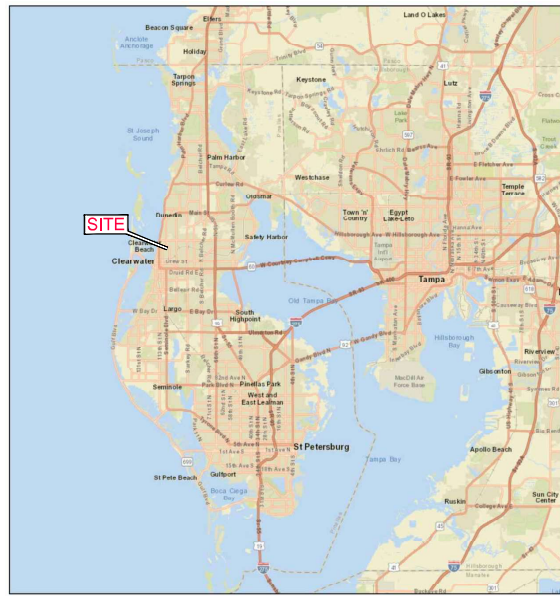


# CLOSURE DESIGN PLAN

## HARBOR DRIVE FILL AREA CLEARWATER, FLORIDA

JANUARY 2021



LOCATION MAP

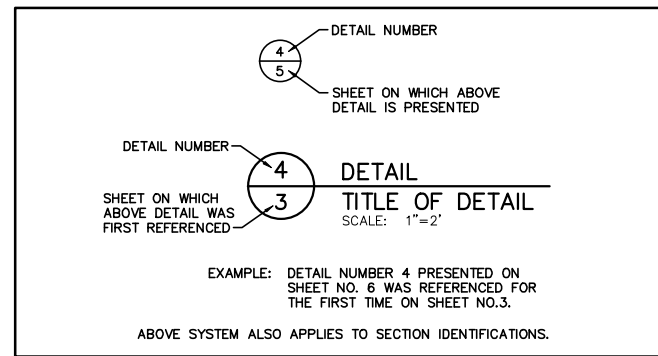
IMAGE ACQUIRED FROM THE NATIONAL MAP SERVICES PROVIDED BY USGS.

LIST OF DRAWINGS		
DRAWING NO.	TITLE	REVISION
01	TITLE SHEET	0
02	EXISTING CONDITIONS	0
03	WASTE EXCAVATION PLAN	0
04	FINAL RESTORATION PLAN	0
05	PROJECT DETAILS	0



VICINITY MAP

IMAGE ACQUIRED FROM THE NATIONAL MAP SERVICES PROVIDED BY USGS.



DETAIL IDENTIFICATION LEGEND

PREPARED FOR:



CITY OF CLEARWATER  
100 S. MYRTLE AVENUE, #220  
CLEARWATER, FLORIDA 33756

PREPARED BY:



19321 U.S. HIGHWAY 19 NORTH  
BUILDING C, SUITE 200  
CLEARWATER, FLORIDA 33764 USA  
TELEPHONE: 813.792.4820

NOT FOR CONSTRUCTION

REV	DATE	DESCRIPTION	DRN	APP
01	JAN-2021	CLOSURE PLAN DRAWING SET	BL	DWR

19321 U.S. HIGHWAY 19 NORTH  
BUILDING C, SUITE 200  
CLEARWATER, FLORIDA 33764 USA  
CERTIFICATE OF AUTHORIZATION NO. 4321

