

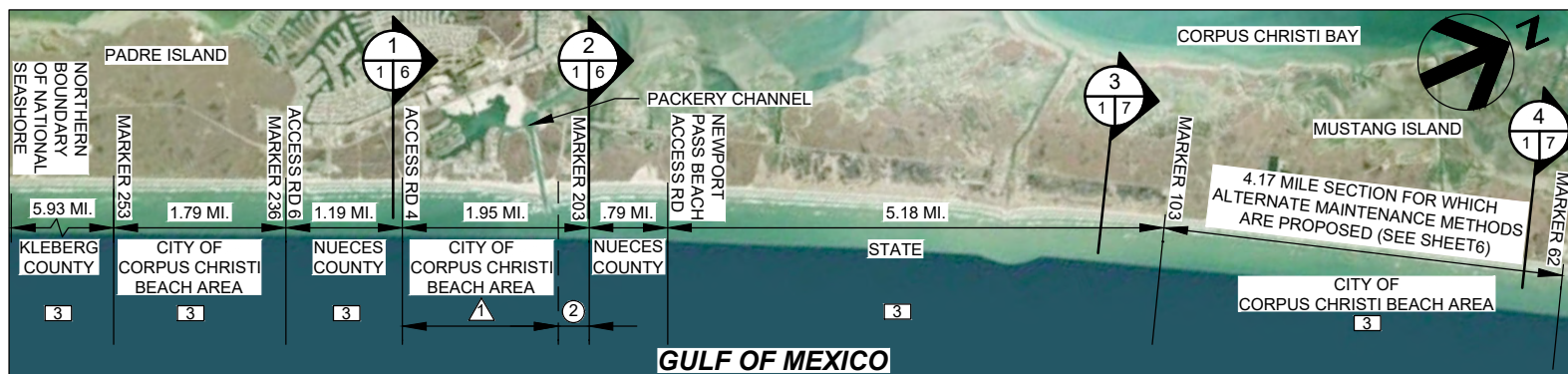
LOCATION MAP

NOTES:

1. AERIAL PHOTOGRAPH WAS OBTAINED FROM ARCMAP VERSION 10.7.1. IMAGERY DATE 20191110, METRO, MAXAR.
2. AREAS IN FRONT OF THE SEA WALL, CONDOMINIUMS, AND ACCESS ROADS ARE CONSIDERED PRIORITY AREA 1.
3. AREAS IN FRONT OF HOUSING DEVELOPMENTS, BEACH WALKOVERS, AND THE BEACH AREA AT ZAHN ROAD ARE CONSIDERED PRIORITY AREA 2.
4. ALL OTHER AREAS ARE CONSIDERED PRIORITY AREA 3.

LEGEND

- PRIORITY AREA 1
- PRIORITY AREA 2
- PRIORITY AREA 3



PRELIMINARY

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ENGINEER: DANIEL J. HEILMAN
 LICENSE NO.: 86936
 DATE: 08-04-2020



HDR Engineering, Inc.
 Texas P.E. Firm
 Registration No. F-754

ACTIVITY: GULF BEACH CLEANING

APPLICANT: CITY OF CORPUS CHRISTI

DATE: 08/2020

HDR PROJECT NO: 10212723

DATUM: NAD 83

REV. DATE:

SHEET 1 OF 17

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 SHEET ____ OF ____

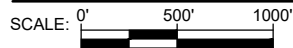
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NOTES:

1. AERIAL PHOTOGRAPH WAS OBTAINED FROM GOOGLE EARTH IMAGERY VIA ARCMAP VERSION 10.7.1. IMAGERY DATE, OCTOBER 2019.
2. MEAN HIGH WATER (M.H.W.) = +1.1 FT NAVD88 (NOAA STA 8775870).
3. ANNUAL HIGH TIDE LINE (H.T.L.) = +4.0 FT NAVD88 (USGS).

ENLARGED PLAN VIEW



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ENLARGED PLAN VIEW



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APPLICANT: CITY OF CORPUS CHRISTI

DATE: 08/2020

HDR PROJECT NO: 10212723

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SHEET 4 OF 17

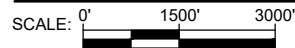
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ENLARGED PLAN VIEW



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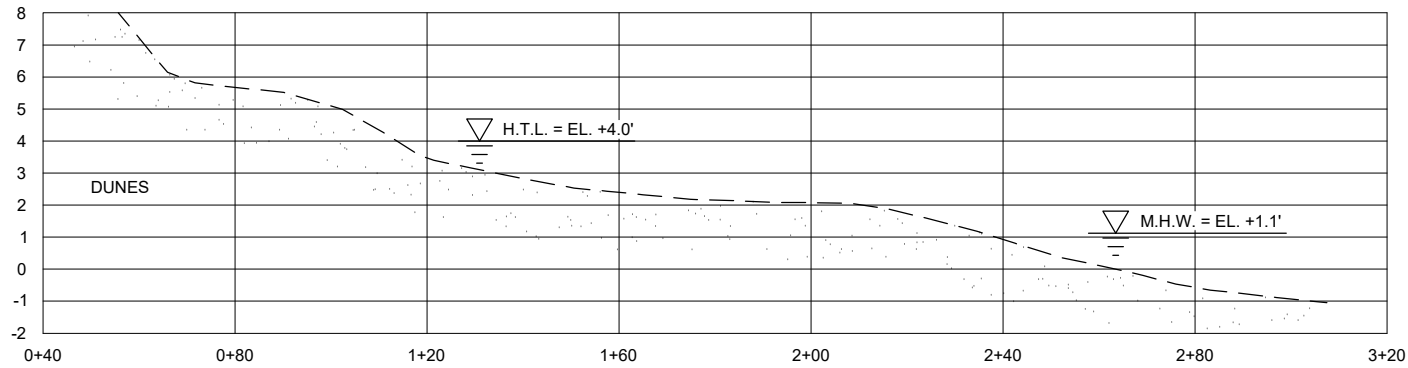
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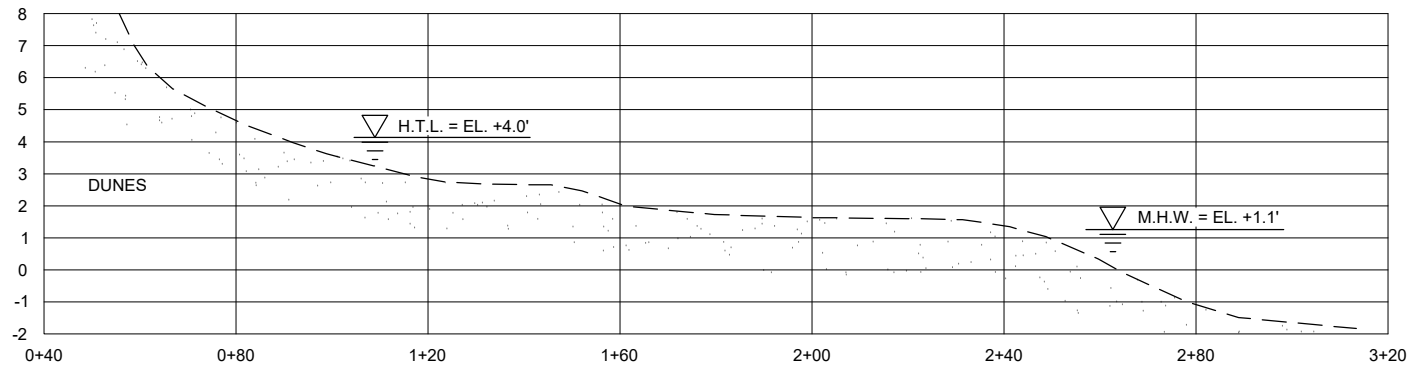
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NOTES:

