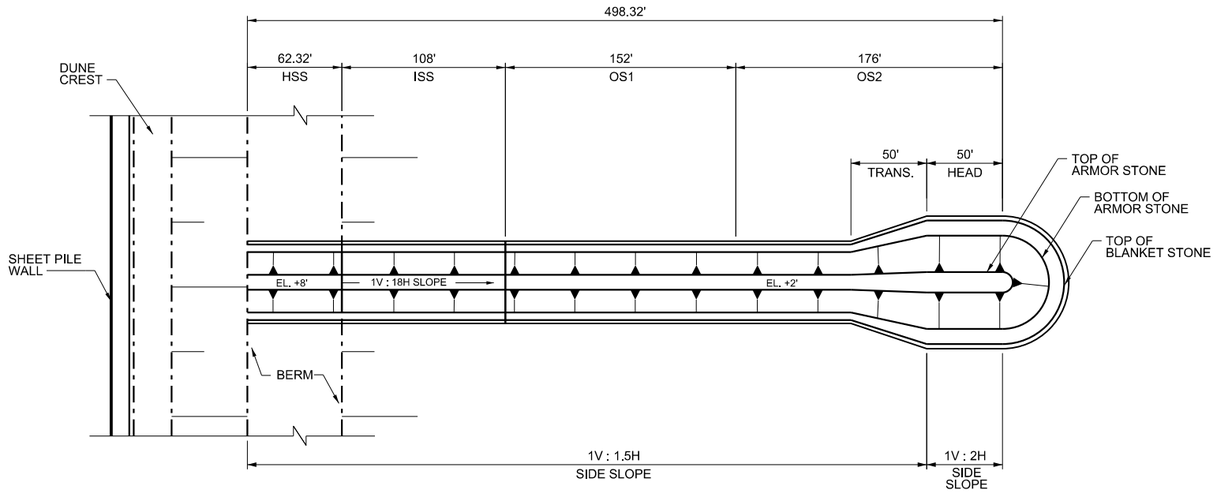
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TYPICAL PLAN AND PROFILE GROIN CONSTRUCTION REACH 6A