CITY OF CLEARWATER  
100 S. MYRTLE AVE, #220  
CLEARWATER, FLORIDA 33756 USA

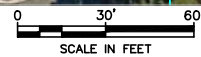
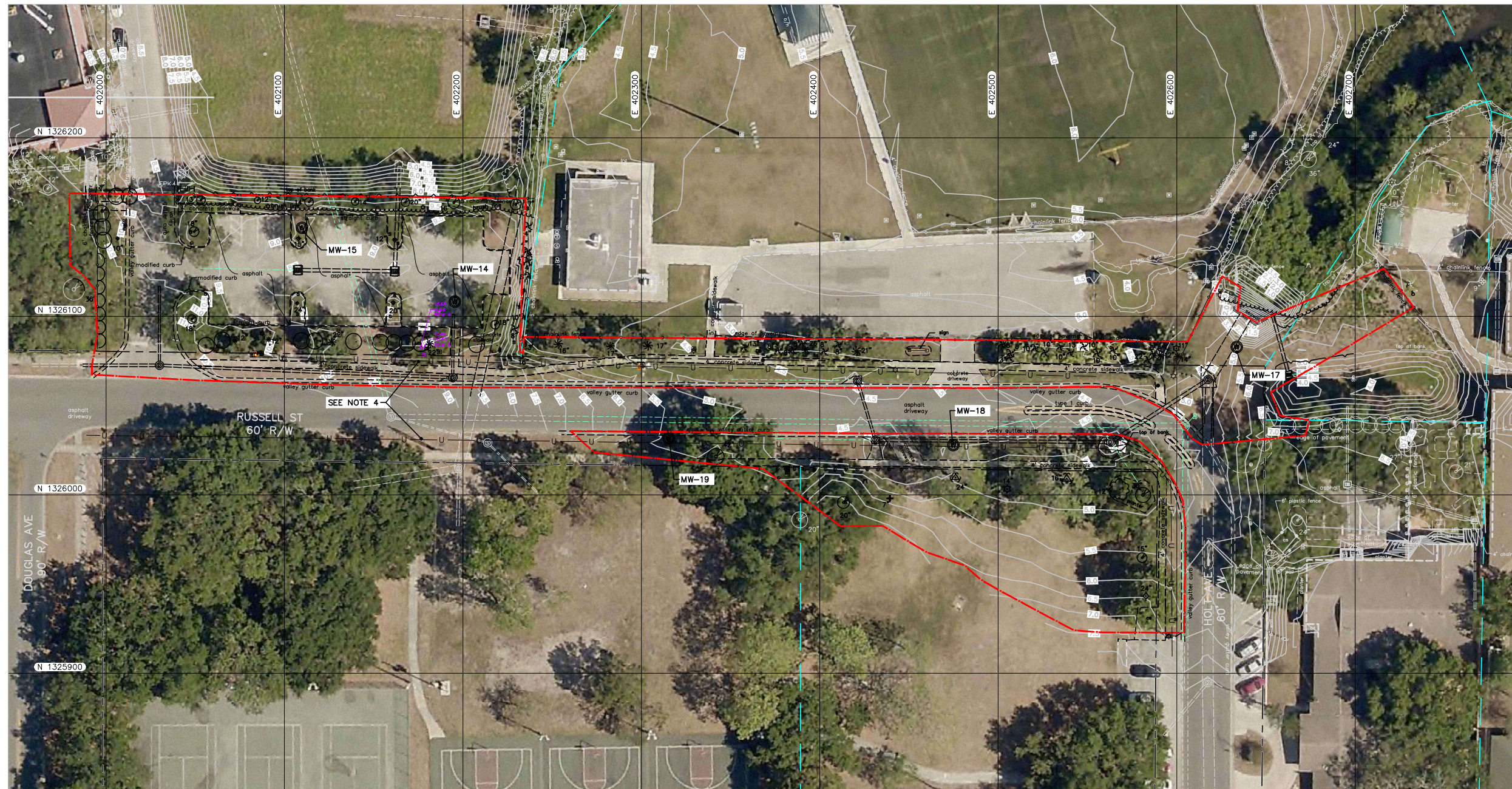
TITLE: TITLE SHEET

PROJECT: CLOSURE DESIGN PLAN

SITE: HARBOR DRIVE

THIS DRAWING MAY NOT BE ISSUED FOR PROJECT TENDER OR CONSTRUCTION, UNLESS SEALED.	DESIGN BY: JM	DATE: JANUARY 2021
	DRAWN BY: BL	PROJECT NO.: FR2298
	CHECKED BY: JM	FILE: FR2298.02P010
	REVIEWED BY: JM	DRAWING NO.:
	APPROVED BY: DWR	01 OF 05





**LEGEND**

--- BUILDING (TYP.)	⊠ BACKFLOW PREVENTER	○ BUSH
~ BRUSHLINE (TYP.)	⊙ BOLLARD	* CEDAR
--- FENCE (CHAINLINK)	⊞ CLEANOUT	⊕ CRAPE MYRTLE
⊙ HEDGE (TYP.)	⊠ ELECTRIC BOX, IN-GROUND	⊖ DEAD TREE
--- PROPERTY LINE	⊠ ELECTRIC PANEL BOX	⊙ OAK
--- RIGHT-OF-WAY LINE	⊠ GRATE	⊖ PALM
--- RECLAIMED WATER	+ GUY ANCHOR	⊕ PINE
--- TOP OF BANK (TYP.)	⊖ IRRIGATION CONTROL VALVE	⊖ MAGNOLIA
--- LIMIT OF WORK	⊙ METAL LIGHT POLE	⊖ MAPLE
N 1326600 E 402100 STATE PLANE COORDINATE (NOTE1)	⊙ MONITOR WELL	⊖ UNKNOWN TREE
--- EXISTING GROUND ELEVATION (FEET)(NOTE2)	⊠ POWER PEDESTAL	⊙ TREE DIAMETER
--- BOX CULVERT	⊙ SANITARY MANHOLE	
--- WALKWAY	⊙ SIGN POLE, SQUARE SIGN END	
--- SANITARY SEWER PIPE	+ SPRINKLER SYSTEM	
--- MARKED UNDERGROUND UTILITY	⊙ STORM MANHOLE	
	⊠ TELECOMMUNICATION PEDESTAL	
	⊠ WATER METER	
	⊙ WATER VALVE	
	⊙ WOOD LIGHT POLE	
	⊙ WOOD UTILITY POLE	