1. ALL ELEVATIONS ARE REFERENCED TO NAVD88.



2 EXISTING CONDITIONS - SECTION (MILE MARKER 147)
 1 | 6 SCALE: GRAPHIC



1 EXISTING CONDITIONS - SECTION (MILE MARKER 224)
 1 | 6 SCALE: GRAPHIC

LEGEND

- H.T.L. ANNUAL HIGH TIDE LINE
- M.H.W. MEAN HIGH WATER



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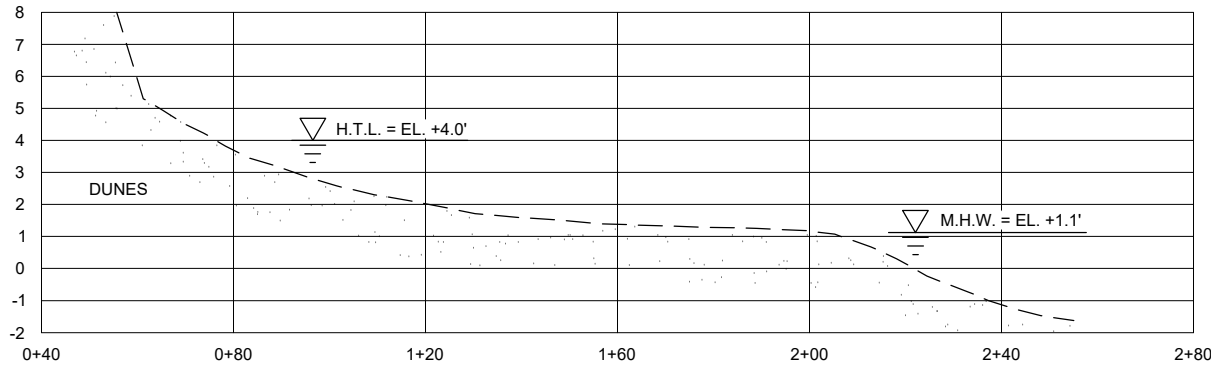
ACTIVITY: GULF BEACH CLEANING
 APPLICANT: CITY OF CORPUS CHRISTI
 DATE: 08/2020

HDR PROJECT NO: 10212723
 DATUM: NAD 83
 REV. DATE:
 SHEET 6 OF 17

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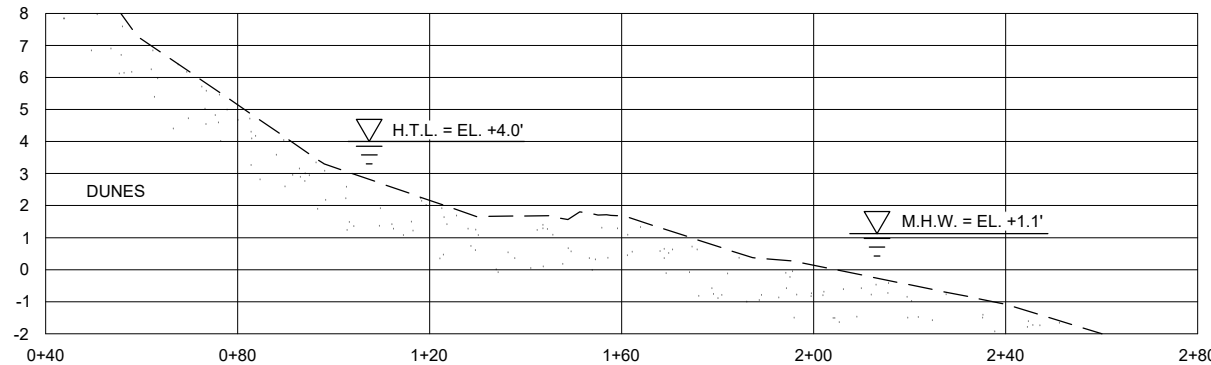
NOTES:

1. ALL ELEVATIONS ARE REFERENCED TO NAVD88.



EXISTING CONDITIONS - SECTION (MILE MARKER 68)

SCALE: GRAPHIC



EXISTING CONDITIONS - SECTION (MILE MARKER 99)

SCALE: GRAPHIC

LEGEND

- H.T.L. ANNUAL HIGH TIDE LINE
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DATE: 08/2020

HDR PROJECT NO: 10212723

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NOTES:

1. DRIVING CONDITIONS ON THE GULF BEACH OFTEN DETERIORATES DUE TO THE ACCUMULATION OF SEAWEED AND SOFT SAND. IN ORDER TO PROVIDE REASONABLY SAFE DRIVING CONDITIONS, THE CITY HAS DEVELOPED A BEACH MAINTENANCE PLAN THAT INVOLVES REPOSITIONING BOTH THE SAND AND THE SEAWEED; NEITHER IS REMOVED FROM THE BEACH SYSTEM BETWEEN THE DUNES AND THE SURF.

2. THE BEACH MAINTENANCE PRACTICES VARY DEPENDING ON THE SEASON AND BEACH CONDITIONS.

MARCH - NOVEMBER (SEAWEED AND SAND)

A: A MIXTURE OF SEAWEED AND SAND IS SKIMMED FROM THE 25± FT. WIDE ROADWAY AND RELOCATED EITHER TO: (i) THE SEAWARD OF DUNES AREA AND PLACED ON THE SURFACE OR (ii) JUST LANDWARD OF THE M.H.W., WHERE IT IS PLACED IN A SHALLOW TRENCH AND BURIED.

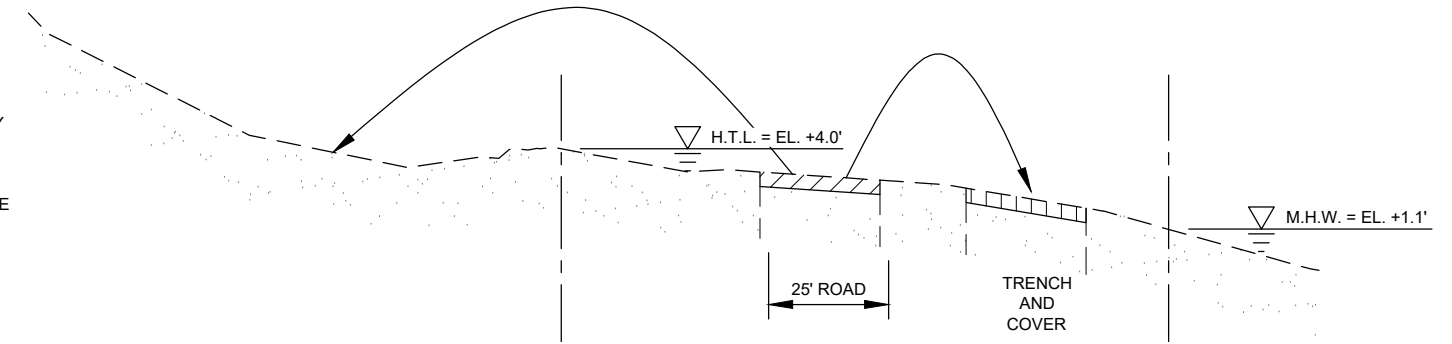
3. ALL ELEVATIONS ARE REFERENCED TO NAVD88.