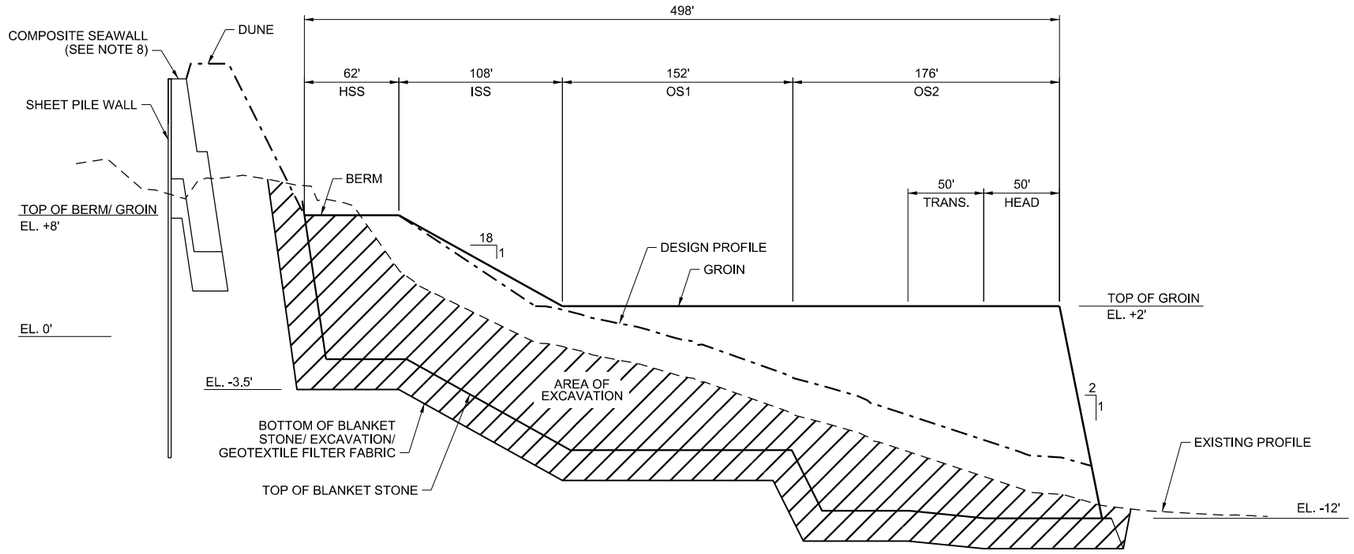
SHEET ID
CS-408
SHEET 34 OF 36

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LAST PLOTTED BY: mestimable 1:19:50 PM 12/3/2018 FILE: W912DS_A1_CS-408.dgn



C2 / CS-115 PLAN - GROIN 63 (34th STREET)

SCALE: 1"=50'



A4 / CS-409 PROFILE - GROIN 63 (34th STREET)

SCALE: 1"=50'

PRELIMINARY
NOT FOR CONSTRUCTION

NOTES

1. EXISTING PROFILE IS BASED ON POST-SANDY SURVEY PERFORMED BY McKIM & CREED FROM FEBRUARY 25TH, 2013 TO MARCH 5TH, 2013.
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6. MATCH ELEVATION WITH EXISTING GROIN CREST.
7. EXISTING CONTOURS NOT SHOWN ON PLAN FOR CLARITY.
8. SEE SHEET CS-302 FOR COMPOSITE WALL SECTIONS.
9. SEE SHEET CS-410 FOR TYPICAL GROIN HSS, OS AND HEAD SECTIONS.

ABBREVIATION

EL.	ELEVATION
HSS	HORIZONTAL SHORE SECTION
ISS	INTERMEDIATE SLOPING SECTION
OS	OUTER SECTION
OS1	OUTER SECTION 1
OS2	OUTER SECTION 2
TRANS.	TRANSITION

0 10' 20'
VERT. SCALE: 1"=10'

0 50' 100'
HOR. SCALE: 1"=50'

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B	DRAFT FINAL GRR-APPENDIX A1.C	08.20.18	MK
A	DRAFT FINAL GRR-APPENDIX A1.B	07.19.18	MK

DESIGNED BY: RWH
DRAWN BY: ME
CKD BY: MK
SUBMITTED BY: SA
PLOT SCALE: 1:50.0000
SIZE: ANSI D
DATE: 12.05.18
PLOT DATE: 12/3/2018
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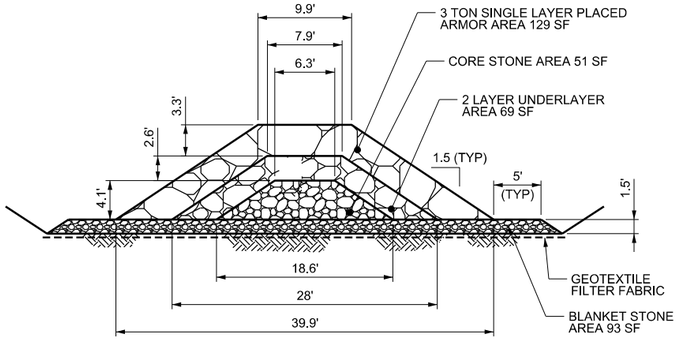
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TYPICAL PLAN AND PROFILE GROIN CONSTRUCTION REACH 6A