**NOTE:**

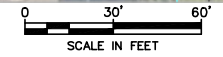
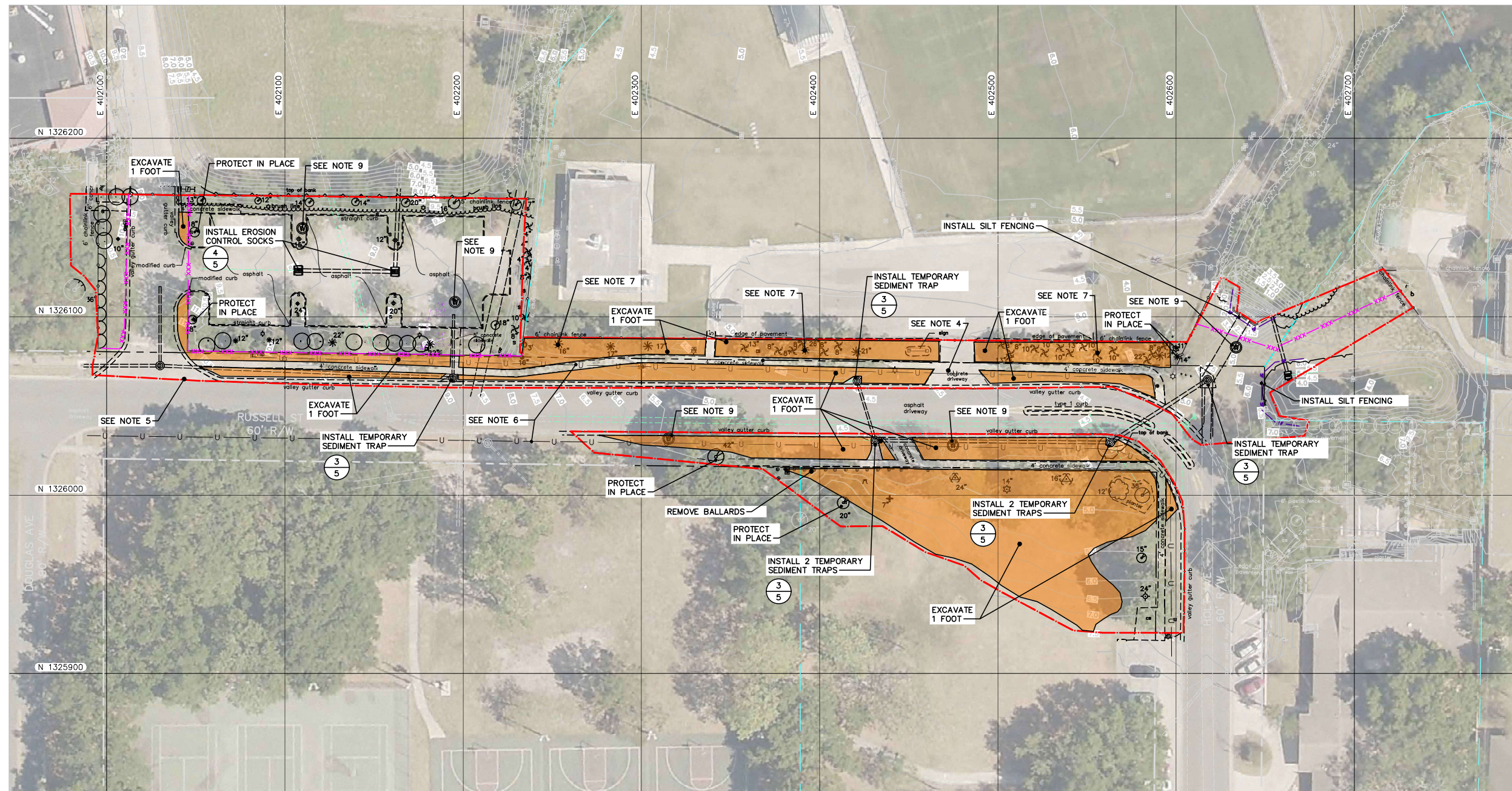
1. THE HORIZONTAL DATUM IS FLORIDA STATE PLANE COORDINATES, N.A.D. 83-99, FLORIDA WEST ZONE.
2. THE VERTICAL DATUM IS THE NEW CITY BENCHMARK NETWORK, N.A.V.D. 1988.
3. AERIAL IMAGE OBTAINED FROM FLORIDA DEPARTMENT OF TRANSPORTATION, 2018.
4. LOCATIONS OF UNDERGROUND UTILITIES ON FIGURE IS APPROXIMATE. LOCATIONS WILL BE REMARKED BY SUNSHINE 811 AND A PRIVATE UTILITY LOCATOR PRIOR TO CONSTRUCTION ACTIVITIES.
5. TOPOGRAPHIC INFORMATION OBTAINED FROM ENGINEERING DEPARTMENT OF THE CITY OF CLEARWATER, FLORIDA, APRIL 23, 2012.