4. APPLIES TO ALL PARTS OF PROJECT AREA EXCEPT 4.17 MILE STRETCH BETWEEN MILE MARKER #103 AND MILE MARKER #62.

LEGEND

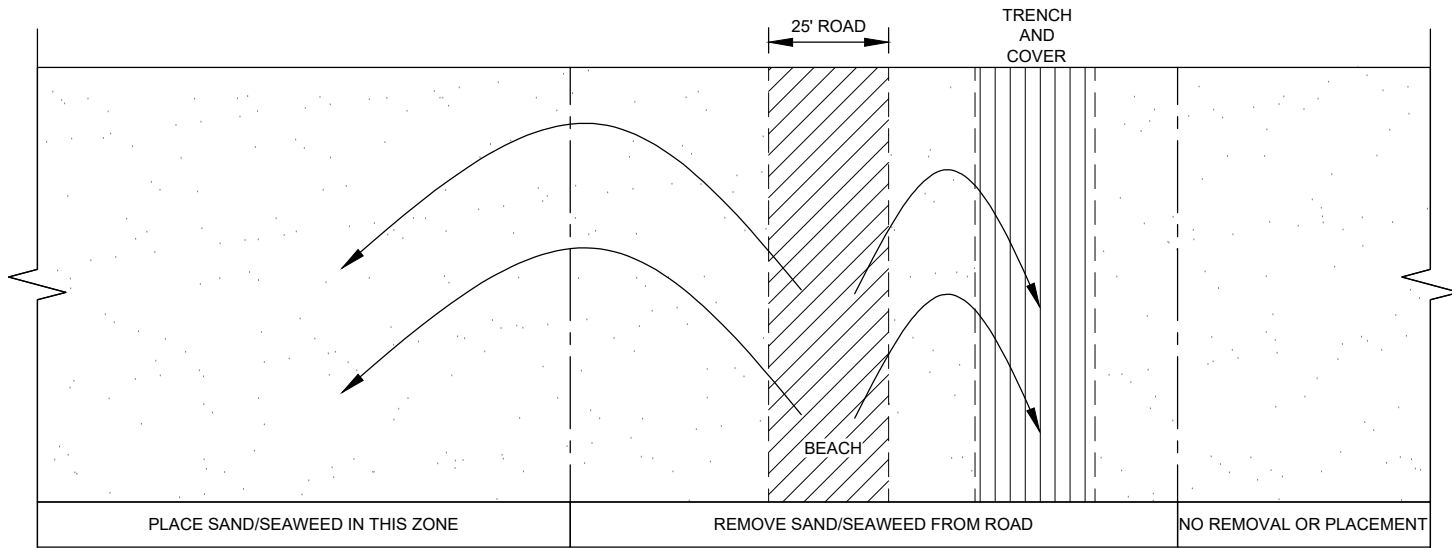
H.T.L. ANNUAL HIGH TIDE LINE

M.H.W. MEAN HIGH WATER



PROPOSED MAINTENANCE - TYPICAL SECTION

SCALE: GRAPHIC



PROPOSED MAINTENANCE - TYPICAL PLAN

SCALE: GRAPHIC



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Registration No. F-754

ACTIVITY: GULF BEACH CLEANING

APPLICANT: CITY OF CORPUS CHRISTI

DATE: 08/2020

HDR PROJECT NO: 10212723

DATUM: NAD 83

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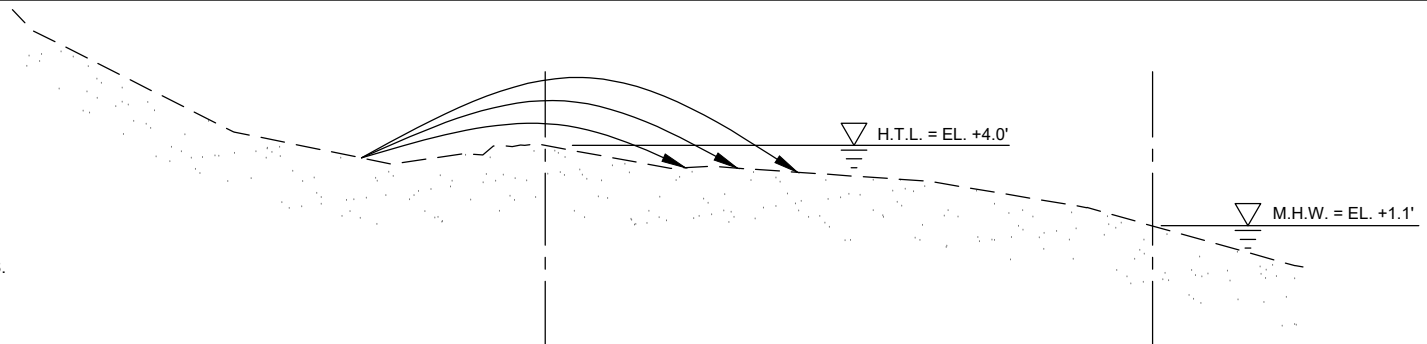
SHEET 8 OF 17

NOTES:

1. DRIVING CONDITIONS ON THE GULF BEACH OFTEN DETERIORATES DUE TO THE ACCUMULATION OF SEAWEED AND SOFT SAND. IN ORDER TO PROVIDE REASONABLY SAFE DRIVING CONDITIONS, THE CITY HAS DEVELOPED A BEACH MAINTENANCE PLAN THAT INVOLVES REPOSITIONING BOTH THE SAND AND THE SEAWEED; NEITHER IS REMOVED FROM THE BEACH SYSTEM BETWEEN THE DUNES AND THE SURF.
2. THE BEACH MAINTENANCE PRACTICES VARY DEPENDING ON THE SEASON AND BEACH CONDITIONS.