SHEET ID
CS-409
SHEET 35 OF 36

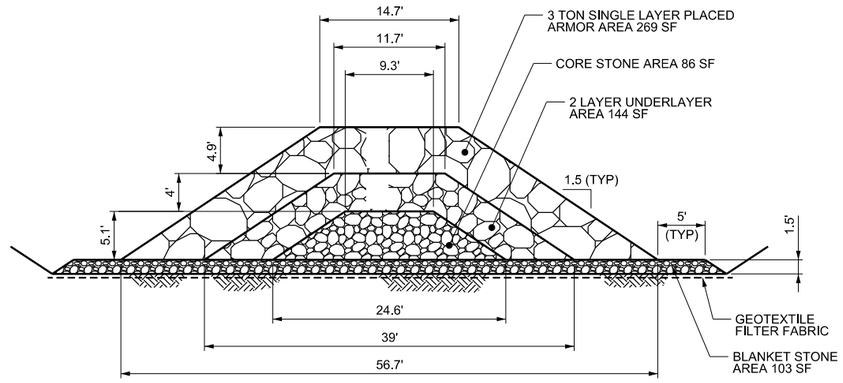
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C2 SECTION - TYPICAL HSS

SCALE: 1/8"=1'-0"

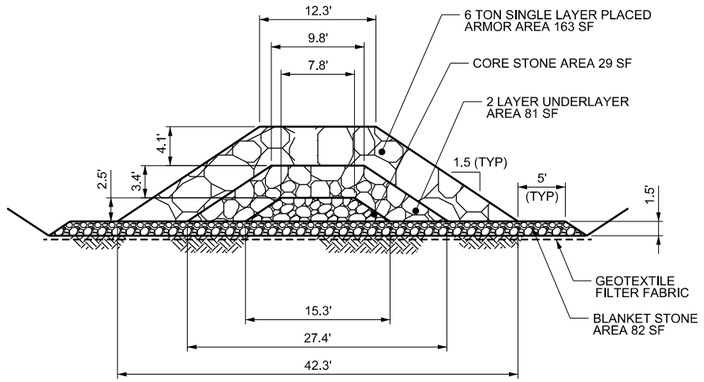
CS-407 TO CS-409



C2 SECTION - TYPICAL OS2

SCALE: 1/8"=1'-0"

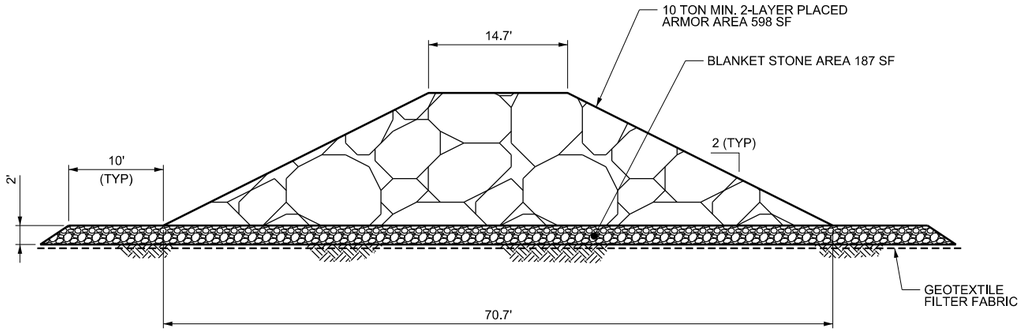
CS-407 TO CS-409



C2 SECTION - TYPICAL OS1

SCALE: 1/8"=1'-0"

CS-407 TO CS-409



C2 SECTION - TYPICAL HEAD

SCALE: 1/8"=1'-0"

CS-407 TO CS-409

PRELIMINARY
NOT FOR CONSTRUCTION

0 8' 16'

VERT. SCALE: 1/8"=1'-0"

0 8' 16'

HOR. SCALE: 1/8"=1'-0"

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B	DRAFT FINAL GRR-APPENDIX A1.C	08.20.18	MK
A	DRAFT FINAL GRR-APPENDIX A1.B	07.19.18	MK

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SUBMITTED BY: SA
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TYPICAL SECTIONS
GROIN CONSTRUCTION REACH 6A

SHEET ID
CS-410
SHEET 36 OF 36