NOT FOR CONSTRUCTION

01	JAN-2021	CLOSURE PLAN DRAWING SET	BL	DWR
REV	DATE	DESCRIPTION	DRN	APP
19321 U.S. HIGHWAY 19 NORTH BUILDING C, SUITE 200 CLEARWATER, FLORIDA 33764 USA CERTIFICATE OF AUTHORIZATION NO. 4321		CITY OF CLEARWATER 100 S. MYRTLE AVE., #220 CLEARWATER, FLORIDA 33756 USA		
TITLE: <b>EXISTING CONDITIONS</b>				
PROJECT: <b>CLOSURE DESIGN PLAN</b>				
SITE: <b>HARBOR DRIVE</b>				
THIS DRAWING MAY NOT BE ISSUED FOR PROJECT TENDER OR CONSTRUCTION UNLESS SEALED.		DESIGN BY: JM	DATE: JANUARY 2021	
SIGNATURE		DRAWN BY: BL	PROJECT NO.: FR2298	
DATE		CHECKED BY: JM	FILE: FR2298.02P020	
DAVID W. RIOTTE P.E. P.E. NO. 59479		REVIEWED BY: JM	DRAWING NO. 02 OF 05	
		APPROVED BY: DWR		

Z:\PROJECTS\FR2298 (HARBOR DRIVE FILL AREA)\REPORTS\HARBOR DRIVE CLOSURE PLAN (CADD)\DWG\FR2298.02P020





LEGEND					
	BUILDING (TYP.)		BACKFLOW PREVENTER		BUSH
	BRUSHLINE (TYP.)		BOLLARD		CEDAR
	FENCE (CHAINLINK)		CLEANOUT		GRAPE MYRTLE
	HEDGE (TYP.)		ELECTRIC BOX, IN-GROUND		DEAD TREE
	PROPERTY LINE		ELECTRIC PANEL BOX		OAK
	RIGHT-OF-WAY LINE		GRATE		PALM
	RECLAIMED WATER		GUY ANCHOR		PINE
	TOP OF BANK (TYP.)		IRRIGATION CONTROL VALVE		MAGNOLIA
	LIMIT OF WORK		METAL LIGHT POLE		MAPLE
	STATE PLANE COORDINATE (NOTE1)		MONITOR WELL		UNKNOWN TREE
	EXISTING GROUND ELEVATION (FEET)(NOTE2)		POWER PEDESTAL		TREE DIAMETER
	BOX CULVERT		SANITARY MANHOLE		
	WALKWAY		SIGN POLE, SQUARE SIGN END		
	SANITARY SEWER PIPE		SPRINKLER SYSTEM		
	MARKED UNDERGROUND UTILITY		STORM MANHOLE		
	PROPOSED FENCING		TELECOMMUNICATION PEDESTAL		
	SILT FENCE		WATER METER		
	WASTE EXCAVATION AREA		WATER VALVE		
			WOOD LIGHT POLE		
			WOOD UTILITY POLE		