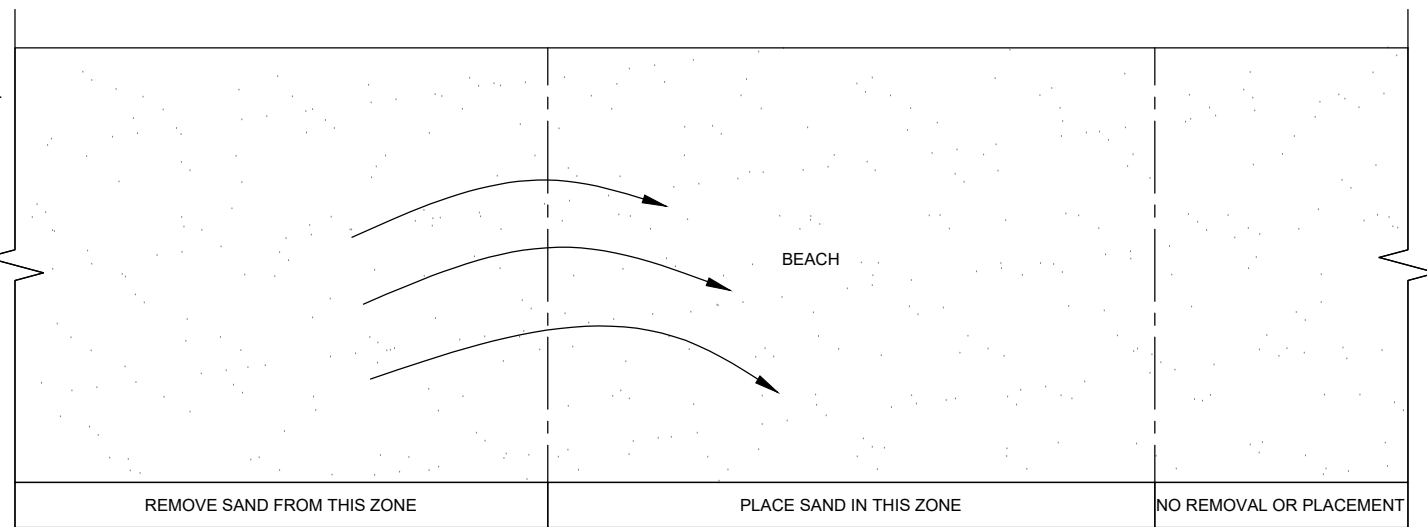
NOVEMBER - MARCH (SAND ONLY)

B: DURING THIS PERIOD, SAND TO BE REPOSITIONED FROM. IMMEDIATELY IN FRONT OF THE DUNES AND DISTRIBUTED OVER THE BEACH TO MAKE DRIVABLE.
3. THE VOLUME OF MATERIAL REPOSITIONED DURING EACH HIGH MAINTENANCE MAY VARY SIGNIFICANTLY. THIS VOLUME FOR THE MARCH - NOVEMBER SEASON WILL BE A 2" LAYER THAT IS 25± FT WIDE. FOR EACH CYCLE THIS IS 1,950± CY/MILE, 16,000 CY OVER THE 8 MILES MAINTAINED BY THE CITY. FOR PERMITTING PURPOSES THE NOVEMBER - MARCH SEASON IS ASSUMED TO BE APPROXIMATELY THE SAME VOLUME.
4. ALL ELEVATIONS ARE REFERENCED TO NAVD88.
5. APPLIES TO ALL PARTS OF PROJECT AREA EXCEPT 4.17 MILE STRETCH BETWEEN MILE MARKER #103 AND MILE MARKER #62.



PROPOSED MAINTENANCE - TYPICAL SECTION

SCALE: GRAPHIC



PROPOSED MAINTENANCE - TYPICAL PLAN

SCALE: GRAPHIC

LEGEND

- H.T.L. ANNUAL HIGH TIDE LINE
- M.H.W. MEAN HIGH WATER



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APPLICANT: CITY OF CORPUS CHRISTI

DATE: 08/2020

HDR PROJECT NO: 10212723

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REV. DATE:

SHEET 9 OF 17

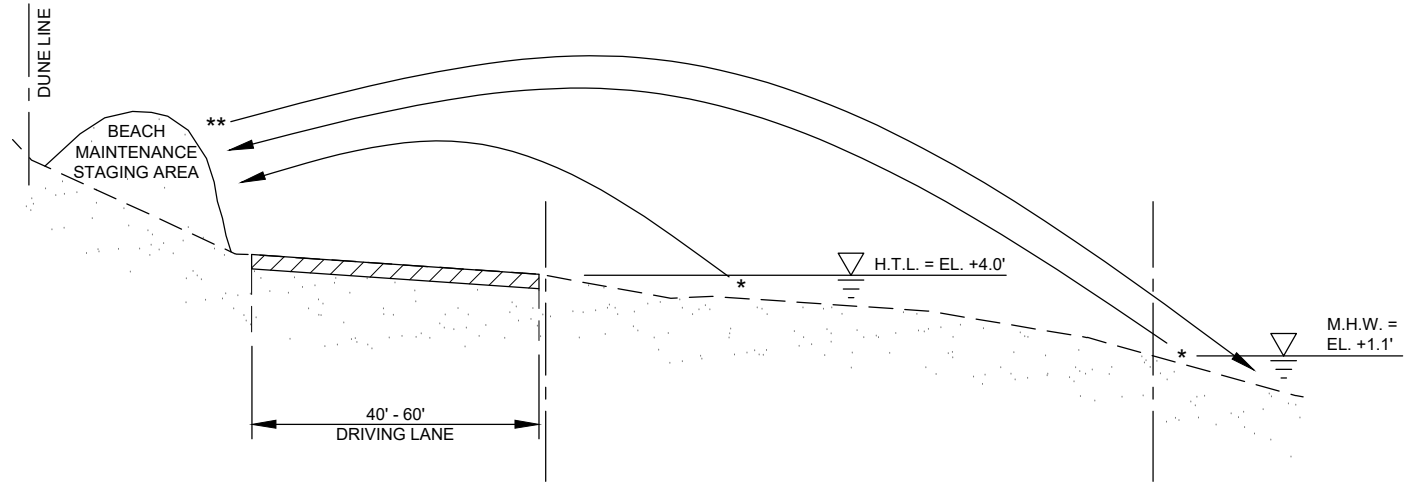
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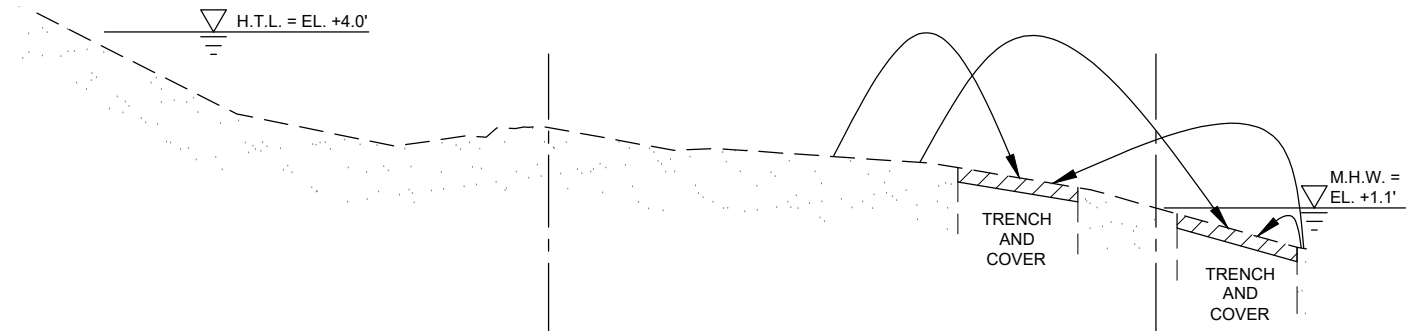
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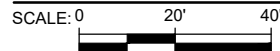
1. * RELOCATION OF SAND/SARGRASSUM FROM THE AREA OF THE BEACH LOCATED BETWEEN H.T.L. TO BELOW M.H.W. WITH SUBSEQUENT PLACEMENT OF THE MATERIAL INTO BEACH MAINTENANCE STAGING AREA SEAWARD OF DUNES ABOVE H.T.L.
2. ** ONCE THE SARGRASSUM DECOMPOSES, SAND IS REMOVED FROM THE BEACH MAINTENANCE STAGING AREA AND PLACED IN THE SURF ZONE BELOW M.H.W.
3. REMOVAL OF SAND/SARGRASSUM FROM AREA OF THE BEACH LOCATED BETWEEN H.T.L. AND BELOW M.H.W. AND SUBSEQUENT PLACEMENT OF THIS MATERIAL INTO WINDROWS BOTH ABOVE AND BELOW M.H.W. THE MATERIAL IS THEN PLACED IN A TRENCH AND BURIED.
4. PROPOSED MAINTENANCE APPLIES TO 4.17 MILE STRETCH BETWEEN MILE MARKER #103 AND MILE MARKER #62.