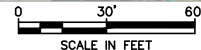
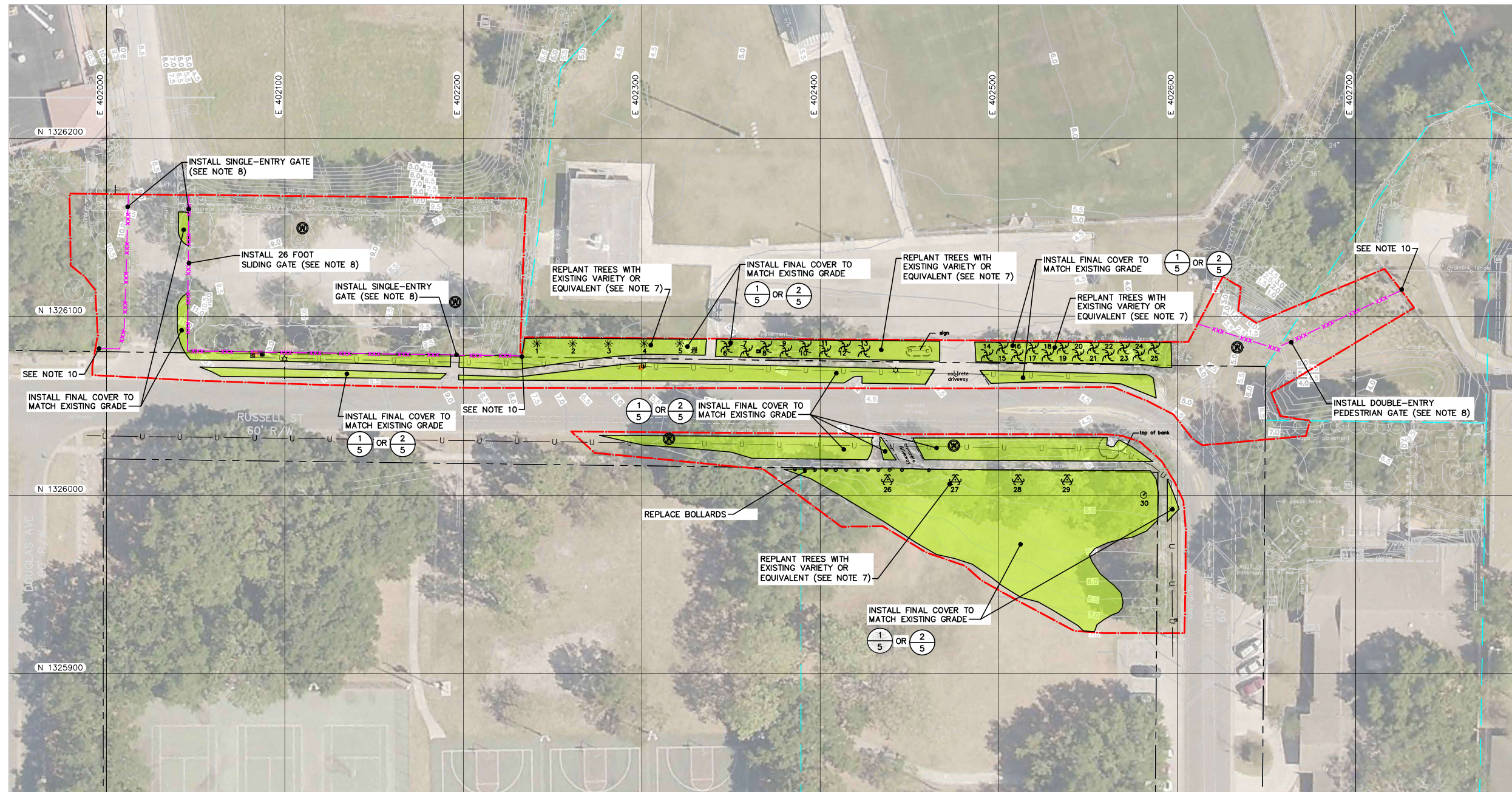
- NOTE:
1. THE HORIZONTAL DATUM IS FLORIDA STATE PLANE COORDINATES, N.A.D. 83-99, FLORIDA WEST ZONE.
  2. THE VERTICAL DATUM IS THE NEW CITY BENCHMARK NETWORK, N.A.V.D. 1988.
  3. AERIAL IMAGE OBTAINED FROM FLORIDA DEPARTMENT OF TRANSPORTATION, 2018.
  4. CONTRACTOR SHALL USE HAND EXCAVATION TOOLS AND METHODS FOR EXCAVATING AROUND POLES, CONCRETE SLABS, BACKFLOW PREVENTERS, AND OTHER EXISTING SURFACE STRUCTURES OR IN AREAS WITH POTENTIAL SUBSURFACE UTILITIES. CONTRACTOR IS RESPONSIBLE FOR PROTECTING EXISTING STRUCTURES IN PLACE DURING CONSTRUCTION ACTIVITIES.
  5. CONTRACTOR SHALL NOT WORK, STAGE MATERIALS AND EQUIPMENT, ETC. OUTSIDE THE LIMITS OF WORK.
  6. CONTRACTOR IS RESPONSIBLE FOR LOCATING UNDERGROUND UTILITIES PRIOR TO EXCAVATION AND PROTECTING IN PLACE.
  7. CONTRACTOR IS RESPONSIBLE FOR INSTALLING AND MAINTAINING TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES AND STRUCTURES THROUGHOUT THE DURATION OF CONSTRUCTION WORK IN ACCORDANCE WITH TECHNICAL SPECIFICATION 015713.
  8. CONTRACTOR SHALL REMOVE ABOVEGROUND TREES, SHRUBS, AND PLANTS AND DISPOSE OF PROPERLY OFF-SITE PRIOR TO EXCAVATION. CONTRACTOR SHALL DISPOSE OF ROOTS AND ROOT BALLS WITH SOIL AND DEBRIS. CLEARING AND GRUBBING SHALL BE CONDUCTED IN ACCORDANCE WITH TECHNICAL SPECIFICATION 311100.
  9. CONTRACTOR SHALL ABANDON MONITORING WELLS IN ACCORDANCE WITH CHAPTER 40D-3.531 FLORIDA ADMINISTRATIVE CODE.
  10. CONTRACTOR SHALL EXCAVATE SOIL AND DISPOSE OF PROPERLY OFF-SITE IN ACCORDANCE WITH TECHNICAL SPECIFICATION 312300.