PROPOSED MAINTENANCE - TYPICAL SECTION



PROPOSED MAINTENANCE - TYPICAL SECTION



LEGEND

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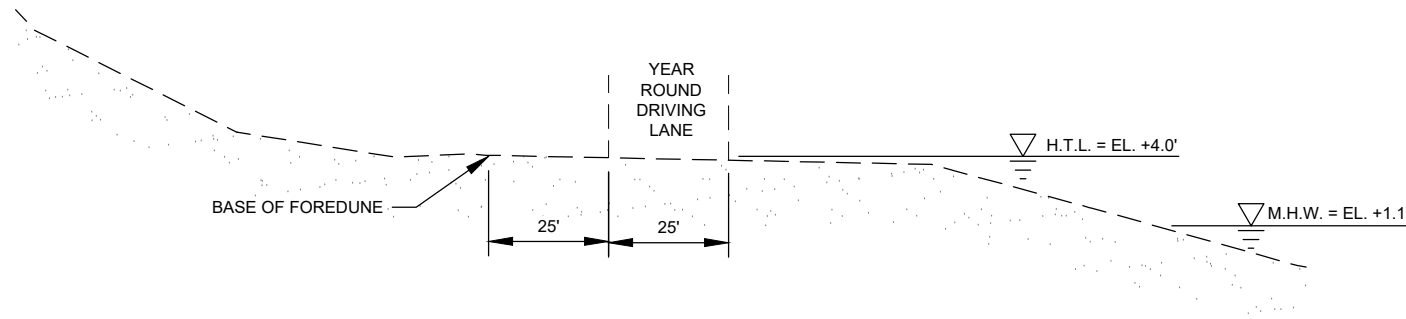
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 SHEET 10 OF 17

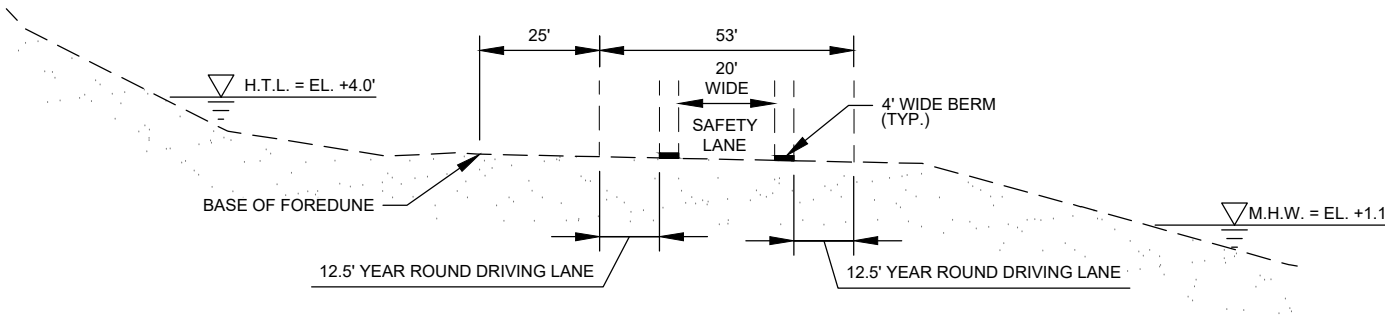
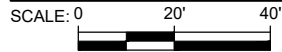
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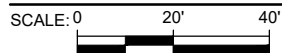
1. PUBLIC DRIVING LANES WILL BE APPROXIMATELY 25 FEET IN WIDTH AND LOCATED NO CLOSER THAN 50 FEET FROM THE M.H.W. AND 25 FEET FROM THE BASE OF THE FOREDUNES. SAND AND SARGRASSUM WILL BE PLACED ON THE SEAWARD OF DUNES AREA ADJACENT TO WHERE IT IS REMOVED. SAND AND SARGRASSUM PLACEMENT AREAS WILL HAVE 10 - 20 FOOT GAPS EVERY 200 FEET TO ALLOW TURTLES TO TRAVERSE THESE AREAS.
2. FOR A 2 WEEK PERIOD IN MARCH EVERY YEAR (DURING SPRING BREAK) AND FOR AN ADDITIONAL 1 WEEK EVENT OCCURRING BETWEEN THE MONTHS OF JUNE 1 - SEPTEMBER 15TH, THE CITY IS REQUESTING THE ABILITY TO MAINTAIN A SAFETY LANE FOR THE INGRESS AND EGRESS OF EMERGENCY VEHICLES. THE SAFETY LANE WOULD BE LOCATED WITHIN A HEAVY TOURIST AREA BETWEEN NEWPORT PASS BEACH ACCESS ROAD AND THE NORTH JETTY AT PACKERY CHANNEL. THE SAFETY LANE WOULD INCLUDE AN APPROXIMATE 20 FT. WIDE BERMED TRAFFIC WAY LOCATED BETWEEN M.H.W AND THE ANNUAL H.T.L.
3. BERMS WILL BE SMOOTHED OUT TO HEIGHTS NO GREATER THAN 2 INCHES AFTER THESE SPECIAL EVENTS. MONITORS WILL BE PRESENT IN THE AREA WHILE WORK IS BEING CONDUCTED. THE SAME MONITORING CRITERIA THAT ARE REQUIRED FOR DAILY BEACH OPERATIONS WILL ALSO APPLY TO THE CREATION AND SMOOTHING OF BERMS.
4. IF CITY STAFF OBSERVES A TURTLE MAKING ITS WAY ONTO THE BEACH WHERE BERMS ARE IN PLACE, THEY WILL ATTEMPT TO CREATE AN UNRESTRICTED PASSAGE FOR THE TURTLE BY SMOOTHING OUT THE BERMS WITH A SHOVEL OR TOOL. THE PROPER AUTHORITIES WILL BE CONTACTED IMMEDIATELY WHEN THE TURTLE IS OBSERVED.