NOT FOR CONSTRUCTION

01	JAN-2021	CLOSURE PLAN DRAWING SET	BL	DWR
REV	DATE	DESCRIPTION	DRN	APP
19321 U.S. HIGHWAY 19 NORTH BUILDING C, SUITE 200 CLEARWATER, FLORIDA 33764 USA CERTIFICATE OF AUTHORIZATION NO. 4321		CITY OF CLEARWATER 100 S. MYRTLE AVE., #220 CLEARWATER, FLORIDA 33756 USA		
TITLE:		WASTE EXCAVATION PLAN		
PROJECT:		CLOSURE DESIGN PLAN		
SITE:		HARBOR DRIVE		
THIS DRAWING MAY NOT BE ISSUED FOR PROJECT TENDER OR CONSTRUCTION UNLESS SEALED.		DESIGN BY: JM	DATE: JANUARY 2021	
SIGNATURE		DRAWN BY: BL	PROJECT NO.: FR2298	
DATE		CHECKED BY: JM	FILE: FR2298.02P030	
DAVID W. ROTTE P.E. P.E. NO. 59479		REVIEWED BY: JM	DRAWING NO. 03 OF 05	
		APPROVED BY: DWR		

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**LEGEND**

--- BUILDING (TYP.)	⊠ BACKFLOW PREVENTER	○ BUSH
~ BRUSHLINE (TYP.)	⊙ BOLLARD	* CEDAR
--- FENCE (CHAINLINK)	⊠ CLEANOUT	⊕ GRAPE MYRTLE
⊖ HEDGE (TYP.)	⊠ ELECTRIC BOX, IN-GROUND	⊖ DEAD TREE
--- PROPERTY LINE	⊠ ELECTRIC PANEL BOX	⊙ OAK
--- RIGHT-OF-WAY LINE	⊠ GRATE	⊖ PALM
--- RECLAIMED WATER	⊕ GUY ANCHOR	⊕ PINE
--- TOP OF BANK (TYP.)	⊕ IRRIGATION CONTROL VALVE	⊕ MAGNOLIA
--- LIMIT OF WORK	⊕ METAL LIGHT POLE	⊕ MAPLE
N 1326600 E 402100 STATE PLANE COORDINATE (NOTE1)	⊕ MONITOR WELL (ABANDONED)	⊕ UNKNOWN TREE
--- 4.0 EXISTING GROUND ELEVATION (FEET)(NOTE2)	⊠ POWER PEDESTAL	⊙ TREE DIAMETER
--- BOX CULVERT	⊕ SANITARY MANHOLE	
--- WALKWAY	⊕ SIGN POLE, SQUARE SIGN END	
--- SANITARY SEWER PIPE	⊕ SPRINKLER SYSTEM	
--- U MARKED UNDERGROUND UTILITY	⊕ STORM MANHOLE	
--- PROPOSED FENCING	⊠ TELECOMMUNICATION PEDESTAL	
--- SF SILT FENCE	⊕ WATER METER	
--- RESTORATION AREA	⊕ WATER VALVE	
	⊕ WOOD LIGHT POLE	
	⊕ WOOD UTILITY POLE	

**NOTE:**

1. THE HORIZONTAL DATUM IS FLORIDA STATE PLANE COORDINATES, N.A.D. 83-99, FLORIDA WEST ZONE.
  2. THE VERTICAL DATUM IS THE NEW CITY BENCHMARK NETWORK, N.A.V.D. 1988.
  3. AERIAL IMAGE OBTAINED FROM FLORIDA DEPARTMENT OF TRANSPORTATION, 2018.
  4. PROTECTIVE COVER MATERIAL SHALL BE PER TECHNICAL SPECIFICATION SECTION 321400.
  5. INSTALL GEOTEXTILE IN ACCORDANCE WITH TECHNICAL SPECIFICATION SECTION 312300.
  6. CONTRACTOR IS RESPONSIBLE FOR PROTECTING EXISTING STRUCTURES IN PLACE DURING CONSTRUCTION ACTIVITIES.
  7. CONTRACTOR SHALL REPLANT TREES IN ACCORDANCE WITH TECHNICAL SPECIFICATION 329300 AND THE FOLLOWING TABLE:
- | LABEL | TREE TYPE |
|-------|-----------|
| 1-5   | CEDAR     |
| 6-25  | PALM      |
| 26-29 | MAPLE     |
| 30    | OAK       |
8. CONTRACTOR SHALL INSTALL CHAINLINK FENCE AND GATES IN ACCORDANCE WITH TECHNICAL SPECIFICATION 323113.
  9. CONTRACTOR IS RESPONSIBLE FOR INSTALLING AND MAINTAINING TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES AND STRUCTURES THROUGHOUT THE DURATION OF CONSTRUCTION WORK IN ACCORDANCE WITH TECHNICAL SPECIFICATION 015713.
  10. CONTRACTOR SHALL SECURE NEW FENCE TO EXISTING FENCE.

**NOT FOR CONSTRUCTION**

01	JAN-2021	CLOSURE PLAN DRAWING SET	BL	DWR
REV	DATE	DESCRIPTION	DRN	APP

**Geosyntec**  
consultants  
19321 U.S. HIGHWAY 19 NORTH  
BUILDING C, SUITE 200  
CLEARWATER, FLORIDA 33764 USA  
CERTIFICATE OF AUTHORIZATION NO. 4321

**CLEARWATER**  
WISDOM AND INNOVATION IN WATER SERVICES  
CITY OF CLEARWATER  
100 S. MYRTLE AVE., #220  
CLEARWATER, FLORIDA 33756 USA

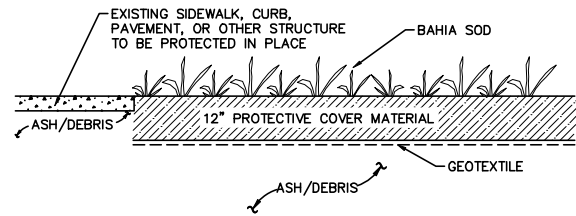
TITLE: **FINAL RESTORATION PLAN**

PROJECT: **CLOSURE DESIGN PLAN**

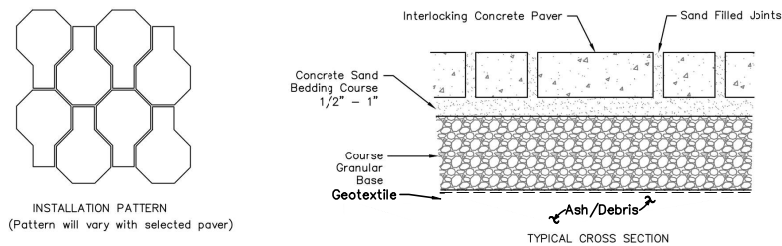
SITE: **HARBOR DRIVE**

THIS DRAWING MAY NOT BE ISSUED FOR PROJECT TENDER OR CONSTRUCTION UNLESS SEALED.	DESIGN BY: JM	DATE: JANUARY 2021
SIGNATURE	DRAWN BY: BL	PROJECT NO.: FR229B
	CHECKED BY: JM	FILE: FR229B.02P040
DATE: DAVID W. RITTE, P.E. P.E. NO. 59479	REVIEWED BY: JM	DRAWING NO.: 04 OF 05
	APPROVED BY: DWR	