TYPICAL YEAR-ROUND PUBLIC DRIVING LANES



TYPICAL SAFETY LANE WITH YEAR-ROUND PUBLIC DRIVING LANES



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LEGEND

H.T.L. ANNUAL HIGH TIDE LINE
M.H.W. MEAN HIGH WATER

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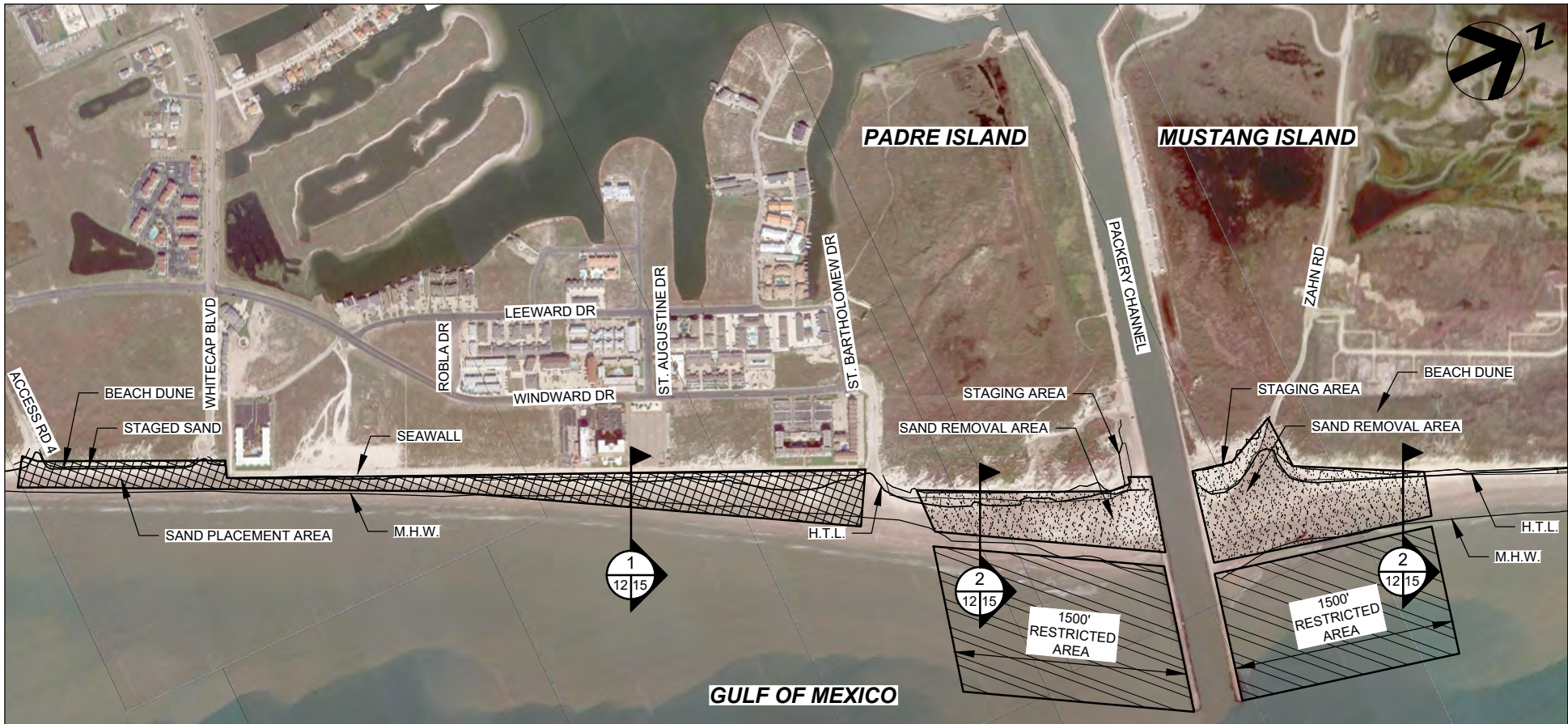
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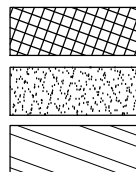
SAND RELOCATION PLAN VIEW

SCALE: N.T.S.

NOTES:

1. AERIAL PHOTOGRAPH WAS OBTAINED FROM GOOGLE EARTH IMAGERY VIA ARCCMAP VERSION 10.7.1. IMAGERY DATE, OCTOBER 2019.
2. NO WORK SHALL BE PERFORMED IN THE RESTRICTED AREA.

LEGEND



SAND PLACEMENT AREA

SAND REMOVAL AREA

RESTRICTED AREA (NO ENTRY)

H.T.L. ANNUAL HIGH TIDE LINE

M.H.W. MEAN HIGH WATER

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ENLARGED SAND PLACEMENT AREA PLAN VIEW



NOTES:

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LEGEND

	SAND PLACEMENT AREA
H.T.L.	ANNUAL HIGH TIDE LINE
M.H.W.	MEAN HIGH WATER

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HDR PROJECT NO: 10212723

DATUM: NAD 83

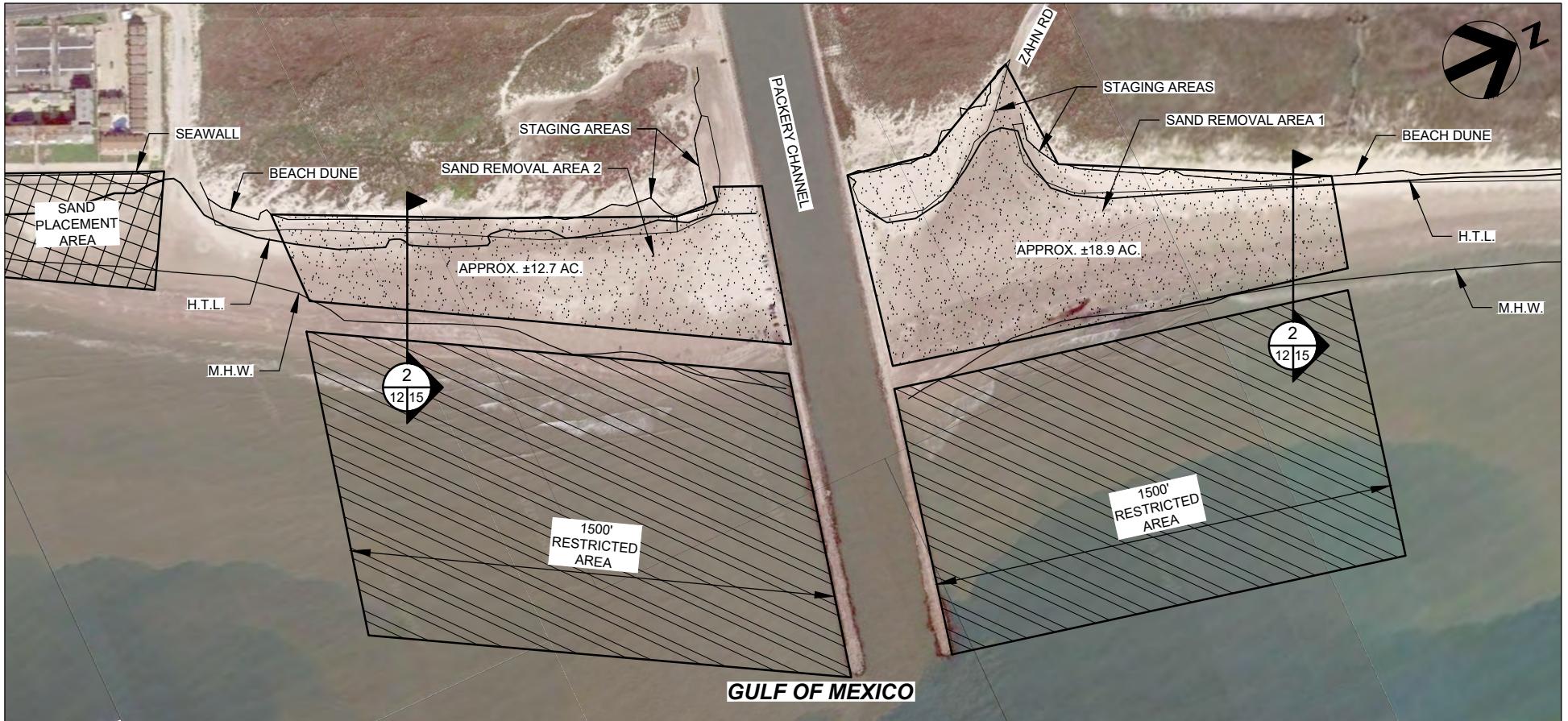
REV. DATE:

SHEET 13 OF 17

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ENLARGED SAND REMOVAL AREA PLAN VIEW

SCALE: 0 500' 1000'



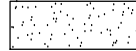
NOTES:

1. AERIAL PHOTOGRAPH WAS OBTAINED FROM GOOGLE EARTH IMAGERY VIA ARCMAP VERSION 10.7.1. IMAGERY DATE, OCTOBER 2019.
2. NO WORK SHALL BE PERFORMED IN THE RESTRICTED AREA.

LEGEND



SAND PLACEMENT AREA



SAND REMOVAL AREA



RESTRICTED AREA (NO ENTRY)

H.T.L. ANNUAL HIGH TIDE LINE

M.H.W. MEAN HIGH WATER

PRELIMINARY

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ENGINEER: DANIEL J. HEILMAN

LICENSE NO.: 86936

DATE: 08-04-2020

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PERMIT APPLICATION NO.: _____

APPLICANT NAME: _____

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HDR Engineering, Inc.
Texas P.E. Firm
Registration No. F-754

ACTIVITY: GULF BEACH CLEANING

APPLICANT: CITY OF CORPUS CHRISTI

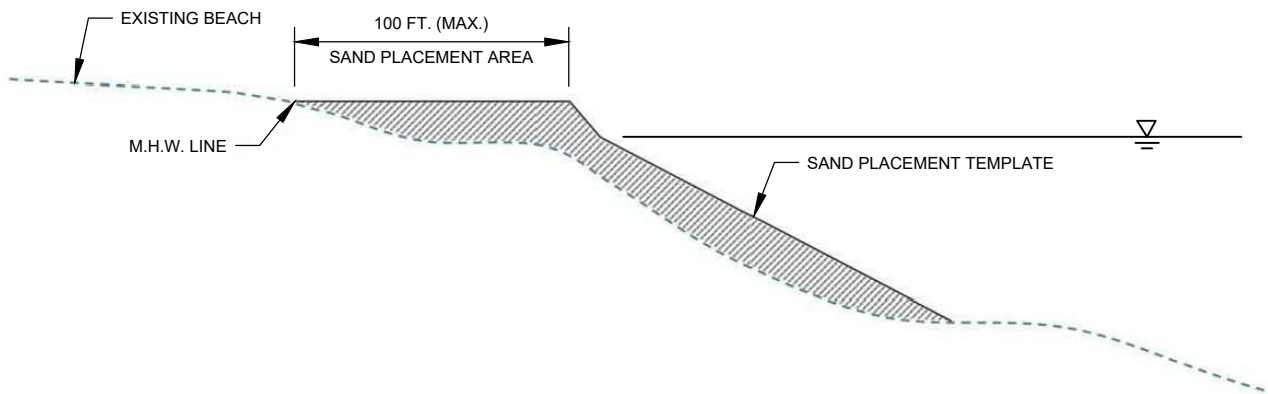
DATE: 08/2020

HDR PROJECT NO: 10212723

DATUM: NAD 83

REV. DATE:

SHEET 14 OF 17



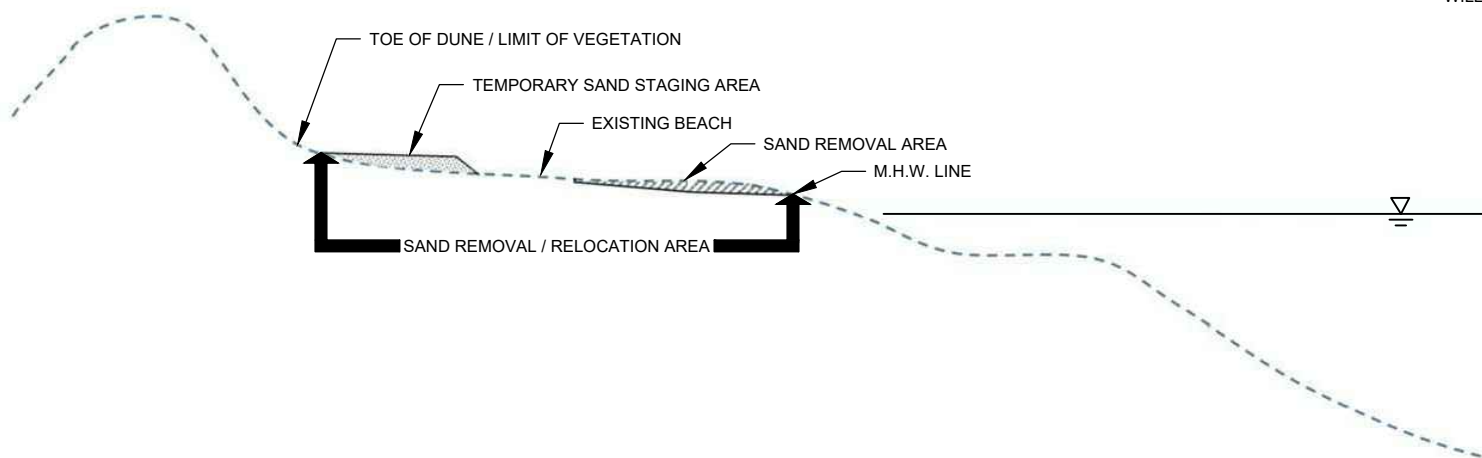
1 TYPICAL SECTION - SAND PLACEMENT AREA TEMPLATE

SCALE: N.T.S.

13

NOTES:

1. APPROXIMATELY 11,000 CY/YEAR OF BEACH QUALITY SAND THAT IS COMPATIBLE WITH THE EXISTING MATERIAL WILL BE PLACED ALONG APPROXIMATELY 5,700 LINEAR FEET OF BEACH IN FRONT OF THE SEAWALL AND SOUTH TO ACCESS ROAD 4. NOTE THAT THE TOTAL AMOUNT OF SAND PLACED IN FRONT THE SEAWALL WILL DIFFER EACH YEAR BASED ON ENVIRONMENTAL FACTORS AND HOW FREQUENTLY DREDGED MATERIAL IS PLACED ALONG THE SEAWALL.
2. SAND WILL BE RELOCATED PRIMARILY DURING THE WINTER SEASON WHEN BEACH RECREATION IS LIGHTEST, BUT EVENT DRIVEN SAND RELOCATION SHOULD BE ANTICIPATED AND WILL BE COORDINATED WITH THE USACE AND USFWS.
3. THE CITY WILL DEVELOP ACTIVE WORK AREAS AND CONSTRUCTION ACCESS ROUTES ON THE BEACH DELINEATED BY SAFETY FENCING AND POSTED WARNING SIGNS TO PREVENT INCIDENTAL ENTRY BY PUBLIC.
4. IF WORK IS CONDUCTED DURING THE SEA TURTLE NESTING SEASON, MONITORS WILL BE PRESENT IN THE AREA WHILE WORK IS BEING CONDUCTED. THE SAME MONITORING CRITERIA THAT ARE REQUIRED FOR DAILY BEACH MAINTENANCE OPERATIONS WILL ALSO APPLY TO SAND RELOCATION EVENTS.



2 TYPICAL SECTION - SAND REMOVAL AND TEMPORARY STAGING AREA

SCALE: N.T.S.

14

LEGEND

M.H.W. MEAN HIGH WATER

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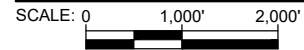
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REV. DATE:

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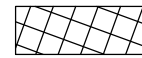


TRUCK ROUTE / HAUL ROADS PLAN VIEW



NOTES:

1. AERIAL PHOTOGRAPH WAS OBTAINED FROM GOOGLE EARTH IMAGERY VIA ARCMAP VERSION 10.7.1. IMAGERY DATE, OCTOBER 2019.

LEGEND

	SAND PLACEMENT AREA
	SAND REMOVAL AREA
	TRUCK ROUTE / HAUL ROAD

PRELIMINARY

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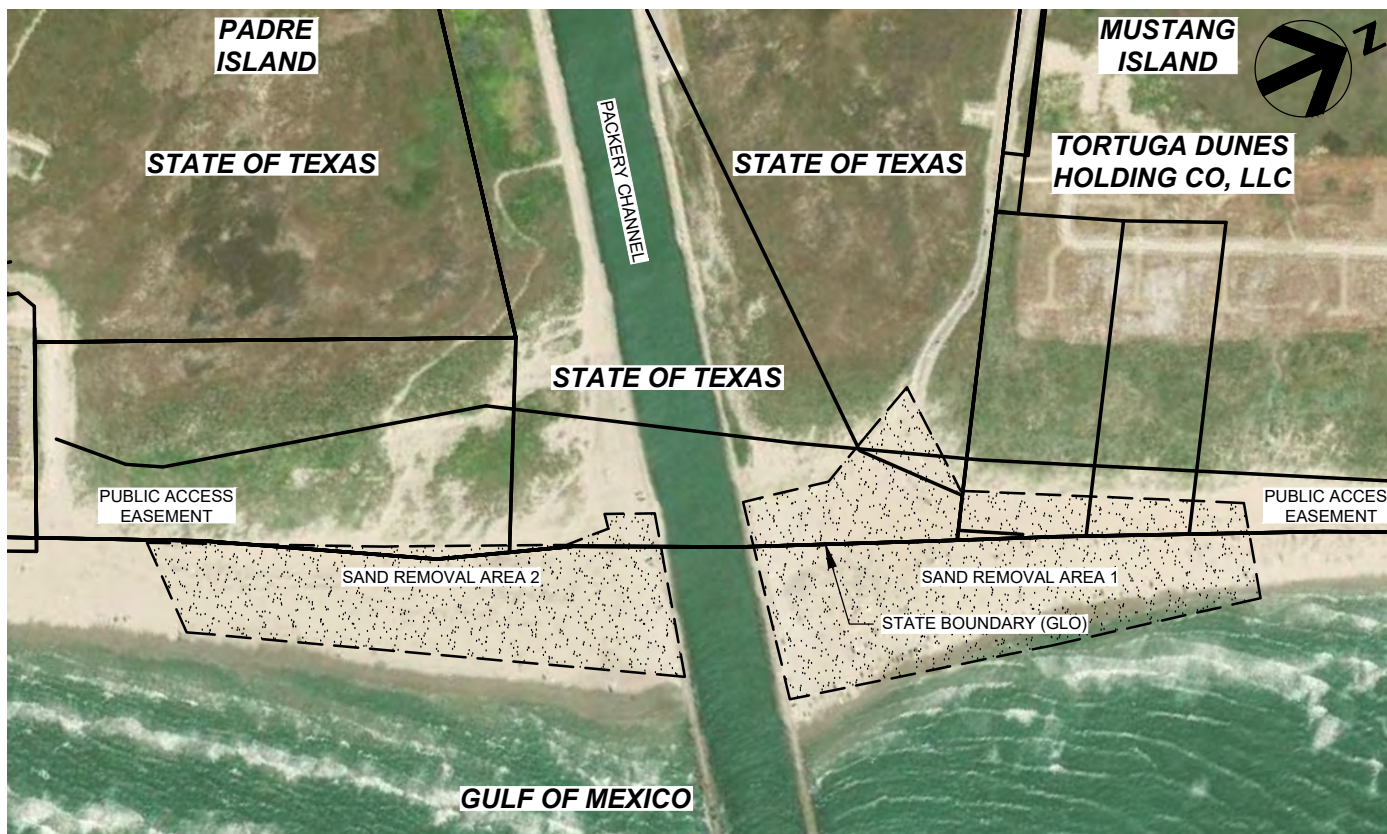
REV. DATE:

SHEET 16 OF 17

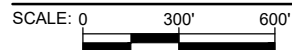
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PROPERTY BOUNDARY AND PUBLIC ACCESS PLAN VIEW



NOTES:

1. AERIAL PHOTOGRAPH WAS OBTAINED FROM GOOGLE EARTH IMAGERY VIA ARCMAP VERSION 10.7.1. IMAGERY DATE, OCTOBER 2019.
2. THE BOUNDARY LINES SHOWN ARE APPROXIMATE. THEY WERE OBTAINED FROM TEXAS GENERAL LAND OFFICE (GLO) AND ARE USED FOR REFERENCE PURPOSES ONLY.

LEGEND

- SAND REMOVAL AREA
- SAND REMOVAL AREA BOUNDARY

PRELIMINARY

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