**1** DETAIL  
**5** ALTERNATIVE 1 – VEGETATED SOIL COVER DETAIL  
 SCALE: NTS

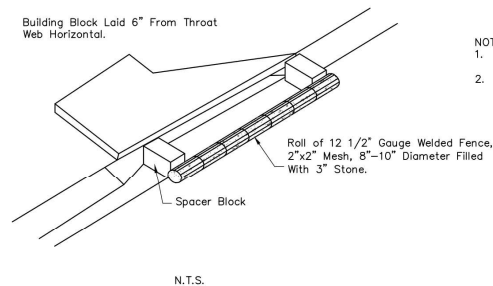


- NOTES:**
- Interlocking paving units shall generally be installed in accordance with manufacturer's requirements.
  - Paver Thickness: 2 3/8" – Residential, Light Duty Traffic; 3 1/8" – Commercial, Heavy Duty Traffic
  - Concrete Pavers to conform to ASTM C936-82.
  - Course Granular Base shall be in accordance with manufacturer's requirements (4" min. for 2 3/8" pavers and 8" min. for 3 1/8" pavers). Granular base shall be crushed concrete road base #57 and fines or other material approved by City Engineer.
  - Coloring or dye shall be uniform throughout each concrete paver unit. Dipped or externally colored paver units are unacceptable.
  - Pavers shall be installed with edge restraint and confined with cemented paver units, curbs, poured concrete or other suitable method.
  - Final finished surface shall be of uniform elevation or slope.
  - Subgrade shall be free of clay, organics, or other materials which will allow future settlement and compacted to 98% AASHTO T-180-57.
  - Polymeric sand or other joint filling material, as approved by the City Engineer, shall be installed between pavers in all areas that contain drainage structures, have slopes in excess of 2% or are subject to water runoff.
  - The cross slope on any required pedestrian path crossing a driveway and/or drive apron cannot exceed 2%.
- For additional detail see Index No. 113; Sh. 2 of 2:  
 INTERLOCKING CONCRETE PAVER DETAIL FOR COMMERCIAL TRAFFIC AND ROW INSTALLATION

11. Pattern/color to be approved by the city engineer.

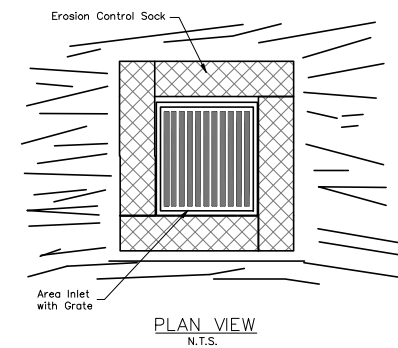
**2** DETAIL  
**5** ALTERNATIVE 2 – PERMEABLE PAVER COVER DETAIL  
 SCALE: NTS

**CONTRACTOR'S RESPONSIBILITY**  
 Erosion and Sedimentation controls are performance based criteria. If the BMPs provided do not prevent soils from leaving a construction site, then the Contractor is required to employ additional procedures to provide clean runoff from a site.



- NOTES:**
- Fibrous filler material in front of block prevents gravel from washing into structure.
  - 2"x4" behind block and across throat helps keep block in place. Place in outer hole of spacer block.

**3** DETAIL  
**5** TEMPORARY SEDIMENT TRAP AT CURB INLET DETAIL  
 SCALE: NTS



**4** DETAIL  
**5** TEMPORARY SEDIMENT BARRIER AT STORM DRAIN DROP INLET DETAIL  
 SCALE: NTS

NOT FOR CONSTRUCTION

REV	DATE	DESCRIPTION	DRN	APP
01	JAN-2021	CLOSURE PLAN DRAWING SET	BL	DWR

**Geosyntec**  
 consultants

19321 U.S. HIGHWAY 19 NORTH  
 BUILDING C, SUITE 200  
 CLEARWATER, FLORIDA 33764 USA  
 CERTIFICATE OF AUTHORIZATION NO. 4321

**CLEARWATER**  
REGULATORY AND MAINTENANCE DIVISION

CITY OF CLEARWATER  
 100 S. MYRTLE AVE., #220  
 CLEARWATER, FLORIDA 33756 USA

**TITLE:** PROJECT DETAILS

**PROJECT:** CLOSURE DESIGN PLAN

**SITE:** HARBOR DRIVE

<p>THIS DRAWING MAY NOT BE ISSUED FOR PROJECT TENDER OR CONSTRUCTION, UNLESS SEALED.</p> <p>_____          SIGNATURE</p> <p>_____          DATE</p> <p>DAVID W. RITTE P.E.          P.E. NO. 59479</p>	<table border="1" style="width: 100%;"> <tr> <td>DESIGN BY:</td> <td>JM</td> <td>DATE:</td> <td>JANUARY 2021</td> </tr> <tr> <td>DRAWN BY:</td> <td>BL</td> <td>PROJECT NO.:</td> <td>FR2298</td> </tr> <tr> <td>CHECKED BY:</td> <td>JM</td> <td>FILE:</td> <td>FR2298.02P050</td> </tr> <tr> <td>REVIEWED BY:</td> <td>JM</td> <td>DRAWING NO.:</td> <td></td> </tr> <tr> <td>APPROVED BY:</td> <td>DWR</td> <td></td> <td><b>05</b> of <b>05</b></td> </tr> </table>	DESIGN BY:	JM	DATE:	JANUARY 2021	DRAWN BY:	BL	PROJECT NO.:	FR2298	CHECKED BY:	JM	FILE:	FR2298.02P050	REVIEWED BY:	JM	DRAWING NO.:		APPROVED BY:	DWR		<b>05</b> of <b>05</b>
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REVIEWED BY:	JM	DRAWING NO.:																			
APPROVED BY:	DWR		<b>05</b> of <b>05</b>																		